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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

ISCJB ***01*** *00:14:26.8±1.8, 28°.46S±0°.04×71°.65W±0°.10, h15km±12km, mb3.8/2, Error ellipse: s-maj=14.7km s-min=6.0km az=6.0*
IDC ***01*** *00:14:26.5±1.3, 28°.47S×71°.57W, h0km, mb3.8/2, mb1 3.7/5, mb1mx3.6/27, mbtmp3.7/5, ML3.2/2, Error ellipse: s-maj=45.2km s-min=22.1km az=87.0*
GUC ***01*** *00:14:30.9±0.7, 28°.56S×71°.37W, h36km±3km, ML4.2*
ISC 01 00:14:26.8±1.9**, 28°.48S**±0°.04×**71°.60W**±0°.09**, h5**km±12km**,**
n13, σ**1s.00**/20**, 1C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	Vallenar	0.75	97	⇑iP	Pb	00 14 42.3	-0.1
VACH				iS	Sg	00 14 50.2	-0.8
LSCH	La Serena	1.45	168	eP	Pb	00 14 54.6	+0.2
LSCH				eS	Sn	00 15 11.6	-1.7
CDCH	Caldera	1.57	26	eP	Pg	00 14 57.0	+0.1
CDCH				iS	Sg	00 15 17.3	-0.1
CPCH	Copiapo	1.57	45	eP	Pg	00 14 57.1	+0.1
CPCH				iS	Sb	00 15 16.3	-0.5
TLL	Tololo Astrono	1.82	158	eP	Pn	00 14 60.0	+0.9
TLL				iS	Sn	00 15 21.8	-0.8
TLL				AML	AML	00 15 29.0	
	comp=N,4μm,0.5s						
CFAA	Coronel Fontan	4.26	138	Pn	Pn	00 15 34.8	+2.2
	comp=N,0.6nm,0.3s,baz=326,slow=5.0,SNR=86						
CFAA				Sn	Sn	00 16 24.0	+1.2
	comp=N,2.1nm,0.3s,baz=205,slow=21,SNR=8.4						
LVC	Limon Verde	6.33	23	Pn	Pn	00 16 02.5	+1.4
	comp=N,20nm,0.3s,baz=196,slow=8.6,SNR=16						
LVC				Sn	Sn	00 17 13.6	-0.5
	comp=N,97nm,0.3s,baz=116,slow=4.3,SNR=4.1						
LVC				Lg	Lg	00 17 33.4	
	comp=N,194nm,0.3s,baz=116,slow=22,SNR=8.3						
LPAZ	La Paz	12.55	16	Pn	Pn	00 17 25.9	-0.9
	comp=N,0.1nm,0.3s,baz=202,slow=5.4,SNR=3.1						
SNAA	Sanae	56.57	159	P	P	00 24 09.8	-0.4
	comp=N,0.9nm,1.1s,baz=295,slow=10,SNR=5.8						
TORD	Torodi Ar. Bea	82.00	70	P	P	00 26 47.9	-0.5
	comp=N,0.8nm,0.6s,baz=253,slow=4.6,SNR=15						
WRA	Warramunga Arr	125.72	210	PKP	PKPdf	00 33 30.4	+0.1
	comp=N,0.2nm,0.4s,baz=153,slow=1.9,SNR=7.3						
ZALV	Zalesovo Beam	149.27	28	PKPbc	PKPbc	00 34 17.4	+1.1
	comp=N,1.6nm,0.5s,baz=302,slow=3.3,SNR=8.7						
MKAR	Makanchi Array	152.60	41	PKPbc	PKPbc	00 34 24.7	+0.3
	comp=N,0.5nm,0.5s,baz=306,slow=2.1,SNR=7.4						

SJA ***01*** *00:36:16.2±0.5, 34°.64S×74°.26W, h14km±22km, ML3.7*
IDC ***01*** *00:36:21.5±0.7, 34°.76S×73°.76W, h0km, mb4.3/10, mb1 4.4/14, mb1mx4.3/26, mbtmp4.3/14, ML4.2/4, MS3.6/4, Ms1 3.6/4, ms1mx3.2/15, Error ellipse: s-maj=23.6km s-min=15.9km az=89.0*
ISCJB ***01*** *00:36:23.2±1.5, 34°.67S±0°.04×73°.73W±0°.04, h20km±10km, mb4.5/30, MS3.8/2, Error ellipse: s-maj=6.1km s-min=5.1km az=10.9*
GUC ***01*** *00:36:23.9±0.6, 34°.71S×73°.66W, h22km±4km, ML4.3*
NEIC ***01*** *00:36:24.1±4.2, 34°.69S×73°.73W, h13km±25km, mb4.7/25, Error ellipse: s-maj=14.1km s-min=6.9km az=77.0*
ISC 01 00:36:25.8±3.8**, 34°.73S**±0°.04×**73°.73W**±0°.07**, h28**km±27km**,**
n235, σ**0s.96**/242**, mb4.6**/32**, 76C-88D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TALC	Talca	1.85	112	⇓iP	Pn	00 36 54.5	-1.1
TALC				iS	Sn	00 37 17.3	-0.7
LNCH	Linares	2.07	123	⇑iP	Pn	00 36 58.2	-0.5
LNCH				iS	Sn	00 37 23.5	-0.1
LNV	Longovilo	2.07	69	⇑iP	Pn	00 36 56.8	-1.9
LNV				iS	Sn	00 37 21.9	-1.6
NICH	Los Niches	2.08	98	⇓iP	Pn	00 36 58.1	-0.6
NICH				iS	Sn	00 37 23.9	+0.2
CACH	El Canelo	2.66	78	⇓iP	Pn	00 37 06.6	-0.3
CACH				iS	Sn	00 37 39.0	+0.7
CHCH	Chadas Angostu	2.67	74	⇑iP	Pn	00 37 06.0	-0.9
CHCH				iS	Sn	00 37 37.9	-0.5
RCDM	Rinconada Maip	2.73	64	⇑iP	Pn	00 37 05.3	-2.4
RCDM				iS	Sn	00 37 38.0	-1.8
ROCH	El Roble	2.86	53	AML	AML	00 37 47.0	
	comp=N,706nm,0.6s						
CLCH	Cerro Calan	2.97	64	⇑iP	Pn	00 37 09.9	-1.2
CLCH				iS	Sn	00 37 45.5	-0.4
CLCH				AML	AML	00 37 48.9	
	comp=E,1μm,0.5s						
PEL	Peldehue	2.99	59	⇑iP	Pn	00 37 10.1	-1.2
PEL				iS	Sn	00 37 45.9	-0.4
PEL				AML	AML	00 37 47.7	
	comp=N,1μm,0.5s						
CANA	Caviahue	3.82	146	iP	Pn	00 37 22.6	-0.3
CANA				eP	Pb	00 37 23.3	-9.3
AAGR	Agrelo	4.40	69	eP	Pn	00 37 30.4	-0.4
AUSP	Uspallata	4.41	57	iP	Pn	00 37 31.7	+0.6
AUSP				iS	Sn	00 38 24.4	+2.8
ARCO	CERRO ARCO	4.42	66	eP	Pn	00 37 32.7	+1.6
ARCO				eS	Sn	00 38 27.6	+5.9
ARCO				AML	AML	00 38 34.8	
	comp=Z,52nm,0.5s						
ASAL	Salagasta	4.61	64	eP	Pn	00 37 35.6	+2.0
RTLS	Leoncito	4.73	53	iP	Pn	00 37 35.8	+0.4
RTCV	Cerro Valdivia	5.20	58	iP	Pn	00 37 41.8	-0.1
CFAA	Coronel Fontan	5.56	57	Pn	Pn	00 37 46.3	-0.5
	comp=Z,1.4nm,0.3s,baz=230,slow=12,SNR=87						
CFAA				Sn	Sn	00 38 49.9	+0.1
	comp=Z,1.0nm,0.3s,baz=116,slow=20,SNR=6.5						
CFAA				LR	LR	00 40 03.8	
	comp=Z,15nm,20.4s,baz=151,slow=40						
CFAA	Coronel Fontan	5.56	57	eP	Pn	00 37 46.4	-0.4
RTLL	Cerro Villicun	5.57	54	iP	Pn	00 37 46.4	-0.4
AMOG	MOGNA	5.81	51	eP	Pn	00 37 49.5	-0.7
ACAN	Cantantal	5.99	68	eP	Pn	00 37 52.5	-0.1
LCO	Las Campanas	6.26	25	ePn	Pn	00 37 53.1	-3.4
LCO				eSn	Sn	00 39 04.0	-3.2
LCO	Las Campanas	6.26	25	eP	Pn	00 37 53.5	-3.0
PLCA	Paso Flores	6.50	158	Pn	Pn	00 37 59.4	-0.3
	comp=Z,1.4nm,0.3s,baz=329,slow=10,SNR=16						
PLCA				LR	LR	00 40 30.7	
	comp=Z,398nm,20.9s,baz=336,slow=38						
PLCA	Paso Flores	6.50	158	ePn	Pn	00 37 59.3	-0.3
PLCA				eSn	Sn	00 39 08.2	-4.7
CYA	Choya	9.22	49	eP	Pn	00 38 32.6	-4.4
TRQA	Tornquist	10.04	113	ePn	Pn	00 38 49.6	+1.5
LVC	Limon Verde	12.79	21	Pn	Pn	00 39 26.5	+0.5
	comp=Z,12nm,0.3s,baz=192,slow=13,SNR=4.3						
LVC				LR	LR	00 43 56.3	
	comp=Z,202nm,19.1s,baz=230,slow=36						
LVC	Limon Verde	12.79	21	ePn	Pn	00 39 26.7	+0.7
CPUP	Villa Florida	16.41	64	ePn	Pn	00 40 13.7	-0.4
LPAZ	La Paz	19.04	17	P	Pn	00 40 47.9	+0.6
	comp=Z,0.3nm,0.3s,baz=171,slow=5.3,SNR=40						
LPAZ	La Paz	19.04	17	eP	Pn	00 40 47.8	+0.6
	comp=Z,14nm,0.9s						
SIV	San Ignacio	21.85	35	P	P	00 41 15.8	-0.4
	comp=Z,13nm,0.9s,baz=223,slow=8.7,SNR=25						
NNA	Nana	22.82	352	P	P	00 41 26.2	-0.4
	comp=Z,5.3nm,0.4s,baz=170,slow=9.6,SNR=4.2						
SDV	Santo Domingo	43.48	4	eP	P	00 44 26.3	-0.6
	comp=Z,4.8nm,1.0s						
VNA2	Neumayer--Watz	49.89	157	P	P	00 45 17.4	+1.1
	baz=295,slow=9.4						
SNAA	Sanae	51.45	158	P	P	00 45 23.0	-5.1
SNAA	Sanae	51.45	158	eP	P	00 45 23.1	-4.9
	comp=Z,7.9nm,1.1s						
QSPA	South Pole Qui	55.51	180	P	P	00 45 58.9	+0.8
	comp=Z,4.6nm,1.0s,baz=116,slow=2.6,SNR=9.1						
034A	Hebbronville	65.84	336	⇑P	P	00 47 08.8	+0.2
	baz=66						
933A	Laredo	66.55	335	⇓P	P	00 47 13.9	+0.7
	baz=67						
736A	Circle Diamond	67.07	338	⇓P	P	00 47 17.2	+0.8
	baz=67						
833A	Chaparral WMA,	67.24	336	⇑P	P	00 47 18.0	+0.5
	baz=68						
832A	Faith Ranch, C	67.41	335	⇓P	P	00 47 18.8	+0.2
	baz=68						
732A	Laxson Ranch,	67.81	335	⇓P	P	00 47 21.3	+0.1
	baz=68,SNR=7.8						
633A	Saathoff Ranch	68.21	336	⇑P	P	00 47 23.6	-0.1
	baz=68						
632A	Uvalde	68.46	336	⇑P	P	00 47 25.5	+0.2
	baz=69						
339A	Huntington	68.57	341	⇑P	P	00 47 25.8	0.0
	baz=69						
532A	Rocksprings	69.07	336	⇑P	P	00 47 29.1	0.0
	baz=69,SNR=8.0						
434A	Burnet	69.17	338	⇓P	P	00 47 29.2	-0.4
	baz=70						
336A	Riesel	69.27	339	⇑P	P	00 47 30.3	+0.1
	baz=70						
531A	Rocksprings	69.32	335	⇑P	P	00 47 30.9	+0.3
	baz=70						
JCT	Junction City	69.36	336	⇓P	P	00 47 30.9	0.0
	baz=70						
530A	J-C Ranch, Com	69.58	335	⇓P	P	00 47 32.5	+0.2
	baz=70,SNR=6.6						
334A	Lometa	69.64	338	⇓P	P	00 47 32.2	-0.3
	baz=70						
LTX	Lajitas	69.71	332	eP	P	00 47 33.4	+0.3
TX31	Lajitas Ar. Si	69.71	332	eP	P	00 47 33.2	+0.1
TXAR	Lajitas Array	69.71	332	P	P	00 47 33.4	+0.3
	comp=Z,3.1nm,0.6s,baz=156,slow=8.6,SNR=26						
431A	Sonora	69.82	335	⇓P	P	00 47 34.3	+0.6
	baz=70						
333A	Richland Sprin	69.87	337	⇓P	P	00 47 33.6	-0.4
	baz=70						
KMSC	Kings Mountain	69.87	353	⇓P	P	00 47 32.1	-1.8
	baz=70						
529A	Stev Forest Ra	69.88	334	⇓P	P	00 47 34.4	+0.3
	baz=70						
WHTX	Lake Whitney,	70.02	339	⇓P	P	00 47 34.2	-0.6
	baz=70						
430A	Baggett Ranch,	70.13	335	⇑P	P	00 47 35.8	+0.2
	baz=70,SNR=5.2						
332A	Millersview	70.17	337	⇓P	P	00 47 35.2	-0.6
	baz=70						
429A	Davenport Ranc	70.22	334	⇓P	P	00 47 36.9	+0.7
	baz=70						
234A	Clairette	70.24	338	⇓P	P	00 47 35.7	-0.5
	baz=70						
331A	San Angelo	70.33	336	⇑P	P	00 47 36.9	+0.1
	baz=71						
233A	Rising Star	70.49	337	⇑P	P	00 47 37.2	-0.6
	baz=71						
SWET	Sewanee	70.51	349	eP	P	00 47 38.1	+0.3
232A	Coleman	70.61	337	⇑P	P	00 47 38.4	-0.1
	baz=71						
330A	Mertzon	70.67	335	⇓P	P	00 47 39.1	+0.1
	baz=71						
134A	White-Moore Ra	70.75	338	⇓P	P	00 47 38.3	-1.0
	baz=71						
231A	Bronte	70.87	336	⇓P	P	00 47 40.0	-0.1
	baz=71						
329A	Wagon Wheel Ra	71.03	335	⇑P	P	00 47 41.5	+0.4
	baz=71						
133A	Hamilton Ranch	71.04	338	⇑P	P	00 47 40.5	-0.5
	baz=71						
Z35A	Perchaven, San	71.21	339	⇓P	P	00 47 41.4	-0.6
	baz=72						
ABTX	Abilene, Hawle	71.28	337	⇓P	P	00 47 42.0	-0.5
	baz=72						
ABTX	Abilene, Hawle	71.28	337	eP	P	00 47 42.8	+0.2
	comp=Z,9.8nm,0.9s						
Z34A	Collier Ranch,	71.44	339	⇑P	P	00 47 42.9	-0.6
	baz=72						
131A	Roby	71.57	336	⇑P	P	00 47 44.6	+0.3
	baz=72						
Z33A	Whitaker Ranch	71.62	338	⇓P	P	00 47 44.4	-0.1
	baz=72						
228A	UT Block 9, Go	71.82	334	⇓P	P	00 47 46.4	+0.5
	baz=72						
Z32A	Haskell	71.86	337	⇓P	P	00 47 46.2	+0.2
	baz=72						
Z31A	Sharp Cattle R	72.08	337	⇓P	P	00 47 47.2	-0.2
	baz=72						
X36A	Centrahoma	72.12	341	⇓P	P	00 47 46.9	-0.6
	baz=72						
X35A	Drake	72.13	340	⇑P	P	00 47 46.7	-0.9
	baz=72						
128A	Castleberry Fa	72.24	335	⇓P	P	00 47 48.3	0.0
	baz=72						
Y33A	Hilltop Ranch,	72.25	338	⇑P	P	00 47 47.6	-0.7
	baz=73						
Z30A	Sanderson Ranc	72.38	336	⇑P	P	00 47 48.4	-0.7
	baz=73						
MNTX	Cornudas Mount	72.47	332	⇓P	P	00 47 49.1	-0.6
	baz=73						
MNTX	Cornudas Mount	72.47	332	eP	P	00 47 48.8	-0.9
	comp=Z,3.6nm,0.7s						
Z29A	Hungry Hill Ra	72.55	336	⇑P	P	00 47 49.4	-0.8
	baz=73,SNR=5.2						
X34A	Smith Ranch, M	72.56	339	⇑P	P	00 47 49.4	-0.7
	baz=73						
Y31A	Rekieta Farm,	72.71	337	⇑P	P	00 47 51.1	0.0
	baz=73						
MAW	Mawson	72.87	164	P	P	00 47 51.1	-0.6
	comp=Z,2.2nm,0.8s,baz=254,slow=7.4,SNR=4.4						
MAW				LR	LR	01 18 54.0	
	comp=Z,62nm,18.4s,baz=240,slow=35						
MAW	Mawson	72.87	164	eP	P	00 47 51.1	-0.6
	comp=Z,3.6nm,1.6s						
WMOK	Wichita Mounta	72.97	339	eP	P	00 47 52.3	-0.3
	comp=Z,67nm,3.0s						
TUL1	Leonard	73.23	341	⇓P	P	00 47 52.6	-1.4
	baz=74						
W33A	Caddo, Fort Co	73.26	339	⇓P	P	00 47 54.3	0.0
	baz=74						
Y28A	McKinney Farm,	73.32	336	⇓P	P	00 47 55.1	+0.3
	baz=74						
V35A	Meyer Ranch, C	73.37	341	⇑P	P	00 47 53.9	-1.0
	baz=74						
W32A	Sentinel	73.47	338	⇓P	P	00 47 55.5	0.0
	baz=74						
V34A	Guthrie	73.63	340	⇑P	P	00 47 55.7	-0.8
	baz=74						
W31A	Holland Ranch,	73.74	338	⇑P	P	00 47 57.2	+0.1
	baz=74						
V33A	Lossen Ranch,	73.83	339	⇓P	P	00 47 56.9	-0.8
	baz=74						
AMTX	Amarillo	74.02	336	⇓P	P	00 47 59.2	+0.4
	baz=74						
T37A	Cheneyville 18	74.16	343	⇓P	P	00 47 57.9	-1.6
	baz=74						
121A	Cookes Peak, D	74.16	331	⇓P	P	00 48 01.4	+1.6
	baz=74						
T36A	Boggs Farm, Ca	74.34	342	⇓P	P	00 47 60.0	-0.6
	baz=75						
U33A	Lingo Farm, Me	74.36	340	⇑P	P	00 48 00.3	-0.3
	baz=75						
T34A	McClaskey Farm	74.65	341	⇓P	P	00 48 01.9	-0.5
	baz=75						
S36A	Lake Cedric, C	74.89	342	⇓P	P	00 48 02.9	-0.9
	baz=75						
S35A	Otter Creek Ra	75.04	342	⇑P	P	00 48 03.8	-0.7
	baz=75						
TUC	Tucson	75.23	328	eP	P	00 48 07.0	+1.1
	comp=Z,4.7nm,0.9s						
U28A	Mallet	75.56	337	⇓P	P	00 48 07.6	-0.2
	baz=76						
ANMO	Albuquerque	75.77	333	eP	P	00 48 09.8	+0.7
	comp=Z,4.1nm,1.1s						
U27A	Thompson Grove	75.80	336	⇑P	P	00 48 09.5	+0.3
	baz=76						
214A	Organ Pipe Nat	75.83	326	⇑P	P	00 48 10.5	+1.2
	baz=76						
R34A	Isabella, Hill	75.87	341	⇓P	P	00 48 08.5	-0.8
	baz=76						
S30A	Montezuma	76.17	338	⇓P	P	00 48 11.1	0.0
	baz=76						
S29A	Ulysses	76.35	338	⇓P	P	00 48 12.5	+0.3
	baz=77						
Q34A	Chapman	76.37	342	⇓P	P	00 48 11.1	-1.1
	baz=77						
R32A	Long Quarter,	76.38	340	⇑P	P	00 48 11.7	-0.6
	baz=77						
S28A	Manter	76.57	337	⇑P	P	00 48 13.5	0.0
	baz=77						
P35A	Duane Minner,	76.71	342	⇓P	P	00 48 13.0	-1.1
	baz=77						
DBIC	Dimbokro	76.74	72	P	P	00 48 15.3	+0.4
	comp=Z,2.2nm,0.6s,baz=227,slow=5.3,SNR=8.2						
DBIC	Dimbokro	76.74	72	eP	P	00 48 15.3	+0.4
	comp=Z,33nm,1.6s						
T26A	Comanche Natio	76.74	336	⇑P	P	00 48 14.9	+0.3
	baz=77						
Q32A	Meitler Ranch,	76.87	340	⇓P	P	00 48 14.4	-0.7
	baz=77						
T25A	Trinidad	76.99	335	⇑P	P	00 48 16.7	+0.7
	baz=77,SNR=7.6						
T25A	Trinidad	76.99	335	eP	P	00 48 17.2	+1.2
	comp=Z,10nm,0.9s						
S26A	Kim	77.11	336	⇑P	P	00 48 17.2	+0.7
	baz=77						
W18A	Petrified Fore	77.20	330	⇑P	P	00 48 18.7	+1.5
	baz=78						
R28A	Tribune	77.23	338	⇓P	P	00 48 17.0	-0.1
	baz=78						
Q30A	Quinter	77.33	339	⇓P	P	00 48 17.6	-0.1
	baz=78						
Q29A	Oakley	77.48	339	⇓P	P	00 48 18.1	-0.4
	baz=78						
R27A	Eads	77.49	337	⇑P	P	00 48 19.0	+0.3
	baz=78						
GLA	Glamis	77.67	326	⇑P	P	00 48 21.3	+1.6
	baz=78						
R26A	Arlington	77.71	336	⇓P	P	00 48 20.6	+0.7
	baz=78						
SDCO	Great Sand Dun	77.91	335	⇓P	P	00 48 22.0	+0.8
	baz=78						
Y12C	Blythe	78.11	326	⇑P	P	00 48 23.8	+1.7
	baz=78						
WUAZ	Wupatki	78.22	329	⇑P	P	00 48 24.5	+1.6
	baz=78						
BC3	Big Chuckawall	78.47	325	⇑P	P	00 48 25.7	+1.5
	baz=79						
MVCO	Mesa Verde	78.54	332	⇓P	P	00 48 25.6	+1.0
	baz=79						
Q24A	Divide	78.88	336	⇓P	P	00 48 27.1	+0.5
	baz=79,SNR=5.0						
PFO	Pinyon Flats O	78.90	325	⇓P	P	00 48 28.2	+1.6
	baz=79						
BELC	Belle Mtn. Jos	79.01	325	⇓P	P	00 48 28.2	+1.0
	baz=79						
O27A	Beecher Island	79.13	338	⇑P	P	00 48 28.6	+1.0
	baz=79						
M31A	Lambtecht Ranc	79.18	341	⇓P	P	00 48 27.6	-0.3
	baz=80						
GMRC	Granite Mounta	79.49	326	⇑P	P	00 48 31.3	+1.5
	baz=80						
N27A	Anderson Farm,	79.71	338	⇓P	P	00 48 31.1	+0.3
	baz=80						
SMCO	Snowmass	79.71	334	eP	P	00 48 32.4	+1.2
	comp=Z,5.3nm,1.0s						
ISCO	Idaho Springs	79.79	336	⇑P	P	00 48 32.0	+0.4
	baz=80						
N26A	Koester Ranch,	79.94	338	⇓P	P	00 48 32.6	+0.6
	baz=80						
KNB	Kanab	80.11	329	eP	P	00 48 34.7	+1.5
	comp=Z,5.8nm,1.0s						
O23A	Lake Granby, G	80.26	336	⇑P	P	00 48 34.7	+0.6
	baz=81						
O22A	Kremmling	80.44	335	⇑P	P	00 48 36.1	+1.1
	baz=81						
GSC	Goldstone, Bar	80.45	325	⇑P	P	00 48 36.4	+1.5
	baz=81						
ECSD	EROS Data Cent	80.83	343	⇑P	P	00 48 35.9	-0.8
	baz=81						
ECSD	EROS Data Cent	80.83	343	eP	P	00 48 36.3	-0.4
	comp=Z,5.4nm,0.8s						
N23A	Red Feather La	80.88	336	⇓P	P	00 48 37.9	+0.5
	baz=81						
BOSA	Boshof	80.97	118	P	P	00 48 38.6	+0.5
	comp=Z,3.4nm,0.8s,baz=217,slow=3.3,SNR=5.6						
BOSA				LR	LR	01 22 28.1	
	comp=Z,37nm,18.1s,baz=180,slow=34						
N22A	Wattenberg Ran	80.97	335	⇓P	P	00 48 38.3	+0.5
	baz=81						
O20A	White River Ci	81.01	334	⇓P	P	00 48 38.7	+0.7
	baz=81						
MPMC	Manual Prospec	81.39	325	⇑P	P	00 48 41.4	+1.3
	baz=82						
SPMN	Marine on St.	81.44	346	⇑P	P	00 48 38.7	-1.1
	baz=82						
J29A	Okreek	81.46	341	⇓P	P	00 48 39.9	-0.2
	baz=82						
ISA	Isabella, Lake	81.53	325	⇑P	P	00 48 42.3	+1.6
	baz=82						
TPNV	Topopah Spring	81.55	327	⇑P	P	00 48 42.4	+1.5
	baz=82						
PKM	Mcpherson Peak	81.57	323	⇓P	P	00 48 42.7	+1.6
	baz=82						
DAC	Darwin (Calif)	81.62	326	eP	P	00 48 42.6	+1.4
	comp=Z,3.0nm,0.8s						
N20A	Spence Gulch,	81.64	334	⇓P	P	00 48 41.3	+0.1
	baz=82						
R11A	Troy Canyon, C	82.42	328	⇓P	P	00 48 46.7	+1.3
	baz=83						
K23A	Bowen Ranch, D	82.44	337	⇓P	P	00 48 45.6	+0.2
	baz=83						
K22A	Casper	82.65	336	⇓P	P	00 48 47.0	+0.5
	baz=83						
J24A	Dixon Ranch, L	82.66	338	⇓P	P	00 48 46.5	+0.1
	baz=83						
G30A	Faulkton	82.76	342	⇑P	P	00 48 46.5	-0.3
	baz=83						
DUG	Dugway, Tooele	82.81	331	⇑P	P	00 48 48.7	+1.3
	baz=83						
DUG	Dugway, Tooele	82.81	331	eP	P	00 48 48.1	+0.8
	comp=Z,6.1nm,1.0s						
I25A	Rochford	83.00	339	⇑P	P	00 48 47.7	-0.6
	baz=83						
RSSD	Black Hills	83.18	339	eP	P	00 48 49.4	+0.2
	comp=Z,4.9nm,0.9s						
HWUT	Hardware Ranch	83.53	332	eP	P	00 48 51.3	+0.2
	comp=Z,6.3nm,0.8s						
NV01	Mina Array Sit	83.70	326	eP	P	00 48 52.8	+0.7
NVAR	Mina Array Bea	83.70	326	P	P	00 48 53.2	+1.1
	comp=Z,1.4nm,0.7s,baz=156,slow=5.0,SNR=9.2						
G27A	Dupree	83.72	340	⇓P	P	00 48 51.4	-0.4
	baz=84						
I22A	9 Mile Ranch,	83.74	337	⇓P	P	00 48 51.6	-0.4
	baz=84						
PD31	Pinedale Array	83.79	334	eP	P	00 48 52.2	-0.3
PDAR	Pinedale Array	83.79	334	P	P	00 48 52.2	-0.3
	comp=Z,0.8nm,0.7s,baz=134,slow=3.1,SNR=9.1						
J20A	Shoshoni	83.80	336	⇓P	P	00 48 52.8	+0.5
	baz=84						
H24A	Dirks Ranch, A	83.91	338	⇓P	P	00 48 51.5	-1.3
	baz=84						
I21A	Big Trails, Te	83.94	336	⇓P	P	00 48 52.6	-0.5
	baz=84						
J19A	Crowheart	84.05	335	⇓P	P	00 48 54.1	+0.4
	baz=84						
HVU	Hansel Valley	84.14	332	eP	P	00 48 54.6	+0.4
	comp=Z,5.6nm,0.8s						
ELK	Elko	84.27	330	eP	P	00 48 55.6	+0.7
	comp=Z,3.3nm,0.8s						
I20A	Worland	84.34	336	⇑P	P	00 48 55.2	+0.1
	baz=85,SNR=5.1						
H20A	Greybull	84.77	336	⇑P	P	00 48 56.4	-0.9
	baz=85,SNR=5.9						
AGMN	Agassiz Nation	84.99	345	⇓P	P	00 48 57.2	-0.9
	baz=85						
AGMN	Agassiz Nation	84.99	345	eP	P	00 48 57.8	-0.3
	comp=Z,96nm,2.9s						
F23A	Volborg	85.05	338	⇓P	P	00 48 58.4	-0.1
	baz=85						
H19A	Powell	85.26	336	⇑P	P	00 48 59.8	+0.1
	baz=86						
G20A	Bridger	85.49	336	⇓P	P	00 49 00.3	-0.6
	baz=86,SNR=5.3						
H18A	Shoshone NF, C	85.50	335	⇓P	P	00 49 00.9	-0.1
	baz=86,SNR=9.3						
B30A	Myrvik Farm, E	85.67	344	⇑P	P	00 49 01.3	-0.2
	baz=86						
E23A	Ismay	85.72	339	⇑P	P	00 49 01.1	-0.7
	baz=86						
TOA0	Torodi Ar. Sit	85.78	71	eP	P	00 49 03.0	+0.2
TORD	Torodi Ar. Bea	85.78	71	P	P	00 49 02.8	0.0
	comp=Z,1.0nm,0.7s,baz=285,slow=7.1,SNR=11						
F19A	Roth Farm, Mol	86.29	336	⇑P	P	00 49 04.4	-0.3
	baz=87						
HLID	Hailey	86.30	332	⇓P	P	00 49 05.9	+1.0
	baz=87						
HLID	Hailey	86.30	332	eP	P	00 49 05.7	+0.8
	comp=Z,2.0nm,0.8s						
C24A	Savage	86.39	340	⇑P	P	00 49 05.1	0.0
	baz=87						
D22A	Cohagen	86.56	338	⇑P	P	00 49 06.2	+0.2
	baz=87						
E19A	Rath Farm, Rou	86.77	337	⇓P	P	00 49 06.8	-0.2
	baz=87,SNR=7.1						
MCMT	McKenzie Canyo	86.77	333	eP	P	00 49 08.4	+1.1
C23A	Lambert	86.86	339	⇑P	P	00 49 07.3	-0.1
	baz=87						
A26A	Wade Farm, Ken	86.99	342	⇑P	P	00 49 07.6	-0.4
	baz=87						
D20A	Manuel Ranch,	87.12	337	⇑P	P	00 49 08.4	-0.3
	baz=87						
DGMT	Dagmar	87.18	340	⇓P	P	00 49 08.7	-0.2
	baz=88						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WDC	**Whiskeytown Da**	**87.38**	**325**	*e*P	**P**	**00 49 09.8**	**-0.3**
	comp=Z,3.8nm,0.8s						
C21A	**Desert Coulee**	**87.45**	**338**	⇓P	**P**	**00 49 09.6**	**-0.6**
	baz=88						
B22A	**Reddig Ranch S**	**87.54**	**339**	⇑P	**P**	**00 49 10.6**	**-0.1**
	baz=88						
C19A	**Slack Wire Ran**	**87.98**	**337**	⇑P	**P**	**00 49 11.9**	**-0.9**
	baz=88						
M04C	**Macdoel**	**88.00**	**326**	⇓P	**P**	**00 49 14.1**	**+0.9**
	baz=88						
A22A	**Carney Farms,**	**88.14**	**339**	⇑P	**P**	**00 49 13.5**	**0.0**
	baz=88						
B20A	**Solberg Farm,**	**88.28**	**338**	⇑P	**P**	**00 49 13.7**	**-0.5**
	baz=89						
K05A	**Summer Lake**	**88.32**	**327**	*e*P	**P**	**00 49 16.3**	**+1.5**
	comp=Z,13nm,0.9s						
YBH	**Yreka Blue Hor**	**88.36**	**326**	*e*P	**P**	**00 49 14.9**	**+0.1**
	comp=Z,85nm,3.0s						
J05D	**Fort Rock, OR**	**88.92**	**327**	⇓P	**P**	**00 49 18.4**	**+0.9**
	baz=89						
A19A	**Klindworth Far**	**88.93**	**338**	⇓P	**P**	**00 49 17.4**	**+0.1**
	baz=89						
I05D	**Terrebonne, OR**	**89.80**	**328**	⇑P	**P**	**00 49 22.7**	**+1.2**
	baz=90						
WRA	**Warramunga Arr**	**119.43**	**211**	PKP	**PKPdf**	**00 55 11.4**	**-1.8**
	comp=Z,0.6nm,0.9s,baz=169,slow=1.5,SNR=3.5						
BRTR	**Keskin Array B**	**123.41**	**62**	PKP	**PKPdf**	**00 55 20.1**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=182,slow=2.7,SNR=7.7						
ZALV	**Zalesovo Beam**	**155.59**	**32**	PKPbc	PKPdf	00 56 25.5	+9.3
	comp=Z,1.4nm,0.7s,baz=298,slow=4.1,SNR=5.5						
MKAR	**Makanchi Array**	**158.30**	**49**	PKPab	**PKPab**	**00 56 54.6**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=310,slow=4.1,SNR=7.9						

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*IDC **01** 01:24:19.6±7.3, 1°.96S×134°.82E, h0km, mb3.6/2, mb1 4.1/3, mb1mx3.6/24, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=387.4km s-min=27.4km az=78.0*

*ISCJB **01** 01:24:20.6±0.7, 2°.03S±0°.08×135°.71E±0°.04, h33km, mb3.6/2, Error ellipse: s-maj=11.8km s-min=5.9km az=172.6*

*DJA **01** 01:24:20.3±0.7, 2°S±9°×13°6E±°, h15km±5km, M4.4/5, mb4.2/1, mB6.0/1, MLv4.5/5, Mw(mB)5.6/1*

ISC 01 01:24:22.4±1.1**, 2°.0S**±0°.1×**135°.71E**±0°.05**, h35**km**, n9,** σ**2.s46**/10**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.56**	**73**	P	Pn	01 24 30.1	-3.8
RKPI	**Ransiki, Papua**	**1.61**	**289**	P	**Pn**	**01 24 47.5**	**-0.9**
SMPI	**Sarmi**	**3.00**	**89**	P	**Pn**	**01 25 07.1**	**-0.4**
FAKI	**Fak Fak**	**3.56**	**256**	P	**Pn**	**01 25 16.3**	**+1.0**
FAKI				S	**Sn**	**01 25 57.0**	**+0.8**
GENI	**Genyem**	**4.49**	**97**	S	**Sn**	**01 26 21.1**	**+2.0**
BNDI	**Bandanaira**	**6.30**	**247**	S	**Sn**	**01 27 05.3**	**+1.6**
WRA	**Warramunga Arr**	**17.85**	**184**	P	**P**	**01 28 28.5**	**-0.2**
	0.4nm,0.3s,baz=360,slow=13,SNR=17						
WRA				S	**Sn**	**01 31 41.5**	**-4.8**
	0.2nm,0.3s,baz=13,slow=22,SNR=5.4						
ASAR	**Alice Springs**	**21.58**	**184**	P	**P**	**01 29 12.2**	**+3.0**
	2.2nm,0.6s,baz=12,slow=11,SNR=22						
MKAR	**Makanchi Array**	**67.44**	**323**	P	**P**	**01 35 13.4**	**-1.2**
	0.2nm,0.5s,baz=104,slow=6.9,SNR=3.5						

TRN 01 01:34:57.9, 9°.59N×60°.60W, h18km, MD3.8, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**1.00**	**333**	*e*P	Pb	01 35 16.2	-0.5
TBH				*e*S	Sn	01 35 31.9	+1.2
TPP	**Pointe-a-Pierr**	**1.11**	**311**	*e*P	Pg	01 35 19.4	+0.1
TPP				*e*S	Sg	01 35 33.6	-0.3
TRN	**Trinidad (W)**	**1.32**	**323**	*e*P	Pn	01 35 21.7	+0.3
TRN				*e*S	Sb	01 35 38.9	+0.3
TOSP	**Speyside**	**1.70**	**2**	*e*P	Pn	01 35 27.2	+0.6
TOSP				*e*S	Sn	01 35 48.3	+0.4

KRSC 01 01:38:57.8±2.3**, 49°.71N×157°.21E, h60**km±25km**, ML3.9, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.21**	**325**	*e*P	Pn	01 39 19.3	+0.8
SKR				*e*S	Sn	01 39 35.3	+1.3
PAU	**Pauzhetka**	**1.78**	**352**	*e*P	Pn	01 39 28.9	+2.6
PAU				*e*S	Sn	01 39 51.6	+3.7
ASAK	**Asacha**	**2.72**	**9**	*e*P	Pn	01 39 42.1	+3.0
MTVR	**Mutnovka**	**2.85**	**12**	*e*P	Pn	01 39 43.1	+2.1
MTVR				*e*S	Sn	01 40 17.5	+3.3
RUS	**Russkaya**	**2.85**	**16**	*e*P	Pn	01 39 42.8	+2.0
RUS				*e*S	Sn	01 40 15.2	+1.3
APC	**Apacha**	**3.23**	**359**	*e*P	Pn	01 39 47.7	+1.8
UGLR	**Uglovaya**	**3.65**	**15**	*e*P	Pn	01 39 56.3	+4.4
AVH	**Avacha**	**3.69**	**14**	*e*P	Pn	01 39 56.7	+4.3
SMAR	**Somma**	**3.70**	**15**	*e*P	Pn	01 39 56.5	+3.8
KOK	**Koryaka**	**3.70**	**13**	*e*P	Pn	01 39 57.0	+4.4
SDLR	**Sedlovina**	**3.73**	**16**	*e*P	Pn	01 39 56.3	+3.3
KRX	**Arik**	**3.77**	**13**	*e*P	Pn	01 39 57.4	+3.8
SPN	**Mys Shipunski**	**3.83**	**26**	*e*P	Pn	01 39 57.6	+3.4
GNL	**Ganaly**	**4.02**	**6**	*e*P	Pn	01 39 59.2	+2.2
MKZ	**Mys Kozlova**	**5.60**	**28**	*e*P	Pn	01 40 21.2	+2.9
KBTR	**Krutoberegovo**	**7.34**	**25**	*e*P	Pn	01 40 45.5	+3.3

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*ISCJB **01** 01:41:02.5±0.7, 33°.48N±0°.09×96°.55E±0°.09, h10km, mb3.6/3, MS2.9/1, Error ellipse: s-maj=15.0km s-min=6.9km az=39.1*

*IDC **01** 01:41:03.2±1.2, 33°.13N×96°.02E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.4/31, mbtmp3.6/5, ML3.4/2, MS2.9/3, Ms1 2.9/3, ms1mx2.6/22, Error ellipse: s-maj=63.3km s-min=23.7km az=54.0*

*BJI **01** 01:41:06.0, 33°.28N×96°.18E, h9km, ML3.2/8*

ISC 01 01:41:04.9±0.8**, 33°.4N**±0°.1×**96°.49E**±0°.08**, h10**km**, n10,** σ**0.s93**/11**, mb3.7**/3**, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.86**	**232**	Pn	**Pn**	**01 42 32.6**	**+0.3**
CD2	**Chengdu**	**6.65**	**110**	Pn	**Pn**	**01 42 43.5**	**+0.8**
CD2				Pg	Pg	01 43 09.6	-2.6
CD2				Sn	**Sn**	**01 43 57.9**	**-0.7**
CD2				Sg	**Sg**	**01 44 37.4**	**-0.9**
CD2				SMN			
	30nm,1.2s						
CD2				SME			
	20nm,1.5s						
XAN	**Xi'an**	**10.38**	**83**	P	Pn	01 43 29.2	-4.7
XAN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WMQ	**Urumqi**	**12.46**	**329**	P	**Pn**	**01 44 02.0**	**-0.4**
WMQ				S	**Sn**	**01 46 21.1**	**-0.2**
SONM	**Songino Array**	**16.24**	**24**	Pn	**P**	**01 44 57.9**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=210,slow=14,SNR=12						
SONM				LR	LR	01 50 44.5	
	comp=Z,28nm,19.4s,baz=97,slow=35						
MKAR	**Makanchi Array**	**17.20**	**325**	P	**Pn**	**01 45 05.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=133,slow=14,SNR=7.3						
MKAR				LR	LR	01 51 49.2	
	comp=Z,35nm,20.2s,baz=148,slow=38						
KSRS	**Korea Array**	**25.87**	**72**	LR	LR	01 57 02.1	
	comp=Z,34nm,18.9s,baz=175,slow=36						
AKASG	**Malin Array Be**	**51.06**	**311**	P	**P**	**01 50 05.9**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=71,slow=6.3,SNR=3.2						
WRA	**Warramunga Arr**	**64.17**	**140**	P	**P**	**01 51 40.0**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=322,slow=8.8,SNR=4.2						
ASAR	**Alice Springs**	**67.01**	**143**	P	**P**	**01 51 58.6**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=326,slow=6.6,SNR=3.3						

MAN 01 01:41:39, 7°.04N×123°.92E, h7km, mb4.4, ML3.2, MS3.1, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.37**	**61**	⇓*i*P	Pg	01 41 47.0	+0.8
CTBH				*i* S	Sb	01 41 53.1	-0.7
PAGZ	**Pagadian**	**0.96**	**326**	*e*P	Pg	01 41 57.6	+0.1
PAGZ				*e*S	Sn	01 42 12.7	-0.3
BUKP	**Musuan**	**1.41**	**54**	*e*P	Pn	01 42 04.5	-0.7
BUKP				*e*S	Sg	01 42 24.3	-0.1
IPIL	**Ipil**	**1.53**	**299**	*e*P	Pn	01 42 06.4	-0.3
IPIL				*e*S	Sg	01 42 28.1	-0.2
DCPH	**Dipolog City**	**1.63**	**340**	⇓*i*P	Pb	01 42 08.8	-0.6

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*ISCJB **01** 01:56:46.5±0.7, 80°.71S±0°.06×158°.4E±0°.7, h10km, mb3.9/5, MS3.2/1, Error ellipse: s-maj=16.8km s-min=5.9km az=22.4*

*IDC **01** 01:56:47.5±0.8, 80°.68S×157°.74E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.9/18, mbtmp3.9/6, ML3.7/2, MS3.1/3, Ms1 3.1/3, ms1mx2.9/19, Error ellipse: s-maj=31.6km s-min=14.7km az=103.0*

*NEIC **01** 01:56:48.6±0.4, 80°.73S×157°.95E, h10km, mb4.2/2, Error ellipse: s-maj=12.8km s-min=7.8km az=105.0*

ISC 01 01:56:48.1±0.7**, 80°.79S**±0°.06×**158°.7E**±0°.1**, h10**km**, n17,** σ**1.s46**/22**, mb4.2**/5**, Antarctica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**3.31**	**31**	*e*Pn	**Pn**	**01 57 40.8**	**+1.0**
SBA				*e*S	**Sn**	**01 58 17.6**	**-1.6**
VNDA	**Vanda**	**3.35**	**12**	Pn	**Pn**	**01 57 40.5**	**+0.1**
	8.1nm,0.3s,baz=189,slow=12,SNR=481						
VNDA				Sn	**Sn**	**01 58 19.0**	**-1.0**
	37nm,0.3s,baz=242,slow=19,SNR=7.1						
VNDA				Lg	Lg	01 58 31.6	
	88nm,0.3s,baz=100,slow=19,SNR=8.3						
VNDA				LR	LR	01 58 45.4	
	comp=Z,112nm,18.7s,baz=176,slow=36						
VNDA	**Vanda**	**3.35**	**12**	*e*Pn	**Pn**	**01 57 40.5**	**+0.1**
VNDA				*e*Sn	**Sn**	**01 58 19.2**	**-0.8**
VNDA				Lg	Lg	01 58 31.6	
VNDA				*e*Sg	**Sg**	**01 58 34.1**	**-1.2**
QSPA	**South Pole Qui**	**9.20**	**180**	Pn	**Pn**	**01 59 01.1**	**+0.3**
	0.5nm,0.3s,baz=15,slow=20,SNR=124						
QSPA				Lg	Lg	02 01 35.5	
	0.4nm,0.3s,baz=164,slow=24,SNR=6.0						
QSPA				LR	LR	02 02 53.5	
	comp=Z,165nm,19.0s,baz=48,slow=39						
QSPA	**South Pole Qui**	**9.20**	**180**	*e*Pn	**Pn**	**01 59 01.1**	**+0.3**
	12nm,0.8s						
QSPA				*e*S	**Sn**	**02 00 39.7**	**-4.7**
QSPA				Lg	Lg	02 01 35.5	
CASY	**Casey**	**18.91**	**292**	*e*Pn	**P**	**02 01 07.7**	**-0.7**
	28nm,2.1s						
MAW	**Mawson**	**25.13**	**244**	P	**P**	**02 02 13.3**	**+0.7**
	3.2nm,0.8s,baz=163,slow=10,SNR=4.7						
MAW				LR	LR	02 12 25.9	
	comp=Z,70nm,20.3s,baz=245,slow=38						
SNAA	**Sanae**	**27.39**	**193**	P	**P**	**02 02 35.0**	**+1.9**
	0.5nm,0.9s,baz=196,slow=15,SNR=3.7						
ASAR	**Alice Springs**	**58.13**	**333**	P	**P**	**02 06 41.4**	**-0.1**
	1.5nm,0.7s,baz=168,slow=6.9,SNR=16						
WRA	**Warramunga Arr**	**61.79**	**334**	P	**P**	**02 07 05.9**	**-0.8**
	1.0nm,0.5s,baz=180,slow=5.8,SNR=22						
WRAB	**Tennant Creek**	**61.80**	**334**	*e*P	**P**	**02 07 06.1**	**-0.6**
	1.9nm,0.9s						
BRTR	**Keskin Array B**	**134.40**	**242**	PKP	PKPdf	02 16 12.6	+7.4
	0.4nm,0.6s,baz=161,slow=5.8,SNR=3.9						
AKASG	**Malin Array Be**	**145.78**	**241**	PKPbc	**PKPdf**	**02 16 25.2**	**+0.1**
	0.6nm,0.4s,baz=180,slow=3.5,SNR=3.9						
COLA	**College**	**148.37**	**41**	*e*PKPbc	**PKPbc**	**02 16 33.1**	**+0.6**
ILAR	**Eielson Array**	**148.38**	**42**	PKPbc	**PKPbc**	**02 16 33.5**	**+0.8**
	6.0nm,0.6s,baz=214,slow=3.7,SNR=123						
YKA	**Yellowknife Ar**	**150.43**	**70**	PKPbc	**PKPbc**	**02 16 39.3**	**+1.6**
	0.8nm,0.8s,baz=193,slow=2.4,SNR=6.4						
YKA				PKPab	**PKPab**	**02 16 45.8**	**+1.4**
	1.1nm,0.7s,baz=187,slow=2.5,SNR=10						
SCHQ	**Schefferville**	**150.49**	**123**	PKPbc	**PKPbc**	**02 16 38.6**	**+0.5**
	3.9nm,0.8s,baz=151,slow=3.6,SNR=4.6						

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*IDC **01** 02:05:30.6±4.0, 45°.87S×80°.67W, h0km, mb4.1/5, mb1 4.2/7, mb1mx3.9/26, mbtmp4.0/7, ML4.0/2, MS3.8/11, Ms1 3.8/11, ms1mx3.7/20, Error ellipse: s-maj=100.0km s-min=35.0km az=167.0*

*GCMT **01** 02:05:36.0±0.4, 45°.06S×81°.35W, h23km±1km, MW4.9/72, Moment Tensor Solution. s16,c20; s72,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.65±.21; Mθθ1.56±.17; Mφφ-0.90±.15; Mrθ-0.58±.23; Mθφ-2.63±.13; Mφr0.96±.25; Best double couple: M0 3.09600×10^16 NP1:φs167.00000°, δ89.00000°, λ-21.00000°. NP2: φs257.00000°, δ69.00000°, λ-179.00000°. Principal axes: T 3.4790, Plg14.0000°, Azm214.0000°; N -0.7640, Plg69.0000°, Azm345.0000°; P -2.7130, Plg15.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 02:05:36.8±3.5**, 45°.7S**±0°.6×**80°.6W**±0°.2**, h35**km**, n15,** σ**0.s64**/8**, mb3.9**/5**, MS3.9**/10**, Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**8.84**	**59**	Pn	**Pn**	**02 07 42.3**	**+0.1**
	0.9nm,0.3s,baz=238,slow=10,SNR=24						
PLCA				Sn	**Sn**	**02 09 20.9**	**+0.3**
	0.3nm,0.3s,baz=234,slow=16,SNR=2.5						
CFAA	**Coronel Fontan**	**17.02**	**39**	P	**P**	**02 09 33.8**	**+0.2**
	0.1nm,0.3s,baz=212,slow=11,SNR=9.9						
CFAA				LR	LR	02 15 03.3	
	comp=Z,37nm,20.9s,baz=204,slow=33						
LVC	**Limon Verde**	**24.91**	**26**	P	**P**	**02 10 57.7**	**+1.0**
	40nm,1.0s,baz=220,slow=9.7,SNR=8.0						
LVC				LR	LR	02 18 13.1	
	comp=Z,1μm,20.2s,baz=196,slow=30						
LPAZ	**La Paz**	**31.12**	**24**	P	**P**	**02 11 51.8**	**-0.8**
	1.6nm,0.8s,baz=179,slow=8.5,SNR=5.9						
BDFB	**Brasilia**	**40.52**	**53**	P	**P**	**02 13 12.3**	**-0.3**
	3.7nm,0.9s,baz=162,slow=6.4,SNR=1.8						
BDFB				LR	LR	02 30 21.5	
	comp=Z,111nm,18.4s,baz=160,slow=37						
ROSC	**El Rosal**	**50.63**	**8**	LR	LR	02 33 05.1	
	comp=Z,228nm,20.9s,baz=217,slow=33						
VNDA	**Vanda**	**51.27**	**194**	LR	LR	02 33 53.8	
	comp=Z,74nm,19.5s,baz=128,slow=33						
PPT	**Papeete**	**63.02**	**272**	LR	LR	02 34 54.9	
	comp=Z,79nm,21.1s,baz=170,slow=28						
MAW	**Mawson**	**63.71**	**165**	LR	LR	02 41 26.6	
	comp=Z,126nm,19.7s,baz=234,slow=34						
TXAR	**Lajitas Array**	**77.56**	**339**	P	**P**	**02 17 29.3**	**+0.3**
	0.4nm,0.8s,baz=170,slow=11,SNR=6.0						
BOSA	**Boshof**	**80.12**	**121**	LR	LR	02 50 37.3	
	comp=Z,53nm,18.6s,baz=202,slow=34						
DBIC	**Dimbokro**	**84.88**	**75**	LR	LR	02 48 37.5	
	comp=Z,34nm,20.8s,baz=176,slow=30						
PDAR	**Pinedale Array**	**91.77**	**339**	P	**P**	**02 18 40.8**	**+0.2**
	0.3nm,0.6s,baz=122,slow=3.3,SNR=2.6						
STKA	**Stephens Creek**	**93.84**	**215**	LR	LR	02 53 20.9	
	comp=Z,105nm,19.2s,baz=200,slow=31						
TORD	**Torodi Ar. Bea**	**93.99**	**75**	LR	LR	02 55 42.2	
	comp=Z,24nm,21.9s,baz=195,slow=32						

IDC 01 02:13:00.2±3.6**, 3°.77S×142°.42E, h0**km**, mb3.5**/2**, mb1 3.8**/3**, mb1mx3.4**/31**, mbtmp3.6**/3**, ML3.7**/1**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.6**/21**, Error ellipse: s-maj=114.7km s-min=17.9km az=103.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.90**	**205**	P	Pn	02 17 09.7	-1.1
	0.2nm,0.3s,baz=28,slow=12,SNR=12						
WRA				S	Sn	02 20 32.7	+1.5
	0.1nm,0.3s,baz=24,slow=27,SNR=5.3						
ASAR	**Alice Springs**	**21.42**	**202**	P	P	02 17 49.5	-0.4
	0.9nm,0.7s,baz=33,slow=10,SNR=10						
RPZ	**Rata Peaks**	**47.16**	**152**	LR	LR	02 41 09.5	
	comp=Z,78nm,21.8s,baz=114,slow=36						
MKAR	**Makanchi Array**	**72.90**	**321**	P	P	02 24 31.6	+0.3
	0.9nm,0.8s,baz=103,slow=7.6,SNR=7.1						

GUC 01 03:00:19.4±0.6**, 28°.92S×70°.34W, h77**km±6km**, ML3.7, 4C, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.50**	**313**	⇑*i*P	Pn	03 00 33.3	+0.5
VACH				*i* S	Sn	03 00 43.3	+0.5
VACH				AML	AML	03 00 44.8	
	comp=N,4μm,0.1s						
LSCH	**La Serena**	**1.27**	**218**	⇑*i*P	Pn	03 00 41.9	+0.4
LSCH				*i* S	Sn	03 00 58.5	+0.3
TLL	**Tololo Astrono**	**1.31**	**198**	⇑*i*P	Pn	03 00 43.2	+0.6
TLL				*i* S	Sn	03 01 01.0	+1.1
CPCH	**Copiapo**	**1.55**	**360**	⇑*i*P	Pn	03 00 45.4	0.0
CPCH				*i* S	Sn	03 01 05.4	+0.5
CPCH				AML	AML	03 01 07.0	
	comp=E,2μm,0.1s						
CDCH	**Caldera**	**1.89**	**347**	*e*P	Pn	03 00 50.2	+0.5
CDCH				*e*S	Sn	03 01 13.1	+0.3

KMA 01 03:00:42.1, 35°.72N×128°.37E, h14km, 1C-2D, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSKCH	**Geochang**	**0.38**	**254**	⇑P	Pg	03 00 48.7	-1.2
KSDAG	**Daegu**	**0.43**	**83**	P	Pg	03 00 50.7	-0.1
	SNR=7.3						
KSDAG				P	Pg	03 00 50.7	-0.1
	SNR=7.3						
KSDAG				P	Pg	03 00 50.7	-0.1
	SNR=7.3						
KSDAG	**Daegu**	**0.43**	**83**	P	Pg	03 00 50.7	-0.1
	SNR=7.3						
KSCPR	**CHUPUNGNYEONG**	**0.59**	**327**	⇓P	Pg	03 00 52.8	-1.1
KSPHA	**Pohang**	**0.94**	**60**	P	Pn	03 01 00.7	-0.3
	SNR=312						
KSPHA				P	Pn	03 01 00.7	-0.3
	SNR=312						
KSPHA				P	Pn	03 01 00.7	-0.3
	SNR=312						
KSPHA	**Pohang**	**0.94**	**60**	P	Pn	03 01 00.7	-0.3
	SNR=312						
KSJEU	**Jeongeup**	**1.20**	**260**	P	Pn	03 01 03.8	-0.7
	SNR=8.9						
KSJEU				P	Pn	03 01 03.8	-0.7
	SNR=8.9						
KSJEU				P	Pn	03 01 03.8	-0.7
	SNR=8.9						
KSJEU	**Jeongeup**	**1.20**	**260**	P	Pn	03 01 03.8	-0.7
	SNR=8.9						
KSJEU				⇓S	Sb	03 01 19.6	-0.3
KSKWJ	**Gwangju**	**1.26**	**244**	P	Pn	03 01 05.1	-0.2
	SNR=7.1						
KSKWJ				P	Pn	03 01 05.1	-0.2
	SNR=7.1						
KSKWJ				P	Pn	03 01 05.1	-0.2
	SNR=7.1						
KSKWJ	**Gwangju**	**1.26**	**244**	P	Pn	03 01 05.1	-0.2
	SNR=7.1						
KSULJ	**Uljin**	**1.29**	**40**	P	Pb	03 01 06.0	-0.2
	SNR=9.1						
KSULJ				P	Pb	03 01 06.0	-0.2
	SNR=9.1						
KSULJ				P	Pb	03 01 06.0	-0.2
	SNR=9.1						
KSULJ	**Uljin**	**1.29**	**40**	P	Pb	03 01 06.0	-0.2
	SNR=9.1						

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*JMA **01** 03:05:45.1±0.1, 23°.81N×122°.14E, h24km, M2.8*

*TAP **01** 03:05:46.4, 23°.87N×122°.06E, h13km±1km, ML3.5, D*

ISC 01 03:05:44.9±1.1**, 23°.81N**±0°.02×**122°.15E**±0°.02**, h19**km±3km**, n56,** σ**0.s66**/100**, 2C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.53**	**288**	*e*P	**Pn**	**03 05 56.7**	**-0.6**
	baz=283						
HWA				*e*S	**Sn**	**03 06 04.8**	**-0.9**
	baz=283						
TWD	**Chiawan**	**0.57**	**298**	P	**Pg**	**03 05 57.0**	**+0.7**
	baz=296						
TWD				*e*S	**Sb**	**03 06 04.1**	**+0.2**
	baz=296						
ESL	**Shilin**	**0.66**	**270**	*i* P	**Pg**	**03 05 58.3**	**+0.4**
	baz=263						
ESL				*e*S	**Sb**	**03 06 05.8**	**-0.6**
	baz=263						
ENA	**Nanau**	**0.72**	**329**	P	**Pg**	**03 05 59.3**	**+0.3**
	baz=332						
ENA				*e*S	**Sg**	**03 06 09.0**	**+0.4**
	baz=332						
EHY	**Hungye**	**0.82**	**248**	P	**Pg**	**03 06 01.2**	**+0.3**
	baz=241						
EHY				*e*S	**Sb**	**03 06 11.4**	**+0.3**
	baz=241						
TWC	**Suao**	**0.84**	**341**	*e*P	**Pg**	**03 06 01.1**	**-0.2**
	baz=345						
TWC				*e*S	**Sb**	**03 06 09.7**	**-2.0**
	baz=345						
WHF	**Hehuan Shan**	**0.87**	**292**	⇑*i*P	**Pb**	**03 06 01.7**	**0.0**
	baz=290						
WHF				S	**Sb**	**03 06 12.9**	**-0.2**
	baz=290						
TWF1	**Yuli**	**0.91**	**240**	P	**Pn**	**03 06 02.8**	**+0.2**
	baz=233						
TWF1				*e*S	**Sg**	**03 06 14.3**	**-0.3**
	baz=233						
WDT	**Danda**	**0.93**	**267**	⇑*i*P	**Pg**	**03 06 03.1**	**-0.1**
	baz=261						
WDT				S	**Sb**	**03 06 15.0**	**+0.2**
	baz=261						
NNS	**Nan Shan**	**0.94**	**311**	P	**Pn**	**03 06 03.0**	**-0.2**
	baz=312						
NNS				S	**Sb**	**03 06 14.8**	**-0.1**
	baz=312						
JYNG	**Yonagunijimaku**	**0.96**	**49**	P	**Pb**	**03 06 03.3**	**+0.3**
JYNG				*e*S	**Sb**	**03 06 15.8**	**+0.5**
ENTT	**Nioudou**	**0.98**	**327**	P	**Pn**	**03 06 03.6**	**0.0**
	baz=329						
ENTT				S	**Sb**	**03 06 15.9**	**+0.1**
	baz=329						
TWT	**Tachien**	**0.99**	**296**	P	**Pn**	**03 06 04.0**	**+0.1**
	baz=294						
TWT				*e*S	**Sb**	**03 06 16.4**	**+0.1**
	baz=294						
TWE	**Neicheng**	**1.00**	**334**	*e*P	**Pn**	**03 06 03.9**	**-0.1**
	baz=337						
TWE				*e*S	**Sb**	**03 06 16.5**	**0.0**
	baz=337						
CHKT	**Chengkung**	**1.01**	**226**	*e*P	**Pb**	**03 06 03.6**	**-0.2**
	baz=219						
ILA	**Ilan**	**1.02**	**339**	*e*S	**Sg**	**03 06 17.3**	**-0.7**
	baz=342						
YOJ	**Yonaguni jima**	**1.02**	**50**	P	**Pb**	**03 06 04.1**	**+0.2**
YOJ				*e*S	**Sb**	**03 06 17.0**	**+0.2**
EGS		**1.04**	**349**	*e*P	**Pb**	**03 06 03.9**	**-0.4**
	baz=353						
NSK	**Sanguang**	**1.12**	**320**	P	**Pb**	**03 06 05.7**	**0.0**
	baz=321						
YUS	**Yu-Shan**	**1.15**	**254**	P	**Pb**	**03 06 06.8**	**+0.5**
	baz=249						
YUS				*e*S	**Sb**	**03 06 21.1**	**0.0**
	baz=249						
SMLT	**Sun Moon Lake**	**1.15**	**274**	*i* P	**Pb**	**03 06 06.4**	**+0.2**
	baz=270						
SMLT				*e*S	**Sb**	**03 06 20.3**	**-0.4**
	baz=270						
TYC	**Yuchr**	**1.19**	**275**	P	**Pb**	**03 06 06.8**	**0.0**
	baz=271						
TYC				*e*S	**Sn**	**03 06 22.5**	**+0.5**
	baz=271						
TWB1	**Santiao Chiao**	**1.20**	**353**	*e*P	**Pg**	**03 06 09.3**	**+1.2**
	baz=357						
TWB1				*e*S	**Sg**	**03 06 25.2**	**+1.4**
	baz=357						
ELDTW	**Lidau**	**1.21**	**239**	*e*P	**Pn**	**03 06 06.8**	**-0.1**
	baz=234						
ALS	**Alishan**	**1.27**	**256**	*e*P	**Pb**	**03 06 08.9**	**+0.6**
	baz=252						
ALS				*e*S	**Sb**	**03 06 24.4**	**0.0**
	baz=252						
TWA	**Mucha**	**1.27**	**336**	*e*P	**Pb**	**03 06 08.6**	**+0.4**
	baz=338						
TWA				*e*S	**Sb**	**03 06 23.8**	**-0.4**
	baz=338						
NWF	**Wu-fen Shan**	**1.30**	**345**	P	**Pb**	**03 06 08.5**	**-0.2**
	baz=347						
NWF				*e*S	**Sn**	**03 06 23.5**	**-1.4**
	baz=347						
NSTT	**Nanjuang**	**1.33**	**308**	P	**Pb**	**03 06 09.6**	**+0.4**
	baz=308						
NSTT				*e*S	**Sn**	**03 06 25.2**	**-0.4**
	baz=308						
WNT	**Mingjian**	**1.34**	**273**	*e*P	**Pg**	**03 06 10.3**	**-0.5**
	baz=270						
TWQ1	**Liyutan**	**1.37**	**293**	*e*P	**Pb**	**03 06 10.3**	**+0.5**
	baz=291						
TWQ1				*e*S	**Sb**	**03 06 27.3**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=291						
CHN5	Tsauling	1.37	261	P	Pb	03 06 10.6	+0.7
	baz=257						
CHN5				eS	Sb	03 06 27.9	+0.9
	baz=257						
TCU	Taichung	1.39	284	eP	Pg	03 06 11.2	-0.5
	baz=282						
TCU				eS	Sg	03 06 29.8	0.0
	baz=282						
TWG	Pinlang	1.40	225	eP	Pn	03 06 09.4	0.0
	baz=220						
TWG				eS	Sn	03 06 25.6	-1.7
	baz=220						
NSY	Sanyi	1.40	296	eP	Pb	03 06 11.2	+0.7
	baz=294						
NSY				eS	Sg	03 06 30.0	-0.3
	baz=294						
STYT	Tauyuan	1.43	243	P	Pb	03 06 11.0	0.0
	baz=239						
STYT				eS	Sn	03 06 28.4	+0.2
	baz=239						
TWS1	Kuangyinshan	1.44	333	eP	Pg	03 06 12.7	-0.1
	baz=334						
TWS1				eS	Sb	03 06 29.1	-0.1
	baz=334						
HSN	Hsinchu	1.46	313	eS	Sb	03 06 30.2	+0.6
	baz=314						
WGK	Gukeng	1.46	265	eP	Pb	03 06 12.1	+0.6
	baz=262						
WGK				eS	Sg	03 06 30.9	-1.2
	baz=262						
CHN4	Tsaushan	1.50	252	eP	Pb	03 06 13.0	+0.9
	baz=248						
CHN4				eS	Sg	03 06 32.4	-1.1
	baz=248						
WTP	Ta-pu	1.52	248	eP	Pb	03 06 13.0	+0.5
	baz=244						
WTP				eS	Sg	03 06 32.8	-1.3
	baz=244						
HATJ	Hateruma jima	1.53	81	P	Pn	03 06 11.5	+0.3
HATJ				eS	Sn	03 06 30.5	-0.1
IRIF	Iriomote-Funau	1.53	70	P	Pn	03 06 11.4	+0.2
IRIF				eS	Sn	03 06 30.6	0.0
CHN2	Minshiung	1.56	260	eP	Pb	03 06 13.9	+0.8
	baz=256						
CHN2				eS	Sg	03 06 34.9	-0.5
	baz=256						
SGST	Jiashian	1.61	243	eP	Pb	03 06 15.0	+0.9
	baz=239						
SGST				eS	Sb	03 06 34.3	+0.3
	baz=239						
CHY	Chiayi	1.61	259	eS	Sg	03 06 36.4	-0.6
	baz=255						
CHN1	Nanshi	1.62	248	eP	Pb	03 06 14.8	+0.7
	baz=244						
CHN1				eS	Sb	03 06 34.7	+0.6
	baz=244						
TWK	Hsinying	1.62	251	P	Pb	03 06 14.5	+0.3
	baz=247						
TWK				eS	Sb	03 06 34.9	+0.6
	baz=247						
JKRS	Kuro-shima	1.75	76	P	Pn	03 06 14.7	+0.5
JKRS				eS	Sn	03 06 35.2	-0.8
SSD	Sandimen	1.75	233	eP	Pb	03 06 16.5	0.0
	baz=229						
EAST	Anshuo	1.86	220	eP	Pb	03 06 18.2	-0.1
	baz=216						
JIJ	Ishigaki jima	1.90	73	P	Pn	03 06 16.2	-0.1
JIJ				eS	Sn	03 06 38.3	-1.4
SCZT	Fangliau	2.01	225	eP	Pb	03 06 21.3	+0.5
	baz=221						
SCZT				eS	Sb	03 06 45.9	+0.4
	baz=221						
JISG	Ishigakijimahi	2.12	68	P	Pn	03 06 19.0	-0.2
JISG				eS	Sn	03 06 42.7	-2.3
PNG	Penghu	2.39	265	eS	Sn	03 06 52.0	+0.3
	baz=262						
JTJ	Tarama	2.47	70	P	Pn	03 06 24.4	+0.3
JTJ				eS	Sn	03 06 53.8	+0.1
KNM	Kinmen	3.45	281	eP	Pn	03 06 39.3	+1.8
	baz=278						

*IDC **01** 03:25:35.6±0.7, 5°16S×134°08E, h0km, mb4.2/10, mb1 4.3/13, mb1mx4.2/20, mbtmp4.3/13, ML4.3/3, Error ellipse: s-maj=28.9km s-min=14.5km az=64.0*

*ISCJB **01** 03:25:38.2±0.5, 5°11S±0°04×134°01E±0°05, h28km, mb4.2/13, Error ellipse: s-maj=6.9km s-min=5.5km az=146.2*

*NEIC **01** 03:25:40.3±3.5, 5°15S×133°98E, h28km±25km, mb4.4/5, Error ellipse: s-maj=16.0km s-min=7.5km az=56.0*

*DJA **01** 03:25:46.5±1.8, 5°S±3°×13°4E±°, h16km±21km, M5.1/24, mb5.1/24, mB5.7/7, MLv5.0/12, Mw(mB)5.2/7*

ISC 01 03:25:40.1±0.6, **5°08S**±0°06×**133°98E**±0°06, **h28**km, **n53**, σ1s**56**/54, **mb4.2**/13, **Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FAKI	Fak Fak	2.75	321	P	Pn	03 26 22.3	-0.1
FAKI				S	Sn	03 26 50.9	-3.9
FAKI	Fak Fak	2.75	321	ePn	Pn	03 26 22.7	+0.3
FAKI				eS	Sn	03 26 54.3	-0.5
RKPI	Ransiki, Papua	3.55	3	P	Pn	03 26 34.4	+1.1
RKPI				S	Sn	03 27 13.3	-1.1
SAUI	Saumlaki	3.93	223	P	Pb	03 26 48.4	-0.3
BNDI	Bandanaira	4.10	278	P	Pn	03 26 42.4	+1.5
BNDI				S	Sn	03 27 28.9	+0.9
SIJI	Sorong	4.98	327	Pn	Pn	03 26 52.6	-0.4
	10nm,0.3s,baz=224,slow=22,SNR=46						
SIJI				Sn	Sn	03 27 44.9	-4.9
	40nm,0.3s,baz=132,slow=23,SNR=13						
MSAI	Masohi	5.33	289	P	Pn	03 26 58.9	+1.1
MSAI				S	Sn	03 27 54.2	-4.1
SMPI	Sarmi	5.63	57	P	Pn	03 27 08.9	+7.0
	52nm,0.7s,0.6nm						
AAI	Ambon	5.94	283	P	Pn	03 27 07.1	+0.9
	410nm,0.7s,6µm1.5nm						
GENI	Genyem	6.64	68	P	Pn	03 27 25.1	+9.2
	125nm,0.5s,1.3nm						
NLAI	Namlea	7.10	285	P	Pn	03 27 23.8	+1.6
	289nm,0.5s,4µm1.1nm						
JAY	Jayapura	7.17	69	P	Pn	03 27 31.8	+8.6
	49nm,0.8s,6µm0.6nm						
SANI	Sanana	8.53	290	P	Pn	03 27 40.6	-1.2
SANI				S	Sn	03 29 09.8	-7.3
TNTI	Ternate	8.80	311	P	Pn	03 27 45.8	+0.3
	62nm,0.6s						
SOEI	Soe	10.70	244	P	Pn	03 28 11.6	0.0
SOEI	Soe	10.70	244	ePn	Pn	03 28 11.5	-0.1
	89nm,0.6s						
KDI	Kendari	11.38	275	P	Pn	03 28 23.5	+2.6
	51nm,0.7s						
KMSI	Cibinong	11.46	299	P	Pn	03 28 22.5	+0.5
	390nm,0.6s,14µm						
LUWI	Luwuk	11.89	289	P	Pn	03 28 29.3	+1.4
	117nm,1.0s						
LUWI	Luwuk	11.89	289	ePn	Pn	03 28 27.6	-0.2
	46nm,0.5s						
MMRI	Maumere	12.19	252	P	Pn	03 28 36.9	+5.0
	53nm,0.6s						
MRSI	Marisa	13.23	294	P	Pn	03 28 47.3	+1.1
	29nm,0.9s,927nm						
BSSI	Bau Bau, Buton	13.47	265	P	Pn	03 28 53.6	+4.1
	73nm,0.9s						
KAPI	Kappang	14.18	270	Pn	Pn	03 28 59.3	+0.2
	0.6nm,0.3s,baz=22,slow=5.4,SNR=2.4						
SPSI	Sidrap Palu	14.21	274	P	Pn	03 29 01.0	+1.4
	50nm,1.1s						
BASI	Baing, Sumba	14.23	248	P	P	03 29 06.2	-0.7
	181nm,0.7s,4µm						
TTSI	Tana Toraja	14.27	278	P	Pn	03 29 02.5	+2.1
	19nm,1.2s						
WSI	Waingapu	14.32	251	P	P	03 29 06.7	-1.2
	556nm,0.5s						
WRA	Warramunga Arr	14.78	179	Pn	Pn	03 29 02.0	-5.3
	0.4nm,0.3s,baz=7.7,slow=13,SNR=25						
WRA				Sn	Sn	03 31 37.7	-13
	0.4nm,0.3s,baz=359,slow=23,SNR=3.2						
WRA				Lg	Lg	03 33 21.4	
	baz=349,slow=29,SNR=3.6						
MPSI	Mapaga	15.06	291	P	Pn	03 29 12.7	+1.6
AS31	Alice Springs	18.48	180	ePn	P	03 29 54.2	+0.2
ASAR	Alice Springs	18.48	180	P	P	03 29 51.6	-2.4
	1.8nm,0.3s,baz=4.4,slow=11,SNR=80						
ASAR				Lg	Lg	03 35 21.0	
	baz=2.4,slow=28,SNR=4.7						
CTA	Charters Tower	19.11	142	P	Pn	03 30 02.7	+0.8
	0.5nm,0.3s,baz=317,slow=15,SNR=8.1						
CTAO	Charters Tower	19.11	142	eP	Pn	03 30 02.0	+0.2
	12nm,0.8s						
KKM	Kota Kinabalu	20.90	302	eP	P	03 30 21.4	+0.8
	11nm,0.7s						
MBWA	Marble Bar	21.14	220	eP	P	03 30 22.5	-0.5
	22nm,1.1s						
KSM	Kuching	24.53	285	eP	P	03 31 00.5	+3.0
	12nm,0.8s						
STKA	Stephens Creek	27.60	166	P	P	03 31 23.4	-1.6
	1.6nm,0.7s,baz=327,slow=5.5,SNR=5.4						
DZM	Mont Dzumac	35.66	121	P	P	03 32 34.6	-1.5
	1.9nm,0.6s,baz=270,slow=20,SNR=4.1						
PSI	Prapat	35.89	282	P	P	03 32 37.8	-0.5
	3.0nm,0.6s,baz=126,slow=8.7,SNR=4.4						
CMAR	Chiang Mai Arr	41.71	305	P	P	03 33 28.1	+1.1
	1.4nm,0.3s,baz=131,slow=6.7,SNR=7.1						
KSAR	Wonju Array Be	42.68	353	P	P	03 33 35.5	+1.1
KSRS	Korea Array	42.69	353	P	P	03 33 35.5	+1.1
	6.5nm,0.9s,baz=172,slow=9.7,SNR=19						
SONM	Songino Array	58.00	338	P	P	03 35 32.2	+1.8
	0.7nm,0.6s,baz=153,slow=8.7,SNR=4.7						
SONM				PcP	PcP	03 36 22.1	-0.1
	0.5nm,0.6s,baz=135,slow=4.3,SNR=4.1						
MK31	Makanchi Array	68.88	325	eP	P	03 36 43.2	+0.9
MKAR	Makanchi Array	68.88	325	P	P	03 36 43.1	+0.8
	2.5nm,0.5s,baz=114,slow=7.8,SNR=43						
TKM2	Tokmak 2	71.10	319	eP	P	03 36 57.2	+0.9
	1.7nm,0.8s						
ZALV	Zalesovo Beam	71.69	332	P	P	03 36 59.1	-0.2
	0.6nm,0.4s,baz=134,slow=6.2,SNR=3.3						
VNDA	Vanda	73.90	174	P	P	03 37 11.8	-0.2
	0.5nm,0.6s,baz=315,slow=6.5,SNR=4.5						
MAW	Mawson	78.19	202	P	P	03 37 37.6	+1.0
	3.8nm,0.9s,baz=61,slow=10,SNR=3.1						
TORD	Torodi Ar. Bea	132.28	283	PKP	PKPdf	03 44 52.0	-0.6
	0.8nm,0.7s,baz=88,slow=1.9,SNR=5.5						
LPAZ	La Paz	149.52	135	PKPbc	PKPbc	03 45 29.2	+0.6
	1.0nm,0.6s,baz=195,slow=4.5,SNR=5.1						
ROSC	El Rosal	151.79	89	PKPbc	PKPbc	03 45 32.2	-1.6
	5.5nm,0.4s,baz=341,slow=1.8,SNR=8.9						

*NEIC **01** 03:26:15.8±0.2, 9°33N×84°21W, h18km, mb5.7/253, ME5.3, MS5.6/153, MW5.9, MW5.8, MW5.9, MD6.2(HDC), Error ellipse: s-maj=4.4km s-min=2.5km az=205.0, Moment Tensor Solution. s98 Moment tensor: Scale 10^{17}Nm; M_{rr}4.32; $M_{\theta\theta}$-5.17; $M_{\phi\phi}$0.85; $M_{r\theta}$2.50; $M_{\theta\phi}$2.97; $M_{\phi r}$0.93; Best double couple: $M_0$6.20000×10^{17} NP1: ϕ_s319.00000°, δ42.00000°, λ132.00000°. NP2: ϕ_s89.00000°, δ60.00000°, λ59.00000°. Principal axes: T 5.5800, Plg61.0000°, Azm309.0000°; N 1.1700, Plg26.0000°, Azm104.0000°; P -6.7500, Plg10.0000°, Azm200.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s285.00000°, δ20.00000°, λ90.00000°. NP2: ϕ_s105.00000°, δ70.00000°, λ90.00000°. Principal axes: T Plg65.0000°, Azm15.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm195.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Grecia, Jaco, La Asuncion, Palmar, Quepos and San Vicente; [III] at Alajuela, Atenas, Cartago, Colon, Desamparados, Escazu, Golfito, Heredia, Mercedes, Parrita, Puntarenas, Quesada, Sabanilla, San Francisco, San Isidro, San Jose, San Juan, San Pablo, San Pedro, San Rafael, San Ramon, Santa Ana and Tres Rios; [II] at Curridabat and Guadalupe. Felt widely in Costa Rica. Felt at Bocas del Toro, Boquete, Cerro Punta, Changuinola and David, Panama.

*GCMT **01** 03:26:15.6±0.1, 9°17N×84°24W, h23km, MW6.0/130, Moment Tensor Solution. s116,c266; s130,c421; Duration: 2s4 Moment tensor: Scale 10^{18}Nm; M_{rr}0.85±.01; $M_{\theta\theta}$-0.81±.01; $M_{\phi\phi}$-0.04±.01; $M_{r\theta}$0.65±.01; $M_{\theta\phi}$0.38±.01; $M_{\phi r}$-0.26±.01; Best double couple: $M_0$1.14400×10^{18} NP1:ϕ_s112.00000°, δ64.00000°, λ90.00000°. NP2:ϕ_s293.00000°, δ26.00000°, λ91.00000°. Principal axes: T 1.0890, Plg71.0000°, Azm21.0000°; N 0.1110, Plg0.0000°, Azm112.0000°; P -1.1990, Plg19.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*CASC **01** 03:26:15.4±2.7, 9°24N×84°17W, h4km±11km, MD5.2, mb6.1(NEIC)*

*ISCJB **01** 03:26:15.5±0.1, 9°49N±0°02×84°24W±0°02, h24km, mb5.5/364, MS5.6/213, Error ellipse: s-maj=3.8km s-min=1.5km az=25.9*

*MOS **01** 03:26:16.5±1.2, 9°43N×84°13W, h33km, mb5.9/98, MS5.7/67, Error ellipse: s-maj=13.1km s-min=5.6km az=117.2*

*NEIC **01** 03:26:18.0±0.0, 9°35N×84°28W, h29km, Moment Tensor Solution. s53 Moment tensor: Scale 10^{17}Nm; M_{rr}6.14; $M_{\theta\theta}$-5.00; $M_{\phi\phi}$-1.14; $M_{r\theta}$5.22; $M_{\theta\phi}$3.42; $M_{\phi r}$-3.93; Best double couple: $M_0$9.30000×10^{17} NP1:ϕ_s125.00000°, δ67.00000°, λ94.00000°. NP2:ϕ_s294.00000°, δ22.00000°, λ79.00000°. Principal axes: T 8.8700, Plg67.0000°, Azm43.0000°; N 0.8000, Plg4.0000°, Azm303.0000°; P -9.6700, Plg22.0000°, Azm211.0000°;*

*IDC **01** 03:26:20.2±1.6, 9°43N×84°21W, h53km±13km, mb4.8/31, mb1 4.8/35, mb1mx4.8/37, mbtmp5.0/35, ML3.2/2, MS5.5/26, Ms1 5.5/26, ms1mx5.5/30 Error ellipse: s-maj=14.3km s-min=6.4km az=66.0*

*SZGRF **01** 03:26:23.4, 10°12N×83°32W, h33km, mb6.0, MS5.4, Costa Rica*

*NEIC **01** 03:26:41.0±0.0, 9°53N×83°92W, h30km Best double couple: NP1:ϕ_s293.00000°, δ34.00000°, λ80.00000°. NP2:ϕ_s125.00000°, δ57.00000°, λ97.00000°. Principal axes: T 1.0700, Plg77.0000°, Azm56.0000°; N -0.1300, Plg5.0000°, Azm301.0000°; P -0.9400, Plg11.0000°, Azm210.0000°;*

ISC 01 03:26:17.2±0.4, **9°32N**±0°03×**84°19W**±0°03, **h28**km±2km, **h28**km**:pP-P, n1598,** σ1s**61**/1777, **mb5.7**/371, **MS5.6**/223, **519C-257D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SJS	Escuela Geolog	0.63	12	⇓iP	Pb	03 26 29.7	-0.1
SJS				eS	Sb	03 26 38.9	+0.5
CGA2	Cerro Gallo 2	0.74	339	⇓iP	Pb	03 26 31.0	-0.6
CGA2				eS	Sn	03 26 44.8	+2.5
CAO	Cobano	0.98	293	⇓iP	Pn	03 26 33.3	-1.7
JCR	Jicaral	1.05	300	⇑iP	Pn	03 26 34.6	-1.4
ACR	Cerro Adams	1.21	123	i P	Pn	03 26 36.1	-2.2
ACR				eS	Sn	03 26 49.5	-4.2
CASO	Castillo	1.23	334	i P	Pn	03 26 39.1	+0.6
CASO				i S	Sb	03 26 59.0	+3.7
FORC	Fortuna	1.23	337	i P	Pb	03 26 40.2	+0.3
CEDE	Laguna Cedeˆ–o	1.26	336	i P	Pb	03 26 39.9	-0.5
CTCR	Cotoan	1.47	107	eP	Pn	03 26 41.8	-0.2
AMAS	Alto Masis	1.51	328	i P	Pb	03 26 44.0	-0.6
BRU2	Volcan	1.57	109	eP	Pn	03 26 42.9	-0.5
BRU2				eS	Sn	03 27 03.7	+0.9
VCR	Vista de Mar	1.63	300	⇑iP	Pn	03 26 42.6	-1.5
BRU	Baru	1.69	107	eP	Pn	03 26 45.3	+0.1
LIM1	Limonal	1.72	323	i P	Pn	03 26 45.8	+0.4
GPS2	Hotel Rincˆ‡n	1.83	321	i P	Pn	03 26 47.1	+0.4
GPS3	Bodega del ICE	1.84	321	i P	Pn	03 26 47.5	+0.6
GPS1	Guardaparques	1.84	322	i P	Pn	03 26 48.1	+1.1
NY14	Universidad de	1.87	315	i P	Pn	03 26 47.1	-0.1
LAPC	Finca la Perla	1.89	320	i P	Pn	03 26 47.9	+0.3
BUEV	Buena Vista	1.90	321	i P	Pn	03 26 49.1	+1.3
GB1A	Borinquen Arri	1.91	321	i P	Pn	03 26 49.4	+1.5
GBS3	Finca Las Imˆ¡	1.91	319	i P	Pn	03 26 49.0	+1.0
GBS2	Las Lilas	1.95	321	i P	Pn	03 26 49.8	+1.3
PNME	Penonome	3.91	102	eP	Pn	03 27 16.2	+0.9
PNME				eS	Sn	03 28 03.4	+3.1
CNGN	Cerro Negro	4.01	322	eP	Pn	03 27 20.9	+4.2
PINA	Piqa, Costa Ab	4.07	91	⇑iP	Pn	03 27 19.0	+1.4
AZU	Azuero	4.16	111	eP	Pn	03 27 19.7	+0.9
AZU				eS	Sn	03 28 09.0	+2.5
ZANG	Zanguenga, Cho	4.28	95	eP	Pn	03 27 21.8	+1.2
BCIP	Isla Barro Col	4.30	92	eP	Pn	03 27 21.7	+0.9
BCIP				eS	Sn	03 28 13.2	+3.2
BCIP	Isla Barro Col	4.30	92	ePn	Pn	03 27 21.5	+0.8
BCIP				eS	Sb	03 28 42.6	+19
UPIG		4.61	94	eP	Pn	03 27 24.9	0.0
CNCH	Conchagua	5.31	318	eP	Pn	03 27 38.5	+3.8
TGUH	Tegucigalpa,Un	5.59	328	ePn	Pn	03 27 40.2	+1.7
TGUH				eS	Sb	03 29 24.1	+23
CAHU	Cacacuatique	5.92	319	eP	Pn	03 27 47.7	+4.4
LFRS	El Faro	6.41	312	eP	Pn	03 27 52.6	+2.7
SNET	Serv Nac Est T	6.58	312	eP	Pn	03 27 54.0	+1.9
BOQS	Boqueron	6.64	312	eP	Pn	03 27 56.9	+3.7
RTR	El Retiro	7.02	311	eP	Pn	03 28 01.0	+2.7
RBDL	Robledal	7.19	312	eP	Pn	03 28 02.8	+2.2
IXG	Ixpaco	7.80	309	eP	Pn	03 28 12.0	+2.9
MRL	Marmol	7.84	317	eP	Pn	03 28 12.9	+3.3
MRL				eP	Pn	03 28 14.4	+4.8
NBG	Las Nubes	7.98	312	eP	Pn	03 28 16.3	+4.7
FUG	Fuego 3	8.27	309	eP	Pn	03 28 20.9	+5.5
FUG				eS	Sn	03 29 46.8	-1.2
JAT	Jato	8.82	305	eP	Pn	03 28 27.7	+4.9
THIG		9.65	306	P	Pn	03 28 36.4	+2.1
CCIG	Comitan	10.39	313	P	Pn	03 28 47.3	+2.8
CCIG				S	Sn	03 30 47.5	+7.3
MCJ	Malvern	10.63	36	i P	Pn	03 28 52.7	+4.9
OTAV	Otavalo	10.68	147	ePn	Pn	03 28 49.9	+1.1
ROSC	El Rosal	10.74	114	P	Pn	03 28 53.9	+4.4
	0.8nm,0.3s,baz=295,slow=8.6,SNR=11						
ROSC				S	Sn	03 30 55.0	+5.9
	2.6nm,0.3s,baz=276,slow=18,SNR=6.0						
ROSC				LR	LR	03 33 51.4	
	comp=Z,21µm,18.1s,baz=336,slow=42						
ROSC	El Rosal	10.74	114	ePn	Pn	03 28 53.5	+3.9
ROSC				eS	Sn	03 30 53.4	+4.2
ROSC				S	Sn	03 30 55.0	+5.9
PCIG		10.86	307	P	Pn	03 28 52.5	+1.7
PCIG				S	Sn	03 30 56.8	+5.4
CVJ	Coleyville	10.96	35	i P	Pn	03 28 59.2	+6.9
MTDJ	Mount Denham	10.96	35	ePn	Pn	03 28 56.1	+3.8
	3µm,1.7s						
BBJ	Bamboo Saint A	11.24	36	i P	Pn	03 29 02.9	+6.9
HOJ	Hope	11.26	39	i P	Pn	03 29 00.5	+4.3
STH	Stony Hill	11.27	39	i P	Pn	03 29 00.5	+3.9
GWJ	Greenwich	11.32	39	i P	Pn	03 29 01.3	+4.1
BNJ	Bonny Gate	11.37	37	i P	Pn	03 29 04.7	+6.8
TGIG		11.43	311	P	Pn	03 29 00.3	+1.7
TGIG				S	Sn	03 31 10.4	+4.9
TEIG	Tepich	11.54	340	P	Pn	03 29 04.0	+3.9
	1.6nm,0.3s,baz=166,slow=8.3,SNR=31						
TEIG				S	Sn	03 31 08.7	+0.7
	0.8nm,0.3s,baz=30,slow=20,SNR=1.8						
TEIG				LR	LR	03 33 36.4	
	comp=Z,56µm,18.1s,baz=157,slow=38						
TEIG	Tepich	11.54	340	ePn	Pn	03 29 02.1	+2.0
TEIG				S	Sn	03 31 08.7	+0.7
PAYG	Puerto Ayora	11.64	212	ePn	Pn	03 29 01.4	-0.1
SCIG	Sabancuy	11.74	326	P	Pn	03 29 04.0	+1.2
CMIG	Matias Romero	12.96	308	P	Pn	03 29 19.4	-0.2
	1.3nm,0.3s,baz=135,slow=11,SNR=47						
CMIG				S	Sn	03 31 56.9	+14
	0.5nm,0.3s,baz=90,slow=20,SNR=2.6						
TUIG	Tuzandepetl	13.18	312	P	Pn	03 29 20.9	-1.7
HUIG	Huatulco	13.28	300	P	Pn	03 29 24.9	+0.9
HUIG				S	Sn	03 31 58.9	+8.2
SDV	Santo Domingo	13.39	91	ePn	Pn	03 29 26.0	+0.3
SDV				eS	Sn	03 31 57.1	+3.3
GTBY	Guantanamo Bay	13.72	39	ePn	Pn	03 29 33.7	+3.9
	4µm,2.1s						
VHO	Vista Hermosa	14.43	304	P	Pn	03 29 41.4	+1.5
VHO				S	Sn	03 32 27.3	+8.1
PNIG	Pinotepa	15.29	299	P	Pn	03 29 51.6	+0.3
PNIG				S	Sn	03 32 47.4	+7.5
TPIG	Tehuac#an	15.65	307	P	Pn	03 29 56.9	+0.9
TPIG				S	S	03 32 56.7	-6.8
LVIG	Laguna Verde	15.71	313	P	Pn	03 29 56.7	+0.1
LVIG				S	S	03 32 58.2	-6.0
SDDR	Presa de Saban	15.76	51	ePn	Pn	03 29 58.6	+1.3
	724nm,1.5s						
SDDR				eS	Sn	03 32 52.6	+1.3
PPM	Popocatepetl	17.01	306	P	Pn	03 30 14.3	+0.6
PPM	Popocatepetl	17.01	306	P	Pn	03 30 14.3	+0.6
PPM				S	S	03 33 30.5	-1.2
MEIG	Mezcala	17.25	301	P	P	03 30 18.3	+0.7
MEIG				S	S	03 33 36.7	+0.7
YAIG	Yautepec	17.25	305	P	P	03 30 18.2	+0.5
YAIG				S	S	03 33 36.5	+0.3
ATAH	Atahualpa	17.34	160	P	P	03 30 19.7	+0.8
	baz=333,slow=16,SNR=16						
ATAH				S	S	03 33 36.1	-2.1
	0.3nm,0.3s,baz=294,slow=19,SNR=1.9						
ATAH				LR	LR	03 36 12.6	
	comp=Z,73µm,19.2s,baz=332,slow=34						
IIO	Organos	17.37	308	P	Pn	03 30 18.1	0.0
PLIG	Platanillo	17.38	303	P	Pn	03 30 16.8	-1.1
PLIG				S	S	03 33 39.6	+1.0
CAIG	El Cayaco	17.43	298	P	Pn	03 30 18.8	+0.4
CAIG				S	S	03 33 38.9	-0.5
SMN1	Samana, DR	17.46	54	ePn	P	03 30 21.1	+1.3
GRTK	Grand Turk	17.46	45	ePn	P	03 30 21.3	+1.6
	2µm,1.8s						
UNM	Universidad Na	17.59	306	P	P	03 30 22.2	+0.7
UNM	Universidad Na	17.59	306	P	P	03 30 22.2	+0.7
PTVM	Pico Tres Padr	17.68	307	P	P	03 30 23.3	+0.7
PCDR	Punta Cana, DR	17.85	58	ePn	P	03 30 24.5	+0.5
CRPR	Cabo Rojo, PR	18.69	61	ePn	Pn	03 30 35.3	+1.3
	4µm,2.5s						
CRPR				eS	Sn	03 34 00.1	-2.3
ZIIG	Zihuatanejo	18.70	298	P	Pn	03 30 34.9	+0.9
ZIIG				S	S	03 34 09.7	+4.7
DWPF	Disney Wildern	18.87	8	ePn	Pn	03 30 57.8	+22
AGPR	Aguadilla, PR	18.89	59	ePn	Pn	03 30 37.3	+1.0
	3µm,1.6s						
AGPR				eS	S	03 34 11.1	+2.2
OBIP	Obispado Ponce	19.14	61	eP	Pn	03 30 40.8	+1.4
	1µm,1.5s						
ICMP	Isla Caja de M	19.15	62	eP	Pn	03 30 40.4	+1.0
PCRV	Puerto La Cruz	19.29	86	P	Pn	03 30 40.9	-0.3
	4.1nm,0.3s,baz=246,slow=4.4,SNR=18						
PCRV				S	Sn	03 34 13.3	-3.7
	0.4nm,0.3s,baz=88,slow=16,SNR=1.9						
PCRV				LR	LR	03 40 44.6	
	comp=Z,23µm,18.8s,baz=267,slow=45						
MOIG	Morelia	19.39	304	P	Pn	03 30 43.2	+0.6
MOIG				S	Sn	03 34 23.9	+4.3
SJG	San Juan	19.57	62	eP	Pn	03 30 44.6	+0.2
SJG				eS	S	03 34 13.2	-9.3
SJG				pmax	pmax		
	comp=Z,3µm,1.5s						
SJG	San Juan	19.57	62	eP	Pn	03 30 44.6	+0.2
	comp=Z,3µm,1.5s						
SJG				eS	S	03 34 13.2	-9.3
MMIG	Aquila	20.61	298	P	P	03 30 53.9	-0.5
MMIG				S	Sn	03 34 46.9	-1.7
CDVI	St. Croix	20.64	64	eP	P	03 30 55.8	+1.1
	comp=Z,2µm,1.3s						
CDVI				eS	S	03 34 42.8	-1.3
STVI	Saint Thomas	20.70	62	eP	P	03 30 56.3	+0.9
	comp=Z,2µm,1.9s						
STVI				eS	S	03 34 41.1	-4.3
LNIG	Linares	21.25	319	P	P	03 30 59.7	-1.5
LNIG				S	S	03 34 59.5	+3.3
035Z	Hargill	21.53	324	⇓P	P	03 31 03.4	-0.8
	baz=22,SNR=13						
BRAL	Brewton	21.75	353	eP	P	03 31 09.7	+3.2
	comp=Z,2µm,1.5s						
BRAL				LR	LR		
	comp=Z,11µm,20.0s						
936A	North Padre Is	21.85	327	⇓P	P	03 31 06.7	-0.9
	baz=22						
035A	Encino	21.91	325	⇑P	P	03 31 07.3	-1.0
	baz=22,SNR=21						
SABA	Saba	21.96	66	eP	P	03 31 10.0	+1.1
SABA	Saba	21.96	66	epP	pP	03 31 17.6	+1.0
TIGA	Tifton	22.02	1	⇓P	P	03 31 10.5	+1.2
	baz=22,SNR=12						
TIGA	Tifton	22.02	1	eP	P	03 31 10.2	+0.9
	comp=Z,4µm,2.3s						
ZAIG	Zacatecas	22.11	309	P	P	03 31 11.6	+0.8
ZAIG				S	S	03 35 14.7	+1.2
SEUS	St. Eustatius	22.15	66	eP	P	03 31 12.4	+1.5
SEUS	St. Eustatius	22.15	66	eP	P	03 31 15.9	+4.9
	comp=Z,2µm,1.8s						
738A	Farr-Stevens R	22.20	333	⇓P	P	03 31 11.4	0.0
	baz=22						
SMRT	St. Maarten	22.25	65	eP	P	03 31 11.8	-0.3
SMRT	St. Maarten	22.25	65	eP	P	03 31 12.8	+0.8

KVTX **Kingsville** 22.27 326 *e*P P 03 31 11.7 -0.4
comp=Z,299nm,1.0s
KVTX *e* 03 35 05.8
KVTX LR LR
comp=Z,17µm,21.0s
GRGR **Grenville** 22.32 81 *e*P P 03 31 14.2 +1.4
GRGR **Grenville** 22.32 81 *e*P P 03 31 13.9 +1.2
comp=Z,2µm,1.4s
GRGR LR LR
comp=Z,11µm,21.0s
034A Hebbronville 22.34 324 ⇑P P 03 31 12.4 -0.6
baz=22,SNR=76
NNA Nana 22.39 161 P P 03 31 14.1 +0.5
comp=Z,929nm,1.2s,SNR=15
NNA Nana 22.39 161 P P 03 31 15.1 +1.5
comp=Z,216nm,1.2s,baz=327,slow=12,SNR=18
NNA S S 03 35 19.7 +1.5
comp=Z,3.8nm,0.7s,baz=68,slow=11,SNR=1.9
NNA LR LR 03 39 17.0
comp=Z,14µm,19.6s,baz=308,slow=34
NNA Nana 22.39 161 *e*P P 03 31 14.3 +0.7
NNA S S 03 35 19.7 +1.5
NNA pmax pmax
comp=Z,340nm,1.3s
NNA Nana 22.39 161 *e*P P 03 31 14.3 +0.7
comp=Z,340nm,1.3s
NNA S S 03 35 19.7 +1.5
737A Port Lavaca 22.51 331 ⇓P P 03 31 15.2 +0.5
baz=23
934A Benavides 22.66 325 ⇓P P 03 31 15.4 -0.9
baz=23,SNR=9.2
540A Vidor 22.71 338 ⇓P P 03 31 17.1 +0.4
baz=23
ANIG Ahuacatlan 22.79 303 P P 03 31 17.0 -0.9
ANIG S S 03 35 27.6 +2.1
835A Beeville 22.82 328 ⇓P P 03 31 16.9 -1.1
baz=23,SNR=15
SVB Belmont 22.83 78 *e*P P 03 31 20.3 +2.0
539A Cross D Ranch, 22.91 336 ⇑P P 03 31 19.2 +0.4
baz=23
HMG Houelmont 22.91 71 *e*P P 03 31 20.9 +1.9
MLG Mont-d'or 22.92 71 *e*P P 03 31 20.5 +1.4
LKG Breislack 22.96 71 *e*P P 03 31 20.6 +0.8
ECG Echelle 22.96 71 *e*P P 03 31 22.0 +2.2
PHG Guadaloupe-2 22.97 71 *e*P P 03 31 22.4 +2.6
736A Circle Diamond 22.97 330 ⇑P P 03 31 19.2 -0.3
baz=23,SNR=27
DOG Dongo Capester 23.00 71 *e*P P 03 31 22.5 +2.5
BBL Barber's Block 23.02 72 *e*P P 03 31 21.0 +0.8
637A Eagle Lake 23.02 332 ⇓P P 03 31 20.2 +0.1
baz=23
BPA Boggy Peak 23.04 68 *e*P P 03 31 22.3 +1.8
MDN Morne-Daniel 23.05 73 *e* P 03 31 21.5 +1.1
834A Tilden 23.08 326 ⇓P P 03 31 19.8 -0.9
baz=23,SNR=14
933A Laredo 23.10 324 ⇓P P 03 31 19.5 -1.4
baz=23,SNR=28
FDF Fort de France 23.16 74 *e*P P 03 31 22.3 +0.6
FDF Fort de France 23.16 74 *e*P P 03 31 22.4 +0.8
FDF pmax pmax
comp=Z,399nm,1.3s
FDF MLR MLR
comp=Z,9µm,19.0s
FDF Fort de France 23.16 74 *e*P P 03 31 22.4 +0.8
comp=Z,399nm,1.3s
FDF LR LR
comp=Z,9µm,19.0s
440A Kirbyville 23.18 338 ⇓P P 03 31 21.4 -0.2
baz=23
MCLT Moule a Chique 23.19 77 *e*P P 03 31 22.8 +0.9
SEG Port Louis 23.19 70 *e*P P 03 31 22.8 +0.9
HKT Hockley 23.23 334 *e*P P 03 31 21.5 -0.6
HKT pmax pmax
comp=Z,1µm,2.2s
HKT Hockley 23.23 334 *e*P P 03 31 21.5 -0.6
comp=Z,1µm,2.2s
735A Kenedy 23.27 328 ⇑P P 03 31 21.1 -1.4
baz=23,SNR=9.0
ANWB Willy Bob 23.29 67 *e*P P 03 31 22.6 -0.3
comp=Z,3µm,2.2s
ANWB LR LR
comp=Z,9µm,20.0s
538A Harpers Horsep 23.32 335 ⇑P P 03 31 22.8 -0.3
baz=23
538A ⇓S S 03 35 37.5 +3.5
baz=23
636A Smothers Creek 23.40 331 ⇑P P 03 31 23.1 -0.7
baz=24,SNR=49
VBMS Vicksburg 23.53 346 *e*P P 03 31 25.8 +0.8
comp=Z,892nm,1.3s
439A Center Grove, 23.53 337 ⇓P P 03 31 24.7 -0.4
baz=24,SNR=15
537A Green Hill Far 23.56 333 ⇑P P 03 31 25.1 -0.3
baz=24,SNR=24
734A La Parita Cree 23.65 327 ⇑P P 03 31 24.8 -1.5
baz=24,SNR=15
635A Leesville 23.68 329 ⇑P P 03 31 24.9 -1.7
baz=24,SNR=14
833A Chaparral WMA, 23.71 325 ⇑P P 03 31 25.3 -1.6
baz=24,SNR=75
LRAL Lakeview Retre 23.74 354 *e*P P 03 31 27.9 +0.8
comp=Z,155nm,0.9s
340A Bronson 23.76 339 ⇑P P 03 31 26.4 -0.9
baz=24
438A Sam Houston St 23.78 335 ⇓P P 03 31 26.7 -0.8
baz=24,SNR=9.3
536A Bastrop 23.90 332 ⇓P P 03 31 27.4 -1.3
baz=24,SNR=7.5
339A Huntington 23.93 338 ⇑P P 03 31 28.2 -0.7
baz=24,SNR=11
733A Divot King Ran 23.95 326 ⇓P P 03 31 27.6 -1.6
baz=24,SNR=36
NHSC New Hope 23.96 8 *e*P P 03 31 30.5 +1.4
comp=Z,721nm,1.4s
NHSC LR LR
comp=Z,26µm,20.0s
634A China Grove, S 23.97 328 ⇓P P 03 31 28.0 -1.3
baz=24
832A Faith Ranch, C 24.01 324 ⇑P P 03 31 28.2 -1.6
baz=24,SNR=46
535A Dale 24.10 331 ⇑P P 03 31 28.9 -1.6
baz=24,SNR=11
437A Phantom Ranch, 24.12 334 ⇓P P 03 31 29.3 -1.4
baz=24
338A Crockett 24.24 336 ⇑P P 03 31 30.5 -1.3
baz=24,SNR=34
732A Laxson Ranch, 24.34 325 ⇓P P 03 31 31.3 -1.4
baz=24,SNR=23
NATX Nacogdoches 24.35 338 ⇓P P 03 31 31.8 -1.0
baz=24,SNR=14
NATX Nacogdoches 24.35 338 *e*P P 03 31 32.8 0.0
comp=Z,801nm,1.8s
436A Wall Ranch, Ga 24.36 333 ⇑P P 03 31 31.7 -1.2
baz=24
337A Centerville 24.44 335 ⇓P P 03 31 33.0 -0.6
baz=24,SNR=11
BBGH Gun Hill 24.45 79 PFAKE 03 31 40.0 +6.1
BBGH LR LR
comp=Z,13µm,20.0s
633A Saathoff Ranch 24.47 327 ⇑P P 03 31 32.5 -1.4
baz=24,SNR=44
239A Gary 24.52 339 ⇓P P 03 31 33.0 -1.3
baz=25,SNR=6.2
534A Blanco 24.55 329 ⇑P P 03 31 32.5 -2.2
baz=25,SNR=33
435B Jarrell 24.74 332 ⇓P P 03 31 34.9 -1.5
baz=25,SNR=25
238A Jacksonville 24.74 337 ⇑P P 03 31 35.2 -1.1
baz=25,SNR=8.1
632A Uvalde 24.84 326 ⇓P P 03 31 35.7 -1.5
baz=25,SNR=19
533A Kerrville 24.88 328 ⇑P P 03 31 35.7 -2.0
baz=25,SNR=35
336A Riesel 24.91 334 ⇑P P 03 31 36.3 -1.6
baz=25,SNR=16
237A Washetta, Mont 25.01 336 ⇓P P 03 31 37.8 -0.9
baz=25
335A Moody 25.08 332 ⇓P P 03 31 38.2 -1.3
baz=25,SNR=27
335A ⇓S S 03 36 11.9 +10
baz=25
139A Bunkhouse Ranc 25.09 339 ⇑P P 03 31 38.9 -0.6
baz=25,SNR=6.3
434A Burnet 25.09 330 ⇑P P 03 31 37.8 -1.7
baz=25,SNR=27
631A Perdido Creek 25.21 325 ⇑P P 03 31 38.9 -1.6
baz=25,SNR=100

236A Katherine and 25.30 335 ⇓P P 03 31 40.2 -1.2
baz=25,SNR=11
138A Matatall Enter 25.32 338 ⇓P P 03 31 40.6 -1.0
baz=25,SNR=20
MAIG Mazatlaan 25.36 306 P P 03 31 38.7 -3.3
MAIG S S 03 36 09.2 +2.3
532A Rocksprings 25.38 327 ⇓P P 03 31 41.0 -1.3
baz=25,SNR=40
433A Art 25.45 329 ⇑P P 03 31 41.2 -1.6
baz=26,SNR=23
334A Lometa 25.50 331 ⇓P P 03 31 41.3 -1.9
baz=26,SNR=47
137A Heron Place, G 25.52 337 ⇓P P 03 31 42.5 -0.9
baz=26,SNR=17
OXF Oxford 25.53 350 *e*P P
OXF pmax pmax
comp=Z,325nm,1.1s
OXF Oxford 25.53 350 *e*P P 03 31 42.5 -0.9
comp=Z,325nm,1.1s
Z39A Irene McRaven, 25.53 340 ⇑P P 03 31 42.2 -1.3
baz=26
JCT Junction City 25.60 327 *e*P P 03 31 43.2 -1.0
JCT pmax pmax
comp=Z,152nm,1.0s
JCT MLR MLR
comp=Z,9µm,21.0s
JCT Junction City 25.60 327 ⇑P P 03 31 42.9 -1.3
baz=26,SNR=21
JCT Junction City 25.60 327 *e*P P 03 31 43.2 -1.0
comp=Z,152nm,1.0s
JCT LR LR
comp=Z,9µm,21.0s
WHTX Lake Whitney, 25.70 333 ⇑P P 03 31 43.4 -1.6
baz=26,SNR=25
WHTX Lake Whitney, 25.70 333 *e*P P 03 31 44.1 -0.9
comp=Z,348nm,1.2s
531A Rocksprings 25.76 326 ⇓P P 03 31 44.9 -0.8
baz=26,SNR=19
Z38A Mt. Pleasant 25.81 339 ⇑P P 03 31 45.3 -0.7
baz=26,SNR=17
KMSC Kings Mountain 25.83 5 ⇓P P 03 31 44.5 -1.7
baz=26,SNR=31
KMSC Kings Mountain 25.83 5 *e*P P 03 31 47.4 +1.2
comp=Z,205nm,1.4s
333A Richland Sprin 25.86 330 ⇑P P 03 31 44.8 -1.7
baz=26,SNR=105
432A Menard 25.91 328 ⇓P P 03 31 44.9 -2.1
baz=26,SNR=51
Z37A Pogue Cattle C 26.00 338 ⇓P P 03 31 46.7 -1.0
baz=26,SNR=13
234A Clairette 26.02 332 ⇑P P 03 31 45.8 -2.2
baz=26,SNR=24
Y39A Lockesburg 26.14 341 P P 03 31 47.7 -1.2
baz=26
135A Vickery Place, 26.16 334 ⇓P P 03 31 47.4 -1.8
baz=26,SNR=14
431A Sonora 26.19 327 ⇓P P 03 31 48.6 -1.0
baz=26,SNR=19
530A J-C Ranch, Com 26.19 325 ⇑P P 03 31 48.3 -1.3
baz=26,SNR=23
TKL Tuckaleechee C 26.22 1 P P 03 31 49.9 +0.1
comp=Z,44nm,1.1s,baz=174,slow=8.6,SNR=39
TKL S S 03 36 17.4 -2.8
comp=Z,1.9nm,0.5s,baz=288,slow=19,SNR=2.0
TKL LR LR 03 42 39.6
comp=Z,22µm,18.5s,baz=160,slow=38
TKL Tuckaleechee C 26.22 1 *e*P P 03 31 50.3 +0.6
TKL S S 03 36 17.4 -2.8
TKL Tuckaleechee C 26.22 1 *e*P P 03 31 50.3 +0.6
TKL S S 03 36 17.4 -2.8
332A Millersview 26.29 329 ⇑P P 03 31 48.9 -1.5
baz=26
Y38A Idabel 26.34 340 P P 03 31 49.7 -1.1
baz=26
233A Rising Star 26.39 331 ⇑P P 03 31 49.3 -2.0
baz=26,SNR=20
UALR University of 26.41 345 *e*P P 03 31 50.4 -1.1
comp=Z,151nm,1.1s
CNNC Cliffs of the 26.43 12 *e*P P 03 31 52.5 +0.9
comp=Z,132nm,1.2s
CNNC *e*S S 03 36 45.3 +22
CNNC LR LR
comp=Z,16µm,21.0s
134A White-Moore Ra 26.47 333 ⇑P P 03 31 50.4 -1.6
baz=26,SNR=27
MIAR Mount Ida 26.54 342 *e*P P 03 31 51.8 -0.8
MIAR pmax pmax
comp=Z,120nm,0.9s
MIAR MLR MLR
comp=Z,10µm,20.0s
MIAR Mount Ida 26.54 342 *e*P P 03 31 51.8 -0.8
comp=Z,120nm,0.9s
MIAR LR LR
comp=Z,10µm,20.0s
331A San Angelo 26.58 328 ⇑P P 03 31 51.5 -1.6
baz=27,SNR=81
430A Baggett Ranch, 26.62 326 ⇓P P 03 31 52.2 -1.3
baz=27,SNR=30
232A Coleman 26.64 330 ⇓P P 03 31 51.9 -1.8
baz=27,SNR=38
529A Stev Forest Ra 26.69 323 ⇑P P 03 31 53.0 -1.1
baz=27,SNR=12
Y37A Hugo 26.70 338 P P 03 31 53.0 -1.0
baz=27
Z35A Perchaven, San 26.76 335 ⇑P P 03 31 53.1 -1.5
baz=27,SNR=6.7
HPIG 26.82 314 P P 03 31 53.9 -1.6
HPIG S S 03 36 32.8 +2.5
429A Davenport Ranc 26.87 325 ⇓P P 03 31 54.6 -1.1
baz=27,SNR=36
Y36A Durant 26.87 337 P P 03 31 54.7 -0.9
baz=27
133A Hamilton Ranch 26.88 332 ⇑P P 03 31 53.8 -1.9
baz=27,SNR=26
TXAR Lajitas Array 27.01 320 P P 03 31 56.4 -0.7
comp=Z,3.2nm,0.7s,baz=140,slow=9.1,SNR=39
TXAR PcP PcP 03 35 20.9 +2.7
comp=Z,6.8nm,1.1s,baz=122,slow=3.4,SNR=4.2
TXAR LR LR 03 45 28.6
comp=Z,5µm,19.8s,baz=0.0,slow=43
231A Bronte 27.02 329 ⇑P P 03 31 55.5 -1.5
baz=27,SNR=18
330A Mertzon 27.06 327 ⇑P P 03 31 55.8 -1.6
baz=27,SNR=14
Z34A Collier Ranch, 27.07 334 ⇑P P 03 31 56.0 -1.5
baz=27,SNR=11
X37A Clayton 27.16 339 ⇓P P 03 31 57.0 -1.2
baz=27,SNR=18
Y35A Marietta 27.17 336 P P 03 31 57.1 -1.2
baz=27
ABTX Abilene, Hawle 27.24 331 ⇓P P 03 31 57.3 -1.7
baz=27,SNR=12
ABTX Abilene, Hawle 27.24 331 *e*P P 03 31 57.9 -1.1
comp=Z,114nm,1.3s
W38A Poteau 27.32 341 ⇓P P 03 31 58.3 -1.2
baz=27,SNR=28
Z33A Whitaker Ranch 27.38 333 ⇓P P 03 31 58.5 -1.6
baz=28,SNR=14
230A Sterling City 27.40 327 ⇓P P 03 31 58.5 -2.0
baz=28
X36A Centrahoma 27.49 338 ⇓P P 03 31 59.5 -1.7
baz=28,SNR=12
Y34A Reagan Ranch, 27.51 335 ⇑P P 03 31 59.8 -1.5
baz=28,SNR=16
329A Wagon Wheel Ra 27.56 326 ⇑P P 03 32 00.4 -1.6
baz=28,SNR=20
X35A Drake 27.58 337 ⇓P P 03 32 00.3 -1.6
baz=28,SNR=19
131A Roby 27.65 330 ⇑P P 03 32 00.8 -1.9
baz=28,SNR=7.5
W37A Quinton 27.68 340 ⇓P P 03 32 01.8 -1.0
baz=28,SNR=18
SAML Samuel 27.69 130 *e*P P 03 32 01.7 -1.5
comp=Z,116nm,2.3s
SAML LR LR
comp=Z,10µm,21.0s
Z32A Haskell 27.72 332 ⇑P P 03 32 01.0 -2.3
baz=28,SNR=17
229A Bryant Ranch, 27.84 327 ⇑P P 03 32 02.5 -1.9
baz=28
130A Snyder 27.88 329 ⇓P P 03 32 02.7 -2.1
baz=28
PBMO Poplar Bluff 27.91 349 *e*P P 03 32 04.0 -0.9
comp=Z,110nm,1.3s
Y33A Hilltop Ranch, 27.92 334 ⇓P P 03 32 03.4 -1.7
baz=28,SNR=18
W36A Wetumka 27.96 339 ⇑P P 03 32 02.9 -2.4
baz=28,SNR=7.4

BLA Blacksburg 27.98 6 *e*P P 03 32 04.2 -1.3
BLA pmax pmax
comp=Z,175nm,1.3s
BLA MLR MLR
comp=Z,22µm,22.0s
BLA Blacksburg 27.98 6 *e*P P 03 32 04.2 -1.3
comp=Z,175nm,1.3s
BLA LR LR
comp=Z,22µm,22.0s
Z31A Sharp Cattle R 28.05 331 ⇑P P 03 32 04.1 -2.1
baz=28,SNR=10
VWCC Virginia Weste 28.06 7 *e*P P 03 32 07.2 +0.9
X34A Smith Ranch, M 28.10 336 ⇓P P 03 32 04.8 -1.8
baz=28,SNR=17
W35A Tecumseh 28.21 338 ⇑P P 03 32 05.0 -2.6
baz=28,SNR=9.4
Y32A R-V Farms, Ver 28.29 333 ⇑P P 03 32 05.9 -2.4
baz=28
X33A Lawton 28.32 335 ⇑P P 03 32 06.6 -2.1
baz=28,SNR=33
129A Stewart Farms, 28.38 327 ⇑P P 03 32 07.1 -2.1
baz=28
228A UT Block 9, Go 28.38 326 ⇓P P 03 32 06.7 -2.6
baz=28
SLBS Sierra La Lagu 28.45 303 *e*P P 03 32 13.2 +3.2
comp=Z,201nm,1.2s
TUL1 Leonard 28.50 340 ⇓P P 03 32 08.4 -1.8
baz=29,SNR=9.5
TUL1 Leonard 28.50 340 *e*P P 03 32 08.4 -1.8
comp=Z,527nm,2.3s
Z30A Sanderson Ranc 28.51 329 ⇓P P 03 32 08.1 -2.3
baz=29
X32A Elmer 28.56 333 ⇓P P 03 32 08.8 -2.0
baz=29
WMOK Wichita Mounta 28.61 334 *e*P P 03 32 10.9 -0.3
WMOK pmax pmax
comp=Z,598nm,2.8s
WMOK MLR MLR
comp=Z,8µm,20.0s
WMOK Wichita Mounta 28.61 334 *e*P P 03 32 10.8 -0.3
comp=Z,598nm,2.8s
WMOK LR LR
comp=Z,8µm,20.0s
W34A Bridge Creek, 28.63 336 ⇓P P 03 32 09.3 -2.0
baz=29,SNR=8.0
W34A Bridge Creek, 28.63 336 *e*P P 03 32 11.6 +0.2
comp=Z,155nm,1.3s
Y31A Rekieta Farm, 28.63 331 ⇓P P 03 32 09.5 -1.9
baz=29,SNR=13
128A Castleberry Fa 28.70 327 ⇓P P 03 32 10.5 -1.7
baz=29,SNR=9.3
V35A Meyer Ranch, C 28.74 338 ⇓P P 03 32 10.1 -2.2
baz=29
Z29A Hungry Hill Ra 28.78 328 ⇑P P 03 32 10.6 -2.2
baz=29
JSRW J. Sargeant Re 28.82 10 *e*P P 03 32 13.0 +0.1
W33A Caddo, Fort Co 28.84 335 ⇑P P 03 32 11.8 -1.4
baz=29
WCI Wyandotte Cave 28.84 357 *e*P P 03 32 12.8 -0.4
WCI pmax pmax
comp=Z,184nm,1.2s
WCI Wyandotte Cave 28.84 357 *e*P P 03 32 12.8 -0.4
comp=Z,184nm,1.2s
Y30A Stafford Cattl 28.87 330 ⇑P P 03 32 11.7 -1.9
baz=29,SNR=8.9
LPIG La Paz 28.93 304 P P 03 32 14.1 0.0
comp=Z,40nm,0.3s,baz=236,slow=3.0,SNR=5.9
LPIG S S 03 37 10.1 +6.8
comp=Z,9.6nm,0.4s,baz=38,slow=18,SNR=1.7
LPIG LR LR 03 44 36.6
comp=Z,7µm,18.8s,baz=108,slow=38
X31A McDonald Ranch 29.05 332 ⇓P P 03 32 12.9 -2.3
baz=29
V34A Guthrie 29.05 337 ⇑P P 03 32 12.6 -2.5
baz=29
V34A Guthrie 29.05 337 *e*P P 03 32 13.0 -2.1
comp=Z,105nm,1.4s
W32A Sentinel 29.14 334 ⇑P P 03 32 14.2 -1.7
baz=29,SNR=22
Z28A Tucker Farm, M 29.16 328 ⇓P P 03 32 13.7 -2.5
baz=29
BBSR BB Station 29.18 35 *e*P P 03 32 16.6 +0.3
comp=Z,865nm,2.8s
BBSR LR LR
comp=Z,8µm,19.0s
Y29A Porterfield Fa 29.24 329 ⇓P P 03 32 15.8 -1.1
baz=29,SNR=6.2
X30A Coker Ranch, T 29.32 331 ⇑P P 03 32 14.6 -3.0
baz=29
T37A Cheneyville 18 29.33 342 ⇓P P 03 32 16.0 -1.6
baz=29
V33A Lossen Ranch, 29.34 336 ⇑P P 03 32 15.5 -2.1
baz=29
CBN Corbin Frederi 29.41 11 *e*P P 03 32 19.6 +1.4
comp=Z,136nm,1.2s
CBN LR LR
comp=Z,23µm,20.0s
OLIL Olney 29.50 354 *e*P P 03 32 18.5 -0.4
comp=Z,282nm,1.4s
W31A Holland Ranch, 29.50 333 ⇑P P 03 32 16.7 -2.4
baz=30
V32A Arapaho 29.56 335 ⇑P P 03 32 18.0 -1.7
baz=30,SNR=8.8
Y28A McKinney Farm, 29.57 329 ⇓P P 03 32 17.4 -2.5
baz=30
T36A Boggs Farm, Ca 29.58 341 ⇓P P 03 32 17.9 -1.8
baz=30,SNR=15
U34A Anderson Ranch 29.59 338 ⇓P P 03 32 17.4 -2.4
baz=30
U34A Anderson Ranch 29.59 338 *e*P P 03 32 19.2 -0.7
comp=Z,69nm,1.1s
U34A *e*PcP PcP 03 35 25.0 +0.7
T35A Sooner Cattle 29.66 340 ⇓P P 03 32 18.5 -1.9
baz=30,SNR=7.9
SLM Saint Louis 29.69 350 *e*P P 03 32 20.4 -0.3
SLM *e* 03 35 25.6
SLM pmax pmax
comp=Z,83nm,0.9s
SLM Saint Louis 29.69 350 *e*P P 03 32 20.4 -0.3
comp=Z,83nm,0.9s
SLM *e*PcP PcP 03 35 25.6 +1.1
MNTX Cornudas Mount 29.71 322 ⇑P P 03 32 19.1 -1.9
baz=30,SNR=54
MNTX Cornudas Mount 29.71 322 *e*P P 03 32 19.9 -1.1
comp=Z,144nm,1.6s
MNTX *e*PcP PcP 03 35 23.1 -1.7
MNTX LR LR
comp=Z,6µm,21.0s
X29A Tulia 29.72 330 ⇑P P 03 32 19.2 -1.9
baz=30,SNR=6.8
W30A Crocket Farms 29.78 332 ⇑P P 03 32 19.5 -2.2
baz=30
BLO Bloomington 29.80 356 *e*P P 03 32 21.1 -0.5
BLO pmax pmax
comp=Z,136nm,1.4s
BLO Bloomington 29.80 356 *e*P P 03 32 21.1 -0.5
comp=Z,136nm,1.4s
U33A Lingo Farm, Me 29.81 337 ⇓P P 03 32 18.9 -2.8
baz=30
MSTX Muleshoe 29.89 328 ⇑P P 03 32 20.9 -1.8
baz=30,SNR=8.4
MSTX Muleshoe 29.89 328 *e*P P 03 32 20.6 -2.1
comp=Z,48nm,1.0s
MSTX *e*PcP PcP 03 35 27.3 +2.0
V31A Spring Creek L 29.95 334 ⇓P P 03 32 21.5 -1.6
baz=30,SNR=8.4
T34A McClaskey Farm 29.99 339 ⇓P P 03 32 21.2 -2.2
baz=30
LPAZ La Paz 30.00 148 P P 03 32 25.4 +1.0
comp=Z,5.1nm,1.0s,baz=336,slow=8.2,SNR=14
LPAZ S S 03 37 21.4 +0.2
comp=Z,1.2nm,1.0s,baz=280,slow=18,SNR=1.4
LPAZ LR LR 03 45 16.9
comp=Z,25µm,21.7s,baz=312,slow=38
LPAZ La Paz 30.00 148 *e*P P 03 32 24.8 +0.5
LPAZ S S 03 37 21.4 +0.2
LPAZ La Paz 30.00 148 *e*P P 03 32 24.8 +0.5
comp=Z,10.0nm,1.1s
LPAZ S S 03 37 21.4 +0.2
X28A Dimmitt 30.03 329 ⇓P P 03 32 21.4 -2.5
baz=30
AMTX Amarillo 30.06 330 ⇓P P 03 32 22.1 -2.0
baz=30
AMTX Amarillo 30.06 330 *e*P P 03 32 23.4 -0.7
comp=Z,69nm,1.1s
AMTX *e*PcP PcP 03 35 27.1 +1.4
S36A Lake Cedric, C 30.09 342 ⇑P P 03 32 22.3 -1.9
baz=30,SNR=21

U32A	Winter Ranch,	30.11	336	⇑P	P	03 32 22.3	-2.2
	baz=30						
W29A	Amarillo	30.24	331	⇓P	P	03 32 23.4	-2.3
	baz=30						
S35A	Otter Creek Ra	30.29	341	⇓P	P	03 32 23.1	-2.8
	baz=30,SNR=13						
V30A	Spur Ranch, Mi	30.31	333	⇑P	P	03 32 24.2	-2.2
	baz=30						
R37A	Teagarden Farm	30.41	343	⇑P	P	03 32 24.3	-2.8
	baz=30,SNR=14						
T33A	Patterson Ranc	30.43	337	⇓P	P	03 32 25.2	-2.1
	baz=30						
U31A	Nine Bar Ranch	30.46	335	⇓P	P	03 32 25.2	-2.3
	baz=30						
S34A	Willow Spring	30.57	340	⇑P	P	03 32 26.4	-2.1
	baz=31						
W28A	Vega	30.62	330	⇑P	P	03 32 26.3	-2.8
	baz=31						
R36A	Gordon, Harris	30.62	342	⇓P	P	03 32 27.1	-1.8
	baz=31,SNR=8.9						
SDMD	Soldier's Deli	30.68	11	eP	P	03 32 29.8	+0.5
	comp=Z,116nm,1.2s						
T32A	Huddler Ranch,	30.77	337	⇑P	P	03 32 28.1	-2.3
	baz=31						
V29A	Stinnett	30.79	332	⇓P	P	03 32 28.4	-2.1
	baz=31						
S33A	Kaszmaul Farm,	30.79	338	⇓P	P	03 32 27.9	-2.6
	baz=31						
ACSO	Alum Creek Sta	30.80	2	eP	P	03 32 30.5	0.0
	comp=Z,583nm,1.7s						
ACSO				ePcP	PcP	03 35 28.2	+0.8
ACSO				LR	LR		
	comp=Z,23µm,20.0s						
R35A	Emporia Munici	30.83	341	⇑P	P	03 32 28.8	-2.0
	baz=31						
Q37A	Longview Farm,	30.84	344	⇓P	P	03 32 29.1	-1.8
	baz=31,SNR=8.2						
U30A	WK&E Inc. Balk	30.94	334	⇑P	P	03 32 30.7	-1.2
	baz=31,SNR=11						
T31A	Randall Ranch,	31.00	336	⇑P	P	03 32 30.1	-2.3
	baz=31						
V28A	Channing	31.02	331	⇓P	P	03 32 30.6	-2.0
	baz=31						
SFIN	Lafayette	31.04	356	⇑P	P	03 32 31.3	-1.2
	baz=31,SNR=45						
SFIN	Lafayette	31.04	356	eP	P	03 32 31.4	-1.2
	comp=Z,203nm,1.3s						
U29A	Oasis Ranch, S	31.15	333	⇑P	P	03 32 31.6	-2.1
	baz=31						
R34A	Isabella, Hill	31.16	340	⇓P	P	03 32 32.3	-1.4
	baz=31						
Q36A	Arnold C. Orve	31.20	343	⇑P	P	03 32 32.5	-1.5
	baz=31						
S32A	Newby Ranch, P	31.23	337	⇑P	P	03 32 32.3	-2.1
	baz=31						
Q35A	Mercer Eighty,	31.27	342	⇑P	P	03 32 33.0	-1.7
	baz=31,SNR=6.9						
T30A	Plains	31.32	334	⇑P	P	03 32 33.5	-1.7
	baz=31						
V27A	Dan Oppiter Fa	31.32	330	⇓P	P	03 32 33.1	-2.2
	baz=31						
S31A	Mullinville	31.38	336	⇓P	P	03 32 33.5	-2.2
	baz=32						
R33A	Olander Ranch,	31.42	339	⇑P	P	03 32 34.6	-1.4
	baz=32,SNR=18						
HDIL	Hopedale	31.44	353	eP	P	03 32 35.0	-1.1
	comp=Z,172nm,1.0s						
HDIL				ePcP	PcP	03 35 30.8	+1.7
HDIL				LR	LR		
	comp=Z,7µm,20.0s						
U28A	Mallet	31.53	331	⇑P	P	03 32 34.3	-2.8
	baz=32						
Q34A	Chapman	31.61	341	⇓P	P	03 32 36.1	-1.6
	baz=32,SNR=6.5						
KSU1	Kansas State U	31.67	341	⇓P	P	03 32 36.6	-1.6
	baz=32						
KSU1	Kansas State U	31.67	341	eP	P	03 32 37.1	-1.1
	comp=Z,26nm,0.8s						
KSU1				LR	LR		
	comp=Z,8µm,20.0s						
SSPA	Standing Stone	31.68	9	eP	P	03 32 39.0	+0.7
	comp=Z,193nm,1.7s						
SSPA				ePcP	PcP	03 35 30.5	+0.7
P36A	Good Intent, A	31.74	344	⇑P	P	03 32 37.0	-1.8
	baz=32						
T29A	Hugoton	31.74	333	⇓P	P	03 32 37.6	-1.3
	baz=32						
121A	Cookes Peak, D	31.77	320	⇑P	P	03 32 38.7	-0.7
	baz=32,SNR=26						
121A	Cookes Peak, D	31.77	320	eP	P	03 32 40.2	+0.8
	comp=Z,92nm,1.3s						
R32A	Long Quarter,	31.78	338	⇓P	P	03 32 37.5	-1.7
	baz=32						
S30A	Montezuma	31.79	335	⇓P	P	03 32 38.0	-1.4
	baz=32						
U27A	Thompson Grove	31.85	331	⇑P	P	03 32 38.0	-1.9
	baz=32,SNR=8.6						
P35A	Duane Minner,	31.89	343	⇓P	P	03 32 38.4	-1.7
	baz=32,SNR=15						
SRIG	Santa Rosalia	31.96	308	P	P	03 32 38.5	-2.4
SRIG				S	S	03 37 52.5	+1.9
R31A	Burdett	31.97	337	⇓P	P	03 32 39.3	-1.6
	baz=32						
Q33A	Connelly Farm,	31.98	340	⇓P	P	03 32 39.4	-1.5
	baz=32,SNR=15						
S29A	Ulysses	32.05	334	⇓P	P	03 32 40.4	-1.3
	baz=32						
T28A	Walsh	32.08	332	⇓P	P	03 32 40.2	-1.7
	baz=32						
LUPA	Lehigh Univers	32.12	13	eP	P	03 32 44.1	+2.1
P34A	Walnut Farm, R	32.15	341	⇓P	P	03 32 40.8	-1.6
	baz=32						
O36A	Bolckow	32.15	344	⇓P	P	03 32 40.6	-1.8
	baz=32						
Q32A	Meitler Ranch,	32.23	339	⇑P	P	03 32 41.4	-1.7
	baz=32,SNR=15						
R30A	Dighton	32.27	336	⇓P	P	03 32 42.3	-1.2
	baz=32,SNR=23						
LPM	Los Pinos Moun	32.29	324	eP	P	03 32 43.6	-0.3
	comp=Z,11nm,1.1s						
Y22D	IRIS PASSCAL I	32.29	323	⇑P	P	03 32 42.0	-1.9
	baz=32						
T27A	Campo	32.31	332	⇓P	P	03 32 42.5	-1.6
	baz=32						
P33A	Williams Farm,	32.33	340	⇑P	P	03 32 42.3	-1.6
	baz=32						
S28A	Manter	32.37	333	⇓P	P	03 32 42.9	-1.6
	baz=32						
BRNJ	Basking Ridge	32.38	14	eP	P	03 32 45.6	+1.3
	comp=Z,119nm,1.3s						
LENM	Lemitar	32.39	323	eP	P	03 32 44.6	-0.1
ALLY	Alegheny Colle	32.40	6	eP	P	03 32 44.6	+0.1
	comp=Z,161nm,1.5s						
O35A	Humboldt	32.53	343	⇑P	P	03 32 43.8	-1.9
	baz=33						
Q31A	Ellis	32.55	338	⇑P	P	03 32 44.4	-1.5
	baz=33						
CPNY	Central Park	32.63	14	eP	P	03 32 47.5	+0.9
	comp=Z,415nm,2.1s						
ANMO	Albuquerque	32.64	325	P	P	03 32 46.7	-0.3
	comp=Z,8.1nm,1.1s,baz=145,slow=8.5,SNR=18						
ANMO	Albuquerque	32.64	325c	iP	P	03 32 45.8	-1.2
ANMO				pmax	pmax		
	comp=Z,117nm,1.7s						
ANMO				MLR	MLR		
	comp=Z,31µm,21.0s						
ANMO	Albuquerque	32.64	325	eP	P	03 32 46.2	-0.8
	comp=Z,19nm,1.0s						
ANMO				ePP	PP	03 33 58.9	-2.2
ANMO				LR	LR		
	comp=Z,8µm,19.0s						
R29A	Marienthal	32.74	335	⇑P	P	03 32 46.2	-1.5
	baz=33						
ODNJ	Ogdensburg	32.75	13	eP	P	03 32 49.5	+1.8
	comp=Z,192nm,2.2s						
P32A	Huiting Farm,	32.80	339	⇓P	P	03 32 46.0	-2.2
	baz=33,SNR=15						
T26A	Comanche Natio	32.82	331	⇓P	P	03 32 47.0	-1.5
	baz=33						
Q30A	Quinter	32.84	337	⇑P	P	03 32 47.2	-1.3
	baz=33,SNR=6.0						
PAL	Palisades	32.84	14	eP	P	03 32 50.2	+1.8
PAL				pmax	pmax		
	comp=Z,195nm,1.4s						
PAL	Palisades	32.84	14	eP	P	03 32 50.2	+1.8
	comp=Z,195nm,1.4s						
AAM	Ann Arbor	32.85	1	eP	P	03 32 47.7	-0.8
AAM				pmax	pmax		
	comp=Z,538nm,2.2s						
AAM				MLR	MLR		
	comp=Z,25µm,19.0s						
AAM	Ann Arbor	32.85	1	eP	P	03 32 47.7	-0.8
	comp=Z,538nm,2.2s						
AAM				LR	LR		
	comp=Z,25µm,19.0s						
O33A	Hebron	32.87	341	⇑P	P	03 32 47.2	-1.5
	baz=33						
S27A	Las Animas	32.90	332	⇓P	P	03 32 47.4	-1.8
	baz=33						
R28A	Tribune	32.96	334	⇓P	P	03 32 47.9	-1.7
	baz=33,SNR=24						
KSPA	Keystone Colle	32.96	12	eP	P	03 32 50.9	+1.4
	comp=Z,424nm,2.1s						
P31A	Stockton	32.99	338	⇓P	P	03 32 48.2	-1.6
	baz=33,SNR=15						
N35A	Tabor	33.01	344	⇑P	P	03 32 48.2	-1.8
	baz=33						
Q29A	Oakley	33.07	336	⇓P	P	03 32 49.2	-1.4
	baz=33						
S26A	Kim	33.12	331	⇓P	P	03 32 50.1	-1.0
	baz=33						
T25A	Trinidad	33.19	330	⇓P	P	03 32 49.5	-2.3
	baz=33						
N34A	Lincoln	33.23	343	⇑P	P	03 32 49.9	-1.9
	baz=33						
O32A	Brockman Farm,	33.27	340	⇑P	P	03 32 50.3	-1.9
	baz=33,SNR=6.6						
P30A	Selden	33.34	337	⇓P	P	03 32 51.6	-1.3
	baz=33,SNR=13						
R27A	Eads	33.34	333	⇑P	P	03 32 51.5	-1.5
	baz=33						
YLE	Yale	33.38	15	eP	P	03 32 53.9	+0.8
	comp=Z,99nm,1.2s						
YLE				ePP	PnPn	03 34 06.0	+1.6
SCIA	State Center	33.42	348	eP	P	03 32 52.0	-1.4
	comp=Z,146nm,1.0s						
SCIA				LR	LR		
	comp=Z,8µm,22.0s						
O31A	Woolen Ranch,	33.53	339	⇑P	P	03 32 52.8	-1.7
	baz=34						
BINY	Binghamton	33.53	11	eP	P	03 32 54.7	+0.2
	comp=Z,228nm,1.6s						
BINY				ePP	PnPn	03 34 06.8	+0.5
BINY				LR	LR		
	comp=Z,34µm,20.0s						
Q28A	Sharon Springs	33.57	335	⇑P	P	03 32 53.5	-1.4
	baz=34,SNR=23						
TUC	Tucson	33.60	317	eP	P	03 32 56.1	+0.8
TUC				pmax	pmax		
	comp=Z,54nm,1.2s						
TUC				MLR	MLR		
	comp=Z,12µm,20.0s						
TUC	Tucson	33.60	317	eP	P	03 32 56.1	+0.8
	comp=Z,54nm,1.2s						
TUC				LR	LR		
	comp=Z,12µm,20.0s						
R26A	Arlington	33.65	332	⇑P	P	03 32 54.3	-1.4
	baz=34						
P29A	Atwood	33.66	336	⇑P	P	03 32 54.7	-1.0
	baz=34						
N32A	Stulken Farm,	33.72	341	⇑P	P	03 32 54.6	-1.5
	baz=34						
MMNY	Mt. Morris Dam	33.73	8	eP	P	03 32 57.1	+1.0
	comp=Z,642nm,1.6s						
O30A	MW Ranch, Wils	33.82	338	⇑P	P	03 32 55.3	-1.8
	baz=34						
KSCO	Kaye Shedlock'	33.87	334	⇓P	P	03 32 56.3	-1.3
	baz=34						
M34A	Aspy Farms, Fr	33.87	343	⇑P	P	03 32 55.8	-1.6
	baz=34						
JFWS	Jewell Farm	33.88	352	eP	P	03 32 56.0	-1.5
JFWS				e		03 34 21.4	
JFWS				pmax	pmax		
	comp=Z,101nm,0.9s						
JFWS				MLR	MLR		
	comp=Z,7µm,19.0s						
JFWS	Jewell Farm	33.88	352	eP	P	03 32 56.0	-1.5
	comp=Z,101nm,0.9s						
JFWS				ePP	PP	03 34 21.4	+6.9
JFWS				LR	LR		
	comp=Z,7µm,19.0s						
P28A	Saint Francis	33.97	335	⇑P	P	03 32 57.1	-1.3
	baz=34,SNR=15						
N31A	Bailey Ranch,	34.00	340	⇑P	P	03 32 56.7	-1.8
	baz=34						
SIV	San Ignacio	34.01	138	P	P	03 32 59.9	+1.0
	comp=Z,24nm,1.0s,baz=315,slow=12,SNR=18						
O29A	4D Ranch, Culb	34.06	337	⇓P	P	03 32 57.7	-1.4
	baz=34						
Q26A	Hugo	34.19	333	⇓P	P	03 32 59.0	-1.4
	baz=34,SNR=9.9						
SDCO	Great Sand Dun	34.21	329	⇓P	P	03 33 00.2	-0.6
	baz=34,SNR=20						
SDCO	Great Sand Dun	34.21	329	eP	P	03 33 00.2	-0.6
	comp=Z,67nm,1.4s						
SDCO				ePP	PP	03 34 18.8	+0.3
SDCO				LR	LR		
	comp=Z,6µm,20.0s						
L34A	Svendsen Farm,	34.24	344	⇓P	P	03 32 58.5	-2.2
	baz=34						
BGNE	Belgrade	34.26	341	⇑P	P	03 32 59.0	-1.8
	baz=34						
BGNE	Belgrade	34.26	341	eP	P	03 32 59.3	-1.5
BGNE				ePP	PP	03 34 17.3	-1.4
P27A	Ficken Ranch,	34.30	334	⇑P	P	03 32 59.7	-1.6
	baz=34						
N30A	Hueftle Ranch,	34.38	338	⇑P	P	03 33 00.5	-1.4
	baz=34						
S23A	Nye Farm, Mont	34.44	329	⇑P	P	03 33 02.2	-0.5
	baz=34						
QUA2	Belchertown	34.44	16	eP	P	03 33 03.5	+1.3
	comp=Z,61nm,1.4s						
QUA2				ePP	PP	03 34 20.7	+0.1
O28A	Krutsinger Ran	34.44	336	⇓P	P	03 33 01.6	-0.9
	baz=34						
M31A	Lambtecht Ranc	34.47	340	⇑P	P	03 33 01.4	-1.2
	baz=35						
TRY	Troy	34.54	14	eP	P	03 33 03.9	+0.8
	comp=Z,101nm,1.2s						
N29A	Votaw Ranch, W	34.59	338	⇑P	P	03 33 02.3	-1.4
	baz=35						
P26A	Davis Ranch, A	34.63	333	⇓P	P	03 33 03.8	-0.4
	baz=35						
W18A	Petrified Fore	34.70	322	⇓P	P	03 33 05.3	+0.4
	baz=35,SNR=17						
W18A	Petrified Fore	34.70	322	eP	P	03 33 06.2	+1.3
	comp=Z,132nm,1.1s						
R23A	Moffat	34.72	329	⇓P	P	03 33 04.5	-0.6
	baz=35,SNR=9.0						
O27A	Beecher Island	34.79	335	⇑P	P	03 33 04.8	-0.7
	baz=35						
214A	Organ Pipe Nat	34.80	314	⇑P	P	03 33 06.4	+0.8
	baz=35,SNR=41						
214A	Organ Pipe Nat	34.80	314	eP	P	03 33 06.7	+1.1
	comp=Z,128nm,1.4s						
N28A	Pribbeno Ranch	34.83	337	⇑P	P	03 33 04.8	-1.0
	baz=35						
S22A	4UR Ranch, Cre	34.90	328	⇑P	P	03 33 06.3	-0.4
	baz=35,SNR=25						
M30A	Dale-Ortello V	34.95	339	⇓P	P	03 33 05.3	-1.5
	baz=35						
Q24A	Divide	34.98	331	⇑P	P	03 33 06.3	-1.2
	baz=35						
LVC	Limon Verde	35.09	155	P	P	03 33 09.0	+0.6
	comp=Z,203nm,1.1s,baz=321,slow=6.3,SNR=12						
LVC				LR	LR	03 46 02.7	
	comp=Z,17µm,21.1s,baz=340,slow=34						
LVC	Limon Verde	35.09	155	eP	P	03 33 10.7	+2.2
	comp=Z,182nm,1.5s						
LVC				ePP	PP	03 34 32.3	+3.9
ACCN	Adirondack Com	35.16	13	eP	P	03 33 09.5	+1.0
	comp=Z,77nm,1.4s						
M29A	Burnside Ranch	35.16	338	⇑P	P	03 33 07.2	-1.4
	baz=35						
L31A	Butterfield Fa	35.17	341	⇑P	P	03 33 07.0	-1.7
	baz=35						
O26A	Horse Wrangler	35.18	334	⇑P	P	03 33 07.9	-1.0
	baz=35						
OGNE	Ogallala	35.24	336	⇓P	P	03 33 08.7	-0.6
	baz=35,SNR=11						
OGNE	Ogallala	35.24	336	eP	P	03 33 08.9	-0.4
	comp=Z,259nm,1.3s						
OGNE				ePP	PnPn	03 34 26.7	-1.1
OGNE				LR	LR		
	comp=Z,7µm,22.0s						
L30A	Spencer Herefo	35.26	340	⇑P	P	03 33 08.3	-1.2
	baz=35						
Q23A	Hartsel	35.27	330	⇑P	P	03 33 08.8	-1.1
	baz=35						
N27A	Anderson Farm,	35.33	336	⇑P	P	03 33 08.8	-1.3
	baz=35,SNR=11						
M28A	Bar X Bar Ranc	35.37	337	⇓P	P	03 33 09.8	-0.7
	baz=36						
GLMI	Grayling	35.38	359	eP	P	03 33 08.9	-1.5
	comp=Z,93nm,1.0s						
GLMI				LR	LR		
	comp=Z,15µm,19.0s						
MVCO	Mesa Verde	35.41	325	⇓P	P	03 33 10.8	-0.3
	baz=36,SNR=40						
MVCO	Mesa Verde	35.41	325	eP	P	03 33 10.3	-0.8
	comp=Z,212nm,1.8s						
MVCO				ePP	PP	03 34 38.6	+6.8
MVCO				LR	LR		
	comp=Z,5µm,20.0s						
SADO	Sadowa	35.59	6	P	P	03 33 11.6	-0.6
	comp=Z,43nm,1.1s,baz=205,slow=9.4,SNR=25						
NCB	Newcomb	35.59	12	PFAKE		03 33 20.0	+7.7
NCB				LR	LR		
	comp=Z,28µm,19.0s						
L29A	Maesberg Ranch	35.63	339	⇓P	P	03 33 11.6	-1.0
	baz=36						
N26A	Koester Ranch,	35.63	335	⇓P	P	03 33 11.9	-0.9
	baz=36,SNR=6.1						
P23A	Jefferson	35.64	331	⇓P	P	03 33 12.6	-0.5
	baz=36,SNR=8.0						
FFD	Franklin Falls	35.73	16	eP	P	03 33 13.8	+0.3
	comp=Z,161nm,1.8s						
HNH	Hanover	35.79	15	eP	P	03 33 14.7	+0.8
	comp=Z,414nm,2.3s						
MDV	Middlebury	35.85	14	eP	P	03 33 14.6	+0.2
ISCO	Idaho Springs	35.86	331	eP	P	03 33 14.3	-0.7
ISCO				pmax	pmax		
	comp=Z,124nm,2.1s						
ISCO				MLR	MLR		
	comp=Z,5µm,20.0s						
ISCO	Idaho Springs	35.86	331	⇓P	P	03 33 14.7	-0.3
	baz=36,SNR=6.3						
ISCO	Idaho Springs	35.86	331	eP	P	03 33 14.3	-0.7
	comp=Z,124nm,2.1s						
ISCO				LR	LR		
	comp=Z,5µm,20.0s						
K30A	Basset	35.87	340	⇑P	P	03 33 13.2	-1.5
	baz=36,SNR=6.6						
M27A	Reverse DX Ran	35.88	336	⇑P	P	03 33 13.9	-0.9
	baz=36						
ECSD	EROS Data Cent	35.95	345	⇑P	P	03 33 13.0	-2.4
	baz=36,SNR=46						
ECSD	EROS Data Cent	35.95	345	eP	P	03 33 12.9	-2.4
	comp=Z,79nm,1.3s						
ECSD				ePP	PP	03 34 37.8	+0.4
ECSD				LR	LR		
	comp=Z,8µm,19.0s						
L28A	Connealy Angus	35.96	338	⇑P	P	03 33 14.5	-1.0
	baz=36						
WUAZ	Wupatki	35.97	321	⇑P	P	03 33 16.2	+0.3
	baz=36,SNR=38						
WUAZ	Wupatki	35.97	321	eP	P	03 33 16.8	+0.9
	comp=Z,79nm,1.1s						
WUAZ				ePcP	PcP	03 35 43.9	+1.6
WUAZ				LR	LR		
	comp=Z,7µm,20.0s						
PTN	Potsdam (NY)	36.01	11	eP	P	03 33 15.9	+0.1
PTN				pmax	pmax		
	comp=Z,563nm,1.8s						
PTN	Potsdam (NY)	36.01	11	eP	P	03 33 15.9	+0.1
	comp=Z,563nm,1.8s						
SMCO	Snowmass	36.05	329	eP	P	03 33 15.7	-1.0
	comp=Z,8.2nm,1.2s						
PV01	Paradox Valley	36.11	326	eP	P	03 33 16.6	-0.4
	comp=Z,1µm,1.1s						
M26A	McRoberts Ranc	36.13	336	⇓P	P	03 33 15.8	-1.2
	baz=36						
LONY	Lake Ozonia	36.14	12	eP	P	03 33 16.8	-0.1
	comp=Z,194nm,1.6s						
LONY				LR	LR		
	comp=Z,35µm,20.0s						
K29A	Lazy Trails An	36.19	340	⇑P	P	03 33 16.2	-1.3
	baz=36,SNR=6.8						
P22A	Eagle	36.26	330	⇓P	P	03 33 17.2	-1.2
	baz=36						
L27A	T5 Ranch, Ells	36.32	337	⇓P	P	03 33 17.6	-1.0
	baz=36						
O23A	Lake Granby, G	36.33	331	⇓P	P	03 33 18.6	-0.4
	baz=36						
J30A	Dallas	36.41	341	⇑P	P	03 33 17.0	-2.3
	baz=36,SNR=33						
M25A	Palm-Egli Farm	36.48	335	⇑P	P	03 33 19.4	-0.7
	baz=37						
PV04	Paradox Valley	36.48	326	eP	P	03 33 20.2	0.0
PV04				ePP	PP	03 34 53.6	+10
K28A	Ten Mile Ranch	36.51	339	⇑P	P	03 33 19.0	-1.2
	baz=37						
SPMN	Marine on St.	36.54	350	⇓P	P	03 33 18.0	-2.3
	baz=37,SNR=33						
SPMN	Marine on St.	36.54	350	eP	P	03 33 18.0	-2.3
	comp=Z,102nm,0.8s						
SPMN				ePP	PnPn	03 34 43.7	+0.1
L26A	Underwood Farm	36.58	336	⇑P	P	03 33 19.7	-1.2
	baz=37						
O22A	Kremmling	36.59	331	⇓P	P	03 33 20.1	-1.1
	baz=37,SNR=6.3						
J29A	Okreek	36.76	340	⇑P	P	03 33 20.6	-1.7
	baz=37,SNR=28						
GLA	Glamis	36.82	314	eP	P	03 33 24.5	+1.6
GLA				pmax	pmax		
	comp=Z,97nm,1.1s						
GLA	Glamis	36.82	314	⇑P	P	03 33 24.6	+1.6
	baz=37,SNR=26						
GLA	Glamis	36.82	314	eP	P	03 33 24.4	+1.6
	comp=Z,97nm,1.1s						
K27A	Flueckinger Fa	36.83	338	⇓P	P	03 33 21.6	-1.4
	baz=37						
N23A	Red Feather La	36.88	332	⇑P	P	03 33 23.0	-0.6
	baz=37						
I30A	Oacoma	36.92	342	⇑P	P	03 33 21.4	-2.3
	baz=37,SNR=23						
PHWY	Pilot Hill	36.99	333	eP	P	03 33 23.8	-0.8
	comp=Z,39nm,1.5s						
PHWY				ePP	PnPn	03 34 51.8	+2.4
Y12C	Blythe	36.99	316	⇑P	P	03 33 25.7	+1.4
	baz=37,SNR=19						
PDMCI	Parker Dam,Lak	37.04	317	⇓P	P	03 33 25.7	+0.9
	baz=37,SNR=38						
L25A	Engebretsen Ra	37.04	335	⇓P	P	03 33 24.2	-0.6
	baz=37						
N22A	Wattenberg Ran	37.05	331	⇓P	P	03 33 24.8	-0.3
	baz=37						
J28A	Allard Ranch,	37.09	339	⇑P	P	03 33 23.4	-1.7
	baz=37,SNR=22						
K26A	Motz Farm, Whi	37.19	337	⇓P	P	03 33 24.8	-1.2
	baz=37						
J27A	Elkhorn Farm,	37.21	338	⇑P	P	03 33 24.9	-1.3
	baz=37,SNR=23						
BRSD	Miller	37.26	342	⇓P	P	03 33 24.1	-2.4
	baz=37,SNR=14						
BRSD	Miller	37.26	342	eP	P	03 33 24.3	-2.2
	comp=Z,88nm,0.8s						
I29A	Vivian Onida	37.30	341	⇓P	P	03 33 24.7	-2.2
	baz=37,SNR=12						
WVL	Waterville	37.30	17	eP	P	03 33 28.7	+1.9
	comp=Z,526nm,2.0s						
K25A	Mack Ranch, Ha	37.38	336	⇓P	P	03 33 26.5	-1.2
	baz=38						
O20A	White River Ci	37.41	329	⇑P	P	03 33 27.9	-0.2
	baz=38						
O20A	White River Ci	37.41	329	eP	P	03 33 28.6	+0.6
	comp=Z,15nm,0.9s						
SWSC	Sam W. Stewart	37.45	314	⇓P	P	03 33 29.9	+1.7
	baz=38,SNR=9.8						
IBP	Imperial Bould	37.52	313	⇑P	P	03 33 30.3	+1.4
	baz=38						
I28A	Midland	37.57	340	⇑P	P	03 33 27.7	-1.5
	baz=38,SNR=21						
BC3	Big Chuckawall	37.59	315	⇓P	P	03 33 30.7	+1.2
	baz=38,SNR=38						
IRM	Iron Mountain	37.65	316	⇑P	P	03 33 31.5	+1.5
	baz=38,SNR=18						
J26A	Sides Ranch, S	37.66	337	⇓P	P	03 33 29.4	-0.6
	baz=38,SNR=15						
H29A	Onida	37.81	341	⇓P	P	03 33 28.9	-2.3
	baz=38,SNR=6.6						
K24A	Anderson Ranch	37.87	335	⇓P	P	03 33 30.8	-1.0
	baz=38						
MONP	Monument Peak,	37.87	313	⇓P	P	03 33 32.2	+0.1

baz=38,SNR=9.0
SRU San Rafael Swe 37.88 326 *e*P **P 03 33 31.9 -0.1**
SRU San Rafael Swe 37.88 326 *e*P **P 03 33 31.9 -0.1**
I27A Quinn 37.94 339 ⇓P **P 03 33 30.9 -1.4**
baz=38,SNR=19
G30A Faulkton 37.94 343 ⇑P **P 03 33 29.6 -2.6**
baz=38,SNR=26
BAR Barrett 37.95 313 *e*P **P 03 33 34.3 +1.8**
comp=Z,39nm,1.8s
N20A Spence Gulch, 37.95 330 ⇓P **P 03 33 32.1 -0.6**
baz=38,SNR=22
J25A Sunshine Ranch 38.01 337 ⇑P **P 03 33 31.9 -1.1**
baz=38
PKME Peaks-Kenny Pk 38.05 17 *e*P **P 03 33 33.4 +0.3**
comp=Z,100nm,1.7s
PKME LR LR
comp=Z,9µm,19.0s
H28A Mission Ridge 38.12 340 ⇑P **P 03 33 31.3 -2.5**
baz=38
BELC Belle Mtn. Jos 38.15 315 ⇓P **P 03 33 35.6 +1.3**
baz=38,SNR=22
I26A New Underwood 38.20 338 ⇓P **P 03 33 33.5 -1.0**
baz=38,SNR=12
G29A Hoven 38.23 342 ⇓P **P 03 33 32.2 -2.5**
baz=38,SNR=5.7
K23A Bowen Ranch, D 38.23 334 ⇓P **P 03 33 33.6 -1.3**
baz=38
PFO Pinyon Flats O 38.27 314 P **P 03 33 37.2 +1.9**
comp=Z,199nm,1.1s,SNR=11
PFO Pinyon Flats O 38.27 314 *e*P **P 03 33 36.9 +1.6**
PFO *e* 03 35 51.4
PFO pmax pmax
comp=Z,46nm,1.2s
PFO MLR MLR
comp=Z,8µm,22.0s
PFO Pinyon Flats O 38.27 314 ⇑P **P 03 33 36.8 +1.6**
baz=38,SNR=14
PFO Pinyon Flats O 38.27 314 *e*P **P 03 33 36.9 +1.6**
comp=Z,46nm,1.2s
PFO *e*PcP **PcP 03 35 51.4 +2.1**
PFO LR LR
comp=Z,8µm,22.0s
J24A Dixon Ranch, L 38.30 336 ⇓P **P 03 33 34.9 -0.6**
baz=38
GMRC Granite Mounta 38.34 316 ⇑P **P 03 33 36.9 +1.0**
baz=38,SNR=26
109C Camp Elliot, M 38.37 313 ⇓P **P 03 33 37.5 +1.5**
baz=38,SNR=9.6
TMUT Trail Mountain 38.39 325 *e*P **P 03 33 35.6 -1.0**
comp=Z,26nm,1.3s
MSU Marysvale 38.42 324 *e*P **P 03 33 36.5 -0.1**
MSU *e* 03 35 51.0
MSU pmax pmax
comp=Z,91nm,1.8s
MSU Marysvale 38.42 324 *e*P **P 03 33 36.5 -0.1**
comp=Z,91nm,1.8s
MSU *e*PcP **PcP 03 35 51.0 +1.3**
MVU Marysvale 38.43 324 *e*P **P 03 33 37.1 +0.3**
comp=Z,88nm,1.7s
G28A Parade 38.44 341 ⇓P **P 03 33 34.8 -1.7**
baz=38
H27A Howes 38.44 339 ⇑P **P 03 33 35.1 -1.4**
baz=38,SNR=30
I25A Rochford 38.52 337 ⇓P **P 03 33 36.9 -0.4**
baz=39,SNR=16
K22A Casper 38.54 333 ⇑P **P 03 33 36.7 -0.9**
baz=39
K22A Casper 38.54 333 *e*P **P 03 33 37.1 -0.4**
F30A Leola 38.55 343 ⇓P **P 03 33 34.5 -2.9**
baz=39,SNR=15
H26A Fairpoint 38.67 339 ⇓P **P 03 33 37.4 -1.1**
baz=39
RSSD Black Hills 38.72 337 *e*P **P 03 33 38.8 -0.3**
RSSD *e* 03 35 12.9
RSSD pmax pmax
comp=Z,45nm,1.3s
RSSD Black Hills 38.72 337 *e*P **P 03 33 38.8 -0.3**
comp=Z,45nm,1.3s
RSSD *e*PP **PnPn 03 35 12.9 +2.6**
I24A Kuemmerle Ranc 38.73 336 ⇑P **P 03 33 38.6 -0.5**
baz=39
J23A Dilts Ranch, B 38.73 335 ⇓P **P 03 33 38.9 -0.2**
baz=39
F29A Eureka 38.78 342 ⇑P **P 03 33 36.8 -2.5**
baz=39,SNR=16
MURC Murrieta 38.79 313 ⇓P **P 03 33 40.8 +1.2**
baz=39,SNR=24
HEC Hector,Ludlow 38.83 316 ⇑P **P 03 33 41.0 +1.0**
baz=39,SNR=9.4
TUQ Turquoise Moun 38.89 317 ⇑P **P 03 33 41.9 +1.3**
baz=39
BBRC Big Bear Solar 38.94 315 ⇑P **P 03 33 42.8 +1.7**
baz=39
H25A Fruitdale 38.98 338 ⇓P **P 03 33 40.2 -0.9**
baz=39,SNR=9.1
EYMN Ely 38.99 352 *e*P **P 03 33 38.4 -2.6**
comp=Z,95nm,1.4s
EYMN *e*PP **PP 03 35 11.6 +0.9**
EYMN LR LR
comp=Z,7µm,19.0s
SHPR Sheep Range 39.00 319 *e*P **P 03 33 42.5 +1.0**
SHPR *e*PcP **PcP 03 35 50.4 -1.1**
SHPR *e*S **S 03 39 42.5 +3.6**
G27A Dupree 39.04 340 ⇓P **P 03 33 40.0 -1.5**
baz=39,SNR=6.4
F28A McLaughlin 39.09 342 ⇑P **P 03 33 39.6 -2.3**
baz=39,SNR=11
MPU Maple Canyon 39.13 326 *e*P **P 03 33 41.9 -0.6**
comp=Z,47nm,1.3s
E30A Jud 39.13 344 ⇓P **P 03 33 39.9 -2.4**
baz=39,SNR=25
J22A Midwest 39.13 334 ⇑P **P 03 33 41.0 -1.5**
baz=39,SNR=16
I23A Meade Ranch, G 39.15 335 ⇓P **P 03 33 41.6 -1.0**
baz=39
G26A Maurine 39.20 339 ⇑P **P 03 33 41.4 -1.4**
baz=39
RRX Edison Barstow 39.32 315 ⇓P **P 03 33 45.4 +1.4**
baz=39
NLU North Lily Min 39.33 325 *e*P **P 03 33 44.7 +0.4**
comp=Z,14nm,1.7s
NLU *e*PcP **PcP 03 35 54.7 +2.2**
SHOC Shoshone, Teco 39.39 317 ⇓P **P 03 33 45.4 +0.8**
baz=39
E29A Napoleon 39.39 343 ⇑P **P 03 33 41.9 -2.5**
baz=40,SNR=12
G25A Newell 39.40 338 ⇓P **P 03 33 43.2 -1.3**
baz=40,SNR=13
GSC Goldstone, Bar 39.42 316 *e*P **P 03 33 46.6 +1.7**
GSC *e* 03 35 51.9
GSC pmax pmax
comp=Z,42nm,1.2s
GSC Goldstone, Bar 39.42 316 ⇓P **P 03 33 46.5 +1.6**
baz=40,SNR=18
GSC Goldstone, Bar 39.42 316 *e*P **P 03 33 46.6 +1.7**
comp=Z,42nm,1.2s
GSC *e*PcP **PcP 03 35 51.9 -0.9**
JLU Jordanelle 39.44 327 *e*P **P 03 33 44.9 -0.3**
H24A Dirks Ranch, A 39.45 337 ⇑P **P 03 33 43.8 -1.2**
baz=40,SNR=23
BFSC Mount Baldy Ra 39.45 314 ⇑P **P 03 33 46.3 +1.1**
baz=40,SNR=8.5
SCI San Clemente I 39.47 312 ⇑P **P 03 33 46.8 +1.6**
baz=40,SNR=7.4
J21A Lysite 39.51 333 ⇓P **P 03 33 44.7 -0.9**
baz=40,SNR=5.8
F27A Lemmon 39.51 340 ⇓P **P 03 33 43.7 -1.7**
baz=40
I22A 9 Mile Ranch, 39.52 334 ⇓P **P 03 33 45.0 -0.7**
baz=40
CIS Catalina Islan 39.57 312 ⇑P **P 03 33 47.8 +1.7**
baz=40,SNR=11
H23A Clabaugh Cattl 39.62 336 ⇑P **P 03 33 45.0 -1.5**
baz=40
FMP Fort Macarthur 39.64 313 ⇓P **P 03 33 48.6 +2.0**
baz=40
D30A Buchanan 39.65 344 ⇑P **P 03 33 44.0 -2.5**
baz=40,SNR=23
CTU Camp Tracy 39.66 327 *e*P **P 03 33 47.1 +0.2**
comp=Z,2.2nm,0.3s
PQI Presque Isle 39.70 17 *e*P **P 03 33 47.7 +0.8**
comp=Z,175nm,1.6s
F26A Lodgepole 39.71 340 ⇓P **P 03 33 45.3 -1.8**
baz=40,SNR=6.7
E28A Huff 39.71 342 ⇑P **P 03 33 45.1 -1.9**
baz=40,SNR=10
TCUT Toone Canyon 39.78 327 *e*P **P 03 33 47.8 -0.2**
comp=Z,62nm,1.3s
PASC Pasadena Art C 39.79 314 *e*P **P 03 33 49.7 +1.8**
comp=Z,212nm,1.6s
PASC *e*PcP **PcP 03 35 52.1 -1.8**
J20A Shoshoni 39.80 333 ⇓P **P 03 33 47.8 -0.3**
baz=40
I21A Big Trails, Te 39.81 334 ⇑P **P 03 33 46.7 -1.4**
baz=40
D29A Pettibone, Tap 39.83 344 ⇓P **P 03 33 45.8 -2.3**
baz=40,SNR=8.8
E27A Carson 39.85 341 ⇑P **P 03 33 46.8 -1.5**
baz=40,SNR=18
G24A Alzada 39.88 338 ⇓P **P 03 33 47.7 -0.9**
baz=40
DUG Dugway, Tooele 39.91 325 *e*P **P 03 33 48.6 -0.4**
DUG pmax pmax
comp=Z,27nm,1.4s
DUG MLR MLR
comp=Z,8µm,19.0s
DUG Dugway, Tooele 39.91 325 ⇑P **P 03 33 48.8 -0.1**
baz=40
DUG Dugway, Tooele 39.91 325 *e*P **P 03 33 48.6 -0.4**
comp=Z,27nm,1.4s
DUG LR LR
comp=Z,8µm,19.0s
DECC Green Verdugo 39.93 314 ⇓P **P 03 33 50.6 +1.5**
baz=40,SNR=5.4
TPNV Topopah Spring 39.97 319 ⇓P **P 03 33 50.6 +1.1**
baz=40,SNR=19
EDW2 Edwards Air Fo 40.01 315 ⇑P **P 03 33 51.1 +1.2**
baz=40,SNR=17
H22A Clearmont 40.04 335 ⇑P **P 03 33 48.6 -1.4**
baz=40
BW06 Boulder Array 40.04 331 *e*P **P 03 33 48.6 -1.5**
comp=Z,32nm,1.4s
BW06 *e*PcP **PcP 03 35 55.8 +1.1**
BW06 LR LR
comp=Z,6µm,20.0s
PDAR Pinedale Array 40.04 331 P **P 03 33 48.4 -1.8**
comp=Z,2.8nm,1.0s,baz=132,slow=8.7,SNR=11
PDAR PcP **PcP 03 35 55.2 +0.5**
comp=Z,15nm,1.1s,baz=108,slow=4.8,SNR=7.4
PDAR LR LR 03 54 52.4
comp=Z,5µm,18.1s,baz=144,slow=43
F25A Bowman 40.05 339 ⇑P **P 03 33 48.0 -1.9**
baz=40
AGMN Agassiz Nation 40.08 348 ⇓P **P 03 33 47.7 -2.4**
baz=40,SNR=45
AGMN Agassiz Nation 40.08 348 *e*P **P 03 33 47.8 -2.3**
comp=Z,83nm,1.0s
AGMN *e*PP **PP 03 35 23.1 +0.6**
AGMN LR LR
comp=Z,5µm,20.0s
FURC Furnace Creek, 40.10 318 ⇓P **P 03 33 51.4 +1.1**
baz=40,SNR=9.9
LRMC Laurel Mtn Rad 40.12 316 ⇑P **P 03 33 52.3 +1.5**
baz=40
C30A Mose, Pekin 40.12 345 ⇓P **P 03 33 48.5 -2.0**
baz=40,SNR=11
E26A Carlson Angus 40.18 340 ⇑P **P 03 33 49.5 -1.5**
baz=40
J19A Crowheart 40.18 332 ⇓P **P 03 33 50.1 -1.1**
baz=40
HWUT Hardware Ranch 40.21 328 *e*P **P 03 33 50.1 -1.4**
comp=Z,22nm,0.8s
HWUT *e*PcP **PcP 03 35 57.0 +1.7**
HWUT LR LR
comp=Z,6µm,20.0s
D28A Regan 40.23 343 ⇓P **P 03 33 50.0 -1.4**
baz=40,SNR=9.4
LCO Las Campanas 40.27 162 *e*P **P 03 33 53.8 +1.7**
comp=Z,61nm,1.0s
LCO LR LR
comp=Z,4µm,20.0s
I20A Worland 40.29 333 ⇑P **P 03 33 51.6 -0.5**
baz=40
MPMC Manual Prospec 40.30 317 ⇑P **P 03 33 52.9 +0.6**
baz=40,SNR=39
F24A Ekalaka 40.33 338 ⇑P **P 03 33 51.2 -1.1**
baz=40
H21A Big Horn, Sher 40.35 335 ⇓P **P 03 33 51.2 -1.4**
baz=40
R11A Troy Canyon, C 40.37 321 ⇑P **P 03 33 53.2 +0.3**
baz=40,SNR=35
R11A Troy Canyon, C 40.37 321 *e*P **P 03 33 53.4 +0.5**
comp=Z,56nm,1.4s
BLG Laguna Peak, P 40.39 313 ⇓P **P 03 33 54.1 +1.2**
baz=40
OSI Osito Audit: C 40.40 314 ⇓P **P 03 33 53.8 +0.8**
baz=40
D27A Center 40.44 342 ⇑P **P 03 33 52.1 -1.1**
baz=40
DAC Darwin (Calif) 40.48 317 *e*P **P 03 33 54.6 +0.7**
DAC *e* 03 35 58.4
DAC pmax pmax
comp=Z,29nm,1.2s
DAC Darwin (Calif) 40.48 317 *e*P **P 03 33 54.6 +0.7**
comp=Z,28nm,1.2s
DAC *e*PcP **PcP 03 35 58.4 +2.1**
E25A Miller Ranch, 40.52 340 ⇑P **P 03 33 52.7 -1.2**
baz=41
G22A Birney 40.52 336 ⇓P **P 03 33 53.1 -0.8**
baz=41
BGU Big Grassy Mou 40.53 326 *e*P **P 03 33 53.5 -0.6**
comp=Z,20nm,1.1s
BGU *e* 03 35 38.6
MDND Maddock 40.55 344 ⇓P **P 03 33 52.5 -1.5**
baz=41,SNR=15
MDND Maddock 40.55 344 *e*P **P 03 33 52.7 -1.3**
comp=Z,517nm,1.4s
MDND *e*PP **PP 03 35 29.1 +1.4**
F23A Volborg 40.59 337 ⇓P **P 03 33 53.3 -1.1**
baz=41,SNR=6.5
C28A Hausauer Farms 40.65 343 ⇓P **P 03 33 52.8 -2.0**
baz=41,SNR=15
H20A Greybull 40.65 334 ⇑P **P 03 33 53.8 -1.2**
baz=41
D26A Manning 40.66 341 ⇑P **P 03 33 53.4 -1.6**
baz=41,SNR=9.6
ARVC Arvin 40.73 314 ⇑P **P 03 33 57.0 +1.3**
baz=41,SNR=18
GRAC Grapevine Rang 40.73 318 ⇓P **P 03 33 57.2 +1.4**
baz=41,SNR=34
I19A Meeteetse 40.74 332 ⇑P **P 03 33 55.4 -0.5**
baz=41
BSC Santa Cruz Isl 40.75 312 ⇑P **P 03 33 57.8 +1.9**
baz=41
ISA Isabella, Lake 40.76 315 *e*P **P 03 33 58.4 +2.4**
ISA Isabella, Lake 40.76 315 ⇑P **P 03 33 57.5 +1.4**
baz=41,SNR=26
ISA Isabella, Lake 40.76 315 *e*P **P 03 33 58.4 +2.4**
B30A Myrvik Farm, E 40.78 346 ⇑P **P 03 33 53.7 -2.2**
baz=41,SNR=7.7
AHID Auburn Hatcher 40.80 329 *e*P **P 03 33 55.5 -0.9**
comp=Z,35nm,1.2s
AHID *e*PP **PP 03 35 32.4 +1.6**
AHID LR LR
comp=Z,8µm,21.0s
E24A Baker 40.89 339 ⇑P **P 03 33 55.7 -1.2**
baz=41
CWC Cottonwood Cre 40.90 317 ⇑P **P 03 33 58.2 +0.9**
baz=41
G21A Lodge Grass 40.90 335 ⇓P **P 03 33 56.0 -1.1**
baz=41
F22A Rosebud 40.97 336 ⇑P **P 03 33 56.3 -1.3**
baz=41
HVU Hansel Valley 40.97 327 *e*P **P 03 33 56.8 -1.0**
HVU *e* 03 35 51.2
HVU Hansel Valley 40.97 327 *e*P **P 03 33 56.8 -1.0**
comp=Z,16nm,1.4s
HVU *e*PcP PcP 03 35 51.1 -6.6
C27A Sayler Ranch, 40.98 342 ⇓P **P 03 33 55.7 -1.8**
baz=41,SNR=7.8
SBC Santa Barbara 41.02 313 ⇓P **P 03 34 00.0 +2.0**
baz=41
B29A Wagenman Farm, 41.05 345 ⇑P **P 03 33 56.3 -1.8**
baz=41,SNR=18
D25A Fairfield 41.06 340 ⇑P **P 03 33 57.5 -0.8**
baz=41
REDW Red Top Meadow 41.12 330 *e*P **P 03 33 58.1 -0.9**
comp=Z,58nm,1.2s
REDW *e*PP **PnPn 03 35 41.3 +2.7**
SNOW Snow King Moun 41.14 330 *e*P **P 03 33 58.7 -0.6**
comp=Z,37nm,1.1s
LOHW Long Hollow 41.18 331 *e*P **P 03 33 58.3 -1.3**
comp=Z,34nm,1.4s
LOHW *e*PP **PnPn 03 35 39.4 0.0**
LOHW *e*PcP **PcP 03 35 59.7 +1.3**
E23A Ismay 41.20 338 ⇓P **P 03 33 58.1 -1.3**
baz=41
A30A Hoffart Farm, 41.23 346 ⇓P **P 03 33 57.9 -1.7**
baz=41
H19A Powell 41.23 333 ⇓P **P 03 33 59.0 -0.9**
baz=41
TPH Tonopah 41.25 319 *e*P **P 03 34 00.8 +0.6**
TPH pmax pmax
comp=Z,64nm,1.2s
TPH Tonopah 41.25 319 *e*P **P 03 34 00.8 +0.6**
comp=Z,64nm,1.2s
C26A Wahner Farm, P 41.26 342 ⇓P **P 03 33 58.2 -1.7**
baz=41,SNR=10
TPAW Teton Pass 41.26 330 *e*P **P 03 33 59.5 -0.8**
comp=Z,38nm,1.2s
TPAW *e* 03 35 42.2
VES Vestal, Richgr 41.28 315 ⇓P **P 03 34 01.8 +1.7**
baz=41,SNR=30
B28A Dugan Ranch, T 41.31 344 ⇓P **P 03 33 58.9 -1.4**
baz=41
PKM Mcpherson Peak 41.32 314 ⇑P **P 03 34 02.2 +1.4**
baz=41,SNR=13
G20A Bridger 41.33 334 ⇑P **P 03 33 59.0 -1.6**
baz=41,SNR=8.4
TIN Tinemaha, Big 41.34 317 ⇓P **P 03 34 01.9 +1.1**
baz=41
MOOW Moose Ponds 41.35 331 *e*P **P 03 34 00.3 -0.6**
MOOW *e*PP **PP 03 35 35.1 -1.6**
F21A Absaloka Mine, 41.35 336 ⇓P **P 03 33 59.4 -1.3**
baz=41
D24A Glendive 41.38 339 ⇓P **P 03 33 59.7 -1.2**
baz=42
E22A Miles City 41.40 337 ⇓P **P 03 33 59.2 -1.9**
baz=42,SNR=14
I17A Pilgrim Ck. 41.40 331 ⇑P **P 03 34 00.9 -0.4**
baz=42,SNR=5.6
FXWY Fox Creek 41.41 330 *e*P **P 03 34 00.8 -0.6**
A29A Manning Farm, 41.44 345 ⇓P **P 03 33 59.0 -2.3**
baz=42,SNR=21
B27A Peters Farms, 41.52 343 ⇑P **P 03 34 00.2 -1.8**
baz=42,SNR=11
C25A Freed Ranch, W 41.53 341 ⇓P **P 03 34 00.8 -1.3**
baz=42
H18A Shoshone NF, C 41.55 332 ⇓P **P 03 34 01.4 -1.1**
baz=42
IMW Indian Meadow 41.56 331 *e*P **P 03 34 02.2 -0.5**
comp=Z,18nm,1.1s
IMW *e*PcP **PcP 03 36 00.2 +0.4**
FLWY Flagg Ranch 41.58 331 *e*P **P 03 34 02.8 0.0**
comp=Z,59nm,1.3s
RCTC Rector, Farmer 41.63 316 ⇓P **P 03 34 03.7 +0.7**
baz=42,SNR=11
SMMC Simmler 41.65 314 ⇓P **P 03 34 04.6 +1.3**
baz=42
ELK Elko 41.66 324 *e*P **P 03 34 03.4 -0.2**
ELK *e* 03 36 02.3
ELK pmax pmax
comp=Z,36nm,1.3s
ELK Elko 41.66 324 *e*P **P 03 34 03.4 -0.2**
comp=Z,36nm,1.3s
ELK *e*PcP **PcP 03 36 02.3 +2.2**
A28A Rude Farm, Bot 41.70 344 ⇑P **P 03 34 01.1 -2.4**
baz=42,SNR=9.6
LAO LASA Array 41.71 337 *e*P **P 03 34 02.6 -1.0**
comp=Z,13nm,0.8s
LAO *e*PcP **PcP 03 36 02.2 +2.3**
LAO LR LR
comp=Z,4µm,20.0s
RLMT Red Lodge 41.71 333 *e*P **P 03 34 02.6 -1.3**
comp=Z,25nm,1.1s
RLMT PcP **PcP 03 36 01.9 +1.8**
RLMT LR LR
comp=Z,4µm,21.0s
D23A Lindsay 41.74 338 ⇑P **P 03 34 02.9 -1.0**
baz=42
H17A Grant Village 41.75 331 ⇑P **P 03 34 04.4 +0.2**
baz=42
H17A Grant Village 41.75 331 *e*P **P 03 34 05.3 +1.0**
comp=Z,84nm,1.9s
H17A *e* 03 35 52.4
F20A Billings 41.76 335 ⇑P **P 03 34 02.8 -1.3**
baz=42,SNR=15
C24A Savage 41.77 339 ⇑P **P 03 34 03.0 -1.0**
baz=42,SNR=13
B26A Jensen Ranch, 41.79 342 ⇓P **P 03 34 03.0 -1.2**
baz=42
LKWY Lake 41.80 332 *e*P **P 03 34 04.7 +0.1**
LKWY *e* 03 36 03.9
LKWY pmax pmax
comp=Z,37nm,1.3s
LKWY MLR MLR
comp=Z,9µm,22.0s
LKWY Lake 41.80 332 *e*P **P 03 34 04.7 +0.1**
comp=Z,37nm,1.3s
LKWY *e*PcP **PcP 03 36 03.9 +3.4**
LKWY LR LR
comp=Z,9µm,22.0s
YFT Old Faithful 41.92 331 *e*P **P 03 34 06.2 +0.6**
comp=Z,40nm,1.1s
YFT *e*PcP **PcP 03 36 04.3 +3.4**
E21A Keefer Ranch, 41.92 336 ⇓P **P 03 34 04.2 -1.2**
baz=42
B25A Knox Farm, Ray 41.99 341 ⇓P **P 03 34 05.3 -0.5**
baz=42
A27A Ledoux Ranch, 42.01 343 ⇑P **P 03 34 04.9 -1.1**
baz=42
YNR Norris Junctio 42.04 332 *e*P **P 03 34 06.4 -0.2**
comp=Z,4.7nm,0.8s
MLAC Mammoth, Mammo 42.06 318 ⇓P **P 03 34 08.0 +1.2**
baz=42
D22A Cohagen 42.08 338 ⇓P **P 03 34 05.6 -1.0**
baz=42,SNR=14
F19A Roth Farm, Mol 42.14 334 ⇓P **P 03 34 05.9 -1.3**
baz=42,SNR=9.5
NVAR Mina Array Bea 42.15 319 P **P 03 34 08.3 +0.7**
comp=Z,21nm,1.0s,baz=128,slow=5.6,SNR=47
NVAR PcP **PcP 03 36 02.8 +1.0**
comp=Z,7.4nm,0.9s,baz=134,slow=5.2,SNR=2.9
A26A Wade Farm, Ken 42.20 342 ⇑P **P 03 34 06.1 -1.4**
baz=42
C23A Lambert 42.27 339 ⇑P **P 03 34 06.9 -1.2**
baz=42,SNR=7.6
D21A La Casta Ranch 42.32 337 ⇑P **P 03 34 07.3 -1.3**
baz=42
GCMT Greycliff 42.41 333 *e*P **P 03 34 08.2 -1.2**
GCMT *e*PcP **PcP 03 36 04.2 +1.9**
QLMT Earthquake Lak 42.48 331 *e*P **P 03 34 10.2 0.0**
comp=Z,7.6nm,1.5s
QLMT *e*PcP **PcP 03 36 04.4 +1.7**
DGMT Dagmar 42.50 340 ⇓P **P 03 34 09.0 -1.0**
baz=43
DGMT Dagmar 42.50 340 *e*P **P 03 34 09.3 -0.7**
comp=Z,24nm,0.9s
DGMT *e* 03 35 54.2
DGMT LR LR
comp=Z,7µm,21.0s
E19A Rath Farm, Rou 42.55 335 ⇓P **P 03 34 09.3 -1.2**
baz=43,SNR=9.0
A25A Svangstu Ranch 42.56 342 ⇓P **P 03 34 09.4 -1.1**
baz=43
BMN Battle Mountai 42.65 322 *e*P **P 03 34 11.6 +0.1**
BMN pmax pmax
comp=Z,162nm,1.5s
BMN Battle Mountai 42.65 322 *e*P **P 03 34 11.6 +0.1**
comp=Z,162nm,1.5s
B23A Brockton 42.76 340 ⇓P **P 03 34 10.9 -1.3**
baz=43,SNR=6.5
D20A Manuel Ranch, 42.79 336 ⇓P **P 03 34 11.1 -1.3**
baz=43,SNR=7.2
A24A Westby 42.83 341 ⇓P **P 03 34 11.8 -0.9**
baz=43,SNR=8.1
WAKR Walker 42.93 318 *e*P **P 03 34 15.0 +1.1**
comp=Z,61nm,1.1s
B22A Reddig Ranch S 42.98 339 ⇑P **P 03 34 13.2 -0.7**
baz=43
C21A Desert Coulee 42.99 337 ⇑P **P 03 34 13.1 -0.9**
baz=43
HLID Hailey 43.08 328 ⇑P **P 03 34 14.3 -0.6**
baz=43,SNR=11
HLID Hailey 43.08 328 *e*P **P 03 34 14.1 -0.9**
comp=Z,17nm,1.0s
HLID *e*PcP **PcP 03 36 06.8 +2.1**
HLID LR LR
comp=Z,6µm,21.0s
A23A Redstone 43.15 340 ⇑P **P 03 34 14.7 -0.5**
baz=43

D19A Cripps Ranch, 43.15 335 ⇑P P 03 34 14.5 -0.9
baz=43
MCMT McKenzie Canyo 43.17 330 eP P 03 34 15.7 0.0
comp=Z,16nm,1.2s
BOZ Bozeman (W) 43.19 332 eP P 03 34 15.2 -0.6
BOZ e 03 36 04.2
BOZ pmax pmax
comp=Z,35nm,1.3s
BOZ MLR MLR
comp=Z,4µm,20.0s
BOZ Bozeman (W) 43.19 332 eP P 03 34 15.2 -0.6
comp=Z,35nm,1.3s
BOZ ePcP PcP 03 36 04.2 -0.8
BOZ LR LR
comp=Z,4µm,20.0s
C20A Veseth Ranch, 43.24 337 ⇓P P 03 34 15.2 -0.9
baz=43,SNR=7.2
CMB Columbia Colle 43.31 317 eP P 03 34 16.9 +0.2
CMB e 03 35 59.6
CMB pmax pmax
comp=Z,62nm,1.4s
CMB Columbia Colle 43.31 317 eP P 03 34 16.9 +0.2
comp=Z,62nm,1.4s
CMB e 03 35 59.6
DLMT Dillon 43.44 331 eP P 03 34 17.7 -0.1
comp=Z,40nm,1.4s
DLMT ePcP PcP 03 36 08.1 +2.3
B21A Ellsworth Farm 43.45 338 ⇓P P 03 34 17.4 -0.3
baz=44
CFAA Coronel Fontan 43.47 160 P P 03 34 19.7 +1.7
comp=Z,5.7nm,1.1s,baz=338,slow=7.9,SNR=12
A22A Carney Farms, 43.53 339 ⇑P P 03 34 17.9 -0.5
baz=44
BDFB Brasilia 43.58 124 P P 03 34 19.3 +0.1
comp=Z,17nm,1.0s,baz=299,slow=13,SNR=12
BDFB LR LR 03 55 29.1
comp=Z,10µm,18.5s,baz=306,slow=40
RPN Rapa Nui 43.67 213 PFAKE 03 34 30.0 +10
RPN LR LR
comp=Z,17µm,20.0s
C19A Slack Wire Ran 43.68 336 ⇓P P 03 34 18.8 -0.8
baz=44,SNR=15
LRM Limekiln Ridge 43.70 331 eP P 03 34 19.6 -0.4
comp=Z,556nm,1.7s
LRM e 03 36 09.5
MFID Camas Ranch 43.74 326 eP P 03 34 20.1 -0.1
comp=Z,86nm,1.7s
MFID e 03 36 09.1
B20A Solberg Farm, 43.84 337 ⇑P P 03 34 20.0 -0.9
baz=44,SNR=11
A21A Bergtoll Ranch 43.89 338 ⇓P P 03 34 20.9 -0.4
baz=44
CPUP Villa Florida 44.01 144 eP P 03 34 23.6 +1.2
CPUP Villa Florida 44.01 144 eP P 03 34 23.6 +1.2
comp=Z,1.7nm,1.5s
HRY Holter Researc 44.08 333 eP P 03 34 22.0 -0.9
comp=Z,12nm,1.0s
HRY e 03 36 10.3
A20A Cobblestone Ra 44.17 338 ⇓P P 03 34 22.9 -0.6
baz=44,SNR=12
EGMT Eagleton 44.20 335 ⇑P P 03 34 22.8 -1.0
baz=44,SNR=8.2
EGMT Eagleton 44.20 335 eP P 03 34 23.2 -0.6
comp=Z,50nm,1.4s
EGMT e 03 36 08.3
EGMT LR LR
comp=Z,5µm,20.0s
B19A Brinkman Farms 44.22 336 ⇑P P 03 34 22.8 -1.0
baz=44
A19A Klindworth Far 44.52 337 ⇓P P 03 34 25.4 -0.9
baz=45
WVOR Wild Horse Val 44.71 323 eP P 03 34 27.5 -0.5
WVOR pmax pmax
comp=Z,129nm,1.4s
WVOR MLR MLR
comp=Z,5µm,20.0s
WVOR Wild Horse Val 44.71 323 eP P 03 34 27.4 -0.5
comp=Z,130nm,1.4s
WVOR LR LR
comp=Z,5µm,20.0s
CHMT Chamberlain Mo 44.88 332 eP P 03 34 29.2 -0.3
comp=Z,14nm,1.6s
CHMT e 03 36 13.1
MSO Missoula 45.14 331 ⇑P P 03 34 30.2 -1.2
baz=45,SNR=16
SLMT Seeley Lake 45.23 332 eP P 03 34 31.7 -0.5
comp=Z,16nm,1.4s
SLMT e 03 36 13.7
BMO Blue Mountains 45.49 327 eP P 03 34 32.2 -2.0
comp=Z,16nm,1.2s
BMO ePcP PcP 03 36 14.6 +1.9
BMO LR LR
comp=Z,7µm,20.0s
HOPS Hopland Field 45.61 317 eP P 03 34 36.0 +0.9
comp=Z,25nm,1.6s
HOPS ePcP PcP 03 36 13.6 +0.4
SWMT Swartz Lake 45.66 332 eP P 03 34 34.5 -1.0
comp=Z,4.6nm,0.9s
SWMT e 03 36 13.0
YBMT Yellow Bay 45.93 332 eP P 03 34 37.4 -0.2
comp=Z,3.1nm,0.7s
YBMT ePcP PcP 03 36 16.3 +2.0
JTMT Jette 45.97 332 eP P 03 34 36.5 -1.5
comp=Z,14nm,1.4s
JTMT ePcP PcP 03 36 16.0 +1.5
JTMT ePP PP 03 36 24.1 -1.8
WDC Whiskeytown Da 46.07 319 eP P 03 34 37.3 -1.4
WDC e 03 36 16.0
WDC pmax pmax
comp=Z,9.0nm,1.0s
WDC Whiskeytown Da 46.07 319 eP P 03 34 37.3 -1.4
comp=Z,8.9nm,1.0s
WDC ePcP PcP 03 36 16.0 +1.2
BLMT Blacktail Moun 46.20 332 eP P 03 34 39.2 -0.6
comp=Z,12nm,1.1s
BLMT ePcP PcP 03 36 17.4 +2.1
M04C Macdoel 46.27 321 ⇑P P 03 34 39.9 -0.5
baz=46,SNR=17
BSMT Bassoo Peak 46.28 332 eP P 03 34 40.1 -0.4
comp=Z,13nm,1.2s
BSMT ePcP PcP 03 36 17.3 +1.7
KIPM Iron Peak 46.29 318 eP P 03 34 41.1 +0.5
comp=Z,159nm,1.4s
KIPM ePcP PcP 03 36 13.8 -2.0
KCPM Cahto Peak 46.30 317 eP P 03 34 40.5 -0.1
comp=Z,25nm,1.0s
KCPM ePcP PcP 03 36 18.1 +2.3
N02D Trinity Center 46.38 319 ⇓P P 03 34 40.0 -1.2
baz=46
K04D Chiloquin, OR 46.69 322 ⇑P P 03 34 43.1 -0.5
baz=47
M02C Callahan 46.70 320 ⇑P P 03 34 42.8 -0.9
baz=47
J05D Fort Rock, OR 46.75 323 ⇑P P 03 34 43.7 -0.4
baz=47
WALA Waterton Lakes 46.76 333 eP P 03 34 43.4 -0.7
comp=Z,15nm,1.0s
WALA ePcP PcP 03 36 18.6 +1.4
YBH Yreka Blue Hor 46.79 320 eP P 03 34 43.2 -1.2
YBH pmax pmax
comp=Z,14nm,1.0s
YBH Yreka Blue Hor 46.79 320 eP P 03 34 43.2 -1.2
comp=Z,14nm,1.0s
KHMM Horse Mountain 46.99 319 eP P 03 34 46.7 +0.6
comp=Z,115nm,1.3s
J04D Umpqua Nationa 47.25 322 ⇑P P 03 34 47.5 -0.6
baz=47,SNR=14
HUMO Hull Mountain 47.42 321 eP P 03 34 49.8 +0.6
comp=Z,25nm,1.8s
I05D Terrebonne, OR 47.42 324 ⇓P P 03 34 49.7 +0.4
baz=48
SCHQ Schefferville 47.45 14 P P 03 34 48.3 -0.9
comp=Z,42nm,1.0s,baz=206,slow=6.7,SNR=28
SCHQ LR LR 03 55 13.4
comp=Z,19µm,19.8s,baz=204,slow=37
SCHQ Schefferville 47.45 14 eP P 03 34 48.0 -1.3
comp=Z,230nm,1.5s
FFC Flin Flon 47.45 346 eP P 03 34 47.3 -1.9
FFC e 03 36 19.9
FFC pmax pmax
comp=Z,41nm,1.1s
FFC MLR MLR
comp=Z,5µm,21.0s
FFC Flin Flon 47.45 346 eP P 03 34 47.3 -1.9
comp=Z,41nm,1.1s
FFC ePcP PcP 03 36 19.9 +0.6
FFC LR LR
comp=Z,5µm,21.0s
L02D Cave Junction, 47.58 320 ⇑P P 03 34 49.9 -0.6
baz=48
HAWA Hanford 47.67 327 eP P 03 34 49.8 -1.3
comp=Z,27nm,1.1s
HAWA ePcP PcP 03 36 22.2 +1.9
HAWA LR LR
comp=Z,8µm,19.0s
NEW Newport 47.68 331 eP P 03 34 49.3 -1.9
NEW e 03 36 20.8
NEW pmax pmax
comp=Z,14nm,1.2s
NEW MLR MLR
comp=Z,8µm,20.0s
NEW Newport 47.68 331 ⇑P P 03 34 49.7 -1.5
baz=48,SNR=6.3
NEW Newport 47.68 331 eP P 03 34 49.3 -1.9
comp=Z,14nm,1.2s
NEW ePcP PcP 03 36 20.8 +0.4
NEW LR LR
comp=Z,8µm,20.0s
G05D Wamic, OR 47.95 325 ⇑P P 03 34 53.3 0.0
baz=48,SNR=12
KBO Bosley Butte 48.00 320 eP P 03 34 54.1 +0.2
comp=Z,251nm,1.5s
I03D Drain, OR 48.25 322 ⇑P P 03 34 54.9 -0.7
baz=48
G03D McMinnville, O 49.05 324 ⇓P P 03 35 01.7 -0.1
baz=49
F04D Rainier, OR 49.40 325 ⇓P P 03 35 03.9 -0.5
baz=49
EDM Edmonton 49.70 337 eP P 03 35 04.5 -2.1
EDM e 03 36 27.1
EDM pmax pmax
comp=Z,57nm,1.1s
EDM Edmonton 49.70 337 eP P 03 35 04.5 -2.1
comp=Z,57nm,1.1s
EDM ePcP PcP 03 36 27.1 -0.4
FCC Fort Churchill 49.91 353 eP P 03 35 06.4 -1.6
FCC e 03 36 28.4
FCC pmax pmax
comp=Z,34nm,0.8s
FCC Fort Churchill 49.91 353 eP P 03 35 06.4 -1.6
comp=Z,34nm,0.8s
FCC ePcP PcP 03 36 28.4 +0.4
RCBR Riachuelo 50.42 106 P P 03 35 12.7 0.0
comp=Z,9.0nm,0.9s,baz=269,slow=9.9,SNR=6.9
RCBR Riachuelo 50.42 106 eP P 03 35 11.1 -1.6
comp=Z,54nm,1.4s
RCBR LR LR
comp=Z,6µm,19.0s
NLWA Neilton Lookou 50.64 326 eP P 03 35 14.4 +0.5
comp=Z,48nm,1.2s
NLWA LR LR
comp=Z,7µm,19.0s
PLCA Paso Flores 51.37 167 P P 03 35 19.9 +0.4
comp=Z,17nm,0.9s,baz=340,slow=8.9,SNR=12
PLCA S S 03 42 38.0 +0.8
comp=Z,1.7nm,0.8s,baz=62,slow=2.0,SNR=3.5
PLCA LR LR 03 53 03.2
comp=Z,3µm,18.6s,baz=1.5,slow=31
PLCA Paso Flores 51.37 167 eP P 03 35 19.8 +0.4
PLCA e*PP pP 03 35 25.7 -2.4
PLCA S S 03 42 38.0 +0.8
PLCA pmax pmax
comp=Z,112nm,1.1s
PLCA Paso Flores 51.37 167 eP P 03 35 19.8 +0.4
comp=Z,112nm,1.1s
PLCA epP pP 03 35 25.7 -2.4
PLCA S S 03 42 38.0 +0.8
TRQA Tornquist 51.50 158 eP P 03 35 19.9 -0.4
comp=Z,57nm,1.3s
TRQA epP pP 03 35 26.2 -2.8
TRQA LR LR
comp=Z,4µm,20.0s
YKA Yellowknife Ar 57.47 344 P P 03 36 01.5 -1.9
comp=Z,18nm,0.8s,baz=137,slow=7.2,SNR=163
YKA PKP2bc 04 06 05.5
comp=Z,1.0nm,1.1s,baz=326,slow=2.7,SNR=4.2
ROSA Rosais 57.82 50 eP P 03 36 09.4 +3.1
comp=Z,310nm,1.2s
PMAN Manadas 57.91 50 eP P 03 36 09.7 +2.8
comp=Z,307nm,1.1s
PGRA Graciosa 58.10 50 eP P 03 36 11.0 +2.8
comp=Z,227nm,1.4s
SACV Santiago Islan 59.35 78 PFAKE 03 36 30.0 +13
SACV LR LR
comp=Z,2µm,21.0s
PSET Sete Cidades 59.54 52 eP P 03 36 20.9 +2.6
comp=Z,352nm,1.5s
PSMA Santa Maria 59.82 53 eP P 03 36 22.9 +2.7
comp=Z,137nm,1.4s
PSMN Pico do Norte, 59.88 53 eP P 03 36 23.3 +2.7
comp=Z,95nm,1.4s
BART Pico Bartolome 59.95 52 eP P 03 36 23.7 +2.5
comp=Z,262nm,1.5s
WRAK Wrangell Islan 60.02 331 PFAKE 03 36 30.0 +8.8
WRAK LR LR
comp=Z,5µm,19.0s
DLBC Dease Lake 60.10 334 eP P 03 36 21.4 -0.4
comp=Z,54nm,1.3s
SFJD Kangerlussuaq 61.89 14 P P 03 36 31.7 -2.0
comp=Z,49nm,0.9s,baz=203,slow=6.4,SNR=18
SFJD Kangerlussuaq 61.89 14 eP P 03 36 31.4 -2.3
SFJD pmax pmax
comp=Z,200nm,1.4s
SFJD MLR MLR
comp=Z,14µm,19.0s
SFJD Kangerlussuaq 61.89 14 eP P 03 36 31.4 -2.3
comp=Z,200nm,1.4s
SFJD LR LR
comp=Z,14µm,19.0s
HYT Haines Junctio 64.58 334 eP P 03 36 51.5 -0.4
comp=Z,44nm,1.5s
EFI East Falkland 64.79 162 PFAKE 03 37 10.0 +17
EFI LR LR
comp=Z,4µm,20.0s
RES Resolute Bay 65.62 357 eP P 03 36 57.0 -1.1
RES pmax pmax
comp=Z,47nm,1.4s
RES Resolute Bay 65.62 357 eP P 03 36 57.0 -1.1
comp=Z,47nm,1.4s
PMOZ Porto Moniz, M 65.69 58 eS S 03 45 51.2 +7.0
PMOZ Porto Moniz, M 65.69 58 eLR LR 03 56 04.9
comp=Z,3µm,18.0s
PMOZ Porto Moniz, M 65.69 58 eS S 03 45 51.2 +7.0
PMOZ Porto Moniz, M 65.69 58 eLR LR 03 56 04.9
comp=Z,3µm,18.0s
DAWY Dawson 66.91 337 eP P 03 37 05.3 -1.4
comp=Z,23nm,1.2s
INK Inuvik 67.14 342 eP P 03 37 08.2 +0.2
INK pmax pmax
comp=Z,64nm,1.2s
INK Inuvik 67.14 342 eP P 03 37 08.2 +0.2
comp=Z,64nm,1.2s
BMRM Bremner River 67.78 333 eP P 03 37 13.1 +0.8
comp=Z,154nm,1.7s
EGAK Eagle 67.92 337 eP P 03 37 11.9 -1.1
comp=Z,34nm,1.1s
EGAK LR LR
comp=Z,6µm,21.0s
DIV Divide 68.37 333 eP P 03 37 16.1 +0.2
comp=Z,74nm,1.3s
DOT Dot Lake 68.59 336 eP P 03 37 17.1 -0.2
comp=Z,53nm,1.0s
SUMG Summit 68.84 13⇑iP P 03 37 18.3 -0.8
comp=Z,262nm,1.1s
comp=Z,11µm,19.0s
SUMG Summit 68.84 13⇑iP P 03 37 18.3 -0.8
SUMG pmax pmax
comp=Z,260nm,1.1s
SUMG MLR MLR
comp=Z,11µm,19.0s
SUMG Summit 68.84 13 eP P 03 37 18.1 -1.1
comp=Z,270nm,1.1s
PAX Paxson 68.91 335 eP P 03 37 18.1 -1.3
PAX pmax pmax
comp=Z,83nm,1.7s
PAX Paxson 68.91 335 eP P 03 37 18.1 -1.3
comp=Z,83nm,1.7s
POHA Pohakuloa 69.42 288 PFAKE 03 37 40.0 +16
POHA LR LR
comp=Z,5µm,20.0s
SEW Seward 69.75 331 eP P 03 37 24.5 0.0
comp=Z,26nm,0.9s
ILAR Eielson Array 70.16 336 P P 03 37 26.0 -0.9
comp=Z,10nm,1.0s,baz=120,slow=4.4,SNR=79
ILAR LR LR 04 11 01.7
comp=Z,4µm,21.6s,baz=120,slow=38
RC01 Rabbit Creek A 70.17 332 eP P 03 37 26.5 -0.6
comp=Z,96nm,1.5s
BORG Borgarnes 70.22 24 P P 03 37 28.5 +1.2
comp=Z,19nm,0.9s,baz=27,slow=3.6,SNR=4.5
BORG Borgarnes 70.22 24 P P 03 37 28.5 +1.2
BORG MLR MLR
comp=Z,6µm,21.0s
BORG Borgarnes 70.22 24 P P 03 37 28.5 +1.2
BORG LR LR
comp=Z,6µm,21.0s
COLA College 70.58 336c iP P 03 37 28.1 -1.4
COLA pmax pmax
comp=Z,156nm,1.7s
COLA College 70.58 336 eP P 03 37 29.1 -0.3
comp=Z,53nm,1.3s
COLA LR LR
comp=Z,4µm,20.0s
MCK McKinley 70.64 335 eP P 03 37 29.4 -0.5
MCK pmax pmax
comp=Z,59nm,1.3s
MCK McKinley 70.64 335 eP P 03 37 29.4 -0.5
comp=Z,59nm,1.3s
KDAK Kodiak Island 70.70 328 eP P 03 37 30.8 +0.5
KDAK pmax pmax
comp=Z,112nm,1.5s
KDAK MLR MLR
comp=Z,4µm,21.0s
KDAK Kodiak Island 70.70 328 eP P 03 37 30.8 +0.5
comp=Z,112nm,1.5s
KDAK LR LR
comp=Z,4µm,21.0s
TRF Thorofare Moun 71.13 334 eP P 03 37 32.4 -0.7
comp=Z,61nm,1.3s
RSO Redoubt South 71.43 331 eP P 03 37 35.5 +0.5
comp=Z,91nm,0.9s
BPAW Bear Paw Mtn. 71.62 335 eP P 03 37 34.9 -1.0
comp=Z,14nm,1.2s
ASCN Ascension 71.64 102 PFAKE 03 37 50.0 +13
ASCN LR LR
comp=Z,2µm,21.0s
KIP Kipapa 71.66 289⇓eP P 03 37 38.6 +1.7
KIP pmax pmax
comp=Z,211nm,1.7s
PPLA Purkeypile 71.80 333 eP P 03 37 36.0 -1.1
comp=Z,204nm,1.6s
COLD Coldfoot 72.28 338 eP P 03 37 40.0 +0.3
comp=Z,17nm,0.9s
PMAFR Mafra 72.47 52⇑eP P 03 37 41.5 0.0
PMAFR Mafra 72.47 52⇑eP P 03 37 41.5 0.0
PMST Lisbon--Monsan 72.54 52⇑eP P 03 37 42.4 +0.5
comp=Z,190nm,1.6s
PMST Lisbon--Monsan 72.54 52⇑eP P 03 37 42.4 +0.5
comp=Z,190nm,1.6s
LIS Lisbon 72.57 52 eP P 03 37 42.6 +0.6
LIS eS S 03 47 06.4 +1.4
LIS AMS AMS 04 03 40.1
comp=Z,4µm,19.9s
LIS Lisbon 72.57 52 eP P 03 37 42.6 +0.6
LIS eS S 03 47 06.4 +1.4
PFVI Vila Bisbo 72.78 54⇑eP P 03 37 43.8 +0.5
comp=Z,219nm,1.8s
PFVI Vila Bisbo 72.78 54⇑eP P 03 37 43.8 +0.5
comp=Z,219nm,1.8s
PACT Alcochete 72.82 52 eP P 03 37 44.4 +0.9
comp=Z,436nm,1.7s
PACT Alcochete 72.82 52 eP P 03 37 44.4 +0.9
comp=Z,436nm,1.7s
VAL Valentia 72.82 39 eP P 03 37 40.9 -2.3
PTEO Sao Teotonio 72.87 54⇑eP P 03 37 44.6 +0.8
comp=Z,272nm,1.9s
PTEO Sao Teotonio 72.87 54⇑eP P 03 37 44.6 +0.8
comp=Z,272nm,1.9s
MORF Marmelete 72.92 54 eP P 03 37 44.9 +0.7
MORF eS S 03 47 10.5 +1.2
MORF AMS AMS 04 03 59.2
comp=Z,4µm,23.0s
MORF Marmelete 72.92 54 eP P 03 37 44.9 +0.7
MORF eS S 03 47 10.5 +1.2
MORF Marmelete 72.92 54⇑eP P 03 37 44.9 +0.7
comp=Z,238nm,1.7s
MORF Marmelete 72.92 54⇑eP P 03 37 44.9 +0.7
comp=Z,238nm,1.7s
PNCL Nicolau / Gran 73.04 53⇑eP P 03 37 45.1 +0.3
comp=Z,147nm,1.7s
PNCL Nicolau / Gran 73.04 53⇑eP P 03 37 45.1 +0.3
comp=Z,147nm,1.7s
PCAS Casmilo, Conde 73.12 51⇑eP P 03 37 45.9 +0.6
comp=Z,321nm,1.9s
PCAS Casmilo, Conde 73.12 51⇑eP P 03 37 45.9 +0.6
comp=Z,321nm,1.9s
XMAS Kiritimati 73.15 269 PFAKE 03 38 00.0 +14
XMAS LR LR
comp=Z,5µm,20.0s
PTOM Tomar 73.17 51⇑eP P 03 37 45.9 +0.3
comp=Z,151nm,1.6s
PTOM Tomar 73.17 51⇑eP P 03 37 45.9 +0.3
comp=Z,151nm,1.6s
MESJ Messejana 73.28 53 eP P 03 37 46.6 +0.4
MESJ eS S 03 47 14.2 +1.1
MESJ AMS AMS 04 04 21.1
comp=Z,4µm,20.8s
MESJ Messejana 73.28 53 eP P 03 37 46.6 +0.4
MESJ eS S 03 47 14.2 +1.1
MESJ Messejana 73.28 53⇑eP P 03 37 46.8 +0.6
comp=Z,120nm,1.6s
MESJ Messejana 73.28 53⇑eP P 03 37 46.8 +0.6
comp=Z,120nm,1.6s
IM04 Indian Mountai 73.28 336 eP P 03 37 44.6 -1.2
PMTG Montargil 73.30 52⇑eP P 03 37 46.7 +0.4
comp=Z,161nm,1.7s
PMTG Montargil 73.30 52⇑eP P 03 37 46.7 +0.4
comp=Z,161nm,1.7s
PGAV Gavieira, Arco 73.37 49⇑eP P 03 37 47.1 +0.3
comp=Z,312nm,1.7s
PGAV eS SKiKP 03 47 21.4 +5.1
PGAV Gavieira, Arco 73.37 49 eLR LR 04 01 34.3
comp=Z,3µm,20.0s
PGAV Gavieira, Arco 73.37 49⇑eP P 03 37 47.1 +0.3
comp=Z,312nm,1.7s
PGAV eS SKiKP 03 47 21.4 +5.1
PGAV Gavieira, Arco 73.37 49 eLR LR 04 01 34.3
comp=Z,3µm,20.0s
EVOP Sao Brissos 73.37 53⇑iP P 03 37 47.1 +0.4
EVOP pmax pmax
comp=Z,185nm,1.2s
EVOP Sao Brissos 73.37 53⇑iP P 03 37 47.1 +0.4
comp=Z,185nm,1.2s
PCVE Castro Verde 73.42 54⇑eP P 03 37 47.4 +0.3
comp=Z,42nm,2.0s
PCVE Castro Verde 73.42 54⇑eP P 03 37 47.4 +0.3
comp=Z,42nm,2.0s
EVO Evora 73.45 53⇑iP P 03 37 47.1 -0.2
comp=Z,185nm,1.2s
EVO eR
comp=Z,5µm,21.0s
EVO Evora 73.45 53⇑eP P 03 37 47.4 +0.1
comp=Z,131nm,1.9s
EVO Evora 73.45 53⇑eP P 03 37 47.4 +0.1
comp=Z,131nm,1.9s
PBDV Barranco-do-Ve 73.50 54⇑eP P 03 37 48.7 +1.1
comp=Z,190nm,1.8s
PBDV Barranco-do-Ve 73.50 54⇑eP P 03 37 48.7 +1.1
comp=Z,190nm,1.8s
PCAB Cabril 73.54 49⇑eP P 03 37 48.1 +0.4
comp=Z,176nm,1.8s
PCAB Cabril 73.54 49⇑eP P 03 37 48.1 +0.4
comp=Z,176nm,1.8s
PVIS Viseu 73.60 50⇑eP P 03 37 48.4 +0.2
comp=Z,177nm,1.6s
PVIS Viseu 73.60 50⇑eP P 03 37 48.4 +0.2
comp=Z,177nm,1.6s
PVAQ Vaqueiros 73.67 54⇑eP P 03 37 49.4 +0.9
comp=Z,142nm,1.9s
PVAQ eS S 03 47 21.5 +3.9
PVAQ Vaqueiros 73.67 54 eLR LR 04 00 33.5
comp=Z,4µm,22.0s
PVAQ Vaqueiros 73.67 54⇑eP P 03 37 49.4 +0.9
comp=Z,142nm,1.9s
PVAQ eS S 03 47 21.5 +3.9
PVAQ Vaqueiros 73.67 54 eLR LR 04 00 33.5
comp=Z,4µm,22.0s
POLO Lamas de Olo 73.70 50⇑eP P 03 37 49.0 +0.2
comp=Z,89nm,1.8s
POLO Lamas de Olo 73.70 50⇑eP P 03 37 49.0 +0.2

comp=Z,89nm,1.8s
ALE **Alert** **73.75** **3** P **P** **03 37 46.2 -2.0**
comp=Z,158nm,1.2s,SNR=10
PVRL **Vila Real** **73.75** **50**⇑*eP* **P** **03 37 49.4 +0.4**
comp=Z,210nm,1.6s
PVRL **Vila Real** **73.75** **50**⇑*eP* **P** **03 37 49.4 +0.4**
comp=Z,210nm,1.6s
PESTR **Estremoz** **73.79** **52**⇑*eP* **P** **03 37 49.6 +0.3**
comp=Z,209nm,1.7s
PESTR **Estremoz** **73.79** **52**⇑*eP* **P** **03 37 49.6 +0.3**
comp=Z,209nm,1.7s
PCBR **Castelo Branco** **73.90** **51**⇑*eP* **P** **03 37 50.0 +0.2**
comp=Z,118nm,1.5s
PCBR **Castelo Branco** **73.90** **51**⇑*eP* **P** **03 37 50.0 +0.2**
comp=Z,118nm,1.5s
PMRV **Marv??o** **73.96** **52**⇑*eP* **P** **03 37 50.1 -0.1**
comp=Z,119nm,1.6s
PMRV *eS* **S** **03 47 25.6 +4.8**
PMRV **Marv??o** **73.96** **52** *e*LR LR 03 59 55.4
comp=Z,3µm,22.0s
PMRV **Marv??o** **73.96** **52**⇑*eP* **P** **03 37 50.1 -0.1**
comp=Z,119nm,1.6s
PMRV *eS* **S** **03 47 25.6 +4.8**
PMRV **Marv??o** **73.96** **52** *e*LR LR 03 59 55.4
comp=Z,3µm,22.0s
PBAR **Barrancos** **74.22** **53**⇑*eP* **P** **03 37 52.2 +0.5**
comp=Z,344nm,1.6s
PBAR **Barrancos** **74.22** **53**⇑*eP* **P** **03 37 52.2 +0.5**
comp=Z,344nm,1.6s
MVO **Moncorvo** **74.27** **50**⇑*eP* **P** **03 37 52.3 +0.2**
comp=Z,200nm,1.8s
MVO *eS* **S** **03 47 29.7 +5.3**
MVO **Moncorvo** **74.27** **50** *e*LR LR 04 01 56.7
comp=Z,3µm,20.0s
MVO **Moncorvo** **74.27** **50**⇑*eP* **P** **03 37 52.3 +0.2**
comp=Z,200nm,1.8s
MVO *eS* **S** **03 47 29.7 +5.3**
MVO **Moncorvo** **74.27** **50** *e*LR LR 04 01 56.7
comp=Z,3µm,20.0s
PBRG **Braganca** **74.50** **49**⇑*eP* **P** **03 37 53.7 +0.3**
comp=Z,198nm,1.6s
PBRG **Braganca** **74.50** **49**⇑*eP* **P** **03 37 53.7 +0.3**
comp=Z,198nm,1.6s
SDPT **Sand Point** **74.59** **325** *eP* **P** **03 37 53.4 -0.1**
comp=Z,300nm,1.4s
HOPE **Hope Point** **74.98** **153** PFAKE
HOPE LR LR 03 38 10.0 +14
comp=Z,5µm,21.0s
GMM **Mts of Mourne** **75.62** **36**⇑*eP* **P** **03 37 58.2 -1.3**
KPL **Plockton** **76.02** **33**⇑*eP* **P** **03 38 00.2 -1.5**
KPL AMB AMB 03 38 02.1
comp=Z,177nm,1.9s
KPL AMS AMS 04 03 02.3
comp=Z,3µm,21.9s
KSB **Sheil Bridge** **76.14** **33**⇑*eP* **P** **03 38 01.2 -1.1**
KAC **Achnashellach** **76.22** **33**⇑*eP* **P** **03 38 01.7 -1.2**
MDT **Midelt** **76.28** **58** P **P** **03 38 04.7 +0.8**
comp=Z,34nm,1.0s,baz=285,slow=6.3,SNR=46
MDT LR LR 04 05 32.4
comp=Z,2µm,21.8s,slow=31
PAB **San Pablo** **76.31** **52** *eP* **P** **03 38 03.8 -0.1**
PAB pmax pmax
comp=Z,405nm,2.0s
PAB MLR MLR
comp=Z,2µm,21.0s
PAB **San Pablo** **76.31** **52** *eP* **P** **03 38 03.8 -0.1**
comp=Z,405nm,2.0s
PAB LR LR
comp=Z,2µm,21.0s
GAL1 **Galloway** **76.38** **36**⇑*eP* **P** **03 38 03.0 -0.8**
GAL1 AMB AMB 03 38 04.3
comp=Z,128nm,1.5s
GAL1 AMS AMS 04 14 04.7
comp=Z,2µm,18.5s
YRE **Yr Eifl** **76.45** **38**⇑*eP* **P** **03 38 03.8 -0.5**
WLF1 **Llynfaes** **76.49** **37**⇑*eP* **P** **03 38 03.8 -0.6**
WLF1 AMB AMB 03 38 04.9
comp=Z,86nm,2.1s
PGBU **Glenifferbraes** **76.56** **35**⇑*eP* **P** **03 38 03.6 -1.2**
PGBU AMB AMB 03 38 06.1
comp=Z,205nm,1.5s
JMIC **Jan Mayen** **76.58** **19** *eP* **P** **03 38 04.5 -0.1**
ESDC **Sonseca Array** **76.61** **51** P **P** **03 38 06.0 +0.5**
comp=Z,24nm,0.8s,baz=279,slow=5.3,SNR=106
ESDC LR LR 04 06 08.8
comp=Z,1µm,20.9s,baz=265,slow=31
ESLA **Sonseca Array** **76.61** **51** *eP* **P** **03 38 05.9 +0.4**
comp=Z,52nm,1.3s
YLL **Llanberis** **76.62** **38**⇑*eP* **P** **03 38 04.5 -0.7**
LPW **Lampeter** **76.64** **39**⇑*eP* **P** **03 38 04.4 -0.9**
LPW AMB AMB 03 38 06.1
comp=Z,158nm,1.7s
EAB **Aberfoyle** **76.67** **34**⇑*eP* **P** **03 38 03.8 -1.6**
MDO **Dochfour** **76.73** **33**⇑*eP* **P** **03 38 04.5 -1.3**
MVH1 **Achvaich** **76.85** **33**⇑*eP* **P** **03 38 05.1 -1.3**
ROSF **Rostrenen** **77.07** **43**⇑*iP* **P** **03 38 07.7 -0.1**
comp=Z,409nm,1.4s
ROSF **Rostrenen** **77.07** **43**⇑*iP* **P** **03 38 07.7 -0.1**
ROSF pmax pmax
comp=Z,409nm,1.4s
ROSF **Rostrenen** **77.07** **43**⇑*iP* **P** **03 38 07.7 -0.1**
comp=Z,409nm,1.4s
QUIF **Quistinic** **77.14** **43**⇑*iP* **P** **03 38 08.1 -0.1**
comp=Z,535nm,1.6s
QUIF **Quistinic** **77.14** **43**⇑*iP* **P** **03 38 08.1 -0.1**
QUIF pmax pmax
comp=Z,535nm,1.6s
QUIF **Quistinic** **77.14** **43**⇑*iP* **P** **03 38 08.1 -0.1**
comp=Z,535nm,1.6s
FOEL **Foel Wylfa** **77.19** **38**⇑*eP* **P** **03 38 07.2 -1.3**
FOEL AMB AMB 03 38 09.6
comp=Z,92nm,1.4s
FOEL AMS AMS 04 07 08.5
comp=Z,2µm,18.5s
ESK **Eskdalemuir** **77.27** **35**⇑*eP* **P** **03 38 08.0 -0.8**
ESK AMB AMB 03 38 09.2
comp=Z,172nm,1.6s
ESK AMS AMS 04 12 25.8
comp=Z,3µm,16.8s
ESK **Eskdalemuir** **77.27** **35** *eP* **P** **03 38 08.1 -0.7**
ESK pmax pmax
comp=Z,234nm,1.4s
ESK MLR MLR
comp=Z,3µm,19.0s
ESK **Eskdalemuir** **77.27** **35** *eP* **P** **03 38 08.1 -0.7**
comp=Z,234nm,1.4s
ESK LR LR
comp=Z,3µm,19.0s
MCH1 **Michaelchurch** **77.30** **39**⇑*eP* **P** **03 38 07.7 -1.3**
MCH1 AMB AMB 03 38 19.3
comp=Z,160nm,1.7s
KESW **Keswick, Cumbr** **77.30** **36**⇑*eP* **P** **03 38 07.4 -1.6**
KESW AMB AMB 03 38 09.5
comp=Z,136nm,1.8s
KESW AMS AMS 04 15 33.9
comp=Z,3µm,17.4s
ECK **Cauldkaine Hil** **77.31** **36**⇑*eP* **P** **03 38 07.9 -1.1**
MCD **Coleburn Disti** **77.33** **33** *eP* **P** **03 38 07.5 -1.6**
EBL **Broad Law** **77.37** **35**⇑*eP* **P** **03 38 08.2 -1.2**
HLM1 **Long Mynd** **77.38** **38** *eP* **P** **03 38 08.6 -0.9**
HLM1 AMB AMB 03 38 10.1
comp=Z,142nm,1.7s
HLM1 AMS AMS 04 16 28.7
comp=Z,3µm,17.0s
EDU **Dundee** **77.42** **34**⇑*eP* **P** **03 38 09.0 -0.6**
MME1 **Meikle Cairn** **77.48** **33**⇑*eP* **P** **03 38 08.1 -1.9**
SGMF **Saint Gilles** **77.55** **43**⇑*iP* **P** **03 38 10.2 -0.3**
comp=Z,280nm,1.4s
SGMF **Saint Gilles** **77.55** **43**⇑*iP* **P** **03 38 10.2 -0.3**
SGMF pmax pmax
comp=Z,280nm,1.4s
SGMF **Saint Gilles** **77.55** **43**⇑*iP* **P** **03 38 10.2 -0.3**
comp=Z,280nm,1.4s
ESY **Stoneypath** **77.62** **35**⇑*eP* **P** **03 38 09.4 -1.3**
DRUM **Mains of Drumt** **77.72** **34** *eP* **P** **03 38 10.3 -1.0**
DRUM AMB AMB 03 38 11.5
comp=Z,134nm,1.8s
DRUM AMS AMS 04 12 50.0
comp=Z,3µm,18.8s
STNC **Stoke** **77.80** **38**⇑*eP* **P** **03 38 11.7 -0.1**
STNC AMB AMB 03 38 12.8
comp=Z,186nm,1.7s
STRD **Stroud** **77.81** **39**⇑*eP* **P** **03 38 10.9 -1.0**
STRD AMB AMB 03 38 13.3
comp=Z,219nm,1.7s
UNV **Unalaska Valle** **78.00** **323** *eP* **P** **03 38 13.9 +1.0**
comp=Z,375nm,1.4s
LHO **Holmfirth** **78.01** **37**⇑*eP* **P** **03 38 12.3 -0.7**
HPK **Haverah Park** **78.16** **37**⇑*eP* **P** **03 38 12.6 -1.2**
HPK AMB AMB 03 38 14.2
comp=Z,138nm,2.0s
HPK AMS AMS 04 07 57.3
comp=Z,2µm,18.8s
LCP **Cassop** **78.25** **36**⇑*eP* **P** **03 38 13.3 -1.0**
WAL1 **Walls** **78.28** **30**⇑*eP* **P** **03 38 13.2 -1.1**
TIC **Toumodi** **78.30** **85** *eP* **P** **03 38 15.5 +0.1**
LIC **Lamto** **78.36** **86**⇑*iP* **P** **03 38 15.7 0.0**
comp=Z,251nm,1.6s,baz=274
LIC *eR*
comp=Z,2µm,19.8s
LIC **Lamto** **78.36** **86** *eP* **P** **03 38 14.7 -1.0**
comp=Z,202nm,1.6s
LIC **Lamto** **78.36** **86**⇑*iP* **P** **03 38 15.7 0.0**
comp=Z,251nm,1.6s
DBIC **Dimbokro** **78.46** **85** P **P** **03 38 16.4 +0.1**
comp=Z,22nm,1.0s,baz=269,slow=6.2,SNR=15
DBIC LR LR 04 12 30.2
comp=Z,898nm,19.2s,baz=246,slow=35
DBIC **Dimbokro** **78.46** **85** *eP* **P** **03 38 16.4 +0.1**
DBIC pmax pmax
comp=Z,113nm,1.5s
DBIC **Dimbokro** **78.46** **85** *eP* **P** **03 38 16.4 +0.1**
comp=Z,113nm,1.5s
LRW **Lerwick** **78.50** **30**⇑*eP* **P** **03 38 14.3 -1.2**
LRW AMB AMB 03 38 15.8
comp=Z,82nm,2.7s
OSSF **Osses** **78.54** **48** *eP* **P** **03 38 16.4 +0.2**
SJPF **Ste Jean** **78.57** **48**⇑*iP* **P** **03 38 16.9 +0.5**
comp=Z,400nm,1.4s
SJPF **Ste Jean** **78.57** **48**⇑*iP* **P** **03 38 16.9 +0.5**
SJPF pmax pmax
comp=Z,400nm,1.4s
SJPF **Ste Jean** **78.57** **48**⇑*iP* **P** **03 38 16.9 +0.5**
comp=Z,400nm,1.4s
KIC **Kosan Boka** **78.62** **85** *eP* **P** **03 38 17.9 +0.8**
comp=Z,372nm,1.7s
GRR **Gorron** **78.68** **42**⇑*iP* **P** **03 38 16.6 -0.2**
comp=Z,497nm,1.4s
GRR **Gorron** **78.68** **42**⇑*iP* **P** **03 38 16.6 -0.2**
GRR pmax pmax
comp=Z,497nm,1.4s
GRR **Gorron** **78.68** **42**⇑*iP* **P** **03 38 16.6 -0.2**
comp=Z,497nm,1.4s
LARF **Larrau** **78.75** **48**⇑*eP* **P** **03 38 18.2 +0.8**
FLN **La Foliniere** **78.92** **42**⇑*iP* **P** **03 38 18.1 0.0**
comp=Z,487nm,1.4s
FLN *eR*
comp=Z,6µm,20.8s
FLN **La Foliniere** **78.92** **42**⇑*iP* **P** **03 38 18.1 0.0**
FLN pmax pmax
comp=Z,487nm,1.4s
FLN **La Foliniere** **78.92** **42**⇑*iP* **P** **03 38 18.1 0.0**
comp=Z,487nm,1.4s
LMK **Market Rasen** **78.93** **37**⇑*eP* **P** **03 38 16.7 -1.3**
LMK AMB AMB 03 38 18.8
comp=Z,234nm,1.6s
ATE **Arette** **78.96** **48**⇑*eP* **P** **03 38 18.9 +0.4**
ETSF **Etsaut** **79.07** **48**⇑*iP* **P** **03 38 19.7 +0.5**
comp=Z,395nm,1.8s
ETSF **Etsaut** **79.07** **48**⇑*iP* **P** **03 38 19.7 +0.5**
ETSF pmax pmax
comp=Z,395nm,1.8s
ETSF **Etsaut** **79.07** **48**⇑*iP* **P** **03 38 19.7 +0.5**
comp=Z,395nm,1.8s
LDF **La Druitiere** **79.16** **42**⇑*iP* **P** **03 38 19.3 -0.1**
comp=Z,485nm,1.4s
LDF **La Druitiere** **79.16** **42**⇑*iP* **P** **03 38 19.3 -0.1**
LDF pmax pmax
comp=Z,485nm,1.4s
LDF **La Druitiere** **79.16** **42**⇑*iP* **P** **03 38 19.3 -0.1**
comp=Z,485nm,1.4s
MFF **Saint Martin d** **79.21** **44**⇑*iP* **P** **03 38 19.6 -0.2**
comp=Z,312nm,1.4s
MFF **Saint Martin d** **79.21** **44**⇑*iP* **P** **03 38 19.6 -0.2**
MFF pmax pmax
comp=Z,312nm,1.4s
MFF **Saint Martin d** **79.21** **44**⇑*iP* **P** **03 38 19.6 -0.2**
comp=Z,312nm,1.4s
VIEF **Viey** **79.50** **48**⇑*eP* **P** **03 38 22.2 +0.7**
LABF **Labassere** **79.53** **48**⇑*eP* **P** **03 38 22.0 +0.3**
EPF **Esparros** **79.72** **48**⇑*iP* **P** **03 38 23.1 +0.4**
comp=Z,382nm,1.4s
EPF **Esparros** **79.72** **48**⇑*iP* **P** **03 38 23.1 +0.4**
EPF pmax pmax
comp=Z,382nm,1.4s
EPF **Esparros** **79.72** **48**⇑*iP* **P** **03 38 23.1 +0.4**
comp=Z,382nm,1.4s
RESF **Ens** **79.73** **48**⇑*eP* **P** **03 38 23.7 +0.8**
ELSH **Elham, Standar** **79.88** **40**⇑*eP* **P** **03 38 23.0 -0.3**
ELSH AMB AMB 03 38 24.0
comp=Z,166nm,1.7s
LFF **La Frestale** **79.91** **46**⇑*iP* **P** **03 38 23.5 -0.1**
comp=Z,451nm,1.4s
LFF **La Frestale** **79.91** **46**⇑*iP* **P** **03 38 23.5 -0.1**
LFF pmax pmax
comp=Z,451nm,1.4s
LFF **La Frestale** **79.91** **46**⇑*iP* **P** **03 38 23.5 -0.1**
comp=Z,451nm,1.4s
MELF **Melles** **80.04** **48**⇑*eP* **P** **03 38 24.9 +0.4**
MLS **Moulis** **80.28** **48**⇑*eP* **P** **03 38 25.9 +0.2**
RJF **Les Rejaudoux** **80.44** **46**⇑*iP* **P** **03 38 26.2 -0.3**
comp=Z,378nm,1.4s
RJF *eR*
comp=Z,3µm,22.8s
RJF **Les Rejaudoux** **80.44** **46**⇑*iP* **P** **03 38 26.2 -0.3**
RJF pmax pmax
comp=Z,378nm,1.4s
RJF **Les Rejaudoux** **80.44** **46**⇑*iP* **P** **03 38 26.2 -0.3**
comp=Z,378nm,1.4s
MENF **Mencas** **80.56** **40**⇑*eP* **P** **03 38 26.9 0.0**
CAF **Calviac** **80.85** **46**⇑*iP* **P** **03 38 28.4 -0.3**
comp=Z,328nm,1.4s
CAF **Calviac** **80.85** **46**⇑*iP* **P** **03 38 28.4 -0.3**
CAF pmax pmax
comp=Z,328nm,1.4s
CAF **Calviac** **80.85** **46**⇑*iP* **P** **03 38 28.4 -0.3**
comp=Z,328nm,1.4s
TCF **Toulx Ste Croi** **80.86** **45**⇑*iP* **P** **03 38 28.2 -0.5**
comp=Z,267nm,1.4s
TCF **Toulx Ste Croi** **80.86** **45**⇑*iP* **P** **03 38 28.2 -0.5**
TCF pmax pmax
comp=Z,267nm,1.4s
TCF **Toulx Ste Croi** **80.86** **45**⇑*iP* **P** **03 38 28.2 -0.5**
comp=Z,267nm,1.4s
VALF **Valcebollere** **81.00** **48**⇑*eP* **P** **03 38 30.3 +0.6**
CARF **Carcanieres** **81.04** **48**⇑*eP* **P** **03 38 30.3 +0.4**
MTLF **Montolieu** **81.07** **47**⇑*iP* **P** **03 38 29.7 -0.2**
comp=Z,290nm,1.4s
MTLF **Montolieu** **81.07** **47**⇑*iP* **P** **03 38 29.7 -0.2**
MTLF pmax pmax
comp=Z,290nm,1.4s
MTLF **Montolieu** **81.07** **47**⇑*iP* **P** **03 38 29.7 -0.2**
comp=Z,290nm,1.4s
HYF **Humbligny** **81.08** **43**⇑*iP* **P** **03 38 29.7 -0.2**
HYF **Humbligny** **81.08** **43**⇑*iP* **P** **03 38 29.7 -0.2**
BGF **Bois d'Agland** **81.28** **44**⇑*iP* **P** **03 38 30.3 -0.6**
comp=Z,326nm,1.4s
BGF **Bois d'Agland** **81.28** **44**⇑*iP* **P** **03 38 30.3 -0.6**
BGF pmax pmax
comp=Z,326nm,1.4s
BGF **Bois d'Agland** **81.28** **44**⇑*iP* **P** **03 38 30.3 -0.6**
comp=Z,326nm,1.4s
FILF **Fillols** **81.39** **48** *eP* **P** **03 38 31.2 -0.5**
SUE **Sulen** **81.41** **29**⇑*iP* **P** **03 38 30.0 -1.2**
SUE IAmb IAmb 03 38 32.1
comp=Z,247nm,1.8s
PYM **Petit Puy Mans** **81.45** **45**⇑*eP* **P** **03 38 32.0 0.0**
FOO **Floro** **81.51** **29**⇑*iP* **P** **03 38 31.3 -0.5**
AGO **Saint Agoulin** **81.51** **45**⇑*eP* **P** **03 38 32.0 -0.2**
SHEL **Horse Pasture** **81.59** **108** PFAKE
SHEL LR LR 03 38 40.0 +6.8
comp=Z,5µm,20.0s
AVF **Avril sur Loir** **81.61** **44**⇑*iP* **P** **03 38 31.8 -0.8**
comp=Z,130nm,1.4s
AVF **Avril sur Loir** **81.61** **44**⇑*iP* **P** **03 38 31.8 -0.8**
AVF pmax pmax
comp=Z,130nm,1.4s
AVF **Avril sur Loir** **81.61** **44**⇑*iP* **P** **03 38 31.8 -0.8**
comp=Z,130nm,1.4s
ASK **Askoy** **81.66** **30** *eP* **P** **03 38 32.1 -0.5**
LBL **Lubilhac** **81.66** **46**⇑*eP* **P** **03 38 33.4 +0.3**
SSF **Saint Saulge** **81.69** **44**⇑*iP* **P** **03 38 32.2 -0.9**
comp=Z,182nm,1.4s
SSF **Saint Saulge** **81.69** **44**⇑*iP* **P** **03 38 32.2 -0.9**
SSF pmax pmax
comp=Z,182nm,1.4s
SSF **Saint Saulge** **81.69** **44**⇑*iP* **P** **03 38 32.2 -0.9**
comp=Z,182nm,1.4s
BER **Bergen** **81.74** **30**⇑*iP* **P** **03 38 31.4 -1.6**
BER IAmb IAmb 03 38 33.8
comp=Z,436nm,2.2s
BER *eS* **S** **03 48 43.9 0.0**
BER IAMs_20 IAMs_20 04 13 41.5
comp=Z,6µm,19.8s
KMY **Karmoy** **81.78** **31**⇓*iP* **P** **03 38 33.3 0.0**
PLDF **La Plantade** **81.86** **45**⇑*eP* **P** **03 38 33.8 -0.3**
BAIF **Baives** **81.91** **41**⇑*iP* **P** **03 38 33.7 -0.4**
comp=Z,264nm,1.6s
BAIF **Baives** **81.91** **41**⇑*iP* **P** **03 38 33.7 -0.4**
BAIF pmax pmax
comp=Z,265nm,1.6s
BAIF **Baives** **81.91** **41**⇑*iP* **P** **03 38 33.7 -0.4**
comp=Z,264nm,1.6s
LOR **Lormes** **81.91** **43**⇑*iP* **P** **03 38 33.5 -0.8**
comp=Z,202nm,1.4s
LOR *eR*
comp=Z,6µm,21.2s
LOR **Lormes** **81.91** **43**⇑*iP* **P** **03 38 33.5 -0.8**
LOR pmax pmax
comp=Z,202nm,1.4s
LOR **Lormes** **81.91** **43**⇑*iP* **P** **03 38 33.5 -0.8**
comp=Z,202nm,1.4s
SNF **Seneffe** **81.92** **40** P **P** **03 38 33.8 -0.3**
UCC **Uccle** **81.94** **40** P **P** **03 38 33.8 -0.5**
SMF **Signal de Mont** **81.95** **44**⇑*iP* **P** **03 38 33.6 -0.9**
comp=Z,88nm,1.2s
SMF **Signal de Mont** **81.95** **44**⇑*iP* **P** **03 38 33.6 -0.9**
SMF pmax pmax
comp=Z,88nm,1.2s
SMF **Signal de Mont** **81.95** **44**⇑*iP* **P** **03 38 33.6 -0.9**
comp=Z,88nm,1.2s
HYA **Hoyanger** **82.09** **29** *eP* **P** **03 38 34.4 -0.5**
HYA *eS* **S** **03 48 49.1 +1.6**
KBS **Kingsbay** **82.10** **11**⇑*iP* **P** **03 38 35.5 +0.9**
KBS IAmb IAmb 03 38 36.9
comp=Z,107nm,0.9s
KBS *e*SKSac **SKSac** **03 48 52.2 -0.5**
KBS IAMs_20 IAMs_20 04 16 08.9
comp=Z,7µm,18.9s
KBS IVMs_BB IVMs_BB 04 16 22.1
comp=Z,2µm,19.4s
KBS **Kingsbay** **82.10** **11** *eP* **P** **03 38 35.3 +0.7**
KBS pmax pmax
comp=Z,62nm,1.4s
KBS MLR MLR
comp=Z,6µm,19.0s
KBS **Kingsbay** **82.10** **11** *eP* **P** **03 38 35.3 +0.7**
comp=Z,62nm,1.4s
KBS LR LR
comp=Z,6µm,19.0s
DOU **Dourbes** **82.15** **41** P **P** **03 38 35.0 -0.4**
comp=Z,43nm,1.9s
LASF **Ste Croix** **82.20** **47**⇑*iP* **P** **03 38 36.1 +0.3**
comp=Z,226nm,1.3s
LASF **Ste Croix** **82.20** **47**⇑*iP* **P** **03 38 36.1 +0.3**
comp=Z,226nm,1.3s
GIVF **Givet** **82.30** **41**⇑*iP* **P** **03 38 35.8 -0.4**
comp=Z,354nm,1.5s
GIVF **Givet** **82.30** **41**⇑*iP* **P** **03 38 35.8 -0.4**
GIVF pmax pmax
comp=Z,354nm,1.5s
GIVF **Givet** **82.30** **41**⇑*iP* **P** **03 38 35.8 -0.4**
comp=Z,354nm,1.5s
BLS5 **Blasjo** **82.38** **31**⇑*iP* **P** **03 38 37.5 +1.0**
BLS5 *e*SKSac **SKSac** **03 48 54.9 -0.5**
AKN **Aaknes** **82.39** **28** *eP* **P** **03 38 35.3 -1.1**
ODD1 **Odda** **82.42** **31** *eP* **P** **03 38 36.3 -0.4**
ODD1 IAmb IAmb 03 38 38.1
comp=Z,72nm,1.1s
SSB **Saint Sauveur** **82.57** **45** *eP* **P** **03 38 36.7 -1.1**
SSB pmax pmax
comp=Z,112nm,1.6s
SSB MLR MLR
comp=Z,2µm,22.0s
SSB **Saint Sauveur** **82.57** **45** *eP* **P** **03 38 36.7 -1.1**
comp=Z,112nm,1.6s
SSB LR LR
comp=Z,2µm,22.0s
BCLA **Clavier** **82.57** **40** P **P** **03 38 37.2 -0.5**
comp=Z,72nm,2.1s
MEZF **Maizieres J'vi** **82.60** **42**⇑*iP* **P** **03 38 37.5 -0.3**
comp=Z,438nm,1.6s
MEZF **Maizieres J'vi** **82.60** **42**⇑*iP* **P** **03 38 37.5 -0.3**
comp=Z,438nm,1.6s
SFTF **Sexfontaines** **82.62** **42**⇑*iP* **P** **03 38 37.4 -0.5**
comp=Z,339nm,1.4s
SFTF **Sexfontaines** **82.62** **42**⇑*iP* **P** **03 38 37.4 -0.5**
comp=Z,339nm,1.4s
VIVF **Saint-Julien-l** **82.70** **46**⇑*iP* **P** **03 38 38.8 +0.3**
comp=Z,324nm,1.4s
VIVF **Saint-Julien-l** **82.70** **46**⇑*iP* **P** **03 38 38.8 +0.3**
VIVF pmax pmax
comp=Z,324nm,1.4s
VIVF **Saint-Julien-l** **82.70** **46**⇑*iP* **P** **03 38 38.8 +0.3**
comp=Z,324nm,1.4s
BEBN **Eben Emael** **82.77** **40** P **P** **03 38 38.5 -0.1**
comp=Z,27nm,1.5s
HGN **Heimansgroeve** **82.94** **40** *eP* **P** **03 38 39.1 -0.4**
comp=Z,211nm,1.6s
HGN *e*SKS x 03 48 26.8
HGN *eS* x 03 49 16.3
HGN *e*SS SS 03 54 27.6 +7.7
MEM **Membach** **83.00** **40** P **P** **03 38 39.5 -0.3**
comp=Z,58nm,1.6s
PAGF **Fort de Pagny** **83.04** **42**⇑*iP* **P** **03 38 39.9 -0.2**
comp=Z,108nm,1.4s
PAGF **Fort de Pagny** **83.04** **42**⇑*iP* **P** **03 38 39.9 -0.2**
comp=Z,108nm,1.4s
SPA0 **Spitsbergen Ar** **83.10** **12**⇑*iP* **P** **03 38 39.5 -0.3**
SPA0 IAmb IAmb 03 38 40.9
comp=Z,479nm,1.9s
SPA0 IVMs_BB IVMs_BB 04 15 35.9
comp=Z,5µm,19.6s
SPA0 IAMs_20 IAMs_20 04 15 42.8
comp=Z,16µm,20.2s
HSPB **Hornsund (broa** **83.17** **13** *eP* **P** **03 38 40.4 +0.2**
WLF **Walferdange** **83.20** **41** P **P** **03 38 41.6 +0.8**
comp=Z,114nm,1.5s
WLF **Walferdange** **83.20** **41** *eP* **P** **03 38 41.0 +0.1**
comp=Z,170nm,1.5s
WLF **Walferdange** **83.20** **41** *eP* **P** **03 38 41.0 +0.1**
WLF pmax pmax
comp=Z,200nm,1.4s
WLF MLR MLR
comp=Z,5µm,21.0s
WLF **Walferdange** **83.20** **41** *eP* **P** **03 38 41.0 +0.1**
comp=Z,200nm,1.4s
WLF LR LR
comp=Z,5µm,21.0s
THEF **They Montfort** **83.25** **42**⇑*eP* **P** **03 38 41.4 +0.2**
WTSB **Winterswijk** **83.35** **39** *eP* **P** **03 38 41.4 -0.2**
comp=Z,328nm,1.4s
SMRF **Simiane la Rot** **83.44** **47**⇑*iP* **P** **03 38 42.9 +0.6**
comp=Z,215nm,1.6s
SMRF **Simiane la Rot** **83.44** **47**⇑*iP* **P** **03 38 42.9 +0.6**
comp=Z,215nm,1.6s
CABF **La Chapelle** **83.50** **44**⇑*iP* **P** **03 38 42.3 -0.3**
comp=Z,226nm,1.5s
CABF **La Chapelle** **83.50** **44**⇑*iP* **P** **03 38 42.3 -0.3**
CABF pmax pmax
comp=Z,226nm,1.5s
CABF **La Chapelle** **83.50** **44**⇑*iP* **P** **03 38 42.3 -0.3**
comp=Z,226nm,1.5s
HAU **Haudompre** **83.51** **43**⇑*iP* **P** **03 38 42.0 -0.6**
comp=Z,252nm,1.5s
HAU *eR*
comp=Z,5µm,21.0s
HAU **Haudompre** **83.51** **43**⇑*iP* **P** **03 38 42.0 -0.6**
HAU pmax pmax
comp=Z,252nm,1.5s
HAU **Haudompre** **83.51** **43**⇑*iP* **P** **03 38 42.0 -0.6**
comp=Z,252nm,1.5s
ORIF **Oris-en-Rattie** **83.55** **46**⇑*iP* **P** **03 38 43.4 +0.5**
comp=Z,272nm,1.5s
ORIF *eR*
comp=Z,4µm,23.0s
ORIF **Oris-en-Rattie** **83.55** **46**⇑*iP* **P** **03 38 43.4 +0.5**
ORIF pmax pmax
comp=Z,272nm,1.5s

ORIF	**Oris-en-Rattie**	**83.55**	**46⇑**	*i*P	**P**	**03 38 43.4**	**+0.5**
	comp=Z,272nm,1.5s						
HOMB	**Homborsund**	**83.56**	**32⇑**	*i*P	**P**	**03 38 41.1**	**-1.4**
HOMB				*e*SKSac	**S**	**03 49 02.3**	**-0.3**
BUG	**Bochum--Univer**	**83.70**	**39**	*e*P	**P**	**03 38 43.0**	**-0.4**
	comp=Z,214nm,1.6s						
TBLU	**Trondheim**	**83.75**	**27⇑**	*i*P	**P**	**03 38 42.9**	**-0.6**
TBLU				*e*SKSac	**SKSac**	**03 49 00.7**	**-3.5**
TBLU				IAMs_20	IAMs_20	04 14 48.0	
	comp=Z,4µm,21.7s						
HINF	**Hinteralfeld**	**83.87**	**43⇑**	*i*P	**P**	**03 38 43.7**	**-0.8**
	comp=Z,219nm,1.4s						
HINF	**Hinteralfeld**	**83.87**	**43⇑**	*i*P	**P**	**03 38 43.7**	**-0.8**
HINF				pmax	pmax		
	comp=Z,219nm,1.4s						
HINF	**Hinteralfeld**	**83.87**	**43⇑**	*i*P	**P**	**03 38 43.7**	**-0.8**
	comp=Z,219nm,1.4s						
IBBN	**Ibbenburen**	**83.89**	**38**	*e*P	**P**	**03 38 44.3**	**-0.1**
	comp=Z,296nm,1.8s						
LOMF	**Lomont**	**83.91**	**43⇑**	*e*P	**P**	**03 38 44.7**	**0.0**
KONO	**Kongsberg**	**83.94**	**31⇑**	*i*P	**P**	**03 38 43.8**	**-0.7**
KONO				*e*SKSac	**S**	**03 49 06.3**	**-0.1**
KONO				IAMs_20	IAMs_20	04 12 57.2	
	comp=Z,3µm,20.0s						
KONO	**Kongsberg**	**83.94**	**31**	*e*P	**P**	**03 38 44.8**	**+0.3**
KONO				pmax	pmax		
	comp=Z,47nm,1.4s						
KONO				MLR	MLR		
	comp=Z,3µm,20.0s						
KONO	**Kongsberg**	**83.94**	**31**	*e*P	**P**	**03 38 44.8**	**+0.3**
	comp=Z,47nm,1.4s						
KONO				LR	LR		
	comp=Z,3µm,20.0s						
TOA0	**Torodi Ar. Sit**	**83.95**	**78**	*e*P	**P**	**03 38 42.9**	**-2.5**
TOA0	**Torodi Ar. Sit**	**83.95**	**78**	*e*P	**P**	**03 38 44.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**83.95**	**78**	P	**P**	**03 38 45.0**	**-0.4**
	comp=Z,46nm,1.3s,baz=292,slow=3.6,SNR=69						
TORD				LR	LR	04 13 22.7	
	comp=Z,2µm,21.8s,baz=260,slow=34						
ECH	**Echery**	**84.03**	**42⇑**	*e*P	**P**	**03 38 45.2**	**0.0**
ECH	**Echery**	**84.03**	**42**	*e*P	**P**	**03 38 44.7**	**-0.5**
ECH				pmax	pmax		
	comp=Z,76nm,1.2s						
ECH				MLR	MLR		
	comp=Z,3µm,20.0s						
ECH	**Echery**	**84.03**	**42**	*e*P	**P**	**03 38 44.7**	**-0.5**
	comp=Z,76nm,1.2s						
ECH				LR	LR		
	comp=Z,3µm,20.0s						
MOF	**Molkenrain**	**84.05**	**43⇑**	*e*P	**P**	**03 38 45.0**	**-0.5**
LPL	**La Plagne**	**84.07**	**45⇑**	*i*P	**P**	**03 38 46.0**	**+0.2**
	comp=Z,265nm,1.9s						
LPL	**La Plagne**	**84.07**	**45⇑**	*i*P	**P**	**03 38 46.0**	**+0.2**
LPL				pmax	pmax		
	comp=Z,265nm,1.9s						
LPL	**La Plagne**	**84.07**	**45⇑**	*i*P	**P**	**03 38 46.0**	**+0.2**
	comp=Z,265nm,1.9s						
CDF	**Champ du Feu**	**84.08**	**42⇑**	*i*P	**P**	**03 38 45.0**	**-0.6**
	comp=Z,379nm,1.8s						
CDF	**Champ du Feu**	**84.08**	**42⇑**	*i*P	**P**	**03 38 45.0**	**-0.6**
CDF				pmax	pmax		
	comp=Z,379nm,1.8s						
CDF	**Champ du Feu**	**84.08**	**42⇑**	*i*P	**P**	**03 38 45.0**	**-0.6**
	comp=Z,379nm,1.8s						
LPG	**La Plagne**	**84.09**	**45⇑**	*i*P	**P**	**03 38 46.2**	**+0.3**
	comp=Z,178nm,1.5s						
LPG	**La Plagne**	**84.09**	**45⇑**	*i*P	**P**	**03 38 46.2**	**+0.3**
LPG				pmax	pmax		
	comp=Z,178nm,1.5s						
LPG	**La Plagne**	**84.09**	**45⇑**	*i*P	**P**	**03 38 46.2**	**+0.3**
	comp=Z,178nm,1.5s						
BNI	**Bardonecchia**	**84.09**	**45**	*e*P	**P**	**03 38 46.5**	**+0.7**
BNI				pmax	pmax		
	comp=Z,76nm,1.5s						
BNI				MLR	MLR		
	comp=Z,4µm,22.0s						
BNI	**Bardonecchia**	**84.09**	**45**	*e*P	**P**	**03 38 46.5**	**+0.7**
	comp=Z,76nm,1.5s						
BNI				LR	LR		
	comp=Z,4µm,22.0s						
MUD	**Monsted U'grnd**	**84.16**	**34⇑**	*i*P	**P**	**03 38 45.8**	**+0.2**
	comp=Z,288nm,1.8s						
	comp=Z,3µm,19.0s						
MUD	**Monsted U'grnd**	**84.16**	**34⇑**	*i*P	**P**	**03 38 45.8**	**+0.2**
MUD				pmax	pmax		
	comp=Z,290nm,1.8s						
MUD				MLR	MLR		
	comp=Z,3µm,19.0s						
LMR	**La Mourre**	**84.19**	**47⇑**	*i*P	**P**	**03 38 45.9**	**-0.2**
	comp=Z,298nm,1.7s						
LMR	**La Mourre**	**84.19**	**47⇑**	*i*P	**P**	**03 38 45.9**	**-0.2**
LMR				pmax	pmax		
	comp=Z,298nm,1.7s						
LMR	**La Mourre**	**84.19**	**47⇑**	*i*P	**P**	**03 38 45.9**	**-0.2**
	comp=Z,298nm,1.7s						
MBDF	**Montbardon**	**84.20**	**46⇑**	*i*P	**P**	**03 38 46.5**	**+0.2**
	comp=Z,139nm,1.5s						
MBDF	**Montbardon**	**84.20**	**46⇑**	*i*P	**P**	**03 38 46.5**	**+0.2**
MBDF				pmax	pmax		
	comp=Z,139nm,1.5s						
MBDF	**Montbardon**	**84.20**	**46⇑**	*i*P	**P**	**03 38 46.5**	**+0.2**
	comp=Z,139nm,1.5s						
SET	**Setif**	**84.24**	**54**	P	**P**	**03 38 48.0**	**+1.3**
FRF	**La Foret Royal**	**84.26**	**47⇑**	*i*P	**P**	**03 38 46.2**	**-0.3**
	comp=Z,219nm,1.7s						
FRF	**La Foret Royal**	**84.26**	**47⇑**	*i*P	**P**	**03 38 46.2**	**-0.3**
FRF				pmax	pmax		
	comp=Z,219nm,1.7s						
FRF	**La Foret Royal**	**84.26**	**47⇑**	*i*P	**P**	**03 38 46.2**	**-0.3**
	comp=Z,219nm,1.7s						
ADK	**Adak**	**84.28**	**322**	PFAKE		03 39 00.0	+14
ADK				LR	LR		
	comp=Z,1µm,22.0s						
LOF	**Lofoten**	**84.29**	**22**	*e*P	**P**	**03 38 46.1**	**0.0**
NSS	**Namsos**	**84.30**	**26⇑**	*i*P	**P**	**03 38 45.7**	**-0.5**
NSS				IAMs_20	IAMs_20	04 14 58.6	
	comp=Z,5µm,21.6s						
LANF	**Langenberg**	**84.35**	**41⇑**	*e*P	**P**	**03 38 47.1**	**+0.2**
CKHR	**Kef el Ahmar**	**84.36**	**55**	P	**P**	**03 38 48.5**	**+1.2**
NAO01	**NORSAR Array S**	**84.40**	**29**	*e*P	**P**	**03 38 47.3**	**+0.4**
	comp=Z,63nm,1.3s						
CALN	**Calern**	**84.41**	**47⇑**	*e*P	**P**	**03 38 47.9**	**+0.5**
STOK	**Stokkvaagen**	**84.42**	**24**	*e*P	**P**	**03 38 47.5**	**+0.7**
OSL	**Oslo**	**84.46**	**30**	*e*P	**P**	**03 38 46.1**	**-1.0**
NB2	**NORSAR Subarra**	**84.53**	**29**	P	**P**	**03 38 47.1**	**-0.4**
	comp=Z,414nm,2.0s,baz=279,slow=5.1						
NB2	**NORSAR Subarra**	**84.53**	**29**	P	**P**	**03 38 47.1**	**-0.4**
	baz=279,slow=5.1						
NOA	**NORSAR Array B**	**84.53**	**29**	P	**P**	**03 38 47.4**	**-0.1**
	comp=Z,14nm,1.0s,baz=278,slow=5.0,SNR=26						
NOA				LR	LR	04 12 26.2	
	comp=Z,2µm,21.8s,baz=280,slow=33						
DFRA	**Djebel Bou Aff**	**84.58**	**54**	P	**P**	**03 38 49.5**	**+1.1**
MVIF	**Mont Vial**	**84.58**	**47⇑**	*e*P	**P**	**03 38 48.3**	**0.0**
TNS	**Taunus Mts**	**84.60**	**40**	*e*P	**P**	**03 38 47.8**	**-0.3**
	comp=Z,224nm,1.7s						
BJO	**Bjornoya**	**84.63**	**15**	*i* P	**P**	**03 38 47.0**	**-0.7**
TOUF	**Mont Tournerai**	**84.63**	**46⇑**	*e*P	**P**	**03 38 48.8**	**+0.2**
NC602	**NORSAR Array S**	**84.74**	**29⇑**	*i*P	**P**	**03 38 47.8**	**-0.7**
NC602				IAmb	IAmb	03 38 49.5	
	comp=Z,729nm,2.6s						
NC602				IAMs_20	IAMs_20	04 15 33.9	
	comp=Z,5µm,20.9s						
REVF	**Revere**	**84.75**	**47⇑**	*e*P	**P**	**03 38 49.1**	**+0.1**
AUTN	**L'Aution**	**84.76**	**46**	*e*P	**P**	**03 38 49.5**	**+0.2**
BFO	**Black Forest**	**84.78**	**42**	P	**P**	**03 38 48.8**	**-0.3**
	comp=Z,186nm,1.2s,SNR=16						
BFO	**Black Forest**	**84.78**	**42**	*e*P	**P**	**03 38 48.4**	**-0.6**
	comp=Z,67nm,1.3s						
BFO	**Black Forest**	**84.78**	**42**	*e*P	**P**	**03 38 48.5**	**-0.6**
BFO				pmax	pmax		
	comp=Z,77nm,1.4s						
BFO				MLR	MLR		
	comp=Z,4µm,21.0s						
BFO	**Black Forest**	**84.78**	**42**	*e*P	**P**	**03 38 48.5**	**-0.6**
	comp=Z,77nm,1.4s						
BFO				LR	LR		
	comp=Z,4µm,21.0s						
SBF	**Sospel**	**84.79**	**47⇑**	*i*P	**P**	**03 38 49.0**	**-0.2**
	comp=Z,333nm,1.4s						
SBF	**Sospel**	**84.79**	**47⇑**	*i*P	**P**	**03 38 49.0**	**-0.2**
SBF				pmax	pmax		
	comp=Z,333nm,1.4s						
SBF	**Sospel**	**84.79**	**47⇑**	*i*P	**P**	**03 38 49.0**	**-0.2**
	comp=Z,333nm,1.4s						
SAOF	**Saorge**	**84.86**	**46**	*e*P	**P**	**03 38 49.8**	**+0.3**
STEI	**Steigen**	**84.96**	**22**	*e*P	**P**	**03 38 50.1**	**+0.7**
CTEI	**Djebel Teioual**	**85.07**	**54**	P	**P**	**03 38 51.6**	**+0.7**
CASM	**Ain Smara**	**85.11**	**54**	P	**P**	**03 38 51.6**	**+0.6**
BSEG	**Bad Segeberg**	**85.19**	**36**	*e*P	**P**	**03 38 50.8**	**-0.1**
	comp=Z,334nm,1.9s						
CKFL	**Kef-Lekhel**	**85.27**	**54**	P	**P**	**03 38 52.6**	**+0.7**
NRDL	**Niedersach Rie**	**85.29**	**38**	*e*P	**P**	**03 38 51.7**	**+0.4**
	comp=Z,178nm,1.6s						
STU	**Stuttgart**	**85.29**	**42**	*e*P	**P**	**03 38 51.3**	**-0.3**
	comp=Z,190nm,1.5s						
STU	**Stuttgart**	**85.29**	**42**	*e*P	**P**	**03 38 51.9**	**+0.3**
STU				pmax	pmax		
	comp=Z,119nm,1.3s						
STU	**Stuttgart**	**85.29**	**42**	*e*P	**P**	**03 38 51.9**	**+0.3**
	comp=Z,119nm,1.3s						
CAEH	**'Ain El Ouahch**	**85.32**	**54**	P	**P**	**03 38 53.0**	**+1.0**
HOPEN	**Hopen**	**85.40**	**13⇑**	*i*P	**P**	**03 38 51.2**	**-0.4**
HOPEN				IAMs_20	IAMs_20	04 17 14.3	
	comp=Z,13µm,20.7s						
HOPEN				IVMs_BB	IVMs_BB	04 19 27.5	
	comp=Z,4µm,18.2s						
UBBA	**Unterbreizbach**	**85.49**	**39**	*e*P	**P**	**03 38 52.4**	**0.0**
	comp=Z,212nm,1.9s						
CLZ	**Clausthal**	**85.56**	**38**	*e*P	**P**	**03 38 53.2**	**+0.3**
	comp=Z,219nm,1.5s						
TUE	**Stuetta**	**85.74**	**44**	PFAKE		03 39 10.0	+16
TUE				LR	LR		
	comp=Z,3µm,20.0s						
CMAH	**Djebel Manchou**	**85.80**	**54**	P	**P**	**03 38 54.0**	**-0.4**
TRO	**Tromso**	**85.85**	**20⇑**	*i*P	**P**	**03 38 51.0**	**-2.9**
TRO				IAmb	IAmb	03 38 53.2	
	comp=Z,207nm,1.4s						
TRO				*e*PP	**PP**	**03 42 13.7**	**+0.5**
TRO				*e*SKSac	**SKSac**	**03 49 14.5**	**-2.9**
ABSA	**Djebel Ababsia**	**85.90**	**54**	P	**P**	**03 38 55.4**	**+0.4**
DAVA	**Damuels**	**85.98**	**43**	*i* P	**P**	**03 38 55.4**	**+0.2**
	comp=Z,779nm,2.8s,SNR=35						
COP	**Copenhagen**	**86.09**	**34⇑**	*i*P	**P**	**03 38 55.0**	**-0.3**
COP				*i*		03 39 05.3	
COP	**Copenhagen**	**86.09**	**34**	*i* S	**S**	**03 49 32.2**	**+4.4**
	comp=Z,980nm,19.0s						
COP	**Copenhagen**	**86.09**	**34⇑**	*i*P	**P**	**03 38 55.0**	**-0.3**
COP				*i*		03 39 05.3	
COP				*i* S	**S**	**03 49 32.2**	**+4.4**
COP				MLR	MLR		
	comp=Z,980nm,19.0s						
PGF	**Pioggiola**	**86.11**	**48⇑**	*i*P	**P**	**03 38 55.4**	**-0.5**
	comp=Z,202nm,1.4s						
PGF	**Pioggiola**	**86.11**	**48⇑**	*i*P	**P**	**03 38 55.4**	**-0.5**
PGF				pmax	pmax		
	comp=Z,202nm,1.4s						
PGF	**Pioggiola**	**86.11**	**48⇑**	*i*P	**P**	**03 38 55.4**	**-0.5**
	comp=Z,202nm,1.4s						
TAM	**Tamanrasset**	**86.19**	**68**	*e*P	**P**	**03 38 57.3**	**+0.6**
TAM				*e*		03 42 19.2	
TAM				pmax	pmax		
	comp=Z,57nm,1.5s						
TAM				MLR	MLR		
	comp=Z,2µm,19.0s						
TAM	**Tamanrasset**	**86.19**	**68**	*e*P	**P**	**03 38 57.3**	**+0.6**
	comp=Z,57nm,1.5s						
TAM				*e*PP	**PP**	**03 42 19.2**	**+1.7**
TAM				LR	LR		
	comp=Z,2µm,19.0s						
GRFO	**Grafenberg**	**86.45**	**40**	*e*P	**P**	**03 38 57.5**	**+0.2**
GRFO				pmax	pmax		
	comp=Z,76nm,1.1s						
GRFO	**Grafenberg**	**86.45**	**40**	*e*P	**P**	**03 38 57.5**	**+0.2**
	comp=Z,76nm,1.1s						
GRF	**Grafenberg Arr**	**86.45**	**40**	*e*P	**P**	**03 38 57.6**	**+0.3**
	comp=Z,296nm,2.0s						
GRF				*e*L	L	04 11 56.5	
	comp=N,2µm,22.0s						
MOX	**Moxa**	**86.53**	**39**	*e*P	**P**	**03 38 57.6**	**-0.1**
	comp=Z,185nm,1.8s						
MOX				*e*L	L	04 13 01.6	
	comp=N,1µm,19.6s						
RETA	**Reutte**	**86.53**	**43⇑**	*i*P	**P**	**03 38 57.7**	**-0.1**
	comp=N,1µm,3.4s,SNR=38						
FETA	**Feichten**	**86.59**	**43⇑**	*i*P	**P**	**03 38 58.4**	**+0.1**
	comp=N,1µm,4.9s,SNR=26						
FUR	**Furstenfeldbru**	**86.76**	**42**	*e*P	**P**	**03 38 59.1**	**+0.2**
	comp=Z,219nm,1.9s						
MOTA	**Moosalm**	**86.79**	**43⇑**	*i*P	**P**	**03 38 58.9**	**-0.3**
	comp=Z,363nm,2.5s,SNR=13						
VLC	**Villacollemand**	**86.84**	**46**	PFAKE		03 39 10.0	+11
VLC				LR	LR		
	comp=Z,1µm,20.0s						
VSL	**Villasalto**	**86.88**	**51**	PFAKE		03 39 10.0	+10
VSL				LR	LR		
	comp=Z,2µm,19.0s						
ROTZ	**Rotzenmuhle**	**87.07**	**40**	*e*P	**P**	**03 39 00.6**	**+0.3**
	comp=Z,229nm,2.0s						
TANN	**Tannenbergstha**	**87.10**	**40**	*e*P	**P**	**03 39 00.8**	**+0.3**
	comp=Z,191nm,1.5s						
WATA	**Walderalm**	**87.11**	**43⇓**	*i*P	**P**	**03 39 00.6**	**-0.2**
	comp=Z,131nm,1.7s						
NKC	**Novy Kostel**	**87.13**	**40**	*e*P	**P**	**03 39 00.8**	**+0.2**
NKC				*e*pP	**pP**	**03 39 08.1**	**-1.7**
NKC				*e*PP	**PP**	**03 42 26.4**	**+2.2**
NKC				*e*SKS	S	03 49 28.6	-10
NKC				*e*PS	**PnS**	**03 50 42.9**	**+2.5**
NKC				AMS	AMS	04 12 20.0	
	comp=Z,2µm,21.9s						
NKC	**Novy Kostel**	**87.13**	**40**	*e*P	**P**	**03 39 00.8**	**+0.2**
NKC				*e*		03 39 08.1	
NKC				*e*		03 42 26.4	
NKC				*e*		03 49 28.6	
NKC				*e*		03 50 42.9	
NKC				MLR	MLR		
	comp=Z,2µm,21.9s						
WTTA	**Wattenberg**	**87.16**	**43**	*i* P	**P**	**03 39 00.8**	**-0.2**
	comp=Z,824nm,4.1s,SNR=13						
CLL	**Collm**	**87.27**	**39**	*e*P	**P**	**03 39 01.3**	**0.0**
	comp=Z,284nm,2.0s						
CLL	**Collm**	**87.27**	**39⇑**	*i*P	**P**	**03 39 01.2**	**0.0**
	comp=Z,283nm,2.0s						
CLL				*e*pP	**pP**	**03 39 08.0**	**-2.4**
CLL				*e*		03 39 23.0	
CLL				*e*PP	**PP**	**03 42 22.0**	**-3.2**
CLL				*e*S	**S**	**03 49 38.0**	**-1.4**
	comp=N,600nm,24.0s						
CLL				*e*S	**S**	**03 49 38.0**	**-1.4**
	comp=E,2µm,23.4s						
CLL				*e*PS	**PnS**	**03 50 46.0**	**+4.1**
CLL				*e*SS	SS	03 55 35.0	+12
CLL				*e*SSS	SSS	03 58 54.0	
CLL				Lm	MLR	04 16 00.0	
	comp=N,1µm,21.9s						
CLL				Lm	MLR	04 16 00.0	
	comp=E,2µm,20.7s						
CLL				Lm	MLR	04 16 00.0	
	comp=Z,3µm,20.8s						
CLL	**Collm**	**87.27**	**39⇑**	*i*P	**P**	**03 39 01.2**	**0.0**
CLL				*e*		03 39 08.0	
CLL				*e*S	**S**	**03 49 36.0**	**-3.4**
CLL				pmax	pmax		
	comp=Z,283nm,2.0s						
CLL				MLR	MLR		
	comp=Z,3µm,20.8s						
KEST	**Kesra**	**87.48**	**54**	P	**P**	**03 39 03.2**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=202,slow=5.2,SNR=6.2						
KEST				LR	LR	04 12 14.3	
	comp=Z,439nm,21.4s,baz=236,slow=32						
KEST	**Kesra**	**87.48**	**54**	*e*P	**P**	**03 39 02.8**	**+0.2**
RUE	**Ruedersdorf**	**87.50**	**37**	*e*P	**P**	**03 39 02.2**	**0.0**
	comp=Z,17nm,0.5s						
BSD	**Bornholm Skovb**	**87.59**	**35**	*i* P	**P**	**03 39 01.1**	**-1.6**
	comp=Z,2µm,19.0s						
BSD	**Bornholm Skovb**	**87.59**	**35**	*i* P	**P**	**03 39 01.1**	**-1.6**
BSD				MLR	MLR		
	comp=Z,2µm,19.0s						
WET	**Wettzell**	**87.62**	**41**	*e*P	**P**	**03 39 03.2**	**+0.2**
	comp=Z,249nm,1.6s						
RJOB	**Jochberg**	**87.84**	**42**	*e*P	**P**	**03 39 03.9**	**-0.2**
	comp=Z,75nm,1.3s						
ABTA	**Abfaltersbach**	**87.84**	**43⇑**	*i*P	**P**	**03 39 04.1**	**-0.1**
	comp=Z,645nm,3.4s,SNR=28						
BRG	**Berggiesshubel**	**87.94**	**39**	*e*P	**P**	**03 39 04.7**	**+0.2**
	comp=Z,131nm,1.6s						
BRG				PP	**PP**	**03 42 26.0**	**-4.6**
BRG				SKS	**SKSac**	**03 49 33.0**	**+2.0**
BRG				S	**ScS**	**03 49 52.0**	**-0.3**
BRG				*e*PKPPKP	P'P'df	04 05 09.4	+9.3
	comp=Z,4.3nm,0.7s						
	comp=N,858nm,16.6s						
	comp=E,2µm,17.6s						
	comp=Z,2µm,17.4s						
BRG	**Berggiesshubel**	**87.94**	**39**	*e*P	**P**	**03 39 04.6**	**+0.2**
	comp=Z,329nm,2.1s						
BRG	**Berggiesshubel**	**87.94**	**39**	*e*P	**P**	**03 39 04.7**	**+0.2**
BRG						03 42 26.0	
BRG						03 49 33.0	
BRG				S	**ScS**	**03 49 52.0**	**-0.3**
BRG				pmax	pmax		
	comp=Z,131nm,1.6s						
BRG				MLR	MLR		
	comp=N,858nm,16.6s						
BRG				MLR	MLR		
	comp=E,2µm,17.6s						
BRG				MLR	MLR		
	comp=Z,2µm,17.4s						
KHC	**Kasperske Hory**	**88.07**	**41**	*e*P	**P**	**03 39 05.3**	**+0.1**
KHC				*e*pP	**pP**	**03 39 11.6**	**-2.7**
KHC				*e*PP	**PP**	**03 42 27.9**	**-3.9**
KHC				*e*SKS	**SKSac**	**03 49 32.7**	**+0.8**
KHC				*e*PS	**PnS**	**03 50 51.2**	**-0.5**
KHC				*e*SS	**SS**	**03 55 33.2**	**-2.2**
KHC				AMS	AMS	04 12 30.0	
	comp=Z,5µm,21.0s						
KHC	**Kasperske Hory**	**88.07**	**41**	*e*P	**P**	**03 39 05.3**	**+0.1**
KHC				*e*		03 39 11.6	
KHC				*e*		03 42 27.9	
KHC				*e*		03 49 32.7	
KHC				*e*		03 50 51.2	
KHC				*e*SS	SS	03 55 33.2	-2.2
KHC				MLR	MLR		
	comp=Z,5µm,21.0s						
ARCES	**ARCESS Array B**	**88.07**	**19**	P	**P**	**03 39 05.1**	**+0.3**
	comp=Z,26nm,1.0s,baz=298,slow=5.2,SNR=27						
ARCES				LR	LR	04 18 41.9	
	comp=Z,2µm,18.7s,baz=302,slow=36						
ARE0	**ARCESS Array S**	**88.07**	**19**	*e*P	**P**	**03 39 03.5**	**-1.2**
ARE0	**ARCESS Array S**	**88.07**	**19**	*e*P	**P**	**03 39 04.4**	**-0.3**
GEC2	**GERESS Array S**	**88.21**	**41**	*e*P	**P**	**03 39 05.9**	**0.0**
	comp=Z,133nm,1.6s						
GERES	**GERESS Array B**	**88.21**	**41**	P	**P**	**03 39 05.8**	**-0.1**
	comp=Z,11nm,1.0s,baz=280,slow=2.4,SNR=53						
GERES				LR	LR	04 13 03.5	
	comp=Z,4µm,21.9s,baz=270,slow=32						
KBA	**Koelnbreinsper**	**88.34**	**43⇑**	*i*PcP	**P**	**03 39 06.8**	**+0.1**
	comp=Z,832nm,3.2s,SNR=20						
PVCC	**Panska Ves**	**88.40**	**39**	*e*P	**P**	**03 39 06.8**	**+0.2**
PVCC				*e*pP	**pP**	**03 39 13.0**	**-2.8**
PVCC				*e*PP	**PP**	**03 42 33.6**	**-0.7**
PVCC				*e*SKS	**SKSac**	**03 49 34.9**	**+1.1**
PVCC				*e*PS	**PS**	**03 50 56.5**	**-0.4**
PVCC				*e*SS	**SS**	**03 55 44.2**	**+4.2**
PVCC				AMS	AMS	04 21 00.0	
	comp=Z,2µm,17.6s						
PVCC	**Panska Ves**	**88.40**	**39**	*e*P	**P**	**03 39 06.8**	**+0.2**
PVCC				*e*		03 39 13.0	
PVCC				*e*		03 42 33.6	
PVCC				*e*		03 49 34.9	
PVCC				*e*		03 50 56.5	
PVCC				*e*SS	SS	03 55 44.2	+4.2
PVCC				MLR	MLR		
	comp=Z,2µm,17.6s						
PRA	**Prague**	**88.41**	**40**	*e*P	**P**	**03 39 07.0**	**+0.3**
PRA				*e*pP	**pP**	**03 39 12.8**	**-3.1**
PRA				*e*PP	**PP**	**03 42 33.2**	**-1.2**
PRA				*e*SKS	**SKSac**	**03 49 39.7**	**+5.9**
PRA				*e*PS	**PnS**	**03 50 55.7**	**0.0**
PRA				*e*SS	**SS**	**03 55 43.5**	**+3.2**
PRA				AMS	AMS	04 15 30.0	
	comp=Z,4µm,20.3s						
PRA	**Prague**	**88.41**	**40**	*e*P	**P**	**03 39 07.0**	**+0.3**
PRA				*e*		03 39 12.8	
PRA				*e*		03 42 33.2	
PRA				*e*		03 49 39.7	
PRA				*e*		03 50 55.7	
PRA				*e*SS	SS	03 55 43.5	+3.2
PRA				MLR	MLR		
	comp=Z,4µm,20.3s						
MIDW	**Midway**	**88.43**	**298**	PFAKE		03 39 20.0	+13
MIDW				LR	LR		
	comp=Z,1µm,20.0s						
KEV	**Kevo**	**88.47**	**19**	*e*P	**P**	**03 39 05.1**	**-1.5**
KEV				pmax	pmax		
	comp=Z,44nm,1.3s						
KEV				MLR	MLR		
	comp=Z,3µm,21.0s						
KEV	**Kevo**	**88.47**	**19**	*e*P	**P**	**03 39 05.1**	**-1.5**
	comp=Z,44nm,1.3s						
KEV				LR	LR		
	comp=Z,3µm,21.0s						
PRU	**Pruhonice**	**88.50**	**40**	*e*P	**P**	**03 39 07.3**	**+0.2**
PRU				*e*pP	**PcP**	**03 39 12.3**	**+3.5**
PRU				*e*sP	**sP**	**03 39 14.6**	**-5.0**
PRU				*e*PP	**PP**	**03 42 34.2**	**-0.9**
PRU				*e*SKS	**SKSac**	**03 49 35.4**	**+1.0**
PRU				*e*PS	**PS**	**03 50 58.0**	**0.0**
PRU				*e*SS	**SS**	**03 55 45.2**	**+3.7**
PRU	**Pruhonice**	**88.50**	**40**	*e*P	**P**	**03 39 07.3**	**+0.2**
PRU				*e*		03 39 14.6	
PRU				*e*		03 42 34.2	
PRU				*e*		03 49 35.4	
PRU				*e*		03 50 58.0	
PRU				*e*SS	SS	03 55 45.2	+3.7
BILL	**Bilibino**	**88.57**	**339***c*	*i*P	**P**	**03 39 07.4**	**+0.3**
BILL				*i* S	S	03 49 42.8	-8.5
BILL				*e*PS	**PS**	**03 51 05.4**	**+7.2**
BILL				*i* SS	**SS**	**03 55 37.4**	**-4.2**
BILL				pmax	pmax		
	comp=Z,60nm,1.2s						
BILL	**Bilibino**	**88.57**	**339**	*e*P	**P**	**03 39 08.1**	**+1.0**
	comp=Z,157nm,1.8s						
BILL				LR	LR		
	comp=Z,4µm,21.0s						
MYKA	**Terra Mystica**	**88.63**	**43**	*i* P	**P**	**03 39 07.8**	**-0.1**
	comp=Z,857nm,4.7s,SNR=21						
GOPC	**GO Pecny, Ondr**	**88.67**	**40**	*e*P	**P**	**03 39 08.1**	**+0.1**
GOPC				*e*pP	**PcP**	**03 39 12.3**	**+2.7**
GOPC				*e*sP	sP	03 39 14.7	-5.7
GOPC				*e*PP	**PP**	**03 42 34.1**	**-2.4**
GOPC				*e*SKS	**SKSac**	**03 49 35.2**	**-0.3**
GOPC				*e*PS	**PnS**	**03 50 58.2**	**-0.6**
GOPC				*e*SS	**SS**	**03 55 45.5**	**+1.4**
GOPC				AMS	AMS	04 15 40.0	
	comp=Z,5µm,19.9s						
CADS	**Cadrg**	**88.78**	**43**	*i* P	**P**	**03 39 08.2**	**-0.3**
MOA	**Molln**	**88.79**	**42⇑**	*i*P	**P**	**03 39 08.2**	**-0.4**
	comp=Z,900nm,4.5s,SNR=16						
TRI	**Trieste**	**88.91**	**44**	*e*P	**P**	**03 39 09.4**	**+0.3**
TRI				pmax	pmax		
	comp=Z,11nm,0.9s						
TRI	**Trieste**	**88.91**	**44**	*e*P	**P**	**03 39 09.3**	**+0.3**
	comp=Z,11nm,0.9s						
TREC	**Trest**	**89.25**	**40**	*e*P	**P**	**03 39 10.9**	**+0.2**
TREC				*e*pP	**pP**	**03 39 17.1**	**-2.8**
TREC				*e*PP	**PP**	**03 42 40.6**	**-0.6**
TREC				*e*SKS	**SKSac**	**03 49 40.6**	**+1.6**
TREC				*e*PS	**PS**	**03 51 09.9**	**+3.4**
TREC				AMS	AMS	04 15 10.0	
	comp=Z,5µm,20.1s						
TREC	**Trest**	**89.25**	**40**	*e*P	**P**	**03 39 10.9**	**+0.2**
TREC				*e*		03 39 17.1	
TREC				*e*		03 42 40.6	
TREC				*e*		03 49 40.6	
TREC				*e*		03 51 09.9	
TREC				MLR	MLR		
	comp=Z,5µm,20.1s						
OBKA	**Obir**	**89.27**	**43⇑**	*i*P	**P**	**03 39 10.4**	**-0.5**
	comp=Z,741nm,4.2s,SNR=12						
UPC	**Upice**	**89.30**	**39**	*e*P	**P**	**03 39 11.2**	**+0.3**
UPC				*e*pP	**pP**	**03 39 17.8**	**-2.3**
UPC	**Upice**	**89.30**	**39**	*e*P	**P**	**03 39 11.2**	**+0.3**
UPC				*e*		03 39 17.8	
AQU	**L'Aquila**	**89.35**	**47**	PFAKE		03 39 20.0	+8.6
AQU				LR	LR		
	comp=Z,3µm,21.0s						
LJU	**Ljubljana**	**89.35**	**44**	*e*P	**P**	**03 39 11.5**	**+0.3**
LJU				*e*		03 39 21.5	
LJU				*e*		03 49 39.9	
LJU				*e*		03 51 11.0	
LJU				*e*		03 56 10.4	
GKP	**Gorka Klasztor**	**89.36**	**36**	*e*P	**P**	**03 39 11.2**	**+0.2**
GKP				*e*pP	**pP**	**03 39 21.3**	**+1.1**
GKP				*e*SKSac	**SKSac**	**03 49 38.6**	**-0.7**

GKP eS S 03 49 59.8 +0.6
GKP LMZ LR 04 17 04.5
GKP Gorka Klasztor 89.36 36 eP P 03 39 11.3 +0.2
GKP e*PP pP 03 39 21.3 +1.1
GKP e 03 49 38.6
GKP eS S 03 49 59.8 +0.6
GKP pmax pmax
comp=Z,200nm,1.8s
KSP Ksiaz 89.39 39 eP P 03 39 11.6 +0.3
KSP epP pP 03 39 21.5 +1.1
KSP eSKSac SKSac 03 49 40.5 +0.8
KSP LMZ LR 04 20 49.6
KSP Ksiaz 89.39 39 eP P 03 39 11.7 +0.4
KSP e*PP pP 03 39 21.6 +1.1
KSP e 03 49 40.5
KSP MLR MLR
comp=Z,4µm,19.5s
DPC Dobruska-Polom 89.53 39 eP P 03 39 12.5 +0.5
DPC epP pP 03 39 18.4 -2.8
DPC ePP PP 03 42 40.4 -3.0
DPC eSKS SKSac 03 49 42.9 +2.3
DPC ePS PS 03 51 11.4 +1.8
DPC eSS SS 03 55 57.0 +0.4
DPC AMS AMS 04 25 50.0
comp=Z,2µm,20.5s
DPC Dobruska-Polom 89.53 39 eP P 03 39 12.5 +0.5
DPC e 03 39 18.4
DPC e 03 42 40.4
DPC e 03 49 42.9
DPC e 03 51 11.4
DPC eSS SS 03 55 57.0 +0.4
DPC MLR MLR
comp=Z,2µm,20.5s
SOKA Soboth 89.55 43⇑ *i*P P 03 39 11.9 -0.4
comp=Z,388nm,3.3s,SNR=19
PERS Pernice 89.62 43 eP P 03 39 11.6 -1.0
PERS e 03 49 40.0
PERS e 03 51 09.4
CONA Conrad Observa 89.81 41⇑ *i*PcP P 03 39 13.7 +0.2
comp=Z,81nm,1.4s,SNR=28
KRLC Kraliky 89.88 39 eP P 03 39 14.1 +0.4
KRLC epP pP 03 39 22.2 -0.7
KRLC Kraliky 89.88 39 eP P 03 39 14.1 +0.4
KRLC e 03 39 22.2
AFI Afiamalu 89.89 256 PFAKE 03 39 30.0 +16
AFI LR LR
comp=Z,2µm,19.0s
VRAC Vranov 89.95 40⇑P P 03 39 14.2 +0.2
VRAC Vranov 89.95 40⇑ *i*P P 03 39 14.2 +0.2
SOP Sopron 90.33 42⇑eP P 03 39 15.9 +0.1
KOGS Kog 90.42 43 *i* P P 03 39 16.1 -0.2
MORC Moravsky Berou 90.44 39 eP P 03 39 16.4 +0.1
MORC pmax pmax
comp=Z,342nm,2.3s
MORC Moravsky Berou 90.44 39⇑ *i*P P 03 39 16.8 +0.5
MORC Moravsky Berou 90.44 39 eP P 03 39 16.4 +0.1
comp=Z,342nm,2.3s
RAC Raciborz 90.76 39 eP P 03 39 18.7 +1.0
RAC MLR MLR
comp=Z,3µm,18.6s
BEHE Becsehely 90.77 43⇑eP P 03 39 18.2 +0.4
OKC Ostrava-Krasne 90.80 39 eP P 03 39 17.9 0.0
OKC epP pP 03 39 24.7 -2.4
OKC ex x 03 39 28.1
OKC ePP PP 03 42 46.5 -6.9
OKC eSKS SKSac 03 49 46.3 -1.5
OKC ePS PnS 03 51 28.0 +4.2
OKC eSS SS 03 56 14.0 -0.8
OKC AMS AMS 04 17 00.0
comp=Z,3µm,19.1s
OKC Ostrava-Krasne 90.80 39 eP P 03 39 17.9 0.0
OKC e 03 39 28.1
OKC e 03 49 46.3
OKC e 03 51 28.0
OKC eSS SS 03 56 14.0 -0.8
OKC MLR MLR
comp=Z,3µm,19.1s
FINES FINESS Array B 91.33 27 P P 03 39 18.8 -1.3
comp=Z,9.0nm,0.9s,baz=293,slow=3.3,SNR=21
FINES LR LR 04 19 27.7
comp=Z,3µm,18.9s,baz=293,slow=35
FIA1 FINESS Array S 91.33 27 eP P 03 39 19.5 -0.6
PKST T"s 91.41 42 eP P 03 39 21.0 +0.2
APA Apatity 91.54 20⇑ *i*P P 03 39 20.6 -0.3
APA *i* 03 42 58.0
APA *i* S S 03 50 16.0 -2.7
APA *i* PS PS 03 51 30.0 -1.1
APA pmax pmax
comp=Z,47nm,1.3s
APA MLR MLR
comp=Z,2µm,17.0s
WDD Wield Dalam 91.58 53 PFAKE 03 39 30.0 +8.2
WDD LR LR
comp=Z,1µm,21.0s
PKSG 91.60 42‖eP P 03 39 22.3 +0.6
CUC Castrocucco 91.65 49 PFAKE 03 39 30.0 +7.9
CUC LR LR
comp=Z,1µm,22.0s
OJC Ojcow 91.72 39 eP P 03 39 22.3 +0.1
OJC epP pP 03 39 32.5 +1.2
OJC eS S 03 50 21.5 +0.5
OJC LMZ LR 04 22 06.2
OJC Ojcow 91.72 39 eP P 03 39 22.3 +0.1
OJC e*PP pP 03 39 32.5 +1.2
OJC eS S 03 50 21.5 +0.5
OJC MLR MLR
comp=Z,3µm,19.4s
PKS9 Tamasi 91.75 42‖eP P 03 39 23.1 +0.7
LVZ Lovozero 91.79 19ceP P 03 39 20.9 -1.3
LVZ pmax pmax
comp=Z,82nm,1.5s
LVZ MLR MLR
comp=Z,3µm,19.0s
LVZ Lovozero 91.79 19 P P 03 39 21.9 -0.3
comp=Z,88nm,1.3s
LVZ LR LR
comp=Z,3µm,21.0s
BEL Belsk 91.84 37 eP P 03 39 23.1 +0.4
BEL epP pP 03 39 33.1 +1.3
BEL LMZ LR 04 18 06.0
BEL Belsk 91.84 37 eP P 03 39 23.1 +0.4
BEL e*PP pP 03 39 33.1 +1.3
BEL pmax pmax
comp=Z,200nm,1.1s
BUD Budapest 91.99 41⇑eP P 03 39 23.5 0.0
PKSM Moragy 92.09 43⇑eP P 03 39 23.9 0.0
CEL Celeste 92.11 51 PFAKE 03 39 40.0 +16
CEL LR LR
comp=Z,2µm,20.0s
NIE Niedzica 92.27 39 eP P 03 39 25.8 +1.0
NIE epP pP 03 39 35.9 +2.0
NIE eSKSac SKSac 03 49 57.4 +1.1
NIE LMZ LR 04 13 32.0
NIE Niedzica 92.27 39 eP P 03 39 25.8 +1.0
NIE e*PP pP 03 39 35.9 +2.0
NIE e 03 49 57.5
PKS2 Kecel 92.39 42⇑eP P 03 39 24.6 -0.7
PSZ Piszkesteto 92.44 41 eP P 03 39 25.7 0.0
PSZ pmax pmax
comp=Z,258nm,1.9s
PSZ MLR MLR
comp=Z,3µm,21.0s
PSZ Piszkesteto 92.44 41⇑ *i*P P 03 39 26.2 +0.6
PSZ Piszkesteto 92.44 41 eP P 03 39 25.7 0.0
comp=Z,258nm,1.9s
PSZ LR LR
comp=Z,3µm,21.0s
PSZ Piszkesteto 92.44 41⇑eP P 03 39 26.4 +0.8
TIP Timpagrande 92.55 50 PFAKE 03 39 40.0 +14
TIP LR LR
comp=Z,1µm,21.0s
KECS Kecovo 92.65 40 eP P 03 39 28.4 +1.9
VSU Vasula 92.77 29c *i*P P 03 39 25.6 -1.2
VSU pmax pmax
comp=Z,188nm,1.7s
VSU MLR MLR
comp=Z,6µm,19.0s
DIVS Divibare 93.59 44⇑ *i*P P 03 39 31.5 +0.4
KOLS Kolonicke sedl 93.64 39 eP P 03 39 32.0 +0.9
KOLS ePP PP 03 43 15.7 -0.1
KWP Kalwaria Pacla 93.69 39 eP P 03 39 32.0 +0.8
KWP epP pP 03 39 42.1 +1.6
KWP LMZ LR 04 20 25.4
KWP Kalwaria Pacla 93.69 39 eP P 03 39 32.1 +0.8
KWP e*PP pP 03 39 42.2 +1.7
KWP MLR MLR
comp=Z,2µm,22.1s
UZH Uzhgorod 93.75 40*d i*P P 03 39 31.5 0.0
UZH e 03 50 03.4
UZH eS S 03 50 34.0 -5.1
TRPA Tarpa 94.06 40⇑ *i*P P 03 39 32.9 -0.1
TRPA Tarpa 94.06 40⇑eP P 03 39 33.3 +0.3
VNA1 Neumayer--Stat 94.11 161 P P 03 39 34.3 +1.7
NACGM Naroch 94.17 33 eP P 03 39 31.0 -2.3
BZS Buzias 94.25 43⇑P P 03 39 35.4 +1.5
BZS Buzias 94.25 43⇑ *i*P P 03 39 35.4 +1.5
TIR Tirane 94.28 47 PFAKE 03 39 50.0 +16
TIR LR LR
comp=Z,2µm,20.0s
LVV L'vov 94.43 38 eP P 03 39 34.1 -0.6
LVV e 03 43 24.3
LVV ePPP PPP 03 45 26.7
LVV e 03 50 07.1
LVV eS S 03 50 39.3 -5.8
LVV ePS PS 03 52 01.3 -2.4
LVV eSS SS 03 57 03.7 -3.2
LVV MLR MLR
comp=N,2µm,18.0s
LVV MLR MLR
comp=E,1µm,18.0s
LVV MLR MLR
comp=Z,2µm,18.0s
VNA2 Neumayer--Watz 94.47 161 P P 03 39 35.7 +1.4
baz=300,slow=4.5
DRGR 94.60 41⇓P P 03 39 35.4 -0.2
DRGR 94.60 41⇓ *i*P P 03 39 35.3 -0.3
MNK Minsk 94.89 33 eP P 03 39 26.0 -11
MNK e 03 43 20.0
MNK e 03 50 10.0
MNK ePS PS 03 52 10.0 +1.5
MNK MLR MLR
comp=Z,4µm,20.0s
TMCR Tamitsa 94.93 22 eP P 03 39 36.5 -0.1
TMCR e 03 43 24.7
TMCR pmax pmax
comp=Z,28nm,1.3s
GZR Gura Zlata 95.09 43⇓P P 03 39 39.1 +1.2
GZR Gura Zlata 95.09 43⇓ *i*P P 03 39 39.0 +1.2
BUR08 Bucovina Ar. S 95.91 40 eP P 03 39 42.3 +0.6
BURAR Bucovina Array 95.93 40⇓P P 03 39 43.1 +1.4
BURAR Bucovina Array 95.93 40⇓ *i*P P 03 39 43.1 +1.4
SEY Seymchan 96.06 337*ceP* P 03 39 41.9 +0.1
SEY *i* *PP pP 03 39 52.9 +1.9
SNAA Sanae 96.07 162 P P 03 39 36.1 -5.6
VTS Vitosha 96.28 45⇓P P 03 39 42.1 -1.4
VTS Vitosha 96.28 45⇓ *i*P P 03 39 42.1 -1.4
ARR Arges 96.34 42⇓ *i*P P 03 39 44.9 +1.3
MLR Muntele Rosu 97.16 42⇑P P 03 39 47.3 -0.1
MLR Muntele Rosu 97.16 42⇑ *i*P P 03 39 47.3 -0.1
KIEV Kiev 97.19 36*d i*P P 03 39 46.3 -0.9
KIEV Kiev 97.19 36 PFAKE 03 40 00.0 +13
KIEV LR LR
comp=Z,4µm,20.0s
AKASG Malin Array Be 97.19 36 P P 03 39 45.5 -1.7
comp=Z,0.3nm,0.3s,baz=278,slow=4.3,SNR=6.7
AKASG LR LR 04 21 16.4
comp=Z,3µm,20.2s,baz=325,slow=34
AKASG Malin Array Be 97.19 36 *i* P P 03 39 46.9 -0.3
KLMR Klimovskoe 97.34 24 eP P 03 39 43.2 -4.5
KLMR e*PP pP 03 39 53.8 -3.0
KLMR e*SP sP 03 39 57.4 -2.7
KLMR eS SKSac 03 50 16.4 -6.5
KLMR pmax pmax
comp=Z,127nm,1.5s
PLOR Plostina 97.49 41⇓P P 03 39 46.9 -1.8
PLOR Plostina 97.49 41⇓ *i*P P 03 39 46.9 -1.8
RAO Raoul Island 97.72 242 PFAKE 03 40 00.0 +10
RAO LR LR
comp=Z,909nm,19.0s
PET Petropavlovsk 98.27 327*c i*P Pdif 03 39 53.1 +1.1
PET e 03 43 55.8
PET eS S 03 51 14.9 -3.1
PET eSP SP 03 52 50.1 +8.8
PET pmax pmax
comp=Z,400nm,15.7s
PET pmax pmax
comp=Z,500nm,13.6s
PET pmax pmax
comp=Z,500nm,15.8s
PET pmax pmax
comp=Z,500nm,21.4s
PET MLR MLR
comp=Z,2µm,23.0s
PET MLR MLR
comp=Z,1µm,18.0s
PET Petropavlovsk 98.27 327 PFAKE 03 40 00.0 +8.0
PET LR LR
comp=Z,2µm,19.0s
KIS Kishinev 98.44 40 eP P 03 39 51.0 -1.9
KIS Kishinev 98.44 40 ePP PP 03 44 00.0 +7.1
KIS Kishinev 98.44 40 ePS PS 03 52 44.0 -3.5
KIS eSS SS 03 58 13.0 +9.4
KIS eL L 04 12 36.0
KIS LRM MLR 04 21 50.0
comp=Z,3µm,20.0s
KIS Kishinev 98.44 40 eP P 03 39 51.0 -1.9
KIS e 03 40 00.0
KIS e 03 44 00.0
KIS e 03 50 26.0
KIS ePS PS 03 52 44.0 -3.5
KIS eSS SS 03 58 13.0 +9.4
PETK Petropavlovsk- 98.74 327 P P 03 39 53.4 -0.7
comp=Z,2.0nm,0.8s,baz=84,slow=14,SNR=5.1
PETK LR LR 04 26 43.4
comp=Z,595nm,20.7s,baz=51,slow=37
OBN Obninsk 99.11 30*c i*P P 03 39 54.4 -1.3
OBN *i* 03 44 00.3
OBN *i* S SKSac 03 50 36.2 +4.2
OBN *i* PS PS 03 52 52.3 -2.0
OBN pmax pmax
comp=Z,57nm,1.9s
OBN MLR MLR
comp=Z,3µm,18.0s
OBN Obninsk 99.11 30 PFAKE 03 40 10.0 +14
OBN LR LR
comp=Z,3µm,22.0s
PRGR Permogore 99.23 22 eP Pdif 03 39 56.1 0.0
PRGR pmax pmax
comp=Z,57nm,1.3s
MOS Moscow 99.30 29 eP Pdif 03 39 53.3 -3.2
MOS e 03 40 06.2
MOS e 03 44 06.4
MOS MLR MLR
comp=N,1µm,20.0s
MOS MLR MLR
comp=E,1µm,20.0s
MOS MLR MLR
comp=Z,2µm,20.0s
QSPA South Pole Qui 99.31 180 PFAKE 03 40 10.0 +14
QSPA LR LR
comp=Z,3µm,19.0s
SANT Santorini 99.95 51 PFAKE 03 40 10.0 +10
SANT LR LR
comp=Z,1µm,20.0s
MSVF Nonsavu 100.12 254 PFAKE 03 40 10.0 +8.9
MSVF LR LR
comp=Z,2µm,19.0s
LPSR Galich'ya Gora 101.62 31 eP Pdif 03 40 06.0 -0.9
LPSR pmax pmax
comp=N,5.0nm,0.9s
LPSR pmax pmax
comp=E,10.0nm,0.9s
LPSR pmax pmax
comp=Z,8.0nm,0.9s
LPSR MLR MLR
comp=N,1µm,21.0s
LPSR MLR MLR
comp=E,3µm,21.0s
LPSR MLR MLR
comp=Z,2µm,21.0s
VSR Storozhevoye 102.49 33 eP Pdif 03 40 09.8 -1.0
VSR pmax pmax
comp=N,2.0nm,0.6s
VSR pmax pmax
comp=E,2.0nm,0.6s
VSR pmax pmax
comp=Z,3.0nm,0.6s
SIM Simferopol' 102.65 40 eP Pdif 03 40 17.2 +5.5
SIM e 03 44 28.0
SIM ePPP PPP 03 46 34.0
SIM *i* PS PS 03 53 33.0 +0.3
SIM eSS SS 03 59 16.0 +14
SIM pmax pmax
comp=Z,190nm,11.8s
SIM MLR MLR
comp=N,1µm,18.6s
VORD Divnogorie 102.69 33 eP Pdif 03 40 10.7 -1.0
VORD pmax pmax
comp=N,2.0nm,0.4s
VORD pmax pmax
comp=E,5.0nm,0.4s
VORD pmax pmax
comp=Z,3.0nm,0.4s
SBA Scott Base 103.03 192 PFAKE 03 40 20.0 +7.4
SBA LR LR
comp=Z,2µm,20.0s
ISP Isparta 103.21 48 PFAKE 03 40 30.0 +15
ISP LR LR
comp=Z,2µm,20.0s
ANTO Ankara 104.00 45 PFAKE 03 40 30.0 +12
ANTO LR LR
comp=Z,1µm,20.0s
TSUM Tsumeb 104.06 107 PFAKE 03 40 30.0 +11
TSUM LR LR
comp=Z,3µm,19.0s
YAK Yakutsk 104.15 344 eP Pdif 03 40 10.3 -7.7
YAK e*SS 03 51 40.8
YAK Yakutsk 104.15 344 PFAKE 03 40 30.0 +12
YAK LR LR
comp=Z,3µm,19.0s
SNZO South Karori 104.42 230 PFAKE 03 40 30.0 +10
SNZO LR LR
comp=Z,2µm,19.0s
WAKE Wake Island 104.66 293 PFAKE 03 40 30.0 +8.8
WAKE LR LR
comp=Z,2µm,19.0s
CSS Prodhromos 106.43 49 PFAKE 03 44 50.0
CSS LR LR
comp=Z,228nm,20.0s
SOC Sochi 106.83 39 *i* P Pdif 03 40 25.5 -4.8
SOC *i* 03 44 53.8
SOC e 03 51 05.8
SOC ePS PS 03 54 03.6 -13
SOC MLR MLR
comp=Z,2µm,20.0s
NKL Nikolayevsk 107.03 334 eP Pdif 03 40 27.0 -4.0
NKL e 03 44 58.0
NKL e 03 51 14.0
SUR Sutherland 107.57 121 PFAKE 03 44 50.0
SUR LR LR
comp=Z,3µm,21.0s
ARU Arti 107.62 21 P Pdif 03 40 31.0 -2.5
ARU S SKSac 03 51 08.1 -3.5
ARU PS PS 03 54 16.9 -6.8
ARU Arti 107.62 21 PFAKE 03 44 50.0
ARU LR LR
comp=Z,4µm,22.0s
KIV Kislovodsk 108.45 38 eP Pdif 03 40 36.9 -0.8
KIV e 03 45 06.1
KIV ePPP PPP 03 47 24.3
KIV e 03 51 14.5
KIV ePS PS 03 54 33.6 +0.6
KIV eSS SS 04 00 21.6 +0.1
KIV eSSS SSS 04 04 25.4
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,1µm,20.0s
KIV Kislovodsk 108.45 38 PFAKE 03 45 00.0
KIV LR LR
comp=Z,2µm,20.0s
ONI Oni 109.67 38 P PP 03 45 14.8 -1.8
ONI Oni 109.67 38 P PS 03 54 49.6 +4.1
YSS Yuzh-Sakhalins 110.14 328 PFAKE 03 45 00.0
YSS LR LR
comp=Z,1µm,20.0s
TBLG Delisi 110.94 39 P PP 03 45 24.0 -1.7
TBLG Delisi 110.94 39 P PKKPdf 03 56 09.5 +5.4
DGRG David-gareji 111.50 39 P PP 03 45 31.9 +2.2
DGRG David-gareji 111.50 39 P PS 03 55 07.7 +5.2
GNI Garni 111.84 40 PFAKE 03 45 00.0
GNI LR LR
comp=Z,1µm,20.0s
MAK Makhachkala 111.88 36 ePKIKP PKiKP 03 44 52.4 +2.6
MAK e 03 45 35.8
MAK ePPP PPP 03 47 52.8
MAK e 03 51 32.8
MAK ePS PS 03 55 06.2 +0.4
HABR Khabarovsk 112.87 333 eP Pdif 03 40 55.3 -1.7
HABR *i* 03 44 49.7
HABR e 03 45 00.9
HABR e 03 45 37.8
HABR ePPP PPP 03 48 00.8
HABR eSS SS 04 01 19.1 -0.5
HABR pmax pmax
comp=E,169nm,2.8s
HABR pmax pmax
comp=N,67nm,2.8s
HABR pmax pmax
comp=Z,79nm,2.8s
HABR MLR MLR
comp=Z,2µm,24.0s
ERM Erimo 113.02 323 PFAKE 03 45 00.0
ERM LR LR
comp=Z,1µm,19.0s
ABKAR Akbulak array 113.73 25 ePKPdf PKiKP 03 44 53.8 +0.6
LSZ Lusaka 113.88 103 PFAKE 03 45 10.0
LSZ LR LR
comp=Z,2µm,21.0s
BRVK Borovoye 114.16 17*d i*PKIKP PKPdf 03 44 54.8 +0.9
BRVK MLR MLR
comp=Z,3µm,25.0s
BRVK Borovoye 114.16 17 PFAKE 03 45 10.0 +16
BRVK LR LR
comp=Z,5µm,20.0s
MBAR Mbarara 114.69 86 PFAKE 03 45 10.0 +14
MBAR LR LR
comp=Z,329nm,20.0s
DRV Dumont d'Urvil 115.43 198 PP PP 03 45 41.0 -16
DRV PP PP 03 45 51.0 -6.2
DRV R 03 55 00.0
DRV SP SP 03 55 10.0 -23
DRV SS SS 04 02 00.0 +6.6
DRV R 04 20 00.0
ZAA0 Zalesovo Array 116.29 7 PKPdf PKPdf 03 44 57.8 -0.2
ZALV Zalesovo Beam 116.29 7 PKP PKPdf 03 44 57.5 -0.4
comp=Z,1.0nm,0.5s,baz=326,slow=0.5,SNR=10.0
ZALV PP PP 03 45 59.0 -3.9
comp=Z,12nm,1.1s,baz=339,slow=7.9,SNR=10
HNR Honiara 116.81 264 PFAKE 03 45 10.0 +10
HNR LR LR
comp=Z,2µm,20.0s
HIA Hailar 117.99 342 PFAKE 03 45 10.0 +8.5
HIA LR LR
comp=Z,5µm,21.0s
MDJ Mudanjiang 118.25 333 PKP PKPdf 03 45 01.8 -0.2
MDJ sPKP 03 45 06.6
MDJ PKS PKSdf 03 48 37.5 -1.1
MDJ SKS SKSdf 03 52 13.2 +0.9
MDJ LN
comp=Z,2µm,18.7s
MDJ LE
comp=Z,2µm,16.6s
MDJ LZ
comp=Z,3µm,20.8s
MDJ Mudanjiang 118.25 333 PFAKE 03 45 10.0 +8.0
MDJ LR LR
comp=Z,3µm,22.0s
KURK Kurchatov 118.37 12 ePKIKP PKPdf 03 45 02.5 +0.4
KURK MLR MLR
comp=Z,6µm,20.0s
KURK Kurchatov 118.37 12 ePKPdf PKPdf 03 45 02.5 +0.4
KURK PKKPbc PKKPbc 03 55 20.6 -0.9
KURK LR LR
comp=Z,6µm,20.0s
KURBB Kurchatov Arra 118.44 12 PKKPbc PKKPbc 03 55 20.6 -0.7
comp=Z,0.7nm,0.7s,baz=223,slow=2.3,SNR=4.0
TLY Talaya 118.87 354 PFAKE 03 45 10.0 +6.9
TLY LR LR
comp=Z,2µm,22.0s
MJAR Matsushiro Arr 119.44 321 PKP PKPdf 03 45 03.1 -1.5

comp=Z,0.8nm,0.6s,baz=72,slow=1.7,SNR=4.2
MAJO Matsushiro 119.44 321 ⇑*i* PKIKP **PKPdf 03 45 05.3 +0.7**
MAJO MLR MLR
comp=Z,7μm,24.0s
MAJO Matsushiro 119.44 321 PFAKE 03 45 20.0 +15
MAJO LR LR
comp=Z,3μm,19.0s
ZAK Zakamensk 120.19 354 *e*PKIKP **PKPdf 03 45 04.7 -1.1**
CN2 Changchun 120.67 335 *e*PKP PKPdf 03 45 01.5 -5.2
CN2 *e*PP **PP 03 46 33.2 -0.3**
CN2 PPMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,2μm,19.0s
CN2 LE
comp=Z,1μm,19.0s
CN2 LZ
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 121.19 86 PFAKE 03 45 20.0 +11
KMBO LR LR
comp=Z,1μm,20.0s
ULN Ulaanbaatar 122.20 351 PFAKE 03 45 20.0 +10
ULN LR LR
comp=Z,3μm,19.0s
CASY Casey 122.23 187 PFAKE 03 45 20.0 +11
CASY LR LR
comp=Z,5μm,20.0s
SONM Songino Array 122.33 352 PKP **PKPdf 03 45 09.3 -0.7**
comp=Z,5.2nm,1.0s,baz=356,slow=1.0,SNR=21
SONM PKKPbc **PKKPbc 03 55 04.8 -2.3**
comp=Z,0.7nm,0.9s,baz=174,slow=1.5,SNR=3.7
ISAD Sadrabad 122.54 43 *e*P **PKPdf 03 45 10.1 -0.9**
MK31 Makanchi Array 122.85 11 *e*PKIKP **PKPdf 03 45 10.6 -0.3**
MK31 Makanchi Array 122.85 11 *e*PKPdf **PKPdf 03 45 10.6 -0.3**
MK31 *e*PP PP 03 46 41.6 -6.5
MKAR Makanchi Array 122.85 11 PKP **PKPdf 03 45 09.2 -1.6**
comp=Z,3.5nm,1.0s,baz=3.8,slow=1.8,SNR=16
MKAR PP **PP 03 46 43.4 -4.7**
comp=Z,1.8nm,1.0s,baz=357,slow=2.4,SNR=4.7
KKAR Karatay Array 122.95 22 *e*PKIKP **PKPdf 03 45 08.5 -2.7**
KKAR Karatay Array 122.95 22 *e*PKPdf **PKPdf 03 45 08.5 -2.7**
TAU Tasmania Unive 124.09 224 PFAKE 03 45 20.0 +6.8
TAU LR LR
comp=Z,2μm,20.0s
USP Ospenovka 124.18 19 P **PKPdf 03 45 14.5 +1.0**
SNR=6.1
EKS2 Erkin-Say 124.49 20 P **PKPdf 03 45 15.1 +0.8**
SNR=10
EKS2 Erkin-Say 124.49 20 *e*PKIKP **PKPdf 03 45 15.0 +0.8**
EKS2 *e* 03 46 57.7
EKS2 MLR MLR
comp=Z,3μm,20.0s
EKS2 Erkin-Say 124.49 20 *e*PKPdf **PKPdf 03 45 15.0 +0.7**
EKS2 *e*PP **PP 03 46 57.7 -1.7**
EKS2 LR LR
comp=Z,3μm,20.0s
KSRS Korea Array 124.60 329 PKP **PKPdf 03 45 14.6 +0.2**
comp=Z,12nm,1.1s,baz=29,slow=1.0,SNR=38
FRU Bishkek 124.61 19 *e*PKIKP **PKPdf 03 45 14.0 -0.4**
FRU *e* 03 45 23.0
FRU *e* 03 46 57.0
FRU MLR MLR
comp=E,2μm,23.0s
KSAR Wonju Array Be 124.63 329 PKIKP **PKPdf 03 45 14.6 +0.1**
KSAR Wonju Array Be 124.63 329 PKP **PKPdf 03 45 14.6 +0.1**
AAK Ala-Archa 124.75 19 P **PKPdf 03 45 16.2 +1.4**
SNR=5.3
AAK Ala-Archa 124.75 19 ⇓*i* PKIKP **PKPdf 03 45 16.1 +1.2**
AAK pmax pmax
comp=Z,26nm,1.2s
AAK MLR MLR
comp=Z,6μm,21.0s
AAK Ala-Archa 124.75 19 *e*PKPdf **PKPdf 03 45 16.1 +1.2**
AAK *e*PP **PP 03 46 59.5 -1.7**
AAK LR LR
comp=Z,3μm,20.0s
TKM2 Tokmak 2 124.83 18 P **PKPdf 03 45 16.7 +1.7**
SNR=6.8
TKM2 Tokmak 2 124.83 18 *e*PKIKP **PKPdf 03 45 15.8 +0.8**
TKM2 *e* 03 47 00.6
TKM2 MLR MLR
comp=Z,4μm,20.0s
TKM2 Tokmak 2 124.83 18 *e*PKPdf **PKPdf 03 45 15.8 +0.8**
TKM2 *e*PP **PP 03 47 00.6 -1.1**
TKM2 LR LR
comp=Z,4μm,20.0s
UCH Uchtor 125.12 19 P **PKPdf 03 45 16.9 +1.0**
SNR=10
ITEG Tejag 125.14 38 *e*P **PKPdf 03 45 14.6 -1.3**
CAN Canberra 125.18 233 PFAKE 03 45 30.0 +14
CAN LR LR
comp=Z,2μm,19.0s
INCN Inchon 125.22 330 PFAKE 03 45 30.0 +14
INCN LR LR
comp=Z,2μm,20.0s
KZA Kyzart 125.49 19 P **PKPdf 03 45 18.0 +1.4**
SNR=6.8
IKOO Kooshah 125.62 39 *e*P **PKPdf 03 45 16.4 -0.6**
IKOO *e*P **PKiKP 03 45 19.5 +2.2**
ULHL Ulahol 125.64 18 P **PKPdf 03 45 17.5 +0.9**
SNR=17
GUMO Guam 126.25 294 PFAKE 03 45 30.0 +12
GUMO LR LR
comp=Z,99nm,20.0s
DL2 Dalian 126.34 335 ⇑*i* PKP **PKPdf 03 45 17.6 -0.1**
DL2 PP **PP 03 47 11.4 -0.3**
DL2 LN
comp=Z,920nm,22.1s
DL2 LZ
comp=Z,1μm,21.6s
WMQ Urumqi 126.60 7 PKP **PKPdf 03 45 19.6 +1.4**
WMQ PP **PP 03 47 18.2 +5.0**
WMQ PPMZ
comp=Z,270nm,10.8s
WMQ LZ
comp=Z,5μm,20.7s
BJI Beijing 127.39 340 PKP **PKPdf 03 45 19.9 +0.2**
BJI SKS **SKSdf 03 52 29.1 -0.6**
BJI PPMZ
comp=Z,620nm,11.8s
BJI LZ
comp=Z,3μm,19.5s
BJT Baijiatuau 127.41 340 PFAKE 03 45 30.0 +10
BJT LR LR
comp=Z,4μm,19.0s
HHC Hu-ho-hao-te 128.01 345 *e*PKP **PKPdf 03 45 21.0 0.0**
HHC sPKP 03 45 31.4
HHC PP **PP 03 47 23.2 +0.6**
HHC PKS PKSdf 03 48 51.7 -6.0
HHC SKS **SKSdf 03 52 26.5 -4.7**
HHC SS **SS 04 04 39.1 +5.4**
HHC PPMZ
comp=Z,550nm,9.5s
HHC LN
comp=Z,2μm,21.1s
HHC LE
comp=Z,2μm,21.2s
HHC LZ
comp=Z,2μm,22.2s
KSH Kashi 128.04 19 PKP **PKPdf 03 45 22.7 +1.5**
KSH SKS **SKSdf 03 52 29.2 -2.1**
KSH SKKS **SKKSac 03 54 15.8 -4.2**
KSH PPMZ
comp=Z,730nm,6.3s
KSH LZ
comp=Z,5μm,20.9s
PMG Port Moresby 129.37 265 PFAKE 03 45 40.0 +16
PMG LR LR
comp=Z,2μm,19.0s
CTAO Charters Tower 130.22 252 PFAKE 03 45 40.0 +14
CTAO LR LR
comp=Z,1μm,19.0s
TIA Tai'an 130.46 337 PKP **PKPdf 03 45 26.6 +0.9**
TIA SKS **SKSdf 03 52 33.2 -2.4**
TIA SKKS **SKKSac 03 54 29.8 -5.1**
TIA PPMZ
comp=Z,1μm,11.4s
GTA Gaotai 131.38 356 ⇓PKP **PKPdf 03 45 28.6 +1.1**
GTA PP PP 03 47 50.3 +5.8
GTA PKS **PKSdf 03 49 03.9 -0.2**
GTA SKS **SKSdf 03 52 34.8 -2.6**
GTA SKKS **SKKSac 03 54 36.9 -3.7**
GTA SS **SS 04 05 15.1 +0.2**
GTA PPMZ
comp=Z,950nm,10.0s
GTA LN
comp=Z,3μm,21.9s
GTA LE
comp=Z,2μm,22.8s
GTA LZ
comp=Z,4μm,22.3s
ABPO Ambohimpanom 132.05 107 PFAKE 03 45 40.0 +11
ABPO LR LR
comp=Z,3μm,21.0s
STKA Stephens Creek 132.08 235 PKP **PKPdf 03 45 27.8 -1.1**
comp=Z,11nm,1.2s,baz=104,slow=1.6,SNR=7.0
SSE Sheshan 133.02 330 PKP **PKPdf 03 45 31.1 +0.5**
SSE PP **PP 03 47 55.8 +0.4**
SSE SS SS 04 05 35.2 -0.5
SSE PPMZ
comp=Z,380nm,11.7s
SSE LN
comp=Z,2μm,21.3s
SSE LE
comp=Z,290nm,21.3s
SSE LZ
comp=Z,2μm,22.1s
NJ2 Nanjing 133.33 333 *e*PKP **PKPdf 03 45 31.7 +0.5**
NJ2 PKS **PKSdf 03 49 05.5 -2.2**
NJ2 SS SS 04 05 46.0 +6.7
NJ2 LN
comp=Z,1μm,19.6s
NJ2 LE
comp=Z,2μm,21.0s
NJ2 LZ
comp=Z,3μm,18.1s
LZH Lanzhou 134.21 351 *e*PKP **PKPdf 03 45 29.4 -3.6**
LZH sPKP 03 45 39.6
LZH PP **PP 03 48 07.6 +4.9**
LZH PKS PKSdf 03 49 03.5 -6.1
LZH PPMZ
comp=Z,180nm,4.5s
LZH LZ
comp=Z,3μm,19.7s
DHRM DHARAMSHALA 134.65 23 *ex* PKPdf 03 45 27.9 -6.1
DHRM AMS AMS 04 24 25.8
comp=Z,561nm,16.1s
XAN Xi'an 135.12 345 PKP **PKPdf 03 45 32.8 -1.8**
XAN SKS **SKSdf 03 52 37.9 -6.2**
XAN LN
comp=Z,2μm,21.4s
XAN LE
comp=Z,440nm,22.5s
XAN LZ
comp=Z,960nm,18.4s
SMLA Simla 135.99 23 *e*P **PKPdf 03 45 31.5 -4.7**
SMLA AMS AMS 04 37 47.4
comp=Z,2μm,28.8s
WHN Wuhan 136.55 336 PKP **PKPdf 03 45 36.1 -1.1**
WHN PP **PP 03 48 19.5 +2.0**
WHN PKS **PKSdf 03 49 12.1 -1.5**
WHN SKKS 03 55 11.6
WHN LZ
comp=Z,5μm,18.9s
DDI Dehra Dun 137.05 23 *e*P **PKPdf 03 45 36.5 -1.8**
TATO Taipei 137.71 324 PFAKE 03 45 50.0 +10
TATO LR LR
comp=Z,2μm,19.0s
ENH Enshi 138.50 342 *e*PKPdf **PKPdf 03 45 41.1 +0.2**
ENH LR LR
comp=Z,1μm,20.0s
BHJ Bhuj 138.73 38 *e*P **PKPdf 03 45 39.1 -2.3**
CD2 Chengdu 139.28 350 PKP **PKPdf 03 45 41.2 -1.2**
CD2 sPKP 03 45 54.4
CD2 PP **PP 03 48 34.1 -0.2**
CD2 SKS **SKSdf 03 52 49.3 -2.0**
CD2 SKKS **SKKSac 03 55 24.9 -3.3**
CD2 SS **SS 04 06 50.0 +0.3**
CD2 PPMZ
comp=Z,550nm,8.8s
CD2 LN
comp=Z,2μm,21.6s
CD2 LE
comp=Z,2μm,22.7s
CD2 LZ
comp=Z,3μm,21.6s
QZH Quanzhou 139.34 327 *i* PKPbc PKPdf 03 45 34.5 -8.0
QZH PP **PP 03 48 34.6 -0.6**
MSEY Mahe Island 139.72 86 PFAKE 03 46 00.0 +16
MSEY LR LR
comp=Z,2μm,20.0s
AS31 Alice Springs 140.93 244 *e*PKPdf **PKPdf 03 45 45.9 +0.4**
ASAR Alice Springs 140.93 244 PKHKP PKPpre 03 45 40.0
comp=Z,5.9nm,1.2s,baz=104,slow=3.9,SNR=13
ASAR PKP **PKPdf 03 45 45.3 -0.2**
comp=Z,9.6nm,1.0s,baz=110,slow=3.3,SNR=26
LSA Lhasa 140.95 6 PKP **PKPdf 03 45 45.9 -0.1**
LSA Lhasa 140.95 6 *e*PKIKP **PKPdf 03 45 46.4 +0.4**
LSA MLR MLR
comp=Z,3μm,22.0s
LSA Lhasa 140.95 6 *e*PKPdf **PKPdf 03 45 46.4 +0.4**
LSA LR LR
comp=Z,3μm,22.0s
KOLN Koldanda 141.28 17 *e*P PKPdf 03 45 39.4 -6.9
comp=Z,60nm,1.3s
WRAB Tennant Creek 141.34 250 *e*PKIKP **PKPdf 03 45 46.2 -0.1**
WRAB MLR MLR
comp=Z,2μm,19.0s
WRAB Tennant Creek 141.34 250 *e*PKPdf **PKPdf 03 45 46.2 -0.1**
WRAB LR LR
comp=Z,2μm,19.0s
WRA Warramunga Arr 141.34 250 PKhKP PKPpre 03 45 40.2
comp=Z,5.1nm,1.1s,baz=104,slow=3.3,SNR=12
WRA PKP **PKPdf 03 45 46.5 +0.2**
comp=Z,11nm,1.1s,baz=100,slow=3.1,SNR=15
GKN Gorkha 141.35 16 *e*P PKPdf 03 45 40.6 -5.8
comp=Z,137nm,1.3s
KKN Kakani 141.72 15 *e*P PKPdf 03 45 41.6 -5.5
comp=Z,101nm,1.4s
GUN Gumba 141.76 14 *e*P **PKPdf 03 45 43.2 -4.1**
comp=Z,88nm,1.0s
DMN Daman 141.85 15 *e*P **PKPdf 03 45 42.6 -4.8**
comp=Z,133nm,1.4s
PKIN Phulchoki 141.96 15 *e*P **PKPdf 03 45 42.6 -5.0**
comp=Z,27nm,1.0s
PKI Pulchoki 141.97 15 *e*P PKPdf 03 45 41.5 -6.2
comp=Z,49nm,1.1s
JIRN Jiri 142.08 14 *e*P **PKPdf 03 45 43.3 -4.6**
comp=Z,16nm,0.8s
TAPN Taplejung 142.71 12 *e*P **PKPdf 03 45 46.2 -2.8**
comp=Z,126nm,1.4s
RAMN Ramite 142.85 14 *e*P **PKPdf 03 45 44.2 -5.0**
comp=Z,367nm,1.6s
GYA Guiyang 142.90 344 *i* PKP **PKPdf 03 45 46.6 -2.5**
GYA PP **PP 03 49 00.8 +4.1**
GYA PKS **PKSdf 03 49 22.0 -3.1**
GYA SKKS 03 55 47.8
GYA SS **SS 04 07 34.2 +1.9**
GYA PPMZ
comp=Z,310nm,8.0s
GYA LN
comp=Z,2μm,22.8s
GYA LE
comp=Z,2μm,23.0s
GYA LZ
comp=Z,2μm,21.4s
ODAN Odare 143.12 13 *e*P PKPab 03 45 45.3 +0.3
comp=Z,59nm,1.2s
GZH Guangzhou 143.50 332 PKP PKPab 03 45 44.6 -1.7
GZH SS SS 04 07 39.6 0.0
GZH LN
comp=Z,2μm,21.7s
GZH LE
comp=Z,2μm,21.7s
SIJI Sorong 143.73 281 PKP PKPbc 03 45 49.5 +1.2
comp=Z,8.1nm,1.0s,baz=49,slow=5.6,SNR=7.9
PLP Palo 144.56 304 ⇑*e*P **PKPab 03 45 49.7 -0.9**
POO Poona 144.85 38 ⇓*i* P **PKPab 03 45 50.0 -1.6**
comp=Z,15nm,1.0s
POO *e*P PKPbc 03 45 50.9 -0.7
KMI Kunming 145.10 349 ⇑PKPbc **PKPab 03 45 52.8 +0.3**
KMI pPKP **pPKPdf 03 46 01.4 -1.2**
KMI PP **PP 03 49 10.7 +0.8**
KMI SKKS 03 56 01.4
KMI LN
comp=Z,1μm,18.2s
KMI LE
comp=Z,2μm,19.3s
KMI LZ
comp=Z,2μm,19.9s
SHL Shillong 145.11 6 ⇑*i* P **PKPbc 03 45 51.5 -1.0**
SHL *ex* x 03 49 30.5
BOK Bokaro 145.69 16 *e*P **PKPdf 03 45 51.9 -2.0**
RCP Roxas 146.12 307 ⇑*e*P **PKPab 03 45 56.6 +0.3**
DAV Davao City (W) 146.16 298 PFAKE 03 46 10.0 +13
DAV LR LR
comp=Z,1μm,19.0s
KLRI Killari 146.82 35 *e*PKPbc **PKPdf 03 45 56.3 +0.3**
KLRI *e*PP **PP 03 49 21.3 +0.7**
SRSP Sriramsagar 147.07 32 *e*PKPbc **PKPdf 03 45 57.2 +0.9**
SRSP *e*PP PP 03 49 15.4 -6.5
GOA Goa 147.10 42 *e*P **PKPdf 03 45 54.1 -2.3**
RPR Rampur 147.61 30 *e*PKPbc **PKPbc 03 45 59.2 -0.6**
RPR *e*SKPdf **SKPdf 03 49 28.0 -1.4**
HYBB Hyderabad (bro 148.43 33 *e*PKPdf **PKPdf 03 45 56.7 -2.0**
HYBB *e*PKPbc **PKPbc 03 46 01.1 -1.1**
HYB Hyderabad 148.43 33 *i* PKP **PKPdf 03 45 58.0 -0.6**
HYB Hyderabad 148.43 33 *e*P **PKPdf 03 45 56.6 -2.1**
QIZ Qiongzhong 148.61 334 PKPbc **PKPdf 03 45 59.3 +0.5**
QIZ PP **PP 03 49 34.6 +3.9**
QIZ SS SS 04 08 40.0 +2.3
QIZ PPMZ
comp=Z,1μm,11.6s
QIZ LN
comp=Z,2μm,19.6s
QIZ LE
comp=Z,490nm,22.9s
QIZ LZ
comp=Z,2μm,20.7s
QIZ Qiongzhong 148.61 334 *e*PKPbc **PKPbc 03 46 03.8 +1.3**
QIZ LR LR
comp=Z,2μm,20.0s
NJS Nagarjunasagar 149.54 33 *e*PKPdf **PKPdf 03 46 00.1 -0.3**
NJS *e* 03 46 04.4
NJS *e*SKPdf **SKPdf 03 49 31.5 -0.9**
URV Uravakonda 149.68 38 *e*PKPdf **PKPdf 03 46 00.7 0.0**
URV *e* 03 46 04.9
SRLM Srisailam 149.69 34 *e*PKPbc **PKPbc 03 46 04.5 -0.8**
SRLM *e*PP **PP 03 49 35.7 -1.6**
CHLP Challavanipeta 150.02 23 *e*PKPdf **PKPdf 03 46 01.1 0.0**
CHLP *e*PKiKP **PKPbc 03 46 05.9 -0.1**
CHLP *e*PP **PP 03 49 39.6 +1.0**
CHLP *e* 03 53 02.8
PVM Polavaram 150.11 28 *e*PKPdf **PKPdf 03 46 01.6 +0.4**
PVM *e* 03 46 05.9
PVM *e*PP **PP 03 49 36.4 -3.0**
RCLA Racherla 150.25 34 *e*PKPdf **PKPdf 03 46 01.6 0.0**
RCLA *e*PKiKP **PKPbc 03 46 06.3 -0.3**
RCLA *e*PP **PP 03 49 41.1 +0.6**
CRAI Chiangrai 150.29 351 P **PKPdf 03 45 59.9 -1.6**
comp=Z,37nm,2.0s
VIS Vishakhapatnam 150.44 25 *e*P **PKPdf 03 46 00.0 -1.8**
ADKI Addanki 150.48 32 *e*PKPdf **PKPdf 03 46 01.2 -0.6**
ADKI *e*PKiKP **PKPbc 03 46 07.2 0.0**
CMAI Chiengmai2 150.76 354 P **PKPdf 03 46 03.5 +1.0**
comp=Z,57nm,1.2s
CHTO Chiang Mai 151.87 354 P **PKPdf 03 46 05.3 +1.3**
comp=Z,148nm,1.6s,comp=Z,4μm
CHTO Chiang Mai 151.87 354 *e*PKIKP **PKPdf 03 46 04.4 +0.4**
CHTO MLR MLR
comp=Z,2μm,19.0s
CHTO Chiang Mai 151.87 354 *e*PKPdf **PKPdf 03 46 04.4 +0.4**
CHTO LR LR
comp=Z,2μm,19.0s
CMMT Chiang Mai 151.87 354 P **PKPdf 03 46 05.2 +1.2**
SKHT Srikalahasti 152.07 35 *e*PKPdf **PKPdf 03 46 04.5 +0.2**
SKHT *e* 03 46 10.8
SKHT *e*PP **PP 03 49 49.7 -1.2**
LAMP Lampang 152.08 352 P **PKPbc 03 46 12.0 +1.1**
comp=Z,8.0nm,1.0s
CM31 Chiang Mai Arr 152.23 354 *e*PKPdf **PKPdf 03 46 05.6 +1.1**
CMAR Chiang Mai Arr 152.23 354 PKP **PKPdf 03 46 04.4 -0.1**
comp=Z,7.4nm,1.1s,baz=328,slow=1.6,SNR=23
CMAR PKPbc **PKPbc 03 46 11.0 -0.2**
comp=Z,20nm,1.0s,baz=334,slow=2.5,SNR=34
CMAR PP **PP 03 49 51.2 +0.2**
comp=Z,1.2nm,0.3s,baz=335,slow=9.7,SNR=5.1
SKNT Sakolnakorn 152.65 343 P **PKPdf 03 46 06.5 +1.3**
comp=Z,66nm,1.6s
UTTA Uttaradit 152.70 350 P **PKPbc 03 46 13.3 +1.1**
comp=Z,9.4nm,1.1s
LOEI Loei 152.80 349 P **PKPdf 03 46 06.5 +1.1**
comp=Z,68nm,0.8s
MDRS Chennai 152.91 35 *e*P **PKPdf 03 46 02.7 -2.9**
MMRI Maumere 153.89 269 *e*PKPdf **PKPdf 03 46 06.5 -0.6**
MBWA Marble Bar 154.14 240 PFAKE 03 46 20.0 +4.7
MBWA LR LR
comp=Z,2μm,19.0s
TRD Trivandrum 154.19 47 *e*P **PKPdf 03 46 06.0 -1.5**
KKM Kota Kinabalu 154.57 306 *e*PKPdf **PKPdf 03 46 08.5 +0.4**
KKM LR LR
comp=Z,2μm,22.0s
KAPI Kappang 155.87 279 PFAKE 03 46 20.0 +10
KAPI LR LR
comp=Z,927nm,20.0s
SRDT SRDT 156.25 352 P **PKPab 03 46 38.4 +0.5**
DGAR Diego Garcia 156.81 87 PFAKE 03 46 20.0 +9.0
DGAR LR LR
comp=Z,2μm,20.0s
DGPR DIGLIPUR 157.47 7 *e*P **PKPdf 03 46 11.6 -0.1**
PBA Port Blair 158.94 8 *e*P PKPdf 03 46 11.2 -2.4
KSM Kuching 162.01 306 *e*PKPdf **PKPdf 03 46 17.6 +0.6**
KSM *e*PKPab **PKPab 03 47 04.1 +0.9**
KSM LR LR
comp=Z,1μm,21.0s
KULM Kulim 164.71 341 *e*PKPdf **PKPdf 03 46 19.9 +0.4**
KULM *e*PKPab **PKPab 03 47 15.5 +0.7**
KULM LR LR
comp=Z,4μm,19.0s
IPM Ipoh 165.34 339 *e*PKPdf **PKPdf 03 46 20.4 +0.3**
COCO West Island 176.98 199 PFAKE 03 46 40.0 +14
COCO LR LR
comp=Z,3μm,22.0s

*NSSC **01** 03:39:29.9±1.6,34.08N×34.65E,h75km±53km,MD1.4, ML1.9*
*CSEM **01** 03:39:33.7,34.05N×34.86E,h31km,ML2.7*
GRAL 01 03:39:33.7±0.3,**34.05N×34.86E,h31**km±2km**,MD2.7,**

Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res	ISC
BHL	**Bhannes**	**0.67**	**102**	*e*P		Pb	03 39 46.2	-1.0	
DQRL	**Deir Qamar**	**0.68**	**120**	*e*P		Pb	03 39 46.3	-1.0	
DQRL	**Deir Qamar**	**0.68**	**120**	*e*P		Pb	03 39 46.3	-1.0	
HWQ	**Hawqa**	**0.93**	**75**	*e*P		Pn	03 39 49.9	-0.9	
HWQ				*e*S		Sn	03 40 01.8	-1.3	
HWQ	**Hawqa**	**0.93**	**75**	*e*P		Pn	03 39 49.9	-0.9	
HWQ				*e*S		Sn	03 40 01.8	-1.4	
RCY	**Rachaya**	**0.98**	**124**	*e*P		Pn	03 39 50.6	-0.9	
RCY				*e*S		Sn	03 40 03.1	-1.4	
RCY	**Rachaya**	**0.98**	**124**	*e*P		Pn	03 39 50.6	-0.9	
RCY				*e*S		Sn	03 40 03.1	-1.4	
BRBR	**Barbar**	**1.11**	**125**	*i* P		Pn	03 39 52.8	-0.5	
BRBR				*e*S		Sb	03 40 08.3	-0.6	
BRBR					AML	AML	03 40 10.2		
	comp=E,26nm,0.2s								
BRBR					AML	AML	03 40 10.3		
	comp=N,29nm,0.3s								
HAWK	**Haweek**	**1.36**	**69**	*i* P		Pn	03 39 56.2	-0.5	
HAWK				*e*S		Sn	03 40 14.7	+0.9	
HAWK					AML	AML	03 40 18.5		
	comp=E,17nm,0.2s								
HAWK					AML	AML	03 40 21.5		
	comp=N,9.7nm,0.4s								
BIDA	**Albida**	**1.54**	**51**	*i* P		Pn	03 39 57.8	-1.4	
BIDA				*e*S		Sn	03 40 16.8	-1.5	
BIDA					AML	AML	03 40 24.4		
	comp=N,36nm,0.5s								
BIDA					AML	AML	03 40 27.6		
	comp=E,21nm,0.8s								
SALA	**Sala**	**2.06**	**130**	*i* P		Pn	03 40 04.4	-2.0	
SALA				*e*S		Sn	03 40 30.8	-0.4	

*ISK **01** 03:43:35.8,37.54N×35.68E,h5km,MD3.0*
*ISCJB **01** 03:43:37.2±0.6,37.53N±0.03×35.68E±0.03,h4km±5km, Error ellipse: s-maj=5.0km s-min=3.5km az=176.7*
*CSEM **01** 03:43:37.4±0.2,37.51N×35.70E,h5km,MD3.0,Error ellipse: s-maj=5.4km s-min=4.2km az=174.0*
*DDA **01** 03:43:37.5,37.44N×35.70E,h5km,MD2.9*

ISC 01 03:43:37.7±1.1, 37.°49N±0.°03×35.°69E±0.°02, h9km±10km, n44, σ0.s92/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	Ceyhan	0.48	175	ePG	Pg	03 43 47.6	+0.6
CEYT				eSG	Sb	03 43 55.8	+0.4
CEYT	Ceyhan	0.48	175	ePg	Pg	03 43 47.6	+0.6
CEYT				eSg	Sb	03 43 55.8	+0.4
ANDN	Andirin	0.53	80	i P	Pg	03 43 47.3	-0.6
ANDN				i S	Sb	03 43 55.9	-1.0
ANDN	Andirin	0.53	80	i P	Pg	03 43 47.3	-0.6
ANDN				i S	Sb	03 43 55.9	-1.0
KARA	Karaisali	0.56	246	ePG	Pg	03 43 48.1	-0.4
KARA				eSG	Sg	03 43 56.8	+1.0
KARA	Karaisali	0.56	246	ePg	Pg	03 43 48.1	-0.4
KARA				eSg	Sg	03 43 56.8	+1.0
KAMA	Osmaniye	0.83	111	i P	Pg	03 43 53.8	+0.1
KAMA				i S	Sb	03 44 07.4	+1.7
KMRS	Kahramanmaras	0.96	89	ePG	Pg	03 43 55.5	-0.7
KMRS				eSG	Sb	03 44 09.7	+0.3
KMRS	Kahramanmaras	0.96	89	ePg	Pg	03 43 55.5	-0.7
KMRS				eSg	Sb	03 44 09.7	+0.3
HCB	Kahramanmara¯	0.98	98	i P	Pg	03 43 55.5	-1.0
HCB				i S	Sb	03 44 10.2	+0.4
NIG	Nigde	1.06	306	ePG	Pg	03 43 56.5	-1.6
NIG	Nigde	1.06	306	ePg	Pg	03 43 56.5	-1.6
MERS	Mersin	1.12	237	ePN	Pg	03 43 58.5	-0.7
MERS	Mersin	1.12	237	ePn	Pg	03 43 58.5	-0.7
TAHT	Tahtakopru-Hat	1.18	160	ePN	Pg	03 43 59.4	-0.9
TAHT	Tahtakopru-Hat	1.18	160	ePn	Pg	03 43 59.4	-0.9
PINB	Pinarbasi	1.31	25	i P	Pn	03 44 01.7	-0.8
PINB				i S	Sn	03 44 22.6	+2.4
PINB	Pinarbasi	1.31	25	i P	Pn	03 44 01.7	-0.8
PINB				i S	Sn	03 44 22.6	+2.4
KUZU	Kuzuini	1.31	122	i P	Pn	03 44 01.3	-1.0
KUZU				i S	Sg	03 44 20.0	0.0
KUZU	Kuzuini	1.31	122	i P	Pn	03 44 01.3	-1.0
KUZU				i S	Sg	03 44 20.0	0.0
YAYL	Yayladag	1.49	167	i P	Pn	03 44 01.4	-3.3
YAYL				i S	Sn	03 44 23.2	-1.2
YAYL				i S	Sn	03 44 23.2	-1.2
YAYL	Yayladag	1.49	167	i P	Pn	03 44 01.4	-3.3
YAYL				i S	Sn	03 44 23.2	-1.2
KIZK	Mersin	1.60	231	i P	Pb	03 44 07.2	-0.1
KIZK				i S	Sg	03 44 29.5	+0.5
KIZK	Mersin	1.60	231	i P	Pb	03 44 07.2	-0.1
KIZK				i S	Sg	03 44 29.5	+0.5
DARE	Darende-Malaty	1.78	52	ePN	Pn	03 44 08.7	-0.1
DARE	Darende-Malaty	1.78	52	ePn	Pn	03 44 08.7	-0.1
SULT	Sultanhani-AKS	1.86	293	ePN	Pn	03 44 09.9	0.0
SULT	Sultanhani-AKS	1.86	293	ePn	Pn	03 44 09.9	0.0
MALT	Malatya	2.31	68	ePN	Pn	03 44 17.4	+1.3
MALT	Malatya	2.31	68	ePn	Pn	03 44 17.4	+1.3
ERMK	Ermenek	2.38	250	i P	Pb	03 44 19.8	-1.0
ERMK				i S	Sg	03 44 55.8	+1.7
ERMK	Ermenek	2.38	250	i P	Pb	03 44 19.8	-1.0
KAMT	Kaman	2.44	321	ePN	Pn	03 44 17.6	-0.2
KAMT	Kaman	2.44	321	ePn	Pn	03 44 17.6	-0.2
URFA	Urfa	2.49	90	ePN	Pn	03 44 19.3	+0.8
URFA	Urfa	2.49	90	ePn	Pn	03 44 19.3	+0.8
HDMB	Hadim	2.61	259	ePN	Pn	03 44 20.9	+0.6
HDMB	Hadim	2.61	259	ePn	Pn	03 44 20.9	+0.6
SVSK	Karacayir	2.63	22	ePN	Pn	03 44 20.7	+0.4
SVSK	Karacayir	2.63	22	ePn	Pn	03 44 20.7	+0.4
CORM	Corum	2.81	343	ePN	Pn	03 44 23.2	+0.2
CORM	Corum	2.81	343	ePn	Pn	03 44 23.2	+0.2
AFSR	Af¯ar-Bala (A	2.84	314	ePN	Pn	03 44 23.6	+0.3
AFSR	Af¯ar-Bala (A	2.84	314	ePn	Pn	03 44 23.6	+0.3

DJA 01 03:52:39.3±0.7, 6°N±6°×9°7E±°, h28km±8km, M4.6/4, mb5.9/1, mB5.9/1, MLv4.0/4, Mw(mB)5.5/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	0.63	156	P	Pb	03 52 50.7	-1.1
LHMI				S	Sn	03 53 03.8	+2.2
BSI	Banda Aceh	1.42	257	P	Pn	03 53 01.4	-1.9
BSI				S	Sb	03 53 22.1	-0.9
TSI	Tuntungan	2.96	141	P	Pn	03 53 25.0	+0.6
SNSI	Sinabang, Aceh	3.40	186	P	Pn	03 53 26.6	-3.9
MNSI	Mandailing Nat	5.76	150	P	Pn	03 54 06.8	+3.9

*IDC **01** 03:54:19.3±0.5, 25.°02N×96.°36E, h0km, mb4.2/22, mb1 4.3/23, mb1mx4.1/53, mbtmp4.2/23, ML4.6/1, MS3.5/1, Ms1 3.7/1, ms1mx3.2/39, Error ellipse: s-maj=20.3km s-min=11.0km az=53.0*
*ISCJB **01** 03:54:19.8±0.2, 25.°02N±0.°04×96.°39E±0.°03, h10km, mb4.4/52, Error ellipse: s-maj=5.4km s-min=3.6km az=3.1*
*BJI **01** 03:54:22.6, 25.°06N×96.°27E, h32km, mb4.6/27, mB4.9/13, ML4.6/3, Ms4.3/16, Ms7 4.3/13*
*LDG **01** 03:54:23.6±0.4, 25.°22N×95.°94E, h10km, Mb4.6/10, Error ellipse: s-maj=16.2km s-min=11.4km az=147.0*
*MOS **01** 03:54:24.0±1.5, 24.°98N×96.°42E, h38km, mb4.8/33, Error ellipse: s-maj=12.4km s-min=5.2km az=122.0*
*NEIC **01** 03:54:24.5±2.5, 25.°05N×96.°50E, h30km±19km, mb4.6/23, Error ellipse: s-maj=11.2km s-min=7.2km az=54.0*
ISC 01 03:54:21.6±0.4, 24.°97N±0.°05×96.°27E±0.°04, h10km, n213, σ1.s74/214, mb4.5/52, 9C-11D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	Imphal	2.13	266	eP	Pn	03 54 58.0	+0.7
IMP				ex	Sn	03 55 19.0	-4.8
SHL	Shillong	4.01	279	eP	Pn	03 55 25.0	+1.7
SHL				AMB	AMB	03 55 31.4	
	comp=Z,54nm,0.5s						
SHL				eS	Sn	03 56 10.0	-0.5
KMI	Kunming	5.87	87	Pn	Pn	03 55 51.1	+2.2
KMI				Pg	Pg	03 56 11.1	-3.0
KMI				Sg	Sb	03 57 18.9	+4.1
KMI				LN			
	comp=Z,900nm,6.1s						
KMI				LE			
	comp=Z,3µm,7.7s						
KMI				LZ			
	comp=Z,3µm,8.2s						
KMI	Kunming	5.87	87	P	Pn	03 55 51.1	+2.2
KMI	Kunming	5.87	87	Pn	Pn	03 55 51.1	+2.2
KMI				Pb	Pb	03 56 08.5	+4.3
KMI				Pg	Pg	03 56 11.1	-3.0
KMI				Sg	Sb	03 57 18.9	+4.1
LSA	Lhasa	6.55	317	eP	Pn	03 56 01.4	+2.9
LSA				eS	Sn	03 57 15.6	+2.1
LSA	Lhasa	6.55	317	ePn	Pn	03 56 01.4	+2.9
LSA				eS	Sn	03 57 15.6	+2.1
CHTO	Chiang Mai	6.61	157	eP	Pn	03 56 00.3	+1.4
CHTO	Chiang Mai	6.61	157	ePn	Pn	03 56 00.3	+1.4
CHTO				eS	Sb	03 57 43.0	+7.3
CM31	Chiang Mai Arr	6.94	158	ePn	Pn	03 56 03.0	-0.4
	comp=Z,68nm,0.7s						
CMAR	Chiang Mai Arr	6.94	158	Pn	Pn	03 56 04.6	+1.2
	comp=Z,2.9nm,0.3s,baz=333,slow=13,SNR=30						
CMAR				Pg	Pb	03 56 27.9	+5.6
	comp=Z,1.8nm,0.3s,baz=329,slow=16,SNR=10						
CMAR				Lg	Lg	03 57 59.0	
	comp=Z,0.7nm,0.3s,baz=334,slow=14,SNR=2.8						
CMAR				LR	LR	03 59 17.6	
	comp=Z,374nm,20.2s,baz=355,slow=43						
TAPN	Taplejung	8.05	289	eP	Pn	03 56 19.4	+0.5
	comp=Z,164nm,0.6s						
ODAN	Odare	8.21	285	eP	Pn	03 56 21.5	+0.4
	comp=Z,290nm,0.7s						
CD2	Chengdu	8.88	47	eP	Pn	03 56 28.6	-1.5
CD2				S	Sn	03 58 06.4	-3.8
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
RAMN	Ramite	8.92	285	eP	Pn	03 56 32.0	+1.2
	comp=Z,174nm,0.6s						
JIRN	Jiri	9.43	289	eP	Pn	03 56 38.5	+0.6
	comp=Z,144nm,0.5s						
GYA	Guiyang	9.49	79	⇑iP	Pn	03 56 39.2	+0.7
GYA				PP	PnPn	03 56 47.0	+0.8
GYA				sP		03 56 53.4	
GYA				S	Sn	03 58 23.6	-1.8
GYA				SS	SnSn	03 58 35.8	-1.3
GYA				PMZ			
	comp=Z,20nm,1.0s						
GYA				PMZ			
	comp=Z,700nm,4.9s						
GYA				LN			
	comp=Z,2µm,10.3s						
GYA				LE			
	comp=Z,1µm,11.1s						
GYA				LZ			
	comp=Z,2µm,9.2s						
BOK	Bokaro	9.54	265	eP	Pn	03 56 42.0	+3.0
BOK				AMB	AMB	03 57 03.7	
	comp=Z,22nm,0.6s						
GUN	Gumba	9.76	290	eP	Pn	03 56 42.9	+0.5
	comp=Z,192nm,0.6s						
PKI	Pulchoki	10.09	287	eP	Pn	03 56 46.9	+0.1
	comp=Z,66nm,0.5s						
PKIN	Phulchoki	10.10	287	eP	Pn	03 56 47.1	+0.1
	comp=Z,76nm,0.5s						
KKN	Kakani	10.24	288	eP	Pn	03 56 49.4	+0.5
	comp=Z,147nm,0.7s						
DMN	Daman	10.36	287	eP	Pn	03 56 51.3	+0.8
	comp=Z,36nm,0.4s						
GKN	Gorkha	10.85	289	eP	Pn	03 56 56.7	-0.4
	comp=Z,90nm,0.6s						
KOLN	Koldanda	11.70	287	eP	Pn	03 57 08.6	-0.2
	comp=Z,55nm,0.6s						
ENH	Enshi	12.85	63	Pn	Pn	03 57 21.8	-2.7
XAN	Xi'an	14.24	48	P	Pn	03 57 40.2	-3.2
XAN				pP	pP	03 57 46.3	
XAN				S	Sn	04 00 11.0	-11
XAN				PMZ			
	comp=Z,3.0nm,0.7s						
XAN				LN			
	comp=Z,890nm,19.4s						
XAN				LE			
	comp=Z,130nm,11.2s						
XAN				LZ			
	comp=Z,250nm,13.3s						
GTA	Gaotai	14.71	11	eP	P	03 57 55.2	-0.9
GTA				pP	Pn	03 57 58.9	+9.1
GTA				sP		03 58 01.3	
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BHPL	Bhopal	17.29	268	eP	P	03 58 25.4	+0.7
BHPL				AMB	AMB	03 58 34.0	
	comp=Z,24nm,0.8s						
SMLA	Simla	17.93	294	eP	Pn	03 58 31.9	+0.8
SMLA				AMB	AMB	03 58 34.6	
	comp=Z,14nm,1.5s						
HYB	Hyderabad	18.14	249	eP	P	03 58 36.0	+1.9
AKL	Akola	18.24	260	eP	Pn	03 58 35.4	+0.4
AKL				AMB	AMB	03 58 48.2	
	comp=Z,18nm,0.0s						
DHRM	DHARAMSHALA	18.96	297	eP	Pn	03 58 44.6	+0.8
DHRM				AMB	AMB	03 58 54.3	
	comp=Z,34nm,0.7s						
MDRS	Chennai	19.20	235	eP	Pn	03 58 47.5	+0.8
MDRS				AMB	AMB	03 58 53.6	
	comp=Z,27nm,0.6s						
WMQ	Urumqi	20.07	342	P	P	03 58 56.3	+1.1
WMQ				pP	pP	03 59 06.3	+8.3
WMQ				sP	sP	03 59 12.1	+13
WMQ				PP	PnPn	03 59 17.0	+5.7
WMQ				S	S	04 02 34.6	-6.1
WMQ				sS	sS	04 02 50.3	+5.1
WMQ				SS	SnSn	04 03 03.1	+5.7
WMQ				PcP	PcP	04 03 06.2	-4.4
WMQ				PcS	PcS	04 06 46.3	-1.7
WMQ				ScS	ScS	04 10 22.5	-7.0
WMQ				PMZ			
	comp=Z,15nm,1.3s						
WMQ				LN			
	comp=Z,5µm,22.6s						
WMQ				LE			
	comp=Z,2µm,19.8s						
WMQ				LZ			
	comp=Z,5µm,22.6s						
HHC	Hu-ho-hao-te	20.34	35	eP	P	03 58 57.0	-1.2
HHC				S	S	04 02 34.0	-12
HHC				PMZ			
	comp=Z,24nm,0.6s						
HHC				PMZ			
	comp=Z,130nm,3.9s						
TIA	Tai'an	21.12	53	⇑P	P	03 59 06.3	-0.2
TIA				PMZ			
	comp=Z,50nm,1.0s						
BJT	Baijiatuau	22.44	43	eP	P	03 59 20.6	-0.1
BJT				pmax	pmax		
	comp=Z,19nm,0.8s						
BJT	Baijiatuau	22.44	43	eP	P	03 59 20.6	-0.1
	comp=Z,19nm,0.8s						
GOA	Goa	23.04	250	eP	P	03 59 29.5	+2.3
GOA				AMB	AMB	03 59 51.6	
	comp=Z,46nm,1.9s						
SONM	Songino Array	24.19	17	P	P	03 59 37.1	-1.2
	comp=Z,5.5nm,1.1s,baz=196,slow=8.8,SNR=14						
SONM	Songino Array	24.19	17	P	P	03 59 37.1	-1.2
SONM				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ULN	Ulaanbaatar	24.40	18	eP	P	03 59 43.9	+3.7
ULN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ULN	Ulaanbaatar	24.40	18	eP	P	03 59 43.9	+3.7
	comp=Z,5.2nm,0.9s						
MK31	Makanchi Array	24.48	336	eP	P	03 59 40.9	+0.1
MK31	Makanchi Array	24.48	336	eP	P	03 59 40.9	+0.1
MKAR	Makanchi Array	24.48	336	P	P	03 59 40.9	+0.1
	comp=Z,18nm,0.6s,baz=148,slow=10.0,SNR=33						
MKAR	Makanchi Array	24.48	336	P	P	03 59 40.9	+0.1
MKAR				pmax	pmax		
	comp=Z,18nm,0.6s						
MKAR	Makanchi Array	24.48	336	eP	P	03 59 41.1	+0.3
TKM2	Tokmak 2	24.68	322	eP	P	03 59 43.6	+0.6
TKM2				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TKM2	Tokmak 2	24.68	322	eP	P	03 59 43.6	+0.6
	comp=Z,8.9nm,1.0s						
AAK	Ala-Archa	25.14	320	P	P	03 59 48.0	+1.1
	comp=Z,4.0nm,0.7s,baz=135,slow=4.2,SNR=9.6						
AAK	Ala-Archa	25.14	320	⇑eP	P	03 59 48.5	+1.5
AAK				pmax	pmax		
	comp=Z,13nm,1.0s						
AAK	Ala-Archa	25.14	320	eP	P	03 59 48.1	+1.1
	comp=Z,6.9nm,0.9s						
KBL	Kabul	25.42	298	eP	P	03 59 50.2	+0.5
KBL				pmax	pmax		
	comp=Z,15nm,0.6s						
KBL	Kabul	25.42	298	eP	P	03 59 50.2	+0.5
	comp=Z,15nm,0.6s						
EKS2	Erkin-Say	25.58	319	eP	P	03 59 52.2	+1.2
EKS2				pmax	pmax		
	comp=Z,7.0nm,0.8s						
EKS2	Erkin-Say	25.58	319	eP	P	03 59 52.1	+1.2
	comp=Z,6.5nm,0.8s						
ZAK	Zakamensk	25.95	10	eP	P	03 59 53.5	-0.7
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
KURBB	Kurchatov Arra	29.04	336	P	P	04 00 22.1	+0.4
	comp=Z,9.2nm,0.6s,baz=148,slow=9.3,SNR=28						
KURK	Kurchatov	29.09	337	eP	P	04 00 22.4	+0.2
KURK				pmax	pmax		
	comp=Z,13nm,0.7s						
KURK	Kurchatov	29.09	337	eP	P	04 00 22.4	+0.2
	comp=Z,13nm,0.7s						
ZAA0	Zalesovo Array	30.18	347	eP	P	04 00 31.8	0.0
ZALV	Zalesovo Beam	30.18	347	P	P	04 00 31.9	+0.1
	comp=Z,7.1nm,0.5s,baz=168,slow=8.2,SNR=15						
ZALV	Zalesovo Beam	30.18	347	i P	P	04 00 35.4	+3.5
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NVS	Novosibirsk	31.36	345	eP	P	04 00 40.5	-1.7
BVAR	Borovoye Array	34.13	332	P	P	04 01 06.8	+0.3
	comp=Z,3.5nm,0.4s,baz=135,slow=10,SNR=15						
BVAR	Borovoye Array	34.13	332	P	P	04 01 06.8	+0.3
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
BRVK	Borovoye	34.19	332	ceP	P	04 01 06.9	-0.2
BRVK				pmax	pmax		
	comp=Z,15nm,0.6s						
BRVK	Borovoye	34.19	332	eP	P	04 01 06.7	-0.4
	comp=Z,16nm,0.6s						
USRK	Ussuriysk Ar.	34.75	47	P	P	04 01 10.9	-1.1
	comp=Z,4.1nm,0.8s,baz=245,slow=8.4,SNR=8.6						
ABKAR	Akbulak array	37.23	320	eP	P	04 01 33.3	+0.1
	comp=Z,2.6nm,0.6s						
MJAR	Matsushiro Arr	37.58	62	P	P	04 01 35.0	-1.3
	comp=Z,3.8nm,1.0s,baz=266,slow=8.8,SNR=10						
MJAR	Matsushiro Arr	37.58	62	P	P	04 01 35.0	-1.3
MJAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AKTO	Aktyubinsk	38.87	321	P	P	04 01 46.8	-0.2
	comp=Z,1.2nm,0.5s,baz=96,slow=7.9,SNR=6.9						
AKTO	Aktyubinsk	38.87	321	P	P	04 01 46.8	-0.2
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SVE	Sverdlovsk	40.87	331	eP	P	04 02 03.9	+0.4
SVE				pmax	pmax		
	comp=Z,26nm,0.8s						
ARU	Arti	41.59	329	d iP	P	04 02 09.7	+0.3
ARU				S	S	04 08 20.4	-5.0
ARU				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ARU	Arti	41.59	329	eP	P	04 02 09.4	0.0
	comp=Z,8.5nm,0.7s						
RAYN	Ar Rayn	46.09	279	eP	P	04 02 49.5	+3.3
	comp=Z,7.4nm,1.4s						
ZEI	Tsey	46.20	306	eP	P	04 02 49.1	+2.1
ZEI				pmax	pmax		
	comp=Z,11nm,0.9s						
KIV	Kislovodsk	47.20	308	eP	P	04 02 58.6	+4.0
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PRGR	Permogore	49.93	331	P	P	04 03 13.9	-1.4
PRGR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASF	Jabal al Asfar	52.08	292	P	P	04 03 32.0	0.0
	comp=Z,1.6nm,0.6s,baz=32,slow=13,SNR=3.7						
ASF	Jabal al Asfar	52.08	292	P	P	04 03 32.0	0.0
ASF				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KLMR	Klimovskoe	52.44	329	eP	P	04 03 32.1	-2.0
KLMR				pmax	pmax		
	comp=Z,17nm,1.3s						
SEY	Seymchan	52.79	28	⇓eP	P	04 03 39.4	+2.7
BR131	Keskin Array S	53.91	302	eP	P	04 03 44.9	-0.6
	comp=Z,1.2nm,0.5s						
BRTR	Keskin Array B	53.91	302	P	P	04 03 45.0	-0.6
	comp=Z,1.6nm,0.6s,baz=113,slow=7.4,SNR=9.1						
BRTR	Keskin Array B	53.91	302	ceP	P	04 03 48.5	+3.0
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	Malin Array Be	56.70	316	P	P	04 04 03.6	-1.6
	comp=Z,0.7nm,0.4s,baz=78,slow=5.7,SNR=8.6						
AKASG	Malin Array Be	56.70	316	P	P	04 04 03.6	-1.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	Malin Array Si	56.70	316	P	P	04 04 05.0	-0.2
AKBB	Malin Array Si	56.70	316	P	P	04 04 05.0	-0.2
AK01	Malin Array Si	56.70	316	eP	P	04 04 03.4	-1.9
KIEV	Kiev	56.71	316	eP	P	04 04 03.3	-2.0
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIEV	Kiev	56.71	316	eP	P	04 04 03.3	-2.0
	comp=Z,4.6nm,0.9s						
AK02	Malin Array Si	56.71	315	eP	P	04 04 04.0	-1.3
CFR	Carcaliu	57.60	309	⇓iP	P	04 04 11.5	-0.2
PSN	Preselentsi	57.68	307	⇑iP	P	04 04 16.3	+4.0
MSAB	Monastry St. A	57.90	308	⇑iP	P	04 04 13.5	-0.3
WRA	Warramunga Arr	58.00	137	P	P	04 04 14.0	-0.8
	comp=Z,1.6nm,0.6s,baz=325,slow=7.7,SNR=14						
WRA	Warramunga Arr	58.00	137	P	P	04 04 14.0	-0.8
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRAB	Tennant Creek	58.00	137	eP	P	04 04 13.5	-1.3
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRAB	Tennant Creek	58.00	137	eP	P	04 04 13.5	-1.3
	comp=Z,1.5nm,0.7s						
VRI	Vrincioaia	58.53	310	⇓iP	P	04 04 18.5	+0.2
TESR	Tescani	58.54	311	⇑iP	P	04 04 21.4	+3.1
PLOR	Plostina	58.59	310	⇓iP	P	04 04 19.4	+0.7
FINES	FINESS Array B	58.94	328	P	P	04 04 19.6	-1.1
	comp=Z,2.2nm,0.7s,baz=91,slow=7.6,SNR=7.4						
FINES	FINESS Array B	58.94	328	i P	P	04 04 22.7	+1.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MLR	Muntele Rosu	59.11	309	⇓iP	P	04 04 22.8	+0.3
BURAR	Bucovina Array	59.44	312	⇓iP	P	04 04 23.8	-0.8
BUR08	Bucovina Ar. S	59.44	312	eP	P	04 04 24.1	-0.5
DOPR	Dopca	59.46	310	⇓iP	P	04 04 27.0	+2.3
BILL	Bilibino	59.62	24	⇓eP	P	04 04 27.8	+2.4
BILL				pmax	pmax		
	comp=Z,7.0nm,1.7s						
ARCES	ARCESS Array B	60.12	337	P	P	04 04 27.5	-1.4
	comp=Z,3.8nm,0.7s,baz=80,slow=7.3,SNR=17						
ARCES	ARCESS Array B	60.12	337	P	P	04 04 27.5	-1.4
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ASAR	Alice Springs	60.56	140	P	P	04 04 31.6	-0.8
	comp=Z,1.0nm,0.5s,baz=320,slow=6.8,SNR=12						
ASAR	Alice Springs	60.56	140	P	P	04 04 31.7	-0.8
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
DRGR		61.22	311	⇓iP	P	04 04 33.8	-3.0
STHS	Stebnicka Huta	61.90	314	eP	P	04 04 46.0	+4.7
STHS	Stebnicka Huta	61.90	314	e	P	04 04 46.0	+4.7
BZS	Buzias	62.12	310	⇓iP	P	04 04 41.5	-1.3
OKC	Ostrava-Krasne	63.84	315	eP	P	04 04 56.0	+1.8
OKC	Ostrava-Krasne	63.84	315	eP	P	04 04 56.0	+1.8
VRAC	Vranov	64.92	315	⇑iP	P	04 05 00.9	-0.4
DPC	Dobruska-Polom	64.92	316	eP	P	04 05 01.7	+0.4
DPC				ex	x	04 05 04.6	
DPC	Dobruska-Polom	64.92	316	eP	P	04 05 01.7	+0.4
UPC	Upice	65.09	316	eP	P	04 05 01.8	-0.6
UPC				ex	x	04 05 04.9	
UPC	Upice	65.09	316	eP	P	04 05 01.8	-0.6
GOPC	GO Pecny, Ondr	65.97	316	eP	P	04 05 12.0	+3.9
PRU	Pruhonice	66.11	316	eP	P	04 05 09.5	+0.5
PRU				ex	x	04 05 11.9	
PRU	Pruhonice	66.11	316	eP	P	04 05 09.5	+0.5
NB2	NORSAR Subarra	66.12	328	P	P	04 05 06.9	-2.0
	comp=Z,1.4nm,0.6s,baz=83,slow=6.9						
NOA	NORSAR Array B	66.12	328	P	P	04 05 07.2	-1.7
	comp=Z,1.6nm,0.7s,baz=82,slow=6.4,SNR=7.8						
NOA	NORSAR Array B	66.12	328	P	P	04 05 07.2	-1.7
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CLL	Collm	66.82	317	e(P)	P	04 05 17.0	+3.5
CLL	Collm	66.82	317	eP	P	04 05 17.0	+3.5
GEC2	GERESS Array S	66.88	315	eP	P	04 05 14.3	+0.3
GEC2	GERESS Array S	66.88	315	eP	P	04 05 14.3	+0.3
GERES	GERESS Array B	66.88	315	P	P	04 05 13.2	-0.8
	comp=Z,2.0nm,0.6s,baz=69,slow=5.4,SNR=12						
GERES	GERESS Array B	66.88	315	P	P	04 05 13.2	-0.8
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KHC	Kasperske Hory	66.90	315	eP	P	04 05 14.5	+0.4
KHC				ex	x	04 05 16.8	
KHC	Kasperske Hory	66.90	315	eP	P	04 05 14.5	+0.4
CDF	Champ du Feu	71.11	315	eP	P	04 05 41.9	+1.6
	comp=Z,4.4nm,0.7s						
CDF	Champ du Feu	71.11	315	eP	P	04 05 41.9	+1.6
CDF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CDF	Champ du Feu	71.11	315	eP	P	04 05 41.9	+1.6
	comp=Z,4.4nm,0.7s						
STKA	Stephens Creek	71.20	140	P	P	04 05 40.7	-0.1
	comp=Z,1.1nm,0.7s,baz=297,slow=6.8,SNR=2.6						
STKA	Stephens Creek	71.20	140	P	P	04 05 40.7	-0.1
STKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HINF	Hinteralfeld	71.56	315	eP	P	04 05 44.3	+1.3
HINF	Hinteralfeld	71.56	315	eP	P	04 05 44.3	+1.3
HINF	Hinteralfeld	71.56	315	eP	P	04 05 44.3	+1.3
HAU	Haudompre	71.83	315	eP	P	04 05 46.1	+1.5
HAU	Haudompre	71.83	315	eP	P	04 05 46.1	+1.5
HAU	Haudompre	71.83	315	eP	P	04 05 46.1	+1.5
PAGF	Fort de Pagny	72.06	316	eP	P	04 05 46.7	+0.8
PAGF	Fort de Pagny	72.06	316	eP	P	04 05 46.7	+0.8
LPG	La Plagne	72.31	312	eP	P	04 05 49.8	+1.9
	comp=Z,8.0nm,0.8s						
LPG	La Plagne	72.31	312	eP	P	04 05 49.8	+1.9
LPG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LPG	La Plagne	72.31	312	eP	P	04 05 49.8	+1.9
	comp=Z,8.0nm,0.8s						
LPL	La Plagne	72.32	312	eP	P	04 05 49.7	+1.9
	comp=Z,8.9nm,0.6s						
LPL	La Plagne	72.32	312	eP	P	04 05 49.7	+1.9
LPL				pmax	pmax		
	comp=Z,9.0nm,0.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPL	La Plagne	72.32	312	eP	P	04 05 49.7	+1.9
	comp=Z,8.9nm,0.6s						
MBDF	Montbardon	72.54	312	eP	P	04 05 50.3	+1.3
MBDF	Montbardon	72.54	312	eP	P	04 05 50.3	+1.3
MBDF	Montbardon	72.54	312	eP	P	04 05 50.3	+1.3
SFTF	Sexfontaines	72.60	316	eP	P	04 05 50.8	+1.6
SFTF	Sexfontaines	72.60	316	eP	P	04 05 50.8	+1.6
LOR	Lormes	73.66	315	eP	P	04 05 56.8	+1.3
LOR	Lormes	73.66	315	eP	P	04 05 56.8	+1.3
LOR	Lormes	73.66	315	eP	P	04 05 56.8	+1.3
SMF	Signal de Mont	73.87	314	eP	P	04 05 58.2	+1.5
SMF	Signal de Mont	73.87	314	eP	P	04 05 58.2	+1.5
SMF	Signal de Mont	73.87	314	eP	P	04 05 58.2	+1.5
VIVF	Saint-Julien-l	73.91	312	eP	P	04 05 58.6	+1.6
VIVF	Saint-Julien-l	73.91	312	eP	P	04 05 58.6	+1.6
VIVF	Saint-Julien-l	73.91	312	eP	P	04 05 58.6	+1.6
SSF	Saint Saulge	73.95	315	eP	P	04 05 58.7	+1.5
	comp=Z,15nm,1.0s						
SSF	Saint Saulge	73.95	315	eP	P	04 05 58.7	+1.5
SSF				pmax	pmax		
	comp=Z,15nm,1.0s						
SSF	Saint Saulge	73.95	315	eP	P	04 05 58.7	+1.5
	comp=Z,15nm,1.0s						
AVF	Avril sur Loir	74.14	314	eP	P	04 05 59.8	+1.5
AVF	Avril sur Loir	74.14	314	eP	P	04 05 59.8	+1.5
AVF	Avril sur Loir	74.14	314	eP	P	04 05 59.8	+1.5
LASF	Ste Croix	74.72	312	eP	P	04 06 03.7	+1.9
LASF	Ste Croix	74.72	312	eP	P	04 06 03.7	+1.9
TCF	Toulx Ste Croi	75.05	314	eP	P	04 06 05.6	+2.0
	comp=Z,7.6nm,0.8s						
TCF	Toulx Ste Croi	75.05	314	eP	P	04 06 05.6	+2.0
TCF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TCF	Toulx Ste Croi	75.05	314	eP	P	04 06 05.6	+2.0
	comp=Z,7.6nm,0.8s						
CAF	Calviac	75.63	313	eP	P	04 06 09.1	+2.1
CAF	Calviac	75.63	313	eP	P	04 06 09.1	+2.1
CAF	Calviac	75.63	313	eP	P	04 06 09.1	+2.1
LDF	La Druitiere	75.71	317	eP	P	04 06 08.9	+1.6
LDF	La Druitiere	75.71	317	eP	P	04 06 08.9	+1.6
LDF	La Druitiere	75.71	317	eP	P	04 06 08.9	+1.6
BPAW	Bear Paw Mtn.	77.11	25	eP	P	04 06 13.3	-1.7
	comp=Z,6.7nm,2.1s						
SGMF	Saint Gilles	77.34	317	eP	P	04 06 18.4	+1.9
SGMF	Saint Gilles	77.34	317	eP	P	04 06 18.4	+1.9
SGMF	Saint Gilles	77.34	317	eP	P	04 06 18.4	+1.9
ROSF	Rostrenen	77.74	318	eP	P	04 06 20.9	+2.1
	comp=Z,8.0nm,0.7s						
ROSF	Rostrenen	77.74	318	eP	P	04 06 20.9	+2.1
ROSF				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ROSF	Rostrenen	77.74	318	eP	P	04 06 20.9	+2.1
	comp=Z,8.0nm,0.7s						
SUMG	Summit	78.00	347	i P	P	04 06 18.1	-2.2
	comp=Z,12nm,1.0s						
SUMG	Summit	78.00	347	i P	P	04 06 18.1	-2.2
SUMG				pmax	pmax		
	comp=Z,12nm,1.0s						
ETSF	Etsaut	78.14	312	eP	P	04 06 23.3	+2.0
	comp=Z,8.0nm,0.6s						
ETSF	Etsaut	78.14	312	eP	P	04 06 23.3	+2.0
ETSF				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ETSF	Etsaut	78.14	312	eP	P	04 06 23.3	+2.0
	comp=Z,8.0nm,0.6s						
ILAR	Eielson Array	78.25	23	P	P	04 06 18.6	-2.7
	comp=Z,0.9nm,0.8s,baz=302,slow=5.4,SNR=11						
ILAR	Eielson Array	78.25	23	P	P	04 06 18.6	-2.7
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
EGAK	Eagle	80.22	21	eP	P	04 06 30.4	-1.6
	comp=Z,8.4nm,1.3s						
ESDC	Sonseca Array	81.81	310	P	P	04 06 40.2	-0.9
	comp=Z,0.5nm,0.6s,baz=69,slow=4.3,SNR=3.8						
TORD	Torodi Ar. Bea	88.60	284	P	P	04 07 14.4	-1.0
	comp=Z,0.9nm,0.8s,baz=64,slow=5.1,SNR=6.1						
TXAR	Lajitas Array	122.71	21	PKP	PKPdf	04 13 16.3	-2.1
	comp=Z,0.2nm,0.7s,baz=251,slow=2.8,SNR=2.9						
SDV	Santo Domingo	144.01	338	ePKPdf	PKPab	04 13 53.9	-1.9

MAN 01 04:19:00, 7°.10N×123°.90E, h4km, mb4.2, ML3.0, MS2.7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.36	70	⇓i P	Pb	04 19 08.1	-0.9
CTBH				i S	Sb	04 19 14.1	-0.9
PAGZ	Pagadian	0.91	325	eP	Pb	04 19 18.8	+0.5
PAGZ				eS	Sn	04 19 33.4	+0.3
BUKP	Musuan	1.39	56	eP	Pn	04 19 26.3	+0.1
BUKP				eS	Sn	04 19 46.2	+1.2

IDC 01 04:25:52.4±1.8, 1°.92N×127°.52E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.6/32, mbtmp4.1/4, Error ellipse: s-maj=139.4km s-min=22.3km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.73	163	P	P	04 30 56.7	+0.4
	1.8nm,0.3s,baz=342,slow=10,SNR=60						
ASAR	Alice Springs	26.18	167	P	P	04 31 28.6	-0.3
	1.0nm,0.4s,baz=347,slow=7.2,SNR=15						
STKA	Stephens Creek	36.17	159	P	P	04 32 56.3	-0.5
	5.7nm,0.9s,baz=351,slow=6.3,SNR=12						
MKAR	Makanchi Array	59.48	326	P	P	04 35 57.6	+0.3
	0.6nm,0.4s,baz=118,slow=7.6,SNR=9.7						

NNC 01 04:29:29.1±2.5, 38°.59N×73°.49E, h146km±16km, mb2.6, mpv3.7, Error ellipse: s-maj=24.6km s-min=12.2km az=141.0

ISC 01 04:29:27.6±2.7, 38°.4N±0°.1×73°.6E±0°.1, h107km, n12, σ1s.29/18, 6C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.62	357	⇓P	Pn	04 29 57.8	+1.8
	63nm,0.1s						
SFK				⇑S	Sn	04 30 19.9	+2.5
	262nm,0.4s						
AML	Almayashu	3.73	1	P	Pn	04 30 24.2	+0.6
	SNR=11						
DZET	Dzherino	3.78	278	⇓P	Pn	04 30 24.0	-0.1
	11nm,0.5s						
DZET				⇑S	Sn	04 31 07.7	-0.1
	38nm,0.4s						
KZA	Kyzart	3.88	18	P	Pn	04 30 25.7	0.0
	SNR=7.7						
UCH	Uchtor	3.89	10	P	Pn	04 30 26.3	+0.5
	SNR=42						
MNAS	Manas	4.17	349	⇓P	Pn	04 30 30.2	+0.8
	8.1nm,0.4s						
MNAS				⇓S	Sn	04 31 16.0	-1.3
	15nm,0.5s						
EKS2	Erkin-Say	4.26	1	P	Pn	04 30 31.6	+1.0
	SNR=15						
AAK	Ala-Archa	4.28	9	⇓P	Pn	04 30 31.4	+0.5
	4.8nm,0.7s						
AAK				⇑S	Sn	04 31 19.8	-0.1
	5.5nm,0.8s						
ULHL	Ulahol	4.33	27	P	Pn	04 30 31.3	-0.2
	SNR=11						
TKM2	Tokmak 2	4.76	18	P	Pn	04 30 37.6	+0.3
	SNR=9.0						
TKM2	Tokmak 2	4.76	18	⇑P	Pn	04 30 37.2	-0.1
	3.5nm,0.5s						
TKM2				⇑S	Sn	04 31 29.4	-2.1
	3.6nm,0.8s						
KK31	Karatay Array	5.26	334	⇑P	Pn	04 30 44.4	+0.4
	4.5nm,0.6s,baz=144,slow=12,SNR=67						
KK31				S	Sn	04 31 40.9	-2.5
	8.1nm,0.5s,baz=146,slow=23,SNR=12						

ISCJB 01 04:30:33.6±0.5, 3°.12S±0°.05×129°.50E±0°.05, h10km, mb4.1/8, Error ellipse: s-maj=7.3km s-min=6.1km az=135.2

IDC 01 04:30:33.9±0.7, 3°.13S×129°.93E, h0km, mb4.2/9, mb1 4.3/11, mb1mx4.0/37, mbtmp4.2/11, ML3.7/2, Error ellipse: s-maj=34.8km s-min=11.6km az=81.0

DJA 01 04:30:33.3±0.4, 3°S±5°×12°9E±°, h70km±11km, M4.5/11, mb5.1/4, mB5.2/2, MLv4.2/11, Mw(mB)4.6/2

ISC 01 04:30:34.1±0.6, 3°.20S±0°.05×129°.45E±0°.04, h10km, n24, σ2s.02/22, mb4.2/8, Seram

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.54	254	P	Pb	04 30 45.7	0.0
MSAI				S	Sn	04 31 00.7	+3.6
AAI	Ambon	1.34	249	P	Pn	04 30 55.0	-4.0
AAI				S	Sb	04 31 11.9	-4.8
BNDI	Bandanaira	1.39	161	P	Pn	04 30 59.4	-0.2
BNDI				S	Sg	04 31 20.4	+1.4
NLAI	Namlea	2.35	269	P	Pg	04 31 18.7	-0.5
FAKI	Fak Fak	2.81	84	P	Pn	04 31 19.4	+0.2
FAKI				S	Sn	04 31 54.8	+1.7
SIJI	Sorong	2.94	38	Pn	Pn	04 31 20.9	-0.1
	9.5nm,0.3s,baz=248,slow=12,SNR=37						
SIJI				Sn	Sn	04 31 52.2	-4.2
	5.3nm,0.3s,baz=207,slow=11,SNR=4.2						
SANI	Sanana	3.64	288	P	Pn	04 31 24.1	-6.5
RKPI	Ransiki, Papua	5.01	71	P	Pn	04 31 48.2	-1.3
	221nm,0.7s,6µm1.0nm						
RKPI				S	Sn	04 32 48.1	+0.6
	221nm,0.7s,6µm1.0nm						
SAUI	Saumlaki	5.10	159	P	Pn	04 31 48.4	-2.2
	386nm,1.1s,1.7nm						
APSI	Ampana	8.12	286	P	Pn	04 32 24.9	-7.3
MRSI	Marisa	8.35	296	P	Pb	04 32 49.7	-9.2
SPSI	Sidrap Palu	9.69	265	P	Pn	04 33 06.7	+13
KAPI	Kappang	9.84	259	Pn	Pn	04 33 02.5	+6.7
	0.5nm,0.3s,baz=69,slow=8.6,SNR=2.9						
JAY	Jayapura	11.26	87	P	Pn	04 33 15.8	+0.5
WRA	Warramunga Arr	17.31	164	P	Pn	04 34 35.2	-0.9
	0.3nm,0.3s,baz=346,slow=13,SNR=12						
ASAR	Alice Springs	20.80	168	P	P	04 35 15.3	-0.5
	15nm,0.8s,baz=351,slow=10,SNR=82						
ASAR				S	Sn	04 39 11.1	-2.1
	1.4nm,0.9s,baz=348,slow=21,SNR=6.9						
STKA	Stephens Creek	30.73	159	P	P	04 36 49.1	-0.4
	0.8nm,0.4s,baz=0.0,slow=9.1,SNR=4.7						
MJAR	Matsushiro Arr	40.37	11	P	P	04 38 11.3	-1.0
	2.2nm,0.7s,baz=181,slow=8.5,SNR=6.6						
USRK	Ussuriysk Ar.	47.24	2	P	P	04 39 08.0	+0.6
	2.1nm,0.5s,baz=189,slow=7.2,SNR=8.8						
SONM	Songino Array	54.69	341	P	P	04 40 04.4	+0.8
	0.6nm,0.7s,baz=143,slow=3.6,SNR=3.7						
PETK	Petropavlovsk-	60.92	19	P	P	04 40 48.5	+1.4
	2.7nm,0.7s,baz=186,slow=4.2,SNR=3.9						
MKAR	Makanchi Array	64.77	326	P	P	04 41 16.3	+3.3
	1.0nm,0.7s,baz=121,slow=7.9,SNR=9.1						
MAW	Mawson	78.27	201	P	P	04 42 38.0	+4.1
	3.2nm,0.4s,baz=61,slow=10,SNR=8.6						
AKTO	Aktyubinsk	80.75	322	P	P	04 42 50.3	+2.5
	2.0nm,0.7s,baz=128,slow=6.1,SNR=9.4						

ISCJB 01 04:41:23.3±1.6, 13°.96S±0°.05×166°.68E±0°.07, h33km±13km, mb4.8/40, MS4.2/2, Error ellipse: s-maj=11.9km s-min=6.9km az=155.8

BJI 01 04:41:23.4, 13°.56S×167°.31E, h43km, mb5.0/38, mB5.4/15, Ms5.2/16, Ms7 4.8/16

MOS 01 04:41:23.3±0.9, 13°.92S×166°.68E, h33km, mb5.1/10, Error ellipse: s-maj=11.9km s-min=10.5km az=3.2

NEIC 01 04:41:24.8±0.3, 13°.90S×166°.80E, h35km, mb4.8/24, Error ellipse: s-maj=8.7km s-min=6.4km az=120.0

IDC 01 04:41:26.9±2.6, 13°.98S×166°.74E, h53km±22km, mb4.4/20, mb1 4.5/21, mb1mx4.4/36, mbtmp4.6/21, ML4.4/1, MS4.0/2, Ms1 4.0/2, ms1mx3.6/23, Error ellipse: s-maj=18.1km s-min=13.1km az=98.0

ISC 01 04:41:25.3±0.4, 13°.94S±0°.06×166°.77E±0°.08, h39km±4km, n132, σ1s.12/167, mb4.9/51, 6C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	8.05	303	eP	Pn	04 43 19.1	-0.6
HNR				eS	Sn	04 44 49.0	-0.5
HNR				pmax	pmax		
	comp=Z,140nm,0.6s						
HNR	Honiara	8.05	303	P	Pn	04 43 24.0	+4.3
HNR	Honiara	8.05	303	ePn	Pn	04 43 19.1	-0.6
	comp=Z,140nm,0.6s						
HNR				eS	Sn	04 44 49.0	-0.5
DZM	Mont Dzumac	8.09	182	ePn	Pn	04 43 21.4	+1.0
	comp=Z,49nm,0.2s						
DZM				eSn	Sn	04 44 49.0	-1.6
	comp=Z,45nm,0.3s						
DZM				eLR	LR	04 45 13.7	
	comp=Z,1µm,23.6s						
DZM	Mont Dzumac	8.09	182	P	Pn	04 43 21.2	+0.8
	comp=Z,5.2nm,0.3s,baz=270,slow=24,SNR=17						
DZM				S	Sn	04 44 51.4	+0.8
	comp=Z,4.7nm,0.3s,baz=90,slow=24,SNR=7.3						
DZM				LR	LR	04 46 10.5	
	comp=Z,876nm,21.8s,baz=0.0,slow=35						
DZM	Mont Dzumac	8.09	182	eP	Pn	04 43 20.4	0.0
	comp=Z,650nm,1.3s						
DZM				eS	Sn	04 44 51.6	+1.0
NOUC	Port Laguerre	8.13	183	eP	Pn	04 43 22.4	+1.7
NOUC				eS	Sn	04 44 48.8	-2.5
EIDS	Eidsvold	18.62	230	ePn	Pn	04 45 41.7	+1.6
	comp=Z,16nm,0.8s						
PMG	Port Moresby	19.73	281	⇓eP	P	04 45 51.2	-0.6
PMG				pmax	pmax		
	comp=Z,115nm,1.7s						
CTA	Charters Tower	20.54	250	P	Pn	04 46 02.6	-0.4
	comp=Z,11nm,0.7s,baz=66,slow=16,SNR=14						
CTAO	Charters Tower	20.54	250	eP	Pn	04 46 02.4	-0.6
CTAO				pmax	pmax		
	comp=Z,15nm,0.8s						
CTAO	Charters Tower	20.54	250	eP	Pn	04 46 02.4	-0.7
	comp=Z,15nm,0.8s						
COEN	Coen	22.90	267	eP	P	04 46 28.1	+2.2
	comp=Z,23nm,1.0s						
STKA	Stephens Creek	29.15	228	P	P	04 47 24.0	+1.1
	comp=Z,12nm,0.6s,baz=46,slow=8.4,SNR=51						
STKA				PcP	PcP	04 50 29.7	-0.2
	comp=Z,4.6nm,0.8s,baz=9.3,slow=4.3,SNR=5.5						
STKA	Stephens Creek	29.15	228	eP	P	04 47 24.0	+1.1
STKA						04 50 29.7	
STKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
STKA	Stephens Creek	29.15	228	eP	P	04 47 24.0	+1.1
	comp=Z,2.4nm,0.6s						
STKA				ePcP	PcP	04 50 29.5	-0.4
STKA				PcP	PcP	04 50 29.7	-0.2
RPZ	Rata Peaks	29.90	174	P	P	04 47 29.5	+0.2
	comp=Z,7.6nm,0.6s,baz=355,slow=5.8,SNR=5.0						
RPZ				LR	LR	04 58 00.3	
	comp=Z,377nm,18.3s,baz=40,slow=33						
DCZ	Deep Cove	31.43	179	eP	P	04 47 46.6	+3.8
	comp=Z,264nm,2.5s						
WRAB	Tennant Creek	31.55	255	⇓eP	P	04 47 43.0	-1.2
WRAB				pmax	pmax		
	comp=Z,45nm,2.5s						
WRAB	Tennant Creek	31.55	255	eP	P	04 47 42.8	-1.4
	comp=Z,4.5nm,0.9s						
WRA	Warramunga Arr	31.56	255	P	P	04 47 43.3	-1.0
	comp=Z,3.8nm,0.9s,baz=86,slow=9.5,SNR=20						
WRA				PcP	PcP	04 50 35.9	-0.5
	comp=Z,2.1nm,0.9s,baz=82,slow=3.1,SNR=5.6						
WRA				PKiKP	PKiKP	04 58 03.8	-2.0
	comp=Z,0.9nm,0.6s,baz=1.6,slow=0.3,SNR=14						
AS31	Alice Springs	32.51	248	eP	P	04 47 51.3	-1.3
ASAR	Alice Springs	32.51	248	P	P	04 47 51.6	-1.1
	comp=Z,4.8nm,0.5s,baz=75,slow=9.3,SNR=77						
ASAR				PcP	PcP	04 50 38.5	-0.6
	comp=Z,1.6nm,0.7s,baz=78,slow=2.7,SNR=7.4						
ASAR				ScP	ScP	04 54 19.1	-0.8
	comp=Z,0.8nm,0.8s,baz=86,slow=2.6,SNR=4.1						
BBOO	Buckleboo	33.69	231	eP	P	04 48 03.8	+1.0
	comp=Z,21nm,0.9s						
FORT	Forrest	39.29	238	eP	P	04 48 50.8	+0.2
	comp=Z,21nm,0.7s						
TBI	Tubuai	42.37	109	eLR	LR	05 00 59.5	
	comp=Z,433nm,25.0s						
MBWA	Marble Bar	45.29	254	eP	P	04 49 39.4	-0.2
	comp=Z,15nm,1.1s						
KKM	Kota Kinabalu	53.96	288	eP	P	04 50 46.0	+0.2
	comp=Z,37nm,1.1s						
SBUM	Sibu	56.47	282	eP	P	04 51 04.1	+0.2
	comp=Z,4.6nm,0.9s						
JNU	Nakatsue	58.01	325	P	P	04 51 14.4	+0.1
	comp=Z,22nm,1.0s,baz=106,slow=4.0,SNR=4.8						
JNU	Nakatsue	58.01	325	eP	P	04 51 14.2	-0.1
	comp=Z,26nm,1.0s						
KSRS	Korea Array	62.82	326	P	P	04 51 47.3	+0.2
	comp=Z,4.1nm,0.9s,baz=142,slow=6.7,SNR=17						
KSAR	Wonju Array Be	62.84	326	P	P	04 51 47.3	+0.1
KSAR	Wonju Array Be	62.84	326	P	P	04 51 47.3	+0.1
VNDA	Vanda	63.63	181	P	P	04 51 52.2	+0.3
	comp=Z,5.4nm,0.9s,baz=356,slow=7.1,SNR=18						
VNDA	Vanda	63.63	181	eP	P	04 51 52.5	+0.6
VNDA	Vanda	63.63	181	eP	P	04 51 52.5	+0.6
SBA	Scott Base	63.92	180	eP	P	04 51 54.8	+1.0
SBA				e		04 52 30.6	
SBA				pmax	pmax		
	comp=Z,131nm,2.3s						
SBA	Scott Base	63.92	180	eP	P	04 51 54.8	+1.0
	comp=Z,131nm,2.3s						
SBA				ePcP	PcP	04 52 30.6	+1.5
CASY	Casey	64.07	202	eP	P	04 51 55.1	+0.2
	comp=Z,9.5nm,0.6s						
NJ2	Nanjing	64.78	316	eP	P	04 52 00.2	+0.1
NJ2				PMZ			
	comp=Z,20nm,0.8s						
PETK	Petropavlovsk-	67.23	354	P	P	04 52 17.4	+2.0
	comp=Z,5.0nm,0.6s,baz=169,slow=10,SNR=8.8						
KULM	Kulim	68.32	282	eP	P	04 52 19.2	-3.9
CN2	Changchun	68.73	329	eP	P	04 52 25.4	+0.4
ENH	Enshi	70.50	309	eP	P	04 52 36.2	-0.1
	comp=Z,7.6nm,0.8s						
GYA	Guiyang	70.87	305	eP	P	04 52 40.0	+1.2
GYA				pP	pP	04 52 50.6	0.0
GYA				PP	PP	04 55 20.0	+3.6
GYA				S	S	05 01 51.2	-0.5
GYA				sS	sS	05 02 10.7	-0.6
GYA				SKS	SKSac	05 02 36.3	-2.3
GYA				SS	SS	05 06 27.9	+2.7
GYA				PMZ			
	comp=Z,10.0nm,1.0s						
GYA				PMZ			
	comp=Z,90nm,5.0s						
GYA				LN			
	comp=Z,450nm,18.6s						
GYA				LE			
	comp=Z,380nm,19.0s						
GYA				LZ			
	comp=Z,430nm,18.8s						
BJI	Beijing	71.36	321	P	P	04 52 41.5	+0.3
BJI				PMZ			
	comp=Z,16nm,0.6s						
XAN	Xi'an	72.81	313	P	P	04 52 50.5	+0.4
XAN				pP	pP	04 53 02.3	+0.3
XAN				sP	sP	04 53 08.2	+1.8
XAN				PMZ			
	comp=Z,4.0nm,0.7s						
XAN				LN			
	comp=Z,450nm,16.3s						
XAN				LZ			
	comp=Z,220nm,19.4s						
KMI	Kunming	73.48	302	⇑P	P	04 52 56.0	+1.4
KMI				pP	pP	04 53 08.0	+1.6
KMI				PMZ			
	comp=Z,20nm,1.0s						
CMAR	Chiang Mai Arr	74.19	294	P	P	04 52 59.0	+0.5
	comp=Z,7.5nm,1.0s,baz=114,slow=3.4,SNR=32						
CHTO	Chiang Mai	74.32	294	eP	P	04 53 00.1	+0.8
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CHTO	Chiang Mai	74.32	294	eP	P	04 53 00.1	+0.8
	comp=Z,2.1nm,0.4s						
HHC	Hu-ho-hao-te	74.68	320	eP	P	04 53 02.1	+1.0
HHC				pP	pP	04 53 13.3	+0.4
HHC				sP	sP	04 53 17.4	0.0
HHC				PP	PP	04 55 50.2	+1.6
HHC				S	S	05 02 33.1	-1.4
HHC				sS	sS	05 02 51.4	-2.8
HHC				SS	SS	05 07 25.5	+2.6
HHC				PMZ			
	comp=Z,31nm,1.2s						
HHC				PMZ			
	comp=Z,410nm,7.5s						
HHC				LN			
	comp=Z,250nm,17.5s						
HHC				LE			
	comp=Z,590nm,17.3s						
HHC				LZ			
	comp=Z,260nm,17.3s						
CD2	Chengdu	75.15	308	eP	P	04 53 03.2	-0.7
CD2				pP	pP	04 53 14.0	-1.8
CD2				sP	sP	04 53 18.3	-2.0
CD2				PP	PP	04 55 51.7	-1.0
CD2				S	S	05 02 40.3	+0.2
CD2				sS	sS	05 02 58.7	-1.0
CD2				SKS	SKSac	05 03 09.1	-1.4
CD2				SS	SS	05 07 31.3	+1.0
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
HIA	Hailar	75.37	330	eP	P	04 53 04.4	-0.3
HIA				pmax	pmax		
	comp=Z,17nm,0.7s						
HIA	Hailar	75.37	330	eP	P	04 53 04.4	-0.3
	comp=Z,17nm,0.7s						
QSPA	South Pole Qui	76.08	180	eP	P	04 53 08.4	-0.3
	comp=Z,11nm,0.8s						
LZH	Lanzhou	77.44	312	eP	P	04 53 18.4	+1.4
LZH				pP	pP	04 53 30.5	+1.6
LZH				sP	sP	04 53 36.1	+2.8
LZH				PMZ			
	comp=Z,47nm,1.2s						
LZH				PMZ			
	comp=Z,180nm,4.3s						
LZH				LN			
	comp=Z,910nm,15.3s						
LZH				LE			
	comp=Z,460nm,15.7s						
LZH				LZ			
	comp=Z,1µm,16.7s						
SEY	Seymchan	77.45	353	P	P	04 53 16.1	0.0
	comp=Z,15nm,0.7s,baz=166,slow=5.8,SNR=38						
SEY	Seymchan	77.45	353	⇑eP	P	04 53 16.3	+0.1
SONM	Songino Array	81.58	324	P	P	04 53 39.2	0.0
	comp=Z,5.3nm,0.8s,baz=138,slow=5.1,SNR=30						
BILL	Bilibino	81.76	360	⇑eP	P	04 53 39.3	-0.2
BILL				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,154nm,17.0s						
BILL	Bilibino	81.76	360	eP	P	04 53 38.9	-0.6
	comp=Z,12nm,1.1s						
GTA	Gaotai	81.78	314	⇑P	P	04 53 41.2	+0.8
GTA				pP	pP	04 53 51.5	-0.9
GTA				sP	sP	04 53 55.5	-1.3
GTA				PMZ			
	comp=Z,24nm,1.4s						
MAW	Mawson	82.43	202	P	P	04 53 41.3	-1.8
	comp=Z,3.7nm,0.4s,baz=79,slow=10,SNR=12						
MAW	Mawson	82.43	202	eP	P	04 53 42.5	-0.7
MAW	Mawson	82.43	202	eP	P	04 53 42.5	-0.7
TRF	Thorofare Moun	83.94	18	eP	P	04 53 50.9	-0.3
	comp=Z,2.4nm,0.5s						
BPAW	Bear Paw Mtn.	84.23	17	eP	P	04 53 53.7	+1.3
	comp=Z,12nm,3.0s						
MCK	McKinley	84.56	18	eP	P	04 53 54.8	+0.7
MCK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MCK	McKinley	84.56	18	eP	P	04 53 54.8	+0.7
	comp=Z,2.8nm,0.4s						
ZAK	Zakamensk	84.64	325	eP	P	04 53 53.7	-1.2
ZAK				pmax	pmax		
	comp=Z,13nm,1.2s						
TLY	Talaya	85.08	326	eP	P	04 53 56.6	-0.3
TLY				pmax	pmax		
	comp=Z,17nm,0.8s						
TLY	Talaya	85.08	326	eP	P	04 53 56.7	-0.3
	comp=Z,15nm,0.8s						
YBH	Yreka Blue Hor	85.20	45	P	P	04 53 58.2	+0.2
	comp=Z,0.9nm,0.7s,baz=293,slow=7.7,SNR=7.5						
COLA	College	85.72	18	⇑i P	P	04 53 59.6	-0.2
COLA				pmax	pmax		
	comp=Z,19nm,0.8s						
COLA	College	85.72	18	P	P	04 53 59.4	-0.3
	comp=Z,3.4nm,0.9s						
ILAR	Eielson Array	85.93	18	P	P	04 53 59.3	-1.6
	comp=Z,3.7nm,0.5s,baz=240,slow=4.9,SNR=77						
TAPN	Taplejung	86.88	299	eP	P	04 54 06.8	0.0
	comp=Z,39nm,1.2s						
ODAN	Odare	87.01	298	eP	P	04 54 07.3	0.0
	comp=Z,27nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NVAR	Mina Array Bea	87.13	49	P	P	04 54 09.3	+1.6
	comp=Z,0.9nm,0.7s,baz=234,slow=9.0,SNR=8.9						
RAMN	Ramite	87.71	298	*e*P	P	04 54 10.4	-0.3
	comp=Z,14nm,0.9s						
JIRN	Jiri	88.26	299	*e*P	P	04 54 13.4	-0.1
	comp=Z,13nm,0.6s						
GUN	Gumba	88.60	299	*e*P	P	04 54 14.8	-0.3
	comp=Z,21nm,0.7s						
PKI	Pulchoki	88.90	299	*e*P	P	04 54 16.0	-0.5
	comp=Z,18nm,0.6s						
KKN	Kakani	89.07	299	*e*P	P	04 54 16.8	-0.3
	comp=Z,19nm,0.7s						
DMN	Daman	89.17	299	*e*P	P	04 54 17.5	-0.1
	comp=Z,37nm,0.8s						
SYO	Syowa Base	89.32	197	⇑*e*P	P	04 54 15.8	-1.4
GKN	Gorkha	89.68	299	*e*P	P	04 54 19.1	-0.8
	comp=Z,20nm,0.7s						
KOLN	Koldanda	90.50	298	*e*P	P	04 54 22.7	-1.1
	comp=Z,6.0nm,0.7s						
WMQ	Urumqi	91.84	315	P	P	04 54 30.8	+1.3
WMQ				PMZ			
	comp=Z,7.0nm,0.3s						
WMQ				LN			
	comp=Z,120nm,19.3s						
WMQ				LE			
	comp=Z,110nm,17.2s						
WMQ				LZ			
	comp=Z,290nm,20.1s						
NVL	N'lazarevskaya	93.76	188	*e*P	P	04 54 35.4	-2.4
NVL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SNAA	Sanae	94.30	183	P	P	04 54 33.7	-6.7
VNA2	Neumayer--Watz	95.25	182	P	P	04 54 43.9	-0.7
	baz=183,slow=4.3						
VNA1	Neumayer--Stat	95.55	182	P	P	04 54 45.0	-1.0
MK31	Makanchi Array	96.31	317	*e*P	P	04 54 49.7	-0.2
MK31	Makanchi Array	96.31	317	*e*P	P	04 54 49.7	-0.2
MKAR	Makanchi Array	96.31	317	P	P	04 54 49.8	-0.1
	comp=Z,7.1nm,0.7s,baz=96,slow=6.4,SNR=67						
MKAR	Makanchi Array	96.31	317	*e*P	P	04 54 49.9	0.0
TXAR	Lajitas Array	96.33	61	P	P	04 54 51.6	+1.1
	comp=Z,0.3nm,0.8s,baz=216,slow=6.2,SNR=3.9						
ZAA0	Zalesovo Array	96.48	324	*e*P	P	04 54 49.2	-1.2
ZALV	Zalesovo Beam	96.48	324	P	P	04 54 49.2	-1.2
	comp=Z,6.3nm,0.6s,baz=124,slow=4.2,SNR=20						
YKA	Yellowknife Ar	97.07	27	P	P	04 54 52.5	-0.4
	comp=Z,0.4nm,0.7s,baz=258,slow=4.6,SNR=4.6						
KSH	Kashi	99.34	308	*e*P	Pdif	04 55 07.3	+3.5
KSH				*e*pP	pP	04 55 17.5	+1.5
KSH				*e*sP	sP	04 55 21.3	+0.9
ARCES	ARCESS Array B	119.38	345	PKP	PKPdf	05 00 08.9	-1.0
	comp=Z,1.7nm,0.3s,baz=91,slow=2.3,SNR=12						
ARCES	ARCESS Array B	119.38	345	PKIKP	PKPdf	05 00 09.0	-1.0
BOSA	Boshof	123.65	221	PKP	PKPdf	05 00 19.2	-0.4
	comp=Z,4.0nm,0.8s,baz=119,slow=3.7,SNR=6.4						
FIA1	FINESS Array S	124.82	338	*e*PKPdf	PKPdf	05 00 18.6	-2.0
KMBO	Kilima Mbogo	127.81	257	PKP	PKPdf	05 00 28.4	+0.3
	comp=Z,1.1nm,0.4s,baz=202,slow=3.3,SNR=3.8						
NOA	NORSAR Array B	129.74	345	PKP	PKPdf	05 00 29.5	-0.6
	comp=Z,0.8nm,0.6s,baz=33,slow=1.9,SNR=4.9						
AKASG	Malin Array Be	129.82	326	PKP	PKPdf	05 00 30.3	-0.2
	comp=Z,0.2nm,0.3s,baz=60,slow=2.0,SNR=5.1						
BRTR	Keskin Array B	131.63	311	PKP	PKPdf	05 00 33.6	-0.9
	comp=Z,0.7nm,0.6s,baz=108,slow=4.0,SNR=4.3						
BRTR				SKP		05 04 00.0	
	comp=Z,1.2nm,0.7s,baz=99,slow=4.2,SNR=4.1						
KOLS	Kolonicke sedl	134.53	328	*e*PKP	PKiKP	05 00 40.1	-0.8
KHC	Kasperske Hory	138.57	333	*e*PKPdf	PKPdf	05 00 48.8	+1.8
KHC	Kasperske Hory	138.57	333	*e*PKIKP	PKPdf	05 00 48.8	+1.8
GERES	GERESS Array B	138.73	333	PKhKP	PKPpre	05 00 42.2	
	comp=Z,1.0nm,0.7s,baz=50,slow=2.1,SNR=5.8						
GERES				PKP	PKPdf	05 00 46.7	-0.7
	comp=Z,1.0nm,0.7s,baz=338,slow=1.1,SNR=5.7						
BNI	Bardonecchia	144.69	335	PKIKP	PKPab	05 00 56.6	-0.3
BNI	Bardonecchia	144.69	335	PKPdf	PKPab	05 00 56.6	-0.3
SSB	Saint Sauveur	145.32	338	*e*PKIKP	PKPbc	05 00 58.9	-0.1
SSB	Saint Sauveur	145.32	338	*e*PKPdf	PKPbc	05 00 58.9	-0.1
KEST	Kesra	150.30	321	PKPbc	PKPbc	05 01 12.8	-0.1
	comp=Z,5.0nm,0.7s,baz=76,slow=1.8,SNR=15						
PGAV	Gavieira, Arco	151.75	352	*e*PKP	PKPbc	05 01 15.6	-0.5
PGAV	Gavieira, Arco	151.75	352	*e*PKP	PKPbc	05 01 15.6	-0.5
POLO	Lamas de Olo	152.26	351	*e*PKP	PKPbc	05 01 16.9	-0.4
POLO	Lamas de Olo	152.26	351	*e*PKP	PKPbc	05 01 16.9	-0.4
MVO	Moncorvo	152.35	350	*e*PKP	PKPbc	05 01 17.1	-0.4
MVO	Moncorvo	152.35	350	*e*PKP	PKPbc	05 01 17.1	-0.4
PVRL	Vila Real	152.35	351	*e*PKP	PKPbc	05 01 17.4	0.0
PVRL	Vila Real	152.35	351	*e*PKP	PKPbc	05 01 17.4	0.0
ESDC	Sonseca Array	153.10	344	PKPbc	PKPbc	05 01 18.8	-0.3
	comp=Z,1.8nm,0.7s,baz=6.8,slow=2.0,SNR=9.5						
ESDC				PKPab	PKPab	05 01 30.5	-0.1
	comp=Z,1.9nm,0.7s,baz=2.7,slow=4.0,SNR=8.7						
TOA0	Torodi Ar. Sit	165.47	269	*e*PKPdf	PKPdf	05 01 26.9	+0.2
TORD	Torodi Ar. Bea	165.47	269	PKP	PKPdf	05 01 25.7	-0.9
	comp=Z,3.2nm,0.8s,baz=81,slow=0.9,SNR=14						
TORD				PKPab	PKPab	05 02 24.7	-0.4
	comp=Z,3.2nm,1.0s,baz=100,slow=3.2,SNR=8.6						

IDC 01 04:45:37.0±2.4**, 13°.59S×166°.68E, h0**km**, mb3.8**/3**, mb1 3.9**/4**, mb1mx3.6**/37**, mbtmp3.8**/4**, ML3.7**/1**, Error ellipse: s-maj=54.2km s-min=42.7km az=112.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.44	181	Pn	Pn	04 47 40.9	+0.1
	0.9nm,0.3s,baz=270,slow=20,SNR=8.5						
DZM				Sn	Sn	04 49 10.6	-6.3
	0.3nm,0.3s,baz=90,slow=20,SNR=1.4						
STKA	Stephens Creek	29.32	227	P	P	04 51 40.6	-0.8
	1.9nm,0.7s,baz=45,slow=8.6,SNR=3.6						
WRA	Warramunga Arr	31.57	254	P	P	04 52 02.2	+0.7
	0.3nm,0.6s,baz=82,slow=8.5,SNR=2.3						
ASAR	Alice Springs	32.56	247	P	P	04 52 10.2	-0.1
	0.6nm,0.6s,baz=75,slow=9.6,SNR=4.3						
ARCES	ARCESS Array B	119.01	345	PKP	PKPdf	05 04 27.1	-0.1
	4.7nm,0.9s,baz=87,slow=2.0,SNR=7.0						

*NIED **01** 04:49:00, 37°.50N×141°.60E, h53km, Mw4.7 Best double couple: M₀1.40000×10¹⁶ NP1:φs201.00000°, δ17.00000°, λ89.00000°. NP2:φs22.00000°, δ73.00000°, λ90.00000°.*

*BJI **01** 04:49:19.7, 37°.38N×141°.67E, h50km, mb5.0/54, mB5.2/18, Ms4.6/19, Ms7 4.4/19*

*ISCJB **01** 04:49:22.8±0.3, 37°.58N±0°.02×141°.38E±0°.02, h58km±2km, mb4.9/157, MS4.4/4, Error ellipse: s-maj=4.4km s-min=2.9km az=154.8*

*MOS **01** 04:49:22.6±0.8, 37°.82N×141°.35E, h47km, mb5.2/77, Error ellipse: s-maj=7.2km s-min=4.4km az=107.4*

*IDC **01** 04:49:23.0±0.4, 37°.50N×141°.41E, h50km±3km, mb4.5/28, mb1 4.6/32, mb1mx4.6/35, mbtmp4.7/32, MS4.2/5, Ms1 4.2/5, ms1mx3.7/31, Error ellipse: s-maj=11.5km s-min=8.8km az=110.0*

*JMA **01** 04:49:22.0±0.1, 37°.51N×141°.54E, h45km±2km, M4.8*

JMA Felt III J1.

*SZGRF **01** 04:49:23.4, 38°.51N×142°.18E, h33km, mb5.0, Near east coast of eastern Honshu, Japan*

*NEIC **01** 04:49:24.1±0.4, 37°.53N×141°.37E, h59km±3km, mb4.9/91, MW4.7(NIED), Error ellipse: s-maj=4.7km s-min=3.2km az=144.0*

NEIC Recorded [3 JMA] in Fukushima; [2 JMA] in Iwate and Miyagi; [1 JMA] in Ibaraki and Yamagata.

ISC 01 04:49:23.1±0.3**, 37°.59N**±0°.04×**141°.43E**±0°.04**, h52**km±2km**, h52**km**:pP-P, n777, σ1°.02**/853**, mb5.0**/182**, MS4.4**/4**, 167C-173D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	0.49	244	⇓P	Pn	04 49 33.6	-0.9
JFK				S	Sn	04 49 41.4	-1.3
JMM	Marumori	0.58	299	⇓P	Pn	04 49 35.6	+0.2
JMM				S	Sn	04 49 45.1	+0.8
ONAJ	Iwakimizuishiy	0.70	226	⇓P	Pn	04 49 35.7	-1.3
ONAJ				S	Sn	04 49 45.3	-1.8
JIO	Ouri	0.87	356	⇓P	Pn	04 49 39.1	0.0
JIO				S	Sn	04 49 50.7	-0.2
JFT	Otama	0.87	266	⇓P	Pn	04 49 39.8	+0.6
JFT				*e*S	Sn	04 49 52.1	+1.1
JOU	Okura	0.99	322	⇓P	Pn	04 49 41.2	+0.5
JOU				S	Sn	04 49 55.8	+2.1
JYS	Shirataka	1.25	301	P	Pn	04 49 45.2	+0.9
JMK	Ichinoseki	1.37	353	⇓P	Pn	04 49 46.3	+0.4
JFY	Yanaizu	1.39	263	⇓P	Pn	04 49 46.5	+0.4
I30JP	ISUMI INFRASON	2.45	202	P	Pn	04 50 02.6	+2.1
I30JP				S	Sn	04 50 30.6	+1.4
MJAR	Matsushiro Arr	2.78	249	P	Pn	04 50 06.0	+0.8
	41nm,0.3s,baz=71,slow=13,SNR=347						
MJAR				LR	LR	04 51 28.0	
	comp=Z,3μm,19.7s,baz=80,slow=46						
MJAR	Matsushiro Arr	2.78	249	P	Pn	04 50 06.0	+0.8
MJAR				pmax	pmax		
	comp=Z,41nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,3μm,19.7s						
MAJO	Matsushiro	2.78	249	*d i*P	Pn	04 50 06.2	+1.0
MAJO	Matsushiro	2.78	249	*e*Pn	Pn	04 50 06.1	+1.0
MAT	Matsushiro	2.78	249	P	Pn	04 50 06.4	+1.2
MAT				*e*S	Sn	04 50 41.7	+4.1
ERM	Erimo	4.62	16	*ce*P	Pn	04 50 30.4	+0.1
ERM				pmax	pmax		
	comp=Z,37nm,0.6s						
ERM	Erimo	4.62	16	*e*Pn	Pn	04 50 30.6	+0.3
ERM				*e*Sn	Sn	04 51 21.3	-1.3
ASAJ	Asahikawa	6.58	7	P	Pn	04 50 56.8	-0.5
	comp=Z,8.7nm,0.3s,baz=262,slow=10,SNR=15						
ASAJ	Asahikawa	6.58	7	P	Pn	04 50 56.8	-0.5
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ	Asahikawa	6.58	7	*e*Pn	Pn	04 50 56.8	-0.5
ASAJ				*e*S	Sn	04 52 15.5	+4.6
YUK	Yuzh-Kuril'sk	7.26	26	P	Pn	04 51 05.3	-1.2
YUK				*i* S	Sn	04 52 22.5	-5.1
YUK				pmax	pmax		
	comp=Z,129nm,0.3s						
YUK				pmax	pmax		
	comp=N,37nm,0.2s						
YUK				pmax	pmax		
	comp=E,16nm,0.2s						
YUK				smax	smax		
	comp=E,806nm,0.6s						
VLA	Vladivostok	9.14	310	⇑*e*P	Pn	04 51 34.2	+1.9
VLA				S	Sn	04 53 21.5	+7.8
YSS	Yuzh-Sakhalins	9.41	6	*e*P	Pn	04 51 35.0	-0.9
YSS				*e*S	Sn	04 53 17.5	-2.8
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS				smax	smax		
	comp=E,40nm,1.0s						
YSS	Yuzh-Sakhalins	9.41	6	Pn	Pn	04 51 36.0	0.0
	comp=E,147nm,1.1s						
JNU	Nakatsue	9.70	246	P	Pn	04 51 42.7	+2.6
	comp=E,1.4nm,0.3s,baz=62,slow=8.4,SNR=8.8						
JNU				LR	LR	04 55 02.8	
	comp=E,999nm,19.4s,baz=34,slow=35						
JNU	Nakatsue	9.70	246	*e*Pn	Pn	04 51 42.3	+2.3
USRK	Ussuriysk Ar.	9.73	316	P	Pn	04 51 42.4	+2.0
	comp=E,2.8nm,0.3s,baz=126,slow=14,SNR=58						
USRK				LR	LR	04 55 15.1	
	comp=E,2μm,18.3s,baz=50,slow=36						
CBIJ	Chichi jima	10.48	176	*e*Pn	Pn	04 51 46.3	-4.3
CBIJ				*e*S	Sn	04 53 33.1	-13
JCJ	Chichijima	10.48	176	P	Pn	04 51 45.9	-4.7
	comp=E,20nm,0.3s,baz=74,slow=23,SNR=11						
JCJ				S	Sn	04 53 33.2	-13
	comp=E,13nm,0.3s,baz=107,slow=19,SNR=3.6						
KSRS	Korea Array	10.73	273	P	Pn	04 51 58.1	+4.1
	comp=E,1.3nm,0.3s,baz=90,slow=13,SNR=54						
KSRS	Korea Array	10.73	273	P	Pn	04 51 58.1	+4.1
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSAR	Wonju Array Be	10.77	273	P	Pn	04 51 58.1	+3.6
KSAR	Wonju Array Be	10.77	273	P	Pn	04 51 58.1	+3.6
MDJ	Mudanjiang	11.36	312	P	Pn	04 52 07.0	+4.5
MDJ				PMZ			
	comp=Z,52nm,0.8s						
MDJ				PMZ			
	comp=Z,55nm,3.4s						
MDJ	Mudanjiang	11.36	312	Pn	Pn	04 52 06.1	+3.5
	comp=Z,48nm,0.8s						
UGL	Uglegorsk	11.50	2	*e*P	Pn	04 52 17.9	+13
UGL				*e*S	Sn	04 54 08.9	-2.3
HABR	Khabarovsk	11.84	339	P	Pn	04 52 06.7	-2.3
HABR				*e*S	Sn	04 54 17.6	-1.9
HABR				pmax	pmax		
	comp=N,54nm,1.9s						
HABR				pmax	pmax		
	comp=E,28nm,0.9s						
HABR				pmax	pmax		
	comp=Z,104nm,1.9s						
HABR				MLR	MLR		
	comp=Z,706nm,18.0s						
KLR	Kul'dur	13.59	332	*e*P	Pn	04 52 30.0	-2.9
JOW	Kunigami	15.44	230	P	Pn	04 52 59.5	+1.9
	baz=51,slow=9.6						
PETK	Petropavlovsk-	19.20	31	P	Pn	04 53 43.8	-0.1
	comp=Z,0.2nm,0.3s,baz=213,slow=9.7,SNR=5.2						
NJ2	Nanjing	19.32	260	*e*P	Pn	04 53 45.3	-0.1
NJ2				PMZ			
	comp=Z,50nm,0.7s						
TIA	Tai'an	19.48	273	⇓P	P	04 53 45.0	-0.7
TIA				PMZ			
	comp=Z,90nm,0.8s						
HIA	Hailar	19.53	314	P	P	04 53 45.3	-0.8
HIA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HIA	Hailar	19.53	314	P	P	04 53 45.3	-0.8
	comp=Z,5.9nm,0.5s						
BJI	Beijing	19.82	285	P	P	04 53 48.5	-0.8
BJI				PMZ			
	comp=Z,16nm,0.8s						
BJT	Baijiatuau	19.82	285	*e*P	P	04 53 48.5	-0.9
BJT				pmax	pmax		
	comp=Z,41nm,0.6s						
BJT	Baijiatuau	19.82	285	*e*P	P	04 53 48.5	-0.9
	comp=Z,41nm,0.6s						
NACB	Ninganchiao	21.59	237	*e*P	P	04 54 05.6	-2.9
CLNS	Chul'man	22.19	336	*e*P	P	04 54 13.6	-1.1
CLNS				pmax	pmax		
	comp=N,22nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,34nm,0.9s						
CLNS				pmax	pmax		
	comp=E,15nm,0.8s						
SSLB	Suanglung	22.28	238	*e*P	P	04 54 12.9	-3.1
	comp=E,22nm,0.9s						
YULB	Yu-li	22.32	236	*e*P	P	04 54 12.8	-3.6
	comp=E,7.0nm,0.7s						
TPUB	Ta-pu	22.83	237	*e*P	P	04 54 18.0	-3.8
	comp=E,28nm,0.6s						
TWG	Pinlang	22.87	236	*e*P	P	04 54 20.0	-2.2
	comp=E,112nm,0.6s						
HHC	Hu-ho-hao-te	23.32	287	*e*P	P	04 54 24.5	-2.1
HHC				pP	pP	04 54 40.0	+1.0
HHC				sP	sP	04 54 46.0	+0.5
HHC				PP	PnPn	04 54 56.7	+2.4
HHC				S	S	04 58 25.9	-9.4
HHC				sS	sS	04 58 52.7	-4.7
HHC				SS	SnSn	04 59 18.2	+4.4
HHC				PMZ			
	comp=E,17nm,0.6s						
HHC				PMZ			
	comp=E,330nm,4.4s						
HHC				LN			
	comp=E,490nm,12.3s						
HHC				LE			
	comp=E,440nm,12.9s						
HHC				LZ			
	comp=E,380nm,12.1s						
WHN	Wuhan	23.46	261	⇑P	P	04 54 28.1	+0.2
WHN				PMZ			
	comp=E,62nm,0.8s						
YAK	Yakutsk	25.54	347	*e*P	P	04 54 46.1	-0.4
YAK				*e**PP	pP	04 55 04.9	+5.2
YAK				*e*		04 55 28.4	
YAK				*e*S	S	04 59 07.3	-2.9
YAK				*e*		05 05 33.5	
YAK				pmax	pmax		
	comp=Z,144nm,0.9s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.4s						
YAK				pmax	pmax		
	comp=N,33nm,1.0s						
YAK				pmax	pmax		
	comp=Z,16nm,0.6s						
YAK				pmax	pmax		
	comp=N,13nm,0.8s						
YAK				pmax	pmax		
	comp=E,8.0nm,0.8s						
YAK				smax	smax		
	comp=E,85nm,2.0s						
YAK				smax	smax		
	comp=N,104nm,2.5s						
YAK	Yakutsk	25.54	347	*e*P	P	04 54 46.4	-0.1
	comp=N,148nm,0.8s						
SEY	Seymchan	26.25	11	P	P	04 54 54.0	+1.1
	comp=N,18nm,0.9s,baz=194,slow=6.6,SNR=15						
SEY	Seymchan	26.25	11	P	P	04 54 54.0	+1.1
SEY				pmax	pmax		
	comp=Z,18nm,0.9s						
XAN	Xi'an	26.53	272	P	P	04 54 55.2	-0.7
XAN				pP	pP	04 55 05.2	-3.9
XAN				sP	sP	04 55 10.3	-5.0
XAN				PMZ			
	comp=Z,14nm,0.7s						
XAN				LN			
	comp=Z,360nm,18.4s						
XAN				LZ			
	comp=Z,190nm,19.4s						
BOD	Bodaibo	27.07	327	*e*P	P	04 54 57.6	-2.9
BOD				pmax	pmax		
	comp=Z,27nm,0.9s						
ENH	Enshi	27.40	264	*e*P	P	04 55 03.4	-0.3
	comp=Z,26nm,0.8s						
SONM	Songino Array	27.49	303	P	P	04 55 04.9	+0.4
	comp=Z,18nm,0.7s,baz=103,slow=8.5,SNR=52						
SONM				PcP	PcP	04 58 22.1	+0.5
	comp=Z,1.8nm,0.6s,baz=129,slow=3.1,SNR=6.7						
SONM				LR	LR	05 05 07.5	
	comp=Z,552nm,19.4s,baz=69,slow=34						
SONM	Songino Array	27.49	303	P	P	04 55 04.9	+0.4
SONM						04 58 22.1	
SONM				pmax	pmax		
	comp=Z,18nm,0.7s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,552nm,19.4s						
H11N2	WAKE ISLAND Hy	28.42	122	T	T	05 25 27.2	
	baz=315,slow=75,SNR=1488						
H11N1	WAKE ISLAND Hy	28.43	122	T	T	05 25 27.9	
	baz=315,slow=75,SNR=1891						
H11N3	WAKE ISLAND Hy	28.44	122	T	T	05 25 28.6	
	baz=315,slow=75,SNR=1704						
H11S1	WAKE ISLAND Hy	29.15	124	T	T	05 26 25.2	
	baz=317,slow=76,SNR=1371						
H11S3	WAKE ISLAND Hy	29.15	124	T	T	05 26 29.7	
	baz=317,slow=76,SNR=1787						
H11S2	WAKE ISLAND Hy	29.17	124	T	T	05 26 27.7	
	baz=317,slow=76,SNR=1029						
TLY	Talaya	29.98	310	*e*P	P	04 55 26.8	+0.3
TLY				pmax	pmax		
	comp=Z,13nm,0.8s						
TLY	Talaya	29.98	310	*e*P	P	04 55 27.1	+0.6
	comp=Z,13nm,0.9s						
LZH	Lanzhou	29.99	279	*e*P	P	04 55 26.9	0.0
LZH				pP	pP	04 55 40.3	+0.1
LZH				sP	sP	04 55 47.9	+1.5
LZH				PcP	PcP	04 58 29.2	+1.1
LZH				PMZ			
	comp=Z,26nm,1.0s						
LZH				PMZ			
	comp=Z,130nm,4.0s						
LZH				LN			
	comp=Z,910nm,15.3s						
LZH				LE			
	comp=Z,460nm,15.7s						
LZH				LZ			
	comp=Z,1μm,16.7s						
GYA	Guiyang	31.33	259	*e*P	P	04 55 39.8	+1.1
GYA				pP	pP	04 55 53.2	+1.1
GYA				sP	sP	04 56 00.6	+2.3
GYA				PP	PnPn	04 56 44.3	+1.6
GYA				S	S	05 00 41.0	-1.3
GYA				sS	sS	05 01 04.2	-0.7
GYA				ScP	ScP	05 02 11.8	+1.5
GYA				SS	SnSn	05 02 29.9	+0.4
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
GYA				PMZ			
	comp=Z,90nm,4.8s						
GYA				LN			
	comp=Z,450nm,16.6s						
GYA				LE			
	comp=Z,380nm,17.4s						
GYA				LZ			
	comp=Z,430nm,16.8s						
MOY	Mondy	31.60	310	*e*P	P	04 55 41.6	+0.8
CD2	Chengdu	31.69	269	*e*P	P	04 55 40.1	-1.7
CD2				pP	pP	04 55 53.7	-1.5
CD2				sP	sP	04 56 00.4	-0.9
CD2				PP	PP	04 56 52.1	-1.9
CD2				S	S	05 00 45.6	-2.1
CD2				sS	sS	05 01 09.3	-1.0
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
GTA	Gaotai	32.42	286	⇓P	P	04 55 47.8	-0.4
GTA				pP	pP	04 56 01.3	-0.3
GTA				sP	sP	04 56 07.6	-0.2
GTA				PcP	PcP	04 58 35.3	+0.8
GTA				PMZ			
	comp=Z,10.0nm,1.1s						
BILL	Bilibino	33.49	17	⇓*e*P	P	04 55 57.2	+0.2
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KMI	Kunming	35.06	261	⇑P	P	04 56 11.2	-0.2
KMI				pP	pP	04 56 23.5	-1.4
KMI				PMZ			
	comp=Z,54nm,1.0s						
NONG	Nongkai	38.70	251	P	P	04 56 42.5	+0.4
	comp=Z,30nm,0.9s						
SIJI	Sorong	39.40	196	P	P	04 56 48.4	+0.4
	comp=Z,8.3nm,0.7s,baz=92,slow=6.3,SNR=5.1						
CRAI	Chiangrai	39.53	256	P	P	04 56 46.5	-2.5
	comp=Z,31nm,0.9s						
WMQ	Urumqi	40.61	296	P	P	04 56 59.1	+1.3
WMQ				pP	pP	04 57 16.0	+4.6
WMQ				sP	sP	04 57 21.6	+4.0
WMQ				PP	PnPn	04 58 36.8	+0.6
WMQ				PMZ			
	comp=Z,39nm,0.6s						
WMQ				PMZ			
	comp=Z,750nm,5.5s						
WMQ				LN			
	comp=Z,320nm,13.8s						
WMQ				LE			
	comp=Z,300nm,16.2s						
WMQ				LZ			
	comp=Z,340nm,18.1s						
CMAI	Chiengmai2	40.72	256	P	P	04 56 59.9	+0.8
	comp=Z,30nm,0.7s						
UTTA	Uttaradit	40.85	252	P	P	04 57 00.5	+0.6
	comp=Z,3.5nm,0.9s						
LAMP	Lampang	41.09	254	P	P	04 57 06.9	+5.0
PBKT	Sadao Pong	41.26	251	P	P	04 57 03.7	+0.5
	comp=Z,14nm,1.4s						
CMMT	Chiang Mai	41.44	255	P	P	04 57 06.0	+1.2
	comp=Z,14nm,0.9s						
CHTO	Chiang Mai	41.44	255	P	P	04 57 06.1	+1.3
	comp=Z,138nm,0.8s						
CHTO	Chiang Mai	41.44	255	*e*P	P	04 57 05.0	+0.2
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CHTO	Chiang Mai	41.44	255	*e*P	P	04 57 05.0	+0.2
	comp=Z,7.0nm,0.8s						
ZAA0	Zalesovo Array	41.56	312	*e*P	P	04 57 05.9	+0.6
ZAA0				*e*PcP	PcP	04 59 01.4	-0.3
ZALV	Zalesovo Beam	41.56	312	P	P	04 57 06.0	+0.7
	comp=Z,35nm,0.9s,baz=90,slow=7.4,SNR=68						
ZALV				PcP	PcP	04 59 01.6	-0.1
	comp=Z,6.1nm,0.5s,baz=80,slow=2.9,SNR=5.8						
ZALV	Zalesovo Beam	41.56	312	P	P	04 57 06.0	+0.7
ZALV						04 59 01.6	
ZALV				pmax	pmax		
	comp=Z,35nm,0.9s						
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CMAR	Chiang Mai Arr	41.65	255	P	P	04 57 06.5	0.0
	comp=Z,2.5nm,0.6s,baz=44,slow=7.6,SNR=9.1						
CMAR	Chiang Mai Arr	41.65	255	P	P	04 57 06.5	0.0
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						

LSA Lhasa 42.18 275 P P 04 57 12.5 +1.2
LSA Lhasa 42.18 275 *e*P P 04 57 11.8 +0.5
LSA pmax pmax
comp=Z,7.0nm,0.7s
LSA Lhasa 42.18 275 *e*P P 04 57 11.8 +0.5
comp=Z,7.2nm,0.7s
NVS Novosibirsk 42.47 313 *i* P P 04 57 13.0 +0.3
NVS *e* 04 57 25.2
NVS pmax pmax
comp=E,29nm,1.1s
NVS pmax pmax
comp=Z,41nm,1.1s
MHMT Maesarieng 42.59 255 P P 04 57 16.6 +2.4
comp=Z,7.5nm,1.2s,comp=Z,476nm
MK31 Makanchi Array 43.84 302 *e*P P 04 57 24.5 +0.5
MK31 Makanchi Array 43.84 302 *e*P P 04 57 24.5 +0.5
MKAR Makanchi Array 43.84 302 P P 04 57 24.5 +0.5
comp=Z,11nm,0.6s,baz=84,slow=8.8,SNR=72
MKAR Makanchi Array 43.84 302 P P 04 57 24.5 +0.5
MKAR pmax pmax
comp=Z,11nm,0.6s
MKAR Makanchi Array 43.84 302 *e*P P 04 57 24.6 +0.6
SBUM Sibu 44.07 225 *e*P P 04 57 26.4 +0.4
comp=Z,8.8nm,1.2s
SVW2 Sparrevohn 45.08 38 *e*P P 04 57 35.7 +2.1
comp=Z,9.3nm,1.0s
SVW2 *e*pP pP 04 57 48.1 +0.7
KURK Kurchatov 45.60 308 *e*P P 04 57 38.1 +0.2
KURK pmax pmax
comp=Z,57nm,0.7s
KURK Kurchatov 45.60 308 *e*P P 04 57 38.1 +0.2
comp=Z,57nm,0.7s
TAPN Taplejung 45.92 273 *e*P P 04 57 41.7 +0.6
comp=Z,18nm,0.5s
KSM Kuching 45.95 226 *e*P P 04 57 41.2 +0.2
comp=Z,10nm,1.0s
ODAN Odare 46.40 273 *e*P P 04 57 45.5 +0.7
comp=Z,55nm,0.7s
KDAK Kodiak Island 46.68 42 *i* P P 04 57 47.7 +1.5
PPLA Purkeypile 46.71 35 *e*P P 04 57 48.0 +1.4
comp=Z,3.3nm,0.6s
KAPI Kappang 46.95 210 *e*pP pP 04 58 03.5 +0.8
RAMN Ramite 46.98 274 *e*P P 04 57 49.7 +0.4
comp=Z,114nm,0.9s
JIRN Jiri 46.98 275 *e*P P 04 57 50.3 +0.8
comp=Z,32nm,0.4s
GUN Gumba 47.12 275 *e*P P 04 57 51.1 +0.6
comp=Z,63nm,0.5s
BPAW Bear Paw Mtn. 47.26 34 *e*P P 04 57 51.5 +0.7
comp=Z,2.0nm,1.4s
BPAW *e*PcP PcP 04 59 22.1 +1.0
TRF Thorofare Moun 47.57 34 *e*P P 04 57 54.5 +1.1
comp=Z,6.3nm,1.0s
PKI Pulchoki 47.64 275 *e*P P 04 57 54.7 +0.1
comp=Z,26nm,0.6s
KKN Kakani 47.65 275 *e*P P 04 57 55.1 +0.6
comp=Z,81nm,0.8s
PKIN Phulchoki 47.65 275 *e*P P 04 57 55.2 +0.6
comp=Z,21nm,0.7s
COLD Coldfoot 47.66 29 *e*P P 04 57 55.4 +1.6
comp=Z,3.6nm,0.9s
DMN Daman 47.87 275 *e*P P 04 57 56.5 +0.3
comp=Z,19nm,0.5s
GKN Gorkha 48.06 276 *e*P P 04 57 58.1 +0.5
comp=Z,157nm,0.9s
COLA College 48.60 32 *e*P P 04 57 59.1 -2.0
COLA pmax pmax
comp=Z,97nm,2.9s
COLA College 48.60 32 *e*P P 04 57 59.0 -2.0
comp=Z,97nm,2.9s
KOLN Koldanda 48.98 276 *e*P P 04 58 05.3 +0.5
comp=Z,52nm,0.8s
ILAR Eielson Array 49.02 33 P P 04 58 04.5 +0.3
comp=Z,4.7nm,0.8s,baz=268,slow=6.2,SNR=37
ILAR pP pP 04 58 18.2 -0.1
comp=Z,3.9nm,0.6s,baz=264,slow=5.4,SNR=8.3
ILAR Eielson Array 49.02 33 P P 04 58 04.6 +0.3
ILAR *PP pP 04 58 18.2 -0.1
ILAR pmax pmax
comp=Z,5.0nm,0.8s
ILAR pmax pmax
comp=Z,4.0nm,0.6s
ULHL Ulahol 49.13 297 P P 04 58 06.5 +0.8
SNR=8.9
TKM2 Tokmak 2 49.38 298 P P 04 58 08.9 +1.3
SNR=63
TKM2 Tokmak 2 49.38 298 *e*P P 04 58 08.8 +1.2
TKM2 pmax pmax
comp=Z,44nm,0.6s
TKM2 Tokmak 2 49.38 298 *e*P P 04 58 08.8 +1.2
comp=Z,44nm,0.6s
DIV Divide 49.83 37 *e*P P 04 58 12.1 +1.6
comp=Z,20nm,1.1s
KZA Kyzart 49.88 297 P P 04 58 13.5 +1.8
SNR=23
KBK Karagaybulak 49.92 298 P P 04 58 12.8 +1.1
SNR=13
CHMS Chumysh 49.95 298 P P 04 58 12.3 +0.6
SNR=5.1
USP Ospenovka 50.05 299 P P 04 58 13.2 +0.7
SNR=14
FRU Bishkek 50.10 298 *i* P P 04 58 14.0 +1.2
FRU *i* 04 58 32.0
KSH Kashi 50.20 294 P P 04 58 18.2 +4.4
KSH *e*pP pP 04 58 32.6 +4.8
KSH *e*PcP PcP 04 59 37.1 +4.8
KSH PP PP 05 00 16.4 +7.2
KSH PcS PcS 05 03 31.5 +1.9
KSH S S 05 05 23.5 +1.4
KSH ScS ScS 05 07 58.6 -1.8
KSH PMZ
comp=Z,11nm,0.7s
KSH PMZ
comp=Z,150nm,5.5s
KSH LN
comp=Z,100nm,6.0s
KSH LE
comp=Z,600nm,16.7s
KSH LZ
comp=Z,230nm,12.9s
BVAR Borovoye Array 50.21 312 P P 04 58 14.0 +0.5
comp=Z,9.4nm,0.6s,baz=78,slow=7.7,SNR=30
BVAR PcP PcP 04 59 32.2 +0.2
comp=Z,8.8nm,0.6s,baz=76,slow=2.9,SNR=7.8
BVAR Borovoye Array 50.21 312 P P 04 58 14.0 +0.5
BVAR 04 59 32.2
BVAR pmax pmax
comp=Z,9.0nm,0.6s
BVAR pmax pmax
comp=Z,9.0nm,0.6s
AAK Ala-Archa 50.24 298 P P 04 58 14.8 +0.7
SNR=13
AAK Ala-Archa 50.24 298*c* *i*P P 04 58 14.5 +0.4
AAK pmax pmax
comp=Z,35nm,0.8s
AAK Ala-Archa 50.24 298 *e*P P 04 58 14.6 +0.4
comp=Z,14nm,0.6s
BRVK Borovoye 50.27 312*ce*P P 04 58 14.3 +0.4
BRVK pmax pmax
comp=Z,18nm,0.7s
BRVK Borovoye 50.27 312 *e*P P 04 58 14.3 +0.4
comp=Z,24nm,0.9s
UCH Uchtor 50.36 297 P P 04 58 16.8 +1.5
SNR=9.0
BMRM Bremner River 50.41 37 *e*P P 04 58 16.5 +1.5
comp=Z,16nm,0.9s
EKS2 Erkin-Say 50.74 298 P P 04 58 18.4 +0.6
SNR=18
EKS2 Erkin-Say 50.74 298 *e*P P 04 58 18.2 +0.4
EKS2 *e* 04 59 34.3
EKS2 pmax pmax
comp=Z,11nm,0.6s
EKS2 Erkin-Say 50.74 298 *e*P P 04 58 18.2 +0.4
comp=Z,11nm,0.6s
EKS2 *e*PcP PcP 04 59 34.3 0.0
AML Almayashu 50.96 298 P P 04 58 21.2 +1.3
SNR=26
KKAR Karatay Array 52.86 300 *e*P P 04 58 33.8 +0.3
KKAR pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 52.86 300 *e*P P 04 58 33.8 +0.3
comp=Z,5.5nm,0.6s
CHLP Challavanipeta 53.27 266 *e*P P 04 58 36.4 -0.3
HYT Haines Junctio 53.85 37 *e*P P 04 58 42.5 +1.9
INK Inuvik 53.89 27 P P 04 58 41.9 +1.3
comp=Z,4.0nm,0.4s,baz=284,slow=8.3,SNR=6.8

INK Inuvik 53.89 27 P P 04 58 41.9 +1.3
INK pmax pmax
comp=Z,4.0nm,0.4s
GSI Gunungsitoli 54.10 239 *e*P P 04 58 42.7 -0.1
SVE Sverdlovsk 54.74 318*d* *i*P P 04 58 48.0 +1.0
SVE pmax pmax
comp=Z,70nm,1.0s
PVM Polavaram 55.89 266 *e*P P 04 58 55.5 -0.2
PVM IAmb IAmb 04 58 57.0
comp=Z,13nm,1.0s
ARU Arti 55.96 318*c* *i*P P 04 58 56.0 +0.3
ARU *PP pP 04 59 08.5 -1.4
ARU *SP sP 04 59 14.3 -1.6
ARU 04 59 52.7
ARU 05 00 56.4
ARU S S 05 06 42.0 +2.4
ARU SS SS 05 10 20.2 -5.4
ARU pmax pmax
comp=Z,66nm,1.0s
ARU Arti 55.96 318 *e*P P 04 58 56.0 +0.3
comp=Z,55nm,0.9s
ARU *e*PcP PcP 04 59 53.4 -0.2
RPR Rampur 56.86 269 *e*P P 04 59 02.1 -0.5
RPR IAmb IAmb 04 59 03.1
comp=Z,18nm,0.7s
KBL Kabul 57.23 291 *e*P P 04 59 05.3 -0.1
KBL pmax pmax
comp=Z,30nm,1.0s
KBL Kabul 57.23 291 *e*P P 04 59 05.3 -0.1
comp=Z,30nm,1.0s
SRSP Sriramsagar 57.58 270 *e*P P 04 59 07.0 -0.7
SRSP IAmb IAmb 04 59 08.5
comp=Z,34nm,1.0s
ABKAR Akbulak array 57.60 310 *e*P P 04 59 07.5 +0.1
comp=Z,12nm,0.5s
WRAB Tennant Creek 57.60 188*ce*P P 04 59 06.5 -1.2
WRAB pmax pmax
comp=Z,52nm,2.5s
WRAB Tennant Creek 57.60 188 *e*P P 04 59 06.5 -1.2
comp=Z,18nm,0.7s
WRAB *e* 04 59 20.5
WRA Warramunga Arr 57.61 188 P P 04 59 06.5 -1.2
comp=Z,6.5nm,0.6s,baz=6.1,slow=7.4,SNR=119
WRA pP pP 04 59 20.6 -1.4
comp=Z,15nm,0.7s,baz=5.7,slow=7.2,SNR=22
WRA Warramunga Arr 57.61 188 P P 04 59 06.6 -1.2
WRA *PP pP 04 59 20.7 -1.4
WRA pmax pmax
comp=Z,7.0nm,0.6s
WRA pmax pmax
comp=Z,15nm,0.7s
DLBC Dease Lake 58.18 38 P P 04 59 13.1 +1.6
comp=Z,3.4nm,0.9s,baz=290,slow=8.6,SNR=7.1
HYB Hyderabad 58.23 268 *i* P P 04 59 12.0 -0.4
HYBB Hyderabad (bro 58.23 268 *e*P P 04 59 12.2 -0.1
HYBB IAmb IAmb 04 59 13.1
comp=Z,22nm,0.9s
HYBB *e*PcP PcP 05 00 05.0 +1.7
AKTO Aktyubinsk 58.32 312 P P 04 59 12.5 0.0
comp=Z,20nm,0.9s,baz=73,slow=12,SNR=49
AKTO PcP PcP 05 00 02.7 -0.3
baz=78,slow=3.6
AKTO Aktyubinsk 58.32 312 P P 04 59 12.5 0.0
AKTO 05 00 02.7
AKTO pmax pmax
comp=Z,20nm,0.9s
SRLM Srisailam 58.70 267 *e*P P 04 59 15.3 -0.3
SRLM IAmb IAmb 04 59 16.2
comp=Z,12nm,1.0s
RCLA Racherla 59.01 266 *e*P P 04 59 17.3 -0.4
RCLA IAmb IAmb 04 59 18.7
comp=Z,14nm,0.9s
RCLA *e*sP sP 04 59 40.4 +2.3
SKHT Srikalahasti 59.40 264 *e*P P 04 59 20.5 +0.1
SKHT IAmb IAmb 04 59 21.9
comp=Z,20nm,0.8s
KLRI Killari 59.43 270 *e*P P 04 59 20.4 -0.3
KLRI IAmb IAmb 04 59 21.0
comp=Z,33nm,0.7s
PRGR Permogore 60.31 327 *e*P P 04 59 25.8 -0.2
PRGR *PP pP 04 59 39.7 -0.7
PRGR 05 01 38.9
PRGR pmax pmax
comp=Z,35nm,0.8s
AS31 Alice Springs 61.34 188 *e*P P 04 59 32.8 -0.6
ASAR Alice Springs 61.34 188 P P 04 59 32.6 -0.7
comp=Z,4.5nm,0.8s,baz=11,slow=6.6,SNR=46
ASAR pP pP 04 59 46.5 -1.3
comp=Z,9.9nm,0.8s,baz=11,slow=6.7,SNR=22
ASAR Alice Springs 61.34 188 P P 04 59 32.7 -0.7
ASAR *PP pP 04 59 46.5 -1.3
ASAR pmax pmax
comp=Z,5.0nm,0.8s
ASAR pmax pmax
comp=Z,10.0nm,0.8s
MBWA Marble Bar 61.90 203 *e*P P 04 59 36.9 -0.3
comp=Z,19nm,1.1s
RES Resolute Bay 62.06 14 P P 04 59 37.9 +0.2
comp=Z,14nm,0.8s,baz=309,slow=6.4,SNR=30
RES pP pP 04 59 51.8 -0.3
comp=Z,6.0nm,0.9s,baz=321,slow=7.6,SNR=5.3
RES Resolute Bay 62.06 14 P P 04 59 37.9 +0.2
RES *PP pP 04 59 51.8 -0.3
RES pmax pmax
comp=Z,14nm,0.8s
RES pmax pmax
comp=Z,6.0nm,0.9s
RES Resolute Bay 62.06 14 *e*P P 04 59 37.6 -0.1
comp=Z,13nm,0.9s
RES pP pP 04 59 51.8 -0.3
APA Apatity 62.19 336⇑*i*P P 04 59 39.1 +0.5
APA *e*S S 05 07 57.0 -2.9
APA pmax pmax
comp=Z,20nm,0.7s
APA MLR MLR
comp=Z,500nm,18.0s
TMCR Tamitsa 62.27 331 *e*P P 04 59 39.3 +0.1
TMCR pmax pmax
comp=Z,40nm,1.1s
KLMR Klimovskoe 63.30 328 *e*P P 04 59 43.9 -2.2
KLMR *SP sP 05 00 05.2 -1.3
KLMR 05 02 05.6
KLMR pmax pmax
comp=Z,27nm,0.8s
YKA Yellowknife Ar 63.32 30 P P 04 59 46.4 +0.2
comp=Z,3.5nm,0.7s,baz=302,slow=6.7,SNR=32
YKA pP pP 05 00 00.3 -0.4
comp=Z,1.9nm,0.6s,baz=302,slow=6.5,SNR=8.7
YKA Yellowknife Ar 63.32 30 P P 04 59 46.4 +0.2
YKA *PP pP 05 00 00.3 -0.4
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 63.49 339 P P 04 59 48.0 +0.7
comp=Z,13nm,0.8s,baz=51,slow=7.9,SNR=19
ARCES ARCESS Array B 63.49 339 P P 04 59 48.0 +0.7
ARCES pmax pmax
comp=Z,13nm,0.8s
IDAH Dahanechah 64.84 293 *e*P P 04 59 57.2 +0.1
IKOO Kooshah 65.63 293 *e*P P 05 00 01.9 -0.3
MOS Moscow 66.82 323 *e*P P 05 00 06.2 -2.8
MOS pmax pmax
comp=Z,50nm,1.0s
OBN Obninsk 67.66 323*ce*P P 05 00 14.5 +0.1
OBN pmax pmax
comp=Z,27nm,1.0s
LPSR Galich'ya Gora 67.89 320 *e*P P 05 00 16.0 +0.2
LPSR pmax pmax
comp=Z,30nm,0.8s
LPSR pmax pmax
comp=N,5.0nm,0.6s
LPSR pmax pmax
comp=E,7.0nm,0.8s
FINES FINESS Array B 68.33 332 P P 05 00 18.8 +0.3
comp=E,28nm,0.7s,baz=58,slow=7.2,SNR=82
FINES FINESS Array B 68.33 332 P P 05 00 18.8 +0.3
FINES pmax pmax
comp=Z,28nm,0.7s
VSR Storozhevoye 68.53 319 *e*P P 05 00 19.6 -0.3
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax

comp=Z,30nm,0.9s
I03D Drain, OR 68.55 51 ⇓P P 05 00 20.6 +0.4
baz=68
VORD Divnogorie 68.60 318 *e*P P 05 00 20.2 -0.1
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,20nm,1.0s
VORD pmax pmax
comp=Z,20nm,1.0s
EDM Edmonton 68.91 38 *e*P P 05 00 22.3 0.0
EDM Edmonton 68.91 38 *e*P P 05 00 22.3 0.0
STKA Stephens Creek 69.11 180 P P 05 00 23.4 -0.1
comp=Z,5.4nm,0.7s,baz=333,slow=6.6,SNR=17
STKA pP pP 05 00 36.6 -1.6
comp=Z,14nm,0.8s,baz=345,slow=7.4,SNR=20
STKA Stephens Creek 69.11 180 P P 05 00 23.4 -0.1
STKA *PP pP 05 00 36.6 -1.6
STKA pmax pmax
comp=Z,5.0nm,0.7s
STKA pmax pmax
comp=Z,14nm,0.8s
STKA Stephens Creek 69.11 180 *e*P P 05 00 22.9 -0.6
STKA pP pP 05 00 36.6 -1.6
FORT Forrest 69.15 192 *e*P P 05 00 22.7 -1.1
comp=Z,73nm,0.7s
L02D Cave Junction, 69.20 52 ⇑P P 05 00 24.9 +0.6
baz=69
I05D Terrebonne, OR 69.43 49 ⇓P P 05 00 27.0 +1.3
baz=69
J04D Umpqua Nationa 69.56 51 ⇓P P 05 00 27.9 +1.3
baz=69
NEW Newport 69.72 44 ⇑P P 05 00 28.2 +0.8
baz=70
GOF Gofitskoye 69.74 312 *e*P P 05 00 25.6 -1.9
YBH Yreka Blue Hor 70.00 52 P P 05 00 30.7 +1.4
comp=Z,1.7nm,0.8s,baz=75,slow=1.3,SNR=7.1
YBH pP pP 05 00 44.8 +0.9
comp=Z,3.7nm,0.9s,baz=275,slow=3.9,SNR=7.7
YBH Yreka Blue Hor 70.00 52 P P 05 00 30.7 +1.4
YBH *PP pP 05 00 44.8 +0.9
YBH pmax pmax
comp=Z,2.0nm,0.9s
YBH pmax pmax
comp=Z,4.0nm,0.9s
J05D Fort Rock, OR 70.07 50 ⇑P P 05 00 30.7 +0.9
baz=70,SNR=5.4
K04D Chiloquin, OR 70.11 51 ⇑P P 05 00 30.7 +0.7
baz=70
SUMG Summit 70.13 360 *i* P P 05 00 30.9 +0.9
comp=Z,12nm,0.8s
SUMG Summit 70.13 360 *i* P P 05 00 30.9 +0.9
SUMG pmax pmax
comp=Z,12nm,0.8s
SUMG Summit 70.13 360 *e*P P 05 00 30.7 +0.8
comp=Z,12nm,0.8s
N02D Trinity Center 70.41 53 ⇓P P 05 00 32.7 +0.9
baz=70
M04C Macdoel 70.51 52 ⇑P P 05 00 33.3 +0.8
baz=70
KBZ Khabaz 70.56 311 P P 05 00 33.3 +0.8
comp=Z,13nm,0.9s,baz=56,slow=3.8
KBZ Khabaz 70.56 311 P P 05 00 33.3 +0.8
KBZ pmax pmax
comp=Z,13nm,0.9s
KIV Kislovodsk 70.56 311 *e*P P 05 00 31.9 -0.8
KIV pmax pmax
comp=Z,38nm,1.0s
KIV MLR MLR
comp=Z,198nm,18.0s
KIV Kislovodsk 70.56 311 *e*P P 05 00 33.5 +0.8
comp=Z,46nm,1.1s
IPAR Pars 71.33 294 *e*P P 05 00 37.3 -0.5
BMO Blue Mountains 71.54 47 *e*P P 05 00 39.6 +1.0
comp=Z,6.2nm,0.9s
SWMT Swartz Lake 71.88 44 *e*P P 05 00 41.9 +1.2
comp=Z,6.2nm,1.0s
IDID Didziasalis 72.02 327 *e*P P 05 00 42.0 +0.8
IDID IAmb IAmb 05 00 43.2
comp=Z,11nm,1.0s
ISAL Salakas 72.12 327 *e*P P 05 00 42.6 +0.9
ISAL IAmb IAmb 05 00 44.0
comp=Z,13nm,0.7s
IIGN Ignalina 72.22 327 *e*P P 05 00 43.2 +0.8
IIGN IAmb IAmb 05 00 44.5
comp=Z,19nm,1.1s
IKAZ Kazeroun 72.24 294 *e*P P 05 00 42.7 -0.7
MSO Missoula 72.31 44 ⇓P P 05 00 43.5 +0.3
baz=72
SLMT Seeley Lake 72.31 44 *e*P P 05 00 44.0 +0.7
comp=Z,12nm,1.2s
ANN Anapa 73.16 314 *e*P P 05 00 48.0 -0.1
ANN pmax pmax
comp=Z,42nm,1.3s
FFC Flin Flon 73.23 33 *e*P P 05 00 48.6 +0.2
FFC pmax pmax
comp=Z,9.0nm,0.8s
FFC Flin Flon 73.23 33 *e*P P 05 00 48.6 +0.2
comp=Z,8.9nm,0.8s
MFID Camas Ranch 73.24 48 *e*P P 05 00 49.7 +0.8
comp=Z,3.4nm,0.8s
FCC Fort Churchill 73.50 27 *e*P P 05 00 49.8 0.0
FCC pmax pmax
comp=Z,6.0nm,0.6s
FCC Fort Churchill 73.50 27 *e*P P 05 00 49.8 0.0
comp=Z,6.5nm,0.6s
CMB Columbia Colle 73.54 55 *e*P P 05 00 51.4 +0.8
CMB *e* 05 01 05.6
CMB pmax pmax
comp=Z,8.0nm,1.1s
CMB Columbia Colle 73.54 55 *e*P P 05 00 51.4 +0.8
comp=Z,8.5nm,1.1s
CMB *e* 05 01 05.6
NB2 NORSAR Subarra 73.68 337 P P 05 00 51.1 +0.1
comp=Z,14nm,0.7s,baz=39,slow=6.2
NB2 NORSAR Subarra 73.68 337 P P 05 00 51.1 +0.1
baz=39,slow=6.2
NOA NORSAR Array B 73.68 337 P P 05 00 51.3 +0.3
comp=Z,16nm,0.8s,baz=39,slow=5.9,SNR=57
NOA pP pP 05 01 06.0 +0.3
comp=Z,4.4nm,0.9s,baz=43,slow=5.5,SNR=5.4
NOA NORSAR Array B 73.68 337 P P 05 00 51.3 +0.3
NOA *PP pP 05 01 06.0 +0.3
NOA pmax pmax
comp=Z,16nm,0.8s
NOA pmax pmax
comp=Z,4.0nm,0.9s
LRM Limekiln Ridge 73.74 44 *e*P P 05 00 52.7 +0.9
comp=Z,95nm,0.9s
LRM *e* 05 01 06.7
A19A Klindworth Far 73.81 40 ⇑P P 05 00 52.5 +0.6
baz=74,SNR=12
EGMT Eagleton 73.85 41 ⇑P P 05 00 52.9 +0.7
baz=74,SNR=8.8
EGMT Eagleton 73.85 41 *e*P P 05 00 52.5 +0.3
AKASG Malin Array Be 73.87 322 P P 05 00 52.2 +0.1
comp=Z,11nm,0.4s,baz=45,slow=6.0,SNR=62
AKASG Malin Array Be 73.87 322 P P 05 00 52.3 +0.1
AKASG pmax pmax
comp=Z,11nm,0.4s
AKBB Malin Array Si 73.87 322 *e*P P 05 00 52.2 0.0
AKBB Malin Array Si 73.87 322 *e*P P 05 00 52.2 0.0
AK01 Malin Array Si 73.88 322 *e*P P 05 00 52.1 -0.1
KIEV Kiev 73.88 322 *e*P P 05 00 52.3 +0.1
KIEV pmax pmax
comp=Z,16nm,0.5s
KIEV Kiev 73.88 322 *e*P P 05 00 52.3 +0.1
comp=Z,16nm,0.5s
AK02 Malin Array Si 73.91 322 *e*P P 05 00 52.5 +0.1
NAO01 NORSAR Array S 73.94 337 *e*P P 05 00 52.6 +0.2
comp=Z,4.6nm,0.5s
DLMT Dillon 73.94 45 *e*P P 05 00 54.0 +1.1
comp=Z,7.7nm,0.9s
HLID Hailey 73.98 47 ⇓P P 05 00 54.2 +1.0
baz=74,SNR=5.3
HLID Hailey 73.98 47 *e*P P 05 00 54.2 +1.0
HLID *e* 05 01 08.5
B19A Brinkman Farms 74.00 41 ⇓P P 05 00 53.8 +0.7
baz=74,SNR=8.1
A20A Cobblestone Ra 74.25 40 ⇓P P 05 00 54.8 +0.2
baz=74
BOZ Bozeman (W) 74.31 44 *e*P P 05 00 56.0 +1.0
BOZ Bozeman (W) 74.31 44 *e*P P 05 00 56.0 +1.0
C19A Slack Wire Ran 74.40 41 ⇓P P 05 00 56.6 +1.2
baz=74,SNR=16
NVAR Mina Array Bea 74.65 53 P P 05 00 58.2 +1.0

comp=Z,2.3nm,0.8s,baz=288,slow=6.1,SNR=15
NVAR pP **pP** **05 01 12.3 +0.2**
comp=Z,6.7nm,0.9s,baz=280,slow=6.8,SNR=14
A21A Bergtoll Ranch 74.69 39 ⇓P **P** **05 00 57.7 +0.6**
baz=74
D19A Cripps Ranch, 74.85 42 ⇓P **P** **05 00 59.6 +1.6**
baz=75,SNR=12
QLMT Earthquake Lak 74.92 45 *e*P **P** **05 01 00.1 +1.4**
comp=Z,0.5nm,0.7s
C20A Veseth Ranch, 74.96 41 ⇓P **P** **05 00 59.6 +1.0**
baz=75,SNR=7.2
B21A Ellsworth Farm 75.01 40 ⇑P **P** **05 00 59.3 +0.4**
baz=75
A22A Carney Farms, 75.20 39 ⇓P **P** **05 01 00.6 +0.6**
baz=75,SNR=12
D20A Manuel Ranch, 75.29 41 ⇓P **P** **05 01 01.6 +1.1**
baz=75,SNR=9.4
GCMT Greycliff 75.29 43 *e*P **P** **05 01 01.8 +1.1**
SFJD Kangerlussuaq 75.33 5 *i* P **P** **05 01 00.2 -0.1**
comp=Z,9.0nm,0.7s
SFJD Kangerlussuaq 75.33 5 *i* P **P** **05 01 00.2 -0.1**
SFJD pmax pmax
comp=Z,9.0nm,0.7s
E19A Rath Farm, Rou 75.34 42 ⇑P **P** **05 01 02.0 +1.0**
baz=75,SNR=13
C21A Desert Coulee 75.36 40 ⇑P **P** **05 01 01.8 +0.8**
baz=75,SNR=6.9
TPH Tonopah 75.54 53 *e*P **P** **05 01 03.6 +1.2**
TPH *e* 05 01 17.6
TPH pmax pmax
comp=Z,10.0nm,1.0s
TPH Tonopah 75.54 53 *e*P **P** **05 01 03.6 +1.2**
comp=Z,10.0nm,1.0s
TPH *e* 05 01 17.6
B22A Reddig Ranch S 75.61 40 ⇑P **P** **05 01 02.6 +0.2**
baz=75
F19A Roth Farm, Mol 75.64 43 ⇓P **P** **05 01 03.1 +0.4**
baz=76,SNR=7.7
VES Vestal, Richgr 75.66 56 ⇑P **P** **05 01 02.8 0.0**
baz=76
LKWY Lake 75.66 45 *e*P **P** **05 01 05.9 +2.9**
LKWY pmax pmax
comp=Z,5.0nm,0.9s
LKWY Lake 75.66 45 *e*P **P** **05 01 05.9 +2.9**
comp=Z,4.7nm,0.9s
H17A Grant Village 75.67 45 ⇑P **P** **05 01 05.6 +2.6**
baz=76,SNR=12
H17A Grant Village 75.67 45 *e*P **P** **05 01 05.5 +2.5**
comp=Z,14nm,0.9s
H17A *e* 05 01 20.1
PKM Mcpherson Peak 75.72 57 ⇑P **P** **05 01 04.5 +1.1**
baz=76
A23A Redstone 75.73 39 ⇓P **P** **05 01 03.0 0.0**
baz=76
IMW Indian Meadow 75.77 45 *e*P **P** **05 01 05.4 +1.7**
comp=Z,5.8nm,0.8s
IMW *e* 05 01 19.4
FLWY Flagg Ranch 75.79 45 *e*P **P** **05 01 05.3 +1.6**
comp=Z,1.5nm,0.6s
FXWY Fox Creek 75.89 46 *e*P **P** **05 01 06.1 +1.8**
I17A Pilgrim Ck. 75.97 45 ⇑P **P** **05 01 06.0 +1.3**
baz=76
MOOW Moose Ponds 75.98 45 *e*P **P** **05 01 06.3 +1.5**
H18A Shoshone NF, C 76.00 44 ⇑P **P** **05 01 05.7 +0.9**
baz=76
B23A Brockton 76.01 39 ⇑P **P** **05 01 05.1 +0.5**
baz=76,SNR=6.5
GRAC Grapevine Rang 76.09 54 ⇓P **P** **05 01 06.3 +1.0**
baz=76
F20A Billings 76.11 42 ⇑P **P** **05 01 06.2 +0.9**
baz=76
SNOW Snow King Moun 76.15 46 *e*P **P** **05 01 06.7 +0.8**
comp=Z,8.8nm,0.9s
REDW Red Top Meadow 76.16 46 *e*P **P** **05 01 06.8 +1.0**
comp=Z,2.4nm,0.9s
A24A Westby 76.19 38 ⇑P **P** **05 01 06.6 +1.0**
baz=76
E21A Keefer Ranch, 76.20 41 ⇓P **P** **05 01 06.6 +0.8**
baz=76
D22A Cohagen 76.27 41 ⇑P **P** **05 01 06.8 +0.7**
baz=76,SNR=6.9
C23A Lambert 76.35 40 ⇓P **P** **05 01 07.4 +0.8**
baz=76,SNR=6.6
H19A Powell 76.38 44 ⇑P **P** **05 01 07.9 +1.0**
baz=76
R11A Troy Canyon, C 76.41 52 ⇑P **P** **05 01 08.0 +0.7**
baz=76,SNR=6.4
R11A Troy Canyon, C 76.41 52 *e*P **P** **05 01 08.0 +0.7**
comp=Z,8.9nm,1.1s
R11A *e* 05 01 22.4
G20A Bridger 76.44 43 ⇑P **P** **05 01 07.4 +0.1**
baz=76
MALT Malatya 76.45 308 ⇓*i*P **P** **05 01 08.9 +1.5**
MPMC Manual Prospec 76.57 55 ⇑P **P** **05 01 09.0 +0.8**
baz=76
FURC Furnace Creek, 76.73 54 ⇑P **P** **05 01 09.9 +1.0**
baz=77
I19A Meeteetse 76.78 44 ⇓P **P** **05 01 09.8 +0.5**
baz=77
TPNV Topopah Spring 76.83 53 ⇓P **P** **05 01 10.2 +0.5**
baz=77
C24A Savage 76.91 39 ⇑P **P** **05 01 10.6 +0.8**
baz=77
LVV L'vov 76.94 324 *e*P **P** **05 01 10.1 +0.3**
EDW2 Edwards Air Fo 76.95 56 ⇓P **P** **05 01 10.9 +0.7**
baz=77
DUG Dugway, Tooele 76.98 49 *e*P **P** **05 01 11.4 +0.9**
DUG Dugway, Tooele 76.98 49 ⇑P **P** **05 01 11.3 +0.9**
baz=77
DUG Dugway, Tooele 76.98 49 *e*P **P** **05 01 11.4 +0.9**
G21A Lodge Grass 76.98 42 ⇑P **P** **05 01 11.4 +1.1**
baz=77
H20A Greybull 77.03 43 ⇓P **P** **05 01 11.2 +0.6**
baz=77
F22A Rosebud 77.13 42 ⇑P **P** **05 01 11.8 +0.8**
baz=77
E23A Ismay 77.15 41 ⇑P **P** **05 01 11.8 +0.7**
baz=77,SNR=6.3
A26A Wade Farm, Ken 77.16 37 ⇑P **P** **05 01 11.7 +0.6**
baz=77,SNR=5.5
J19A Crowheart 77.24 45 ⇑P **P** **05 01 12.9 +1.0**
baz=77,SNR=11
BW06 Boulder Array 77.27 46 *e*P **P** **05 01 12.2 +0.1**
comp=Z,4.5nm,0.8s
BW06 *e* 05 01 26.6
PDAR Pinedale Array 77.27 46 P **P** **05 01 12.4 +0.3**
comp=Z,2.4nm,0.8s,baz=328,slow=3.0,SNR=18
PDAR pP **pP** **05 01 26.9 -0.1**
comp=Z,3.6nm,0.7s,baz=308,slow=2.9,SNR=11
I20A Worland 77.31 44 ⇑P **P** **05 01 13.2 +1.0**
baz=77
B26A Jensen Ranch, 77.42 38 ⇑P **P** **05 01 13.2 +0.6**
baz=77
FMP Fort Macarthur 77.44 57 ⇓P **P** **05 01 13.9 +1.1**
baz=77
H21A Big Horn, Sher 77.46 43 ⇓P **P** **05 01 14.0 +1.0**
baz=77
GSC Goldstone, Bar 77.47 55 ⇓P **P** **05 01 14.1 +0.9**
baz=77
G22A Birney 77.48 42 ⇓P **P** **05 01 13.8 +0.8**
baz=77
JLU Jordanelle 77.54 48 *e*P **P** **05 01 14.5 +0.8**
comp=Z,2.8nm,0.7s
F23A Volborg 77.61 41 ⇑P **P** **05 01 14.3 +0.5**
baz=77,SNR=8.4
E24A Baker 77.62 40 ⇑P **P** **05 01 14.3 +0.5**
baz=77
J20A Shoshoni 77.72 44 ⇓P **P** **05 01 15.3 +0.8**
baz=78
D25A Fairfield 77.72 39 ⇓P **P** **05 01 15.2 +0.9**
baz=78
SHPR Sheep Range 77.80 53 *e*P **P** **05 01 15.8 +0.7**
H22A Clearmont 77.86 43 ⇓P **P** **05 01 15.7 +0.5**
baz=78
I21A Big Trails, Te 77.86 44 ⇑P **P** **05 01 15.8 +0.6**
baz=78,SNR=6.5
C26A Wahner Farm, P 77.87 38 ⇓P **P** **05 01 15.7 +0.6**
baz=78
BUR08 Bucovina Ar. S 77.88 322 *e*P **P** **05 01 15.7 +0.4**
BURAR Bucovina Array 77.89 322 ⇑*i*P **P** **05 01 15.9 +0.6**
TESR Tescani 77.92 320 ⇓*i*P **P** **05 01 15.8 +0.4**
MUD Monsted U'grnd 77.96 335 *i* P **P** **05 01 16.0 +0.7**
comp=Z,12nm,0.8s
MUD Monsted U'grnd 77.96 335 *e*P **P** **05 01 16.0 +0.7**
MUD pmax pmax
comp=Z,12nm,0.8s
A28A Rude Farm, Bot 78.00 36 ⇓P **P** **05 01 16.2 +0.4**
baz=78,SNR=5.4
F24A Ekalaka 78.03 41 ⇓P **P** **05 01 16.6 +0.5**
baz=78
CFR Carcaliu 78.04 318 ⇑*i*P **P** **05 01 16.5 +0.5**
J21A Lysite 78.08 44 ⇓P **P** **05 01 16.8 +0.3**
baz=78
E25A Miller Ranch, 78.12 40 ⇓P **P** **05 01 17.0 +0.4**
baz=78
C27A Sayler Ranch, 78.24 38 ⇑P **P** **05 01 17.7 +0.6**
baz=78
D26A Manning 78.25 39 ⇑P **P** **05 01 17.5 +0.3**
baz=78
I22A 9 Mile Ranch, 78.25 43 ⇓P **P** **05 01 17.7 +0.3**
baz=78
B28A Dugan Ranch, T 78.28 37 ⇓P **P** **05 01 17.5 +0.2**
baz=78
VRI Vrinceioaia 78.32 320 ⇓*i*P **P** **05 01 18.6 +1.0**
PLOR Plostina 78.37 320 ⇑*i*P **P** **05 01 20.5 +2.6**
TIRR Tirgusor 78.38 318 ⇓*i*P **P** **05 01 18.1 +0.2**
KOLS Kolonicke sedl 78.38 324 *e*P **P** **05 01 18.4 +0.5**
H23A Clabaugh Cattl 78.39 42 ⇓P **P** **05 01 18.4 +0.2**
baz=78
MSU Marysvale 78.42 50 *e*P **P** **05 01 20.4 +1.9**
MSU pmax pmax
comp=Z,6.0nm,1.1s
MSU Marysvale 78.42 50 *e*P **P** **05 01 20.4 +1.9**
comp=Z,6.3nm,1.1s
A29A Manning Farm, 78.47 36 ⇓P **P** **05 01 19.0 +0.6**
baz=78,SNR=7.7
HARR Harra 78.48 318 ⇓*i*P **P** **05 01 19.3 +0.9**
F25A Bowman 78.48 40 ⇓P **P** **05 01 18.7 +0.2**
baz=78
TLB Topalu 78.49 318 ⇑*i*P **P** **05 01 19.2 +0.7**
BR131 Keskin Array S 78.50 311 *e*P **P** **05 01 19.2 +0.3**
comp=Z,2.7nm,0.8s
BRTR Keskin Array B 78.50 311 P **P** **05 01 19.4 +0.6**
comp=Z,2.8nm,0.7s,baz=102,slow=4.2,SNR=13
BRTR Keskin Array B 78.50 311 P **P** **05 01 19.5 +0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 78.52 325 *e*P **P** **05 01 20.4 +1.8**
STHS pmax pmax
comp=Z,7.0nm,0.9s
STHS Stebnicka Huta 78.52 325 *e*P **P** **05 01 20.4 +1.8**
GMRC Granite Mounta 78.53 55 ⇑P **P** **05 01 19.4 +0.3**
baz=78
J22A Midwest 78.57 44 ⇑P **P** **05 01 19.5 +0.3**
baz=78,SNR=11
OJC Ojcow 78.59 326 *e*P **P** **05 01 19.9 +0.9**
OJC Ojcow 78.59 326 *e*P **P** **05 01 19.9 +0.9**
E26A Carlson Angus 78.62 39 ⇑P **P** **05 01 19.6 +0.3**
baz=78
D27A Center 78.64 38 ⇓P **P** **05 01 19.0 -0.4**
baz=78
H24A Dirks Ranch, A 78.71 42 ⇑P **P** **05 01 19.8 -0.1**
baz=78
B29A Wagenman Farm, 78.74 36 ⇓P **P** **05 01 19.7 -0.2**
baz=78
C28A Hausauer Farms 78.78 37 ⇓P **P** **05 01 20.5 +0.4**
baz=79
TRPA Tarpa 78.83 323 ⇓*i*P **P** **05 01 20.8 +0.5**
A30A Hoffart Farm, 78.89 35 ⇓P **P** **05 01 20.8 +0.1**
baz=79
ISR Istrita 78.92 319 ⇑*i*P **P** **05 01 22.3 +1.3**
DOPR Dopca 78.93 320 ⇓*i*P **P** **05 01 23.1 +2.1**
MSAB Monastry St. A 78.94 318 ⇑*i*P **P** **05 01 21.9 +0.9**
MLR Muntele Rosu 78.97 320 ⇑*i*P **P** **05 01 22.0 +0.6**
SRU San Rafael Swe 79.04 49 *e*P **P** **05 01 22.7 +0.8**
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael Swe 79.04 49 *e*P **P** **05 01 22.6 +0.8**
comp=Z,5.8nm,0.9s
K22A Casper 79.04 44 ⇓P **P** **05 01 21.9 0.0**
baz=79
MDND Maddock 79.06 37 ⇑P **P** **05 01 21.8 +0.2**
baz=79
E27A Carson 79.10 39 ⇑P **P** **05 01 22.3 +0.4**
baz=79
B30A Myrvik Farm, E 79.23 36 ⇓P **P** **05 01 22.9 +0.3**
baz=79,SNR=8.3
IRM Iron Mountain 79.25 55 ⇓P **P** **05 01 23.4 +0.5**
baz=79
F27A Lemmon 79.25 40 ⇓P **P** **05 01 22.9 +0.2**
baz=79
N20A Spence Gulch, 79.25 46 ⇓P **P** **05 01 23.5 +0.3**
baz=79
H25A Fruitdale 79.30 41 ⇑P **P** **05 01 23.6 +0.5**
baz=79
G26A Maurine 79.36 40 ⇑P **P** **05 01 23.6 +0.3**
baz=79
BC3 Big Chuckawall 79.36 56 ⇓P **P** **05 01 24.1 +0.5**
baz=79
RSSD Black Hills 79.41 42 *e*P **P** **05 01 24.4 +0.5**
RSSD pmax pmax
comp=Z,3.0nm,0.9s
RSSD Black Hills 79.41 42 *e*P **P** **05 01 24.4 +0.5**
comp=Z,3.4nm,0.9s
E28A Huff 79.43 38 ⇓P **P** **05 01 24.0 +0.3**
baz=79
VOIR 79.47 320 ⇑*i*P **P** **05 01 25.2 +1.2**
KECS Kecovo 79.53 325 *e*P **P** **05 01 25.3 +1.1**
BSEG Bad Segeberg 79.58 333 *e*P **P** **05 01 24.9 +0.7**
comp=Z,18nm,1.0s
BSEG *e*PP **PP** **05 04 23.9 -0.7**
I25A Rochford 79.64 42 ⇑P **P** **05 01 25.1 0.0**
baz=79
G27A Dupree 79.64 40 ⇓P **P** **05 01 25.2 +0.3**
baz=79
DRGR 79.69 322 ⇓*i*P **P** **05 01 25.6 +0.5**
C30A Mose, Pekin 79.70 36 ⇑P **P** **05 01 25.3 +0.2**
baz=80
ARR Arges 79.73 320 ⇓*i*P **P** **05 01 27.0 +1.6**
H26A Fairpoint 79.73 41 ⇑P **P** **05 01 25.2 -0.2**
baz=80
F28A McLaughlin 79.88 39 ⇑P **P** **05 01 26.1 -0.1**
baz=80
MORC Moravsky Berou 79.91 327 *e*P **P** **05 01 26.6 +0.3**
MORC pmax pmax
comp=Z,12nm,1.1s
MORC Moravsky Berou 79.91 327 ⇑*i*P **P** **05 01 27.1 +0.9**
MORC Moravsky Berou 79.91 327 *e*P **P** **05 01 26.6 +0.3**
comp=Z,12nm,1.1s
Y12C Blythe 79.91 55 ⇑P **P** **05 01 27.1 +0.6**
baz=80
E29A Napoleon 79.95 38 ⇓P **P** **05 01 26.4 -0.1**
baz=80
D30A Buchanan 79.99 37 ⇓P **P** **05 01 26.9 +0.2**
baz=80
DPC Dobruska-Polom 80.00 328 *e*P **P** **05 01 27.9 +1.2**
DPC *e*PCP **PcP** **05 01 36.9 +2.8**
DPC *e*pP **pP** **05 01 41.8 +0.1**
DPC Dobruska-Polom 80.00 328 *e*P **P** **05 01 27.9 +1.2**
DPC *e* 05 01 36.9
DPC *e* 05 01 41.8
KRLC Kraliky 80.01 327 *e*P **P** **05 01 27.5 +0.7**
KRLC Kraliky 80.01 327 *e*P **P** **05 01 27.5 +0.7**
UPC Upice 80.01 328 *e*P **P** **05 01 27.7 +1.0**
UPC Upice 80.01 328 *e*P **P** **05 01 27.7 +1.0**
J25A Sunshine Ranch 80.03 42 ⇑P **P** **05 01 27.2 +0.1**
baz=80
H27A Howes 80.08 40 ⇓P **P** **05 01 27.6 +0.3**
baz=80,SNR=5.6
I26A New Underwood 80.09 41 ⇓P **P** **05 01 27.7 +0.4**
baz=80
PSZ Piszkesteto 80.22 324 *e*P **P** **05 01 28.8 +0.8**
PSZ pmax pmax
comp=Z,10.0nm,0.8s
PSZ Piszkesteto 80.22 324 ⇓*i*P **P** **05 01 29.2 +1.2**
PSZ Piszkesteto 80.22 324 *e*P **P** **05 01 28.8 +0.8**
comp=Z,9.5nm,0.8s
N22A Wattenberg Ran 80.31 46 ⇑P **P** **05 01 29.5 +0.6**
baz=80
E30A Jud 80.35 38 ⇑P **P** **05 01 28.8 +0.2**
baz=80
G28A Parade 80.36 40 ⇑P **P** **05 01 29.1 +0.3**
baz=80
F29A Eureka 80.38 38 ⇑P **P** **05 01 29.0 +0.2**
baz=80
RAYN Ar Rayn 80.46 292 *e*P **P** **05 01 29.4 -0.2**
comp=Z,8.3nm,0.8s
J26A Sides Ranch, S 80.47 42 ⇑P **P** **05 01 29.8 +0.4**
baz=80
AGMN Agassiz Nation 80.47 35 ⇓P **P** **05 01 28.8 -0.4**
baz=80,SNR=6.3
AGMN Agassiz Nation 80.47 35 *e*P **P** **05 01 28.8 -0.4**
comp=Z,7.6nm,0.9s
I27A Quinn 80.48 41 ⇑P **P** **05 01 29.5 0.0**
baz=80,SNR=5.2
K25A Mack Ranch, Ha 80.52 43 ⇓P **P** **05 01 29.6 -0.2**
baz=80
N23A Red Feather La 80.53 45 ⇑P **P** **05 01 30.5 +0.4**
baz=80,SNR=5.1
BRG Berggiesshubel 80.58 329 *e*P **P** **05 01 30.4 +0.6**
comp=Z,8.6nm,0.9s
BRG Berggiesshubel 80.58 329 *e*P **P** **05 01 30.0 +0.2**
comp=Z,9.0nm,0.9s
BRG Berggiesshubel 80.58 329 *e*P **P** **05 01 30.4 +0.6**
BRG pmax pmax
comp=Z,9.0nm,0.9s
H28A Mission Ridge 80.59 40 ⇑P **P** **05 01 30.8 +0.8**
baz=80,SNR=5.2
PVCC Panska Ves 80.59 329 *e*P **P** **05 01 30.8 +0.9**
PVCC *ex* x 05 01 51.1
PVCC Panska Ves 80.59 329 *e*P **P** **05 01 30.8 +0.9**
PVCC *e* 05 01 51.1
CLL Collm 80.63 330 *e*P **P** **05 01 30.0 0.0**
comp=Z,15nm,0.9s
CLL Collm 80.63 330 ⇑*i*P **P** **05 01 30.0 0.0**
comp=Z,15nm,0.9s
CLL *i* pP **pP** **05 01 45.2 +0.3**
CLL Collm 80.63 330 ⇑*i*P **P** **05 01 30.0 0.0**
CLL *i* *PP **pP** **05 01 45.2 +0.3**
CLL pmax pmax
comp=Z,15nm,0.9s
GZR Gura Zlata 80.64 321 ⇓*i*P **P** **05 01 31.1 +0.8**
VRAC Vranov 80.67 327 ⇑*i*P **P** **05 01 31.4 +1.1**
O22A Kremmling 80.68 46 ⇓P **P** **05 01 31.2 +0.2**
baz=80
F30A Leola 80.77 38 ⇓P **P** **05 01 30.6 -0.3**
baz=81
G29A Hoven 80.78 39 ⇓P **P** **05 01 30.8 -0.2**
baz=81
L25A Engebretsen Ra 80.78 43 ⇑P **P** **05 01 31.0 -0.2**
baz=81
NRDL Niedersach Rie 80.80 332 *e*P **P** **05 01 31.4 +0.6**
comp=Z,7.0nm,0.8s
NRDL *e*PP **PP** **05 04 33.9 -0.8**
WUAZ Wupatki 80.81 52 ⇑P **P** **05 01 32.9 +1.3**
baz=81
WUAZ Wupatki 80.81 52 *e*P **P** **05 01 33.5 +2.0**
K26A Motz Farm, Whi 80.83 42 ⇑P **P** **05 01 31.8 +0.3**
baz=81
PV01 Paradox Valley 80.84 49 *e*P **P** **05 01 32.5 +0.8**
comp=Z,821nm,1.3s
P22A Eagle 80.94 47 ⇑P **P** **05 01 32.8 +0.6**
baz=81,SNR=5.6
GOPC GO Pecny, Ondr 80.97 328 *e*P **P** **05 01 32.8 +0.9**
I28A Midland 80.99 40 ⇓P **P** **05 01 32.6 +0.4**
baz=81,SNR=5.6
O23A Lake Granby, G 81.01 46 ⇑P **P** **05 01 33.6 +1.0**
baz=81,SNR=6.1
PRU Pruhonice 81.02 328 *e*P **P** **05 01 32.8 +0.7**
PRU *e*PCP **PcP** **05 01 35.2 -3.3**
PRU *ex* x 05 01 52.8
PRU Pruhonice 81.02 328 *e*P **P** **05 01 32.8 +0.7**
PRU *e* 05 01 52.8
H29A Onida 81.04 40 ⇓P **P** **05 01 32.7 +0.3**
baz=81
BZS Buzias 81.06 322 ⇑*i*P **P** **05 01 32.8 +0.4**
J27A Elkhorn Farm, 81.07 41 ⇓P **P** **05 01 33.3 +0.6**
baz=81
TREC Trest 81.15 328 *e*P **P** **05 01 33.6 +0.7**
TREC Trest 81.15 328 *e*P **P** **05 01 33.6 +0.7**
G30A Faulkton 81.21 39 ⇓P **P** **05 01 33.2 -0.1**
baz=81,SNR=10
CLZ Clausthal 81.22 332 *e*P **P** **05 01 34.0 +0.8**
comp=Z,16nm,1.1s
L26A Underwood Farm 81.34 43 ⇓P **P** **05 01 34.5 +0.3**
baz=81
J28A Allard Ranch, 81.36 41 ⇑P **P** **05 01 34.5 +0.4**
baz=81
I29A Vivian Onida 81.42 40 ⇓P **P** **05 01 34.8 +0.4**
baz=81
ISCO Idaho Springs 81.46 46 ⇓P **P** **05 01 35.5 +0.5**
baz=81
MVCO Mesa Verde 81.48 49 ⇑P **P** **05 01 35.9 +0.7**
baz=81
MVCO Mesa Verde 81.48 49 *e*P **P** **05 01 36.3 +1.1**
P23A Jefferson 81.61 46 ⇑P **P** **05 01 36.1 +0.2**
baz=81
NKC Novy Kostel 81.69 330 *e*P **P** **05 01 36.3 +0.6**
NKC Novy Kostel 81.69 330 *e*P **P** **05 01 36.3 +0.6**
K28A Ten Mile Ranch 81.79 41 ⇓P **P** **05 01 36.8 +0.3**
baz=82
BRSD Miller 81.80 39 ⇓P **P** **05 01 36.7 +0.3**
baz=82
IBBN Ibbenburen 81.80 333 *e*P **P** **05 01 36.1 -0.1**
comp=Z,20nm,0.8s
I30A Oacoma 81.94 40 ⇑P **P** **05 01 37.4 +0.3**
baz=82,SNR=8.9
CONA Conrad Observa 82.03 326 ⇑*i*P **P** **05 01 38.8 +1.2**
comp=Z,9.3nm,0.9s
KHC Kasperske Hory 82.08 328 *e*P **P** **05 01 38.5 +0.7**
KHC *e*PCP **PcP** **05 01 41.4 -1.8**
KHC *e*pP **pP** **05 01 53.6 +0.8**
KHC Kasperske Hory 82.08 328 *e*P **P** **05 01 38.5 +0.7**
KHC *e* 05 01 53.6
S22A 4UR Ranch, Cre 82.12 48 ⇑P **P** **05 01 40.0 +1.4**
baz=82,SNR=6.2
ROTZ Rotzenmuhle 82.15 330 *e*P **P** **05 01 38.9 +0.8**
comp=Z,20nm,1.6s
214A Organ Pipe Nat 82.15 56 ⇑P **P** **05 01 38.9 +0.4**
baz=82
GEC2 GERESS Array S 82.25 328 *e*P **P** **05 01 39.0 +0.2**
comp=Z,7.0nm,0.8s
GERES GERESS Array B 82.25 328 P **P** **05 01 39.0 +0.2**
comp=Z,3.6nm,0.6s,baz=34,slow=5.3,SNR=19
GERES GERESS Array B 82.25 328 P **P** **05 01 39.0 +0.2**
GERES pmax pmax
comp=Z,4.0nm,0.6s
Q24A Divide 82.28 46 ⇓P **P** **05 01 40.1 +0.7**
baz=82
K29A Lazy Trails An 82.30 41 ⇑P **P** **05 01 39.4 +0.2**
baz=82
J30A Dallas 82.33 40 ⇑P **P** **05 01 39.5 +0.3**
baz=82
WET Wettzell 82.36 329 *e*P **P** **05 01 39.7 +0.4**
comp=Z,9.0nm,1.1s
VTS Vitosha 82.41 319 ⇓*i*P **P** **05 01 40.7 +0.9**
R23A Moffat 82.42 47 ⇓P **P** **05 01 41.2 +1.1**
baz=82,SNR=7.4
O26A Horse Wrangler 82.45 44 ⇓P **P** **05 01 40.2 +0.2**
baz=82
N27A Anderson Farm, 82.49 43 ⇑P **P** **05 01 40.3 +0.1**
baz=82
GRA2 Grafenberg Arr 82.57 330 *e*P **P** **05 01 41.3 +0.9**
GRF Grafenberg Arr 82.60 330 *e*P **P** **05 01 41.5 +1.0**
comp=Z,18nm,0.9s
EYMN Ely 82.67 33 *e*P **P** **05 01 40.4 -0.5**
comp=Z,31nm,1.6s
BUG Bochum--Univer 82.69 333 *e*P **P** **05 01 41.1 +0.3**
comp=Z,11nm,0.7s
K30A Basset 82.73 41 ⇓P **P** **05 01 41.8 +0.5**
baz=82
P26A Davis Ranch, A 82.90 45 ⇓P **P** **05 01 41.4 -1.0**
baz=83
SDCO Great Sand Dun 82.91 47 ⇑P **P** **05 01 43.3 +0.6**
baz=83,SNR=5.2
O27A Beecher Island 82.95 44 ⇑P **P** **05 01 42.6 +0.1**
baz=83
DIVS Divibare 82.95 322 ⇓*i*P **P** **05 01 42.9 +0.4**
Q26A Hugo 83.24 45 ⇑P **P** **05 01 44.0 -0.2**
baz=83
TNS Taunus Mts 83.25 332 *e*P **P** **05 01 44.0 +0.1**
comp=Z,8.0nm,0.9s
PERS Pernice 83.34 326 *i* P **P** **05 01 44.8 +0.4**
SOKA Soboth 83.34 326 ⇑*i*P **P** **05 01 44.9 +0.5**
comp=Z,12nm,0.8s,SNR=6.7
ECSD EROS Data Cent 83.47 38 ⇓P **P** **05 01 45.4 +0.3**
baz=83,SNR=7.7
ECSD EROS Data Cent 83.47 38 *e*P **P** **05 01 44.9 -0.3**
comp=Z,5.0nm,0.9s
L31A Butterfield Fa 83.48 41 ⇓P **P** **05 01 45.2 0.0**
baz=83
RJOB Jochberg 83.49 328 *e*P **P** **05 01 46.1 +0.9**
comp=Z,15nm,0.9s
N29A Votaw Ranch, W 83.51 42 ⇓P **P** **05 01 45.3 -0.2**
baz=83
R26A Arlington 83.71 46 ⇑P **P** **05 01 46.7 +0.2**
baz=84,SNR=5.7
LEGS Legarje 83.78 325 *i* P **P** **05 01 46.5 -0.1**
P28A Saint Francis 83.78 44 ⇓P **P** **05 01 47.0 +0.2**

	baz=84						
FUR	**Furstenfeldbru**	**83.79**	**329**	*e*P	**P**	**05 01 47.3**	**+0.7**
	comp=Z,32nm,0.9s						
O29A	**4D Ranch, Culb**	**83.91**	**43**	⇓P	**P**	**05 01 47.8**	**+0.3**
	baz=84						
T25A	**Trinidad**	**83.95**	**47**	⇓P	**P**	**05 01 48.5**	**+0.6**
	baz=84,SNR=11						
M31A	**Lambtecht Ranc**	**84.01**	**41**	⇓P	**P**	**05 01 48.1**	**+0.1**
	baz=84						
R27A	**Eads**	**84.09**	**45**	⇓P	**P**	**05 01 48.4**	**-0.1**
	baz=84						
Q28A	**Sharon Springs**	**84.09**	**44**	⇑P	**P**	**05 01 48.4**	**-0.1**
	baz=84						
S26A	**Kim**	**84.17**	**46**	⇑P	**P**	**05 01 48.7**	**-0.2**
	baz=84						
SPMN	**Marine on St.**	**84.17**	**35**	⇑P	**P**	**05 01 48.5**	**-0.1**
	baz=84						
P29A	**Atwood**	**84.21**	**43**	⇓P	**P**	**05 01 49.1**	**+0.1**
	baz=84						
O30A	**MW Ranch, Wils**	**84.27**	**43**	⇓P	**P**	**05 01 49.5**	**+0.2**
	baz=84						
BGNE	**Belgrade**	**84.39**	**41**	⇑P	**P**	**05 01 50.1**	**+0.2**
	baz=84						
T26A	**Comanche Natio**	**84.40**	**47**	⇓P	**P**	**05 01 50.2**	**-0.1**
	baz=84						
RETA	**Reutte**	**84.54**	**329**	*i* PcP	**P**	**05 01 51.1**	**+0.6**
	comp=Z,14nm,0.9s,SNR=5.6						
R28A	**Tribune**	**84.61**	**45**	⇑P	**P**	**05 01 51.3**	**+0.2**
	baz=84						
GIVF	**Givet**	**84.67**	**334**	*e*P	**P**	**05 01 51.0**	**0.0**
GIVF	**Givet**	**84.67**	**334**	*e*P	**P**	**05 01 51.0**	**0.0**
GIVF	**Givet**	**84.67**	**334**	*e*P	**P**	**05 01 51.0**	**0.0**
Q29A	**Oakley**	**84.68**	**44**	⇑P	**P**	**05 01 51.5**	**+0.1**
	baz=84						
SCHQ	**Schefferville**	**84.80**	**16**	P	**P**	**05 01 52.3**	**+0.6**
	comp=Z,4.7nm,0.7s,baz=331,slow=6.2,SNR=6.8						
BFO	**Black Forest**	**84.83**	**331**	*e*P	**P**	**05 01 52.2**	**+0.3**
	comp=Z,16nm,0.9s						
BFO	**Black Forest**	**84.83**	**331**	*e*P	**P**	**05 01 51.8**	**-0.2**
BFO				pmax	pmax		
	comp=Z,14nm,0.9s						
BFO	**Black Forest**	**84.83**	**331**	*e*P	**P**	**05 01 51.8**	**-0.2**
	comp=Z,14nm,0.9s						
BAIF	**Baives**	**84.92**	**334**	*e*P	**P**	**05 01 52.3**	**0.0**
BAIF	**Baives**	**84.92**	**334**	*e*P	**P**	**05 01 52.3**	**0.0**
BAIF	**Baives**	**84.92**	**334**	*e*P	**P**	**05 01 52.3**	**0.0**
FETA	**Feichten**	**84.92**	**329**	⇑*i*PcP	**P**	**05 01 52.8**	**+0.2**
	comp=Z,6.8nm,0.8s						
121A	**Cookes Peak, D**	**85.01**	**52**	⇓P	**P**	**05 01 53.9**	**+0.5**
	baz=85,SNR=5.4						
121A	**Cookes Peak, D**	**85.01**	**52**	*e*P	**P**	**05 01 54.1**	**+0.8**
	comp=Z,2.7nm,0.9s						
DAVA	**Damuels**	**85.06**	**329**	*i* PcP	**P**	**05 01 53.6**	**+0.4**
	comp=Z,20nm,1.0s,SNR=6.6						
S28A	**Manter**	**85.08**	**45**	⇑P	**P**	**05 01 54.1**	**+0.6**
	baz=85						
P31A	**Stockton**	**85.11**	**43**	⇓P	**P**	**05 01 53.7**	**+0.2**
	baz=85						
CDF	**Champ du Feu**	**85.17**	**331**	*e*P	**P**	**05 01 53.7**	**0.0**
	comp=Z,24nm,0.9s						
CDF	**Champ du Feu**	**85.17**	**331**	*e*P	**P**	**05 01 53.7**	**0.0**
CDF				pmax	pmax		
	comp=Z,24nm,0.9s						
CDF	**Champ du Feu**	**85.17**	**331**	*e*P	**P**	**05 01 53.7**	**0.0**
	comp=Z,24nm,0.9s						
U27A	**Thompson Grove**	**85.37**	**47**	⇑P	**P**	**05 01 55.3**	**+0.3**
	baz=85,SNR=6.2						
ECH	**Echery**	**85.38**	**331**	⇑*e*P	**P**	**05 01 54.6**	**0.0**
ECH	**Echery**	**85.38**	**331**	*e*P	**P**	**05 01 54.7**	**0.0**
ECH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ECH	**Echery**	**85.38**	**331**	*e*P	**P**	**05 01 54.6**	**0.0**
	comp=Z,9.0nm,0.8s						
P32A	**Huiting Farm,**	**85.45**	**42**	⇓P	**P**	**05 01 54.8**	**-0.4**
	baz=85						
R30A	**Dighton**	**85.50**	**44**	⇑P	**P**	**05 01 55.6**	**+0.1**
	baz=85						
S29A	**Ulysses**	**85.50**	**45**	⇓P	**P**	**05 01 55.6**	**+0.1**
	baz=85						
PAGF	**Fort de Pagny**	**85.63**	**332**	*e*P	**P**	**05 01 56.2**	**+0.3**
	comp=Z,11nm,0.9s						
PAGF	**Fort de Pagny**	**85.63**	**332**	*e*P	**P**	**05 01 56.2**	**+0.3**
	comp=Z,11nm,0.9s						
O33A	**Hebron**	**85.66**	**41**	⇓P	**P**	**05 01 55.8**	**-0.4**
	baz=86						
N34A	**Lincoln**	**85.66**	**40**	⇑P	**P**	**05 01 55.6**	**-0.6**
	baz=86						
MOF	**Molkenrain**	**85.68**	**331**	⇑*e*P	**P**	**05 01 56.1**	**-0.2**
HINF	**Hinteralfeld**	**85.82**	**331**	*e*P	**P**	**05 01 56.5**	**-0.4**
	comp=Z,6.1nm,0.7s						
HINF	**Hinteralfeld**	**85.82**	**331**	*e*P	**P**	**05 01 56.5**	**-0.4**
HINF				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HINF	**Hinteralfeld**	**85.82**	**331**	*e*P	**P**	**05 01 56.5**	**-0.4**
	comp=Z,6.1nm,0.7s						
V27A	**Dan Oppiter Fa**	**85.82**	**47**	⇑P	**P**	**05 01 57.7**	**+0.4**
	baz=86,SNR=6.5						
HAU	**Haudompre**	**85.86**	**332**	*e*P	**P**	**05 01 56.8**	**-0.2**
	comp=Z,10.0nm,0.6s						
HAU	**Haudompre**	**85.86**	**332**	*e*P	**P**	**05 01 56.8**	**-0.2**
HAU				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HAU	**Haudompre**	**85.86**	**332**	*e*P	**P**	**05 01 56.8**	**-0.2**
	comp=Z,10.0nm,0.6s						
R31A	**Burdett**	**85.91**	**44**	⇓P	**P**	**05 01 57.5**	**0.0**
	baz=86						
MEZF	**Maizieres J'vi**	**85.92**	**333**	*e*P	**P**	**05 01 57.7**	**+0.4**
MEZF	**Maizieres J'vi**	**85.92**	**333**	*e*P	**P**	**05 01 57.7**	**+0.4**
Q32A	**Meitler Ranch,**	**85.93**	**43**	⇓P	**P**	**05 01 57.5**	**-0.1**
	baz=86						
N35A	**Tabor**	**86.08**	**40**	⇓P	**P**	**05 01 58.9**	**+0.6**
	baz=86						
SFTF	**Sexfontaines**	**86.18**	**332**	*e*P	**P**	**05 01 58.7**	**+0.1**
	comp=Z,44nm,1.1s						
SFTF	**Sexfontaines**	**86.18**	**332**	*e*P	**P**	**05 01 58.7**	**+0.1**
	comp=Z,44nm,1.1s						
R32A	**Long Quarter,**	**86.26**	**43**	⇓P	**P**	**05 01 58.3**	**-0.9**
	baz=86						
Q33A	**Connelly Farm,**	**86.31**	**42**	⇑P	**P**	**05 01 59.3**	**-0.1**
	baz=86						
O35A	**Humboldt**	**86.39**	**40**	⇓P	**P**	**05 02 00.0**	**+0.2**
	baz=86						
S31A	**Mullinville**	**86.41**	**44**	⇓P	**P**	**05 01 60.0**	**0.0**
	baz=86						
V29A	**Stinnett**	**86.50**	**46**	⇓P	**P**	**05 02 01.0**	**+0.4**
	baz=86						
S32A	**Newby Ranch, P**	**86.66**	**44**	⇓P	**P**	**05 02 01.2**	**0.0**
	baz=86						
T31A	**Randall Ranch,**	**86.68**	**45**	⇑P	**P**	**05 02 01.7**	**+0.4**
	baz=86						
R33A	**Olander Ranch,**	**86.73**	**43**	⇑P	**P**	**05 02 01.3**	**-0.3**
	baz=86						
Q34A	**Chapman**	**86.84**	**42**	⇑P	**P**	**05 02 02.2**	**+0.1**
	baz=87						
KSU1	**Kansas State U**	**86.89**	**41**	⇓P	**P**	**05 02 02.2**	**0.0**
	baz=87						
O36A	**Bolckow**	**86.97**	**40**	⇑P	**P**	**05 02 02.9**	**+0.2**
	baz=87						
T32A	**Huddler Ranch,**	**87.04**	**44**	⇓P	**P**	**05 02 03.7**	**+0.6**
	baz=87						
X28A	**Dimmitt**	**87.06**	**48**	⇓P	**P**	**05 02 03.5**	**+0.2**
	baz=87						
MNTX	**Cornudas Mount**	**87.08**	**52**	⇑P	**P**	**05 02 03.8**	**+0.5**
	baz=87						
U31A	**Nine Bar Ranch**	**87.10**	**45**	⇑P	**P**	**05 02 03.8**	**+0.3**
	baz=87						
MSTX	**Muleshoe**	**87.11**	**49**	⇓P	**P**	**05 02 04.2**	**+0.7**
	baz=87						
AMTX	**Amarillo**	**87.11**	**47**	⇓P	**P**	**05 02 04.0**	**+0.4**
	baz=87						
AMTX	**Amarillo**	**87.11**	**47**	*e*P	**P**	**05 02 04.3**	**+0.8**
	comp=Z,4.7nm,0.6s						
CABF	**La Chapelle**	**87.11**	**331**	*e*P	**P**	**05 02 03.0**	**-0.3**
CABF	**La Chapelle**	**87.11**	**331**	*e*P	**P**	**05 02 03.0**	**-0.3**
CABF	**La Chapelle**	**87.11**	**331**	*e*P	**P**	**05 02 03.0**	**-0.3**
R34A	**Isabella, Hill**	**87.14**	**42**	⇑P	**P**	**05 02 03.9**	**+0.4**
	baz=87						
Q35A	**Mercer Eighty,**	**87.36**	**41**	⇑P	**P**	**05 02 04.8**	**+0.2**
	baz=87,SNR=5.9						
LOR	**Lormes**	**87.40**	**333**	*e*P	**P**	**05 02 04.6**	**0.0**
	comp=Z,31nm,1.0s						
LOR	**Lormes**	**87.40**	**333**	*e*P	**P**	**05 02 04.6**	**0.0**
LOR				pmax	pmax		
	comp=Z,31nm,1.0s						
LOR	**Lormes**	**87.40**	**333**	*e*P	**P**	**05 02 04.6**	**0.0**
	comp=Z,31nm,1.0s						
X29A	**Tulia**	**87.41**	**48**	⇓P	**P**	**05 02 05.4**	**+0.4**

	baz=87,SNR=5.1						
Y28A	**McKinney Farm,**	**87.46**	**48**	⇓P	**P**	**05 02 05.4**	**+0.2**
	baz=87						
T33A	**Patterson Ranc**	**87.48**	**44**	⇑P	**P**	**05 02 05.7**	**+0.5**
	baz=87						
V31A	**Spring Creek L**	**87.53**	**46**	⇓P	**P**	**05 02 06.5**	**+1.0**
	baz=87						
U32A	**Winter Ranch,**	**87.57**	**45**	⇓P	**P**	**05 02 06.1**	**+0.5**
	baz=87						
FLN	**La Foliniere**	**87.61**	**336**	*e*P	**P**	**05 02 04.6**	**-0.9**
FLN	**La Foliniere**	**87.61**	**336**	*e*P	**P**	**05 02 04.6**	**-0.9**
FLN	**La Foliniere**	**87.61**	**336**	*e*P	**P**	**05 02 04.6**	**-0.9**
LDF	**La Druitiere**	**87.64**	**336**	*e*P	**P**	**05 02 05.5**	**-0.2**
	comp=Z,8.0nm,0.6s						
LDF	**La Druitiere**	**87.64**	**336**	*e*P	**P**	**05 02 05.5**	**-0.2**
LDF				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LDF	**La Druitiere**	**87.64**	**336**	*e*P	**P**	**05 02 05.5**	**-0.2**
	comp=Z,8.0nm,0.6s						
S34A	**Willow Spring**	**87.65**	**43**	⇓P	**P**	**05 02 06.5**	**+0.5**
	baz=88						
R35A	**Emporia Munici**	**87.68**	**42**	⇓P	**P**	**05 02 06.8**	**+0.7**
	baz=88						
SSF	**Saint Saulge**	**87.70**	**333**	*e*P	**P**	**05 02 06.2**	**+0.2**
	comp=Z,11nm,0.9s						
SSF	**Saint Saulge**	**87.70**	**333**	*e*P	**P**	**05 02 06.2**	**+0.2**
SSF				pmax	pmax		
	comp=Z,11nm,0.9s						
SSF	**Saint Saulge**	**87.70**	**333**	*e*P	**P**	**05 02 06.2**	**+0.2**
	comp=Z,11nm,0.9s						
LPL	**La Plagne**	**87.76**	**330**	*e*P	**P**	**05 02 06.4**	**-0.2**
	comp=Z,7.0nm,0.7s						
LPL	**La Plagne**	**87.76**	**330**	*e*P	**P**	**05 02 06.4**	**-0.2**
LPL				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LPL	**La Plagne**	**87.76**	**330**	*e*P	**P**	**05 02 06.4**	**-0.2**
	comp=Z,7.0nm,0.7s						
LPG	**La Plagne**	**87.77**	**330**	*e*P	**P**	**05 02 06.7**	**-0.1**
	comp=Z,14nm,0.8s						
LPG	**La Plagne**	**87.77**	**330**	*e*P	**P**	**05 02 06.7**	**-0.1**
LPG				pmax	pmax		
	comp=Z,14nm,0.8s						
LPG	**La Plagne**	**87.77**	**330**	*e*P	**P**	**05 02 06.7**	**-0.1**
	comp=Z,14nm,0.8s						
Z28A	**Tucker Farm, M**	**87.81**	**49**	⇓P	**P**	**05 02 07.2**	**+0.3**
	baz=88						
Y29A	**Porterfield Fa**	**87.83**	**48**	⇑P	**P**	**05 02 07.3**	**+0.3**
	baz=88						
X30A	**Coker Ranch, T**	**87.89**	**47**	⇓P	**P**	**05 02 07.2**	**0.0**
	baz=88						
W31A	**Holland Ranch,**	**87.90**	**46**	⇑P	**P**	**05 02 07.5**	**+0.2**
	baz=88						
AVF	**Avril sur Loir**	**87.99**	**333**	*e*P	**P**	**05 02 07.4**	**0.0**
AVF	**Avril sur Loir**	**87.99**	**333**	*e*P	**P**	**05 02 07.4**	**0.0**
AVF	**Avril sur Loir**	**87.99**	**333**	*e*P	**P**	**05 02 07.4**	**0.0**
R36A	**Gordon, Harris**	**88.04**	**41**	⇑P	**P**	**05 02 08.8**	**+1.0**
	baz=88						
GRR	**Gorron**	**88.06**	**336**	*e*P	**P**	**05 02 07.9**	**+0.2**
	comp=Z,26nm,0.9s						
GRR	**Gorron**	**88.06**	**336**	*e*P	**P**	**05 02 07.9**	**+0.2**
GRR				pmax	pmax		
	comp=Z,26nm,0.9s						
GRR	**Gorron**	**88.06**	**336**	*e*P	**P**	**05 02 07.9**	**+0.2**
	comp=Z,26nm,0.9s						
S35A	**Otter Creek Ra**	**88.09**	**42**	⇑P	**P**	**05 02 08.6**	**+0.6**
	baz=88,SNR=5.7						
128A	**Castleberry Fa**	**88.22**	**49**	⇑P	**P**	**05 02 08.9**	**+0.1**
	baz=88						
Z29A	**Hungry Hill Ra**	**88.24**	**48**	⇓P	**P**	**05 02 09.2**	**+0.3**
	baz=88						
W32A	**Sentinel**	**88.34**	**46**	⇓P	**P**	**05 02 10.0**	**+0.7**
	baz=88						
U34A	**Anderson Ranch**	**88.34**	**44**	⇑P	**P**	**05 02 09.5**	**+0.2**
	baz=88						
V33A	**Lossen Ranch,**	**88.38**	**45**	⇑P	**P**	**05 02 10.6**	**+1.1**
	baz=88						
S36A	**Lake Cedric, C**	**88.44**	**42**	⇑P	**P**	**05 02 09.8**	**+0.1**
	baz=88,SNR=7.1						
T35A	**Sooner Cattle**	**88.55**	**43**	⇓P	**P**	**05 02 10.6**	**+0.3**
	baz=88						
Z30A	**Sanderson Ranc**	**88.56**	**48**	⇑P	**P**	**05 02 10.8**	**+0.3**
	baz=88						
ORIF	**Oris-en-Rattie**	**88.60**	**330**	*e*P	**P**	**05 02 10.8**	**+0.4**
	comp=Z,19nm,1.0s						
ORIF	**Oris-en-Rattie**	**88.60**	**330**	*e*P	**P**	**05 02 10.8**	**+0.4**
ORIF				pmax	pmax		
	comp=Z,19nm,1.0s						
ORIF	**Oris-en-Rattie**	**88.60**	**330**	*e*P	**P**	**05 02 10.8**	**+0.4**
	comp=Z,19nm,1.0s						
SGMF	**Saint Gilles**	**88.72**	**337**	*e*P	**P**	**05 02 11.0**	**+0.2**
	comp=Z,13nm,0.8s						
SGMF	**Saint Gilles**	**88.72**	**337**	*e*P	**P**	**05 02 11.0**	**+0.2**
SGMF				pmax	pmax		
	comp=Z,13nm,0.8s						
SGMF	**Saint Gilles**	**88.72**	**337**	*e*P	**P**	**05 02 11.0**	**+0.2**
	comp=Z,13nm,0.8s						
T36A	**Boggs Farm, Ca**	**88.78**	**42**	⇓P	**P**	**05 02 11.8**	**+0.5**
	baz=89						
V34A	**Guthrie**	**88.79**	**44**	⇓P	**P**	**05 02 11.9**	**+0.5**
	baz=89						
V34A	**Guthrie**	**88.79**	**44**	*e*P	**P**	**05 02 11.2**	**-0.2**
	comp=Z,6.9nm,0.6s						
X32A	**Elmer**	**88.82**	**46**	⇓P	**P**	**05 02 12.1**	**+0.5**
	baz=89						
ROSF	**Rostrenen**	**88.87**	**337**	*e*P	**P**	**05 02 11.7**	**+0.2**
	comp=Z,20nm,0.9s						
ROSF	**Rostrenen**	**88.87**	**337**	*e*P	**P**	**05 02 11.7**	**+0.2**
ROSF				pmax	pmax		
	comp=Z,20nm,0.9s						
ROSF	**Rostrenen**	**88.87**	**337**	*e*P	**P**	**05 02 11.7**	**+0.2**
	comp=Z,20nm,0.9s						
Y32A	**R-V Farms, Ver**	**89.03**	**47**	⇑P	**P**	**05 02 13.2**	**+0.6**
	baz=89						
229A	**Bryant Ranch,**	**89.08**	**49**	⇑P	**P**	**05 02 13.3**	**+0.3**
	baz=89						
W34A	**Bridge Creek,**	**89.09**	**45**	⇓P	**P**	**05 02 13.2**	**+0.3**
	baz=89						
Z31A	**Sharp Cattle R**	**89.11**	**47**	⇑P	**P**	**05 02 13.4**	**+0.4**
	baz=89						
X33A	**Lawton**	**89.18**	**46**	⇓P	**P**	**05 02 13.6**	**+0.4**
	baz=89						
QUIF	**Quistinic**	**89.21**	**337**	*e*P	**P**	**05 02 13.0**	**-0.1**
	comp=Z,20nm,0.8s						
QUIF	**Quistinic**	**89.21**	**337**	*e*P	**P**	**05 02 13.0**	**-0.1**
QUIF				pmax	pmax		
	comp=Z,20nm,0.8s						
QUIF	**Quistinic**	**89.21**	**337**	*e*P	**P**	**05 02 13.0**	**-0.1**
	comp=Z,20nm,0.8s						
V35A	**Meyer Ranch, C**	**89.22**	**44**	⇑P	**P**	**05 02 13.8**	**+0.4**
	baz=89						
T37A	**Cheneyville 18**	**89.25**	**42**	⇓P	**P**	**05 02 13.7**	**+0.2**
	baz=89						
329A	**Wagon Wheel Ra**	**89.32**	**50**	⇓P	**P**	**05 02 14.1**	**+0.1**
	baz=89						
MFF	**Saint Martin d**	**89.38**	**335**	*e*P	**P**	**05 02 14.3**	**+0.4**
	comp=Z,12nm,0.8s						
MFF	**Saint Martin d**	**89.38**	**335**	*e*P	**P**	**05 02 14.3**	**+0.4**
MFF				pmax	pmax		
	comp=Z,12nm,0.8s						
MFF	**Saint Martin d**	**89.38**	**335**	*e*P	**P**	**05 02 14.3**	**+0.4**
	comp=Z,12nm,0.8s						
Y33A	**Hilltop Ranch,**	**89.50**	**46**	⇓P	**P**	**05 02 14.9**	**+0.1**
	baz=89						
Z32A	**Haskell**	**89.51**	**47**	⇓P	**P**	**05 02 14.3**	**-0.5**
	baz=89						
X34A	**Smith Ranch, M**	**89.52**	**45**	⇓P	**P**	**05 02 15.0**	**+0.1**
	baz=89						
230A	**Sterling City**	**89.56**	**49**	⇓P	**P**	**05 02 15.2**	**+0.1**
	baz=89						
W35A	**Tecumseh**	**89.65**	**44**	⇓P	**P**	**05 02 15.3**	**-0.1**
	baz=90						
TUL1	**Leonard**	**89.68**	**43**	⇓P	**P**	**05 02 15.9**	**+0.3**
	baz=90						
TUL1	**Leonard**	**89.68**	**43**	*e*P	**P**	**05 02 15.8**	**+0.3**
	comp=Z,4.0nm,0.7s						
TXAR	**Lajitas Array**	**89.77**	**52**	P	**P**	**05 02 16.7**	**+0.5**
	comp=Z,2.8nm,0.5s,baz=285,slow=2.5,SNR=34						
TXAR				pP	**pP**	**05 02 31.2**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=304,slow=2.6,SNR=7.5						
TXAR				PKKP	**PKKPdf**	**05 19 42.9**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=281,slow=3.9,SNR=3.8						
TXAR	**Lajitas Array**	**89.77**	**52**	P	**P**	**05 02 16.7**	**+0.5**
TXAR				*PP	**pP**	**05 02 31.3**	**-0.1**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						

330A	**Mertzon**	**89.86**	**49**	⇓P	**P**	**05 02 16.9**	**+0.3**
	baz=90						
ABTX	**Abilene, Hawle**	**89.91**	**48**	⇓P	**P**	**05 02 16.9**	**+0.2**
	baz=90						
RJF	**Les Rejaudoux**	**89.92**	**333**	*e*P	**P**	**05 02 16.8**	**+0.3**
	comp=Z,11nm,0.8s						
RJF	**Les Rejaudoux**	**89.92**	**333**	*e*P	**P**	**05 02 16.8**	**+0.3**
RJF				pmax	pmax		
	comp=Z,11nm,0.8s						
RJF	**Les Rejaudoux**	**89.92**	**333**	*e*P	**P**	**05 02 16.8**	**+0.3**
	comp=Z,11nm,0.8s						
Z33A	**Whitaker Ranch**	**89.94**	**47**	⇑P	**P**	**05 02 16.7**	**-0.1**
	baz=90						
429A	**Davenport Ranc**	**89.97**	**50**	⇑P	**P**	**05 02 17.2**	**+0.1**
	baz=90						
231A	**Bronte**	**90.00**	**48**	⇓P	**P**	**05 02 17.3**	**+0.1**
	baz=90						
W36A	**Wetumka**	**90.02**	**44**	⇑P	**P**	**05 02 17.3**	**+0.1**
	baz=90						
Y34A	**Reagan Ranch,**	**90.03**	**46**	⇑P	**P**	**05 02 17.1**	**-0.1**
	baz=90						
CAF	**Calviac**	**90.05**	**332**	*e*P	**P**	**05 02 17.8**	**+0.7**
CAF	**Calviac**	**90.05**	**332**	*e*P	**P**	**05 02 17.8**	**+0.7**
CAF	**Calviac**	**90.05**	**332**	*e*P	**P**	**05 02 17.8**	**+0.7**
X35A	**Drake**	**90.15**	**45**	⇑P	**P**	**05 02 17.8**	**0.0**
	baz=90						
430A	**Baggett Ranch,**	**90.26**	**50**	⇓P	**P**	**05 02 18.4**	**0.0**
	baz=90						
133A	**Hamilton Ranch**	**90.34**	**47**	⇑P	**P**	**05 02 18.8**	**+0.1**
	baz=90						
Z34A	**Collier Ranch,**	**90.37**	**46**	⇑P	**P**	**05 02 18.9**	**+0.1**
	baz=90						
X36A	**Centrahoma**	**90.37**	**44**	⇑P	**P**	**05 02 18.9**	**+0.1**
	baz=90						
331A	**San Angelo**	**90.38**	**49**	⇑P	**P**	**05 02 19.1**	**+0.1**
	baz=90						
232A	**Coleman**	**90.43**	**48**	⇓P	**P**	**05 02 19.3**	**+0.1**
	baz=90						
W37A	**Quinton**	**90.45**	**43**	⇓P	**P**	**05 02 19.4**	**+0.2**
	baz=90,SNR=5.4						
LFF	**La Frestale**	**90.51**	**333**	*e*P	**P**	**05 02 19.8**	**+0.5**
LFF	**La Frestale**	**90.51**	**333**	*e*P	**P**	**05 02 19.8**	**+0.5**
LFF	**La Frestale**	**90.51**	**333**	*e*P	**P**	**05 02 19.8**	**+0.5**
SFIN	**Lafayette**	**90.57**	**35**	⇑P	**P**	**05 02 19.8**	**+0.2**
	baz=90						
530A	**J-C Ranch, Com**	**90.65**	**50**	⇓P	**P**	**05 02 21.0**	**+0.7**
	baz=90						
431A	**Sonora**	**90.72**	**50**	⇓P	**P**	**05 02 20.8**	**+0.2**
	baz=91						
332A	**Millersview**	**90.73**	**49**	⇑P	**P**	**05 02 21.3**	**+0.7**
	baz=91						
Z35A	**Perchaven, San**	**90.77**	**46**	⇓P	**P**	**05 02 20.8**	**+0.1**
	baz=91						
233A	**Rising Star**	**90.78**	**48**	⇓P	**P**	**05 02 21.2**	**+0.5**
	baz=91,SNR=5.9						
134A	**White-Moore Ra**	**90.85**	**47**	⇓P	**P**	**05 02 21.5**	**+0.4**
	baz=91						
X37A	**Clayton**	**90.89**	**44**	⇓P	**P**	**05 02 21.5**	**+0.2**
	baz=91						
W38A	**Poteau**	**91.00**	**43**	⇑P	**P**	**05 02 21.8**	**+0.1**
	baz=91						
432A	**Menard**	**91.07**	**49**	⇓P	**P**	**05 02 22.4**	**+0.2**
	baz=91						
531A	**Rocksprings**	**91.12**	**50**	⇑P	**P**	**05 02 23.0**	**+0.6**
	baz=91						
333A	**Richland Sprin**	**91.23**	**48**	⇑P	**P**	**05 02 23.1**	**+0.2**
	baz=91,SNR=6.5						
234A	**Clairette**	**91.23**	**47**	⇑P	**P**	**05 02 23.1**	**+0.2**
	baz=91,SNR=6.5						
135A	**Vickery Place,**	**91.25**	**46**	⇓P	**P**	**05 02 23.4**	**+0.5**
	baz=91						
MTLF	**Montolieu**	**91.34**	**332**	*e*P	**P**	**05 02 23.6**	**+0.4**
	comp=Z,8.8nm,0.9s						
MTLF	**Montolieu**	**91.34**	**332**	*e*P	**P**	**05 02 23.6**	**+0.4**
MTLF				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MTLF	**Montolieu**	**91.34**	**332**	*e*P	**P**	**05 02 23.6**	**+0.4**
	comp=Z,8.8nm,0.9s						
JCT	**Junction City**	**91.35**	**49**	⇑P	**P**	**05 02 23.8**	**+0.3**
	baz=91						
532A	**Rocksprings**	**91.53**	**50**	⇓P	**P**	**05 02 24.7**	**+0.3**
	baz=91						
631A	**Perdido Creek**	**91.64**	**50**	⇑P	**P**	**05 02 25.1**	**+0.3**
	baz=92						
WHTX	**Lake Whitney,**	**91.64**	**47**	⇓P	**P**	**05 02 25.3**	**+0.6**
	baz=92						
334A	**Lometa**	**91.66**	**48**	⇓P	**P**	**05 02 25.1**	**+0.2**
	baz=92,SNR=7.1						
Z37A	**Pogue Cattle C**	**91.79**	**45**	⇑P	**P**	**05 02 25.9**	**+0.5**
	baz=92						
434A	**Burnet**	**92.02**	**48**	⇓P	**P**	**05 02 26.6**	**+0.1**
	baz=92						
632A	**Uvalde**	**92.05**	**50**	⇑P	**P**	**05 02 26.8**	**+0.1**
	baz=92						
EPF	**Esparros**	**92.31**	**333**	*e*P	**P**	**05 02 28.6**	**+0.9**
EPF	**Esparros**	**92.31**	**333**	*e*P	**P**	**05 02 28.6**	**+0.9**
EPF	**Esparros**	**92.31**	**333**	*e*P	**P**	**05 02 28.6**	**+0.9**
336A	**Riesel**	**92.43**	**47**	⇑P	**P**	**05 02 28.8**	**+0.4**
	baz=92						
633A	**Saathoff Ranch**	**92.45**	**50**	⇑P	**P**	**05 02 28.7**	**+0.1**
	baz=92						
534A	**Blanco**	**92.47**	**49**	⇑P	**P**	**05 02 28.7**	**+0.1**
	baz=92						
732A	**Laxson Ranch,**	**92.49**	**51**	⇑P	**P**	**05 02 29.4**	**+0.6**
	baz=92						
832A	**Faith Ranch, C**	**92.81**	**51**	⇑P	**P**	**05 02 30.4**	**+0.1**
	baz=93						
634A	**China Grove, S**	**93.01**	**49**	⇓P	**P**	**05 02 31.5**	**+0.4**
	baz=93						
833A	**Chaparral WMA,**	**93.14**	**50**	⇑P	**P**	**05 02 32.5**	**+0.8**
	baz=93						
034A	**Hebbronville**	**94.48**	**51**	⇑P	**P**	**05 02 39.0**	**+1.1**
	baz=94						
ESDC	**Sonseca Array**	**96.80**	**334**	LR	LR	05 50 22.9	
	comp=Z,142nm,20.0s,baz=145,slow=38						
VNDA	**Vanda**	**115.52**	**175**	PKP	**PKPdf**	**05 07 57.5**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=323,slow=7.0,SNR=4.5						
VNDA	**Vanda**	**115.52**	**175**	PKIKP	**PKPdf**	**05 07 57.5**	**-0.4**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**116.95**	**315**	PKP	**PKPdf**	**05 08 01.6**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=36,slow=1.3,SNR=18						
TORD				PP	**PP**	**05 09 08.4**	**-2.9**
	comp=Z,3.7nm,1.1s,baz=33,slow=6.3,SNR=8.8						
DBIC	**Dimbokro**	**125.90**	**317**	PKP	**PKPdf**	**05 08 19.3**	**-0.4**
	comp=Z,4.1nm,0.7s,baz=73,slow=3.4,SNR=6.6						
DBIC	**Dimbokro**	**125.90**	**317**	PKIKP	**PKPdf**	**05 08 19.3**	**-0.4**
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BOSA	**Boshof**	**126.69**	**260**	PKP	**PKPdf**	**05 08 20.9**	**0.0**
	comp=Z,2.0nm,0.7s,baz=117,slow=2.3,SNR=3.2						
BOSA	**Boshof**	**126.69**	**260**	PKIKP	**PKPdf**	**05 08 20.9**	**0.0**
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
QSPA	**South Pole Qui**	**127.33**	**180**	*e*PKPdf	**PKPdf**	**05 08 20.3**	**-0.6**
SNAA	**Sanae**	**141.28**	**197**	P	PKPdf	05 08 33.6	-13
VNA2	**Neumayer--Watz**	**142.85**	**196**	P	**PKPdf**	**05 08 46.4**	**-3.1**
	baz=115,slow=3.5						
VNA1	**Neumayer--Stat**	**143.25**	**196**	P	PKPbc	05 08 47.1	-0.3
LPAZ	**La Paz**	**146.40**	**59**	PKPbc	**PKPbc**	**05 08 59.3**	**-0.1**
	comp=Z,4.3nm,0.5s,baz=348,slow=2.2,SNR=56						
LPAZ				pPKPbc	pPKPbc	05 09 14.3	-0.6
	comp=Z,11nm,0.5s,baz=13,slow=5.8,SNR=15						
LPAZ	**La Paz**	**146.40**	**59**	PKP2	**PKPbc**	**05 08 59.3**	**-0.1**
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
LPAZ				pmax	pmax		
	comp=Z,11nm,0.5s						
LCO	**Las Campanas**	**151.92**	**82**	*e*PKPbc	**PKPbc**	**05 09 12.7**	**0.0**
PLCA	**Paso Flores**	**155.07**	**107**	PKPab	**PKPab**	**05 09 34.2**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=224,slow=5.1,SNR=3.5						
PLCA	**Paso Flores**	**155.07**	**107**	PKP2	**PKPab**	**05 09 34.2**	**-0.7**
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.9s						

IDC ***01*** *04:49:51.4±7.4, 45.°37N×150.°71E, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.7/35, mbtmp3.6/5, Error ellipse: s-maj=175.0km s-min=80.1km az=69.0*

MOS ***01*** *04:49:52.5±1.3, 44.°79N×151.°38E, h34km, mb4.1/1, Error ellipse: s-maj=28.0km s-min=21.1km az=122.8*

ISCJB ***01*** *04:49:55.2±0.8, 45.°3N±0.°1×150.°94E±0.°08, h35km, mb3.6/5, Error ellipse: s-maj=18.2km s-min=6.2km az=162.1*

SKHL ***01*** *04:49:56.7±0.7, 45.°13N×151.°01E, h62km±1km, mb4.9/4*

ISC 01 04:49:56.6±1.0, 45°.2N±0°.1×150°.98E±0°.08, h35km, n17, σ1.00/16, mb3.7/5, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.20	272	⇓iPN	Pn	04 50 30.4	-0.2
KUR				pmax	pmax		
	comp=N,41nm,0.2s						
KUR				pmax	pmax		
	comp=E,42nm,0.2s						
KUR				pmax	pmax		
	comp=Z,82nm,0.2s						
KUR	Kuril'sk	2.20	272	eP	Pn	04 50 30.4	-0.2
KUR				AMB	AMB	04 50 33.2	
	comp=Z,41nm,0.2s						
KUR				AMB	AMB	04 50 33.2	
	comp=Z,42nm,0.2s						
KUR				AMB	AMB	04 50 33.2	
	comp=Z,82nm,0.2s						
KUR				eS	Sn	04 50 56.2	-0.4
KUR				A	A	04 51 01.4	
	comp=Z,990nm,0.4s						
KUR				A	A	04 51 01.4	
	comp=Z,720nm,0.4s						
SHO	Shikotan	3.25	247	eP	Pn	04 50 45.1	+0.1
SHO				AMB	AMB	04 50 52.4	
	comp=Z,192nm,0.7s						
SHO				eS	Sn	04 51 20.9	-1.6
SHO				A	A	04 51 34.5	
	comp=Z,370nm,0.4s						
YUK	Yuzh-Kuril'sk	3.83	254c	iPN	Pn	04 50 54.3	+1.2
YUK				pmax	pmax		
	comp=Z,129nm,0.3s						
YUK				pmax	pmax		
	comp=N,29nm,0.2s						
YUK				pmax	pmax		
	comp=E,27nm,0.2s						
YUK	Yuzh-Kuril'sk	3.83	254	eP	Pn	04 50 54.3	+1.2
YUK				AMB	AMB	04 50 59.8	
	comp=E,27nm,0.3s						
YUK				AMB	AMB	04 50 59.8	
	comp=E,30nm,0.3s						
YUK				AMB	AMB	04 50 59.8	
	comp=E,130nm,0.3s						
YUK				eS	Sn	04 51 37.4	+0.5
YUK				A	A	04 51 49.3	
	comp=E,100nm,0.7s						
YUK				A	A	04 51 49.3	
	comp=E,210nm,0.7s						
YSS	Yuzh-Sakhalins	5.99	290	eP	Pn	04 51 24.4	+1.8
YSS				AMB	AMB	04 51 26.7	
	comp=E,66nm,0.5s						
YSS				eS	Sn	04 52 29.1	-0.8
YSS				A	A	04 52 30.9	
	comp=E,65nm,0.7s						
SKR	Severo-Kuril's	6.48	30	erx	rx	04 51 29.0	
TYV	Tymovskoe	7.95	318	ePN	Pn	04 51 56.0	+6.5
TYV	Tymovskoe	7.95	318	erx	rx	04 51 53.3	
NKL	Nikolayevsk	10.42	323	ePN	Pn	04 52 29.5	+6.1
NKL	Nikolayevsk	10.42	323	erx	rx	04 52 29.5	
ILAR	Eielson Array	38.69	37	P	P	04 57 16.2	-0.4
	comp=E,0.4nm,0.7s,baz=262,slow=7.3,SNR=5.1						
RES	Resolute Bay	52.78	18	P	P	04 59 06.5	-1.0
	comp=E,0.6nm,0.5s,baz=309,slow=11,SNR=5.4						
RES	Resolute Bay	52.78	18	P	P	04 59 06.5	-1.0
RES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	53.06	35	P	P	04 59 09.4	-0.3
	comp=Z,0.5nm,0.8s,baz=297,slow=7.3,SNR=4.4						
PDAR	Pinedale Array	66.87	52	P	P	05 00 45.9	+0.7
	comp=Z,0.7nm,0.8s,baz=355,slow=1.6,SNR=6.9						
TXAR	Lajitas Array	79.56	59	P	P	05 02 00.7	+0.6
	comp=Z,0.4nm,0.4s,baz=302,slow=4.5,SNR=9.7						

IDC 01 05:18:43.4±13.0, 47°.00N×149°.68E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.3/30, mbtmp3.4/5, Error ellipse: s-maj=390.2km s-min=24.5km az=167.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	Songino Array	29.02	288	P	P	05 24 46.8	+1.8
	0.3nm,0.7s,baz=96,slow=8.8,SNR=2.6						
ILAR	Eielson Array	37.83	39	P	P	05 26 01.4	+0.1
	0.1nm,0.5s,baz=264,slow=8.1,SNR=4.4						
MKAR	Makanchi Array	44.72	296	P	P	05 26 56.8	-1.4
	0.4nm,0.6s,baz=72,slow=8.0,SNR=5.4						
KURBB	Kurchatov Arra	45.34	302	P	P	05 27 02.0	-1.0
	0.4nm,0.4s,baz=67,slow=7.9,SNR=3.0						
YKA	Yellowknife Ar	52.12	36	P	P	05 27 54.9	0.0
	0.3nm,0.6s,baz=289,slow=7.2,SNR=3.4						

IDC 01 05:26:21.8±3.3, 53°.45N×87°.67E, h0km, mb1 2.7/2, mb1mx2.7/29, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=34.9km s-min=22.2km az=76.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.76	287	i		05 36 40.0	
	baz=106,slow=326,SNR=2.4						
ZALV	Zalesovo Beam	1.76	287	Pn	Pn	05 26 53.5	-0.1
	1.2nm,0.3s,baz=103,slow=16,SNR=13						
ZALV				Sn	Sb	05 27 17.2	-0.5
	1.2nm,0.3s,baz=102,slow=22,SNR=5.7						
KURBB	Kurchatov Arra	6.31	247	Pn	Pn	05 27 56.6	+0.6
	0.1nm,0.3s,baz=60,slow=15,SNR=3.2						
KURBB				Lg	Lg	05 29 42.3	
	0.1nm,0.3s,baz=68,slow=38,SNR=3.5						
MKAR	Makanchi Array	7.51	210	Pn	Pn	05 28 13.6	+1.1
	0.1nm,0.3s,baz=30,slow=14,SNR=7.5						

SJA 01 05:38:12.7±0.3, 35°.80S×70°.05W, h121km±28km, ML3.5, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CANA	Caviahue	2.24	201	i P	Pn	05 38 50.5	+1.0
CANA				i S	Sn	05 39 18.4	+0.8
CANA				AML	AML	05 39 21.5	
	comp=N,230nm,0.7s						
AAGR	Agrelo	2.88	21	i P	Pn	05 38 58.9	+1.2
AUSP	Uspallata	3.60	9	i P	Pn	05 39 08.9	+1.4
RTLS	Leoncito	4.04	9	i P	Pn	05 39 14.4	+1.3
RTLS				i P	Pn	05 39 14.4	+1.3
RTCV	Cerro Valdivia	4.12	18	i P	Pn	05 39 16.6	+2.6
RTCV				i S	Sn	05 40 03.1	+1.6

IDC 01 05:51:38.1±2.3, 8°.52S×118°.21E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/28, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=150.3km s-min=21.2km az=56.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.30	128	P	P	05 56 05.2	+0.4
	0.3nm,0.3s,baz=302,slow=12,SNR=14						
WRA				S	Sn	05 59 32.1	-11
	0.1nm,0.3s,baz=305,slow=26,SNR=5.0						
ASAR	Alice Springs	21.27	137	P	P	05 56 27.4	+1.1
	1.1nm,0.5s,baz=314,slow=9.1,SNR=26						
STKA	Stephens Creek	31.81	140	P	P	05 58 03.2	-1.4
	1.3nm,0.8s,baz=333,slow=6.8,SNR=3.0						
SONM	Songino Array	57.08	351	P	P	06 01 25.9	-0.4
	0.8nm,0.7s,baz=166,slow=9.0,SNR=5.3						
MKAR	Makanchi Array	63.68	333	P	P	06 02 11.7	+0.3
	0.3nm,0.5s,baz=152,slow=7.3,SNR=5.4						

IDC 01 06:14:58.4±2.6, 29°.74S×139°.26E, h0km, mb1 2.9/3, mb1mx2.8/23, mbtmp2.6/3, ML2.6/3, Error ellipse: s-maj=169.0km s-min=19.9km az=51.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	2.93	137	Pn	Pn	06 15 44.6	-1.7
	0.3nm,0.3s,baz=312,slow=16,SNR=11						
STKA				Pg	Pg	06 15 53.4	-1.3
	1.1nm,0.3s,baz=300,slow=15,SNR=15						
STKA				Sn	Sn	06 16 23.5	+1.2
	1.0nm,0.3s,baz=264,slow=14,SNR=3.3						
ASAR	Alice Springs	7.71	320	Pn	Pn	06 16 52.2	+0.1
	0.1nm,0.3s,baz=154,slow=11,SNR=3.4						
WRA	Warramunga Arr	10.72	334	Pn	Pn	06 17 33.5	+0.2
	0.1nm,0.3s,baz=155,slow=14,SNR=7.4						

MEX 01 06:22:49.1±0.4, 17°.12N×94°.39W, h130km±4km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.47	267	i P	Pn	06 23 06.5	-1.5
CMIG				i S	Sn	06 23 20.7	-1.6
TGIG		1.26	105	eP	Pn	06 23 13.3	-1.4
TGIG				eS	Sn	06 23 32.1	-2.0
PCIG		1.80	141	eP	Pn	06 23 19.8	-0.8
PCIG				i S	Sn	06 23 43.3	-1.5
HUIG	Huatulco	2.12	231	eP	Pn	06 23 22.2	-2.4
HUIG				eS	Sn	06 23 49.6	-2.2
VHO	Vista Hermosa	2.24	269	eP	Pn	06 23 25.3	-1.0
VHO				eS	Sn	06 23 52.6	-2.2
CCIG	Comitan	2.31	111	eP	Pn	06 23 25.8	-1.4
CCIG				eS	Sn	06 23 54.2	-2.2

*SJA **01** 06:32:12.2±1.1, 34°.35S×72°.76W, h30km, ML3.2*
*GUC **01** 06:32:14.9±0.8, 34°.60S×71°.87W, h11km±4km, ML3.6*
ISC 01 06:32:14.4±1.6, 34°.63S±0°.04×71°.97W±0°.10, h20km±6km, n27, σ1.60/40, 8C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	Los Niches	0.71	121	⇑iP	Pb	06 32 27.9	-0.2
NICH				i S	Sb	06 32 37.2	-0.3
TALC	Talca	0.81	160	eP	Pn	06 32 30.5	-0.2
TALC				i S	Sg	06 32 41.5	+0.4
LNV	Longovilo	0.82	35	⇑iP	Pb	06 32 29.0	-0.9
CACH	El Canelo	1.24	66	⇑iP	Pn	06 32 36.1	-0.7
LNCH	Linares	1.25	166	⇑iP	Pg	06 32 38.5	-0.1
LNCH				i S	Sg	06 32 55.0	+0.1
CHCH	Chadas Angostu	1.29	58	⇓iP	Pn	06 32 36.7	-0.7
CHCH				i S	Sn	06 32 52.9	-1.3
TACH	Talagante	1.30	41	⇑iP	Pn	06 32 36.7	-0.8
PCH	Pirque	1.57	50	eP	Pn	06 32 41.4	0.0
PCH				i S	Sn	06 33 01.0	-0.2
SAN	Santiago	1.60	43	eP	Pn	06 32 41.9	+0.2
SAN				i S	Sn	06 33 01.4	-0.4
IHA	Instituto Hidr	1.63	10	eP	Pn	06 32 42.6	+0.7
FSR	Penalolen	1.66	47	eP	Pn	06 32 43.6	+1.1
FSR				i S	Sn	06 33 03.9	+0.6
SJCH	San Jose de Ma	1.67	54	⇑iP	Pn	06 32 42.2	-0.4
SJCH				i S	Sn	06 33 03.3	-0.2
LACH	Col Las Americ	1.68	46	⇓iP	Pn	06 32 42.5	-0.2
CLCH	Cerro Calan	1.71	44	⇑iP	Pn	06 32 43.7	+0.4
CLCH				i S	Sn	06 33 04.9	+0.2
CLCH				AML	AML	06 33 13.9	
	comp=N,1μm,0.4s						
PEL	Peldehue	1.83	36	⇑iP	Pn	06 32 45.4	+0.6
PEL				i S	Sn	06 33 08.1	+0.6
PEL				AML	AML	06 33 16.8	
	comp=N,1μm,0.5s						
ROCH	El Roble	1.84	26	eP	Pn	06 32 44.4	-0.7
ROCH				eS	Sn	06 33 08.4	+0.5
ROCH				AML	AML	06 33 14.0	
	comp=N,1μm,0.2s						
AAGR	Agrelo	3.04	60	eP	Pb	06 33 05.9	-2.0
ARCO	CERRO ARCO	3.10	56	i P	Pb	06 33 07.9	-1.1
ARCO				i S	Sb	06 33 49.6	+3.2
ARCO				AML	AML	06 33 54.1	
	comp=Z,41nm,0.6s						
AUSP	Uspallata	3.23	43	i P	Pb	06 33 08.9	-2.3
AUSP				eS	Sb	06 33 50.0	-0.3
ASAL	Salagasta	3.31	53	i P	Pb	06 33 10.9	-1.7
ASAL				i S	Sb	06 33 54.6	+2.0
CANA	Caviahue	3.33	168	eP	Pb	06 33 12.1	-0.8
RTLS	Leoncito	3.61	39	i P	Pb	06 33 14.3	-3.4
RTLS				eS	Sb	06 34 00.8	-0.3
RTCV	Cerro Valdivia	3.99	47	i P	Pn	06 33 18.1	+3.6
RTCV				eS	Sb	06 34 16.0	+4.1
CFAA	Coronel Fontan	4.35	47	eP	Pn	06 33 23.9	+4.4
RTLL	Cerro Villicun	4.41	43	eP	Pn	06 33 24.2	+3.9
RTLL				eS	Sb	06 34 19.8	-4.4
AMOG	MOGNA	4.71	39	eP	Pn	06 33 27.5	+3.1
AVFE	Valle Fertil	5.50	45	eP	Pn	06 33 38.2	+2.9

IDC 01 06:42:50.6±2.4, 15°.82S×174°.77W, h0km, mb4.0/5, mb1 4.4/5, mb1mx4.0/29, mbtmp4.0/5, Error ellipse: s-maj=208.8km s-min=22.9km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.46	257	P	P	06 51 35.2	-0.1
	1.7nm,0.7s,baz=91,slow=7.1,SNR=22						
ASAR	Alice Springs	48.72	252	P	P	06 51 37.1	-0.2
	13nm,0.6s,baz=87,slow=8.1,SNR=97						
NVAR	Mina Array Bea	75.52	43	P	P	06 54 38.4	+1.1
	0.5nm,0.7s,baz=225,slow=8.0,SNR=4.4						
TXAR	Lajitas Array	81.94	57	P	P	06 55 12.2	-0.5
	0.6nm,1.1s,baz=209,slow=7.2,SNR=3.2						
PDAR	Pinedale Array	83.46	42	P	P	06 55 20.0	-0.5
	0.5nm,0.7s,baz=177,slow=2.8,SNR=4.5						

WEL 01 06:45:36.4±0.8, 36°.72S×177°.25E, h213km±7km, ML3.5/4, 1C, Error ellipse: s-maj=11.8km s-min=8.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAZ	Te Kaha	1.12	158	PN	Pn	06 46 07.7	-0.6
WMGZ	Waiomatatini S	1.44	140	PN	Pn	06 46 10.4	-0.3
URZ	Urewera	1.54	184	PN	Pn	06 46 11.9	+0.3
URZ				AML	AML	06 46 26.5	
URZ				SN	S	06 46 39.1	+0.2
TWGZ	Tauwhareparae	1.57	159	⇑PN	Pn	06 46 12.5	+0.6
MWZ	Matawai	1.63	172	PN	Pn	06 46 12.9	+0.4
MWZ				AML	AML	06 46 13.7	
MWZ				SN	S	06 46 41.0	+0.5
RAHZ	Arahi	2.20	183	PN	Pn	06 46 18.3	+0.4
KNZ	Kokohu	2.32	172	PN	Pn	06 46 18.8	-0.3
KNZ				SN	S	06 46 51.8	-0.5
BKZ	Black Stump Fm	2.52	194	PN	Pn	06 46 21.1	-0.2
BKZ				SN	S	06 46 56.0	-0.3
MCHZ	McNeill Hill	2.76	189	PN	Pn	06 46 24.0	+0.1
WPHZ	Waipukurau	3.40	191	SN	S	06 47 13.8	-0.6
MRZ	Mangatainoka R	4.15	198	PN	Pn	06 46 38.5	-2.0
OGWZ	Otaki Gorge	4.40	201	PN	Pn	06 46 41.7	-1.9

*ISCJB **01** 07:03:15.0±0.5, 42°.01N±0°.05×142°.55E±0°.05, h67km±4km, mb3.5/11, Error ellipse: s-maj=9.3km s-min=5.5km az=159.7*
*JMA **01** 07:03:15.7±0.2, 42°.03N×142°.60E, h64km±2km, M3.4*
*IDC **01** 07:03:16.6±3.0, 42°.06N×142°.45E, h64km±24km, mb3.4/11, mb1 3.5/13, mb1mx3.4/33, mbtmp3.6/13, ML3.9/1, Error ellipse: s-maj=23.1km s-min=17.3km az=153.0*
ISC 01 07:03:15.9±0.8, 42°.02N±0°.06×142°.55E±0°.04, h58km±7km, n30, σ0.71/32, mb3.5/12, 4C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.30	30	⇑P	Pn	07 03 25.8	0.0
JNBK				eS	Sn	07 03 33.4	+0.5
JEM	Erimo	0.45	90	⇑P	Pn	07 03 27.4	+0.2
JEM				eS	Sn	07 03 35.2	-0.1
JBT2	Biratori 2	0.77	350	⇓P	Pn	07 03 30.8	-0.1
JBT2				eS	Sn	07 03 42.2	+0.3
JCH	Churui	0.84	45	⇑P	Pn	07 03 31.6	-0.3
JCH				eS	Sn	07 03 43.3	-0.3
JKB	Kayabe	1.14	264	⇓P	Pn	07 03 36.0	+0.3
JKB				eS	Sn	07 03 51.0	+0.5
JEW	Eniwo	1.16	315	⇓P	Pn	07 03 36.2	+0.3
JNB	Noboribetsu	1.21	292	⇓P	Pn	07 03 36.3	-0.4
JNB				eS	Sn	07 03 52.5	+0.4
JOB	Onbets	1.29	47	⇑P	Pn	07 03 38.4	+0.6
JOB				eS	Sn	07 03 55.3	+1.2
JOT	Ohata	1.29	241	⇓P	Pn	07 03 38.2	+0.4
JAR	Ashorobuto	1.56	35	P	Pn	07 03 41.2	-0.2
JAR				eS	Sn	07 04 00.4	-0.1
ASAJ	Asahikawa	2.10	1	P	Pn	07 03 49.4	+0.8
	27nm,0.3s,baz=217,slow=15,SNR=39						
ASAJ				S	Sn	07 04 14.1	+0.5
	baz=307,slow=20						
USRK	Ussuriysk Ar.	8.03	289	P	Pn	07 05 10.3	+0.5
	0.2nm,0.3s,baz=81,slow=13,SNR=4.8						
KSRS	Korea Array	12.15	253	P	P	07 06 11.8	-5.0
	0.4nm,0.3s,baz=68,slow=13,SNR=5.7						
SONM	Songino Array	26.08	295	P	P	07 08 44.5	+0.3
	0.3nm,0.5s,baz=67,slow=7.3,SNR=3.3						
H11N2	WAKE ISLAND Hy	30.31	130	T	T	07 40 58.0	
	baz=323,slow=75,SNR=18						
H11N1	WAKE ISLAND Hy	30.32	130	T	T	07 40 58.2	
	baz=323,slow=75,SNR=23						
H11N3	WAKE ISLAND Hy	30.33	130	T	T	07 40 53.6	
	baz=323,slow=75,SNR=20						
H11S1	WAKE ISLAND Hy	31.17	131	T	T	07 41 51.8	
	baz=325,slow=76,SNR=24						
H11S3	WAKE ISLAND Hy	31.18	131	T	T	07 41 51.4	
	baz=325,slow=76,SNR=21						
H11S2	WAKE ISLAND Hy	31.19	131	T	T	07 41 50.9	
	baz=325,slow=76,SNR=17						
ZALV	Zalesovo Beam	39.37	308	P	P	07 10 37.2	-2.3
	1.0nm,0.4s,baz=81,slow=11,SNR=3.8						
MKAR	Makanchi Array	42.39	298	P	P	07 11 03.9	-0.6
	0.8nm,0.9s,baz=82,slow=9.9,SNR=6.2						
KURBB	Kurchatov Arra	43.78	304	P	P	07 11 15.1	-0.5
	1.5nm,0.5s,baz=76,slow=8.7,SNR=10						
ILAR	Eielson Array	44.86	35	P	P	07 11 23.6	-0.4
	0.2nm,0.4s,baz=258,slow=5.4,SNR=5.4						
BVAR	Borovoye Array	47.98	309	P	P	07 11 48.5	-0.2
	0.7nm,0.4s,baz=82,slow=7.3,SNR=5.1						
WRA	Warramunga Arr	62.12	189	P	P	07 13 30.1	-0.7
	0.4nm,0.8s,baz=6.5,slow=7.0,SNR=6.1						
FINES	FINESS Array B	64.83	332	P	P	07 13 47.4	-0.9
	1.2nm,0.6s,baz=46,slow=5.5,SNR=7.3						
NOA	NORSAR Array B	69.94	337	P	P	07 14 20.1	-0.6
	0.8nm,0.7s,baz=36,slow=6.3,SNR=3.4						
NVAR	Mina Array Bea	71.35	55	P	P	07 14 31.0	+1.1
	0.2nm,0.6s,baz=298,slow=9.8,SNR=2.7						
TXAR	Lajitas Array	86.41	53	P	P	07 15 53.2	+0.9
	0.2nm,0.6s,baz=253,slow=3.4,SNR=3.7						

*ATH **01** 07:20:30.8, 41°.86N×22°.15E, h13km, MD3.6/16*
*TIR **01** 07:20:30.9±5.5, 41°.80N×22°.15E, h15km±117km, ML3.3*
*SKO **01** 07:20:31.1, 41°.78N×22°.13E, h23km, M3.3, ML3.4*
*PDG **01** 07:20:31.4±0.7, 41°.86N×22°.14E, h5km±1km, ML3.4/11, Error ellipse: s-maj=0.7km s-min=0.7km az=90.0*
*PRU **01** 07:20:31.2, 41°.65N×22°.13E, h6km*
*IDC **01** 07:20:31.2±0.8, 41°.73N×22°.16E, h0km, mb3.6/6, mb1 3.7/10, mb1mx3.5/38, mbtmp3.6/10, ML3.3/4, MS2.8/5, Ms1 2.8/5, ms1mx2.5/35, Error ellipse: s-maj=15.9km s-min=13.2km az=18.0*
*BEO **01** 07:20:32.7±0.3, 41°.79N×22°.18E, h1km±2km, ML3.3/1*
*CSEM **01** 07:20:32.3±0.1, 41°.81N×22°.15E, h2km, ML3.5, Error ellipse: s-maj=2.0km s-min=1.6km az=45.0*
*SOF **01** 07:20:32.8, 41°.79N×22°.31E, h2km, MD3.6*
*THE **01** 07:20:32.6, 41°.80N×22°.23E, h0km±2km, ML3.5/13, Error ellipse: s-maj=2.1km s-min=0.9km az=4.0*
ISC 01 07:20:31.2±1.1, 41°.81N±0°.01×22°.16E±0°.01, h1km±8km, n356, σ1.29/477, mb3.7/5, 43C-31D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKO	Skopje	0.56	287	P	Pg	07 20 42.3	+0.3
SKO				S	Sg	07 20 50.8	+1.5
SKO	Skopje	0.56	287	i Pg	Pg	07 20 42.7	+0.6
SKO				eSg	Sg	07 20 50.0	+0.6
SKO	Skopje	0.56	287	i Pg	Pg	07 20 42.7	+0.6
SKO				eSg	Sg	07 20 50.0	+0.6
SKO	Skopje	0.56	287	ePg	Pg	07 20 42.3	+0.3
SKO				eSg	Sb	07 20 52.4	-0.1
SKO	Skopje	0.56	287	P	Pg	07 20 42.3	+0.3
SKO	Skopje	0.56	287	i Pg	Pg	07 20 42.6	+0.6
SKO				eSg	Sg	07 20 49.9	+0.6
SKO				S	Sg	07 20 50.8	+1.5
VAY	Valandovo	0.58	148	P	Pg	07 20 42.5	+0.2
VAY				S	Sg	07 20 50.7	+0.9
VAY	Valandovo	0.58	148	i Pg	Pg	07 20 43.0	+0.7
VAY				eSg	Sb	07 20 51.3	-1.6
VAY				eLg	Lg	07 20 51.4	
	comp=Z,7μm,0.7s						
VAY				eLg	Lg	07 20 51.5	
	comp=N,12μm,0.5s						
VAY	Valandovo	0.58	148	i Pg	Pg	07 20 43.0	+0.7
VAY				eSg	Sb	07 20 51.3	-1.6
VAY				eLg	Lg	07 20 51.4	
	comp=Z,7μm,0.7s						
VAY				eLg	Lg	07 20 51.5	
	comp=N,12μm,0.5s						
VAY	Valandovo	0.58	148	⇑iPg	Pg	07 20 42.5	+0.2
VAY				eSg	Sg	07 20 50.6	+0.8
VAY	Valandovo	0.58	148	P	Pg	07 20 42.5	+0.2
VAY	Valandovo	0.58	148	i Pg	Pg	07 20 43.0	+0.7
VAY				S	Sg	07 20 50.7	+0.9
VAY				eLg	Lg	07 20 51.5	
	comp=N,12μm,0.5s						
KKB	Krupnik	0.69	85	i Pg	Pg	07 20 45.3	+0.8
KKB	Krupnik	0.69	85	i Pg	Pg	07 20 45.3	+0.8
GJIK	Gjilan	0.84	321	P	Pg	07 20 47.2	-0.2
GJIK				S	Sb	07 21 00.0	-0.7
KNT	Kendrikon	0.85	139	P	Pg	07 20 47.6	0.0
KNT				S	Sb	07 20 59.8	-1.0
KNT	Kendrikon	0.85	139	ePB	Pg	07 20 47.7	+0.1
KNT				eSB	Sb	07 20 59.9	-0.9
KNT	Kendrikon	0.85	139	ePb	Pg	07 20 47.7	+0.1
KNT				S	Sb	07 20 59.8	-1.0
GRG	Griva	0.87	168	P	Pg	07 20 47.9	0.0
GRG				S	Sb	07 21 00.1	-1.3
GRG	Griva	0.87	168	ePG	Pg	07 20 47.9	0.0
GRG				eSB	Sb	07 21 01.5	+0.1
GRG	Griva	0.87	168	P	Pg	07 20 47.9	0.0
GRG				S	Sb	07 21 00.1	-1.3
GRG				eSb	Sb	07 21 01.5	+0.1
BARS	Barje	1.04	346	ePg	Pg	07 20 51.2	+0.1
BARS				eSg	Sb	07 21 07.1	+0.9
BARS	Barje	1.04	346	ePg	Pg	07 20 51.2	+0.1
BARS				eSg	Sb	07 21 07.1	+0.9
VTS	Vitosha	1.10	45	P	Pg	07 20 52.7	+0.4
VTS				S	Sb	07 21 08.6	+0.4
VTS	Vitosha	1.10	45	⇑iPg	Pg	07 20 52.8	+0.4
VTS				eSg	Sb	07 21 08.3	+0.1
VTS	Vitosha	1.10	45	⇓iP	Pb	07 20 53.4	+0.2
VTS	Vitosha	1.10	45	S	Sg	07 21 01.6	-5.1
VTS	Vitosha	1.10	45	i P	Pb	07 20 53.5	+0.2
VTS	Vitosha	1.10	45	⇑iPg	Pg	07 20 52.8	+0.4
VTS				eSg	Sb	07 21 08.3	+0.1
PRZK	Prizren	1.12	291	P	Pg	07 20 52.4	-0.3
FNA	Florina	1.18	210	P	Pg	07 20 53.9	0.0
FNA	Florina	1.18	210	ePB	Pg	07 20 53.8	-0.1
FNA				eSB	Sn	07 21 10.3	-1.5
FNA	Florina	1.18	210	P	Pg	07 20 53.9	0.0
FNA				eSb	Sn	07 21 10.3	-1.5
MMB	Musomiste	1.19	100	⇑iP	Pg	07 20 54.5	+0.4
MMB	Musomiste	1.19	100	S	Sg	07 21 09.8	+0.2
MMB	Musomiste	1.19	100	i Pg	Pg	07 20 54.5	+0.4
MMB	Musomiste	1.19	100	⇑iP	Pg	07 20 54.5	+0.4
OHR	Ohrid	1.24	236	i Pg	Pg	07 20 53.7	-1.3
OHR				i Sg	Sb	07 21 11.3	-0.8
OHR				eLg	Lg	07 21 11.5	
	comp=E,524nm,0.5s						
OHR				eLg	Lg	07 21 11.5	
	comp=N,562nm,0.6s						
OHR	Ohrid	1.24	236	i Pg	Pg	07 20 53.7	-1.3
OHR				i Sg	Sb	07 21 11.3	-0.8
OHR				eLg	Lg	07 21 11.5	
	comp=E,524nm,0.5s						
OHR				eLg	Lg	07 21 11.5	
	comp=N,562nm,0.6s						
OHR	Ohrid	1.24	236	i Pg	Pg	07 20 53.7	-1.3
OHR				i Sg	Sb	07 21 11.2	-0.8
OHR				eLg	Lg	07 21 11.5	
	comp=N,562nm,0.6s						
SRS	Serrai	1.28	122	P	Pg	07 20 55.2	-0.5
SRS				S	Sn	07 21 13.4	-0.7
SRS	Serrai	1.28	122	P	Pg	07 20 55.2	-0.5
SRS				S	Sn	07 21 13.4	-0.7
PHP	Peshkopia	1.29	265	i PN	Pn	07 20 55.0	-1.6
PHP				i SN	Sn	07 21 13.7	-0.8
PHP	Peshkopia	1.29	265	i Pn	Pn	07 20 55.0	-1.6
PHP				i Sn	Sn	07 21 13.7	-0.8
ZATK	Zatriq	1.31	300	S	Sn	07 21 16.4	+1.4
THE	Thessaloniki	1.32	152	P	Pn	07 20 55.8	-1.1
THE				S	Sn	07 21 15.2	0.0

THE	**Thessaloniki**	**1.32**	**152**	P	**Pn**	**07 20 55.8**	**-1.1**
THE				S	**Sn**	**07 21 15.2**	**0.0**
SOH	**Sokhos**	**1.34**	**137**	P	**Pn**	**07 20 56.0**	**-1.1**
SOH				S	**Sn**	**07 21 15.1**	**-0.5**
SOH	**Sokhos**	**1.34**	**137**	P	**Pn**	**07 20 56.0**	**-1.1**
SOH				S	**Sn**	**07 21 15.1**	**-0.5**
NVR	**Nevrokopi**	**1.36**	**109**	P	**Pn**	**07 20 57.0**	**-0.4**
NVR				S	**Sg**	**07 21 15.2**	**+0.4**
NVR	**Nevrokopi**	**1.36**	**109**	ePB	**Pn**	**07 20 57.1**	**-0.4**
NVR				eSB	**Sb**	**07 21 14.9**	**-0.5**
NVR	**Nevrokopi**	**1.36**	**109**	P	**Pn**	**07 20 57.0**	**-0.4**
NVR				eSb	**Sb**	**07 21 14.9**	**-0.5**
NVR				S	**Sg**	**07 21 15.2**	**+0.4**
SMRK	**Smrekonice**	**1.40**	**320**	P	**Pn**	**07 20 57.7**	**-0.3**
SMRK				S	**Sn**	**07 21 17.9**	**+0.8**
HORT	**Hortiatis**	**1.40**	**149**	P	**Pb**	**07 20 58.1**	**-0.2**
HORT				S	**Sn**	**07 21 18.9**	**+1.6**
HORT	**Hortiatis**	**1.40**	**149**	ePB	**Pb**	**07 20 58.1**	**-0.2**
HORT				eSB	**Sn**	**07 21 18.3**	**+1.0**
HORT	**Hortiatis**	**1.40**	**149**	P	**Pb**	**07 20 58.1**	**-0.2**
HORT				eSb	**Sn**	**07 21 18.3**	**+1.0**
ZAPS	**Zavoj**	**1.50**	**13**	ePn	**Pb**	**07 21 00.1**	**+0.1**
KZN	**Kozani**	**1.53**	**191**	P	**Pn**	**07 20 59.7**	**-0.1**
KZN	**Kozani**	**1.53**	**191**	ePG	**Pb**	**07 20 59.9**	**-0.6**
KZN	**Kozani**	**1.53**	**191**	P	**Pn**	**07 20 59.7**	**-0.1**
KBN	**Korca**	**1.57**	**222**	i PN	**Pg**	**07 21 01.2**	**-0.2**
KBN				i SN	**Sg**	**07 21 23.5**	**+1.7**
KBN	**Korca**	**1.57**	**222**	P	**Pb**	**07 21 00.7**	**-0.5**
KBN				S	**Sg**	**07 21 23.5**	**+1.7**
KBN	**Korca**	**1.57**	**222**	P	**Pb**	**07 21 00.7**	**-0.5**
KBN	**Korca**	**1.57**	**222**	i Pn	**Pg**	**07 21 01.2**	**-0.2**
	SNR=47						
KBN				S	**Sg**	**07 21 23.5**	**+1.7**
SELS	**Selova**	**1.60**	**332⇓**	iPn	**Pn**	**07 21 00.3**	**-0.5**
SELS				eSn	**Sg**	**07 21 25.0**	**+2.2**
PEJK	**Peje**	**1.63**	**301**	P	**Pg**	**07 21 03.3**	**+0.9**
NEST	**Nestorio**	**1.63**	**211**	P	**Pb**	**07 21 01.8**	**-0.4**
NEST				S	**Sg**	**07 21 25.6**	**+2.1**
NEST	**Nestorio**	**1.63**	**211**	P	**Pb**	**07 21 01.8**	**-0.4**
NEST				S	**Sg**	**07 21 25.6**	**+2.1**
BCI	**Bajram Curri**	**1.65**	**290**	i PN	**Pb**	**07 21 02.1**	**-0.5**
BCI	**Bajram Curri**	**1.65**	**290**	i Pn	**Pb**	**07 21 02.1**	**-0.5**
	SNR=47						
PGB	**Panagyurishte**	**1.66**	**63**	i P	**Pb**	**07 21 02.5**	**-0.2**
PGB	**Panagyurishte**	**1.66**	**63**	i P	**Pb**	**07 21 02.5**	**-0.2**
PUK	**Puka**	**1.71**	**279**	i PN	**Pb**	**07 21 03.1**	**-0.4**
PUK	**Puka**	**1.71**	**279**	i Pn	**Pb**	**07 21 03.1**	**-0.4**
	SNR=47						
LIT	**Litokhoron**	**1.73**	**172**	P	**Pb**	**07 21 02.9**	**-0.9**
LIT	**Litokhoron**	**1.73**	**172**	ePN	**Pb**	**07 21 02.9**	**-0.9**
LIT				eSN	**Sg**	**07 21 27.1**	**+0.4**
LIT	**Litokhoron**	**1.73**	**172**	P	**Pb**	**07 21 02.9**	**-0.9**
LIT				eSn	**Sg**	**07 21 27.1**	**+0.4**
PLG	**Polygyros**	**1.73**	**146**	P	**Pb**	**07 21 03.6**	**-0.3**
PLG				S	**Sg**	**07 21 27.5**	**+0.6**
PLG	**Polygyros**	**1.73**	**146**	ePG	**Pb**	**07 21 03.3**	**-0.6**
PLG				eSN	**Sb**	**07 21 26.0**	**-0.2**
PLG	**Polygyros**	**1.73**	**146**	ePg	**Pb**	**07 21 03.3**	**-0.6**
PLG	**Polygyros**	**1.73**	**146**	P	**Pb**	**07 21 03.6**	**-0.3**
PLG				eSn	**Sb**	**07 21 26.0**	**-0.2**
PLG				S	**Sg**	**07 21 27.5**	**+0.6**
TIR	**Tirane**	**1.78**	**256**	i PN	**Pg**	**07 21 05.3**	**-0.1**
TIR				i SN	**Sg**	**07 21 31.2**	**+2.7**
TIR	**Tirane**	**1.78**	**256**	P	**Pg**	**07 21 05.5**	**+0.1**
TIR				S	**Sg**	**07 21 30.9**	**+2.4**
TIR	**Tirane**	**1.78**	**256**	ePn	**Pg**	**07 21 05.8**	**+0.4**
TIR				eSn	**Sg**	**07 21 29.9**	**+1.4**
TIR	**Tirane**	**1.78**	**256**	ePn	**Pn**	**07 21 03.3**	**+0.1**
TIR	**Tirane**	**1.78**	**256**	P	**Pg**	**07 21 05.5**	**+0.1**
TIR				eSn	**Sg**	**07 21 29.9**	**+1.4**
PVY	**Plav**	**1.81**	**296⇑**	iPn	**Pn**	**07 21 03.6**	**-0.2**
PVY				eSn	**Sg**	**07 21 29.6**	**+0.1**
RZN	**Rozhen**	**1.92**	**93**	i P	**Pb**	**07 21 06.2**	**-0.9**
RZN	**Rozhen**	**1.92**	**93**	i P	**Pb**	**07 21 06.2**	**-0.9**
PLD	**Plovdiv**	**1.92**	**80**	P	**Pb**	**07 21 06.2**	**-0.8**
PLD				S	**Sb**	**07 21 31.7**	**+0.2**
PLD	**Plovdiv**	**1.92**	**80**	ePn	**Pb**	**07 21 06.2**	**-0.8**
PLD				eSg	**Sg**	**07 21 34.8**	**+1.9**
PLD	**Plovdiv**	**1.92**	**80**	i P	**Pb**	**07 21 06.1**	**-0.9**
PLD	**Plovdiv**	**1.92**	**80**	i P	**Pb**	**07 21 06.1**	**-0.9**
PLD				S	**Sb**	**07 21 31.7**	**+0.2**
PLD				eSg	**Sg**	**07 21 34.8**	**+1.9**
MPEP	**Malo Peshtene**	**1.94**	**37**	P	**Pg**	**07 21 08.2**	**-0.1**
KAVA	**Kavala**	**1.95**	**114**	P	**Pn**	**07 21 06.0**	**+0.5**
KAVA	**Kavala**	**1.95**	**114**	ePN	**Pb**	**07 21 06.3**	**-1.2**
KAVA				eSN	**Sb**	**07 21 32.2**	**-0.1**
KAVA	**Kavala**	**1.95**	**114**	P	**Pn**	**07 21 06.0**	**+0.5**
KAVA	**Kavala**	**1.95**	**114**	ePn	**Pb**	**07 21 06.3**	**-1.2**
KAVA				eSn	**Sb**	**07 21 32.2**	**-0.1**
BEY	**Berane**	**1.99**	**303⇓**	iPn	**Pn**	**07 21 06.8**	**+0.7**
BEY	**Berane**	**1.99**	**303**	P	**Pb**	**07 21 07.1**	**-1.2**
BEY				eSn	**Sb**	**07 21 33.4**	**-0.2**
IVA	**Berane**	**1.99**	**303⇓**	iPn	**Pn**	**07 21 06.8**	**+0.7**
IVA				eSn	**Sb**	**07 21 33.4**	**-0.2**
OUR	**Ouranopolis**	**2.02**	**136**	ePN	**Pb**	**07 21 09.2**	**+0.5**
OUR				eSN	**Sb**	**07 21 34.7**	**+0.4**
OUR	**Ouranopolis**	**2.02**	**136**	P	**Pb**	**07 21 07.9**	**-0.8**
OUR				S	**Sb**	**07 21 34.6**	**+0.3**
OUR	**Ouranopolis**	**2.02**	**136**	P	**Pb**	**07 21 07.9**	**-0.8**
OUR	**Ouranopolis**	**2.02**	**136**	ePn	**Pb**	**07 21 09.2**	**+0.5**
OUR				S	**Sb**	**07 21 34.6**	**+0.3**
BOLS	**Boljevac**	**2.02**	**356**	ePn	**Pb**	**07 21 08.2**	**-0.6**
BOLS				eSn	**Sb**	**07 21 34.5**	**0.0**
BOLS	**Boljevac**	**2.02**	**356**	ePn	**Pb**	**07 21 08.2**	**-0.6**
BOLS				eSn	**Sb**	**07 21 34.5**	**0.0**
SJES	**Sjenica**	**2.17**	**313**	ePn	**Pn**	**07 21 09.9**	**+1.2**
ULC	**Ulcinj**	**2.18**	**275**	ePn	**Pn**	**07 21 09.8**	**+1.0**
ULC	**Ulcinj**	**2.18**	**275**	P	**Pb**	**07 21 10.7**	**-0.9**
ULC				eSn	**Sb**	**07 21 38.3**	**-0.9**
ULC	**Ulcinj**	**2.18**	**275**	ePn	**Pn**	**07 21 09.8**	**+1.0**
ULC				eSn	**Sb**	**07 21 38.3**	**-0.9**
PAIG	**Paliouri**	**2.21**	**148**	P	**Pb**	**07 21 10.1**	**-1.8**
PAIG				S	**Sb**	**07 21 37.9**	**-1.9**
PAIG	**Paliouri**	**2.21**	**148**	P	**Pb**	**07 21 10.1**	**-1.8**
PAIG				S	**Sb**	**07 21 37.9**	**-1.9**
THL	**Klokotos Trika**	**2.25**	**183**	P	**Pn**	**07 21 10.1**	**+0.5**
THL	**Klokotos Trika**	**2.25**	**183**	ePN	**Pn**	**07 21 10.3**	**+0.7**
THL				eSN	**Sb**	**07 21 39.2**	**-1.7**
THL	**Klokotos Trika**	**2.25**	**183**	ePn	**Pn**	**07 21 10.3**	**+0.7**
THL				eSn	**Sb**	**07 21 39.2**	**-1.7**
PDG	**Podgorica**	**2.25**	**287**	ePn	**Pn**	**07 21 10.5**	**+0.9**
PDG				eSn	**Sb**	**07 21 40.4**	**-0.6**
PDG	**Podgorica**	**2.25**	**287**	ePn	**Pn**	**07 21 10.5**	**+0.9**
PDG				eSn	**Sb**	**07 21 40.4**	**-0.6**
TTG	**Podgorica**	**2.25**	**287⇑**	iPn	**Pn**	**07 21 10.4**	**+0.9**
TTG				eSn	**Sb**	**07 21 40.8**	**-0.2**
DRME	**Dracevica, Mon**	**2.25**	**281**	ePn	**Pn**	**07 21 10.6**	**+0.9**
DRME				eSn	**Sb**	**07 21 39.9**	**-1.2**
DRME	**Dracevica, Mon**	**2.25**	**281**	ePn	**Pn**	**07 21 10.6**	**+0.9**
DRME				eSn	**Sb**	**07 21 39.9**	**-1.2**
IVAS	**Ivanjica**	**2.30**	**321**	ePn	**Pn**	**07 21 10.9**	**+0.5**
IVAS				eSn	**Sb**	**07 21 42.9**	**+0.2**
IVAS	**Ivanjica**	**2.30**	**321**	ePn	**Pn**	**07 21 10.9**	**+0.5**
IVAS				eSn	**Sb**	**07 21 42.9**	**+0.2**
GRUS	**Gruza**	**2.33**	**333⇓**	iPn	**Pn**	**07 21 10.9**	**+0.1**
GRUS				eSn	**Sb**	**07 21 42.4**	**-1.0**
GRUS	**Gruza**	**2.33**	**333⇓**	iPn	**Pn**	**07 21 10.9**	**+0.1**
GRUS				eSn	**Sb**	**07 21 42.4**	**-1.0**
JAN	**Janina**	**2.37**	**205**	ePN	**Pb**	**07 21 12.7**	**-2.1**
JAN	**Janina**	**2.37**	**205**	ePn	**Pb**	**07 21 12.7**	**-2.1**
KDZ	**Kurdzhali**	**2.44**	**93⇓**	iP	**Pn**	**07 21 11.9**	**-0.3**
KDZ	**Kurdzhali**	**2.44**	**93**	S	**Sn**	**07 21 40.3**	**-2.5**
KDZ	**Kurdzhali**	**2.44**	**93**	i P	**Pn**	**07 21 12.0**	**-0.3**
KDZ	**Kurdzhali**	**2.44**	**93**	i P	**Pn**	**07 21 12.0**	**-0.3**
BUM	**Brajici-Budva**	**2.48**	**282⇓**	iPn	**Pn**	**07 21 12.8**	**-0.1**
BUM				eSn	**Sb**	**07 21 46.5**	**-1.3**
BUM	**Brajici-Budva**	**2.48**	**282⇓**	iPn	**Pn**	**07 21 12.8**	**-0.1**
BUM				eSn	**Sb**	**07 21 46.5**	**-1.3**
DIM	**Dimitrovgrad**	**2.53**	**83**	i P	**Pb**	**07 21 18.6**	**+1.2**
DIM	**Dimitrovgrad**	**2.53**	**83**	i P	**Pb**	**07 21 18.6**	**+1.2**
SRN	**Sarande**	**2.53**	**221**	P	**Pb**	**07 21 15.7**	**-1.8**
SRN	**Sarande**	**2.53**	**221**	P	**Pb**	**07 21 15.7**	**-1.8**
PLE	**Pljevlja**	**2.55**	**307⇓**	iPn	**Pn**	**07 21 13.6**	**-0.3**
PLE				eSn	**Sb**	**07 21 47.9**	**-1.9**
PLE	**Pljevlja**	**2.55**	**307⇓**	iPn	**Pn**	**07 21 13.6**	**-0.3**
PLE				eSn	**Sb**	**07 21 47.9**	**-1.9**
NKY	**Niksic**	**2.55**	**294⇑**	iPn	**Pn**	**07 21 14.4**	**+0.5**
NKY				eSn	**Sb**	**07 21 48.1**	**-1.8**
NKY	**Niksic**	**2.55**	**294⇑**	iPn	**Pn**	**07 21 14.4**	**+0.5**
NKY				eSn	**Sb**	**07 21 48.1**	**-1.8**
NKME	**Niksic**	**2.56**	**293⇑**	iPn	**Pn**	**07 21 14.6**	**+0.6**
NKME				eSn	**Sb**	**07 21 47.7**	**-2.5**
NKME	**Niksic**	**2.56**	**293⇑**	iPn	**Pn**	**07 21 14.6**	**+0.6**
NKME				eSn	**Sb**	**07 21 47.7**	**-2.5**
XOR	**Xorichti**	**2.56**	**162**	P	**Pn**	**07 21 13.9**	**-0.1**
XOR	**Xorichti**	**2.56**	**162**	P	**Pn**	**07 21 13.9**	**-0.1**
RDO	**Rodhopi**	**2.62**	**104**	P	**Pn**	**07 21 15.3**	**+0.6**
RDO	**Rodhopi**	**2.62**	**104**	ePB	**Pn**	**07 21 14.9**	**+0.2**
RDO	**Rodhopi**	**2.62**	**104**	ePb	**Pn**	**07 21 14.9**	**+0.2**
RDO	**Rodhopi**	**2.62**	**104**	P	**Pn**	**07 21 15.3**	**+0.6**
NEO	**Neokhori**	**2.63**	**162**	ePB	**Pn**	**07 21 15.8**	**+0.9**
NEO	**Neokhori**	**2.63**	**162**	ePb	**Pn**	**07 21 15.8**	**+0.9**
SGD	**Sagiada**	**2.64**	**214**	P	**Pb**	**07 21 17.8**	**-1.5**
SGD	**Sagiada**	**2.64**	**214**	P	**Pb**	**07 21 17.8**	**-1.5**
KEK	**Kerkira**	**2.76**	**221**	P	**Pn**	**07 21 18.1**	**+1.5**
KEK	**Kerkira**	**2.76**	**221**	ePN	**Pn**	**07 21 17.5**	**+0.9**
KEK	**Kerkira**	**2.76**	**221**	ePn	**Pn**	**07 21 17.5**	**+0.9**
KEK	**Kerkira**	**2.76**	**221**	P	**Pn**	**07 21 18.1**	**+1.5**
UPM	**Unac-Piva**	**2.78**	**301⇑**	iPn	**Pn**	**07 21 18.0**	**+0.9**
UPM	**Unac-Piva**	**2.78**	**301**	P	**Pn**	**07 21 18.3**	**+1.2**
UPM				eSn	**Sn**	**07 21 53.1**	**+1.7**
UPM	**Unac-Piva**	**2.78**	**301⇑**	iPn	**Pn**	**07 21 18.0**	**+0.9**
UPM				eSn	**Sn**	**07 21 53.1**	**+1.7**
DIVS	**Divibare**	**2.79**	**326**	P	**Pn**	**07 21 16.7**	**-0.4**
DIVS	**Divibare**	**2.79**	**326⇓**	iPn	**Pn**	**07 21 17.0**	**-0.1**
DIVS				eSn	**Sn**	**07 21 52.6**	**+1.2**
DIVS	**Divibare**	**2.79**	**326⇓**	iP	**Pn**	**07 21 17.1**	**-0.1**
DIVS	**Divibare**	**2.79**	**326**	P	**Pn**	**07 21 16.7**	**-0.4**
DIVS	**Divibare**	**2.79**	**326⇓**	iPn	**Pn**	**07 21 17.0**	**-0.1**
DIVS				eSn	**Sn**	**07 21 52.6**	**+1.2**
AGG	**Agios Georgios**	**2.79**	**177**	P	**Pn**	**07 21 17.8**	**+0.7**
AGG				S	**Sn**	**07 21 52.4**	**+1.0**
AGG	**Agios Georgios**	**2.79**	**177**	ePN	**Pn**	**07 21 17.8**	**+0.7**
AGG	**Agios Georgios**	**2.79**	**177**	P	**Pn**	**07 21 17.8**	**+0.7**
AGG				S	**Sn**	**07 21 52.4**	**+1.0**
DSL	**Palaion Diasel**	**2.79**	**197**	P	**Pn**	**07 21 18.9**	**+1.7**
DSL	**Palaion Diasel**	**2.79**	**197**	ePN	**Pn**	**07 21 18.1**	**+0.9**
DSL	**Palaion Diasel**	**2.79**	**197**	ePn	**Pn**	**07 21 18.1**	**+0.9**
DSL	**Palaion Diasel**	**2.79**	**197**	P	**Pn**	**07 21 18.9**	**+1.7**
HCY	**Herceg Novi**	**2.80**	**284⇑**	iPn	**Pn**	**07 21 17.6**	**+0.4**
HCY				eSn	**Sb**	**07 21 54.4**	**-2.5**
HCY	**Herceg Novi**	**2.80**	**284⇑**	iPn	**Pn**	**07 21 17.6**	**+0.4**
HCY				eSn	**Sb**	**07 21 54.4**	**-2.5**
SMTH	**Samothraki Isl**	**2.88**	**117**	P	**Pn**	**07 21 18.9**	**+0.7**
SMTH	**Samothraki Isl**	**2.88**	**117**	ePN	**Pn**	**07 21 19.3**	**+1.1**
SMTH	**Samothraki Isl**	**2.88**	**117**	P	**Pn**	**07 21 18.9**	**+0.7**
SMTH	**Samothraki Isl**	**2.88**	**117**	ePn	**Pn**	**07 21 19.3**	**+1.1**
BBLS	**Lazići**	**2.89**	**316**	ePn	**Pn**	**07 21 19.6**	**+1.1**
BBLS				eSn	**Sb**	**07 21 56.9**	**-2.5**
BBLS	**Lazići**	**2.89**	**316**	ePn	**Pn**	**07 21 19.6**	**+1.1**
BBLS				eSn	**Sb**	**07 21 56.9**	**-2.5**
BRY	**Bratogost**	**2.90**	**293⇓**	iPn	**Pn**	**07 21 19.1**	**+0.4**
BRY				eSn	**Sn**	**07 21 56.1**	**+1.8**
BRY	**Bratogost**	**2.90**	**293⇓**	iPn	**Pn**	**07 21 19.1**	**+0.4**
BRY				eSn	**Sn**	**07 21 56.1**	**+1.8**
EVR	**Evrytania**	**2.90**	**185**	P	**Pn**	**07 21 19.0**	**+0.3**
EVR				S	**Sn**	**07 21 55.8**	**+1.5**
EVR	**Evrytania**	**2.90**	**185**	ePN	**Pn**	**07 21 19.1**	**+0.3**
EVR	**Evrytania**	**2.90**	**185**	ePn	**Pn**	**07 21 19.1**	**+0.3**
EVR				S	**Sn**	**07 21 55.8**	**+1.5**
AOS	**Alonnisos**	**2.94**	**153**	ePN	**Pn**	**07 21 19.9**	**+0.7**
AOS	**Alonnisos**	**2.94**	**153**	ePn	**Pn**	**07 21 19.9**	**+0.7**
SRE	**Strehaia**	**2.95**	**15**	S	**Sg**	**07 22 09.2**	**+3.2**
LIA	**Limnos Island**	**2.98**	**129**	P	**Pn**	**07 21 20.0**	**+0.3**
LIA	**Limnos Island**	**2.98**	**129**	ePB	**Pn**	**07 21 21.3**	**+1.6**
LIA	**Limnos Island**	**2.98**	**129**	P	**Pn**	**07 21 20.0**	**+0.3**
LIA	**Limnos Island**	**2.98**	**129**	ePb	**Pn**	**07 21 21.3**	**+1.6**
ALN	**Alexandroupoli**	**3.06**	**106**	ePN	**Pn**	**07 21 20.7**	**-0.1**
ALN	**Alexandroupoli**	**3.06**	**106**	P	**Pn**	**07 21 21.4**	**+0.6**
ALN	**Alexandroupoli**	**3.06**	**106**	ePN	**Pn**	**07 21 21.3**	**+0.5**
ALN	**Alexandroupoli**	**3.06**	**106**	P	**Pn**	**07 21 21.4**	**+0.6**
AXAR	**Agios Charalam**	**3.06**	**173**	ePN	**Pn**	**07 21 21.7**	**+0.8**
AXAR	**Agios Charalam**	**3.06**	**173**	ePn	**Pn**	**07 21 21.7**	**+0.8**
SZH	**Strazhica**	**3.14**	**61**	i P	**Pn**	**07 21 24.0**	**+2.1**
SZH	**Strazhica**	**3.14**	**61**	i P	**Pn**	**07 21 24.0**	**+2.1**
ENEZ	**Enez**	**3.19**	**108**	ePN	**Pn**	**07 21 22.5**	**-0.1**
ENEZ	**Enez**	**3.19**	**108**	ePn	**Pn**	**07 21 22.5**	**-0.1**
LKR	**Lokris**	**3.22**	**168**	ePN	**Pn**	**07 21 24.4**	**+1.4**
LKR	**Lokris**	**3.22**	**168**	ePn	**Pn**	**07 21 24.4**	**+1.4**
LKD2	**Lefkada island**	**3.23**	**201**	ePN	**Pn**	**07 21 24.8**	**+1.7**
LKD2	**Lefkada island**	**3.23**	**201**	ePn	**Pn**	**07 21 24.8**	**+1.7**
GADA	**Gvkgeada**	**3.26**	**119**	ePN	**Pn**	**07 21 25.2**	**+1.7**
GADA	**Gvkgeada**	**3.26**	**119**	ePn	**Pn**	**07 21 25.2**	**+1.7**
HAPS	**Han Pijesak,Bl**	**3.27**	**315**	ePn	**Pn**	**07 21 25.1**	**+1.3**
HAPS	**Han Pijesak,Bl**	**3.27**	**315**	ePn	**Pn**	**07 21 25.1**	**+1.3**
MRKA	**Markates**	**3.29**	**160**	ePN	**Pn**	**07 21 25.8**	**+1.9**
MRKA	**Markates**	**3.29**	**160**	ePn	**Pn**	**07 21 25.8**	**+1.9**
PDO	**Prodromos**	**3.29**	**193**	P	**Pn**	**07 21 25.3**	**+1.3**
PDO	**Prodromos**	**3.29**	**193**	ePB	**Pn**	**07 21 26.3**	**+2.3**
PDO	**Prodromos**	**3.29**	**193**	P	**Pn**	**07 21 25.3**	**+1.3**
TEKS	**Tekeris**	**3.35**	**326**	ePn	**Pn**	**07 21 24.2**	**-0.5**
TEKS				eSn	**Sn**	**07 22 06.8**	**+1.6**
TEKS	**Tekeris**	**3.35**	**326**	ePn	**Pn**	**07 21 24.2**	**-0.5**
TEKS				eSn	**Sn**	**07 22 06.8**	**+1.6**
JMB	**Yambol**	**3.35**	**77**	P	**Pn**	**07 21 24.8**	**0.0**
JMB	**Yambol**	**3.35**	**77⇑**	iP	**Pn**	**07 21 24.9**	**+0.1**
JMB	**Yambol**	**3.35**	**77**	S	**Sn**	**07 22 04.5**	**-0.8**
JMB	**Yambol**	**3.35**	**77**	P	**Pn**	**07 21 24.8**	**0.0**
EFP	**Efpalio**	**3.39**	**183**	P	**Pn**	**07 21 27.1**	**+1.9**
EFP	**Efpalio**	**3.39**	**183**	ePN	**Pn**	**07 21 27.3**	**+2.1**
EFP	**Efpalio**	**3.39**	**183**	P	**Pn**	**07 21 27.1**	**+1.9**
DSF	**Desfina**	**3.41**	**175**	P	**Pn**	**07 21 26.0**	**+0.4**
DSF	**Desfina**	**3.41**	**175**	ePN	**Pn**	**07 21 26.6**	**+1.0**
DSF	**Desfina**	**3.41**	**175**	P	**Pn**	**07 21 26.0**	**+0.4**
DSF	**Desfina**	**3.41**	**175**	ePn	**Pn**	**07 21 26.6**	**+1.0**
HUMR	**Humele**	**3.41**	**36**	S	**Sg**	**07 22 20.4**	**-0.4**
KALE	**Kalithea**	**3.42**	**180**	P	**Pn**	**07 21 26.4**	**+0.7**
KALE	**Kalithea**	**3.42**	**180**	ePN	**Pn**	**07 21 26.4**	**+0.7**
KALE				eSN	**Sn**	**07 22 07.5**	**+0.6**
KALE	**Kalithea**	**3.42**	**180**	P	**Pn**	**07 21 26.4**	**+0.7**
KALE				eSn	**Sn**	**07 22 07.5**	**+0.6**
EDRB	**Edirne**	**3.42**	**88**	ePN	**Pn**	**07 21 25.8**	**0.0**
EDRB	**Edirne**	**3.42**	**88**	P	**Pn**	**07 21 25.9**	**+0.1**
EDRB	**Edirne**	**3.42**	**88**	P	**Pn**	**07 21 25.9**	**+0.1**
ERIK	**Erikli-Kesan**	**3.47**	**108**	ePN	**Pn**	**07 21 27.2**	**+0.8**
ERIK	**Erikli-Kesan**	**3.47**	**108**	ePn	**Pn**	**07 21 27.2**	**+0.8**
STON	**Ston**	**3.47**	**289**	ePn	**Pn**	**07 21 28.6**	**+2.2**
STON				Sn	**Sn**	**07 22 09.3**	**+1.0**
STON	**Ston**	**3.47**	**289**	ePn	**Pn**	**07 21 28.7**	**+2.2**
STON	**Ston**	**3.47**	**289**	ePn	**Pn**	**07 21 28.6**	**+2.2**
STON				Sn	**Sn**	**07 22 09.2**	**+1.0**
GELI	**Tayfur-Gelibol**	**3.55**	**112**	ePN	**Pn**	**07 21 29.1**	**+1.6**
GELI	**Tayfur-Gelibol**	**3.55**	**112**	ePn	**Pn**	**07 21 29.1**	**+1.6**
GZR	**Gura Zlata**	**3.61**	**7⇑**	iP	**Pn**	**07 21 30.0**	**+1.6**
GZR	**Gura Zlata**	**3.61**	**7⇑**	iP	**Pn**	**07 21 30.0**	**+1.6**
VIL2	**Platees**	**3.69**	**166**	ePN	**Pn**	**07 21 31.6**	**+2.1**
EZN	**Ezine**	**3.73**	**121**	ePN	**Pn**	**07 21 32.2**	**+2.2**
EZN	**Ezine**	**3.73**	**121**	ePn	**Pn**	**07 21 32.2**	**+2.2**
VILL	**Villia**	**3.75**	**166**	ePn	**Pn**	**07 21 31.6**	**+1.3**
FGSL	**Fruska Gora**	**3.76**	**334⇓**	iPn	**Pn**	**07 21 29.9**	**-0.5**
FRGS	**Fruska Gora**	**3.76**	**334⇓**	iPn	**Pn**	**07 21 29.9**	**-0.5**
KLV	**Kalavryta, Ach**	**3.76**	**180**	P	**Pn**	**07 21 31.0**	**+0.5**
KLV	**Kalavryta, Ach**	**3.76**	**180**	ePN	**Pn**	**07 21 32.0**	**+1.5**
KLV				eSN	**Sn**	**07 22 16.7**	**+1.2**
KLV	**Kalavryta, Ach**	**3.76**	**180**	P	**Pn**	**07 21 31.0**	**+0.5**
KLV	**Kalavryta, Ach**	**3.76**	**180**	ePn	**Pn**	**07 21 32.0**	**+1.5**
KLV				eSn	**Sn**	**07 22 16.7**	**+1.2**
RLS	**Riolos of Patr**	**3.79**	**188**	ePN	**Pn**	**07 21 32.3**	**+1.6**
RLS	**Riolos of Patr**	**3.79**	**188**	ePn	**Pn**	**07 21 32.3**	**+1.6**
LOT	**Lotru**	**3.82**	**17⇑**	iP	Pn	07 21 35.2	+3.9
LOT	**Lotru**	**3.82**	**17⇑**	iP	Pn	07 21 35.2	+3.9
BZS	**Buzias**	**3.83**	**354⇑**	iP	**Pn**	**07 21 31.9**	**+0.6**
BZS	**Buzias**	**3.83**	**354**	S	**Sg**	**07 22 31.3**	**-2.8**
BZS	**Buzias**	**3.83**	**354⇑**	iP	**Pn**	**07 21 31.9**	**+0.6**
VLS	**Valsamata**	**3.83**	**199**	ePN	**Pn**	**07 21 32.7**	**+1.4**
VLS	**Valsamata**	**3.83**	**199**	ePn	**Pn**	**07 21 32.7**	**+1.4**
SIGR	**SIGRI**	**3.83**	**131**	ePN	**Pn**	**07 21 33.9**	**+2.6**
SIGR	**SIGRI**	**3.83**	**131**	ePn	**Pn**	**07 21 33.9**	**+2.6**
LTK	**Loutraki**	**3.83**	**170**	ePN	**Pn**	**07 21 32.7**	**+1.3**
LTK				eSN	**Sn**	**07 22 18.7**	**+1.5**
LTK	**Loutraki**	**3.83**	**170**	ePn	**Pn**	**07 21 32.7**	**+1.3**
LTK				eSn	**Sn**	**07 22 18.7**	**+1.5**
DRO	**Drossia**	**3.87**	**185**	P	**Pn**	**07 21 34.1**	**+2.2**
DRO	**Drossia**	**3.87**	**185**	ePN	**Pn**	**07 21 33.5**	**+1.6**
DRO	**Drossia**	**3.87**	**185**	ePn	**Pn**	**07 21 33.5**	**+1.6**
DRO	**Drossia**	**3.87**	**185**	P	**Pn**	**07 21 34.1**	**+2.2**
GUR	**Goura**	**3.87**	**178**	ePN	**Pn**	**07 21 34.1**	**+2.1**
GUR				eSN	**Sn**	**07 22 19.4**	**+1.2**
GUR	**Goura**	**3.87**	**178**	ePn	**Pn**	**07 21 34.1**	**+2.1**
GUR				eSn	**Sn**	**07 22 19.4**	**+1.2**
RKY	**Sarkoy-Tekirda**	**3.94**	**105**	ePN	**Pn**	**07 21 34.1**	**+1.1**
RKY	**Sarkoy-Tekirda**	**3.94**	**105**	ePn	**Pn**	**07 21 34.1**	**+1.1**
SART	**Tekirdag**	**3.95**	**105**	i P	**Pn**	**07 21 35.9**	**+2.9**
SART				i S	**Sg**	**07 22 34.4**	**-3.6**
SART	**Tekirdag**	**3.95**	**105**	i P	**Pn**	**07 21 35.9**	**+2.9**
ARR	**Arges**	**3.98**	**26⇓**	iP	**Pn**	**07 21 33.7**	**+0.2**
ARR	**Arges**	**3.98**	**26⇓**	iP	**Pn**	**07 21 33.7**	**+0.2**
PHSR	**Pinarhisar**	**4.02**	**91**	ePN	**Pn**	**07 21 34.4**	**+0.4**
PHSR	**Pinarhisar**	**4.02**	**91**	ePn	**Pn**	**07 21 34.4**	**+0.4**
PRK	**Paraskevi**	**4.05**	**128**	ePN	**Pn**	**07 21 36.6**	**+2.3**
PRK	**Paraskevi**	**4.05**	**128**	ePn	**Pn**	**07 21 36.6**	**+2.3**
PRD	**Provadia**	**4.11**	**69**	i P	**Pn**	**07 21 36.8**	**+1.6**
PRD	**Provadia**	**4.11**	**69**	i P	**Pn**	**07 21 36.8**	**+1.6**
KRBG	**Karabiga-Canak**	**4.13**	**108**	ePN	**Pn**	**07 21 36.8**	**+1.3**
KRBG	**Karabiga-Canak**	**4.13**	**108**	ePn	**Pn**	**07 21 36.8**	**+1.3**
VOIR		**4.19**	**29⇑**	iP	**Pn**	**07 21 37.7**	**+1.3**
VOIR		**4.19**	**29⇑**	iP	**Pn**	**07 21 37.7**	**+1.3**
MRMT	**Marmara Adasi**	**4.27**	**105**	ePN	**Pn**	**07 21 37.8**	**+0.3**
MRMT	**Marmara Adasi**	**4.27**	**105**	ePn	**Pn**	**07 21 37.8**	**+0.3**
DID	**Didima**	**4.38**	**169**	ePN	**Pn**	**07 21 40.7**	**+1.8**
DID	**Didima**	**4.38**	**169**	ePn	**Pn**	**07 21 40.7**	**+1.8**
CHOS	**Chios island**	**4.54**	**138**	ePN	**Pn**	**07 21 42.9**	**+1.7**
CHOS	**Chios island**	**4.54**	**138**	ePn	**Pn**	**07 21 42.9**	**+1.7**
EDC	**Edincik**	**4.55**	**107**	ePN	**Pn**	**07 21 42.5**	**+1.2**
EDC	**Edincik**	**4.55**	**107**	ePn	**Pn**	**07 21 42.5**	**+1.2**
SLVT	**Silivri**	**4.58**	**95**	ePN	**Pn**	**07 21 41.8**	**+0.2**
SLVT	**Silivri**	**4.58**	**95**	ePn	**Pn**	**07 21 41.8**	**+0.2**
MLR	**Muntele Rosu**	**4.59**	**35**	Pn	Pn	07 21 45.2	+3.3
	comp=N,0.5nm,0.3s,baz=261,slow=4.3,SNR=10						
MLR	**Muntele Rosu**	**4.59**	**35⇑**	iP	**Pn**	**07 21 44.1**	**+2.2**
MLR	**Muntele Rosu**	**4.59**	**35⇑**	iP	**Pn**	**07 21 44.1**	**+2.2**
BALY	**Balya**	**4.63**	**115**	eP	**Pb**	**07 21 52.0**	**-1.3**
BALY				i S	**Sb**	**07 22 49.1**	**-0.6**
MSAB	**Monastry St. A**	**4.74**	**59⇑**	iP	**Pn**	**07 21 46.0**	**+2.1**
MSAB	**Monastry St. A**	**4.74**	**59**	S	**Sg**	**07 22 59.4**	**-4.1**
MSAB	**Monastry St. A**	**4.74**	**59⇑**	iP	**Pn**	**07 21 46.0**	**+2.1**
DOPR	**Dopca**	**4.76**	**28⇑**	iP	**Pn**	**07 21 46.3**	**+2.1**
DOPR	**Dopca**	**4.76**	**28⇑**	iP	**Pn**	**07 21 46.3**	**+2.1**
PSN	**Preselentsi**	**4.81**	**65⇓**	iP	**Pn**	**07 21 44.6**	**-0.3**
PSN	**Preselentsi**	**4.81**	**65**	S	**Sg**	**07 23 01.5**	**-4.3**
PSN	**Preselentsi**	**4.81**	**65⇓**	iP	**Pn**	**07 21 44.6**	**-0.3**
PYL	**PYLOS**	**4.92**	**184**	ePN	**Pn**	**07 21 47.5**	**+1.2**
PYL	**PYLOS**	**4.92**	**184**	ePn	**Pn**	**07 21 47.5**	**+1.2**
DRGR		**5.00**	**4⇓**	iP	**Pn**	**07 21 49.3**	**+1.9**
DRGR		**5.00**	**4⇓**	iP	**Pn**	**07 21 49.3**	**+1.9**
HARR	**Harsova**	**5.10**	**54⇓**	iP	**Pn**	**07 21 50.9**	**+2.1**
HARR	**Harsova**	**5.10**	**54⇓**	iP	**Pn**	**07 21 50.9**	**+2.1**
TLB	**Topalu**	**5.12**	**55⇑**	iP	**Pn**	**07 21 50.2**	**+1.2**
TLB	**Topalu**	**5.12**	**55**	S	**Sb**	**07 23 07.2**	**+3.7**
TLB	**Topalu**	**5.12**	**55⇑**	iP	**Pn**	**07 21 50.2**	**+1.2**
PLOR	**Plostina**	**5.18**	**37⇓**	iP	**Pn**	**07 21 52.6**	**+2.6**
PLOR	**Plostina**	**5.18**	**37⇓**	iP	**Pn**	**07 21 52.6**	**+2.6**
VRI	**Vrincioaia**	**5.23**	**38⇑**	iP	**Pn**	**07 21 52.7**	**+2.1**
VRI	**Vrincioaia**	**5.23**	**38⇑**	iP	**Pn**	**07 21 52.7**	**+2.1**
DURS	**Dursunbey**	**5.28**	**113**	eP	**Pb**	**07 22 03.6**	**-0.8**
TIRR	**Tirgusor**	**5.28**	**58⇑**	iP	**Pn**	**07 21 52.5**	**+1.2**
TIRR	**Tirgusor**	**5.28**	**58⇑**	iP	**Pn**	**07 21 52.5**	**+1.2**
CFR	**Carcaliu**	**5.50**	**50⇓**	iP	**Pn**	**07 21 55.2**	**+1.0**
CFR	**Carcaliu**	**5.50**	**50⇓**	iP	**Pn**	**07 21 55.2**	**+1.0**
TLCR		**5.90**	**53⇑**	iP	**Pn**	**07 22 02.0**	**+2.3**
TLCR		**5.90**	**53⇑**	iP	**Pn**	**07 22 02.0**	**+2.3**
BURAR	**Bucovina Array**	**6.20**	**20⇑**	iP	**Pn**	**07 22 06.0**	**+2.0**
BURAR	**Bucovina Array**	**6.20**	**20⇑**	iP	**Pn**	**07 22 06.0**	**+2.0**
PSZ	**Piszkesteto**	**6.32**	**346⇑**	iP	**Pn**	**07 22 06.5**	**+0.9**
PSZ	**Piszkesteto**	**6.32**	**346⇑**	iP	**Pn**	**07 22 06.5**	**+0.9**
KECS	**Kecovo**	**6.78**	**351**	eSg	**Sg**	**07 24 08.7**	**-0.1**
KECS	**Kecovo**	**6.78**	**351**	ePN	Pn	07 22 04.9	-6.9
KECS	**Kecovo**	**6.78**	**351**	eSG	**Sg**	**07 24 08.7**	**-0.1**
IDI	**Anoyia**	**6.85**	**161**	Pn	**Pn**	**07 22 14.0**	**+1.0**
	comp=N,0.3nm,0.3s,baz=313,slow=19,SNR=2.7						
IDI				LR	LR	07 25 16.1	
	comp=N,45nm,20.8s,baz=288,slow=42						
SOKA	**Soboth**	**7.06**	**316⇓**	iPn	**Pn**	**07 22 16.8**	**+1.0**
SOKA			⇑	iSn	**Sn**	**07 23 34.9**	**-1.9**
SOKA	**Soboth**	**7.06**	**316**	Pn	**Pn**	**07 22 14.6**	**-1.2**
KOLS	**Kolonicke sedl**	**7.12**	**1**	eSG	**Sg**	**07 24 17.6**	**-2.3**
ARSA	**Arzberg**	**7.21**	**321**	Pn	**Pn**	**07 22 16.6**	**-1.3**
STHS	**Stebnicka Huta**	**7.63**	**355**	ePN	Pn	07 22 18.0	-5.6
VRAC	**Vranov**	**8.45**	**334**	LR	LR	07 26 06.3	
	comp=N,39nm,18.1s,baz=142,slow=39						
BRTR	**Keskin Array B**	**8.96**	**100**	Pn	**Pn**	**07 22 42.8**	**+0.9**
	comp=N,0.6nm,0.3s,baz=180,slow=16,SNR=9.9						
GERES	**GERESS Array B**	**9.21**	**323**	Pn	**Pn**	**07 22 47.5**	**+2.1**
	comp=N,0.3nm,0.3s,baz=147,slow=13,SNR=6.2						
GERES				LR	LR	07 26 30.9	
	comp=N,48nm,20.5s,baz=276,slow=39						
KHC	**Kasperske Hory**	**9.48**	**323**	ePN	**Pn**	**07 22 48.5**	**-0.4**
KHC				ex	x	07 22 53.1	
KHC				ex	x	07 22 59.8	
KHC				eSN	**Sn**	**07 24 31.5**	**-4.6**
KHC				ex	x	07 24 43.6	
KHC	**Kasperske Hory**	**9.48**	**323**	Pn	**Pn**	**07 22 48.5**	**-0.4**
DAVOX	**Davos/Dischmat**	**10.11**	**304**	LR	LR	07 27 39.9	
	comp=N,170nm,18.8s,baz=106,slow=42						
NOA	**NORSAR Array B**	**20.38**	**345**	P	**P**	**07 25 09.8**	**+0.6**
	comp=N,0.4nm,0.6s,baz=117,slow=19,SNR=2.7						
NOA				LR	LR	07 34 17.2	
	comp=N,18nm,18.0s,baz=270,slow=40						
MDT	**Midelt**	**23.04**	**256**	P	**P**	**07 25 36.8**	**-1.2**
	comp=N,1.1nm,0.5s,baz=74,slow=10,SNR=5.7						
TORD	**Torodi Ar. Bea**	**33.66**	**218**	P	**P**	**07 27 14.1**	**+0.5**
	comp=N,1.6nm,0.7s,baz=33,slow=9.2,SNR=14						
MKAR	**Makanchi Array**	**42.40**	**62**	P	**P**	**07 28 28.3**	**+1.1**
	comp=N,0.3nm,0.6s,baz=278,slow=8.3,SNR=4.2						
CMAR	**Chiang Mai Arr**	**68.21**	**84**	P	**P**	**07 31 32.5**	**-1.1**
	comp=N,0.8nm,0.3s,baz=297,slow=6.3,SNR=6.3						
YKA	**Yellowknife Ar**	**70.41**	**340**	P	**P**	**07 31 46.5**	**0.0**
	comp=N,0.2nm,0.6s,baz=36,slow=5.1,SNR=5.4						

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*ISCJB **01** 07:20:39.6±0.6, 38°.70N±0°.04×122°.92W±0°.09, h8^{km}, Error ellipse: s-maj=10.9km s-min=4.8km az=164.4*

*NEIC **01** 07:20:39.5, 38°.79N×122°.81W, h3^{km}, MW3.3(BRK), After NCEDC.*

NEIC Felt at Calistoga and Middletown.

*IDC **01** 07:20:40.4±3.5, 38°.52N×122°.83W, h0^{km}, mb1 3.6/3, mb1mx3.2/34, mbtmp3.1/3, ML3.2/3, Error ellipse: s-maj=47.2km s-min=28.7km az=12.0*

ISC 01 07:20:39.4±0.9**, 38°.75N**±0°.04×**122°.89W**±0°.07**, h8**^{km}**, n14,** σ**1**^{s}**39**/16**, Northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPS	**Hopland Field**	**0.28**	**330**	ePg	**Pg**	**07 20 45.5**	**+0.5**
MCCM	**Marconi Confer**	**0.60**	**179**	ePg	**Pb**	**07 20 52.7**	**+0.5**
MCCM				eSg	**Sg**	**07 20 57.2**	**-1.7**
KCPM	**Cahto Peak**	**1.08**	**330**	ePg	**Pg**	**07 21 00.1**	**-0.1**
KIPM	**Iron Peak**	**1.15**	**337**	ePn	**Pn**	**07 21 02.6**	**+0.6**
SAC	**San Andreas**	**1.22**	**162**	ePn	**Pn**	**07 21 00.5**	**-2.3**
SAC				eSn	**Sn**	**07 21 20.4**	**+0.9**
WDC	**Whiskeytown Da**	**1.85**	**8**	ePn	**Pb**	**07 21 12.5**	**-1.0**
CMB	**Columbia Colle**	**2.10**	**109**	ePn	**Pn**	**07 21 13.7**	**-1.2**
KHMM	**Horse Mountain**	**2.22**	**343**	ePn	**Pb**	**07 21 19.4**	**-0.6**
WAKR	**Walker**	**2.72**	**94**	ePn	**Pn**	**07 21 24.7**	**+1.1**
YBH	**Yreka Blue Hor**	**2.98**	**3**	ePn	**Pb**	**07 21 31.5**	**-1.4**
NVAR	**Mina Array Bea**	**3.61**	**94**	Pn	**Pn**	**07 21 36.3**	**+0.4**
	0.4nm,0.3s,baz=268,slow=15,SNR=19						
NVAR				Pg	**Pb**	**07 21 42.3**	**-1.4**
	1.5nm,0.3s,baz=262,slow=17,SNR=26						
NVAR				Lg	Lg	07 22 32.5	
	0.5nm,0.3s,baz=269,slow=16,SNR=3.0						
ISA	**Isabella, Lake**	**4.68**	**130**	ePn	**Pn**	**07 21 52.5**	**+2.0**
PDAR	**Pinedale Array**	**10.88**	**64**	Pn	Pn	07 23 22.1	+6.4
	0.0nm,0.3s,baz=256,slow=10,SNR=5.8						
TXAR	**Lajitas Array**	**18.46**	**115**	P	**Pn**	**07 24 57.6**	**+1.8**
	0.0nm,0.3s,baz=297,slow=8.3,SNR=6.2						

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*ISN **01** 07:58:10.7±2.3, 13°.45N×51°.73E, h9^{km}±21^{km}, ML4.3*

*MOS **01** 07:58:10.1±1.5, 13°.22N×50°.51E, h10^{km}, mb4.6/7, Error ellipse: s-maj=19.3km s-min=9.0km az=100.7*

*IDC **01** 07:58:10.1±1.0, 13°.25N×50°.47E, h0^{km}, mb4.1/18, mb1 4.2/18, mb1mx4.0/42, mbtmp4.1/18, MS3.5/13, Ms1 3.5/13, ms1mx3.2/39, Error ellipse: s-maj=25.8km s-min=16.7km az=27.0*

*CSEM **01** 07:58:10.3±0.3, 13°.23N×50°.34E, h2^{km}, mb4.4/8, Error ellipse: s-maj=13.7km s-min=8.2km az=173.0*

*ISCJB **01** 07:58:11.4±0.6, 13°.26N±0°.08×50°.31E±0°.05, h21^{km},*

mb4.2/26,MS3.5/13,Error ellipse: s-maj=11.6km s-min=6.4km az=174.3
*NEIC **01** 07:58:11.9±0.7,13°.27N×50°.62E,h10km,mb4.3/3,Error ellipse: s-maj=17.6km s-min=11.3km az=204.0*
*DHMR **01** 07:58:13.3±0.8,13°.44N×50°.08E,h17km±19km,ML3.6*
ISC 01 07:58:14.0±0.8**,13°.4N**±0°.1×**50°.31E**±0°.07**,h21km,n97, σ1s.44**/82**,mb4.3**/26**,MS3.4**/13**,3C-2D,Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.64**	**311**	*i* P	**Pn**	**07 58 39.4**	**-2.3**
MUKL				*e*		07 58 39.6	
	baz=130,slow=7.4						
MUKL				*i* S	**Sn**	**07 58 59.0**	**-3.2**
MUKL				AML	AML	07 59 00.2	
	comp=N,631nm,0.2s						
BDHA	**Al Bayda'**	**4.65**	**278**	⇓*i*P	**Pn**	**07 59 22.1**	**-1.2**
BDHA				AML	AML	07 59 29.3	
	comp=E,238nm,0.4s						
BDHA				*i* S	**Sn**	**08 00 16.1**	**-0.7**
BDHA	**Al Bayda'**	**4.65**	**278**	⇓*i*P	**Pn**	**07 59 22.1**	**-1.2**
	comp=E,119nm,0.4s						
BDHA				*i* S	**Sn**	**08 00 16.1**	**-0.7**
LBOS		**4.95**	**276**	⇑*i*P	**Pn**	**07 59 26.4**	**-1.0**
DAMY	**Dhamar**	**5.87**	**282**	*e*Pn	Pn	07 59 46.6	+6.5
TRBA	**At Turbah**	**6.04**	**269**	*i* P	**Pn**	**07 59 40.8**	**-1.5**
RAYN	**Ar Rayn**	**11.06**	**336**	*e*Pn	Pn	08 00 56.0	+4.8
	comp=E,4.7nm,0.8s						
IPAR	**Pars**	**16.57**	**8**	*e*P	**Pn**	**08 02 04.8**	**-0.7**
NSR	**Nassriya**	**17.95**	**348**	*e*P	x	08 02 22.9	
NSR				*e*S	x	08 05 47.8	
IMEH	**Mehriz**	**18.35**	**12**	*e*P	**P**	**08 02 26.7**	**-0.8**
IMEH	**Mehriz**	**18.35**	**12**	*e*P	**P**	**08 02 26.7**	**-0.8**
IBAF	**Bafgh**	**18.75**	**14**	*e*P	**P**	**08 02 28.1**	**-3.6**
IPIR	**Pirpir**	**19.21**	**1**	*e*P	**P**	**08 02 35.1**	**-2.0**
KMBO	**Kilima Mbogo**	**19.39**	**223**	LR	LR	08 09 55.8	
	comp=E,101nm,18.1s,baz=34,slow=36						
IZEF	**Zefreh**	**19.50**	**5**	*e*P	**P**	**08 02 39.9**	**-0.3**
IZEF	**Zefreh**	**19.50**	**5**	*e*P	**P**	**08 02 39.9**	**-0.3**
IBDR	**Badra**	**20.03**	**349**	*e*P	x	08 02 45.7	
IBDR				*e*S	x	08 06 36.7	
IDAH	**Dahanechah**	**21.15**	**23**	*e*P	**P**	**08 02 59.0**	**+0.9**
IDAH	**Dahanechah**	**21.15**	**23**	*e*P	**P**	**08 02 59.0**	**+0.9**
EIL	**Elat**	**21.56**	**321**	P	**P**	**08 03 04.2**	**+2.0**
	comp=E,5.5nm,0.8s,baz=91,slow=4.8,SNR=4.5						
EIL				LR	LR	08 10 47.2	
	comp=E,104nm,18.4s,baz=67,slow=35						
RTB	**Rutbah**	**21.58**	**337**	*e*P	x	08 03 06.4	
RTB				*e*S	x	08 07 11.8	
IANJ	**Anjilo**	**22.22**	**8**	*e*P	**P**	**08 03 11.3**	**+1.8**
IANJ	**Anjilo**	**22.22**	**8**	*e*P	**P**	**08 03 11.3**	**+1.8**
ASF	**Jabal al Asfar**	**22.37**	**329**	P	**P**	**08 03 15.6**	**+4.5**
	comp=E,3.1nm,0.8s,baz=101,slow=6.5,SNR=8.4						
IKRK	**Kirkuk**	**22.57**	**347**	*e*P	x	08 03 16.0	
IKRK				*e*S	x	08 07 25.7	
MMAI	**Mount Meron Ar**	**23.81**	**328**	P	**P**	**08 03 28.2**	**+2.5**
	comp=E,0.5nm,0.3s,baz=126,slow=14,SNR=4.6						
MMAI				LR	LR	08 13 30.9	
	comp=E,94nm,19.0s,baz=10.0,slow=38						
MSL	**Mosul**	**23.81**	**345**	*e*P	x	08 03 27.9	
MSL				*e*S	x	08 07 45.1	
IAKL	**Akhelmad**	**24.32**	**17**	*e*P	**P**	**08 03 31.3**	**+0.7**
GNI	**Garni**	**27.10**	**351**	P	**P**	**08 03 57.1**	**+1.5**
	comp=E,6.1nm,0.6s,baz=58,slow=15,SNR=3.8						
H08N2	**Diego Garcia H**	**28.39**	**132**	T	T	08 33 21.4	
	baz=314,slow=76,SNR=11						
H08N3	**Diego Garcia H**	**28.39**	**132**	T	T	08 33 22.4	
	baz=314,slow=76,SNR=14						
H08N1	**Diego Carcia H**	**28.41**	**132**	T	T	08 33 23.7	
	baz=314,slow=76,SNR=13						
BRTR	**Keskin Array B**	**30.07**	**334**	P	**P**	**08 04 23.9**	**+1.9**
	comp=E,0.3nm,0.4s,baz=158,slow=13,SNR=2.6						
BRTR				LR	LR	08 16 52.3	
	comp=E,50nm,19.0s,baz=136,slow=37						
NCK	**Nalchik**	**30.55**	**350**	*e*P	P	08 04 32.8	+6.7
KBZ	**Khabaz**	**30.90**	**350**	LR	LR	08 19 06.7	
	comp=E,153nm,20.1s,baz=338,slow=40						
KIV	**Kislovodsk**	**31.15**	**349**	*e*P	P	08 04 36.3	+4.8
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,64nm,15.0s						
AAK	**Ala-Archa**	**35.86**	**31**	LR	LR	08 22 07.3	
	comp=Z,55nm,18.1s,baz=209,slow=40						
AAK	**Ala-Archa**	**35.86**	**31**	⇑*i*P	**P**	**08 05 13.2**	**+0.6**
AAK				pmax	pmax		
	comp=Z,14nm,1.7s						
AAK	**Ala-Archa**	**35.86**	**31**	*i* P	**P**	**08 05 13.2**	**+0.6**
	comp=Z,14nm,1.7s						
ABKAR	**Akbulak array**	**36.63**	**11**	*e*P	**P**	**08 05 19.2**	**+0.3**
	comp=Z,1.5nm,0.8s						
ABKAR	**Akbulak array**	**36.63**	**11**	*e*P	**P**	**08 05 19.2**	**+0.3**
	comp=Z,1.6nm,0.8s						
AK02	**Malin Array Si**	**40.94**	**340**	*e*P	**P**	**08 05 55.2**	**+0.2**
AK02	**Malin Array Si**	**40.94**	**340**	*e*P	**P**	**08 05 55.1**	**+0.2**
AK01	**Malin Array Si**	**40.97**	**340**	*e*P	**P**	**08 05 56.0**	**+0.8**
AK01	**Malin Array Si**	**40.97**	**340**	*e*P	**P**	**08 05 56.0**	**+0.8**
AKASG	**Malin Array Be**	**40.97**	**340**	P	**P**	**08 05 55.5**	**+0.3**
	comp=Z,3.7nm,0.9s,baz=150,slow=7.2,SNR=18						
AKBB	**Malin Array Si**	**40.97**	**340**	*e*P	**P**	**08 05 55.8**	**+0.5**
AKBB	**Malin Array Si**	**40.97**	**340**	*e*P	**P**	**08 05 55.8**	**+0.5**
AKBB	**Malin Array Si**	**40.97**	**340**	*e*P	**P**	**08 05 55.8**	**+0.5**
KIEV	**Kiev**	**40.97**	**340**	*e*P	**P**	**08 05 55.4**	**+0.2**
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIEV	**Kiev**	**40.97**	**340**	*e*P	**P**	**08 05 55.4**	**+0.2**
	comp=Z,5.3nm,0.9s						
KIEV	**Kiev**	**40.97**	**340**	*e*P	**P**	**08 05 55.4**	**+0.2**
	comp=Z,5.3nm,0.9s						
KOLS	**Kolonicke sedl**	**42.32**	**333**	*e*P	**P**	**08 06 09.1**	**+2.8**
KOLS	**Kolonicke sedl**	**42.32**	**333**	*e*P	**P**	**08 06 09.1**	**+2.8**
KOLS	**Kolonicke sedl**	**42.32**	**333**	*e*P	**P**	**08 06 09.1**	**+2.8**
MK31	**Makanchi Array**	**42.74**	**32**	*e*P	**P**	**08 06 09.9**	**0.0**
MK31	**Makanchi Array**	**42.74**	**32**	*e*P	**P**	**08 06 09.9**	**0.0**
MK31	**Makanchi Array**	**42.74**	**32**	*e*P	**P**	**08 06 09.9**	**0.0**
MKAR	**Makanchi Array**	**42.74**	**32**	P	**P**	**08 06 09.8**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=223,slow=8.1,SNR=22						
MKAR				LR	LR	08 26 09.3	
	comp=Z,36nm,18.4s,baz=219,slow=39						
STHS	**Stebnicka Huta**	**43.13**	**332**	*e*P	**P**	**08 06 14.7**	**+1.7**
STHS	**Stebnicka Huta**	**43.13**	**332**	*e*P	**P**	**08 06 14.7**	**+1.7**
STHS	**Stebnicka Huta**	**43.13**	**332**	*e*P	**P**	**08 06 14.7**	**+1.7**
KURBB	**Kurchatov Arra**	**43.65**	**26**	P	**P**	**08 06 17.0**	**0.0**
	comp=Z,1.7nm,0.7s,baz=226,slow=8.1,SNR=18						
KURK	**Kurchatov**	**43.75**	**26**	P	**P**	**08 06 17.0**	**-0.9**
KURK	**Kurchatov**	**43.75**	**26**	P	**P**	**08 06 17.0**	**-0.9**
KURK	**Kurchatov**	**43.75**	**26**	P	**P**	**08 06 17.0**	**-0.9**
DPC	**Dobruska-Polom**	**46.08**	**330**	*e*P	**P**	**08 06 37.5**	**+1.0**
DPC				*e*pP	**pP**	**08 06 44.1**	**+1.0**
DPC	**Dobruska-Polom**	**46.08**	**330**	*e*P	**P**	**08 06 37.5**	**+1.0**
DPC				*e*		08 06 44.1	
DPC	**Dobruska-Polom**	**46.08**	**330**	*e*P	**P**	**08 06 37.5**	**+1.0**
GERES	**GERESS Array B**	**46.47**	**327**	P	**P**	**08 06 39.8**	**+0.1**
	comp=Z,0.3nm,0.2s,baz=133,slow=4.2,SNR=2.9						
CMAR	**Chiang Mai Arr**	**46.93**	**77**	P	**P**	**08 06 42.4**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=272,slow=8.4,SNR=5.8						
CMAR	**Chiang Mai Arr**	**46.93**	**77**	*ce*P	P	08 06 37.5	-6.1
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TORD	**Torodi Ar. Bea**	**47.26**	**276**	P	**P**	**08 06 46.8**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=88,slow=7.8,SNR=6.6						
KLMR	**Klimovskoe**	**48.04**	**353**	*e*P	**P**	**08 06 49.9**	**-1.6**
KLMR				pmax	pmax		
	comp=Z,16nm,1.4s						
KLMR	**Klimovskoe**	**48.04**	**353**	*e*P	**P**	**08 06 49.9**	**-1.6**
	comp=Z,16nm,1.4s						
BOSA	**Boshof**	**48.28**	**210**	LR	LR	08 27 16.4	
	comp=Z,64nm,19.3s,baz=360,slow=36						
ZALV	**Zalesovo Beam**	**48.73**	**26**	P	**P**	**08 06 55.1**	**-1.8**
	comp=Z,4.6nm,1.0s,baz=236,slow=6.9,SNR=5.4						
ZALV	**Zalesovo Beam**	**48.73**	**26**	*i* P	**P**	**08 06 56.0**	**-1.0**
ZALV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZALV	**Zalesovo Beam**	**48.73**	**26**	*i* P	**P**	**08 06 56.0**	**-1.0**
	comp=Z,5.0nm,1.0s						
FINES	**FINESS Array B**	**51.08**	**345**	P	**P**	**08 07 15.1**	**+0.3**
	comp=Z,7.3nm,0.7s,baz=139,slow=12,SNR=23						
FINES				LR	LR	08 30 25.5	
	comp=Z,30nm,20.1s,baz=178,slow=38						
ESDC	**Sonseca Array**	**54.21**	**309**	P	**P**	**08 07 38.8**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=94,slow=7.1,SNR=5.7						
NB2	**NORSAR Subarra**	**55.35**	**338**	P	**P**	**08 07 45.6**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=133,slow=7.4						
NB2	**NORSAR Subarra**	**55.35**	**338**	P	**P**	**08 07 45.6**	**-0.6**
	comp=Z,2.8nm,0.8s,SNR=6.6						
NOA	**NORSAR Array B**	**55.35**	**338**	P	**P**	**08 07 45.6**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=127,slow=7.5,SNR=7.6						
NOA				LR	LR	08 35 07.7	
	comp=Z,20nm,18.8s,baz=145,slow=40						
SONM	**Songino Array**	**57.59**	**41**	P	**P**	**08 08 02.6**	**0.0**
	comp=Z,1.7nm,0.9s,baz=250,slow=8.2,SNR=9.0						
ARCES	**ARCESS Array B**	**58.26**	**350**	P	**P**	**08 08 06.7**	**0.0**
	comp=Z,4.2nm,0.9s,baz=151,slow=2.8,SNR=6.1						
ARCES				LR	LR	08 33 27.5	
	comp=Z,33nm,18.2s,baz=145,slow=36						
SPITS	**Spitsbergen Ar**	**66.94**	**353**	LR	LR	08 40 23.9	
	comp=Z,27nm,19.6s,baz=350,slow=38						
BILL	**Bilibino**	**86.96**	**20**	*e*P	**P**	**08 10 58.6**	**+1.3**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BILL	**Bilibino**	**86.96**	**20**	*e*P	**P**	**08 10 58.6**	**+1.3**
	comp=Z,3.0nm,1.0s						
WRA	**Warramunga Arr**	**89.01**	**111**	P	**P**	**08 11 06.6**	**-1.5**
	comp=Z,2.5nm,0.8s,baz=299,slow=3.7,SNR=15						
WRAB	**Tennant Creek**	**89.02**	**111**	*i* P	**P**	**08 11 05.3**	**-2.8**
WRAB				pmax	pmax		
	comp=Z,21nm,1.7s						
WRAB	**Tennant Creek**	**89.02**	**111**	*e*P	**P**	**08 11 06.7**	**-1.4**
	comp=Z,3.9nm,0.8s						
WRAB	**Tennant Creek**	**89.02**	**111**	*e*P	**P**	**08 11 06.7**	**-1.4**
	comp=Z,3.9nm,0.8s						
ASAR	**Alice Springs**	**89.56**	**114**	P	**P**	**08 11 08.7**	**-1.9**
	comp=Z,1.3nm,0.7s,baz=295,slow=4.9,SNR=12						
CTA	**Charters Tower**	**99.98**	**108**	LR	LR	08 53 18.4	
	comp=Z,151nm,19.6s,baz=326,slow=33						
NVAR	**Mina Array Bea**	**127.36**	**349**	PKP	**PKPdf**	**08 17 19.0**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=28,slow=1.2,SNR=4.9						
TXAR	**Lajitas Array**	**130.65**	**330**	PKP	**PKPdf**	**08 17 24.3**	**0.0**
	comp=Z,0.1nm,0.6s,baz=64,slow=2.1,SNR=3.0						

*IDC **01** 08:25:39.9±2.9,29°.79N×51°.46E,h0km,mb3.8/5, mb1 3.9/6,mb1mx3.5/29,mbtmp3.8/6,ML3.4/1,Error ellipse: s-maj=58.5km s-min=33.1km az=148.0*
*ISCJB **01** 08:25:40.1±2.3,29°.8N±0°.3×51°.5E±0°.2,h15km,mb3.7/5, Error ellipse: s-maj=42.9km s-min=25.0km az=161.7*
ISC 01 08:25:42.8±2.5**,29°.9N**±0°.3×**51°.4E**±0°.2**,h15km,n6,σ1s.57**/6**, mb3.8**/5**,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**17.52**	**309**	P	**P**	**08 29 47.5**	**-0.2**
	0.1nm,0.3s,baz=128,slow=12,SNR=5.4						
MLR	**Muntele Rosu**	**25.28**	**315**	P	**P**	**08 31 11.1**	**+2.5**
	0.9nm,0.7s,baz=113,slow=18,SNR=3.9						
KURBB	**Kurchatov Arra**	**29.04**	**37**	P	**P**	**08 31 42.2**	**+0.1**
	0.2nm,0.4s,baz=243,slow=8.3,SNR=2.7						
HFS	**Hagfors**	**39.34**	**331**	P	**P**	**08 33 10.1**	**-1.1**
	1.8nm,0.9s,baz=139,slow=9.0,SNR=4.4						
ARCES	**ARCESS Array B**	**42.35**	**347**	P	**P**	**08 33 35.9**	**0.0**
	5.5nm,1.1s,baz=148,slow=7.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**48.72**	**261**	P	**P**	**08 34 26.9**	**-0.2**
	1.3nm,0.8s,baz=61,slow=8.0,SNR=7.0						

*IDC **01** 08:30:13.9±1.6,53°.60N×159°.21W,h0km,mb3.6/4, mb1 3.7/5,mb1mx3.5/29,mbtmp3.5/5,ML3.5/1,Error ellipse: s-maj=41.1km s-min=25.2km az=7.0*
*ISCJB **01** 08:30:15.9±0.8,53°.55N±0°.06×159°.51W±0°.08,h33km, mb3.5/4,Error ellipse: s-maj=9.2km s-min=6.6km az=176.4*
*NEIC **01** 08:30:16.3,53°.60N×159°.49W,h42km,ML3.1(AEIC),After AEIC.*
ISC 01 08:30:17.7±1.1**,53°.58N**±0°.09×**159°.41W**±0°.06**,h35km,n21, σ1s.60**/26**,mb3.7**/4**,South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**1.88**	**341**	P	**Pn**	**08 30 46.1**	**-1.1**
SDPT				S	**Sn**	**08 31 09.8**	**+0.1**
DRIA	**Deer Island**	**2.17**	**311**	P	**Pn**	**08 30 49.9**	**-1.4**
DRIA				S	**Sn**	**08 31 16.3**	**-0.7**
DT1	**Dutton Round H**	**2.27**	**313**	P	**Pn**	**08 30 51.6**	**-1.0**
DT1				S	**Sn**	**08 31 17.1**	**-2.3**
VNSG	**Veniaminof 6**	**2.55**	**4**	P	**Pn**	**08 30 56.4**	**-0.3**
VNHG	**Veniaminof 1**	**2.65**	**3**	P	**Pn**	**08 30 57.6**	**-0.4**
FALS	**False Pass**	**2.68**	**300**	P	**Pn**	**08 30 57.6**	**-0.6**
FALS				S	**Sn**	**08 31 29.8**	**+0.4**
CHGN	**Chignik**	**2.78**	**11**	P	**Pn**	**08 30 57.9**	**-1.8**
SSLN	**Shishaldin Nor**	**2.96**	**296**	P	**Pn**	**08 31 02.0**	**-0.3**
WESN	**West Dahl Nort**	**3.20**	**290**	P	**Pn**	**08 31 04.8**	**-0.7**
WEBT	**Westdahl Beart**	**3.31**	**290**	P	**Pn**	**08 31 07.5**	**+0.6**
AKSA	**Akutan Strait**	**3.76**	**281**	P	**Pn**	**08 31 12.2**	**-1.0**
AKSA				S	**Sn**	**08 31 53.4**	**-2.9**
AKUT	**Akutan**	**3.81**	**281**	P	**Pn**	**08 31 13.2**	**-0.6**
ZRO	**Akutan Zero**	**3.92**	**280**	P	**Pn**	**08 31 13.7**	**-1.8**
UNV	**Unalaska Valle**	**4.22**	**276**	P	**Pn**	**08 31 18.1**	**-1.4**
UNV				S	**Sn**	**08 32 04.1**	**-3.4**
MREP	**Makushin Rep't**	**4.37**	**276**	P	**Pn**	**08 31 21.0**	**-0.5**
OHAK	**Old Harbor**	**5.04**	**41**	P	**Pn**	**08 31 28.1**	**-2.6**
ILAR	**Eielson Array**	**12.89**	**25**	Pn	Pn	08 33 13.0	-5.2
	0.1nm,0.3s,baz=218,slow=14,SNR=6.6						
YKA	**Yellowknife Ar**	**24.84**	**51**	P	**P**	**08 35 36.9**	**+0.5**
	0.1nm,0.4s,baz=268,slow=7.3,SNR=6.4						
PETK	**Petropavlovsk-**	**25.33**	**286**	P	**P**	**08 35 43.6**	**+2.7**
	0.7nm,0.4s,baz=101,slow=12,SNR=4.0						
TXAR	**Lajitas Array**	**46.81**	**98**	P	**P**	**08 38 44.1**	**+0.2**
	0.8nm,0.6s,baz=302,slow=5.1,SNR=14						
BVAR	**Borovoye Array**	**65.96**	**330**	P	**P**	**08 41 01.4**	**+1.6**
	0.8nm,0.5s,baz=38,slow=7.5,SNR=5.3						

WEL 01 08:30:40.4±0.6**,38°.43S**×**175°.33E,h230km**±6km**,ML3.5**/9**, 4D,Error ellipse: s-maj=7.3km s-min=6.6km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.82**	**212**	*e*PN	Pn	08 31 12.5	+0.3
FWVZ	**Far West T-bar**	**0.84**	**168**	*e*PN	Pn	08 31 13.0	+0.3
MTVZ	**Mangateitei**	**0.96**	**173**	PN	Pn	08 31 13.2	+0.2
MOVZ	**Moawhango**	**1.03**	**161**	SN	S	08 31 38.7	-0.8
BKZ	**Black Stump Fm**	**1.17**	**129**	⇓PN	Pn	08 31 14.4	0.0
BKZ				SN	S	08 31 41.1	+0.1
BHHZ	**Black Hill Sta**	**1.20**	**152**	PN	Pn	08 31 14.2	-0.4
BHHZ				SN	S	08 31 40.4	-1.0
NMHZ	**Naumai**	**1.33**	**120**	PN	Pn	08 31 16.2	+0.7
WAZ	**Wanganui**	**1.35**	**191**	PN	Pn	08 31 15.3	-0.3
WAZ				SN	S	08 31 43.8	+0.6
URZ	**Urewera**	**1.41**	**84**	⇓PN	Pn	08 31 15.7	-0.3
URZ				AML	AML	08 31 47.4	
KRHZ	**Kereru**	**1.46**	**147**	PN	Pn	08 31 16.0	-0.4
RAHZ	**Arahi**	**1.46**	**110**	PN	Pn	08 31 16.7	+0.3
RAGZ	**Rawiri**	**1.64**	**93**	PN	Pn	08 31 18.1	0.0
MWZ	**Matawai**	**1.73**	**88**	⇓PN	Pn	08 31 18.5	-0.2
MWZ				AML	AML	08 32 00.7	
MWZ				AML	AML	08 32 21.7	
WPHZ	**Waipukurau**	**1.85**	**152**	SN	S	08 31 49.0	-1.6
RIGZ	**Rimuhau**	**1.93**	**99**	PN	Pn	08 31 20.4	-0.1
HAZ	**Te Kaha**	**2.05**	**72**	PN	Pn	08 31 20.8	-0.8
TWGZ	**Tauwhareparae**	**2.10**	**84**	PN	Pn	08 31 22.3	0.0
MRZ	**Mangatainoka R**	**2.24**	**175**	PN	Pn	08 31 20.9	-2.6
MRZ				SN	S	08 31 53.5	-3.8
KIW	**Kapiti Island**	**2.45**	**187**	PN	Pn	08 31 22.8	-2.8
HOWZ	**Holdsworth Sta**	**2.47**	**177**	PN	Pn	08 31 22.8	-3.0
DUWZ	**D'Urville Isla**	**2.61**	**204**	PN	Pn	08 31 24.7	-2.6
CAW	**Cannon Point**	**2.68**	**184**	⇓PN	Pn	08 31 25.0	-3.1
MTW	**Mount Morrison**	**2.73**	**177**	PN	Pn	08 31 25.1	-3.4
TCW	**Tory Channel**	**2.89**	**196**	PN	Pn	08 31 27.3	-3.1
TUWZ	**Tuamarina**	**3.18**	**199**	PN	Pn	08 31 30.2	-3.4
QRZ	**Quartz Range**	**3.22**	**221**	PN	Pn	08 31 30.2	-4.0
THZ	**Tophouse**	**3.81**	**208**	PN	Pn	08 31 36.7	-4.3
LTZ	**Lake Taylor**	**4.93**	**207**	PN	Pn	08 31 48.8	-5.8
OXZ	**Oxford**	**5.49**	**206**	PN	Pn	08 31 55.2	-6.4
MQZ	**McQueen's Vall**	**5.65**	**200**	SN	S	08 32 59.7	-10

IDC 01 08:35:15.0±2.6**,53°.58N**×**86°.83E,h0km,mb1 2.7**/2**, mb1mx2.7**/29**,mbtmp2.7**/2**,ML2.3**/2**,Error ellipse: s-maj=23.0km s-min=14.0km az=76.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**288**	*i*		08 43 30.0	
	baz=106,slow=330,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.25**	**288**	Pg	Pg	08 35 38.4	-0.5
	1.3nm,0.3s,baz=103,slow=17,SNR=5.5						
ZALV				Lg	Lg	08 35 55.9	
	1.1nm,0.3s,baz=108,slow=28,SNR=14						
ZALV				Rg	Rg	08 36 00.7	
	6.2nm,0.7s,baz=112,slow=30,SNR=6.2						
KURBB	**Kurchatov Arra**	**5.91**	**243**	Pn	Pn	08 36 43.6	-0.1
	0.0nm,0.3s,baz=58,slow=14,SNR=4.3						
KURBB				Lg	Lg	08 38 22.6	
	0.0nm,0.3s,baz=60,slow=32,SNR=4.1						
MKAR	**Makanchi Array**	**7.39**	**205**	Pn	Pn	08 37 06.0	+1.9
	0.1nm,0.3s,baz=25,slow=14,SNR=4.1						
MKAR				Lg	Lg	08 39 08.9	
	0.0nm,0.3s,baz=16,slow=27,SNR=5.5						

IDC 01 08:40:04.3±3.1**,54°.52N**×**86°.47E,h0km,mb1 3.3**/2**, mb1mx3.0**/29**,mbtmp3.3**/2**,ML3.0**/2**,2C-2D,Error ellipse: s-maj=27.1km s-min=16.0km az=43.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.12**	**240**	*i*		08 47 50.0	
	baz=58,slow=328,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.12**	**240**	Pg	Pg	08 40 24.8	-1.1
	3.7nm,0.3s,baz=57,slow=16,SNR=18						
ZALV				Lg	Lg	08 40 41.6	
	2.5nm,0.3s,baz=60,slow=28,SNR=7.2						
KURK	**Kurchatov**	**6.11**	**235**	⇓Pn	Pn	08 41 36.8	+1.0
	1.4nm,0.7s						
KURK				⇑Lg	Lg	08 43 24.9	
	7.4nm,0.9s						
KURBB	**Kurchatov Arra**	**6.21**	**234**	Pn	Pn	08 41 38.2	+0.9
	0.3nm,0.3s,baz=52,slow=14,SNR=9.4						
MK31	**Makanchi Array**	**8.18**	**201**	Pn	Pn	08 42 05.0	+0.8
	0.7nm,0.8s,baz=28,slow=14,SNR=18						
MK31				⇓Sn	Sn	08 43 39.1	+1.7
	4.1nm,1.2s,baz=27,slow=24,SNR=3.1						
MK31				⇑Lg	Lg	08 44 26.8	
	4.2nm,0.8s,baz=36,slow=32,SNR=6.6						
MKAR	**Makanchi Array**	**8.18**	**201**	Pn	Pn	08 42 05.0	+0.8
	0.3nm,0.3s,baz=24,slow=14,SNR=17						

IDC 01 08:40:24.6±3.2**,53°.50N**×**87°.93E,h0km,mb1 3.2**/2**, mb1mx3.0**/29**,mbtmp3.2**/2**,ML2.7**/2**,Error ellipse: s-maj=33.8km s-min=21.1km az=81.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**285**	*i*		08 52 00.0	
	baz=99,slow=331,SNR=12						
ZALV	**Zalesovo Beam**	**1.90**	**285**	Pn	Pn	08 40 59.1	+0.9
	4.5nm,0.3s,baz=101,slow=13,SNR=8.5						
ZALV				Sn	Sn	08 41 23.4	+0.6
	4.1nm,0.3s,baz=106,slow=21,SNR=9.5						
KURBB	**Kurchatov Arra**	**6.47**	**247**	Pn	Pn	08 42 01.0	0.0
	0.1nm,0.3s,baz=62,slow=14,SNR=4.8						
KURBB				Lg	Lg	08 43 48.0	
	0.1nm,0.3s,baz=64,slow=33,SNR=7.5						
MKAR	**Makanchi Array**	**7.63**	**211**	Pn	Pn	08 42 18.2	+1.3
	0.2nm,0.3s,baz=31,slow=16,SNR=7.7						
MKAR				Sn	Sn	08 43 37.9	-6.1
	0.1nm,0.3s,baz=26,slow=26,SNR=2.8						
MKAR				Lg	Lg	08 44 27.9	
	0.1nm,0.3s,baz=32,slow=31,SNR=11						

*SJA **01** 08:47:23.2±0.6,34°.31S×72°.89W,h4km±7km,ML3.9, MW3.5*
*IDC **01** 08:47:28.9±1.2,34°.60S×72°.10W,h0km,mb3.6/4, mb1 3.7/7,mb1mx3.7/17,mbtmp3.5/7,ML4.0/2,MS2.7/2, Ms1 2.7/2,ms1mx2.5/20,Error ellipse: s-maj=39.7km s-min=21.8km az=104.0*
*NEIC **01** 08:47:30.0,34°.54S×71°.95W,h10km,mb4.0/3, ML4.2(GUC),After GUC.*
NEIC Felt [IV] at Pichilemu and [II] at Navidad, Paredones and Peralillo.
*GUC **01** 08:47:30.0±0.5,34°.54S×71°.96W,h10km±2km,ML4.2*
ISC 01 08:47:29.6±1.6**,34°.52S**±0°.03×**71°.96W**±0°.06**,h2km**±10km**, n45,σ1s.47**/53**,mb4.1**/5**,6C-7D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.72**	**39**	⇑*i*P	**Pg**	**08 47 43.9**	**+0.6**
NICH	**Los Niches**	**0.77**	**129**	⇑*i*P	**Pg**	**08 47 44.7**	**+0.3**
NICH				*i* S	**Sg**	**08 47 55.1**	**+0.8**
TALC	**Talca**	**0.92**	**163**	⇓*i*P	**Pg**	**08 47 46.8**	**-0.4**
TALC				*e*S	**Sg**	**08 47 58.9**	**-0.3**
CACH	**El Canelo**	**1.19**	**71**	⇑*i*P	**Pb**	**08 47 51.9**	**-1.1**
TACH	**Talagante**	**1.21**	**45**	⇓*i*P	**Pn**	**08 47 51.5**	**-1.9**
TACH				*i* S	**Sb**	**08 48 08.0**	**-1.2**
CHCH	**Chadas Angostu**	**1.23**	**62**	⇓*i*P	**Pn**	**08 47 52.2**	**-1.5**
CHCH				*i* S	**Sb**	**08 48 08.7**	**-1.1**
LNCH	**Linares**	**1.36**	**168**	⇓*i*P	**Pb**	**08 47 55.2**	**-0.5**
LNCH				*i* S	**Sg**	**08 48 13.2**	**-0.1**
PCH	**Pirque**	**1.50**	**54**	⇑*i*P	**Pn**	**08 47 56.4**	**-1.1**
PCH				*i* S	**Sn**	**08 48 16.2**	**-1.4**
IHA	**Instituto Hidr**	**1.51**	**10**	*e*P	**Pn**	**08 47 56.5**	**-1.0**
SAN	**Santiago**	**1.51**	**46**	*e*P	**Pn**	**08 47 56.8**	**-0.8**
SAN				*e*S	**Sn**	**08 48 16.7**	**-1.3**
FSR	**Penalolen**	**1.58**	**49**	*e*P	**Pn**	**08 47 58.8**	**+0.2**
FSR				*i* S	**Sb**	**08 48 19.6**	**-0.2**
LACH	**Col Las Americ**	**1.59**	**49**	*i* S	**Sn**	**08 48 17.7**	**-2.2**
SJCH	**San Jose de Ma**	**1.59**	**57**	⇓*i*P	**Pn**	**08 47 57.4**	**-1.5**
SJCH				*i* S	**Sn**	**08 48 18.5**	**-1.5**
CLCH	**Cerro Calan**	**1.63**	**47**	⇓*i*P	**Pn**	**08 47 58.7**	**-0.6**
CLCH				*i* S	**Sn**	**08 48 20.3**	**-0.5**
CLCH				AML	AML	08 48 25.5	
	comp=E,5μm,0.5s						
PEL	**Peldehue**	**1.73**	**38**	⇑*i*P	**Pn**	**08 48 00.1**	**-0.5**
PEL				*i* S	**Sn**	**08 48 23.3**	**-0.1**
PEL				AML	AML	08 48 28.5	
	comp=E,7μm,0.6s						
ROCH	**El Roble**	**1.73**	**27**	⇑*i*P	**Pn**	**08 48 00.7**	**-0.2**
ROCH				*i* S	**Sn**	**08 48 23.6**	**0.0**
ROCH				AML	AML	08 48 30.1	
	comp=N,3μm,0.6s						
AAGR	**Agrelo**	**2.97**	**62**	*e*P	**Pb**	**08 48 23.2**	**-0.1**
ARCO	**CERRO ARCO**	**3.03**	**57**	*e*P	**Pb**	**08 48 23.6**	**-0.6**
ARCO				⇓*e*S	**Sg**	**08 49 07.8**	**+1.0**
ARCO				AML	AML	08 49 11.7	
	comp=Z,264nm,0.6s						
AUSP	**Uspallata**	**3.14**	**44**	*e*P	**Pb**	**08 48 24.0**	**-2.3**
AUSP				*e*S	**Sb**	**08 49 08.3**	**+3.2**
ASAL	**Salagasta**	**3.24**	**54**	*e*P	**Pb**	**08 48 25.8**	**-2.0**
ASAL				*e*S	**Sg**	**08 49 12.7**	**-0.9**
CANA	**Caviahue**	**3.44**	**168**	*e*P	Pn	08 48 26.8	+2.5
CANA				*e*S	**Sb**	**08 49 14.4**	**+0.8**
CANA				AML	AML	08 49 34.1	
	comp=Z,109nm,0.7s						
RTLS	**Leoncito**	**3.51**	**40**	*e*P	Pn	08 48 28.7	+3.3
RTLS				*e*S	**Sb**	**08 49 16.4**	**+0.7**
RTCV	**Cerro Valdivia**	**3.90**	**48**	*e*P	Pn	08 48 34.4	+3.9
RTCV				*e*S	**Sb**	**08 49 27.1**	**+0.4**
CFAA	**Coronel Fontan**	**4.26**	**48**	Pn	Pn	08 48 38.8	+3.2
	baz=220,slow=14						
CFAA				Sn	**Sn**	**08 49 30.1**	**+4.2**
	comp=Z,0.2nm,0.3s,baz=225,slow=18,SNR=2.3						
CFAA				LR	LR	08 50 13.2	
	comp=Z,15nm,20.8s,baz=309,slow=37						
AMOG	**MOGNA**	**4.61**	**40**	*e*P	**Pn**	**08 48 42.7**	**+2.4**
AMOG				*e*P	**Pn**	**08 48 42.7**	**+2.4**
AVFE	**Valle Fertil**	**5.41**	**46**	AML	AML	08 50 22.6	
	comp=Z,60nm,0.6s						
LCO	**Las Campanas**	**5.59**	**11**	*e*Pn	**Pn**	**08 48 53.2**	**-0.8**
LCO				*e*Sn	**Sn**	**08 49 57.4**	**-1.6**
PLCA	**Paso Flores**	**6.30**	**170**	Pn	**Pn**	**08 49 04.4**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=336,slow=11,SNR=25						
PLCA				Lg	Lg	08 50 43.7	
	comp=Z,0.3nm,0.3s,baz=270,slow=20,SNR=2.6						
PLCA	**Paso Flores**	**6.30**	**170**	*e*Pn	**Pn**	**08 49 04.8**	**+1.2**
	comp=Z,9.2nm,0.8s						
PLCA				Lg	Lg	08 50 43.7	
LVC	**Limon Verde**	**12.16**	**13**	LR	LR	08 55 35.6	
	comp=Z,238nm,20.4s,baz=213,slow=40						
LPAZ	**La Paz**	**18.48**	**12**	P	**Pn**	**08 51 49.3**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=190,slow=13,SNR=4.7						
LPAZ	**La Paz**	**18.48**	**12**	*e*P	**Pn**	**08 51 50.7**	**+3.3**
	comp=Z,1.4nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SIV	San Ignacio	20.88	31	P	Pn	08 52 14.8	-0.8
	comp=Z,0.8nm,0.5s,baz=218,slow=11,SNR=5.1						
QSPA	South Pole Qui	55.72	180	eP	P	08 57 07.7	+0.4
	comp=Z,2.4nm,0.9s						
TXAR	Lajitas Array	70.22	331	P	P	08 58 44.3	+0.2
	comp=Z,0.2nm,0.5s,baz=152,slow=10.0,SNR=3.4						
MAW	Mawson	72.67	163	P	P	08 58 58.3	+0.1
	comp=Z,0.9nm,0.6s,baz=214,slow=7.3,SNR=3.5						
ECSD	EROS Data Cent	81.06	342	eP	P	08 59 46.9	+1.2
	comp=Z,1.5nm,0.8s						
TORD	Torodi Ar. Bea	84.32	70	P	P	09 00 02.2	-1.2
	comp=Z,0.4nm,0.7s,baz=235,slow=4.8,SNR=2.3						
WRA	Warramunga Arr	120.34	209	PKP	PKPdf	09 06 21.3	-1.7
	comp=Z,0.4nm,0.7s,baz=157,slow=1.7,SNR=4.3						
H11S2	WAKE ISLAND Hy	125.83	269	T	T	11 24 53.0	
	baz=120,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy	125.84	269	T	T	11 24 50.2	
	baz=120,slow=75,SNR=50						
H11S3	WAKE ISLAND Hy	125.84	269	T	T	11 24 54.2	
	baz=120,slow=75,SNR=21						
H11N3	WAKE ISLAND Hy	126.25	270	T	T	11 25 23.4	
	baz=121,slow=76,SNR=6.7						
H11N1	WAKE ISLAND Hy	126.27	270	T	T	11 25 26.1	
	baz=121,slow=76,SNR=12						
H11N2	WAKE ISLAND Hy	126.27	270	T	T	11 25 25.4	
	baz=121,slow=76,SNR=11						

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*ISCJB **01** 09:03:02.0±0.6, 31°.81N±0°.07×56°.23E±0°.05, h10km, Error ellipse: s-maj=10.0km s-min=6.3km az=4.7*
*CSEM **01** 09:03:01.6, 31°.75N×56°.22E, h5km, ML3.7*
*TEH **01** 09:03:01.6, 31°.75N×56°.22E, h5km, ML3.7*
*ISN **01** 09:03:42.5±0.8, 28°.15N×51°.17E, h1km±3km, ML4.1*
ISC 01 09:03:01.5±1.1**, 31°.74N**±0°.06×**56°.25E**±0°.04**, h10km, n30, σ1^{s}34**/27**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IBAF	Bafgh	0.60	256	ePg	Pg	09 03 11.8	-1.3
IBAF				e		09 03 23.1	
	comp=Z,37μm,0.1s						
IBAF	Bafgh	0.60	256	ePg	Pg	09 03 11.8	-1.3
KHGB	Koh Gabri	1.37	172	ePg	Pn	09 03 26.1	-0.8
IMEH	Mehriz	1.44	257	ePn	Pn	09 03 27.4	-0.4
IMEH				e		09 03 49.9	
	comp=Z,11μm,0.1s						
IMEH	Mehriz	1.44	257	ePn	Pn	09 03 27.4	-0.4
ICHK	Chekchek	1.65	288	ePn	Pn	09 03 30.9	+0.1
ICHK				e		09 03 58.4	
	comp=Z,15μm,0.1s						
ICHK	Chekchek	1.65	288	ePn	Pn	09 03 30.8	+0.1
TVBK	TV Kerman	1.80	166	ePn	Pb	09 03 34.8	+0.1
NGRK	Negar Kerman	2.12	169	ePn	Pb	09 03 39.7	-0.6
CHMN	Cheshme madani	2.17	149	ePn	Pn	09 03 39.7	+1.6
CHMN	Cheshme madani	2.17	149	ePn	Pn	09 03 39.7	+1.6
ISAD	Sadrabad	2.19	275	ePn	Pn	09 03 38.9	+0.7
ISAD				e		09 03 41.4	
	comp=Z,9μm,0.1s						
ISAD	Sadrabad	2.19	275	ePn	Pn	09 03 38.9	+0.7
ITEG	Tejag	2.41	61	ePn	Pn	09 03 42.1	+0.9
ITEG				e		09 04 20.3	
	comp=Z,5μm,0.3s						
ITEG	Tejag	2.41	61	ePn	Pn	09 03 42.1	+0.9
IKOO	Kooshah	2.44	73	ePn	Pn	09 03 41.9	+0.2
IKOO				e		09 04 19.3	
	comp=Z,8μm,0.2s						
IKOO	Kooshah	2.44	73	ePn	Pn	09 03 41.8	+0.2
IDAH	Dahanechah	3.23	71	ePn	Pn	09 03 53.2	+0.8
IDAH				e		09 04 54.7	
	comp=Z,2μm,0.2s						
IDAH	Dahanechah	3.23	71	ePn	Pn	09 03 53.2	+0.8
IPAR	Pars	3.34	236	ePn	Pn	09 03 56.7	+2.7
IPAR				e		09 05 00.2	
	comp=Z,1μm,0.3s						
IPAR	Pars	3.34	236	ePn	Pn	09 03 56.7	+2.7
IZEF	Zefreh	3.52	290	ePn	Pn	09 03 58.0	+1.5
IZEF				e		09 03 58.9	
	comp=Z,891nm,0.1s						
IZEF	Zefreh	3.52	290	ePn	Pn	09 03 58.0	+1.5
IKLH	Kolahrood	4.25	293	ePn	Pn	09 04 07.6	+1.1
IKLH				e		09 05 20.5	
	comp=E,784nm,0.2s						
IKLH	Kolahrood	4.25	293	ePn	Pn	09 04 07.6	+1.1
IPIR	Pirpir	4.64	283	ePn	Pn	09 04 13.9	+2.0
IPIR				e		09 05 42.1	
	comp=Z,368nm,0.4s						
IPIR	Pirpir	4.64	283	ePn	Pn	09 04 13.9	+2.0
NSR	Nassriya	8.67	268	ePG	x	09 05 37.6	
NSR				eSG	x	09 06 57.5	
IBDR	Badra	8.83	282	ePN	x	09 05 23.8	
IBDR				eSN	x	09 06 34.4	
RTB	Rutbah	13.54	280	ePN	x	09 06 17.5	
RTB				eSN	x	09 08 07.2	

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*TIF **01** 09:06:31.6, 42°.59N×45°.65E, h22km±1km*
*MOS **01** 09:06:31.6±0.6, 42°.64N×45°.65E, h9km, mb3.9/1, Error ellipse: s-maj=8.9km s-min=5.6km az=25.4*
*CSEM **01** 09:06:31.5±0.2, 42°.65N×45°.64E, h2km, mb3.9, Error ellipse: s-maj=5.0km s-min=2.8km az=11.0*
*DDA **01** 09:06:43.0, 42°.52N×46°.56E, h11km, MD3.6*
ISC 01 09:06:31.7±1.0**, 42°.59N**±0°.02×**45°.64E**±0°.01**, h7**km±9km**, n69, σ0^{s}89**/117**, 7C-4D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BTLR	Botlikh	0.44	80	iPG	Pg	09 06 39.8	-0.4
BTLR				eS	Sg	09 06 46.5	+0.5
BTLR				pmax	pmax		
	comp=Z,159nm,0.2s						
BTLR	Botlikh	0.44	80	iPg	Pg	09 06 39.8	-0.4
	comp=Z,159nm,0.2s						
BTLR				eSg	Sg	09 06 46.5	+0.5
SNJR	Sundja	0.77	308	⇑iPG	Pg	09 06 46.1	-0.5
SNJR				eS	Sb	09 06 58.9	+0.6
SNJR	Sundja	0.77	308	iPg	Pg	09 06 46.1	-0.5
XNZR	Khunzakh	0.79	93	⇓iPG	Pg	09 06 46.8	-0.1
XNZR				eS	Sb	09 06 58.5	-0.4
XNZR				pmax	pmax		
	comp=Z,165nm,0.2s						
XNZR	Khunzakh	0.79	93	iPg	Pg	09 06 46.8	-0.1
	comp=Z,165nm,0.2s						
XNZR				eSg	Sb	09 06 58.5	-0.4
VLKR	Vladikavkaz	0.84	303	ePG	Pg	09 06 47.8	-0.1
VLKR				eS	Sn	09 07 01.3	-1.4
VLKR	Vladikavkaz	0.84	303	ePg	Pg	09 06 47.8	-0.1
DUS	Dusheti	0.85	235	P	Pb	09 06 49.4	+0.5
DUS				S	Sb	09 07 01.2	+0.6
DUS	Dusheti	0.85	235	PG	Pn	09 06 50.0	-0.3
DUS	Dusheti	0.85	235	P	Pb	09 06 49.4	+0.5
DUS	Dusheti	0.85	235	Pg	Pn	09 06 50.0	-0.3
UNCR	Uncukul	0.86	81	⇓iPG	Pg	09 06 48.0	-0.3
UNCR				S	Sn	09 07 02.0	-1.2
UNCR				pmax	pmax		
	comp=Z,129nm,0.3s						
UNCR	Uncukul	0.86	81	iPg	Pg	09 06 48.0	-0.3
	comp=Z,129nm,0.3s						
KRNR	Karanay	0.96	75	⇓iPG	Pg	09 06 49.8	-0.5
KRNR				iS	Sn	09 07 06.0	+0.2
KRNR				pmax	pmax		
	comp=Z,114nm,0.2s						
KRNR	Karanay	0.96	75	iPg	Pg	09 06 49.8	-0.5
	comp=Z,114nm,0.2s						
DBC	Dubki	0.98	64	⇓iPG	Pg	09 06 50.0	-0.5
DBC				iS	Sn	09 07 07.3	+1.2
DBC	Dubki	0.98	64	iPg	Pg	09 06 50.0	-0.5
ARKR	Arakani	1.00	89	ePG	Pg	09 06 50.5	-0.5
ARKR				S	Sn	09 07 06.0	-0.7
ARKR				pmax	pmax		
	comp=Z,103nm,0.3s						
ARKR	Arakani	1.00	89	ePg	Pg	09 06 50.5	-0.5
	comp=Z,103nm,0.3s						
ARKR				Sg	Sn	09 07 06.0	-0.7
LACR	Lac	1.02	284	⇑iPG	Pg	09 06 49.3	-1.9
LACR				eS	Sg	09 07 04.6	+0.2
LACR	Lac	1.02	284	iPg	Pg	09 06 49.3	-1.9
LACR				eSg	Sg	09 07 04.6	+0.2
SEAG	Tbilisi Sea	1.03	217	P	Pg	09 06 51.1	-0.4
SEAG				S	Sb	09 07 05.9	+0.2
SEAG	Tbilisi Sea	1.03	217	P	Pg	09 06 51.1	-0.4
TBLG	Delisi	1.09	218	P	Pg	09 06 52.7	+0.1
TBLG				S	Sb	09 07 07.7	+0.4
TBLG	Delisi	1.09	218	PG	Pg	09 06 52.6	+0.1
TBLG				S	Sb	09 07 07.7	+0.4
TBLG	Delisi	1.09	218	P	Pg	09 06 52.7	+0.1
TBLG				Sg	Sb	09 07 07.7	+0.4
BTKR	Batakoyurt	1.12	315	ePG	Pb	09 06 53.3	-0.2
BTKR				eS	Sn	09 07 10.8	+1.2
BTKR	Batakoyurt	1.12	315	ePg	Pb	09 06 53.3	-0.2
ARNR	Ardon	1.16	301	ePG	Pg	09 06 52.9	-1.0
ARNR				eS	Sn	09 07 10.4	0.0
ARNR	Ardon	1.16	301	ePg	Pg	09 06 52.9	-1.0
ARNR				eSg	Sn	09 07 10.4	0.0
DGRG	David-gareji	1.16	190	P	Pn	09 06 55.1	+0.7
DGRG	David-gareji	1.16	190	PG	Pn	09 06 55.0	+0.7
DGRG	David-gareji	1.16	190	Pg	Pn	09 06 55.0	+0.7
KMKR	Kumukh	1.18	112	⇑iPG	Pb	09 06 54.0	-0.5
KMKR				iS	Sg	09 07 09.8	+0.2
KMKR				pmax	pmax		
	comp=Z,70nm,0.2s						
KMKR	Kumukh	1.18	112	iPg	Pb	09 06 54.0	-0.5
	comp=Z,70nm,0.2s						
KMKR				iSg	Sg	09 07 09.8	+0.2
KORR	Kora	1.26	294	⇑iPG	Pn	09 06 55.2	-0.5
KORR				eS	Sn	09 07 13.6	+0.7
KORR	Kora	1.26	294	iPg	Pn	09 06 55.2	-0.5
KORR				eSg	Sn	09 07 13.6	+0.7
ZEI	Tsey	1.29	279	⇑iPG	Pn	09 06 54.6	-1.8
ZEI				eS	Sb	09 07 12.8	-0.6
ZEI	Tsey	1.29	279	iPg	Pn	09 06 54.6	-1.8
ZEI				eSg	Sb	09 07 12.8	-0.6
TRKR	Terskaya	1.31	330	ePG	Pn	09 06 56.1	-0.4
TRKR				eS	Sn	09 07 16.1	+1.9
TRKR	Terskaya	1.31	330	ePg	Pn	09 06 56.1	-0.4
STDR	Stavd-Durt	1.39	304	ePG	Pb	09 06 57.9	-0.2
STDR				eS	Sg	09 07 18.2	+1.7
STDR	Stavd-Durt	1.39	304	ePg	Pb	09 06 57.9	-0.2
STDR				eSg	Sg	09 07 18.2	+1.7
LSNR	Lesken	1.50	298	⇑iPG	Pn	09 06 58.9	-0.2
LSNR				eS	Sg	09 07 20.7	+0.9
LSNR	Lesken	1.50	298	iPg	Pn	09 06 58.9	-0.2
LSNR				eSg	Sg	09 07 20.7	+0.9
KZR	Kazreti	1.51	217	P	Sn	09 07 19.7	+0.5
PRTR	Priterechnaya	1.53	320	⇑iPG	Pg	09 07 00.6	-0.4
PRTR				iS	Sg	09 07 22.6	+1.8
PRTR	Priterechnaya	1.53	320	iPg	Pg	09 07 00.6	-0.4
PRTR				iSg	Sg	09 07 22.6	+1.8
URKR	Urkarakh	1.54	105	ePG	Pn	09 07 00.0	+0.3
URKR				iS	Sg	09 07 22.8	+1.6
URKR				pmax	pmax		
	comp=Z,67nm,0.2s						
URKR	Urkarakh	1.54	105	ePg	Pn	09 07 00.0	+0.3
	comp=Z,67nm,0.2s						
URKR				iSg	Sg	09 07 22.8	+1.6
DIGR	Digorskoe uzhe	1.55	282	ePG	Pn	09 06 58.8	-1.1
DIGR				iS	Sn	09 07 20.3	0.0
DIGR	Digorskoe uzhe	1.55	282	ePg	Pn	09 06 58.8	-1.1
DIGR				iSg	Sn	09 07 20.3	0.0
ONI	Oni	1.61	271	P	Pn	09 07 00.7	0.0
ONI				S	Sg	09 07 24.8	+1.2
ONI	Oni	1.61	271	PN	Pn	09 07 00.6	0.0
ONI				S	Sg	09 07 24.7	+1.2
ONI	Oni	1.61	271	P	Pn	09 07 00.7	0.0
ONI				Sg	Sg	09 07 24.7	+1.2
AKT	Akhty	1.91	125	ePN	Pb	09 07 07.0	0.0
AKT				eS	Sg	09 07 33.0	-0.2
AKT	Akhty	1.91	125	ePn	Pb	09 07 07.0	0.0
AKT				eSg	Sg	09 07 33.0	-0.2
AKH	Akhalkalaki	1.99	234	P	Pn	09 07 06.0	+0.1
AKH				S	Sb	09 07 34.2	+0.9
AKH	Akhalkalaki	1.99	234	P	Pn	09 07 06.0	+0.1
AKH				S	Sb	09 07 34.2	+0.9
EAK	Akyaka	2.44	219	iP	Pb	09 07 14.5	-1.5
EAK				iS	Sb	09 07 46.3	0.0
EAK	Akyaka	2.44	219	iP	Pb	09 07 14.5	-1.5
EAK				iS	Sb	09 07 46.3	0.0
GOF	Gofitskoye	3.10	324	ePN	Pg	09 07 40.6	+10
ARTV	Artvin	3.10	244	iP	Pb	09 07 26.3	-1.1
ARTV				iS	Sb	09 08 07.2	+1.7
DAGI	Agillar	3.17	243	iP	Pb	09 07 27.1	-1.2
DAGI				iS	Sb	09 08 08.3	+1.1
DBAD	Bademkaya	3.34	243	iP	Pb	09 07 29.0	-2.3
DBAD				iS	Sb	09 08 13.0	+0.9
DBAD	Bademkaya	3.34	243	iP	Pb	09 07 29.0	-2.3
DDEM	Demirkent	3.37	241	iP	Pn	09 07 28.2	+3.4
DDEM				iS	Sb	09 08 14.2	+1.3
DDEM	Demirkent	3.37	241	iP	Pn	09 07 28.2	+3.4

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*KRSC **01** 09:21:14.0±2.0, 51°.42N×154°.41E, h494km±24km, ML4.8*
*ISCJB **01** 09:21:15.8±0.2, 52°.06N±0°.03×152°.85E±0°.03, h431km±1km, mb4.2/114, Error ellipse: s-maj=5.3km s-min=2.7km az=157.6*
*MOS **01** 09:21:15.3±0.9, 52°.04N×152°.88E, h428km, mb4.3/45, Error ellipse: s-maj=8.9km s-min=5.4km az=79.0*
*BJI **01** 09:21:15.2, 52°.25N×152°.72E, h423km, mb4.7/16, mB4.4/11*
*SKHL **01** 09:21:16.6±0.4, 51°.96N×152°.97E, h443km±5km, mb5.2/3, mbh5.3/1, msh4.5/1*
*NEIC **01** 09:21:16.7±0.4, 52°.26N×152°.71E, h419km±4km, mb4.4/82, Error ellipse: s-maj=7.9km s-min=3.7km az=163.0*
*IDC **01** 09:21:17.1±0.6, 52°.15N×152°.77E, h431km±6km, mb3.7/24, mb1 3.8/29, mb1mx3.8/32, mbtmp4.4/29, Error ellipse: s-maj=11.0km s-min=7.0km az=142.0*
ISC 01 09:21:16.3±0.4**, 52°.01N**±0°.05×**152°.91E**±0°.04**, h429**km±3km**, h428km:pP-P, n696, σ0^{s}99**/755**, mb4.3**/114**, 191C-160D, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIPR	Malaya Ipel'ka	2.39	82	eP	P	09 22 16.7	-0.6
SKR	Severo-Kuril's	2.41	122	eP	P	09 22 16.6	-0.8
SKR				eS	S	09 23 04.7	-2.4
SKR	Severo-Kuril's	2.41	122	ePN	P	09 22 07.0	-10
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR	Severo-Kuril's	2.41	122	eP	P	09 22 19.0	+1.6
SKR				AMB	AMB	09 22 21.2	
	comp=Z,156nm,1.0s						
SKR				eS	S	09 23 08.0	+0.9
SKR				A	A	09 23 09.3	
	comp=Z,370nm,0.6s						
PAU	Pauzhetka	2.49	101	eP	P	09 22 17.7	-0.2
PAU				eS	S	09 23 06.8	-1.2
PAU	Pauzhetka	2.49	101	PN	P	09 22 17.7	-0.2
PAU				S	S	09 23 06.8	-1.2
PAU	Pauzhetka	2.49	101	eP	P	09 22 19.0	+1.1
PAU				eS	S	09 23 07.7	-0.3
PAU				A	A	09 23 08.6	
	comp=Z,1μm,1.0s						
APC	Apacha	2.76	69	eP	P	09 22 18.9	-0.9
APC	Apacha	2.76	69	PN	P	09 22 18.9	-0.9
ASAK	Asacha	3.10	81	eP	P	09 22 22.1	-0.4
ASAK				eS	S	09 23 13.5	-2.8
PEA0B	Petropavlovsk-	3.13	67	eP	P	09 22 22.1	-0.5
PEA0B				eS	S	09 23 17.9	+1.3
PETK	Petropavlovsk-	3.13	67	P	P	09 22 22.1	-0.5
	comp=Z,22nm,0.3s,baz=225,slow=4.4,SNR=157						
PETK				S	S	09 23 17.1	+0.5
	baz=246,slow=14,SNR=2.6						
PETK	Petropavlovsk-	3.13	67	PN	P	09 22 22.1	-0.5
PETK				S	S	09 23 17.1	+0.5
PETK				pmax	pmax		
	comp=Z,22nm,0.3s						
MTVR	Mutnovka	3.28	80	eP	P	09 22 24.2	+0.2
MTVR				eS	S	09 23 17.3	-1.8
RUS	Russkaya	3.47	81	eP	P	09 22 24.7	-0.7
RUS				eS	S	09 23 17.9	-3.8
RUS	Russkaya	3.47	81	PN	P	09 22 24.7	-0.7
RUS				S	S	09 23 17.9	-3.8
RUS	Russkaya	3.47	81	eP	P	09 22 24.7	-0.7
GNL	Ganaly	3.49	59	eP	P	09 22 25.0	-0.7
GNL	Ganaly	3.49	59	PN	P	09 22 25.0	-0.7
PET	Petropavlovsk	3.66	72	eP	P	09 22 27.0	+0.1
PET				eS	S	09 23 22.5	-2.0
PET	Petropavlovsk	3.66	72	⇑iPN	P	09 22 27.3	+0.4
PET				eS	S	09 23 22.9	-1.6
PET				pmax	pmax		
	comp=Z,261nm,0.4s						
PET				smax	smax		
	comp=N,136nm,0.7s						
PET	Petropavlovsk	3.66	72	eP	P	09 22 27.3	+0.4
PET				AMB	AMB	09 22 27.7	
	comp=N,260nm,0.4s						
PET				eS	S	09 23 22.2	-2.3
PET				A	A	09 23 26.1	
	comp=N,130nm,0.7s						
PET	Petropavlovsk	3.66	72	eP	P	09 22 26.4	-0.5
PET				eS	S	09 23 24.4	-0.1
KOK	Koryaka	3.72	67	eP	P	09 22 27.8	+0.2
KOK	Koryaka	3.72	67	PN	P	09 22 27.8	+0.2
KRX	Arik	3.75	67	eP	P	09 22 27.7	-0.2
AVH	Avacha	3.77	68	eP	P	09 22 28.2	+0.2
AVH	Avacha	3.77	68	PN	P	09 22 28.2	+0.2
UGLR	Uglovaya	3.80	69	eP	P	09 22 28.9	+0.5
UGLR				eS	S	09 23 26.6	-0.5
SMAR	Somma	3.81	68	eP	P	09 22 28.7	+0.2
SMAR				eS	S	09 23 26.4	-1.0
SDLR	Sedlovina	3.86	68	eP	P	09 22 28.7	-0.2
SDLR				eS	S	09 23 26.5	-1.5
KII	Karymskiy	4.44	60	eP	P	09 22 34.8	+0.7
SPN	Mys Shipunski	4.48	73	eP	P	09 22 32.8	-1.6
SPN				eS	S	09 23 31.3	-6.9
SPN	Mys Shipunski	4.48	73	PN	P	09 22 32.8	-1.6
SPN				S	S	09 23 31.3	-6.9
SPN	Mys Shipunski	4.48	73	eP	P	09 22 32.8	-1.6
ESO	Esso	5.21	39	eP	P	09 22 42.4	+0.9
ESO	Esso	5.21	39	PN	P	09 22 42.4	+0.9
KZV	Kizimen	5.39	52	eP	P	09 22 44.6	+1.1
KZV				eS	S	09 23 53.1	-1.8
TUMR	Tumrok	5.41	50	eP	P	09 22 45.4	+1.7
TUMR				eS	S	09 23 55.2	0.0
KMNR	Kamenistaya	5.74	46	eP	P	09 22 48.1	+1.1
KMNR				eS	S	09 24 00.8	-0.4
KOZ	Kozyrevsk	5.77	43	eP	P	09 22 49.2	+2.0
KOZ				eS	S	09 24 02.7	+0.9
KOZ	Kozyrevsk	5.77	43	PN	P	09 22 49.2	+2.0
KOZ				S	S	09 24 02.7	+0.9
MKZ	Mys Kozlova	5.88	61	eP	P	09 22 46.8	-1.5
MKZ				eS	S	09 23 55.8	-7.9
MKZ	Mys Kozlova	5.88	61	PN	P	09 22 46.8	-1.5
MKZ				S	S	09 23 55.8	-7.9
SRDR	Sredinnyy	5.88	40	eP	P	09 22 50.4	+1.9
SRDR				eS	S	09 24 04.7	+0.7
OKH	Okha	6.25	288	eP	P	09 22 55.0	+2.8
OKH				AMB	AMB	09 22 56.0	
	comp=N,450nm,0.6s						
KLY	Klyuchi	6.27	43	eP	P	09 22 55.8	+3.4
KLY				eS	S	09 24 12.9	+1.7
TYV	Tymovskoe	6.51	264	iPN	P	09 22 57.2	+1.8
TYV				pmax	pmax		
	comp=N,8.0nm,0.6s						
TYV				pmax	pmax		
	comp=E,51nm,0.6s						
TYV				pmax	pmax		
	comp=Z,51nm,0.6s						
TYV	Tymovskoe	6.51	264	eP	P	09 22 57.2	+1.8
TYV				AMB	AMB	09 22 58.8	
	comp=Z,8.0nm,0.6s						
TYV				AMB	AMB	09 22 58.8	
	comp=Z,51nm,0.6s						
BDR	Baidarnaya	6.67	43	eP	P	09 22 57.5	+0.4
BDR				eS	S	09 24 16.5	-2.7
SRKR	Sorokina	6.71	43	eP	P	09 22 57.5	0.0
SRKR				eS	S	09 24 17.1	-2.9
SMKR	Semkarok	6.79	44	eP	P	09 22 58.7	+0.3
SMKR				eS	S	09 24 20.1	-1.5
KBTR	Krutoberegovo	7.19	50	eP	P	09 23 00.4	-2.1
KBTR				eS	S	09 24 21.8	-7.5
UGL	Uglegorsk	7.50	251	eP	P	09 23 08.0	+1.9
UGL				AMB	AMB	09 23 08.5	
	comp=Z,40nm,0.5s						
NKL	Nikolayevsk	7.54	284	iPN	P	09 23 07.4	+1.0
NKL				pmax	pmax		
	comp=N,20nm,0.6s						
NKL				pmax	pmax		
	comp=E,100nm,0.6s						
NKL				pmax	pmax		
	comp=E,190nm,0.6s						
NKL	Nikolayevsk	7.54	284	eP	P	09 23 07.4	+1.0
NKL				AMB	AMB	09 23 07.9	
	comp=Z,20nm,0.6s						
NKL				AMB	AMB	09 23 07.9	
	comp=Z,100nm,0.6s						
NKL				AMB	AMB	09 23 07.9	
	comp=Z,190nm,0.6s						
NKL				AMB	AMB	09 23 08.5	
	comp=Z,300nm,1.5s						
NKL				AMB	AMB	09 23 08.5	
	comp=Z,300nm,1.5s						
KUR	Kuril'sk	7.55	208	⇑iPN	P	09 23 05.4	-1.4
KUR				pmax	pmax		
	comp=Z,30nm,0.8s						
KUR				pmax	pmax		
	comp=N,14nm,0.4s						
KUR				pmax	pmax		
	comp=E,13nm,0.4s						
KUR	Kuril'sk	7.55	208	eP	P	09 23 06.0	-0.8
KUR				AMB	AMB	09 23 08.1	
	comp=E,14nm,0.6s						
KUR				AMB	AMB	09 23 08.1	
	comp=E,13nm,0.6s						
KUR				AMB	AMB	09 23 08.1	
	comp=E,30nm,0.6s						
KUR				AMB	AMB	09 23 08.8	
	comp=E,500nm,2.0s						
KUR				eS	S	09 24 34.0	-3.0
KUR				A	A	09 24 47.6	
	comp=E,280nm,0.6s						
KUR				A	A	09 24 47.6	
	comp=E,200nm,0.6s						
KUR				A	A	09 24 54.2	
	comp=E,220nm,3.0s						
KUR				A	A	09 24 54.2	
	comp=E,110nm,3.0s						
PALN	Palana	8.14	27	eP	P	09 23 13.1	+0.3
YSS	Yuzh-Sakhalins	8.32	237	⇑ePN	P	09 23 16.0	+1.0
YSS				eS	S	09 24 53.0	+0.6
YSS				pmax	pmax		
	comp=Z,70nm,0.6s						
YSS				smax	smax		
	comp=E,160nm,1.5s						
YSS	Yuzh-Sakhalins	8.32	237	eP	P	09 23 16.0	+1.0
YSS				AMB	AMB	09 23 18.8	
	comp=E,70nm,0.6s						
YSS				eS	S	09 24 51.0	-1.4
YSS				A	A	09 24 59.0	
	comp=E,160nm,1.5s						
YSS	Yuzh-Sakhalins	8.32	237	eP	P	09 23 17.2	+2.3
YSS				eS	S	09 25 00.1	+7.7
OSSR	Ossora	9.25	34	eP	P	09 23 26.8	+1.9
YUK	Yuzh-Kuril'sk	9.26	213	d iPN	P	09 23 25.7	+0.3
YUK				iS	S	09 25 11.7	-0.1
YUK				pmax	pmax		
	comp=N,25nm,0.3s						
YUK				pmax	pmax		
	comp=E,22nm,0.3s						
YUK				pmax	pmax		
	comp=Z,129nm,0.3s						
YUK				pmax	pmax		
	comp=Z,309nm,2.1s						
YUK	Yuzh-Kuril'sk	9.26	213	eP	P	09 23 25.7	+0.3
YUK				AMB	AMB	09 23 26.8	
	comp=Z,23nm,0.3s						
YUK				AMB	AMB	09 23 26.8	
	comp=Z,25nm,0.3s						
YUK				AMB	AMB	09 23 26.8	
	comp=Z,130nm,0.3s						
YUK				AMB	AMB	09 23 29.2	
	comp=Z,310nm,2.0s						
YUK				eS	S	09 25 11.7	-0.1
GRNR	Gornyy	10.38	270	eP	P	09 23 39.8	+2.2
ASAJ	Asahikawa	10.48	225	P	P	09 23 40.1	+1.4
	baz=82,slow=18						
ASAJ	Asahikawa	10.48	225	eP	P	09 23 40.7	+2.0
ASAJ				eS	S	09 25 38.6	+2.4
SEY	Seymchan	10.96	359	P	P	09 23 44.8	+1.1
	comp=Z,7.4nm,0.3s,baz=169,slow=8.5,SNR=111						
SEY	Seymchan	10.96	359	PN	P	09 23 44.8	+1.1
SEY				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ERM	Erimo	11.99	217	ePN	P	09 23 54.4	-0.9
ERM				pmax	pmax		
	comp=Z,40nm,0.4s						
ERM	Erimo	11.99	217	eP	P	09 23 54.2	-1.1
ERM	Erimo	11.99	217	eP	P	09 23 54.4	-0.9

comp=Z,40nm,0.4s
EKMR Ekimchan 12.20 283 *e*P P 09 23 59.0 +1.6
EKMR AMB AMB 09 23 59.5
comp=Z,16nm,0.5s
EKMR AMB AMB 09 23 59.5
comp=Z,34nm,0.5s
EKMR AMB AMB 09 23 59.5
comp=Z,64nm,0.5s
KLR Kul'dur 13.71 267 *e*P P 09 24 12.2 -1.7
KLR pmax pmax
comp=E,70nm,1.8s
KLR pmax pmax
comp=Z,78nm,1.8s
KLR Kul'dur 13.71 267 *e*P P 09 24 12.2 -1.7
KLR AMB AMB 09 24 13.8
comp=Z,70nm,1.8s
KLR AMB AMB 09 24 13.8
comp=Z,78nm,1.8s
BMKR Bomnak 14.60 290 *e*P P 09 24 23.9 +0.5
BMKR AMB AMB 09 24 25.0
comp=Z,42nm,0.7s
ZEA Zeya 15.56 287 *e*P P 09 24 33.6 -0.1
ZEA AMB AMB 09 24 34.8
comp=Z,35nm,1.0s
KROS Kirovskiy 15.69 289 *e*P P 09 24 32.7 -2.4
KROS AMB AMB 09 24 35.6
comp=Z,10.0nm,0.4s
KROS AMB AMB 09 24 35.6
comp=Z,8.0nm,0.4s
KROS AMB AMB 09 24 35.6
comp=Z,11nm,0.4s
USRK Ussuriysk Ar. 15.97 249 P P 09 24 38.7 +0.5
comp=Z,0.4nm,0.3s,baz=51,slow=13,SNR=9.0
YAK Yakutsk 16.05 318 *e*P P 09 24 39.6 +0.9
YAK AMB AMB 09 24 40.5
comp=Z,435nm,0.3s
VLA Vladivostok 16.69 246 *i*P P 09 24 44.6 -1.2
VLA S S 09 27 36.5 -2.6
VLA pmax pmax
comp=Z,10.0nm,1.2s
VLA Vladivostok 16.69 246 *e*P P 09 24 45.1 -0.7
CLNS Chul'man 16.94 298 *e*P P 09 24 48.2 -0.1
CLNS *e*S S 09 27 45.2 +1.6
CLNS pmax pmax
comp=Z,22nm,0.9s
CLNS pmax pmax
comp=E,15nm,1.0s
CLNS pmax pmax
comp=N,12nm,1.2s
CLNS smax smax
comp=E,8.0nm,1.0s
CLNS smax smax
comp=N,11nm,0.9s
CLNS Chul'man 16.94 298 *e*P P 09 24 48.1 -0.2
BILL Bilibino 17.34 17*c i*P P 09 24 51.2 -1.2
BILL pmax pmax
comp=Z,28nm,0.6s
BILL Bilibino 17.34 17 *e*P P 09 24 51.4 -1.0
BILL AMB AMB 09 24 52.1
comp=Z,510nm,0.5s
BILL Bilibino 17.34 17 *e*P P 09 24 51.4 -1.0
comp=Z,40nm,0.5s
MJAR Matsushiro Arr 18.64 220 P P 09 25 06.3 0.0
comp=Z,0.8nm,0.3s,baz=22,slow=8.7,SNR=7.7
MJAR Matsushiro Arr 18.64 220 P P 09 25 06.3 0.0
MJAR pmax pmax
comp=Z,1.0nm,0.3s
HIA Hailar 21.11 276 *e*P P 09 25 29.7 +0.8
HIA pmax pmax
comp=Z,21nm,0.4s
HIA Hailar 21.11 276 *e*P P 09 25 29.7 +0.8
comp=Z,21nm,0.4s
KSRS Korea Array 22.80 240 P P 09 25 45.6 +1.5
comp=Z,3.8nm,0.7s,baz=42,slow=9.6,SNR=20
KSRS Korea Array 22.80 240 P P 09 25 45.7 +1.5
KSRS pmax pmax
comp=Z,4.0nm,0.7s
JNU Nakatsue 24.72 229 P P 09 26 02.7 +1.1
comp=Z,4.2nm,0.6s,baz=0.2,slow=8.1,SNR=4.5
IM04 Indian Mountai 29.73 41 *e*P P 09 26 45.4 +0.2
SONM Songino Array 29.83 281 P P 09 26 46.2 -0.3
comp=Z,0.5nm,0.8s,baz=52,slow=9.6,SNR=3.6
SONM ScP ScP 09 32 36.0 -1.3
comp=Z,0.6nm,0.5s,baz=83,slow=2.3,SNR=6.9
TLY Talaya 29.97 289 *e*P P 09 26 48.8 +1.3
TLY pmax pmax
comp=Z,2.0nm,0.7s
TLY Talaya 29.97 289 *e*P P 09 26 48.1 +0.6
HHC Hu-ho-hao-te 30.21 265 *e*P P 09 26 50.2 +0.4
HHC PP PP 09 28 14.0 +5.4
HHC S S 09 31 14.5 -3.0
HHC SS SS 09 33 45.0 -3.2
HHC PMZ
comp=Z,25nm,0.7s
HHC PMZ
comp=Z,80nm,3.9s
PPLA Purkeypile 30.51 48 *e*P P 09 26 53.4 +1.2
comp=Z,14nm,1.1s
PPLA *e*PcP PcP 09 29 38.2 -0.2
BPAW Bear Paw Mtn. 30.95 45 *e*P P 09 26 56.5 +0.6
comp=Z,1.6nm,0.8s
KDAK Kodiak Island 31.13 58 *i*P P 09 26 57.1 -0.3
KDAK Kodiak Island 31.13 58 *e*P P 09 26 57.1 -0.3
COLD Coldfoot 31.18 39 *e*P P 09 26 58.3 +0.5
comp=Z,31nm,1.0s
JOW Kunigami 31.24 226 P P 09 26 59.6 +0.8
comp=Z,0.7nm,0.4s,baz=80,slow=8.8,SNR=6.5
TRF Thorofare Moun 31.32 46 *e*P P 09 26 59.8 +0.5
comp=Z,14nm,1.0s
MCK McKinley 31.89 46 *e*P P 09 27 04.6 +0.6
MCK pmax pmax
comp=Z,14nm,0.9s
MCK McKinley 31.89 46 *e*P P 09 27 04.6 +0.6
MCK McKinley 31.89 46 *e*P P 09 27 04.6 +0.6
comp=Z,14nm,0.9s
SEW Seward 32.22 53 *e*P P 09 27 06.7 -0.1
comp=Z,12nm,0.7s
COLA College 32.24 43*c i*P P 09 27 07.4 +0.5
COLA College 32.24 43 *e*P P 09 27 07.4 +0.5
COLA College 32.24 43 *e*P P 09 27 07.6 +0.7
comp=Z,24nm,0.7s
ILAR Eielson Array 32.66 44 P P 09 27 10.6 0.0
comp=Z,7.8nm,0.8s,baz=276,slow=10.0,SNR=166
ILAR ScP ScP 09 32 45.2 -1.2
comp=Z,0.4nm,0.6s,baz=272,slow=3.1,SNR=5.6
PAX Paxson 33.55 47 *e*P P 09 27 18.1 -0.1
PAX pmax pmax
comp=Z,10.0nm,1.4s
PAX Paxson 33.55 47 *e*P P 09 27 18.1 -0.1
comp=Z,9.8nm,1.4s
DIV Divide 33.77 50 *e*P P 09 27 20.7 +0.6
DIV Divide 33.77 50 *e*P P 09 27 20.7 +0.6
comp=Z,14nm,0.7s
DOT Dot Lake 34.05 45 *e*P P 09 27 22.0 -0.4
comp=Z,13nm,0.7s
MENT Mentasta 34.34 46 *e*P P 09 27 25.4 +0.5
BMRM Bremner River 34.36 50 *e*P P 09 27 26.1 +1.0
comp=Z,20nm,0.8s
KRAR Krasnoyarsk 34.53 301 *e*P P 09 27 26.0 -0.5
KRAR pmax pmax
comp=Z,15nm,0.7s
EGAK Eagle 35.09 43 *e*P P 09 27 31.0 -0.1
comp=Z,33nm,1.0s
DAWY Dawson 35.99 44 *e*P P 09 27 39.1 +0.3
INK Inuvik 37.37 36 P P 09 27 50.5 +0.4
comp=Z,18nm,0.3s,baz=285,slow=6.2,SNR=14
INK Inuvik 37.37 36 *e*P P 09 27 50.4 +0.4
INK pmax pmax
comp=Z,9.0nm,0.2s
INK Inuvik 37.37 36 *e*P P 09 27 50.4 +0.4
comp=Z,9.4nm,0.2s
HYT Haines Junctio 37.73 49 *e*P P 09 27 54.9 +1.6
CD2 Chengdu 41.47 259 *e*P P 09 28 23.7 -0.2
CD2 pP pP 09 29 43.8 -1.3
CD2 sP sP 09 30 32.0 -1.7
CD2 S S 09 34 06.7 -0.2
CD2 sS sS 09 36 32.9 -1.5
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
DLBC Dease Lake 42.16 50 *e*P P 09 28 31.1 +2.1
WMQ Urumqi 43.12 286 *e*P P 09 28 38.4 +1.6
WMQ pP pP 09 29 58.8 0.0
WMQ PP PP 09 30 27.8 +1.0
WMQ sP sP 09 30 44.5 -2.7
WMQ PMZ
comp=Z,1.0nm,0.3s
WMQ PMZ
comp=Z,12nm,4.2s
KURK Kurchatov 44.50 299 P P 09 28 48.3 +0.9
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 44.50 299 *e*P P 09 28 47.3 -0.1
MKAR Makanchi Array 44.59 293 P P 09 28 48.2 0.0
comp=Z,2.1nm,0.5s,baz=62,slow=8.4,SNR=6.5
MKAR ScP ScP 09 33 31.1 -1.5
comp=Z,0.4nm,0.4s,baz=42,slow=3.8,SNR=5.7
MKAR Makanchi Array 44.59 293*ce*P P 09 28 48.5 +0.2
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 44.59 293 *e*P P 09 28 48.5 +0.2
MKAR Makanchi Array 44.59 293 *e*P P 09 28 48.4 +0.2
KURBB Kurchatov Arra 44.60 299 P P 09 28 48.3 +0.1
comp=Z,1.3nm,0.5s,baz=63,slow=7.8,SNR=6.3
RES Resolute Bay 45.91 20 *e*P P 09 28 56.9 -1.1
RES pmax pmax
comp=Z,10.0nm,0.4s
RES Resolute Bay 45.91 20 *e*P P 09 28 56.9 -1.1
comp=Z,9.5nm,0.4s
YKA Yellowknife Ar 46.86 39 P P 09 29 05.7 +0.3
comp=Z,13nm,0.5s,baz=303,slow=7.0,SNR=264
YKA PcP PcP 09 30 30.1 +0.2
comp=Z,1.3nm,0.5s,baz=311,slow=3.6,SNR=9.5
YKA ScP ScP 09 33 42.1 +0.4
comp=Z,0.4nm,0.5s,baz=300,slow=3.9,SNR=5.6
KBS Kingsbay 47.28 350 *e*P P 09 29 08.0 -0.4
BVAR Borovoye Array 47.54 306 P P 09 29 11.0 +0.3
comp=Z,0.8nm,0.3s,baz=60,slow=8.8,SNR=4.8
BVAR ScP ScP 09 33 43.6 -1.2
comp=Z,0.8nm,0.6s,baz=61,slow=7.0,SNR=4.6
BVAR Borovoye Array 47.54 306 P P 09 29 11.0 +0.3
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR pmax pmax
comp=N,1.0nm,0.6s
BRVK Borovoye 47.58 306 *e*P P 09 29 10.1 -0.9
ARU Arti 51.13 315*d i*P P 09 29 35.9 -1.4
ARU S S 09 36 19.7 -1.9
ARU pmax pmax
comp=Z,10.0nm,2.5s
ARU Arti 51.13 315 *e*P P 09 29 36.1 -1.2
AAK Ala-Archa 51.53 293 *e*P P 09 29 41.2 +0.5
AAK pmax pmax
comp=Z,4.0nm,1.3s
AAK Ala-Archa 51.53 293 *e*P P 09 29 41.2 +0.5
EDM Edmonton 52.86 49 *e*P P 09 29 50.5 +0.5
EDM Edmonton 52.86 49 *e*P P 09 29 50.4 +0.5
EDM Edmonton 52.86 49 *e*P P 09 29 50.5 +0.5
ARCES ARCESS Array B 52.86 339 P P 09 29 48.4 -1.3
comp=Z,3.2nm,0.8s,baz=37,slow=8.3,SNR=18
ARCES PcP PcP 09 30 52.3 +0.2
comp=Z,4.8nm,1.0s,baz=23,slow=4.9,SNR=2.4
ARCES ARCESS Array B 52.86 339 P P 09 29 48.4 -1.3
ARCES 09 30 52.3
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 52.86 339 *e*P P 09 29 48.5 -1.2
G03D McMinnville, O 52.92 62 ⇑P P 09 29 52.0 +1.6
baz=53
B08A Colville Reser 53.00 57 *e*P P 09 29 51.9 +0.8
comp=Z,5.8nm,0.8s
CHTO Chiang Mai 53.38 253 *e*P P 09 29 55.5 +1.3
CHTO pmax pmax
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 53.38 253 *e*P P 09 29 55.5 +1.3
CHTO Chiang Mai 53.38 253 *e*P P 09 29 55.5 +1.3
comp=Z,5.9nm,0.7s
CMAR Chiang Mai Arr 53.66 252 P P 09 29 55.9 -0.3
comp=Z,1.6nm,0.4s,baz=25,slow=6.6,SNR=8.9
CMAR Chiang Mai Arr 53.66 252 P P 09 29 55.9 -0.3
CMAR pmax pmax
comp=Z,2.0nm,0.4s
I03D Drain, OR 53.84 63 ⇑P P 09 29 58.5 +1.4
baz=54
G05D Wamic, OR 53.95 61 ⇓P P 09 29 58.9 +1.0
baz=54
NEW Newport 54.19 55 *e*P P 09 30 00.3 +0.7
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 54.19 55 *e*P P 09 30 00.8 +1.2
NEW Newport 54.19 55 ⇓P P 09 30 00.1 +0.5
baz=54,SNR=5.6
NEW Newport 54.19 55 *e*P P 09 30 00.3 +0.7
comp=Z,6.1nm,1.0s
I05D Terrebonne, OR 54.53 61 ⇑P P 09 30 03.3 +1.2
baz=54
L02D Cave Junction, 54.71 65 ⇓P P 09 30 05.0 +1.7
baz=54
J04D Umpqua Nationa 54.83 63 ⇑P P 09 30 06.0 +1.6
baz=55,SNR=5.8
PINOR Pine Mountain 55.13 62 *e*P P 09 30 08.4 +2.2
comp=Z,4.2nm,0.8s
J05D Fort Rock, OR 55.28 62 ⇓P P 09 30 09.4 +1.9
baz=55,SNR=10
WALA Waterton Lakes 55.28 53 *e*P P 09 30 08.1 +0.7
K04D Chiloquin, OR 55.43 63 ⇓P P 09 30 10.4 +1.9
baz=55
SUMG Summit 55.46 4⇑*i*P P 09 30 08.0 -0.6
comp=Z,13nm,0.5s
SUMG Summit 55.46 4⇑*i*P P 09 30 08.0 -0.6
SUMG pmax pmax
comp=Z,13nm,0.5s
SUMG Summit 55.46 4 *e*P P 09 30 08.0 -0.6
comp=Z,18nm,1.0s
M02C Callahan 55.63 65 ⇓P P 09 30 11.4 +1.5
baz=55
BSMT Bassoo Peak 55.65 55 *e*P P 09 30 11.2 +1.2
comp=Z,11nm,0.7s
BLMT Blacktail Moun 55.76 54 *e*P P 09 30 12.2 +1.4
K05A Summer Lake 55.83 63 *e*P P 09 30 13.7 +2.3
comp=Z,15nm,1.1s
M04C Macdoel 55.94 64 ⇓P P 09 30 13.7 +1.5
baz=56
JTMT Jette 55.97 54 *e*P P 09 30 13.4 +1.2
N02D Trinity Center 56.00 65 ⇑P P 09 30 14.0 +1.5
baz=56
SWMT Swartz Lake 56.27 54 *e*P P 09 30 15.1 +0.8
comp=Z,2.7nm,0.6s
BMO Blue Mountains 56.35 59 *e*P P 09 30 16.1 +1.2
comp=Z,54nm,2.6s
SLMT Seeley Lake 56.71 54 *e*P P 09 30 18.5 +1.1
comp=Z,5.0nm,0.6s
MSO Missoula 56.76 55 ⇓P P 09 30 18.6 +0.9
baz=56,SNR=9.2
MSO Missoula 56.76 55 *e*P P 09 30 18.6 +0.9
comp=Z,12nm,1.1s
FCC Fort Churchill 56.98 35 *e*P P 09 30 18.3 -0.5
FCC pmax pmax
comp=Z,12nm,0.4s
FCC Fort Churchill 56.98 35 *e*P P 09 30 18.3 -0.5
comp=Z,12nm,0.4s
ILULI Ilulissat 57.81 10 *i*P P 09 30 22.6 -1.8
comp=Z,14nm,0.5s
A19A Klindworth Far 57.88 50 ⇑P P 09 30 26.2 +0.8
baz=58,SNR=5.5
EGMT Eagleton 58.02 52 ⇑P P 09 30 26.9 +0.6
baz=58,SNR=5.5
EGMT Eagleton 58.02 52 *e*P P 09 30 27.2 +0.9
comp=Z,11nm,1.2s
MFID Camas Ranch 58.10 59 *e*P P 09 30 28.6 +1.6
comp=Z,10nm,1.4s
B19A Brinkman Farms 58.11 51 ⇓P P 09 30 27.7 +0.8
baz=58,SNR=8.5
A20A Cobblestone Ra 58.30 50 ⇓P P 09 30 29.0 +0.8
baz=58
DLMT Dillon 58.45 56 *e*P P 09 30 31.0 +1.7
C19A Slack Wire Ran 58.56 52 ⇓P P 09 30 31.1 +1.1
baz=58,SNR=11
B20A Solberg Farm, 58.56 50 ⇑P P 09 30 30.8 +0.9
baz=58,SNR=14
MCMT McKenzie Canyo 58.69 56 *e*P P 09 30 32.1 +1.0
A21A Bergtoll Ranch 58.70 49 ⇑P P 09 30 32.1 +1.2
baz=58,SNR=9.4
BOZ Bozeman (W) 58.74 55 *e*P P 09 30 32.8 +1.5
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ Bozeman (W) 58.74 55 *e*P P 09 30 32.8 +1.5
BOZ Bozeman (W) 58.74 55 *e*P P 09 30 32.8 +1.5
comp=Z,7.4nm,0.8s
HLID Hailey 58.75 58 ⇓P P 09 30 32.5 +1.1
baz=58
HLID Hailey 58.75 58 *e*P P 09 30 33.8 +2.3
comp=Z,23nm,2.3s
D19A Cripps Ranch, 59.04 52 ⇓P P 09 30 34.4 +1.2
baz=59,SNR=11
B21A Ellsworth Farm 59.05 50 ⇓P P 09 30 34.2 +1.0
baz=59
C20A Veseth Ranch, 59.08 51 ⇑P P 09 30 34.6 +1.2
baz=59,SNR=19
A22A Carney Farms, 59.17 49 ⇑P P 09 30 35.0 +0.9
baz=59,SNR=22
FINES FINESS Array B 59.25 333 P P 09 30 33.3 -0.9
comp=Z,2.8nm,0.4s,baz=38,slow=6.5,SNR=26
FINES PcP PcP 09 31 16.1 -1.1
comp=Z,1.3nm,0.6s,baz=56,slow=5.2,SNR=2.5
FINES FINESS Array B 59.25 333 *i*P P 09 30 33.2 -1.1
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 59.25 333 *e*P P 09 30 33.2 -1.1
C21A Desert Coulee 59.44 50 ⇓P P 09 30 36.9 +1.0
baz=59,SNR=7.2
D20A Manuel Ranch, 59.46 52 ⇑P P 09 30 37.6 +1.5
baz=59,SNR=16
E19A Rath Farm, Rou 59.58 52 ⇑P P 09 30 38.4 +1.4
baz=59,SNR=8.8
B22A Reddig Ranch S 59.62 49 ⇑P P 09 30 37.8 +0.7
baz=59
GCMT Greycliff 59.62 54 *e*P P 09 30 38.8 +1.6
A23A Redstone 59.67 48 ⇑P P 09 30 37.6 +0.2
baz=59
SBUM Sibu 59.89 229 *e*P P 09 30 42.0 +2.7
F19A Roth Farm, Mol 59.94 53 ⇑P P 09 30 40.6 +1.3
baz=60,SNR=9.1
B23A Brockton 59.97 49 ⇓P P 09 30 40.2 +0.7
baz=60,SNR=7.2
SFJD Kangerlussuaq 60.00 10 *i*P P 09 30 37.6 -1.6
comp=Z,9.5nm,0.4s
SFJD Kangerlussuaq 60.00 10 *i*P P 09 30 37.6 -1.6
SFJD pmax pmax
comp=Z,10.0nm,0.4s
A24A Westby 60.10 48 ⇓P P 09 30 41.0 +0.7
baz=60,SNR=6.1
H17A Grant Village 60.15 55 ⇑P P 09 30 43.4 +2.5
baz=60,SNR=8.0
H17A Grant Village 60.15 55 *e*P P 09 30 43.9 +2.9
comp=Z,6.0nm,0.8s
NVAR Mina Array Bea 60.21 65 P P 09 30 43.0 +1.5
comp=Z,2.3nm,0.6s,baz=300,slow=7.0,SNR=25
NVAR pP pP 09 32 11.5 +1.1
comp=Z,0.1nm,0.4s,baz=309,slow=6.5,SNR=1.5
IMW Indian Meadow 60.32 56 *e*P P 09 30 43.9 +1.7
comp=Z,3.3nm,0.7s
DGMT Dagmar 60.34 48 ⇓P P 09 30 42.8 +1.0
baz=60
DGMT Dagmar 60.34 48 *e*P P 09 30 42.8 +1.0
comp=Z,18nm,0.8s
D22A Cohagen 60.35 50 ⇓P P 09 30 43.1 +1.0
baz=60,SNR=7.5
C23A Lambert 60.36 49 ⇓P P 09 30 43.0 +1.0
baz=60,SNR=12
E21A Keefer Ranch, 60.36 51 ⇑P P 09 30 43.5 +1.4
baz=60,SNR=6.5
F20A Billings 60.37 53 ⇑P P 09 30 43.3 +1.1
baz=60
H18A Shoshone NF, C 60.41 54 ⇑P P 09 30 43.7 +1.0
baz=60,SNR=5.8
FXWY Fox Creek 60.45 56 *e*P P 09 30 44.8 +1.8
comp=Z,4.1nm,0.6s
MLAC Mammoth, Mammo 60.47 66 ⇑P P 09 30 45.5 +2.3
baz=60
I17A Pilgrim Ck. 60.48 56 ⇑P P 09 30 44.6 +1.4
baz=60
MOOW Moose Ponds 60.52 56 *e*P P 09 30 45.2 +1.8
comp=Z,3.3nm,0.9s
TPAW Teton Pass 60.60 56 *e*P P 09 30 46.3 +2.3
comp=Z,17nm,1.3s
LAO LASA Array 60.66 51 *e*P P 09 30 45.5 +1.4
comp=Z,9.1nm,0.9s
REDW Red Top Meadow 60.74 56 *e*P P 09 30 47.0 +2.1
comp=Z,11nm,1.2s
G20A Bridger 60.75 53 ⇓P P 09 30 45.6 +0.8
baz=60
H19A Powell 60.76 54 ⇓P P 09 30 45.8 +1.0
baz=60
C24A Savage 60.91 49 ⇑P P 09 30 46.7 +1.0
baz=61
B25A Knox Farm, Ray 60.96 48 ⇓P P 09 30 46.8 +0.8
baz=61
A26A Wade Farm, Ken 61.01 47 ⇑P P 09 30 47.0 +0.7
baz=61
AHID Auburn Hatcher 61.03 57 *e*P P 09 30 47.8 +1.0
comp=Z,8.8nm,1.1s
RCTC Rector, Farmer 61.17 67 ⇑P P 09 30 49.2 +1.6
baz=61
I19A Meeteetse 61.20 55 ⇓P P 09 30 48.7 +0.8
baz=61
G21A Lodge Grass 61.24 53 ⇓P P 09 30 48.6 +0.6
baz=61
E23A Ismay 61.24 50 ⇑P P 09 30 49.1 +1.2
baz=61,SNR=7.6
B26A Jensen Ranch, 61.30 47 ⇑P P 09 30 49.1 +0.8
baz=61
F22A Rosebud 61.30 52 ⇓P P 09 30 49.4 +1.1
baz=61
C25A Freed Ranch, W 61.32 48 ⇓P P 09 30 49.5 +1.1
baz=61
A27A Ledoux Ranch, 61.33 46 ⇑P P 09 30 49.4 +1.0
baz=61,SNR=8.4
H20A Greybull 61.38 54 ⇓P P 09 30 49.4 +0.5
baz=61
SMMC Simmler 61.45 68 ⇓P P 09 30 51.0 +1.6
baz=61
VSU Vasula 61.51 331 *i*P P 09 30 48.9 -0.5
VSU pmax pmax
comp=Z,31nm,1.0s
VES Vestal, Richgr 61.59 67 ⇑P P 09 30 51.2 +0.9
baz=61
HWUT Hardware Ranch 61.62 58 *e*P P 09 30 52.1 +1.4
comp=Z,5.0nm,0.9s
E24A Baker 61.67 50 ⇑P P 09 30 51.4 +0.6
baz=61
G22A Birney 61.69 52 ⇓P P 09 30 51.7 +0.7
baz=61
I20A Worland 61.70 54 ⇓P P 09 30 52.1 +1.0
baz=61,SNR=6.0
D25A Fairfield 61.70 49 ⇓P P 09 30 51.8 +0.8
baz=61
B27A Peters Farms, 61.72 47 ⇓P P 09 30 52.1 +1.1
baz=61,SNR=5.4
J19A Crowheart 61.73 55 ⇓P P 09 30 52.4 +1.1
baz=61,SNR=6.4
GRAC Grapevine Rang 61.74 65 ⇑P P 09 30 53.2 +1.8
baz=62
H21A Big Horn, Sher 61.75 53 ⇓P P 09 30 52.2 +0.8
baz=61,SNR=6.4
F23A Volborg 61.76 51 ⇑P P 09 30 52.3 +0.9
baz=61,SNR=12
C26A Wahner Farm, P 61.77 48 ⇓P P 09 30 52.3 +0.9
baz=61,SNR=8.7
R11A Troy Canyon, C 61.78 63 ⇑P P 09 30 52.6 +0.9
baz=62
A28A Rude Farm, Bot 61.79 46 ⇓P P 09 30 52.2 +0.7
baz=61,SNR=5.5
BW06 Boulder Array 61.83 56 *e*P P 09 30 52.9 +0.8
comp=Z,8.9nm,0.8s
PDAR Pinedale Array 61.83 56 P P 09 30 53.0 +0.9
comp=Z,9.3nm,0.8s,baz=0.0,slow=3.0,SNR=70
PKM Mcpherson Peak 61.85 69 ⇓P P 09 30 53.3 +1.0
baz=62
DUG Dugway, Tooele 61.97 60 *e*P P 09 30 54.4 +1.5
DUG pmax pmax
comp=Z,4.0nm,0.8s
DUG Dugway, Tooele 61.97 60 *e*P P 09 30 54.4 +1.5
DUG Dugway, Tooele 61.97 60 ⇓P P 09 30 54.3 +1.5
baz=62,SNR=6.0
DUG Dugway, Tooele 61.97 60 *e*P P 09 30 54.4 +1.5
comp=Z,4.0nm,0.8s
B28A Dugan Ranch, T 62.09 46 ⇓P P 09 30 54.1 +0.7
baz=62,SNR=6.7
H22A Clearmont 62.12 53 ⇓P P 09 30 54.1 +0.3
baz=62
C27A Sayler Ranch, 62.12 47 ⇑P P 09 30 54.6 +0.9
baz=62,SNR=5.9
F24A Ekalaka 62.13 50 ⇑P P 09 30 54.4 +0.6
baz=62
E25A Miller Ranch, 62.14 49 ⇓P P 09 30 54.8 +1.0
baz=62,SNR=6.9
J20A Shoshoni 62.15 55 ⇑P P 09 30 55.1 +1.0
baz=62,SNR=5.1

D26A **Manning** 62.20 48 ⇓P P 09 30 55.3 +1.1
baz=62,SNR=6.2
I21A **Big Trails, Te** 62.22 54 ⇓P P 09 30 55.8 +1.3
baz=62,SNR=12
A29A **Manning Farm,** 62.24 45 ⇓P P 09 30 54.9 +0.5
baz=62,SNR=12
MPMC **Manual Prospec** 62.34 66 ⇓P P 09 30 56.8 +1.3
baz=62
FURC **Furnace Creek,** 62.41 65 ⇓P P 09 30 57.2 +1.6
baz=62,SNR=5.7
TPNV **Topopah Spring** 62.41 65 ⇑P P 09 30 57.4 +1.5
baz=62,SNR=5.3
J21A **Lysite** 62.48 54 ⇑P P 09 30 57.1 +0.8
baz=62,SNR=6.3
G24A **Alzada** 62.52 51 ⇑P P 09 30 56.9 +0.5
baz=62
B29A **Wagenman Farm,** 62.53 46 ⇓P P 09 30 56.9 +0.6
baz=62,SNR=5.6
F25A **Bowman** 62.54 50 ⇓P P 09 30 57.1 +0.6
baz=62,SNR=5.1
I22A **9 Mile Ranch,** 62.56 53 ⇑P P 09 30 56.8 +0.1
baz=62
D27A **Center** 62.56 48 ⇑P P 09 30 57.4 +0.8
baz=62
E26A **Carlson Angus** 62.60 49 ⇓P P 09 30 57.3 +0.5
baz=62,SNR=5.4
C28A **Hausauer Farms** 62.63 47 ⇓P P 09 30 57.8 +0.8
baz=62
A30A **Hoffart Farm,** 62.63 45 ⇑P P 09 30 57.1 +0.1
baz=62
H24A **Dirks Ranch, A** 62.88 51 ⇑P P 09 30 59.3 +0.5
baz=63,SNR=7.2
MDND **Maddock** 62.88 46 ⇓P P 09 30 58.9 +0.3
baz=62
MDND **Maddock** 62.88 46 *e*P P 09 30 59.4 +0.8
EDW2 **Edwards Air Fo** 62.91 67 ⇑P P 09 31 00.2 +1.1
baz=63
J22A **Midwest** 62.91 54 ⇓P P 09 30 59.6 +0.6
baz=63,SNR=7.0
F26A **Lodgepole** 62.96 49 ⇑P P 09 30 60.0 +0.8
baz=63,SNR=8.4
B30A **Myrvik Farm, E** 62.99 45 ⇑P P 09 31 00.0 +0.8
baz=63,SNR=15
E27A **Carson** 63.05 48 ⇓P P 09 31 00.6 +0.9
baz=63,SNR=19
G25A **Newell** 63.10 50 ⇑P P 09 31 00.4 +0.3
baz=63
NB2 **NORSAR Subarra** 63.22 340 P P 09 31 00.0 -0.6
comp=Z,2.6nm,0.8s,baz=24,slow=6.5
NOA **NORSAR Array B** 63.22 340 P P 09 30 60.0 -0.6
comp=Z,3.7nm,0.8s,baz=25,slow=6.5,SNR=15
NOA **NORSAR Array B** 63.22 340 P P 09 31 00.0 -0.6
NOA pmax pmax
comp=Z,4.0nm,0.8s
F27A **Lemmon** 63.25 49 ⇓P P 09 31 01.2 +0.1
baz=63
GSC **Goldstone, Bar** 63.28 66 ⇑P P 09 31 02.5 +1.1
baz=63
E28A **Huff** 63.34 48 ⇓P P 09 31 02.2 +0.6
baz=63
G26A **Maurine** 63.41 50 ⇓P P 09 31 02.8 +0.7
baz=63,SNR=16
K22A **Casper** 63.45 54 ⇑P P 09 31 02.8 +0.2
baz=63
K22A **Casper** 63.45 54 *e*P P 09 31 03.4 +0.8
C30A **Mose, Pekin** 63.49 46 ⇑P P 09 31 02.2 -0.3
baz=63
I24A **Kuemmerle Ranc** 63.50 52 ⇓P P 09 31 03.3 +0.6
baz=63
BFSC **Mount Baldy Ra** 63.56 68 ⇑P P 09 31 04.6 +1.2
baz=63
RSSD **Black Hills** 63.59 52 *e*P P 09 31 04.1 +0.6
RSSD **Black Hills** 63.59 52 *e*P P 09 31 04.1 +0.6
G27A **Dupree** 63.66 49 ⇓P P 09 31 04.0 +0.3
baz=63,SNR=10
D30A **Buchanan** 63.81 46 ⇑P P 09 31 04.7 +0.1
baz=64,SNR=14
I25A **Rochford** 63.81 51 ⇑P P 09 31 05.3 +0.4
baz=64,SNR=6.6
E29A **Napoleon** 63.82 47 ⇓P P 09 31 04.3 -0.4
baz=64
H26A **Fairpoint** 63.83 50 ⇓P P 09 31 05.0 +0.2
baz=64
F28A **McLaughlin** 63.84 48 ⇑P P 09 31 04.9 +0.1
baz=64
HEC **Hector,Ludlow** 63.89 66 ⇑P P 09 31 06.1 +0.7
baz=64
N20A **Spence Gulch,** 63.90 57 ⇓P P 09 31 06.9 +1.4
baz=64,SNR=9.4
SRU **San Rafael Swe** 63.97 59 *e*P P 09 31 07.4 +1.4
SRU pmax pmax
comp=Z,6.0nm,0.7s
SRU **San Rafael Swe** 63.97 59 *e*P P 09 31 07.4 +1.4
comp=Z,6.1nm,0.7s
H27A **Howes** 64.15 50 ⇓P P 09 31 07.6 +0.7
baz=64,SNR=8.8
AGMN **Agassiz Nation** 64.17 44 ⇑P P 09 31 06.6 -0.3
baz=64,SNR=5.3
AGMN **Agassiz Nation** 64.17 44 *e*P P 09 31 06.3 -0.5
comp=Z,6.5nm,0.6s
E30A **Jud** 64.20 47 ⇑P P 09 31 07.2 +0.1
baz=64
I26A **New Underwood** 64.23 51 ⇓P P 09 31 07.8 +0.4
baz=64
MURC **Murrieta** 64.28 68 ⇓P P 09 31 08.6 +0.8
baz=64
F29A **Eureka** 64.29 48 ⇑P P 09 31 08.2 +0.5
baz=64
GMRC **Granite Mounta** 64.30 66 ⇑P P 09 31 09.3 +1.2
baz=64
G28A **Parade** 64.36 49 ⇓P P 09 31 08.6 +0.4
baz=64,SNR=8.4
O20A **White River Ci** 64.42 57 ⇓P P 09 31 09.9 +1.1
baz=64,SNR=5.3
O20A **White River Ci** 64.42 57 *e*P P 09 31 09.9 +1.1
comp=Z,8.1nm,0.6s
I27A **Quinn** 64.58 50 ⇓P P 09 31 09.6 0.0
baz=64
H28A **Mission Ridge** 64.61 49 ⇓P P 09 31 10.5 +0.7
baz=64,SNR=8.4
J26A **Sides Ranch, S** 64.66 52 ⇑P P 09 31 10.4 +0.2
baz=64
F30A **Leola** 64.66 47 ⇓P P 09 31 09.9 -0.1
baz=64,SNR=5.5
G29A **Hoven** 64.73 48 ⇓P P 09 31 10.6 0.0
baz=64
N22A **Wattenberg Ran** 64.85 56 ⇑P P 09 31 12.8 +1.2
baz=65,SNR=7.0
H29A **Onida** 65.03 49 ⇑P P 09 31 12.8 +0.3
baz=65,SNR=5.6
N23A **Red Feather La** 65.04 55 ⇓P P 09 31 13.0 +0.2
baz=65
IRM **Iron Mountain** 65.04 66 ⇓P P 09 31 14.0 +1.3
baz=65
I28A **Midland** 65.06 50 ⇓P P 09 31 12.6 0.0
baz=65,SNR=5.3
G30A **Faulkton** 65.14 48 ⇑P P 09 31 13.0 -0.1
baz=65,SNR=9.8
J27A **Elkhorn Farm,** 65.22 51 ⇑P P 09 31 14.2 +0.4
baz=65
O22A **Kremmling** 65.27 56 ⇑P P 09 31 15.1 +0.7
baz=65
PV04 **Paradox Valley** 65.36 59 *e*P P 09 31 16.1 +1.3
I29A **Vivian Onida** 65.45 49 ⇑P P 09 31 15.2 +0.1
baz=65,SNR=8.5
J28A **Allard Ranch,** 65.46 50 ⇑P P 09 31 15.9 +0.7
baz=65,SNR=13
PDMC **Parker Dam,Lak** 65.51 65 ⇓P P 09 31 16.5 +0.9
baz=65
O23A **Lake Granby, G** 65.56 56 ⇑P P 09 31 17.6 +1.4
baz=65,SNR=5.9
P22A **Eagle** 65.59 57 ⇑P P 09 31 17.1 +0.8
baz=65
Y12C **Blythe** 65.69 66 ⇓P P 09 31 18.0 +1.2
baz=66
PV01 **Paradox Valley** 65.72 59 *e*P P 09 31 18.0 +0.8
BRSD **Miller** 65.75 48 ⇑P P 09 31 17.2 +0.2
baz=65,SNR=5.1
BRSD **Miller** 65.75 48 *e*P P 09 31 17.0 0.0
SMCO **Snowmass** 65.78 57 *e*P P 09 31 18.8 +1.0
comp=Z,4.7nm,0.7s
J29A **Okreek** 65.90 50 ⇑P P 09 31 18.1 +0.1
baz=66,SNR=7.4
K28A **Ten Mile Ranch** 65.93 51 ⇓P P 09 31 18.8 +0.6
baz=66
I30A **Oacoma** 65.94 49 ⇑P P 09 31 18.4 +0.2
baz=66,SNR=13
ISCO **Idaho Springs** 66.02 56 *e*P P 09 31 20.7 +1.6
ISCO pmax pmax
comp=Z,68nm,2.8s
ISCO **Idaho Springs** 66.02 56 ⇓P P 09 31 20.0 +0.9
baz=66,SNR=5.6
ISCO **Idaho Springs** 66.02 56 *e*P P 09 31 20.7 +1.6
comp=Z,68nm,2.8s
WUAZ **Wupatki** 66.15 63 ⇑P P 09 31 20.6 +0.8
baz=66
P23A **Jefferson** 66.22 56 ⇑P P 09 31 21.0 +0.5
baz=66
EYMN **Ely** 66.28 41 *e*P P 09 31 19.5 -0.7
comp=Z,9.1nm,0.9s
M27A **Reverse DX Ran** 66.34 52 ⇑P P 09 31 21.3 +0.5
baz=66
J30A **Dallas** 66.36 49 ⇑P P 09 31 21.1 +0.2
baz=66,SNR=9.8
K29A **Lazy Trails An** 66.40 50 ⇑P P 09 31 21.7 +0.6
baz=66
MVCO **Mesa Verde** 66.45 59 ⇑P P 09 31 22.4 +0.7
baz=66
MVCO **Mesa Verde** 66.45 59 *e*P P 09 31 23.1 +1.3
comp=Z,4.9nm,1.0s
K30A **Basset** 66.80 50 ⇓P P 09 31 24.1 +0.5
baz=66,SNR=5.3
N27A **Anderson Farm,** 66.81 53 ⇓P P 09 31 24.5 +0.7
baz=66
S22A **4UR Ranch, Cre** 66.93 58 ⇑P P 09 31 26.0 +1.2
baz=67
M28A **Bar X Bar Ranc** 66.93 52 ⇑P P 09 31 25.2 +0.6
baz=67
OGNE **Ogallala** 66.95 53 ⇓P P 09 31 25.3 +0.7
baz=67,SNR=8.2
R23A **Moffat** 67.12 57 ⇓P P 09 31 27.0 +1.0
baz=67
AKASG **Malin Array Be** 67.13 325 P P 09 31 24.0 -1.4
comp=Z,1.5nm,0.4s,baz=34,slow=5.7,SNR=6.3
AKASG **Malin Array Be** 67.13 325 *i* P P 09 31 24.7 -0.7
AKASG pmax pmax
comp=Z,2.0nm,0.4s
KIEV **Kiev** 67.14 325 *e*P P 09 31 24.5 -1.0
KIEV **Kiev** 67.14 325 *e*P P 09 31 24.5 -1.0
KBZ **Khabaz** 67.16 312 P P 09 31 26.3 +0.6
comp=Z,2.0nm,0.8s,baz=323,slow=20,SNR=5.0
KBZ **Khabaz** 67.16 312 P P 09 31 26.3 +0.6
KBZ pmax pmax
comp=Z,2.0nm,0.8s
O27A **Becher Island** 67.31 53 ⇑P P 09 31 27.1 +0.2
baz=67
P26A **Davis Ranch, A** 67.35 54 ⇓P P 09 31 27.5 +0.3
baz=67
ECSD **EROS Data Cent** 67.37 47 ⇑P P 09 31 27.2 0.0
baz=67,SNR=43
ECSD **EROS Data Cent** 67.37 47 *e*P P 09 31 27.1 0.0
comp=Z,28nm,0.5s
L31A **Butterfield Fa** 67.55 50 ⇓P P 09 31 28.9 +0.6
baz=67,SNR=8.9
SDCO **Great Sand Dun** 67.62 57 ⇓P P 09 31 29.6 +0.5
baz=67,SNR=6.2
SDCO **Great Sand Dun** 67.62 57 *e*P P 09 31 29.4 +0.4
comp=Z,3.7nm,1.0s
N29A **Votaw Ranch, W** 67.74 52 ⇓P P 09 31 29.4 -0.1
baz=67
P27A **Ficken Ranch,** 67.74 54 ⇑P P 09 31 29.8 +0.2
baz=67
Q26A **Hugo** 67.75 55 ⇑P P 09 31 30.0 +0.4
baz=68
SPMN **Marine on St.** 67.89 44 ⇑P P 09 31 29.8 -0.4
baz=68
SPMN **Marine on St.** 67.89 44 *e*P P 09 31 29.9 -0.4
comp=Z,7.2nm,0.9s
214A **Organ Pipe Nat** 67.99 66 ⇑P P 09 31 32.1 +1.0
baz=68
M31A **Lambtecht Ranc** 68.13 50 ⇑P P 09 31 31.9 0.0
baz=68
O29A **4D Ranch, Culb** 68.19 52 ⇑P P 09 31 32.1 -0.1
baz=68
R26A **Arlington** 68.26 55 ⇑P P 09 31 33.1 +0.3
baz=68,SNR=6.1
BGNE **Belgrade** 68.47 50 ⇓P P 09 31 33.7 -0.2
baz=68
Q28A **Sharon Springs** 68.49 54 ⇓P P 09 31 34.5 +0.4
baz=68
O30A **MW Ranch, Wils** 68.51 52 ⇓P P 09 31 33.9 -0.3
baz=68
P29A **Atwood** 68.52 53 ⇑P P 09 31 33.7 -0.6
baz=68
SCHQ **Schefferville** 68.52 23 P P 09 31 32.9 -1.1
comp=Z,5.2nm,0.4s,baz=347,slow=5.6,SNR=25
R27A **Eads** 68.60 55 ⇑P P 09 31 34.5 -0.3
baz=68
T25A **Trinidad** 68.65 57 ⇓P P 09 31 35.4 +0.1
baz=68
S26A **Kim** 68.76 56 ⇓P P 09 31 35.7 -0.2
baz=68
P30A **Selden** 68.90 52 ⇑P P 09 31 36.6 0.0
baz=69
T26A **Comanche Natio** 69.04 56 ⇑P P 09 31 37.7 0.0
baz=69
Q29A **Oakley** 69.05 53 ⇑P P 09 31 37.5 0.0
baz=69
R28A **Tribune** 69.05 54 ⇓P P 09 31 37.6 0.0
baz=69
ANMO **Albuquerque** 69.24 60 *i* P P 09 31 39.5 +0.6
ANMO pmax pmax
comp=Z,6.0nm,1.3s
ANMO **Albuquerque** 69.24 60 *e*P P 09 31 40.0 +1.1
LAZ **Ladron** 69.28 61 *e*P P 09 31 40.4 +1.2
comp=Z,0.9nm,0.6s
O32A **Brockman Farm,** 69.30 51 ⇑P P 09 31 38.4 -0.5
baz=69
R29A **Marienthal** 69.33 54 ⇑P P 09 31 39.0 -0.2
baz=69
P31A **Stockton** 69.34 52 ⇑P P 09 31 39.0 -0.2
baz=69
Q30A **Quinter** 69.35 53 ⇓P P 09 31 39.5 +0.2
baz=69,SNR=6.4
S28A **Manter** 69.59 55 ⇑P P 09 31 40.9 +0.1
baz=69
P32A **Huiting Farm,** 69.64 51 ⇑P P 09 31 40.5 -0.5
baz=69,SNR=5.9
N34A **Lincoln** 69.69 49 ⇑P P 09 31 41.1 -0.2
baz=69
O33A **Hebron** 69.78 50 ⇓P P 09 31 41.4 -0.4
baz=69
U27A **Thompson Grove** 70.01 56 ⇓P P 09 31 43.4 0.0
baz=70,SNR=6.1
N35A **Tabor** 70.07 49 ⇑P P 09 31 43.7 +0.2
baz=70
Q32A **Meitler Ranch,** 70.16 52 ⇓P P 09 31 43.9 -0.2
baz=70
R31A **Burdett** 70.23 53 ⇓P P 09 31 44.5 -0.1
baz=70
S30A **Montezuma** 70.27 54 ⇑P P 09 31 44.8 0.0
baz=70
SCIA **State Center** 70.35 46 *e*P P 09 31 45.1 0.0
comp=Z,15nm,0.7s
121A **Cookes Peak, D** 70.35 62 ⇑P P 09 31 47.1 +1.5
baz=70
U28A **Mallet** 70.35 56 ⇓P P 09 31 45.0 -0.5
baz=70
Q33A **Connelly Farm,** 70.50 51 ⇑P P 09 31 45.7 -0.5
baz=70
V27A **Dan Oppiter Fa** 70.52 57 ⇓P P 09 31 46.4 -0.1
baz=70
S31A **Mullinville** 70.77 53 ⇓P P 09 31 47.4 -0.4
baz=70
JFWS **Jewell Farm** 70.84 44 *e*P P 09 31 47.1 -1.0
JFWS pmax pmax
comp=Z,6.0nm,0.6s
JFWS **Jewell Farm** 70.84 44 *e*P P 09 31 47.1 -1.0
comp=Z,6.0nm,0.6s
P35A **Duane Minner,** 70.95 50 ⇓P P 09 31 48.5 -0.3
baz=71
O36A **Bolckow** 70.97 49 ⇓P P 09 31 49.0 +0.1
baz=71
R33A **Olander Ranch,** 70.97 52 ⇓P P 09 31 48.5 -0.4
baz=71
S32A **Newby Ranch, P** 70.98 53 ⇑P P 09 31 48.9 -0.2
baz=71
Q34A **Chapman** 70.99 51 ⇓P P 09 31 48.8 -0.2
baz=71
KSU1 **Kansas State U** 71.01 50 ⇑P P 09 31 48.6 -0.6
baz=71
BUR08 **Bucovina Ar. S** 71.13 326 *e*P P 09 31 49.6 -0.3
R34A **Isabella, Hill** 71.33 51 ⇓P P 09 31 50.7 -0.4
baz=71
T32A **Huddler Ranch,** 71.39 53 ⇑P P 09 31 50.9 -0.6
baz=71
Q35A **Mercer Eighty,** 71.47 50 ⇓P P 09 31 51.3 -0.6
baz=71
DPC **Dobruska-Polom** 71.58 332 *e*P P 09 31 53.1 +0.7
DPC **Dobruska-Polom** 71.58 332 *e*P P 09 31 53.1 +0.7
TRPA **Tarpa** 71.62 327 ⇓ *i*P P 09 31 52.1 -0.4
CLL **Collm** 71.63 335 *e*P P 09 31 52.0 -0.6
CLL **Collm** 71.63 335 *e*P P 09 31 52.0 -0.6
CLL **Collm** 71.63 335 *e*P P 09 31 52.0 -0.6
MORC **Moravsky Berou** 71.74 331 ⇑P P 09 31 52.0 -1.3
MORC **Moravsky Berou** 71.74 331 ⇑ *i*P P 09 31 52.0 -1.3
AMTX **Amarillo** 71.79 57 ⇓P P 09 31 54.4 +0.5
baz=72
AMTX **Amarillo** 71.79 57 *e*P P 09 31 54.8 +0.8
comp=Z,7.8nm,0.5s
T33A **Patterson Ranc** 71.81 53 ⇑P P 09 31 53.5 -0.4
baz=72
X28A **Dimmitt** 71.81 57 ⇓P P 09 31 54.3 +0.2
baz=72
R35A **Emporia Munici** 71.82 51 ⇑P P 09 31 53.4 -0.6
baz=72
S34A **Willow Spring** 71.87 52 ⇑P P 09 31 54.1 -0.2
baz=72
PVCC **Panska Ves** 71.92 333 *e*P P 09 31 55.2 +0.9
PVCC **Panska Ves** 71.92 333 *e*P P 09 31 55.2 +0.9
MSTX **Muleshoe** 71.93 58 ⇑P P 09 31 55.5 +0.7
baz=72
MSTX **Muleshoe** 71.93 58 *e*P P 09 31 55.5 +0.7
comp=Z,4.3nm,0.8s
U32A **Winter Ranch,** 71.98 54 ⇑P P 09 31 55.1 +0.2
baz=72
V31A **Spring Creek L** 72.04 55 ⇑P P 09 31 55.5 +0.2
baz=72
X29A **Tulia** 72.12 57 ⇓P P 09 31 56.5 +0.6
baz=72
R36A **Gordon, Harris** 72.15 50 ⇓P P 09 31 55.8 -0.1
baz=72
Q37A **Longview Farm,** 72.20 49 ⇑P P 09 31 55.8 -0.4
baz=72,SNR=5.8
Y28A **McKinney Farm,** 72.25 58 ⇓P P 09 31 57.1 +0.4
baz=72
S35A **Otter Creek Ra** 72.27 51 ⇓P P 09 31 56.7 +0.1
baz=72
MNTX **Cornudas Mount** 72.30 61 ⇑P P 09 31 57.7 +0.8
baz=72,SNR=8.3
MNTX **Cornudas Mount** 72.30 61 *e*P P 09 31 58.0 +1.2
comp=Z,52nm,2.6s
T34A **McClaskey Farm** 72.37 52 ⇑P P 09 31 56.9 -0.3
baz=72
GOPC **GO Pecny, Ondr** 72.41 333 *e*P P 09 31 57.6 +0.4
PRU **Pruhonice** 72.41 333 *e*P P 09 31 57.5 +0.3
PRU **Pruhonice** 72.41 333 *e*P P 09 31 57.5 +0.3
PRU **Pruhonice** 72.41 333 *e*P P 09 31 57.5 +0.3
VRAC **Vranov** 72.44 332 ⇑P P 09 31 58.1 +0.7
VRAC **Vranov** 72.44 332 ⇑ *i*P P 09 31 58.1 +0.7
W31A **Holland Ranch,** 72.44 55 ⇑P P 09 31 57.8 +0.1
baz=72
S36A **Lake Cedric, C** 72.58 51 ⇓P P 09 31 58.0 -0.4
baz=72,SNR=13
Y29A **Porterfield Fa** 72.59 57 ⇓P P 09 31 59.2 +0.5
baz=72
Z28A **Tucker Farm, M** 72.66 58 ⇑P P 09 31 59.3 +0.2
baz=72
V33A **Lossen Ranch,** 72.78 54 ⇓P P 09 31 59.3 -0.3
baz=72
T35A **Sooner Cattle** 72.78 52 ⇑P P 09 31 59.5 -0.1
baz=72
W32A **Sentinel** 72.85 55 ⇓P P 09 32 00.6 +0.6
baz=72,SNR=5.6
X31A **McDonald Ranch** 72.86 56 ⇓P P 09 32 00.5 +0.4
baz=73,SNR=5.2
T36A **Boggs Farm, Ca** 72.98 51 ⇓P P 09 32 00.6 -0.1
baz=73
Y30A **Stafford Cattl** 72.98 57 ⇑P P 09 32 01.0 +0.1
baz=73
Z29A **Hungry Hill Ra** 73.04 58 ⇓P P 09 32 02.2 +0.9
baz=73,SNR=5.1
128A **Castleberry Fa** 73.13 59 ⇑P P 09 32 02.1 +0.3
baz=73
V34A **Guthrie** 73.15 53 ⇓P P 09 32 01.9 +0.2
baz=73
V34A **Guthrie** 73.15 53 *e*P P 09 32 02.0 +0.2
comp=Z,11nm,0.7s
W33A **Caddo, Fort Co** 73.22 54 ⇑P P 09 32 02.5 +0.3
baz=73
Y31A **Rekieta Farm,** 73.24 56 ⇓P P 09 32 02.2 -0.1
baz=73
Z30A **Sanderson Ranc** 73.32 57 ⇓P P 09 32 03.2 +0.3
baz=73
X32A **Elmer** 73.38 55 ⇓P P 09 32 03.0 -0.1
baz=73
WMOK **Wichita Mounta** 73.39 55 *e*P P 09 32 03.4 +0.3
WMOK pmax pmax
comp=Z,5.0nm,0.7s
WMOK **Wichita Mounta** 73.39 55 *e*P P 09 32 03.4 +0.3
comp=Z,5.1nm,0.7s
T37A **Cheneyville 18** 73.39 51 ⇓P P 09 32 02.9 -0.2
baz=73
WRAB **Tennant Creek** 73.45 198 *e*P P 09 32 03.2 -0.2
WRAB pmax pmax
comp=Z,10.0nm,1.2s
KHC **Kasperske Hory** 73.46 333 *e*P P 09 32 03.1 -0.2
KHC *ex* x 09 32 10.0
KHC **Kasperske Hory** 73.46 333 *e*P P 09 32 03.1 -0.2
KHC **Kasperske Hory** 73.46 333 *e*P P 09 32 03.1 -0.2
WRA **Warramunga Arr** 73.46 198 P P 09 32 04.2 +0.7
comp=Z,3.0nm,0.5s,baz=15,slow=6.0,SNR=66
WRA **Warramunga Arr** 73.46 198 P P 09 32 04.2 +0.7
WRA pmax pmax
comp=Z,3.0nm,0.5s
228A **UT Block 9, Go** 73.47 59 ⇓P P 09 32 04.3 +0.6
baz=73
W34A **Bridge Creek,** 73.50 54 ⇑P P 09 32 04.3 +0.6
baz=73
V35A **Meyer Ranch, C** 73.54 53 ⇑P P 09 32 03.9 -0.1
baz=73
Y32A **R-V Farms, Ver** 73.63 56 ⇑P P 09 32 04.9 +0.4
baz=73
GERES **GERESS Array B** 73.68 333 P P 09 32 04.4 -0.3
comp=Z,0.8nm,0.3s,baz=26,slow=7.4,SNR=7.1
GERES **GERESS Array B** 73.68 333 P P 09 32 04.4 -0.3
GERES pmax pmax
comp=Z,1.0nm,0.3s
X33A **Lawton** 73.68 55 ⇑P P 09 32 04.7 -0.1
baz=73
Z31A **Sharp Cattle R** 73.81 57 ⇓P P 09 32 05.7 +0.1
baz=74
TUL1 **Leonard** 73.94 52 ⇑P P 09 32 06.4 +0.2
baz=74
TUL1 **Leonard** 73.94 52 *e*P P 09 32 06.7 +0.5
comp=Z,14nm,1.0s
X34A **Smith Ranch, M** 73.97 54 ⇓P P 09 32 07.3 +0.9
baz=74
W35A **Tecumseh** 74.01 53 ⇑P P 09 32 07.4 +0.7
baz=74
Y33A **Hilltop Ranch,** 74.04 55 ⇑P P 09 32 06.9 0.0
baz=74
Z32A **Haskell** 74.16 56 ⇓P P 09 32 07.7 +0.1
baz=74
131A **Roby** 74.19 57 ⇑P P 09 32 08.1 +0.3
baz=74
SFIN **Lafayette** 74.27 43 ⇑P P 09 32 07.3 -0.7
baz=74
W36A **Wetumka** 74.34 53 ⇑P P 09 32 08.6 +0.1
baz=74
BRTR **Keskin Array B** 74.50 316 P P 09 32 09.6 +0.1
comp=Z,0.9nm,0.6s,baz=43,slow=4.6,SNR=5.9
BRTR **Keskin Array B** 74.50 316 P P 09 32 09.6 +0.1
BRTR pmax pmax
comp=Z,1.0nm,0.6s
Y34A **Reagan Ranch,** 74.52 54 ⇑P P 09 32 09.7 +0.2
baz=74
Z33A **Whitaker Ranch** 74.54 56 ⇑P P 09 32 09.9 +0.2
baz=74
X35A **Drake** 74.56 54 ⇓P P 09 32 10.0 +0.2
baz=74
ABTX **Abilene, Hawle** 74.61 57 ⇓P P 09 32 10.4 +0.2
baz=74
GIVF **Givet** 74.72 339 *e*P P 09 32 10.1 -0.3
GIVF **Givet** 74.72 339 *e*P P 09 32 10.1 -0.3
GIVF **Givet** 74.72 339 *e*P P 09 32 10.1 -0.3
W37A **Quinton** 74.73 52 ⇑P P 09 32 11.3 +0.6
baz=74,SNR=7.9
X36A **Centrahoma** 74.73 53 ⇓P P 09 32 10.7 0.0
baz=74
330A **Mertzon** 74.77 58 ⇑P P 09 32 11.2 0.0
baz=74
231A **Bronte** 74.81 58 ⇓P P 09 32 11.6 +0.3

baz=74
BAIF **Baives** 74.89 340 *e*P P 09 32 11.1 -0.3
BAIF **Baives** 74.89 340 *e*P P 09 32 11.1 -0.3
BAIF **Baives** 74.89 340 *e*P P 09 32 11.1 -0.3
Z34A **Collier Ranch,** 74.90 55 ⇑P P 09 32 11.7 -0.1
baz=75
133A **Hamilton Ranch** 75.00 56 ⇑P P 09 32 12.6 +0.2
baz=75
429A **Davenport Ranc** 75.00 59 ⇑P P 09 32 12.5 +0.1
baz=75
TXAR **Lajitas Array** 75.06 62 P P 09 32 14.2 +1.4
comp=Z,4.0nm,0.5s,baz=297,slow=5.0,SNR=114
TXAR pP **pP** 09 33 49.2 +2.5
comp=Z,0.2nm,0.6s,baz=295,slow=5.5,SNR=2.5
TXAR Lajitas Array 75.06 62 P P 09 32 14.2 +1.4
TXAR *PP **pP** 09 33 49.2 +2.5
TXAR pmax pmax
comp=Z,4.0nm,0.5s
232A **Coleman** 75.19 57 ⇓P P 09 32 13.7 +0.2
baz=75
X37A **Clayton** 75.20 52 ⇑P P 09 32 13.5 +0.1
baz=75
529A **Stev Forest Ra** 75.22 60 ⇓P P 09 32 14.9 +1.2
baz=75,SNR=9.1
430A **Baggett Ranch,** 75.23 59 ⇓P P 09 32 15.1 +1.4
baz=75,SNR=8.7
W38A **Poteau** 75.23 52 ⇑P P 09 32 14.3 +0.8
baz=75,SNR=8.8
331A **San Angelo** 75.24 58 ⇓P P 09 32 14.0 +0.3
baz=75
Z35A **Perchaven, San** 75.27 55 ⇓P P 09 32 13.5 -0.3
baz=75
134A **White-Moore Ra** 75.45 56 ⇓P P 09 32 14.7 -0.1
baz=75
233A **Rising Star** 75.47 56 ⇑P P 09 32 14.9 -0.1
baz=75
332A **Millersview** 75.54 57 ⇑P P 09 32 15.7 +0.3
baz=75
431A **Sonora** 75.64 59 ⇑P P 09 32 16.2 +0.2
baz=75
530A **J-C Ranch, Com** 75.67 59 ⇑P P 09 32 16.7 +0.5
baz=75
CDF **Champ du Feu** 75.75 337 *e*P P 09 32 16.0 -0.3
comp=Z,6.9nm,0.7s
CDF **Champ du Feu** 75.75 337 *e*P P 09 32 16.0 -0.3
CDF pmax pmax
comp=Z,7.0nm,0.7s
CDF **Champ du Feu** 75.75 337 *e*P P 09 32 16.0 -0.3
comp=Z,6.9nm,0.7s
PBMO **Poplar Bluff** 75.77 48 *e*P P 09 32 16.4 -0.1
comp=Z,6.7nm,0.8s
234A **Clairette** 75.88 56 ⇓P P 09 32 17.0 -0.3
baz=76
432A **Menard** 75.92 58 ⇑P P 09 32 17.5 -0.1
baz=76
PAGF **Fort de Pagny** 75.97 338 *e*P P 09 32 17.3 -0.2
comp=Z,7.1nm,0.6s
PAGF **Fort de Pagny** 75.97 338 *e*P P 09 32 17.3 -0.2
comp=Z,7.1nm,0.6s
333A **Richland Sprin** 75.98 57 ⇑P P 09 32 17.8 -0.1
baz=76
DIVS **Divibare** 76.00 327 ⇓*i*P P 09 32 17.3 -0.5
531A **Rocksprings** 76.08 59 ⇑P P 09 32 18.4 0.0
baz=76
MIAR **Mount Ida** 76.11 51 *e*P P 09 32 18.9 +0.4
MIAR pmax pmax
comp=Z,6.0nm,0.7s
MIAR **Mount Ida** 76.11 51 *e*P P 09 32 18.9 +0.4
comp=Z,5.7nm,0.7s
MEZF **Maizieres J'vi** 76.18 339 *e*P P 09 32 18.5 -0.1
MEZF **Maizieres J'vi** 76.18 339 *e*P P 09 32 18.5 -0.1
Z37A **Pogue Cattle C** 76.19 53 ⇓P P 09 32 19.4 +0.4
baz=76
VTS **Vitosha** 76.20 324 ⇑P P 09 32 19.1 0.0
VTS **Vitosha** 76.20 324 ⇑*i*P P 09 32 19.1 0.0
JCT **Junction City** 76.22 58 ⇓P P 09 32 19.3 +0.1
baz=76
WHTX **Lake Whitney,** 76.24 55 ⇓P P 09 32 19.5 +0.3
baz=76
334A **Lometa** 76.36 56 ⇑P P 09 32 20.2 +0.3
baz=76
433A **Art** 76.38 57 ⇑P P 09 32 20.4 +0.3
baz=76
WCI **Wyandotte Cave** 76.40 44 *e*P P 09 32 19.2 -0.9
WCI pmax pmax
comp=Z,9.0nm,0.8s
WCI **Wyandotte Cave** 76.40 44 *e*P P 09 32 19.2 -0.9
comp=Z,8.6nm,0.8s
532A **Rocksprings** 76.45 58 ⇓P P 09 32 20.3 -0.2
baz=76
SFTF **Sexfontaines** 76.46 339 ⇑*i*P P 09 32 19.9 -0.3
comp=Z,22nm,0.6s
SFTF **Sexfontaines** 76.46 339 ⇑*i*P P 09 32 19.9 -0.3
comp=Z,22nm,0.6s
631A **Perdido Creek** 76.66 59 ⇓P P 09 32 22.4 +0.8
baz=76,SNR=5.7
434A **Burnet** 76.76 57 ⇑P P 09 32 22.5 +0.3
baz=76
533A **Kerrville** 76.95 58 ⇓P P 09 32 23.3 +0.1
baz=77
632A **Uvalde** 77.00 59 ⇓P P 09 32 23.8 +0.3
baz=77
336A **Riesel** 77.03 55 ⇓P P 09 32 24.0 +0.4
baz=77
FLN **La Foliniere** 77.07 342 *e*P P 09 32 22.6 -0.9
FLN **La Foliniere** 77.07 342 *e*P P 09 32 22.6 -0.9
FLN **La Foliniere** 77.07 342 *e*P P 09 32 22.6 -0.9
ASAR **Alice Springs** 77.17 198 P P 09 32 25.9 +1.6
comp=Z,2.7nm,0.7s,baz=10.0,slow=5.4,SNR=49
ASAR pP **pP** 09 34 00.8 +1.9
comp=Z,0.7nm,1.0s,baz=11,slow=4.7,SNR=3.6
ASAR Alice Springs 77.17 198 P P 09 32 25.9 +1.6
ASAR *PP **pP** 09 34 00.8 +1.9
ASAR pmax pmax
comp=Z,3.0nm,0.7s
ASAR pmax pmax
comp=Z,1.0nm,1.0s
LDF **La Druitiere** 77.17 342 *e*P P 09 32 23.4 -0.7
LDF **La Druitiere** 77.17 342 *e*P P 09 32 23.4 -0.7
LDF **La Druitiere** 77.17 342 *e*P P 09 32 23.4 -0.7
534A **Blanco** 77.28 57 ⇑P P 09 32 25.4 +0.3
baz=77
633A **Saathoff Ranch** 77.36 58 ⇓P P 09 32 26.0 +0.5
baz=77
GRR **Gorron** 77.50 342 ⇑*i*P P 09 32 25.7 -0.2
GRR **Gorron** 77.50 342 ⇑*i*P P 09 32 25.7 -0.2
GRR **Gorron** 77.50 342 ⇑*i*P P 09 32 25.7 -0.2
732A **Laxson Ranch,** 77.52 59 ⇓P P 09 32 27.1 +0.7
baz=77
LOR **Lormes** 77.61 339 *e*P P 09 32 26.0 -0.5
comp=Z,12nm,0.8s
LOR **Lormes** 77.61 339 *e*P P 09 32 26.0 -0.5
LOR pmax pmax
comp=Z,12nm,0.8s
LOR **Lormes** 77.61 339 *e*P P 09 32 26.0 -0.5
comp=Z,12nm,0.8s
NATX **Nacogdoches** 77.83 54 ⇓P P 09 32 28.1 +0.1
baz=78
338A **Crockett** 77.83 54 ⇑P P 09 32 28.5 +0.5
baz=78
832A **Faith Ranch, C** 77.87 60 ⇑P P 09 32 29.0 +0.7
baz=78
SSF **Saint Saulge** 77.88 339 *e*P P 09 32 27.7 -0.3
comp=Z,5.5nm,0.6s
SSF **Saint Saulge** 77.88 339 *e*P P 09 32 27.7 -0.3
SSF pmax pmax
comp=Z,6.0nm,0.6s
SSF **Saint Saulge** 77.88 339 *e*P P 09 32 27.7 -0.3
comp=Z,5.5nm,0.6s
SGMF **Saint Gilles** 77.94 344 *e*P P 09 32 28.1 -0.2
SGMF **Saint Gilles** 77.94 344 *e*P P 09 32 28.1 -0.2
SGMF **Saint Gilles** 77.94 344 *e*P P 09 32 28.1 -0.2
536A **Bastrop** 77.97 56 ⇑P P 09 32 29.3 +0.6
baz=78
ROSF **Rostrenen** 77.98 344 ⇑*i*P P 09 32 28.4 -0.1
comp=Z,32nm,0.8s
ROSF **Rostrenen** 77.98 344 ⇑*i*P P 09 32 28.4 -0.1
ROSF pmax pmax
comp=Z,32nm,0.8s
ROSF **Rostrenen** 77.98 344 ⇑*i*P P 09 32 28.4 -0.1
comp=Z,32nm,0.8s
AVF **Avril sur Loir** 78.17 339 ⇑*i*P P 09 32 29.3 -0.3
comp=Z,7.5nm,0.6s
AVF **Avril sur Loir** 78.17 339 ⇑*i*P P 09 32 29.3 -0.3
AVF pmax pmax
comp=Z,8.0nm,0.6s
AVF **Avril sur Loir** 78.17 339 ⇑*i*P P 09 32 29.3 -0.3
comp=Z,7.5nm,0.6s
537A **Green Hill Far** 78.35 56 ⇑P P 09 32 31.6 +0.8
baz=78
QUIF **Quistinic** 78.37 344 *e*P P 09 32 30.3 -0.3
QUIF **Quistinic** 78.37 344 *e*P P 09 32 30.3 -0.3
QUIF **Quistinic** 78.37 344 *e*P P 09 32 30.3 -0.3
636A **Smothers Creek** 78.45 57 ⇓P P 09 32 32.2 +0.9
baz=78
LPL **La Plagne** 78.58 336 ⇑*i*P P 09 32 32.5 +0.4
comp=Z,10nm,0.5s
LPL **La Plagne** 78.58 336 ⇑*i*P P 09 32 32.5 +0.4
LPL pmax pmax
comp=Z,10.0nm,0.5s
LPL **La Plagne** 78.58 336 ⇑*i*P P 09 32 32.5 +0.4
comp=Z,10nm,0.5s
LPG **La Plagne** 78.60 336 ⇑*i*P P 09 32 32.7 +0.4
comp=Z,12nm,0.5s
LPG **La Plagne** 78.60 336 ⇑*i*P P 09 32 32.7 +0.4
LPG pmax pmax
comp=Z,12nm,0.5s
LPG **La Plagne** 78.60 336 ⇑*i*P P 09 32 32.7 +0.4
comp=Z,12nm,0.5s
834A **Tilden** 78.75 59 ⇓P P 09 32 34.4 +1.3
baz=78
933A **Laredo** 78.78 59 ⇓P P 09 32 34.5 +1.4
baz=78
736A **Circle Diamond** 78.87 57 ⇓P P 09 32 34.5 +0.9
baz=79
TCF **Toulx Ste Croi** 78.90 340 *e*P P 09 32 33.4 -0.1
TCF **Toulx Ste Croi** 78.90 340 *e*P P 09 32 33.4 -0.1
TCF **Toulx Ste Croi** 78.90 340 *e*P P 09 32 33.4 -0.1
TCF **Toulx Ste Croi** 78.90 340 *e*P P 09 32 33.4 -0.1
835A **Beeville** 79.00 58 ⇑P P 09 32 35.5 +1.2
baz=79
MFF **Saint Martin d** 79.08 341 *e*P P 09 32 34.5 0.0
comp=Z,4.9nm,0.5s
MFF **Saint Martin d** 79.08 341 *e*P P 09 32 34.5 0.0
MFF pmax pmax
comp=Z,5.0nm,0.5s
MFF **Saint Martin d** 79.08 341 *e*P P 09 32 34.5 0.0
comp=Z,4.9nm,0.5s
ORIF **Oris-en-Rattie** 79.36 337 *e*P P 09 32 36.5 +0.4
comp=Z,5.4nm,0.4s
ORIF **Oris-en-Rattie** 79.36 337 *e*P P 09 32 36.5 +0.4
ORIF pmax pmax
comp=Z,5.0nm,0.4s
ORIF **Oris-en-Rattie** 79.36 337 *e*P P 09 32 36.5 +0.4
comp=Z,5.4nm,0.4s
034A **Hebbronville** 79.53 59 ⇓P P 09 32 38.3 +1.1
baz=79
VIVF **Saint-Julien-l** 79.70 338 *e*P P 09 32 38.1 +0.2
comp=Z,6.2nm,0.7s
VIVF **Saint-Julien-l** 79.70 338 *e*P P 09 32 38.1 +0.2
VIVF pmax pmax
comp=Z,6.0nm,0.7s
VIVF **Saint-Julien-l** 79.70 338 *e*P P 09 32 38.1 +0.2
comp=Z,6.2nm,0.7s
SBF **Sospel** 79.95 335 *e*P P 09 32 39.8 +0.6
SBF **Sospel** 79.95 335 *e*P P 09 32 39.8 +0.6
SBF **Sospel** 79.95 335 *e*P P 09 32 39.8 +0.6
CAF **Calviac** 80.23 339 ⇑*i*P P 09 32 40.3 -0.3
comp=Z,5.7nm,0.5s
CAF **Calviac** 80.23 339 ⇑*i*P P 09 32 40.3 -0.3
CAF pmax pmax
comp=Z,6.0nm,0.5s
CAF **Calviac** 80.23 339 ⇑*i*P P 09 32 40.3 -0.3
comp=Z,5.7nm,0.5s
LFF **La Frestale** 80.50 340 *e*P P 09 32 41.5 -0.5
LFF **La Frestale** 80.50 340 *e*P P 09 32 41.5 -0.5
LFF **La Frestale** 80.50 340 *e*P P 09 32 41.5 -0.5
PGF **Pioggiola** 80.77 334 *e*P P 09 32 42.9 -0.7
PGF **Pioggiola** 80.77 334 *e*P P 09 32 42.9 -0.7
PGF **Pioggiola** 80.77 334 *e*P P 09 32 42.9 -0.7
KMSC **Kings Mountain** 81.12 42 ⇓P P 09 32 44.9 -0.5
baz=81
MTLF **Montolieu** 81.70 339 *e*P P 09 32 48.5 +0.2
MTLF **Montolieu** 81.70 339 *e*P P 09 32 48.5 +0.2
MTLF **Montolieu** 81.70 339 *e*P P 09 32 48.5 +0.2
EPF **Esparros** 82.41 340 *e*P P 09 32 51.1 -0.8
comp=Z,4.9nm,0.6s
EPF **Esparros** 82.41 340 *e*P P 09 32 51.1 -0.8
EPF pmax pmax
comp=Z,5.0nm,0.6s
EPF **Esparros** 82.41 340 *e*P P 09 32 51.1 -0.8
comp=Z,4.9nm,0.6s
SJPF **Ste Jean** 82.65 341 *e*P P 09 32 53.6 +0.5
SJPF **Ste Jean** 82.65 341 *e*P P 09 32 53.6 +0.5
SJPF **Ste Jean** 82.65 341 *e*P P 09 32 53.6 +0.5
ETSF **Etsaut** 82.72 341 *e*P P 09 32 53.8 +0.2
comp=Z,6.8nm,0.8s
ETSF **Etsaut** 82.72 341 *e*P P 09 32 53.8 +0.2
ETSF pmax pmax
comp=Z,7.0nm,0.8s
ETSF **Etsaut** 82.72 341 *e*P P 09 32 53.8 +0.2
comp=Z,6.8nm,0.8s
ESDC **Sonseca Array** 86.50 342 P P 09 33 10.9 -1.3
comp=Z,0.3nm,0.3s,baz=354,slow=4.6,SNR=4.6
KEST **Kesra** 87.00 331 P P 09 33 14.6 0.0
comp=Z,2.4nm,0.9s,baz=42,slow=1.4,SNR=4.5
PLCA **Paso Flores** 148.42 87 PKPbc **PKPbc** 09 40 12.5 -0.3
comp=Z,1.1nm,0.8s,baz=332,slow=1.1,SNR=4.3
PLCA Paso Flores 148.42 87 PKP2 **PKPbc** 09 40 12.5 -0.3
PLCA pmax pmax
comp=Z,1.0nm,0.8s
LPAZ **La Paz** 26.09 160 *e*P P 09 46 24.4 -0.7
034A **Hebbronville** 27.61 315 ⇑P P 09 46 38.2 +0.3
baz=28
933A **Laredo** 28.36 315 ⇓P P 09 46 44.2 -0.4
baz=28
NATX **Nacogdoches** 28.40 327 *e*P P 09 46 41.5 -3.5
17nm,0.6s
238A **Jacksonville** 28.84 327 ⇑P P 09 46 49.0 +0.1
baz=29
SIV **San Ignacio** 28.98 147 P P 09 46 49.8 -0.4
0.9nm,0.6s,baz=327,slow=10.0,SNR=3.4
832A **Faith Ranch, C** 29.26 315 ⇓P P 09 46 52.4 -0.3
baz=29
137A **Heron Place, G** 29.64 327 ⇑P P 09 46 56.7 +0.8
baz=30
632A **Uvalde** 29.90 318 ⇓P P 09 46 57.9 -0.4
baz=30
Z37A **Pogue Cattle C** 30.03 328 ⇓P P 09 46 59.4 0.0
baz=30
334A **Lometa** 30.14 322 ⇓P P 09 47 00.7 +0.3
baz=30
WHTX **Lake Whitney,** 30.14 324 ⇑P P 09 47 00.6 +0.2
baz=30
433A **Art** 30.27 320 ⇑P P 09 47 01.9 +0.3
baz=30
631A **Perdido Creek** 30.37 317 ⇑P P 09 47 03.0 +0.5
baz=30
532A **Rocksprings** 30.38 318 ⇑P P 09 47 02.8 +0.2
baz=30
JCT **Junction City** 30.54 319 ⇓P P 09 47 04.4 +0.4
baz=31
234A **Clairette** 30.55 323 ⇑P P 09 47 04.3 +0.3
baz=31
333A **Richland Sprin** 30.59 321 ⇓P P 09 47 04.6 +0.2
baz=31
PBMO **Poplar Bluff** 30.73 339 *e*P P 09 47 05.9 +0.4
6.5nm,0.8s
134A **White-Moore Ra** 30.92 324 ⇓P P 09 47 07.2 -0.1
baz=31
W38A **Poteau** 30.97 332 ⇓P P 09 47 07.9 +0.2
baz=31
X37A **Clayton** 31.00 330 ⇓P P 09 47 08.0 +0.1
baz=31
Z35A **Perchaven, San** 31.01 326 ⇑P P 09 47 08.2 +0.2
baz=31
233A **Rising Star** 31.02 322 ⇓P P 09 47 08.2 0.0
baz=31
332A **Millersview** 31.10 320 ⇑P P 09 47 09.0 +0.1
baz=31
431A **Sonora** 31.20 318 ⇓P P 09 47 09.5 -0.3
baz=31
530A **J-C Ranch, Com** 31.34 317 ⇓P P 09 47 10.8 -0.3
baz=31
232A **Coleman** 31.39 321 ⇓P P 09 47 11.3 -0.2
baz=32
Z34A **Collier Ranch,** 31.41 325 ⇓P P 09 47 10.7 -1.0
baz=32
133A **Hamilton Ranch** 31.44 323 ⇓P P 09 47 11.2 -0.7
baz=32
W37A **Quinton** 31.46 330 ⇑P P 09 47 11.8 -0.2
baz=32
X36A **Centrahoma** 31.48 329 ⇑P P 09 47 11.9 -0.3
baz=32
331A **San Angelo** 31.49 320 ⇑P P 09 47 12.5 +0.1
baz=32
X35A **Drake** 31.67 328 ⇓P P 09 47 13.7 -0.2
baz=32,SNR=5.4
Y34A **Reagan Ranch,** 31.76 326 ⇓P P 09 47 14.8 +0.1
baz=32
Z33A **Whitaker Ranch** 31.84 324 ⇓P P 09 47 15.7 +0.3
baz=32
LVC **Limon Verde** 31.86 166 *e*P P 09 47 16.0 +0.2
84nm,2.5s
W36A **Wetumka** 31.86 329 ⇓P P 09 47 15.7 +0.2
baz=32
ABTX **Abilene, Hawle** 31.89 322 ⇓P P 09 47 15.7 -0.1
baz=32
529A **Stev Forest Ra** 31.93 316 ⇑P P 09 47 17.2 +0.9
baz=32
330A **Mertzon** 32.03 319 ⇑P P 09 47 17.0 -0.2
baz=32
W35A **Tecumseh** 32.20 329 ⇓P P 09 47 18.7 +0.2
baz=32
TUL1 **Leonard** 32.26 331 ⇑P P 09 47 19.1 +0.1
baz=32
TUL1 **Leonard** 32.26 331 *e*P P 09 47 18.1 -0.9
7.5nm,0.8s
TUL1 *e*pP **pP** 09 47 34.9 +2.4
Z32A **Haskell** 32.27 323 ⇑P P 09 47 19.2 0.0
baz=32
Y33A **Hilltop Ranch,** 32.28 325 ⇑P P 09 47 19.6 +0.3
baz=32
X34A **Smith Ranch, M** 32.28 327 ⇓P P 09 47 19.9 +0.6
baz=32
TXAR **Lajitas Array** 32.49 313 P P 09 47 20.6 -0.6
1.8nm,0.9s,baz=133,slow=9.3,SNR=14
TXAR sP **sP** 09 47 37.2 -3.7
2.0nm,0.9s,baz=140,slow=6.5,SNR=9.3
TXAR PcP **PcP** 09 50 08.2 +0.8
0.2nm,0.7s,baz=161,slow=5.7,SNR=3.4
TXAR LR LR 10 02 38.6
comp=Z,27nm,19.1s,baz=0.0,slow=40
X33A **Lawton** 32.60 326 ⇓P P 09 47 22.4 +0.4
baz=33
329A **Wagon Wheel Ra** 32.62 318 ⇑P P 09 47 22.3 0.0
baz=33
V35A **Meyer Ranch, C** 32.66 329 ⇓P P 09 47 22.7 +0.2
baz=33
Z31A **Sharp Cattle R** 32.67 323 ⇓P P 09 47 22.8 +0.1
baz=33
W34A **Bridge Creek,** 32.73 328 ⇑P P 09 47 23.3 +0.1
baz=33
Y32A **R-V Farms, Ver** 32.74 324 ⇑P P 09 47 23.5 +0.2
baz=33
229A **Bryant Ranch,** 32.81 319 ⇑P P 09 47 23.9 -0.1
baz=33
T37A **Cheneyville 18** 32.84 333 ⇓P P 09 47 23.9 -0.2
baz=33
WMOK **Wichita Mounta** 32.90 326 *e*P P 09 47 24.4 -0.4
44nm,2.6s
X32A **Elmer** 32.95 325 ⇓P P 09 47 25.1 -0.1
baz=33
W33A **Caddo, Fort Co** 33.04 327 ⇓P P 09 47 25.7 -0.1
baz=33
Y31A **Rekieta Farm,** 33.19 323 ⇓P P 09 47 27.4 +0.1
baz=33
T36A **Boggs Farm, Ca** 33.23 332 ⇓P P 09 47 27.0 -0.5
baz=33
Z30A **Sanderson Ranc** 33.25 322 ⇓P P 09 47 27.2 -0.6
baz=33
T35A **Sooner Cattle** 33.41 331 ⇓P P 09 47 29.0 0.0
baz=34
W32A **Sentinel** 33.45 326 ⇑P P 09 47 29.2 -0.2
baz=34
V33A **Lossen Ranch,** 33.45 328 ⇑P P 09 47 29.1 -0.4
baz=34
X31A **McDonald Ranch** 33.50 324 ⇓P P 09 47 29.8 -0.1
baz=34
U34A **Anderson Ranch** 33.53 329 ⇓P P 09 47 30.1 -0.1
baz=34
Z29A **Hungry Hill Ra** 33.59 321 ⇑P P 09 47 30.4 -0.4
baz=34
128A **Castleberry Fa** 33.67 319 ⇓P P 09 47 30.8 -0.7
baz=34
R37A **Teagarden Farm** 33.80 334 ⇑P P 09 47 32.0 -0.4
baz=34
T34A **McClaskey Farm** 33.82 330 ⇑P P 09 47 32.7 +0.1
baz=34
U33A **Lingo Farm, Me** 33.83 329 ⇑P P 09 47 31.9 -0.8
baz=34
W31A **Holland Ranch,** 33.88 325 ⇑P P 09 47 33.3 0.0
baz=34
X30A **Coker Ranch, T** 33.89 323 ⇓P P 09 47 33.6 +0.2
baz=34
S35A **Otter Creek Ra** 33.94 332 ⇓P P 09 47 33.6 0.0
baz=34
Y29A **Porterfield Fa** 33.97 322 ⇑P P 09 47 33.6 -0.5
baz=34
R36A **Gordon, Harris** 34.09 334 ⇓P P 09 47 34.0 -1.0
baz=34
Q37A **Longview Farm,** 34.11 335 ⇓P P 09 47 35.0 -0.2
baz=34
U32A **Winter Ranch,** 34.25 328 ⇓P P 09 47 36.6 +0.2
baz=34
V31A **Spring Creek L** 34.25 326 ⇑P P 09 47 37.0 +0.5
baz=34
Y28A **McKinney Farm,** 34.36 321 ⇑P P 09 47 36.7 -0.8
baz=34

*ISCJB **01** 09:40:52.7±0.6,8°.42N±0°.03×77°.16W±0°.03,h43km±6km, mb4.5/71,MS3.3/5,Error ellipse: s-maj=5.9km s-min=3.9km az=44.3*
*IDC **01** 09:40:53.4±0.7,8°.27N×77°.24W,h40km±5km,mb4.0/15, mb1 4.2/16,mb1mx4.1/21,mbtmp4.2/16,ML4.4/1,MS3.3/6, Ms1 3.3/6,ms1mx3.1/18,Error ellipse: s-maj=20.3km s-min=15.0km az=49.0*
*NEIC **01** 09:40:55.4±0.4,8°.36N×77°.13W,h51km±3km,mb4.7/53, Error ellipse: s-maj=6.0km s-min=3.9km az=215.0*
ISC 01 09:40:55.4±0.5,8°41N±0°05×77°10W±0°05,h53km±4km, h52km:pP-P,n364,σ0§98/397,mb4.6/72,MS3.1/5, 102C-119D,Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**2.81**	**286**	*e*Pn	**Pn**	**Pn**	**09 41 35.3**	**-2.5**
BCIP				*e*Sn	**Sn**	**Sn**	**09 42 11.6**	**+1.2**
ROSC	**El Rosal**	**4.48**	**142**	P	**Pn**	**Pn**	**09 42 01.3**	**+0.2**
	5.1nm,0.3s,baz=89,slow=1.6,SNR=15							
ROSC				S		**Sn**	**09 42 53.6**	**+1.5**
	5.2nm,0.3s,baz=115,slow=22,SNR=5.8							
ROSC				LR		LR	09 44 01.9	
	comp=Z,377nm,20.1s,baz=44,slow=42							
ROSC	**El Rosal**	**4.48**	**142**	*e*Pn		**Pn**	**09 42 01.8**	**+0.7**
ROSC				*e*Sn		**Sn**	**09 42 51.4**	**-0.6**
ROSC				S		**Sn**	**09 42 53.6**	**+1.5**
SDV	**Santo Domingo**	**6.41**	**85**	*e*Pn		**Pn**	**09 42 27.6**	**+0.1**
SDV				*e*Sn		**Sn**	**09 43 38.2**	**-1.3**
OTAV	**Otavalo**	**8.23**	**189**	*e*Pn		**Pn**	**09 42 52.0**	**-0.6**
OTAV				*e*Sn		**Sn**	**09 44 23.8**	**-0.7**
MCJ	**Malvern**	**9.48**	**357**	*i* P		**Pn**	**09 43 09.4**	**+0.1**
HOJ	**Hope**	**9.54**	**2**	*i* P		**Pn**	**09 43 12.1**	**+1.9**
GWJ	**Greenwich**	**9.62**	**2**	*i* P		**Pn**	**09 43 11.9**	**+0.7**
STH	**Stony Hill**	**9.62**	**2**	*i* P		**Pn**	**09 43 12.0**	**+0.8**
MTDJ	**Mount Denham**	**9.77**	**358**	*e*Pn		**Pn**	**09 43 13.3**	**0.0**
	60nm,0.4s							
MTDJ				*e*Sn		**Sn**	**09 45 03.4**	**+1.7**
BBJ	**Bamboo Saint A**	**9.92**	**359**	*i* P		**Pn**	**09 43 16.4**	**+1.1**
BBJ				*i* S		**Sn**	**09 45 03.7**	**-1.6**
MBJ	**Montego Bay**	**9.96**	**356**	*i* S		**Sn**	**09 45 01.2**	**-5.2**
TGUH	**Tegucigalpa,Un**	**11.45**	**300**	*e*Pn		**Pn**	**09 43 37.8**	**+1.6**
TGUH				*e*Sn		**Sn**	**09 45 43.1**	**+0.5**
GTBY	**Guantanamo Bay**	**11.61**	**9**	*e*Pn		**Pn**	**09 43 39.6**	**+1.2**
	56nm,0.4s							
SDDR	**Presa de Saban**	**11.93**	**28**	*e*Pn		**Pn**	**09 43 43.5**	**+0.6**
	197nm,0.8s							
PCRV	**Puerto La Cruz**	**12.43**	**81**	P		**Pn**	**09 43 49.0**	**-0.7**
	2.2nm,0.3s,baz=207,slow=4.3,SNR=6.5							
PCRV				S		Sn	09 46 00.2	-6.5
	1.1nm,0.3s,baz=344,slow=18,SNR=4.2							
SJG	**San Juan**	**14.37**	**47**	*e*Pn		Pn	09 44 11.8	-4.1
	14nm,0.4s							
ATAH	**Atahualpa**	**15.49**	**185**	P		**P**	**09 44 33.5**	**-1.1**
	0.2nm,0.3s,baz=14,slow=4.5,SNR=4.5							
SAML	**Samuel**	**22.13**	**141**	*e*P		**P**	**09 45 46.5**	**-0.1**
	5.1nm,0.8s							
LPAZ	**La Paz**	**26.09**	**160**	P		**P**	**09 46 23.9**	**-1.2**
	0.5nm,0.6s,baz=337,slow=7.7,SNR=2.5							

T33A	Patterson Ranc baz=34	34.39	329	⇑P	P	09 47 37.0	-0.6
AMTX	Amarillo baz=35	34.67	323	⇓P	P	09 47 40.5	+0.4
MSTX	Muleshoe 8.2nm,0.3s	34.73	321	eP	P	09 47 39.3	-1.3
Q35A	Mercer Eighty, baz=35	34.77	334	⇓P	P	09 47 40.2	-0.6
W29A	Amarillo baz=35	34.82	323	⇑P	P	09 47 41.1	-0.4
R34A	Isabella, Hill baz=35	34.87	332	⇑P	P	09 47 41.9	+0.2
MNTX	Cornudas Mount baz=35	35.05	315	⇑P	P	09 47 43.2	-0.2
MNTX	Cornudas Mount 54nm,3.0s	35.05	315	eP	P	09 47 42.6	-0.7
MNTX				epP	pP	09 47 58.8	+1.9
S32A	Newby Ranch, P baz=35	35.22	329	⇓P	P	09 47 45.1	+0.4
R33A	Olander Ranch, baz=35	35.22	331	⇑P	P	09 47 44.7	-0.1
Q34A	Chapman baz=35	35.23	333	⇓P	P	09 47 44.5	-0.3
V29A	Stinnett baz=35	35.27	324	⇓P	P	09 47 45.9	+0.7
S31A	Mullinville baz=36,SNR=5.4	35.44	329	⇓P	P	09 47 46.2	-0.4
R32A	Long Quarter, baz=36	35.67	330	⇑P	P	09 47 48.5	-0.1
Q33A	Connelly Farm, baz=36	35.70	332	⇓P	P	09 47 48.9	+0.1
V27A	Dan Oppiter Fa baz=36	35.96	323	⇓P	P	09 47 51.4	+0.2
R31A	Burdett baz=36	35.97	329	⇓P	P	09 47 51.2	0.0
U28A	Mallet baz=36	36.03	324	⇑P	P	09 47 51.8	-0.1
Q32A	Meitler Ranch, baz=36	36.04	331	⇓P	P	09 47 51.7	-0.1
T29A	Hugoton baz=36	36.06	326	⇓P	P	09 47 52.5	+0.4
S29A	Ulysses baz=36	36.30	327	⇓P	P	09 47 54.9	+0.8
R30A	Dighton baz=36	36.35	328	⇓P	P	09 47 55.1	+0.7
U27A	Thompson Grove baz=36	36.41	324	⇑P	P	09 47 55.5	+0.4
O33A	Hebron baz=37	36.45	333	⇓P	P	09 47 55.0	-0.3
Q31A	Ellis baz=37	36.45	330	⇓P	P	09 47 55.4	+0.1
T28A	Walsh baz=37	36.49	325	⇑P	P	09 47 55.3	-0.5
P32A	Huiting Farm, baz=37	36.56	332	⇑P	P	09 47 55.7	-0.5
S28A	Manter baz=37	36.70	326	⇑P	P	09 47 58.1	+0.5
T27A	Campo baz=37	36.79	325	⇑P	P	09 47 58.6	+0.2
Q30A	Quinter baz=37	36.84	329	⇓P	P	09 47 58.6	-0.1
P31A	Stockton baz=37	36.85	331	⇓P	P	09 47 58.7	0.0
O32A	Brockman Farm, baz=37	36.92	333	⇑P	P	09 47 58.9	-0.3
Q29A	Oakley baz=37	37.17	328	⇓P	P	09 48 01.0	-0.4
R28A	Tribune baz=37	37.20	327	⇑P	P	09 48 01.7	0.0
121A	Cookes Peak, D baz=37	37.20	315	⇓P	P	09 48 02.8	+0.8
P30A	Selden baz=37	37.29	330	⇑P	P	09 48 02.6	+0.1
T26A	Comanche Natio baz=38	37.37	324	⇑P	P	09 48 03.9	+0.6
BDFB	Brasilia comp=Z,116nm,20.1s,baz=332,slow=38	37.43	130	LR	LR	10 04 21.9	
S26A	Kim baz=38	37.61	325	⇓P	P	09 48 05.8	+0.6
ANMO	Albuquerque 5.3nm,0.8s	37.70	319	eP	P	09 48 06.3	+0.2
R27A	Eads baz=38,SNR=7.4	37.70	326	⇓P	P	09 48 06.0	0.0
Q28A	Sharon Springs baz=38	37.74	328	⇓P	P	09 48 06.7	+0.4
T25A	Trinidad baz=38	37.83	323	⇓P	P	09 48 08.1	+0.9
R26A	Arlington baz=38	38.07	326	⇑P	P	09 48 09.7	+0.6
P28A	Saint Francis baz=38	38.08	328	⇓P	P	09 48 09.9	+0.7
KSCO	Kaye Shedlock' baz=38	38.13	327	⇑P	P	09 48 10.5	+0.9
P27A	Ficken Ranch, baz=39	38.49	328	⇑P	P	09 48 12.7	0.0
SDCO	Great Sand Dun baz=39,SNR=14	38.88	323	⇓P	P	09 48 16.9	+0.8
SDCO	Great Sand Dun 5.6nm,0.8s	38.88	323	eP	P	09 48 17.2	+1.1
O27A	Beecher Island baz=39	38.91	328	⇓P	P	09 48 15.9	-0.3
P26A	Davis Ranch, A baz=39	38.91	327	⇑P	P	09 48 16.9	+0.7
ECSD	EROS Data Cent baz=39	39.10	337	⇓P	P	09 48 16.0	-1.5
ECSD	EROS Data Cent 15nm,1.5s	39.10	337	eP	P	09 48 16.1	-1.5
S23A	Nye Farm, Mont baz=39	39.15	323	⇑P	P	09 48 18.8	+0.4
OGNE	Ogallala baz=39	39.24	330	⇓P	P	09 48 18.3	-0.6
TUC	Tucson 28nm,2.6s	39.25	312	eP	P	09 48 21.0	+1.9
L29A	Maesberg Ranch baz=40	39.36	332	⇓P	P	09 48 19.5	-0.2
R23A	Moffat baz=40	39.37	323	⇑P	P	09 48 20.5	+0.3
O26A	Horse Wrangler baz=40	39.38	328	⇑P	P	09 48 20.0	-0.1
N27A	Anderson Farm, baz=40	39.39	329	⇓P	P	09 48 19.3	-0.9
K30A	Basset baz=40	39.45	334	⇓P	P	09 48 19.8	-0.7
S22A	4UR Ranch, Cre baz=40,SNR=5.6	39.68	322	⇑P	P	09 48 22.3	-0.5
K28A	Ten Mile Ranch baz=40	40.27	332	⇓P	P	09 48 26.6	-0.8
ISCO	Idaho Springs baz=40	40.32	325	⇓P	P	09 48 27.0	-1.2
ISCO	Idaho Springs	40.32	325	eP	P	09 48 29.5	+1.4
J29A	Okreek baz=40,SNR=5.9	40.35	334	⇑P	P	09 48 26.7	-1.2
MVCO	Mesa Verde baz=40	40.38	320	⇓P	P	09 48 27.7	-0.9
J28A	Allard Ranch, baz=41	40.77	333	⇓P	P	09 48 31.1	-0.4
O23A	Lake Granby, G baz=41	40.77	326	⇓P	P	09 48 30.8	-1.1
I29A	Vivian Onida baz=41	40.83	334	⇓P	P	09 48 30.9	-1.1
J27A	Elkhorn Farm, baz=41	40.99	332	⇑P	P	09 48 32.7	-0.6
PV01	Paradox Valley 548nm,1.0s	40.99	321	eP	P	09 48 34.6	+1.0
O22A	Kremmling baz=41	41.10	325	⇓P	P	09 48 32.7	-1.8
I28A	Midland baz=41	41.19	333	⇑P	P	09 48 33.8	-1.1
WUAZ	Wupatki baz=41,SNR=5.8	41.32	316	⇑P	P	09 48 36.8	+0.5
WUAZ	Wupatki 6.9nm,0.8s	41.32	316	eP	P	09 48 37.6	+1.3
J26A	Sides Ranch, S baz=42	41.54	331	⇓P	P	09 48 36.9	-0.9
G29A	Hoven baz=42	41.62	336	⇓P	P	09 48 37.2	-1.2
I27A	Quinn baz=42	41.64	333	⇑P	P	09 48 37.5	-1.2
F30A	Leola baz=42	41.79	337	⇑P	P	09 48 38.4	-1.4
J25A	Sunshine Ranch baz=42	41.95	331	⇓P	P	09 48 39.1	-2.1
I26A	New Underwood baz=42	41.98	332	⇓P	P	09 48 40.8	-0.6
O20A	White River Ci baz=42	42.05	324	⇑P	P	09 48 41.5	-0.8
H27A	Howes baz=42	42.09	333	⇑P	P	09 48 41.5	-0.8
J24A	Dixon Ranch, L baz=42	42.32	330	⇓P	P	09 48 44.0	-0.3
I25A	Rochford baz=42	42.38	331	⇓P	P	09 48 44.4	-0.4
H26A	Fairpoint baz=42	42.39	333	⇓P	P	09 48 44.1	-0.7
K23A	Bowen Ranch, D baz=42	42.39	329	⇓P	P	09 48 44.3	-0.6
F28A	McLaughlin baz=43	42.51	335	⇓P	P	09 48 45.2	-0.5
N20A	Spence Gulch, baz=43	42.52	324	⇑P	P	09 48 45.2	-0.9
G27A	Dupree baz=43	42.62	334	⇓P	P	09 48 45.5	-1.0
H25A	Fruitdale baz=43	42.78	332	⇑P	P	09 48 47.6	-0.2
SRU	San Rafael Swe 3.9nm,0.9s	42.80	321	eP	P	09 48 49.9	+1.6
AGMN	Agassiz Nation baz=43	42.80	342	⇑P	P	09 48 47.6	-0.3
AGMN	Agassiz Nation 80nm,2.7s	42.80	342	eP	P	09 48 47.0	-1.0
G26A	Maurine baz=43	42.84	333	⇓P	P	09 48 47.2	-1.2
F27A	Lemmon baz=43	43.04	334	⇓P	P	09 48 49.0	-1.0
E28A	Huff baz=43	43.06	336	⇓P	P	09 48 49.1	-1.0
G25A	Newell baz=43	43.13	333	⇑P	P	09 48 49.7	-1.0
E27A	Carson baz=43	43.30	335	⇓P	P	09 48 51.1	-0.9
J22A	Midwest baz=43	43.30	329	⇑P	P	09 48 51.4	-0.8
H24A	Dirks Ranch, A baz=43	43.32	331	⇑P	P	09 48 51.4	-0.9
MSU	Marysvale 3.1nm,0.8s	43.51	319	eP	P	09 48 54.8	+0.7
MSU				epP	pP	09 49 09.9	+2.0
I22A	9 Mile Ranch, baz=44	43.64	329	⇓P	P	09 48 54.5	-0.4
E26A	Carlson Angus baz=44	43.70	335	⇑P	P	09 48 54.4	-0.9
B30A	Myrvik Farm, E baz=44	43.75	340	⇓P	P	09 48 54.6	-1.0
D27A	Center baz=44	43.83	336	⇓P	P	09 48 55.9	-0.4
GMRC	Granite Mounta baz=44	44.00	312	⇓P	P	09 48 57.1	-0.8
I21A	Big Trails, Te baz=44	44.00	328	⇓P	P	09 48 57.3	-0.6
B29A	Wagenman Farm, baz=44	44.12	339	⇑P	P	09 48 58.2	-0.4
E25A	Miller Ranch, baz=44	44.13	334	⇓P	P	09 48 58.0	-0.7
A30A	Hoffart Farm, baz=44	44.16	340	⇑P	P	09 48 57.4	-1.5
F23A	Volborg baz=45	44.45	332	⇓P	P	09 49 00.5	-0.8
A29A	Manning Farm, baz=45,SNR=5.2	44.46	339	⇓P	P	09 49 00.3	-1.0
G22A	Birney baz=45	44.50	331	⇓P	P	09 49 00.9	-0.9
PDAR	Pinedale Array 1.4nm,0.6s,baz=119,slow=8.3,SNR=10	44.52	326	P	P	09 49 02.1	0.0
PDAR				LR	LR	10 11 46.4	
I20A	comp=Z,20nm,18.1s,baz=116,slow=42 Worland baz=45	44.53	328	⇑P	P	09 49 01.4	-0.7
TCUT	Toone Canyon 8.3nm,0.8s	44.55	323	eP	P	09 49 03.0	+0.6
TCUT				epP	pP	09 49 19.8	+3.4
J19A	Crowheart baz=45	44.57	327	⇑P	P	09 49 01.3	-1.1
MURC	Murrieta baz=45	44.63	310	⇑P	P	09 49 02.6	-0.3
C26A	Wahner Farm, P baz=45	44.63	336	⇓P	P	09 49 01.6	-1.1
H20A	Greybull baz=45,SNR=5.6	44.84	329	⇑P	P	09 49 03.7	-0.8
DUG	Dugway, Tooele baz=45	44.87	321	⇓P	P	09 49 04.5	-0.4
DUG	Dugway, Tooele 3.2nm,0.8s	44.87	321	eP	P	09 49 05.4	+0.5
GSC	Goldstone, Bar baz=45	45.08	312	⇓P	P	09 49 06.3	-0.2
B25A	Knox Farm, Ray baz=46	45.42	336	⇓P	P	09 49 08.6	-0.3
TPNV	Topopah Spring baz=46	45.44	315	⇑P	P	09 49 09.1	-0.3
G20A	Bridger baz=46,SNR=5.9	45.46	329	⇑P	P	09 49 08.7	-0.7
REDW	Red Top Meadow 13nm,0.9s	45.62	325	eP	P	09 49 11.1	+0.2
FURC	Furnace Creek, baz=46	45.65	314	⇑P	P	09 49 09.4	-1.5
R11A	Troy Canyon, C baz=46	45.68	317	⇑P	P	09 49 11.0	-0.3
R11A	Troy Canyon, C 2.3nm,1.0s	45.68	317	eP	P	09 49 11.9	+0.5
EDW2	Edwds Air Fo baz=46	45.76	311	⇑P	P	09 49 11.9	0.0
MOOW	Moose Ponds 4.5nm,0.8s	45.81	326	eP	P	09 49 12.4	+0.1
F20A	Billings baz=46	45.83	330	⇑P	P	09 49 12.2	-0.2
E21A	Keefer Ranch, baz=46	45.84	331	⇓P	P	09 49 11.7	-0.6
H18A	Shoshone NF, C baz=46	45.84	328	⇑P	P	09 49 11.9	-0.6
D22A	Cohagen baz=46,SNR=5.0	45.87	332	⇓P	P	09 49 12.1	-0.4
FXWY	Fox Creek 5.0nm,0.9s	45.90	326	eP	P	09 49 13.1	0.0
C23A	Lambert baz=46	45.91	334	⇑P	P	09 49 12.7	-0.1
RLMT	Red Lodge 4.6nm,1.1s	45.93	328	eP	P	09 49 13.1	-0.2
RLMT				epP	pP	09 49 29.5	+2.3
DGMT	Dagmar baz=46	46.00	335	⇑P	P	09 49 13.2	-0.3
IMW	Indian Meadow 6.7nm,0.9s	46.02	326	eP	P	09 49 14.4	+0.4
F19A	Roth Farm, Mol baz=46	46.27	329	⇓P	P	09 49 15.0	-0.8
ISA	Isabella, Lake baz=46	46.45	312	⇑P	P	09 49 17.3	-0.1
GCMT	Greycliff	46.59	329	eP	P	09 49 18.8	+0.5
GCMT				epP	pP	09 49 34.5	+2.2
E19A	Rath Farm, Rou baz=47	46.61	330	⇓P	P	09 49 17.9	-0.5
B22A	Reddig Ranch S baz=47	46.64	334	⇓P	P	09 49 18.3	-0.3
A23A	Redstone baz=47	46.67	335	⇓P	P	09 49 18.2	-0.6
D20A	Manuel Ranch, baz=47,SNR=7.8	46.74	331	⇑P	P	09 49 19.3	-0.1
C21A	Desert Coulee baz=47	46.78	332	⇓P	P	09 49 20.0	+0.3
SBC	Santa Barbara baz=47	46.88	310	⇑P	P	09 49 20.3	-0.3
QLMT	Earthquake Lak 0.6nm,0.7s	46.89	327	eP	P	09 49 22.7	+1.9
QLMT				epP	pP	09 49 38.3	+3.5
VES	Vestal, Richgr baz=47	46.98	312	⇓P	P	09 49 21.4	0.0
SCHQ	Schefferville 3.9nm,0.6s,baz=197,slow=8.4,SNR=11	47.02	8	P	P	09 49 22.0	+0.7
SCHQ				pP	pP	09 49 33.1	-2.3
C20A	2.7nm,0.6s,baz=159,slow=6.3,SNR=3.4 Veseth Ranch, baz=47,SNR=5.7	47.12	332	⇑P	P	09 49 22.3	-0.1
A22A	Carney Farms, baz=47	47.13	334	⇑P	P	09 49 22.3	-0.1
D19A	Cripps Ranch, baz=47,SNR=13	47.15	331	⇑P	P	09 49 22.4	-0.2
RCTC	Rector, Farmer baz=47	47.29	312	⇑P	P	09 49 23.3	-0.4
BOZ	Bozeman (W) 7.4nm,0.9s	47.52	327	eP	P	09 49 26.2	+0.6
BOZ				epP	pP	09 49 41.6	+1.9
A21A	Bergtoll Ranch baz=48	47.57	334	⇓P	P	09 49 25.4	-0.4
NVAR	Mina Array Bea 0.8nm,0.6s,baz=116,slow=6.4,SNR=7.8	47.58	316	P	P	09 49 26.5	+0.2
C19A	Slack Wire Ran baz=48,SNR=6.5	47.63	331	⇑P	P	09 49 26.3	0.0
MCMT	McKenzie Canyo	47.66	326	eP	P	09 49 28.7	+1.9
MCMT				epP	pP	09 49 43.9	+3.0
HLID	Hailey baz=48	47.80	323	⇓P	P	09 49 28.1	+0.3
HLID	Hailey 3.2nm,1.0s	47.80	323	eP	P	09 49 28.6	+0.8
HLID				epP	pP	09 49 44.6	+2.8
DLMT	Dillon 7.0nm,1.0s	47.86	326	eP	P	09 49 28.4	+0.1
DLMT				epP	pP	09 49 42.9	+0.6
A20A	Cobblestone Ra baz=48	47.93	333	⇑P	P	09 49 28.7	+0.1
B19A	Brinkman Farms baz=48	48.09	332	⇑P	P	09 49 29.8	-0.1
EGMT	Eagleton baz=48	48.17	331	⇓P	P	09 49 30.4	-0.1
EGMT	Eagleton 15nm,1.4s	48.17	331	eP	P	09 49 33.0	+2.4
EGMT				epP	pP	09 49 46.4	+1.8
A19A	Klindworth Far baz=48	48.34	332	⇓P	P	09 49 31.8	0.0
MFID	Camas Ranch 4.4nm,1.2s	48.55	323	eP	P	09 49 34.0	+0.4
MFID				epP	pP	09 49 50.1	+2.5
MSO	Missoula baz=50	49.51	327	⇑P	P	09 49 40.3	-0.6
MSO	Missoula 43nm,2.3s	49.51	327	ePn	P	09 49 43.0	+2.2
MSO				epP	pP	09 49 56.7	+1.7
WVOR	Wild Horse Val 8.2nm,1.3s	49.76	320	eP	P	09 49 42.7	-0.1
WVOR				epP	pP	09 49 60.0	+3.0
BSMT	Bassoo Peak 2.4nm,1.1s	50.60	328	eP	P	09 49 49.5	+0.3
BSMT				epP	pP	09 50 05.6	+2.3
G08A	Pilot Rock 12nm,1.5s	51.46	323	eP	P	09 49 57.0	+1.4
G08A				epP	pP	09 50 12.1	+2.3
M04C	Macdoel baz=52	51.53	318	⇓P	P	09 49 55.9	-0.3
M02C	Callahan baz=52	52.04	317	⇑P	P	09 49 59.2	-0.8
NEW	Newport baz=52	52.09	327	⇑P	P	09 50 00.0	-0.2
NEW	Newport 4.1nm,0.9s	52.09	327	eP	P	09 50 00.5	+0.3
NEW				epP	pP	09 50 15.7	+1.3
J04D	Umpqua Nationa baz=52	52.38	319	⇑P	P	09 50 02.0	-0.7
B08A	Colville Reser	53.36	326	epP	pP	09 50 24.6	+0.9
EDM	Edmonton	53.43	334	eP	P	09 50 08.7	-1.2
EDM				epP	pP	09 50 25.7	+1.5
YKA	Yellowknife Ar 4.5nm,0.6s,baz=132,slow=7.1,SNR=101	60.46	341	P	P	09 50 58.2	-1.2
YKA				pP	pP	09 51 10.8	-3.0
SUMG	2.7nm,0.6s,baz=130,slow=7.1,SNR=7.8 Summit 4.8nm,0.6s	68.20	12	*i* P	P	09 51 50.5	+0.1
SUMG	Summit 114nm,2.8s	68.20	12	eP	P	09 51 50.3	-0.1
HYT	Haines Junctio	68.53	333	epP	pP	09 52 07.0	-0.1
DBIC	Dimbokro 3.8nm,0.7s,baz=284,slow=4.0,SNR=3.8	71.55	86	P	P	09 52 12.2	+0.6
ESDC	Sonseca Array 1.9nm,0.5s,baz=271,slow=5.9,SNR=21	71.71	51	P	P	09 52 13.3	+1.1
ESDC				LR	LR	10 21 57.5	
DOT	comp=Z,9.7nm,18.4s,baz=265,slow=34 Dot Lake 7.3nm,0.8s	72.37	334	eP	P	09 52 16.3	+0.6
PAX	Paxson 6.1nm,1.2s	72.79	334	eP	P	09 52 18.2	0.0
ILAR	Eielson Array 2.1nm,0.8s,baz=110,slow=4.4,SNR=28	73.87	335	P	P	09 52 23.7	-0.7
SJPF	Ste Jean 50nm,1.0s	74.00	48	eP	P	09 52 26.7	+1.1
SJPF	Ste Jean 50nm,1.0s	74.00	48	eP	P	09 52 26.7	+1.1
ETSF	Etsaut 14nm,1.1s	74.47	48	eP	P	09 52 29.4	+0.9
ETSF	Etsaut 14nm,1.1s	74.47	48	eP	P	09 52 29.4	+0.9
MCK	McKinley 1.6nm,0.5s	74.49	334	eP	P	09 52 29.2	+1.1
GRR	Gorron 23nm,0.8s	74.63	42	eP	P	09 52 29.7	+0.6
GRR	Gorron 23nm,0.8s	74.63	42	eP	P	09 52 29.7	+0.6
FLN	La Foliniere 20nm,1.0s	74.91	42	eP	P	09 52 31.4	+0.7
FLN	La Foliniere 20nm,1.0s	74.91	42	eP	P	09 52 31.4	+0.7
MFF	Saint Martin d	74.98	44	eP	P	09 52 31.9	+0.7
MFF	Saint Martin d	74.98	44	eP	P	09 52 31.9	+0.7
LDF	La Druitiere 12nm,0.7s	75.13	42	eP	P	09 52 32.6	+0.6
LDF	La Druitiere 12nm,0.7s	75.13	42	eP	P	09 52 32.6	+0.6
EPF	Esparros 12nm,0.7s	75.14	48	eP	P	09 52 33.3	+1.0
EPF	Esparros 12nm,0.7s	75.14	48	eP	P	09 52 33.3	+1.0
BPAW	Bear Paw Mtn. 0.9nm,0.8s	75.46	334	eP	P	09 52 33.1	-0.5
LFF	La Frestale 8.9nm,0.5s	75.51	46	eP	P	09 52 34.8	+0.5
LFF	La Frestale 8.9nm,0.5s	75.51	46	eP	P	09 52 34.8	+0.5
COLD	Coldfoot	75.77	337	eP	P	09 52 36.0	+0.6
CAF	Calviac 15nm,1.0s	76.45	46	eP	P	09 52 40.2	+0.5
CAF	Calviac 15nm,1.0s	76.45	46	eP	P	09 52 40.2	+0.5
MTLF	Montolieu	76.52	47	eP	P	09 52 40.6	+0.5
MTLF	Montolieu	76.52	47	eP	P	09 52 40.6	+0.5
TORD	Torodi Ar. Bea 0.7nm,0.5s,baz=280,slow=6.6,SNR=7.3	77.29	78	P	P	09 52 45.0	+0.1
TORD				LR	LR	10 29 31.5	
AVF	comp=Z,29nm,18.0s,baz=320,slow=38 Avril sur Loir 8.0nm,0.8s	77.39	44	eP	P	09 52 44.9	0.0
AVF	Avril sur Loir 8.0nm,0.8s	77.39	44	eP	P	09 52 44.9	0.0
SSF	Saint Saulge 5.5nm,0.7s	77.50	44	eP	P	09 52 45.5	0.0
SSF	Saint Saulge 5.5nm,0.7s	77.50	44	eP	P	09 52 45.5	0.0
SMF	Signal de Mont	77.73	44	eP	P	09 52 46.8	0.0
SMF	Signal de Mont	77.73	44	eP	P	09 52 46.8	0.0
LOR	Lormes	77.75	43	eP	P	09 52 47.0	+0.1
LOR	Lormes	77.75	43	eP	P	09 52 47.0	+0.1
VIVF	Saint-Julien-l	78.30	46	eP	P	09 52 51.1	+1.0
VIVF	Saint-Julien-l	78.30	46	eP	P	09 52 51.1	+1.0
GIVF	Givet 16nm,0.8s	78.43	41	eP	P	09 52 51.1	+0.5
GIVF	Givet 16nm,0.8s	78.43	41	eP	P	09 52 51.1	+0.5
SFTF	Sexfontaines	78.55	43	eP	P	09 52 51.6	+0.3
SFTF	Sexfontaines	78.55	43	eP	P	09 52 51.6	+0.3
MEZF	Maizieres J'vi	78.56	42	eP	P	09 52 51.8	+0.4
MEZF	Maizieres J'vi	78.56	42	eP	P	09 52 51.8	+0.4
PAGF	Fort de Pagny 7.0nm,1.0s	79.01	42	eP	P	09 52 54.3	+0.5
PAGF	Fort de Pagny 7.0nm,1.0s	79.01	42	eP	P	09 52 54.3	+0.5
ORIF	Oris-en-Rattie 12nm,0.6s	79.16	46	eP	P	09 52 56.1	+1.2
ORIF	Oris-en-Rattie 12nm,0.6s	79.16	46	eP	P	09 52 56.1	+1.2
CABF	La Chapelle	79.27	44	eP	P	09 52 55.9	+0.5
CABF	La Chapelle	79.27	44	eP	P	09 52 55.9	+0.5
LPL	La Plagne	79.75	45	eP	P	09 52 59.2	+1.0
LPL	La Plagne	79.75	45	eP	P	09 52 59.2	+1.0
LPG	La Plagne	79.76	45	eP	P	09 52 59.4	+1.0
LPG	La Plagne	79.76	45	eP	P	09 52 59.4	+1.0
HINF	Hinteralfeld 8.3nm,0.7s	79.77	43	eP	P	09 52 57.8	-0.3
HINF	Hinteralfeld 8.3nm,0.7s	79.77	43	eP	P	09 52 57.8	-0.3
CDF	Champ du Feu	80.04	42	eP	P	09 52 59.7	+0.1
CDF	Champ du Feu	80.04	42	eP	P	09 52 59.7	+0.1
DAVA	Damuels 7.2nm,0.8s	81.84	43	⇑*i*P	P	09 53 10.6	+1.3
NB2	NORSAR Subarra comp=Z,5.4nm,0.9s,baz=274,slow=5.3	81.89	29	P	P	09 53 10.0	+0.9
NOA	NORSAR Array B comp=Z,2.8nm,0.8s,baz=274,slow=5.3,SNR=10	81.89	29	P	P	09 53 09.6	+0.5
FUORN	Ofenpass-Fuorn	82.15	44	eP	P	09 53 12.9	+1.8

FETA	Feichten	82.44	44	⇑iP	P	09 53 13.6	+1.1
	comp=Z,6.3nm,1.0s						
GERES	GERESS Array B	84.27	42	P	P	09 53 22.6	+0.9
	comp=Z,1.8nm,0.8s,baz=266,slow=4.0,SNR=12						
ARCES	ARCESS Array B	86.56	20	P	P	09 53 32.5	-0.1
	comp=Z,2.6nm,0.5s,baz=277,slow=4.6,SNR=23						
FINES	FINESS Array B	88.91	28	P	P	09 53 44.4	+0.5
	comp=Z,1.8nm,0.8s,baz=234,slow=4.8,SNR=4.1						
WMQ	Urumqi	126.22	14	ePKP	PKPdf	09 59 53.2	+0.7
HHC	Hu-ho-hao-te	130.34	351	ePKP	PKPdf	09 59 58.2	-2.3
HHC				PP	PP	10 02 15.8	+2.7
HHC				SKS	SKSdf	10 07 06.6	-1.4
HHC				SS	SS	10 19 36.1	+0.6
CD2	Chengdu	140.90	359	PKP	PKPdf	10 00 18.3	-2.0
AS31	Alice Springs	146.67	239	ePKPdf	PKPdf	10 00 30.4	-0.1
AS31				ePKPbc	PKPbc	10 00 32.1	-0.1
AS31				ePKPab	PKPab	10 00 33.4	0.0
ASAR	Alice Springs	146.67	239	PKPbc	PKPdf	10 00 30.0	-0.5
	comp=Z,2.0nm,0.7s,baz=117,slow=3.7,SNR=34						
ASAR				pPKPbc	pPKPbc	10 00 42.9	-5.0
	comp=Z,2.5nm,0.6s,baz=117,slow=3.9,SNR=12						
WRA	Warramunga Arr	147.50	246	PKPbc	PKPdf	10 00 31.4	-0.6
	comp=Z,1.5nm,0.8s,baz=102,slow=3.6,SNR=12						
CMAR	Chiang Mai Arr	153.02	8	PKPbc	PKPbc	10 00 47.2	-0.8
	comp=Z,0.9nm,0.4s,baz=325,slow=4.6,SNR=2.4						
CMAR				PKPab	PKPab	10 00 58.9	-0.4
	comp=Z,2.8nm,0.7s,baz=325,slow=4.9,SNR=7.0						

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*IDC **01** 09:42:08.0±0.6, 3°.23S×129°.65E, h0km, mb4.4/15, mb1 4.5/17, mb1mx4.4/24, mbtmp4.4/17, ML4.1/2, MS3.4/12, Ms1 3.4/12, ms1mx3.2/36, Error ellipse: s-maj=18.4km s-min=13.5km az=83.0*

*BJI **01** 09:42:08.6, 3°.58S×130°.14E, h43km, mb4.9/22, mB4.9/18, Ms4.4/8, Ms7 4.1/8*

*ISCJB **01** 09:42:10.5±0.3, 3°.22S±0°.03×129°.54E±0°.02, h28km, mb4.5/27, MS3.5/10, Error ellipse: s-maj=4.4km s-min=3.4km az=173.8*

*DJA **01** 09:42:11.2±0.2, 3°S±2°×13°0E±°, h10km, M4.8/22, mb4.9/22, mB5.5/10, MLv4.5/14, Mw(mB)4.9/10*

*NEIC **01** 09:42:13.4±0.3, 3°.22S×129°.67E, h35km, mb4.5/15, Error ellipse: s-maj=7.7km s-min=6.6km az=60.0*

ISC 01 09:42:12.9±0.4**, 3°.20S**±0°.04×**129°.52E**±0°.04**, h28**km**, n90,** σ**1s.49**/93**, mb4.6**/27**, MS3.4**/10**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSAI	Masohi	0.61	256	P	Pb	09 42 20.4	-4.6
MSAI				S	Sb	09 42 31.2	-2.1
BNDI	Bandanaira	1.37	164	P	Pb	09 42 38.3	+0.4
BNDI				S	Sb	09 42 57.3	+2.3
AAI	Ambon	1.41	250	P	Pn	09 42 34.4	-2.3
AAI				S	Sb	09 42 56.3	+0.2
NLAI	Namlea	2.42	269	P	Pn	09 42 50.6	0.0
FAKI	Fak Fak	2.74	84	P	Pn	09 42 53.6	-1.5
FAKI	Fak Fak	2.74	84	ePn	Pn	09 42 54.0	-1.1
SIJI	Sorong	2.90	37	Pn	Pn	09 42 55.4	-1.9
	20nm,0.3s,baz=258,slow=6.5,SNR=18						
SIJI				Sn	Sn	09 43 30.4	-0.9
	13nm,0.3s,baz=273,slow=9.8,SNR=4.9						
SIJI				LR	LR	09 44 17.6	
	comp=Z,364nm,19.2s,baz=251,slow=46						
SANI	Sanana	3.71	288	P	Pn	09 43 07.1	-1.2
SANI				S	Sn	09 43 51.8	+0.7
TNTI	Ternate	4.49	331	P	Pn	09 43 18.9	-0.3
TNTI				S	Sn	09 44 10.4	-0.2
TNTI	Ternate	4.49	331	ePn	Pn	09 43 19.3	+0.1
RKPI	Ransiki, Papua	4.95	70	P	Pn	09 43 24.0	-1.4
RKPI				S	Sn	09 44 24.1	+2.3
SAUI	Saumlaki	5.07	160	P	Pn	09 43 28.4	+1.3
	401nm,1.0s,1.6nm						
KMSI	Cibinong	6.69	304	P	Pb	09 44 07.1	-1.4
KDI	Kendari	6.93	264	P	Pn	09 43 54.0	+1.4
	45nm,1.2s,0.1nm						
LUWI	Luwuk	7.08	287	P	Pn	09 43 54.6	-0.1
	123nm,1.0s,4µm0.5nm						
APSI	Ampana	8.19	286	P	Pn	09 44 09.9	0.0
	296nm,1.0s,2µm						
SOEI	Soe	8.34	218	P	Pn	09 44 13.3	+1.1
	54nm,1.7s						
SOEI	Soe	8.34	218	ePn	Pn	09 44 11.9	-0.3
	91nm,1.2s						
MRSI	Marisa	8.41	296	P	Pn	09 44 12.4	-0.6
	70nm,0.9s,701nm						
MRSI				S	Sn	09 45 48.8	+1.7
	70nm,0.9s,701nm						
MMRI	Maumere	9.03	233	P	Pn	09 44 22.0	+0.5
	108nm,1.2s						
MMRI	Maumere	9.03	233	ePn	Pn	09 44 22.0	+0.5
	183nm,1.3s						
SMPI	Sarmi	9.26	83	P	Pn	09 44 25.2	+0.5
	48nm,0.7s						
BSSI	Bau Bau, Buton	9.46	252	P	Pn	09 44 27.5	+0.1
	69nm,1.0s,3µm						
BKSI	Bulukumba	9.60	257	P	Pn	09 44 29.6	+0.2
	36nm,1.0s,448nm						
TTSI	Tana Toraja	9.69	271	P	Pn	09 44 30.7	+0.2
	18nm,0.9s,2µm						
TOLI	Toli-Toli	9.72	296	ePn	Pn	09 44 31.4	+0.4
SPSI	Sidrap Palu	9.76	265	P	Pn	09 44 31.6	+0.1
	34nm,1.0s						
KAPI	Kappang	9.91	259	Pn	Pn	09 44 35.2	+1.6
	2.2nm,0.3s,baz=80,slow=3.8,SNR=6.2						
KAPI				LR	LR	09 49 13.0	
	comp=Z,397nm,21.6s,baz=89,slow=42						
KAPI	Kappang	9.91	259	ePn	Pn	09 44 37.6	+4.0
PCI	Palu	9.94	283	P	Pn	09 44 38.3	+4.3
MPSI	Mapaga	10.24	290	P	Pn	09 44 37.9	-0.2
	22nm,1.0s						
GENI	Genyem	10.65	87	P	Pn	09 44 44.6	+0.8
	69nm,1.2s,3µm						
WRAB	Tennant Creek	17.29	165	ePn	Pn	09 46 12.5	0.0
	13nm,1.1s						
WRA	Warramunga Arr	17.29	165	Pn	Pn	09 46 06.1	-6.4
	0.1nm,0.3s,baz=344,slow=13,SNR=4.6						
WRA				Sn	Sn	09 49 19.2	-5.0
	0.1nm,0.3s,baz=337,slow=21,SNR=4.2						
SBUM	Sibu	18.18	288	ePn	P	09 46 26.1	+2.5
	20nm,1.1s						
KSM	Kuching	19.76	283	eP	Pn	09 46 42.5	0.0
	19nm,0.7s						
MBWA	Marble Bar	20.23	207	ePn	Pn	09 46 48.5	+0.4
	14nm,1.0s						
AS31	Alice Springs	20.78	169	eP	P	09 46 49.9	-2.1
ASAR	Alice Springs	20.78	169	P	P	09 46 50.1	-1.8
	24nm,0.6s,baz=349,slow=11,SNR=212						
ASAR				S	S	09 50 41.6	-1.1
	2.0nm,0.9s,baz=346,slow=22,SNR=8.4						
LEM	Lembang	22.11	260	P	P	09 47 06.0	-0.5
	37nm,0.9s,baz=157,slow=19,SNR=4.3						
LEM				LR	LR	09 56 24.5	
	comp=Z,225nm,21.0s,baz=99,slow=38						
CTA	Charters Tower	23.42	137	P	P	09 47 18.5	-1.4
	9.1nm,0.9s,baz=324,slow=13,SNR=11						
CTAO	Charters Tower	23.42	137	eP	P	09 47 18.8	-1.1
	7.7nm,0.8s						
MYKOM	Kota Tinggi	26.13	281	eP	P	09 47 47.8	+2.8
	12nm,1.0s						
IPM	Ipoh	29.48	285	eP	P	09 48 16.7	+1.8
	13nm,0.8s						
STKA	Stephens Creek	30.70	160	P	P	09 48 24.1	-1.4
	1.2nm,0.4s,baz=337,slow=7.1,SNR=7.0						
STKA				LR	LR	10 03 08.0	
	comp=Z,172nm,19.7s,baz=2.2,slow=41						
STKA	Stephens Creek	30.70	160	eP	P	09 48 25.4	-0.1
PSI	Prapat	31.16	281	P	P	09 48 30.3	+0.4
	4.9nm,0.5s,baz=128,slow=5.8,SNR=5.5						
CMAR	Chiang Mai Arr	37.01	307	P	P	09 49 21.2	+0.7
	1.2nm,0.3s,baz=126,slow=9.1,SNR=4.8						
CMAR				PcP	PcP	09 51 40.6	-0.6
	0.6nm,0.3s,baz=157,slow=2.5,SNR=3.2						
CMMT	Chiang Mai	37.20	307	P	P	09 49 26.8	+4.7
	17nm,1.7s						
CHTO	Chiang Mai	37.20	307	P	P	09 49 26.9	+4.8
	34nm,1.0s						
CHTO	Chiang Mai	37.20	307	eP	P	09 49 25.6	+3.5
	6.8nm,1.0s						
CMAI	Chiengmai2	37.74	309	P	P	09 49 33.3	+6.5
	5.5nm,1.4s						
MAJO	Matsushiro	40.36	11	eP	P	09 49 46.0	-2.4
	17nm,0.8s						
MAT	Matsushiro	40.36	11	P	P	09 49 45.8	-2.5
MJAR	Matsushiro Arr	40.36	11	P	P	09 49 46.0	-2.3
	12nm,0.8s,baz=182,slow=9.3,SNR=28						
KSAR	Wonju Array Be	40.46	358	P	P	09 49 48.5	-0.6
KSRS	Korea Array	40.48	358	P	P	09 49 48.5	-0.7
	1.5nm,0.9s,baz=178,slow=9.7,SNR=7.1						
KSRS				LR	LR	10 04 11.7	
	comp=Z,38nm,20.9s,baz=179,slow=33						
XAN	Xi'an	41.82	334	P	P	09 49 58.9	-1.5
XAN				PMZ			
	2.0nm,1.2s						
CD2	Chengdu	41.88	326	eP	P	09 50 02.6	+1.6
CD2				PMZ			
	10.0nm,0.5s						
BJI	Beijing	44.74	345	P	P	09 50 24.4	+0.6
BJI				PMZ			
	16nm,0.9s						
BJI				PMZ			
	75nm,4.5s						
HHC	Hu-ho-hao-te	46.81	341	eP	P	09 50 42.4	+2.1
HHC				PP	PP	09 52 34.0	+3.2
HHC				S	S	09 57 32.2	+3.1
HHC				sS	sS	09 57 48.7	+5.6
HHC				SS	SS	10 00 52.0	-4.0
HHC				PMZ			
	23nm,1.1s						
HHC				PMZ			
	100nm,6.3s						
HHC				LN			
	98nm,14.5s						
HHC				LE			
	82nm,14.8s						
HHC				LZ			
	80nm,14.4s						
USRK	Ussuriysk Ar.	47.24	2	P	P	09 50 42.6	-0.8
	4.3nm,0.7s,baz=186,slow=7.8,SNR=12						
GTA	Gaotai	50.45	330	eP	P	09 51 08.7	+0.3
GTA				pP	pP	09 51 18.6	+1.7
GTA				sP	sP	09 51 22.5	+2.2
GTA				S	S	09 58 20.3	-0.2
GTA				SS	SS	10 01 52.9	-1.9
GTA				PMZ			
	9.0nm,1.0s						
GTA				PMZ			
	50nm,5.0s						
GTA				LN			
	46nm,17.6s						
GTA				LE			
	61nm,18.1s						
GTA				LZ			
	88nm,17.1s						
ULN	Ulaanbaatar	54.53	342	eP	P	09 51 43.2	+4.7
	7.9nm,1.0s						
SONM	Songino Array	54.71	341	P	P	09 51 39.7	-0.1
	3.9nm,1.0s,baz=147,slow=8.1,SNR=22						
SONM				PcP	PcP	09 52 42.2	-0.1
	1.0nm,1.0s,baz=150,slow=4.4,SNR=2.1						
URZ	Urewera	55.65	135	LR	LR	10 15 47.8	
	comp=Z,35nm,19.6s,baz=302,slow=36						
TLY	Talaya	58.94	342	LR	LR	10 20 37.7	
	comp=Z,27nm,18.5s,baz=161,slow=39						
WMQ	Urumqi	59.98	326	eP	P	09 52 20.4	+3.4
WMQ				PMZ			
	12nm,0.4s						
WMQ				PMZ			
	29nm,5.2s						
WMQ				LN			
	180nm,5.9s						
WMQ				LE			
	110nm,5.9s						
PEA0B	Petropavlovsk-	60.90	19	eP	P	09 52 22.5	-0.5
PETK	Petropavlovsk-	60.90	19	P	P	09 52 23.1	+0.1
	10nm,0.8s,baz=191,slow=6.0,SNR=16						
MKAR	Makanchi Array	64.81	326	P	P	09 52 49.5	+0.2
	2.7nm,0.8s,baz=126,slow=7.4,SNR=17						
MKAR				LR	LR	10 23 35.3	
	comp=Z,16nm,20.0s,baz=166,slow=38						
YAK	Yakutsk	65.05	0	LR	LR	10 19 59.0	
	comp=Z,20nm,19.3s,baz=172,slow=35						
YAK	Yakutsk	65.05	0	eP	P	09 52 50.2	-0.2
	52nm,0.9s						
TKM2	Tokmak 2	66.78	320	eP	P	09 53 01.9	-0.4
	2.2nm,0.8s						
EKS2	Erkin-Say	67.84	319	eP	P	09 53 08.8	0.0
	3.6nm,0.9s						
ZAA0	Zalesovo Array	67.99	333	eP	P	09 53 09.4	+0.1
ZAA0				epP	pP	09 53 20.0	+1.9
ZALV	Zalesovo Beam	67.99	333	P	P	09 53 08.4	-1.0
	5.2nm,0.9s,baz=108,slow=4.8,SNR=6.9						
VNDA	Vanda	76.25	173	P	P	09 53 56.5	-1.9
	1.6nm,0.9s,baz=316,slow=5.8,SNR=8.2						
ABKAR	Akbulak array	79.26	321	eP	P	09 54 14.5	-1.2
	3.1nm,0.8s						
RAYN	Ar Rayn	85.78	294	eP	P	09 54 51.3	+0.9
	13nm,1.2s						
COLD	Coldfoot	89.17	23	eP	P	09 55 06.0	+0.3
	3.8nm,0.9s						
ILAR	Eielson Array	90.14	25	P	P	09 55 08.8	-1.4
	0.9nm,0.9s,baz=274,slow=4.8,SNR=8.1						
KMBO	Kilima Mbogo	92.20	269	LR	LR	10 33 02.4	
	comp=Z,43nm,21.4s,baz=150,slow=33						
BRTR	Keskin Array B	96.56	309	LR	LR	10 46 20.4	
	comp=Z,8.9nm,18.5s,baz=104,slow=40						
ARCES	ARCESS Array B	97.87	340	LR	LR	10 47 19.4	
	comp=Z,27nm,18.7s,baz=260,slow=40						
KOLS	Kolonicke sedl	103.70	320	e	Pdif	09 56 13.4	+1.3
STHS	Stebnicka Huta	104.27	320	PDIF	Pdif	09 56 14.5	-0.1
KECS	Kecovo	104.95	319	PDIF	Pdif	09 56 16.1	-1.5
TXAR	Lajitas Array	123.33	57	PKP	PKPdf	10 01 09.3	+1.1
	0.7nm,0.9s,baz=201,slow=1.1,SNR=8.4						
TORD	Torodi Ar. Bea	127.52	284	PKP	PKPdf	10 01 16.9	+0.5
	0.9nm,0.8s,baz=33,slow=2.8,SNR=5.5						

ATH 01 10:02:40.5, 34°.45N×26°.51E, h15km±6km**, MD3.5**/3**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NPS	Neapolis	1.10	318	ePN	Pb	10 03 01.2	0.0
NPS				eSN	Sb	10 03 15.7	+0.3
VAM	Vamos	2.12	297	ePB	Pn	10 03 16.5	+1.0
VAM				eSN	Sb	10 03 45.5	+0.6
ARG	Arkhangelos	2.20	36	ePN	Pb	10 03 19.0	-1.0

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*MEX **01** 10:03:08.1±0.7, 32°.45N×115°.79W, h16km±12km, MD3.8*

*ECX **01** 10:03:11.9±0.6, 32°.16N×115°.23W, h9km, MD2.5, ML2.7*

ISC 01 10:03:09.5±1.4**, 32°.18N**±0°.04×**115°.07W**±0°.09**, h31**km±10km**, n12,** σ**0s.93**/22**, 5C-1D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBIG	Mexicali	0.25	334	eP	Pn	10 03 17.2	0.0
MBIG				eS	Sn	10 03 22.8	+0.8
CPBX	Cerro Prieto	0.31	320	⇑eP	Pb	10 03 17.4	+0.1
CPBX				eS	Sb	10 03 21.9	-0.6
CPBX				IAML		10 03 23.2	
	comp=N,3µm,0.2s						
ECBX	El Chinero	0.70	179	ePn	Pn	10 03 23.1	-0.3
ECBX				eS	Sb	10 03 32.8	+0.1
RDX	Rancho Dawling	0.79	252	⇑eP	Pn	10 03 23.8	-0.9
RDX				eS	Sn	10 03 32.6	-2.8
RDX				⇓e		10 03 35.0	
RDX				IAML		10 03 35.0	
	comp=N,206nm,0.4s						
RMX	La Rumorosa	0.95	297	eP	Pn	10 03 26.7	-0.2
RMX				eS	Sn	10 03 38.2	-1.4
RMX				⇑e		10 03 39.5	
RMX				IAML		10 03 39.5	
	comp=N,227nm,0.1s						
SPIG	San Pedro Mart	1.18	197	eP	Pn	10 03 29.5	-0.7
SPIG				i S	Sb	10 03 47.3	+0.6
SPX	San Pedro Mart	1.18	197	eP	Pb	10 03 31.9	+0.3
SPX				eS	Sb	10 03 47.1	+0.5
SPX				IAML		10 03 48.1	
	comp=E,90nm,0.4s						
SPX				⇑e		10 03 48.1	
ZAX	El Zacaton	1.22	237	eP	Pn	10 03 30.7	+0.1
ZAX				eS	Sn	10 03 46.0	-0.1
CBX	Cerro Bola	1.36	276	eS	Pn	10 03 28.9	-3.6
CBX	Cerro Bola	1.36	276	eP	Pn	10 03 33.4	+0.9
CBX				eS	Sn	10 03 49.6	0.0
CBX				⇑e		10 03 50.8	
CBX				IAML		10 03 50.8	
	comp=E,210nm,0.5s						
ECNX	Esteban Cantu	1.40	249	eP	Pn	10 03 33.8	+0.7
ECNX				eS	Sn	10 03 51.1	+0.5
PBX	Punta Banda	1.48	253	eP	Pn	10 03 34.7	+0.7
PBX				eS	Sn	10 03 53.0	+0.7

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*BGR **01** 10:43:28.8±0.8, 51°.61N×6°.43E, h1km, ML3.2/7, Error ellipse: s-maj=8.9km s-min=4.4km az=142.0*

*ISCJB **01** 10:43:28.7±0.3, 51°.40N±0°.02×6°.39E±0°.03, h0km, Error ellipse: s-maj=2.8km s-min=2.1km az=141.1*

*BUG **01** 10:43:29.9, 51°.51N×6°.56E, h1km, ML2.9*

BUG Felt IV EMS.

*CSEM **01** 10:43:30.0±0.2, 51°.48N×6°.54E, h2km, ML3.7/23, Error ellipse: s-maj=4.3km s-min=3.1km az=163.0*

*BNS **01** 10:43:31.1±1.1, 51°.50N×6°.61E, h1km±19km, ML2.9*

*LDG **01** 10:43:31.2±0.1, 51°.48N×6°.60E, h1km, Md3.1/2, Ml3.5/35, Error ellipse: s-maj=1.7km s-min=1.4km az=143.0, Suspected Mining induced.*

*STR **01** 10:43:34.6±0.3, 51°.25N×6°.44E, h1km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*PRU **01** 10:43:38.1, 51°.36N×6°.92E, h15km*

ISC 01 10:43:29.4±0.7**, 51°.44N**±0°.02×**6°.51E**±0°.02**, h0**km**, n178,** σ**1s.36**/270**, 3C, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BRHE	Rheinberg	0.08	29	Pg	Pg	10 43 31.2	+0.2
BRHE				Sg	Sg	10 43 32.3	+0.3
BRHE	Rheinberg	0.08	29	Pg	Pg	10 43 31.2	+0.2
BRHE				Sg	Sg	10 43 32.3	+0.3
LAUG	Laupendahl	0.29	109	ePg	Pg	10 43 35.9	+1.0
LAUG	Laupendahl	0.29	109	Pg	Pg	10 43 35.9	+1.0
HES	Velbert-Hesper	0.34	103	ePg	Pg	10 43 36.2	+0.2
HES				eSg	Sg	10 43 41.4	+1.0
HES	Velbert-Hesper	0.34	103	Pg	Pg	10 43 36.2	+0.2
HES				Sg	Sg	10 43 41.4	+1.0
RWB	Wassenberg	0.41	213	eSg	Sb	10 43 46.9	+0.7
	608nm,0.2s						
JCK	Jackerath	0.41	187	ePg	Pb	10 43 40.0	+0.4
JCK				eSg	Sb	10 43 46.5	+0.2
	2µm,0.2s						
JCK	Jackerath	0.41	187	Pg	Pb	10 43 40.0	+0.4
JCK				Sg	Sb	10 43 46.5	+0.2
	2µm,0.2s						
BUG	Bochum--Univer	0.48	90	ePg	Pg	10 43 39.2	+0.7
BUG				Sg	Sg	10 43 46.0	+1.3
PLH	Pulheim	0.48	156	ePg	Pb	10 43 40.8	+0.1
PLH				eSg	Sb	10 43 47.8	-0.5
	2µm,0.2s						
PLH	Pulheim	0.48	156	Pg	Pb	10 43 40.8	+0.1
PLH				Sg	Sb	10 43 47.8	-0.5
	2µm,0.2s						
WTSB	Winterswijk	0.55	19	ePg	Pg	10 43 40.7	+0.7
	114nm,0.4s						
WTSB				eSg	Sg	10 43 47.8	+0.6
WTSB	Winterswijk	0.55	19	ePg	Pg	10 43 40.7	+0.7
	114nm,0.4s						
WTSB				eSg	Sg	10 43 47.8	+0.6
ENTS	Ennepetalsperr	0.60	109	ePg	Pg	10 43 41.8	+0.9
ENTS				eSg	Sg	10 43 49.2	+0.5
ENTS	Ennepetalsperr	0.60	109	Pg	Pg	10 43 41.8	+0.9
ENTS				Sg	Sg	10 43 49.2	+0.5
BNS	Bensberg	0.64	139	ePg	Pb	10 43 43.5	+0.1
BNS	Bensberg	0.64	139	Pg	Pb	10 43 43.5	+0.1
HOBG	Hohbusch	0.69	131	ePg	Pg	10 43 44.5	+1.8
HOBG	Hohbusch	0.69	131	Pg	Pg	10 43 44.5	+1.8
GSH	Grosshau	0.71	187	ePg	Pb	10 43 45.7	+1.0
GSH				eSg	Sb	10 43 56.0	+1.0
	203nm,0.1s						
GSH	Grosshau	0.71	187	Pg	Pb	10 43 45.7	+1.0
GSH				Sg	Sb	10 43 56.0	+1.0
	203nm,0.1s						
HGN	Heimansgroeve	0.77	208	ePn	Pb	10 43 46.8	+1.1
HGN				ePg	Pn	10 43 48.4	+0.9
	344nm,0.2s						
HGN				eSg	Sn	10 43 59.1	-0.7
HGN	Heimansgroeve	0.77	208	ePn	Pb	10 43 46.8	+1.1
WBS	Wahnbachtalspe	0.80	142	eSg	Sg	10 43 57.2	+2.1
	331nm,0.2s						
KLL	Kalltalsperre	0.81	189	ePg	Pb	10 43 47.3	+1.0
KLL	Kalltalsperre	0.81	189	Pg	Pb	10 43 47.3	+1.0
BEBN	Eben Emael	0.83	219	P	Pn	10 43 49.5	+1.1
BEBN	Eben Emael	0.83	219	P	Pn	10 43 49.4	+1.1
STB	Steinbach	0.88	166	ePg	Pb	10 43 49.0	+1.5
STB				eSg	Sb	10 44 01.6	+1.9
	384nm,0.4s						
STB	Steinbach	0.88	166	Pg	Pb	10 43 49.0	+1.5
STB				Sg	Sb	10 44 01.6	+1.9
	384nm,0.4s						
MEM	Membach	0.89	201	P	Pn	10 43 49.6	+0.3
MEM	Membach	0.89	201	P	Pn	10 43 49.5	+0.3
TDN	Todenfeld	0.91	162	eSg	Sb	10 44 01.6	+0.8
	337nm,0.2s						
TDN	Todenfeld	0.91	162	Sg	Sb	10 44 01.6	+0.8
	337nm,0.2s						
HILG	Hillesheim	1.16	175	ePg	Pn	10 43 54.0	+1.1
HILG	Hillesheim	1.16	175	Pg	Pn	10 43 54.0	+1.1
LOH	Wallersheim-Lo	1.26	179	ePg	Pn	10 43 55.5	+1.2
LOH				eSg	Sn	10 44 13.1	+1.1
	178nm,0.4s						
LOH	Wallersheim-Lo	1.26	179	Pg	Pn	10 43 55.5	+1.2
LOH				Sg	Sn	10 44 13.1	+1.1
	178nm,0.4s						
BCLA	Clavier	1.28	217	P	Pn	10 43 56.0	+1.5
BCLA	Clavier	1.28	217	P	Pn	10 43 56.0	+1.5
KOE	Koeppel	1.28	142	ePg	Pg	10 43 55.1	+1.2
KOE	Koeppel	1.28	142	Pg	Pg	10 43 55.1	+1.2
BGG	Burgeitz	1.35	157	ePg	Pb	10 43 56.4	+0.9
BGG	Burgeitz	1.35	157	Pg	Pb	10 43 56.4	+0.9
BGES	Gesves	1.39	221	P	Pb	10 43 57.9	+1.7
RCHB	Rochefort	1.52	213	P	Pg	10 44 01.4	+2.8
SNF	Seneffe	1.69	237	P	Pb	10 44 01.5	+0.1
SNF	Seneffe	1.69	237	P	Pb	10 44 01.4	+0.1
ABH	Alteburg	1.70	157	Pn	Pb	10 44 01.9	+0.4
ABH	Alteburg	1.70	157	Pg	Pg	10 44 03.3	+1.4
ABH				Sg	Sg	10 44 25.4	+1.5
GIVF	Givet	1.72	219	ePn	Pn	10 44 01.5	+1.0
	SNR=1.0						
GIVF	Givet	1.72	219	ePg	Pg	10 44 03.7	+1.4
GIVF				eSn	Sn	10 44 23.9	+0.7
	369nm,0.5s						
GIVF	Givet	1.72	219	ePn	Pn	10 44 01.5	+1.0
	SNR=1.0						
GIVF	Givet	1.72	219	ePg	Pg	10 44 03.7	+1.4
GIVF				eSn	Sn	10 44 23.9	+0.7
	184nm,0.5s						
TNS	Taunus Mts	1.73	134	ePn	Pn	10 44 01.1	+0.3
TNS	Taunus Mts	1.73	134	Pn	Pn	10 44 01.1	+0.3
RUP	Ruppelstein	1.78	168	Pg	Pg	10 44 04.5	+1.0
RUP				Sg	Sb	10 44 26.9	+1.1
WLF	Walferdange	1.80	187	P	Pb	10 44 04.1	+1.0
WLF	Walferdange	1.80	187	ePg	Pg	10 44 05.4	+1.6
WLF				eSg	Sg	10 44 29.8	+2.8
WLF	Walferdange	1.80	187	P	Pb	10 44 04.1	+1.0
WLF	Walferdange	1.80	187	Pg	Pg	10 44 05.4	+1.6
WLF				Sg	Sg	10 44 29.8	+2.8
DOU	Dourbes	1.82	223	P	Pn	10 44 03.3	+1.4
DOU	Dourbes	1.82	223	P	Pn	10 44 03.2	+1.4
BAIF	Baives	2.01	227	ePn	Pn	10 44 05.8	+1.2
	SNR=1.0						
BAIF				eSn	Sn	10 44 31.1	+0.6
	73nm,0.3s						
BAIF	Baives	2.01	227	ePn	Pn	10 44 05.8	+1.2
	SNR=1.0						
BAIF				eSn	Sn	10 44 31.1	+0.6
	36nm,0.3s						
TOD	Tromm	2.35	141	Pn	Pn	10 44 10.7	+1.4
TOD				Sg	Sg	10 44 47.8	+2.9
CLZ	Clausthal	2.44	79	ePg	Pb	10 44 14.8	+0.7
CLZ	Clausthal	2.44	79	Pg	Pb	10 44 14.8	+0.7
LANF	Langenberg	2.60	161	Pn	Pn	10 44 14.1	+1.4
LANF				Sg	Sg	10 44 54.5	+1.5
LANF	Langenberg	2.60	161	Pn	Pn	10 44 14.1	+1.4
PAGF	Fort de Pagny	2.94	190	ePn	Pn	10 44 18.0	+0.7
	baz=16						
PAGF	Fort de Pagny	2.94	190	ePg	Pg	10 44 26.5	+0.9
PAGF				eSg	Sg	10 45 04.8	+1.1
	17nm,0.4s						
PAGF	Fort de Pagny	2.94	190	ePn	Pn	10 44 18.0	+0.7
PAGF	Fort de Pagny	2.94	190	ePg	Pg	10 44 26.5	+0.9
PAGF				eSg	Sg	10 45 04.8	+1.1
	8.3nm,0.4s						
CDF	Champ du Feu	3.08	170	ePn	Pn	10 44 20.2	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	SNR=1.0						
CDF	**Champ du Feu**	**3.08**	**170**	*e*Pg	**Pg**	**10 44 28.5**	**+0.2**
CDF				*e*Sg	**Sg**	**10 45 09.0**	**+0.8**
	55nm,0.6s						
CDF	**Champ du Feu**	**3.08**	**170**	*e*Pn	**Pn**	**10 44 20.2**	**+0.9**
	SNR=1.0						
CDF	**Champ du Feu**	**3.08**	**170**	*e*Pg	**Pg**	**10 44 28.5**	**+0.2**
MEZF	**Maizieres J'vi**	**3.09**	**198**	*e*Pn	**Pn**	**10 44 19.9**	**+0.5**
	baz=18,SNR=1.0						
MEZF				*e*Sg	**Sg**	**10 45 09.8**	**+1.1**
	97nm,0.6s						
MEZF	**Maizieres J'vi**	**3.09**	**198**	*e*Pn	**Pn**	**10 44 19.9**	**+0.5**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**10 45 09.8**	**+1.1**
	49nm,0.6s						
THEF	**They Montfort**	**3.24**	**186**	Pn	**Pn**	**10 44 22.4**	**+0.9**
THEF	**They Montfort**	**3.24**	**186**	Pg	**Pg**	**10 44 32.7**	**+1.3**
THEF				Sg	**Sg**	**10 45 13.4**	**0.0**
THEF	**They Montfort**	**3.24**	**186**	Pn	**Pn**	**10 44 22.4**	**+0.9**
THEF	**They Montfort**	**3.24**	**186**	Pg	**Pg**	**10 44 32.7**	**+1.3**
THEF				Sg	**Sg**	**10 45 13.4**	**0.0**
ECH	**Echery**	**3.26**	**172**	*e*Pn	**Pn**	**10 44 22.0**	**+0.2**
ECH	**Echery**	**3.26**	**172**	Pn	**Pn**	**10 44 23.7**	**+1.9**
ECH				Sg	**Sg**	**10 45 14.9**	**+0.9**
ECH	**Echery**	**3.26**	**172**	Pn	**Pn**	**10 44 22.0**	**+0.2**
BFO	**Black Forest**	**3.33**	**159**	*e*Pn	**Pn**	**10 44 23.7**	**+0.9**
BFO	**Black Forest**	**3.33**	**159**	Pn	**Pn**	**10 44 23.7**	**+0.9**
SFTF	**Sexfontaines**	**3.38**	**197**	*e*Pn	**Pn**	**10 44 23.8**	**+0.4**
SFTF	**Sexfontaines**	**3.38**	**197**	*e*Pg	**Pg**	**10 44 33.6**	**-0.5**
	baz=16						
SFTF				*e*Sg	**Sg**	**10 45 19.3**	**+1.4**
	39nm,0.3s						
SFTF	**Sexfontaines**	**3.38**	**197**	*e*Pn	**Pn**	**10 44 23.8**	**+0.4**
SFTF	**Sexfontaines**	**3.38**	**197**	*e*Pg	**Pg**	**10 44 33.6**	**-0.5**
SFTF				*e*Sg	**Sg**	**10 45 19.3**	**+1.4**
	20nm,0.3s						
HAU	**Haudompre**	**3.44**	**182**	*e*Pn	**Pn**	**10 44 25.0**	**+0.7**
HAU	**Haudompre**	**3.44**	**182**	*e*Pg	**Pg**	**10 44 35.2**	**-0.2**
HAU				*e*Sg	**Sg**	**10 45 20.4**	**+0.4**
	43nm,0.4s						
HAU	**Haudompre**	**3.44**	**182**	*e*Pn	**Pn**	**10 44 25.0**	**+0.7**
HAU	**Haudompre**	**3.44**	**182**	*e*Pg	**Pg**	**10 44 35.2**	**-0.2**
HAU				*e*Sg	**Sg**	**10 45 20.4**	**+0.4**
	21nm,0.4s						
GRA1	**Grafenberg Arr**	**3.48**	**118**	Sg	**Sg**	**10 45 23.1**	**+2.0**
GRF	**Grafenberg Arr**	**3.48**	**118**	*e*Sg	**Sg**	**10 45 23.1**	**+2.0**
HINF	**Hinteralfeld**	**3.64**	**176**	*e*Pn	**Pn**	**10 44 27.8**	**+0.8**
HINF	**Hinteralfeld**	**3.64**	**176**	*e*Pg	**Pg**	**10 44 38.8**	**-0.3**
HINF				*e*Sg	**Sg**	**10 45 25.9**	**-0.3**
	22nm,0.4s						
HINF	**Hinteralfeld**	**3.64**	**176**	*e*Pn	**Pn**	**10 44 27.8**	**+0.8**
HINF	**Hinteralfeld**	**3.64**	**176**	*e*Pg	**Pg**	**10 44 38.8**	**-0.3**
FELD	**Feldberg im Sc**	**3.70**	**164**	Pn	**Pn**	**10 44 29.0**	**+1.1**
FELD	**Feldberg im Sc**	**3.70**	**164**	Pg	**Pg**	**10 44 40.5**	**+0.2**
NKC	**Novy Kostel**	**3.96**	**106**	*e*PG	**Pg**	**10 44 44.1**	**-1.1**
NKC				*e*SG	**Sg**	**10 45 35.0**	**-1.4**
	comp=Z,17nm,0.6s						
NKC	**Novy Kostel**	**3.96**	**106**	Pg	**Pg**	**10 44 44.1**	**-1.1**
NKC				Sg	**Sg**	**10 45 35.0**	**-1.4**
	17nm,0.6s						
CLL	**Collm**	**4.07**	**89**	*e*Pg	**Pg**	**10 44 50.0**	**+2.6**
CLL				*e*		10 45 38.0	
CLL				*e*Sg	**Sg**	**10 45 41.0**	**+0.9**
	comp=Z,17nm,0.7s						
LOR	**Lormes**	**4.52**	**204**	*e*Pn	**Pn**	**10 44 39.6**	**+0.5**
	baz=26,SNR=1.0						
LOR				*e*Sn	**Sn**	**10 45 29.7**	**-2.7**
LOR				*e*Sg	**Sg**	**10 45 55.0**	**+0.4**
	comp=Z,69nm,0.7s						
LOR	**Lormes**	**4.52**	**204**	*e*Pn	**Pn**	**10 44 39.6**	**+0.5**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**10 45 29.7**	**-2.7**
LOR				*e*Sg	**Sg**	**10 45 55.0**	**+0.4**
	comp=Z,34nm,0.7s						
DAVA	**Damuels**	**4.71**	**151**	⇑*i*Pn	**Pn**	**10 44 42.5**	**+0.7**
DAVA	**Damuels**	**4.71**	**151**	Pn	**Pn**	**10 44 42.5**	**+0.7**
BRG	**Berggiesshubel**	**4.71**	**94**	PG	**Pg**	**10 44 59.8**	**+0.1**
BRG				SN	**Sn**	**10 45 35.1**	**-2.0**
BRG				SG	**Sb**	**10 45 52.9**	**+2.8**
	comp=Z,12nm,1.0s						
SSF	**Saint Saulge**	**4.81**	**205**	*e*Pn	**Pn**	**10 44 43.5**	**+0.5**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**10 45 37.1**	**-2.3**
SSF				*e*Sg	**Sg**	**10 46 03.5**	**-0.2**
	comp=Z,25nm,0.3s						
SSF	**Saint Saulge**	**4.81**	**205**	*e*Pn	**Pn**	**10 44 43.5**	**+0.5**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**10 45 37.1**	**-2.3**
CABF	**La Chapelle**	**4.84**	**183**	*e*Pn	**Pn**	**10 44 44.5**	**+0.9**
	SNR=1.0						
CABF	**La Chapelle**	**4.84**	**183**	*e*Pg	**Pg**	**10 45 02.2**	**0.0**
CABF				*e*Sg	**Sg**	**10 46 04.5**	**-0.5**
	comp=Z,33nm,0.6s						
CABF	**La Chapelle**	**4.84**	**183**	*e*Pg	**Pg**	**10 45 02.2**	**0.0**
CABF				*e*Sg	**Sg**	**10 46 04.5**	**-0.5**
	comp=Z,17nm,0.6s						
HYF	**Humbligny**	**4.88**	**213**	*e*Pn	**Pn**	**10 44 44.3**	**+0.2**
HYF				*e*Sg	**Sg**	**10 46 06.1**	**-0.1**
HYF	**Humbligny**	**4.88**	**213**	*e*Pn	**Pn**	**10 44 44.3**	**+0.2**
KHC	**Kasperske Hory**	**5.09**	**114**	*e*PN	**Pn**	**10 44 49.8**	**+2.9**
KHC				*e*x	x	10 44 55.3	
KHC				*e*PB	**Pb**	**10 44 58.3**	**-1.0**
KHC				*e*PG	**Pg**	**10 45 04.8**	**-2.1**
KHC				*e*SN	**Sn**	**10 45 43.4**	**-3.0**
KHC				*e*SG	**Sg**	**10 46 11.1**	**-1.7**
	comp=Z,8.6nm,0.6s						
KHC	**Kasperske Hory**	**5.09**	**114**	Pn	**Pn**	**10 44 49.8**	**+2.9**
KHC	**Kasperske Hory**	**5.09**	**114**	Pg	**Pg**	**10 45 04.8**	**-2.1**
KHC				Sn	**Sn**	**10 45 43.4**	**-3.0**
KHC				Sg	**Sg**	**10 46 11.1**	**-1.7**
	comp=Z,8.6nm,0.6s						
AVF	**Avril sur Loir**	**5.10**	**205**	*e*Pn	**Pn**	**10 44 47.4**	**+0.4**
	SNR=1.0						
AVF	**Avril sur Loir**	**5.10**	**205**	*e*Pg	**Pg**	**10 45 06.6**	**-0.4**
AVF				*e*Sg	**Sg**	**10 46 12.9**	**-0.1**
	comp=Z,38nm,0.9s						
AVF	**Avril sur Loir**	**5.10**	**205**	*e*Pn	**Pn**	**10 44 47.4**	**+0.4**
	SNR=1.0						
AVF	**Avril sur Loir**	**5.10**	**205**	*e*Pg	**Pg**	**10 45 06.6**	**-0.4**
SMF	**Signal de Mont**	**5.11**	**201**	*e*Pn	**Pn**	**10 44 47.5**	**+0.3**
	SNR=1.0						
SMF	**Signal de Mont**	**5.11**	**201**	*e*Pg	**Pg**	**10 45 07.0**	**-0.3**
SMF				*e*Sg	**Sg**	**10 46 13.3**	**-0.3**
	comp=Z,19nm,0.3s						
SMF	**Signal de Mont**	**5.11**	**201**	*e*Pn	**Pn**	**10 44 47.5**	**+0.3**
	SNR=1.0						
SMF	**Signal de Mont**	**5.11**	**201**	*e*Pg	**Pg**	**10 45 07.0**	**-0.3**
LDF	**La Druitiere**	**5.14**	**239**	*e*Pn	**Pn**	**10 44 48.6**	**+1.1**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**10 45 44.9**	**-2.6**
LDF				*e*Sg	**Sg**	**10 46 14.1**	**-0.3**
	comp=Z,15nm,0.4s						
LDF	**La Druitiere**	**5.14**	**239**	*e*Pn	**Pn**	**10 44 48.6**	**+1.1**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**10 45 44.9**	**-2.6**
LDF				*e*Sg	**Sg**	**10 46 14.1**	**-0.3**
	comp=Z,7.3nm,0.4s						
PVCC	**Panska Ves**	**5.17**	**97**	*e*SG	**Sg**	**10 46 14.7**	**-0.8**
	comp=Z,16nm,0.6s						
PVCC	**Panska Ves**	**5.17**	**97**	Sg	**Sg**	**10 46 14.7**	**-0.8**
	comp=Z,16nm,0.6s						
FETA	**Feichten**	**5.22**	**146**	⇑*i*Pn	**Pn**	**10 44 50.3**	**+1.5**
FETA	**Feichten**	**5.22**	**146**	Pn	**Pn**	**10 44 50.3**	**+1.5**
FLN	**La Foliniere**	**5.24**	**242**	*e*Pn	**Pn**	**10 44 49.9**	**+1.0**
	baz=63,SNR=1.0						
FLN				*e*Sn	**Sn**	**10 45 47.4**	**-2.5**
FLN				*e*Sg	**Sg**	**10 46 17.9**	**+0.4**
	comp=Z,10nm,0.4s						
FLN	**La Foliniere**	**5.24**	**242**	*e*Pn	**Pn**	**10 44 49.9**	**+1.0**
	SNR=1.0						
FLN				*e*Sn	**Sn**	**10 45 47.4**	**-2.5**
FLN				*e*Sg	**Sg**	**10 46 17.9**	**+0.4**
	comp=Z,5.2nm,0.4s						
PRU	**Pruhonice**	**5.31**	**103**	*e*SG	**Sg**	**10 46 18.6**	**-1.2**
	comp=Z,29nm,1.2s						
PRU	**Pruhonice**	**5.31**	**103**	Sg	**Sg**	**10 46 18.6**	**-1.2**
	comp=Z,29nm,1.2s						
GRR	**Gorron**	**5.66**	**240**	*e*Pn	**Pn**	**10 44 55.3**	**+0.7**
GRR				*e*Sn	**Sn**	**10 45 56.6**	**-3.6**
	comp=Z,18nm,0.3s						
TCF	**Toulx Ste Croi**	**5.89**	**210**	*e*Pn	**Pn**	**10 44 57.9**	**0.0**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**10 46 02.4**	**-3.6**
TCF				*e*Sg	**Sg**	**10 46 37.9**	**-0.5**
	comp=Z,22nm,0.6s						
TCF	**Toulx Ste Croi**	**5.89**	**210**	*e*Pn	**Pn**	**10 44 57.9**	**0.0**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**10 46 37.9**	**-0.5**
	comp=Z,11nm,0.6s						
LPL	**La Plagne**	**5.93**	**178**	*e*Pn	**Pn**	**10 44 59.4**	**+0.7**
LPL				*e*Sg	**Sg**	**10 46 38.9**	**-1.0**
	comp=Z,1.6nm,0.4s						
LPL	**La Plagne**	**5.93**	**178**	*e*Pn	**Pn**	**10 44 59.4**	**+0.7**
LPG	**La Plagne**	**5.95**	**178**	*e*Pn	**Pn**	**10 44 59.7**	**+0.7**
LPG				*e*Sg	**Sg**	**10 46 39.4**	**-1.2**
	comp=Z,6.0nm,0.6s						
LPG	**La Plagne**	**5.95**	**178**	*e*Pn	**Pn**	**10 44 59.7**	**+0.7**
UPC	**Upice**	**6.08**	**95**	*e*SG	**Sg**	**10 46 43.4**	**-1.1**
UPC	**Upice**	**6.08**	**95**	Sg	**Sg**	**10 46 43.4**	**-1.1**
KBA	**Koelnbreinsper**	**6.25**	**132**	⇑*i*Pn	**Pn**	**10 45 05.7**	**+2.7**
KBA	**Koelnbreinsper**	**6.25**	**132**	Pn	**Pn**	**10 45 05.7**	**+2.7**
DPC	**Dobruska-Polom**	**6.31**	**96**	*e*SG	**Sg**	**10 46 50.8**	**-1.0**
	comp=Z,7.7nm,0.8s						
DPC	**Dobruska-Polom**	**6.31**	**96**	Sg	**Sg**	**10 46 50.8**	**-1.0**
	comp=Z,7.7nm,0.8s						
MFF	**Saint Martin d**	**6.53**	**225**	*e*Pn	**Pn**	**10 45 06.9**	**+0.3**
MFF				*e*Sn	**Sn**	**10 46 17.2**	**-4.5**
MFF				*e*Sg	**Sg**	**10 46 57.3**	**-1.6**
	comp=Z,22nm,0.8s						
MFF	**Saint Martin d**	**6.53**	**225**	*e*Pn	**Pn**	**10 45 06.9**	**+0.3**
ORIF	**Oris-en-Rattie**	**6.54**	**184**	*e*Pn	**Pn**	**10 45 07.3**	**+0.4**
ORIF	**Oris-en-Rattie**	**6.54**	**184**	*e*Pg	**Pg**	**10 45 33.0**	**-1.7**
ORIF				*e*Sg	**Sg**	**10 46 57.3**	**-2.2**
	comp=Z,9.4nm,0.6s						
ORIF	**Oris-en-Rattie**	**6.54**	**184**	*e*Pn	**Pn**	**10 45 07.3**	**+0.4**
SGMF	**Saint Gilles**	**6.67**	**245**	*e*Pn	**Pn**	**10 45 08.8**	**+0.2**
	SNR=1.0						
SGMF				*e*Sn	**Sn**	**10 46 22.0**	**-3.3**
	comp=Z,4.4nm,0.3s						
SGMF	**Saint Gilles**	**6.67**	**245**	*e*Pn	**Pn**	**10 45 08.8**	**+0.2**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**6.71**	**191**	*e*Pn	**Pn**	**10 45 09.2**	**+0.1**
VIVF	**Saint-Julien-l**	**6.71**	**191**	*e*Pg	**Pg**	**10 45 36.1**	**-1.7**
VIVF				*e*Sg	**Sg**	**10 47 02.9**	**-1.8**
	comp=Z,19nm,0.9s						
VIVF	**Saint-Julien-l**	**6.71**	**191**	*e*Pn	**Pn**	**10 45 09.2**	**+0.1**
MBDF	**Montbardon**	**6.72**	**178**	*e*Pn	**Pn**	**10 45 09.8**	**+0.3**
MBDF	**Montbardon**	**6.72**	**178**	*e*Pg	**Pg**	**10 45 36.2**	**-2.0**
MBDF				*e*Sg	**Sg**	**10 47 03.1**	**-2.2**
	comp=Z,2.8nm,0.3s						
MBDF	**Montbardon**	**6.72**	**178**	*e*Pn	**Pn**	**10 45 09.8**	**+0.3**
RJF	**Les Rejaudoux**	**6.98**	**210**	*e*Sn	**Sn**	**10 46 28.9**	**-4.1**
RJF				*e*Sg	**Sg**	**10 47 11.9**	**-1.7**
	comp=Z,34nm,0.9s						
ROSF	**Rostrenen**	**7.04**	**248**	*e*Pn	**Pn**	**10 45 14.0**	**+0.3**
ROSF				*e*Sn	**Sn**	**10 46 30.7**	**-3.7**
	comp=Z,4.4nm,0.4s						
ROSF	**Rostrenen**	**7.04**	**248**	*e*Pn	**Pn**	**10 45 14.0**	**+0.3**
CAF	**Calviac**	**7.17**	**206**	*e*Sg	**Sg**	**10 47 17.2**	**-2.2**
	comp=Z,16nm,0.6s						
QUIF	**Quistinic**	**7.20**	**244**	*e*Pn	**Pn**	**10 45 15.7**	**-0.1**
QUIF	**Quistinic**	**7.20**	**244**	*e*Pn	**Pn**	**10 45 15.7**	**-0.1**
LFF	**La Frestale**	**7.56**	**213**	*e*Pn	**Pn**	**10 45 21.2**	**+0.4**
LFF				*e*Sn	**Sn**	**10 46 43.2**	**-4.0**
LFF				*e*Sg	**Sg**	**10 47 29.0**	**-3.1**
	comp=Z,23nm,0.7s						
LFF	**La Frestale**	**7.56**	**213**	*e*Pn	**Pn**	**10 45 21.2**	**+0.4**
LASF	**Ste Croix**	**7.58**	**195**	*e*Pn	**Pn**	**10 45 21.3**	**+0.1**
LASF				*e*Sg	**Sg**	**10 47 30.6**	**-2.3**
	comp=Z,5.2nm,0.5s						
LASF	**Ste Croix**	**7.58**	**195**	*e*Pn	**Pn**	**10 45 21.3**	**+0.1**

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*ISCJB **01** 10:44:24.6±0.5, 38°.26N±0°.04×38°.88E±0°.03, h0km, Error ellipse: s-maj=6.3km s-min=3.8km az=172.6*
*CSEM **01** 10:44:24.8±0.3, 38°.29N×38°.88E, h1km, MD2.5, Error ellipse: s-maj=7.6km s-min=5.1km az=174.0, Mining explosion.*
*DDA **01** 10:44:24.6, 38°.28N×38°.87E, h7km, MD2.6*
*ISK **01** 10:44:24.9, 38°.31N×38°.87E, h5km, MD2.5*
ISC 01 10:44:25.0±1.0**, 38°.25N**±0°.04×**38°.89E**±0°.02**, h0**km**, n21, σ0**^{s}**.64**/29**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.26**	**17**	*i* P	**Pg**	**10 44 30.0**	**0.0**
ELZG				*i* S	**Sg**	**10 44 33.5**	**+0.1**
ELZG	**Elazig**	**0.26**	**17**	*i* P	**Pg**	**10 44 30.0**	**0.0**
ELZG				*i* S	**Sg**	**10 44 33.5**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.35**	**69**	*e*PG	**Pg**	**10 44 32.0**	**+0.2**
SVRC				*e*SG	**Sg**	**10 44 37.7**	**+1.3**
SVRC	**Sivrice-ELAZID**	**0.35**	**69**	*e*Pg	**Pg**	**10 44 32.0**	**+0.2**
SVRC				*e*Sg	**Sg**	**10 44 37.7**	**+1.3**
MALT	**Malatya**	**0.37**	**280**	*e*PG	**Pg**	**10 44 32.5**	**+0.5**
MALT				*e*SG	**Sg**	**10 44 37.5**	**+0.7**
MALT	**Malatya**	**0.37**	**280**	*e*Pg	**Pg**	**10 44 32.5**	**+0.5**
MALT				*e*Sg	**Sg**	**10 44 37.5**	**+0.7**
PTK	**Pertek**	**0.75**	**32**	*e*PG	**Pg**	**10 44 39.1**	**-0.4**
PTK	**Pertek**	**0.75**	**32**	*e*Pg	**Pg**	**10 44 39.1**	**-0.4**
AKCD	**Akcadag**	**0.76**	**274**	*i* P	**Pg**	**10 44 39.0**	**-0.7**
AKCD				*i* S	**Sg**	**10 44 49.6**	**+0.1**
AKCD	**Akcadag**	**0.76**	**274**	*i* P	**Pg**	**10 44 38.9**	**-0.7**
AKCD				*i* S	**Sg**	**10 44 49.6**	**+0.1**
URFA	**Urfa**	**0.81**	**184**	*e*PG	**Pb**	**10 44 41.9**	**-0.1**
URFA	**Urfa**	**0.81**	**184**	*e*Pg	**Pb**	**10 44 41.9**	**-0.1**
DYBB	**Diyarbakir**	**1.03**	**106**	*e*PG	**Pg**	**10 44 44.8**	**0.0**
DIY	**Diyarbakir**	**1.11**	**108**	*e*Pg	**Pg**	**10 44 44.8**	**-1.6**
DARE	**Darende-Malaty**	**1.15**	**287**	*e*PN	**Pg**	**10 44 47.1**	**+0.1**
DARE	**Darende-Malaty**	**1.15**	**287**	*e*Pn	**Pg**	**10 44 47.2**	**+0.1**
ILIC	**ilic-Erzincan**	**1.23**	**348**	*e*PN	**Pg**	**10 44 47.6**	**-0.9**
ILIC	**ilic-Erzincan**	**1.23**	**348**	*e*Pn	**Pg**	**10 44 47.6**	**-0.9**
MAZI	**Mazidag**	**1.47**	**122**	*e*PN	**Pb**	**10 44 53.4**	**+0.2**
MAZI	**Mazidag**	**1.47**	**122**	*e*Pn	**Pb**	**10 44 53.4**	**+0.2**
BNGB	**Bingˆ¶l**	**1.59**	**62**	*e*PN	**Pn**	**10 44 54.2**	**-0.3**

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*ISCJB **01** 11:12:13.9±0.3, 1°.11S±0°.02×78°.32W±0°.05, h10km, mb3.3/5, MS3.5/2, Error ellipse: s-maj=7.0km s-min=2.1km az=5.5*
*NEIC **01** 11:12:13.0, 1°.06S×78°.33W, h11km, MD4.3(IGQ), After IGQ.*
NEIC Felt at Ambato.
*IDC **01** 11:12:13.9±1.1, 0°.87S×77°.85W, h0km, mb3.3/5, mb1 3.9/8, mb1mx3.8/22, mbtmp3.6/8, ML3.9/3, MS3.4/4, Ms1 3.4/4, ms1mx3.0/17, Error ellipse: s-maj=53.4km s-min=17.9km az=69.0*
*IGQ **01** 11:12:13±0.1, 1°.10S×78°.33W, h2km±3km, Mb4.3, Error ellipse: s-maj=1.6km s-min=0.4km az=7.0*
ISC 01 11:12:14.1±0.7**, 1°.10S**±0°.02×**78°.37W**±0°.05**, h10**km**, n58, σ0**^{s}**.89**/54**, mb3.4**/5**, 38C, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**0.04**	**330**	⇑P	**Pg**	**11 12 15.5**	**-1.2**
RUN5	**Runtun**	**0.32**	**191**	⇑P	**Pb**	**11 12 20.8**	**-1.4**
BRUN	**Tungurahua Vol**	**0.33**	**188**	⇑S	**Sg**	**11 12 25.9**	**+0.7**
BRUN	**Tungurahua Vol**	**0.33**	**188**	⇑P	**Pb**	**11 12 20.8**	**-1.4**
BULB	**Ulba Tungurahu**	**0.34**	**188**	⇑P	**Pg**	**11 12 20.2**	**-0.9**
ULBA	**Ulba**	**0.35**	**187**	⇑P	**Pg**	**11 12 20.1**	**-1.2**
BMOR	**Cotopaxi Volca**	**0.37**	**345**	⇑P	**Pg**	**11 12 21.4**	**-0.3**
BBIL	**Ulba Tungurahu**	**0.37**	**199**	⇑P	**Pg**	**11 12 21.7**	**0.0**
BBIL	**Ulba Tungurahu**	**0.37**	**199**	⇑S	**Sg**	**11 12 26.4**	**-0.3**
BIL2	**Estacion Bilba**	**0.38**	**201**	⇑P	**Pg**	**11 12 21.7**	**-0.1**
MOV1	**Cotopaxi Vol s**	**0.39**	**349**	⇑P	**Pg**	**11 12 21.3**	**-0.7**
TAMB	**Tambo**	**0.40**	**360**	⇑P	**Pb**	**11 12 22.6**	**-1.0**
BPAT	**Tungurahua Vol**	**0.41**	**190**	⇑P	**Pg**	**11 12 21.3**	**-1.1**
BPAT	**Tungurahua Vol**	**0.41**	**190**	⇑S	**Sg**	**11 12 27.8**	**-0.1**
BTAM	**Cotopaxi Volca**	**0.42**	**356**	⇑P	**Pg**	**11 12 22.1**	**-0.4**
BTAM	**Cotopaxi Volca**	**0.42**	**356**	⇑S	**Sb**	**11 12 30.6**	**0.0**
BMAS	**Trigal station**	**0.42**	**196**	⇑P	**Pg**	**11 12 21.4**	**-1.2**
BMAS	**Trigal station**	**0.42**	**196**	⇑S	**Sg**	**11 12 27.8**	**-0.3**
BREF	**Cotopaxi Volca**	**0.43**	**350**	⇑P	**Pb**	**11 12 23.6**	**-0.6**
COV1	**Cotopaxi Volc**	**0.43**	**3**	⇑P	**Pb**	**11 12 23.5**	**-0.7**
BNAS	**Cotopaxi Volca**	**0.44**	**345**	⇑P	**Pb**	**11 12 23.6**	**-0.6**
BVC2	**Cotopaxi Volca**	**0.44**	**354**	⇑P	**Pg**	**11 12 22.4**	**-0.4**
CAMI	**Rancho Maria**	**0.44**	**341**	⇑P	**Pb**	**11 12 23.6**	**-0.6**
VC1	**Cotopaxi 1**	**0.45**	**355**	⇑P	**Pb**	**11 12 23.7**	**-0.8**
NAS2	**Nasa**	**0.46**	**347**	⇑P	**Pg**	**11 12 23.2**	**-0.1**
IGUA	**Igualata**	**0.48**	**215**	⇑P	**Pg**	**11 12 23.1**	**-0.5**
PAST	**Pastocalle**	**0.48**	**325**	⇑P	**Pb**	**11 12 24.9**	**-0.1**
PITA	**Cotopaxi Volc**	**0.54**	**353**	⇑P	**Pg**	**11 12 24.3**	**-0.4**
ANTI	**Antisana**	**0.67**	**18**	⇑P	**Pg**	**11 12 26.0**	**-1.2**
RIOE	**Riobamba**	**0.71**	**202**	⇑S	**Sb**	**11 12 38.2**	**-0.4**
RIOE	**Riobamba**	**0.71**	**202**	⇑P	**Pg**	**11 12 27.7**	**-0.1**
JUA2	**San Juan 2**	**0.91**	**345**	⇑P	**Pb**	**11 12 32.0**	**-0.3**
GGP	**Refugio Guagua**	**0.94**	**346**	⇑P	**Pb**	**11 12 32.6**	**-0.3**
TERV	**Terraza Guagua**	**0.94**	**345**	⇑P	**Pb**	**11 12 32.7**	**-0.2**
PINO	**Pino**	**0.96**	**345**	⇑P	**Pb**	**11 12 32.9**	**-0.3**
YANA	**Yana**	**0.99**	**348**	⇑P	**Pg**	**11 12 32.2**	**-1.1**
ELAGU	**Cayambe Volc**	**1.13**	**19**	P	**Pn**	**11 12 35.6**	**-0.9**
CAYR	**Refugio Cayamb**	**1.16**	**18**	P	**Pb**	**11 12 35.3**	**-1.3**
MACE	**Macas**	**1.16**	**172**	P	**Pg**	**11 12 35.9**	**-0.6**
MACE	**Macas**	**1.16**	**172**	S	**Sn**	**11 12 53.0**	**+0.2**
CAYA	**Cayambe**	**1.22**	**18**	⇑P	**Pn**	**11 12 36.2**	**-1.5**
CHAR	**Charly**	**1.22**	**35**	P	**Pg**	**11 12 37.9**	**+0.4**
CONE	**Cono NE Rev Vo**	**1.25**	**35**	P	**Pg**	**11 12 37.8**	**-0.4**
OTAV	**Otavalo**	**1.33**	**356**	⇑P	**Pb**	**11 12 38.9**	**-0.5**
OTAV	**Otavalo**	**1.33**	**356**	*e*Pn	**Pn**	**11 12 37.9**	**-1.3**
COTA	**Cotacachi**	**1.42**	**1**	P	**Pg**	**11 12 40.9**	**-0.6**
GOLV	**Golondrinas**	**1.51**	**329**	P	**Pb**	**11 12 41.2**	**-1.0**
MAG1	**Magdalena**	**1.74**	**306**	P	**Pg**	**11 12 46.6**	**-0.9**
ATAH	**Atahualpa**	**6.00**	**180**	Pn	Pn	11 13 48.1	+4.7
	5.9nm,0.3s,baz=7.9,slow=7.4,SNR=15						
ATAH				Sn	Sn	11 15 00.1	+7.7
	2.3nm,0.3s,baz=189,slow=19,SNR=5.0						
ATAH				LR	LR	11 16 35.0	
	comp=Z,200nm,18.4s,baz=354,slow=42						
ROSC	**El Rosal**	**7.16**	**34**	LR	LR	11 16 52.4	
	comp=Z,161nm,21.0s,baz=198,slow=42						
NNA	**Nana**	**10.93**	**172**	Pn	**Pn**	**11 14 52.7**	**+2.0**
	2.7nm,0.3s,baz=349,slow=10,SNR=6.9						
NNA				Sn	**Sn**	**11 16 55.7**	**+2.5**
	1.9nm,0.3s,baz=106,slow=17,SNR=5.2						
LPAZ	**La Paz**	**18.16**	**147**	P	**P**	**11 16 27.3**	**-0.2**
	0.1nm,0.3s,baz=328,slow=12,SNR=2.1						
SIV	**San Ignacio**	**22.58**	**132**	P	**P**	**11 17 14.8**	**-0.2**
	0.6nm,0.5s,baz=310,slow=11,SNR=2.8						
SIV				LR	LR	11 26 38.0	
	comp=Z,95nm,18.2s,baz=311,slow=39						
LVC	**Limon Verde**	**23.28**	**157**	LR	LR	11 27 16.6	
	comp=Z,281nm,20.2s,baz=345,slow=39						
TXAR	**Lajitas Array**	**38.74**	**323**	P	P	11 19 42.3	+3.5
	0.3nm,0.9s,baz=132,slow=8.5,SNR=2.2						
NVAR	**Mina Array Bea**	**53.82**	**321**	P	P	11 21 40.4	+2.8
	0.5nm,0.8s,baz=130,slow=7.5,SNR=3.6						
YKA	**Yellowknife Ar**	**69.05**	**343**	P	**P**	**11 23 19.4**	**-0.4**
	0.3nm,0.7s,baz=134,slow=5.6,SNR=4.9						
ILAR	**Eielson Array**	**81.97**	**336**	P	**P**	**11 24 35.2**	**+1.3**
	0.2nm,0.6s,baz=117,slow=4.8,SNR=2.7						

IDC 01 11:16:01.2±47.0**, 11°.67S×165°.85E, h0**km**, mb3.4**/3**, mb1 3.6**/4**, mb1mx3.4**/20**, mbtmp3.5**/4**, ML2.9**/1**, Error ellipse: s-maj=810.7km s-min=54.4km az=50.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.36**	**177**	Pn	Pn	11 18 31.2	-0.1
	0.1nm,0.3s,baz=270,slow=20,SNR=3.5						
STKA	**Stephens Creek**	**30.06**	**224**	P	P	11 22 12.4	+0.1
	0.8nm,0.6s,baz=50,slow=10,SNR=5.3						
WRA	**Warramunga Arr**	**31.37**	**251**	P	P	11 22 23.8	-0.2
	0.3nm,0.8s,baz=80,slow=7.8,SNR=5.1						
ASAR	**Alice Springs**	**32.61**	**244**	P	P	11 22 34.9	0.0
	0.2nm,0.6s,baz=73,slow=9.7,SNR=4.2						

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*KRSC **01** 11:20:41.9±3.3, 48°.19N×154°.62E, h164km±47km, ML4.5*
*MOS **01** 11:20:44.6±2.2, 48°.63N×153°.65E, h134km, mb4.1/1, Error ellipse: s-maj=22.8km s-min=6.1km az=63.2*
*ISCJB **01** 11:20:45.2±0.5, 48°.61N±0°.07×153°.7E±0°.1, h132km, mb3.5/10, Error ellipse: s-maj=14.1km s-min=3.3km az=44.3*
*SKHL **01** 11:20:46.9±0.6, 48°.57N×153°.86E, h137km±1km, mb5.0/2, msh5.2/2*
*IDC **01** 11:20:48.2±2.1, 48°.67N×153°.45E, h149km±20km, mb3.2/10, mb1 3.6/14, mb1mx3.4/28, mbtmp3.8/14, Error ellipse: s-maj=32.7km s-min=10.2km az=142.0*
ISC 01 11:20:45.9±0.7**, 48°.63N**±0°.10×**153°.73E**±0°.08**, h132**km**, n73, σ1**^{s}**.76**/85**, mb3.6**/10**, 2C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.57**	**36**	*e*P	**Pn**	**11 21 28.2**	**+1.2**
SKR				*e*S	**Sn**	**11 22 00.1**	**+1.4**
SKR	**Severo-Kuril's**	**2.57**	**36**	*e*PN	Pn	11 21 19.0	-8.0
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR	**Severo-Kuril's**	**2.57**	**36**	*e*P	**Pn**	**11 21 27.7**	**+0.7**
SKR				AMB	AMB	11 21 38.3	
	comp=Z,150nm,0.5s						
SKR				*e*S	**Sn**	**11 21 57.9**	**-0.8**
SKR				A	A	11 22 12.0	
	comp=Z,140nm,0.3s						
SKR				A	A	11 22 12.0	
	comp=Z,190nm,0.3s						
PAU	**Pauzhetka**	**3.46**	**34**	*e*P	**Pn**	**11 21 40.3**	**+1.8**
PAU				*e*S	**Sn**	**11 22 20.4**	**+1.1**
PAU	**Pauzhetka**	**3.46**	**34**	PN	**Pn**	**11 21 40.3**	**+1.8**
PAU				S	**Sn**	**11 22 20.4**	**+1.1**
PAU	**Pauzhetka**	**3.46**	**34**	*e*P	**Pn**	**11 21 40.3**	**+1.8**
PAU				*e*S	**Sn**	**11 22 20.8**	**+1.5**
MIPR	**Malaya Ipel'ka**	**4.13**	**27**	*e*P	**Pn**	**11 21 48.9**	**+1.6**
MIPR				*e*S	**Sn**	**11 22 35.1**	**+0.1**
ASAK	**Asacha**	**4.60**	**34**	*e*P	**Pn**	**11 21 55.1**	**+1.4**
ASAK				*e*S	**Sn**	**11 22 46.1**	**-0.3**
MTVR	**Mutnovka**	**4.79**	**35**	*e*P	**Pn**	**11 21 57.6**	**+1.4**
MTVR				*e*S	**Sn**	**11 22 50.7**	**-0.2**
APC	**Apacha**	**4.82**	**26**	*e*P	**Pn**	**11 21 58.8**	**+2.4**
APC	**Apacha**	**4.82**	**26**	PN	**Pn**	**11 21 58.8**	**+2.4**
RUS	**Russkaya**	**4.88**	**37**	*e*P	**Pn**	**11 21 57.2**	**0.0**
RUS				*e*S	**Sn**	**11 22 49.5**	**-3.3**
RUS	**Russkaya**	**4.88**	**37**	PN	**Pn**	**11 21 57.2**	**0.0**
RUS				S	**Sn**	**11 22 49.5**	**-3.3**
RUS	**Russkaya**	**4.88**	**37**	*e*P	**Pn**	**11 21 57.2**	**0.0**
PETK	**Petropavlovsk-**	**5.14**	**28**	P	**Pn**	**11 22 02.3**	**+1.6**
	comp=Z,2.0nm,0.3s,baz=186,slow=16,SNR=41						
PETK				S	Sn	11 23 05.3	+6.3
	comp=Z,0.5nm,0.3s,baz=156,slow=18,SNR=4.1						
PET	**Petropavlovsk**	**5.39**	**34**	*e*S	**Sn**	**11 23 04.4**	**-0.7**
PET	**Petropavlovsk**	**5.39**	**34**	*e*PN	**Pn**	**11 22 06.6**	**+2.5**
PET				*e*S	**Sn**	**11 23 04.8**	**-0.3**
PET				smax	smax		
	comp=N,38nm,0.4s						
PET	**Petropavlovsk**	**5.39**	**34**	*e*P	**Pn**	**11 22 06.6**	**+2.5**
PET				*e*S	**Sn**	**11 23 04.8**	**-0.3**
PET				A	A	11 23 11.7	
	comp=N,40nm,0.4s						
KOK	**Koryaka**	**5.60**	**32**	*e*P	**Pn**	**11 22 08.9**	**+1.9**
KOK	**Koryaka**	**5.60**	**32**	PN	**Pn**	**11 22 08.9**	**+1.9**
KOK	**Koryaka**	**5.60**	**32**	*e*P	**Pn**	**11 22 08.9**	**+1.9**
UGLR	**Uglovaya**	**5.60**	**33**	*e*P	**Pn**	**11 22 08.7**	**+1.7**
AVH	**Avacha**	**5.62**	**32**	*e*P	**Pn**	**11 22 09.2**	**+2.0**
AVH				*e*S	**Sn**	**11 23 10.5**	**-0.1**
AVH	**Avacha**	**5.62**	**32**	PN	**Pn**	**11 22 09.2**	**+2.0**
AVH				S	**Sn**	**11 23 10.5**	**-0.1**
AVH	**Avacha**	**5.62**	**32**	*e*P	**Pn**	**11 22 09.2**	**+2.0**
SMAR	**Somma**	**5.64**	**33**	*e*P	**Pn**	**11 22 09.2**	**+1.6**
KRX	**Arik**	**5.66**	**31**	*e*P	**Pn**	**11 22 09.6**	**+1.8**
SDLR	**Sedlovina**	**5.68**	**33**	*e*P	**Pn**	**11 22 08.9**	**+0.8**
SDLR				*e*S	**Sn**	**11 23 09.8**	**-2.4**
GNL	**Ganaly**	**5.72**	**26**	*e*P	**Pn**	**11 22 10.0**	**+1.4**
GNL	**Ganaly**	**5.72**	**26**	PN	**Pn**	**11 22 10.0**	**+1.4**
NLC	**Nalytchevo**	**5.77**	**36**	*e*P	**Pn**	**11 22 07.9**	**-1.2**
NLC				*e*S	Sn	11 23 07.9	-6.2
NLC	**Nalytchevo**	**5.77**	**36**	PN	**Pn**	**11 22 07.9**	**-1.2**
NLC	**Nalytchevo**	**5.77**	**36**	*e*P	**Pn**	**11 22 07.9**	**-1.2**
SPN	**Mys Shipunski**	**5.99**	**39**	*e*P	**Pn**	**11 22 12.8**	**+0.7**
SPN				*e*S	**Sn**	**11 23 13.7**	**-5.7**
SPN	**Mys Shipunski**	**5.99**	**39**	PN	**Pn**	**11 22 12.8**	**+0.7**
SPN				S	**Sn**	**11 23 13.7**	**-5.7**
SPN	**Mys Shipunski**	**5.99**	**39**	*e*P	**Pn**	**11 22 12.8**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**7.12**	**233**	*c i*PN	**Pn**	**11 22 27.9**	**+0.5**
YUK				*e*S	**Sn**	**11 23 48.1**	**+1.2**
YUK				pmax	pmax		
	comp=E,21nm,0.5s						
YUK				pmax	pmax		
	comp=Z,33nm,0.5s						
YUK				pmax	pmax		
	comp=N,20nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**7.12**	**233**	⇑*i*P	**Pn**	**11 22 27.9**	**+0.5**
YUK				AMB	AMB	11 22 30.6	
	comp=N,20nm,0.3s						
YUK				AMB	AMB	11 22 30.6	
	comp=N,22nm,0.3s						
YUK				AMB	AMB	11 22 30.6	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,34nm,0.3s						
YUK				eS	Sn	11 23 48.1	+1.2
KZV	Kizimen	7.65	30	eP	Pn	11 22 36.0	+1.4
MKZ	Mys Kozlova	7.74	37	eP	Pn	11 22 34.0	-1.7
MKZ				eS	Sn	11 23 52.9	-8.8
MKZ	Mys Kozlova	7.74	37	PN	Pn	11 22 34.0	-1.7
TUMR	Tumrok	7.75	28	eP	Pn	11 22 37.8	+1.9
ESO	Esso	7.91	21	eP	Pn	11 22 39.4	+1.4
ESO	Esso	7.91	21	PN	Pn	11 22 39.4	+1.4
ESO	Esso	7.91	21	eP	Pn	11 22 39.4	+1.4
JKA	Kamikawa-asahi	8.92	244	eP	Pn	11 22 52.6	+1.0
ASAJ	Asahikawa	8.92	244	P	Pn	11 22 52.6	+1.0
	comp=N,2.3nm,0.3s,baz=71,slow=15,SNR=33						
ASAJ	Asahikawa	8.92	244	PN	Pn	11 22 52.6	+1.0
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KBTR	Krutoberegovo	9.39	33	eP	Pn	11 22 56.3	-1.5
BKI	Bering	10.02	44	eP	Pn	11 23 04.8	-1.4
BKI				eS	Sn	11 24 44.3	-12
BKI	Bering	10.02	44	PN	Pn	11 23 04.8	-1.4
EKMR	Ekimchan	13.84	297	eP	P	11 23 58.0	-2.3
EKMR				AMB	AMB	11 24 02.5	
	comp=Z,5.0nm,0.5s						
KLR	Kul'dur	14.45	281	eP	Pn	11 24 02.0	-2.1
KLR	Kul'dur	14.45	281	eP	Pn	11 24 02.0	-2.1
USRK	Ussuriysk Ar.	15.62	262	P	Pn	11 24 18.1	-0.5
	comp=Z,0.6nm,0.3s,baz=67,slow=12,SNR=11						
MJAR	Matsushiro Arr	16.59	229	P	Pn	11 24 28.9	-1.8
	comp=Z,0.4nm,0.3s,baz=22,slow=12,SNR=11						
KSRS	Korea Array	21.81	249	P	P	11 25 27.2	-0.1
	comp=Z,2.5nm,0.7s,baz=46,slow=9.9,SNR=11						
H11N2	WAKE ISLAND Hy	30.73	155	T	T	11 58 45.5	
	baz=341,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	30.74	155	T	T	11 58 49.5	
	baz=341,slow=75,SNR=15						
H11N3	WAKE ISLAND Hy	30.75	155	T	T	11 58 48.3	
	baz=341,slow=75,SNR=9.5						
H11S1	WAKE ISLAND Hy	31.84	156	T	T	12 00 13.9	
	baz=344,slow=76,SNR=43						
H11S3	WAKE ISLAND Hy	31.85	156	T	T	12 00 13.9	
	baz=344,slow=76,SNR=59						
H11S2	WAKE ISLAND Hy	31.86	156	T	T	12 00 10.1	
	baz=344,slow=76,SNR=25						
ILAR	Eielson Array	34.83	40	P	P	11 27 24.9	+1.2
	comp=Z,0.5nm,0.4s,baz=260,slow=5.1,SNR=16						
MKAR	Makanchi Array	46.46	296	P	P	11 28 56.7	-2.7
	comp=Z,0.4nm,0.6s,baz=70,slow=12,SNR=3.3						
YKA	Yellowknife Ar	49.17	38	P	P	11 29 20.7	+0.9
	comp=Z,0.5nm,0.6s,baz=298,slow=7.3,SNR=5.0						
CMAR	Chiang Mai Arr	53.23	255	P	P	11 29 51.5	+0.7
	comp=Z,1.2nm,0.4s,baz=31,slow=7.8,SNR=8.8						
CMAR	Chiang Mai Arr	53.23	255	P	P	11 29 51.5	+0.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NVAR	Mina Array Bea	61.21	64	P	P	11 30 48.5	+1.7
	comp=Z,0.5nm,0.5s,baz=295,slow=6.9,SNR=5.2						
PDAR	Pinedale Array	63.31	55	P	P	11 31 02.9	+2.1
	comp=Z,0.9nm,0.8s,baz=1.0,slow=1.7,SNR=6.3						
WRA	Warramunga Arr	70.43	199	P	P	11 31 45.4	-0.2
	comp=Z,0.5nm,0.8s,baz=17,slow=6.7,SNR=4.5						
ASAR	Alice Springs	74.13	199	P	P	11 32 07.7	+0.2
	comp=Z,0.1nm,0.4s,baz=25,slow=7.2,SNR=4.2						
TXAR	Lajitas Array	76.22	61	P	P	11 32 21.1	+1.3
	comp=Z,0.4nm,0.5s,baz=303,slow=4.7,SNR=9.3						

*IDC **01** 11:24:52.7±1.0, 12°.71S×166°.21E, h0km, mb4.1/9, mb1 4.2/10, mb1mx3.9/22, mbtmp4.1/10, ML2.7/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/26, Error ellipse: s-maj=33.7km s-min=20.1km az=104.0*

*ISCJB **01** 11:24:57.4±1.0, 12°.7S±0°.1×166°.0E±0°.2, h40km, mb4.0/9, MS3.5/2, Error ellipse: s-maj=22.2km s-min=17.2km az=170.7*

ISC 01 11:24:59.1±1.0**, 12°.7S**±0°.1×**166°.1E**±0°.2**, h40**km**, n13, σ1s.07**/12**, mb3.7**/9**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.86	297	P	Pn	11 26 37.0	-0.2
DZM	Mont Dzumac	9.35	178	Pn	Pn	11 27 06.4	-5.1
	0.1nm,0.3s,baz=270,slow=24,SNR=19						
STKA	Stephens Creek	29.54	226	P	P	11 31 00.2	+0.2
	3.3nm,0.9s,baz=22,slow=7.3,SNR=8.9						
STKA				LR	LR	11 43 01.4	
	comp=Z,106nm,19.5s,baz=22,slow=37						
RPZ	Rata Peaks	31.23	173	P	P	11 31 15.4	+0.6
	11nm,0.8s,baz=39,slow=11,SNR=3.9						
WRA	Warramunga Arr	31.30	252	P	P	11 31 14.5	-1.3
	0.7nm,0.8s,baz=82,slow=8.4,SNR=5.7						
ASAR	Alice Springs	32.42	246	P	P	11 31 24.6	-1.0
	0.9nm,0.7s,baz=69,slow=9.5,SNR=18						
ASAR				LR	LR	11 44 09.3	
	comp=Z,106nm,18.6s,baz=92,slow=36						
ASAJ	Asahikawa	60.44	341	P	P	11 35 05.0	+0.4
	4.9nm,0.5s,baz=214,slow=6.5,SNR=9.2						
CMAR	Chiang Mai Arr	73.09	294	P	P	11 36 26.9	+1.1
	0.3nm,0.3s,baz=134,slow=5.2,SNR=3.5						
SONM	Songino Array	80.19	324	P	P	11 37 06.9	+1.5
	0.7nm,0.7s,baz=123,slow=5.5,SNR=4.8						
ILAR	Eielson Array	84.93	18	P	P	11 37 27.9	-1.7
	0.4nm,0.7s,baz=241,slow=6.4,SNR=7.0						
MKAR	Makanchi Array	94.95	317	P	P	11 38 17.4	+0.1
	1.1nm,0.8s,baz=100,slow=5.7,SNR=7.3						
ARCES	ARCESS Array B	117.99	345	PKP	PKPdf	11 43 40.0	-1.0
	2.2nm,0.9s,baz=84,slow=2.6,SNR=6.5						
FINES	FINESS Array B	123.41	338	PKP	PKPdf	11 43 51.6	0.0
	0.9nm,0.7s,baz=359,slow=6.1,SNR=2.6						

MAN 01 11:25:11, 7°.03N×123°.89E, h9km, mb4.3, ML3.1, MS2.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.40	61	⇓iP	Pb	11 25 19.9	-0.5
CTBH				i S	Sb	11 25 26.0	-0.6
PAGZ	Pagadian	0.96	328	eP	Pb	11 25 30.1	+0.3
PAGZ				eS	Sn	11 25 44.8	+0.3
BUKP	Musuan	1.44	54	eP	Pn	11 25 37.2	-0.1
BUKP				eS	Sg	11 25 57.7	+0.2

IDC 01 11:55:29.0±12.0**, 1°.48S×127°.93E, h0**km**, mb3.8**/2**, mb1 4.0**/3**, mb1mx3.4**/32**, mbtmp3.8**/3**, ML4.0**/1**, Error ellipse: s-maj=192.4km s-min=139.6km az=142.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.39	162	P	P	11 59 56.8	0.0
	0.5nm,0.3s,baz=340,slow=12,SNR=31						
ASAR	Alice Springs	22.80	166	P	P	12 00 33.9	+0.3
	3.5nm,0.8s,baz=344,slow=11,SNR=24						
STKA	Stephens Creek	32.87	158	P	P	12 02 04.5	-0.3
	0.4nm,0.4s,baz=333,slow=9.0,SNR=3.4						

*IDC **01** 12:33:06.9±0.9, 3°.13S×129°.57E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.7/23, mbtmp3.7/8, ML3.2/2, Error ellipse: s-maj=35.2km s-min=11.6km az=83.0*

*ISCJB **01** 12:33:07.9±0.5, 3°.04S±0°.04×129°.54E±0°.03, h10km, mb3.8/5, Error ellipse: s-maj=6.0km s-min=4.3km az=158.5*

*DJA **01** 12:33:08.7±0.3, 3°S±3°×13°0E±°, h10km, M3.5/10, MLv3.5/10*

ISC 01 12:33:08.6±0.7**, 3°.12S**±0°.05×**129°.56E**±0°.04**, h10**km**, n15, σ1s.39**/23**, mb3.8**/5**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.67	250	P	Pg	12 33 19.9	-1.7
MSAI				S	Sg	12 33 30.0	-0.4
BNDI	Bandanaira	1.44	166	P	Pn	12 33 34.4	-0.3
BNDI				S	Sn	12 33 55.0	+1.4
AAI	Ambon	1.48	248	P	Pn	12 33 35.5	+0.2
AAI				S	Sn	12 33 54.6	-0.1
NLAI	Namlea	2.46	267	P	Pn	12 33 51.3	+2.5
FAKI	Fak Fak	2.69	86	P	Pn	12 33 52.7	+0.8
FAKI				S	Sn	12 34 25.8	+1.2
SIJI	Sorong	2.81	37	Pn	Pn	12 33 53.8	+0.2
	3.3nm,0.3s,baz=306,slow=23,SNR=9.7						
SIJI				Sn	Sn	12 34 28.6	+1.0
	1.3nm,0.3s,baz=72,slow=20,SNR=4.1						
SANI	Sanana	3.73	286	P	Pn	12 34 06.4	+0.2
SANI				S	Sn	12 34 51.6	+1.4
RKPI	Ransiki, Papua	4.88	71	P	Pn	12 34 21.6	-0.5
WRA	Warramunga Arr	17.36	165	P	Pn	12 37 09.5	-1.6
	0.1nm,0.3s,baz=346,slow=12,SNR=6.6						
WRA				S	Sn	12 40 28.0	+3.5
	0.0nm,0.3s,baz=342,slow=21,SNR=3.2						
ASAR	Alice Springs	20.85	169	P	P	12 37 49.3	-1.5
	6.3nm,0.9s,baz=349,slow=10,SNR=107						
ASAR				S	S	12 41 44.8	+1.3
	0.4nm,0.8s,baz=347,slow=18,SNR=4.6						
MJAR	Matsushiro Arr	40.27	11	P	P	12 40 44.4	-1.5
	1.4nm,0.8s,baz=186,slow=10,SNR=5.4						
SONM	Songino Array	54.65	341	P	P	12 42 38.3	+0.5
	0.8nm,0.9s,baz=150,slow=8.9,SNR=5.0						
PETK	Petropavlovsk-	60.81	19	P	P	12 43 21.5	+0.7
	1.8nm,0.8s,baz=186,slow=12,SNR=3.2						
MKAR	Makanchi Array	64.77	326	P	P	12 43 47.8	+0.4
	0.5nm,0.8s,baz=125,slow=7.7,SNR=3.6						
KURBB	Kurchatov Arra	69.00	328	P	P	12 44 14.4	+0.2
	0.6nm,0.6s,baz=128,slow=5.4,SNR=5.0						

*IDC **01** 12:51:06.4±1.0, 1°.56S×116°.45E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/26, mbtmp3.9/10, ML3.9/1, MS2.8/2, Ms1 2.9/2, ms1mx2.5/34, Error ellipse: s-maj=57.2km s-min=14.1km az=57.0*

*ISCJB **01** 12:51:09.7±0.5, 1°.55S±0°.06×116°.46E±0°.05, h33km, mb3.9/9, MS3.0/1, Error ellipse: s-maj=8.8km s-min=6.7km az=38.7*

*DJA **01** 12:51:11.1±0.6, 2°S±5°×11°6E±°, h18km±8km, M4.4/13, mb4.5/3, mB5.2/3, MLv4.2/13, Mw(mB)4.6/3*

ISC 01 12:51:11.9±0.7**, 1°.63S**±0°.06×**116°.47E**±0°.05**, h35**km**, n21, σ1s.48**/22**, mb3.9**/9**, Borneo**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKB	Balikpapan	0.56	50	P	Pn	12 51 24.1	+0.7
KBKI	Kotabaru	1.69	190	P	Pn	12 51 38.4	-0.6
MTKI	Muara Teweh, K	1.71	293	P	Sn	12 52 04.2	+4.2
BBKI	Banjar Baru	2.44	222	P	Pn	12 51 49.3	-0.1
TTSI	Tana Toraja	3.63	113	P	Pn	12 52 07.7	+2.0
MPSI	Mapaga	3.94	60	P	Pn	12 52 09.6	-0.4
SPSI	Sidrap Palu	4.03	125	P	Pn	12 52 13.1	+1.9
KAPI	Kappang	4.70	136	Pn	Pn	12 52 19.4	-0.9
	5.6nm,0.3s,baz=57,slow=19,SNR=8.6						
KAPI				Sn	Sn	12 53 15.3	+1.6
	2.7nm,0.3s,baz=96,slow=19,SNR=2.7						
KAPI				LR	LR	12 54 42.9	
	comp=Z,50nm,20.3s,baz=341,slow=46						
APSI	Ampana	5.23	82	P	Pn	12 52 26.0	-1.6
STKI	Sintang	5.27	289	P	Pn	12 52 29.3	+1.1
	41nm,0.6s,10μm0.7nm						
MRSI	Marisa	5.86	69	P	Pn	12 52 36.1	-0.2
	21nm,0.6s,657nm0.1nm						
LUWI	Luwuk	6.33	85	P	Pn	12 52 44.3	+1.6
WRA	Warramunga Arr	25.23	137	P	P	12 56 35.5	+0.7
	2.5nm,0.8s,baz=315,slow=10.0,SNR=17						
CMAR	Chiang Mai Arr	26.38	320	P	P	12 56 44.5	-0.6
	0.5nm,0.4s,baz=135,slow=10,SNR=4.2						
CMAR				LR	LR	13 09 06.1	
	comp=Z,40nm,18.1s,baz=170,slow=41						
ASAR	Alice Springs	27.67	144	P	P	12 56 56.8	0.0
	0.6nm,0.6s,baz=320,slow=8.3,SNR=7.6						
STKA	Stephens Creek	38.30	144	P	P	12 58 28.8	-0.5
	1.1nm,0.7s,baz=323,slow=8.7,SNR=5.7						
SONM	Songino Array	50.04	351	P	P	13 00 03.1	-0.1
	1.0nm,0.8s,baz=170,slow=9.8,SNR=9.3						
MKAR	Makanchi Array	56.79	333	P	P	13 00 52.0	-0.7
	1.5nm,0.6s,baz=140,slow=8.1,SNR=16						
ZALV	Zalesovo Beam	61.30	339	P	P	13 01 21.9	-1.8
	0.6nm,0.4s,baz=164,slow=5.7,SNR=3.2						
PETK	Petropavlovsk-	64.48	26	P	P	13 01 44.3	-0.6
	1.4nm,0.8s,baz=267,slow=2.7,SNR=3.3						
BVAR	Borovoye Array	66.65	332	P	P	13 01 58.3	-0.7
	1.1nm,0.8s,baz=134,slow=11,SNR=6.6						

*IDC **01** 13:03:06.3±0.8, 27°.73N×92°.81E, h0km, mb3.5/10, mb1 3.7/10, mb1mx3.5/36, mbtmp3.6/10, Error ellipse: s-maj=32.5km s-min=17.1km az=58.0*

ISC 01 13:03:08.5±0.7**, 27°.86N**±0°.06×**92°.8E**±0°.1**, h10**km**, n12, σ1s.00**/14**, mb3.7**/9**, Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHL	Shillong	2.41	199	ePN	Pg	13 03 54.5	-0.3
SHL				eSN	Sg	13 04 26.5	+0.4
IMP	Imphal	3.23	161	eP	Pb	13 04 07.0	+0.9
IMP				eS	Sg	13 04 53.0	+0.6
MKAR	Makanchi Array	20.62	339	P	P	13 07 48.6	+0.5
	0.6nm,0.6s,baz=148,slow=8.5,SNR=3.8						
SONM	Songino Array	22.60	24	P	P	13 08 11.1	+1.8
	0.2nm,0.5s,baz=223,slow=7.9,SNR=2.5						
KURBB	Kurchatov Arra	25.18	338	P	P	13 08 34.2	+0.2
	0.5nm,0.3s,baz=147,slow=9.8,SNR=6.0						
ZALV	Zalesovo Beam	26.72	350	P	P	13 08 48.8	+0.9
	0.6nm,0.5s,baz=168,slow=7.4,SNR=3.0						
BRTR	Keskin Array B	49.74	300	P	P	13 12 01.8	+0.5
	0.3nm,0.5s,baz=63,slow=8.0,SNR=2.6						
FINES	FINESS Array B	54.83	327	P	P	13 12 38.4	-0.2
	1.9nm,1.0s,baz=43,slow=21,SNR=2.6						
WRA	Warramunga Arr	62.25	135	P	P	13 13 29.4	-1.4
	0.4nm,0.6s,baz=317,slow=8.0,SNR=22						
ASAR	Alice Springs	64.79	138	P	P	13 13 46.5	-1.1
	0.8nm,0.6s,baz=323,slow=6.7,SNR=10						
ILAR	Eielson Array	76.81	22	P	P	13 14 58.9	-1.3
	0.2nm,0.7s,baz=316,slow=6.3,SNR=3.8						
TORD	Torodi Ar. Bea	84.90	282	P	P	13 15 44.0	-0.2
	0.6nm,0.8s,baz=69,slow=5.1,SNR=3.4						

*IDC **01** 13:33:59.1±0.7, 24°.25N×94°.97E, h145km±6km, mb3.7/21, mb1 3.8/22, mb1mx3.7/32, mbtmp4.1/22, MS3.0/1, Ms1 3.0/1, ms1mx2.4/29, Error ellipse: s-maj=16.1km s-min=9.2km az=56.0*

ISC 01 13:33:56.6±0.6**, 24°.08N**±0°.08×**94°.63E**±0°.07**, h112**km**, n40, σ2s.20**/53**, mb4.0**/22**, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMP	Imphal	0.95	318	eP	Pn	13 34 17.0	-0.5
IMP				eS	Sn	13 34 28.5	-4.7
SHL	Shillong	2.90	301	eP	Pn	13 34 44.0	+2.5
SHL				eS	Sn	13 35 16.5	+0.4
SHL				AML	AML	13 35 18.0	
	comp=E,3μm,0.5s						
SHL				AML	AML	13 35 18.5	
	comp=N,3μm,0.3s						
CMAR	Chiang Mai Arr	6.89	144	P	Pn	13 35 37.3	+2.3
	comp=N,0.4nm,0.3s,baz=322,slow=13,SNR=19						
TAPN	Taplejung	7.04	299	ePn	Pn	13 35 39.4	+2.1
TAPN				eSn	Sn	13 36 57.2	+1.2
	comp=N,146nm,0.4s						
ODAN	Odare	7.11	294	ePn	Pn	13 35 39.9	+1.8
ODAN				eSn	Sn	13 36 56.7	-0.8
	comp=N,264nm,0.4s						
RAMN	Ramite	7.80	293	ePn	Pn	13 35 49.1	+1.6
RAMN				eSn	Sn	13 37 12.8	-1.5
	comp=N,126nm,0.3s						
BOK	Bokaro	8.01	270	eP	Pn	13 35 52.0	+1.9
BOK				eS	Sn	13 37 18.0	-1.1
BOK				AML	AML	13 37 20.9	
	comp=N,135nm,0.7s						
BOK				AML	AML	13 37 24.2	
	comp=E,132nm,1.0s						
JIRN	Jiri	8.40	297	ePn	Pn	13 35 57.3	+1.5
JIRN				eSn	Sn	13 37 28.6	-0.5
	comp=E,160nm,0.3s						
GUN	Gumba	8.75	298	ePn	Pn	13 36 01.4	+0.9
GUN				eSn	Sn	13 37 36.9	-0.7
	comp=E,139nm,0.3s						
PKI	Pulchoki	9.01	295	ePn	Pn	13 36 04.7	+0.7
PKI				eSn	Sn	13 37 41.4	-2.4
	comp=E,38nm,0.3s						
PKIN	Phulchoki	9.02	295	ePn	Pn	13 36 04.7	+0.6
PKIN				eSn	Sn	13 37 42.2	-1.8
	comp=E,47nm,0.3s						
KKN	Kakani	9.19	296	ePn	Pn	13 36 07.0	+0.6
KKN				eSn	Sn	13 37 47.3	-0.9
	comp=E,62nm,0.3s						
DMN	Daman	9.27	294	ePn	Pn	13 36 07.8	+0.3
DMN				eSn	Sn	13 37 49.0	-1.2
	comp=E,62nm,0.4s						
GKN	Gorkha	9.80	296	ePn	Pn	13 36 15.1	+0.5
GKN				eSn	Sn	13 38 00.9	-1.9
	comp=E,98nm,0.3s						
KOLN	Koldanda	10.59	293	ePn	Pn	13 36 25.5	+0.2
KOLN				eSn	Sn	13 38 18.7	-3.3
	comp=E,47nm,0.3s						
VIS	Vishakhapatnam	12.31	241	i P	Pn	13 36 52.2	+4.1
VIS				i S	Sn	13 38 57.7	-5.9
VIS				i S	Sn	13 38 59.0	-4.6
VIS				ex	x	13 39 01.6	
	comp=N,44nm,1.1s						
VIS				ex	x	13 39 02.1	
	comp=E,24nm,0.6s						
BHPL	Bhopal	15.79	270	eP	P	13 37 38.9	+4.6
BHPL				ex	x	13 40 20.4	
PSI	Prapat	21.56	168	P	P	13 38 39.9	+2.6
	comp=E,13nm,0.6s,baz=339,slow=7.1,SNR=18						
MKAR	Makanchi Array	24.73	339	P	P	13 39 07.0	-0.5
	comp=E,6.1nm,0.6s,baz=144,slow=10,SNR=82						
AAK	Ala-Archa	24.90	323	P	P	13 39 10.1	+1.0
	comp=E,2.3nm,0.4s,baz=138,slow=2.7,SNR=8.1						
SONM	Songino Array	25.48	19	P	P	13 39 11.6	-2.8
	comp=E,1.1nm,0.5s,baz=201,slow=9.3,SNR=12						
SONM				LR	LR	13 49 50.6	
	comp=E,34nm,19.5s,baz=218,slow=38						
KURBB	Kurchatov Arra	29.29	339	P	P	13 39 47.5	-0.7
	comp=E,0.9nm,0.2s,baz=144,slow=9.2,SNR=8.6						
KURBB				pP	pP	13 40 18.1	+5.2
	comp=E,1.0nm,0.4s,baz=152,slow=9.9,SNR=2.2						
ZALV	Zalesovo Beam	30.73	349	P	P	13 39 59.2	-1.6
	comp=E,0.6nm,0.3s,baz=157,slow=8.0,SNR=5.1						
ZALV				pP	pP	13 40 30.3	+4.8
	comp=E,0.7nm,0.4s,baz=145,slow=5.4,SNR=2.6						
KSRS	Korea Array	31.38	57	P	P	13 39 59.6	-7.2
	comp=E,0.4nm,0.4s,baz=247,slow=8.8,SNR=3.3						
JNU	Nakatsue	32.94	66	P	P	13 40 16.8	-3.7
	comp=E,6.1nm,0.8s,baz=162,slow=19,SNR=7.6						
BVAR	Borovoye Array	34.23	334	P	P	13 40 30.8	-0.6
	comp=E,0.5nm,0.3s,baz=148,slow=12,SNR=3.7						
BVAR				pP	pP	13 41 03.4	+7.0
	comp=E,1.3nm,0.6s,baz=119,slow=9.2,SNR=3.6						
AKTO	Aktyubinsk	38.64	322	P	P	13 41 09.0	+0.1
	comp=E,0.5nm,0.3s,baz=57,slow=8.5,SNR=4.2						
MJAR	Matsushiro Arr	39.30	61	P	P	13 41 10.4	-4.2
	comp=E,2.0nm,0.8s,baz=272,slow=8.3,SNR=6.4						
BRTR	Keskin Array B	53.12	303	P	P	13 43 02.4	-0.6
	comp=E,0.2nm,0.3s,baz=85,slow=7.5,SNR=3.3						
AKASG	Malin Array Be	56.29	316	P	P	13 43 24.7	-0.7
	comp=E,0.3nm,0.3s,baz=75,slow=8.0,SNR=2.8						
AKASG				pP	pP	13 43 58.2	+5.9
	comp=E,0.4nm,0.4s,baz=80,slow=6.3,SNR=2.7						
WRA	Warramunga Arr	58.40	135	P	P	13 43 39.4	-1.3
	comp=E,2.8nm,0.4s,baz=325,slow=7.3,SNR=108						
WRA				ScP	ScP	13 48 12.9	-7.4
	comp=E,0.4nm,0.9s,baz=324,slow=4.2,SNR=3.7						
FINES	FINESS Array B	58.91	329	P	P	13 43 42.9	-0.7
	comp=E,0.6nm,0.5s,baz=100,slow=6.8,SNR=3.1						
FINES				pP	pP	13 44 16.9	+6.2
	comp=E,1.3nm,0.5s,baz=115,slow=8.6,SNR=3.3						
ARCES	ARCESS Array B	60.37	338	P	P	13 43 53.0	-0.5
	comp=E,2.7nm,0.9s,baz=102,slow=6.4,SNR=5.8						
ASAR	Alice Springs	60.87	138	P	P	13 43 56.8	-0.8
	comp=E,2.8nm,0.6s,baz=319,slow=6.7,SNR=47						
ASAR				ScP	ScP	13 48 24.6	-6.6
	comp=E,0.2nm,0.6s,baz=314,slow=4.5,SNR=3.5						
KMBO	Kilima Mbogo	61.01	254	P	P	13 44 00.7	+1.7
	comp=E,0.8nm,0.3s,baz=10,slow=7.4,SNR=4.2						
NOA	NORSAR Array B	66.08	328	pP	pP	13 45 04.3	+5.2
	comp=E,1.1nm,0.8s,baz=82,slow=6.6,SNR=3.5						
GERES	GERESS Array B	66.44	315	P	P	13 44 33.4	-0.6
	comp=E,0.6nm,0.4s,baz=53,slow=5.2,SNR=6.1						
GERES				pP	PcP	13 45 07.0	+4.2
	comp=E,0.4nm,0.3s,baz=76,slow=5.6,SNR=2.2						
STKA	Stephens Creek	71.49	139	P	P	13 45 03.3	-1.9
	comp=E,1.2nm,0.7s,baz=334,slow=5.5,SNR=5.3						
BOSA	Boshof	84.85	236	P	P	13 46 19.1	-0.1
	comp=E,3.0nm,0.8s,baz=111,slow=3.6,SNR=4.5						
TORD	Torodi Ar. Bea	87.36	283	P	P	13 46 30.9	-0.8
	comp=E,0.8nm,0.7s,baz=78,slow=4.2,SNR=6.8						

NNC 01 14:06:03.8±2.9**, 37°.96N×71°.80E, h0**km**, mb3.5, mpv3.1, 6C-2D, Error ellipse: s-maj=27.0km s-min=8.3km az=158.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	2.44	32	⇑Pn	Pn	14 06 45.1	-0.2
	3.2nm,0.3s						
SFK				⇓Sn	Sb	14 07 18.2	-1.6
	8.8nm,0.4s						
DZET	Dzherino	2.48	291	⇑Pn	Pn	14 06 44.5	-1.1
	1.9nm,0.3s						
DZET				⇑Sn	Sn	14 07 18.5	+1.8
	9.8nm,0.4s						
MNAS	Manas	4.55	7	⇑Pn	Pn	14 07 13.2	-0.9
	3.2nm,0.4s						
MNAS				⇓Sn	Sn	14 08 08.1	+0.1
	4.3nm,0.5s						
AAK	Ala-Archa	5.10	23	⇑Sn	Sn	14 08 20.8	-0.7
	1.2nm,0.5s						
KK31	Karatay Array	5.23	350	Pn	Pn	14 07 22.7	-0.5
	0.6nm,0.3s,baz=165,slow=12,SNR=15						
KK31				⇑Sn	Sn	14 08 24.4	+0.1
	4.0nm,0.6s,baz=170,slow=23						

*IDC **01** 14:15:48.0±4.6, 7°.23S×129°.12E, h81km±48km, mb3.6/3, mb1 3.8/6, mb1mx3.5/20, mbtmp4.0/6, ML4.1/3, Error ellipse: s-maj=64.3km s-min=15.7km az=81.0*

ISC 01 14:15:51.6±0.8**, 7°.29S**±0°.07×**130°.2E**±0°.2**, h150**km**, n15, σ1s.60**/17**, mb3.9**/3**, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.47	10	P	Pn	14 17 24.3	-0.4
	2.2nm,0.3s,baz=218,slow=23,SNR=17						
SIJI				S	Sn	14 18 37.1	-0.6
	2.9nm,0.3s,baz=245,slow=23,SNR=6.3						
WRA	Warramunga Arr	13.21	163	P	Pn	14 18 55.9	+2.2
	1.2nm,0.3s,baz=336,slow=12,SNR=64						
WRA				S	Sn	14 21 16.9	-3.1
	2.8nm,0.3s,baz=341,slow=21,SNR=11						
ASAR	Alice Springs	16.68	168	P	Pn	14 19 39.1	+2.4
	0.8nm,0.3s,baz=343,slow=11,SNR=73						
ASAR				S	S	14 22 41.5	-0.7
	0.9nm,0.3s,baz=341,slow=24,SNR=10						
STKA	Stephens Creek	26.69	158	P	P	14 21 23.9	+7.0
	1.9nm,0.6s,baz=327,slow=9.0,SNR=13						
ODAN	Odare	53.57	311	eP	P	14 24 56.6	-1.1
	7.7nm,0.5s						
TAPN	Taplejung	53.60	312	eP	P	14 24 56.4	-1.6
	8.7nm,0.4s						
RAMN	Ramite	54.21	311	eP	P	14 25 01.1	-1.2
	18nm,0.5s						
JIRN	Jiri	54.90	311	eP	P	14 25 06.5	-0.9
	3.5nm,0.3s						
GUN	Gumba	55.26	311	eP	P	14 25 09.1	-0.9
	13nm,0.5s						
PKI	Pulchoki	55.44	311	eP	P	14 25 09.8	-1.5
	5.1nm,0.5s						
KKN	Kakani	55.65	311	eP	P	14 25 11.3	-1.3
	5.7nm,0.4s						
GKN	Gorkha	56.24	311	eP	P	14 25 15.9	-0.9
	11nm,0.5s						
KOLN	Koldanda	56.91	310	eP	P	14 25 20.8	-0.8
	4.4nm,0.5s						
SONM	Songino Array	58.77	341	P	P	14 25 35.5	+1.5
	0.3nm,0.6s,baz=162,slow=6.1,SNR=2.8						
MKAR	Makanchi Array	68.55	327	P	P	14 26 38.4	+0.3
	1.1nm,0.4s,baz=121,slow=7.5,SNR=30						

DJA 01 15:00:38.3±0.5**, 1°S**±4°×**12°3E**±°**, h10**km**, M3.5**/9**, MLv3.5**/9**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.34	126	P	Pg	15 00 45.6	+0.6
APSI	Ampana	0.85	265	P	Pg	15 00 53.0	-1.8
MRSI	Marisa	1.42	337	P	Pn	15 01 00.2	-4.0
KMSI	Cibinong	2.04	47	P	Pg	15 01 32.1	+15
PCI	Palu	2.66	269	P	Pn	15 01 21.8	+0.5
MPSI	Mapaga	2.85	294	P	Pn	15 01 24.1	+0.2
TTSI	Tana Toraja	3.46	231	P	Pn	15 01 32.4	+0.1
SPSI	Sidrap Palu	4.13	221	P	Pn	15 01 41.6	+0.1
SPSI				S	Sn	15 02 30.9	+1.0

IDC ***01*** *15:13:06.8±0.6,34˚.42N×80˚.73E,h0km,mb4.3/20, mb1 4.4/24,mb1mx4.3/40,mbtmp4.3/24,ML3.3/4,MS3.6/16, Ms1 3.6/16,ms1mx3.5/31,Error ellipse: s-maj=17.8km s-min=11.7km az=36.0*

NEIC ***01*** *15:13:08.5±4.6,34˚.56N×80˚.96E,h2km±28km,mb4.8/27, Error ellipse: s-maj=14.3km s-min=7.9km az=216.0*

BJI ***01*** *15:13:09.8,34˚.46N×80˚.96E,h15km,mb4.4/35,mB4.5/28, ML4.3/7,Ms4.2/32,Ms7 4.0/32*

NDI ***01*** *15:13:09.1±2.5,34˚.66N×81˚.04E,h10km,ML4.3, mb4.6(NEIC)*

ISCJB ***01*** *15:13:10.3±0.9,34˚.49N±0˚.02×80˚.80E±0˚.03,h21km±6km, mb4.5/70,MS3.6/18,Error ellipse: s-maj=3.8km s-min=2.6km az=151.0*

MOS ***01*** *15:13:12.3±1.8,34˚.64N×80˚.89E,h33km,mb4.8/37,Error ellipse: s-maj=9.2km s-min=4.4km az=117.0*

ISC 01 15:13:11.9±0.4,34˚49N±0˚.04×80˚72E±0˚.03,h23km±2km, h22km:pP-P,n268,σ2s11/306,mb4.6/70,MS3.6/18,1C-3D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**4.04**	**194**	*e*P		Pn	15 14 09.4	-3.2
JOSI				*e*S		**Sn**	**15 14 55.2**	**-4.3**
DHRM	**DHARAMSHALA**	**4.32**	**240**	*e*P		**Pn**	**15 14 18.9**	**+2.5**
DHRM				*e*S		Sn	15 15 12.5	+6.3
SDNR	**Sundarnagar**	**4.34**	**228**	*e*P		**Pn**	**15 14 19.0**	**+2.5**
SDNR				*ex*		**Sb**	**15 15 21.0**	**+1.6**
DLH	**Dalhousie**	**4.42**	**245**	*ex*		**Pn**	**15 14 16.0**	**-1.8**
DLH				*ex*		Sb	15 15 31.0	+9.1
SMLA	**Simla**	**4.49**	**223**	*i* P		**Pn**	**15 14 21.2**	**+2.6**
SMLA				*e*S		**Sn**	**15 15 14.5**	**+4.3**
SMLA	comp=E,624nm,0.3s			AML		AML	15 15 27.8	
SMLA	comp=N,787nm,0.6s			AML		AML	15 15 28.6	
DDI	**Dehra Dun**	**4.73**	**209**	*e*P		**Pn**	**15 14 24.9**	**+3.0**
DDI				*e*S		**Sn**	**15 15 17.2**	**+1.1**
KALG	**Kalgarh**	**5.24**	**199**	*e*P		**Pn**	**15 14 31.4**	**+2.5**
KALG				*e*S		**Sn**	**15 15 31.3**	**+2.6**
CHCP	**Chirak Chowk**	**6.24**	**264**	P		**Pn**	**15 14 40.2**	**-2.5**
KSH	**Kashi**	**6.29**	**324**	Pn		**Pn**	**15 14 44.4**	**+1.0**
KSH				Sn		**Sn**	**15 15 57.0**	**+2.4**
KSH	comp=N,190nm,1.2s			SMN				
KSH	comp=N,290nm,1.3s			SME				
NDI	**New Delhi**	**6.51**	**208**	*e*P		**Pn**	**15 14 48.0**	**+1.6**
NDI				*ex*		x	15 16 40.0	
KOLN	**Koldanda**	**7.14**	**159**	*e*Pn		**Pn**	**15 14 55.6**	**+0.4**
KOLN				*e*Sn		**Sn**	**15 16 15.9**	**+0.2**
KOLN	comp=N,81nm,0.7s							
GKN	**Gorkha**	**7.29**	**152**	*e*Pn		**Pn**	**15 14 58.1**	**+1.0**
GKN				*e*Sn		**Sn**	**15 16 21.1**	**+1.9**
GKN	comp=N,58nm,0.6s							
KUDL	**Kundal**	**7.29**	**211**	*e*P		**Pn**	**15 14 58.0**	**+1.1**
KUDL				*e*S		**Sn**	**15 16 18.8**	**-0.2**
CEP	**Cherat**	**7.33**	**267**	P		**Pn**	**15 14 55.6**	**-2.1**
AGRA	**Agra**	**7.62**	**199**	*e*P		**Pn**	**15 15 01.4**	**-0.1**
AGRA				*e*S		**Sn**	**15 16 26.6**	**-0.6**
AGRA				*e*S		**Sn**	**15 16 29.0**	**+1.8**
KHET	**Khetri**	**7.65**	**215**	*e*P		**Pn**	**15 15 02.4**	**+0.4**
KHET				*e*S		**Sn**	**15 16 27.9**	**-0.2**
THW	**Thamme Wali**	**7.67**	**260**	P		**Pn**	**15 15 01.3**	**-1.0**
KKN	**Kakani**	**7.74**	**148**	*e*Pn		**Pn**	**15 15 04.1**	**+0.7**
KKN				*e*Sn		**Sn**	**15 16 31.2**	**+0.7**
KKN	comp=N,79nm,0.8s							
DMN	**Daman**	**7.82**	**150**	*e*Pn		**Pn**	**15 15 05.5**	**+0.9**
GUN	**Gumba**	**7.91**	**145**	*e*Pn		**Pn**	**15 15 07.1**	**+1.2**
PKIN	**Phulchoki**	**7.97**	**149**	*e*Pn		**Pn**	**15 15 07.5**	**+0.8**
PKIN				*e*Sn		**Sn**	**15 16 37.2**	**+0.8**
PKIN	comp=N,65nm,0.8s							
PKI	**Pulchoki**	**7.99**	**148**	*e*Pn		**Pn**	**15 15 07.6**	**+0.7**
PKI				*e*Sn		**Sn**	**15 16 37.4**	**+0.7**
PKI	comp=N,99nm,0.9s							
JIRN	**Jiri**	**8.27**	**144**	*e*Pn		**Pn**	**15 15 12.3**	**+1.5**
KZA	**Kyzart** SNR=33	**8.71**	**332**	P		**Pn**	**15 15 17.7**	**+0.9**
RAMN	**Ramite**	**9.06**	**144**	*e*Pn		**Pn**	**15 15 21.9**	**+0.3**
RAMN				*e*Sn		**Sn**	**15 17 02.7**	**-0.3**
RAMN	comp=N,152nm,0.8s							
UCH	**Uchtor** SNR=60	**9.13**	**330**	P		**Pn**	**15 15 23.1**	**+0.5**
AAA	**Alma-Ata**	**9.24**	**343**	*e*P		Pn	15 15 28.4	+4.5
AAA				*e*S		Sn	15 17 16.1	+8.9
AAA	comp=Z,100nm,1.0s			pmax		pmax		
AAA	comp=E,100nm,1.0s			smax		smax		
AAA	comp=Z,1μm,7.0s			MLR		MLR		
TAPN	**Taplejung**	**9.31**	**138**	*e*Pn		**Pn**	**15 15 26.1**	**+1.1**
KBK	**Karagaybulak** SNR=8.6	**9.32**	**333**	P		Pn	15 15 30.1	+5.2
TKM2	**Tokmak 2** SNR=20	**9.32**	**336**	P		**Pn**	**15 15 26.3**	**+1.2**
TKM2	**Tokmak 2**	**9.32**	**336**	*i* P		**Pn**	**15 15 26.2**	**+1.2**
TKM2	comp=Z,18nm,0.6s			pmax		pmax		
TKM2	**Tokmak 2** comp=Z,27nm,0.9s	**9.32**	**336**	*e*P		**Pn**	**15 15 25.9**	**+0.9**
AML	**Almayashu** SNR=28	**9.41**	**326**	P		Pn	15 15 30.7	+4.2
AAK	**Ala-Archa** SNR=8.5	**9.47**	**331**	P		Pn	15 15 31.5	+4.4
AAK	**Ala-Archa** comp=Z,0.7nm,0.3s,baz=173,slow=9.8,SNR=18	**9.47**	**331**	Pn		**Sn**	**15 15 30.1**	**+3.0**
AAK	baz=150,slow=20,SNR=1.4			Sn		**Sn**	**15 17 14.8**	**+1.8**
AAK	comp=Z,0.1nm,0.3s,baz=275,slow=16,SNR=3.1			Lg		Lg	15 18 06.9	
AAK	**Ala-Archa**	**9.47**	**331**	*i* P		**Pn**	**15 15 25.5**	**-1.6**
AAK	comp=Z,31nm,0.8s			pmax		pmax		
AAK	**Ala-Archa** comp=Z,32nm,0.8s	**9.47**	**331**	*e*P		**Pn**	**15 15 28.5**	**+1.4**
AAK				Sn		**Sn**	**15 17 14.8**	**+1.8**
AAK				Lg		Lg	15 18 06.9	
ODAN	**Odare**	**9.53**	**141**	*e*Pn		**Pn**	**15 15 28.4**	**+0.4**
FRU	**Bishkek**	**9.60**	**332**	*e*P		**Pn**	**15 15 29.0**	**+0.4**
FRU	comp=Z,120nm,1.8s			pmax		pmax		
KBL	**Kabul**	**9.63**	**274**	*e*P		**Pn**	**15 15 28.9**	**-0.5**
KBL	comp=Z,32nm,0.9s			pmax		pmax		
KBL	**Kabul** comp=Z,32nm,0.9s	**9.63**	**274**	*e*P		**Pn**	**15 15 28.9**	**-0.5**
CHMS	**Chumysh** SNR=11	**9.69**	**333**	P		Pn	15 15 34.0	+4.2
EKS2	**Erkin-Say** SNR=14	**9.80**	**328**	P		Pn	15 15 36.6	+5.1
EKS2	**Erkin-Say**	**9.80**	**328**	*e*P		**Pn**	**15 15 31.3**	**-0.2**
EKS2	comp=Z,18nm,0.8s			pmax		pmax		
EKS2	**Erkin-Say** comp=Z,18nm,0.8s	**9.80**	**328**	*e*P		**Pn**	**15 15 31.3**	**-0.2**
LSA	**Lhasa**	**10.05**	**116**	P		**Pn**	**15 15 37.3**	**+1.9**
LSA	**Lhasa**	**10.05**	**116**	*e*P		**Pn**	**15 15 38.0**	**+2.6**
LSA	comp=Z,14nm,0.7s			pmax		pmax		
LSA	**Lhasa** comp=Z,14nm,0.7s	**10.05**	**116**	*e*P		**Pn**	**15 15 38.0**	**+2.6**
WMQ	**Urumqi**	**10.77**	**28**	P		**Pn**	**15 15 47.5**	**+2.7**
WMQ				PP		**PnPn**	**15 15 56.7**	**+4.2**
WMQ				S		**Sn**	**15 17 41.2**	**-3.4**
WMQ				SS		**SnSn**	**15 18 01.2**	**+4.6**
WMQ	comp=Z,19nm,0.5s			PMZ				
WMQ	comp=Z,220nm,4.0s			PMZ				
WMQ	comp=Z,560nm,13.0s			LN				
WMQ	comp=Z,1μm,15.7s			LE				
WMQ	comp=Z,400nm,18.3s			LZ				
KKAR	**Karatay Array**	**11.71**	**320**	*e*P		**Pn**	**15 15 56.4**	**-1.2**
KKAR	comp=Z,23nm,0.9s			pmax		pmax		
KKAR	**Karatay Array** comp=Z,23nm,0.9s	**11.71**	**320**	*e*P		**Pn**	**15 15 56.4**	**-1.2**
MK31	**Makanchi Array**	**12.35**	**5**	*e*P		**Pn**	**15 16 04.5**	**-1.7**
MK31	**Makanchi Array**	**12.35**	**5**	*e*P		**Pn**	**15 16 04.5**	**-1.7**
MKAR	**Makanchi Array** comp=Z,1.0nm,0.3s,baz=184,slow=13,SNR=25	**12.35**	**5**	Pn		**Pn**	**15 16 03.7**	**-2.6**
MKAR	comp=Z,185nm,19.6s,baz=188,slow=41			LR		LR	15 21 40.8	
MKAR	**Makanchi Array**	**12.35**	**5**	P		**Pn**	**15 16 03.7**	**-2.6**
MKAR	comp=Z,1.0nm,0.3s			pmax		pmax		
MKAR	comp=Z,185nm,19.6s			MLR		MLR		
SHL	**Shillong**	**13.13**	**130**	*e*P		**Pn**	**15 16 14.2**	**-3.0**
RPR	**Rampur**	**15.62**	**185**	*e*P		**Pn**	**15 16 52.7**	**+2.0**
RPR	comp=Z,43nm,1.4s			IAmb		IAmb	15 17 00.4	
SRSP	**Sriramsagar**	**15.64**	**188**	*e*P		**Pn**	**15 16 51.0**	**-0.1**
SRSP	comp=Z,28nm,0.8s			IAmb		IAmb	15 16 57.9	
GTA	**Gaotai**	**16.03**	**67**	*e*P		**Pn**	**15 16 56.9**	**+0.9**
GTA				pP		**P**	**15 17 01.4**	**+2.1**
GTA				sP		**sP**	**15 17 04.0**	**-4.4**
GTA				S		**Sn**	**15 19 52.2**	**-0.9**
GTA				sS		S	15 19 57.1	-9.4
GTA				SS		**SnSn**	**15 20 10.7**	**+4.7**
GTA	comp=Z,60nm,5.7s			PMZ				
GTA	comp=Z,490nm,13.1s			LN				
GTA	comp=Z,430nm,10.7s			LE				
GTA	comp=Z,350nm,11.4s			LZ				
CHLP	**Challavanipeta**	**16.20**	**169**	*e*P		**Pn**	**15 16 57.8**	**-0.3**
CHLP	comp=Z,39nm,1.6s			IAmb		IAmb	15 17 01.5	
KURBB	**Kurchatov Arra** comp=Z,0.0nm,0.3s,baz=174,slow=11,SNR=13	**16.20**	**355**	Pn		**Pn**	**15 16 55.4**	**-2.6**
KURBB				Lg		Lg	15 21 44.4	
KURK	**Kurchatov** comp=Z,0.0nm,0.3s,baz=178,slow=24,SNR=3.6	**16.29**	**355**	*e*P		**Pn**	**15 16 57.0**	**-2.0**
KURK	comp=Z,59nm,0.9s			pmax		pmax		
KURK	**Kurchatov** comp=Z,59nm,0.9s	**16.29**	**355**	*e*P		**Pn**	**15 16 57.0**	**-2.0**
KURK				Lg		Lg	15 21 44.4	
KLRI	**Killari**	**16.76**	**194**	*e*P		**Pn**	**15 17 02.4**	**-3.0**
KLRI	comp=Z,36nm,1.1s			IAmb		IAmb	15 17 12.7	
HYBB	**Hyderabad (bro**	**17.11**	**187**	*e*P		**P**	**15 17 11.4**	**+0.2**
HYBB	comp=Z,44nm,1.3s			IAmb		IAmb	15 17 16.8	
HYB	**Hyderabad**	**17.11**	**187**	*i* P		**Pn**	**15 17 09.5**	**-0.2**
PVM	**Polavaram**	**17.19**	**177**	*e*P		**P**	**15 17 12.8**	**+0.7**
PVM	comp=Z,25nm,1.1s			IAmb		IAmb	15 17 18.3	
NJS	**Nagarjunasagar**	**17.91**	**184**	*e*P		**Pn**	**15 17 18.3**	**-1.2**
NJS	comp=Z,64nm,1.7s			IAmb		IAmb	15 17 21.8	
ADKI	**Addanki**	**18.58**	**182**	*e*P		**Pn**	**15 17 28.2**	**+0.5**
ADKI	comp=Z,45nm,1.5s			IAmb		IAmb	15 17 29.9	
LZH	**Lanzhou**	**18.94**	**79**	*e*P		**Pn**	**15 17 31.7**	**-0.5**
LZH				pP		**pP**	**15 17 36.2**	**-1.6**
LZH				sP		**sP**	**15 17 39.0**	**-1.7**
LZH				PP		**PnPn**	**15 17 50.8**	**+6.1**
LZH				*e*S		**Sn**	**15 20 57.0**	**-6.7**
LZH				SS		**SnSn**	**15 21 20.0**	**+2.4**
LZH	comp=Z,14nm,1.0s			PMZ				
LZH	comp=Z,87nm,5.1s			PMZ				
LZH	comp=Z,270nm,10.0s			LN				
LZH	comp=Z,220nm,10.2s			LE				
LZH	comp=Z,300nm,12.0s			LZ				
RCLA	**Racherla**	**19.02**	**185**	*e*P		**Pn**	**15 17 33.2**	**+0.1**
RCLA	comp=Z,14nm,1.1s			IAmb		IAmb	15 17 38.0	
ZAA0	**Zalesovo Array**	**19.67**	**7**	*e*P		**P**	**15 17 36.3**	**-2.8**
ZALV	**Zalesovo Beam** comp=Z,0.1nm,0.3s,baz=200,slow=11,SNR=20	**19.67**	**7**	P		**P**	**15 17 36.5**	**-2.6**
ZALV	comp=Z,51nm,18.2s,baz=250,slow=38			LR		LR	15 25 36.9	
ZALV	**Zalesovo Beam**	**19.67**	**7**	*i* P		**P**	**15 17 37.0**	**-2.1**
ZALV	comp=Z,5.0nm,0.9s			pmax		pmax		
CD2	**Chengdu**	**19.71**	**94**	*e*P		P	15 17 34.7	-5.1
CD2				S		S	15 21 13.7	-7.2
CD2				sS		**Sn**	**15 21 21.8**	**-0.3**
CD2	comp=Z,20nm,0.5s			PMZ				
CD2	comp=Z,180nm,5.4s			PMZ				
CD2	comp=Z,350nm,9.8s			LN				
CD2	comp=Z,590nm,9.0s			LE				
CD2	comp=Z,520nm,10.4s			LZ				
URV	**Uravakonda**	**19.71**	**190**	*e*P		**P**	**15 17 40.7**	**+0.8**
URV	comp=Z,20nm,1.0s			IAmb		IAmb	15 17 45.1	
BVAR	**Borovoye Array** comp=Z,15nm,0.8s,baz=147,slow=12,SNR=40	**19.93**	**341**	P		**P**	**15 17 41.0**	**-1.1**
BVAR	**Borovoye Array**	**19.93**	**341**	P		**P**	**15 17 41.0**	**-1.1**
BVAR	comp=Z,15nm,0.8s			pmax		pmax		
BRVK	**Borovoye**	**19.99**	**341**	*i* P		**P**	**15 17 41.4**	**-1.2**
BRVK	comp=Z,19nm,1.0s			pmax		pmax		
BRVK	**Borovoye** comp=Z,16nm,0.8s	**19.99**	**341**	P		**P**	**15 17 40.7**	**-1.9**
NVS	**Novosibirsk**	**20.42**	**4**	*e*P		**P**	**15 17 44.7**	**-2.6**
NVS				*e*			15 22 07.6	
NVS	comp=Z,21nm,0.9s			pmax		pmax		
NVS	comp=N,13nm,0.8s			pmax		pmax		
SKHT	**Srikalahasti**	**20.68**	**183**	*e*P		**P**	**15 17 51.1**	**+0.7**
SKHT	comp=Z,27nm,1.0s			IAmb		IAmb	15 17 54.1	
KMI	**Kunming**	**21.23**	**110**	P		**P**	**15 17 57.6**	**+1.0**
KMI				pP		**pP**	**15 18 03.9**	**+1.0**
KMI				sP		**sP**	**15 18 07.2**	**+1.4**
KMI				S		**S**	**15 21 51.3**	**-0.4**
KMI	comp=Z,15nm,0.8s			PMZ				
KMI	comp=Z,140nm,8.1s			LN				
KMI	comp=Z,170nm,8.9s			LE				
KMI	comp=Z,210nm,8.9s			LZ				
ABKAR	**Akbulak array** comp=Z,24nm,0.8s	**21.27**	**320**	*e*P		**P**	**15 17 54.2**	**-2.4**
CMAI	**Chiengmai2** comp=Z,59nm,0.7s,comp=Z,4μm	**21.76**	**127**	P		**P**	**15 18 06.5**	**+4.3**
MHMT	**Maesariang** comp=Z,15nm,1.1s	**22.35**	**132**	P		**P**	**15 18 11.0**	**+2.7**
CRAI	**Chiangrai** comp=Z,7.3nm,1.0s	**22.45**	**124**	P		**P**	**15 18 07.9**	**-1.5**
CHTO	**Chiang Mai** comp=Z,93nm,1.3s	**22.51**	**129**	P		**P**	**15 18 10.6**	**+0.6**
CHTO	**Chiang Mai**	**22.51**	**129**	P		**P**	**15 18 08.9**	**-1.1**
CHTO	comp=Z,19nm,1.0s			pmax		pmax		
CHTO	**Chiang Mai** comp=Z,19nm,1.0s	**22.51**	**129**	P		**P**	**15 18 08.9**	**-1.1**
MOY	**Mondy**	**22.55**	**34**	*e*P		**P**	**15 18 13.8**	**+3.5**
CM31	**Chiang Mai Arr** comp=Z,40nm,1.1s	**22.77**	**130**	*e*P		**P**	**15 18 12.6**	**-0.2**
CMAR	**Chiang Mai Arr** comp=Z,2.4nm,1.0s,baz=310,slow=12,SNR=34	**22.77**	**130**	P		**P**	**15 18 09.4**	**-3.4**
CMAR	comp=Z,1.1nm,0.9s,baz=316,slow=3.8,SNR=5.2			PcP		**PcP**	**15 22 03.4**	**-0.8**
ZAK	**Zakamensk**	**22.87**	**39**	*e*P		**P**	**15 18 11.0**	**-2.8**
ZAK	comp=Z,4.0nm,1.0s			pmax		pmax		
AKTO	**Aktyubinsk** comp=Z,8.4nm,0.8s,baz=118,slow=18,SNR=20	**22.98**	**321**	P		**P**	**15 18 13.7**	**-1.0**
AKTO	comp=Z,106nm,18.1s,baz=134,slow=37			LR		LR	15 27 19.8	
AKTO	**Aktyubinsk**	**22.98**	**321**	P		**P**	**15 18 13.7**	**-1.0**
AKTO	comp=Z,8.0nm,0.8s			pmax		pmax		
AKTO				MLR		MLR		
	comp=Z,107nm,18.1s							
LAMP	**Lampang** comp=Z,6.8nm,1.0s,comp=Z,61nm	**23.16**	**129**	P		**P**	**15 18 17.0**	**+0.1**
XAN	**Xi'an**	**23.29**	**83**	P		P	15 18 23.6	+5.5
XAN				pP		pP	15 18 31.5	+7.0
XAN				S		**S**	**15 22 29.7**	**+0.4**
XAN				SS		**SnSn**	**15 23 08.5**	**+4.4**
XAN	comp=Z,1.0nm,0.7s			pmax		pmax		
XAN	comp=Z,8.0nm,4.4s			pmax		pmax		
XAN	comp=N,130nm,15.3s			LR		LR		
XAN	comp=Z,65nm,11.9s			LR		LR		
SONM	**Songino Array** comp=Z,1.2nm,0.6s,baz=241,slow=9.9,SNR=10	**23.35**	**47**	P		**P**	**15 18 18.8**	**+0.2**
SONM				PcP		**PcP**	**15 22 03.2**	**-1.8**
SONM	comp=Z,1.7nm,1.0s,baz=243,slow=1.3,SNR=3.1			LR		LR	15 27 50.2	
SONM	comp=Z,164nm,19.0s,baz=228,slow=38							
GYA	**Guiyang**	**23.71**	**103**	*i* P		**P**	**15 18 22.8**	**+0.5**
GYA				PP		**PnPn**	**15 18 55.6**	**+5.6**
GYA				S		**S**	**15 22 30.0**	**-6.3**
GYA	comp=Z,20nm,1.0s			PMZ				
GYA	comp=Z,470nm,16.4s			LN				
GYA	comp=Z,420nm,17.0s			LE				
GYA	comp=Z,490nm,16.6s			LZ				
ULN	**Ulaanbaatar** comp=Z,4.0nm,0.9s	**23.76**	**48**	P		**P**	**15 18 23.9**	**+1.1**
ULN				pmax		pmax		
ULN	**Ulaanbaatar** comp=Z,4.0nm,0.9s	**23.76**	**48**	P		**P**	**15 18 23.9**	**+1.1**
TLY	**Talaya** comp=Z,5.0nm,0.8s,baz=232,slow=5.4,SNR=8.3	**23.83**	**37**	P		**P**	**15 18 22.8**	**-0.3**
TLY				LR		LR	15 28 48.9	
TLY	comp=Z,65nm,18.1s,baz=230,slow=39							
TLY	**Talaya**	**23.83**	**37**	*e*P		**P**	**15 18 23.0**	**-0.2**
TLY				*e*S		S	15 22 25.3	-12
TLY	comp=Z,8.0nm,1.1s			pmax		pmax		
TLY	comp=Z,79nm,11.0s			MLR		MLR		
TLY	**Talaya** comp=Z,6.1nm,0.8s	**23.83**	**37**	*e*P		**P**	**15 18 22.8**	**-0.3**
UTTA	**Uttaradit** comp=Z,11nm,1.1s	**24.33**	**128**	P		**P**	**15 18 29.2**	**+1.2**
IRK	**Irkutsk** comp=Z,20nm,1.2s	**24.48**	**36**	*e*P		**P**	**15 18 29.4**	**+0.2**
IRK				pmax		pmax		
HHC	**Hu-ho-hao-te**	**25.14**	**66**	*e*P		**P**	**15 18 33.8**	**-1.6**
HHC				pP		**pP**	**15 18 42.3**	**+0.2**
HHC				sP		**sP**	**15 18 48.6**	**+3.6**
HHC				PP		**PnPn**	**15 19 14.3**	**+4.8**
HHC				S		S	15 22 49.2	-10
HHC				SS		**SnSn**	**15 23 56.4**	**+6.9**
HHC	comp=Z,15nm,0.7s			PMZ				
HHC	comp=Z,76nm,4.3s			PMZ				
HHC	comp=Z,150nm,12.3s			LN				
HHC	comp=Z,200nm,11.8s			LE				
HHC	comp=Z,160nm,12.8s			LZ				
PBKT	**Sadao Pong** comp=Z,13nm,1.0s	**25.46**	**129**	P		**P**	**15 18 40.1**	**+1.9**
SRDT	**SRDT** comp=Z,56nm,1.0s,comp=Z,11μm	**26.05**	**136**	P		**P**	**15 18 47.2**	**+3.6**
SVE	**Sverdlovsk**	**26.19**	**335**	*e*P		**P**	**15 18 46.9**	**+2.4**
SVE	comp=Z,20nm,1.4s			pmax		pmax		
SVE	comp=Z,207nm,12.0s			MLR		MLR		
ARU	**Arti**	**26.66**	**332**	*d i* P		**P**	**15 18 49.4**	**+0.6**
ARU							15 19 27.3	
ARU				S		**S**	**15 23 23.7**	**+1.2**
ARU				SS		**SnSn**	**15 24 25.0**	**-1.1**
ARU	comp=Z,14nm,1.0s			pmax		pmax		
ARU	**Arti** comp=Z,11nm,0.8s	**26.66**	**332**	P		**P**	**15 18 47.5**	**-1.3**
SKNT	**Sakolnakorn** comp=Z,22nm,1.0s,comp=Z,1μm	**27.16**	**124**	P		**P**	**15 18 53.9**	**+0.2**
BJI	**Beijing**	**28.63**	**68**	P		**P**	**15 19 05.7**	**-0.9**
BJI				pP		**pP**	**15 19 16.9**	**+3.5**
BJI				S		**S**	**15 23 51.8**	**-2.1**
BJI	comp=Z,8.0nm,0.4s			PMZ				
BJI	comp=Z,310nm,21.9s			LN				
BJI	comp=Z,72nm,8.8s			LE				
BJI	comp=Z,120nm,24.3s			LZ				
GNI	**Garni** comp=Z,2.5nm,0.4s,baz=108,slow=16,SNR=2.1	**29.03**	**292**	P		**P**	**15 19 10.7**	**+0.3**
GNI	**Garni**	**29.03**	**292**	P		**P**	**15 19 10.7**	**+0.3**
GNI	comp=Z,3.0nm,0.4s			pmax		pmax		
QIZ	**Qiongzhong**	**30.08**	**113**	P		**P**	**15 19 20.0**	**+0.3**
QIZ				S		**S**	**15 24 17.0**	**-0.1**
QIZ	comp=Z,24nm,1.8s			PMZ				
QIZ	comp=Z,75nm,2.6s			PMZ				
QIZ	comp=Z,160nm,15.5s			LZ				
KBZ	**Khabaz** comp=Z,2.3nm,0.8s,baz=142,slow=20	**30.54**	**299**	P		**P**	**15 19 22.1**	**-1.4**
KBZ	**Khabaz**	**30.54**	**299**	P		**P**	**15 19 22.1**	**-1.4**
KBZ	comp=Z,2.0nm,0.8s			pmax		pmax		
KIV	**Kislovodsk**	**30.71**	**299**	*e*P		**P**	**15 19 27.8**	**+2.7**
KIV	comp=Z,5.0nm,0.9s			pmax		pmax		
KIV	comp=Z,47nm,15.0s			MLR		MLR		
NJ2	**Nanjing**	**31.86**	**84**	*e*P		**P**	**15 19 35.6**	**+0.4**
NJ2	comp=Z,50nm,0.7s			PMZ				
VSR	**Storozhevoye**	**34.21**	**312**	*e*P		**P**	**15 19 56.9**	**+1.4**
VSR	comp=N,5.0nm,0.6s			pmax		pmax		
VSR	comp=E,5.0nm,0.6s			pmax		pmax		
VSR	comp=Z,10.0nm,0.6s			pmax		pmax		
LPSR	**Galich'ya Gora**	**34.68**	**314**	*e*P		**P**	**15 20 01.4**	**+1.8**
LPSR	comp=E,10.0nm,0.9s			pmax		pmax		
LPSR	comp=Z,20nm,0.9s			pmax		pmax		
LPSR	comp=N,5.0nm,0.7s			pmax		pmax		
PRGR	**Permogore**	**35.11**	**331**	*e*P		**P**	**15 20 04.2**	**+1.0**
PRGR				*PP		**pP**	**15 20 11.9**	**+1.8**
PRGR	comp=Z,29nm,0.7s			pmax		pmax		
CN2	**Changchun**	**35.54**	**61**	*e*P		**P**	**15 20 09.2**	**+2.0**
CN2				*es*P		**sP**	**15 20 16.2**	**-0.6**
CN2				*e*S		**S**	**15 25 42.6**	**+1.1**
CN2	comp=Z,10.0nm,0.6s			PMZ				
CN2	comp=Z,200nm,3.0s			PMZ				
CN2	comp=Z,200nm,13.0s			LN				
CN2	comp=Z,200nm,13.0s			LE				
CN2	comp=Z,200nm,14.0s			LZ				
MOS	**Moscow**	**36.29**	**319**	*e*P		**P**	**15 20 13.4**	**0.0**
MOS	comp=Z,43nm,1.0s			pmax		pmax		
GSI	**Gunungsitoli** comp=Z,34nm,1.2s	**36.58**	**151**	P		**P**	**15 20 15.8**	**-0.5**
GSI	**Gunungsitoli** comp=Z,25nm,0.8s	**36.58**	**151**	*e*P		**P**	**15 20 15.7**	**-0.5**
OBN	**Obninsk**	**36.69**	**318**	*i* P		**P**	**15 20 18.3**	**+1.5**
OBN				pmax		pmax		

comp=Z,24nm,1.7s
KLMR Klimovskoe 37.27 328 *e*P **P** **15 20 19.2 -2.5**
KLMR 15 21 43.5
KLMR pmax pmax
comp=Z,22nm,1.2s
KLMR MLR MLR
comp=Z,228nm,16.0s
BR131 Keskin Array S 37.57 292 P **P** **15 20 24.3 -0.4**
comp=Z,3.2nm,0.7s
BRTR Keskin Array B 37.57 292 P **P** **15 20 24.3 -0.4**
comp=Z,4.4nm,0.8s,baz=97,slow=9.0,SNR=11
BRTR Keskin Array B 37.57 292 P **P** **15 20 24.3 -0.4**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
KSAR Wonju Array Be 37.98 72 P **P** **15 20 27.2 -0.8**
KSAR Wonju Array Be 37.98 72 P **P** **15 20 27.2 -0.8**
KSRS Korea Array 38.01 71 P **P** **15 20 27.2 -1.0**
comp=Z,1.0nm,0.7s,baz=275,slow=8.1,SNR=4.6
KSRS LR LR 15 38 17.7
comp=Z,98nm,19.9s,baz=267,slow=40
MDJ Mudanjiang 38.51 60 P **P** **15 20 32.3 0.0**
MDJ PMZ
comp=Z,7.0nm,1.1s
MDJ PMZ
comp=Z,27nm,3.6s
MDJ LN
comp=Z,140nm,11.4s
MDJ LZ
comp=Z,89nm,6.4s
TMCR Tamitsa 39.40 332 *e*P **P** **15 20 41.8 +2.3**
TMCR pmax pmax
comp=Z,63nm,1.2s
USRK Ussuriysk Ar. 40.24 60 LR LR 15 38 48.0
comp=Z,129nm,18.9s,baz=288,slow=38
AKASG Malin Array Be 40.35 310 P **P** **15 20 46.1 -1.6**
comp=Z,2.5nm,0.6s,baz=76,slow=7.1,SNR=11
AKASG LR LR 15 40 29.5
comp=Z,79nm,19.1s,baz=90,slow=41
AKASG Malin Array Be 40.35 310 P **P** **15 20 46.1 -1.6**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG MLR MLR
comp=Z,79nm,19.1s
AKASG Malin Array Be 40.35 310 *i* P **P** **15 20 49.4 +1.7**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 40.35 310 P **P** **15 20 46.6 -1.1**
AKBB Malin Array Si 40.35 310 P **P** **15 20 46.6 -1.1**
AK02 Malin Array Si 40.36 310 P **P** **15 20 46.0 -1.7**
KIEV Kiev 40.36 310 *e*P **P** **15 20 46.7 -1.0**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
KIEV Kiev 40.36 310 *e*P **P** **15 20 46.7 -1.0**
comp=Z,4.7nm,0.8s
FINES FINESS Array B 43.61 325 P **P** **15 21 12.2 -1.8**
comp=Z,8.6nm,0.7s,baz=120,slow=8.2,SNR=22
FINES LR LR 15 40 11.9
comp=Z,134nm,18.9s,baz=149,slow=37
FINES FINESS Array B 43.61 325 P **P** **15 21 12.3 -1.8**
FINES pmax pmax
comp=Z,9.0nm,0.7s
FINES MLR MLR
comp=Z,134nm,18.9s
KOLS Kolonicke sedl 44.86 307 *e*P **P** **15 21 27.5 +3.2**
KOLS pmax pmax
comp=Z,10.0nm,1.7s
KOLS Kolonicke sedl 44.86 307 *e*P **P** **15 21 27.5 +3.2**
STHS Stebnicka Huta 45.50 308 *e*P **P** **15 21 32.3 +2.9**
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 45.50 308 *e*P **P** **15 21 32.3 +2.9**
ARCES ARCESS Array B 46.10 336 P **P** **15 21 36.1 +2.3**
comp=Z,9.8nm,0.8s,baz=99,slow=7.5,SNR=14
ARCES LR LR 15 42 08.2
comp=Z,129nm,19.9s,baz=99,slow=38
ARCES ARCESS Array B 46.10 336 P **P** **15 21 36.2 +2.3**
ARCES pmax pmax
comp=Z,10.0nm,0.8s
ARCES MLR MLR
comp=Z,129nm,19.9s
MJAR Matsushiro Arr 46.24 70 LR LR 15 41 21.1
comp=Z,43nm,21.6s,baz=285,slow=37
OKC Ostrava-Krasne 47.47 309 *e*P P 15 21 48.4 +3.6
OKC Ostrava-Krasne 47.47 309 *e*P P 15 21 48.4 +3.6
CTBH Cotabato--PC H 48.35 114 ǁ *i*P P 15 21 42.5 -10
DPC Dobruska-Polom 48.59 310 *e*P **P** **15 21 53.1 -0.4**
DPC *e*pP **pP** **15 21 56.4 -4.1**
DPC Dobruska-Polom 48.59 310 *e*P **P** **15 21 53.1 -0.4**
UPC Upice 48.76 310 *e*P **P** **15 21 57.4 +2.6**
UPC Upice 48.76 310 *e*P **P** **15 21 57.4 +2.6**
PRU Pruhonice 49.77 309 *e*P **P** **15 22 04.0 +1.5**
PRU Pruhonice 49.77 309 *e*P **P** **15 22 04.0 +1.5**
BRG Berggiesshubel 50.02 311 *e*P **P** **15 22 07.4 +3.0**
comp=Z,8.2nm,0.9s
BRG Berggiesshubel 50.02 311 *e*P **P** **15 22 07.4 +3.0**
BRG pmax pmax
comp=Z,8.0nm,0.9s
GERES GERESS Array B 50.49 308 P **P** **15 22 10.7 +2.6**
comp=Z,1.6nm,0.8s,baz=76,slow=5.6,SNR=12
GERES GERESS Array B 50.49 308 P **P** **15 22 10.7 +2.6**
GERES pmax pmax
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 50.52 308 *e*P **P** **15 22 09.5 +1.2**
KHC *e*pP **pP** **15 22 11.5 -3.8**
KHC *ex* x 15 22 30.3
KHC Kasperske Hory 50.52 308 *e*P **P** **15 22 08.8 +0.5**
KHC pmax pmax
comp=Z,1.0nm,0.7s
KHC Kasperske Hory 50.52 308 *e*P **P** **15 22 08.8 +0.5**
comp=Z,1.1nm,0.7s
NB2 NORSAR Subarra 50.71 324 P **P** **15 22 07.9 -1.7**
comp=Z,12nm,0.8s,baz=88,slow=7.9
NOA NORSAR Array B 50.71 324 P **P** **15 22 07.7 -1.9**
comp=Z,7.5nm,0.8s,baz=89,slow=7.5,SNR=24
NOA LR LR 15 45 11.7
comp=Z,66nm,18.2s,baz=75,slow=38
NOA NORSAR Array B 50.71 324 P **P** **15 22 07.7 -1.9**
NOA pmax pmax
comp=Z,8.0nm,0.8s
NOA MLR MLR
comp=Z,66nm,18.2s
SEY Seymchan 51.67 34 *i* P **P** **15 22 18.3 +1.6**
CDF Champ du Feu 54.75 309 *e*P **P** **15 22 42.0 +2.4**
CDF Champ du Feu 54.75 309 *e*P **P** **15 22 42.0 +2.4**
CDF Champ du Feu 54.75 309 *e*P **P** **15 22 42.0 +2.4**
HINF Hinteralfeld 55.17 308 *e*P **P** **15 22 44.8 +2.2**
comp=Z,16nm,1.0s
HINF Hinteralfeld 55.17 308 *e*P **P** **15 22 44.8 +2.2**
HINF pmax pmax
comp=Z,16nm,1.0s
HINF Hinteralfeld 55.17 308 *e*P **P** **15 22 44.8 +2.2**
comp=Z,16nm,1.0s
PETK Petropavlovsk- 55.81 45 LR LR 15 48 02.3
comp=Z,37nm,19.5s,baz=313,slow=38
LPG La Plagne 55.86 305 *e*P **P** **15 22 50.8 +2.8**
comp=Z,16nm,1.0s
LPG La Plagne 55.86 305 *e*P **P** **15 22 50.8 +2.8**
LPG pmax pmax
comp=Z,16nm,1.0s
LPG La Plagne 55.86 305 *e*P **P** **15 22 50.8 +2.8**
comp=Z,16nm,1.0s
LPL La Plagne 55.87 305 *e*P **P** **15 22 50.6 +2.7**
comp=Z,17nm,0.8s
LPL La Plagne 55.87 305 *e*P **P** **15 22 50.6 +2.7**
LPL pmax pmax
comp=Z,17nm,0.8s
LPL La Plagne 55.87 305 *e*P **P** **15 22 50.6 +2.7**
comp=Z,17nm,0.8s
CABF La Chapelle 55.99 307 *e*P **P** **15 22 51.1 +2.5**
CABF La Chapelle 55.99 307 *e*P **P** **15 22 51.1 +2.5**
CABF La Chapelle 55.99 307 *e*P **P** **15 22 51.1 +2.5**
BILL Bilibino 56.88 27 *i* P **P** **15 22 56.1 +1.6**
BILL pmax pmax
comp=Z,4.0nm,1.7s
LOR Lormes 57.27 308 *e*P **P** **15 22 59.5 +1.9**
LOR Lormes 57.27 308 *e*P **P** **15 22 59.5 +1.9**
LOR Lormes 57.27 308 *e*P **P** **15 22 59.5 +1.9**
VIVF Saint-Julien-l 57.46 305 *e*P **P** **15 23 01.5 +2.5**
VIVF Saint-Julien-l 57.46 305 *e*P **P** **15 23 01.5 +2.5**
VIVF Saint-Julien-l 57.46 305 *e*P **P** **15 23 01.5 +2.5**
SMF Signal de Mont 57.47 307 *e*P **P** **15 23 01.1 +2.1**
comp=Z,17nm,1.0s
SMF Signal de Mont 57.47 307 *e*P **P** **15 23 01.1 +2.1**
SMF pmax pmax
comp=Z,17nm,1.0s
SMF Signal de Mont 57.47 307 *e*P **P** **15 23 01.1 +2.1**
comp=Z,17nm,1.0s
SSF Saint Saulge 57.56 308 *e*P **P** **15 23 01.7 +2.0**
comp=Z,28nm,1.3s
SSF Saint Saulge 57.56 308 *e*P **P** **15 23 01.7 +2.0**
SSF pmax pmax
comp=Z,28nm,1.3s
SSF Saint Saulge 57.56 308 *e*P **P** **15 23 01.7 +2.0**
comp=Z,28nm,1.3s
AVF Avril sur Loir 57.74 308 *e*P **P** **15 23 03.0 +2.1**
AVF Avril sur Loir 57.74 308 *e*P **P** **15 23 03.0 +2.1**
AVF Avril sur Loir 57.74 308 *e*P **P** **15 23 03.0 +2.1**
LASF Ste Croix 58.26 304 *e*P **P** **15 23 07.3 +2.7**
comp=Z,63nm,1.5s
LASF Ste Croix 58.26 304 *e*P **P** **15 23 07.3 +2.7**
comp=Z,63nm,1.5s
TCF Toulx Ste Croi 58.65 307 *e*P **P** **15 23 09.8 +2.5**
comp=Z,31nm,1.3s
TCF Toulx Ste Croi 58.65 307 *e*P **P** **15 23 09.8 +2.5**
TCF pmax pmax
comp=Z,31nm,1.3s
TCF Toulx Ste Croi 58.65 307 *e*P **P** **15 23 09.8 +2.5**
comp=Z,31nm,1.3s
CAF Calviac 59.19 306 *e*P **P** **15 23 13.2 +2.1**
CAF Calviac 59.19 306 *e*P **P** **15 23 13.2 +2.1**
CAF Calviac 59.19 306 *e*P **P** **15 23 13.2 +2.1**
LDF La Druitiere 59.41 310 *e*P **P** **15 23 14.4 +1.9**
comp=Z,42nm,1.2s
LDF La Druitiere 59.41 310 *e*P **P** **15 23 14.4 +1.9**
LDF pmax pmax
comp=Z,42nm,1.2s
LDF La Druitiere 59.41 310 *e*P **P** **15 23 14.4 +1.9**
comp=Z,42nm,1.2s
RJF Les Rejaudoux 59.43 306 *e*P **P** **15 23 15.6 +2.9**
RJF Les Rejaudoux 59.43 306 *e*P **P** **15 23 15.6 +2.9**
RJF Les Rejaudoux 59.43 306 *e*P **P** **15 23 15.6 +2.9**
GRR Gorron 59.94 310 *e*P **P** **15 23 18.0 +1.8**
GRR Gorron 59.94 310 *e*P **P** **15 23 18.0 +1.8**
GRR Gorron 59.94 310 *e*P **P** **15 23 18.0 +1.8**
MFF Saint Martin d 60.09 308 *e*P **P** **15 23 19.1 +1.9**
MFF Saint Martin d 60.09 308 *e*P **P** **15 23 19.1 +1.9**
MFF Saint Martin d 60.09 308 *e*P **P** **15 23 19.1 +1.9**
ESDC Sonseca Array 65.32 302 P **P** **15 23 51.3 -1.0**
comp=Z,0.5nm,0.4s,baz=58,slow=12,SNR=7.1
SUMG Summit 65.40 343 *i* P **P** **15 23 52.3 -0.4**
comp=Z,28nm,1.2s
SUMG Summit 65.40 343 *e*P **P** **15 23 52.0 -0.7**
SUMG pmax pmax
comp=Z,23nm,1.1s
SUMG Summit 65.40 343 *e*P **P** **15 23 52.0 -0.7**
comp=Z,23nm,1.1s
ILULI Ilulissat 70.73 344 *i* P **P** **15 24 27.7 +2.0**
COLD Coldfoot 71.55 19 *e*P **P** **15 24 30.1 -0.6**
comp=Z,4.8nm,1.0s
SFJD Kangerlussuaq 72.31 342 *i* P **P** **15 24 37.7 +2.5**
SFJD Kangerlussuaq 72.31 342 *i* P **P** **15 24 37.7 +2.5**
TOA0 Torodi Ar. Sit 73.70 275 *e*P **P** **15 24 42.0 -2.3**
TORD Torodi Ar. Bea 73.70 275 P **P** **15 24 42.3 -2.0**
comp=Z,4.5nm,0.7s,baz=51,slow=3.9,SNR=24
TORD LR LR 16 00 50.4
comp=Z,36nm,18.9s,baz=135,slow=39
COLA College 73.95 19 *d* *i*P **P** **15 24 47.7 +2.7**
COLA pmax pmax
comp=Z,23nm,0.9s
COLA College 73.95 19 P **P** **15 24 43.8 -1.2**
comp=Z,6.0nm,0.8s
ILAR Eielson Array 74.30 19 P **P** **15 24 45.5 -1.5**
comp=Z,2.8nm,1.0s,baz=320,slow=4.2,SNR=15
ILAR LR LR 16 02 12.6
comp=Z,65nm,18.2s,baz=302,slow=40
ILAR Eielson Array 74.30 19 P **P** **15 24 45.5 -1.5**
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ILAR MLR MLR
comp=Z,65nm,18.2s
WRA Warramunga Arr 74.35 128 P **P** **15 24 46.4 -1.5**
comp=Z,9.8nm,1.0s,baz=326,slow=5.7,SNR=52
WRA Warramunga Arr 74.35 128 P **P** **15 24 46.4 -1.5**
WRA pmax pmax
comp=Z,10.0nm,1.0s
WRAB Tennant Creek 74.35 128 *e*P **P** **15 24 47.0 -0.9**
WRAB pmax pmax
comp=Z,12nm,1.1s
WRAB Tennant Creek 74.35 128 *e*P **P** **15 24 47.0 -0.9**
comp=Z,12nm,1.1s
AS31 Alice Springs 76.77 131 *e*P **P** **15 25 00.3 -1.5**
ASAR Alice Springs 76.77 131 P **P** **15 25 00.5 -1.3**
comp=Z,5.2nm,0.8s,baz=316,slow=5.6,SNR=82
ASAR Alice Springs 76.77 131 P **P** **15 25 00.5 -1.3**
ASAR pmax pmax
comp=Z,5.0nm,0.8s
FRB Frobisher Bay 79.10 347 P **P** **15 25 13.1 -1.0**
comp=Z,2.7nm,0.6s,baz=15,slow=8.8,SNR=7.3
FRB Frobisher Bay 79.10 347 P **P** **15 25 13.1 -1.0**
FRB pmax pmax
comp=Z,3.0nm,0.6s
BOSA Boshof 81.77 227 P **P** **15 25 31.5 +2.5**
comp=Z,1.7nm,0.5s,baz=22,slow=1.8,SNR=4.9
BOSA Boshof 81.77 227 P **P** **15 25 31.5 +2.5**
BOSA pmax pmax
comp=Z,2.0nm,0.5s
YKA Yellowknife Ar 82.56 7 P **P** **15 25 30.6 -2.0**
comp=Z,6.2nm,0.9s,baz=342,slow=5.0,SNR=20
YKA Yellowknife Ar 82.56 7 P **P** **15 25 30.6 -2.0**
YKA pmax pmax
comp=Z,6.0nm,0.9s
CTAO Charters Tower 82.59 120 *e*P **P** **15 25 32.4 -1.0**
CTAO pmax pmax
comp=Z,9.0nm,1.0s
CTAO Charters Tower 82.59 120 *e*P **P** **15 25 32.4 -1.0**
comp=Z,8.7nm,1.0s
DLBC Dease Lake 83.91 16 P **P** **15 25 41.8 +2.0**
comp=Z,1.4nm,0.4s,baz=310,slow=7.0,SNR=5.4
SCHQ Schefferville 86.76 342 LR LR 16 06 45.7
comp=Z,24nm,19.7s,baz=77,slow=37
STKA Stephens Creek 87.38 132 P **P** **15 25 55.1 -2.1**
comp=Z,2.4nm,0.8s,baz=331,slow=6.4,SNR=6.1
STKA Stephens Creek 87.38 132 P **P** **15 25 55.1 -2.1**
STKA pmax pmax
comp=Z,2.0nm,0.8s
FFC Flin Flon 91.11 2 P **P** **15 26 12.7 -1.9**
FFC pmax pmax
comp=Z,11nm,1.2s
FFC Flin Flon 91.11 2 P **P** **15 26 12.7 -1.9**
comp=Z,11nm,1.2s
BSMT Bassoo Peak 96.86 10 *e*P **P** **15 26 41.1 -0.2**
comp=Z,2.1nm,0.8s
LPAZ La Paz 146.72 295 PKPbc **PKPdf** **15 32 51.1 -0.4**
comp=Z,1.9nm,0.7s,baz=45,slow=1.6,SNR=5.7
LPAZ La Paz 146.72 295 PKIKP **PKPdf** **15 32 51.2 -0.4**
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
TRQA Tornquist 149.85 252 *e*PKPbc **PKPbc** **15 32 59.3 -0.8**

*NSSC **01** 15:15:23.3±1.4, 35°.30N×40°.88E, h73km±104km, MD1.5, ML1.8*
*CSEM **01** 15:15:24.8±0.5, 37°.06N×38°.91E, h2km, MD2.7, Error ellipse: s-maj=10.5km s-min=8.8km az=137.0*
*ISK **01** 15:15:25.3, 37°.15N×38°.90E, h3km, MD2.7*
*DDA **01** 15:16:12.1, 37°.05N×38°.78E, h5km, MD2.8*
ISC 01 15:15:25.6±1.2, 37°.08N±0°.03×38°.87E±0°.03, h6km±11km, n19, σ1°.16/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
URFA	**Urfa**	**0.36**	**354**	*e*PG		**Pg**	**15 15 32.1**	**-0.6**
URFA				*e*SG		**Sg**	**15 15 36.9**	**-0.6**
URFA	**Urfa**	**0.36**	**354**	*e*Pg		**Pg**	**15 15 32.1**	**-0.6**
URFA				*e*Sg		**Sg**	**15 15 36.9**	**-0.6**
MNKR	**ALMNKUR**	**1.18**	**164**	*e*P		**Pn**	**15 15 48.6**	**0.0**
MNKR				*e*S		**Sn**	**15 16 06.2**	**+1.2**
MNKR				AML		AML	15 16 12.6	
	comp=Z,103nm,0.2s							
SFNV	**Sufian**	**1.20**	**123**	*e*P		**Pb**	**15 15 46.5**	**-2.2**
SFNV				*e*S		**Sb**	**15 16 02.5**	**-1.9**
SFNV				AML		AML	15 16 13.0	
	comp=Z,6.4nm,0.2s							
KSRV	**Kasrt alli**	**1.22**	**175**	*e*P		**Pg**	**15 15 49.2**	**+0.3**
KSRV				*e*S		**Sn**	**15 16 06.7**	**+0.8**
KSRV				AML		AML	15 16 10.3	
	comp=Z,10nm,0.3s							
MALT	**Malatya**	**1.28**	**344**	*e*PN		**Pn**	**15 15 49.0**	**-1.1**
MALT				*e*SN		**Sb**	**15 16 07.0**	**+0.1**
MALT	**Malatya**	**1.28**	**344**	*e*Pn		**Pn**	**15 15 49.0**	**-1.1**
MALT				*e*Sn		**Sb**	**15 16 07.0**	**+0.1**
MAZI	**Mazidag**	**1.32**	**73**	*e*PN		**Pg**	**15 15 50.3**	**-0.5**
MAZI	**Mazidag**	**1.32**	**73**	*e*Pn		**Pg**	**15 15 50.3**	**-0.5**
KBSD	**Kabsdagh**	**1.34**	**93**	*e*P		**Pg**	**15 15 51.0**	**-0.3**
KBSD				*e*S		**Sg**	**15 16 11.3**	**+2.5**
KBSD				AML		AML	15 16 13.5	
	comp=Z,19nm,0.3s							
SVRC	**Sivrice-ELAZID**	**1.34**	**15**	*e*PN		**Pn**	**15 15 50.4**	**-0.6**
SVRC	**Sivrice-ELAZID**	**1.34**	**15**	*e*Pn		**Pn**	**15 15 50.4**	**-0.6**
ELZG	**Elazig**	**1.42**	**4**	*i* P		**Pb**	**15 15 52.6**	**+0.1**
ELZG				*i* S		**Sg**	**15 16 12.9**	**+1.7**
ELZG	**Elazig**	**1.42**	**4**	*i* P		**Pb**	**15 15 52.6**	**+0.1**
ELZG				*i* S		**Sg**	**15 16 12.9**	**+1.7**
AKCD	**Akcadag**	**1.43**	**329**	*i* P		**Pb**	**15 15 52.7**	**0.0**
AKCD				*i* S		**Sg**	**15 16 12.9**	**+1.4**
AKCD	**Akcadag**	**1.43**	**329**	*i* P		**Pb**	**15 15 52.7**	**0.0**
AKCD				*i* S		**Sg**	**15 16 12.9**	**+1.4**
KUZU	**Kuzuini**	**1.47**	**259**	*i* P		**Pn**	**15 15 52.6**	**0.0**
KUZU				*i* S		**Sg**	**15 16 13.2**	**+0.4**
KUZU	**Kuzuini**	**1.47**	**259**	*i* P		**Pn**	**15 15 52.6**	**0.0**
KUZU				*i* S		**Sg**	**15 16 13.2**	**+0.4**
MARD	**Mardin**	**1.54**	**81**	*i* P		**Pg**	**15 15 55.5**	**+0.4**
MARD				*i* S		**Sg**	**15 16 18.0**	**+2.8**

DJA 01 15:27:53.9±2.0, 9°S±8°×111°7E±°, h31km±23km, M3.6/8, MLv3.6/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DNP	**Denpasar**	**1.75**	**293**	P		Pn	15 28 22.1	0.0
DNP				S		Sn	15 28 44.6	+1.3
IGBI	**Denpasar**	**1.76**	**288**	P		Pn	15 28 22.4	+0.2
IGBI				S		Sn	15 28 43.0	-0.6
SRBI	**Singaraja**	**2.05**	**308**	P		Pn	15 28 27.4	+1.2
BSSI	**Bau Bau, Buton**	**4.83**	**49**	P		Pn	15 29 05.2	+0.7

MEX 01 15:39:23.7±1.0, 18°.78N×102°.48W, h25km, MD3.5, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MMIG	**Aquila**	**0.96**	**240**	*i* P		Pn	15 39 38.0	-3.5
MMIG				*e*S		Sb	15 39 51.3	-2.6
EZ5V		**1.27**	**303**	*e*P		Pn	15 39 42.9	-3.4
EZ5V				*e*S		Sn	15 39 59.6	-3.3
R15V		**1.48**	**286**	*e*P		Pn	15 39 45.9	-2.9
R15V				*e*S		Sn	15 40 04.2	-3.3
ARIG	**Puente Sto Nin**	**2.08**	**103**	*i* P		Pn	15 39 55.3	-1.7
ARIG				*i* S		Sn	15 40 19.3	-2.9

*IDC **01** 15:45:33.0±0.9, 34°.81S×72°.51W, h0km, mb3.7/6, mb1 4.0/8, mb1mx3.9/23, mbtmp3.8/8, ML4.1/2, MS2.0/1, Ms1 2.0/1, ms1mx2.0/21, Error ellipse: s-maj=32.0km s-min=20.7km az=84.0*
*ISCJB **01** 15:45:35.6±2.0, 34°.79S±0°.06×72°.57W±0°.07, h27km±15km, mb3.7/6, Error ellipse: s-maj=12.4km s-min=6.4km az=42.4*
*GUC **01** 15:45:37.1±0.4, 34°.65S×72°.52W, h29km±1km, ML4.1*
*NEIC **01** 15:45:39.1±1.6, 34°.79S×72°.44W, h43km±14km, mb3.5/1, Error ellipse: s-maj=20.4km s-min=9.8km az=94.0*
NEIC Felt [III] at Pichilemu.
ISC 01 15:45:38.5±1.1, 34°.78S±0°.05×72°.5W±0°.1, h36km±3km, n24, σ0°.84/32, mb3.8/6, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NICH	**Los Niches**	**1.07**	**102**	*i* P		**Pn**	**15 45 54.5**	**-2.3**
NICH				*i* S		**Sn**	**15 46 09.4**	**-1.0**
LNCH	**Linares**	**1.29**	**146**	*i* P		**Pn**	**15 45 58.7**	**-1.2**
LNCH				*i* S		**Sn**	**15 46 17.3**	**+1.4**
CACH	**El Canelo**	**1.71**	**68**	*i* P		**Pn**	**15 46 05.6**	**-0.2**
CACH				*i* S		**Sn**	**15 46 27.6**	**+1.2**
TACH	**Talagante**	**1.72**	**49**	*i* S		**Sn**	**15 46 26.5**	**0.0**
CHCH	**Chadas Angostu**	**1.75**	**61**	*i* P		**Pn**	**15 46 06.0**	**-0.3**
CHCH				*i* S		**Sn**	**15 46 28.0**	**+0.7**
RCDM	**Rinconada Maip**	**1.91**	**48**	⇑ *i*P		**Pn**	**15 46 07.8**	**-0.7**
RCDM				*i* S		**Sn**	**15 46 31.4**	**+0.1**
PCH	**Pirque**	**2.01**	**55**	*i* S		**Sn**	**15 46 34.8**	**+0.8**
SJCH	**San Jose de Ma**	**2.11**	**58**	*i* P		**Pn**	**15 46 11.3**	**-0.1**
SJCH				*i* S		**Sn**	**15 46 37.0**	**+0.6**
ROCH	**El Roble**	**2.19**	**35**	*i* P		**Pn**	**15 46 11.5**	**-1.0**
ROCH				*i* S		**Sn**	**15 46 38.2**	**-0.3**
PEL	**Peldehue**	**2.23**	**43**	*e*P		**Pn**	**15 46 12.1**	**-0.7**
PEL				*i* S		**Sn**	**15 46 38.9**	**-0.2**
PEL				AML		AML	15 46 48.6	
	comp=N,2μm,0.3s							
CFAA	**Coronel Fontan**	**4.78**	**50**	Pn		**Pn**	**15 46 47.8**	**-0.1**
	comp=N,0.1nm,0.3s,baz=225,slow=13,SNR=17							
CFAA				Lg		Lg	15 47 55.4	
	comp=N,0.6nm,0.3s,baz=302,slow=19,SNR=5.0							
CFAA				LR		LR	15 48 18.8	
	comp=N,17nm,20.6s,baz=220,slow=34							
PLCA	**Paso Flores**	**6.14**	**166**	Pn		**Pn**	**15 47 06.5**	**-0.1**
	comp=N,1.6nm,0.3s,baz=342,slow=12,SNR=29							
PLCA				Lg		Lg	15 48 42.3	
	comp=N,0.4nm,0.3s,baz=261,slow=19,SNR=2.4							
PLCA	**Paso Flores**	**6.14**	**166**	*e*Pn		**Pn**	**15 47 06.5**	**-0.1**
PLCA				*e*Sg		Sn	15 48 41.2	+26
PLCA				Lg		Lg	15 48 42.3	
TRQA	**Tornquist**	**9.09**	**114**	*e*P		**Pn**	**15 47 47.8**	**+0.8**
LPAZ	**La Paz**	**18.83**	**13**	P		**Pn**	**15 49 56.8**	**+0.3**
	comp=N,0.1nm,0.3s,baz=188,slow=6.8,SNR=5.5							
LPAZ	**La Paz**	**18.83**	**13**	*e*P		**Pn**	**15 49 56.5**	**0.0**
	comp=N,2.9nm,0.8s							
SIV	**San Ignacio**	**21.34**	**32**	P		**Pn**	**15 50 21.5**	**-1.0**
	comp=N,3.8nm,0.7s,baz=223,slow=9.6,SNR=11							
SNAA	**Sanae**	**51.01**	**158**	P		**P**	**15 54 36.4**	**0.0**
	comp=N,0.6nm,1.0s,baz=288,slow=13,SNR=3.7							
TXAR	**Lajitas Array**	**70.23**	**331**	P		**P**	**15 56 48.7**	**+0.9**
	comp=N,0.9nm,0.6s,baz=155,slow=8.6,SNR=16							
PDAR	**Pinedale Array**	**84.29**	**334**	P		**P**	**15 58 06.2**	**-0.3**
	comp=N,0.3nm,0.7s,baz=147,slow=7.1,SNR=2.9							
NVAR	**Mina Array Bea**	**84.31**	**326**	P		**P**	**15 58 07.2**	**+0.6**
	comp=N,0.5nm,0.7s,baz=149,slow=6.8,SNR=4.4							
TOA0	**Torodi Ar. Sit**	**84.83**	**70**	*e*P		**P**	**15 58 09.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**84.83**	**70**	P		**P**	**15 58 08.9**	**-0.7**
	comp=N,0.5nm,0.7s,baz=205,slow=2.4,SNR=4.3							
WRA	**Warramunga Arr**	**119.89**	**209**	PKP		**PKPdf**	**16 04 24.4**	**-1.1**
	comp=N,0.2nm,0.7s,baz=161,slow=1.9,SNR=6.1							

MEX 01 15:48:26.0±0.6, 32°.80N×115°.61W, h18km±983km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MBIG	**Mexicali**	**0.53**	**138**	*i* P		Pg	15 48 35.3	-1.3
MBIG				*i* S		Sg	15 48 41.6	-2.0
CBX	**Cerro Bola**	**1.01**	**241**	*e*P		Pb	15 48 41.9	-3.3
CBX				*i* S		Sb	15 48 53.4	-4.9
SPIG	**San Pedro Mart**	**1.75**	**176**	*i* P		Pn	15 48 53.1	-2.9
SPIG				*i* S		Sn	15 49 14.2	-4.1

*IDC **01** 15:58:07.8±0.5, 24°.98N×99°.40E, h0km, mb4.3/32, mb1 4.5/33, mb1mx4.4/53, mbtmp4.3/33, ML4.6/1, MS3.9/23, Ms1 3.9/23, ms1mx3.8/38, Error ellipse: s-maj=16.2km s-min=10.4km az=49.0*
*BJI **01** 15:58:07.7, 24°.85N×99°.21E, h5km, mb4.6/46, mB4.8/33, ML4.8/14, Ms4.8/61, Ms7 4.5/51*
*ISCJB **01** 15:58:10.9±0.2, 24°.94N±0°.02×99°.30E±0°.02, h33km, mb4.6/92, MS4.0/36, Error ellipse: s-maj=3.2km s-min=2.6km az=164.0*
*MOS **01** 15:58:10.8±1.2, 24°.92N×99°.42E, h33km, mb5.1/45, MS4.2/12, Error ellipse: s-maj=8.0km s-min=4.8km az=116.2*
*NEIC **01** 15:58:13.4±0.6, 24°.92N×99°.30E, h40km±6km, mb4.9/33, Error ellipse: s-maj=5.6km s-min=4.6km az=50.0*
*GCMT **01** 15:58:14.7±0.4, 24°.84N×99°.24E, h18km±2km, MW4.9/60, Moment Tensor Solution. s14,c15; s60,c85; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.92±.22; Mθθ-1.04±.12; Mϕϕ 1.96±.15; Mrθ 1.36±.46; Mrϕ 1.28±.09; Mθϕ~0.23±.30; Best double couple: Mo2.53200×10^16 NP1:ϕs238.00000°, δ67.00000°, λ-33.00000°. NP2: ϕs342.00000°, δ60.00000°, λ-154.00000°. Principal axes: T 2.4530, Plg5.0000°, Azm292.0000°; N 0.1560,*

Plg51.0000°, Azm28.0000°; P -2.6100, Plg39.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*BKK **01** 15:58:14.1±0.4,25°N±4°×99°9E±°,h10km,M4.9/19, mB5.2/12,mb4.8/19,MLv5.5/8,Mw(mB)4.6/12*
ISC 01 15:58:12.2±0.4,**24°92N**±0°04×**99°28E**±0°03,**h25**km±2km, **n307**,σ1§**80**/282,**mb4.8**/97,**MS4.0**/36,**7C-11D**,**Yunnan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**3.15**	**86**	Pn	**Pn**	**15 59 00.8**	**+0.4**
KMI				Pg	**Pb**	**15 59 09.7**	**+2.1**
KMI				Sn	**Sn**	**15 59 35.0**	**-2.3**
KMI				Sg	**Sb**	**15 59 50.0**	**+4.4**
KMI				SMN			
	4μm,1.1s						
KMI				SME			
	2μm,1.1s						
KMI				LN			
	13μm,4.4s						
KMI				LE			
	7μm,4.1s						
KMI				LZ			
	4μm,4.1s						
KMI	**Kunming**	**3.15**	**86**	P	**Pn**	**15 59 00.8**	**+0.4**
KMI						15 59 35.0	
KMI	**Kunming**	**3.15**	**86**	Pn	**Pn**	**15 59 00.8**	**+0.4**
KMI				Pg	**Pb**	**15 59 09.7**	**+2.1**
KMI				Sn	**Sn**	**15 59 35.0**	**-2.3**
KMI				Sg	**Sb**	**15 59 50.0**	**+4.4**
CRAI	**Chiangrai**	**4.78**	**168**	P	Pn	15 59 17.8	-4.8
IMP	**Imphal**	**4.86**	**270**	*e*P	**Pn**	**15 59 25.0**	**+1.2**
IMP				*ex*	**Sb**	**16 00 35.0**	**+0.3**
CMAI	**Chiengmai2**	**4.97**	**183**	P	**Pn**	**15 59 25.9**	**+0.5**
CHTO	**Chiang Mai**	**6.08**	**183**	P	**Pn**	**15 59 41.4**	**+0.8**
	150nm,0.8s,15μm16nm						
CHTO	**Chiang Mai**	**6.08**	**183**	*e*P	**Pn**	**15 59 39.8**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,431nm,1.1s						
CHTO	**Chiang Mai**	**6.08**	**183**	Pn	**Pn**	**15 59 42.2**	**+1.6**
	SNR=8.6						
CHTO	**Chiang Mai**	**6.08**	**183**	*e*Pn	**Pn**	**15 59 39.8**	**-0.8**
	comp=Z,431nm,1.1s						
CHTO				*e*S	Sb	16 01 19.1	+9.2
CMMT	**Chiang Mai**	**6.08**	**183**	P	**Pn**	**15 59 41.3**	**+0.7**
	comp=Z,528nm,1.1s,comp=Z,4μmcomp=Z,4.6nm						
LAMP	**Lampang**	**6.37**	**177**	P	**Pn**	**15 59 45.9**	**+1.3**
	comp=Z,16nm,0.8s,comp=Z,1μmcomp=Z,0.7nm						
CM31	**Chiang Mai Arr**	**6.44**	**183**	*e*Pn	**Pn**	**15 59 42.5**	**-3.0**
	comp=Z,265nm,0.6s						
CMAR	**Chiang Mai Arr**	**6.44**	**183**	Pn	**Pn**	**15 59 44.8**	**-0.7**
	comp=Z,3.0nm,0.3s,baz=359,slow=14,SNR=81						
CMAR				Pg	Pb	16 00 09.1	+5.5
	comp=Z,16nm,0.3s,baz=358,slow=17,SNR=67						
CMAR				Lg	Lg	16 01 30.6	
	comp=Z,8.9nm,0.3s,baz=358,slow=30,SNR=12						
CMAR				LR	LR	16 02 49.5	
	comp=Z,392nm,18.7s,baz=5.0,slow=43						
SHL	**Shillong**	**6.73**	**277**	*e*P	**Pn**	**15 59 50.4**	**+0.9**
SHL				AMB	AMB	15 59 53.3	
	comp=Z,22nm,0.3s						
MHMT	**Maesarieng**	**6.83**	**191**	P	**Pn**	**15 59 53.5**	**+2.7**
	comp=Z,29nm,0.8s,comp=Z,1μmcomp=Z,1.8nm						
GYA	**Guiyang**	**6.84**	**75**	⇓*i*Pn	**Pn**	**15 59 50.8**	**-0.2**
GYA				Pg	**Pb**	**16 00 09.2**	**-1.2**
GYA				Sn	**Sn**	**16 01 11.0**	**+2.9**
GYA				Sg	**Sb**	**16 01 34.4**	**+2.7**
GYA				SMN			
	comp=Z,140nm,0.9s						
GYA				SME			
	comp=Z,120nm,1.0s						
GYA				LN			
	comp=Z,9μm,11.8s						
GYA				LE			
	comp=Z,4μm,10.3s						
GYA				LZ			
	comp=Z,2μm,6.8s						
CD2	**Chengdu**	**7.16**	**33**	Pn	**Pn**	**15 59 55.6**	**+0.2**
CD2				Sn	**Sn**	**16 01 17.4**	**+1.4**
CD2				SMN			
	comp=Z,580nm,1.5s						
CD2				SME			
	comp=Z,580nm,1.6s						
CD2				LN			
	comp=Z,11μm,6.3s						
CD2				LE			
	comp=Z,14μm,7.2s						
CD2				LZ			
	comp=Z,14μm,7.2s						
UTTA	**Uttaradit**	**7.24**	**170**	P	**Pn**	**15 59 57.7**	**+1.3**
	comp=Z,13nm,0.7s,comp=Z,244nmcomp=Z,0.2nm						
PBKT	**Sadao Pong**	**8.46**	**169**	P	**Pn**	**16 00 15.0**	**+1.9**
	comp=Z,19nm,0.8s,comp=Z,735nmcomp=Z,0.5nm						
LSA	**Lhasa**	**8.66**	**305**	P	**Pn**	**16 00 17.4**	**+1.1**
LSA				pmax	pmax		
	comp=Z,30nm,0.6s						
LSA	**Lhasa**	**8.66**	**305**	P	**Pn**	**16 00 17.4**	**+1.1**
	comp=Z,30nm,0.6s						
SKNT	**Sakolnakorn**	**9.04**	**150**	P	**Pn**	**16 00 23.0**	**+1.8**
	comp=Z,21nm,1.8s,comp=Z,2μm						
ENH	**Enshi**	**10.51**	**57**	*e*Pn	**Pn**	**16 00 40.5**	**-0.8**
	comp=Z,27nm,0.8s						
SRDT	**SRDT**	**10.52**	**181**	P	Pn	16 00 47.4	+6.0
	comp=Z,64nm,1.0s						
TAPN	**Taplejung**	**10.67**	**286**	*e*P	**Pn**	**16 00 42.9**	**-0.9**
	comp=Z,102nm,0.9s						
ODAN	**Odare**	**10.88**	**283**	*e*P	**Pn**	**16 00 45.4**	**-1.1**
	comp=Z,318nm,1.0s						
QIZ	**Qiongzhong**	**11.42**	**119**	P	**Pn**	**16 00 53.9**	**+0.2**
QIZ				S	**Sn**	**16 03 00.7**	**+0.2**
QIZ				PMZ			
	comp=Z,12nm,1.6s						
QIZ				LN			
	comp=Z,830nm,10.0s						
QIZ				LE			
	comp=Z,530nm,13.4s						
QIZ				LZ			
	comp=Z,1μm,10.8s						
RAMN	**Ramite**	**11.59**	**283**	*e*P	**Pn**	**16 00 54.8**	**-1.5**
	comp=Z,81nm,0.8s						
LZH	**Lanzhou**	**11.80**	**18**	*e*P	**Pn**	**16 01 00.7**	**+1.6**
LZH				pP		16 01 03.9	
LZH				sP		16 01 06.2	
LZH				PP	**PnPn**	**16 01 08.5**	**+1.4**
LZH				*e*S	**Sn**	**16 03 15.5**	**+5.4**
LZH				sS		16 03 18.4	
LZH				SS	**SnSn**	**16 03 29.2**	**+6.7**
LZH				PMZ			
	comp=Z,20nm,1.1s						
LZH				PMZ			
	comp=Z,80nm,5.2s						
LZH				LN			
	comp=Z,4μm,10.8s						
LZH				LE			
	comp=Z,4μm,10.5s						
LZH				LZ			
	comp=Z,5μm,11.0s						
JIRN	**Jiri**	**12.06**	**286**	*e*P	**Pn**	**16 01 00.8**	**-2.0**
	comp=Z,112nm,1.0s						
BOK	**Bokaro**	**12.26**	**268**	*e*P	**Pn**	**16 01 04.8**	**-0.5**
BOK				AMB	AMB	16 01 09.8	
	comp=Z,18nm,1.2s						
XAN	**Xi'an**	**12.37**	**40**	P	**Pn**	**16 01 04.6**	**-2.1**
XAN				pP	P	16 01 12.0	-6.6
XAN				PMZ			
	comp=Z,2.0nm,0.8s						
XAN				PMZ			
	comp=Z,17nm,4.3s						
XAN				LN			
	comp=Z,2μm,14.3s						
XAN				LE			
	comp=Z,720nm,13.3s						
XAN				LZ			
	comp=Z,570nm,10.2s						
GUN	**Gumba**	**12.37**	**287**	*e*P	**Pn**	**16 01 05.0**	**-2.1**
	comp=Z,160nm,1.1s						
PKI	**Pulchoki**	**12.72**	**285**	*e*P	**Pn**	**16 01 10.2**	**-1.7**
	comp=Z,96nm,1.1s						
PKIN	**Phulchoki**	**12.74**	**285**	*e*P	**Pn**	**16 01 09.9**	**-2.1**
	comp=Z,25nm,0.6s						
KKN	**Kakani**	**12.87**	**286**	*e*P	**Pn**	**16 01 11.6**	**-2.2**
	comp=Z,166nm,1.2s						
DMN	**Daman**	**13.00**	**285**	*e*P	**Pn**	**16 01 13.6**	**-1.9**
	comp=Z,144nm,1.3s						
DGPR	**DIGLIPUR**	**13.13**	**208**	*e*P	**Pn**	**16 01 16.5**	**-0.6**
DGPR				AMB	AMB	16 01 31.3	
	comp=Z,39nm,1.7s						
GKN	**Gorkha**	**13.47**	**286**	*e*P	**Pn**	**16 01 19.0**	**-2.9**
	comp=Z,105nm,1.0s						
KOLN	**Koldanda**	**14.34**	**285**	*e*P	**Pn**	**16 01 30.8**	**-3.1**
	comp=Z,56nm,0.8s						
GTA	**Gaotai**	**14.46**	**2**	⇑P	**P**	**16 01 43.3**	**+1.4**
GTA				pP	pP	16 01 47.6	
GTA				sP	sP	16 01 50.4	
GTA				S	**S**	**16 04 29.6**	**-4.6**
GTA				sS	sS	16 04 35.8	
GTA				pmax	pmax		
	comp=Z,19nm,1.5s						
GTA				pmax	pmax		
	comp=Z,140nm,7.1s						
GTA				LR	LR		
	comp=N,1μm,8.6s						
GTA				LR	LR		
	comp=E,4μm,13.3s						
GTA				LR	LR		
	comp=Z,1μm,9.5s						
WHN	**Wuhan**	**14.47**	**64**	⇓P	**Pn**	**16 01 34.5**	**-0.9**
WHN				LN			
	comp=Z,11μm,14.6s						
WHN				LE			
	comp=Z,6μm,15.7s						
WHN				LZ			
	comp=Z,7μm,10.0s						
CHLP	**Challavanipeta**	**15.51**	**249**	*e*Pn	**Pn**	**16 01 48.0**	**-1.3**
CHLP				IAmb	IAmb	16 01 58.2	
	comp=Z,24nm,1.0s						
CHLP				*e*Sn	**Sn**	**16 04 41.8**	**+1.3**
CHLP				IVMs_BB	IVMs_BB	16 06 25.9	
	comp=Z,296nm,4.3s						
TRTT	**Trang**	**16.99**	**179**	P	**P**	**16 02 13.0**	**+3.0**
	comp=Z,49nm,1.1s,comp=Z,574nm						
BTO	**Baotou**	**18.04**	**27**	*e*P	**Pn**	**16 02 17.8**	**-3.4**
PVM	**Polavaram**	**18.14**	**249**	*e*P	**P**	**16 02 23.1**	**+0.4**
PVM				IAmb	IAmb	16 02 24.1	
	comp=Z,70nm,2.2s						
PVM				*e*Sn	**Sn**	**16 05 42.3**	**-2.1**
PVM				IVMs_BB	IVMs_BB	16 11 20.4	
	comp=Z,293nm,4.6s						
NJ2	**Nanjing**	**18.60**	**63**	*e*P	**Pn**	**16 02 28.2**	**+0.2**
NJ2				pP	**pP**	**16 02 34.6**	**+0.1**
NJ2				sP	**sP**	**16 02 37.2**	**-0.6**
NJ2				S	**Sn**	**16 05 55.3**	**0.0**
NJ2				PMZ			
	comp=Z,40nm,0.8s						
NJ2				PMZ			
	comp=Z,530nm,3.9s						
NJ2				LN			
	comp=Z,4μm,8.8s						
NJ2				LE			
	comp=Z,4μm,10.0s						
NJ2				LZ			
	comp=Z,8μm,10.1s						
HHC	**Hu-ho-hao-te**	**18.91**	**30**	*e*P	**P**	**16 02 30.8**	**-0.3**
HHC				pP	**pP**	**16 02 37.5**	**-0.5**
HHC				sP	**sP**	**16 02 41.2**	**0.0**
HHC				PP	**PnPn**	**16 02 46.8**	**+2.4**
HHC				S	**Sn**	**16 06 01.0**	**-1.8**
HHC				sS	**S**	**16 06 05.8**	**+1.3**
HHC				PMZ			
	comp=Z,28nm,0.8s						
HHC				PMZ			
	comp=Z,250nm,3.7s						
HHC				LN			
	comp=Z,1μm,7.7s						
HHC				LE			
	comp=Z,1μm,8.7s						
HHC				LZ			
	comp=Z,1μm,8.6s						
NGP	**Nagpur**	**18.99**	**263**	*e*P	**P**	**16 02 31.8**	**-0.2**
TIA	**Tai'an**	**19.02**	**50**	⇓P	**P**	**16 02 32.2**	**0.0**
TIA				S	**S**	**16 06 11.7**	**+5.2**
TIA				PMZ			
	comp=Z,30nm,0.9s						
TIA				PMZ			
	comp=Z,210nm,5.5s						
TIA				LN			
	comp=Z,1μm,9.6s						
TIA				LE			
	comp=Z,1μm,13.6s						
TIA				LZ			
	comp=Z,1μm,12.1s						
RPR	**Rampur**	**19.49**	**256**	*e*P	**P**	**16 02 37.3**	**-0.2**
RPR				IAmb	IAmb	16 02 41.4	
	comp=Z,91nm,2.0s						
RPR				IVMsBB		16 10 07.3	
	comp=Z,478nm,3.9s						
BSI	**Banda Aceh**	**19.69**	**192**	P	**Pn**	**16 02 42.4**	**+1.2**
	comp=Z,66nm,1.2s						
BHPL	**Bhopal**	**20.02**	**270**	*e*P	**P**	**16 02 43.3**	**-0.1**
BHPL				AMB	AMB	16 02 49.9	
	comp=Z,86nm,2.5s						
NDI	**New Delhi**	**20.04**	**286**	*e*P	**P**	**16 02 44.0**	**+0.5**
ADKI	**Addanki**	**20.21**	**247**	*e*P	**P**	**16 02 45.3**	**0.0**
ADKI				IAmb	IAmb	16 02 51.4	
	comp=Z,26nm,1.1s						
SSE	**Sheshan**	**20.28**	**67**	P	**P**	**16 02 45.4**	**-0.6**
SSE				S	**S**	**16 06 33.0**	**+0.6**
SSE				PMZ			
	comp=Z,54nm,0.7s						
SSE				PMZ			
	comp=Z,130nm,8.2s						
SSE				LN			
	comp=Z,3μm,12.6s						
SSE				LE			
	comp=Z,750nm,12.6s						
SSE				LZ			
	comp=Z,880nm,10.1s						
SRSP	**Sriramsagar**	**20.31**	**257**	*e*P	**P**	**16 02 45.5**	**-0.9**
SRSP				IAmb	IAmb	16 02 52.0	
	comp=Z,33nm,1.2s						
SRSP				*e*S	**S**	**16 06 32.1**	**-0.9**
SRSP				IVMs_BB	IVMs_BB	16 12 28.3	
	comp=Z,489nm,4.0s						
NJS	**Nagarjunasagar**	**20.43**	**250**	*e*P	**P**	**16 02 47.5**	**-0.3**
NJS				*e*		16 02 52.1	
NJS				IAmb	IAmb	16 02 52.7	
	comp=Z,11nm,1.0s						
NJS				IVMs_BB	IVMs_BB	16 12 30.3	
	comp=Z,417nm,4.1s						
SMLA	**Simla**	**20.46**	**293**	*e*P	**P**	**16 02 46.5**	**-1.5**
SMLA				AMB	AMB	16 02 56.5	
	comp=Z,63nm,0.2s						
BJT	**Baijiatuao**	**20.68**	**39**	*e*P	**P**	**16 02 50.9**	**+0.7**
BJT				pmax	pmax		
	comp=Z,41nm,1.0s						
BJT	**Baijiatuao**	**20.68**	**39**	*e*P	**P**	**16 02 50.9**	**+0.7**
	comp=Z,41nm,1.0s						
BJI	**Beijing**	**20.70**	**39**	P	**P**	**16 02 51.0**	**+0.6**
BJI				S	**S**	**16 06 40.8**	**+0.5**
BJI				PMZ			
	comp=Z,37nm,0.9s						
BJI				LN			
	comp=Z,2μm,17.6s						
BJI				LE			
	comp=Z,2μm,19.3s						
HYB	**Hyderabad**	**20.70**	**253**	*i* P	Pn	16 02 52.0	-1.2
HYB	**Hyderabad**	**20.70**	**253**	*e*P	**P**	**16 02 50.3**	**-0.4**
HYB	**Hyderabad**	**20.70**	**253**	*e*P	Pn	16 02 52.0	-1.2
HYB	**Hyderabad**	**20.70**	**253**	*e*P	Pn	16 02 52.0	-1.2
HYBB	**Hyderabad (bro**	**20.70**	**253**	*e*P	**P**	**16 02 50.5**	**-0.3**
HYBB				*e*Pn	Pn	16 02 52.6	-0.5
HYBB				IAmb	IAmb	16 02 54.0	
	comp=Z,48nm,1.7s						
HYBB				*e*Sn	Sn	16 06 46.9	+0.6
HYBB				IVMs_BB	IVMs_BB	16 11 03.1	
	comp=Z,648nm,4.7s						
AKL	**Akola**	**20.94**	**263**	*e*P	**P**	**16 02 51.6**	**-1.6**
AKL				AMB	AMB	16 02 57.7	
	comp=Z,29nm,0.5s						
SRLM	**Srisailam**	**20.99**	**249**	*e*P	Pn	16 02 55.3	-1.3
SRLM				*e*S	**S**	**16 06 44.4**	**-2.3**
SRLM				IVMs_BB	IVMs_BB	16 13 02.9	
	comp=Z,364nm,4.0s						
WMQ	**Urumqi**	**21.10**	**336**	P	**P**	**16 02 55.4**	**+0.5**
WMQ				PP	**PnPn**	**16 03 17.8**	**+3.4**
WMQ				S	**S**	**16 06 48.1**	**-0.4**
WMQ				pmax	pmax		
	comp=Z,21nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,180nm,5.0s						
WMQ				LR	LR		
	comp=N,1μm,13.0s						
WMQ				LR	LR		
	comp=E,1μm,10.0s						
WMQ				LR	LR		
	comp=Z,380nm,13.0s						
WMQ	**Urumqi**	**21.10**	**336**	P	**P**	**16 02 56.0**	**+1.1**
WMQ				pP	**pP**	**16 03 01.3**	**-0.5**
WMQ				sP	**sP**	**16 03 06.4**	**+1.3**
WMQ				PP	**PnPn**	**16 03 17.7**	**+3.4**
WMQ				S	**S**	**16 06 44.6**	**-3.9**
WMQ				sS	Sn	16 06 51.7	-3.8
WMQ				PcP	**PcP**	**16 07 01.0**	**+0.4**
WMQ				SS	**SnSn**	**16 07 18.0**	**+7.3**
WMQ				PMZ			
	comp=Z,7.0nm,1.0s						
WMQ				PMZ			
	comp=Z,74nm,4.0s						
WMQ				LN			
	comp=Z,1μm,14.2s						
WMQ				LE			
	comp=Z,1μm,12.7s						
WMQ				LZ			
	comp=Z,380nm,13.2s						
RCLA	**Racherla**	**21.25**	**248**	*e*P	**P**	**16 02 58.1**	**+1.5**
RCLA				IAmb	IAmb	16 03 02.3	
	comp=Z,55nm,1.7s						
RCLA				*e*S	**S**	**16 06 51.9**	**+0.3**
TSI	**Tuntungan**	**21.30**	**182**	P	**P**	**16 03 01.4**	**+4.2**
	comp=Z,112nm,1.2s						
DHRM	**DHARAMSHALA**	**21.43**	**295**	*e*P	**P**	**16 02 58.7**	**-0.1**
DHRM				AMB	AMB	16 03 03.5	
	comp=Z,99nm,3.0s						
SKHT	**Srikalahasti**	**21.52**	**243**	*e*P	**P**	**16 03 00.1**	**+0.6**
SKHT				IAmb	IAmb	16 03 06.8	
	comp=Z,19nm,0.9s						
SKHT				IVMs_BB	IVMs_BB	16 11 32.7	
	comp=Z,222nm,4.6s						
PSI	**Prapat**	**21.99**	**181**	P	**P**	**16 03 05.6**	**+0.9**
	comp=Z,22nm,0.9s,baz=342,slow=10.0,SNR=19						
PSI				LR	LR	16 11 39.4	
	comp=Z,390nm,21.1s,baz=344,slow=37						
KLRI	**Killari**	**22.16**	**257**	*e*P	**P**	**16 03 06.4**	**-0.1**
KLRI				IAmb	IAmb	16 03 12.1	
	comp=Z,63nm,1.4s						
KLRI				IVMs_BB	IVMs_BB	16 14 01.3	
	comp=Z,579nm,4.6s						
URV	**Uravakonda**	**22.92**	**249**	*e*P	**P**	**16 03 18.7**	**+4.1**
URV				IAmb	IAmb	16 03 24.4	
	comp=Z,23nm,1.2s						
URV				IVMs_BB	IVMs_BB	16 14 07.0	
	comp=Z,438nm,4.6s						
DL2	**Dalian**	**23.46**	**48**	⇓P	**P**	**16 03 19.6**	**-0.1**
DL2				S	**S**	**16 07 30.3**	**-1.5**
DL2				PMZ			
	comp=Z,36nm,1.0s						
DL2				LN			
	comp=Z,640nm,8.8s						
DL2				LZ			
	comp=Z,460nm,11.6s						
SONM	**Songino Array**	**23.56**	**12**	P	**P**	**16 03 20.1**	**-0.6**
	comp=Z,10nm,1.1s,baz=199,slow=11,SNR=44						
SONM				LR	LR	16 13 41.1	
	comp=Z,779nm,19.4s,baz=192,slow=40						
ULN	**Ulaanbaatar**	**23.72**	**13**	*e*P	**P**	**16 03 25.8**	**+3.5**
ULN				pmax	pmax		
	comp=Z,46nm,1.4s						
ULN	**Ulaanbaatar**	**23.72**	**13**	P	P	16 03 28.8	+6.5
	SNR=19						
ULN	**Ulaanbaatar**	**23.72**	**13**	*e*P	**P**	**16 03 25.8**	**+3.5**
	comp=Z,46nm,1.4s						
TPRI	**Tanjung Pinang**	**24.39**	**167**	P	**P**	**16 03 32.8**	**+4.2**
	comp=Z,36nm,1.1s,comp=Z,3μm						
KSH	**Kashi**	**24.41**	**312**	P	**P**	**16 03 31.4**	**+2.6**
KSH				pP	**pP**	**16 03 36.4**	**+0.1**
KSH				PP	**PnPn**	**16 04 06.6**	**+6.9**
KSH				S	**S**	**16 07 49.4**	**+2.1**
KSH				sS	**sS**	**16 07 59.4**	**-0.1**
KSH				SS	SnSn	16 08 43.8	+12
KSH				PcS	**PcS**	**16 10 47.6**	**+0.1**
KSH				PMZ			
	comp=Z,87nm,1.5s						
KSH				LN			
	comp=Z,400nm,8.9s						
KSH				LE			
	comp=Z,430nm,8.7s						
ZAK	**Zakamensk**	**25.61**	**6**	⇓*i*P	**P**	**16 03 40.2**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,34nm,1.6s						
MK31	**Makanchi Array**	**25.70**	**332**	*e*P	**P**	**16 03 41.0**	**+0.7**
MK31	**Makanchi Array**	**25.70**	**332**	*e*P	**P**	**16 03 41.0**	**+0.7**
MKAR	**Makanchi Array**	**25.70**	**332**	P	**P**	**16 03 40.8**	**+0.5**
	comp=Z,11nm,0.8s,baz=142,slow=10,SNR=63						
MKAR				LR	LR	16 15 28.0	
	comp=Z,136nm,18.1s,baz=156,slow=40						
AAA	**Alma-Ata**	**25.89**	**321**	*e*P	**P**	**16 03 45.7**	**+3.6**
AAA				*e*S	**S**	**16 08 14.3**	**+3.7**
AAA				pmax	pmax		
	comp=Z,200nm,1.9s						
AAA				smax	smax		
	comp=E,600nm,13.2s						
AAA				MLR	MLR		
	comp=Z,600nm,16.0s						
JOW	**Kunigami**	**26.14**	**80**	LR	LR	16 15 02.4	
	comp=Z,109nm,19.3s,baz=164,slow=39						
SNY	**Shenyang**	**26.25**	**44**	⇓P	**P**	**16 03 44.3**	**-1.0**
SNY				S	**S**	**16 08 18.4**	**+2.2**
SNY				PMZ			
	comp=Z,13nm,0.8s						
SNY				PMZ			
	comp=Z,77nm,4.3s						
SNY				LN			
	comp=Z,380nm,16.1s						
SNY				LE			
	comp=Z,580nm,14.9s						
SNY				LZ			
	comp=Z,400nm,15.5s						
TKM2	**Tokmak 2**	**26.48**	**319**	*i* P	**P**	**16 03 47.6**	**0.0**
TKM2				pmax	pmax		
	comp=Z,8.0nm,1.2s						
TKM2	**Tokmak 2**	**26.48**	**319**	*e*P	**P**	**16 03 46.5**	**-1.1**
	comp=Z,9.3nm,1.1s						
MOY	**Mondy**	**26.74**	**2**	*e*P	P	16 03 59.8	+10
TLY	**Talaya**	**26.93**	**6**	LR	LR	16 15 06.6	
	comp=Z,415nm,19.0s,baz=180,slow=38						
TLY	**Talaya**	**26.93**	**6**	*e*P	**P**	**16 03 54.4**	**+3.1**
TLY				pmax	pmax		
	comp=Z,16nm,1.4s						
TLY				MLR	MLR		
	comp=Z,593nm,12.0s						
AAK	**Ala-Archa**	**26.99**	**317**	P	**P**	**16 03 53.0**	**+0.8**
	comp=Z,5.1nm,0.9s,baz=193,slow=9.7,SNR=6.6						
AAK				LR	LR	16 15 14.4	
	comp=Z,252nm,20.2s,baz=128,slow=38						
AAK	**Ala-Archa**	**26.99**	**317**	*i* P	**P**	**16 03 53.2**	**+1.0**
AAK				pmax	pmax		
	comp=Z,18nm,1.4s						
AAK	**Ala-Archa**	**26.99**	**317**	P	P	16 03 57.2	+5.0
	SNR=12						
AAK	**Ala-Archa**	**26.99**	**317**	*e*P	**P**	**16 03 52.6**	**+0.4**
	comp=Z,19nm,1.3s						
FRU	**Bishkek**	**27.02**	**318**	*e*P	**P**	**16 03 54.0**	**+1.7**
FRU				*e*		16 04 06.0	
FRU				pmax	pmax		
	comp=Z,160nm,3.0s						
KSAR	**Wonju Array Be**	**27.36**	**56**	P	**P**	**16 03 54.7**	**-0.6**
KSAR	**Wonju Array Be**	**27.36**	**56**	P	**P**	**16 03 54.7**	**-0.6**
KSRS	**Korea Array**	**27.39**	**56**	P	**P**	**16 03 54.7**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=253,slow=11,SNR=3.9						
KSRS				LR	LR	16 16 15.2	
	comp=Z,176nm,19.4s,baz=242,slow=40						
EKS2	**Erkin-Say**	**27.45**	**316**	*e*P	**P**	**16 03 56.3**	**0.0**
EKS2				pmax	pmax		
	comp=Z,13nm,1.0s						
EKS2	**Erkin-Say**	**27.45**	**316**	*e*P	**P**	**16 03 56.3**	**0.0**
	comp=Z,13nm,1.0s						
IRK	**Irkutsk**	**27.55**	**7**	*e*P	**P**	**16 03 56.1**	**-0.8**
IRK				pmax	pmax		
	comp=Z,40nm,1.9s						
KBL	**Kabul**	**27.86**	**297**	*e*P	**P**	**16 03 59.2**	**-1.0**
KBL				pmax	pmax		
	comp=Z,27nm,1.0s						
KBL	**Kabul**	**27.86**	**297**	*e*P	**P**	**16 03 59.2**	**-1.0**
	comp=Z,27nm,1.0s						
CN2	**Changchun**	**28.47**	**42**	P	**P**	**16 04 04.1**	**-1.1**
CN2				*es*P	**sP**	**16 04 12.9**	**-2.9**
CN2				*e*S	**S**	**16 08 47.2**	**-4.0**
CN2				PMZ			

comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,400nm,16.0s
CN2 LE
comp=Z,500nm,16.0s
CN2 LZ
comp=Z,500nm,16.0s
JNU Nakatsue 28.73 66 LR LR 16 16 00.9
comp=Z,201nm,21.5s,baz=248,slow=38
KKAR Karatay Array 29.75 315 *e*P **P 16 04 19.6 +3.0**
KKAR Karatay Array 29.75 315 *e*P **P 16 04 19.6 +3.0**
KURK Kurchatov 30.28 334 *e*P **P 16 04 21.4 +0.2**
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 30.28 334 P **P 16 04 22.1 +0.9**
SNR=6.7
KURK Kurchatov 30.28 334 *e*P **P 16 04 21.4 +0.2**
comp=Z,9.8nm,1.0s
ZAA0 Zalesovo Array 30.94 343 *e*P **P 16 04 27.0 0.0**
ZALV Zalesovo Beam 30.94 343 P **P 16 04 26.9 0.0**
comp=Z,8.4nm,0.8s,baz=151,slow=9.5,SNR=28
ZALV LR LR 16 16 52.9
comp=Z,120nm,20.8s,baz=250,slow=36
ZALV Zalesovo Beam 30.94 343 *i*P **P 16 04 27.2 +0.2**
ZALV pmax pmax
comp=Z,8.0nm,0.9s
KRAR Krasnoyarsk 31.41 353 *e*P **P 16 04 31.1 +0.1**
KRAR pmax pmax
comp=Z,6.0nm,1.3s
MDJ Mudanjiang 31.45 44 P **P 16 04 30.8 -0.8**
MDJ PMZ
comp=Z,5.0nm,1.1s
MDJ PMZ
comp=Z,65nm,4.7s
MDJ LN
comp=Z,820nm,16.7s
MDJ LE
comp=Z,440nm,18.4s
MDJ LZ
comp=Z,390nm,15.0s
NVS Novosibirsk 32.16 343 *e*P **P 16 04 37.3 -0.3**
NVS pmax pmax
comp=Z,15nm,1.4s
NVS pmax pmax
comp=N,19nm,1.8s
NVS pmax pmax
comp=E,8.0nm,1.2s
VLA Vladivostok 32.28 48K *i*P **P 16 04 37.7 -1.2**
VLA 16 05 42.7
VLA 16 07 25.9
VLA S **S 16 09 49.5 -1.4**
VLA pmax pmax
comp=Z,34nm,1.6s
USRK Ussuriysk Ar. 32.80 46 P **P 16 04 42.3 -1.1**
comp=Z,19nm,0.8s,baz=245,slow=8.1,SNR=21
USRK LR LR 16 17 12.9
comp=Z,129nm,21.7s,baz=238,slow=35
TTSI Tana Toraja 34.21 141 P **P 16 04 56.7 +0.7**
KLR Kul'dur 35.06 38 *e*P P 16 04 59.3 -3.7
KLR MLR MLR
comp=E,700nm,11.0s
KLR MLR MLR
comp=Z,2µm,11.0s
MAJO Matsushiro 35.19 61 *e*P **P 16 05 02.3 -2.0**
MAJO pmax pmax
comp=Z,41nm,1.4s
MJAR Matsushiro Arr 35.19 61 P **P 16 05 03.1 -1.2**
comp=Z,0.8nm,0.7s,baz=243,slow=5.3,SNR=4.2
MJAR LR LR 16 19 02.7
comp=Z,204nm,20.0s,baz=255,slow=36
IMYA Miami 35.36 298 *e*P **P 16 05 05.3 -0.7**
BVAR Borovoye Array 35.50 330 P **P 16 05 07.0 +0.2**
comp=Z,3.7nm,0.7s,baz=134,slow=11,SNR=14
BVAR PcP **PcP 16 07 34.2 -1.5**
comp=Z,1.8nm,0.8s,baz=140,slow=5.8,SNR=4.2
BVAR LR LR 16 19 43.2
comp=Z,239nm,20.8s,baz=117,slow=36
BRVK Borovoye 35.57 330*d i*P **P 16 05 07.5 +0.2**
BRVK pmax pmax
comp=Z,15nm,1.2s
BRVK Borovoye 35.57 330 P **P 16 05 08.0 +0.7**
SNR=8.8
BRVK Borovoye 35.57 330 *e*P **P 16 05 07.4 +0.2**
comp=Z,9.6nm,0.8s
ISRO Mashad 35.86 298 *e*P **P 16 05 10.7 +0.5**
IMOG Moghan 35.94 298 *e*P **P 16 05 12.6 +1.5**
IPAY Payeh 36.26 298 *e*P **P 16 05 13.6 -0.1**
HABR Khabarovsk 36.58 41*d e*P P 16 05 12.4 -3.6
HABR *e**PP pP 16 05 22.1 -1.5
HABR *e**SP sP 16 05 26.2 -0.5
HABR *e* 16 06 35.4
HABR *e* 16 07 35.9
HABR *e*S **S 16 10 52.7 -4.4**
HABR *e**SS sS 16 11 09.3 -0.3
HABR SS **SnSn 16 13 23.8 -3.7**
HABR *e* 16 15 25.7
HABR pmax pmax
comp=Z,78nm,2.3s
HABR pmax pmax
comp=E,49nm,2.3s
HABR pmax pmax
comp=N,50nm,2.3s
HABR MLR MLR
comp=Z,234nm,16.0s
ABKAR Akbulak array 39.04 319 *e*P **P 16 05 37.0 +0.2**
comp=Z,6.5nm,0.9s
ASAJ Asahikawa 39.96 50 *e*P **P 16 05 44.8 +0.3**
comp=Z,20nm,1.1s
AKTO Aktyubinsk 40.66 320 P **P 16 05 50.2 0.0**
comp=Z,1.7nm,0.7s,baz=122,slow=5.8,SNR=5.6
AKTO LR LR 16 24 26.3
comp=Z,198nm,18.7s,baz=117,slow=39
NKL Nikolayevsk 41.87 37 *e*P **P 16 05 59.0 -1.1**
NKL pmax pmax
comp=Z,20nm,1.0s
SOEI Soe 42.21 142 P **P 16 06 03.7 +0.2**
comp=Z,57nm,0.9s
SVE Sverdlovsk 42.28 329|| *i*P **P 16 06 04.3 +0.9**
SVE pmax pmax
comp=Z,24nm,1.2s
SVE MLR MLR
comp=Z,222nm,12.0s
YAK Yakutsk 42.38 21 *e*P **P 16 06 02.5 -1.6**
YAK pmax pmax
comp=Z,5.0nm,0.9s
YAK MLR MLR
comp=Z,181nm,11.0s
YAK MLR MLR
comp=N,143nm,11.0s
YAK MLR MLR
comp=E,133nm,11.0s
ARU Arti 43.05 328*d i*P **P 16 06 09.6 -0.1**
ARU 16 07 47.1
ARU PPP PPP 16 08 20.3
ARU S **S 16 12 35.9 +2.0**
ARU SS SS 16 15 32.8 -14
ARU pmax pmax
comp=Z,19nm,1.2s
ARU Arti 43.05 328 *e*P **P 16 06 08.4 -1.3**
comp=Z,18nm,1.1s
SOKR Solikamsk 45.47 331 *e*P **P 16 06 29.6 +0.7**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
SOKR MLR MLR
comp=Z,250nm,23.0s
GNI Garni 47.71 302 P **P 16 06 48.2 +1.1**
comp=Z,5.3nm,0.5s,baz=153,slow=2.6,SNR=15
GNI Garni 47.71 302 *e*P **P 16 06 48.8 +1.7**
GNI pmax pmax
comp=Z,52nm,1.3s
GNI Garni 47.71 302 P P 16 06 52.0 +4.9
SNR=13
GNI Garni 47.71 302 *e*P **P 16 06 48.8 +1.7**
comp=Z,52nm,1.3s
ZEI Tsey 48.44 306 *e*P **P 16 06 51.9 -0.9**
ZEI pmax pmax
comp=Z,29nm,1.4s
NCK Nalchik 48.71 307 *e*P **P 16 06 54.1 -0.5**
RAYN Ar Rayn 48.79 280 *e*P **P 16 06 53.9 -1.6**
comp=Z,11nm,1.3s
GOF Gofitskoye 49.21 309 *e*P P 16 06 48.3 -10
KBZ Khabaz 49.23 307 P **P 16 07 00.4 +1.9**
comp=Z,2.6nm,0.8s,baz=143,slow=20
KBZ LR LR 16 31 17.5

comp=Z,284nm,18.6s,baz=151,slow=40
NEY Neytrino 49.33 307 *e*P **P 16 06 59.9 +0.4**
NEY pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 49.39 307 *e*P **P 16 07 00.2 +0.3**
KIV *e*S **S 16 14 06.1 +0.7**
KIV pmax pmax
comp=Z,26nm,1.0s
KIV MLR MLR
comp=Z,206nm,16.0s
KIV Kislovodsk 49.39 307 P **P 16 07 00.4 +0.5**
SNR=14
KIV Kislovodsk 49.39 307 *e*P **P 16 06 59.5 -0.4**
comp=Z,54nm,1.4s
TIXI Tiksi 49.64 12 *i*P **P**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 49.64 12 *e*P **P 16 07 00.0 -1.2**
comp=Z,4.2nm,0.6s
MBWA Marble Bar 49.93 155 *e*P **P 16 07 04.0 0.0**
comp=Z,13nm,0.8s
PRGR Permogore 51.31 330 *e*P **P 16 07 12.0 -1.9**
PRGR pmax pmax
comp=Z,14nm,0.9s
SOC Sochi 51.53 307 *e*P **P 16 07 15.3 -0.6**
SOC *e* 16 09 19.5
SOC *e*PPP PPP 16 10 14.7
SOC *e*S **S 16 14 34.6 -0.3**
SOC *e* 16 17 03.4
SOC MLR MLR
comp=Z,63nm,10.0s
SEY Seymchan 51.54 28 *i*P **P 16 07 14.4 -1.3**
PETK Petropavlovsk- 51.61 41 P **P 16 07 14.3 -2.1**
comp=Z,2.6nm,1.1s,baz=158,slow=4.8,SNR=3.7
PETK LR LR 16 28 59.5
comp=Z,159nm,21.4s,baz=256,slow=36
KLMR Klimovskoe 53.90 328 *e*P P 16 07 27.8 -5.3
KLMR pmax pmax
comp=Z,34nm,1.4s
KLMR MLR MLR
comp=Z,213nm,15.0s
OBN Obninsk 54.40 321 *i*P **P 16 07 36.3 -0.6**
OBN *e* 16 09 39.3
OBN pmax pmax
comp=Z,42nm,1.7s
OBN MLR MLR
comp=Z,97nm,17.0s
ASF Jabal al Asfar 54.62 293 P **P 16 07 41.5 +2.5**
comp=Z,4.3nm,0.9s,baz=105,slow=1.5,SNR=7.2
WRAB Tennant Creek 56.14 139 *i*P **P 16 07 48.9 -1.0**
WRAB pmax pmax
comp=Z,68nm,1.2s
WRAB Tennant Creek 56.14 139 *e*P **P 16 07 49.6 -0.2**
comp=Z,24nm,1.1s
WRA Warramunga Arr 56.14 139 P **P 16 07 49.1 -0.8**
comp=Z,15nm,1.0s,baz=329,slow=7.9,SNR=53
BRTR Keskin Array B 56.25 302 P **P 16 07 50.5 -0.2**
comp=Z,2.0nm,0.9s,baz=108,slow=7.0,SNR=9.4
BRTR LR LR 16 35 08.8
comp=Z,34nm,18.2s,baz=32,slow=39
BRTR Keskin Array B 56.25 302*c e*P **P 16 07 53.2 +2.5**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BILL Bilibino 58.55 24 *i*P **P 16 08 04.3 -2.0**
BILL *e* 16 10 15.1
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL MLR MLR
comp=Z,226nm,16.0s
BILL Bilibino 58.55 24 *e*P **P 16 08 05.4 -0.8**
comp=Z,6.8nm,1.1s
AKASG Malin Array Be 58.65 316 P **P 16 08 05.8 -1.3**
comp=Z,6.2nm,0.8s,baz=78,slow=6.3,SNR=15
AKASG LR LR 16 34 43.3
comp=Z,129nm,21.9s,baz=80,slow=37
AKASG Malin Array Be 58.65 316*c e*P **P 16 08 08.5 +1.3**
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKBB Malin Array Si 58.65 316 *e*P **P 16 08 05.8 -1.4**
AKBB Malin Array Si 58.65 316 *e*P **P 16 08 05.8 -1.4**
KIEV Kiev 58.66 316 *e*P **P 16 08 05.6 -1.6**
AS31 Alice Springs 58.81 142 *e*P **P 16 08 09.8 +1.1**
ASAR Alice Springs 58.81 142 P **P 16 08 08.3 -0.4**
comp=Z,7.4nm,1.0s,baz=325,slow=6.9,SNR=42
FINES FINESS Array B 60.42 328 P **P 16 08 18.7 -0.6**
comp=Z,4.6nm,0.8s,baz=116,slow=8.7,SNR=6.7
FINES LR LR 16 34 53.8
comp=Z,124nm,21.5s,baz=92,slow=36
FINES FINESS Array B 60.42 328 *i*P **P 16 08 19.5 +0.2**
FINES pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 61.22 337 P **P 16 08 23.1 -1.5**
comp=Z,5.8nm,1.0s,baz=81,slow=5.6,SNR=4.5
ARCES PcP **PcP 16 09 05.5 -1.5**
comp=Z,3.4nm,0.7s,baz=34,slow=5.5,SNR=3.1
ARCES LR LR 16 37 47.5
comp=Z,119nm,19.7s,baz=81,slow=39
MLR Muntele Rosu 61.25 310 P **P 16 08 25.4 0.0**
comp=Z,2.8nm,0.9s,baz=209,slow=6.2,SNR=11
KWP Kalwaria Pacla 62.91 315 *e*P **P 16 08 35.8 -0.5**
KWP Kalwaria Pacla 62.91 315 *e*P **P 16 08 35.8 -0.5**
KOLS Kolonicke sedl 63.28 314 *e*P **P 16 08 40.8 +2.0**
KOLS pmax pmax
comp=Z,12nm,1.8s
KOLS Kolonicke sedl 63.28 314 *e*P **P 16 08 40.8 +2.0**
STHS Stebnicka Huta 63.88 315 *e*P **P 16 08 44.3 +1.5**
STHS Stebnicka Huta 63.88 315 *e*P **P 16 08 44.2 +1.5**
CTA Charters Tower 63.95 130 P **P 16 08 44.0 +0.5**
comp=Z,3.1nm,0.8s,baz=266,slow=11,SNR=4.7
CTA Charters Tower 63.95 130 P **P 16 08 44.0 +0.5**
NIE Niedzica 64.48 315 *e*P **P 16 08 47.4 +0.7**
NIE Niedzica 64.48 315 *e*P **P 16 08 47.4 +0.7**
KECS Kecovo 64.52 314 *e*P **P 16 08 48.8 +1.9**
KECS pmax pmax
comp=Z,8.0nm,1.9s
KECS Kecovo 64.52 314 *e*P **P 16 08 48.8 +1.9**
OJC Ojcow 64.68 316 *e*P **P 16 08 50.7 +2.8**
OJC Ojcow 64.68 316 *e*P **P 16 08 50.8 +2.8**
OKC Ostrava-Krasne 65.80 315 *e*P **P 16 08 55.1 -0.1**
OKC *e*x x 16 08 58.8
OKC Ostrava-Krasne 65.80 315 *e*P **P 16 08 55.1 -0.1**
HFS Hagfors 66.56 327 P **P 16 08 58.4 -1.5**
comp=Z,3.5nm,0.9s,baz=114,slow=9.6,SNR=4.8
KRLC Kraliky 66.62 316 *e*P **P 16 08 59.1 -1.4**
KRLC *e*x x 16 09 03.1
KRLC Kraliky 66.62 316 *e*P **P 16 08 59.1 -1.4**
KSP Ksiaz 66.78 317 *e*P **P 16 09 01.7 +0.3**
KSP Ksiaz 66.78 317 *e*P **P 16 09 01.8 +0.3**
DPC Dobruska-Polom 66.86 316 *e*P **P 16 09 02.3 +0.3**
DPC *e*x x 16 09 05.8
DPC Dobruska-Polom 66.86 316 *e*P **P 16 09 02.3 +0.3**
VRAC Vranov 66.89 315 P **P 16 09 01.3 -0.9**
comp=Z,8.8nm,1.0s,baz=86,slow=7.5,SNR=6.5
UPC Upice 67.02 316 *e*P **P 16 09 03.9 +0.9**
UPC *e*x x 16 09 06.9
UPC Upice 67.02 316 *e*P **P 16 09 03.9 +0.9**
TREC Trest 67.60 315 AMS AMS 16 40 40.0
comp=Z,300nm,18.0s
NB2 NORSAR Subarra 67.61 328 P **P 16 09 05.7 -0.9**
comp=Z,8.4nm,0.9s,baz=78,slow=6.5
NOA NORSAR Array B 67.61 328 P **P 16 09 05.6 -1.0**
comp=Z,4.3nm,0.8s,baz=80,slow=6.4,SNR=14
NOA LR LR 16 41 49.9
comp=Z,88nm,18.4s,baz=85,slow=39
CONA Conrad Observa 67.66 314|| *i*P **P 16 09 07.2 0.0**
comp=Z,9.1nm,1.1s
PRU Pruhonice 68.05 316 *e*P **P 16 09 09.8 +0.3**
PRU *e*x x 16 09 13.3
PRU Pruhonice 68.05 316 *e*P **P 16 09 09.8 +0.3**
BRG Berggiesshubel 68.23 317 *e*P **P 16 09 09.5 -1.1**
comp=Z,3.0nm,1.1s
BRG *e* 16 09 14.2
comp=Z,10nm,1.2s
BRG Berggiesshubel 68.23 317 *e*P **P 16 09 09.5 -1.1**
BRG pmax pmax
comp=Z,3.0nm,1.1s
GERES GERESS Array B 68.85 315 P **P 16 09 13.9 -0.8**
comp=Z,2.3nm,0.9s,baz=78,slow=7.0,SNR=9.3
GERES LR LR 16 42 01.4
comp=Z,112nm,18.8s,baz=78,slow=38
KHC Kasperske Hory 68.86 315 *e*P **P 16 09 14.6 0.0**
KHC *e*x x 16 09 17.9
KHC AMS AMS 16 41 50.0
comp=Z,200nm,15.6s
KHC Kasperske Hory 68.86 315 *e*P **P 16 09 14.6 0.0**
KHC MLR MLR
comp=Z,200nm,15.6s
NKC Novy Kostel 69.30 317 *e*P **P 16 09 18.6 +1.3**
NKC *e*x x 16 09 21.6
NKC Novy Kostel 69.30 317 *e*P **P 16 09 18.6 +1.3**
STKA Stephens Creek 69.45 142 P **P 16 09 17.9 -0.5**
comp=Z,5.5nm,0.8s,baz=310,slow=6.1,SNR=15
GRB3 Grafenberg Arr 69.93 316 *e*PcP P 16 09 25.5 +4.3
GRB5 Grafenberg Arr 70.07 316 *e*PcP P 16 09 26.0 +3.9
GRA3 Grafenberg Arr 70.13 316 *e*PcP P 16 09 26.6 +4.2
GRF Grafenberg Arr 70.21 316 *e*PcP P 16 09 27.0 +4.1
MOTA Moosalm 70.92 314|| *i*P **P 16 09 27.4 -0.1**
comp=Z,10nm,0.9s
FETA Feichten 71.26 314|| *i*P **P 16 09 28.6 -1.0**
comp=Z,9.4nm,1.1s
DAVOX Davos/Dischmat 71.89 314 P **P 16 09 34.3 +0.9**
comp=Z,4.8nm,0.8s,baz=93,slow=4.3,SNR=6.5
CDF Champ du Feu 73.06 316 *e*P P 16 09 35.4 -4.8
comp=Z,26nm,1.3s
CDF Champ du Feu 73.06 316 *e*P P 16 09 35.4 -4.8
CDF pmax pmax
comp=Z,26nm,1.3s
CDF Champ du Feu 73.06 316 *e*P P 16 09 35.4 -4.8
comp=Z,26nm,1.3s
HINF Hinteralfeld 73.52 315 *e*P P 16 09 37.7 -5.2
HINF Hinteralfeld 73.52 315 *e*P P 16 09 37.7 -5.2
HINF Hinteralfeld 73.52 315 *e*P P 16 09 37.7 -5.2
HAU Haudompre 73.78 316 *e*P P 16 09 39.5 -4.9
HAU *e*R
comp=Z,138nm,20.2s
HAU Haudompre 73.78 316 *e*P P 16 09 39.5 -4.9
HAU Haudompre 73.78 316 *e*P P 16 09 39.5 -4.9
PGF Pioggiola 73.80 310 *e*P P 16 09 39.5 -5.2
comp=Z,80nm,1.4s
PGF Pioggiola 73.80 310 *e*P P 16 09 39.5 -5.2
PGF pmax pmax
comp=Z,80nm,1.4s
PGF Pioggiola 73.80 310 *e*P P 16 09 39.5 -5.2
comp=Z,80nm,1.4s
LPG La Plagne 74.35 313 *e*P P 16 09 43.6 -4.5
comp=Z,20nm,1.0s
LPG La Plagne 74.35 313 *e*P P 16 09 43.6 -4.5
LPG pmax pmax
comp=Z,20nm,1.0s
LPG La Plagne 74.35 313 *e*P P 16 09 43.6 -4.5
comp=Z,20nm,1.0s
LPL La Plagne 74.36 313 *e*P P 16 09 43.5 -4.6
comp=Z,15nm,0.8s
LPL La Plagne 74.36 313 *e*P P 16 09 43.5 -4.6
LPL pmax pmax
comp=Z,15nm,0.8s
LPL La Plagne 74.36 313 *e*P P 16 09 43.5 -4.6
comp=Z,15nm,0.8s
BAIF Baives 74.42 318 *e*P P 16 09 43.8 -4.2
BAIF Baives 74.42 318 *e*P P 16 09 43.8 -4.2
BAIF Baives 74.42 318 *e*P P 16 09 43.8 -4.2
MEZF Maizieres J'vi 74.43 316 *e*P P 16 09 43.7 -4.4
MEZF Maizieres J'vi 74.43 316 *e*P P 16 09 43.7 -4.4
ORIF Oris-en-Rattie 75.13 313 *e*P P 16 09 47.3 -5.1
ORIF *e*R
comp=Z,175nm,18.2s
ORIF Oris-en-Rattie 75.13 313 *e*P P 16 09 47.3 -5.1
ORIF Oris-en-Rattie 75.13 313 *e*P P 16 09 47.3 -5.1
LOR Lormes 75.62 316 *e*P P 16 09 49.9 -5.1
LOR *e*R
comp=Z,122nm,21.0s
LOR Lormes 75.62 316 *e*P P 16 09 49.9 -5.1
LOR Lormes 75.62 316 *e*P P 16 09 49.9 -5.1
SMF Signal de Mont 75.85 315 *e*P P 16 09 51.4 -5.0
comp=Z,13nm,0.9s
SMF Signal de Mont 75.85 315 *e*P P 16 09 51.4 -5.0
SMF pmax pmax
comp=Z,13nm,0.9s
SMF Signal de Mont 75.85 315 *e*P P 16 09 51.4 -5.0
comp=Z,13nm,0.9s
SSF Saint Saulge 75.92 315 *e*P P 16 09 51.9 -4.8
comp=Z,25nm,1.1s
SSF Saint Saulge 75.92 315 *e*P P 16 09 51.9 -4.8
SSF pmax pmax
comp=Z,25nm,1.1s
SSF Saint Saulge 75.92 315 *e*P P 16 09 51.9 -4.8
comp=Z,25nm,1.1s
VIVF Saint-Julien-l 75.95 313 *e*P P 16 09 52.1 -4.9
comp=Z,25nm,1.2s
VIVF Saint-Julien-l 75.95 313 *e*P P 16 09 52.1 -4.9
VIVF pmax pmax
comp=Z,25nm,1.2s
VIVF Saint-Julien-l 75.95 313 *e*P P 16 09 52.1 -4.9
comp=Z,25nm,1.2s
BPAW Bear Paw Mtn. 76.01 25 *e*P **P 16 09 56.0 -0.9**
comp=Z,0.5nm,0.7s
AVF Avril sur Loir 76.11 315 *e*P P 16 09 52.9 -4.9
comp=Z,13nm,0.9s
AVF Avril sur Loir 76.11 315 *e*P P 16 09 52.9 -4.9
AVF pmax pmax
comp=Z,13nm,0.9s
AVF Avril sur Loir 76.11 315 *e*P P 16 09 52.9 -4.9
comp=Z,13nm,0.9s
EKA Eskdalemuir Ar 76.58 325 P **P 16 09 59.0 -1.3**
comp=Z,1.5nm,0.8s,baz=50,slow=8.5,SNR=3.5
LASF Ste Croix 76.78 313 *e*P P 16 09 57.2 -4.5
comp=Z,66nm,1.5s
LASF Ste Croix 76.78 313 *e*P P 16 09 57.2 -4.5
comp=Z,66nm,1.5s
COLA College 76.81 24 *e*P **P 16 09 59.7 -1.7**
COLA pmax pmax
comp=Z,24nm,1.4s
TCF Toulx Ste Croi 77.03 315 *e*P P 16 09 58.7 -4.4
comp=Z,18nm,1.1s
TCF Toulx Ste Croi 77.03 315 *e*P P 16 09 58.7 -4.4
TCF pmax pmax
comp=Z,18nm,1.1s
TCF Toulx Ste Croi 77.03 315 *e*P P 16 09 58.7 -4.4
comp=Z,18nm,1.1s
ILAR Eielson Array 77.21 24 P **P 16 10 01.4 -2.3**
comp=Z,1.7nm,1.1s,baz=301,slow=5.2,SNR=14
ILAR LR LR 16 47 26.1
comp=Z,128nm,18.1s,baz=308,slow=38
LDF La Druitiere 77.59 318 *e*P P 16 10 01.4 -4.7
comp=Z,40nm,1.4s
LDF La Druitiere 77.59 318 *e*P P 16 10 01.4 -4.7
LDF pmax pmax
comp=Z,40nm,1.4s
LDF La Druitiere 77.59 318 *e*P P 16 10 01.4 -4.7
comp=Z,40nm,1.4s
CAF Calviac 77.65 314 *e*P P 16 10 02.3 -4.3
comp=Z,18nm,1.2s
CAF Calviac 77.65 314 *e*P P 16 10 02.3 -4.3
CAF pmax pmax
comp=Z,18nm,1.2s
CAF Calviac 77.65 314 *e*P P 16 10 02.3 -4.3
comp=Z,18nm,1.2s
RJF Les Rejaudoux 77.86 314 *e*P P 16 10 03.6 -4.1
comp=Z,30nm,1.2s
RJF *e*R
comp=Z,118nm,21.2s
RJF Les Rejaudoux 77.86 314 *e*P P 16 10 03.6 -4.1
RJF pmax pmax
comp=Z,30nm,1.2s
RJF Les Rejaudoux 77.86 314 *e*P P 16 10 03.6 -4.1
comp=Z,30nm,1.2s
GRR Gorron 78.12 318 *e*P P 16 10 04.3 -4.8
GRR Gorron 78.12 318 *e*P P 16 10 04.3 -4.8
GRR Gorron 78.12 318 *e*P P 16 10 04.3 -4.8
EPF Esparros 79.55 313 *e*P P 16 10 11.6 -5.5
EPF Esparros 79.55 313 *e*P P 16 10 11.6 -5.5
EPF Esparros 79.55 313 *e*P P 16 10 11.6 -5.5
BMRM Bremner River 80.17 26 *e*P **P 16 10 19.4 -0.7**
comp=Z,12nm,0.9s
ESDC Sonseca Array 83.92 311 P **P 16 10 39.8 -0.5**
comp=Z,1.1nm,0.6s,baz=44,slow=4.4,SNR=9.2
YKA Yellowknife Ar 88.79 15 P **P 16 11 02.5 -1.1**
comp=Z,1.1nm,1.0s,baz=326,slow=4.8,SNR=5.6
TORD Torodi Ar. Bea 91.26 285 P **P 16 11 17.0 +1.0**
comp=Z,1.0nm,0.8s,baz=67,slow=3.5,SNR=6.0
SDV Santo Domingo 144.99 342 *e*PKP **PKPab 16 17 44.9 -2.7**

BJI 01 16:00:53.7, 24.87N×99.22E, h5km, ML3.6/5, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**3.20**	**85**	Pg	Pg	16 01 54.9	-0.6
KMI				Sg	Sg	16 02 34.9	-2.3
KMI				SMN			

230nm,0.9s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KMI				SME			
	140nm,1.2s						
CD2	**Chengdu**	**7.23**	**33**	Pn	Pn	16 02 39.8	-0.4
CD2				Pg	Pg	16 03 06.6	-5.8
CD2				Sn	Sn	16 03 58.9	-3.9
CD2				Sg	Sg	16 04 39.4	-6.7
CD2				SME			
	60nm,1.5s						

*ISCJB **01** 16:02:51.6±0.5, 59°.03N±0°.04×18°.24E±0°.08, h0km, Error ellipse: s-maj=6.9km s-min=4.1km az=34.9*
*UPP **01** 16:02:52.0, 59°.01N×18°.20E, h0km, ML2.4, Mining explosion.*
*CSEM **01** 16:02:52.7±0.2, 59°.06N×18°.14E, h2km, ML2.4, Error ellipse: s-maj=7.6km s-min=4.0km az=114.0, Mining explosion.*
*BER **01** 16:02:54.9±3.7, 59°.13N×18°.16E, h0km, ML2.0(NAO), Suspected explosion*
*IDC **01** 16:02:54.5±1.7, 59°.11N×18°.20E, h0km, mb1 3.3/3, mb1mx3.0/40, mbtmp3.3/3, ML2.4/4, Error ellipse: s-maj=21.7km s-min=7.1km az=174.0*
*NAO **01** 16:02:55.2±1.9, 59°.22N×18°.11E, ML2.0*
ISC 01 16:02:52.3±0.8**, 59°.03N**±0°.03×**18°.19E**±0°.03**, h0km, n52, σ1s.04**/64**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NRTU	**Norrtaelje**	**0.69**	**19**	P	**Pg**	**16 03 05.3**	**-0.2**
NRTU	**Norrtaelje**	**0.69**	**19**	P	**Pg**	**16 03 05.3**	**-0.2**
VIKU	**Vikbolandet**	**0.94**	**236**	P	**Pg**	**16 03 09.4**	**-0.9**
VIKU				S	**Sg**	**16 03 21.3**	**-1.1**
VIKU	**Vikbolandet**	**0.94**	**236**	P	**Pg**	**16 03 09.4**	**-0.9**
VIKU				S	**Sg**	**16 03 21.3**	**-1.1**
BACU	**Backbrunna**	**0.99**	**327**	P	**Pg**	**16 03 10.9**	**-0.4**
BACU	**Backbrunna**	**0.99**	**327**	P	**Pg**	**16 03 10.9**	**-0.4**
FLYU	**Flymyra**	**1.11**	**352**	P	**Pg**	**16 03 13.2**	**-0.4**
FLYU	**Flymyra**	**1.11**	**352**	P	**Pg**	**16 03 13.2**	**-0.4**
OSTU	**Oestervaala**	**1.32**	**336**	P	**Pg**	**16 03 17.1**	**-0.4**
OSTU	**Oestervaala**	**1.32**	**336**	P	**Pg**	**16 03 17.1**	**-0.4**
GRAU	**Graesoe**	**1.32**	**8**	P	**Pg**	**16 03 16.9**	**-0.7**
GRAU	**Graesoe**	**1.32**	**8**	P	**Pg**	**16 03 16.9**	**-0.7**
FORU	**Forsmark**	**1.36**	**360**	P	**Pg**	**16 03 17.7**	**-0.7**
FORU	**Forsmark**	**1.36**	**360**	P	**Pg**	**16 03 17.7**	**-0.7**
AAL	**Aland**	**1.47**	**38**	P	**Pn**	**16 03 19.3**	**-0.7**
AAL	**Aland**	**1.47**	**38**	P	**Pn**	**16 03 19.3**	**-0.7**
LNKU	**Linkoeping**	**1.62**	**241**	P	**Pn**	**16 03 21.4**	**-0.7**
LNKU	**Linkoeping**	**1.62**	**241**	P	**Pn**	**16 03 21.4**	**-0.7**
VSTU	**Vaestervik**	**1.63**	**213**	P	**Pn**	**16 03 21.4**	**-0.8**
VSTU	**Vaestervik**	**1.63**	**213**	P	**Pn**	**16 03 21.4**	**-0.8**
NRAU	**Nora**	**1.70**	**290**	P	**Pn**	**16 03 23.2**	**0.0**
NRAU	**Nora**	**1.70**	**290**	P	**Pn**	**16 03 23.2**	**0.0**
ASKU	**Askersund**	**1.75**	**267**	P	**Pn**	**16 03 23.8**	**0.0**
ASKU	**Askersund**	**1.75**	**267**	P	**Pn**	**16 03 23.8**	**0.0**
ASPU	**Aespoe**	**1.82**	**208**	P	**Pn**	**16 03 24.9**	**+0.1**
ASPU	**Aespoe**	**1.82**	**208**	P	**Pn**	**16 03 24.9**	**+0.1**
BYXU	**Byxelkrok**	**1.85**	**200**	P	**Pn**	**16 03 25.3**	**0.0**
BYXU	**Byxelkrok**	**1.85**	**200**	P	**Pn**	**16 03 25.3**	**0.0**
FALU	**Falun**	**1.89**	**322**	P	**Pn**	**16 03 26.2**	**+0.4**
FALU	**Falun**	**1.89**	**322**	P	**Pn**	**16 03 26.2**	**+0.4**
EKSU	**Eksjoe**	**2.11**	**227**	P	**Pn**	**16 03 29.5**	**+0.6**
EKSU	**Eksjoe**	**2.11**	**227**	P	**Pn**	**16 03 29.5**	**+0.6**
OSKU	**Oskarshamn**	**2.15**	**212**	P	**Pn**	**16 03 30.1**	**+0.8**
OSKU	**Oskarshamn**	**2.15**	**212**	P	**Pn**	**16 03 30.1**	**+0.8**
HFS	**Hagfors**	**2.54**	**298**	Pn	**Pn**	**16 03 36.1**	**+1.4**
	baz=106,slow=14						
HFS				Lg	Lg	16 04 10.2	
	baz=107,slow=28						
HFS	**Hagfors**	**2.54**	**298**	Pn	**Pn**	**16 03 36.1**	**+1.4**
	baz=106,slow=14						
HFS				Lg	Lg	16 04 10.2	
	baz=107,slow=28						
HFS	**Hagfors**	**2.54**	**298**	Pn	**Pn**	**16 03 35.7**	**+1.0**
	0.7nm,0.3s,baz=114,slow=13,SNR=53						
HFS				Sn	**Sn**	**16 04 08.5**	**+2.2**
	2.9nm,0.3s,baz=114,slow=28,SNR=28						
HFS	**Hagfors**	**2.54**	**298**	Pn	**Pn**	**16 03 36.1**	**+1.4**
	SNR=106						
HFS				Lg	Lg	16 04 10.2	
	SNR=1.6						
NB2	**NORSAR Subarra**	**4.04**	**303**	Pn	**Pn**	**16 03 55.5**	**+0.2**
	baz=124,slow=14						
NB2				Pg	**Pb**	**16 04 04.5**	**+0.3**
	baz=119,slow=16						
NB2				Lg	Lg	16 04 59.1	
	baz=120,slow=37						
NB2	**NORSAR Subarra**	**4.04**	**303**	Pn	**Pn**	**16 03 55.5**	**+0.2**
	baz=124,slow=14						
NB2				Pg	**Pb**	**16 04 04.5**	**+0.3**
	baz=119,slow=16						
NB2				Lg	Lg	16 04 59.1	
	baz=120,slow=37						
NB2	**NORSAR Subarra**	**4.04**	**303**	Pn	**Pn**	**16 03 55.5**	**+0.2**
	SNR=1.4						
NB2	**NORSAR Subarra**	**4.04**	**303**	Pg	**Pb**	**16 04 04.6**	**+0.3**
	SNR=3.9						
NB2				Lg	Lg	16 04 59.1	
	SNR=4.6						
NOA	**NORSAR Array B**	**4.04**	**303**	Pn	**Pn**	**16 03 55.2**	**-0.1**
	0.2nm,0.3s,baz=133,slow=11,SNR=13						
NOA				Lg	Lg	16 04 57.5	
	1.2nm,0.3s,baz=128,slow=24,SNR=9.0						
BSD	**Bornholm Skovb**	**4.31**	**206**	*i* P	**Pn**	**16 04 01.9**	**+2.8**
BSD	**Bornholm Skovb**	**4.31**	**206**	*e*P	**Pn**	**16 04 01.9**	**+2.8**
FIA0	**FINESS Array S**	**4.62**	**55**	Pn	**Pn**	**16 04 04.2**	**+0.9**
	baz=238,slow=12						
FIA0				Pg	**Pb**	**16 04 15.1**	**+1.0**
	baz=243,slow=16						
FIA0				Sn	**Sn**	**16 04 57.9**	**+0.4**
	baz=243,slow=18						
FIA0				Lg	Lg	16 05 14.4	
	baz=231,slow=28						
FIA0	**FINESS Array S**	**4.62**	**55**	Pn	**Pn**	**16 04 04.2**	**+0.9**
	baz=238,slow=12						
FIA0				Pg	**Pb**	**16 04 15.1**	**+1.0**
	baz=243,slow=16						
FIA0				Sn	**Sn**	**16 04 57.9**	**+0.4**
	baz=243,slow=18						
FIA0				Lg	Lg	16 05 14.4	
	baz=231,slow=28						
FIA0	**FINESS Array S**	**4.62**	**55**	Pn	**Pn**	**16 04 04.2**	**+0.9**
	SNR=1.7						
FIA0				Sn	**Sn**	**16 04 57.8**	**+0.4**
	SNR=4.9						
FIA0				Lg	Lg	16 05 14.4	
	SNR=6.2						
FINES	**FINESS Array B**	**4.62**	**55**	Pn	**Pn**	**16 04 04.1**	**+0.9**
	0.2nm,0.3s,baz=247,slow=12,SNR=20						
FINES				Pg	**Pb**	**16 04 14.8**	**+0.7**
	0.3nm,0.3s,baz=246,slow=17,SNR=11						
FINES				Sn	**Sn**	**16 04 57.2**	**-0.3**
	0.6nm,0.3s,baz=243,slow=18,SNR=11						
FINES				Lg	Lg	16 05 14.2	
	0.9nm,0.3s,baz=243,slow=22,SNR=10.0						
ARA0	**ARCESS Array S**	**11.00**	**14**	Pn	**Pn**	**16 05 28.1**	**-2.6**
	baz=192,slow=14						
ARA0	**ARCESS Array S**	**11.00**	**14**	Pn	**Pn**	**16 05 28.1**	**-2.6**
	baz=192,slow=14						
ARCES	**ARCESS Array B**	**11.00**	**14**	Pn	**Pn**	**16 05 28.5**	**-2.2**
	0.2nm,0.3s,baz=195,slow=12,SNR=12						
ARCES				Sn	Sn	16 07 25.5	-8.8
	0.1nm,0.3s,baz=198,slow=24,SNR=2.6						

*IDC **01** 16:05:27.1±0.6, 36°.82S×73°.63W, h0km, mb4.5/14, mb1 4.6/18, mb1mx4.5/28, mbtmp4.5/18, ML4.0/3, MS4.5/12, Ms1 4.5/12, ms1mx4.4/22, Error ellipse: s-maj=22.9km s-min=14.3km az=93.0*
*ISCJB **01** 16:05:28.3±0.2, 36°.86S±0°.04×73°.48W±0°.06, h14km, mb4.7/40, MS4.7/19, Error ellipse: s-maj=6.6km s-min=5.5km az=148.3*
*NEIC **01** 16:05:29.6±3.4, 36°.82S×73°.51W, h15km±20km, mb4.8/28, MS4.6/5, MW5.6, ML5.7(GUC), Error ellipse: s-maj=12.2km s-min=6.5km az=79.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^{17}Nm; M_{rr}0.83; $M_{\theta\theta}$-0.63; $M_{\phi\phi}$-0.20; $M_{r\theta}$-0.81; $M_{\theta\phi}$0.17; $M_{\phi r}$-2.92; Best double couple: $M_0$3.10000×10^{17} NP1:ϕ_s195.00000°, δ85.00000°, λ91.00000°. NP2:ϕ_s7.00000°, δ5.00000°, λ82.00000°. Principal axes: T 3.4100, Plg49.0000°, Azm105.0000°; N -0.6900, Plg0.0000°, Azm15.0000°; P -2.7300, Plg40.0000°, Azm284.0000°;*
NEIC Felt [V] at Chillan, Coelemu, Concepcion, El Carmen and Tome; [IV] at Curanilahue; [III] at Angol, Cauquenes and Chanco; [II] at La Laja, Pelluhue and San Rosendo. Also felt at Chiguayante, Rancagua and Santiago.
*GCMT **01** 16:05:29.6±0.2, 36°.93S×73°.85W, h22km±1km, MW5.1/63, Moment Tensor Solution. s41,c52; s63,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.81±.21; $M_{\theta\theta}$0.39±.13; $M_{\phi\phi}$-4.20±.15; $M_{r\theta}$-0.43±.21; $M_{\theta\phi}$0.02±.09; $M_{\phi r}$-4.59±.32; Best double couple: $M_0$6.10800×10^{16} NP1:ϕ_s184.00000°, δ70.00000°, λ93.00000°. NP2: ϕ_s355.00000°, δ21.00000°, λ81.00000°. Principal axes: T 5.9250, Plg65.0000°, Azm100.0000°; N 0.3630, Plg3.0000°, Azm3.0000°; P -6.2900, Plg24.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*GUC **01** 16:05:30.8±0.6, 36°.89S×73°.54W, h25km±12km, ML5.7*
*MOS **01** 16:05:31.3±1.3, 36°.90S×73°.38W, h33km, mb5.1/18, Error ellipse: s-maj=18.8km s-min=10.8km az=99.3*
ISC 01 16:05:29.3±0.3**, 36°.85S**±0°.05×**73°.53W**±0°.05**, h14km, n251, σ1s.37**/269**, mb4.8**/40**, MS4.7**/19**, 3C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.34**	**89**⇓	*i*P	**Pn**	**16 05 39.0**	**-0.8**
CCSP				*i* S	**Sn**	**16 05 45.1**	**-1.3**
LNCH	**Linares**	**1.85**	**58**⇑	*i*P	**Pb**	**16 06 02.3**	**-0.5**
LNCH				*e*S	**Sb**	**16 06 27.0**	**+1.1**
LNCH				AML	AML	16 06 43.5	
	comp=N,62μm,0.6s						
TALC	**Talca**	**2.11**	**47**	*e*P	**Pb**	**16 06 06.8**	**-0.4**
TALC				*i* S	**Sg**	**16 06 35.3**	**-1.7**
TALC				AML	AML	16 06 43.7	
	comp=N,97μm,0.6s						
NICH	**Los Niches**	**2.62**	**46**	*e*P	**Pb**	**16 06 15.1**	**-0.9**
NICH				AML	AML	16 07 07.6	
	comp=E,52μm,0.6s						
PLCA	**Paso Flores**	**4.52**	**150**	Pn	**Pn**	**16 06 38.8**	**+1.4**
	comp=E,4.1nm,0.3s,baz=320,slow=11,SNR=41						
PLCA				Lg	Lg	16 07 49.1	
	comp=E,28nm,0.3s,baz=255,slow=20,SNR=6.3						
PLCA	**Paso Flores**	**4.52**	**150**	*e*P	**Pn**	**16 06 38.3**	**+0.9**
PLCA	**Paso Flores**	**4.52**	**150**	*e*Pn	**Pn**	**16 06 38.3**	**+0.9**
PLCA				Lg	Lg	16 07 49.1	
CFAA	**Coronel Fontan**	**6.82**	**41**	Pn	**Pn**	**16 07 09.1**	**+0.1**
	comp=E,0.8nm,0.3s,baz=214,slow=14,SNR=12						
CFAA				Sn	**Sn**	**16 08 28.1**	**+1.7**
	baz=215,slow=18,SNR=2.8						
CFAA				LR	LR	16 10 06.9	
	comp=E,654nm,18.3s,baz=224,slow=41						
LCO	**Las Campanas**	**8.17**	**18**	*e*P	**Pn**	**16 07 25.6**	**-2.1**
TRQA	**Tornquist**	**9.26**	**101**	*e*Pn	**Pn**	**16 07 44.5**	**+2.1**
LVC	**Limon Verde**	**14.74**	**17**	Pn	**Pn**	**16 08 56.6**	**-1.0**
	comp=E,11nm,0.3s,baz=210,slow=8.1,SNR=3.1						
LVC				LR	LR	16 14 40.7	
	comp=E,4μm,21.1s,baz=194,slow=38						
LVC	**Limon Verde**	**14.74**	**17**	*e*P	**Pn**	**16 08 54.6**	**-3.0**
	comp=E,22nm,0.9s						
CPUP	**Villa Florida**	**17.31**	**57**	*e*P	**P**	**16 09 31.6**	**-0.2**
CPUP	**Villa Florida**	**17.31**	**57**	*e*P	**P**	**16 09 31.6**	**-0.2**
USHA	**Ushuaia**	**18.32**	**171**	P	**P**	**16 09 43.3**	**+0.5**
	comp=E,0.2nm,0.3s,baz=336,slow=11,SNR=4.1						
USHA				LR	LR	16 17 46.7	
	comp=E,2μm,18.8s,baz=324,slow=40						
EFI	**East Falkland**	**18.44**	**148**	*e*P	P	16 09 36.6	-7.6
EFI				pmax	pmax		
	comp=Z,88nm,1.3s						
EFI	**East Falkland**	**18.44**	**148**	P	**P**	**16 09 42.8**	**-1.4**
EFI				pmax	pmax		
	comp=Z,24nm,0.8s						
EFI	**East Falkland**	**18.44**	**148**	P	**P**	**16 09 42.8**	**-1.4**
	comp=Z,24nm,0.8s						
LPAZ	**La Paz**	**21.03**	**15**	P	**P**	**16 10 14.6**	**+1.2**
	comp=Z,16nm,1.1s,baz=183,slow=8.6,SNR=27						
LPAZ	**La Paz**	**21.03**	**15**	*e*P	**P**	**16 10 14.9**	**+1.5**
LPAZ				pmax	pmax		
	comp=Z,37nm,1.1s						
LPAZ	**La Paz**	**21.03**	**15**	*e*P	**P**	**16 10 14.9**	**+1.5**
	comp=Z,37nm,1.1s						
SIV	**San Ignacio**	**23.53**	**31**	P	**P**	**16 10 39.3**	**+0.1**
	comp=Z,12nm,1.0s,baz=226,slow=12,SNR=21						
SIV				LR	LR	16 21 38.8	
	comp=Z,2μm,19.5s,baz=220,slow=41						
NNA	**Nana**	**24.93**	**352**	LR	LR	16 18 40.6	
	comp=Z,480nm,19.1s,baz=173,slow=32						
PMSA	**Palmer Station**	**28.53**	**172**	LR	LR	16 21 44.9	
	comp=Z,640nm,19.2s,baz=330,slow=34						
SAML	**Samuel**	**29.32**	**21**	*e*P	**P**	**16 11 30.7**	**-0.8**
	comp=Z,18nm,1.3s						
SAML				LR	LR		
	comp=Z,2μm,19.0s						
BDFB	**Brasilia**	**30.97**	**54**	P	**P**	**16 11 45.3**	**-1.0**
	comp=Z,7.5nm,0.9s,baz=178,slow=8.2,SNR=4.9						
BDFB				LR	LR	16 25 40.4	
	comp=Z,3μm,18.4s,baz=219,slow=39						
BDFB	**Brasilia**	**30.97**	**54**	P	**P**	**16 11 45.3**	**-1.0**
RPN	**Rapa Nui**	**31.72**	**277**	LR	LR	16 21 03.6	
	comp=Z,976nm,20.2s,baz=108,slow=30						
OTAV	**Otavalo**	**37.18**	**352**	*e*P	**P**	**16 12 42.9**	**+2.4**
	comp=Z,13nm,1.1s						
SDV	**Santo Domingo**	**45.57**	**4**	*e*P	**P**	**16 13 49.0**	**-0.1**
	comp=Z,19nm,1.0s						
SDV				LR	LR		
	comp=Z,706nm,21.0s						
RCBR	**Riachuelo**	**46.19**	**57**	P	**P**	**16 13 54.4**	**+0.5**
	comp=Z,30nm,1.3s,baz=195,slow=8.6,SNR=6.8						
VNA1	**Neumayer--Stat**	**47.56**	**156**	P	**P**	**16 14 05.9**	**+2.0**
VNA2	**Neumayer--Watz**	**47.88**	**156**	P	**P**	**16 14 07.6**	**+1.2**
	baz=283,slow=7.7						
SNAA	**Sanae**	**49.43**	**157**	P	P	16 14 13.1	-5.2
SNAA	**Sanae**	**49.43**	**157**	P	**P**	**16 14 18.8**	**+0.4**
	comp=Z,8.8nm,1.2s,baz=275,slow=6.1,SNR=22						
SNAA	**Sanae**	**49.43**	**157***c*	*i*P	P	16 14 13.4	-5.0
SNAA				pmax	pmax		
	comp=Z,29nm,1.4s						
SNAA	**Sanae**	**49.43**	**157**	*e*P	P	16 14 12.9	-5.4
	comp=Z,40nm,1.3s						
QSPA	**South Pole Qui**	**53.39**	**180**	*e*P	**P**	**16 14 48.8**	**+0.6**
	comp=Z,18nm,1.1s						
RKT	**Rikitea**	**54.12**	**266**	*e*S	**S**	**16 22 28.3**	**-2.0**
	comp=Z,302nm,26.2s						
RKT				*e*LR	LR	16 30 40.4	
	comp=Z,633nm,29.5s,baz=127						
NVL	**N'lazarevskaya**	**54.20**	**156**	*e*P	**P**	**16 14 52.4**	**-1.5**
NVL				pmax	pmax		
	comp=Z,18nm,1.0s						
VNDA	**Vanda**	**61.07**	**192**	P	**P**	**16 15 43.0**	**+0.9**
	comp=Z,1.6nm,1.1s,baz=138,slow=4.4,SNR=3.5						
VNDA	**Vanda**	**61.07**	**192**	*e*P	**P**	**16 15 43.2**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.5s						
VNDA	**Vanda**	**61.07**	**192**	*e*P	**P**	**16 15 43.1**	**+1.0**
	comp=Z,6.9nm,1.5s						
TBI	**Tubuai**	**65.51**	**258**	*e*S	**S**	**16 24 54.9**	**-2.2**
	comp=Z,617nm,28.0s						
933A	**Laredo**	**68.54**	**336**	P	P	16 16 34.9	+3.5
	baz=69						
PPT2	**Papeete2**	**68.67**	**264**	*e*S	**S**	**16 25 32.2**	**-3.2**
	comp=Z,243nm,23.2s						
834A	**Tilden**	**68.78**	**336**	P	**P**	**16 16 34.5**	**+1.7**
	baz=69						
833A	**Chaparral WMA,**	**69.24**	**336**	P	**P**	**16 16 37.2**	**+1.6**
	baz=70						
636A	**Smothers Creek**	**69.58**	**338**	P	**P**	**16 16 40.2**	**+2.5**
	baz=70						
732A	**Laxson Ranch,**	**69.80**	**335**	P	**P**	**16 16 40.9**	**+1.8**
	baz=70						
438A	**Sam Houston St**	**70.32**	**340**	P	**P**	**16 16 44.4**	**+2.1**
	baz=71						
MAW	**Mawson**	**70.79**	**164**	P	**P**	**16 16 45.2**	**+0.5**
	comp=Z,5.8nm,0.8s,baz=204,slow=6.3,SNR=6.4						
MAW				LR	LR	16 49 46.7	
	comp=Z,550nm,18.0s,baz=233,slow=38						
MAW	**Mawson**	**70.79**	**164**	P	**P**	**16 16 45.2**	**+0.5**
532A	**Rocksprings**	**71.07**	**336**	P	**P**	**16 16 48.2**	**+1.3**
	baz=71						
434A	**Burnet**	**71.19**	**338**	P	**P**	**16 16 48.4**	**+0.8**
	baz=72						
336A	**Riesel**	**71.31**	**339**	P	**P**	**16 16 49.3**	**+1.0**
	baz=72						
531A	**Rocksprings**	**71.32**	**335**	P	**P**	**16 16 49.6**	**+1.2**
	baz=72						
JCT	**Junction City**	**71.36**	**336**	P	**P**	**16 16 49.6**	**+0.9**
	baz=72						
433A	**Art**	**71.39**	**337**	P	**P**	**16 16 49.2**	**+0.3**
	baz=72						
530A	**J-C Ranch, Com**	**71.57**	**335**	P	**P**	**16 16 51.1**	**+1.1**
	baz=72						
TXAR	**Lajitas Array**	**71.66**	**332**	P	**P**	**16 16 50.1**	**-0.4**
	comp=Z,4.2nm,1.1s,baz=161,slow=8.0,SNR=14						
TXAR				LR	LR	16 43 47.3	
	comp=Z,387nm,18.1s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**71.66**	**332**	P	**P**	**16 16 50.1**	**-0.4**
334A	**Lometa**	**71.67**	**338**	P	**P**	**16 16 51.4**	**+1.0**
	baz=72						
431A	**Sonora**	**71.81**	**336**	P	**P**	**16 16 52.4**	**+1.0**
	baz=72						
529A	**Stev Forest Ra**	**71.85**	**334**	P	**P**	**16 16 52.3**	**+0.6**
	baz=72						
430A	**Baggett Ranch,**	**72.12**	**335**	P	**P**	**16 16 53.8**	**+0.6**
	baz=72						
332A	**Millersview**	**72.18**	**337**	P	**P**	**16 16 54.1**	**+0.6**
	baz=72						
234A	**Clairette**	**72.26**	**338**	P	**P**	**16 16 54.5**	**+0.5**
	baz=73						
331A	**San Angelo**	**72.33**	**336**	P	**P**	**16 16 55.0**	**+0.5**
	baz=73						
232A	**Coleman**	**72.62**	**337**	P	**P**	**16 16 57.2**	**+1.0**
	baz=73						
SWET	**Sewanee**	**72.62**	**349**	*e*P	**P**	**16 16 56.3**	**+0.2**
	comp=Z,35nm,1.2s						
TKL	**Tuckaleechee C**	**72.77**	**351**	P	**P**	**16 16 56.5**	**-0.4**
231A	**Bronte**	**72.87**	**336**	P	**P**	**16 16 57.8**	**+0.2**
	baz=73						
329A	**Wagon Wheel Ra**	**73.01**	**335**	P	**P**	**16 16 59.8**	**+1.2**
	baz=73						
133A	**Hamilton Ranch**	**73.06**	**338**	P	**P**	**16 16 59.3**	**+0.6**
	baz=73						
Z35A	**Perchaven, San**	**73.25**	**339**	P	**P**	**16 17 00.5**	**+0.7**
	baz=74						
ABTX	**Abilene, Hawle**	**73.30**	**337**	P	**P**	**16 17 01.2**	**+1.0**
	baz=74						
Y35A	**Marietta**	**73.73**	**340**	P	**P**	**16 17 03.6**	**+1.0**
	baz=74						
228A	**UT Block 9, Go**	**73.80**	**335**	P	**P**	**16 17 03.9**	**+0.7**
	baz=74						
Z31A	**Sharp Cattle R**	**74.10**	**337**	P	**P**	**16 17 05.4**	**+0.5**
	baz=74						
128A	**Castleberry Fa**	**74.22**	**335**	P	**P**	**16 17 06.1**	**+0.4**
	baz=74						
Z30A	**Sanderson Ranc**	**74.38**	**336**	P	**P**	**16 17 07.1**	**+0.6**
	baz=75						
MNTX	**Cornudas Mount**	**74.42**	**332**	P	**P**	**16 17 06.7**	**-0.1**
	baz=75						
MNTX	**Cornudas Mount**	**74.42**	**332**	*e*P	**P**	**16 17 06.0**	**-0.8**
	comp=Z,3.3nm,0.9s						
MNTX				LR	LR		
	comp=Z,440nm,20.0s						
W37A	**Quinton**	**74.46**	**342**	P	**P**	**16 17 07.5**	**+0.6**
	baz=75						
Z29A	**Hungry Hill Ra**	**74.55**	**336**	P	**P**	**16 17 07.8**	**+0.3**
	baz=75						
W36A	**Wetumka**	**74.67**	**341**	P	**P**	**16 17 08.6**	**+0.5**
	baz=75						
X32A	**Elmer**	**74.86**	**338**	P	**P**	**16 17 10.7**	**+1.5**
	baz=75						
X31A	**McDonald Ranch**	**75.26**	**338**	P	**P**	**16 17 12.9**	**+1.3**
	baz=76						
TUL1	**Leonard**	**75.29**	**341**	P	**P**	**16 17 12.5**	**+0.9**
	baz=76						
W32A	**Sentinel**	**75.50**	**338**	P	**P**	**16 17 13.1**	**+0.2**
	baz=76						
MSTX	**Muleshoe**	**75.55**	**335**	*e*P	**P**	**16 17 13.8**	**+0.5**
	comp=Z,12nm,1.2s						
V33A	**Lossen Ranch,**	**75.87**	**339**	P	**P**	**16 17 16.4**	**+1.4**
	baz=76						
AMTX	**Amarillo**	**76.03**	**336**	P	**P**	**16 17 17.2**	**+1.1**
	baz=76						
121A	**Cookes Peak, D**	**76.09**	**331**	*e*P	**P**	**16 17 18.4**	**+1.9**
	comp=Z,14nm,1.3s						
T37A	**Cheneyville 18**	**76.22**	**343**	P	**P**	**16 17 17.8**	**+0.8**
	baz=77						
W29A	**Amarillo**	**76.23**	**337**	P	**P**	**16 17 18.5**	**+1.2**
	baz=76						
T36A	**Boggs Farm, Ca**	**76.40**	**342**	P	**P**	**16 17 18.5**	**+0.5**
	baz=77						
T35A	**Sooner Cattle**	**76.42**	**341**	P	**P**	**16 17 18.2**	**+0.1**
	baz=77						
T34A	**McClaskey Farm**	**76.70**	**341**	P	**P**	**16 17 20.7**	**+1.0**
	baz=77						
LIC	**Lamto**	**76.82**	**72**	*e*P	**P**	**16 17 21.4**	**+0.5**
	comp=Z,48nm,1.2s						
S36A	**Lake Cedric, C**	**76.96**	**342**	P	**P**	**16 17 22.5**	**+1.4**
	baz=77						
T33A	**Patterson Ranc**	**77.04**	**340**	P	**P**	**16 17 22.8**	**+1.2**
	baz=77						
TIC	**Toumodi**	**77.10**	**71**	*e*P	**P**	**16 17 23.0**	**+0.5**
S35A	**Otter Creek Ra**	**77.10**	**342**	P	**P**	**16 17 23.0**	**+1.1**
	baz=77						
KIC	**Kosan Boka**	**77.13**	**72**	*e*P	**P**	**16 17 23.3**	**+0.6**
	comp=Z,49nm,1.2s						
DBIC	**Dimbokro**	**77.24**	**72**	P	**P**	**16 17 24.0**	**+0.7**
	comp=Z,13nm,1.0s,baz=216,slow=7.5,SNR=7.2						
DBIC				LR	LR	16 48 52.9	
	comp=Z,308nm,18.1s,baz=210,slow=34						
DBIC	**Dimbokro**	**77.24**	**72**	*e*P	**P**	**16 17 23.5**	**+0.2**
DBIC				pmax	pmax		
	comp=Z,21nm,1.0s						
DBIC	**Dimbokro**	**77.24**	**72**	*e*P	**P**	**16 17 23.5**	**+0.2**
	comp=Z,21nm,1.0s						
S34A	**Willow Spring**	**77.32**	**341**	P	**P**	**16 17 24.0**	**+0.9**
	baz=78						
T32A	**Huddler Ranch,**	**77.32**	**339**	P	**P**	**16 17 24.1**	**+0.9**
	baz=78						
R35A	**Emporia Munici**	**77.68**	**342**	P	**P**	**16 17 26.3**	**+1.1**
	baz=78						
ANMO	**Albuquerque**	**77.73**	**333***c*	*i*P	**P**	**16 17 27.4**	**+1.7**
ANMO				pmax	pmax		
	comp=Z,37nm,1.2s						
ANMO	**Albuquerque**	**77.73**	**333**	*e*P	**P**	**16 17 27.2**	**+1.4**
	comp=Z,8.3nm,1.1s						
ANMO				LR	LR		
	comp=Z,291nm,19.0s						
R34A	**Isabella, Hill**	**77.92**	**341**	P	**P**	**16 17 27.9**	**+1.3**
	baz=78						
T28A	**Walsh**	**78.22**	**337**	P	**P**	**16 17 29.3**	**+1.0**
	baz=78						
T26A	**Comanche Natio**	**78.74**	**336**	P	**P**	**16 17 32.4**	**+1.1**
	baz=79						
T25A	**Trinidad**	**78.98**	**335**	P	**P**	**16 17 34.0**	**+1.3**
	baz=79						
S26A	**Kim**	**79.11**	**336**	P	**P**	**16 17 34.8**	**+1.6**
	baz=79						
R28A	**Tribune**	**79.25**	**338**	P	**P**	**16 17 35.6**	**+1.6**
	baz=80						
TSUM	**Tsumeb**	**79.60**	**106**	*e*P	**P**	**16 17 36.9**	**+0.4**
	comp=Z,13nm,1.3s						
R26A	**Arlington**	**79.72**	**336**	P	**P**	**16 17 38.5**	**+1.9**
	baz=80						
BOSA	**Boshof**	**79.82**	**118**	P	**P**	**16 17 37.5**	**-0.1**
	comp=Z,11nm,1.1s,baz=221,slow=6.5,SNR=9.4						
BOSA	**Boshof**	**79.82**	**118**	*e*P	**P**	**16 17 37.7**	**+0.1**
BOSA				pmax	pmax		
	comp=Z,14nm,1.0s						
BOSA	**Boshof**	**79.82**	**118**	*e*P	**P**	**16 17 37.6**	**+0.1**
	comp=Z,14nm,1.0s						
SDCO	**Great Sand Dun**	**79.90**	**335**	*e*P	**P**	**16 17 39.0**	**+1.3**
	comp=Z,5.9nm,1.3s						
S22A	**4UR Ranch, Cre**	**80.36**	**334**	P	**P**	**16 17 41.6**	**+1.3**
	baz=81						
MVCO	**Mesa Verde**	**80.49**	**332**	P	**P**	**16 17 42.4**	**+1.5**
	baz=81						
PFO	**Pinyon Flats O**	**80.72**	**325**	LR	LR	16 46 58.9	
	comp=Z,172nm,19.1s,baz=140,slow=31						
JFWS	**Jewell Farm**	**80.84**	**348**	*e*P	**P**	**16 17 40.0**	**-2.3**
JFWS				pmax	pmax		
	comp=Z,9.0nm,0.6s						
JFWS	**Jewell Farm**	**80.84**	**348**	*e*P	**P**	**16 17 40.0**	**-2.3**
	comp=Z,9.0nm,0.6s						
Q24A	**Divide**	**80.88**	**336**	P	**P**	**16 17 44.9**	**+1.9**
	baz=81						
GMRC	**Granite Mounta**	**81.34**	**326**	P	**P**	**16 17 46.9**	**+1.6**
	baz=82						
LBTB	**Lobatse**	**82.20**	**115**	*e*P	**P**	**16 17 50.0**	**-0.3**
LBTB				pmax	pmax		
	comp=Z,27nm,1.1s						
LBTB	**Lobatse**	**82.20**	**115**	*e*P	**P**	**16 17 50.0**	**-0.3**
	comp=Z,27nm,1.1s						
SHPR	**Sheep Range**	**82.57**	**327**	*e*P	**P**	**16 17 53.6**	**+1.8**
	comp=Z,16nm,1.6s						
ECSD	**EROS Data Cent**	**82.90**	**343**	P	**P**	**16 17 53.6**	**+0.4**
	baz=83						

ECSD	EROS Data Cent	82.90	343	eP	P	16 17 52.6	-0.6
	comp=Z,9.6nm,0.9s						
MSU	Marysvale	83.04	330	eP	P	16 17 55.6	+1.3
MSU				pmax	pmax		
	comp=Z,8.0nm,1.3s						
MSU	Marysvale	83.04	330	eP	P	16 17 55.6	+1.3
	comp=Z,8.0nm,1.3s						
MVU	Marysvale	83.05	330	eP	P	16 17 56.0	+1.6
	comp=Z,5.8nm,1.3s						
DAC	Darwin (Calif)	83.46	326	eP	P	16 17 56.6	+0.1
DAC				pmax	pmax		
	comp=Z,8.0nm,1.3s						
DAC	Darwin (Calif)	83.46	326	eP	P	16 17 56.6	+0.1
	comp=Z,7.8nm,1.3s						
K24A	Anderson Ranch	84.17	337	P	P	16 18 01.6	+1.7
	baz=84						
I28A	Midland	84.29	340	P	P	16 18 01.7	+1.4
	baz=85						
K22A	Casper	84.65	336	P	P	16 18 03.7	+1.3
	baz=85						
DUG	Dugway, Tooele	84.74	331	eP	P	16 18 04.7	+1.9
DUG				pmax	pmax		
	comp=Z,9.0nm,1.2s						
DUG				MLR	MLR		
	comp=Z,250nm,19.0s						
DUG	Dugway, Tooele	84.74	331	P	P	16 18 04.7	+1.9
	baz=85						
DUG	Dugway, Tooele	84.74	331	eP	P	16 18 04.7	+1.9
	comp=Z,8.6nm,1.2s						
DUG				LR	LR		
	comp=Z,250nm,19.0s						
HWUT	Hardware Ranch	85.48	332	eP	P	16 18 06.2	-0.4
	comp=Z,37nm,1.5s						
NVAR	Mina Array Bea	85.55	326	P	P	16 18 07.0	-0.1
	comp=Z,0.4nm,0.6s,baz=150,slow=6.3,SNR=4.2						
PDAR	Pinedale Array	85.77	334	P	P	16 18 06.8	-1.3
	comp=Z,2.9nm,1.1s,baz=117,slow=12,SNR=8.4						
J20A	Shoshoni	85.79	335	P	P	16 18 08.9	+0.8
	baz=86						
H24A	Dirks Ranch, A	85.94	338	P	P	16 18 09.1	+0.4
	baz=86						
I21A	Big Trails, Te	85.94	336	P	P	16 18 09.5	+0.8
	baz=86						
J19A	Crowheart	86.04	335	P	P	16 18 10.2	+1.0
	baz=86						
HVU	Hansel Valley	86.09	332	eP	P	16 18 09.2	-0.3
HVU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HVU	Hansel Valley	86.09	332	eP	P	16 18 09.2	-0.3
	comp=Z,3.6nm,0.9s						
TOA0	Torodi Ar. Sit	86.31	71	eP	P	16 18 09.9	-1.2
TOA0	Torodi Ar. Sit	86.31	71	eP	P	16 18 10.8	-0.2
TORD	Torodi Ar. Bea	86.31	71	P	P	16 18 10.8	-0.2
	comp=Z,6.6nm,1.1s,baz=232,slow=5.3,SNR=24						
E26A	Carlson Angus	86.92	340	P	P	16 18 14.3	+0.9
	baz=87						
C30A	Mose, Pekin	87.08	343	P	P	16 18 14.9	+0.9
	baz=87						
E25A	Miller Ranch,	87.21	340	P	P	16 18 15.9	+1.1
	baz=88						
D26A	Manning	87.43	341	P	P	16 18 16.9	+1.1
	baz=88						
B30A	Myrvik Farm, E	87.75	344	P	P	16 18 18.1	+0.8
	baz=88						
C27A	Sayler Ranch,	87.82	342	P	P	16 18 18.6	+1.0
	baz=88						
B28A	Dugan Ranch, T	88.22	343	P	P	16 18 20.8	+1.3
	baz=89						
D23A	Lindsay	88.33	339	P	P	16 18 20.5	+0.4
	baz=89						
A29A	Manning Farm,	88.40	343	P	P	16 18 20.6	+0.2
	baz=89						
MCMT	McKenzie Canyo	88.74	333	P	P	16 18 21.8	-0.6
	comp=Z,3.7nm,1.4s						
MDT	Midelt	94.53	52	P	P	16 18 50.4	+1.0
	comp=Z,2.8nm,0.9s,baz=237,slow=3.6,SNR=5.3						
TAM	Tamanrasset	95.13	65	P	P	16 18 53.5	+1.1
TAM				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TAM	Tamanrasset	95.13	65	P	P	16 18 53.5	+1.1
	comp=Z,10nm,1.2s						
ASAR	Alice Springs	114.48	208	PKP	PKPdf	16 24 08.8	-0.5
	comp=Z,0.4nm,0.9s,baz=152,slow=4.1,SNR=3.0						
ASAR				PKKPbc	PKKPbc	16 34 47.5	+0.2
	comp=Z,0.3nm,0.7s,baz=338,slow=3.0,SNR=7.0						
ASAR	Alice Springs	114.48	208	PKIKP	PKPdf	16 24 08.8	-0.5
ASAR						16 34 47.5	
GERES	GERESS Array B	115.00	47	PKP	PKPdf	16 24 09.4	0.0
	comp=Z,0.5nm,0.9s,baz=220,slow=8.0,SNR=3.9						
GERES	GERESS Array B	115.00	47	PKIKP	PKPdf	16 24 09.4	0.0
KHC	Kasperske Hory	115.06	46	AMS	AMS	17 16 00.0	
	comp=Z,300nm,17.0s						
PRU	Pruhonice	116.02	46	AMS	AMS	17 17 00.0	
	comp=Z,300nm,19.2s						
TREC	Trest	116.25	47	AMS	AMS	17 20 20.0	
	comp=Z,400nm,19.2s						
DPC	Dobruska-Polom	117.20	46	AMS	AMS	17 19 00.0	
	comp=Z,200nm,16.3s						
WRA	Warramunga Arr	117.69	210	PKP	PKPdf	16 24 14.9	-0.5
	comp=Z,0.4nm,1.0s,baz=156,slow=1.5,SNR=2.9						
WRA	Warramunga Arr	117.69	210	PKIKP	PKPdf	16 24 15.0	-0.5
KOLS	Kolonicke sedl	120.16	49	ePKIKP	PKPdf	16 24 19.6	+0.4
KOLS	Kolonicke sedl	120.16	49	ePKP	PKPdf	16 24 19.6	+0.4
BRTR	Keskin Array B	124.24	63	PKP	PKPdf	16 24 27.9	+0.3
	comp=Z,0.7nm,0.7s,baz=163,slow=9.0,SNR=4.2						
BRTR	Keskin Array B	124.24	63	PKIKP	PKPdf	16 24 27.9	+0.3
H11S2	WAKE ISLAND Hy	124.48	268	T	T	18 41 30.9	
	baz=118,slow=74,SNR=15						
H11S1	WAKE ISLAND Hy	124.50	268	T	T	18 41 30.9	
	baz=118,slow=74,SNR=9.0						
H11S3	WAKE ISLAND Hy	124.50	268	T	T	18 41 30.9	
	baz=118,slow=74,SNR=8.8						
AKASG	Malin Array Be	124.99	49	PKP	PKPdf	16 24 26.8	-1.6
	comp=Z,0.2nm,0.3s,baz=278,slow=1.7,SNR=6.0						
AKASG				PP	PP	16 26 14.9	-2.8
	comp=Z,0.2nm,0.3s,baz=255,slow=7.1,SNR=6.6						
AKASG	Malin Array Be	124.99	49	i PKIKP	PKPdf	16 24 28.2	-0.2
APA	Apatity	129.87	29	i PKHKP	PKPpre	16 24 26.0	
OBN	Obninsk	130.32	45	d iPKIKP	PKPdf	16 24 39.5	+1.1
OBN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KIV	Kislovodsk	131.98	61	i PKIKP	PKPdf	16 24 36.9	-5.2
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KLMR	Klimovskoe	132.41	38	PKIKP	PKPdf	16 24 34.8	-7.4
KLMR				pmax	pmax		
	comp=Z,14nm,1.6s						
BILL	Bilibino	134.83	333	i PKIKP	PKPdf	16 24 46.6	0.0
BILL				pmax	pmax		
	comp=Z,6.0nm,1.9s						
PRGR	Permogore	135.34	36	PKIKP	PKPdf	16 24 46.8	-0.9
PRGR				pmax	pmax		
	comp=Z,11nm,1.2s						
SEY	Seymchan	141.84	328	i PKIKP	PKPdf	16 24 59.2	-0.4
ARU	Arti	142.67	43	i PKIKP	PKPdf	16 24 57.4	-3.9
ARU				MLR	MLR		
	comp=Z,387nm,21.0s						
AKTO	Aktyubinsk	143.06	53	PKhKP	PKPpre	16 24 58.3	
	comp=Z,1.8nm,0.8s,baz=259,slow=5.5,SNR=6.9						
AKTO	Aktyubinsk	143.06	53	PKIKP	PKPab	16 24 58.3	+0.8
TIXI	Tiksi	143.25	348	ePKHKP	PKPpre	16 24 57.6	
TIXI	Tiksi	143.25	348	ePKPpre	PKPpre	16 24 57.6	
SVE	Sverdlovsk	143.71	42	ePKIKP	PKPbc	16 25 01.5	+0.9
ABKAR	Akbulak array	144.36	55	ePKPpre	PKPpre	16 25 02.9	
URV	Uravakonda	146.08	122	ePKPab	PKPdf	16 25 08.8	+0.4
SKHT	Srikalahasti	146.82	127	ePKPdf	PKPdf	16 25 08.1	-1.6
SKHT				ePKPbc	PKPbc	16 25 10.4	-1.0
RCLA	Racherla	147.58	124	ePKPdf	PKPdf	16 25 10.6	-0.4
RCLA				ePKPbc	PKPbc	16 25 12.5	-1.1
RCLA				ePKPab	PKPab	16 25 14.5	-1.2
KLRI	Killari	147.75	117	ePKPdf	PKPdf	16 25 11.2	0.0
KLRI				ePKPbc	PKPbc	16 25 13.0	-1.1
SRLM	Srisailam	148.00	123	ePKPbc	PKPbc	16 25 13.6	-1.1
ADKI	Addanki	148.53	125	ePKPbc	PKPbc	16 25 15.9	-0.2
NJS	Nagarjunasagar	148.60	123	ePKPdf	PKPdf	16 25 12.8	+0.2
NJS				ePKPbc	PKPbc	16 25 15.2	-1.1
HYB	Hyderabad	148.69	121	i PKP	PKPbc	16 25 15.0	-1.5
HYBB	Hyderabad (bro	148.69	121	ePKPbc	PKPbc	16 25 15.4	-1.1
SRSP	Sriramsagar	149.56	118	ePKPbc	PKPbc	16 25 17.9	-0.8
BRVK	Borovoye	150.09	46	i PKIKP	PKPdf	16 25 16.4	+2.5
BRVK				pmax	pmax		
	comp=Z,18nm,1.7s						
BRVK	Borovoye	150.09	46	ePKPdf	PKPdf	16 25 14.7	+0.8
BRVK				ePKPbc	PKPbc	16 25 19.4	+0.5
BVAR	Borovoye Array	150.16	46	PKP	PKPdf	16 25 15.1	+1.1
	comp=Z,3.4nm,0.8s,baz=225,slow=1.8,SNR=5.7						
BVAR				PKPbc	PKiKP	16 25 19.7	-0.2
	comp=Z,6.1nm,0.9s,baz=282,slow=2.8,SNR=27						
BVAR				PKPab	PKPab	16 25 25.6	+0.4
	comp=Z,4.1nm,0.9s,baz=222,slow=2.0,SNR=8.3						
BVAR	Borovoye Array	150.16	46	PKIKP	PKPdf	16 25 15.1	+1.1
BVAR						16 25 19.7	
BVAR						16 25 25.6	
YAK	Yakutsk	150.95	338	ePKIKP	PKPbc	16 25 19.6	-1.0
YAK				e		16 29 06.0	
YAK				eSS	SS	16 48 20.7	+1.6
YAK				pmax	pmax		
	comp=Z,17nm,1.1s						
YAK				pmax	pmax		
	comp=Z,116nm,9.1s						
YAK				pmax	pmax		
	comp=N,105nm,8.8s						
YAK				pmax	pmax		
	comp=E,26nm,3.3s						
NKL	Nikolayevsk	151.19	315	ePKIKP	PKPbc	16 25 21.0	-0.5
NKL				pmax	pmax		
	comp=Z,30nm,1.1s						
KKAR	Karatay Array	151.90	66	ePKIKP	PKPbc	16 25 23.6	+0.1
KKAR				e		16 25 32.5	
KKAR	Karatay Array	151.90	66	ePKPbc	PKPbc	16 25 23.6	+0.1
KKAR				ePKPab	PKPab	16 25 32.5	-0.3
AAK	Ala-Archa	154.84	67	ePKIKP	PKPbc	16 25 30.8	+0.6
AAK				e		16 25 45.9	
AAK	Ala-Archa	154.84	67	ePKPbc	PKPbc	16 25 30.8	+0.6
AAK				ePKPab	PKPab	16 25 45.9	+0.4
KSH	Kashi	155.93	74	ePKP	PKPdf	16 25 24.1	+1.1
KSH				PKS	PKSdf	16 28 54.6	-2.5
KSH				PP	PP	16 29 26.5	-1.4
KSH				SKS	SKSdf	16 32 29.0	0.0
KSH				SKKS	SKKSac	16 36 19.6	+2.8
KSH				PPMZ			
	comp=Z,160nm,4.3s						
NVS	Novosibirsk	155.99	34	ePKIKP	PKPdf	16 25 21.1	-1.3
NVS				e		16 25 48.9	
NVS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ZAA0	Zalesovo Array	157.27	34	ePKPdf	PKPdf	16 25 23.6	-0.5
ZALV	Zalesovo Beam	157.27	34	PKP	PKPdf	16 25 23.2	-0.9
	comp=Z,1.7nm,0.8s,baz=294,slow=1.5,SNR=13						
ZALV				PKPab	PKPab	16 25 55.3	+0.1
	comp=Z,8.4nm,1.1s,baz=296,slow=4.8,SNR=9.2						
ZALV	Zalesovo Beam	157.27	34	PKIKP	PKPdf	16 25 23.2	-0.9
MK31	Makanchi Array	159.49	53	ePKIKP	PKPdf	16 25 27.1	0.0
MK31	Makanchi Array	159.49	53	ePKPdf	PKPdf	16 25 27.1	+0.1
MKAR	Makanchi Array	159.49	53	PKP	PKPdf	16 25 27.1	+0.1
	comp=Z,4.9nm,1.2s,baz=302,slow=2.3,SNR=12						
MKAR				PKPab	PKPab	16 26 04.8	-0.3
	comp=Z,5.3nm,1.0s,baz=288,slow=4.6,SNR=12						
MKAR				PP	PP	16 29 46.9	0.0
	comp=Z,2.8nm,1.1s,baz=286,slow=4.9,SNR=8.1						
MKAR	Makanchi Array	159.49	53	PKIKP	PKPdf	16 25 27.1	0.0
MKAR						16 26 04.8	
MKAR						16 29 46.9	
CMAR	Chiang Mai Arr	160.52	158	PKP	PKPdf	16 25 28.8	-0.3
	comp=Z,0.3nm,0.4s,baz=231,slow=2.3,SNR=4.8						
CMAR	Chiang Mai Arr	160.52	158	PKIKP	PKPdf	16 25 28.8	-0.3
MDJ	Mudanjiang	160.88	301	PKP	PKPdf	16 25 30.3	+1.7
MDJ				PKS	PKSdf	16 29 02.3	+0.5
MDJ				PP	PP	16 29 56.4	+1.9
MDJ				SKS	SKSdf	16 32 35.8	+2.6
MDJ				PPMZ			
	comp=Z,74nm,6.9s						
WMQ	Urumqi	164.09	58	PKP	PKPdf	16 25 33.9	+2.0
WMQ				PP	PP	16 30 16.5	+4.8
WMQ				PPMZ			
	comp=Z,32nm,9.8s						
ZAK	Zakamensk	166.28	9	ePKP2	PKPab	16 26 34.7	0.0
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
NJ2	Nanjing	168.72	249	ePKP	PKPdf	16 25 37.7	+1.9
SONM	Songino Array	169.02	0	PKPab	PKPab	16 26 47.4	+0.4
	comp=Z,2.2nm,1.1s,baz=343,slow=4.6,SNR=7.3						
SONM				PP	PP	16 30 36.8	+0.9
	comp=Z,0.1nm,0.3s,baz=20,slow=4.7,SNR=3.5						
SONM	Songino Array	169.02	0	PKP2	PKPab	16 26 47.4	+0.4
SONM						16 30 36.8	
GYA	Guiyang	169.64	181	i PKP1	PKPdf	16 25 36.0	-0.7
GYA				PKPab	PKPab	16 26 52.4	+2.2
GYA				PKS	PKSdf	16 29 07.6	-1.8
GYA				SS	SS	16 51 36.6	+1.2
GYA				PPMZ			
	comp=Z,170nm,8.4s						
CD2	Chengdu	173.66	158	PKP	PKPdf	16 25 37.2	-1.2
CD2				pPKP	pPKPdf	16 25 40.6	-2.7
CD2				sPKP		16 25 41.9	
CD2				PP	PP	16 30 59.1	0.0
CD2				SKS	SKSdf	16 32 40.6	-0.7
CD2				SKKS	SKKSac	16 37 45.3	-0.6
CD2				SS	SS	16 52 17.1	+1.9
CD2				PPMZ			
	comp=Z,140nm,5.4s						
GTA	Gaotai	174.16	62	eP	PP	16 31 03.7	+0.9
GTA				pP	pP	16 31 11.0	
GTA				sP		16 31 14.7	
GTA				pmax	pmax		
	comp=Z,7.0nm,1.6s						
GTA	Gaotai	174.16	62	ePKP	PKPdf	16 25 39.1	+0.6
GTA				PP	PP	16 31 04.6	+1.8
GTA				SKS	SKSdf	16 32 40.6	-0.6
GTA				SKKS	SKKSac	16 37 49.6	+1.0
GTA				SS	SS	16 52 20.2	-2.1
GTA				PPMZ			
	comp=Z,170nm,7.4s						
GTA				LZ			
	comp=Z,890nm,23.3s						
HHC	Hu-ho-hao-te	174.37	317	ePKP	PKPdf	16 25 38.3	-0.1
HHC				PKS	PKSdf	16 29 06.5	-4.2
HHC				PP	PP	16 31 11.6	+8.4
HHC				SKS	SKSdf	16 32 35.8	-5.3
HHC				SKKS	SKKSac	16 37 51.4	+2.2
HHC				SS	SS	16 52 25.6	+2.4
HHC				PPMZ			
	comp=Z,84nm,9.6s						
XAN	Xi’an	176.56	216	PKP	PKPdf	16 25 38.7	-0.5
LZH	Lanzhou	177.75	109	ePKP	PKPdf	16 25 35.6	-3.8
LZH				pPKP	pPKPdf	16 25 41.2	-3.1
LZH				sPKP		16 25 45.6	
LZH				PP	PP	16 31 20.0	-0.1
LZH				SKS	SKSdf	16 32 36.4	-5.7
LZH				SKKS	SKKSac	16 38 03.5	-2.2
LZH				PPMZ			
	comp=Z,200nm,4.8s						
LZH				LN			
	comp=Z,240nm,17.7s						
LZH				LE			
	comp=Z,350nm,16.1s						
LZH				LZ			
	comp=Z,390nm,18.0s						

IDC ***01*** *16:06:27.4±0.6, 11°.79S×165°.22E, h0km, mb4.4/18, mb1 4.6/19, mb1mx4.5/30, mbtmp4.4/19, ML4.6/1, MS3.9/2, Ms1 3.8/2, ms1mx3.1/26, Error ellipse: s-maj=21.2km s-min=15.5km az=118.0*

ISCJB ***01*** *16:06:30.6±0.4, 11°.90S±0°.05×165°.08E±0°.06, h33km, mb4.5/22, MS3.8/2, Error ellipse: s-maj=9.2km s-min=6.9km az=157.9*

NEIC ***01*** *16:06:32.6±1.2, 11°.82S×165°.18E, h35km±10km, mb4.8/6, Error ellipse: s-maj=8.9km s-min=7.8km az=88.0*

ISC 01 16:06:32.7±0.5**, 11°.85S**±0°.07×**165°.15E**±0°.09**, h35km, n50, σ0s.63**/43**, mb4.5**/22**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	5.65	295	i P	Pn	16 07 54.0	-0.2
HNR				eS	Sn	16 08 57.0	-0.8
HNR	Honiara	5.65	295	eP	Pn	16 07 54.2	+0.1
	441nm,0.6s						
DZM	Mont Dzumac	10.24	173	Pn	Pn	16 08 57.4	+0.1
	5.3nm,0.3s,baz=270,slow=20,SNR=47						
DZM				Sn	Sn	16 10 50.1	-1.0
	1.1nm,0.3s,baz=270,slow=20,SNR=3.6						
CTA	Charters Tower	19.91	243	P	Pn	16 11 03.4	+0.1
	18nm,0.8s,baz=76,slow=14,SNR=20						
CTAO	Charters Tower	19.91	243	eP	Pn	16 11 03.1	-0.2
	23nm,0.9s						
STKA	Stephens Creek	29.46	224	P	P	16 12 33.9	+0.5
	2.0nm,0.8s,baz=30,slow=16,SNR=4.2						
STKA				LR	LR	16 23 44.3	
	comp=Z,245nm,19.0s,baz=36,slow=35						
H11S2	WAKE ISLAND Hy	30.18	3	T	T	16 44 17.3	
	baz=183,slow=76,SNR=6.5						
H11S3	WAKE ISLAND Hy	30.19	3	T	T	16 44 18.6	
	baz=183,slow=76,SNR=3.4						
H11S1	WAKE ISLAND Hy	30.20	3	T	T	16 44 18.8	
	baz=183,slow=76,SNR=6.2						
WRAB	Tennant Creek	30.65	251	eP	P	16 12 43.9	-0.2
	17nm,1.3s						
WRA	Warramunga Arr	30.66	251	P	P	16 12 43.9	-0.3
	8.0nm,0.8s,baz=80,slow=8.9,SNR=47						
WRA				PcP	PcP	16 15 42.7	+0.7
	1.1nm,0.8s,baz=85,slow=2.4,SNR=7.3						
H11N1	WAKE ISLAND Hy	31.41	3	T	T	16 45 51.1	
	baz=182,slow=76,SNR=4.4						
H11N3	WAKE ISLAND Hy	31.41	3	T	T	16 45 50.6	
	baz=182,slow=76,SNR=6.3						
H11N2	WAKE ISLAND Hy	31.42	3	T	T	16 45 56.1	
	baz=182,slow=76,SNR=7.4						
AS31	Alice Springs	31.91	244	eP	P	16 12 54.3	-0.9
ASAR	Alice Springs	31.91	244	P	P	16 12 54.5	-0.7
	3.1nm,0.7s,baz=71,slow=9.5,SNR=43						
ASAR				PcP	PcP	16 15 45.8	+0.5
	1.4nm,0.9s,baz=75,slow=3.1,SNR=8.8						
ASAR				LR	LR	16 24 48.4	
	comp=Z,163nm,21.2s,baz=72,slow=34						
RPZ	Rata Peaks	32.16	172	P	P	16 12 56.8	-0.3
	14nm,0.9s,baz=40,slow=5.9,SNR=3.9						
PPT2	Papeete2	44.08	103	eLR	LR	16 37 17.8	
	798nm,24.5s,baz=120						
TIAR	Tiarei	44.30	103	eT	T	17 30 58.8	
	5.4nm,0.2s						
TVO	Taravao	44.40	103	eT	T	17 30 44.2	
	1.2nm,0.2s						
TBI	Tubuai	44.58	111	eLR	LR	16 35 53.2	
	696nm,27.5s,baz=131						
MEH	Mehetia	45.53	103	eT	T	17 29 29.2	
	45nm,0.2s						
MJAR	Matsushiro Arr	54.41	333	P	P	16 15 55.3	-1.1
	3.3nm,0.7s,baz=168,slow=8.8,SNR=14						
MAT	Matsushiro	54.41	333	P	P	16 15 55.6	-0.8
RKT	Rikitea	57.87	110	eT	T	17 13 00.8	
	2.0nm,0.3s						
KSRS	Korea Array	60.21	326	P	P	16 16 37.2	0.0
	1.5nm,0.8s,baz=135,slow=7.5,SNR=8.9						
KSAR	Wonju Array Be	60.22	326	P	P	16 16 37.2	-0.1
USRK	Ussuriysk Ar.	63.40	334	P	P	16 16 59.3	+0.6
	2.8nm,0.7s,baz=154,slow=7.7,SNR=6.8						
PETK	Petropavlovsk-	65.01	355	P	P	16 17 09.0	0.0
	2.2nm,0.8s,baz=144,slow=10,SNR=4.6						
CMAR	Chiang Mai Arr	71.89	294	P	P	16 17 54.3	+1.5
	1.9nm,0.8s,baz=138,slow=4.7,SNR=6.3						
QSPA	South Pole Qui	78.16	180	eP	P	16 18 29.1	+0.7
ULN	Ulaanbaatar	78.60	324	eP	P	16 18 36.7	+5.7
	4.4nm,0.9s						
SONM	Songino Array	78.96	324	P	P	16 18 33.6	+0.6
	1.1nm,0.7s,baz=138,slow=7.2,SNR=7.5						
BILL	Bilibino	79.68	0	eP	P	16 18 36.1	-0.2
	14nm,1.0s						
BILL				e		16 18 46.0	
ILAR	Eielson Array	84.45	19	P	P	16 19 00.7	-0.7
	4.7nm,0.7s,baz=239,slow=5.2,SNR=55						
DOT	Dot Lake	84.62	20	eP	P	16 19 02.3	0.0
	22nm,1.1s						
EGAK	Eagle	86.33	20	eP	P	16 19 10.7	0.0
	13nm,0.9s						
NVAR	Mina Array Bea	86.98	50	P	P	16 19 14.7	-0.2
	3.7nm,0.9s,baz=224,slow=7.6,SNR=9.8						
MK31	Makanchi Array	93.70	317	eP	P	16 19 46.0	+0.2
MKAR	Makanchi Array	93.70	317	P	P	16 19 46.0	+0.1
	1.9nm,0.7s,baz=99,slow=6.2,SNR=22						
ZALV	Zalesovo Beam	93.86	324	P	P	16 19 45.5	-0.8
	1.0nm,0.7s,baz=102,slow=5.0,SNR=5.7						
PDAR	Pinedale Array	94.52	47	P	P	16 19 50.6	+0.6
	0.7nm,0.9s,baz=276,slow=3.5,SNR=2.8						
YKA	Yellowknife Ar	95.95	27	P	P	16 19 54.4	-1.3
	1.6nm,0.8s,baz=261,slow=4.6,SNR=13						
TXAR	Lajitas Array	96.72	62	P	P	16 20 00.5	+0.4
	0.5nm,0.7s,baz=213,slow=9.0,SNR=4.6						
ARCES	ARCESS Array B	116.95	345	PKP	PKPdf	16 25 12.9	-0.4
	3.7nm,0.9s,baz=35,slow=1.3,SNR=6.6						
LPAZ	La Paz	120.35	117	PKP	PKPdf	16 25 22.3	+0.3
	1.1nm,0.7s,baz=182,slow=5.7,SNR=4.2						
BOSA	Boshof	124.14	223	PKP	PKPdf	16 25 28.1	-0.3
	0.5nm,0.3s,baz=165,slow=0.5,SNR=3.1						
KEST	Kesra	147.68	321	PKPbc	PKPbc	16 26 14.9	+0.7
	2.3nm,0.9s,baz=18,slow=6.4,SNR=3.2						
ESDC	Sonseca Array	150.65	343	PKPbc	PKPbc	16 26 21.0	-0.5
	0.2nm,0.3s,baz=20,slow=2.7,SNR=6.9						
ESDC				PKPab	PKPab	16 26 28.2	-0.1
	0.4nm,0.3s,baz=21,slow=4.6,SNR=7.3						
TORD	Torodi Ar. Bea	163.79	276	PKP	PKPdf	16 26 32.8	-0.3
	0.8nm,1.0s,baz=126,slow=2.0,SNR=3.1						
TORD				PKPab	PKPab	16 27 26.8	+1.2
	0.6nm,0.9s,baz=99,slow=6.4,SNR=3.2						

IDC ***01*** *16:13:29.8±1.7, 36°.88S×73°.50W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.6/21, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=39.7km s-min=20.4km az=72.0*

GUC ***01*** *16:13:31.9±0.5, 37°.10S×73°.46W, h23km±2km, ML4.8*

ISC 01 16:13:32.1±1.4**, 36°.88S**±0°.08×**73°.47W**±0°.10**, h14km, n8, σ1s.18**/12**, 2C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.29	83	eP	Pn	16 13 40.4	-1.5
CCSP				i S	Sn	16 13 46.6	-1.4
LNCH	Linares	1.82	56⇑	iP	Pb	16 14 05.7	+0.5
LNCH				i S	Sg	16 14 31.9	+1.1
TALC	Talca	2.10	46⇑	iP	Pb	16 14 08.7	-1.2
TALC				i S	Sg	16 14 39.0	-0.5
TALC				AML	AML	16 14 44.7	
	comp=E,6μm,0.5s						
NICH	Los Niches	2.61	45	i S	Sb	16 14 52.3	+1.8
NICH				AML	AML	16 15 04.3	
	comp=E,4μm,0.7s						
PLCA	Paso Flores	4.47	150	Pn	Pn	16 14 40.7	+1.2
	comp=E,0.5nm,0.3s,baz=334,slow=14,SNR=4.1						
PLCA				Lg	Lg	16 15 50.8	
	comp=E,2.6nm,0.3s,baz=254,slow=20,SNR=4.0						
CFAA	Coronel Fontan	6.81	41	Pn	Pn	16 15 11.4	-0.3
	comp=E,0.2nm,0.3s,baz=219,slow=14,SNR=10						
CFAA				Sn	Sn	16 16 28.9	-0.2
	comp=E,0.1nm,0.3s,baz=90,slow=19,SNR=1.8						
LPAZ	La Paz	21.05	14	P	P	16 18 16.9	+0.5
	comp=E,1.3nm,0.8s,baz=183,slow=5.3,SNR=3.4						
TXAR	Lajitas Array	71.71	332	P	P	16 24 53.2	-0.5
	comp=E,0.5nm,0.6s,baz=150,slow=9.2,SNR=8.5						

ISCJB ***01*** *16:21:05.7±1.1, 59°.04N±0°.08×18°.28E±0°.09, h0km, Error ellipse: s-maj=11.7km s-min=5.5km az=157.1*

UPP ***01*** *16:21:06.6, 59°.05N×18°.21E, h0km, ML2.4, Mining explosion.*

CSEM ***01*** *16:21:07.5±0.4, 59°.13N×18°.18E, h1km, ML2.4, Error ellipse: s-maj=8.7km s-min=4.3km az=154.0, Mining explosion.*

NAO ***01*** *16:21:08.3±1.8, 59°.15N×18°.10E, ML1.8*

IDC ***01*** *16:21:08.8±2.0, 59°.16N×18°.20E, h0km, mb1 2.9/4, mb1mx2.8/34, mbtmp2.8/4, ML2.3/4, Error ellipse: s-maj=27.2km s-min=7.5km az=176.0*

BER ***01*** *16:21:09.6±3.1, 59°.19N×18°.10E, h0km, ML1.8(NAO), Suspected explosion*

ISC 01 16:21:07.1±1.5**, 59°.12N**±0°.10×**18°.23E**±0°.04**, h0km, n40, σ0s.88**/50**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NRTU	Norrtaelje	0.60	20	P	Pg	16 21 19.2	+0.7
NRTU				S	Sb	16 21 28.4	-1.0
NRTU	Norrtaelje	0.60	20	P	Pg	16 21 19.2	+0.7
NRTU				S	Sb	16 21 28.4	-1.0
BACU	Backbrunna	0.94	323	P	Pg	16 21 24.9	-0.1
BACU	Backbrunna	0.94	323	P	Pg	16 21 24.9	-0.1
FLYU	Flymyra	1.03	350	P	Pg	16 21 27.1	+0.3
FLYU	Flymyra	1.03	350	P	Pg	16 21 27.1	+0.3
GRAU	Graesoe	1.23	7	P	Pg	16 21 30.9	+0.2
GRAU	Graesoe	1.23	7	P	Pg	16 21 30.9	+0.2
OSTU	Oestervaala	1.25	334	P	Pg	16 21 30.8	-0.2
OSTU	Oestervaala	1.25	334	P	Pg	16 21 30.8	-0.2
FORU	Forsmark	1.27	359	P	Pg	16 21 31.6	+0.1
FORU	Forsmark	1.27	359	P	Pg	16 21 31.6	+0.1
AAL	Aland	1.39	39	P	Pn	16 21 33.2	-0.5

AAL	Aland	1.39	39	P	Pn	16 21 33.2	-0.5
NRAU	Nora	1.70	287	P	Pn	16 21 37.2	-0.7
NRAU	Nora	1.70	287	P	Pn	16 21 37.2	-0.7
IGGU	Iggoen	1.82	346	P	Pn	16 21 40.1	+0.5
IGGU	Iggoen	1.82	346	P	Pn	16 21 40.1	+0.5
FALU	Falun	1.84	320	P	Pn	16 21 40.2	+0.4
FALU	Falun	1.84	320	P	Pn	16 21 40.2	+0.4
HFS	Hagfors	2.52	296	Pn	Pn	16 21 49.6	+0.4
	baz=113,slow=18						
HFS				Lg	Lg	16 22 24.1	
	baz=112,slow=37						
HFS	Hagfors	2.52	296	Pn	Pn	16 21 49.6	+0.4
	baz=113,slow=18						
HFS				Lg	Lg	16 22 24.1	
	baz=112,slow=37						
HFS	Hagfors	2.52	296	Pn	Pn	16 21 49.6	+0.4
	0.5nm,0.3s,baz=112,slow=16,SNR=25						
HFS				Sn	Sn	16 22 22.3	+1.7
	0.5nm,0.3s,baz=112,slow=26,SNR=6.1						
HFS	Hagfors	2.52	296	Pn	Pn	16 21 49.6	+0.4
	baz=113,slow=17,SNR=50						
HFS				Lg	Lg	16 22 24.0	
UDD	Uddeholm	2.54	295	P	Pn	16 21 50.1	+0.6
UDD	Uddeholm	2.54	295	P	Pn	16 21 50.1	+0.6
NASU	Vaermlandsnaes	2.62	268	P	Pn	16 21 51.0	+0.5
NASU	Vaermlandsnaes	2.62	268	P	Pn	16 21 51.0	+0.5
NB2	NORSAR Subarra	4.01	302	Pn	Pn	16 22 09.3	-0.4
	baz=125,slow=12						
NB2				Pg	Pb	16 22 18.4	-0.1
NB2				Lg	Lg	16 23 11.7	
	baz=121,slow=28						
NB2	NORSAR Subarra	4.01	302	Pn	Pn	16 22 09.3	-0.4
	baz=125,slow=12						
NB2				Pg	Pb	16 22 18.4	-0.1
NB2				Lg	Lg	16 23 11.7	
	baz=121,slow=28						
NB2	NORSAR Subarra	4.01	302	Pn	Pn	16 22 09.3	-0.4
	baz=125,slow=12,SNR=50						
NB2				Lg	Lg	16 23 11.7	
	SNR=70						
NOA	NORSAR Array B	4.01	302	Pn	Pn	16 22 09.5	-0.2
	0.1nm,0.3s,baz=161,slow=20,SNR=3.8						
NOA				Lg	Lg	16 23 10.7	
	0.6nm,0.3s,baz=97,slow=14,SNR=6.6						
FIA0	FINESS Array S	4.55	56	Pn	Pn	16 22 18.5	+1.4
	baz=243,slow=14						
FIA0				Sn	Sn	16 23 11.7	+1.0
	baz=240,slow=22						
FIA0				Lg	Lg	16 23 28.6	
	baz=242,slow=22						
FIA0	FINESS Array S	4.55	56	Pn	Pn	16 22 18.5	+1.4
	baz=243,slow=14						
FIA0				Sn	Sn	16 23 11.7	+1.0
	baz=240,slow=22						
FIA0				Lg	Lg	16 23 28.6	
	baz=242,slow=22						
FIA0	FINESS Array S	4.55	56	Pn	Pn	16 22 18.5	+1.4
	baz=243,slow=13,SNR=50						
FIA0				Sn	Sn	16 23 11.6	+1.0
	baz=240,slow=21,SNR=50						
FIA0				Lg	Lg	16 23 28.6	
FINES	FINESS Array B	4.55	56	Pn	Pn	16 22 18.4	+1.3
	0.2nm,0.3s,baz=242,slow=13,SNR=13						
FINES				Pg	Pb	16 22 26.9	-0.7
	0.2nm,0.3s,baz=239,slow=15,SNR=5.8						
FINES				Sn	Sn	16 23 11.3	+0.7
	0.4nm,0.3s,baz=240,slow=19,SNR=7.7						
FINES				Lg	Lg	16 23 28.4	
	0.7nm,0.3s,baz=241,slow=24,SNR=8.0						
ARA0	ARCESS Array S	10.91	14	Pn	Pn	16 23 42.4	-1.9
	baz=191,slow=16						
ARA0				Sn	Sn	16 25 39.3	-7.6
ARA0	ARCESS Array S	10.91	14	Pn	Pn	16 23 42.4	-1.9
	baz=191,slow=16						
ARA0				Sn	Sn	16 25 39.3	-7.6
ARA0	ARCESS Array S	10.91	14	Pn	Pn	16 23 42.4	-1.9
	baz=191,slow=14,SNR=50						
ARCES	ARCESS Array B	10.91	14	Pn	Pn	16 23 42.5	-1.8
	0.2nm,0.3s,baz=194,slow=13,SNR=8.9						

MAN 01 16:22:14, 6°83N×123°91E, h5km, mb4.3, ML3.1, MS2.9, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.52	41	⇓iP	Pb	16 22 25.1	-0.4
CTBH				i S	Sg	16 22 31.0	+0.3
PAGZ	Pagadian	1.14	333	eP	Pg	16 22 35.6	-0.3
PAGZ				eS	Sg	16 22 50.4	-0.4
BUKP	Musuan	1.55	48	eP	Pn	16 22 42.5	+0.2
BUKP				eS	Sg	16 23 05.3	+1.3
CGP	Cagayan de Oro	1.79	26	⇑eP	Pb	16 22 46.6	-0.8
CGP				eS	Sn	16 23 08.9	+0.1
DCPH	Dipolog City	1.83	342	⇓eP	Pg	16 22 49.0	-0.1
MATI	Mati	2.33	87	eP	Pn	16 22 53.8	+0.7
SNPH	Sibulan	2.59	345	⇓iP	Pg	16 23 02.8	-0.9
SNPH				i S	Sn	16 23 11.0	-18

ISCJB ***01*** *16:28:20.1±1.1, 24°95N±0°08×99°37E±0°07, h10km, mb3.0/2, Error ellipse: s-maj=10.9km s-min=9.0km az=168.1*
IDC ***01*** *16:28:20.6±1.7, 24°90N×99°10E, h0km, mb3.1/2, mb1 3.2/3, mb1mx3.1/34, mbtmp3.1/3, ML3.4/1, Error ellipse: s-maj=48.2km s-min=19.0km az=90.0*
BJI ***01*** *16:28:21.7, 24°86N×99°22E, h5km, ML3.4/9*
ISC 01 16:28:22.8±1.1, **25°05N**±0°06×**99°34E**±0°09, **h10km, n5,** σ**1ˢ66**/9, **Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	3.08	88	Pg	Pg	16 29 21.5	-0.5
KMI				Sg	Sg	16 30 02.3	+0.3
KMI				SMN			
	170nm,1.0s						
KMI				SME			
	110nm,0.7s						
CMAR	Chiang Mai Arr	6.57	183	Pn	Pn	16 29 56.8	-2.8
	0.2nm,0.3s,baz=357,slow=13,SNR=13						
CMAR				Pg	Pb	16 30 19.2	+2.0
	1.9nm,0.3s,baz=356,slow=18,SNR=54						
CMAR				Lg	Lg	16 31 42.0	
	0.9nm,0.3s,baz=357,slow=30,SNR=6.0						
CD2	Chengdu	7.02	33	Pn	Pn	16 30 07.0	+1.2
CD2				Pg	Pg	16 30 33.8	-3.5
CD2				Sn	Sn	16 31 26.1	+0.3
CD2				Sg	Sg	16 32 06.7	-1.6
CD2				SME			
	20nm,1.5s						
SONM	Songino Array	23.42	12	P	P	16 33 32.8	+0.7
	0.3nm,0.7s,baz=197,slow=8.3,SNR=2.6						
MKAR	Makanchi Array	25.61	332	P	P	16 33 52.2	-0.1
	0.5nm,0.8s,baz=150,slow=8.9,SNR=3.7						

ISCJB ***01*** *16:32:11.8±0.4, 59°05N±0°03×18°23E±0°05, h0km, Error ellipse: s-maj=4.6km s-min=3.4km az=153.5*
UPP ***01*** *16:32:12.1, 59°01N×18°21E, h0km, ML2.2, Mining explosion.*
CSEM ***01*** *16:32:12.7±0.1, 59°04N×18°11E, h2km, ML1.8, Error ellipse: s-maj=3.5km s-min=2.5km az=129.0, Mining explosion.*
HEL ***01*** *16:32:13.0±0.1, 59°02N×18°18E, h0km, ML1.8, ML2.2(UPP), Explosion*
IDC ***01*** *16:32:14.1±1.8, 59°05N×18°22E, h0km, mb1 3.0/4, mb1mx2.8/38, mbtmp2.9/4, ML2.3/4, Error ellipse: s-maj=22.1km s-min=7.6km az=174.0*
ISC 01 16:32:12.4±0.8, **59°04N**±0°03×**18°13E**±0°03, **h0km, n73,** σ**0ˢ88**/90, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	Norrtaelje	0.69	22	i P	Pg	16 32 25.4	-0.3
NRTU	Norrtaelje	0.69	22	P	Pg	16 32 25.3	-0.3
NRTU	Norrtaelje	0.69	22	P	Pg	16 32 25.4	-0.3
VIKU	Vikbolandet	0.92	235	eP	Pg	16 32 29.5	-0.4
VIKU	Vikbolandet	0.92	235	P	Pg	16 32 29.5	-0.4
VIKU	Vikbolandet	0.92	235	P	Pg	16 32 29.5	-0.4
BACU	Backbrunna	0.97	328	eP	Pg	16 32 31.0	0.0
BACU	Backbrunna	0.97	328	P	Pg	16 32 31.0	0.0
BACU	Backbrunna	0.97	328	P	Pg	16 32 31.0	0.0
FLYU	Flymyra	1.10	354	eP	Pg	16 32 33.3	-0.2
FLYU	Flymyra	1.10	354	P	Pg	16 32 33.3	-0.2
FLYU	Flymyra	1.10	354	P	Pg	16 32 33.3	-0.2
OSTU	Oestervaala	1.30	338	eP	Pg	16 32 36.9	-0.3
OSTU	Oestervaala	1.30	338	P	Pg	16 32 36.9	-0.3
OSTU	Oestervaala	1.30	338	P	Pg	16 32 36.9	-0.3
GRAU	Graesoe	1.32	9	eP	Pg	16 32 36.9	-0.7
GRAU	Graesoe	1.32	9	P	Pg	16 32 36.9	-0.7
GRAU	Graesoe	1.32	9	P	Pg	16 32 36.9	-0.7
FORU	Forsmark	1.36	1	eP	Pg	16 32 37.8	-0.5
FORU	Forsmark	1.36	1	P	Pg	16 32 37.8	-0.5
FORU	Forsmark	1.36	1	P	Pg	16 32 37.8	-0.5
AAL	Aland	1.49	39	eP	Pn	16 32 39.3	-1.0
AAL				eS	Sg	16 32 58.7	-1.4
AAL	Aland	1.49	39	P	Pn	16 32 39.4	-0.9
AAL				S	Sg	16 32 58.7	-1.4
AAL	Aland	1.49	39	P	Pn	16 32 39.4	-0.9
LNKU	Linkoeping	1.59	240	eP	Pn	16 32 41.3	-0.5
LNKU	Linkoeping	1.59	240	P	Pn	16 32 41.3	-0.5
LNKU	Linkoeping	1.59	240	P	Pn	16 32 41.3	-0.5
VSTU	Vaestervik	1.61	212	eP	Pn	16 32 41.4	-0.6
VSTU	Vaestervik	1.61	212	P	Pn	16 32 41.4	-0.6
VSTU	Vaestervik	1.61	212	P	Pn	16 32 41.4	-0.6
NRAU	Nora	1.67	290	eP	Pb	16 32 43.4	-0.6
NRAU	Nora	1.67	290	P	Pb	16 32 43.3	-0.6
NRAU	Nora	1.67	290	P	Pb	16 32 43.4	-0.6
ASKU	Askersund	1.71	267	eP	Pn	16 32 43.8	+0.3
ASKU	Askersund	1.71	267	P	Pn	16 32 43.7	+0.3
ASKU	Askersund	1.71	267	P	Pn	16 32 43.8	+0.3
ASPU	Aespoe	1.81	207	eP	Pn	16 32 44.8	0.0
ASPU	Aespoe	1.81	207	P	Pn	16 32 44.8	0.0
ASPU	Aespoe	1.81	207	P	Pn	16 32 44.8	0.0
BYXU	Byxelkrok	1.85	199	eP	Pn	16 32 45.4	+0.1
BYXU	Byxelkrok	1.85	199	P	Pn	16 32 45.4	+0.1
BYXU	Byxelkrok	1.85	199	P	Pn	16 32 45.4	+0.1
FALU	Falun	1.87	323	eP	Pb	16 32 46.7	-0.6
FALU	Falun	1.87	323	P	Pb	16 32 46.7	-0.6
FALU	Falun	1.87	323	P	Pb	16 32 46.7	-0.6
IGGU	Iggoen	1.89	348	eP	Pn	16 32 46.2	+0.3
IGGU	Iggoen	1.89	348	P	Pn	16 32 46.1	+0.3
IGGU	Iggoen	1.89	348	P	Pn	16 32 46.2	+0.3
EKSU	Eksjoe	2.09	227	eP	Pn	16 32 49.7	+1.0
EKSU	Eksjoe	2.09	227	P	Pn	16 32 49.6	+1.0
EKSU	Eksjoe	2.09	227	P	Pn	16 32 49.7	+1.0
HFS	Hagfors	2.51	298	Pn	Pn	16 32 55.8	+1.5
	0.4nm,0.3s,baz=114,slow=17,SNR=22						
HFS				Sn	Sb	16 33 29.0	-0.6
	2.3nm,0.3s,baz=116,slow=30,SNR=25						
SLIT	Slitere, Latvi	2.61	121	eP	Pn	16 32 56.5	+0.8
SLIT				eS	Sn	16 33 29.2	+1.2
SLIT	Slitere, Latvi	2.61	121	P	Pn	16 32 56.5	+0.8
SLIT				S	Sn	16 33 29.2	+1.2
RAF	Rauma	2.70	41	eP	Pn	16 32 57.5	+0.5
RAF				eS	Sn	16 33 31.0	+0.7
RAF	Rauma	2.70	41	P	Pn	16 32 57.5	+0.5
RAF				S	Sn	16 33 31.0	+0.7
MTSE	Matsula	2.97	94	eP	Pn	16 33 00.6	-0.1
MTSE				eS	Sn	16 33 37.5	+0.5
MTSE	Matsula	2.97	94	P	Pn	16 33 00.5	-0.1
MTSE				S	Sn	16 33 37.5	+0.5
SRPE	Suurupi	3.24	80	eSG	Sb	16 33 51.6	+1.0
NOA	NORSAR Array B	4.01	303	Pn	Pn	16 33 15.5	+0.5
	0.1nm,0.3s,baz=127,slow=2.7,SNR=4.0						
NOA				Lg	Lg	16 34 17.5	
	0.6nm,0.3s,baz=97,slow=14,SNR=6.2						
PVF	Pernaja	4.19	66	MSG		16 34 23.3	
	comp=Z,2.1nm,0.2s						
KEF	Keuruu	4.57	44	eP	Pn	16 33 23.8	+1.1
KEF				eS	Sn	16 34 16.3	-0.1
KEF				MSG		16 34 36.6	
	comp=Z,0.9nm,0.2s						
KEF	Keuruu	4.57	44	P	Pn	16 33 23.8	+1.1
KEF				S	Sn	16 34 16.3	-0.1
FIA0	FINESS Array S	4.64	55	eP	Pn	16 33 24.4	+0.7
FIA0				eS	Sn	16 34 17.4	-0.8
FIA0				MSG		16 34 37.4	
	comp=Z,1.1nm,0.2s						
FIA0	FINESS Array S	4.64	55	P	Pn	16 33 24.3	+0.7
FIA0				S	Sn	16 34 17.3	-0.8
FINES	FINESS Array B	4.64	55	Pn	Pn	16 33 24.3	+0.7
	comp=Z,0.2nm,0.3s,baz=244,slow=12,SNR=9.0						
FINES				Pg	Pb	16 33 34.1	-0.4
	comp=Z,0.2nm,0.3s,baz=237,slow=14,SNR=6.0						
FINES				Sn	Sn	16 34 18.0	-0.1
	comp=Z,0.4nm,0.3s,baz=247,slow=20,SNR=7.7						
FINES				Lg	Lg	16 34 34.7	
	comp=Z,0.6nm,0.3s,baz=237,slow=21,SNR=8.3						
VJF	Virojoki	5.00	68	eS	Sn	16 34 25.6	-1.2
VJF	Virojoki	5.00	68	S	Sn	16 34 25.6	-1.2
UMAU	Umeaa	5.01	13	eP	Pn	16 33 29.5	+0.7
UMAU				eSG	Sb	16 34 46.6	+5.0
UMAU	Umeaa	5.01	13	P	Pn	16 33 29.4	+0.7
KAF	Kangasniemi	5.08	49	eP	Pn	16 33 30.3	+0.6
KAF				eS	Sn	16 34 28.7	-0.2
KAF	Kangasniemi	5.08	49	P	Pn	16 33 30.2	+0.6
KAF				S	Sn	16 34 28.7	-0.2
ARCES	ARCESS Array B	11.00	14	Pn	Pn	16 34 48.6	-2.2
	comp=Z,0.1nm,0.3s,baz=196,slow=13,SNR=6.4						
ARCES				Sn	Sn	16 36 47.0	-7.4
	comp=Z,0.1nm,0.3s,baz=198,slow=21,SNR=2.2						

NNC 01 16:34:45.4±1.6, **38°68N×70°16E, h0km, mb3.5, mpv3.3, 10C-4D, Error ellipse: s-maj=19.0km s-min=4.7km az=164.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	1.05	277	⇓P	Pg	16 35 04.4	-1.3
	18nm,0.4s						
DZET				⇑S	Sb	16 35 20.9	-0.1
	80nm,0.5s						
SFK	Sufi-Kurgan	2.92	62	⇓Pn	Pn	16 35 34.4	+1.1
	4.3nm,0.5s						
SFK				⇑Sn	Sn	16 36 10.6	+1.3
	42nm,0.9s						
MNAS	Manas	4.20	24	⇑Pn	Pn	16 35 50.4	-0.5
	2.1nm,0.5s						
MNAS				⇑Sn	Sn	16 36 41.8	+0.9
	6.2nm,0.7s						
KK31	Karatay Array	4.43	3	⇑Pn	Pn	16 35 53.0	-0.9
	1.8nm,0.6s,baz=194,slow=14,SNR=22						
KK31				⇑Sn	Sn	16 36 46.6	+0.4
	4.0nm,0.7s						
AAK	Ala-Archa	5.14	38	⇑Pn	Pn	16 36 04.2	+0.3
	3.5nm,1.0s						
AAK				⇓Sn	Sn	16 37 07.4	+3.2
	4.6nm,0.8s						
TKM2	Tokmak 2	5.91	42	⇑Pn	Pn	16 36 14.3	-0.2
	5.3nm,0.5s						
TKM2				⇑Sn	Sn	16 37 23.9	+0.7
	3.8nm,0.8s						
AB31	Akbulak array	12.87	329	⇑P	Pn	16 37 45.5	-4.0
	0.3nm,0.5s,baz=134,slow=12,SNR=4.7						
AB31				⇓S	Sn	16 40 09.3	-4.0
	2.0nm,0.8s,baz=134,slow=25,SNR=5.5						

IDC ***01*** *16:35:49.3±1.1, 17°61S×172°23W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.7/41, mbtmp4.1/4, Error ellipse: s-maj=42.8km s-min=30.2km az=115.0*
NEIC ***01*** *16:35:50.5±0.7, 17°60S×172°14W, h10km, mb4.4/2, Error ellipse: s-maj=32.1km s-min=19.5km az=97.0*
ISC 01 16:35:51.1±0.8, **17°6S**±0°1×**171°9W**±0°4, **h15km, n13,** σ**0ˢ76**/12, **mb4.3**/6, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.62	2	ePn	Pn	16 36 45.8	-0.9
URZ	Urewera	22.78	203	P	P	16 40 53.1	+0.1
	17nm,1.1s,baz=113,slow=1.8,SNR=3.1						
ASAR	Alice Springs	50.87	254	P	P	16 44 48.2	-3.6
	1.8nm,0.5s,baz=91,slow=8.6,SNR=11						
VNDA	Vanda	61.41	186	eP	P	16 46 06.5	+0.3
	2.6nm,1.2s						
QSPA	South Pole Qui	72.51	180	eP	P	16 47 16.0	-1.1
	4.9nm,1.2s						
KSRS	Korea Array	78.71	315	P	P	16 47 53.0	+0.1
	1.2nm,1.0s,baz=134,slow=7.0,SNR=5.9						
KSAR	Wonju Array Be	78.73	315	P	P	16 47 53.0	-0.1
ILAR	Eielson Array	84.27	10	P	P	16 48 23.1	+1.3
	0.5nm,0.7s,baz=220,slow=6.1,SNR=6.4						
KMBO	Kilima Mbogo	145.83	240	PKPbc	PKPab	16 55 31.4	-0.1
	2.2nm,0.8s,baz=39,slow=6.5,SNR=5.1						
CLL	Collm	146.09	355	ePKPbc	PKPab	16 55 31.0	0.0
GERES	GERESS Array B	148.46	353	PKPbc	PKPbc	16 55 38.3	+1.0
	0.7nm,0.8s,baz=19,slow=3.3,SNR=4.6						
BRTR	Keskin Array B	148.74	320	PKPbc	PKPbc	16 55 38.2	-0.2
	0.7nm,0.7s,baz=24,slow=1.1,SNR=4.1						
TORD	Torodi Ar. Bea	172.41	124	PKPab	PKPab	16 57 24.7	-0.2
	0.9nm,0.8s,baz=249,slow=4.5,SNR=4.9						

ISCJB ***01*** *16:39:39.2±0.3, 7°17S±0°04×129°67E±0°06, h139km, mb3.9/12, Error ellipse: s-maj=8.1km s-min=5.9km az=175.4*
NEIC ***01*** *16:39:40.0±0.8, 7°12S×129°71E, h126km±7km, mb4.2/6, Error ellipse: s-maj=9.4km s-min=6.8km az=98.0*
IDC ***01*** *16:39:40.3±3.3, 6°99S×129°70E, h122km±31km, mb3.8/10, mb1 3.9/11, mb1mx3.7/32, mbtmp4.2/11, MS2.7/1, Ms1 2.7/1, ms1mx2.6/38, Error ellipse: s-maj=26.7km s-min=15.5km az=76.0*
DJA ***01*** *16:39:41.2±0.2, 7°S±2°×13°0E±°, h169km±6km, M4.4/12, mb4.3/10, mB5.0/4, MLv4.4/12, Mw(mB)4.3/4*
ISC 01 16:39:41.1±0.5, **7°05S**±0°05×**129°63E**±0°05, **h139km, n47,** σ**1ˢ69**/49, **mb4.4**/22, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.89	119	P	Pn	16 40 14.4	+0.1
SAUI				S	Sn	16 40 39.6	-0.2
BNDI	Bandanaira	2.53	6	P	Pn	16 40 23.4	+1.3
MSAI	Masohi	3.75	349	P	Pn	16 40 40.4	+2.6
NLAI	Namlea	4.55	326	P	Pn	16 40 52.7	+4.3
FAKI	Fak Fak	4.86	33	P	Pn	16 40 51.9	-0.7
FAKI				S	Sn	16 41 45.0	-3.2
FAKI	Fak Fak	4.86	33	ePn	Pn	16 40 51.9	-0.7
FAKI				eSn	Sn	16 41 41.3	-6.9
SOEI	Soe	5.95	243	P	Pn	16 41 06.9	-0.3
	75nm,0.9s,2µm1.1nm						
SOEI				S	Sn	16 42 10.0	-4.4
	75nm,0.9s,2µm1.1nm						
SOEI	Soe	5.95	243	eP	Pn	16 41 06.6	-0.6
	41nm,0.5s						
SOEI				eSn	Sn	16 42 10.5	-3.9
SANI	Sanana	6.16	324	P	Pn	16 41 12.4	+2.6
	33nm,0.8s,0.1nm						
SIJI	Sorong	6.35	15	P	Pn	16 41 10.7	-1.9
	6.7nm,0.3s,baz=216,slow=19,SNR=42						
SIJI				S	Sn	16 42 19.9	-4.1
	8.6nm,0.3s,baz=58,slow=23,SNR=15						
RKPI	Ransiki, Papua	7.13	40	P	Pn	16 41 23.4	+0.5
	103nm,0.7s,4µm1.8nm						
RKPI				S	Sn	16 42 38.4	-4.2
	103nm,0.7s,4µm1.8nm						
MMRI	Maumere	7.50	257	P	Pn	16 41 31.7	+3.9
	26nm,1.0s,919nm0.2nm						
MMRI	Maumere	7.50	257	ePn	Pn	16 41 27.6	-0.2
WSI	Waingapu	9.60	254	P	Pn	16 41 58.7	+2.7
	106nm,0.5s						
KAPI	Kappang	10.03	281	LR	LR	16 45 30.8	
	comp=Z,48nm,20.3s,baz=243,slow=35						
WRAB	Tennant Creek	13.60	161	ePn	Pn	16 42 44.0	-4.5
	8.8nm,0.6s						
WRA	Warramunga Arr	13.60	161	P	Pn	16 42 44.2	-4.4
	2.8nm,0.3s,baz=333,slow=12,SNR=104						
WRA				S	Sn	16 45 03.7	-15
	6.6nm,0.3s,baz=336,slow=22,SNR=9.8						
MBWA	Marble Bar	16.98	213	P	P	16 43 28.8	-1.3
	22nm,1.3s						
AS31	Alice Springs	17.02	167	eP	P	16 43 28.8	-1.8
ASAR	Alice Springs	17.02	167	P	P	16 43 28.7	-1.8
	1.8nm,0.3s,baz=338,slow=9.6,SNR=184						
ASAR				S	S	16 46 24.5	-17
	0.7nm,0.3s,baz=338,slow=19,SNR=11						
ASAR				ScP	ScP	16 51 32.0	+1.4
	baz=326,slow=1.7,SNR=4.5						
STKA	Stephens Creek	27.11	157	P	P	16 45 11.9	+0.9
	3.9nm,0.4s,baz=329,slow=8.6,SNR=19						
STKA	Stephens Creek	27.11	157	eP	P	16 45 11.2	+0.1
	1.1nm,0.9s						
PSI	Prapat	32.18	287	P	P	16 45 56.5	+0.3
	4.5nm,0.4s,baz=55,slow=12,SNR=7.5						
CMAR	Chiang Mai Arr	39.49	310	P	P	16 46 59.4	+1.0
	2.8nm,0.6s,baz=136,slow=6.8,SNR=26						
MJAR	Matsushiro Arr	44.10	10	P	P	16 47 35.4	-0.2
	0.6nm,0.4s,baz=188,slow=10.0,SNR=3.3						
KSAR	Wonju Array Be	44.29	358	P	P	16 47 37.7	+0.7
KSRS	Korea Array	44.30	358	P	P	16 47 37.7	+0.6
	0.6nm,0.7s,baz=174,slow=9.4,SNR=4.5						
ODAN	Odare	53.02	311	eP	P	16 48 44.3	0.0
	6.6nm,0.3s						
TAPN	Taplejung	53.05	312	eP	P	16 48 44.8	+0.2
	15nm,0.3s						
RAMN	Ramite	53.66	311	eP	P	16 48 49.4	+0.5
	22nm,0.6s						
JIRN	Jiri	54.35	311	eP	P	16 48 53.8	-0.3
	8.0nm,0.3s						
GUN	Gumba	54.71	311	eP	P	16 48 57.1	+0.4
	20nm,0.4s						
PKI	Pulchoki	54.88	311	eP	P	16 48 57.9	0.0
	7.0nm,0.5s						
PKIN	Phulchoki	54.90	311	eP	P	16 48 58.5	+0.6
	3.1nm,0.4s						
KKN	Kakani	55.10	311	eP	P	16 48 59.4	+0.1
DMN	Daman	55.13	311	eP	P	16 48 59.7	+0.1
	3.1nm,0.3s						
GKN	Gorkha	55.69	311	eP	P	16 49 03.7	+0.2
	21nm,0.3s						
KOLN	Koldanda	56.35	310	eP	P	16 49 08.6	+0.3
	5.0nm,0.3s						
SONM	Songino Array	58.38	342	P	P	16 49 23.3	+1.3
	0.6nm,0.5s,baz=158,slow=6.2,SNR=4.4						
MK31	Makanchi Array	68.07	327	eP	P	16 50 27.0	+1.3
MKAR	Makanchi Array	68.07	327	P	P	16 50 26.7	+0.9
	2.2nm,0.5s,baz=116,slow=8.0,SNR=43						
ZALV	Zalesovo Beam	71.47	334	P	P	16 50 46.8	+0.4
	1.8nm,0.7s,baz=122,slow=5.2,SNR=8.7						
KURK	Kurchatov	72.37	329	eP	P	16 50 52.9	+1.1
	2.6nm,0.6s						
MAW	Mawson	74.77	201	P	P	16 51 07.4	+1.9
	1.4nm,0.5s,baz=78,slow=4.8,SNR=3.8						
ABKAR	Akbulak array	82.32	322	eP	P	16 51 47.8	+0.5
	1.5nm,0.4s						
ILAR	Eielson Array	93.55	25	P	P	16 52 41.3	+0.3
	0.2nm,0.5s,baz=269,slow=4.5,SNR=3.9						
TORD	Torodi Ar. Bea	128.46	281	PKP	PKPdf	16 58 33.5	+1.0
	0.4nm,0.9s,baz=78,slow=2.1,SNR=2.7						

ISCJB ***01*** *16:42:37.5±0.5, 59°03N±0°03×18°21E±0°10, h0km, Error ellipse: s-maj=7.7km s-min=3.9km az=27.5*
UPP ***01*** *16:42:37.8, 59°00N×18°22E, h0km, ML2.2, Mining explosion.*
CSEM ***01*** *16:42:38.3±0.2, 59°03N×18°13E, h2km, ML2.2, Error ellipse: s-maj=6.4km s-min=2.9km az=112.0, Mining explosion.*
HEL ***01*** *16:42:38.7±0.1, 59°01N×18°20E, h0km, ML2.2(UPP), Explosion*
IDC ***01*** *16:42:41.2±2.6, 59°21N×18°20E, h0km, mb1 3.1/3, mb1mx2.9/32, mbtmp3.0/3, ML2.3/3, Error ellipse: s-maj=34.0km s-min=8.6km az=177.0*
ISC 01 16:42:38.0±0.9, **59°01N**±0°03×**18°20E**±0°04, **h0km, n56,** σ**0ˢ68**/64, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	Norrtaelje	0.70	18	i P	Pg	16 42 51.2	-0.2
NRTU				i S	Sg	16 43 00.5	0.0
NRTU	Norrtaelje	0.70	18	P	Pg	16 42 51.2	-0.2
NRTU				S	Sg	16 43 00.5	0.0
NRTU	Norrtaelje	0.70	18	P	Pg	16 42 51.2	-0.2
	baz=208						
NRTU				S	Sg	16 43 00.5	0.0
UPP	Uppsala	0.90	341	eP	Pg	16 42 55.1	-0.1
UPP	Uppsala	0.90	341	P	Pg	16 42 55.1	-0.1
UPP	Uppsala	0.90	341	P	Pg	16 42 55.1	-0.1
VIKU	Vikbolandet	0.94	237	eP	Pg	16 42 55.3	-0.6
VIKU	Vikbolandet	0.94	237	P	Pg	16 42 55.3	-0.6
VIKU	Vikbolandet	0.94	237	P	Pg	16 42 55.3	-0.6
BACU	Backbrunna	1.01	327	eP	Pg	16 42 56.8	-0.6
BACU	Backbrunna	1.01	327	P	Pg	16 42 56.8	-0.6
BACU	Backbrunna	1.01	327	P	Pg	16 42 56.8	-0.6
FLYU	Flymyra	1.13	352	eP	Pg	16 42 59.1	-0.5
FLYU	Flymyra	1.13	352	P	Pg	16 42 59.1	-0.5
FLYU	Flymyra	1.13	352	P	Pg	16 42 59.1	-0.5
GRAU	Graesoe	1.33	7	eP	Pg	16 43 02.9	-0.7

GRAU	**Graesoe**	**1.33**	**7**	P	**Pg**	**16 43 02.9**	**-0.7**
GRAU	**Graesoe**	**1.33**	**7**	P	**Pg**	**16 43 02.9**	**-0.7**
OSTU	**Oestervaala**	**1.33**	**336**	*e*P	**Pg**	**16 43 02.8**	**-0.8**
OSTU	**Oestervaala**	**1.33**	**336**	P	**Pg**	**16 43 02.8**	**-0.8**
OSTU	**Oestervaala**	**1.33**	**336**	P	**Pg**	**16 43 02.8**	**-0.8**
FORU	**Forsmark**	**1.38**	**360**	*e*P	**Pg**	**16 43 03.6**	**-0.8**
FORU	**Forsmark**	**1.38**	**360**	P	**Pg**	**16 43 03.6**	**-0.8**
FORU	**Forsmark**	**1.38**	**360**	P	**Pg**	**16 43 03.6**	**-0.8**
AAL	**Aland**	**1.48**	**37**	*e*P	**Pn**	**16 43 05.1**	**-0.8**
AAL	**Aland**	**1.48**	**37**	P	**Pn**	**16 43 05.2**	**-0.7**
AAL	**Aland**	**1.48**	**37**	P	**Pn**	**16 43 05.2**	**-0.7**
VSTU	**Vaestervik**	**1.62**	**214**	*e*P	**Pn**	**16 43 07.2**	**-0.5**
VSTU	**Vaestervik**	**1.62**	**214**	P	**Pn**	**16 43 07.2**	**-0.5**
VSTU	**Vaestervik**	**1.62**	**214**	P	**Pn**	**16 43 07.2**	**-0.5**
LNKU	**Linkoeping**	**1.62**	**242**	*e*P	**Pn**	**16 43 07.2**	**-0.5**
LNKU	**Linkoeping**	**1.62**	**242**	P	**Pn**	**16 43 07.2**	**-0.5**
LNKU	**Linkoeping**	**1.62**	**242**	P	**Pn**	**16 43 07.2**	**-0.5**
NRAU	**Nora**	**1.72**	**290**	*e*P	**Pn**	**16 43 09.1**	**0.0**
NRAU	**Nora**	**1.72**	**290**	P	**Pn**	**16 43 09.1**	**0.0**
NRAU	**Nora**	**1.72**	**290**	P	**Pn**	**16 43 09.1**	**0.0**
ASKU	**Askersund**	**1.75**	**268**	*e*P	**Pn**	**16 43 09.6**	**0.0**
ASKU	**Askersund**	**1.75**	**268**	P	**Pn**	**16 43 09.6**	**0.0**
ASKU	**Askersund**	**1.75**	**268**	P	**Pn**	**16 43 09.6**	**0.0**
ASPU	**Aespoe**	**1.81**	**209**	*e*P	**Pn**	**16 43 10.7**	**+0.3**
ASPU	**Aespoe**	**1.81**	**209**	P	**Pn**	**16 43 10.7**	**+0.3**
ASPU	**Aespoe**	**1.81**	**209**	P	**Pn**	**16 43 10.7**	**+0.3**
BYXU	**Byxelkrok**	**1.84**	**201**	*e*P	**Pn**	**16 43 11.2**	**+0.4**
BYXU				*e*S	**Sn**	**16 43 35.5**	**+0.8**
BYXU	**Byxelkrok**	**1.84**	**201**	P	**Pn**	**16 43 11.2**	**+0.4**
BYXU				S	**Sn**	**16 43 35.5**	**+0.8**
BYXU	**Byxelkrok**	**1.84**	**201**	P	**Pn**	**16 43 11.2**	**+0.4**
BYXU				S	**Sn**	**16 43 35.5**	**+0.8**
FALU	**Falun**	**1.91**	**322**	*e*P	**Pn**	**16 43 12.2**	**+0.4**
FALU	**Falun**	**1.91**	**322**	P	**Pn**	**16 43 12.2**	**+0.4**
FALU	**Falun**	**1.91**	**322**	P	**Pn**	**16 43 12.2**	**+0.4**
IGGU	**Iggoen**	**1.92**	**347**	*e*P	**Pn**	**16 43 12.0**	**+0.1**
IGGU	**Iggoen**	**1.92**	**347**	P	**Pn**	**16 43 12.0**	**+0.1**
IGGU	**Iggoen**	**1.92**	**347**	P	**Pn**	**16 43 12.0**	**+0.1**
RAF	**Rauma**	**2.69**	**40**	*e*P	**Pn**	**16 43 24.4**	**+1.8**
RAF	**Rauma**	**2.69**	**40**	P	**Pn**	**16 43 24.3**	**+1.8**
NOA	**NORSAR Array B**	**4.05**	**303**	Pn	**Pn**	**16 43 41.2**	**-0.1**
	0.2nm,0.3s,baz=74,slow=15,SNR=3.4						
NOA				Pg	**Pb**	**16 43 50.3**	**+0.1**
	0.2nm,0.3s,baz=120,slow=13,SNR=3.8						
NOA				Lg	Lg	16 44 43.2	
	0.5nm,0.3s,baz=97,slow=14,SNR=5.3						
FINES	**FINESS Array B**	**4.62**	**55**	Pn	**Pn**	**16 43 50.4**	**+1.4**
	0.1nm,0.3s,baz=241,slow=14,SNR=9.8						
FINES				Sn	**Sn**	**16 44 43.2**	**-0.1**
	0.4nm,0.3s,baz=241,slow=19,SNR=8.4						
FINES				Lg	Lg	16 44 59.9	
	0.6nm,0.3s,baz=244,slow=22,SNR=8.7						
ARCES	**ARCESS Array B**	**11.02**	**14**	Pn	**Pn**	**16 45 14.4**	**-2.2**
	0.1nm,0.3s,baz=196,slow=14,SNR=4.2						

KMA 01 16:42:56.0±0.5**,37°.43N×124°.67E,h7**km±2km**,9C-7D, Error ellipse: s-maj=6.7km s-min=1.8km az=65.0,South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSBAR	**Backryungdo**	**0.55**	**3**	⇓P	Pg	16 43 06.8	+0.2
KSBAR	**Backryungdo**	**0.55**	**3**	⇓P	Pg	16 43 06.8	+0.2
KSGBI	**Gyogryolbido**	**1.07**	**138**	⇓P	Pg	16 43 16.5	0.0
KSGBI				⇑S	Sb	16 43 31.6	+0.6
KSDEI	**Deokjeokdo**	**1.16**	**98**	⇑P	Pg	16 43 17.7	-0.4
KSDEI				⇑S	Sn	16 43 35.1	+0.4
KSDEI	**Deokjeokdo**	**1.16**	**98**	⇑P	Pg	16 43 17.7	-0.4
KSDEI				⇑S	Sn	16 43 35.1	+0.4
KSGAH	**Ganghwa**	**1.44**	**78**	⇑P	Pb	16 43 22.9	-0.3
KSGAH				⇓S	Sg	16 43 42.5	+0.2
KSGAH	**Ganghwa**	**1.44**	**78**	⇑P	Pb	16 43 22.9	-0.3
KSGAH				⇓S	Sg	16 43 42.5	+0.2
KSSES	**Seosan**	**1.56**	**113**	⇓P	Pn	16 43 23.9	-0.2
KSSES				⇑S	Sb	16 43 45.6	+0.5
KSSES	**Seosan**	**1.56**	**113**	⇓P	Pn	16 43 23.9	-0.2
KSSES				⇑S	Sb	16 43 45.6	+0.5

*ISCJB **01** 16:47:10.1±0.7, 14°.44N±0°.07×92°.38W±0°.05, h62km, Error ellipse: s-maj=10.8km s-min=4.7km az=27.9*
*MEX **01** 16:47:10.6±0.4, 14°.34N×92°.31W, h54km±7km, MD3.7*
*CASC **01** 16:47:16.9±1.6, 14°.47N×91°.90W, h47km±18km, MD4.0*
ISC 01 16:47:10.7±1.4**,14°.43N**±0°.08×**92°.34W**±0°.05**,h62**km**,n14,** σ1ˢ**43**/22**,1D,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.48**	**9**	*e*P	**Pn**	**16 47 21.7**	**-1.0**
THIG				*i* S	**Sn**	**16 47 30.0**	**-1.4**
JAT	**Jato**	**0.69**	**99**	⇓*i*P	**Pn**	**16 47 26.2**	**+1.2**
IXG	**Ixpaco**	**1.85**	**98**	*e*P	**Pn**	**16 47 40.2**	**-0.1**
CCIG	**Comitan**	**1.85**	**6**	*e*P	**Pn**	**16 47 40.8**	**+0.3**
CCIG				*e*S	**Sn**	**16 48 02.6**	**-0.3**
NBG	**Las Nubes**	**1.94**	**85**	*e*P	**Pn**	**16 47 43.7**	**+2.1**
NBG				*e*S	**Sn**	**16 48 06.5**	**+1.3**
RBDL	**Robledal**	**2.59**	**97**	*e*P	**Pn**	**16 47 50.5**	**0.0**
MRL	**Marmol**	**2.64**	**76**	*e*P	**Pn**	**16 47 51.8**	**+0.7**
MRL				*e*P	**Pn**	**16 47 52.6**	**+1.5**
SBLS	**San Blas**	**2.70**	**102**	*e*P	**Pn**	**16 47 52.7**	**+0.7**
SBLS				*e*S	**Sn**	**16 48 21.4**	**-2.3**
SNJE	**San Jose**	**2.71**	**101**	*e*P	**Pn**	**16 47 53.0**	**+0.9**
BOQS	**Boqueron**	**3.05**	**103**	*e*P	**Pn**	**16 47 57.9**	**+1.2**
LFRS	**El Faro**	**3.28**	**104**	*e*P	**Pn**	**16 48 00.9**	**+1.1**
LFRS				*e*S	**Sn**	**16 48 34.4**	**-3.4**
CMIG	**Matias Romero**	**3.61**	**318**	*e*P	**Pn**	**16 48 04.3**	**+0.2**
CMIG				*i* S	**Sn**	**16 48 45.7**	**+0.2**
HUIG	**Huatulco**	**3.87**	**291**	*i* P	**Pn**	**16 48 07.1**	**-0.7**
HUIG				*i* S	**Sn**	**16 48 51.9**	**-0.2**
VHO	**Vista Hermosa**	**4.98**	**302**	*e*P	**Pn**	**16 48 25.2**	**+2.1**

*IDC **01** 16:47:25.8±0.5, 17°.90S×169°.15E, h0km, mb4.5/20, mb1 4.6/21, mb1mx4.5/32, mbtmp4.5/21, ML4.4/1, MS5.1/25, Ms1 5.1/25, ms1mx5.0/32, Error ellipse: s-maj=20.8km s-min=14.5km az=118.0*
*ISCJB **01** 16:47:26.9±2.6, 17°.90S±0°.04×169°.10E±0°.04, h14km±15km, mb5.1/91, MS5.3/193, Error ellipse: s-maj=6.9km s-min=5.5km az=139.2*
*MOS **01** 16:47:30.1±1.5, 17°.86S×169°.13E, h33km, mb5.5/39, MS5.2/27, Error ellipse: s-maj=9.7km s-min=8.8km az=7.1*
*BJI **01** 16:47:32.4, 17°.74S×168°.72E, h39km, mb5.0/59, mB5.4/54, Ms5.3/62, Ms7 5.1/61*
*GCMT **01** 16:47:32.0±0.1, 17°.72S×169°.19E, h12km, MW5.7/127, Moment Tensor Solution. s108,c186; s127,c335; Duration: 1ˢ6 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.80±.03; $M_{\theta\theta}$0.08±.03; $M_{\phi\phi}$0.72±.04; $M_{r\theta}$0.96±.08; $M_{\theta\phi}$-3.58±.03; $M_{\phi r}$0.59±.09; Best double couple: $M_0$3.81800×10^{17} NP1:ϕ_s275.00000°,δ77.00000°, λ-163.00000°. NP2:ϕ_s181.00000°,δ73.00000°, λ-14.00000°. Principal axes: T 4.0040, Plg3.0000°, Azm47.0000°; N -0.3730, Plg68.0000°, Azm310.0000°; P -3.6310, Plg21.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **01** 16:47:32.0±0.9, 17°.88S×169°.10E, h40km±8km, mb5.4/48, MS5.4/157 Error ellipse: s-maj=6.7km s-min=5.7km az=171.0*
ISC 01 16:47:32.0±0.4**,17°.92S**±0°.04×**169°.11E**±0°.06**,h40**km±2km**, h40**km**:pP-P,n497,**σ1ˢ**62**/391**,mb5.2**/90**,MS5.3**/193**, 19C-17D,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**3.35**	**211**	*e*P	Pn	16 48 18.1	-3.7
DZM	**Mont Dzumac**	**4.83**	**211**	*e*Pn	**Pn**	**16 48 42.0**	**-0.3**
	2µm,1.2s						
DZM				*e*Sn	Sn	16 49 30.9	-6.2
	3µm,1.2s						
DZM				*e*LR	LR	16 49 40.0	
	100µm,26.1s						
DZM	**Mont Dzumac**	**4.83**	**211**	Pn	**Pn**	**16 48 41.0**	**-1.3**
	16nm,0.3s,baz=90,slow=24,SNR=64						
DZM				Sn	**Sn**	**16 49 38.3**	**+1.2**
	93nm,0.3s,baz=284,slow=21,SNR=3.7						
DZM				LR	LR	16 50 08.6	
	comp=Z,19µm,19.9s,baz=30,slow=34						
NOUC	**Port Laguerre**	**4.93**	**212**	*e*P	**Pn**	**16 48 41.4**	**-2.2**
NOUC				*e*S	**Sn**	**16 49 38.8**	**-0.5**
MSVF	**Nonsavu**	**8.52**	**90**	Pn	**Pn**	**16 49 33.0**	**0.0**
	2µm,1.1s,SNR=20						
MSVF	**Nonsavu**	**8.52**	**90**	*e*P	**Pn**	**16 49 32.0**	**-0.9**
MSVF				pmax	pmax		
	comp=Z,794nm,1.4s						
MSVF	**Nonsavu**	**8.52**	**90**	*e*P	**Pn**	**16 49 32.0**	**-0.9**
	comp=Z,794nm,1.4s						
HNR	**Honiara**	**12.26**	**312**	*e*P	**Pn**	**16 50 25.1**	**+1.0**
HNR				pmax	pmax		
	comp=Z,512nm,1.0s						
HNR	**Honiara**	**12.26**	**312**	*e*P	**Pn**	**16 50 26.0**	**+1.9**
HNR	**Honiara**	**12.26**	**312**	*e*P	**Pn**	**16 50 25.1**	**+1.0**
	comp=Z,512nm,1.0s						
RAO	**Raoul Island**	**16.38**	**136**	LR	LR	16 56 10.8	
	comp=Z,9µm,19.7s,baz=322,slow=32						
OUZ	**Omahuta**	**17.69**	**168**	*e*P	**P**	**16 51 36.5**	**+0.6**
	comp=Z,74nm,0.9s						
URZ	**Urewera**	**21.44**	**163**	P	**P**	**16 52 18.7**	**+1.9**
	comp=Z,13nm,0.7s,baz=304,slow=11,SNR=6.1						
URZ				LR	LR	16 58 57.0	
	comp=Z,8µm,21.1s,baz=354,slow=32						
URZ	**Urewera**	**21.44**	**163**	*e*P	**P**	**16 52 18.8**	**+2.1**
CTA	**Charters Tower**	**21.71**	**261**	P	**P**	**16 52 20.6**	**+0.7**
	comp=Z,29nm,0.8s,baz=86,slow=13,SNR=12						
CTA				LR	LR	16 59 51.1	
	comp=Z,8µm,19.9s,baz=81,slow=34						
CTAO	**Charters Tower**	**21.71**	**261**	*e*P	**P**	**16 52 20.4**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,68nm,1.0s						
CTAO				MLR	MLR		
	comp=Z,9µm,20.0s						
CTAO	**Charters Tower**	**21.71**	**261**	*e*P	**P**	**16 52 20.4**	**+0.5**
	comp=Z,68nm,1.0s						
CTAO				LR	LR		
	comp=Z,9µm,20.0s						
PMG	**Port Moresby**	**22.92**	**289**	*d i*P	**P**	**16 52 35.1**	**+2.3**
PMG				pmax	pmax		
	comp=Z,213nm,1.1s						
PMG	**Port Moresby**	**22.92**	**289**	*e*P	**P**	**16 52 33.8**	**+1.1**
	comp=Z,185nm,1.4s						
PMG				LR	LR		
	comp=Z,7µm,19.0s						
SNZO	**South Karori**	**23.80**	**170**	PFAKE		16 52 50.0	+8.9
SNZO				LR	LR		
	comp=Z,7µm,19.0s						
CAN	**Canberra**	**24.89**	**222**	*e*P	**P**	**16 52 52.0**	**+0.8**
CAN				pmax	pmax		
	comp=Z,56nm,1.0s						
CAN				MLR	MLR		
	comp=Z,7µm,20.0s						
CAN	**Canberra**	**24.89**	**222**	*e*P	**P**	**16 52 52.0**	**+0.8**
	comp=Z,56nm,1.0s						
CAN				LR	LR		
	comp=Z,7µm,20.0s						
RPZ	**Rata Peaks**	**25.77**	**177**	P	**P**	**16 53 02.3**	**+3.3**
	comp=Z,35nm,1.0s,baz=250,slow=2.2,SNR=11						
RPZ				LR	LR	17 02 17.3	
	comp=Z,11µm,19.3s,baz=342,slow=35						
RPZ	**Rata Peaks**	**25.77**	**177**	P	**P**	**16 53 00.0**	**+1.0**
	comp=Z,141nm,1.2s						
STKA	**Stephens Creek**	**28.47**	**236**	P	**P**	**16 53 23.8**	**+0.5**
	comp=Z,58nm,0.7s,baz=70,slow=10,SNR=42						
STKA				LR	LR	17 03 54.9	
	comp=Z,9µm,21.1s,baz=60,slow=35						
STKA	**Stephens Creek**	**28.47**	**236**	*e*P	**P**	**16 53 24.1**	**+0.7**
STKA	**Stephens Creek**	**28.47**	**236**	*e*P	**P**	**16 53 24.1**	**+0.7**
TAU	**Tasmania Unive**	**31.02**	**212**	PFAKE		16 54 00.0	+14
TAU				LR	LR		
	comp=Z,8µm,21.0s						
WRAB	**Tennant Creek**	**32.91**	**261**	P	**P**	**16 54 01.5**	**-1.2**
	comp=Z,219nm,1.1s,SNR=12						
WRAB	**Tennant Creek**	**32.91**	**261**	⇑*i*P	**P**	**16 54 02.0**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,155nm,1.7s						
WRAB	**Tennant Creek**	**32.91**	**261**	*e*P	**P**	**16 54 01.9**	**-0.9**
WRAB				LR	LR		
	comp=Z,5µm,19.0s						
WRA	**Warramunga Arr**	**32.92**	**261**	P	**P**	**16 54 01.4**	**-1.4**
	comp=Z,23nm,0.9s,baz=80,slow=6.2,SNR=54						
WRA				LR	LR	17 06 31.9	
	comp=Z,5µm,18.6s,baz=90,slow=35						
WRA	**Warramunga Arr**	**32.92**	**261**	*i* P	**P**	**16 54 02.0**	**-0.8**
WRA				pmax	pmax		
	comp=Z,23nm,0.9s						
AS31	**Alice Springs**	**33.35**	**254**	*e*P	**P**	**16 54 05.4**	**-1.2**
ASAR	**Alice Springs**	**33.35**	**254**	P	**P**	**16 54 05.8**	**-0.8**
	comp=Z,24nm,0.8s,baz=81,slow=8.9,SNR=128						
ASAR				LR	LR	17 07 13.9	
	comp=Z,10µm,20.4s,baz=83,slow=36						
H11S2	**WAKE ISLAND Hy**	**36.26**	**356**	T	T	17 32 43.5	
	baz=181,slow=76,SNR=90						
H11S3	**WAKE ISLAND Hy**	**36.26**	**356**	T	T	17 32 56.7	
	baz=181,slow=76,SNR=66						
H11S1	**WAKE ISLAND Hy**	**36.27**	**356**	T	T	17 32 56.7	
	baz=181,slow=76,SNR=56						
WAKE	**Wake Island**	**37.05**	**356**	PFAKE		16 54 50.0	+12
WAKE				LR	LR		
	comp=Z,2µm,21.0s						
H11N1	**WAKE ISLAND Hy**	**37.46**	**357**	T	T	17 34 28.0	
	baz=182,slow=72,SNR=40						
H11N3	**WAKE ISLAND Hy**	**37.46**	**357**	T	T	17 34 28.3	
	baz=182,slow=72,SNR=30						
H11N2	**WAKE ISLAND Hy**	**37.48**	**357**	T	T	17 34 18.8	
	baz=182,slow=72,SNR=39						
RKPI	**Ransiki, Papua**	**37.97**	**292**	P	P	16 54 50.0	+3.7
	comp=Z,91nm,1.1s,comp=Z,1µm						
XMAS	**Kiritimati**	**38.45**	**62**	PFAKE		16 55 00.0	+10
XMAS				LR	LR		
	comp=Z,9µm,20.0s						
TBI	**Tubuai**	**39.05**	**105**	*e*S	S	17 01 03.0	+11
	comp=Z,332nm,31.0s						
TBI				*e*LQ	LQ	17 03 51.7	
	comp=Z,14µm,30.0s						
TBI				*e*LR	LR	17 05 33.7	
	comp=Z,3µm,29.5s						
FAKI	**Fak Fak**	**39.08**	**288**	P	**P**	**16 54 56.3**	**+0.7**
	comp=Z,47nm,1.0s,comp=Z,819nm						
FAKI	**Fak Fak**	**39.08**	**288**	*e*P	**P**	**16 54 54.3**	**-1.3**
	comp=Z,35nm,0.9s						
PPT2	**Papeete2**	**39.29**	**96**	*e*S	S	17 01 07.8	+12
	comp=Z,386nm,22.8s						
PPT2				*e*LQ	LQ	17 04 12.0	
	comp=Z,19µm,30.8s						
PPT2				*e*LR	LR	17 05 43.0	
	comp=Z,4µm,25.2s						
PPT	**Papeete**	**39.29**	**96**	LR	LR	17 06 41.6	
	comp=Z,1µm,21.9s,baz=260,slow=29						
GUMO	**Guam**	**39.40**	**321**	PFAKE		16 55 10.0	+12
GUMO				LR	LR		
	comp=Z,325nm,21.0s						
NLAI	**Namlea**	**43.66**	**285**	P	**P**	**16 55 31.7**	**-1.4**
	comp=Z,98nm,1.5s,comp=Z,1µm						
SANI	**Sanana**	**45.14**	**285**	P	**P**	**16 55 45.5**	**+0.5**
	comp=Z,58nm,1.1s,comp=Z,1µm						
MMRI	**Maumere**	**46.43**	**275**	P	**P**	**16 55 57.4**	**+2.2**
	comp=Z,25nm,0.6s						
MBWA	**Marble Bar**	**46.50**	**258**	*e*P	**P**	**16 55 54.9**	**-0.8**
	comp=Z,55nm,0.9s						
MBWA				LR	LR		
	comp=Z,5µm,21.0s						
MIDW	**Midway**	**47.69**	**16**	PFAKE		16 56 20.0	+15
MIDW				LR	LR		
	comp=Z,3µm,21.0s						
LUWI	**Luwuk**	**48.49**	**285**	P	P	16 56 14.9	+3.7
	comp=Z,67nm,1.5s,comp=Z,1µm						
LUWI	**Luwuk**	**48.49**	**285**	*e*P	**P**	**16 56 12.5**	**+1.3**
	comp=Z,154nm,1.5s						
APSI	**Ampana**	**49.57**	**285**	P	P	16 56 16.2	-3.3
	comp=Z,85nm,1.7s,comp=Z,1µm						
DAV	**Davao City (W)**	**49.63**	**296**	PFAKE		16 56 30.0	+10
DAV				LR	LR		
	comp=Z,842nm,21.0s						
MRSI	**Marisa**	**49.85**	**286**	P	**P**	**16 56 22.6**	**+1.0**
	comp=Z,21nm,0.8s,comp=Z,659nm						
KAPI	**Kappang**	**49.88**	**279**	P	**P**	**16 56 22.2**	**+0.3**
	comp=Z,116nm,1.8s,SNR=10						
KAPI	**Kappang**	**49.88**	**279**	P	**P**	**16 56 20.2**	**-1.6**
	comp=Z,55nm,1.1s						
KAPI				LR	LR		
	comp=Z,906nm,19.0s						
SPSI	**Sidrap Palu**	**50.22**	**280**	P	P	16 56 20.7	-3.7
TTSI	**Tana Toraja**	**50.49**	**281**	P	**P**	**16 56 26.9**	**+0.5**
	comp=Z,32nm,1.9s,comp=Z,765nm						
KIP	**Kipapa**	**50.66**	**41**	PFAKE		16 56 40.0	+12
KIP				LR	LR		
	comp=Z,6µm,21.0s						
POHA	**Pohakuloa**	**51.05**	**44**	PFAKE		16 56 40.0	+9.1
POHA				LR	LR		
	comp=Z,5µm,19.0s						
PCI	**Palu**	**51.25**	**284**	P	**P**	**16 56 33.1**	**+0.9**
	comp=Z,110nm,1.6s,comp=Z,1µm						
MPSI	**Mapaga**	**51.67**	**285**	P	**P**	**16 56 35.3**	**0.0**
	comp=Z,44nm,1.1s,comp=Z,588nm						
DRV	**Dumont d'Urvil**	**52.28**	**194**	S	S	17 03 54.0	-7.1
DRV				SS	**SS**	**17 07 32.0**	**-6.8**
DRV				L	L	17 09 00.0	
DRV				R		17 11 00.0	
RKT	**Rikitea**	**52.37**	**106**	*e*S	S	17 04 13.7	+10
	comp=Z,556nm,27.8s						
RKT				*e*LQ	LQ	17 09 39.3	
	comp=Z,3µm,29.8s						
RKT				*e*LR	LR	17 11 38.9	
	comp=Z,2µm,26.0s						
STKI	**Sintang**	**59.38**	**281**	P	**P**	**16 57 33.8**	**+3.0**
	comp=Z,33nm,1.5s						
VNDA	**Vanda**	**59.74**	**182**	P	**P**	**16 57 32.4**	**0.0**
	comp=Z,2.6nm,0.9s,baz=351,slow=5.5,SNR=7.9						
VNDA				LR	LR	17 18 36.5	
	comp=Z,2µm,21.8s,baz=14,slow=31						
VNDA	**Vanda**	**59.74**	**182**	*e*P	**P**	**16 57 32.3**	**0.0**
VNDA				pmax	pmax		
	comp=Z,34nm,1.4s						
VNDA	**Vanda**	**59.74**	**182**	*e*P	**P**	**16 57 32.3**	**0.0**
	comp=Z,34nm,1.4s						
SBA	**Scott Base**	**59.98**	**181**	*e*P	**P**	**16 57 34.8**	**+0.9**
SBA				pmax	pmax		
	comp=Z,75nm,1.3s						
SBA				MLR	MLR		
	comp=Z,2µm,20.0s						
SBA	**Scott Base**	**59.98**	**181**	*e*P	**P**	**16 57 34.8**	**+0.9**
	comp=Z,76nm,1.3s						
SBA				LR	LR		
	comp=Z,2µm,20.0s						
LEM	**Lembang**	**60.83**	**272**	P	**P**	**16 57 41.1**	**+0.1**
	comp=Z,78nm,1.0s						
CASY	**Casey**	**61.28**	**203**	*e*P	**P**	**16 57 43.5**	**+0.6**
	comp=Z,48nm,1.4s						
CASY				LR	LR		
	comp=Z,3µm,22.0s						
MJAR	**Matsushiro Arr**	**61.53**	**332**	LR	LR	17 22 04.9	
	comp=Z,716nm,22.0s,baz=185,slow=34						
MAJO	**Matsushiro**	**61.53**	**332**	PFAKE		16 58 00.0	+15
MAJO				LR	LR		
	comp=Z,1µm,22.0s						
CBJI	**Citeko**	**61.68**	**272**	P	**P**	**16 57 46.2**	**-0.3**
JNU	**Nakatsue**	**62.53**	**324**	P	**P**	**16 57 52.9**	**+1.1**
	comp=Z,21nm,1.1s,baz=218,slow=8.6,SNR=3.4						
TPUB	**Ta-pu**	**62.61**	**309**	*e*P	**P**	**16 57 51.2**	**-1.3**
	comp=Z,31nm,0.8s						
SSLB	**Suanglung**	**62.66**	**310**	*e*P	**P**	**16 57 51.3**	**-1.6**
	comp=Z,18nm,0.8s						
YHNB	**Yeheng**	**62.89**	**311**	*e*P	**P**	**16 57 53.4**	**-1.0**
	comp=Z,68nm,0.8s						
YHNB				LR	LR		
	comp=Z,1µm,21.0s						
TATO	**Taipei**	**63.00**	**311**	PFAKE		16 58 10.0	+15
TATO				LR	LR		
	comp=Z,2µm,22.0s						
ERM	**Erimo**	**64.27**	**339**	PFAKE		16 58 20.0	+17
ERM				LR	LR		
	comp=Z,815nm,20.0s						
YUK	**Yuzh-Kuril'sk**	**65.22**	**342**	*e*P	P	16 58 15.3	+6.1
YUK				*e*		17 00 37.6	
YUK				*e*S	S	17 07 03.1	+14
YUK				*e*SS	**SS**	**17 11 04.3**	**+1.1**
YUK				MLR	MLR		
	comp=N,909nm,21.0s						
YUK				MLR	MLR		
	comp=E,609nm,21.0s						
YUK				MLR	MLR		
	comp=Z,888nm,21.0s						
TPRI	**Tanjung Pinang**	**66.19**	**279**	P	P	16 58 20.1	+3.9
ASAJ	**Asahikawa**	**66.33**	**339**	P	**P**	**16 58 17.1**	**+0.8**
	comp=Z,14nm,1.0s,baz=170,slow=9.3,SNR=4.6						
SSE	**Sheshan**	**67.03**	**316**	P	**P**	**16 58 21.2**	**+0.1**
SSE				S	**S**	**17 07 13.4**	**+1.3**
SSE				ScS	**SKSac**	**17 08 15.1**	**-0.2**
SSE				PMZ			
	comp=Z,31nm,0.8s						
SSE				PMZ			
	comp=Z,130nm,6.2s						
SSE				LN			
	comp=Z,600nm,20.5s						
SSE				LE			
	comp=Z,860nm,20.5s						
SSE				LZ			
	comp=Z,1µm,31.5s						
KSRS	**Korea Array**	**67.35**	**325**	P	**P**	**16 58 22.8**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=149,slow=6.8,SNR=6.7						
KSRS				LR	LR	17 25 43.1	
	comp=Z,609nm,20.8s,baz=135,slow=34						
KSAR	**Wonju Array Be**	**67.36**	**325**	P	**P**	**16 58 22.8**	**-0.3**
KSAR	**Wonju Array Be**	**67.36**	**325**	P	**P**	**16 58 22.8**	**-0.3**
INCN	**Inchon**	**68.08**	**325**	PFAKE		16 58 40.0	+12
INCN				LR	LR		
	comp=Z,722nm,21.0s						
YSS	**Yuzh-Sakhalins**	**68.80**	**341**	*e*P	P	16 58 26.0	-5.9
YSS				*e*PS	PnS	17 07 40.0	-22
YSS	**Yuzh-Sakhalins**	**68.80**	**341**	PFAKE		16 58 40.0	+8.1
YSS				LR	LR		
	comp=Z,445nm,21.0s						
QIZ	**Qiongzhong**	**68.83**	**299**	P	**P**	**16 58 31.8**	**-0.9**
QIZ				S	**S**	**17 07 33.4**	**-0.6**
QIZ				sS	**sS**	**17 07 51.9**	**-2.0**
QIZ				PMZ			
	comp=Z,15nm,2.1s						
QIZ				PMZ			
	comp=Z,110nm,4.2s						
QIZ				LN			
	comp=Z,590nm,23.0s						
QIZ				LZ			
	comp=Z,1µm,37.6s						
QIZ	**Qiongzhong**	**68.83**	**299**	PFAKE		16 58 40.0	+7.3
QIZ				LR	LR		
	comp=Z,653nm,21.0s						
NJ2	**Nanjing**	**69.18**	**316**	*e*P	**P**	**16 58 35.1**	**+0.5**
NJ2				pP	**pP**	**16 58 45.6**	**-1.0**
NJ2				sP	**sP**	**16 58 49.9**	**-1.3**
NJ2				S	**S**	**17 07 37.0**	**-0.7**
NJ2				sS	**sS**	**17 07 57.5**	**-0.1**
NJ2				PMZ			
	comp=Z,20nm,0.6s						
NJ2				PMZ			
	comp=Z,290nm,3.8s						
NJ2				LN			
	comp=Z,1µm,19.1s						
NJ2				LE			
	comp=Z,3µm,21.5s						
NJ2				LZ			
	comp=Z,10µm,20.7s						
COCO	**West Island**	**69.66**	**263**	PFAKE		16 58 50.0	+12
COCO				LR	LR		
	comp=Z,1µm,20.0s						
FRIM	**Kepong**	**69.70**	**280**	⇓P	**P**	**16 58 38.8**	**+0.6**
VLA	**Vladivostok**	**69.70**	**332**	⇑*e*P	**P**	**16 58 36.6**	**-1.0**
VLA				*e*		16 58 57.4	
VLA				*i*		17 01 11.4	
VLA				*e*S	**S**	**17 07 44.1**	**+0.7**
VLA				pmax	pmax		
	comp=Z,42nm,1.9s						
USRK	**Ussuriysk Ar.**	**70.51**	**333**	P	**P**	**16 58 41.9**	**-0.6**
	comp=Z,3.1nm,0.9s,baz=127,slow=3.8,SNR=3.8						
USRK				LR	LR	17 26 45.0	
	comp=Z,791nm,21.1s,baz=138,slow=34						
PET	**Petropavlovsk**	**71.22**	**353**	*e*P	P	16 58 51.2	+4.6
PET				*e*S	**S**	**17 08 05.6**	**+4.9**
PET				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PET				pmax	pmax		
	comp=Z,200nm,4.8s						
PET				pmax	pmax		
	comp=Z,100nm,5.1s						
PET	**Petropavlovsk**	**71.22**	**353**	PFAKE		16 59 00.0	+13
PET				LR	LR		
	comp=Z,1µm,20.0s						
WHN	**Wuhan**	**71.38**	**312**	⇓P	**P**	**16 58 48.4**	**+0.3**
WHN				S	**S**	**17 08 09.3**	**+5.8**
WHN				LN			
	comp=Z,2µm,17.9s						
WHN				LE			
	comp=Z,1µm,16.0s						
WHN				LZ			

comp=Z,2μm,20.6s
PETK Petropavlovsk- 71.42 353 P **P** 16 58 49.0 +1.2
comp=Z,2.1nm,0.8s,baz=150,slow=9.9,SNR=3.9
PETK LR LR 17 24 55.8
comp=Z,1μm,21.3s,baz=160,slow=32
PETK Petropavlovsk- 71.42 353 P **P** 16 58 49.0 +1.2
DL2 Dalian 71.89 323 ⇓P **P** 16 58 53.6 +2.6
DL2 PMZ
comp=Z,57nm,0.8s
DL2 LN
comp=Z,340nm,18.6s
DL2 LZ
comp=Z,340nm,12.8s
MDJ Mudanjiang 71.91 331 P **P** 16 58 51.6 +0.6
MDJ pP **pP** 16 59 02.7 -0.3
MDJ sP **sP** 16 59 07.3 -0.3
MDJ PP **PP** 17 01 30.7 -0.6
MDJ S **S** 17 08 13.0 +3.9
MDJ ScS **ScS** 17 08 53.3 -0.2
MDJ PMZ
comp=Z,10.0nm,1.4s
MDJ PMZ
comp=Z,180nm,5.8s
MDJ LN
comp=Z,840nm,25.1s
MDJ LE
comp=Z,1μm,27.2s
MDJ LZ
comp=Z,860nm,20.9s
MDJ Mudanjiang 71.91 331 *e*P **P** 16 58 51.3 +0.3
comp=Z,33nm,1.4s
MDJ LR LR
comp=Z,927nm,21.0s
PSI Prapat 72.09 279 LR LR 17 32 28.2
comp=Z,601nm,19.6s,baz=132,slow=38
QSPA South Pole Qui 72.13 180 *e*P **P** 16 58 52.3 0.0
comp=Z,34nm,1.1s
HABR Khabarovsk 72.74 337 *c*e*P **P** 16 58 55.0 -0.8
HABR e*PP **pP** 16 59 05.0 -2.9
HABR e*SP **sP** 16 59 09.2 -3.3
HABR *e* 16 59 11.6
HABR 17 01 37.2
HABR *e*PPP PPP 17 03 22.0
HABR *e*S **S** 17 08 19.8 +1.4
HABR *e* 17 09 00.0
HABR *e*SS **SS** 17 13 01.5 +2.3
HABR pmax pmax
comp=E,62nm,2.6s
HABR pmax pmax
comp=Z,57nm,2.6s
HABR pmax pmax
comp=N,34nm,3.0s
HABR MLR MLR
comp=Z,430nm,20.0s
SNY Shenyang 72.82 326 ⇓P **P** 16 58 58.1 +1.6
SNY S **SKiKP** 17 08 24.4 -2.6
SNY PMZ
comp=Z,120nm,4.7s
SNY LN
comp=Z,760nm,19.0s
SNY LE
comp=Z,570nm,19.0s
SNY LZ
comp=Z,1μm,23.9s
GSI Gunungsitoli 72.87 277 *e*P **P** 16 58 58.6 +1.2
comp=Z,121nm,1.6s
SKNT Sakolnakorn 72.87 295 P **P** 16 59 00.1 +2.8
comp=Z,33nm,1.3s
TIA Tai'an 72.88 318 ⇓P **P** 16 58 57.7 +0.7
TIA PMZ
comp=Z,30nm,1.3s
TIA PMZ
comp=Z,360nm,3.3s
TIA LN
comp=Z,610nm,21.9s
TIA LE
comp=Z,930nm,23.8s
TIA LZ
comp=Z,2μm,22.3s
CN2 Changchun 73.27 329 *e*P **P** 16 58 59.2 +0.1
CN2 *e*S **S** 17 08 19.1 -5.6
CN2 SS **SS** 17 13 05.6 -1.9
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,300nm,18.0s
CN2 LE
comp=Z,400nm,18.0s
CN2 LZ
comp=Z,600nm,22.0s
KLR Kul'dur 74.62 336 *e*P **P** 16 59 06.7 -0.2
KLR pmax pmax
comp=Z,90nm,2.2s
ENH Enshi 74.74 309 *e*P **P** 16 59 06.6 -1.4
comp=Z,17nm,0.8s
ENH LR LR
comp=Z,631nm,22.0s
NKL Nikolayevsk 74.92 343 *e*P **P** 16 59 10.0 +1.6
NKL *e* 17 08 46.0
NKL pmax pmax
comp=Z,110nm,1.9s
NKL MLR MLR
comp=N,600nm,19.0s
NKL MLR MLR
comp=Z,1μm,19.0s
GYA Guiyang 74.97 305 P **P** 16 59 11.0 +1.4
GYA pP **pP** 16 59 22.4 +0.7
GYA sP **sP** 16 59 28.0 +1.7
GYA PP **PP** 17 02 01.6 +3.7
GYA S **S** 17 08 44.2 -0.5
GYA sS **sS** 17 09 05.8 +1.0
GYA SKS **SKSac** 17 09 11.2 -4.6
GYA PMZ
comp=Z,60nm,1.0s
GYA PMZ
comp=Z,160nm,5.9s
GYA LN
comp=Z,760nm,19.2s
GYA LE
comp=Z,610nm,20.3s
GYA LZ
comp=Z,780nm,19.8s
PBKT Sadao Pong 75.33 293 P P 16 59 21.5 +10
comp=Z,16nm,1.2s
BJT Baijiatuau 75.83 321 PFAKE 16 59 30.0 +16
BJT LR LR
comp=Z,1μm,22.0s
BJI Beijing 75.84 321 P **P** 16 59 14.2 +0.1
BJI pP **PcP** 16 59 26.9 +0.4
BJI sP **sP** 16 59 31.8 +1.0
BJI PP **PP** 17 02 00.2 -4.6
BJI S **S** 17 08 55.3 +1.8
BJI SS **SS** 17 13 41.1 -5.6
BJI PMZ
comp=Z,14nm,1.0s
BJI LN
comp=Z,1μm,22.5s
BJI LE
comp=Z,430nm,33.3s
BJI LZ
comp=Z,2μm,30.0s
UTTA Uttaradit 76.17 294 P P 16 59 26.5 +10
TIY Taiyuan 76.79 317 *e*P **P** 16 59 21.8 +2.2
TIY sP **sP** 16 59 38.7 +2.4
TIY PMZ
comp=Z,290nm,3.6s
TIY LN
comp=Z,390nm,14.7s
TIY LE
comp=Z,760nm,20.2s
TIY LZ
comp=Z,880nm,21.6s
XAN Xi'an 77.13 312 P **P** 16 59 21.9 +0.3
XAN pP **PcP** 16 59 32.2 -0.1
XAN PP **PP** 17 02 15.8 -0.2
XAN S **S** 17 09 11.2 +3.1
XAN PMZ
comp=Z,9.0nm,1.0s
XAN PMZ
comp=Z,47nm,3.7s
XAN LN
comp=Z,450nm,22.5s
XAN LZ
comp=Z,270nm,25.5s

LAMP Lampang 77.28 294 P P 16 59 30.7 +8.0
comp=Z,6.7nm,0.9s
CRAI Chiangrai 77.34 296 P **P** 16 59 22.7 -0.3
comp=Z,31nm,0.7s
KMI Kunming 77.47 302 P **P** 16 59 25.3 +1.3
KMI PcP **PcP** 16 59 34.0 -0.2
KMI S **S** 17 09 15.8 +3.3
KMI PMZ
comp=Z,29nm,1.5s
KMI PMZ
comp=Z,190nm,3.6s
KMI LN
comp=Z,490nm,21.9s
KMI LE
comp=Z,520nm,25.7s
KMI LZ
comp=Z,780nm,28.1s
CM31 Chiang Mai Arr 77.85 294 *e*P **P** 16 59 27.2 +1.3
comp=Z,16nm,1.0s
CMAR Chiang Mai Arr 77.85 294 P **P** 16 59 26.7 +0.7
comp=Z,4.3nm,1.0s,baz=134,slow=4.8,SNR=13
CMAR LR LR 17 35 26.2
comp=Z,236nm,19.7s,baz=124,slow=37
CMMT Chiang Mai 77.99 294 P **P** 16 59 29.4 +2.7
comp=Z,25nm,1.2s
CHTO Chiang Mai 78.00 294 P **P** 16 59 29.5 +2.8
comp=Z,88nm,1.3s
CHTO Chiang Mai 78.00 294 *e*P **P** 16 59 27.3 +0.6
CHTO pmax pmax
comp=Z,24nm,1.2s
CHTO MLR MLR
comp=Z,358nm,19.0s
CHTO Chiang Mai 78.00 294 *e*P **P** 16 59 27.3 +0.6
comp=Z,24nm,1.2s
CHTO LR LR
comp=Z,358nm,19.0s
MHMT Maesarieng 78.62 293 P P 16 59 40.8 +11
HHC Hu-ho-hao-te 79.14 319 *e*P **P** 16 59 34.6 +1.9
HHC pP **pP** 16 59 46.1 +1.2
HHC sP **sP** 16 59 51.4 +2.0
HHC PP **PP** 17 02 35.4 +2.7
HHC S **S** 17 09 32.1 +2.6
HHC SKS **SKSac** 17 09 40.6 -5.0
HHC PMZ
comp=Z,23nm,1.3s
HHC PMZ
comp=Z,320nm,7.2s
HHC LN
comp=Z,970nm,17.4s
HHC LE
comp=Z,840nm,17.5s
HHC LZ
comp=Z,2μm,17.2s
CD2 Chengdu 79.34 307 P **P** 16 59 34.8 +0.9
CD2 PcP **PcP** 16 59 42.6 +0.6
CD2 pP **pP** 16 59 45.7 -0.4
CD2 sP **sP** 16 59 50.0 -0.7
CD2 S **S** 17 09 34.0 +2.1
CD2 sS **sS** 17 09 52.5 +0.3
CD2 PMZ
comp=Z,40nm,0.5s
CD2 PMZ
comp=Z,260nm,5.4s
CD2 LN
comp=Z,660nm,17.6s
CD2 LE
comp=Z,860nm,23.5s
CD2 LZ
comp=Z,960nm,21.6s
MAW Mawson 79.61 202 P **P** 16 59 36.1 +1.4
comp=Z,12nm,1.0s,baz=21,slow=7.5,SNR=4.2
MAW LR LR 17 30 30.0
comp=Z,2μm,20.1s,baz=92,slow=32
MAW Mawson 79.61 202 *e*P **P** 16 59 35.9 +1.2
MAW pmax pmax
comp=Z,10.0nm,1.1s
MAW Mawson 79.61 202 *e*P **P** 16 59 35.9 +1.2
comp=Z,9.6nm,1.1s
HIA Hailar 79.91 330 PFAKE 16 59 50.0 +13
HIA LR LR
comp=Z,727nm,20.0s
BTO Baotou 79.97 318 *e*P P 16 59 41.2 +4.0
SEY Seymchan 81.65 352 P **P** 16 59 45.0 -0.5
comp=Z,4.0nm,1.0s,baz=147,slow=1.3,SNR=7.8
SEY Seymchan 81.65 352 *e*P **P** 16 59 44.6 -0.9
LZH Lanzhou 81.76 312 *e*P **P** 16 59 48.2 +1.3
LZH pP **pP** 17 00 01.6 +2.5
LZH sP **sP** 17 00 07.2 +3.5
LZH *e*S **S** 17 09 54.1 -3.2
LZH SKS **SKSac** 17 09 58.2 -5.8
LZH sS **ScS** 17 10 13.2 -0.8
LZH PMZ
comp=Z,30nm,1.2s
LZH PMZ
comp=Z,160nm,5.2s
LZH LN
comp=Z,540nm,16.0s
LZH LE
comp=Z,740nm,16.9s
LZH LZ
comp=Z,1μm,18.7s
KDAK Kodiak Island 81.83 20 PFAKE 17 00 00.0 +13
KDAK LR LR
comp=Z,3μm,22.0s
RSO Redoubt South 83.94 18 P **P** 16 59 58.3 +0.6
comp=Z,48nm,0.9s
KIPM Iron Peak 85.02 46 *e*P **P** 17 00 03.5 -0.1
comp=Z,81nm,1.5s
PKM Mcpherson Peak 85.43 51 P **P** 17 00 06.9 +1.1
baz=86
YAK Yakutsk 85.58 343 P **P** 17 00 04.5 -1.1
comp=Z,0.9nm,0.3s,baz=330,slow=24,SNR=8.9
YAK Yakutsk 85.58 343 *e*P **P** 17 00 04.0 -1.6
YAK *e* 17 03 24.3
YAK *e*PPP PPP 17 05 18.6
YAK *e*S SKSac 17 10 19.4 -8.0
YAK *e* 17 10 39.6
YAK *e*SS **SS** 17 16 12.2 +0.9
YAK *e*SSS SSS 17 19 38.2
YAK pmax pmax
comp=Z,23nm,1.0s
YAK pmax pmax
comp=Z,160nm,6.0s
YAK pmax pmax
comp=N,121nm,5.6s
YAK pmax pmax
comp=E,17nm,1.9s
YAK smax smax
comp=N,57nm,5.5s
YAK smax smax
comp=E,51nm,5.3s
YAK Yakutsk 85.58 343 P **P** 17 00 04.3 -1.3
comp=E,38nm,0.9s
YAK LR LR
comp=Z,836nm,21.0s
BILL Bilibino 85.73 359 *i* P **P** 17 00 05.4 -0.9
BILL *e* 17 03 33.9
BILL *e*S **S** 17 10 32.1 -3.5
BILL pmax pmax
comp=Z,35nm,2.5s
BILL MLR MLR
comp=Z,453nm,19.0s
BILL Bilibino 85.73 359 P **P** 17 00 04.7 -1.6
comp=Z,21nm,1.3s
BILL LR LR
comp=Z,504nm,21.0s
ULN Ulaanbaatar 85.73 323 *e*P **P** 17 00 09.9 +2.9
ULN pmax pmax
comp=Z,12nm,0.9s
ULN MLR MLR
comp=Z,537nm,21.0s
ULN Ulaanbaatar 85.73 323 *e*P **P** 17 00 09.9 +2.9
comp=Z,12nm,0.9s
ULN LR LR
comp=Z,537nm,21.0s
WDC Whiskeytown Da 86.02 45 *e*P **P** 17 00 09.1 +0.7
WDC pmax pmax
comp=Z,42nm,1.4s
WDC Whiskeytown Da 86.02 45 *e*P **P** 17 00 09.1 +0.7
comp=Z,42nm,1.4s
N02D Trinity Center 86.09 45 P **P** 17 00 09.3 +0.5
baz=86
SONM Songino Array 86.09 323 P **P** 17 00 08.3 -0.5
comp=Z,9.8nm,1.2s,baz=135,slow=5.7,SNR=14
SONM LR LR 17 37 45.2
comp=Z,628nm,20.7s,baz=119,slow=35

OSI Osito Audit: C 86.12 52 *e*P **P** 17 00 08.6 -0.5
GTA Gaotai 86.13 313 ⇑P **P** 17 00 09.7 +0.6
GTA pP **pP** 17 00 20.0 -1.4
GTA sP **sP** 17 00 24.1 -1.9
GTA SKS **SKSac** 17 10 30.4 -1.8
GTA S **S** 17 10 40.8 -0.2
GTA sS **sS** 17 10 57.9 -3.6
GTA PMZ
comp=Z,12nm,1.7s
GTA PMZ
comp=Z,110nm,5.7s
GTA LN
comp=Z,620nm,19.0s
GTA LE
comp=Z,610nm,23.3s
GTA LZ
comp=Z,890nm,23.3s
SYO Syowa Base 86.16 196 ⇓*e*P P 17 00 11.9 +3.3
M02C Callahan 86.19 44 P **P** 17 00 09.8 +0.6
baz=86
CMB Columbia Colle 86.37 48 *e*P **P** 17 00 09.4 -0.8
CMB pmax pmax
comp=Z,38nm,1.3s
CMB Columbia Colle 86.37 48 *e*P **P** 17 00 09.4 -0.8
comp=Z,38nm,1.3s
YBH Yreka Blue Hor 86.44 44 P **P** 17 00 10.6 +0.1
comp=Z,6.4nm,1.0s,baz=216,slow=6.7,SNR=4.8
YBH Yreka Blue Hor 86.44 44 *e*P **P** 17 00 09.3 -1.2
YBH pmax pmax
comp=Z,30nm,1.3s
YBH Yreka Blue Hor 86.44 44 *e*P **P** 17 00 09.3 -1.2
comp=Z,30nm,1.3s
MWC Mount Wilson 86.46 52 P **P** 17 00 10.3 -0.6
MWC pmax pmax
comp=Z,88nm,1.6s
MWC Mount Wilson 86.46 52 P **P** 17 00 10.3 -0.6
comp=Z,88nm,1.6s
HUMO Hull Mountain 86.69 43 *e*P **P** 17 00 10.1 -1.5
comp=Z,26nm,1.2s
ISA Isabella, Lake 86.75 51 *e*P **P** 17 00 11.1 -1.1
ISA pmax pmax
comp=Z,45nm,1.4s
ISA Isabella, Lake 86.75 51 P **P** 17 00 12.9 +0.8
baz=87
ISA Isabella, Lake 86.75 51 *e*P **P** 17 00 11.1 -1.1
comp=Z,45nm,1.4s
BFSC Mount Baldy Ra 86.77 53 P **P** 17 00 12.2 -0.2
baz=87
EDW2 Edwards Air Fo 86.78 52 P **P** 17 00 11.8 -0.6
baz=87
M04C Macdoel 87.04 44 P **P** 17 00 13.2 -0.3
baz=87
MONP Monument Peak, 87.18 54 P **P** 17 00 13.9 -0.6
baz=87
WAKR Walker 87.25 48 *e*P **P** 17 00 14.7 0.0
comp=Z,61nm,1.4s
PFO Pinyon Flats O 87.44 54 *e*P **P** 17 00 16.9 +1.3
PFO pmax pmax
comp=Z,31nm,1.6s
PFO MLR MLR
comp=Z,3μm,22.0s
PFO Pinyon Flats O 87.44 54 *e*P **P** 17 00 16.9 +1.3
comp=Z,31nm,1.6s
PFO LR LR
comp=Z,3μm,22.0s
I04A Tendick Farm, 87.59 42 P **P** 17 00 15.8 -0.2
baz=88
MPMC Manual Prospec 87.64 51 P **P** 17 00 16.6 -0.1
baz=88
DAC Darwin (Calif) 87.65 51 *e*P **P** 17 00 15.6 -1.1
DAC pmax pmax
comp=Z,57nm,1.8s
DAC Darwin (Calif) 87.65 51 *e*P **P** 17 00 15.6 -1.1
comp=Z,56nm,1.8s
GSC Goldstone, Bar 87.84 52 P **P** 17 00 17.4 -0.1
GSC pmax pmax
comp=Z,57nm,1.8s
GSC Goldstone, Bar 87.84 52 P **P** 17 00 17.3 -0.2
baz=88
GSC Goldstone, Bar 87.84 52 P **P** 17 00 17.4 -0.1
comp=Z,57nm,1.8s
BELC Belle Mtn. Jos 87.94 53 P **P** 17 00 17.1 -0.9
baz=88
HEC Hector,Ludlow 88.01 53 P **P** 17 00 18.0 -0.3
baz=88
NVAR Mina Array Bea 88.02 49 P **P** 17 00 18.2 -0.3
comp=Z,3.9nm,1.0s,baz=235,slow=5.2,SNR=14
J05D Fort Rock, OR 88.12 43 P **P** 17 00 18.7 0.0
baz=88
PMSA Palmer Station 88.19 160 LR LR 17 36 48.4
comp=Z,606nm,18.3s,baz=231,slow=34
BC3 Big Chuckawall 88.22 54 P **P** 17 00 19.7 +0.4
baz=88
NLWA Neilton Lookou 88.39 39 PFAKE 17 00 30.0 +10
NLWA LR LR
comp=Z,923nm,19.0s
GMRC Granite Mounta 88.50 53 P **P** 17 00 20.3 -0.4
baz=89
PINOR Pine Mountain 88.59 43 *e*P **P** 17 00 20.7 0.0
comp=Z,207nm,0.9s
IRM Iron Mountain 88.65 54 P **P** 17 00 19.5 -1.7
baz=89
TPH Tonopah 88.65 49 *e*P P 17 00 17.4 -4.0
TPH pmax pmax
comp=Z,24nm,1.3s
TPH Tonopah 88.65 49 *e*P P 17 00 17.4 -4.0
comp=Z,24nm,1.3s
LSA Lhasa 88.73 302 PFAKE 17 00 30.0 +7.7
LSA LR LR
comp=Z,427nm,20.0s
WRAK Wrangell Islan 88.75 28 PFAKE 17 00 30.0 +8.9
WRAK LR LR
comp=Z,2μm,20.0s
COLA College 88.82 17 *i* P **P** 17 00 18.8 -2.4
COLA pmax pmax
comp=Z,15nm,1.1s
COLA College 88.82 17 PFAKE 17 00 30.0 +8.8
COLA LR LR
comp=Z,2μm,21.0s
TPNV Topopah Spring 88.91 51 P **P** 17 00 21.7 -0.9
baz=89
ILAR Eielson Array 89.01 17 P **P** 17 00 22.6 +0.4
comp=Z,1.5nm,0.8s,baz=229,slow=6.5,SNR=9.6
ILAR LR LR 17 34 07.6
comp=Z,2μm,20.9s,baz=226,slow=32
ZAK Zakamensk 89.16 324 *e*P **P** 17 00 20.7 -2.6
ZAK pmax pmax
comp=Z,8.0nm,1.8s
WVOR Wild Horse Val 89.47 45 *e*P **P** 17 00 25.6 +0.6
WVOR pmax pmax
comp=Z,94nm,1.5s
WVOR MLR MLR
comp=Z,3μm,20.0s
WVOR Wild Horse Val 89.47 45 *e*P **P** 17 00 25.6 +0.6
comp=Z,94nm,1.5s
WVOR LR LR
comp=Z,3μm,20.0s
PDMCI Parker Dam,Lak 89.48 54 P **P** 17 00 25.5 +0.4
baz=90
SHPR Sheep Range 89.54 51 *e*P **P** 17 00 25.5 -0.1
comp=Z,84nm,1.9s
TLY Talaya 89.61 326 LR LR 17 37 17.4
comp=Z,290nm,21.2s,baz=126,slow=33
TLY Talaya 89.61 326 *e*P **P** 17 00 28.3 +3.0
TLY *e*S **SKSac** 17 10 51.9 -0.5
TLY *e*SS **SS** 17 17 05.4 -5.2
TLY pmax pmax
comp=Z,9.0nm,1.5s
214A Organ Pipe Nat 89.65 56 *e*P **P** 17 00 26.8 +0.7
R11A Troy Canyon, C 89.94 50 *e*P **P** 17 00 27.0 -0.4
comp=Z,14nm,1.6s
NVL N'lazarevskaya 90.15 187 *e*P P 17 00 33.7 +6.1
NVL pmax pmax
comp=Z,5.0nm,0.6s
SNAA Sanae 90.47 183 P P 17 00 22.7 -6.5
SNAA Sanae 90.47 183 P **PKiKP** 17 05 26.6 +2.9
SNAA Sanae 90.47 183 P **P** 17 00 28.2 -1.0
comp=Z,2.2nm,0.9s,baz=196,slow=8.5,SNR=7.6
SNAA Sanae 90.47 183 *e*P P 17 00 23.7 -5.5
SNAA pmax pmax
comp=Z,10.0nm,1.2s
SNAA Sanae 90.47 183 P **P** 17 00 28.2 -1.0
comp=Z,0.6nm,1.1s
HAWA Hanford 90.58 41 P **P** 17 00 30.4 +0.4
comp=Z,42nm,1.2s
HAWA LR LR
comp=Z,2μm,21.0s

EGAK Eagle 90.72 19 PFAKE 17 00 40.0 +10
EGAK LR LR
comp=Z,1µm,20.0s
DLBC Dease Lake 90.93 27 LR LR 17 36 41.4
comp=Z,2µm,18.4s,baz=228,slow=32
BMO Blue Mountains 91.35 43 *e*P **P 17 00 32.8 -0.9**
BMO pmax pmax
comp=Z,26nm,1.5s
BMO MLR MLR
comp=Z,3µm,21.0s
BMO Blue Mountains 91.35 43 *e*P **P 17 00 32.8 -0.9**
comp=Z,26nm,1.5s
BMO LR LR
comp=Z,3µm,21.0s
VNA2 Neumayer--Watz 91.36 181 P **P 17 00 32.9 -0.3**
baz=172,slow=2.8
TUC Tucson 91.38 57 *e*P **P 17 00 35.7 +1.5**
TUC pmax pmax
comp=Z,16nm,1.4s
TUC MLR MLR
comp=Z,949nm,21.0s
TUC Tucson 91.38 57 *e*P **P 17 00 35.7 +1.5**
comp=Z,16nm,1.4s
TUC LR LR
comp=Z,949nm,21.0s
VNA1 Neumayer--Stat 91.65 181 P **P 17 00 36.8 +2.3**
MFID Camas Ranch 91.75 45 *e*P **P 17 00 36.9 +1.3**
comp=Z,37nm,1.7s
WUAZ Wupatki 92.04 53 PFAKE 17 00 50.0 +13
WUAZ LR LR
comp=Z,2µm,21.0s
MSU Marysvale 92.49 50 P **P 17 00 40.2 +0.9**
MSU pmax pmax
comp=Z,26nm,1.8s
MSU Marysvale 92.49 50 P **P 17 00 40.2 +0.9**
comp=Z,26nm,1.8s
DUG Dugway, Tooele 92.63 49 PFAKE 17 00 50.0 +10
DUG LR LR
comp=Z,2µm,20.0s
USHA Ushuaia 92.65 151 LR LR 17 34 13.5
comp=Z,627nm,18.8s,baz=196,slow=30
HLID Hailey 92.76 45 PFAKE 17 00 50.0 +10
HLID LR LR
comp=Z,3µm,20.0s
NEW Newport 92.85 40 PFAKE 17 00 50.0 +10
NEW LR LR
comp=Z,1µm,21.0s
TIXI Tiksi 93.43 348 *e*P **P 17 00 41.9 -0.6**
TIXI pmax pmax
comp=Z,1.0nm,0.9s
TIXI Tiksi 93.43 348 *e*P **P 17 00 41.4 -1.1**
comp=Z,1.0nm,0.5s
TIXI LR LR
comp=Z,606nm,21.0s
HWUT Hardware Ranch 94.02 48 PFAKE 17 01 00.0 +14
HWUT LR LR
comp=Z,1µm,22.0s
DGAR Diego Garcia 94.03 261 PFAKE 17 01 00.0 +13
DGAR LR LR
comp=Z,4µm,20.0s
AHID Auburn Hatcher 94.74 47 PFAKE 17 01 00.0 +10
AHID LR LR
comp=Z,1µm,21.0s
MVCO Mesa Verde 94.79 53 PFAKE 17 01 00.0 +10
MVCO LR LR
comp=Z,2µm,19.0s
BOZ Bozeman (W) 95.36 44 PFAKE 17 01 00.0 +7.7
BOZ LR LR
comp=Z,2µm,21.0s
MNTX Cornudas Mount 95.53 59 PFAKE 17 01 00.0 +6.8
MNTX LR LR
comp=Z,2µm,19.0s
ANMO Albuquerque 95.65 55 PFAKE 17 01 10.0 +16
ANMO LR LR
comp=Z,1µm,20.0s
BW06 Boulder Array 95.81 47 PFAKE 17 01 10.0 +16
BW06 LR LR
comp=Z,1µm,20.0s
PDAR Pinedale Array 95.81 47 P P 17 00 59.2 +4.8
comp=Z,0.8nm,0.9s,baz=222,slow=2.0,SNR=6.7
PDAR LR LR 17 39 00.4
comp=Z,1µm,19.1s,baz=264,slow=32
LKWY Lake 95.82 45 PFAKE 17 01 10.0 +15
LKWY LR LR
comp=Z,4µm,19.0s
WMQ Urumqi 96.20 314 P **P 17 00 56.4 +0.4**
WMQ pP **pP 17 01 09.9 +1.5**
WMQ sP **sP 17 01 14.5 +1.6**
WMQ PP **PP 17 04 53.1 +3.3**
WMQ SKS **SKSac 17 11 27.1 -2.4**
WMQ sS **sS 17 12 32.0 -1.4**
WMQ SS **SS 17 18 45.5 -0.2**
WMQ PMZ
comp=Z,7.0nm,0.6s
WMQ PMZ
comp=Z,92nm,4.9s
WMQ LN
comp=Z,690nm,21.0s
WMQ LE
comp=Z,620nm,24.4s
WMQ LZ
comp=Z,940nm,26.0s
TXAR Lajitas Array 96.25 61 P **P 17 00 56.6 0.0**
comp=Z,0.2nm,0.7s,baz=212,slow=4.4,SNR=3.7
TXAR LR LR 17 37 50.5
comp=Z,2µm,18.7s,baz=0.0,slow=31
RLMT Red Lodge 96.76 45 PFAKE 17 01 10.0 +11
RLMT LR LR
comp=Z,5µm,20.0s
SDCO Great Sand Dun 97.22 53 PFAKE 17 01 10.0 +8.8
SDCO LR LR
comp=Z,2µm,20.0s
EGMT Eagleton 97.36 42 PFAKE 17 01 10.0 +8.7
EGMT LR LR
comp=Z,1µm,20.0s
ISCO Idaho Springs 97.73 51 PFAKE 17 01 10.0 +6.6
ISCO LR LR
comp=Z,2µm,22.0s
LAO LASA Array 99.26 44 PFAKE 17 01 20.0 +10
LAO LR LR
comp=Z,3µm,21.0s
EFI East Falkland 99.43 152 PFAKE 17 01 20.0 +10
EFI LR LR
comp=Z,1µm,19.0s
YKA Yellowknife Ar 99.56 27 P **Pdif 17 01 09.3 -1.2**
comp=Z,0.4nm,0.7s,baz=262,slow=4.3,SNR=3.3
JCT Junction City 99.78 61 PFAKE 17 01 20.0 +7.6
JCT LR LR
comp=Z,2µm,21.0s
PAYG Puerto Ayora 99.88 94 PFAKE 17 01 20.0 +6.8
PAYG LR LR
comp=Z,1µm,22.0s
KVTX Kingsville 100.65 64 PFAKE 17 01 30.0 +14
KVTX LR LR
comp=Z,2µm,20.0s
OGNE Ogallala 100.67 50 PFAKE 17 01 30.0 +14
OGNE LR LR
comp=Z,2µm,21.0s
MKAR Makanchi Array 100.71 316 P **Pdif 17 01 15.2 -0.9**
comp=Z,0.7nm,0.8s,baz=88,slow=5.8,SNR=7.7
ZALV Zalesovo Beam 100.99 323 P **Pdif 17 01 14.9 -2.2**
comp=Z,0.5nm,0.5s,baz=93,slow=7.7,SNR=5.7
DGMT Dagmar 101.05 43 PFAKE 17 01 30.0 +12
DGMT LR LR
comp=Z,1µm,21.0s
WMOK Wichita Mounta 101.67 57 PFAKE 17 01 30.0 +9.3
WMOK LR LR
comp=Z,1µm,19.0s
FFC Flin Flon 103.80 37 PFAKE 17 01 40.0 +10
FFC LR LR
comp=Z,2µm,21.0s
KURK Kurchatov 103.96 319 PKiKP **PKiKP 17 05 47.1 -0.6**
KURK LR LR
comp=Z,952nm,22.0s
KURBB Kurchatov Arra 104.00 319 PKiKP **PKiKP 17 05 47.1 -0.7**
comp=Z,0.4nm,0.2s,baz=94,slow=2.3,SNR=6.5
KSU1 Kansas State U 104.32 53 PFAKE 17 01 40.0 +7.7
KSU1 LR LR
comp=Z,2µm,21.0s
NATX Nacogdoches 104.37 61 PFAKE 17 01 40.0 +7.3
NATX LR LR
comp=Z,2µm,20.0s
TKM2 Tokmak 2 104.50 311 PFAKE 17 01 40.0 +6.7
TKM2 LR LR
comp=Z,415nm,21.0s
ECSD EROS Data Cent 105.19 49 PFAKE 17 06 00.0
ECSD LR LR
comp=Z,2µm,20.0s
AAK Ala-Archa 105.24 310 PFAKE 17 06 00.0
AAK LR LR
comp=Z,468nm,19.0s
EKS2 Erkin-Say 105.77 310 PFAKE 17 06 00.0
EKS2 LR LR
comp=Z,404nm,22.0s
LCO Las Campanas 105.77 128 PFAKE 17 06 00.0
LCO LR LR
comp=Z,909nm,19.0s
MIAR Mount Ida 105.83 58 PFAKE 17 06 00.0
MIAR LR LR
comp=Z,2µm,21.0s
AGMN Agassiz Nation 106.46 44 PFAKE 17 06 00.0
AGMN LR LR
comp=Z,2µm,21.0s
TRQA Tornquist 106.52 140 PFAKE 17 06 00.0
TRQA LR LR
comp=Z,764nm,20.0s
TGUH Tegucigalpa,Un 106.94 80 PFAKE 17 06 10.0
TGUH LR LR
comp=Z,735nm,20.0s
SCIA State Center 107.36 51 PFAKE 17 06 10.0
SCIA LR LR
comp=Z,2µm,22.0s
TEIG Tepich 107.48 74 PFAKE 17 06 10.0
TEIG LR LR
comp=Z,811nm,20.0s
NNA Nana 108.45 110 PFAKE 17 06 10.0
NNA LR LR
comp=Z,469nm,20.0s
EYMN Ely 109.32 45 PFAKE 17 06 10.0
EYMN LR LR
comp=Z,3µm,22.0s
BVAR Borovoye Array 109.32 321 PKiKP **PKiKP 17 05 56.7 -0.9**
comp=Z,1.0nm,0.8s,baz=99,slow=2.0,SNR=3.6
BRVK Borovoye 109.39 321 PFAKE 17 06 10.0
BRVK LR LR
comp=Z,943nm,21.0s
JFWS Jewell Farm 109.67 50 PFAKE 17 06 10.0
JFWS LR LR
comp=Z,3µm,22.0s
HDIL Hopedale 110.11 53 PFAKE 17 06 10.0
HDIL LR LR
comp=Z,2µm,20.0s
LVC Limon Verde 110.43 123 PFAKE 17 06 10.0
LVC LR LR
comp=Z,988nm,20.0s
BRAL Brewton 110.62 63 PFAKE 17 06 10.0
BRAL LR LR
comp=Z,2µm,20.0s
MSEY Mahe Island 110.83 258 PFAKE 17 06 10.0
MSEY LR LR
comp=Z,926nm,20.0s
OTAV Otavalo 111.39 97 PFAKE 17 06 20.0
OTAV LR LR
comp=Z,669nm,22.0s
ABPO Ambohimpanom 112.13 240 PFAKE 17 06 20.0
ABPO LR LR
comp=Z,2µm,20.0s
GLMI Grayling 113.87 48 PFAKE 17 06 20.0
GLMI LR LR
comp=Z,3µm,21.0s
AAM Ann Arbor 114.48 51 PFAKE 17 06 20.0 +12
AAM LR LR
comp=Z,1µm,20.0s
ACSO Alum Creek Sta 114.89 53 PFAKE 17 06 20.0 +11
ACSO LR LR
comp=Z,2µm,21.0s
SVE Sverdlovsk 114.91 325 *i* PKIKP PKPdf 17 06 10.0 +1.8
SVE pmax pmax
comp=Z,10.0nm,1.4s
SVE MLR MLR
comp=Z,453nm,19.0s
ARU Arti 116.10 325 *i* PKIKP **PKPdf 17 06 08.8 -1.6**
ARU 17 07 17.6
ARU 17 12 57.2
ARU SP SP 17 16 55.9 +3.8
ARU SS SS 17 23 29.6 +14
ARU Arti 116.10 325 PFAKE 17 06 20.0 +10
ARU LR LR
comp=Z,519nm,19.0s
NHSC New Hope 116.67 61 PFAKE 17 06 20.0 +7.7
NHSC LR LR
comp=Z,1µm,19.0s
BLA Blacksburg 116.74 57 PFAKE 17 06 20.0 +7.6
BLA LR LR
comp=Z,2µm,21.0s
MTDJ Mount Denham 116.99 78 PFAKE 17 06 30.0 +17
MTDJ LR LR
comp=Z,359nm,20.0s
AKTO Aktyubinsk 117.01 318 PKP **PKPdf 17 06 12.1 -0.4**
comp=Z,0.9nm,0.5s,baz=135,slow=1.4,SNR=4.1
KBS Kingsbay 118.01 355 PFAKE 17 06 30.0 +16
KBS LR LR
comp=Z,385nm,19.0s
SPITS Spitsbergen Ar 118.28 354 PKP **PKPdf 17 06 16.3 +2.2**
comp=Z,1.9nm,0.6s,baz=56,slow=0.5,SNR=3.2
CNNC Cliffs of the 118.70 59 PFAKE 17 06 30.0 +14
CNNC LR LR
comp=Z,2µm,22.0s
CBN Corbin Frederi 119.19 56 PFAKE 17 06 30.0 +13
CBN LR LR
comp=Z,2µm,20.0s
GTBY Guantanamo Bay 119.55 77 PFAKE 17 06 30.0 +12
GTBY LR LR
comp=Z,490nm,19.0s
BINY Binghamton 120.17 51 PFAKE 17 06 30.0 +11
BINY LR LR
comp=Z,2µm,21.0s
LONY Lake Ozonia 121.02 48 PFAKE 17 06 30.0 +10
LONY LR LR
comp=Z,4µm,21.0s
PRGR Permogore 121.30 332 *e*PKIKP **PKPdf 17 06 16.7 -3.6**
PRGR pmax pmax
comp=Z,5.0nm,0.3s
NCB Newcomb 121.34 49 PFAKE 17 06 30.0 +9.0
NCB LR LR
comp=Z,3µm,22.0s
SDV Santo Domingo 121.40 90 PFAKE 17 06 30.0 +7.8
SDV LR LR
comp=Z,657nm,21.0s
SUR Sutherland 121.50 211 PFAKE 17 06 30.0 +8.0
SUR LR LR
comp=Z,866nm,20.0s
SAML Samuel 121.88 113 PFAKE 17 06 30.0 +7.1
SAML LR LR
comp=Z,630nm,22.0s
BOSA Boshof 122.03 218 PKP **PKPdf 17 06 22.4 -0.5**
comp=Z,4.6nm,1.0s,baz=64,slow=3.2,SNR=3.8
LVZ Lovozero 122.37 341 PFAKE 17 06 30.0 +7.7
LVZ LR LR
comp=Z,839nm,22.0s
SDDR Presa de Saban 122.95 79 PFAKE 17 06 40.0 +15
SDDR LR LR
comp=Z,854nm,19.0s
KEV Kevo 123.24 345 PFAKE 17 06 40.0 +16
KEV LR LR
comp=Z,788nm,21.0s
GRTK Grand Turk 123.47 76 PFAKE 17 06 40.0 +14
GRTK LR LR
comp=Z,787nm,20.0s
ARCES ARCESS Array B 123.76 345 PKP **PKPdf 17 06 25.1 +0.3**
comp=Z,5.4nm,0.8s,baz=108,slow=2.7,SNR=7.8
KLMR Klimovskoe 124.31 333 *e*PKIKP **PKPdf 17 06 25.0 -1.1**
KLMR 17 13 33.4
KLMR SP SP 17 18 02.0 -3.0
KLMR pmax pmax
comp=Z,28nm,1.3s
KLMR MLR MLR
comp=Z,749nm,21.0s
PKME Peaks-Kenny Pk 124.67 47 PFAKE 17 06 40.0 +13
PKME LR LR
comp=Z,2µm,20.0s
SFJD Kangerlussuaq 124.68 18 PFAKE 17 06 40.0 +13
SFJD LR LR
comp=Z,1µm,19.0s
GNI Garni 127.47 307 PFAKE 17 06 40.0 +7.0
GNI LR LR
comp=Z,331nm,20.0s
MOS Moscow 127.51 328 *e*PKIKP **PKPdf 17 06 30.7 -1.7**
SJG San Juan 127.63 81 PFAKE 17 06 50.0 +16
SJG LR LR
comp=Z,585nm,22.0s
ZEI Tsey 127.66 311 *i* PKIKP PKPdf 17 06 41.3 +7.9
ZEI pmax pmax
comp=Z,16nm,1.0s
LPSR Galich'ya Gora 128.10 324 *e*PKIKP **PKPdf 17 06 34.1 +0.5**
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR pmax pmax
comp=N,2.0nm,0.8s
LPSR pmax pmax
comp=E,1.0nm,0.6s
KIV Kislovodsk 128.30 312 *i* PKIKP **PKPdf 17 06 33.2 -1.2**
KIV *e* 17 08 37.5
KIV *e*SS SS 17 25 52.4 +0.6
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,382nm,20.0s
KIV Kislovodsk 128.30 312 PFAKE 17 06 50.0 +16
KIV LR LR
comp=Z,389nm,19.0s
OBN Obninsk 128.32 327 *i* PKIKP **PKPdf 17 06 33.7 -0.2**
OBN *e* 17 08 41.8
OBN *e*PS **PS 17 18 42.4 -4.0**
OBN *i* SS SS 17 25 55.5 +4.7
OBN pmax pmax
comp=Z,14nm,1.2s
OBN Obninsk 128.32 327 PFAKE 17 06 50.0 +16
OBN LR LR
comp=Z,603nm,20.0s
NEY Neytrino 128.42 311 *i* PKIKP **PKPdf 17 06 35.5 +0.7**
VSR Storozhevoye 128.47 322 *e*PKIKP **PKPdf 17 06 34.4 0.0**
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,7.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
FINES FINESS Array B 129.32 338 PKP **PKPdf 17 06 35.0 -0.6**
comp=Z,6.6nm,1.1s,baz=108,slow=6.2,SNR=5.7
BBSR BB Station 129.70 63 PFAKE 17 06 50.0 +13
BBSR LR LR
comp=Z,594nm,20.0s
SOC Sochi 130.48 312 *i* PKIKP **PKPdf 17 06 39.8 +1.4**
SOC *e* 17 08 53.1
SOC *e*SSS SSS 17 31 13.8
SOC MLR MLR
comp=Z,517nm,21.0s
GRGR Grenville 130.75 89 PFAKE 17 06 50.0 +10
GRGR LR LR
comp=Z,489nm,20.0s
ANWB Willy Bob 131.67 82 PFAKE 17 06 50.0 +8.6
ANWB LR LR
comp=Z,573nm,20.0s
FDF Fort de France 131.78 86 PFAKE 17 06 50.0 +8.3
FDF LR LR
comp=Z,551nm,20.0s
MALT Malatya 132.61 306 ⇑PKIKP **PKPdf 17 06 45.5 +2.7**
MALT Malatya 132.61 306 ⇑*i*P **PKPdf 17 06 45.5 +2.7**
BBGH Gun Hill 132.97 89 PFAKE 17 07 00.0 +16
BBGH LR LR
comp=Z,1µm,21.0s
NB2 NORSAR Subarra 134.14 345 PKPdf **PKPdf 17 06 45.1 +0.2**
comp=Z,7.2nm,1.2s,baz=31,slow=1.9
NOA NORSAR Array B 134.14 345 PKP **PKPdf 17 06 44.7 -0.1**
comp=Z,1.8nm,0.8s,baz=32,slow=1.9,SNR=8.6
AKASG Malin Array Be 134.35 325 PKP **PKPdf 17 06 46.0 +0.5**
comp=Z,4.0nm,0.9s,baz=56,slow=2.3,SNR=11
AKASG Malin Array Be 134.35 325 PKIKP **PKPdf 17 06 46.0 +0.5**
KIEV Kiev 134.36 325 *i* PKIKP **PKPdf 17 06 44.0 -1.5**
KIEV Kiev 134.36 325 PFAKE 17 07 00.0 +15
KIEV LR LR
comp=Z,425nm,20.0s
ASF Jabal al Asfar 134.79 298 PKP **PKPdf 17 06 47.0 -0.1**
comp=Z,0.9nm,0.5s,baz=31,slow=6.0,SNR=2.7
ASF Jabal al Asfar 134.79 298 PKIKP **PKPdf 17 06 47.0 -0.1**
MBAR Mbarara 135.11 250 PFAKE 17 07 00.0 +12
MBAR LR LR
comp=Z,1µm,21.0s
KONO Kongsberg 135.75 345 PFAKE 17 07 00.0 +12
KONO LR LR
comp=Z,622nm,20.0s
BRTR Keskin Array B 135.90 309 PKP **PKPdf 17 06 46.9 -2.1**
comp=Z,1.8nm,1.0s,baz=54,slow=2.5,SNR=2.8
BRTR PP **PP 17 09 28.9 +0.8**
comp=Z,1.8nm,1.1s,baz=80,slow=9.1,SNR=4.8
MMAI Mount Meron Ar 135.93 299 PKP **PKPdf 17 06 48.8 -0.4**
comp=Z,2.2nm,0.8s,baz=122,slow=5.4,SNR=3.9
ANTO Ankara 136.48 309 PFAKE 17 07 00.0 +10
ANTO LR LR
comp=Z,463nm,20.0s
EIL Elat 136.71 294 PKP **PKPdf 17 06 51.0 +0.4**
comp=Z,1.4nm,0.4s,baz=32,slow=3.6,SNR=3.3
CSS Prodhromos 137.29 302 PFAKE 17 07 00.0 +8.5
CSS LR LR
comp=Z,174nm,21.0s
LVV L'vov 137.61 327 *e*PKIKP PKPdf 17 07 04.7 +13
CFR Carcaliu 137.67 319 ⇑PKIKP **PKPdf 17 06 53.7 +1.9**
CFR Carcaliu 137.67 319 ⇑*i*P **PKPdf 17 06 53.7 +1.9**
BUR08 Bucovina Ar. S 138.20 323 PKPdf **PKPdf 17 06 55.3 +2.4**
BURAR Bucovina Array 138.21 323 ⇑PKIKP **PKPdf 17 06 55.6 +2.6**
BURAR Bucovina Array 138.21 323 ⇑*i*P **PKPdf 17 06 55.5 +2.6**
ISP Isparta 138.78 307 PFAKE 17 07 10.0 +16
ISP LR LR
comp=Z,375nm,20.0s
MLR Muntele Rosu 138.88 320 ⇑PKIKP PKPdf 17 07 00.5 +6.2
MLR Muntele Rosu 138.88 320 ⇑*i*P PKPdf 17 07 00.5 +6.2
KOLS Kolonicke sedl 139.06 327 *e*PKIKP **PKPdf 17 06 55.4 +1.1**
KOLS Kolonicke sedl 139.06 327 *e*PKP **PKPdf 17 06 55.4 +1.1**
STHS Stebnicka Huta 139.30 328 *e*PKIKP **PKPdf 17 06 55.5 +0.8**
STHS Stebnicka Huta 139.30 328 *e*PKP **PKPdf 17 06 55.5 +0.8**
DRGR 140.09 324 ⇓PKHKP PKPpre 17 06 50.1
DRGR 140.09 324 ⇓*i*P PKPpre 17 06 50.1
OKC Ostrava-Krasne 140.53 330 *e*PKP **PKPdf 17 06 58.6 +1.7**
OKC *ex* x 17 07 02.7
OKC AMS AMS 18 10 00.0
comp=Z,600nm,21.4s
OKC Ostrava-Krasne 140.53 330 *e*PKIKP **PKPdf 17 06 58.6 +1.7**
OKC MLR MLR
comp=Z,600nm,21.4s
GZR Gura Zlata 140.83 322 ⇓PKHKP PKPpre 17 06 54.7
GZR Gura Zlata 140.83 322 ⇓*i*P PKPpre 17 06 54.7
PSZ Piszkesteto 140.94 327 PFAKE 17 07 10.0 +12
PSZ LR LR
comp=Z,592nm,20.0s
KRLC Kraliky 141.00 332 *e*PKP **PKPdf 17 06 58.1 +0.2**
KRLC *ex* x 17 07 03.0
KRLC Kraliky 141.00 332 *e*PKIKP **PKPdf 17 06 58.1 +0.2**
KRLC *e* 17 07 03.0
DPC Dobruska-Polom 141.01 332 *e*PKP **PKPdf 17 06 59.0 +1.1**
DPC *ex* x 17 07 05.4
DPC AMS AMS 18 10 00.0
comp=Z,800nm,20.1s
DPC Dobruska-Polom 141.01 332 *e*PKIKP **PKPdf 17 06 59.0 +1.1**
DPC *e* 17 07 05.4
DPC MLR MLR
comp=Z,800nm,20.1s
UPC Upice 141.03 333 *e*PKP **PKPdf 17 06 58.3 +0.5**
UPC *ex* x 17 07 01.1
UPC *ex* x 17 07 04.0
UPC Upice 141.03 333 *e*PKIKP **PKPdf 17 06 58.3 +0.5**
UPC *e* 17 07 04.0
BZS Buzias 141.38 323 ⇓PKIKP **PKPdf 17 07 01.0 +2.4**
BZS Buzias 141.38 323 ⇓*i*P **PKPdf 17 07 01.0 +2.4**
BRG Berggiesshubel 141.63 335 *e*PKP **PKPdf 17 06 57.0 -1.9**
comp=Z,2.5nm,0.8s
BRG *e* 17 07 00.5
comp=Z,16nm,1.6s
comp=N,451nm,21.5s
comp=E,381nm,21.4s
comp=Z,571nm,23.7s
BRG Berggiesshubel 141.63 335 *e*PKIKP **PKPdf 17 06 57.0 -1.9**
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG MLR MLR
comp=N,451nm,21.5s
BRG MLR MLR
comp=E,381nm,21.4s
BRG MLR MLR
comp=Z,571nm,23.7s
PVCC Panska Ves 141.63 334 *e*PKP **PKPdf 17 07 02.7 +3.8**
PVCC *ex* x 17 07 05.1
PVCC *ex* x 17 07 08.7
PVCC AMS AMS 18 09 30.0
comp=Z,600nm,22.7s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVCC	Panska Ves	141.63	334	ePKIKP	PKPdf	17 07 02.7	+3.8
PVCC				e		17 07 08.7	
PVCC				MLR	MLR		
	comp=Z,600nm,22.7s						
CLL	Collm	141.67	336	ePKPdf	PKPdf	17 07 00.0	+1.1
CLL				i PKiKP	PKiKP	17 07 01.7	-0.1
	comp=Z,10.0nm,1.0s						
CLL				i		17 07 06.9	
CLL				Lm	MLR	17 11 00.0	
	comp=Z,200nm,19.7s						
CLL				eSS	SS	17 28 36.0	+5.5
CLL				eSSS	SSS	17 34 00.0	
CLL				LmV		18 14 00.0	
	comp=Z,500nm,20.7s						
CLL	Collm	141.67	336	ePKIKP	PKPdf	17 07 00.0	+1.1
CLL				i		17 07 06.9	
CLL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CLL				MLR	MLR		
	comp=Z,500nm,20.7s						
VTS	Vitosha	142.03	318	⇑PKIKP	PKPdf	17 07 00.2	+0.1
VTS	Vitosha	142.03	318	⇑iP	PKPdf	17 07 00.2	+0.1
PRU	Pruhonice	142.05	333	ePKP	PKPdf	17 06 57.2	-2.5
PRU				ex	x	17 07 02.1	
PRU				AMS	AMS	18 12 40.0	
	comp=Z,800nm,21.3s						
PRU	Pruhonice	142.05	333	ePKIKP	PKPdf	17 06 57.2	-2.5
PRU				e		17 07 02.1	
PRU				MLR	MLR		
	comp=Z,800nm,21.3s						
TREC	Trest	142.14	332	AMS	AMS	18 10 10.0	
	comp=Z,900nm,21.1s						
ESK	Eskdalemuir	142.21	353	PFAKE		17 07 10.0	+10
ESK				LR	LR		
	comp=Z,666nm,20.0s						
NKC	Novy Kostel	142.73	335	ePKP	PKPdf	17 06 59.7	-1.2
NKC				ex	x	17 07 04.7	
NKC	Novy Kostel	142.73	335	ePKIKP	PKPdf	17 06 59.7	-1.2
NKC				e		17 07 04.7	
CONA	Conrad Observa	142.95	330	⇑iPKPdf	PKPdf	17 06 59.4	-2.0
	comp=Z,23nm,1.2s,SNR=5.4						
SANT	Santorini	143.08	307	PFAKE		17 07 10.0	+8.0
SANT				LR	LR		
	comp=Z,429nm,20.0s						
KHC	Kasperske Hory	143.11	333	ePKP	PKPbc	17 06 59.0	+0.4
KHC				ex	x	17 07 01.2	
KHC				ex	x	17 07 05.7	
KHC				AMS	AMS	18 12 30.0	
	comp=Z,700nm,17.6s						
KHC	Kasperske Hory	143.11	333	ePKIKP	PKPbc	17 06 59.0	+0.4
KHC				e		17 07 05.7	
KHC				MLR	MLR		
	comp=Z,700nm,17.6s						
KHC	Kasperske Hory	143.11	333	ePKIKP	PKPdf	17 07 00.9	-0.8
KHC	Kasperske Hory	143.11	333	ePKPdf	PKPdf	17 07 00.8	-0.8
DIVS	Divibare	143.20	322	⇓iP	PKPbc	17 06 58.4	-0.6
GERES	GERESS Array B	143.27	333	PKhKP	PKPpre	17 06 58.5	
	comp=Z,3.0nm,0.8s,baz=35,slow=3.3,SNR=8.7						
MOA	Molln	143.75	331	⇑iPKPdf	PKPab	17 06 60.0	+0.3
	comp=Z,11nm,0.9s						
PERS	Pernice	144.22	329	ePKPbc	PKPab	17 07 01.5	0.0
SOKA	Soboth	144.23	329	i PKPdf	PKPab	17 07 01.6	0.0
	comp=Z,25nm,1.5s,SNR=13						
VAM	Vamos	144.37	306	eP	PKPbc	17 07 03.0	+0.3
OBKA	Obir	144.58	329	⇓iPKPdf	PKPab	17 07 02.2	-0.7
	comp=Z,15nm,0.8s,SNR=6.1						
MEM	Membach	144.70	341	PKP	PKPdf	17 07 05.0	+0.7
KBA	Koelnbreinsper	144.74	331	⇑iPKPab	PKPab	17 07 02.8	-0.8
	comp=Z,31nm,0.9s						
GUR	Goura	144.77	311	eP	PKPab	17 07 02.5	-1.4
TIR	Tirane	144.81	318	PFAKE		17 07 20.0	+15
TIR				LR	LR		
	comp=Z,813nm,21.0s						
VLI	Veliai	144.84	309	eP	PKPab	17 07 01.1	-3.0
KLV	Kalavryta, Ach	144.87	312	eP	PKPab	17 07 02.8	-1.4
ANKY	Antikythira Is	144.89	307	eP	PKPab	17 07 03.4	-0.9
LJU	Ljubljana	144.92	329	ePKPbc	PKPab	17 07 03.9	-0.2
MYKA	Terra Mystica	144.93	330	i PKPab	PKPab	17 07 03.3	-0.8
	comp=Z,30nm,1.0s,SNR=15						
KYTH	Kithira	144.93	308	eP	PKPab	17 07 04.1	-0.4
VLX	Vlachokerasia	144.99	310	eP	PKPbc	17 07 04.1	-0.6
BCLA	Clavier	145.08	342	PKP	PKPdf	17 07 06.0	+1.0
STU	Stuttgart	145.17	337	ePKIKP	PKPbc	17 07 04.6	-0.2
STU	Stuttgart	145.17	337	ePKP	PKPbc	17 07 04.6	-0.2
DRO	Drossia	145.22	312	eP	PKPbc	17 07 05.2	-0.1
UDBI	Udbina	145.32	326	P	PKPbc	17 07 05.0	-0.5
WATA	Walderalm	145.34	333	⇓iPKPdf	PKPbc	17 07 04.8	-0.8
	comp=Z,20nm,0.8s						
RLS	Riolos of Patr	145.34	312	eP	PKPbc	17 07 04.2	-1.5
ABTA	Abfaltersbach	145.37	331	⇑iPKPbc	PKPbc	17 07 04.3	-1.3
	comp=Z,74nm,0.9s,SNR=21						
WTTA	Wattenberg	145.37	333	i PKPdf	PKPbc	17 07 05.5	-0.3
	comp=Z,56nm,1.6s,SNR=12						
ITM	Ithomi	145.39	310	eP	PKPbc	17 07 04.5	-1.4
AMT	Artemida-Makis	145.40	311	eP	PKPbc	17 07 05.3	-0.6
WLF	Walferdange	145.48	340	PKP	PKPab	17 07 06.0	0.0
WLF	Walferdange	145.48	340	ePKIKP	PKPbc	17 07 05.8	+0.1
WLF				MLR	MLR		
	comp=Z,652nm,19.0s						
WLF	Walferdange	145.48	340	ePKP	PKPbc	17 07 05.8	+0.1
WLF				LR	LR		
	comp=Z,652nm,19.0s						
LANF	Langenberg	145.51	338	PKP	PKPab	17 07 06.1	0.0
MOTA	Moosalm	145.54	333	⇓iPKPab	PKPdf	17 07 05.2	-0.9
	comp=Z,52nm,1.0s,SNR=22						
DOU	Dourbes	145.57	342	PKP	PKPdf	17 07 05.5	-0.3
RETA	Reutte	145.57	334	i PKPab	PKPdf	17 07 05.8	-0.3
	comp=Z,50nm,1.2s,SNR=17						
PYL	PYLOS	145.65	310	eP	PKPdf	17 07 05.2	-1.2
NVLJ	Novalja	145.77	326	P	PKPab	17 07 07.6	+0.4
RCBR	Riachuelo	145.85	131	PKP	PKPdf	17 07 07.3	-0.2
RCBR				LR	LR		
	comp=Z,787nm,22.0s						
BFO	Black Forest	145.86	337	ePKP2	PKPdf	17 07 06.5	+0.1
BFO				MLR	MLR		
	comp=Z,687nm,20.0s						
BFO	Black Forest	145.86	337	ePKP	PKPdf	17 07 06.5	+0.1
BFO				LR	LR		
	comp=Z,687nm,20.0s						
VLS	Valsamata	145.91	313	eP	PKPab	17 07 11.4	+3.4
FETA	Feichten	145.95	333	i PKPab	PKPdf	17 07 07.1	+0.3
	comp=Z,59nm,1.0s,SNR=22						
SHEL	Horse Pasture	145.96	189	PFAKE		17 07 20.0	+11
SHEL				LR	LR		
	comp=Z,678nm,20.0s						
DAVA	Damuels	146.10	334	⇑iPKPab	PKPdf	17 07 07.0	-0.1
	comp=Z,89nm,1.5s,SNR=16						
ECH	Echery	146.38	338	PKP	PKPdf	17 07 07.4	+0.1
ECH	Echery	146.38	338	ePKP2	PKPdf	17 07 07.6	+0.3
ECH				MLR	MLR		
	comp=Z,566nm,20.0s						
ECH	Echery	146.38	338	ePKPdf	PKPdf	17 07 07.6	+0.3
ECH				LR	LR		
	comp=Z,566nm,20.0s						
THEF	They Montfort	146.78	339	PKP	PKPbc	17 07 09.4	-0.3
TUE	Stuetta	146.97	334	ePKPbc	PKPbc	17 07 10.1	-0.5
TUE				LR	LR		
	comp=Z,874nm,21.0s						
LOMF	Lomont	147.23	338	PKP	PKPbc	17 07 10.6	-0.5
TIP	Timpagrande	147.98	317	ePKPbc	PKPbc	17 07 13.5	+0.1
TIP				LR	LR		
	comp=Z,309nm,20.0s						
AQU	L'Aquila	148.05	325	PKP2	PKPbc	17 07 14.1	+0.6
AQU				MLR	MLR		
	comp=Z,616nm,21.0s						
AQU	L'Aquila	148.05	325	PKPbc	PKPbc	17 07 14.1	+0.6
AQU				LR	LR		
	comp=Z,616nm,21.0s						
CUC	Castrocucco	148.12	319	PFAKE		17 07 20.0	+3.4
CUC				LR	LR		
	comp=Z,400nm,20.0s						
VLC	Villacollemand	148.30	330	PFAKE		17 07 20.0	+2.8
VLC				LR	LR		
	comp=Z,754nm,21.0s						
MSKU	Masuku	149.01	234	PKPbc	PKPbc	17 07 16.4	-0.3
	comp=Z,14nm,0.6s,baz=103,slow=2.1,SNR=11						
CEL	Celeste	149.06	316	ePKPab	PKPab	17 07 21.3	+0.8
CEL				LR	LR		
	comp=Z,439nm,21.0s						
BNI	Bardonecchia	149.21	335	PFAKE		17 07 20.0	-1.0
BNI				LR	LR		
	comp=Z,924nm,19.0s						
GDM	Grand'Maison	149.31	336	PKP	PKPbc	17 07 17.0	+0.2
GRN	Grenoble	149.42	337	PKP	PKPbc	17 07 17.2	+0.3
PLDF	La Plantade	149.54	340	PKP	PKPbc	17 07 17.2	0.0
AGO	Saint Agoulin	149.62	341	PKP	PKPbc	17 07 17.6	+0.3
SURF	Saint Ours	149.63	334	PKP	PKPbc	17 07 17.8	+0.2
SAOF	Saorge	149.72	333	PKP	PKPbc	17 07 17.1	-0.6
AUTN	L'Aution	149.77	333	PKP	PKPbc	17 07 17.6	-0.4
SSB	Saint Sauveur	149.83	338	PKP	PKPbc	17 07 17.8	-0.1
SSB	Saint Sauveur	149.83	338	ePKP2	PKPbc	17 07 17.8	-0.1
SSB				MLR	MLR		
	comp=Z,632nm,19.0s						
SSB	Saint Sauveur	149.83	338	ePKPbc	PKPbc	17 07 17.8	-0.1
SSB				LR	LR		
	comp=Z,632nm,19.0s						
TOUF	Mont Tournerai	149.83	333	PKP	PKPbc	17 07 17.8	-0.3
PYM	Petit Puy Mans	149.93	340	PKP	PKPbc	17 07 18.1	-0.1
LBL	Lubilhac	150.31	340	PKP	PKPbc	17 07 19.1	0.0
CLTB	Caltabellotta	151.18	318	PFAKE		17 07 30.0	+0.7
CLTB				LR	LR		
	comp=Z,374nm,20.0s						
WDD	Wield Dalam	151.27	314	PFAKE		17 07 30.0	+0.5
WDD				LR	LR		
	comp=Z,694nm,21.0s						
VSL	Villasalto	152.22	325	ePKPbc	PKPbc	17 07 23.5	-0.2
VSL				LR	LR		
	comp=Z,386nm,19.0s						
ASCN	Ascension	154.09	172	PFAKE		17 07 30.0	+1.5
ASCN				LR	LR		
	comp=Z,1μm,20.0s						
KEST	Kesra	154.77	319	PKPbc	PKPbc	17 07 28.1	-1.3
	comp=Z,2.1nm,1.1s,baz=0.0,slow=5.1,SNR=2.5						
MTE	Manteigas	157.41	353	PFAKE		17 07 40.0	-15
MTE				LR	LR		
	comp=Z,829nm,20.0s						
ESDC	Sonseca Array	157.50	346	PKPab	PKPab	17 07 55.2	-0.6
	comp=Z,0.2nm,0.3s,baz=359,slow=4.1,SNR=5.2						
PAB	San Pablo	157.71	347	PFAKE		17 07 40.0	+15
PAB				LR	LR		
	comp=Z,837nm,21.0s						
TAM	Tamanrasset	163.86	290	PFAKE		17 07 40.0	+8.3
TAM				LR	LR		
	comp=Z,1μm,21.0s						
TORD	Torodi Ar. Bea	166.98	250	PKP	PKPdf	17 07 34.2	-0.1
	comp=Z,5.2nm,1.1s,baz=42,slow=0.5,SNR=10						
SACV	Santiago Islan	167.45	102	PFAKE		17 07 50.0	+15
SACV				LR	LR		
	comp=Z,819nm,20.0s						

ISCJB ***01*** *16:50:41.4±1.0, 36.°81S±0.°07×73.°6W±0.°2, h14km, mb4.0/7, MS3.5/1, Error ellipse: s-maj=18.4km s-min=9.6km az=9.7*
IDC ***01*** *16:50:41.0±1.5, 36.°87S×73.°48W, h0km, mb4.0/6, mb1 4.0/8, mb1mx3.9/31, mbtmp3.9/8, ML3.5/2, MS3.5/3, Ms1 3.5/3, ms1mx3.2/22, Error ellipse: s-maj=52.3km s-min=20.5km az=97.0*
NEIC ***01*** *16:50:44.7±4.2, 36.°82S×73.°65W, h29km±26km, mb4.0/3, Error ellipse: s-maj=26.6km s-min=8.7km az=86.0*
ISC 01 16:50:42.3±0.9**, 36.°82S**±0.°09×**73.°7W**±0.°2**, h14km, n23, σ0.s76**/20**, mb3.9**/8**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.63	149	Pn	Pn	16 51 52.2	+0.3
	1.2nm,0.3s,baz=326,slow=12,SNR=30						
PLCA				Lg	Lg	16 53 03.5	
	3.9nm,0.3s,baz=92,slow=21,SNR=4.9						
CFAA	Coronel Fontan	6.91	43	Pn	Pn	16 52 22.3	-0.8
	0.2nm,0.3s,baz=217,slow=11,SNR=9.5						
CFAA				Sn	Sn	16 53 41.3	-0.2
	0.4nm,0.3s,baz=218,slow=18,SNR=2.4						
CFAA				LR	LR	16 55 02.5	
	comp=Z,47nm,20.0s,baz=226,slow=38						
TRQA	Tornquist	9.42	101	ePn	Pn	16 52 58.3	+0.6
	8.9nm,0.8s						
LVC	Limon Verde	14.76	18	LR	LR	17 00 35.9	
	comp=Z,773nm,18.0s,baz=188,slow=40						
LPAZ	La Paz	21.04	15	P	P	16 55 28.4	+1.8
	1.8nm,0.8s,baz=179,slow=8.9,SNR=4.7						
LPAZ	La Paz	21.04	15	eP	P	16 55 27.6	+1.1
	2.6nm,0.7s						
SIV	San Ignacio	23.59	32	P	P	16 55 53.2	+0.4
	1.1nm,0.7s,baz=198,slow=13,SNR=2.9						
SIV				LR	LR	17 07 00.8	
	comp=Z,179nm,19.5s,baz=154,slow=42						
SAML	Samuel	29.35	22	eP	P	16 56 44.7	-0.1
	1.2nm,0.5s						
SDV	Santo Domingo	45.55	4	eP	P	16 59 02.4	+0.4
	2.7nm,0.8s						
SNAA	Sanae	49.52	157	P	P	16 59 31.9	-0.2
	0.9nm,1.0s,baz=276,slow=9.7,SNR=4.3						
DBIC	Dimbokro	77.38	72	P	P	17 02 37.4	+0.3
	8.2nm,1.1s,baz=164,slow=7.4,SNR=3.1						
LBTB	Lobatse	82.36	115	P	P	17 03 04.2	+0.1
	4.2nm,0.8s,baz=234,slow=7.0,SNR=4.5						
TORD	Torodi Ar. Bea	86.45	71	P	P	17 03 23.9	-0.9
	0.8nm,1.0s,baz=231,slow=3.4,SNR=3.8						
H11S2	WAKE ISLAND Hy	124.33	268	T	T	19 26 52.3	
	baz=118						
H11S1	WAKE ISLAND Hy	124.34	268	T	T	19 26 48.2	
	baz=118						
H11S3	WAKE ISLAND Hy	124.34	268	T	T	19 26 47.1	
	baz=118						
ABKAR	Akbulak array	144.47	55	ePKPdf	PKPbc	17 10 16.5	+0.2
PSI	Prapat	145.47	167	PKPbc	PKPbc	17 10 19.7	-1.0
	3.2nm,0.8s,baz=171,slow=16,SNR=4.7						
BVAR	Borovoye Array	150.26	46	PKP	PKPdf	17 10 28.3	+1.1
	1.1nm,1.1s,baz=352,slow=4.4,SNR=1.9						
BVAR				PKPbc	PKiKP	17 10 33.3	+0.1
	1.4nm,0.8s,baz=289,slow=4.5,SNR=7.1						
KURBB	Kurchatov Arra	155.83	46	PKPab	PKPab	17 11 01.9	-0.3
	0.9nm,1.0s,baz=288,slow=5.0,SNR=4.8						
KURK	Kurchatov	155.85	46	PKPab	PKPab	17 11 01.9	-0.3
ZALV	Zalesovo Beam	157.33	34	PKPab	PKPab	17 11 08.9	+0.4
	0.6nm,0.4s,baz=327,slow=2.5,SNR=4.1						
MKAR	Makanchi Array	159.60	53	PKPab	PKPab	17 11 18.2	-0.4
	0.8nm,0.8s,baz=302,slow=2.7,SNR=5.9						

ISCJB ***01*** *16:52:49.2±0.6, 59.°03N±0.°04×18.°2E±0.°1, h0km, Error ellipse: s-maj=8.6km s-min=4.4km az=35.3*
CSEM ***01*** *16:52:49.9±0.1, 59.°04N×18.°15E, h2km, ML2.2, Error ellipse: s-maj=4.6km s-min=2.1km az=115.0, Mining explosion.*
UPP ***01*** *16:52:49.7, 59.°01N×18.°20E, h0km, ML2.2, Mining explosion.*
HEL ***01*** *16:52:50.5±0.1, 59.°01N×18.°21E, h0km, ML2.2(UPP), Explosion*
IDC ***01*** *16:52:53.4±2.8, 59.°23N×18.°18E, h0km, mb1 3.0/3, mb1mx2.8/48, mbtmp2.8/3, ML2.3/3, Error ellipse: s-maj=35.3km s-min=9.3km az=179.0*
ISC 01 16:52:49.7±0.9**, 59.°03N**±0.°04×**18.°15E**±0.°04**, h0km, n48, σ0.s55**/53**, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRTU	Norrtaelje	0.69	21	i P	Pg	16 53 03.0	+0.1
NRTU				i S	Sg	16 53 12.3	+0.4
NRTU	Norrtaelje	0.69	21	P	Pg	16 53 03.0	+0.1
NRTU				S	Sg	16 53 12.3	+0.4
NRTU	Norrtaelje	0.69	21	P	Pg	16 53 03.0	+0.1
NRTU				S	Sg	16 53 12.3	+0.4
VIKU	Vikbolandet	0.92	235	eP	Pg	16 53 07.1	-0.3
VIKU	Vikbolandet	0.92	235	P	Pg	16 53 07.1	-0.3
VIKU	Vikbolandet	0.92	235	P	Pg	16 53 07.1	-0.3
BACU	Backbrunna	0.98	328	eP	Pg	16 53 08.6	+0.1
BACU	Backbrunna	0.98	328	P	Pg	16 53 08.6	+0.1
BACU	Backbrunna	0.98	328	P	Pg	16 53 08.6	+0.1
FLYU	Flymyra	1.11	353	eP	Pg	16 53 10.9	0.0
FLYU	Flymyra	1.11	353	P	Pg	16 53 10.9	0.0
FLYU	Flymyra	1.11	353	P	Pg	16 53 10.9	0.0
OSTU	Oestervaala	1.31	337	eP	Pg	16 53 14.5	-0.2
OSTU	Oestervaala	1.31	337	P	Pg	16 53 14.5	-0.2
OSTU	Oestervaala	1.31	337	P	Pg	16 53 14.5	-0.2
GRAU	Graesoe	1.32	8	eP	Pg	16 53 14.7	-0.3
GRAU	Graesoe	1.32	8	P	Pg	16 53 14.7	-0.3
GRAU	Graesoe	1.32	8	P	Pg	16 53 14.7	-0.3
FORU	Forsmark	1.36	1	eP	Pg	16 53 15.3	-0.4
FORU	Forsmark	1.36	1	P	Pg	16 53 15.3	-0.4
FORU	Forsmark	1.36	1	P	Pg	16 53 15.3	-0.4
AAL	Aland	1.48	38	eP	Pn	16 53 16.9	-0.7
AAL	Aland	1.48	38	P	Pn	16 53 17.1	-0.5
AAL	Aland	1.48	38	P	Pn	16 53 17.1	-0.5
LNKU	Linkoeping	1.60	241	eP	Pn	16 53 19.1	-0.1
LNKU	Linkoeping	1.60	241	P	Pn	16 53 19.1	-0.1
LNKU	Linkoeping	1.60	241	P	Pn	16 53 19.1	-0.1
VSTU	Vaestervik	1.62	212	eP	Pn	16 53 19.1	-0.3
VSTU	Vaestervik	1.62	212	P	Pn	16 53 19.1	-0.3
VSTU	Vaestervik	1.62	212	P	Pn	16 53 19.1	-0.3
NRAU	Nora	1.68	290	eP	Pb	16 53 21.1	-0.5
NRAU	Nora	1.68	290	P	Pb	16 53 21.0	-0.5
NRAU	Nora	1.68	290	P	Pb	16 53 21.1	-0.5
ASKU	Askersund	1.73	267	eP	Pn	16 53 21.5	+0.6
ASKU	Askersund	1.73	267	P	Pn	16 53 21.5	+0.6
ASKU	Askersund	1.73	267	P	Pn	16 53 21.5	+0.6
ASPU	Aespoe	1.81	208	eP	Pn	16 53 22.5	+0.3
ASPU	Aespoe	1.81	208	P	Pn	16 53 22.4	+0.3
ASPU	Aespoe	1.81	208	P	Pn	16 53 22.5	+0.3
BYXU	Byxelkrok	1.85	200	eP	Pn	16 53 23.0	+0.4
BYXU	Byxelkrok	1.85	200	P	Pn	16 53 23.0	+0.4
BYXU	Byxelkrok	1.85	200	P	Pn	16 53 23.0	+0.4
RAF	Rauma	2.70	41	eP	Pn	16 53 34.9	+0.5
RAF	Rauma	2.70	41	P	Pn	16 53 34.8	+0.5
NOA	NORSAR Array B	4.02	303	Pn	Pn	16 53 53.1	+0.6
	0.1nm,0.3s,baz=144,slow=16,SNR=5.0						
NOA				Lg	Lg	16 54 55.6	
	0.4nm,0.3s,baz=130,slow=25,SNR=5.1						
FINES	FINESS Array B	4.63	55	Pn	Pn	16 54 02.4	+1.5
	0.2nm,0.3s,baz=243,slow=13,SNR=7.6						
FINES				Pg	Pb	16 54 12.2	+0.5
	0.1nm,0.3s,baz=239,slow=15,SNR=5.9						
FINES				Sn	Sn	16 54 55.6	+0.4
	0.4nm,0.3s,baz=242,slow=23,SNR=6.6						
FINES				Lg	Lg	16 55 11.9	
	0.6nm,0.3s,baz=242,slow=27,SNR=7.8						
BRG	Berggiesshubel	8.53	198	eP	Pg	16 55 32.9	0.0
	4.6nm,1.1s						
	comp=N,218nm,18.8s						
	comp=E,220nm,18.7s						
	comp=Z,319nm,15.3s						
ARCES	ARCESS Array B	11.01	14	Pn	Pn	16 55 25.8	-2.4
	comp=Z,0.1nm,0.3s,baz=196,slow=12,SNR=5.8						

ISCJB ***01*** *16:56:48.7±1.3, 36.°40N±0.°05×141.°26E±0.°07, h26km±6km, mb3.3/3, Error ellipse: s-maj=10.5km s-min=8.3km az=36.3*
IDC ***01*** *16:56:48.3±2.7, 36.°03N×141.°10E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/45, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=68.9km s-min=23.4km az=47.0*
JMA ***01*** *16:56:51.1±0.1, 36.°47N×141.°12E, h45km±2km, M3.2 Broadband fault plane solution: P waves. NP1: φs11.00000°, δ84.00000°, λ89.00000°. NP2:φs204.00000°, δ6.00000°, λ104.00000°. Principal axes: T Plg51.0000°, Azm279.0000°; N Plg1.0000°, Azm11.0000°; P Plg39.0000°, Azm102.0000°;*
ISC 01 16:56:47.9±2.6**, 36.°43N**±0.°07×**141.°25E**±0.°08**, h10km**±15km**, n17, σ1.s16**/21**, mb3.4**/3**, 4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.58	289	⇓P	Pn	16 57 01.5	-0.6
JHO				S	Sb	16 57 08.5	+0.2
ONAJ	Iwakimizuishiy	0.77	332	⇓P	Pb	16 57 04.0	+0.6
ONAJ				S	Sb	16 57 13.2	-0.6
JYT	Yasato	0.87	257	⇓P	Pn	16 57 05.7	-0.5
JYT				S	Sg	16 57 15.3	-0.8
JFK	Kawauchi	0.99	342	P	Pb	16 57 07.1	0.0
JFT	Otama	1.31	327	⇓P	Pn	16 57 12.8	+0.5
JFT				S	Sn	16 57 28.2	-1.6
JAG	Ashikaga	1.45	271	P	Pn	16 57 13.9	-0.2
JMM	Marumori	1.48	346	P	Pn	16 57 14.4	-0.2
JFY	Yanaizu	1.58	309	P	Pn	16 57 16.3	+0.4
JKT	Katashina	1.64	283	P	Pn	16 57 17.5	+0.6
JKT				S	Sn	16 57 36.3	-1.8
MJAR	Matsushiro Arr	2.45	274	Pn	Pn	16 57 29.2	+1.3
	8.6nm,0.3s,baz=104,slow=9.5,SNR=59						
MJAR				Sn	Sn	16 57 57.9	-0.1
	6.0nm,0.3s,baz=123,slow=14,SNR=8.2						
MAT	Matsushiro	2.45	274	P	Pn	16 57 29.3	+1.3
MAT				S	Sn	16 57 58.0	0.0
H11N2	WAKE ISLAND Hy	27.96	120	T	T	17 32 15.5	
	baz=313						
H11N1	WAKE ISLAND Hy	27.96	120	T	T	17 32 14.6	
	baz=313						
H11N3	WAKE ISLAND Hy	27.98	120	T	T	17 32 17.6	
	baz=313						
SONM	Songino Array	28.02	305	P	P	17 02 42.0	+2.9
	0.6nm,0.5s,baz=108,slow=11,SNR=3.5						
WRA	Warramunga Arr	56.44	188	P	P	17 06 28.6	-1.2
	0.2nm,0.6s,baz=3.7,slow=7.4,SNR=4.0						
ASAR	Alice Springs	60.17	188	P	P	17 06 55.2	-0.6
	0.2nm,0.9s,baz=10,slow=5.7,SNR=2.6						

IDC 01 16:57:12.9±13.0**, 17.°82S**×**168.°39E, h0km, mb3.7**/3**, mb1 3.8**/4**, mb1mx3.5**/30**, mbtmp3.7**/4**, ML3.5**/1**, Error ellipse: s-maj=226.7km s-min=44.6km az=83.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.61	203	Pn	Pn	16 58 23.8	-0.1
	2.4nm,0.3s,baz=50,slow=18,SNR=10						
DZM				Sn	Sn	16 59 18.7	+0.4
	2.1nm,0.3s,baz=90,slow=20,SNR=3.3						
STKA	Stephens Creek	27.96	235	P	P	17 03 05.4	+0.1
	1.4nm,0.7s,baz=67,slow=10,SNR=5.0						
WRA	Warramunga Arr	32.26	261	P	P	17 03 43.3	-0.2
	0.4nm,0.7s,baz=90,slow=8.7,SNR=5.6						
ASAR	Alice Springs	32.72	254	P	P	17 03 47.5	0.0
	0.8nm,0.6s,baz=80,slow=8.8,SNR=11						

IDC ***01*** *16:59:55.8±0.9, 13.°25N×50.°49E, h0km, mb3.9/16, mb1 4.0/16, mb1mx3.9/41, mbtmp3.9/16, Error ellipse: s-maj=25.2km s-min=17.2km az=21.0*
ISCJB ***01*** *16:59:56.8±0.7, 13.°3N±0.°1×50.°30E±0.°05, h21km, mb3.9/16, Error ellipse: s-maj=14.8km s-min=6.9km az=8.9*
CSEM ***01*** *16:59:56.1±0.4, 13.°27N×50.°34E, h10km, ML3.5, Error ellipse: s-maj=12.7km s-min=8.8km az=166.0*
DHMR ***01*** *16:59:57.6±1.0, 13.°38N×50.°09E, h10km, ML3.5*
ISC 01 16:59:59.1±0.8**, 13.°4N**±0.°1×**50.°33E**±0.°07**, h21km, n32, σ1.s41**/32**, mb3.9**/16**, 1C, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MUKL	Al Mukalla	1.68	312	⇑iP	Pn	17 00 25.1	-2.2
MUKL				e		17 00 25.2	
	baz=139,slow=6.2						
MUKL				i S	Sn	17 00 45.3	-2.8
MUKL				AML	AML	17 00 46.4	
	comp=N,535nm,0.5s						
BDHA	Al Bayda'	4.67	278	i P	Pn	17 01 07.5	-1.1
BDHA				AML	AML	17 01 16.7	
	comp=E,147nm,0.3s						
BDHA				i S	Sn	17 02 02.3	0.0
BDHA	Al Bayda'	4.67	278	i P	Pn	17 01 07.5	-1.1
BDHA				i S	Sn	17 02 02.3	0.0
TRBA	At Turbah	6.05	270	i P	Pn	17 01 25.4	-2.2
TRBA	At Turbah	6.05	270	i P	Pn	17 01 25.4	-2.2
EIL	Elat	21.60	321	P	P	17 04 50.1	+2.4
	comp=E,3.5nm,0.7s,baz=151,slow=4.2,SNR=4.4						
ASF	Jabal al Asfar	22.41	329	P	P	17 04 59.3	+2.7
	comp=E,1.0nm,0.6s,baz=153,slow=4.5,SNR=2.0						
PDO	Prodromos	36.03	320	eP	P	17 07 05.0	+6.0
DSL	Palaion Diasel	36.40	320	eP	P	17 07 03.3	+1.1
LKD2	Lefkada island	36.48	319	eP	P	17 07 04.2	+1.4
JAN	Janina	36.87	321	eP	P	17 07 04.2	-2.0
IGT	Igoumenitsa	37.12	320	eP	P	17 07 04.2	-4.1
SGD	Sagiada	37.23	320	eP	P	17 07 05.7	-3.5
FNA	Florina	37.24	323	eP	P	17 07 04.2	-5.2
AKASG	Malin Array Be	41.02	340	P	P	17 07 41.6	+0.9
	comp=E,1.8nm,0.8s,baz=149,slow=7.3,SNR=6.6						
BVAR	Borovoye Array	42.68	18	P	P	17 07 54.8	+0.5
	comp=E,0.4nm,0.5s,baz=202,slow=7.2,SNR=2.7						
BVAR				PcP	PcP	17 09 46.2	+0.3
	comp=E,1.1nm,0.8s,baz=224,slow=4.0,SNR=5.0						
MKAR	Makanchi Array	42.77	32	P	P	17 07 55.0	-0.2
	comp=E,0.5nm,0.5s,baz=219,slow=8.1,SNR=13						
KURBB	Kurchatov Arra	43.68	26	P	P	17 08 02.4	0.0
	comp=E,0.9nm,0.9s,baz=227,slow=8.3,SNR=6.0						
CMAR	Chiang Mai Arr	46.92	77	P	P	17 08 27.6	-1.1
	comp=E,1.3nm,0.8s,baz=274,slow=9.2,SNR=8.3						
TORD	Torodi Ar. Bea	47.27	276	P	P	17 08 32.0	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,1.4nm,0.5s,baz=94,slow=7.4,SNR=11						
ZALV	Zalesovo Beam	48.76	26	P	P	17 08 40.8	-1.4
	comp=E,1.4nm,0.7s,baz=231,slow=9.4,SNR=6.1						
FINES	FINESS Array B	51.12	345	P	P	17 09 00.8	+0.7
	comp=E,3.9nm,0.8s,baz=136,slow=9.0,SNR=7.2						
ESDC	Sonseca Array	54.24	309	P	P	17 09 24.9	+1.2
	comp=E,0.3nm,0.4s,baz=69,slow=7.0,SNR=3.3						
NB2	NORSAR Subarra	55.39	338	P	P	17 09 31.1	-0.5
	comp=Z,1.4nm,0.8s,baz=131,slow=6.9						
NB2	NORSAR Subarra	55.39	338	P	P	17 09 31.1	-0.5
	comp=Z,1.4nm,0.8s,baz=131,slow=6.8,SNR=3.7						
NOA	NORSAR Array B	55.39	338	P	P	17 09 31.1	-0.5
	comp=Z,1.4nm,0.9s,baz=125,slow=7.1,SNR=4.3						
SONM	Songino Array	57.62	41	P	P	17 09 47.9	+0.1
	comp=Z,1.2nm,0.9s,baz=252,slow=8.3,SNR=5.3						
KSRS	Korea Array	72.22	55	P	P	17 11 22.4	-0.5
	comp=Z,0.8nm,0.8s,baz=266,slow=7.4,SNR=5.4						
WRA	Warramunga Arr	88.99	111	P	P	17 12 52.0	-1.1
	comp=Z,2.1nm,0.8s,baz=299,slow=3.7,SNR=24						
ASAR	Alice Springs	89.53	114	P	P	17 12 54.6	-0.9
	comp=Z,1.4nm,0.9s,baz=287,slow=4.5,SNR=17						
NVAR	Mina Array Bea	127.40	349	PKP	PKPdf	17 19 04.6	+1.5
	comp=Z,0.8nm,0.8s,baz=45,slow=1.5,SNR=5.3						
TXAR	Lajitas Array	130.69	330	PKP	PKPdf	17 19 10.5	+1.0
	comp=Z,0.2nm,0.6s,baz=336,slow=2.0,SNR=2.8						

*IDC **01** 17:09:49.5±0.7, 29.°04N×69.°77E, h0^{km}, mb4.1/21, mb1 4.3/22, mb1mx4.1/40, mbtmp4.1/22, ML4.4/1, MS4.2/2, Ms1 4.2/2, ms1mx3.2/50, Error ellipse: s-maj=17.3km s-min=13.9km az=32.0*
*BJI **01** 17:09:51.7, 29.°44N×69.°47E, h21^{km}, mb4.3/7, mB4.6/4*
*NEIC **01** 17:09:51.4±0.4, 29.°12N×69.°82E, h10^{km}, mb4.6/15, Error ellipse: s-maj=7.7km s-min=6.8km az=165.0*
*ISCJB **01** 17:09:52.7±0.2, 29.°18N±0.°03×70.°00E±0.°03, h33^{km}, mb4.2/46, MS4.4/2, Error ellipse: s-maj=4.7km s-min=2.6km az=135.7*
*MOS **01** 17:09:54.9±1.1, 29.°26N×69.°88E, h47^{km}, mb4.4/30, Error ellipse: s-maj=9.3km s-min=5.1km az=104.6*
ISC 01 17:09:54.9±0.4, **29.°21N**±0.°05×**69.°98E**±0.°05, **h35**^{km}, **n165**, σ1^{s}**52**/175, **mb4.2**/46, **22C-1D, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHET	Khetri	5.24	101	eP	Pn	17 11 12.0	+1.2
KHET				eS	Sn	17 12 10.0	0.0
KHET				AML	AML	17 12 51.8	
	comp=E,453nm,0.3s						
KHET				AML	AML	17 12 51.9	
	comp=N,561nm,0.4s						
KBL	Kabul	5.38	352	eP	Pn	17 11 15.7	+2.9
KBL				pmax	pmax		
	comp=Z,17nm,0.7s						
KBL	Kabul	5.38	352	eP	Pn	17 11 15.7	+2.9
	comp=Z,17nm,0.7s						
KUDL	Kundal	5.81	99	eP	Pn	17 11 19.1	+0.5
KUDL				eS	Sn	17 12 23.1	-1.0
AYAN	Aya Nagar	6.31	95	eP	Pn	17 11 27.2	+1.8
AYAN				ex	Sn	17 12 28.7	-7.6
SONA	Sohna	6.31	97	eP	Pn	17 11 26.2	+0.8
SMLA	Simla	6.51	71	i P	Pn	17 11 31.3	+3.2
SMLA				i x	Sn	17 12 48.7	+7.6
SMLA				AML	AML	17 12 51.6	
	comp=N,2μm,0.5s						
SMLA				AML	AML	17 12 52.0	
	comp=E,2μm,0.4s						
AGRA	Agra	7.29	104	ex	Pn	17 11 36.2	-2.8
AGRA				eS	Sn	17 12 59.3	-1.2
KALG	Kalgarh	7.66	86	eP	Pn	17 11 45.7	+1.7
KALG				eS	Sn	17 13 04.0	-5.5
JOSI	Joshimath	8.42	78	eP	Pn	17 11 53.1	-1.6
JOSI				eS	Sn	17 13 24.2	-4.4
JOSI				AML	AML	17 14 52.1	
	comp=N,259nm,0.6s						
JOSI				AML	AML	17 14 53.1	
	comp=E,276nm,0.6s						
KSH	Kashi	11.41	24	P	Pn	17 12 32.5	-2.9
KOLN	Koldanda	12.06	94	eP	Pn	17 12 45.1	+0.6
	comp=E,22nm,0.5s						
KLRI	Killari	12.63	150	ePn	Pn	17 12 50.7	-1.4
KLRI				eSn	Sn	17 15 12.0	+0.3
SRSP	Sriramsagar	12.76	141	ePn	Pn	17 12 51.1	-2.8
SRSP				eSn	Sn	17 15 14.4	-0.4
GKN	Gorkha	12.93	92	eP	Pn	17 12 55.5	-0.9
	comp=E,26nm,0.8s						
AML	Almayashu	13.24	12	P	Pn	17 13 00.4	-0.3
	SNR=24						
RPR	Rampur	13.35	138	ePn	Pn	17 13 01.9	0.0
DMN	Daman	13.41	93	eP	Pn	17 13 01.9	-1.0
	comp=E,43nm,0.8s						
UCH	Uchtor	13.50	15	P	Pn	17 13 04.3	0.0
	SNR=27						
KKN	Kakani	13.53	92	eP	Pn	17 13 03.7	-0.8
	comp=E,24nm,0.7s						
KZA	Kyzart	13.53	17	P	Pn	17 13 04.7	0.0
	SNR=21						
PKIN	Phulchoki	13.67	93	eP	Pn	17 13 05.5	-1.0
	comp=E,28nm,0.7s						
PKI	Pulchoki	13.68	93	eP	Pn	17 13 05.3	-1.4
	comp=E,29nm,0.6s						
EKS2	Erkin-Say	13.77	12	P	Pn	17 13 07.8	+0.1
	SNR=10						
EKS2	Erkin-Say	13.77	12	eP	Pn	17 13 07.4	-0.3
EKS2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
EKS2	Erkin-Say	13.77	12	eP	Pn	17 13 07.4	-0.3
	comp=Z,5.1nm,0.6s						
KK31	Karatay Array	13.87	2⇑	eP	Pn	17 13 07.8	-1.2
KK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KKAR	Karatay Array	13.87	2	eP	Pn	17 13 07.7	-1.3
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KKAR	Karatay Array	13.87	2	eP	Pn	17 13 07.7	-1.3
	comp=Z,7.3nm,0.6s						
AAK	Ala-Archa	13.88	14	P	Pn	17 13 09.4	+0.2
	SNR=16						
AAK	Ala-Archa	13.88	14	Pn	Pn	17 13 09.2	0.0
	comp=Z,1.8nm,0.3s,baz=181,slow=8.3,SNR=35						
AAK				Sn	Sn	17 15 41.7	-0.5
	comp=Z,0.2nm,0.3s,baz=79,slow=16,SNR=3.1						
AAK				LR	LR	17 19 27.3	
	comp=Z,231nm,19.0s,baz=182,slow=41						
AAK	Ala-Archa	13.88	14	P	Pn	17 13 09.2	0.0
AAK						17 15 41.7	
AAK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AAK				MLR	MLR		
	comp=Z,231nm,19.0s						
GUN	Gumba	14.03	91	eP	Pn	17 13 10.8	-0.8
	comp=Z,112nm,0.8s						
FRU	Bishkek	14.10	14	eP	Pn	17 13 12.0	-0.1
HYBB	Hyderabad (bro	14.12	144	eP	Pn	17 13 12.6	+0.1
HYB	Hyderabad	14.12	144	i PKP	Pn	17 13 15.5	+2.9
HYB	Hyderabad	14.12	144	eP	Pn	17 13 15.5	+2.9
HYB	Hyderabad	14.12	144	eP	Pn	17 13 15.5	+2.9
HYB				eS	S	17 16 34.0	+26
CHMS	Chumysh	14.29	14	P	Pn	17 13 14.6	0.0
	SNR=24						
JIRN	Jiri	14.35	92	eP	Pn	17 13 14.8	-1.0
	comp=Z,34nm,0.5s						
TKM2	Tokmak 2	14.41	17	P	Pn	17 13 16.7	+0.1
	SNR=14						
TKM2	Tokmak 2	14.41	17	i P	Pn	17 13 15.7	-0.8
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TKM2	Tokmak 2	14.41	17	eP	Pn	17 13 15.8	-0.7
	comp=Z,9.2nm,0.6s						
RAMN	Ramite	14.84	95	eP	Pn	17 13 19.7	-2.7
	comp=Z,48nm,0.6s						
NJS	Nagarjunasagar	15.23	144	ePn	Pn	17 13 25.4	-2.0
NJS				eSn	Sn	17 16 18.3	+3.2
SRLM	Srisailam	15.41	146	ePn	Pn	17 13 28.5	-1.3
SRLM				eSn	Sn	17 16 20.0	+0.6
ODAN	Odare	15.55	94	eP	Pn	17 13 29.0	-2.8
	comp=Z,30nm,0.8s						
URV	Uravakonda	15.71	153	ePn	Pn	17 13 32.8	-0.9
URV				eSn	Sn	17 16 29.6	+3.0
TAPN	Taplejung	15.73	92	eP	Pn	17 13 30.8	-3.3
	comp=Z,24nm,0.7s						
PVM	Polavaram	15.99	136	ePn	Pn	17 13 35.6	-1.6
PVM				eSn	Sn	17 16 36.9	+3.4
RCLA	Racherla	15.99	147	ePn	Pn	17 13 35.9	-1.4
RCLA				eSn	Sn	17 16 34.8	+1.2
ADKI	Addanki	16.17	143	ePn	Pn	17 13 37.5	-2.1
ADKI				eSn	Sn	17 16 39.8	+2.0
CHLP	Challavanipeta	16.69	127	ePn	Pn	17 13 45.9	-0.2
CHLP				eSn	Sn	17 16 52.0	+1.5
OTUK	Ortayu	19.09	5	i P	Pn	17 14 15.3	-0.2
OTUK				pmax	pmax		
	comp=Z,13nm,1.1s						
MK31	Makanchi Array	20.01	25	eP	Pn	17 14 26.1	-0.4
MK31	Makanchi Array	20.01	25	eP	Pn	17 14 26.1	-0.4
MKAR	Makanchi Array	20.01	25	P	Pn	17 14 26.0	-0.5
	comp=Z,2.0nm,0.5s,baz=212,slow=10,SNR=27						
MKAR	Makanchi Array	20.01	25	P	Pn	17 14 26.0	-0.5
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AB31	Akbulak array	21.44	342⇑	eP	P	17 14 40.0	+0.1
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ABKAR	Akbulak array	21.44	342	eP	P	17 14 39.5	-0.4
	comp=Z,3.3nm,0.6s						
KURBB	Kurchatov Arra	22.34	14	P	P	17 14 50.1	+0.6
	comp=Z,5.0nm,0.7s,baz=204,slow=9.9,SNR=38						
KURK	Kurchatov	22.45	14	P	P	17 14 50.1	-0.6
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KURK	Kurchatov	22.45	14	P	P	17 14 50.1	-0.6
RAYN	Ar Rayn	22.63	261	eP	P	17 14 50.8	-2.2
	comp=Z,6.9nm,0.8s						
AKTO	Aktyubinsk	23.05	340	P	P	17 14 57.3	+0.3
	comp=Z,1.2nm,0.6s,baz=170,slow=14,SNR=11						
AKTO	Aktyubinsk	23.05	340	P	P	17 14 57.3	+0.3
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GNI	Garni	23.38	305	P	P	17 15 02.6	+2.1
	comp=Z,13nm,0.9s,baz=57,slow=1.9,SNR=12						
GNI	Garni	23.38	305	P	P	17 15 02.6	+2.1
GNI				pmax	pmax		
	comp=Z,13nm,0.9s						
GNI	Garni	23.38	305	eP	P	17 15 03.3	+2.8
BVAR	Borovoye Array	23.80	1	P	P	17 15 05.4	+1.1
	comp=Z,3.0nm,0.6s,baz=176,slow=10,SNR=25						
BVAR	Borovoye Array	23.80	1	P	P	17 15 05.4	+1.1
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	Borovoye	23.83	0c	iP	P	17 15 05.6	+1.1
BRVK				pmax	pmax		
	comp=Z,11nm,1.2s						
BRVK	Borovoye	23.83	0	eP	P	17 15 05.2	+0.7
	comp=Z,11nm,1.0s						
ZEI	Tsey	24.96	310	eP	P	17 15 15.1	-0.1
ZEI				pmax	pmax		
	comp=Z,11nm,0.9s						
NCK	Nalchik	25.46	311	eP	P	17 15 18.7	-0.8
NEY	Neytrino	25.93	310	eP	P	17 15 23.0	-1.1
NEY				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KBZ	Khabaz	26.02	311	P	P	17 15 24.6	+0.2
	comp=Z,3.9nm,1.0s,baz=143,slow=20						
KBZ	Khabaz	26.02	311	P	P	17 15 24.7	+0.2
KBZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV	Kislovodsk	26.25	312	eP	P	17 15 25.9	-0.9
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ZAA0	Zalesovo Array	26.98	19	eP	P	17 15 34.8	+1.7
ZALV	Zalesovo Beam	26.98	19	P	P	17 15 34.6	+1.5
	comp=Z,1.4nm,0.6s,baz=210,slow=8.1,SNR=8.0						
ZALV	Zalesovo Beam	26.98	19	P	P	17 15 34.7	+1.5
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHTO	Chiang Mai	28.34	105	eP	P	17 15 47.1	+1.4
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHTO	Chiang Mai	28.34	105	eP	P	17 15 47.1	+1.4
	comp=Z,4.0nm,0.8s						
ARU	Arti	28.39	347d	iP	P	17 15 46.1	+0.4
ARU						17 16 37.9	
ARU				S	S	17 20 31.2	+1.1
ARU				pmax	pmax		
	comp=Z,12nm,2.5s						
ARU				MLR	MLR		
	comp=Z,389nm,21.0s						
CMAR	Chiang Mai Arr	28.50	106	P	P	17 15 48.0	+0.9
	comp=Z,2.8nm,1.1s,baz=294,slow=9.5,SNR=12						
CMAR	Chiang Mai Arr	28.50	106	P	P	17 15 48.0	+0.9
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BRTR	Keskin Array B	31.56	299	P	P	17 16 16.2	+2.1
	comp=Z,0.6nm,0.6s,baz=109,slow=11,SNR=3.5						
BRTR	Keskin Array B	31.56	299	P	P	17 16 16.2	+2.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	33.61	46	P	P	17 16 35.5	+3.5
	comp=Z,2.1nm,0.8s,baz=248,slow=8.5,SNR=11						
SONM	Songino Array	33.61	46	P	P	17 16 35.5	+3.5
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	37.27	317	P	P	17 17 03.1	-0.1
	comp=Z,3.4nm,0.7s,baz=106,slow=6.8,SNR=10						
AKASG	Malin Array Be	37.27	317c	eP	P	17 17 03.0	-0.2
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AK01	Malin Array Si	37.27	317	eP	P	17 17 03.2	0.0
KIEV	Kiev	37.28	317	eP	P	17 17 02.9	-0.4
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KIEV	Kiev	37.28	317	eP	P	17 17 02.9	-0.4
	comp=Z,4.5nm,0.7s						
BUR08	Bucovina Ar. S	38.99	311	eP	P	17 17 17.8	-0.1
KOLS	Kolonicke sedl	41.16	312	eP	P	17 17 36.0	+0.2
KOLS				pmax	pmax		
	comp=Z,43nm,2.9s						
KOLS	Kolonicke sedl	41.16	312	eP	P	17 17 36.0	+0.2
STHS	Stebnicka Huta	41.91	313	eP	P	17 17 41.3	-0.7
STHS	Stebnicka Huta	41.91	313	eP	P	17 17 41.2	-0.7
KECS	Kecovo	42.25	311	eP	P	17 17 45.4	+0.7
KECS	Kecovo	42.25	311	eP	P	17 17 45.4	+0.7
FINES	FINESS Array B	43.24	331	P	P	17 17 52.7	+0.2
	comp=Z,1.6nm,0.7s,baz=131,slow=7.8,SNR=7.0						
FINES	FINESS Array B	43.24	331	i P	P	17 17 51.9	-0.6
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KRLC	Kraliky	44.87	313	eP	P	17 18 05.8	0.0
KRLC	Kraliky	44.87	313	eP	P	17 18 05.8	0.0
DPC	Dobruska-Polom	45.20	313	eP	P	17 18 08.4	0.0
DPC				epP	pP	17 18 09.6	-9.2
DPC				esP	sP	17 18 14.4	-8.5
DPC	Dobruska-Polom	45.20	313	eP	P	17 18 08.4	0.0
GERES	GERESS Array B	46.76	311	P	P	17 18 20.6	-0.2
	comp=Z,0.4nm,0.4s,baz=98,slow=6.9,SNR=5.6						
CLL	Collm	47.39	314	i P	P	17 18 25.8	+0.2
	comp=Z,8.0nm,1.3s						
CLL	Collm	47.39	314	i P	P	17 18 25.8	+0.2
CLL				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ARCES	ARCESS Array B	47.63	341	P	P	17 18 28.4	+1.2
	comp=Z,4.5nm,0.5s,baz=131,slow=7.2,SNR=37						
ARCES	ARCESS Array B	47.63	341	P	P	17 18 28.4	+1.2
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ARE0	ARCESS Array S	47.63	341	eP	P	17 18 28.5	+1.3
KSAR	Wonju Array Be	48.42	64	P	P	17 18 35.8	+2.1
KSAR	Wonju Array Be	48.42	64	P	P	17 18 35.8	+2.1
KSRS	Korea Array	48.45	64	P	P	17 18 35.8	+1.9
	comp=Z,1.9nm,0.8s,baz=275,slow=7.9,SNR=14						
KSRS	Korea Array	48.45	64	P	P	17 18 35.8	+1.9
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NB2	NORSAR Subarra	49.85	327	P	P	17 18 43.8	-0.7
	comp=Z,1.8nm,0.8s,baz=105,slow=7.9						
NOA	NORSAR Array B	49.85	327	P	P	17 18 43.7	-0.7
	comp=Z,1.6nm,0.8s,baz=104,slow=7.7,SNR=6.0						
NOA	NORSAR Array B	49.85	327	P	P	17 18 43.7	-0.7
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LPG	La Plagne	51.53	307⇑	iP	P	17 18 56.9	-0.7
	comp=Z,7.0nm,0.8s						
LPG	La Plagne	51.53	307⇑	iP	P	17 18 56.9	-0.7
LPG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LPG	La Plagne	51.53	307⇑	iP	P	17 18 56.9	-0.7
	comp=Z,7.0nm,0.8s						
MBDF	Montbardon	51.59	306⇑	iP	P	17 18 56.6	-1.2
	comp=Z,10.0nm,0.7s						
MBDF	Montbardon	51.59	306⇑	iP	P	17 18 56.6	-1.2
MBDF				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MBDF	Montbardon	51.59	306⇑	iP	P	17 18 56.6	-1.2
	comp=Z,10.0nm,0.7s						
VIVF	Saint-Julien-l	53.06	306	eP	P	17 19 07.9	-0.7
	comp=Z,11nm,0.8s						
VIVF	Saint-Julien-l	53.06	306	eP	P	17 19 07.9	-0.7
VIVF				pmax	pmax		
	comp=Z,11nm,0.8s						
VIVF	Saint-Julien-l	53.06	306	eP	P	17 19 07.9	-0.7
	comp=Z,11nm,0.8s						
LOR	Lormes	53.38	309⇑	iP	P	17 19 10.2	-0.7
	comp=Z,5.1nm,0.6s						
LOR	Lormes	53.38	309⇑	iP	P	17 19 10.2	-0.7
LOR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LOR	Lormes	53.38	309⇑	iP	P	17 19 10.2	-0.7
	comp=Z,5.1nm,0.6s						
SMF	Signal de Mont	53.45	308⇑	iP	P	17 19 10.9	-0.6
	comp=Z,13nm,0.9s						
SMF	Signal de Mont	53.45	308⇑	iP	P	17 19 10.9	-0.6
SMF				pmax	pmax		
	comp=Z,13nm,0.9s						
SMF	Signal de Mont	53.45	308⇑	iP	P	17 19 10.9	-0.6
	comp=Z,13nm,0.9s						
SSF	Saint Saulge	53.64	309⇑	iP	P	17 19 12.4	-0.4
	comp=Z,12nm,0.9s						
SSF	Saint Saulge	53.64	309⇑	iP	P	17 19 12.4	-0.4
SSF				pmax	pmax		
	comp=Z,12nm,0.9s						
SSF	Saint Saulge	53.64	309⇑	iP	P	17 19 12.4	-0.4
	comp=Z,12nm,0.9s						
LDF	La Druitiere	55.91	311	eP	P	17 19 28.5	-0.7
	comp=Z,5.9nm,0.7s						
LDF	La Druitiere	55.91	311	eP	P	17 19 28.5	-0.7
LDF				pmax	pmax		
	comp=Z,6.0nm,0.7s						
LDF	La Druitiere	55.91	311	eP	P	17 19 28.5	-0.7
	comp=Z,5.9nm,0.7s						
MJAR	Matsushiro Arr	56.70	63	P	P	17 19 36.5	+1.4
	comp=Z,1.2nm,0.9s,baz=276,slow=10,SNR=5.6						
MJAR	Matsushiro Arr	56.70	63	P	P	17 19 36.5	+1.4
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ETSF	Etsaut	57.09	304⇑	iP	P	17 19 37.2	-0.6
	comp=Z,6.4nm,0.8s						
ETSF	Etsaut	57.09	304⇑	iP	P	17 19 37.2	-0.6
ETSF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ETSF	Etsaut	57.09	304⇑	iP	P	17 19 37.2	-0.6
	comp=Z,6.4nm,0.8s						
TORD	Torodi Ar. Bea	64.86	271	P	P	17 20 29.4	-1.5
	comp=Z,1.1nm,0.4s,baz=61,slow=5.4,SNR=20						
SUMG	Summit	67.69	342	eP	P	17 20 50.3	+1.7
SUMG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SUMG	Summit	67.69	342	eP	P	17 20 50.3	+1.7
	comp=Z,6.7nm,0.7s						
BOSA	Boshof	71.65	221	P	P	17 21 11.8	-1.4
	comp=Z,2.5nm,1.0s,baz=22,slow=7.9,SNR=3.7						
BOSA				LR	LR	17 53 12.2	
	comp=Z,606nm,19.5s,baz=132,slow=36						
BOSA	Boshof	71.65	221	P	P	17 21 11.8	-1.4
BOSA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BOSA				MLR	MLR		
	comp=Z,606nm,19.5s						
WRA	Warramunga Arr	78.97	120	P	P	17 21 55.8	+0.4
	comp=Z,4.1nm,1.0s,baz=317,slow=5.3,SNR=20						
WRA	Warramunga Arr	78.97	120	P	P	17 21 55.8	+0.4
WRA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WRAB	Tennant Creek	78.97	120	i P	P	17 21 56.4	+1.0
WRAB				pmax	pmax		
	comp=Z,16nm,1.2s						
COLD	Coldfoot	79.21	15	eP	P	17 21 57.2	+1.3
	comp=Z,2.9nm,0.9s						
ASAR	Alice Springs	80.87	123	P	P	17 22 05.9	+0.3
	comp=Z,3.1nm,0.9s,baz=310,slow=5.3,SNR=28						
ASAR	Alice Springs	80.87	123	P	P	17 22 05.9	+0.3
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR	Eielson Array	82.02	15	P	P	17 22 10.8	-0.2
	comp=Z,0.6nm,0.6s,baz=310,slow=5.0,SNR=9.5						
ILAR	Eielson Array	82.02	15	P	P	17 22 10.8	-0.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	88.55	2	P	P	17 22 44.7	+1.1
	comp=Z,1.3nm,0.6s,baz=348,slow=5.0,SNR=12						
YKA	Yellowknife Ar	88.55	2	P	P	17 22 44.7	+1.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VNDA	Vanda	118.69	166	ePKIKP	PKPdf	17 28 33.2	-5.0
VNDA	Vanda	118.69	166	eP	PKPdf	17 28 33.1	-5.0

*ISCJB **01** 17:22:35.1±0.6, 24.°93N±0.°05×99.°40E±0.°06, h10^{km}, mb3.5/6, MS4.0/2, Error ellipse: s-maj=8.7km s-min=5.9km az=32.9*
*IDC **01** 17:22:35.4±1.1, 24.°94N×99.°44E, h0^{km}, mb3.6/6, mb1 3.7/7, mb1mx3.4/55, mbtmp3.6/7, ML4.1/1, MS4.1/2, Ms1 4.1/2, ms1mx3.4/36, Error ellipse: s-maj=38.8km s-min=15.4km az=83.0*
*BJI **01** 17:22:36.2, 24.°84N×99.°22E, h5^{km}, ML3.8/10*
*BKK **01** 17:22:48.3±3.7, 24°N±30°×9°9E±2°8, h0^{km}, M4.5/5, mb4.7/4, mB4.6/4, MLv4.6/5, Mw(mB)3.8/4*
ISC 01 17:22:36.8±0.9, **24.°99N**±0.°07×**99.°23E**±0.°08, **h10**^{km}, **n15**, σ1^{s}**59**/17, **mb3.6**/6, **Yunnan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMI	Kunming	3.18	87	Pn	Pn	17 23 28.2	+1.0
KMI				Pg	Pg	17 23 36.5	-1.4
KMI				Sg	Sb	17 24 16.3	+3.7
KMI				SMN			
	260nm,1.1s						
KMI				SME			
	200nm,0.8s						
CHTO	Chiang Mai	6.16	183	P	Pn	17 24 07.3	-0.6
	350nm,0.9s,3μm1.4nm						
CMMT	Chiang Mai	6.16	183	P	Pn	17 24 07.3	-0.6
	99nm,0.9s,1μm0.4nm						
LAMP	Lampang	6.45	177	P	Pn	17 24 11.2	-0.7
	19nm,0.7s,162nm0.1nm						
CMAR	Chiang Mai Arr	6.51	182	Pn	Pn	17 24 12.2	-0.6
	1.1nm,0.3s,baz=357,slow=13,SNR=52						
CMAR				Pg	Pb	17 24 33.5	+3.3
	0.8nm,0.3s,baz=347,slow=14,SNR=7.8						
CMAR				Lg	Lg	17 25 59.6	
	2.1nm,0.3s,baz=358,slow=31,SNR=11						
MHMT	Maesarieng	6.89	190	P	Pn	17 24 19.2	+1.2
CD2	Chengdu	7.12	33	Pn	Pn	17 24 22.9	+1.7
CD2				Pg	Pg	17 24 49.8	-3.4
CD2				Sn	Sn	17 25 42.2	0.0
CD2				Sg	Sg	17 26 23.0	-2.5
CD2				SMN			
	30nm,1.6s						
CD2				SME			
	40nm,1.6s						
SONM	Songino Array	23.49	12	P	P	17 27 46.3	-0.6
	0.7nm,0.8s,baz=204,slow=9.3,SNR=4.1						
MKAR	Makanchi Array	25.61	332	P	P	17 28 08.2	+1.8
	1.1nm,0.8s,baz=143,slow=11,SNR=9.2						
AAK	Ala-Archa	26.90	317	LR	LR	17 39 48.3	
	comp=Z,251nm,20.5s,baz=14,slow=38						
ZALV	Zalesovo Beam	30.86	343	P	P	17 28 53.7	+0.6
	0.6nm,0.7s,baz=166,slow=7.6,SNR=3.8						
USRK	Ussuriysk Ar.	32.77	46	P	P	17 29 09.6	-0.4
	1.9nm,0.8s,baz=228,slow=13,SNR=4.0						
WRA	Warramunga Arr	56.23	139	P	P	17 32 16.1	-1.3
	0.4nm,0.7s,baz=328,slow=7.6,SNR=5.4						
AKASG	Malin Array Be	58.56	316	LR	LR	18 03 36.3	
	comp=Z,253nm,20.3s,baz=55,slow=42						
ASAR	Alice Springs	58.90	142	P	P	17 32 35.6	-0.7
	0.4nm,0.8s,baz=337,slow=9.1,SNR=3.8						

*ISCJB **01** 17:25:52.7±0.6, 59.°01N±0.°04×18.°3E±0.°1, h0^{km}, Error ellipse: s-maj=8.8km s-min=4.5km az=30.4*
*CSEM **01** 17:25:53.8±0.2, 59.°02N×18.°16E, h2^{km}, ML2.2, Error ellipse: s-maj=6.8km s-min=3.5km az=117.0, Mining explosion.*
*UPP **01** 17:25:53.5, 59.°00N×18.°22E, h1^{km}, ML2.2, Mining explosion.*
*HEL **01** 17:25:54.4±0.1, 59.°02N×18.°17E, h0^{km}, ML2.2(UPP),*

Explosion
*IDC **01** 17:25:55.9±2.4, 59.°12N×18.°18E, h0km, mb1 3.1/3, mb1mx2.9/49, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=26.7km s-min=9.9km az=178.0*
*NAO **01** 17:25:56.7±2.1, 59.°24N×18.°04E, ML1.9*
*BER **01** 17:25:57.5±2.9, 59.°19N×18.°03E, h0km, ML1.9(NAO), Suspected explosion*
ISC 01 17:25:53.2±1.0**, 59.°01N**±0.°04×**18.°20E**±0.°05**, h0km, n50, σ0ˢ91**/57**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	**Norrtaelje**	**0.71**	**18**	*i* P	**Pg**	**17 26 06.7**	**0.0**
NRTU				*i* S	**Sg**	**17 26 16.0**	**+0.1**
NRTU	**Norrtaelje**	**0.71**	**18**	P	**Pg**	**17 26 06.7**	**0.0**
NRTU				S	**Sg**	**17 26 15.9**	**+0.1**
NRTU	**Norrtaelje**	**0.71**	**18**	P	**Pg**	**17 26 06.7**	**0.0**
	baz=209						
NRTU				S	**Sg**	**17 26 16.0**	**+0.1**
VIKU	**Vikbolandet**	**0.93**	**238**	*e*P	**Pg**	**17 26 10.8**	**-0.2**
VIKU	**Vikbolandet**	**0.93**	**238**	P	**Pg**	**17 26 10.8**	**-0.2**
VIKU	**Vikbolandet**	**0.93**	**238**	P	**Pg**	**17 26 10.8**	**-0.2**
OSTU	**Oestervaala**	**1.34**	**337**	*e*P	**Pg**	**17 26 18.4**	**-0.5**
OSTU	**Oestervaala**	**1.34**	**337**	P	**Pg**	**17 26 18.4**	**-0.5**
OSTU	**Oestervaala**	**1.34**	**337**	P	**Pg**	**17 26 18.4**	**-0.5**
GRAU	**Graesoe**	**1.34**	**7**	*e*P	**Pg**	**17 26 18.4**	**-0.5**
GRAU	**Graesoe**	**1.34**	**7**	P	**Pg**	**17 26 18.4**	**-0.5**
GRAU	**Graesoe**	**1.34**	**7**	P	**Pg**	**17 26 18.4**	**-0.5**
FORU	**Forsmark**	**1.38**	**360**	*e*P	**Pg**	**17 26 19.1**	**-0.6**
FORU	**Forsmark**	**1.38**	**360**	P	**Pg**	**17 26 19.1**	**-0.6**
FORU	**Forsmark**	**1.38**	**360**	P	**Pg**	**17 26 19.1**	**-0.6**
AAL	**Aland**	**1.49**	**37**	*e*P	**Pn**	**17 26 21.1**	**-0.1**
AAL	**Aland**	**1.49**	**37**	P	**Pn**	**17 26 21.1**	**-0.1**
VSTU	**Vaestervik**	**1.61**	**214**	*e*P	**Pn**	**17 26 22.8**	**-0.1**
VSTU	**Vaestervik**	**1.61**	**214**	P	**Pn**	**17 26 22.8**	**-0.1**
VSTU	**Vaestervik**	**1.61**	**214**	P	**Pn**	**17 26 22.8**	**-0.1**
ASPU	**Aespoe**	**1.81**	**209**	*e*P	**Pn**	**17 26 26.2**	**+0.7**
ASPU	**Aespoe**	**1.81**	**209**	P	**Pn**	**17 26 26.1**	**+0.7**
ASPU	**Aespoe**	**1.81**	**209**	P	**Pn**	**17 26 26.2**	**+0.7**
BYXU	**Byxelkrok**	**1.83**	**201**	*e*P	**Pn**	**17 26 26.8**	**+0.8**
BYXU	**Byxelkrok**	**1.83**	**201**	P	**Pn**	**17 26 26.7**	**+0.8**
BYXU	**Byxelkrok**	**1.83**	**201**	P	**Pn**	**17 26 26.8**	**+0.8**
FALU	**Falun**	**1.91**	**322**	*e*P	**Pn**	**17 26 27.7**	**+0.7**
FALU	**Falun**	**1.91**	**322**	P	**Pn**	**17 26 27.6**	**+0.7**
FALU	**Falun**	**1.91**	**322**	P	**Pn**	**17 26 27.7**	**+0.7**
IGGU	**Iggoen**	**1.92**	**347**	*e*P	**Pn**	**17 26 27.7**	**+0.5**
IGGU	**Iggoen**	**1.92**	**347**	P	**Pn**	**17 26 27.6**	**+0.5**
IGGU	**Iggoen**	**1.92**	**347**	P	**Pn**	**17 26 27.7**	**+0.5**
HFS	**Hagfors**	**2.55**	**298**	Pn	**Pn**	**17 26 37.4**	**+1.6**
	baz=107,slow=14						
HFS				Lg	Lg	17 27 10.3	
	baz=113,slow=37						
HFS	**Hagfors**	**2.55**	**298**	Pn	**Pn**	**17 26 37.4**	**+1.6**
	baz=107,slow=14						
HFS				Lg	Lg	17 27 10.3	
	baz=113,slow=37						
HFS	**Hagfors**	**2.55**	**298**	Pn	**Pn**	**17 26 37.4**	**+1.6**
	SNR=50						
HFS				Lg	Lg	17 27 10.4	
	SNR=7.7						
RAF	**Rauma**	**2.70**	**40**	*e*P	**Pn**	**17 26 38.3**	**+0.5**
RAF	**Rauma**	**2.70**	**40**	P	**Pn**	**17 26 38.3**	**+0.5**
NB2	**NORSAR Subarra**	**4.05**	**303**	Pn	**Pn**	**17 26 56.6**	**+0.2**
	baz=126,slow=14						
NB2				Lg	Lg	17 27 58.2	
	baz=120,slow=37						
NB2	**NORSAR Subarra**	**4.05**	**303**	Pn	**Pn**	**17 26 56.6**	**+0.2**
	baz=126,slow=14						
NB2				Lg	Lg	17 27 58.2	
	baz=120,slow=37						
NB2	**NORSAR Subarra**	**4.05**	**303**	Pn	**Pn**	**17 26 56.6**	**+0.2**
	SNR=50						
NB2				Lg	Lg	17 27 58.2	
	SNR=3.9						
NOA	**NORSAR Array B**	**4.05**	**303**	Pn	**Pn**	**17 26 56.6**	**+0.2**
	0.2nm,0.3s,baz=129,slow=2.7,SNR=4.2						
NOA				Lg	Lg	17 27 58.8	
	0.4nm,0.3s,baz=76,slow=18,SNR=5.4						
BSD	**Bornholm Skovb**	**4.30**	**206**	*i* P	**Pn**	**17 26 59.6**	**-0.1**
BSD	**Bornholm Skovb**	**4.30**	**206**	*e*P	**Pn**	**17 26 59.7**	**0.0**
	SNR=49						
FIA0	**FINESS Array S**	**4.63**	**55**	Pn	**Pn**	**17 27 06.0**	**+1.8**
	baz=238,slow=14						
FIA0				Sn	**Sn**	**17 27 59.1**	**+0.5**
	baz=243,slow=22						
FIA0				Lg	Lg	17 28 18.7	
	baz=242,slow=28						
FIA0	**FINESS Array S**	**4.63**	**55**	Pn	**Pn**	**17 27 06.0**	**+1.8**
	baz=238,slow=14						
FIA0				Sn	**Sn**	**17 27 59.1**	**+0.5**
	baz=243,slow=22						
FIA0				Lg	Lg	17 28 18.7	
	baz=242,slow=28						
FIA0	**FINESS Array S**	**4.63**	**55**	Pn	**Pn**	**17 27 06.1**	**+1.8**
	SNR=50						
FIA0				Sn	**Sn**	**17 27 59.1**	**+0.5**
	SNR=50						
FIA0				Lg	Lg	17 28 18.7	
FINES	**FINESS Array B**	**4.63**	**55**	Pn	**Pn**	**17 27 05.7**	**+1.4**
	0.1nm,0.3s,baz=239,slow=13,SNR=10.0						
FINES				Sn	**Sn**	**17 27 59.2**	**+0.6**
	0.4nm,0.3s,baz=242,slow=20,SNR=6.9						
FINES				Lg	Lg	17 28 15.8	
	0.6nm,0.3s,baz=243,slow=22,SNR=7.1						
ARA0	**ARCESS Array S**	**11.02**	**14**	Pn	**Pn**	**17 28 29.4**	**-2.5**
	baz=203,slow=12						
ARA0	**ARCESS Array S**	**11.02**	**14**	Pn	**Pn**	**17 28 29.4**	**-2.5**
	baz=203,slow=12						
ARCES	**ARCESS Array B**	**11.02**	**14**	Pn	**Pn**	**17 28 30.2**	**-1.7**
	0.1nm,0.3s,baz=194,slow=14,SNR=8.1						
ARCES				Sn	Sn	17 30 26.8	-8.9
	0.1nm,0.3s,baz=200,slow=23,SNR=2.5						

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*GUC **01** 17:26:26.9±0.7, 21.°28S×69.°93W, h48km±1km, ML4.6*
*ISCJB **01** 17:26:27.2±0.5, 21.°25S±0.°03×69.°96W±0.°06, h60km±4km, mb4.0/7, Error ellipse: s-maj=10.0km s-min=4.6km az=167.3*
*IDC **01** 17:26:29.6±1.0, 21.°23S×69.°73W, h69km±7km, mb3.7/7, mb1 3.8/9, mb1mx3.6/32, mbtmp4.0/9, Error ellipse: s-maj=32.0km s-min=18.3km az=68.0*
*SJA **01** 17:27:02.8±0.7, 22.°38S×67.°19W, h145km±21km, ML2.9*
ISC 01 17:26:28.2±0.8**, 21.°25S**±0.°04×**69.°96W**±0.°08**, h59km**±6km**, n33, σ1ˢ50**/35**, mb4.0**/7**, 7C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATCX	**Punta Patache**	**0.47**	**337**	⇑*i*P	**Pn**	**17 26 38.3**	**-1.5**
PATCX				*i* S	**Sn**	**17 26 46.8**	**-1.4**
PB01	**IPOC Station P**	**0.48**	**65**	⇓*i*P	**Pn**	**17 26 38.4**	**-1.6**
PB01				*i* S	**Sn**	**17 26 46.4**	**-2.2**
PB01				AML	AML	17 26 47.4	
	comp=E,40μm,0.4s						
PB09	**IPOC Station P**	**0.86**	**129**	⇑*i*P	**Pn**	**17 26 43.7**	**-0.9**
PB09				*i* S	**Sn**	**17 26 55.4**	**-1.2**
PB09				AML	AML	17 26 56.7	
	comp=N,60μm,0.6s						
PB04	**IPOC Station P**	**1.10**	**157**	⇑*i*P	**Pn**	**17 26 46.5**	**-1.0**
PB04				*i* S	**Sn**	**17 27 01.2**	**-0.6**
PB06	**IPOC Station P**	**1.49**	**166**	⇑*i*P	**Pn**	**17 26 51.8**	**-1.2**
PB06				*i* S	**Sn**	**17 27 11.0**	**-0.5**
PB11	**IPOC Station P**	**1.51**	**11**	⇑*i*P	**Pn**	**17 26 52.6**	**-0.6**
PB11				*i* S	**Sn**	**17 27 12.7**	**+0.8**
PB11				AML	AML	17 27 20.1	
	comp=E,15μm,0.3s						
PSGC	**Pisagua**	**1.65**	**355**	⇑*i*P	**Pn**	**17 26 54.1**	**-1.0**
PSGC				*i* S	**Sn**	**17 27 15.7**	**+0.4**
LVC	**Limon Verde**	**1.67**	**145**	P	**Pn**	**17 26 55.7**	**+0.3**
	comp=E,4μm,0.3s,baz=330,slow=10,SNR=762						
LVC				S	**Sn**	**17 27 17.6**	**+1.7**
	comp=E,24μm,0.3s,baz=119,slow=18,SNR=31						
LVC				LR	LR	17 27 44.6	
	comp=E,1μm,19.1s,baz=325,slow=48						
MNMC	**Minimini**	**2.13**	**9**	⇑*i*P	**Pn**	**17 27 01.6**	**-0.2**
MNMC				AML	AML	17 27 46.3	
	comp=E,3μm,0.6s						
PB10	**IPOC Station P**	**2.32**	**194**	AML	AML	17 27 40.5	
	comp=E,4μm,0.8s						
YJA	**Yavi**	**4.23**	**103**	*i* P	Pn	17 27 34.2	+3.6
YJA				*i* P	Pn	17 27 34.2	+3.6
HJA	**Humahuaca**	**4.64**	**116**	*i* P	**Pn**	**17 27 38.1**	**+1.9**
LPAZ	**La Paz**	**5.23**	**20**	P	**Pn**	**17 27 46.5**	**+2.0**
	comp=E,1.4nm,0.3s,baz=192,slow=7.7,SNR=44						
LPAZ				S	Sn	17 28 49.9	+6.1
	baz=270,slow=20,SNR=1.2						
SLA	**San Lorenzo**	**5.36**	**131**	*i* P	**Pn**	**17 27 48.7**	**+2.8**
SLA				AML	AML	17 28 08.5	
	comp=Z,33nm,0.7s						
SLA				*i* S	Sn	17 28 22.6	-24
AZAP	**Zapla**	**5.40**	**124**	*i* P	**Pn**	**17 27 47.3**	**+0.9**
ASTB	**Santa Barbara**	**5.72**	**119**	*i* P	**Pn**	**17 27 50.7**	**-0.2**
ALOL	**LOMAS DE OLMED**	**6.09**	**116**	*i* P	**Pn**	**17 27 54.6**	**-1.1**
CFAA	**Coronel Fontan**	**10.43**	**172**	P	**Pn**	**17 28 57.3**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=352,slow=13,SNR=6.3						
CFAA				S	Sn	17 30 57.7	+7.3
	comp=Z,0.1nm,0.3s,baz=104,slow=19,SNR=2.9						
BDFB	**Brasilia**	**21.54**	**79**	P	**P**	**17 31 11.0**	**-1.9**
	comp=Z,3.4nm,0.6s,baz=228,slow=11,SNR=3.8						
NVAR	**Mina Array Bea**	**74.70**	**323**	P	**P**	**17 38 03.0**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=123,slow=11,SNR=3.8						
TORD	**Torodi Ar. Bea**	**78.19**	**71**	P	**P**	**17 38 20.1**	**-1.9**
	comp=Z,2.8nm,0.7s,baz=247,slow=5.4,SNR=16						
MDT	**Midelt**	**82.34**	**51**	P	**P**	**17 38 44.2**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=260,slow=3.5,SNR=5.0						
BOSA	**Boshof**	**84.42**	**118**	P	**P**	**17 38 54.1**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=229,slow=13,SNR=3.1						
BOSA				pP	**pP**	**17 39 13.7**	**+2.1**
	comp=Z,2.3nm,0.8s,baz=241,slow=12,SNR=2.3						
ESDC	**Sonseca Array**	**86.34**	**45**	P	**P**	**17 39 04.2**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=274,slow=5.0,SNR=4.6						
YKA	**Yellowknife Ar**	**90.63**	**341**	P	**P**	**17 39 23.3**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=132,slow=4.7,SNR=5.6						
YKA				pP	**pP**	**17 39 43.6**	**+3.1**
	comp=Z,0.5nm,0.6s,baz=141,slow=4.2,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**126.88**	**278**	T	T	20 04 52.9	
	baz=102						
H11S1	**WAKE ISLAND Hy**	**126.89**	**278**	T	T	20 04 53.2	
	baz=102						
H11S3	**WAKE ISLAND Hy**	**126.90**	**278**	T	T	20 04 53.9	
	baz=102						
H11N3	**WAKE ISLAND Hy**	**126.96**	**279**	T	T	20 05 02.8	
	baz=101						
H11N2	**WAKE ISLAND Hy**	**126.97**	**279**	T	T	20 05 03.0	
	baz=101						
H11N1	**WAKE ISLAND Hy**	**126.97**	**279**	T	T	20 05 01.0	
	baz=101						
ZALV	**Zalesovo Beam**	**142.13**	**24**	PKP	**PKPdf**	**17 45 52.8**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=249,slow=2.1,SNR=7.2						
MKAR	**Makanchi Array**	**146.00**	**35**	PKPbc	**PKPdf**	**17 46 00.8**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=331,slow=2.9,SNR=25						
MKAR				pPKPbc	pPKPbc	17 46 18.8	+0.3
	comp=Z,1.1nm,0.8s,baz=337,slow=2.8,SNR=4.1						

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*ISCJB **01** 17:31:29.3±0.6, 61.°06N±0.°04×160.°93W±0.°09, h33km, mb3.3/2, Error ellipse: s-maj=7.9km s-min=4.1km az=43.5*
*NEIC **01** 17:31:31.8, 61.°04N×160.°86W, h28km, ML3.5(AEIC), After AEIC.*
*IDC **01** 17:31:39.9±2.6, 61.°78N×160.°87W, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.1/52, mbtmp3.1/3, ML3.4/1, Error ellipse: s-maj=62.5km s-min=17.4km az=166.0*
ISC 01 17:31:31.6±1.2**, 61.°06N**±0.°06×**160.°88W**±0.°07**, h35km, n29, σ0ˢ88**/33**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVW2	**Sparrevohn**	**2.57**	**87**	P	**Pn**	**17 32 10.7**	**0.0**
SVW2				S	**Sn**	**17 32 40.8**	**0.0**
TT01	**Tatalina**	**2.95**	**49**	P	**Pn**	**17 32 15.6**	**-0.3**
KELA	**Mount Kelaz**	**3.70**	**133**	P	**Pn**	**17 32 25.5**	**-0.7**
KELA				S	**Sn**	**17 33 08.9**	**+0.3**
MCNL	**McNeil River**	**3.77**	**117**	P	**Pn**	**17 32 27.1**	**-0.1**
KVTA	**Katmai Vly 10**	**3.90**	**131**	P	**Pn**	**17 32 28.8**	**-0.2**
NCT	**North Crescent**	**3.92**	**94**	P	**Pn**	**17 32 29.3**	**-0.1**
PLK1	**Peulik 1**	**3.93**	**144**	P	**Pn**	**17 32 28.5**	**-0.8**
KBM	**Katmai Bkd Mtn**	**4.01**	**132**	P	**Pn**	**17 32 29.7**	**-0.8**
RSO	**Redoubt South**	**4.03**	**95**	P	**Pn**	**17 32 30.6**	**-0.3**
DFR	**Drift River**	**4.04**	**93**	P	**Pn**	**17 32 30.8**	**-0.1**
KCE	**Katmai Mt Cerb**	**4.04**	**132**	P	**Pn**	**17 32 30.6**	**-0.3**
KAKN	**Katmai Knife C**	**4.05**	**131**	P	**Pn**	**17 32 30.2**	**-0.8**
KAKN				S	**Sn**	**17 33 16.8**	**-0.4**
OPT	**Oil Point**	**4.05**	**107**	P	**Pn**	**17 32 31.4**	**+0.3**
BGL	**Barrier Glacie**	**4.12**	**83**	P	**Pn**	**17 32 32.3**	**+0.3**
CKL	**Chakachamna La**	**4.14**	**84**	P	**Pn**	**17 32 32.6**	**+0.2**
STLK	**Strandline Lak**	**4.39**	**80**	P	**Pn**	**17 32 36.0**	**+0.3**
PPLA	**Purkeypile**	**4.49**	**62**	P	**Pn**	**17 32 37.1**	**-0.1**
SKT	**Skwentna**	**4.57**	**74**	P	**Pn**	**17 32 38.7**	**+0.5**
SUA	**Susitna One**	**4.91**	**81**	P	**Pn**	**17 32 43.7**	**+0.8**
KDAK	**Kodiak Island**	**5.36**	**124**	P	**Pn**	**17 32 51.3**	**+2.3**
BPAW	**Bear Paw Mtn.**	**5.49**	**52**	*e*Pn	**Pn**	**17 32 49.4**	**-1.5**
TRF	**Thorofare Moun**	**5.50**	**60**	*e*Pn	**Pn**	**17 32 51.4**	**+0.3**
TNA	**Tin City**	**5.52**	**328**	P	**Pn**	**17 32 52.0**	**+0.9**
TNA				S	**Sn**	**17 33 54.1**	**+0.9**
GAMB	**Gambell**	**5.72**	**303**	P	**Pn**	**17 32 54.1**	**+0.2**
GAMB				S	**Sn**	**17 33 58.5**	**+0.4**
IM04	**Indian Mountai**	**5.86**	**30**	*e*Pn	**Pn**	**17 32 54.7**	**-1.2**
IM3	**Indian Mountai**	**5.88**	**30**	P	**Pn**	**17 32 55.2**	**-0.8**
ILAR	**Eielson Array**	**7.39**	**54**	Pn	**Pn**	**17 33 18.7**	**+2.0**
	0.3nm,0.3s,baz=247,slow=14,SNR=15						
ILAR				Sn	**Sn**	**17 34 37.4**	**-1.8**
	0.2nm,0.3s,baz=252,slow=17,SNR=5.3						
ILAR				Lg	Lg	17 35 19.7	
	0.5nm,0.3s,baz=255,slow=28,SNR=5.2						
YKA	**Yellowknife Ar**	**21.57**	**66**	P	P	17 36 27.1	+9.4
	0.4nm,0.6s,baz=289,slow=9.9,SNR=3.4						
MKAR	**Makanchi Array**	**61.05**	**316**	P	P	17 41 51.7	+10
	0.4nm,0.8s,baz=44,slow=6.4,SNR=3.2						

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*VIE **01** 17:31:51.5±0.9, 43.°25N×18.°54E, h10km, mb3.0/10, ML3.0/7, Ms3.4/3, Error ellipse: s-maj=12.5km s-min=6.3km az=54.0*
*PDG **01** 17:31:52.2±0.3, 43.°14N×17.°99E, h4km, MD3.3/7, ML3.3/11, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*
*BEO **01** 17:31:52.4±0.3, 43.°15N×17.°90E, h5km±2km, ML3.2/1*
*ROM **01** 17:31:52.6±0.2, 43.°08N×18.°07E, h10km, Ml3.4/46, Error ellipse: s-maj=2.9km s-min=2.1km az=67.0*
*CSEM **01** 17:31:52.5±0.1, 43.°11N×18.°03E, h2km, ML3.2, Ms3.4, Error ellipse: s-maj=2.7km s-min=2.0km az=8.0*
*LDG **01** 17:31:53.5±0.1, 43.°16N×17.°89E, h2km, Ml3.6/11, Error ellipse: s-maj=2.6km s-min=1.7km az=4.0*
*TIR **01** 17:31:53.4, 43.°06N×18.°07E, h2km*
*PRU **01** 17:31:54.8, 43.°22N×18.°10E, h0km*
*THE **01** 17:31:57.8, 42.°79N×17.°74E, h29km±27km, ML3.2/4, Error ellipse: s-maj=32.8km s-min=2.4km az=314.0*
ISC 01 17:31:52.2±1.1**, 43.°15N**±0.°02×**17.°99E**±0.°02**, h3km**±9km**, n294, σ1ˢ40**/378**, 24C-35D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.35**	**218**	*i* Pg	**Pg**	**17 31 58.6**	**-0.2**
STON				Sg	**Sg**	**17 32 04.0**	**+0.7**
STON	**Ston**	**0.35**	**218**	⇓*i*Pg	**Pg**	**17 31 58.5**	**-0.3**
STON				*e*Sg	**Sg**	**17 32 03.7**	**+0.4**
STON	**Ston**	**0.35**	**218**	⇓*i*Pg	**Pg**	**17 31 58.5**	**-0.3**
STON				*e*Sg	**Sg**	**17 32 03.7**	**+0.4**
BRY	**Bratogost**	**0.47**	**121**	⇑*i*Pg	**Pg**	**17 32 00.5**	**-0.7**
BRY				*e*Sg	**Sg**	**17 32 08.1**	**+0.8**
BRY	**Bratogost**	**0.47**	**121**	⇑*i*Pg	**Pg**	**17 32 00.5**	**-0.7**
BRY				*e*Sg	**Sg**	**17 32 08.1**	**+0.8**
UPM	**Unac-Piva**	**0.67**	**85**	⇓*i*Pg	**Pg**	**17 32 04.2**	**-0.9**
UPM				*e*Sg	**Sb**	**17 32 15.6**	**-0.9**
UPM	**Unac-Piva**	**0.67**	**85**	⇓*i*Pg	**Pg**	**17 32 04.2**	**-0.9**
UPM				*e*Sg	**Sb**	**17 32 15.6**	**-0.9**
HCY	**Herceg Novi**	**0.79**	**152**	⇑*i*Pg	**Pg**	**17 32 06.1**	**-1.2**
HCY				*e*Sg	**Sb**	**17 32 18.7**	**-1.0**
HCY	**Herceg Novi**	**0.79**	**152**	⇑*i*Pg	**Pg**	**17 32 06.1**	**-1.2**
HCY				*e*Sg	**Sb**	**17 32 18.7**	**-1.0**
NKME	**Niksic**	**0.80**	**118**	⇓*i*Pg	**Pg**	**17 32 06.5**	**-1.0**
NKME				*e*Sg	**Sb**	**17 32 19.4**	**-0.7**
NKME	**Niksic**	**0.80**	**118**	⇓*i*Pg	**Pg**	**17 32 06.5**	**-1.0**
NKME				*e*Sg	**Sb**	**17 32 19.4**	**-0.7**
NKY	**Niksic**	**0.81**	**114**	⇓*i*Pg	**Pg**	**17 32 07.0**	**-0.7**
NKY				*e*Sg	**Sb**	**17 32 20.4**	**+0.1**
NKY	**Niksic**	**0.81**	**114**	⇓*i*Pg	**Pg**	**17 32 07.0**	**-0.7**
NKY				*e*Sg	**Sb**	**17 32 20.4**	**+0.1**
PLE	**Pljevlja**	**1.04**	**79**	⇑*i*Pg	**Pg**	**17 32 11.7**	**-0.4**
PLE				*e*Sg	**Sn**	**17 32 28.2**	**-0.7**
PLE	**Pljevlja**	**1.04**	**79**	⇑*i*Pg	**Pg**	**17 32 11.7**	**-0.4**
PLE				*e*Sg	**Sn**	**17 32 28.2**	**-0.7**
BUM	**Brajici-Budva**	**1.07**	**141**	⇑*i*Pg	**Pg**	**17 32 11.6**	**-1.2**
BUM				*e*Sg	**Sn**	**17 32 29.3**	**-0.4**
BUM	**Brajici-Budva**	**1.07**	**141**	⇑*i*Pg	**Pg**	**17 32 11.6**	**-1.2**
BUM				*e*Sg	**Sn**	**17 32 29.3**	**-0.4**
HAPS	**Han Pijesak,Bl**	**1.17**	**36**	*e*Pg	**Pg**	**17 32 15.0**	**+0.4**
HAPS				*e*Sg	**Sn**	**17 32 32.3**	**+0.1**
HAPS	**Han Pijesak,Bl**	**1.17**	**36**	*e*Pg	**Pg**	**17 32 15.0**	**+0.4**
HAPS				*e*Sg	**Sn**	**17 32 32.3**	**+0.1**
PDG	**Podgorica**	**1.17**	**127**	P	**Pn**	**17 32 17.7**	**+2.2**
PDG	**Podgorica**	**1.17**	**127**	⇓*i*Pg	**Pg**	**17 32 13.1**	**-1.6**
PDG				*e*Sg	**Sn**	**17 32 31.7**	**-0.3**
PDG	**Podgorica**	**1.17**	**127**	Pn	**Pg**	**17 32 13.1**	**-1.6**
PDG	**Podgorica**	**1.17**	**127**	⇓*i*Pg	**Pg**	**17 32 13.9**	**-0.8**
PDG	**Podgorica**	**1.17**	**127**	P	**Pn**	**17 32 17.7**	**+2.2**
PDG				*e*Sg	**Sn**	**17 32 32.2**	**+0.2**
TTG	**Podgorica**	**1.17**	**127**	⇓*i*Pg	**Pg**	**17 32 13.9**	**-0.8**
TTG				*e*Sg	**Sn**	**17 32 32.2**	**+0.2**
BBLS	**Lazići**	**1.26**	**55**	⇓*i*Pn	**Pg**	**17 32 15.9**	**-0.4**
BBLS				*e*Sn	**Sn**	**17 32 34.5**	**+0.3**
BBLS	**Lazići**	**1.26**	**55**	⇓*i*Pn	**Pg**	**17 32 15.9**	**-0.4**
BBLS				*e*Sn	**Sn**	**17 32 34.5**	**+0.3**
BEY	**Berane**	**1.42**	**100**	⇑*i*Pg	**Pn**	**17 32 18.8**	**-0.2**
BEY				*e*Sg	**Sn**	**17 32 41.0**	**+2.7**
IVA	**Berane**	**1.42**	**100**	⇑*i*Pg	**Pn**	**17 32 18.8**	**-0.2**
IVA				*e*Sg	**Sn**	**17 32 41.0**	**+2.7**
SJES	**Sjenica**	**1.46**	**85**	*e*Pg	**Pn**	**17 32 19.6**	**+0.1**
ULC	**Ulcinj**	**1.50**	**141**	⇓*i*Pg	**Pn**	**17 32 19.1**	**-0.9**
ULC				*e*Sg	**Sg**	**17 32 43.4**	**+3.0**
ULC	**Ulcinj**	**1.50**	**141**	⇓*i*Pg	**Pn**	**17 32 19.1**	**-0.9**
ULC				*e*Sg	**Sg**	**17 32 43.4**	**+3.0**
PVY	**Plav**	**1.55**	**110**	⇓*i*Pg	**Pn**	**17 32 21.0**	**+0.2**
PVY				*e*Sg	**Sg**	**17 32 45.4**	**+3.5**
PVY	**Plav**	**1.55**	**110**	⇓*i*Pg	**Pn**	**17 32 21.0**	**+0.2**
PVY				*e*Sg	**Sg**	**17 32 45.4**	**+3.5**
IVAS	**Ivanjica**	**1.64**	**74**	*e*Pg	**Pn**	**17 32 22.3**	**+0.4**
IVAS				*e*Sn	**Sg**	**17 32 44.7**	**0.0**
IVAS	**Ivanjica**	**1.64**	**74**	*e*Pg	**Pn**	**17 32 22.3**	**+0.4**
IVAS				*e*Sn	**Sg**	**17 32 44.7**	**0.0**
BLY	**Banja Luka**	**1.71**	**340**	*e*Pn	**Pb**	**17 32 24.0**	**-0.2**
BLY				*e*Sg	**Sb**	**17 32 46.6**	**+0.5**
BLY	**Banja Luka**	**1.71**	**340**	Pn	**Pb**	**17 32 24.0**	**-0.2**
BLY				Sn	**Sg**	**17 32 46.8**	**-0.2**
	407nm,0.7s						
BLY	**Banja Luka**	**1.71**	**340**	*e*Pn	**Pb**	**17 32 24.0**	**-0.2**
BLY				Sn	**Sg**	**17 32 46.8**	**-0.2**
	407nm,0.7s						
BCI	**Bajram Curri**	**1.72**	**116**	*i* PN	**Pg**	**17 32 25.0**	**-0.1**
BCI				*i* SN	**Sg**	**17 32 48.9**	**+1.5**
BCI	**Bajram Curri**	**1.72**	**116**	*i* Pn	**Pg**	**17 32 25.0**	**-0.1**
BCI				*i* Sn	**Sg**	**17 32 48.8**	**+1.5**
DIVS	**Divibare**	**1.74**	**56**	⇓*i*Pn	**Pn**	**17 32 23.0**	**-0.3**
DIVS				*e*Sn	**Sg**	**17 32 48.8**	**+0.8**
DIVS	**Divibare**	**1.74**	**56**	⇑*i*P	**Pn**	**17 32 23.1**	**-0.3**
DIVS	**Divibare**	**1.74**	**56**	S	**Sg**	**17 32 49.6**	**+1.6**
DIVS	**Divibare**	**1.74**	**56**	⇑*i*P	**Pn**	**17 32 23.1**	**-0.3**
PUK	**Puka**	**1.79**	**127**	*i* PN	**Pb**	**17 32 25.2**	**-0.4**
PUK				*i* SN	**Sg**	**17 32 51.0**	**+1.4**
PUK	**Puka**	**1.79**	**127**	*i* Pn	**Pb**	**17 32 25.2**	**-0.4**
TEKS	**Tekeris**	**1.79**	**38**	*e*Pn	**Pn**	**17 32 23.6**	**-0.4**
TEKS				*e*Sn	**Sn**	**17 32 47.2**	**-0.1**
TEKS	**Tekeris**	**1.79**	**38**	*e*Pn	**Pn**	**17 32 23.6**	**-0.4**
TEKS				*e*Sn	**Sn**	**17 32 47.2**	**-0.1**
MS1	**Monte Sant'Ang**	**2.09**	**227**	*e*Pn	**Pb**	**17 32 30.0**	**-0.8**
MS1				Sn	**Sn**	**17 32 56.0**	**+1.3**
MSAG	**Monte S. Angel**	**2.10**	**228**	Pn	**Pn**	**17 32 26.6**	**-1.8**
	288nm,0.6s						
MSAG	**Monte S. Angel**	**2.10**	**228**	Pn	**Pn**	**17 32 26.6**	**-1.8**
	288nm,0.6s						
GRUS	**Gruza**	**2.12**	**69**	*e*Pn	**Pn**	**17 32 28.4**	**-0.1**
GRUS				*e*Sn	**Sn**	**17 32 56.1**	**+0.8**
GRUS	**Gruza**	**2.12**	**69**	*e*Pn	**Pn**	**17 32 28.4**	**-0.1**
GRUS				*e*Sn	**Sn**	**17 32 56.1**	**+0.8**
UDBI	**Udbina**	**2.12**	**311**	*i* Pn	**Pb**	**17 32 31.4**	**0.0**
UDBI				Sn	**Sg**	**17 33 01.7**	**+1.3**
UDBI	**Udbina**	**2.12**	**311**	*i* Pn	**Pb**	**17 32 31.3**	**0.0**
UDBI				Sn	**Sg**	**17 33 01.6**	**+1.3**
SGRT	**San Giovanni R**	**2.17**	**231**	Pn	**Pn**	**17 32 27.6**	**-1.6**
	194nm,0.7s						
SGRT	**San Giovanni R**	**2.17**	**231**	Pn	**Pn**	**17 32 27.6**	**-1.6**
	194nm,0.7s						
BAI	**Bari**	**2.20**	**202**	*e*Pn	**Pb**	**17 32 32.8**	**+0.3**
SELS	**Selova**	**2.29**	**87**	⇓*i*Pn	**Pn**	**17 32 31.3**	**+0.4**
SELS				*e*Sn	**Sb**	**17 33 03.0**	**+0.1**
SELS	**Selova**	**2.29**	**87**	⇓*i*Pn	**Pn**	**17 32 31.3**	**+0.4**
PHP	**Peshkopia**	**2.33**	**128**	*i* PN	**Pb**	**17 32 35.6**	**+0.8**
PHP				*i* SN	**Sb**	**17 33 03.4**	**-0.6**
PHP	**Peshkopia**	**2.33**	**128**	P	**Pb**	**17 32 33.3**	**-1.5**
PHP	**Peshkopia**	**2.33**	**128**	P	**Pb**	**17 32 33.3**	**-1.5**
PHP	**Peshkopia**	**2.33**	**128**	*i* Pn	**Pb**	**17 32 35.6**	**+0.8**
PHP				*i* Sn	**Sb**	**17 33 03.4**	**-0.6**
PE1	**Pezze di Greco**	**2.38**	**190**	*e*Pn	**Pb**	**17 32 34.9**	**-0.7**
FGSL	**Fruska Gora**	**2.40**	**32**	⇓*i*Pn	**Pn**	**17 32 31.3**	**-1.1**
FGSL				*e*Sn	**Sn**	**17 33 02.8**	**+0.4**
FRGS	**Fruska Gora**	**2.40**	**32**	⇓*i*Pn	**Pn**	**17 32 31.3**	**-1.1**
FRGS				*e*Sn	**Sn**	**17 33 02.8**	**+0.4**
CDT	**Castel del Mon**	**2.42**	**212**	*e*Pn	**Pn**	**17 32 34.4**	**+1.7**
NOCI	**Noci**	**2.45**	**197**	Pn	**Pn**	**17 32 31.6**	**-1.5**
NOCI	**Noci**	**2.45**	**197**	Pn	**Pn**	**17 32 31.6**	**-1.5**
AMUR	**Altamura**	**2.46**	**205**	Pn	**Pn**	**17 32 32.2**	**-1.1**
AMUR	**Altamura**	**2.46**	**205**	Pn	**Pn**	**17 32 32.2**	**-1.1**
MRVN	**Minervino Murg**	**2.47**	**213**	Pn	**Pn**	**17 32 32.0**	**-1.4**
MRVN	**Minervino Murg**	**2.47**	**213**	Pn	**Pn**	**17 32 32.0**	**-1.4**
MELA	**Melanico ??? S**	**2.56**	**237**	Pn	**Pn**	**17 32 33.9**	**-0.7**
	230nm,0.5s						
MELA	**Melanico ??? S**	**2.56**	**237**	Pn	**Pn**	**17 32 33.9**	**-0.7**
	230nm,0.5s						
NVLJ	**Novalja**	**2.67**	**303**	*e*Pn	**Pn**	**17 32 36.8**	**+0.8**
NVLJ				Sn	**Sn**	**17 33 11.1**	**+2.3**
NVLJ	**Novalja**	**2.67**	**303**	*e*Pn	**Pn**	**17 32 36.7**	**+0.8**
NVLJ				Sn	**Sn**	**17 33 11.1**	**+2.3**
MATE	**Matera**	**2.67**	**201**	Pn	**Pn**	**17 32 35.7**	**-0.4**
	113nm,0.3s						
MATE	**Matera**	**2.67**	**201**	Pn	**Pn**	**17 32 35.7**	**-0.4**
	113nm,0.3s						
LTRZ	**Laterza**	**2.69**	**199**	Pn	**Pn**	**17 32 36.5**	**+0.2**
	341nm,1.0s						
LTRZ	**Laterza**	**2.69**	**199**	Pn	**Pn**	**17 32 36.5**	**+0.2**
	341nm,1.0s						
CIGN	**Sant'Elia a Pi**	**2.73**	**238**	Pn	**Pn**	**17 32 37.8**	**+0.9**
	65nm,0.6s						
CIGN	**Sant'Elia a Pi**	**2.73**	**238**	Pn	**Pn**	**17 32 37.8**	**+0.9**
	65nm,0.6s						
SKO	**Skopje**	**2.81**	**114**	*e*Pn	**Pn**	**17 32 38.4**	**+0.5**
SKO				*e*Sn	**Sb**	**17 33 15.7**	**-2.0**
SKO	**Skopje**	**2.81**	**114**	*e*Pn	**Pn**	**17 32 38.4**	**+0.5**
SKO				*e*Sn	**Sb**	**17 33 15.7**	**-2.0**
SKO	**Skopje**	**2.81**	**114**	*e*Pn	**Pn**	**17 32 38.4**	**+0.5**
SKO				*e*Sn	**Sb**	**17 33 15.6**	**-2.0**
GATE	**Gambatesa**	**2.81**	**236**	Pn	**Pn**	**17 32 39.9**	**+1.9**
	98nm,0.6s						
GATE	**Gambatesa**	**2.81**	**236**	Pn	**Pn**	**17 32 39.9**	**+1.9**
	98nm,0.6s						
BARS	**Barje**	**2.83**	**95**	⇓*i*Pn	**Pn**	**17 32 39.8**	**+1.6**
BARS				*e*Sn	**Sn**	**17 33 14.1**	**+1.3**
BARS	**Barje**	**2.83**	**95**	⇓*i*Pn	**Pn**	**17 32 39.8**	**+1.6**
BARS				*e*Sn	**Sn**	**17 33 14.1**	**+1.3**
OHR	**Ohrid**	**2.91**	**133**	*e*Pn	**Pg**	**17 32 46.6**	**-1.4**
OHR	**Ohrid**	**2.91**	**133**	*e*Pn	**Pg**	**17 32 46.6**	**-1.4**
CAFE	**Carife**	**2.94**	**225**	Pn	**Pn**	**17 32 40.4**	**+0.4**
CAFE	**Carife**	**2.94**	**225**	Pn	**Pn**	**17 32 40.4**	**+0.4**
BOLS	**Boljevac**	**2.96**	**75**	*e*Pn	**Pb**	**17 32 43.3**	**-2.3**
MRLC	**Muro Lucano**	**3.03**	**219**	Pn	**Pn**	**17 32 41.5**	**+0.4**
MRLC	**Muro Lucano**	**3.03**	**219**	Pn	**Pn**	**17 32 41.5**	**+0.4**
BOJS	**Bojanci**	**3.07**	**321**	*e*Pn	**Pn**	**17 32 43.5**	**+1.9**
BOJS				*e*Sn	**Sb**	**17 33 22.9**	**-2.4**
BOJS	**Bojanci**	**3.07**	**321**	*e*Pn	**Pn**	**17 32 43.5**	**+1.9**
BOJS				*e*Sn	**Sb**	**17 33 22.9**	**-2.4**
PTRJ	**Pietraroja**	**3.12**	**236**	Pn	**Pn**	**17 32 42.8**	**+0.4**
	113nm,0.5s						
PTRJ	**Pietraroja**	**3.12**	**236**	Pn	**Pn**	**17 32 42.8**	**+0.4**
	113nm,0.5s						
MIDA	**Miranda**	**3.15**	**243**	Pn	**Pn**	**17 32 43.4**	**+0.7**
	51nm,0.8s						
MIDA	**Miranda**	**3.15**	**243**	Pn	**Pn**	**17 32 43.4**	**+0.7**
	51nm,0.8s						
MCRV	**Calabrutti - M**	**3.16**	**223**	Pn	**Pn**	**17 32 42.9**	**-0.1**
	41nm,0.6s						
MCRV	**Calabrutti - M**	**3.16**	**223**	Pn	**Pn**	**17 32 42.9**	**-0.1**
	41nm,0.6s						
CSSN	**Cassano Irpino**	**3.18**	**225**	Pn	**Pn**	**17 32 42.5**	**-0.6**
	26nm,0.6s						
CSSN	**Cassano Irpino**	**3.18**	**225**	Pn	**Pn**	**17 32 42.5**	**-0.6**
	26nm,0.6s						
SGG	**Gregorio Mates**	**3.20**	**238**	Pn	**Pn**	**17 32 44.1**	**+0.6**
	58nm,0.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SGG	Gregorio Mates	3.20	238	Pn	Pn	17 32 44.1	+0.6
	58nm,0.6s						
INTR	Introdacqua	3.22	251	Pn	Pn	17 32 44.0	+0.2
	207nm,1.1s						
INTR	Introdacqua	3.22	251	Pn	Pn	17 32 44.0	+0.2
	207nm,1.1s						
TERO	Teramo	3.27	262	Pn	Pn	17 32 44.8	+0.5
TERO				Sn	Sn	17 33 24.0	+0.3
	48nm,0.4s						
TERO	Teramo	3.27	262	Pn	Pn	17 32 44.8	+0.5
TERO				Sn	Sn	17 33 24.0	+0.3
	48nm,0.4s						
SGO	Sicignano	3.27	219	Pn	Pn	17 32 44.5	+0.1
	20nm,0.5s						
SGO	Sicignano	3.27	219	Pn	Pn	17 32 44.5	+0.1
	20nm,0.5s						
SCHR	S. Chirico Rap	3.27	207	Pn	Pn	17 32 45.7	+1.2
VAGA	Valle Agricola	3.28	239	Pn	Pn	17 32 45.5	+1.0
	59nm,0.5s						
VAGA	Valle Agricola	3.28	239	Pn	Pn	17 32 45.5	+1.0
	59nm,0.5s						
GBRS	Gornja Briga	3.30	317	*e*Pn	Pn	17 32 47.4	+2.6
GBRS				*e*Sn	Sb	17 33 29.3	-2.7
PAOL	Paolisi	3.31	231	Pn	Pn	17 32 45.9	+1.0
	32nm,0.5s						
PAOL	Paolisi	3.31	231	Pn	Pn	17 32 45.9	+1.0
	32nm,0.5s						
CERA	Filignano	3.32	244	Pn	Pn	17 32 46.5	+1.4
	117nm,1.0s						
CERA	Filignano	3.32	244	Pn	Pn	17 32 46.5	+1.4
	117nm,1.0s						
ZAPS	Zavoj	3.40	86	*e*Pn	Pn	17 32 47.5	+1.4
ZAPS				*e*Sn	Sn	17 33 27.5	+0.5
SDI	San Donato	3.41	247	Pn	Pn	17 32 47.4	+1.1
	15nm,0.4s						
SDI	San Donato	3.41	247	Pn	Pn	17 32 47.4	+1.1
	15nm,0.4s						
CAMP	Campotosto	3.42	261	Pn	Pn	17 32 47.4	+0.8
	48nm,0.7s						
CAMP	Campotosto	3.42	261	Pn	Pn	17 32 47.4	+0.8
	48nm,0.7s						
FNA	Florina	3.46	132	P	Pn	17 32 48.7	+1.8
FNA				S	Sn	17 33 28.1	-0.3
FNA	Florina	3.46	132	*e*P	Pn	17 32 46.1	-0.8
FNA	Florina	3.46	132	*e*P	Pn	17 32 48.0	+1.1
FNA	Florina	3.46	132	P	Pn	17 32 48.7	+1.8
FNA				S	Sn	17 33 28.1	-0.3
SMA1	SAN MARTINO	3.46	263	Pn	Pn	17 32 48.3	+1.3
	97nm,0.4s						
SMA1	SAN MARTINO	3.46	263	Pn	Pn	17 32 48.3	+1.3
	97nm,0.4s						
VVLD	Villa Vallelon	3.47	250	Pn	Pn	17 32 48.0	+0.8
	55nm,0.7s						
VVLD	Villa Vallelon	3.47	250	Pn	Pn	17 32 48.0	+0.8
	55nm,0.7s						
POFI	Posta Fibreno	3.47	247	Pn	Pn	17 32 48.1	+0.9
	33nm,0.6s						
POFI	Posta Fibreno	3.47	247	Pn	Pn	17 32 48.1	+0.9
	33nm,0.6s						
T0106	Roio Piano	3.50	258	Pn	Pn	17 32 48.6	+1.0
	29µm,19.0s						
CING	Cingoli	3.51	275	Pn	Pn	17 32 48.8	+1.1
	79nm,0.8s						
CING	Cingoli	3.51	275	Pn	Pn	17 32 48.8	+1.1
	79nm,0.8s						
NEST	Nestorio	3.56	139	P	Pn	17 32 50.4	+2.0
NEST				S	Sn	17 33 29.6	-1.4
NEST	Nestorio	3.56	139	*e*P	Pn	17 32 51.0	+2.6
NEST	Nestorio	3.56	139	*e*P	Pn	17 32 49.0	+0.6
NEST	Nestorio	3.56	139	P	Pn	17 32 50.4	+2.0
NEST				S	Sn	17 33 29.6	-1.4
PTQR	Pietraquaria	3.57	253	Pn	Pn	17 32 50.2	+1.7
	7.0nm,0.2s						
PTQR	Pietraquaria	3.57	253	Pn	Pn	17 32 50.2	+1.7
	7.0nm,0.2s						
BZS	Buzias	3.59	45	⇓*i*P	Pn	17 32 47.8	-0.9
BZS	Buzias	3.59	45	S	Sn	17 33 30.2	-1.4
BZS	Buzias	3.59	45	⇓*i*P	Pn	17 32 47.8	-0.9
NRCA	Norcia	3.59	267	Pn	Pn	17 32 49.3	+0.5
	18nm,0.4s						
NRCA	Norcia	3.59	267	Pn	Pn	17 32 49.3	+0.5
	18nm,0.4s						
FDMO	Fiordimonte	3.59	270	Pn	Pn	17 32 49.2	+0.4
	39nm,0.5s						
FDMO	Fiordimonte	3.59	270	Pn	Pn	17 32 49.2	+0.4
	39nm,0.5s						
KEK	Kerkira	3.69	158	P	Pn	17 32 49.6	-0.5
KEK				S	Sn	17 33 29.9	-4.2
KEK	Kerkira	3.69	158	*e*P	Pn	17 32 53.3	+3.2
KEK	Kerkira	3.69	158	P	Pn	17 32 49.6	-0.5
SNTG	Esanatoglia	3.69	273	Pn	Pn	17 32 50.7	+0.5
	34nm,0.5s						
SNTG	Esanatoglia	3.69	273	Pn	Pn	17 32 50.7	+0.5
	34nm,0.5s						
FIAM	Fiamignano	3.70	258	Pn	Pn	17 32 51.9	+1.6
	57nm,0.6s						
FIAM	Fiamignano	3.70	258	Pn	Pn	17 32 51.9	+1.6
	57nm,0.6s						
ARVD	Arcevia	3.70	277	Pn	Pn	17 32 50.8	+0.5
	27nm,0.5s						
ARVD	Arcevia	3.70	277	Pn	Pn	17 32 50.8	+0.5
	27nm,0.5s						
CESI	CESI - Serrava	3.73	270	Pn	Pn	17 32 51.6	+0.9
	19nm,0.4s						
CESI	CESI - Serrava	3.73	270	Pn	Pn	17 32 51.6	+0.9
	19nm,0.4s						
FSSB	Fossombrone	3.84	280	Pn	Pn	17 32 52.9	+0.8
	94nm,0.4s						
FSSB	Fossombrone	3.84	280	Pn	Pn	17 32 52.9	+0.8
	94nm,0.4s						
GIUL	Giuliano Di Ro	3.85	247	Pn	Pn	17 32 52.6	+0.2
	38nm,1.1s						
GIUL	Giuliano Di Ro	3.85	247	Pn	Pn	17 32 52.6	+0.2
	38nm,1.1s						
VTS	Vitosha	3.88	96	⇑*i*P	Pn	17 32 54.9	+2.1
VTS	Vitosha	3.88	96	⇑*i*P	Sn	17 33 41.8	+2.9
VTS	Vitosha	3.88	96	*i* P	Sn	17 33 41.0	+2.1
VTS	Vitosha	3.88	96	⇑*i*P	Pn	17 32 54.9	+2.1
CERT	Cerreto	3.89	254	Pn	Pn	17 32 54.3	+1.4
	33nm,0.6s						
CERT	Cerreto	3.89	254	Pn	Pn	17 32 54.3	+1.4
	33nm,0.6s						
GRG	Griva	3.95	122	*e*P	Pn	17 32 55.0	+1.3
GRG	Griva	3.95	122	*e*P	Pn	17 32 55.0	+1.3
ATFO	Monte Foce - G	3.96	275	Pn	Pn	17 32 54.7	+0.7
	111nm,0.8s						
ATFO	Monte Foce - G	3.96	275	Pn	Pn	17 32 54.7	+0.7
	111nm,0.8s						
KKB	Krupnik	3.98	107	*i* P	Sn	17 33 44.5	+3.3
PIEI	Pieia	4.00	277	Pn	Pn	17 32 55.4	+1.0
	40nm,0.3s						
PIEI	Pieia	4.00	277	Pn	Pn	17 32 55.4	+1.0
	40nm,0.3s						
KZN	Kozani	4.01	134	*e*P	Pn	17 32 58.0	+3.5
IGT	Igoumenitsa	4.02	153	P	Pn	17 32 53.7	-0.9
IGT				S	Sn	17 33 39.1	-3.1
IGT	Igoumenitsa	4.02	153	*e*P	Pn	17 32 53.6	-1.1
IGT	Igoumenitsa	4.02	153	*e*P	Pn	17 32 53.5	-1.1
IGT	Igoumenitsa	4.02	153	P	Pn	17 32 53.7	-0.9
ATPC	Poggio Castell	4.05	277	Pn	Pn	17 32 55.8	+0.7
	118nm,0.5s						
ATPC	Poggio Castell	4.05	277	Pn	Pn	17 32 55.8	+0.7
	118nm,0.5s						
ATVO	AVT- Monte Val	4.08	275	Pn	Pn	17 32 56.6	+1.0
	85nm,0.7s						
ATVO	AVT- Monte Val	4.08	275	Pn	Pn	17 32 56.6	+1.0
	85nm,0.7s						
ATPI	Pietralunga -	4.09	276	Pn	Pn	17 32 56.8	+1.1
	68nm,0.5s						
ATPI	Pietralunga -	4.09	276	Pn	Pn	17 32 56.8	+1.1
	68nm,0.5s						
GZR	Gura Zlata	4.11	55	⇓*i*P	Pn	17 32 55.3	-0.6
GZR	Gura Zlata	4.11	55	⇓*i*P	Pn	17 32 55.3	-0.6
SOKA	Soboth	4.11	330	⇑*i*Pn	Pn	17 32 56.6	+0.6
	SNR=32						
SOKA				⇑*i*Sn	Sn	17 33 45.7	+1.1
SOKA	Soboth	4.11	330	Pn	Pn	17 32 56.6	+0.6
	SNR=32						
SOKA				Sn	Sn	17 33 45.7	+1.1
KNT	Kendrikon	4.15	117	*e*P	Pn	17 32 59.0	+2.5
KNT	Kendrikon	4.15	117	*e*P	Pn	17 32 57.5	+1.0
OBKA	Obir	4.16	325	⇑*i*Pn	Pn	17 32 57.6	+1.0
OBKA				⇑*i*Sn	Sn	17 33 48.7	+2.9
OBKA	Obir	4.16	325	Pn	Pn	17 32 57.6	+1.0
OBKA				Sn	Sn	17 33 48.7	+2.9
MPEP	Malo Peshtene	4.21	85	*i* P	Sn	17 33 44.7	-2.1
BADI	Badiali	4.21	277	Pn	Pn	17 32 59.8	+2.6
	108nm,0.6s						
BADI	Badiali	4.21	277	Pn	Pn	17 32 59.8	+2.6
	108nm,0.6s						
PARC	Parchiule	4.22	279	Pn	Pn	17 32 58.4	+1.0
	50nm,0.4s						
PARC	Parchiule	4.22	279	Pn	Pn	17 32 58.4	+1.0
	50nm,0.4s						
MGAB	Montegabbione	4.32	269	Pn	Pn	17 32 59.9	+1.2
	63nm,0.4s						
MGAB	Montegabbione	4.32	269	Pn	Pn	17 32 59.9	+1.2
	63nm,0.4s						
CAFI	Castiglion Fio	4.41	274	Pn	Pn	17 33 01.1	+1.1
CAFI	Castiglion Fio	4.41	274	Pn	Pn	17 33 01.1	+1.1
CRE	Caprese Michel	4.43	278	Pn	Pn	17 33 02.4	+2.0
	17nm,0.7s						
CRE	Caprese Michel	4.43	278	Pn	Pn	17 33 02.4	+2.0
	17nm,0.7s						
ARSA	Arzberg	4.46	338	Pn	Pn	17 32 58.1	-2.6
VINO	Villanova	4.58	314	Pn	Pn	17 33 03.3	+1.0
	92nm,0.9s						
VINO	Villanova	4.58	314	Pn	Pn	17 33 03.3	+1.0
	92nm,0.9s						
HORT	Hortiatis	4.59	122	*e*P	Pn	17 33 02.5	0.0
HORT	Hortiatis	4.59	122	*e*P	Pn	17 33 03.5	+1.0
PTCC	Patocco-Chiusa	4.64	316	Pn	Pn	17 33 04.7	+1.5
	45nm,0.7s						
PTCC	Patocco-Chiusa	4.64	316	Pn	Pn	17 33 04.7	+1.5
	45nm,0.7s						
DSL	Palaion Diasel	4.64	149	*e*P	Pn	17 33 03.6	+0.4
DSL	Palaion Diasel	4.64	149	*e*P	Pn	17 33 04.5	+1.3
MYKA	Terra Mystica	4.66	320	⇓*i*Pn	Pn	17 33 04.7	+1.2
	SNR=5.2						
MYKA				⇓*i*Sn	Sn	17 34 00.2	+2.1
MYKA	Terra Mystica	4.66	320	Pn	Pn	17 33 04.7	+1.2
	SNR=5.2						
MYKA				Sn	Sn	17 34 00.2	+2.1
ACOM	Acomizza, Ital	4.66	318	Pn	Pn	17 33 05.1	+1.5
	86nm,0.8s						
ACOM	Acomizza, Ital	4.66	318	Pn	Pn	17 33 05.1	+1.5
	86nm,0.8s						
THL	Klokotos Trika	4.69	138	*e*P	Pn	17 33 04.2	+0.4
NVR	Nevrokopi	4.71	110	*e*P	Pn	17 33 06.1	+1.8
NVR	Nevrokopi	4.71	110	*e*P	Pn	17 33 06.0	+1.8
VMG	Vicchio	4.76	282	Pn	Pn	17 33 05.6	+0.8
	479nm,2.2s						
VMG	Vicchio	4.76	282	Pn	Pn	17 33 05.6	+0.8
	479nm,2.2s						
LKD2	Lefkada island	4.80	154	*e*P	Pn	17 33 06.5	+1.1
POLC	Polcenigo	4.87	308	Pn	Pn	17 33 07.3	+1.1
	138nm,0.6s						
POLC	Polcenigo	4.87	308	Pn	Pn	17 33 07.3	+1.1
	138nm,0.6s						
PLG	Polygyros	4.93	122	*e*P	Pn	17 33 09.1	+1.9
PLG	Polygyros	4.93	122	*e*P	Pn	17 33 09.0	+1.9
CONA	Conrad Observa	5.01	343	⇓*i*Pn	Pn	17 33 07.7	-0.6
CONA				⇑*i*Sn	Sn	17 34 05.9	-0.9
CONA	Conrad Observa	5.01	343	Pn	Pn	17 33 07.7	-0.6
CONA				Sn	Sn	17 34 05.9	-0.9
TEOL	Teolo	5.05	298	Pn	Pn	17 33 09.2	+0.4
	46nm,0.7s						
TEOL	Teolo	5.05	298	Pn	Pn	17 33 09.2	+0.4
	46nm,0.7s						
FVI	Forni Avoltri	5.06	315	Pn	Pn	17 33 11.8	+2.8
	13nm,0.4s						
FVI	Forni Avoltri	5.06	315	Pn	Pn	17 33 11.8	+2.8
	13nm,0.4s						
EVR	Evrytania	5.12	144	*e*P	Pn	17 33 10.3	+0.5
KBA	Koelnbreinsper	5.13	322	⇓*i*Pn	Pn	17 33 11.3	+1.3
KBA				⇑*i*Sn	Sn	17 34 12.9	+3.2
KBA	Koelnbreinsper	5.13	322	Pn	Pn	17 33 11.3	+1.3
KBA				Sn	Sn	17 34 12.9	+3.2
PDO	Prodromos	5.15	151	*e*P	Pn	17 33 10.1	0.0
PDO	Prodromos	5.15	151	*e*P	Pn	17 33 09.0	-1.1
AGG	Agios Georgios	5.26	140	*e*P	Pn	17 33 11.7	-0.1
AGG	Agios Georgios	5.26	140	*e*P	Pn	17 33 12.0	+0.2
ABTA	Abfaltersbach	5.30	315	⇑*i*Pn	Pn	17 33 13.1	+0.8
	SNR=7.8						
ABTA	Abfaltersbach	5.30	315	Pn	Pn	17 33 13.1	+0.8
	SNR=7.8						
KAVA	Kavala	5.31	112	*e*P	Pn	17 33 15.0	+2.7
VLS	Valsamata	5.34	157	*e*P	Pn	17 33 13.0	+0.2
MOA	Molln	5.38	332	⇓*i*Pn	Pn	17 33 13.9	+0.5
	SNR=15						
MOA				⇓*i*Sn	Sn	17 34 17.5	+1.6
MOA	Molln	5.38	332	Pn	Pn	17 33 13.9	+0.5
	SNR=15						
MOA				Sn	Sn	17 34 17.5	+1.6
XOR	Xorichti	5.44	132	*e*P	Pn	17 33 15.5	+1.3
EFP	Efpalio	5.57	146	*e*P	Pn	17 33 18.3	+2.4
KECS	Kecovo	5.62	17	*e*PN	Pn	17 33 10.9	-5.7
KECS				*e*SG	Sg	17 34 54.0	+1.5
KALE	Kalithea	5.70	145	*e*P	Pn	17 33 19.5	+1.7
DRO	Drossia	5.91	150	*e*P	Pn	17 33 21.7	+1.1
ABSI	Aberstueckl	5.94	309	Pn	Pn	17 33 21.9	+0.8
	29nm,0.9s						
ABSI	Aberstueckl	5.94	309	Pn	Pn	17 33 21.9	+0.8
	29nm,0.9s						
RDO	Rodhopi	5.96	107	*e*P	Pn	17 33 23.6	+2.4
WTTA	Wattenberg	6.09	315	⇓*i*Pn	Pn	17 33 25.2	+1.9
WTTA				⇑*i*Sn	Sn	17 34 37.6	+4.1
WTTA	Wattenberg	6.09	315	Pn	Pn	17 33 25.6	+2.3
	8.0nm,0.5s						
WTTA	Wattenberg	6.09	315	Pn	Pn	17 33 25.2	+1.9
WTTA				Sn	Sn	17 34 37.6	+4.1
GUR	Goura	6.17	146	*e*P	Pn	17 33 24.3	0.0
MOTA	Moosalm	6.42	313	⇑*i*Pn	Pn	17 33 29.3	+1.5
	SNR=12						
MOTA	Moosalm	6.42	313	Pn	Pn	17 33 29.3	+1.5
	SNR=12						
PGF	Pioggiola	6.64	268	*e*Pn	Pn	17 33 28.7	-2.0
OKC	Ostrava-Krasne	6.70	1	*e*SN	Sn	17 34 45.8	-2.3
KHC	Kasperske Hory	6.72	334	*e*PN	Pn	17 33 33.3	+1.5
KHC				*e*x	x	17 33 37.1	
KHC				*e*x	x	17 33 41.8	
KHC				*e*x	x	17 33 43.7	
KHC				*e*SN	Sn	17 34 48.2	-0.7
KHC				*e*x	x	17 34 59.9	
KHC	Kasperske Hory	6.72	334	Pn	Pn	17 33 33.3	+1.5
KHC				Sn	Sn	17 34 48.2	-0.7
DPC	Dobruska-Polom	7.30	352	*e*SN	Sn	17 35 00.6	-2.4
SBF	Sospel	7.71	279	*e*Pn	Pn	17 33 44.2	-1.2
SBF				*e*Sn	Sn	17 35 05.4	-7.8
	9.2nm,0.4s						
SBF	Sospel	7.71	279	*e*Pn	Pn	17 33 44.2	-1.2
MBDF	Montbardon	8.25	285	*e*Pn	Pn	17 33 50.8	-2.1
MBDF				*e*Sn	Sn	17 35 18.6	-8.0
	7.3nm,0.6s						
FRF	La Foret Royal	8.28	277	*e*Pn	Pn	17 33 51.0	-2.1
LMR	La Mourre	8.39	275	*e*Pn	Pn	17 33 52.5	-2.1
LPG	La Plagne	8.39	290	*e*Pn	Pn	17 33 52.9	-2.1
LPG				*e*Sn	Sn	17 35 22.2	-8.2
	9.4nm,0.6s						
LPL	La Plagne	8.41	290	*e*Pn	Pn	17 33 53.1	-2.0
LPL				*e*Sn	Sn	17 35 22.5	-8.2
	6.5nm,0.5s						
ORIF	Oris-en-Rattie	8.90	286	*e*Pn	Pn	17 33 59.6	-2.2
ORIF				*e*Sn	Sn	17 35 34.0	-8.6
	9.2nm,0.7s						
SMRF	Simiane la Rot	9.05	280	*e*Pn	Pn	17 34 01.6	-2.2
HINF	Hinteralfeld	9.11	305	*e*Pn	Pn	17 34 02.4	-2.1
HINF				*e*Sn	Sn	17 35 39.2	-8.4
	6.5nm,0.7s						
CABF	La Chapelle	9.13	296	*e*Pn	Pn	17 34 02.9	-2.0
CDF	Champ du Feu	9.15	309	*e*Pn	Pn	17 34 03.2	-1.9
HAU	Haudompre	9.50	305	*e*Pn	Pn	17 34 07.8	-2.0
HAU				*e*Sn	Sn	17 35 48.3	-8.8
	7.3nm,0.5s						
VIVF	Saint-Julien-l	9.75	285	*e*Pn	Pn	17 34 11.1	-2.2
SFTF	Sexfontaines	10.38	304	*e*Pn	Pn	17 34 19.7	-2.1
SMF	Signal de Mont	10.63	294	*e*Pn	Pn	17 34 23.0	-2.3
LOR	Lormes	10.79	297	*e*Pn	Pn	17 34 25.3	-2.2
	baz=117						
LOR				*e*Sn	Sn	17 36 18.9	-10
	4.3nm,0.5s						
SSF	Saint Saulge	10.96	296	*e*Pn	Pn	17 34 27.6	-2.2
SSF				*e*Sn	Sn	17 36 23.1	-10
	5.5nm,0.8s						
BGF	Bois d'Agland	11.28	293	*e*Pn	Pn	17 34 31.8	-2.4

UPP ***01*** *17:36:48.8, 59°.01N×18°.20E, h0km, ML2.3, Mining explosion.*

ISCJB ***01*** *17:36:48.1±0.6, 59°.01N±0°.04×18°.29E±0°.09, h0km, Error ellipse: s-maj=7.6km s-min=4.2km az=34.6*

CSEM ***01*** *17:36:49.1±0.2, 59°.04N×18°.18E, h2km, ML2.3, Error ellipse: s-maj=6.2km s-min=3.2km az=118.0, Mining explosion.*

IDC ***01*** *17:36:49.9±2.0, 58°.94N×18°.34E, h0km, mb1 3.0/4, mb1mx2.8/47, mbtmp2.8/4, ML2.3/4, Error ellipse: s-maj=25.4km s-min=8.6km az=169.0*

BER ***01*** *17:36:51.6±3.3, 59°.08N×18°.07E, h0km, ML1.9(NAO), Suspected explosion*

NAO ***01*** *17:36:51.4±2.0, 59°.17N×18°.07E, ML1.9*

ISC 01 17:36:48.7±0.9, **59°.02N**±0°.04×**18°.20E**±0°.04, **h0km, n47, σ0s.88**/56, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	Norrtaelje	0.70	18	P	Pg	17 37 02.1	0.0
NRTU				S	Sg	17 37 11.4	+0.2
NRTU	Norrtaelje	0.70	18	P	Pg	17 37 02.1	0.0
NRTU				S	Sg	17 37 11.4	+0.2
VIKU	Vikbolandet	0.94	237	P	Pg	17 37 06.2	-0.4
VIKU	Vikbolandet	0.94	237	P	Pg	17 37 06.2	-0.4
BACU	Backbrunna	1.01	327	P	Pg	17 37 07.7	-0.4
BACU	Backbrunna	1.01	327	P	Pg	17 37 07.7	-0.4
FLYU	Flymyra	1.13	352	P	Pg	17 37 10.0	-0.3
FLYU	Flymyra	1.13	352	P	Pg	17 37 10.0	-0.3
OSTU	Oestervaala	1.33	336	P	Pg	17 37 13.6	-0.7
OSTU	Oestervaala	1.33	336	P	Pg	17 37 13.7	-0.7
GRAU	Graesoe	1.33	7	P	Pg	17 37 13.7	-0.6
GRAU	Graesoe	1.33	7	P	Pg	17 37 13.7	-0.6
FORU	Forsmark	1.38	360	P	Pg	17 37 14.4	-0.7
FORU	Forsmark	1.38	360	P	Pg	17 37 14.4	-0.7
AAL	Aland	1.48	37	P	Pn	17 37 16.1	-0.5
AAL	Aland	1.48	37	P	Pn	17 37 16.1	-0.5
VSTU	Vaestervik	1.62	214	P	Pn	17 37 18.2	-0.3
VSTU	Vaestervik	1.62	214	P	Pn	17 37 18.2	-0.3
LNKU	Linkoeping	1.62	242	P	Pn	17 37 18.2	-0.3
LNKU	Linkoeping	1.62	242	P	Pn	17 37 18.2	-0.3
NRAU	Nora	1.71	290	P	Pn	17 37 20.1	+0.3
NRAU	Nora	1.71	290	P	Pn	17 37 20.1	+0.3
ASKU	Askersund	1.75	267	P	Pn	17 37 20.3	0.0
ASKU	Askersund	1.75	267	P	Pn	17 37 20.3	0.0
ASPU	Aespoe	1.81	209	P	Pn	17 37 21.6	+0.5
ASPU	Aespoe	1.81	209	P	Pn	17 37 21.6	+0.5
BYXU	Byxelkrok	1.84	201	P	Pn	17 37 22.1	+0.6
BYXU	Byxelkrok	1.84	201	P	Pn	17 37 22.1	+0.6
EKSU	Eksjoe	2.11	228	P	Pn	17 37 26.3	+1.1
EKSU	Eksjoe	2.11	228	P	Pn	17 37 26.3	+1.1
HFS	Hagfors	2.55	298	Pn	Pn	17 37 32.6	+1.3
	baz=112,slow=18						
HFS				Lg	Lg	17 38 06.2	
	baz=112,slow=37						
HFS	Hagfors	2.55	298	Pn	Pn	17 37 32.6	+1.3
	baz=112,slow=18						
HFS				Lg	Lg	17 38 06.2	
	baz=112,slow=37						
HFS	Hagfors	2.55	298	Pn	Pn	17 37 32.7	+1.3
	0.4nm,0.3s,baz=115,slow=17,SNR=25						
HFS				Sn	Sb	17 38 07.0	-0.3
	2.5nm,0.3s,baz=113,slow=28,SNR=23						
HFS	Hagfors	2.55	298	Pn	Pn	17 37 32.6	+1.3
	baz=112,slow=18,SNR=50						
HFS				Lg	Lg	17 38 06.2	
	SNR=5.1						
NB2	NORSAR Subarra	4.05	303	Pn	Pn	17 37 52.5	+0.5
	baz=127,slow=12						
NB2				Pg	Pb	17 38 01.0	+0.1
NB2				Lg	Lg	17 38 55.5	
	baz=119,slow=37						
NB2	NORSAR Subarra	4.05	303	Pn	Pn	17 37 52.5	+0.5
	baz=127,slow=12						
NB2				Pg	Pb	17 38 01.0	+0.1
NB2				Lg	Lg	17 38 55.5	
	baz=119,slow=37						
NB2	NORSAR Subarra	4.05	303	Pn	Pn	17 37 52.5	+0.5
	baz=127,slow=12,SNR=50						
NB2	NORSAR Subarra	4.05	303	Pg	Pb	17 38 01.0	+0.1
	SNR=90						
NB2				Lg	Lg	17 38 55.5	
	SNR=5.0						
NOA	NORSAR Array B	4.05	303	Pn	Pn	17 37 52.1	+0.2
	0.1nm,0.3s,baz=121,slow=6.0,SNR=3.6						
NOA				Lg	Lg	17 38 54.2	
	0.6nm,0.3s,baz=131,slow=24,SNR=6.4						
FIA0	FINESS Array S	4.62	55	Pn	Pn	17 38 01.0	+1.3
	baz=234,slow=14						
FIA0				Sn	Sn	17 38 54.8	+0.8
	baz=238,slow=22						
FIA0				Lg	Lg	17 39 13.6	
	baz=243,slow=28						
FIA0	FINESS Array S	4.62	55	Pn	Pn	17 38 01.0	+1.3
	baz=234,slow=14						
FIA0				Sn	Sn	17 38 54.8	+0.8
	baz=238,slow=22						
FIA0				Lg	Lg	17 39 13.6	
	baz=243,slow=28						
FIA0	FINESS Array S	4.62	55	Pn	Pn	17 38 01.0	+1.3
	baz=234,slow=13,SNR=50						
FIA0				Sn	Sn	17 38 54.8	+0.8
	baz=238,slow=21,SNR=50						
FIA0				Lg	Lg	17 39 13.6	
	SNR=4.2						
FINES	FINESS Array B	4.62	55	Pn	Pn	17 38 00.9	+1.3
	0.2nm,0.3s,baz=240,slow=13,SNR=13						
FINES				Sn	Sn	17 38 54.1	+0.2
	0.4nm,0.3s,baz=244,slow=22,SNR=6.1						
FINES				Lg	Lg	17 39 12.1	
	0.6nm,0.3s,baz=243,slow=22,SNR=8.0						
ARA0	ARCESS Array S	11.02	14	Pn	Pn	17 39 25.2	-2.1
	baz=199,slow=14						
ARA0	ARCESS Array S	11.02	14	Pn	Pn	17 39 25.2	-2.1
	baz=199,slow=14						
ARA0	ARCESS Array S	11.02	14	Pn	Pn	17 39 25.2	-2.1
	baz=199,slow=13,SNR=50						
ARCES	ARCESS Array B	11.02	14	Pn	Pn	17 39 25.4	-2.0
	0.1nm,0.3s,baz=198,slow=13,SNR=8.0						
ARCES				Sn	Sn	17 41 24.0	-7.1
	0.1nm,0.3s,baz=196,slow=22,SNR=2.6						

DJA ***01*** *17:38:12.3±0.5, 2°N±6°×12°7E±1°1, h26km±14km, M4.2/9, mb4.5/4, mB4.7/3, MLv4.0/9, Mw(mB)3.9/3*

ISCJB ***01*** *17:38:14.0±1.0, 1°.76N±0°.09×127°.38E±0°.06, h112km, mb3.8/4, Error ellipse: s-maj=12.5km s-min=7.7km az=13.2*

IDC ***01*** *17:38:14.7±3.1, 1°.89N×127°.40E, h92km±28km, mb3.6/4, mb1 3.7/6, mb1mx3.2/39, mbtmp3.9/6, Error ellipse: s-maj=38.3km s-min=18.9km az=60.0*

ISC 01 17:38:16.4±1.2, **1°.7N**±0°.1×**127°.36E**±0°.08, **h112km, n13, σ2s.00**/16, **mb3.8**/4, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.92	179	P	Pn	17 38 32.5	-4.4
TNTI				S	Sn	17 38 47.1	-5.3
KMSI	Cibinong	3.55	252	P	Pn	17 39 08.2	-1.6
SANI	Sanana	3.96	200	P	Pn	17 39 14.4	-0.9
SANI				S	Sn	17 40 01.5	+0.5
SIJI	Sorong	4.67	123	P	Pn	17 39 22.5	-2.3
	1.3nm,0.3s,baz=323,slow=20,SNR=11						
SIJI				S	Sn	17 40 16.3	-1.7
	0.4nm,0.3s,baz=233,slow=20,SNR=2.4						
NLAI	Namlea	4.91	183	P	Pn	17 39 28.0	0.0
	21nm,0.5s,603nm0.1nm						
LUWI	Luwuk	5.33	239	P	Pn	17 39 33.7	0.0
	37nm,0.8s,0.2nm						
MRSI	Marisa	5.55	257	P	Pn	17 39 35.5	-1.1
	25nm,0.5s,688nm0.1nm						
APSI	Ampana	6.27	246	P	Pn	17 39 45.8	-0.6
KAPI	Kappang	10.11	229	P	Pn	17 40 38.1	-0.3
	1.4nm,0.3s,baz=49,slow=11,SNR=7.7						
WRA	Warramunga Arr	22.57	163	P	P	17 43 08.3	+0.8
	1.0nm,0.3s,baz=343,slow=10,SNR=36						
ASAR	Alice Springs	26.00	166	P	P	17 43 40.8	+1.7
	0.4nm,0.4s,baz=342,slow=7.7,SNR=24						
ASAR				PcP	PcP	17 47 05.7	+1.0
	0.1nm,0.5s,baz=355,slow=2.7,SNR=3.8						
STKA	Stephens Creek	36.02	159	P	P	17 45 09.2	+2.4
	1.1nm,0.5s,baz=350,slow=9.1,SNR=7.4						
MKAR	Makanchi Array	59.57	326	P	P	17 48 08.0	-0.3
	2.3nm,0.7s,baz=118,slow=8.1,SNR=23						

*NIED **01** 17:44:00, 42°.40N×143°.20E, h53km, Mw3.9 Best double couple: M0 8.44000×10^14 NP1: φs247.00000°, δ36.00000°, λ134.00000°. NP2: φs17.00000°, δ65.00000°, λ63.00000°.*
*ISCJB **01** 17:44:52.1±0.4, 42°.36N±0°.05×143°.14E±0°.05, h69km±3km, mb3.7/14, Error ellipse: s-maj=8.8km s-min=5.0km az=145.9*
*MOS **01** 17:44:52.4±0.7, 42°.36N×143°.08E, h70km, mb4.1/11, Error ellipse: s-maj=16.5km s-min=9.5km az=80.7*
*IDC **01** 17:44:53.6±2.0, 42°.46N×143°.16E, h66km±17km, mb3.6/14, mb1 3.8/17, mb1mx3.6/36, mbtmp3.9/17, Error ellipse: s-maj=18.3km s-min=14.6km az=107.0*
*JMA **01** 17:44:54.1±0.1, 42°.43N×143°.16E, h48km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs5.00000°, δ63.00000°, λ59.00000°. NP2: φs239.00000°, δ40.00000°, λ136.00000°. Principal axes: T Plg59.0000°, Azm230.0000°; N Plg28.0000°, Azm20.0000°; P Plg13.0000°, Azm117.0000°;*
JMA Felt II J1.
ISC 01 17:44:53.1±0.7, **42°.39N**±0°.05×**143°.16E**±0°.04, **h62**km±6km, **n60**, σ**0s.96**/66, **mb4.0**/19, **5C-7D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.28**	**34**	⇑P	**Pn**	**17 45 02.5**	**-0.7**
JNBK	**Urakawa-nobuka**	**0.32**	**251**	⇓P	**Pn**	**17 45 03.6**	**+0.1**
JNBK				*e*S	**Sn**	**17 45 11.2**	**+0.1**
JEM	**Erimo**	**0.37**	**180**	⇑P	**Pn**	**17 45 04.2**	**+0.2**
JBT2	**Biratori 2**	**0.70**	**304**	⇓P	**Pn**	**17 45 07.3**	**-0.2**
JOB	**Onbets**	**0.72**	**44**	⇑P	**Pn**	**17 45 08.1**	**+0.4**
JOB				*e*S	**Sn**	**17 45 19.3**	**+0.9**
JFR	**Furan**	**0.88**	**332**	⇓P	**Pn**	**17 45 08.4**	**-1.3**
JAR	**Ashorobuto**	**1.02**	**26**	⇑P	**Pn**	**17 45 11.1**	**-0.3**
JAR				*e*S	**Sn**	**17 45 24.3**	**-0.7**
JAK	**Akkeshi**	**1.29**	**61**	⇓P	**Pn**	**17 45 14.6**	**-0.4**
JAK				*e*S	**Sn**	**17 45 31.1**	**-0.3**
JAB	**Ashibetsu**	**1.31**	**329**	⇓P	**Pn**	**17 45 15.8**	**+0.5**
JEW	**Eniwo**	**1.34**	**290**	⇓P	**Pn**	**17 45 16.4**	**+0.7**
ASAJ	**Asahikawa**	**1.78**	**347**	P	**Pn**	**17 45 22.3**	**+0.7**
	34nm,0.3s,baz=199,slow=17,SNR=403						
ASAJ				S	**Sn**	**17 45 44.3**	**+1.1**
	35nm,0.3s,baz=37,slow=29,SNR=6.6						
ASAJ	**Asahikawa**	**1.78**	**347**	PN	**Pn**	**17 45 22.3**	**+0.7**
ASAJ				S	**Sn**	**17 45 44.3**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,34nm,0.3s						
ASAJ				smax	smax		
	comp=N,35nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.58**	**49***c*	*i*PN	**Pn**	**17 45 33.2**	**+0.8**
YUK				*i* S	**Sn**	**17 46 03.5**	**+1.0**
YUK				pmax	pmax		
	comp=Z,145nm,0.3s						
YUK				pmax	pmax		
	comp=N,25nm,0.1s						
YUK				pmax	pmax		
	comp=E,29nm,0.1s						
YUK				smax	smax		
	comp=N,218nm,0.6s						
YUK				smax	smax		
	comp=E,480nm,0.6s						
KUR	**Kuril'sk**	**4.44**	**49**⇓	*i*PN	**Pn**	**17 45 59.6**	**+1.7**
KUR				*i* S	**Sn**	**17 46 51.1**	**+2.8**
KUR				pmax	pmax		
	comp=N,10.0nm,0.4s						
KUR				pmax	pmax		
	comp=Z,17nm,0.4s						
KUR				pmax	pmax		
	comp=E,10.0nm,0.2s						
KUR				smax	smax		
	comp=N,34nm,0.4s						
KUR				smax	smax		
	comp=E,55nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.58**	**357**	*e*PN	**Pn**	**17 46 02.0**	**+2.3**
YSS				*e*S	Sn	17 46 58.0	+6.4
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				smax	smax		
	comp=N,40nm,1.0s						
MJAR	**Matsushiro Arr**	**6.98**	**215**	P	**Pn**	**17 46 33.4**	**+0.7**
	comp=N,1.3nm,0.3s,baz=26,slow=14,SNR=16						
MJAR				S	Sn	17 47 59.0	+8.4
	baz=351,slow=28,SNR=2.7						
MJAR	**Matsushiro Arr**	**6.98**	**215**	PN	**Pn**	**17 46 33.4**	**+0.7**
MJAR				S	Sn	17 47 59.0	+8.4
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
USRK	**Ussuriysk Ar.**	**8.35**	**286**	P	**Pn**	**17 46 50.9**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=90,slow=17,SNR=6.9						
TYV	**Tymovskoe**	**8.49**	**358**	*e*PN	**Pn**	**17 46 55.5**	**+2.3**
TYV				pmax	pmax		
	comp=Z,13nm,0.8s						
KSRS	**Korea Array**	**12.68**	**252**	P	**Pn**	**17 47 51.4**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=63,slow=13,SNR=11						
SEY	**Seymchan**	**21.29**	**12**	P	**P**	**17 49 31.7**	**-2.5**
	comp=Z,1.7nm,0.6s,baz=179,slow=9.6,SNR=12						
SEY	**Seymchan**	**21.29**	**12**	P	**P**	**17 49 31.7**	**-2.5**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM	**Songino Array**	**26.33**	**295**	P	**P**	**17 50 23.3**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=88,slow=8.4,SNR=17						
SONM	**Songino Array**	**26.33**	**295**	P	**P**	**17 50 23.3**	**+0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**30.20**	**131**	T	T	18 22 25.6	
	baz=324,slow=75,SNR=52						
H11N1	**WAKE ISLAND Hy**	**30.21**	**131**	T	T	18 22 30.3	
	baz=324,slow=75,SNR=55						
H11N3	**WAKE ISLAND Hy**	**30.22**	**131**	T	T	18 22 27.1	
	baz=324,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hy**	**31.08**	**133**	T	T	18 23 44.4	
	baz=326,slow=76,SNR=54						
H11S3	**WAKE ISLAND Hy**	**31.09**	**133**	T	T	18 23 48.2	
	baz=326,slow=76,SNR=52						
H11S2	**WAKE ISLAND Hy**	**31.10**	**133**	T	T	18 23 43.1	
	baz=326,slow=76,SNR=44						
ZALV	**Zalesovo Beam**	**39.50**	**308**	P	**P**	**17 52 17.4**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=100,slow=7.6,SNR=12						
ZALV				PcP	**PcP**	**17 54 23.9**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=102,slow=2.7,SNR=6.9						
ZALV	**Zalesovo Beam**	**39.50**	**308**	P	**P**	**17 52 17.4**	**+0.1**
ZALV						17 54 23.9	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**42.62**	**298**	P	**P**	**17 52 43.2**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=83,slow=11,SNR=21						
MKAR				PcP	**PcP**	**17 54 34.2**	**0.0**
	comp=Z,0.3nm,0.4s,baz=54,slow=2.1,SNR=4.2						
MKAR	**Makanchi Array**	**42.62**	**298**	P	**P**	**17 52 43.2**	**+0.1**
MKAR						17 54 34.3	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	**Eielson Array**	**44.30**	**35**	P	**P**	**17 52 56.5**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=270,slow=5.1,SNR=9.3						
ILAR	**Eielson Array**	**44.30**	**35**	P	**P**	**17 52 56.5**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TAPN	**Taplejung**	**47.10**	**270**	*e*P	**P**	**17 53 19.9**	**+0.6**
	comp=Z,4.4nm,0.4s						
ODAN	**Odare**	**47.61**	**270**	*e*P	**P**	**17 53 23.5**	**+0.3**
JIRN	**Jiri**	**48.06**	**271**	*e*P	**P**	**17 53 26.5**	**-0.3**
RAMN	**Ramite**	**48.14**	**270**	*e*P	**P**	**17 53 27.6**	**+0.3**
	comp=Z,5.3nm,0.3s						
GUN	**Gumba**	**48.15**	**272**	*e*P	**P**	**17 53 28.0**	**+0.5**
	comp=Z,19nm,0.4s						
GKN	**Gorkha**	**49.02**	**273**	*e*P	**P**	**17 53 32.9**	**-1.0**
	comp=Z,3.1nm,0.4s						
KOLN	**Koldanda**	**49.91**	**273**	*e*P	**P**	**17 53 40.4**	**-0.4**
	comp=Z,4.5nm,0.3s						
ARU	**Arti**	**53.33**	**316**	P	**P**	**17 54 04.9**	**-0.7**
ARCES	**ARCESS Array B**	**59.48**	**339**	P	**P**	**17 54 48.2**	**-0.9**
	comp=Z,3.7nm,1.0s,baz=51,slow=8.7,SNR=3.3						
ARCES	**ARCESS Array B**	**59.48**	**339**	P	**P**	**17 54 48.2**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WRA	**Warramunga Arr**	**62.55**	**189**	P	**P**	**17 55 10.9**	**+0.5**
	comp=Z,0.6nm,1.0s,baz=7.2,slow=6.8,SNR=9.5						
WRA	**Warramunga Arr**	**62.55**	**189**	P	**P**	**17 55 10.9**	**+0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
FINES	**FINESS Array B**	**64.72**	**332**	P	**P**	**17 55 23.5**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=46,slow=7.1,SNR=15						
FINES	**FINESS Array B**	**64.72**	**332**	P	**P**	**17 55 23.5**	**-0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**66.27**	**189**	P	**P**	**17 55 35.4**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=2.6,slow=6.5,SNR=4.9						
KBZ	**Khabaz**	**68.47**	**310**	P	**P**	**17 55 48.5**	**0.0**
	comp=Z,1.3nm,0.7s,baz=143,slow=20						
KBZ	**Khabaz**	**68.47**	**310**	P	**P**	**17 55 48.5**	**0.0**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**69.77**	**337**	P	**P**	**17 55 55.6**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=34,slow=6.2						
NOA	**NORSAR Array B**	**69.77**	**337**	P	**P**	**17 55 55.1**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=35,slow=6.3,SNR=5.0						
NOA	**NORSAR Array B**	**69.77**	**337**	P	**P**	**17 55 55.1**	**-1.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVAR	**Mina Array Bea**	**70.77**	**55**	P	**P**	**17 56 02.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=258,slow=4.2,SNR=4.9						
BRTR	**Keskin Array B**	**76.31**	**312**	P	**P**	**17 56 35.4**	**0.0**
	comp=Z,0.4nm,0.5s,baz=12,slow=7.5,SNR=3.6						
TXAR	**Lajitas Array**	**85.83**	**54**	P	**P**	**17 57 26.9**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=281,slow=3.6,SNR=4.8						
TXAR				pP	**pP**	**17 57 43.8**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=306,slow=5.1,SNR=2.0						
TXAR	**Lajitas Array**	**85.83**	**54**	P	**P**	**17 57 26.9**	**+0.7**
TXAR				*PP	**pP**	**17 57 43.8**	**+0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

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*IDC **01** 17:50:53.3±2.3, 36°.54N×141°.98E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/29, mbtmp3.2/4, ML3.2/1, MS3.5/1, Ms1 3.7/1, ms1mx2.9/20, Error ellipse: s-maj=54.3km s-min=25.5km az=48.0*
*JMA **01** 17:50:57.3±0.2, 36°.40N×141°.76E, h69km±4km, M2.9*
ISC 01 17:50:57.4±1.4, **36°.45N**±0°.06×**141°.71E**±0°.09, **h19**km, **n16**, σ**0s.90**/18, **mb3.2**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.93**	**280**	P	**Pb**	**17 51 15.2**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.98**	**312**	P	**Pg**	**17 51 16.4**	**0.0**
CHOJ	**Chosi**	**1.01**	**223**	P	**Pb**	**17 51 16.1**	**-0.2**
CHOJ				S	**Sn**	**17 51 30.7**	**+0.5**
JFK	**Kawauchi**	**1.13**	**324**	P	**Pg**	**17 51 18.8**	**-0.6**
JFT	**Otama**	**1.53**	**315**	P	**Pb**	**17 51 25.3**	**+0.1**
JMM	**Marumori**	**1.59**	**333**	P	**Pn**	**17 51 25.2**	**+0.7**
JAG	**Ashikaga**	**1.82**	**270**	P	**Pn**	**17 51 28.1**	**+0.5**
JFY	**Yanaizu**	**1.87**	**301**	P	**Pb**	**17 51 30.7**	**-0.2**
JRY	**Ryogami san**	**2.31**	**260**	P	**Pn**	**17 51 34.8**	**+0.4**
JOD2	**Odawara 2**	**2.43**	**242**	P	**Pn**	**17 51 36.8**	**+0.7**
MJAR	**Matsushiro Arr**	**2.82**	**273**	Pn	**Pn**	**17 51 42.6**	**+1.1**
	3.2nm,0.3s,baz=97,slow=8.4,SNR=36						
MJAR				Sn	**Sb**	**17 52 19.7**	**-1.6**
	1.7nm,0.3s,baz=89,slow=27,SNR=4.4						
MAT	**Matsushiro**	**2.82**	**273**	P	**Pn**	**17 51 43.6**	**+2.1**
MAT				*e*S	**Sb**	**17 52 21.0**	**-0.3**
SONM	**Songino Array**	**28.31**	**305**	P	**P**	**17 56 49.7**	**-0.1**
	0.9nm,1.1s,baz=94,slow=8.4,SNR=3.1						
ILAR	**Eielson Array**	**49.86**	**32**	LR	LR	18 19 47.1	
	comp=Z,58nm,20.9s,baz=122,slow=35						
WRA	**Warramunga Arr**	**56.52**	**188**	P	**P**	**18 00 38.9**	**+0.5**
	0.2nm,0.8s,baz=4.9,slow=7.3,SNR=3.3						
ASAR	**Alice Springs**	**60.24**	**188**	P	**P**	**18 01 03.3**	**-1.1**
	0.1nm,0.7s,baz=8.8,slow=6.7,SNR=3.4						

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*ISCJB **01** 17:51:05.1±0.4, 59°.04N±0°.03×18°.21E±0°.06, h0km, Error ellipse: s-maj=5.2km s-min=3.4km az=140.7*
*UPP **01** 17:51:05.7, 59°.00N×18°.21E, h0km, ML2.3, Mining explosion.*
*CSEM **01** 17:51:06.2±0.1, 59°.03N×18°.08E, h2km, ML2.3, Error ellipse: s-maj=3.6km s-min=2.4km az=127.0, Mining explosion.*
*HEL **01** 17:51:06.7±0.0, 59°.01N×18°.17E, h0km, ML1.9, ML2.3(UPP), Explosion*
*IDC **01** 17:51:07.9±2.4, 59°.08N×18°.21E, h0km, mb1 3.0/3, mb1mx2.9/32, mbtmp2.9/3, ML2.2/3, Error ellipse: s-maj=26.6km s-min=9.9km az=179.0*
ISC 01 17:51:05.8±0.8, **59°.03N**±0°.03×**18°.12E**±0°.03, **h0**km, **n71**, σ**0s.67**/90, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	**Norrtaelje**	**0.70**	**22**	*i* P	**Pg**	**17 51 19.1**	**0.0**
NRTU	**Norrtaelje**	**0.70**	**22**	P	**Pg**	**17 51 19.1**	**0.0**
NRTU	**Norrtaelje**	**0.70**	**22**	P	**Pg**	**17 51 19.1**	**0.0**
UPP	**Uppsala**	**0.87**	**343**	*e*P	**Pg**	**17 51 22.9**	**+0.5**
UPP	**Uppsala**	**0.87**	**343**	P	**Pg**	**17 51 22.9**	**+0.5**
UPP	**Uppsala**	**0.87**	**343**	P	**Pg**	**17 51 22.9**	**+0.5**
VIKU	**Vikbolandet**	**0.91**	**235**	*e*P	**Pg**	**17 51 23.1**	**-0.2**
VIKU	**Vikbolandet**	**0.91**	**235**	P	**Pg**	**17 51 23.1**	**-0.2**
VIKU	**Vikbolandet**	**0.91**	**235**	P	**Pg**	**17 51 23.1**	**-0.2**
BACU	**Backbrunna**	**0.97**	**328**	*e*P	**Pg**	**17 51 24.7**	**+0.3**
BACU	**Backbrunna**	**0.97**	**328**	P	**Pg**	**17 51 24.7**	**+0.3**
BACU	**Backbrunna**	**0.97**	**328**	P	**Pg**	**17 51 24.7**	**+0.3**
FLYU	**Flymyra**	**1.11**	**354**	*e*P	**Pg**	**17 51 27.0**	**0.0**
FLYU	**Flymyra**	**1.11**	**354**	P	**Pg**	**17 51 27.0**	**0.0**
FLYU	**Flymyra**	**1.11**	**354**	P	**Pg**	**17 51 27.0**	**0.0**
OSTU	**Oestervaala**	**1.30**	**338**	*e*P	**Pg**	**17 51 30.6**	**-0.1**
OSTU	**Oestervaala**	**1.30**	**338**	P	**Pg**	**17 51 30.6**	**-0.1**
OSTU	**Oestervaala**	**1.30**	**338**	P	**Pg**	**17 51 30.6**	**-0.1**
GRAU	**Graesoe**	**1.32**	**9**	*e*P	**Pg**	**17 51 30.8**	**-0.3**
GRAU	**Graesoe**	**1.32**	**9**	P	**Pg**	**17 51 30.8**	**-0.3**
GRAU	**Graesoe**	**1.32**	**9**	P	**Pg**	**17 51 30.8**	**-0.3**
FORU	**Forsmark**	**1.36**	**1**	*e*P	**Pg**	**17 51 31.6**	**-0.3**
FORU	**Forsmark**	**1.36**	**1**	P	**Pg**	**17 51 31.5**	**-0.3**
FORU	**Forsmark**	**1.36**	**1**	P	**Pg**	**17 51 31.6**	**-0.3**
AAL	**Aland**	**1.49**	**39**	*e*P	**Pn**	**17 51 33.2**	**-0.6**
AAL				*e*S	**Sg**	**17 51 53.0**	**-0.7**
AAL	**Aland**	**1.49**	**39**	P	**Pn**	**17 51 33.1**	**-0.6**
AAL				S	**Sg**	**17 51 52.9**	**-0.7**
AAL	**Aland**	**1.49**	**39**	P	**Pn**	**17 51 33.1**	**-0.6**
LNKU	**Linkoeping**	**1.59**	**240**	*e*P	**Pn**	**17 51 35.1**	**-0.1**
LNKU	**Linkoeping**	**1.59**	**240**	P	**Pn**	**17 51 35.1**	**-0.1**
LNKU	**Linkoeping**	**1.59**	**240**	P	**Pn**	**17 51 35.1**	**-0.1**
VSTU	**Vaestervik**	**1.61**	**212**	*e*P	**Pn**	**17 51 35.1**	**-0.3**
VSTU	**Vaestervik**	**1.61**	**212**	P	**Pn**	**17 51 35.1**	**-0.3**
VSTU	**Vaestervik**	**1.61**	**212**	P	**Pn**	**17 51 35.1**	**-0.3**
NRAU	**Nora**	**1.67**	**290**	*e*P	**Pb**	**17 51 37.1**	**-0.3**
NRAU	**Nora**	**1.67**	**290**	P	**Pb**	**17 51 37.1**	**-0.3**
NRAU	**Nora**	**1.67**	**290**	P	**Pb**	**17 51 37.1**	**-0.3**
ASKU	**Askersund**	**1.71**	**267**	*e*P	**Pn**	**17 51 37.6**	**+0.7**
ASKU	**Askersund**	**1.71**	**267**	P	**Pn**	**17 51 37.5**	**+0.7**
ASKU	**Askersund**	**1.71**	**267**	P	**Pn**	**17 51 37.6**	**+0.7**
ASPU	**Aespoe**	**1.81**	**207**	*e*P	**Pn**	**17 51 38.5**	**+0.4**
ASPU	**Aespoe**	**1.81**	**207**	P	**Pn**	**17 51 38.5**	**+0.4**
ASPU	**Aespoe**	**1.81**	**207**	P	**Pn**	**17 51 38.5**	**+0.4**
BYXU	**Byxelkrok**	**1.84**	**199**	*e*P	**Pn**	**17 51 39.1**	**+0.4**
BYXU	**Byxelkrok**	**1.84**	**199**	P	**Pn**	**17 51 39.0**	**+0.4**
BYXU	**Byxelkrok**	**1.84**	**199**	P	**Pn**	**17 51 39.1**	**+0.4**
SLIT	**Slitere, Latvi**	**2.61**	**121**	*e*P	**Pn**	**17 51 49.8**	**+0.7**
SLIT				*e*SG	**Sb**	**17 52 26.2**	**+0.2**
SLIT	**Slitere, Latvi**	**2.61**	**121**	P	**Pn**	**17 51 49.8**	**+0.7**
SLIT				Sg	**Sb**	**17 52 26.1**	**+0.2**
RAF	**Rauma**	**2.71**	**41**	*e*P	**Pn**	**17 51 51.5**	**+1.0**
RAF				*e*SG	**Sb**	**17 52 29.0**	**+0.3**
RAF				MSG		17 52 35.5	
	comp=Z,2.7nm,0.2s						
RAF	**Rauma**	**2.71**	**41**	P	**Pn**	**17 51 51.4**	**+1.0**
RAF				Sg	**Sb**	**17 52 29.0**	**+0.3**
MTSE	**Matsula**	**2.97**	**94**	*e*P	**Pn**	**17 51 54.6**	**+0.4**
MTSE				*e*S	**Sn**	**17 52 31.1**	**+0.6**
MTSE	**Matsula**	**2.97**	**94**	P	**Pn**	**17 51 54.5**	**+0.4**
MTSE				S	**Sn**	**17 52 31.0**	**+0.6**
MEF	**Metsahovi**	**3.40**	**67**	MSG		17 52 54.7	
	comp=Z,2.2nm,0.2s						
NOA	**NORSAR Array B**	**4.01**	**303**	Pn	**Pn**	**17 52 09.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=103,slow=8.2,SNR=4.2						
NOA				Lg	Lg	17 53 11.7	
	comp=Z,0.6nm,0.3s,baz=124,slow=23,SNR=7.2						
BSD	**Bornholm Skovb**	**4.30**	**205**	*i* P	**Pn**	**17 52 12.1**	**-0.3**
BSD	**Bornholm Skovb**	**4.30**	**205**	*i* P	**Pn**	**17 52 12.1**	**-0.3**
KEF	**Keuruu**	**4.58**	**44**	*e*P	**Pn**	**17 52 17.9**	**+1.7**
KEF				*e*S	**Sn**	**17 53 10.8**	**+0.8**
KEF				MSG		17 53 32.8	
	comp=Z,1.8nm,0.2s						
KEF	**Keuruu**	**4.58**	**44**	P	**Pn**	**17 52 17.8**	**+1.7**
KEF				S	**Sn**	**17 53 10.7**	**+0.8**
FIA0	**FINESS Array S**	**4.64**	**55**	*e*P	**Pn**	**17 52 18.4**	**+1.3**
FIA0				*e*S	**Sn**	**17 53 10.8**	**-0.8**
FIA0	**FINESS Array S**	**4.64**	**55**	P	**Pn**	**17 52 18.4**	**+1.3**
FIA0				S	**Sn**	**17 53 10.8**	**-0.8**
FINES	**FINESS Array B**	**4.64**	**55**	Pn	**Pn**	**17 52 18.1**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=240,slow=13,SNR=10						
FINES				Sn	**Sn**	**17 53 11.2**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=243,slow=23,SNR=7.1						
FINES				Lg	Lg	17 53 27.9	
	comp=Z,0.7nm,0.3s,baz=240,slow=22,SNR=8.4						
VJF	**Virojoki**	**5.00**	**68**	*e*P	**Pn**	**17 52 22.6**	**+0.6**
VJF				*e*S	**Sn**	**17 53 20.6**	**+0.3**
VJF	**Virojoki**	**5.00**	**68**	P	**Pn**	**17 52 22.5**	**+0.6**
UMAU	**Umeaa**	**5.02**	**13**	*e*P	**Pn**	**17 52 23.7**	**+1.4**
UMAU				*e*S	**Sn**	**17 53 20.7**	**-0.1**
UMAU	**Umeaa**	**5.02**	**13**	P	**Pn**	**17 52 23.6**	**+1.4**
UMAU				S	**Sn**	**17 53 20.7**	**-0.1**
KAF	**Kangasniemi**	**5.08**	**49**	*e*P	**Pn**	**17 52 23.9**	**+0.8**
KAF				*e*S	**Sn**	**17 53 22.3**	**-0.1**
KAF	**Kangasniemi**	**5.08**	**49**	P	**Pn**	**17 52 23.9**	**+0.8**
KAF				S	**Sn**	**17 53 22.3**	**-0.1**
SUF	**Sumiainen**	**5.39**	**43**	*e*P	**Pn**	**17 52 28.0**	**+0.7**
SUF				*e*S	**Sn**	**17 53 30.1**	**+0.2**
SUF	**Sumiainen**	**5.39**	**43**	P	**Pn**	**17 52 27.9**	**+0.7**
SUF				S	**Sn**	**17 53 30.1**	**+0.2**
MUD	**Monsted U'grnd**	**5.45**	**246**	*i* P	**Pn**	**17 52 26.8**	**-1.3**
MUD	**Monsted U'grnd**	**5.45**	**246**	*e*P	**Pn**	**17 52 26.9**	**-1.2**
	SNR=71						
ARCES	**ARCESS Array B**	**11.01**	**14**	Pn	**Pn**	**17 53 42.4**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=194,slow=14,SNR=6.7						
ARCES				Sn	Sn	17 55 41.0	-6.9
	comp=Z,0.1nm,0.3s,baz=201,slow=23,SNR=2.8						

IDC 01 17:52:01.1±12.0, **17°.83S**×**168°.86E**, **h0**km, **mb3.5**/3, **mb1 3.6**/4, **mb1mx3.4**/28, **mbtmp3.4**/4, **ML2.2**/1, **Error ellipse: s-maj=215.8km s-min=46.8km az=88.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.79**	**208**	Pn	Pn	17 53 15.1	+0.5
	0.1nm,0.3s,baz=90,slow=20,SNR=14						
DZM				Sn	Sn	17 54 10.3	-0.7
	0.9nm,0.3s,baz=90,slow=20,SNR=3.9						
STKA	**Stephens Creek**	**28.32**	**235**	P	P	17 57 56.9	+0.3
	0.5nm,0.5s,baz=60,slow=8.1,SNR=4.5						
WRA	**Warramunga Arr**	**32.69**	**261**	P	P	17 58 35.1	-0.4
	0.3nm,0.9s,baz=92,slow=7.2,SNR=3.6						
ASAR	**Alice Springs**	**33.14**	**254**	P	P	17 58 39.4	0.0
	0.3nm,0.7s,baz=84,slow=8.3,SNR=9.7						

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*ISCJB **01** 18:03:13.2±0.5, 40°.48N±0°.03×141°.4E±0°.1, h98km±3km, mb3.6/6, Error ellipse: s-maj=12.8km s-min=4.8km az=1.3*
*JMA **01** 18:03:14.1±0.1, 40°.48N×141°.36E, h90km±1km, M3.1*
*IDC **01** 18:03:14.9±2.2, 40°.46N×141°.36E, h104km±20km, mb3.3/6, mb1 3.4/9, mb1mx3.1/42, mbtmp3.6/9, Error ellipse: s-maj=31.2km s-min=16.3km az=90.0*
ISC 01 18:03:14.1±0.9, **40°.47N**±0°.03×**141°.34E**±0°.08, **h90**km±6km, **n24**, σ**1s.16**/32, **mb3.6**/6, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.17**	**126**	P	**Pn**	**18 03 26.8**	**-0.2**
JANG				*e*S	**Sn**	**18 03 36.3**	**-0.2**
JTM	**Tenmabayashi**	**0.38**	**327**	P	**Pn**	**18 03 27.9**	**0.0**
JTM				S	**Sn**	**18 03 38.1**	**-0.1**
JAH	**Hinai**	**0.61**	**242**	P	**Pn**	**18 03 29.9**	**+0.2**
JAH				*e*S	**Sn**	**18 03 41.7**	**+0.4**
JOT	**Ohata**	**0.93**	**347**	P	**Pn**	**18 03 33.2**	**+0.2**
JOT				S	**Sn**	**18 03 48.1**	**+0.9**
JOM	**Ohasama**	**1.00**	**182**	P	**Pn**	**18 03 34.2**	**+0.4**
JOM				*e*S	**Sn**	**18 03 49.0**	**+0.5**
JIW	**Iwasaki**	**1.02**	**277**	P	**Pn**	**18 03 34.5**	**+0.5**
JRG	**Rokugo**	**1.20**	**207**	P	**Pn**	**18 03 37.0**	**+0.8**
JRG				*e*S	**Sn**	**18 03 54.5**	**+1.7**
JSR	**Shiriuchi**	**1.26**	**327**	P	**Pn**	**18 03 37.1**	**+0.2**
JSR				*e*S	**Sn**	**18 03 54.9**	**+0.8**
JKB	**Kayabe**	**1.43**	**351**	P	**Pn**	**18 03 39.5**	**+0.5**
JKB				S	**Sn**	**18 03 58.4**	**+0.7**
JMK	**Ichinoseki**	**1.52**	**183**	P	**Pn**	**18 03 40.6**	**+0.5**
JMK				*e*S	**Sn**	**18 04 00.2**	**+0.4**
JYK	**Kaneyama**	**1.73**	**206**	P	**Pn**	**18 03 43.3**	**+0.5**
JYK				*e*S	**Sn**	**18 04 05.8**	**+1.3**
ASAJ	**Asahikawa**	**3.76**	**14**	P	**Pn**	**18 04 09.8**	**0.0**
	2.7nm,0.3s,baz=213,slow=15,SNR=47						
ASAJ				S	**Sn**	**18 04 56.7**	**+3.7**
	baz=18,slow=20						
MAT	**Matsushiro**	**4.63**	**213**	P	**Pn**	**18 04 23.8**	**+2.1**
MJAR	**Matsushiro Arr**	**4.63**	**213**	P	**Pn**	**18 04 23.8**	**+2.1**
	0.8nm,0.3s,baz=30,slow=12,SNR=9.9						
USRK	**Ussuriysk Ar.**	**7.86**	**301**	P	**Pn**	**18 05 06.5**	**+0.9**
	0.4nm,0.3s,baz=112,slow=14,SNR=7.0						
SEY	**Seymchan**	**23.44**	**13**	P	**P**	**18 08 15.7**	**+0.6**
	2.0nm,0.7s,baz=223,slow=5.2,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**30.09**	**126**	T	T	18 40 10.9	
	baz=318,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**30.09**	**126**	T	T	18 40 14.8	
	baz=318,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**30.10**	**126**	T	T	18 40 12.9	
	baz=318,slow=75,SNR=26						
ZALV	**Zalesovo Beam**	**39.62**	**309**	P	**P**	**18 10 35.4**	**-1.2**
	0.6nm,0.5s,baz=91,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**42.32**	**299**	P	**P**	**18 10 58.6**	**-0.4**
	0.3nm,0.6s,baz=83,slow=10,SNR=5.7						
WRA	**Warramunga Arr**	**60.46**	**188**	P	**P**	**18 13 12.8**	**-1.6**
	0.7nm,0.5s,baz=5.9,slow=7.4,SNR=8.2						
ASAR	**Alice Springs**	**64.18**	**188**	P	**P**	**18 13 38.8**	**-0.5**
	0.3nm,0.4s,baz=359,slow=5.6,SNR=5.2						
FINES	**FINESS Array B**	**65.76**	**332**	P	**P**	**18 13 48.5**	**-0.5**
	0.9nm,0.8s,baz=115,slow=9.4,SNR=2.9						

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*IDC **01** 18:04:40.5±1.6, 31°.47S×177°.62W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/32, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=45.2km s-min=27.8km az=147.0*
*ISCJB **01** 18:04:42.7±1.5, 31°.6S±0°.1×177°.7W±0°.2, h26km, mb3.7/4, Error ellipse: s-maj=31.9km s-min=13.1km az=23.2*
ISC 01 18:04:44.2±1.4, **31°.5S**±0°.1×**177°.6W**±0°.2, **h26**km, **n6**, σ**0s.52**/7, **mb3.7**/4, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.02**	**211**	Pn	**Pn**	**18 06 38.8**	**-0.2**
	0.3nm,0.3s,baz=81,slow=11,SNR=2.5						
URZ				Sn	**Sn**	**18 08 09.2**	**+0.3**
	0.1nm,0.3s,baz=75,slow=20,SNR=3.0						
CTA	**Charters Tower**	**34.33**	**281**	P	**P**	**18 11 29.5**	**+0.6**
	0.8nm,0.5s,baz=101,slow=16,SNR=2.8						
ASAR	**Alice Springs**	**43.41**	**268**	P	**P**	**18 12 44.6**	**-0.3**
	0.7nm,0.7s,baz=103,slow=7.4,SNR=9.2						
WRA	**Warramunga Arr**	**44.50**	**273**	P	**P**	**18 12 53.1**	**-0.6**
	0.7nm,0.7s,baz=112,slow=7.8,SNR=6.3						
TXAR	**Lajitas Array**	**92.69**	**57**	P	**P**	**18 17 54.4**	**+0.2**
	0.2nm,0.6s,baz=224,slow=7.3,SNR=3.1						
FINES	**FINESS Array B**	**146.30**	**340**	PKPbc	**PKPbc**	**18 24 21.5**	**-0.3**
	0.8nm,0.5s,baz=52,slow=3.7,SNR=7.3						

MAN 01 18:07:39, 6°.78N×124°.01E, h8km, mb4.2, ML3.0, MS2.8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.50**	**28**⇓	*i*P	Pb	18 07 49.5	-0.6
CTBH				*i* S	Sg	18 07 55.5	+0.2
PAGZ	**Pagadian**	**1.23**	**330**	*e*P	Pn	18 07 59.8	-2.8
PAGZ				*e*S	Sb	18 08 12.4	-6.3
BUKP	**Musuan**	**1.51**	**44**	*e*P	Pn	18 08 06.9	+0.4
CGP	**Cagayan de Oro**	**1.80**	**22**⇑	*e*P	Pn	18 08 10.4	0.0
CGP				*e*S	Sb	18 08 34.3	-0.6
DCPH	**Dipolog City**	**1.91**	**340**	*e*P	Pn	18 08 12.4	+0.5
BUTP	**Butuan**	**2.70**	**36**	*e*P	Pn	18 08 21.3	-1.5

IDC 01 18:08:02.2±4.1, **29°.19N**×**143°.31E**, **h0**km, **mb3.3**/2, **mb1 3.4**/4, **mb1mx3.2**/39, **mbtmp3.2**/4, **ML3.2**/2, **Error ellipse: s-maj=119.2km s-min=26.1km az=80.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.31**	**206**	Pn	Pn	18 08 41.5	-0.1
	3.3nm,0.3s,baz=348,slow=20,SNR=2.4						
JCJ				Sn	Sn	18 09 03.2	-7.5
	16nm,0.3s,baz=297,slow=24,SNR=6.9						
MJAR	**Matsushiro Arr**	**8.49**	**331**	Pn	Pn	18 10 05.8	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.4nm,0.3s,baz=164,slow=12,SNR=4.9						
WRA	**Warramunga Arr**	**49.61**	**191**	P	P	18 16 55.4	-0.1
	0.5nm,0.8s,baz=13,slow=8.4,SNR=5.0						
MKAR	**Makanchi Array**	**49.93**	**308**	P	P	18 16 57.7	-0.1
	0.1nm,0.5s,baz=91,slow=8.8,SNR=2.6						

IDC 01 18:12:36.0±13.0**, 17°.78S**×**168°.31E, h0**km**, mb3.5**/3**, mb1 3.6**/4**, mb1mx3.4**/32**, mbtmp3.4**/4**, ML3.0**/1**, Error ellipse: s-maj=230.4km s-min=44.3km az=82.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.62**	**202**	Pn	Pn	18 13 46.4	-0.8
	0.6nm,0.3s,baz=90,slow=20,SNR=11						
DZM				Sn	Sn	18 14 42.2	+0.5
	1.3nm,0.3s,baz=90,slow=20,SNR=6.3						
STKA	**Stephens Creek**	**27.92**	**235**	P	P	18 18 28.4	+0.4
	1.7nm,1.1s,baz=82,slow=7.1,SNR=3.5						
WRA	**Warramunga Arr**	**32.19**	**261**	P	P	18 19 05.7	-0.2
	0.3nm,1.0s,baz=89,slow=8.9,SNR=3.4						
ASAR	**Alice Springs**	**32.66**	**254**	P	P	18 19 10.2	+0.1
	0.4nm,0.7s,baz=81,slow=9.0,SNR=5.6						

IDC 01 18:14:24.6±29.0**, 16°.10S**×**177°.31W, h0**km**, mb4.1**/4**, mb1 4.2**/4**, mb1mx3.7**/37**, mbtmp4.1**/4**, Error ellipse: s-maj=579.3km s-min=85.1km az=89.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.43**	**240**	P	P	18 22 04.7	-0.3
	0.8nm,0.5s,baz=82,slow=11,SNR=5.0						
WRA	**Warramunga Arr**	**46.02**	**258**	P	P	18 22 50.0	-0.3
	0.4nm,0.4s,baz=90,slow=8.7,SNR=39						
ASAR	**Alice Springs**	**46.31**	**253**	P	P	18 22 52.6	0.0
	1.5nm,0.3s,baz=88,slow=8.1,SNR=85						
SIJI	**Sorong**	**52.88**	**281**	P	P	18 23 42.8	0.0
	1.9nm,0.3s,baz=115,slow=18,SNR=5.3						

*IDC **01** 18:26:28.2±1.8, 37°.89S×73°.89W, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.6/30, mbtmp3.5/5, ML3.6/2, MS4.0/2, Ms1 4.0/2, ms1mx3.4/18, Error ellipse: s-maj=41.5km s-min=20.0km az=62.0*

*ISCJB **01** 18:26:29.0±1.1, 37°.88S±0°.08×73°.8W±0°.2, h18km, mb3.5/3, Error ellipse: s-maj=22.1km s-min=10.8km az=13.4*

ISC 01 18:26:30.7±1.3**, 37°.92S**±0°.10×**73°.9W**±0°.2**, h18**km**, n10, σ1s.11**/8**, mb3.4**/3**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.79**	**139**	Pn	**Pn**	**18 27 28.5**	**+0.2**
	1.9nm,0.3s,baz=315,slow=15,SNR=12						
PLCA				Lg	Lg	18 28 30.9	
	9.2nm,0.3s,baz=19,slow=13,SNR=6.4						
CFAA	**Coronel Fontan**	**7.81**	**38**	Pn	**Pn**	**18 28 22.7**	**-0.8**
	0.2nm,0.3s,baz=206,slow=11,SNR=13						
CFAA				Sn	**Sn**	**18 29 52.0**	**+0.5**
	0.0nm,0.3s,baz=132,slow=15,SNR=2.7						
CFAA				LR	LR	18 30 53.9	
	comp=Z,15nm,20.7s,baz=222,slow=34						
LVC	**Limon Verde**	**15.84**	**17**	LR	LR	18 36 09.2	
	comp=Z,708nm,19.3s,baz=210,slow=37						
USHA	**Ushuaia**	**17.31**	**169**	LR	LR	18 38 10.9	
	comp=Z,376nm,20.2s,baz=272,slow=40						
LPAZ	**La Paz**	**22.14**	**15**	P	**P**	**18 31 26.6**	**+0.5**
	0.7nm,0.5s,baz=202,slow=5.5,SNR=3.9						
VNA2	**Neumayer--Watz**	**47.01**	**156**	P	**P**	**18 35 00.3**	**-0.1**
	baz=301,slow=7.3						
SNAA	**Sanae**	**48.55**	**156**	P	P	18 35 05.8	-6.5
TXAR	**Lajitas Array**	**72.50**	**333**	P	**P**	**18 37 56.1**	**-0.1**
	0.3nm,0.8s,baz=155,slow=6.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**86.91**	**71**	P	**P**	**18 39 13.6**	**-1.1**
	1.1nm,1.0s,baz=212,slow=5.0,SNR=4.6						
MKAR	**Makanchi Array**	**160.32**	**56**	PKPab	**PKPab**	**18 47 11.4**	**+1.9**
	0.5nm,0.9s,baz=312,slow=5.2,SNR=3.8						

IDC 01 18:48:14.6±12.0**, 17°.86S**×**168°.62E, h0**km**, mb4.1**/3**, mb1 4.2**/4**, mb1mx3.7**/38**, mbtmp4.0**/4**, ML3.6**/1**, MS3.5**/1**, Ms1 3.4**/1**, ms1mx2.7**/25**, Error ellipse: s-maj=214.5km s-min=44.7km az=85.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.66**	**206**	Pn	Pn	18 49 25.9	-0.5
	2.6nm,0.3s,baz=90,slow=20,SNR=35						
DZM				Sn	Sn	18 50 21.5	+0.3
	1.9nm,0.3s,baz=272,slow=24,SNR=6.2						
STKA	**Stephens Creek**	**28.11**	**235**	P	P	18 54 08.8	+0.6
	3.8nm,0.7s,baz=65,slow=7.1,SNR=16						
STKA				LR	LR	19 04 29.4	
	comp=Z,84nm,18.2s,baz=26,slow=35						
WRA	**Warramunga Arr**	**32.46**	**261**	P	P	18 54 46.5	-0.4
	0.4nm,0.4s,baz=90,slow=8.9,SNR=14						
ASAR	**Alice Springs**	**32.91**	**254**	P	P	18 54 50.8	-0.1
	1.8nm,0.8s,baz=83,slow=8.7,SNR=36						

*BJI **01** 18:59:51.0, 63°.20N×150°.60W, h116km, mb4.7/12, mB4.8/8*

*ISCJB **01** 18:59:52.9±0.1, 63°.21N±0°.02×150°.61W±0°.04, h128km±1km, mb4.2/41, Error ellipse: s-maj=2.7km s-min=2.6km az=38.9*

*MOS **01** 18:59:52.5±0.9, 63°.22N×150°.67W, h129km, mb4.4/17, Error ellipse: s-maj=15.9km s-min=6.5km az=94.2*

*NEIC **01** 18:59:54.2, 63°.18N×150°.56W, h127km, mb4.4/15, After AEIC.*

*IDC **01** 18:59:54.9±0.7, 63°.40N×150°.62W, h128km±5km, mb3.8/22, mb1 3.9/26, mb1mx3.8/39, mbtmp4.1/26, Error ellipse: s-maj=14.5km s-min=9.4km az=19.0*

ISC 01 18:59:54.0±0.4**, 63°.20N**±0°.03×**150°.61W**±0°.03**, h128**km±3km**, h127**km**:pP-P, n293, σ1s.05**/325**, mb4.4**/51**, 52C-43D, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.29**	**30**	P	**Pn**	**19 00 12.1**	**+0.1**
TRF				S	**Sn**	**19 00 25.4**	**-0.3**
KTH	**Kantishna Hill**	**0.38**	**339**	P	**Pn**	**19 00 12.4**	**+0.2**
KTH				S	**Sn**	**19 00 25.2**	**-0.9**
HUR	**Hurricane**	**0.50**	**116**	P	**Pn**	**19 00 12.5**	**-0.3**
CAST	**Castle Rocks**	**0.70**	**289**	P	**Pn**	**19 00 14.1**	**-0.1**
CAST				S	**Sn**	**19 00 28.6**	**-0.8**
PPLA	**Purkeypile**	**0.78**	**248**	P	**Pn**	**19 00 15.1**	**+0.2**
PPLA				S	**Sn**	**19 00 31.0**	**+0.2**
CUT	**Chulitna**	**0.81**	**169**	P	**Pn**	**19 00 14.9**	**-0.1**
RND	**Reindeer**	**0.82**	**75**	P	**Pn**	**19 00 15.0**	**-0.2**
RND				S	**Sn**	**19 00 30.6**	**-0.6**
RND	**Reindeer**	**0.82**	**75**	P	**Pn**	**19 00 15.0**	**-0.2**
RND				S	**Sn**	**19 00 30.6**	**-0.6**
TRAP	**Trapper Creek**	**0.88**	**169**	P	**Pn**	**19 00 15.5**	**-0.1**
BPAW	**Bear Paw Mtn.**	**0.92**	**350**	P	**Pn**	**19 00 15.8**	**-0.2**
BPAW				S	**Sn**	**19 00 31.8**	**-0.9**
MCK	**McKinley**	**0.92**	**54**	P	**Pn**	**19 00 16.1**	**+0.1**
MCK	**McKinley**	**0.92**	**54**	P	**Pn**	**19 00 16.1**	**+0.1**
CHUM	**Lake Minchumin**	**1.03**	**313**	P	**Pn**	**19 00 17.2**	**+0.3**
CHUM				S	**Sn**	**19 00 34.4**	**+0.1**
BWN	**Browne**	**1.10**	**27**	P	**Pn**	**19 00 18.2**	**+0.6**
BWN				S	**Sn**	**19 00 35.5**	**-0.1**
SKT	**Skwentna**	**1.29**	**200**	P	**Pn**	**19 00 19.4**	**-0.3**
SKT				S	**Sn**	**19 00 38.9**	**-0.3**
DHY	**Denali Highway**	**1.48**	**93**	P	**Pn**	**19 00 21.8**	**-0.1**
DHY				S	**Sn**	**19 00 42.5**	**-0.4**
WRH	**Wood River Hil**	**1.70**	**40**	P	**Pn**	**19 00 24.1**	**-0.1**
WRH				S	**Sn**	**19 00 45.7**	**-1.5**
SUA	**Susitna One**	**1.74**	**182**	P	**Pn**	**19 00 24.6**	**-0.2**
SUA				S	**Sn**	**19 00 48.5**	**+0.2**
PMR	**Palmer**	**1.75**	**156**	P	**Pn**	**19 00 24.2**	**-0.6**
PMR				S	**Sn**	**19 00 47.2**	**-1.1**
PMR	**Palmer**	**1.75**	**156**	P	**Pn**	**19 00 24.2**	**-0.6**
PMR				S	**Sn**	**19 00 47.2**	**-1.1**
STLK	**Strandline Lak**	**1.80**	**199**	P	**Pn**	**19 00 25.1**	**-0.4**
MLY	**Manley**	**1.84**	**358**	P	**Pn**	**19 00 25.9**	**0.0**
CCB	**Clear Creek Bu**	**1.91**	**39**	P	**Pn**	**19 00 26.5**	**-0.1**
HDA	**Harding Lake**	**2.02**	**52**	P	**Pn**	**19 00 27.9**	**-0.2**
SPCG	**Spurr Capps Gl**	**2.02**	**200**	P	**Pn**	**19 00 27.7**	**-0.5**
SPCG				S	**Sn**	**19 00 53.1**	**-1.3**
SCM	**Sheep Creek Mo**	**2.05**	**131**	P	**Pn**	**19 00 27.7**	**-0.8**
SCM	**Sheep Creek Mo**	**2.05**	**131**	P	**Pn**	**19 00 27.7**	**-0.8**
FIB	**Fire Island**	**2.05**	**174**	P	**Pn**	**19 00 28.8**	**+0.4**
FIB	**Fire Island**	**2.05**	**174**	P	**Pn**	**19 00 28.8**	**+0.4**
MDM	**Murphy Dome**	**2.05**	**30**	P	**Pn**	**19 00 28.4**	**-0.1**
COLA	**College**	**2.07**	**35**	P	**Pn**	**19 00 28.6**	**0.0**
COLA	**College**	**2.07**	**35**	P	**Pn**	**19 00 28.6**	**0.0**
BGL	**Barrier Glacie**	**2.11**	**204**	P	**Pn**	**19 00 29.5**	**+0.1**
CKN	**Chakachatna No**	**2.11**	**201**	P	**Pn**	**19 00 29.4**	**+0.1**
SPBG	**Spurr Blockage**	**2.11**	**204**	P	**Pn**	**19 00 29.7**	**+0.4**
SPBG				S	**Sn**	**19 00 57.4**	**+1.0**
PS08	**TAPS Pump Stn8**	**2.15**	**50**	P	**Pn**	**19 00 29.4**	**-0.3**
RC01	**Rabbit Creek A**	**2.16**	**169**	P	**Pn**	**19 00 28.9**	**-0.8**
RC01				S	**Sn**	**19 00 56.0**	**-1.1**
CKL	**Chakachamna La**	**2.17**	**203**	P	**Pn**	**19 00 29.8**	**-0.2**
PS10	**TAPS Pump St10**	**2.20**	**82**	P	**Pn**	**19 00 31.2**	**+1.0**
ILAR	**Eielson Array**	**2.28**	**44**	P	**Pn**	**19 00 30.7**	**-0.6**
	53nm,0.3s,baz=226,slow=12,SNR=1160						
ILAR				S	**Sn**	**19 00 58.4**	**-1.4**
	51nm,0.3s,baz=219,slow=26,SNR=13						
PAX	**Paxson**	**2.35**	**93**	P	**Pn**	**19 00 32.3**	**+0.1**
PAX				S	**Sn**	**19 01 00.1**	**-1.5**
PAX	**Paxson**	**2.35**	**93**	P	**Pn**	**19 00 32.3**	**+0.1**
PAX				S	**Sn**	**19 01 00.1**	**-1.5**
PTE	**Portage**	**2.46**	**162**	P	**Pn**	**19 00 32.7**	**-0.9**
TT01	**Tatalina**	**2.48**	**266**	P	**Pn**	**19 00 33.8**	**0.0**
PS11	**TAPS Pump St11**	**2.63**	**113**	P	**Pn**	**19 00 36.0**	**+0.3**
HARP	**HAARP**	**2.63**	**105**	P	**Pn**	**19 00 35.6**	**-0.1**
RIDG	**Independ'e Rid**	**2.65**	**76**	P	**Pn**	**19 00 36.0**	**0.0**
RIDG				S	**Sn**	**19 01 06.1**	**-2.1**
PS06	**TAPS Pump Stn6**	**2.69**	**8**	P	**Pn**	**19 00 36.9**	**+0.4**
SLKM	**Skilak Lake**	**2.71**	**176**	P	**Pn**	**19 00 36.4**	**-0.4**
SLKM	**Skilak Lake**	**2.71**	**176**	P	**Pn**	**19 00 36.4**	**-0.4**
DFR	**Drift River**	**2.79**	**201**	P	**Pn**	**19 00 37.5**	**-0.4**
GLI	**Glacier Island**	**2.86**	**143**	P	**Pn**	**19 00 37.5**	**-1.1**
JPK	**Jack Peak**	**2.86**	**137**	P	**Pn**	**19 00 37.5**	**-1.2**
NCT	**North Crescent**	**2.87**	**204**	P	**Pn**	**19 00 38.7**	**-0.1**
RDN	**Redoubt North**	**2.88**	**202**	P	**Pn**	**19 00 38.8**	**-0.2**
VLZ	**Valdez**	**2.89**	**134**	P	**Pn**	**19 00 37.5**	**-1.5**
RSO	**Redoubt South**	**2.93**	**201**	P	**Pn**	**19 00 39.7**	**-0.1**
DOT	**Dot Lake**	**2.98**	**78**	P	**Pn**	**19 00 39.7**	**-0.5**
DOT				S	**Sn**	**19 01 13.3**	**-2.6**
SCRK	**Sand Creek**	**3.06**	**72**	P	**Pn**	**19 00 40.9**	**-0.5**
DIV	**Divide**	**3.08**	**130**	P	**Pn**	**19 00 40.1**	**-1.5**
IM04	**Indian Mountai**	**3.10**	**335**	*e*Pn	**Pn**	**19 00 41.6**	**-0.2**
IM04				*e*Sn	Sn	19 01 12.4	-6.4
IM3	**Indian Mountai**	**3.11**	**336**	P	**Pn**	**19 00 41.9**	**0.0**
SVW2	**Sparrevohn**	**3.15**	**230**	P	**Pn**	**19 00 42.0**	**-0.4**
MENT	**Mentasta**	**3.15**	**92**	*e*Pn	**Pn**	**19 00 41.5**	**-0.9**
MENT				*e*Sn	Sn	19 01 08.4	-11
SEW	**Seward**	**3.16**	**169**	P	**Pn**	**19 00 41.6**	**-0.9**
WASW	**Wrangell South**	**3.24**	**110**	P	**Pn**	**19 00 43.4**	**-0.5**
BRLK	**Bradley Lake**	**3.45**	**182**	P	**Pn**	**19 00 46.1**	**-0.3**
EYAK	**Cordova Ski Ar**	**3.52**	**137**	P	**Pn**	**19 00 46.4**	**-0.9**
BMRM	**Bremner River**	**3.60**	**126**	P	**Pn**	**19 00 46.7**	**-1.8**
PS05	**TAPS Pump Stn5**	**3.63**	**360**	P	**Pn**	**19 00 49.1**	**+0.5**
SGAM	**Sherman Glacie**	**3.73**	**134**	P	**Pn**	**19 00 48.7**	**-1.3**
OPT	**Oil Point**	**3.77**	**201**	P	**Pn**	**19 00 50.9**	**+0.2**
VRDI	**Verde Repeater**	**3.89**	**117**	P	**Pn**	**19 00 51.3**	**-1.1**
VRDI				S	**Sn**	**19 01 35.0**	**-2.5**
MCARA	**McCarthy VSAT**	**3.98**	**114**	P	**Pn**	**19 00 53.3**	**-0.1**
RAGM	**Ragged Mountai**	**3.99**	**132**	P	**Pn**	**19 00 52.4**	**-1.1**
BCA3	**Beaver Creek A**	**4.01**	**88**	P	**Pn**	**19 00 53.0**	**-0.8**
COLD	**Coldfoot**	**4.05**	**2**	P	**Pn**	**19 00 54.4**	**+0.2**
AUW	**Augustine West**	**4.08**	**201**	P	**Pn**	**19 00 55.2**	**+0.4**
FYU	**Fort Yukon**	**4.08**	**32**	P	**Pn**	**19 00 54.5**	**-0.2**
AUI	**Augustine Isla**	**4.11**	**201**	P	**Pn**	**19 00 56.0**	**+0.9**
MID	**Middleton Isla**	**4.31**	**150**	*e*P	**Pn**	**19 00 57.0**	**-0.7**
MID	**Middleton Isla**	**4.31**	**150**	*e*Pn	**Pn**	**19 00 57.0**	**-0.7**
PTPK	**Patty Peak**	**4.32**	**114**	P	**Pn**	**19 00 57.7**	**-0.3**
MCNL	**McNeil River**	**4.41**	**206**	P	**Pn**	**19 00 59.0**	**-0.1**
KHIT	**Khitrov Hills**	**4.45**	**125**	P	**Pn**	**19 00 58.5**	**-1.3**
EGAK	**Eagle**	**4.45**	**65**	*e*Pn	**Pn**	**19 00 58.6**	**-1.0**
EGAK				*e*Sn	Sn	19 01 38.5	-12
KIAG	**Kiagna River**	**4.50**	**117**	P	**Pn**	**19 00 59.2**	**-1.3**
ISLE	**Juniper Island**	**4.70**	**120**	P	**Pn**	**19 01 01.6**	**-1.4**
BARN	**Barnard Glacie**	**4.72**	**113**	P	**Pn**	**19 01 03.1**	**-0.3**
BARK	**Barkley Ridge**	**4.76**	**122**	P	**Pn**	**19 01 03.2**	**-0.7**
KULT	**Kultieth River**	**4.78**	**125**	P	**Pn**	**19 01 02.8**	**-1.3**
GRNC	**Granite Creek**	**4.86**	**117**	P	**Pn**	**19 01 04.0**	**-1.2**
BAGL	**Bagley Icefiel**	**4.87**	**120**	P	**Pn**	**19 01 03.9**	**-1.3**
DAWY	**Dawson**	**5.08**	**75**	P	**Pn**	**19 01 07.7**	**-0.3**
LOGN	**Logan Glacier**	**5.11**	**113**	P	**Pn**	**19 01 08.0**	**-0.7**
TABL	**Table Mountain**	**5.27**	**117**	P	**Pn**	**19 01 09.5**	**-1.3**
RKAV	**Rock Avalanche**	**5.28**	**119**	P	**Pn**	**19 01 10.0**	**-0.8**
KVTA	**Katmai Vly 10**	**5.35**	**207**	P	**Pn**	**19 01 11.5**	**-0.2**
KAKN	**Katmai Knife C**	**5.38**	**206**	P	**Pn**	**19 01 11.9**	**-0.3**
KELA	**Mount Kelaz**	**5.39**	**210**	P	**Pn**	**19 01 12.3**	**0.0**
KCE	**Katmai Mt Cerb**	**5.45**	**206**	P	**Pn**	**19 01 13.3**	**+0.2**
KDAK	**Kodiak Island**	**5.52**	**191**	*i* P	**Pn**	**19 01 11.7**	**-2.2**
KDAK	**Kodiak Island**	**5.52**	**191**	P	**Pn**	**19 01 13.1**	**-0.9**
OHAK	**Old Harbor**	**6.14**	**194**	P	**Pn**	**19 01 19.8**	**-2.5**
PLK1	**Peulik 1**	**6.17**	**211**	P	**Pn**	**19 01 23.6**	**+0.9**
HYT	**Haines Junctio**	**6.61**	**105**	P	**Pn**	**19 01 28.1**	**-0.6**
TNA	**Tin City**	**7.86**	**295**	Pn	**Pn**	**19 01 44.6**	**-0.8**
CHGN	**Chignik**	**7.96**	**213**	*e*Pn	**Pn**	**19 01 45.4**	**-1.3**
CHGN				*e*Sn	**Sn**	**19 03 10.3**	**-4.7**
INK	**Inuvik**	**8.68**	**46**	P	**Pn**	**19 01 54.3**	**-2.0**
	0.8nm,0.3s,baz=240,slow=19,SNR=8.6						
SIT	**Sitka**	**9.78**	**122**	*e*P	**Pn**	**19 02 10.2**	**-1.0**
SIT				pmax	pmax		
	comp=Z,24nm,0.4s						
SIT	**Sitka**	**9.78**	**122**	*e*Pn	**Pn**	**19 02 10.2**	**-1.0**
	comp=Z,24nm,0.4s						
DLBC	**Dease Lake**	**11.10**	**106**	P	**Pn**	**19 02 31.3**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=258,slow=9.3,SNR=2.6						
CRAG	**Craig**	**11.78**	**123**	*e*Pn	**Pn**	**19 02 37.1**	**-0.8**
YKA	**Yellowknife Ar**	**16.32**	**76**	P	**Pn**	**19 03 34.3**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=286,slow=12,SNR=26						
BILL	**Bilibino**	**18.13**	**304**	*e*P	**P**	**19 03 55.6**	**-0.2**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.6s						
BILL	**Bilibino**	**18.13**	**304**	*e*P	**P**	**19 03 55.0**	**-0.9**
	comp=Z,5.1nm,0.8s						
EDM	**Edmonton**	**21.70**	**100**	*e*P	**P**	**19 04 35.6**	**+1.2**
EDM				pmax	pmax		
	comp=Z,13nm,0.8s						
EDM	**Edmonton**	**21.70**	**100**	*e*P	**P**	**19 04 35.6**	**+1.2**
	comp=Z,13nm,0.8s						
RES	**Resolute Bay**	**22.00**	**36**	P	**P**	**19 04 36.8**	**-0.6**
	comp=Z,2.7nm,0.4s,baz=247,slow=9.0,SNR=20						
RES	**Resolute Bay**	**22.00**	**36**	P	**P**	**19 04 36.8**	**-0.6**
RES				*e*		19 08 32.0	
RES	**Resolute Bay**	**22.00**	**36**	P	**P**	**19 04 36.8**	**-0.6**
RES				*e*PcP	**PcP**	**19 08 32.0**	**+2.0**
SEY	**Seymchan**	**25.10**	**295**	P	**P**	**19 05 06.2**	**-0.1**
	comp=Z,2.2nm,0.4s,baz=68,slow=6.8,SNR=23						
FFC	**Flin Flon**	**25.86**	**86**	*e*P	**P**	**19 05 14.0**	**+0.7**
FFC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FFC	**Flin Flon**	**25.86**	**86**	*e*P	**P**	**19 05 14.0**	**+0.7**
	comp=Z,5.3nm,0.9s						
A19A	**Klindworth Far**	**26.79**	**102**	⇑P	**P**	**19 05 23.0**	**+1.2**
	baz=27						
FCC	**Fort Churchill**	**27.00**	**73**	*e*P	**P**	**19 05 23.9**	**+0.5**
FCC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
FCC	**Fort Churchill**	**27.00**	**73**	*e*P	**P**	**19 05 23.9**	**+0.5**
	comp=Z,4.8nm,0.5s						
EGMT	**Eagleton**	**27.02**	**105**	*e*P	**P**	**19 05 23.9**	**0.0**
B19A	**Brinkman Farms**	**27.05**	**103**	⇑P	**P**	**19 05 25.5**	**+1.4**
	baz=27						
A20A	**Cobblestone Ra**	**27.19**	**102**	⇑P	**P**	**19 05 26.7**	**+1.4**
	baz=27						
C19A	**Slack Wire Ran**	**27.55**	**104**	⇑P	**P**	**19 05 30.0**	**+1.4**
	baz=27						
N02D	**Trinity Center**	**27.68**	**130**	⇑P	**P**	**19 05 31.2**	**+1.4**
	baz=28						
C20A	**Veseth Ranch,**	**28.03**	**103**	⇑P	**P**	**19 05 34.2**	**+1.4**
	baz=28						
D19A	**Cripps Ranch,**	**28.06**	**105**	⇑P	**P**	**19 05 34.4**	**+1.2**
	baz=28						
PETK	**Petropavlovsk-**	**28.29**	**273**	P	**P**	**19 05 34.5**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=75,slow=1.7,SNR=3.8						
D20A	**Manuel Ranch,**	**28.45**	**104**	⇑P	**P**	**19 05 37.9**	**+1.4**
	baz=28						
F19A	**Roth Farm, Mol**	**29.05**	**107**	⇓P	**P**	**19 05 43.2**	**+1.2**
	baz=29						
C23A	**Lambert**	**29.21**	**100**	⇓P	**P**	**19 05 44.4**	**+1.1**
	baz=29						
PDAR	**Pinedale Array**	**31.27**	**111**	P	**P**	**19 06 03.3**	**+1.6**
	comp=Z,2.1nm,1.0s,baz=324,slow=7.3,SNR=11						
PDAR				PcP	**PcP**	**19 08 52.8**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=79,slow=2.6,SNR=4.0						
I21A	**Big Trails, Te**	**31.39**	**108**	⇑P	**P**	**19 06 04.3**	**+1.6**
	baz=31,SNR=6.1						
J20A	**Shoshoni**	**31.41**	**109**	⇓P	**P**	**19 06 04.0**	**+1.2**
	baz=31						
NVAR	**Mina Array Bea**	**31.50**	**127**	P	**P**	**19 06 06.0**	**+2.3**
	comp=Z,1.1nm,0.6s,baz=316,slow=8.4,SNR=9.1						
NVAR				sP	**sP**	**19 06 48.0**	**+2.0**
	comp=Z,1.1nm,0.7s,baz=308,slow=7.8,SNR=3.3						
I22A	**9 Mile Ranch,**	**31.67**	**107**	⇑P	**P**	**19 06 07.2**	**+2.1**
	baz=32,SNR=5.2						
J21A	**Lysite**	**31.70**	**108**	⇓P	**P**	**19 06 07.5**	**+2.1**
	baz=32,SNR=6.0						
H24A	**Dirks Ranch, A**	**31.84**	**103**	⇑P	**P**	**19 06 07.2**	**+0.6**
	baz=32						
J22A	**Midwest**	**32.06**	**107**	⇓P	**P**	**19 06 10.0**	**+1.5**
	baz=32						
F27A	**Lemmon**	**32.09**	**99**	⇓P	**P**	**19 06 09.7**	**+1.0**
	baz=32						
G27A	**Dupree**	**32.51**	**100**	⇑P	**P**	**19 06 13.3**	**+1.0**
	baz=32						
R11A	**Troy Canyon, C**	**32.58**	**123**	⇓P	**P**	**19 06 14.2**	**+1.0**
	baz=32						
H26A	**Fairpoint**	**32.73**	**102**	⇓P	**P**	**19 06 15.4**	**+1.1**
	baz=33						
I25A	**Rochford**	**32.78**	**103**	⇑P	**P**	**19 06 15.4**	**+0.6**
	baz=33						
J24A	**Dixon Ranch, L**	**32.92**	**105**	⇓P	**P**	**19 06 16.8**	**+0.9**
	baz=33						
N20A	**Spence Gulch,**	**33.41**	**112**	⇓P	**P**	**19 06 22.3**	**+1.9**
	baz=33,SNR=5.4						
J26A	**Sides Ranch, S**	**33.63**	**104**	⇑P	**P**	**19 06 22.9**	**+0.9**
	baz=34						
G30A	**Faulkton**	**33.95**	**97**	⇓P	**P**	**19 06 25.7**	**+0.9**
	baz=34						
SBC	**Santa Barbara**	**34.58**	**132**	⇑P	**P**	**19 06 30.7**	**+0.5**
	baz=34						
GSC	**Goldstone, Bar**	**34.83**	**127**	⇑P	**P**	**19 06 33.9**	**+1.5**
	baz=35						
P22A	**Eagle**	**35.07**	**111**	⇑P	**P**	**19 06 35.3**	**+0.5**
	baz=35						
M28A	**Bar X Bar Ranc**	**35.92**	**104**	⇓P	**P**	**19 06 43.1**	**+1.4**
	baz=36						
CIS	**Catalina Islan**	**35.97**	**131**	⇑P	**P**	**19 06 43.7**	**+1.5**
	baz=36						
O26A	**Horse Wrangler**	**36.01**	**107**	⇓P	**P**	**19 06 43.2**	**+0.6**
	baz=36						
BELC	**Belle Mtn. Jos**	**36.28**	**127**	⇓P	**P**	**19 06 45.7**	**+0.7**
	baz=36						
SCI	**San Clemente I**	**36.31**	**131**	⇑P	**P**	**19 06 46.2**	**+1.2**
	baz=36						
SPMN	**Marine on St.**	**36.74**	**91**	⇓P	**P**	**19 06 50.1**	**+1.5**
	baz=37						
MONP	**Monument Peak,**	**37.13**	**128**	⇓P	**P**	**19 06 53.8**	**+1.5**
	baz=37						
P30A	**Selden**	**37.92**	**104**	⇑P	**P**	**19 06 59.6**	**+0.9**
	baz=38						
Q29A	**Oakley**	**38.14**	**106**	⇓P	**P**	**19 07 01.5**	**+0.9**
	baz=38						
P32A	**Huiting Farm,**	**38.59**	**103**	⇓P	**P**	**19 07 04.7**	**+0.6**
	baz=38						
MIDW	**Midway**	**39.06**	**219**	P	**P**	**19 07 08.2**	**0.0**
T28A	**Walsh**	**39.13**	**108**	⇑P	**P**	**19 07 10.1**	**+1.3**
	baz=39						
214A	**Organ Pipe Nat**	**39.29**	**125**	⇑P	**P**	**19 07 11.4**	**+1.3**
	baz=39						
P35A	**Duane Minner,**	**39.81**	**100**	⇑P	**P**	**19 07 14.8**	**+0.4**
	baz=40						
Q35A	**Mercer Eighty,**	**40.35**	**101**	⇓P	**P**	**19 07 19.5**	**+0.7**
	baz=40						
Q36A	**Arnold C. Orve**	**40.52**	**100**	⇑P	**P**	**19 07 20.9**	**+0.7**
	baz=40						
SCHQ	**Schefferville**	**40.94**	**61**	P	**P**	**19 07 23.8**	**+0.4**
	comp=Z,1.7nm,0.4s,baz=316,slow=7.3,SNR=7.3						
R36A	**Gordon, Harris**	**41.03**	**101**	⇑P	**P**	**19 07 24.9**	**+0.6**
	baz=41						
S35A	**Otter Creek Ra**	**41.19**	**102**	⇑P	**P**	**19 07 26.6**	**+0.8**
	baz=41						
V31A	**Spring Creek L**	**41.24**	**107**	⇓P	**P**	**19 07 27.1**	**+0.9**
	baz=41						
X28A	**Dimmitt**	**41.30**	**111**	⇑P	**P**	**19 07 27.7**	**+1.0**
	baz=41						
R37A	**Teagarden Farm**	**41.34**	**100**	⇓P	**P**	**19 07 27.6**	**+0.7**
	baz=41						
T34A	**McClaskey Farm**	**41.36**	**103**	⇑P	**P**	**19 07 27.3**	**+0.2**
	baz=41						
MSTX	**Muleshoe**	**41.53**	**112**	⇑P	**P**	**19 07 29.9**	**+1.3**
	baz=41						
X29A	**Tulia**	**41.58**	**110**	⇓P	**P**	**19 07 30.1**	**+1.1**
	baz=41						
U34A	**Anderson Ranch**	**41.69**	**104**	⇓P	**P**	**19 07 30.7**	**+0.9**
	baz=42						
T35A	**Sooner Cattle**	**41.74**	**103**	⇓P	**P**	**19 07 30.8**	**+0.6**
	baz=42						
V33A	**Lossen Ranch,**	**41.88**	**106**	⇓P	**P**	**19 07 32.5**	**+1.1**
	baz=42						
X30A	**Coker Ranch, T**	**41.93**	**109**	⇑P	**P**	**19 07 32.7**	**+0.9**
	baz=42						
W32A	**Sentinel**	**42.05**	**107**	⇑P	**P**	**19 07 33.3**	**+0.5**
	baz=42						
V34A	**Guthrie**	**42.21**	**105**	⇑P	**P**	**19 07 34.4**	**+0.4**
	baz=42						
Z29A	**Hungry Hill Ra**	**42.59**	**111**	⇑P	**P**	**19 07 38.0**	**+0.8**
	baz=42						
Z30A	**Sanderson Ranc**	**42.81**	**110**	⇓P	**P**	**19 07 39.4**	**+0.5**
	baz=43						
SFIN	**Lafayette**	**43.14**	**91**	⇓P	**P**	**19 07 42.2**	**+0.7**
	baz=43						
Z32A	**Haskell**	**43.50**	**109**	⇑P	**P**	**19 07 45.0**	**+0.6**
	baz=43						
W37A	**Quinton**	**43.71**	**103**	⇓P	**P**	**19 07 46.5**	**+0.4**
	baz=44						
X36A	**Centrahoma**	**43.78**	**105**	⇑P	**P**	**19 07 47.1**	**+0.5**
	baz=44						
230A	**Sterling City**	**44.03**	**111**	⇑P	**P**	**19 07 49.2**	**+0.5**
	baz=44						
X37A	**Clayton**	**44.20**	**104**	⇑P	**P**	**19 07 50.8**	**+0.8**
	baz=44						
231A	**Bronte**	**44.32**	**111**	⇓P	**P**	**19 07 51.5**	**+0.5**
	baz=44						
133A	**Hamilton Ranch**	**44.34**	**109**	⇓P	**P**	**19 07 52.0**	**+0.9**
	baz=44						
330A	**Mertzon**	**44.42**	**112**	⇑P	**P**	**19 07 52.7**	**+0.9**
	baz=44						
232A	**Coleman**	**44.65**	**110**	P	**P**	**19 07 54.8**	**+1.1**
	baz=44,SNR=5.7						
429A	**Davenport Ranc**	**44.80**	**113**	⇓P	**P**	**19 07 56.1**	**+1.3**
	baz=45						
331A	**San Angelo**	**44.82**	**111**	⇓P	**P**	**19 07 56.1**	**+1.2**
	baz=45						
233A	**Rising Star**	**44.85**	**109**	⇑P	**P**	**19 07 56.1**	**+0.9**
	baz=45						
430A	**Baggett Ranch,**	**44.93**	**112**	⇓P	**P**	**19 07 56.9**	**+1.0**
	baz=45						
332A	**Millersview**	**45.04**	**110**	⇓P	**P**	**19 07 57.8**	**+1.0**
	baz=45						
529A	**Stev Forest Ra**	**45.10**	**114**	⇓P	**P**	**19 07 58.3**	**+1.1**
	baz=45						
234A	**Clairette**	**45.19**	**108**	⇑P	**P**	**19 07 59.0**	**+1.1**
	baz=45						
TXAR	**Lajitas Array**	**45.20**	**116**	P	**P**	**19 07 59.8**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=328,slow=6.4,SNR=14						
TXAR				pP	**pP**	**19 08 27.7**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=350,slow=4.6,SNR=2.5						
TXAR				PcP	**PcP**	**19 09 36.5**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=262,slow=2.5,SNR=3.7						
431A	**Sonora**	**45.28**	**112**	⇑P	**P**	**19 08 00.2**	**+1.6**
	baz=45,SNR=5.7						
333A	**Richland Sprin**	**45.42**	**110**	⇓P	**P**	**19 08 00.8**	**+1.2**
	baz=45						
530A	**J-C Ranch, Com**	**45.44**	**113**	⇑P	**P**	**19 08 00.9**	**+1.0**
	baz=45						
432A	**Menard**	**45.46**	**111**	⇓P	**P**	**19 08 01.3**	**+1.3**
	baz=45						
334A	**Lometa**	**45.73**	**109**	⇑P	**P**	**19 08 03.0**	**+0.9**
	baz=46						
531A	**Rocksprings**	**45.76**	**112**	⇓P	**P**	**19 08 03.9**	**+1.5**
	baz=46,SNR=5.3						
138A	**Matatall Enter**	**45.96**	**105**	⇑P	**P**	**19 08 04.7**	**+0.9**
	baz=46						
532A	**Rocksprings**	**46.06**	**111**	⇓P	**P**	**19 08 06.2**	**+1.4**
	baz=46,SNR=5.9						
434A	**Burnet**	**46.16**	**109**	⇑P	**P**	**19 08 06.6**	**+1.1**
	baz=46						
631A	**Perdido Creek**	**46.41**	**113**	⇓P	**P**	**19 08 07.7**	**+0.3**
	baz=46						
632A	**Uvalde**	**46.65**	**112**	⇑P	**P**	**19 08 08.5**	**-0.9**
	baz=46						

633A	**Saathoff Ranch** baz=47	46.95	111	⇑P		P	19 08 12.6	+0.9
MDJ	**Mudanjiang**	47.06	286	P		P	19 08 11.2	-1.1
ARCES	**ARCESS Array B** comp=Z,4.3nm,0.7s,baz=8.6,slow=9.0,SNR=6.5	47.52	2	P		P	19 08 15.0	-0.6
636A	**Smothers Creek** baz=48	47.84	109	⇑P		P	19 08 20.4	+1.9
MJAR	**Matsushiro Arr** comp=Z,1.1nm,0.8s,baz=46,slow=5.6,SNR=5.2	49.74	273	P		P	19 08 33.3	+0.3
ULN	**Ulaanbaatar**	53.57	305	*e*P		P	19 09 06.9	+5.4
ULN	comp=Z,3.0nm,0.6s			pmax	pmax			
ULN	**Ulaanbaatar** comp=Z,3.0nm,0.6s	53.57	305	*e*P		P	19 09 06.9	+5.4
KSRS	**Korea Array** comp=Z,1.7nm,0.8s,baz=29,slow=6.4,SNR=9.9	53.61	282	P		P	19 09 02.6	+1.0
KSAR	**Wonju Array Be**	53.64	282	P		P	19 09 02.7	+0.8
KSAR	**Wonju Array Be**	53.64	282	P		P	19 09 02.6	+0.8
SONM	**Songino Array** comp=Z,2.0nm,0.8s,baz=17,slow=6.8,SNR=15	53.84	306	P		P	19 09 04.7	+1.3
SONM				pP		pP	19 09 34.1	+0.8
NB2	**NORSAR Subarra** comp=Z,0.6nm,0.6s,baz=351,slow=7.4	55.32	11	P		P	19 09 12.6	-1.1
NOA	**NORSAR Array B** comp=Z,0.9nm,0.7s,baz=350,slow=7.1,SNR=5.0	55.32	11	P		P	19 09 12.9	-0.8
ZAA0	**Zalesovo Array**	55.46	324	*e*P		P	19 09 13.9	-0.9
ZALV	**Zalesovo Beam** comp=Z,3.5nm,0.5s,baz=24,slow=6.7,SNR=20	55.46	324	P		P	19 09 14.4	-0.4
ZALV	**Zalesovo Beam**	55.46	324	*i* P		P	19 09 14.3	-0.5
ZALV	comp=Z,4.0nm,0.5s			pmax	pmax			
FINES	**FINESS Array B** comp=Z,3.1nm,0.7s,baz=347,slow=5.9,SNR=8.0	55.65	2	P		P	19 09 14.9	-1.1
FINES	**FINESS Array B**	55.65	2	*c*eP		P	19 09 19.7	+3.7
FINES	comp=Z,1.0nm,0.8s			pmax	pmax			
KLMR	**Klimovskoe**	56.03	354	*e*P		P	19 09 16.3	-2.4
KLMR	comp=Z,14nm,1.2s			pmax	pmax			
HFS	**Hagfors** comp=Z,3.3nm,0.9s,baz=2.7,slow=6.1,SNR=7.9	56.41	9	P		P	19 09 20.4	-1.0
BJI	**Beijing**	56.52	293	P		P	19 09 23.8	+1.3
BJI				S		S	19 17 02.8	-0.8
BJI	comp=Z,6.0nm,0.5s			PMZ				
BJI	comp=Z,97nm,4.5s			PMZ				
BJI	comp=Z,130nm,5.0s			LN				
BJI	comp=Z,50nm,4.6s			LE				
BJI	comp=Z,27nm,20.2s			LZ				
HHC	**Hu-ho-hao-te**	57.73	297	*e*P		P	19 09 31.0	-0.1
HHC				S		S	19 17 14.2	-5.5
HHC	comp=Z,13nm,1.0s			PMZ				
HHC	comp=Z,80nm,6.3s			PMZ				
SVE	**Sverdlovsk**	57.89	340	⇓*i* P		P	19 09 32.5	+0.6
SVE	comp=Z,8.0nm,0.8s			pmax	pmax			
ARU	**Arti**	58.58	341	*d i* P		P	19 09 36.5	-0.2
ARU				*PP		pP	19 10 03.3	-3.7
ARU							19 10 22.9	
ARU							19 11 45.5	
ARU				S		S	19 17 32.9	+2.7
ARU	comp=Z,7.0nm,0.6s			pmax	pmax			
ARU	**Arti** comp=Z,7.5nm,0.6s	58.58	341	*e*P		P	19 09 35.9	-0.8
BRVK	**Borovoye**	59.74	333	*i* P		P	19 09 43.7	-1.0
BRVK	comp=Z,11nm,2.5s			pmax	pmax			
BRVK	**Borovoye** comp=Z,3.7nm,0.8s	59.74	333	*e*P		P	19 09 43.8	-0.9
KURK	**Kurchatov**	60.01	326	*e*P		P	19 09 45.6	-1.0
KURK	comp=Z,2.0nm,0.3s			pmax	pmax			
KURK	**Kurchatov** comp=Z,2.4nm,0.3s	60.01	326	*e*P		P	19 09 45.6	-1.0
KURBB	**Kurchatov Arra** comp=Z,2.1nm,0.4s,baz=29,slow=7.0,SNR=21	60.12	326	P		P	19 09 46.6	-0.7
KURBB				sP		sP	19 10 32.0	+0.3
OBN	**Obninsk** comp=Z,7.0nm,0.5s,baz=28,slow=4.0,SNR=3.2	61.89	355	*i* P		P	19 09 59.3	+0.1
OBN	comp=Z,4.0nm,0.5s			pmax	pmax			
MKAR	**Makanchi Array** comp=Z,2.4nm,0.5s,baz=42,slow=6.5,SNR=44	62.63	322	P		P	19 10 03.6	-0.8
MKAR	**Makanchi Array**	62.63	322	*c*eP		P	19 10 03.5	-0.8
MKAR	comp=Z,3.0nm,0.5s			pmax	pmax			
GTA	**Gaotai**	63.51	305	*e*P		P	19 10 11.4	+1.0
GTA	comp=Z,5.0nm,1.0s			PMZ				
WMQ	**Urumqi**	63.73	317	*e*P		P	19 10 15.0	+3.3
WMQ				pP		PcP	19 10 45.5	-1.1
WMQ				sP		sP	19 10 59.5	+3.1
WMQ	comp=Z,4.0nm,0.3s			PMZ				
WMQ	comp=Z,17nm,4.5s			PMZ				
WMQ	comp=Z,13nm,6.8s			LN				
WMQ	comp=Z,12nm,7.5s			LE				
WMQ	comp=Z,14nm,18.0s			LZ				
OTUK	**Ortayu** comp=Z,3.0nm,0.4s	63.82	330	*i* P		P	19 10 11.7	-0.4
OTUK				pmax	pmax			
AB31	**Akbulak array**	65.32	338	⇑*e*P		P	19 10 21.6	-0.2
AB31	comp=Z,2.0nm,0.4s			pmax	pmax			
ABKAR	**Akbulak array** comp=Z,5.2nm,0.7s	65.32	338	*e*P		P	19 10 21.5	-0.3
DPC	**Dobruska-Polom**	66.33	9	*e*P		P	19 10 28.7	+0.4
DPC	**Dobruska-Polom**	66.33	9	*e*P		P	19 10 28.7	+0.4
AKASG	**Malin Array Be** comp=Z,3.1nm,0.5s,baz=1.8,slow=6.2,SNR=30	66.44	0	P		P	19 10 28.3	-0.7
AKASG	**Malin Array Be**	66.44	0	*i* P		P	19 10 28.2	-0.7
AKASG	comp=Z,3.0nm,0.5s			pmax	pmax			
KIEV	**Kiev**	66.45	0	⇓*i* P		P	19 10 27.8	-1.2
AK01	**Malin Array Si**	66.45	0	*e*P		P	19 10 28.1	-0.9
AK02	**Malin Array Si**	66.49	0	*e*P		P	19 10 28.5	-0.7
TKM2	**Tokmak 2**	68.02	325	*e*P		P	19 10 38.5	-0.8
TKM2	comp=Z,3.0nm,0.8s			pmax	pmax			
TKM2	**Tokmak 2** comp=Z,3.0nm,0.8s	68.02	325	*e*P		P	19 10 38.5	-0.8
AAK	**Ala-Archa**	68.57	326	*i* P		P	19 10 43.5	+0.8
AAK	**Ala-Archa** comp=Z,2.5nm,0.7s	68.57	326	*e*P		P	19 10 42.7	0.0
EKS2	**Erkin-Say**	68.72	326	*e*P		P	19 10 43.5	-0.1
EKS2	comp=Z,6.0nm,0.7s			pmax	pmax			
EKS2	**Erkin-Say** comp=Z,6.0nm,0.7s	68.72	326	*e*P		P	19 10 43.5	-0.1
KK31	**Karatay Array**	69.10	329	⇑*e*P		P	19 10 44.7	-1.1
KIV	**Kislovodsk**	72.67	350	*e*P		P	19 11 07.9	+0.5
KIV	comp=Z,11nm,1.1s			pmax	pmax			
KIV	**Kislovodsk** comp=Z,15nm,1.2s	72.67	350	*e*P		P	19 11 07.1	-0.3
KBZ	**Khabaz** comp=Z,5.1nm,0.9s,baz=323,slow=20	72.88	350	P		P	19 11 08.9	+0.5
NCK	**Nalchik**	73.05	349	*e*P		P	19 11 08.7	-0.9
NEY	**Neytrino**	73.37	350	*e*P		P	19 11 08.5	-3.1
NEY	comp=Z,1.0nm,0.8s			pmax	pmax			
ESDC	**Sonseca Array** comp=Z,0.8nm,0.7s,baz=343,slow=8.0,SNR=4.6	74.06	26	P		P	19 11 15.5	-0.1
LSA	**Lhasa**	75.36	308	*e*P		P	19 11 24.3	+0.6
LSA	comp=Z,2.0nm,0.6s			pmax	pmax			
LSA	**Lhasa** comp=Z,2.3nm,0.6s	75.36	308	*e*P		P	19 11 24.3	+0.6
BRTR	**Keskin Array B** comp=Z,0.7nm,0.7s,baz=343,slow=4.5,SNR=3.6	77.36	357	P		P	19 11 34.3	-0.2
TAPN	**Taplejung** comp=Z,15nm,0.7s	78.72	309	*e*P		P	19 11 42.9	+0.6
GUN	**Gumba** comp=Z,12nm,0.8s	78.84	311	*e*P		P	19 11 43.4	+0.4
JIRN	**Jiri** comp=Z,23nm,0.7s	78.96	311	*e*P		P	19 11 44.3	+0.6
KKN	**Kakani** comp=Z,5.8nm,0.6s	79.15	312	*e*P		P	19 11 45.0	+0.4
GKN	**Gorkha** comp=Z,14nm,0.8s	79.17	312	*e*P		P	19 11 44.7	+0.1
ODAN	**Odare** comp=Z,12nm,0.9s	79.28	310	*e*P		P	19 11 45.8	+0.5
PKIN	**Phulchoki** comp=Z,4.9nm,0.7s	79.31	311	*e*P		P	19 11 46.3	+0.8
DMN	**Daman** comp=Z,6.4nm,0.5s	79.38	312	*e*P		P	19 11 46.3	+0.4
RAMN	**Ramite** comp=Z,9.2nm,0.6s	79.47	310	*e*P		P	19 11 46.4	0.0
KOLN	**Koldanda** comp=Z,8.6nm,0.9s	79.73	313	*e*P		P	19 11 47.9	+0.2
CMAR	**Chiang Mai Arr** comp=Z,1.9nm,0.9s,baz=6.4,slow=6.3,SNR=13	82.52	296	P		P	19 12 02.0	-0.3
BOSA	**Boshof** comp=Z,2.4nm,0.8s,baz=28,slow=1.9,SNR=4.0	145.30	6	PKPbc		PKPdf	19 19 15.2	-0.9

MAN 01 19:00:39.6 97N×123.72E, h2km, mb4.4, ML3.2, MS3.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	0.57	65	⇓*i* P	Pg	19 00 50.8	+0.8
PAGZ	**Pagadian**	0.93	339	*e*P	Pb	19 00 58.5	+0.6
PAGZ				*e*S	Sn	19 01 12.5	-0.6
BUKP	**Musuan**	1.60	56	*e*P	Pn	19 01 08.9	+0.5
BUKP				*e*S	Sg	19 01 31.3	+0.5

*ISCJB **01** 19:31:57.2±0.7, 13.61N±0.07×105.19W±0.05, h10km, mb4.2/20, MS3.7/21, Error ellipse: s-maj=9.6km s-min=7.3km az=179.3*

*IDC **01** 19:31:57.0±1.1, 13.61N×105.01W, h0km, mb3.9/9, mb1 4.2/12, mb1mx4.1/23, mbtmp3.9/12, ML3.5/3, MS3.7/24, Ms1 3.7/24, ms1mx3.6/38, Error ellipse: s-maj=34.1km s-min=18.6km az=55.0*

*NEIC **01** 19:31:58.6±0.6, 13.56N×105.04W, h10km, mb4.4/15, Error ellipse: s-maj=11.8km s-min=7.6km az=224.0*

ISC 01 19:31:58.5±1.2, 13.6N±0.1×105.3W±0.1, h10km, n170, σ0.87/135, mb4.3/20, MS3.7/21, 60C-57D, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS** SNR=62	7.52	314	T	T	19 41 23.9	
CMIG	**Matias Romero** 0.2nm,0.3s,baz=170,slow=7.4,SNR=3.2	10.60	69	Pn	Pn	19 34 27.6	-2.9
CMIG				LR	LR	19 37 22.5	
LPIG	**La Paz** comp=Z,678nm,18.3s,baz=180,slow=32	11.52	336	LR	LR	19 38 04.3	
034A	**Hebbronville** baz=15	14.77	24	⇓P	Pn	19 35 28.0	+0.5
933A	**Laredo** baz=15	15.05	21	⇓P	Pn	19 35 31.3	0.0
934A	**Benavides** baz=15	15.31	23	⇑P	Pn	19 35 35.5	+0.6
832A	**Faith Ranch, C** baz=16	15.45	18	⇓P	Pn	19 35 36.4	-0.2
936A	**North Padre Is** baz=16	15.65	27	⇑P	Pn	19 35 40.7	+1.4
833A	**Chaparral WMA,** baz=16,SNR=6.0	15.66	19	⇓P	Pn	19 35 39.7	+0.3
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=182,slow=12,SNR=30	15.76	5	Pn	Pn	19 35 41.1	+0.3
TXAR	comp=Z,688nm,18.6s,baz=0.0,slow=37			LR	LR	19 41 34.4	
834A	**Tilden** baz=16	15.77	22	⇑P	Pn	19 35 41.5	+0.6
732A	**Laxson Ranch,** baz=16	15.87	17	⇑P	Pn	19 35 41.6	-0.5
733A	**Divot King Ran** baz=16	16.06	19	⇓P	Pn	19 35 44.4	-0.2
835A	**Beeville** baz=16	16.20	24	⇑P	Pn	19 35 46.3	0.0
631A	**Perdido Creek** baz=16	16.35	15	⇓P	Pn	19 35 47.6	-0.7
632A	**Uvalde** baz=17	16.65	17	⇑P	Pn	19 35 52.3	+0.2
735A	**Kenedy** baz=17	16.71	23	⇓P	Pn	19 35 54.6	+1.7
529A	**Stev Forest Ra** baz=17,SNR=10	16.72	9	⇓P	Pn	19 35 53.0	0.0
633A	**Saathoff Ranch** baz=17	16.79	19	⇑P	Pn	19 35 53.3	-0.5
530A	**J-C Ranch, Com** baz=17,SNR=11	16.89	12	⇓P	Pn	19 35 55.2	0.0
531A	**Rocksprings** baz=17,SNR=13	17.08	14	⇓P	Pn	19 35 57.3	-0.3
532A	**Rocksprings** baz=17,SNR=16	17.21	16	⇑P	Pn	19 35 58.8	-0.4
429A	**Davenport Ranc** baz=17,SNR=14	17.26	10	⇑P	Pn	19 35 59.0	-0.8
533A	**Kerrville** baz=17	17.40	18	⇑P	Pn	19 36 02.0	+0.4
TGUH	**Tegucigalpa,Un**	17.47	86	Pn	Pn	19 36 03.3	+0.8
430A	**Baggett Ranch,** baz=18,SNR=10	17.53	12	⇓P	Pn	19 36 04.1	+0.8
TEIG	**Tepich** 23nm,1.1s	17.53	66	Pn	Pn	19 36 02.7	-0.5
636A	**Smothers Creek** baz=18	17.56	24	⇓P	Pn	19 36 03.5	-0.1
431A	**Sonora** baz=18,SNR=6.6	17.57	13	⇑P	Pn	19 36 03.5	-0.1
JCT	**Junction City** 25nm,1.3s	17.57	16	*e*Pn	Pn	19 36 03.7	+0.1
535A	**Dale** baz=18	17.86	22	⇑P	Pn	19 36 08.0	+0.8
432A	**Menard** baz=18	17.95	15	⇑P	Pn	19 36 07.6	-0.7
433A	**Art** baz=18	18.02	17	⇓P	Pn	19 36 08.7	-0.5
329A	**Wagon Wheel Ra** baz=18	18.09	9	⇑P	Pn	19 36 09.0	-1.1
330A	**Mertzon** baz=18	18.15	11	⇓P	Pn	19 36 09.4	-1.4
434A	**Burnet** baz=18	18.33	19	⇑P	Pn	19 36 12.6	-0.5
332A	**Millersview** baz=18	18.44	15	⇓P	Pn	19 36 13.9	-0.5
HKT	**Hockley** 45nm,1.5s	18.49	27	*e*P	Pn	19 36 13.1	-1.8
435B	**Jarrell** baz=18	18.54	21	⇓P	P	19 36 14.3	-1.0
333A	**Richland Sprin** baz=19	18.59	17	⇓P	P	19 36 14.7	-1.3
334A	**Lometa** baz=19	18.82	19	⇓P	P	19 36 17.9	-0.6
231A	**Bronte** baz=19	18.84	13	⇑P	P	19 36 16.6	-2.1
232A	**Coleman** baz=19,SNR=6.7	18.95	15	⇑P	P	19 36 19.6	-0.4
128A	**Castleberry Fa** baz=19	19.14	7	⇑P	P	19 36 20.7	-1.3
233A	**Rising Star** baz=19	19.27	17	⇓P	P	19 36 23.4	0.0
TUC	**Tucson** 9.0nm,1.1s	19.33	346	*e*P	P	19 36 24.4	+0.2
131A	**Roby** baz=20	19.53	12	⇓P	P	19 36 25.5	-0.8
ABTX	**Abilene, Hawle** baz=20	19.65	14	⇓P	P	19 36 27.6	+0.1
ABTX	**Abilene, Hawle** 55nm,1.5s	19.65	14	*e*P	P	19 36 28.1	+0.5
337A	**Centerville** baz=20	19.65	24	⇓P	P	19 36 28.0	+0.4
WHTX	**Lake Whitney,** baz=20	19.68	20	⇑P	P	19 36 28.0	+0.1
133A	**Hamilton Ranch** baz=20	19.82	16	⇓P	P	19 36 30.2	+0.8
Z29A	**Hungry Hill Ra** baz=20	19.87	9	⇓P	P	19 36 29.0	-1.0
Z30A	**Sanderson Ranc** baz=20	19.99	10	⇓P	P	19 36 30.6	-0.7
134A	**White-Moore Ra** baz=20	20.02	18	⇑P	P	19 36 31.5	-0.1
JTS	**JuntasAbangare** 0.4nm,0.3s,baz=264,slow=18,SNR=2.4	20.12	97	P	P	19 36 29.3	-3.5
JTS	comp=Z,278nm,19.4s,baz=240,slow=32			LR	LR	19 42 23.7	
Z31A	**Sharp Cattle R** baz=20	20.21	12	⇑P	P	19 36 33.1	-0.6
Z32A	**Haskell** baz=20	20.34	14	⇑P	P	19 36 34.8	-0.3
Y28A	**McKinney Farm,** baz=20	20.43	7	⇑P	P	19 36 34.9	-1.3
MSTX	**Muleshoe** baz=20,SNR=10	20.44	6	⇓P	P	19 36 35.6	-0.6
MSTX	**Muleshoe** 49nm,1.4s	20.44	6	*e*P	P	19 36 36.2	0.0
Y29A	**Porterfield Fa** baz=20	20.46	9	⇓P	P	19 36 35.5	-1.0
Z33A	**Whitaker Ranch** baz=20	20.50	16	⇓P	P	19 36 37.1	+0.3
Y31A	**Rekieta Farm,** baz=21	20.80	12	⇑P	P	19 36 39.7	-0.4
239A	**Gary** baz=21	20.86	27	⇑P	P	19 36 41.6	+1.0
X30A	**Coker Ranch, T** baz=21	21.16	10	⇑P	P	19 36 43.4	-0.6
GLA	**Glamis** baz=21	21.27	337	⇑P	P	19 36 47.2	+2.0
GLA	**Glamis** 41nm,1.5s	21.27	337	*e*P	P	19 36 47.0	+1.8
ANMO	**Albuquerque** 0.9nm,0.2s,baz=164,slow=13,SNR=6.5	21.32	357	P	P	19 36 45.6	-0.2
Y34A	**Reagan Ranch,** baz=21	21.41	17	⇑P	P	19 36 45.9	-0.7
Z37A	**Pogue Cattle C** baz=21	21.42	23	⇑P	P	19 36 46.7	0.0
X32A	**Elmer** baz=22	21.46	14	⇓P	P	19 36 46.4	-0.7
AMTX	**Amarillo** 46nm,1.1s	21.47	8	*e*P	P	19 36 46.1	-1.2
X31A	**McDonald Ranch** baz=22	21.51	12	⇓P	P	19 36 47.1	-0.7
SWSC	**Sam W. Stewart** baz=22	21.55	335	⇑P	P	19 36 46.9	-1.3
W29A	**Amarillo** baz=22	21.71	8	⇓P	P	19 36 48.4	-1.5
Y12C	**Blythe** baz=22	21.79	339	⇓P	P	19 36 52.2	+1.5
W18A	**Petrified Fore** baz=22	21.84	350	⇑P	P	19 36 52.8	+1.4
WMOK	**Wichita Mounta**	21.88	14	P	P	19 36 50.3	-1.4
X34A	**Smith Ranch, M** baz=22	21.99	17	⇑P	P	19 36 53.5	+0.6
BC3	**Big Chuckawall** baz=22	22.05	337	⇓P	P	19 36 52.8	-0.8
W31A	**Holland Ranch,** baz=22	22.05	12	⇑P	P	19 36 54.2	+0.6
X35A	**Drake** baz=22	22.06	18	⇑P	P	19 36 54.6	+1.0
W32A	**Sentinel** baz=22	22.14	13	⇓P	P	19 36 54.2	-0.2
PDMCI	**Parker Dam,Lak** baz=22	22.16	340	⇑P	P	19 36 54.1	-0.5
IRM	**Iron Mountain** baz=22,SNR=5.9	22.38	338	⇓P	P	19 36 56.4	-0.7
PFO	**Pinyon Flats O** 4.6nm,0.9s,baz=136,slow=8.8,SNR=5.8	22.41	335	P	P	19 36 59.1	+1.7
PFO				LR	LR	19 44 08.8	
WUAZ	comp=Z,420nm,20.5s,baz=172,slow=33 **Wupatki** 11nm,1.0s	22.54	347	*e*P	P	19 36 59.8	+0.9
BELC	**Belle Mtn. Jos** baz=23	22.56	336	⇓P	P	19 36 59.3	+0.1
V31A	**Spring Creek L** baz=23	22.64	11	⇑P	P	19 36 59.4	-0.5
X37A	**Clayton** baz=23,SNR=5.8	22.76	21	⇑P	P	19 37 02.5	+1.4
W35A	**Tecumseh** baz=23	22.79	18	⇑P	P	19 37 01.2	-0.2
W36A	**Wetumka** baz=23	22.97	19	⇑P	P	19 37 03.4	+0.1
V33A	**Lossen Ranch,** baz=23	23.03	15	⇓P	P	19 37 03.4	-0.5
GMRC	**Granite Mounta** baz=23	23.12	338	⇓P	P	19 37 04.3	-0.7
W37A	**Quinton** baz=23	23.24	21	⇓P	P	19 37 06.1	+0.1
V34A	**Guthrie** baz=23	23.24	16	⇑P	P	19 37 05.6	-0.4
HEC	**Hector,Ludlow** baz=24	23.42	337	⇓P	P	19 37 07.0	-1.0
T25A	**Trinidad** baz=24	23.49	2	⇓P	P	19 37 07.7	-1.1
T27A	**Campo** baz=24	23.51	5	⇓P	P	19 37 08.7	-0.2
T26A	**Comanche Natio** baz=24	23.56	3	⇑P	P	19 37 08.4	-1.0
T28A	**Walsh** baz=24	23.62	6	⇑P	P	19 37 09.4	-0.6
U34A	**Anderson Ranch** baz=24	23.80	16	⇑P	P	19 37 11.2	-0.4
GSC	**Goldstone, Bar** baz=24	24.02	336	⇓P	P	19 37 13.5	-0.3
GSC	**Goldstone, Bar** 4.3nm,1.0s	24.02	336	*e*P	P	19 37 14.8	+1.0
SDCO	**Great Sand Dun** 7.1nm,1.1s	24.08	360	*e*P	P	19 37 15.1	+0.5
EDW2	**Edwards Air Fo** baz=24	24.14	334	⇓P	P	19 37 14.2	-0.7
T32A	**Huddler Ranch,** baz=24	24.19	12	⇓P	P	19 37 15.5	+0.2
T34A	**McClaskey Farm** baz=24	24.45	16	⇓P	P	19 37 17.4	-0.2
SHPR	**Sheep Range** 15nm,1.4s	24.51	340	*e*P	P	19 37 18.3	-0.1
R26A	**Arlington** baz=25,SNR=9.1	24.69	3	⇑P	P	19 37 19.6	-0.3
R27A	**Eads** baz=25	24.72	5	⇑P	P	19 37 20.1	-0.1
R28A	**Tribune** baz=25	24.86	6	⇑P	P	19 37 21.4	0.0
PV10	**Paradox Valley** 182nm,0.9s	24.94	353	*e*P	P	19 37 21.9	-0.4
MPMC	**Manual Prospec** baz=25	24.95	336	⇑P	P	19 37 22.1	-0.3
PKM	**Mcpherson Peak** baz=25	24.99	331	⇑P	P	19 37 22.6	-0.1
R30A	**Dighton** baz=25	25.01	9	⇓P	P	19 37 22.4	-0.3
ISA	**Isabella, Lake**	25.02	334	*e*P	P	19 37 25.3	+2.5
R29A	**Marienthal** baz=25	25.03	8	⇑P	P	19 37 22.3	-0.6
T37A	**Cheneyville 18** baz=25	25.21	20	⇑P	P	19 37 24.9	+0.4
S35A	**Otter Creek Ra** baz=25	25.30	17	⇑P	P	19 37 25.3	0.0
R33A	**Olander Ranch,** baz=26	25.47	13	⇓P	P	19 37 27.0	+0.1
Q29A	**Oakley** baz=26	25.51	8	⇑P	P	19 37 27.0	-0.3
MVU	**Marysvale** 31nm,1.5s	25.59	347	*e*P	P	19 37 31.7	+3.4
MSU	**Marysvale** 18nm,1.2s	25.59	347	*e*P	P	19 37 31.0	+2.8
R11A	**Troy Canyon, C** baz=26	26.33	341	⇑P	P	19 37 35.6	+0.8
O22A	**Kremmling** baz=27	26.52	358	⇑P	P	19 37 36.8	+0.2
NVAR	**Mina Array Bea** 0.8nm,0.9s,baz=150,slow=8.7,SNR=4.5	27.34	337	P	P	19 37 45.0	+1.1
ELK	**Elko** 0.9nm,0.9s,baz=167,slow=7.8,SNR=3.6	28.45	344	P	P	19 37 54.7	+0.8
TKL	**Tuckaleechee C** comp=Z,79nm,19.0s,baz=150,slow=39	29.28	38	LR	LR	19 50 43.9	
PDAR	**Pinedale Array** 1.0nm,0.8s,baz=157,slow=7.4,SNR=7.2	29.33	354	P	P	19 38 01.7	-0.1
OTAV	**Otavalo** 14nm,1.3s	29.66	114	*e*P	P	19 38 04.6	-0.6
J20A	**Shoshoni** baz=30	29.78	356	⇓P	P	19 38 06.2	+0.6
J28A	**Allard Ranch,** baz=30	29.95	6	⇑P	P	19 38 07.9	+0.9
I21A	**Big Trails, Te** baz=30	30.19	357	⇓P	P	19 38 09.5	+0.2
I22A	**9 Mile Ranch,** baz=30	30.24	358	⇓P	P	19 38 09.7	0.0
I20A	**Worland** baz=30	30.38	356	⇑P	P	19 38 11.6	+0.7
G20A	**Bridger** baz=32	31.65	356	⇓P	P	19 38 22.2	+0.2
M02C	**Callahan** baz=32	31.68	334	⇑P	P	19 38 21.7	-0.7
F19A	**Roth Farm, Mol** baz=32	32.33	355	⇓P	P	19 38 27.8	-0.2
E25A	**Miller Ranch,**	32.87	2	⇓P	P	19 38 33.1	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=33						
E19A	**Rath Farm, Rou**	**32.92**	**356**	⇑P	P	19 38 33.1	0.0
	baz=33						
D20A	**Manuel Ranch,**	**33.51**	**356**	⇑P	P	19 38 37.8	-0.5
	baz=34						
D19A	**Cripps Ranch,**	**33.63**	**356**	⇓P	**P**	**19 38 39.4**	**+0.1**
	baz=34,SNR=5.8						
ATAH	**Atahualpa**	**33.68**	**126**	LR	LR	19 49 53.3	
	comp=Z,159nm,18.0s,baz=233,slow=32						
I03D	**Drain, OR**	**33.81**	**336**	⇓P	P	19 38 41.4	+0.6
	baz=34						
C20A	**Veseth Ranch,**	**34.12**	**357**	⇑P	P	19 38 43.5	-0.1
	baz=34						
C19A	**Slack Wire Ran**	**34.21**	**355**	⇓P	P	19 38 44.2	-0.1
	baz=34						
NEW	**Newport**	**35.97**	**346**	LR	LR	19 51 18.3	
	comp=Z,86nm,20.6s,baz=179,slow=32						
NEW	**Newport**	**35.97**	**346**	*e*P	P	19 38 59.7	+0.2
	5.8nm,1.1s						
NNA	**Nana**	**37.92**	**131**	LR	LR	19 51 33.2	
	comp=Z,136nm,21.7s,baz=310,slow=31						
SADO	**Sadowa**	**38.23**	**30**	LR	LR	19 56 05.3	
	comp=Z,104nm,19.0s,baz=212,slow=38						
BBB	**Bella Bella**	**42.66**	**339**	LR	LR	19 55 40.9	
	comp=Z,95nm,19.3s,baz=166,slow=33						
LPAZ	**La Paz**	**47.18**	**128**	P	P	19 40 32.0	-0.4
	3.6nm,0.9s,baz=332,slow=7.3,SNR=11						
LPAZ				LR	LR	19 57 48.0	
	comp=Z,167nm,21.0s,baz=318,slow=33						
DLBC	**Dease Lake**	**48.50**	**343**	LR	LR	20 00 07.7	
	comp=Z,74nm,20.1s,baz=156,slow=35						
YKA	**Yellowknife Ar**	**49.31**	**354**	P	P	19 40 45.7	-1.8
	0.7nm,0.8s,baz=167,slow=7.0,SNR=3.8						
SCHQ	**Schefferville**	**50.88**	**28**	P	P	19 40 58.3	-1.3
	2.6nm,0.6s,baz=244,slow=8.6,SNR=3.8						
SCHQ				LR	LR	20 02 43.8	
	comp=Z,60nm,20.2s,baz=255,slow=36						
SIV	**San Ignacio**	**52.63**	**122**	LR	LR	20 01 18.5	
	comp=Z,105nm,21.4s,baz=358,slow=34						
FRB	**Frobisher Bay**	**56.26**	**19**	LR	LR	20 05 30.8	
	comp=Z,72nm,18.6s,baz=201,slow=36						
INK	**Inuvik**	**57.67**	**348**	LR	LR	20 05 46.1	
	comp=Z,71nm,20.8s,baz=129,slow=35						
ILAR	**Eielson Array**	**58.53**	**340**	P	P	19 41 55.3	+0.4
	1.7nm,0.9s,baz=154,slow=5.2,SNR=14						
ILAR				LR	LR	20 05 02.8	
	comp=Z,43nm,20.9s,baz=140,slow=34						
BDFB	**Brasilia**	**63.60**	**115**	LR	LR	20 09 02.6	
	comp=Z,57nm,19.4s,baz=310,slow=35						
PETK	**Petropavlovsk-**	**83.45**	**323**	LR	LR	20 14 51.2	
	comp=Z,13nm,20.7s,baz=109,slow=31						
ARCES	**ARCESS Array B**	**90.29**	**15**	LR	LR	20 25 42.0	
	comp=Z,49nm,18.2s,baz=317,slow=36						
NOA	**NORSAR Array B**	**90.42**	**26**	LR	LR	20 24 24.8	
	comp=Z,22nm,21.4s,baz=295,slow=35						
FINES	**FINESS Array B**	**95.98**	**21**	LR	LR	20 27 13.8	
	comp=Z,67nm,20.7s,baz=348,slow=35						
GERES	**GERESS Array B**	**97.82**	**36**	LR	LR	20 30 48.6	
	comp=Z,36nm,18.1s,baz=280,slow=36						
WRA	**Warramunga Arr**	**122.83**	**255**	PKP	**PKPdf**	**19 50 55.6**	**-0.2**
	0.3nm,0.6s,baz=92,slow=2.2,SNR=4.5						
ASAR	**Alice Springs**	**123.38**	**251**	PKP	**PKPdf**	**19 50 56.6**	**-0.2**
	0.2nm,0.6s,baz=94,slow=2.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**140.23**	**323**	PKP	**PKPdf**	**19 51 28.9**	**+0.3**
	0.5nm,0.8s,baz=343,slow=2.8,SNR=3.9						

*IDC **01** 19:32:18.4±12.0, 37.°04N×67.°72E, h0km, mb3.5/3, mb1 3.4/5, mb1mx3.2/29, mbtmp3.3/5, ML2.6/2, Error ellipse: s-maj=223.7km s-min=30.8km az=163.0*
*NNC **01** 19:32:29.9±1.6, 38.°38N×67.°68E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=20.3km s-min=7.6km az=166.0*
ISC 01 19:32:30.6±1.8**, 38.°5N**±0.°1×**67.°54E**±0.°08**, h10**km**, n13,** σ**1.s57**/17**, 10C-6D, Southeastern Uzbekistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.04**	**74**	⇑P	**Pg**	**19 32 48.8**	**-1.9**
	64nm,0.4s						
DZET				⇑S	**Sb**	**19 33 03.1**	**-1.6**
	181nm,0.3s						
SFK	**Sufi-Kurgan**	**4.86**	**70**	⇓Pn	**Pn**	**19 33 45.2**	**+1.2**
	2.2nm,0.3s						
SFK				⇓Sn	**Sn**	**19 34 43.0**	**+2.6**
	15nm,0.3s						
KK31	**Karatay Array**	**5.10**	**25**	⇑Pn	Pn	19 33 51.0	+4.0
	0.4nm,0.2s,baz=211,slow=15,SNR=19						
KK31				⇑Pg	**Pg**	**19 34 06.9**	**-1.3**
	3.6nm,0.5s,baz=213,slow=16,SNR=18						
KK31				Lg	Lg	19 35 15.8	
	29nm,0.7s,baz=204,slow=26,SNR=4.1						
MNAS	**Manas**	**5.47**	**42**	⇓Pn	**Pn**	**19 33 53.7**	**+1.4**
MNAS				⇑Pg	**Pg**	**19 34 13.3**	**-2.1**
MNAS				⇓Sn	**Sn**	**19 34 56.8**	**+1.4**
	4.4nm,0.5s						
MNAS				⇓Lg	Lg	19 35 26.5	
	27nm,1.2s						
AAK	**Ala-Archa**	**6.69**	**50**	⇑Pn	**Pn**	**19 34 11.4**	**+2.3**
	1.6nm,0.6s						
AAK				⇓Lg	Lg	19 36 05.3	
	12nm,1.1s						
TKM2	**Tokmak 2**	**7.53**	**52**	⇑Pn	**Pn**	**19 34 20.7**	**+0.1**
	1.5nm,0.5s						
TKM2				⇑Lg	Lg	19 36 33.2	
	5.2nm,0.6s						
AB31	**Akbulak array**	**12.04**	**335**	⇑P	**Pn**	**19 35 22.0**	**-0.1**
	1.3nm,0.3s,baz=146,slow=14,SNR=47						
MKAR	**Makanchi Array**	**13.62**	**48**	Pn	**Pn**	**19 35 42.9**	**-0.9**
	0.1nm,0.3s,baz=233,slow=12,SNR=3.2						
KURBB	**Kurchatov Arra**	**14.38**	**29**	Pn	**Pn**	**19 35 54.8**	**+0.6**
	0.0nm,0.3s,baz=219,slow=8.6,SNR=3.8						
BVA0	**Borovoye Array**	**14.63**	**7**	⇑P	**Pn**	**19 35 58.1**	**+0.5**
	1.2nm,0.4s,baz=225,slow=43,SNR=14						
ZALV	**Zalesovo Beam**	**19.43**	**32**	P	**Pn**	**19 36 59.5**	**+1.5**
	0.7nm,0.4s,baz=240,slow=12,SNR=3.3						
HFS	**Hagfors**	**39.77**	**321**	P	**P**	**19 40 03.6**	**+0.3**
	1.5nm,0.8s,baz=89,slow=9.7,SNR=3.8						
NOA	**NORSAR Array B**	**41.10**	**322**	P	**P**	**19 40 13.2**	**-1.1**
	0.4nm,0.8s,baz=100,slow=8.2,SNR=3.2						

*IDC **01** 19:33:20.3±1.0, 34.°50N×80.°67E, h0km, mb3.7/5, mb1 3.7/8, mb1mx3.4/28, mbtmp3.6/8, ML2.7/2, Error ellipse: s-maj=39.8km s-min=19.3km az=57.0*
*ISCJB **01** 19:33:23.5±0.9, 34.°7N±0.°1×80.°8E±0.°2, h33km, mb3.5/5, Error ellipse: s-maj=29.5km s-min=13.4km az=160.3*
ISC 01 19:33:25.3±1.1**, 34.°6N**±0.°1×**80.°8E**±0.°2**, h35**km**, n8,** σ**1.s11**/8**, mb3.6**/5**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.22**	**5**	Pn	**Pn**	**19 36 17.3**	**+0.5**
	0.1nm,0.3s,baz=188,slow=12,SNR=3.7						
KURBB	**Kurchatov Arra**	**16.08**	**355**	Pn	**Pn**	**19 37 06.5**	**-2.1**
	baz=180,slow=10,SNR=3.3						
ZALV	**Zalesovo Beam**	**19.54**	**7**	P	**Pn**	**19 37 51.0**	**-0.1**
	0.1nm,0.3s,baz=186,slow=12,SNR=3.1						
CMAR	**Chiang Mai Arr**	**22.81**	**130**	P	**P**	**19 38 24.4**	**-0.9**
	0.4nm,0.7s,baz=313,slow=12,SNR=4.4						
FINES	**FINESS Array B**	**43.53**	**325**	P	**P**	**19 41 25.7**	**+0.5**
	0.9nm,0.8s,baz=158,slow=15,SNR=3.5						
TORD	**Torodi Ar. Bea**	**73.74**	**275**	P	**P**	**19 44 56.1**	**-0.1**
	0.6nm,0.7s,baz=39,slow=5.3,SNR=4.5						
WRA	**Warramunga Arr**	**74.39**	**128**	P	**P**	**19 45 00.2**	**+0.4**
	0.3nm,0.8s,baz=324,slow=5.9,SNR=6.2						
ASAR	**Alice Springs**	**76.82**	**131**	P	**P**	**19 45 14.3**	**+0.7**
	0.8nm,0.6s,baz=316,slow=5.7,SNR=16						

*NEIC **01** 19:43:34.2±1.0, 16.°81N×84.°85W, h10km, mb4.0/2, Error ellipse: s-maj=18.3km s-min=14.2km az=6.0*
*IDC **01** 19:43:34.4±2.2, 17.°07N×84.°74W, h0km, mb3.7/5, mb1 4.1/6, mb1mx3.7/23, mbtmp3.8/6, ML4.6/2, MS2.8/2, Ms1 2.8/2, ms1mx2.4/39, Error ellipse: s-maj=64.7km s-min=30.4km az=20.0*
*ISCJB **01** 19:43:35.2±0.9, 16.°8N±0.°1×84.°90W±0.°10, h33km, mb3.7/5, MS3.4/1, Error ellipse: s-maj=15.0km s-min=13.2km az=3.4*
ISC 01 19:43:37.5±0.9**, 16.°84N**±0.°09×**84.°96W**±0.°08**, h35**km**, n14,** σ**2.s16**/13**, mb3.5**/5**, North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**3.56**	**219**	*e*Pn	**Pn**	**19 44 28.5**	**-1.8**
TEIG	**Tepich**	**4.60**	**317**	Pn	**Pn**	**19 44 43.4**	**-1.2**
	77nm,0.3s,baz=81,slow=2.2,SNR=117						
TEIG				Sn	**Sn**	**19 45 32.7**	**-4.2**
	35nm,0.3s,baz=39,slow=21,SNR=27						
JTS	**JuntasAbangare**	**6.51**	**180**	Lg	Lg	19 47 07.6	
	1.2nm,0.3s,baz=252,slow=18,SNR=4.1						
CMIG	**Matias Romero**	**9.49**	**273**	Pn	Pn	19 45 54.7	+2.8
	1.8nm,0.3s,baz=76,slow=8.7,SNR=11						
CMIG				Sn	**Sn**	**19 47 36.3**	**-1.2**
	0.3nm,0.3s,baz=13,slow=19,SNR=2.3						
CMIG				LR	LR	19 50 32.9	
	comp=Z,21nm,22.0s,baz=311,slow=43						
SDDR	**Presa de Saban**	**13.19**	**79**	Pn	**Pn**	**19 46 40.2**	**-2.3**
HKT	**Hockley**	**16.41**	**325**	*e*Pn	**Pn**	**19 47 23.9**	**-1.2**
	3.6nm,0.6s						
JCT	**Junction City**	**19.18**	**318**	P	**Pn**	**19 47 59.5**	**+0.1**
	9.8nm,0.5s						
TXAR	**Lajitas Array**	**21.19**	**309**	P	**P**	**19 48 22.3**	**+2.2**
	1.3nm,0.6s,baz=127,slow=12,SNR=11						
PDAR	**Pinedale Array**	**33.27**	**326**	P	**P**	**19 50 12.7**	**+0.7**
	0.4nm,0.7s,baz=128,slow=12,SNR=3.5						
DLBC	**Dease Lake**	**53.08**	**332**	P	**P**	**19 52 54.2**	**+2.9**
	3.6nm,0.8s,baz=100,slow=6.1,SNR=3.8						
ILAR	**Eielson Array**	**63.04**	**335**	P	**P**	**19 54 02.2**	**+1.3**
	1.0nm,0.9s,baz=107,slow=5.0,SNR=8.2						
TORD	**Torodi Ar. Bea**	**83.14**	**78**	P	**P**	**19 56 00.9**	**+0.3**
	0.3nm,0.7s,baz=275,slow=4.5,SNR=2.7						
AKASG	**Malin Array Be**	**91.56**	**35**	LR	LR	20 37 31.8	
	comp=Z,14nm,19.1s,baz=275,slow=36						
ASAR	**Alice Springs**	**143.00**	**253**	PKhKP	PKPpre	20 03 05.5	
	0.7nm,1.1s,baz=91,slow=3.4,SNR=4.0						
ASAR				PKP	**PKiKP**	**20 03 12.6**	**+0.9**
	0.2nm,0.6s,baz=95,slow=3.0,SNR=5.3						

*ISCJB **01** 20:02:22.8±0.3, 43.°22N±0.°02×10.°93E±0.°03, h13km±2km, Error ellipse: s-maj=3.2km s-min=2.8km az=21.7*
*ROM **01** 20:02:23.9±0.1, 43.°22N×10.°92E, h12km, Md3.1/19, Ml2.9/29, Error ellipse: s-maj=1.4km s-min=0.5km az=47.0*
*CSEM **01** 20:02:23.6±0.1, 43.°22N×10.°95E, h10km, ML3.6/13, Error ellipse: s-maj=2.7km s-min=2.1km az=19.0*
*GEN **01** 20:02:24.4, 43.°29N×11.°00E, h8km, ML3.1*
*LDG **01** 20:02:24.3±0.1, 43.°23N×11.°02E, h2km, Md2.7/1, Ml3.1/11, Error ellipse: s-maj=2.3km s-min=2.0km az=33.0*
*PRU **01** 20:02:25.0, 43.°16N×11.°04E, h12km*
*VIE **01** 20:02:26.8±0.8, 43.°36N×11.°11E, h10km, mb2.9/12, ML2.9/14, Error ellipse: s-maj=6.9km s-min=4.6km az=33.0*
ISC 01 20:02:23.7±0.9**, 43.°23N**±0.°02×**10.°93E**±0.°02**, h13**km±8km**, n163,** σ**1.s03**/214**, 17C-10D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CSNT	**Castellina Chi**	**0.36**	**48**	⇑*i*Pg	**Pg**	**20 02 30.8**	**-0.1**
CSNT				Sg	**Sg**	**20 02 35.9**	**+0.1**
	2µm,0.3s						
CSNT	**Castellina Chi**	**0.36**	**48**	⇑*i*Pg	**Pg**	**20 02 30.8**	**-0.1**
CSNT				Sg	**Sg**	**20 02 35.9**	**+0.1**
	2µm,0.3s						
CASP	**Castiglione de**	**0.45**	**186**	⇑*i*Pg	**Pg**	**20 02 32.5**	**0.0**
CASP				Sg	**Sg**	**20 02 38.4**	**0.0**
	2µm,0.5s						
CASP	**Castiglione de**	**0.45**	**186**	⇑*i*Pg	**Pg**	**20 02 32.5**	**0.0**
CASP				Sg	**Sg**	**20 02 38.4**	**0.0**
	2µm,0.5s						
ARCI	**Arcidosso**	**0.56**	**133**	Pg	**Pg**	**20 02 34.5**	**-0.1**
ARCI				Sg	**Sg**	**20 02 42.0**	**+0.1**
	1µm,0.3s						
ARCI	**Arcidosso**	**0.56**	**133**	Pg	**Pg**	**20 02 34.5**	**-0.1**
ARCI				Sg	**Sg**	**20 02 42.0**	**+0.1**
	1µm,0.3s						
CRMI	**Carmignano**	**0.56**	**3**	⇑*i*Pg	**Pg**	**20 02 34.8**	**+0.2**
CRMI				Sg	**Sb**	**20 02 43.2**	**-0.1**
	821nm,0.3s						
CRMI	**Carmignano**	**0.56**	**3**	⇑*i*Pg	**Pg**	**20 02 34.8**	**+0.2**
CRMI				Sg	**Sb**	**20 02 43.2**	**-0.1**
	821nm,0.3s						
PII	**Pisa**	**0.57**	**329**	Pg	**Pg**	**20 02 35.0**	**+0.2**
PII	**Pisa**	**0.57**	**329**	Pg	**Pg**	**20 02 35.0**	**+0.2**
MAIM	**Mastiano**	**0.75**	**335**	Pg	**Pg**	**20 02 38.2**	**0.0**
	358nm,0.4s						
MAIM	**Mastiano**	**0.75**	**335**	P	**Pg**	**20 02 37.9**	**-0.3**
MAIM	**Mastiano**	**0.75**	**335**	Pg	**Pg**	**20 02 38.2**	**0.0**
	358nm,0.4s						
MAIM				S	**Sg**	**20 02 47.2**	**-0.9**
CAFI	**Castiglion Fio**	**0.77**	**82**	⇑*i*Pg	**Pg**	**20 02 38.1**	**-0.4**
CAFI	**Castiglion Fio**	**0.77**	**82**	⇑*i*Pg	**Pg**	**20 02 38.1**	**-0.4**
MAON	**Monte Argentar**	**0.82**	**169**	⇑*i*Pg	**Pb**	**20 02 39.9**	**+0.1**
MAON				Sg	**Sb**	**20 02 50.9**	**+0.2**
	2µm,0.3s						
MAON	**Monte Argentar**	**0.82**	**169**	⇑*i*Pg	**Pb**	**20 02 39.9**	**+0.1**
MAON				Sg	**Sb**	**20 02 50.9**	**+0.2**
	2µm,0.3s						
POPM	**Popiglio**	**0.82**	**351**	P	**Pg**	**20 02 39.1**	**-0.5**
POPM				S	**Sg**	**20 02 48.9**	**-1.4**
CRE	**Caprese Michel**	**0.84**	**62**	Pg	**Pg**	**20 02 39.8**	**-0.2**
	519nm,1.0s						
CRE	**Caprese Michel**	**0.84**	**62**	Pg	**Pg**	**20 02 39.8**	**-0.2**
	519nm,1.0s						
ASQU	**Asqua**	**0.84**	**48**	Pg	**Pg**	**20 02 39.7**	**-0.3**
ASQU				Sg	**Sb**	**20 02 52.0**	**+0.5**
	467nm,0.5s						
ASQU	**Asqua**	**0.84**	**48**	Pg	**Pg**	**20 02 39.7**	**-0.3**
ASQU				Sg	**Sb**	**20 02 52.0**	**+0.5**
	467nm,0.5s						
VMG	**Vicchio**	**0.85**	**31**	Pg	**Pg**	**20 02 40.3**	**+0.1**
	142nm,0.2s						
VMG	**Vicchio**	**0.85**	**31**	Pg	**Pg**	**20 02 40.3**	**+0.1**
	142nm,0.2s						
BDI	**Bagni Di Lucca**	**0.86**	**344**	Pg	**Pg**	**20 02 40.2**	**-0.2**
BDI				Sg	**Sb**	**20 02 52.3**	**+0.2**
	1µm,1.2s						
BDI	**Bagni Di Lucca**	**0.86**	**344**	Pg	**Pg**	**20 02 40.2**	**-0.2**
BDI				Sg	**Sb**	**20 02 52.3**	**+0.2**
	1µm,1.2s						
SEI	**Scarperia**	**0.88**	**21**	Pg	**Pg**	**20 02 40.8**	**+0.1**
SEI	**Scarperia**	**0.88**	**21**	Pg	**Pg**	**20 02 40.8**	**+0.1**
LATE	**Laterza**	**0.90**	**134**	Pg	**Pg**	**20 02 41.2**	**+0.2**
	669nm,0.5s						
LATE	**Laterza**	**0.90**	**134**	Pg	**Pg**	**20 02 41.2**	**+0.2**
	669nm,0.5s						
MGAB	**Montegabbione**	**0.93**	**110**	Pg	**Pg**	**20 02 41.0**	**-0.6**
	152nm,0.4s						
MGAB	**Montegabbione**	**0.93**	**110**	Pg	**Pg**	**20 02 41.0**	**-0.6**
	152nm,0.4s						
FNVD	**Fontana Vidola**	**0.94**	**9**	Pg	**Pg**	**20 02 41.9**	**0.0**
	1µm,0.7s						
FNVD	**Fontana Vidola**	**0.94**	**9**	Pg	**Pg**	**20 02 41.9**	**0.0**
	1µm,0.7s						
SFI	**Santa Sofia**	**0.95**	**45**	Pg	**Pg**	**20 02 41.6**	**-0.4**
SFI				Sg	**Sn**	**20 02 55.9**	**-0.3**
	598nm,0.6s						
SFI	**Santa Sofia**	**0.95**	**45**	Pg	**Pg**	**20 02 41.6**	**-0.4**
SFI				Sg	**Sn**	**20 02 55.9**	**-0.3**
	598nm,0.6s						
CDCA	**Citt‘ di Caste**	**0.98**	**76**	Pg	**Pg**	**20 02 42.6**	**0.0**
	1µm,1.4s						
CDCA	**Citt‘ di Caste**	**0.98**	**76**	Pg	**Pg**	**20 02 42.6**	**0.0**
	1µm,1.4s						
BADI	**Badiali**	**1.00**	**74**	Pg	**Pg**	**20 02 42.9**	**-0.1**
BADI	**Badiali**	**1.00**	**74**	Pg	**Pg**	**20 02 42.9**	**-0.1**
VLC	**Villacollemand**	**1.00**	**337**	Pg	**Pg**	**20 02 42.8**	**-0.3**
	405nm,0.8s						
VLC	**Villacollemand**	**1.00**	**337**	Pg	**Pg**	**20 02 42.8**	**-0.3**
	405nm,0.8s						
PARC	**Parchiule**	**1.04**	**66**	Pg	**Pb**	**20 02 43.5**	**-0.1**
	288nm,0.5s						
PARC	**Parchiule**	**1.04**	**66**	Pg	**Pb**	**20 02 43.5**	**-0.1**
	288nm,0.5s						
ATVO	**AVT- Monte Val**	**1.09**	**82**	Pg	**Pb**	**20 02 44.0**	**-0.5**
	228nm,0.6s						
ATVO	**AVT- Monte Val**	**1.09**	**82**	Pg	**Pb**	**20 02 44.0**	**-0.5**
	228nm,0.6s						
ATPI	**Pietralunga -**	**1.10**	**78**	Pg	**Pb**	**20 02 44.1**	**-0.5**
	188nm,0.6s						
ATPI	**Pietralunga -**	**1.10**	**78**	Pg	**Pb**	**20 02 44.1**	**-0.5**
	188nm,0.6s						
ZCCA	**Zocca**	**1.12**	**2**	Pg	**Pn**	**20 02 45.9**	**+0.8**
	352nm,0.6s						
ZCCA	**Zocca**	**1.12**	**2**	Pg	**Pn**	**20 02 45.9**	**+0.8**
	352nm,0.6s						
GSCL	**Gusciola**	**1.14**	**348**	Pg	**Pb**	**20 02 45.5**	**+0.2**
GSCL	**Gusciola**	**1.14**	**348**	Pg	**Pb**	**20 02 45.5**	**+0.2**
ATPC	**Poggio Castell**	**1.14**	**77**	Pg	**Pb**	**20 02 44.8**	**-0.5**
	276nm,0.5s						
ATPC	**Poggio Castell**	**1.14**	**77**	Pg	**Pb**	**20 02 44.8**	**-0.5**
	276nm,0.5s						
MTRZ	**Monterenzio**	**1.21**	**19**	Pg	**Pn**	**20 02 46.6**	**+0.3**
MTRZ	**Monterenzio**	**1.21**	**19**	Pg	**Pn**	**20 02 46.6**	**+0.3**
ATFO	**Monte Foce - G**	**1.21**	**83**	Pg	**Pn**	**20 02 46.1**	**-0.3**
	187nm,0.6s						
ATFO	**Monte Foce - G**	**1.21**	**83**	Pg	**Pn**	**20 02 46.1**	**-0.3**
	187nm,0.6s						
PIEI	**Pieia**	**1.21**	**75**	Pg	**Pn**	**20 02 46.0**	**-0.4**
	88nm,0.4s						
PIEI	**Pieia**	**1.21**	**75**	Pg	**Pn**	**20 02 46.0**	**-0.4**
	88nm,0.4s						
BACM	**Baccana**	**1.21**	**330**	P	**Pn**	**20 02 46.3**	**-0.1**
VALM	**Valbona**	**1.22**	**336**	P	**Pn**	**20 02 46.5**	**0.0**
TOLF	**Tolfa**	**1.41**	**145**	Pg	**Pn**	**20 02 48.5**	**-0.6**
	161nm,0.4s						
TOLF	**Tolfa**	**1.41**	**145**	Pg	**Pn**	**20 02 48.5**	**-0.6**
	161nm,0.4s						
CESI	**CESI - Serrava**	**1.47**	**98**	Pg	**Pn**	**20 02 50.2**	**+0.3**
	24nm,0.6s						
CESI	**CESI - Serrava**	**1.47**	**98**	Pg	**Pn**	**20 02 50.2**	**+0.3**
	24nm,0.6s						
SNTG	**Esanatoglia**	**1.47**	**88**	Pg	**Pn**	**20 02 50.6**	**+0.6**
	54nm,0.6s						
SNTG	**Esanatoglia**	**1.47**	**88**	Pg	**Pn**	**20 02 50.6**	**+0.6**
	54nm,0.6s						
MSSA	**Maissana**	**1.49**	**317**	Pg	**Pn**	**20 02 50.5**	**+0.3**
	73nm,0.5s						
MSSA	**Maissana**	**1.49**	**317**	Pg	**Pn**	**20 02 50.5**	**+0.3**
	73nm,0.5s						
ARVD	**Arcevia**	**1.49**	**79**	Pg	**Pn**	**20 02 50.1**	**-0.1**
	65nm,0.7s						
ARVD	**Arcevia**	**1.49**	**79**	Pg	**Pn**	**20 02 50.1**	**-0.1**
	65nm,0.7s						
PGF	**Pioggiola**	**1.57**	**245**	*e*Pn	**Pn**	**20 02 52.1**	**+0.7**
PGF				*e*Sn	**Sb**	**20 03 13.3**	**+0.8**
	100nm,0.6s						
PGF	**Pioggiola**	**1.57**	**245**	*e*Pn	**Pn**	**20 02 52.1**	**+0.7**
PGF				*e*Sn	**Sb**	**20 03 13.3**	**+0.8**
	50nm,0.6s						
TERO	**Teramo**	**2.06**	**106**	Pg	**Pn**	**20 02 58.9**	**+0.9**
	44nm,0.7s						
TERO	**Teramo**	**2.06**	**106**	Pg	**Pn**	**20 02 58.9**	**+0.9**
	44nm,0.7s						
TEOL	**Teolo**	**2.19**	**14**	Pg	**Pn**	**20 03 00.2**	**+0.4**
	456nm,0.8s						
TEOL	**Teolo**	**2.19**	**14**	Pg	**Pn**	**20 03 00.2**	**+0.4**
	456nm,0.8s						
SBF	**Sospel**	**2.61**	**285**	*e*Pn	**Pn**	**20 03 05.1**	**-0.6**
SBF				*e*Sn	**Sn**	**20 03 38.3**	**+1.0**
	16nm,0.4s						
SBF	**Sospel**	**2.61**	**285**	*e*Pn	**Pn**	**20 03 05.1**	**-0.6**
SBF				*e*Sn	**Sn**	**20 03 38.3**	**+1.0**
	8.1nm,0.4s						
FRF	**La Foret Royal**	**3.13**	**277**	*e*Pn	**Pn**	**20 03 12.8**	**0.0**
FRF	**La Foret Royal**	**3.13**	**277**	*e*Pn	**Pn**	**20 03 12.8**	**0.0**
NVLJ	**Novalja**	**3.15**	**64**	*e*Pn	**Pn**	**20 03 13.3**	**+0.4**
NVLJ	**Novalja**	**3.15**	**64**	*e*Pn	**Pn**	**20 03 13.3**	**+0.4**
LMR	**La Mourre**	**3.23**	**273**	*e*Pn	**Pn**	**20 03 13.9**	**-0.1**
LMR	**La Mourre**	**3.23**	**273**	*e*Pn	**Pn**	**20 03 13.9**	**-0.1**
MBDF	**Montbardon**	**3.35**	**298**	*e*Pn	**Pn**	**20 03 16.0**	**+0.1**
MBDF	**Montbardon**	**3.35**	**298**	*e*Pn	**Pn**	**20 03 16.0**	**+0.1**
VOJS	**Vojsko**	**3.50**	**36**	*e*Pn	**Pn**	**20 03 18.4**	**+0.5**
VOJS	**Vojsko**	**3.50**	**36**	Pn	**Pn**	**20 03 18.5**	**+0.5**
ROBS	**Robic**	**3.53**	**31**	*e*Pn	**Pn**	**20 03 18.9**	**+0.8**
ROBS	**Robic**	**3.53**	**31**	*e*Pn	**Pn**	**20 03 19.0**	**+0.8**
CADS	**Cadrg**	**3.60**	**33**	*e*Pn	**Pn**	**20 03 19.7**	**+0.4**
CADS	**Cadrg**	**3.60**	**33**	*e*Pn	**Pn**	**20 03 19.7**	**+0.4**
ABTA	**Abfaltersbach**	**3.69**	**17**	⇓*i*Pn	**Pn**	**20 03 21.6**	**+1.1**
	SNR=12						
ABTA				⇑*i*Sn	**Sn**	**20 04 04.2**	**+0.3**
ABTA	**Abfaltersbach**	**3.69**	**17**	Pn	**Pn**	**20 03 21.6**	**+1.1**
	SNR=12						
ABTA				Sn	**Sn**	**20 04 04.2**	**+0.3**
UDBI	**Udbina**	**3.73**	**68**	*e*Pn	**Pn**	**20 03 22.6**	**+1.6**
UDBI	**Udbina**	**3.73**	**68**	*e*Pn	**Pn**	**20 03 22.6**	**+1.6**
LPG	**La Plagne**	**3.75**	**309**	*e*Pn	**Pn**	**20 03 22.6**	**+1.1**
LPG				*e*Sn	**Sn**	**20 04 05.2**	**-0.5**
	12nm,0.7s						
LPG	**La Plagne**	**3.75**	**309**	*e*Pn	**Pn**	**20 03 22.6**	**+1.1**
LPG				*e*Sn	**Sn**	**20 04 05.2**	**-0.5**
	5.9nm,0.7s						
LPL	**La Plagne**	**3.77**	**309**	*e*Pn	**Pn**	**20 03 22.9**	**+1.1**
LPL				*e*Sn	**Sn**	**20 04 05.5**	**-0.7**
	8.5nm,0.5s						
LPL	**La Plagne**	**3.77**	**309**	*e*Pn	**Pn**	**20 03 22.9**	**+1.1**
LPL				*e*Sn	**Sn**	**20 04 05.5**	**-0.7**
	4.2nm,0.5s						
GORS	**Gorjuse**	**3.78**	**34**	*e*Pn	**Pn**	**20 03 23.0**	**+1.3**
GORS	**Gorjuse**	**3.78**	**34**	*e*Pn	**Pn**	**20 03 23.0**	**+1.3**
FETA	**Feichten**	**3.79**	**358**	⇓*i*Pn	**Pn**	**20 03 24.0**	**+2.0**
FETA				⇓*i*Sn	**Sn**	**20 04 08.5**	**+2.0**
FETA	**Feichten**	**3.79**	**358**	Pn	**Pn**	**20 03 24.0**	**+2.0**
FETA				Sn	**Sn**	**20 04 08.5**	**+2.0**
SMRF	**Simiane la Rot**	**3.96**	**283**	*e*Pn	**Pn**	**20 03 25.3**	**+1.2**
SMRF	**Simiane la Rot**	**3.96**	**283**	*e*Pn	**Pn**	**20 03 25.3**	**+1.2**
ORIF	**Oris-en-Rattie**	**4.01**	**297**	*e*Pn	**Pn**	**20 03 25.9**	**+1.0**
ORIF	**Oris-en-Rattie**	**4.01**	**297**	*e*Pn	**Pn**	**20 03 25.9**	**+1.0**
WTTA	**Wattenberg**	**4.06**	**7**	⇓*i*Pn	**Pn**	**20 03 27.8**	**+2.1**
	SNR=5.9						
WTTA				⇑*i*Sn	**Sn**	**20 04 15.1**	**+1.9**
WTTA	**Wattenberg**	**4.06**	**7**	Pn	**Pn**	**20 03 27.8**	**+2.1**
	SNR=5.9						
WTTA				Sn	**Sn**	**20 04 15.1**	**+1.9**
MOTA	**Moosalm**	**4.11**	**2**	⇓*i*Pn	**Pn**	**20 03 28.8**	**+2.4**
	SNR=24						
MOTA				⇓*i*Sn	**Sn**	**20 04 15.6**	**+1.2**
MOTA	**Moosalm**	**4.11**	**2**	Pn	**Pn**	**20 03 28.8**	**+2.4**
	SNR=24						
MOTA				Sn	**Sn**	**20 04 15.6**	**+1.2**
DAVA	**Damuels**	**4.12**	**350**	⇑*i*Pn	**Pn**	**20 03 29.2**	**+2.7**
DAVA				⇑*i*Sn	**Sn**	**20 04 17.2**	**+2.6**
DAVA	**Damuels**	**4.12**	**350**	Pn	**Pn**	**20 03 29.2**	**+2.7**
DAVA				Sn	**Sn**	**20 04 17.2**	**+2.6**
WATA	**Walderalm**	**4.13**	**6**	⇓*i*Pn	**Pn**	**20 03 28.4**	**+1.9**
	SNR=24						
WATA	**Walderalm**	**4.13**	**6**	Pn	**Pn**	**20 03 28.4**	**+1.9**
	SNR=24						
OBKA	**Obir**	**4.17**	**37**	⇑*i*Pn	**Pn**	**20 03 28.3**	**+1.3**
OBKA	**Obir**	**4.17**	**37**	Pn	**Pn**	**20 03 28.3**	**+1.3**
KBA	**Koelnbreinsper**	**4.21**	**23**	⇓*i*Pn	**Pn**	**20 03 28.9**	**+1.2**
KBA				⇓*i*Sn	**Sn**	**20 04 17.0**	**+0.2**
KBA	**Koelnbreinsper**	**4.21**	**23**	Pn	**Pn**	**20 03 28.9**	**+1.2**
KBA				Sn	**Sn**	**20 04 17.0**	**+0.2**
SOKA	**Soboth**	**4.51**	**39**	⇑*i*Pn	**Pn**	**20 03 34.7**	**+2.9**
SOKA	**Soboth**	**4.51**	**39**	Pn	**Pn**	**20 03 34.7**	**+2.9**
VIVF	**Saint-Julien-l**	**4.79**	**292**	*e*Pn	**Pn**	**20 03 36.7**	**+1.1**
VIVF	**Saint-Julien-l**	**4.79**	**292**	*e*Pn	**Pn**	**20 03 36.7**	**+1.1**
CABF	**La Chapelle**	**4.82**	**316**	*e*Pn	**Pn**	**20 03 37.0**	**+1.0**
CABF	**La Chapelle**	**4.82**	**316**	*e*Pn	**Pn**	**20 03 37.0**	**+1.0**
ARSA	**Arzberg**	**5.16**	**37**	Pn	**Pn**	**20 03 39.4**	**-1.3**
MOA	**Molln**	**5.18**	**26**	⇑*i*Pn	**Pn**	**20 03 42.1**	**+1.2**
MOA				⇓*i*Sn	**Sn**	**20 04 41.6**	**+1.1**
MOA	**Molln**	**5.18**	**26**	Pn	**Pn**	**20 03 42.1**	**+1.2**
MOA				Sn	**Sn**	**20 04 41.6**	**+1.1**
LASF	**Ste Croix**	**5.20**	**282**	*e*Pn	**Pn**	**20 03 42.2**	**+1.1**
LASF	**Ste Croix**	**5.20**	**282**	*e*Pn	**Pn**	**20 03 42.2**	**+1.1**
HINF	**Hinteralfeld**	**5.40**	**329**	*e*Pn	**Pn**	**20 03 44.8**	**+0.8**
HINF				*e*Sn	**Sn**	**20 04 43.8**	**-2.2**
	11nm,0.5s						
HINF	**Hinteralfeld**	**5.40**	**329**	*e*Pn	**Pn**	**20 03 44.8**	**+0.8**
HINF				*e*Sn	**Sn**	**20 04 43.8**	**-2.2**
	5.3nm,0.5s						
HAU	**Haudompre**	**5.75**	**328**	*e*Pn	**Pn**	**20 03 49.5**	**+0.8**
HAU				*e*Sn	**Sn**	**20 04 52.0**	**-2.6**
	7.2nm,0.4s						
HAU	**Haudompre**	**5.75**	**328**	*e*Pn	**Pn**	**20 03 49.5**	**+0.8**
CDF	**Champ du Feu**	**5.77**	**335**	*e*Pn	**Pn**	**20 03 49.6**	**+0.5**
CDF				*e*Sn	**Sn**	**20 04 52.5**	**-2.7**
	6.5nm,0.4s						
CDF	**Champ du Feu**	**5.77**	**335**	*e*Pn	**Pn**	**20 03 49.6**	**+0.5**
SMF	**Signal de Mont**	**6.08**	**307**	*e*Pn	**Pn**	**20 03 54.0**	**+0.8**
SMF	**Signal de Mont**	**6.08**	**307**	*e*Pn	**Pn**	**20 03 54.0**	**+0.8**
KHC	**Kasperske Hory**	**6.18**	**16**	*e*PN	**Pn**	**20 03 54.6**	**0.0**
KHC				*e*PG	**Pg**	**20 04 20.3**	**-1.6**
KHC				*e*SN	**Sn**	**20 05 03.2**	**-1.9**
KHC	**Kasperske Hory**	**6.18**	**16**	Pn	**Pn**	**20 03 54.6**	**0.0**
KHC				Sn	**Sn**	**20 05 03.2**	**-1.9**
MTLF	**Montolieu**	**6.36**	**274**	*e*Pn	**Pn**	**20 03 57.8**	**+0.7**
MTLF				*e*Sn	**Sn**	**20 05 07.6**	**-1.9**
	3.8nm,0.7s						
MTLF	**Montolieu**	**6.36**	**274**	*e*Pn	**Pn**	**20 03 57.8**	**+0.7**
LOR	**Lormes**	**6.41**	**311**	*e*Pn	**Pn**	**20 03 58.4**	**+0.6**
	baz=126						
LOR				*e*Sn	**Sn**	**20 05 08.5**	**-2.4**
	4.2nm,0.6s						

LOR	**Lormes**	**6.41**	**311**	*e*Pn	**Pn**	**20 03 58.4**	**+0.6**
AVF	**Avril sur Loir**	**6.44**	**306**	*e*Pn	**Pn**	**20 03 58.9**	**+0.8**
AVF	**Avril sur Loir**	**6.44**	**306**	*e*Pn	**Pn**	**20 03 58.9**	**+0.8**
PAGF	**Fort de Pagny**	**6.44**	**328**	*e*Pn	**Pn**	**20 03 58.5**	**+0.3**
	baz=148						
PAGF	**Fort de Pagny**	**6.44**	**328**	*e*Pn	**Pn**	**20 03 58.5**	**+0.3**
SFTF	**Sexfontaines**	**6.46**	**322**	*e*Pn	**Pn**	**20 03 58.7**	**+0.3**
SFTF	**Sexfontaines**	**6.46**	**322**	*e*Pn	**Pn**	**20 03 58.7**	**+0.3**
SSF	**Saint Saulge**	**6.49**	**309**	*e*Pn	**Pn**	**20 03 59.5**	**+0.6**
SSF	**Saint Saulge**	**6.49**	**309**	*e*Pn	**Pn**	**20 03 59.5**	**+0.6**
CAF	**Calviac**	**6.60**	**288**	*e*Pn	**Pn**	**20 04 01.2**	**+0.7**
CAF	**Calviac**	**6.60**	**288**	*e*Pn	**Pn**	**20 04 01.2**	**+0.7**
BGF	**Bois d'Agland**	**6.63**	**303**	*e*Pn	**Pn**	**20 04 01.6**	**+0.8**
BGF	**Bois d'Agland**	**6.63**	**303**	*e*Pn	**Pn**	**20 04 01.6**	**+0.8**
MEZF	**Maizieres J'vi**	**6.67**	**324**	*e*Pn	**Pn**	**20 04 01.6**	**+0.2**
	baz=148						
MEZF	**Maizieres J'vi**	**6.67**	**324**	*e*Pn	**Pn**	**20 04 01.6**	**+0.2**
PRU	**Pruhonice**	**7.20**	**19**	*e*PN	**Pn**	**20 04 08.7**	**+0.1**
PRU				*e*SN	**Sn**	**20 05 28.6**	**-1.6**
PRU	**Pruhonice**	**7.20**	**19**	Pn	**Pn**	**20 04 08.7**	**+0.1**
PRU				Sn	**Sn**	**20 05 28.6**	**-1.6**

IDC 01 20:28:13.9±81.0, 17°.58S×169°.36E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=1371.0km s-min=129.5km az=71.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.85**	**235**	P	P	20 34 14.4	+0.2
	1.7nm,0.8s,baz=49,slow=9.8,SNR=4.9						
WRA	**Warramunga Arr**	**33.21**	**260**	P	P	20 34 52.6	-0.2
	0.3nm,0.9s,baz=90,slow=8.9,SNR=3.3						
ASAR	**Alice Springs**	**33.67**	**254**	P	P	20 34 56.7	-0.2
	0.5nm,0.7s,baz=84,slow=9.2,SNR=8.1						

MAN 01 20:30:28, 9°.94N×124°.65E, h32km, mb4.4, ML3.3, MS3.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.28**	**46**	*e*P	Pn	20 30 37.2	+1.3
MSLP				*e*S	Sn	20 30 43.3	+2.1
TBP	**Tagbilaran**	**0.81**	**253**	*e*P	Pn	20 30 41.7	-1.5
TBP				*e*S	Sn	20 30 52.6	-1.6
BUTP	**Butuan**	**1.36**	**135**	*e*P	Pn	20 30 51.5	+0.8
DCPH	**Dipolog City**	**1.86**	**224**	*i* P	Pn	20 30 58.3	+0.7
BUKP	**Musuan**	**2.08**	**169**	*e*P	Pn	20 31 01.8	+0.9
GUIM	**Jordan**	**2.14**	**289**	*e*P	Pn	20 31 02.7	+1.2

*NSSC **01** 20:33:37.9±1.4, 36°.76N×40°.48E, h293km±8km, MD1.9, ML2.5*
*DDA **01** 20:33:43.8, 38°.26N×38°.81E, h1km, MD3.0*
*ISK **01** 20:33:43.1, 38°.27N×38°.77E, h5km, MD3.1*
*CSEM **01** 20:33:44.4±0.2, 38°.26N×38°.79E, h2km, MD3.1, Error ellipse: s-maj=5.3km s-min=4.0km az=171.0*
ISC 01 20:33:44.4±1.0, 38°.25N±0°.02×38°.82E±0°.02, h7km±9km, n55, σ1s06/77, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.28**	**28**	*i* P	**Pg**	**20 33 50.1**	**0.0**
ELZG				*i* S	**Sg**	**20 33 54.4**	**+0.5**
ELZG	**Elazig**	**0.28**	**28**	*i* P	**Pg**	**20 33 50.1**	**0.0**
ELZG				*i* S	**Sg**	**20 33 54.4**	**+0.5**
MALT	**Malatya**	**0.31**	**282**	*e*PG	**Pg**	**20 33 50.0**	**-0.6**
MALT				*e*SG	**Sg**	**20 33 54.8**	**0.0**
MALT	**Malatya**	**0.31**	**282**	*e*Pg	**Pg**	**20 33 50.0**	**-0.6**
MALT				*e*Sg	**Sg**	**20 33 54.8**	**0.0**
SVRC	**Sivrice-ELAZID**	**0.41**	**71**	*e*PG	**Pg**	**20 33 52.0**	**-0.4**
SVRC	**Sivrice-ELAZID**	**0.41**	**71**	*e*Pg	**Pg**	**20 33 52.0**	**-0.4**
AKCD	**Akcadag**	**0.70**	**274**	*i* P	**Pg**	**20 33 57.6**	**-0.4**
AKCD				*i* S	**Sb**	**20 34 07.8**	**-1.2**
AKCD	**Akcadag**	**0.70**	**274**	*i* P	**Pg**	**20 33 57.6**	**-0.4**
AKCD				*i* S	**Sb**	**20 34 07.8**	**-1.2**
PTK	**Pertek**	**0.79**	**35**	*e*PG	**Pg**	**20 33 59.6**	**0.0**
PTK	**Pertek**	**0.79**	**35**	*e*Pg	**Pg**	**20 33 59.6**	**0.0**
URFA	**Urfa**	**0.81**	**180**	*e*PG	**Pb**	**20 34 00.3**	**-0.5**
URFA	**Urfa**	**0.81**	**180**	*e*Pg	**Pb**	**20 34 00.3**	**-0.5**
ATAB	**Bozova**	**0.88**	**208**	*i* P	**Pb**	**20 34 02.1**	**+0.1**
ATAB				*i* S	**Sb**	**20 34 14.1**	**+0.1**
ATAB	**Bozova**	**0.88**	**208**	*i* P	**Pb**	**20 34 02.1**	**+0.1**
ATAB				*i* S	**Sb**	**20 34 14.1**	**+0.1**
DIYA	**Diyarbakir**	**1.08**	**107**	*i* P	**Pn**	**20 34 05.8**	**-0.2**
DIYA				*i* S	**Sb**	**20 34 20.1**	**+0.3**
DIYA	**Diyarbakir**	**1.08**	**107**	*i* P	**Pn**	**20 34 05.8**	**-0.2**
DIYA				*i* S	**Sb**	**20 34 20.1**	**+0.3**
DYBB	**Diyarbakir**	**1.08**	**105**	*e*PN	**Pn**	**20 34 06.0**	**0.0**
DARE	**Darende-Malaty**	**1.09**	**287**	*e*PG	**Pg**	**20 34 03.8**	**-1.7**
DARE	**Darende-Malaty**	**1.09**	**287**	*e*Pg	**Pg**	**20 34 03.8**	**-1.7**
DIY	**Diyarbakir**	**1.17**	**107**	*e*Pn	**Pg**	**20 34 06.0**	**-0.8**
ILIC	**ilic-Erzincan**	**1.22**	**351**	*e*PN	**Pb**	**20 34 07.3**	**-0.5**
ILIC	**ilic-Erzincan**	**1.22**	**351**	*e*Pn	**Pb**	**20 34 07.3**	**-0.5**
ERZN	**Erzincan**	**1.51**	**28**	*e*PN	**Pb**	**20 34 12.6**	**-0.2**
MAZI	**Mazidag**	**1.51**	**121**	*e*PN	**Pb**	**20 34 13.0**	**+0.1**
MAZI	**Mazidag**	**1.51**	**121**	*e*Pn	**Pb**	**20 34 13.0**	**+0.1**
EZC	**Erzincan**	**1.56**	**15**	*e*Pn	**Pn**	**20 34 12.6**	**-0.1**
BNGB	**Bingˆ¶l**	**1.64**	**63**	*e*PN	**Pb**	**20 34 14.9**	**-0.1**
KMRS	**Kahramanmaras**	**1.69**	**244**	*e*PN	**Pn**	**20 34 14.7**	**+0.4**
KMRS	**Kahramanmaras**	**1.69**	**244**	*e*Pn	**Pn**	**20 34 14.7**	**+0.4**
MARD	**Mardin**	**1.81**	**120**	*i* P	**Pb**	**20 34 17.9**	**-0.1**
MARD				*i* S	**Sg**	**20 34 44.6**	**+1.8**
KBSD	**Kabsdagh**	**1.85**	**132**	*e*P	**Pn**	**20 34 15.6**	**-1.0**
KBSD				*e*S	**Sg**	**20 34 43.8**	**-0.2**
KBSD				AML	AML	20 34 51.9	
	comp=N,81nm,0.6s						
SVAN	**Silvan-Diyarba**	**1.88**	**92**	*e*PN	**Pb**	**20 34 18.2**	**-0.8**
KELT	**Kelkit**	**1.93**	**10**	*i* P	**Pb**	**20 34 20.2**	**+0.2**
KELT				*i* S	**Sg**	**20 34 45.8**	**-0.6**
KELT	**Kelkit**	**1.93**	**10**	*i* P	**Pb**	**20 34 20.2**	**+0.2**
KELT				*i* S	**Sg**	**20 34 45.8**	**-0.6**
BEST	**Besiri**	**1.97**	**100**	*i* P	**Pb**	**20 34 19.9**	**-0.8**
BEST				*i* S	**Sg**	**20 34 47.6**	**-0.2**
KAMA	**Osmaniye**	**2.01**	**239**	*i* P	**Pg**	**20 34 21.8**	**-1.1**
KAMA				*i* S	**Sg**	**20 34 51.7**	**+2.8**
KUZU	**Kuzuini**	**2.02**	**224**	*i* P	**Pg**	**20 34 23.5**	**+0.3**
KUZU				*i* S	**Sg**	**20 34 50.2**	**+0.8**
KUZU	**Kuzuini**	**2.02**	**224**	*i* P	**Pg**	**20 34 23.5**	**+0.3**
KUZU				*i* S	**Sg**	**20 34 50.2**	**+0.8**
ANDN	**Andirin**	**2.06**	**252**	*i* P	**Pn**	**20 34 20.3**	**+0.7**
ANDN				*i* S	**Sg**	**20 34 52.8**	**+2.0**
ANDN	**Andirin**	**2.06**	**252**	*i* P	**Pn**	**20 34 20.3**	**+0.7**
SFNV	**Sufian**	**2.10**	**150**	*e*P	**Pn**	**20 34 17.3**	**-2.7**
SFNV				*e*S	**Sn**	**20 34 44.3**	**-2.1**
SFNV				AML	AML	20 35 01.1	
	comp=E,68nm,0.4s						
SFNV				AML	AML	20 35 02.0	
	comp=Z,50nm,0.4s						
SFNV				AML	AML	20 35 03.3	
	comp=N,109nm,0.5s						
BTMT	**Batman**	**2.11**	**91**	*e*PN	**Pb**	**20 34 22.0**	**-1.0**
BTMT	**Batman**	**2.11**	**91**	*e*Pn	**Pb**	**20 34 22.0**	**-0.9**
SVSK	**Karacayir**	**2.19**	**320**	*e*PN	**Pn**	**20 34 21.4**	**+0.3**
SVSK	**Karacayir**	**2.19**	**320**	*e*Pn	**Pn**	**20 34 21.4**	**+0.3**
VRTB	**Varto-Mus**	**2.26**	**65**	*e*PN	**Pn**	**20 34 22.9**	**+0.6**
VRTB	**Varto-Mus**	**2.26**	**65**	*e*Pn	**Pn**	**20 34 22.9**	**+0.6**
KSRV	**Kasrt alli**	**2.38**	**176**	*e*P	**Pb**	**20 34 25.7**	**-1.9**
KSRV				*e*S	**Sb**	**20 34 58.8**	**+1.5**
KSRV				AML	AML	20 35 05.1	
	comp=Z,35nm,0.8s						
KSRV				AML	AML	20 35 10.7	
	comp=N,44nm,0.7s						
EZM	**Erzurum**	**2.58**	**49**	*e*PN	**Pn**	**20 34 28.0**	**+1.2**
SIRT	**Sirnak**	**2.96**	**103**	*e*PN	**Pn**	**20 34 33.5**	**+1.6**
SIRT	**Sirnak**	**2.96**	**103**	*e*Pn	**Pn**	**20 34 33.5**	**+1.6**
WRDH	**Warideh**	**3.35**	**216**	*e*P	Pb	20 34 40.5	-3.6
WRDH				⇓*e*S	**Sb**	**20 35 27.2**	**+2.2**
WRDH				AML	AML	20 35 37.7	
	comp=N,21nm,0.3s						
WRDH				AML	AML	20 35 43.8	
	comp=Z,30nm,0.5s						
BIDA	**Albida**	**3.80**	**213**	*e*P	**Pn**	**20 34 44.1**	**+0.7**
BIDA				*e*S	**Sn**	**20 35 31.5**	**+3.1**
BIDA				AML	AML	20 35 57.9	
	comp=E,37nm,0.7s						
BIDA				AML	AML	20 36 02.1	
	comp=N,35nm,0.5s						
HAWK	**Haweek**	**4.20**	**208**	*e*P	**Pn**	**20 34 46.8**	**-2.1**
HAWK				*e*S	**Sn**	**20 35 37.3**	**-0.9**
HAWK				AML	AML	20 36 10.9	
	comp=N,4.6nm,0.8s						
HAWK				AML	AML	20 36 11.3	
	comp=E,9.6nm,0.5s						
MARH	**Ras Al Marh**	**4.62**	**205**	*e*P	Pn	20 34 49.9	-4.9
MARH				*e*S	Sn	20 35 41.2	-7.7
MARH				AML	AML	20 36 14.2	
	comp=N,4.7nm,0.4s						
MARH				AML	AML	20 36 24.0	
	comp=E,16nm,0.8s						
MARH				AML	AML	20 36 38.9	
	comp=Z,9.8nm,0.8s						

*ISCJB **01** 20:42:17.6±1.3, 12°.80S±0°.09×166°.6E±0°.2, h180km, mb3.5/5, Error ellipse: s-maj=29.9km s-min=11.9km az=174.7*
*IDC **01** 20:42:21.1±7.1, 12°.89S×166°.83E, h208km±70km, mb3.3/5, mb1 3.5/6, mb1mx3.2/20, mbtmp3.8/6, Error ellipse: s-maj=67.6km s-min=26.5km az=154.0*
ISC 01 20:42:18.3±1.0, 12°.81S±0°.10×166°.8E±0°.2, h180km, n10, σ1s07/11, mb3.6/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.22**	**182**	P	**Pn**	**20 44 29.5**	**+1.8**
	0.3nm,0.3s,baz=270,slow=20,SNR=4.0						
DZM				S	**Sn**	**20 46 08.8**	**-1.8**
	0.2nm,0.3s,baz=90,slow=20,SNR=2.5						
STKA	**Stephens Creek**	**29.95**	**227**	P	**P**	**20 48 09.5**	**-0.2**
	1.2nm,0.4s,baz=61,slow=8.9,SNR=8.6						
WRA	**Warramunga Arr**	**31.93**	**253**	P	**P**	**20 48 27.0**	**-0.3**
	0.3nm,0.7s,baz=85,slow=9.1,SNR=3.2						
ASAR	**Alice Springs**	**33.00**	**246**	P	**P**	**20 48 36.4**	**-0.2**
	0.6nm,0.6s,baz=73,slow=9.6,SNR=16						
ILAR	**Eielson Array**	**84.84**	**18**	P	**P**	**20 54 31.8**	**-0.5**
	0.6nm,0.5s,baz=234,slow=5.6,SNR=9.9						
MKAR	**Makanchi Array**	**95.53**	**317**	P	**P**	**20 55 23.9**	**+1.1**
	0.2nm,0.6s,baz=74,slow=6.6,SNR=3.8						
ARCES	**ARCESS Array B**	**118.30**	**346**	PKP	**PKPdf**	**21 00 42.8**	**-0.8**
	1.0nm,0.4s,baz=67,slow=2.0,SNR=34						
FINES	**FINESS Array B**	**123.79**	**339**	PKP	**PKPdf**	**21 00 53.9**	**-0.4**
	0.9nm,0.6s,baz=102,slow=3.4,SNR=6.9						
NOA	**NORSAR Array B**	**128.67**	**345**	PKP	**PKPdf**	**21 01 03.3**	**-0.5**
	0.4nm,0.6s,baz=29,slow=2.0,SNR=2.8						
ESDC	**Sonseca Array**	**152.03**	**345**	PKPbc	**PKPbc**	**21 01 52.3**	**-0.3**
	0.2nm,0.5s,baz=38,slow=2.9,SNR=4.5						

*CRAAG **01** 20:52:02.2, 35°.81N×4°.06E, Ml3.2*
*CSEM **01** 20:52:04.7±0.3, 35°.94N×4°.07E, h0km±2km, ML3.2, Error ellipse: s-maj=13.3km s-min=5.1km az=12.0*
*ISCJB **01** 20:52:05.8±1.0, 35°.97N±0°.08×3°.99E±0°.05, h14km±7km, Error ellipse: s-maj=13.1km s-min=7.0km az=5.7*
*MDD **01** 20:52:05.1±0.8, 35°.88N×4°.10E, h0km, mb3.9/3, Error ellipse: s-maj=16.6km s-min=4.2km az=14.0, PRXIMO*
ISC 01 20:52:04.3±1.4, 35°.88N±0°.07×4°.07E±0°.03, h5km±11km, n34, σ0s86/41, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.17**	**93**	P	**Pg**	**20 52 07.0**	**-0.6**
ATAF	**Djebel Tarf**	**0.17**	**93**	P	**Pg**	**20 52 07.0**	**-0.6**
ATAF	**Djebel Tarf**	**0.17**	**93**	P	**Pg**	**20 52 07.0**	**-0.6**
AKET	**Djebel Ketaf**	**0.23**	**317**	P	**Pg**	**20 52 08.9**	**+0.2**
AKET	**Djebel Ketaf**	**0.23**	**317**	P	**Pg**	**20 52 08.9**	**+0.2**
AKET	**Djebel Ketaf**	**0.23**	**317**	P	**Pg**	**20 52 08.9**	**+0.2**
ADJB	**Djebel Djouab**	**0.58**	**298**	P	**Pb**	**20 52 16.6**	**-0.5**
ADJB	**Djebel Djouab**	**0.58**	**298**	P	**Pb**	**20 52 16.6**	**-0.5**
ADJB	**Djebel Djouab**	**0.58**	**298**	P	**Pb**	**20 52 16.6**	**-0.5**
SET	**Setif**	**1.12**	**73**	P	**Pg**	**20 52 26.0**	**+0.2**
SET	**Setif**	**1.12**	**73**	P	**Pg**	**20 52 26.0**	**+0.2**
SET	**Setif**	**1.12**	**73**	P	**Pg**	**20 52 26.0**	**+0.2**
DFRA	**Djebel Bou Aff**	**1.60**	**65**	P	**Pb**	**20 52 34.8**	**+0.4**
DFRA	**Djebel Bou Aff**	**1.60**	**65**	P	**Pb**	**20 52 34.8**	**+0.4**
DFRA	**Djebel Bou Aff**	**1.60**	**65**	P	**Pb**	**20 52 34.8**	**+0.4**
CTEI	**Djebel Teioual**	**1.90**	**84**	P	**Pb**	**20 52 40.0**	**+0.5**
CTEI	**Djebel Teioual**	**1.90**	**84**	P	**Pb**	**20 52 40.0**	**+0.5**
CTEI	**Djebel Teioual**	**1.90**	**84**	P	**Pb**	**20 52 40.0**	**+0.5**
OKGL	**Djebel Kef Gue**	**2.79**	**274**	P	**Pn**	**20 52 49.6**	**0.0**
	1.3nm,0.1s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.79**	**274**	P	**Pn**	**20 52 49.6**	**0.0**
	1.3nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**3.82**	**326**	P	**Pn**	**20 53 03.9**	**+0.2**
	0.0nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**20 53 48.7**	**-0.2**
	1.2nm,0.2s,SNR=4.0						
EIBI	**Ibiza**	**3.82**	**326**	P	**Pn**	**20 53 03.9**	**+0.2**
	SNR=7.9						
EIBI				S	**Sn**	**20 53 48.1**	**-0.8**
	0.6nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**4.00**	**346**	P	**Pn**	**20 53 06.0**	**-0.3**
	0.4nm,0.2s,SNR=7.9						
ETOS				S	**Sn**	**20 53 52.6**	**-1.0**
	0.4nm,0.6s,SNR=7.9						
ETOS	**Mallorca**	**4.00**	**346**	P	**Pn**	**20 53 06.0**	**-0.3**
	SNR=7.9						
ETOS				S	**Sn**	**20 53 52.4**	**-1.2**
	SNR=7.9						
EMUR	**La Murta**	**4.69**	**296**	P	**Pn**	**20 53 17.3**	**+1.5**
	1.4nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**4.69**	**296**	P	**Pn**	**20 53 16.0**	**+0.3**
	SNR=7.9						
ETOB	**Tobarra**	**5.26**	**303**	P	**Pn**	**20 53 24.5**	**+0.9**
	0.0nm,0.0s,SNR=7.9						
ETOB				S	**Sn**	**20 54 24.4**	**-0.3**
	0.1nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.26**	**303**	P	**Pn**	**20 53 24.5**	**+0.9**
	SNR=7.9						
ETOB				S	**Sn**	**20 54 24.4**	**-0.3**
	0.1nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**5.68**	**292**	P	**Pn**	**20 53 31.5**	**+2.1**
	0.7nm,0.3s,SNR=7.9						
EBER	**Berja**	**5.71**	**282**	P	**Pn**	**20 53 29.5**	**-0.3**
	0.4nm,0.4s,SNR=5.9						
EBER				S	**Sn**	**20 54 34.5**	**-1.4**
	0.2nm,0.3s,SNR=7.9						
EBER	**Berja**	**5.71**	**282**	P	**Pn**	**20 53 30.6**	**+0.7**
	SNR=5.9						
SESP	**Santiago Espad**	**5.75**	**295**	P	**Pn**	**20 53 32.6**	**+2.2**
	1.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.04**	**291**	P	**Pn**	**20 53 36.3**	**+1.9**
	0.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.04**	**291**	P	**Pn**	**20 53 35.7**	**+1.3**
	SNR=7.9						

IDC 01 21:03:07.6±47.0, 18°.87S×175°.63W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/18, mbtmp3.9/3, Error ellipse: s-maj=889.0km s-min=164.9km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.51**	**243**	P	P	21 10 48.0	-0.6
	0.8nm,0.5s,baz=79,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**47.06**	**260**	P	P	21 11 41.5	+0.1
	0.5nm,0.3s,baz=97,slow=7.2,SNR=36						
ASAR	**Alice Springs**	**47.08**	**255**	P	P	21 11 41.5	-0.1
	2.1nm,0.7s,baz=87,slow=8.5,SNR=21						

*NEIC **01** 21:07:08.4, 42°.48S×173°.33E, h53km, ML4.3(WEL), After WEL.*
WEL 01 21:07:08.4±0.2, 42°.48S×173°.33E, h53km±2km, ML4.3/20, 5C-12D, Error ellipse: s-maj=1.8km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.17**	**70**	⇓PN	Pn	21 07 17.1	+0.3
KHZ				SN	Sn	21 07 22.5	-0.4
KHZ				AML	AML	21 07 23.1	
KHZ	**Kahutara**	**0.17**	**70**	Pn	Pn	21 07 17.1	+0.3
KHZ				Sn	Sn	21 07 22.5	-0.4
THZ	**Tophouse**	**0.78**	**336**	PN	Pn	21 07 22.9	-0.5
THZ				SN	Sn	21 07 32.6	-1.7
THZ	**Tophouse**	**0.78**	**336**	Pn	Pn	21 07 22.9	-0.5
LTZ	**Lake Taylor**	**0.84**	**248**	⇓PN	Pn	21 07 24.4	+0.2
LTZ				SN	Sn	21 07 35.5	-0.3
LTZ	**Lake Taylor**	**0.84**	**248**	Pn	Pn	21 07 24.4	+0.2
BSWZ	**Blackbirch Sta**	**0.86**	**28**	⇓PN	Pn	21 07 24.8	+0.4
BSWZ				SN	Sn	21 07 36.7	+0.5
BSWZ				AML	AML	21 07 39.5	
BSWZ	**Blackbirch Sta**	**0.86**	**28**	Pn	Pn	21 07 24.8	+0.4
BSWZ				Sn	Sn	21 07 36.7	+0.5
CMWZ	**Cape Campbell**	**0.98**	**42**	PN	Pn	21 07 26.7	+0.7
CMWZ				SN	Sn	21 07 40.6	+1.7
CMWZ				AML	AML	21 07 54.1	
CMWZ	**Cape Campbell**	**0.98**	**42**	Pn	Pn	21 07 26.7	+0.7
CMWZ				Sn	Sn	21 07 40.6	+1.7
TUWZ	**Tuamarina**	**1.14**	**24**	⇓PN	Pn	21 07 28.2	+0.2
TUWZ				AML	AML	21 07 44.6	
TUWZ				AML	AML	21 07 44.7	
TUWZ	**Tuamarina**	**1.14**	**24**	Pn	Pn	21 07 28.2	+0.2
CRLZ	**Canterbury Las**	**1.22**	**205**	⇑PN	Pn	21 07 28.7	-0.4
CRLZ	**Canterbury Las**	**1.22**	**205**	Pn	Pn	21 07 28.7	-0.4
OXZ	**Oxford**	**1.27**	**228**	⇓PN	Pn	21 07 29.5	-0.4
MQZ	**McQueen's Vall**	**1.33**	**202**	⇑PN	Pn	21 07 29.8	-0.7
MQZ	**McQueen's Vall**	**1.33**	**202**	Pn	Pn	21 07 29.8	-0.7
DSZ	**Denniston Nort**	**1.35**	**302**	PN	Pn	21 07 30.9	0.0
DSZ	**Denniston Nort**	**1.35**	**302**	Pn	Pn	21 07 30.9	0.0
TCW	**Tory Channel**	**1.45**	**30**	⇑PN	Pn	21 07 32.0	-0.2
TCW				SN	Sn	21 07 48.6	-1.5
TCW				AML	AML	21 07 50.8	
TCW	**Tory Channel**	**1.45**	**30**	Pn	Pn	21 07 32.0	-0.2
SNZO	**South Karori**	**1.55**	**42**	*e*Pn	Pn	21 07 33.5	-0.1
SNZO				*e*Sn	Sn	21 07 51.5	-1.2
BHW	**Baring Head**	**1.57**	**48**	⇓PN	Pn	21 07 33.6	-0.3
BHW				AML	AML	21 07 52.1	
BHW				AML	AML	21 07 52.8	
BHW	**Baring Head**	**1.57**	**48**	Pn	Pn	21 07 33.6	-0.3
WEL	**Wellington**	**1.60**	**43**	PN	Pn	21 07 34.2	-0.1
WEL				AML	AML	21 07 53.2	
WEL				AML	AML	21 07 53.5	
WEL	**Wellington**	**1.60**	**43**	Pn	Pn	21 07 34.2	-0.1
PLWZ	**Palliser**	**1.70**	**58**	⇓PN	Pn	21 07 35.0	-0.7
PLWZ	**Palliser**	**1.70**	**58**	Pn	Pn	21 07 35.0	-0.7
DUWZ	**D'Urville Isla**	**1.73**	**15**	PN	Pn	21 07 36.0	-0.1
DUWZ	**D'Urville Isla**	**1.73**	**15**	Pn	Pn	21 07 36.0	-0.1
QRZ	**Quartz Range**	**1.75**	**340**	⇑PN	Pn	21 07 36.7	+0.3
QRZ	**Quartz Range**	**1.75**	**340**	Pn	Pn	21 07 36.8	+0.3
MSWZ	**Moikau Station**	**1.78**	**54**	⇓PN	Pn	21 07 36.2	-0.6
MSWZ				AML	AML	21 07 57.7	
MSWZ				AML	AML	21 07 57.7	
MSWZ	**Moikau Station**	**1.78**	**54**	Pn	Pn	21 07 36.2	-0.6
CAW	**Cannon Point**	**1.89**	**44**	PN	Pn	21 07 37.8	-0.5
CAW				SN	Sn	21 07 59.3	-1.6
CAW				AML	AML	21 08 00.1	
KIW	**Kapiti Island**	**2.00**	**37**	⇓PN	Pn	21 07 39.6	-0.2
KIW				AML	AML	21 08 02.4	
KIW				AML	AML	21 08 02.7	
KIW	**Kapiti Island**	**2.00**	**37**	Pn	Pn	21 07 39.6	-0.2
WVZ	**Waitaha Valley**	**2.00**	**252**	PN	Pn	21 07 40.1	+0.4
TRWZ	**Traveller**	**2.06**	**59**	PN	Pn	21 07 39.6	-1.0
TRWZ				AML	AML	21 08 05.5	
TRWZ				AML	AML	21 08 06.7	
TRWZ	**Traveller**	**2.06**	**59**	Pn	Pn	21 07 39.6	-1.0
RPZ	**Rata Peaks**	**2.08**	**233**	PN	Pn	21 07 40.2	-0.6
RPZ				SN	Sn	21 08 03.9	-1.7
RPZ	**Rata Peaks**	**2.08**	**233**	*e*Pn	Pn	21 07 40.2	-0.7
RPZ				*e*Sn	Sn	21 08 04.2	-1.4
MTW	**Mount Morrison**	**2.09**	**52**	PN	Pn	21 07 39.9	-1.1
MTW				AML	AML	21 08 04.5	
MTW				AML	AML	21 08 05.2	
MTW	**Mount Morrison**	**2.09**	**52**	Pn	Pn	21 07 39.9	-1.1
OGWZ	**Otaki Gorge**	**2.16**	**40**	⇓PN	Pn	21 07 41.4	-0.4
OGWZ	**Otaki Gorge**	**2.16**	**40**	Pn	Pn	21 07 41.5	-0.4
HOWZ	**Holdsworth Sta**	**2.27**	**47**	PN	Pn	21 07 42.4	-1.1
HOWZ	**Holdsworth Sta**	**2.27**	**47**	Pn	Pn	21 07 42.4	-1.1
TMWZ	**Te Maipa**	**2.35**	**55**	PN	Pn	21 07 43.4	-1.3
TMWZ	**Te Maipa**	**2.35**	**55**	Pn	Pn	21 07 43.4	-1.3
MRZ	**Mangatainoka R**	**2.48**	**44**	⇓PN	Pn	21 07 45.4	-0.9
MRZ				AML	AML	21 08 13.5	
MRZ				AML	AML	21 08 13.6	
MRZ	**Mangatainoka R**	**2.48**	**44**	Pn	Pn	21 07 45.4	-1.0
TIWZ	**Tintock**	**2.56**	**49**	PN	Pn	21 07 46.1	-1.4
TIWZ				AML	AML	21 08 16.2	
TIWZ				AML	AML	21 08 17.1	
TIWZ	**Tintock**	**2.56**	**49**	Pn	Pn	21 07 46.1	-1.4
PRWZ	**Pori Road**	**2.76**	**47**	PN	Pn	21 07 48.9	-1.2
POWZ	**Post Office Ro**	**2.77**	**42**	PN	Pn	21 07 49.3	-1.0
POWZ	**Post Office Ro**	**2.77**	**42**	Pn	Pn	21 07 49.3	-1.0
BFZ	**Birch Farm**	**2.83**	**52**	PN	Pn	21 07 49.3	-1.8
BFZ	**Birch Farm**	**2.83**	**52**	Pn	Pn	21 07 49.3	-1.8
FOZ	**Fox Glacier**	**2.88**	**247**	PN	Pn	21 07 50.4	-1.4
FOZ	**Fox Glacier**	**2.88**	**247**	Pn	Pn	21 07 50.5	-1.2
LBZ	**Lake Benmore**	**2.98**	**229**	PN	Pn	21 07 52.7	-0.5
LBZ	**Lake Benmore**	**2.98**	**229**	Pn	Pn	21 07 52.7	-0.5
WAZ	**Wanganui**	**2.99**	**25**	PN	Pn	21 07 54.5	+1.2
WAZ	**Wanganui**	**2.99**	**25**	Pn	Pn	21 07 54.7	+1.3
DVHZ	**Dannevirke**	**3.05**	**45**	PN	Pn	21 07 52.2	-1.9
DVHZ	**Dannevirke**	**3.05**	**45**	Pn	Pn	21 07 52.2	-1.9
NMEZ	**Namu Road**	**3.09**	**8**	*e*PN	Pn	21 07 55.5	+0.9
LREZ	**Lake Rotokare**	**3.12**	**15**	PN	Pn	21 07 57.1	+2.0
TSZ	**Takapari Road**	**3.12**	**40**	PN	Pn	21 07 53.9	-1.3
TSZ				AML	AML	21 08 31.6	
TSZ				AML	AML	21 08 31.6	
TSZ	**Takapari Road**	**3.12**	**40**	Pn	Pn	21 07 53.9	-1.3
PREZ	**Palmer Road**	**3.19**	**12**	PN	Pn	21 07 57.4	+1.2
KHEZ	**Kahui Hut**	**3.22**	**10**	PN	Pn	21 07 57.6	+1.0
ODZ	**Otahua Downs**	**3.22**	**216**	PN	Pn	21 07 55.7	-0.8
ODZ	**Otahua Downs**	**3.22**	**216**	*e*Pn	Pn	21 07 55.6	-0.9
ODZ				*e*Sn	Sn	21 08 30.6	-3.0
NWEZ	**Newall Road**	**3.22**	**7**	PN	Pn	21 07 57.7	+1.2
NWEZ	**Newall Road**	**3.22**	**7**	Pn	Pn	21 07 57.7	+1.2
NEZ	**North Egmont**	**3.25**	**11**	PN	Pn	21 07 57.9	+0.8
NEZ	**North Egmont**	**3.25**	**11**	Pn	Pn	21 07 58.2	+1.1
PKE	**Pukeiti**	**3.31**	**9**	PN	Pn	21 07 58.8	+1.0
PKE	**Pukeiti**	**3.31**	**9**	Pn	Pn	21 07 58.9	+1.0
DREZ	**Durham Road**	**3.35**	**12**	PN	Pn	21 07 59.5	+1.2
DREZ	**Durham Road**	**3.35**	**12**	Pn	Pn	21 07 59.5	+1.2
PNHZ	**Pukenui**	**3.35**	**41**	PN	Pn	21 07 56.7	-1.6
PNHZ	**Pukenui**	**3.35**	**41**	Pn	Pn	21 07 56.7	-1.6
WPHZ	**Waipukurau**	**3.36**	**45**	SN	Sn	21 08 35.1	-2.0
MHEZ	**Mangahewa**	**3.48**	**13**	*e*PN	Pn	21 08 01.3	+1.3
MHEZ	**Mangahewa**	**3.48**	**13**	Pn	Pn	21 08 01.4	+1.4
MTVZ	**Mangateitei**	**3.49**	**28**	Pn	Pn	21 08 01.3	+1.1
VRZ	**Vera Road**	**3.52**	**18**	PN	Pn	21 08 01.3	+0.8
VRZ	**Vera Road**	**3.52**	**18**	Pn	Pn	21 08 01.7	+1.1
MOVZ	**Moawhango**	**3.57**	**32**	*e*PN	Pn	21 08 00.6	-0.8
MOVZ	**Moawhango**	**3.57**	**32**	Pn	Pn	21 08 00.9	-0.5
WNVZ	**Wahianoa**	**3.58**	**29**	PN	Pn	21 08 01.7	+0.1
WNVZ	**Wahianoa**	**3.58**	**29**	Pn	Pn	21 08 02.0	+0.3
TRVZ	**Turoa**	**3.59**	**29**	*e*PN	Pn	21 08 01.8	-0.1
TRVZ	**Turoa**	**3.59**	**29**	Pn	Pn	21 08 01.9	+0.1
PXZ	**Pawanui**	**3.61**	**49**	*e*PN	Pn	21 07 59.2	-2.6
PXZ				AML	AML	21 08 41.0	
PXZ				AML	AML	21 08 42.1	
PXZ				AML	AML	21 08 42.6	
PXZ				AML	AML	21 08 42.6	
PXZ	**Pawanui**	**3.61**	**49**	Pn	Pn	21 07 59.5	-2.4
WHVZ	**Whangaehu Hut**	**3.62**	**29**	*e*PN	Pn	21 08 01.3	-1.0
BHHZ	**Black Hill Sta**	**3.63**	**36**	PN	Pn	21 08 01.2	-1.0
BHHZ	**Black Hill Sta**	**3.63**	**36**	Pn	Pn	21 08 01.2	-1.0
FWVZ	**Far West T-bar**	**3.63**	**28**	*e*PN	Pn	21 08 02.4	0.0
FWVZ	**Far West T-bar**	**3.63**	**28**	Pn	Pn	21 08 02.5	+0.1
KRHZ	**Kereru**	**3.65**	**40**	*e*PN	Pn	21 08 00.4	-2.0
TUVZ	**Tukino**	**3.66**	**30**	*e*PN	Pn	21 08 02.9	+0.2
TUVZ	**Tukino**	**3.66**	**30**	Pn	Pn	21 08 03.0	+0.3
WPVZ	**Whakapapa**	**3.67**	**28**	*e*PN	Pn	21 08 02.9	0.0
WPVZ	**Whakapapa**	**3.67**	**28**	Pn	Pn	21 08 03.2	+0.3
JCZ	**Jackson Bay**	**3.70**	**243**	PN	Pn	21 08 02.2	-1.0
JCZ	**Jackson Bay**	**3.70**	**243**	Pn	Pn	21 08 02.2	-1.0
NGZ	**Ngauruhoe**	**3.72**	**28**	*e*PN	Pn	21 08 03.7	+0.1
NGZ	**Ngauruhoe**	**3.72**	**28**	Pn	Pn	21 08 03.7	+0.1
TWVZ	**Taurewa**	**3.76**	**26**	Pn	Pn	21 08 04.0	0.0
WTVZ	**West Tongariro**	**3.77**	**28**	PN	Pn	21 08 03.9	-0.2
WTVZ				SN	Sn	21 08 44.8	-2.6
WTVZ	**West Tongariro**	**3.77**	**28**	Pn	Pn	21 08 04.3	+0.2
KAHZ	**Kahuranaki**	**3.79**	**46**	PN	Pn	21 08 01.8	-2.5
KAHZ	**Kahuranaki**	**3.79**	**46**	Pn	Pn	21 08 01.9	-2.4
KRVZ	**Karewarewa**	**3.81**	**28**	Pn	Pn	21 08 05.1	+0.5
WKZ	**Wanaka**	**3.91**	**232**	*e*PN	Pn	21 08 05.0	-1.0
WKZ	**Wanaka**	**3.91**	**232**	Pn	Pn	21 08 05.0	-1.0
HHSZ	**Highcliff Hill**	**3.93**	**209**	SN	Sn	21 08 46.6	-4.6
MCHZ	**McNeill Hill**	**3.96**	**41**	*e*PN	Pn	21 08 04.5	-2.1
EAZ	**Earnscleugh**	**4.01**	**225**	PN	Pn	21 08 06.1	-1.1
EAZ	**Earnscleugh**	**4.01**	**225**	Pn	Pn	21 08 06.1	-1.1
BKZ	**Black Stump Fm**	**4.08**	**37**	PN	Pn	21 08 06.6	-1.9
BKZ				SN	Sn	21 08 51.9	-3.1
BKZ				AML	AML	21 08 53.5	
BKZ	**Black Stump Fm**	**4.08**	**37**	Pn	Pn	21 08 06.6	-1.8
HIZ	**Hauiti**	**4.12**	**17**	⇓PN	Pn	21 08 09.4	+0.5

HIZ	Hauiti	4.12	17	Pn	Pn	21 08 09.4	+0.5
NMHZ	Naumai	4.28	39	ePN	Pn	21 08 08.9	-2.2
MRHZ	Matea Rd	4.33	34	SN	Sn	21 08 56.3	-4.7
TUZ	Tuapeka	4.38	216	PN	Pn	21 08 11.4	-0.9
TUZ	Tuapeka	4.38	216	Pn	Pn	21 08 11.6	-0.7
WHHZ	Waihua	4.51	42	SN	Sn	21 09 02.1	-3.1
RAHZ	Arahi	4.56	40	SN	Sn	21 09 02.4	-4.2
RAHZ	Arahi	4.56	40	Pn	Sn	21 09 03.4	-3.2
MLZ	Mavora Lakes	4.70	231	PN	Pn	21 08 16.2	-0.6
MLZ				SN	Sn	21 09 08.0	-2.1
MLZ	Mavora Lakes	4.70	231	Pn	Pn	21 08 16.2	-0.6
KNZ	Kokohu	4.77	45	ePN	Pn	21 08 15.6	-2.1
KNZ	Kokohu	4.77	45	Pn	Pn	21 08 15.7	-2.0
SNGZ	Shannon Statio	4.79	41	ePN	Pn	21 08 14.6	-3.4
TOZ	Tahuroa Road	5.02	20	ePN	Pn	21 08 20.8	-0.4
SYZ	Scrubby Hill	5.05	215	ePN	Pn	21 08 20.8	-0.6
SYZ				SN	Sn	21 09 15.4	-3.0
SYZ	Scrubby Hill	5.05	215	Pn	Pn	21 08 21.0	-0.4
RAGZ	Rawiri	5.05	39	SN	Sn	21 09 14.1	-4.7
RIGZ	Rimuhau	5.06	43	SN	Sn	21 09 14.1	-4.7
URZ	Urewera	5.11	36	AML	AML	21 09 16.7	
URZ				AML	AML	21 09 16.7	
WHZ	Wether Hill Ro	5.16	227	ePN	Pn	21 08 21.1	-2.0
WHZ	Wether Hill Ro	5.16	227	Pn	Pn	21 08 21.2	-1.9
MWZ	Matawai	5.23	39	ePN	Pn	21 08 20.4	-3.7
MWZ				AML	AML	21 09 19.2	
MWZ				AML	AML	21 09 19.4	
MWZ				AML	AML	21 09 21.1	
MWZ				AML	AML	21 09 21.1	
MWZ	Matawai	5.23	39	Pn	Pn	21 08 20.9	-3.2
TKGZ	Te Karaka	5.30	42	SN	Sn	21 09 19.7	-5.1
DCZ	Deep Cove	5.37	234	PN	Pn	21 08 23.6	-2.3
DCZ	Deep Cove	5.37	234	Pn	Pn	21 08 23.6	-2.3
MKAZ	Moumakai	5.54	15	PN	Pn	21 08 28.0	-0.3
MKAZ	Moumakai	5.54	15	Pn	Pn	21 08 28.2	-0.1
WTAZ	Waiatarua	5.62	10	Pn	Pn	21 08 29.9	+0.5
ETAZ	East Tamaki Re	5.65	13	PN	Pn	21 08 30.1	+0.2
APZ	The Paps	5.79	219	ePN	Pn	21 08 30.0	-1.6
APZ	The Paps	5.79	219	Pn	Pn	21 08 30.9	-0.8
PUZ	Puketiti	5.79	42	SN	Sn	21 09 30.5	-6.4
ABAZ	Army Bay	5.98	12	⇑PN	Pn	21 08 34.9	+0.6
WMGZ	Waiomatatini S	6.07	42	ePN	Pn	21 08 33.2	-2.3
CTZ	Chatham Island	7.46	103	ePN	Pn	21 08 52.9	-1.6
CTZ				SN	Sn	21 10 10.1	-7.8
CTZ	Chatham Island	7.46	103	Pn	Pn	21 08 53.2	-1.3

IDC 01 21:14:03.6±3.4, 25°.34S×176°.63W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.7/18, mbtmp3.9/3, ML4.5/2, Error ellipse: s-maj=72.2km s-min=40.6km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	4.06	196	Pn	Pn	21 15 05.0	-2.1
	149nm,0.3s,baz=90,slow=20,SNR=5.5						
RAO				Sn	Sn	21 15 46.2	-9.2
	143nm,0.3s,baz=90,slow=20,SNR=3.4						
URZ	Urewera	13.93	201	Pn	Pn	21 17 23.6	+1.3
	0.4nm,0.3s,baz=333,slow=16,SNR=2.6						
ASAR	Alice Springs	44.84	261	P	P	21 22 20.1	+0.2
	0.6nm,0.5s,baz=93,slow=7.7,SNR=12						
WRA	Warramunga Arr	45.37	266	P	P	21 22 23.7	-0.4
	0.6nm,0.4s,baz=103,slow=7.7,SNR=31						
BRTR	Keskin Array B	150.89	307	PKPbc	PKPbc	21 33 58.6	0.0
	0.6nm,0.8s,baz=113,slow=3.2,SNR=2.5						

ISCJB 01 21:17:03.5±0.8, 20°.39S±0°.09×176°.9W±0°.1, h297km, mb3.5/8, Error ellipse: s-maj=19.9km s-min=11.6km az=20.6
IDC 01 21:17:11.0±5.6, 20°.57S×176°.91W, h365km±58km, mb3.2/8, mb1 3.5/10, mb1mx3.3/21, mbtmp4.1/10, Error ellipse: s-maj=35.5km s-min=23.5km az=171.0
ISC 01 21:17:04.2±0.8, 20°.5S±0°.1×176°.8W±0°.2, h297km, n15, σ1§11/15, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.70	261	P	Pn	21 20 32.8	+1.6
	0.6nm,0.3s,baz=90,slow=20,SNR=7.0						
URZ	Urewera	18.48	195	P	P	21 20 59.9	+0.8
	0.9nm,0.3s,baz=22,slow=16,SNR=3.2						
URZ				S	S	21 24 12.3	-1.7
	0.3nm,0.3s,baz=176,slow=19,SNR=2.5						
CTA	Charters Tower	34.62	264	P	P	21 23 26.7	+0.6
	2.3nm,0.4s,baz=87,slow=15,SNR=4.4						
ASAR	Alice Springs	45.62	257	P	P	21 24 56.1	+0.2
	0.8nm,0.7s,baz=81,slow=8.3,SNR=8.2						
WRA	Warramunga Arr	45.72	262	P	P	21 24 56.1	-0.6
	0.4nm,0.3s,baz=95,slow=7.5,SNR=19						
MJAR	Matsushiro Arr	70.88	323	P	P	21 27 48.5	-0.9
	0.5nm,0.4s,baz=154,slow=5.6,SNR=4.2						
PETK	Petropavlovsk-	76.56	345	P	P	21 28 21.5	-0.3
	1.2nm,0.6s,baz=144,slow=12,SNR=3.2						
NVAR	Mina Array Bea	80.25	43	P	P	21 28 42.8	+0.2
	0.6nm,0.6s,baz=209,slow=7.1,SNR=4.7						
TXAR	Lajitas Array	86.10	57	P	P	21 29 14.3	+1.9
	0.4nm,0.7s,baz=218,slow=7.9,SNR=6.1						
ILAR	Eielson Array	88.06	12	P	P	21 29 20.3	-0.4
	1.0nm,0.5s,baz=226,slow=5.8,SNR=16						
MKAR	Makanchi Array	112.01	313	PKiKP	PKiKP	21 35 02.8	-1.4
	0.2nm,0.6s,baz=189,slow=1.6,SNR=2.6						
ARCES	ARCESS Array B	129.11	350	PKP	PKPdf	21 35 36.0	-0.3
	3.4nm,0.9s,baz=355,slow=2.1,SNR=2.8						
AKASG	Malin Array Be	143.55	332	PKP	PKPab	21 35 59.7	-1.1
	0.5nm,0.3s,baz=44,slow=4.9,SNR=5.0						
BRTR	Keskin Array B	147.66	313	PKPbc	PKPbc	21 36 13.4	-0.8
	0.6nm,0.6s,baz=119,slow=4.9,SNR=3.2						
GERES	GERESS Array B	150.48	346	PKPbc	PKPbc	21 36 20.6	-0.3
	0.5nm,0.5s,baz=48,slow=2.0,SNR=6.6						

IDC 01 21:20:24.5±6.2, 32°.46N×141°.46E, h0km, mb3.2/3, mb1 3.3/4, mb1mx3.1/25, mbtmp3.1/4, ML2.9/1, Error ellipse: s-maj=230.7km s-min=31.4km az=70.0
JMA 01 21:20:30.0±0.5, 33°.52N×142°.45E, h21km, M3.2
ISC 01 21:20:30.1±2.8, 33°.4N±0°.2×142°.5E±0°.2, h40km, n10, σ1§11/10, mb3.2/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	1.77	316	P	Pn	21 20 58.7	+1.0
BSO3	Boso 3	2.15	311	P	Pn	21 21 04.1	+0.9
BSO4	Boso 4	2.38	312	P	Pn	21 21 07.8	+1.3
JHO	Hitachi	3.57	334	P	Pn	21 21 23.9	+1.0
JHO				eS	Sn	21 22 03.3	-0.5
JHU	Hanno	3.60	314	eS	Sn	21 22 05.4	+0.9
JAG	Ashikaga	3.91	321	S	Sn	21 22 10.8	-1.5
MJAR	Matsushiro Arr	4.70	313	Pn	Pn	21 21 38.0	-0.5
	0.5nm,0.3s,baz=150,slow=12,SNR=4.8						
MKAR	Makanchi Array	46.85	305	P	P	21 28 55.4	-0.7
	0.2nm,0.6s,baz=87,slow=7.4,SNR=2.2						
KURBB	Kurchatov Arra	48.98	311	P	P	21 29 12.1	-0.3
	0.4nm,0.6s,baz=88,slow=7.5,SNR=4.4						
WRA	Warramunga Arr	53.61	190	P	P	21 29 39.5	-7.9
	0.2nm,0.8s,baz=6.7,slow=8.3,SNR=3.0						

ISCJB 01 21:22:07.8±0.3, 33°.32N±0°.02×35°.40E±0°.03, h9km±2km, Error ellipse: s-maj=4.0km s-min=2.2km az=28.6
CSEM 01 21:22:07.9±0.1, 33°.34N×35°.35E, h5km, MD2.8, Error ellipse: s-maj=4.8km s-min=2.4km az=103.0
NSSC 01 21:22:08.6±1.3, 33°.30N×35°.44E, h9km±4km, MD1.3, ML2.6
GII 01 21:22:08.0±0.6, 33°.28N×35°.41E, h3km±1km, MD2.8/9
GRAL 01 21:22:09.2±0.3, 33°.31N×35°.42E, h0km±90km, MD3.2
HLW 01 21:22:10.4, 33°.46N×35°.21E, h26km±16km, Md3.3
DDA 01 21:23:19.9, 34°.31N×35°.08E, h12km, MD3.8
ISC 01 21:22:08.1±0.9, 33°.33N±0°.02×35°.39E±0°.02, h14km±6km, n68, σ1§22/111, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSDI	Kefar Szold	0.27	121	Pg	Pg	21 22 13.0	-0.7
KSDI				Sg	Sg	21 22 17.1	-0.4
KSDI	Kefar Szold	0.27	121	Pg	Pg	21 22 13.0	-0.7
KSDI				Sg	Sg	21 22 17.1	-0.4
NAQL	Naqoura	0.30	224	eP	Pg	21 22 14.7	+0.5
NAQL	Naqoura	0.30	224	eP	Pg	21 22 14.7	+0.5
HNTI	Hanita	0.30	216	Pg	Pg	21 22 14.3	-0.1
HNTI				Sg	Sg	21 22 19.3	+0.7
HNTI	Hanita	0.30	216	Pg	Pg	21 22 14.3	-0.1
HNTI				Sg	Sg	21 22 19.3	+0.7
MMA0B	Mount Meron ar	0.32	178	Pg	Pg	21 22 13.8	-0.8
MMA0B				Sg	Sg	21 22 18.6	-0.4
MMA0B	Mount Meron ar	0.32	178	Pg	Pg	21 22 13.8	-0.8
MMA0B				Sg	Sg	21 22 18.6	-0.4
DQRL	Deir Qamar	0.40	22	eP	Pg	21 22 16.5	+0.3
DQRL				eS	Sg	21 22 22.2	+0.5
DQRL	Deir Qamar	0.40	22	eP	Pg	21 22 16.5	+0.3
DQRL				eS	Sg	21 22 22.2	+0.5
RCY	Rachaya	0.41	66	eP	Pg	21 22 16.3	0.0
RCY				eS	Sg	21 22 21.6	-0.3
BRBR	Barbar	0.48	80	eP	Pg	21 22 17.2	-0.3
BRBR				eS	Sg	21 22 24.3	+0.2
BRBR				AML	AML	21 22 26.1	
	comp=E,667nm,0.7s						
BRBR				AML	AML	21 22 28.6	
	comp=N,667nm,0.5s						
BHL	Bhannes	0.61	21	eP	Pg	21 22 20.5	+0.4
BHL	Bhannes	0.61	21	eP	Pg	21 22 20.5	+0.4
BLGI	Bet Lehem HaGe	0.62	196	Pg	Pg	21 22 19.8	-0.3
BLGI				Sg	Sg	21 22 28.1	-0.2
BLGI	Bet Lehem HaGe	0.62	196	Pg	Pg	21 22 19.8	-0.3
BLGI				Sg	Sg	21 22 28.1	-0.2
QASN	Qassioun	0.77	75	eP	Pg	21 22 23.3	+0.3
QASN				eS	Sg	21 22 33.2	0.0
QASN				AML	AML	21 22 36.0	
	comp=N,1μm,0.5s						
QASN				AML	AML	21 22 36.1	
	comp=E,1μm,0.7s						
OFRI	'Ofer	0.79	206	Pg	Pg	21 22 22.9	-0.4
OFRI				Sg	Sg	21 22 34.7	+1.1
OFRI	'Ofer	0.79	206	Pg	Pg	21 22 22.9	-0.4
OFRI				Sg	Sg	21 22 34.7	+1.1
TCHB	Talchebab	0.82	143	eP	Pg	21 22 23.4	-0.6
TCHB				eS	Sg	21 22 33.9	-0.9
TCHB				AML	AML	21 22 41.7	
	comp=N,654nm,0.6s						
TCHB				AML	AML	21 22 46.4	
	comp=E,540nm,0.5s						
TOTH	TOTAH	0.87	88	eP	Pg	21 22 24.4	-0.6
TOTH				eS	Sg	21 22 35.1	-1.2
TOTH				AML	AML	21 22 49.2	
	comp=N,70nm,0.5s						
TOTH				AML	AML	21 22 55.5	
	comp=E,90nm,0.6s						
MMLI	Mount Malkishu	0.89	178	Pg	Pg	21 22 24.4	-0.9
MMLI				Sg	Sg	21 22 36.5	-0.5
MMLI	Mount Malkishu	0.89	178	Pg	Pg	21 22 24.4	-0.9
MMLI				Sg	Sg	21 22 36.5	-0.5
HWQ	Hawqa	1.05	26	eP	Pg	21 22 28.2	-0.2
HWQ	Hawqa	1.05	26	eP	Pg	21 22 28.2	-0.2
HMDT	Nahal Hemdat	1.08	174	Pg	Pg	21 22 27.8	-1.1
HMDT				Sg	Sg	21 22 42.5	-0.5
HMDT	Nahal Hemdat	1.08	174	Pg	Pg	21 22 27.8	-1.1
HMDT				Sg	Sg	21 22 42.5	-0.5
SLTI	Sal'it	1.13	195	Pg	Pb	21 22 28.9	-0.4
SLTI				Sg	Sg	21 22 44.4	0.0
SLTI	Sal'it	1.13	195	Pg	Pb	21 22 28.9	-0.4
SLTI				Sg	Sg	21 22 44.4	0.0
MARH	Ras Al Marh	1.15	52	eP	Pb	21 22 29.6	-0.2
MARH				eS	Sg	21 22 45.0	-0.2
MARH				AML	AML	21 22 52.8	
	comp=E,244nm,0.5s						
MARH				AML	AML	21 22 55.1	
	comp=N,115nm,0.4s						
SALA	Sala	1.29	118	eP	Pn	21 22 31.5	-0.3
SALA				eS	Sb	21 22 47.7	-1.0
SALA				AML	AML	21 22 53.1	
	comp=E,15nm,0.4s						
SALA				AML	AML	21 22 55.5	
	comp=N,128nm,0.5s						
HAWK	Haweek	1.46	35	eP	Pn	21 22 34.8	+0.7
HAWK				eS	Sn	21 22 53.2	+0.1
HAWK				AML	AML	21 22 58.1	
	comp=N,94nm,0.5s						
HAWK				AML	AML	21 23 05.0	
	comp=E,133nm,0.5s						
ZALF	Zalf	1.68	103	eP	Pn	21 22 37.2	0.0
ZALF				eS	Sn	21 22 58.0	-0.6
ZALF				AML	AML	21 23 02.9	
	comp=E,60nm,0.3s						
ZALF				AML	AML	21 23 06.7	
	comp=N,63nm,0.7s						
ZALF				AML	AML	21 23 08.8	
	comp=Z,52nm,0.7s						
ROOS	tl_alroos	1.79	62	eP	Pn	21 22 39.9	+1.3
ROOS				eS	Sn	21 23 02.3	+1.0
BIDA	Albida	1.85	25	eP	Pn	21 22 40.4	+0.9
BIDA				eS	Sn	21 23 03.7	+1.0
BIDA				AML	AML	21 23 11.3	
	comp=E,208nm,0.8s						
BIDA				AML	AML	21 23 13.5	
	comp=N,242nm,0.4s						
YTIR	Yattir	1.98	187	Pn	Pn	21 22 42.9	+1.7
YTIR	Yattir	1.98	187	Pn	Pn	21 22 42.9	+1.7
MZDA	Masada	2.02	181	Pn	Pn	21 22 42.8	+1.2
MZDA				Sn	Sn	21 23 09.0	+2.4
MZDA	Masada	2.02	181	Pn	Pn	21 22 42.8	+1.2
MZDA				Sn	Sn	21 23 09.0	+2.4
KFRA	Kufra	2.21	32	eP	Pn	21 22 46.4	+2.0
KFRA				eS	Sn	21 23 12.7	+1.1
KFRA				AML	AML	21 23 27.2	
	comp=E,127nm,0.3s						
KFRA				AML	AML	21 23 28.0	
	comp=Z,307nm,0.4s						
KFRA				AML	AML	21 23 32.0	
	comp=N,212nm,0.6s						
WRDH	Warideh	2.33	21	eP	Pn	21 22 47.8	+1.7
WRDH				eS	Sn	21 23 15.5	+0.9
WRDH				AML	AML	21 23 25.1	
	comp=Z,61nm,0.6s						
WRDH				AML	AML	21 23 28.4	
	comp=N,56nm,0.4s						
WRDH				AML	AML	21 23 29.8	
	comp=E,29nm,0.5s						
RTMI	Retamim	2.35	195	Pn	Pn	21 22 47.6	+1.4
RTMI				Sn	Sn	21 23 17.2	+2.3
RTMI	Retamim	2.35	195	Pn	Pn	21 22 47.6	+1.4
RTMI				Sn	Sn	21 23 17.2	+2.3
CSS	Prodhromos	2.36	314	Pn	Pn	21 22 46.3	-0.1
CSS	Prodhromos	2.36	314	Pn	Pn	21 22 46.3	-0.1
KZIT	Kziot	2.56	199	Pn	Pn	21 22 50.9	+1.7
KZIT	Kziot	2.56	199	Pn	Pn	21 22 50.9	+1.7
RSH		2.75	211	P	Pn	21 22 52.3	+0.4
	baz=208						
RSH		2.75	211	P	Pn	21 22 52.3	+0.4
PRNI	Paran	2.99	186	Pn	Pn	21 22 55.9	+0.8
PRNI	Paran	2.99	186	Pn	Pn	21 22 55.9	+0.8
KRMI	Paran Flat	3.25	190	Pn	Pn	21 23 00.0	+1.2
KRMI				Sn	Sn	21 23 39.9	+2.6
KRMI	Paran Flat	3.25	190	Pn	Pn	21 23 00.0	+1.2
KRMI				Sn	Sn	21 23 39.9	+2.6
AMAG	Maghara	3.26	215	P	Pn	21 22 59.6	+0.8
	baz=212						
AMAG				S	Sn	21 23 33.9	-3.6
	baz=212						
AMAG	Maghara	3.26	215	P	Pn	21 22 59.6	+0.8
AMAG				S	Sn	21 23 33.9	-3.6
HRFI	Mount Harif	3.30	185	Pn	Pn	21 23 00.4	+1.0
HRFI	Mount Harif	3.30	185	Pn	Pn	21 23 00.4	+1.0
KIZK	Mersin	3.30	342	i P	Pn	21 22 58.5	-0.9
KIZK				i S	Sn	21 23 36.9	-1.6
KIZK	Mersin	3.30	342	i P	Pn	21 22 58.5	-0.9
KIZK				i S	Sn	21 23 36.9	-1.6
HNKL	Nakhl	3.60	200	P	Pn	21 23 04.2	+0.7
	baz=197						
HNKL	Nakhl	3.60	200	P	Pn	21 23 04.2	+0.7
KUZU	Kuzuini	3.70	21	i P	Pn	21 23 08.1	+3.1
KUZU				i S	Sg	21 24 04.3	-2.6
KUZU	Kuzuini	3.70	21	i P	Pn	21 23 08.1	+3.1
ERMK	Ermenek	3.88	329	eP	Pn	21 23 08.3	+0.8
ERMK				i S	Sn	21 23 51.6	-1.4
ERMK	Ermenek	3.88	329	eP	Pn	21 23 08.3	+0.8
ERMK				i S	Sn	21 23 51.6	-1.4
KSRV	Kasrt alli	3.91	49	eP	Pn	21 23 04.6	-3.1
KSRV				eS	Sn	21 23 44.0	-9.5
KSRV				AML	AML	21 24 18.9	
	comp=E,10.0nm,0.8s						
KSRV				AML	AML	21 24 19.1	
	comp=Z,16nm,0.6s						
KSRV				AML	AML	21 24 19.7	
	comp=N,19nm,0.7s						
HKAT	Jabal Katrina	4.94	194	P	Pn	21 23 22.6	+0.5
	baz=193						
HKAT	Jabal Katrina	4.94	194	P	Pn	21 23 22.6	+0.5

CSEM 01 21:23:28.4, 33°.37N×35°.50E, h27km, ML2.5
GRAL 01 21:23:28.4±0.3, 33°.37N×35°.50E, h28km±2km, MD2.5, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RCY	Rachaya	0.31	66	eP	Pb	21 23 35.4	-0.6
RCY				eS	Sb	21 23 40.5	-0.7
DQRL	Deir Qamar	0.34	10	eP	Pb	21 23 35.6	-0.8
DQRL				eS	Sb	21 23 41.2	-0.7
DQRL	Deir Qamar	0.34	10	eP	Pb	21 23 35.7	-0.7
DQRL				eS	Sb	21 23 41.2	-0.7
BHL	Bhannes	0.55	14	eP	Pb	21 23 38.8	-0.9
BHL	Bhannes	0.55	14	eP	Pb	21 23 38.8	-0.9
HWQ	Hawqa	0.98	22	eP	Pn	21 23 45.5	-1.0
HWQ	Hawqa	0.98	22	eP	Pn	21 23 45.5	-1.0

ISCJB 01 21:26:17.4±0.7, 36°.04N±0°.05×70°.93E±0°.09, h100km, mb3.2/3, Error ellipse: s-maj=12.0km s-min=5.8km az=150.5
IDC 01 21:26:23.7±12.0, 36°.13N×71°.06E, h132km±116km, mb3.0/4, mb1 3.0/6, mb1mx2.8/28, mbtmp3.3/6, ML2.8/2, Error ellipse: s-maj=66.9km s-min=30.9km az=22.0
NNC 01 21:26:24.0±3.8, 36°.72N×70°.76E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=30.9km s-min=14.6km az=179.0
ISC 01 21:26:19.1±0.9, 36°.03N±0°.09×70°.89E±0°.10, h100km, n20, σ1§61/21, mb3.3/3, 8C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZET	Dzherino	3.22	330	⇓Pn	Pn	21 27 07.2	-0.7
	3.9nm,0.2s						
DZET				⇓Sn	Sn	21 27 41.0	-4.5
	34nm,0.2s						
SFK	Sufi-Kurgan	4.48	27	⇑Pn	Pn	21 27 26.5	+1.5
	9.8nm,0.3s						
SFK				⇑Sn	Sn	21 28 15.1	-1.0
	9.2nm,0.4s						
MNAS	Manas	6.57	11	⇑Pn	Pn	21 27 52.8	-0.5
	1.6nm,0.6s						
MNAS				⇑Sn	Sn	21 29 01.1	-5.6
	4.2nm,0.4s						
KK31	Karatay Array	7.07	358	⇑Pn	Pn	21 27 58.6	-1.3
	1.7nm,0.3s,baz=176,slow=12,SNR=100						
KK31				⇑Sn	Sn	21 29 11.8	-7.0
	2.0nm,0.3s,baz=192,slow=22,SNR=5.6						
KOLN	Koldanda	13.57	124	eP	Pn	21 29 25.5	-2.2
	2.1nm,0.2s						
MKAR	Makanchi Array	13.73	35	P	Pn	21 29 32.2	+2.8
	0.1nm,0.3s,baz=217,slow=11,SNR=4.8						
GKN	Gorkha	14.13	121	eP	Pn	21 29 32.9	-2.0
	2.9nm,0.2s						
GKN				eS	Sn	21 31 59.4	-11
DMN	Daman	14.70	121	eP	Pn	21 29 41.3	-1.0
KKN	Kakani	14.71	120	eP	Pn	21 29 39.9	-2.5
PKIN	Phulchoki	14.93	120	eP	Pn	21 29 44.1	-1.1
	3.7nm,0.3s						
JIRN	Jiri	15.44	118	eP	Pn	21 29 49.7	-2.0
	5.2nm,0.4s						
AB31	Akbulak array	15.46	332	⇑P	Pn	21 29 49.2	-2.2
	0.7nm,0.3s,baz=40,slow=56,SNR=24						
AB31				⇑S	Sn	21 32 29.6	-13
	0.6nm,0.3s,baz=148,slow=24,SNR=9.9						
KURBB	Kurchatov Arra	15.60	18	P	Pn	21 29 53.2	+0.1
	0.0nm,0.3s,baz=210,slow=11,SNR=2.9						
RAMN	Ramite	16.15	120	eP	Pn	21 30 00.3	-0.3
TAPN	Taplejung	16.71	116	eP	Pn	21 30 06.4	-1.1
	3.6nm,0.4s						
ODAN	Odare	16.77	118	eP	Pn	21 30 07.9	-0.2
ZALV	Zalesovo Beam	20.38	24	P	P	21 30 47.5	-0.2
	1.2nm,0.5s,baz=223,slow=10,SNR=6.1						
NOA	NORSAR Array B	44.70	323	P	P	21 34 23.5	+1.6
	0.3nm,0.6s,baz=106,slow=9.7,SNR=2.7						
TORD	Torodi Ar. Bea	65.62	269	P	P	21 36 54.5	+1.7
	0.2nm,0.5s,baz=70,slow=5.3,SNR=4.1						
WRA	Warramunga Arr	81.82	122	P	P	21 38 27.9	+0.6
	0.3nm,0.9s,baz=323,slow=5.1,SNR=3.6						

IDC 01 21:36:03.9±1.8, 17°.89S×168°.54E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.8/19, mbtmp3.9/5, ML3.5/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/24, Error ellipse: s-maj=53.1km s-min=28.2km az=135.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.60	205	Pn	Pn	21 37 14.2	-0.7
	2.5nm,0.3s,baz=90,slow=20,SNR=4.5						
DZM				Sn	Sn	21 38 11.2	+2.1
	5.0nm,0.3s,baz=297,slow=18,SNR=4.6						
URZ	Urewera	21.63	161	LR	LR	21 47 15.7	
	comp=Z,48nm,21.7s,baz=254,slow=31						
RPZ	Rata Peaks	25.83	176	LR	LR	21 50 24.2	
	comp=Z,122nm,18.1s,baz=297,slow=33						
STKA	Stephens Creek	28.03	235	P	P	21 41 57.4	+0.4
	3.0nm,0.6s,baz=67,slow=8.9,SNR=17						
WRA	Warramunga Arr	32.38	261	P	P	21 42 35.1	-0.5
	0.5nm,0.6s,baz=92,slow=8.9,SNR=12						
ASAR	Alice Springs	32.83	254	P	P	21 42 39.4	-0.1
	1.3nm,0.7s,baz=83,slow=8.7,SNR=18						
NVAR	Mina Array Bea	88.42	49	P	P	21 48 58.4	0.0
	0.4nm,0.5s,baz=223,slow=8.5,SNR=4.4						
PDAR	Pinedale Array	96.19	47	LR	LR	22 32 52.5	
	comp=Z,14nm,18.1s,baz=184,slow=35						

ISCJB 01 21:48:53.9±1.0, 13°.0N±0°.2×57°.7E±0°.2, h16km, mb3.7/8, MS3.0/7, Error ellipse: s-maj=24.2km s-min=23.5km az=138.8
IDC 01 21:48:53.0±1.2, 12°.94N×57°.77E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.5/47, mbtmp3.7/8, MS3.0/7, Ms1 3.1/7, ms1mx2.8/32, Error ellipse: s-maj=28.0km s-min=27.8km az=125.0
ISC 01 21:48:55.7±1.3, 13°.0N±0°.3×57°.8E±0°.2, h16km, n18, σ1§17/8, mb3.6/8, MS3.0/7, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	23.25	145	T	T	22 18 04.4	
	baz=326,slow=76,SNR=164						
H08N3	Diego Garcia H	23.26	145	T	T	22 18 04.8	
	baz=326,slow=76,SNR=152						
H08N1	Diego Carcia H	23.27	145	T	T	22 18 06.0	
	baz=326,slow=76,SNR=134						
KMBO	Kilima Mbogo	24.69	237	LR	LR	22 03 31.5	
	comp=Z,66nm,19.8s,baz=170,slow=36						
EIL	Elat	26.89	312	LR	LR	22 05 00.5	
	comp=Z,13nm,21.0s,baz=108,slow=36						
GNI	Garni	29.41	339	LR	LR	22 08 27.5	
	comp=Z,24nm,19.5s,baz=206,slow=40						
AAK	Ala-Archa	32.93	23	P	P	21 55 30.7	+1.0
	0.7nm,0.3s,baz=186,slow=9.2,SNR=4.2						
MKAR	Makanchi Array	39.54	27	P	P	21 56 25.5	-0.4
	0.9nm,0.8s,baz=207,slow=8.3,SNR=5.5						
MKAR				LR	LR	22 13 55.7	
	comp=Z,22nm,18.6s,baz=180,slow=38						
CMAR	Chiang Mai Arr	39.96	77	P	P	21 56 30.6	+0.8
	0.3nm,0.3s,baz=270,slow=9.0,SNR=5.8						
CMAR				LR	LR	22 12 37.3	
	comp=Z,14nm,20.6s,baz=204,slow=36						
KURBB	Kurchatov Arra	41.21	20	P	P	21 56 39.3	-0.2
	1.2nm,0.9s,baz=217,slow=8.2,SNR=13						
ZALV	Zalesovo Beam	46.14	22	P	P	21 57 18.0	-1.2
	2.0nm,0.8s,baz=231,slow=7.1,SNR=7.3						
ZALV				LR	LR	22 17 50.7	
	comp=Z,28nm,21.0s,baz=250,slow=38						
TORD	Torodi Ar. Bea	54.51	277	P	P	21 58 23.5	+0.3
	0.6nm,1.1s,baz=85,slow=6.2,SNR=2.6						
KSRS	Korea Array	66.54	55	LR	LR	22 30 03.8	
	comp=Z,28nm,18.4s,baz=220,slow=37						
H01W3	Cape Leeuwin H	71.53	134	T	T	23 18 18.6	
	baz=302,slow=75,SNR=14						
H01W2	Cape Leeuwin H	71.53	134	T	T	23 18 20.2	
	baz=302,slow=75,SNR=14						
H01W1	Cape Leeuwin H	71.55	134	T	T	23 18 21.2	
	baz=302,slow=75,SNR=14						
WRA	Warramunga Arr	82.11	113	P	P	22 01 14.5	-1.7
	0.4nm,0.7s,baz=295,slow=4.3,SNR=3.6						
ASAR	Alice Springs	82.82	116	P	P	22 01 20.6	+0.8
	0.9nm,0.9s,baz=293,slow=5.3,SNR=7.6						

IDC 01 21:50:42.9±3.6**, 20°.50N**×**122°.99E, h0km, mb3.7**/4**, mb1 3.8**/4**, mb1mx3.4**/24**, mbtmp3.7**/4**, Error ellipse: s-maj=281.3km s-min=24.4km az=61.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.70**	**164**	P	P	21 58 33.2	-0.5
	0.7nm,0.7s,baz=345,slow=9.1,SNR=7.4						
MKAR	**Makanchi Array**	**42.16**	**318**	P	P	21 58 37.1	-0.2
	0.5nm,0.5s,baz=111,slow=8.4,SNR=10						
ASAR	**Alice Springs**	**45.17**	**166**	P	P	21 59 01.6	0.0
	0.3nm,0.4s,baz=347,slow=7.1,SNR=6.6						
STKA	**Stephens Creek**	**55.05**	**161**	P	P	22 00 16.7	+0.2
	0.8nm,0.5s,baz=323,slow=9.3,SNR=6.4						

DJA 01 21:53:44.6±0.4**, 1°N**±4°×**12°2E**±°**, h38km**±5km**, M3.6**/10**, mb3.8**/1**, MLv3.5**/10**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.48**	**133**	P	Pn	21 53 55.4	+0.4
MRSI				S	Sn	21 54 04.6	+2.4
GTOI	**Gorontalo**	**1.43**	**97**	P	Pn	21 54 06.4	-1.6
APSI	**Ampana**	**1.71**	**178**	P	Pn	21 54 11.8	-0.1
APSI				S	Sn	21 54 34.5	+2.0
MPSI	**Mapaga**	**1.76**	**255**	P	Pn	21 54 12.9	+0.4
LUWI	**Luwuk**	**2.19**	**147**	P	Pn	21 54 18.4	0.0
LUWI				S	Sn	21 54 47.5	+3.3
KMSI	**Cibinong**	**2.40**	**96**	P	Pn	21 54 20.9	-0.5
TTSI	**Tana Toraja**	**4.22**	**205**	P	Pn	21 54 45.6	-0.8
SPSI	**Sidrap Palu**	**5.08**	**201**	P	Pn	21 54 57.9	-0.3

IDC 01 22:21:03.4±6.1**, 24°.16S**×**178°.83W, h0km, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/17**, mbtmp3.8**/3**, Error ellipse: s-maj=177.9km s-min=96.4km az=148.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.62**	**249**	P	P	22 28 02.7	-0.4
	0.5nm,0.4s,baz=86,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**43.05**	**261**	P	P	22 29 04.8	-0.5
	0.6nm,0.4s,baz=92,slow=7.8,SNR=8.7						
WRA	**Warramunga Arr**	**43.45**	**266**	P	P	22 29 08.9	+0.3
	1.1nm,0.5s,baz=104,slow=8.1,SNR=15						
NOA	**NORSAR Array B**	**142.49**	**352**	PKP	PKPdf	22 40 37.4	-0.4
	0.5nm,0.7s,baz=24,slow=2.1,SNR=3.2						

*IDC **01** 22:52:57.8±1.1, 4°.09N×126°.42E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.7/24, mbtmp3.9/6, ML3.9/1, MS3.1/3, Ms1 3.1/3, ms1mx2.6/30, Error ellipse: s-maj=94.8km s-min=19.3km az=64.0*

*ISCJB **01** 22:53:02.1±1.0, 4°.1N±0°.2×126°.7E±0°.3, h45km, mb3.8/5, MS3.1/2, Error ellipse: s-maj=49.0km s-min=11.2km az=140.6*

ISC 01 22:53:03.9±1.1**, 4°.1N**±0°.3×**126°.6E**±0°.3**, h45km, n8,** σ**0§61**/7**, mb3.9**/5**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.80**	**136**	Pn	**Pn**	**22 54 40.8**	**-0.6**
	2.2nm,0.3s,baz=347,slow=18,SNR=6.7						
SIJI				Sn	**Sn**	**22 55 57.9**	**+0.4**
	0.6nm,0.3s,baz=37,slow=20,SNR=2.7						
SIJI				LR	LR	22 57 45.7	
	comp=Z,111nm,18.9s,baz=196,slow=42						
LEM	**Lembang**	**21.82**	**240**	LR	LR	23 06 39.9	
	comp=Z,38nm,18.9s,baz=70,slow=38						
WRA	**Warramunga Arr**	**25.08**	**163**	P	**P**	**22 58 24.4**	**-0.1**
	0.5nm,0.4s,baz=342,slow=11,SNR=24						
ASAR	**Alice Springs**	**28.51**	**166**	P	**P**	**22 58 55.5**	**+0.2**
	0.2nm,0.5s,baz=339,slow=6.3,SNR=5.7						
STKA	**Stephens Creek**	**38.53**	**159**	P	**P**	**23 00 22.3**	**+0.1**
	1.7nm,0.7s,baz=336,slow=6.9,SNR=5.5						
MKAR	**Makanchi Array**	**57.17**	**325**	P	**P**	**23 02 45.7**	**-0.6**
	0.5nm,0.4s,baz=121,slow=7.5,SNR=14						
ARCES	**ARCESS Array B**	**90.05**	**340**	P	**P**	**23 05 59.4**	**+0.8**
	4.5nm,1.1s,baz=78,slow=6.6,SNR=2.7						
NOA	**NORSAR Array B**	**98.39**	**334**	LR	LR	23 58 25.9	
	comp=Z,13nm,20.1s,baz=265,slow=40						

*ISCJB **01** 23:14:21.7±0.7, 18°.7S±0°.2×178°.0W±0°.2, h450km, mb3.6/9, Error ellipse: s-maj=25.2km s-min=14.7km az=43.2*

*IDC **01** 23:14:22.7±4.5, 18°.74S×177°.90W, h453km±50km, mb3.3/9, mb1 3.6/10, mb1mx3.4/25, mbtmp4.1/10, Error ellipse: s-maj=25.2km s-min=20.0km az=156.0*

ISC 01 23:14:22.4±0.8**, 18°.7S**±0°.2×**177°.9W**±0°.2**, h450km, n32,** σ**0§68**/34**, mb3.7**/9**, 3C-5D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.95**	**192**	P	**P**	**23 18 22.8**	**-0.4**
	0.8nm,0.3s,baz=315,slow=1.4,SNR=3.9						
STKA	**Stephens Creek**	**38.65**	**242**	P	**P**	**23 21 06.1**	**+0.2**
	2.1nm,0.7s,baz=90,slow=8.7,SNR=8.6						
WRA	**Warramunga Arr**	**44.94**	**260**	P	**P**	**23 21 56.0**	**-0.1**
	1.8nm,0.5s,baz=98,slow=6.3,SNR=67						
WRA				PcP	**PcP**	**23 23 27.9**	**-0.5**
	0.4nm,0.5s,baz=93,slow=3.4,SNR=4.3						
ASAR	**Alice Springs**	**45.02**	**255**	P	**P**	**23 21 57.4**	**+0.7**
	10nm,0.5s,baz=90,slow=8.6,SNR=136						
ASAR				PcP	**PcP**	**23 23 28.7**	**+0.1**
	0.5nm,0.5s,baz=100,slow=3.9,SNR=4.3						
MJAR	**Matsushiro Arr**	**68.83**	**323**	P	**P**	**23 24 40.7**	**+0.1**
	1.0nm,0.4s,baz=163,slow=7.3,SNR=6.0						
PETK	**Petropavlovsk-**	**74.57**	**345**	P	**P**	**23 25 14.1**	**+0.2**
	2.0nm,0.6s,baz=130,slow=8.4,SNR=6.0						
NVAR	**Mina Array Bea**	**79.69**	**44**	P	**P**	**23 25 42.2**	**-0.4**
	0.3nm,0.5s,baz=227,slow=7.7,SNR=3.8						
TXAR	**Lajitas Array**	**86.04**	**57**	P	**P**	**23 26 16.2**	**+1.5**
	0.6nm,0.7s,baz=222,slow=5.8,SNR=9.8						
ILAR	**Eielson Array**	**86.57**	**13**	P	**P**	**23 26 14.9**	**-1.4**
	0.4nm,0.3s,baz=226,slow=4.9,SNR=12						
PDAR	**Pinedale Array**	**87.62**	**43**	P	**P**	**23 26 22.5**	**+0.4**
	0.2nm,0.3s,baz=132,slow=2.6,SNR=2.5						
MKAR	**Makanchi Array**	**110.02**	**314**	PKiKP	**PKiKP**	**23 32 00.8**	**-1.0**
	0.3nm,0.4s,baz=114,slow=0.3,SNR=5.2						
ARCES	**ARCESS Array B**	**127.19**	**350**	PKP	**PKPdf**	**23 32 33.4**	**-0.6**
	2.0nm,0.7s,baz=45,slow=2.4,SNR=10						
FINES	**FINESS Array B**	**134.09**	**344**	PKP	**PKPdf**	**23 32 46.3**	**-1.0**
	1.0nm,0.7s,baz=180,slow=0.8,SNR=6.2						
BURAR	**Bucovina Array**	**145.54**	**332**	⇑iP	**PKPab**	**23 33 10.8**	**+0.1**
BRTR	**Keskin Array B**	**145.67**	**314**	PKPbc	**PKPbc**	**23 33 10.4**	**0.0**
	0.8nm,0.5s,baz=98,slow=2.0,SNR=5.6						
TESR	**Tescani**	**145.68**	**329**	⇓iP	**PKPbc**	**23 33 10.8**	**+0.8**
CLL	**Collm**	**146.35**	**348**	i PKP	**PKPbc**	**23 33 11.8**	**+0.1**
	comp=Z,10.0nm,0.8s						
UPC	**Upice**	**146.39**	**344**	ePKP	**PKPbc**	**23 33 12.3**	**+0.5**
UPC				ex	x	23 33 14.6	
UPC				ex	x	23 33 17.2	
DPC	**Dobruska-Polom**	**146.45**	**343**	ePKP	**PKPbc**	**23 33 12.4**	**+0.3**
DPC				ex	x	23 33 15.3	
DPC				ex	x	23 33 17.3	
BRG	**Berggiesshubel**	**146.56**	**346**	ePKP	**PKPbc**	**23 33 12.8**	**+0.5**
	comp=Z,5.2nm,0.8s						
KRLC	**Kraliky**	**146.57**	**343**	ePKP	**PKPbc**	**23 33 12.7**	**+0.3**
KRLC				ex	x	23 33 15.4	
MLR	**Muntele Rosu**	**146.76**	**329**	⇓iP	**PKPdf**	**23 33 11.9**	**+1.2**
PRU	**Pruhonice**	**147.24**	**345**	ePKP	**PKPbc**	**23 33 14.6**	**+0.5**
PRU				ex	x	23 33 20.5	
DRGR		**147.26**	**333**	⇑iP	**PKPbc**	**23 33 15.2**	**+0.8**
ARR	**Arges**	**147.48**	**330**	⇓iP	**PKPbc**	**23 33 16.1**	**+1.1**
TREC	**Trest**	**147.64**	**344**	ePKP	**PKPbc**	**23 33 15.3**	**0.0**
KHC	**Kasperske Hory**	**148.27**	**346**	ePKP	**PKPbc**	**23 33 16.9**	**0.0**
KHC				ex	x	23 33 18.8	
KHC				ex	x	23 33 22.5	
GERES	**GERESS Array B**	**148.51**	**345**	PKPbc	**PKPbc**	**23 33 17.4**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=27,slow=2.5,SNR=16						
BZS	**Buzias**	**148.66**	**333**	⇓iP	**PKPbc**	**23 33 17.1**	**-0.8**
CONA	**Conrad Observa**	**148.77**	**342**	⇓iPKPbc	**PKPbc**	**23 33 18.7**	**+0.5**
	comp=Z,3.8nm,0.9s						
ABTA	**Abfaltersbach**	**150.75**	**345**	⇑iPKPbc	**PKPbc**	**23 33 22.7**	**-0.3**
	comp=Z,5.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**174.45**	**176**	PKP	**PKPdf**	**23 33 39.5**	**-0.9**
	comp=Z,0.2nm,0.8s,baz=242,slow=1.0,SNR=2.7						

*IDC **01** 23:39:18.9±0.7, 24°.32N×141°.63E, h106km±6km, mb3.6/15, mb1 3.9/17, mb1mx3.7/26, mbtmp3.9/17, MS2.6/1, Ms1 2.6/1, ms1mx2.1/28, Error ellipse: s-maj=20.1km s-min=9.6km az=96.0*

*JMA **01** 23:39:21.8±0.1, 24°.62N×141°.14E, h107km, M4.2*

ISC 01 23:39:18.6±0.6**, 24°.34N**±0°.06×**141°.6E**±0°.1**, h100km, n35,** σ**1§45**/36**, mb4.0**/15**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**2.35**	**14**	P	**Pn**	**23 39 57.9**	**+2.1**
JHHJ				S	**Sn**	**23 40 25.1**	**+0.9**
JCJ	**Chichijima**	**2.81**	**11**	P	**Pn**	**23 40 03.7**	**+1.9**
	30nm,0.3s,baz=268,slow=18,SNR=15						
JCJ				S	**Sn**	**23 40 36.3**	**+1.4**
	62nm,0.3s,baz=209,slow=19,SNR=12						
CBIJ	**Chichi jima**	**2.81**	**11**	P	**Pn**	**23 40 03.6**	**+1.8**
CBIJ				S	**Sn**	**23 40 35.8**	**+0.8**
BSO3	**Boso 3**	**10.47**	**355**	S	**Sn**	**23 43 38.0**	**-2.6**
BSO4	**Boso 4**	**10.67**	**355**	P	**Pn**	**23 41 48.1**	**-0.2**
BSO4				S	**Sn**	**23 43 43.4**	**-2.3**
JOD2	**Odawara 2**	**11.10**	**349**	P	**Pn**	**23 41 53.7**	**-0.5**
JHU	**Hanno**	**11.64**	**351**	S	**Sn**	**23 44 05.4**	**-4.1**
JRY	**Ryogami san**	**11.87**	**349**	P	**Pn**	**23 42 03.1**	**-1.4**
JAG	**Ashikaga**	**12.19**	**352**	P	Pn	23 42 05.7	-3.0
JAG				S	Sn	23 44 14.7	-7.9
JHO	**Hitachi**	**12.27**	**356**	S	Sn	23 44 15.6	-8.9
MJAR	**Matsushiro Arr**	**12.50**	**347**	P	**Pn**	**23 42 13.2**	**+0.3**
	0.6nm,0.3s,baz=157,slow=11,SNR=4.0						
MJAR				LR	LR	23 46 38.8	
	comp=Z,31nm,20.0s,baz=240,slow=35						
KSRS	**Korea Array**	**17.52**	**321**	P	**Pn**	**23 43 19.9**	**+3.5**
	0.2nm,0.3s,baz=123,slow=10,SNR=2.8						
H11N1	**WAKE ISLAND Hy**	**23.91**	**96**	T	T	00 08 56.9	
	baz=283,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hy**	**23.92**	**96**	T	T	00 08 53.6	
	baz=283,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**23.93**	**96**	T	T	00 08 51.8	
	baz=283,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**24.09**	**99**	T	T	00 09 46.1	
	baz=289,slow=74,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**24.09**	**99**	T	T	00 09 48.9	
	baz=289,slow=74,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**24.10**	**99**	T	T	00 09 49.0	
	baz=289,slow=74,SNR=5.1						
SONM	**Songino Array**	**36.37**	**319**	P	**P**	**23 46 13.9**	**+0.7**
	0.3nm,0.3s,baz=113,slow=11,SNR=2.9						
SEY	**Seymchan**	**39.26**	**8**	P	**P**	**23 46 37.6**	**+0.5**
	0.9nm,0.2s,baz=183,slow=8.0,SNR=3.9						
CMAR	**Chiang Mai Arr**	**39.99**	**270**	P	**P**	**23 46 45.4**	**+1.6**
	0.6nm,0.3s,baz=68,slow=7.4,SNR=4.1						
WRA	**Warramunga Arr**	**44.57**	**190**	P	**P**	**23 47 20.1**	**-0.7**
	2.2nm,0.4s,baz=11,slow=8.6,SNR=46						
WRA				PcP	**PcP**	**23 49 02.5**	**+0.3**
	1.0nm,0.6s,baz=3.9,slow=3.4,SNR=8.5						
ASAR	**Alice Springs**	**48.29**	**189**	P	**P**	**23 47 49.3**	**-0.6**
	0.2nm,0.3s,baz=21,slow=12,SNR=5.7						
ASAR				PcP	**PcP**	**23 49 15.6**	**+0.3**
	0.3nm,0.6s,baz=15,slow=3.8,SNR=3.3						
MKAR	**Makanchi Array**	**51.83**	**311**	P	**P**	**23 48 16.6**	**+0.2**
	0.7nm,0.4s,baz=88,slow=9.5,SNR=19						
STKA	**Stephens Creek**	**55.90**	**180**	P	**P**	**23 48 45.2**	**-0.8**
	0.8nm,0.6s,baz=332,slow=8.2,SNR=5.4						
ILAR	**Eielson Array**	**60.40**	**28**	P	**P**	**23 49 16.6**	**-0.5**
	1.3nm,0.8s,baz=255,slow=5.7,SNR=12						
ILAR				pP	**pP**	**23 49 42.0**	**+0.3**
	1.3nm,0.8s,baz=253,slow=6.3,SNR=7.1						
YKA	**Yellowknife Ar**	**74.83**	**28**	P	**P**	**23 50 47.0**	**-0.8**
	0.4nm,0.5s,baz=297,slow=5.9,SNR=4.7						
YKA				pP	**pP**	**23 51 14.0**	**+0.6**
	0.6nm,0.6s,baz=290,slow=6.1,SNR=3.9						
ARCES	**ARCESS Array B**	**75.95**	**341**	P	**P**	**23 50 53.6**	**-0.6**
	1.5nm,0.7s,baz=62,slow=8.6,SNR=7.0						
KBZ	**Khabaz**	**79.47**	**313**	P	**P**	**23 51 13.8**	**-0.3**
	2.1nm,0.7s,baz=143,slow=20,SNR=4.8						
FINES	**FINESS Array B**	**80.17**	**334**	P	**P**	**23 51 15.8**	**-1.7**
	0.6nm,0.4s,baz=81,slow=4.3,SNR=11						
NVAR	**Mina Array Bea**	**82.67**	**51**	P	**P**	**23 51 31.4**	**-0.2**
	1.7nm,0.8s,baz=271,slow=6.0,SNR=7.8						
PDAR	**Pinedale Array**	**86.57**	**44**	P	**P**	**23 51 50.9**	**-0.2**
	0.6nm,0.6s,baz=9.1,slow=4.5,SNR=4.3						
TXAR	**Lajitas Array**	**97.70**	**53**	P	**P**	**23 52 42.9**	**+0.1**
	0.2nm,0.4s,baz=327,slow=6.5,SNR=2.6						
TORD	**Torodi Ar. Bea**	**125.92**	**309**	PKP	**PKPdf**	**23 58 08.7**	**-1.0**
	0.3nm,0.6s,baz=61,slow=1.2,SNR=5.6						
LPAZ	**La Paz**	**151.07**	**80**	PKPbc	**PKPbc**	**23 59 01.0**	**-0.5**
	0.7nm,0.5s,baz=325,slow=2.9,SNR=5.6						
LPAZ				pPKPbc	**pPKPbc**	**23 59 29.6**	**+0.7**
	1.3nm,0.6s,baz=244,slow=1.2,SNR=4.6						

IDC 01 23:49:37.8±80.0**, 14°.27S**×**167°.32E, h0km, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.6**/19**, mbtmp3.8**/3**, Error ellipse: s-maj=1347.0km s-min=115.4km az=64.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.33**	**229**	P	P	23 55 42.4	0.0
	1.8nm,0.5s,baz=59,slow=7.8,SNR=9.2						
WRA	**Warramunga Arr**	**31.99**	**255**	P	P	23 56 06.0	0.0
	0.4nm,0.8s,baz=86,slow=8.9,SNR=5.5						
ASAR	**Alice Springs**	**32.88**	**248**	P	P	23 56 13.7	-0.2
	0.5nm,0.4s,baz=78,slow=9.2,SNR=8.4						

*HLW **02** 00:18:19.5, 36°.92N×26°.38E, h9km±7km, Md3.8*

*ATH **02** 00:18:24.0, 36°.58N×26°.61E, h146km±2km*

*ISCJB **02** 00:18:24.3±0.3, 36°.48N±0°.03×26°.64E±0°.02, h137km±5km, Error ellipse: s-maj=5.1km s-min=3.2km az=8.1*

*ISK **02** 00:18:24.8, 36°.56N×26°.65E, h138km, MD3.5*

*CSEM **02** 00:18:25.1±0.1, 36°.51N×26°.66E, h134km±2km, MD3.2, Error ellipse: s-maj=4.0km s-min=2.3km az=12.0*

*THE **02** 00:18:26.8, 36°.49N×26°.61E, h153km±8km, ML3.3/1, Error ellipse: s-maj=8.4km s-min=2.0km az=106.0*

*DDA **02** 00:18:26.8, 36°.59N×26°.81E, h138km, MD3.2*

ISC 02 00:18:23.8±1.1**, 36°.50N**±0°.04×**26°.68E**±0°.03**, h145km**±7km**, n121,** σ**1§56**/158**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.76**	**42**	ePG	**Pn**	**00 18 46.6**	**+0.4**
BODT				eSG	**Sn**	**00 19 02.4**	**-0.8**
BODT	**Bodrum**	**0.76**	**42**	ePg	**Pn**	**00 18 46.6**	**+0.4**
BODT				eSg	**Sn**	**00 19 02.4**	**-0.8**
DAT	**Datca**	**0.76**	**72**	ePG	**Pn**	**00 18 46.8**	**+0.5**
DAT	**Datca**	**0.76**	**72**	ePg	**Pn**	**00 18 46.8**	**+0.5**
BDRM	**Kayabasi**	**0.83**	**47**	i P	**Pn**	**00 18 47.6**	**+0.9**
BDRM				i S	**Sn**	**00 19 04.3**	**+0.1**
BDRM	**Kayabasi**	**0.83**	**47**	i P	**Pn**	**00 18 47.6**	**+0.9**
BDRM				i S	**Sn**	**00 19 04.3**	**+0.1**
SANT	**Santorini**	**0.99**	**263**	eP	**Pn**	**00 18 49.3**	**+1.2**
SANT	**Santorini**	**0.99**	**263**	eP	**Pn**	**00 18 49.3**	**+1.2**
THR5	**Thira Island,**	**1.08**	**266**	ePG	**Pn**	**00 18 49.1**	**+0.3**
THR5	**Thira Island,**	**1.08**	**266**	ePg	**Pn**	**00 18 49.1**	**+0.3**
APE	**Apeiranthos**	**1.09**	**302**	ePG	**Pn**	**00 18 49.6**	**+0.8**
APE	**Apeiranthos**	**1.09**	**302**	P	**Pn**	**00 18 49.5**	**+0.6**
APE				S	**Sn**	**00 19 07.6**	**-0.4**
APE	**Apeiranthos**	**1.09**	**302**	eP	**Pn**	**00 18 49.7**	**+0.8**
APE	**Apeiranthos**	**1.09**	**302**	P	**Pn**	**00 18 49.5**	**+0.6**
APE				S	**Sn**	**00 19 07.6**	**-0.4**
ARG	**Arkhangelos**	**1.20**	**103**	P	**Pn**	**00 18 51.8**	**+1.9**
ARG				S	**Sn**	**00 19 09.7**	**-0.1**
ARG	**Arkhangelos**	**1.20**	**103**	eP	**Pn**	**00 18 51.8**	**+1.9**
ARG				eS	**Sn**	**00 19 12.1**	**+2.3**
ARG	**Arkhangelos**	**1.20**	**103**	P	**Pn**	**00 18 51.8**	**+1.9**
ARG				eS	**Sn**	**00 19 12.1**	**+2.3**
SMG	**Samos**	**1.22**	**6**	P	**Pn**	**00 18 50.4**	**+0.3**
SMG	**Samos**	**1.22**	**6**	eP	**Pn**	**00 18 50.2**	**+0.1**
SMG	**Samos**	**1.22**	**6**	P	**Pn**	**00 18 50.4**	**+0.3**
YER	**Yerkesik**	**1.43**	**63**	ePN	**Pn**	**00 18 53.5**	**+1.2**
YER	**Yerkesik**	**1.43**	**63**	ePn	**Pn**	**00 18 53.5**	**+1.2**
AYDN	**Tasoluk**	**1.50**	**39**	i P	**Pn**	**00 18 54.1**	**+1.0**
AYDN				i S	**Sn**	**00 19 15.5**	**0.0**
AYDN	**Tasoluk**	**1.50**	**39**	i P	**Pn**	**00 18 54.1**	**+1.0**
AYDN				i S	**Sn**	**00 19 15.5**	**0.0**
NPS	**Neapolis**	**1.51**	**216**	P	**Pn**	**00 18 54.6**	**+1.5**
NPS				S	**Sn**	**00 19 14.2**	**-1.3**
NPS	**Neapolis**	**1.51**	**216**	eP	**Pn**	**00 18 54.7**	**+1.6**
NPS				eS	**Sn**	**00 19 16.1**	**+0.6**
NPS	**Neapolis**	**1.51**	**216**	P	**Pn**	**00 18 54.6**	**+1.5**
NPS				eS	**Sn**	**00 19 16.1**	**+0.6**
TURN	**Turunc**	**1.59**	**76**	i P	**Pn**	**00 18 51.8**	**-2.0**
TURN				i S	**Sn**	**00 19 11.7**	**-5.2**
DALY	**Dalyan (Mu˜la**	**1.62**	**78**	ePN	**Pn**	**00 18 55.8**	**+1.6**
DALY	**Dalyan (Mu˜la**	**1.62**	**78**	ePn	**Pn**	**00 18 55.8**	**+1.6**
AYDB	**Zeytinkoy-Aydi**	**1.74**	**33**	ePN	**Pn**	**00 18 56.4**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.74**	**33**	ePn	**Pn**	**00 18 56.4**	**+0.7**
BLCB	**Balcova**	**1.91**	**9**	ePN	**Pn**	**00 18 57.5**	**0.0**
BLCB	**Balcova**	**1.91**	**9**	ePn	**Pn**	**00 18 57.5**	**0.0**
CHOS	**Chios island**	**1.95**	**345**	ePN	**Pn**	**00 18 58.5**	**+0.4**
CHOS	**Chios island**	**1.95**	**345**	eP	**Pn**	**00 18 58.2**	**+0.1**
CHOS	**Chios island**	**1.95**	**345**	eP	**Pn**	**00 18 58.2**	**+0.1**
CHOS	**Chios island**	**1.95**	**345**	ePn	**Pn**	**00 18 58.5**	**+0.4**
VAM	**Vamos**	**2.29**	**242**	eP	**Pn**	**00 19 03.4**	**+1.3**
VAM				eS	**Sn**	**00 19 31.4**	**-0.1**
VAM	**Vamos**	**2.29**	**242**	eP	**Pn**	**00 19 03.4**	**+1.3**
VAM				eS	**Sn**	**00 19 31.4**	**-0.1**
KSL	**Kastellorizon**	**2.37**	**98**	eP	**Pn**	**00 19 04.9**	**+1.9**
KSL	**Kastellorizon**	**2.37**	**98**	eP	**Pn**	**00 19 04.9**	**+1.9**
AKAS	**Kas**	**2.37**	**96**	i P	**Pn**	**00 19 05.0**	**+1.8**
AKAS				i S	**Sn**	**00 19 33.9**	**+0.4**
AKAS	**Kas**	**2.37**	**96**	i P	**Pn**	**00 19 05.0**	**+1.8**
AKAS				i S	**Sn**	**00 19 33.9**	**+0.4**
GOLH	**Golhisar**	**2.42**	**71**	i P	**Pn**	**00 19 05.7**	**+1.9**
GOLH				i S	**Sn**	**00 19 34.7**	**+0.1**
GOLH	**Golhisar**	**2.42**	**71**	i P	**Pn**	**00 19 05.7**	**+1.9**
GOLH				i S	**Sn**	**00 19 34.7**	**+0.1**
ELL	**Elmali**	**2.61**	**84**	ePN	**Pn**	**00 19 07.2**	**+1.1**
ELL	**Elmali**	**2.61**	**84**	ePn	**Pn**	**00 19 07.2**	**+1.1**
PRK	**Paraskevi**	**2.76**	**353**	eP	**Pn**	**00 19 07.8**	**-0.1**
PRK	**Paraskevi**	**2.76**	**353**	eP	**Pn**	**00 19 07.8**	**-0.1**
KHL	**Karahalli**	**2.90**	**50**	ePN	**Pn**	**00 19 11.1**	**+1.3**
KHL	**Karahalli**	**2.90**	**50**	ePn	**Pn**	**00 19 11.1**	**+1.3**
DID	**Didima**	**2.94**	**291**	P	**Pn**	**00 19 11.0**	**+0.8**
DID				S	**Sn**	**00 19 43.7**	**-2.3**
DID	**Didima**	**2.94**	**291**	eP	**Pn**	**00 19 11.0**	**+0.8**
DID	**Didima**	**2.94**	**291**	P	**Pn**	**00 19 11.0**	**+0.8**
DID				S	**Sn**	**00 19 43.7**	**-2.3**
KYTH	**Kithira**	**2.95**	**267**	P	**Pn**	**00 19 11.5**	**+1.2**
KYTH	**Kithira**	**2.95**	**267**	eP	**Pn**	**00 19 11.6**	**+1.2**
KYTH	**Kithira**	**2.95**	**267**	P	**Pn**	**00 19 11.5**	**+1.2**
KORT	**Korkueli**	**2.99**	**79**	i P	**Pn**	**00 19 12.9**	**+2.0**
KORT				i S	**Sn**	**00 19 43.4**	**-3.9**
KORT	**Korkueli**	**2.99**	**79**	i P	**Pn**	**00 19 12.9**	**+2.0**
VLI	**Veliai**	**3.02**	**275**	P	**Pn**	**00 19 11.6**	**+0.4**
VLI				S	**Sn**	**00 19 45.6**	**-2.3**
VLI	**Veliai**	**3.02**	**275**	eP	**Pn**	**00 19 11.8**	**+0.6**
VLI	**Veliai**	**3.02**	**275**	eP	**Pn**	**00 19 11.8**	**+0.6**
VLI				S	**Sn**	**00 19 45.6**	**-2.3**
ANTB	**Antalya**	**3.22**	**82**	ePN	**Pn**	**00 19 15.4**	**+1.7**
ANTB	**Antalya**	**3.22**	**82**	ePn	**Pn**	**00 19 15.4**	**+1.7**
BCK	**Bucak**	**3.27**	**72**	ePN	**Pn**	**00 19 16.1**	**+1.6**
BCK	**Bucak**	**3.27**	**72**	ePn	**Pn**	**00 19 16.1**	**+1.6**
VLX	**Vlachokerasia**	**3.56**	**285**	eP	**Pn**	**00 19 19.2**	**+1.0**
VLX				eS	**Sn**	**00 19 59.0**	**-1.3**
VLX	**Vlachokerasia**	**3.56**	**285**	eP	**Pn**	**00 19 19.2**	**+1.0**
VLX				eS	**Sn**	**00 19 59.0**	**-1.3**
GUR	**Goura**	**3.75**	**294**	eP	**Pn**	**00 19 22.3**	**+1.6**
GUR	**Goura**	**3.75**	**294**	eP	**Pn**	**00 19 22.3**	**+1.6**
DSF	**Desfina**	**3.82**	**301**	eP	**Pn**	**00 19 22.4**	**+0.8**
DSF	**Desfina**	**3.82**	**301**	eP	**Pn**	**00 19 22.4**	**+0.8**
ITM	**Ithomi**	**3.88**	**282**	eP	**Pn**	**00 19 23.8**	**+1.5**
ITM	**Ithomi**	**3.88**	**282**	eP	**Pn**	**00 19 23.8**	**+1.5**
KLV	**Kalavryta, Ach**	**3.93**	**294**	eP	**Pn**	**00 19 24.2**	**+1.1**
KLV				eS	**Sn**	**00 20 07.7**	**-1.3**
KLV	**Kalavryta, Ach**	**3.93**	**294**	eP	**Pn**	**00 19 24.2**	**+1.1**
KLV				eS	**Sn**	**00 20 07.7**	**-1.3**
PYL	**PYLOS**	**3.99**	**277**	eP	**Pn**	**00 19 23.8**	**0.0**
PYL	**PYLOS**	**3.99**	**277**	eP	**Pn**	**00 19 23.8**	**0.0**
KALE	**Kalithea**	**4.08**	**299**	eP	**Pn**	**00 19 26.9**	**+1.9**
KALE	**Kalithea**	**4.08**	**299**	eP	**Pn**	**00 19 26.9**	**+1.9**
AMT	**Artemida-Makis**	**4.11**	**286**	eP	**Pn**	**00 19 27.1**	**+1.7**
AMT	**Artemida-Makis**	**4.11**	**286**	eP	**Pn**	**00 19 27.1**	**+1.7**
DRO	**Drossia**	**4.23**	**292**	eP	**Pn**	**00 19 28.7**	**+1.8**
DRO	**Drossia**	**4.23**	**292**	eP	**Pn**	**00 19 28.7**	**+1.8**
EFP	**Efpalio**	**4.26**	**298**	eP	**Pn**	**00 19 29.5**	**+2.2**
EFP	**Efpalio**	**4.26**	**298**	eP	**Pn**	**00 19 29.5**	**+2.2**
RLS	**Riolos of Patr**	**4.44**	**292**	eP	**Pn**	**00 19 32.0**	**+2.3**
RLS	**Riolos of Patr**	**4.44**	**292**	eP	**Pn**	**00 19 32.0**	**+2.3**
GAZI	**Gazipasa**	**4.55**	**92**	i P	**Pn**	**00 19 31.4**	**+0.2**
GAZI				i S	**Sn**	**00 20 20.4**	**-3.3**
GAZI	**Gazipasa**	**4.55**	**92**	i P	**Pn**	**00 19 31.4**	**+0.2**
EVR	**Evrytania**	**4.56**	**303**	eP	**Pn**	**00 19 33.7**	**+2.4**
EVR	**Evrytania**	**4.56**	**303**	eP	**Pn**	**00 19 33.7**	**+2.4**
PDO	**Prodromos**	**4.85**	**297**	eP	**Pn**	**00 19 36.8**	**+1.7**
PDO	**Prodromos**	**4.85**	**297**	eP	**Pn**	**00 19 36.8**	**+1.7**
ERMK	**Ermenek**	**5.02**	**87**	i P	**Pn**	**00 19 40.0**	**+2.5**
ERMK				i S	**Sn**	**00 20 39.7**	**+4.7**
ERMK	**Ermenek**	**5.02**	**87**	i P	**Pn**	**00 19 40.0**	**+2.5**
VLS	**Valsamata**	**5.14**	**291**	eP	**Pn**	**00 19 38.9**	**0.0**
VLS	**Valsamata**	**5.14**	**291**	eP	**Pn**	**00 19 38.9**	**0.0**
SLUM		**5.14**	**194**	P	**Pn**	**00 19 39.5**	**+0.4**
	baz=191						
SLUM				S	**Sn**	**00 20 35.7**	**-1.9**
	baz=191						
SLUM		**5.14**	**194**	P	**Pn**	**00 19 39.4**	**+0.4**
SLUM				S	**Sn**	**00 20 35.7**	**-1.9**
DSL	**Palaion Diasel**	**5.15**	**302**	eP	**Pn**	**00 19 40.7**	**+1.6**
DSL	**Palaion Diasel**	**5.15**	**302**	eP	**Pn**	**00 19 40.7**	**+1.6**
LKD2	**Lefkada island**	**5.30**	**297**	eP	**Pn**	**00 19 41.8**	**+0.7**
LKD2	**Lefkada island**	**5.30**	**297**	eP	**Pn**	**00 19 41.8**	**+0.7**
HMAT	**Matruh**	**5.40**	**176**	S	**Sn**	**00 20 43.7**	**-0.2**
	baz=173						
HMAT	**Matruh**	**5.40**	**176**	S	**Sn**	**00 20 43.7**	**-0.2**
IGT	**Igoumenitsa**	**5.86**	**303**	eP	**Pn**	**00 19 48.8**	**+0.3**
IGT	**Igoumenitsa**	**5.86**	**303**	eP	**Pn**	**00 19 48.8**	**+0.3**
KOT	**Kottamia**	**7.84**	**145**	S	**Sn**	**00 21 40.0**	**-2.6**
	baz=145						
RSH		**8.05**	**131**	P	**Pn**	**00 20 19.2**	**+1.2**
	baz=132						
RSH				S	**Sn**	**00 21 44.5**	**-3.1**
	baz=132						
RSH		**8.05**	**131**	P	**Pn**	**00 20 19.2**	**+1.2**
GLL	**Jalalah**	**8.09**	**147**	P	**Pn**	**00 20 19.9**	**+1.4**
	baz=147						
GLL				S	**Sn**	**00 21 45.4**	**-3.1**
	baz=147						
GLL	**Jalalah**	**8.09**	**147**	P	**Pn**	**00 20 19.9**	**+1.4**
AWBH		**8.37**	**166**	P	**Pn**	**00 20 23.3**	**+1.1**
	baz=165						
AWBH		**8.37**	**166**	P	**Pn**	**00 20 23.3**	**+1.1**
HNKL	**Nakhl**	**8.96**	**135**	P	**Pn**	**00 20 31.3**	**+1.2**
	baz=135						
HNKL				S	**Sn**	**00 22 05.5**	**-3.9**
	baz=135						
HNKL	**Nakhl**	**8.96**	**135**	P	**Pn**	**00 20 31.3**	**+1.2**
STON	**Ston**	**9.40**	**315**	P	**Pn**	**00 20 33.9**	**-1.9**
HKAT	**Jabal Katrina**	**10.06**	**140**	P	**Pn**	**00 20 46.6**	**+1.6**
	baz=140						
HKAT	**Jabal Katrina**	**10.06**	**140**	P	**Pn**	**00 20 46.6**	**+1.6**

IDC 02 00:30:18.5±10.0**, 2°.25N**×**99°.56E, h0km, mb3.7**/3**, mb1 3.8**/3**, mb1mx3.4**/25**, mbtmp3.7**/3**, Error ellipse: s-maj=530.1km s-min=28.1km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.63**	**125**	P	P	00 38 00.5	-0.1
	0.4nm,0.4s,baz=300,slow=9.0,SNR=11						
MKAR	**Makanchi Array**	**46.85**	**344**	P	P	00 38 51.0	+0.6
	0.2nm,0.7s,baz=154,slow=9.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**52.94**	**349**	P	P	00 39 35.6	-0.9
	0.6nm,0.4s,baz=156,slow=6.3,SNR=3.8						

IDC 02 00:45:21.2±2.5**, 2°.00S**×**139°.45E, h0km, mb3.6**/4**, mb1 3.9**/5**, mb1mx3.7**/18**, mbtmp3.8**/5**, ML4.2**/1**, MS4.0**/1**, Ms1 4.0**/1**, ms1mx2.7**/31**, Error ellipse: s-maj=116.4km s-min=22.0km az=83.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.52**	**195**	P	P	00 49 38.5	-0.8
	0.8nm,0.3s,baz=17,slow=12,SNR=38						
ASAR	**Alice Springs**	**22.20**	**194**	P	P	00 50 19.6	+0.3
	3.1nm,0.8s,baz=23,slow=10,SNR=37						
JCJ	**Chichijima**	**29.05**	**5**	LR	LR	01 00 47.2	
	comp=Z,290nm,21.1s,baz=108,slow=32						
STKA	**Stephens Creek**	**29.79**	**176**	P	P	00 51 29.8	0.0
	1.0nm,0.6s,baz=349,slow=10,SNR=3.3						
H11S3	**WAKE ISLAND Hy**	**33.66**	**52**	T	T	01 28 05.8	
	baz=236,slow=74						
H11S2	**WAKE ISLAND Hy**	**33.67**	**52**	T	T	01 28 06.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=236,slow=74						
H11S1	**WAKE ISLAND Hy**	**33.68**	**52**	T	T	01 28 08.6	
	baz=236						
MKAR	**Makanchi Array**	**69.69**	**322**	P	P	00 56 32.7	-0.2
	0.1nm,0.4s,baz=109,slow=8.3,SNR=2.7						
BVAR	**Borovoye Array**	**79.16**	**325**	P	P	00 57 28.1	+0.2
	0.4nm,0.5s,baz=90,slow=5.8,SNR=3.2						

IDC 02 00:48:15.8±1.9**,22°.87S**×**67°.91W,h120**km±13km**,mb3.0**/2**, mb1 3.5**/4**,mb1mx3.2**/17**,mbtmp3.7**/4**,MS2.6**/1**,Ms1 2.7**/1**, ms1mx2.6**/5**,Error ellipse: s-maj=42.5km s-min=27.2km az=165.0,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.96**	**285**	P	Pn	00 48 38.4	+0.7
	5μm,0.3s,baz=127,slow=5.7,SNR=3187						
LVC				S	Sn	00 48 54.6	+0.3
	3μm,0.3s,baz=311,slow=20,SNR=64						
LPAZ	**La Paz**	**6.55**	**358**	P	Pn	00 49 51.7	+1.2
	1.2nm,0.3s,baz=161,slow=7.1,SNR=44						
LPAZ				LR	LR	00 52 56.6	
	comp=Z,54nm,20.4s,baz=57,slow=43						
SIV	**San Ignacio**	**9.40**	**45**	P	Pn	00 50 26.4	-1.9
	3.0nm,0.3s,baz=238,slow=9.1,SNR=50						
SIV				S	Sn	00 52 08.6	-3.7
	0.1nm,0.3s,baz=238,slow=13,SNR=2.1						
TXAR	**Lajitas Array**	**62.27**	**325**	P	P	00 58 25.1	-0.3
	0.3nm,0.8s,baz=155,slow=8.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**76.95**	**70**	P	P	00 59 55.8	+0.1
	0.4nm,0.9s,baz=257,slow=4.5,SNR=4.7						

*IDC **02** 00:56:13.5±0.9, 36°.02N×75°.83E, h0km, mb4.0/10, mb1 4.2/16, mb1mx4.0/31, mbtmp4.0/16, ML3.8/6, MS3.1/3, Ms1 3.2/3, ms1mx2.8/36, Error ellipse: s-maj=19.1km s-min=17.6km az=73.0*
*ISCJB **02** 00:56:15.8±0.2, 35°.89N±0°.02×76°.10E±0°.04, h38km, mb4.0/12, MS4.2/2, Error ellipse: s-maj=5.0km s-min=2.8km az=166.6*
*BJI **02** 00:56:16.3, 36°.13N×76°.07E, h8km, mb3.9/1, ML4.1/5, Ms3.7/1*
*MOS **02** 00:56:17.9±2.1, 36°.04N×75°.89E, h33km, mb4.5/4, Error ellipse: s-maj=16.7km s-min=6.9km az=95.2*
*NNC **02** 00:56:18.9±3.0, 36°.19N×75°.78E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=23.7km s-min=16.2km az=166.0*
*NEIC **02** 00:56:21.6±1.4, 36°.08N×75°.98E, h66km±12km, mb4.4/3, Error ellipse: s-maj=15.4km s-min=11.3km az=156.0*
ISC 02 00:56:18.2±0.5**,35°.94N**±0°.04×**76°.04E**±0°.05**,h38**km**,n102, σ2ˢ01**/110**,mb4.0**/12**,12C-11D,Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**3.23**	**226**	P	Pn	00 57 09.9	+3.5
DLH	**Dalhousie**	**3.39**	**181**	eP	Pn	00 57 12.0	+3.2
DLH				ex	x	00 57 59.0	
KSH	**Kashi**	**3.57**	**359**	Pg	**Pn**	**00 57 11.1**	**-0.1**
KSH				Sg	**Sn**	**00 57 51.0**	**-1.2**
KSH				SMN			
	300nm,0.7s						
KSH				SME			
	290nm,0.5s						
CEP	**Cherat**	**4.00**	**239**	P	**Pn**	**00 57 18.0**	**+0.9**
CEP				S	Sn	00 58 17.0	+14
SDNR	**Sundarnagar**	**4.50**	**170**	eP	**Pn**	**00 57 26.6**	**+2.8**
SDNR				ex	x	00 58 36.6	
SFK	**Sufi-Kurgan**	**4.53**	**335**	⇓Pn	**Pn**	**00 57 25.6**	**+1.1**
	61nm,0.8s						
SFK				⇑Sn	**Sn**	**00 58 16.5**	**+0.4**
	40nm,0.4s						
SMLA	**Simla**	**4.89**	**169**	eP	**Pn**	**00 57 31.7**	**+2.5**
SMLA				eS	**Sn**	**00 58 28.1**	**+3.6**
KBL	**Kabul**	**5.89**	**258**	ePN	**Pn**	**00 57 45.0**	**+1.8**
KBL	**Kabul**	**5.89**	**258**	ePn	**Pn**	**00 57 45.0**	**+1.8**
KBL				eSn	**Sn**	**00 58 47.1**	**-2.5**
JOSI	**Joshimath**	**6.12**	**150**	eP	**Pn**	**00 57 49.3**	**+2.9**
JOSI				eS	**Sn**	**00 58 53.3**	**-2.0**
JOSI				AML	AML	00 59 03.9	
	comp=N,244nm,0.6s						
JOSI				AML	AML	00 59 04.0	
	comp=E,234nm,0.4s						
KZA	**Kyzart**	**6.16**	**354**	P	**Pn**	**00 57 49.3**	**+2.3**
	SNR=7.6						
UCH	**Uchtor**	**6.39**	**350**	P	**Pn**	**00 57 52.6**	**+2.4**
	SNR=30						
DZET	**Dzherino**	**6.42**	**299**	⇓Pn	**Pn**	**00 57 52.7**	**+2.5**
	comp=E,13nm,0.5s						
DZET				⇓Sn	**Sn**	**00 59 02.2**	**0.0**
	comp=E,53nm,0.5s						
AML	**Almayashu**	**6.45**	**344**	P	**Pn**	**00 57 52.6**	**+1.7**
	SNR=9.8						
KBK	**Karagaybulak**	**6.76**	**353**	P	Pn	00 57 59.4	+4.4
	SNR=5.6						
AAK	**Ala-Archa**	**6.79**	**350**	P	Pn	00 57 59.4	+3.9
	SNR=15						
AAK	**Ala-Archa**	**6.79**	**350**	⇑Pn	**Pn**	**00 57 56.7**	**+1.2**
	comp=E,6.6nm,0.5s						
AAK				⇑Lg	Lg	00 59 42.0	
	comp=E,19nm,0.7s						
AAK	**Ala-Archa**	**6.79**	**350**	Pn	**Pn**	**00 57 58.4**	**+3.0**
	comp=E,1.9nm,0.3s,baz=130,slow=2.6,SNR=13						
AAK				Lg	Lg	00 59 46.1	
	comp=E,1.3nm,0.3s,baz=172,slow=19,SNR=2.8						
AAK				LR	LR	01 00 51.1	
	comp=E,114nm,21.4s,baz=154,slow=42						
AAK	**Ala-Archa**	**6.79**	**350**	ePn	**Pn**	**00 57 58.3**	**+2.9**
AAK				eSn	Sn	00 59 03.5	-8.0
EKS2	**Erkin-Say**	**6.94**	**346**	P	**Pn**	**00 57 58.6**	**+1.2**
	SNR=7.5						
EKS2	**Erkin-Say**	**6.94**	**346**	ePN	**Pn**	**00 57 58.6**	**+1.2**
EKS2	**Erkin-Say**	**6.94**	**346**	ePn	**Pn**	**00 57 58.6**	**+1.2**
FRU	**Bishkek**	**6.97**	**351**	ePN	Pn	00 58 04.0	+6.2
FRU				e		00 58 21.0	
FRU				pmax	pmax		
	comp=N,220nm,1.6s						
TKM2	**Tokmak 2**	**6.98**	**357**	P	Pn	00 58 01.2	+3.2
	SNR=7.7						
TKM2	**Tokmak 2**	**6.98**	**357**	⇓Pn	**Pn**	**00 58 01.0**	**+3.0**
	comp=N,11nm,0.7s						
TKM2				⇓Lg	Lg	00 59 51.0	
	comp=N,56nm,1.3s						
TKM2	**Tokmak 2**	**6.98**	**357**	ePN	**Pn**	**00 58 00.9**	**+2.8**
TKM2	**Tokmak 2**	**6.98**	**357**	ePn	**Pn**	**00 58 00.9**	**+2.8**
TKM2				eSn	Sn	00 59 09.5	-6.7
MNAS	**Manas**	**7.09**	**338**	⇑Pn	**Pn**	**00 57 60.0**	**+0.5**
	comp=N,9.0nm,0.4s						
MNAS				⇓Sn	**Sn**	**00 59 20.7**	**+1.8**
	comp=N,15nm,0.5s						
NDI	**New Delhi**	**7.30**	**172**	eP	**Pn**	**00 58 03.0**	**+0.6**
NDI				ex	x	00 59 26.0	
SONA	**Sohna**	**7.72**	**173**	eP	**Pn**	**00 58 09.5**	**+1.5**
SONA				eS	**Sn**	**00 59 33.1**	**-1.0**
KUDL	**Kundal**	**7.78**	**177**	eP	**Pn**	**00 58 10.0**	**+1.1**
KUDL				eS	**Sn**	**00 59 33.9**	**-1.8**
PDGK	**Podgornoye**	**7.84**	**19**	⇑Pn	**Pn**	**00 58 11.4**	**+1.7**
	comp=N,14nm,0.8s						
PDGK				⇓Sn	Sn	00 59 43.3	+6.2
	comp=N,18nm,0.7s						
PDGK				⇓Lg	Lg	01 00 19.8	
	comp=N,40nm,0.7s						
KHET	**Khetri**	**7.85**	**182**	eP	**Pn**	**00 58 10.6**	**+0.8**
KHET				eS	**Sn**	**00 59 35.2**	**-2.1**
KK31	**Karatay Array**	**8.33**	**331**	⇑Pn	**Pn**	**00 58 15.7**	**-0.7**
	comp=N,2.4nm,0.3s,baz=142,slow=13,SNR=128						
KK31				⇓Sn	**Sn**	**00 59 45.4**	**-3.8**
	comp=N,4.2nm,0.4s,baz=149,slow=25						
AGRA	**Agra**	**8.83**	**169**	eP	**Pn**	**00 58 24.8**	**+1.5**
AGRA				eS	**Sn**	**00 59 57.8**	**-3.8**
AGRA				AML	AML	01 00 27.6	
	comp=N,78nm,0.3s						
AGRA				AML	AML	01 00 28.0	
	comp=E,84nm,0.4s						
KOLN	**Koldanda**	**10.37**	**140**	eP	**Pn**	**00 58 45.3**	**+0.7**
	comp=E,20nm,0.4s						
GKN	**Gorkha**	**10.76**	**135**	eP	**Pn**	**00 58 47.0**	**-2.9**
	comp=E,24nm,0.3s						
DMN	**Daman**	**11.33**	**135**	eP	**Pn**	**00 58 55.0**	**-2.7**
	comp=E,26nm,0.6s						
PKIN	**Phulchoki**	**11.52**	**134**	eP	Pn	00 58 57.1	-3.3
PKI	**Pulchoki**	**11.53**	**134**	eP	**Pn**	**00 58 57.9**	**-2.7**
	comp=E,26nm,0.6s						
GUN	**Gumba**	**11.57**	**131**	eP	Pn	00 58 57.7	-3.4
	comp=E,16nm,0.4s						
MK01	**Makanchi Array**	**11.79**	**22**	ePn	**Pn**	**00 59 04.3**	**+0.6**
MK31	**Makanchi Array**	**11.81**	**21**	⇑Pn	**Pn**	**00 59 04.3**	**+0.2**
	comp=E,0.8nm,0.5s,baz=197,slow=12,SNR=7.2						
MK31				⇑Sn	**Sn**	**01 01 18.4**	**+4.0**
	comp=E,2.8nm,0.7s,baz=159,slow=40,SNR=4.4						
MK32	**Makanchi Array**	**11.81**	**21**	ePn	**Pn**	**00 59 04.6**	**+0.6**
MK32				eSn	**Sn**	**01 01 10.2**	**-4.2**
MKAR	**Makanchi Array**	**11.81**	**21**	Pn	**Pn**	**00 59 04.6**	**+0.6**
	comp=E,0.6nm,0.3s,baz=201,slow=13,SNR=18						
MKAR				Sn	**Sn**	**01 01 10.2**	**-4.2**
	comp=E,0.2nm,0.3s,baz=193,slow=24,SNR=2.5						
MKAR	**Makanchi Array**	**11.81**	**21**	P	**Pn**	**00 59 04.6**	**+0.6**
MKAR						01 01 10.2	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WMQ	**Urumqi**	**11.91**	**45**	P	**Pn**	**00 59 07.9**	**+2.5**
WMQ				S	**Sn**	**01 01 20.6**	**+3.6**
WMQ				LN			
	comp=Z,140nm,7.0s						
WMQ				LE			
	comp=Z,130nm,6.3s						
JIRN	**Jiri**	**11.94**	**131**	eP	**Pn**	**00 59 03.1**	**-3.1**
	comp=Z,33nm,0.5s						
RAMN	**Ramite**	**12.70**	**132**	eP	Pn	00 59 13.2	-3.3
	comp=Z,9.4nm,0.3s						
TAPN	**Taplejung**	**13.11**	**128**	eP	**Pn**	**00 59 19.3**	**-2.8**
	comp=Z,13nm,0.6s						
ODAN	**Odare**	**13.25**	**130**	eP	**Pn**	**00 59 21.8**	**-2.2**
	comp=Z,7.7nm,0.3s						
KURBB	**Kurchatov Arra**	**14.79**	**6**	⇑Pn	**Pn**	**00 59 42.6**	**-1.8**
	comp=Z,8.3nm,0.7s						
KURBB	**Kurchatov Arra**	**14.79**	**6**	Pn	**Pn**	**00 59 42.7**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=190,slow=12,SNR=17						
KURBB				Lg	Lg	01 04 02.8	
	comp=Z,0.1nm,0.3s,baz=194,slow=27,SNR=5.2						
KURK	**Kurchatov**	**14.89**	**6**	eP	**Pn**	**00 59 43.7**	**-2.1**
KURK	**Kurchatov**	**14.89**	**6**	ePn	**Pn**	**00 59 43.7**	**-2.1**
BVA0	**Borovoye Array**	**17.54**	**349**	⇑Pn	**P**	**01 00 20.4**	**0.0**
	comp=Z,5.3nm,0.6s,baz=155,slow=10,SNR=7.1						
BVAR	**Borovoye Array**	**17.54**	**349**	P	**Pn**	**01 00 18.5**	**-1.1**
	comp=Z,1.6nm,0.3s,baz=157,slow=9.6,SNR=46						
BVAR	**Borovoye Array**	**17.54**	**349**	P	**Pn**	**01 00 18.5**	**-1.1**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BRVK	**Borovoye**	**17.59**	**348**	d iP	**P**	**01 00 21.7**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRVK	**Borovoye**	**17.59**	**348**	ePn	**P**	**01 00 21.6**	**+0.6**
	comp=Z,11nm,0.6s						
AB31	**Akbulak array**	**17.77**	**323**	⇑Pn	**Pn**	**01 00 18.3**	**-4.1**
	comp=Z,1.5nm,0.5s,baz=118,slow=14,SNR=4.0						
ZAA0	**Zalesovo Array**	**19.02**	**16**	eP	**P**	**01 00 36.9**	**+0.3**
ZALV	**Zalesovo Beam**	**19.02**	**16**	P	**P**	**01 00 35.6**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=206,slow=11,SNR=10						
ZALV				LR	LR	01 08 27.0	
	comp=Z,36nm,21.4s,baz=254,slow=39						
ZALV	**Zalesovo Beam**	**19.02**	**16**	i P	**Pn**	**01 00 39.5**	**+1.9**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAA1	**Zalesovo Array**	**19.02**	**16**	eP	**P**	**01 00 35.6**	**-1.1**
AKTO	**Aktyubinsk**	**19.48**	**324**	P	**P**	**01 00 41.4**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=120,slow=11,SNR=61						
AKTO	**Aktyubinsk**	**19.48**	**324**	P	**P**	**01 00 41.4**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NVS	**Novosibirsk**	**19.54**	**13**	eP	**P**	**01 00 41.8**	**-0.5**
NVS				eS	**S**	**01 04 20.9**	**+0.1**
NVS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NVS				pmax	pmax		
	comp=N,4.0nm,0.7s						
NVS				smax	smax		
	comp=N,18nm,2.4s						
SVE	**Sverdlovsk**	**23.33**	**338**	eP	**P**	**01 01 22.6**	**-0.2**
CD2	**Chengdu**	**23.63**	**94**	eP	**P**	**01 01 25.4**	**-0.6**
ARU	**Arti**	**23.67**	**335**	d iP	**P**	**01 01 25.6**	**-0.4**
ARU						01 01 51.0	
ARU				S	**S**	**01 05 41.0**	**+3.0**
ARU				SS	**SnSn**	**01 06 20.7**	**+3.2**
ARU				pmax	pmax		
	comp=Z,10.0nm,2.5s						
ARU	**Arti**	**23.67**	**335**	eP	**P**	**01 01 25.9**	**-0.1**
	comp=Z,5.8nm,0.5s						
SONA0	**Songino Array**	**25.36**	**53**	eP	**P**	**01 01 42.8**	**+1.0**
SONM	**Songino Array**	**25.36**	**53**	P	**P**	**01 01 42.8**	**+1.0**
	comp=Z,2.4nm,0.8s,baz=246,slow=10.0,SNR=9.9						
SONM	**Songino Array**	**25.36**	**53**	P	**P**	**01 01 42.8**	**+1.0**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONA1	**Songino Array**	**25.37**	**53**	eP	**P**	**01 01 40.0**	**-1.8**
CM31	**Chiang Mai Arr**	**26.69**	**125**	eP	**P**	**01 01 57.9**	**+4.0**
CMAR	**Chiang Mai Arr**	**26.69**	**125**	P	**P**	**01 01 57.9**	**+4.0**
	comp=Z,2.5nm,0.5s,baz=305,slow=9.8,SNR=11						
CMAR	**Chiang Mai Arr**	**26.69**	**125**	P	**P**	**01 01 57.9**	**+4.0**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CM01	**Chiang Mai Arr**	**26.73**	**125**	eP	P	01 02 03.9	+10
WHN	**Wuhan**	**32.34**	**88**	P	P	01 02 39.3	-4.6
WHN				S	**S**	**01 07 52.1**	**-3.2**
WHN				LR	LR		
	comp=N,4μm,28.2s						
WHN				LR	LR		
	comp=E,2μm,19.4s						
WHN				LR	LR		
	comp=Z,3μm,25.8s						
BR101	**Keskin Array S**	**33.48**	**289**	eP	**P**	**01 02 53.8**	**-0.1**
BRTR	**Keskin Array B**	**33.48**	**289**	P	**P**	**01 02 53.8**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=115,slow=10,SNR=3.5						
FIA0	**FINESS Array S**	**40.24**	**325**	eP	**P**	**01 03 51.1**	**+0.2**
FIA0	**FINESS Array S**	**40.24**	**325**	eP	**P**	**01 03 51.1**	**+0.2**
FINES	**FINESS Array B**	**40.24**	**325**	P	**P**	**01 03 51.1**	**+0.2**
	comp=Z,5.6nm,0.5s,baz=118,slow=10,SNR=56						
FINES	**FINESS Array B**	**40.24**	**325**	i P	**P**	**01 03 51.0**	**+0.1**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ARA0	**ARCESS Array S**	**43.25**	**337**	eP	**P**	**01 04 13.3**	**-2.2**
ARCES	**ARCESS Array B**	**43.25**	**337**	P	**P**	**01 04 15.6**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=112,slow=8.8,SNR=12						
ARCES	**ARCESS Array B**	**43.25**	**337**	P	**P**	**01 04 15.6**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CLL	**Collm**	**46.70**	**310**	⇑iPKP		01 28 22.8	
	comp=Z,5.0nm,0.7s						
NB2	**NORSAR Subarra**	**47.28**	**323**	P	**P**	**01 04 46.9**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=92,slow=7.9						
NB200	**NORSAR Array S**	**47.28**	**323**	eP	**P**	**01 04 47.0**	**-0.6**
NOA	**NORSAR Array B**	**47.28**	**323**	P	**P**	**01 04 47.0**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=93,slow=7.6,SNR=12						
NOA				LR	LR	01 25 40.5	
	comp=Z,49nm,19.0s,baz=95,slow=38						
NOA	**NORSAR Array B**	**47.28**	**323**	P	**P**	**01 04 47.0**	**-0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,49nm,19.0s						
KONO	**Kongsberg**	**48.08**	**321**	eP	**P**	**01 04 52.9**	**-0.8**
KONO				pmax	pmax		
	comp=Z,71nm,2.5s						
KONO	**Kongsberg**	**48.08**	**321**	eP	**P**	**01 04 52.9**	**-0.8**
	comp=Z,71nm,2.5s						
BORG	**Borgarnes**	**61.10**	**331**	i P	**P**	**01 06 29.0**	**+1.0**
ESDC	**Sonseca Array**	**61.30**	**300**	P	**P**	**01 06 30.4**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=67,slow=7.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**69.80**	**272**	P	**P**	**01 07 23.3**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=50,slow=5.7,SNR=19						
ILAR	**Eielson Array**	**74.14**	**18**	P	**P**	**01 07 49.7**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=321,slow=7.0,SNR=4.6						
YKA	**Yellowknife Ar**	**81.53**	**5**	P	**P**	**01 08 31.3**	**0.0**
	comp=Z,0.4nm,0.6s,baz=351,slow=5.5,SNR=3.7						

*IDC **02** 00:59:54.1±0.7, 3°.82N×125°.79E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/23, mbtmp4.0/9, ML4.1/1, MS3.8/2, Ms1 3.8/2, ms1mx2.9/29, Error ellipse: s-maj=50.6km s-min=15.0km az=63.0*
*ISCJB **02** 00:59:57.1±0.5, 4°.34N±0°.04×126°.99E±0°.05, h36km, mb4.2/15, MS3.7/2, Error ellipse: s-maj=7.0km s-min=5.5km az=177.2*
*NEIC **02** 01:00:01.0±2.2, 4°.25N×126°.97E, h56km±21km, mb4.4/6, Error ellipse: s-maj=31.0km s-min=9.9km az=62.0*
*DJA **02** 01:00:03.5±0.8, 4°N±6°×12°7E±°, h90km±24km, M4.9/10, mB5.0/5, mb4.5/9, MLv5.3/10, Mw(mB)4.3/5*
ISC 02 00:59:59.3±0.7**,4°.35N**±0°.07×**126°.98E**±0°.07**,h36**km**,n35, σ1ˢ50**/35**,mb4.3**/15**,1D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.57**	**174**	P	**Pn**	**01 00 53.2**	**+1.0**
TNTI				S	**Sn**	**01 01 32.9**	**-0.3**
TNTI	**Ternate**	**3.57**	**174**	ePn	**Pn**	**01 00 52.0**	**-0.2**
CTBH	**Cotabato--PC H**	**3.94**	**317**	⇓iP	Pn	01 01 02.7	+5.5
KMSI	**Cibinong**	**4.80**	**219**	P	**Pn**	**01 01 11.1**	**+2.1**
KMSI				S	**Sn**	**01 02 04.8**	**+1.4**
LBMI	**Labuha**	**4.98**	**174**	P	**Pn**	**01 01 12.1**	**+0.5**
LBMI				S	**Sn**	**01 02 07.0**	**-0.9**
MRSI	**Marisa**	**6.33**	**233**	P	**Pn**	**01 01 28.1**	**-2.1**
MRSI				S	**Sn**	**01 02 42.4**	**+1.1**
SANI	**Sanana**	**6.43**	**189**	P	**Pn**	**01 01 28.8**	**-2.7**
SIJI	**Sorong**	**6.72**	**140**	Pn	**Pn**	**01 01 38.5**	**+3.0**
	2.9nm,0.3s,baz=342,slow=18,SNR=8.7						
SIJI				Sn	**Sn**	**01 02 55.0**	**+4.1**
	1.0nm,0.3s,baz=164,slow=20,SNR=3.9						
LUWI	**Luwuk**	**6.81**	**218**	P	**Pn**	**01 01 38.1**	**+1.4**
	245nm,1.0s,3μm3.9nm						
LUWI	**Luwuk**	**6.81**	**218**	ePn	**Pn**	**01 01 37.8**	**+1.1**
	247nm,1.0s						
APSI	**Ampana**	**7.46**	**226**	P	**Pn**	**01 01 47.1**	**+1.5**
	101nm,0.8s,937nm2.3nm						
NLAI	**Namlea**	**7.54**	**179**	P	**Pn**	**01 01 47.1**	**+0.4**
	20nm,0.6s,0.9nm						
MPSI	**Mapaga**	**8.12**	**241**	P	**Pn**	**01 01 54.3**	**-0.4**
	14nm,0.7s,303nm0.6nm						
FAKI	**Fak Fak**	**8.94**	**144**	P	**Pn**	**01 02 06.5**	**+0.6**
	22nm,1.1s						
TTSI	**Tana Toraja**	**10.25**	**224**	P	**Pn**	**01 02 25.3**	**+1.3**
	32nm,1.0s,509nm						
SRPI	**Serui, Papua**	**11.13**	**124**	P	**Pn**	**01 02 35.4**	**-0.5**
KSM	**Kuching**	**16.89**	**261**	ePn	Pn	01 03 35.6	-17
WRAB	**Tennant Creek**	**25.19**	**164**	eP	**P**	**01 05 21.3**	**-0.3**
	25nm,1.1s						
WRA	**Warramunga Arr**	**25.20**	**164**	P	**P**	**01 05 20.5**	**-1.2**
	4.3nm,0.8s,baz=333,slow=12,SNR=32						
ASAR	**Alice Springs**	**28.65**	**167**	P	**P**	**01 05 50.9**	**-1.9**
	0.7nm,0.6s,baz=346,slow=7.5,SNR=13						
CMAR	**Chiang Mai Arr**	**30.78**	**299**	P	P	01 06 04.4	-7.3
	1.6nm,0.4s,baz=120,slow=8.5,SNR=4.0						
CTAO	**Charters Tower**	**30.80**	**143**	eP	**P**	**01 06 10.6**	**-1.2**
	15nm,1.5s						
MJAR	**Matsushiro Arr**	**33.66**	**16**	LR	LR	01 23 34.4	
	comp=Z,153nm,18.0s,baz=200,slow=41						
STKA	**Stephens Creek**	**38.62**	**160**	P	**P**	**01 07 19.1**	**-0.1**
	4.7nm,0.8s,baz=336,slow=7.8,SNR=12						
ULN	**Ulaanbaatar**	**46.61**	**342**	eP	**P**	**01 08 25.0**	**+0.9**
	1.8nm,0.3s						
SONM	**Songino Array**	**46.80**	**341**	P	**P**	**01 08 26.6**	**+1.1**
	0.9nm,0.7s,baz=150,slow=6.1,SNR=4.9						
MKAR	**Makanchi Array**	**57.19**	**325**	P	**P**	**01 09 42.0**	**-0.8**
	1.2nm,0.8s,baz=134,slow=7.7,SNR=10						
MKAR				PcP	**PcP**	**01 10 36.5**	**-0.6**
	0.9nm,0.6s,baz=103,slow=3.8,SNR=4.4						
YAK	**Yakutsk**	**57.59**	**2**	LR	LR	01 36 54.7	
	comp=Z,59nm,19.4s,baz=96,slow=38						
ZALV	**Zalesovo Beam**	**60.15**	**333**	P	**P**	**01 10 01.7**	**-1.5**
	0.5nm,0.4s,baz=134,slow=8.3,SNR=3.4						
KURK	**Kurchatov**	**61.36**	**327**	eP	**P**	**01 10 10.4**	**-1.0**
	6.7nm,1.0s						
BRVK	**Borovoye**	**67.01**	**327**	eP	**P**	**01 10 49.9**	**+1.4**
	4.2nm,0.9s						
TIXI	**Tiksi**	**67.23**	**1**	eP	**P**	**01 10 50.5**	**+1.0**
	3.0nm,0.8s						
ILAR	**Eielson Array**	**84.44**	**25**	P	P	01 12 34.1	+6.2
	0.2nm,0.6s,baz=249,slow=6.4,SNR=4.2						
FINES	**FINESS Array B**	**91.41**	**332**	P	**P**	**01 13 01.4**	**0.0**
	1.2nm,0.7s,baz=139,slow=11,SNR=4.4						
TORD	**Torodi Ar. Bea**	**122.96**	**289**	PKP	**PKPdf**	**01 18 51.7**	**-1.2**
	0.3nm,0.7s,baz=47,slow=4.1,SNR=2.7						

IDC 02 01:00:46.5±999.0**,0°.54S**×**78°.44W,h0**km**,Error ellipse: s-maj=1526.0km s-min=289.8km az=140.0,Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I08BO	**LAS PENAS INFR**	**18.43**	**148**	i		02 51 30.0	
	baz=326,slow=326,SNR=4.9						
I41PY	**VILLA FLORIDA**	**32.75**	**143**	i		04 24 30.0	
	baz=318,slow=325,SNR=1.0						
I09BR	**BRASILIA INFRA**	**33.57**	**118**	i		04 24 03.4	
	baz=292,slow=324						

*IDC **02** 01:01:42.6±0.4, 4°.08N×126°.46E, h0km, mb4.5/31, mb1 4.6/33, mb1mx4.6/35, mbtmp4.5/33, ML4.5/2, MS4.0/11, Ms1 4.0/11, ms1mx3.7/28, Error ellipse: s-maj=16.8km s-min=8.6km az=74.0*
*BJI **02** 01:01:45.2, 3°.87N×126°.77E, h45km, mb4.9/56, mB4.9/39, Ms4.5/48, Ms7 4.3/47*
*MOS **02** 01:01:48.0±1.0, 4°.11N×126°.50E, h51km, mb5.1/38, MS4.4/5, Error ellipse: s-maj=12.2km s-min=5.6km az=119.9*
*GCMT **02** 01:01:48.3±0.3, 4°.19N×126°.72E, h31km±1km, MW5.0/59, Moment Tensor Solution. s41,c50; s59,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.72±.16; $M_{\theta\theta}$0.74±.10; $M_{\phi\phi}$-2.46±.12; $M_{r\theta}$1.22±.15; $M_{\theta\phi}$-1.34±.11; $M_{\phi r}$1.87±.18; Best double couple: $M_0$3.26800×10^{16} NP1:ϕ_s35.00000°,δ68.00000°,λ107.00000°. NP2: ϕ_s176.00000°,δ27.00000°,λ54.00000°. Principal axes: T 2.7260, Plg63.0000°, Azm332.0000°; N 1.0870, Plg16.0000°, Azm209.0000°; P -3.8100, Plg22.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 01:01:48.3±0.7, 4°.13N×126°.52E, h37km±6km, mb4.9/39 Error ellipse: s-maj=5.8km s-min=3.5km az=60.0*
NEIC Felt [IV] at Melonguanne and [III] at Tahuna.
*KLM **02** 01:01:49.6, 4°.20N×126°.90E, h35km, mb5.2, ML4.6, MS5.8*
*ISCJB **02** 01:01:49.3±0.5, 4°.16N±0°.02×126°.71E±0°.03, h64km±4km, mb4.8/98, Error ellipse: s-maj=5.5km s-min=3.7km az=153.3*
*DJA **02** 01:01:53.3±0.4, 4°N±3°×12°7E±°, h70km±4km, M5.1/37, mB5.5/13, mb5.0/37, MLv5.3/6, Mw(mB)5.0/13*
ISC 02 01:01:49.5±0.3**,4°.23N**±0°.03×**126°.66E**±0°.04**,h47**km±2km**, h47**km**:pP-P,n314,**σ**1ˢ64**/341**,mb4.8**/97**,MS4.0**/15**, 14C-23D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.51**	**317**	eP	**Pn**	**01 02 28.9**	**+0.9**
MATI	**Mati**	**2.72**	**352**	eP	Pn	01 02 35.7	+4.9
MATI				eS	Sn	01 03 17.4	+15
TNTI	**Ternate**	**3.51**	**168**	P	**Pn**	**01 02 41.2**	**-0.4**
TNTI				S	**Sn**	**01 03 21.9**	**-0.1**
TNTI	**Ternate**	**3.51**	**168**	ePn	**Pn**	**01 02 40.8**	**-0.9**
TNTI				eSn	**Sn**	**01 03 19.4**	**-2.6**
BUKP	**Musuan**	**3.95**	**336**	eP	Pn	01 02 51.5	+3.7
BUKP				eS	**Sn**	**01 03 27.4**	**-5.6**
CGP	**Cagayan de Oro**	**4.62**	**335**	⇓eP	Pn	01 03 06.0	+9.1
BUTP	**Butuan**	**4.82**	**348**	eP	Pn	01 03 06.6	+7.1
BUTP				eS	**Sn**	**01 03 51.0**	**-3.0**
PAGZ	**Pagadian**	**4.85**	**318**	eP	**Pn**	**01 03 02.8**	**+2.8**
LBMI	**Labuha**	**4.91**	**170**	P	**Pn**	**01 03 01.7**	**+0.8**
SCPH	**Surigao**	**5.63**	**348**	eP	Pn	01 03 19.6	+8.8
MRSI	**Marisa**	**6.01**	**232**	P	**Pn**	**01 03 17.9**	**+1.9**
	401nm,0.8s,5μm2.2nm						
MRSI				S	**Sn**	**01 04 22.5**	**-1.0**
	401nm,0.8s,5μm2.2nm						
MSLP	**Maasin**	**6.13**	**343**	eP	Pn	01 03 26.5	+8.9
SANI	**Sanana**	**6.28**	**186**	P	**Pn**	**01 03 18.9**	**-0.7**
	103nm,0.8s,2μm0.6nm						
LUWI	**Luwuk**	**6.52**	**217**	P	Pn	01 03 27.5	+4.5
LUWI	**Luwuk**	**6.52**	**217**	ePn	**Pn**	**01 03 24.3**	**+1.3**
LUWI				eSn	**Sn**	**01 04 38.5**	**+2.4**
SWI	**Sorong**	**6.84**	**138**	P	**Pn**	**01 03 26.8**	**-0.6**
	142nm,0.8s,2μm0.6nm						
SWI				S	**Sn**	**01 04 42.1**	**-1.8**
	142nm,0.8s,2μm0.6nm						
SIJI	**Sorong**	**6.85**	**138**	Pn	**Pn**	**01 03 26.5**	**-1.0**
	29nm,0.3s,baz=332,slow=11,SNR=41						
SIJI				Sn	**Sn**	**01 04 39.8**	**-4.4**
	1.2nm,0.3s,baz=229,slow=19,SNR=1.2						
SIJI				LR	LR	01 06 31.3	
	comp=Z,2μm,18.7s,baz=342,slow=42						
PLP	**Palo**	**7.08**	**347**	⇓eP	**Pn**	**01 03 31.4**	**+0.7**
APSI	**Ampana**	**7.15**	**225**	P	Pn	01 03 35.8	+4.2
	502nm,1.4s,4μm2.3nm						
RCP	**Roxas**	**8.24**	**332**	⇓eP	Pn	01 03 51.0	+4.4

PCI Palu 8.52 233 P Pn 01 03 42.8 -7.6
FAKI Fak Fak 9.04 142 P **Pn** **01 03 58.0 +0.5**
84nm,1.0s,893nm
FAKI Fak Fak 9.04 142 *e*Pn **Pn** **01 03 56.2 -1.4**
KDI Kendari 9.08 206 P Pn **01 03 58.4 +0.3**
80nm,0.7s,942nm
SDKM Sandakan 9.53 279 ⇑P Pn 01 04 08.9 +4.6
TTSI Tana Toraja 9.95 223 P Pn 01 04 13.4 +3.4
118nm,1.3s,1µm
KDM Kudat 10.13 286 ⇓P Pn 01 04 21.0 +8.4
KKM Kota Kinabalu 10.55 280 ⇓P Pn 01 04 23.3 +5.0
KKM Kota Kinabalu 10.55 280 *e*Pn **Pn** **01 04 15.6 -2.8**
131nm,1.4s
SPSI Sidrap Palu 10.66 220 P Pn 01 04 23.5 +3.7
KAPI Kappang 11.49 217 Pn Pn 01 04 26.6 -4.5
0.8nm,0.3s,baz=29,slow=8.1,SNR=2.1
KAPI LR LR 01 09 23.7
comp=Z,1µm,19.9s,baz=51,slow=41
BKSI Bulukumba 11.52 215 P Pn 01 04 38.6 +7.1
MTKI Muara Teweh, K 12.83 247 P P 01 04 54.9 -4.2
KBKI Kotabaru 12.88 235 P **P** **01 04 58.3 -1.3**
MMRI Maumere 13.52 199 P **Pn** **01 05 01.0 +2.1**
SMPI Sarmi 13.54 117 P **Pn** **01 04 59.3 +0.2**
59nm,1.5s
BTM Bintulu 13.58 266 ⇑P **Pn** **01 05 01.6 +1.9**
BBKI Banjar Baru 14.07 237 P **P** **01 05 11.0 -1.9**
220nm,1.5s,6µm
SOEI Soe 14.10 190 P **Pn** **01 05 08.1 +1.3**
SOEI Soe 14.10 190 *e*Pn **Pn** **01 05 03.8 -3.0**
SBUM Sibu 14.52 263 ⇓P **P** **01 05 16.5 -1.4**
GENI Genyem 15.11 116 P **P** **01 05 28.0 +3.5**
STKI Sintang 15.72 255 P P 01 05 36.8 +5.5
KSM Kuching 16.56 261 ⇑P **P** **01 05 41.1 +0.6**
KSM Kuching 16.56 261 *e*Pn **Pn** **01 05 37.9 -0.7**
137nm,1.1s
PWJI Pagerwojo 19.18 231 P **Pn** **01 06 11.6 +0.9**
51nm,1.3s
YULB Yu-li 19.74 345 *e*P **P** **01 06 14.2 -1.3**
9.5nm,0.5s
TPUB Ta-pu 19.83 343 *e*P **P** **01 06 17.1 +0.6**
TPI Tanjungpandan 20.22 250 P Pn 01 06 23.1 0.0
41nm,0.9s
GUMO Guam 20.23 61 LR LR 01 13 14.3
comp=Z,223nm,21.9s,baz=236,slow=34
PPBI Pangkal Pinang 21.47 253 P P 01 06 41.7 +7.4
LEM Lembang 21.95 240 P **P** **01 06 37.6 -2.1**
29nm,0.7s,baz=146,slow=23,SNR=5.5
LEM LR LR 01 16 19.7
comp=Z,555nm,19.0s,baz=41,slow=40
QIZ Qiongzhong 22.04 313 P **P** **01 06 41.3 +0.9**
QIZ PMZ
33nm,2.2s
QIZ PMZ
310nm,3.0s
JOW Kunigami 22.52 4 LR LR 01 16 39.9
comp=Z,16nm,19.0s,baz=143,slow=40
MYKOM Kota Tinggi 22.90 265 ⇓P **P** **01 06 52.4 +2.8**
KGM Kluang 23.41 265 ⇓P **P** **01 06 56.6 +2.0**
MDSI Maura Dua 24.07 249 P **P** **01 07 00.3 -0.5**
26nm,0.8s
COEN Coen 24.40 138 *e*P **P** **01 07 02.0 -1.7**
PMG Port Moresby 24.52 124 *e*P **P** **01 07 04.2 -0.6**
PMG pmax pmax
comp=Z,29nm,1.1s
PMG Port Moresby 24.52 124 *e*P **P** **01 07 04.2 -0.6**
comp=Z,29nm,1.1s
FRIM Kepong 25.00 269 ⇑P P 01 07 14.2 +5.0
MNAI Manna 25.17 250 *e*P **P** **01 07 10.4 -0.4**
comp=Z,273nm,1.2s
WRAB Tennant Creek 25.18 163 *c i*P **P** **01 07 10.0 -0.8**
WRAB pmax pmax
comp=Z,143nm,1.7s
WRAB Tennant Creek 25.18 163 *e*P **P** **01 07 09.3 -1.4**
comp=Z,180nm,1.5s
WRA Warramunga Arr 25.18 163 P **P** **01 07 09.4 -1.4**
comp=Z,26nm,0.7s,baz=339,slow=11,SNR=21
WRA S **S** **01 11 33.5 +0.5**
comp=Z,0.9nm,0.9s,baz=346,slow=19,SNR=2.7
CHBT CHBT 25.48 291 P P 01 07 19.5 +5.9
comp=Z,53nm,0.8s,comp=Z,4µm
IPM Ipoh 25.56 272 ⇑P **P** **01 07 18.6 +4.2**
IPM Ipoh 25.56 272 *e*P **P** **01 07 12.0 -2.3**
comp=Z,70nm,1.2s
SKNT Sakolnakorn 25.59 301 P **P** **01 07 15.7 +1.1**
comp=Z,71nm,1.1s,comp=Z,2µm
BKNI Bangkinang 25.89 262 P P 01 07 22.8 +5.5
comp=Z,179nm,1.2s
BKNI Bangkinang 25.89 262 *e*P **P** **01 07 16.9 -0.3**
comp=Z,226nm,1.2s
KULM Kulim 25.94 273 ⇑P **P** **01 07 20.5 +2.7**
MBWA Marble Bar 26.13 195 *e*P **P** **01 07 19.8 +0.4**
comp=Z,23nm,0.8s
PDSI Padang 26.67 260 P P 01 07 31.5 +7.1
JCJ Chichijima 27.14 32 LR LR 01 16 40.7
comp=Z,370nm,21.7s,baz=134,slow=33
MNSI Mandailing Nat 27.26 264 P P 01 07 36.7 +7.0
PSI Prapat 27.72 268 P **P** **01 07 32.0 -1.9**
comp=Z,13nm,1.0s,baz=76,slow=6.6,SNR=6.0
PSI LR LR 01 20 33.6
comp=Z,379nm,21.1s,baz=78,slow=41
PBKT Sadao Pong 28.03 298 P **P** **01 07 36.9 +0.4**
comp=Z,27nm,1.3s,comp=Z,6µm
AS31 Alice Springs 28.62 166 *e*P **P** **01 07 40.2 -1.5**
ASAR Alice Springs 28.62 166 P **P** **01 07 40.4 -1.3**
comp=Z,4.8nm,0.7s,baz=339,slow=6.5,SNR=14
ASAR S **S** **01 12 30.6 +3.5**
comp=Z,1.0nm,0.8s,baz=349,slow=19,SNR=2.6
ASAR LR LR 01 19 43.1
comp=Z,194nm,19.8s,baz=354,slow=38
NJ2 Nanjing 28.63 346 *e*P **P** **01 07 40.4 -1.2**
NJ2 PMZ
comp=Z,40nm,1.0s
WHN Wuhan 28.63 337 P **P** **01 07 42.3 +0.6**
UTTA Uttaradit 28.87 300 P **P** **01 07 45.2 +1.2**
comp=Z,6.2nm,1.0s
JNU Nakatsue 29.01 7 P **P** **01 07 46.9 +1.8**
comp=Z,3.0nm,0.5s,baz=261,slow=7.4,SNR=5.0
GYA Guiyang 29.23 321 P **P** **01 07 49.7 +2.4**
GYA pP **pP** **01 08 01.3 +1.7**
GYA PP **PnPn** **01 08 45.6 +3.6**
GYA S **S** **01 12 38.9 +1.9**
GYA sS **sS** **01 13 00.2 +2.4**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,4.9s
GYA LN
comp=Z,560nm,17.8s
GYA LE
comp=Z,490nm,18.0s
GYA LZ
comp=Z,520nm,17.2s
LAMP Lampang 29.99 300 P **P** **01 07 55.6 +1.7**
comp=Z,8.5nm,1.0s,comp=Z,152nm
CRAI Chiangrai 30.13 304 P **P** **01 07 55.2 +0.1**
comp=Z,10nm,0.8s,comp=Z,7µm
CMAR Chiang Mai Arr 30.56 300 P **P** **01 07 58.0 -1.0**
comp=Z,3.3nm,0.6s,baz=120,slow=7.2,SNR=13
CMAR LR LR 01 20 05.5
comp=Z,323nm,21.6s,baz=106,slow=36
CMAR Chiang Mai Arr 30.56 300 P **P** **01 07 58.0 -1.0**
ENH Enshi 30.56 330 *e*P **P** **01 07 59.0 +0.1**
comp=Z,7.5nm,0.6s
CMMT Chiang Mai 30.70 300 P **P** **01 08 01.3 +1.1**
comp=Z,22nm,1.1s
CHTO Chiang Mai 30.70 300 P **P** **01 08 01.3 +1.0**
comp=Z,76nm,1.1s
CHTO Chiang Mai 30.70 300 *e*P **P** **01 08 00.7 +0.4**
CHTO pmax pmax
comp=Z,13nm,0.9s
CHTO Chiang Mai 30.70 300 *e*P **P** **01 08 00.7 +0.4**
comp=Z,13nm,0.9s
CTA Charters Tower 30.90 142 P **P** **01 08 01.8 -0.2**
comp=Z,8.3nm,1.0s,baz=305,slow=11,SNR=5.8
CTA LR LR 01 22 25.5
comp=Z,385nm,21.2s,baz=344,slow=40
CTAO Charters Tower 30.90 142 *e*P **P** **01 08 01.6 -0.4**
CTAO pmax pmax
comp=Z,14nm,1.1s
CTAO Charters Tower 30.90 142 *e*P **P** **01 08 01.6 -0.4**
comp=Z,14nm,1.1s
KMI Kunming 30.98 314 P **P** **01 08 05.8 +3.0**
KMI S **S** **01 13 09.9 +5.3**
KMI PMZ
comp=Z,8.0nm,0.8s
KMI LN
comp=Z,400nm,16.0s
KMI LE
comp=Z,430nm,19.6s
KMI LZ
comp=Z,690nm,19.6s
MHMT Maesarieng 31.33 298 P **P** **01 08 08.8 +3.0**
comp=Z,23nm,1.0s,comp=Z,326nm
TIA Tai'an 33.01 346 ⇓P **P** **01 08 21.2 +0.9**
TIA PMZ
comp=Z,10.0nm,1.1s
KSAR Wonju Array Be 33.07 2 P **P** **01 08 21.8 +1.0**
KSAR Wonju Array Be 33.07 2 P **P** **01 08 21.8 +1.0**
KSRS Korea Array 33.08 2 P **P** **01 08 21.8 +0.9**
comp=Z,1.5nm,0.4s,baz=180,slow=11,SNR=7.9
KSRS LR LR 01 22 12.5
comp=Z,149nm,21.1s,baz=193,slow=37
MJAR Matsushiro Arr 33.86 17 P **P** **01 08 28.9 +1.1**
comp=Z,0.8nm,0.5s,baz=186,slow=10,SNR=3.3
XAN Xi'an 33.94 333 P **P** **01 08 27.9 -0.5**
XAN pP **pP** **01 08 40.8 -0.1**
XAN S **S** **01 13 47.0 -3.1**
XAN PMZ
comp=Z,13nm,0.7s
XAN LN
comp=Z,280nm,16.4s
XAN LE
comp=Z,61nm,16.4s
XAN LZ
comp=Z,150nm,18.5s
CD2 Chengdu 34.20 323 P **P** **01 08 30.8 0.0**
CD2 pP **pP** **01 08 43.0 -0.2**
CD2 sP **sP** **01 08 48.7 -0.1**
CD2 PP **PP** **01 09 49.3 +0.4**
CD2 S **S** **01 13 56.1 +1.8**
CD2 sS **sS** **01 14 17.1 +1.9**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,140nm,5.2s
CD2 LN
comp=Z,560nm,17.6s
CD2 LE
comp=Z,540nm,15.7s
CD2 LZ
comp=Z,720nm,15.2s
DL2 Dalian 34.81 353 P **P** **01 08 37.5 +1.6**
DL2 S **S** **01 14 07.1 +3.7**
DL2 PMZ
comp=Z,75nm,1.1s
DL2 PMZ
comp=Z,70nm,2.6s
DL2 LN
comp=Z,150nm,17.7s
DL2 LZ
comp=Z,190nm,16.2s
FORT Forrest 34.84 178 *e*P **P** **01 08 34.6 -1.6**
comp=Z,28nm,0.6s
BJT Baijiatuan 36.86 347 *e*P **P** **01 08 54.2 +0.8**
BJT pmax pmax
comp=Z,27nm,0.6s
BJT Baijiatuan 36.86 347 *e*P **P** **01 08 54.2 +0.8**
comp=Z,27nm,0.6s
BJI Beijing 36.88 347 P **P** **01 08 54.4 +0.8**
BJI pP **pP** **01 09 05.2 -0.9**
BJI sP **sP** **01 09 10.5 -1.2**
BJI S **S** **01 14 36.9 +1.9**
BJI PMZ
comp=Z,25nm,0.9s
BJI PMZ
comp=Z,84nm,4.3s
BJI LN
comp=Z,140nm,24.2s
BJI LE
comp=Z,290nm,21.4s
BJI LZ
comp=Z,170nm,22.0s
SNY Shenyang 37.53 356 ⇓P **P** **01 09 01.1 +2.0**
SNY S **S** **01 14 49.0 +4.1**
SNY PMZ
comp=Z,30nm,0.8s
SNY PMZ
comp=Z,160nm,4.7s
SNY LE
comp=Z,260nm,20.0s
SNY LZ
comp=Z,130nm,16.4s
EIDS Eidsvold 37.79 142 *e*P **P** **01 09 00.8 -0.7**
comp=Z,49nm,0.9s
BBOO Buckleboo 37.91 167 *e*P **P** **01 09 01.3 -1.0**
comp=Z,26nm,1.0s
NWAO Narrogin (SRO) 38.02 193 P **P** **01 09 00.7 -2.6**
comp=Z,11nm,1.0s,baz=330,slow=6.7,SNR=2.8
LZH Lanzhou 38.03 329 *e*P **P** **01 09 04.8 +1.2**
LZH pP **pP** **01 09 15.8 -0.4**
LZH sP **sP** **01 09 19.7 -2.1**
LZH PMZ
comp=Z,58nm,1.0s
LZH PMZ
comp=Z,140nm,4.0s
LZH LN
comp=Z,310nm,14.1s
LZH LE
comp=Z,180nm,13.4s
LZH LZ
comp=Z,610nm,16.4s
STKA Stephens Creek 38.62 159 P **P** **01 09 07.8 -0.5**
comp=Z,21nm,0.8s,baz=334,slow=7.8,SNR=25
STKA LR LR 01 27 05.1
comp=Z,194nm,19.4s,baz=356,slow=40
STKA Stephens Creek 38.62 159 *e*P **P** **01 09 07.9 -0.5**
STKA pmax pmax
comp=Z,9.0nm,1.0s
STKA Stephens Creek 38.62 159 *e*P **P** **01 09 07.9 -0.5**
comp=Z,8.6nm,1.0s
HHC Hu-ho-hao-te 38.90 342 *e*P **P** **01 09 10.7 -0.1**
HHC pP **pP** **01 09 23.6 +0.2**
HHC sP **sP** **01 09 26.4 -2.5**
HHC PP **PnPn** **01 10 46.1 +2.8**
HHC S **ScP** **01 15 02.2 -3.3**
HHC sS **sS** **01 15 25.5 -1.5**
HHC SS **SS** **01 17 52.6 -6.2**
HHC PMZ
comp=Z,20nm,0.9s
HHC PMZ
comp=Z,130nm,5.4s
HHC LN
comp=Z,380nm,14.4s
HHC LE
comp=Z,470nm,13.7s
HHC LZ
comp=Z,520nm,14.0s
CN2 Changchun 39.42 359 *e*P **P** **01 09 17.7 +2.8**
CN2 *e*S **S** **01 15 15.3 +2.0**
CN2 PMZ
comp=Z,10.0nm,0.4s
CN2 PMZ
comp=Z,200nm,6.0s
CN2 LN
comp=Z,200nm,17.0s
CN2 LE
comp=Z,200nm,17.0s
CN2 LZ
comp=Z,200nm,16.0s
SHL Shillong 39.52 306 *e*P **P** **01 09 17.0 +0.7**
USRK Ussuriysk Ar. 40.08 6 P **P** **01 09 22.0 +1.6**
comp=Z,1.7nm,0.5s,baz=183,slow=6.1,SNR=4.6
MDJ Mudanjiang 40.30 3 P **P** **01 09 22.8 +0.6**
MDJ pP **pP** **01 09 33.9 -1.0**
MDJ sP **sP** **01 09 39.0 -1.4**
MDJ PP **PP** **01 10 56.2 +0.5**
MDJ PcP **PcP** **01 11 24.8 -0.3**
MDJ S **S** **01 15 28.7 +2.2**
MDJ sS **sS** **01 15 46.4 -1.3**
MDJ ScS **ScS** **01 19 24.9 +0.5**
MDJ PMZ
comp=Z,7.0nm,0.7s
MDJ PMZ
comp=Z,67nm,3.5s
MDJ LN
comp=Z,150nm,21.6s
MDJ LE
comp=Z,140nm,23.9s
MDJ LZ
comp=Z,170nm,20.5s
H11S3 WAKE ISLAND Hy 41.60 67 T T 01 54 03.6
baz=252,slow=75,SNR=4.2
H11S1 WAKE ISLAND Hy 41.61 67 T T 01 54 07.5
baz=252,slow=75,SNR=5.5
H11S2 WAKE ISLAND Hy 41.61 67 T T 01 54 03.4
baz=252,slow=75,SNR=3.3
ARMA Armidale 41.92 147 *e*P **P** **01 09 35.9 0.0**
comp=Z,86nm,1.1s
LSA Lhasa 42.05 311 *e*P **P** **01 09 37.4 0.0**
LSA pmax pmax
comp=Z,7.0nm,0.4s
LSA Lhasa 42.05 311 *e*P **P** **01 09 37.4 0.0**
comp=Z,7.2nm,0.4s
H11N1 WAKE ISLAND Hy 42.11 65 T T 01 54 57.2
baz=257
H11N2 WAKE ISLAND Hy 42.12 65 T T 01 55 05.6
baz=257
H11N3 WAKE ISLAND Hy 42.13 65 T T 01 54 58.6
baz=257
GTA Gaotai 42.63 329 *e*P **P** **01 09 41.5 -0.1**
GTA pP **pP** **01 09 53.8 -0.5**
GTA sP **sP** **01 09 59.2 -0.6**
GTA PcP **PcP** **01 11 34.7 +1.6**
GTA S **S** **01 16 02.0 +0.5**
GTA sS **sS** **01 16 22.7 -0.1**
GTA SS **SS** **01 19 07.8 -5.3**
GTA PMZ
comp=Z,10.0nm,1.2s
GTA PMZ
comp=Z,85nm,4.8s
GTA LN
comp=Z,410nm,19.5s
GTA LE
comp=Z,440nm,17.6s
GTA LZ
comp=Z,680nm,18.5s
YUK Yuzh-Kuril'sk 43.11 20 *i*P **P** **01 09 44.2 -0.9**
YUK *PP **pP** **01 09 56.5 -1.4**
YUK 01 11 23.1
YUK S **S** **01 16 05.6 -2.4**
YUK *SS **sS** **01 16 32.1 +2.8**
TAPN Taplejung 43.66 306 *e*P **P** **01 09 50.1 -0.2**
comp=Z,19nm,0.6s
ODAN Odare 43.72 305 *e*P **P** **01 09 50.0 -0.7**
comp=Z,37nm,0.8s
RAMN Ramite 44.40 305 *e*P **P** **01 09 55.5 -0.7**
comp=Z,20nm,0.6s
CAN Canberra 44.59 154 *e*P **P** **01 09 57.4 +0.1**
CAN pmax pmax
comp=Z,47nm,1.4s
CAN Canberra 44.59 154 *e*P **P** **01 09 57.4 +0.1**
comp=Z,47nm,1.4s
JIRN Jiri 45.02 306 *e*P **P** **01 10 00.2 -1.1**
comp=Z,31nm,0.6s
KLR Kul'dur 45.04 5 *e*P **P** **01 09 58.0 -2.6**
GUN Gumba 45.37 306 *e*P **P** **01 10 03.3 -0.7**
comp=Z,37nm,0.6s
PKI Pulchoki 45.62 305 *e*P **P** **01 10 05.2 -0.8**
comp=Z,9.2nm,0.5s
KKN Kakani 45.81 305 *e*P **P** **01 10 06.4 -0.9**
comp=Z,13nm,0.5s
DMN Daman 45.88 305 *e*P **P** **01 10 06.7 -1.3**
comp=Z,27nm,0.9s
GKN Gorkha 46.42 305 *e*P **P** **01 10 11.3 -0.7**
comp=Z,16nm,0.5s
ULN Ulaanbaatar 46.62 342 *e*P P 01 10 19.1 +5.8
ULN pmax pmax
comp=Z,8.0nm,0.8s
ULN Ulaanbaatar 46.62 342 *e*P P 01 10 19.1 +5.8
comp=Z,8.2nm,0.8s
SONM Songino Array 46.80 341 P **P** **01 10 15.5 +0.8**
comp=Z,3.6nm,0.5s,baz=159,slow=9.2,SNR=15
SONM PcP **PcP** **01 11 48.3 +1.0**
comp=Z,1.4nm,0.7s,baz=132,slow=4.1,SNR=2.3
DZM Mont Dzumac 46.88 126 *e*P **P** **01 10 16.3 +0.6**
comp=Z,57nm,1.4s
DZM *e*S **S** **01 17 02.9 -0.6**
comp=Z,256nm,26.4s
DZM *e*SS **SS** **01 20 33.5 +2.7**
comp=Z,199nm,25.0s
DZM *e*LR LR 01 23 35.0
comp=Z,242nm,23.8s
DZM Mont Dzumac 46.88 126 P **P** **01 10 15.8 +0.2**
comp=Z,11nm,0.7s,baz=270,slow=24,SNR=8.1
KOLN Koldanda 47.18 304 *e*P **P** **01 10 16.5 -1.6**
comp=Z,36nm,0.5s
HYB Hyderabad 48.88 289 *i*P **P** **01 10 30.0 -1.1**
ZAK Zakamensk 50.03 341 *e*P **P** **01 10 39.3 -0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
NKL Nikolayevsk 50.11 11 *e*P P 01 10 34.6 -5.2
NKL pmax pmax
comp=Z,30nm,1.1s
NKL MLR MLR
comp=Z,400nm,20.0s
TLY Talaya 51.03 342 *e*P **P** **01 10 48.4 +1.5**
TLY pmax pmax
comp=Z,11nm,0.9s
TLY MLR MLR
comp=Z,240nm,20.0s
WMQ Urumqi 52.27 325 P **P** **01 10 57.0 +0.6**
WMQ pP **pP** **01 11 09.5 +0.1**
WMQ sP **sP** **01 11 14.3 -0.6**
WMQ PcP **PcP** **01 12 08.2 +1.0**
WMQ PP **PP** **01 12 56.6 +1.3**
WMQ S **S** **01 18 16.9 -1.4**
WMQ ScS **ScS** **01 20 38.0 -4.5**
WMQ SS **SS** **01 21 55.1 -1.4**
WMQ PMZ
comp=Z,11nm,1.2s
WMQ PMZ
comp=Z,170nm,6.2s
WMQ LN
comp=Z,510nm,18.3s
WMQ LE
comp=Z,370nm,19.2s
WMQ LZ
comp=Z,380nm,22.3s
PETK Petropavlovsk- 54.99 22 P **P** **01 11 17.7 +1.7**
comp=Z,2.2nm,0.6s,baz=196,slow=4.3,SNR=9.1
MSVF Nonsavu 55.19 115 *e*P P 01 11 12.1 -6.0
MSVF pmax pmax
comp=Z,293nm,2.6s
MSVF Nonsavu 55.19 115 *e*P P 01 11 12.1 -6.0
comp=Z,293nm,2.6s
MK31 Makanchi Array 57.10 325 *e*P **P** **01 11 30.6 -0.6**
MKAR Makanchi Array 57.10 325 P **P** **01 11 30.9 -0.3**
comp=Z,4.3nm,0.4s,baz=121,slow=8.0,SNR=36
MKAR PcP **PcP** **01 12 25.9 +0.2**
comp=Z,3.1nm,0.5s,baz=118,slow=3.9,SNR=4.4
MKAR ScP **ScP** **01 16 24.6 +2.9**
comp=Z,2.0nm,0.9s,baz=123,slow=4.5,SNR=5.4
KSH Kashi 57.64 315 *e*P **P** **01 11 35.8 +0.5**
KSH pP **pP** **01 11 51.1 +2.6**
KSH PcP **PcP** **01 12 29.3 +1.2**
KSH ScP **ScP** **01 13 00.4 +2.0**
KSH S **S** **01 19 31.7 +1.2**
KSH sS **sS** **01 19 56.6 +4.1**
KSH ScS **ScS** **01 21 22.1 +0.9**
KSH PMZ
comp=Z,59nm,2.2s
KSH PMZ
comp=Z,88nm,5.1s
KSH LN
comp=Z,120nm,5.2s
KSH LE
comp=Z,76nm,6.9s
KSH LZ
comp=Z,170nm,6.7s
YAK Yakutsk 57.71 2 P **P** **01 11 36.3 +1.2**
comp=Z,5.1nm,0.4s,baz=58,slow=19,SNR=3.7
YAK Yakutsk 57.71 2 *e*P **P** **01 11 37.5 +2.3**
YAK *e* 01 12 29.7
YAK *e*S S 01 19 37.2 +6.9
YAK *e* 01 21 18.2
YAK *e*SS SS 01 23 29.0 +7.7
YAK pmax pmax
comp=Z,46nm,1.0s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=N,17nm,1.3s
YAK smax smax
comp=E,22nm,1.9s
YAK smax smax
comp=N,21nm,2.0s
TKM2 Tokmak 2 59.32 318 P **P** **01 11 46.5 -0.6**
TKM2 pmax pmax

	comp=Z,7.0nm,1.0s						
TKM2	**Tokmak 2**	**59.32**	**318**	*e*P	**P**	**01 11 46.2**	**-0.9**
	comp=Z,3.8nm,0.5s						
SFK	**Sufi-Kurgan**	**59.58**	**315**	P	**P**	**01 11 48.5**	**-0.5**
AAK	**Ala-Archa**	**59.94**	**318**	P	**P**	**01 11 50.6**	**-0.7**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AAK	**Ala-Archa**	**59.94**	**318**	*e*P	**P**	**01 11 51.3**	**+0.1**
	comp=Z,12nm,1.4s						
ZAA0	**Zalesovo Array**	**60.11**	**333**	*e*P	**P**	**01 11 51.0**	**-0.9**
ZALV	**Zalesovo Beam**	**60.11**	**333**	P	**P**	**01 11 51.1**	**-0.8**
	comp=Z,2.6nm,0.5s,baz=131,slow=7.3,SNR=7.5						
EKS2	**Erkin-Say**	**60.43**	**317**	*e*P	**P**	**01 11 54.3**	**-0.3**
EKS2				pmax	pmax		
	comp=Z,15nm,1.3s						
EKS2	**Erkin-Say**	**60.43**	**317**	*e*P	**P**	**01 11 54.3**	**-0.3**
	comp=Z,15nm,1.3s						
KBL	**Kabul**	**61.16**	**307**	*e*P	**P**	**01 11 59.2**	**-0.6**
KBL				pmax	pmax		
	comp=Z,15nm,1.2s						
KBL	**Kabul**	**61.16**	**307**	*e*P	**P**	**01 11 59.2**	**-0.6**
	comp=Z,15nm,1.2s						
MNAS	**Manas**	**61.23**	**317**	P	**P**	**01 11 58.7**	**-1.3**
MNAS				pmax	pmax		
	comp=Z,14nm,1.3s						
KURK	**Kurchatov**	**61.28**	**327**	P	**P**	**01 11 59.0**	**-1.0**
KURK				pmax	pmax		
	comp=Z,15nm,1.2s						
KURK	**Kurchatov**	**61.28**	**327**	*e*P	**P**	**01 11 59.5**	**-0.5**
NVS	**Novosibirsk**	**61.39**	**333**	*e*P	**P**	**01 11 59.7**	**-1.0**
NVS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NVS				pmax	pmax		
	comp=N,6.0nm,0.9s						
SEY	**Seymchan**	**61.56**	**13**	P	**P**	**01 12 02.4**	**+0.8**
	comp=N,1.7nm,0.9s,baz=216,slow=19,SNR=2.4						
SEY	**Seymchan**	**61.56**	**13**	*e*P	**P**	**01 12 03.6**	**+1.9**
RPZ	**Rata Peaks**	**62.21**	**145**	P	**P**	**01 12 06.3**	**-0.2**
	comp=N,10nm,0.7s,baz=202,slow=1.8,SNR=5.1						
DZET	**Dzherino**	**62.57**	**312**	P	**P**	**01 12 08.1**	**-1.0**
DZET				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KK31	**Karatay Array**	**62.82**	**317**	*i* P	**P**	**01 12 09.6**	**-0.9**
KK31				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BVA0	**Borovoye Array**	**66.86**	**327**	*i* P	**P**	**01 12 36.1**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,13nm,1.2s						
BRVK	**Borovoye**	**66.93**	**327**	*i* P	**P**	**01 12 37.0**	**0.0**
BRVK				pmax	pmax		
	comp=Z,11nm,1.0s						
BRVK	**Borovoye**	**66.93**	**327**	*e*P	**P**	**01 12 37.0**	**0.0**
	comp=Z,19nm,1.1s						
TIXI	**Tiksi**	**67.34**	**1**	*e*P	**P**	**01 12 39.6**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,19nm,1.3s						
TIXI	**Tiksi**	**67.34**	**1**	*e*P	**P**	**01 12 39.2**	**-0.1**
	comp=Z,14nm,0.9s						
IDAH	**Dahanechah**	**68.24**	**303**	*e*P	**P**	**01 12 45.9**	**-0.2**
IMYA	**Miami**	**68.68**	**307**	*e*P	**P**	**01 12 47.8**	**-0.9**
IKOO	**Kooshah**	**68.91**	**303**	*e*P	**P**	**01 12 49.8**	**-0.5**
ISRO	**Mashad**	**69.17**	**307**	*e*P	**P**	**01 12 51.9**	**+0.3**
ITEG	**Tejag**	**69.19**	**303**	*e*P	**P**	**01 12 52.3**	**+0.4**
IMOG	**Moghan**	**69.24**	**307**	*e*P	**P**	**01 12 51.8**	**-0.5**
IPAY	**Payeh**	**69.57**	**307**	*e*P	**P**	**01 12 53.6**	**-0.7**
IAKL	**Akhelmad**	**69.79**	**307**	*e*P	**P**	**01 12 55.8**	**+0.1**
IKRD	**Kardeh**	**70.01**	**308**	*e*P	P	01 12 51.2	-5.8
CASY	**Casey**	**71.31**	**187**	*e*P	**P**	**01 13 03.5**	**-0.3**
AB31	**Akbulak array**	**71.72**	**321**	*i* P	**P**	**01 13 05.5**	**-1.2**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKTO	**Aktyubinsk**	**73.22**	**322**	P	**P**	**01 13 14.2**	**-1.5**
AKTO				pmax	pmax		
	comp=Z,11nm,1.0s						
SVE	**Sverdlovsk**	**73.50**	**328**	*e*P	**P**	**01 13 17.2**	**0.0**
SVE				pmax	pmax		
	comp=Z,26nm,1.4s						
ARU	**Arti**	**74.47**	**328**	P	**P**	**01 13 22.7**	**-0.2**
	comp=Z,80nm,0.5s,SNR=5.3						
ARU	**Arti**	**74.47**	**328***c*	*i*P	**P**	**01 13 21.9**	**-1.0**
ARU				S	**S**	**01 22 55.0**	**+0.7**
ARU				SS	**SS**	**01 27 34.9**	**-6.6**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARU	**Arti**	**74.47**	**328**	*e*P	**P**	**01 13 21.7**	**-1.2**
	comp=Z,6.5nm,0.5s						
IPIR	**Pirpir**	**75.75**	**303**	*e*P	**P**	**01 13 29.1**	**-2.0**
RAYN	**Ar Rayn**	**80.22**	**293**	*e*P	**P**	**01 13 54.6**	**-1.2**
	comp=Z,4.0nm,0.6s						
KDAK	**Kodiak Island**	**81.50**	**32**	*i* P	P	01 14 06.0	+4.2
ZEI	**Tsey**	**81.82**	**312**	*e*P	**P**	**01 14 03.1**	**-1.1**
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
IM04	**Indian Mountai**	**81.90**	**24**	*e*P	**P**	**01 14 05.1**	**+1.3**
PRGR	**Permogore**	**82.03**	**332**	*e*P	**P**	**01 14 03.1**	**-1.4**
PRGR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KBZ	**Khabaz**	**82.58**	**313**	P	**P**	**01 14 07.2**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=143,slow=20,SNR=2.7						
KIV	**Kislovodsk**	**82.74**	**314**	*e*P	**P**	**01 14 09.1**	**+0.3**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,71nm,19.0s						
BPAW	**Bear Paw Mtn.**	**82.87**	**26**	*e*P	**P**	**01 14 10.3**	**+1.4**
	comp=Z,7.7nm,1.5s						
TRF	**Thorofare Moun**	**83.12**	**27**	*e*P	**P**	**01 14 11.1**	**+0.6**
	comp=Z,9.5nm,1.0s						
COLD	**Coldfoot**	**83.46**	**23**	*e*P	**P**	**01 14 14.3**	**+2.4**
	comp=Z,17nm,1.1s						
MCK	**McKinley**	**83.75**	**26**	*e*P	**P**	**01 14 14.6**	**+1.1**
MCK				pmax	pmax		
	comp=Z,51nm,1.5s						
MCK	**McKinley**	**83.75**	**26**	*e*P	**P**	**01 14 14.6**	**+1.1**
	comp=Z,51nm,1.5s						
VNDA	**Vanda**	**83.93**	**173**	P	**P**	**01 14 12.9**	**-1.2**
	comp=Z,3.5nm,0.9s,baz=305,slow=5.3,SNR=11						
VNDA	**Vanda**	**83.93**	**173**	*e*P	**P**	**01 14 14.0**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
VNDA	**Vanda**	**83.93**	**173**	*e*P	**P**	**01 14 14.0**	**-0.1**
	comp=Z,4.7nm,1.0s						
ILAR	**Eielson Array**	**84.68**	**25**	P	**P**	**01 14 19.1**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=251,slow=6.2,SNR=11						
KLMR	**Klimovskoe**	**84.93**	**331**	*i* P	**P**	**01 14 19.5**	**+0.1**
KLMR				*e*		01 17 30.9	
KLMR				pmax	pmax		
	comp=Z,69nm,1.1s						
VORD	**Divnogorie**	**85.08**	**321**	*e*P	**P**	**01 14 20.1**	**-0.3**
VORD				pmax	pmax		
	comp=Z,9.0nm,0.5s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,40nm,1.4s						
VSR	**Storozhevoye**	**85.15**	**321**	*e*P	**P**	**01 14 21.2**	**+0.4**
VSR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
VSR				pmax	pmax		
	comp=N,6.0nm,1.4s						
VSR				pmax	pmax		
	comp=E,7.0nm,1.5s						
LPSR	**Galich'ya Gora**	**85.28**	**322**	*e*P	**P**	**01 14 21.7**	**+0.3**
LPSR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LPSR				pmax	pmax		
	comp=N,4.0nm,1.2s						
LPSR				pmax	pmax		
	comp=E,8.0nm,1.2s						
PPT2	**Papeete2**	**85.34**	**108**	*e*S	**S**	**01 24 51.4**	**+1.1**
	comp=E,87nm,24.0s						
PPT2	**Papeete2**	**85.34**	**108**	*e*LR	LR	01 41 17.9	
	comp=E,245nm,27.5s						
TMCR	**Tamitsa**	**85.62**	**334**	*e*P	**P**	**01 14 22.9**	**+0.1**
TMCR				pmax	pmax		
	comp=Z,40nm,1.0s						
MOS	**Moscow**	**85.99**	**325**	*e*P	**P**	**01 14 21.9**	**-2.9**
MOS				pmax	pmax		
	comp=Z,35nm,1.0s						
TBI	**Tubuai**	**86.06**	**114**	*e*LR	LR	01 41 48.0	
	comp=Z,262nm,28.2s						
ANN	**Anapa**	**86.50**	**315**	*e*P	**P**	**01 14 25.3**	**-2.3**
ANN				*e**PP	**pP**	**01 14 40.1**	**-1.4**
ANN				*e*		01 17 46.9	
ANN				*e*PPP	PPP	01 19 42.5	
ANN				*e*S	**SKSac**	**01 24 46.7**	**-3.7**
ANN				pmax	pmax		
	comp=Z,34nm,1.5s						
OBN	**Obninsk**	**86.61**	**325***c*	*i*P	**P**	**01 14 27.5**	**-0.4**
OBN				*e*		01 17 52.4	
OBN				pmax	pmax		
	comp=Z,65nm,1.7s						
OBN				MLR	MLR		
	comp=Z,239nm,20.0s						
OBN	**Obninsk**	**86.61**	**325**	*e*P	**P**	**01 14 27.7**	**-0.1**
	comp=Z,31nm,1.0s						
APA	**Apatity**	**87.36**	**337**	⇓*i*P	P	01 14 25.5	-5.8
APA				*e*S	**SKSac**	**01 24 50.0**	**-4.8**
APA				pmax	pmax		
	comp=Z,25nm,1.2s						
APA				MLR	MLR		
	comp=Z,500nm,20.0s						
KMBO	**Kilima Mbogo**	**89.49**	**269**	P	**P**	**01 14 41.6**	**-1.2**
	comp=Z,3.7nm,0.9s,baz=46,slow=4.6,SNR=5.9						
BR131	**Keskin Array S**	**89.65**	**310**	*e*P	**P**	**01 14 41.6**	**-1.3**
	comp=Z,3.6nm,1.0s						
BRTR	**Keskin Array B**	**89.65**	**310**	P	**P**	**01 14 42.0**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=135,slow=4.4,SNR=7.9						
ARCES	**ARCESS Array B**	**89.95**	**340**	P	**P**	**01 14 43.0**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=82,slow=6.3,SNR=9.8						
ARCES	**ARCESS Array B**	**89.95**	**340**	P	**P**	**01 14 43.0**	**-0.6**
CSS	**Prodhromos**	**90.33**	**305**	*e*P	**P**	**01 14 45.9**	**-0.2**
	comp=Z,1.4nm,0.9s						
FINES	**FINESS Array B**	**91.36**	**332**	P	**P**	**01 14 50.0**	**-0.1**
	comp=Z,4.1nm,0.8s,baz=61,slow=2.9,SNR=12						
AKASG	**Malin Array Be**	**91.46**	**321**	P	**P**	**01 14 49.5**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=72,slow=4.0,SNR=12						
AKASG	**Malin Array Be**	**91.46**	**321***c*	*e*P	**P**	**01 14 50.2**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KIEV	**Kiev**	**91.47**	**321**	*e*P	**P**	**01 14 50.0**	**-0.9**
CFR	**Carcaliu**	**93.02**	**316**	⇓P	**P**	**01 14 57.1**	**-1.2**
CFR	**Carcaliu**	**93.02**	**316**	⇓*i*P	**P**	**01 14 57.0**	**-1.2**
DLBC	**Dease Lake**	**93.35**	**31**	P	**P**	**01 15 00.1**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=156,slow=20,SNR=1.9						
TESR	**Tescani**	**93.82**	**317**	⇑*i*P	**P**	**01 15 02.0**	**+0.1**
VRI	**Vrincioaia**	**93.88**	**316**	⇓P	**P**	**01 15 00.1**	**-2.1**
VRI	**Vrincioaia**	**93.88**	**316**	⇓*i*P	**P**	**01 15 00.1**	**-2.1**
PLOR	**Plostina**	**93.94**	**316**	⇓P	**P**	**01 15 00.6**	**-1.9**
PLOR	**Plostina**	**93.94**	**316**	⇓*i*P	**P**	**01 15 00.6**	**-1.9**
BURAR	**Bucovina Array**	**94.58**	**318**	⇓P	**P**	**01 15 04.4**	**-1.1**
BURAR	**Bucovina Array**	**94.58**	**318**	⇓*i*P	**P**	**01 15 04.4**	**-1.1**
BUR08	**Bucovina Ar. S**	**94.58**	**318**	*e*P	**P**	**01 15 05.5**	**-0.1**
LOT	**Lotru**	**96.00**	**316**	⇑*i*P	**P**	**01 15 11.0**	**-1.1**
KOLS	**Kolonicke sedl**	**96.21**	**320**	*e*P	**P**	**01 15 13.3**	**+0.5**
KOLS				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KOLS	**Kolonicke sedl**	**96.21**	**320**	*e*P	**P**	**01 15 13.3**	**+0.5**
DRGR		**96.42**	**318**	⇑P	**P**	**01 15 12.4**	**-1.5**
DRGR		**96.42**	**318**	⇑*i*P	**P**	**01 15 12.4**	**-1.5**
GZR	**Gura Zlata**	**96.69**	**316**	⇓P	**P**	**01 15 13.4**	**-1.7**
GZR	**Gura Zlata**	**96.69**	**316**	⇓*i*P	**P**	**01 15 13.4**	**-1.7**
BZS	**Buzias**	**97.44**	**317**	⇓P	**P**	**01 15 17.7**	**-0.7**
BZS	**Buzias**	**97.44**	**317**	⇓*i*P	**P**	**01 15 17.7**	**-0.7**
KECS	**Kecovo**	**97.47**	**320**	*e*P	Pdif	01 15 18.8	+0.2
KECS				pmax	pmax		
	comp=Z,4.0nm,1.4s						
KECS	**Kecovo**	**97.47**	**320**	*e*P	Pdif	01 15 18.8	+0.2
PSZ	**Piszkesteto**	**98.00**	**319**	*e*P	Pdif	01 15 21.2	+0.1
PSZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PSZ	**Piszkesteto**	**98.00**	**319**	*e*P	Pdif	01 15 21.2	+0.2
	comp=Z,2.0nm,0.7s						
NB2	**NORSAR Subarra**	**98.31**	**334**	P	**P**	**01 15 21.2**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=68,slow=4.4						
NB2	**NORSAR Subarra**	**98.31**	**334**	P	**P**	**01 15 21.2**	**-0.8**
	baz=68,slow=4.4						
NOA	**NORSAR Array B**	**98.31**	**334**	P	**P**	**01 15 21.4**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=68,slow=4.6,SNR=3.9						
NAO01	**NORSAR Array S**	**98.53**	**334**	*e*P	**P**	**01 15 22.4**	**-0.5**
	comp=Z,5.6nm,0.9s						
YKA	**Yellowknife Ar**	**99.07**	**24**	P	**Pdif**	**01 15 26.1**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=294,slow=4.6,SNR=3.0						
KRLC	**Kraliky**	**99.34**	**322**	*e*PDIFF	**Pdif**	**01 15 28.2**	**+1.3**
KRLC	**Kraliky**	**99.34**	**322**	*i* P	**Pdif**	**01 15 28.2**	**+1.3**
DPC	**Dobruska-Polom**	**99.54**	**322**	*e*PDIFF	**Pdif**	**01 15 27.9**	**+0.1**
DPC	**Dobruska-Polom**	**99.54**	**322**	*i* P	**Pdif**	**01 15 27.9**	**+0.1**
PRU	**Pruhonice**	**100.74**	**323**	*e*PDIFF	**Pdif**	**01 15 33.6**	**+0.5**
PRU	**Pruhonice**	**100.74**	**323**	*i* P	**Pdif**	**01 15 33.6**	**+0.5**
BRG	**Berggiesshubel**	**100.79**	**323**	*e*P	**Pdif**	**01 15 33.7**	**+0.4**
	comp=Z,4.2nm,0.8s						
BRG	**Berggiesshubel**	**100.79**	**323**	*e*P	**Pdif**	**01 15 33.7**	**+0.4**
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CLL	**Collm**	**101.19**	**324**	*e*Pdif	**Pdif**	**01 15 35.0**	**0.0**
CLL				*e*pPdif	**pPdif**	**01 15 46.0**	**-3.0**
CLL				*e*(PP)		01 19 54.0	
CLL	**Collm**	**101.19**	**324**	*e*P	**Pdif**	**01 15 35.0**	**0.0**
GERES	**GERESS Array B**	**101.65**	**322**	P	**Pdif**	**01 15 36.0**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=54,slow=3.4,SNR=7.4						
NKC	**Novy Kostel**	**101.91**	**323**	*e*PDIFF	**Pdif**	**01 15 37.6**	**-0.7**
NKC	**Novy Kostel**	**101.91**	**323**	*i* P	**Pdif**	**01 15 37.6**	**-0.7**
PMSA	**Palmer Station**	**119.09**	**175**	*e*PKPdf	**PKPdf**	**01 20 32.9**	**0.0**
SCHQ	**Schefferville**	**120.08**	**9**	PKP	**PKPdf**	**01 20 35.9**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=0.0,slow=6.1,SNR=3.6						
P34A	**Walnut Farm, R**	**120.86**	**38**	P	**PKPdf**	**01 20 37.8**	**+0.6**
	baz=121						
TXAR	**Lajitas Array**	**121.35**	**52**	PKP	**PKPdf**	**01 20 38.3**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=255,slow=1.9,SNR=5.0						
Z30A	**Sanderson Ranc**	**121.42**	**47**	P	**PKPdf**	**01 20 39.3**	**+0.9**
	baz=122						
529A	**Stev Forest Ra**	**122.12**	**50**	P	**PKPdf**	**01 20 41.3**	**+1.4**
	baz=122						
429A	**Davenport Ranc**	**122.13**	**50**	P	**PKPdf**	**01 20 41.8**	**+1.9**
	baz=122						
TOA0	**Torodi Ar. Sit**	**122.69**	**288**	*e*PKPdf	**PKPdf**	**01 20 42.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**122.69**	**288**	PKP	**PKPdf**	**01 20 41.1**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=99,slow=1.8,SNR=8.8						
531A	**Rocksprings**	**123.38**	**50**	P	**PKPdf**	**01 20 43.6**	**+1.3**
	baz=123						
631A	**Perdido Creek**	**123.71**	**50**	P	**PKPdf**	**01 20 44.6**	**+1.7**
	baz=124						
JCT	**Junction City**	**123.78**	**49**	*e*PKIKP	**PKPdf**	**01 20 44.7**	**+1.7**
JCT	**Junction City**	**123.78**	**49**	P	**PKPdf**	**01 20 45.0**	**+2.0**
	baz=124						
JCT	**Junction City**	**123.78**	**49**	*e*PKPdf	**PKPdf**	**01 20 44.7**	**+1.7**
632A	**Uvalde**	**124.27**	**50**	P	**PKPdf**	**01 20 45.6**	**+1.6**
	baz=124						
Y36A	**Durant**	**124.51**	**43**	P	**PKPdf**	**01 20 45.7**	**+1.4**
	baz=125						
832A	**Faith Ranch, C**	**124.71**	**51**	P	**PKPdf**	**01 20 47.1**	**+2.3**
	baz=125						
434A	**Burnet**	**124.76**	**48**	P	**PKPdf**	**01 20 47.4**	**+2.5**
	baz=125						
W38A	**Poteau**	**125.02**	**41**	P	**PKPdf**	**01 20 47.3**	**+2.1**
	baz=125						
MIAR	**Mount Ida**	**125.95**	**41**	*e*PKIKP	**PKPdf**	**01 20 49.0**	**+2.0**
MIAR	**Mount Ida**	**125.95**	**41**	*e*PKPdf	**PKPdf**	**01 20 49.0**	**+2.0**
TRQA	**Tornquist**	**145.42**	**168**	*e*PKPbc	**PKPab**	**01 21 24.8**	**+1.7**
LCO	**Las Campanas**	**150.36**	**148**	*e*PKPbc	**PKPbc**	**01 21 37.4**	**+0.5**
LPAZ	**La Paz**	**161.17**	**131**	*e*PKIKP	**PKPdf**	**01 21 47.0**	**+0.3**
LPAZ	**La Paz**	**161.17**	**131**	*e*PKPdf	**PKPdf**	**01 21 47.0**	**+0.3**

*ISCJB **02** 01:09:29.6±0.6, 24°.04S±0°.08×179°.8E±0°.1, h526^{km}, mb3.7/11, Error ellipse: s-maj=15.3km s-min=10.9km az=1.9*
*IDC **02** 01:09:29.6±1.5, 24°.09S×179°.89E, h519^{km}±14^{km}, mb3.3/11, mb1 3.5/12, mb1mx3.3/22, mbtmp4.2/12, Error ellipse: s-maj=19.4km s-min=16.3km az=168.0*
ISC 02 01:09:30.1±0.6**, 24°.14S**±0°.09×**179°.9E**±0°.1**, h526**^{km}**, n24, σ1^{s}00**/29**, mb3.6**/11**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.46**	**159**	P	**P**	**01 11 03.5**	**+1.0**
	76nm,0.3s,baz=66,slow=20,SNR=3.1						
URZ	**Urewera**	**14.27**	**189**	P	**P**	**01 12 31.5**	**-0.7**
	9.1nm,0.3s,baz=360,slow=4.1,SNR=34						
URZ				S	**S**	**01 15 01.7**	**-0.6**
	1.5nm,0.3s,baz=322,slow=21,SNR=8.1						
CTA	**Charters Tower**	**31.36**	**271**	P	**P**	**01 15 08.6**	**+0.8**
	3.1nm,0.4s,baz=86,slow=9.9,SNR=6.0						
STKA	**Stephens Creek**	**34.52**	**248**	P	**P**	**01 15 34.6**	**+0.2**
	0.6nm,0.4s,baz=108,slow=9.6,SNR=3.3						
ASAR	**Alice Springs**	**41.88**	**261**	P	**P**	**01 16 34.9**	**+0.4**
	0.3nm,0.3s,baz=94,slow=7.5,SNR=6.2						
ASAR				ScP	**ScP**	**01 21 19.6**	**+1.3**
	1.3nm,0.8s,baz=111,slow=4.0,SNR=7.0						
WRA	**Warramunga Arr**	**42.27**	**266**	P	**P**	**01 16 37.1**	**-0.4**
	0.8nm,0.4s,baz=97,slow=8.3,SNR=11						
WRA				ScP	**ScP**	**01 21 22.8**	**+3.0**
	1.2nm,0.7s,baz=98,slow=3.9,SNR=11						
SIJI	**Sorong**	**52.40**	**289**	P	**P**	**01 17 53.1**	**-0.6**
	3.7nm,0.3s,baz=99,slow=19,SNR=3.5						
MAW	**Mawson**	**77.49**	**200**	P	**P**	**01 20 31.9**	**+1.1**
	1.9nm,0.6s,baz=172,slow=7.1,SNR=5.1						
PETK	**Petropavlovsk-**	**79.30**	**347**	P	**P**	**01 20 40.7**	**0.0**
	0.8nm,0.5s,baz=142,slow=7.3,SNR=2.9						
SNAA	**Sanae**	**84.43**	**179**	P	**P**	**01 21 06.5**	**-0.3**
	0.4nm,0.5s,baz=198,slow=16,SNR=6.0						
NVAR	**Mina Array Bea**	**85.01**	**44**	P	**P**	**01 21 09.8**	**-0.4**
	0.7nm,0.7s,baz=228,slow=8.3,SNR=3.9						
TXAR	**Lajitas Array**	**90.66**	**58**	P	**P**	**01 21 37.6**	**+0.8**
	1.4nm,0.7s,baz=216,slow=5.9,SNR=13						
DLBC	**Dease Lake**	**92.16**	**24**	P	**P**	**01 21 43.9**	**+1.0**
	0.8nm,0.4s,baz=174,slow=19,SNR=4.2						
MKAR	**Makanchi Array**	**112.22**	**313**	PKiKP	**PKiKP**	**01 27 04.6**	**-1.2**
	0.2nm,0.4s,baz=87,slow=1.7,SNR=3.5						
KURBB	**Kurchatov Arra**	**115.33**	**316**	PKP	**PKPdf**	**01 27 09.9**	**-1.7**
	0.3nm,0.3s,baz=89,slow=2.0,SNR=6.6						
BVAR	**Borovoye Array**	**120.54**	**319**	PKP	**PKPdf**	**01 27 20.8**	**-0.8**
	0.5nm,0.3s,baz=107,slow=1.5,SNR=6.2						
SPITS	**Spitsbergen Ar**	**125.35**	**356**	PKP	**PKPdf**	**01 27 29.5**	**-0.6**
	8.4nm,1.1s,baz=92,slow=4.4,SNR=5.2						
AKTO	**Aktyubinsk**	**128.38**	**316**	PKP	**PKPdf**	**01 27 37.0**	**+0.4**
	0.9nm,0.6s,baz=175,slow=5.3,SNR=3.7						
ARCES	**ARCESS Array B**	**132.09**	**348**	PKP	**PKPdf**	**01 27 42.4**	**-0.8**
	3.3nm,0.9s,baz=96,slow=4.9,SNR=5.7						
FINES	**FINESS Array B**	**138.63**	**341**	SKPbc	**SKPbc**	**01 30 41.2**	**+0.6**
	2.6nm,0.8s,baz=72,slow=8.2,SNR=5.3						
AKASG	**Malin Array Be**	**145.10**	**327**	PKPbc	**PKPdf**	**01 28 07.0**	**-0.2**
	0.2nm,0.3s,baz=44,slow=3.7,SNR=5.8						
AKASG				SKPbc	**SKiKP**	**01 30 57.4**	**-0.1**
	1.0nm,0.6s,baz=45,slow=2.8,SNR=6.8						
BRTR	**Keskin Array B**	**147.62**	**307**	PKPbc	**PKPbc**	**01 28 14.9**	**-0.7**
	0.6nm,0.7s,baz=155,slow=5.9,SNR=4.7						
MSKU	**Masuku**	**151.09**	**209**	PKPbc	**PKPbc**	**01 28 24.8**	**+0.2**
	4.3nm,0.4s,baz=124,slow=4.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**168.93**	**189**	PKP	**PKPdf**	**01 28 36.3**	**-1.2**
	0.8nm,1.1s,baz=52,slow=1.5,SNR=4.1						
TORD				PKPab	**PKPab**	**01 29 51.2**	**-0.8**
	1.0nm,0.7s,baz=170,slow=2.5,SNR=10						

IDC 02 01:10:13.4±11.0**, 5°.74S**×**110°.80E, h570**^{km}±154^{km}**, mb2.9**/6**, mb1 3.0**/6**, mb1mx2.8**/24**, mbtmp3.9**/6**, Error ellipse: s-maj=84.2km s-min=19.3km az=66.0, Java Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.89**	**124**	P	P	01 15 09.3	-0.6
	0.5nm,1.1s,baz=311,slow=8.7,SNR=5.2						
ASAR	**Alice Springs**	**28.50**	**131**	P	P	01 15 23.6	-0.3
	0.3nm,0.3s,baz=305,slow=7.9,SNR=2.7						
STKA	**Stephens Creek**	**38.80**	**136**	P	P	01 16 50.4	+0.2
	2.6nm,0.3s,baz=314,slow=8.1,SNR=23						
MKAR	**Makanchi Array**	**58.09**	**337**	P	P	01 19 12.8	0.0
	0.2nm,0.3s,baz=150,slow=7.2,SNR=8.9						
VNDA	**Vanda**	**76.53**	**170**	P	P	01 21 04.9	-0.1
	0.7nm,0.5s,baz=317,slow=9.9,SNR=7.2						
MATP	**Matopo**	**80.82**	**250**	P	P	01 21 29.0	-0.1
	1.5nm,0.5s,baz=116,slow=5.5,SNR=6.3						

*ISCJB **02** 01:11:20.1±0.8, 35°.17S±0°.04×72°.1W±0°.1, h55^{km}±6^{km}, mb4.0/8, Error ellipse: s-maj=14.4km s-min=5.8km az=6.7*
*GUC **02** 01:11:20.7±0.6, 35°.14S×72°.09W, h39^{km}±1^{km}, ML4.4*
*NEIC **02** 01:11:20.0, 35°.14S×72°.09W, h39^{km}, mb4.2/5, After GUC.*
NEIC Felt [III] at Pencahue and San Javier and [II] at Talca.
*IDC **02** 01:11:21.2±1.1, 35°.12S×72°.07W, h45^{km}±7^{km}, mb3.7/5, mb1 3.8/8, mb1mx3.7/16, mbtmp3.8/8, ML3.8/3, MS1.9/1, Ms1 1.9/1, ms1mx1.9/20, Error ellipse: s-maj=30.9km s-min=21.3km az=72.0*
ISC 02 01:11:20.9±0.8**, 35°.16S**±0°.04×**72°.11W**±0°.09**, h45**^{km}±6^{km}**, n39, σ0^{s}91**/51**, mb4.2**/8**, 8C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.46**	**122**	⇓*i*P	**Pn**	**01 11 31.0**	**-0.4**
TALC				*i* S	**Sn**	**01 11 38.1**	**-0.8**
NICH	**Los Niches**	**0.74**	**78**	⇓*i*P	**Pn**	**01 11 34.6**	**-0.4**
NICH				*i* S	**Sn**	**01 11 45.0**	**-0.3**
LNCH	**Linares**	**0.81**	**149**	⇑*i*P	**Pn**	**01 11 36.0**	**+0.1**
LNCH				*i* S	**Sn**	**01 11 47.3**	**+0.5**
LNV	**Longovilo**	**1.33**	**26**	⇓*i*P	**Pn**	**01 11 43.5**	**+0.5**
LNV				*i* S	**Sn**	**01 12 00.8**	**+1.3**
CACH	**El Canelo**	**1.62**	**51**	⇑*i*P	**Pn**	**01 11 47.5**	**+0.4**
CHCH	**Chadas Angostu**	**1.71**	**45**	⇓*i*P	**Pn**	**01 11 49.1**	**+0.7**
TACH	**Talagante**	**1.79**	**33**	⇑*i*P	**Pn**	**01 11 49.8**	**+0.5**
PCH	**Pirque**	**2.02**	**41**	⇑*i*P	**Pn**	**01 11 53.2**	**+0.6**
SAN	**Santiago**	**2.08**	**36**	*e*P	**Pn**	**01 11 54.0**	**+0.7**
SAN				*i* S	**Sn**	**01 12 19.4**	**+1.4**
SJCH	**San Jose de Ma**	**2.10**	**44**	⇑*i*P	**Pn**	**01 11 54.2**	**+0.5**
SJCH				*i* S	**Sn**	**01 12 19.6**	**+1.1**
IHA	**Instituto Hidr**	**2.16**	**11**	⇑*i*P	**Pn**	**01 11 54.5**	**+0.1**
CLCH	**Cerro Calan**	**2.19**	**37**	⇑*i*P	**Pn**	**01 11 55.5**	**+0.7**
CLCH				*e*S	**Sn**	**01 12 22.1**	**+1.4**
CLCH				AML	AML	01 12 37.9	
	comp=N,3µm,0.6s						
PEL	**Peldehue**	**2.33**	**31**	⇓*i*P	**Pn**	**01 11 57.7**	**+0.9**
PEL				AML	AML	01 12 32.0	
	comp=N,3µm,0.5s						
ROCH	**El Roble**	**2.36**	**23**	⇑*i*P	**Pn**	**01 11 57.9**	**+0.5**
ROCH				AML	AML	01 12 37.2	
	comp=N,2µm,0.5s						
CFAA	**Coronel Fontan**	**4.80**	**44**	P	**Pn**	**01 12 31.4**	**+0.7**
	comp=N,0.6nm,0.3s,baz=209,slow=5.9,SNR=46						
CFAA				S	Sn	01 13 31.8	+6.7
	comp=N,0.2nm,0.3s,baz=270,slow=20,SNR=2.6						
CFAA				LR	LR	01 14 56.3	
	comp=N,13nm,19.6s,baz=234,slow=45						
PLCA	**Paso Flores**	**5.70**	**168**	P	**Pn**	**01 12 44.1**	**+1.0**
	comp=N,1.2nm,0.3s,baz=341,slow=12,SNR=22						
PLCA	**Paso Flores**	**5.70**	**168**	*e*Pn	**Pn**	**01 12 45.3**	**+2.2**
	comp=N,9.0nm,0.6s						
LCO	**Las Campanas**	**6.24**	**11**	*e*Pn	**Pn**	**01 12 49.8**	**-1.0**
	comp=N,16nm,0.3s						
LCO				*e*Sn	**Sn**	**01 13 58.0**	**-2.9**
TRQA	**Tornquist**	**8.65**	**113**	*e*Pn	**Pn**	**01 13 24.7**	**+1.3**
LVC	**Limon Verde**	**12.81**	**13**	*e*Pn	Pn	01 14 17.1	-3.5
	comp=N,7.6nm,0.3s						
CPUP	**Villa Florida**	**15.44**	**59**	*e*Pn	**Pn**	**01 14 54.4**	**-1.3**
LPAZ	**La Paz**	**19.12**	**12**	P	**P**	**01 15 41.3**	**+0.5**
	comp=N,0.2nm,0.3s,baz=186,slow=7.6,SNR=12						
LPAZ	**La Paz**	**19.12**	**12**	*e*P	**Pn**	**01 15 42.1**	**+0.1**
	comp=N,2.2nm,0.7s						
SIV	**San Ignacio**	**21.50**	**30**	P	**P**	**01 16 05.1**	**-0.8**
SAML	**Samuel**	**27.34**	**20**	*e*P	**P**	**01 16 59.6**	**-2.1**
	comp=N,2.3nm,0.9s						
TXAR	**Lajitas Array**	**70.71**	**331**	P	**P**	**01 22 32.1**	**-0.1**
	comp=N,0.3nm,0.6s,baz=150,slow=7.3,SNR=4.5						
TXAR				pP	**pP**	**01 22 46.0**	**+0.6**
	comp=N,0.3nm,0.6s,baz=152,slow=6.7,SNR=3.6						
SWET	**Sewanee**	**71.19**	**348**	*e*P	**P**	**01 22 34.8**	**-0.1**
	comp=N,2.9nm,0.8s						
DBIC	**Dimbokro**	**75.61**	**71**	P	**P**	**01 23 01.1**	**-0.3**
	comp=N,2.0nm,0.7s,baz=180,slow=2.0,SNR=3.1						
CASY	**Casey**	**78.87**	**181**	*e*P	**P**	**01 23 19.8**	**+0.9**
	comp=N,2.2nm,0.5s						
BOSA	**Boshof**	**79.59**	**118**	P	**P**	**01 23 23.7**	**0.0**
	comp=N,2.2nm,0.8s,baz=227,slow=8.7,SNR=4.1						
BOSA				pP	**pP**	**01 23 37.4**	**+0.5**
	comp=N,3.1nm,0.7s,baz=219,slow=2.9,SNR=3.3						
BOSA	**Boshof**	**79.59**	**118**	*e*P	**P**	**01 23 23.6**	**0.0**
	comp=N,3.5nm,0.9s						
BOSA				pP	**pP**	**01 23 37.4**	**+0.5**
TOA0	**Torodi Ar. Sit**	**84.66**	**70**	*e*P	**P**	**01 23 49.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**84.66**	**70**	P	**P**	**01 23 49.7**	**-0.4**
	comp=N,0.8nm,0.5s,baz=276,slow=5.6,SNR=22						
TORD				pP	**pP**	**01 24 03.0**	**-0.6**
	comp=N,1.1nm,0.8s,baz=284,slow=5.5,SNR=2.5						
PDAR	**Pinedale Array**	**84.76**	**333**	P	**P**	**01 23 50.1**	**-0.2**
	comp=N,0.2nm,0.6s,baz=120,slow=5.5,SNR=2.6						
BVAR	**Borovoye Array**	**148.16**	**44**	PKPbc	**PKPbc**	**01 31 01.2**	**0.0**
	comp=N,0.4nm,0.5s,baz=325,slow=2.3,SNR=4.6						
AAK	**Ala-Archa**	**153.09**	**64**	PKPbc	**PKPbc**	**01 31 14.2**	**+0.7**
	comp=N,0.7nm,0.3s,baz=80,slow=3.7,SNR=3.9						
AAK				PKPab	**PKPab**	**01 31 25.5**	**+0.3**
	comp=N,1.6nm,0.4s,baz=302,slow=9.5,SNR=3.6						
KURBB	**Kurchatov Arra**	**153.74**	**45**	PKPab	**PKPab**	**01 31 27.6**	**+0.1**
	comp=N,0.2nm,0.4s,baz=287,slow=3.3,SNR=5.2						
KURK	**Kurchatov**	**153.75**	**45**	PKPab	**PKPab**	**01 31 27.6**	**+0.1**
MKAR	**Makanchi Array**	**157.55**	**51**	PKPab	**PKPab**	**01 31 44.0**	**+0.1**
	comp=N,0.5nm,0.7s,baz=306,slow=2.9,SNR=4.4						

*IDC **02** 01:12:43.3±0.8, 13°.54S×166°.59E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.0/38, mbtmp4.1/11, ML3.7/1, Error ellipse: s-maj=27.0km s-min=18.9km az=99.0*
*ISCJB **02** 01:12:47.6±0.7, 13°.66S±0°.08×166°.5E±0°.1, h39km, mb4.2/13, Error ellipse: s-maj=17.7km s-min=12.0km az=178.5*
*NEIC **02** 01:12:48.3±0.5, 13°.55S×166°.59E, h35km, mb4.3/1, Error ellipse: s-maj=14.6km s-min=11.1km az=92.0*

ISC 02 01:12:48.8±0.7, 13°.6S±0°.1×166°.6E±0°.2, h39km, n24, σ0s.99/25, mb4.2/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.47	181	Pn	Pn	01 14 49.2	+0.2
	1.0nm,0.3s,baz=90,slow=24,SNR=12						
RAO	Raoul Island	21.22	140	P	P	01 17 31.9	+0.6
	132nm,0.3s,baz=225,slow=20,SNR=2.0						
STKA	Stephens Creek	29.27	227	P	P	01 18 48.2	+0.8
	1.2nm,0.4s,baz=49,slow=10,SNR=6.7						
WRAB	Tennant Creek	31.48	254	eP	P	01 19 06.7	-0.3
	4.9nm,1.1s						
WRA	Warramunga Arr	31.49	254	P	P	01 19 07.0	-0.2
	0.5nm,0.6s,baz=86,slow=9.2,SNR=5.4						
AS31	Alice Springs	32.49	247	eP	P	01 19 15.8	-0.2
ASAR	Alice Springs	32.49	247	P	P	01 19 16.1	+0.1
	1.1nm,0.7s,baz=72,slow=9.7,SNR=11						
NWAO	Narrogin (SRO)	48.79	238	P	P	01 21 29.1	-1.1
	9.3nm,0.9s,baz=146,slow=7.2,SNR=3.6						
MJAR	Matsushiro Arr	56.57	333	P	P	01 22 26.6	-1.0
	2.4nm,0.7s,baz=172,slow=7.8,SNR=6.3						
KSRS	Korea Array	62.40	326	P	P	01 23 09.6	+1.8
	0.5nm,0.3s,baz=146,slow=6.7,SNR=4.8						
KSAR	Wonju Array Be	62.42	326	P	P	01 23 09.6	+1.7
USRK	Ussuriysk Ar.	65.55	333	P	P	01 23 29.6	+1.2
	1.9nm,0.8s,baz=167,slow=2.5,SNR=3.9						
SONM	Songino Array	81.17	324	P	P	01 25 01.3	+0.8
	0.8nm,0.7s,baz=132,slow=4.1,SNR=4.5						
ILAR	Eielson Array	85.63	18	P	P	01 25 23.4	+0.5
	0.3nm,0.6s,baz=259,slow=4.4,SNR=4.7						
MK31	Makanchi Array	95.90	317	eP	P	01 26 12.7	+1.2
MKAR	Makanchi Array	95.90	317	P	P	01 26 12.7	+1.2
	1.2nm,0.7s,baz=90,slow=6.4,SNR=13						
ZALV	Zalesovo Beam	96.06	324	P	P	01 26 11.6	-0.4
	0.7nm,0.3s,baz=138,slow=3.6,SNR=4.1						
ARCES	ARCESS Array B	118.96	345	PKP	PKPdf	01 31 31.1	-1.5
	2.2nm,0.8s,baz=29,slow=1.1,SNR=8.1						
BUR08	Bucovina Ar. S	133.27	325	ePKPdf	PKPdf	01 31 59.0	-1.7
KEST	Kesra	149.89	321	PKPbc	PKPbc	01 32 35.8	+0.3
	1.8nm,0.9s,baz=176,slow=7.4,SNR=4.2						
KEST	Kesra	149.89	321	ePKPbc	PKPbc	01 32 34.7	-0.7
ESDC	Sonseca Array	152.69	344	PKPbc	PKPbc	01 32 41.6	-0.1
	0.1nm,0.3s,baz=160,slow=4.1,SNR=3.5						
TOA0	Torodi Ar. Sit	165.29	270	ePKPdf	PKPdf	01 32 49.6	-0.4
TORD	Torodi Ar. Bea	165.29	270	PKP	PKPdf	01 32 49.4	-0.7
	0.5nm,0.8s,baz=103,slow=0.6,SNR=3.6						
TORD				PKPab	PKPab	01 33 47.8	0.0
	0.4nm,0.9s,baz=160,slow=4.6,SNR=2.2						

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*CSEM **02** 01:14:24.5, 46°.31N×13°.98E, h0km, ML0.6*

LJU 02 01:14:24.5, 46°.31N×13°.98E, h6km, ML0.6, 2C, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GORS	Gorjuse	0.01	37	⇑iPg	Pg	01 14 25.7	0.0
GORS				iSg	Sg	01 14 26.6	0.0
	comp=Z,88nm,0.1s						
GORS	Gorjuse	0.01	37	⇑iPg	Pg	01 14 25.7	0.0
GORS				iSg	Sg	01 14 26.6	0.0
	comp=Z,88nm,0.1s						
CADS	Cadrg	0.19	245	iPg	Pg	01 14 28.2	-0.1
CADS				iSg	Sg	01 14 31.4	+0.4
	comp=Z,7.0nm,0.1s						
CADS	Cadrg	0.19	245	iPg	Pg	01 14 28.2	-0.2
CADS				iSg	Sg	01 14 31.4	+0.5
	comp=Z,7.0nm,0.1s						
VOJS	Vojsko	0.28	194	iPg	Pg	01 14 30.0	-0.2
VOJS				iSg	Sg	01 14 34.4	+0.3
	comp=Z,2.0nm,0.1s						
VOJS	Vojsko	0.28	194	iPg	Pg	01 14 30.0	-0.2
VOJS				iSg	Sg	01 14 34.4	+0.3
	comp=Z,2.0nm,0.1s						
CRNS	Crni Vrh	0.30	140	iPg	Pg	01 14 30.3	-0.1
CRNS				iSg	Sg	01 14 34.9	+0.5
	comp=Z,2.0nm,0.1s						
MOZS	Mozjanca	0.32	92	iPg	Pg	01 14 30.9	+0.1
MOZS				iSg	Sg	01 14 35.7	+0.6
	comp=Z,1.0nm,0.1s						
MOZS	Mozjanca	0.32	92	iPg	Pg	01 14 31.0	+0.2
MOZS				iSg	Sg	01 14 35.7	+0.6
	comp=Z,1.0nm,0.1s						
ROBS	Robic	0.34	259	iPg	Pg	01 14 30.9	-0.1
ROBS				iSg	Sg	01 14 36.6	+1.1
	comp=Z,1.0nm,0.1s						
ROBS	Robic	0.34	259	iPg	Pg	01 14 30.9	-0.1
ROBS				iSg	Sg	01 14 36.6	+1.1
	comp=Z,1.0nm,0.1s						

VIE 02 01:14:50.3±0.2, 46°.36N×15°.09E, h0km, mb0.5/1, ML0.9/2, 1C-3D, Error ellipse: s-maj=1.4km s-min=1.1km az=21.0 20 km NW of Celje Suspected Mining induced., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOKA	Soboth	0.32	353	⇓iPg	Pg	01 14 56.2	-0.2
SOKA				⇑iSg	Sg	01 15 00.9	+0.4
	5.8nm,0.5s						
OBKA	Obir	0.40	292	⇓iPg	Pg	01 14 58.2	+0.2
OBKA				⇓iSg	Sg	01 15 03.9	+0.7
	4.7nm,0.3s						

MAN 02 01:39:31, 13°.69N×120°.48E, h49km, mb4.3, ML3.1, MS2.9, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.23	281	eP	Pn	01 39 42.3	+2.8
LUBP				eS	Sn	01 39 48.4	+3.0
PGP	Puerto Galera	0.50	112	⇑eP	Pn	01 39 44.0	+1.8
SJMP	San Jose	1.37	153	eP	Pn	01 39 55.1	+1.4
SJMP				eS	Sn	01 40 13.2	+2.4
BUSP	Coron	1.70	189	eP	Pn	01 39 58.9	+0.6

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*BJI **02** 01:49:00.6, 57°.33S×27°.05W, h126km, mB5.5/38*
*AWI **02** 01:49:01.1, 57°.33S×26°.13W*
*ISCJB **02** 01:49:02.6±1.3, 57°.43S±0°.03×26°.50W±0°.08, h121km±12km, mb5.8/74, Error ellipse: s-maj=7.1km s-min=4.6km az=154.6*
*NEIC **02** 01:49:03.9±0.1, 57°.37S×26°.45W, mb5.9/61, MW5.8, MW5.9, MW5.9, Error ellipse: s-maj=5.9km s-min=4.7km az=58.0, Moment Tensor Solution. s40 Moment tensor: Scale 10^{17}Nm; M_{rr}6.08; $M_{\theta\theta}$-0.31; $M_{\phi\phi}$-5.77; $M_{r\theta}$-0.79; $M_{\theta\phi}$1.76; $M_{\phi r}$4.41; Best double couple: $M_0$7.60000×10^{17} NP1:ϕ_s160.00000°, δ27.00000°, λ83.00000°. NP2: ϕ_s347.00000°, δ63.00000°, λ93.00000°. Principal axes: T 7.5500, Plg71.0000°, Azm265.0000°; N 0.1900, Plg3.0000°, Azm165.0000°; P -7.7300, Plg17.0000°, Azm74.0000°;*
*MOS **02** 01:49:03.4±0.9, 57°.53S×26°.58W, h124km, mb5.8/14, MS5.1/14 Error ellipse: s-maj=19.3km s-min=9.3km az=96.0*
*GCMT **02** 01:49:03.9±0.1, 57°.64S×26°.11W, h135km, MW5.9/132, Moment Tensor Solution. s132,c296; s129,c408; Duration: 2s.1 Moment tensor: Scale 10^{18}Nm; M_{rr}0.59±.01; $M_{\theta\theta}$0.06±.01; $M_{\phi\phi}$-0.64±.01; $M_{r\theta}$-0.14±.01; $M_{\theta\phi}$-0.09±.01; $M_{\phi r}$0.57±.01; Best double couple: $M_0$0.85700×10^{18} NP1:ϕ_s353.00000°, δ67.00000°, λ78.00000°. NP2:ϕ_s202.00000°, δ26.00000°, λ117.00000°. Principal axes: T 0.8450, Plg66.0000°, Azm241.0000°; N 0.0250, Plg11.0000°, Azm358.0000°; P -0.8700, Plg21.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **02** 01:49:04.9±0.4, 57°.34S×26°.47W, h133km±3km, mb5.4/16, mb1 5.4/18, mb1mx5.4/19, mbtmp5.8/18, MS4.9/13, Ms1 4.9/13, ms1mx4.8/16 Error ellipse: s-maj=11.1km s-min=9.1km az=45.0*
*NEIC **02** 01:49:04.0±0.0, 57°.37S×26°.45W, h125km, Moment Tensor Solution. s18 Moment tensor: Scale 10^{17}Nm; M_{rr}5.11; $M_{\theta\theta}$-0.25; $M_{\phi\phi}$-4.86; $M_{r\theta}$-1.36; $M_{\theta\phi}$-0.39; $M_{\phi r}$5.38; Best double couple: $M_0$7.50000×10^{17} NP1:ϕ_s351.00000°, δ69.00000°, λ80.00000°. NP2:ϕ_s195.00000°, δ22.00000°, λ112.00000°. Principal axes: T 7.7100, Plg64.0000°, Azm246.0000°; N -0.5000, Plg8.0000°, Azm354.0000°; P -7.2100, Plg23.0000°, Azm88.0000°;*
*NEIC **02** 01:49:16.0±0.0, 57°.31S×26°.12W, h121km, Moment Tensor Solution. s115 Moment tensor: Scale 10^{17}Nm; M_{rr}5.59; $M_{\theta\theta}$0.16; $M_{\phi\phi}$-5.75; $M_{r\theta}$-0.95; $M_{\theta\phi}$-1.46; $M_{\phi r}$4.49; Best double couple: $M_0$7.40000×10^{17} NP1:ϕ_s209.00000°, δ29.00000°, λ118.00000°. NP2:ϕ_s358.00000°, δ64.00000°, λ76.00000°. Principal axes: T 7.4200, Plg67.0000°, Azm240.0000°; N 0.0400, Plg12.0000°, Azm4.0000°; P -7.4600, Plg18.0000°, Azm98.0000°;*

ISC 02 01:49:04.8±0.3, 57°.44S±0°.04×26°.49W±0°.04, h136km±2km, h135km:pP-P, n1240, σ1s.24/1460, mb5.8/71, 213C-200D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	Hope Point	6.46	295	Pn	Pn	01 50 40.5	+3.2
	24μm,0.7s						
HOPE	Hope Point	6.46	295	ePn	Pn	01 50 39.8	+2.5
	3μm,0.8s						
VNA1	Neumayer--Stat	15.36	157	P	P	01 52 35.1	-0.4
VNA1	Neumayer--Stat	15.36	157	S	Sn	01 55 18.0	-5.9
VNA2	Neumayer--Watz	15.76	157	P	Pn	01 52 38.7	-0.2
	baz=315,slow=13						
VNA2	Neumayer--Watz	15.76	157	S	Sn	01 55 27.3	-6.2
SNAA	Sanae	17.31	155	P	P	01 52 51.3	-5.8
SNAA	Sanae	17.31	155	S	S	01 55 58.9	-11
SNAA	Sanae	17.31	155	P	Pn	01 52 58.2	+0.4
	4.7nm,0.3s,baz=311,slow=10,SNR=180						
SNAA				S	S	01 56 02.5	-7.8
	1.9nm,0.3s,baz=261,slow=19,SNR=4.6						
SNAA				LR	LR	01 58 12.3	
	comp=Z,1μm,20.4s,baz=328,slow=31						
SNAA				ScP	ScP	02 00 53.1	-0.4
	0.3nm,0.3s,baz=201,slow=2.1,SNR=3.9						
SNAA	Sanae	17.31	155	P	Pn	01 52 58.2	+0.4
SNAA				S	S	01 56 02.5	-7.8
SNAA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
SNAA				smax	smax		
	comp=N,2.0nm,0.3s						
SNAA	Sanae	17.31	155	eP	P	01 52 51.4	-5.8
	comp=N,2μm,2.0s						
SNAA				ScP	ScP	02 00 53.1	-0.4
EFI	East Falkland	19.08	274	Pn	Pn	01 53 18.0	-0.7
	comp=N,6μm,1.0s						
EFI	East Falkland	19.08	274	eP	Pn	01 53 18.1	-0.7
EFI				eS	S	01 56 42.8	-2.6
EFI				pmax	pmax		
	comp=Z,3μm,1.6s						
EFI	East Falkland	19.08	274	eP	Pn	01 53 18.1	-0.7
	comp=Z,3μm,1.6s						
EFI				eS	S	01 56 42.8	-2.6
PMSA	Palmer Station	19.31	232	P	Pn	01 53 20.5	-0.8
	comp=Z,45nm,0.3s,baz=65,slow=6.9,SNR=37						
PMSA	Palmer Station	19.31	232	eP	Pn	01 53 20.9	-0.5
	comp=Z,750nm,0.9s						
NVL	N'lazarevskaya	20.89	145	⇓iP	P	01 53 34.3	-1.5
NVL				iS	S	01 57 15.0	-5.8
NVL				pmax	pmax		
	comp=Z,154nm,0.9s						
NVL				MLR	MLR		
	comp=Z,2μm,11.0s						
USHA	Ushuaia	23.25	258	P	P	01 54 01.2	+1.5
	comp=Z,171nm,0.6s,baz=98,slow=13,SNR=77						
USHA	Ushuaia	23.25	258	P	P	01 54 01.2	+1.5
TRQA	Tornquist	30.24	294	eP	P	01 55 01.2	-1.3
	comp=Z,59nm,0.9s						
TRQA				ePcP	PcP	01 58 00.2	+0.5
TRQA				eScP	ScP	02 01 26.8	-2.2
SYO	Syowa Base	30.27	139	⇓eP	P	01 55 01.2	-1.1
PLCA	Paso Flores	32.64	282	P	P	01 55 23.6	+0.1
	comp=Z,115nm,0.9s,baz=143,slow=8.3,SNR=58						
PLCA				PcP	PcP	01 58 06.0	-0.1
	comp=Z,16nm,0.7s,baz=89,slow=1.6,SNR=3.5						
PLCA				ScP	ScP	02 01 36.0	-1.1
	comp=Z,13nm,1.1s,baz=107,slow=5.0,SNR=6.0						
PLCA				PKiKP	PKiKP	02 05 32.7	+0.2
	comp=Z,4.9nm,0.9s,baz=174,slow=4.4,SNR=5.5						
PLCA	Paso Flores	32.64	282	P	P	01 55 23.7	+0.1
PLCA						01 58 06.1	
PLCA				i		02 05 32.7	
PLCA				pmax	pmax		
	comp=Z,115nm,0.9s						
PLCA	Paso Flores	32.64	282	eP	P	01 55 23.1	-0.5
	comp=Z,206nm,1.1s						
PLCA				ePcP	PcP	01 58 05.4	-0.8
PLCA				eScP	ScP	02 01 35.8	-1.3
PLCA				PKiKP	PKiKP	02 05 32.7	+0.2
QSPA	South Pole Qui	32.80	180	eP	P	01 55 26.0	+1.2
	comp=Z,348nm,0.6s						
QSPA				ePcP	PcP	01 58 06.8	+0.5
QSPA				eS	S	02 00 27.0	-4.6
QSPA				eScP	ScP	02 01 37.3	0.0
CPUP	Villa Florida	38.02	312	eP	P	01 56 09.1	-0.5
CPUP				e		01 58 22.4	
CPUP				e		02 01 55.2	
CPUP	Villa Florida	38.02	312	eP	P	01 56 09.1	-0.5
	comp=Z,8.3nm,1.1s						
CPUP				ePcP	PcP	01 58 22.4	+0.3
CPUP				eScP	ScP	02 01 55.2	-1.5
MAW	Mawson	38.80	142	P	P	01 56 16.8	+1.2
	comp=Z,16nm,0.3s,baz=220,slow=5.9,SNR=108						
MAW				pP	pP	01 56 46.6	+1.1
	comp=Z,82nm,0.8s,baz=225,slow=11,SNR=5.3						
MAW				PcP	PcP	01 58 24.9	+1.0
	comp=Z,56nm,0.8s,baz=234,slow=3.0,SNR=4.7						
MAW				ScP	ScP	02 01 59.0	-0.1
	comp=Z,29nm,0.9s,baz=274,slow=5.5,SNR=9.4						
MAW	Mawson	38.80	142	eP	P	01 56 16.9	+1.2
MAW				e		01 58 25.1	
MAW				e		02 01 58.6	
MAW				pmax	pmax		
	comp=Z,22nm,0.9s						
MAW	Mawson	38.80	142	eP	P	01 56 16.9	+1.2
	comp=Z,22nm,0.9s						
MAW				ePcP	PcP	01 58 25.1	+1.3
MAW				eScP	ScP	02 01 58.6	-0.4
SUR	Sutherland	40.66	73	P	P	01 56 33.0	+1.3
	comp=Z,782nm,0.8s,SNR=40						
SUR	Sutherland	40.66	73	eP	P	01 56 33.4	+1.7
	comp=Z,42nm,1.1s						
SUR				ePcP	PcP	01 58 31.7	+1.0
SUR				eScP	ScP	02 02 05.4	-1.7
AHML	Horco Molle	41.10	301	iP	P	01 56 33.0	-2.2
LCO	Las Campanas	41.81	294	eP	P	01 56 40.3	-0.9
	comp=Z,97nm,1.0s						
LCO				ePcP	PcP	01 58 34.5	-0.1
FSA	Cafayete	42.01	301	iP	P	01 56 39.9	-2.8
SLA	San Lorenzo	42.95	303	iP	P	01 56 46.8	-3.5
ALOL	LOMAS DE OLMED	43.05	305	iP	P	01 56 49.8	-1.1
ALOL				iP	P	01 56 49.8	-1.1
ASTB	Santa Barbara	43.16	305	iP	P	01 56 50.1	-1.8
AZAP	Zapla	43.18	304	iP	P	01 56 49.0	-3.2
AZAP				AML	AML	01 57 28.9	
	comp=Z,98nm,0.7s						
AZAP				iS	sP	01 57 32.7	-5.2
HJA	Humahuaca	44.22	304	iP	P	01 57 00.2	-0.6
SHEL	Horse Pasture	44.25	29	iP	P	01 57 03.8	+3.2
SHEL	Horse Pasture	44.25	29	eP	P	01 57 01.8	+1.2
	comp=Z,130nm,0.9s						
SBA	Scott Base	44.72	184	eP	P	01 57 05.7	+2.1
SBA				e		01 58 44.7	
SBA				pmax	pmax		
	comp=Z,707nm,1.8s						
SBA	Scott Base	44.72	184	eP	P	01 57 05.7	+2.1
	comp=Z,707nm,1.8s						
SBA				ePcP	PcP	01 58 44.6	+1.4
SBA				eScP	ScP	02 02 23.0	+0.5
BDFB	Brasilia	44.76	330	P	P	01 57 06.3	+1.6
	comp=Z,146nm,0.7s,baz=151,slow=4.3,SNR=152						
BDFB				LR	LR	02 14 51.9	
	comp=Z,750nm,18.5s,baz=164,slow=35						
BDFB	Brasilia	44.76	330	eP	P	01 57 06.4	+1.6
BDFB	Brasilia	44.76	330	eP	P	01 57 06.4	+1.6
VNDA	Vanda	45.20	183	P	P	01 57 09.2	+1.8
	comp=Z,139nm,0.8s,baz=188,slow=6.9,SNR=788						
VNDA				PcP	PcP	01 58 46.6	+1.7
	comp=Z,41nm,0.8s,baz=228,slow=3.0,SNR=3.5						
VNDA				ScP	ScP	02 02 25.8	+1.2
	comp=Z,11nm,0.9s,baz=194,slow=4.3,SNR=3.2						
VNDA				LR	LR	02 17 24.6	
	comp=Z,472nm,18.3s,baz=182,slow=38						
VNDA	Vanda	45.20	183	P	P	01 57 09.2	+1.8
VNDA						01 58 46.6	
VNDA				pmax	pmax		
	comp=Z,139nm,0.8s						
VNDA				MLR	MLR		
	comp=Z,473nm,18.3s						
VNDA	Vanda	45.20	183	eP	P	01 57 09.0	+1.7
	comp=Z,133nm,0.8s						
VNDA				eScP	ScP	02 02 21.3	-3.2
BOSA	Boshof	45.96	74	P	P	01 57 14.4	+0.4
	comp=Z,124nm,0.9s,baz=206,slow=7.6,SNR=79						
BOSA				pP	pP	01 57 44.6	-0.2
	comp=Z,106nm,0.9s,baz=208,slow=7.4,SNR=2.9						
BOSA				LR	LR	02 13 40.8	
	comp=Z,5μm,18.1s,baz=230,slow=32						
BOSA	Boshof	45.96	74	P	P	01 57 14.5	+0.4
BOSA				*PP	pP	01 57 44.6	-0.2
BOSA				pmax	pmax		
	comp=Z,124nm,0.9s						
BOSA				pmax	pmax		
	comp=Z,106nm,1.0s						
BOSA	Boshof	45.96	74	eP	P	01 57 14.5	+0.4
	comp=Z,287nm,1.0s						
BOSA				epP	pP	01 57 42.7	-2.2
BOSA				pP	pP	01 57 44.6	-0.2
LVC	Limon Verde	46.34	300	eP	P	01 57 16.8	-0.4
	comp=Z,118nm,0.8s						
LVC				eScP	ScP	02 02 27.2	-3.2
LBTB	Lobatse	49.07	71	eP	P	01 57 38.5	+0.4
LBTB				e*PP	pP	01 58 07.8	-1.4
LBTB				pmax	pmax		
	comp=Z,300nm,0.9s						
LBTB	Lobatse	49.07	71	eP	P	01 57 38.5	+0.4
	comp=Z,300nm,0.9s						
LBTB				epP	pP	01 58 07.8	-1.4
H10S2	ASCENSION HYDR	49.23	16	P	P	01 57 38.8	-0.2
H10S2				T	T	02 50 51.3	
	baz=189,slow=75,SNR=51						
H10S3	ASCENSION HYDR	49.24	16	P	P	01 57 39.6	+0.6
H10S3				T	T	02 50 51.8	
	baz=189,slow=75,SNR=52						
H10S1	ASCENSION HYDR	49.25	16	P	P	01 57 40.3	+1.2
H10S1				T	T	02 50 53.4	
	baz=189,slow=75,SNR=138						
ASCN	Ascension	50.28	16	eP	P	01 57 47.0	-0.3
	comp=Z,214nm,1.1s						
H10N1	ASCENSION HYDR	50.35	16	P	P	01 57 49.8	+2.4
H10N1				T	T	02 52 08.6	
	baz=188,slow=75,SNR=68						
H10N3	ASCENSION HYDR	50.35	16	P	P	01 57 49.3	+1.9
H10N3				T	T	02 52 16.6	
	baz=188,slow=75,SNR=161						
H10N2	ASCENSION HYDR	50.37	16	P	P	01 57 49.4	+1.9
H10N2				T	T	02 52 16.0	
	baz=188,slow=75,SNR=33						
LPAZ	La Paz	51.50	305	P	P	01 57 57.2	+0.2
	comp=Z,179nm,0.6s,baz=140,slow=5.6,SNR=557						
LPAZ				S	S	02 05 04.2	-3.0
	comp=Z,17nm,1.1s,baz=42,slow=21,SNR=7.8						
LPAZ	La Paz	51.50	305	P	P	01 57 57.2	+0.2
LPAZ				S	S	02 05 04.2	-3.0
LPAZ				pmax	pmax		
	comp=Z,179nm,0.6s						
LPAZ				smax	smax		
	comp=N,17nm,1.1s						
LPAZ	La Paz	51.50	305	eP	P	01 57 56.9	-0.1
	comp=N,197nm,0.6s						
RCBR	Riachuelo	52.01	348	eP	P	01 58 00.2	+0.1
	comp=N,26nm,0.6s						
RCBR				ePcP	PcP	01 59 10.8	+0.2
RCBR				eScP	ScP	02 02 50.1	-4.2
CASY	Casey	52.47	160	eP	P	01 58 03.8	+0.9
	comp=N,99nm,0.9s						
CASY				epP	pP	01 58 34.1	-0.2
CASY				eScP	ScP	02 02 54.5	-1.1
PAF	Port-aux-Franc	53.48	126	P	P	01 58 16.0	+5.5
PAF				S	S	02 05 22.0	-10
PAF				L	L	02 11 00.0	
PAF				R		02 12 00.0	
DRV	Dumont d'Urvil	55.80	174	P	P	01 57 58.0	-29
DRV				S	S	02 05 40.0	-23
DRV				L	L	02 09 00.0	
DRV				R		02 14 00.0	
SAML	Samuel	56.06	315	eP	P	01 58 29.1	-0.4
	comp=N,124nm,0.8s						
SAML				epP	pP	01 59 01.9	+0.6
SAML				eS	S	02 06 05.2	-2.2
LSZ	Lusaka	58.53	67	eP	P	01 58 47.2	+0.2
LSZ				pmax	pmax		
	comp=Z,457nm,1.1s						
LSZ	Lusaka	58.53	67	eP	P	01 58 47.2	+0.2
	comp=Z,456nm,1.1s						
NNA	Nana	59.26	299	P	P	01 58 52.4	+0.5
	comp=Z,437nm,0.8s,SNR=8.0						
NNA	Nana	59.26	299	eP	P	01 58 51.6	-0.3
NNA				pmax	pmax		
	comp=Z,60nm,0.8s						
NNA	Nana	59.26	299	eP	P	01 58 51.6	-0.3
	comp=Z,60nm,0.8s						
LIC	Lamto	65.81	24	eP	P	01 59 35.9	+0.6
	comp=Z,322nm,1.2s						
KIC	Kosan Boka	66.01	24	eP	P	01 59 37.1	+0.6
	comp=Z,366nm,1.1s						
TIC	Toumodi	66.22	23	eP	P	01 59 38.4	+0.5
	comp=Z,210nm,0.9s						
DBIC	Dimbokro	66.28	24	P	P	01 59 39.1	+0.8
	comp=Z,85nm,0.8s,baz=167,slow=6.7,SNR=73						
DBIC				LR	LR	02 22 36.5	
	comp=Z,2μm,18.6s,baz=180,slow=30						
DBIC				PKPPKP	P'P'df	02 28 11.3	+2.4
	comp=Z,14nm,1.1s,baz=87,slow=0.9,SNR=6.1						
DBIC	Dimbokro	66.28	24	eP	P	01 59 38.9	+0.7
	comp=Z,168nm,1.1s						
DBIC				epP	pP	02 00 09.6	-1.5
DBIC				P'P'		02 28 11.3	
OTAV	Otavalo	70.75	303	eP	P	02 00 07.1	+0.5
	comp=Z,131nm,0.8s						
SACV	Santiago Islan	72.18	3	eP	P	02 00 14.9	+0.3
	comp=Z,33nm,0.8s						
ROSC	El Rosal	73.09	309	P	P	02 00 20.8	+0.3
	comp=Z,52nm,0.8s,baz=134,slow=2.6,SNR=37						
ROSC				LR	LR	02 34 51.9	
	comp=Z,399nm,19.4s,baz=198,slow=38						
ROSC	El Rosal	73.09	309	eP	P	02 00 21.2	+0.7
TOSP	Speyside	73.99	325	eP	P	02 00 26.4	+1.2
TOA0	Torodi Ar. Sit	74.09	29	eP	P	02 00 26.7	+0.9
TOA0	Torodi Ar. Sit	74.09	29	eP	P	02 00 26.4	+0.6
TORD	Torodi Ar. Bea	74.09	29	P	P	02 00 26.9	+1.2
	comp=Z,178nm,0.6s,baz=198,slow=5.0,SNR=853						
TORD				pP	pP	02 00 57.0	-2.2
	comp=Z,70nm,0.7s,baz=196,slow=6.4,SNR=3.7						
TORD				S	S	02 09 46.3	-1.1
	comp=Z,2.8nm,0.9s,baz=187,slow=11,SNR=6.2						
TORD				PKKPbc	PKKPbc	02 19 55.0	+1.1
	comp=Z,0.7nm,0.6s,baz=6.9,slow=2.0,SNR=8.3						
TORD				LR	LR	02 27 24.0	
	comp=Z,1μm,18.9s,baz=195,slow=31						
TORD				PKP2ab		02 27 46.7	
	comp=Z,1.0nm,1.1s,baz=270,slow=1.5,SNR=3.6						
TORD				PKPPKP	P'P'df	02 27 57.8	+2.2
	comp=Z,2.6nm,1.0s,baz=325,slow=2.8,SNR=6.2						
TORD	Torodi Ar. Bea	74.09	29	P	P	02 00 26.9	+1.2
TORD				pP	pP	02 00 57.0	-2.2
TORD				S	S	02 09 46.3	-1.1
TORD				PKKPbc	PKKPbc	02 19 55.0	+1.1
TORD				P'P'ab		02 27 46.7	
TORD				P'P'		02 27 57.8	
GRGR	Grenville	75.13	324	eP	P	02 00 32.8	+1.0
GRGR	Grenville	75.13	324	eP	P	02 00 32.6	+0.8
	comp=Z,1μm,0.6s						
KMBO	Kilima Mbogo	75.19	68	P	P	02 00 36.7	+4.1
	comp=Z,11nm,1.1s,baz=209,slow=2.1,SNR=16						
KMBO				LR	LR	02 31 33.3	
	comp=Z,1μm,18.1s,baz=194,slow=34						
KMBO	Kilima Mbogo	75.19	68	P	P	02 00 36.7	+4.1
KMBO	Kilima Mbogo	75.19	68	P	P	02 00 36.7	+4.1

SDV Santo Domingo 75.27 315 *e*P P 02 00 33.0 +0.2
comp=Z,184nm,1.0s
WHZ Wether Hill Ro 76.33 190 *e*PN P 02 00 39.1 +0.8
WHZ Wether Hill Ro 76.33 190 *e*P P 02 00 39.3 +1.0
comp=Z,205nm,1.0s
MCLT Moule a Chique 76.39 326 *e*P P 02 00 40.0 +1.1
DCZ Deep Cove 76.82 190 *e*PN P 02 00 40.9 -0.1
DCZ Deep Cove 76.82 190 *e*P P 02 00 42.9 +1.9
comp=Z,145nm,0.9s
ODZ Otahua Downs 76.88 192 *e*P P 02 00 42.9 +1.4
comp=Z,203nm,1.4s
H05S1 Guadeloupe/Mar 77.04 326 P P 02 00 44.6 +2.1
MVM Montagne Vaucl 77.18 326 *e*P P 02 00 44.6 +1.2
BIM Bigot 77.19 326 *e*P P 02 00 45.7 +2.2
TRMF Trois Ilets 77.21 326 *e*P P 02 00 45.3 +1.8
LPMF Morne Lapointe 77.22 326 *e*P P 02 00 44.7 +1.1
ZAM Aeronautique 77.23 326 *e*P P 02 00 44.9 +1.3
BVM Bellevue 77.40 326 *e*P P 02 00 45.7 +1.0
FDF Fort de France 77.42 326 *e*P P 02 00 46.0 +1.2
FDF Fort de France 77.42 326 *e*P P 02 00 46.2 +1.5
FDF Fort de France 77.42 326 *e*P P 02 00 45.6 +0.9
FDF pmax pmax
comp=Z,478nm,0.7s
FDF Fort de France 77.42 326 *e*P P 02 00 45.6 +0.9
comp=Z,478nm,0.7s
MSZ Milford Sound 77.54 190 *e*PN P 02 00 47.2 +2.1
LBZ Lake Benmore 77.58 192 PN P 02 00 46.5 +1.1
JCZ Jackson Bay 78.05 191 *e*PN P 02 00 49.3 +1.3
RPZ Rata Peaks 78.14 193 *e*P P 02 00 50.0 +1.4
comp=Z,161nm,0.9s
BBL Barber's Block 78.27 326 *e*P P 02 00 51.0 +1.7
MGG Marie-Galante 78.59 326 *e*P P 02 00 52.6 +1.5
HMG Houelmont 78.77 326 *e*P P 02 00 53.8 +1.7
PHG Guadaloupe-2 78.78 326 *e*P P 02 00 53.9 +1.6
DOG Dongo Capester 78.79 326 *e*P P 02 00 53.6 +1.4
SCG Saint Claude 78.81 326 *e*P P 02 00 54.1 +1.7
ECG Echelle 78.81 326 *e*P P 02 00 54.1 +1.6
LKG Breislack 78.81 326 *e*P P 02 00 53.1 +0.6
TAG Tarade 78.81 326 *e*P P 02 00 54.4 +1.9
CRG Carmichael 78.83 326 *e*P P 02 00 54.4 +1.8
FNG Fond-Bernard 78.84 326 *e*P P 02 00 54.2 +1.7
MLG Mont-d'or 78.85 326 *e*P P 02 00 54.2 +1.6
SSG Sans Toucher 78.86 326 *e*P P 02 00 54.3 +1.5
DEG La Desirade 78.89 326 *e*P P 02 00 53.9 +1.1
H05N1 Guadeloupe/Mar 78.89 326 P P 02 00 53.9 +1.2
LTZ Lake Taylor 78.91 194 PN P 02 00 53.8 +1.0
KHZ Kahutara 79.10 195 *e*P P 02 00 53.9 +0.2
comp=Z,96nm,0.9s
SEG Port Louis 79.11 326 *e*P P 02 00 55.2 +1.3
BCIP Isla Barro Col 79.30 306 *e*P P 02 00 55.1 0.0
comp=Z,98nm,0.7s
THZ Tophouse 79.83 195 PN P 02 00 58.2 +0.4
TAU Tasmania Unive 79.88 175 P P 02 00 58.5 +0.6
comp=Z,2µm,0.9s,SNR=16
TAU Tasmania Unive 79.88 175 *e*P P 02 00 57.7 -0.2
TAU pmax pmax
comp=Z,388nm,1.0s
TAU Tasmania Unive 79.88 175 *e*P P 02 00 57.7 -0.2
comp=Z,388nm,1.0s
DSZ Denniston Nort 79.99 194 *e*PN P 02 00 58.4 -0.2
SNZO South Karori 80.01 196 *e*P P 02 00 59.5 +0.8
comp=Z,226nm,0.9s
CAW Cannon Point 80.16 196 *e*PN P 02 01 00.6 +1.1
RKT Rikitea 80.18 242 *e*P P 02 01 01.9 +2.1
comp=Z,226nm,1.2s
RKT *e*S S 02 10 57.7 +4.3
comp=Z,1µm,32.5s
RKT Rikitea 80.18 242 *e*LQ LQ 02 22 53.4
comp=Z,964nm,29.0s
RKT *e*LR LR 02 26 07.3
comp=Z,1µm,39.5s,baz=144
ANWB Willy Bob 80.39 326 *e*P P 02 01 01.1 +0.3
ANWB Willy Bob 80.39 326 *e*P P 02 01 01.3 +0.5
comp=Z,669nm,0.7s
BFZ Birch Farm 80.39 197 *e*P P 02 01 02.9 +2.1
comp=Z,165nm,1.1s
SEUS St. Eustatius 80.59 325 *e*P P 02 01 02.6 +0.7
SABA Saba 80.79 325 *e*P P 02 01 04.2 +1.2
SMRT St. Maarten 81.14 325 *e*P P 02 01 04.9 +0.1
comp=Z,291nm,0.6s
CDVI St. Croix 81.39 323 *e*P P 02 01 06.3 +0.1
comp=Z,555nm,1.2s
BKZ Black Stump Fm 81.83 198 *e*P P 02 01 10.0 +1.6
TRVZ Turoa 81.85 197 *e*PN P 02 01 09.9 +1.1
STVI Saint Thomas 82.02 323 *e*P P 02 01 09.5 +0.2
comp=Z,444nm,0.8s
ICMP Isla Caja de M 82.10 322 *e*P P 02 01 09.2 -0.6
SJG San Juan 82.18 322 *e*P P 02 01 09.1 -1.1
SJG pmax pmax
comp=Z,214nm,0.9s
SJG San Juan 82.18 322 *e*P P 02 01 09.1 -1.1
comp=Z,214nm,0.9s
H01W2 Cape Leeuwin H 82.21 148 P P 02 01 12.0 +1.9
baz=193,slow=6.7,SNR=5.2
H01W1 Cape Leeuwin H 82.22 148 P P 02 01 11.6 +1.4
baz=193,slow=6.7,SNR=6.2
H01W3 Cape Leeuwin H 82.23 148 P P 02 01 11.5 +1.3
baz=193,slow=6.7,SNR=7.9
OBIP Obispado Ponce 82.27 322 *e*P P 02 01 09.9 -0.8
comp=Z,239nm,1.0s
CELP Cerrillos 82.29 322 *e*P P 02 01 10.1 -0.8
CRPR Cabo Rojo, PR 82.41 321 *e*P P 02 01 10.9 -0.5
comp=Z,537nm,1.0s
LSP Las Mesas 82.56 321 *e*P P 02 01 11.4 -0.8
JTS JuntasAbangare 82.58 302 P P 02 01 13.2 +0.7
comp=Z,734nm,1.1s,SNR=7.0
JTS JuntasAbangare 82.58 302 P P 02 01 13.1 +0.6
comp=Z,68nm,0.7s,baz=277,slow=4.0,SNR=8.5
JTS JuntasAbangare 82.58 302 P P 02 01 13.1 +0.6
JTS pmax pmax
comp=Z,68nm,0.7s
JTS JuntasAbangare 82.58 302 *e*P P 02 01 12.9 +0.4
comp=Z,115nm,0.9s
URZ Urewera 82.61 199 *e*P P 02 01 14.0 +1.6
comp=Z,111nm,0.8s
HIZ Hauiti 82.73 197 PN P 02 01 12.8 -0.2
AGPR Aguadilla, PR 82.84 321 *e*P P 02 01 12.4 -1.3
comp=Z,196nm,0.9s
PCDR Punta Cana, DR 83.31 320 *e*P P 02 01 16.1 0.0
SMN1 Samana, DR 84.25 320 *e*P P 02 01 20.4 -0.5
TAM Tamanrasset 84.31 29 *e*P P 02 01 23.3 +2.0
TAM pmax pmax
comp=Z,39nm,1.2s
TAM Tamanrasset 84.31 29 *e*P P 02 01 23.3 +2.0
comp=Z,39nm,1.2s
SDDR Presa de Saban 84.77 318 *e*P P 02 01 23.1 -0.4
comp=Z,54nm,0.7s
NWAO Narrogin (SRO) 84.92 150 PKKPbc PKKPbc 02 19 29.5 +1.4
comp=Z,9.6nm,0.9s,baz=334,slow=0.4,SNR=3.3
NWAO Narrogin (SRO) 84.92 150 PKKPbc PKKPbc 02 19 29.5 +1.3
HOJ Hope 85.95 313 *i*P P 02 01 31.9 +2.5
GWJ Greenwich 86.01 313 *i*P P 02 01 31.5 +1.7
STH Stony Hill 86.04 313 *i*P P 02 01 31.4 +1.5
OUZ Omahuta 86.15 196 *e*P P 02 01 31.0 +0.7
comp=Z,184nm,0.9s
OUZ *e*pP pP 02 02 04.4 -0.3
MCJ Malvern 86.26 312 *i*P P 02 01 32.5 +1.6
MTDJ Mount Denham 86.47 312 *e*P P 02 01 33.2 +1.2
comp=Z,123nm,1.1s
CVJ Coleyville 86.47 312 *i*P P 02 01 33.7 +1.7
TBI Tubuai 86.50 231 *e*PP PP 02 04 57.5 +2.5
comp=Z,206nm,28.0s
TBI *e*S S 02 12 00.5 +3.5
comp=Z,2µm,29.0s
TBI Tubuai 86.50 231 *e*LQ LQ 02 25 27.4
comp=Z,2µm,32.8s
TBI *e*LR LR 02 29 07.8
comp=Z,2µm,33.5s,baz=155
BBJ Bamboo Saint A 86.50 313 *i*P P 02 01 33.8 +1.7
TGUH Tegucigalpa,Un 86.95 302 *e*P P 02 01 34.6 +0.3
comp=Z,86nm,0.9s
GRTK Grand Turk 87.04 319 *e*P P 02 01 34.1 -0.5
GTBY Guantanamo Bay 87.06 315 *e*P P 02 01 35.0 +0.2
comp=Z,175nm,0.9s
CAN Canberra 87.52 176 *e*P P 02 01 37.3 +0.3
CAN pmax pmax
comp=Z,281nm,1.4s
CAN Canberra 87.52 176 *e*P P 02 01 37.3 +0.3
comp=Z,281nm,1.4s
BBOO Buckleboo 88.90 165 *e*P P 02 01 43.6 +0.1
comp=Z,59nm,0.8s
FORT Forrest 89.53 158 *e*P P 02 01 47.0 +0.5
comp=Z,267nm,0.8s
FORT *e*pP pP 02 02 20.6 -0.4
STKA Stephens Creek 90.46 170 P P 02 01 51.2 +0.4
comp=Z,45nm,1.0s,baz=163,slow=5.4,SNR=58
STKA pP pP 02 02 25.1 -0.2
comp=Z,41nm,0.9s,baz=177,slow=6.4,SNR=6.4
STKA PP PP 02 05 26.8 +0.6
comp=Z,7.5nm,0.8s,baz=180,slow=8.2,SNR=3.6
STKA PKKP PKKPdf 02 19 06.7 -2.9
comp=Z,1.3nm,0.8s,baz=292,slow=4.0,SNR=3.2
STKA PKKPbc PKKPbc 02 19 15.8 +0.9
comp=Z,2.5nm,0.7s,baz=45,slow=2.9,SNR=4.8
STKA LR LR 02 42 46.4
comp=Z,809nm,18.4s,baz=187,slow=36
STKA Stephens Creek 90.46 170 P P 02 01 51.2 +0.4
STKA *PP pP 02 02 25.2 -0.2
STKA 02 05 26.8
STKA pmax pmax
comp=Z,45nm,1.0s
STKA pmax pmax
comp=Z,8.0nm,0.8s
STKA MLR MLR
comp=Z,809nm,18.4s
STKA Stephens Creek 90.46 170 *e*P P 02 01 51.2 +0.4
STKA *e*PP PP 02 05 26.4 +0.2
STKA PKKP PKKPdf 02 19 06.7 -2.9
STKA PKKPbc PKKPbc 02 19 15.8 +0.9
TVO Taravao 91.34 233 *e*P P 02 01 56.9 +1.7
comp=Z,70nm,1.3s
PPT2 Papeete2 91.66 233 *e*PP PP 02 05 36.2 0.0
comp=Z,290nm,27.0s
PPT2 *e*S S 02 12 47.3 +1.9
comp=Z,1µm,23.5s
PPT2 Papeete2 91.66 233 *e*LR LR 02 31 38.9
comp=Z,5µm,27.8s,baz=154
PPT Papeete 91.67 233 LR LR 02 33 16.5
comp=Z,845nm,19.2s,baz=153,slow=29
TEIG Tepich 92.81 304 P P 02 02 02.1 +0.5
comp=Z,96nm,0.6s,baz=145,slow=1.4,SNR=80
TEIG pP pP 02 02 35.6 -0.6
comp=Z,34nm,0.6s,baz=118,slow=2.0,SNR=3.2
TEIG Tepich 92.81 304 *e*P P 02 02 01.8 +0.2
comp=Z,104nm,0.6s
TEIG pP pP 02 02 35.6 -0.6
CMIG Matias Romero 93.17 297 P P 02 02 03.3 0.0
comp=Z,24nm,0.8s,baz=128,slow=3.1,SNR=36
CMIG Matias Romero 93.17 297 P P 02 02 03.3 0.0
BBSR BB Station 95.09 328 *e*P P 02 02 10.5 -1.3
comp=Z,30nm,0.9s
PFVI Vila Bisbo 95.39 14 *e*P P 02 02 17.1 +4.1
PFVI *e*pP pP 02 02 53.8 +6.1
PFVI Vila Bisbo 95.39 14 *e*P P 02 02 17.1 +4.1
PFVI *e*pP pP 02 02 53.8 +6.1
MORF Marmelete 95.58 14 *e*P P 02 02 15.0 +1.0
MORF AMS AMS 02 39 21.6
comp=N,520nm,26.6s
MORF Marmelete 95.58 14 *e*P P 02 02 15.0 +1.0
MORF Marmelete 95.58 14 *e*P P 02 02 17.6 +3.7
MORF Marmelete 95.58 14 *e*P P 02 02 17.6 +3.7
PBDV Barranco-do-Ve 95.61 15 *e*P P 02 02 16.6 +2.5
PBDV Barranco-do-Ve 95.61 15 *e*P P 02 02 16.6 +2.5
PVAQ Vaqueiros 95.80 15 *e*P P 02 02 18.4 +3.5
PVAQ Vaqueiros 95.80 15 *e*P P 02 02 18.4 +3.5
PTEO Sao Teotonio 95.81 14 *e*P P 02 02 19.4 +4.5
PTEO *e*pP pP 02 02 54.4 +4.8
PTEO Sao Teotonio 95.81 14 *e*P P 02 02 19.4 +4.5
PTEO *e*pP pP 02 02 54.4 +4.8
PCVE Castro Verde 95.98 15 *e*P P 02 02 19.5 +3.8
PCVE *e*pP pP 02 02 55.8 +5.4
PCVE Castro Verde 95.98 15 *e*P P 02 02 19.5 +3.8
PCVE *e*pP pP 02 02 55.8 +5.4
MESJ Messejana 96.16 14 *e*P P 02 02 17.9 +1.4
MESJ *e*S SKSac 02 12 39.0 -0.5
MESJ AMS AMS 02 43 06.2
comp=Z,502nm,18.6s
MESJ Messejana 96.16 14 *e*P P 02 02 17.9 +1.4
MESJ *e*S SKSac 02 12 39.0 -0.5
MESJ Messejana 96.16 14 *e*P P 02 02 20.4 +3.9
MESJ Messejana 96.16 14 *e*P P 02 02 20.4 +3.9
PNCL Nicolau / Gran 96.39 14 *e*P P 02 02 20.2 +2.7
PNCL Nicolau / Gran 96.39 14 *e*P P 02 02 20.2 +2.7
PBAR Barrancos 96.66 15 *e*P P 02 02 21.9 +3.2
PBAR *e*pP pP 02 03 00.2 +6.8
PBAR Barrancos 96.66 15 *e*P P 02 02 21.9 +3.2
PBAR *e*pP pP 02 03 00.2 +6.8
MBWA Marble Bar 96.76 148 *e*P P 02 02 19.4 -0.5
comp=Z,15nm,0.9s
PMST Lisbon--Monsan 96.92 14 *e*pP pP 02 03 02.4 +7.8
PMST Lisbon--Monsan 96.92 14 *e*pP pP 02 03 02.4 +7.8
PMAFR Mafra 97.12 13 *e*P Pdif 02 02 24.3 +3.4
PMAFR Mafra 97.12 13 *e*P Pdif 02 02 24.3 +3.4
PMTG Montargil 97.37 14 *e*P Pdif 02 02 25.4 +3.4
PMTG Montargil 97.37 14 *e*P Pdif 02 02 25.4 +3.4
ASAR Alice Springs 97.54 162 P P 02 02 23.1 -0.4
comp=Z,23nm,0.7s,baz=185,slow=4.0,SNR=124
ASAR pP pP 02 02 57.6 -0.5
comp=Z,22nm,0.9s,baz=192,slow=4.2,SNR=4.9
ASAR PP PP 02 06 20.4 -1.1
comp=Z,10nm,1.0s,baz=188,slow=7.4,SNR=7.8
ASAR PKiKP PKiKP 02 06 56.4 -0.8
comp=Z,3.5nm,0.9s,baz=186,slow=1.5,SNR=5.3
ASAR PKKPbc PKKPdf 02 18 59.0 +1.6
comp=Z,4.5nm,0.6s,baz=12,slow=2.5,SNR=20
ASAR PKPPKP P'P'df 02 27 05.4 -10
comp=Z,1.4nm,0.8s,baz=35,slow=1.9,SNR=8.8
ASAR LR LR 02 44 20.4
comp=Z,698nm,18.9s,baz=192,slow=34
ASAR Alice Springs 97.54 162 P P 02 02 23.1 -0.4
ASAR *PP pP 02 02 57.7 -0.5
ASAR 02 06 20.4
ASAR pmax pmax
comp=Z,23nm,0.7s
ASAR pmax pmax
comp=Z,10.0nm,1.0s
ASAR MLR MLR
comp=Z,698nm,18.9s
ASAR Alice Springs 97.54 162 P P 02 02 23.1 -0.4
ASAR pP pP 02 02 57.6 -0.5
ASAR PP PP 02 06 20.4 -1.1
ASAR PKiKP PKiKP 02 06 56.4 -0.8
ASAR PKKPbc PKKPdf 02 18 59.0 +1.6
ASAR P'P' 02 27 05.4
AS31 Alice Springs 97.55 162 *e*P P 02 02 22.8 -0.7
KEST Kesra 97.61 29 P Pdif 02 02 27.1 +3.9
comp=Z,4.3nm,1.0s,baz=268,slow=1.9,SNR=6.0
KEST PKKPbc PKKPdf 02 19 00.2 -0.4
comp=Z,0.9nm,0.6s,baz=45,slow=1.4,SNR=4.0
KEST PKKP PKKPbc 02 19 04.6 +6.8
comp=Z,1.2nm,0.7s,baz=262,slow=2.9,SNR=4.8
KEST LR LR 02 42 32.0
comp=Z,445nm,19.5s,baz=153,slow=33
KEST Kesra 97.61 29 *e*P P 02 02 23.1 -0.2
KEST PKKPbc PKKPdf 02 19 00.2 -0.4
KEST PKKP PKKPbc 02 19 04.6 +6.8
PMRV Marv??o 97.84 15 *e*P Pdif 02 02 26.2 +2.1
PMRV Marv??o 97.84 15 *e*P Pdif 02 02 26.2 +2.1
PAB San Pablo 98.41 17 *e*P P 02 02 25.5 -1.2
PAB pmax pmax
comp=Z,17nm,1.4s
PAB San Pablo 98.41 17 *e*P P 02 02 25.4 -1.2
comp=Z,17nm,1.4s
ESDC Sonseca Array 98.59 17 P Pdif 02 02 28.7 +1.2
comp=Z,1.6nm,0.6s,baz=190,slow=4.2,SNR=17
ESDC PKiKP PKiKP 02 06 59.0 +0.6
comp=Z,0.5nm,0.7s,baz=93,slow=1.7,SNR=3.6
ESDC PKKPbc PKKPbc 02 18 57.0 +1.8
comp=Z,2.7nm,0.7s,baz=3.4,slow=2.9,SNR=22
ESDC PKPPKP P'P'df 02 27 18.6 +8.5
comp=Z,0.2nm,0.6s,baz=279,slow=2.9,SNR=4.1
ESDC LR LR 02 43 24.2
comp=Z,490nm,19.3s,baz=220,slow=33
ESDC Sonseca Array 98.59 17 P Pdif 02 02 28.7 +1.2
ESDC PKiKP PKiKP 02 06 59.0 +0.6
ESDC PKKPbc PKKPbc 02 18 57.0 +1.8
ESDC P'P' 02 27 18.6
ESLA Sonseca Array 98.59 17 *e*P Pdif 02 02 28.9 +1.4
comp=Z,0.4nm,0.6s
DZM Mont Dzumac 100.05 192 *e*Pdif **Pdif** 02 02 35.1 +0.4
comp=Z,113nm,22.9s
DZM Mont Dzumac 100.05 192 *e*PS PS 02 15 47.3 +4.7
comp=Z,307nm,26.9s
DZM Mont Dzumac 100.05 192 *e*LR LR 02 35 31.8
comp=Z,647nm,21.8s
PGAV Gavieira, Arco 100.22 14 *e*pP pP 02 03 15.6 +6.1
PGAV Gavieira, Arco 100.22 14 *e*pP pP 02 03 15.6 +6.1
RAYN Ar Rayn 100.39 63 *e*Pdif **Pdif** 02 02 34.5 -1.5
comp=Z,6.1nm,1.1s
RAYN *e*PP PP 02 06 43.4 -1.0
WRA Warramunga Arr 101.26 162 P Pdif 02 02 39.8 -0.2
comp=Z,7.9nm,0.7s,baz=196,slow=4.2,SNR=57
WRA pP pP 02 03 15.8 +1.0
comp=Z,5.1nm,0.8s,baz=190,slow=4.3,SNR=3.1
WRA PP PP 02 06 51.4 +1.6
comp=Z,4.3nm,0.8s,baz=184,slow=5.6,SNR=4.1
WRA PKKPbc PKKPbc 02 18 48.0 +1.8
comp=Z,4.5nm,0.5s,baz=0.2,slow=2.9,SNR=32
WRA PKPPKP P'P'df 02 26 55.9 -13
comp=Z,1.4nm,0.8s,baz=24,slow=2.0,SNR=12
WRA Warramunga Arr 101.26 162 P Pdif 02 02 39.8 -0.2
WRA 02 06 51.4
WRA pmax pmax
comp=Z,8.0nm,0.7s
WRA Warramunga Arr 101.26 162 P Pdif 02 02 39.8 -0.2
WRA pP pP 02 03 15.8 +1.0
WRA PP PP 02 06 51.4 +1.6
WRA PKKPbc PKKPbc 02 18 48.0 +1.8
WRA P'P' 02 26 55.9
WRAB Tennant Creek 101.27 162 *e*P Pdif 02 02 39.7 -0.4
WRAB Tennant Creek 101.27 162 *e*Pdif Pdif 02 02 39.7 -0.4
CTAO Charters Tower 102.53 173 *e*P Pdif 02 02 46.0 +0.3
CTAO Charters Tower 102.53 173 *e*Pdif Pdif 02 02 46.0 +0.3
TIP Timpagrande 102.89 33 *e*Pdif Pdif 02 02 47.1 +0.5
TKL Tuckaleechee C 104.49 315 PKiKP **PKiKP** 02 07 10.2 +1.1
comp=Z,6.7nm,0.8s,baz=164,slow=5.2,SNR=6.4
TKL Tuckaleechee C 104.49 315 PKiKP **PKiKP** 02 07 10.2 +1.1
833A Chaparral WMA, 104.89 299 ⇓PKiKP **PKiKP** 02 07 11.2 +1.2
baz=105
340A Bronson 104.99 305 ⇑PKiKP **PKiKP** 02 07 11.1 +1.0
baz=105
338A Crockett 105.57 304 ⇑PKiKP **PKiKP** 02 07 11.8 +0.7
baz=106
NATX Nacogdoches 105.62 305 ⇑PKiKP **PKiKP** 02 07 11.6 +0.3
baz=106
633A Saathoff Ranch 105.74 300 ⇑PKiKP **PKiKP** 02 07 12.0 +0.4
baz=106
534A Blanco 105.89 301 ⇑PKiKP **PKiKP** 02 07 12.2 +0.3
baz=106
238A Jacksonville 106.04 305 ⇑PKiKP **PKiKP** 02 07 12.4 +0.4
baz=106
632A Uvalde 106.06 300 ⇑PKiKP **PKiKP** 02 07 12.8 +0.6
baz=106
435B Jarrell 106.12 302 ⇓PKiKP **PKiKP** 02 07 13.0 +0.8
baz=106
533A Kerrville 106.19 301 ⇑PKiKP **PKiKP** 02 07 13.0 +0.6
baz=106
336A Riesel 106.29 303 ⇓PKiKP **PKiKP** 02 07 13.2 +0.7
baz=106
237A Washetta, Mont 106.34 304 ⇓PKiKP **PKiKP** 02 07 12.9 +0.3
baz=107
631A Perdido Creek 106.36 299 ⇓PKiKP **PKiKP** 02 07 12.9 +0.2
baz=107
434A Burnet 106.46 302 ⇓PKiKP **PKiKP** 02 07 13.1 +0.2
baz=107
532A Rocksprings 106.64 300 ⇑PKiKP **PKiKP** 02 07 13.4 +0.1
baz=107
236A Katherine and 106.67 304 ⇑PKiKP **PKiKP** 02 07 14.2 +1.0
baz=107
433A Art 106.79 301 ⇓PKiKP **PKiKP** 02 07 13.7 +0.2
baz=107
SSPA Standing Stone 106.80 322 *e*PKP **PKiKP** 02 07 11.8 -1.4
SSPA *e*PP PP 02 07 32.0 +0.2
334A Lometa 106.88 302 ⇓PKiKP **PKiKP** 02 07 13.7 +0.1
baz=107
JCT Junction City 106.89 300 ⇑PKiKP **PKiKP** 02 07 13.9 +0.1
baz=107
JCT Junction City 106.89 300 *e*PKP **PKiKP** 02 07 13.1 -0.7
531A Rocksprings 106.97 299 ⇑PKiKP **PKiKP** 02 07 14.0 +0.1
baz=107
Z38A Mt. Pleasant 107.03 305 ⇓PKiKP **PKiKP** 02 07 14.2 +0.3
baz=107
WHTX Lake Whitney, 107.08 303 ⇓PKiKP **PKiKP** 02 07 14.1 +0.1
baz=107
432A Menard 107.22 300 ⇑PKiKP **PKiKP** 02 07 14.3 0.0
baz=107
333A Richland Sprin 107.22 301 ⇑PKiKP **PKiKP** 02 07 14.4 +0.1
baz=107
530A J-C Ranch, Com 107.33 299 ⇓PKiKP **PKiKP** 02 07 14.7 +0.2
baz=108
234A Clairette 107.40 302 ⇑PKiKP **PKiKP** 02 07 14.9 +0.3
baz=108
431A Sonora 107.44 300 ⇑PKiKP **PKiKP** 02 07 14.9 +0.2
baz=108
BINY Binghamton 107.58 324 *e*PKP **PKiKP** 02 07 14.8 +0.2
BINY *e*PP PP 02 07 35.6 -1.9
332A Millersview 107.62 301 ⇑PKiKP **PKiKP** 02 07 15.2 +0.2
baz=108
WCI Wyandotte Cave 107.71 314 *e*PKP **PKiKP** 02 07 13.7 -1.3
529A Stev Forest Ra 107.73 298 ⇓PKiKP **PKiKP** 02 07 15.8 +0.5
baz=108
233A Rising Star 107.76 302 ⇓PKiKP **PKiKP** 02 07 15.7 +0.4
baz=108
TXAR Lajitas Array 107.77 297 Pdiff **Pdif** 02 03 09.6 +0.9
comp=Z,0.9nm,0.9s,baz=85,slow=1.0,SNR=3.5
TXAR PKiKP **PKiKP** 02 07 16.0 +0.5
comp=Z,4.5nm,0.8s,baz=156,slow=4.8,SNR=14
TXAR PKKPbc **PKKPbc** 02 18 31.4 +4.0
comp=Z,2.3nm,0.9s,baz=289,slow=2.8,SNR=7.8
TXAR PKKPab **PKKPab** 02 18 44.3 +3.2
comp=Z,1.0nm,0.8s,baz=322,slow=7.9,SNR=3.9
TXAR Lajitas Array 107.77 297 P **Pdif** 02 03 09.6 +0.9
TXAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR Lajitas Array 107.77 297 Pdif **Pdif** 02 03 09.6 +0.9
TXAR PKiKP **PKiKP** 02 07 15.9 +0.5
TXAR PKKPbc **PKKPbc** 02 18 31.4 +4.0
TXAR PKKPab **PKKPab** 02 18 44.3 +3.2
430A Baggett Ranch, 107.82 299 ⇑PKiKP **PKiKP** 02 07 15.8 +0.4
baz=108
134A White-Moore Ra 107.85 303 ⇓PKiKP **PKiKP** 02 07 15.9 +0.5
baz=108
331A San Angelo 107.87 300 ⇓PKiKP **PKiKP** 02 07 16.1 +0.5
baz=108
429A Davenport Ranc 107.99 299 ⇓PKiKP **PKiKP** 02 07 16.3 +0.5
baz=108
232A Coleman 108.00 301 ⇓PKiKP **PKiKP** 02 07 16.4 +0.7
baz=108
Z35A Perchaven, San 108.11 304 ⇑PKiKP **PKiKP** 02 07 16.6 +0.7
baz=108
ACSO Alum Creek Sta 108.22 318 *e*PKP **PKiKP** 02 07 15.6 -0.2
ACSO *e*PP PP 02 07 35.0 -7.2
133A Hamilton Ranch 108.26 302 ⇓PKiKP **PKiKP** 02 07 16.9 +0.7
baz=108
330A Mertzon 108.31 300 ⇓PKiKP **PKiKP** 02 07 16.4 +0.1
baz=108
X37A Clayton 108.34 306 ⇓PKiKP **PKiKP** 02 07 16.5 +0.3
baz=109
231A Bronte 108.34 301 ⇓PKiKP **PKiKP** 02 07 16.5 +0.1
baz=109
W38A Poteau 108.37 307 ⇑PKiKP **PKiKP** 02 07 16.6 +0.3
baz=109
FETA Feichten 108.60 26⇑*i*PKKPbc PKKPbc 02 18 27.9 +2.5
comp=Z,9.5nm,1.4s
ABTX Abilene, Hawle 108.61 302 ⇑PKiKP **PKiKP** 02 07 17.1 +0.3
baz=109
ABTX Abilene, Hawle 108.61 302 *e*PKP **PKiKP** 02 07 16.5 -0.3
DAVA Damuels 108.65 25⇑*i*PKKPbc PKKPbc 02 18 26.9 +1.6
comp=Z,14nm,1.1s
230A Sterling City 108.68 300 ⇑PKiKP **PKiKP** 02 07 17.3 +0.2
baz=109
X36A Centrahoma 108.75 305 ⇓PKiKP **PKiKP** 02 07 17.4 +0.4
baz=109
Z33A Whitaker Ranch 108.76 303 ⇑PKiKP **PKiKP** 02 07 17.5 +0.4
baz=109
W37A Quinton 108.83 306 ⇓PKiKP **PKiKP** 02 07 17.6 +0.4
baz=109
OLIL Olney 108.85 313 *e*PKP **PKiKP** 02 07 16.7 -0.3
Y34A Reagan Ranch, 108.87 304 ⇓PKiKP **PKiKP** 02 07 17.7 +0.5
baz=109
X35A Drake 108.89 305 ⇑PKiKP **PKiKP** 02 07 17.8 +0.5
baz=109
MYKA Terra Mystica 108.94 28⇑*i*PKiKP **PKiKP** 02 07 17.2 +0.1
comp=Z,6.6nm,1.1s
131A Roby 108.99 301 ⇑PKiKP **PKiKP** 02 07 18.1 +0.5
baz=109
WTTA Wattenberg 109.04 26⇑*i*PKiKP **PKiKP** 02 07 19.0 +1.6
comp=Z,5.7nm,0.8s
Z32A Haskell 109.10 302 ⇓PKiKP **PKiKP** 02 07 18.4 +0.6
baz=109
BR131 Keskin Array S 109.13 45 *e*PKP **PKiKP** 02 07 18.2 +0.4
BRTR Keskin Array B 109.13 45 Pdiff **Pdif** 02 03 15.5 +1.0
comp=Z,0.8nm,1.1s,baz=108,slow=4.7,SNR=2.1
BRTR PKiKP **PKiKP** 02 07 18.1 +0.4
comp=Z,3.0nm,0.9s,baz=183,slow=3.2,SNR=9.2
BRTR PP **PP** 02 07 48.5 -0.6

comp=Z,1.2nm,0.7s,baz=180,slow=7.8,SNR=2.8
BRTR PKKPbc **PKKPbc 02 18 24.9 +1.4**
comp=Z,2.2nm,0.8s,baz=44,slow=1.7,SNR=5.9
BRTR PKKPab **PKKPdf 02 18 37.6 -1.5**
comp=Z,2.3nm,0.8s,baz=105,slow=2.4,SNR=5.6
BRTR Keskin Array B 109.13 45 P **Pdif 02 03 15.5 +1.0**
BRTR 02 07 48.5
BRTR 02 18 24.9
BRTR pmax pmax
comp=Z,1.0nm,1.1s
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 109.13 45 Pdif **Pdif 02 03 15.5 +1.0**
BRTR PKiKP **PKiKP 02 07 18.1 +0.4**
BRTR PP **PP 02 07 48.5 -0.6**
BRTR PKKPbc **PKKPbc 02 18 24.9 +1.4**
BRTR PKKPab **PKKPdf 02 18 37.6 -1.5**
130A Snyder 109.20 301 ⇑PKiKP **PKiKP 02 07 19.2 +1.2**
baz=109
BFO Black Forest 109.28 24 *e*PKKPbc PKKPbc 02 18 22.2 -0.9
Y33A Hilltop Ranch, 109.30 303 ⇑PKiKP **PKiKP 02 07 18.4 +0.3**
baz=110
SOKA Soboth 109.35 29 ⇑*i*PKKPab PKKPab 02 18 36.7 +4.1
comp=Z,8.4nm,1.3s
Z31A Sharp Cattle R 109.42 302 ⇑PKiKP **PKiKP 02 07 18.8 +0.4**
baz=110
X34A Smith Ranch, M 109.44 304 ⇓PKiKP **PKiKP 02 07 18.8 +0.5**
baz=110
228A UT Block 9, Go 109.56 299 ⇑PKiKP **PKiKP 02 07 19.4 +0.6**
baz=110
TUL1 Leonard 109.64 306 ⇓PKiKP **PKiKP 02 07 19.8 +1.1**
baz=110
TUL1 Leonard 109.64 306 *e*PKP **PKiKP 02 07 18.2 -0.4**
TUL1 *e*PP PP 02 07 39.5 -13
Y32A R-V Farms, Ver 109.67 302 ⇑PKiKP **PKiKP 02 07 19.5 +0.7**
baz=110
Z30A Sanderson Ranc 109.85 301 ⇓PKiKP **PKiKP 02 07 19.2 0.0**
baz=110
SFIN Lafayette 109.88 315 ⇑PKiKP **PKiKP 02 07 19.1 +0.2**
baz=110
SFIN Lafayette 109.88 315 *e*PKP **PKiKP 02 07 18.5 -0.5**
SFIN *e*PP **PP 02 07 50.9 -3.3**
128A Castleberry Fa 109.93 299 ⇑PKiKP **PKiKP 02 07 18.8 -0.6**
baz=110
W34A Bridge Creek, 109.94 304 ⇓PKiKP **PKiKP 02 07 19.6 +0.3**
baz=110
W34A Bridge Creek, 109.94 304 *e*PKP **PKiKP 02 07 19.8 +0.5**
X32A Elmer 109.94 303 ⇑PKiKP **PKiKP 02 07 19.5 +0.2**
baz=110
V35A Meyer Ranch, C 109.97 305 ⇓PKiKP **PKiKP 02 07 19.5 +0.3**
baz=110
WMOK Wichita Mounta 109.98 303 *e*PKP **PKiKP 02 07 18.7 -0.7**
Y31A Rekieta Farm, 110.01 302 ⇓PKiKP **PKiKP 02 07 19.8 +0.3**
baz=110
WLF Walferdange 110.09 22 *e*PKIKP **PKiKP 02 07 17.4 -1.6**
WLF Walferdange 110.09 22 *e*PKP **PKiKP 02 07 17.4 -1.6**
Z29A Hungry Hill Ra 110.09 300 ⇓PKiKP **PKiKP 02 07 19.8 +0.1**
baz=110
W33A Caddo, Fort Co 110.19 304 ⇓PKiKP **PKiKP 02 07 20.3 +0.6**
baz=110
Y30A Stafford Cattl 110.23 301 ⇑PKiKP **PKiKP 02 07 20.3 +0.4**
baz=110
T37A Cheneyville 18 110.28 308 ⇑PKiKP **PKiKP 02 07 19.5 -0.3**
baz=110
GZR Gura Zlata 110.38 35 ⇑*i*P **PKiKP 02 07 24.2 +4.4**
X31A McDonald Ranch 110.44 302 ⇑PKiKP **PKiKP 02 07 20.5 +0.3**
baz=111
Z28A Tucker Farm, M 110.44 300 ⇑PKiKP **PKiKP 02 07 20.3 0.0**
baz=111
GDL2 Guadalupe Moun 110.47 298 *e*PKP **PKiKP 02 07 20.9 +0.5**
W32A Sentinel 110.51 303 ⇓PKiKP **PKiKP 02 07 20.6 +0.3**
baz=111
MNTX Cornudas Mount 110.55 297 ⇑PKiKP **PKiKP 02 07 20.4 -0.1**
baz=111
MNTX Cornudas Mount 110.55 297 *e*PKP **PKiKP 02 07 19.4 -1.2**
Y29A Porterfield Fa 110.58 301 ⇑PKiKP **PKiKP 02 07 20.6 0.0**
baz=111
T36A Boggs Farm, Ca 110.64 307 ⇑PKiKP **PKiKP 02 07 20.4 -0.1**
baz=111
V33A Lossen Ranch, 110.66 304 ⇑PKiKP **PKiKP 02 07 20.9 +0.3**
baz=111
X30A Coker Ranch, T 110.69 302 ⇑PKiKP **PKiKP 02 07 21.1 +0.3**
baz=111
CONA Conrad Observa 110.72 29 ⇑*i*PKKPbc PKKPbc 02 18 19.9 +1.4
comp=Z,3.5nm,0.8s
PSI Prapat 110.72 120 PKKPbc PKKPbc 02 18 19.2 +1.7
comp=Z,4.4nm,0.4s,baz=56,slow=7.3,SNR=5.7
PSI PKKPab **PKKPab 02 18 31.0 -0.6**
comp=Z,13nm,0.8s,baz=15,slow=5.0,SNR=8.3
PSI Prapat 110.72 120 PKKPbc PKKPbc 02 18 19.2 +1.7
PSI PKKPab **PKKPab 02 18 31.0 -0.6**
T35A Sooner Cattle 110.80 306 ⇑PKiKP **PKiKP 02 07 21.2 +0.4**
baz=111
U34A Anderson Ranch 110.84 305 ⇑PKiKP **PKiKP 02 07 21.4 +0.5**
baz=111
W31A Holland Ranch, 110.88 303 ⇑PKiKP **PKiKP 02 07 21.1 0.0**
baz=111
Y28A McKinney Farm, 110.88 300 ⇑PKiKP **PKiKP 02 07 21.4 +0.2**
baz=111
SADO Sadowa 110.90 323 PKiKP **PKiKP 02 07 20.8 +0.1**
comp=Z,8.7nm,0.7s,baz=209,slow=2.0,SNR=8.1
SADO PP **PP 02 08 01.3 -0.2**
comp=Z,30nm,1.0s,baz=167,slow=6.6,SNR=11
SADO Sadowa 110.90 323 PKiKP **PKiKP 02 07 20.8 +0.1**
SADO PP **PP 02 08 01.3 -0.2**
V32A Arapaho 110.92 304 ⇓PKiKP **PKiKP 02 07 21.6 +0.5**
baz=111
GERES GERESS Array B 111.02 27 Pdiff **Pdif 02 03 23.3 +0.7**
comp=Z,0.2nm,0.5s,baz=319,slow=3.9,SNR=2.8
GERES PKiKP **PKiKP 02 07 20.9 -0.1**
comp=Z,1.0nm,0.6s,baz=141,slow=0.6,SNR=7.5
GERES PKKPbc **PKKPbc 02 18 19.1 +1.4**
comp=Z,1.7nm,0.6s,baz=23,slow=3.2,SNR=10.0
GERES PKKPab **PKKPab 02 18 29.8 +4.7**
comp=Z,1.5nm,0.8s,baz=356,slow=4.0,SNR=4.7
GERES GERESS Array B 111.02 27 P **Pdif 02 03 23.3 +0.7**
GERES *i* 02 07 20.9
GERES 02 18 29.8
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 111.02 27 Pdif **Pdif 02 03 23.3 +0.7**
GERES PKiKP **PKiKP 02 07 20.9 -0.1**
GERES PKKPbc **PKKPbc 02 18 19.1 +1.4**
GERES PKKPab **PKKPab 02 18 29.8 +4.7**
X29A Tulia 111.07 301 ⇑PKiKP **PKiKP 02 07 21.4 -0.2**
baz=111
S36A Lake Cedric, C 111.07 307 ⇑PKiKP **PKiKP 02 07 21.5 +0.2**
baz=111
U33A Lingo Farm, Me 111.09 305 ⇓PKiKP **PKiKP 02 07 21.4 0.0**
baz=111
MSTX Muleshoe 111.18 300 ⇓PKiKP **PKiKP 02 07 21.6 -0.1**
baz=111
MSTX Muleshoe 111.18 300 *e*PKP **PKiKP 02 07 20.9 -0.9**
T34A McClaskey Farm 111.18 306 ⇑PKiKP **PKiKP 02 07 21.7 +0.2**
baz=111
RCLA Racherla 111.20 94 *e*PKiKP **PKiKP 02 07 21.6 -0.5**
RCLA *ep*PKiKP **pPKiKP 02 07 56.6 -1.8**
GRF Grafenberg Arr 111.22 25 *e*PKKPbc PKKPbc 02 18 18.9 +2.0
R37A Teagarden Farm 111.24 308 ⇓PKiKP **PKiKP 02 07 21.3 -0.3**
baz=112
KHC Kasperske Hory 111.25 27 *e*PKP **PKiKP 02 07 21.9 +0.6**
KHC *ex* x 02 07 47.8
KHC *ep*PKP PP 02 07 58.7 -5.4
KHC *ex* x 02 08 49.8
KHC *e*SP SP 02 17 23.1 +2.7
KHC *e*PKKP **PKKPbc 02 18 19.1 +2.3**
KHC *ex* x 02 18 28.6
KHC AMS AMS 02 50 50.0
comp=Z,800nm,19.1s
KHC Kasperske Hory 111.25 27 *e*PKIKP **PKiKP 02 07 21.9 +0.6**
KHC *e* 02 07 58.7
KHC *e*SP SP 02 17 23.1 +2.7
KHC *e* 02 18 28.6
KHC MLR MLR
comp=Z,800nm,19.1s
V31A Spring Creek L 111.32 303 ⇓PKiKP **PKiKP 02 07 21.7 -0.2**
baz=112
S35A Otter Creek Ra 111.35 307 ⇓PKiKP **PKiKP 02 07 21.9 0.0**
baz=112
X28A Dimmitt 111.36 301 ⇓PKiKP **PKiKP 02 07 22.4 +0.3**
baz=112
AMTX Amarillo 111.42 301 ⇑PKiKP **PKiKP 02 07 22.1 -0.1**
baz=112
AMTX Amarillo 111.42 301 *e*PKP **PKiKP 02 07 21.8 -0.4**
U32A Winter Ranch, 111.45 304 ⇑PKiKP **PKiKP 02 07 21.9 -0.2**
baz=112

MLR Muntele Rosu 111.47 37 ⇓PKIKP **PKiKP 02 07 21.7 -0.3**
MLR Muntele Rosu 111.47 37 ⇓*i*P **PKiKP 02 07 21.6 -0.4**
R36A Gordon, Harris 111.54 308 ⇓PKiKP **PKiKP 02 07 22.0 -0.2**
baz=112
Q37A Longview Farm, 111.56 309 ⇑PKiKP **PKiKP 02 07 21.7 -0.5**
baz=112
W29A Amarillo 111.61 302 ⇑PKiKP **PKiKP 02 07 22.0 -0.5**
baz=112
DRGR 111.62 34 ⇑PKIKP **PKiKP 02 07 22.0 -0.1**
DRGR 111.62 34 ⇑*i*P **PKiKP 02 07 22.0 -0.1**
T33A Patterson Ranc 111.69 305 ⇑PKiKP **PKiKP 02 07 22.4 -0.1**
baz=112
V30A Spur Ranch, Mi 111.70 303 ⇓PKiKP **PKiKP 02 07 22.8 +0.2**
baz=112
SRLM Srisailam 111.70 94 *e*PKiKP **PKiKP 02 07 22.9 -0.3**
SRLM *ep*PKiKP **pPKiKP 02 07 56.8 -2.5**
S34A Willow Spring 111.71 306 ⇑PKiKP **PKiKP 02 07 22.5 0.0**
baz=112
R35A Emporia Munici 111.84 307 ⇑PKiKP **PKiKP 02 07 22.7 0.0**
baz=112
TREC Trest 111.88 28 *e*PKP **PKiKP 02 07 23.2 +0.7**
TREC *e*SP SP 02 17 24.0 -2.2
TREC AMS AMS 02 52 00.0
comp=Z,500nm,19.4s
TREC Trest 111.88 28 *e*PKIKP **PKiKP 02 07 23.2 +0.7**
TREC *e*SP SP 02 17 24.0 -2.2
TREC MLR MLR
comp=Z,500nm,19.4s
CFR Carcaliu 111.92 38 ⇑PKIKP **PKiKP 02 07 22.3 -0.3**
CFR Carcaliu 111.92 38 ⇑*i*P **PKiKP 02 07 22.3 -0.3**
ROHR Rohrbach 111.98 26 *e*PKKPbc PKKPbc 02 18 17.5 +3.1
NKC Novy Kostel 112.01 26 *e*PKKPbc PKKPbc 02 18 16.2 +1.9
NKC Novy Kostel 112.01 26 *e*PKP **PKiKP 02 07 23.9 +1.2**
NKC *ex* x 02 08 03.4
NKC *ex* x 02 08 15.9
NKC *e*SP SP 02 17 26.9 -0.4
NKC *e*PKKP **PKKPbc 02 18 16.2 +1.9**
NKC *ex* x 02 18 25.0
NKC Novy Kostel 112.01 26 *e*PKIKP **PKiKP 02 07 23.9 +1.2**
NKC *e* 02 08 15.9
NKC *e*SP SP 02 17 26.9 -0.4
S33A Kaszmaul Farm, 112.01 306 ⇓PKiKP **PKiKP 02 07 22.8 -0.3**
baz=112
KAPI Kappang 112.01 143 PKKPbc PKKPbc 02 18 16.3 +3.2
comp=Z,29nm,0.6s,baz=279,slow=0.7,SNR=21
KAPI PKKPab **PKKPab 02 18 26.0 -0.8**
comp=Z,13nm,0.7s,baz=0.1,slow=3.5,SNR=5.6
KAPI Kappang 112.01 143 PKKPbc PKKPbc 02 18 16.3 +3.2
KAPI PKKPab **PKKPab 02 18 26.0 -0.8**
PLOR Plostina 112.02 37 ⇓PKIKP **PKiKP 02 07 23.4 +0.5**
PLOR Plostina 112.02 37 ⇓*i*P **PKiKP 02 07 23.4 +0.5**
WERN Wernitzgruen 112.04 26 *e*PKiKP **PKiKP 02 07 21.9 -0.8**
WERN *e*PKKPbc **PKKPbc 02 18 16.2 +2.0**
ADKI Addanki 112.07 95 *e*PKiKP **PKiKP 02 07 22.5 -1.2**
KLRI Killari 112.08 91 *e*PKiKP **PKiKP 02 07 24.3 +0.5**
KLRI *e* 02 08 04.1
T32A Huddler Ranch, 112.08 305 ⇑PKiKP **PKiKP 02 07 22.4 -0.8**
baz=112
GUNZ Gunzen 112.10 26 *e*PKKPbc PKKPbc 02 18 16.5 +2.5
V29A Stinnett 112.17 302 ⇓PKiKP **PKiKP 02 07 22.9 -0.6**
baz=112
PLN Plauen 112.17 26 *e*PKKPbc PKKPbc 02 18 16.2 +2.5
WERD Werda 112.17 26 *e*PKKPbc PKKPbc 02 18 16.7 +3.0
TANN Tannenbergstha 112.18 26 *e*PKKPbc PKKPbc 02 18 16.4 +2.6
MOX Moxa 112.20 25 *e*PKiKP **PKiKP 02 07 23.5 +0.5**
MOX *e*PKKPbc **PKKPbc 02 18 16.4 +2.8**
Q35A Mercer Eighty, 112.22 308 ⇓PKiKP **PKiKP 02 07 23.0 -0.5**
baz=112
R34A Isabella, Hill 112.27 307 ⇑PKiKP **PKiKP 02 07 23.4 -0.1**
baz=112
PRU Pruhonice 112.28 27 *e*PKP **PKiKP 02 07 24.6 +1.4**
PRU *ex* x 02 08 56.4
PRU *e*SP SP 02 17 24.5 -5.4
PRU *e*PKP **PKKPbc 02 18 15.7 +2.4**
PRU *ex* x 02 18 23.4
PRU AMS AMS 02 51 20.0
comp=Z,600nm,18.6s
PRU Pruhonice 112.28 27 *e*PKIKP **PKiKP 02 07 24.6 +1.4**
PRU MLR MLR
comp=Z,600nm,18.6s
NJS Nagarjunasagar 112.30 94 *e*PKiKP **PKiKP 02 07 23.7 -0.5**
NJS *ep*PKiKP **pPKiKP 02 07 58.7 -1.7**
U30A WK&E Inc. Balk 112.31 303 ⇓PKiKP **PKiKP 02 07 23.6 -0.2**
baz=112
T31A Randall Ranch, 112.34 304 ⇓PKiKP **PKiKP 02 07 23.6 -0.2**
baz=113
V28A Channing 112.39 302 ⇓PKiKP **PKiKP 02 07 24.4 +0.4**
baz=113
121A Cookes Peak, D 112.40 295 ⇓PKiKP **PKiKP 02 07 24.1 -0.1**
baz=113
121A Cookes Peak, D 112.40 295 *e*PKP **PKiKP 02 07 24.7 +0.5**
S32A Newby Ranch, P 112.51 305 ⇓PKiKP **PKiKP 02 07 24.6 +0.6**
baz=113
HYB Hyderabad 112.60 93 *i* PKP **PKiKP 02 07 23.5 -1.3**
HYBB Hyderabad (bro 112.60 93 *e*PKiKP **PKiKP 02 07 24.8 0.0**
HYBB *e*PP **PP 02 08 13.3 -0.4**
R33A Olander Ranch, 112.60 306 ⇑PKiKP **PKiKP 02 07 24.1 -0.1**
baz=113
TESR Tescani 112.60 37 ⇓*i*P **PKiKP 02 07 23.6 -0.3**
Q34A Chapman 112.66 307 ⇑PKiKP **PKiKP 02 07 24.5 +0.2**
baz=113
KSU1 Kansas State U 112.66 308 ⇑PKiKP **PKiKP 02 07 24.9 +0.6**
baz=113
KSU1 Kansas State U 112.66 308 *e*PKP **PKiKP 02 07 24.6 +0.3**
V27A Dan Oppiter Fa 112.68 301 ⇑PKiKP **PKiKP 02 07 24.4 -0.2**
baz=113
T30A Plains 112.69 304 ⇑PKiKP **PKiKP 02 07 24.4 -0.1**
baz=113
S31A Mullinville 112.69 305 ⇑PKiKP **PKiKP 02 07 24.2 -0.2**
baz=113
NEUB Neuenburg 112.76 25 *e*PKiKP **PKiKP 02 07 24.8 +0.8**
NEUB *e*PKKPbc **PKKPbc 02 18 14.3 +2.6**
P35A Duane Minner, 112.77 308 ⇓PKiKP **PKiKP 02 07 24.6 +0.2**
baz=113
PVCC Panska Ves 112.79 27 *e*PKP **PKiKP 02 07 26.0 +1.9**
PVCC *e*SP SP 02 17 28.3 -6.2
PVCC *e*PKKP **PKKPbc 02 18 14.1 +2.5**
PVCC *ex* x 02 18 20.4
PVCC AMS AMS 02 51 40.0
comp=Z,1μm,19.4s
PVCC Panska Ves 112.79 27 *e*PKIKP **PKiKP 02 07 26.0 +1.9**
PVCC MLR MLR
comp=Z,1μm,19.4s
GLMI Grayling 112.82 319 *e*PKP **PKiKP 02 07 24.3 -0.1**
FBE Freiberg 112.86 26 *e*PKKPbc PKKPbc 02 18 14.5 +3.1
U28A Mallet 112.91 302 ⇓PKiKP **PKiKP 02 07 24.9 -0.1**
baz=113
KRLC Kraliky 112.93 29 *e*PKP **PKiKP 02 07 24.0 -0.5**
KRLC *ex* x 02 07 43.8
KRLC *ep*PKP **pPKiKP 02 07 57.3 -3.4**
KRLC *ex* x 02 08 06.6
KRLC *e*PKKP **PKKPbc 02 18 13.7 +2.5**
KRLC *ex* x 02 18 20.3
KRLC Kraliky 112.93 29 *e*PKIKP **PKiKP 02 07 24.0 -0.5**
KRLC *e* 02 07 57.3
KRLC *e* 02 08 06.6
BRG Berggiesshubel 112.96 27 *e*PKP **PKiKP 02 07 25.3 +0.9**
comp=Z,7.3nm,1.1s
BRG *e*PKKP **PKKPab 02 18 13.9 -2.5**
comp=Z,6.7nm,1.0s
BRG *e* 02 18 20.9
comp=Z,5.8nm,0.8s
comp=N,524nm,18.4s
comp=E,235nm,19.3s
comp=Z,410nm,21.2s
BRG Berggiesshubel 112.96 27 *e*PKiKP **PKiKP 02 07 25.6 +1.2**
BRG *e*PKKPbc **PKKPab 02 18 13.9 -2.5**
BRG Berggiesshubel 112.96 27 *e*PKIKP **PKiKP 02 07 25.3 +0.9**
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG MLR MLR
comp=N,524nm,18.4s
BRG MLR MLR
comp=E,235nm,19.3s
BRG MLR MLR
comp=Z,410nm,21.2s
R32A Long Quarter, 113.01 306 ⇑PKiKP **PKiKP 02 07 24.9 -0.1**
baz=113
DPC Dobruska-Polom 113.07 28 *e*PKP **PKiKP 02 07 24.2 -0.5**
DPC *ex* x 02 07 42.3
DPC *ep*PKP **pPKiKP 02 08 03.0 +2.1**
DPC *ex* x 02 08 54.4
DPC *ex* x 02 17 26.9
DPC *e*PKKP **PKKPbc 02 18 12.4 +1.7**
DPC *ex* x 02 18 21.0
DPC AMS AMS 02 52 00.0
comp=Z,800nm,19.2s
DPC Dobruska-Polom 113.07 28 *e*PKIKP **PKiKP 02 07 24.2 -0.5**
DPC MLR MLR
comp=Z,800nm,19.2s
OKC Ostrava-Krasne 113.08 30 *e*PKP **PKiKP 02 07 23.2 -1.5**
OKC *ep*PKP **pPKiKP 02 08 01.2 +0.3**
OKC *e*SP SP 02 17 34.0 -3.1
OKC *e*PKKP **PKKPab 02 18 13.7 -2.3**
OKC *ex* x 02 18 20.8
OKC AMS AMS 02 52 30.0
comp=Z,500nm,15.8s
OKC Ostrava-Krasne 113.08 30 *e*PKIKP **PKiKP 02 07 23.2 -1.5**
OKC *e*SP SP 02 17 34.0 -3.1
OKC MLR MLR
comp=Z,500nm,15.8s
Q33A Connelly Farm, 113.11 307 ⇓PKiKP **PKiKP 02 07 24.8 -0.3**
baz=113
T29A Hugoton 113.12 303 ⇑PKiKP **PKiKP 02 07 24.9 -0.5**
baz=113
BURAR Bucovina Array 113.12 35 ⇓PKIKP **PKiKP 02 07 25.9 +0.9**
BURAR Bucovina Array 113.12 35 ⇓*i*P **PKiKP 02 07 25.9 +0.9**
UPC Upice 113.13 28 *e*PKP **PKiKP 02 07 25.1 +0.3**
UPC *e*PKKP **PKKPbc 02 18 12.9 +2.4**
UPC *ex* x 02 18 20.5
UPC Upice 113.13 28 *e*PKIKP **PKiKP 02 07 25.1 +0.3**
CLL Collm 113.14 26 *e*PKiKP **PKiKP 02 07 25.2 +0.5**
CLL *e*PKKPbc **PKKPbc 02 18 12.8 +2.3**
CLL Collm 113.14 26 *i* PKiKP **PKiKP 02 07 25.3 +0.5**
comp=Z,6.0nm,1.0s
CLL *e*PP **PP 02 08 20.0 +2.6**
CLL *ep*PP 02 08 49.0
CLL *e*(sPP) 02 09 11.0
CLL *e*SKSac **SKSac 02 14 00.0 +3.9**
CLL *e*SKKSac **SKKSac 02 15 06.0 +1.8**
CLL *e*PS **PS 02 17 50.0 -3.3**
CLL *i* PKKPbc **PKKPbc 02 18 12.3 +1.8**
comp=Z,9.0nm,0.8s
CLL *e*SS **SS 02 23 55.0 +3.8**
CLL *e* 02 25 09.0
CLL *e*SSS SSS 02 28 12.0
CLL *e*(SSSS) 02 32 24.0
CLL Collm 113.14 26 *i* PKIKP **PKiKP 02 07 25.3 +0.5**
CLL *e* 02 08 20.0
CLL *e*PS **PS 02 17 50.0 -3.3**
CLL pmax pmax
comp=Z,6.0nm,1.0s
S30A Montezuma 113.14 304 ⇑PKiKP **PKiKP 02 07 24.8 -0.5**
baz=113
BUR08 Bucovina Ar. S 113.14 35 *e*PKP **PKiKP 02 07 25.5 +0.5**
IPM Ipoh 113.18 121 *e*PKP **PKiKP 02 07 26.0 -0.1**
PMG Port Moresby 113.19 173 ⇑*i*PKIKP **PKiKP 02 07 26.1 0.0**
PMG pmax pmax
comp=Z,81nm,1.7s
PMG Port Moresby 113.19 173 *e*PKP **PKiKP 02 07 26.7 +0.6**
U27A Thompson Grove 113.22 301 ⇓PKiKP **PKiKP 02 07 25.1 -0.5**
baz=113
Y22D IRIS PASSCAL I 113.23 297 ⇓PKiKP **PKiKP 02 07 25.1 -0.6**
baz=113
R31A Burdett 113.26 305 ⇓PKiKP **PKiKP 02 07 25.3 -0.2**
baz=114
JFWS Jewell Farm 113.27 314 *e*PKIKP **PKiKP 02 07 24.6 -0.7**
JFWS *e* 02 08 16.1
JFWS Jewell Farm 113.27 314 *e*PKP **PKiKP 02 07 24.6 -0.7**
JFWS *e*PP **PP 02 08 16.1 -2.4**
LENM Lemitar 113.33 297 *e*PKP **PKiKP 02 07 26.7 +0.7**
KOLS Kolonicke sedl 113.41 33 *e*PKIKP **PKiKP 02 07 26.7 +1.3**
KOLS Kolonicke sedl 113.41 33 *e*PKP **PKiKP 02 07 26.7 +1.3**
Q32A Meitler Ranch, 113.42 306 ⇑PKiKP **PKiKP 02 07 25.5 -0.2**
baz=114
S29A Ulysses 113.42 303 ⇓PKiKP **PKiKP 02 07 25.4 -0.5**
baz=114
T28A Walsh 113.46 302 ⇓PKiKP **PKiKP 02 07 25.7 -0.3**
baz=114
KSP Ksiaz 113.51 28 *e*PKP **PKiKP 02 07 27.3 +1.8**
KSP Ksiaz 113.51 28 *e*PKIKP **PKiKP 02 07 27.4 +1.9**
STHS Stebnicka Huta 113.55 32 *e*PKIKP **PKiKP 02 07 27.1 +1.5**
STHS Stebnicka Huta 113.55 32 *e*PKP **PKiKP 02 07 27.1 +1.5**
R30A Dighton 113.59 304 ⇓PKiKP **PKiKP 02 07 25.9 -0.3**
baz=114
LAZ Ladron 113.61 297 *e*PKP **PKiKP 02 07 26.9 +0.4**
T27A Campo 113.69 302 ⇓PKiKP **PKiKP 02 07 26.3 -0.2**
baz=114
TUC Tucson 113.70 293 *e*PKIKP **PKiKP 02 07 26.5 -0.1**
TUC Tucson 113.70 293 *e*PKP **PKiKP 02 07 26.4 -0.1**
N35A Tabor 113.72 309 ⇓PKiKP **PKiKP 02 07 26.1 -0.1**
baz=114
ANMO Albuquerque 113.72 298 PKiKP **PKiKP 02 07 26.9 +0.3**
comp=Z,6.9nm,0.8s,baz=174,slow=5.6,SNR=19
ANMO Albuquerque 113.72 298 *i* PKIKP **PKiKP 02 07 27.2 +0.5**
ANMO pmax pmax
comp=Z,48nm,1.2s
ANMO Albuquerque 113.72 298 *e*PKP **PKiKP 02 07 26.5 -0.2**
SRSP Sriramsagar 113.72 92 *e*PKPdf **PKiKP 02 07 27.1 +0.2**
SRSP *ep*PKiKP **pPKiKP 02 08 02.0 -1.1**
S28A Manter 113.75 303 ⇓PKiKP **PKiKP 02 07 26.2 -0.3**
baz=114
Q31A Ellis 113.79 306 ⇑PKiKP **PKiKP 02 07 26.6 +0.1**
baz=114
OJC Ojcow 113.87 31 *e*PKP **PKiKP 02 07 27.7 +1.6**
OJC Ojcow 113.87 31 *e*PKIKP **PKiKP 02 07 27.8 +1.6**
O33A Hebron 113.89 307 ⇑PKiKP **PKiKP 02 07 26.6 0.0**
baz=114
P32A Huiting Farm, 113.95 306 ⇑PKiKP **PKiKP 02 07 26.9 +0.1**
baz=114
ESK Eskdalemuir 113.97 14 *e*PKIKP **PKiKP 02 07 26.8 +0.6**
ESK Eskdalemuir 113.97 14 *e*PKP **PKiKP 02 07 26.8 +0.6**
GNI Garni 114.01 53 *e*PKIKP **PKiKP 02 07 27.5 +0.5**
GNI Garni 114.01 53 *e*PKP **PKiKP 02 07 27.5 +0.5**
N34A Lincoln 114.06 309 ⇓PKiKP **PKiKP 02 07 26.9 0.0**
baz=114
R29A Marienthal 114.09 304 ⇑PKiKP **PKiKP 02 07 27.1 0.0**
baz=114
PVM Polavaram 114.11 96 *e*PKPdf PKPdf 02 07 27.7 +0.1
PVM *ep*PKPdf pPKiKP 02 08 02.7 -1.2
Q30A Quinter 114.14 305 ⇓PKiKP PKPdf 02 07 27.1 0.0
baz=114
RPR Rampur 114.18 93 *e*PKPdf PKPdf 02 07 28.0 +0.3
T26A Comanche Natio 114.19 301 ⇑PKiKP PKPdf 02 07 27.3 -0.2
baz=114
P31A Stockton 114.21 306 ⇓PKiKP **PKiKP 02 07 27.4 +0.1**
baz=114
S27A Las Animas 114.28 302 ⇓PKiKP PKPdf 02 07 27.4 -0.2
baz=114
R28A Tribune 114.33 303 ⇑PKiKP **PKiKP 02 07 27.7 0.0**
baz=115
O32A Brockman Farm, 114.34 307 ⇑PKiKP **PKiKP 02 07 27.5 0.0**
baz=115
Q29A Oakley 114.40 304 ⇑PKiKP PKPdf 02 07 27.7 0.0
baz=115
214A Organ Pipe Nat 114.43 291 ⇑PKiKP **PKiKP 02 07 27.9 0.0**
baz=115
214A Organ Pipe Nat 114.43 291 *e*PKP PKPdf 02 07 28.2 +0.3
S26A Kim 114.50 302 ⇑PKiKP PKPdf 02 07 28.0 0.0
baz=115
T25A Trinidad 114.54 301 ⇓PKiKP PKPdf 02 07 28.2 0.0
baz=115
P30A Selden 114.61 305 ⇓PKiKP PKPdf 02 07 28.0 -0.1
baz=115
O31A Woolen Ranch, 114.71 306 ⇓PKiKP PKPdf 02 07 28.2 0.0
baz=115
LVV L'vov 114.72 33 *e*PKIKP PKPdf 02 07 29.4 +1.6
LVV MLR MLR
comp=N,200nm,18.0s
LVV MLR MLR
comp=E,400nm,18.0s
LVV MLR MLR
comp=Z,400nm,18.0s
R27A Eads 114.73 303 ⇑PKiKP PKPdf 02 07 28.2 -0.2
baz=115
N32A Stulken Farm, 114.76 307 ⇑PKiKP PKPdf 02 07 28.1 -0.1
baz=115
Q28A Sharon Springs 114.92 304 ⇓PKiKP PKPdf 02 07 28.6 -0.2
baz=115
ANN Anapa 114.93 45 *i* PKIKP PKPdf 02 07 22.3 -6.1
ANN *e* 02 07 52.3
ANN *e* 02 08 09.4
ANN *e*PS **PKKPbc 02 17 59.7 -4.4**
ANN pmax pmax
comp=Z,14nm,1.3s
P29A Atwood 114.96 305 ⇑PKiKP PKPdf 02 07 28.6 -0.1
baz=115
R26A Arlington 115.04 302 ⇓PKiKP **PKPdf 02 07 28.9 -0.1**
baz=115

O30A	MW Ranch, Wils	115.05	306	⇑PKiKP	PKiKP	02 07 29.1	+0.2
	baz=115						
N31A	Bailey Ranch,	115.10	307	⇓PKiKP	PKiKP	02 07 29.0	+0.1
	baz=115						
BGNE	Belgrade	115.23	308	⇑PKiKP	PKiKP	02 07 29.2	0.0
	baz=116						
BGNE	Belgrade	115.23	308	ePKPdf	PKPdf	02 07 28.4	-0.7
P28A	Saint Francis	115.31	304	⇑PKiKP	PKiKP	02 07 29.5	0.0
	baz=116						
O29A	4D Ranch, Culb	115.33	305	⇑PKiKP	PKiKP	02 07 29.6	+0.2
	baz=116						
W18A	Petrified Fore	115.44	296	⇑PKiKP	PKPdf	02 07 29.8	-0.2
	baz=116						
M31A	Lambtecht Ranc	115.53	307	⇑PKiKP	PKiKP	02 07 30.0	+0.2
	baz=116						
SDCO	Great Sand Dun	115.53	300	⇓PKiKP	PKiKP	02 07 30.2	0.0
	baz=116						
SDCO	Great Sand Dun	115.53	300	ePKPdf	PKPdf	02 07 30.5	+0.3
Q26A	Hugo	115.57	303	⇑PKiKP	PKiKP	02 07 30.1	0.0
	baz=116						
P27A	Ficken Ranch,	115.66	304	⇑PKiKP	PKiKP	02 07 30.5	+0.3
	baz=116						
S23A	Nye Farm, Mont	115.74	300	⇓PKiKP	PKPdf	02 07 30.2	-0.4
	baz=116						
O28A	Krutsinger Ran	115.76	305	⇑PKiKP	PKPdf	02 07 30.1	-0.2
	baz=116						
N29A	Votaw Ranch, W	115.82	306	⇓PKiKP	PKPdf	02 07 30.3	0.0
	baz=116						
GKP	Gorka Klasztor	115.97	28	ePKP	PKPdf	02 07 30.4	+0.4
GKP	Gorka Klasztor	115.97	28	ePKIKP	PKPdf	02 07 30.5	+0.4
P26A	Davis Ranch, A	116.01	303	⇓PKiKP	PKiKP	02 07 31.0	+0.1
	baz=116						
R23A	Moffat	116.05	300	⇑PKiKP	PKPdf	02 07 30.9	-0.3
	baz=116						
M30A	Dale-Ortello V	116.08	307	⇑PKiKP	PKiKP	02 07 31.2	+0.4
	baz=116						
N28A	Pribbeno Ranch	116.12	305	⇓PKiKP	PKiKP	02 07 31.3	+0.4
	baz=116						
O27A	Beecher Island	116.13	304	⇓PKiKP	PKiKP	02 07 31.4	+0.3
	baz=116						
L31A	Butterfield Fa	116.16	308	⇓PKiKP	PKPdf	02 07 30.7	-0.2
	baz=116						
S22A	4UR Ranch, Cre	116.16	299	⇓PKiKP	PKiKP	02 07 31.8	+0.3
	baz=116						
KBZ	Khabaz	116.20	49	PKP	PKPdf	02 07 31.1	+0.3
	comp=Z,7.1nm,0.9s,baz=146,slow=24,SNR=12						
KBZ				PP	PP	02 08 37.8	-1.3
	comp=Z,4.7nm,0.9s,baz=143,slow=20,SNR=2.5						
KBZ				PKKPab	PKKPab	02 18 03.8	+0.8
	comp=Z,2.2nm,0.8s,baz=326,slow=23,SNR=3.9						
KBZ	Khabaz	116.20	49	PKIKP	PKPdf	02 07 31.1	+0.3
KBZ						02 08 37.8	
KBZ						02 18 03.8	
KBZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBZ	Khabaz	116.20	49	PKP	PKPdf	02 07 31.1	+0.3
KBZ				PP	PP	02 08 37.8	-1.3
KBZ				PKKPab	PKKPab	02 18 03.8	+0.8
SPMN	Marine on St.	116.21	314	⇓PKiKP	PKiKP	02 07 31.1	+0.2
	baz=116						
SPMN	Marine on St.	116.21	314	ePKPdf	PKPdf	02 07 30.3	-0.6
NCK	Nalchik	116.29	50	i PKIKP	PKPdf	02 07 30.2	-0.9
KIV	Kislovodsk	116.30	49	i PKIKP	PKPdf	02 07 31.2	0.0
KIV				e		02 08 39.0	
KIV				e		02 14 09.6	
KIV				ePS	PS	02 18 22.0	-0.6
KIV				eSSS	SSS	02 28 54.5	
KIV				pmax	pmax		
	comp=Z,23nm,1.0s						
KIV				MLR	MLR		
	comp=Z,465nm,20.0s						
KIV	Kislovodsk	116.30	49	ePKPdf	PKPdf	02 07 31.7	+0.5
GLA	Glamis	116.32	291	ePKIKP	PKPdf	02 07 31.6	+0.1
GLA	Glamis	116.32	291	⇓PKiKP	PKiKP	02 07 31.8	+0.2
	baz=116						
GLA	Glamis	116.32	291	ePKPdf	PKPdf	02 07 31.6	+0.1
L30A	Spencer Herefo	116.35	307	⇓PKiKP	PKPdf	02 07 31.1	-0.2
	baz=117						
Q24A	Divide	116.35	301	⇑PKiKP	PKPdf	02 07 31.7	-0.1
	baz=117						
M29A	Burnside Ranch	116.36	306	⇓PKiKP	PKiKP	02 07 31.6	+0.2
	baz=117						
CHLP	Challavanipeta	116.45	97	ePKiKP	PKiKP	02 07 33.3	+1.2
ECSD	EROS Data Cent	116.50	310	⇓PKiKP	PKPdf	02 07 31.2	-0.3
	baz=117						
ECSD	EROS Data Cent	116.50	310	ePKPdf	PKPdf	02 07 31.1	-0.4
MVCO	Mesa Verde	116.52	298	⇑PKiKP	PKPdf	02 07 31.9	-0.2
	baz=117						
MVCO	Mesa Verde	116.52	298	ePKPdf	PKPdf	02 07 32.4	+0.3
OGNE	Ogallala	116.54	305	⇑PKiKP	PKiKP	02 07 31.8	0.0
	baz=117						
OGNE	Ogallala	116.54	305	ePKPdf	PKPdf	02 07 31.6	-0.1
O26A	Horse Wrangler	116.55	304	⇑PKiKP	PKPdf	02 07 31.7	-0.1
	baz=117						
WUAZ	Wupatki	116.56	295	⇑PKiKP	PKiKP	02 07 32.2	+0.1
	baz=117						
WUAZ	Wupatki	116.56	295	ePKPdf	PKPdf	02 07 32.5	+0.4
SCHQ	Schefferville	116.59	335	PKP	PKPdf	02 07 30.9	-0.3
	comp=Z,47nm,1.1s,baz=140,slow=0.5,SNR=27						
SCHQ				PP	PP	02 08 40.8	-0.9
	comp=Z,12nm,0.9s,baz=152,slow=8.0,SNR=3.5						
SCHQ				SKP		02 10 53.9	
	comp=Z,10nm,0.9s,baz=166,slow=7.0,SNR=4.8						
SCHQ	Schefferville	116.59	335	ePKPdf	PKPdf	02 07 30.8	-0.5
SCHQ				ePP	PP	02 08 40.2	-1.5
SCHQ				eSKPdf	SKPdf	02 10 52.5	-1.2
M28A	Bar X Bar Ranc	116.62	306	⇑PKiKP	PKiKP	02 07 32.2	+0.3
	baz=117						
Q23A	Hartsel	116.62	301	⇑PKiKP	PKPdf	02 07 32.2	-0.1
	baz=117						
N27A	Anderson Farm,	116.66	304	⇓PKiKP	PKPdf	02 07 31.9	-0.1
	baz=117						
SANI	Sanana	116.70	149	PKP	PKPdf	02 07 35.8	+2.9
LUWI	Luwuk	116.71	145	PKP	PKPdf	02 07 35.2	+2.3
LUWI	Luwuk	116.71	145	ePKPdf	PKPdf	02 07 32.7	-0.2
Y12C	Blythe	116.72	291	⇓PKiKP	PKiKP	02 07 32.3	0.0
	baz=117						
SWSC	Sam W. Stewart	116.73	290	⇑PKiKP	PKPdf	02 07 32.1	-0.1
	baz=117						
L29A	Maesberg Ranch	116.77	307	⇓PKiKP	PKPdf	02 07 32.1	0.0
	baz=117						
K30A	Basset	116.89	308	⇓PKiKP	PKiKP	02 07 32.3	0.0
	baz=117						
BAR	Barrett	116.97	289	ePKPdf	PKPdf	02 07 33.1	+0.3
PDMCI	Parker Dam,Lak	116.97	292	⇓PKiKP	PKiKP	02 07 33.1	+0.4
	baz=117						
N26A	Koester Ranch,	116.98	304	⇑PKiKP	PKiKP	02 07 33.0	+0.3
	baz=117						
P23A	Jefferson	117.00	301	⇓PKiKP	PKiKP	02 07 33.2	+0.1
	baz=117						
MONP	Monument Peak,	117.00	289	⇓PKiKP	PKPdf	02 07 32.9	-0.2
	baz=117						
AK02	Malin Array Si	117.05	36	ePKPdf	PKPdf	02 07 31.9	-0.3
MPSI	Mapaga	117.08	142	PKP	PKPdf	02 07 34.9	+1.3
AK01	Malin Array Si	117.08	36	ePKPdf	PKPdf	02 07 31.8	-0.5
KIEV	Kiev	117.09	36	i PKIKP	PKPdf	02 07 31.8	-0.5
KIEV	Kiev	117.09	36	ePKPdf	PKPdf	02 07 31.9	-0.5
AKASG	Malin Array Be	117.10	36	PKP	PKPdf	02 07 31.9	-0.4
	comp=Z,3.6nm,0.5s,baz=241,slow=1.8,SNR=26						
AKASG				SKP		02 10 53.2	
	comp=Z,3.4nm,0.9s,baz=241,slow=1.9,SNR=5.6						
AKASG				PKKPab	PKKPab	02 18 00.9	+2.4
	comp=Z,0.6nm,0.4s,baz=31,slow=4.4,SNR=7.9						
AKASG				PKPPKP	P'P'df	02 26 33.6	-1.5
	comp=Z,0.2nm,0.4s,baz=38,slow=1.6,SNR=4.0						
AKASG	Malin Array Be	117.10	36c	i PKIKP	PKPdf	02 07 31.8	-0.5
AKASG				pmax	pmax		
	comp=Z,12nm,0.8s						
AKASG	Malin Array Be	117.10	36	PKP	PKPdf	02 07 31.9	-0.4
AKASG				SKP		02 10 53.2	
AKASG				PKKPab	PKKPab	02 18 00.9	+2.4
AKASG				P'P'		02 26 33.6	
AKBB	Malin Array Si	117.10	36	ePKIKP	PKPdf	02 07 31.9	-0.5
AKBB	Malin Array Si	117.10	36	ePKPdf	PKPdf	02 07 31.9	-0.5
MUD	Monsted U'grnd	117.11	21	i P	PKPdf	02 07 32.9	+0.7
	comp=Z,9.9nm,0.8s						
MUD	Monsted U'grnd	117.11	21	ePKIKP	PKPdf	02 07 32.9	+0.7
MUD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BC3	Big Chuckawall	117.12	290	⇑PKiKP	PKiKP	02 07 33.4	+0.3
	baz=117						
M27A	Reverse DX Ran	117.17	305	⇓PKiKP	PKiKP	02 07 33.4	+0.4
	baz=117						
ISCO	Idaho Springs	117.24	302	ePKIKP	PKPdf	02 07 33.3	-0.1
ISCO	Idaho Springs	117.24	302	⇓PKiKP	PKiKP	02 07 33.5	0.0
	baz=118						
ISCO	Idaho Springs	117.24	302	ePKPdf	PKPdf	02 07 33.3	-0.1
PV01	Paradox Valley	117.29	298	ePKPdf	PKPdf	02 07 33.3	-0.2
109C	Camp Elliot, M	117.35	289	⇓PKiKP	PKPdf	02 07 33.5	0.0
	baz=118						
IRM	Iron Mountain	117.37	291	⇓PKiKP	PKiKP	02 07 33.8	+0.3
	baz=118						
J30A	Dallas	117.37	308	⇓PKiKP	PKPdf	02 07 32.8	-0.4
	baz=118						
SMCO	Snowmass	117.37	300	ePKPdf	PKPdf	02 07 34.4	+0.5
FAKI	Fak Fak	117.43	156	ePKPdf	PKPdf	02 07 35.1	+0.8
M26A	McRoberts Ranc	117.46	305	⇑PKiKP	PKPdf	02 07 33.2	-0.3
	baz=118						
MAK	Makhachkala	117.50	53	i PKIKP	PKPdf	02 07 37.1	+3.7
MAK				e		02 08 08.6	
MAK				e		02 08 48.8	
MAK				ePPP	PPP	02 11 22.8	
MAK				e		02 14 10.6	
MAK				eSS	SS	02 24 48.0	-0.5
MAK				pmax	pmax		
	comp=Z,277nm,1.9s						
MAK				MLR	MLR		
	comp=Z,674nm,17.0s						
L27A	T5 Ranch, Ells	117.59	305	⇑PKiKP	PKPdf	02 07 33.7	-0.1
	baz=118						
PFO	Pinyon Flats O	117.59	290	ePKIKP	PKPdf	02 07 34.5	+0.4
PFO	Pinyon Flats O	117.59	290	⇓PKiKP	PKiKP	02 07 35.2	+1.1
	baz=118						
PFO	Pinyon Flats O	117.59	290	ePKPdf	PKPdf	02 07 34.5	+0.4
P22A	Eagle	117.61	301	⇑PKiKP	PKPdf	02 07 34.0	-0.1
	baz=118						
PV04	Paradox Valley	117.66	298	ePKPdf	PKPdf	02 07 34.1	0.0
BELC	Belle Mtn. Jos	117.67	290	⇓PKiKP	PKPdf	02 07 34.1	-0.1
	baz=118						
K28A	Ten Mile Ranch	117.68	307	⇑PKiKP	PKiKP	02 07 34.0	+0.1
	baz=118						
O23A	Lake Granby, G	117.71	302	⇑PKiKP	PKPdf	02 07 34.2	-0.1
	baz=118						
J29A	Okreek	117.79	308	⇑PKiKP	PKPdf	02 07 33.8	-0.2
	baz=118						
I30A	Oacoma	117.82	309	⇓PKiKP	PKPdf	02 07 33.6	-0.4
	baz=118						
M25A	Palm-Egli Farm	117.84	304	⇑PKiKP	PKPdf	02 07 34.2	-0.2
	baz=118						
L26A	Underwood Farm	117.89	305	⇑PKiKP	PKPdf	02 07 34.1	-0.2
	baz=118						
O22A	Kremmling	117.96	301	⇑PKiKP	PKPdf	02 07 34.5	-0.3
	baz=118						
MURC	Murrieta	117.97	289	⇓PKiKP	PKPdf	02 07 34.6	-0.1
	baz=118						
EYMN	Ely	117.98	316	ePKPdf	PKPdf	02 07 33.4	-0.8
BRSD	Miller	118.05	309	⇓PKiKP	PKPdf	02 07 34.3	-0.1
	baz=118						
BRSD	Miller	118.05	309	ePKPdf	PKPdf	02 07 34.4	0.0
K27A	Flueckinger Fa	118.05	306	⇓PKiKP	PKPdf	02 07 34.6	-0.1
	baz=118						
GMRC	Granite Mounta	118.11	291	⇑PKiKP	PKiKP	02 07 35.4	+0.3
	baz=118						
SCI	San Clemente I	118.17	288	⇑PKiKP	PKPdf	02 07 34.5	-0.6
	baz=118						
J28A	Allard Ranch,	118.20	307	⇓PKiKP	PKiKP	02 07 34.9	0.0
	baz=118						
SUW	Suwalki	118.20	31	ePKP	PKPdf	02 07 34.1	-0.3
SUW	Suwalki	118.20	31	ePKIKP	PKPdf	02 07 34.2	-0.2
N23A	Red Feather La	118.27	302	⇑PKiKP	PKPdf	02 07 35.3	-0.1
	baz=118						
I29A	Vivian Onida	118.28	308	⇓PKiKP	PKPdf	02 07 34.4	-0.5
	baz=118						
BBRC	Big Bear Solar	118.34	290	⇑PKiKP	PKPdf	02 07 35.2	-0.4
	baz=118						
PHWY	Pilot Hill	118.37	303	ePKPdf	PKPdf	02 07 35.2	-0.3
L25A	Engebretsen Ra	118.38	304	⇓PKiKP	PKiKP	02 07 35.4	+0.1
	baz=119						
J27A	Elkhorn Farm,	118.39	306	⇓PKiKP	PKiKP	02 07 35.6	+0.3
	baz=119						
N22A	Wattenberg Ran	118.43	302	⇓PKiKP	PKPdf	02 07 35.4	-0.2
	baz=119						
CIS	Catalina Islan	118.43	288	⇓PKiKP	PKiKP	02 07 35.9	+0.3
	baz=119						
K26A	Motz Farm, Whi	118.47	305	⇓PKiKP	PKPdf	02 07 35.0	-0.5
	baz=119						
HEC	Hector,Ludlow	118.49	291	⇓PKiKP	PKiKP	02 07 37.2	+1.5
	baz=119						
I28A	Midland	118.63	308	⇓PKiKP	PKiKP	02 07 35.7	0.0
	baz=119						
G30A	Faulkton	118.69	310	⇓PKiKP	PKPdf	02 07 35.5	-0.2
	baz=119						
K25A	Mack Ranch, Ha	118.70	305	⇑PKiKP	PKPdf	02 07 35.6	-0.3
	baz=119						
BFSC	Mount Baldy Ra	118.70	289	⇓PKiKP	PKPdf	02 07 36.2	0.0
	baz=119						
O20A	White River Ci	118.73	300	⇑PKiKP	PKPdf	02 07 35.8	-0.3
	baz=119						
O20A	White River Ci	118.73	300	ePKPdf	PKPdf	02 07 36.1	0.0
O20A				eSKPdf	SKPdf	02 10 58.5	-0.1
H29A	Onida	118.73	309	⇓PKiKP	PKPdf	02 07 35.5	-0.2
	baz=119						
TUQ	Turquoise Moun	118.76	291	⇓PKiKP	PKiKP	02 07 37.1	+0.8
	baz=119						
RRX	Edison Barstow	118.87	290	⇑PKiKP	PKiKP	02 07 37.6	+1.2
	baz=119						
MWC	Mount Wilson	118.89	289	ePKIKP	PKPdf	02 07 37.6	+0.9
MWC	Mount Wilson	118.89	289	ePKPdf	PKPdf	02 07 37.5	+0.9
J26A	Sides Ranch, S	118.91	306	⇑PKiKP	PKPdf	02 07 36.3	0.0
	baz=119						
PASC	Pasadena Art C	118.92	289	ePKPdf	PKPdf	02 07 37.4	+1.0
SRU	San Rafael Swe	119.00	298	ePKIKP	PKPdf	02 07 36.2	-0.5
SRU	San Rafael Swe	119.00	298	ePKPdf	PKPdf	02 07 36.2	-0.5
DECC	Green Verdugo	119.05	289	⇓PKiKP	PKiKP	02 07 38.0	+1.2
	baz=119						
G29A	Hoven	119.06	309	⇓PKiKP	PKPdf	02 07 35.8	-0.6
	baz=119						
I27A	Quinn	119.07	307	⇑PKiKP	PKPdf	02 07 36.3	-0.2
	baz=119						
GSC	Goldstone, Bar	119.10	291	ePKIKP	PKPdf	02 07 37.2	+0.3
GSC	Goldstone, Bar	119.10	291	⇓PKiKP	PKPdf	02 07 36.8	-0.1
	baz=119						
GSC	Goldstone, Bar	119.10	291	ePKPdf	PKPdf	02 07 37.2	+0.3
H28A	Mission Ridge	119.11	308	⇑PKiKP	PKiKP	02 07 37.0	+0.4
	baz=119						
SIJI	Sorong	119.19	154	PKP	PKPdf	02 07 36.8	-0.9
	comp=Z,15nm,0.6s,baz=336,slow=14,SNR=6.1						
SIJI				PKKPab	PKKPab	02 17 53.1	-2.3
	comp=Z,13nm,0.8s,baz=9.4,slow=12,SNR=3.7						
F30A	Leola	119.21	310	⇓PKiKP	PKiKP	02 07 36.7	0.0
	baz=119						
K24A	Anderson Ranch	119.21	304	⇑PKiKP	PKPdf	02 07 36.8	-0.2
	baz=119						
RKPI	Ransiki, Papua	119.21	158	PKP	PKPdf	02 07 39.4	+1.7
SHPR	Sheep Range	119.22	293	ePKPdf	PKPdf	02 07 37.8	+0.6
N20A	Spence Gulch,	119.29	301	⇑PKiKP	PKPdf	02 07 37.0	-0.2
	baz=120						
J25A	Sunshine Ranch	119.29	305	⇑PKiKP	PKPdf	02 07 36.9	-0.1
	baz=120						
SHOC	Shoshone, Teco	119.31	291	⇑PKiKP	PKPdf	02 07 36.9	-0.3
	baz=120						
MSU	Marysvale	119.32	296	ePKIKP	PKPdf	02 07 37.9	+0.5
MSU	Marysvale	119.32	296	ePKPdf	PKPdf	02 07 37.9	+0.5
MSU				eSKPdf	SKPdf	02 10 58.2	-1.6
MVU	Marysvale	119.33	296	ePKPdf	PKPdf	02 07 38.1	+0.6
MVU				eSKPdf	SKPdf	02 10 59.7	-0.1
EDW2	Edwards Air Fo	119.37	289	⇓PKiKP	PKiKP	02 07 37.6	+0.1
	baz=120						
G28A	Parade	119.39	308	⇓PKiKP	PKiKP	02 07 37.1	0.0
	baz=120						
I26A	New Underwood	119.39	306	⇓PKiKP	PKPdf	02 07 37.0	-0.1
	baz=120						
TMUT	Trail Mountain	119.47	297	ePKPdf	PKPdf	02 07 38.1	+0.3
TMUT				eSKPdf	SKPdf	02 10 59.6	-0.5
H27A	Howes	119.53	307	⇑PKiKP	PKPdf	02 07 37.3	0.0
	baz=120						
OSI	Osito Audit: C	119.54	289	⇓PKiKP	PKiKP	02 07 38.3	+0.5
	baz=120						
OSI	Osito Audit: C	119.54	289	ePKPdf	PKPdf	02 07 39.0	+1.3
K23A	Bowen Ranch, D	119.60	304	⇑PKiKP	PKPdf	02 07 37.3	-0.4
	baz=120						
J24A	Dixon Ranch, L	119.62	305	⇑PKiKP	PKPdf	02 07 37.4	-0.2
	baz=120						
E30A	Jud	119.70	311	⇑PKiKP	PKPdf	02 07 37.3	-0.2
	baz=120						
I25A	Rochford	119.76	306	⇓PKiKP	PKPdf	02 07 37.8	-0.2
	baz=120						
H26A	Fairpoint	119.82	307	⇓PKiKP	PKiKP	02 07 38.1	+0.1
	baz=120						
K22A	Casper	119.92	303	⇓PKiKP	PKPdf	02 07 37.8	-0.5
	baz=120						
K22A	Casper	119.92	303	ePKPdf	PKPdf	02 07 37.8	-0.5
AGMN	Agassiz Nation	119.93	314	⇑PKiKP	PKPdf	02 07 37.4	-0.6
	baz=120						
AGMN	Agassiz Nation	119.93	314	ePKPdf	PKPdf	02 07 37.0	-0.9
F28A	McLaughlin	119.96	309	⇑PKiKP	PKPdf	02 07 37.8	-0.3
	baz=120						
RSSD	Black Hills	119.97	306	ePKIKP	PKPdf	02 07 37.8	-0.6
RSSD	Black Hills	119.97	306	ePKPdf	PKPdf	02 07 37.8	-0.6
RSSD				eSKPdf	SKPdf	02 10 59.5	-1.3
NACGM	Naroch	120.00	32	e	PKPdf	02 07 35.0	-2.8
I24A	Kuemmerle Ranc	120.03	305	⇓PKiKP	PKPdf	02 07 38.0	-0.5
	baz=120						
MPMC	Manual Prospec	120.04	291	⇑PKiKP	PKiKP	02 07 39.3	+0.4
	baz=120						
FURC	Furnace Creek,	120.04	291	⇑PKiKP	PKiKP	02 07 39.0	+0.4
	baz=120						
E29A	Napoleon	120.05	310	⇓PKiKP	PKPdf	02 07 38.0	-0.3
	baz=120						
G27A	Dupree	120.06	308	⇑PKiKP	PKPdf	02 07 37.7	-0.6
	baz=120						
J23A	Dilts Ranch, B	120.08	304	⇓PKiKP	PKPdf	02 07 37.9	-0.6
	baz=120						
TPNV	Topopah Spring	120.11	292	⇑PKiKP	PKiKP	02 07 39.4	+0.5
	baz=120						
D30A	Buchanan	120.12	311	⇓PKiKP	PKPdf	02 07 37.8	-0.6
	baz=120						
H25A	Fruitdale	120.18	306	⇑PKiKP	PKPdf	02 07 38.1	-0.6
	baz=120						
KONO	Kongsberg	120.18	20	ePKIKP	PKPdf	02 07 38.5	+0.5
KONO	Kongsberg	120.18	20	ePKPdf	PKPdf	02 07 38.5	+0.5
IIGN	Ignalina	120.23	32	eP	PKPdf	02 07 37.0	-1.3
IIGN				IAmb	IAmb	02 07 40.3	
	comp=Z,10nm,0.7s						
ISA	Isabella, Lake	120.23	290	⇓PKiKP	PKiKP	02 07 39.7	+0.6
	baz=120						
MPU	Maple Canyon	120.24	298	ePKPdf	PKPdf	02 07 39.4	+0.3
MPU				eSKPdf	SKPdf	02 10 59.9	-1.6
DAC	Darwin (Calif)	120.26	291	ePKIKP	PKPdf	02 07 39.5	+0.3
DAC	Darwin (Calif)	120.26	291	ePKPdf	PKPdf	02 07 39.5	+0.3
G26A	Maurine	120.28	307	⇓PKiKP	PKPdf	02 07 38.2	-0.6
	baz=120						
PKM	Mcpherson Peak	120.32	288	⇑PKiKP	PKiKP	02 07 40.2	+0.7
	baz=120						
ISAL	Salakas	120.39	32	eP	PKPdf	02 07 37.4	-1.2
ISAL				IAmb	IAmb	02 07 40.6	
	comp=Z,14nm,0.8s						
NLU	North Lily Min	120.40	297	ePKPdf	PKPdf	02 07 39.9	+0.5
D29A	Pettibone, Tap	120.43	311	⇑PKiKP	PKPdf	02 07 38.6	-0.4
	baz=121						
C30A	Mose, Pekin	120.49	312	⇓PKiKP	PKPdf	02 07 38.7	-0.4
	baz=121						
F27A	Lemmon	120.49	308	⇑PKiKP	PKPdf	02 07 38.7	-0.5
	baz=121						
E28A	Huff	120.49	310	⇑PKiKP	PKPdf	02 07 38.7	-0.4
	baz=121						
J22A	Midwest	120.50	304	⇑PKiKP	PKPdf	02 07 38.4	-1.0
	baz=121						
G25A	Newell	120.55	307	⇑PKiKP	PKPdf	02 07 38.8	-0.5
	baz=121						
JLU	Jordanelle	120.61	298	ePKPdf	PKPdf	02 07 40.1	+0.3
CWC	Cottonwood Cre	120.64	290	⇓PKiKP	PKiKP	02 07 40.2	+0.2
	baz=121						
VES	Vestal, Richgr	120.68	289	⇑PKiKP	PKiKP	02 07 40.2	+0.3
	baz=121						
H24A	Dirks Ranch, A	120.69	306	⇓PKiKP	PKPdf	02 07 38.9	-0.8
	baz=121						
GRAC	Grapevine Rang	120.71	291	⇑PKiKP	PKiKP	02 07 40.5	+0.5
	baz=121						
SMMC	Simmler	120.74	288	⇑PKiKP	PKiKP	02 07 40.7	+0.7
	baz=121						
E27A	Carson	120.74	309	⇓PKiKP	PKPdf	02 07 39.3	-0.3
	baz=121						
F26A	Lodgepole	120.75	308	⇑PKiKP	PKPdf	02 07 39.4	-0.3
	baz=121						
VORD	Divnogorie	120.76	42	ePKIKP	PKPdf	02 07 39.0	-0.4
VORD				pmax	pmax		
	comp=N,20nm,0.8s						
VORD				pmax	pmax		
	comp=E,20nm,0.8s						
VORD				pmax	pmax		
	comp=Z,20nm,0.8s						
CTU	Camp Tracy	120.82	298	ePKPdf	PKPdf	02 07 40.5	+0.4
R11A	Troy Canyon, C	120.87	294	⇓PKiKP	PKiKP	02 07 40.6	+0.2
	baz=121						
R11A	Troy Canyon, C	120.87	294	ePKPdf	PKiKP	02 07 40.6	+0.2
I22A	9 Mile Ranch,	120.88	304	⇓PKiKP	PKPdf	02 07 39.3	-0.7
	baz=121						
J21A	Lysite	120.89	303	⇑PKiKP	PKPdf	02 07 39.5	-0.7
	baz=121						
VSR	Storozhevoye	120.92	42	ePKIKP	PKPdf	02 07 39.7	0.0
VSR				pmax	pmax		
	comp=E,7.0nm,0.9s						
VSR				pmax	pmax		
	comp=Z,20nm,0.9s						
VSR				pmax	pmax		
	comp=N,10.0nm,1.0s						
D28A	Regan	120.94	310	⇓PKiKP	PKPdf	02 07 39.6	-0.3
	baz=121						
DUG	Dugway, Tooele	120.94	297	ePKIKP	PKPdf	02 07 40.7	+0.3
DUG	Dugway, Tooele	120.94	297	⇓PKiKP	PKiKP	02 07 40.5	+0.1
	baz=121						
DUG	Dugway, Tooele	120.94	297	ePKPdf	PKPdf	02 07 40.6	+0.3
NDI	New Delhi	120.95	84	ex	PKPdf	02 07 40.0	-0.5
TCUT	Toone Canyon	120.99	299	ePKPdf	PKPdf	02 07 40.9	+0.4
TCUT				eSKPdf	SKPdf	02 10 59.0	-3.9
B30A	Myrvik Farm, E	121.03	312	⇓PKiKP	PKPdf	02 07 39.5	-0.6
	baz=121						
MDND	Maddock	121.06	311	⇑PKiKP	PKPdf	02 07 39.0	-1.1
	baz=121						
MDND	Maddock	121.06	311	ePKPdf	PKPdf	02 07 38.2	-1.9
G24A	Alzada	121.09	306	⇓PKiKP	PKPdf	02 07 39.6	-0.8
	baz=121						
RCTC	Rector, Farmer	121.12	290	⇑PKiKP	PKiKP	02 07 40.9	+0.2
	baz=121						
F25A	Bowman	121.15	307	⇑PKiKP	PKPdf	02 07 40.0	-0.4
	baz=121						
E26A	Carlson Angus	121.16	308	⇓PKiKP	PKPdf	02 07 40.0	-0.4
	baz=121						
I21A	Big Trails, Te	121.18	303	⇑PKiKP	PKPdf	02 07 39.6	-1.1
	baz=121						
J20A	Shoshoni	121.18	302	⇓PKiKP	PKPdf	02 07 40.6	-0.1
	baz=121						
KBL	Kabul	121.19	74	ePKIKP	PKPdf	02 07 41.1	0.0
KBL	Kabul	121.19	74	ePKPdf	PKPdf	02 07 41.1	0.0
TIN	Tinemaha, Big	121.19	291	⇓PKiKP	PKiKP	02 07 41.1	+0.1
	baz=121						
D27A	Center	121.27	309	⇑PKiKP	PKPdf	02 07 40.2	-0.4
	baz=122						
C28A	Hausauer Farms	121.28	311	⇓PKiKP	PKPdf	02 07 40.3	-0.3
	baz=122						
H22A	Clearmont	121.37	305	⇓PKiKP	PKPdf	02 07 40.2	-0.8
	baz=122						
BW06	Boulder Array	121.40	301	ePKPdf	PKPdf	02 07 40.5	-0.8
PDAR	Pinedale Array	121.40	301	PKP	PKPdf	02 07 40.9	-0.4
	comp=N,28nm,0.7s,baz=98,slow=4.0,SNR=3.6						
PDAR				PKKPbc	PKKPab	02 17 42.6	+1.3
	comp=N,2.6nm,0.8s,baz=20,slow=2.9,SNR=11						
PDAR				PKKP	PKKPdf	02 18 15.3	-0.5
	comp=N,0.8nm,0.7s,baz=77,slow=4.0,SNR=3.1						
PDAR	Pinedale Array	121.40	301	PKP	PKPdf	02 07 40.9	-0.4
PDAR				PKKPbc	PKKPab	02 17 42.6	+1.3
PDAR				PKKP	PKKPdf	02 18 15.3	-0.5
A30A	Hoffart Farm,	121.41	313	⇑PKiKP	PKPdf	02 07 40.2	-0.6
	baz=122						
HWUT	Hardware Ranch	121.44	299	ePKPdf	PKPdf	02 07 41.3	0.0
HWUT				eSKPdf	SKPdf	02 11 02.0	-1.7
B29A	Wagenman Farm,	121.45	312	⇑PKiKP	PKPdf	02 07 40.2	-0.7
	baz=122						
TPH	Tonopah	121.47	292	ePKIKP	PKPdf	02 07 42.2	+0.7
TPH	Tonopah	121.47	292	ePKPdf	PKPdf	02 07 42.2	+0.7
F24A	Ekalaka	121.51	307	⇓PKiKP	PKPdf	02 07 40.4	-0.7
	baz=122						
NAO01	NORSAR Array S	121.54	20	ePKPdf	PKPdf	02 07 40.5	-0.1
J19A	Crowheart	121.56	302	⇑PKiKP	PKPdf	02 07 40.8	-0.7
	baz=122						
E25A	Miller Ranch,	121.58	308	⇓PKiKP	PKPdf	02 07 41.0	-0.3
	baz=122						
D26A	Manning	121.58	309	⇓PKiKP	PKPdf	02 07 41.0	-0.2
	baz=122						
BGU	Big Grassy Mou	121.61	297	ePKPdf	PKPdf	02 07 41.8	+0.2
BGU				eSKPdf	SKPdf	02 11 00.6	-3.4
I20A	Worland	121.67	303	⇑PKiKP	PKPdf	02 07 41.0	-0.6
	baz=122						
H21A	Big Horn, Sher	121.70	304	⇑PKiKP	PKPdf	02 07 41.0	-0.6
	baz=122						

C27A Sayler Ranch, 121.73 310 ⇑PKiKP PKPdf 02 07 41.3 -0.1
baz=122
A29A Manning Farm, 121.77 312 ⇓PKiKP PKPdf 02 07 40.9 -0.5
baz=122
NB2 NORSAR Subarra 121.78 20 PKPdf PKPdf 02 07 41.0 -0.1
comp=Z,23nm,1.1s,baz=202,slow=1.9
NB2 NORSAR Subarra 121.78 20 PKPdf PKPdf 02 07 41.0 -0.1
baz=202,slow=1.9
NOA NORSAR Array B 121.78 20 PKP PKPdf 02 07 41.0 -0.1
comp=Z,16nm,0.9s,baz=198,slow=1.8,SNR=33
NOA pPKP pPKPdf 02 08 16.2 -1.1
comp=Z,2.5nm,0.7s,baz=198,slow=1.8,SNR=2.2
NOA SKP 02 11 03.1
comp=Z,2.7nm,0.9s,baz=202,slow=2.0,SNR=3.6
NOA PKKPbc PKKPbc 02 17 41.0 +1.1
comp=Z,5.3nm,0.6s,baz=24,slow=3.4,SNR=33
NOA PKKP PKKPdf 02 18 15.7 +0.2
comp=Z,1.8nm,0.8s,baz=23,slow=4.2,SNR=3.4
NOA NORSAR Array B 121.78 20 PKIKP PKPdf 02 07 41.0 -0.1
NOA 02 08 16.2
NOA pmax pmax
comp=Z,16nm,0.9s
NOA NORSAR Array B 121.78 20 PKP PKPdf 02 07 41.0 -0.1
NOA pPKP pPKPdf 02 08 16.2 -1.1
NOA SKP 02 11 03.1
NOA PKKPbc PKKPbc 02 17 41.0 +1.1
NOA PKKP PKKPdf 02 18 15.7 +0.2
G22A Birney 121.83 305 ⇑PKiKP PKPdf 02 07 41.2 -0.7
baz=122
F23A Volborg 121.83 306 ⇓PKiKP PKPdf 02 07 41.0 -0.8
baz=122
B28A Dugan Ranch, T 121.85 311 ⇑PKiKP PKPdf 02 07 41.3 -0.4
baz=122
BORG Borgarnes 121.93 3 PKP PKPdf 02 07 41.1 0.0
comp=Z,32nm,1.0s,baz=143,slow=4.5,SNR=4.7
BORG Borgarnes 121.93 3 ePKIKP PKPdf 02 07 41.2 0.0
BORG Borgarnes 121.93 3 ePKPdf PKPdf 02 07 41.1 0.0
LPSR Galich'ya Gora 121.97 41 ePKIKP PKPdf 02 07 42.3 +0.7
LPSR pmax pmax
comp=Z,30nm,0.9s
LPSR pmax pmax
comp=N,8.0nm,1.2s
LPSR pmax pmax
comp=E,9.0nm,1.4s
E24A Baker 122.01 307 ⇑PKiKP PKPdf 02 07 42.0 -0.1
baz=122
H20A Greybull 122.03 303 ⇓PKiKP PKPdf 02 07 41.8 -0.4
baz=122
D25A Fairfield 122.05 308 ⇑PKiKP PKiKP 02 07 42.3 0.0
baz=122
C26A Wahner Farm, P 122.07 310 ⇓PKiKP PKPdf 02 07 42.2 +0.1
baz=122
AHID Auburn Hatcher 122.12 300 ePKPdf PKPdf 02 07 43.0 +0.4
I19A Meeteetse 122.13 302 ⇓PKiKP PKPdf 02 07 42.3 -0.3
baz=122
HVU Hansel Valley 122.15 298 ePKIKP PKPdf 02 07 42.8 +0.2
HVU Hansel Valley 122.15 298 ePKPdf PKPdf 02 07 42.8 +0.2
A28A Rude Farm, Bot 122.17 312 ⇓PKiKP PKPdf 02 07 42.1 -0.1
baz=122
B27A Peters Farms, 122.18 311 ⇓PKiKP PKPdf 02 07 42.1 -0.2
baz=122
G21A Lodge Grass 122.24 304 ⇑PKiKP PKPdf 02 07 42.1 -0.5
baz=122
F22A Rosebud 122.25 305 ⇑PKiKP PKPdf 02 07 42.2 -0.4
baz=122
NVAR Mina Array Bea 122.28 292 PKP PKPdf 02 07 44.4 +1.3
comp=E,34nm,0.7s,baz=134,slow=2.9,SNR=80
NVAR PKKPab PKKPab 02 17 40.5 +2.6
comp=E,1.6nm,0.6s,baz=294,slow=3.2,SNR=6.7
NVAR PKKP PKKPdf 02 18 14.3 +0.4
comp=E,0.6nm,0.7s,baz=204,slow=2.0,SNR=2.5
NVAR Mina Array Bea 122.28 292 PKP PKPdf 02 07 44.4 +1.3
NVAR PKKPab PKKPab 02 17 40.5 +2.6
NVAR PKKP PKKPdf 02 18 14.3 +0.4
E23A Ismay 122.39 307 ⇓PKiKP PKPdf 02 07 42.5 -0.3
baz=123
D24A Glendive 122.45 308 ⇓PKiKP PKiKP 02 07 43.1 +0.1
baz=123
REDW Red Top Meadow 122.46 301 ePKPdf PKPdf 02 07 43.1 -0.1
C25A Freed Ranch, W 122.47 309 ⇓PKiKP PKiKP 02 07 43.1 0.0
baz=123
SNOW Snow King Moun 122.50 301 ePKPdf PKPdf 02 07 43.9 +0.5
LOHW Long Hollow 122.54 301 ePKPdf PKPdf 02 07 43.2 -0.2
ELK Elko 122.54 296 PKP PKPdf 02 07 44.4 +0.8
comp=E,35nm,0.8s,baz=198,slow=1.7,SNR=75
ELK Elko 122.54 296 PKIKP PKPdf 02 07 44.4 +0.8
ELK pmax pmax
comp=Z,35nm,0.8s
ELK Elko 122.54 296 ePKPdf PKPdf 02 07 44.3 +0.8
B26A Jensen Ranch, 122.56 310 ⇑PKiKP PKiKP 02 07 43.2 -0.1
baz=123
A27A Ledoux Ranch, 122.60 311 ⇑PKiKP PKiKP 02 07 43.4 +0.1
baz=123
TPAW Teton Pass 122.61 301 ePKPdf PKPdf 02 07 43.7 +0.1
TPAW eSKPdf SKPdf 02 11 04.5 -1.5
H19A Powell 122.61 303 ⇑PKiKP PKPdf 02 07 43.3 -0.1
baz=123
E22A Miles City 122.63 306 ⇑PKiKP PKPdf 02 07 42.9 -0.4
baz=123
F21A Absaloka Mine, 122.67 305 ⇑PKiKP PKPdf 02 07 43.2 -0.2
baz=123
G20A Bridger 122.69 304 ⇑PKiKP PKPdf 02 07 43.1 -0.4
baz=123
MOOW Moose Ponds 122.71 301 ePKPdf PKPdf 02 07 43.9 +0.1
MOOW eSKPdf SKiKP 02 11 06.9 +0.2
I17A Pilgrim Ck. 122.77 301 ⇓PKiKP PKiKP 02 07 44.5 +0.4
baz=123
C24A Savage 122.82 308 ⇑PKiKP PKiKP 02 07 43.8 0.0
baz=123
SMLA Simla 122.83 83 ex PKPdf 02 07 45.1 +1.1
SMLA AMB AMB 02 07 46.1
comp=Z,15nm,1.0s
B25A Knox Farm, Ray 122.86 309 ⇑PKiKP PKiKP 02 07 44.1 +0.3
baz=123
D23A Lindsay 122.88 307 ⇓PKiKP PKiKP 02 07 43.8 -0.1
baz=123
A26A Wade Farm, Ken 122.89 310 ⇓PKiKP PKiKP 02 07 43.8 0.0
baz=123
WAKR Walker 122.91 291 ePKPdf PKPdf 02 07 45.7 +1.4
IMW Indian Meadow 122.92 301 ePKPdf PKPdf 02 07 44.7 +0.5
H18A Shoshone NF, C 122.93 302 ⇓PKiKP PKPdf 02 07 43.9 -0.2
baz=123
LAO LASA Array 122.94 306 ePKPdf PKPdf 02 07 43.8 0.0
LAO eSKPdf SKPdf 02 11 05.3 -0.9
FLWY Flagg Ranch 122.95 301 ePKPdf PKPdf 02 07 44.9 +0.7
CMB Columbia Colle 123.03 290 ePKIKP PKPdf 02 07 44.9 +0.6
CMB Columbia Colle 123.03 290 ePKPdf PKPdf 02 07 44.9 +0.6
VSU Vasula 123.06 30⇑iPKIKP PKPdf 02 07 43.5 0.0
RLMT Red Lodge 123.09 303 ePKPdf PKPdf 02 07 44.4 0.0
F20A Billings 123.11 304 ⇑PKiKP PKPdf 02 07 44.1 -0.1
baz=123
H17A Grant Village 123.13 302 ⇓PKiKP PKiKP 02 07 45.6 +0.9
baz=123
H17A Grant Village 123.13 302 ePKPdf PKPdf 02 07 45.8 +1.3
LKWY Lake 123.18 302 ePKIKP PKPdf 02 07 45.2 +0.6
LKWY Lake 123.18 302 ePKPdf PKPdf 02 07 45.2 +0.6
E21A Keefer Ranch, 123.20 306 ⇑PKiKP PKiKP 02 07 44.6 0.0
baz=123
OBN Obninsk 123.21 38⇑iPKIKP PKPdf 02 07 43.6 -0.3
OBN i 02 08 16.2
OBN i 02 09 28.2
OBN pmax pmax
comp=Z,90nm,1.2s
OBN Obninsk 123.21 38 ePKPdf PKPdf 02 07 43.1 -0.9
DHRM DHARAMSHALA 123.24 81 ex PKPdf 02 07 44.5 -0.6
DHRM AMB AMB 02 07 47.5
comp=Z,38nm,0.5s
BMN Battle Mountai 123.28 294 ePKIKP PKPdf 02 07 45.2 +0.4
BMN Battle Mountai 123.28 294 ePKPdf PKPdf 02 07 45.2 +0.4
D22A Cohagen 123.28 307 ⇓PKiKP PKiKP 02 07 44.8 +0.1
baz=124
YFT Old Faithful 123.29 302 ePKPdf PKPdf 02 07 46.5 +1.7
YFT eSKPdf SKiKP 02 11 10.3 +2.4
C23A Lambert 123.36 308 ⇓PKiKP PKiKP 02 07 45.3 +0.5
baz=124
A25A Svangstu Ranch 123.36 310 ⇓PKiKP PKiKP 02 07 45.2 +0.4
baz=124
YNR Norris Junctio 123.42 302 ePKPdf PKPdf 02 07 46.4 +1.3
DGMT Dagmar 123.45 309 ⇑PKiKP PKiKP 02 07 45.5 +0.5
baz=124
DGMT Dagmar 123.45 309 ePKPdf PKPdf 02 07 44.8 +0.1
F19A Roth Farm, Mol 123.50 304 ⇓PKiKP PKiKP 02 07 45.3 0.0
baz=124
KOLN Koldanda 123.67 90 eP PKPdf 02 07 44.9 -1.2
A24A Westby 123.72 309 ⇓PKiKP PKiKP 02 07 45.9 +0.4
baz=124

B23A Brockton 123.78 308 ⇑PKiKP PKiKP 02 07 45.7 +0.1
baz=124
GCMT Greycliff 123.78 303 ePKPdf PKPdf 02 07 45.8 +0.2
QLMT Earthquake Lak 123.86 301 ePKPdf PKPdf 02 07 47.2 +1.4
E19A Rath Farm, Rou 123.90 304 ⇑PKiKP PKiKP 02 07 45.9 -0.1
baz=124
MOS Moscow 124.07 38 i PKIKP PKPdf 02 07 45.3 -0.3
MOS pmax pmax
comp=Z,67nm,0.8s
B22A Reddig Ranch S 124.09 308 ⇓PKiKP PKiKP 02 07 46.6 +0.3
baz=124
D20A Manuel Ranch, 124.09 305 ⇑PKiKP PKiKP 02 07 46.3 0.0
baz=124
A23A Redstone 124.12 309 ⇓PKiKP PKiKP 02 07 46.4 +0.1
baz=124
C21A Desert Coulee 124.20 307 ⇓PKiKP PKiKP 02 07 46.5 -0.1
baz=124
CM31 Chiang Mai Arr 124.21 111 ePKPdf PKPdf 02 07 47.4 +0.3
CMAR Chiang Mai Arr 124.21 111 PKP PKPdf 02 07 47.5 +0.4
comp=Z,27nm,0.8s,baz=232,slow=3.7,SNR=76
CMAR pPKP pPKPdf 02 08 22.2 -1.1
comp=Z,14nm,0.8s,baz=234,slow=3.6,SNR=4.0
CMAR PKKPab PKKPab 02 17 32.0 0.0
comp=Z,2.5nm,0.6s,baz=12,slow=4.2,SNR=9.2
CMAR PKKP PKKPdf 02 18 12.2 +3.1
comp=Z,1.4nm,0.4s,baz=327,slow=0.9,SNR=4.8
CMAR SKKPbc SKKPbc 02 21 02.4 -2.5
comp=Z,1.3nm,0.3s,baz=356,slow=6.1,SNR=4.3
CMAR Chiang Mai Arr 124.21 111 PKIKP PKPdf 02 07 47.5 +0.4
CMAR 02 08 22.2
CMAR S SKKPbc 02 21 02.4 -2.4
CMAR pmax pmax
comp=Z,27nm,0.8s
CMAR Chiang Mai Arr 124.21 111 PKP PKPdf 02 07 47.5 +0.4
CMAR pPKP pPKPdf 02 08 22.2 -1.1
CMAR PKKPab PKKPab 02 17 32.0 0.0
CMAR PKKP PKKPdf 02 18 12.2 +3.1
CMAR SKKPbc SKKPbc 02 21 02.4 -2.5
HLID Hailey 124.29 298 ⇑PKiKP PKiKP 02 07 47.3 +0.3
baz=124
HLID Hailey 124.29 298 ePKPdf PKiKP 02 07 47.3 +0.3
DZET Dzherino 124.34 70 PKIKP PKPdf 02 07 47.5 +0.6
DZET pmax pmax
comp=Z,36nm,0.8s
DMN Daman 124.36 92 eP PKPdf 02 07 47.3 -0.2
comp=Z,101nm,1.0s
MCCM Marconi Confer 124.39 288 ePKPdf PKPdf 02 07 47.1 +0.3
GKN Gorkha 124.42 91 eP PKPdf 02 07 46.9 -0.5
comp=Z,90nm,0.8s
D19A Cripps Ranch, 124.48 305 ⇓PKiKP PKiKP 02 07 47.0 -0.1
baz=125
PKIN Phulchoki 124.49 92 eP PKPdf 02 07 47.6 -0.1
comp=Z,37nm,0.9s
PKI Pulchoki 124.50 92 eP PKPdf 02 07 47.2 -0.6
comp=Z,125nm,1.1s
C20A Veseth Ranch, 124.51 306 ⇓PKiKP PKiKP 02 07 47.0 -0.1
baz=125
MCMT McKenzie Canyo 124.51 300 ePKPdf PKPdf 02 07 48.0 +0.8
CHTO Chiang Mai 124.51 111 ePKIKP PKPdf 02 07 47.4 -0.3
CHTO Chiang Mai 124.51 111 P PKPdf 02 07 48.8 +1.2
SNR=5.8
CHTO Chiang Mai 124.51 111 ePKPdf PKPdf 02 07 47.4 -0.3
BOZ Bozeman (W) 124.57 302 ePKIKP PKPdf 02 07 47.7 +0.5
BOZ Bozeman (W) 124.57 302 ePKPdf PKPdf 02 07 47.6 +0.5
A22A Carney Farms, 124.58 308 ⇑PKiKP PKiKP 02 07 47.3 +0.1
baz=125
KKN Kakani 124.60 92 eP PKPdf 02 07 47.3 -0.5
comp=Z,45nm,0.7s
B21A Ellsworth Farm 124.62 307 ⇓PKiKP PKiKP 02 07 47.4 +0.1
baz=125
RAMN Ramite 124.65 94 eP PKPdf 02 07 48.2 +0.2
comp=Z,175nm,0.9s
DLMT Dillon 124.80 301 ePKPdf PKPdf 02 07 48.1 +0.5
LCCM Lewis and Clar 124.83 302 P PKPdf 02 07 48.8 +1.2
MFID Camas Ranch 124.86 297 ePKPdf PKPdf 02 07 48.0 +0.3
C19A Slack Wire Ran 124.98 305 ⇑PKiKP PKiKP 02 07 48.2 +0.1
baz=125
JIRN Jiri 124.99 93 eP PKPdf 02 07 48.8 0.0
comp=Z,125nm,0.7s
ODAN Odare 125.00 94 eP PKPdf 02 07 48.8 +0.1
comp=Z,116nm,0.8s
A21A Bergtoll Ranch 125.01 308 ⇓PKiKP PKiKP 02 07 48.3 +0.2
baz=125
GUN Gumba 125.02 92 eP PKPdf 02 07 48.8 0.0
comp=Z,84nm,0.7s
B20A Solberg Farm, 125.07 306 ⇑PKiKP PKiKP 02 07 48.3 +0.1
baz=125
LRM Limekiln Ridge 125.08 302 ePKPdf PKPdf 02 07 48.7 +0.5
FRB Frobisher Bay 125.09 339 PKP PKPdf 02 07 47.3 0.0
comp=Z,67nm,0.6s,baz=150,slow=3.9,SNR=85
FRB SKP 02 11 10.5
comp=Z,13nm,0.9s,baz=151,slow=3.2,SNR=3.5
FRB Frobisher Bay 125.09 339 PKIKP PKPdf 02 07 47.3 0.0
FRB pmax pmax
comp=Z,67nm,0.6s
FRB Frobisher Bay 125.09 339 PKP PKPdf 02 07 47.3 0.0
FRB SKP 02 11 10.5
HOPS Hopland Field 125.13 289 ePKPdf PKPdf 02 07 49.9 +1.7
PUL Pulkovo 125.15 31 i PKIKP PKPdf 02 07 49.0 +1.5
A20A Cobblestone Ra 125.36 307 ⇓PKiKP PKiKP 02 07 48.8 +0.1
baz=126
SFJD Kangerlussuaq 125.42 349 i P PKPdf 02 07 47.9 +0.1
comp=Z,47nm,0.8s
SFJD Kangerlussuaq 125.42 349 PKP PKPdf 02 07 47.9 +0.1
comp=Z,32nm,0.6s,baz=151,slow=3.1,SNR=14
SFJD Kangerlussuaq 125.42 349 ePKIKP PKPdf 02 07 48.0 +0.1
SFJD Kangerlussuaq 125.42 349 ePKPdf PKPdf 02 07 48.0 +0.2
FINES FINESS Array B 125.44 28 PKP PKPdf 02 07 48.1 +0.1
comp=Z,44nm,0.6s,baz=140,slow=4.2,SNR=4.9
FINES pPKP pPKPdf 02 08 21.9 -2.4
comp=Z,15nm,0.6s,baz=173,slow=3.1,SNR=2.4
FINES PP PP 02 09 43.6 +1.8
comp=Z,5.1nm,0.8s,baz=166,slow=6.4,SNR=1.7
FINES SKP 02 11 08.5
comp=Z,13nm,0.9s,baz=196,slow=2.5,SNR=5.5
FINES PKKP PKKPdf 02 18 08.8 +0.5
comp=Z,1.6nm,0.6s,baz=48,slow=2.1,SNR=7.5
FINES SKKPbc SKKPbc 02 21 03.8 -1.2
comp=Z,2.1nm,1.0s,baz=98,slow=2.9,SNR=5.1
FINES FINESS Array B 125.44 28 PKIKP PKPdf 02 07 48.1 +0.1
FINES 02 08 21.9
FINES 02 09 43.6
FINES S SKKPbc 02 21 03.8 -1.2
FINES pmax pmax
comp=Z,44nm,0.6s
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 125.44 28 PKP PKPdf 02 07 48.1 +0.1
FINES pPKP pPKPdf 02 08 21.9 -2.4
FINES PP PP 02 09 43.6 +1.8
FINES SKP 02 11 08.5
FINES PKKP PKKPdf 02 18 08.8 +0.5
FINES SKKPbc SKKPbc 02 21 03.8 -1.2
FIA1 FINESS Array S 125.44 28 ePKPdf PKPdf 02 07 48.0 0.0
FIA1 eSKPdf SKPdf 02 11 07.7 -2.7
HRY Holter Researc 125.46 303 ePKPdf PKPdf 02 07 49.6 +0.9
B19A Brinkman Farms 125.48 306 ⇑PKiKP PKiKP 02 07 49.3 +0.3
baz=126
WVOR Wild Horse Val 125.49 295 ePKIKP PKPdf 02 07 50.2 +1.2
WVOR Wild Horse Val 125.49 295 ePKPdf PKPdf 02 07 50.2 +1.2
EGMT Eagleton 125.51 305 ⇑PKiKP PKiKP 02 07 49.3 +0.1
baz=126
EGMT Eagleton 125.51 305 ePKPdf PKPdf 02 07 48.9 +0.2
TAPN Taplejung 125.56 94 eP PKPdf 02 07 50.2 +0.4
A19A Klindworth Far 125.75 306 ⇑PKiKP PKiKP 02 07 49.7 +0.1
baz=126
KCPM Cahto Peak 125.91 289 ePKPdf PKPdf 02 07 50.8 +0.9
KIPM Iron Peak 125.95 289 ePKPdf PKPdf 02 07 51.5 +1.5
WDC Whiskeytown Da 126.05 290 ePKIKP PKPdf 02 07 50.2 +0.3
WDC Whiskeytown Da 126.05 290 ePKPdf PKPdf 02 07 50.2 +0.3
CHMT Chamberlain Mo 126.26 302 ePKPdf PKPdf 02 07 50.4 0.0
N02D Trinity Center 126.43 291 ⇓PKiKP PKiKP 02 07 51.5 +0.3
baz=127
MSO Missoula 126.52 301 ⇑PKiKP PKiKP 02 07 51.3 0.0
baz=127
M04C Macdoel 126.59 292 ⇓PKiKP PKiKP 02 07 51.9 +0.4
baz=127
SLMT Seeley Lake 126.62 302 ePKPdf PKPdf 02 07 50.5 -0.5
BMO Blue Mountains 126.64 298 ePKIKP PKPdf 02 07 51.2 +0.1
BMO Blue Mountains 126.64 298 ePKPdf PKPdf 02 07 51.2 +0.1
M02C Callahan 126.81 291 ⇓PKiKP PKiKP 02 07 52.4 +0.5
baz=127
KHMM Horse Mountain 126.87 290 ePKPdf PKPdf 02 07 53.5 +1.9
YBH Yreka Blue Hor 126.99 291 PKP PKPdf 02 07 51.9 +0.1
comp=Z,24nm,0.7s,baz=56,slow=2.0,SNR=50

YBH Yreka Blue Hor 126.99 291 ePKIKP PKPdf 02 07 52.1 +0.3
YBH Yreka Blue Hor 126.99 291 ePKPdf PKPdf 02 07 52.1 +0.3
SWMT Swartz Lake 127.05 302 ePKPdf PKPdf 02 07 51.2 -0.5
K04D Chiloquin, OR 127.17 293 ⇑PKiKP PKiKP 02 07 53.2 +0.5
baz=127
YBMT Yellow Bay 127.31 302 ePKPdf PKPdf 02 07 52.4 +0.1
FFC Flin Flon 127.34 315 ePKIKP PKPdf 02 07 51.7 -0.2
FFC Flin Flon 127.34 315 ePKPdf PKPdf 02 07 51.7 -0.2
FFC ePP PP 02 09 50.3 -4.2
JTMT Jette 127.35 302 ePKPdf PKPdf 02 07 51.9 -0.5
J05D Fort Rock, OR 127.40 294 ⇑PKiKP PKiKP 02 07 53.7 +0.5
baz=128
BLMT Blacktail Moun 127.58 302 ePKPdf PKPdf 02 07 52.7 -0.1
ILULI Ilulissat 127.61 349 i P PKPdf 02 07 52.0 0.0
comp=Z,79nm,0.9s
FCC Fort Churchill 127.63 323 ePKIKP PKPdf 02 07 51.4 -0.9
FCC e 02 09 56.0
FCC Fort Churchill 127.63 323 ePKPdf PKPdf 02 07 51.4 -0.9
FCC ePP PP 02 09 56.0 -0.3
SFK Sufi-Kurgan 127.65 73 PKIKP PKPdf 02 07 53.1 -0.2
SFK pmax pmax
comp=Z,69nm,1.4s
BSMT Bassoo Peak 127.66 302 ePKPdf PKPdf 02 07 52.4 -0.7
L02D Cave Junction, 127.75 291 ⇑PKiKP PKiKP 02 07 54.2 +0.5
baz=128
HUMO Hull Mountain 127.76 292 ePKPdf PKPdf 02 07 54.1 +1.0
J04D Umpqua Nationa 127.80 293 ⇑PKiKP PKiKP 02 07 54.3 +0.3
baz=128
AB31 Akbulak array 127.84 56 i PKIKP PKPdf 02 07 52.8 -0.2
AB31 pmax pmax
comp=Z,34nm,0.7s
WALA Waterton Lakes 128.14 303 ePKPdf PKPdf 02 07 53.3 -0.5
I05D Terrebonne, OR 128.22 294 ⇓PKiKP PKiKP 02 07 55.2 +0.5
baz=128
KK31 Karatay Array 128.39 68 i PKIKP PKPdf 02 07 54.6 +0.3
KK31 pmax pmax
comp=Z,33nm,0.8s
KSH Kashi 128.56 75 PKP PKPdf 02 07 55.4 +0.5
KSH PKS PKSdf 02 11 32.9 +1.4
KSH SKS SKSdf 02 14 48.1 -5.5
KSH SKKS SKKSac 02 16 42.2 -3.5
KSH PPMZ
comp=Z,460nm,8.4s
KSH LN
comp=Z,170nm,4.9s
KSH LE
comp=Z,220nm,5.8s
KSH LZ
comp=Z,460nm,13.7s
KLMR Klimovskoe 128.75 35 i PKIKP PKPdf 02 07 54.3 -0.1
KLMR 02 08 27.4
KLMR e 02 10 03.9
I03D Drain, OR 128.75 293 ⇑PKiKP PKiKP 02 07 56.3 +0.7
baz=129
HAWA Hanford 128.83 297 ePKPdf PKPdf 02 07 56.0 +1.0
G05D Wamic, OR 128.86 295 ⇓PKiKP PKiKP 02 07 56.3 +0.4
baz=129
SNIWA Snively Ranch 128.94 297 P PKPdf 02 07 57.3 +2.1
MNAS Manas 128.95 70 PKIKP PKPdf 02 07 55.3 -0.3
MNAS pmax pmax
comp=Z,35nm,1.3s
NEW Newport 129.04 301 PKP PKPdf 02 07 56.0 +0.6
comp=Z,30nm,0.6s,baz=148,slow=2.3,SNR=53
NEW Newport 129.04 301 PKIKP PKPdf 02 07 56.0 +0.6
NEW pmax pmax
comp=Z,30nm,0.6s
NEW Newport 129.04 301 ⇓PKiKP PKPdf 02 07 55.7 +0.3
baz=129
NEW Newport 129.04 301 ePKPdf PKPdf 02 07 55.2 -0.2
LSA Lhasa 129.27 95 PKP PKPdf 02 07 57.8 +0.8
LSA Lhasa 129.27 95 ePKIKP PKPdf 02 07 56.8 -0.2
LSA Lhasa 129.27 95 ePKPdf PKPdf 02 07 56.8 -0.2
LSA eSKPdf SKPdf 02 11 16.4 -2.9
AML Almayashu 129.30 71 P PKPdf 02 07 57.2 +0.6
SNR=27
MXC Moxie City 129.33 297 P PKPdf 02 07 57.7 +1.7
ASR Mount Adams--S 129.65 296 P PKPdf 02 07 57.7 +1.0
SAW Saint Andrews 129.71 299 P PKPdf 02 07 57.9 +1.1
EKS2 Erkin-Say 129.72 71 P PKPdf 02 07 56.9 -0.1
SNR=25
EKS2 Erkin-Say 129.72 71 P SKPab 02 11 05.4 -0.6
SNR=5.9
EKS2 Erkin-Say 129.72 71 ePKIKP PKPdf 02 07 56.7 -0.4
EKS2 Erkin-Say 129.72 71 ePKPdf PKPdf 02 07 56.7 -0.4
EKS2 eSKPdf SKPab 02 11 05.5 -0.6
UCH Uchtor 129.79 72 P PKPdf 02 07 57.2 -0.4
SNR=20
UCH Uchtor 129.79 72 P SKPab 02 11 07.2 +0.5
SNR=7.3
G03D McMinnville, O 129.80 294 ⇓PKiKP PKiKP 02 07 58.1 +0.4
baz=130
QIZ Qiongzhong 129.99 122 PKP PKPdf 02 07 59.4 +1.3
QIZ PP PP 02 10 12.3 +0.6
QIZ SS SS 02 27 28.6 +3.0
SUMG Summit 130.00 355⇑iP PKPdf 02 07 58.3 +1.3
comp=Z,35nm,0.7s
SUMG i 02 11 06.7
SUMG Summit 130.00 355 i P SKPab 02 11 06.0 -0.6
comp=Z,79nm,1.0s
SUMG Summit 130.00 355⇑iPKIKP PKPdf 02 07 58.3 +1.3
SUMG pmax pmax
comp=Z,35nm,0.7s
SUMG Summit 130.00 355 ePKPdf PKPdf 02 07 57.8 +0.8
SUMG eSKP SKPab 02 11 06.4 -0.2
WPW White Pass 130.02 296 P PKPdf 02 07 59.0 +1.6
KZA Kyzart 130.06 72 P PKPdf 02 07 58.8 +0.7
SNR=29
KZA Kyzart 130.06 72 P SKPab 02 11 07.8 -0.1
SNR=5.9
AAK Ala-Archa 130.07 71 P PKPdf 02 07 58.3 +0.5
SNR=25
AAK Ala-Archa 130.07 71 PKP PKPdf 02 07 58.1 +0.3
comp=Z,24nm,0.6s,baz=175,slow=3.2
AAK pPKP pPKPdf 02 08 32.4 -1.5
comp=Z,10nm,0.7s,baz=149,slow=7.6,SNR=2.8
AAK SKPbc SKPab 02 11 06.1 -1.5
comp=Z,10nm,0.8s,baz=214,slow=6.5,SNR=6.3
AAK Ala-Archa 130.07 71c iPKIKP PKPdf 02 07 58.5 +0.7
AAK pmax pmax
comp=Z,64nm,0.6s
AAK Ala-Archa 130.07 71 P PKPdf 02 07 58.6 +0.9
SNR=16
AAK Ala-Archa 130.07 71 ePKPdf PKPdf 02 07 57.8 +0.1
AAK eSKPbc SKPab 02 11 05.7 -1.9
ETW Entiat 130.08 298 P PKPdf 02 07 57.5 0.0
LON Longmire 130.18 296 PKIKP PKPdf 02 07 58.5 +0.8
LON Longmire 130.18 296 P PKPdf 02 07 58.5 +0.8
FRU Bishkek 130.28 71 ePKIKP PKPdf 02 07 58.0 0.0
FRU e 02 08 32.0
FRU pmax pmax
comp=Z,120nm,1.6s
F04D Rainier, OR 130.29 295 ⇓PKiKP PKiKP 02 07 59.2 +0.5
baz=130
KBK Karagaybulak 130.32 71 P PKPdf 02 07 58.8 +0.5
SNR=20
CHMS Chumysh 130.46 71 P PKPdf 02 07 59.2 +0.9
SNR=8.6
CHMS Chumysh 130.46 71 P SKPab 02 11 08.3 -0.7
SNR=7.9
USP Ospenovka 130.53 71 P PKPdf 02 07 58.3 -0.2
SNR=19
USP Ospenovka 130.53 71 P SKPab 02 11 08.6 -0.8
SNR=6.8
ULHL Ulahol 130.69 73 P PKPdf 02 07 56.3 -2.7
SNR=11
ULHL Ulahol 130.69 73 P SKPab 02 11 09.0 -1.3
SNR=8.4
TKM2 Tokmak 2 130.84 72 P PKPdf 02 08 01.7 +2.4
SNR=6.4
TKM2 Tokmak 2 130.84 72 ePKIKP PKPdf 02 07 58.4 -0.9
TKM2 Tokmak 2 130.84 72 ePKPdf PKPdf 02 07 58.4 -0.9
TKM2 eSKP 02 11 07.7
TMCR Tamitsa 130.86 32 ePKIKP PKPdf 02 08 00.3 +2.0
TMCR e 02 10 16.5
TMCR pmax pmax
comp=Z,117nm,1.0s
EDM Edmonton 130.87 307 ePKIKP PKPdf 02 07 58.3 -0.4
EDM Edmonton 130.87 307 ePKPdf PKPdf 02 07 58.3 -0.4
EDM eSKP 02 11 07.0
HTW Haystack Looko 130.91 297 P PKPdf 02 07 59.1 +0.1
PRGR Permogore 131.28 37 ePKIKP PKPdf 02 07 56.3 -2.8
PRGR pmax pmax
comp=Z,122nm,1.0s
NLWA Neilton Lookou 131.64 296 ePKPdf PKPdf 02 08 01.2 +0.8

KMI **Kunming** 131.70 110 PKP **PKPdf** 02 08 03.2 +1.7
KMI PP PP 02 10 29.4 +6.3
KMI PPMZ
comp=Z,97nm,6.6s
KMI LN
comp=Z,260nm,14.4s
KMI LE
comp=Z,260nm,18.7s
KMI LZ
comp=Z,300nm,18.3s
ARCES ARCESS Array B 132.09 22 PKhKP PKPpre 02 07 43.3
comp=Z,1.8nm,0.6s,baz=233,slow=3.0,SNR=16
ARCES PKP **PKPdf** **02 07 58.2 -2.4**
comp=Z,31nm,0.7s,baz=217,slow=1.2,SNR=24
ARCES pPKP pPKPdf 02 08 35.0 -1.7
comp=Z,7.8nm,0.6s,baz=183,slow=1.7,SNR=1.8
ARCES PP **PP** **02 10 24.0 -1.1**
comp=Z,6.5nm,0.9s,baz=208,slow=5.6,SNR=4.3
ARCES SKPbc **SKPbc** **02 11 13.1 -0.9**
comp=Z,16nm,0.8s,baz=222,slow=1.6,SNR=6.0
ARCES PKKP **PKKPdf** **02 17 55.5 0.0**
comp=Z,2.6nm,0.6s,baz=42,slow=1.5,SNR=5.6
ARCES ARCESS Array B 132.09 22 PKHKP PKPpre 02 07 43.3
ARCES 02 10 24.0
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES pmax pmax
comp=Z,7.0nm,0.9s
ARCES ARCESS Array B 132.09 22 PKPpre PKPpre 02 07 43.3
ARCES PKP **PKPdf** **02 07 58.2 -2.4**
ARCES pPKP pPKPdf 02 08 35.0 -1.7
ARCES PP **PP** **02 10 24.0 -1.1**
ARCES SKPbc **SKPbc** **02 11 13.1 -0.9**
ARCES PKKP **PKKPdf** **02 17 55.5 0.0**
ARE0 ARCESS Array S 132.09 22 *e*PKPdf **PKPdf** **02 07 58.3 -2.3**
ARE0 *e*SKP 02 11 11.7
APA Apatity 132.28 27 ⇓ *i* PKIKP **PKPdf** **02 08 02.5 +1.6**
APA *i* *PP **pPKPdf** **02 08 35.5 -1.6**
APA pmax pmax
comp=Z,18nm,0.7s
APA MLR MLR
comp=Z,500nm,15.0s
PGC Sidney 132.31 297 *e*PKPdf **PKPdf** **02 08 01.8 +0.3**
PGC *e*SKPbc **SKPbc** **02 11 13.3 -2.0**
ARU Arti 132.34 48 *i* PKIKP **PKPdf** **02 08 01.9 +0.6**
ARU PPP PPP 02 13 19.1
ARU Arti 132.34 48 *e*PKPdf **PKPdf** **02 08 01.3 0.0**
ARU *e*SKPbc **SKPbc** **02 11 13.6 -1.6**
LVZ Lovozero 132.83 27 *i* PKIKP **PKPdf** **02 08 02.4 +0.4**
LVZ Lovozero 132.83 27 *e*PKPdf **PKPdf** **02 08 00.9 -1.1**
SVE Sverdlovsk 133.46 49 ⇑ *i* PKIKP **PKPdf** **02 08 05.2 +1.8**
SVE pmax pmax
comp=Z,49nm,1.3s
SOKR Solikamsk 133.79 44 *c i* PKIKP **PKPdf** **02 08 04.9 +1.0**
SOKR pmax pmax
comp=Z,40nm,1.1s
BRVK Borovoye 135.17 58 PKIKP **PKPdf** **02 08 07.1 +0.3**
BRVK pmax pmax
comp=Z,57nm,1.2s
BRVK Borovoye 135.17 58 P **PKPdf** **02 08 08.1 +1.3**
SNR=12
BRVK Borovoye 135.17 58 *e*PKPdf **PKPdf** **02 08 08.1 +1.3**
BRVK *e*SKPbc **SKPbc** **02 11 22.0 -2.7**
BVA0 Borovoye Array 135.19 58 PKIKP **PKPdf** **02 08 07.5 +0.7**
BVA0 pmax pmax
comp=Z,50nm,1.2s
BVAR Borovoye Array 135.19 58 PKhKP PKPpre 02 07 54.1
comp=Z,4.5nm,0.7s,baz=235,slow=5.2,SNR=20
BVAR PKP **PKPdf** **02 08 07.6 +0.7**
comp=Z,16nm,0.6s,baz=243,slow=1.7,SNR=19
BVAR pPKP pPKPdf 02 08 41.2 -1.8
comp=Z,12nm,0.7s,baz=219,slow=2.1,SNR=3.0
BVAR PKKP **PKKPdf** **02 17 50.7 +1.5**
comp=Z,1.5nm,0.7s,baz=79,slow=0.8,SNR=3.8
BVAR Borovoye Array 135.19 58 PKHKP PKPpre 02 07 54.1
BVAR 02 08 07.6
BVAR 02 08 41.2
BVAR pmax pmax
comp=Z,5.0nm,0.7s
BVAR pmax pmax
comp=Z,16nm,0.6s
BVAR Borovoye Array 135.19 58 PKPpre PKPpre 02 07 54.1
BVAR PKP **PKPdf** **02 08 07.6 +0.7**
BVAR pPKP pPKPdf 02 08 41.2 -1.8
BVAR PKKP **PKKPdf** **02 17 50.7 +1.5**
GUMO Guam 135.74 168 PKhKP PKPpre 02 08 06.5
comp=Z,19nm,0.4s,baz=24,slow=17,SNR=2.5
GUMO SKPbc **SKPbc** **02 11 26.3 -1.4**
comp=Z,64nm,0.9s,baz=270,slow=10,SNR=3.5
GUMO Guam 135.74 168 PKIKP **PKPdf** **02 08 06.5 -2.5**
GUMO pmax pmax
comp=Z,19nm,0.4s
GUMO Guam 135.74 168 PKPpre PKPpre 02 08 06.5
GUMO SKPbc **SKPbc** **02 11 26.3 -1.4**
BBB Bella Bella 136.88 298 PKP **PKPdf** **02 08 11.1 +1.2**
comp=Z,34nm,0.7s,baz=42,slow=4.8,SNR=12
BBB Bella Bella 136.88 298 PKP **PKPdf** **02 08 11.1 +1.2**
CD2 Chengdu 136.91 106 PKP **PKPdf** **02 08 10.9 +0.1**
CD2 PP **PP** **02 10 57.1 +1.2**
CD2 SKS **SKSdf** **02 15 06.8 -2.0**
CD2 SKKS **SKKSac** **02 17 34.9 -1.9**
CD2 SS **SS** **02 28 51.4 +1.9**
CD2 PPMZ
comp=Z,590nm,8.3s
CD2 LN
comp=Z,270nm,16.6s
CD2 LE
comp=Z,300nm,16.1s
CD2 LZ
comp=Z,220nm,13.5s
MK31 Makanchi Array 136.96 72 *e*PKHKP PKPpre 02 07 58.3
MK31 *e* 02 08 10.5
MK31 Makanchi Array 136.96 72 *e*PKPpre PKPpre 02 07 58.2
MK31 *e*PKPdf **PKPdf** **02 08 10.5 +0.2**
MK31 *e*SKPbc **SKPbc** **02 11 28.3 -2.1**
MKAR Makanchi Array 136.96 72 PKhKP PKPpre 02 07 59.4
comp=Z,3.4nm,0.6s,baz=219,slow=2.4,SNR=27
MKAR PKP **PKPdf** **02 08 10.6 +0.2**
comp=Z,14nm,0.8s,baz=230,slow=2.0,SNR=18
MKAR pPKP pPKPdf 02 08 46.1 -0.4
comp=Z,6.7nm,0.8s,baz=13,slow=0.4,SNR=2.9
MKAR SKPbc **SKPbc** **02 11 28.6 -1.8**
comp=Z,7.2nm,0.9s,baz=272,slow=3.1,SNR=4.9
MKAR PKKP **PKKPdf** **02 17 46.0 +0.3**
comp=Z,0.8nm,0.6s,baz=35,slow=1.7,SNR=3.6
MKAR Makanchi Array 136.96 72 PKHKP PKPpre 02 07 59.4
MKAR 02 08 10.6
MKAR 02 08 46.1
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR pmax pmax
comp=Z,14nm,0.8s
MKAR Makanchi Array 136.96 72 PKPpre PKPpre 02 07 59.4
MKAR PKP **PKPdf** **02 08 10.6 +0.2**
MKAR pPKP pPKPdf 02 08 46.1 -0.4
MKAR SKPbc **SKPbc** **02 11 28.6 -1.8**
MKAR PKKP **PKKPdf** **02 17 46.0 +0.3**
YKA Yellowknife Ar 137.46 317 PKhKP PKPpre 02 07 57.8
comp=Z,5.1nm,0.6s,baz=124,slow=4.1,SNR=45
YKA PKP **PKPdf** **02 08 11.2 +0.5**
comp=Z,200nm,0.7s,baz=126,slow=2.3,SNR=134
YKA pPKP pPKPdf 02 08 45.6 -1.3
comp=Z,23nm,0.7s,baz=123,slow=2.3,SNR=1.8
YKA PP **PP** **02 10 55.6 -3.4**
comp=Z,11nm,0.8s,baz=121,slow=6.1,SNR=9.1
YKA SKPbc **SKPbc** **02 11 30.2 -1.1**
comp=Z,27nm,0.8s,baz=132,slow=2.4,SNR=14
YKA Yellowknife Ar 137.46 317 PKHKP PKPpre 02 07 57.8
YKA 02 08 11.2
YKA 02 08 45.6
YKA pmax pmax
comp=Z,5.0nm,0.6s
YKA pmax pmax
comp=Z,200nm,0.7s
YKA Yellowknife Ar 137.46 317 PKPpre PKPpre 02 07 57.8
YKA PKP **PKPdf** **02 08 11.2 +0.5**
YKA pPKP pPKPdf 02 08 45.6 -1.3
YKA PP **PP** **02 10 55.6 -3.4**
YKA SKPbc **SKPbc** **02 11 30.2 -1.1**
KURBB Kurchatov Arra 137.54 66 SKPbc **SKPbc** **02 11 30.6 -1.3**
comp=Z,17nm,0.8s,baz=233,slow=3.2,SNR=14
KURK Kurchatov 137.64 66 PKHKP PKPpre 02 08 01.9
KURK pmax pmax
comp=Z,14nm,0.9s
KURK Kurchatov 137.64 66 P PKPpre 02 08 05.2
SNR=9.1
KURK Kurchatov 137.64 66 *e*PKPpre PKPpre 02 08 01.7
KURK *e*SKPbc **SKPbc** **02 11 30.2 -2.0**
WMQ Urumqi 137.80 79 PKP **PKPdf** **02 08 12.4 +0.3**
WMQ PP **PP** **02 11 04.4 +2.8**
WMQ PPMZ
comp=Z,310nm,10.8s
WMQ LN
comp=Z,120nm,15.6s
WMQ LE
comp=Z,87nm,14.2s
WMQ LZ
comp=Z,170nm,26.4s
SPITS Spitsbergen Ar 137.85 12 PKhKP PKPpre 02 08 02.6
comp=Z,2.2nm,0.4s,baz=159,slow=5.2,SNR=22
SPITS PKP **PKPdf** **02 08 10.4 -0.7**
comp=Z,9.6nm,0.4s,baz=128,slow=9.3,SNR=14
SPITS Spitsbergen Ar 137.85 12 PKHKP PKPpre 02 08 02.6
SPITS 02 08 10.4
SPITS pmax pmax
comp=Z,2.0nm,0.4s
SPITS pmax pmax
comp=Z,10.0nm,0.4s
SPITS Spitsbergen Ar 137.85 12 PKPpre PKPpre 02 08 02.6
SPITS PKP **PKPdf** **02 08 10.4 -0.7**
KBS Kingsbay 138.03 10 *e*PKHKP PKPpre 02 08 04.4
KBS *e* 02 08 12.2
KBS Kingsbay 138.03 10 *e*PKPpre PKPpre 02 08 04.4
KBS *e*PKPdf **PKPdf** **02 08 12.2 +0.8**
KBS *e*SKP 02 11 32.3
RES Resolute Bay 139.29 338 PKhKP PKPpre 02 08 05.5
comp=Z,21nm,0.8s,baz=131,slow=7.9,SNR=27
RES PKP **PKPdf** **02 08 13.8 +0.1**
comp=Z,61nm,1.0s,baz=155,slow=3.0,SNR=29
RES Resolute Bay 139.29 338 PKHKP PKPpre 02 08 05.6
RES 02 08 13.8
RES pmax pmax
comp=Z,21nm,0.8s
RES pmax pmax
comp=Z,61nm,1.0s
RES Resolute Bay 139.29 338 *e*PKPpre PKPpre 02 08 04.3
RES *e*PKPdf **PKPdf** **02 08 14.4 +0.6**
RES *e*SKP 02 11 34.5
ENH Enshi 139.31 113 *e*PKPdf **PKPdf** **02 08 15.4 +0.2**
H02S1 DAWSON INLET T 139.60 297 PKP **PKPdf** **02 08 15.3 +0.4**
H02N1 VAN INLET T-PH 139.66 297 PKP **PKPdf** **02 08 15.5 +0.4**
LZH Lanzhou 140.97 101 *e*PKP **PKPdf** **02 08 14.3 -3.9**
LZH SKS **SKSdf** **02 15 11.7 -3.8**
LZH SKKS **SKKSac** **02 17 57.2 -3.5**
LZH PPMZ
comp=Z,130nm,4.2s
H11N1 WAKE ISLAND Hyl 141.05 200 PKhKP PKPpre 02 08 14.7
H11N3 WAKE ISLAND Hyl 141.05 200 PKhKP PKPpre 02 08 14.7
H11N2 WAKE ISLAND Hyl 141.06 200 PKhKP PKPpre 02 08 14.8
CRAG Craig 141.23 299 *e*PKPdf **PKPdf** **02 08 16.0 -1.7**
GTA Gaotai 141.25 94 *e*PKP **PKPdf** **02 08 18.8 +0.2**
GTA SKS **SKSdf** **02 15 09.9 -5.8**
GTA PPMZ
comp=Z,570nm,7.1s
GTA LN
comp=Z,320nm,20.4s
GTA LE
comp=Z,320nm,20.0s
GTA LZ
comp=Z,280nm,19.0s
WRAK Wrangell Islan 141.39 301 *e*PKPpre PKPpre 02 08 12.7
WRAK *e*PKPdf **PKPdf** **02 08 18.1 0.0**
DLBC Dease Lake 141.44 305 PKhKP PKPpre 02 08 12.8
comp=Z,25nm,0.9s,baz=93,slow=2.7,SNR=32
DLBC Dease Lake 141.44 305 *e*PKPpre PKPpre 02 08 12.2
XAN Xi'an 142.04 109 PKP **PKPdf** **02 08 16.4 -3.7**
XAN SKKS 02 18 01.7
XAN PPMZ
comp=Z,110nm,12.3s
XAN LN
comp=Z,170nm,19.5s
XAN LZ
comp=Z,80nm,19.5s
NVS Novosibirsk 142.35 63 ⇓ *e* PKIKP **PKPdf** **02 08 16.7 -3.1**
NVS 02 08 47.5
NVS pmax pmax
comp=N,34nm,1.1s
NVS pmax pmax
comp=Z,107nm,1.1s
ZAA0 Zalesovo Array 142.62 65 *e*PKPdf **PKPdf** **02 08 16.4 -3.9**
ZAA0 *e*SKPbc **SKPbc** **02 11 42.9 -2.4**
ZALV Zalesovo Beam 142.62 65 PKhKP PKPpre 02 08 16.2
comp=Z,16nm,0.4s,baz=234,slow=4.7,SNR=40
ZALV PKP **PKPdf** **02 08 18.7 -1.6**
comp=Z,16nm,0.4s,baz=217,slow=3.9,SNR=35
ZALV SKPbc **SKPbc** **02 11 43.4 -1.9**
comp=Z,18nm,0.9s,baz=245,slow=3.1,SNR=7.5
ZALV Zalesovo Beam 142.62 65 PKHKP PKPpre 02 08 16.3
ZALV 02 08 18.7
ZALV pmax pmax
comp=Z,16nm,0.4s
ZALV pmax pmax
comp=Z,16nm,0.4s
ZALV Zalesovo Beam 142.62 65 PKPpre PKPpre 02 08 16.2
ZALV PKP **PKPdf** **02 08 18.7 -1.6**
ZALV SKPbc **SKPbc** **02 11 43.4 -1.9**
MIDW Midway 144.34 227 *e*PKPdf **PKPdf** **02 08 23.8 -0.4**
JOW Kunigami 144.56 139 PKP **PKPdf** **02 08 24.6 -0.1**
comp=Z,41nm,0.9s,baz=225,slow=4.9,SNR=51
JOW Kunigami 144.56 139 *e*PKPdf **PKPdf** **02 08 24.3 -0.3**
NJ2 Nanjing 145.28 122 *e*PKPbc **PKPab** **02 08 26.1 +0.1**
NJ2 pPKP **pPKPdf** **02 08 59.7 -2.2**
NJ2 PP **PP** **02 11 45.3 -1.3**
NJ2 PPMZ
comp=Z,270nm,8.8s
NJ2 LN
comp=Z,1μm,20.8s
NJ2 LE
comp=Z,2μm,20.5s
NJ2 LZ
comp=Z,2μm,23.7s
SSE Sheshan 145.52 126 PKPbc **PKPbc** **02 08 26.6 +0.1**
SSE PP **PP** **02 11 52.4 +4.5**
SSE PPMZ
comp=Z,220nm,8.8s
SSE LN
comp=Z,280nm,33.3s
SSE LE
comp=Z,340nm,33.3s
SSE LZ
comp=Z,520nm,36.4s
TIY Taiyuan 146.69 108 *e*PKPbc **PKPbc** **02 08 30.5 +0.6**
TIY pPKP **pPKPdf** **02 09 04.4 +0.1**
TIY PP **PP** **02 11 54.0 -1.2**
INK Inuvik 147.12 319 PKPbc **PKPbc** **02 08 30.4 +0.3**
comp=Z,230nm,0.6s,baz=99,slow=3.5,SNR=54
INK Inuvik 147.12 319 *e*PKHKP **PKPdf** **02 08 26.2 -1.4**
INK *e* 02 08 30.3
INK Inuvik 147.12 319 *e*PKPdf **PKPdf** **02 08 26.2 -1.4**
INK *e*PKPbc **PKPbc** **02 08 30.3 +0.3**
BTO Baotou 147.57 102 *e*PKPbc **PKPbc** **02 08 30.5 +1.0**
TIA Tai'an 147.87 116 ⇓ *e*PKPbc **PKPdf** **02 08 30.5 +0.5**
DAWY Dawson 148.00 310 *e*PKPdf **PKPdf** **02 08 27.7 -1.7**
DAWY *e*PKPbc **PKPbc** **02 08 32.3 -0.4**
DAWY *e*PKPab **PKPab** **02 08 35.5 -0.4**
HHC Hu-ho-hao-te 148.56 104 *e*PKPbc **PKPdf** **02 08 31.3 +0.2**
HHC PKS **PKSdf** **02 12 05.5 -0.6**
HHC PP **PP** **02 12 06.7 +0.5**
HHC SKKS 02 18 42.1
HHC PPMZ
comp=Z,100nm,9.1s
JCJ Chichijima 148.62 160 PKPbc **PKPbc** **02 08 34.5 -0.8**
comp=Z,231nm,0.5s,baz=87,slow=22,SNR=12
CBIJ Chichi jima 148.62 160 *e*PKPbc **PKPbc** **02 08 34.8 -0.5**
EGAK Eagle 148.96 311 *e*PKPdf **PKPdf** **02 08 29.2 -1.5**
EGAK *e*PKPbc **PKPbc** **02 08 35.0 0.0**
EGAK *e*PKPab **PKPab** **02 08 40.3 +0.7**
BMRM Bremner River 149.16 303 *e*PKPdf **PKPdf** **02 08 30.8 -0.5**
BMRM *e*PKPbc **PKiKP** **02 08 36.6 -0.2**
MOY Mondy 149.66 78 *e*PKHKP **PKPdf** **02 08 33.2 +0.7**
MOY pmax pmax
comp=Z,302nm,2.6s
DIV Divide 149.75 303 *e*PKPdf **PKPdf** **02 08 31.3 -0.9**
DIV *e*PKPbc **PKiKP** **02 08 37.6 -0.4**
KSJJU Jeju 149.80 131 P **PKPbc** **02 08 40.6 +2.5**
SNR=7.1
KSJJU Jeju 149.80 131 P **PKPbc** **02 08 40.6 +2.5**
SNR=7.1
ZAK Zakamensk 150.19 82 *e*PKIKP **PKPdf** **02 08 33.4 +0.1**
ZAK pmax pmax
comp=Z,169nm,1.1s
PAX Paxson 150.22 306 *e*PKIKP **PKPbc** **02 08 38.2 0.0**
PAX Paxson 150.22 306 *e*PKPbc **PKPbc** **02 08 38.2 0.0**
BJT Baijiatuao 150.34 110 *e*PKIKP **PKPbc** **02 08 39.1 0.0**
BJT Baijiatuao 150.34 110 *e*PKPbc **PKPbc** **02 08 39.1 0.0**
BJI Beijing 150.35 110 PKPbc **PKPdf** **02 08 34.3 +0.5**
BJI PP **PP** **02 12 16.5 +0.2**
BJI SKS **SKSdf** **02 15 25.0 -3.5**
BJI SS **SS** **02 31 26.1 +2.5**
BJI PPMZ
comp=Z,120nm,3.3s
BJI LN
comp=Z,150nm,22.6s
BJI LE
comp=Z,180nm,29.0s
BJI LZ
comp=Z,400nm,41.6s
SONM Songino Array 150.41 88 PKP **PKPdf** **02 08 34.2 +0.4**
comp=Z,7.8nm,0.9s,baz=205,slow=2.0,SNR=34
SONM PKPbc **PKiKP** **02 08 39.7 -0.2**
comp=Z,131nm,0.7s,baz=227,slow=2.6,SNR=153
SONM pPKPbc **pPKPbc** **02 09 13.7 -1.6**
comp=Z,78nm,0.8s,baz=219,slow=3.0,SNR=6.6
SONM Songino Array 150.41 88 PKIKP **PKPdf** **02 08 34.2 +0.4**
SONM pmax pmax
comp=Z,8.0nm,1.0s
SONM Songino Array 150.41 88 PKP **PKPdf** **02 08 34.2 +0.4**
SONM PKPbc **PKiKP** **02 08 39.7 -0.2**
SONM pPKPbc **pPKPbc** **02 09 13.7 -1.6**
KSHUK Heuksando 150.43 128 P **PKPbc** **02 08 41.5 +1.9**
SNR=5.3
KSJDO Jindo 150.61 130 P **PKPbc** **02 08 41.9 +1.8**
SNR=9.7
KSJDO Jindo 150.61 130 P **PKPbc** **02 08 41.9 +1.8**
SNR=9.7
ULN Ulaanbaatar 150.78 89 *e*PKIKP **PKPbc** **02 08 39.8 -0.3**
ULN *e* 02 08 46.6
ULN Ulaanbaatar 150.78 89 P **PKPbc** **02 08 40.0 -0.1**
SNR=66
ULN Ulaanbaatar 150.78 89 *e*PKPbc **PKPbc** **02 08 39.8 -0.3**
ULN *e*PKPab **PKPab** **02 08 46.6 -1.3**
TLY Talaya 151.08 80 PKP **PKPdf** **02 08 34.6 0.0**
comp=Z,2.1nm,0.5s,baz=204,slow=4.3,SNR=7.2
TLY PKPbc **PKiKP** **02 08 41.2 +0.1**
comp=Z,68nm,0.7s,baz=250,slow=3.8,SNR=72
TLY Talaya 151.08 80 *i* PKIKP **PKPdf** **02 08 35.5 +0.9**
TLY *e*SS SS 02 32 13.9 +42
TLY pmax pmax
comp=Z,180nm,0.9s
TLY Talaya 151.08 80 P **PKPdf** **02 08 35.4 +0.9**
SNR=80
TLY Talaya 151.08 80 *e*PKPdf **PKPdf** **02 08 35.0 +0.4**
TLY *e*PKPbc **PKPbc** **02 08 40.7 +0.1**
SEW Seward 151.09 300 *e*PKPdf **PKPdf** **02 08 33.0 -1.2**
SEW *e*PKPbc **PKPbc** **02 08 40.3 +0.1**
SEW *e*PKPab **PKPab** **02 08 48.9 +0.4**
JNU Nakatsue 151.20 138 PKP **PKPdf** **02 08 35.4 -0.1**
comp=Z,16nm,1.2s,baz=29,slow=5.8,SNR=5.3
JNU PKPbc **PKPbc** **02 08 41.6 +0.2**
comp=Z,74nm,0.7s,baz=258,slow=1.4,SNR=36
JNU Nakatsue 151.20 138 PKP **PKPdf** **02 08 35.4 -0.1**
JNU PKPbc **PKPbc** **02 08 41.6 +0.2**
ILAR Eielson Array 151.32 310 PKP **PKPdf** **02 08 31.6 -2.8**
comp=Z,15nm,1.0s,baz=313,slow=1.2,SNR=87
ILAR PKPbc **PKiKP** **02 08 41.1 +0.1**
comp=Z,556nm,0.8s,baz=132,slow=1.1,SNR=460
ILAR Eielson Array 151.32 310 PKIKP **PKPdf** **02 08 31.7 -2.8**
ILAR pmax pmax
comp=Z,15nm,1.0s
ILAR Eielson Array 151.32 310 PKP **PKPdf** **02 08 31.6 -2.8**
ILAR PKPbc **PKiKP** **02 08 41.1 +0.1**
RC01 Rabbit Creek A 151.55 301 *e*PKPdf **PKPdf** **02 08 33.8 -1.2**
RC01 *e*PKPbc **PKiKP** **02 08 41.9 +0.2**
IRK Irkutsk 151.70 79 *e*PKIKP **PKPbc** **02 08 41.6 -0.3**
IRK *e* 02 09 13.3
IRK pmax pmax
comp=Z,263nm,1.2s
COLA College 151.74 310 *e*PKIKP **PKPbc** **02 08 41.4 -0.2**
COLA *e* 02 08 51.3
COLA College 151.74 310 *e*PKPbc **PKPbc** **02 08 41.4 -0.2**
COLA *e*PKPab **PKPab** **02 08 51.3 +0.2**
KSJEU Jeongeup 151.75 130 P **PKPbc** **02 08 43.9 +1.4**
SNR=11
KSJEU Jeongeup 151.75 130 P **PKPbc** **02 08 43.9 +1.4**
SNR=11
KDAK Kodiak Island 151.76 294 *i* PKIKP **PKPbc** **02 08 39.1 -2.7**
KDAK Kodiak Island 151.76 294 *e*PKPbc **PKPbc** **02 08 42.5 +0.7**
MCK McKinley 151.94 307 *e*PKIKP **PKPdf** **02 08 35.3 -0.2**
MCK McKinley 151.94 307 *e*PKPdf **PKPdf** **02 08 35.2 -0.2**
MCK *e*PKPbc **PKiKP** **02 08 42.6 +0.2**
KSGUS GUNSAN 152.15 129 P **PKPbc** **02 08 44.1 +0.7**
SNR=11
KSGUS GUNSAN 152.15 129 P **PKPbc** **02 08 44.1 +0.7**
SNR=11
DL2 Dalian 152.18 118 ⇑ *i* PKPbc **PKPdf** **02 08 35.7 -0.9**
DL2 pPKP **pPKPdf** **02 09 10.0 -2.9**
DL2 PP **PP** **02 12 30.1 +3.5**
DL2 PPMZ
comp=Z,180nm,5.9s
DL2 LN
comp=Z,190nm,14.7s
DL2 LZ
comp=Z,200nm,13.7s
TRF Thorofare Moun 152.45 306 *e*PKPdf **PKPdf** **02 08 34.2 -2.3**
TRF *e*PKPbc **PKiKP** **02 08 43.9 +0.2**
KSSES Seosan 152.65 127 P **PKPbc** **02 08 46.5 +2.0**
SNR=10
KSSES Seosan 152.65 127 P **PKPbc** **02 08 46.5 +2.0**
SNR=10
KTH Kantishna Hill 152.75 306 *e*PKPbc **PKPbc** **02 08 45.3 +1.2**
RSO Redoubt South 152.77 299 *e*PKPdf **PKPdf** **02 08 34.8 -2.2**
RSO *e*PKPbc **PKiKP** **02 08 44.6 +0.1**
KSDAG Daegu 152.79 132 P **PKPbc** **02 08 46.0 +1.1**
SNR=6.6
KSDAG Daegu 152.79 132 P **PKPbc** **02 08 46.0 +1.1**
SNR=6.6
KSBAR Backryungdo 152.87 123 P **PKPbc** **02 08 46.3 +1.4**
SNR=6.6
KSBAR Backryungdo 152.87 123 P **PKPbc** **02 08 46.3 +1.4**
SNR=6.6
BPAW Bear Paw Mtn. 152.90 307 *e*PKPbc **PKPbc** **02 08 44.2 -0.1**
KSBON Boeun 152.97 130 P **PKPbc** **02 08 46.9 +1.6**
SNR=8.5
COLD Coldfoot 153.08 314 *e*PKPdf **PKPdf** **02 08 34.6 -2.4**
COLD *e*PKPbc **PKiKP** **02 08 45.6 +1.0**
PPLA Purkeypile 153.16 305 *e*PKPbc **PKPbc** **02 08 45.3 +0.3**
INCN Inchon 153.31 127 *e*PKPbc **PKPbc** **02 08 45.8 -0.2**
KSGAH Ganghwa 153.41 126 P **PKPbc** **02 08 47.8 +1.6**
SNR=9.8
KSGAH Ganghwa 153.41 126 P **PKPbc** **02 08 47.8 +1.6**
SNR=9.8
KSICN Icheon 153.48 128 P **PKPbc** **02 08 47.9 +1.6**
SNR=5.1
KSAR Wonju Array Be 153.81 129 PKIKP **PKPdf** **02 08 39.2 +0.2**
KSAR 02 09 01.1
KSAR Wonju Array Be 153.81 129 PKP **PKPdf** **02 08 39.2 +0.2**
KSAR PKPbc **PKiKP** **02 08 48.3 +1.2**
KSAR PKPab **PKPab** **02 09 01.1 +0.4**
KSAR SKKPbc 02 19 20.1
KSRS Korea Array 153.83 129 PKP **PKPdf** **02 08 39.2 +0.2**
comp=Z,3.0nm,0.8s,baz=223,slow=1.6,SNR=18
KSRS PKPbc **PKiKP** **02 08 48.3 +1.2**
comp=Z,11nm,0.8s,baz=200,slow=2.0,SNR=26
KSRS PKPab **PKPab** **02 09 01.1 +0.3**
comp=Z,27nm,1.0s,baz=241,slow=2.0,SNR=5.3
KSRS SKKPbc 02 19 20.1
comp=Z,3.8nm,1.0s,baz=8.5,slow=3.1,SNR=4.9
KSRS Korea Array 153.83 129 PKIKP **PKPdf** **02 08 39.2 +0.2**
KSRS 02 09 01.1
KSRS pmax pmax
comp=Z,3.0nm,0.8s
KSRS pmax pmax
comp=Z,27nm,1.0s
KSCHC Chuncheon 154.06 128 P **PKPbc** **02 08 49.1 +1.6**
SNR=7.0
KSCHC Chuncheon 154.06 128 P **PKPbc** **02 08 49.1 +1.6**
SNR=7.0
KSCWO Cheorwon 154.19 127 P **PKPbc** **02 08 48.4 +0.6**
SNR=6.5
KSCWO Cheorwon 154.19 127 P **PKPbc** **02 08 48.4 +0.6**
SNR=6.5
KSIJA INJE 154.36 128 P **PKPbc** **02 08 49.7 +1.5**
SNR=7.0
KSIJA INJE 154.36 128 P **PKPbc** **02 08 49.7 +1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	SNR=7.0						
IM04	Indian Mountai	154.37	311	ePKPdf	PKPdf	02 08 36.3	-2.6
IM04				ePKPbc	PKiKP	02 08 47.7	+0.3
IM04				ePKPab	PKPab	02 09 02.6	+0.3
SDPT	Sand Point	154.82	285	ePKPdf	PKPdf	02 08 38.2	-1.6
SDPT				ePKPbc	PKPbc	02 08 48.2	-0.3
SDPT				ePKPab	PKPab	02 09 04.5	+0.1
SNY	Shenyang	155.38	116	PKP	PKPdf	02 08 40.6	-0.4
SNY				SKKS		02 19 19.7	
SNY				SS	SS	02 32 20.5	+2.0
SNY				PPMZ			
	comp=Z,260nm,12.0s						
MAJO	Matsushiro	156.74	147	ePKIKP	PKPdf	02 08 43.4	+0.3
MAJO				e		02 09 13.9	
MAJO	Matsushiro	156.74	147	ePKPdf	PKPdf	02 08 43.4	+0.3
MAJO				ePKPab	PKPab	02 09 13.9	+0.6
MAT	Matsushiro	156.74	147	PKP	PKPdf	02 08 42.5	-0.6
MJAR	Matsushiro Arr	156.74	147	PKP	PKPdf	02 08 43.6	+0.6
	comp=Z,1.4nm,0.4s,baz=190,slow=2.4,SNR=9.0						
MJAR				PKPab	PKPab	02 09 14.7	+1.5
	comp=Z,14nm,0.8s,baz=184,slow=4.9,SNR=6.5						
MJAR				SKKPbc		02 19 07.0	
	comp=Z,5.4nm,0.9s,baz=283,slow=1.6,SNR=4.5						
MJAR	Matsushiro Arr	156.74	147	PKIKP	PKPdf	02 08 43.6	+0.6
MJAR						02 09 14.7	
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MJAR	Matsushiro Arr	156.74	147	PKP	PKPdf	02 08 43.6	+0.6
MJAR				PKPab	PKPab	02 09 14.7	+1.5
MJAR				SKKPbc		02 19 07.0	
UNV	Unalaska Valle	157.38	278	ePKPdf	PKPdf	02 08 43.2	0.0
CN2	Changchun	157.77	116	ePKP	PKPdf	02 08 44.6	+0.5
CN2				PP	PP	02 13 01.6	+3.7
CN2				SKKS		02 19 31.1	
CN2				SS	SS	02 32 44.7	+0.6
CN2				PPMZ			
	comp=Z,200nm,4.0s						
CN2				LN			
	comp=Z,200nm,19.0s						
CN2				LE			
	comp=Z,200nm,19.0s						
CN2				LZ			
	comp=Z,200nm,19.0s						
BOD	Bodaibo	159.05	72	ePKIKP	PKPdf	02 08 43.7	-1.4
BOD				pmax	pmax		
	comp=Z,19nm,1.4s						
MDJ	Mudanjiang	160.36	121	PKP	PKPdf	02 08 43.2	-3.9
MDJ				pPKP	pPKPdf	02 09 21.2	-2.2
MDJ				sPKP		02 09 33.8	
MDJ				PP	PP	02 13 13.6	+1.7
MDJ				PPMZ			
	comp=Z,200nm,13.1s						
MDJ				LN			
	comp=Z,250nm,21.9s						
MDJ				LE			
	comp=Z,200nm,24.3s						
MDJ				LZ			
	comp=Z,350nm,19.5s						
MDJ	Mudanjiang	160.36	121	ePKPdf	PKPdf	02 08 47.5	+0.4
MDJ				ePKPab	PKPab	02 09 29.1	+0.4
USRK	Ussuriysk Ar.	161.13	125	PKP	PKPdf	02 08 46.7	-1.2
	comp=Z,2.8nm,0.8s,baz=259,slow=2.9,SNR=4.4						
USRK				PKPab	PKPab	02 09 32.9	+0.8
	comp=Z,32nm,1.1s,baz=250,slow=3.2,SNR=17						
USRK				pPKPab	pPKPab	02 10 09.9	+3.0
	comp=Z,5.2nm,0.6s,baz=215,slow=4.4,SNR=3.5						
ADK	Adak	161.98	265	ePKIKP	PKPdf	02 08 47.4	-1.1
ADK				e		02 09 35.0	
ADK	Adak	161.98	265	ePKPdf	PKPdf	02 08 47.4	-1.1
ADK				ePKPab	PKPab	02 09 35.0	-0.7
TIXI	Tiksi	162.47	26	ePKIKP	PKPdf	02 08 45.4	-3.0
TIXI				e		02 09 38.3	
TIXI				e		02 13 21.6	
TIXI	Tiksi	162.47	26	ePKPdf	PKPdf	02 08 45.4	-3.0
TIXI				ePKPab	PKPab	02 09 38.3	+1.0
TIXI				ePP	PP	02 13 21.6	-1.1
AMKA	Amchitka	163.87	259	ePKPdf	PKPdf	02 08 49.4	-1.0
AMKA				ePKPab	PKPab	02 09 43.7	-0.2
CLNS	Chul'man	164.50	80	ePKIKP	PKPdf	02 08 47.6	-3.2
CLNS				pmax	pmax		
	comp=Z,26nm,1.2s						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.9s						
KLR	Kul'dur	164.68	113	ePKIKP	PKPdf	02 08 46.2	-5.0
KLR				pmax	pmax		
	comp=Z,130nm,2.0s						
KLR				pmax	pmax		
	comp=Z,1μm,8.0s						
ASAJ	Asahikawa	165.01	148	PKP	PKPdf	02 08 50.4	-1.3
	comp=Z,3.6nm,0.3s,baz=251,slow=6.4,SNR=5.2						
ASAJ	Asahikawa	165.01	148	PKIKP	PKPdf	02 08 50.4	-1.3
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ	Asahikawa	165.01	148	ePKPdf	PKPdf	02 08 51.8	+0.1
YUK	Yuzh-Kuril'sk	165.75	157	i PKP2	PKPab	02 09 49.8	-2.5
YUK				i		02 13 38.7	
YUK				eSSS	SSS	02 40 38.7	
HABR	Khabarovsk	165.75	121	ePKIKP	PKPdf	02 08 53.5	+1.4
HABR						02 09 26.4	
HABR				e		02 09 52.5	
HABR				e		02 13 40.0	
HABR						02 15 46.6	
HABR				eSS	SS	02 34 07.6	+0.7
HABR				eSSS	SSS	02 40 36.1	
HABR				pmax	pmax		
	comp=Z,67nm,1.1s						
YAK	Yakutsk	167.17	59	PKP	PKPdf	02 08 53.2	+0.5
	baz=34,slow=19						
YAK	Yakutsk	167.17	59	ePKIKP	PKPdf	02 08 50.7	-2.0
YAK				e		02 09 57.6	
YAK				e		02 15 38.9	
YAK				eSSS	SSS	02 40 54.5	
YAK				pmax	pmax		
	comp=Z,295nm,2.5s						
YAK				pmax	pmax		
	comp=E,16nm,1.7s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.6s						
YAK	Yakutsk	167.17	59	PKP	PKPdf	02 08 53.2	+0.5
SMY	Shemya	167.32	257	ePKIKP	PKPdf	02 08 51.2	-1.9
SMY				e		02 09 58.9	
SMY	Shemya	167.32	257	ePKPdf	PKPdf	02 08 51.2	-1.9
SMY				ePKPab	PKPab	02 09 58.9	-0.3
YSS	Yuzh-Sakhalins	167.62	143c	iPKIKP	PKPdf	02 08 53.0	-0.5
YSS				e		02 09 30.0	
YSS				e		02 09 39.0	
YSS				e		02 13 48.0	
YSS				eSS	SS	02 34 25.0	-0.2
YSS	Yuzh-Sakhalins	167.62	143	ePKPdf	PKPdf	02 08 54.2	+0.7
YSS				ePKPab	PKPab	02 10 00.1	-0.4
TYV	Tymovskoe	170.84	131	ePKIKP	PKPdf	02 08 55.8	+0.4
TYV				pmax	pmax		
	comp=Z,40nm,1.0s						
TYV				pmax	pmax		
	comp=Z,2μm,4.0s						
NKL	Nikolayevsk	171.51	115	i PKIKP	PKPdf	02 08 55.0	-0.6
NKL				e		02 09 35.0	
NKL				e		02 10 18.0	
NKL				e		02 14 08.0	
NKL				pmax	pmax		
	comp=Z,1μm,6.0s						
NKL				pmax	pmax		
	comp=Z,80nm,1.1s						
SKR	Severo-Kuril's	173.06	194	ePKIKP	PKPpre	02 08 46.0	
SEY	Seymchan	174.46	5	PKP	PKPdf	02 08 54.7	-1.8
	comp=Z,22nm,1.0s,baz=148,slow=1.0,SNR=29						
SEY				PKPab	PKPab	02 10 30.4	0.0
	comp=Z,13nm,1.0s,baz=6.0,slow=1.9,SNR=4.6						
SEY				PP	PP	02 14 24.2	+0.9
	comp=Z,3.7nm,0.6s,baz=16,slow=18,SNR=7.3						
SEY	Seymchan	174.46	5	PKIKP	PKPdf	02 08 54.7	-1.8
SEY						02 10 30.5	
SEY						02 14 24.2	
SEY				pmax	pmax		
	comp=Z,23nm,1.0s						
SEY				pmax	pmax		
	comp=Z,13nm,1.0s						
SEY				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SEY	Seymchan	174.46	5	PKP	PKPdf	02 08 54.7	-1.8
SEY				PKPab	PKPab	02 10 30.4	0.0
SEY				PP	PP	02 14 24.2	+0.9
PET	Petropavlovsk	174.68	216	i PKIKP	PKPdf	02 08 55.1	-1.8
PET				e		02 09 26.1	
PET				ePPP	PPP	02 18 41.5	
PET				eSS	SS	02 35 30.8	-3.7
PET				pmax	pmax		
	comp=Z,88nm,1.4s						
PET				pmax	pmax		
	comp=Z,600nm,15.1s						
PET	Petropavlovsk	174.68	216	ePKPdf	PKPdf	02 08 56.9	0.0
PEA0B	Petropavlovsk-	175.04	211	ePKPdf	PKPdf	02 08 56.9	-0.2
PEA0B				ePKPab	PKPab	02 10 33.6	+0.2
PETK	Petropavlovsk-	175.04	211	PKP	PKPdf	02 08 57.0	-0.1
	comp=Z,48nm,1.0s,baz=117,slow=5.2,SNR=58						
PETK				PKPab	PKPab	02 10 33.9	+0.5
	comp=Z,12nm,0.8s,baz=146,slow=7.6,SNR=7.6						
PETK				pPKPab	pPKPab	02 11 07.8	-0.3
	comp=Z,14nm,0.9s,baz=157,slow=8.0,SNR=3.9						
PETK				PP	PP	02 14 32.1	+5.8
	comp=Z,8.1nm,1.1s,baz=142,slow=7.3,SNR=5.2						
PETK	Petropavlovsk-	175.04	211	PKIKP	PKPdf	02 08 57.0	-0.1
PETK						02 10 33.9	
PETK						02 14 32.1	
PETK				pmax	pmax		
	comp=Z,48nm,1.0s						
PETK				pmax	pmax		
	comp=Z,12nm,0.8s						
PETK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PETK	Petropavlovsk-	175.04	211	PKP	PKPdf	02 08 57.0	-0.1
PETK				PKPab	PKPab	02 10 33.9	+0.5
PETK				pPKPab	pPKPab	02 11 07.8	-0.3
PETK				PP	PP	02 14 32.1	+5.8

KRSC 02 02:01:17.0±0.9**, 55°.33N**×**160°.85E, h166**km±8km**, ML3.7, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	Kizimen	0.38	236	eP	Pn	02 01 41.3	+1.4
KZV				eS	Sn	02 01 58.5	+1.2
TUMR	Tumrok	0.40	264	eP	Pn	02 01 41.4	+1.5
TUMR				eS	Sn	02 01 58.7	+1.4
KMNR	Kamenistaya	0.55	321	eP	Pn	02 01 41.9	+1.4
KMNR				eS	Sn	02 01 59.8	+1.2
KOZ	Kozyrevsk	0.92	323	eP	Pn	02 01 43.5	+0.9
KOZ				eS	Sn	02 02 02.5	+0.1
MKZ	Mys Kozlova	0.93	146	eP	Pn	02 01 44.0	+1.3
MKZ				eS	Sn	02 02 03.4	+1.1
KLY	Klyuchi	0.99	354	eP	Pn	02 01 44.1	+1.0
KLY				eS	Sn	02 02 04.0	+0.6
SRDR	Sredinnyy	1.18	328	eP	Pn	02 01 45.1	+0.3
SRDR				eS	Sn	02 02 05.5	-0.8
BDR	Baidarnaya	1.26	9	eP	Pn	02 01 46.5	+1.0
BDR				eS	Sn	02 02 08.0	+0.4
SMKR	Semkarok	1.31	15	eP	Pn	02 01 47.0	+1.1
SMKR				eS	Sn	02 02 09.3	+0.9
SRKR	Sorokina	1.34	8	eP	Pn	02 01 47.3	+1.0
SRKR				eS	Sn	02 02 09.5	+0.5
KBTR	Krutoberegovo	1.42	51	eP	Pn	02 01 48.0	+1.1
KBTR				eS	Sn	02 02 10.5	+0.4
SPN	Mys Shipunski	2.29	193	eP	Pn	02 01 56.3	0.0
SPN				eS	Sn	02 02 25.3	-1.4
NLC	Nalytchevo	2.33	203	eP	Pn	02 01 57.7	+0.8
NLC				eS	Sn	02 02 27.7	0.0
SDLR	Sedlovina	2.35	210	eP	Pn	02 01 58.7	+1.4
SDLR				eS	Sn	02 02 29.4	+0.9
GNL	Ganaly	2.35	227	eP	Pn	02 01 58.5	+1.2
GNL				eS	Sn	02 02 28.7	+0.2
KRX	Arik	2.35	214	eP	Pn	02 01 59.1	+1.7
KRX				eS	Sn	02 02 30.8	+2.3
SMAR	Somma	2.39	211	eP	Pn	02 01 59.4	+1.5
AVH	Avacha	2.41	212	eP	Pn	02 01 59.8	+1.9
AVH				eS	Sn	02 02 31.2	+1.7
KOK	Koryaka	2.42	213	eP	Pn	02 02 00.1	+2.1
UGLR	Uglovaya	2.43	210	eP	Pn	02 01 59.8	+1.6
UGLR				eS	Sn	02 02 30.9	+0.8
PET	Petropavlovsk	2.64	210	eS	Sn	02 02 35.4	+1.1
BKI	Bering	2.94	90	eP	Pn	02 02 06.2	+2.1
BKI				eS	Sn	02 02 41.8	+1.1
RUS	Russkaya	3.21	206	eP	Pn	02 02 08.3	+0.7
RUS				eS	Sn	02 02 46.0	-0.9
MTVR	Mutnovka	3.26	210	eP	Pn	02 02 09.8	+1.4
MTVR				eS	Sn	02 02 48.9	+0.7
ASAK	Asacha	3.43	212	eP	Pn	02 02 11.8	+1.4
ASAK				eS	Sn	02 02 52.3	+0.3

*SJA **02** 02:03:14.2±1.1, 31°.36S×71°.01W, h4km±7km, ML3.3*
*GUC **02** 02:03:16.6±0.6, 31°.45S×71°.02W, h38km±3km, ML3.5*
ISC 02 02:03:15.2±3.4**, 31°.44S**±0°.03×**71°.31W**±0°.07**, h15**km±26km**, n17,** σ0s.74/32**, 6C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	1.34	19⇑	iP	Pn	02 03 40.1	+0.5
TLL				eS	Sb	02 03 57.4	+0.2
TLL				AML	AML	02 04 02.6	
	comp=N,1μm,0.4s						
LSCH	La Serena	1.52	2	eP	Pb	02 03 43.1	-0.1
LSCH				i S	Sb	02 04 02.8	+0.5
ROCH	El Roble	1.55	171⇑	iP	Pn	02 03 42.5	0.0
ROCH				i S	Sn	02 04 03.0	+0.5
ROCH				AML	AML	02 04 05.4	
	comp=N,1μm,0.5s						
IHA	Instituto Hidr	1.61	190⇑	iP	Pb	02 03 44.3	-0.3
IHA				i S	Sb	02 04 05.4	+0.6
RTLS	Leoncito	1.75	102	i P	Pn	02 03 45.0	-0.3
RTLS				i S	Sn	02 04 06.1	-1.4
PEL	Peldehue	1.78	163⇑	iP	Pn	02 03 44.9	-0.6
PEL				i S	Sn	02 04 07.0	-1.0
PEL				AML	AML	02 04 14.1	
	comp=E,815nm,0.3s						
AUSP	Uspallata	1.81	116	i P	Pn	02 03 46.2	+0.1
AUSP				i S	Sn	02 04 09.2	+0.1
CLCH	Cerro Calan	2.06	162⇑	iP	Pn	02 03 49.0	-0.4
CLCH				i S	Sn	02 04 13.7	-1.1
CLCH				AML	AML	02 04 19.1	
	comp=N,518nm,0.5s						
SAN	Santiago	2.08	165	eP	Pn	02 03 49.7	+0.1
SAN				i S	Sn	02 04 14.5	-0.9
TACH	Talagante	2.23	172⇓	iP	Pn	02 03 51.4	-0.3
TACH				i S	Sn	02 04 18.9	-0.1
ASAL	Salagasta	2.40	119	i P	Pn	02 03 54.4	+0.4
ASAL				i S	Sn	02 04 24.2	+1.1
ARCO	CERRO ARCO	2.45	125	i P	Pn	02 03 55.8	+0.9
ARCO				i S	Sn	02 04 26.6	+1.9
ARCO				AML	AML	02 04 35.1	
	comp=Z,182nm,0.4s						
CHCH	Chadas Angostu	2.55	168⇓	iP	Pn	02 03 56.5	+0.4
AAGR	Agrelo	2.67	129	i P	Pn	02 03 58.2	+0.4
AAGR				i P	Pn	02 03 58.2	+0.4
CACH	El Canelo	2.74	168⇑	iP	Pn	02 03 59.1	+0.4
CACH				eS	Sn	02 04 31.8	+0.1
VACH	Vallenar	2.89	10	i S	Sn	02 04 35.1	-0.2
AVFE	Valle Fertil	3.40	78	i P	Pn	02 04 06.8	-1.0
AVFE				i S	Sn	02 04 47.0	-0.8
AVFE				AML	AML	02 04 49.8	
	comp=Z,62nm,0.3s						

*ISCJB **02** 02:04:59.0±0.6, 5°.31N±0°.08×95°.19E±0°.07, h105km±5km, mb4.3/8, Error ellipse: s-maj=16.3km s-min=6.4km az=43.6*
*NEIC **02** 02:05:01.7±2.1, 5°.39N×95°.35E, h105km±15km, mb4.5/4, Error ellipse: s-maj=33.1km s-min=20.5km az=46.0*
NEIC Felt [II] at Banda Aceh.
*IDC **02** 02:05:02.4±4.2, 5°.49N×95°.51E, h106km±33km, mb4.0/5, mb1 4.2/6, mb1mx3.5/46, mbtmp4.3/6, Error ellipse: s-maj=65.8km s-min=28.8km az=41.0*
*DJA **02** 02:05:04.3±0.5, 5°N±3°×9°5E±°, h10km, M4.6/6, mb5.0/1, mB5.7/1, MLv4.3/6, Mw(mB)5.3/1*
ISC 02 02:05:00.4±0.8**, 5°.35N**±0°.07×**95°.21E**±0°.06**, h102**km±7km**, n30,** σ1s.59/32**, mb4.4**/8**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	Banda Aceh	0.17	30	P	Pn	02 05 16.0	+1.2
BSI				S	Sn	02 05 26.1	+0.6
LHMI	Lhok Sumawe	1.73	94	P	Pn	02 05 29.7	+0.1
LHMI				S	Sn	02 05 51.4	-0.5
LHMI	Lhok Sumawe	1.73	94	ePn	Pn	02 05 29.1	-0.5
LHMI				eSn	Sn	02 05 51.0	-0.9
CMBY	CAMPBELL BAY	2.09	322	eP	Pn	02 05 31.7	-2.5
CMBY				AMB	AMB	02 05 38.1	
	comp=Z,208nm,1.0s						
SNSI	Sinabang, Aceh	3.13	159	P	Pn	02 05 46.1	-1.8
PSI	Prapat	4.49	124	P	Pn	02 06 07.3	+1.0
	comp=Z,13nm,0.3s,baz=307,slow=9.8,SNR=54						
PSI				S	Sn	02 06 57.6	+0.1
	comp=Z,4.0nm,0.3s,baz=346,slow=19,SNR=3.4						
GSI	Gunungsitoli	4.66	150	P	Pn	02 06 08.1	-0.5
GSI				S	Sn	02 06 57.5	-4.1
KULM	Kulim	5.42	90	ePn	Pn	02 06 17.7	-1.1
	comp=Z,33nm,0.8s						
KULM				eSn	Sn	02 07 15.7	-4.1
IPM	Ipoh	5.86	98	ePn	Pn	02 06 24.1	-0.6
	comp=Z,21nm,0.8s						
MNSI	Mandailing Nat	6.28	136	P	Pn	02 06 29.9	-0.7
PBA	Port Blair	6.72	339	ex	x	02 05 55.5	
PBA				AMB	AMB	02 05 57.1	
	comp=Z,92nm,2.4s						
DGPR	DIGLIPUR	8.10	344	eP	Pn	02 06 53.1	-2.1
DGPR				AMB	AMB	02 07 02.6	
	comp=Z,39nm,4.1s						
KSM	Kuching	15.55	104	eP	P	02 08 36.5	+0.3
	comp=Z,16nm,0.6s						
VIS	Vishakhapatnam	16.92	318	eP	Pn	02 08 50.8	-0.2
VIS				AMB	AMB	02 09 28.9	
	comp=Z,26nm,3.2s						
HYB	Hyderabad	20.24	308	eP	P	02 09 25.6	-2.0
HYB				AMB	AMB	02 09 36.4	
	comp=Z,13nm,4.0s						
SHL	Shillong	20.35	351	eP	P	02 09 29.9	+0.9
SHL				AMB	AMB	02 09 49.0	
	comp=Z,8.9nm,0.2s						
BOK	Bokaro	20.42	335	eP	P	02 09 31.0	+1.4
BHPL	Bhopal	24.71	318	eP	P	02 10 13.2	+0.9
BHPL				AMB	AMB	02 10 17.4	
	comp=Z,21nm,2.8s						
H08S3	Diego Garcia H	26.08	241	T	T	02 37 52.7	
	baz=58						
H08S2	Diego Garcia H	26.09	241	T	T	02 37 46.6	
	baz=58						
H08S1	Diego Carcia H	26.10	241	T	T	02 37 48.9	
	baz=58						
DDI	Dehra Dun	29.64	329	eP	P	02 10 57.1	+0.8
DDI				AMB	AMB	02 11 12.6	
	comp=Z,16nm,0.4s						
SOEI	Soe	32.61	117	eP	P	02 11 22.5	-0.2
WRA	Warramunga Arr	45.95	124	P	P	02 13 13.7	+0.2
	comp=Z,4.7nm,0.7s,baz=302,slow=9.7,SNR=30						
WRAB	Tennant Creek	45.96	124	eP	P	02 13 12.8	-0.7
	comp=Z,4.7nm,0.4s						
AS31	Alice Springs	47.50	129	eP	P	02 13 25.6	+0.1
ASAR	Alice Springs	47.50	129	P	P	02 13 25.9	+0.4
	comp=Z,4.2nm,0.7s,baz=302,slow=7.8,SNR=27						
STKA	Stephens Creek	57.61	133	P	P	02 14 40.6	+0.7
	comp=Z,2.3nm,0.7s,baz=311,slow=7.0,SNR=8.0						
TORD	Torodi Ar. Bea	92.21	283	P	P	02 18 02.1	+2.6
	comp=Z,0.4nm,0.6s,baz=89,slow=4.7,SNR=3.5						
ILAR	Eielson Array	96.66	22	P	P	02 18 18.8	0.0
	comp=Z,1.6nm,0.9s,baz=314,slow=2.4,SNR=3.4						

*ISCJB **02** 02:36:24.8±0.3, 33°.21N±0°.04×96°.27E±0°.04, h10km, mb4.0/24, Error ellipse: s-maj=5.9km s-min=4.2km az=148.8*
*IDC **02** 02:36:24.8±0.6, 33°.20N×96°.10E, h0km, mb4.0/18, mb1 4.1/22, mb1mx4.0/42, mbtmp4.0/22, ML4.0/4, MS3.8/1, Ms1 3.8/1, ms1mx3.0/42, Error ellipse: s-maj=23.1km s-min=12.0km az=48.0*
*BJI **02** 02:36:25.9, 33°.26N×96°.23E, h10km, mb4.1/2, mB4.3/2, ML3.8/10, Ms3.7/4, Ms7 3.7/4*
*NEIC **02** 02:36:27.0±0.4, 33°.25N×96°.21E, h10km, mb4.3/8, Error ellipse: s-maj=12.5km s-min=7.7km az=58.0*
*MOS **02** 02:36:28.5±1.2, 33°.28N×96°.24E, h33km, mb4.4/15, Error ellipse: s-maj=13.1km s-min=7.8km az=115.4*
ISC 02 02:36:26.6±0.4**, 33°.24N**±0°.06×**96°.28E**±0°.05**, h10**km**, n85,** σ1s.38/84**, mb4.1**/24**, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	5.62	233	Pn	Pn	02 37 54.6	+3.9
LSA	Lhasa	5.62	233	eP	Pn	02 37 54.2	+3.5
LSA				pmax	pmax		
	comp=Z,113nm,0.6s						
LSA	Lhasa	5.62	233	ePn	Pn	02 37 54.2	+3.5
	comp=Z,113nm,0.6s						
CD2	Chengdu	6.76	108	Pn	Pn	02 38 04.3	-1.6
CD2				Pg	Pb	02 38 30.2	+6.0
CD2				Sn	Sn	02 39 18.2	-4.8
CD2				Sg	Sg	02 39 57.3	-6.3
CD2				SMN			
	comp=Z,50nm,1.5s						
CD2				SME			
	comp=Z,80nm,1.2s						
GTA	Gaotai	6.79	24	ePn	Pn	02 38 09.1	+2.7
GTA				Sn	Sn	02 39 31.9	+8.0
GTA				LN			
	comp=Z,440nm,11.1s						
GTA				LZ			
	comp=Z,510nm,11.1s						
LZH	Lanzhou	6.85	63	ePn	Pn	02 38 11.4	+4.1
LZH				eSn	Sn	02 39 25.5	+0.1
SHL	Shillong	8.55	208	eP	Pn	02 38 31.0	+0.3
SHL				eS	Sn	02 40 05.0	-2.3
TAPN	Taplejung	9.45	234	eP	Pn	02 38 44.9	+1.8
ODAN	Odare	9.98	233	eP	Pn	02 38 52.3	+2.0
	comp=Z,126nm,0.6s						
JIRN	Jiri	10.33	240	eP	Pn	02 38 56.8	+1.6
	comp=Z,18nm,0.5s						
GUN	Gumba	10.41	242	eP	Pn	02 38 57.5	+1.1
	comp=Z,34nm,0.4s						
RAMN	Ramite	10.46	236	eP	Pn	02 38 58.1	+1.2
	comp=Z,52nm,0.5s						
XAN	Xi'an	10.57	82	P	Pn	02 39 07.4	+9.2
XAN				S	Sn	02 40 58.1	+1.4
XAN				LR	LR		
	comp=N,410nm,13.4s						
XAN				LR	LR		
	comp=Z,90nm,7.3s						
KKN	Kakani	10.93	243	eP	Pn	02 39 03.2	-0.1
PKI	Pulchoki	10.95	242	eP	Pn	02 39 03.6	-0.1
	comp=Z,20nm,0.5s						
PKIN	Phulchoki	10.95	242	eP	Pn	02 39 04.7	+1.0
DMN	Daman	11.15	243	eP	Pn	02 39 06.4	0.0
	comp=Z,27nm,0.7s						
GKN	Gorkha	11.30	246	eP	Pn	02 39 08.4	+0.1
	comp=Z,14nm,0.5s						
KOLN	Koldanda	12.21	247	eP	Pn	02 39 19.7	-1.1
	comp=Z,17nm,0.6s						
CHTO	Chiang Mai	14.56	170	eP	Pn	02 39 55.5	+2.7
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CHTO	Chiang Mai	14.56	170	ePn	Pn	02 39 55.5	+2.7
	comp=Z,6.7nm,1.0s						
CMAR	Chiang Mai Arr	14.91	170	Pn	Pn	02 39 58.5	+1.0
	comp=Z,0.3nm,0.3s,baz=338,slow=12,SNR=12						
SONM	Songino Array	16.46	25	Pn	P	02 40 19.4	-1.1
	comp=Z,1.5nm,0.3s,baz=209,slow=15,SNR=35						
SONM				LR	LR	02 47 27.4	
	comp=Z,335nm,21.2s,baz=32,slow=40						
SONM	Songino Array	16.46	25	P	P	02 40 19.4	-1.1
SONM				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SONM				MLR	MLR		
	comp=Z,335nm,21.3s						
MK31	Makanchi Array	17.23	326	eP	P	02 40 28.5	-0.4
MK31	Makanchi Array	17.23	326	ePn	P	02 40 28.5	-0.4
MKAR	Makanchi Array	17.23	326	P	Pn	02 40 25.4	-2.0
	comp=Z,0.3nm,0.3s,baz=137,slow=14,SNR=13						
TKM2	Tokmak 2	18.89	307	eP	Pn	02 40 48.9	+0.9
TKM2				pmax	pmax		
	comp=Z,24nm,1.5s						
TKM2	Tokmak 2	18.89	307	eP	Pn	02 40 48.9	+0.9
	comp=Z,24nm,1.5s						
AAK	Ala-Archa	19.53	305	P	P	02 40 53.5	-0.9
	comp=Z,0.3nm,0.3s,baz=106,slow=11,SNR=9.7						
AAK	Ala-Archa	19.53	305	eP	Pn	02 40 56.4	+0.7
AAK				pmax	pmax		
	comp=Z,12nm,1.1s						
AAK	Ala-Archa	19.53	305	eP	Pn	02 40 56.4	+0.7
	comp=Z,12nm,1.1s						
EKS2	Erkin-Say	20.04	305	eP	Pn	02 41 01.7	+0.1
EKS2				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,36nm,1.4s						
EKS2	Erkin-Say	20.04	305	eP	Pn	02 41 01.7	+0.1
	comp=Z,36nm,1.4s						
KURBB	Kurchatov Arra	21.73	328	P	P	02 41 18.1	+0.3
	comp=Z,8.1nm,0.7s,baz=138,slow=11,SNR=57						
KURK	Kurchatov	21.75	329	eP	P	02 41 17.8	-0.4
KURK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KURK	Kurchatov	21.75	329	eP	P	02 41 17.8	-0.4
	comp=Z,6.7nm,0.7s						
ZAA0	Zalesovo Array	22.25	342	eP	P	02 41 24.9	+1.5
ZALV	Zalesovo Beam	22.25	342	P	P	02 41 23.4	0.0
	comp=Z,2.7nm,0.6s,baz=155,slow=9.8,SNR=5.8						
ZALV	Zalesovo Beam	22.25	342	P	P	02 41 23.5	0.0
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KBL	Kabul	22.63	281	eP	P	02 41 28.1	+0.2
KBL				pmax	pmax		
	comp=Z,25nm,0.9s						
KBL	Kabul	22.63	281	eP	P	02 41 28.1	+0.2
	comp=Z,25nm,0.9s						
NVS	Novosibirsk	23.47	341	eP	P	02 41 33.8	-2.3
NVS				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KSAR	Wonju Array Be	26.05	72	P	P	02 42 02.2	+2.0
KSAR	Wonju Array Be	26.05	72	P	P	02 42 02.1	+2.0
KSRS	Korea Array	26.09	72	P	P	02 42 02.1	+1.8
	comp=Z,0.6nm,0.4s,baz=259,slow=9.6,SNR=4.8						
KSRS	Korea Array	26.09	72	P	P	02 42 02.2	+1.8
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	Borovoye Array	27.10	325	P	P	02 42 10.3	+0.8
	comp=Z,0.5nm,0.5s,baz=149,slow=14,SNR=3.0						
BVAR	Borovoye Array	27.10	325	P	P	02 42 10.3	+0.8
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TTSI	Tana Toraja	42.40	144	P	P	02 44 24.7	+3.3
PEA0B	Petropavlovsk-	47.39	46	eP	P	02 45 02.3	+1.4
BRTR	Keskin Array B	49.89	296	P	P	02 45 17.9	-2.5
	comp=Z,2.0nm,0.9s,baz=88,slow=6.3,SNR=8.4						
BRTR	Keskin Array B	49.89	296	P	P	02 45 17.9	-2.5
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	Malin Array Be	51.04	311	P	P	02 45 28.3	-0.5
	comp=Z,1.4nm,0.5s,baz=76,slow=5.9,SNR=6.5						
AKASG	Malin Array Be	51.04	311	P	P	02 45 28.3	-0.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	52.06	325	P	P	02 45 35.2	-1.1
	comp=Z,1.8nm,0.8s,baz=92,slow=15,SNR=3.4						
FINES	FINESS Array B	52.06	325	P	P	02 45 35.2	-1.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	ARCESS Array B	52.57	335	P	P	02 45 40.1	+0.2
	comp=Z,1.9nm,0.8s,baz=88,slow=7.5,SNR=5.3						
ARCES	ARCESS Array B	52.57	335	P	P	02 45 40.2	+0.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KRLC	Kraliky	58.96	312	eP	P	02 46 28.2	+2.0
KRLC				epP	pP	02 46 31.9	+2.5
DPC	Dobruska-Polom	59.17	313	eP	P	02 46 27.9	+0.3
DPC				epP	pP	02 46 34.7	+3.9
NB2	NORSAR Subarra	59.23	326	P	P	02 46 27.2	-0.6
	comp=Z,1.5nm,0.6s,baz=76,slow=6.9						
NOA	NORSAR Array B	59.23	326	P	P	02 46 27.0	-0.8
	comp=Z,1.8nm,0.6s,baz=83,slow=8.1,SNR=10.0						
NOA	NORSAR Array B	59.23	326	P	P	02 46 27.0	-0.8
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
UPC	Upice	59.32	313	eP	P	02 46 30.0	+1.4
NAO01	NORSAR Array S	59.43	325	eP	P	02 46 29.6	+0.4
	comp=Z,3.8nm,0.8s						
PRU	Pruhonice	60.37	313	eP	P	02 46 36.1	+0.3
GERES	GERESS Array B	61.24	312	P	P	02 46 41.2	-0.7
	comp=Z,0.7nm,0.6s,baz=55,slow=7.0,SNR=7.3						
GERES	GERESS Array B	61.24	312	P	P	02 46 41.2	-0.7
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	64.16	140	P	P	02 47 01.7	+0.2
	comp=Z,2.5nm,0.8s,baz=335,slow=7.1,SNR=24						
WRA	Warramunga Arr	64.16	140	P	P	02 47 01.7	+0.2
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KMBO	Kilima Mbogo	65.13	251	P	P	02 47 07.3	-1.0
	comp=Z,2.3nm,0.8s,baz=63,slow=11,SNR=6.1						
KMBO	Kilima Mbogo	65.13	251	P	P	02 47 07.3	-1.0
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	Alice Springs	66.99	143	P	P	02 47 20.4	+0.7
	comp=Z,1.4nm,0.4s,baz=326,slow=6.6,SNR=24						
ASAR	Alice Springs	66.99	143	P	P	02 47 20.5	+0.7
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BNI	Bardonecchia	67.11	310	eP	P	02 47 21.1	+0.5
BNI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BNI	Bardonecchia	67.11	310	eP	P	02 47 21.1	+0.5
	comp=Z,3.0nm,0.8s						
BPAW	Bear Paw Mtn.	69.64	26	eP	P	02 47 34.9	-1.1
	comp=Z,0.8nm,0.9s						
ILAR	Eielson Array	70.69	24	P	P	02 47 41.1	-1.1
	comp=Z,0.4nm,0.8s,baz=318,slow=33,SNR=2.6						
CTA	Charters Tower	71.32	131	P	P	02 47 47.1	+0.4
	comp=Z,1.6nm,0.8s,baz=315,slow=13,SNR=2.3						
CTA	Charters Tower	71.32	131	P	P	02 47 47.1	+0.4
CTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ESDC	Sonseca Array	76.59	309	P	P	02 48 16.5	-1.0
	comp=Z,0.6nm,0.9s,baz=46,slow=5.6,SNR=4.0						
STKA	Stephens Creek	77.60	142	P	P	02 48 23.0	0.0
	comp=Z,0.9nm,0.4s,baz=259,slow=0.6,SNR=3.9						
STKA	Stephens Creek	77.60	142	P	P	02 48 23.0	0.0
STKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TORD	Torodi Ar. Bea	86.67	283	P	P	02 49 09.8	-1.2
	comp=Z,0.5nm,0.8s,baz=50,slow=4.3,SNR=6.7						

*CSEM **02** 02:41:25.8±0.7, 36.°12N×28.°87E, h5km, MD2.8, Error ellipse: s-maj=13.6km s-min=6.2km az=5.0*
*ISK **02** 02:41:25.6, 36.°17N×28.°88E, h12km, MD2.8*
*DDA **02** 02:42:05.4, 36.°16N×28.°94E, h16km, MD3.0*
ISC 02 02:41:26.5±1.5**, 36.°17N**±0.°08×**28.°89E**±0.°03**, h13**km±10km**, n24, σ0.s73**/40**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKAS	Kas	0.58	83	i P	Pg	02 41 37.4	-0.6
AKAS				i S	Sb	02 41 47.8	+0.9
AKAS	Kas	0.58	83	i P	Pg	02 41 37.4	-0.6
AKAS				i S	Sb	02 41 47.8	+0.9
DALY	Dalyan (Mu˜la	0.68	344	ePG	Pg	02 41 38.7	-1.0
DALY				eSG	Sb	02 41 49.0	-0.4
DALY	Dalyan (Mu˜la	0.68	344	ePg	Pg	02 41 38.7	-1.0
DALY				eSg	Sb	02 41 49.0	-0.4
TURN	Turunc	0.74	342	i P	Pn	02 41 42.0	-0.7
TURN				i S	Sn	02 41 55.0	+1.2
TURN	Turunc	0.74	342	i P	Pn	02 41 42.0	-0.7
TURN				i S	Sn	02 41 55.0	+1.2
ELL	Elmali	1.01	55	ePG	Pb	02 41 45.5	-0.4
ELL				eSG	Sn	02 41 60.0	-0.6
ELL	Elmali	1.01	55	ePg	Pb	02 41 45.5	-0.4
ELL				eSg	Sn	02 42 00.0	-0.6
YER	Yerkesik	1.08	333	ePG	Pn	02 41 47.0	-0.4
YER	Yerkesik	1.08	333	ePg	Pn	02 41 47.1	-0.4
DAT	Datca	1.20	298	ePN	Pg	02 41 49.3	-0.3
DAT	Datca	1.20	298	ePn	Pg	02 41 49.3	-0.3
GOLH	Golhisar	1.20	27	i P	Pn	02 41 48.4	-0.7
GOLH				i S	Sn	02 42 06.2	+0.9
GOLH	Golhisar	1.20	27	i P	Pn	02 41 48.4	-0.7
GOLH				i S	Sn	02 42 06.2	+0.9
KORT	Korkueli	1.44	54	i P	Pb	02 41 53.3	0.0
KORT				i S	Sg	02 42 14.3	+1.3
KORT	Korkueli	1.44	54	i P	Pb	02 41 53.3	0.0
KORT				i S	Sg	02 42 14.3	+1.3
BDRM	Kayabasi	1.47	308	i P	Pg	02 41 54.7	0.0
BDRM				i S	Sg	02 42 14.7	+0.9
BDRM	Kayabasi	1.47	308	i P	Pg	02 41 54.7	0.0
BDRM				i S	Sg	02 42 14.7	+0.9
BODT	Bodrum	1.55	306	ePN	Pn	02 41 53.1	-0.7
BODT	Bodrum	1.55	306	ePn	Pn	02 41 53.1	-0.7
AYDN	Tasoluk	1.70	332	i P	Pb	02 41 57.6	0.0
AYDN				i S	Sn	02 42 17.1	-0.4
AYDN	Tasoluk	1.70	332	i P	Pb	02 41 57.6	0.0
AYDN				i S	Sn	02 42 17.1	-0.4
AYDB	Zeytinkoy-Aydi	1.95	336	ePN	Pn	02 41 59.1	-0.3
AYDB	Zeytinkoy-Aydi	1.95	336	ePn	Pn	02 41 59.1	-0.3

*IDC **02** 02:52:08.2±1.1, 25.°96N×128.°57E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/23, mbtmp3.8/8, ML3.3/1, Error ellipse: s-maj=63.0km s-min=16.1km az=76.0*
*ISCJB **02** 02:52:09.9±0.4, 25.°95N±0.°03×128.°59E±0.°03, h27km, mb3.8/10, Error ellipse: s-maj=4.8km s-min=3.4km az=35.2*
*NEIC **02** 02:52:09.6±7.0, 25.°95N×128.°54E, h9km±46km, mb4.2/3, Error ellipse: s-maj=30.0km s-min=9.2km az=67.0*
*JMA **02** 02:52:11.9±0.3, 26.°00N×128.°56E, h44km±5km, M3.8*
ISC 02 02:52:11.4±0.7**, 25.°97N**±0.°04×**128.°57E**±0.°04**, h27**km**, n31, σ1.s38**/48**, mb3.9**/10**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNTH	Nagotoyohara	0.74	318	P	Pn	02 52 25.2	-0.8
JNTH				S	Sn	02 52 35.9	-0.4
JJT2	Tamagusuku 2	0.76	283	P	Pn	02 52 26.2	-0.1
JOW	Kunigami	0.90	343	P	Pn	02 52 28.0	-0.3
JOW				S	Sb	02 52 39.0	-1.0
JOW	Kunigami	0.90	343	Pn	Pn	02 52 27.9	-0.3
	25nm,0.3s,baz=159,slow=14,SNR=582						
JOW				Sn	Sb	02 52 37.1	-2.9
	47nm,0.3s,baz=122,slow=19,SNR=28						
JOW	Kunigami	0.90	343	ePn	Pn	02 52 27.7	-0.5
JOW				eSn	Sb	02 52 36.9	-3.1
JIH	Iheya	1.19	333	P	Pb	02 52 32.6	-0.7
JIH				S	Sb	02 52 47.5	-0.8
JAGN	Aguni-jima	1.34	298	P	Pb	02 52 34.7	-1.2
JAGN				S	Sb	02 52 51.5	-1.2
JOKE	Okinoerabujima	1.39	360	P	Pn	02 52 35.0	0.0
JOKE				S	Sn	02 52 51.2	-1.2
JKE	Kume jima 2	1.64	283	P	Pn	02 52 38.2	-0.3
JKE				S	Sn	02 52 56.9	-1.8
JTK	Tokunoshima	1.84	11	P	Pn	02 52 41.3	+0.1
JTK				S	Sn	02 53 01.8	-1.8
JAMN	Amaminishikomi	2.33	13	P	Pn	02 52 48.0	+0.1
JAMN				S	Sn	02 53 14.6	-1.0
JMZ	Minamidaito 2	2.39	93	P	Pn	02 52 47.6	-1.1
JMZ				S	Sn	02 53 13.0	-4.2
JAM	Amami Oshima	2.60	21	P	Pn	02 52 51.7	+0.1
JAM				S	Sn	02 53 20.5	-1.8
JZK	Kikaishima	2.65	28	P	Pn	02 52 53.5	+1.2
JZK				S	Sn	02 53 22.6	-0.9
JOGS	Gusukube	3.11	248	P	Pn	02 52 59.0	+0.4
JOGS				eS	Sn	02 53 34.2	-0.6
JIRB	Irabujima	3.28	250	P	Pn	02 53 01.0	+0.1
JIRB				eS	Sn	02 53 38.5	-0.5
JTJ	Tarama	3.74	250	P	Pn	02 53 06.7	-0.7
JTJ				eS	Sn	02 53 48.2	-2.4
JISG	Ishigakijimahi	4.09	251	P	Pn	02 53 11.2	-1.0
JISG				eS	Sn	02 53 56.4	-2.8
JIJ	Ishigaki jima	4.32	249	P	Pn	02 53 14.5	-0.8
IRIF	Iriomote-Funau	4.68	251	P	Pn	02 53 19.7	-0.5
JNU	Nakatsue	7.41	15	Pn	Pn	02 53 58.9	+1.1
	0.4nm,0.3s,baz=212,slow=10,SNR=7.1						
SONM	Songino Array	27.94	327	P	P	02 58 01.2	+1.7
	0.4nm,0.3s,baz=141,slow=11,SNR=3.8						
MKAR	Makanchi Array	41.94	312	P	P	03 00 01.2	+1.5
	0.2nm,0.4s,baz=105,slow=8.6,SNR=3.6						
WRAB	Tennant Creek	45.97	172	eP	P	03 00 33.1	+0.8
	1.4nm,0.6s						
WRA	Warramunga Arr	45.98	172	P	P	03 00 33.0	+0.7
	1.3nm,0.6s,baz=353,slow=8.4,SNR=15						
TKM2	Tokmak 2	46.08	305	eP	P	03 00 34.0	+0.8
	1.2nm,0.5s						
CTAO	Charters Tower	48.90	158	eP	P	03 00 55.6	+0.5
	3.5nm,0.8s						
ASAR	Alice Springs	49.61	174	P	P	03 01 01.6	+1.1
	0.8nm,0.7s,baz=2.2,slow=9.0,SNR=9.4						
FINES	FINESS Array B	73.24	331	P	P	03 03 40.5	+0.7
	0.8nm,0.7s,baz=96,slow=13,SNR=3.8						
AKASG	Malin Array Be	75.93	320	P	P	03 03 56.4	+0.8
	0.3nm,0.4s,baz=60,slow=6.5,SNR=2.7						
NOA	NORSAR Array B	79.68	334	P	P	03 04 17.0	+0.7
	0.6nm,0.7s,baz=53,slow=5.3,SNR=3.3						

MAN 02 02:58:20, 19.°19N×121.°53E, h32km**, mb4.4, ML3.2, MS3.0, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	1.06	152	eP	Pn	02 58 38.9	+0.2
SGCP				eS	Sb	02 59 04.8	+11
PIP	Pasuquin	1.21	225	⇓iP	Pn	02 58 41.1	+0.3
PIP				eS	Sn	02 58 56.6	+0.4
APYP	Conner	1.34	192	eP	Pb	02 58 43.6	-1.0
ABRA	Dolores	1.71	207	eP	Pb	02 58 54.0	+3.2

*MDD **02** 03:22:15.7±0.9, 34.°71N×3.°89W, h3km±5km, mbLg3.2/35, Error ellipse: s-maj=7.6km s-min=4.8km az=165.0, PRXIMO*
*CNRM **02** 03:22:17.4, 35.°16N×3.°81W, h7km, MD3.6*
*SFS **02** 03:22:17.0, 34.°82N×3.°82W, h0km, ML3.2*
*INMG **02** 03:22:17.9±2.4, 34.°81N×3.°86W, h13km±7km, ML3.0, Error ellipse: s-maj=6.2km s-min=4.5km az=156.0*
*IGIL **02** 03:22:17.3, 34.°82N×3.°82W, h1km, ML2.4*
*ISCJB **02** 03:22:18.7±0.4, 35.°04N±0.°02×3.°91W±0.°02, h21km±4km, Error ellipse: s-maj=3.2km s-min=2.5km az=135.3*
*CSEM **02** 03:22:18.0±0.2, 34.°95N×3.°85W, h5km, MD3.6, Error ellipse: s-maj=4.3km s-min=3.2km az=129.0*
*LDG **02** 03:22:18.2±0.5, 35.°02N×3.°61W, h2km, Ml3.2/2, Error ellipse: s-maj=11.7km s-min=5.4km az=178.0*
ISC 02 03:22:17.9±1.0**, 34.°91N**±0.°02×**3.°83W**±0.°02**, h19**km±2km**, n181, σ1.s52**/294**, 2C, Morocco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TOU	Touzarine	0.09	51	P	Pg	03 22 20.0	-1.7
TOU				S	Sg	03 22 26.0	+1.7
TOU	Touzarine	0.09	51	i P	Pg	03 22 20.0	-1.7
EMEL	Melilla	0.82	61	⇑P	Pb	03 22 33.2	-0.3
	801nm,0.3s,SNR=18						
EMEL				S	Sg	03 22 45.5	+0.7
	2μm,0.2s,SNR=7.9						
EMLI	Melilla	0.82	61	P	Pb	03 22 33.2	-0.4
	801nm,0.3s,SNR=18						
EMLI				S	Sb	03 22 44.1	-0.2
	1μm,0.2s,SNR=7.9						
MELI	Melilla	0.83	62	P	Pb	03 22 33.6	-0.2
	602nm,0.2s,SNR=7.9						
MELI				S	Sg	03 22 45.6	+0.4
	5μm,0.9s,SNR=7.9						
MELI	Melilla	0.83	62	P	Pb	03 22 33.4	-0.3
	602nm,0.2s,SNR=7.9						
MELI				S	Sg	03 22 45.6	+0.4
	2μm,0.5s,SNR=7.9						
ZAI	Zaio	0.90	86	P	Pb	03 22 34.0	-0.9
ZAI				S	Sb	03 22 46.0	-0.4
ZAI	Zaio	0.90	86	i P	Pb	03 22 34.0	-0.9
ZAI				i S	Sb	03 22 46.0	-0.4
TGT	Taghat	1.31	231	P	Pg	03 22 43.0	-0.2
TGT				S	Sg	03 23 02.0	+1.6
TGT	Taghat	1.31	231	i P	Pg	03 22 43.0	-0.2
TGT				i S	Sg	03 23 02.0	+1.6
DKH	Dar Kharkhour	1.38	295	P	Pn	03 22 40.0	-2.2
DKH				S	Sn	03 22 58.0	-2.0
ECEU	Ceuta	1.60	309	P	Pn	03 22 44.3	-0.9
	16nm,0.3s,SNR=32						
ECEU				S	Sb	03 23 06.4	-0.3
	51nm,0.2s,SNR=5.7						
ECEU	Ceuta	1.60	309	P	Pn	03 22 44.3	-0.9
	27nm,0.2s,SNR=32						
ECEU				S	Sn	03 23 04.5	-0.8
	51nm,0.2s,SNR=5.7						
TSY	Tnine Yamani	1.81	285	P	Pn	03 22 47.0	-1.0
TSY				S	Sn	03 23 10.0	-0.4
EMIJ	Mijas	1.82	335	P	Pn	03 22 47.6	-0.6
	2.5nm,0.2s,SNR=25						
EMIJ				S	Sn	03 23 10.4	-0.4
	139nm,0.4s,SNR=8.0						
EMIJ	Mijas	1.82	335	P	Pn	03 22 47.6	-0.6
	16nm,0.5s,SNR=25						
EMIJ				S	Sn	03 23 10.4	-0.4
	139nm,0.4s,SNR=8.0						
MIF	Mishlifen	1.89	218	P	Pb	03 22 52.0	+0.1
MIF				S	Sb	03 23 17.0	+1.8
MIF	Mishlifen	1.89	218	i P	Pb	03 22 52.0	+0.1
MIF				i S	Sb	03 23 17.0	+1.8
EMAL	Malaga-Limoner	1.91	346	P	Pn	03 22 49.2	-0.3
EMAL				S	Sn	03 23 10.2	-2.8
EMAL	Malaga-Limoner	1.91	346	eP	Pn	03 22 49.2	-0.3
CZD	Col de Zad	2.12	209	P	Pb	03 22 55.0	-0.9
CZD				S	Sb	03 23 22.0	0.0
CZD	Col de Zad	2.12	209	i P	Pb	03 22 55.0	-0.9
CZD				i S	Sb	03 23 22.0	0.0
EBER	Berja	2.13	21	P	Pn	03 22 52.1	-0.6
	12nm,0.3s,SNR=39						
EBER				S	Sn	03 23 20.6	+1.9
	87nm,0.3s,SNR=13						
EBER	Berja	2.13	21	P	Pn	03 22 52.4	-0.2
	12nm,0.3s,SNR=39						
EBER				S	Sn	03 23 20.1	+1.5
	87nm,0.3s,SNR=13						
EQUE	Quentar	2.31	8	P	Pn	03 22 55.9	+0.8
	4.5nm,0.2s,SNR=24						
EQUE				S	Sn	03 23 25.0	+1.9
	40nm,0.3s,SNR=7.9						
EQUE	Quentar	2.31	8	P	Pn	03 22 55.9	+0.8
	8.6nm,0.3s,SNR=24						
EQUE				S	Sn	03 23 24.1	+1.0
	40nm,0.3s,SNR=7.9						
SELV	Sierra Elvira	2.33	2	P	Pb	03 22 57.9	-1.4
	3.6nm,0.2s,SNR=7.9						
SELV				S	Sb	03 23 26.7	-0.9
	38nm,0.5s,SNR=7.9						
SELV	Sierra Elvira	2.33	2	P	Pn	03 22 55.5	+0.3
	3.6nm,0.2s,SNR=7.9						
SELV				S	Sb	03 23 26.7	-0.9
	38nm,0.5s,SNR=7.9						
LIJA	Lijar	2.37	328	P	Pb	03 22 58.4	-1.5
LIJA				S	Sb	03 23 29.8	+1.0
LIJA	Lijar	2.37	328	eP	Pb	03 22 58.4	-1.5
LIJA				i S	Sb	03 23 29.8	+1.0
ENIJ	Nijar	2.45	32	P	Pn	03 22 56.7	-0.1
	14nm,0.3s,SNR=7.9						
ENIJ				S	Sn	03 23 26.9	+0.7
	35nm,0.4s,SNR=4.0						
ENIJ	Nijar	2.45	32	P	Pn	03 22 56.6	-0.2
	14nm,0.3s,SNR=7.9						
ENIJ				S	Sn	03 23 26.9	+0.7
	35nm,0.4s,SNR=7.9						
SFS	San Fernando	2.48	310	P	Pb	03 23 03.6	+1.8
SFS	San Fernando	2.48	310	i P	Pb	03 23 03.6	+1.8
ESPR	Espera	2.55	321	P	Pn	03 23 00.7	+2.4
	11nm,0.3s,SNR=20						
ESPR				S	Sn	03 23 30.1	+1.3
	43nm,0.3s,SNR=37						
ESPR	Espera	2.55	321	P	Pn	03 23 00.7	+2.4
	11nm,0.3s,SNR=20						
ESPR				S	Sn	03 23 30.1	+1.3
	43nm,0.3s,SNR=37						
GORA	Gorafe	2.65	14	P	Pn	03 23 01.4	+1.8
	7.7nm,0.2s,SNR=4.0						
GORA				S	Sb	03 23 34.7	-2.1
	54nm,0.3s,SNR=7.9						
GORA	Gorafe	2.65	14	P	Pn	03 23 01.0	+1.4
	16nm,0.3s,SNR=7.9						
GORA				S	Sn	03 23 33.2	+2.0
	54nm,0.3s,SNR=7.9						
ZFT	Errachidia	2.90	189	P	Pb	03 23 07.0	-2.1
ZFT				S	Sb	03 23 43.0	-1.2
ZFT	Errachidia	2.90	189	i P	Pb	03 23 07.0	-2.1
ZFT				i S	Sb	03 23 43.0	-1.2
EQES	Quesada	2.95	12	⇑P	Pn	03 23 06.1	+2.2
	6.2nm,0.2s,SNR=18						
EQES				S	Sn	03 23 42.2	+3.3
	96nm,0.6s						
EQES	Quesada	2.95	12	P	Pn	03 23 06.1	+2.2
	6.2nm,0.2s,SNR=18						
EQES				S	Sn	03 23 41.3	+2.4
	96nm,0.6s						
KIB	El Ksiba	2.96	219	P	Pn	03 23 05.0	+1.0
KIB				S	Sn	03 23 42.0	+2.9
KIB	El Ksiba	2.96	219	i P	Pn	03 23 05.0	+1.0
KIB				i S	Sn	03 23 42.0	+2.9
EHUE	Huescar	3.07	19	P	Pn	03 23 07.9	+2.5
	5.2nm,0.2s,SNR=7.9						
EHUE				S	Sb	03 23 46.3	-2.7
	14nm,0.4s,SNR=7.9						
EHUE	Huescar	3.07	19	P	Pn	03 23 08.2	+2.7
	5.2nm,0.2s,SNR=7.9						
EHUE				S	Sn	03 23 44.5	+2.8
	16nm,0.3s,SNR=7.9						
EBAN	Banos Encina	3.25	1	P	Pn	03 23 11.5	+3.6
	1.9nm,0.4s,SNR=4.0						
EBAN				S	Sn	03 23 48.1	+2.1
	9.6nm,0.4s,SNR=4.0						
EBAN	Banos Encina	3.25	1	P	Pn	03 23 09.2	+1.3
	7.3nm,0.4s,SNR=7.2						
EADA	Adamuz	3.31	350	P	Pn	03 23 10.2	+1.5
	5.8nm,0.3s,SNR=25						
EADA				S	Sn	03 23 48.5	+1.0
	11nm,0.3s,SNR=4.8						
EADA	Adamuz	3.31	350	P	Pn	03 23 10.2	+1.5
	5.8nm,0.3s,SNR=25						
EADA				S	Sn	03 23 48.5	+1.0
	29nm,0.4s,SNR=4.8						
SESP	Santiago Espad	3.37	18	P	Pn	03 23 12.4	+2.7
	3.9nm,0.2s,SNR=7.9						
SESP				S	Sn	03 23 51.8	+2.6
	76nm,0.4s,SNR=7.9						
SESP	Santiago Espad	3.37	18	P	Pn	03 23 12.4	+2.7
	3.9nm,0.2s,SNR=7.9						
SESP				S	Sn	03 23 51.8	+2.6
	76nm,0.4s,SNR=7.9						
ECAB	El Cabril	3.41	338	P	Pn	03 23 11.7	+1.6
	1.9nm,0.3s,SNR=27						
ECAB				S	Sn	03 23 50.4	+0.4
	42nm,0.5s,SNR=7.8						
ECAB	El Cabril	3.41	338	P	Pn	03 23 11.7	+1.6
	1.9nm,0.3s,SNR=27						
ECAB				S	Sn	03 23 49.9	-0.1
	42nm,0.5s,SNR=7.8						
CART	Cartagena	3.52	40	P	Pn	03 23 12.0	+0.4
CART				S	Sn	03 23 47.8	-4.8
CART	Cartagena	3.52	40	eP	Pn	03 23 12.0	+0.4
TZC	Tazercounte	3.54	220	P	Pn	03 23 14.0	+2.1
TZC				S	Sn	03 23 56.0	+2.7
TZC	Tazercounte	3.54	220	i P	Pn	03 23 14.0	+2.1
TZC				i S	Sn	03 23 56.0	+2.7
EMUR	La Murta	3.60	35	P	Pn	03 23 13.9	+1.2
	3.9nm,0.3s,SNR=9.5						
EMUR				S	Sn	03 23 53.0	-1.7
	34nm,0.4s,SNR=7.4						
EMUR	La Murta	3.60	35	P	Pn	03 23 13.9	+1.2
	10nm,0.7s,SNR=9.5						
EMUR				S	Sn	03 23 53.0	-1.7
	34nm,0.4s,SNR=7.4						
EMIN	Mina Concepcio	3.66	322	P	Pn	03 23 14.0	+0.5
	5.5nm,0.3s,SNR=38						
EMIN				S	Sn	03 23 55.5	-0.6
	8.3nm,0.2s,SNR=6.8						
EMIN	Mina Concepcio	3.66	322	P	Pn	03 23 14.0	+0.5
	5.5nm,0.3s,SNR=38						
EMIN				S	Sn	03 23 55.5	-0.6
	8.3nm,0.2s,SNR=6.8						
OKGL	Djebel Kef Gue	3.82	72	P	Pn	03 23 16.8	+1.0
	13nm,0.4s,SNR=7.9						
OKGL				S	Sn	03 24 01.1	+0.9
	37nm,0.3s,SNR=7.9						
OKGL	Djebel Kef Gue	3.82	72	P	Pn	03 23 16.8	+1.0
	13nm,0.4s,SNR=7.9						
OKGL				S	Sn	03 24 01.1	+0.9
	37nm,0.3s,SNR=7.9						
EVIA	Vianos	3.87	16	P	Pn	03 23 20.4	+3.8
	2.1nm,0.2s,SNR=13						
EVIA	Vianos	3.87	16	P	Pn	03 23 18.4	+1.9
	36nm,0.6s,SNR=13						
EGRO	El Granado	3.95	313	P	Pn	03 23 17.6	+0.2
	8.5nm,0.3s,SNR=29						
EGRO				S	Sn	03 24 01.8	-1.4
	18nm,0.2s,SNR=5.0						
EGRO	El Granado	3.95	313	P	Pn	03 23 17.8	+0.4
	8.5nm,0.3s,SNR=29						
EGRO				S	Sn	03 24 01.8	-1.4
	18nm,0.2s,SNR=5.0						
PVAQ	Vaqueiros	4.01	310	ePn	Pn	03 23 18.7	+0.4
PVAQ				eSn	Sn	03 24 04.4	-0.3
PVAQ				A	A	03 24 08.2	
	26nm,0.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PVAQ	**Vaqueiros**	**4.01**	**310**	*e*Pn	**Pn**	**03 23 18.7**	**+0.4**
PVAQ				*e*Sn	**Sn**	**03 24 04.4**	**-0.3**
PVAQ				A	A	03 24 08.2	
	26nm,0.3s						
PBDV	**Barranco-do-Ve**	**4.05**	**306**	*e*Pn	**Pn**	**03 23 19.6**	**+0.7**
PBDV				*e*Sn	**Sn**	**03 24 05.6**	**-0.3**
PBDV				A	A	03 24 16.0	
	11nm,0.9s						
PBDV	**Barranco-do-Ve**	**4.05**	**306**	*e*Pn	**Pn**	**03 23 19.6**	**+0.7**
PBDV				*e*Sn	**Sn**	**03 24 05.6**	**-0.3**
PBDV				A	A	03 24 16.0	
	11nm,0.9s						
ETOB	**Tobarra**	**4.16**	**26**	P	**Pn**	**03 23 22.0**	**+1.6**
	11nm,0.3s,SNR=69						
ETOB				S	**Sn**	**03 24 10.5**	**+2.0**
	20nm,0.6s,SNR=12						
ETOB	**Tobarra**	**4.16**	**26**	P	**Pn**	**03 23 22.0**	**+1.6**
	11nm,0.3s,SNR=69						
ETOB				S	**Sn**	**03 24 10.2**	**+1.7**
	20nm,0.6s,SNR=12						
PBAR	**Barrancos**	**4.16**	**323**	*e*Pn	**Pn**	**03 23 21.1**	**+0.8**
PBAR				*e*Sn	**Sn**	**03 24 08.3**	**-0.1**
PBAR				A	A	03 24 11.7	
	25nm,0.7s						
PBAR	**Barrancos**	**4.16**	**323**	*e*Pn	**Pn**	**03 23 21.1**	**+0.8**
PBAR				*e*Sn	**Sn**	**03 24 08.3**	**-0.1**
PBAR				A	A	03 24 11.7	
	25nm,0.7s						
PCVE	**Castro Verde**	**4.35**	**310**	*e*Pn	**Pn**	**03 23 24.1**	**+1.1**
PCVE				*e*Sn	**Sn**	**03 24 12.7**	**-0.5**
PCVE				A	A	03 24 18.7	
	1.9nm,0.4s						
PCVE	**Castro Verde**	**4.35**	**310**	*e*Pn	**Pn**	**03 23 24.1**	**+1.1**
PCVE				*e*Sn	**Sn**	**03 24 12.7**	**-0.5**
PCVE				A	A	03 24 18.7	
	1.9nm,0.4s						
MORF	**Marmelete**	**4.58**	**303**	*e*P	**Pn**	**03 23 26.4**	**+0.3**
MORF				*e*S	**Sn**	**03 24 16.9**	**-1.9**
MORF				AML	AML	03 24 18.3	
	comp=E,7.2nm,0.2s						
MORF	**Marmelete**	**4.58**	**303**	P	**Pn**	**03 23 26.4**	**+0.3**
MORF				S	**Sn**	**03 24 16.9**	**-1.9**
	comp=E,7.2nm,0.2s						
MORF	**Marmelete**	**4.58**	**303**	*e*Pn	**Pn**	**03 23 27.3**	**+1.2**
MORF				*e*Sn	**Sn**	**03 24 19.7**	**+0.9**
MORF				A	A	03 24 21.7	
	comp=E,8.9nm,0.2s						
MORF	**Marmelete**	**4.58**	**303**	*e*Pn	**Pn**	**03 23 27.3**	**+1.2**
MORF				*e*Sn	**Sn**	**03 24 19.7**	**+0.9**
MORF				A	A	03 24 21.7	
	comp=E,8.9nm,0.2s						
MESJ	**Messejana**	**4.59**	**311**	*e*P	**Pn**	**03 23 26.7**	**+0.4**
MESJ				*e*S	**Sn**	**03 24 17.4**	**-1.7**
MESJ				AML	AML	03 24 18.5	
	comp=E,7.0nm,0.3s						
MESJ	**Messejana**	**4.59**	**311**	P	**Pn**	**03 23 26.7**	**+0.4**
MESJ				S	**Sn**	**03 24 17.4**	**-1.7**
	comp=E,7.0nm,0.3s						
MESJ	**Messejana**	**4.59**	**311**	P	**Pn**	**03 23 26.7**	**+0.4**
MESJ				S	**Sn**	**03 24 17.4**	**-1.7**
MESJ	**Messejana**	**4.59**	**311**	P	**Pn**	**03 23 26.7**	**+0.4**
MESJ				S	**Sn**	**03 24 17.4**	**-1.7**
EBAD	**Badajoz**	**4.61**	**327**	P	**Pn**	**03 23 27.3**	**+0.8**
	comp=E,5.6nm,0.3s,SNR=48						
EBAD				S	**Sn**	**03 24 18.9**	**-0.6**
	comp=E,26nm,0.2s,SNR=4.7						
EBAD	**Badajoz**	**4.61**	**327**	P	**Pn**	**03 23 27.5**	**+1.0**
	comp=E,6.2nm,0.3s,SNR=48						
EBAD				S	**Sn**	**03 24 18.7**	**-0.8**
	comp=E,26nm,0.2s,SNR=4.7						
PFVI	**Vila Bisbo**	**4.62**	**300**	P	**Pn**	**03 23 27.4**	**+0.8**
	comp=E,7.6nm,0.2s,SNR=11						
PFVI				S	**Sn**	**03 24 18.1**	**-1.6**
	comp=E,8.3nm,0.1s,SNR=6.2						
PFVI	**Vila Bisbo**	**4.62**	**300**	P	**Pn**	**03 23 28.3**	**+1.7**
	comp=E,12nm,0.5s,SNR=11						
PFVI				S	**Sn**	**03 24 18.1**	**-1.6**
	comp=E,8.3nm,0.1s,SNR=6.2						
PFVI	**Vila Bisbo**	**4.62**	**300**	*e*Pn	**Pn**	**03 23 27.9**	**+1.3**
PFVI				*e*Sn	**Sn**	**03 24 19.3**	**-0.4**
PFVI				A	A	03 24 27.9	
	comp=E,18nm,0.6s						
PFVI	**Vila Bisbo**	**4.62**	**300**	*e*Pn	**Pn**	**03 23 27.9**	**+1.3**
PFVI				*e*Sn	**Sn**	**03 24 19.3**	**-0.4**
PFVI				A	A	03 24 27.9	
	comp=E,18nm,0.6s						
PTEO	**Sao Teotonio**	**4.75**	**305**	*e*Pn	**Pn**	**03 23 29.9**	**+1.5**
PTEO				*e*Sn	**Sn**	**03 24 21.5**	**-1.4**
PTEO				A	A	03 24 42.6	
	comp=E,17nm,0.5s						
PTEO	**Sao Teotonio**	**4.75**	**305**	*e*Pn	**Pn**	**03 23 29.9**	**+1.5**
PTEO				*e*Sn	**Sn**	**03 24 21.5**	**-1.4**
PTEO				A	A	03 24 42.6	
	comp=E,17nm,0.5s						
ESDC	**Sonseca Array**	**4.76**	**359**	P	**Pn**	**03 23 30.1**	**+1.5**
	comp=E,2.3nm,0.2s,baz=178,slow=12,SNR=24						
ESDC				S	**Sn**	**03 24 24.1**	**+0.8**
	comp=E,2.6nm,0.2s,baz=173,slow=21,SNR=7.9						
ESDC	**Sonseca Array**	**4.76**	**359**	Pn	**Pn**	**03 23 30.2**	**+1.5**
	comp=E,2.4nm,0.3s,SNR=24						
EBEN	**Beniarda**	**4.77**	**36**	P	**Pn**	**03 23 29.7**	**+0.9**
	comp=E,0.9nm,0.4s,SNR=6.4						
EBEN	**Beniarda**	**4.77**	**36**	P	**Pn**	**03 23 29.7**	**+0.9**
	comp=E,3.7nm,0.5s,SNR=6.4						
EVO	**Evora**	**4.93**	**318**	*e*Pn	**Pn**	**03 23 32.5**	**+1.5**
EVO				*e*Sn	**Sn**	**03 24 27.5**	**0.0**
	comp=E,25nm,0.4s						
EVO	**Evora**	**4.93**	**318**	*e*Pn	**Pn**	**03 23 32.3**	**+1.3**
EVO				*e*Sn	**Sn**	**03 24 27.3**	**-0.2**
EVO				A	A	03 24 35.4	
	comp=E,13nm,0.4s						
EVO	**Evora**	**4.93**	**318**	*e*Pn	**Pn**	**03 23 32.3**	**+1.3**
EVO				*e*Sn	**Sn**	**03 24 27.3**	**-0.2**
EVO				A	A	03 24 35.4	
	comp=E,13nm,0.4s						
PNCL	**Nicolau / Gran**	**4.95**	**312**	*e*Pn	**Pn**	**03 23 32.1**	**+0.9**
PNCL				*e*Sn	**Sn**	**03 24 26.3**	**-1.6**
PNCL				A	A	03 24 31.9	
	comp=E,12nm,0.4s						
PNCL	**Nicolau / Gran**	**4.95**	**312**	*e*Pn	**Pn**	**03 23 32.1**	**+0.9**
PNCL				*e*Sn	**Sn**	**03 24 26.3**	**-1.6**
PNCL				A	A	03 24 31.9	
	comp=E,12nm,0.4s						
PESTR	**Estremoz**	**4.97**	**324**	*e*Pn	**Pn**	**03 23 33.1**	**+1.6**
PESTR				*e*Sn	**Sn**	**03 24 28.2**	**-0.2**
PESTR				A	A	03 24 34.5	
	comp=E,10.0nm,0.4s						
PESTR	**Estremoz**	**4.97**	**324**	*e*Pn	**Pn**	**03 23 33.1**	**+1.6**
PESTR				*e*Sn	**Sn**	**03 24 28.2**	**-0.2**
PESTR				A	A	03 24 34.5	
	comp=E,10.0nm,0.4s						
EVOP	**Sao Brissos**	**4.99**	**318**	*e*Pn	**Pn**	**03 23 32.5**	**+0.7**
EVOP				*e*Sn	**Sn**	**03 24 27.5**	**-1.4**
	comp=E,13nm,0.4s						
PMRV	**Marv??o**	**5.33**	**329**	*e*Pn	**Pn**	**03 23 37.5**	**+1.0**
PMRV				*e*Sn	**Sn**	**03 24 36.7**	**-0.7**
PMRV				A	A	03 24 49.5	
	comp=E,12nm,0.4s						
PMRV	**Marv??o**	**5.33**	**329**	*e*Pn	**Pn**	**03 23 37.5**	**+1.0**
PMRV				*e*Sn	**Sn**	**03 24 36.7**	**-0.7**
PMRV				A	A	03 24 49.5	
	comp=E,12nm,0.4s						
PMTG	**Montargil**	**5.44**	**321**	*e*Pn	**Pn**	**03 23 39.1**	**+1.2**
PMTG				*e*Sn	**Sn**	**03 24 39.2**	**-0.8**
PMTG				A	A	03 24 41.9	
	comp=E,9.0nm,0.4s						
PMTG	**Montargil**	**5.44**	**321**	*e*Pn	**Pn**	**03 23 39.1**	**+1.2**
PMTG				*e*Sn	**Sn**	**03 24 39.2**	**-0.8**
PMTG				A	A	03 24 41.9	
	comp=E,9.0nm,0.4s						
EPLA	**Plasencia**	**5.45**	**342**	P	**Pn**	**03 23 39.4**	**+1.3**
	comp=E,2.7nm,0.2s,SNR=25						
EPLA				S	**Sn**	**03 24 39.7**	**-0.5**
	comp=E,5.5nm,0.2s						
EPLA	**Plasencia**	**5.45**	**342**	P	**Pn**	**03 23 39.4**	**+1.3**
	comp=E,2.3nm,0.3s,SNR=25						
EPLA				S	**Sn**	**03 24 40.1**	**-0.2**
	comp=E,5.5nm,0.2s						
PACT	**Alcochete**	**5.56**	**315**	*e*Pn	**Pn**	**03 23 41.0**	**+1.4**
PACT				*e*Sn	**Sn**	**03 24 43.6**	**+0.7**
PACT	**Alcochete**	**5.56**	**315**	*e*Pn	**Pn**	**03 23 41.0**	**+1.4**
PACT				*e*Sn	**Sn**	**03 24 43.6**	**+0.7**
PCBR	**Castelo Branco**	**5.71**	**331**	*e*Pn	**Pn**	**03 23 42.7**	**+1.0**
PCBR				*e*Sn	**Sn**	**03 24 45.5**	**-1.2**
PCBR				A	A	03 24 49.6	
	comp=E,13nm,0.6s						
PCBR	**Castelo Branco**	**5.71**	**331**	*e*Pn	**Pn**	**03 23 42.7**	**+1.0**
PCBR				*e*Sn	**Sn**	**03 24 45.5**	**-1.2**
PCBR				A	A	03 24 49.6	
	comp=E,13nm,0.6s						
GUD	**Guadarrama**	**5.73**	**358**	P	**Pn**	**03 23 43.5**	**+1.5**
	comp=E,3.9nm,0.4s,SNR=9.6						
GUD				S	**Sn**	**03 24 46.6**	**-0.8**
	comp=E,6.6nm,0.4s						
GUD	**Guadarrama**	**5.73**	**358**	P	**Pn**	**03 23 43.6**	**+1.5**
	comp=E,3.9nm,0.4s,SNR=9.6						
EIBI	**Ibiza**	**5.84**	**44**	P	**Pn**	**03 23 44.3**	**+1.0**
	comp=E,1.7nm,0.2s,SNR=12						
EIBI				S	**Sn**	**03 24 48.0**	**-1.8**
	comp=E,6.8nm,0.5s						
EIBI	**Ibiza**	**5.84**	**44**	P	**Pn**	**03 23 44.4**	**+1.0**
	comp=E,7.6nm,0.4s,SNR=12						
PMAFR	**Mafra**	**5.95**	**314**	P	**Pn**	**03 23 46.7**	**+1.8**
	comp=E,6.0nm,0.2s,SNR=7.6						
PMAFR				S	**Sn**	**03 24 51.0**	**-1.4**
	comp=E,29nm,0.4s						
PMAFR	**Mafra**	**5.95**	**314**	P	**Pn**	**03 23 46.4**	**+1.5**
	comp=E,10nm,0.4s,SNR=7.6						
PMAFR	**Mafra**	**5.95**	**314**	*e*Pn	**Pn**	**03 23 46.7**	**+1.8**
PMAFR				*e*Sn	**Sn**	**03 24 51.1**	**-1.4**
PMAFR				A	A	03 24 55.6	
	comp=E,18nm,0.7s						
PMAFR	**Mafra**	**5.95**	**314**	*e*Pn	**Pn**	**03 23 46.7**	**+1.8**
PMAFR				*e*Sn	**Sn**	**03 24 51.1**	**-1.4**
PMAFR				A	A	03 24 55.6	
	comp=E,18nm,0.7s						
PTOM	**Tomar**	**5.95**	**324**	*e*Pn	**Pn**	**03 23 46.3**	**+1.4**
PTOM				*e*Sn	**Sn**	**03 24 50.4**	**-2.2**
PTOM				A	A	03 24 53.8	
	comp=E,14nm,0.4s						
PTOM	**Tomar**	**5.95**	**324**	*e*Pn	**Pn**	**03 23 46.3**	**+1.4**
PTOM				*e*Sn	**Sn**	**03 24 50.4**	**-2.2**
PTOM				A	A	03 24 53.8	
	comp=E,14nm,0.4s						
EMOS	**Mosqueruela**	**6.06**	**25**	P	Pn	03 23 50.9	+4.2
	comp=E,0.1nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**6.06**	**25**	P	**Pn**	**03 23 48.2**	**+1.5**
	comp=E,0.1nm,0.2s,SNR=4.0						
ETOR	**Torete**	**6.07**	**13**	P	**Pn**	**03 23 48.5**	**+1.9**
	comp=E,5.4nm,0.3s,SNR=12						
ETOR				S	**Sn**	**03 24 55.9**	**+0.3**
	comp=E,6.4nm,0.3s						
ETOR	**Torete**	**6.07**	**13**	P	**Pn**	**03 23 48.5**	**+1.9**
	comp=E,5.8nm,0.4s,SNR=12						
ETOR				S	**Sn**	**03 24 55.5**	**-0.1**
	comp=E,6.4nm,0.3s						
MTE	**Manteigas**	**6.22**	**333**	*e*Pn	**Pn**	**03 23 50.1**	**+1.4**
MTE				*e*Sn	**Sn**	**03 24 57.8**	**-1.5**
MTE				A	A	03 25 02.4	
	comp=E,18nm,0.5s						
MTE	**Manteigas**	**6.22**	**333**	*e*Pn	**Pn**	**03 23 50.1**	**+1.4**
MTE				*e*Sn	**Sn**	**03 24 57.8**	**-1.5**
MTE				A	A	03 25 02.4	
	comp=E,18nm,0.5s						
PCAS	**Casmilo, Conde**	**6.33**	**326**	*e*Pn	**Pn**	**03 23 51.6**	**+1.4**
PCAS				*e*Sn	**Sn**	**03 25 00.4**	**-1.6**
PCAS				A	A	03 25 08.6	
	comp=E,8.4nm,0.5s						
PCAS	**Casmilo, Conde**	**6.33**	**326**	*e*Pn	**Pn**	**03 23 51.6**	**+1.4**
PCAS				*e*Sn	**Sn**	**03 25 00.4**	**-1.6**
PCAS				A	A	03 25 08.6	
	comp=E,8.4nm,0.5s						
PVIS	**Viseu**	**6.63**	**332**	*e*Sn	**Sn**	**03 25 07.5**	**-1.8**
PVIS				A	A	03 25 19.2	
	comp=E,9.7nm,0.7s						
PVIS	**Viseu**	**6.63**	**332**	*e*Sn	**Sn**	**03 25 07.5**	**-1.8**
PVIS				A	A	03 25 19.2	
	comp=E,9.7nm,0.7s						
MVO	**Moncorvo**	**6.74**	**339**	P	**Pn**	**03 23 57.2**	**+1.4**
	comp=E,5.3nm,0.3s,SNR=27						
MVO				S	**Sn**	**03 25 09.4**	**-2.6**
	comp=E,21nm,0.4s,SNR=5.5						
MVO	**Moncorvo**	**6.74**	**339**	P	**Pn**	**03 23 57.3**	**+1.5**
	comp=E,5.3nm,0.3s,SNR=27						
MVO	**Moncorvo**	**6.74**	**339**	*e*Pn	**Pn**	**03 23 57.3**	**+1.5**
MVO				*e*Sn	**Sn**	**03 25 09.6**	**-2.4**
MVO				A	A	03 25 15.4	
	comp=E,13nm,0.6s						
MVO	**Moncorvo**	**6.74**	**339**	*e*Pn	**Pn**	**03 23 57.3**	**+1.5**
MVO				*e*Sn	**Sn**	**03 25 09.6**	**-2.4**
MVO				A	A	03 25 15.4	
	comp=E,13nm,0.6s						
ERTA	**Horta de San J**	**6.88**	**27**	P	**Pn**	**03 23 59.0**	**+1.3**
	comp=E,5.0nm,0.4s,SNR=11						
ERTA	**Horta de San J**	**6.88**	**27**	P	**Pn**	**03 23 59.5**	**+1.8**
	comp=E,8.4nm,0.6s,SNR=11						
PVRL	**Vila Real**	**7.05**	**335**	*e*Pn	**Pn**	**03 24 01.7**	**+1.5**
PVRL				*e*Sn	**Sn**	**03 25 17.1**	**-2.7**
PVRL				A	A	03 25 22.6	
	comp=E,16nm,0.5s						
PVRL	**Vila Real**	**7.05**	**335**	*e*Pn	**Pn**	**03 24 01.7**	**+1.5**
PVRL				*e*Sn	**Sn**	**03 25 17.1**	**-2.7**
PVRL				A	A	03 25 22.6	
	comp=E,16nm,0.5s						
POLO	**Lamas de Olo**	**7.17**	**335**	*e*Pn	**Pn**	**03 24 03.6**	**+1.8**
POLO				*e*Sn	**Sn**	**03 25 20.5**	**-2.2**
POLO				A	A	03 25 30.2	
	comp=E,3.6nm,0.6s						
POLO	**Lamas de Olo**	**7.17**	**335**	*e*Pn	**Pn**	**03 24 03.6**	**+1.8**
POLO				*e*Sn	**Sn**	**03 25 20.5**	**-2.2**
POLO				A	A	03 25 30.2	
	comp=E,3.6nm,0.6s						
ETOS	**Mallorca**	**7.18**	**46**	P	**Pn**	**03 24 04.0**	**+2.2**
	comp=E,4.0nm,0.4s,SNR=14						
ETOS				S	**Sn**	**03 25 21.7**	**-1.2**
	comp=E,0.8nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**7.18**	**46**	P	**Pn**	**03 24 03.5**	**+1.6**
	comp=E,4.0nm,0.4s,SNR=14						
PBRG	**Braganca**	**7.25**	**343**	*e*Pn	**Pn**	**03 24 04.5**	**+1.6**
PBRG				*e*Sn	**Sn**	**03 25 23.3**	**-1.4**
PBRG				A	A	03 25 28.5	
	comp=E,7.8nm,0.6s						
PBRG	**Braganca**	**7.25**	**343**	*e*Pn	**Pn**	**03 24 04.5**	**+1.6**
PBRG				*e*Sn	**Sn**	**03 25 23.3**	**-1.4**
PBRG				A	A	03 25 28.5	
	comp=E,7.8nm,0.6s						
ECAL	**Calabor**	**7.38**	**343**	P	**Pn**	**03 24 07.1**	**+2.4**
	comp=E,5.4nm,0.3s,SNR=13						
ECAL				S	**Sn**	**03 25 26.0**	**-1.9**
	comp=E,30nm,0.6s,SNR=6.7						
ECAL	**Calabor**	**7.38**	**343**	P	**Pn**	**03 24 07.1**	**+2.4**
	comp=E,5.4nm,0.3s,SNR=13						
PCAB	**Cabril**	**7.55**	**335**	*e*Pn	**Pn**	**03 24 09.0**	**+2.1**
PCAB				*e*Sn	**Sn**	**03 25 29.3**	**-2.6**
PCAB				A	A	03 25 32.1	
	comp=E,6.5nm,1.1s						
PCAB	**Cabril**	**7.55**	**335**	*e*Pn	**Pn**	**03 24 09.0**	**+2.1**
PCAB				*e*Sn	**Sn**	**03 25 29.3**	**-2.6**
PCAB				A	A	03 25 32.1	
	comp=E,6.5nm,1.1s						
ELOB	**Lobios**	**7.70**	**336**	P	**Pn**	**03 24 10.8**	**+1.7**
	comp=E,1.2nm,0.2s,SNR=9.2						
ELOB				S	**Sn**	**03 25 33.0**	**-2.7**
	comp=E,9.4nm,0.4s,SNR=6.0						
ELOB	**Lobios**	**7.70**	**336**	P	**Pn**	**03 24 11.3**	**+2.3**
	comp=E,3.3nm,0.4s,SNR=9.2						
PGAV	**Gavieira, Arco**	**7.86**	**335**	*e*Pn	**Pn**	**03 24 12.8**	**+1.6**
PGAV				*e*Sn	**Sn**	**03 25 36.7**	**-3.0**
PGAV				A	A	03 25 40.1	
	comp=E,6.3nm,0.4s						
PGAV	**Gavieira, Arco**	**7.86**	**335**	*e*Pn	**Pn**	**03 24 12.8**	**+1.6**
PGAV				*e*Sn	**Sn**	**03 25 36.7**	**-3.0**
PGAV				A	A	03 25 40.1	
	comp=E,6.3nm,0.4s						
IELO	**Elcoad**	**8.18**	**14**	P	Pn	03 24 18.6	+3.0
	comp=E,1.0nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**8.18**	**14**	P	Pn	03 24 18.4	+2.8
	comp=E,1.0nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**8.32**	**2**	P	Pn	03 24 20.5	+3.1
	comp=E,0.7nm,0.2s,SNR=7.8						
ELAN				S	**Sn**	**03 25 50.7**	**-0.1**
	comp=E,0.6nm,0.4s,SNR=4.0						
ELAN	**Lanestosa**	**8.32**	**2**	P	**Pn**	**03 24 19.0**	**+1.6**
	comp=E,4.5nm,0.7s,SNR=7.8						
ETSF	**Etsaut**	**8.38**	**17**	*e*P	Pn	03 24 21.8	+3.5
ETSF	**Etsaut**	**8.38**	**17**	P	Pn	03 24 21.8	+3.5
ETSF	**Etsaut**	**8.38**	**17**	*e*P	Pn	03 24 21.8	+3.5
CSOR	**Sort**	**8.41**	**26**	P	**Pn**	**03 24 21.0**	**+2.2**
	comp=E,1.9nm,0.4s,SNR=8.0						
CSOR	**Sort**	**8.41**	**26**	P	**Pn**	**03 24 20.3**	**+1.5**
	comp=E,5.3nm,0.6s,SNR=8.0						
SJPF	**Ste Jean**	**8.44**	**13**	*e*P	Pn	03 24 22.2	+3.1
SJPF				*e*Sn	Sn	03 25 45.7	-8.2
	comp=E,0.6nm,0.3s						
SJPF	**Ste Jean**	**8.44**	**13**	P	Pn	03 24 22.2	+3.1
SJPF				Sn	Sn	03 25 45.7	-8.2
	comp=E,0.3nm,0.3s						
SJPF	**Ste Jean**	**8.44**	**13**	*e*P	Pn	03 24 22.2	+3.1
EARI	**Arriondas**	**8.45**	**353**	P	**Pn**	**03 24 21.7**	**+2.4**
	comp=E,0.6nm,0.3s,SNR=5.2						
EARI				S	**Sn**	**03 25 51.9**	**-2.2**
	comp=E,1.3nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**8.45**	**353**	P	Pn	03 24 21.9	+2.6
	comp=E,2.3nm,0.6s,SNR=5.2						
EALK	**Alkurruntz**	**8.49**	**12**	P	Pn	03 24 22.5	+2.7
	comp=E,7.1nm,0.3s,SNR=8.0						
EALK	**Alkurruntz**	**8.49**	**12**	P	Pn	03 24 23.1	+3.3
	comp=E,3.8nm,0.3s,SNR=8.0						
ATE	**Arette**	**8.52**	**16**	P	Pn	03 24 23.4	+3.1
	comp=E,0.4nm,0.2s,SNR=7.9						
ATE	**Arette**	**8.52**	**16**	P	Pn	03 24 23.0	+2.7
	comp=E,0.4nm,0.2s,SNR=7.9						
EAGO	**Agolada(Pontev**	**8.55**	**338**	S	**Sn**	**03 25 54.3**	**-2.3**
	comp=E,3.0nm,0.4s,SNR=7.9						
EPF	**Esparros**	**8.74**	**21**	*e*P	Pn	03 24 26.3	+3.1
EPF	**Esparros**	**8.74**	**21**	P	Pn	03 24 26.3	+3.1
EPF	**Esparros**	**8.74**	**21**	*e*P	Pn	03 24 26.3	+3.1
EPON	**Pontenova**	**8.79**	**344**	S	**Sn**	**03 25 59.5**	**-3.0**
	comp=E,1.5nm,0.3s,SNR=7.9						

IDC ***02*** *03:34:19.6±0.8, 4°.13N×126°.40E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/35, mbtmp3.9/8, ML4.0/1, MS3.2/3, Ms1 3.3/3, ms1mx2.9/32, Error ellipse: s-maj=65.8km s-min=16.7km az=68.0*

ISCJB ***02*** *03:34:24.9±0.6, 4°.10N±0°.06×126°.69E±0°.07, h45km, mb3.9/7, MS3.5/1, Error ellipse: s-maj=10.2km s-min=8.5km az=173.9*

DJA ***02*** *03:34:37.9±1.0, 3°N±9°×12°7E±°, h10km, M4.3/2, mb4.7/1, mB4.9/1, MLv4.0/2, Mw(mB)4.2/1*

ISC 02 03:34:26.0±0.8**, 4°.14N**±0°.08×**126°.71E**±0°.09**, h45km, n20, σ1s.38**/17**, mb3.9**/7**, 1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.41**	**169**	P	**Pn**	**03 35 17.2**	**+0.4**
TNTI				S	Sn	03 35 45.5	-11
CTBH	**Cotabato--PC H**	**3.92**	**321**	⇓*i*P	**Pn**	**03 35 25.8**	**+2.1**
KMSI	**Cibinong**	**4.47**	**218**	P	**Pn**	**03 35 31.2**	**-0.1**
LBMI	**Labuha**	**4.81**	**170**	P	**Pn**	**03 35 36.3**	**+0.2**
MRSI	**Marisa**	**5.99**	**233**	P	**Pn**	**03 35 54.3**	**+2.1**
MRSI				S	**Sn**	**03 36 58.4**	**-1.2**
SANI	**Sanana**	**6.19**	**187**	P	**Pn**	**03 35 54.1**	**-0.9**
SANI				S	Px	03 36 40.6	
LUWI	**Luwuk**	**6.48**	**217**	P	Pn	03 36 04.0	+5.1
SIJI	**Sorong**	**6.75**	**137**	Pn	**Pn**	**03 36 03.6**	**+1.0**
	2.6nm,0.3s,baz=342,slow=17,SNR=5.9						
SIJI				LR	LR	03 38 59.2	
	comp=Z,263nm,21.3s,baz=276,slow=40						
APSI	**Ampana**	**7.12**	**225**	P	**Pn**	**03 36 10.7**	**+3.0**
MPSI	**Mapaga**	**7.78**	**241**	P	Pn	03 36 22.1	+5.3
KAPI	**Kappang**	**11.45**	**217**	LR	LR	03 41 41.0	
	comp=Z,78nm,20.9s,baz=43,slow=39						
WRA	**Warramunga Arr**	**25.08**	**163**	P	**P**	**03 39 45.9**	**-0.7**
	3.0nm,0.8s,baz=345,slow=11,SNR=33						
ASAR	**Alice Springs**	**28.52**	**166**	P	**P**	**03 40 18.1**	**+0.6**
	0.6nm,0.5s,baz=339,slow=6.7,SNR=8.3						
STKA	**Stephens Creek**	**38.52**	**159**	P	**P**	**03 41 44.9**	**+0.6**
	1.3nm,0.3s,baz=0.5,slow=10,SNR=4.4						
SONM	**Songino Array**	**46.90**	**341**	P	**P**	**03 42 50.6**	**-1.5**
	0.3nm,0.5s,baz=162,slow=8.8,SNR=3.0						
MKAR	**Makanchi Array**	**57.21**	**325**	P	**P**	**03 44 07.9**	**-0.8**
	0.4nm,0.4s,baz=117,slow=7.4,SNR=13						
ILAR	**Eielson Array**	**84.74**	**25**	P	**P**	**03 46 55.8**	**+0.6**
	0.3nm,0.8s,baz=254,slow=5.7,SNR=4.0						
ARCES	**ARCESS Array B**	**90.06**	**340**	P	**P**	**03 47 21.2**	**+0.5**
	3.8nm,1.1s,baz=70,slow=8.8,SNR=3.5						
NOA	**NORSAR Array B**	**98.41**	**334**	LR	LR	04 37 43.9	
	comp=Z,14nm,19.2s,baz=70,slow=39						
TORD	**Torodi Ar. Bea**	**122.77**	**288**	PKP	**PKPdf**	**03 53 17.1**	**-1.1**
	0.2nm,0.7s,baz=92,slow=1.7,SNR=3.1						

MEX 02 03:42:55.8±0.6**, 20°.45N**×**105°.29W, h40km**±6km**, MD3.5, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUVA	**Puert Vallarta**	**0.19**	**22**	*e*P	Pn	03 43 01.5	-2.0
PUVA				*e*S	Sn	03 43 06.2	-3.2
ANIG	**Ahuacatlan**	**0.94**	**50**	*e*P	Pn	03 43 11.4	-1.2
ANIG				*i* S	Sn	03 43 23.2	-1.8
R15V		**1.77**	**136**	*e*P	Pn	03 43 22.4	-1.7
R15V				*i* S	Sn	03 43 43.2	-2.3
EZ5V		**1.86**	**121**	*e*P	Pn	03 43 24.8	-0.8
EZ5V				*e*S	Sn	03 43 46.3	-1.8
ZAIG	**Zacatecas**	**3.43**	**47**	*i* P	Pn	03 43 45.2	-1.9
ZAIG				*i* S	Sn	03 44 25.5	-1.3

ISCJB ***02*** *03:43:19.8±1.1, 5°.86N±0°.09×72°.23W±0°.08, h33km, mb3.4/5, MS2.9/1, Error ellipse: s-maj=14.1km s-min=8.3km az=142.7*

IDC ***02*** *03:43:19.2±1.3, 6°.42N×72°.52W, h0km, mb3.4/5, mb1 3.8/6, mb1mx3.6/26, mbtmp3.5/6, ML2.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/20, Error ellipse: s-maj=32.0km s-min=17.0km az=136.0*

FUNV ***02*** *03:43:21.1, 5°.75N×72°.45W, h33km, MW3.8*

ISC 02 03:43:22.6±1.2**, 6°.0N**±0°.1×**72°.33W**±0°.08**, h35km, n19, σ1s.69**/24**, mb3.4**/5**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.83**	**0**	*e*P	**Pn**	**03 43 53.1**	**+1.2**
ROSC	**El Rosal**	**2.30**	**240**	Pn	**Pn**	**03 44 01.3**	**+2.8**
	8.9nm,0.3s,baz=95,slow=17,SNR=25						
ROSC				Lg	Lg	03 44 33.8	
	9.9nm,0.3s,baz=90,slow=17,SNR=5.6						
SOCV	**Socops**	**2.68**	**33**	*e*P	**Pn**	**03 44 04.7**	**+1.4**
SOCV				*e*S	**Sn**	**03 44 36.9**	**+2.2**
VIGV	**El Vigia**	**2.96**	**19**	*e*P	**Pn**	**03 44 09.4**	**+2.1**
VIGV				*e*S	**Sn**	**03 44 44.9**	**+3.3**
SANV	**Sanarito**	**4.43**	**38**	*e*P	**Pn**	**03 44 28.7**	**+1.2**
SANV				*e*S	**Sn**	**03 45 18.4**	**+0.4**
VIRV	**Villa del Rosa**	**4.46**	**359**	*e*P	**Pn**	**03 44 27.5**	**-0.2**
QARV	**Quebrada Arrib**	**4.53**	**23**	*e*P	**Pn**	**03 44 29.7**	**+0.9**
CURV	**Curarigua**	**4.61**	**30**	*e*P	**Pn**	**03 44 31.7**	**+1.8**
CURV				*e*S	**Sn**	**03 45 22.2**	**-0.1**
BAUV	**El Baul**	**5.15**	**55**	*e*P	**Pn**	**03 44 37.1**	**-0.1**
BAUV				*e*S	**Sn**	**03 45 33.9**	**-1.6**
DABV	**Dabajuro**	**5.15**	**19**	*e*P	**Pn**	**03 44 38.5**	**+1.2**
MONV	**Montecano**	**6.34**	**21**	*e*P	**Pn**	**03 44 53.8**	**+0.1**
MONV				*e*S	**Sn**	**03 46 02.7**	**-2.2**
MERV	**Las Mercedes**	**6.79**	**61**	*e*P	**Pn**	**03 44 59.2**	**-0.6**
BIRV	**Birongo**	**7.45**	**53**	*e*P	**Pn**	**03 45 08.5**	**-0.4**
TEIG	**Tepich**	**20.96**	**314**	LR	LR	03 56 48.4	
	comp=Z,56nm,21.4s,baz=350,slow=39						
TXAR	**Lajitas Array**	**37.58**	**312**	P	**P**	**03 50 33.1**	**-1.0**
	0.3nm,0.5s,baz=122,slow=8.4,SNR=4.8						
PDAR	**Pinedale Array**	**49.19**	**324**	P	**P**	**03 52 05.8**	**-1.9**
	0.3nm,0.8s,baz=143,slow=5.2,SNR=2.5						
YKA	**Yellowknife Ar**	**64.28**	**340**	P	**P**	**03 53 52.7**	**-1.4**
	0.7nm,0.6s,baz=132,slow=6.6,SNR=9.9						
TORD	**Torodi Ar. Bea**	**73.13**	**78**	P	**P**	**03 54 52.9**	**+2.6**
	0.2nm,0.7s,baz=290,slow=6.8,SNR=3.6						
ILAR	**Eielson Array**	**78.02**	**335**	P	**P**	**03 55 17.2**	**-0.2**
	0.2nm,0.5s,baz=98,slow=5.6,SNR=3.5						

IDC 02 03:48:30.9±13.0**, 17°.84S**×**168°.50E, h0km, mb3.7**/3**, mb1 3.8**/4**, mb1mx3.6**/20**, mbtmp3.7**/4**, ML3.4**/1**, Error ellipse: s-maj=225.7km s-min=45.6km az=84.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.63**	**204**	Pn	Pn	03 49 42.6	+0.3
	1.6nm,0.3s,baz=91,slow=24,SNR=13						
DZM				Sn	Sn	03 50 37.9	+0.9
	0.5nm,0.3s,baz=90,slow=20,SNR=5.0						
STKA	**Stephens Creek**	**28.03**	**235**	P	P	03 54 23.8	-0.2
	0.9nm,0.6s,baz=76,slow=10,SNR=5.2						
WRA	**Warramunga Arr**	**32.36**	**261**	P	P	03 55 02.4	0.0
	0.5nm,0.9s,baz=94,slow=9.4,SNR=5.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ASAR	Alice Springs	32.81	254	P	P	03 55 06.3	-0.1
	0.5nm,0.5s,baz=80,slow=8.4,SNR=7.9						

CSEM 02 04:03:14.3, 12°.42N×46°.01E, h16km, ML3.6
DHMR 02 04:03:14.3±0.7**, 12°.42N×46°.01E, h16**km±11km**, ML3.6, 3C-1D, Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BDHA	Al Bayda'	1.60	344	i P	Pn	04 03 42.7	+0.4
BDHA				⇑iS	Sb	04 04 05.0	+0.9
BDHA				AML	AML	04 04 06.0	
	comp=E,2µm,0.7s						
BDHA	Al Bayda'	1.60	344	i P	Pn	04 03 42.7	+0.4
BDHA				⇑iS	Sb	04 04 05.0	+0.9
LBOS		1.62	333	i P	Pn	04 03 43.2	+0.6
LBOS				i S	Sg	04 04 06.1	-1.1
LBOS				AML	AML	04 04 07.1	
	comp=N,491nm,0.7s						
TRBA	At Turbah	2.02	294	⇓iP	Pn	04 03 49.4	+1.5
TRBA				AML	AML	04 03 49.7	
	comp=Z,212nm,0.5s						
TRBA				⇑iS	Sb	04 04 16.7	+0.7
DHBB	Dhamar BB	2.65	324	i P	Pb	04 03 59.9	-2.0
DHBB				i S	Sb	04 04 34.9	+0.3
DHBB				AML	AML	04 05 03.9	
	comp=N,1µm,0.6s						
DHBB	Dhamar BB	2.65	324	i P	Pb	04 03 59.9	-2.0
DHBB				i S	Sb	04 04 34.9	+0.3

SJA 02 04:03:24.6±0.4, 39°.39S×74°.70W, h40km, ML4.6
IDC 02 04:03:59.7±1.7, 36°.78S×73°.12W, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.8/15, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=55.5km s-min=20.1km az=67.0
GUC 02 04:04:00.0±0.6, 36°.92S×73°.60W, h23km±2km, ML4.6
ISC 02 04:04:01.0±1.0**, 36°.83S**±0°.06×**73°.53W**±0°.09**, h14**km**, n20, σ1s.58**/27**, mb3.7**/4**, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.34	92	eP	Pb	04 04 09.0	+0.1
CCSP				i S	Sb	04 04 15.2	+1.1
LNCH	Linares	1.84	58	⇑iP	Pn	04 04 32.5	+0.2
LNCH				i S	Sb	04 04 58.4	+1.0
LNCH				AML	AML	04 05 07.8	
	comp=E,4µm,0.6s						
TALC	Talca	2.10	48	i P	Pn	04 04 37.3	+1.5
TALC				i S	Sb	04 05 05.8	+1.0
TALC				AML	AML	04 05 12.6	
	comp=N,7µm,0.6s						
NICH	Los Niches	2.61	46	i S	Sb	04 05 19.3	-0.3
NICH				AML	AML	04 05 35.5	
	comp=N,3µm,0.9s						
VLCH	Valdivia	2.98	176	⇓iP	Pn	04 04 47.3	-0.5
VLCH				i S	Sn	04 05 23.1	-0.2
PLCA	Paso Flores	4.54	150	Pn	Pn	04 05 07.9	-1.5
	comp=N,1.2nm,0.3s,baz=327,slow=10,SNR=18						
PLCA				Lg	Lg	04 06 21.2	
	comp=N,5.2nm,0.3s,baz=39,slow=6.3,SNR=6.3						
AUSP	Uspallata	5.73	38	eP	Pn	04 05 26.5	+0.5
AUSP				eS	Sg	04 07 02.0	-3.1
ASAL	Salagasta	5.73	44	eP	Pn	04 05 26.4	+0.6
ASAL				eS	Sb	04 06 53.5	+4.0
RTLS	Leoncito	6.12	36	eP	Pn	04 05 31.8	+0.5
RTCV	Cerro Valdivia	6.45	41	eP	Pn	04 05 35.0	-0.7
CFAA	Coronel Fontan	6.81	42	i P	Pn	04 05 38.6	-2.0
CFAA				i S	Sn	04 07 00.9	+2.9
RTLL	Cerro Villicun	6.91	39	i P	Pn	04 05 40.8	-1.2
AMOG	MOGNA	7.22	37	i P	Pn	04 05 44.9	-1.4
AMOG				i P	Pn	04 05 44.9	-1.4
AVFE	Valle Fertil	7.97	41	i P	Pn	04 05 53.6	-2.9
AVFE				i S	Sn	04 07 26.4	-0.2
AVFE				AML	AML	04 07 52.2	
	comp=Z,12nm,0.7s						
ACLC	CERRO LA CRUZ	9.22	39	eP	Pn	04 06 10.3	-3.5
LPAZ	La Paz	21.02	15	P	P	04 08 44.5	-0.5
	comp=Z,1.4nm,0.7s,baz=171,slow=5.1,SNR=8.2						
TXAR	Lajitas Array	71.64	332	P	P	04 15 24.1	+1.8
	comp=Z,0.5nm,0.7s,baz=144,slow=7.8,SNR=3.3						
DBIC	Dimbokro	77.24	72	P	P	04 15 54.8	-0.2
	comp=Z,1.9nm,0.6s,baz=221,slow=9.3,SNR=3.2						
TORD	Torodi Ar. Bea	86.31	71	P	P	04 16 41.6	-1.2
	comp=Z,0.4nm,0.7s,baz=223,slow=4.6,SNR=7.2						
MKAR	Makanchi Array	159.49	53	PKPab	PKPab	04 24 35.5	-1.4
	comp=Z,0.5nm,0.9s,baz=288,slow=5.6,SNR=4.5						

ISCJB 02 04:09:34.9±0.6, 32°.65N±0°.07×115°.87W±0°.05, h11km±7km, Error ellipse: s-maj=11.5km s-min=6.4km az=8.2
ECX 02 04:09:35.7±0.8, 32°.66N×115°.86W, h3km, MD2.2, ML2.4
MEX 02 04:09:37.5±0.3, 32°.60N×115°.84W, h18km±214km, MD3.5
ISC 02 04:09:34.0±1.3**, 32°.60N**±0°.05×**115°.83W**±0°.04**, h18**km±3km**, n11, σ0s.52**/16**, 7C-2D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGL	Mount Signal	0.10	59	⇑iP	Pg	04 09 37.8	+0.1
WESC	Westside Schoo	0.18	27	i P	Pb	04 09 38.3	+0.1
WESC				eS	Sb	04 09 41.2	+0.2
ERPC	Ernies Place	0.20	43	⇑iP	Pb	04 09 39.3	+0.5
RMX	La Rumorosa	0.21	272	⇑eP	Pg	04 09 39.6	+0.3
COK	Cook Ranch	0.27	19	⇑eP	Pg	04 09 39.8	-0.2
CPBX	Cerro Prieto	0.48	112	eS	Sn	04 09 53.7	-0.1
CPBX				⇓e		04 09 55.4	
CPBX				IAML		04 09 55.4	
	comp=N,665nm,0.2s						
CPBX				⇑e		04 09 56.4	
CPBX				IAML		04 09 56.4	
	comp=E,826nm,0.2s						
RDX	Rancho Dawling	0.67	188	⇓eP	Pn	04 09 48.8	+0.1
RDX				eS	Sn	04 09 58.4	-0.6
BAR	Barrett	0.72	277	⇑iP	Pb	04 09 48.2	+0.3
BAR				eS	Sb	04 09 57.1	-0.3
CBX	Cerro Bola	0.76	248	eP	Pg	04 09 49.6	+0.7
CBX				i S	Sb	04 09 58.8	-0.1
CBX	Cerro Bola	0.76	248	⇑eP	Pn	04 09 49.8	-0.1
CBX				eS	Sn	04 10 00.1	-0.9
SPIG	San Pedro Mart	1.58	169	i P	Pn	04 09 57.1	-4.2
SPIG				i S	Sn	04 10 20.5	-0.9

ISCJB 02 04:33:43.2±0.3, 32°.73N±0°.02×116°.04W±0°.03, h12km±3km, Error ellipse: s-maj=3.8km s-min=3.4km az=138.9
ECX 02 04:33:44.6±0.7, 32°.70N×116°.03W, h4km±1km, MD2.9, ML3.1
NEIC 02 04:33:44.1, 32°.70N×116°.04W, h10km, ML2.9(PAS), ML3.0(ECX), After PAS.
MEX 02 04:33:44.9±0.7, 32°.71N×115°.96W, h16km±14km, MD3.7
ISC 02 04:33:43.5±0.8**, 32°.65N**±0°.02×**115°.99W**±0°.02**, h15**km±5km**, n34, σ1s.23**/61**, 9C-5D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YUH	Yuha Desert	0.06	94	⇓iP	Pg	04 33 46.3	-0.1
RMX	La Rumorosa	0.09	236	⇑iP	Pg	04 33 46.7	-0.2
RMX				eS	Sg	04 33 48.7	-0.4
RMX				⇓e		04 33 48.9	
RMX				IAML		04 33 48.9	
	comp=N,9µm,0.1s						
SGL	Mount Signal	0.23	90	⇑iP	Pb	04 33 49.3	0.0
CRR	Carrizo Plain	0.24	5	⇓eP	Pg	04 33 48.0	-0.8
WESC	Westside Schoo	0.24	64	⇑iP	Pg	04 33 49.5	+0.6
WESC				eS	Sb	04 33 53.6	-0.1
ERPC	Ernies Place	0.29	72	⇑iP	Pb	04 33 50.7	+0.2
COK	Cook Ranch	0.30	48	⇑eP	Pg	04 33 50.2	+0.4
CBKC	Canebrake	0.33	318	⇓iP	Pg	04 33 49.8	-0.7
DREC	Desert Rsrch C	0.48	71	eP	Pb	04 33 54.2	+0.4
BAR	Barrett	0.57	273	ePg	Pg	04 33 54.3	-0.6
BAR				eSg	Sg	04 34 01.0	-1.5
BAR	Barrett	0.57	273	⇑eP	Pg	04 33 54.3	-0.6
CPBX	Cerro Prieto	0.63	112	eP	Pb	04 33 57.0	+0.8
CPBX				eS	Sg	04 34 04.6	+0.4
CPBX	Cerro Prieto	0.63	112	ePn	Pn	04 33 57.6	-0.2
CPBX				eS	Sn	04 34 07.2	-0.4
CPBX				e		04 34 08.9	
CPBX				IAML		04 34 08.9	
	comp=E,3µm,0.2s						
CBX	Cerro Bola	0.66	239	eP	Pg	04 33 56.1	-0.4
CBX				i S	Sg	04 34 04.6	-0.7
CBX	Cerro Bola	0.66	239	eP	Pg	04 33 56.1	-0.4
CBX				i S	Sg	04 34 04.6	-0.7
CBX	Cerro Bola	0.66	239	⇑eP	Pg	04 33 56.5	-0.1
CBX				eS	Sg	04 34 05.3	0.0
RDX	Rancho Dawling	0.72	177	⇓eP	Pg	04 33 58.0	+0.3
RDX				IAML		04 34 09.2	
	comp=N,500nm,0.5s						
RDX				e		04 34 09.2	
COA	Coachella	0.76	74	⇑eP	Pg	04 33 58.3	0.0
EMSC	East Mesa	0.85	84	⇑eP	Pg	04 33 59.9	-0.2
PFO	Pinyon Flats O	1.03	338	ePg	Pb	04 34 01.6	-1.6
PFO				eS	Sb	04 34 14.3	-2.3
GLA	Glamis	1.06	68	ePg	Pb	04 34 02.5	-1.1
GLA				eS	Sb	04 34 15.9	-1.4
PBX	Punta Banda	1.10	215	eP	Pb	04 34 04.6	+0.3
PBX				eS	Sn	04 34 19.6	+0.3
ECNX	Esteban Cantu	1.12	208	eP	Pb	04 34 04.8	+0.3
ECNX				eS	Sg	04 34 20.0	+0.3
ZAX	El Zacaton	1.16	192	eP	Pn	04 34 05.8	+0.6
ZAX				eS	Sn	04 34 21.6	+0.7
ECBX	El Chinero	1.42	146	ePn	Pb	04 34 10.4	+0.7
ECBX				eS	Sg	04 34 30.6	+1.2
SPIG	San Pedro Mart	1.66	164	eP	Pn	04 34 11.2	-1.2
SPIG				i S	Sn	04 34 31.8	-1.8
SPIG	San Pedro Mart	1.66	164	eP	Pn	04 34 11.2	-1.2
SPIG				i S	Sn	04 34 31.8	-1.8
SPX	San Pedro Mart	1.66	164	i P	Pn	04 34 11.2	-1.3
SPX				i S	Sn	04 34 31.3	-2.4
SPX	San Pedro Mart	1.66	164	ePn	Pb	04 34 14.5	+0.5
SPX				eS	Sg	04 34 37.9	+0.7
MWC	Mount Wilson	2.33	313	ePn	Pn	04 34 23.9	+2.4
MWC				eS	Sb	04 34 54.4	+0.3
GSC	Goldstone, Bar	2.73	346	ePn	Pn	04 34 28.4	+1.5
GSC				ePg	Pb	04 34 33.3	+1.2
GSC				eS	Sb	04 35 07.7	+2.3
ISA	Isabella, Lake	3.64	326	ePn	Pn	04 34 38.5	-0.9
ISA				ePg	Pb	04 34 49.0	+1.3
ISA				eS	Sb	04 35 35.5	+3.9
DAC	Darwin (Calif)	3.85	340	ePn	Pn	04 34 42.9	+0.5
DAC				ePg	Pg	04 34 55.4	-2.0
DAC				eS	Sb	04 35 40.7	+2.9
SHPR	Sheep Range	3.91	10	ePn	Pn	04 34 43.6	+0.5
SHPR				ePg	Pg	04 34 58.6	+0.2
SHPR				eS	Sg	04 35 47.5	-1.5

IDC 02 04:48:26.0±5.6**, 7°.35S**×**129°.05E, h66**km±72km**, mb3.4**/1**, mb1 3.8**/4**, mb1mx3.3**/30**, mbtmp3.8**/4**, ML3.9**/3**, Error ellipse: s-maj=112.6km s-min=27.1km az=85.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.80	19	P	Pn	04 50 04.7	+1.4
	1.0nm,0.3s,baz=6.8,slow=23,SNR=8.2						
SIJI				S	Sn	04 51 13.6	-5.8
	1.4nm,0.3s,baz=112,slow=19,SNR=4.5						
WRA	Warramunga Arr	13.53	158	P	Pn	04 51 35.0	-0.1
	1.3nm,0.3s,baz=339,slow=14,SNR=53						
WRA				S	Sn	04 53 57.4	-6.5
	1.7nm,0.3s,baz=323,slow=25,SNR=11						
ASAR	Alice Springs	16.88	165	P	Pn	04 52 18.4	+0.3
	0.3nm,0.3s,baz=336,slow=10.0,SNR=16						
ASAR				S	Sn	04 55 18.6	-6.6
	0.2nm,0.3s,baz=322,slow=15,SNR=4.2						
MKAR	Makanchi Array	68.00	327	P	P	04 59 18.1	-0.3
	0.3nm,0.3s,baz=125,slow=6.8,SNR=10						

ISCJB 02 04:52:06.3±0.3, 40°.64N±0°.02×15°.84E±0°.02, h23km±4km, Error ellipse: s-maj=3.1km s-min=3.0km az=168.0
CSEM 02 04:52:06.0±0.1, 40°.64N×15°.85E, h19km, ML3.5/13, Error ellipse: s-maj=2.2km s-min=2.1km az=12.0
ROM 02 04:52:06.0±0.1, 40°.64N×15°.86E, h20km±1km, Ml2.9/25, Error ellipse: s-maj=1.1km s-min=0.8km az=67.0
ISC 02 04:52:06.4±0.8**, 40°.65N**±0°.02×**15°.86E**±0°.02**, h18**km±3km**, n67, σ0s.67**/104**, Southern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PZUN	Potenza	0.04	269	Pg	Pg	04 52 09.6	+0.1
PZUN				Sg	Sg	04 52 12.4	+0.7
PZUN	Potenza	0.04	269	Pg	Pg	04 52 09.6	+0.1
PZUN				Sg	Sg	04 52 12.4	+0.7
ACER	Acerenza	0.15	25	Pg	Pg	04 52 10.7	0.0
ACER				Sg	Sg	04 52 14.0	+0.3
	19µm,0.3s						
ACER	Acerenza	0.15	25	Pg	Pg	04 52 10.7	0.0
ACER				Sg	Sg	04 52 14.0	+0.3
	19µm,0.3s						
MRLC	Muro Lucano	0.30	291	Pg	Pb	04 52 13.4	+0.1
MRLC				Sg	Sb	04 52 18.9	+1.0
	879nm,0.2s						
MRLC	Muro Lucano	0.30	291	Pg	Pb	04 52 13.4	+0.1
MRLC				Sg	Sb	04 52 18.9	+1.0
	879nm,0.2s						
PALZ	Palazzo San Ge	0.31	15	Pg	Pg	04 52 12.8	-0.3
PALZ				Sg	Sg	04 52 17.4	-0.2
	1µm,0.6s						
PALZ	Palazzo San Ge	0.31	15	Pg	Pg	04 52 12.8	-0.3
PALZ				Sg	Sg	04 52 17.4	-0.2
	1µm,0.6s						
MCEL	Monticello	0.32	188	Pg	Pg	04 52 13.1	-0.3
MCEL				Sg	Sb	04 52 18.7	+0.1
	2µm,0.5s						
MCEL	Monticello	0.32	188	Pg	Pg	04 52 13.1	-0.3
MCEL				Sg	Sb	04 52 18.7	+0.1
	2µm,0.5s						
VULT	Monte Vulture	0.36	329	Pg	Pg	04 52 13.8	-0.2
VULT				Sg	Sb	04 52 19.7	0.0
	740nm,0.4s						
VULT	Monte Vulture	0.36	329	Pg	Pg	04 52 13.8	-0.2
VULT				Sg	Sb	04 52 19.7	0.0
	740nm,0.4s						
MTSN	Montesano sull	0.39	192	Pg	Pg	04 52 14.0	-0.5
MTSN				Sg	Sb	04 52 20.8	+0.3
	277nm,0.4s						
MTSN	Montesano sull	0.39	192	Pg	Pg	04 52 14.0	-0.5
MTSN				Sg	Sb	04 52 20.8	+0.3
	277nm,0.4s						
SGO	Sicignano	0.43	259	Pg	Pg	04 52 14.9	-0.2
SGO	Sicignano	0.43	259	Pg	Pg	04 52 14.9	-0.2
MIGL	Miglionico	0.45	95	Pg	Pg	04 52 14.9	-0.6
MIGL				Sg	Sb	04 52 22.5	+0.4
	4µm,0.3s						
MIGL	Miglionico	0.45	95	Pg	Pg	04 52 14.9	-0.6
MIGL				Sg	Sb	04 52 22.5	+0.4
	4µm,0.3s						
CDRU	Civita di Ruta	0.45	250	Pg	Pg	04 52 15.2	-0.4
	269nm,0.1s						
CDRU	Civita di Ruta	0.45	250	Pg	Pg	04 52 15.2	-0.4
	269nm,0.1s						
SIRI	Monte Sirino -	0.46	179	Pg	Pg	04 52 15.1	-0.7
SIRI				Sg	Sg	04 52 22.7	+0.5
	733nm,0.2s						
SIRI	Monte Sirino -	0.46	179	Pg	Pg	04 52 15.1	-0.7
SIRI				Sg	Sg	04 52 22.7	+0.5
	733nm,0.2s						
SCHR	S. Chirico Rap	0.48	159	Pg	Pg	04 52 15.3	-0.8
SCHR				Sg	Sg	04 52 22.6	0.0
	218nm,0.2s						
MRVN	Minervino Murg	0.49	32	Pg	Pg	04 52 15.7	-0.5
MRVN				Sg	Sg	04 52 22.9	0.0
	413nm,0.1s						
MRVN	Minervino Murg	0.49	32	Pg	Pg	04 52 15.7	-0.5
MRVN				Sg	Sg	04 52 22.9	0.0
	413nm,0.1s						
CRAC	Craco	0.52	122	Pg	Pb	04 52 16.4	-0.6
CRAC				Sg	Sg	04 52 25.1	+1.2
	1µm,0.5s						
CRAC	Craco	0.52	122	Pg	Pb	04 52 16.4	-0.6
CRAC				Sg	Sg	04 52 25.1	+1.2
	1µm,0.5s						
CMPR	Campora	0.54	232	Pg	Pb	04 52 16.5	-0.8
	313nm,0.5s						
CMPR	Campora	0.54	232	Pg	Pb	04 52 16.5	-0.8
	313nm,0.5s						
CDT	Castel del Mon	0.54	36	ePg	Pb	04 52 16.4	-0.9
CDT				Sg	Sb	04 52 24.3	-0.4
MCRV	Calabrutti - M	0.54	285	Pg	Pb	04 52 16.9	-0.5
MCRV	Calabrutti - M	0.54	285	Pg	Pb	04 52 16.9	-0.5
SNAL	S. Angelo Dei	0.57	300	Pg	Pb	04 52 17.4	-0.4
SNAL				Sg	Sg	04 52 26.3	+1.0
	593nm,0.6s						
SNAL	S. Angelo Dei	0.57	300	Pg	Pb	04 52 17.4	-0.4
SNAL				Sg	Sg	04 52 26.3	+1.0
	593nm,0.6s						
CAFE	Carife	0.61	309	Pg	Pb	04 52 18.0	-0.5
	426nm,0.4s						
CAFE	Carife	0.61	309	Pg	Pb	04 52 18.0	-0.5
	426nm,0.4s						
AMUR	Altamura	0.62	65	Pg	Pb	04 52 17.9	-0.9
AMUR				Sg	Sg	04 52 27.6	+0.5
	549nm,0.2s						
AMUR	Altamura	0.62	65	Pg	Pb	04 52 17.9	-0.9
AMUR				Sg	Sg	04 52 27.6	+0.5
	549nm,0.2s						
MATE	Matera	0.65	89	Pg	Pb	04 52 18.1	-1.0
MATE				Sg	Sb	04 52 27.7	0.0
MATE	Matera	0.65	89	Pg	Pb	04 52 18.1	-1.0
MATE				Sg	Sb	04 52 27.7	0.0
SG1	Sgolgore (BA)	0.65	73	ePg	Pb	04 52 17.9	-1.4
SG1				Sg	Sg	04 52 29.4	+1.4
CUC	Castrocucco	0.65	183	Pg	Pb	04 52 18.6	-0.7
	173nm,0.5s						
CUC	Castrocucco	0.65	183	Pg	Pb	04 52 18.6	-0.7
	173nm,0.5s						
BULG	Bulgheria - Ca	0.68	213	Pg	Pb	04 52 19.1	-0.6
	298nm,0.4s						
BULG	Bulgheria - Ca	0.68	213	Pg	Pb	04 52 19.1	-0.6
	298nm,0.4s						
LTRZ	Laterza	0.73	93	Pg	Pb	04 52 20.4	-0.2
LTRZ				Sg	Sg	04 52 31.1	+0.6
	501nm,0.7s						
LTRZ	Laterza	0.73	93	Pg	Pb	04 52 20.4	-0.2
LTRZ				Sg	Sg	04 52 31.1	+0.6
	501nm,0.7s						
ORI	Oriolo Calabro	0.74	142	Pg	Pb	04 52 20.6	-0.1
	711nm,0.5s						
ORI	Oriolo Calabro	0.74	142	Pg	Pb	04 52 20.6	-0.1
	711nm,0.5s						
MRB1	Monte Rocchett	0.82	306	Pg	Pb	04 52 21.7	-0.5
	284nm,0.5s						
MRB1	Monte Rocchett	0.82	306	Pg	Pb	04 52 21.7	-0.5
	284nm,0.5s						
MOCO	Biccari - m.te	0.90	324	Pg	Pb	04 52 23.7	+0.2
	84nm,0.7s						
BAI	Bari	0.90	59	ePg	Pb	04 52 23.3	-0.2
BAI				Sg	Sn	04 52 37.1	+0.4
NOCI	Noci	0.93	81	Pg	Pb	04 52 23.5	-0.5
	551nm,0.3s						
NOCI	Noci	0.93	81	Pg	Pb	04 52 23.5	-0.5
	551nm,0.3s						
MS1	Monte Sant'Ang	1.06	3	ePg	Pn	04 52 26.6	+0.2
MS1				Sg	Sg	04 52 41.7	+0.8
MSAG	Monte S. Angel	1.06	2	Pg	Pb	04 52 26.0	-0.3
	606nm,0.2s						
MSAG	Monte S. Angel	1.06	2	Pg	Pb	04 52 26.0	-0.3
	606nm,0.2s						
TAR1	Taranto	1.09	96	ePg	Pg	04 52 27.4	-0.1
TAR1				Sg	Sg	04 52 44.2	+2.3
SGRT	San Giovanni R	1.11	356	Pg	Pn	04 52 26.4	-0.7
	255nm,0.2s						
SGRT	San Giovanni R	1.11	356	Pg	Pn	04 52 26.4	-0.7
	255nm,0.2s						
PE1	Pezze di Greco	1.20	82	ePg	Pb	04 52 28.6	0.0
PE1				Sg	Sg	04 52 46.7	+1.4
STON	Ston	2.62	31	ePn	Pn	04 52 48.0	+0.3
STON	Ston	2.62	31	ePn	Pn	04 52 48.0	+0.3
NVLJ	Novalja	3.98	350	ePn	Pn	04 53 05.0	-1.5
NVLJ	Novalja	3.98	350	ePn	Pn	04 53 05.0	-1.5
SELS	Selova	4.69	55	ePn	Pn	04 53 17.8	+1.5

IDC 02 05:06:11.9±1.9, 3°.01N×126°.39E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/33, mbtmp3.8/4, MS3.1/2, Ms1 3.2/2, ms1mx2.6/27, Error ellipse: s-maj=177.7km s-min=23.7km az=65.0
DJA 02 05:06:33.8±1.2, 2°N±11°×12°6E±°, h89km±25km, M4.5/10, mb4.5/6, mB5.0/4, MLv4.5/10, Mw(mB)4.3/4
ISC 02 05:06:25.7±1.4**, 2°.7N**±0°.1×**126°.01E**±0°.07**, h105**km**, n16, σ1s.85**/15**, mb3.9**/4**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.34	144	P	Pn	05 07 05.5	+2.7
LBMI	Labuha	3.62	156	S	Sn	05 08 03.5	+1.6
MRSI	Marisa	4.62	242	P	Pn	05 07 36.1	+2.8
MRSI				S	Sn	05 08 24.7	-1.2
SANI	Sanana	4.70	180	P	Pn	05 07 34.1	-0.4
LUWI	Luwuk	4.92	221	P	Pn	05 07 39.1	+1.8
APSI	Ampana	5.63	231	P	Pn	05 07 50.0	+2.9
	70nm,0.7s,818nm0.4nm						
NLAI	Namlea	5.98	169	P	Pn	05 07 52.7	+0.9
	121nm,0.7s,3µm1.7nm						
MPSI	Mapaga	6.54	249	P	Pn	05 08 10.2	+11
KDI	Kendari	7.42	207	P	Pn	05 08 10.4	-0.9
	35nm,0.7s,831nm0.2nm						
TTSI	Tana Toraja	8.40	227	P	Pn	05 08 26.3	+1.6
	20nm,0.8s,0.1nm						
WRA	Warramunga Arr	23.93	160	P	P	05 11 29.1	-1.1
	1.9nm,0.3s,baz=341,slow=10,SNR=33						
WRA				S	S	05 15 37.7	-1.5
	2.2nm,0.8s,baz=332,slow=20,SNR=8.7						
ASAR	Alice Springs	27.30	164	P	P	05 12 00.2	-0.4
	0.6nm,0.7s,baz=344,slow=6.7,SNR=9.2						
CMAR	Chiang Mai Arr	30.80	302	LR	LR	05 25 34.3	
	comp=Z,18nm,18.0s,baz=115,slow=38						
STKA	Stephens Creek	37.43	158	P	P	05 13 28.9	+0.2
	0.6nm,0.4s,baz=330,slow=8.1,SNR=3.6						
MKAR	Makanchi Array	58.00	326	P	P	05 16 06.0	-1.5
	0.4nm,0.4s,baz=119,slow=7.2,SNR=7.1						
ILAR	Eielson Array	86.35	25	LR	LR	05 52 09.7	
	comp=Z,15nm,21.3s,baz=136,slow=32						

IDC 02 05:09:32.5±0.9, 14°.23S×166°.55E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.1/32, mbtmp4.1/15, ML3.8/1, MS3.5/5, Ms1 3.5/5, ms1mx3.0/23, Error ellipse: s-maj=28.8km s-min=17.5km az=108.0
ISCJB 02 05:09:34.9±0.6, 14°.35S±0°.05×166°.5E±0°.1, h28km, mb4.1/14, MS3.5/5, Error ellipse: s-maj=15.8km s-min=7.7km az=177.1
NEIC 02 05:09:38.3±1.5, 14°.32S×166°.52E, h39km±13km, mb4.6/2, Error ellipse: s-maj=13.9km s-min=10.4km az=87.0
ISC 02 05:09:36.8±0.7**, 14°.30S**±0°.08×**166°.6E**±0°.1**, h28**km**, n26, σ0s.89**/25**, mb4.1**/14**, MS3.4**/5**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.73	181	Pn	Pn	05 11 28.3	+0.7
	1.3nm,0.3s,baz=270,slow=24,SNR=22						
DZM				Sn	Sn	05 12 54.3	0.0
	0.9nm,0.3s,baz=270,slow=24,SNR=5.7						
HNR	Honiara	8.11	306	P	Pn	05 11 34.0	+1.2
HNR	Honiara	8.11	306	ePn	Pn	05 11 33.1	+0.3
	245nm,0.8s						
CTA	Charters Tower	20.25	251	P	P	05 14 09.1	-1.2
	5.1nm,0.9s,baz=89,slow=8.8,SNR=5.5						
CTAO	Charters Tower	20.25	251	eP	P	05 14 09.0	-1.2
	14nm,0.9s						
STKA	Stephens Creek	28.78	228	P	P	05 15 32.5	+0.1
	1.7nm,0.9s,baz=60,slow=8.1,SNR=2.5						
STKA				LR	LR	05 27 02.2	
	comp=Z,99nm,18.2s,baz=31,slow=36						
WRAB	Tennant Creek	31.29	255	eP	P	05 15 41.9	-13
WRA	Warramunga Arr	31.30	255	P	P	05 15 54.0	-0.9
	0.3nm,0.5s,baz=87,slow=8.3,SNR=3.7						
WRA				LR	LR	05 28 16.9	
	comp=Z,66nm,19.5s,baz=85,slow=36						
ASAR	Alice Springs	32.22	248	P	P	05 16 02.4	-0.6
	1.0nm,0.8s,baz=73,slow=9.2,SNR=6.3						
ASAR				LR	LR	05 27 07.8	
	comp=Z,70nm,20.1s,baz=98,slow=33						
MJAR	Matsushiro Arr	57.23	333	P	P	05 19 20.9	-0.8
	0.6nm,0.3s,baz=171,slow=8.2,SNR=4.1						
YULB	Yu-li	58.02	310	eP	P	05 19 29.2	+1.6
KSRS	Korea Array	63.02	326	P	P	05 20 01.4	0.0
	0.7nm,0.3s,baz=141,slow=8.3,SNR=3.3						
KSAR	Wonju Array Be	63.03	326	P	P	05 20 01.4	-0.1
VNDA	Vanda	63.27	181	P	P	05 20 03.5	+1.0
	1.5nm,0.8s,baz=6.8,slow=5.5,SNR=6.7						
VNDA				LR	LR	05 43 37.0	
	comp=Z,49nm,18.8s,baz=186,slow=32						
USRK	Ussuriysk Ar.	66.21	333	P	P	05 20 22.1	+0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	3.2nm,0.9s,baz=181,slow=9.8,SNR=4.6						
CMAR	Chiang Mai Arr	74.18	294	P	P	05 21 10.3	-1.1
	0.7nm,0.3s,baz=130,slow=4.9,SNR=6.1						
SEY	Seymchan	77.78	353	P	P	05 21 31.0	0.0
	0.9nm,0.2s,baz=53,slow=6.3,SNR=4.8						
SONM	Songino Array	81.77	324	P	P	05 21 54.7	+1.5
	0.4nm,0.4s,baz=76,slow=6.1,SNR=2.6						
IM04	Indian Mountai	85.31	15	eP	P	05 22 11.2	+0.4
COLA	College	86.11	18	eP	P	05 22 14.8	+0.1
	7.4nm,1.0s						
ILAR	Eielson Array	86.33	18	P	P	05 22 15.3	-0.5
	3.1nm,0.7s,baz=242,slow=5.2,SNR=49						
MKAR	Makanchi Array	96.44	317	P	P	05 23 03.5	0.0
	0.4nm,0.5s,baz=69,slow=7.9,SNR=3.2						
TXAR	Lajitas Array	96.65	62	LR	LR	05 59 50.5	
	comp=Z,13nm,19.1s,baz=0.0,slow=31						
YKA	Yellowknife Ar	97.47	27	P	P	05 23 06.2	-1.5
	0.4nm,0.7s,baz=254,slow=4.5,SNR=4.0						
ARCES	ARCESS Array B	119.67	345	PKP	PKPdf	05 28 23.1	-0.6
	4.9nm,1.1s,baz=83,slow=3.0,SNR=4.4						
MSKU	Masuku	148.89	242	PKPbc	PKPbc	05 29 22.3	-0.7
	3.1nm,0.6s,baz=122,slow=4.7,SNR=4.4						

IDC 02 05:11:59.3±2.9, 58°.19S×26°.28W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/26, mbtmp4.0/2, Error ellipse: s-maj=104.4km s-min=46.2km az=171.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	52.03	306	P	P	05 21 11.1	-0.2
	1.2nm,0.6s,baz=136,slow=5.3,SNR=12						
TORD	Torodi Ar. Bea	74.70	28	P	P	05 23 40.5	0.0
	1.1nm,0.6s,baz=196,slow=6.3,SNR=12						
YKA	Yellowknife Ar	138.08	316	PKP	PKPdf	05 31 24.4	0.0
	0.5nm,0.4s,baz=133,slow=2.1,SNR=13						
ILAR	Eielson Array	151.88	308	PKPbc	PKPbc	05 31 54.1	-0.3
	2.1nm,0.7s,baz=126,slow=1.9,SNR=37						

NNC 02 05:41:08.9±11.0, 37°.38N×71°.87E, h0km, mb3.6, mpv3.2, 6C-2D, Error ellipse: s-maj=96.2km s-min=35.0km az=161.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZET	Dzherino	2.79	302	⇑Pn	Pn	05 41 53.7	-1.2
	15nm,0.3s						
DZET				⇓Sn	Sb	05 42 32.8	-1.8
	19nm,0.5s						
SFK	Sufi-Kurgan	2.92	25	⇑Pn	Pn	05 41 56.5	-0.6
	2.9nm,0.4s						
SFK				⇑Sn	Sb	05 42 37.7	-1.1
	22nm,0.3s						
MNAS	Manas	5.12	5	⇑Pn	Pn	05 42 22.9	-4.2
	1.8nm,0.5s						
MNAS				⇓Sn	Sn	05 43 23.6	-3.5
	3.1nm,0.4s						
KK31	Karatay Array	5.81	350	⇑Pn	Pn	05 42 33.7	-2.6
	0.2nm,0.3s,baz=181,slow=15						
KK31				⇑Sn	Sn	05 43 38.8	-5.0
	0.9nm,0.3s,baz=175,slow=20,SNR=3.5						

IDC 02 05:44:24.4±8.2, 15°.11N×122°.90E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.4/36, mbtmp3.7/3, MS3.6/2, Ms1 3.6/2, ms1mx2.6/35, Error ellipse: s-maj=336.6km s-min=28.5km az=98.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	25.34	30	P	P	05 49 53.2	+0.1
	1.3nm,0.4s,baz=236,slow=8.7,SNR=4.4						
WRA	Warramunga Arr	36.60	162	P	P	05 51 31.8	-0.8
	0.2nm,0.5s,baz=343,slow=8.8,SNR=6.3						
ASAR	Alice Springs	40.01	164	P	P	05 52 01.6	+0.4
	0.6nm,0.3s,baz=338,slow=7.5,SNR=16						
BVAR	Borovoye Array	55.84	325	LR	LR	06 18 00.3	
	comp=Z,64nm,18.3s,baz=252,slow=36						
JMIC	Jan Mayen	87.97	346	LR	LR	06 41 02.5	
	comp=Z,24nm,19.0s,baz=240,slow=39						

KRSC 02 05:46:34.3±2.3, 49°.32N×156°.83E, h6km±5km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.44	342	eP	Pn	05 46 59.3	-1.6
SKR				eS	Sn	05 47 17.1	-3.1
PAU	Pauzhetka	2.15	360	eP	Pb	05 47 12.6	-1.1
PAU				eS	Sb	05 47 39.9	-0.7
MIPR	Malaya Ipel'ka	2.96	359	eP	Pn	05 47 22.8	+0.9
ASAK	Asacha	3.15	12	eP	Pb	05 47 28.1	-2.6
ASAK				eS	Sn	05 48 05.2	+2.9
MTVR	Mutnovka	3.28	15	eP	Pb	05 47 30.0	-3.1
MTVR				eS	Sb	05 48 10.9	-2.6
RUS	Russkaya	3.30	18	eP	Pn	05 47 29.2	+2.8
RUS				eS	Sn	05 48 09.6	+3.7
UGLR	Uglovaya	4.09	17	eP	Pn	05 47 41.9	+4.4
AVH	Avacha	4.13	16	eP	Pn	05 47 42.7	+4.7
KOK	Koryaka	4.14	15	eP	Pb	05 47 42.9	-4.7
SDLR	Sedlovina	4.17	17	eP	Pn	05 47 42.1	+3.5
KRX	Arik	4.21	15	eP	Pn	05 47 43.5	+4.4
SPN	Mys Shipunski	4.29	27	eP	Pn	05 47 43.7	+3.7
SPN				eS	Sb	05 48 36.2	-5.7
GNL	Ganaly	4.44	9	eP	Pn	05 47 46.4	+4.1
MKZ	Mys Kozlova	6.06	28	eP	Pn	05 48 07.0	+2.7
KBTR	Krutoberegovo	7.80	25	eP	Pn	05 48 33.3	+5.1

NIED 02 05:47:00, 23°.40N×123°.60E, h8km, Mw3.8 Best double couple: Mo6.50000×10[14] NP1:φs317.00000°, δ18.00000°, λ19.00000°. NP2:φs210.00000°, δ84.00000°, λ107.00000°.
JMA 02 05:47:48.8±0.1, 23°.42N×123°.63E, h55km±2km, M3.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.65	14	P	Pn	05 48 02.2	0.0
HATJ				eS	Sn	05 48 12.1	+0.2
JKRS	Kuro-shima	0.89	23	P	Pn	05 48 05.7	+0.5
JKRS				eS	Sn	05 48 17.3	+0.1
IRIF	Iriomote-Funau	0.92	6	P	Pn	05 48 05.8	+0.2
IRIF				eS	Sn	05 48 18.3	+0.4
JIJ	Ishigaki jima	1.05	26	P	Pn	05 48 07.6	+0.3
JIJ				eS	Sn	05 48 21.0	-0.1
YOJ	Yonaguni jima	1.18	331	P	Pn	05 48 09.6	+0.5
YOJ				eS	Sn	05 48 24.5	+0.3
JYNG	Yonagunijimaku	1.20	329	P	Pn	05 48 09.6	+0.2
JYNG				eS	Sn	05 48 25.3	+0.6
JISG	Ishigakijimahi	1.32	28	P	Pn	05 48 11.3	+0.4
JISG				eS	Sn	05 48 27.4	-0.1
JTJ	Tarama	1.56	39	P	Pn	05 48 14.9	+0.7
JTJ				eS	Sn	05 48 34.6	+1.2
JIRB	Irabujima	1.99	45	P	Pn	05 48 20.5	+0.5
JIRB				eS	Sn	05 48 44.6	+0.8
JMJ	Miyako jima 2	2.06	47	P	Pn	05 48 21.3	+0.3
JMJ				eS	Sn	05 48 47.2	+1.7
JOGS	Gusukube	2.10	50	P	Pn	05 48 22.2	+0.6
JOGS				eS	Sn	05 48 47.8	+1.2
JIKM	Ikemajima	2.10	44	P	Pn	05 48 22.1	+0.5
JIKM				S	Sn	05 48 48.1	+1.5
JKE	Kume jima 2	4.07	44	P	Pn	05 48 47.4	-1.2

ISCJB 02 05:49:58.5±1.0, 20°.4S±0°.2×177°.7W±0°.2, h500km, mb3.6/7, Error ellipse: s-maj=26.7km s-min=17.6km az=142.3
IDC 02 05:49:59.6±2.9, 20°.50S×177°.66W, h503km±37km, mb3.2/7, mb1 3.4/8, mb1mx3.2/31, mbtmp4.1/8, Error ellipse: s-maj=33.1km s-min=17.0km az=152.0
ISC 02 05:49:59.2±1.1, 20°.5S±0°.2×177°.7W±0°.2, h500km, n8, σ0.s96/9, mb3.9/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	18.29	193	P	P	05 53 40.9	-1.1
	2.2nm,0.3s,baz=277,slow=2.9,SNR=14						
CTA	Charters Tower	33.80	264	P	P	05 55 59.5	+0.2
	2.1nm,0.3s,baz=95,slow=12,SNR=5.0						
STKA	Stephens Creek	38.08	244	P	P	05 56 34.9	+0.3
	1.6nm,0.3s,baz=105,slow=16,SNR=3.4						
ASAR	Alice Springs	44.83	257	P	P	05 57 29.1	+0.7
	2.6nm,0.5s,baz=96,slow=7.5,SNR=34						
ASAR				S	S	06 03 29.2	+0.1
	0.8nm,0.8s,baz=95,slow=17,SNR=7.3						
WRA	Warramunga Arr	44.91	262	P	P	05 57 29.2	+0.1
	1.1nm,0.3s,baz=97,slow=7.5,SNR=61						
MJAR	Matsushiro Arr	70.38	323	P	P	06 00 21.7	-0.7
	1.2nm,0.5s,baz=161,slow=5.6,SNR=4.1						
TXAR	Lajitas Array	86.78	57	P	P	06 01 51.8	+1.4
	0.2nm,0.7s,baz=256,slow=3.6,SNR=3.1						
ILAR	Eielson Array	88.22	13	P	P	06 01 55.1	-1.0
	0.1nm,0.4s,baz=214,slow=5.9,SNR=4.3						

DJA 02 06:03:21.7±0.7, 8°S±5°×10°8E±°, h10km, M3.6/8, MLv3.6/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMJI	Cimerak	0.80	42	P	Pg	06 03 37.1	-0.1
CMJI				S	Sg	06 03 46.5	-1.2
CISI	Cisompet, Garu	0.83	354	P	Pg	06 03 36.9	-1.0
CNJI	Cibinong	1.32	324	P	Pn	06 03 43.3	-3.0
LEM	Lembang	1.58	349	P	Pn	06 03 50.1	+0.1
LEM				S	Sb	06 04 11.9	+0.4
CGJI	Cibinong	2.82	309	P	Pn	06 04 06.5	-0.3
PWJI	Pagerwojo	3.87	85	P	Pn	06 04 21.5	+0.2

SJA 02 06:15:24.8±0.6, 19°.91S×68°.34W, h214km±35km, ML2.9
ISCJB 02 06:15:26.7±1.2, 20°.06S±0°.08×68°.5W±0°.2, h150km, mb3.6/3, Error ellipse: s-maj=22.3km s-min=7.4km az=157.3
IDC 02 06:15:44.5±10.0, 18°.18S×67°.70W, h239km±44km, mb3.4/3, mb1 3.4/5, mb1mx3.1/22, mbtmp3.9/5, Error ellipse: s-maj=236.7km s-min=24.4km az=18.0
ISC 02 06:15:26.7±2.1, 20°.1S±0°.1×68°.6W±0°.2, h150km, n12, σ0.s99/14, mb3.6/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YJA	Yavi	3.53	126	iP	Pn	06 16 22.2	+0.9
YJA				iS	Sn	06 17 04.8	+1.3
LPAZ	La Paz	3.84	7	P	Pn	06 16 25.9	+0.3
	1.0nm,0.3s,baz=178,slow=7.9,SNR=42						
HJA	Humahuaca	4.27	137	iP	Pn	06 16 32.6	+1.8
AZAP	Zapla	5.23	142	iP	Pn	06 16 43.4	-0.1
AZAP				iS	Sn	06 17 42.6	-0.6
AZAP				AML	AML	06 17 48.4	
	comp=Z,5.2nm,0.6s						
ASTB	Santa Barbara	5.39	136	iP	Pn	06 16 45.8	+0.3
ASTB				iS	Sn	06 17 45.4	-1.6
SLA	San Lorenzo	5.39	149	iP	Pn	06 16 46.1	+0.6
SLA				iP	Pn	06 16 46.1	+0.6
ALOL	LOMAS DE OLMED	5.65	131	iP	Pn	06 16 47.7	-1.1
SIV	San Ignacio	8.26	61	P	Pn	06 17 21.9	-1.8
	comp=Z,0.6nm,0.3s,baz=265,slow=11,SNR=12						
BDFB	Brasilia	20.09	80	P	P	06 19 48.9	0.0
	comp=Z,0.4nm,0.3s,baz=266,slow=9.8,SNR=6.7						
DBIC	Dimbokro	68.07	74	P	P	06 26 10.3	-0.4
	comp=Z,1.7nm,0.7s,baz=208,slow=15,SNR=3.2						
TORD	Torodi Ar. Bea	76.62	70	P	P	06 27 01.4	0.0
	comp=Z,0.7nm,0.6s,baz=252,slow=5.5,SNR=15						
YKA	Yellowknife Ar	90.00	340	P	P	06 28 09.6	+0.9
	comp=Z,0.4nm,0.6s,baz=134,slow=4.8,SNR=4.7						

IDC 02 06:35:47.0±2.5, 22°.11S×174°.22W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.8/25, mbtmp3.8/6, Error ellipse: s-maj=155.8km s-min=24.7km az=155.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	47.60	258	P	P	06 44 25.3	+0.2
	1.1nm,0.9s,baz=89,slow=7.5,SNR=10.0						
WRA	Warramunga Arr	47.88	263	P	P	06 44 26.6	-0.6
	0.5nm,0.7s,baz=101,slow=7.3,SNR=6.5						
NVAR	Mina Array Bea	79.83	41	P	P	06 47 57.4	-0.4
	0.8nm,0.7s,baz=226,slow=8.6,SNR=6.1						
TXAR	Lajitas Array	85.00	56	P	P	06 48 25.6	+0.9
	0.7nm,1.0s,baz=224,slow=7.6,SNR=4.6						
PDAR	Pinedale Array	87.76	42	P	P	06 48 37.0	-1.2
	0.4nm,0.7s,baz=194,slow=6.4,SNR=4.1						
ILAR	Eielson Array	89.14	11	P	P	06 48 44.5	+0.6
	0.6nm,1.0s,baz=208,slow=7.1,SNR=2.9						

IDC 02 06:43:14.2±5.1, 12°.86S×168°.78E, h636km±82km, mb3.3/5, mb1 3.6/6, mb1mx3.0/29, mbtmp4.2/6, Error ellipse: s-maj=99.1km s-min=25.2km az=163.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.43	193	P	P	06 45 27.5	-0.8
	0.5nm,0.3s,baz=270,slow=24,SNR=10						
WRA	Warramunga Arr	33.73	253	P	P	06 49 05.7	0.0
	3.7nm,0.5s,baz=84,slow=8.7,SNR=54						
ASAR	Alice Springs	34.73	247	P	P	06 49 14.2	+0.3
	3.7nm,0.5s,baz=73,slow=9.6,SNR=52						
ILAR	Eielson Array	84.31	18	P	P	06 54 40.0	-0.4
	1.8nm,0.8s,baz=237,slow=5.8,SNR=16						
NVAR	Mina Array Bea	84.95	49	P	P	06 54 45.6	+1.2
	0.5nm,0.7s,baz=227,slow=6.7,SNR=4.1						
YKA	Yellowknife Ar	95.22	27	P	P	06 55 31.2	+0.2
	0.9nm,0.7s,baz=255,slow=4.8,SNR=7.5						
ARCES	ARCESS Array B	118.81	346	PKP	PKPdf	07 00 49.8	-1.4
	1.0nm,0.6s,baz=7.6,slow=3.7,SNR=5.0						
GERES	GERESS Array B	138.61	335	PKP	PKPdf	07 01 30.3	+1.0
	0.4nm,0.2s,baz=293,slow=5.0,SNR=2.5						

ISCJB 02 06:59:25.4±1.5, 33°.7S±0°.1×177°.4W±0°.2, h35km, mb3.3/2, Error ellipse: s-maj=22.7km s-min=11.1km az=30.1
IDC 02 06:59:27.2±6.7, 32°.03S×178°.01W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/25, mbtmp3.3/2, Error ellipse: s-maj=299.6km s-min=57.3km az=159.0
ISC 02 06:59:28.8±1.7, 33°.6S±0°.1×177°.5W±0°.2, h35km, n10, σ1.s62/13, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	5.38	217	ePN	Pn	07 00 45.1	-1.4
HAZ	Te Kaha	5.67	222	ePN	Pn	07 00 50.4	-0.1
HAZ				eSN	Sn	07 01 57.6	+3.3
RIGZ	Rimuhau	6.39	216	eSN	Sn	07 02 13.8	+1.6
URZ	Urewera	6.40	222	ePN	Pn	07 00 59.2	-1.3
URZ				eSN	Sn	07 02 11.9	-0.5
RAGZ	Rawiri	6.41	219	eSN	Sn	07 02 12.4	-0.3
BKZ	Black Stump Fm	7.39	219	ePN	Pn	07 01 12.9	-1.2
BKZ				eSN	Sn	07 02 37.0	+0.2
CTZ	Chatham Island	10.15	176	ePN	Pn	07 01 51.0	-0.9
CTZ				eSN	Sn	07 03 34.7	-10
ASAR	Alice Springs	43.47	270	P	P	07 07 28.8	0.0
	0.4nm,0.6s,baz=105,slow=7.0,SNR=4.5						
WRA	Warramunga Arr	44.75	275	P	P	07 07 37.8	-1.2
	0.2nm,0.4s,baz=116,slow=7.8,SNR=7.4						
FINES	FINESS Array B	148.28	339	PKPbc	PKPdf	07 19 09.2	+2.2
	0.7nm,0.5s,baz=71,slow=6.0,SNR=5.3						

ISCJB 02 07:04:33.4±1.4, 34°.00S±0°.03×72°.35W±0°.07, h11km±11km, mb3.7/3, MS3.6/3, Error ellipse: s-maj=9.5km s-min=5.3km az=16.3
IDC 02 07:04:33.3±1.3, 33°.97S×71°.89W, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.8/24, mbtmp4.0/6, ML3.9/2, MS3.8/4, Ms1 3.7/4, ms1mx3.2/20, Error ellipse: s-maj=32.5km s-min=22.8km az=133.0
GUC 02 07:04:35.0±0.6, 34°.03S×72°.22W, h6km±2km, ML4.2
ISC 02 07:04:34.1±2.0, 34°.02S±0°.04×72°.21W±0°.08, h12km±12km, n26, σ0.s62/37, mb3.9/3, MS3.7/3, 10C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	Longovilo	0.67	85	⇓iP	Pn	07 04 48.9	-0.5
IHA	Instituto Hidr	1.10	26	⇑iP	Pn	07 04 55.5	+0.2
IHA				iS	Sn	07 05 10.7	+0.2
TACH	Talagante	1.12	71	⇑iP	Pb	07 04 55.6	+0.1
NICH	Los Niches	1.27	141	⇑iP	Pb	07 04 58.0	0.0
NICH				iS	Sg	07 05 15.2	+0.1
CHCH	Chadas Angostu	1.30	87	⇑iP	Pb	07 04 58.7	+0.2
CACH	El Canelo	1.34	94	⇓iP	Pg	07 04 59.9	-0.1
SAN	Santiago	1.41	67	eP	Pb	07 05 00.5	+0.1
SAN				iS	Sg	07 05 19.4	-0.2
ROCH	El Roble	1.45	44	⇑iP	Pb	07 05 01.1	-0.1
ROCH				AML	AML	07 05 28.2	
	comp=N,6μm,0.6s						
TALC	Talca	1.45	161	⇑iP	Pb	07 05 01.1	-0.1
TALC				iS	Sg	07 05 20.5	-0.5
PCH	Pirque	1.47	75	⇑iP	Pb	07 05 01.2	-0.2
PCH				iS	Sg	07 05 21.9	+0.5
FSR	Penalolen	1.50	69	⇓iP	Pg	07 05 02.9	-0.1
FSR				iS	Sg	07 05 23.7	+1.1
LACH	Col Las Americ	1.51	68	eP	Pb	07 05 01.7	-0.4
LACH				iS	Sg	07 05 22.7	-0.1
CLCH	Cerro Calan	1.53	66	⇓iP	Pb	07 05 02.4	0.0
CLCH				iS	Sg	07 05 23.5	+0.1
CLCH				AML	AML	07 05 31.1	
	comp=N,4μm,0.4s						
PEL	Peldehue	1.55	56	⇑iP	Pb	07 05 02.9	+0.2
PEL				iS	Sg	07 05 23.8	-0.1
PEL				AML	AML	07 05 32.1	
	comp=E,12μm,0.4s						
SJCH	San Jose de Ma	1.59	77	⇑iP	Pn	07 05 02.5	+0.3
SJCH				iS	Sb	07 05 24.2	+0.6
YECH	El Yeso	1.81	79	eP	Pn	07 05 06.2	+0.9
YECH				eS	Sb	07 05 30.5	+0.4
YECH				AML	AML	07 05 38.4	
	comp=N,3μm,0.3s						
LNCH	Linares	1.89	165	⇑iP	Pb	07 05 07.9	-0.6
LNCH				iS	Sb	07 05 32.7	+0.6
CFAA	Coronel Fontan	4.12	55	Pn	Pn	07 05 35.7	-1.3
	comp=N,0.4nm,0.3s,baz=231,slow=12,SNR=41						
CFAA				Lg	Lg	07 06 34.7	
	comp=N,1.2nm,0.3s,baz=231,slow=9.1,SNR=3.3						
CFAA				LR	LR	07 06 37.0	
	comp=N,12nm,19.3s,baz=224,slow=32						
PLCA	Paso Flores	6.83	169	Pn	Pn	07 06 15.3	+1.2
	comp=N,0.4nm,0.3s,baz=329,slow=11,SNR=13						
PLCA				Lg	Lg	07 08 03.7	
	comp=N,0.2nm,0.3s,baz=100,slow=22,SNR=3.0						
LVC	Limon Verde	11.73	15	LR	LR	07 12 27.4	
	comp=N,902nm,21.1s,baz=204,slow=41						
LPAZ	La Paz	18.04	13	P	P	07 08 46.4	+0.6
	comp=N,0.3nm,0.3s,baz=189,slow=6.5,SNR=28						
SIV	San Ignacio	20.57	32	P	P	07 09 11.8	-1.1
	comp=N,3.5nm,0.6s,baz=223,slow=12,SNR=14						
SIV				LR	LR	07 18 44.6	
	comp=N,175nm,18.1s,baz=230,slow=42						
BDFB	Brasilia	28.46	56	P	P	07 10 28.1	-1.2
	comp=N,0.8nm,0.4s,baz=233,slow=10,SNR=3.3						
BDFB				LR	LR	07 23 03.9	
	comp=N,176nm,18.4s,baz=228,slow=39						
TXAR	Lajitas Array	69.68	331	P	P	07 15 45.0	+1.3
	comp=N,0.1nm,0.5s,baz=151,slow=8.2,SNR=3.0						
TXAR				LR	LR	07 41 39.5	
	comp=N,39nm,18.4s,baz=0.0,slow=32						
TORD	Torodi Ar. Bea	84.35	70	P	P	07 17 05.9	-0.6
	comp=N,1.7nm,0.7s,baz=259,slow=4.4,SNR=10						
MKAR	Makanchi Array	156.89	49	PKPab	PKPab	07 24 59.1	0.0
	comp=N,0.5nm,0.6s,baz=313,slow=4.5,SNR=6.4						

IDC 02 07:29:49.1±1.7, 4°.29N×126°.76E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/33, mbtmp3.7/5, ML3.7/1, MS2.8/4, Ms1 2.9/4, ms1mx2.6/41, Error ellipse: s-maj=116.8km s-min=23.8km az=62.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	6.83	139	Pn	Pn	07 31 30.8	+0.2
	1.5nm,0.3s,baz=341,slow=11,SNR=3.9						
SIJI				LR	LR	07 33 37.8	
	comp=Z,28nm,21.3s,baz=176,slow=34						
KAPI	Kappang	11.59	217	LR	LR	07 37 06.3	
	comp=Z,74nm,18.5s,baz=336,slow=38						
WRA	Warramunga Arr	25.21	163	P	P	07 35 16.6	-0.1
	2.0nm,0.9s,baz=341,slow=10,SNR=8.4						
ASAR	Alice Springs	28.65	166	P	P	07 35 49.1	+1.3
	0.3nm,0.5s,baz=352,slow=8.1,SNR=5.9						
CMAR	Chiang Mai Arr	30.61	300	LR	LR	07 51 16.0	
	comp=Z,11nm,18.0s,baz=250,slow=42						
STKA	Stephens Creek	38.64	160	P	P	07 37 12.8	-1.7
	0.7nm,0.5s,baz=321,slow=10,SNR=3.3						
MKAR	Makanchi Array	57.11	325	P	P	07 39 37.6	0.0
	0.4nm,0.5s,baz=114,slow=7.0,SNR=6.1						
GNI	Garni	81.15	310	LR	LR	08 23 45.7	
	comp=Z,15nm,19.6s,baz=137,slow=40						

IDC 02 07:40:11.7±4.9, 2°.66S×139°.51E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/23, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=193.3km s-min=28.6km az=88.0
ISCJB 02 07:40:15.0±0.8, 2°.82S±0°.07×139°.31E±0°.06, h27km, mb3.2/2, Error ellipse: s-maj=10.5km s-min=7.8km az=19.3
DJA 02 07:40:17.5±0.5, 3°S±5°×13°9E±°, h10km, M3.5/3, MLv3.5/3
ISC 02 07:40:15.9±1.0, 2°.7S±0°.1×139°.37E±0°.07, h27km, n6, σ0.s88/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENI	Genyem	0.81	81	P	Pb	07 40 31.0	-0.4
GENI				S	Sn	07 40 43.5	+0.8
SMPI	Sarmi	0.97	318	P	Pn	07 40 32.9	-0.9
SMPI				S	Sn	07 40 47.7	+0.9
WAMI	Wamena	1.33	209	P	Pb	07 40 44.6	+4.3
WRA	Warramunga Arr	17.81	196	P	Pn	07 44 21.8	-0.3
	0.2nm,0.3s,baz=16,slow=11,SNR=8.1						
ASAR	Alice Springs	21.49	194	P	P	07 45 03.2	+0.5
	1.0nm,0.7s,baz=19,slow=10,SNR=13						
MKAR	Makanchi Array	70.19	322	P	P	07 51 27.0	+0.5
	0.2nm,0.6s,baz=116,slow=6.6,SNR=2.9						

SJA 02 07:49:47.6±1.1, 34°.74S×73°.20W, h33km, ML3.8
IDC 02 07:49:57.9±1.7, 34°.34S×72°.02W, h0km, mb3.5/3, mb1 3.8/6, mb1mx3.7/20, mbtmp3.6/6, ML3.7/3, MS3.7/2, Ms1 3.6/2, ms1mx2.9/17, Error ellipse: s-maj=43.1km s-min=29.0km az=95.0
ISCJB 02 07:49:59.4±1.1, 34°.35S±0°.04×72°.14W±0°.07, h17km±7km, mb3.4/2, MS3.4/1, Error ellipse: s-maj=10.6km s-min=5.9km az=30.9
GUC 02 07:49:59.5±0.4, 34°.34S×72°.10W, h12km, ML4.3
ISC 02 07:49:59.3±1.8, 34°.36S±0°.04×72°.06W±0°.08, h11km±10km, n41, σ1.s52/45, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	Longovilo	0.67	54	iP	Pg	07 50 12.9	+0.5
LNV				iS	Sg	07 50 22.3	+1.2
NICH	Los Niches	0.94	133	iP	Pg	07 50 17.4	-0.1
NICH				iS	Sg	07 50 30.6	+0.9
TALC	Talca	1.10	161	eP	Pb	07 50 19.4	-0.9
TALC				iS	Sb	07 50 33.8	-0.8
TACH	Talagante	1.17	53	iP	Pn	07 50 20.3	-1.3
TACH				iS	Sb	07 50 36.4	-0.4
CACH	El Canelo	1.23	79	eP	Pn	07 50 22.5	-0.1
CACH				iS	Sb	07 50 39.9	+1.2
CHCH	Chadas Angostu	1.24	70	⇑iP	Pn	07 50 21.9	-0.8
CHCH				iS	Sb	07 50 39.0	+0.1
SAN	Santiago	1.47	53	iP	Pn	07 50 25.3	-0.5
SAN				iS	Sn	07 50 44.9	-0.2
PCH	Pirque	1.48	61	eP	Pn	07 50 25.7	-0.3
PCH				iS	Sn	07 50 45.5	+0.1
FSR	Penalolen	1.55	56	⇑iP	Pn	07 50 26.9	-0.1
FSR				iS	Sn	07 50 47.5	+0.5
SJCH	San Jose de Ma	1.59	64	iP	Pn	07 50 26.6	-1.0
SJCH				iS	Sn	07 50 47.8	-0.3
ROCH	El Roble	1.64	33	AML	AML	07 50 55.4	
	comp=N,6μm,0.5s						
PEL	Peldehue	1.67	44	eP	Pn	07 50 28.5	-0.1
PEL				eS	Sn	07 50 50.3	+0.3
PEL				AML	AML	07 50 55.7	
	comp=N,5μm,0.6s						
AAGR	Agrelo	2.98	66	eP	Pb	07 50 50.4	-2.1
ARCO	CERRO ARCO	3.02	61	eP	Pb	07 50 51.2	-2.0
ARCO				iS	Sg	07 51 38.5	+2.2
ARCO				AML	AML	07 51 39.0	
	comp=Z,138nm,0.8s						
AUSP	Uspallata	3.09	47	eP	Pn	07 50 51.5	+3.1
AUSP				eS	Sg	07 51 37.9	-0.8
ASAL	Salagasta	3.22	58	iP	Pb	07 50 53.8	-2.8
ASAL				eS	Sg	07 51 41.4	-1.4
RTLS	Leoncito	3.45	43	iP	Pn	07 50 56.5	+3.3
RTLS				iS	Sg	07 51 48.0	-2.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CANA	**Caviahue**	**3.61**	**167**	eP	Pn	07 50 59.2	+3.8
RTCV	**Cerro Valdivia**	**3.86**	**51**	iP	**Pn**	**07 51 01.7**	**+2.9**
RTCV				iS	**Sb**	**07 51 57.7**	**+3.4**
CFAA	**Coronel Fontan**	**4.23**	**51**	Pn	**Pn**	**07 51 05.0**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=220,slow=11,SNR=55						
CFAA				Lg	Lg	07 52 06.3	
	comp=Z,1.1nm,0.3s,baz=254,slow=23,SNR=6.4						
CFAA				LR	LR	07 52 55.1	
	comp=Z,20nm,18.1s,baz=199,slow=42						
CFAA	**Coronel Fontan**	**4.23**	**51**	eP	**Pn**	**07 51 06.1**	**+2.4**
RTLL	**Cerro Villicun**	**4.27**	**46**	eP	**Pn**	**07 51 06.4**	**+2.1**
AMOG	**MOGNA**	**4.55**	**42**	eP	**Pn**	**07 51 10.3**	**+2.1**
ACAN	**Cantantal**	**4.58**	**64⇓**	eP	**Pn**	**07 51 11.2**	**+2.7**
AVFE	**Valle Fertil**	**5.36**	**48**	eP	**Pn**	**07 51 20.5**	**+1.1**
APLL	**PUNTA DE LOS L**	**6.12**	**51**	eP	**Pn**	**07 51 30.2**	**+0.3**
PLCA	**Paso Flores**	**6.48**	**170**	Pn	**Pn**	**07 51 36.0**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=341,slow=12,SNR=23						
PLCA				Lg	Lg	07 53 17.0	
	comp=Z,0.4nm,0.3s,baz=255,slow=21,SNR=2.8						
ACLC	**CERRO LA CRUZ**	**6.56**	**43**	eP	**Pn**	**07 51 35.9**	**0.0**
CYA	**Choya**	**7.96**	**44**	eP	**Pn**	**07 51 52.7**	**-2.4**
LVC	**Limon Verde**	**12.02**	**14**	LR	LR	07 58 15.6	
	comp=Z,740nm,21.9s,baz=170,slow=42						
LPAZ	**La Paz**	**18.34**	**12**	P	**P**	**07 54 15.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=184,slow=6.1,SNR=10						
SIV	**San Ignacio**	**20.79**	**31**	P	**P**	**07 54 39.3**	**-1.4**
	comp=Z,2.2nm,0.7s,baz=205,slow=10,SNR=5.2						
BDFB	**Brasilia**	**28.55**	**55**	LR	LR	08 08 31.4	
	comp=Z,95nm,21.5s,baz=125,slow=39						
TXAR	**Lajitas Array**	**70.04**	**331**	P	**P**	**08 01 11.9**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=161,slow=9.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**84.35**	**70**	P	**P**	**08 02 31.3**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=230,slow=6.8,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**125.75**	**269**	T	T	10 27 20.2	
	baz=120,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**125.76**	**269**	T	T	10 27 21.0	
	baz=120,slow=75,SNR=19						
H11S3	**WAKE ISLAND Hy**	**125.76**	**269**	T	T	10 27 18.0	
	baz=120,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**126.17**	**270**	T	T	10 27 48.3	
	baz=120,slow=76,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**126.18**	**270**	T	T	10 27 49.3	
	baz=120,slow=76,SNR=18						
H11N2	**WAKE ISLAND Hy**	**126.19**	**270**	T	T	10 27 49.0	
	baz=120,slow=76,SNR=5.6						

*ISCJB **02** 07:57:57.1±0.4, 59°.81N±0°.04×22°.29E±0°.05, h0^{km}, Error ellipse: s-maj=5.5km s-min=2.9km az=160.1*
*HEL **02** 07:57:57.7±0.1, 59°.71N×22°.31E, h0^{km}, ML2.0, ML2.2(UPP), Explosion*
*BER **02** 07:57:57.7±3.1, 59°.68N×22°.44E, h0^{km}, ML2.1(NAO), Suspected explosion*
*NAO **02** 07:57:57.0±1.3, 59°.65N×22°.47E, ML2.1*
*UPP **02** 07:57:57.7, 59°.77N×22°.26E, h0^{km}, ML2.2, Suspected Mining explosion.*
*CSEM **02** 07:57:58.2±0.3, 59°.82N×22°.25E, h2^{km}, ML2.0, Error ellipse: s-maj=7.8km s-min=3.4km az=157.0, Mining explosion.*
*IDC **02** 07:57:59.2±1.6, 59°.93N×22°.28E, h0^{km}, mb1 2.8/4, mb1mx2.7/44, mbtmp2.8/4, ML2.6/4, Error ellipse: s-maj=22.4km s-min=6.1km az=162.0*
ISC 02 07:57:57.7±0.9**, 59°.83N**±0°.05×**22°.27E**±0°.02**, h0^{km}, n69, σ1s.05**/94**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.14**	**69**	eP	**Pg**	**07 58 18.4**	**-1.0**
MEF				eS	**Sg**	**07 58 33.7**	**-0.5**
AAL	**Aland**	**1.20**	**288**	eP	**Pg**	**07 58 20.0**	**-0.5**
AAL				eS	**Sb**	**07 58 37.4**	**+0.2**
AAL	**Aland**	**1.20**	**288**	P	**Pg**	**07 58 20.1**	**-0.5**
AAL				S	**Sb**	**07 58 37.4**	**+0.2**
AAL	**Aland**	**1.20**	**288**	P	**Pg**	**07 58 20.1**	**-0.4**
AAL				S	**Sg**	**07 58 36.7**	**+0.6**
RAF	**Rauma**	**1.23**	**348**	eP	**Pb**	**07 58 21.9**	**+0.2**
RAF				eSB	**Sn**	**07 58 40.1**	**+0.8**
RAF	**Rauma**	**1.23**	**348**	P	**Pb**	**07 58 21.9**	**+0.2**
RAF				Sb	**Sn**	**07 58 40.1**	**+0.8**
NRTU	**Norrtaelje**	**1.85**	**267**	eP	**Pn**	**07 58 30.2**	**-0.3**
NRTU	**Norrtaelje**	**1.85**	**267**	P	**Pn**	**07 58 30.2**	**-0.3**
NRTU	**Norrtaelje**	**1.85**	**267**	P	**Pn**	**07 58 30.2**	**-0.3**
	baz=85						
PVF	**Pernaja**	**1.94**	**67**	eP	**Pn**	**07 58 32.2**	**+0.4**
PVF				eS	**Sn**	**07 58 56.6**	**-0.1**
PVF	**Pernaja**	**1.94**	**67**	P	**Pn**	**07 58 32.1**	**+0.4**
PVF				S	**Sn**	**07 58 56.6**	**-0.1**
GRAU	**Graesoe**	**1.94**	**287**	eP	**Pn**	**07 58 31.8**	**0.0**
GRAU	**Graesoe**	**1.94**	**287**	P	**Pn**	**07 58 31.8**	**0.0**
GRAU	**Graesoe**	**1.94**	**287**	P	**Pn**	**07 58 31.8**	**0.0**
FORU	**Forsmark**	**2.12**	**287**	eP	**Pn**	**07 58 35.2**	**+0.9**
FORU	**Forsmark**	**2.12**	**287**	P	**Pn**	**07 58 35.2**	**+0.9**
FORU	**Forsmark**	**2.12**	**287**	P	**Pn**	**07 58 35.2**	**+0.9**
FLYU	**Flymyra**	**2.23**	**280**	eP	**Pn**	**07 58 36.0**	**+0.3**
FLYU	**Flymyra**	**2.23**	**280**	P	**Pn**	**07 58 36.0**	**+0.3**
FLYU	**Flymyra**	**2.23**	**280**	P	**Pn**	**07 58 36.0**	**+0.3**
NYNU	**Nynaeshamn**	**2.33**	**251**	eP	**Pn**	**07 58 37.5**	**+0.3**
NYNU	**Nynaeshamn**	**2.33**	**251**	P	**Pn**	**07 58 37.5**	**+0.3**
NYNU	**Nynaeshamn**	**2.33**	**251**	P	**Pn**	**07 58 37.5**	**+0.3**
UPP	**Uppsala**	**2.34**	**273**	eP	**Pn**	**07 58 38.7**	**+1.3**
UPP	**Uppsala**	**2.34**	**273**	P	**Pn**	**07 58 38.7**	**+1.3**
UPP	**Uppsala**	**2.34**	**273**	P	**Pn**	**07 58 38.7**	**+1.3**
FIA0	**FINESS Array S**	**2.48**	**47**	Pn	**Pn**	**07 58 41.0**	**+1.7**
	baz=226,slow=16						
FIA0				Pg	**Pb**	**07 58 42.0**	**-1.1**
FIA0				Lg	Lg	07 59 15.0	
	baz=225,slow=28						
FIA0	**FINESS Array S**	**2.48**	**47**	Pn	**Pn**	**07 58 41.0**	**+1.7**
	baz=226,slow=16						
FIA0				Pg	**Pb**	**07 58 42.0**	**-1.1**
FIA0				Lg	Lg	07 59 15.0	
	baz=225,slow=28						
FIA0	**FINESS Array S**	**2.48**	**47**	eP	**Pn**	**07 58 40.9**	**+1.7**
FIA0				eSB	**Sb**	**07 59 14.2**	**+0.1**
FIA0				MSG		07 59 17.4	
	comp=Z,7.8nm,0.3s						
FIA0	**FINESS Array S**	**2.48**	**47**	P	**Pn**	**07 58 40.9**	**+1.7**
FIA0	**FINESS Array S**	**2.48**	**47**	Pg	**Pb**	**07 58 42.0**	**-1.1**
	SNR=90						
FIA0				Sb	**Sb**	**07 59 14.2**	**+0.1**
FIA0				Lg	Lg	07 59 15.0	
	SNR=95						
FINES	**FINESS Array B**	**2.48**	**47**	Pn	**Pn**	**07 58 41.1**	**+1.7**
	comp=Z,1.2nm,0.3s,baz=229,slow=14,SNR=50						
FINES				Lg	Lg	07 59 13.8	
	comp=Z,3.3nm,0.3s,baz=232,slow=26,SNR=24						
BACU	**Backbrunna**	**2.61**	**273**	eP	**Pn**	**07 58 41.5**	**+0.5**
BACU	**Backbrunna**	**2.61**	**273**	P	**Pn**	**07 58 41.5**	**+0.5**
BACU	**Backbrunna**	**2.61**	**273**	P	**Pn**	**07 58 41.5**	**+0.5**
OSTU	**Oestervaala**	**2.61**	**281**	eP	**Pn**	**07 58 41.6**	**+0.6**
OSTU	**Oestervaala**	**2.61**	**281**	P	**Pn**	**07 58 41.6**	**+0.6**
OSTU	**Oestervaala**	**2.61**	**281**	P	**Pn**	**07 58 41.6**	**+0.6**
KEF	**Keuruu**	**2.67**	**27**	ePB	**Pb**	**07 58 45.2**	**-1.1**
KEF				eSG	**Sg**	**07 59 21.5**	**-1.8**
KEF				MSG		07 59 25.1	
	comp=Z,4.6nm,0.3s						
KEF	**Keuruu**	**2.67**	**27**	Pb	**Pb**	**07 58 45.1**	**-1.1**
VSU	**Vasula**	**2.68**	**119**	Lg	Lg	07 59 14.9	
VSU	**Vasula**	**2.68**	**119**	Lg	Lg	07 59 14.9	
VSU	**Vasula**	**2.68**	**119**	Lg	Lg	07 59 14.9	
VJF	**Virojoki**	**2.74**	**73**	eP	**Pn**	**07 58 42.8**	**+0.1**
VJF				eS	**Sn**	**07 59 16.0**	**-0.5**
VJF				eSG	**Sb**	**07 59 22.3**	**+0.9**
VJF				MSG		07 59 23.9	
	comp=Z,7.4nm,0.3s						
VJF	**Virojoki**	**2.74**	**73**	P	**Pn**	**07 58 42.8**	**+0.1**
VJF				S	**Sn**	**07 59 16.0**	**-0.5**
KAF	**Kangasniemi**	**3.02**	**39**	eP	**Pn**	**07 58 49.2**	**+2.5**
KAF				eSB	**Sb**	**07 59 28.9**	**-0.8**
KAF				MSG		07 59 31.0	
	comp=Z,5.0nm,0.3s						
KAF	**Kangasniemi**	**3.02**	**39**	P	**Pn**	**07 58 49.2**	**+2.5**
KAF				Sb	**Sb**	**07 59 28.9**	**-0.8**
VIKU	**Vikbolandet**	**3.16**	**248**	eP	**Pn**	**07 58 47.8**	**-0.8**
VIKU	**Vikbolandet**	**3.16**	**248**	P	**Pn**	**07 58 47.8**	**-0.8**
VIKU	**Vikbolandet**	**3.16**	**248**	P	**Pn**	**07 58 47.8**	**-0.8**
VAF	**Ylistaro**	**3.23**	**3**	eP	**Pn**	**07 58 51.0**	**+1.3**
VAF				ePB	**Pb**	**07 58 55.4**	**-0.5**
VAF				eS	**Sn**	**07 59 30.0**	**+1.3**
VAF				MSG		07 59 46.2	
	comp=Z,2.0nm,0.3s						
VAF	**Ylistaro**	**3.23**	**3**	P	**Pn**	**07 58 50.9**	**+1.3**
SUF	**Sumiainen**	**3.46**	**31**	eP	**Pn**	**07 58 54.1**	**+1.4**
SUF				eSB	**Sb**	**07 59 42.8**	**+0.6**
SUF	**Sumiainen**	**3.46**	**31**	P	**Pn**	**07 58 54.0**	**+1.4**
HFS	**Hagfors**	**4.32**	**278**	Pn	**Pn**	**07 59 05.5**	**+1.0**
	baz=97,slow=12						
HFS				Sn	**Sn**	**07 59 55.1**	**-0.4**
	baz=82,slow=28						
HFS				Lg	Lg	08 00 12.3	
	baz=93,slow=37						
HFS	**Hagfors**	**4.32**	**278**	Pn	**Pn**	**07 59 05.5**	**+1.0**
	baz=97,slow=12						
HFS				Sn	**Sn**	**07 59 55.1**	**-0.4**
	baz=82,slow=28						
HFS				Lg	Lg	08 00 12.3	
	baz=93,slow=37						
HFS	**Hagfors**	**4.32**	**278**	Pn	**Pn**	**07 59 04.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=91,slow=17,SNR=11						
HFS				Sn	**Sn**	**07 59 55.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=76,slow=26,SNR=3.1						
HFS				Lg	Lg	08 00 12.2	
	comp=Z,0.9nm,0.3s,baz=98,slow=31,SNR=8.0						
HFS	**Hagfors**	**4.32**	**278**	Pn	**Pn**	**07 59 05.5**	**+1.0**
	baz=97,slow=12,SNR=50						
HFS				Sn	**Sn**	**07 59 55.1**	**-0.4**
	baz=82,slow=28,SNR=50						
HFS				Lg	Lg	08 00 12.4	
	SNR=90						
JOF	**Joensuu**	**5.34**	**51**	eP	**Pn**	**07 59 20.2**	**+1.6**
JOF				eS	**Sn**	**08 00 21.2**	**+0.6**
JOF	**Joensuu**	**5.34**	**51**	P	**Pn**	**07 59 20.1**	**+1.6**
JOF				S	**Sn**	**08 00 21.2**	**+0.6**
NB2	**NORSAR Subarra**	**5.61**	**287**	Pn	**Pn**	**07 59 21.4**	**-0.9**
	baz=97,slow=12						
NB2	**NORSAR Subarra**	**5.61**	**287**	Pn	**Pn**	**07 59 21.4**	**-0.9**
	baz=97,slow=12						
NB2	**NORSAR Subarra**	**5.61**	**287**	Pn	**Pn**	**07 59 21.4**	**-0.9**
	baz=97,slow=12,SNR=50						
NOA	**NORSAR Array B**	**5.61**	**287**	Pn	**Pn**	**07 59 22.1**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=92,slow=12,SNR=9.5						
NOA				Sn	**Sn**	**08 00 24.5**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=263,slow=18,SNR=2.4						
NOA				Lg	Lg	08 00 52.2	
	comp=Z,0.4nm,0.3s,baz=104,slow=20,SNR=3.1						
ARA0	**ARCESS Array S**	**9.85**	**7**	Pn	**Pn**	**08 00 19.8**	**-0.5**
	baz=180,slow=16						
ARA0	**ARCESS Array S**	**9.85**	**7**	Pn	**Pn**	**08 00 19.8**	**-0.5**
	baz=180,slow=16						
ARA0	**ARCESS Array S**	**9.85**	**7**	Pn	**Pn**	**08 00 19.8**	**-0.5**
	baz=180,slow=14,SNR=50						
ARCES	**ARCESS Array B**	**9.85**	**7**	Pn	**Pn**	**08 00 19.3**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=184,slow=13,SNR=8.2						
ARCES				Lg	Lg	08 03 05.0	
	comp=Z,0.5nm,0.3s,baz=181,slow=26,SNR=6.2						
CFR	**Carcaliu**	**15.09**	**164**	S	**Sn**	**08 04 23.2**	**+3.6**

MEX 02 07:58:55.8±0.3**, 17°.29N**×**95°.24W, h105^{km}**±2^{km}**, MD4.1, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.39**	**119**	iP	Pn	07 59 10.3	-1.2
CMIG				eS	Sn	07 59 21.5	-1.8
VHO	**Vista Hermosa**	**1.44**	**262**	eP	Pn	07 59 20.6	-1.3
VHO				eS	Sn	07 59 40.1	-1.6
TGIG		**2.09**	**104**	eP	Pn	07 59 28.6	-1.2
TPIG	**Tehuac#an**	**2.31**	**300**	iP	Pn	07 59 31.9	-0.9
TPIG				iS	Sn	07 59 60.0	-1.3
PCIG		**2.50**	**129**	eP	Pn	07 59 34.1	-1.0
PCIG				eS	Sn	08 00 03.8	-1.4
PNIG	**Pinotepa**	**2.90**	**253**	iP	Pn	07 59 36.3	-4.2
PNIG				iS	Sn	08 00 09.4	-5.4

*IDC **02** 08:05:17.6±0.7, 31°.34N×80°.23E, h0^{km}, mb3.8/14, mb1 4.0/16, mb1mx3.9/32, mbtmp3.9/16, ML3.4/2, MS3.1/4, Ms1 3.1/4, ms1mx2.6/41, Error ellipse: s-maj=25.5km s-min=14.3km az=46.0*
*NDI **02** 08:05:20.2±3.5, 31°.61N×80°.52E, h33^{km}, ML4.0, mb4.0(NEIC)*
*NEIC **02** 08:05:22.9±0.4, 31°.41N×80°.25E, h35^{km}, mb4.0/2, Error ellipse: s-maj=9.8km s-min=6.6km az=50.0*
ISC 02 08:05:18.1±1.6**, 31°.39N**±0°.04×**80°.25E**±0°.05**, h2^{km}**±10^{km}**, n51, σ1s.57**/58**, mb3.9**/16**, MS3.0**/3**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**1.02**	**216**	eP	**Pn**	**08 05 41.4**	**+1.8**
JOSI				eS	**Sn**	**08 06 00.0**	**+5.4**
JOSI				AML	AML	08 06 01.7	
	comp=E,4µm,0.8s						
JOSI				AML	AML	08 06 02.2	
	comp=N,5µm,0.6s						
PTH	**Pithoragarh**	**1.83**	**181**	eP	**Pb**	**08 05 51.9**	**-0.5**
PTH				eS	**Sg**	**08 06 16.9**	**-0.1**
LGTI	**Lohaghat**	**1.93**	**180**	eP	Pg	08 06 02.6	+7.5
LGTI				eS	Sg	08 06 32.5	+12
DDI	**Dehra Dun**	**2.17**	**241**	eP	**Pg**	**08 05 59.6**	**0.0**
DDI				eS	**Sb**	**08 06 25.9**	**+0.5**
DDI				AML	AML	08 06 31.9	
	comp=E,2µm,0.7s						
DDI				AML	AML	08 06 32.0	
	comp=N,2µm,0.6s						
KALG	**Kalgarh**	**2.28**	**215**	eP	**Pg**	**08 06 01.4**	**-0.4**
KALG				eS	**Sb**	**08 06 28.5**	**-0.1**
SMLA	**Simla**	**2.65**	**265**	eP	**Pb**	**08 06 05.0**	**-1.3**
SMLA				eS	**Sn**	**08 06 35.7**	**+1.1**
SMLA				AML	AML	08 06 45.8	
SMLA				AML	AML	08 06 49.3	
	comp=E,574nm,0.6s						
SMLA				AML	AML	08 06 56.2	
	comp=N,378nm,0.0s						
DHRM	**DHARAMSHALA**	**3.47**	**285**	eP	**Pn**	**08 06 15.6**	**+2.3**
DHRM				eS	**Sn**	**08 06 55.4**	**+0.2**
NDI	**New Delhi**	**3.77**	**225**	iP	**Pg**	**08 06 31.5**	**+1.2**
AYAN	**Aya Nagar**	**3.97**	**224**	eP	Pb	08 06 24.6	-4.1
AYAN				eS	**Sn**	**08 07 09.0**	**+2.0**
SONA	**Sohna**	**4.17**	**222**	ex	**Sb**	**08 07 18.0**	**-4.9**
AJM	**Ajmer**	**6.93**	**227**	eS	**Sn**	**08 08 17.7**	**-2.5**
KBL	**Kabul**	**9.93**	**291**	Pn	**Pn**	**08 07 42.6**	**+0.6**
AAK	**Ala-Archa**	**12.12**	**339**	Pn	**Pn**	**08 08 12.7**	**+0.7**
	comp=N,0.3nm,0.3s,baz=163,slow=14,SNR=2.9						
AAK	**Ala-Archa**	**12.12**	**339**	Pn	**Pn**	**08 08 12.7**	**+0.7**
AAK				ePn	Pn	08 08 14.9	+2.8
RPR	**Rampur**	**12.51**	**184**	ePn	**Pn**	**08 08 15.2**	**-2.0**
RPR				eSn	**Sn**	**08 10 37.9**	**+0.8**
SRSP	**Sriramsagar**	**12.53**	**188**	ePn	**Pn**	**08 08 14.8**	**-2.6**
CHLP	**Challavanipeta**	**13.28**	**164**	ePn	**Pn**	**08 08 29.5**	**+1.8**
CHLP				eSn	**Sn**	**08 10 55.5**	**-0.6**
KLRI	**Killari**	**13.67**	**195**	ePn	**Pn**	**08 08 33.8**	**+0.7**
HYBB	**Hyderabad (bro**	**13.99**	**187**	ePn	**Pn**	**08 08 38.8**	**+1.3**
HYBB				e		08 11 04.5	
HYB	**Hyderabad**	**13.99**	**187**	iP	**Pn**	**08 08 38.0**	**+0.5**
KKAR	**Karatay Array**	**14.02**	**329**	ePn	**Pn**	**08 08 37.6**	**-0.1**
	comp=N,0.9nm,0.4s						
PVM	**Polavaram**	**14.13**	**175**	ePn	**Pn**	**08 08 39.0**	**-0.3**
PVM				e		08 11 04.3	
NJS	**Nagarjunasagar**	**14.79**	**184**	ePn	**Pn**	**08 08 45.5**	**-2.9**
NJS				e		08 11 21.9	
SRLM	**Srisailam**	**15.27**	**185**	ePn	**Pn**	**08 08 52.3**	**-2.5**
SRLM				e		08 11 41.8	
MK31	**Makanchi Array**	**15.46**	**5**	ePn	**Pn**	**08 08 57.8**	**+0.5**
MKAR	**Makanchi Array**	**15.46**	**5**	Pn	**Pn**	**08 08 57.5**	**+0.3**
	comp=N,0.2nm,0.3s,baz=184,slow=12,SNR=14						
MKAR				LR	LR	08 15 36.4	
	comp=N,28nm,18.6s,baz=190,slow=40						
RCLA	**Racherla**	**15.90**	**185**	ePn	**Pn**	**08 09 00.8**	**-2.3**
URV	**Uravakonda**	**16.59**	**190**	ePn	**Pn**	**08 09 11.3**	**-0.7**
SKHT	**Srikalahasti**	**17.57**	**182**	ePn	**P**	**08 09 25.2**	**-0.1**
SKHT				eSn	**Sn**	**08 12 41.5**	**+1.0**
KURBB	**Kurchatov Arra**	**19.26**	**357**	P	**P**	**08 09 43.9**	**+0.1**
	comp=N,0.1nm,0.3s,baz=184,slow=11,SNR=73						
KURK	**Kurchatov**	**19.35**	**357**	eP	**Pn**	**08 09 45.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**21.25**	**123**	P	**P**	**08 10 05.8**	**+0.2**
	comp=N,3.0nm,0.6s,baz=315,slow=9.4,SNR=15						
BVAR	**Borovoye Array**	**22.78**	**345**	P	**P**	**08 10 22.7**	**+0.9**
	comp=N,3.5nm,0.7s,baz=158,slow=12,SNR=13						
ZAA0	**Zalesovo Array**	**22.79**	**7**	eP	**P**	**08 10 21.4**	**-0.3**
ZALV	**Zalesovo Beam**	**22.79**	**7**	P	**P**	**08 10 22.8**	**+1.0**
	comp=N,4.8nm,0.8s,baz=204,slow=9.8,SNR=9.0						
BRVK	**Borovoye**	**22.84**	**344**	eP	**P**	**08 10 22.3**	**0.0**
	comp=N,15nm,1.2s						
ABKAR	**Akbulak array**	**23.50**	**325**	eP	**P**	**08 10 31.0**	**+1.8**
	comp=N,2.0nm,0.8s						
AKTO	**Aktyubinsk**	**25.22**	**325**	P	**P**	**08 10 45.9**	**+0.7**
	comp=N,2.0nm,0.6s,baz=121,slow=8.8,SNR=6.4						
AKTO				LR	LR	08 20 36.4	
	comp=N,39nm,19.0s,baz=146,slow=36						
BRTR	**Keskin Array B**	**38.46**	**296**	P	**P**	**08 12 41.4**	**-0.2**
	comp=N,0.7nm,0.6s,baz=81,slow=5.8,SNR=3.5						
BRTR				LR	LR	08 30 59.4	
	comp=N,24nm,18.7s,baz=90,slow=40						
KSAR	**Wonju Array Be**	**39.43**	**68**	P	**P**	**08 12 50.5**	**+1.0**
KSRS	**Korea Array**	**39.45**	**68**	P	**P**	**08 12 50.5**	**+0.7**
	comp=N,0.9nm,0.7s,baz=271,slow=9.7,SNR=5.6						
MLR	**Muntele Rosu**	**44.00**	**305**	P	**P**	**08 13 27.4**	**+0.3**
	comp=N,1.1nm,0.8s,baz=137,slow=5.2,SNR=4.9						
SIJI	**Sorong**	**57.98**	**114**	LR	LR	08 42 31.6	
	comp=N,28nm,18.0s,baz=236,slow=38						
ESDC	**Sonseca Array**	**66.66**	**303**	P	**P**	**08 16 10.8**	**+0.4**
	comp=N,0.2nm,0.3s,baz=66,slow=7.3,SNR=4.3						
WRA	**Warramunga Arr**	**72.77**	**127**	P	**P**	**08 16 48.7**	**+0.4**
	comp=N,1.5nm,0.8s,baz=323,slow=6.1,SNR=16						
ADK	**Adak**	**73.33**	**39**	P	**P**	**08 16 50.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**73.59**	**276**	P	**P**	**08 16 52.8**	**-0.5**
	comp=N,0.8nm,1.1s,baz=56,slow=5.1,SNR=4.3						
ASAR	**Alice Springs**	**75.06**	**130**	P	**P**	**08 17 01.0**	**-0.6**
	comp=N,0.8nm,0.7s,baz=317,slow=5.8,SNR=9.7						
ILAR	**Eielson Array**	**77.35**	**19**	P	**P**	**08 17 13.2**	**-0.8**
	comp=N,0.8nm,0.8s,baz=311,slow=4.8,SNR=11						
STKA	**Stephens Creek**	**85.61**	**132**	P	**P**	**08 17 57.1**	**-1.1**
	comp=N,0.7nm,0.6s,baz=286,slow=5.2,SNR=3.5						
YKA	**Yellowknife Ar**	**85.69**	**7**	P	**P**	**08 17 56.3**	**-1.9**
	comp=N,0.4nm,0.7s,baz=334,slow=4.8,SNR=3.1						

*ISCJB **02** 08:12:29.4±0.8, 61°.09N±0°.04×29°.05E±0°.08, h0^{km}, Error ellipse: s-maj=6.5km s-min=4.3km az=37.3*
*HEL **02** 08:12:32.2±0.3, 60°.98N×29°.06E, h0^{km}, ML2.2, Explosion*
*CSEM **02** 08:12:33.9±0.8, 61°.04N×28°.65E, h2^{km}, ML2.2, Error ellipse: s-maj=14.5km s-min=7.5km az=106.0, Mining explosion.*
*IDC **02** 08:12:33.8±1.8, 60°.90N×28°.85E, h0^{km}, mb1 3.2/3, mb1mx3.0/26, mbtmp3.2/3, ML3.0/3, Error ellipse: s-maj=15.5km s-min=10.9km az=159.0*
*BER **02** 08:12:34.1±2.9, 60°.98N×29°.02E, h0^{km}, ML2.3(NAO), Suspected explosion*
*NAO **02** 08:12:34.2±1.8, 60°.87N×28°.84E, ML2.3*
ISC 02 08:12:33.3±1.3**, 61°.03N**±0°.04×**28°.78E**±0°.06**, h0^{km}, n35, σ1s.30**/51**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.78**	**231**	PG	**Pg**	**08 12 48.3**	**0.0**
VJF				SB	**Sb**	**08 13 00.5**	**-0.3**
VJF	**Virojoki**	**0.78**	**231**	Pg	**Pg**	**08 12 48.2**	**0.0**
FIA0	**FINESS Array S**	**1.37**	**289**	Pg	**Pg**	**08 12 59.6**	**0.0**
	baz=113,slow=18						
FIA0				Lg	Lg	08 13 20.2	
	baz=105,slow=37						
FIA0				Rg	Rg	08 13 27.7	
	baz=117,slow=37						
FIA0	**FINESS Array S**	**1.37**	**289**	Pg	**Pg**	**08 12 59.6**	**0.0**
	baz=113,slow=18						
FIA0				Lg	Lg	08 13 20.2	
	baz=105,slow=37						
FIA0				Rg	Rg	08 13 27.7	
	baz=117,slow=37						
FIA0	**FINESS Array S**	**1.37**	**289**	PG	**Pg**	**08 12 59.0**	**-0.6**
FIA0				SG	**Sn**	**08 13 19.3**	**+0.8**
FIA0	**FINESS Array S**	**1.37**	**289**	Pg	**Pg**	**08 12 59.6**	**0.0**
	SNR=5.4						
FIA0				Lg	Lg	08 13 20.2	
	SNR=9.7						
FINES	**FINESS Array B**	**1.37**	**289**	Pg	**Pg**	**08 12 59.5**	**0.0**
	3.2nm,0.3s,baz=114,slow=17,SNR=79						
FINES				Lg	Lg	08 13 19.6	
	12nm,0.3s,baz=108,slow=31,SNR=34						
PVF	**Pernaja**	**1.51**	**252**	PG	**Pn**	**08 13 01.0**	**-0.6**
	baz=72						
PVF				MSG		08 13 20.9	
	comp=Z,22nm,0.2s						
PVF				SN	**Sn**	**08 13 25.4**	**+3.5**
PVF	**Pernaja**	**1.51**	**252**	Pg	**Pn**	**08 13 01.0**	**-0.6**
KAF	**Kangasniemi**	**1.60**	**314**	PG	**Pn**	**08 13 04.2**	**+1.2**
	baz=126						
KAF				MSG		08 13 24.0	
	comp=Z,18nm,0.2s						
KAF				SN	**Sg**	**08 13 26.3**	**+1.4**
KAF	**Kangasniemi**	**1.60**	**314**	Pg	**Pn**	**08 13 04.1**	**+1.2**
KAF				Sn	**Sg**	**08 13 26.2**	**+1.4**
SUF	**Sumiainen**	**2.10**	**325**	PG	**Pb**	**08 13 12.2**	**0.0**
SUF				MSG		08 13 38.0	
	comp=Z,13nm,0.2s						
SUF				SG	**Sb**	**08 13 40.8**	**+1.9**
SUF	**Sumiainen**	**2.10**	**325**	Pg	**Pb**	**08 13 12.2**	**0.0**
SUF				Sg	**Sb**	**08 13 40.7**	**+1.9**
KEF	**Keuruu**	**2.19**	**303**	PG	**Pb**	**08 13 13.3**	**-0.5**
	baz=123						
KEF				MSG		08 13 41.1	
	comp=Z,6.7nm,0.2s						
KEF				SG	**Sg**	**08 13 44.5**	**+1.0**
KEF	**Keuruu**	**2.19**	**303**	Pg	**Pb**	**08 13 13.2**	**-0.5**
KEF				Sg	**Sg**	**08 13 44.5**	**+1.0**
JOF	**Joensuu**	**2.24**	**31**	PG	**Pn**	**08 13 12.0**	**+0.4**
JOF				SG	**Sn**	**08 13 40.0**	**+0.2**
MEF	**Metsahovi**	**2.31**	**251**	PB	**Pn**	**08 13 13.9**	**+1.3**
MEF				SG	**Sb**	**08 13 45.1**	**+0.2**
RAF	**Rauma**	**3.42**	**273**	PB	**Pn**	**08 13 30.1**	**+2.4**
VAF	**Ylistaro**	**3.51**	**308**	PB	Pb	08 13 33.6	-2.6
VAF				SB	**Sb**	**08 14 19.7**	**+0.3**
OUL	**Oulu**	**4.27**	**343**	SG	**Sg**	**08 14 49.1**	**-1.4**
OUL	**Oulu**	**4.27**	**343**	Sg	**Sg**	**08 14 49.1**	**-1.4**
AAL	**Aland**	**4.42**	**263**	SG	**Sg**	**08 14 55.0**	**-0.1**
AAL	**Aland**	**4.42**	**263**	Sg	**Sg**	**08 14 54.9**	**-0.1**
HFS	**Hagfors**	**7.49**	**270**	Pn	**Pn**	**08 14 24.0**	**+0.4**
	baz=75,slow=14						
HFS				Sn	**Sn**	**08 15 46.8**	**-2.3**
	baz=81,slow=28						
HFS				Lg	Lg	08 16 28.4	
	baz=68,slow=37						
HFS	**Hagfors**	**7.49**	**270**	Pn	**Pn**	**08 14 24.0**	**+0.4**
	baz=75,slow=14						
HFS				Sn	**Sn**	**08 15 46.8**	**-2.3**
	baz=81,slow=28						
HFS				Lg	Lg	08 16 28.4	
	baz=68,slow=37						
HFS	**Hagfors**	**7.49**	**270**	Pn	**Pn**	**08 14 23.1**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=84,slow=14,SNR=7.2						
HFS				Sn	**Sn**	**08 15 46.6**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=84,slow=26,SNR=2.4						
HFS				Lg	Lg	08 16 27.2	
	comp=Z,0.5nm,0.3s,baz=75,slow=28,SNR=4.1						
HFS	**Hagfors**	**7.49**	**270**	Pn	**Pn**	**08 14 24.0**	**+0.4**
	SNR=6.8						
HFS				Sn	**Sn**	**08 15 46.8**	**-2.3**
	SNR=3.0						
NB2	**NORSAR Subarra**	**8.53**	**278**	Pn	**Pn**	**08 14 38.4**	**+0.5**
	baz=86,slow=14						
NB2				Lg	Lg	08 17 03.8	
	baz=77,slow=37						
NB2	**NORSAR Subarra**	**8.53**	**278**	Pn	**Pn**	**08 14 38.4**	**+0.5**
	baz=86,slow=14						
NB2				Lg	Lg	08 17 03.8	
	baz=77,slow=37						
NB2	**NORSAR Subarra**	**8.53**	**278**	Pn	**Pn**	**08 14 38.4**	**+0.5**
	SNR=3.9						
NB2				Lg	Lg	08 17 03.8	
	SNR=2.9						
NOA	**NORSAR Array B**	**8.53**	**278**	Pn	**Pn**	**08 14 36.5**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=72,slow=12,SNR=4.5						
NOA				Lg	Lg	08 16 59.2	
	comp=Z,0.4nm,0.3s,baz=171,slow=19,SNR=3.4						
ARA0	**ARCESS Array S**	**8.65**	**352**	Pn	**Pn**	**08 14 40.4**	**+0.9**
	baz=169,slow=14						
ARA0	**ARCESS Array S**	**8.65**	**352**	Pn	**Pn**	**08 14 40.4**	**+0.9**
	baz=169,slow=14						
ARA0	**ARCESS Array S**	**8.65**	**352**	Pn	**Pn**	**08 14 40.4**	**+0.9**
	SNR=9.2						
ARCES	**ARCESS Array B**	**8.65**	**352**	Pn	**Pn**	**08 14 39.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=170,slow=12,SNR=8.1						
ARCES				Sn	**Sn**	**08 16 14.2**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=167,slow=24,SNR=3.3						

*ISCJB **02** 08:21:43.4±0.4, 59°.72N±0°.03×22°.39E±0°.04, h0^{km}, Error ellipse: s-maj=4.4km s-min=2.8km az=163.8*

*CSEM **02** 08:21:44.2±0.2, 59°.73N×22°.41E, h2km, ML2.1, Error ellipse: s-maj=5.6km s-min=3.5km az=174.0, Mining explosion.*
*HEL **02** 08:21:45.0±0.1, 59°.70N×22°.32E, h0km, ML2.1, ML2.1(UPP), Explosion*
*UPP **02** 08:21:45.2, 59°.75N×22°.23E, h0km, ML2.1, Suspected Mining explosion.*
*NAO **02** 08:21:45.9±1.8, 59°.84N×22°.30E, ML2.0*
*IDC **02** 08:21:46.3±1.7, 59°.91N×22°.27E, h0km, mb1 2.9/4, mb1mx2.8/28, mbtmp2.8/4, ML2.6/4, Error ellipse: s-maj=25.1km s-min=6.0km az=162.0*
*BER **02** 08:21:48.4±3.0, 60°.01N×22°.16E, h0km, ML2.0(NAO), Suspected explosion*
ISC 02 08:21:44.1±0.7, **59°.72N**±0°.03×**22°.30E**±0°.02, **h0km, n64,** σ1s15/95, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	1.17	64	eP	Pg	08 22 05.9	-0.6
MEF				eSB	Sg	08 22 21.4	-0.3
MEF	Metsahovi	1.17	64	P	Pg	08 22 05.8	-0.6
MEF				Sb	Sg	08 22 21.3	-0.3
AAL	Aland	1.25	293	eP	Pg	08 22 07.5	-0.5
AAL				eSN	Sn	08 22 28.7	+2.5
AAL	Aland	1.25	293	P	Pg	08 22 07.5	-0.5
AAL				S	Sg	08 22 24.8	+0.6
AAL				Sn	Sn	08 22 28.7	+2.5
AAL	Aland	1.25	293	P	Pg	08 22 07.5	-0.5
AAL				S	Sg	08 22 24.8	+0.6
MTSE	Matsula	1.27	142	eP	Pg	08 22 07.6	-0.8
MTSE				ePN	Pb	08 22 08.9	0.0
MTSE				eS	Sg	08 22 24.1	-0.8
MTSE	Matsula	1.27	142	P	Pg	08 22 07.6	-0.8
RAF	Rauma	1.34	349	eP	Pg	08 22 09.3	-0.4
RAF				eSB	Sb	08 22 27.4	-0.2
RAF	Rauma	1.34	349	P	Pg	08 22 09.3	-0.4
RAF				Sb	Sb	08 22 27.4	-0.2
NRTU	Norrtaelje	1.86	270	eP	Pn	08 22 17.6	+0.4
NRTU				eS	Sn	08 22 42.5	+1.2
NRTU	Norrtaelje	1.86	270	P	Pn	08 22 17.6	+0.4
NRTU				S	Sn	08 22 42.5	+1.2
NRTU	Norrtaelje	1.86	270	P	Pn	08 22 17.6	+0.4
NRTU				S	Sn	08 22 42.5	+1.2
PVF	Pernaja	1.97	63	ePG	Pn	08 22 19.8	+1.1
PVF				eSG	Sb	08 22 45.4	-0.4
PVF				MSG		08 22 48.5	
	comp=Z,12nm,0.3s						
PVF	Pernaja	1.97	63	Pg	Pn	08 22 19.7	+1.1
PVF				Sg	Sb	08 22 45.4	-0.4
GRAU	Graesoe	1.99	290	eP	Pn	08 22 19.1	+0.2
GRAU	Graesoe	1.99	290	P	Pn	08 22 19.1	+0.2
GRAU	Graesoe	1.99	290	P	Pn	08 22 19.1	+0.2
FORU	Forsmark	2.17	290	eP	Pn	08 22 22.7	+1.3
FORU	Forsmark	2.17	290	P	Pn	08 22 22.7	+1.3
FORU	Forsmark	2.17	290	P	Pn	08 22 22.7	+1.3
FLYU	Flymyra	2.26	282	eP	Pn	08 22 23.3	+0.6
FLYU	Flymyra	2.26	282	P	Pn	08 22 23.3	+0.6
FLYU	Flymyra	2.26	282	P	Pn	08 22 23.3	+0.6
NYNU	Nynaeshamn	2.31	254	eP	Pn	08 22 24.6	+1.2
NYNU	Nynaeshamn	2.31	254	P	Pn	08 22 24.6	+1.2
NYNU	Nynaeshamn	2.31	254	P	Pn	08 22 24.6	+1.2
FIA0	FINESS Array S	2.55	45	Pn	Pn	08 22 28.4	+1.8
	baz=227,slow=16						
FIA0				Lg	Lg	08 23 01.7	
	baz=230,slow=28						
FIA0	FINESS Array S	2.55	45	Pn	Pn	08 22 28.4	+1.8
	baz=227,slow=16						
FIA0				Lg	Lg	08 23 01.7	
	baz=230,slow=28						
FIA0	FINESS Array S	2.55	45	ePB	Pn	08 22 28.4	+1.8
FIA0				eSB	Sb	08 23 01.7	-0.7
FIA0				MSG		08 23 04.9	
	comp=Z,6.2nm,0.3s						
FIA0	FINESS Array S	2.55	45	Pn	Pn	08 22 28.4	+1.8
	SNR=50						
FIA0				Sb	Sb	08 23 01.7	-0.7
FINES	FINESS Array B	2.55	45	Pn	Pn	08 22 28.3	+1.7
	comp=Z,1.1nm,0.3s,baz=232,slow=14,SNR=48						
FINES				Lg	Lg	08 23 01.6	
	comp=Z,3.0nm,0.3s,baz=237,slow=28,SNR=24						
BACU	Backbrunna	2.63	275	eP	Pn	08 22 29.1	+1.4
BACU	Backbrunna	2.63	275	P	Pn	08 22 29.1	+1.4
BACU	Backbrunna	2.63	275	P	Pn	08 22 29.1	+1.4
OSTU	Oestervaala	2.65	283	eP	Pn	08 22 28.9	+1.0
OSTU	Oestervaala	2.65	283	P	Pn	08 22 28.9	+1.0
OSTU	Oestervaala	2.65	283	P	Pn	08 22 28.9	+1.0
IGGU	Iggoen	2.74	297	eP	Pn	08 22 30.1	+0.9
IGGU	Iggoen	2.74	297	P	Pn	08 22 30.1	+0.9
IGGU	Iggoen	2.74	297	P	Pn	08 22 30.1	+0.9
VJF	Virojoki	2.76	70	ePG	Pb	08 22 34.0	-0.2
VJF				eSG	Sb	08 23 09.5	+1.0
VJF				MSG		08 23 11.4	
	comp=Z,6.3nm,0.3s						
VJF	Virojoki	2.76	70	Pg	Pb	08 22 34.0	-0.2
VJF				Sg	Sb	08 23 09.4	+1.0
KEF	Keuruu	2.76	26	ePB	Pb	08 22 32.6	-1.6
KEF				eSB	Sb	08 23 08.9	+0.3
KEF				MSG		08 23 12.6	
	comp=Z,4.2nm,0.3s						
KAF	Kangasniemi	3.10	37	eP	Pn	08 22 36.6	+2.4
KAF				eSB	Sb	08 23 16.3	-2.0
KAF				MSG		08 23 18.4	
	comp=Z,4.4nm,0.3s						
FALU	Falun	3.33	286	eP	Pn	08 22 38.1	+0.8
FALU	Falun	3.33	286	P	Pn	08 22 38.1	+0.8
FALU	Falun	3.33	286	P	Pn	08 22 38.1	+0.8
VAF	Ylistaro	3.34	3	ePB	Pb	08 22 42.7	-1.5
SUF	Sumiainen	3.54	30	eP	Pn	08 22 42.3	+2.1
SUF				eSB	Sb	08 23 30.2	-0.9
UMAU	Umeaa	4.25	350	ePG	Pb	08 23 02.3	+2.7
UMAU				eSG	Sg	08 23 59.3	-1.3
HFS	Hagfors	4.35	279	Pn	Pn	08 22 52.2	+0.8
	baz=85,slow=14						
HFS				Sn	Sn	08 23 42.8	+0.1
	baz=90,slow=28						
HFS				Lg	Lg	08 23 56.9	
	baz=87,slow=37						
HFS	Hagfors	4.35	279	Pn	Pn	08 22 52.2	+0.8
	baz=85,slow=14						
HFS				Sn	Sn	08 23 42.8	+0.1
	baz=90,slow=28						
HFS				Lg	Lg	08 23 56.9	
	baz=87,slow=37						
HFS	Hagfors	4.35	279	Pn	Pn	08 22 52.2	+0.8
	comp=Z,0.1nm,0.3s,baz=94,slow=14,SNR=11						
HFS				Pg	Pb	08 23 01.2	-0.1
	comp=Z,0.3nm,0.3s,baz=98,slow=18,SNR=6.1						
HFS				Sn	Sn	08 23 41.8	-0.9
	comp=Z,0.2nm,0.3s,baz=87,slow=26,SNR=2.7						
HFS				Lg	Lg	08 23 58.1	
	comp=Z,0.6nm,0.3s,baz=94,slow=32,SNR=6.2						
HFS	Hagfors	4.35	279	Pn	Pn	08 22 52.2	+0.8
	SNR=50						
HFS				Sn	Sn	08 23 42.8	+0.1
	SNR=50						
HFS				Lg	Lg	08 23 56.8	
	SNR=50						
JOF	Joensuu	5.40	50	eP	Pn	08 23 06.8	+1.1
JOF				eS	Sn	08 24 08.4	-0.1
JOF	Joensuu	5.40	50	P	Pn	08 23 06.8	+1.1
JOF				S	Sn	08 24 08.4	-0.1
NB2	NORSAR Subarra	5.66	288	Pn	Pn	08 23 09.1	-0.3
	baz=96,slow=12						
NB2	NORSAR Subarra	5.66	288	Pn	Pn	08 23 09.1	-0.3
	baz=96,slow=12						
NB2	NORSAR Subarra	5.66	288	Pn	Pn	08 23 09.1	-0.3
	SNR=50						
NOA	NORSAR Array B	5.66	288	Pn	Pn	08 23 09.0	-0.4
	comp=Z,0.3nm,0.3s,baz=81,slow=19,SNR=9.8						
NOA				Sn	Sn	08 24 11.1	-3.9
	comp=Z,0.2nm,0.3s,baz=121,slow=22,SNR=2.4						
NOA				Lg	Lg	08 24 43.3	
	comp=Z,0.4nm,0.3s,baz=83,slow=19,SNR=2.7						
ARA0	ARCESS Array S	9.95	7	Pn	Pn	08 24 07.6	-0.6
	baz=184,slow=14						
ARA0	ARCESS Array S	9.95	7	Pn	Pn	08 24 07.6	-0.6
	baz=184,slow=14						
ARA0	ARCESS Array S	9.95	7	Pn	Pn	08 24 07.6	-0.6
	SNR=50						
ARCES	ARCESS Array B	9.95	7	Pn	Pn	08 24 06.1	-2.0
	comp=Z,0.2nm,0.3s,baz=188,slow=13,SNR=7.9						

*IDC **02** 08:27:28.8±2.0, 24°.79S×179°.30W, h394km±20km, mb3.4/9, mb1 3.7/12, mb1mx3.6/22, mbtmp4.3/12, Error ellipse: s-maj=20.4km s-min=16.1km az=171.0*
*ISCJB **02** 08:27:33.1±0.7, 25°.05S±0°.06×179°.4W±0°.1, h465km, mb3.7/8, Error ellipse: s-maj=16.2km s-min=8.0km az=179.7*
ISC 02 08:27:34.0±0.9, **25°.09S**±0°.09×**179°.4W**±0°.1, **h465km, n20,** σ1s41/20, **mb3.7**/8, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.34	163	P	P	08 28 47.8	-5.2
	81nm,0.3s,baz=54,slow=19,SNR=4.2						
HAZ	Te Kaha	12.86	190	ePN	P	08 30 19.9	-1.8
HAZ				eSN	S	08 32 41.2	+0.9
PUZ	Puketiti	13.10	188	ePN	P	08 30 20.5	-3.9
PUZ				eSN	S	08 32 43.8	-1.3
TWGZ	Tauwhareparae	13.24	189	ePN	P	08 30 24.9	-1.0
TWGZ				eSN	S	08 32 47.0	-0.8
DZM	Mont Dzumac	13.34	280	P	P	08 30 25.7	-1.7
	0.9nm,0.3s,baz=270,slow=20,SNR=17						
URZ	Urewera	13.47	192	P	P	08 30 27.2	-1.1
	7.3nm,0.3s,baz=304,slow=3.6,SNR=41						
URZ				S	S	08 32 55.8	+3.6
	3.1nm,0.3s,baz=65,slow=23,SNR=17						
URZ	Urewera	13.47	192	PN	P	08 30 26.8	-1.4
URZ				eSN	S	08 32 53.0	+0.8
RAGZ	Rawiri	13.64	191	ePN	P	08 30 28.7	-1.6
RPZ	Rata Peaks	20.16	200	P	P	08 31 36.2	+0.4
	5.9nm,0.5s,baz=52,slow=9.1,SNR=7.5						
CTA	Charters Tower	32.06	272	P	P	08 33 22.1	+0.6
	6.8nm,0.4s,baz=105,slow=12,SNR=14						
STKA	Stephens Creek	34.83	250	P	P	08 33 45.7	+1.0
	2.8nm,0.4s,baz=85,slow=10,SNR=23						
ASAR	Alice Springs	42.41	262	P	P	08 34 47.5	+0.7
	2.7nm,0.7s,baz=95,slow=8.5,SNR=32						
WRA	Warramunga Arr	42.90	267	P	P	08 34 51.1	+0.4
	4.0nm,0.6s,baz=104,slow=8.0,SNR=71						
WRA				ScP	ScP	08 39 48.1	+10
	1.0nm,0.8s,baz=106,slow=4.1,SNR=6.5						
VNDA	Vanda	53.25	185	P	P	08 36 11.6	+4.3
	0.9nm,0.9s,baz=354,slow=7.4,SNR=3.7						
NVAR	Mina Array Bea	85.21	44	P	P	08 39 20.9	+0.1
	0.2nm,0.4s,baz=231,slow=4.3,SNR=3.4						
TXAR	Lajitas Array	90.58	58	P	P	08 39 47.1	+1.1
	0.6nm,0.8s,baz=209,slow=6.0,SNR=7.9						
ILAR	Eielson Array	93.05	13	P	P	08 39 55.7	-0.7
	0.3nm,0.5s,baz=226,slow=5.7,SNR=7.2						
NB2	NORSAR Subarra	143.34	351	PKP	PKPbc	08 46 11.8	-0.4
	comp=Z,0.7nm,0.6s,baz=11,slow=3.6						
NOA	NORSAR Array B	143.34	351	PKhKP	PKPpre	08 46 10.4	
	comp=Z,0.4nm,0.6s,baz=13,slow=2.4,SNR=4.3						
AKASG	Malin Array Be	146.27	327	PKPbc	PKPbc	08 46 21.2	-0.3
	comp=Z,0.5nm,0.4s,baz=42,slow=4.7,SNR=2.9						

KRSC 02 08:28:58.1±1.6, **48°.96N**×**157°.12E, h15km**±6km, **ML3.8, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.84	340	eP	Pn	08 29 29.5	+0.4
SKR				eS	Sn	08 29 52.3	+0.2
PAU	Pauzhetka	2.52	356	eS	Sb	08 30 12.2	-1.5
MIPR	Malaya Ipel'ka	3.33	356	eP	Pn	08 29 52.2	+2.6
ASAK	Asacha	3.46	8	eP	Pb	08 29 55.4	-3.8
RUS	Russkaya	3.59	14	eP	Pn	08 29 56.0	+2.9
MTVR	Mutnovka	3.59	10	eP	Pn	08 29 57.1	+3.7
MTVR				eS	Sn	08 30 39.0	+3.4
UGLR	Uglovaya	4.39	13	eP	Pn	08 30 08.6	+4.4
AVH	Avacha	4.43	13	eP	Pn	08 30 09.5	+4.7
SMAR	Somma	4.44	13	eP	Pn	08 30 07.6	+2.5
KOK	Koryaka	4.44	12	eP	Pn	08 30 09.9	+4.9
SDLR	Sedlovina	4.46	14	eP	Pn	08 30 09.0	+3.7
KRX	Arik	4.51	12	eP	Pn	08 30 10.4	+4.5
SPN	Mys Shipunski	4.53	23	eP	Pn	08 30 10.8	+4.8
SPN				eS	Sn	08 31 04.0	+5.7
GNL	Ganaly	4.77	6	eP	Pn	08 30 13.7	+4.2
MKZ	Mys Kozlova	6.29	25	eP	Pn	08 30 33.9	+3.7
KBTR	Krutoberegovo	8.04	23	eP	Pn	08 30 59.6	+5.4

*ISCJB **02** 08:31:08.5±0.7, 9°.24N±0°.03×125°.65E±0°.04, h22km±6km, mb3.8/8, MS3.1/4, Error ellipse: s-maj=6.8km s-min=4.6km az=178.4*
*MAN **02** 08:31:08, 9°.24N×125°.45E, h1km, mb5.0, ML3.9, MS4.0*
MAN INTENSITY II - BUTUAN CITY.
*IDC **02** 08:31:08.4±1.4, 9°.15N×126°.78E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.9/24, mbtmp4.0/7, MS3.0/6, Ms1 3.0/6, ms1mx2.8/31, Error ellipse: s-maj=107.1km s-min=20.0km az=85.0*
*NEIC **02** 08:31:09.7±0.5, 8°.96N×124°.77E, h35km, mb3.7/1, Error ellipse: s-maj=15.0km s-min=8.5km az=90.0*
NEIC Felt [II PIVS] at Butuan.
ISC 02 08:31:08.3±1.0, **9°.20N**±0°.02×**125°.54E**±0°.04, **h13km**±7km, **n42,** σ1s21/36, **mb3.8**/8, **MS3.0**/4, **4C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.24	159	eP	Pg	08 31 13.8	+0.3
SCPH	Surigao	0.58	356	⇓ iP	Pg	08 31 19.5	-0.2
SCPH				i S	Sg	08 31 26.8	-0.6
CGP	Cagayan de Oro	1.11	228	⇑ iP	Pn	08 31 30.2	+0.7
CGP				i S	Sn	08 31 46.9	+2.3
MSLP	Maasin	1.14	324	eP	Pb	08 31 28.2	-1.7
MSLP				eS	Sg	08 31 44.8	-0.5
BIPH	Bislig	1.30	141	⇑ iP	Pg	08 31 33.1	-0.1
BIPH				i S	Sg	08 31 51.8	+1.7
BUKP	Musuan	1.39	200	eP	Pg	08 31 34.8	-0.2
BUKP				eS	Sg	08 31 54.1	+0.9
TBP	Tagbilaran	1.72	287	⇓ eP	Pn	08 31 37.5	-0.4
TBP				eS	Sn	08 31 59.6	-0.2
PLP	Palo	2.03	344	⇓ eP	Pn	08 31 42.4	+0.2
PLP				eS	Sb	08 32 10.0	-0.2
OCLP	Ormoc	2.06	334	eP	Pb	08 31 45.0	-0.5
DAV	Davao City (W)	2.12	179	Pn	Pn	08 31 41.9	-1.4
DCPH	Dipolog City	2.24	254	⇑ iP	Pb	08 31 47.8	-0.9
DCPH				i S	Sb	08 32 16.4	+0.1
MATI	Mati	2.35	162	eP	Pb	08 31 49.8	-0.7
PAGZ	Pagadian	2.52	238	eP	Pn	08 31 50.5	+1.7
PAGZ				eS	Sb	08 32 24.0	-0.2
GUIM	Jordan	3.23	296	eP	Pn	08 31 58.8	+0.1
CNP	Catarman	3.40	346	eP	Pn	08 32 03.5	+2.5
RCP	Roxas	3.61	311	⇑ eP	Pn	08 32 05.3	+1.4
RCP				eS	Sn	08 32 48.6	+2.1
PVCP	Virac	4.58	343	eP	Pb	08 32 23.8	-4.6
KKM	Kota Kinabalu	9.75	252	Pn	Pn	08 33 16.6	-12
KAPI	Kappang	15.25	202	LR	LR	08 41 37.5	
	comp=Z,71nm,21.0s,baz=46,slow=40						
KAPI	Kappang	15.25	202	ePn	Pn	08 34 35.4	-8.0
JOW	Kunigami	17.73	8	LR	LR	08 41 07.2	
	comp=Z,7.1nm,18.9s,baz=146,slow=34						
JOW	Kunigami	17.73	8	Pn	P	08 35 18.0	+2.3
LEM	Lembang	23.92	229	LR	LR	08 47 11.3	
	comp=Z,130nm,19.2s,baz=104,slow=39						
CMAR	Chiang Mai Arr	27.38	292	LR	LR	08 47 37.2	
	comp=Z,40nm,19.8s,baz=126,slow=35						
KSAR	Wonju Array Be	28.20	4	P	P	08 37 01.4	+0.8
KSRS	Korea Array	28.21	4	P	P	08 37 01.4	+0.7
	0.5nm,0.3s,baz=183,slow=9.6,SNR=3.0						
MJAR	Matsushiro Arr	29.56	21	LR	LR	08 47 53.0	
	comp=Z,35nm,20.6s,baz=15,slow=34						
WRAB	Tennant Creek	30.22	163	P	P	08 37 17.1	-1.7
	1.4nm,0.9s						
WRA	Warramunga Arr	30.23	163	P	P	08 37 17.1	-1.7
	1.0nm,1.1s,baz=343,slow=9.2,SNR=3.3						
ASAR	Alice Springs	33.67	166	P	P	08 37 48.4	-0.8
	0.8nm,0.7s,baz=343,slow=7.1,SNR=9.9						
USRK	Ussuriysk Ar.	35.32	8	LR	LR	08 51 28.0	
	comp=Z,23nm,21.2s,baz=181,slow=35						
H11S3	WAKE ISLAND Hy	40.93	72	T	T	09 21 49.8	
	baz=262,slow=73,SNR=17						
H11S1	WAKE ISLAND Hy	40.94	72	T	T	09 21 45.9	
	baz=262,slow=73,SNR=11						
H11S2	WAKE ISLAND Hy	40.94	72	T	T	09 21 48.5	
	baz=262,slow=73,SNR=9.1						
H11N1	WAKE ISLAND Hy	41.29	71	T	T	09 22 12.7	
	baz=266,slow=74,SNR=8.0						
H11N2	WAKE ISLAND Hy	41.29	71	T	T	09 22 13.9	
	baz=266,slow=74,SNR=6.6						
H11N3	WAKE ISLAND Hy	41.30	71	T	T	09 22 16.8	
	baz=266,slow=74,SNR=7.8						
STKA	Stephens Creek	43.64	160	P	P	08 39 11.5	-1.1
	0.7nm,0.4s,baz=11,slow=8.6,SNR=3.9						
ZAA0	Zalesovo Array	55.22	332	eP	P	08 40 40.1	-0.6
ILAR	Eielson Array	80.72	26	P	P	08 43 21.4	+0.5
	0.7nm,0.8s,baz=237,slow=5.0,SNR=11						
ARCES	ARCESS Array B	84.94	340	P	P	08 43 48.1	+5.2
	2.1nm,0.9s,baz=57,slow=8.8,SNR=4.3						
YKA	Yellowknife Ar	95.03	24	P	P	08 44 29.9	-0.6
	0.6nm,0.7s,baz=299,slow=4.8,SNR=6.7						

IDC 02 08:39:44.9±2.7, **53°.52N**×**87°.67E, h0km, mb1 3.1**/2, **mb1mx3.0**/29, **mbtmp3.1**/2, **ML2.8**/2, **Error ellipse: s-maj=23.2km s-min=15.1km az=66.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.75	285	i		08 51 40.0	
	baz=97,slow=329,SNR=4.1						
ZALV	Zalesovo Beam	1.75	285	Pn	Pn	08 40 15.4	-1.0
	2.2nm,0.3s,baz=106,slow=13,SNR=14						
ZALV				Lg	Lg	08 40 40.8	
	4.0nm,0.3s,baz=104,slow=23,SNR=19						
KURBB	Kurchatov Arra	6.34	246	Pn	Pn	08 41 20.6	+1.1
	0.2nm,0.3s,baz=61,slow=14,SNR=11						
KURBB				Sn	Sn	08 42 30.7	-1.8
	baz=59,slow=27,SNR=2.3						
KURBB				Lg	Lg	08 43 06.6	
	0.1nm,0.3s,baz=62,slow=35,SNR=4.6						
MKAR	Makanchi Array	7.56	209	Pn	Pn	08 41 37.8	+1.4
	0.2nm,0.3s,baz=25,slow=13,SNR=5.2						
MKAR				Sn	Sn	08 43 01.3	-1.5
	0.1nm,0.3s,baz=26,slow=17,SNR=2.8						
MKAR				Lg	Lg	08 43 43.8	
	0.1nm,0.3s,baz=22,slow=28,SNR=3.8						

*IDC **02** 09:03:13.3±1.3, 1°.89N×96°.66E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/27, mbtmp3.9/10, ML3.6/2, MS2.9/2, Ms1 2.9/2, ms1mx2.7/42, Error ellipse: s-maj=33.4km s-min=19.1km az=45.0*
ISC 02 09:03:18.2±1.2, **2°.0N**±0°.2×**96°.8E**±0°.1, **h28km, n18,** σ0s73/12, **mb4.0**/9, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.23	70	Pn	Pn	09 03 54.8	+1.3
	1.5nm,0.3s,baz=266,slow=14,SNR=5.5						
PSI				Sn	Sb	09 04 24.4	-0.9
	6.5nm,0.3s,baz=265,slow=7.3,SNR=6.6						
PSI				LR	LR	09 04 42.3	
	comp=Z,100nm,19.0s,baz=283,slow=37						
LEM	Lembang	13.91	129	LR	LR	09 12 24.9	
	comp=Z,114nm,21.6s,baz=182,slow=40						
CMAR	Chiang Mai Arr	16.45	7	Pn	P	09 07 09.0	-0.8
	0.4nm,0.3s,baz=199,slow=12,SNR=14						
H08S2	Diego Garcia H	26.11	248	T	T	09 35 39.0	
	baz=69,slow=75,SNR=181						
H08S3	Diego Garcia H	26.11	248	T	T	09 35 39.6	
	baz=69,slow=75,SNR=175						
H08S1	Diego Carcia H	26.12	248	T	T	09 35 37.8	
	baz=69,slow=75,SNR=233						
H01W3	Cape Leeuwin H	40.16	158	T	T	09 53 32.8	
	baz=334,slow=76,SNR=7.8						
H01W2	Cape Leeuwin H	40.17	158	T	T	09 53 32.2	
	baz=334,slow=76,SNR=4.4						
H01W1	Cape Leeuwin H	40.17	158	T	T	09 53 31.6	
	baz=334,slow=76,SNR=4.6						
WRA	Warramunga Arr	42.80	123	P	P	09 11 13.3	-0.6
	0.3nm,0.4s,baz=301,slow=9.2,SNR=7.9						
ASAR	Alice Springs	44.20	128	P	P	09 11 25.1	-0.1
	0.5nm,0.7s,baz=303,slow=8.1,SNR=5.1						
KSRS	Korea Array	45.38	35	P	P	09 11 34.4	0.0
	0.9nm,0.8s,baz=218,slow=7.9,SNR=4.9						
MKAR	Makanchi Array	46.35	346	P	P	09 11 42.0	+0.1
	1.0nm,0.5s,baz=158,slow=8.1,SNR=19						
SONM	Songino Array	46.37	9	P	P	09 11 42.5	+0.3
	0.7nm,0.4s,baz=198,slow=9.1,SNR=3.6						
KURBB	Kurchatov Arra	50.83	345	P	P	09 12 17.1	+0.9
	1.0nm,0.6s,baz=165,slow=7.2,SNR=6.7						
ZALV	Zalesovo Beam	52.68	351	P	P	09 12 29.7	-0.3
	2.6nm,0.6s,baz=192,slow=7.0,SNR=8.8						
FINES	FINESS Array B	79.09	332	P	P	09 15 19.7	-0.2
	1.4nm,0.9s,baz=122,slow=10,SNR=2.8						
ARCES	ARCESS Array B	81.63	340	P	P	09 15 32.9	-0.5
	1.9nm,0.8s,baz=131,slow=11,SNR=2.7						

SKO 02 09:15:38.5, 41°.84N×**22°.52E, h17km, M1.2, ML1.6, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	Valandovo	0.52	176	i Pg	Pb	09 15 49.3	+0.1
VAY				i Sg	Sb	09 15 56.8	+0.3
VAY				eLg	Lg	09 15 56.8	
	comp=N,32nm,0.4s						
VAY				eLg	Lg	09 15 56.9	
	comp=E,17nm,0.4s						

IDC 02 09:15:55.7±2.7, **53°.69N**×**86°.90E, h0km, mb1 2.8**/2, **mb1mx2.7**/29, **mbtmp2.8**/2, **ML2.5**/2, **Error ellipse: s-maj=24.2km s-min=13.5km az=74.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.26	283	i		09 24 00.0	
	baz=100,slow=320,SNR=0.8						
ZALV	Zalesovo Beam	1.26	283	Pg	Pg	09 16 18.7	-1.1
	1.4nm,0.3s,baz=101,slow=18,SNR=5.3						
ZALV				Lg	Lg	09 16 37.0	
	1.4nm,0.3s,baz=100,slow=26,SNR=5.9						
KURBB	Kurchatov Arra	6.00	243	Pn	Pn	09 17 25.9	+0.3
	0.1nm,0.3s,baz=57,slow=13,SNR=4.2						
KURBB				Lg	Lg	09 19 05.2	
	0.1nm,0.3s,baz=62,slow=35,SNR=5.7						
MKAR	Makanchi Array	7.51	205	Pn	Pn	09 17 48.5	+2.0
	0.1nm,0.3s,baz=29,slow=14,SNR=5.9						
MKAR				Sn	Sn	09 19 11.3	-1.0
	0.1nm,0.3s,baz=27,slow=29,SNR=2.6						
MKAR				Lg	Lg	09 19 52.9	
	0.1nm,0.3s,baz=21,slow=29,SNR=4.5						

DDA 02 09:19:15.7, 36°.35N×**36°.93E, h7km, MD2.9, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZU	Kuzuini	0.44	15	i P	Pg	09 19 24.0	-0.2
KUZU				i S	Sg	09 19 31.1	+1.0
YAYL	Yayladag	0.74	245	i P	Pg	09 19 29.4	-0.7
YAYL				i S	Sb	09 19 41.2	-0.3
KAMA	Osmaniye	0.86	346	i P	Pb	09 19 33.0	-0.1
KAMA				i S	Sb	09 19 45.0	+0.1

*IDC **02** 09:20:47.3±1.6, 33°.08S×72°.16W, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.7/16, mbtmp3.6/5, ML3.1/4, MS3.7/2, Ms1 3.7/2, ms1mx3.2/22, Error ellipse: s-maj=39.0km s-min=23.5km az=87.0*
*GUC **02** 09:20:48.5±0.7, 33°.09S×72°.22W, h15km±3km, ML3.5*
*SJA **02** 09:20:49.4±1.2, 32°.87S×72°.29W, h10km, ML4.0*
ISC 02 09:20:47.4±1.5, **33°.09S**±0°.04×**72°.16W**±0°.05, **h2km**±8km, **n38,** σ0s89/43, **5C-4D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.44	82	⇑ iP	Pb	09 20 57.9	+0.1
IHA				i S	Sb	09 21 04.9	0.0
ROCH	El Roble	0.97	83	⇓ iP	Pg	09 21 06.6	+0.5
ROCH				i S	Sg	09 21 19.6	+1.0
ROCH				AML	AML	09 21 21.1	
	comp=E,2μm,0.8s						
LNV	Longovilo	1.07	144	eP	Pg	09 21 07.8	-0.1
LNV				i S	Sg	09 21 22.0	+0.3
PEL	Peldehue	1.24	93	⇑ iP	Pg	09 21 11.2	0.0
PEL				i S	Sb	09 21 28.1	+0.1
PEL				AML	AML	09 21 31.2	
	comp=E,2μm,0.6s						
SAN	Santiago	1.30	107	eP	Pg	09 21 12.1	-0.4
SAN				i S	Sg	09 21 29.2	-0.2
CLCH	Cerro Calan	1.39	103	⇓ iP	Pn	09 21 13.4	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CLCH				iS	Sg	09 21 32.2	0.0
CLCH				AML	AML	09 21 33.2	
	comp=E,2µm,0.3s						
LACH	Col Las Americ	1.41	105⇓	iP	Pn	09 21 13.2	-1.0
LACH				iS	Sg	09 21 32.7	-0.1
FSR	Penalolen	1.42	106	eP	Pg	09 21 15.1	+0.4
FSR				iS	Sn	09 21 34.2	+0.6
PCH	Pirque	1.48	112⇑	iP	Pn	09 21 15.0	-0.1
CHCH	Chadas Angostu	1.51	124⇑	iP	Pn	09 21 15.0	-0.6
CHCH				iS	Sn	09 21 35.4	-0.5
SJCH	San Jose de Ma	1.61	111⇓	iP	Pn	09 21 16.4	-0.5
SJCH				iS	Sn	09 21 38.1	-0.1
CACH	El Canelo	1.66	129⇑	iP	Pn	09 21 18.1	+0.5
NICH	Los Niches	2.06	158	eP	Pn	09 21 23.6	+0.6
NICH				iS	Sn	09 21 49.7	+0.4
TALC	Talca	2.34	169	eP	Pn	09 21 25.4	-1.6
TALC				iS	Sn	09 21 55.4	-0.9
AUSP	Uspallata	2.49	71	iP	Pb	09 21 32.5	-0.5
AUSP				iS	Sb	09 22 05.8	+1.6
ARCO	CERRO ARCO	2.72	86	iP	Pb	09 21 37.2	+0.3
ARCO				iS	Sb	09 22 12.7	+1.9
ARCO				AML	AML	09 22 16.6	
	comp=Z,541nm,0.8s						
RTLS	Leoncito	2.74	63	eP	Pb	09 21 37.5	+0.2
RTLS				iS	Sb	09 22 12.3	+0.9
AAGR	Agrelo	2.79	91	eP	Pb	09 21 39.4	+1.2
ASAL	Salagasta	2.84	81	iP	Pb	09 21 38.0	-0.9
ASAL				iS	Sb	09 22 15.5	+1.4
RTCV	Cerro Valdivia	3.29	69	eP	Pb	09 21 44.4	-2.2
RTLL	Cerro Villicun	3.58	62	eP	Pn	09 21 47.3	+3.3
CFAA	Coronel Fontan	3.63	67	Pn	Pn	09 21 46.6	+1.9
	comp=Z,0.2nm,0.3s,baz=240,slow=14,SNR=48						
CFAA				Lg	Lg	09 22 38.1	
	comp=Z,1.6nm,0.3s,baz=146,slow=15,SNR=5.9						
CFAA				LR	LR	09 23 24.5	
	comp=Z,38nm,20.6s,baz=318,slow=43						
CFAA	Coronel Fontan	3.63	67	eP	Pn	09 21 47.5	+2.8
AMOG	MOGNA	3.78	56	eP	Pn	09 21 50.6	+3.8
ACAN	Cantantal	4.27	80	eP	Pn	09 21 57.2	+3.7
AVFE	Valle Fertil	4.68	60	eP	Pn	09 22 01.9	+2.8
CYA	Choya	7.17	51	eP	Pn	09 22 33.4	+0.1
PLCA	Paso Flores	7.74	171	Pn	Pn	09 22 42.2	+1.0
	comp=Z,0.1nm,0.3s,baz=343,slow=12,SNR=2.5						
PLCA				Lg	Lg	09 24 52.2	
	comp=Z,0.1nm,0.3s,baz=258,slow=16,SNR=2.3						
PLCA				LR	LR	09 25 51.4	
	comp=Z,596nm,20.0s,baz=338,slow=39						
AHML	Horco Molle	8.63	45	eP	Pn	09 22 57.6	+4.3
FSA	Cafayete	8.79	39	eP	Pn	09 22 59.5	+3.8
LPAZ	La Paz	17.12	13	P	Pn	09 24 48.2	-0.3
	comp=Z,0.0nm,0.3s,baz=204,slow=5.4,SNR=3.9						
SIV	San Ignacio	19.76	33	P	P	09 25 17.8	-1.0
	comp=Z,0.1nm,0.3s,baz=225,slow=11,SNR=3.6						
BDFB	Brasilia	27.91	57	LR	LR	09 38 49.7	
	comp=Z,152nm,18.4s,baz=114,slow=39						
TXAR	Lajitas Array	68.89	331	P	P	09 31 54.4	+0.6
	comp=Z,0.2nm,0.6s,baz=152,slow=8.1,SNR=4.6						
TORD	Torodi Ar. Bea	83.99	70	P	P	09 33 19.6	-0.1
	comp=Z,1.4nm,0.8s,baz=240,slow=3.9,SNR=7.6						
H11S2	WAKE ISLAND Hy	125.68	270	T	T	11 58 37.2	
	baz=119,slow=75,SNR=5.2						
H11S1	WAKE ISLAND Hy	125.69	270	T	T	11 58 34.0	
	baz=119,slow=75,SNR=3.4						
H11S3	WAKE ISLAND Hy	125.70	270	T	T	11 58 37.6	
	baz=119,slow=75,SNR=3.0						

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*BJI **02** 09:28:52.5, 6°25S×149°34E, h55km, mb5.2/65, mB5.6/70, Ms5.6/84, Ms7 5.5/76*

*MOS **02** 09:28:52.1±1.3, 6°06S×149°21E, h33km, mb5.6/55, MS5.7/45, Error ellipse: s-maj=8.6km s-min=5.4km az=91.3*

*ISCJB **02** 09:28:52.6±0.7, 6°16S±0°02×149°26E±0°02, h39km±5km, mb5.4/158, MS5.6/206, Error ellipse: s-maj=4.1km s-min=3.4km az=141.8*

*GCMT **02** 09:28:53.2±0.1, 6°43S×149°46E, h41km, MW5.9/130, Moment Tensor Solution. s130,c270; s122,c378; Duration: 2s2 Moment tensor: Scale 10^{18}Nm; M_{rr}0.84±.01; $M_{\theta\theta}$-0.98±.01; $M_{\phi\phi}$0.13±.01; $M_{r\theta}$0.17±.01; $M_{\theta\phi}$-0.17±.01; $M_{\phi r}$0.19±.01; Best double couple: $M_0$0.96000×10^{18} NP1:ϕ_s70.00000°,δ52.00000°, λ74.00000°. NP2:ϕ_s274.00000°,δ40.00000°,λ109.00000°. Principal axes: T 0.8980, Plg76.0000°, Azm287.0000°; N 0.1250, Plg12.0000°, Azm79.0000°; P -1.0230, Plg6.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*IDC **02** 09:28:53.3±1.0, 6°19S×149°25E, h37km±7km, mb5.0/32, mb1 5.0/34, mb1mx5.0/34, mbtmp5.1/34, ML5.2/2, MS5.4/24, Ms1 5.4/24, ms1mx5.3/28 Error ellipse: s-maj=11.5km s-min=6.5km az=84.0*

*NEIC **02** 09:28:53.2±0.1, 6°16S×149°41E, h34km, mb5.5/67, ME5.1, MS5.7/169, MW5.9, MW5.8, Error ellipse: s-maj=5.3km s-min=4.3km az=93.0, Moment Tensor Solution. s30 Moment tensor: Scale 10^{17}Nm; M_{rr}7.25; $M_{\theta\theta}$-6.34; $M_{\phi\phi}$-0.91; $M_{r\theta}$1.78; $M_{\theta\phi}$-2.24; $M_{\phi r}$0.73; Best double couple: $M_0$7.40000×10^{17} NP1:ϕ_s251.00000°,δ38.00000°, λ91.00000°. NP2:ϕ_s70.00000°,δ52.00000°,λ89.00000°. Principal axes: T 7.5000, Plg82.0000°, Azm335.0000°; N -0.1000, Plg0.0000°, Azm70.0000°; P -7.4000, Plg7.0000°, Azm160.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s250.00000°,δ30.00000°,λ90.00000°. NP2: ϕ_s70.00000°,δ60.00000°,λ90.00000°. Principal axes: T Plg75.0000°, Azm340.0000°; N Plg0.0000°, Azm0.0000°; P Plg15.0000°, Azm160.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [V] at Kimbe. Also felt at Port Moresby, New Guinea.

*NEIC **02** 09:28:56.0±0.0, 6°21S×149°39E, h35km, Moment Tensor Solution. s37 Moment tensor: Scale 10^{17}Nm; M_{rr}7.65; $M_{\theta\theta}$-7.02; $M_{\phi\phi}$-0.63; $M_{r\theta}$4.42; $M_{\theta\phi}$-1.63; $M_{\phi r}$4.42; Best double couple: $M_0$9.70000×10^{17} NP1:ϕ_s58.00000°, δ65.00000°,λ74.00000°. NP2:ϕ_s270.00000°,δ29.00000°, λ119.00000°. Principal axes: T 10.3000, Plg66.0000°, Azm300.0000°; N -1.1000, Plg13.0000°, Azm64.0000°; P -9.2000, Plg18.0000°, Azm159.0000°;*

*DJA **02** 09:29:01.1±0.7, 6°S±3°×14°9E±°, h83km±5km, M5.8/76, mb5.6/76, mB6.1/60, MLv7.2/1, Mw(mB)5.7/60, Mwp5.8/8*

ISC 02 09:28:55.0±0.2**, 6°17S**±0°02×**149°34E**±0°03**, h51**km±1km**, h51**km**:pP-P, n983,** σ1s69/995**, mb5.4**/167**, MS5.7**/212**, 120C-90D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.87	214d	iP	Pn	09 29 53.9	+1.8
PMG				pmax	pmax		
	comp=Z,20µm,0.7s						
PMG	Port Moresby	3.87	214	ePn	Pn	09 29 53.8	+1.7
PMG				eSn	Sn	09 30 38.8	+2.5
JAY	Jayapura	9.34	293	P	Pn	09 31 10.5	+3.3
	comp=Z,259nm,1.2s,comp=Z,6µm						
GENI	Genyem	9.81	291	P	Pn	09 31 18.4	+4.9
	comp=Z,615nm,1.2s,comp=Z,10µm						
COEN	Coen	9.83	218	ePn	Pn	09 31 14.6	+0.8
HNR	Honiara	11.00	108	eP	Pn	09 31 30.8	+1.0
HNR				pmax	pmax		
	comp=Z,511nm,0.9s						
HNR	Honiara	11.00	108	eP	Pn	09 31 32.0	+2.2
HNR	Honiara	11.00	108	ePn	Pn	09 31 30.8	+1.0
	comp=Z,511nm,0.9s						
SMPI	Sarmi	11.38	291	P	Pn	09 31 40.6	+5.6
	comp=Z,248nm,1.2s,comp=Z,8µm						
SRPI	Serui, Papua	13.74	288	P	P	09 32 18.3	+3.8
CTA	Charters Tower	14.15	192	Pn	Pn	09 32 10.8	-1.9
	comp=Z,1.9nm,0.3s,baz=16,slow=14,SNR=67						
CTA				Sn	Sn	09 34 52.5	+4.1
	comp=Z,0.1nm,0.3s,baz=350,slow=11,SNR=1.9						
CTA				LR	LR	09 37 56.5	
	comp=Z,15µm,18.5s,baz=7.5,slow=38						
CTA	Charters Tower	14.15	192	P	Pn	09 32 10.9	-1.9
CTA						09 34 52.5	
CTA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CTA				MLR	MLR		
	comp=Z,15µm,18.5s						
CTAO	Charters Tower	14.15	192	eP	Pn	09 32 13.3	+0.5
CTAO				e		09 34 54.2	
CTAO				pmax	pmax		
	comp=Z,1µm,1.8s						
CTAO	Charters Tower	14.15	192	ePn	Pn	09 32 13.2	+0.5
	comp=Z,1µm,1.8s						
CTAO				eSn	Sn	09 34 54.2	+5.7
FAKI	Fak Fak	17.34	280	P	P	09 32 58.0	+3.6
	comp=Z,177nm,1.0s,comp=Z,4µm						
FAKI	Fak Fak	17.34	280	eP	P	09 32 56.1	+1.7
	comp=Z,130nm,0.8s						
FAKI				eS	S	09 36 10.1	-2.2
SAUI	Saumlaki	17.99	263	P	Pn	09 33 09.5	+7.9
SIJI	Sorong	18.79	286	P	P	09 33 07.2	-3.1
	baz=72,slow=10,SNR=2.6						
SIJI				S	Sn	09 36 40.4	-0.4
	comp=Z,0.4nm,0.3s,baz=144,slow=19,SNR=1.7						
SIJI				LR	LR	09 42 48.8	
	comp=Z,8µm,18.4s,baz=110,slow=45						
EIDS	Eidsvold	19.16	175	ePn	P	09 33 15.0	+0.7
	comp=Z,1µm,1.6s						
BNDI	Bandanaira	19.42	274	P	P	09 33 17.2	-0.1
	comp=Z,713nm,1.2s,comp=Z,15µm						
WRAB	Tennant Creek	19.98	225	P	P	09 33 24.0	+0.6
	comp=Z,3µm,0.8s						
WRAB	Tennant Creek	19.98	225c	iP	P	09 33 24.3	+0.9
WRAB				pmax	pmax		
	comp=Z,1µm,0.7s						
WRAB				MLR	MLR		
	comp=Z,61µm,19.0s						
WRAB	Tennant Creek	19.98	225	eP	P	09 33 24.0	+0.6
	comp=Z,1µm,1.2s						
WRAB				eS	S	09 37 00.6	-4.9
WRAB				LR	LR		
	comp=Z,27µm,19.0s						
WRA	Warramunga Arr	19.99	225	P	P	09 33 22.4	-1.1
	comp=Z,18nm,0.3s,baz=50,slow=11,SNR=275						
WRA				S	S	09 37 01.6	-4.1
	comp=Z,1.1nm,0.3s,baz=47,slow=22,SNR=8.1						
WRA				PcP	PcP	09 37 38.8	+0.4
	comp=Z,1.8nm,0.3s,baz=43,slow=1.7,SNR=10						
WRA				ScP	ScP	09 41 12.3	+1.7
	comp=Z,0.3nm,0.3s,baz=53,slow=2.8,SNR=4.3						
WRA				LR	LR	09 42 21.6	
	comp=Z,26µm,18.3s,baz=50,slow=41						
WRA				PKiKP	PKiKP	09 45 25.2	-2.4
	comp=Z,0.1nm,0.3s,baz=317,slow=1.1,SNR=6.2						
WRA				P3KP		10 08 19.5	
	comp=Z,0.0nm,0.3s,baz=153,slow=2.3,SNR=3.7						
GUMO	Guam	20.13	347	P	P	09 33 25.3	+0.4
	comp=Z,312nm,0.9s,baz=169,slow=9.4,SNR=22						
GUMO				S	S	09 37 07.4	-0.9
	comp=Z,28nm,0.9s,baz=217,slow=20,SNR=1.7						
GUMO				LR	LR	09 40 16.8	
	comp=Z,9µm,21.7s,baz=135,slow=34						
GUMO	Guam	20.13	347	P	P	09 33 25.3	+0.4
GUMO				S	S	09 37 07.4	-0.9
GUMO				pmax	pmax		
	comp=Z,312nm,0.9s						
GUMO				smax	smax		
	comp=N,28nm,0.9s						
GUMO				MLR	MLR		
	comp=Z,9µm,21.7s						
GUMO	Guam	20.13	347	P	P	09 33 25.3	+0.4
GUMO				S	S	09 37 07.4	-0.9
GUMO				eS	Sn	09 37 16.5	+3.5
NLAI	Namlea	22.35	276	P	P	09 33 52.4	+3.5
	comp=Z,142nm,1.1s,comp=Z,3µm						
LBMI	Labuha	22.47	283	P	pP	09 34 06.1	+4.1
LIFNC	LIFOU	22.63	132	eP	P	09 33 50.7	-1.1
NOUC	Port Laguerre	22.79	136	eP	P	09 33 51.9	-1.6
AS31	Alice Springs	22.87	219	eP	P	09 33 54.8	+0.4
AS31				eS	S	09 38 02.3	+1.9
ASAR	Alice Springs	22.87	219	P	P	09 33 53.7	-0.7
	comp=Z,144nm,0.7s,baz=54,slow=9.1,SNR=681						
ASAR				PcP	PcP	09 37 44.1	+0.1
	comp=Z,22nm,0.8s,baz=57,slow=3.4,SNR=5.8						
ASAR				S	S	09 38 00.3	-0.2
	comp=Z,47nm,0.8s,baz=35,slow=22,SNR=6.7						
ASAR				ScP	ScP	09 41 19.9	+2.2
	comp=Z,7.7nm,0.9s,baz=37,slow=2.7,SNR=4.4						
ASAR				LR	LR	09 43 40.7	
	comp=Z,17µm,19.7s,baz=39,slow=39						
ASAR				P3KP		10 08 14.4	
	comp=Z,0.9nm,0.8s,baz=160,slow=2.9,SNR=7.4						
DZM	Mont Dzumac	22.87	135	eP	P	09 33 54.3	-0.2
	comp=Z,507nm,1.3s						
DZM				eS	S	09 37 56.9	-3.7
	comp=Z,20µm,24.4s						
DZM				eLR	LR	09 39 26.4	
	comp=Z,54µm,22.4s						
DZM	Mont Dzumac	22.87	135	P	P	09 33 53.4	-1.1
	comp=Z,106nm,0.6s,baz=90,slow=24,SNR=136						
DZM				S	S	09 37 53.7	-6.9
	comp=Z,6.5nm,0.5s,baz=90,slow=20,SNR=12						
TNTI	Ternate	22.99	287	P	P	09 33 52.8	-2.9
	comp=Z,317nm,1.2s						
I22FR	PORTLAGUERRE I	23.23	135	i		11 50 00.0	
	baz=314,slow=312,SNR=0.5						
SANI	Sanana	23.64	279	P	P	09 34 04.5	+2.6
	comp=Z,148nm,0.8s,comp=Z,3µm						
ARMA	Armidale	24.22	175	eP	P	09 34 08.3	+1.1
	comp=Z,3µm,2.1s						
SOEI	Soe	25.08	260	P	P	09 34 15.8	+0.6
	comp=Z,896nm,1.4s,comp=Z,14µmcomp=Z,29µm						
SOEI	Soe	25.08	260	eP	P	09 34 16.0	+0.8
	comp=Z,682nm,0.9s						
KMSI	Cibinong	26.18	284	P	pP	09 34 38.3	+0.3
STKA	Stephens Creek	26.58	195	P	P	09 34 27.9	-0.5
	comp=Z,154nm,0.9s,baz=355,slow=8.4,SNR=82						
STKA				S	S	09 38 59.4	-0.3
	comp=Z,8.8nm,0.9s,baz=348,slow=20,SNR=1.2						
STKA				ScP	ScP	09 41 30.6	+2.7
	comp=Z,15nm,0.9s,baz=108,slow=3.0,SNR=3.9						
STKA				LR	LR	09 46 08.8	
	comp=Z,17µm,18.0s,baz=6.2,slow=39						
STKA	Stephens Creek	26.58	195	P	P	09 34 28.0	-0.5
STKA				S	S	09 38 59.4	-0.3
STKA				pmax	pmax		
	comp=Z,154nm,0.9s						
STKA				smax	smax		
	comp=N,9.0nm,0.9s						
STKA				MLR	MLR		
	comp=Z,17µm,18.0s						
KDI	Kendari	26.70	273	P	P	09 34 28.4	-1.4
	comp=Z,63nm,1.1s,comp=Z,2µm						
MMRI	Maumere	26.98	263	P	P	09 34 30.4	-1.9
	comp=Z,875nm,0.9s,comp=Z,8µm						
MMRI	Maumere	26.98	263	eP	P	09 34 31.4	-0.9
	comp=Z,742nm,0.9s						
LUWI	Luwuk	26.99	280	P	pP	09 34 46.0	+0.7
LUWI	Luwuk	26.99	280	eP	P	09 34 38.5	+6.2
	comp=Z,772nm,1.4s						
DAV	Davao City (W)	27.11	299	PFAKE		09 34 50.0	+17
DAV				LR	LR		
	comp=Z,4µm,19.0s						
APSI	Ampana	28.12	280	P	P	09 34 46.3	+3.9
	comp=Z,101nm,1.1s,comp=Z,2µm						
MRSI	Marisa	28.13	283	P	pP	09 34 55.9	+0.3
BSSI	Bau Bau, Buton	28.68	268	P	P	09 34 46.7	-0.8
	comp=Z,305nm,1.4s,comp=Z,4µm						
BASI	Baing, Sumba	28.74	260	P	P	09 34 48.2	+0.2
	comp=Z,1µm,1.0s,comp=Z,16µm						
CAN	Canberra	29.01	181	eP	P	09 34 50.6	+0.4
CAN				pmax	pmax		
	comp=Z,112nm,1.4s						
CAN				MLR	MLR		
	comp=Z,16µm,19.0s						
CAN	Canberra	29.01	181	eP	P	09 34 50.6	+0.4
	comp=Z,112nm,1.4s						
CAN				LR	LR		
	comp=Z,16µm,19.0s						
BKSI	Bulukumba	29.08	270	P	P	09 34 50.1	-0.9
	comp=Z,70nm,1.1s,comp=Z,1µm						
BBOO	Buckleboo	29.25	203	eP	P	09 34 52.1	-0.2
	comp=Z,221nm,1.3s						
KAPI	Kappang	29.47	271	P	P	09 34 55.8	+1.4
	comp=Z,387nm,0.8s,SNR=7.4						
KAPI	Kappang	29.47	271	P	P	09 34 53.8	-0.6
	comp=Z,24nm,1.1s,baz=93,slow=7.1,SNR=11						
KAPI				S	S	09 39 52.1	+6.5
	comp=Z,3.6nm,0.4s,baz=100,slow=18,SNR=2.3						
KAPI				ScP	ScP	09 41 39.1	+2.0
	comp=Z,22nm,1.0s,baz=122,slow=4.6,SNR=5.9						
KAPI				LR	LR	09 49 56.3	
	comp=Z,5µm,18.8s,baz=98,slow=43						
KAPI	Kappang	29.47	271	eP	P	09 34 55.1	+0.7
KAPI				S	S	09 39 52.0	+6.5
KAPI				ScP	ScP	09 41 39.1	+2.0
SPSI	Sidrap Palu	29.53	273	P	P	09 34 58.9	+3.9
	comp=Z,61nm,0.7s,comp=Z,1µm						
TTSI	Tana Toraja	29.58	275	P	P	09 34 58.7	+3.2
	comp=Z,48nm,0.9s,comp=Z,2µm						
PLP	Palo	29.74	305⇓	eP	P	09 34 54.9	-1.9
MPSI	Mapaga	30.09	281	P	P	09 35 01.6	+1.6
	comp=Z,20nm,0.8s,comp=Z,775nm						
MSVF	Nonsavu	30.30	115	P	P	09 35 08.0	+6.2
	comp=Z,2µm,1.8s,SNR=5.2						
MSVF	Nonsavu	30.30	115	eP	P	09 35 08.0	+6.2
MSVF				MLR	MLR		
	comp=Z,9µm,21.0s						
MSVF	Nonsavu	30.30	115	epP	P	09 35 08.0	+6.2
MSVF				LR	LR		
	comp=Z,9µm,21.0s						
WAKE	Wake Island	30.51	34	PFAKE		09 35 20.0	+16
WAKE				LR	LR		
	comp=Z,7µm,20.0s						
FORT	Forrest	31.59	217	eP	P	09 35 13.3	+0.3
	comp=Z,221nm,0.8s						
MBWA	Marble Bar	32.31	240	eP	P	09 35 19.6	+0.1
	comp=Z,257nm,0.8s						
MBWA				LR	LR		
	comp=Z,5µm,22.0s						
CBIJ	Chichi jima	33.79	348	eP	P	09 35 32.6	+0.4
	comp=Z,87nm,0.9s						
JCJ	Chichijima	33.79	348	P	P	09 35 32.6	+0.4
	comp=Z,242nm,1.1s,baz=270,slow=20,SNR=4.0						
JCJ				LR	LR	09 49 03.4	
	comp=Z,3µm,18.5s,baz=170,slow=36						
SRBI	Singaraja	33.91	265	P	pP	09 35 47.9	+1.2
BBKI	Banjar Baru	34.48	273	P	pP	09 35 51.3	-0.3
ABJI	Asem Bagus	34.88	265	P	pP	09 35 58.1	+3.0
KKM	Kota Kinabalu	35.22	290	PFAKE		09 36 00.0	+15
KKM				LR	LR		
	comp=Z,2µm,20.0s						
BLJI	Banyuglugur	35.51	265	P	P	09 35 48.3	+1.0
	comp=Z,92nm,1.0s,comp=Z,3µm						
BCPH	Baguio City Da	36.22	309⇑	iP	P	09 35 50.8	-2.7
OUZ	Omahuta	36.53	146	eP	P	09 35 57.2	+1.4
	comp=Z,20nm,1.1s						
TAU	Tasmania Unive	36.63	182	P	P	09 35 57.2	+0.8
	comp=Z,491nm,1.4s,SNR=11						
TAU	Tasmania Unive	36.63	182	eP	P	09 35 57.3	+0.8
TAU				pmax	pmax		
	comp=Z,264nm,1.3s						
TAU				MLR	MLR		
	comp=Z,22µm,20.0s						
TAU	Tasmania Unive	36.63	182	eP	P	09 35 57.3	+0.8
	comp=Z,264nm,1.3s						
TAU				LR	LR		
	comp=Z,22µm,20.0s						
SZP	Santa	37.01	310	epP	pP	09 36 14.8	+1.5
PWJI	Pagerwojo	37.28	265	P	P	09 36 02.4	-0.1
	comp=Z,135nm,1.3s						
BTM	Bintulu	37.38	283	⇑P	P	09 36 07.0	+3.7
PBKI	Pangkalan Bun	37.70	274	P	sP	09 36 25.3	0.0
PCJI	Pacitan	37.91	265	P	P	09 36 08.5	+0.8
	comp=Z,260nm,1.1s,comp=Z,5µm						
SBUM	Sibu	38.04	282	⇓P	P	09 36 13.8	+5.0
SBUM	Sibu	38.04	282	eP	P	09 36 11.2	+2.3
	comp=Z,34nm,1.1s						
WOJI	Wonogiri, Jawa	38.16	265	P	P	09 36 10.7	+0.9
	comp=Z,322nm,1.0s						
STKI	Sintang	38.29	278	P	P	09 36 20.3	+9.3
RAO	Raoul Island	38.49	131	P	P	09 36 10.3	-2.2
RAO				pmax	pmax		
	comp=Z,181nm,0.3s						
RAO				MLR	MLR		
	comp=Z,5µm,22.0s						
RAO	Raoul Island	38.49	131	P	P	09 36 10.3	-2.2
	comp=Z,181nm,0.3s						
RAO				LR	LR		
	comp=Z,5µm,22.0s						
JOW	Kunigami	38.64	329	P	P	09 36 13.8	+0.2
	comp=Z,9.5nm,0.8s,baz=141,slow=8.4,SNR=13						
JOW				LR	LR	09 48 53.9	
	comp=Z,1µm,22.0s,baz=124,slow=31						
AFI	Afiamalu	39.01	104	eP	P	09 36 17.7	+0.6
AFI				e*PP	pP	09 36 27.6	-2.8
AFI				pmax	pmax		
	comp=Z,385nm,1.4s						
AFI				MLR	MLR		
	comp=Z,7µm,20.0s						
AFI	Afiamalu	39.01	104	eP	P	09 36 17.7	+0.6
	comp=Z,385nm,1.4s						
AFI				epP	pP	09 36 27.6	-2.8
AFI				LR	LR		
	comp=Z,7µm,20.0s						
KSM	Kuching	39.70	280	⇑P	P	09 36 24.7	+2.0
KSM	Kuching	39.70	280	eP	P	09 36 23.1	+0.4
	comp=Z,29nm,0.9s						
KSM				LR	LR		
	comp=Z,2µm,22.0s						
TWG	Pinlang	39.93	317	eP	P	09 36 25.4	+0.9
	comp=Z,77nm,0.5s						
TWG				epP	pP	09 36 36.0	-2.0
NWAO	Narrogin (SRO)	39.99	224	P	P	09 36 24.6	-0.4
	comp=Z,35nm,0.8s,baz=336,slow=0.4,SNR=18						
NWAO	Narrogin (SRO)	39.99	224	P	P	09 36 24.6	-0.4
NWAO				pmax	pmax		
	comp=Z,35nm,0.8s						
YULB	Yu-li	40.17	318	eP	P	09 36 27.2	+0.7
	comp=Z,38nm,0.5s						
NACB	Ninganchiao	40.52	319	eP	P	09 36 30.4	+1.0
	comp=Z,106nm,1.1s						
TPUB	Ta-pu	40.56	317	eP	P	09 36 30.4	+0.6
	comp=Z,53nm,0.6s						
CMJI	Cimerak	40.61	265	P	P	09 36 28.5	-1.8
	comp=Z,381nm,1.0s,comp=Z,4µm						
WNVZ	Wahianoa	40.62	148	ePN	P	09 36 31.5	+1.2
SSLB	Suanglung	40.67	318	eP	P	09 36 32.3	+1.6
URZ	Urewera	40.68	146	P	P	09 36 30.0	-0.5
	comp=Z,8.4nm,0.5s,baz=51,slow=6.5,SNR=3.4						
URZ				PcP	PcP	09 38 30.1	-1.4
	comp=Z,28nm,0.7s,baz=270,slow=5.6,SNR=5.9						
URZ				LR	LR	09 51 20.0	
	comp=Z,11µm,20.5s,baz=308,slow=33						
JCJI	Jatiwangi	40.81	267	P	P	09 36 37.4	+5.4
BKZ	Black Stump Fm	40.98	147	eP	P	09 36 34.1	+1.0
	comp=Z,242nm,2.2s						
BKZ				epP	pP	09 36 44.5	-2.0
YHNB	Yeheng	41.01	319	eP	P	09 36 34.7	+1.2
	comp=Z,122nm,0.9s						
YHNB				LR	LR		
	comp=Z,12µm,22.0s						
WMGZ	Waiomatatini S	41.12	144	PN	P	09 36 34.6	+0.5
TATO	Taipei	41.15	320	eP	P	09 36 37.8	+3.2
	comp=Z,255nm,1.3s						
TATO				LR	LR		
	comp=Z,14µm,22.0s						
THZ	Tophouse	41.18	153	ePN	P	09 36 34.6	-0.1
CISI	Cisompet, Garu	41.24	266	P	P	09 36 33.7	-1.9
	comp=Z,405nm,1.0s,comp=Z,6µmcomp=Z,10µm						
CISI	Cisompet, Garu	41.24	266	eP	P	09 36 34.6	-1.0
	comp=Z,326nm,0.9s						
TSZ	Takapari Road	41.35	149	ePN	P	09 36 36.5	+0.4
TCW	Tory Channel	41.38	151	PN	P	09 36 36.8	+0.5
TUWZ	Tuamarina	41.40	152	ePN	P	09 36 36.8	+0.4
JCZ	Jackson Bay	41.42	159	PN	P	09 36 36.4	-0.3
LEM	Lembang	41.45	267	P	P	09 36 38.6	+1.2
	comp=Z,274nm,1.2s,comp=Z,5µm						
CNGZ	Carnagh Statio	41.45	145	ePN	P	09 36 37.3	+0.4
MRZ	Mangatainoka R	41.60	150	ePN	P	09 36 37.8	-0.3
SNZO	South Karori	41.66	151	PFAKE		09 36 50.0	+11
SNZO				LR	LR		
	comp=Z,5µm,19.0s						
TPI	Tanjungpandan	41.69	273	P	P	09 36 42.3	+3.1
	comp=Z,133nm,1.1s,comp=Z,2µmcomp=Z,11µm						
HOWZ	Holdsworth Sta	41.75	150	PN	P	09 36 39.0	-0.4
ANWZ	Angora Road	41.91	149	ePN	P	09 36 41.8	+1.2
CNJI	Cibinong	41.92	266	P	P	09 36 41.4	+0.3
	comp=Z,701nm,1.1s,comp=Z,7µm						
MTW	Mount Morrison	41.94	150	ePN	P	09 36 40.4	-0.5
BFZ	Birch Farm	41.96	149	ePN	P	09 36 41.0	0.0
KHZ	Kahutara	41.98	153	eP	P	09 36 42.0	+0.8
	comp=Z,285nm,1.5s						
RPZ	Rata Peaks	41.98	156	P	P	09 36 40.7	-0.5
	comp=Z,30nm,0.7s,baz=337,slow=2.3,SNR=17						
RPZ				LR	LR	09 52 10.8	
	comp=Z,11µm,20.5s,baz=354,slow=33						
MSWZ	Moikau Station	42.01	151	ePN	P	09 36 41.3	-0.2
DCZ	Deep Cove	42.11	161	eP	P	09 36 42.9	+0.8
	comp=Z,756nm,2.8s						
PLWZ	Palliser	42.13	151	ePN	P	09 36 41.8	-0.6
CBJI	Citeko	42.22	267	P	P	09 36 47.4	+3.9

WHZ Wether Hill Ro 42.73 161 eP P 09 36 47.7 +0.5
comp=Z,200nm,1.7s
JNU Nakatsue 42.83 337 P P 09 36 48.5 +0.3
comp=Z,44nm,0.9s,baz=154,slow=7.0,SNR=16
JNU S S 09 43 10.3 +1.3
comp=Z,9.4nm,1.1s,baz=65,slow=19,SNR=1.8
JNU LR LR 09 53 02.3
comp=Z,4µm,20.9s,baz=145,slow=34
QZH Quanzhou 43.03 317⇑iP P 09 36 48.3 -1.6
QZH S S 09 43 13.0 +0.8
QZH PMZ
comp=Z,130nm,0.4s
QZH PMZ
comp=Z,2µm,5.8s
QZH LN
comp=Z,8µm,20.0s
QZH LE
comp=Z,8µm,18.0s
QZH LZ
comp=Z,15µm,27.0s
PPBI Pangkal Pinang 43.26 273 P P 09 36 54.6 +2.6
comp=Z,56nm,1.1s
CGJI Cibinong 43.37 267 P P 09 36 53.2 +0.4
comp=Z,243nm,1.1s,comp=Z,9µm
XMIS Christmas Isla 43.41 261 eP P 09 36 54.8 +1.7
comp=Z,136nm,0.8s
MJAR Matsushiro Arr 43.75 347 P P 09 36 54.9 -0.6
comp=Z,26nm,1.0s,baz=166,slow=8.1,SNR=43
MJAR PcP PcP 09 38 41.8 +0.1
comp=Z,13nm,0.9s,baz=172,slow=5.0,SNR=3.1
MJAR ScP ScP 09 42 29.8 +0.5
comp=Z,9.0nm,0.9s,baz=174,slow=5.6,SNR=9.2
MJAR S S 09 43 20.7 -1.7
comp=Z,0.9nm,0.7s,baz=261,slow=22,SNR=2.5
MJAR LR LR 09 53 22.2
comp=Z,5µm,19.8s,baz=165,slow=34
MAJO Matsushiro 43.75 347c iP P 09 36 55.2 -0.3
MAJO pmax pmax
comp=Z,281nm,0.8s
MAJO MLR MLR
comp=Z,29µm,16.0s
MAJO Matsushiro 43.75 347 eP P 09 36 55.7 +0.2
comp=Z,68nm,1.0s
MAJO LR LR
comp=Z,5µm,20.0s
MAT Matsushiro 43.75 347 P P 09 36 54.1 -1.4
MAT S S 09 43 23.2 +0.8
KASI Kota Agung 44.60 268 P P 09 37 02.5 -0.2
comp=Z,168nm,0.9s
MDSI Maura Dua 44.99 270 P P 09 37 05.4 -0.4
comp=Z,92nm,1.3s,comp=Z,2µm
DSRI Dabo 45.02 275 P sP 09 37 22.1 -3.5
LWLI Liwa 45.07 269 P P 09 37 10.2 +3.6
comp=Z,182nm,1.0s,comp=Z,12µm
GZH Guangzhou 45.64 311 P P 09 37 12.0 +1.2
GZH PP PP 09 39 00.9 +2.4
GZH S S 09 43 53.1 +2.9
GZH LN
comp=Z,3µm,18.7s
GZH LE
comp=Z,6µm,18.7s
LHSI Lahat 45.69 271 P sP 09 37 29.9 -1.0
KSJIN Jinju 45.75 335 P P 09 37 12.4 +1.0
SNR=6.1
KSJIN Jinju 45.75 335 P P 09 37 12.4 +1.0
SNR=6.1
SSE Sheshan 45.80 326 P P 09 37 11.4 -0.5
SSE pP pP 09 37 25.1 -0.4
SSE sP sP 09 37 31.2 -0.2
SSE S S 09 43 53.5 +1.3
SSE sS sS 09 44 16.7 +1.6
SSE PMZ
comp=Z,65nm,0.9s
SSE PMZ
comp=Z,750nm,10.9s
SSE LN
comp=Z,6µm,22.2s
SSE LE
comp=Z,6µm,22.1s
SSE LZ
comp=Z,11µm,21.7s
KSJDO Jindo 45.90 333 P P 09 37 13.3 +0.6
SNR=14
KSJDO Jindo 45.90 333 P P 09 37 13.3 +0.6
SNR=14
MYKOM Kota Tinggi 46.10 278 ⇑P P 09 37 15.9 +1.3
MYKOM Kota Tinggi 46.10 278 eP P 09 37 15.4 +0.8
comp=Z,44nm,1.0s
KSKWJ Gwangju 46.19 334 P P 09 37 15.6 +0.7
SNR=9.1
KSKWJ Gwangju 46.19 334 P P 09 37 15.6 +0.7
SNR=9.1
QIZ Qiongzhong 46.27 304 PFAKE 09 37 30.0 +14
QIZ LR LR
comp=Z,3µm,22.0s
KSHUK Heuksando 46.47 333 P P 09 37 17.9 +0.8
SNR=20
KSHUK Heuksando 46.47 333 P P 09 37 17.8 +0.6
SNR=6.5
KSJEU Jeongeup 46.50 335 P P 09 37 17.9 +0.6
SNR=17
KSJEU Jeongeup 46.50 335 P P 09 37 17.9 +0.6
SNR=17
KGM Kluang 46.66 279 ⇑P P 09 37 20.1 +1.0
KSCPR CHUPUNGNYEONG 46.69 336 P P 09 37 20.0 +1.2
SNR=6.1
KSULL Ulleungdo 46.70 340 P P 09 37 20.7 +1.7
SNR=8.2
KSSAJ Sangju 46.78 336 P P 09 37 20.8 +1.3
SNR=5.9
KSSAJ Sangju 46.78 336 P P 09 37 20.6 +1.1
SNR=5.6
MIDW Midway 46.91 42 PFAKE 09 37 30.0 +9.4
MIDW LR LR
comp=Z,5µm,21.0s
KSBON Boeun 47.00 336 P P 09 37 22.7 +1.3
SNR=17
KSBON Boeun 47.00 336 P P 09 37 22.6 +1.3
SNR=16
KSCHJ Chungju 47.26 337 P P 09 37 24.0 +0.8
SNR=11
KSCHJ Chungju 47.26 337 P P 09 37 24.0 +0.8
SNR=11
KSCEA Cheonan 47.50 336 P P 09 37 26.2 +1.0
SNR=15
KSCEA Cheonan 47.50 336 P P 09 37 26.1 +1.0
SNR=7.3
KSDGY Daegwallycong 47.70 338 P P 09 37 27.4 +0.6
SNR=13
KSDGY Daegwallycong 47.70 338 P P 09 37 28.3 +1.5
SNR=8.4
KSRS Korea Array 47.78 337 P P 09 37 27.4 +0.1
comp=Z,17nm,0.6s,baz=153,slow=8.4,SNR=77
KSRS ScP ScP 09 42 46.1 +0.1
comp=Z,2.3nm,1.0s,baz=148,slow=5.8,SNR=4.7
KSRS LR LR 09 56 22.7
comp=Z,5µm,20.4s,baz=149,slow=34
KSRS PKPPKP P'P'df 10 08 18.2 -20
comp=Z,0.6nm,0.5s,baz=48,slow=1.8,SNR=4.8
KSAR Wonju Array Be 47.79 337 P P 09 37 27.4 +0.1
KSAR Wonju Array Be 47.79 337 P P 09 37 27.4 +0.1
KSAR ScP ScP 09 42 46.1 +0.1
KSAR P'P' 10 08 18.2
KSSES Seosan 47.80 335 P P 09 37 28.7 +1.3
SNR=13
KSSES Seosan 47.80 335 P P 09 37 28.7 +1.3
SNR=13
KSJMJ Jumunjin 47.84 338 P P 09 37 29.0 +1.3
SNR=18
KSICN Icheon 47.84 336 P P 09 37 28.4 +0.7
SNR=11
NJ2 Nanjing 47.84 324 eP P 09 37 28.9 +1.1
NJ2 pP pP 09 37 42.5 +1.0
NJ2 sP sP 09 37 48.7 +1.3
NJ2 S S 09 44 20.5 -0.8
NJ2 sS sS 09 44 49.0 +4.7
NJ2 PMZ
comp=Z,80nm,1.0s
NJ2 PMZ
comp=Z,860nm,10.0s
NJ2 LN
comp=Z,11µm,23.2s
NJ2 LE
comp=Z,18µm,22.0s
NJ2 LZ
comp=Z,46µm,22.1s
KSSWO Suwon 48.00 336 P P 09 37 30.2 +1.2
SNR=12
SDSI Sungai Dareh 48.08 274 P P 09 37 34.5 +4.5
KSCHC Chuncheon 48.10 337 P P 09 37 30.5 +0.7
SNR=14
KSIJA INJE 48.17 337 P P 09 37 32.3 +1.9
SNR=30
KSIJA INJE 48.17 337 P P 09 37 32.3 +1.9
SNR=30
KSSEO Seoul 48.21 336 P P 09 37 31.9 +1.3
SNR=8.1
KSSKC Sokcho 48.28 338 P P 09 37 33.1 +1.9
SNR=8.5
KSSKC Sokcho 48.28 338 P P 09 37 32.4 +1.2
SNR=13
ERM Erimo 48.29 354 P P 09 37 31.0 -0.1
comp=Z,331nm,0.8s,SNR=7.7
ERM Erimo 48.29 354c iP P 09 37 31.5 +0.4
ERM pmax pmax
comp=Z,41nm,0.8s
ERM MLR MLR
comp=Z,5µm,20.0s
ERM Erimo 48.29 354 eP P 09 37 33.3 +2.2
comp=Z,42nm,0.8s
ERM epP pP 09 37 45.5 +0.7
ERM LR LR
comp=Z,6µm,21.0s
INCN Inchon 48.32 336 epP pP 09 37 45.1 -0.1
INCN LR LR
comp=Z,5µm,22.0s
SEHB SEOHWA 48.37 338 P P 09 37 32.7 +0.9
SNR=11
KSCWO Cheorwon 48.49 337 P P 09 37 34.0 +1.3
SNR=12
KSDDC Dongducheon 48.51 336 P P 09 37 34.3 +1.4
SNR=13
FRIM Kepong 48.55 280 ⇓P P 09 37 35.5 +1.8
KSGAH Ganghwa 48.59 336 P P 09 37 35.2 +1.6
SNR=7.1
YNCB YEONCHEON 48.68 336 P P 09 37 35.3 +1.0
SNR=26
PDSI Padang 49.04 274 P P 09 37 46.8 +9.3
IPM Ipoh 49.38 281 ⇑P P 09 37 40.4 +0.3
IPM Ipoh 49.38 281 eP P 09 37 41.2 +1.1
comp=Z,24nm,0.7s
KSBAR Backryungdo 49.55 334 P P 09 37 41.7 +0.9
SNR=5.6
WHN Wuhan 49.55 319 ⇑P P 09 37 40.8 -0.2
WHN S S 09 44 37.9 -7.6
WHN PMZ
comp=Z,1µm,7.4s
WHN LN
comp=Z,6µm,20.0s
WHN LE
comp=Z,9µm,19.5s
WHN LZ
comp=Z,14µm,20.8s
KULM Kulim 49.92 282 eP P 09 37 45.4 +1.2
comp=Z,27nm,0.9s
KULM LR LR
comp=Z,2µm,21.0s
YUK Yuzh-Kuril'sk 50.07 357c iP P 09 37 44.8 +0.1
YUK e 09 39 03.6
YUK i 09 39 37.6
YUK i PPP PPP 09 40 31.1
YUK i S S 09 44 54.0 +1.7
YUK SS SS 09 48 17.2 -9.0
YUK i SSS SSS 09 49 47.6
YUK pmax pmax
comp=E,135nm,1.8s
YUK pmax pmax
comp=Z,199nm,1.8s
YUK pmax pmax
comp=N,118nm,0.9s
MNSI Mandailing Nat 50.15 276 P P 09 37 48.6 +2.7
comp=N,52nm,0.9s,comp=N,12µm
ASAJ Asahikawa 50.42 354 P P 09 37 47.4 0.0
comp=N,36nm,0.7s,baz=275,slow=4.5
ASAJ Asahikawa 50.42 354 P P 09 37 47.4 0.0
ASAJ pmax pmax
comp=Z,36nm,0.7s
KUR Kuril'sk 51.19 359⇑iP P 09 37 54.7 +1.6
KUR i S S 09 45 05.1 -2.6
KUR eSS SS 09 48 43.4 -0.5
KUR pmax pmax
comp=Z,132nm,1.0s
TRTT Trang 51.44 285 P P 09 37 59.1 +3.5
comp=Z,22nm,0.9s,comp=Z,1µm
VLA Vladivostok 51.55 344α iP P 09 37 55.8 -0.1
VLA 09 39 09.7
VLA i 09 39 52.2
VLA eS S 09 45 16.6 +3.8
VLA pmax pmax
comp=Z,53nm,1.3s
VLA MLR MLR
comp=E,23µm,17.0s
DL2 Dalian 51.68 332 P P 09 37 56.8 -0.1
DL2 S S 09 45 14.9 +0.1
DL2 PMZ
comp=E,87nm,0.8s
DL2 PMZ
comp=E,660nm,8.8s
DL2 LN
comp=E,2µm,18.6s
DL2 LE
comp=E,2µm,20.6s
DL2 LZ
comp=E,4µm,18.6s
COCO West Island 52.11 259 eP P 09 38 03.7 +3.2
COCO MLR MLR
comp=Z,2µm,22.0s
COCO West Island 52.11 259 eP P 09 38 03.7 +3.2
comp=Z,337nm,0.8s
COCO LR LR
comp=Z,2µm,22.0s
GSI Gunungsitoli 52.21 276 P P 09 38 02.3 +1.0
comp=Z,74nm,0.9s
GSI Gunungsitoli 52.21 276 eP P 09 38 01.2 -0.1
comp=Z,214nm,1.3s
KCSI Kotacane, Aceh 52.38 279 P P 09 38 03.2 +0.5
comp=Z,52nm,0.9s,comp=Z,2µm
USRK Ussuriysk Ar. 52.53 344 P P 09 38 03.3 +0.2
comp=Z,16nm,0.8s,baz=175,slow=8.2,SNR=38
USRK S S 09 45 27.7 +1.6
comp=Z,0.5nm,0.5s,baz=183,slow=20,SNR=2.3
USRK LR LR 09 58 14.0
comp=Z,6µm,20.8s,baz=151,slow=34
GYA Guiyang 52.56 310 P P 09 38 07.2 +3.4
GYA pP pP 09 38 21.8 +4.1
GYA sP sP 09 38 27.6 +4.1
GYA PP PP 09 40 07.2 +3.9
GYA S S 09 45 28.9 +1.4
GYA sS sS 09 45 53.8 +3.1
GYA PMZ
comp=Z,40nm,1.0s
GYA PMZ
comp=Z,190nm,5.4s
GYA LN
comp=Z,860nm,19.8s
GYA LE
comp=Z,690nm,20.0s
GYA LZ
comp=Z,720nm,19.4s
SURT Suratani 52.57 286 P P 09 38 07.1 +3.1
comp=Z,14nm,1.0s,comp=Z,332nm
ENH Enshi 52.64 316 P P 09 38 04.6 +0.3
comp=Z,30nm,1.0s
ENH LR LR
comp=Z,4µm,22.0s
PBKT Sadao Pong 52.90 296 P P 09 38 10.6 +4.2
comp=Z,19nm,1.2s
YSS Yuzh-Sakhalins 53.21 354⇑iP P 09 38 08.0 -0.1
YSS i 09 38 19.2
YSS e*PP pP 09 38 23.0 +1.0
YSS e 09 39 24.0
YSS ePPP PPP 09 41 09.0
YSS eS S 09 45 31.0 -4.4
YSS i *SS sS 09 45 53.0 -5.7
YSS e 09 47 50.0
YSS eSS SS 09 49 14.0 -1.9
YSS pmax pmax
comp=Z,50nm,0.8s
YSS smax smax
comp=N,1µm,6.0s
YSS smax smax
comp=E,500nm,5.0s
YSS MLR MLR
comp=N,2µm,17.0s
YSS MLR MLR
comp=Z,2µm,17.0s
YSS Yuzh-Sakhalins 53.21 354 eP P 09 38 09.5 +1.4
comp=Z,205nm,1.5s
YSS LR LR
comp=Z,3µm,22.0s
SNY Shenyang 53.25 336 ⇑P P 09 38 08.2 -0.3
SNY PP PP 09 40 08.1 -1.1
SNY S S 09 45 36.9 +0.8
SNY SS SS 09 49 10.9 -5.8
SNY PMZ
comp=Z,42nm,2.5s
SNY PMZ
comp=Z,1µm,10.2s
SNY LN
comp=Z,2µm,24.0s
SNY LE
comp=Z,3µm,19.2s
SNY LZ
comp=Z,4µm,22.8s
MDJ Mudanjiang 53.59 343 P P 09 38 11.2 +0.3
MDJ pP pP 09 38 27.4 +2.6
MDJ sP sP 09 38 33.4 +2.7
MDJ PcP PcP 09 39 18.7 +1.7
MDJ PP PP 09 40 15.2 +3.0
MDJ PcS PcS 09 43 18.1 +2.1
MDJ S S 09 45 45.5 +4.9
MDJ sS sS 09 46 09.1 +5.2
MDJ PMZ
comp=Z,32nm,1.0s
MDJ PMZ
comp=Z,1µm,9.0s
MDJ LN
comp=Z,3µm,19.2s
MDJ LE
comp=Z,2µm,21.0s
MDJ LZ
comp=Z,4µm,19.6s
MDJ Mudanjiang 53.59 343 PFAKE 09 38 20.0 +9.1
MDJ LR LR
comp=Z,4µm,19.0s
UTTA Uttaradit 53.70 297 P P 09 38 12.2 0.0
comp=Z,9.2nm,0.8s,comp=Z,122nm
XMAS Kiritimati 53.76 83 PFAKE 09 38 20.0 +7.2
XMAS LR LR
comp=Z,5µm,19.0s
CN2 Changchun 54.23 339 eP P 09 38 16.0 +0.4
CN2 eS S 09 45 53.0 +3.7
CN2 PMZ
comp=Z,20nm,1.0s
CN2 PMZ
comp=Z,200nm,8.0s
CN2 LN
comp=Z,3µm,20.0s
CN2 LE
comp=Z,2µm,20.0s
CN2 LZ
comp=Z,3µm,21.0s
LAMP Lampang 54.80 298 P P 09 38 21.8 +1.5
comp=Z,8.2nm,0.8s,comp=Z,208nm
CRAI Chiangrai 54.81 300 P P 09 38 19.2 -1.1
comp=Z,23nm,1.0s
KMI Kunming 54.96 306 ⇑P P 09 38 19.9 -1.6
KMI pP pP 09 38 33.7 -1.8
KMI sP sP 09 38 42.1 +0.8
KMI PP PP 09 40 23.5 -1.6
KMI S S 09 45 57.0 -3.2
KMI sS sS 09 46 23.2 -0.4
KMI PMZ
comp=Z,16nm,1.0s
KMI PMZ
comp=Z,470nm,12.1s
KMI LN
comp=Z,2µm,19.5s
KMI LE
comp=Z,2µm,18.0s
KMI LZ
comp=Z,2µm,22.2s
BSI Banda Aceh 55.18 281 P P 09 38 30.5 +7.4
BJT Baijiatuau 55.20 329 PFAKE 09 38 40.0 +17
BJT LR LR
comp=Z,1µm,19.0s
BJI Beijing 55.21 329 P P 09 38 21.5 -1.3
BJI pP pP 09 38 38.1 +1.4
BJI sP sP 09 38 44.3 +1.7
BJI PcP PcP 09 39 23.8 +0.5
BJI PP PP 09 40 27.6 +0.8
BJI S S 09 45 58.1 -4.5
BJI PMZ
comp=Z,24nm,1.4s
BJI PMZ
comp=Z,970nm,11.5s
BJI LN
comp=Z,6µm,23.1s
BJI LE
comp=Z,3µm,23.8s
BJI LZ
comp=Z,6µm,29.8s
XAN Xi'an 55.31 319 P P 09 38 23.4 -0.3
XAN pP pP 09 38 38.3 +0.6
XAN sP sP 09 38 45.8 +2.3
XAN S S 09 45 53.6 -11
XAN ScS ScS 09 48 03.1 -5.8
XAN SS SS 09 49 42.8 -6.8
XAN PMZ
comp=Z,8.0nm,1.1s
XAN PMZ
comp=Z,220nm,9.8s
XAN LN
comp=Z,2µm,20.6s
XAN LE
comp=Z,750nm,22.6s
XAN LZ
comp=Z,1µm,25.7s
CM31 Chiang Mai Arr 55.39 297 eP P 09 38 24.6 +0.1
comp=Z,17nm,1.0s
CMAR Chiang Mai Arr 55.39 297 P P 09 38 24.4 -0.1
comp=Z,5.4nm,0.6s,baz=122,slow=5.8,SNR=14
CMAR S S 09 46 03.7 -2.0
comp=Z,0.9nm,0.3s,baz=104,slow=3.8,SNR=3.6
CMAR LR LR 10 04 51.5
comp=Z,1µm,18.9s,baz=131,slow=39
CMAR PKPPKP P'P'df 10 08 30.0 -0.3
comp=Z,1.0nm,0.3s,baz=290,slow=3.7,SNR=3.5
CMAR PKP2bc 10 08 43.2
comp=Z,3.5nm,0.6s,baz=296,slow=4.3,SNR=9.2
CMAR Chiang Mai Arr 55.39 297 i P P 09 38 25.8 +1.3
CMAR pmax pmax
comp=Z,8.0nm,0.8s
CMMT Chiang Mai 55.51 298 P P 09 38 27.4 +2.0
comp=Z,65nm,0.9s,comp=Z,725nm
CHTO Chiang Mai 55.52 298 P P 09 38 27.5 +2.1
comp=Z,76nm,1.4s,comp=Z,2µm
CHTO Chiang Mai 55.52 298 eP P 09 38 26.8 +1.4
CHTO pmax pmax
comp=Z,31nm,1.2s
CHTO MLR MLR
comp=Z,1µm,21.0s
CHTO Chiang Mai 55.52 298 eP P 09 38 26.8 +1.4
comp=Z,31nm,1.2s
CHTO LR LR
comp=Z,1µm,21.0s
TIY Taiyuan 55.56 325 eP P 09 38 24.5 -1.0
TIY pP pP 09 38 42.8 +3.3
TIY S S 09 46 04.1 -3.5
TIY PMZ
comp=Z,580nm,11.8s
TIY LN
comp=Z,4µm,19.4s
TIY LE
comp=Z,2µm,16.8s
TIY LZ
comp=Z,7µm,22.6s
HABR Khabarovsk 55.84 349c iP P 09 38 26.7 -0.4
HABR e*PP pP 09 38 35.0 -6.1
HABR e*SP sP 09 38 39.1 -7.8
HABR e 09 39 23.4
HABR e 09 40 29.7
HABR ePPP PPP 09 41 43.2
HABR eS S 09 46 12.4 +1.7
HABR eS S 09 46 22.4 +12
HABR e*SS sS 09 46 27.4 -6.7
HABR e 09 48 11.1
HABR eSS SS 09 49 57.2 -0.1

HABR pmax pmax
comp=E,22nm,1.7s
HABR pmax pmax
comp=N,87nm,2.5s
HABR pmax pmax
comp=Z,219nm,2.5s
HABR MLR MLR
comp=Z,2µm,17.0s
CMAI Chiengmai2 55.84 299 P P 09 38 31.3 +3.3
comp=Z,10nm,1.3s,comp=Z,891nm
CMBY CAMPBELL BAY 56.82 282 *e*P **P** **09 38 31.8 -3.0**
CMBY AMB AMB 09 38 36.6
comp=Z,80nm,1.1s
SKR Severo-Kuril's 56.93 5 *e*P P 09 38 24.0 -11
SKR *e*S **S** **09 46 30.0 +5.0**
SKR *e*SS **SS** **09 50 10.0 -4.3**
SKR *e*SSS SSS 09 52 27.0
SKR pmax pmax
comp=E,90nm,1.0s
SKR pmax pmax
comp=Z,130nm,1.0s
SKR pmax pmax
comp=N,30nm,0.7s
SKR pmax pmax
comp=N,1µm,12.0s
SKR pmax pmax
comp=E,1µm,12.0s
SKR pmax pmax
comp=Z,2µm,12.0s
SKR smax smax
comp=N,3µm,20.0s
SKR smax smax
comp=E,2µm,20.0s
SKR MLR MLR
comp=N,1µm,20.0s
SKR MLR MLR
comp=E,1µm,20.0s
SKR MLR MLR
comp=Z,3µm,20.0s
CD2 Chengdu 57.08 313⇑ *e*P **P** **09 38 34.8 -1.6**
CD2 PcP **PcP** **09 39 27.5 -3.4**
CD2 S **S** **09 46 31.5 +3.7**
CD2 sS **sS** **09 46 48.9 -2.4**
CD2 PMZ
comp=Z,40nm,0.5s
CD2 PMZ
comp=Z,840nm,7.3s
CD2 LN
comp=Z,3µm,19.1s
CD2 LE
comp=Z,3µm,22.5s
CD2 LZ
comp=Z,3µm,23.5s
TYV Tymovskoe 57.10 355 *e*P **P** **09 38 37.5 +1.5**
TYV *e*S **S** **09 46 31.0 +3.7**
TYV pmax pmax
comp=Z,2µm,4.0s
TYV pmax pmax
comp=E,84nm,1.0s
TYV pmax pmax
comp=Z,154nm,1.0s
TYV smax smax
comp=N,2µm,10.0s
KLR Kul'dur 57.27 346 *de*P P 09 38 34.0 -3.3
KLR *e* 09 38 45.1
KLR *e*S **S** **09 46 24.0 -5.6**
KLR pmax pmax
comp=N,67nm,2.0s
KLR pmax pmax
comp=Z,200nm,2.0s
KLR pmax pmax
comp=N,900nm,8.0s
KLR pmax pmax
comp=Z,2µm,8.0s
HHC Hu-ho-hao-te 58.22 327 *e*P **P** **09 38 43.3 -1.0**
HHC pP **pP** **09 38 55.5 -2.9**
HHC sP **sP** **09 39 00.5 -3.7**
HHC PP **PP** **09 40 55.0 +1.2**
HHC S **S** **09 46 42.5 -0.2**
HHC sS **sS** **09 47 01.3 -4.9**
HHC SS **SS** **09 50 34.3 -1.0**
HHC PMZ
comp=Z,21nm,1.2s
HHC PMZ
comp=Z,740nm,6.6s
HHC LN
comp=Z,4µm,15.0s
HHC LE
comp=Z,4µm,14.7s
HHC LZ
comp=Z,6µm,14.8s
KIP Kipapa 58.45 60 PFAKE 09 39 00.0 +14
KIP LR LR
comp=Z,6µm,21.0s
BTO Baotou 58.91 326 *e*P **P** **09 38 47.1 -2.0**
PBA Port Blair 59.01 287 *e*P P 09 38 50.4 +0.2
DGPR DIGLIPUR 59.23 289 *e*P **P** **09 38 51.9 +0.2**
PEA0B Petropavlovsk- 59.48 6 *e*P **P** **09 38 53.0 +0.3**
PETK Petropavlovsk- 59.48 6 P **P** **09 38 52.8 +0.1**
comp=Z,57nm,0.5s,baz=174,slow=6.9,SNR=124
PETK S **S** **09 46 59.5 +1.3**
comp=Z,0.6nm,0.6s,baz=121,slow=19,SNR=2.6
PETK LR LR 10 00 32.7
comp=Z,2µm,21.3s,baz=202,slow=32
PETK Petropavlovsk- 59.48 6 P **P** **09 38 52.8 +0.1**
PETK S **S** **09 46 59.6 +1.3**
PETK pmax pmax
comp=Z,57nm,0.5s
PETK smax smax
comp=N,1.0nm,0.6s
PET Petropavlovsk 59.50 7*c i*P **P** **09 38 51.9 -0.8**
PET *e* 09 41 02.1
PET *i*S **S** **09 46 57.9 -0.5**
PET *e*SS **SS** **09 50 59.0 +4.4**
PET pmax pmax
comp=Z,1µm,19.6s
PET pmax pmax
comp=Z,94nm,0.9s
PET Petropavlovsk 59.50 7 *e*P **P** **09 38 53.0 +0.3**
comp=Z,70nm,0.9s
PET LR LR
comp=Z,2µm,20.0s
NKL Nikolayevsk 59.55 354 *i* P **P** **09 38 53.0 -0.1**
NKL *e* 09 39 05.0
NKL *e*S **S** **09 47 00.0 +0.9**
NKL *e* 09 47 17.0
NKL pmax pmax
comp=N,600nm,4.0s
NKL pmax pmax
comp=Z,1µm,4.0s
NKL pmax pmax
comp=N,26nm,1.0s
NKL pmax pmax
comp=Z,120nm,1.0s
NKL smax smax
comp=N,700nm,6.0s
NKL MLR MLR
comp=N,1µm,19.0s
NKL MLR MLR
comp=Z,2µm,19.0s
LZH Lanzhou 59.87 318 *e*P **P** **09 38 55.6 -0.3**
LZH pP **pP** **09 39 13.5 +3.5**
LZH sP **sP** **09 39 20.1 +4.3**
LZH PP **PP** **09 41 05.3 -3.3**
LZH *e*S **S** **09 47 01.0 -3.3**
LZH sS **sS** **09 47 24.5 -3.4**
LZH SS **SS** **09 50 59.0 -2.5**
LZH PMZ
comp=Z,60nm,1.2s
LZH PMZ
comp=Z,290nm,4.3s
LZH LN
comp=Z,2µm,16.9s
LZH LE
comp=Z,3µm,15.4s
LZH LZ
comp=Z,6µm,17.0s
POHA Pohakuloa 60.03 63 PFAKE 09 39 10.0 +13
POHA LR LR
comp=Z,8µm,20.0s
PPT Papeete 60.62 107 P **P** **09 39 01.4 +0.2**
comp=Z,22nm,0.7s,baz=217,slow=3.3,SNR=3.7
PPT Papeete 60.62 107 P **P** **09 39 01.4 +0.2**
PPT pmax pmax
comp=Z,22nm,0.7s
PAE Paea 60.62 107 *e*P **P** **09 39 03.1 +1.9**
PAE *e*pP **pP** **09 39 11.7 -3.6**
comp=Z,49nm,1.5s
PPT2 Papeete2 60.62 107 *e*P **P** **09 39 03.9 +2.6**
comp=Z,57nm,1.4s
PPT2 *e*pP **pP** **09 39 11.9 -3.5**
comp=Z,166nm,1.5s
PPT2 *e*S **S** **09 47 15.1 +0.8**
comp=Z,4µm,27.0s
PPT2 *e*LQ LQ 09 54 21.4
comp=Z,10µm,32.8s
PPT2 *e*LR LR 09 56 55.4
comp=Z,4µm,24.8s
DRV Dumont d'Urvil 60.74 184 P P 09 38 38.0 -23
DRV S S 09 46 45.0 -29
DRV SS **SS** **09 51 20.0 +6.6**
DRV L L 09 53 00.0
DRV R 09 57 00.0
TIAR Tiarei 60.84 107 *e*P P 09 39 06.3 +3.6
TIAR *e*pP pP 09 39 13.5 -3.3
comp=Z,38nm,0.8s
TVO Taravao 60.94 107 *e*P P 09 39 07.2 +3.8
TVO *e*pP pP 09 39 14.1 -3.4
comp=Z,48nm,1.0s
HIA Hailar 60.95 338 PFAKE 09 39 20.0 +17
HIA LR LR
comp=Z,2µm,21.0s
TBI Tubuai 61.16 113 *e*P P 09 39 08.4 +3.6
comp=Z,175nm,1.3s
TBI *e*pP pP 09 39 15.3 -3.6
comp=Z,491nm,1.2s
TBI *e*S **S** **09 47 23.3 +2.3**
comp=Z,4µm,29.0s
TBI *e*SS **SS** **09 51 23.8 +2.0**
comp=Z,1µm,31.0s
TBI *e*LQ LQ 09 54 36.0
comp=Z,5µm,38.0s
TBI *e*LR LR 09 57 09.6
comp=Z,5µm,36.8s,baz=287
MEH Mehetia 62.07 107 *e*P P 09 39 14.4 +3.4
comp=Z,16nm,0.8s
MEH *e*pP pP 09 39 21.7 -3.5
comp=Z,37nm,1.0s
SHL Shillong 64.07 302 *e*P **P** **09 39 24.8 +0.4**
GTA Gaotai 64.38 319 *e*P **P** **09 39 25.5 -0.5**
GTA pP **pP** **09 39 40.2 0.0**
GTA sP **sP** **09 39 46.3 +0.3**
GTA PP **PP** **09 41 49.6 +1.4**
GTA S **S** **09 47 59.2 -1.7**
GTA sS **sS** **09 48 23.6 -1.2**
GTA SS **SS** **09 52 11.7 -0.1**
GTA PMZ
comp=Z,760nm,6.9s
GTA LN
comp=Z,2µm,22.8s
GTA LE
comp=Z,2µm,22.8s
GTA LZ
comp=Z,3µm,22.3s
ADK Adak 64.71 23 *e*P **P** **09 39 25.8 -1.9**
ADK pmax pmax
comp=Z,78nm,0.8s
ADK MLR MLR
comp=Z,4µm,21.0s
ADK Adak 64.71 23 *e*P **P** **09 39 25.8 -1.9**
comp=Z,78nm,0.8s
ADK LR LR
comp=Z,4µm,21.0s
ULN Ulaanbaatar 65.40 330 *e*P P 09 39 37.5 +5.0
ULN pmax pmax
comp=Z,53nm,1.1s
ULN MLR MLR
comp=Z,5µm,22.0s
ULN Ulaanbaatar 65.40 330 *e*P P 09 39 37.5 +5.0
comp=Z,53nm,1.1s
ULN LR LR
comp=Z,5µm,22.0s
SONM Songino Array 65.70 330 P **P** **09 39 34.8 +0.4**
comp=Z,10.0nm,0.5s,baz=144,slow=6.9,SNR=30
SONM S **S** **09 48 19.0 +2.1**
comp=Z,0.6nm,0.4s,baz=166,slow=7.4,SNR=3.3
SONM LR LR 10 06 35.2
comp=Z,5µm,21.8s,baz=132,slow=34
SONM PKP2bc 10 08 16.4
comp=Z,3.6nm,0.9s,baz=300,slow=3.0,SNR=10
CASY Casey 65.72 196 *e*P **P** **09 39 33.0 -1.1**
CASY LR LR
comp=Z,8µm,20.0s
CLNS Chul'man 65.91 346 *e*P **P** **09 39 35.0 -0.4**
CLNS *e**PP pP 09 39 43.6 -6.1
CLNS *e* 09 40 04.5
CLNS *e* 09 42 00.4
CLNS *e*PPP PPP 09 43 33.4
CLNS *e*S **S** **09 48 21.9 +3.1**
CLNS *e*SS **SS** **09 52 31.7 -3.1**
CLNS pmax pmax
comp=Z,16nm,0.9s
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=E,3.0nm,0.7s
CLNS pmax pmax
comp=Z,7.0nm,1.2s
CLNS pmax pmax
comp=N,10.0nm,1.2s
CLNS pmax pmax
comp=E,11nm,1.0s
CLNS smax smax
comp=N,2µm,9.7s
CLNS smax smax
comp=E,412nm,8.2s
ATKA Atka Island 65.92 24 *e*P **P** **09 39 36.4 +0.8**
comp=E,19nm,0.8s
LSA Lhasa 66.21 306 P **P** **09 39 37.5 -1.0**
LSA Lhasa 66.21 306 PFAKE 09 39 50.0 +11
LSA LR LR
comp=Z,2µm,21.0s
TAPN Taplejung 68.19 303 *e*P **P** **09 39 49.9 -1.0**
comp=Z,55nm,0.8s
ODAN Odare 68.30 302 *e*P **P** **09 39 49.4 -2.1**
BOK Bokaro 68.64 298 *e*P **P** **09 39 53.4 0.0**
CHLP Challavanipeta 68.85 292 *e*P **P** **09 39 53.8 -1.0**
CHLP IAmb IAmb 09 39 57.3
comp=Z,25nm,0.8s
ZAK Zakamensk 68.92 330 *e*P **P** **09 39 54.2 -0.5**
ZAK *e* 09 40 12.2
ZAK *e* 09 49 23.6
ZAK pmax pmax
comp=Z,16nm,1.0s
SEY Seymchan 68.95 1 P **P** **09 39 55.1 +0.6**
comp=Z,22nm,0.8s,baz=171,slow=6.0,SNR=28
SEY S **S** **09 48 55.7 +0.7**
comp=Z,0.8nm,0.7s,baz=17,slow=19,SNR=1.7
SEY PKP2bc 10 08 06.3
comp=Z,2.6nm,0.9s,baz=55,slow=5.2,SNR=5.1
SEY LR LR 10 09 53.6
comp=Z,1µm,19.9s,baz=184,slow=36
SEY Seymchan 68.95 1 P **P** **09 39 55.1 +0.6**
SEY S **S** **09 48 55.7 +0.7**
SEY pmax pmax
comp=Z,22nm,0.8s
SEY smax smax
comp=N,1.0nm,0.7s
SEY MLR MLR
comp=Z,1µm,19.9s
RAMN Ramite 69.00 302 *e*P **P** **09 39 53.5 -2.4**
VIS Vishakhapatnam 69.33 291 *e*P **P** **09 39 59.4 +1.6**
JIRN Jiri 69.57 302 *e*P **P** **09 39 58.6 -1.0**
comp=Z,48nm,0.9s
TLY Talaya 69.58 332 P **P** **09 40 00.0 +1.3**
comp=Z,64nm,0.8s,SNR=5.1
TLY Talaya 69.58 332 P **P** **09 39 57.9 -0.8**
comp=Z,5.0nm,0.5s,baz=194,slow=4.4,SNR=11
TLY S **S** **09 49 04.0 +1.0**
comp=Z,2.6nm,0.4s,baz=223,slow=19,SNR=2.5
TLY Talaya 69.58 332*c i*P **P** **09 39 57.7 -1.0**
TLY *e*S **S** **09 49 00.9 -2.1**
TLY pmax pmax
comp=Z,12nm,0.9s
TLY Talaya 69.58 332 P **P** **09 39 57.9 -0.8**
TLY S **S** **09 49 04.0 +1.0**
TLY LR LR
comp=Z,5µm,21.0s
IRK Irkutsk 69.66 332 *e*P **P** **09 39 59.8 +0.6**
IRK *e* 09 42 35.2
IRK *e* 09 49 34.4
IRK pmax pmax
comp=Z,82nm,2.7s
YAK Yakutsk 69.68 350 P **P** **09 39 57.6 -1.4**
comp=Z,1.6nm,0.3s,baz=15,slow=20,SNR=2.0
YAK S S 09 48 57.1 -6.5
comp=Z,1.3nm,0.3s,baz=209,slow=19,SNR=1.6
YAK Yakutsk 69.68 350 *e*P **P** **09 39 57.4 -1.6**
YAK *e**PP pP 09 40 06.1 -7.3
YAK *e* 09 40 19.5
YAK *e* 09 42 30.0
YAK *e*S **S** **09 48 59.9 -3.7**
YAK *e* 09 49 51.6
YAK pmax pmax
comp=Z,25nm,1.2s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,121nm,2.5s
YAK pmax pmax
comp=N,162nm,2.7s
YAK smax smax
comp=E,266nm,9.4s
YAK smax smax
comp=N,1µm,12.1s
YAK Yakutsk 69.68 350 P **P** **09 39 57.6 -1.4**
YAK S S 09 48 57.1 -6.5
YAK LR LR
comp=Z,2µm,21.0s
PALK Pallekele 69.76 280 *i* P P 09 40 04.5 +3.9
BOD Bodaibo 69.89 341 *e*P **P** **09 39 57.4 -3.0**
BOD pmax pmax
comp=Z,13nm,1.0s
GUN Gumba 69.91 303 *e*P **P** **09 40 00.4 -1.2**
comp=Z,89nm,0.8s
PKI Pulchoki 70.20 302 *e*P **P** **09 40 02.4 -1.0**
comp=Z,34nm,0.9s
KKN Kakani 70.38 302 *e*P **P** **09 40 03.6 -0.7**
DMN Daman 70.47 302 *e*P **P** **09 40 03.7 -1.2**
comp=Z,108nm,1.0s
PVM Polavaram 70.80 291 *e*P **P** **09 40 06.3 -0.5**
PVM IAmb IAmb 09 40 11.2
comp=Z,13nm,0.9s
MOY Mondy 70.85 330 *e*P **P** **09 40 06.0 -0.6**
MOY pmax pmax
comp=Z,74nm,3.6s
GKN Gorkha 70.98 302 *e*P **P** **09 40 06.9 -1.1**
comp=Z,57nm,0.8s
VNDA Vanda 71.62 177 P **P** **09 40 11.3 +0.6**
comp=Z,18nm,0.8s,baz=338,slow=7.6,SNR=91
VNDA S **S** **09 49 26.3 +0.4**
comp=Z,0.4nm,0.8s,baz=311,slow=9.3,SNR=2.4
VNDA LR LR 10 08 11.2
comp=Z,3µm,19.6s,baz=6.0,slow=33
KOLN Koldanda 71.79 302 *e*P **P** **09 40 11.8 -1.1**
comp=Z,44nm,0.8s
AIS Amsterdam Isla 71.84 232 P P 09 40 01.0 -12
AIS S S 09 49 14.0 -16
AIS R 10 02 00.0
SKHT Srikalahasti 71.87 287 *e*P **P** **09 40 13.5 +0.2**
SKHT IAmb IAmb 09 40 17.2
comp=Z,8.9nm,0.7s
ADKI Addanki 72.05 289 *e*P **P** **09 40 14.2 -0.1**
ADKI IAmb IAmb 09 40 18.6
comp=Z,24nm,0.8s
SBA Scott Base 72.22 176 *e*P **P** **09 40 16.3 +2.0**
SBA pmax pmax
comp=Z,160nm,1.3s
SBA MLR MLR
comp=Z,2µm,20.0s
SBA Scott Base 72.22 176 *e*P **P** **09 40 16.3 +2.0**
comp=Z,160nm,1.3s
SBA LR LR
comp=Z,2µm,20.0s
NJS Nagarjunasagar 72.82 289 *e*P **P** **09 40 18.4 -0.6**
NJS IAmb IAmb 09 40 22.7
comp=Z,14nm,0.9s
RCLA Racherla 72.93 288 *e*P **P** **09 40 19.5 -0.1**
RCLA IAmb IAmb 09 40 29.0
comp=Z,23nm,1.3s
SRLM Srisailam 73.11 289 *e*P **P** **09 40 20.6 -0.2**
SRLM IAmb IAmb 09 40 24.4
comp=Z,39nm,0.9s
RPR Rampur 73.32 292 *e*P **P** **09 40 21.9 +0.1**
RPR IAmb IAmb 09 40 26.4
comp=Z,12nm,0.7s
TRD Trivandrum 73.62 281 *e*P **P** **09 40 23.8 0.0**
HYB Hyderabad 73.70 290 *i* P **P** **09 40 23.5 -0.7**
HYB Hyderabad 73.70 290 *e*P **P** **09 40 24.1 -0.1**
HYBB Hyderabad (bro 73.70 290 *e*P **P** **09 40 24.2 0.0**
HYBB IAmb IAmb 09 40 27.8
comp=Z,16nm,0.7s
HYBB *e*pP **pP** **09 40 34.3 -4.3**
HYBB *e*sP sP 09 40 38.6 -5.8
SRSP Sriramsagar 74.21 292 *e*P **P** **09 40 26.7 -0.4**
SRSP IAmb IAmb 09 40 30.9
comp=Z,17nm,0.9s
URV Uravakonda 74.43 287 *e*P **P** **09 40 28.5 0.0**
URV IAmb IAmb 09 40 32.2
comp=Z,16nm,0.8s
WMQ Urumqi 74.45 319 P **P** **09 40 30.7 +2.6**
WMQ PcP **PcP** **09 40 42.7 +0.2**
WMQ pP **pP** **09 40 46.1 +3.5**
WMQ PP **PP** **09 43 19.5 +4.4**
WMQ S **S** **09 49 59.7 +0.4**
WMQ sS **sS** **09 50 26.2 +2.6**
WMQ ScS **SKKSac** **09 50 32.7 +0.4**
WMQ SS **SS** **09 54 48.6 +1.8**
WMQ PMZ
comp=Z,15nm,0.9s
WMQ PMZ
comp=Z,640nm,8.1s
WMQ LN
comp=Z,2µm,16.8s
WMQ LE
comp=Z,2µm,19.2s
WMQ LZ
comp=Z,1µm,26.4s
RKT Rikitea 74.46 112 *e*P **P** **09 40 31.4 +2.9**
comp=Z,39nm,0.9s
RKT *e*pP **pP** **09 40 39.7 -3.3**
comp=Z,151nm,1.2s
RKT *e*S **S** **09 50 01.5 +1.5**
comp=Z,2µm,25.2s
RKT *e*SS **SS** **09 54 52.9 +5.5**
comp=Z,860nm,36.2s
RKT *e*LQ LQ 10 00 12.0
comp=Z,3µm,40.5s
RKT *e*LR LR 10 03 19.5
comp=Z,5µm,34.0s,baz=275
CHGN Chignik 75.48 27 *e*P **P** **09 40 33.4 -0.2**
KLRI Killari 75.66 290 *e*P **P** **09 40 33.8 -1.7**
comp=Z,180nm,2.4s
KLRI IAmb IAmb 09 40 36.3
comp=Z,560nm,3.6s
BHPL Bhopal 75.99 296 *e*P **P** **09 40 37.5 +0.2**
BHPL AMB AMB 09 41 28.4
comp=Z,31nm,0.5s
DGAR Diego Garcia 76.27 264 PFAKE 09 40 50.0 +11
DGAR LR LR
comp=Z,3µm,21.0s
DDI Dehra Dun 77.16 303 *e*P **P** **09 40 44.5 +0.7**
NDI New Delhi 77.45 301 *e*P **P** **09 40 45.0 -0.4**
GOA Goa 77.79 287 *e*P **P** **09 40 48.3 +0.7**
SMLA Simla 78.11 303⇑ *e*P **P** **09 40 49.4 +0.4**
PAF Port-aux-Franc 78.26 221 P P 09 40 21.0 -28
PAF S SKiKP 09 50 13.0 +17
PAF SS **SS** **09 55 41.0 -2.7**
PAF L L 10 01 00.0
PAF R 10 07 00.0
PAF Port-aux-Franc 78.26 221 PFAKE 09 41 00.0 +11
PAF LR LR
comp=Z,4µm,20.0s
POO Poona 78.31 290 *e*P **P** **09 40 50.8 +0.4**
OHAK Old Harbor 78.35 28 *e*P **P** **09 40 51.4 +1.6**
TIXI Tiksi 78.83 354*c i*P **P** **09 40 50.2 -1.9**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
TIXI MLR MLR
comp=Z,1µm,20.0s
TIXI Tiksi 78.83 354 *e*P **P** **09 40 52.6 +0.5**
comp=Z,18nm,1.1s
TIXI LR LR
comp=Z,1µm,22.0s
KDAK Kodiak Island 78.96 28 PFAKE 09 41 00.0 +6.9

KDAK LR LR
comp=Z,3µm,20.0s
DHRM DHARAMSHALA 79.10 304 *e*P **P** **09 40 55.1 +0.4**
DHRM AMB AMB 09 40 57.5
comp=Z,35nm,0.3s
MK31 Makanchi Array 79.12 320 P **P** **09 40 52.7 -1.6**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MK31 Makanchi Array 79.12 320 *e*P **P** **09 40 53.0 -1.3**
MKAR Makanchi Array 79.12 320 P **P** **09 40 52.8 -1.5**
comp=Z,2.9nm,0.5s,baz=100,slow=6.7,SNR=36
MKAR S **S** **09 50 46.7 -3.3**
comp=Z,0.4nm,0.9s,baz=59,slow=24,SNR=2.1
MKAR PKKPbc **PKKPbc** **09 59 46.1 -1.9**
comp=Z,2.7nm,0.8s,baz=303,slow=1.9,SNR=21
MKAR PKPPKP **P'P'df** **10 07 47.5 -1.5**
comp=Z,0.8nm,0.8s,baz=298,slow=3.1,SNR=4.6
MKAR LR LR 10 14 29.4
comp=Z,2µm,21.2s,baz=88,slow=35
ZAA0 Zalesovo Array 80.40 327 *e*P **P** **09 40 59.7 -1.3**
ZALV Zalesovo Beam 80.40 327 P **P** **09 40 59.6 -1.5**
comp=Z,9.4nm,0.5s,baz=104,slow=6.3,SNR=12
ZALV S **S** **09 51 05.7 +2.5**
comp=Z,0.7nm,0.3s,baz=102,slow=21,SNR=2.1
ZALV PKKPbc **PKKPbc** **09 59 44.0 -1.3**
comp=Z,1.6nm,0.3s,baz=325,slow=2.3,SNR=4.1
ZALV PKPPKP **P'P'df** **10 07 44.8 -1.2**
comp=Z,1.0nm,0.4s,baz=325,slow=2.3,SNR=2.5
ZALV LR LR 10 14 49.1
comp=Z,4µm,22.0s,baz=70,slow=34
KSH Kashi 81.23 311 P **P** **09 41 07.4 +1.4**
KSH pP **pP** **09 41 22.6 +2.0**
KSH *e*PP PP 09 44 17.6 +5.6
KSH S S 09 51 19.1 +6.4
KSH sS sS 09 51 42.5 +5.1
KSH PMZ
comp=Z,14nm,1.0s
KSH PMZ
comp=Z,410nm,8.0s
KSH LN
comp=Z,500nm,13.3s
KSH LE
comp=Z,1µm,14.8s
KSH LZ
comp=Z,2µm,19.9s
SEW Seward 81.52 26 *e*P **P** **09 41 07.3 +0.5**
comp=Z,17nm,0.8s
AAA Alma-Ata 81.56 315 *e*P **P** **09 41 06.2 -1.3**
AAA *e*S S 09 51 06.5 -9.4
AAA pmax pmax
comp=Z,800nm,6.2s
AAA smax smax
comp=E,1µm,9.2s
AAA MLR MLR
comp=Z,2µm,21.0s
NVS Novosibirsk 81.61 328 *e*P **P** **09 41 04.8 -2.6**
NVS *e*S **S** **09 51 18.0 +2.3**
NVS pmax pmax
comp=E,38nm,1.9s
NVS pmax pmax
comp=Z,66nm,1.9s
NVS smax smax
comp=E,63nm,2.2s
PPLA Purkeypile 81.77 23 *e*P **P** **09 41 09.7 +1.4**
ULHL Ulahol 81.77 314 P **P** **09 41 10.4 +1.5**
SNR=7.6
RC01 Rabbit Creek A 81.87 25 *e*P **P** **09 41 08.4 -0.3**
comp=E,25nm,1.0s
TKM2 Tokmak 2 82.41 315 P **P** **09 41 11.5 -0.8**
SNR=6.2
TKM2 Tokmak 2 82.41 315 *e*P **P** **09 41 12.2 0.0**
TKM2 pmax pmax
comp=Z,10.0nm,0.8s
TKM2 MLR MLR
comp=Z,3µm,21.0s
TKM2 Tokmak 2 82.41 315 *e*P **P** **09 41 12.2 0.0**
comp=Z,10.0nm,0.8s
TKM2 LR LR
comp=Z,3µm,21.0s
KZA Kyzart 82.44 314 P **P** **09 41 14.8 +2.1**
SNR=25
KURK Kurchatov 82.75 323 P **P** **09 41 12.8 -0.7**
comp=Z,60nm,1.0s,SNR=13
KURK Kurchatov 82.75 323 P **P** **09 41 12.1 -1.4**
KURK pmax pmax
comp=Z,7.0nm,0.9s
KURK Kurchatov 82.75 323 P **P** **09 41 12.1 -1.4**
KURK P'P' 10 07 39.5
KURK LR LR
comp=Z,3µm,20.0s
KURBB Kurchatov Arra 82.77 323 P **P** **09 41 12.1 -1.5**
comp=Z,6.9nm,0.9s,baz=112,slow=4.2,SNR=21
KURBB PKPPKP **P'P'df** **10 07 39.5 -2.6**
comp=Z,0.5nm,0.5s,baz=290,slow=2.6,SNR=4.4
TRF Thorofare Moun 82.79 23 *e*P **P** **09 41 13.0 -0.7**
comp=Z,19nm,0.9s
IM04 Indian Mountai 82.82 20 *e*P **P** **09 41 12.8 -0.8**
BPAW Bear Paw Mtn. 82.85 22 *e*P **P** **09 41 13.5 -0.3**
MAW Mawson 82.99 203 P **P** **09 41 14.3 -0.1**
comp=Z,23nm,0.7s,baz=90,slow=6.8,SNR=42
MAW LR LR 10 15 53.8
comp=Z,4µm,21.3s,baz=76,slow=34
BHJ Bhuj 83.00 294 *e*P **P** **09 41 17.4 +2.1**
BHJ AMB AMB 09 41 20.1
comp=Z,53nm,2.0s
UCH Uchtor 83.00 314 P **P** **09 41 17.5 +1.9**
SNR=11
FRU Bishkek 83.08 314 *e*P **P** **09 41 14.0 -1.5**
FRU MLR MLR
comp=E,2µm,20.0s
AAK Ala-Archa 83.12 314*c i*P **P** **09 41 14.6 -1.2**
AAK pmax pmax
comp=Z,16nm,0.8s
AAK MLR MLR
comp=Z,3µm,16.0s
AAK Ala-Archa 83.12 314 *e*P **P** **09 41 16.6 +0.8**
AAK LR LR
comp=Z,3µm,21.0s
USP Ospenovka 83.28 315 P **P** **09 41 17.8 +1.3**
SNR=9.7
MCK McKinley 83.46 23 *e*P **P** **09 41 15.1 -1.8**
MCK McKinley 83.46 23 *e*P **P** **09 41 15.1 -1.8**
AML Almayashu 83.57 314 P **P** **09 41 20.2 +1.7**
SNR=15
DIV Divide 83.60 26 *e*P **P** **09 41 18.9 +1.1**
EKS2 Erkin-Say 83.64 314 P **P** **09 41 20.2 +1.7**
SNR=15
EKS2 Erkin-Say 83.64 314 *e*P **P** **09 41 18.4 -0.1**
EKS2 pmax pmax
comp=Z,16nm,0.9s
EKS2 MLR MLR
comp=Z,3µm,22.0s
EKS2 Erkin-Say 83.64 314 *e*P **P** **09 41 18.4 -0.1**
comp=Z,16nm,0.9s
EKS2 LR LR
comp=Z,3µm,22.0s
QSPA South Pole Qui 83.80 180 *e*P **P** **09 41 18.6 -0.2**
QSPA LR LR
comp=Z,3µm,20.0s
BMRM Bremner River 84.05 27 *e*P **P** **09 41 21.1 +1.0**
COLA College 84.41 22|| *e*P **P** **09 41 19.9 -1.8**
COLA pmax pmax
comp=Z,168nm,0.8s
COLA MLR MLR
comp=Z,8µm,19.0s
COLA College 84.41 22 *e*P **P** **09 41 19.6 -2.1**
COLA LR LR
comp=Z,3µm,20.0s
PAX Paxson 84.52 25 *e*P **P** **09 41 22.5 +0.1**
PAX pmax pmax
comp=Z,43nm,1.8s
PAX Paxson 84.52 25 *e*P **P** **09 41 22.5 +0.1**
comp=Z,43nm,1.8s
COLD Coldfoot 84.69 20 *e*P **P** **09 41 23.6 +0.4**
ILAR Eielson Array 84.73 23 P **P** **09 41 20.7 -2.6**
comp=Z,34nm,0.8s,baz=253,slow=5.0,SNR=105
ILAR PKKPbc **PKKPbc** **09 59 32.5 -3.2**
comp=Z,0.7nm,0.8s,baz=10,slow=0.2,SNR=6.4
ILAR PKPPKP P'P'df 10 07 28.3 -9.2
comp=Z,0.5nm,0.8s,baz=26,slow=3.1,SNR=5.4
ILAR LR LR 10 18 54.7
comp=Z,2µm,18.9s,baz=264,slow=35
KK31 Karatay Array 86.08 314 *i* P **P** **09 41 29.0 -1.6**
KK31 pmax pmax
comp=Z,24nm,1.0s
KKAR Karatay Array 86.08 314 *e*P **P** **09 41 28.7 -1.9**
KKAR pmax pmax
comp=Z,31nm,1.1s
KKAR Karatay Array 86.08 314 *e*P **P** **09 41 28.7 -1.9**
comp=Z,31nm,1.1s
EGAK Eagle 86.98 24 *e*P **P** **09 41 34.4 0.0**
comp=Z,35nm,0.8s
EGAK LR LR
comp=Z,4µm,22.0s
DAWY Dawson 87.45 25 *e*P **P** **09 41 36.5 -0.3**
comp=Z,31nm,0.9s
BVAR Borovoye Array 88.28 324 P **P** **09 41 39.6 -1.4**
comp=Z,4.5nm,0.7s,baz=116,slow=5.1,SNR=16
BVAR S **SKSac** **09 52 00.7 -4.8**
comp=Z,0.3nm,0.3s,baz=65,slow=6.8,SNR=4.4
BVAR Borovoye Array 88.28 324 P **P** **09 41 39.6 -1.4**
BVAR S **SKSac** **09 52 00.7 -4.8**
BVAR pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 88.35 324*c i*P **P** **09 41 40.1 -1.2**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK MLR MLR
comp=Z,2µm,20.0s
BRVK Borovoye 88.35 324 *e*P **P** **09 41 44.1 +2.8**
BRVK LR LR
comp=Z,2µm,20.0s
WRAK Wrangell Islan 88.68 33 PFAKE 09 41 50.0 +7.3
WRAK LR LR
comp=Z,4µm,22.0s
CRZF Crozet Islands 90.71 223 P P 09 41 34.0 -19
CRZF Crozet Islands 90.71 223 S S 09 52 09.0 -36
CRZF SS SS 09 58 31.0 -16
CRZF L L 10 05 00.0
CRZF R R 10 13 00.0
INK Inuvik 90.97 21 P **P** **09 41 53.9 +0.7**
comp=Z,4.9nm,0.3s,baz=220,slow=6.9,SNR=8.4
INK Inuvik 90.97 21 P **P** **09 41 53.9 +0.7**
INK pmax pmax
comp=Z,5.0nm,0.3s
INK Inuvik 90.97 21 *e*P **P** **09 41 53.8 +0.7**
comp=Z,17nm,1.0s
RER Riviere de l'E 91.14 249 PFAKE
RER LR LR 09 42 10.0 +15
comp=Z,3µm,21.0s
SYO Syowa Base 91.23 200⇑ *e*P **P** **09 41 53.2 -1.2**
SYO Syowa Base 91.23 200⇑ *e*pP pP 09 42 06.0 -3.3
KCPM Cahto Peak 91.65 50 *e*P **P** **09 41 59.1 +1.9**
L02D Cave Junction, 91.92 48 ⇑P **P** **09 42 00.0 +1.8**
baz=92
HOPS Hopland Field 91.97 51 *e*P **P** **09 41 59.3 +0.8**
NLWA Neilton Lookou 92.33 43 PFAKE 09 42 10.0 +10
NLWA LR LR
comp=Z,2µm,21.0s
M02C Callahan 92.39 49 ⇓P **P** **09 42 01.6 +1.1**
baz=92,SNR=5.4
HUMO Hull Mountain 92.44 48 *e*P **P** **09 42 02.5 +1.8**
N02D Trinity Center 92.46 49 ⇑P **P** **09 42 02.4 +1.6**
baz=92
YBH Yreka Blue Hor 92.53 48 P **P** **09 42 02.1 +0.9**
comp=Z,5.8nm,0.7s,baz=342,slow=0.6,SNR=15
YBH Yreka Blue Hor 92.53 48 P **P** **09 42 02.1 +0.9**
YBH pmax pmax
comp=Z,6.0nm,0.7s
WDC Whiskeytown Da 92.54 50 *e*P **P** **09 42 03.6 +2.5**
WDC Whiskeytown Da 92.54 50 *e*P **P** **09 42 03.6 +2.5**
M04C Macdoel 93.19 48 ⇑P **P** **09 42 05.3 +1.0**
baz=93,SNR=6.1
MSEY Mahe Island 93.33 265 PFAKE 09 42 20.0 +15
MSEY LR LR
comp=Z,1µm,21.0s
J05D Fort Rock, OR 93.77 47 ⇑P **P** **09 42 08.1 +1.2**
baz=94
I05D Terrebonne, OR 93.78 46 ⇓P **P** **09 42 08.2 +1.3**
baz=94
AB31 Akbulak array 94.23 319 *i* P **P** **09 42 06.5 -2.2**
AB31 pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 94.23 319 P **P** **09 42 09.5 +0.8**
comp=Z,5.5nm,1.0s
RCTC Rector, Farmer 94.75 54 ⇑P **P** **09 42 12.4 +1.1**
baz=95
WAKR Walker 94.75 52 *e*P **P** **09 42 11.5 -0.2**
comp=Z,4.2nm,0.8s
VES Vestal, Richgr 94.85 55 ⇓P **P** **09 42 12.6 +0.7**
baz=95
HAWA Hanford 95.20 44 PFAKE 09 42 20.0 +6.8
HAWA LR LR
comp=Z,4µm,21.0s
ISA Isabella, Lake 95.33 55 *e*P P 09 42 17.3 +3.2
ISA Isabella, Lake 95.33 55 ⇓P **P** **09 42 16.0 +1.8**
baz=95
ISA Isabella, Lake 95.33 55 *e*P P 09 42 17.3 +3.2
ARU Arti 95.53 326*d i*P **P** **09 42 15.3 +0.9**
ARU 09 46 06.4
ARU PPP PPP 09 48 15.0
ARU S **SKSac** **09 52 48.4 +2.2**
ARU SP **SP** **09 54 44.3 -0.3**
ARU PS **PS** **09 54 54.8 +3.3**
ARU SS **SS** **09 59 51.6 -4.5**
ARU pmax pmax
comp=Z,3.0nm,1.0s
ARU MLR MLR
comp=Z,7µm,23.0s
ARU Arti 95.53 326 PFAKE 09 42 30.0 +16
ARU LR LR
comp=Z,6µm,22.0s
MWC Mount Wilson 95.58 56 *e*P **P** **09 42 16.8 +1.3**
MWC pmax pmax
comp=Z,45nm,1.5s
MWC Mount Wilson 95.58 56 *e*P **P** **09 42 16.8 +1.3**
comp=Z,45nm,1.5s
WVOR Wild Horse Val 95.61 48 PFAKE 09 42 30.0 +15
WVOR LR LR
comp=Z,4µm,21.0s
NVAR Mina Array Bea 95.64 52 P **P** **09 42 16.1 +0.4**
comp=Z,4.0nm,0.7s,baz=250,slow=6.1,SNR=27
NVAR PKKPbc **PKKPbc** **09 59 06.6 -0.8**
comp=Z,0.8nm,0.8s,baz=112,slow=2.2,SNR=5.1
NVAR PKPPKP **P'P'df** **10 07 16.5 -3.0**
comp=Z,0.5nm,0.8s,baz=94,slow=4.5,SNR=3.8
EDW2 Edwards Air Fo 95.68 56 ⇓P **P** **09 42 17.0 +1.3**
baz=96
CWC Cottonwood Cre 95.70 54 ⇑P **P** **09 42 16.9 +1.0**
baz=96
LRMC Laurel Mtn Rad 95.96 55 ⇓P **P** **09 42 18.7 +1.6**
baz=96
DAC Darwin (Calif) 96.08 54 *e*P **P** **09 42 18.3 +0.6**
DAC pmax pmax
comp=Z,15nm,1.2s
DAC Darwin (Calif) 96.08 54 *e*P **P** **09 42 18.3 +0.6**
comp=Z,15nm,1.2s
MPMC Manual Prospec 96.15 54 ⇓P **P** **09 42 19.2 +1.1**
baz=96
BBRC Big Bear Solar 96.52 56 ⇑P **P** **09 42 20.8 +1.0**
baz=96
GSC Goldstone, Bar 96.67 55 *e*P **P** **09 42 22.1 +1.8**
GSC Goldstone, Bar 96.67 55 ⇓P **P** **09 42 21.5 +1.2**
baz=97
GSC Goldstone, Bar 96.67 55 *e*P **P** **09 42 22.1 +1.8**
FURC Furnace Creek, 96.68 54 ⇑P **P** **09 42 21.2 +1.1**
baz=97
BMO Blue Mountains 96.69 46 *e*P **P** **09 42 21.5 +1.3**
BMO MLR MLR
comp=Z,3µm,21.0s
BMO Blue Mountains 96.69 46 *e*P **P** **09 42 21.5 +1.3**
BMO LR LR
comp=Z,3µm,21.0s
MONP Monument Peak, 96.87 58 ⇑P **P** **09 42 22.2 +0.8**
baz=97
PFO Pinyon Flats O 96.88 57 P **P** **09 42 21.9 +0.6**
comp=Z,1.4nm,0.6s,baz=260,slow=6.1,SNR=3.5
PFO Pinyon Flats O 96.88 57 P **P** **09 42 21.9 +0.6**
PFO pmax pmax
comp=Z,1.0nm,0.6s
PFO Pinyon Flats O 96.88 57 P **P** **09 42 21.9 +0.6**
PFO LR LR
comp=Z,5µm,22.0s
NEW Newport 96.92 42 *e*P **P** **09 42 22.8 +1.8**
NEW MLR MLR
comp=Z,2µm,22.0s
NEW Newport 96.92 42 ⇑P **P** **09 42 22.6 +1.5**
baz=97
NEW Newport 96.92 42 *e*P **P** **09 42 22.8 +1.8**
NEW LR LR
comp=Z,2µm,22.0s
TPNV Topopah Spring 97.19 54 ⇓P Pdif 09 42 24.0 +1.2
baz=97
BELC Belle Mtn. Jos 97.27 57 ⇓P Pdif 09 42 24.0 +0.8
baz=97
TUQ Turquoise Moun 97.39 55 ⇑P Pdif 09 42 24.7 +1.0
baz=97
SWSC Sam W. Stewart 97.40 58 ⇑P Pdif 09 42 24.5 +1.0
baz=97
GMRC Granite Mounta 97.58 56 ⇓P Pdif 09 42 25.8 +1.2
baz=98
R11A Troy Canyon, C 97.77 52 ⇓P Pdif 09 42 26.6 +1.3
baz=98
IRM Iron Mountain 97.98 56 ⇑P Pdif 09 42 27.1 +0.9
baz=98
SHPR Sheep Range 98.05 54 *e*P Pdif 09 42 28.4 +1.8
comp=Z,15nm,1.4s
NVL N'lazarevskaya 98.17 193 *e*P Pdif 09 42 35.8 +10
NVL *e*S **SKSac** **09 52 57.7 -1.8**
NVL pmax pmax
comp=Z,25nm,1.1s
YKA Yellowknife Ar 98.24 28 P **P** **09 42 25.8 -0.7**
comp=Z,1.6nm,0.8s,baz=273,slow=4.9,SNR=11
YKA PKiKP **PKiKP** **09 46 59.5 +0.5**
comp=Z,0.5nm,0.6s,baz=271,slow=1.2,SNR=5.1
YKA PKKPbc **PKKPbc** **09 58 57.4 -3.4**
comp=Z,2.3nm,0.8s,baz=89,slow=3.0,SNR=16
HLID Hailey 98.74 47 ⇑Pdiff Pdif 09 42 31.0 +1.4
baz=99
HLID Hailey 98.74 47 *e*P Pdif 09 42 30.3 +0.7
comp=Z,1.8nm,0.8s
HLID LR LR
comp=Z,5µm,22.0s
ABPO Ambohimpanom 99.37 250 PFAKE 09 42 40.0 +7.1
ABPO LR LR
comp=Z,2µm,21.0s
DUG Dugway, Tooele 99.94 50 ⇑Pdiff **Pdif** **09 42 36.0 +1.1**
baz=100
DUG Dugway, Tooele 99.94 50 PFAKE 09 42 50.0 +15
DUG LR LR
comp=Z,2µm,20.0s
SNAA Sanae 100.19 189 P **Pdif** **09 42 28.2 -7.2**
SNAA Sanae 100.19 189 P **PP** **09 46 44.5 +3.6**
SNAA Sanae 100.19 189 *e*P **Pdif** **09 42 28.1 -7.2**
SNAA pmax pmax
comp=Z,18nm,1.3s
SNAA Sanae 100.19 189 *e*Pdif **Pdif** **09 42 28.1 -7.2**
comp=Z,18nm,1.3s
BOZ Bozeman (W) 100.70 45 PFAKE 09 42 50.0 +12
BOZ LR LR
comp=Z,2µm,20.0s
HWUT Hardware Ranch 100.87 49 PFAKE 09 42 50.0 +11
HWUT LR LR
comp=Z,2µm,21.0s
WUAZ Wupatki 101.11 55 PFAKE 09 42 50.0 +10
WUAZ LR LR
comp=Z,4µm,21.0s
AHID Auburn Hatcher 101.18 48 PFAKE 09 42 50.0 +10
AHID LR LR
comp=Z,4µm,22.0s
VNA2 Neumayer--Watz 101.50 188 P **Pdif** **09 42 41.0 -0.1**
baz=168,slow=3.5
VNA2 Neumayer--Watz 101.50 188 P **PKiKP** **09 47 02.1 -2.6**
baz=89,slow=1.5
TUC Tucson 101.61 58 *e*P **Pdif** **09 42 47.0 +4.6**
TUC pmax pmax
comp=Z,9.0nm,1.2s
TUC MLR MLR
comp=Z,3µm,22.0s
TUC Tucson 101.61 58 *e*Pdif **Pdif** **09 42 47.0 +4.6**
comp=Z,9.3nm,1.2s
TUC LR LR
comp=Z,3µm,22.0s
LKWY Lake 101.61 46 PFAKE 09 42 50.0 +7.6
LKWY LR LR
comp=Z,3µm,20.0s
EGMT Eagleton 101.86 42 ⇓Pdiff **Pdif** **09 42 44.0 +0.8**
baz=102
EGMT Eagleton 101.86 42 PFAKE 09 42 50.0 +6.8
EGMT LR LR
comp=Z,3µm,22.0s
VNA1 Neumayer--Stat 101.87 187 P **Pdif** **09 42 43.5 +0.9**
VNA1 Neumayer--Stat 101.87 187 P **PKiKP** **09 47 01.7 -3.7**
PRGR Permogore 101.91 332 P **Pdif** **09 42 42.6 -0.3**
PRGR 09 46 52.8
PRGR pmax pmax
comp=Z,10.0nm,0.9s
H18A Shoshone NF, C 102.13 46 ⇓Pdiff **Pdif** **09 42 45.6 +1.0**
baz=102
BW06 Boulder Array 102.31 48 *e*Pdif **Pdif** **09 42 46.0 +0.5**
comp=Z,2.7nm,0.9s
BW06 LR LR
comp=Z,4µm,21.0s
PDAR Pinedale Array 102.31 48 P **Pdif** **09 42 45.6 +0.1**
comp=Z,2.4nm,0.8s,baz=315,slow=1.1,SNR=20
PDAR PKKPbc **PKKPbc** **09 58 46.0 -2.8**
comp=Z,1.0nm,0.8s,baz=92,slow=5.9,SNR=5.3
PDAR PKPPKP **P'P'df** **10 07 05.0 -1.7**
comp=Z,1.3nm,1.1s,baz=101,slow=4.7,SNR=5.2
C19A Slack Wire Ran 102.35 43 ⇑Pdiff **Pdif** **09 42 46.8 +1.5**
baz=102
B19A Brinkman Farms 102.36 42 ⇑Pdiff **Pdif** **09 42 47.0 +1.6**
baz=102
RLMT Red Lodge 102.39 45 PFAKE 09 43 00.0 +14
RLMT LR LR
comp=Z,3µm,22.0s
A19A Klindworth Far 102.46 41 ⇑Pdiff **Pdif** **09 42 47.6 +1.8**
baz=102
MVCO Mesa Verde 103.39 53 PFAKE 09 43 00.0 +10
MVCO LR LR
comp=Z,2µm,20.0s
HOPEN Hopen 103.62 348 *e*PP PP 09 47 08.1 +1.3
HOPEN *e*SKSac **SKSac** **09 53 25.4 -0.1**
SPA0 Spitsbergen Ar 104.14 351 *e*PP PP 09 47 10.5 -0.1
SPA0 *e*SKSac **SKSac** **09 53 29.1 +1.2**
KBS Kingsbay 104.26 352 *e*PP PP 09 47 12.7 +1.3
KBS Kingsbay 104.26 352 PFAKE 09 43 00.0 +6.9
KBS LR LR
comp=Z,2µm,20.0s
LAO LASA Array 104.37 43 PFAKE 09 43 10.0 +16
LAO LR LR
comp=Z,2µm,20.0s
J22A Midwest 104.52 47 ⇓Pdiff **Pdif** **09 42 56.1 +0.9**
baz=104
K22A Casper 104.55 48 ⇓Pdiff **Pdif** **09 42 56.0 +0.6**
baz=104
LVZ Lovozero 104.83 339 PFAKE 09 43 10.0 +14
LVZ LR LR
comp=Z,3µm,21.0s
HSPB Hornsund (broa 105.06 350 *e*PP PP 09 47 13.5 -3.9
HSPB *e*SKSac **SKSac** **09 53 30.7 -1.4**
GNI Garni 105.11 310 PFAKE 09 47 20.0
GNI LR LR
comp=Z,1µm,22.0s
ANMO Albuquerque 105.15 56 PFAKE 09 47 20.0
ANMO LR LR
comp=Z,3µm,22.0s
R23A Moffat 105.45 52 ⇓PKiKP **PKiKP** **09 47 13.5 +0.4**
baz=105
C24A Savage 105.48 42 ⇓PKiKP **PKiKP** **09 47 14.0 +1.4**
baz=105
ISCO Idaho Springs 105.48 51 PFAKE 09 47 30.0
ISCO LR LR
comp=Z,2µm,22.0s
DGMT Dagmar 105.50 41 PFAKE 09 47 20.0
DGMT LR LR
comp=Z,2µm,20.0s
SDCO Great Sand Dun 105.74 53 ⇓PKiKP **PKiKP** **09 47 14.3 +0.6**
baz=106
SDCO Great Sand Dun 105.74 53 *e*PKPdf **PKiKP** **09 47 15.0 +1.2**
SDCO LR LR
comp=Z,2µm,20.0s
FFC Flin Flon 105.77 35 PFAKE 09 47 20.0
FFC LR LR
comp=Z,3µm,21.0s
GOF Gofitskoye 105.85 315 *e*P Pdif 09 43 13.9 +13
MNTX Cornudas Mount 106.21 59 ⇑PKiKP **PKiKP** **09 47 15.3 +0.9**
baz=106
MNTX Cornudas Mount 106.21 59 *e*PKPdf **PKiKP** **09 47 15.2 +0.8**
MNTX LR LR
comp=Z,3µm,22.0s
KIV Kislovodsk 106.24 314 *e*P **Pdif** **09 43 00.6 -2.2**
KIV *e* 09 47 25.5
KIV *e*PS **PS** **09 56 45.3 -1.2**
KIV *e*SS SS 10 02 27.2 +1.4
KIV pmax pmax
comp=Z,3.0nm,0.6s
KIV MLR MLR

comp=Z,2µm,20.0s
KIV **Kislovodsk** **106.24** **314** PFAKE **09 47 30.0**
KIV LR LR
comp=Z,2µm,21.0s
KEV **Kevo** **106.57** **342** PFAKE **09 47 30.0**
KEV LR LR
comp=Z,2µm,20.0s
T25A **Trinidad** **106.65** **53** ⇑PKiKP **PKiKP** **09 47 15.7 +0.3**
baz=107
J26A **Sides Ranch, S** **107.00** **47** ⇓PKiKP **PKiKP** **09 47 16.3 +0.7**
baz=107
H26A **Fairpoint** **107.03** **45** ⇓PKiKP **PKiKP** **09 47 16.8 +1.2**
baz=107
ARCES **ARCESS Array B** **107.14** **342** Pdiff **Pdif** **09 43 05.7 -0.4**
comp=Z,5.6nm,0.8s,baz=66,slow=7.1,SNR=15
ARCES PKiKP **PKiKP** **09 47 14.8 -0.2**
comp=Z,2.2nm,0.8s,baz=103,slow=1.9,SNR=3.9
ARCES PKKPbc **PKKPbc** **09 58 31.5 -3.2**
comp=Z,0.8nm,0.6s,baz=221,slow=1.3,SNR=4.0
ARE0 **ARCESS Array S** **107.14** **342** *e* PP 09 47 41.2 +8.3
ARE0 *e*SKSac **SKSac** **09 53 42.9 +1.3**
T26A **Comanche Natio** **107.30** **53** ⇑PKiKP **PKiKP** **09 47 17.2 +0.7**
baz=107
S26A **Kim** **107.35** **53** ⇓PKiKP **PKiKP** **09 47 17.3 +0.8**
baz=107
C27A **Sayler Ranch,** **107.41** **42** ⇑PKiKP **PKiKP** **09 47 17.7 +1.5**
baz=107
G27A **Dupree** **107.50** **44** ⇑PKiKP **PKiKP** **09 47 17.5 +1.0**
baz=107
E27A **Carson** **107.59** **43** ⇓PKiKP **PKiKP** **09 47 18.1 +1.5**
baz=108
TXAR **Lajitas Array** **107.81** **61** PKiKP **PKiKP** **09 47 17.8 +0.3**
comp=Z,1.5nm,0.9s,baz=247,slow=1.1,SNR=12
TXAR PKKPbc **PKKPbc** **09 58 30.4 -1.1**
comp=Z,1.7nm,0.8s,baz=110,slow=4.8,SNR=12
TXAR PKKP **PKKPab** **09 58 45.1 +0.2**
comp=Z,2.0nm,0.8s,baz=103,slow=5.0,SNR=11
TXAR PKPPKP **P'P'df** **10 06 55.5 -1.4**
comp=Z,0.5nm,0.9s,baz=90,slow=1.8,SNR=4.0
O27A **Beecher Island** **107.84** **50** ⇑PKiKP **PKiKP** **09 47 18.4 +1.1**
baz=108
KSCO **Kaye Shedlock'** **107.86** **51** ⇑PKiKP **PKiKP** **09 47 18.7 +1.2**
baz=108
OBN **Obninsk** **107.97** **326** PFAKE **09 47 30.0**
OBN LR LR
comp=Z,3µm,21.0s
T27A **Campo** **108.00** **53** ⇑PKiKP **PKiKP** **09 47 18.5 +0.7**
baz=108
OGNE **Ogallala** **108.08** **49** PFAKE **09 47 30.0**
OGNE LR LR
comp=Z,2µm,21.0s
E28A **Huff** **108.15** **43** ⇑PKiKP **PKiKP** **09 47 19.0 +1.4**
baz=108
MSTX **Muleshoe** **108.25** **56** ⇑PKiKP **PKiKP** **09 47 18.6 +0.3**
baz=108
K28A **Ten Mile Ranch** **108.32** **47** ⇓PKiKP **PKiKP** **09 47 19.0 +0.9**
baz=108
U28A **Mallet** **108.47** **54** ⇓PKiKP **PKiKP** **09 47 18.9 +0.3**
baz=108
T28A **Walsh** **108.48** **53** ⇓PKiKP **PKiKP** **09 47 19.5 +0.9**
baz=108
Z28A **Tucker Farm, M** **108.63** **57** ⇑PKiKP **PKiKP** **09 47 19.2 +0.2**
baz=109
Y28A **McKinney Farm,** **108.69** **56** ⇓PKiKP **PKiKP** **09 47 19.5 +0.4**
baz=109
TRO **Tromso** **109.01** **344** *e*PP PP 09 47 48.0 +1.6
TRO *e*SKSac **SKSac** **09 53 48.9 -0.7**
529A **Stev Forest Ra** **109.02** **60** ⇑PKiKP **PKiKP** **09 47 20.1 +0.3**
baz=109
W29A **Amarillo** **109.07** **55** ⇑PKiKP **PKiKP** **09 47 20.5 +0.7**
baz=109
V29A **Stinnett** **109.09** **54** ⇑PKiKP **PKiKP** **09 47 20.7 +0.9**
baz=109
329A **Wagon Wheel Ra** **109.12** **59** ⇓PKiKP **PKiKP** **09 47 20.4 +0.4**
baz=109
Z29A **Hungry Hill Ra** **109.20** **57** ⇓PKiKP **PKiKP** **09 47 20.6 +0.6**
baz=109
S29A **Ulysses** **109.21** **52** ⇑PKiKP **PKiKP** **09 47 21.1 +1.2**
baz=109
429A **Davenport Ranc** **109.26** **60** ⇑PKiKP **PKiKP** **09 47 20.4 +0.2**
baz=109
E30A **Jud** **109.38** **43** ⇓PKiKP **PKiKP** **09 47 20.9 +1.1**
baz=109
U30A **WK&E Inc. Balk** **109.72** **54** ⇑PKiKP **PKiKP** **09 47 21.4 +0.5**
baz=110
530A **J-C Ranch, Com** **109.78** **60** ⇑PKiKP **PKiKP** **09 47 21.9 +0.8**
baz=110
430A **Baggett Ranch,** **109.81** **60** ⇓PKiKP **PKiKP** **09 47 22.0 +0.8**
baz=110
Y30A **Stafford Cattl** **109.81** **56** ⇑PKiKP **PKiKP** **09 47 22.1 +1.0**
baz=110
ANN **Anapa** **109.82** **315** *i* P **Pdif** **09 43 15.3 -3.2**
ANN *e* 09 47 49.4
ANN *e*PPP PPP 09 50 10.5
ANN *e* 09 53 52.2
ANN *e*SP SP 09 57 18.6 +2.7
ANN *e*SS **SS** **10 03 19.5 +5.7**
ANN pmax pmax
comp=Z,22nm,1.2s
ANN MLR MLR
comp=Z,2µm,25.0s
ANN MLR MLR
comp=E,991nm,25.0s
ANN MLR MLR
comp=N,722nm,25.0s
Y31A **Rekieta Farm,** **110.33** **56** ⇓PKiKP **PKiKP** **09 47 22.8 +0.7**
baz=110
431A **Sonora** **110.36** **60** ⇓PKiKP **PKiKP** **09 47 22.8 +0.6**
baz=110
R31A **Burdett** **110.37** **52** ⇓PKiKP **PKiKP** **09 47 22.8 +0.8**
baz=110
N31A **Bailey Ranch,** **110.40** **49** ⇓PKiKP **PKiKP** **09 47 23.1 +1.1**
baz=110
W31A **Holland Ranch,** **110.45** **55** ⇓PKiKP **PKiKP** **09 47 23.2 +0.9**
baz=110
V31A **Spring Creek L** **110.46** **54** ⇓PKiKP **PKiKP** **09 47 23.4 +1.1**
baz=110
531A **Rocksprings** **110.46** **60** ⇓PKiKP **PKiKP** **09 47 23.0 +0.5**
baz=110
X31A **McDonald Ranch** **110.49** **55** ⇓PKiKP **PKiKP** **09 47 22.7 +0.4**
baz=110
631A **Perdido Creek** **110.49** **61** ⇓PKiKP **PKiKP** **09 47 22.8 +0.4**
baz=110
231A **Bronte** **110.50** **58** ⇑PKiKP **PKiKP** **09 47 22.7 +0.3**
baz=110
Z31A **Sharp Cattle R** **110.50** **57** ⇓PKiKP **PKiKP** **09 47 23.0 +0.5**
baz=110
FINES **FINESS Array B** **110.83** **335** Pdiff **Pdif** **09 43 21.2 -1.4**
comp=N,1.2nm,0.5s,baz=95,slow=4.6,SNR=6.9
FINES PKiKP **PKiKP** **09 47 22.0 -0.1**
comp=N,3.1nm,0.9s,baz=64,slow=3.2,SNR=6.0
FINES PKKPbc **PKKPbc** **09 58 19.1 -3.6**
comp=N,1.7nm,0.7s,baz=182,slow=4.2,SNR=5.9
FINES **FINESS Array B** **110.83** **335** P **Pdif** **09 43 21.2 -1.4**
FINES *i* 09 47 22.0
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES pmax pmax
comp=Z,3.0nm,0.9s
P32A **Huiting Farm,** **110.87** **50** ⇑PKiKP **PKiKP** **09 47 23.8 +0.8**
baz=111
AGMN **Agassiz Nation** **110.98** **40** PFAKE **09 47 30.0**
AGMN LR LR
comp=Z,2µm,20.0s
R32A **Long Quarter,** **110.98** **51** ⇑PKiKP **PKiKP** **09 47 23.9 +0.7**
baz=111
ABTX **Abilene, Hawle** **110.99** **58** ⇓PKiKP **PKiKP** **09 47 23.9 +0.5**
baz=111
432A **Menard** **111.04** **59** ⇓PKiKP **PKiKP** **09 47 24.2 +0.7**
baz=111
Z32A **Haskell** **111.05** **57** ⇑PKiKP **PKiKP** **09 47 23.8 +0.3**
baz=111
232A **Coleman** **111.07** **58** ⇑PKiKP **PKiKP** **09 47 24.0 +0.5**
baz=111
JCT **Junction City** **111.07** **60** *e*PKiKP **PKiKP** **09 47 24.0 +0.4**
JCT MLR MLR
comp=Z,4µm,20.0s
JCT **Junction City** **111.07** **60** ⇑PKiKP **PKiKP** **09 47 24.2 +0.6**
baz=111
JCT **Junction City** **111.07** **60** *e*PKPdf **PKiKP** **09 47 24.0 +0.4**
JCT LR LR
comp=Z,4µm,20.0s
732A **Laxson Ranch,** **111.08** **62** ⇑PKiKP **PKiKP** **09 47 24.4 +0.8**
baz=111
832A **Faith Ranch, C** **111.11** **62** ⇑PKiKP **PKiKP** **09 47 24.6 +0.9**
baz=111
632A **Uvalde** **111.17** **61** ⇓PKiKP **PKiKP** **09 47 24.5 +0.7**
baz=111
WMOK **Wichita Mounta** **111.45** **55** *e*PKiKP **PKiKP** **09 47 24.4 +0.2**
WMOK MLR MLR
comp=Z,3µm,22.0s
WMOK **Wichita Mounta** **111.45** **55** *e*PKPdf **PKiKP** **09 47 24.4 +0.2**
WMOK LR LR
comp=Z,3µm,22.0s
ECSD **EROS Data Cent** **111.55** **45** PFAKE 09 47 40.0
ECSD LR LR
comp=Z,3µm,21.0s
T33A **Patterson Ranc** **111.55** **53** ⇓PKiKP **PKiKP** **09 47 24.9 +0.7**
baz=112
R33A **Olander Ranch,** **111.56** **51** ⇓PKiKP **PKiKP** **09 47 25.0 +0.7**
baz=112
O33A **Hebron** **111.56** **49** ⇓PKiKP **PKiKP** **09 47 25.0 +0.8**
baz=112
133A **Hamilton Ranch** **111.60** **57** ⇑PKiKP **PKiKP** **09 47 25.3 +0.8**
baz=112
833A **Chaparral WMA,** **111.61** **62** ⇑PKiKP **PKiKP** **09 47 25.5 +0.9**
baz=112
433A **Art** **111.66** **59** ⇓PKiKP **PKiKP** **09 47 24.9 +0.3**
baz=112
Y33A **Hilltop Ranch,** **111.67** **56** ⇓PKiKP **PKiKP** **09 47 25.2 +0.6**
baz=112
233A **Rising Star** **111.68** **58** ⇑PKiKP **PKiKP** **09 47 25.0 +0.3**
baz=112
333A **Richland Sprin** **111.69** **59** ⇑PKiKP **PKiKP** **09 47 25.4 +0.7**
baz=112
X33A **Lawton** **111.71** **55** ⇓PKiKP **PKiKP** **09 47 25.2 +0.6**
baz=112
KMBO **Kilima Mbogo** **111.82** **266** PFAKE 09 47 40.0
KMBO LR LR
comp=Z,782nm,20.0s
R34A **Isabella, Hill** **112.14** **51** ⇑PKiKP **PKiKP** **09 47 26.1 +0.7**
baz=112
U34A **Anderson Ranch** **112.21** **53** ⇑PKiKP **PKiKP** **09 47 26.3 +0.8**
baz=112
X34A **Smith Ranch, M** **112.25** **55** ⇓PKiKP **PKiKP** **09 47 26.0 +0.4**
baz=112
534A **Blanco** **112.26** **60** ⇑PKiKP **PKiKP** **09 47 25.9 0.0**
baz=112
Q34A **Chapman** **112.26** **51** ⇑PKiKP **PKiKP** **09 47 26.1 +0.5**
baz=112
134A **White-Moore Ra** **112.31** **57** ⇓PKiKP **PKiKP** **09 47 26.1 +0.2**
baz=112
V34A **Guthrie** **112.32** **54** ⇓PKiKP **PKiKP** **09 47 26.2 +0.4**
baz=112
334A **Lometa** **112.32** **59** ⇓PKiKP **PKiKP** **09 47 26.3 +0.4**
baz=112
234A **Clairette** **112.33** **58** ⇓PKiKP **PKiKP** **09 47 26.4 +0.5**
baz=112
034A **Hebbronville** **112.34** **63** ⇑PKiKP **PKiKP** **09 47 27.2 +1.2**
baz=112
434A **Burnet** **112.35** **59** ⇓PKiKP **PKiKP** **09 47 26.7 +0.7**
baz=112
834A **Tilden** **112.37** **62** ⇓PKiKP **PKiKP** **09 47 27.2 +1.1**
baz=112
Y34A **Reagan Ranch,** **112.40** **56** ⇑PKiKP **PKiKP** **09 47 26.7 +0.7**
baz=112
934A **Benavides** **112.45** **63** ⇑PKiKP **PKiKP** **09 47 27.7 +1.5**
baz=112
KSU1 **Kansas State U** **112.48** **50** PFAKE 09 47 40.0
KSU1 LR LR
comp=Z,3µm,20.0s
V35A **Meyer Ranch, C** **112.88** **54** ⇑PKiKP **PKiKP** **09 47 27.7 +0.9**
baz=113
635A **Leesville** **112.93** **61** ⇑PKiKP **PKiKP** **09 47 28.0 +0.9**
baz=113
435B **Jarrell** **112.94** **59** ⇓PKiKP **PKiKP** **09 47 27.7 +0.6**
baz=113
W35A **Tecumseh** **112.94** **55** ⇑PKiKP **PKiKP** **09 47 27.5 +0.5**
baz=113
T35A **Sooner Cattle** **112.95** **53** ⇓PKiKP **PKiKP** **09 47 27.8 +0.9**
baz=113
735A **Kenedy** **112.96** **61** ⇓PKiKP **PKiKP** **09 47 27.9 +0.7**
baz=113
S35A **Otter Creek Ra** **112.97** **52** ⇑PKiKP **PKiKP** **09 47 27.5 +0.6**
baz=113
Q35A **Mercer Eighty,** **112.97** **50** ⇑PKiKP **PKiKP** **09 47 27.6 +0.7**
baz=113
X35A **Drake** **112.98** **55** ⇓PKiKP **PKiKP** **09 47 27.4 +0.4**
baz=113
KVTX **Kingsville** **113.00** **63** PFAKE 09 47 40.0
KVTX LR LR
comp=Z,3µm,20.0s
335A **Moody** **113.02** **59** ⇓PKiKP **PKiKP** **09 47 27.6 +0.4**
baz=113
NACGM **Naroch** **113.34** **328** *e*PKP **PP** **09 48 17.0 -1.0**
T36A **Boggs Farm, Ca** **113.42** **52** ⇑PKiKP **PKiKP** **09 47 28.3 +0.5**
baz=113
X36A **Centrahoma** **113.46** **55** ⇑PKiKP **PKiKP** **09 47 28.4 +0.4**
baz=113
W36A **Wetumka** **113.47** **54** ⇑PKiKP **PKiKP** **09 47 28.6 +0.6**
baz=113
R36A **Gordon, Harris** **113.48** **51** ⇑PKiKP **PKiKP** **09 47 28.6 +0.7**
baz=113
S36A **Lake Cedric, C** **113.52** **52** ⇑PKiKP **PKiKP** **09 47 28.5 +0.5**
baz=113
636A **Smothers Creek** **113.54** **61** ⇓PKiKP **PKiKP** **09 47 29.1 +0.8**
baz=114
AKASG **Malin Array Be** **113.56** **323** PKiKP **PKiKP** **09 47 27.5 -0.1**
comp=Z,4.4nm,0.9s,baz=63,slow=2.0,SNR=10.0
AKASG PKKPbc **PKKPbc** **09 58 10.3 -3.0**
comp=Z,1.0nm,0.4s,baz=261,slow=4.1,SNR=6.6
AK01 **Malin Array Si** **113.57** **323** *e*PKPdf **PKiKP** **09 47 28.5 +0.9**
KIEV **Kiev** **113.57** **323** PFAKE 09 47 40.0
KIEV LR LR
comp=Z,2µm,22.0s
736A **Circle Diamond** **113.59** **61** ⇑PKiKP **PKiKP** **09 47 29.0 +0.6**
baz=114
BRTR **Keskin Array B** **113.61** **311** PKiKP **PKiKP** **09 47 27.5 -0.8**
comp=Z,1.0nm,0.8s,baz=58,slow=3.5,SNR=4.2
BRTR PKKPbc **PKKPbc** **09 58 11.9 -1.0**
comp=Z,2.4nm,0.8s,baz=220,slow=3.4,SNR=10.0
236A **Katherine and** **113.68** **58** ⇓PKiKP **PKiKP** **09 47 28.7 +0.2**
baz=114
TUL1 **Leonard** **113.69** **54** ⇑PKiKP **PKiKP** **09 47 29.0 +0.7**
baz=114
JMIC **Jan Mayen** **113.75** **352** *e*PP PP 09 48 23.0 +2.7
SPMN **Marine on St.** **113.82** **43** ⇓PKiKP **PKiKP** **09 47 29.0 +0.7**
baz=114
EYMN **Ely** **113.88** **40** PFAKE 09 47 40.0
EYMN LR LR
comp=Z,2µm,22.0s
R37A **Teagarden Farm** **114.00** **51** ⇓PKiKP **PKiKP** **09 47 29.3 +0.4**
baz=114
W37A **Quinton** **114.12** **54** ⇑PKiKP **PKiKP** **09 47 30.3 +1.1**
baz=114
T37A **Cheneyville 18** **114.17** **52** ⇑PKiKP PKPdf 09 47 29.1 -0.1
baz=114
ANTO **Ankara** **114.22** **311** PFAKE 09 47 40.0 +11
ANTO LR LR
comp=Z,785nm,22.0s
X37A **Clayton** **114.25** **55** ⇑PKiKP **PKiKP** **09 47 30.2 +0.7**
baz=114
SCIA **State Center** **114.40** **47** PFAKE 09 47 40.0 +10
SCIA LR LR
comp=Z,2µm,21.0s
CSS **Prodhromos** **114.77** **306** PFAKE 09 47 40.0 +10
CSS LR LR
comp=Z,249nm,22.0s
Z38A **Mt. Pleasant** **114.79** **56** ⇑PKiKP **PKiKP** **09 47 30.9 +0.4**
baz=115
W38A **Poteau** **114.86** **54** ⇓PKiKP PKPdf 09 47 30.5 -0.1
baz=115
KIS **Kishinev** **115.05** **319** *e*PP **PP** **09 48 29.0 -1.4**
KIS **Kishinev** **115.05** **319** *e*PPP PPP 09 51 12.0
KIS **Kishinev** **115.05** **319** *e*PS PS 09 58 03.0 -7.7
KIS **Kishinev** **115.05** **319** *e*PPS PPS 09 59 08.0
KIS *e*L L 10 31 30.0
KIS LRM MLR 10 37 46.0
comp=Z,2µm,21.0s
NATX **Nacogdoches** **115.29** **58** ⇓PKiKP **PKiKP** **09 47 31.9 +0.3**
baz=115
NATX **Nacogdoches** **115.29** **58** PFAKE 09 47 40.0 +8.4
NATX LR LR
comp=Z,2µm,20.0s
Z39A **Irene McRaven,** **115.45** **56** ⇓PKiKP **PKPdf** **09 47 31.5 -0.3**
baz=115
MIAR **Mount Ida** **115.72** **55** PFAKE 09 47 40.0 +7.7
MIAR LR LR
comp=Z,2µm,21.0s
340A **Bronson** **116.00** **58** ⇓PKiKP **PKiKP** **09 47 33.5 +0.6**
baz=116
BOSA **Boshof** **116.04** **234** PKP **PKPdf** **09 47 32.7 -0.6**
comp=Z,14nm,0.8s,baz=85,slow=1.3,SNR=21
BOSA **Boshof** **116.04** **234** PKIKP **PKPdf** **09 47 32.7 -0.6**
BOSA pmax pmax
comp=Z,14nm,0.8s
BOSA **Boshof** **116.04** **234** PKP **PKPdf** **09 47 32.7 -0.6**
BOSA *e*PKPdf **PKiKP** **09 47 32.9 -0.3**
JFWS **Jewell Farm** **116.25** **45** *e*PKIKP **PKPdf** **09 47 34.1 +1.0**
JFWS MLR MLR
comp=Z,3µm,22.0s
JFWS **Jewell Farm** **116.25** **45** *e*PKPdf **PKPdf** **09 47 34.1 +1.0**
JFWS LR LR
comp=Z,3µm,22.0s
ISP **Isparta** **116.41** **309** PFAKE 09 47 50.0 +16
ISP LR LR
comp=Z,616nm,21.0s
TESR **Tescani** **116.62** **319** ⇑*i*P **PKPdf** **09 47 34.2 +0.5**
HFS **Hagfors** **116.63** **337** PKKPbc PKKPbc 09 57 59.4 -3.5
comp=Z,2.5nm,0.8s,baz=174,slow=4.2,SNR=4.6
PLOR **Plostina** **116.85** **319** ⇓*i*P **PKKPab** **09 58 06.9 +2.4**
PLOR S **SP** **09 58 22.9 +2.5**
PLOR **Plostina** **116.85** **319** ⇓*i*P **PKKPab** **09 58 06.9 +2.4**
PLOR *i* S **SP** **09 58 22.9 +2.5**
NB2 **NORSAR Subarra** **116.97** **339** PKPdf **PKPdf** **09 47 33.7 -0.3**
comp=Z,0.9nm,0.7s,baz=44,slow=1.9
NB2 **NORSAR Subarra** **116.97** **339** PKPdf **PKPdf** **09 47 33.7 -0.3**
baz=44,slow=1.9
NOA **NORSAR Array B** **116.97** **339** PKP **PKPdf** **09 47 32.9 -1.1**
comp=Z,2.6nm,0.9s,baz=48,slow=2.0,SNR=6.6
NOA PKKPbc **PKKPbc** **09 58 00.2 -1.7**
comp=Z,2.1nm,0.8s,baz=230,slow=3.6,SNR=7.0
NC602 **NORSAR Array S** **117.06** **338** *e*PP PP 09 48 47.4 +3.6
BURAR **Bucovina Array** **117.13** **321** ⇓*i*P **PKPdf** **09 47 36.1 +1.3**
LBTB **Lobatse** **117.14** **238** PKP **PKPdf** **09 47 34.9 -0.6**
comp=Z,15nm,0.7s,baz=146,slow=3.7,SNR=24
LBTB **Lobatse** **117.14** **238** PKIKP **PKPdf** **09 47 34.9 -0.6**
LBTB pmax pmax
comp=Z,15nm,0.7s
LBTB **Lobatse** **117.14** **238** PKP **PKPdf** **09 47 34.9 -0.6**
LBTB *e*PKPdf **PKiKP** **09 47 35.7 +0.2**
MLR **Muntele Rosu** **117.44** **319** PKKPbc PKKPbc **09 57 55.0** -4.9
comp=Z,1.9nm,0.6s,baz=220,slow=4.6,SNR=13
MLR **Muntele Rosu** **117.44** **319** ⇑*i*P **PKPdf** **09 47 35.5 0.0**
MLR **Muntele Rosu** **117.44** **319** ⇑*i*P **PKKPbc** **09 57 54.9 -4.9**
MLR **Muntele Rosu** **117.44** **319** S **PKKPab** **09 58 02.0 0.0**
MLR **Muntele Rosu** **117.44** **319** ⇑*i*P **PKKPbc** **09 57 54.9 -4.9**
MLR *i* S **PKKPab** **09 58 02.0 0.0**
HDIL **Hopedale** **117.61** **47** PFAKE 09 47 50.0 +14
HDIL LR LR
comp=Z,2µm,20.0s
DOPR **Dopca** **117.63** **319** ⇑*i*P **PKPdf** **09 47 37.3 +1.6**
DOPR **Dopca** **117.63** **319** ⇓*i*P **PKKPbc** **09 57 59.7 +0.7**
DOPR **Dopca** **117.63** **319** ⇓*i*P **PKKPbc** **09 57 59.7 +0.7**
DOPR *i* S PKKPab 09 58 10.1 +9.1
SFJD **Kangerlussuaq** **117.74** **9** *i* P **PP** **09 48 46.5 -1.8**
SFJD *e*S **PS** **09 58 31.7 -2.5**
comp=Z,2µm,21.0s
SFJD **Kangerlussuaq** **117.74** **9** PFAKE 09 47 50.0 +15
SFJD LR LR
comp=Z,2µm,22.0s
EFI **East Falkland** **117.78** **161** PFAKE 09 47 50.0 +14
EFI LR LR
comp=Z,1µm,21.0s
SUR **Sutherland** **117.85** **228** PKP **PKPdf** **09 47 37.3 +0.5**
comp=Z,12nm,0.8s,baz=139,slow=2.6,SNR=9.1
SUR **Sutherland** **117.85** **228** PKP **PKPdf** **09 47 37.3 +0.5**
SUR LR LR
comp=Z,3µm,21.0s
OSL **Oslo** **117.89** **338** *e* 09 46 20.0
LSZ **Lusaka** **117.93** **249** PKP **PKPdf** **09 47 37.3 +0.1**
comp=Z,12nm,0.6s,baz=81,slow=3.0,SNR=5.2
LSZ **Lusaka** **117.93** **249** *e*PKIKP **PKPdf** **09 47 37.4 +0.1**
LSZ MLR MLR
comp=Z,1µm,19.0s
LSZ **Lusaka** **117.93** **249** *e*PKPdf **PKPdf** **09 47 37.4 +0.1**
LSZ LR LR
comp=Z,1µm,19.0s
VOIR **118.05** **319** ⇑*i*P **PKPdf** **09 47 36.8 +0.2**
VOIR **118.05** **319** ⇓*i*P PKKPbc 09 57 51.6 -6.0
VOIR **118.05** **319** S **PKKPbc** **09 57 56.2 -1.4**
VOIR **118.05** **319** ⇓*i*P PKKPbc 09 57 51.6 -6.0
VOIR *i* S **PKKPbc** **09 57 56.2 -1.4**
MTUR **Matau** **118.12** **319** ⇓*i*P PKKPbc 09 57 51.1 -6.3
MTUR **Matau** **118.12** **319** ⇓*i*P PKKPbc 09 57 51.1 -6.3
ARR **Arges** **118.35** **319** ⇑*i*P **PKPdf** **09 47 39.0 +1.9**
ARR **Arges** **118.35** **319** ⇓*i*P **PKKPab** **09 57 57.1 -0.9**
ARR **Arges** **118.35** **319** ⇓*i*P **PKKPab** **09 57 57.1 -0.9**
ARR *i* S PKKPab 09 58 04.2 +6.2
MBAR **Mbarara** **118.35** **266** PFAKE 09 47 50.0 +12
MBAR LR LR
comp=Z,1µm,20.0s
KOLS **Kolonicke sedl** **118.39** **323** *e*PKIKP **PKPdf** **09 47 37.9 +0.9**
KOLS **Kolonicke sedl** **118.39** **323** *e*PKP **PKPdf** **09 47 37.9 +0.9**
KONO **Kongsberg** **118.51** **338** PFAKE 09 47 50.0 +13
KONO LR LR
comp=Z,3µm,22.0s
TRPA **Tarpa** **118.57** **322** ⇑*i*P **PKPdf** **09 47 36.7 -0.6**
STHS **Stebnicka Huta** **118.78** **324** *e*PKIKP **PKPdf** **09 47 39.3 +1.5**
STHS **Stebnicka Huta** **118.78** **324** *e*PKP **PKPdf** **09 47 39.3 +1.5**
BSD **Bornholm Skovb** **119.16** **332** *i* P **PP** **09 48 56.9 -1.6**
comp=Z,4µm,22.0s
NIE **Niedzica** **119.32** **324** *e*PKPdf **PKPdf** **09 47 40.2 +1.4**
NIE *e*PP **PP** **09 49 01.1 +1.1**
NIE **Niedzica** **119.32** **324** *e*PKIKP **PKPdf** **09 47 40.3 +1.4**
NIE *e* 09 49 01.2
GLMI **Grayling** **119.43** **41** PFAKE 09 47 50.0 +11
GLMI LR LR
comp=Z,2µm,20.0s
HOPE **Hope Point** **119.57** **176** PFAKE 09 47 50.0 +11
HOPE LR LR
comp=Z,4µm,22.0s
COP **Copenhagen** **119.95** **333** *i* P PP 09 48 51.0 -13
comp=Z,2µm,20.0s
BLO **Bloomington** **120.06** **48** *e*PKIKP **PKPdf** **09 47 40.3 -0.2**
BLO **Bloomington** **120.06** **48** *e*PKPdf **PKPdf** **09 47 40.3 -0.2**
PAYG **Puerto Ayora** **120.10** **94** PFAKE 09 47 50.0 +8.7
PAYG LR LR
comp=Z,951nm,19.0s
BZS **Buzias** **120.20** **320** ⇑*i*P **PKPdf** **09 47 40.0 -0.6**
PSZ **Piszkesteto** **120.26** **323** *e*PKIKP **PKPdf** **09 47 40.7 0.0**
PSZ MLR MLR
comp=Z,1µm,19.0s
PSZ **Piszkesteto** **120.26** **323** ⇑*i*P **PKPdf** **09 47 42.3 +1.6**
PSZ **Piszkesteto** **120.26** **323** *e*PKPdf **PKPdf** **09 47 40.7 0.0**
PSZ LR LR
comp=Z,1µm,19.0s
VTS **Vitosha** **120.33** **316** ⇑*i*P **PKPdf** **09 47 41.6 +0.5**
OKC **Ostrava-Krasne** **120.36** **326** *e*PS PS 09 58 58.2 -0.2
OKC AMS AMS 10 38 50.0
comp=Z,4µm,24.7s
WCI **Wyandotte Cave** **120.52** **49** *e*PKIKP **PKPdf** **09 47 41.4 -0.1**
WCI **Wyandotte Cave** **120.52** **49** *e*PKPdf **PKPdf** **09 47 41.4 -0.1**
PLCA **Paso Flores** **120.69** **145** PKP **PKPdf** **09 47 42.0 +0.2**
comp=Z,18nm,0.7s,baz=238,slow=2.2,SNR=34
PLCA SKKP 10 01 57.8
comp=Z,5.4nm,1.1s,baz=13,slow=9.4,SNR=3.0
PLCA **Paso Flores** **120.69** **145** *e*PKPdf **PKPdf** **09 47 41.6 -0.2**
PLCA PKP **PKPdf** **09 47 42.0 +0.2**
PLCA SKKP 10 01 57.8
SANT **Santorini** **120.69** **309** PFAKE 09 47 50.0 +8.1
SANT LR LR
comp=Z,510nm,20.0s
KSP **Ksiaz** **120.86** **327** *e*PKPdf PKPdf 09 47 34.8 -6.9
KSP **Ksiaz** **120.86** **327** *e*PKIKP PKPdf 09 47 34.9 -6.8
AAM **Ann Arbor** **121.04** **44** PFAKE 09 47 50.0 +7.7
AAM LR LR
comp=Z,3µm,21.0s
DPC **Dobruska-Polom** **121.10** **327** *e*PKPdf **PKPdf** **09 47 43.1 +0.9**
DPC *e*PP **PP** **09 49 13.1 +1.0**
DPC *e*SP SP 09 58 59.5 +1.4
DPC AMS AMS 10 40 30.0
comp=Z,4µm,21.0s
DPC **Dobruska-Polom** **121.10** **327** *e*PKIKP **PKPdf** **09 47 43.1 +0.9**
DPC *e* 09 49 13.1
DPC *e*PS **PS** **09 58 59.5 -5.7**
DPC MLR MLR
comp=Z,4µm,21.0s
LRAL **Lakeview Retre** **121.39** **55** *e*PKPdf **PKPdf** **09 47 42.1 -1.1**
VRAC **Vranov** **121.50** **326** ⇑*i*P **PKPdf** **09 47 43.9 +0.9**
BRAL **Brewton** **121.82** **57** PFAKE 09 48 00.0 +16
BRAL LR LR
comp=Z,2µm,19.0s
DIVS **Divibare** **121.89** **319** ⇑*i*P **PKPdf** **09 47 43.5 -0.5**
PVCC **Panska Ves** **121.95** **328** AMS AMS 10 41 50.0
comp=Z,3µm,19.8s
BSEG **Bad Segeberg** **122.00** **333** *e*PKPdf **PKPdf** **09 47 45.0 +1.3**

BRG	Berggiesshubel	122.08	328	ePKP	PKPdf	09 47 44.7	+0.6
	comp=Z,15nm,0.9s						
BRG				e		09 48 06.2	
	comp=Z,16nm,1.0s						
BRG				PP	PP	09 49 18.0	-0.7
BRG				SS	SS	10 06 34.0	+41
	comp=N,1µm,20.6s						
	comp=E,2µm,23.4s						
	comp=Z,3µm,20.9s						
BRG	Berggiesshubel	122.08	328	ePKPdf	PKPdf	09 47 44.3	+0.3
BRG	Berggiesshubel	122.08	328	ePKIKP	PKPdf	09 47 44.7	+0.6
BRG						09 49 18.0	
BRG				pmax	pmax		
	comp=Z,15nm,0.9s						
BRG				MLR	MLR		
	comp=N,1µm,20.6s						
BRG				MLR	MLR		
	comp=E,2µm,23.4s						
BRG				MLR	MLR		
	comp=Z,3µm,20.9s						
TREC	Trest	122.12	326	AMS	AMS	10 40 10.0	
	comp=Z,5µm,22.1s						
GOPC	GO Pecny, Ondr	122.17	327	AMS	AMS	10 41 20.0	
	comp=Z,4µm,21.1s						
PRU	Pruhonice	122.26	327	ePKPdf	PKPdf	09 47 45.1	+0.7
PRU				ePP	PP	09 49 18.2	-1.7
PRU				eSP	SP	09 59 10.4	+2.1
PRU				AMS	AMS	10 41 20.0	
	comp=Z,4µm,20.9s						
PRU	Pruhonice	122.26	327	ePKIKP	PKPdf	09 47 45.1	+0.7
PRU				e		09 49 18.2	
PRU				ePS	PS	09 59 10.4	-4.9
PRU				MLR	MLR		
	comp=Z,4µm,20.9s						
PRA	Prague	122.27	327	AMS	AMS	10 41 40.0	
	comp=Z,3µm,21.0s						
ACSO	Alum Creek Sta	122.28	46	ePKPdf	PKPdf	09 47 43.9	-0.8
ACSO				LR	LR		
	comp=Z,3µm,19.0s						
CLL	Collm	122.32	329	ePKPdf	PKPdf	09 47 45.1	+0.6
CLL	Collm	122.32	329	i PKPdf	PKPdf	09 47 45.1	+0.6
	comp=Z,15nm,0.9s						
CLL				esPKPdf	sPKPdf	09 47 59.0	-6.3
CLL				e		09 48 06.0	
CLL				ePP	PP	09 49 25.0	+4.8
CLL				ePPP	PPP	09 51 55.0	
CLL				ePS	PS	09 59 11.0	-4.8
CLL				ePPS	PPS	10 00 37.0	
CLL				ePPPrev		10 05 18.0	
CLL				eSS	SS	10 06 36.0	+40
CLL				eSSS	SSS	10 10 36.0	
CLL				e		10 15 36.0	
CLL				e		10 18 36.0	
CLL				Lm	MLR	10 41 00.0	
	comp=N,3µm,20.9s						
CLL				Lm	MLR	10 41 00.0	
	comp=E,3µm,21.0s						
CLL				Lm	MLR	10 41 00.0	
	comp=Z,5µm,21.6s						
CLL	Collm	122.32	329	i PKIKP	PKPdf	09 47 45.1	+0.6
CLL				e		09 47 59.0	
CLL				e		09 49 25.0	
CLL				pmax	pmax		
	comp=Z,15nm,0.9s						
CLL				MLR	MLR		
	comp=Z,5µm,21.6s						
TEIG	Tepich	122.47	70	PFAKE		09 48 00.0	+14
TEIG				LR	LR		
	comp=Z,915nm,19.0s						
CONA	Conrad Observa	122.62	325⇓	i PKiKP	PKPdf	09 47 45.3	0.0
	comp=Z,7.2nm,0.8s						
NRDL	Niedersach Rie	123.02	332	ePKPdf	PKPdf	09 47 46.1	+0.4
TIR	Tirane	123.11	316	PFAKE		09 48 00.0	+14
TIR				LR	LR		
	comp=Z,2µm,22.0s						
TANN	Tannenbergstha	123.12	329	ePKPdf	PKPdf	09 47 46.4	+0.3
TKL	Tuckaleechee C	123.23	51	ePKIKP	PKPdf	09 47 46.6	-0.1
TKL	Tuckaleechee C	123.23	51	ePKPdf	PKPdf	09 47 46.6	-0.1
NKC	Novy Kostel	123.23	328	ePKPdf	PKPdf	09 47 47.1	+0.8
NKC				AMS	AMS	10 40 30.0	
	comp=Z,2µm,21.7s						
NKC	Novy Kostel	123.23	328	ePKIKP	PKPdf	09 47 47.1	+0.8
NKC				MLR	MLR		
	comp=Z,2µm,21.7s						
KHC	Kasperske Hory	123.26	327	ePKPdf	PKPdf	09 47 46.9	+0.5
KHC				ex	x	09 48 09.0	
KHC				ePP	PP	09 49 22.5	-4.3
KHC				ePS	PS	09 59 23.3	-1.0
KHC				AMS	AMS	10 42 00.0	
	comp=Z,4µm,21.1s						
KHC	Kasperske Hory	123.26	327	ePKIKP	PKPdf	09 47 46.9	+0.5
KHC				e		09 49 22.5	
KHC				ePS	PS	09 59 23.3	-1.0
KHC				MLR	MLR		
	comp=Z,4µm,21.1s						
KHC	Kasperske Hory	123.26	327	ePKPdf	PKPdf	09 47 46.5	+0.1
CLZ	Clausthal	123.30	331	ePKPdf	PKPdf	09 47 46.8	+0.4
GEC2	GERESS Array S	123.35	326	ePKPdf	PKPdf	09 47 46.5	-0.2
GERES	GERESS Array B	123.35	326	PKP	PKPdf	09 47 46.2	-0.5
	comp=Z,8.8nm,0.8s,baz=48,slow=2.0,SNR=51						
GERES				PKKPab	PKKPab	09 57 35.5	-0.7
	comp=Z,0.5nm,0.5s,baz=232,slow=1.5,SNR=4.0						
MOX	Moxa	123.42	329	ePKPdf	PKPdf	09 47 47.2	+0.6
MOX				eL	L	10 41 57.7	
	comp=N,2µm,21.2s						
SCHQ	Schefferville	123.47	24	PKP	PKPdf	09 47 46.6	0.0
	comp=N,4.5nm,0.8s,baz=27,slow=0.9,SNR=7.8						
SCHQ				PKKPbc	PKKPab	09 57 35.9	+0.5
	comp=N,2.6nm,0.7s,baz=126,slow=2.0,SNR=4.7						
WET	Wettzell	123.63	327	ePKPdf	PKPdf	09 47 47.4	+0.3
PERS	Pernice	123.73	324	i PKPdf	PKPdf	09 47 48.0	+0.5
PERS				e		09 50 11.4	
SOKA	Soboth	123.75	324	i PKiKP	PKPdf	09 47 47.7	+0.2
	comp=N,9.4nm,0.9s,SNR=6.0						
TGUH	Tegucigalpa,Un	123.83	77	ePKPdf	PKPdf	09 47 48.9	+0.5
TGUH				LR	LR		
	comp=Z,1µm,19.0s						
UBBA	Unterbreizbach	124.12	330	ePKPdf	PKPdf	09 47 48.8	+1.0
GRF	Grafenberg Arr	124.19	328	ePKPdf	PKPdf	09 47 48.7	+0.5
GRF				eL	L	10 42 50.3	
	comp=N,2µm,20.2s						
BOJS	Bojanci	124.22	322	ePKPdf	PKPdf	09 47 48.4	0.0
BOJS				i		09 50 14.5	
IBBN	Ibbenburen	124.24	333	ePKPdf	PKPdf	09 47 48.9	+0.8
VISS	Visnje	124.32	323	i PKPdf	PKPdf	09 47 49.5	+1.0
VISS				i		09 50 13.8	
LJU	Ljubljana	124.38	323	ePKPdf	PKPdf	09 47 49.0	+0.4
RJOB	Jochberg	124.47	326	ePKPdf	PKPdf	09 47 48.5	-0.3
KBA	Koelnbreinsper	124.52	325⇑	i PKPdf	PKPdf	09 47 48.7	-0.4
	comp=N,9.3nm,0.9s						
MYKA	Terra Mystica	124.59	324⇑	i PKiKP	PKPdf	09 47 49.1	0.0
	comp=N,4.6nm,0.7s						
TIGA	Tifton	124.59	56	⇑PKiKP	PKiKP	09 47 49.7	0.0
	baz=124						
TIGA	Tifton	124.59	56	ePKPdf	PKPdf	09 47 49.5	0.0
JAVS	Javornik	124.74	323	i P	PKPdf	09 47 49.9	+0.5
JAVS				e		09 50 13.8	
BUG	Bochum--Univer	125.04	332	ePKPdf	PKPdf	09 47 50.2	+0.5
ABTA	Abfaltersbach	125.18	325⇑	i PKPdf	PKPdf	09 47 49.8	-0.5
	comp=N,16nm,0.9s,SNR=7.1						
BLA	Blacksburg	125.25	48	ePKIKP	PKPdf	09 47 50.4	-0.2
BLA				MLR	MLR		
	comp=Z,2µm,22.0s						
BLA	Blacksburg	125.25	48	ePKPdf	PKPdf	09 47 50.4	-0.2
BLA				LR	LR		
	comp=Z,2µm,22.0s						
TNS	Taunus Mts	125.27	330	ePKPdf	PKPdf	09 47 50.8	+0.5
KMSC	Kings Mountain	125.28	51	ePKPdf	PKPdf	09 47 51.2	+0.5
WTTA	Wattenberg	125.39	326⇑	i PKPdf	PKPdf	09 47 50.3	-0.5
	comp=Z,26nm,0.9s,SNR=8.9						
MOTA	Moosalm	125.64	326⇑	i PKiKP	PKPdf	09 47 51.1	-0.1
	comp=Z,19nm,0.8s,SNR=14						
SSPA	Standing Stone	125.67	43	ePKPdf	PKPdf	09 47 51.2	0.0
LONY	Lake Ozonia	125.89	38	PFAKE		09 48 00.0	+8.4
LONY				LR	LR		
	comp=Z,2µm,20.0s						
FETA	Feichten	126.03	326⇓	i PKiKP	PKPdf	09 47 52.0	0.0
	comp=Z,21nm,1.0s,SNR=9.2						
JTS	JuntasAbangare	126.16	82	ePKIKP	PKPdf	09 47 52.1	-0.8
JTS				MLR	MLR		
	comp=Z,2µm,20.0s						
JTS	JuntasAbangare	126.16	82	ePKPdf	PKPdf	09 47 52.1	-0.8
JTS				LR	LR		
	comp=Z,2µm,20.0s						
TIP	Timpagrande	126.16	315	PFAKE		09 48 00.0	+7.7
TIP				LR	LR		
	comp=Z,1µm,22.0s						
MEM	Membach	126.19	332	PKP	PKPdf	09 47 53.2	+1.3
TSUM	Tsumeb	126.22	241	PKP	PKPdf	09 47 53.0	-0.1
	comp=Z,25nm,0.8s,baz=118,slow=2.2,SNR=58						
TSUM	Tsumeb	126.22	241	ePKPdf	PKPdf	09 47 53.0	-0.1
TSUM				LR	LR		
	comp=Z,2µm,21.0s						
BINY	Binghamton	126.22	41	PFAKE		09 48 00.0	+7.7
BINY				LR	LR		
	comp=Z,3µm,21.0s						
ESK	Eskdalemuir	126.30	341	PFAKE		09 48 00.0	+8.0
ESK				LR	LR		
	comp=Z,2µm,22.0s						
DAVA	Damuels	126.34	327⇑	i PKPdf	PKPdf	09 47 52.1	-0.4
	comp=Z,20nm,0.9s,SNR=6.9						
LANF	Langenberg	126.39	329	PKP	PKPdf	09 47 52.7	+0.3
NCB	Newcomb	126.45	38	PFAKE		09 48 00.0	+7.3
NCB				LR	LR		
	comp=Z,2µm,21.0s						
CUC	Castrocucco	126.47	316	PFAKE		09 48 00.0	+7.1
CUC				LR	LR		
	comp=Z,601nm,22.0s						
BFO	Black Forest	126.53	328	ePKPdf	PKPdf	09 47 53.3	+0.6
BFO	Black Forest	126.53	328	ePKIKP	PKPdf	09 47 53.5	+0.8
BFO				MLR	MLR		
	comp=Z,3µm,20.0s						
BFO	Black Forest	126.53	328	ePKPdf	PKPdf	09 47 53.5	+0.8
BFO				LR	LR		
	comp=Z,3µm,20.0s						
BCLA	Clavier	126.65	332	PKP	PKPdf	09 47 54.1	+1.4
WLF	Walferdange	126.76	331	ePKPdf	PKPdf	09 47 54.6	+1.6
WLF	Walferdange	126.76	331	PFAKE		09 48 10.0	+17
WLF				LR	LR		
	comp=Z,6µm,20.0s						
NHSC	New Hope	126.86	53	PFAKE		09 48 10.0	+16
NHSC				LR	LR		
	comp=Z,2µm,20.0s						
AQU	L'Aquila	126.96	320	PFAKE		09 48 10.0	+16
AQU				LR	LR		
	comp=Z,2µm,20.0s						
SNF	Seneffe	127.06	333	PKP	PKPdf	09 47 54.5	+1.0
CBN	Corbin Frederi	127.08	46	PFAKE		09 48 10.0	+16
CBN				LR	LR		
	comp=Z,3µm,20.0s						
TUE	Stuetta	127.12	326	PFAKE		09 48 10.0	+16
TUE				LR	LR		
	comp=Z,5µm,22.0s						
CEL	Celeste	127.16	314	ePKPdf	PKPdf	09 47 54.0	-0.3
CEL				LR	LR		
	comp=Z,2µm,22.0s						
DOU	Dourbes	127.20	332	PKP	PKPdf	09 47 54.8	+1.0
ECH	Echery	127.21	329	PKP	PKPdf	09 47 55.7	+1.7
ECH	Echery	127.21	329	PFAKE		09 48 10.0	+16
ECH				LR	LR		
	comp=Z,3µm,22.0s						
TRQA	Tornquist	127.23	149	ePKPdf	PKPdf	09 47 54.2	-0.1
TRQA				LR	LR		
	comp=Z,2µm,20.0s						
MOF	Molkenrain	127.45	329	PKP	PKPdf	09 47 54.9	+0.3
THEF	They Montfort	127.79	330	PKP	PKPdf	09 47 55.7	+0.6
VLC	Villacollemand	127.87	323	PFAKE		09 48 10.0	+15
VLC				LR	LR		
	comp=Z,3µm,22.0s						
CNNC	Cliffs of the	127.88	50	PFAKE		09 48 10.0	+14
CNNC				LR	LR		
	comp=Z,4µm,21.0s						
LOMF	Lomont	127.93	328	PKP	PKPdf	09 47 55.1	-0.4
MENF	Mencas	127.97	334	PKP	PKPdf	09 47 56.5	+1.2
LCO	Las Campanas	127.97	134	ePKPdf	PKPdf	09 47 56.7	+0.3
LCO				LR	LR		
	comp=Z,1µm,22.0s						
CFAA	Coronel Fontan	128.07	139	PKP	PKPdf	09 47 56.1	-0.1
	comp=Z,8.5nm,0.7s,baz=248,slow=2.9,SNR=116						
PKME	Peaks-Kenny Pk	128.62	34	PFAKE		09 48 10.0	+13
PKME				LR	LR		
	comp=Z,2µm,22.0s						
WDD	Wield Dalam	129.16	312	PFAKE		09 48 10.0	+12
WDD				LR	LR		
	comp=Z,1µm,22.0s						
CLTB	Caltabellotta	129.37	315	PFAKE		09 48 10.0	+11
CLTB				LR	LR		
	comp=Z,623nm,20.0s						
BNI	Bardonecchia	129.47	326	ePKIKP	PKPdf	09 47 55.8	-2.7
BNI				MLR	MLR		
	comp=Z,4µm,20.0s						
BNI	Bardonecchia	129.47	326	ePKPdf	PKPdf	09 47 55.8	-2.7
BNI				LR	LR		
	comp=Z,4µm,20.0s						
SSB	Saint Sauveur	130.48	328	PFAKE		09 48 10.0	+10
SSB				LR	LR		
	comp=Z,2µm,22.0s						
PLDF	La Plantade	130.50	329	PKP	PKPdf	09 48 03.1	+2.7
ATAH	Atahualpa	130.58	105	PKP	PKPdf	09 48 03.1	+1.2
	comp=Z,58nm,0.8s,baz=177,slow=1.9,SNR=25						
ATAH				SKPbc	SKPab	09 51 22.5	+0.9
	comp=Z,10nm,0.7s,baz=230,slow=5.5,SNR=3.6						
NNA	Nana	130.66	111	PKP	PKPdf	09 48 02.3	+0.7
	comp=Z,30nm,0.8s,baz=267,slow=6.1,SNR=14						
NNA	Nana	130.66	111	PKIKP	PKPdf	09 48 02.3	+0.7
NNA				pmax	pmax		
	comp=Z,30nm,0.8s						
NNA	Nana	130.66	111	ePKPdf	PKPdf	09 48 02.2	+0.7
NNA				LR	LR		
	comp=Z,1µm,20.0s						
PYM	Petit Puy Mans	130.97	329	PKP	PKPdf	09 48 03.5	+2.2
VSL	Villasalto	131.04	319	PFAKE		09 48 10.0	+8.5
VSL				LR	LR		
	comp=Z,976nm,19.0s						
LBL	Lubilhac	131.20	328	PKP	PKPdf	09 48 02.0	+0.3
BCIP	Isla Barro Col	131.20	83	PFAKE		09 48 10.0	+7.5
BCIP				LR	LR		
	comp=Z,1µm,19.0s						
OTAV	Otavalo	131.95	95	ePKPdf	PKPdf	09 48 05.2	+0.7
OTAV				LR	LR		
	comp=Z,929nm,19.0s						
MTDJ	Mount Denham	132.78	71	PFAKE		09 48 20.0	+15
MTDJ				LR	LR		
	comp=Z,904nm,20.0s						
LVC	Limon Verde	132.90	129	PKP	PKPdf	09 48 05.2	-0.7
	comp=Z,61nm,0.6s,baz=272,slow=3.0,SNR=29						
LVC				SKPbc	SKPbc	09 51 30.3	+0.9
	comp=Z,34nm,1.0s,baz=200,slow=3.7,SNR=2.5						
LVC	Limon Verde	132.90	129	PKP	PKPdf	09 48 05.2	-0.7
LVC				ePKPdf	PKiKP	09 48 06.9	-0.2
LVC				SKPbc	SKPbc	09 51 30.3	+0.9
LVC				LR	LR		
	comp=Z,2µm,21.0s						
KEST	Kesra	132.98	314	PKP	PKPdf	09 48 05.8	+0.4
	comp=Z,2.6nm,0.8s,baz=273,slow=4.9,SNR=6.1						
GTBY	Guantanamo Bay	134.75	68	PFAKE		09 48 20.0	+11
GTBY				LR	LR		
	comp=Z,1µm,22.0s						
MSKU	Masuku	135.12	261	SKPbc	SKPbc	09 51 37.2	+0.5
	comp=Z,42nm,1.0s,baz=100,slow=0.9,SNR=11						
ROSC	El Rosal	136.52	89	PKhKP	PKPpre	09 48 04.9	
	comp=Z,14nm,0.6s,baz=128,slow=2.6,SNR=10.0						
ROSC				PKP	PKiKP	09 48 14.2	-0.6
	comp=Z,48nm,0.9s,baz=268,slow=3.5,SNR=17						
ROSC	El Rosal	136.52	89	PKPpre	PKPpre	09 48 04.9	
ROSC				ePKPdf	PKPdf	09 48 13.4	+0.4
ROSC				PKP	PKiKP	09 48 14.2	-0.6
LPAZ	La Paz	136.73	122	PKhKP	PKPpre	09 48 02.5	
	comp=Z,7.0nm,0.8s,baz=231,slow=1.0,SNR=25						
LPAZ				PKP	PKiKP	09 48 14.6	-0.8
	comp=Z,36nm,0.8s,baz=358,slow=2.4,SNR=28						
LPAZ				SKPbc	SKPbc	09 51 43.1	+0.9
	comp=Z,1.4nm,0.7s,baz=214,slow=3.6,SNR=1.8						
LPAZ	La Paz	136.73	122	PKHKP	PKPpre	09 48 02.5	
LPAZ						09 48 14.6	
LPAZ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,36nm,0.8s						
LPAZ	La Paz	136.73	122	PKPpre	PKPpre	09 48 02.5	
LPAZ				ePKPdf	PKPdf	09 48 13.7	+0.1
LPAZ				PKP	PKiKP	09 48 14.6	-0.8
LPAZ				SKPbc	SKPbc	09 51 43.1	+0.9
GRTK	Grand Turk	138.01	65	PFAKE		09 48 30.0	+15
GRTK				LR	LR		
	comp=Z,2µm,22.0s						
SDDR	Presa de Saban	138.47	68	ePKPdf	PKPdf	09 48 16.9	+0.9
SDDR				LR	LR		
	comp=Z,1µm,19.0s						
CPUP	Villa Florida	138.61	142	ePKIKP	PKPdf	09 48 16.8	+0.7
CPUP	Villa Florida	138.61	142	ePKPdf	PKPdf	09 48 16.8	+0.7
CPUP				eSKPbc	SKiKP	09 51 49.3	-1.0
ESDC	Sonseca Array	138.89	328	PKhKP	PKPpre	09 48 08.9	
	comp=Z,0.2nm,0.3s,baz=15,slow=5.3,SNR=2.6						
ESDC				PKP	PKPdf	09 48 16.8	+0.6
	comp=Z,0.6nm,0.5s,baz=65,slow=1.5,SNR=6.0						
ESDC				SKPbc	SKPbc	09 51 47.1	0.0
	comp=Z,0.2nm,0.3s,baz=56,slow=1.4,SNR=4.0						
BBSR	BB Station	138.95	46	PFAKE		09 48 30.0	+14
BBSR				LR	LR		
	comp=Z,2µm,22.0s						
PGAV	Gavieira, Arco	139.18	334	eS	S'S'ac	10 11 11.1	+4.0
PGAV	Gavieira, Arco	139.18	334	eP	x	10 40 19.7	
PGAV				A	A	10 51 57.3	
	comp=Z,3µm,22.0s						
PGAV	Gavieira, Arco	139.18	334	eS	S'S'ac	10 11 11.1	+4.0
PGAV	Gavieira, Arco	139.18	334	eP	x	10 40 19.7	
PGAV				A	A	10 51 57.3	
	comp=Z,3µm,22.0s						
PAB	San Pablo	139.19	328	ePKIKP	PKPdf	09 48 17.4	+0.6
PAB				MLR	MLR		
	comp=Z,2µm,22.0s						
PAB	San Pablo	139.19	328	ePKPdf	PKPdf	09 48 17.4	+0.6
PAB				LR	LR		
	comp=Z,2µm,22.0s						
MVO	Moncorvo	139.27	332	ePKPdf	PKPdf	09 48 19.3	+2.4
MVO	Moncorvo	139.27	332	eS	x	10 10 13.2	
MVO	Moncorvo	139.27	332	eP	x	10 40 15.6	
MVO				A	A	10 55 15.5	
	comp=Z,2µm,18.0s						
MVO	Moncorvo	139.27	332	ePKPdf	PKPdf	09 48 19.3	+2.4
MVO	Moncorvo	139.27	332	eS	x	10 10 13.2	
MVO	Moncorvo	139.27	332	eP	x	10 40 15.6	
MVO				A	A	10 55 15.5	
	comp=Z,2µm,18.0s						
PVRL	Vila Real	139.49	333	ePKPdf	PKPdf	09 48 19.1	+1.8
PVRL	Vila Real	139.49	333	ePKPdf	PKPdf	09 48 19.1	+1.8
MTE	Manteigas	140.11	332	PFAKE		09 48 30.0	+12
MTE				LR	LR		
	comp=Z,2µm,20.0s						
MTE	Manteigas	140.11	332	ePKPdf	PKPdf	09 48 20.3	+1.8
MTE	Manteigas	140.11	332	eS	S'S'ac	10 11 15.7	+1.5
MTE	Manteigas	140.11	332	eP	x	10 40 49.4	
MTE				A	A	10 54 30.8	
	comp=Z,2µm,20.0s						
MTE	Manteigas	140.11	332	ePKPdf	PKPdf	09 48 20.3	+1.8
MTE	Manteigas	140.11	332	eS	S'S'ac	10 11 15.7	+1.5
MTE	Manteigas	140.11	332	eP	x	10 40 49.4	
MTE				A	A	10 54 30.8	
	comp=Z,2µm,20.0s						
SMN1	Samana, DR	140.28	67	ePKPdf	PKPdf	09 48 20.4	+1.1
SDV	Santo Domingo	140.29	84	ePKPdf	PKPdf	09 48 19.8	+0.1
SDV				LR	LR		
	comp=Z,1µm,22.0s						
PCBR	Castelo Branco	140.52	332	ePKPdf	PKPdf	09 48 20.9	+1.8
PCBR	Castelo Branco	140.52	332	ePKPdf	PKPdf	09 48 20.9	+1.8
PMRV	Marv??o	140.80	331	eS	x	10 11 42.5	
PMRV	Marv??o	140.80	331	eP	x	10 40 56.8	
PMRV				A	A	10 53 58.1	
	comp=Z,1µm,22.0s						
PMRV	Marv??o	140.80	331	eS	x	10 11 42.5	
PMRV	Marv??o	140.80	331	eP	x	10 40 56.8	
PMRV				A	A	10 53 58.1	
	comp=Z,1µm,22.0s						
TAM	Tamanrasset	141.42	299	PFAKE		09 48 30.0	+8.6
TAM				LR	LR		
	comp=Z,783nm,20.0s						
PBAR	Barrancos	141.60	329	ePKPdf	PKPdf	09 48 19.6	-1.5
PBAR	Barrancos	141.60	329	ePKPdf	PKPdf	09 48 19.6	-1.5
LIS	Lisbon	142.20	332	eP	PKPdf	09 48 22.7	+0.5
LIS				ePP	PP	09 51 29.7	+2.0
LIS				AMS	AMS	10 56 14.5	
	comp=Z,2µm,23.0s						
LIS	Lisbon	142.20	332	ePKIKP	PKPdf	09 48 22.7	+0.5
LIS				e		09 51 29.7	
MESJ	Messejana	142.45	330	eP	PKPdf	09 48 22.4	-0.2
MESJ				ePP	PP	09 51 31.2	+1.9
MESJ				AMS	AMS	10 53 21.5	
	comp=N,2µm,16.1s						
MESJ	Messejana	142.45	330	ePKIKP	PKPdf	09 48 22.4	-0.2
MESJ				e		09 51 31.2	
LSP	Las Mesas	142.54	68	ePKPdf	PKPdf	09 48 24.4	+1.1
PVAQ	Vaqueiros	142.54	329	ePKPdf	PKPdf	09 48 20.5	-2.3
PVAQ	Vaqueiros	142.54	329	eS	x	10 11 47.1	
PVAQ	Vaqueiros	142.54	329	eP	x	10 41 24.7	
PVAQ				A	A	10 54 43.2	
	comp=N,2µm,22.0s						
PVAQ	Vaqueiros	142.54	329	ePKPdf	PKPdf	09 48 20.5	-2.3
PVAQ	Vaqueiros	142.54	329	eS	x	10 11 47.1	
PVAQ	Vaqueiros	142.54	329	eP	x	10 41 24.7	
PVAQ				A	A	10 54 43.2	
	comp=N,2µm,22.0s						
SIV	San Ignacio	142.70	127	PKhKP	PKPpre	09 48 18.9	
	comp=N,34nm,0.8s,baz=237,slow=2.7,SNR=64						
SIV				SKPbc	SKiKP	09 51 59.0	0.0
	comp=N,9.5nm,1.0s,baz=180,slow=2.0,SNR=3.5						
OBIP	Obispado Ponce	143.01	68	ePKPdf	PKPdf	09 48 24.2	0.0
CELP	Cerrillos	143.03	68	ePKPdf	PKPbc	09 48 21.7	+0.7
MORF	Marmelete	143.08	330	eP	PKPdf	09 48 23.8	0.0
MORF				ePP	PP	09 51 34.5	+1.3
MORF				AMS	AMS	10 54 11.1	
	comp=N,1µm,21.2s						
MORF	Marmelete	143.08	330	ePKIKP	PKPdf	09 48 23.8	0.0
MORF				e		09 51 34.6	
SJG	San Juan	143.41	68	ePKIKP	PKPdf	09 48 26.6	+1.8
SJG				MLR	MLR		
	comp=Z,1µm,21.0s						
SJG	San Juan	143.41	68	ePKPdf	PKPdf	09 48 26.6	+1.8
SJG				LR	LR		
	comp=Z,1µm,21.0s						
MDT	Midelt	144.08	321	PKP	PKPab	09 48 23.4	0.0
	comp=Z,12nm,0.8s,baz=94,slow=3.3,SNR=3.9						
MDT				SKPbc	SKiKP	09 52 01.7	+0.2
	comp=Z,3.9nm,0.8s,baz=59,slow=3.8,SNR=3.5						
SAML	Samuel	144.27	115	ePKPdf	PKPab	09 48 23.8	-0.7
SAML				LR	LR		
	comp=Z,872nm,21.0s						
STVI	Saint Thomas	144.45	67	ePKPdf	PKPab	09 48 24.5	-0.5
CDVI	St. Croix	144.78	68	ePKPdf	PKPab	09 48 26.0	-0.2
PCRV	Puerto La Cruz	146.15	81	PKPbc	PKPdf	09 48 28.9	-0.9
	comp=Z,35nm,0.7s,baz=330,slow=3.3						
SABA	Saba	146.22	67	eP	PKPdf	09 48 29.2	-0.5
SMRT	St. Maarten	146.25	67	eP	PKPdf	09 48 29.2	-0.6
SHEL	Horse Pasture	146.96	228	ePKP2	PKPab	09 48 34.5	0.0
SHEL				MLR	MLR		
	comp=Z,2µm,21.0s						
SHEL	Horse Pasture	146.96	228	ePKPbc	PKPab	09 48 34.5	0.0
SHEL				LR	LR		
	comp=Z,2µm,21.0s						
TOA0	Torodi Ar. Sit	147.38	285	ePKIKP	PKPbc	09 48 34.2	-0.1
TOA0	Torodi Ar. Sit	147.38	285	ePKPbc	PKPbc	09 48 34.7	+0.4
TORD	Torodi Ar. Bea	147.38	285	PKPbc	PKPdf	09 48 31.2	-0.6
	comp=Z,23nm,0.7s,baz=72,slow=2.0,SNR=56						
ANWB	Willy Bob	147.53	67	eP	PKPbc	09 48 33.6	-1.0
ANWB	Willy Bob	147.53	67	ePKPbc	PKPbc	09 48 34.5	-0.1
ANWB				LR	LR		
	comp=Z,1µm,22.0s						
MLG	Mont-d'or	148.03	69	eP	PKPbc	09 48 35.4	-0.7
PHG	Guadaloupe-2	148.11	70	eP	PKPdf	09 48 34.7	+1.6
MGG	Marie-Galante	148.44	70	eP	PKPbc	09 48 36.7	-0.3
GRGR	Grenville	148.85	77	ePKPdf	PKPdf	09 48 34.6	+0.4
GRGR				LR	LR		
	comp=Z,1µm,20.0s						
FDF	Fort de France	148.87	72	eP	PKPbc	09 48 38.7	+0.5
FDF	Fort de France	148.87	72	ePKIKP	PKPdf	09 48 34.6	+0.4
FDF				e		09 48 42.1	
FDF				MLR	MLR		
	comp=Z,1µm,22.0s						
FDF	Fort de France	148.87	72	ePKPdf	PKPdf	09 48 34.6	+0.4
FDF				ePKPbc	PKPbc	09 48 38.8	+0.6
FDF				ePKPab	PKPab	09 48 42.1	-0.2
FDF				LR	LR		
	comp=Z,1µm,22.0s						
BVM	Bellevue	148.95	72	eP	PKPbc	09 48 39.3	+0.8
TRMF	Trois Ilets	149.00	72	eP	PKPbc	09 48 39.6	+1.1
ZAM	Aeronautique	149.02	72	eP	PKPdf	09 48 35.6	+1.3
LPMF	Morne Lapointe	149.08	72	eP	PKPbc	09 48 38.5	-0.2
MVM	Montagne Vaucl	149.15	72	eP	PKPbc	09 48 39.9	+1.0
TPP	Pointe-a-Pierr	149.26	80	eP	PKPbc	09 48 38.9	-0.2
TRN	Trinidad (W)	149.28	80	eP	PKPbc	09 48 39.8	+0.6
TBH	Brigand Hill	149.62	80	eP	PKPdf	09 48 33.9	-1.6
TBH	Brigand Hill	149.62	80	e	PKPbc	09 48 42.7	+2.6

TPR	**Prospect**	**149.83**	**78**	*e*P	**PKPbc**	**09 48 41.4**	**+0.8**
PMOZ	**Porto Moniz, M**	**150.67**	**336**	*e*S	**S'S'ac**	**10 12 40.5**	**+7.0**
PMOZ	**Porto Moniz, M**	**150.67**	**336**	*e*P	x	10 45 47.0	
PMOZ	**Porto Moniz, M**	**150.67**	**336**	*e*S	**S'S'ac**	**10 12 40.5**	**+7.0**
PMOZ	**Porto Moniz, M**	**150.67**	**336**	*e*P	x	10 45 47.0	
BBGH	**Gun Hill**	**150.70**	**74**	PFAKE		09 48 50.0	+0.3
BBGH				LR	LR		
	comp=Z,2μm,21.0s						
BDFB	**Brasilia**	**152.34**	**142**	PKP	**PKPdf**	**09 48 39.8**	**+0.1**
	comp=Z,41nm,0.8s,baz=222,slow=3.3,SNR=44						
BDFB				PKPbc	**PKiKP**	**09 48 46.9**	**+0.1**
	comp=Z,105nm,0.7s,baz=188,slow=3.0,SNR=46						
BDFB				PKPab	**PKPab**	**09 48 57.0**	**+0.5**
	comp=Z,80nm,0.6s,baz=209,slow=4.4,SNR=13						
BDFB	**Brasilia**	**152.34**	**142**	PKIKP	**PKPdf**	**09 48 39.8**	**+0.1**
BDFB						09 48 46.9	
BDFB						09 48 57.0	
BDFB				pmax	pmax		
	comp=Z,41nm,0.8s						
BDFB				pmax	pmax		
	comp=Z,80nm,0.6s						
KIC	**Kosan Boka**	**154.23**	**272**	*e*P	**PKPdf**	**09 48 41.7**	**-0.7**
	comp=Z,69nm,0.8s						
KIC	**Kosan Boka**	**154.23**	**272**	*e*PKIKP	**PKPdf**	**09 48 41.7**	**-0.7**
	comp=Z,44nm,0.9s						
DBIC	**Dimbokro**	**154.35**	**273**	PKP	**PKPdf**	**09 48 42.7**	**+0.2**
	comp=Z,8.8nm,0.9s,baz=98,slow=1.7,SNR=5.1						
DBIC				PKPbc	**PKPbc**	**09 48 50.4**	**-0.4**
	comp=Z,12nm,0.7s,baz=63,slow=3.8,SNR=11						
DBIC				PKPab	**PKPab**	**09 49 04.3**	**-0.8**
	comp=Z,27nm,0.8s,baz=88,slow=5.5,SNR=8.9						
DBIC	**Dimbokro**	**154.35**	**273**	PKIKP	**PKPdf**	**09 48 42.7**	**+0.2**
DBIC						09 48 50.4	
DBIC						09 49 04.4	
DBIC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
DBIC				pmax	pmax		
	comp=Z,27nm,0.8s						
DBIC	**Dimbokro**	**154.35**	**273**	*e*PKPdf	**PKPdf**	**09 48 41.4**	**-1.1**
DBIC				PKP	**PKPdf**	**09 48 42.7**	**+0.2**
DBIC				PKPbc	**PKPbc**	**09 48 50.4**	**-0.4**
DBIC				PKPab	**PKPab**	**09 49 04.3**	**-0.8**
DBIC				*e*PKPab	PKPab	09 49 06.8	+1.6
TIC	**Toumodi**	**154.51**	**272**	*e*P	**PKPdf**	**09 48 41.8**	**-1.0**
TIC	**Toumodi**	**154.51**	**272**	*e*PKIKP	**PKPdf**	**09 48 42.0**	**-0.8**
LIC	**Lamto**	**154.52**	**272**	*e*P	**PKPdf**	**09 48 43.6**	**+0.8**
	comp=Z,92nm,1.1s						
LIC	**Lamto**	**154.52**	**272**	*e*PKIKP	**PKPdf**	**09 48 42.6**	**-0.2**
	comp=Z,64nm,1.1s						
ASCN	**Ascension**	**158.54**	**229**	PFAKE		09 49 00.0	+12
ASCN				LR	LR		
	comp=Z,2μm,22.0s						
RCBR	**Riachuelo**	**166.98**	**156**	PKPab	**PKPab**	**09 49 59.4**	**-0.5**
	comp=Z,9.3nm,0.7s,baz=206,slow=5.1,SNR=5.3						
RCBR	**Riachuelo**	**166.98**	**156**	*e*PKPdf	**PKPdf**	**09 48 57.1**	**+0.8**
RCBR				PKPab	**PKPab**	**09 49 59.4**	**-0.5**
RCBR				*e*PKPab	PKPab	09 49 59.6	-0.2
RCBR				LR	LR		
	comp=Z,2μm,22.0s						
SACV	**Santiago Islan**	**168.84**	**322**	PFAKE		09 49 10.0	+13
SACV				LR	LR		
	comp=Z,2μm,20.0s						

*NEIC **02** 09:30:49.6, 32°.14N×115°.24W, h15km, ML4.0(PAS), ML4.1(ECX), After ECX.*
NEIC Felt at Mexicali. Also felt at Somerton, Arizona and at Winterhaven, California.
*ECX **02** 09:30:49.6±0.6, 32°.14N×115°.24W, h8km, MD4.0, ML4.2, Fault plane solution: NP1:ϕ_s123.23000°, δ75.52000°, λ-26.57000°.*
*MEX **02** 09:30:50.5±0.8, 32°.22N×115°.13W, h18km±20km, MD3.8*
ISC 02 09:30:47.8±1.0**, 32°.13N**±0°.02**×115°.22W**±0°.02**, h12**km±8km**, n70, σ1s.06**/96**, 6C-10D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.28**	**4**	*e*P	**Pb**	**09 30 55.2**	**+0.5**
MBIG				*e*S	**Sg**	**09 30 57.4**	**0.0**
CPBX	**Cerro Prieto**	**0.29**	**346**	*e*P	**Pb**	**09 30 55.2**	**+0.2**
CPBX				*e*S	**Sg**	**09 30 57.2**	**-0.7**
CPBX	**Cerro Prieto**	**0.29**	**346**	⇓*e*P	**Pb**	**09 30 55.1**	**+0.2**
CPBX				*e*S	**Sb**	**09 30 59.3**	**-0.5**
CPBX				IAML		09 31 01.4	
	comp=E,91μm,0.2s						
CPBX				⇓*e*		09 31 01.4	
EMSC	**East Mesa**	**0.64**	**18**	⇓*i*P	**Pb**	**09 31 00.8**	**-0.1**
RDX	**Rancho Dawling**	**0.65**	**252**	⇑*e*P	**Pb**	**09 31 01.8**	**+0.7**
RDX				*e*S	**Sb**	**09 31 10.5**	**+0.3**
RDX				⇑*e*		09 31 11.8	
	comp=E,9μm,0.4s						
SGL	**Mount Signal**	**0.67**	**321**	⇓*i*P	**Pg**	**09 31 01.1**	**+0.3**
ECBX	**El Chinero**	**0.67**	**168**	⇓*e*P	**Pb**	**09 31 01.6**	**+0.1**
ECBX				*e*S	**Sb**	**09 31 10.8**	**+0.1**
DREC	**Desert Rsrch C**	**0.70**	**344**	⇓*i*P	**Pb**	**09 31 02.0**	**+0.1**
YMD	**Yuma Desert**	**0.71**	**53**	⇑*i*P	**Pg**	**09 31 01.6**	**0.0**
ERPC	**Ernies Place**	**0.72**	**329**	⇓*i*P	**Pb**	**09 31 02.1**	**-0.1**
COA	**Coachella**	**0.73**	**6**	⇓*i*P	**Pg**	**09 31 02.0**	**0.0**
WESC	**Westside Schoo**	**0.76**	**325**	*i* P	**Pg**	**09 31 02.6**	**+0.1**
YUH	**Yuha Desert**	**0.79**	**311**	⇓*i*P	**Pg**	**09 31 03.0**	**-0.1**
COK	**Cook Ranch**	**0.83**	**329**	*e*Pn	**Pg**	**09 31 03.7**	**-0.3**
RMX	**La Rumorosa**	**0.86**	**303**	*e*P	**Pg**	**09 31 04.5**	**0.0**
RMX				*e*S	**Sg**	**09 31 16.3**	**+0.3**
RMX				⇑*e*		09 31 17.2	
	comp=E,6μm,0.5s						
IBP	**Imperial Bould**	**0.91**	**306**	P	**Pg**	**09 31 05.1**	**-0.2**
	baz=0.9						
IBP				S	**Sb**	**09 31 17.7**	**+0.1**
	baz=0.9						
SWSC	**Sam W. Stewart**	**0.94**	**329**	P	**Pb**	**09 31 04.8**	**-1.3**
	baz=0.9						
GLA	**Glamis**	**0.98**	**20**	P	**Pb**	**09 31 05.4**	**-1.3**
	baz=1.0						
GLA				S	**Sb**	**09 31 17.3**	**-2.2**
	baz=1.0						
ZAX	**El Zacaton**	**1.09**	**236**	*e*P	**Pb**	**09 31 08.7**	**+0.1**
ZAX				*e*S	**Sb**	**09 31 22.9**	**+0.1**
SPIG	**San Pedro Mart**	**1.10**	**191**	*e*P	**Pb**	**09 31 08.9**	**-0.1**
SPIG				*e*S	**Sb**	**09 31 23.6**	**+0.2**
SPIG	**San Pedro Mart**	**1.10**	**191**	*e*P	**Pb**	**09 31 08.9**	**-0.1**
SPIG				*e*S	**Sb**	**09 31 23.6**	**+0.2**
SPIG	**San Pedro Mart**	**1.10**	**191**	*e*P	**Pb**	**09 31 08.9**	**-0.1**
SPIG				*e*S	**Sb**	**09 31 23.5**	**+0.1**
SPX	**San Pedro Mart**	**1.10**	**191**	*e*P	**Pb**	**09 31 08.9**	**-0.1**
SPX				*i* S	**Sg**	**09 31 24.2**	**+0.7**
SPX	**San Pedro Mart**	**1.10**	**191**	⇑*e*P	**Pb**	**09 31 08.9**	**-0.1**
SPX				*e*S	**Sn**	**09 31 24.6**	**0.0**
SPX				IAML		09 31 25.6	
	comp=N,2μm,0.2s						
SPX				⇓*e*		09 31 25.6	
CBX	**Cerro Bola**	**1.24**	**279**	*e*P	**Pn**	**09 31 10.5**	**-0.5**
CBX				*e*S	**Sb**	**09 31 26.2**	**-0.9**
CBX	**Cerro Bola**	**1.24**	**279**	*e*P	**Pn**	**09 31 10.5**	**-0.5**
CBX				*e*S	**Sb**	**09 31 26.2**	**-0.9**
CBX	**Cerro Bola**	**1.24**	**279**	*e*P	**Pn**	**09 31 10.7**	**-0.3**
CBX				IAML		09 31 30.2	
	comp=E,8μm,0.4s						
CBX				⇑*e*		09 31 30.2	
ECNX	**Esteban Cantu**	**1.26**	**248**	*e*P	**Pn**	**09 31 11.4**	**+0.1**
ECNX				*e*S	**Sn**	**09 31 28.1**	**-0.2**
MONP	**Monument Peak,**	**1.27**	**307**	P	**Pn**	**09 31 10.4**	**-1.0**
	baz=1.3						
MONP				S	**Sb**	**09 31 28.2**	**+0.2**
	baz=1.3						
PBX	**Punta Banda**	**1.34**	**254**	*e*P	**Pn**	**09 31 12.4**	**+0.2**
PBX				*e*S	**Sb**	**09 31 29.6**	**-0.3**
BAR	**Barrett**	**1.34**	**294**	*e*Pn	**Pn**	**09 31 12.1**	**-0.3**
BAR				*e*Sn	**Sb**	**09 31 29.9**	**-0.2**
BAR	**Barrett**	**1.34**	**294**	*e*Pn	**Pn**	**09 31 11.8**	**-0.6**
BC3	**Big Chuckawall**	**1.53**	**353**	P	**Pn**	**09 31 13.6**	**-1.4**
	baz=1.5						
Y12C	**Blythe**	**1.72**	**20**	P	**Pn**	**09 31 16.3**	**-1.2**
	baz=1.7						
109C	**Camp Elliot, M**	**1.76**	**296**	P	**Pn**	**09 31 18.0**	**-0.1**
	baz=1.7						
109C				Sb	**Sb**	**09 31 42.7**	**+0.6**
	baz=1.7						
PFO	**Pinyon Flats O**	**1.80**	**325**	P	**Pn**	**09 31 17.5**	**-1.3**
	baz=1.8						
PFO	**Pinyon Flats O**	**1.80**	**325**	*e*Pn	**Pn**	**09 31 17.4**	**-1.3**
PFO				*e*Sn	**Sn**	**09 31 42.1**	**+0.5**
BELC	**Belle Mtn. Jos**	**1.98**	**341**	P	**Pn**	**09 31 19.8**	**-1.4**
	baz=2.0						
IRM	**Iron Mountain**	**2.02**	**2**	P	**Pn**	**09 31 20.6**	**-1.1**
	baz=2.0						
214A	**Organ Pipe Nat**	**2.05**	**94**	P	**Pn**	**09 31 20.7**	**-1.4**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.05**	**94**	*e*Pn	**Pn**	**09 31 20.6**	**-1.6**
MURC	**Murrieta**	**2.22**	**312**	P	**Pn**	**09 31 23.6**	**-0.8**
	baz=2.2						
MURC				Sb	**Sb**	**09 31 57.1**	**+1.8**
	baz=2.2						
GMRC	**Granite Mounta**	**2.67**	**352**	P	**Pn**	**09 31 29.8**	**-0.9**
	baz=2.7						
SCI	**San Clemente I**	**2.93**	**288**	Sb	**Sb**	**09 32 16.7**	**+0.9**
	baz=2.9						
CIS	**Catalina Islan**	**2.97**	**296**	Pb	**Pb**	**09 31 39.6**	**-1.0**
	baz=3.0						
CIS				Sb	**Sb**	**09 32 18.5**	**+1.7**
	baz=3.0						
FMP	**Fort Macarthur**	**3.03**	**302**	Sb	**Sb**	**09 32 20.6**	**+2.1**
	baz=3.0						
MWC	**Mount Wilson**	**3.17**	**312**	Pn	**Pn**	**09 31 39.8**	**+2.2**
PASC	**Pasadena Art C**	**3.21**	**310**	Pn	Pb	09 31 41.6	-3.2
DECC	**Green Verdugo**	**3.36**	**310**	Sb	**Sb**	**09 32 30.1**	**+2.1**
	baz=3.3						
GSC	**Goldstone, Bar**	**3.43**	**338**	Pn	**Pn**	**09 31 41.2**	**+0.1**
EDW2	**Edwards Air Fo**	**3.59**	**321**	Pg	**Pg**	**09 31 54.8**	**-1.8**
	baz=3.6						
EDW2				Sb	**Sb**	**09 32 37.8**	**+3.1**
	baz=3.6						
TUC	**Tucson**	**3.76**	**86**	*e*Pn	**Pn**	**09 31 44.0**	**-1.7**
OSI	**Osito Audit: C**	**3.84**	**311**	*e*Pn	**Pn**	**09 31 45.6**	**-1.1**
SHPR	**Sheep Range**	**4.36**	**1**	*e*Pn	**Pn**	**09 31 54.3**	**+0.2**
ISA	**Isabella, Lake**	**4.44**	**323**	*e*Pn	**Pn**	**09 31 54.5**	**-0.5**
DAC	**Darwin (Calif)**	**4.58**	**335**	Pn	**Pn**	**09 31 57.2**	**+0.2**
WUAZ	**Wupatki**	**4.65**	**42**	*e*Pn	**Pn**	**09 31 59.4**	**+1.4**
W18A	**Petrified Fore**	**5.46**	**55**	P	**Pn**	**09 32 10.5**	**+1.4**
	baz=5.5						
W18A	**Petrified Fore**	**5.46**	**55**	*e*Pn	**Pn**	**09 32 10.5**	**+1.4**
	comp=E,31nm,0.6s						
R11A	**Troy Canyon, C**	**6.21**	**357**	*e*Pn	**Pn**	**09 32 20.3**	**+0.8**
	comp=E,7.1nm,0.5s						
121A	**Cookes Peak, D**	**6.31**	**84**	P	**Pn**	**09 32 20.2**	**-0.6**
	baz=6.3						
121A	**Cookes Peak, D**	**6.31**	**84**	*e*Pn	**Pn**	**09 32 20.2**	**-0.6**
	comp=E,15nm,0.4s						
MSU	**Marysvale**	**6.83**	**20**	*e*Pn	Pn	09 32 31.9	+3.9
	comp=E,7.2nm,0.6s						
LAZ	**Ladron**	**7.14**	**69**	*e*Pn	**Pn**	**09 32 33.6**	**+1.4**
	comp=E,2.5nm,0.7s						
LAZ				*e*Sg	**Sg**	**09 34 39.4**	**+2.5**
MVCO	**Mesa Verde**	**7.50**	**46**	*e*Pn	**Pn**	**09 32 39.9**	**+2.7**
	comp=E,7.7nm,0.5s						
MVCO				*e*Sg	**Sg**	**09 34 50.2**	**+1.6**
ANMO	**Albuquerque**	**7.83**	**67**	*e*Pn	**Pn**	**09 32 42.0**	**+0.2**
	comp=E,4.0nm,0.8s						
PV01	**Paradox Valley**	**8.09**	**40**	*e*Pn	**Pn**	**09 32 46.6**	**+1.3**
	comp=E,430nm,0.5s						
PV04	**Paradox Valley**	**8.10**	**38**	Pn	**Pn**	**09 32 46.5**	**+1.1**
MNTX	**Cornudas Mount**	**8.38**	**90**	P	**Pn**	**09 32 49.0**	**0.0**
	baz=8.4						
MNTX	**Cornudas Mount**	**8.38**	**90**	*e*Pn	**Pn**	**09 32 48.9**	**-0.1**
	comp=E,2.0nm,0.4s						
MNTX				*e*Sn	**Sn**	**09 34 21.3**	**-2.2**

*IDC **02** 09:31:23.1±3.1, 17°.70S×178°.44W, h522km±37km, mb4.0/14, mb1 4.2/14, mb1mx4.0/22, mbtmp4.9/14, Error ellipse: s-maj=19.6km s-min=13.8km az=179.0*
*ISCJB **02** 09:31:24.4±0.4, 17°.8S±0°.1×178°.51W±0°.09, h547km, mb4.4/24, Error ellipse: s-maj=14.3km s-min=9.5km az=150.1*
*NEIC **02** 09:31:25.9±0.8, 17°.79S×178°.49W, h555km±8km, mb4.3/9, Error ellipse: s-maj=12.3km s-min=8.8km az=150.0*
ISC 02 09:31:25.2±0.6**, 17°.7S**±0°.1**×178°.5W**±0°.1**, h547**km**, n39, σ0s.85**/38**, mb4.4**/24**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.34**	**269**	*e*P	**P**	**09 32 44.0**	**+1.7**
AFI	**Afiamalu**	**7.45**	**60**	*e*P	P	09 33 14.2	-3.5
	159nm,0.8s						
URZ	**Urewera**	**20.83**	**190**	P	**P**	**09 35 27.3**	**-1.6**
	18nm,0.6s,baz=4.3,slow=3.0,SNR=14						
SNZO	**South Karori**	**24.23**	**193**	*e*P	**P**	**09 35 58.5**	**-0.7**
	35nm,0.8s						
PPT	**Papeete**	**27.50**	**94**	P	**P**	**09 36 27.6**	**-0.8**
	22nm,0.7s,baz=198,slow=6.4,SNR=3.7						
CTA	**Charters Tower**	**33.44**	**260**	P	**P**	**09 37 19.0**	**-0.4**
	17nm,0.7s,baz=87,slow=19,SNR=3.2						
STKA	**Stephens Creek**	**38.69**	**241**	P	**P**	**09 38 02.5**	**-0.1**
	38nm,0.8s,baz=81,slow=7.1,SNR=7.1						
WRA	**Warramunga Arr**	**44.63**	**259**	P	**P**	**09 38 48.9**	**-0.7**
	13nm,0.6s,baz=92,slow=7.7,SNR=7.6						
ASAR	**Alice Springs**	**44.81**	**254**	P	**P**	**09 38 51.0**	**0.0**
	120nm,0.6s,baz=88,slow=7.9,SNR=55						
GUMO	**Guam**	**47.73**	**308**	P	**P**	**09 39 12.6**	**-0.5**
	35nm,0.6s,baz=156,slow=12,SNR=4.0						
SIJI	**Sorong**	**52.16**	**283**	P	**P**	**09 39 45.5**	**-0.1**
	76nm,0.8s,baz=83,slow=7.1,SNR=17						
MJAR	**Matsushiro Arr**	**67.74**	**323**	P	**P**	**09 41 27.5**	**-1.1**
	1.3nm,0.6s,baz=158,slow=6.1,SNR=4.5						
KSM	**Kuching**	**72.63**	**277**	*e*P	**P**	**09 41 58.5**	**+0.4**
KSRS	**Korea Array**	**74.54**	**318**	P	**P**	**09 42 08.7**	**+0.3**
	0.7nm,0.7s,baz=132,slow=6.7,SNR=2.4						
KSAR	**Wonju Array Be**	**74.56**	**318**	P	**P**	**09 42 08.7**	**+0.2**
YBH	**Yreka Blue Hor**	**78.40**	**39**	P	**P**	**09 42 30.1**	**+0.5**
	5.4nm,0.9s,baz=196,slow=3.5,SNR=4.6						
IPM	**Ipoh**	**82.36**	**277**	*e*P	**P**	**09 42 51.5**	**+0.7**
MFID	**Camas Ranch**	**83.56**	**41**	*e*P	**P**	**09 42 56.4**	**+0.2**
	6.7nm,1.1s						
SEY	**Seymchan**	**83.59**	**347**	P	**P**	**09 42 55.1**	**-0.6**
	4.4nm,0.6s,baz=92,slow=6.1,SNR=4.6						
MAW	**Mawson**	**84.02**	**200**	P	**P**	**09 42 59.1**	**+1.2**
	12nm,0.8s,baz=66,slow=3.9,SNR=3.0						
TXAR	**Lajitas Array**	**85.92**	**58**	P	**P**	**09 43 09.7**	**+1.6**
	4.7nm,0.8s,baz=219,slow=6.0,SNR=63						
DLMT	**Dillon**	**86.54**	**40**	*e*P	**P**	**09 43 11.2**	**+0.5**
	5.9nm,1.3s						
REDW	**Red Top Meadow**	**86.67**	**42**	*e*P	**P**	**09 43 11.9**	**+0.5**
	11nm,1.2s						
SNOW	**Snow King Moun**	**86.78**	**42**	*e*P	**P**	**09 43 12.7**	**+0.7**
	10nm,1.1s						
IMW	**Indian Meadow**	**86.87**	**42**	*e*P	**P**	**09 43 13.3**	**+0.8**
	7.9nm,1.0s						
CHMT	**Chamberlain Mo**	**86.91**	**39**	*e*P	**P**	**09 43 12.1**	**-0.4**
	1.7nm,0.9s						
PDAR	**Pinedale Array**	**87.24**	**43**	P	**P**	**09 43 13.8**	**-0.3**
	3.7nm,1.0s,baz=249,slow=2.5,SNR=9.7						
H17A	**Grant Village**	**87.34**	**42**	*e*P	**P**	**09 43 16.5**	**+1.9**
	6.3nm,1.0s						
LKWY	**Lake**	**87.53**	**42**	*e*P	**P**	**09 43 17.4**	**+2.0**
	5.5nm,1.2s						
YKA	**Yellowknife Ar**	**94.18**	**25**	P	**P**	**09 43 44.6**	**-0.7**
	1.5nm,0.8s,baz=240,slow=4.9,SNR=4.8						
MKAR	**Makanchi Array**	**108.98**	**314**	PKiKP	**PKiKP**	**09 48 52.1**	**-0.7**
	0.4nm,0.5s,baz=153,slow=1.0,SNR=3.9						
BVAR	**Borovoye Array**	**116.68**	**321**	PKP	**PKPdf**	**09 49 06.7**	**-0.6**
	1.1nm,0.6s,baz=337,slow=3.3,SNR=3.5						
ARCES	**ARCESS Array B**	**126.13**	**350**	PKP	**PKPdf**	**09 49 24.7**	**-0.3**
	4.7nm,0.8s,baz=72,slow=2.9,SNR=4.4						
SUR	**Sutherland**	**126.88**	**200**	PKP	**PKPdf**	**09 49 27.9**	**+0.1**
	10nm,1.1s,baz=178,slow=5.2,SNR=2.8						
FINES	**FINESS Array B**	**133.00**	**344**	PKP	**PKPdf**	**09 49 37.8**	**-0.4**
	1.5nm,0.8s,baz=66,slow=4.7,SNR=2.5						
BRTR	**Keskin Array B**	**144.63**	**315**	PKP	**PKPdf**	**09 49 59.8**	**-0.4**
	3.1nm,0.8s,baz=121,slow=2.6,SNR=6.0						
CLL	**Collm**	**145.27**	**347**	*i* PKPbc	**PKPbc**	**09 50 01.5**	**-0.3**
	comp=Z,9.0nm,0.8s						
GERES	**GERESS Array B**	**147.42**	**345**	PKPbc	**PKPbc**	**09 50 07.7**	**-0.2**
	comp=Z,4.8nm,0.8s,baz=32,slow=3.5,SNR=5.8						
DAVOX	**Davos/Dischmat**	**150.22**	**348**	PKPbc	**PKPbc**	**09 50 15.2**	**+0.2**
	comp=Z,12nm,0.7s,baz=338,slow=5.4,SNR=8.0						

IDC 02 09:37:16.5±2.8**, 5°.89S×148°.75E, h0**km**, mb4.0**/2**, mb1 4.3**/3**, mb1mx3.8**/17**, mbtmp4.1**/3**, ML3.8**/1**, Error ellipse: s-maj=139.8km s-min=26.2km az=116.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.78**	**224**	P	P	09 41 48.3	-0.2
	0.3nm,0.3s,baz=48,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**22.72**	**217**	P	P	09 42 20.1	-0.2
	2.2nm,0.6s,baz=55,slow=9.4,SNR=5.7						
PETK	**Petropavlovsk-**	**59.26**	**6**	P	P	09 47 19.7	0.0
	1.3nm,0.5s,baz=170,slow=8.7,SNR=9.0						
TORD	**Torodi Ar. Bea**	**146.74**	**285**	PKPbc	PKPbc	09 57 01.0	-0.6
	0.8nm,0.9s,baz=87,slow=3.6,SNR=5.0						

*IDC **02** 09:46:07.8±1.4, 6°.19S×149°.40E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/17, mbtmp3.8/6, Error ellipse: s-maj=72.5km s-min=20.4km az=113.0*
*ISCJB **02** 09:46:13.9±1.2, 6°.2S±0°.2×149°.3E±0°.4, h58km, mb3.7/5, Error ellipse: s-maj=57.6km s-min=17.3km az=22.5*
ISC 02 09:46:15.4±1.4**, 6°.3S**±0°.2**×149°.4E**±0°.4**, h58**km**, n7, σ1s.18**/7**, mb3.7**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.97**	**226**	P	**P**	**09 50 42.7**	**-0.3**
	4.1nm,0.8s,baz=49,slow=10,SNR=19						
ASAR	**Alice Springs**	**22.83**	**219**	P	**P**	**09 51 13.4**	**-0.4**
	2.5nm,0.6s,baz=55,slow=9.1,SNR=46						
STKA	**Stephens Creek**	**26.51**	**195**	P	**P**	**09 51 48.5**	**+1.0**
	1.2nm,0.5s,baz=19,slow=13,SNR=3.9						
PETK	**Petropavlovsk-**	**59.56**	**6**	P	**P**	**09 56 14.1**	**+1.3**
	1.7nm,0.5s,baz=165,slow=7.4,SNR=18						
MKAR	**Makanchi Array**	**79.21**	**320**	P	**P**	**09 58 14.6**	**+0.3**
	0.1nm,0.5s,baz=98,slow=5.1,SNR=2.7						
ILAR	**Eielson Array**	**84.79**	**23**	P	**P**	**09 58 41.9**	**-1.3**
	0.3nm,0.6s,baz=255,slow=5.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**147.45**	**285**	PKPbc	**PKPbc**	**10 05 53.0**	**-0.9**
	0.4nm,0.5s,baz=66,slow=3.0,SNR=8.1						

BUC 02 09:46:29.5±0.8**, 44°.97N×28°.34E, h1**km±8km**, MD2.1**/4**, 2C-9D, Error ellipse: s-maj=10.5km s-min=3.2km az=79.0, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFR	**Carcaliu**	**0.25**	**325**	⇓*i*P	Pg	09 46 34.6	+0.2
CFR	**Carcaliu**	**0.25**	**325**	S	Sg	09 46 38.6	+0.9
CFR	**Carcaliu**	**0.25**	**325**	⇓*i*P	Pg	09 46 34.6	+0.2
CFR				*i* S	Sg	09 46 38.6	+0.9
HARR	**Harsova**	**0.40**	**226**	⇓*i*P	Pg	09 46 37.8	+0.6
HARR	**Harsova**	**0.40**	**226**	⇓*i*P	Pg	09 46 37.8	+0.6
TLB	**Topalu**	**0.44**	**209**	⇓*i*P	Pg	09 46 37.7	-0.2
TLB	**Topalu**	**0.44**	**209**	S	Sg	09 46 45.1	+1.5
TLB	**Topalu**	**0.44**	**209**	⇓*i*P	Pg	09 46 37.7	-0.2
TLB				*i* S	Sg	09 46 45.1	+1.5
TIRR	**Tirgusor**	**0.51**	**174**	⇑*i*P	Pg	09 46 40.0	+0.7
TIRR	**Tirgusor**	**0.51**	**174**	⇑*i*P	Pg	09 46 40.0	+0.7
TIRR				*i* S	Sg	09 46 47.2	+1.2
PSN	**Preselentsi**	**1.29**	**185**	⇓*i*P	Pn	09 46 55.7	+1.0
PSN				S	Sn	09 47 14.4	+1.8
PSN	**Preselentsi**	**1.29**	**185**	⇓*i*P	Pn	09 46 55.7	+1.0
PSN				*i* S	Sn	09 47 14.4	+1.8
GZR	**Gura Zlata**	**3.96**	**278**	⇓*i*P	Pb	09 47 38.9	-1.2

IDC 02 09:46:29.6±1.8**, 6°.10S×149°.19E, h0**km**, mb3.9**/3**, mb1 4.0**/4**, mb1mx3.6**/17**, mbtmp3.9**/4**, ML3.8**/1**, Error ellipse: s-maj=88.9km s-min=24.6km az=111.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.94**	**225**	P	P	09 51 03.6	+0.2
	0.3nm,0.3s,baz=49,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**22.83**	**219**	P	P	09 51 34.8	+0.2
	1.3nm,0.5s,baz=52,slow=10,SNR=5.4						
STKA	**Stephens Creek**	**26.61**	**195**	P	P	09 52 09.0	-0.8
	1.0nm,0.7s,baz=12,slow=9.3,SNR=3.0						
PETK	**Petropavlovsk-**	**59.42**	**6**	P	P	09 56 33.8	-0.2
	1.4nm,0.5s,baz=171,slow=8.9,SNR=7.1						
TORD	**Torodi Ar. Bea**	**147.22**	**285**	PKPbc	PKPbc	10 06 15.6	-0.4
	0.2nm,0.3s,baz=77,slow=3.4,SNR=6.5						

NNC 02 09:48:31.0±2.7**, 38°.30N×67°.56E, h0**km**, mb3.5, mpv3.3, 5C-6D, Error ellipse: s-maj=34.8km s-min=15.2km az=160.0, Southeastern Uzbekistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.11**	**63**	⇑P	Pg	09 48 51.6	-1.0
	27nm,0.3s						
DZET				⇓S	Sb	09 49 08.1	-0.5
	89nm,0.3s						
SFK	**Sufi-Kurgan**	**4.93**	**68**	⇑Pn	Pn	09 49 48.1	+1.4
	1.6nm,0.3s						
SFK				⇑Sn	Sn	09 50 46.0	+1.4
	9.9nm,0.4s						
SFK				⇑Lg	Lg	09 51 09.6	
	5.2nm,0.4s						
KK31	**Karatay Array**	**5.30**	**24**	⇓Pn	Pn	09 49 54.7	+3.2
	1.0nm,0.3s,baz=208,slow=16,SNR=13						
KK31				⇓Lg	Lg	09 51 20.6	
	6.6nm,0.5s,baz=209,slow=30,SNR=5.1						
MNAS	**Manas**	**5.63**	**41**	⇑Pn	Pn	09 49 56.5	+0.2
	1.1nm,0.4s						
MNAS				⇓Sn	Sn	09 51 00.1	-1.7
	3.1nm,0.5s						
MNAS				⇓Lg	Lg	09 51 29.2	
	7.3nm,0.6s						
AAK	**Ala-Archa**	**6.83**	**49**	⇓Lg	Lg	09 52 08.1	
	3.0nm,0.7s						

IDC 02 09:48:56.6±1.7**, 6°.15S×149°.29E, h0**km**, mb3.7**/3**, mb1 3.9**/4**, mb1mx3.5**/30**, mbtmp3.8**/4**, ML3.6**/1**, Error ellipse: s-maj=77.9km s-min=25.0km az=109.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.98**	**225**	P	P	09 53 30.6	-0.1
	0.2nm,0.3s,baz=50,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**22.86**	**219**	P	P	09 54 01.6	-0.2
	0.9nm,0.5s,baz=54,slow=9.3,SNR=8.1						
STKA	**Stephens Creek**	**26.59**	**195**	P	P	09 54 36.4	-0.2
	1.1nm,0.8s,baz=5.0,slow=12,SNR=3.0						
PETK	**Petropavlovsk-**	**59.47**	**6**	P	P	09 59 01.3	0.0
	1.2nm,0.5s,baz=168,slow=7.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**147.34**	**285**	PKPbc	PKPbc	10 08 42.9	-0.5
	0.2nm,0.4s,baz=79,slow=3.6,SNR=4.4						

SKO 02 09:49:02.8, 41°.76N×22°.75E, h15km**, M0.9, ML1.4, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.46**	**197**	*i* Pg	Pb	09 49 12.3	-0.3
VAY				*i* Sg	Sb	09 49 19.1	-0.1
VAY				*e*Lg	Lg	09 49 19.4	
	comp=E,15nm,0.4s						
VAY				*e*Lg	Lg	09 49 19.4	
	comp=N,15nm,0.4s						

IDC 02 09:57:35.8±2.8**, 7°.21S×149°.25E, h0**km**, mb3.4**/2**, mb1 3.7**/3**, mb1mx3.4**/29**, mbtmp3.5**/3**, ML3.3**/1**, MS4.2**/1**, Ms1 4.2**/1**, ms1mx3.3**/20**, Error ellipse: s-maj=78.2km s-min=43.5km az=105.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.23**	**227**	P	Pn	10 02 02.5	-0.1
	0.1nm,0.3s,baz=50,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**22.02**	**220**	P	P	10 02 32.7	+0.5
	0.3nm,0.5s,baz=53,slow=9.7,SNR=7.1						
STKA	**Stephens Creek**	**25.57**	**195**	P	P	10 03 05.3	-1.3
	2.2nm,0.8s,baz=18,slow=6.4,SNR=7.7						
JCJ	**Chichijima**	**34.78**	**349**	LR	LR	10 15 30.3	
	comp=Z,348nm,20.1s,baz=121,slow=31						
TORD	**Torodi Ar. Bea**	**147.55**	**283**	PKPbc	PKPbc	10 17 22.9	-0.3
	0.3nm,0.9s,baz=94,slow=3.1,SNR=2.7						

IDC 02 09:59:37.3±4.3**, 5°.95S×149°.20E, h0**km**, mb3.2**/3**, mb1 3.6**/3**, mb1mx3.3**/29**, mbtmp3.3**/3**, Error ellipse: s-maj=151.3km s-min=34.9km az=108.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.05**	**225**	P	P	10 04 11.8	-0.4
	0.9nm,0.6s,baz=50,slow=11,SNR=5.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**22.95**	**218**	P	P	10 04 43.2	-0.3
	0.5nm,0.5s,baz=53,slow=9.4,SNR=7.3						
MKAR	**Makanchi Array**	**78.86**	**320**	P	P	10 11 42.2	-0.2
	0.2nm,0.8s,baz=98,slow=7.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**147.19**	**285**	PKPbc	PKPbc	10 19 23.4	-0.2
	0.2nm,0.9s,baz=83,slow=3.8,SNR=3.1						

IDC 02 10:04:44.3±3.1**, 54.°43N×87.°33E, h0km, Error ellipse: s-maj=27.1km s-min=19.4km az=41.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.55**	**253**	i		10 13 20.0	
	baz=69,slow=325,SNR=0.7						
ZALV	**Zalesovo Beam**	**1.55**	**253**	Pg	Pn	10 05 13.0	-0.2
	1.0nm,0.3s,baz=68,slow=19,SNR=5.4						
ZALV				Lg	Lg	10 05 34.0	
	1.0nm,0.3s,baz=70,slow=26,SNR=7.0						
KURBB	**Kurchatov Arra**	**6.58**	**238**	Pn	Pn	10 06 22.8	+0.5
	baz=54,slow=14						
KURBB				Lg	Lg	10 08 11.9	
	baz=47,slow=31						
MKAR	**Makanchi Array**	**8.29**	**205**	Pn	Pn	10 06 46.6	+0.9
	baz=21,slow=13						
MKAR				Lg	Lg	10 09 05.0	
	baz=23,slow=27						

*MEX **02** 10:08:56.8±0.5, 32.°58N×114.°90W, h15km, MD3.8*
*ECX **02** 10:09:00.4±0.6, 32.°29N×115.°37W, h8km, MD3.0, ML3.2*
*NEIC **02** 10:09:00.5, 32.°30N×115.°38W, h8km, ML3.1(PAS), ML3.2(ECX), After ECX.*
ISC 02 10:08:59.0±0.9**, 32.°27N**±0.°02×**115.°37W**±0.°02**, h11**km±7km**, n29, σ0.s92**/48**, 2C-4D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.16**	**22**	eP	**Pg**	**10 09 02.4**	**-0.3**
CPBX				i S	**Sg**	**10 09 07.2**	**+2.1**
CPBX	**Cerro Prieto**	**0.16**	**22**	ePn	**Pg**	**10 09 02.4**	**-0.3**
CPBX				eS	**Sg**	**10 09 04.5**	**-0.7**
CPBX					IAML	10 09 06.9	
	comp=E,23µm,0.2s						
CPBX				⇓e		10 09 06.9	
MBIG	**Mexicali**	**0.20**	**48**	eP	**Pg**	**10 09 02.8**	**-0.6**
MBIG				eS	**Sg**	**10 09 07.2**	**+0.9**
SGL	**Mount Signal**	**0.48**	**322**	⇓iP	**Pg**	**10 09 08.4**	**0.0**
ERPC	**Ernies Place**	**0.53**	**333**	⇓iP	**Pb**	**10 09 09.9**	**-0.5**
DREC	**Desert Rsrch C**	**0.54**	**353**	eP	**Pg**	**10 09 09.9**	**+0.4**
WESC	**Westside Schoo**	**0.57**	**328**	eP	**Pg**	**10 09 10.4**	**+0.2**
RDX	**Rancho Dawling**	**0.59**	**235**	eP	**Pg**	**10 09 11.0**	**+0.4**
RDX				eS	**Sg**	**10 09 19.3**	**+0.8**
RDX				⇑e		10 09 19.8	
RDX					IAML	10 09 19.8	
	comp=N,961nm,0.4s						
YUH	**Yuha Desert**	**0.60**	**309**	ePn	**Pg**	**10 09 10.4**	**-0.2**
COA	**Coachella**	**0.63**	**20**	⇓iP	**Pg**	**10 09 11.1**	**-0.1**
COK	**Cook Ranch**	**0.65**	**333**	ePn	**Pg**	**10 09 11.6**	**-0.1**
RMX	**La Rumorosa**	**0.68**	**299**	eP	**Pg**	**10 09 11.9**	**-0.4**
RMX				eS	**Sg**	**10 09 21.4**	**+0.2**
ECBX	**El Chinero**	**0.84**	**161**	ePn	**Pg**	**10 09 13.5**	**-1.8**
ECBX				eS	**Sg**	**10 09 25.5**	**-0.9**
GLA	**Glamis**	**0.91**	**31**	ePg	**Pg**	**10 09 15.0**	**-1.5**
GLA				eSg	**Sg**	**10 09 27.4**	**-0.9**
ZAX	**El Zacaton**	**1.07**	**226**	eP	**Pg**	**10 09 19.6**	**-0.1**
ZAX				eS	**Sb**	**10 09 34.4**	**+0.6**
CBX	**Cerro Bola**	**1.09**	**273**	eP	**Pg**	**10 09 19.7**	**-0.4**
CBX				i S	**Sn**	**10 09 37.0**	**+1.4**
CBX	**Cerro Bola**	**1.09**	**273**	eP	**Pg**	**10 09 19.7**	**-0.4**
CBX				i S	**Sn**	**10 09 37.0**	**+1.4**
CBX	**Cerro Bola**	**1.09**	**273**	eP	**Pg**	**10 09 19.7**	**-0.4**
CBX				eS	**Sg**	**10 09 33.9**	**-0.4**
CBX					IAML	10 09 36.0	
	comp=N,550nm,0.5s						
CBX				⇑e		10 09 36.0	
BAR	**Barrett**	**1.17**	**291**	eP	**Pg**	**10 09 20.8**	**-0.8**
BAR				eS	**Sg**	**10 09 35.7**	**-1.1**
BAR	**Barrett**	**1.17**	**291**	eP	**Pg**	**10 09 20.8**	**-0.8**
ECNX	**Esteban Cantu**	**1.21**	**240**	eP	**Pg**	**10 09 21.9**	**-0.4**
ECNX				eS	**Sg**	**10 09 38.1**	**+0.1**
SPIG	**San Pedro Mart**	**1.23**	**184**	eP	**Pb**	**10 09 21.6**	**-0.9**
SPIG				i S	**Sn**	**10 09 40.1**	**+0.9**
SPIG	**San Pedro Mart**	**1.23**	**184**	eP	**Pb**	**10 09 21.6**	**-0.9**
SPIG				i S	**Sn**	**10 09 40.1**	**+0.9**
SPX	**San Pedro Mart**	**1.23**	**184**	eP	**Pb**	**10 09 21.6**	**-0.8**
SPX				i S	**Sb**	**10 09 39.2**	**+0.8**
SPX	**San Pedro Mart**	**1.23**	**184**	eP	**Pb**	**10 09 21.6**	**-0.8**
SPX				eS	**Sg**	**10 09 39.1**	**+0.5**
PBX	**Punta Banda**	**1.26**	**246**	eP	**Pn**	**10 09 22.6**	**-0.1**
PBX				eS	**Sg**	**10 09 39.8**	**0.0**
PFO	**Pinyon Flats O**	**1.61**	**326**	ePn	**Pn**	**10 09 25.6**	**-2.0**
PFO				eSn	**Sb**	**10 09 49.6**	**+0.2**
214A	**Organ Pipe Nat**	**2.20**	**98**	Pn	**Pn**	**10 09 37.7**	**+2.2**
121A	**Cookes Peak, D**	**6.42**	**86**	ePn	**Pn**	**10 10 33.7**	**0.0**
	comp=N,2.2nm,0.4s						

VIE 02 10:13:03.2±0.3**, 50.°22N×12.°75E, h0km, ML2.5**/2**, 1C-3D, Error ellipse: s-maj=3.8km s-min=1.0km az=41.0 21 km E of Klingenthal Suspected Mining explosion., Germany**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**2.35**	**73**	ePg	Pg	10 13 49.5	+1.2
KSP				eSg	Sg	10 14 21.9	+3.2
MOA	**Molln**	**2.57**	**157**	⇓iPg	Pg	10 13 52.2	-0.3
MOA				⇓iSg	Sg	10 14 27.9	+2.0
	19nm,0.6s						
CONA	**Conrad Observa**	**3.07**	**137**	⇑iPg	Pg	10 14 02.6	+0.4
CONA				⇓iSg	Sg	10 14 44.9	+2.7
	5.6nm,0.4s						

BUC 02 10:20:46.4±1.5**, 43.°89N×28.°95E, h9**km±7km**, MD2.2**/3**, 6C-8D, Error ellipse: s-maj=12.3km s-min=3.5km az=100.0, Black Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MANR	**Mangalia**	**0.27**	**255**	⇓iP	Pb	10 20 53.3	-0.2
MANR	**Mangalia**	**0.27**	**255**	⇓iP	Pb	10 20 53.3	-0.2
PSN	**Preselentsi**	**0.59**	**250**	⇓iP	Pb	10 20 59.7	+0.7
PSN	**Preselentsi**	**0.59**	**250**	⇓iP	Pb	10 20 59.7	+0.7
TIRR	**Tirgusor**	**0.69**	**326**	⇑iP	Pb	10 21 00.6	0.0
TIRR	**Tirgusor**	**0.69**	**326**	⇑iP	Pb	10 21 00.6	0.0
TIRR				i S	Sb	10 21 11.4	+1.1
TLB	**Topalu**	**0.96**	**317**	⇓iP	Pb	10 21 05.6	+0.4
TLB	**Topalu**	**0.96**	**317**	⇓iP	Pb	10 21 05.6	+0.4
TLB				i S	Sn	10 21 19.0	-0.8
HARR	**Harsova**	**1.09**	**318**	⇑iP	Pn	10 21 08.5	+0.7
HARR	**Harsova**	**1.09**	**318**	⇑iP	Pn	10 21 08.5	+0.7
TLCR		**1.30**	**356**	⇓iP	Pb	10 21 11.1	0.0
TLCR		**1.30**	**356**	⇓iP	Pb	10 21 11.1	0.0
TLCR				i S	Sn	10 21 30.0	+1.6
CFR	**Carcaliu**	**1.42**	**336**	⇑iP	Pb	10 21 13.2	+0.2
CFR	**Carcaliu**	**1.42**	**336**	⇑iP	Pb	10 21 13.2	+0.2
CFR				i S	Sg	10 21 33.1	+1.1

*MOS **02** 10:21:42.6±1.1, 6.°03S×149.°41E, h33km, mb5.2/7, Error ellipse: s-maj=15.0km s-min=8.4km az=83.0*
*ISCJB **02** 10:21:44.2±1.3, 6.°16S±0.°04×149.°40E±0.°06, h49km±11km, mb4.7/36, MS3.9/4, Error ellipse: s-maj=10.2km s-min=7.4km az=176.6*
*NEIC **02** 10:21:45.4±0.2, 6.°14S×149.°45E, mb4.7/12, Error ellipse: s-maj=9.4km s-min=5.4km az=99.0*
*IDC **02** 10:21:45.1±1.0, 6.°19S×149.°49E, h42km±8km, mb4.5/21, mb1 4.6/23, mb1mx4.5/32, mbtmp4.7/23, ML4.3/2, MS3.9/5, Ms1 3.9/5, ms1mx3.6/30, Error ellipse: s-maj=17.8km s-min=9.9km az=78.0*
*BJI **02** 10:21:46.4, 6.°02S×149.°40E, h58km, mb5.0/23, mB5.2/16, Ms4.8/12, Ms7 4.4/13*
*DJA **02** 10:21:56.3±1.7, 7°S±10°×14°9E±1°4, h96km±11km, M5.4/12, mb4.5/12, mB5.4/1, MLv5.8/1, Mw(mB)4.8/1*
ISC 02 10:21:47.0±0.5**, 6.°22S**±0.°05×**149.°39E**±0.°07**, h60**km±3km**, h60**km**:pP-P, n84, σ1.s36**/107**, mb4.7**/37**, 4C-1D, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.86**	**215**	d iP	**Pn**	**10 22 44.8**	**+0.9**
PMG	**Port Moresby**	**3.86**	**215**	ePn	**Pn**	**10 22 44.9**	**+0.9**
COEN	**Coen**	**9.82**	**218**	ePn	**Pn**	**10 24 06.1**	**+0.5**
GENI	**Genyem**	**9.87**	**291**	P	Pn	10 24 12.7	+6.4
	70nm,1.1s						
CTA	**Charters Tower**	**14.12**	**192**	P	**Pn**	**10 25 04.6**	**+0.5**
	0.7nm,0.3s,baz=22,slow=16,SNR=11						
SIJI	**Sorong**	**18.85**	**286**	P	**Pn**	**10 26 03.2**	**-0.2**
	1.2nm,0.3s,baz=82,slow=13,SNR=4.7						
SIJI				LR	LR	10 35 01.1	
	comp=Z,340nm,21.4s,baz=44,slow=42						
EIDS	**Eidsvold**	**19.11**	**175**	ePn	**Pn**	**10 26 06.4**	**0.0**
	14nm,0.6s						
WRAB	**Tennant Creek**	**19.98**	**226**	⇑eP	**P**	**10 26 15.1**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,105nm,0.7s						
WRAB	**Tennant Creek**	**19.98**	**226**	eP	**P**	**10 26 14.5**	**-0.2**
	comp=Z,105nm,0.6s						
WRA	**Warramunga Arr**	**20.00**	**226**	P	**P**	**10 26 15.2**	**+0.3**
	comp=Z,47nm,0.7s,baz=50,slow=11,SNR=224						
WRA				pP	**pP**	**10 26 26.3**	**-1.6**
	comp=Z,69nm,0.5s,baz=50,slow=11,SNR=25						
WRA				S	**S**	**10 29 52.3**	**-4.3**
	comp=Z,5.2nm,1.0s,baz=44,slow=21,SNR=4.9						
WRA				PcP	**PcP**	**10 30 29.5**	**+0.2**
	comp=Z,10nm,0.6s,baz=42,slow=1.8,SNR=15						
WRA				pPcP		10 30 41.3	
	comp=Z,4.5nm,0.8s,baz=29,slow=1.7,SNR=5.5						
WRA				ScP	**ScP**	**10 34 03.5**	**+2.9**
	comp=Z,2.1nm,0.8s,baz=34,slow=2.4,SNR=6.0						
GUMO	**Guam**	**20.19**	**347**	P	**P**	**10 26 17.2**	**+0.4**
	comp=Z,37nm,0.6s,baz=179,slow=15,SNR=6.9						
DZM	**Mont Dzumac**	**22.80**	**135**	P	**P**	**10 26 44.8**	**-0.2**
	comp=Z,35nm,0.5s,baz=270,slow=24,SNR=13						
ASAR	**Alice Springs**	**22.86**	**219**	P	**P**	**10 26 45.6**	**+0.1**
	comp=Z,20nm,0.7s,baz=52,slow=9.0,SNR=165						
ASAR				pP	**pP**	**10 26 56.6**	**-2.3**
	comp=Z,31nm,0.6s,baz=50,slow=10.0,SNR=22						
ASAR				PcP	**PcP**	**10 30 34.5**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=43,slow=2.4,SNR=8.5						
ASAR				pPcP		10 30 47.4	
	comp=Z,4.0nm,0.8s,baz=44,slow=1.7,SNR=7.5						
ASAR				ScP	**ScP**	**10 34 08.6**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=90,slow=1.3,SNR=4.4						
SOEI	**Soe**	**25.12**	**260**	P	P	10 27 12.2	+5.5
	comp=Z,49nm,0.8s						
STKA	**Stephens Creek**	**26.54**	**195**	P	**P**	**10 27 18.6**	**-0.7**
	comp=Z,11nm,0.6s,baz=14,slow=10,SNR=32						
STKA				LR	LR	10 37 51.2	
	comp=Z,508nm,18.8s,baz=32,slow=36						
STKA	**Stephens Creek**	**26.54**	**195**	eP	**P**	**10 27 21.5**	**+2.2**
STKA	**Stephens Creek**	**26.54**	**195**	eP	**P**	**10 27 20.1**	**+0.8**
MMRI	**Maumere**	**27.03**	**263**	P	**P**	**10 27 22.5**	**-1.3**
	comp=Z,90nm,0.9s						
KAPI	**Kappang**	**29.52**	**271**	LR	LR	10 41 18.7	
	comp=Z,164nm,19.0s,baz=81,slow=40						
MSVF	**Nonsavu**	**30.23**	**115**	eP	**P**	**10 27 53.7**	**+1.3**
MSVF				pmax	pmax		
	comp=Z,51nm,0.9s						
MSVF	**Nonsavu**	**30.23**	**115**	eP	**P**	**10 27 53.7**	**+1.3**
	comp=Z,50nm,0.9s						
FORT	**Forrest**	**31.59**	**217**	eP	**P**	**10 28 03.9**	**-0.2**
	comp=Z,48nm,0.7s						
MBWA	**Marble Bar**	**32.32**	**240**	eP	**P**	**10 28 10.7**	**0.0**
	comp=Z,26nm,0.9s						
URZ	**Urewera**	**40.61**	**146**	P	**P**	**10 29 21.8**	**+0.8**
	comp=Z,6.2nm,0.7s,baz=225,slow=7.1,SNR=3.0						
URZ				PcP	**PcP**	**10 31 20.2**	**-2.0**
	comp=Z,5.9nm,0.6s,baz=270,slow=3.0,SNR=4.3						
RPZ	**Rata Peaks**	**41.92**	**156**	P	**P**	**10 29 31.1**	**-0.6**
	comp=Z,11nm,0.7s,baz=268,slow=4.6,SNR=8.8						
RPZ				LR	LR	10 44 21.9	
	comp=Z,263nm,21.8s,baz=332,slow=32						
JNU	**Nakatsue**	**42.90**	**337**	P	**P**	**10 29 41.0**	**+1.2**
	comp=Z,12nm,0.8s,baz=71,slow=4.8,SNR=7.3						
MJAR	**Matsushiro Arr**	**43.81**	**347**	P	**P**	**10 29 45.9**	**-1.2**
	comp=Z,3.2nm,0.8s,baz=165,slow=8.1,SNR=12						
MJAR				PcP	**PcP**	**10 31 31.8**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=172,slow=2.6,SNR=4.4						
MAJO	**Matsushiro**	**43.81**	**347**	eP	**P**	**10 29 45.4**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MAJO	**Matsushiro**	**43.81**	**347**	eP	**P**	**10 29 45.4**	**-1.7**
	comp=Z,9.1nm,0.9s						
MAT	**Matsushiro**	**43.81**	**347**	P	**P**	**10 29 44.9**	**-2.2**
QIZ	**Qiongzhong**	**46.34**	**304**	P	**P**	**10 30 07.3**	**-0.2**
QIZ				S	**S**	**10 36 51.2**	**+0.5**
QIZ				PMZ			
	comp=Z,37nm,2.2s						
QIZ				LZ			
	comp=Z,390nm,18.3s						
KSRS	**Korea Array**	**47.85**	**337**	P	**P**	**10 30 17.9**	**-0.9**
	comp=Z,4.7nm,0.6s,baz=156,slow=8.4,SNR=22						
KSAR	**Wonju Array Be**	**47.85**	**337**	P	**P**	**10 30 18.0**	**-0.9**
KSAR	**Wonju Array Be**	**47.85**	**337**	P	**P**	**10 30 17.9**	**-0.9**
NJ2	**Nanjing**	**47.91**	**324**	eP	**P**	**10 30 20.0**	**+0.6**
NJ2				PMZ			
	comp=Z,20nm,0.6s						
WHN	**Wuhan**	**49.62**	**319**	P	**P**	**10 30 33.1**	**+0.5**
ASAJ	**Asahikawa**	**50.48**	**354**	eP	**P**	**10 30 38.8**	**0.0**
	comp=Z,17nm,1.5s						
USRK	**Ussuriysk Ar.**	**52.59**	**344**	P	**P**	**10 30 55.2**	**+0.6**
	comp=Z,5.1nm,0.6s,baz=183,slow=6.3,SNR=14						
GYA	**Guiyang**	**52.63**	**310**	eP	**P**	**10 30 57.2**	**+1.8**
GYA				PMZ			
	comp=Z,10.0nm,1.0s						
KMI	**Kunming**	**55.03**	**306**	P	P	10 31 19.9	+6.8
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
XAN	**Xi'an**	**55.38**	**319**	P	**P**	**10 31 16.5**	**+1.2**
XAN				pP	**pP**	**10 31 32.2**	**+1.0**
XAN				sP	**sP**	**10 31 40.0**	**+2.0**
CMAR	**Chiang Mai Arr**	**55.45**	**297**	P	**P**	**10 31 18.1**	**+2.1**
	comp=Z,1.5nm,0.7s,baz=132,slow=6.1,SNR=7.1						
CD2	**Chengdu**	**57.15**	**313**	eP	**P**	**10 31 27.1**	**-0.8**
CD2				pP	**pP**	**10 31 44.0**	**+0.1**
CD2				sP	**sP**	**10 31 51.6**	**+0.9**
CD2				PP	**PP**	**10 33 34.7**	**-0.8**
CD2				S	**S**	**10 39 18.3**	**-0.7**
CD2				sS	**sS**	**10 39 47.5**	**+1.5**
CD2				SS	**SS**	**10 43 09.6**	**+0.6**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
TYV	**Tymovskoe**	**57.15**	**355**	eP	**P**	**10 31 27.5**	**+0.1**
TYV				pmax	pmax		
	comp=Z,11nm,0.8s						
KLR	**Kul'dur**	**57.33**	**346**	eP	**P**	**10 31 27.3**	**-1.5**
HHC	**Hu-ho-hao-te**	**58.29**	**327**	eP	**P**	**10 31 37.7**	**+1.9**
HHC				pP	**pP**	**10 31 52.5**	**+0.6**
HHC				sP	**sP**	**10 32 00.7**	**+2.0**
HHC				PP	**PP**	**10 33 45.3**	**-0.3**
HHC				S	**S**	**10 39 33.8**	**0.0**
HHC				sS	**sS**	**10 39 59.0**	**-1.9**
HHC				SS	**SS**	**10 43 26.4**	**-0.4**
HHC				PMZ			
	comp=Z,32nm,1.1s						
HHC				PMZ			
	comp=Z,120nm,6.6s						
HHC				LN			
	comp=Z,290nm,15.6s						
HHC				LE			
	comp=Z,150nm,15.2s						
HHC				LZ			
	comp=Z,230nm,15.5s						
PETK	**Petropavlovsk-**	**59.52**	**6**	P	**P**	**10 31 43.7**	**-0.2**
	comp=Z,15nm,0.5s,baz=166,slow=8.3,SNR=116						
PETK				LR	LR	10 51 38.4	
	comp=Z,73nm,20.8s,baz=255,slow=30						
CASY	**Casey**	**65.69**	**196**	eP	**P**	**10 32 25.0**	**+0.1**
	comp=Z,18nm,1.3s						
SONM	**Songino Array**	**65.77**	**330**	P	**P**	**10 32 26.2**	**+0.3**
	comp=Z,2.4nm,0.4s,baz=146,slow=5.2,SNR=20						
ZAK	**Zakamensk**	**68.99**	**330**	eP	**P**	**10 32 44.8**	**-1.3**
ZAK				e		10 33 00.4	
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SEY	**Seymchan**	**69.00**	**1**	⇑eP	**P**	**10 32 44.0**	**-1.7**
VNDA	**Vanda**	**71.56**	**177**	P	**P**	**10 33 02.1**	**+0.8**
	comp=Z,8.3nm,0.8s,baz=329,slow=6.4,SNR=41						
SBA	**Scott Base**	**72.17**	**176**	eP	**P**	**10 33 07.0**	**+2.1**
SBA				pmax	pmax		
	comp=Z,162nm,3.0s						
SBA	**Scott Base**	**72.17**	**176**	eP	**P**	**10 33 07.0**	**+2.1**
	comp=Z,162nm,3.0s						
WMQ	**Urumqi**	**74.52**	**319**	P	**P**	**10 33 22.3**	**+2.9**
WMQ				PMZ			
	comp=Z,71nm,0.6s						
WMQ				PMZ			
	comp=Z,79nm,5.8s						
WMQ				LN			
	comp=Z,12nm,9.0s						
WMQ				LE			
	comp=Z,110nm,12.5s						
WMQ				LZ			
	comp=Z,170nm,20.0s						
MKAR	**Makanchi Array**	**79.19**	**320**	P	**P**	**10 33 44.9**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=100,slow=7.6,SNR=12						
MKAR				PKKPbc	**PKKPbc**	**10 52 35.9**	**-2.8**
	comp=Z,0.5nm,0.7s,baz=298,slow=2.4,SNR=5.8						
ZALV	**Zalesovo Beam**	**80.47**	**327**	P	**P**	**10 33 52.4**	**+0.1**
	comp=Z,3.3nm,0.4s,baz=119,slow=5.0,SNR=5.7						
KURK	**Kurchatov**	**82.81**	**323**	eP	**P**	**10 34 05.3**	**+0.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**82.81**	**323**	eP	**P**	**10 34 05.3**	**+0.5**
	comp=Z,1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**82.84**	**323**	P	**P**	**10 34 06.2**	**+1.3**
	comp=Z,5.9nm,0.2s,baz=118,slow=4.2,SNR=9.0						
BPAW	**Bear Paw Mtn.**	**82.87**	**22**	eP	**P**	**10 34 04.0**	**-0.8**
	comp=Z,2.7nm,1.7s						
MAW	**Mawson**	**82.96**	**203**	P	**P**	**10 34 05.2**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=99,slow=6.7,SNR=16						
MAW	**Mawson**	**82.96**	**203**	eP	**P**	**10 34 05.3**	**+0.1**
MAW				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MAW	**Mawson**	**82.96**	**203**	eP	**P**	**10 34 05.3**	**+0.1**
	comp=Z,1.4nm,0.7s						
AAK	**Ala-Archa**	**83.19**	**314**	⇑eP	**P**	**10 34 08.7**	**+1.6**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MCK	**McKinley**	**83.48**	**23**	eP	**P**	**10 34 06.5**	**-1.5**
MCK				pmax	pmax		
	comp=Z,14nm,1.0s						
MCK	**McKinley**	**83.48**	**23**	eP	**P**	**10 34 06.5**	**-1.5**
	comp=Z,14nm,1.0s						
QSPA	**South Pole Qui**	**83.75**	**180**	eP	**P**	**10 34 09.8**	**+0.4**
COLA	**College**	**84.44**	**22**	⇑iP	**P**	**10 34 11.1**	**-1.6**
COLA				pmax	pmax		
	comp=Z,24nm,0.9s						
COLA	**College**	**84.44**	**22**	eP	**P**	**10 34 11.3**	**-1.5**
	comp=Z,7.6nm,1.0s						
ILAR	**Eielson Array**	**84.76**	**23**	P	P	10 34 11.1	-3.3
	comp=Z,4.2nm,0.8s,baz=254,slow=5.1,SNR=33						
HYT	**Haines Junctio**	**87.27**	**28**	eP	**P**	**10 34 27.7**	**+0.7**
DAWY	**Dawson**	**87.47**	**25**	eP	**P**	**10 34 28.3**	**+0.4**
INK	**Inuvik**	**91.00**	**21**	P	**P**	**10 34 43.8**	**-0.4**
	comp=Z,2.0nm,0.3s,baz=245,slow=5.6,SNR=3.6						
NVAR	**Mina Array Bea**	**95.63**	**52**	P	**P**	**10 35 05.6**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=252,slow=5.2,SNR=4.8						
VNA2	**Neumayer--Watz**	**101.46**	**188**	P	**Pdif**	**10 35 31.6**	**-0.2**
	baz=167,slow=2.5						
PDAR	**Pinedale Array**	**102.31**	**48**	P	**Pdif**	**10 35 36.3**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=180,slow=0.8,SNR=3.0						
BOSA	**Boshof**	**116.05**	**234**	PKP	**PKPdf**	**10 40 23.8**	**-0.4**
	comp=Z,2.2nm,0.5s,baz=47,slow=4.5,SNR=5.4						
PLCA	**Paso Flores**	**120.62**	**145**	PKP	**PKPdf**	**10 40 32.6**	**0.0**
	comp=Z,2.7nm,0.6s,baz=284,slow=3.1,SNR=7.7						
PLCA				pPKP	**pPKPdf**	**10 40 44.4**	**-5.9**
	comp=Z,2.7nm,0.7s,baz=206,slow=3.1,SNR=3.5						
GERES	**GERESS Array B**	**123.42**	**326**	PKP	**PKPdf**	**10 40 37.1**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=48,slow=2.0,SNR=7.6						
LPAZ	**La Paz**	**136.66**	**122**	PKP	**PKPdf**	**10 41 04.8**	**+0.5**
	comp=Z,5.1nm,0.8s,baz=310,slow=2.8,SNR=16						
TORD	**Torodi Ar. Bea**	**147.44**	**285**	PKPbc	**PKPbc**	**10 41 24.8**	**-0.5**
	comp=Z,4.8nm,0.4s,baz=61,slow=3.2,SNR=44						
BDFB	**Brasilia**	**152.27**	**142**	PKP	**PKPdf**	**10 41 31.5**	**+1.0**
	comp=Z,14nm,1.1s,baz=148,slow=4.7,SNR=7.3						
BDFB				PKPbc	**PKiKP**	**10 41 37.3**	**-0.3**
	comp=Z,31nm,0.5s,baz=194,slow=1.6,SNR=30						
DBIC	**Dimbokro**	**154.40**	**272**	PKPbc	**PKPbc**	**10 41 43.0**	**+1.1**
	comp=Z,1.9nm,0.4s,baz=62,slow=2.2,SNR=4.8						
DBIC				PKPab	**PKPab**	**10 41 55.9**	**-0.4**
	comp=Z,3.4nm,0.6s,baz=95,slow=3.5,SNR=4.8						

IDC 02 10:24:53.8±1.7**, 36.°82S×73.°42W, h0km, mb3.3**/3**, mb1 3.5**/4**, mb1mx3.5**/22**, mbtmp3.3**/4**, ML3.4**/1**, Error ellipse: s-maj=62.2km s-min=20.7km az=65.0, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.50**	**151**	Pn	Pn	10 26 04.7	+1.2
	0.4nm,0.3s,baz=331,slow=14,SNR=8.5						
PLCA				Lg	Lg	10 27 17.1	
	1.5nm,0.3s,baz=222,slow=18,SNR=3.9						
LPAZ	**La Paz**	**20.98**	**14**	P	Pn	10 29 40.9	-1.2
	0.9nm,0.8s,baz=169,slow=5.1,SNR=4.0						
TXAR	**Lajitas Array**	**71.67**	**332**	P	P	10 36 17.5	0.0
	0.1nm,0.6s,baz=151,slow=8.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**86.22**	**71**	P	P	10 37 36.8	-0.7
	0.3nm,0.7s,baz=212,slow=5.1,SNR=2.9						
MKAR	**Makanchi Array**	**159.41**	**53**	PKPab	PKPab	10 45 30.9	-0.8
	0.1nm,0.6s,baz=264,slow=2.9,SNR=3.7						

IDC 02 10:42:37.7±2.4**, 8.°30S×148.°65E, h0km, mb3.3**/2**, mb1 3.6**/3**, mb1mx3.3**/34**, mbtmp3.5**/3**, ML3.7**/1**, Error ellipse: s-maj=70.4km s-min=39.2km az=118.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.05**	**229**	P	Pn	10 46 48.6	-1.6
	0.2nm,0.3s,baz=52,slow=11,SNR=24						
ASAR	**Alice Springs**	**20.81**	**221**	P	P	10 47 20.1	-0.8
	0.6nm,0.4s,baz=57,slow=9.2,SNR=17						
STKA	**Stephens Creek**	**24.36**	**195**	P	P	10 47 56.8	-0.8
	0.9nm,0.8s,baz=352,slow=14,SNR=2.8						
TORD	**Torodi Ar. Bea**	**147.19**	**281**	PKPbc	PKPbc	11 02 24.7	+0.7
	0.5nm,1.1s,baz=78,slow=2.1,SNR=2.4						

*IDC **02** 11:06:45.5±1.1, 56.°64N×161.°12E, h0km, mb3.7/10, mb1 4.0/11, mb1mx3.7/39, mbtmp3.7/11, ML2.8/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/35, Error ellipse: s-maj=33.5km s-min=18.5km az=176.0*
*KRSC **02** 11:06:53.6±0.7, 56.°03N×161.°43E, h102km±6km, ML4.2*
*MOS **02** 11:06:53.7±1.1, 56.°12N×161.°27E, h106km, mb4.0/2, Error ellipse: s-maj=21.4km s-min=7.9km az=76.1*
*ISCJB **02** 11:06:54.3±0.3, 56.°05N±0.°03×161.°37E±0.°07, h105km±2km, mb3.6/10, Error ellipse: s-maj=6.7km s-min=4.5km az=25.1*
ISC 02 11:06:55.2±0.7**, 56.°06N**±0.°04×**161.°36E**±0.°04**, h101**km±5km**, n54, σ0.s93**/71**, mb3.7**/10**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.32**	**263**	eP	**Pn**	**11 07 10.2**	**+0.1**
ZLN				eS	**Sn**	**11 07 22.3**	**+1.1**
ZLN	**Zelenaya**	**0.32**	**263**	PN	**Pn**	**11 07 10.2**	**+0.1**
ZLN				S	**Sn**	**11 07 22.3**	**+1.1**
CIRR	**Tsirk**	**0.35**	**280**	eP	**Pn**	**11 07 10.0**	**-0.3**
CIRR				eS	**Sn**	**11 07 22.1**	**+0.5**
LGNR	**Loginova**	**0.38**	**274**	eP	**Pn**	**11 07 10.2**	**-0.5**
LGNR				eS	**Sn**	**11 07 22.2**	**0.0**
KLY	**Klyuchi**	**0.47**	**303**	eP	**Pn**	**11 07 09.8**	**-1.1**
KLY				eS	**Sn**	**11 07 21.4**	**-1.1**
KRSR	**Krestovskiy**	**0.47**	**290**	eP	**Pn**	**11 07 10.2**	**-0.8**
BDR	**Baidarnaya**	**0.52**	**350**	eP	**Pn**	**11 07 11.2**	**-0.1**
BDR				eS	**Sn**	**11 07 23.0**	**-0.3**
SMKR	**Semkarok**	**0.53**	**6**	eP	**Pn**	**11 07 11.3**	**-0.1**
SMKR				eS	**Sn**	**11 07 24.3**	**+0.8**
SRKR	**Sorokina**	**0.61**	**350**	eP	**Pn**	**11 07 11.8**	**-0.2**
SRKR				eS	**Sn**	**11 07 24.8**	**+0.3**
KBTR	**Krutoberegovo**	**0.83**	**79**	eP	**Pn**	**11 07 13.9**	**0.0**
KBTR				eS	**Sn**	**11 07 27.6**	**-0.3**
ESO	**Esso**	**1.50**	**266**	eP	**Pn**	**11 07 20.9**	**-0.6**
ESO	**Esso**	**1.50**	**266**	PN	**Pn**	**11 07 20.9**	**-0.6**
MKZ	**Mys Kozlova**	**1.52**	**172**	eP	**Pn**	**11 07 21.2**	**-0.5**
MKZ				eS	**Sn**	**11 07 41.3**	**-0.5**
MKZ	**Mys Kozlova**	**1.52**	**172**	PN	**Pn**	**11 07 21.2**	**-0.5**
MKZ				S	**Sn**	**11 07 41.3**	**-0.5**
BKI	**Bering**	**2.75**	**106**	eP	**Pn**	**11 07 37.5**	**-0.1**

BKI				eS	Sn	11 08 09.2	-1.0
BKI	Bering	2.75	106	PN	Pn	11 07 37.5	-0.1
BKI				S	Sn	11 08 09.2	-1.0
SPN	Mys Shipunski	3.07	195	eP	Pn	11 07 41.2	-0.6
SPN				eS	Sn	11 08 16.0	-1.8
SPN	Mys Shipunski	3.07	195	PN	Pn	11 07 41.2	-0.6
SPN				S	Sn	11 08 16.0	-1.8
GNL	Ganaly	3.08	221	eP	Pn	11 07 42.3	+0.1
GNL	Ganaly	3.08	221	PN	Pn	11 07 42.3	+0.1
NLC	Nalytchevo	3.12	203	eP	Pn	11 07 42.5	-0.1
NLC				S	Sn	11 08 18.9	-0.2
NLC	Nalytchevo	3.12	203	PN	Pn	11 07 42.5	-0.1
NLC				S	Sn	11 08 18.9	-0.2
KRX	Arik	3.13	211	eP	Pn	11 07 43.6	+0.8
SDLR	Sedlovina	3.14	208	eP	Pn	11 07 43.3	+0.4
SMAR	Somma	3.17	209	eP	Pn	11 07 44.0	+0.5
AVH	Avacha	3.19	210	eP	Pn	11 07 44.4	+0.9
AVH	Avacha	3.19	210	PN	Pn	11 07 44.4	+0.9
KOK	Koryaka	3.19	211	eP	Pn	11 07 44.4	+0.8
KOK	Koryaka	3.19	211	PN	Pn	11 07 44.4	+0.8
UGLR	Uglovaya	3.21	208	eP	Pn	11 07 44.8	+0.9
PET	Petropavlovsk	3.43	209	eP	Pn	11 07 47.6	+1.0
PET	Petropavlovsk	3.43	209	ePN	Pn	11 07 47.3	+0.7
PET				eS	Sn	11 08 28.4	+2.1
PET				pmax	pmax		
	comp=Z,73nm,0.8s						
PET				smax	smax		
	comp=N,47nm,0.6s						
PET				smax	smax		
	comp=E,42nm,0.5s						
PETK	Petropavlovsk-	3.65	217	Pn	Pn	11 07 49.5	-0.1
	comp=E,3.2nm,0.3s,baz=76,slow=15,SNR=47						
PETK	Petropavlovsk-	3.65	217	PN	Pn	11 07 49.5	-0.1
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
RUS	Russkaya	4.00	206	eP	Pn	11 07 54.1	-0.2
RUS	Russkaya	4.00	206	PN	Pn	11 07 54.1	-0.2
MTVR	Mutnovka	4.04	209	eP	Pn	11 07 55.9	+0.9
ASAK	Asacha	4.21	210	eP	Pn	11 07 58.2	+1.0
MIPR	Malaya Ipel'ka	4.66	217	eP	Pn	11 08 03.9	+0.7
ERM	Erimo	18.35	228	i P	P	11 11 01.3	-0.4
ERM				pmax	pmax		
	comp=Z,37nm,2.4s						
ILAR	Eielson Array	26.26	50	P	P	11 12 20.6	0.0
	comp=Z,0.6nm,0.5s,baz=262,slow=6.5,SNR=11						
JCJ	Chichijima	32.07	213	LR	LR	11 24 43.6	
	comp=Z,168nm,21.2s,baz=96,slow=33						
YKA	Yellowknife Ar	40.51	45	P	P	11 14 24.4	+0.7
	comp=Z,0.7nm,0.6s,baz=300,slow=7.6,SNR=4.6						
KURK	Kurchatov	46.84	300	P	P	11 15 15.5	+1.0
KURBB	Kurchatov Arra	46.94	300	P	P	11 15 15.5	+0.2
	comp=Z,0.3nm,0.3s,baz=56,slow=7.9,SNR=2.6						
MKAR	Makanchi Array	47.58	294	P	P	11 15 19.2	-1.2
	comp=Z,0.2nm,0.6s,baz=54,slow=7.4,SNR=3.3						
NVAR	Mina Array Bea	54.10	73	P	P	11 16 11.6	+1.9
	comp=Z,0.6nm,0.6s,baz=302,slow=8.4,SNR=6.6						
PDAR	Pinedale Array	55.48	63	P	P	11 16 21.0	+1.4
	comp=Z,0.6nm,0.7s,baz=4.8,slow=3.3,SNR=5.5						
FINES	FINESS Array B	57.69	336	P	P	11 16 32.5	-2.1
	comp=Z,0.9nm,0.7s,baz=358,slow=7.5,SNR=3.6						
FINES	FINESS Array B	57.69	336	P	P	11 16 32.5	-2.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	60.90	344	P	P	11 16 54.1	-2.7
	comp=Z,0.9nm,0.7s,baz=20,slow=6.6,SNR=3.8						
NOA	NORSAR Array B	60.90	344	eP	P	11 16 56.1	-0.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	68.83	69	P	P	11 17 50.0	+1.3
	comp=Z,0.4nm,0.5s,baz=299,slow=4.8,SNR=8.9						
GERES	GERESS Array B	72.04	338	P	P	11 18 07.4	-0.5
	comp=Z,0.6nm,0.5s,baz=25,slow=16,SNR=4.8						

*BJI **02** 11:13:13.4, 4°.30N×126°.90E, h30km, mb4.4/4, mB4.6/1, Ms4.2/1, Ms7 4.1/1*
*IDC **02** 11:13:14.9±3.1, 4°.08N×126°.60E, h26km±20km, mb3.9/11, mb1 4.1/12, mb1mx3.9/38, mbtmp4.1/12, ML4.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/39, Error ellipse: s-maj=38.1km s-min=12.8km az=67.0*
*ISCJB **02** 11:13:15.2±0.4, 4°.16N±0°.04×126°.83E±0°.06, h45km, mb4.1/18, Error ellipse: s-maj=8.5km s-min=4.5km az=159.7*
*NEIC **02** 11:13:18.4±1.5, 4°.09N×126°.66E, h60km±14km, mb4.2/9, Error ellipse: s-maj=15.3km s-min=7.5km az=58.0*
*DJA **02** 11:13:19.3±1.4, 4°N±10°×12°7E±°, h51km±35km, M4.5/5, mb4.5/5, mB5.1/3, MLv4.5/4, Mw(mB)4.4/3*
*MAN **02** 11:13:22, 4°.35N×126°.43E, h46km, mb5.3, ML4.3, MS4.5*
ISC 02 11:13:17.1±0.5**, 4°.15N**±0°.05×**126°.74E**±0°.08**, h45**km**, n37, σ1s.24**/43**, mb4.1**/18**, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	2.63	317	eP	Pn	11 13 56.9	-0.2
MATI	Mati	2.82	350	eP	Pn	11 14 02.6	+2.9
MATI				eS	Sn	11 14 33.6	+1.1
TNTI	Ternate	3.41	169	P	Pn	11 14 09.4	+1.6
TNTI				S	Sn	11 14 47.6	+0.5
TNTI	Ternate	3.41	169	ePn	Pn	11 14 08.3	+0.5
TNTI				eSn	Sn	11 14 46.8	-0.3
CTBH	Cotabato--PC H	3.94	321	⇑iP	Pn	11 14 16.8	+1.8
BUKP	Musuan	4.07	336	eP	Pn	11 14 20.9	+4.0
PAGZ	Pagadian	4.97	318	eP	Pn	11 14 31.4	+2.3
MRSI	Marisa	6.03	233	P	Pn	11 14 44.7	+1.0
	66nm,0.8s,1μm0.3nm						
SIJI	Sorong	6.73	138	Pn	Pn	11 14 53.8	+0.4
	5.7nm,0.3s,baz=142,slow=19,SNR=15						
SIJI				Sn	Sn	11 16 08.1	-0.7
	baz=150,slow=20,SNR=2.2						
SIJI				LR	LR	11 17 49.1	
	comp=Z,294nm,20.7s,baz=232,slow=40						
APSI	Ampana	7.15	225	P	Pn	11 15 02.6	+3.4
	86nm,1.1s,985nm						
MPSI	Mapaga	7.82	241	P	Pn	11 15 10.5	+2.2
	12nm,0.8s						
TTSI	Tana Toraja	9.95	224	P	Pn	11 15 40.6	+3.1
KSM	Kuching	16.63	261	eP	Pn	11 17 07.6	+0.5
	21nm,1.1s						
QIZ	Qiongzhong	22.16	313	P	P	11 18 08.4	-1.0
QIZ				S	S	11 22 10.0	-1.1
WRAB	Tennant Creek	25.07	163	eP	P	11 18 36.8	-0.7
	19nm,0.9s						
WRA	Warramunga Arr	25.08	163	P	P	11 18 36.8	-0.8
	2.3nm,0.6s,baz=344,slow=11,SNR=37						
WRA				ScP	ScP	11 25 48.9	+1.7
	0.5nm,0.8s,baz=355,slow=3.1,SNR=4.6						
ASAR	Alice Springs	28.52	166	P	P	11 19 07.0	-1.5
	0.3nm,0.4s,baz=344,slow=7.3,SNR=17						
CMAR	Chiang Mai Arr	30.67	300	P	P	11 19 27.8	0.0
	1.3nm,0.8s,baz=118,slow=7.1,SNR=7.6						
CHTO	Chiang Mai	30.82	300	eP	P	11 19 27.9	-1.1
	2.5nm,0.7s						
KSAR	Wonju Array Be	33.15	2	P	P	11 19 50.1	+0.9
KSRS	Korea Array	33.16	2	P	P	11 19 50.1	+0.8
	1.3nm,0.6s,baz=179,slow=9.9,SNR=12						
XAN	Xi'an	34.05	333	P	P	11 19 56.0	-1.2
XAN				PMZ			
	7.0nm,0.7s						
STKA	Stephens Creek	38.52	160	P	P	11 20 35.6	+0.4
	3.2nm,0.5s,baz=344,slow=6.7,SNR=13						
STKA	Stephens Creek	38.52	160	eP	P	11 20 35.3	+0.1
	1.2nm,0.8s						
SONM	Songino Array	46.91	341	P	P	11 21 43.4	+0.1
	1.9nm,0.6s,baz=154,slow=7.9,SNR=12						
MK31	Makanchi Array	57.22	325	eP	P	11 22 59.1	-0.7
MKAR	Makanchi Array	57.22	325	P	P	11 22 59.2	-0.6
	1.1nm,0.3s,baz=121,slow=7.9,SNR=29						
MKAR				PcP	PcP	11 23 53.9	0.0
	1.2nm,0.6s,baz=126,slow=3.6,SNR=5.5						
MKAR				ScP	ScP	11 27 52.2	+2.0
	0.2nm,0.6s,baz=143,slow=3.6,SNR=2.7						
KURK	Kurchatov	61.40	327	eP	P	11 23 27.6	-1.0
	5.8nm,0.8s						
TIXI	Tiksi	67.43	1	eP	P	11 24 07.2	-0.3
	3.4nm,0.8s						
ABKAR	Akbulak array	71.84	321	eP	P	11 24 34.1	-1.1
	1.1nm,0.6s						
ARU	Arti	74.59	328	eP	P	11 24 50.2	-1.1
	3.3nm,0.5s						
BPAW	Bear Paw Mtn.	82.91	26	eP	P	11 25 37.8	+0.9
	1.6nm,1.3s						
VNDA	Vanda	83.84	173	P	P	11 25 42.2	+0.8
	0.5nm,0.8s,baz=320,slow=7.7,SNR=2.3						
ILAR	Eielson Array	84.72	25	P	P	11 25 47.1	+1.0
	0.3nm,0.6s,baz=245,slow=6.2,SNR=6.2						
ARCES	ARCESS Array B	90.06	340	P	P	11 26 11.1	-0.8
	2.6nm,0.9s,baz=79,slow=6.3,SNR=3.6						
FINES	FINESS Array B	91.47	332	P	P	11 26 18.4	-0.1
	1.1nm,0.6s,baz=57,slow=8.8,SNR=3.5						
TORD	Torodi Ar. Bea	122.80	288	PKP	PKPdf	11 32 08.7	-0.6
	0.6nm,0.8s,baz=46,slow=2.1,SNR=3.5						

*NIED **02** 11:21:00, 28°.80N×142°.20E, h5km, Mw4.3 Best double couple: M0 3.27000×10^15 NP1: φs177.00000°, δ38.00000°, λ108.00000°. NP2: φs334.00000°, δ54.00000°, λ76.00000°.*
*IDC **02** 11:21:37.4±0.6, 28°.74N×142°.67E, h0km, mb4.1/17, mb1 4.2/20, mb1mx4.1/53, mbtmp4.1/20, ML3.5/3, MS2.9/3, Ms1 2.9/3, ms1mx2.8/39, Error ellipse: s-maj=20.2km s-min=13.6km az=88.0*
*ISCJB **02** 11:21:39.6±0.5, 28°.89N±0°.03×142°.57E±0°.09, h25km, mb4.3/25, MS3.2/1, Error ellipse: s-maj=11.5km s-min=4.0km az=172.6*
*NEIC **02** 11:21:40.0±3.4, 28°.74N×142°.67E, h17km±20km, mb4.8/6, MW4.3(NIED), Error ellipse: s-maj=12.5km s-min=6.7km az=82.0*
*MOS **02** 11:21:39.9±1.0, 28°.76N×142°.77E, h33km, mb4.4/16, Error ellipse: s-maj=19.2km s-min=8.5km az=118.3*
ISC 02 11:21:41.2±0.6**, 28°.79N**±0°.04×**142°.6E**±0°.1**, h25**km**, n82, σ1s.72**/88**, mb4.5**/32**, 5C-1D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.73	192	P	Pn	11 22 08.8	-0.9
CBIJ				eS	Sn	11 22 29.0	-1.9
CBIJ	Chichi jima	1.73	192	Pn	Pn	11 22 09.3	-0.3
CBIJ				Sn	Sn	11 22 28.8	-2.1
JCJ	Chichijima	1.73	192	Pn	Pn	11 22 09.3	-0.3
	12nm,0.3s,baz=274,slow=24,SNR=15						
JCJ				Sn	Sn	11 22 28.8	-2.1
	101nm,0.3s,baz=260,slow=23,SNR=17						
JHHJ	Haha-jima-NKT	2.18	189	eS	Sn	11 22 42.7	+0.5
BSO3	Boso 3	6.24	344	P	Pn	11 23 10.3	-1.2
BSO3				eS	Sn	11 24 19.6	-2.3
JHU	Hanno	7.57	339	P	Pn	11 23 28.9	-1.1
JHU				eS	Sn	11 24 50.0	-5.0
JNY	Yasuok	7.67	330	P	Pn	11 23 33.9	+2.5
JRY	Ryogami san	7.84	338	P	Pn	11 23 33.3	-0.5
JRY				eS	Sn	11 24 59.0	-2.7
JHO	Hitachi	7.98	348	P	Pn	11 23 33.0	-2.6
JHO				eS	Sn	11 24 57.3	-7.7
JAG	Ashikaga	8.05	342	P	Pn	11 23 34.8	-1.8
JAG				eS	Sn	11 25 01.3	-5.5
MJAR	Matsushiro Arr	8.56	336	Pn	Pn	11 23 43.4	-0.1
	1.9nm,0.3s,baz=158,slow=11,SNR=42						
MJAR				Sn	Sn	11 25 17.8	-1.5
	0.7nm,0.3s,baz=192,slow=24,SNR=5.2						
MJAR	Matsushiro Arr	8.56	336	P	Pn	11 23 43.4	-0.1
MJAR						11 25 17.8	
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR				smax	smax		
	comp=N,1.0nm,0.3s						
MAJO	Matsushiro	8.56	336	eP	Pn	11 23 43.7	+0.1
MAJO				e		11 25 19.3	
MAJO				pmax	pmax		
	comp=Z,15nm,0.7s						
MAJO	Matsushiro	8.56	336	ePn	Pn	11 23 43.6	+0.1
	comp=Z,15nm,0.7s						
MAJO				eSn	Sn	11 25 19.3	-0.1
MAT	Matsushiro	8.56	336	P	Pn	11 23 43.0	-0.6
MAT				S	Sn	11 25 16.7	-2.6
JMK	Ichinoseki	10.20	354	eS	Sn	11 25 48.7	-11
JNU	Nakatsue	10.93	296	LR	LR	11 28 25.9	
	comp=Z,96nm,18.8s,baz=66,slow=37						
JOW	Kunigami	12.81	265	LR	LR	11 28 53.9	
	comp=Z,22nm,21.8s,baz=148,slow=34						
KSRS	Korea Array	15.00	309	Pn	P	11 25 14.2	-2.5
	comp=Z,0.4nm,0.3s,baz=116,slow=12,SNR=21						
KSRS				LR	LR	11 30 40.5	
	comp=Z,93nm,21.4s,baz=165,slow=36						
KSAR	Wonju Array Be	15.02	309	P	Pn	11 25 14.2	+2.4
KSAR	Wonju Array Be	15.02	309	Pn	Pn	11 25 14.2	+2.4
USRK	Ussuriysk Ar.	17.55	334	P	Pn	11 25 43.2	-0.9
	comp=Z,0.2nm,0.3s,baz=142,slow=12,SNR=6.1						
YSS	Yuzh-Sakhalins	18.13	0	⇑eP	P	11 26 02.2	+11
YSS				pmax	pmax		
	comp=Z,42nm,1.7s						
HABR	Khabarovsk	20.49	346	eP	Pn	11 26 21.9	+2.5
HABR				e*PP	pP	11 26 30.6	+6.6
HABR				e		11 26 40.3	
HABR				e*SS	Sn	11 30 26.2	+17
HABR				eSS	SnSn	11 30 33.5	+9.0
HABR				eSSS	SSS	11 30 47.7	
HABR				pmax	pmax		
	comp=Z,14nm,1.8s						
HABR				MLR	MLR		
	comp=Z,79nm,15.0s						
KLR	Kul'dur	22.03	341	eP	P	11 26 27.0	-6.8
SONM	Songino Array	33.76	314	P	P	11 28 22.1	+1.2
	comp=Z,2.9nm,0.9s,baz=117,slow=8.2,SNR=11						
SONM	Songino Array	33.76	314	P	P	11 28 22.1	+1.2
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAK	Zakamensk	36.59	317	eP	P	11 28 46.2	+1.0
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TLY	Talaya	36.86	319	P	P	11 28 49.2	+1.7
	comp=Z,3.2nm,0.7s,baz=97,slow=11,SNR=5.3						
TLY	Talaya	36.86	319	eP	P	11 28 49.6	+2.1
TLY				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CMAR	Chiang Mai Arr	41.08	265	P	P	11 29 23.5	+0.3
	comp=Z,0.6nm,0.3s,baz=61,slow=6.7,SNR=5.6						
CMAR	Chiang Mai Arr	41.08	265	P	P	11 29 23.5	+0.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TAPN	Taplejung	48.07	282	eP	P	11 30 19.2	0.0
	comp=Z,6.8nm,0.5s						
ODAN	Odare	48.47	282	eP	P	11 30 22.3	0.0
	comp=Z,17nm,0.7s						
WRAB	Tennant Creek	49.09	190	ceP	P	11 30 26.1	-0.5
WRAB				pmax	pmax		
	comp=Z,34nm,1.2s						
WRAB	Tennant Creek	49.09	190	eP	P	11 30 25.7	-0.9
	comp=Z,26nm,1.4s						
WRA	Warramunga Arr	49.10	190	P	P	11 30 26.1	-0.6
	comp=Z,7.1nm,0.8s,baz=11,slow=8.2,SNR=41						
WRA	Warramunga Arr	49.10	190	P	P	11 30 26.1	-0.6
WRA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
RAMN	Ramite	49.12	282	eP	P	11 30 27.5	+0.2
	comp=Z,23nm,0.7s						
JIRN	Jiri	49.29	283	eP	P	11 30 29.2	+0.5
	comp=Z,35nm,0.6s						
GUN	Gumba	49.49	283	eP	P	11 30 30.6	+0.4
	comp=Z,31nm,0.8s						
MK31	Makanchi Array	49.68	308	eP	P	11 30 31.4	+0.4
MK31	Makanchi Array	49.68	308	eP	P	11 30 31.4	+0.4
MKAR	Makanchi Array	49.68	308	P	P	11 30 31.8	+0.8
	comp=Z,2.5nm,0.7s,baz=88,slow=8.6,SNR=21						
MKAR	Makanchi Array	49.68	308	ceP	P	11 30 30.5	-0.5
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PKI	Pulchoki	49.98	283	eP	P	11 30 33.8	-0.1
KKN	Kakani	50.03	283	eP	P	11 30 34.0	-0.2
DMN	Daman	50.23	283	eP	P	11 30 35.8	+0.1
GKN	Gorkha	50.52	284	eP	P	11 30 37.8	0.0
	comp=Z,11nm,0.6s						
KOLN	Koldanda	51.47	284	eP	P	11 30 45.1	+0.1
	comp=Z,24nm,0.7s						
KURK	Kurchatov	52.06	314	eP	P	11 30 49.4	+0.6
KURK				pmax	pmax		
	comp=Z,22nm,1.2s						
KURK	Kurchatov	52.06	314	eP	P	11 30 49.4	+0.6
	comp=Z,22nm,1.2s						
ASAR	Alice Springs	52.82	190	P	P	11 30 52.6	-2.0
	comp=Z,0.9nm,0.9s,baz=2.4,slow=8.0,SNR=6.4						
ASAR	Alice Springs	52.82	190	P	P	11 30 52.7	-2.0
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	Eielson Array	56.06	29	P	P	11 31 17.4	-0.3
	comp=Z,0.9nm,0.9s,baz=257,slow=6.5,SNR=7.2						
ILAR	Eielson Array	56.06	29	P	P	11 31 17.5	-0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BRVK	Borovoye	57.10	317	ceP	P	11 31 25.8	+0.4
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KKAR	Karatay Array	58.38	305	eP	P	11 31 35.5	+0.9
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KKAR	Karatay Array	58.38	305	eP	P	11 31 35.5	+0.9
	comp=Z,3.4nm,0.6s						
STKA	Stephens Creek	60.34	181	P	P	11 31 48.1	+0.2
	comp=Z,0.7nm,0.7s,baz=80,slow=6.1,SNR=1.9						
STKA	Stephens Creek	60.34	181	P	P	11 31 48.2	+0.2
STKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	Inuvik	61.35	25	P	P	11 31 54.2	-0.3
	comp=Z,2.0nm,0.3s,baz=238,slow=11,SNR=2.8						
INK	Inuvik	61.35	25	P	P	11 31 54.2	-0.3
INK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ARU	Arti	63.30	322	d iP	P	11 32 08.3	+0.5
ARU				S	S	11 40 36.0	-2.2
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ARU	Arti	63.30	322	eP	P	11 32 08.0	+0.2
	comp=Z,3.3nm,0.5s						
ABKAR	Akbulak array	64.17	314	eP	P	11 32 14.0	+0.4
	comp=Z,4.3nm,0.6s						
AKTO	Aktyubinsk	65.06	315	P	P	11 32 20.1	+0.6
	comp=Z,3.6nm,0.8s,baz=113,slow=6.5,SNR=9.6						
AKTO	Aktyubinsk	65.06	315	P	P	11 32 20.1	+0.6
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YKA	Yellowknife Ar	70.49	29	P	P	11 32 53.2	-0.2
	comp=Z,0.4nm,0.6s,baz=294,slow=5.9,SNR=5.7						
FINES	FINESS Array B	76.58	334	P	P	11 33 29.1	-0.1
	comp=Z,0.7nm,0.6s,baz=84,slow=4.3,SNR=3.6						
FINES	FINESS Array B	76.58	334	P	P	11 33 29.1	-0.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVAR	Mina Array Bea	79.20	52	P	P	11 33 45.8	+1.2
	comp=Z,1.0nm,1.0s,baz=292,slow=4.3,SNR=4.8						
HFS	Hagfors	82.00	337	P	P	11 33 58.8	-0.1
	comp=Z,2.3nm,0.8s,baz=68,slow=8.3,SNR=4.9						
HFS	Hagfors	82.00	337	P	P	11 33 58.8	-0.1
HFS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NB2	NORSAR Subarra	82.17	338	P	P	11 33 59.4	-0.4
	comp=Z,0.8nm,0.5s,baz=41,slow=5.1						
NOA	NORSAR Array B	82.17	338	P	P	11 33 59.3	-0.5
	comp=Z,0.9nm,0.7s,baz=48,slow=4.7,SNR=4.2						
NOA	NORSAR Array B	82.17	338	P	P	11 33 59.3	-0.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
RAYN	Ar Rayn	84.78	294	eP	P	11 34 15.1	+1.2
	comp=Z,13nm,1.1s						
BRTR	Keskin Array B	85.10	313	P	P	11 34 16.8	+1.4
	comp=Z,1.7nm,0.7s,baz=120,slow=4.6,SNR=7.2						
BRTR	Keskin Array B	85.10	313	ceP	P	11 34 16.5	+1.1
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TXAR	Lajitas Array	94.31	53	P	P	11 35 00.5	+1.4
	comp=Z,0.2nm,0.6s,baz=332,slow=5.1,SNR=3.4						
TORD	Torodi Ar. Bea	123.71	312	PKP	PKPdf	11 40 37.5	-0.1
	comp=Z,0.1nm,0.5s,baz=0.1,slow=1.1,SNR=2.7						

*IDC **02** 11:22:20.8±3.3, 5°.97N×126°.22E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.4/49, mbtmp3.6/4, Error ellipse: s-maj=172.8km s-min=30.4km az=89.0*
ISC 02 11:22:22.4±1.0**, 5°.97N**±0°.08×**126°.18E**±0°.09**, h10**km**, n7, σ1s.10**/8**, mb3.6**/4**, 3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	1.23	276	⇓eP	Pg	11 22 46.9	+0.9
GSPH				eS	Sn	11 23 02.7	+0.2
BIPH	Bislig	2.21	5	⇓iP	Pg	11 23 06.8	+2.0
BIPH				i S	Sg	11 23 34.9	+1.4
CTBH	Cotabato--PC H	2.29	303	⇓iP	Pg	11 23 04.6	-1.7
WRA	Warramunga Arr	26.97	163	P	P	11 28 04.0	-0.5
	0.3nm,0.4s,baz=343,slow=10,SNR=9.1						
ASAR	Alice Springs	30.41	166	P	P	11 28 34.9	-0.2
	0.3nm,0.5s,baz=346,slow=7.1,SNR=12						
STKA	Stephens Creek	40.41	160	P	P	11 30 01.0	+0.1
	1.7nm,0.9s,baz=339,slow=12,SNR=3.1						
ILAR	Eielson Array	83.33	26	P	P	11 34 49.4	-0.1
	0.5nm,0.6s,baz=247,slow=3.4,SNR=5.2						

*DJA **02** 11:30:25.7±1.8, 1°N±5°×12°8E±1°0, h10km, M3.7/2, MLv3.7/2*
IDC 02 11:30:23.2±12.0**, 1°.51N**×**126°.72E, h0**km**, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.3**/36**, mbtmp3.4**/3**, Error ellipse: s-maj=196.0km s-min=165.6km az=158.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.98	138	P	Pn	11 30 47.8	+3.6
TNTI				S	Sn	11 31 05.0	+6.2
WRA	Warramunga Arr	22.59	161	P	P	11 35 25.4	-0.2
	0.8nm,0.5s,baz=340,slow=11,SNR=14						
ASAR	Alice Springs	25.98	165	P	P	11 35 57.4	-0.5
	0.1nm,0.3s,baz=350,slow=7.9,SNR=3.1						
STKA	Stephens Creek	36.08	158	P	P	11 37 27.4	+0.6
	0.7nm,0.6s,baz=338,slow=11,SNR=3.1						

NNC 02 12:05:22.4±7.8**, 37°.03N**×**71°.17E, h0**km**, mb3.7, mpv3.4, 6C-3D, Error ellipse: s-maj=64.7km s-min=25.6km az=169.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.56	314	⇑Pn	Pn	12 06 05.0	-0.5
	12nm,0.2s						
DZET				⇑Sn	Sb	12 06 40.0	-1.8
	42nm,0.4s						
SFK	Sufi-Kurgan	3.49	31	⇑Pn	Pn	12 06 18.2	-0.2
	2.3nm,0.3s						
SFK				⇑Sn	Sb	12 07 05.0	-3.7
	12nm,0.4s						
MNAS	Manas	5.54	10	⇑Pn	Pn	12 06 44.1	-2.3
	1.4nm,0.3s						
MNAS				⇑Sn	Sn	12 07 49.0	-2.0
	6.8nm,0.6s						
KK31	Karatay Array	6.09	355	⇓Pn	Pn	12 06 50.9	-2.8
	0.4nm,0.2s,baz=178,slow=13,SNR=13						
KK31				⇓Sn	Sn	12 07 59.7	-4.4
	2.7nm,0.5s,baz=181,slow=22,SNR=10						
AAK	Ala-Archa	6.15	24	⇓Sn	Sn	12 08 04.6	-1.4
	1.6nm,0.5s						

*IDC **02** 12:16:53.2±1.9, 42°.05N×143°.07E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.2/40, mbtmp3.3/5, ML3.2/2, Error ellipse: s-maj=65.7km s-min=22.5km az=82.0*
*ISCJB **02** 12:16:57.3±0.6, 42°.14N±0°.05×142°.43E±0°.06, h31km±7km, mb3.3/3, Error ellipse: s-maj=8.4km s-min=7.6km az=6.1*
*JMA **02** 12:16:58.5±0.1, 42°.23N×142°.50E, h27km±1km, M3.2 Broadband fault plane solution: P waves. NP1: φs331.00000°, δ80.00000°, λ-131.00000°. NP2: φs231.00000°, δ42.00000°, λ-14.00000°. Principal axes: T Plg24.0000°, Azm92.0000°; N Plg40.0000°, Azm340.0000°; P Plg40.0000°, Azm204.0000°;*
JMA Felt I J1.
ISC 02 12:16:57.7±1.1**, 42°.19N**±0°.05×**142°.42E**±0°.04**, h24**km±9km**, n15, σ1s.02**/21**, mb3.3**/3**, 5C-1D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.27	70	⇑P	Pb	12 17 03.9	-0.3
JNBK				eS	Sb	12 17 09.0	+0.4
JEM	Erimo	0.58	107	⇑P	Pb	12 17 09.0	-0.2
JEM				eS	Sn	12 17 18.3	-0.8
JBT2	Biratori 2	0.59	356	⇓P	Pb	12 17 09.2	-0.3
JCH	Churui	0.82	58	⇑P	Pb	12 17 12.5	-0.8
JCH				eS	Sb	12 17 23.9	-0.1
JEW	Eniwo	0.97	313	P	Pn	12 17 15.7	-0.1
JEW				eS	Sn	12 17 29.3	+0.5
JFR	Furan	0.98	8	P	Pn	12 17 15.3	-0.8
JNB	Noboribetsu	1.06	286	⇑P	Pn	12 17 16.1	-1.0
JNB				eS	Sn	12 17 30.0	-1.1
JKB	Kayabe	1.07	254	⇑P	Pn	12 17 16.6	-0.6
JKB				eS	Sn	12 17 30.7	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JOB	Onbets	1.27	55	P	Pn	12 17 19.9	0.0
JAB	Ashibetsu	1.32	354	P	Pb	12 17 21.6	-0.3
ASAJ	Asahikawa	1.93	4	Pn	Pn	12 17 30.3	+1.2
	5.7nm,0.3s,baz=206,slow=15,SNR=43						
MJAR	Matsushiro Arr	6.51	211	Pn	Pn	12 18 33.7	+1.6
	0.4nm,0.3s,baz=21,slow=14,SNR=11						
KURBB	Kurchatov Arra	43.60	304	P	P	12 25 02.0	+2.3
	0.2nm,0.4s,baz=77,slow=9.1,SNR=3.3						
WRA	Warramunga Arr	62.27	189	P	P	12 27 16.4	-1.3
	0.2nm,0.4s,baz=7.4,slow=7.0,SNR=5.4						
ASAR	Alice Springs	65.99	189	P	P	12 27 40.9	-1.2
	0.2nm,0.8s,baz=6.8,slow=8.6,SNR=3.6						

IDC 02 12:21:58.1±3.7, 24°.30N×94°.80E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.3/48, mbtmp3.6/3, Error ellipse: s-maj=335.7km s-min=26.9km az=60.0

ISC 02 12:21:59.5±1.4, 24°.2N±0°.3×94°.6E±0°.2, h10km, n5, σ0s.82/6, mb3.8/3, 1C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMP	Imphal	0.90	315	eP	Pn	12 22 24.0	+5.7
IMP				eS	Sn	12 22 32.5	+1.0
SHL	Shillong	2.88	300	⇑iPN	Pb	12 22 50.5	-0.5
SHL				eSN	Sn	12 23 20.7	+0.4
MKAR	Makanchi Array	24.67	339	P	P	12 27 19.9	-0.6
	0.6nm,0.6s,baz=140,slow=9.6,SNR=7.5						
WRA	Warramunga Arr	58.45	135	P	P	12 31 56.0	+0.2
	0.6nm,0.3s,baz=323,slow=7.3,SNR=27						
ASAR	Alice Springs	60.91	138	P	P	12 32 13.2	+0.4
	0.3nm,0.3s,baz=318,slow=6.6,SNR=17						

IDC 02 12:33:06.5±2.0, 4°.50S×127°.42E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/32, mbtmp3.4/4, ML3.0/2, Error ellipse: s-maj=59.8km s-min=28.7km az=57.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPI	Kappang	7.66	266	Pn	Pn	12 34 59.3	-0.1
	2.2nm,0.3s,baz=115,slow=5.2,SNR=15						
WRA	Warramunga Arr	16.77	157	Pn	Pn	12 37 02.2	-0.8
	0.0nm,0.3s,baz=335,slow=12,SNR=4.5						
ASAR	Alice Springs	20.06	162	P	P	12 37 41.9	+0.3
	0.7nm,0.8s,baz=344,slow=11,SNR=9.7						
MKAR	Makanchi Array	64.74	327	P	P	12 43 46.7	0.0
	0.2nm,0.5s,baz=127,slow=7.9,SNR=3.8						

WEL 02 12:43:11.1±0.5, 38°.46S×175°.86E, h165km±3km, ML3.8/16, 30C-5D, Error ellipse: s-maj=2.3km s-min=2.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUTZ	Kaahu Road	0.05	222	ePN	Pn	12 43 32.4	-0.6
TLZ	Tolley Road	0.28	296	⇑PN	Pn	12 43 33.5	+0.1
TLZ				eSN	Sn	12 43 51.2	+0.8
PRRZ	Plateau Road	0.42	96	ePN	Pn	12 43 33.8	+0.1
RATZ	Rangitukua	0.42	190	⇑PN	Pn	12 43 33.7	-0.1
RITZ	Rihia Road	0.52	180	PN	Pn	12 43 34.6	+0.4
MRHZ	Matea Rd	0.58	131	⇑PN	Pn	12 43 34.4	-0.2
KRVZ	Karewarewa	0.66	195	PN	Pn	12 43 35.0	0.0
WTVZ	West Tongariro	0.69	198	PN	Pn	12 43 35.2	0.0
TWVZ	Taurewa	0.70	208	PN	Pn	12 43 35.1	-0.1
OTVZ	Oturere	0.73	192	PN	Pn	12 43 35.5	0.0
NGZ	Ngauruhoe	0.75	196	PN	Pn	12 43 35.5	-0.1
COVZ	Chateau Observ	0.79	198	⇑PN	Pn	12 43 35.8	-0.1
WPVZ	Whakapapa	0.79	198	PN	Pn	12 43 35.8	0.0
HIZ	Hauiti	0.79	265	⇑PN	Pn	12 43 35.5	-0.2
TUVZ	Tukino	0.83	191	⇑PN	Pn	12 43 36.2	+0.1
FWVZ	Far West T-bar	0.84	197	PN	Pn	12 43 36.0	-0.3
WHVZ	Whangaehu Hut	0.85	194	⇓PN	Pn	12 43 36.3	-0.2
BKZ	Black Stump Fm	0.86	146	⇓PN	Pn	12 43 36.2	-0.1
BKZ				SN	Sn	12 43 55.0	-0.8
BKZ				AML	AML	12 43 57.3	
TRVZ	Turoa	0.88	196	⇑PN	Pn	12 43 36.6	0.0
WNVZ	Wahianoa	0.90	193	⇑PN	Pn	12 43 36.6	-0.1
PKVZ	Pokaka	0.93	206	⇑PN	Pn	12 43 36.6	-0.2
MOVZ	Moawhango	0.96	185	⇑PN	Pn	12 43 36.6	-0.3
NMHZ	Naumai	0.98	131	PN	Pn	12 43 38.0	+0.8
URZ	Urewera	1.00	79	⇑PN	Pn	12 43 36.6	-0.6
URZ				SN	Sn	12 43 56.0	-1.3
URZ				AML	AML	12 43 57.3	
BHHZ	Black Hill Sta	1.04	171	⇑PN	Pn	12 43 37.4	-0.3
KWHZ	Kaweka Forest	1.06	156	⇑PN	Pn	12 43 38.0	+0.2
RAHZ	Arahi	1.06	116	PN	Pn	12 43 38.2	+0.5
MCHZ	McNeill Hill	1.18	147	⇑PN	Pn	12 43 39.5	+0.8
ARHZ	Aropaoanui	1.20	133	⇑PN	Pn	12 43 39.4	+0.6
SNGZ	Shannon Statio	1.20	106	⇑PN	Pn	12 43 39.2	+0.3
RAGZ	Rawiri	1.22	92	PN	Pn	12 43 39.0	-0.1
WHHZ	Waihua	1.24	121	PN	Pn	12 43 39.6	+0.4
KRHZ	Kereru	1.25	162	⇑PN	Pn	12 43 39.4	0.0
MWZ	Matawai	1.31	85	⇑PN	Pn	12 43 39.6	-0.4
MWZ				SN	Sn	12 44 00.7	-1.5
MWZ				AML	AML	12 44 02.7	
MWZ				AML	AML	12 44 05.9	
MWZ				AML	AML	12 44 05.9	
WAZ	Wanganui	1.47	207	⇑PN	Pn	12 43 40.9	-0.5
PNHZ	Pukenui	1.48	170	⇑PN	Pn	12 43 41.2	-0.4
RIGZ	Rimuhau	1.51	100	⇑PN	Pn	12 43 41.9	0.0
KNZ	Kokohu	1.52	112	⇑PN	Pn	12 43 41.9	0.0
KAHZ	Kahuranaki	1.55	150	⇑PN	Pn	12 43 42.6	+0.3
TKGZ	Te Karaka	1.56	90	PN	Pn	12 43 42.7	+0.4
TSZ	Takapari Road	1.60	177	⇑PN	Pn	12 43 42.4	-0.5
TSZ				AML	AML	12 43 42.5	
PRGZ	Paritu Road	1.65	107	PN	Pn	12 43 42.7	-0.6
HAZ	Te Kaha	1.67	66	⇓PN	Pn	12 43 42.2	-1.3
WPHZ	Waipukurau	1.67	165	⇑PN	Pn	12 43 43.2	-0.3
TWGZ	Tauwhareparae	1.69	81	PN	Pn	12 43 43.6	-0.2
PXZ	Pawanui	1.76	154	⇑PN	Pn	12 43 44.2	-0.2
DVHZ	Dannevirke	1.86	173	PN	Pn	12 43 44.6	-0.9
PRHZ	Porangahau	1.91	162	⇑PN	Pn	12 43 45.6	-0.5
PUZ	Puketiti	1.92	79	PN	Pn	12 43 45.7	-0.5
PUZ				SN	Sn	12 44 11.1	-2.3
PUZ				AML	AML	12 44 16.4	
POWZ	Post Office Ro	1.94	182	PN	Pn	12 43 45.3	-1.1
ANWZ	Angora Road	2.06	167	⇑PN	Pn	12 43 47.1	-0.6
PRWZ	Pori Road	2.10	178	PN	Pn	12 43 47.3	-0.9
WMGZ	Waiomatatini S	2.11	73	PN	Pn	12 43 47.9	-0.5
MXZ	Matakaoa Point	2.12	66	AML	AML	12 44 18.5	
MRZ	Mangatainoka R	2.22	186	⇑PN	Pn	12 43 48.0	-1.6
MRZ				SN	Sn	12 44 16.0	-3.5
MRZ				AML	AML	12 44 18.8	
BFZ	Birch Farm	2.24	173	⇓PN	Pn	12 43 48.6	-1.3
TIWZ	Tintock	2.32	180	PN	Pn	12 43 49.3	-1.5
TIWZ				AML	AML	12 44 20.4	
TIWZ				AML	AML	12 44 22.1	
OGWZ	Otaki Gorge	2.42	193	PN	Pn	12 43 50.2	-1.7
HOWZ	Holdsworth Sta	2.46	186	PN	Pn	12 43 50.4	-2.0
KIW	Kapiti Island	2.52	197	PN	Pn	12 43 51.0	-2.1
TMWZ	Te Maipa	2.65	180	PN	Pn	12 43 52.7	-2.0
MTW	Mount Morrison	2.72	186	⇑PN	Pn	12 43 53.1	-2.3
MTW				AML	AML	12 44 28.4	
MTW				AML	AML	12 44 28.4	
CAW	Cannon Point	2.72	193	PN	Pn	12 43 53.3	-2.2
CAW				AML	AML	12 44 28.5	
CAW				AML	AML	12 44 30.0	
TRWZ	Traveller	2.94	183	PN	Pn	12 43 56.0	-2.3
TRWZ				AML	AML	12 44 33.7	
TRWZ				AML	AML	12 44 34.2	
WEL	Wellington	2.95	196	PN	Pn	12 43 55.9	-2.4
MSWZ	Moikau Station	3.00	189	PN	Pn	12 43 56.3	-2.6
MSWZ				AML	AML	12 44 33.2	
MSWZ				AML	AML	12 44 33.6	
TCW	Tory Channel	3.01	203	PN	Pn	12 43 56.6	-2.5
TCW				AML	AML	12 44 34.2	
TCW				AML	AML	12 44 34.2	
BHW	Baring Head	3.05	194	PN	Pn	12 43 56.7	-2.8
BHW				AML	AML	12 44 33.4	
PLWZ	Palliser	3.15	188	PN	Pn	12 43 57.9	-2.9
TUWZ	Tuamarina	3.32	206	PN	Pn	12 43 59.8	-3.1
TUWZ				AML	AML	12 44 40.2	
TUWZ				AML	AML	12 44 40.5	
QRZ	Quartz Range	3.50	226	PN	Pn	12 44 01.4	-3.8
THZ	Tophouse	4.01	214	PN	Pn	12 44 08.7	-3.1
KHZ	Kahutara	4.34	203	⇓PN	Pn	12 44 12.8	-3.1
KHZ				AML	AML	12 45 03.1	
LTZ	Lake Taylor	5.12	211	ePN	Pn	12 44 22.2	-4.0
OXZ	Oxford	5.66	210	ePN	Pn	12 44 28.2	-5.1
MQZ	McQueen's Vall	5.78	204	PN	Pn	12 44 29.7	-5.2
MQZ				SN	Sn	12 45 31.3	-9.4
ODZ	Otahua Downs	7.65	209	PN	Pn	12 44 55.8	-3.8

IDC 02 12:49:35.7±1.9, 3°.70N×125°.51E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/35, mbtmp3.4/4, Error ellipse: s-maj=191.3km s-min=24.5km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.04	160	P	P	12 55 00.4	-1.5
	0.7nm,0.8s,baz=338,slow=11,SNR=10						
ASAR	Alice Springs	28.40	164	P	P	12 55 33.1	+1.0
	0.1nm,0.4s,baz=345,slow=6.8,SNR=3.3						
STKA	Stephens Creek	38.54	158	P	P	12 57 00.5	+0.3
	0.6nm,0.6s,baz=346,slow=8.3,SNR=2.3						
MKAR	Makanchi Array	56.90	326	P	P	12 59 22.6	0.0
	0.3nm,0.5s,baz=124,slow=8.0,SNR=6.2						

MAN 02 12:55:40, 10°.10N×126°.37E, h29km, mb4.7, ML3.6, MS3.6, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.92	250	⇓iP	Pb	12 55 57.7	+0.2
SCPH				i S	Sb	12 56 10.1	+0.7
BUTP	Butuan	1.35	213	eP	Pn	12 56 03.1	+0.2
MSLP	Maasin	1.49	271	eP	Pb	12 56 06.0	-1.0
MSLP				eS	Sb	12 56 24.8	-0.7
PLP	Palo	1.73	308	⇓eP	Pb	12 56 09.7	-1.3
PLP				eS	Sn	12 56 27.8	-1.4
BUKP	Musuan	2.56	210	eP	Pn	12 56 21.9	+2.3
CNP	Catarman	2.92	325	eP	Pn	12 56 25.7	+1.2
PAGZ	Pagadian	3.70	233	eP	Pn	12 56 37.3	+2.0

KRSC 02 13:16:29.0±0.9, 53°.29N×160°.11E, h70km±9km, ML4.1
MOS 02 13:16:29.5±0.7, 53°.23N×160°.17E, h67km, mb4.0/3, Error ellipse: s-maj=15.0km s-min=9.3km az=64.9
ISCJB 02 13:16:30.3±0.4, 53°.28N±0°.04×160°.04E±0°.07, h74km±4km, mb3.5/8, Error ellipse: s-maj=8.0km s-min=3.6km az=39.8
IDC 02 13:16:33.8±1.4, 53°.35N×159°.58E, h99km±13km, mb3.2/8, mb1 3.6/8, mb1mx3.2/34, mbtmp3.6/8, Error ellipse: s-maj=29.6km s-min=18.3km az=144.0

ISC 02 13:16:30.2±0.7, 53°.29N±0°.04×160°.08E±0°.03, h68km±5km, n63, σ1s.31/89, mb3.5/8, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.20	189	eP	Pn	13 16 41.3	+0.7
SPN				eS	Sn	13 16 49.0	+0.9
SPN	Mys Shipunski	0.20	189	PN	Pn	13 16 41.3	+0.7
SPN				S	Sn	13 16 49.0	+0.9
NLC	Nalytchevo	0.46	255	eP	Pn	13 16 42.9	+0.5
NLC				eS	Sn	13 16 51.6	+0.3
NLC	Nalytchevo	0.46	255	PN	Pn	13 16 42.9	+0.5
NLC				S	Sn	13 16 51.6	+0.3
SDLR	Sedlovina	0.71	269	eP	Pn	13 16 45.6	+0.3
SDLR				eS	Sn	13 16 56.6	+0.3
UGLR	Uglovaya	0.76	264	eP	Pn	13 16 46.2	+0.5
UGLR				eS	Sn	13 16 57.9	+0.7
SMAR	Somma	0.77	268	eP	Pn	13 16 46.1	+0.2
SMAR				eS	Sn	13 16 57.2	-0.3
AVH	Avacha	0.80	269	eP	Pn	13 16 46.9	+0.6
AVH				eS	Sn	13 16 59.0	+0.9
AVH	Avacha	0.80	269	PN	Pn	13 16 46.9	+0.6
AVH				S	Sn	13 16 59.0	+0.9
KRX	Arik	0.86	275	eP	Pn	13 16 47.2	+0.2
KRX				eS	Sn	13 16 59.0	-0.4
KOK	Koryaka	0.86	271	eP	Pn	13 16 47.4	+0.4
KOK				eS	Sn	13 16 59.4	0.0
KOK	Koryaka	0.86	271	PN	Pn	13 16 47.4	+0.4
KOK				S	Sn	13 16 59.4	0.0
PET	Petropavlovsk	0.90	253	eP	Pn	13 16 47.8	+0.5
PET				eS	Sn	13 17 00.0	+0.1
PET	Petropavlovsk	0.90	253	⇓iPN	Pn	13 16 47.9	+0.6
PET				eS	Sn	13 17 00.5	+0.6
PET				pmax	pmax		
	comp=Z,169nm,0.5s						
PET				smax	smax		
	comp=E,1μm,0.4s						
PET				smax	smax		
	comp=N,1μm,0.5s						
RUS	Russkaya	1.28	228	eP	Pn	13 16 52.7	+0.5
RUS				eS	Sn	13 17 08.7	+0.1
RUS	Russkaya	1.28	228	PN	Pn	13 16 52.7	+0.5
RUS				S	Sn	13 17 08.7	+0.1
GNL	Ganaly	1.34	288	eP	Pn	13 16 53.1	0.0
GNL				eS	Sn	13 17 09.8	-0.4
GNL	Ganaly	1.34	288	PN	Pn	13 16 53.1	0.0
GNL				S	Sn	13 17 09.8	-0.4
MTVR	Mutnovka	1.40	236	eP	Pn	13 16 55.0	+1.0
MTVR				eS	Sn	13 17 12.8	+1.0
GRL	Gorelyy	1.42	239	eP	Pn	13 16 55.8	+1.6
GRL				eS	Sn	13 17 13.7	+1.6
GRL	Gorelyy	1.42	239	PN	Pn	13 16 55.8	+1.6
GRL				S	Sn	13 17 13.7	+1.6
PETK	Petropavlovsk-	1.44	264	P	Pn	13 16 55.2	+0.9
	comp=N,20nm,0.3s,baz=90,slow=20,SNR=284						
PETK				S	Sn	13 17 12.8	+0.3
	comp=N,61nm,0.3s,baz=24,slow=29,SNR=26						
PETK	Petropavlovsk-	1.44	264	PN	Pn	13 16 55.2	+0.9
PETK				S	Sn	13 17 12.8	+0.3
PETK				pmax	pmax		
	comp=Z,20nm,0.3s						
PETK				smax	smax		
	comp=N,61nm,0.3s						
MKZ	Mys Kozlova	1.60	37	eP	Pn	13 16 57.0	+0.6
MKZ				eS	Sn	13 17 17.1	+0.9
MKZ	Mys Kozlova	1.60	37	PN	Pn	13 16 57.0	+0.6
MKZ				S	Sn	13 17 17.1	+0.9
ASAK	Asacha	1.60	236	eP	Pn	13 16 58.0	+1.5
ASAK				eS	Sn	13 17 18.9	+2.5
APC	Apacha	1.80	259	eP	Pn	13 17 00.0	+1.0
APC				eS	Sn	13 17 21.7	+0.8
APC	Apacha	1.80	259	PN	Pn	13 17 00.0	+1.0
APC				S	Sn	13 17 21.7	+0.8
KZV	Kizimen	1.83	4	eP	Pn	13 17 00.8	+1.1
KZV				eS	Sn	13 17 23.1	+1.1
TUMR	Tumrok	2.00	1	eP	Pn	13 17 03.6	+1.7
TUMR				eS	Sn	13 17 27.5	+1.6
MIPR	Malaya Ipel'ka	2.26	245	eP	Pn	13 17 06.6	+1.3
KMNR	Kamenistaya	2.47	2	eP	Pn	13 17 10.7	+2.4
PAU	Pauzhetka	2.71	229	eP	Pn	13 17 13.5	+2.1
PAU	Pauzhetka	2.71	229	PN	Pn	13 17 13.5	+2.1
ESO	Esso	2.76	344	eP	Pn	13 17 13.1	+1.0
ESO	Esso	2.76	344	PN	Pn	13 17 13.1	+1.0
KOZ	Kozyrevsk	2.77	358	eP	Pn	13 17 14.6	+2.3
KOZ	Kozyrevsk	2.77	358	PN	Pn	13 17 14.6	+2.3
SRDR	Sredinnyy	3.04	356	eP	Pn	13 17 17.7	+1.8
KBTR	Krutoberegovo	3.33	27	eP	Pn	13 17 21.6	+1.8
KBTR				eS	Sn	13 18 00.3	+2.2
SKR	Severo-Kuril's	3.58	225	eP	Pn	13 17 25.4	+2.2
SKR				eS	Sn	13 18 04.6	+0.4
SKR	Severo-Kuril's	3.58	225	ePN	Pn	13 17 16.5	-6.7
BKI	Bering	3.95	59	eP	Pn	13 17 29.0	+0.7
BKI				eS	Sn	13 18 10.1	-3.3
BKI	Bering	3.95	59	PN	Pn	13 17 29.0	+0.7
BKI				S	Sn	13 18 10.1	-3.3
OSSR	Ossora	6.20	14	eP	Pn	13 18 03.4	+4.4
ERM	Erimo	15.99	232	i P	Pn	13 20 08.3	-2.4
MJA0	Matsu Arr-Jizo	22.64	231	eP	P	13 21 25.5	-0.1
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MJAR	Matsushiro Arr	22.66	231	P	P	13 21 24.1	-1.7
	comp=Z,1.0nm,0.6s,baz=14,slow=12,SNR=4.4						
MJAR	Matsushiro Arr	22.66	231	P	P	13 21 24.1	-1.7
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
H11N2	WAKE ISLAND Hy	33.91	168	T	T	13 59 03.6	
	baz=352,slow=76,SNR=20						
H11N3	WAKE ISLAND Hy	33.93	168	T	T	13 59 08.9	
	baz=352,slow=76,SNR=16						
H11N1	WAKE ISLAND Hy	33.93	168	T	T	13 59 07.9	
	baz=352,slow=76,SNR=20						
H11S1	WAKE ISLAND Hy	35.09	169	T	T	14 00 28.4	
	baz=350,slow=74,SNR=5.0						
H11S3	WAKE ISLAND Hy	35.11	169	T	T	14 00 34.4	
	baz=350,slow=74,SNR=14						
H11S2	WAKE ISLAND Hy	35.11	169	T	T	14 00 29.2	
	baz=350						
MKAR	Makanchi Array	48.06	295	P	P	13 24 59.7	-2.8
	comp=Z,0.2nm,0.4s,baz=58,slow=6.1,SNR=4.5						
NVAR	Mina Array Bea	55.69	70	P	P	13 26 01.9	+2.3
	comp=Z,0.3nm,0.6s,baz=279,slow=8.5,SNR=4.2						
PDAR	Pinedale Array	57.44	61	P	P	13 26 13.7	+1.7
	comp=Z,0.4nm,0.6s,baz=357,slow=3.0,SNR=4.5						
FINES	FINESS Array B	59.93	336	P	P	13 26 28.3	-0.3
	comp=Z,5.0nm,1.2s,baz=93,slow=3.8,SNR=3.9						
FINES	FINESS Array B	59.93	336	eP	P	13 26 27.0	-1.7
FINES				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TXAR	Lajitas Array	70.57	67	P	P	13 27 39.4	+1.3
	comp=Z,0.4nm,0.4s,baz=293,slow=4.9,SNR=8.6						
WRA	Warramunga Arr	76.26	205	P	P	13 28 10.7	-0.6
	comp=Z,0.4nm,0.8s,baz=21,slow=7.4,SNR=3.8						
ASAR	Alice Springs	79.93	204	P	P	13 28 32.1	+0.6
	comp=Z,0.4nm,0.6s,baz=14,slow=5.0,SNR=6.4						

ISCJB 02 13:26:48.4±0.5, 6°.11S±0°.05×128°.07E±0°.06, h400km, mb3.7/8, Error ellipse: s-maj=8.3km s-min=6.8km az=14.1
IDC 02 13:26:49.0±1.4, 6°.10S×128°.13E, h381km±16km, mb3.4/7, mb1 3.4/11, mb1mx3.3/27, mbtmp4.2/11, Error ellipse: s-maj=22.9km s-min=9.0km az=78.0
DJA 02 13:26:53.1±0.4, 6°S±4°×12°8E±°, h10km, M4.5/9, mb4.6/9, mB5.3/3, mB5.3/3, MLv4.4/5, MLv4.4/5, Mw(mB)4.7/3, Mw(mB)4.7/3

ISC 02 13:26:49.6±0.6, 6°.12S±0°.06×128°.09E±0°.09, h400km, n19, σ1s.95/22, mb3.6/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOEI	Soe	5.23	226	P	Pn	13 28 12.5	-1.6
	112nm,0.8s,2μm0.5nm						
SOEI				S	S	13 29 18.1	-4.7
	112nm,0.8s,2μm0.5nm						
FAKI	Fak Fak	5.23	53	P	Pn	13 28 12.1	-2.0
	120nm,0.8s,2μm0.5nm						
SIJI	Sorong	6.11	31	P	Pn	13 28 23.1	-0.5
	3.8nm,0.3s,baz=170,slow=22,SNR=18						
SIJI				S	S	13 29 35.4	-4.6
	4.3nm,0.3s,baz=59,slow=23,SNR=9.1						
BKSI	Bulukumba	7.96	275	P	Pn	13 28 42.9	-1.4
	21nm,0.9s,0.1nm						
KAPI	Kappang	8.37	277	P	Pn	13 28 48.0	-0.9
	2.0nm,0.3s,baz=104,slow=3.4,SNR=8.4						
SPSI	Sidrap Palu	8.56	284	P	Pn	13 28 50.1	-1.0
	32nm,0.8s						
TTSI	Tana Toraja	8.79	290	P	P	13 28 55.2	+1.4
	19nm,0.8s						
MRSI	Marisa	8.98	317	P	Pn	13 28 55.3	-0.6
	12nm,0.5s						
WRA	Warramunga Arr	15.02	157	P	P	13 30 03.0	+0.6
	1.0nm,0.3s,baz=333,slow=11,SNR=82						
WRA				S	S	13 32 41.0	-1.0
	0.6nm,0.3s,baz=334,slow=21,SNR=7.0						
ASAR	Alice Springs	18.32	163	P	P	13 30 38.4	+0.8
	0.7nm,0.3s,baz=340,slow=11,SNR=62						
ASAR				S	S	13 33 47.4	+1.6
	0.4nm,0.3s,baz=344,slow=24,SNR=17						
STKA	Stephens Creek	28.57	155	P	P	13 32 12.4	+1.6
	1.6nm,0.5s,baz=331,slow=9.5,SNR=8.7						
CMAR	Chiang Mai Arr	37.72	311	P	P	13 33 32.5	+3.3
	3.6nm,0.6s,baz=140,slow=6.9,SNR=29						
KSRS	Korea Array	43.35	360	P	P	13 34 15.7	+1.3
	1.4nm,0.5s,baz=177,slow=10,SNR=13						
MJAR	Matsushiro Arr	43.49	12	P	P	13 34 15.0	-0.5
	1.8nm,0.7s,baz=190,slow=9.9,SNR=7.1						
SONM	Songino Array	57.03	343	P	P	13 35 57.6	+2.0
	1.0nm,0.6s,baz=170,slow=7.5,SNR=8.2						
PETK	Petropavlovsk-	64.11	19	P	P	13 36 43.9	+1.3
	3.3nm,0.5s,baz=202,slow=7.3,SNR=4.5						
MKAR	Makanchi Array	66.46	328	P	P	13 36 58.4	+0.7
	0.7nm,0.5s,baz=124,slow=7.8,SNR=10						
ZALV	Zalesovo Beam	69.97	334	P	P	13 37 18.9	0.0
	1.3nm,0.5s,baz=107,slow=3.2,SNR=4.6						
TORD	Torodi Ar. Bea	126.77	282	PKP	PKPdf	13 45 08.0	+0.6
	0.4nm,0.7s,baz=106,slow=2.2,SNR=2.9						

IDC 02 13:43:14.2±1.6, 5°.32S×130°.60E, h0km, mb3.8/1, mb1 3.7/4, mb1mx3.4/34, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=76.5km s-min=26.3km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	4.47	9	Pn	Pn	13 44 21.1	-2.1
	2.3nm,0.3s,baz=230,slow=22,SNR=37						
SIJI				Sn	Sn	13 45 07.5	-8.5
	8.9nm,0.3s,baz=272,slow=23,SNR=14						
WRA	Warramunga Arr	14.98	166	Pn	Pn	13 46 46.3	-1.1
	0.2nm,0.3s,baz=346,slow=13,SNR=15						
WRA				Sn	Sn	13 49 28.9	-5.5
	0.4nm,0.3s,baz=351,slow=24,SNR=7.8						
ASAR	Alice Springs	18.52	170	P	P	13 47 31.9	-0.4
	0.1nm,0.3s,baz=350,slow=14,SNR=9.7						
ASAR				S	Sn	13 50 55.1	-5.0
	0.1nm,0.3s,baz=356,slow=26,SNR=5.1						
MKAR	Makanchi Array	67.16	326	P	P	13 54 10.0	0.0
	0.4nm,0.3s,baz=111,slow=7.9,SNR=11						
KURBB	Kurchatov Arra	71.40	328	P	P	13 54 36.9	+0.7
	4.2nm,0.2s,baz=116,slow=5.2,SNR=3.6						

NNC 02 13:56:47.0±2.1, 37°.83N×72°.18E, h181km±17km, mb2.4, mpv3.5, 6C-4D, Error ellipse: s-maj=19.2km s-min=7.1km az=154.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	2.41	25	⇓P	Pn	13 57 29.0	0.0
	7.4nm,0.3s						
SFK				⇑S	Sn	13 58 02.2	+0.4
	59nm,0.4s						
DZET	Dzherino	2.81	291	⇑P	Pn	13 57 33.0	-0.6
	36nm,0.3s						
DZET				⇓S	Sn	13 58 10.3	+0.4
	42nm,0.5s						
MNAS	Manas	4.66	3	⇑P	Pn	13 57 56.9	+0.2
	3.2nm,0.4s						
MNAS				⇓S	Sn	13 58 51.2	-0.3
	11nm,0.5s						
AAK	Ala-Archa	5.11	20	⇑P	Pn	13 58 03.0	+0.3
	1.1nm,0.3s						
AAK				⇓S	Sn	13 59 03.5	+1.3
	3.0nm,0.5s						
KK31	Karatay Array	5.42	347	⇑P	Pn	13 58 06.8	+0.3
	2.2nm,0.5s,baz=163,slow=12,SNR=14						
KK31				⇑S	Sn	13 59 08.7	-0.2
	3.1nm,0.3s,baz=161,slow=23,SNR=5.9						

IDC 02 14:17:07.1±1.9, 6°.37S×149°.59E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/25, mbtmp3.7/5, Error ellipse: s-maj=78.4km s-min=20.9km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.04	226	P	P	14 21 41.7	-0.2
	2.6nm,0.7s,baz=49,slow=10,SNR=25						
ASAR	Alice Springs	22.88	220	P	P	14 22 13.2	+0.7
	0.8nm,0.5s,baz=56,slow=9.3,SNR=49						
STKA	Stephens Creek	26.46	195	P	P	14 22 45.5	-0.5
	0.8nm,0.6s,baz=10,slow=11,SNR=3.6						
PETK	Petropavlovsk-	59.65	6	P	P	14 27 13.2	+0.2
	1.3nm,0.5s,baz=163,slow=8.1,SNR=17						
SONM	Songino Array	66.00	330	P	P	14 27 55.3	-0.3
	0.2nm,0.5s,baz=146,slow=6.2,SNR=3.1						
TORD	Torodi Ar. Bea	147.67	284	PKPbc	PKPbc	14 36 53.9	-0.9
	0.2nm,0.5s,baz=70,slow=2.3,SNR=5.6						

IDC 02 14:40:01.3±6.2, 34°.87N×141°.89E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.0/45, mbtmp3.0/3, ML2.5/1, Error ellipse: s-maj=170.9km s-min=36.8km az=53.0
JMA 02 14:40:04.0±0.2, 34°.53N×141°.35E, h37km±1km, M2.5

ISC 02 14:40:08.3±1.8, 34°.5N±0°.2×141°.0E±0°.2, h23km±18km, n6, σ1s.37/9, Near east coast of eastern Honshu

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BSO1	Boso 1	0.21	4	P	Pb	14 40 12.2	-1.1
BSO1				eS	Sb	14 40 18.2	+1.5
BSO3	Boso 3	0.52	314	P	Pb	14 40 18.3	-0.2
BSO3				eS	Sn	14 40 27.9	-0.1
BSO4	Boso 4	0.75	317	P	Pb	14 40 21.4	-1.1
BSO4				eS	Sn	14 40 33.5	-0.4
MJAR	Matsushiro Arr	3.07	314	Pn	Pn	14 40 55.8	+0.4
	0.5nm,0.3s,baz=113,slow=14,SNR=5.8						
WRA	Warramunga Arr	54.45	188	P	P	14 49 32.6	-1.3
	0.1nm,0.5s,baz=3.0,slow=7.5,SNR=4.0						
ASAR	Alice Springs	58.18	188	P	P	14 50 02.1	+1.6
	0.3nm,0.6s,baz=351,slow=10.0,SNR=11						

*CSEM **02** 14:50:59.0±0.9, 37°.94N×38°.24E, h1km, MD2.6, Error ellipse: s-maj=17.0km s-min=5.9km az=177.0, Mining explosion.*
*DDA **02** 14:51:03.8, 38°.30N×38°.22E, h7km, MD2.6*
ISC 02 14:50:59.6±3.1**, 38°.0N**±0°.2×**38°.18E**±0°.04**, h0**km**, n8,** σ0^{s}75/14**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKCD	Akcadag	0.34	323	i P	Pb	14 51 08.1	-0.6
AKCD				i S	Sb	14 51 13.7	-1.0
AKCD	Akcadag	0.34	323	i P	Pb	14 51 08.1	-0.6
AKCD				i S	Sb	14 51 13.7	-1.0
MALT	Malatya	0.35	34	ePG	Pg	14 51 06.5	+0.2
MALT				eSG	Sg	14 51 11.6	+0.8
MALT	Malatya	0.35	34	ePg	Pg	14 51 06.5	+0.2
MALT				eSg	Sg	14 51 11.6	+0.8
DARE	Darende-Malaty	0.77	315	ePG	Pg	14 51 15.3	+0.8
DARE	Darende-Malaty	0.77	315	ePg	Pg	14 51 15.3	+0.8
ELZG	Elazig	0.79	53	i P	Pg	14 51 15.0	+0.2
ELZG				i S	Sg	14 51 25.8	+0.7
ELZG	Elazig	0.79	53	i P	Pg	14 51 15.0	+0.2
ELZG				i S	Sg	14 51 25.8	+0.7

IDC 02 14:52:22.4±5.9**, 20°.84S**×**176°.28W, h0**km**, mb3.3**/2**, mb1 3.6**/2**, mb1mx3.3**/30**, mbtmp3.3**/2**, Error ellipse: s-maj=344.5km s-min=83.4km az=156.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.01	257	P	P	15 00 46.5	-1.5
	0.3nm,0.9s,baz=102,slow=8.1,SNR=3.4						
WRA	Warramunga Arr	46.15	262	P	P	15 00 50.5	+1.4
	0.4nm,0.7s,baz=96,slow=8.3,SNR=5.2						
AKASG	Malin Array Be	144.08	332	PKP	PKPdf	15 11 59.2	-0.6
	0.5nm,0.3s,baz=42,slow=4.3,SNR=3.5						

*ISCJB **02** 15:01:25.7±0.3, 38°.15N±0°.02×75°.90E±0°.06, h120km, mb3.9/10, Error ellipse: s-maj=7.2km s-min=3.1km az=167.6*
*IDC **02** 15:01:29.2±4.2, 38°.24N×75°.70E, h146km±31km, mb3.5/9, mb1 3.6/14, mb1mx3.3/45, mbtmp4.0/14, Error ellipse: s-maj=39.2km s-min=18.7km az=168.0*
ISC 02 15:01:26.1±0.5**, 38°.15N**±0°.04×**75°.89E**±0°.08**, h120**km**, n49,** σ1^{s}86/55**, mb3.8**/10**, 1D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	Kashi	1.37	3⇓	iPg	Pn	15 01 52.4	+0.3
KSH				Sg	Sn	15 02 08.9	-3.0
KSH				smax	smax		
	comp=N,4μm,0.3s						
KSH				smax	smax		
	comp=E,3μm,0.2s						
KZA	Kyzart	3.96	353	P	Pn	15 02 26.8	+1.5
	SNR=120						
ULHL	Ulahol	4.10	4	P	Pn	15 02 29.3	+2.1
	SNR=38						
UCH	Uchtor	4.21	346	P	Pn	15 02 30.4	+1.6
	SNR=98						
AML	Almayashu	4.32	338	P	Pn	15 02 31.7	+1.4
	SNR=138						
KBK	Karagaybulak	4.56	351	P	Pn	15 02 35.4	+2.1
	SNR=62						
AAK	Ala-Archa	4.61	347	P	Pn	15 02 36.0	+2.1
	SNR=34						
AAK	Ala-Archa	4.61	347	P	Pn	15 02 35.9	+2.1
	comp=E,6.6nm,0.3s,baz=165,slow=8.3,SNR=62						
TKM2	Tokmak 2	4.77	357	P	Pn	15 02 38.4	+2.2
	SNR=18						
EKS2	Erkin-Say	4.79	341	P	Pn	15 02 38.2	+1.9
	SNR=24						
CHMS	Chumysh	4.92	350	P	Pn	15 02 39.8	+1.9
	SNR=19						
CHCP	Chirah Chowk	4.96	206	P	Pn	15 02 43.4	+4.8
USP	Ospenovka	5.22	349	P	Pn	15 02 43.4	+1.4
	SNR=14						
CEP	Cherat	5.39	218	P	Pn	15 02 47.8	+3.4
CEP				S	Sn	15 03 46.0	+0.6
DLH	Dalhousie	5.59	179	eP	Pn	15 02 52.0	+4.7
DLH				eS	Sn	15 03 54.0	+3.5
THW	Thamme Wali	6.33	214	P	Pn	15 02 59.6	+2.7
SDNR	Sundarnagar	6.69	172	eP	Pn	15 03 05.0	+3.1
SDNR				eS	Sn	15 04 18.0	+1.2
SMLA	Simla	7.08	171	i P	Pn	15 03 10.0	+2.9
SMLA				i S	Sn	15 04 25.5	-0.6
SMLA				i S	Sn	15 04 25.5	-0.6
JOSI	Joshimath	8.16	157	eP	Pn	15 03 25.7	+3.8
JOSI				eS	Sn	15 04 52.2	-0.3
JOSI				eS	Sn	15 04 52.5	0.0
JOSI				AML	AML	15 04 59.0	
	comp=E,150nm,0.4s						
JOSI				AML	AML	15 04 59.5	
	comp=N,132nm,0.4s						
KALG	Kalgarh	8.94	164	eP	Pn	15 03 34.6	+2.4
KALG				eS	Sn	15 05 07.8	-3.4
NDI	New Delhi	9.51	173	eP	Pn	15 03 41.0	+1.1
MKAR	Makanchi Array	9.84	27	P	Pn	15 03 46.3	+2.0
	comp=N,0.8nm,0.3s,baz=191,slow=16,SNR=15						
SONA	Sohna	9.92	174	eP	Pn	15 03 47.0	+1.5
SONA				eS	Sn	15 05 31.3	-3.7
SONA				AML	AML	15 05 40.7	
	comp=E,24nm,0.0s						
SONA				AML	AML	15 05 40.9	
	comp=N,16nm,0.2s						
KHET	Khetri	10.05	180	eP	Pn	15 03 48.0	+0.8
KHET				eS	Sn	15 05 34.0	-4.1
KHET				AML	AML	15 05 42.0	
	comp=E,144nm,0.3s						
KHET				AML	AML	15 05 42.9	
	comp=N,140nm,0.1s						
KOLN	Koldanda	12.20	146	eP	Pn	15 04 16.0	-0.1
	comp=N,15nm,0.3s						
KOLN				eS	Sn	15 06 24.9	-5.6
GKN	Gorkha	12.49	142	eP	Pn	15 04 19.0	-0.8
	comp=N,8.8nm,0.2s						
KURBB	Kurchatov Arra	12.61	8	P	Pn	15 04 19.6	-1.5
	comp=N,0.1nm,0.3s,baz=194,slow=12,SNR=14						
KKN	Kakani	12.98	140	eP	Pn	15 04 25.6	-0.7
	comp=N,13nm,0.5s						
DMN	Daman	13.04	141	eP	Pn	15 04 27.0	-0.1
	comp=N,7.7nm,0.3s						
GUN	Gumba	13.20	138	eP	Pn	15 04 29.3	+0.1
	comp=N,15nm,0.4s						
PKI	Pulchoki	13.23	140	eP	Pn	15 04 29.3	-0.3
	comp=N,9.0nm,0.3s						
JIRN	Jiri	13.56	137	eP	Pn	15 04 33.9	0.0
	comp=N,26nm,0.4s						
RAMN	Ramite	14.35	138	eP	Pn	15 04 43.5	-0.4
	comp=N,7.2nm,0.3s						
TAPN	Taplejung	14.64	134	eP	Pn	15 04 47.1	-0.6
	comp=N,5.4nm,0.4s						
ODAN	Odare	14.84	136	eP	Pn	15 04 49.5	-0.7
	comp=N,10.0nm,0.5s						
BVAR	Borovoye Array	15.36	347	P	Pn	15 04 54.9	-1.3
	comp=N,1.4nm,0.3s,baz=154,slow=12,SNR=24						
ZALV	Zalesovo Beam	16.95	18	P	P	15 05 14.8	-0.9
	comp=N,1.6nm,0.3s,baz=210,slow=12,SNR=22						
AKTO	Aktyubinsk	17.68	320	P	P	15 05 23.5	-0.3
	comp=N,0.5nm,0.3s,baz=124,slow=20,SNR=6.9						
CD2	Chengdu	24.01	99	eP	P	15 06 30.3	+0.5
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SONM	Songino Array	24.18	57	P	P	15 06 34.2	+2.9
	comp=Z,1.3nm,0.8s,baz=250,slow=11,SNR=8.6						
BRTR	Keskin Array B	32.69	286	P	P	15 07 47.2	+0.2
	comp=Z,0.5nm,0.5s,baz=66,slow=7.0,SNR=3.1						
AKASG	Malin Array Be	35.04	306	P	P	15 08 06.3	-0.7
	comp=Z,0.5nm,0.3s,baz=75,slow=7.7,SNR=5.0						
FINES	FINESS Array B	38.38	324	P	P	15 08 34.9	-0.4
	comp=Z,1.4nm,0.5s,baz=118,slow=10,SNR=8.4						
ARCES	ARCESS Array B	41.18	336	P	P	15 08 58.1	-0.2
	comp=Z,4.3nm,0.9s,baz=105,slow=8.4,SNR=13						
GERES	GERESS Array B	45.19	305	P	P	15 09 30.8	-0.1
	comp=Z,0.7nm,0.6s,baz=75,slow=5.2,SNR=3.7						
NB2	NORSAR Subarra	45.45	322	P	P	15 09 31.3	-1.5
	comp=Z,0.8nm,0.4s,baz=93,slow=7.9						
NOA	NORSAR Array B	45.45	322	P	P	15 09 31.7	-1.1
	comp=Z,0.9nm,0.4s,baz=92,slow=7.8,SNR=6.0						
TORD	Torodi Ar. Bea	69.63	271	P	P	15 12 21.3	-1.4
	comp=Z,1.5nm,0.5s,baz=48,slow=5.7,SNR=38						
YKA	Yellowknife Ar	79.35	5	P	P	15 13 17.0	-1.1
	comp=Z,0.4nm,0.5s,baz=348,slow=5.9,SNR=3.0						

*IDC **02** 15:05:26.0±1.3, 2°.50N×127°.76E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/37, mbtmp3.7/5, Error ellipse: s-maj=121.4km s-min=18.6km az=69.0*
*DJA **02** 15:06:15.0±1.2, 1°N±7°×12°6E±°, h10km, M4.2/7, mb4.2/3, mB5.1/1, MLv4.1/7, Mw(mB)4.4/1*
ISC 02 15:05:27.5±1.1**, 2°.38N**±0°.09×**127°.7E**±0°.1**, h10**km**, n11,** σ1^{s}98/10**, mb3.8**/5**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	4.14	244	P	Pg	15 06 52.7	+5.8
KMSI				S	Sn	15 07 21.1	+1.7
SANI	Sanana	4.72	201	P	Pg	15 07 06.5	+8.4
SANI				S	Sb	15 07 45.0	-2.4
LUWI	Luwuk	6.00	236	P	Pb	15 07 14.6	+2.4
MRSI	Marisa	6.07	252	P	Pg	15 07 19.5	-4.4
MRSI				S	Sn	15 07 37.5	-30
APSI	Ampana	6.89	242	P	Pb	15 07 24.7	-2.7
MPSI	Mapaga	8.07	256	P	Pb	15 07 48.1	+0.5
	4.3nm,1.0s,1μm0.1nm						
WRA	Warramunga Arr	23.11	164	P	P	15 10 35.3	+1.4
	0.7nm,0.5s,baz=343,slow=11,SNR=28						
ASAR	Alice Springs	26.58	167	P	P	15 11 07.5	+1.5
	1.1nm,0.5s,baz=352,slow=7.7,SNR=62						
STKA	Stephens Creek	36.52	160	P	P	15 12 33.1	-0.3
	1.6nm,0.6s,baz=331,slow=9.4,SNR=8.0						
SONM	Songino Array	48.89	341	P	P	15 14 13.0	-0.7
	0.3nm,0.6s,baz=150,slow=9.9,SNR=2.9						
MKAR	Makanchi Array	59.22	325	P	P	15 15 28.7	-0.4
	0.4nm,0.4s,baz=116,slow=8.3,SNR=7.3						

*SJA **02** 15:22:28.9±0.5, 35°.06S×69°.30W, h70km±9km, ML3.7*
*GUC **02** 15:22:32.1±0.6, 34°.53S×69°.87W, h15km±3km, ML3.4*
ISC 02 15:22:31.6±2.4**, 34°.6S**±0°.1×**69°.88W**±0°.05**, h12**km±12km**, n16,** σ0^{s}74/27**, 3C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CACH	El Canelo	0.74	306⇓	iP	Pg	15 22 45.5	-0.4
CACH				i S	Sg	15 22 56.0	+0.4
CHCH	Chadas Angostu	0.89	314⇑	iP	Pb	15 22 48.4	-0.6
CHCH				i S	Sg	15 23 01.0	+0.6
SJCH	San Jose de Ma	0.99	337	eS	Sb	15 23 03.3	-0.6
PCH	Pirque	1.07	330⇑	iP	Pg	15 22 52.8	+0.6
PCH				i S	Sn	15 23 07.4	+0.1
TACH	Talagante	1.26	315	i S	Sg	15 23 12.2	+0.1
SAN	Santiago	1.28	329	i S	Sg	15 23 12.9	+0.2
CLCH	Cerro Calan	1.28	335⇑	iP	Pn	15 22 55.4	0.0
CLCH				i S	Sg	15 23 12.9	+0.1
CLCH				AML	AML	15 23 15.6	
	comp=E,2μm,0.6s						
LNV	Longovilo	1.40	295⇓	iP	Pn	15 22 57.2	+0.2
LNV				i S	Sg	15 23 16.6	0.0
PEL	Peldehue	1.56	334⇓	iP	Pb	15 23 00.2	-0.2
PEL				i S	Sg	15 23 21.5	-0.2
PEL				AML	AML	15 23 24.3	
	comp=E,834nm,0.4s						
AAGR	Agrelo	1.71	31	i P	Pb	15 23 02.4	-0.6
AAGR				i P	Pb	15 23 02.4	-0.6
ROCH	El Roble	1.84	329	eP	Pb	15 23 05.3	0.0
ROCH				i S	Sg	15 23 30.0	-0.8
ROCH				AML	AML	15 23 37.3	
	comp=E,559nm,0.7s						
ARCO	CERRO ARCO	1.88	25	i P	Pb	15 23 05.3	-0.8
ARCO				i S	Sg	15 23 32.8	+0.6
ARCO				AML	AML	15 23 35.9	
	comp=Z,402nm,0.3s						
ASAL	Salagasta	2.15	24	i P	Pb	15 23 09.6	-0.9
ASAL				i S	Sg	15 23 39.0	-1.6
AUSP	Uspallata	2.36	10	i P	Pb	15 23 14.5	+0.2
AUSP				i S	Sg	15 23 48.2	+0.7
RTLS	Leoncito	2.79	10	i P	Pb	15 23 20.4	-1.2
RTCV	Cerro Valdivia	2.91	23	i P	Pn	15 23 19.5	+1.7

*ISCJB **02** 16:07:48.8±0.3, 32°.15N±0°.02×115°.17W±0°.02, h23km±3km, mb4.4/3, MS3.2/4, Error ellipse: s-maj=3.3km s-min=2.7km az=9.2*
*ECX **02** 16:07:49.9±0.5, 32°.14N×115°.20W, h8km, MD4.2, ML4.4, Fault plane solution: NP1:φs120.00000°, δ90.00000°, λ0.00000°.*
*NEIC **02** 16:07:49.9, 32°.14N×115°.20W, h10km, ML4.3(PAS), ML4.4(ECX), After ECX.*
NEIC Felt at Tijuana. Also felt at Yuma, Arizona and at Coronado, Imperial Beach, Lakeside, Poway and San Diego, California.
*IDC **02** 16:07:52.2±2.0, 32°.47N×114°.66W, h0km, mb4.0/2, mb1 3.7/6, mb1mx3.5/27, mbtmp3.5/6, ML3.2/4, MS3.1/9, Ms1 3.1/9, ms1mx2.9/33, Error ellipse: s-maj=33.5km s-min=12.3km az=40.0*
ISC 02 16:07:49.0±0.9**, 32°.13N**±0°.02×**115°.18W**±0°.02**, h17**km±6km**, n102,** σ1^{s}53/121**, mb4.3**/3**, MS3.2**/4**, 5C-12D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.30	340⇓	eP	Pg	16 07 55.5	0.0
CPBX				eS	Sg	16 07 59.8	-0.2
CPBX				IAML		16 08 02.4	
	comp=N,152μm,0.2s						
CPBX				e		16 08 02.4	
EMSC	East Mesa	0.63	15⇓	iP	Pg	16 08 01.1	-0.3
ECBX	El Chinero	0.67	170⇓	eP	Pg	16 08 01.1	-1.0
ECBX				eS	Sg	16 08 10.6	-0.4
RDX	Rancho Dawling	0.68	253⇑	eP	Pg	16 08 02.2	-0.1
RDX				eS	Sg	16 08 10.8	-0.6
YMD	Yuma Desert	0.68	52⇑	iP	Pg	16 08 01.8	-0.6
SGL	Mount Signal	0.69	318⇓	iP	Pg	16 08 01.8	-0.8
DREC	Desert Rsrch C	0.71	342⇓	eP	Pg	16 08 02.5	-0.3
COA	Coachella	0.73	4⇓	iP	Pg	16 08 02.4	-0.9
ERPC	Ernies Place	0.73	326⇓	iP	Pg	16 08 02.6	-0.7
WESC	Westside Schoo	0.78	324	eP	Pg	16 08 03.2	-0.9
YUH	Yuha Desert	0.81	310⇓	iP	Pg	16 08 03.6	-1.2
COK	Cook Ranch	0.85	327⇓	iP	Pg	16 08 04.2	-1.4
RMX	La Rumorosa	0.89	302⇓	eP	Pg	16 08 05.2	-1.2
RMX				eS	Sg	16 08 17.2	-1.0
IBP	Imperial Bould	0.93	305	P	Pg	16 08 05.8	-1.4
	baz=1.0						
IBP				S	Sg	16 08 18.1	-1.4
	baz=1.0						
SWSC	Sam W. Stewart	0.96	327	P	Pg	16 08 05.4	-2.2
	baz=1.0						
SWSC				S	Sg	16 08 18.4	-1.8
	baz=1.0						
GLA	Glamis	0.96	18	P	Pg	16 08 05.7	-2.0
	baz=1.0						
GLA				S	Sg	16 08 17.6	-2.8
	baz=1.0						
SPX	San Pedro Mart	1.11	193⇓	eP	Pb	16 08 09.4	-0.5
SPX				eS	Sb	16 08 24.4	+0.2
ZAX	El Zacaton	1.11	237	eP	Pb	16 08 09.2	-0.6
ZAX				eS	Sb	16 08 24.0	0.0
CBX	Cerro Bola	1.27	279⇑	eP	Pn	16 08 11.4	-0.6
CBX				IAML		16 08 29.9	
	comp=E,11μm,0.6s						
MONP	Monument Peak,	1.29	306	P	Pn	16 08 11.1	-1.3
	baz=1.3						
MONP				S	Sb	16 08 28.7	-0.5
	baz=1.3						
ECNX	Esteban Cantu	1.29	249⇑	eP	Pn	16 08 12.1	-0.3
ECNX				eS	Sb	16 08 29.5	+0.2
PBX	Punta Banda	1.37	254⇑	eP	Pn	16 08 13.1	-0.2
PBX				eS	Sb	16 08 31.4	+0.1
BAR	Barrett	1.37	294	ePn	Pn	16 08 12.7	-0.7
BAR				eS	Sb	16 08 30.5	-1.0
BAR	Barrett	1.37	294⇓	eP	Pn	16 08 12.6	-0.7
BC3	Big Chuckawall	1.54	352	P	Pn	16 08 14.1	-1.5
	baz=1.6						
Y12C	Blythe	1.71	19	P	Pn	16 08 16.6	-1.2
	baz=1.8						
109C	Camp Elliot, M	1.79	295	P	Pn	16 08 18.7	-0.4
	baz=1.8						
109C				S	Sn	16 08 41.0	-0.4
	baz=1.8						
PFO	Pinyon Flats O	1.82	324	P	Pn	16 08 18.1	-1.5
	baz=1.9						
PFO	Pinyon Flats O	1.82	324	ePn	Pn	16 08 18.0	-1.5
BELC	Belle Mtn. Jos	1.98	340	P	Pn	16 08 20.3	-1.6
	baz=2.1						
214A	Organ Pipe Nat	2.02	94	P	Pn	16 08 20.8	-1.5
	baz=2.0						
214A	Organ Pipe Nat	2.02	94	ePn	Pn	16 08 20.8	-1.5
214A				ePg	Pb	16 08 25.3	+0.1
IRM	Iron Mountain	2.02	1	P	Pn	16 08 21.0	-1.2
	baz=2.1						
MURC	Murrieta	2.24	311	P	Pn	16 08 24.2	-1.1
	baz=2.3						
MURC				Sb	Sb	16 08 57.6	+1.2
	baz=2.3						
PDMCI	Parker Dam,Lak	2.33	22	Sb	Sb	16 09 00.1	+1.0
	baz=2.4						
GMRC	Granite Mounta	2.67	352	P	Pn	16 08 30.3	-1.0
	baz=2.8						
BFSC	Mount Baldy Ra	2.95	316	Sb	Sb	16 09 19.0	+1.9
	baz=3.0						
SCI	San Clemente I	2.96	287	P	Pn	16 08 34.5	-0.7
	baz=3.0						
CIS	Catalina Islan	3.00	296	P	Pn	16 08 35.0	-0.7
	baz=3.0						
CIS				Sb	Sb	16 09 19.2	+1.0
	baz=3.0						
FMP	Fort Macarthur	3.06	302	Sb	Sb	16 09 20.4	+0.6
	baz=3.1						
MWC	Mount Wilson	3.19	312	ePn	Pn	16 08 39.9	+1.4
MWC				ePg	Pb	16 08 45.2	0.0
MWC				eSg	Sb	16 09 22.6	-1.3
PASC	Pasadena Art C	3.24	310	ePn	Pn	16 08 38.9	-0.1
PASC				ePg	Pb	16 08 46.0	0.0
PASC				eSg	Sb	16 09 27.6	+2.5
TUQ	Turquoise Moun	3.35	350	P	Pn	16 08 39.8	-0.9
	baz=3.4						
DECC	Green Verdugo	3.38	310	Sb	Sb	16 09 31.7	+2.5
	baz=3.4						
GSC	Goldstone, Bar	3.44	337	ePn	Pn	16 08 41.7	-0.1
GSC				ePg	Pg	16 08 53.2	-1.6
EDW2	Edwards Air Fo	3.61	320	Sb	Sb	16 09 39.2	+3.4
	baz=3.7						
TUC	Tucson	3.73	86	ePn	Pn	16 08 44.2	-1.7
TUC				eSg	Sg	16 09 45.3	-3.6
BLG	Laguna Peak, P	3.81	302	Sb	Sb	16 09 39.5	-2.0
	baz=3.8						
OSI	Osito Audit: C	3.86	311	Sb	Sb	16 09 43.9	+0.8
	baz=3.9						
OSI	Osito Audit: C	3.86	311	ePn	Pn	16 08 49.3	+1.7
SHPR	Sheep Range	4.36	0	ePn	Pn	16 08 55.4	+0.8
SHPR				ePg	Pg	16 09 12.8	+0.2
SHPR				eSg	Sg	16 10 05.7	-3.3
ISA	Isabella, Lake	4.46	323	ePn	Pn	16 08 56.0	+0.2
DAC	Darwin (Calif)	4.59	335	ePn	Pn	16 08 58.7	+0.9
WUAZ	Wupatki	4.63	42	P	Pn	16 08 59.6	+1.3
	baz=4.7						
WUAZ	Wupatki	4.63	42	ePn	Pn	16 08 59.5	+1.3
TPNV	Topopah Spring	4.88	350	P	Pn	16 09 01.6	-0.2
	baz=5.0						
W18A	Petrified Fore	5.43	55	P	Pn	16 09 10.5	+1.2
	baz=5.5						
W18A	Petrified Fore	5.43	55	ePn	Pn	16 09 11.0	+1.7
	comp=E,40nm,0.6s						
W18A				eSg	Sg	16 10 44.9	+1.6
TPH	Tonopah	6.16	345	Pn	Pn	16 09 24.1	+4.7
	comp=E,19nm,0.8s						
TPH				ePg	Pg	16 09 48.1	+1.2
R11A	Troy Canyon, C	6.21	357	P	Pn	16 09 20.5	+0.5
	baz=6.3						
R11A	Troy Canyon, C	6.21	357	ePn	Pn	16 09 20.7	+0.7
	comp=E,17nm,0.4s						
R11A				Pg	Pg	16 09 48.0	+0.1
121A	Cookes Peak, D	6.27	84	P	Pn	16 09 20.4	-0.4
	baz=6.3						
121A	Cookes Peak, D	6.27	84	ePn	Pn	16 09 20.5	-0.3
	comp=E,69nm,0.6s						
NVAR	Mina Array Bea	6.78	339	Pn	Pn	16 09 33.0	+5.1
	comp=E,0.2nm,0.3s,baz=165,slow=7.2,SNR=3.3						
NVAR				Pg	Pg	16 09 57.3	-1.4
	comp=E,0.3nm,0.3s,baz=166,slow=16,SNR=5.4						
NVAR				Lg	Lg	16 11 32.6	
	comp=E,0.0nm,0.3s,baz=177,slow=19,SNR=2.6						
MVU	Marysvale	6.80	20	P	Pn	16 09 29.3	+1.1
	comp=E,22nm,1.0s						
MSU	Marysvale	6.82	20	ePn	Pn	16 09 31.2	+2.8
	comp=E,21nm,0.6s						
LAZ	Ladron	7.11	69	ePn	Pn	16 09 33.3	+1.0
	comp=E,5.5nm,0.8s						
LENM	Lemitar	7.18	71	ePn	Pn	16 09 34.3	+1.1
	comp=E,3.8nm,0.4s						
LENM				eSn	Sn	16 10 50.6	-3.9
MVCO	Mesa Verde	7.48	46	ePn	Pn	16 09 37.8	+0.3
	comp=E,8.5nm,0.5s						
ANMO	Albuquerque	7.80	67	Pn	Pn	16 09 41.0	-0.9
	comp=E,0.5nm,0.3s,baz=243,slow=9.0,SNR=4.3						
ANMO				Lg	Lg	16 11 44.2	
	comp=E,0.2nm,0.3s,baz=185,slow=21,SNR=3.3						
ANMO	Albuquerque	7.80	67	ePn	Pn	16 09 43.6	+1.7
	comp=E,2.1nm,0.8s						
ANMO				Lg	Lg	16 11 44.2	
SRU	San Rafael Swe	7.93	27	ePn	Pn	16 09 42.0	-1.5
	comp=E,9.7nm,0.7s						
PV04	Paradox Valley	8.08	38	ePn	Pn	16 09 49.2	+3.5
MNTX	Cornudas Mount	8.34	90	P	Pn	16 09 49.4	+0.3
	baz=8.3						
MNTX	Cornudas Mount	8.34	90	ePn	Pn	16 09 48.8	-0.3
	comp=E,3.9nm,0.6s						
ELK	Elko	8.60	360	Pn	Pn	16 09 53.8	+1.0
	comp=E,0.2nm,0.3s,baz=206,slow=16,SNR=3.1						
ELK				Lg	Lg	16 12 20.8	
	comp=E,0.1nm,0.3s,baz=193,slow=14,SNR=2.4						
ELK				LR	LR	16 13 16.8	
	comp=E,78nm,21.9s,baz=184,slow=39						
TXAR	Lajitas Array	10.29	103	Pn	Pn	16 10 17.8	+1.8
	comp=E,3.9nm,0.3s,baz=285,slow=13,SNR=158						
TXAR				Lg	Lg	16 13 14.0	
	comp=E,0.1nm,0.3s,baz=313,slow=24,SNR=3.7						
TXAR				LR	LR	16 13 38.0	
	comp=E,70nm,19.7s,baz=0.0,slow=35						
529A	Stev Forest Ra	11.29	97	P	Pn	16 10 31.5	+2.0
	baz=11						
YBH	Yreka Blue Hor	11.31	330	LR	LR	16 15 21.6	
	comp=E,76nm,18.3s,baz=308,slow=40						
429A	Davenport Ranc	11.46	94	P	Pn	16 10 36.7	+4.9
	baz=11						
PDAR	Pinedale Array	11.51	21	Pn	Pn	16 10 35.6	+2.9
	comp=E,0.0nm,0.3s,baz=201,slow=9.6,SNR=3.1						
PDAR				LR	LR	16 15 16.0	
	comp=E,87nm,19.2s,baz=214,slow=40						
531A	Rocksprings	12.69	95	P	Pn	16 10 51.7	+3.0
	baz=13						
631A	Perdido Creek	12.85	98	P	Pn	16 10 51.8	+0.9
	baz=13						
332A	Millersview	13.16	89	P	Pn	16 10 58.0	+2.8
	baz=13						
432A	Menard	13.19	91	P	Pn	16 10 58.9	+3.4
	baz=13						
532A	Rocksprings	13.24	95	P	Pn	16 10 59.3	+3.1
	baz=13						
433A	Art	13.81	91	P	Pn	16 11 06.2	+2.3
	baz=14						
334A	Lometa	14.45	89	P	Pn	16 11 15.5	+2.8
	baz=14						
234A	Clairette	14.46	86	P	Pn	16 11 15.5	+2.7
	baz=14						
434A	Burnet	14.50	91	P	Pn	16 11 16.1	+2.7
	baz=14						
D21A	La Casta Ranch	16.18	20	P	P	16 11 38.2	-0.4
	baz=16						
NEW	Newport	16.18	355	LR	LR	16 17 45.4	
	comp=E,46nm,19.2s,baz=172,slow=37						
EGMT	Eagleton	16.40	13	P	P	16 11 41.2	+0.2
	baz=16						
C20A	Veseth Ranch,	16.49	17	P	P	16 11 43.1	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=17						
BBB	**Bella Bella**	**22.15**	**339**	LR	LR	16 22 03.8	
	comp=E,81nm,18.8s,baz=156,slow=39						
CMIG	**Matias Romero**	**23.70**	**124**	LR	LR	16 23 46.5	
	comp=E,72nm,19.8s,baz=292,slow=40						
TKL	**Tuckaleechee C**	**26.25**	**74**	LR	LR	16 24 19.8	
	comp=E,76nm,18.0s,baz=32,slow=38						
SADO	**Sadowa**	**30.66**	**55**	P	**P**	**16 14 02.8**	**+0.4**
	comp=E,3.9nm,0.7s,baz=286,slow=13,SNR=3.2						
SADO				LR	LR	16 26 17.0	
	comp=E,37nm,18.9s,baz=233,slow=37						
ILAR	**Eielson Array**	**38.04**	**339**	P	P	16 15 09.7	+3.6
	comp=E,0.6nm,0.7s,baz=150,slow=7.8,SNR=7.4						
HHC	**Hu-ho-hao-te**	**95.52**	**326**	*e*P	**P**	**16 21 11.9**	**-1.3**
HHC	**Hu-ho-hao-te**	**95.52**	**326**	S	**S**	**16 32 26.7**	**-2.6**
HHC				pmax	pmax		
	comp=Z,20nm,1.5s						
HHC				pmax	pmax		
	comp=Z,120nm,7.3s						
WMQ	**Urumqi**	**101.57**	**343**	*e*P	**Pdif**	**16 21 43.6**	**+3.3**

*IDC **02** 16:08:48.5±1.7, 35.̊46S×73.̊40W, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.6/16, mbtmp3.4/5, ML3.2/3, Error ellipse: s-maj=38.2km s-min=21.0km az=83.0*

*ISCJB **02** 16:08:51.3±1.9, 35.̊31S±0.̊07×72.̊97W±0.̊09, h21km±14km, mb3.4/3, Error ellipse: s-maj=13.1km s-min=10.2km az=30.8*

*GUC **02** 16:08:52.1±0.7, 35.̊20S×72.̊93W, h28km±3km, ML4.0*

ISC 02 16:08:51.8±3.0**, 35.̊29S**±0.̊06×**72.̊84W**±0.̊09**, h11**km±17km**, n15, σ1.̊57**/23**, mb3.5**/3**, 1C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TALC	**Talca**	**0.99**	**97**	⇓*i*P	**Pb**	**16 09 10.5**	**-0.5**
TALC				*i* S	**Sg**	**16 09 24.6**	**+0.7**
LNCH	**Linares**	**1.16**	**119**	⇓*i*P	**Pb**	**16 09 14.1**	**+0.3**
LNCH				*i* S	**Sn**	**16 09 30.7**	**+1.0**
NICH	**Los Niches**	**1.35**	**78**	*e*P	**Pn**	**16 09 16.5**	**-0.1**
NICH				*i* S	**Sg**	**16 09 34.8**	**-0.5**
LNV	**Longovilo**	**1.77**	**42**	⇓*i*P	**Pn**	**16 09 21.6**	**-0.8**
LNV				*e*S	**Sn**	**16 09 44.3**	**-0.7**
CACH	**El Canelo**	**2.18**	**58**	*e*P	**Pn**	**16 09 28.5**	**+0.3**
CACH				*i* S	**Sb**	**16 09 56.3**	**-2.2**
CHCH	**Chadas Angostu**	**2.25**	**54**	*e*P	**Pn**	**16 09 29.5**	**+0.4**
CLCH	**Cerro Calan**	**2.68**	**46**	*e*P	**Pn**	**16 09 35.5**	**+0.5**
CLCH				*i* S	**Sn**	**16 10 07.3**	**-0.2**
CLCH				AML	AML	16 10 20.3	
	comp=E,766nm,0.6s						
ROCH	**El Roble**	**2.76**	**34**	*e*P	**Pn**	**16 09 35.5**	**-0.7**
ROCH				AML	AML	16 10 30.2	
	comp=N,497nm,0.6s						
PEL	**Peldehue**	**2.79**	**41**	⇑*i*P	**Pn**	**16 09 38.2**	**+1.8**
PEL				*i* S	**Sn**	**16 10 11.6**	**+1.6**
PEL				AML	AML	16 10 25.5	
	comp=E,720nm,0.5s						
CFAA	**Coronel Fontan**	**5.32**	**48**	Pn	**Pn**	**16 10 14.2**	**+3.1**
	comp=E,0.1nm,0.3s,baz=221,slow=13,SNR=11						
CFAA				Sn	**Sb**	**16 11 25.7**	**-2.9**
	comp=E,0.4nm,0.3s,baz=9.9,slow=23,SNR=3.5						
PLCA	**Paso Flores**	**5.73**	**162**	Pn	**Pn**	**16 10 16.4**	**-0.4**
	comp=E,0.2nm,0.3s,baz=333,slow=15,SNR=5.9						
PLCA				Lg	Lg	16 11 49.3	
	comp=E,0.5nm,0.3s,baz=250,slow=17,SNR=3.4						
LPAZ	**La Paz**	**19.38**	**14**	P	**Pn**	**16 13 20.0**	**+0.5**
	comp=E,0.1nm,0.3s,baz=180,slow=7.1,SNR=3.8						
SIV	**San Ignacio**	**21.91**	**32**	P	**P**	**16 13 48.3**	**+3.1**
	comp=E,1.1nm,0.5s,baz=218,slow=11,SNR=4.8						
TXAR	**Lajitas Array**	**70.54**	**332**	P	**P**	**16 20 05.0**	**-1.8**
	comp=E,0.1nm,0.5s,baz=146,slow=6.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**85.27**	**70**	P	**P**	**16 21 29.4**	**+0.5**
	comp=E,0.3nm,0.8s,baz=235,slow=4.9,SNR=3.0						

*DJA **02** 16:14:33.4±1.6, 1˚N±11˚×9˚8E±1˚5, h41km±44km, M3.2/5, MLv3.2/5*

IDC 02 16:14:18.4±6.4**, 0.̊77N×99.̊21E, h0**km**, mb3.4**/4**, mb1 3.5**/4**, mb1mx3.3**/25**, mbtmp3.4**/4**, Error ellipse: s-maj=323.2km s-min=24.1km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.72**	**288**	P	Pn	16 14 44.2	-5.5
WRA	**Warramunga Arr**	**40.10**	**123**	P	P	16 21 57.0	+0.8
	0.2nm,0.8s,baz=303,slow=8.8,SNR=3.7						
ASAR	**Alice Springs**	**41.54**	**128**	P	P	16 22 06.8	-1.3
	0.2nm,0.8s,baz=298,slow=7.5,SNR=4.6						
MKAR	**Makanchi Array**	**48.17**	**344**	P	P	16 23 00.4	-0.1
	0.4nm,0.6s,baz=163,slow=8.7,SNR=5.3						
ZALV	**Zalesovo Beam**	**54.32**	**350**	P	P	16 23 46.4	-0.1
	0.9nm,0.4s,baz=160,slow=7.4,SNR=4.4						

MEX 02 16:40:41.0±0.4**, 32.̊23N×115.̊16W, h12**km±128km**, MD3.7, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.18**	**349**	*e*P	Pg	16 40 44.6	-0.5
MBIG				*i* S	Sg	16 40 47.0	-0.9
SPIG	**San Pedro Mart**	**1.21**	**193**	*e*P	Pn	16 40 59.9	-4.3
SPIG				*i* S	Sb	16 41 15.2	-5.0
CBX	**Cerro Bola**	**1.28**	**274**	*e*P	Pn	16 41 01.1	-3.7
CBX				*i* S	Sb	16 41 16.3	-5.5

*ISCJB **02** 16:41:26.9±0.3, 38.̊23N±0.̊02×75.̊86E±0.̊03, h138km±3km, mb4.2/43, Error ellipse: s-maj=4.0km s-min=2.7km az=167.6*

*MOS **02** 16:41:27.4±1.0, 38.̊23N×75.̊84E, h143km, mb4.4/17, Error ellipse: s-maj=8.0km s-min=4.5km az=117.8*

*NNC **02** 16:41:29.9±2.4, 38.̊42N×75.̊62E, h167km±22km, mb3.7, mpv4.6, Error ellipse: s-maj=23.9km s-min=13.3km az=146.0*

*BJI **02** 16:41:29.7, 38.̊34N×76.̊01E, h143km, mb4.4/23, mB4.5/17*

*IDC **02** 16:41:29.1±0.7, 38.̊17N×75.̊85E, h152km±6km, mb3.8/21, mb1 4.0/26, mb1mx3.9/32, mbtmp4.3/26, MS3.7/1, Ms1 3.7/1, ms1mx2.5/34, Error ellipse: s-maj=13.6km s-min=9.2km az=23.0*

*NEIC **02** 16:41:29.1±0.3, 38.̊27N×75.̊86E, mb4.3/9, Error ellipse: s-maj=5.9km s-min=5.4km az=6.0*

ISC 02 16:41:28.6±0.3**, 38.̊27N**±0.̊03×**75.̊89E**±0.̊03**, h149**km±3km**, h148**km**:pP-P, n205, σ1.̊61**/259**, mb4.4**/50**, 22C-34D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.25**	**3**	⇓*i*P	**Pn**	**16 41 52.6**	**-3.0**
KSH				S	Sn	16 42 10.0	-6.4
KSH				SMN			
	15µm,0.3s						
KSH				SME			
	16µm,0.6s						
SFK	**Sufi-Kurgan**	**2.54**	**314**	⇑P	**Pn**	**16 42 09.8**	**-0.7**
	72nm,0.4s						
SFK				⇓S	**Sn**	**16 42 41.3**	**-1.3**
	1µm,0.3s						
SFK	**Sufi-Kurgan**	**2.54**	**314**	PN	**Pn**	**16 42 09.7**	**-0.7**
SFK				S	**Sn**	**16 42 41.1**	**-1.6**
SFK				pmax	pmax		
	comp=Z,53nm,0.3s						
KZA	**Kyzart**	**3.84**	**353**	P	**Pn**	**16 42 27.4**	**+0.3**
	SNR=378						
ULHL	**Ulahol**	**3.98**	**4**	P	**Pn**	**16 42 29.4**	**+0.6**
	SNR=62						
UCH	**Uchtor**	**4.09**	**346**	P	**Pn**	**16 42 30.7**	**+0.3**
	SNR=132						
AML	**Almayashu**	**4.21**	**337**	P	**Pn**	**16 42 31.7**	**-0.2**
	SNR=204						
KBK	**Karagaybulak**	**4.44**	**351**	P	**Pn**	**16 42 35.5**	**+0.8**
	SNR=170						
AAK	**Ala-Archa**	**4.49**	**347**	P	**Pn**	**16 42 36.1**	**+0.8**
	SNR=18						
AAK	**Ala-Archa**	**4.49**	**347**	⇑P	**Pn**	**16 42 35.9**	**+0.6**
	comp=Z,45nm,0.5s						
AAK				⇓S	**Sn**	**16 43 25.2**	**-2.1**
	comp=Z,103nm,0.6s						
AAK	**Ala-Archa**	**4.49**	**347**	P	**Pn**	**16 42 35.4**	**0.0**
	comp=Z,14nm,0.3s,baz=155,slow=7.4,SNR=112						
AAK				S	**Sn**	**16 43 28.1**	**+0.8**
	comp=Z,25nm,0.3s,baz=197,slow=16,SNR=7.0						
AAK	**Ala-Archa**	**4.49**	**347**	PN	**Pn**	**16 42 35.4**	**0.0**
AAK				S	**Sn**	**16 43 28.1**	**+0.8**
AAK				pmax	pmax		
	comp=Z,14nm,0.3s						
AAK				smax	smax		
	comp=N,25nm,0.3s						
AAK	**Ala-Archa**	**4.49**	**347**	*e*P	**Pn**	**16 42 35.9**	**+0.6**
AAK				S	**Sn**	**16 43 28.1**	**+0.8**
TKM2	**Tokmak 2**	**4.65**	**357**	P	**Pn**	**16 42 38.3**	**+0.8**
	SNR=136						
TKM2	**Tokmak 2**	**4.65**	**357**	⇑P	**Pn**	**16 42 38.2**	**+0.8**
	comp=N,64nm,0.5s						
TKM2				⇑S	**Sn**	**16 43 29.8**	**-1.5**
	comp=N,114nm,0.6s						
TKM2	**Tokmak 2**	**4.65**	**357**	PN	**Pn**	**16 42 38.4**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,64nm,0.5s						
TKM2	**Tokmak 2**	**4.65**	**357**	*e*P	**Pn**	**16 42 38.3**	**+0.8**
FRU	**Bishkek**	**4.66**	**348**	⇓*i*PN	**Pn**	**16 42 38.0**	**+0.5**
FRU				*e*S	**Sn**	**16 43 32.0**	**+0.8**
FRU				pmax	pmax		
	comp=Z,120nm,1.6s						
FRU				pmax	pmax		
	comp=E,330nm,1.6s						
EKS2	**Erkin-Say**	**4.67**	**341**	P	**Pn**	**16 42 38.1**	**+0.3**
	SNR=82						
EKS2	**Erkin-Say**	**4.67**	**341**	*e*PN	**Pn**	**16 42 38.4**	**+0.6**
EKS2	**Erkin-Say**	**4.67**	**341**	*e*P	**Pn**	**16 42 38.4**	**+0.6**
CHMS	**Chumysh**	**4.80**	**350**	P	**Pn**	**16 42 40.0**	**+0.6**
	SNR=18						
MNAS	**Manas**	**4.94**	**330**	⇑P	**Pn**	**16 42 40.8**	**-0.5**
	comp=E,32nm,0.4s						
MNAS				⇑S	**Sn**	**16 43 36.0**	**-2.0**
	comp=E,87nm,0.5s						
MNAS	**Manas**	**4.94**	**330**	PN	**Pn**	**16 42 40.8**	**-0.5**
MNAS				pmax	pmax		
	comp=Z,40nm,0.5s						
CHCP	**Chirah Chowk**	**5.07**	**206**	⇓P	**Pn**	**16 42 43.6**	**+0.7**
USP	**Ospenovka**	**5.10**	**349**	P	**Pn**	**16 42 43.5**	**+0.2**
	SNR=20						
CEP	**Cherat**	**5.48**	**217**	⇓P	**Pn**	**16 42 48.1**	**-0.4**
CEP				S	**Sn**	**16 43 46.0**	**-4.9**
DZET	**Dzherino**	**5.56**	**278**	⇓P	**Pn**	**16 42 46.8**	**-2.8**
	comp=Z,229nm,0.7s						
DZET				⇓S	**Sn**	**16 43 46.8**	**-5.9**
	comp=Z,540nm,0.5s						
DZET	**Dzherino**	**5.56**	**278**	PN	**Pn**	**16 42 46.7**	**-2.8**
DZET				pmax	pmax		
	comp=Z,123nm,0.5s						
PDGK	**Podgornoye**	**5.74**	**27**	⇑P	**Pn**	**16 42 52.4**	**+0.6**
	comp=Z,128nm,0.6s						
PDGK				⇓S	**Sn**	**16 43 55.0**	**-1.8**
	comp=Z,224nm,0.9s						
DHRM	**DHARAMSHALA**	**6.01**	**177**	*e*P	**Pn**	**16 42 54.7**	**-1.0**
DHRM				*e*S	**Sn**	**16 43 58.8**	**-5.0**
KK31	**Karatay Array**	**6.33**	**321**	⇑P	**Pn**	**16 42 58.4**	**-1.2**
	comp=Z,6.1nm,0.2s,baz=154,slow=14						
KK31				⇑S	**Sn**	**16 44 05.8**	**-5.1**
	comp=Z,28nm,0.3s,baz=159,slow=25,SNR=5.8						
KK31	**Karatay Array**	**6.33**	**321**	PN	**Pn**	**16 42 58.5**	**-1.1**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.2s						
KKAR	**Karatay Array**	**6.33**	**321**	*e*PN	**Pn**	**16 42 58.5**	**-1.1**
KKAR	**Karatay Array**	**6.33**	**321**	*e*P	**Pn**	**16 42 58.5**	**-1.1**
	comp=Z,0.1nm,0.4s						
THW	**Thamme Wali**	**6.42**	**213**	P	**Pn**	**16 42 59.7**	**-1.3**
KBL	**Kabul**	**6.65**	**238**	*e*PN	**Pn**	**16 43 03.3**	**-0.9**
KBL				pmax	pmax		
	comp=Z,77nm,0.4s						
KBL	**Kabul**	**6.65**	**238**	*e*P	**Pn**	**16 43 03.3**	**-0.9**
	comp=Z,77nm,0.4s						
KBL				*e*S	Sn	16 44 10.7	-8.3
SARP	**Sargodha**	**6.86**	**204**	P	**Pn**	**16 43 04.8**	**-1.9**
SMLA	**Simla**	**7.20**	**171**	*i* P	**Pn**	**16 43 10.2**	**-1.2**
SMLA				*i* S	**Sn**	**16 44 26.9**	**-4.9**
JOSI	**Joshimath**	**8.27**	**157**	*e*P	**Pn**	**16 43 25.1**	**-0.7**
JOSI				*e*S	**Sn**	**16 44 54.9**	**-3.0**
JOSI				AML	AML	16 45 01.1	
	comp=E,542nm,0.7s						
JOSI				AML	AML	16 45 01.4	
	comp=N,541nm,0.6s						
KALG	**Kalgarh**	**9.06**	**164**	*e*P	**Pn**	**16 43 37.7**	**+1.6**
KALG				*e*S	**Sn**	**16 45 14.7**	**-1.9**
MK31	**Makanchi Array**	**9.74**	**27**	⇓P	**Pn**	**16 43 46.2**	**+1.1**
	comp=N,15nm,0.5s,baz=201,slow=13,SNR=118						
MK31	**Makanchi Array**	**9.74**	**27**	P	**Pn**	**16 43 45.3**	**+0.2**
MK31				pmax	pmax		
	comp=Z,15nm,0.4s						
MK31	**Makanchi Array**	**9.74**	**27**	*e*P	**Pn**	**16 43 44.8**	**-0.2**
MKAR	**Makanchi Array**	**9.74**	**27**	P	**Pn**	**16 43 45.0**	**-0.1**
	comp=Z,3.6nm,0.3s,baz=201,slow=15,SNR=125						
MKAR				S	**Sn**	**16 45 29.7**	**-3.2**
	comp=Z,0.9nm,0.3s,baz=221,slow=15,SNR=2.8						
AYAN	**Aya Nagar**	**9.81**	**174**	*e*P	Pn	16 43 42.8	-3.4
AYAN				*e*S	Sn	16 45 25.9	-8.9
SONA	**Sohna**	**10.04**	**174**	*e*P	**Pn**	**16 43 46.8**	**-2.3**
SONA				*e*x	x	16 45 28.3	
SONA				*e*x	x	16 45 32.8	
SONA				AML	AML	16 45 36.3	
	comp=N,47nm,0.4s						
SONA				AML	AML	16 45 37.4	
	comp=E,131nm,0.2s						
KUDL	**Kundal**	**10.11**	**177**	*e*P	**Pn**	**16 43 47.8**	**-2.3**
KUDL				*e*x	x	16 45 31.5	
KUDL				AML	AML	16 45 43.8	
	comp=N,60nm,0.4s						
KUDL				AML	AML	16 45 45.3	
	comp=E,81nm,0.5s						
KHET	**Khetri**	**10.17**	**180**	*e*P	**Pn**	**16 43 47.7**	**-3.1**
KHET				*e*x	x	16 45 33.5	
OTUK	**Ortayu**	**10.30**	**347**	⇓P	**Pn**	**16 43 51.3**	**-1.2**
	comp=E,3.7nm,0.6s						
WMQ	**Urumqi**	**10.50**	**54**	P	**Pn**	**16 43 54.6**	**-0.6**
WMQ				sP		16 44 30.2	
WMQ				S	**Sn**	**16 45 48.9**	**-2.4**
WMQ				PMZ			
	comp=E,32nm,0.7s						
WMQ				PMZ			
	comp=E,100nm,5.0s						
WMQ				LN			
	comp=E,100nm,6.8s						
WMQ				LE			
	comp=E,98nm,6.4s						
WMQ				LZ			
	comp=E,21nm,12.0s						
AGRA	**Agra**	**11.14**	**170**	*e*P	Pn	16 44 00.4	-3.3
AGRA				*e*S	Sn	16 45 58.2	-8.6
AGRA				AML	AML	16 46 06.8	
	comp=N,85nm,0.2s						
AGRA				AML	AML	16 46 09.0	
	comp=E,108nm,0.3s						
KURBB	**Kurchatov Arra**	**12.50**	**8**	⇓P	**Pn**	**16 44 19.2**	**-1.9**
	comp=E,5.6nm,0.3s						
KURBB	**Kurchatov Arra**	**12.50**	**8**	P	**Pn**	**16 44 19.5**	**-1.7**
	comp=E,0.2nm,0.3s,baz=194,slow=12,SNR=40						
KURK	**Kurchatov**	**12.60**	**8**	⇑P	**Pn**	**16 44 20.2**	**-2.3**
	comp=E,11nm,1.0s						
KURK	**Kurchatov**	**12.60**	**8**	P	**Pn**	**16 44 20.1**	**-2.3**
KURK				pmax	pmax		
	comp=Z,11nm,1.0s						
KURK	**Kurchatov**	**12.60**	**8**	*e*P	**Pn**	**16 44 20.6**	**-1.9**
KURK				*e*		16 44 28.8	
IMYA	**Miami**	**12.72**	**266**	*e*P	Pn	16 44 19.3	-5.0
IPAY	**Payeh**	**13.56**	**268**	*e*P	Pn	16 44 31.5	-3.7
IAKL	**Akhelmad**	**13.72**	**268**	*e*P	Pn	16 44 33.3	-3.9
ISFR	**Sfrayin**	**14.23**	**271**	*e*P	Pn	16 44 40.2	-3.4
BVA0	**Borovoye Array**	**15.24**	**347**	⇑P	**P**	**16 44 58.8**	**+1.4**
	comp=Z,4.5nm,0.6s,baz=171,slow=12,SNR=39						
BVA0				⇓S	**Sn**	**16 47 38.9**	**-6.2**
	comp=Z,2.2nm,0.8s,baz=162,slow=16,SNR=4.1						
BVA0	**Borovoye Array**	**15.24**	**347**	*e*P	**P**	**16 44 58.7**	**+1.4**
BVA0				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BVAR	**Borovoye Array**	**15.24**	**347**	P	**Pn**	**16 44 55.4**	**-0.5**
	comp=Z,2.0nm,0.3s,baz=156,slow=15,SNR=26						
BVAR				S	**S**	**16 47 48.2**	**-1.8**
	baz=155,slow=18,SNR=3.4						
LSA	**Lhasa**	**15.26**	**120**	P	**Pn**	**16 44 56.1**	**-0.7**
LSA	**Lhasa**	**15.26**	**120**	*e*P	**Pn**	**16 44 57.7**	**+1.0**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LSA	**Lhasa**	**15.26**	**120**	*e*P	**Pn**	**16 44 57.7**	**+1.0**
	comp=Z,5.7nm,0.8s						
BRVK	**Borovoye**	**15.29**	**347**	⇓*i*P	**Pn**	**16 44 56.2**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,11nm,0.8s						
BRVK	**Borovoye**	**15.29**	**347**	*e*P	**P**	**16 44 58.0**	**0.0**
	comp=Z,9.5nm,0.8s						
AB31	**Akbulak array**	**15.88**	**319**	⇓P	**P**	**16 45 05.1**	**+0.7**
	comp=Z,9.4nm,0.8s,baz=119,slow=15,SNR=78						
AB31				⇓S	Sn	16 47 49.9	-11
	comp=Z,6.7nm,0.7s,baz=126,slow=24,SNR=11						
AB31	**Akbulak array**	**15.88**	**319**	P	**P**	**16 45 05.1**	**+0.7**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ABKAR	**Akbulak array**	**15.88**	**319**	*e*P	**Pn**	**16 45 02.1**	**-1.6**
	comp=Z,12nm,0.8s						
ZAA0	**Zalesovo Array**	**16.84**	**18**	*e*P	**P**	**16 45 14.9**	**-0.1**
ZALV	**Zalesovo Beam**	**16.84**	**18**	P	**P**	**16 45 14.5**	**-0.5**
	comp=Z,4.1nm,0.3s,baz=210,slow=12,SNR=66						
ZALV				S	**S**	**16 48 20.3**	**-2.2**
	baz=217,slow=19,SNR=2.1						
ZALV	**Zalesovo Beam**	**16.84**	**18**	*i* P	**P**	**16 45 15.0**	**0.0**
ZALV				pmax	pmax		
	comp=Z,9.0nm,0.3s						
NVS	**Novosibirsk**	**17.31**	**14**	*e*P	**P**	**16 45 20.2**	**0.0**
NVS				*e*S	**S**	**16 48 26.5**	**-6.3**
NVS				pmax	pmax		
	comp=N,11nm,0.6s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NVS				smax	smax		
	comp=N,7.0nm,1.2s						
NVS				smax	smax		
	comp=E,6.0nm,1.2s						
AKTO	**Aktyubinsk**	**17.59**	**319**	⇑P	**P**	**16 45 23.7**	**+0.4**
	comp=E,8.5nm,0.6s						
AKTO	**Aktyubinsk**	**17.59**	**319**	P	**P**	**16 45 23.7**	**+0.4**
	comp=E,1.6nm,0.3s,baz=114,slow=11,SNR=43						
AKTO				S	S	16 48 31.5	-6.9
	comp=E,0.2nm,0.3s,baz=162,slow=20,SNR=3.2						
SHL	**Shillong**	**18.53**	**128**	*e*P	**Pn**	**16 45 39.5**	**+3.6**
GTA	**Gaotai**	**18.67**	**79**	*e*P	**Pn**	**16 45 37.8**	**+0.4**
GTA				S	**S**	**16 48 57.8**	**-2.3**
GTA				PMZ			
	comp=E,9.0nm,1.2s						
GTA				PMZ			
	comp=E,100nm,4.5s						
GTA				LN			
	comp=E,79nm,12.8s						
GTA				LE			
	comp=E,77nm,10.4s						
GTA				LZ			
	comp=E,88nm,11.9s						
IFIR	**Firoozkooh**	**18.67**	**269**	*e*P	**Pn**	**16 45 37.6**	**0.0**
SRSP	**Sriramsagar**	**19.39**	**173**	*e*P	**P**	**16 45 43.1**	**0.0**
SRSP				*e*Pn	**Pn**	**16 45 45.2**	**-0.6**
SRSP				IAmb	IAmb	16 45 45.7	
	comp=Z,13nm,0.7s						
SRSP				*e*S	**S**	**16 49 12.6**	**-1.9**
RPR	**Rampur**	**19.57**	**170**	*e*P	**P**	**16 45 45.8**	**+0.8**
RPR				IAmb	IAmb	16 45 49.9	
	comp=Z,9.1nm,0.6s						
RPR				*e*sP	**sP**	**16 46 31.5**	**+1.9**
KLRI	**Killari**	**20.13**	**178**	*e*P	**P**	**16 45 51.3**	**+0.1**
KLRI				IAmb	IAmb	16 45 52.0	
	comp=Z,24nm,1.1s						
KLRI				*e*pPn	**pPn**	**16 46 15.9**	**-0.9**
KLRI				*e*		16 49 17.2	
KLRI				*e*S	**S**	**16 49 29.3**	**+0.1**
HYBB	**Hyderabad (bro**	**20.90**	**173**	*e*P	**P**	**16 45 59.6**	**+0.2**
HYBB				IAmb	IAmb	16 46 02.2	
	comp=Z,12nm,0.9s						
HYBB				*e*sP	**sP**	**16 46 45.3**	**+1.0**
HYBB				*e*S	**S**	**16 49 44.4**	**+0.1**
HYB	**Hyderabad**	**20.90**	**173**	*i* P	**P**	**16 45 59.0**	**-0.4**
HYB				*e*sP	sP	16 46 49.0	+4.7
HYB				*e*S	**S**	**16 49 43.0**	**-1.2**
CHLP	**Challavanipeta**	**20.94**	**158**	*e*P	Pn	16 46 02.1	-2.1
CHLP				IAmb	IAmb	16 46 02.5	
	comp=Z,16nm,0.5s						
CHLP				*e*sP	sP	16 46 45.7	+1.1
SVE	**Sverdlovsk**	**21.14**	**336**	*e*P	**P**	**16 46 02.6**	**+1.0**
SVE				pmax	pmax		
	comp=Z,13nm,0.9s						
ARU	**Arti**	**21.52**	**333**	*d i*P	**P**	**16 46 06.8**	**+1.2**
ARU						16 46 38.6	
ARU				S	**S**	**16 49 55.0**	**+0.3**
ARU				pmax	pmax		
	comp=Z,19nm,1.0s						
ARU	**Arti**	**21.52**	**333**	*e*P	**P**	**16 46 07.4**	**+1.8**
	comp=Z,14nm,0.8s						
PVM	**Polavaram**	**21.54**	**165**	*e*P	**P**	**16 46 06.9**	**+0.8**
PVM				IAmb	IAmb	16 46 08.9	
	comp=Z,12nm,0.8s						
NJS	**Nagarjunasagar**	**21.84**	**171**	*e*P	**P**	**16 46 09.2**	**-0.1**
NJS				IAmb	IAmb	16 46 11.4	
	comp=Z,7.9nm,0.6s						
NJS				*e*		16 46 37.1	
NJS				*e*sP	**sP**	**16 46 54.8**	**+0.4**
NJS				*e*		16 49 58.5	
NJS				*e*S	**S**	**16 50 01.5**	**+0.7**
SRLM	**Srisailam**	**22.24**	**172**	*e*P	**P**	**16 46 13.8**	**+0.4**
SRLM				IAmb	IAmb	16 46 15.6	
	comp=Z,14nm,0.7s						
SRLM				*e*S	**S**	**16 50 09.6**	**+2.1**
ADKI	**Addanki**	**22.62**	**170**	*e*P	**P**	**16 46 17.1**	**+0.1**
ADKI				IAmb	IAmb	16 46 19.4	
	comp=Z,7.2nm,0.8s						
RCLA	**Racherla**	**22.88**	**172**	*e*P	**P**	**16 46 20.0**	**+0.6**
RCLA				IAmb	IAmb	16 46 22.4	
	comp=Z,16nm,1.0s						
RCLA				*e*pP	**pP**	**16 46 50.6**	**+3.4**
RCLA				*e*PnPn	**PnPn**	**16 46 53.8**	**-0.1**
ZAK	**Zakamensk**	**22.89**	**49**	⇓*i*P	**P**	**16 46 21.6**	**+2.2**
ZAK				*e*		16 46 50.7	
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
URV	**Uravakonda**	**23.26**	**177**	*e*P	**P**	**16 46 23.1**	**+0.1**
URV				IAmb	IAmb	16 46 26.0	
	comp=Z,25nm,1.5s						
URV				*e*		16 50 17.2	
URV				*e*S	**S**	**16 50 25.8**	**+1.8**
CD2	**Chengdu**	**24.03**	**99**	*e*P	**P**	**16 46 29.4**	**-0.5**
CD2				pP	**pP**	**16 46 58.4**	**-1.1**
CD2				sP	**sP**	**16 47 16.5**	**-1.3**
CD2				PcP	**PcP**	**16 50 06.9**	**-0.7**
CD2				S	**S**	**16 50 36.8**	**+0.5**
CD2				sS	**sS**	**16 51 30.3**	**0.0**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
SONM	**Songino Array**	**24.12**	**57**	P	**P**	**16 46 32.9**	**+2.2**
	comp=Z,20nm,0.8s,baz=254,slow=9.7,SNR=116						
SONM				pP	**pP**	**16 47 03.0**	**+2.6**
	comp=Z,5.9nm,0.8s,baz=253,slow=10,SNR=4.6						
GNI	**Garni**	**24.15**	**284**	P	**P**	**16 46 31.6**	**+0.6**
	comp=Z,6.2nm,0.5s,baz=118,slow=3.4,SNR=4.1						
ULN	**Ulaanbaatar**	**24.56**	**57**	P	**P**	**16 46 35.7**	**+1.0**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ULN	**Ulaanbaatar**	**24.56**	**57**	P	**P**	**16 46 35.7**	**+1.0**
	comp=Z,5.5nm,0.7s						
SOKR	**Solikamsk**	**24.58**	**336**	*e*P	**P**	**16 46 36.3**	**+1.8**
SOKR				pmax	pmax		
	comp=Z,20nm,1.2s						
ZEI	**Tsey**	**24.64**	**291**	*e*P	**P**	**16 46 37.6**	**+2.1**
ZEI				pmax	pmax		
	comp=Z,12nm,0.7s						
SKHT	**Srikalahasti**	**24.66**	**171**	*e*P	**P**	**16 46 36.4**	**+0.8**
SKHT				IAmb	IAmb	16 46 38.6	
	comp=Z,9.7nm,1.1s						
SKHT				*e*S	**S**	**16 50 49.0**	**+2.7**
NCK	**Nalchik**	**24.87**	**292**	⇓*i*P	**P**	**16 46 40.0**	**+2.6**
KBZ	**Khabaz**	**25.38**	**293**	P	**P**	**16 46 42.7**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=146,slow=24,SNR=4.4						
KIV	**Kislovodsk**	**25.54**	**293**	*e*P	**P**	**16 46 43.8**	**+0.3**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**27.51**	**73**	*e*P	**P**	**16 47 02.3**	**+1.1**
HHC				pP	**pP**	**16 47 35.6**	**+3.2**
HHC				sP	**sP**	**16 47 48.4**	**-1.2**
HHC				PP	**PnPn**	**16 47 53.1**	**-1.8**
HHC				S	**S**	**16 51 28.9**	**-2.3**
HHC				sS	**sS**	**16 52 23.3**	**-3.0**
HHC				SS	**SnSn**	**16 52 58.2**	**-1.4**
HHC				PMZ			

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,17nm,0.8s						
HHC				PMZ			
	comp=Z,100nm,5.2s						
CMAR	Chiang Mai Arr	28.17	128	P	P	16 47 06.6	-0.5
	comp=Z,0.3nm,0.6s,baz=307,slow=8.7,SNR=3.9						
CMAR				pP	pP	16 47 38.0	-0.4
	comp=Z,1.0nm,0.8s,baz=312,slow=9.4,SNR=4.7						
CMAR				PcP	PcP	16 50 17.2	0.0
	comp=Z,1.0nm,0.9s,baz=291,slow=4.3,SNR=4.3						
CMAR	Chiang Mai Arr	28.17	128	ceP	P	16 47 15.3	+8.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GYA	Guiyang	28.41	105	eP	P	16 47 11.0	+1.7
GYA				pP	pP	16 47 41.4	+0.8
GYA				sP	sP	16 48 00.8	+3.0
GYA				PP	PnPn	16 48 08.2	+1.5
GYA				S	S	16 51 45.2	-0.4
GYA				sS	sS	16 52 40.0	-0.8
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
ANN	Anapa	29.31	295	eP	P	16 47 08.4	-8.6
ANN				e*PP	pP	16 47 40.0	-8.4
ANN				e		16 50 19.3	
ANN				eSS	SS	16 53 47.4	-22
ANN				pmax	pmax		
	comp=Z,36nm,1.1s						
PRGR	Permogore	29.94	331	eP	P	16 47 21.5	-0.8
PRGR				pmax	pmax		
	comp=Z,20nm,0.8s						
OBN	Obninsk	31.28	315	deP	P	16 47 34.7	+0.6
OBN				e*PP	pP	16 48 06.8	+1.2
OBN				e		16 48 45.0	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KLMR	Klimovskoe	32.00	327	eP	P	16 47 40.4	0.0
KLMR				pmax	pmax		
	comp=Z,17nm,1.0s						
BR131	Keskin Array S	32.65	286	eP	P	16 47 47.3	+0.7
	comp=Z,2.1nm,0.7s						
BRTR	Keskin Array B	32.65	286	P	P	16 47 47.1	+0.5
	comp=Z,3.0nm,0.8s,baz=88,slow=8.0,SNR=14						
BRTR	Keskin Array B	32.65	286	ceP	P	16 47 47.5	+0.9
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG	Malin Array Be	34.96	306	P	P	16 48 06.5	+0.3
	comp=Z,2.4nm,0.4s,baz=78,slow=7.1,SNR=4.2						
AKASG	Malin Array Be	34.96	306	i P	P	16 48 02.7	-3.5
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKBB	Malin Array Si	34.96	306	eP	P	16 48 06.5	+0.3
AKBB	Malin Array Si	34.96	306	eP	P	16 48 06.5	+0.3
AK01	Malin Array Si	34.97	306	eP	P	16 48 06.5	+0.3
AK02	Malin Array Si	34.97	306	eP	P	16 48 06.3	+0.1
KIEV	Kiev	34.97	306	eP	P	16 48 06.2	-0.1
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KIEV	Kiev	34.97	306	eP	P	16 48 06.2	-0.1
	comp=Z,3.6nm,0.4s						
CFR	Carcaliu	35.87	297	⇓P	P	16 48 15.1	+1.1
CFR	Carcaliu	35.87	297	⇓iP	P	16 48 15.1	+1.1
VRI	Vrincioaia	36.78	298	⇓P	P	16 48 23.9	+2.1
VRI	Vrincioaia	36.78	298	⇓iP	P	16 48 23.9	+2.1
MLR	Muntele Rosu	37.37	298	⇓P	P	16 48 29.5	+2.6
MLR	Muntele Rosu	37.37	298	⇓iP	P	16 48 29.5	+2.6
JMB	Yambol	37.38	292	⇓P	P	16 48 28.7	+1.9
JMB	Yambol	37.38	292	⇓iP	P	16 48 28.7	+1.9
BUR08	Bucovina Ar. S	37.66	301	eP	P	16 48 30.1	+0.8
DOPR	Dopca	37.70	298	⇓iP	P	16 48 31.4	+1.9
VOIR		38.00	298	⇑P	P	16 48 33.8	+1.6
VOIR		38.00	298	⇑iP	P	16 48 33.8	+1.6
FINES	FINESS Array B	38.28	324	P	P	16 48 35.0	+0.8
	comp=Z,8.6nm,0.7s,baz=116,slow=10,SNR=26						
FINES				pP	pP	16 49 08.3	+1.8
	comp=Z,1.7nm,0.5s,baz=113,slow=10,SNR=2.0						
KWP	Kalwaria Pacla	39.17	304	eP	P	16 48 43.1	+1.4
KWP	Kalwaria Pacla	39.17	304	eP	P	16 48 43.1	+1.4
TRPA	Tarpa	39.40	302	⇓iP	P	16 48 45.9	+2.3
KOLS	Kolonicke sedl	39.50	303	eP	P	16 48 45.9	+1.4
KOLS				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KOLS	Kolonicke sedl	39.50	303	eP	P	16 48 45.9	+1.4
GZR	Gura Zlata	39.59	298	⇑iP	P	16 48 46.2	+0.8
VTS	Vitosha	39.80	293	⇓P	P	16 48 48.6	+1.4
VTS	Vitosha	39.80	293	⇓iP	P	16 48 48.6	+1.4
STHS	Stebnicka Huta	40.13	304	eP	P	16 48 50.5	+0.8
STHS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
STHS	Stebnicka Huta	40.13	304	eP	P	16 48 50.5	+0.8
BZS	Buzias	40.36	298	⇓P	P	16 48 53.2	+1.6
BZS	Buzias	40.36	298	⇓iP	P	16 48 53.2	+1.6
KSAR	Wonju Array Be	40.61	74	P	P	16 48 55.6	+1.8
KSAR	Wonju Array Be	40.61	74	P	P	16 48 55.6	+1.8
KSRS	Korea Array	40.64	74	P	P	16 48 55.6	+1.6
	comp=Z,0.5nm,0.7s,baz=287,slow=9.9,SNR=3.5						
KECS	Kecovo	40.73	303	eP	P	16 48 55.4	+0.8
KECS	Kecovo	40.73	303	eP	P	16 48 55.4	+0.8
NIE	Niedzica	40.74	304	eP	P	16 48 56.5	+1.8
NIE	Niedzica	40.74	304	eP	P	16 48 56.5	+1.8
OJC	Ojcow	40.99	306	eP	P	16 48 57.5	+0.8
OJC	Ojcow	40.99	306	eP	P	16 48 57.5	+0.8
ARCES	ARCESS Array B	41.07	336	P	P	16 48 58.2	+1.1
	comp=Z,7.9nm,0.6s,baz=112,slow=9.3,SNR=42						
ARE0	ARCESS Array S	41.07	336	eP	P	16 48 58.5	+1.4
DIVS	Divibare	41.78	296	⇑iP	P	16 49 04.5	+1.2
KRLC	Kraliky	42.94	306	eP	P	16 49 14.2	+1.6
KRLC	Kraliky	42.94	306	eP	P	16 49 14.2	+1.6
KSP	Ksiaz	43.15	307	eP	P	16 49 15.6	+1.4
KSP	Ksiaz	43.15	307	eP	P	16 49 15.6	+1.4
DPC	Dobruska-Polom	43.20	306	eP	P	16 49 15.8	+1.2
DPC	Dobruska-Polom	43.20	306	eP	P	16 49 15.8	+1.2
CONA	Conrad Observa	43.87	303	⇑iP	P	16 49 21.2	+1.1
	comp=Z,9.3nm,0.7s,SNR=8.4						
PRU	Pruhonice	44.38	306	eP	P	16 49 25.3	+1.3
PRU	Pruhonice	44.38	306	eP	P	16 49 25.3	+1.3
BRG	Berggiesshubel	44.62	307	eP	P	16 49 26.9	+1.0
	comp=Z,6.9nm,0.7s						
BRG	Berggiesshubel	44.62	307	eP	P	16 49 27.0	+1.0
BRG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SOKA	Soboth	44.66	301	⇑iP	P	16 49 27.5	+1.1
	comp=Z,13nm,0.9s,SNR=10.0						
GERES	GERESS Array B	45.12	304	P	P	16 49 30.6	+0.6
	comp=Z,5.7nm,0.9s,baz=69,slow=7.3,SNR=22						
CLL	Collm	45.15	308	i P	P	16 49 30.7	+0.7
	comp=Z,7.0nm,0.8s						
CLL				ePP	PP	16 51 21.0	+2.7
CLL	Collm	45.15	308	i P	P	16 49 30.7	+0.7
CLL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KHC	Kasperske Hory	45.15	305	eP	P	16 49 31.2	+1.1
KHC	Kasperske Hory	45.15	305	eP	P	16 49 31.2	+1.1
NB2	NORSAR Subarra	45.36	322	P	P	16 49 31.8	+0.2
	comp=Z,9.9nm,0.7s,baz=90,slow=7.9						
NOA	NORSAR Array B	45.36	322	P	P	16 49 31.9	+0.2
	comp=Z,7.0nm,0.6s,baz=91,slow=7.8,SNR=33						
NOA				pP	pP	16 50 06.4	+1.5
	comp=Z,0.7nm,0.5s,baz=107,slow=7.4,SNR=2.5						
FETA	Feichten	47.46	303	⇑iP	P	16 49 48.3	-0.1
	comp=Z,6.2nm,1.0s						
DAVA	Damuels	47.96	303	⇑iP	P	16 49 52.5	+0.3
	comp=Z,14nm,0.8s,SNR=5.8						
MJAR	Matsushiro Arr	48.69	72	P	P	16 49 58.1	+0.3
	comp=Z,0.6nm,0.5s,baz=281,slow=8.5,SNR=3.2						
BFO	Black Forest	48.71	305	i P	P	16 49 58.5	+0.7
KEST	Kesra	52.15	289	P	P	16 50 23.9	0.0
	comp=Z,1.0nm,0.6s,baz=39,slow=7.8,SNR=3.2						
LEM	Lembang	53.70	140	LR	LR	17 18 44.9	
	comp=Z,65nm,18.3s,baz=236,slow=42						
ESK	Eskdalemuir	53.76	316	i P	P	16 50 36.6	+1.4
ESDC	Sonseca Array	60.05	299	P	P	16 51 20.0	+0.1
	comp=Z,0.2nm,0.3s,baz=63,slow=7.4,SNR=6.0						
TAM	Tamanrasset	61.21	277	eP	P	16 51 28.0	0.0
TAM	Tamanrasset	61.21	277	eP	P	16 51 28.0	0.0
TOA0	Torodi Ar. Sit	69.62	271	eP	P	16 52 21.2	-0.8
TORD	Torodi Ar. Bea	69.62	271	P	P	16 52 21.4	-0.7
	comp=Z,7.5nm,0.6s,baz=47,slow=5.6,SNR=94						
ILAR	Eielson Array	71.96	18	P	P	16 52 35.5	+0.1
	comp=Z,1.6nm,0.8s,baz=322,slow=4.5,SNR=17						
ILAR				pP	pP	16 53 12.1	+0.5
	comp=Z,0.6nm,0.7s,baz=314,slow=5.4,SNR=3.5						
DBIC	Dimbokro	78.64	270	P	P	16 53 13.7	-0.7
	comp=Z,12nm,0.9s,baz=34,slow=7.7,SNR=6.9						
YKA	Yellowknife Ar	79.23	5	P	P	16 53 17.4	+0.6
	comp=Z,4.4nm,0.7s,baz=346,slow=5.4,SNR=31						
YKA				pP	pP	16 53 55.9	+2.4
	comp=Z,1.2nm,0.5s,baz=345,slow=5.5,SNR=4.7						
WRA	Warramunga Arr	79.73	125	P	P	16 53 19.8	-0.3
	comp=Z,1.2nm,0.8s,baz=319,slow=4.2,SNR=15						
BOSA	Boshof	81.66	223	P	P	16 53 30.1	-0.1
	comp=Z,1.2nm,0.5s,baz=78,slow=1.9,SNR=5.3						
ASAR	Alice Springs	82.18	128	P	P	16 53 32.8	-0.3
	comp=Z,0.8nm,0.7s,baz=316,slow=5.1,SNR=22						
FFC	Flin Flon	87.36	359	eP	P	16 53 58.7	+0.2
FFC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
FFC	Flin Flon	87.36	359	eP	P	16 53 58.7	+0.2
	comp=Z,7.5nm,1.0s						
EYMN	Ely	93.43	352	eP	P	16 54 26.9	-0.1
	comp=Z,5.6nm,0.9s						

*IDC **02** 17:20:38.5±1.5, 4°.69N×94°.37E, h0^{km}, mb3.8/6, mb1 3.8/8, mb1mx3.6/28, mbtmp3.7/8, ML3.2/2, Error ellipse: s-maj=54.1km s-min=18.8km az=54.0*

*ISCJB **02** 17:20:41.8±0.9, 4°.8N±0°.1×94°.5E±0°.1, h33^{km}, mb3.9/8, Error ellipse: s-maj=20.9km s-min=10.6km az=43.1*

*NEIC **02** 17:20:44.0±0.7, 4°.75N×94°.49E, h35^{km}, mb4.0/2, Error ellipse: s-maj=15.6km s-min=8.0km az=225.0*

ISC 02 17:20:43.9±1.2, **4°.8N**±0°.1×**94°.5E**±0°.2, **h33^{km}, n15, σ0^{s}75**/12, **mb3.9**/8, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	2.48	80	eP	Pn	17 21 21.0	-1.1
PSI	Prapat	4.85	114	Pn	Pn	17 21 55.5	+0.8
	1.0nm,0.3s,baz=315,slow=13,SNR=4.8						
IPM	Ipoh	6.52	93	eP	Pn	17 22 18.2	+0.6
	5.7nm,0.5s						
CMAR	Chiang Mai Arr	14.25	17	Pn	Pn	17 24 04.7	+1.1
	0.0nm,0.3s,baz=217,slow=15,SNR=3.1						
H08S2	Diego Garcia H	25.19	241	T	T	17 52 00.2	
	baz=61,slow=75,SNR=29						
H08S3	Diego Garcia H	25.19	241	T	T	17 52 00.8	
	baz=61,slow=75,SNR=23						
H08S1	Diego Carcia H	25.21	241	T	T	17 51 57.4	
	baz=61,slow=75,SNR=24						
MKAR	Makanchi Array	43.14	348	P	P	17 28 41.8	+0.4
	1.8nm,0.7s,baz=166,slow=8.5,SNR=20						
SONM	Songino Array	44.08	12	P	P	17 28 48.3	-0.7
	0.3nm,0.5s,baz=181,slow=15,SNR=4.2						
WRA	Warramunga Arr	46.25	123	P	P	17 29 06.0	-0.5
	1.2nm,0.8s,baz=302,slow=9.1,SNR=9.6						
WRAB	Tennant Creek	46.25	123	eP	P	17 29 06.2	-0.3
	5.4nm,1.0s						
KURK	Kurchatov	47.66	346	eP	P	17 29 17.4	+0.4
	1.0nm,0.7s						
ASAR	Alice Springs	47.72	128	P	P	17 29 17.5	-0.5
	0.5nm,0.8s,baz=302,slow=8.1,SNR=7.8						
ZALV	Zalesovo Beam	49.63	353	P	P	17 29 32.6	+0.5
	1.7nm,0.5s,baz=184,slow=6.8,SNR=11						
BRTR	Keskin Array B	64.70	312	P	P	17 31 18.8	-0.4
	0.3nm,0.5s,baz=134,slow=6.2,SNR=2.7						

*IDC **02** 17:44:50.0±1.0, 4°.08N×127°.84E, h0^{km}, mb3.5/6, mb1 3.7/6, mb1mx3.5/27, mbtmp3.5/6, MS2.9/1, Ms1 3.1/1, ms1mx2.3/22, Error ellipse: s-maj=96.6km s-min=17.6km az=73.0*

*ISCJB **02** 17:44:56.6±0.9, 4°.1N±0°.2×127°.9E±0°.6, h71^{km}, mb3.5/6, Error ellipse: s-maj=83.6km s-min=15.3km az=163.9*

ISC 02 17:44:58.7±1.0, **4°.1N**±0°.2×**127°.9E**±0°.6, **h71^{km}, n7, σ1^{s}35**/6, **mb3.6**/6, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.72	165	P	P	17 50 12.2	-1.3
	2.0nm,0.8s,baz=341,slow=11,SNR=15						
ASAR	Alice Springs	28.21	168	P	P	17 50 44.5	-0.5
	0.3nm,0.8s,baz=344,slow=12,SNR=3.9						
CMAR	Chiang Mai Arr	31.70	299	LR	LR	18 05 52.5	
	comp=Z,21nm,19.4s,baz=193,slow=40						
KSRS	Korea Array	33.20	0	P	P	17 51 28.1	-0.6
	0.3nm,0.4s,baz=162,slow=5.0,SNR=2.5						
STKA	Stephens Creek	38.08	161	P	P	17 52 11.5	+0.9
	1.2nm,0.6s,baz=339,slow=9.9,SNR=5.8						
MKAR	Makanchi Array	57.92	325	P	P	17 54 43.0	-0.6
	0.1nm,0.4s,baz=133,slow=7.5,SNR=4.1						
ZALV	Zalesovo Beam	60.79	332	P	P	17 55 04.7	+1.5
	0.2nm,0.3s,baz=119,slow=5.1,SNR=2.4						

IDC 02 17:59:49.9±2.2, **33°.13N**×**96°.15E, h0^{km}, mb3.3**/1, **mb1 3.4**/3, **mb1mx3.1**/29, **mbtmp3.3**/3, **ML3.2**/2, **Error ellipse: s-maj=86.5km s-min=35.3km az=69.0, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	16.61	25	Pn	Pn	18 03 44.0	-0.2
	0.1nm,0.3s,baz=206,slow=14,SNR=5.3						
MKAR	Makanchi Array	17.26	326	P	Pn	18 03 52.5	+0.2
	0.1nm,0.3s,baz=140,slow=14,SNR=5.2						
ASAR	Alice Springs	66.97	142	P	P	18 10 44.5	0.0
	0.3nm,0.8s,baz=321,slow=5.5,SNR=3.5						

*IDC **02** 18:03:56.1±2.1, 8°.38S×120°.08E, h0^{km}, mb3.4/4, mb1 3.5/5, mb1mx3.3/22, mbtmp3.3/5, ML3.1/1, Error ellipse: s-maj=162.6km s-min=22.9km az=57.0*

*ISCJB **02** 18:04:01.0±0.7, 8°.12S±0°.05×120°.5E±0°.1, h33^{km}, mb3.5/3, Error ellipse: s-maj=16.4km s-min=6.4km az=165.9*

*DJA **02** 18:04:01.3±0.7, 8°S±2°×12°0E±°, h14^{km}±6^{km}, M3.6/11, MLv3.6/11*

ISC 02 18:04:02.0±0.8, **8°.11S**±0°.05×**120°.48E**±0°.09, **h33^{km}, n12, σ1^{s}02**/14, **mb3.5**/3, **Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	1.56	187	P	Pn	18 04 28.1	+0.6
WSI				S	Sb	18 04 50.7	+0.9
MMRI	Maumere	1.82	107	P	Pn	18 04 31.2	+0.2
BSSI	Bau Bau, Buton	1.95	0	P	Pn	18 04 33.6	+0.8
BSSI				S	Sn	18 04 56.4	+0.2
BASI	Baing, Sumba	2.10	177	P	Pn	18 04 35.8	+0.9
BKSI	Bulukumba	2.79	353	P	Pn	18 04 45.4	+1.1
SOEI	Soe	4.09	114	P	Pn	18 05 04.3	+2.0
SPSI	Sidrap Palu	4.17	350	P	Pn	18 05 03.8	+0.4
WRA	Warramunga Arr	17.85	133	P	Pn	18 08 07.0	-1.0
	0.1nm,0.3s,baz=308,slow=12,SNR=4.7						
ASAR	Alice Springs	20.12	142	P	P	18 08 32.7	-0.7
	0.6nm,0.8s,baz=318,slow=11,SNR=9.5						
STKA	Stephens Creek	30.75	143	P	P	18 10 13.2	-1.1
	0.6nm,0.7s,baz=311,slow=9.3,SNR=3.4						
SONM	Songino Array	57.08	349	P	P	18 13 45.7	+0.7
	0.3nm,0.4s,baz=156,slow=7.6,SNR=3.3						
MKAR	Makanchi Array	64.35	332	P	P	18 14 33.9	-0.6
	0.1nm,0.4s,baz=141,slow=4.8,SNR=3.3						

*IDC **02** 18:10:01.0±1.6, 16°.45S×173°.28W, h0^{km}, mb3.8/7, mb1 4.2/7, mb1mx3.9/20, mbtmp3.8/7, Error ellipse: s-maj=101.6km s-min=19.9km az=148.0*

*ISCJB **02** 18:10:08.4±1.3, 16°.3S±0°.6×173°.5W±0°.4, h66^{km}, mb3.6/7, Error ellipse: s-maj=95.2km s-min=17.4km az=148.2*

ISC 02 18:10:09.8±1.5, **16°.3S**±0°.5×**173°.5W**±0°.3, **h66^{km}, n14, σ0^{s}30**/10, **mb3.8**/7, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT2	Papeete2	22.88	97	eLR	LR	18 13 58.5	
	173nm,26.5s						
H11N3	WAKE ISLAND Hy	40.65	331	T	T	19 01 12.8	
	baz=150,slow=76,SNR=16						
H11N1	WAKE ISLAND Hy	40.65	331	T	T	19 01 13.4	
	baz=150,slow=76,SNR=12						
H11N2	WAKE ISLAND Hy	40.67	331	T	T	19 01 13.4	
	baz=150,slow=76,SNR=16						
STKA	Stephens Creek	43.55	241	P	P	18 18 07.3	-0.1
	1.0nm,0.5s,baz=91,slow=12,SNR=6.5						
WRA	Warramunga Arr	49.59	257	P	P	18 18 55.2	+0.3
	0.2nm,0.4s,baz=95,slow=6.7,SNR=10						
ASAR	Alice Springs	49.79	253	P	P	18 18 56.2	-0.1
	2.8nm,0.6s,baz=89,slow=8.1,SNR=50						
NVAR	Mina Array Bea	75.02	42	P	P	18 21 45.0	+0.3
	1.1nm,0.8s,baz=229,slow=10,SNR=7.3						
TXAR	Lajitas Array	81.15	56	P	P	18 22 18.6	-0.1
	0.6nm,1.1s,baz=234,slow=8.7,SNR=3.5						
PDAR	Pinedale Array	82.96	42	P	P	18 22 28.1	+0.1
	0.8nm,0.7s,baz=180,slow=1.5,SNR=7.3						
ILAR	Eielson Array	83.32	11	P	P	18 22 29.0	-0.1
	0.3nm,0.5s,baz=236,slow=5.6,SNR=5.6						
MLR	Muntele Rosu	146.64	335	PKPbc	PKPab	18 29 45.1	-0.3
	0.3nm,0.7s,baz=180,slow=7.1,SNR=3.0						
BRTR	Keskin Array B	146.80	320	PKPbc	PKPab	18 29 46.5	+0.2
	1.8nm,0.7s,baz=90,slow=1.4,SNR=8.9						
GERES	GERESS Array B	147.00	351	PKPbc	PKPab	18 29 46.3	-0.4
	0.7nm,0.6s,baz=32,slow=7.8,SNR=4.4						

IDC 02 18:12:36.0±3.1, **32°.29S**×**177°.93W, h0^{km}, mb3.6**/2, **mb1 3.8**/3, **mb1mx3.6**/22, **mbtmp3.6**/3, **ML3.1**/1, **Error ellipse: s-maj=72.2km s-min=36.5km az=117.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.21	213	Pn	Pn	18 14 23.1	+0.4
	0.3nm,0.3s,baz=12,slow=9.3,SNR=3.9						
URZ				Sn	Sn	18 15 44.2	-1.0
	2.2nm,0.3s,baz=333,slow=23,SNR=13						
ASAR	Alice Springs	43.10	269	P	P	18 20 38.1	-0.1
	0.4nm,0.7s,baz=110,slow=7.4,SNR=3.2						
WRA	Warramunga Arr	44.26	274	P	P	18 20 47.5	-0.1
	0.6nm,0.3s,baz=112,slow=8.1,SNR=14						
FINES	FINESS Array B	146.93	339	PKPbc	PKPbc	18 32 18.8	-0.9
	0.9nm,0.6s,baz=45,slow=2.2,SNR=5.9						

*ISCJB **02** 18:18:41.6±1.4, 32°.33S±0°.06×177°.9W±0°.3, h24^{km}, mb4.0/4, Error ellipse: s-maj=32.1km s-min=5.1km az=13.9*

*IDC **02** 18:18:42.8±1.8, 32°.11S×178°.18W, h0^{km}, mb4.0/4, mb1 4.2/6, mb1mx3.9/20, mbtmp4.1/6, ML4.2/2, MS2.4/1, Ms1 2.4/1, ms1mx2.3/31, Error ellipse: s-maj=41.0km s-min=24.4km az=113.0*

ISC 02 18:18:44.8±1.5, **32°.22S**±0°.09×**178°.1W**±0°.3, **h24^{km}, n20, σ1^{s}11**/23, **mb4.0**/4, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.96	3	Pn	Pn	18 19 29.3	-1.0
	50nm,0.3s,baz=198,slow=20,SNR=4.2						
RAO				Sn	Sn	18 20 04.7	-0.5
	97nm,0.3s,baz=270,slow=20,SNR=2.9						
RAO				LR	LR	18 20 35.1	
	comp=Z,72nm,21.5s,baz=117,slow=39						
WMGZ	Waiomatatini S	6.27	206	ePN	Pn	18 20 15.2	-0.7
HAZ	Te Kaha	6.47	210	ePN	Pn	18 20 18.8	+0.3
HAZ				eSN	Sn	18 21 31.6	-0.1
PUZ	Puketiti	6.56	206	ePN	Pn	18 20 19.2	-0.6
PUZ				eSN	Sn	18 21 34.3	+0.5
TWGZ	Tauwhareparae	6.75	207	ePN	Pn	18 20 22.1	-0.4
CNGZ	Carnagh Statio	6.94	205	ePN	Pn	18 20 24.0	-1.0
MWZ	Matawai	7.07	209	ePN	Pn	18 20 25.7	-1.1
MWZ				eSN	Sn	18 21 45.8	-0.6
URZ	Urewera	7.19	212	Pn	Pn	18 20 28.6	+0.3
	2.7nm,0.3s,baz=272,slow=3.8,SNR=12						
URZ				Sn	Sn	18 21 48.4	-0.8
	4.2nm,0.3s,baz=161,slow=23,SNR=11						
URZ	Urewera	7.19	212	ePN	Pn	18 20 27.8	-0.6
SNGZ	Shannon Statio	7.53	208	ePN	Pn	18 20 32.4	-0.7
SNGZ				eSN	Sn	18 21 56.9	-0.7
BKZ	Black Stump Fm	8.21	211	ePN	Pn	18 20 43.1	+0.7
MRZ	Mangatainoka R	9.84	209	eSN	Sn	18 22 47.0	-7.5
THZ	Tophouse	11.93	214	ePN	Pn	18 21 30.3	-3.1
MQZ	McQueen's Vall	13.58	210	eSN	Sn	18 24 11.8	-14
STKA	Stephens Creek	34.02	260	P	P	18 25 29.1	+2.1
	0.9nm,0.7s,baz=94,slow=12,SNR=3.6						
CTA	Charters Tower	34.05	282	P	P	18 25 28.7	+1.4
	1.4nm,0.4s,baz=90,slow=7.1,SNR=3.0						
ASAR	Alice Springs	42.96	269	P	P	18 26 42.8	+0.6
	0.6nm,0.6s,baz=107,slow=7.3,SNR=19						
WRA	Warramunga Arr	44.11	274	P	P	18 26 51.8	+0.3
	2.2nm,0.3s,baz=112,slow=8.0,SNR=34						
FINES	FINESS Array B	146.81	339	PKPbc	PKPab	18 38 25.3	-0.2
	1.0nm,0.4s,baz=29,slow=3.2,SNR=10						
TORD	Torodi Ar. Bea	161.01	179	PKPab	PKPab	18 39 28.5	+2.1
	0.2nm,0.5s,baz=191,slow=3.2,SNR=2.5						

*IDC **02** 18:48:07.4±1.2, 37°.73S×179°.15E, h0^{km}, mb4.0/3, mb1 4.2/3, mb1mx3.8/15, mbtmp4.0/3, Error ellipse: s-maj=49.5km s-min=23.6km az=161.0*

*NEIC **02** 18:48:09.9, 37°.85S×179°.34E, h19^{km}, ML4.3(WEL), After WEL.*

*WEL **02** 18:48:10.8±0.4, 37°.78S×179°.33E, h33^{km}, ML4.3/36, Error ellipse: s-maj=4.1km s-min=1.6km az=90.0*

ISC 02 18:48:09.8±0.9, **38°.04S**±0°.05×**179°.33E**±0°.06, **h26^{km}, n186, σ1^{s}19**/185, **mb4.0**/3, **7C-10D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	0.76	287	⇑PN	Pb	18 48 24.0	-0.3
WMGZ				SN	Sb	18 48 34.5	+0.3
PUZ	Puketiti	0.85	267	PN	Pn	18 48 26.4	+0.3
PUZ				AML	AML	18 48 39.0	
PUZ				AML	AML	18 48 43.0	
PUZ	Puketiti	0.85	267	Pn	Pn	18 48 26.4	+0.3
MXZ	Matakaoa Point	0.94	300	PN	Pn	18 48 25.8	-1.5
MXZ				SN	Sb	18 48 37.1	-2.4
MXZ				AML	AML	18 48 38.8	
MXZ				AML	AML	18 48 38.8	
MXZ				AML	AML	18 48 39.0	
MXZ	Matakaoa Point	0.94	300	Pn	Pn	18 48 25.8	-1.5
MXZ				S*	Sb	18 48 37.1	-2.4
CNGZ	Carnagh Statio	0.99	243	PN	Pb	18 48 30.1	+1.8
CNGZ	Carnagh Statio	0.99	243	Pn	Pb	18 48 30.1	+1.8
TWGZ	Tauwhareparae	1.07	262	⇓PN	Pb	18 48 29.9	+0.2
TKGZ	Te Karaka	1.23	251	⇓PN	Pb	18 48 32.7	+0.2
HAZ	Te Kaha	1.25	283	⇑PN	Pn	18 48 31.3	-0.4
RIGZ	Rimuhau	1.40	241	⇓PN	Pb	18 48 35.3	0.0
PRGZ	Paritu Road	1.44	232	PN	Pb	18 48 36.3	+0.3
PRGZ	Paritu Road	1.44	232	Pn	Pb	18 48 36.3	+0.3
MWZ	Matawai	1.45	258	⇓PN	Pn	18 48 34.9	+0.5
MWZ				AML	AML	18 48 57.2	
MWZ				AML	AML	18 48 59.0	
MWZ				AML	AML	18 48 59.0	
MWZ				AML	AML	18 49 01.7	
MWZ	Matawai	1.45	258	Pn	Pn	18 48 34.9	+0.5
RAGZ	Rawiri	1.57	253	⇓PN	Pn	18 48 37.0	+0.8
KNZ	Kokohu	1.63	232	PN	Pb	18 48 38.5	-0.7
KNZ	Kokohu	1.63	232	Pn	Pb	18 48 38.5	-0.7
SNGZ	Shannon Statio	1.73	244	PN	Pn	18 48 39.6	+1.4
URZ	Urewera	1.76	262	PN	Pn	18 48 39.5	+0.8
URZ				AML	AML	18 49 03.8	
URZ				AML	AML	18 49 04.1	
URZ	Urewera	1.76	262	Pn	Pn	18 48 39.4	+0.8
	79nm,0.3s,baz=255,slow=2.4,SNR=407						
URZ				Sn	Sb	18 49 02.1	-1.1
	184nm,0.3s,baz=29,slow=19,SNR=14						
URZ				LR	LR	18 49 22.2	
	comp=Z,263nm,20.6s,baz=240,slow=44						
WIZ	White Island	1.77	286	PN	Pn	18 48 38.6	-0.1
WIZ	White Island	1.77	286	Pn	Pn	18 48 39.0	+0.3
WHHZ	Waihua	1.94	237	PN	Pb	18 48 43.3	-1.2
RAHZ	Arahi	1.97	243	PN	Pn	18 48 43.1	+1.6
RAHZ	Arahi	1.97	243	Pn	Pn	18 48 43.1	+1.6
EDRZ	Edgecumbe	2.04	267	PN	Pn	18 48 43.4	+0.8
EDRZ				AML	AML	18 49 12.6	
EDRZ				AML	AML	18 49 13.4	
EDRZ	Edgecumbe	2.04	267	Pn	Pn	18 48 43.4	+0.8
MARZ	Manawahe	2.10	271	PN	Pn	18 48 43.5	+0.2
MARZ	Manawahe	2.10	271	Pn	Pn	18 48 43.5	+0.2
ARHZ	Aropaoanui	2.20	235	PN	Pn	18 48 46.7	+2.0
OPRZ	Ohinepanea	2.20	274	PN	Pn	18 48 44.4	-0.3
OPRZ	Ohinepanea	2.20	274	Pn	Pn	18 48 44.4	-0.3
TARZ	Mount Tarawera	2.23	264	PN	Pn	18 48 46.3	+1.1
TARZ	Mount Tarawera	2.23	264	Pn	Pn	18 48 46.3	+1.1
RRRZ	Republican Roa	2.24	261	PN	Pn	18 48 46.2	+0.9
RRRZ	Republican Roa	2.24	261	Pn	Pn	18 48 46.2	+0.9
NMHZ	Naumai	2.24	241	PN	Pn	18 48 47.2	+1.8
NMHZ	Naumai	2.24	241	Pn	Pn	18 48 47.2	+1.8
PRRZ	Plateau Road	2.35	258	PN	Pn	18 48 47.9	+1.0
PRRZ	Plateau Road	2.35	258	Pn	Pn	18 48 47.9	+1.0
HLRZ	Highlands Stat	2.36	264	PN	Pn	18 48 48.1	+1.2
CKHZ	Cape Kidnapper	2.39	227	PN	Pn	18 48 49.0	+1.7
CKHZ	Cape Kidnapper	2.39	227	Pn	Pn	18 48 49.0	+1.7
ALRZ	Allen Road	2.41	257	PN	Pn	18 48 48.8	+1.2
ALRZ	Allen Road	2.41	257	Pn	Pn	18 48 48.8	+1.2

MRHZ	Matea Rd	2.42 250	PN	Pn	18 48 49.0	+1.2
HRRZ	Handcock Road	2.42 261	⇓PN	Pn	18 48 48.8	+1.0
HRRZ	Handcock Road	2.42 261	Pn	Pn	18 48 48.8	+1.0
KARZ	Kaharoa	2.44 269	⇓PN	Pn	18 48 48.1	+0.2
KARZ	Kaharoa	2.44 269	Pn	Pn	18 48 48.1	+0.2
TGRZ	Tauranga	2.45 276	⇑PN	Pn	18 48 47.9	-0.1
TGRZ			AML	AML	18 49 17.7	
TGRZ			AML	AML	18 49 21.2	
TGRZ	Tauranga	2.45 276	Pn	Pn	18 48 48.0	-0.1
MCHZ	McNeill Hill	2.49 235	PN	Pn	18 48 50.5	+1.8
MCHZ	McNeill Hill	2.49 235	Pn	Pn	18 48 50.5	+1.8
BKZ	Black Stump Fm	2.49 242	⇑PN	Pn	18 48 50.2	+1.4
BKZ			AML	AML	18 49 22.0	
BKZ			AML	AML	18 49 22.3	
BKZ	Black Stump Fm	2.49 242	Pn	Pn	18 48 50.2	+1.4
KAHZ	Kahuranaki	2.59 227	PN	Pn	18 48 51.6	+1.4
KAHZ	Kahuranaki	2.59 227	Pn	Pn	18 48 51.6	+1.4
KWHZ	Kaweka Forest	2.66 238	⇑PN	Pn	18 48 52.5	+1.4
PXZ	Pawanui	2.77 223	PN	Pn	18 48 53.1	+0.6
PXZ			AML	AML	18 49 29.5	
PXZ			AML	AML	18 49 29.5	
PXZ			AML	AML	18 49 29.7	
PXZ			AML	AML	18 49 29.7	
PXZ	Pawanui	2.77 223	Pn	Pn	18 48 53.1	+0.6
KRHZ	Kereru	2.81 234	⇑PN	Pn	18 48 54.2	+1.1
RITZ	Rihia Road	2.88 250	AML	AML	18 49 37.8	
RITZ			AML	AML	18 49 38.8	
RATZ	Rangitukua	2.91 252	PN	Pn	18 48 55.5	+1.0
RATZ			AML	AML	18 49 29.1	
RATZ			AML	AML	18 49 49.4	
RATZ	Rangitukua	2.91 252	Pn	Pn	18 48 55.5	+1.0
BHHZ	Black Hill Sta	2.93 239	PN	Pn	18 48 55.9	+1.1
BHHZ	Black Hill Sta	2.93 239	Pn	Pn	18 48 55.9	+1.1
KATZ	Kakaramea	3.00 251	PN	Pn	18 48 56.9	+1.1
KATZ			AML	AML	18 49 26.4	
KATZ			AML	AML	18 49 28.5	
KATZ	Kakaramea	3.00 251	Pn	Pn	18 48 56.9	+1.1
WPHZ	Waipukurau	3.02 227	PN	Pn	18 48 56.8	+0.7
WPHZ	Waipukurau	3.02 227	Pn	Pn	18 48 56.8	+0.7
TOZ	Tahuroa Road	3.04 275	⇓PN	Pn	18 48 56.1	-0.1
TOZ	Tahuroa Road	3.04 275	Pn	Pn	18 48 56.1	-0.1
PRHZ	Porangahau	3.06 222	PN	Pn	18 48 56.8	+0.3
PRHZ	Porangahau	3.06 222	Pn	Pn	18 48 56.8	+0.3
PNHZ	Pukenui	3.08 231	PN	Pn	18 48 57.3	+0.6
PNHZ	Pukenui	3.08 231	Pn	Pn	18 48 57.3	+0.6
KRVZ	Karewarewa	3.08 249	PN	Pn	18 48 57.7	+0.8
KRVZ			AML	AML	18 49 38.4	
KRVZ			AML	AML	18 49 42.3	
KRVZ	Karewarewa	3.08 249	Pn	Pn	18 48 57.7	+0.8
OTVZ	Oturere	3.08 247	PN	Pn	18 48 57.9	+0.9
OTVZ			AML	AML	18 49 40.6	
OTVZ			AML	AML	18 49 41.8	
OTVZ	Oturere	3.08 247	Pn	Pn	18 48 57.9	+0.9
MOVZ	Moawhango	3.11 243	PN	Pn	18 48 58.1	+0.8
MOVZ			AML	AML	18 49 39.3	
MOVZ			AML	AML	18 49 42.8	
MOVZ	Moawhango	3.11 243	Pn	Pn	18 48 58.1	+0.8
WTVZ	West Tongariro	3.12 249	PN	Pn	18 48 58.7	+1.3
WTVZ			AML	AML	18 49 30.6	
WTVZ			AML	AML	18 49 58.3	
WTVZ	West Tongariro	3.12 249	Pn	Pn	18 48 58.8	+1.3
TUVZ	Tukino	3.13 246	PN	Pn	18 48 58.6	+1.0
TUVZ	Tukino	3.13 246	Pn	Pn	18 48 58.6	+1.0
NGZ	Ngauruhoe	3.13 248	PN	Pn	18 48 58.7	+1.0
NGZ			AML	AML	18 49 38.0	
NGZ			AML	AML	18 49 42.9	
NGZ	Ngauruhoe	3.13 248	Pn	Pn	18 48 58.7	+1.0
KUZ	Kuaotunu	3.15 293	⇓PN	Pn	18 48 56.5	-1.2
KUZ			AML	AML	18 49 33.3	
KUZ			AML	AML	18 49 33.3	
KUZ			AML	AML	18 49 34.8	
KUZ	Kuaotunu	3.15 293	Pn	Pn	18 48 56.5	-1.2
COVZ	Chateau Observ	3.18 247	PN	Pn	18 48 59.1	+0.8
WPVZ	Whakapapa	3.18 247	AML	AML	18 49 39.7	
WPVZ			AML	AML	18 49 48.9	
WPVZ	Whakapapa	3.18 247	Pn	Pn	18 48 59.3	+0.9
WNVZ	Wahianoa	3.19 245	Pn	Pn	18 48 57.0	-1.5
FWVZ	Far West T-bar	3.20 246	PN	Pn	18 48 59.1	+0.5
FWVZ			AML	AML	18 49 38.7	
FWVZ			AML	AML	18 49 44.8	
FWVZ	Far West T-bar	3.20 246	Pn	Pn	18 48 59.5	+0.9
TRVZ	Turoa	3.21 246	AML	AML	18 49 41.8	
TRVZ			AML	AML	18 49 47.0	
TRVZ	Turoa	3.21 246	Pn	Pn	18 49 00.0	+1.1
TWVZ	Taurewa	3.22 250	Pn	Pn	18 48 60.0	+1.2
ANWZ	Angora Road	3.28 222	PN	Pn	18 49 00.0	+0.5
MTVZ	Mangateitei	3.30 245	PN	Pn	18 49 01.0	+1.0
MTVZ			AML	AML	18 49 43.5	
MTVZ			AML	AML	18 49 46.9	
MTVZ	Mangateitei	3.30 245	Pn	Pn	18 49 01.0	+1.0
TSZ	Takapari Road	3.31 231	PN	Pn	18 49 00.0	+0.1
TSZ			AML	AML	18 49 42.1	
TSZ			AML	AML	18 49 45.6	
TSZ	Takapari Road	3.31 231	Pn	Pn	18 49 00.0	+0.1
DVHZ	Dannevirke	3.34 226	PN	Pn	18 49 00.6	+0.3
DVHZ	Dannevirke	3.34 226	Pn	Pn	18 49 00.6	+0.3
PKVZ	Pokaka	3.36 247	Pn	Pn	18 49 01.9	+1.2
MKAZ	Moumakai	3.43 284	⇓PN	Pn	18 49 01.3	-0.3
MKAZ			AML	AML	18 49 40.7	
MKAZ			AML	AML	18 49 40.9	
MKAZ	Moumakai	3.43 284	Pn	Pn	18 49 01.3	-0.3
HIZ	Hauiti	3.55 261	PN	Pn	18 49 04.4	+1.1
HIZ			AML	AML	18 49 47.6	
HIZ	Hauiti	3.55 261	Pn	Pn	18 49 04.4	+1.1
BFZ	Birch Farm	3.56 221	PN	Pn	18 49 03.1	-0.3
BFZ	Birch Farm	3.56 221	Pn	Pn	18 49 03.1	-0.3
GRZ	Great Barrier	3.57 299	PN	Pn	18 49 03.0	-0.5
PRWZ	Pori Road	3.62 225	PN	Pn	18 49 04.7	+0.5
POWZ	Post Office Ro	3.63 229	PN	Pn	18 49 04.8	+0.4
POWZ	Post Office Ro	3.63 229	Pn	Pn	18 49 04.8	+0.4
VRZ	Vera Road	3.74 252	PN	Pn	18 49 07.2	+1.3
VRZ	Vera Road	3.74 252	Pn	Pn	18 49 07.2	+1.3
WAZ	Wanganui	3.80 242	PN	Pn	18 49 07.9	+1.2
WAZ			AML	AML	18 50 01.9	
WAZ			AML	AML	18 50 05.3	
WAZ	Wanganui	3.80 242	Pn	Pn	18 49 07.9	+1.2
TIWZ	Tintock	3.82 223	PN	Pn	18 49 06.7	-0.2
TIWZ			AML	AML	18 49 54.8	
TIWZ			AML	AML	18 49 55.5	
TIWZ	Tintock	3.82 223	Pn	Pn	18 49 06.8	-0.2
MRZ	Mangatainoka R	3.91 227	⇑PN	Pn	18 49 08.1	-0.1
MRZ			AML	AML	18 49 55.6	
MRZ			AML	AML	18 49 59.3	
MRZ	Mangatainoka R	3.91 227	Pn	Pn	18 49 08.1	-0.1
WTAZ	Waiatarua	3.94 285	Pn	Pn	18 49 08.3	-0.3
TMWZ	Te Maipa	4.06 220	PN	Pn	18 49 09.3	-1.0
TMWZ	Te Maipa	4.06 220	Pn	Pn	18 49 09.3	-1.0
HOWZ	Holdsworth Sta	4.11 225	PN	Pn	18 49 10.3	-0.6
HOWZ	Holdsworth Sta	4.11 225	Pn	Pn	18 49 10.3	-0.6
OGWZ	Otaki Gorge	4.25 228	PN	Pn	18 49 12.4	-0.5
OGWZ	Otaki Gorge	4.25 228	Pn	Pn	18 49 12.4	-0.5
NEZ	North Egmont	4.28 252	PN	Pn	18 49 15.5	+2.2
NEZ	North Egmont	4.28 252	Pn	Pn	18 49 15.6	+2.2
MTW	Mount Morrison	4.29 222	PN	Pn	18 49 12.5	-1.0
MTW			AML	AML	18 50 04.2	
MTW			AML	AML	18 50 05.9	
MTW	Mount Morrison	4.29 222	Pn	Pn	18 49 12.5	-1.0
PKE	Pukeiti	4.34 253	PN	Pn	18 49 16.5	+2.4
PKE	Pukeiti	4.34 253	Pn	Pn	18 49 16.5	+2.4
TRWZ	Traveller	4.38 219	PN	Pn	18 49 13.5	-1.1
TRWZ			AML	AML	18 50 09.6	
TRWZ			AML	AML	18 50 10.2	
TRWZ	Traveller	4.38 219	Pn	Pn	18 49 13.5	-1.1
KIW	Kapiti Island	4.43 229	PN	Pn	18 49 14.9	-0.4
KIW			AML	AML	18 50 06.5	
KIW			AML	AML	18 50 08.8	
KIW	Kapiti Island	4.43 229	Pn	Pn	18 49 14.9	-0.4
WCZ	Waipu Caves	4.50 296	PN	Pn	18 49 16.3	-0.1
WCZ	Waipu Caves	4.50 296	Pn	Pn	18 49 16.3	-0.1
MSWZ	Moikau Station	4.61 222	PN	Pn	18 49 16.2	-1.6
MSWZ			AML	AML	18 50 12.5	
MSWZ			AML	AML	18 50 17.0	
MSWZ	Moikau Station	4.61 222	Pn	Pn	18 49 16.2	-1.6
PLWZ	Palliser	4.72 220	PN	Pn	18 49 17.7	-1.6
PLWZ	Palliser	4.72 220	Pn	Pn	18 49 17.8	-1.6
BHW	Baring Head	4.81 224	PN	Pn	18 49 19.5	-1.1
BHW			AML	AML	18 50 14.8	
BHW			AML	AML	18 50 18.5	
BHW	Baring Head	4.81 224	Pn	Pn	18 49 19.5	-1.1
DUWZ	D'Urville Isla	5.01 235	Pn	Pn	18 49 22.8	-0.6
TCW	Tory Channel	5.03 229	AML	AML	18 50 23.6	
TCW			AML	AML	18 50 27.7	
TCW	Tory Channel	5.03 229	Pn	Pn	18 49 22.6	-0.9
TUWZ	Tuamarina	5.36 229	PN	Pn	18 49 26.6	-1.4
TUWZ			AML	AML	18 50 30.0	
TUWZ			AML	AML	18 50 33.3	
TUWZ	Tuamarina	5.36 229	Pn	Pn	18 49 26.6	-1.4
OUZ	Omahuta	5.40 300	PN	Pn	18 49 29.2	+0.5
OUZ	Omahuta	5.40 300	Pn	Pn	18 49 29.2	+0.5
BSWZ	Blackbirch Sta	5.57 227	Pn	Pn	18 49 29.5	-1.5
QRZ	Quartz Range	5.95 240	PN	Pn	18 49 34.4	-1.9
QRZ			*e*SN	Sn	18 50 40.0	-3.6
QRZ	Quartz Range	5.95 240	Pn	Pn	18 49 34.4	-1.9
THZ	Tophouse	6.18 231	PN	Pn	18 49 37.6	-1.8
THZ			AML	AML	18 50 52.4	
THZ			AML	AML	18 50 54.7	
THZ	Tophouse	6.18 231	Pn	Pn	18 49 37.6	-1.8
CTZ	Chatham Island	6.47 153	PN	Pn	18 49 47.0	+3.8
CTZ			*e*SN	Sn	18 50 55.0	-1.2
CTZ	Chatham Island	6.47 153	Pn	Pn	18 49 47.0	+3.8
LTZ	Lake Taylor	7.17 226	AML	AML	18 55 05.0	
LTZ	Lake Taylor	7.17 226	Pn	Pn	18 49 45.6	-7.4
MQZ	McQueen's Vall	7.59 220	PN	Pn	18 49 56.3	-2.4
MQZ	McQueen's Vall	7.59 220	Pn	Pn	18 49 56.3	-2.4
OXZ	Oxford	7.65 224	*e*PN	Pn	18 49 57.0	-2.6
WVZ	Waitaha Valley	8.25 230	Pn	Pn	18 50 07.4	-0.4
RPZ	Rata Peaks	8.45 225	Pn	Pn	18 50 08.4	-2.1
	1.3nm,0.3s,baz=14,slow=2.4,SNR=7.9					
RPZ			Sn	Sn	18 51 37.8	-7.2
	4.8nm,0.3s,baz=300,slow=18,SNR=14					
ODZ	Otahua Downs	9.55 220	PN	Pn	18 50 23.6	-2.1
ODZ	Otahua Downs	9.55 220	Pn	Pn	18 50 23.6	-2.1
TUZ	Tuapeka	10.70 219	Pn	Pn	18 50 40.0	-1.4
SYZ	Scrubby Hill	11.35 218	Pn	Pn	18 50 49.2	-1.0
STKA	Stephens Creek	31.38 270	P	P	18 54 29.6	+1.1
	1.6nm,0.8s,baz=110,slow=11,SNR=4.2					
ASAR	Alice Springs	41.14 277	P	P	18 55 51.1	-0.9
	1.9nm,0.7s,baz=122,slow=8.1,SNR=30					
WRA	Warramunga Arr	42.83 282	P	P	18 56 04.5	-1.2
	2.0nm,0.7s,baz=125,slow=7.2,SNR=23					
KURK	Kurchatov	124.54 311	PKP	PKPdf	19 07 06.5	+0.4
KURBB	Kurchatov Arra	124.56 311	PKP	PKPdf	19 07 06.5	+0.3
	0.4nm,0.9s,baz=110,slow=2.6,SNR=4.3					
ARCES	ARCESS Array B	145.45 344	PKPbc	PKPab	19 07 45.5	+0.9
	5.5nm,0.7s,baz=44,slow=3.4,SNR=25					
FINES	FINESS Array B	151.28 333	PKPbc	PKPbc	19 08 01.2	+1.2
	4.1nm,0.9s,baz=48,slow=2.1,SNR=6.9					
FINES			PKPab	PKPab	19 08 08.2	0.0
	3.1nm,0.8s,baz=108,slow=6.2,SNR=4.9					
BRTR	Keskin Array B	153.33 284	PKPbc	PKPbc	19 08 06.8	+1.2
	0.8nm,0.8s,baz=106,slow=3.1,SNR=5.3					
TORD	Torodi Ar. Bea	155.12 185	PKPab	PKPab	19 08 27.6	+2.1
	1.1nm,0.8s,baz=181,slow=3.2,SNR=6.9					

*NOU **02** 18:50:57.9±1.4, 13.°03S×166.°42E, h30km, MD4.4, ML5.2*

*IDC **02** 18:51:01.4±0.4, 13.°69S×166.°61E, h0km, mb5.0/29, mb1 5.1/30, mb1mx5.1/32, mbtmp5.0/30, ML4.2/1, MS4.9/23, Ms1 4.9/23, ms1mx4.8/34, Error ellipse: s-maj=15.0km s-min=10.7km az=96.0*

*ISCJB **02** 18:51:03.2±1.8, 13.°76S±0.°03×166.°59E±0.°04, h16km±12km, mb5.3/114, MS5.2/322, Error ellipse: s-maj=6.4km s-min=4.7km az=166.4*

*MOS **02** 18:51:06.4±1.1, 13.°57S×166.°35E, h33km, mb5.6/33, MS5.0/27, Error ellipse: s-maj=9.1km s-min=7.8km az=39.3*

*BJI **02** 18:51:06.2, 13.°32S×166.°91E, h35km, mb5.2/69, mB5.5/58, Ms5.2/70, Ms7 4.9/66*

*NEIC **02** 18:51:07.3±0.2, 13.°73S×166.°59E, h35km, mb5.6/37, MS5.2/283, MW5.5, Error ellipse: s-maj=6.7km s-min=5.2km az=130.0, Moment Tensor Solution. s32 Moment tensor: Scale 10^{17}Nm; M_{rr}0.56; $M_{\theta\theta}$1.83; $M_{\phi\phi}$-2.40; $M_{r\theta}$-0.17; $M_{\theta\phi}$0.44; $M_{\phi r}$-0.98; Best double couple: $M_0$2.40000×10^{17} NP1:ϕ_s308.00000°, δ69.00000°, λ-2.00000°. NP2:ϕ_s39.00000°, δ88.00000°, λ-159.00000°. Principal axes: T 1.9400, Plg13.0000°, Azm171.0000°; N 0.7800, Plg68.0000°, Azm44.0000°; P -2.7200, Plg16.0000°, Azm265.0000°;*

*GCMT **02** 18:51:07.3±0.1, 13.°76S×166.°53E, h26km, MW5.6/107, Moment Tensor Solution. s104,c185; s107,c243; Duration: 1.s5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.65±.03; $M_{\theta\theta}$0.24±.02; $M_{\phi\phi}$-1.89±.03; $M_{r\theta}$0.34±.06; $M_{\theta\phi}$0.17±.02; $M_{\phi r}$-1.94±.07; Best double couple: $M_0$2.65400×10^{17} NP1:ϕ_s171.00000°, δ69.00000°, λ87.00000°. NP2:ϕ_s1.00000°, δ21.00000°, λ99.00000°. Principal axes: T 2.5320, Plg66.0000°, Azm75.0000°; N 0.2420, Plg3.0000°, Azm172.0000°; P -2.7760, Plg24.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 02 18:51:07.6±0.3**, 13.°73S**±0.°04×**166.°59E**±0.°05**, h38**km±2km**, h38**km**:pP-P, n895,** σ1.s45/776**, mb5.4**/123**, MS5.2**/322**, 40C-22D, Vanuatu Islands**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	7.04 175	*e*P	Pn	18 52 46.7	-1.4
LIFNC			*e*S	Sn	18 54 09.4	+2.6
HNR	Honiara	7.78 303	*e*P	Pn	18 52 57.9	-0.5
HNR			pmax	pmax		
	comp=Z,4µm,1.1s					
HNR	Honiara	7.78 303	*i* P	Pn	18 52 58.0	-0.5
HNR			*e*S	Px	18 53 06.0	
HNR	Honiara	7.78 303	*e*Pn	Pn	18 52 57.9	-0.5
	comp=Z,4µm,1.1s					
DZM	Mont Dzumac	8.30 181	*e*Pn	Pn	18 53 06.1	+0.6
	comp=Z,329nm,1.0s					
DZM			*e*Sn	Sn	18 54 34.8	-3.2
	comp=Z,790nm,1.0s					
DZM	Mont Dzumac	8.30 181	Pn	Pn	18 53 05.4	-0.1
	comp=Z,2.8nm,0.3s,baz=90,slow=24,SNR=39					
DZM			Sn	Sn	18 54 37.5	-0.5
	comp=Z,5.1nm,0.3s,baz=90,slow=20,SNR=1.7					
DZM	Mont Dzumac	8.30 181	*e*P	Pn	18 53 04.8	-0.6
DZM			AMP		18 55 06.3	
	comp=Z,2µm,0.0s					
NOUC	Port Laguerre	8.33 182	*e*P	Pn	18 53 05.1	-0.8
NOUC			*e*S	Sn	18 54 38.1	-0.5
BAYA	Yate Dam	8.38 178	*e*S	Sn	18 54 39.6	-0.4
MSVF	Nonsavu	11.73 111	*e*P	Pn	18 53 58.7	+6.2
MSVF	Nonsavu	11.73 111	*e*Pn	Pn	18 53 58.7	+6.2
EIDS	Eidsvold	18.62 229	*e*Pn	Pn	18 55 23.6	+1.1
	comp=Z,424nm,1.7s					
PMG	Port Moresby	19.51 281	*d i*P	Pn	18 55 33.3	0.0
PMG			pmax	pmax		
	comp=Z,3µm,1.7s					
PMG	Port Moresby	19.51 281	*e*Pn	Pn	18 55 33.5	+0.2
	comp=Z,153nm,1.2s					
CTA	Charters Tower	20.45 249	P	P	18 55 42.2	+0.3
	comp=Z,167nm,1.0s,baz=73,slow=13,SNR=79					
CTA			LR	LR	19 02 51.7	
	comp=Z,5µm,20.2s,baz=72,slow=35					
CTA			ScP	ScP	19 03 29.1	+2.0
	comp=Z,8.6nm,1.1s,baz=22,slow=2.4,SNR=7.1					
CTAO	Charters Tower	20.45 249	*e*P	P	18 55 42.8	+0.8
CTAO			pmax	pmax		
	comp=Z,577nm,1.4s					
CTAO			MLR	MLR		
	comp=Z,7µm,22.0s					
CTAO	Charters Tower	20.45 249	*e*P	P	18 55 42.8	+0.8
	comp=Z,577nm,1.4s					
CTAO			LR	LR		
	comp=Z,7µm,22.0s					
AFI	Afiamalu	21.01 93	*e*P	P	18 55 52.4	+4.2
AFI			pmax	pmax		
	comp=Z,893nm,1.7s					
AFI			MLR	MLR		
	comp=Z,6µm,20.9s					
AFI	Afiamalu	21.01 93	*e*P	P	18 55 52.4	+4.2
	comp=Z,894nm,1.7s					
AFI			LR	LR		
	comp=Z,6µm,20.9s					
RAO	Raoul Island	21.09 140	LR	LR	19 02 39.1	
	comp=Z,3µm,19.0s,baz=337,slow=33					
ARMA	Armidale	21.59 217	*e*P	P	18 55 56.3	+2.0
	comp=Z,1µm,3.0s					
ARMA			LR	LR		
	comp=Z,9µm,19.1s					
OUZ	Omahuta	22.31 165	*e*P	P	18 56 02.6	+0.8
	comp=Z,33nm,1.4s					
OUZ			LR	LR		
	comp=Z,8µm,18.4s					
KWAJ	Kwajalein Atol	22.41 3	PFAKE		18 56 10.0	+7.0
KWAJ			LR	LR		
	comp=Z,1µm,20.6s					
COEN	Coen	22.73 267	*e*P	P	18 56 07.1	+0.5
	comp=Z,529nm,1.4s					
COEN			LR	LR		
	comp=Z,9µm,21.0s					
URZ	Urewera	26.16 161	P	P	18 56 39.1	+0.8
	comp=Z,5.4nm,0.6s,baz=342,slow=11,SNR=4.0					
URZ	Urewera	26.16 161	*e*P	P	18 56 44.5	+6.2
	comp=Z,230nm,1.9s					
URZ			*e*pP	pP	18 56 51.6	+2.6
URZ			LR	LR		
	comp=Z,6µm,19.4s					
CAN	Canberra	26.71 213	*e*P	P	18 56 44.8	+1.4
CAN	Canberra	26.71 213	*e*P	P	18 56 44.8	+1.4
BKZ	Black Stump Fm	26.80 163	*e*P	P	18 56 48.3	+4.1
	comp=Z,332nm,2.5s					
BKZ			LR	LR		
	comp=Z,4µm,20.6s					
BFZ	Birch Farm	28.15 164	PFAKE		18 57 10.0	+14
BFZ			LR	LR		
	comp=Z,8µm,18.5s					
GENI	Genyem	28.36 291	P	P	18 57 00.2	+1.9
	comp=Z,60nm,1.7s,comp=Z,2µm					
SNZO	South Karori	28.38 167	PFAKE		18 57 10.0	+12
SNZO			LR	LR		
	comp=Z,9µm,18.5s					
STKA	Stephens Creek	29.16 228	P	P	18 57 06.3	+1.0
	comp=Z,40nm,0.7s,baz=47,slow=8.2,SNR=111					
STKA			PcP	PcP	19 00 13.3	+0.9
	comp=Z,5.3nm,0.7s,baz=52,slow=3.5,SNR=3.9					
STKA			ScP	ScP	19 03 53.0	+1.8
	comp=Z,4.8nm,0.8s,baz=7.5,slow=8.9,SNR=4.4					
STKA			LR	LR	19 08 35.3	
	comp=Z,11µm,19.0s,baz=53,slow=36					
STKA	Stephens Creek	29.16 228	*e*P	P	18 57 06.3	+1.0
STKA					19 00 13.3	
STKA			pmax	pmax		
	comp=Z,156nm,2.2s					
STKA	Stephens Creek	29.16 228	*e*P	P	18 57 06.2	+1.0
	comp=Z,156nm,2.2s					
STKA			PcP	PcP	19 00 13.3	+0.9
STKA			ScP	ScP	19 03 53.0	+1.8
KHZ	Kahutara	29.21 169	PFAKE		18 57 20.0	+14
KHZ			LR	LR		
	comp=Z,7µm,19.4s					
SMPI	Sarmi	29.93 291	P	P	18 57 12.9	+0.6
	comp=Z,163nm,1.5s,comp=Z,3µm					
RPZ	Rata Peaks	30.13 174	P	P	18 57 14.4	+0.6
	comp=Z,12nm,0.6s,baz=2.7,slow=5.3,SNR=6.6					
RPZ			LR	LR	19 08 22.5	
	comp=Z,2µm,19.7s,baz=344,slow=34					
RPZ	Rata Peaks	30.13 174	*e*P	P	18 57 17.8	+4.1
	comp=Z,328nm,2.2s					
WRAB	Tennant Creek	31.43 254	⇑*i*P	P	18 57 23.0	-2.6
WRAB			pmax	pmax		
	comp=Z,224nm,1.2s					
WRAB	Tennant Creek	31.43 254	*e*P	P	18 57 24.5	-1.1
	comp=Z,126nm,1.4s					
WRAB			LR	LR		
	comp=Z,10µm,18.7s					
WRA	Warramunga Arr	31.44 254	P	P	18 57 24.5	-1.2
	comp=Z,41nm,1.1s,baz=84,slow=9.0,SNR=85					
WRA			PcP	PcP	19 00 18.6	+0.1
	comp=Z,8.3nm,1.0s,baz=76,slow=2.5,SNR=6.4					
WRA			ScP	ScP	19 04 00.4	+1.6
	comp=Z,4.4nm,1.0s,baz=82,slow=3.3,SNR=13					
WRA			PKiKP	PKiKP	19 07 46.2	-1.9
	comp=Z,1.3nm,1.0s,baz=67,slow=0.6,SNR=12					
WRA			LR	LR	19 10 00.9	
	comp=Z,10µm,18.0s,baz=85,slow=36					
DCZ	Deep Cove	31.65 179	*e*P	P	18 57 27.4	+0.4
	comp=Z,115nm,1.2s					
DCZ			LR	LR		
	comp=Z,3µm,20.0s					
WHZ	Wether Hill Ro	32.08 178	PFAKE		18 57 40.0	+9.1
WHZ			LR	LR		
	comp=Z,4µm,20.2s					
AS31	Alice Springs	32.43 247	*e*P	P	18 57 32.7	-1.6
ASAR	Alice Springs	32.43 247	P	P	18 57 33.1	-1.2
	comp=Z,20nm,0.8s,baz=74,slow=9.7,SNR=143					
ASAR			PcP	PcP	19 00 21.6	+0.5
	comp=Z,3.9nm,0.8s,baz=86,slow=4.4,SNR=4.7					
ASAR			ScP	ScP	19 04 03.2	+1.1
	comp=Z,2.7nm,0.9s,baz=77,slow=3.1,SNR=7.5					
ASAR			PKiKP	PKiKP	19 07 46.4	-2.4
	comp=Z,0.5nm,0.6s,baz=94,slow=1.2,SNR=6.5					
ASAR			LR	LR	19 10 17.6	
	comp=Z,4µm,18.1s,baz=78,slow=36					
WAKE	Wake Island	32.81 0	PFAKE		18 57 50.0	+13
WAKE			LR	LR		
	comp=Z,2µm,20.0s					
RAR	Rarotonga	32.89 108	PFAKE		18 57 50.0	+12
RAR			LR	LR		
	comp=Z,5µm,20.1s					
TAU	Tasmania Unive	33.49 206	*e*P	P	18 57 43.2	-0.1
TAU			MLR	MLR		
	comp=Z,5µm,21.6s					
TAU	Tasmania Unive	33.49 206	*e*P	P	18 57 43.2	-0.1
TAU			LR	LR		
	comp=Z,5µm,21.6s					
BBOO	Buckleboo	33.69 230	*e*P	P	18 57 45.5	+0.4
	comp=Z,139nm,1.3s					
BBOO			LR	LR		
	comp=Z,7µm,20.2s					
GUMO	Guam	34.64 321	LR	LR	19 10 37.4	
	comp=Z,3µm,21.9s,baz=130,slow=34					
SAUI	Saumlaki	35.10 276	PFAKE		18 58 10.0	+12
SAUI			LR	LR		
	comp=Z,4µm,18.4s					
FAKI	Fak Fak	35.58 284	P	P	18 58 03.2	+1.5
	comp=Z,43nm,1.6s,comp=Z,1µm					
FAKI	Fak Fak	35.58 284	*e*P	P	18 58 02.0	+0.3
	comp=Z,68nm,1.4s					
FAKI			LR	LR		
	comp=Z,5µm,22.0s					
SIJI	Sorong	37.22 287	P	P	18 58 15.2	-0.6
	comp=Z,22nm,0.9s,baz=57,slow=7.7,SNR=12					
SIJI			LR	LR	19 14 10.1	
	comp=Z,6µm,21.3s,baz=116,slow=37					
XMAS	Kiritimati	38.95 69	PFAKE		18 58 40.0	+10
XMAS			LR	LR		
	comp=Z,2µm,21.0s					
FORT	Forrest	39.25 238	*e*P	P	18 58 32.5	-0.2
	comp=Z,100nm,0.7s					
FORT			LR	LR		
	comp=Z,5µm,20.5s					
NLAI	Namlea	40.36 281	P	P	18 58 43.3	+1.3
	comp=Z,152nm,1.4s,comp=Z,2µm					
TNTI	Ternate	41.44 287	P	P	18 58 52.0	+1.0
	comp=Z,92nm,1.6s,comp=Z,2µm					
TNTI	Ternate	41.44 287	*e*P	P	18 58 51.2	+0.2
TNTI			LR	LR		
	comp=Z,2µm,20.3s					
SOEI	Soe	41.59 271	PFAKE		18 59 00.0	+7.7
SOEI			LR	LR		
	comp=Z,3µm,20.3s					
SANI	Sanana	41.78 283	P	P	18 58 54.3	+0.6
	comp=Z,68nm,1.8s,comp=Z,2µm					
PPT2	Papeete2	42.31 101	*e*S	S	19 05 25.3	+8.5
	comp=Z,1µm,25.2s					
PPT2			*e*LQ	LQ	19 09 02.7	
	comp=Z,3µm,32.0s					
PPT2			*e*LR	LR	19 10 46.1	
	comp=Z,7µm,26.0s,baz=269					
PPT	Papeete	42.31 101	LR	LR	19 12 24.6	
	comp=Z,1µm,20.2s,baz=262,slow=30					
TBI	Tubuai	42.61 110	*e*S	S	19 05 29.6	+8.7
	comp=Z,1µm,27.2s					
TBI			*e*LQ	LQ	19 09 06.5	
	comp=Z,3µm,26.5s					
TBI			*e*LR	LR	19 10 57.1	
	comp=Z,6µm,22.8s,baz=281					
MMRI	Maumere	43.76 272	P	P	18 59 09.9	+0.1
	comp=Z,70nm,1.8s,comp=Z,2µm					
MMRI	Maumere	43.76 272	PFAKE		18 59 20.0	+10
MMRI			LR	LR		
	comp=Z,2µm,19.0s					
SGSI	Sangihe	44.26 290	P	P	18 59 15.3	+1.5
	comp=Z,411nm,1.1s,comp=Z,9µm					
MIDW	Midway	44.50 20	PFAKE		18 59 30.0	+15
MIDW			LR	LR		
	comp=Z,2µm,20.7s					

KMSI Cibinong 44.53 285 P **P** **18 59 16.8 +0.8**
comp=Z,343nm,1.2s,comp=Z,5µm
LUWI Luwuk 45.14 282 PFAKE 18 59 30.0 +9.1
LUWI LR LR
comp=Z,800nm,20.5s
MBWA Marble Bar 45.18 254 *e*P **P** **18 59 21.1 0.0**
MBWA LR LR
comp=Z,6µm,18.0s
DAV Davao City (W) 45.66 294 *e*pP pP 18 59 42.0 +6.1
DAV LR LR
comp=Z,1µm,20.3s
APSI Ampana 46.25 282 P **P** **18 59 30.8 +1.2**
comp=Z,179nm,1.4s,comp=Z,2µm
MRSI Marisa 46.42 284 P **P** **18 59 30.4 -0.5**
comp=Z,43nm,1.1s,comp=Z,750nm
BKSI Bulukumba 46.51 276 P **P** **18 59 31.9 +0.2**
comp=Z,29nm,1.6s,comp=Z,583nm
CTBH Cotabato--PC H 46.91 294⇑*i*P **P** **18 59 35.4 +0.7**
KAPI Kappang 46.94 276 P **P** **18 59 35.6 +0.5**
comp=Z,60nm,1.1s,baz=95,slow=5.1,SNR=29
KAPI LR LR 19 19 57.7
comp=Z,1µm,18.7s,baz=124,slow=37
KAPI Kappang 46.94 276 P **P** **18 59 36.0 +1.0**
SNR=17
KAPI mb 18 59 38.0
SNR=26
KAPI Kappang 46.94 276 *e*P **P** **18 59 35.5 +0.5**
comp=Z,37nm,1.4s
JCJ Chichijima 46.99 330 LR LR 19 19 35.3
comp=Z,506nm,18.8s,baz=140,slow=36
SPSI Sidrap Palu 47.19 277 P **P** **18 59 36.7 -0.2**
comp=Z,42nm,1.3s,comp=Z,728nm
TTSI Tana Toraja 47.38 279 P **P** **18 59 39.2 +0.7**
comp=Z,41nm,1.7s,comp=Z,777nm
TOLI Toli-Toli 47.71 284 *e*P **P** **18 59 40.6 -0.5**
TOLI LR LR
comp=Z,800nm,20.8s
PCI Palu 47.98 281 P **P** **18 59 45.4 +2.3**
comp=Z,264nm,1.3s,comp=Z,3µm
MPSI Mapaga 48.30 283 P **P** **18 59 45.9 +0.3**
comp=Z,117nm,1.3s,comp=Z,1µm
NWAO Narrogin (SRO) 48.70 238 P **P** **18 59 47.8 -0.6**
comp=Z,17nm,0.6s,baz=148,slow=3.4,SNR=22
KIP Kipapa 49.27 45 PFAKE 19 00 00.0 +7.1
KIP LR LR
comp=Z,2µm,20.0s
POHA Pohakuloa 49.97 49 PFAKE 19 00 10.0 +11
POHA LR LR
comp=Z,4µm,21.0s
KBKI Kotabaru 50.83 277 P **P** **19 00 06.7 +1.8**
comp=Z,55nm,1.4s,comp=Z,2µm
TSM Tawau 51.55 287⇓P **P** **19 00 11.4 +1.1**
ABJI Asem Bagus 51.69 271 P **P** **19 00 12.7 +1.4**
comp=Z,110nm,1.3s
BBKI Banjar Baru 52.07 276 P **P** **19 00 15.8 +1.6**
comp=Z,84nm,1.6s,comp=Z,2µm
BLJI Banyuglugur 52.32 271 P **P** **19 00 16.7 +0.7**
comp=Z,75nm,1.1s,comp=Z,1µm
SDKM Sandakan 52.67 288⇓P **P** **19 00 18.9 +0.3**
JHJ2 Mitsune 53.13 332 PFAKE 19 00 30.0 +8.4
JHJ2 LR LR
comp=Z,200nm,20.3s
KKM Kota Kinabalu 53.72 288⇑P **P** **19 00 27.9 +1.4**
KKM Kota Kinabalu 53.72 288 *e*P **P** **19 00 26.9 +0.4**
comp=Z,314nm,1.3s
KKM LR LR
comp=Z,600nm,21.1s
JOW Kunigami 54.87 317 PFAKE 19 00 50.0 +16
JOW LR LR
comp=Z,400nm,20.4s
SZP Santa 55.12 303 PFAKE 19 00 50.0 +14
SZP LR LR
comp=Z,900nm,21.0s
UGM Wanagama 55.27 270 PFAKE 19 00 50.0 +12
UGM LR LR
comp=Z,2µm,18.0s
DRV Dumont d'Urvil 55.77 192 P P 19 00 35.0 -5.3
DRV S S 19 08 09.0 -15
DRV SS SS 19 11 58.0 -12
DRV L L 19 14 00.0
DRV R 19 17 00.0
RKT Rikitea 55.92 109 *e*S S 19 08 35.4 +7.8
comp=Z,1µm,30.2s
RKT *e*SS SS 19 12 23.2 +9.3
comp=Z,673nm,25.8s
RKT *e*LQ LQ 19 14 46.6
comp=Z,1µm,28.8s
RKT *e*LR LR 19 17 07.1
comp=Z,3µm,29.0s,baz=269
SBUM Sibu 56.25 282⇑P **P** **19 00 45.6 +0.9**
SBUM Sibu 56.25 282 *e*P **P** **19 00 45.6 +0.9**
comp=Z,51nm,1.3s
SBUM LR LR
comp=Z,600nm,20.5s
STKI Sintang 56.25 279 P **P** **19 00 46.9 +2.2**
comp=Z,42nm,1.9s,comp=Z,1µm
MJAR Matsushiro Arr 56.72 333 P **P** **19 00 47.0 -0.5**
comp=Z,18nm,1.0s,baz=163,slow=7.1,SNR=55
MJAR ScP **ScP** **19 05 42.2 +2.2**
comp=Z,1.9nm,0.9s,baz=167,slow=4.9,SNR=7.0
MJAR LR LR 19 21 48.9
comp=Z,287nm,21.2s,baz=190,slow=33
MAJO Matsushiro 56.72 333*c i*P **P** **19 00 47.1 -0.4**
MAJO pmax pmax
comp=Z,439nm,1.5s
MAJO Matsushiro 56.72 333 *e*P **P** **19 00 47.1 -0.4**
comp=Z,116nm,1.6s
MAJO LR LR
comp=Z,600nm,21.2s
MAT Matsushiro 56.72 333 P **P** **19 00 47.1 -0.5**
MAT S **S** **19 08 35.2 -2.5**
YOJ Yonaguni jima 57.02 312 PFAKE 19 01 00.0 +10
YOJ LR LR
comp=Z,400nm,19.6s
TWG Pinlang 57.50 309 PFAKE 19 01 10.0 +17
TWG LR LR
comp=Z,3µm,19.3s
YULB Yu-li 57.66 309 *e*P **P** **19 00 56.2 +1.8**
comp=Z,25nm,1.0s
YULB LR LR
comp=Z,800nm,19.7s
JNU Nakatsue 57.73 325 P **P** **19 00 54.8 0.0**
comp=Z,52nm,1.1s,baz=138,slow=2.4,SNR=12
JNU Nakatsue 57.73 325 PFAKE 19 01 10.0 +15
JNU LR LR
comp=Z,300nm,19.9s
KSM Kuching 57.77 281⇑P **P** **19 00 56.2 +0.7**
KSM Kuching 57.77 281 PFAKE 19 01 10.0 +15
KSM LR LR
comp=Z,600nm,19.9s
NACB Ninganchiao 57.88 310 PFAKE 19 01 10.0 +14
NACB LR LR
comp=Z,600nm,19.5s
CISI Cisompet, Garu 57.98 270 PFAKE 19 01 10.0 +13
CISI LR LR
comp=Z,1µm,21.7s
TPUB Ta-pu 58.11 309 *e*P **P** **19 00 57.3 -0.3**
TPUB LR LR
comp=Z,900nm,19.4s
SSLB Suanglung 58.14 310 PFAKE 19 01 10.0 +12
SSLB LR LR
comp=Z,1µm,20.0s
LEM Lembang 58.31 270 P **P** **19 01 01.1 +1.7**
comp=Z,91nm,1.5s
YHNB Yeheng 58.34 311 *e*P **P** **19 00 58.9 -0.4**
comp=Z,81nm,1.0s
YHNB LR LR
comp=Z,1µm,20.2s
TATO Taipei 58.43 311 PFAKE 19 01 10.0 +10
TATO LR LR
comp=Z,1µm,19.0s
CBJI Citeko 59.14 271 P **P** **19 01 05.2 +0.2**
comp=Z,76nm,1.1s
TPI Tanjungpandan 59.19 275 P P 19 01 10.0 +4.6
comp=Z,26nm,1.7s,comp=Z,696nm
ERM Erimo 59.52 340 PFAKE 19 01 20.0 +13
ERM LR LR
comp=Z,899nm,20.0s
XMIS Christmas Isla 59.54 266 PFAKE 19 01 20.0 +12
XMIS LR LR
comp=Z,2µm,18.1s
CGJI Cibinong 60.23 270 P **P** **19 01 13.3 +0.8**
comp=Z,104nm,1.3s
YUK Yuzh-Kuril'sk 60.52 343 *e*P P 19 01 18.2 +4.4
YUK *e* 19 01 56.2
YUK *e*S **S** **19 09 25.0 -1.7**

KSDAG Daegu 60.78 325 P **P** **19 01 16.9 +1.1**
SNR=10
KSDAG Daegu 60.78 325 P P 19 01 16.9 +1.1
SNR=10
KSPHA Pohang 60.84 326 P **P** **19 01 17.8 +1.6**
SNR=6.7
KSPHA Pohang 60.84 326 P **P** **19 01 17.8 +1.6**
SNR=6.7
KSULJ Ulljin 61.19 326 P **P** **19 01 19.7 +1.2**
SNR=5.7
KSULJ Ulljin 61.19 326 P **P** **19 01 19.7 +1.2**
SNR=5.7
ASAJ Asahikawa 61.59 341 P **P** **19 01 21.6 +0.6**
comp=Z,40nm,1.0s,baz=180,slow=4.5,SNR=7.4
ASAJ Asahikawa 61.59 341 PFAKE 19 01 30.0 +9.0
ASAJ LR LR
comp=Z,400nm,19.3s
KASI Kota Agung 61.62 271 P **P** **19 01 21.5 -0.4**
comp=Z,74nm,1.2s
KSCPR CHUPUNGNYEONG 61.63 325 P **P** **19 01 21.9 +0.4**
SNR=6.3
KSCPR CHUPUNGNYEONG 61.63 325 P **P** **19 01 21.9 +0.4**
SNR=6.3
KSTBA Taebaek 61.75 326 P **P** **19 01 23.7 +1.3**
SNR=18
KSTBA Taebaek 61.75 326 P **P** **19 01 23.7 +1.3**
SNR=18
KSJEO Jeonju 61.80 324 P **P** **19 01 24.0 +1.3**
SNR=6.9
KSBON Boeun 61.92 325 P **P** **19 01 24.4 +0.9**
SNR=9.8
KSBON Boeun 61.92 325 P **P** **19 01 24.4 +0.9**
SNR=9.8
KSHUK Heuksando 62.00 322 P **P** **19 01 25.3 +1.3**
SNR=8.9
KSHUK Heuksando 62.00 322 P **P** **19 01 25.3 +1.3**
SNR=8.9
KSCHJ Chungju 62.10 326 P **P** **19 01 25.2 +0.5**
SNR=11
KSCHJ Chungju 62.10 326 P **P** **19 01 25.2 +0.5**
SNR=11
KSJES JEONGSEON 62.13 326 P **P** **19 01 26.6 +1.7**
SNR=6.1
LWLI Liwa 62.16 272 P **P** **19 01 28.1 +2.4**
comp=Z,43nm,1.0s
MDSI Maura Dua 62.16 272 P **P** **19 01 25.5 -0.1**
comp=Z,27nm,1.9s
KSGUS GUNSAN 62.16 324 P **P** **19 01 26.2 +1.1**
SNR=8.9
KSKOJ Gongju 62.27 325 P **P** **19 01 27.2 +1.4**
SNR=7.0
KSDGY Daegwallycong 62.31 327 P **P** **19 01 27.3 +1.1**
SNR=21
KSDGY Daegwallycong 62.31 327 P **P** **19 01 27.3 +1.1**
SNR=21
SSE Sheshan 62.35 316 P **P** **19 01 27.6 +1.2**
SSE S **S** **19 09 52.8 +2.3**
SSE SS **SS** **19 13 59.3 +4.5**
SSE PMZ
comp=Z,49nm,0.9s
SSE PMZ
comp=Z,190nm,6.7s
SSE LN
comp=Z,440nm,17.6s
SSE LE
comp=Z,390nm,17.7s
SSE LZ
comp=Z,670nm,19.7s
KSJMJ Jumunjin 62.41 327 P **P** **19 01 27.9 +1.2**
SNR=7.3
KSJMJ Jumunjin 62.41 327 P **P** **19 01 27.9 +1.2**
SNR=8.9
KSRS Korea Array 62.55 326 P **P** **19 01 28.3 +0.7**
comp=Z,11nm,0.9s,baz=143,slow=6.6,SNR=34
KSAR Wonju Array Be 62.56 326 P **P** **19 01 28.3 +0.6**
KSAR Wonju Array Be 62.56 326 P **P** **19 01 28.3 +0.6**
KSICN Icheon 62.71 325 P **P** **19 01 30.0 +1.3**
SNR=5.1
KSIJA INJE 62.84 326 P **P** **19 01 30.9 +1.3**
SNR=20
KSIJA INJE 62.84 326 P **P** **19 01 30.9 +1.3**
SNR=20
KSCHC Chuncheon 62.84 326 P **P** **19 01 30.5 +0.9**
SNR=12
KSSES Seosan 62.88 324 P **P** **19 01 30.8 +0.9**
SNR=11
KSSES Seosan 62.88 324 P **P** **19 01 30.8 +0.9**
SNR=11
SEHB SEOHWA 62.97 327 P **P** **19 01 31.5 +1.0**
SNR=8.4
KSSEO Seoul 63.12 325 P **P** **19 01 33.5 +2.0**
SNR=5.7
KSCWO Cheorwon 63.23 326 P **P** **19 01 33.7 +1.5**
SNR=6.2
KSCWO Cheorwon 63.23 326 P **P** **19 01 33.7 +1.5**
SNR=6.2
INCN Inchon 63.28 325 P **P** **19 01 33.6 +1.1**
SNR=9.6
INCN Inchon 63.28 325 PFAKE 19 01 40.0 +7.4
INCN LR LR
comp=Z,700nm,21.9s
MNAI Manna 63.38 272 PFAKE 19 01 50.0 +16
MNAI LR LR
comp=Z,1µm,19.6s
KSMUS Musan 63.50 326 P **P** **19 01 35.0 +1.1**
SNR=8.4
YNCB YEONCHEON 63.52 326 P **P** **19 01 35.1 +1.0**
SNR=21
KSGAH Ganghwa 63.54 325 P **P** **19 01 34.9 +0.7**
SNR=11
VNDA Vanda 63.84 181 P **P** **19 01 35.3 -0.4**
comp=Z,8.4nm,0.9s,baz=359,slow=7.1,SNR=21
VNDA LR LR 19 25 50.1
comp=Z,928nm,20.2s,baz=14,slow=33
MYKOM Kota Tinggi 64.05 279 PFAKE 19 01 50.0 +12
MYKOM LR LR
comp=Z,1µm,20.0s
YSS Yuzh-Sakhalins 64.08 342⇑*i*P **P** **19 01 37.6 0.0**
YSS *e**PP **pP** **19 01 46.1 -2.9**
YSS *e**SP **sP** **19 01 52.0 -1.5**
YSS *e* 19 02 16.0
YSS *e*S **S** **19 10 08.0 -3.5**
YSS *e*PS **PnS** **19 10 26.0 -6.8**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=N,500nm,19.0s
YSS MLR MLR
comp=Z,500nm,19.0s
YSS Yuzh-Sakhalins 64.08 342 *e*P **P** **19 01 38.3 +0.8**
YSS LR LR
comp=Z,300nm,19.5s
SBA Scott Base 64.13 180 PFAKE 19 01 50.0 +12
SBA LR LR
comp=Z,1µm,19.6s
CASY Casey 64.20 202 *e*P **P** **19 01 37.9 -0.3**
CASY LR LR
comp=Z,2µm,21.0s
NJ2 Nanjing 64.50 316 *e*P **P** **19 01 42.6 +1.9**
NJ2 pP **pP** **19 01 51.2 -1.0**
NJ2 sP **sP** **19 01 56.2 -0.4**
NJ2 S **S** **19 10 19.5 +2.2**
NJ2 SS **SS** **19 14 32.0 +3.5**
NJ2 PMZ
comp=Z,30nm,1.1s
NJ2 PMZ
comp=Z,820nm,6.0s
NJ2 LN
comp=Z,1µm,29.1s
NJ2 LE
comp=Z,290nm,28.3s
NJ2 LZ
comp=Z,4µm,20.5s
KGM Kluang 64.62 279⇑P **P** **19 01 43.2 +1.4**
SKR Severo-Kuril's 64.79 353 *e*P P 19 01 33.0 -9.1
SKR *e*PS PnS 19 10 28.0 -14
SKR pmax pmax
comp=Z,1µm,8.0s
SKR MLR MLR
comp=N,1µm,18.0s
SKR MLR MLR
comp=E,1µm,18.0s
SKR MLR MLR
comp=Z,1µm,18.0s
USRK Ussuriysk Ar. 65.70 333 P **P** **19 01 49.3 +1.1**
comp=Z,30nm,1.0s,baz=134,slow=5.5,SNR=59
USRK LR LR 19 28 26.4

comp=Z,234nm,20.0s,baz=137,slow=34
KTGM Kuala Trenggan 65.75 282⇑P **P** **19 01 50.7 +1.5**
BKNI Bangkinang 66.37 276 P **P** **19 01 54.7 +1.5**
comp=Z,84nm,1.4s,comp=Z,4µm
BKNI Bangkinang 66.37 276 *e*P **P** **19 01 54.1 +1.0**
BKNI comp=Z,139nm,1.4s LR LR
comp=Z,800nm,19.0s
WHN Wuhan 66.79 312⇓*i*P **P** **19 01 56.5 +1.0**
WHN S **S** **19 10 46.2 +0.9**
WHN PMZ
comp=Z,78nm,1.5s
WHN LN
comp=Z,1µm,16.3s
WHN LE
comp=Z,570nm,10.8s
WHN LZ
comp=Z,1µm,21.0s
PET Petropavlovsk 66.83 355 *e*P **P** **19 01 53.8 -1.4**
PET *e*S **S** **19 10 45.6 +0.7**
PET *e*SS **SS** **19 15 04.6 +0.7**
PET pmax pmax
comp=Z,26nm,1.0s
PET pmax pmax
comp=Z,300nm,7.6s
PET pmax pmax
comp=Z,200nm,10.6s
PET Petropavlovsk 66.83 355 PFAKE 19 02 10.0 +15
PET LR LR
comp=Z,700nm,19.0s
PEA0B Petropavlovsk- 67.00 354 *e*P **P** **19 01 56.5 +0.2**
PETK Petropavlovsk- 67.00 354 P **P** **19 01 56.6 +0.3**
comp=Z,7.4nm,0.8s,baz=160,slow=5.7,SNR=15
PETK LR LR 19 26 03.5
comp=Z,494nm,21.7s,baz=167,slow=31
MDJ Mudanjiang 67.09 332 P **P** **19 01 57.9 +0.8**
MDJ pP **pP** **19 02 09.6 +0.9**
MDJ sP **sP** **19 02 13.4 +0.3**
MDJ PP **PP** **19 04 28.4 +2.9**
MDJ S **S** **19 10 53.5 +5.0**
MDJ sS **sS** **19 11 09.4 +1.8**
MDJ PMZ
comp=Z,50nm,1.4s
MDJ PMZ
comp=Z,200nm,6.4s
MDJ LN
comp=Z,400nm,20.3s
MDJ LE
comp=Z,270nm,19.4s
MDJ LZ
comp=Z,520nm,23.7s
MDJ Mudanjiang 67.09 332 *e*P **P** **19 01 57.7 +0.6**
comp=Z,101nm,1.4s
MDJ LR LR
comp=Z,600nm,20.5s
DL2 Dalian 67.11 323 P **P** **19 01 58.0 +0.7**
DL2 S **S** **19 10 49.7 +0.9**
DL2 PMZ
comp=Z,50nm,1.2s
DL2 PMZ
comp=Z,330nm,7.1s
DL2 LE
comp=Z,310nm,18.6s
DL2 LZ
comp=Z,390nm,19.2s
IPM Ipoh 67.51 281 *e*P **P** **19 02 00.1 -0.3**
IPM LR LR
comp=Z,600nm,20.9s
TYV Tymovskoe 67.64 344 *e*P **P** **19 02 00.5 +0.1**
TYV pmax pmax
comp=Z,100nm,1.6s
ATKA Atka Island 67.74 13 PFAKE 19 02 10.0 +9.0
ATKA LR LR
comp=Z,300nm,19.9s
COCO West Island 67.77 262 PFAKE 19 02 10.0 +8.0
COCO LR LR
comp=Z,2µm,19.0s
MNSI Mandailing Nat 67.90 277 P **P** **19 02 02.8 -0.1**
comp=Z,35nm,1.6s,comp=Z,825nm
HABR Khabarovsk 67.97 338*de*P **P** **19 02 01.1 -1.4**
HABR *e**PP **pP** **19 02 10.6 -3.5**
HABR *e**SP **sP** **19 02 14.7 -3.8**
HABR *e* 19 02 26.4
HABR 19 04 30.3
HABR *e*PPP PPP 19 06 08.3
HABR *e*S **S** **19 10 58.3 -0.4**
HABR *e**SS **sS** **19 11 14.7 -3.2**
HABR *e* 19 11 56.5
HABR *e*SS **SS** **19 15 20.7 -1.0**
HABR pmax pmax
comp=E,37nm,2.2s
HABR pmax pmax
comp=Z,121nm,1.8s
HABR pmax pmax
comp=N,30nm,2.2s
HABR pmax pmax
comp=Z,306nm,1.6s
HABR MLR MLR
comp=Z,229nm,19.0s
SNY Shenyang 68.01 327⇑P **P** **19 02 03.7 +0.7**
SNY PP PP 19 04 39.5 +6.0
SNY S **S** **19 11 02.0 +2.4**
SNY SS **SS** **19 15 20.2 -2.5**
SNY PMZ
comp=Z,14nm,1.4s
SNY PMZ
comp=Z,410nm,7.5s
SNY LN
comp=Z,390nm,18.9s
SNY LE
comp=Z,330nm,16.7s
SNY LZ
comp=Z,560nm,19.4s
TIA Tai'an 68.16 319⇑P **P** **19 02 04.4 +0.4**
TIA S **S** **19 11 02.8 +1.2**
TIA PMZ
comp=Z,30nm,1.3s
TIA PMZ
comp=Z,530nm,6.4s
TIA LN
comp=Z,510nm,18.4s
TIA LE
comp=Z,620nm,23.2s
TIA LZ
comp=Z,770nm,21.2s
CN2 Changchun 68.46 329 *e*P **P** **19 02 06.3 +0.6**
CN2 *e*S **S** **19 11 04.5 -0.3**
CN2 PMZ
comp=Z,50nm,1.1s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,200nm,18.0s
CN2 LE
comp=Z,300nm,18.0s
CN2 LZ
comp=Z,400nm,18.0s
SKLT Songkhla 68.69 283 P P 19 02 14.2 +6.4
comp=Z,29nm,1.4s,comp=Z,582nm
CHBT CHBT 68.90 290 P pP 19 02 23.8 +3.2
SKNT Sakolnakorn 68.94 294 P **P** **19 02 10.4 +1.1**
comp=Z,46nm,1.5s
PSI Prapat 69.06 278 PFAKE 19 02 20.0 +10
PSI LR LR
comp=Z,1µm,21.4s
TSI Tuntungan 69.59 279 P P 19 02 16.4 +3.0
comp=Z,54nm,1.2s
NIKH Nikolski High 69.71 16 PFAKE 19 02 30.0 +17
NIKH LR LR
comp=Z,600nm,19.1s
TRTT Trang 69.77 284 P **P** **19 02 16.1 +1.6**
comp=Z,31nm,1.4s,comp=Z,757nm
KLR Kul'dur 69.83 336⇓*i*P **P** **19 02 11.8 -2.3**
KLR *e*S **S** **19 11 16.0 -4.9**
KLR pmax pmax
comp=N,42nm,1.8s
KLR pmax pmax
comp=E,80nm,1.8s
KLR pmax pmax
comp=Z,260nm,1.8s
GSI Gunungsitoli 69.96 277 *e*P **P** **19 02 16.1 +0.4**
GSI LR LR
comp=Z,2µm,19.3s
ENH Enshi 70.23 309 *e*P **P** **19 02 16.4 -0.7**
comp=Z,40nm,1.1s
ENH LR LR

comp=Z,300nm,20.4s
NKL Nikolayevsk 70.23 344 *e*P **P** **19 02 16.0 -0.4**
NKL *e* 19 02 28.0
NKL *e*S **S** **19 11 24.0 -1.3**
NKL pmax pmax
comp=Z,400nm,3.0s
NKL pmax pmax
comp=N,17nm,1.0s
NKL pmax pmax
comp=Z,65nm,1.0s
NKL smax smax
comp=E,500nm,8.0s
NKL MLR MLR
comp=Z,500nm,18.0s
NAYO Nakonayok 70.36 291 P pP 19 02 33.2 +3.6
GYA Guiyang 70.61 305⇑ *i*P **P** **19 02 20.5 +1.0**
GYA pP **pP** **19 02 33.0 +1.9**
GYA PP PP 19 05 01.8 +5.3
GYA S **S** **19 11 32.4 +1.3**
GYA sS **sS** **19 11 49.2 -1.1**
GYA SKS **SKSac** **19 12 17.6 -1.5**
GYA SS **SS** **19 16 05.9 +2.4**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,190nm,5.8s
GYA LN
comp=Z,760nm,19.6s
GYA LE
comp=Z,620nm,20.2s
GYA LZ
comp=Z,820nm,19.8s
SURT Suratani 70.95 285 P **P** **19 02 23.8 +2.1**
comp=Z,16nm,2.0s,comp=Z,331nm
BJT Baijiatuau 71.07 321 PFAKE 19 02 30.0 +8.1
BJT LR LR
comp=Z,900nm,21.0s
BJI Beijing 71.08 321 P **P** **19 02 23.0 +1.1**
BJI pP **pP** **19 02 33.4 -0.1**
BJI sP **sP** **19 02 37.4 -0.5**
BJI PP **PP** **19 05 03.8 +3.7**
BJI S **S** **19 11 36.8 +1.1**
BJI ScS **ScS** **19 12 23.2 0.0**
BJI SS **SS** **19 16 04.8 -5.2**
BJI PMZ
comp=Z,40nm,1.1s
BJI LN
comp=Z,850nm,24.2s
BJI LE
comp=Z,320nm,31.6s
BJI LZ
comp=Z,1μm,26.6s
UNV Unalaska Valle 71.13 16 PFAKE 19 02 30.0 +8.1
UNV LR LR
comp=Z,1μm,20.1s
PBKT Sadao Pong 71.47 293 P **P** **19 02 26.4 +1.7**
comp=Z,21nm,1.2s
LHMI Lhok Sumawe 71.62 280 PFAKE 19 02 40.0 +14
LHMI LR LR
comp=Z,1μm,21.4s
TIY Taiyuan 72.08 317 *e*P **P** **19 02 29.5 +1.3**
TIY S **S** **19 11 50.7 +3.1**
TIY PMZ
comp=Z,500nm,7.1s
TIY LN
comp=Z,370nm,13.8s
TIY LE
comp=Z,250nm,15.8s
TIY LZ
comp=Z,480nm,18.3s
UTTA Uttaradit 72.26 294 P **P** **19 02 31.2 +1.7**
comp=Z,4.8nm,1.1s,comp=Z,56nm
SRDT SRDT 72.37 290 P pP 19 02 45.7 +3.8
UTHA Uthaitani 72.49 291 P **P** **19 02 32.9 +2.0**
comp=Z,6.5nm,1.1s,comp=Z,76nm
XAN Xi'an 72.53 313 P **P** **19 02 31.4 +0.5**
XAN pP **pP** **19 02 41.8 -0.7**
XAN sP **sP** **19 02 47.0 +0.1**
XAN S **S** **19 11 48.8 -4.1**
XAN ScS **ScS** **19 12 35.1 -0.2**
XAN SS **SS** **19 16 28.4 -4.3**
XAN PMZ
comp=Z,4.0nm,1.2s
XAN PMZ
comp=Z,76nm,6.0s
XAN LN
comp=Z,340nm,21.6s
XAN LZ
comp=Z,190nm,22.6s
SPIA Saint Paul Isl 73.22 13 PFAKE 19 02 50.0 +16
SPIA LR LR
comp=Z,700nm,19.8s
KMI Kunming 73.22 302 ⇓P **P** **19 02 37.0 +1.6**
KMI pP **pP** **19 02 48.5 +1.5**
KMI sP **sP** **19 02 52.2 +0.8**
KMI S **S** **19 12 00.7 -0.7**
KMI sS **sS** **19 12 18.2 -2.5**
KMI SS **SS** **19 16 46.9 +3.0**
KMI PMZ
comp=Z,35nm,0.9s
KMI PMZ
comp=Z,170nm,3.1s
KMI LN
comp=Z,330nm,14.5s
KMI LE
comp=Z,380nm,19.7s
KMI LZ
comp=Z,500nm,17.3s
CRAI Chiangrai 73.32 296 P **P** **19 02 33.9 -1.9**
comp=Z,17nm,1.8s,comp=Z,663nm
LAMP Lampang 73.36 294 P **P** **19 02 37.6 +1.6**
comp=Z,15nm,0.9s,comp=Z,122nm
CM31 Chiang Mai Arr 73.94 294 *e*P **P** **19 02 41.0 +1.5**
comp=Z,26nm,1.0s
CMAR Chiang Mai Arr 73.94 294 P **P** **19 02 40.8 +1.2**
comp=Z,20nm,1.0s,baz=118,slow=4.2,SNR=78
CMAR LR LR 19 35 52.7
comp=Z,238nm,19.4s,baz=142,slow=36
CMAR Chiang Mai Arr 73.94 294 *i*P **P** **19 02 40.7 +1.2**
CMAR pmax pmax
comp=Z,21nm,1.0s
CMMT Chiang Mai 74.06 294 P **P** **19 02 41.2 +1.0**
comp=Z,34nm,2.0s,comp=Z,777nm
CHTO Chiang Mai 74.07 294 P **P** **19 02 41.3 +1.1**
comp=Z,159nm,1.0s,comp=Z,3μm
CHTO Chiang Mai 74.07 294 *e*P **P** **19 02 40.8 +0.6**
CHTO MLR MLR
comp=Z,400nm,20.9s
CHTO Chiang Mai 74.07 294 P **P** **19 02 41.7 +1.5**
SNR=11
CHTO Chiang Mai 74.07 294 *e*P **P** **19 02 40.8 +0.6**
CHTO LR LR
comp=Z,400nm,20.9s
CMAI Chiengmai2 74.38 295 P **P** **19 02 43.9 +1.7**
comp=Z,39nm,0.7s
HHC Hu-ho-hao-te 74.40 320 *e*P **P** **19 02 43.2 +1.4**
HHC pP **pP** **19 02 51.3 -2.2**
HHC sP **sP** **19 02 58.3 +0.4**
HHC PP PP 19 05 33.9 +5.3
HHC S S 19 12 20.0 +6.1
HHC sS **sS** **19 12 31.9 -1.3**
HHC SS **SS** **19 17 04.1 +3.0**
HHC PMZ
comp=Z,36nm,1.3s
HHC PMZ
comp=Z,450nm,7.7s
HHC LN
comp=Z,490nm,16.7s
HHC LE
comp=Z,350nm,16.5s
HHC LZ
comp=Z,610nm,16.6s
MHMT Maesarieng 74.75 293 P P 19 02 47.7 +3.6
comp=Z,12nm,1.4s,comp=Z,264nm
CD2 Chengdu 74.88 308 *e*P **P** **19 02 44.5 -0.3**
CD2 pP **pP** **19 02 55.2 -1.2**
CD2 PcP **PcP** **19 02 58.1 -0.5**
CD2 sP **sP** **19 03 00.5 -0.3**
CD2 S **S** **19 12 20.5 +1.0**
CD2 sS **sS** **19 12 37.9 -1.0**
CD2 SS **SS** **19 17 08.8 +0.2**
CD2 PMZ
comp=Z,30nm,0.5s
CD2 PMZ
comp=Z,600nm,5.8s
CD2 LN
comp=Z,460nm,14.7s
CD2 LE
comp=Z,460nm,19.1s
CD2 LZ
comp=Z,430nm,18.6s
HIA Hailar 75.10 330 *e*P **P** **19 02 46.0 +0.5**
HIA pmax pmax
comp=Z,84nm,1.3s
HIA MLR MLR
comp=Z,700nm,20.6s
HIA Hailar 75.10 330 *e*P **P** **19 02 46.0 +0.5**
comp=Z,84nm,1.3s
HIA LR LR
comp=Z,700nm,20.6s
BTO Baotou 75.24 319 *e*P **P** **19 02 48.0 +1.3**
QSPA South Pole Qui 76.29 180 *e*P **P** **19 02 51.4 -1.0**
comp=Z,54nm,1.1s
LZH Lanzhou 77.16 312 *e*P **P** **19 02 59.9 +2.1**
LZH pP **PcP** **19 03 08.8 +0.3**
LZH sP **sP** **19 03 12.6 -1.3**
LZH PP **PP** **19 05 56.3 +4.2**
LZH *e*S **S** **19 12 49.4 +4.7**
LZH sS **sS** **19 13 03.3 -0.8**
LZH SS **SS** **19 17 40.4 -2.9**
LZH PMZ
comp=Z,73nm,1.2s
LZH PMZ
comp=Z,580nm,6.6s
LZH LN
comp=Z,470nm,15.7s
LZH LE
comp=Z,720nm,16.5s
LZH LZ
comp=Z,2μm,17.8s
SEY Seymchan 77.22 353 P **P** **19 02 56.7 -0.5**
comp=Z,35nm,0.8s,baz=162,slow=5.6,SNR=39
OHAK Old Harbor 78.09 21 *e*P **P** **19 03 02.7 +0.5**
KDAK Kodiak Island 78.77 21 *i*P P 19 03 09.0 +3.1
KDAK Kodiak Island 78.77 21 PFAKE 19 03 20.0 +14
KDAK LR LR
comp=Z,2μm,20.1s
GAMB Gambell 79.06 10 PFAKE 19 03 20.0 +13
GAMB LR LR
comp=Z,900nm,21.8s
CIT Chita 79.88 330 *e*P **P** **19 03 12.9 +0.6**
CIT *e* 19 03 19.4
CIT *e* 19 03 30.0
CIT *e* 19 13 14.6
CIT pmax pmax
comp=Z,180nm,1.8s
SVW2 Sparrevohn 80.40 18 *e*P **P** **19 03 16.2 +1.4**
HOM Homer 80.52 20 PFAKE 19 03 30.0 +15
HOM LR LR
comp=Z,2μm,19.1s
RSO Redoubt South 80.77 19 *e*P **P** **19 03 17.9 +0.9**
comp=Z,38nm,0.9s
BRLK Bradley Lake 80.85 20 PFAKE 19 03 30.0 +13
BRLK LR LR
comp=Z,2μm,19.9s
YAK Yakutsk 80.89 343 P **P** **19 03 16.8 -0.6**
comp=Z,1.3nm,0.3s,baz=141,slow=0.2,SNR=19
YAK Yakutsk 80.89 343⇓ *e*P **P** **19 03 16.7 -0.6**
YAK *e*S **S** **19 13 22.1 -0.8**
YAK pmax pmax
comp=Z,36nm,1.0s
YAK pmax pmax
comp=N,32nm,1.1s
YAK pmax pmax
comp=E,16nm,1.1s
YAK MLR MLR
comp=Z,781nm,19.0s
YAK MLR MLR
comp=E,285nm,19.0s
YAK MLR MLR
comp=N,452nm,18.0s
YAK Yakutsk 80.89 343 *e*P **P** **19 03 16.7 -0.6**
YAK LR LR
comp=Z,700nm,19.0s
ULN Ulaanbaatar 80.94 324 P P 19 03 24.3 +6.1
SNR=44
ULN Ulaanbaatar 80.94 324 PFAKE 19 03 30.0 +12
ULN LR LR
comp=Z,700nm,19.8s
SONM Songino Array 81.31 324 P **P** **19 03 20.5 +0.4**
comp=Z,9.1nm,1.0s,baz=137,slow=5.0,SNR=59
SONM S **S** **19 13 29.9 +1.8**
comp=Z,0.2nm,0.3s,baz=131,slow=4.5,SNR=4.4
SONM LR LR 19 37 27.6
comp=Z,502nm,21.9s,baz=124,slow=34
TNA Tin City 81.34 10 PFAKE 19 03 30.0 +10
TNA LR LR
comp=Z,600nm,21.7s
GTA Gaotai 81.50 314⇑ P **P** **19 03 22.8 +1.4**
GTA pP **pP** **19 03 33.5 +0.4**
GTA sP **sP** **19 03 37.6 +0.1**
GTA PP **PP** **19 06 31.4 +3.2**
GTA S **S** **19 13 30.6 0.0**
GTA SKS **SKSac** **19 13 34.9 -3.4**
GTA sS **ScS** **19 13 47.0 -0.8**
GTA SS **SS** **19 18 50.6 +2.4**
GTA PMZ
comp=Z,50nm,1.4s
GTA PMZ
comp=Z,220nm,7.6s
GTA LN
comp=Z,350nm,19.0s
GTA LE
comp=Z,340nm,19.5s
GTA LZ
comp=Z,480nm,19.0s
SEW Seward 81.59 21 PFAKE 19 03 30.0 +8.9
SEW LR LR
comp=Z,1μm,20.8s
RC01 Rabbit Creek A 82.22 20 *e*P **P** **19 03 25.1 +0.6**
comp=Z,51nm,1.2s
RC01 LR LR
comp=Z,2μm,19.5s
SHL Shillong 82.51 299 *e*P **P** **19 03 29.0 +2.0**
MAW Mawson 82.56 202 P **P** **19 03 26.1 -0.1**
comp=Z,12nm,1.0s,baz=117,slow=7.0,SNR=12
MAW LR LR 19 34 29.3
comp=Z,1μm,21.8s,baz=78,slow=32
PPLA Purkeypile 82.81 18 PFAKE 19 03 40.0 +12
PPLA LR LR
comp=Z,1μm,19.6s
EYAK Cordova Ski Ar 83.20 22 PFAKE 19 03 40.0 +10
EYAK LR LR
comp=Z,1μm,19.2s
BOD Bodaibo 83.30 335 *e*P P 19 03 26.8 -3.3
BOD pmax pmax
comp=Z,34nm,1.7s
RAGM Ragged Mountai 83.48 22 PFAKE 19 03 40.0 +9.0
RAGM LR LR
comp=Z,1μm,18.8s
SCM Sheep Creek Mo 83.56 20 PFAKE 19 03 40.0 +8.5
SCM LR LR
comp=Z,600nm,19.9s
DIV Divide 83.59 21 *e*P **P** **19 03 32.6 +1.0**
comp=Z,43nm,1.2s
DIV LR LR
comp=Z,1μm,19.9s
MCCM Marconi Confer 83.67 48 PFAKE 19 03 40.0 +7.6
MCCM LR LR
comp=Z,2μm,20.0s
KTH Kantishna Hill 83.69 18 PFAKE 19 03 40.0 +7.9
KTH LR LR
comp=Z,500nm,21.4s
KCPM Cahto Peak 83.77 47 PFAKE 19 03 40.0 +6.9
KCPM LR LR
comp=Z,1μm,20.3s
TRF Thorofare Moun 83.80 18 *e*P **P** **19 03 32.7 -0.1**
TRF LR LR
comp=Z,2μm,19.7s
PAF Port-aux-Franc 83.81 221 SS SS 19 19 14.0 -6.9
PAF L L 19 26 00.0
PAF R 19 31 00.0
HOPS Hopland Field 83.86 48 PFAKE 19 03 40.0 +6.6
HOPS LR LR
comp=Z,3μm,18.2s
KMRM Mail Ridge 83.89 46 PFAKE 19 03 50.0 +16
KMRM LR LR
comp=Z,2μm,19.8s
BMRM Bremner River 83.90 22 *e*P **P** **19 03 33.5 +0.3**
BMRM LR LR
comp=Z,900nm,20.0s
KHMM Horse Mountain 84.14 46 PFAKE 19 03 50.0 +15
KHMM LR LR
comp=Z,1μm,19.2s
RND Reindeer 84.20 19 PFAKE 19 03 50.0 +15
RND LR LR
comp=Z,2μm,19.8s
ZAK Zakamensk 84.36 325⇑ *i*P **P** **19 03 35.8 -0.1**
ZAK *e* 19 13 58.0
ZAK pmax pmax
comp=Z,42nm,1.5s
MCK McKinley 84.42 18 *e*P **P** **19 03 34.3 -1.4**
MCK MLR MLR
comp=Z,2μm,21.3s
MCK McKinley 84.42 18 *e*P **P** **19 03 34.3 -1.4**
MCK LR LR
comp=Z,2μm,21.3s
LSA Lhasa 84.47 302 P **P** **19 03 38.4 +1.0**
LSA PMZ
comp=Z,20nm,1.5s
LSA Lhasa 84.47 302 *e*P **P** **19 03 38.3 +0.9**
LSA pmax pmax
comp=Z,39nm,1.3s
LSA MLR MLR
comp=Z,300nm,19.6s
LSA Lhasa 84.47 302 *e*P **P** **19 03 38.3 +0.9**
comp=Z,39nm,1.3s
LSA LR LR
comp=Z,300nm,19.6s
KEBM Edson Butte 84.53 44 PFAKE 19 03 50.0 +13
KEBM LR LR
comp=Z,2μm,19.7s
BWN Browne 84.58 18 PFAKE 19 03 50.0 +13
BWN LR LR
comp=Z,1μm,19.8s
HARP HAARP 84.69 20 PFAKE 19 03 50.0 +13
HARP LR LR
comp=Z,1μm,20.7s
IRK Irkutsk 84.75 327 *e*P **P** **19 03 36.5 -1.1**
IRK pmax pmax
comp=Z,100nm,1.9s
IM04 Indian Mountai 84.76 15 *e*P **P** **19 03 38.8 +1.3**
TLY Talaya 84.80 326 P **P** **19 03 38.3 +0.4**
comp=Z,192nm,1.4s,SNR=15
TLY Talaya 84.80 326 P **P** **19 03 37.8 -0.1**
comp=Z,11nm,0.8s,baz=148,slow=4.1,SNR=43
TLY Talaya 84.80 326 *c i*P **P** **19 03 37.7 -0.2**
TLY *e* 19 03 52.4
TLY *e*S S 19 13 56.8 -6.4
TLY pmax pmax
comp=Z,82nm,1.6s
TLY MLR MLR
comp=Z,384nm,21.0s
TLY Talaya 84.80 326 P **P** **19 03 38.3 +0.4**
SNR=43
TLY Talaya 84.80 326 P **P** **19 03 37.8 -0.1**
TLY LR LR
comp=Z,400nm,19.3s
WDC Whiskeytown Da 84.85 46 PFAKE 19 03 50.0 +12
WDC LR LR
comp=Z,1μm,19.9s
MLY Manley 84.85 17 PFAKE 19 03 50.0 +12
MLY LR LR
comp=Z,1μm,18.7s
PAX Paxson 84.97 20 PFAKE 19 03 50.0 +11
PAX LR LR
comp=Z,700nm,20.1s
YBH Yreka Blue Hor 85.18 45 P **P** **19 03 40.8 +0.6**
comp=Z,1.0nm,0.4s,baz=144,slow=9.7,SNR=3.7
YBH Yreka Blue Hor 85.18 45 P **P** **19 03 40.8 +0.6**
YBH MLR MLR
comp=Z,600nm,19.9s
YBH Yreka Blue Hor 85.18 45 P **P** **19 03 40.8 +0.6**
YBH LR LR
comp=Z,600nm,19.9s
WRH Wood River Hil 85.21 18 PFAKE 19 03 50.0 +10
WRH LR LR
comp=Z,1μm,21.1s
HUMO Hull Mountain 85.36 44 PFAKE 19 03 50.0 +9.0
HUMO LR LR
comp=Z,1μm,19.7s
CCB Clear Creek Bu 85.42 18 PFAKE 19 03 50.0 +9.3
CCB LR LR
comp=Z,1μm,21.2s
CMB Columbia Colle 85.45 49 PFAKE 19 03 50.0 +8.4
CMB LR LR
comp=Z,3μm,20.0s
HDA Harding Lake 85.51 18 PFAKE 19 03 50.0 +8.8
HDA LR LR
comp=Z,2μm,19.8s
OSI Osito Audit: C 85.51 53 P **P** **19 03 42.0 +0.1**
baz=86
OSI Osito Audit: C 85.51 53 PFAKE 19 03 50.0 +8.1
OSI LR LR
comp=Z,215nm,21.6s
MDM Murphy Dome 85.52 18 PFAKE 19 03 50.0 +8.7
MDM LR LR
comp=Z,900nm,20.0s
COLA College 85.57 18 *c i*P **P** **19 03 39.3 -2.1**
COLA pmax pmax
comp=Z,186nm,1.0s
COLA College 85.57 18 PFAKE 19 03 50.0 +8.6
COLA LR LR
comp=Z,800nm,18.4s
PASC Pasadena Art C 85.78 54 PFAKE 19 03 50.0 +6.8
PASC LR LR
comp=Z,800nm,21.0s
ILAR Eielson Array 85.79 18 P **P** **19 03 42.8 +0.2**
comp=Z,13nm,0.6s,baz=242,slow=4.9,SNR=94
ILAR S S 19 14 04.7 -7.7
comp=Z,1.5nm,1.2s,baz=249,slow=7.4,SNR=6.1
ILAR LR LR 19 36 52.4
comp=Z,2μm,20.3s,baz=240,slow=32
COR Corvallis 85.91 42 PFAKE 19 03 50.0 +6.4
COR LR LR
comp=Z,700nm,20.4s
SCRK Sand Creek 86.15 20 PFAKE 19 04 00.0 +15
SCRK LR LR
comp=Z,600nm,19.5s
BFSC Mount Baldy Ra 86.21 54 P **P** **19 03 46.9 +1.3**
baz=86
MOY Mondy 86.24 325 *e*P **P** **19 03 45.5 +0.3**
MOY pmax pmax
comp=Z,60nm,2.0s
WRAK Wrangell Islan 86.26 29 PFAKE 19 04 00.0 +15
WRAK LR LR
comp=Z,1μm,21.0s
F03A Seaside 86.29 41 PFAKE 19 04 00.0 +15
F03A LR LR
comp=Z,1μm,19.9s
BESE Bessie Mountai 86.29 27 PFAKE 19 04 00.0 +15
BESE LR LR
comp=Z,300nm,19.2s
WAKR Walker 86.31 49 *e*P **P** **19 03 46.5 +0.5**
comp=Z,11nm,1.5s
LRMC Laurel Mtn Rad 86.60 52 P **P** **19 03 47.8 +0.4**
baz=87
TAPN Taplejung 86.62 299 *e*P **P** **19 03 48.5 +0.6**
comp=Z,185nm,1.6s
COLD Coldfoot 86.65 15 PFAKE 19 04 00.0 +13
COLD LR LR
comp=Z,1μm,19.8s
NLWA Neilton Lookou 86.69 40 PFAKE 19 04 00.0 +13
NLWA LR LR
comp=Z,1μm,20.9s
ODAN Odare 86.75 298 *e*P **P** **19 03 49.0 +0.5**
comp=Z,145nm,1.4s
MONP Monument Peak, 86.76 55 P **P** **19 03 49.0 +0.7**
baz=87
DAC Darwin (Calif) 86.94 52 *e*P **pP** **19 04 00.2 -0.8**
DAC MLR MLR
comp=Z,2μm,21.8s
DAC Darwin (Calif) 86.94 52 *e*pP **pP** **19 04 00.2 -0.8**
DAC LR LR
comp=Z,2μm,21.8s
MPMC Manual Prospec 86.94 52 P **P** **19 03 50.0 +0.9**
baz=87
PFO Pinyon Flats O 86.96 55 PFAKE 19 04 00.0 +11
PFO LR LR
comp=Z,2μm,19.3s
NVAR Mina Array Bea 87.12 49 P **P** **19 03 50.5 +0.5**
comp=Z,1.5nm,0.9s,baz=233,slow=7.8,SNR=9.0
GSC Goldstone, Bar 87.22 53 *e*pP pP 19 04 14.0 +12
CHLP Challavanipeta 87.40 290 *e*P **P** **19 03 51.5 +0.1**
CHLP IAmb IAmb 19 03 53.5
comp=Z,35nm,1.4s
CHLP *e*sP **sP** **19 04 05.6 -2.1**

CHLP ePP **PP** **19 07 12.4 -4.0**
CHLP eSKSac **SKSac** **19 14 13.9 -2.8**
BELC Belle Mtn. Jos 87.44 54 P **P** **19 03 52.5 +1.0**
baz=88
HEC Hector,Ludlow 87.44 53 P **P** **19 03 52.3 +0.9**
baz=88
RAMN Ramite 87.45 298 *eP* **P** **19 03 52.1 +0.2**
comp=Z,143nm,1.6s
FYU Fort Yukon 87.54 17 PFAKE 19 04 00.0 +9.0
FYU LR LR
comp=Z,700nm,18.2s
EGAK Eagle 87.60 20 PFAKE 19 04 00.0 +8.6
EGAK LR LR
comp=Z,1µm,19.0s
PALK Pallekele 87.74 278 PFAKE 19 04 00.0 +6.7
PALK LR LR
comp=Z,800nm,20.1s
BC3 Big Chuckawall 87.76 55 P **P** **19 03 53.9 +0.9**
baz=88
D05A Enumclaw 87.78 40 PFAKE 19 04 00.0 +7.3
D05A LR LR
comp=Z,700nm,18.0s
TPH Tonopah 87.81 50 PFAKE 19 04 00.0 +6.7
TPH LR LR
comp=Z,2µm,22.0s
G06A Carlson Farm, 87.91 42 PFAKE 19 04 00.0 +6.6
G06A LR LR
comp=Z,1µm,18.0s
JIRN Jiri 88.00 299 *eP* **P** **19 03 55.1 +0.4**
comp=Z,88nm,1.2s
TPNV Topopah Spring 88.18 51 PFAKE 19 04 10.0 +15
TPNV LR LR
comp=Z,2µm,21.8s
WVOR Wild Horse Val 88.26 46 *eP* P 19 04 00.4 +5.2
WVOR pmax pmax
comp=Z,26nm,1.7s
WVOR MLR MLR
comp=Z,800nm,19.4s
WVOR Wild Horse Val 88.26 46 *eP* P 19 04 00.4 +5.2
comp=Z,26nm,1.7s
WVOR LR LR
comp=Z,800nm,19.4s
GUN Gumba 88.34 299 *eP* **P** **19 03 56.4 +0.2**
comp=Z,55nm,0.9s
A05A Maple Falls 88.43 39 PFAKE 19 04 10.0 +14
A05A LR LR
comp=Z,900nm,19.3s
BMN Battle Mountai 88.58 48 PFAKE 19 04 10.0 +13
BMN LR LR
comp=Z,1µm,18.5s
LTY Liberty 88.64 41 PFAKE 19 04 10.0 +13
LTY LR LR
comp=Z,700nm,18.9s
PKI Pulchoki 88.64 299 *eP* **P** **19 03 57.6 0.0**
comp=Z,86nm,1.1s
KKN Kakani 88.81 299 *eP* **P** **19 03 58.5 +0.2**
comp=Z,68nm,1.2s
SHPR Sheep Range 88.87 52 *ep*P pP 19 04 18.5 +8.3
DMN Daman 88.91 299 *eP* **P** **19 03 59.2 +0.4**
comp=Z,123nm,1.2s
HAWA Hanford 89.05 42 PFAKE 19 04 10.0 +11
HAWA LR LR
comp=Z,600nm,18.1s
R11A Troy Canyon, C 89.12 50 P **P** **19 03 60.0 +0.5**
baz=89
R11A Troy Canyon, C 89.12 50 *ep*P pP 19 04 20.1 +8.7
R11A LR LR
comp=Z,2µm,19.5s
PVM Polavaram 89.31 288 *eP* **P** **19 04 00.3 -0.2**
PVM IAmb IAmb 19 04 05.7
comp=Z,32nm,1.8s
PVM eSKSac **SKSac** **19 14 28.8 +0.6**
GKN Gorkha 89.42 299 *eP* **P** **19 04 00.8 -0.3**
comp=Z,76nm,1.1s
SLBS Sierra La Lagu 89.59 66 PFAKE 19 04 10.0 +8.1
SLBS LR LR
comp=Z,1µm,19.0s
BMO Blue Mountains 89.99 44 PFAKE 19 04 10.0 +6.7
BMO LR LR
comp=Z,1µm,18.0s
ELK Elko 90.11 48 P **P** **19 04 04.8 +0.7**
comp=Z,1.4nm,0.7s,baz=294,slow=1.8,SNR=6.1
KOLN Koldanda 90.24 298 *eP* **P** **19 04 04.4 -0.6**
comp=Z,38nm,1.1s
SKHT Srikalahasti 90.25 284 *eP* **P** **19 04 04.7 -0.3**
SKHT *e* 19 04 09.3
SKHT IAmb IAmb 19 04 09.9
comp=Z,18nm,0.8s
SKHT eSKSac **SKSac** **19 14 32.4 -1.3**
MFID Camas Ranch 90.53 45 PFAKE 19 04 20.0 +14
MFID LR LR
comp=Z,500nm,20.6s
KNB Kanab 90.81 52 PFAKE 19 04 20.0 +13
KNB LR LR
comp=Z,900nm,21.8s
TUC Tucson 91.14 57 PFAKE 19 04 20.0 +11
TUC LR LR
comp=Z,1µm,19.4s
NEW Newport 91.23 40 P **P** **19 04 10.2 +1.3**
baz=91
NEW Newport 91.23 40 PFAKE 19 04 20.0 +11
NEW LR LR
comp=Z,700nm,18.4s
NJS Nagarjunasagar 91.30 287 *eP* **P** **19 04 10.7 +0.9**
NJS IAmb IAmb 19 04 13.4
comp=Z,341nm,3.9s
NJS *es*P **sP** **19 04 24.8 -1.2**
NJS eSKSac **SKSac** **19 14 41.3 +1.5**
RCLA Racherla 91.36 285 *eP* **P** **19 04 10.5 +0.3**
RCLA IAmb IAmb 19 04 13.9
comp=Z,8.8nm,1.1s
RCLA eSKSac **SKSac** **19 14 35.8 -4.4**
WUAZ Wupatki 91.52 54 *eP* P 19 04 16.1 +5.4
comp=Z,5.3nm,0.9s
WUAZ LR LR
comp=Z,1µm,19.0s
HLID Hailey 91.56 46 PFAKE 19 04 20.0 +9.3
HLID LR LR
comp=Z,1µm,20.0s
WMQ Urumqi 91.56 315 P **P** **19 04 11.0 +0.4**
WMQ pP **pP** **19 04 21.6 -0.9**
WMQ sP **sP** **19 04 25.5 -1.3**
WMQ PP **PP** **19 07 52.7 +3.4**
WMQ SKS **SKSac** **19 14 38.9 -1.4**
WMQ S **S** **19 15 08.5 +0.6**
WMQ sS **sS** **19 15 22.8 -5.0**
WMQ SS **SS** **19 21 15.4 +0.1**
WMQ PMZ
comp=Z,33nm,2.0s
WMQ PMZ
comp=Z,200nm,4.0s
WMQ LN
comp=Z,270nm,17.5s
WMQ LE
comp=Z,310nm,17.5s
WMQ LZ
comp=Z,370nm,19.5s
SRLM Srisailam 91.58 286 *eP* **P** **19 04 09.9 -1.3**
SRLM IAmb IAmb 19 04 24.7
comp=Z,50nm,1.3s
SRLM eSKSac **SKSac** **19 14 40.6 -0.8**
MVU Marysvale 91.69 51 PFAKE 19 04 20.0 +8.4
MVU LR LR
comp=Z,2µm,20.0s
DUG Dugway, Tooele 91.72 49 PFAKE 19 04 20.0 +8.5
DUG LR LR
comp=Z,2µm,18.7s
MSU Marysvale 91.72 51 *eP* **P** **19 04 13.0 +1.4**
MSU pmax pmax
comp=Z,7.0nm,1.2s
MSU Marysvale 91.72 51 *eP* **P** **19 04 13.0 +1.4**
comp=Z,6.5nm,1.2s
RPR Rampur 91.85 289 *eP* **P** **19 04 12.0 -0.4**
RPR IAmb IAmb 19 04 13.8
comp=Z,26nm,1.0s
RPR *es*P **sP** **19 04 25.2 -3.4**
RPR eSKSac **SKSac** **19 14 42.0 -0.8**
HVU Hansel Valley 92.19 48 PFAKE 19 04 20.0 +6.3
HVU LR LR
comp=Z,19718µm,20.4s
NLU North Lily Min 92.20 50 PFAKE 19 04 30.0 +16
NLU LR LR
comp=Z,3µm,19.3s
HYB Hyderabad 92.20 287 *i* P **P** **19 04 13.5 -0.5**
HYBB Hyderabad (bro 92.20 287 *eP* **P** **19 04 13.5 -0.6**
HYBB IAmb IAmb 19 04 14.8
comp=Z,12nm,1.0s
HYBB *es*P **sP** **19 04 27.1 -3.2**
HYBB *e*SKSac **SKSac** **19 14 43.3 -1.6**
DGAR Diego Garcia 92.25 262 PFAKE 19 04 30.0 +16
DGAR LR LR
comp=Z,2µm,21.4s
MPU Maple Canyon 92.54 50 PFAKE 19 04 30.0 +15
MPU LR LR
comp=Z,12µm,19.3s
CTU Camp Tracy 92.64 49 PFAKE 19 04 30.0 +14
CTU LR LR
comp=Z,2µm,18.6s
SRSP Sriramsagar 92.75 289 *eP* **P** **19 04 16.0 -0.5**
SRSP IAmb IAmb 19 04 17.8
comp=Z,32nm,1.3s
JLU Jordanelle 92.83 49 PFAKE 19 04 30.0 +13
JLU LR LR
comp=Z,2µm,18.5s
MSO Missoula 92.84 43 PFAKE 19 04 30.0 +14
MSO LR LR
comp=Z,700nm,18.3s
TCUT Toone Canyon 93.00 49 PFAKE 19 04 30.0 +12
TCUT LR LR
comp=Z,1µm,20.6s
HWUT Hardware Ranch 93.02 48 PFAKE 19 04 30.0 +12
HWUT LR LR
comp=Z,800nm,19.9s
AHID Auburn Hatcher 93.66 47 PFAKE 19 04 30.0 +10
AHID LR LR
comp=Z,1µm,20.0s
NVL N'lazarevskaya 93.94 188 ⇓ *i* P **P** **19 04 18.3 -2.7**
NVL pmax pmax
comp=Z,24nm,1.0s
BOZ Bozeman (W) 94.05 44 PFAKE 19 04 30.0 +7.9
BOZ LR LR
comp=Z,1µm,19.0s
KLRI Killari 94.16 287 *eP* **P** **19 04 22.7 -0.4**
KLRI IAmb IAmb 19 04 23.4
comp=Z,61nm,1.8s
MVCO Mesa Verde 94.20 53 PFAKE 19 04 30.0 +6.9
MVCO LR LR
comp=Z,1µm,19.2s
YMR Madison River 94.25 45 PFAKE 19 04 30.0 +6.8
YMR LR LR
comp=Z,900nm,18.8s
YFT Old Faithful 94.28 45 PFAKE 19 04 30.0 +6.7
YFT LR LR
comp=Z,4µm,21.3s
H17A Grant Village 94.45 46 PFAKE 19 04 40.0 +16
H17A LR LR
comp=Z,2µm,18.6s
SNAA Sanae 94.50 183 P P 19 04 16.1 -7.6
SNAA Sanae 94.50 183 *eP* P 19 04 15.0 -8.7
comp=Z,59nm,1.3s
SNAA LR LR
comp=Z,1µm,20.0s
LKWY Lake 94.61 45 PFAKE 19 04 40.0 +15
LKWY LR LR
comp=Z,2µm,19.0s
BW06 Boulder Array 94.76 47 PFAKE 19 04 40.0 +14
BW06 LR LR
comp=Z,900nm,20.0s
PDAR Pinedale Array 94.76 47 LR LR 19 44 41.9
comp=Z,675nm,18.0s,baz=266,slow=34
O20A White River Ci 95.09 50 PFAKE 19 04 40.0 +13
O20A LR LR
comp=Z,2µm,20.0s
ANMO Albuquerque 95.28 55 PFAKE 19 04 40.0 +12
ANMO LR LR
comp=Z,1µm,20.3s
MNTX Cornudas Mount 95.44 59 PFAKE 19 04 40.0 +11
MNTX LR LR
comp=Z,600nm,18.9s
VNA2 Neumayer--Watz 95.45 182 P **P** **19 04 27.3 -0.6**
baz=145,slow=4.5
RLMT Red Lodge 95.53 45 PFAKE 19 04 40.0 +11
RLMT LR LR
comp=Z,900nm,20.4s
S22A 4UR Ranch, Cre 95.61 53 PFAKE 19 04 40.0 +10
S22A LR LR
comp=Z,1µm,21.0s
VNA1 Neumayer--Stat 95.75 182 P **P** **19 04 28.9 -0.4**
EGMT Eagleton 95.90 42 PFAKE 19 04 40.0 +10
EGMT LR LR
comp=Z,500nm,18.6s
MK31 Makanchi Array 96.03 317 *eP* **P** **19 04 30.7 -0.3**
MK31 Makanchi Array 96.03 317 *eP* **P** **19 04 30.7 -0.3**
MKAR Makanchi Array 96.03 317 P **P** **19 04 30.8 -0.2**
comp=Z,14nm,1.0s,baz=101,slow=6.4,SNR=81
MKAR PKiKP **PKiKP** **19 09 09.7 0.0**
comp=Z,0.4nm,0.5s,baz=125,slow=0.8,SNR=5.5
MKAR S **SKSac** **19 15 04.0 -0.5**
comp=Z,1.5nm,1.1s,baz=114,slow=9.6,SNR=4.2
MKAR PKKPbc **PKKPbc** **19 21 19.6 -0.8**
comp=Z,0.3nm,0.5s,baz=264,slow=4.0,SNR=8.3
MKAR LR LR 19 46 44.2
comp=Z,255nm,21.8s,baz=96,slow=35
MKAR Makanchi Array 96.03 317 *i* P **P** **19 04 30.7 -0.3**
MKAR pmax pmax
comp=Z,14nm,1.0s
ZAA0 Zalesovo Array 96.20 324 *eP* **P** **19 04 30.1 -1.4**
ZALV Zalesovo Beam 96.20 324 P **P** **19 04 30.6 -0.9**
comp=Z,8.5nm,0.8s,baz=108,slow=4.8,SNR=44
ZALV LR LR 19 49 57.6
comp=Z,195nm,18.5s,baz=70,slow=37
CRZF Crozet Islands 96.36 219 SS SS 19 22 02.0 -20
CRZF R 19 36 00.0
TXAR Lajitas Array 96.38 61 PP PP 19 08 28.1 +0.7
comp=Z,1.7nm,1.1s,baz=251,slow=7.8,SNR=3.5
TXAR LR LR 19 39 14.6
comp=Z,755nm,21.7s,baz=0.0,slow=30
SDCO Great Sand Dun 96.64 53 PFAKE 19 04 50.0 +16
SDCO LR LR
comp=Z,1µm,18.0s
K22A Casper 96.91 48 PFAKE 19 04 50.0 +15
K22A LR LR
comp=Z,700nm,20.8s
N23A Red Feather La 96.96 50 PFAKE 19 04 50.0 +14
N23A LR LR
comp=Z,2µm,20.0s
YKA Yellowknife Ar 96.97 27 P **P** **19 04 34.2 -0.5**
comp=Z,1.6nm,0.5s,baz=258,slow=4.6,SNR=14
ISCO Idaho Springs 96.98 51 PFAKE 19 04 50.0 +14
ISCO LR LR
comp=Z,2µm,20.8s
Q24A Divide 97.17 52 PFAKE 19 04 50.0 +13
Q24A LR LR
comp=Z,700nm,19.5s
NVS Novosibirsk 97.32 325 *eP* **P** **19 04 34.5 -2.0**
NVS *eS* **SKSac** **19 15 06.3 -4.4**
NVS *e* 19 15 54.5
NVS pmax pmax
comp=N,7.0nm,1.7s
NVS pmax pmax
comp=E,14nm,1.7s
NVS pmax pmax
comp=Z,26nm,1.7s
NVS smax smax
comp=N,8.0nm,1.4s
NVS smax smax
comp=E,50nm,1.8s
T25A Trinidad 97.37 54 PFAKE 19 04 50.0 +12
T25A LR LR
comp=Z,1µm,20.0s
LAO LASA Array 97.95 44 PFAKE 19 04 50.0 +10
LAO LR LR
comp=Z,1µm,18.4s
MSTX Muleshoe 98.06 57 PFAKE 19 04 50.0 +9.4
MSTX LR LR
comp=Z,902nm,21.6s
RSSD Black Hills 98.97 47 PFAKE 19 05 00.0 +15
RSSD LR LR
comp=Z,700nm,18.2s
KSH Kashi 99.06 308 *eP* **Pdif** **19 04 47.0 +2.0**
KSH *ep*P **pP** **19 05 01.0 +4.1**
KSH sP **sP** **19 05 04.7 +3.4**
KSCO Kaye Shedlock' 99.10 52 PFAKE 19 05 00.0 +15
KSCO LR LR
comp=Z,1µm,20.1s
AMTX Amarillo 99.11 56 PFAKE 19 05 00.0 +15
AMTX LR LR
comp=Z,1µm,21.0s
KURK Kurchatov 99.22 320 P **Pdif** **19 04 44.3 -0.9**
KURK 19 08 47.4
KURK MLR MLR
comp=Z,300nm,18.2s
KURK Kurchatov 99.22 320 P **Pdif** **19 04 44.4 -0.9**
SNR=5.1
KURK Kurchatov 99.22 320 P **Pdif** **19 04 44.3 -0.9**
KURK PP **PP** **19 08 47.4 -1.0**
KURK LR LR
comp=Z,300nm,18.2s
KURBB Kurchatov Arra 99.26 320 P **Pdif** **19 04 44.3 -1.1**
comp=Z,0.9nm,0.6s,baz=99,slow=4.2,SNR=12
KURBB PP **PP** **19 08 47.4 -1.3**
comp=Z,0.8nm,1.0s,baz=99,slow=6.7,SNR=4.8
DGMT Dagmar 99.62 42 PFAKE 19 05 00.0 +13
DGMT LR LR
comp=Z,500nm,18.0s
JCT Junction City 99.89 61 PFAKE 19 05 00.0 +11
JCT LR LR
comp=Z,900nm,20.0s
TKM2 Tokmak 2 99.93 312 PFAKE 19 05 00.0 +11
TKM2 LR LR
comp=Z,400nm,20.0s
ABTX Abilene, Hawle 100.39 59 PFAKE 19 05 00.0 +9.1
ABTX LR LR
comp=Z,900nm,19.0s
AAK Ala-Archa 100.68 311 PFAKE 19 05 00.0 +7.8
AAK LR LR
comp=Z,300nm,21.0s
KVTX Kingsville 101.04 64 PFAKE 19 05 10.0 +16
KVTX LR LR
comp=Z,700nm,18.4s
EKS2 Erkin-Say 101.21 311 PFAKE 19 05 10.0 +16
EKS2 LR LR
comp=Z,300nm,21.0s
WMOK Wichita Mounta 101.44 57 PFAKE 19 05 10.0 +14
WMOK LR LR
comp=Z,900nm,21.0s
FFC Flin Flon 101.90 36 PFAKE 19 05 10.0 +13
FFC LR LR
comp=Z,1µm,20.1s
MDND Maddock 102.58 44 PFAKE 19 05 10.0 +10
MDND LR LR
comp=Z,800nm,19.1s
PAYG Puerto Ayora 102.58 94 PFAKE 19 05 10.0 +8.9
PAYG LR LR
comp=Z,2µm,21.0s
BRSD Miller 102.63 47 PFAKE 19 05 10.0 +9.4
BRSD LR LR
comp=Z,600nm,20.5s
U34A Anderson Ranch 102.69 55 PFAKE 19 05 10.0 +9.0
U34A LR LR
comp=Z,1µm,20.0s
BGNE Belgrade 102.85 50 PFAKE 19 05 10.0 +8.3
BGNE LR LR
comp=Z,2µm,20.4s
HKT Hockley 103.20 62 PFAKE 19 05 10.0 +6.7
HKT LR LR
comp=Z,500nm,18.2s
KSU1 Kansas State U 103.75 53 PFAKE 19 05 20.0 +14
KSU1 LR LR
comp=Z,2µm,18.2s
KBL Kabul 103.80 303 PFAKE 19 05 20.0 +14
KBL LR LR
comp=Z,300nm,21.6s
TUL1 Leonard 104.02 56 PFAKE 19 05 20.0 +13
TUL1 LR LR
comp=Z,1µm,21.0s
ECSD EROS Data Cent 104.23 48 PFAKE 19 05 20.0 +12
ECSD LR LR
comp=Z,500nm,18.7s
EFI East Falkland 104.24 153 PFAKE 19 05 20.0 +12
EFI LR LR
comp=Z,1µm,18.0s
NATX Nacogdoches 104.45 60 PFAKE 19 05 20.0 +11
NATX LR LR
comp=Z,800nm,19.0s
BVAR Borovoye Array 104.56 322 Pdiff **Pdif** **19 05 08.4 -0.6**
comp=Z,1.1nm,0.8s,baz=103,slow=4.7,SNR=11
BVAR PKiKP **PKiKP** **19 09 23.3 -1.5**
comp=Z,0.9nm,0.9s,baz=134,slow=8.3,SNR=3.0
BRVK Borovoye 104.62 322 PFAKE 19 05 20.0 +11
BRVK LR LR
comp=Z,500nm,20.3s
AGMN Agassiz Nation 105.12 43 PFAKE 19 09 40.0
AGMN LR LR
comp=Z,699nm,19.3s
MIAR Mount Ida 105.67 58 PFAKE 19 09 40.0
MIAR LR LR
comp=Z,700nm,18.8s
SCIA State Center 106.58 50 PFAKE 19 09 40.0
SCIA LR LR
comp=Z,2µm,21.0s
SNET Serv Nac Est T 106.67 80 PFAKE 19 09 40.0
SNET LR LR
comp=Z,800nm,20.1s
SPMN Marine on St. 107.05 47 PFAKE 19 09 40.0
SPMN LR LR
comp=Z,800nm,18.8s
VBMS Vicksburg 108.00 60 PFAKE 19 09 40.0
VBMS LR LR
comp=Z,700nm,20.0s
EYMN Ely 108.03 44 PFAKE 19 09 40.0
EYMN LR LR
comp=Z,900nm,18.6s
TEIG Tepich 108.62 73 PFAKE 19 09 40.0
TEIG LR LR
comp=Z,800nm,21.0s
SLM Saint Louis 108.67 54 PFAKE 19 09 40.0
SLM LR LR
comp=Z,1µm,18.6s
JFWS Jewell Farm 108.82 49 PFAKE 19 09 40.0
JFWS LR LR
comp=Z,1µm,22.0s
OXF Oxford 109.10 58 PFAKE 19 09 50.0
OXF LR LR
comp=Z,600nm,18.2s
MSEY Mahe Island 109.25 260 PFAKE 19 09 50.0
MSEY LR LR
comp=Z,1µm,18.0s
HOPE Hope Point 109.46 166 PFAKE 19 09 50.0
HOPE LR LR
comp=Z,2µm,22.0s
HDIL Hopedale 109.47 52 PFAKE 19 09 50.0
HDIL LR LR
comp=Z,100nm,20.0s
SSN San Juan del S 109.48 83 PFAKE 19 09 50.0
SSN LR LR
comp=Z,2µm,20.1s
JTS JuntasAbangare 110.16 84 PFAKE 19 09 50.0
JTS LR LR
comp=Z,800nm,18.0s
LCO Las Campanas 110.25 128 PFAKE 19 09 50.0
LCO LR LR
comp=Z,800nm,19.0s
OLIL Olney 110.34 54 PFAKE 19 09 50.0
OLIL LR LR
comp=Z,1µm,18.9s
USIN University of 110.67 54 PFAKE 19 09 50.0
USIN LR LR
comp=Z,2µm,20.0s
BRAL Brewton 110.84 62 PFAKE 19 09 50.0
BRAL LR LR
comp=Z,600nm,19.6s
LRAL Lakeview Retre 111.02 60 PFAKE 19 09 50.0
LRAL LR LR
comp=Z,800nm,19.5s
SFIN Lafayette 111.14 52 PFAKE 19 09 50.0
SFIN LR LR
comp=Z,2µm,19.5s
TRQA Tornquist 111.28 141 PFAKE 19 09 50.0
TRQA LR LR
comp=Z,400nm,18.2s
ARU Arti 111.30 325 *i* PKIKP **PKiKP** **19 09 36.2 -1.0**
ARU 19 10 18.2
ARU 19 16 14.7
ARU SP SP 19 19 46.0 +1.8
ARU SS **SS** **19 25 44.0 -4.0**
ARU MLR MLR
comp=Z,278nm,18.0s
ARU Arti 111.30 325 PFAKE 19 09 50.0
ARU LR LR
comp=Z,400nm,20.6s
BLO Bloomington 111.58 53 PFAKE 19 09 50.0
BLO LR LR
comp=Z,1µm,21.4s
WCI Wyandotte Cave 111.75 54 PFAKE 19 09 50.0

WCI LR LR
comp=Z,1µm,19.4s
ABPO Ambohimpanom 111.99 243 PFAKE 19 09 50.0
ABPO LR LR
comp=Z,2µm,19.4s
NNA Nana 112.12 109 PFAKE 19 09 50.0
NNA LR LR
comp=Z,1µm,21.4s
GLMI Grayling 112.86 47 PFAKE 19 09 50.0
GLMI LR LR
comp=Z,600nm,18.4s
KBS Kingsbay 113.65 355 PFAKE 19 09 50.0
KBS LR LR
comp=Z,103nm,19.0s
AAM Ann Arbor 113.69 50 PFAKE 19 09 50.0
AAM LR LR
comp=Z,2µm,20.0s
TIGA Tifton 113.83 62 PFAKE 19 09 50.0
TIGA LR LR
comp=Z,500nm,21.5s
UOSS Wadi Hilu 113.97 291 PFAKE 19 10 00.0
UOSS LR LR
comp=Z,200nm,19.3s
OTAV Otavalo 114.27 96 PFAKE 19 10 00.0 +15
OTAV LR LR
comp=Z,800nm,18.1s
ACSO Alum Creek Sta 114.29 52 PFAKE 19 10 00.0 +17
ACSO LR LR
comp=Z,2µm,20.3s
BCIP Isla Barro Col 114.90 86 PFAKE 19 10 00.0 +15
BCIP LR LR
comp=Z,500nm,20.6s
DWPF Disney Wildern 115.58 65 PFAKE 19 10 00.0 +14
DWPF LR LR
comp=Z,400nm,22.0s
KMSC Kings Mountain 115.75 57 PFAKE 19 10 00.0 +14
KMSC LR LR
comp=Z,800nm,20.5s
ALLY Alegheny Colle 116.35 50 PFAKE 19 10 00.0 +13
ALLY LR LR
comp=Z,1µm,21.6s
BLA Blacksburg 116.43 55 PFAKE 19 10 00.0 +12
BLA LR LR
comp=Z,1µm,18.2s
NHSC New Hope 116.74 60 PFAKE 19 10 00.0 +12
NHSC LR LR
comp=Z,500nm,18.9s
MMNY Mt. Morris Dam 117.89 49 PFAKE 19 10 00.0 +10
MMNY LR LR
comp=Z,4µm,21.6s
SSPA Standing Stone 118.14 51 PFAKE 19 10 00.0 +9.2
SSPA LR LR
comp=Z,999nm,18.1s
LPAZ La Paz 118.25 117 PKP **PKPdf 19 09 53.9 +1.4**
comp=Z,1.0nm,0.4s,baz=201,slow=3.3,SNR=5.3
LPAZ La Paz 118.25 117 PKIKP **PKPdf 19 09 53.9 +1.4**
LPAZ MLR MLR
comp=Z,400nm,21.8s
LPAZ La Paz 118.25 117 PKP **PKPdf 19 09 53.9 +1.4**
LPAZ LR LR
comp=Z,400nm,21.8s
MTDJ Mount Denham 118.45 77 PFAKE 19 10 00.0 +7.9
MTDJ LR LR
comp=Z,400nm,21.9s
CNNC Cliffs of the 118.57 57 PFAKE 19 10 00.0 +8.2
CNNC LR LR
comp=Z,2µm,21.0s
KEV Kevo 118.60 345 PFAKE 19 10 00.0 +9.2
KEV LR LR
comp=Z,600nm,20.2s
CBN Corbin Frederi 118.77 54 PFAKE 19 10 00.0 +7.9
CBN LR LR
comp=Z,1µm,22.0s
SDMD Soldier's Deli 119.07 52 PFAKE 19 10 00.0 +7.4
SDMD LR LR
comp=Z,5µm,19.6s
ARCES ARCESS Array B 119.12 345 PKP **PKPdf 19 09 52.8 +0.9**
comp=Z,5.7nm,0.6s,baz=79,slow=1.9,SNR=28
ARCES PKKPbc **PKKPab 19 20 07.8 +0.6**
comp=Z,1.6nm,0.8s,baz=210,slow=3.4,SNR=5.5
ARE0 ARCESS Array S 119.12 345 *e*PKPdf **PKPdf 19 09 51.1 -0.8**
SUMG Summit 119.35 8 *e*PKIKP **PKPdf 19 09 54.2 +1.5**
SUMG MLR MLR
comp=Z,500nm,20.3s
SUMG Summit 119.35 8 *e*PKPdf **PKPdf 19 09 54.2 +1.5**
SUMG LR LR
comp=Z,500nm,20.3s
BINY Binghamton 119.37 49 PFAKE 19 10 00.0 +6.8
BINY LR LR
comp=Z,2µm,22.0s
KLMR Klimovskoe 119.50 333 *e*PKIKP **PKPdf 19 09 50.0 -2.8**
KLMR pmax pmax
comp=Z,22nm,1.4s
KSPA Keystone Colle 119.62 50 PFAKE 19 10 10.0 +16
KSPA LR LR
comp=Z,2µm,21.7s
PTN Potsdam (NY) 119.71 46 PFAKE 19 10 10.0 +16
PTN LR LR
comp=Z,2µm,20.3s
LONY Lake Ozonia 119.98 46 PFAKE 19 10 10.0 +16
LONY LR LR
comp=Z,398nm,18.9s
LUPA Lehigh Univers 120.05 51 PFAKE 19 10 10.0 +16
LUPA LR LR
comp=Z,300nm,21.9s
NCB Newcomb 120.35 47 PFAKE 19 10 10.0 +15
NCB LR LR
comp=Z,1µm,18.3s
ODNJ Ogdensburg 120.55 50 PFAKE 19 10 10.0 +15
ODNJ LR LR
comp=Z,2µm,21.5s
BRNJ Basking Ridge 120.64 51 PFAKE 19 10 10.0 +14
BRNJ LR LR
comp=Z,900nm,22.0s
ACCN Adirondack Com 120.86 48 PFAKE 19 10 10.0 +14
ACCN LR LR
comp=Z,900nm,20.4s
GTBY Guantanamo Bay 120.89 75 PFAKE 19 10 10.0 +13
GTBY LR LR
comp=Z,300nm,19.8s
CPNY Central Park 121.08 51 PFAKE 19 10 10.0 +14
CPNY LR LR
comp=Z,1µm,20.5s
PAL Palisades 121.09 50 PFAKE 19 10 10.0 +14
PAL LR LR
comp=Z,1µm,21.6s
SFJD Kangerlussuaq 121.40 16 PFAKE 19 10 10.0 +14
SFJD LR LR
comp=Z,900nm,19.6s
SCHQ Schefferville 121.83 33 PKP **PKPdf 19 09 57.8 +0.3**
comp=Z,1.3nm,0.3s,baz=45,slow=1.4,SNR=3.8
SCHQ Schefferville 121.83 33 PKP **PKPdf 19 09 57.8 +0.3**
SCHQ LR LR
comp=Z,800nm,20.1s
GNI Garni 122.99 309*c i*PKIKP **PKPdf 19 10 01.6 +1.2**
GNI pmax pmax
comp=Z,18nm,1.7s
GNI Garni 122.99 309 PFAKE 19 10 10.0 +10
GNI LR LR
comp=Z,300nm,20.9s
LGNH Løogne 123.14 77 PFAKE 19 10 10.0 +9.0
LGNH LR LR
comp=Z,500nm,21.5s
LPSR Galich'ya Gora 123.30 325 *e*PKIKP **PKPdf 19 09 59.9 -0.4**
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR pmax pmax
comp=N,2.0nm,0.6s
LPSR pmax pmax
comp=E,10.0nm,1.4s
PKME Peaks-Kenny Pk 123.50 45 PFAKE 19 10 10.0 +9.1
PKME LR LR
comp=Z,800nm,19.0s
OBN Obninsk 123.51 328*d i*PKIKP **PKPdf 19 09 59.9 -0.7**
OBN *i* 19 11 44.5
OBN *e* 19 17 12.4
OBN pmax pmax
comp=Z,45nm,1.7s
RAYN Ar Rayn 123.65 289 *e*PKPdf **PKPdf 19 10 01.8 -0.2**
RAYN LR LR
comp=Z,500nm,19.2s
SUR Sutherland 123.66 215 PFAKE 19 10 10.0 +8.0
SUR LR LR
comp=Z,1µm,18.9s
KIV Kislovodsk 123.68 314 *e*P **Pdif 19 06 32.7 -1.6**
KIV *i* 19 10 00.6
KIV *e* 19 11 43.1
KIV *e* 19 16 58.5
KIV *e*PS **PS 19 21 41.6 -0.8**
KIV *e*SS SS 19 28 29.6 -0.3
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,296nm,20.0s
BOSA Boshof 123.69 221 PKP **PKPdf 19 10 01.1 -1.0**
comp=Z,4.1nm,0.7s,baz=113,slow=3.5,SNR=6.9
BOSA SKP 19 13 36.5
comp=Z,8.7nm,1.1s,baz=207,slow=2.3,SNR=4.3
BOSA Boshof 123.69 221 PKIKP **PKPdf 19 10 01.1 -1.0**
BOSA MLR MLR
comp=Z,1µm,21.2s
BOSA Boshof 123.69 221 PKP **PKPdf 19 10 01.1 -1.0**
BOSA SKP 19 13 36.5
BOSA LR LR
comp=Z,1µm,21.2s
VSR Storozhevoye 123.70 323 *e*PKIKP **PKPdf 19 09 59.9 -1.2**
VSR pmax pmax
comp=Z,20nm,1.4s
VSR pmax pmax
comp=N,7.0nm,1.5s
VSR pmax pmax
comp=E,7.0nm,0.8s
VORD Divnogorie 123.72 323 *e*PKIKP **PKPdf 19 09 59.3 -1.9**
VORD pmax pmax
comp=Z,8.0nm,0.9s
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,50nm,0.6s
SDV Santo Domingo 123.78 88 *e*P **PKPdf 19 10 01.0 -1.6**
SDV LR LR
comp=Z,700nm,18.0s
DAMY Dhamar 124.08 278 PFAKE 19 10 20.0 +17
DAMY LR LR
comp=Z,500nm,18.0s
SDDR Presa de Saban 124.42 76 PFAKE 19 10 20.0 +16
SDDR LR LR
comp=Z,500nm,21.8s
FINES FINESS Array B 124.56 338 PKP **PKPdf 19 10 01.1 -1.4**
comp=Z,2.9nm,0.5s,baz=35,slow=1.4,SNR=19
FINES SKP 19 13 37.4
comp=Z,12nm,1.2s,baz=186,slow=1.9,SNR=5.3
GRTK Grand Turk 124.70 73 PFAKE 19 10 20.0 +16
GRTK LR LR
comp=Z,500nm,19.8s
SAML Samuel 125.70 112 PFAKE 19 10 20.0 +14
SAML LR LR
comp=Z,200nm,19.4s
LBTB Lobatse 125.87 225 PFAKE 19 10 20.0 +14
LBTB LR LR
comp=Z,1µm,19.1s
ANN Anapa 127.05 316 *i*PKIKP **PKPdf 19 10 03.9 -3.8**
ANN *e* 19 12 10.9
ANN *e*PPP PPP 19 14 46.5
ANN *e* 19 17 07.4
ANN *e*SS SS 19 29 06.3 -5.4
ANN pmax pmax
comp=Z,43nm,1.8s
ANN MLR MLR
comp=Z,541nm,25.0s
ANN MLR MLR
comp=N,382nm,25.0s
ANN MLR MLR
comp=E,639nm,25.0s
KMBO Kilima Mbogo 127.68 258 PKP **PKPdf 19 10 10.9 +0.7**
comp=E,2.5nm,0.8s,baz=38,slow=1.5,SNR=5.3
KMBO Kilima Mbogo 127.68 258 *i*PKIKP **PKPdf 19 10 11.3 +1.1**
KMBO pmax pmax
comp=Z,3.0nm,0.7s
IDID Didziasalis 128.18 332 *e*P **PKPdf 19 10 08.8 -0.8**
IDID IAmb IAmb 19 10 10.4
comp=Z,14nm,1.3s
ISAL Salakas 128.30 333 *e*P **PKPdf 19 10 09.1 -0.7**
AGP Aguadilla 128.31 77 PFAKE 19 10 20.0 +9.1
AGP LR LR
comp=Z,600nm,21.8s
CRPR Cabo Rojo, PR 128.31 78 PFAKE 19 10 20.0 +9.1
CRPR LR LR
comp=Z,300nm,20.3s
IIGN Ignalina 128.39 332 *e*P **PKPdf 19 10 09.3 -0.7**
IIGN IAmb IAmb 19 10 10.9
comp=Z,17nm,1.3s
NB2 NORSAR Subarra129.49 345 PKPdf **PKPdf 19 10 10.5 -1.5**
comp=Z,14nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra129.49 345 PKPdf **PKPdf 19 10 10.5 -1.5**
baz=31,slow=1.9
NOA NORSAR Array B129.49 345 PKP **PKPdf 19 10 11.1 -0.9**
comp=Z,2.5nm,0.6s,baz=34,slow=2.0,SNR=12
NOA SKPbc SKPbc 19 13 32.3 +1.4
comp=Z,9.4nm,0.9s,baz=32,slow=3.0,SNR=14
AKASG Malin Array Be 129.54 326 PKP **PKPdf 19 10 11.2 -1.1**
comp=Z,2.5nm,0.7s,baz=57,slow=1.8,SNR=21
AKASG PP **PP 19 12 21.3 -1.0**
comp=Z,0.1nm,0.3s,baz=46,slow=6.8,SNR=5.2
AKASG SKPbc SKPbc 19 13 32.6 +1.2
comp=Z,2.7nm,0.8s,baz=45,slow=3.6,SNR=12
KIEV Kiev 129.56 326*i*PKIKP **PKPdf 19 10 10.7 -1.6**
KIEV Kiev 129.56 326 *e*PKPdf **PKPdf 19 10 10.4 -2.0**
AK02 Malin Array Si 129.58 326 *e*P **PKPdf 19 10 12.1 -0.3**
LSZ Lusaka 129.76 236 *e*PKIKP **PKPdf 19 10 13.3 -0.7**
LSZ Lusaka 129.76 236 *e*P **PKPdf 19 10 13.3 -0.7**
SUW Suwalki 130.61 332 *e*PKP **PKPdf 19 10 13.3 -0.9**
SUW *e* 19 13 36.9
SUW Suwalki 130.61 332 *e*PKIKP **PKPdf 19 10 13.3 -0.9**
KONO Kongsberg 131.10 345 *e*SKPbc **SKPab 19 13 38.0 +1.0**
BRTR Keskin Array B 131.36 311 PKP **PKPdf 19 10 14.6 -1.7**
comp=Z,2.8nm,1.1s,baz=73,slow=1.7,SNR=6.2
BRTR SKPbc **SKPab 19 13 40.5 +1.4**
comp=Z,13nm,1.1s,baz=95,slow=1.4,SNR=23
KIS Kishinev 131.64 322 *i*P **SKPab 19 13 40.0 +0.3**
comp=Z,200nm,1.3s
KIS Kishinev 131.64 322 *e* 19 41 44.0
KIS LRM MLR 20 07 45.0
comp=Z,300nm,20.0s
TLCR 132.50 320∬*i*P **SKPab 19 13 44.8 +1.3**
CFR Carcaliu 132.93 320∬*i*P **SKPab 19 13 46.0 +0.7**
CSS Prodhromos 132.96 305 P **SKPab 19 13 44.2 -1.7**
CSS Prodhromos 132.96 305 *e*SKPbc **SKPbc 19 13 45.1 +0.9**
TIRR Tirgusor 133.10 319∬*i*P **SKPab 19 13 47.9 +1.9**
TIRR Tirgusor 133.10 319 *e*SKPbc **SKPab 19 13 46.7 +0.7**
BEL Belsk 133.13 331 *e*PKP **PKPdf 19 10 20.6 +1.5**
BEL *e* 19 13 46.6
BEL Belsk 133.13 331 *e*PKIKP **PKPdf 19 10 20.7 +1.6**
TESR Tescani 133.18 322∬*i*P **SKPab 19 13 47.0 +0.6**
BSD Bornholm Skovb 133.20 338*i*P **SKPab 19 13 45.8 -0.3**
comp=Z,49nm,1.1s
TLB Topaliu 133.27 319∬*i*P **SKPab 19 13 47.9 +1.1**
BUR08 Bucovina Ar. S 133.41 324 *e*P **PKPdf 19 10 21.0 +1.0**
BURAR Bucovina Array 133.42 324∬*i*P **SKPab 19 13 48.7 +1.2**
VRI Vrincioaia 133.46 322∬*i*P **SKPab 19 13 48.3 +0.7**
PLOR Plostina 133.51 322∬*i*P **SKPab 19 13 48.4 +0.5**
KWP Kalwaria Pacla 133.60 328 *e*PKP **PKPdf 19 10 21.2 +1.2**
KWP Kalwaria Pacla 133.60 328 *e*PKIKP **PKPdf 19 10 21.3 +1.2**
MSAB Monastry St. A 133.64 319∬*i*P **SKPab 19 13 48.7 +0.3**
PGOR Pogoanele 133.78 320∬*i*P **SKPab 19 13 50.4 +1.4**
MLR Muntele Rosu 134.12 322∬*i*P **SKPab 19 13 49.9 -0.8**
ISK Istanbul-Kandi 134.14 315 P **SKPab 19 13 48.9 -1.8**
ALT Altintas 134.16 312 P **SKPab 19 13 49.0 -2.0**
DOPR Dopca 134.21 322∬*i*P **SKPab 19 13 50.9 0.0**
KOLS Kolonicke sedl 134.25 328 *e*PKIKP **PKPdf 19 10 20.9 -0.4**
KOLS Kolonicke sedl 134.25 328 *e*PKP **PKPdf 19 10 20.9 -0.4**
KOLS *e*SKPpB **SKPab 19 13 50.5 -0.5**
SECR 134.28 321∬*i*P **SKPab 19 13 51.5 +0.3**
ISP Isparta 134.28 310 P **SKPab 19 13 48.7 -2.9**
STHS Stebnicka Huta 134.48 329 *e*PKIKP **PKPdf 19 10 22.3 +0.5**
STHS Stebnicka Huta 134.48 329 *e*PKP **PKPdf 19 10 22.3 +0.5**
STHS *e*SKPpB **SKPab 19 13 51.8 -0.2**
TRPA Tarpa 134.60 326∬*i*P **SKPab 19 13 51.9 -0.5**
TRPA Tarpa 134.60 326 *e*SKPbc **SKPab 19 13 51.5 -0.9**
OJC Ojcow 134.67 330 *e*Pg PKPpre 19 10 02.8
OJC Ojcow 134.67 330 *e*PKHKP PKPpre 19 10 02.8
OJC Ojcow 134.67 330 *e*SKPbc **SKPbc 19 13 51.0 +1.7**
VOIR 134.69 322∬*i*P **SKPab 19 13 52.6 -0.5**
CJR Cluj-Napoca 134.84 324∬*i*P **SKPab 19 13 52.5 -1.2**
NIE Niedzica 134.95 329 *e*PKP **PKPdf 19 10 22.3 -0.3**
NIE *e* 19 13 53.1
NIE Niedzica 134.95 329 *e*PKIKP **PKPdf 19 10 22.3 -0.3**
ARR Arges 134.97 322∬*i*P **SKPab 19 13 53.9 -0.4**
BDFB Brasilia 135.03 129 SKPbc **SKPbc 19 13 51.9 +0.2**
comp=Z,4.0nm,0.9s,baz=232,slow=3.8,SNR=3.9
TSUM Tsumeb 135.25 224 *e*SKPbc **SKPab 19 13 55.9 -0.5**
DRGR 135.29 325∬*i*P **SKPab 19 13 54.0 -1.7**
KULA Kula-Manisa 135.41 312 P **SKPab 19 13 53.5 -3.0**
LOT Lotru 135.44 323∬*i*P SKPab 19 13 46.7 -10
KECS Kecovo 135.46 328 *e*PKIKP **PKPdf 19 10 23.4 -0.2**
KECS Kecovo 135.46 328 *e*PKP **PKPdf 19 10 23.4 -0.2**
KECS *e*SKPDF 19 13 54.8
OKC Ostrava-Krasne 135.72 331 *e*PP PP 19 13 03.1 +1.4
OKC *e*SKP 19 13 55.0
OKC AMS AMS 20 08 00.0
comp=Z,400nm,21.8s
BSEG Bad Segeberg 135.75 340 *e*PKPdf **PKPdf 19 10 23.9 0.0**
BSEG *e*PP **SKPab 19 13 54.6 -2.6**
KSP Ksiaz 135.85 333 *e*PKP **PKPdf 19 10 24.0 -0.2**
KSP *e* 19 13 55.6
KSP Ksiaz 135.85 333 *e*PKIKP **PKPdf 19 10 24.0 -0.2**
GZR Gura Zlata 136.06 323∬*i*P **SKPab 19 13 56.3 -2.8**
PSZ Piszkesteto 136.12 328 *e*PKIKP **PKPdf 19 10 24.8 -0.2**
PSZ Piszkesteto 136.12 328 *e*PKPdf **PKPdf 19 10 24.8 -0.2**
PSZ *e*SKPbc **SKPbc 19 13 56.3 +2.2**
PSZ Piszkesteto 136.12 328∬*e*PKPdf **PKPdf 19 10 24.2 -0.7**
PSZ *e*SKPbc **SKPbc 19 13 56.3 +2.2**
DPC Dobruska-Polom 136.19 333 *e*PKPdf **PKPdf 19 10 24.3 -0.7**
DPC *e*PP **PP 19 13 04.2 -0.5**
DPC *e*SKP 19 13 56.6
DPC AMS AMS 20 15 30.0
comp=Z,400nm,18.2s
DPC Dobruska-Polom 136.19 333 *e*PKIKP **PKPdf 19 10 24.3 -0.7**
DPC *e* 19 13 04.2
DPC MLR MLR
comp=Z,400nm,18.2s
UPC Upice 136.22 333 *e*PKPdf **PKPdf 19 10 24.8 -0.1**
UPC *e*SKP 19 13 56.5
UPC Upice 136.22 333 *e*PKIKP **PKPdf 19 10 24.8 -0.1**
ALN Alexandroupoli 136.27 316 *e*P **SKPdf 19 13 57.4 -0.1**
BZS Buzias 136.60 324∬*i*P **SKPdf 19 13 57.6 -0.4**
SMTH Samothraki Isl 136.81 316 *e*P **SKPdf 19 13 57.0 -1.5**
PVCC Panska Ves 136.83 334 *e*PKPdf **PKPdf 19 10 25.8 -0.3**
PVCC AMS AMS 20 17 50.0
comp=Z,600nm,20.7s
PVCC Panska Ves 136.83 334 *e*PKIKP **PKPdf 19 10 25.8 -0.3**
PVCC MLR MLR
comp=Z,600nm,20.7s
BRG Berggiesshubel 136.83 335 *e*PKP **PKPdf 19 10 25.0 -1.0**
comp=Z,12nm,1.4s
BRG *i* SKP 19 13 57.8
comp=Z,52nm,1.2s
comp=N,201nm,17.9s
comp=E,433nm,19.2s
comp=Z,314nm,19.9s
BRG Berggiesshubel 136.83 335 *e*PKPdf **PKPdf 19 10 25.0 -1.0**
BRG *e*PP **SKPdf 19 13 57.8 -0.4**
BRG Berggiesshubel 136.83 335 *e*PKIKP **PKPdf 19 10 25.0 -1.0**
BRG pmax pmax
comp=Z,12nm,1.4s
BRG MLR MLR
comp=E,201nm,19.2s
BRG MLR MLR
comp=Z,433nm,19.9s
PRK Paraskevi 136.83 314 P **SKPdf 19 13 57.7 -0.9**
PRK Paraskevi 136.83 314 *e*P **SKPdf 19 13 57.5 -1.1**
BUD Budapest 136.85 328∬*e*PKPdf **PKPdf 19 10 27.4 +1.2**
BUD *e*SKPbc **SKPbc 19 13 58.3 +2.2**
CLL Collm 136.88 336 *e*PKPdf **PKPdf 19 10 25.9 -0.2**
CLL *e*PP **SKPdf 19 13 57.8 -0.5**
CLL Collm 136.88 336 *e*PKPdf **PKPdf 19 10 25.0 -1.1**
comp=Z,6.0nm,0.8s
CLL *i* SKPbc **SKPbc 19 13 57.4 +1.3**
comp=Z,37nm,1.1s
CLL *i* PKSbc **PKSbc 19 14 02.4 +2.4**
CLL *i* SKPab **SKPab 19 14 06.0 +3.6**
CLL *e*PPS PPS 19 25 18.0
CLL *e*SS SS 19 31 24.0 +14
CLL *e* 19 32 54.0
CLL LmV 20 27 00.0
comp=Z,300nm,18.8s
CLL Collm 136.88 336 *e*PKIKP **PKPdf 19 10 25.0 -1.1**
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL MLR MLR
comp=Z,300nm,18.8s
CLL Collm 136.88 336 *e*SKPbc **SKPbc 19 13 58.2 +2.1**
SMOL Smolenice 136.97 330 *e*SKPDF **SKPdf 19 13 59.0 +0.4**
NRDL Niedersach Rie 137.01 339 *e*PKPdf **PKPdf 19 10 26.9 +0.7**
NRDL *e*PP **SKPdf 19 13 58.7 +0.3**
SMG Samos 137.05 311 P **SKPdf 19 13 57.3 -1.8**
SMG Samos 137.05 311 *e*P **SKPdf 19 13 58.9 -0.2**
SIGR SIGRI 137.14 314 *e*P **SKPdf 19 13 58.8 -0.3**
GOPC GO Pecny, Ondr 137.19 333 *e*PKPdf **PKPdf 19 10 26.1 -0.7**
GOPC *e*SKP 19 13 59.2
GOPC *ex* x 19 14 06.4
GOPC AMS AMS 20 13 20.0
comp=Z,500nm,21.1s
PRA Prague 137.23 334 *e*SKP **SKPdf 19 13 59.6 +0.7**
PKSG 137.24 328∬*e*SKPbc **SKPbc 19 13 59.7 +2.4**
PRU Pruhonice 137.24 334 *e*PKPdf **PKPdf 19 10 26.2 -0.6**
PRU *e*SKP 19 13 59.4
PRU *ex* x 19 14 06.4
PRU AMS AMS 20 19 00.0
comp=Z,500nm,18.8s
PRU Pruhonice 137.24 334 *e*PKIKP **PKPdf 19 10 26.2 -0.6**
PRU MLR MLR
comp=Z,500nm,18.8s
LIA Limnos Island 137.31 315 P **SKPbc 19 13 57.4 -0.3**
VTS Vitosha 137.31 319∬*i*P **SKPdf 19 14 00.1 +0.5**
TREC Trest 137.33 332 *e*SKP **SKPdf 19 13 59.7 +0.5**
TREC AMS AMS 20 16 50.0
comp=Z,500nm,18.0s
CHOS Chios Island 137.34 313 P **SKPbc 19 13 53.7 -4.3**
PKS2 Kecel 137.39 327 *e*SKPbc **SKPbc 19 13 59.7 +2.0**
CLZ Clausthal 137.45 338 *e*PKPdf **PKPdf 19 10 26.8 -0.4**
CLZ *e*PP **SKPdf 19 14 00.1 +0.7**
MMB Musomiste 137.48 318∬*i*P **SKPdf 19 14 00.1 +0.3**
PKST T"s 137.51 328∬*e*SKPbc **SKPbc 19 14 00.1 +2.0**
NVR Nevrokopi 137.51 318 P **SKPdf 19 13 57.9 -1.9**
NVR Nevrokopi 137.51 318 *e*P **SKPdf 19 13 58.8 -1.0**
TANN Tannenbergstha 137.79 335 *e*PKPdf **PKPdf 19 10 27.4 -0.5**
TANN *e*PP **SKPdf 19 14 01.0 +1.0**
SRS Serrai 137.81 317 P **SKPdf 19 13 57.8 -2.5**
PKS9 Tamasi 137.82 327 *e*SKPbc **SKPbc 19 14 01.2 +2.2**
PKSM Moragy 137.87 327∬*e*PKPdf **PKPdf 19 10 27.5 -0.6**
PKSM *e*SKPbc **SKPbc 19 14 01.0 +1.8**
NKC Novy Kostel 137.94 335 *e*SKP **SKPdf 19 14 01.5 +1.2**
NKC *ex* x 19 14 08.7
NKC AMS AMS 20 12 50.0
comp=Z,300nm,20.0s
MOX Moxa 137.94 336 *e*PKPdf **PKPdf 19 10 27.4 -0.7**
MOX *e*PP **SKPdf 19 14 01.0 +0.8**
IBBN Ibbenburen 137.95 341 *e*PKPdf **PKPdf 19 10 27.6 -0.4**
IBBN *e*PP **SKPdf 19 14 01.3 +1.2**
SOP Sopron 137.96 330∬*e*PKPdf **PKPdf 19 10 27.7 -0.5**
SOP *e*SKPbc **SKPbc 19 14 01.6 +2.2**
CONA Conrad Observa 138.13 330∬*i*PKPdf **PKPdf 19 10 27.7 -1.0**
comp=Z,20nm,1.4s,SNR=6.4
CONA *i* SKPdf **SKiKP 19 14 02.6 -1.4**
comp=Z,45nm,1.2s,SNR=13
APE Apeiranthos 138.26 311 *e*P **PKSab 19 14 16.1 +2.7**
KHC Kasperske Hory 138.30 333 *e*PKPdf **PKPdf 19 10 28.2 -0.7**
KHC *e*pPKP **pPKPdf 19 10 41.5 +0.3**
KHC *ex* x 19 12 57.6
KHC *e*SKP 19 14 02.5
KHC *ex* x 19 14 09.5
KHC AMS AMS 20 17 20.0
comp=Z,500nm,19.7s
KHC Kasperske Hory 138.30 333 *e*PKIKP **PKPdf 19 10 29.2 +0.3**
KHC Kasperske Hory 138.30 333 *e*PKPdf **PKPdf 19 10 29.1 +0.3**
KHC *e*SKPbc **SKPbc 19 14 02.4 +2.0**
PAIG Paliouri 138.32 316 *e*P **SKPbc 19 13 57.7 -3.0**
ROTZ Rotzenmuhle 138.40 335 *e*PKPdf **PKPdf 19 10 28.3 -0.7**
ROTZ *e*PP **SKPdf 19 14 02.8 +1.7**
UBBA Unterbreizbach 138.42 338 *e*PKPdf **PKPdf 19 10 28.9 +0.1**
UBBA *e*PP **SKPdf 19 14 02.5 +1.6**
DIVS Divibare 138.42 323 P **SKPdf 19 14 02.1 +0.7**
DIVS Divibare 138.42 323∬*i*P **SKPdf 19 14 03.3 +1.9**
GEC2 GERESS Array S 138.46 333 *e*PKPdf **PKPdf 19 10 28.5 -0.8**
GEC2 *e*PP **SKPdf 19 14 02.8 +1.5**
GEC2 GERESS Array S 138.46 333 *e*PKIKP **PKPdf 19 10 28.9 -0.4**
GEC2 GERESS Array S 138.46 333 *e*PKPdf **PKPdf 19 10 28.9 -0.4**
GEC2 *e*SKPbc **SKPbc 19 14 02.7 +1.7**
GERES GERESS Array B 138.46 333 PKhKP PKPpre 19 10 19.9
comp=Z,0.6nm,0.7s,baz=7.8,slow=7.9,SNR=3.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GERES				PKP	PKPdf	19 10 28.8	-0.4
	comp=Z,3.9nm,1.0s,baz=90,slow=1.9,SNR=12						
GERES				SKPbc	SKPbc	19 14 03.0	+2.1
	comp=Z,21nm,1.0s,baz=35,slow=3.3,SNR=45						
WET	Wettzell	138.59	334	ePKPdf	PKPdf	19 10 28.7	-0.7
WET				ePP	SKPdf	19 14 03.2	+1.7
BEHE	Becsehely	138.68	328⇑	ePKPdf	PKPdf	19 10 30.7	+1.1
SKO	Skopje	138.75	320	P	SKPdf	19 14 02.9	+1.0
BUG	Bochum--Univer	138.85	340	ePKPdf	PKPdf	19 10 29.4	-0.3
BUG				ePP	SKPdf	19 14 04.0	+2.3
GRF	Grafenberg Arr	138.85	336	ePP	SKPbc	19 14 03.7	+1.8
NPS	Neapolis	138.88	308	eP	SKPdf	19 14 05.1	+2.7
LAST	Lasithi	139.02	308	eP	SKPdf	19 14 02.7	0.0
LIT	Litokhoron	139.04	317	P	SKPdf	19 14 03.0	+0.5
PTL	Penteli	139.05	313	eP	SKPdf	19 14 03.3	+0.7
PERS	Pernice	139.40	330	i PKPbc	PKPdf	19 10 31.8	+0.8
PERS				i		19 14 04.4	
SOKA	Soboth	139.41	330	i SKPbc	SKPbc	19 14 05.2	+1.6
	SNR=6.8						
FNA	Florina	139.42	318	P	SKPdf	19 14 03.6	+0.4
FNA	Florina	139.42	318	eP	SKPdf	19 14 05.2	+2.0
TNS	Taunus Mts	139.47	338	ePP	SKPbc	19 14 05.6	+2.0
AGG	Agios Georgios	139.67	315	P	SKPdf	19 14 04.2	+0.5
AGG	Agios Georgios	139.67	315	eP	SKPdf	19 14 04.8	+1.1
RJOB	Jochberg	139.69	333	ePP	SKPbc	19 14 05.8	+1.5
DID	Didima	139.73	313	eP	SKPdf	19 14 04.7	+0.9
NEST	Nestorio	139.83	318	eP	SKPdf	19 14 06.4	+2.4
MEM	Membach	139.97	341	PKP	PKPdf	19 10 33.2	+1.4
MEM	Membach	139.97	341	SKPbc	SKiKP	19 14 06.8	-0.7
MEM	Membach	139.97	341	ePKIKP	PKPdf	19 10 32.0	+0.2
MEM	Membach	139.97	341	ePKPdf	PKPdf	19 10 32.0	+0.2
MEM				eSKPbc	SKiKP	19 14 07.1	-0.5
FUR	Furstenfeldbru	140.03	334	ePKPdf	PKPdf	19 10 30.5	-1.5
FUR				ePP	SKPbc	19 14 07.2	+2.1
LJU	Ljubljana	140.10	329	ePKPbc	PKPdf	19 10 32.0	-0.2
BOJS	Bojanci	140.12	328	i PKPdf	PKPdf	19 10 24.9	-7.3
BOJS				ePKPbc	PKiKP	19 10 32.0	-2.7
BOJS				e		19 14 07.0	
VISS	Visnje	140.12	329	i PKPdf	PKPdf	19 10 24.8	-7.5
VISS				i		19 10 31.7	
VISS				e		19 14 06.9	
GUR	Goura	140.17	314	eP	SKPbc	19 14 07.1	+1.1
KLV	Kalavryta, Ach	140.26	314	eP	SKPbc	19 14 07.6	+1.4
JAN	Janina	140.35	317	eP	SKPbc	19 14 08.0	+1.7
BCLA	Clavier	140.36	341	PKP	PKPdf	19 10 33.6	+1.0
BCLA				SKPbc	SKiKP	19 14 08.2	-0.2
STU	Stuttgart	140.39	336	ePP	SKPbc	19 14 08.1	+2.0
JAVS	Javornik	140.44	330	i PKPdf	PKPdf	19 10 25.1	-7.9
JAVS				i PKPbc	PKiKP	19 10 31.3	-4.2
JAVS				e		19 14 06.8	
ABTA	Abfaltersbach	140.56	332⇓	i SKPbc	SKPbc	19 14 05.2	-1.4
	comp=Z,22nm,1.2s,SNR=5.4						
WTTA	Wattenberg	140.56	333	i PKPdf	PKPdf	19 10 32.7	-0.5
	SNR=8.1						
WTTA				i SKPbc	SKiKP	19 14 08.8	-0.4
	comp=Z,32nm,1.3s,SNR=6.1						
PDO	Prodromos	140.66	315	P	SKiKP	19 14 08.4	-1.0
PDO	Prodromos	140.66	315	eP	SKiKP	19 14 08.9	-0.5
RLS	Riolos of Patr	140.72	315	eP	SKiKP	19 14 09.1	-0.4
MOTA	Moosalm	140.73	334	i SKPbc	SKiKP	19 14 08.8	-0.6
	comp=Z,23nm,1.0s,SNR=8.5						
LANF	Langenberg	140.74	338	PKP	PKPdf	19 10 33.0	-0.3
WLF	Walferdange	140.74	340	PKP	PKPdf	19 10 35.6	+2.3
WLF				SKPbc	SKiKP	19 14 09.7	+0.5
WLF	Walferdange	140.74	340	ePKPdf	PKPdf	19 10 34.5	+1.3
WLF				ePP	SKPbc	19 14 09.4	+2.5
WLF	Walferdange	140.74	340	ePKIKP	PKPdf	19 10 36.0	+2.8
WLF	Walferdange	140.74	340	ePKPdf	PKPdf	19 10 36.0	+2.8
WLF				eSKPbc	SKiKP	19 14 09.1	-0.1
IGT	Igoumenitsa	140.76	317	eP	SKiKP	19 14 08.4	-1.2
SGD	Sagiada	140.78	317	P	SKiKP	19 14 07.2	-2.4
SGD	Sagiada	140.78	317	eP	SKiKP	19 14 09.0	-0.6
ITM	Ithomi	140.81	313	eP	SKiKP	19 14 08.2	-1.6
DOU	Dourbes	140.86	342	SKPbc	SKiKP	19 14 09.3	-0.1
LKD2	Lefkada island	140.92	316	eP	SKiKP	19 14 09.2	-0.8
KEK	Kerkira	141.01	318	eP	SKiKP	19 14 09.5	-0.6
BFO	Black Forest	141.08	337	ePKPdf	PKPdf	19 10 35.7	+1.7
BFO				ePP	SKPbc	19 14 09.1	+1.2
BFO				eSS	SS	19 30 51.0	-69
BFO	Black Forest	141.08	337	i PKHKP	PKPpre	19 10 28.3	
BFO	Black Forest	141.08	337	eSKPbc	SKiKP	19 14 09.6	-0.4
FETA	Feichten	141.15	334	i SKPbc	SKiKP	19 14 10.3	0.0
	comp=Z,25nm,1.1s,SNR=7.4						
ECH	Echery	141.62	338	PKP	PKPdf	19 10 35.0	+0.1
ECH	Echery	141.62	338	ePKIKP	PKPdf	19 10 35.2	+0.3
ECH	Echery	141.62	338	ePKPdf	PKPdf	19 10 35.2	+0.3
FUORN	Ofenpass-Fuorn	141.66	334	ePKPdf	PKPdf	19 10 29.9	-5.4
FUORN				eSKPbc	SKiKP	19 14 11.8	+0.3
MOF	Molkenrain	141.93	337	PKP	PKPdf	19 10 34.1	-1.5
THEF	They Montfort	142.03	339	PKP	PKPdf	19 10 34.3	-1.3
TUE	Stuetta	142.17	334	ePKPdf	PKPdf	19 10 30.6	-5.6
TUE				eSKPbc	SKiKP	19 14 12.8	+0.2
LOMF	Lomont	142.46	337	PKP	PKPdf	19 10 36.7	+0.2
SENIN	Lac Senin/Sane	143.09	336	ePKPdf	PKPdf	19 10 36.7	-1.2
SENIN				eSKPbc	SKiKP	19 14 15.6	+1.1
TIP	Timpagrande	143.26	319	P	SKPdf	19 13 59.4	-10
CEL	Celeste	144.35	319	ePKPdf	PKPab	19 10 37.6	-0.6
BNI	Bardonecchia	144.42	335	ePKIKP	PKPab	19 10 38.5	+0.2
BNI	Bardonecchia	144.42	335	ePKPdf	PKPab	19 10 38.5	+0.2
BNI				eSKPbc	SKiKP	19 14 18.3	+1.2
GDM	Grand'Maison	144.52	336	PKP	PKPab	19 10 38.7	0.0
GRN	Grenoble	144.63	336	PKP	PKPbc	19 10 39.4	+0.2
PLDF	La Plantade	144.79	339	PKP	PKPdf	19 10 40.6	-0.1
SURF	Saint Ours	144.83	335	PKP	PKPab	19 10 39.9	0.0
SSB	Saint Sauveur	145.06	338	PKP	PKPbc	19 10 40.3	-0.2
SSB	Saint Sauveur	145.06	338	ePKIKP	PKPbc	19 10 40.0	-0.5
SSB	Saint Sauveur	145.06	338	eP	PKPbc	19 10 40.0	-0.5
COLF	Collangettes	145.16	339	PKP	PKPbc	19 10 40.8	0.0
PYM	Petit Puy Mans	145.19	340	PKP	PKPdf	19 10 42.0	+0.6
OG26	St.-Nazaire-De	145.36	336	PKP	PKPbc	19 10 41.7	+0.2
LBL	Lubilhac	145.56	339	PKP	PKPab	19 10 43.6	+1.2
CLTB	Caltabellotta	146.45	320	ePKPdf	PKPbc	19 10 44.9	-0.2
LRDF	Laroque-de-Fa	147.81	338	PKP	PKPbc	19 10 48.1	-0.6
FILF	Fillols	148.13	337	PKP	PKPbc	19 10 49.0	-0.6
MLS	Moulis	148.30	340	PKP	PKPbc	19 10 49.4	-0.6
VALF	Valcebollere	148.46	338	PKP	PKPbc	19 10 50.2	-0.4
LABF	Labassere	148.56	341	PKP	PKPbc	19 10 49.9	-0.8
RESF	Ens	148.69	340	PKP	PKPbc	19 10 51.7	+0.6
VIEF	Viey	148.72	341	PKP	PKPbc	19 10 51.2	0.0
ATE	Arette	148.76	342	PKP	PKPbc	19 10 50.0	-1.2
LARF	Larrau	148.89	342	PKP	PKPbc	19 10 50.5	-1.0
KEST	Kesra	150.03	321	PKPbc	PKPbc	19 10 54.5	-0.1
	comp=Z,13nm,0.8s,baz=308,slow=1.9,SNR=27						
RCBR	Riachuelo	150.40	130	ePKPdf	PKPbc	19 10 56.9	+0.8
CMAH	Djebel Manchou	150.55	324	P	PKPbc	19 10 55.5	-0.3
CAEH	'Ain El Ouahch	150.76	325	P	PKPbc	19 10 56.3	0.0
ABSA	Djebel Ababsia	150.76	324	P	PKPbc	19 10 56.1	-0.3
CKFL	Kef-Lekhel	151.10	325	P	PKPbc	19 10 56.7	-0.5
CASM	Ain Smara	151.33	325	P	PKPbc	19 10 57.1	-0.6
PBRG	Braganca	151.43	350	ePKPbc	PKPbc	19 10 58.3	+0.6
PBRG	Braganca	151.43	350	ePKPbc	PKPbc	19 10 58.3	+0.6
DFRA	Djebel Bou Aff	151.46	326	P	PKPbc	19 10 58.1	+0.1
PGAV	Gavieira, Arco	151.52	352	ePKPbc	PKPbc	19 10 57.2	-0.8
PGAV	Gavieira, Arco	151.52	352	ePKPbc	PKPbc	19 10 57.2	-0.8
CTEI	Djebel Teioual	151.52	325	P	PKPbc	19 10 57.9	-0.3
PCAB	Cabril	151.73	351	ePKPbc	PKPbc	19 10 58.1	-0.3
PCAB	Cabril	151.73	351	ePKPbc	PKPbc	19 10 58.1	-0.3
POLO	Lamas de Olo	152.03	351	ePKPbc	PKPbc	19 10 58.5	-0.7
POLO	Lamas de Olo	152.03	351	ePKPbc	PKPbc	19 10 58.5	-0.7
MVO	Moncorvo	152.11	350	ePKPbc	PKPbc	19 10 58.7	-0.6
MVO	Moncorvo	152.11	350	ePKPab	PKPab	19 11 09.7	+0.9
MVO	Moncorvo	152.11	350	ePKPbc	PKPbc	19 10 58.7	-0.6
MVO	Moncorvo	152.11	350	ePKPab	PKPab	19 11 09.7	+0.9
PVRL	Vila Real	152.11	351	ePKPbc	PKPbc	19 10 58.5	-0.8
PVRL	Vila Real	152.11	351	ePKPbc	PKPbc	19 10 58.5	-0.8
PTO	Porto	152.37	352	ePKPbc	PKPbc	19 11 03.0	+3.2
PTO	Porto	152.37	352	ePKPbc	PKPbc	19 11 03.0	+3.2
PVIS	Viseu	152.69	351	ePKPbc	PKPbc	19 10 59.3	-1.3
PVIS	Viseu	152.69	351	ePKPbc	PKPbc	19 10 59.3	-1.3
ESDC	Sonseca Array	152.85	344	PKPbc	PKPbc	19 11 00.7	-0.3
	comp=Z,3.0nm,0.6s,baz=17,slow=2.3,SNR=24						
ESLA	Sonseca Array	152.85	344	eP	PKPbc	19 10 59.7	-1.3
MTE	Manteigas	152.94	350	ePKPdf	PKPbc	19 11 00.4	-0.8
MTE	Manteigas	152.94	350	ePKPdf	PKPdf	19 10 53.8	-0.1
MTE	Manteigas	152.94	350	ePKPbc	PKPbc	19 11 00.7	-0.5
MTE	Manteigas	152.94	350	ePKPab	PKPab	19 11 13.3	+1.0
MTE	Manteigas	152.94	350	ePKPdf	PKPdf	19 10 53.8	-0.1
MTE	Manteigas	152.94	350	ePKPbc	PKPbc	19 11 00.7	-0.5
MTE	Manteigas	152.94	350	ePKPab	PKPab	19 11 13.3	+1.0
PAB	San Pablo	153.07	344	ePKIKP	PKPdf	19 10 53.2	-1.0
PAB	San Pablo	153.07	344	ePKPdf	PKPdf	19 10 53.2	-1.0
PCBR	Castelo Branco	153.47	350	ePKPdf	PKPdf	19 10 54.3	-0.3
PCBR	Castelo Branco	153.47	350	ePKPbc	PKPbc	19 11 02.4	+0.1
PCBR	Castelo Branco	153.47	350	ePKPab	PKPab	19 11 15.1	+0.6
PCBR	Castelo Branco	153.47	350	ePKPdf	PKPdf	19 10 54.3	-0.3
PCBR	Castelo Branco	153.47	350	ePKPbc	PKPbc	19 11 02.4	+0.1
PCBR	Castelo Branco	153.47	350	ePKPab	PKPab	19 11 15.1	+0.6
PTOM	Tomar	153.84	351	ePKPdf	PKPdf	19 10 54.4	-0.7
PTOM	Tomar	153.84	351	ePKPbc	PKPbc	19 11 04.7	+1.6
PTOM	Tomar	153.84	351	ePKPdf	PKPdf	19 10 54.4	-0.7
PTOM	Tomar	153.84	351	ePKPbc	PKPbc	19 11 04.7	+1.6
PMRV	Marv??o	153.86	349	ePKPbc	PKPbc	19 11 03.1	-0.1
PMRV	Marv??o	153.86	349	ePKPbc	PKPbc	19 11 03.1	-0.1
PMTG	Montargil	154.35	351	ePKPdf	PKPdf	19 10 56.2	+0.3
PMTG	Montargil	154.35	351	ePKPbc	PKPbc	19 11 02.9	-1.3
PMTG	Montargil	154.35	351	ePKPdf	PKPdf	19 10 56.2	+0.3
PMTG	Montargil	154.35	351	ePKPbc	PKPbc	19 11 02.9	-1.3
PESTR	Estremoz	154.44	349	ePKPbc	PKPbc	19 11 03.8	-0.6
PESTR	Estremoz	154.44	349	ePKPbc	PKPbc	19 11 03.8	-0.6
EVO	Evora	154.84	350	ePKPdf	PKPdf	19 10 58.0	+1.4
EVO	Evora	154.84	350	ePKPbc	PKPbc	19 11 06.1	+0.9
EVO	Evora	154.84	350	ePKPab	PKPab	19 11 21.7	+1.4
EVO	Evora	154.84	350	ePKPdf	PKPdf	19 10 58.0	+1.4
EVO	Evora	154.84	350	ePKPbc	PKPbc	19 11 06.1	+0.9
EVO	Evora	154.84	350	ePKPab	PKPab	19 11 21.7	+1.4
PBAR	Barrancos	155.00	348	ePKPbc		19 11 04.4	
PBAR	Barrancos	155.00	348	ePKPab	PKPab	19 11 21.4	+0.4
PBAR	Barrancos	155.00	348	ePKPbc		19 11 04.4	
PBAR	Barrancos	155.00	348	ePKPab	PKPab	19 11 21.4	+0.4
PNCL	Nicolau / Gran	155.33	351	ePKPdf	PKPdf	19 10 56.9	-0.4
PNCL	Nicolau / Gran	155.33	351	ePKPbc	PKPbc	19 11 07.2	
PNCL	Nicolau / Gran	155.33	351	ePKPdf	PKPdf	19 10 56.9	-0.4
PNCL	Nicolau / Gran	155.33	351	ePKPbc	PKPbc	19 11 07.2	
MESJ	Messejana	155.55	350	ePKPdf	PKPdf	19 10 57.4	-0.2
MESJ				i P	PKPab	19 11 07.5	-16
MESJ	Messejana	155.55	350	ePKPab	PKPab	19 11 24.6	+1.3
MESJ	Messejana	155.55	350	ePKPdf	PKPdf	19 10 57.4	-0.2
MESJ				i P	PKPab	19 11 07.5	-16
MESJ	Messejana	155.55	350	ePKPab	PKPab	19 11 24.6	+1.3
PCVE	Castro Verde	155.72	350	ePKPdf	PKPdf	19 10 56.9	-0.9
PCVE				i P	PKPab	19 11 08.8	-15
PCVE	Castro Verde	155.72	350	ePKPab	PKPab	19 11 24.8	+0.7
PCVE	Castro Verde	155.72	350	ePKPdf	PKPdf	19 10 56.9	-0.9
PCVE				i P	PKPab	19 11 08.8	-15
PCVE	Castro Verde	155.72	350	ePKPab	PKPab	19 11 24.8	+0.7
PTEO	Sao Teotonio	155.92	351	i P	PKPdf	19 11 08.8	+11
PTEO	Sao Teotonio	155.92	351	i P	PKPdf	19 11 08.8	+11
PBDV	Barranco-do-Ve	156.08	349	i P	PKPdf	19 11 11.9	+14
PBDV	Barranco-do-Ve	156.08	349	ePKPab	PKPab	19 11 26.5	+0.8
PBDV	Barranco-do-Ve	156.08	349	i P	PKPdf	19 11 11.9	+14
PBDV	Barranco-do-Ve	156.08	349	ePKPab	PKPab	19 11 26.5	+0.8
MORF	Marmelete	156.14	351	i P	PKPdf	19 11 07.2	+8.8
MORF	Marmelete	156.14	351	ePKPab	PKPab	19 11 27.6	+1.6
MORF	Marmelete	156.14	351	i P	PKPdf	19 11 07.2	+8.8
MORF	Marmelete	156.14	351	ePKPab	PKPab	19 11 27.6	+1.6
TAM	Tamanrasset	159.91	299	ePKIKP	PKPdf	19 11 03.5	-0.1
TAM	Tamanrasset	159.91	299	eP	PKPdf	19 11 03.5	-0.1
TOA0	Torodi Ar. Sit	165.29	270	ePKIKP	PKPdf	19 11 06.5	-2.4
TOA0	Torodi Ar. Sit	165.29	270	eP	PKPdf	19 11 07.2	-1.7
TORD	Torodi Ar. Bea	165.29	270	PKP	PKPdf	19 11 07.6	-1.3
	comp=Z,8.2nm,1.0s,baz=108,slow=0.9,SNR=29						
TORD				PKPab	PKPab	19 12 05.7	-1.0
	comp=Z,2.9nm,1.0s,baz=108,slow=2.5,SNR=4.1						
KIC	Kosan Boka	168.76	230	ePKIKP	PKPdf	19 11 09.6	-2.0
	comp=Z,192nm,1.7s						
LIC	Lamto	168.88	229	ePKIKP	PKPdf	19 11 09.7	-1.9
	comp=Z,72nm,1.7s						
DBIC	Dimbokro	169.04	231	PKP	PKPdf	19 11 10.1	-1.7
	comp=Z,5.9nm,0.9s,baz=38,slow=6.6,SNR=3.6						
TIC	Toumodi	169.15	230	ePKIKP	PKPdf	19 11 09.3	-2.5

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*DDA **02** 19:09:32.6, 39°.49N×28°.86E, h17km, MD3.3*
*ISK **02** 19:09:32.8, 39°.50N×28°.86E, h7km, ML3.0*
*ISCJB **02** 19:09:33.0±0.3, 39°.49N±0°.02×28°.85E±0°.02, h6km±3km, Error ellipse: s-maj=2.6km s-min=2.5km az=9.7*
*CSEM **02** 19:09:33.2±0.1, 39°.49N×28°.87E, h5km, ML3.0, Error ellipse: s-maj=1.5km s-min=1.3km az=159.0*
*THE **02** 19:09:36.5, 39°.42N×28°.87E, h31km±29km, ML2.8/6, Error ellipse: s-maj=29.0km s-min=0.9km az=121.0*
*ATH **02** 19:09:37.2, 39°.51N×28°.29E, h9km±3km, MD3.5/6*
ISC 02 19:09:33.1±0.9**, 39°.49N**±0°.01**×28°.86E**±0°.01**, h10**km±7km**, n138, σ0s.78**/197**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	Dursunbey	0.21	301	ePG	Pg	19 09 37.4	-0.2
DST				eSG	Sg	19 09 40.9	+0.2
DST	Dursunbey	0.21	301	ePg	Pg	19 09 37.4	-0.2
DST				eSg	Sg	19 09 40.9	+0.2
DURS	Dursunbey	0.32	290	i P	Pg	19 09 39.3	-0.2
DURS				i S	Sg	19 09 44.0	+0.3
DURS	Dursunbey	0.32	290	i P	Pg	19 09 39.3	-0.2
DURS				i S	Sg	19 09 44.0	+0.3
DEMI	Demirci	0.46	194	i P	Pg	19 09 42.4	+0.2
DEMI				i S	Sg	19 09 48.9	+0.6
DEMI	Demirci	0.46	194	i P	Pg	19 09 42.4	+0.2
DEMI				i S	Sg	19 09 48.9	+0.6
TVSB	Tavsanli	0.47	95	ePG	Pg	19 09 42.1	-0.2
TVSB	Tavsanli	0.47	95	ePg	Pg	19 09 42.1	-0.2
ORLT	Orhaneli	0.55	3	ePG	Pg	19 09 44.0	+0.1
ORLT	Orhaneli	0.55	3	ePg	Pg	19 09 44.0	+0.1
GDZ	Gediz	0.63	130	i P	Pg	19 09 45.1	-0.3
GDZ				i S	Sg	19 09 53.0	-0.7
GDZ	Gediz	0.63	130	i P	Pg	19 09 45.1	-0.3
GDZ				i S	Sg	19 09 53.0	-0.7
KCTX	Karacabey (Bur	0.86	334	ePG	Pg	19 09 49.9	+0.2
KCTX				eSG	Sb	19 10 01.9	+0.1
KCTX	Karacabey (Bur	0.86	334	ePg	Pg	19 09 49.9	+0.2
KCTX				eSg	Sb	19 10 01.9	+0.1
IZI	Iznik	0.97	29	ePG	Pb	19 09 52.1	+0.1
IZI	Iznik	0.97	29	ePg	Pb	19 09 52.1	+0.1
GEMT	Gemlik	0.97	15	ePG	Pg	19 09 51.9	0.0
GEMT	Gemlik	0.97	15	ePg	Pg	19 09 51.9	0.0
BALY	Balya	0.99	285	i P	Pb	19 09 52.6	+0.3
BALY				i S	Sg	19 10 05.3	+0.3
BALY	Balya	0.99	285	i P	Pb	19 09 52.6	+0.3
BALY				i S	Sg	19 10 05.3	+0.3
KULA	Kula-Manisa	0.99	189	ePG	Pg	19 09 52.1	0.0
KULA	Kula-Manisa	0.99	189	P	Pg	19 09 52.1	0.0
KULA				S	Sg	19 10 03.9	-1.1
KULA	Kula-Manisa	0.99	189	P	Pg	19 09 52.1	0.0
KULA				S	Sg	19 10 03.9	-1.1
AKHS	Akhisar	1.02	233	i P	Pb	19 09 52.9	+0.1
AKHS				i S	Sb	19 10 06.8	+0.6
AKHS	Akhisar	1.02	233	i P	Pb	19 09 52.9	+0.1
AKHS				i S	Sb	19 10 06.8	+0.6
AKS	Akhisar	1.02	233	ePG	Pb	19 09 53.2	+0.4
AKS	Akhisar	1.02	233	ePg	Pb	19 09 53.2	+0.4
MANT	Manisa	1.03	193	i P	Pg	19 09 52.9	0.0
MANT				i S	Sg	19 10 05.5	-0.8
MANT	Manisa	1.03	193	i P	Pg	19 09 52.9	0.0
MANT				i S	Sg	19 10 05.5	-0.8
CAVI	Cavuskoy	1.04	47	ePG	Pg	19 09 52.9	-0.2
CAVI	Cavuskoy	1.04	47	ePg	Pg	19 09 52.9	-0.2
ALT	Altintas	1.07	114	ePG	Pg	19 09 53.7	+0.1
ALT	Altintas	1.07	114	P	Pg	19 09 53.8	+0.1
ALT				S	Sg	19 10 07.3	-0.2
ALT	Altintas	1.07	114	ePg	Pg	19 09 53.7	+0.1
ALT				S	Sg	19 10 07.3	-0.2
ARMT	Armutlu	1.07	0	ePG	Pn	19 09 54.4	+0.2
ARMT	Armutlu	1.07	0	ePg	Pn	19 09 54.4	+0.2
EDC	Edincik	1.14	318	ePN	Pn	19 09 55.4	+0.2
EDC	Edincik	1.14	318	ePn	Pn	19 09 55.4	+0.2
ADVT	Abdulvahap	1.16	36	ePN	Pb	19 09 55.0	-0.1
ADVT	Abdulvahap	1.16	36	ePn	Pb	19 09 55.1	-0.1
KHL	Karahalli	1.28	156	ePN	Pg	19 09 57.7	0.0
KHL	Karahalli	1.28	156	ePn	Pg	19 09 57.7	0.0
BORA	Eskisehir	1.29	72	i P	Pn	19 09 56.9	-0.4
BORA				i S	Sn	19 10 14.8	+0.1
BORA	Eskisehir	1.29	72	i P	Pn	19 09 56.9	-0.4
BORA				i S	Sn	19 10 14.8	+0.1
GPA	Golpazari	1.37	54	ePN	Pb	19 09 58.9	0.0
GPA	Golpazari	1.37	54	ePn	Pb	19 09 58.9	0.0
BUY	Buyukada	1.37	8	i P	Pn	19 09 58.2	-0.1
BUY				i S	Sb	19 10 16.5	+0.1
BUY	Buyukada	1.37	8	i P	Pn	19 09 58.2	-0.1
BUY				i S	Sb	19 10 16.5	+0.1
HRT	Hereke	1.47	25	ePN	Pn	19 09 59.3	-0.4
HRT	Hereke	1.47	25	ePn	Pn	19 09 59.3	-0.4
MRMT	Marmara Adasi	1.47	319	ePN	Pb	19 10 00.4	-0.2
MRMT	Marmara Adasi	1.47	319	ePn	Pb	19 10 00.4	-0.2
KRBG	Karabiga-Canak	1.50	307	ePN	Pn	19 10 00.3	+0.2
KRBG	Karabiga-Canak	1.50	307	ePn	Pn	19 10 00.3	+0.2
ESKT	Eskisehir	1.54	88	ePN	Pn	19 10 01.4	+0.6
ESKT	Eskisehir	1.54	88	ePn	Pn	19 10 01.4	+0.6
SEYT	Eskypehyr	1.54	88	i P	Pn	19 10 01.4	+0.6
SEYT				i S	Sg	19 10 22.4	-0.3
SEYT	Eskypehyr	1.54	88	i P	Pn	19 10 01.4	+0.6
SEYT				i S	Sg	19 10 22.4	-0.3
ISK	Istanbul-Kandi	1.58	6	ePN	Pb	19 10 02.5	+0.1
ISK	Istanbul-Kandi	1.58	6	P	Pb	19 10 02.7	+0.3
ISK				S	Sb	19 10 22.3	-0.1
ISK	Istanbul-Kandi	1.58	6	ePn	Pb	19 10 02.5	+0.1
ISK				S	Sb	19 10 22.3	-0.1
GULT	Gulveren	1.58	53	ePN	Pb	19 10 02.5	0.0
GULT	Gulveren	1.58	53	ePn	Pb	19 10 02.5	0.0
SPNC	Sapanca-Adapaz	1.63	43	ePN	Pn	19 10 02.4	+0.5
SPNC	Sapanca-Adapaz	1.63	43	ePn	Pn	19 10 02.4	+0.5
IZM	Izmir	1.66	229	ePN	Pn	19 10 02.7	+0.4
IZM	Izmir	1.66	229	ePn	Pn	19 10 02.7	+0.4
ELBA	Catalca	1.68	349	i P	Pb	19 10 03.7	-0.5
ELBA				i S	Sg	19 10 27.6	+0.3
ELBA	Catalca	1.68	349	i P	Pb	19 10 03.7	-0.5
ELBA				i S	Sg	19 10 27.6	+0.3
BGKT	Bogazkoy	1.69	358	ePN	Pb	19 10 03.8	-0.4
BGKT	Bogazkoy	1.69	358	ePn	Pb	19 10 03.8	-0.4
AYVA	Ayvalik	1.69	264	i P	Pn	19 10 02.8	+0.2
AYVA				i S	Sb	19 10 26.1	+0.5
AYVA	Ayvalik	1.69	264	i P	Pn	19 10 02.8	+0.2
AYVA				i S	Sb	19 10 26.1	+0.5
AYDB	Zeytinkoy-Aydi	1.72	206	ePN	Pn	19 10 04.0	+0.8
AYDB	Zeytinkoy-Aydi	1.72	206	ePn	Pn	19 10 04.0	+0.8
RKY	Sarkoy-Tekirda	1.75	313	ePN	Pb	19 10 04.9	-0.6
RKY	Sarkoy-Tekirda	1.75	313	ePn	Pb	19 10 04.9	-0.6
SART	Tekirdag	1.75	313	i P	Pn	19 10 04.4	+0.8
SART				i S	Sn	19 10 26.5	+0.4
SART	Tekirdag	1.75	313	i P	Pn	19 10 04.4	+0.8
SART				i S	Sn	19 10 26.5	+0.4
CTKS	Kestanelik-??a	1.76	351	ePN	Pb	19 10 04.8	-0.7
CTKS	Kestanelik-??a	1.76	351	ePn	Pb	19 10 04.8	-0.7
KLYT	Kilyos	1.76	5	ePN	Pn	19 10 04.0	+0.3
KLYT	Kilyos	1.76	5	ePn	Pn	19 10 04.0	+0.3
SILT	Sile	1.76	20	ePN	Pb	19 10 04.7	-0.8
SILT	Sile	1.76	20	ePn	Pb	19 10 04.7	-0.8
BLCB	Balcova	1.80	233	ePN	Pb	19 10 05.3	-0.8
BLCB	Balcova	1.80	233	ePn	Pb	19 10 05.3	-0.8
BOLV	Bolvadin	1.80	115	i P	Pg	19 10 07.5	-0.2
BOLV				i S	Sg	19 10 32.7	+1.6
BOLV	Bolvadin	1.80	115	i P	Pg	19 10 07.5	-0.2
BOLV				i S	Sg	19 10 32.7	+1.6
SLVT	Silivri	1.80	344	ePN	Pb	19 10 05.6	-0.6
SLVT	Silivri	1.80	344	ePn	Pb	19 10 05.6	-0.6
TKR	Tekirdag	1.81	326	ePN	Pn	19 10 04.9	+0.6
TKR	Tekirdag	1.81	326	ePn	Pn	19 10 04.9	+0.6
LPK	Lapseki	1.84	299	ePN	Pb	19 10 06.1	-0.7
LPK	Lapseki	1.84	299	ePn	Pb	19 10 06.1	-0.7
EZN	Ezine	1.98	280	ePN	Pn	19 10 07.8	+1.1
EZN	Ezine	1.98	280	ePn	Pn	19 10 07.8	+1.1
PRK	Paraskevi	2.02	264	P	Pn	19 10 08.1	+0.9
PRK				S	Sn	19 10 31.6	-0.9
PRK	Paraskevi	2.02	264	ePB	Pn	19 10 07.8	+0.6
PRK				eSB	Sn	19 10 28.0	-4.5
PRK	Paraskevi	2.02	264	ePb	Pn	19 10 07.8	+0.6
PRK	Paraskevi	2.02	264	P	Pn	19 10 08.1	+0.9
PRK				S	Sn	19 10 31.6	-0.9
GELI	Tayfur-Gelibol	2.04	297	ePN	Pb	19 10 09.0	-1.3
GELI	Tayfur-Gelibol	2.04	297	ePn	Pb	19 10 09.0	-1.3
SVRH	Sivrihisar-ESK	2.06	90	ePN	Pn	19 10 08.8	+0.8
SVRH	Sivrihisar-ESK	2.06	90	ePn	Pn	19 10 08.8	+0.8
URLA	Izmir	2.10	238	i P	Pg	19 10 13.5	+0.2
URLA				i S	Sb	19 10 37.0	-0.3
URLA	Izmir	2.10	238	i P	Pg	19 10 13.5	+0.2
URLA				i S	Sb	19 10 37.0	-0.3
ERIK	Erikli-Kesan	2.15	304	ePN	Pn	19 10 10.3	+1.3
ERIK	Erikli-Kesan	2.15	304	ePn	Pn	19 10 10.3	+1.3
BOZC	Bozcaada	2.19	280	i P	Pn	19 10 10.4	+0.8
BOZC				i S	Sn	19 10 38.4	+1.6
SIGR	SIGRI	2.34	264	ePN	Pn	19 10 13.0	+1.3
SIGR	SIGRI	2.34	264	P	Pn	19 10 13.0	+1.3
SIGR				S	Sn	19 10 40.0	-0.5
SIGR	SIGRI	2.34	264	ePG	Pn	19 10 12.7	+1.0
SIGR				eSN	Sn	19 10 38.3	-2.2
SIGR	SIGRI	2.34	264	P	Pn	19 10 13.0	+1.3
SIGR				eSn	Sn	19 10 38.3	-2.2
SIGR				S	Sn	19 10 40.0	-0.5
GADA	Gvkgeada	2.38	288	ePN	Pn	19 10 13.3	+1.1
GADA	Gvkgeada	2.38	288	ePn	Pn	19 10 13.3	+1.1
SMG	Samos	2.38	222	ePN	Pb	19 10 15.3	-0.8
SMG				eSN	Sn	19 10 42.3	+0.8
SMG	Samos	2.38	222	ePn	Pb	19 10 15.3	-0.8
SMG				eSn	Sn	19 10 42.3	+0.8
ENEZ	Enez	2.42	302	ePN	Pn	19 10 13.5	+0.9
ENEZ	Enez	2.42	302	ePn	Pn	19 10 13.5	+0.9
KIZT	Kizilcal	2.43	104	ePN	Pn	19 10 13.9	+1.0
KIZT	Kizilcal	2.43	104	ePn	Pn	19 10 14.0	+1.0
CHOS	Chios island	2.45	244	ePN	Pn	19 10 14.8	+1.7
CHOS	Chios island	2.45	244	P	Pn	19 10 13.6	+0.4
CHOS				S	Sn	19 10 41.8	-1.4
CHOS	Chios island	2.45	244	ePN	Pn	19 10 13.8	+0.6
CHOS				eSN	Sn	19 10 41.8	-1.4
CHOS	Chios island	2.45	244	ePn	Pn	19 10 13.8	+0.6
CHOS				S	Sn	19 10 41.8	-1.4
ALN	Alexandroupoli	2.57	304	ePN	Pn	19 10 15.3	+0.5
ALN	Alexandroupoli	2.57	304	P	Pn	19 10 15.3	+0.5
ALN				S	Sn	19 10 46.1	0.0
ALN	Alexandroupoli	2.57	304	ePN	Pn	19 10 15.6	+0.8
ALN				eSN	Sn	19 10 44.2	-1.9
ALN	Alexandroupoli	2.57	304	P	Pn	19 10 15.3	+0.5
ALN	Alexandroupoli	2.57	304	ePn	Pn	19 10 15.6	+0.8
ALN				eSn	Sn	19 10 44.2	-1.9
ALN				S	Sn	19 10 46.1	0.0
SMTH	Samothraki Isl	2.74	292	P	Pn	19 10 17.8	+0.7
SMTH				S	Sn	19 10 50.0	-0.2
SMTH	Samothraki Isl	2.74	292	ePN	Pn	19 10 18.0	+0.9
SMTH	Samothraki Isl	2.74	292	ePn	Pn	19 10 18.0	+0.9
SMTH				S	Sn	19 10 50.0	-0.2
LIA	Limnos Island	2.86	279	P	Pn	19 10 19.8	+1.0
LIA				S	Sn	19 10 53.8	+0.5
LIA	Limnos Island	2.86	279	ePN	Pn	19 10 19.5	+0.7
LIA	Limnos Island	2.86	279	ePn	Pn	19 10 19.5	+0.7
LIA	Limnos Island	2.86	279	P	Pn	19 10 19.8	+1.0
LIA				S	Sn	19 10 53.8	+0.5

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*IDC **02** 19:10:57.0±1.4, 13°.59S×166°.62E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/36, mbtmp3.9/10, ML2.6/1, Error ellipse: s-maj=43.1km s-min=21.9km az=124.0*
*ISCJB **02** 19:11:01.0±1.0, 13°.83S±0°.07×166°.6E±0°.2, h39km, mb3.8/8, Error ellipse: s-maj=25.1km s-min=10.0km az=175.6*
ISC 02 19:11:02.5±1.1**, 13°.74S**±0°.09**×166°.6E**±0°.2**, h39**km**, n11, σ1s.18**/11**, mb3.8**/8**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.29	181	Pn	Pn	19 13 00.9	+0.5
	0.1nm,0.3s,baz=90,slow=20,SNR=23						
DZM				Sn	Sn	19 14 31.9	-0.9
	baz=90,slow=20,SNR=2.4						
CTA	Charters Tower	20.49	249	P	Pn	19 15 38.8	-0.9
	4.1nm,0.9s,baz=68,slow=15,SNR=3.7						
STKA	Stephens Creek	29.18	228	P	P	19 17 01.6	+1.2
	0.9nm,0.3s,baz=44,slow=9.2,SNR=9.6						
WRA	Warramunga Arr	31.49	254	P	P	19 17 20.1	-0.8
	0.1nm,0.5s,baz=78,slow=7.0,SNR=4.7						
ASAR	Alice Springs	32.47	247	P	P	19 17 28.9	-0.7
	0.5nm,0.6s,baz=76,slow=9.4,SNR=13						
CMAR	Chiang Mai Arr	73.99	294	P	P	19 22 35.5	+0.9
	0.8nm,0.8s,baz=120,slow=3.4,SNR=5.8						
SONM	Songino Array	81.34	324	P	P	19 23 15.5	+0.3
	0.4nm,0.8s,baz=105,slow=3.4,SNR=3.4						
ILAR	Eielson Array	85.78	18	P	P	19 23 38.2	+0.8
	1.0nm,0.5s,baz=241,slow=5.0,SNR=16						
MKAR	Makanchi Array	96.07	317	P	P	19 24 25.8	-0.2
	0.6nm,0.7s,baz=95,slow=5.2,SNR=5.4						
ZALV	Zalesovo Beam	96.23	324	P	P	19 24 24.4	-2.1
	0.4nm,0.5s,baz=100,slow=6.6,SNR=2.7						
ARCES	ARCESS Array B	119.14	345	PKP	PKPdf	19 29 45.6	-1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.0nm,0.9s,baz=85,slow=2.3,SNR=5.0						

IDC **02** *19:17:48.0±1.3, 13°.67S×166°.67E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/27, mbtmp3.6/7, ML2.7/1, Error ellipse: s-maj=50.1km s-min=24.0km az=128.0*
ISCJB **02** *19:17:51.8±1.0, 13°.9S±0°.1×166°.7E±0°.2, h39km, mb3.5/6, Error ellipse: s-maj=29.2km s-min=17.7km az=17.5*
ISC 02 19:17:53.4±1.1**, 13°.8S**±0°.1×**166°.8E**±0°.2**, h39km, n8, σ0s.80**/7**, mb3.5**/6**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.22**	**182**	Pn	**Pn**	**19 19 50.0**	**-0.2**
	0.1nm,0.3s,baz=90,slow=24,SNR=6.4						
STKA	**Stephens Creek**	**29.22**	**228**	P	**P**	**19 23 52.6**	**+1.0**
	0.7nm,0.7s,baz=84,slow=9.4,SNR=2.2						
WRA	**Warramunga Arr**	**31.57**	**254**	P	**P**	**19 24 12.4**	**-0.1**
	0.3nm,0.9s,baz=86,slow=9.7,SNR=2.7						
ASAR	**Alice Springs**	**32.54**	**248**	P	**P**	**19 24 19.9**	**-1.1**
	0.3nm,0.7s,baz=79,slow=9.0,SNR=4.4						
AIS	**Amsterdam Isla**	**81.04**	**233**	R		19 29 00.0	
ILAR	**Eielson Array**	**85.81**	**18**	P	**P**	**19 30 28.1**	**-0.3**
	0.2nm,0.6s,baz=224,slow=2.5,SNR=3.9						
MKAR	**Makanchi Array**	**96.19**	**317**	P	**P**	**19 31 17.4**	**-0.1**
	0.3nm,0.6s,baz=99,slow=6.4,SNR=2.7						
YKA	**Yellowknife Ar**	**96.97**	**27**	P	**P**	**19 31 20.8**	**+0.4**
	0.3nm,0.7s,baz=270,slow=3.5,SNR=2.9						

IDC **02** *19:29:35.5±1.5, 44°.45N×11°.31E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/25, mbtmp3.4/6, ML3.0/2, Error ellipse: s-maj=24.6km s-min=13.7km az=88.0*
VIE **02** *19:29:37.8±0.9, 44°.33N×11°.63E, h10km, mb2.5/6, ML3.3/7, Error ellipse: s-maj=11.7km s-min=4.9km az=159.0*
GEN **02** *19:29:37.8, 44°.23N×11°.63E, h7km, ML3.0*
PRU **02** *19:29:38.8, 44°.53N×11°.61E, h0km*
CSEM **02** *19:29:38.7±0.1, 44°.37N×11°.51E, h20km, ML3.2/13, Error ellipse: s-maj=2.2km s-min=2.0km az=138.0*
ISCJB **02** *19:29:38.6±0.2, 44°.36N±0°.02×11°.46E±0°.02, h31km±2km, mb3.5/4, Error ellipse: s-maj=2.8km s-min=2.2km az=155.8*
LDG **02** *19:29:39.3±0.1, 44°.34N×11°.53E, h10km, Ml3.2/21, Error ellipse: s-maj=2.0km s-min=1.9km az=14.0*
IASPEI **02** *19:29:39.4±1.1, 44°.35N±0°.02×11°.49E±0°.02, h21km±1km, mb3.5/4, Error ellipse: s-maj=3.5km s-min=3.1km az=51.4*
ROM **02** *19:29:39.2±0.2, 44°.33N×11°.51E, h21km±4km, Ml2.9/24, Error ellipse: s-maj=3.5km s-min=2.3km az=62.0*
ISC 02 19:29:39.0±0.7**, 44°.36N**±0°.02×**11°.49E**±0°.02**, h23km**±4km**, n207, σ1s.22**/282**, mb3.5**/4**, 24C-13D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTRZ	**Monterenzio**	**0.03**	**314**	Pg	**Pb**	**19 29 42.5**	**-0.5**
MTRZ				Sg	**Sb**	**19 29 46.9**	**+1.2**
MTRZ	**Monterenzio**	**0.03**	**314**	Pg	**Pb**	**19 29 42.5**	**-0.5**
MTRZ				Sg	**Sb**	**19 29 46.9**	**+1.2**
FIU	**Minerbio Fiu**	**0.28**	**360**	Pg	**Pb**	**19 29 46.2**	**+0.7**
FIU	**Minerbio Fiu**	**0.28**	**360**	Pg	**Pb**	**19 29 46.2**	**+0.7**
CMPO	**Campotto Po**	**0.32**	**45**	Pg	**Pn**	**19 29 47.3**	**-0.9**
CMPO				Sg	**Sb**	**19 29 51.5**	**+0.6**
	4μm,1.4s						
CMPO	**Campotto Po**	**0.32**	**45**	Pg	**Pn**	**19 29 47.3**	**-0.9**
CMPO				Sg	**Sb**	**19 29 51.5**	**+0.6**
	4μm,1.4s						
SEI	**Scarperia**	**0.32**	**198**	Pg	**Pb**	**19 29 45.1**	**-1.0**
SEI				Sg	**Sb**	**19 29 51.6**	**+0.6**
SEI	**Scarperia**	**0.32**	**198**	Pg	**Pb**	**19 29 45.1**	**-1.0**
SEI				Sg	**Sb**	**19 29 51.6**	**+0.6**
FNVD	**Fontana Vidola**	**0.33**	**235**	Pg	**Pb**	**19 29 45.2**	**-1.1**
FNVD				Sg	**Sb**	**19 29 51.5**	**+0.2**
FNVD	**Fontana Vidola**	**0.33**	**235**	Pg	**Pb**	**19 29 45.2**	**-1.1**
FNVD				Sg	**Sb**	**19 29 51.5**	**+0.2**
ZCCA	**Zocca**	**0.37**	**269**	Pg	**Pb**	**19 29 47.1**	**+0.1**
	394nm,0.5s						
ZCCA	**Zocca**	**0.37**	**269**	Pg	**Pb**	**19 29 47.1**	**+0.1**
	394nm,0.5s						
VMG	**Vicchio**	**0.40**	**175**	Pg	**Pb**	**19 29 46.3**	**-1.1**
VMG	**Vicchio**	**0.40**	**175**	Pg	**Pb**	**19 29 46.3**	**-1.1**
RAVA	**Ravarino**	**0.48**	**326**	Pg	**Pn**	**19 29 50.5**	**+0.1**
	2μm,0.7s						
RAVA	**Ravarino**	**0.48**	**326**	Pg	**Pn**	**19 29 50.5**	**+0.1**
	2μm,0.7s						
SFI	**Santa Sofia**	**0.52**	**150**	Pg	**Pb**	**19 29 48.6**	**-0.8**
SFI				Sg	**Sb**	**19 29 56.4**	**-0.2**
	261nm,0.6s						
SFI	**Santa Sofia**	**0.52**	**150**	Pg	**Pb**	**19 29 48.6**	**-0.8**
SFI				Sg	**Sb**	**19 29 56.4**	**-0.2**
	261nm,0.6s						
ASQU	**Asqua**	**0.60**	**159**	Pg	**Pb**	**19 29 49.9**	**-0.9**
ASQU				Sg	**Sb**	**19 29 59.2**	**+0.3**
ASQU	**Asqua**	**0.60**	**159**	Pg	**Pb**	**19 29 49.9**	**-0.9**
ASQU				Sg	**Sb**	**19 29 59.2**	**+0.3**
POPM	**Popiglio**	**0.61**	**240**	P	**Pb**	**19 29 49.8**	**-1.3**
POPM				S	**Sb**	**19 29 58.3**	**-1.0**
GSCL	**Gusciola**	**0.65**	**270**	Pg	**Pb**	**19 29 51.1**	**-0.6**
	66nm,0.4s						
GSCL	**Gusciola**	**0.65**	**270**	Pg	**Pb**	**19 29 51.1**	**-0.6**
	66nm,0.4s						
CRMI	**Carmignano**	**0.68**	**214**	Pg	**Pb**	**19 29 52.0**	**-0.2**
CRMI	**Carmignano**	**0.68**	**214**	Pg	**Pb**	**19 29 52.0**	**-0.2**
NOVE	**Novellara**	**0.71**	**309**	Pg	**Pn**	**19 29 55.2**	**+1.6**
BDI	**Bagni Di Lucca**	**0.71**	**246**	Pg	**Pb**	**19 29 52.3**	**-0.4**
BDI	**Bagni Di Lucca**	**0.71**	**246**	Pg	**Pb**	**19 29 52.3**	**-0.4**
SBPO	**S.Benedetto Po**	**0.81**	**330**	Pg	**Pn**	**19 29 56.2**	**+1.3**
SBPO	**S.Benedetto Po**	**0.81**	**330**	Pg	**Pn**	**19 29 56.2**	**+1.3**
CRE	**Caprese Michel**	**0.81**	**156**	Pg	**Pb**	**19 29 54.1**	**-0.3**
	84nm,0.5s						
CRE	**Caprese Michel**	**0.81**	**156**	Pg	**Pb**	**19 29 54.1**	**-0.3**
	84nm,0.5s						
RSM	**Repubblica di**	**0.81**	**121**	Pg	**Pn**	**19 29 56.4**	**+1.4**
	343nm,1.1s						
RSM	**Repubblica di**	**0.81**	**121**	Pg	**Pn**	**19 29 56.4**	**+1.4**
	343nm,1.1s						
VLC	**Villacollemand**	**0.82**	**256**	Pg	**Pn**	**19 29 55.2**	**+0.1**
	230nm,0.7s						
VLC	**Villacollemand**	**0.82**	**256**	Pg	**Pn**	**19 29 55.2**	**+0.1**
	230nm,0.7s						
MAIM	**Mastiano**	**0.85**	**239**	Pg	**Pn**	**19 29 55.7**	**+0.2**
	174nm,0.4s						
MAIM	**Mastiano**	**0.85**	**239**	P	**Pb**	**19 29 54.5**	**-0.5**
MAIM	**Mastiano**	**0.85**	**239**	Pg	**Pn**	**19 29 55.7**	**+0.2**
	174nm,0.4s						
PARC	**Parchiule**	**0.89**	**143**	Pg	**Pb**	**19 29 55.3**	**-0.4**
	341nm,0.7s						
PARC	**Parchiule**	**0.89**	**143**	Pg	**Pb**	**19 29 55.3**	**-0.4**
	341nm,0.7s						
VALM	**Valbona**	**0.89**	**270**	P	**Pn**	**19 29 56.2**	**0.0**
CSNT	**Castellina Chi**	**0.90**	**189**	Pg	**Pb**	**19 29 55.6**	**-0.3**
	197nm,0.5s						
CSNT	**Castellina Chi**	**0.90**	**189**	Pg	**Pb**	**19 29 55.6**	**-0.3**
	197nm,0.5s						
PRMA	**PARMA**	**0.94**	**296**	Pg	**Pn**	**19 29 58.7**	**+2.0**
	446nm,0.7s						
PRMA	**PARMA**	**0.94**	**296**	Pg	**Pn**	**19 29 58.7**	**+2.0**
	446nm,0.7s						
PII	**Pisa**	**0.94**	**228**	Pg	**Pb**	**19 29 56.3**	**-0.3**
PII	**Pisa**	**0.94**	**228**	Pg	**Pb**	**19 29 56.3**	**-0.3**
BADI	**Badiali**	**1.01**	**147**	Pg	**Pb**	**19 29 59.3**	**+1.6**
	329nm,0.7s						
BADI	**Badiali**	**1.01**	**147**	Pg	**Pb**	**19 29 59.3**	**+1.6**
	329nm,0.7s						
TEOL	**Teolo**	**1.01**	**7**	Pg	**Pn**	**19 29 57.5**	**-0.3**
	2μm,0.4s						
TEOL	**Teolo**	**1.01**	**7**	Pg	**Pn**	**19 29 57.5**	**-0.3**
	2μm,0.4s						
BACM	**Baccana**	**1.02**	**266**	P	**Pb**	**19 29 59.0**	**+1.0**
CAFI	**Castiglion Fio**	**1.08**	**161**	Pg	**Pb**	**19 29 59.0**	**0.0**
	209nm,0.5s						
CAFI	**Castiglion Fio**	**1.08**	**161**	Pg	**Pb**	**19 29 59.0**	**0.0**
	209nm,0.5s						
PIEI	**Pieia**	**1.11**	**137**	Pg	**Pb**	**19 30 00.1**	**+0.5**
	161nm,0.9s						
PIEI	**Pieia**	**1.11**	**137**	Pg	**Pb**	**19 30 00.1**	**+0.5**
	161nm,0.9s						
FSSB	**Fossombrone**	**1.14**	**125**	Pg	**Pb**	**19 30 01.2**	**+1.2**
	197nm,0.5s						
FSSB	**Fossombrone**	**1.14**	**125**	Pg	**Pb**	**19 30 01.2**	**+1.2**
	197nm,0.5s						
ATVO	**AVT- Monte Val**	**1.18**	**146**	Pg	**Pb**	**19 30 01.0**	**+0.4**
	200nm,0.7s						
ATVO	**AVT- Monte Val**	**1.18**	**146**	Pg	**Pb**	**19 30 01.0**	**+0.4**
	200nm,0.7s						
CODM	**Codolo**	**1.18**	**272**	P	**Pb**	**19 30 01.9**	**+1.3**
CODM				S	**Sb**	**19 30 17.1**	**+1.6**
GRFL	**Gerfalco**	**1.27**	**197**	Pg	**Pb**	**19 30 01.9**	**-0.3**
	30nm,0.6s						
GRFL	**Gerfalco**	**1.27**	**197**	Pg	**Pb**	**19 30 01.9**	**-0.3**
	30nm,0.6s						
MARN	**Marana (Italy)**	**1.30**	**351**	*e*Pg	**Pn**	**19 30 01.5**	**-0.2**
MARN				*e*Sg	**Sb**	**19 30 19.9**	**+1.0**
MARN	**Marana (Italy)**	**1.30**	**351**	*e*Pg	**Pn**	**19 30 01.5**	**-0.2**
MARN				*e*Sg	**Sb**	**19 30 19.8**	**+1.0**
ROVR	**Roverˆ¤ Verone**	**1.32**	**347**	Pg	**Pn**	**19 30 02.0**	**-0.2**
	622nm,0.3s						
ROVR	**Roverˆ¤ Verone**	**1.32**	**347**	Pg	**Pn**	**19 30 02.0**	**-0.2**
	622nm,0.3s						
SC2M	**Scurtabo**	**1.41**	**273**	Pg	**Pb**	**19 30 06.0**	**+1.5**
	307nm,0.4s						
MSSA	**Maissana**	**1.42**	**269**	Pg	**Pb**	**19 30 05.9**	**+1.1**
	181nm,0.6s						
MSSA	**Maissana**	**1.42**	**269**	Pg	**Pb**	**19 30 05.9**	**+1.1**
	181nm,0.6s						
ARCI	**Arcidosso**	**1.50**	**180**	Pg	**Pn**	**19 30 04.6**	**-0.1**
	60nm,0.9s						
ARCI	**Arcidosso**	**1.50**	**180**	Pg	**Pn**	**19 30 04.6**	**-0.1**
	60nm,0.9s						
MGAB	**Montegabbione**	**1.51**	**162**	Pg	**Pb**	**19 30 05.8**	**-0.5**
	231nm,0.8s						
MGAB	**Montegabbione**	**1.51**	**162**	Pg	**Pb**	**19 30 05.8**	**-0.5**
	231nm,0.8s						
BOB	**Bobbio (Coli)**	**1.52**	**286**	Pg	**Pb**	**19 30 06.8**	**+0.3**
BOB	**Bobbio (Coli)**	**1.52**	**286**	Pg	**Pb**	**19 30 06.8**	**+0.3**
DDS	**Dosso del Somm**	**1.54**	**352**	*e*Pn	**Pb**	**19 30 06.6**	**-0.2**
DDS	**Dosso del Somm**	**1.54**	**352**	*e*Pn	**Pb**	**19 30 06.6**	**-0.2**
CGRP	**Cima Grappa**	**1.54**	**8**	⇓*e*Pn	**Pn**	**19 30 04.9**	**-0.3**
CGRP				*e*Sn	**Sn**	**19 30 24.6**	**0.0**
CGRP	**Cima Grappa**	**1.54**	**8**	Pg	**Pn**	**19 30 04.8**	**-0.3**
	290nm,0.5s						
CGRP	**Cima Grappa**	**1.54**	**8**	⇓*e*Pn	**Pn**	**19 30 04.9**	**-0.3**
CGRP				*e*Sn	**Sn**	**19 30 24.5**	**0.0**
MAGA	**Magasa**	**1.54**	**337**	Pg	**Pn**	**19 30 04.7**	**-0.5**
	1μm,0.5s						
MAGA	**Magasa**	**1.54**	**337**	Pg	**Pn**	**19 30 04.7**	**-0.5**
	1μm,0.5s						
VARN	**Col Varnada, M**	**1.69**	**15**	⇓*i*Pn	**Pn**	**19 30 06.2**	**-1.0**
VARN	**Col Varnada, M**	**1.69**	**15**	⇓*i*Pn	**Pn**	**19 30 06.2**	**-1.0**
RNI	**Roncone**	**1.73**	**340**	*e*Pn	**Pn**	**19 30 07.8**	**0.0**
RNI				*e*Sn	**Sb**	**19 30 33.9**	**+2.4**
RNI	**Roncone**	**1.73**	**340**	*e*Pn	**Pn**	**19 30 07.8**	**0.0**
CAE	**Caneva**	**1.78**	**22**	⇓*i*Pn	**Pn**	**19 30 08.1**	**-0.3**
CAE	**Caneva**	**1.78**	**22**	⇓*i*Pn	**Pn**	**19 30 08.1**	**-0.3**
POLC	**Polcenigo**	**1.81**	**23**	⇓*e*Pn	**Pn**	**19 30 08.8**	**0.0**
MLNI	**Malnisio**	**1.96**	**23**	⇑*e*Pn	**Pn**	**19 30 10.4**	**-0.5**
MLNI				*e*Sn	**Sn**	**19 30 34.7**	**0.0**
MLNI	**Malnisio**	**1.96**	**23**	⇑*e*Pn	**Pn**	**19 30 10.4**	**-0.5**
MLNI				*e*Sn	**Sn**	**19 30 34.7**	**0.0**
CIMO	**Cimolais**	**2.06**	**19**	*e*Pn	**Pn**	**19 30 11.5**	**-0.8**
CIMO				*e*Sn	**Sn**	**19 30 36.7**	**-0.6**
CIMO	**Cimolais**	**2.06**	**19**	*e*Pn	**Pn**	**19 30 11.5**	**-0.8**
CIMO				*e*Sn	**Sn**	**19 30 36.7**	**-0.6**
TRI	**Trieste**	**2.10**	**49**	⇑*e*Pn	**Pn**	**19 30 11.6**	**-1.1**
TRI	**Trieste**	**2.10**	**49**	⇑*e*Pn	**Pn**	**19 30 11.6**	**-1.1**
KOSI	**Kohlern**	**2.11**	**358**	*e*Pn	**Pn**	**19 30 13.2**	**+0.2**
KOSI				*e*Sn	**Sn**	**19 30 38.4**	**-0.2**
SKDS	**Skadanscina**	**2.15**	**56**	*i* Pn	**Pn**	**19 30 12.3**	**-1.1**
SKDS				*i* Sn	**Sn**	**19 30 38.5**	**-0.9**
SKDS	**Skadanscina**	**2.15**	**56**	*i* Pn	**Pn**	**19 30 12.3**	**-1.1**
SKDS				*i* Sn	**Sn**	**19 30 38.5**	**-0.9**
SABO	**M.te Sabotino**	**2.20**	**42**	⇑*i*Pn	**Pn**	**19 30 13.7**	**-0.5**
SABO	**M.te Sabotino**	**2.20**	**42**	⇑*i*Pn	**Pn**	**19 30 13.7**	**-0.5**
COLI	**Coloredo**	**2.22**	**36**	⇑*e*Pn	**Pn**	**19 30 13.8**	**-0.6**
COLI	**Coloredo**	**2.22**	**36**	⇑*e*Pn	**Pn**	**19 30 13.8**	**-0.6**
BAD	**Bernadia**	**2.25**	**33**	⇓*e*Pn	**Pn**	**19 30 14.2**	**-0.7**
BAD	**Bernadia**	**2.25**	**33**	⇓*e*Pn	**Pn**	**19 30 14.1**	**-0.7**
VINO	**Villanova**	**2.28**	**33**	⇑*e*Pn	**Pn**	**19 30 14.4**	**-0.8**
VINO				*e*Sn	**Pn**	**19 30 14.8**	**-0.5**
VINO	**Villanova**	**2.28**	**33**	⇑*e*Pn	**Pn**	**19 30 14.4**	**-0.8**
CSMI	**Casera Mimoias**	**2.30**	**20**	⇑*e*Pn	**Pn**	**19 30 14.7**	**-1.0**
CSMI	**Casera Mimoias**	**2.30**	**20**	⇑*e*Pn	**Pn**	**19 30 14.7**	**-1.0**
FUSE	**Fusea**	**2.31**	**27**	⇑*i*Pn	**Pn**	**19 30 15.7**	**0.0**
FUSE	**Fusea**	**2.31**	**27**	⇑*i*Pn	**Pn**	**19 30 15.7**	**0.0**
MOSI	**Grossmontoni**	**2.35**	**344**	*e*Pn	**Pn**	**19 30 17.7**	**+1.3**
DRE	**Drenchia**	**2.37**	**39**	⇑*e*Pn	**Pn**	**19 30 15.7**	**-0.7**
DRE	**Drenchia**	**2.37**	**39**	⇑*e*Pn	**Pn**	**19 30 15.7**	**-0.7**
ABSI	**Aberstueckl**	**2.37**	**357**	*e*Pn	**Pn**	**19 30 16.9**	**+0.2**
ABSI				*e*Sn	**Sn**	**19 30 45.3**	**+0.1**
JAVS	**Javornik**	**2.38**	**49**	*i* Pn	**Pn**	**19 30 15.7**	**-1.0**
JAVS				*i* Sn	**Sn**	**19 30 45.2**	**0.0**
JAVS	**Javornik**	**2.38**	**49**	*i* Pn	**Pn**	**19 30 15.7**	**-1.0**
JAVS				*i* Sn	**Sn**	**19 30 45.2**	**0.0**
NVLJ	**Novalja**	**2.43**	**84**	*i* Pn	**Pn**	**19 30 17.5**	**+0.2**
NVLJ				Sn	**Sn**	**19 30 46.2**	**0.0**
NVLJ	**Novalja**	**2.43**	**84**	*i* Pn	**Pn**	**19 30 17.4**	**+0.2**
NVLJ				Sn	**Sn**	**19 30 46.1**	**0.0**
ZOU	**Zoufplan**	**2.43**	**25**	⇓*i*Pn	**Pn**	**19 30 17.5**	**0.0**
ABTA	**Abfaltersbach**	**2.50**	**16**	*e*Pn	**Pn**	**19 30 18.7**	**+0.5**
	SNR=6.5						
ABTA				⇑*i*Sn	**Sn**	**19 30 48.7**	**+0.7**
ABTA	**Abfaltersbach**	**2.50**	**16**	Pn	**Pn**	**19 30 18.7**	**+0.5**
	SNR=6.5						
ABTA				Sn	**Sn**	**19 30 48.7**	**+0.7**
LSR	**Lussari**	**2.56**	**33**	⇓*e*Pn	**Pn**	**19 30 18.6**	**-0.6**
LSR	**Lussari**	**2.56**	**33**	⇓*e*Pn	**Pn**	**19 30 18.6**	**-0.6**
PGF	**Pioggiola**	**2.56**	**226**	*e*Pn	**Pn**	**19 30 19.7**	**+0.5**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**19 30 48.7**	**-1.0**
	93nm,0.5s,SNR=1.0						
PGF	**Pioggiola**	**2.56**	**226**	*e*Pn	**Pn**	**19 30 19.7**	**+0.5**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**19 30 48.7**	**-1.0**
	46nm,0.5s,SNR=1.0						
CRNS	**Crni Vrh**	**2.61**	**48**	*i* Pn	**Pn**	**19 30 19.3**	**-0.5**
CRNS				*i* Sn	**Sn**	**19 30 50.7**	**0.0**
ACOM	**Acomizza, Ital**	**2.61**	**32**	⇑*e*Pn	**Pn**	**19 30 19.7**	**-0.2**
ACOM	**Acomizza, Ital**	**2.61**	**32**	⇑*e*Pn	**Pn**	**19 30 19.7**	**-0.2**
DAVOX	**Davos/Dischmat**	**2.67**	**336**	Pg	**Pn**	**19 30 22.7**	**+1.9**
	1.9nm,0.3s,baz=156,slow=14,SNR=19						
DAVOX				Lg	Lg	19 30 56.3	
	2.8nm,0.3s,baz=139,slow=19,SNR=6.1						
MYKA	**Terra Mystica**	**2.73**	**33**	⇑*i*Pn	**Pn**	**19 30 21.6**	**+0.1**
MYKA	**Terra Mystica**	**2.73**	**33**	Pn	**Pn**	**19 30 21.6**	**+0.1**
BOJS	**Bojanci**	**2.91**	**65**	*i* Pn	**Pn**	**19 30 23.7**	**-0.1**
BOJS				*i* Sn	**Sn**	**19 30 57.4**	**-0.6**
BOJS	**Bojanci**	**2.91**	**65**	*i* Pn	**Pn**	**19 30 23.7**	**-0.1**
BOJS				*i* Sn	**Sn**	**19 30 57.4**	**-0.6**
SBF	**Sospel**	**2.96**	**262**	*e*Pn	**Pn**	**19 30 24.8**	**+0.1**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**19 30 58.9**	**-0.7**
	41nm,0.4s,SNR=1.0						
SBF	**Sospel**	**2.96**	**262**	*e*Pn	**Pn**	**19 30 24.8**	**+0.1**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**19 30 58.9**	**-0.7**
	21nm,0.4s,SNR=1.0						
MOTA	**Moosalm**	**3.00**	**355**	⇑*i*Pn	**Pn**	**19 30 27.4**	**+2.1**
	SNR=6.2						
MOTA				⇓*i*Sn	**Sb**	**19 31 05.3**	**-2.7**
MOTA	**Moosalm**	**3.00**	**355**	Pn	**Pn**	**19 30 27.4**	**+2.1**
	SNR=6.2						
KBA	**Koelnbreinsper**	**3.01**	**25**	⇑*i*Pn	**Pn**	**19 30 26.1**	**+0.6**
KBA	**Koelnbreinsper**	**3.01**	**25**	Pn	**Pn**	**19 30 26.1**	**+0.6**
OBKA	**Obir**	**3.04**	**44**	⇑*i*Pn	**Pn**	**19 30 25.6**	**-0.2**
OBKA				⇑*i*S	Sb	19 31 16.8	+7.6
OBKA	**Obir**	**3.04**	**44**	Pn	**Pn**	**19 30 25.6**	**-0.2**
UDBI	**Udbina**	**3.06**	**85**	*e*Pn	**Pn**	**19 30 26.7**	**+0.6**
UDBI				Sn	**Sn**	**19 31 01.2**	**-0.9**
UDBI	**Udbina**	**3.06**	**85**	*e*Pn	**Pn**	**19 30 26.6**	**+0.6**
UDBI				Sn	**Sn**	**19 31 01.1**	**-0.9**
MBDF	**Montbardon**	**3.40**	**278**	*e*Pn	**Pn**	**19 30 31.1**	**+0.4**
MBDF				*e*Sn	**Sn**	**19 31 09.6**	**-0.7**
	25nm,0.6s						
MBDF	**Montbardon**	**3.40**	**278**	*e*Pn	**Pn**	**19 30 31.1**	**+0.4**
MBDF				*e*Sn	**Sn**	**19 31 09.6**	**-0.7**
	13nm,0.6s						
LPG	**La Plagne**	**3.56**	**290**	*e*Pn	**Pn**	**19 30 33.3**	**+0.3**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**19 31 13.7**	**-0.7**
	11nm,0.5s						
LPG	**La Plagne**	**3.56**	**290**	*e*Pn	**Pn**	**19 30 33.3**	**+0.3**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**19 31 13.7**	**-0.7**
	5.4nm,0.5s						
LPL	**La Plagne**	**3.57**	**291**	*e*Pn	**Pn**	**19 30 34.0**	**+0.8**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**19 31 13.2**	**-1.6**
	SNR=1.0						
LPL				*e*Sg	**Sb**	**19 31 29.9**	**+5.3**
	7.0nm,0.5s,SNR=1.0						
LPL	**La Plagne**	**3.57**	**291**	*e*Pn	**Pn**	**19 30 34.0**	**+0.8**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**19 31 13.2**	**-1.6**
	SNR=1.0						
FRF	**La Foret Royal**	**3.59**	**259**	*e*Pn	**Pn**	**19 30 34.4**	**+1.2**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**19 31 13.8**	**-1.1**
	19nm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**3.59**	**259**	*e*Pn	**Pn**	**19 30 34.4**	**+1.2**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**19 31 13.8**	**-1.1**
	9.4nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**3.75**	**256**	*e*Pn	**Pn**	**19 30 36.1**	**+0.7**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**19 31 17.2**	**-1.6**
	14nm,0.3s						
LMR	**La Mourre**	**3.75**	**256**	*e*Pn	**Pn**	**19 30 36.1**	**+0.7**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**19 31 17.2**	**-1.6**
	7.2nm,0.3s						
ORIF	**Oris-en-Rattie**	**4.04**	**280**	*e*Pn	**Pn**	**19 30 40.2**	**+0.6**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**19 31 24.7**	**-1.6**
	14nm,0.5s						
ORIF	**Oris-en-Rattie**	**4.04**	**280**	*e*Pn	**Pn**	**19 30 40.2**	**+0.6**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**19 31 24.7**	**-1.6**
	7.2nm,0.5s						
CABF	**La Chapelle**	**4.42**	**303**	*e*Pn	**Pn**	**19 30 44.2**	**-0.5**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**19 31 31.9**	**-3.6**
	7.1nm,0.6s,SNR=1.0						
CABF	**La Chapelle**	**4.42**	**303**	*e*Pn	**Pn**	**19 30 44.2**	**-0.5**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**19 31 31.9**	**-3.6**
	3.5nm,0.6s,SNR=1.0						
HINF	**Hinteralfeld**	**4.73**	**319**	*e*Pn	**Pn**	**19 30 48.2**	**-0.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**19 31 40.6**	**-2.5**
	14nm,0.4s,SNR=1.0						
HINF	**Hinteralfeld**	**4.73**	**319**	*e*Pn	**Pn**	**19 30 48.2**	**-0.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**19 31 40.6**	**-2.5**
	6.9nm,0.4s,SNR=1.0						
GERES	**GERESS Array B**	**4.74**	**18**	Pn	**Pn**	**19 30 48.5**	**-0.6**
	1.1nm,0.3s,baz=196,slow=13,SNR=26						
GERES				Sn	**Sn**	**19 31 40.4**	**-2.9**
	4.2nm,0.3s,baz=198,slow=22,SNR=17						
GERES				Lg	Lg	19 32 08.0	
	baz=201,slow=33,SNR=2.2						
STON	**Ston**	**4.75**	**106**	*e*Pn	**Pn**	**19 30 49.6**	**+0.6**
STON				Sn	**Sn**	**19 31 42.8**	**-0.5**
STON	**Ston**	**4.75**	**106**	*e*Pn	**Pn**	**19 30 49.6**	**+0.6**
STON				Sn	**Sn**	**19 31 42.8**	**-0.5**
VIVF	**Saint-Julien-l**	**4.89**	**278**	*e*Pn	**Pn**	**19 30 51.7**	**+0.5**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**19 31 46.0**	**-1.1**
	2.2nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**4.89**	**278**	*e*Pn	**Pn**	**19 30 51.7**	**+0.5**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**19 31 46.0**	**-1.1**
	1.1nm,0.3s,SNR=1.0						
KHC	**Kasperske Hory**	**4.99**	**16**	*e*PN	**Pn**	**19 30 51.8**	**-0.6**
KHC				*e*x	x	19 31 17.5	
KHC				*e*SN	**Sn**	**19 31 46.4**	**-2.9**
KHC				*e*x	x	19 32 23.0	
KHC	**Kasperske Hory**	**4.99**	**16**	Pn	**Pn**	**19 30 51.8**	**-0.6**
KHC				Sn	**Sn**	**19 31 46.4**	**-2.9**
CDF	**Champ du Feu**	**5.00**	**326**	*e*Pn	**Pn**	**19 30 52.3**	**-0.3**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**19 31 46.4**	**-3.2**
	7.3nm,0.4s,SNR=1.0						
CDF	**Champ du Feu**	**5.00**	**326**	*e*Pn	**Pn**	**19 30 52.3**	**-0.3**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**19 31 46.4**	**-3.2**
	3.7nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**5.11**	**317**	*e*Pn	**Pn**	**19 30 53.8**	**-0.3**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**19 31 50.2**	**-2.1**
	27nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**5.11**	**317**	*e*Pn	**Pn**	**19 30 53.8**	**-0.3**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**19 31 50.2**	**-2.1**
	13nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**5.50**	**270**	*e*Pn	**Pn**	**19 31 00.3**	**+0.9**
	SNR=1.0						
LASF	**Ste Croix**	**5.50**	**270**	*e*Pn	**Pn**	**19 31 00.3**	**+0.9**
	SNR=1.0						
PAGF	**Fort de Pagny**	**5.79**	**319**	*e*Sn	**Sn**	**19 32 06.4**	**-2.6**
	2.0nm,0.5s						
PAGF	**Fort de Pagny**	**5.79**	**319**	*e*Sn	**Sn**	**19 32 06.4**	**-2.6**
	1.0nm,0.5s						
SMF	**Signal de Mont**	**5.84**	**296**	*e*Pn	**Pn**	**19 31 03.8**	**-0.4**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**19 32 07.1**	**-3.4**
	8.4nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**5.84**	**296**	*e*Pn	**Pn**	**19 31 03.8**	**-0.4**
	SNR=1.0						
SFTF	**Sexfontaines**	**5.90**	**313**	*e*Pn	**Pn**	**19 31 05.0**	**+0.1**
	baz=128						
SFTF	**Sexfontaines**	**5.90**	**313**	*e*Pn	**Pn**	**19 31 05.0**	**+0.1**
	baz=128						
GOPC	**GO Pecny, Ondr**	**6.00**	**21**	*e*SN	**Sn**	**19 32 10.7**	**-3.5**
PRU	**Pruhonice**	**6.00**	**19**	*e*SN	**Sn**	**19 32 10.5**	**-3.8**
LOR	**Lormes**	**6.08**	**301**	*e*Pn	**Pn**	**19 31 07.3**	**-0.1**
	baz=121,SNR=1.0						
LOR				*e*Sn	**Sn**	**19 32 13.1**	**-3.1**
	11nm,0.4s,SNR=1.0						
LOR	**Lormes**	**6.08**	**301**	*e*Pn	**Pn**	**19 31 07.3**	**-0.1**
	baz=121,SNR=1.0						
AVF	**Avril sur Loir**	**6.21**	**296**	*e*Pn	**Pn**	**19 31 08.8**	**-0.4**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**19 32 14.6**	**-4.8**
	2.5nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**6.21**	**296**	*e*Pn	**Pn**	**19 31 08.8**	**-0.4**
	SNR=1.0						
SSF	**Saint Saulge**	**6.21**	**299**	*e*Pn	**Pn**	**19 31 09.2**	**0.0**
SSF				*e*Sn	**Sn**	**19 32 16.9**	**-2.6**
	8.3nm,0.5s						
SSF	**Saint Saulge**	**6.21**	**299**	*e*Pn	**Pn**	**19 31 09.2**	**0.0**
BGF	**Bois d'Agland**	**6.47**	**293**	*e*Pn	**Pn**	**19 31 12.6**	**-0.1**
BGF				*e*Sn	**Sn**	**19 32 22.9**	**-2.9**
	6.2nm,0.4s						
BGF	**Bois d'Agland**	**6.47**	**293**	*e*Pn	**Pn**	**19 31 12.6**	**-0.1**
BRG	**Berggiesshubel**	**6.73**	**13**	PN	Pb	19 31 52.0	+17
BRG				*e*		19 32 27.3	
BRG	**Berggiesshubel**	**6.73**	**13**	SG	Sb	19 33 11.8	+17
	4.4nm,0.8s						
CAF	**Calviac**	**6.75**	**278**	*e*Pn	**Pn**	**19 31 17.2**	**+0.5**
CAF	**Calviac**	**6.75**	**278**	*e*Pn	**Pn**	**19 31 17.2**	**+0.5**
TCF	**Toulx Ste Croi**	**6.82**	**290**	*e*Sn	**Sn**	**19 32 31.3**	**-3.3**
	3.9nm,0.4s,SNR=1.0						
DPC	**Dobruska-Polom**	**6.83**	**27**	*e*SN	**Sn**	**19 32 30.5**	**-4.3**
MFF	**Saint Martin d**	**8.48**	**289**	*e*Pn	**Pn**	**19 31 40.6**	**+0.3**
	SNR=1.0						
MFF	**Saint Martin d**	**8.48**	**289**	*e*Pn	**Pn**	**19 31 40.6**	**+0.3**
	SNR=1.0						
FLN	**La Foliniere**	**9.35**	**302**	*e*Pn	**Pn**	**19 31 51.6**	**-0.6**
FLN	**La Foliniere**	**9.35**	**302**	*e*Pn	**Pn**	**19 31 51.6**	**-0.6**
GRR	**Gorron**	**9.44**	**300**	*e*Pn	**Pn**	**19 31 53.3**	**-0.2**
GRR	**Gorron**	**9.44**	**300**	*e*Pn	**Pn**	**19 31 53.3**	**-0.2**
FINES	**FINESS Array B**	**19.16**	**22**	P	**P**	**19 33 58.7**	**-1.8**
	0.1nm,0.3s,baz=185,slow=9.8,SNR=3.7						
KBZ	**Khabaz**	**22.52**	**81**	P	**P**	**19 34 38.0**	**+1.1**
	1.7nm,0.7s,baz=323,slow=20,SNR=3.3						
TORD	**Torodi Ar. Bea**	**32.22**	**198**	P	**P**	**19 36 04.7**	**-0.7**
	0.4nm,0.8s,baz=16,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**48.06**	**61**	P	**P**	**19 38 17.2**	**+0.7**
	0.5nm,0.8s,baz=301,slow=4.6,SNR=4.3						
SONM	**Songino Array**	**61.73**	**50**	P	**P**	**19 39 56.9**	**+1.4**
	0.2nm,0.6s,baz=354,slow=6.5,SNR=2.4						

IDC **02** *19:34:54.1±0.7, 13°.46S×166°.35E, h0km, mb4.0/14, mb1 4.1/15, mb1mx4.1/23, mbtmp4.0/15, ML3.8/1, Error ellipse: s-maj=23.9km s-min=17.6km az=108.0*
ISCJB **02** *19:34:58.3±0.6, 13°.60S±0°.06×166°.3E±0°.1, h39km, mb4.1/14, Error ellipse: s-maj=16.3km s-min=8.0km az=170.4*
NEIC **02** *19:35:00.3±1.8, 13°.53S×166°.37E, h44km±15km, mb4.1/1, Error ellipse: s-maj=16.9km s-min=11.9km az=71.0*
ISC 02 19:35:00.1±0.6**, 13°.53S**±0°.08×**166°.4E**±0°.1**, h39km, n24, σ1s.17**/25**, mb4.0**/14**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	7.49	302	eP	Pn	19 36 47.8	+1.0
	94nm,0.6s						
DZM	Mont Dzumac	8.49	179	Pn	Pn	19 36 60.0	-0.7
	1.1nm,0.3s,baz=90,slow=24,SNR=6.6						
DZM				Sn	Sn	19 38 35.2	-0.1
	0.0nm,0.3s,baz=270,slow=20,SNR=2.0						
CTA	Charters Tower	20.31	249	P	P	19 39 32.8	-0.2
	5.5nm,0.7s,baz=64,slow=12,SNR=7.0						
CTAO	Charters Tower	20.31	249	eP	Pn	19 39 34.1	-1.0
	11nm,1.0s						
STKA	Stephens Creek	29.12	227	P	P	19 40 57.4	0.0
	3.6nm,0.8s,baz=34,slow=7.5,SNR=11						
WRA	Warramunga Arr	31.28	254	P	P	19 41 15.6	-1.1
	2.2nm,1.0s,baz=84,slow=9.3,SNR=7.7						
ASAR	Alice Springs	32.30	247	P	P	19 41 24.4	-1.2
	1.4nm,0.7s,baz=75,slow=9.4,SNR=21						
ASAR				ScP	ScP	19 47 56.2	+2.2
	0.3nm,0.8s,baz=87,slow=5.7,SNR=2.8						
MJAR	Matsushiro Arr	56.44	333	P	P	19 44 37.5	-0.5
	0.8nm,0.6s,baz=176,slow=8.6,SNR=4.0						
KSRS	Korea Array	62.26	326	P	P	19 45 17.8	-0.3
	0.3nm,0.5s,baz=124,slow=7.4,SNR=3.9						
KSAR	Wonju Array Be	62.27	326	P	P	19 45 17.8	-0.4
VNDA	Vanda	64.03	181	P	P	19 45 30.8	+1.4
	0.5nm,0.6s,baz=339,slow=7.4,SNR=5.4						
CMAR	Chiang Mai Arr	73.66	294	P	P	19 46 30.4	+0.2
	1.2nm,0.9s,baz=132,slow=4.8,SNR=6.7						
SEY	Seymchan	77.00	353	P	P	19 46 49.7	+1.3
	3.1nm,0.7s,baz=168,slow=6.1,SNR=7.8						
RPN	Rapa Nui	78.96	115	P	P	19 47 00.4	+0.2
	40nm,0.3s,baz=211,slow=5.9,SNR=2.8						
SONM	Songino Array	81.02	324	P	P	19 47 11.5	+0.5
	0.2nm,0.5s,baz=119,slow=3.4,SNR=2.9						
ILAR	Eielson Array	85.67	18	P	P	19 47 33.6	-0.8
	1.1nm,0.5s,baz=246,slow=5.0,SNR=19						
SNAA	Sanae	94.69	183	P	P	19 48 18.4	+1.5
	0.3nm,0.4s,baz=184,slow=19,SNR=1.8						
MKAR	Makanchi Array	95.73	317	P	P	19 48 22.4	+0.4
	0.7nm,0.6s,baz=90,slow=6.7,SNR=9.9						
ZALV	Zalesovo Beam	95.91	324	P	P	19 48 21.5	-1.1
	0.5nm,0.6s,baz=93,slow=4.3,SNR=2.9						
ARCES	ARCESS Array B	118.88	345	PKP	PKPdf	19 53 41.4	-2.4
	1.1nm,0.6s,baz=48,slow=1.5,SNR=5.3						
FINES	FINESS Array B	124.29	338	PKP	PKPdf	19 53 52.5	-1.9
	0.5nm,0.6s,baz=216,slow=6.9,SNR=3.4						
NOA	NORSAR Array B	129.25	345	PKP	PKPdf	19 54 04.7	+0.8
	0.6nm,0.7s,baz=34,slow=1.7,SNR=3.2						
KEST	Kesra	149.73	321	PKPbc	PKPbc	19 54 45.8	-0.5
	2.8nm,1.2s,baz=14,slow=4.2,SNR=3.7						
ESDC	Sonseca Array	152.60	344	PKPbc	PKPbc	19 54 51.4	-1.5
	0.6nm,0.5s,baz=14,slow=2.6,SNR=6.5						

IDC 02 19:38:55.2±14.0, 13°.56S×166°.34E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/35, mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=249.6km s-min=39.4km az=60.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.46	179	Pn	Pn	19 40 58.5	-0.8
	0.2nm,0.3s,baz=90,slow=20,SNR=3.7						
DZM				Sn	Sn	19 42 35.5	-0.2
	baz=90,slow=20						
STKA	Stephens Creek	29.09	227	P	P	19 44 59.4	+1.8
	0.8nm,0.7s,baz=63,slow=11,SNR=2.6						
WRA	Warramunga Arr	31.26	254	P	P	19 45 15.5	-1.5
	0.5nm,0.9s,baz=87,slow=9.1,SNR=2.5						
ASAR	Alice Springs	32.27	247	P	P	19 45 25.9	0.0
	0.5nm,0.7s,baz=74,slow=8.7,SNR=4.5						

*IDC **02** 19:50:09.0±0.6, 13°.70S×166°.69E, h0km, mb4.4/18, mb1 4.5/19, mb1mx4.5/22, mbtmp4.4/19, ML3.6/1, MS3.8/10, Ms1 3.8/10, ms1mx3.6/24, Error ellipse: s-maj=23.6km s-min=14.8km az=109.0*

*BJI **02** 19:50:09.4, 13°.43S×167°.15E, h10km, mb4.8/17, mB5.1/9*

*ISCJB **02** 19:50:13.8±0.5, 13°.80S±0°.05×166°.56E±0°.10, h39km, mb4.4/21, MS3.8/10, Error ellipse: s-maj=13.6km s-min=7.3km az=178.7*

*NEIC **02** 19:50:14.5±0.4, 13°.73S×166°.66E, h35km, mb4.6/5, Error ellipse: s-maj=11.6km s-min=8.9km az=109.0*

ISC 02 19:50:15.4±0.5, 13°.74S±0°.06×166°.6E±0°.1, h39km, n76, σ1°.54/78, mb4.5/27, MS3.6/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	7.81	303	eP	Pn	19 52 07.0	+0.5
HNR	Honiara	7.81	303	eP	Pn	19 52 06.1	-0.4
	368nm,0.8s						
DZM	Mont Dzumac	8.29	181	ePn	Pn	19 52 18.6	+5.4
	51nm,0.8s						
DZM				eSn	Sn	19 53 45.8	+0.2
	171nm,1.1s						
DZM	Mont Dzumac	8.29	181	Pn	Pn	19 52 12.8	-0.4
	0.7nm,0.3s,baz=90,slow=20,SNR=8.6						
DZM				Sn	Sn	19 53 44.8	-0.8
	0.2nm,0.3s,baz=90,slow=24,SNR=11						
CTA	Charters Tower	20.47	249	P	P	19 54 51.1	+1.2
	16nm,0.7s,baz=78,slow=13,SNR=17						
CTAO	Charters Tower	20.47	249	eP	P	19 54 51.1	+1.2
	59nm,1.4s						
RAO	Raoul Island	21.07	140	LR	LR	20 01 10.9	
	comp=Z,197nm,20.8s,baz=320,slow=31						
STKA	Stephens Creek	29.17	228	P	P	19 56 14.1	+1.0
	8.6nm,0.8s,baz=41,slow=7.0,SNR=29						
STKA				ScP	ScP	20 03 00.7	+1.9
	0.6nm,0.7s,baz=69,slow=14,SNR=2.4						
STKA				LR	LR	20 07 52.3	
	comp=Z,546nm,18.8s,baz=41,slow=36						
STKA	Stephens Creek	29.17	228	eP	P	19 56 13.5	+0.4
STKA				ScP	ScP	20 03 00.7	+1.9
WRAB	Tennant Creek	31.46	254	eP	P	19 56 31.7	-1.8
WRA	Warramunga Arr	31.47	254	P	P	19 56 32.2	-1.4
	3.1nm,0.9s,baz=84,slow=8.7,SNR=12						
WRA				PcP	PcP	19 59 25.1	-1.1
	1.4nm,1.0s,baz=90,slow=3.3,SNR=4.7						
WRA				ScP	ScP	20 03 09.6	+3.0
	0.5nm,0.9s,baz=92,slow=6.2,SNR=4.0						
WRA				LR	LR	20 09 08.6	
	comp=Z,513nm,18.5s,baz=85,slow=36						
AS31	Alice Springs	32.45	247	eP	P	19 56 40.9	-1.3
ASAR	Alice Springs	32.45	247	P	P	19 56 40.9	-1.3
	3.5nm,0.8s,baz=74,slow=9.8,SNR=45						
ASAR				PcP	PcP	19 59 28.4	-0.5
	0.7nm,0.7s,baz=75,slow=2.3,SNR=4.5						
ASAR				ScP	ScP	20 03 11.5	+1.6
	0.7nm,0.8s,baz=76,slow=3.6,SNR=5.6						
ASAR				LR	LR	20 09 15.6	
	comp=Z,294nm,18.5s,baz=72,slow=35						
SIJI	Sorong	37.24	287	LR	LR	20 13 28.5	
	comp=Z,282nm,20.4s,baz=163,slow=38						
PPT	Papeete	42.29	101	LR	LR	20 14 04.4	
	comp=Z,80nm,19.2s,baz=290,slow=34						
PPT2	Papeete2	42.29	101	eLR	LR	20 10 04.4	
	340nm,25.5s						
TBI	Tubuai	42.58	110	eLR	LR	20 10 17.7	
	322nm,24.2s						
MBWA	Marble Bar	45.20	254	P	P	19 58 27.9	-1.0
KAPI	Kappang	46.97	276	LR	LR	20 19 06.1	
	comp=Z,69nm,18.1s,baz=92,slow=37						
MJAR	Matsushiro Arr	56.74	333	P	P	19 59 54.8	-0.6
	3.0nm,1.0s,baz=168,slow=7.5,SNR=8.9						
MAT	Matsushiro	56.74	333	P	P	19 59 54.6	-0.8
ASAJ	Asahikawa	61.60	341	P	P	20 00 28.5	-0.4
	4.1nm,0.7s,baz=196,slow=7.4						
KSRS	Korea Array	62.57	326	P	P	20 00 35.5	0.0
	2.1nm,0.9s,baz=146,slow=6.8,SNR=8.2						
KSAR	Wonju Array Be	62.58	326	P	P	20 00 35.5	-0.1
VNDA	Vanda	63.83	181	P	P	20 00 43.8	+0.5
	1.6nm,0.8s,baz=348,slow=6.7,SNR=8.1						
USRK	Ussuriysk Ar.	65.72	333	P	P	20 00 55.1	-0.9
	5.6nm,0.9s,baz=163,slow=7.8,SNR=8.5						
USRK				LR	LR	20 26 15.6	
	comp=Z,46nm,21.6s,baz=214,slow=33						
PETK	Petropavlovsk-	67.02	354	P	P	20 01 03.8	-0.3
	2.2nm,0.6s,baz=153,slow=10.0,SNR=6.9						
PETK				LR	LR	20 25 58.1	
	comp=Z,40nm,19.6s,baz=164,slow=32						
KMI	Kunming	73.25	302	P	P	20 01 45.1	+1.9
KMI				PMZ			
	9.0nm,1.2s						
CM31	Chiang Mai Arr	73.97	294	eP	P	20 01 49.2	+1.9
	5.4nm,1.0s						
CMAR	Chiang Mai Arr	73.97	294	P	P	20 01 48.6	+1.3
	3.9nm,0.9s,baz=125,slow=4.4,SNR=25						
CMAR				LR	LR	20 35 01.1	
	comp=Z,19nm,18.0s,baz=135,slow=36						
CHTO	Chiang Mai	74.09	294	eP	P	20 01 49.3	+1.3
	7.7nm,1.4s						
QSPA	South Pole Qui	76.28	180	eP	P	20 01 59.6	-0.4
	10nm,1.1s						
LZH	Lanzhou	77.19	312	eP	P	20 02 08.1	+2.5
LZH				pP	PcP	20 02 15.9	-0.4
LZH				sP	sP	20 02 20.1	-1.9
LZH				PMZ			
	16nm,1.0s						
ULN	Ulaanbaatar	80.97	324	eP	P	20 02 31.3	+5.2
	10.0nm,1.4s						
SONM	Songino Array	81.33	324	P	P	20 02 27.7	-0.2
	1.6nm,0.9s,baz=126,slow=4.8,SNR=10						
GTA	Gaotai	81.53	314	eP	P	20 02 30.7	+1.5
GTA				pP	pP	20 02 37.4	-3.7
GTA				sP	sP	20 02 40.0	-5.6
GTA				PMZ			
	8.0nm,1.4s						
MAW	Mawson	82.56	202	P	P	20 02 33.8	-0.1
	2.0nm,0.7s,baz=349,slow=5.6,SNR=4.1						
LSA	Lhasa	84.50	302	eP	P	20 02 46.2	+1.0
ILAR	Eielson Array	85.79	18	P	P	20 02 50.4	+0.1
	4.3nm,0.6s,baz=243,slow=4.9,SNR=47						
TAPN	Taplejung	86.65	299	eP	P	20 02 56.0	+0.3
ODAN	Odare	86.78	298	eP	P	20 02 56.5	+0.2
	25nm,1.1s						
NVAR	Mina Array Bea	87.11	49	P	P	20 02 57.7	0.0
	0.4nm,0.3s,baz=287,slow=4.6,SNR=7.6						
RAMN	Ramite	87.48	298	eP	P	20 03 00.6	+0.9
GUN	Gumba	88.36	299	eP	P	20 03 04.1	+0.1
	5.6nm,0.6s						
PKI	Pulchoki	88.67	299	eP	P	20 03 05.3	-0.2
	7.5nm,0.6s						
KKN	Kakani	88.84	299	eP	P	20 03 06.0	-0.1
	7.3nm,0.7s						
DMN	Daman	88.94	299	eP	P	20 03 06.8	+0.2
	22nm,1.0s						
GKN	Gorkha	89.45	299	eP	P	20 03 08.3	-0.6
	18nm,1.0s						
KOLN	Koldanda	90.27	298	eP	P	20 03 12.3	-0.5
MK31	Makanchi Array	96.05	317	eP	P	20 03 38.7	-0.1
MKAR	Makanchi Array	96.05	317	P	P	20 03 38.7	-0.1
	2.3nm,0.8s,baz=98,slow=6.3,SNR=23						
ZAA0	Zalesovo Array	96.22	324	eP	P	20 03 37.4	-1.9
ZALV	Zalesovo Beam	96.22	324	P	P	20 03 38.2	-1.1
	2.0nm,0.6s,baz=121,slow=5.1,SNR=10						
YKA	Yellowknife Ar	96.96	27	P	P	20 03 42.3	-0.2
	0.6nm,0.6s,baz=262,slow=4.6,SNR=4.8						
ARCES	ARCESS Array B	119.14	345	PKP	PKPdf	20 08 57.9	-1.7
	3.5nm,0.7s,baz=50,slow=1.4,SNR=12						
FINES	FINESS Array B	124.57	338	PKP	PKPdf	20 09 08.5	-1.7
	2.0nm,0.7s,baz=0.0,slow=0.2,SNR=6.4						
NB2	NORSAR Subarra	129.51	345	PKPdf	PKPdf	20 09 22.1	+2.4
	comp=Z,0.6nm,0.6s,baz=31,slow=1.9						
NOA	NORSAR Array B	129.51	345	PKP	PKPdf	20 09 19.2	-0.5
	comp=Z,0.8nm,0.9s,baz=18,slow=1.4,SNR=4.8						
NOA				SKPbc	SKPbc	20 12 39.7	+1.1
	comp=Z,1.2nm,0.9s,baz=37,slow=4.5,SNR=3.7						
GERES	GERESS Array B	138.48	333	PKP	PKPdf	20 09 37.7	+0.7
	comp=Z,0.5nm,0.6s,baz=110,slow=5.6,SNR=2.8						
GERES				SKPbc	SKiKP	20 13 10.2	-2.1
	comp=Z,3.4nm,1.0s,baz=48,slow=4.2,SNR=8.4						
KEST	Kesra	150.05	321	PKPbc	PKPbc	20 10 02.1	-0.3
	comp=Z,4.2nm,1.0s,baz=319,slow=3.6,SNR=7.2						
PBRG	Braganca	151.45	350	ePKPbc	PKPbc	20 10 07.9	+2.5
PBRG	Braganca	151.45	350	ePKPbc	PKPbc	20 10 07.9	+2.5
PGAV	Gavieira, Arco	151.53	352	ePKPbc	PKPbc	20 10 07.8	+2.1
PGAV	Gavieira, Arco	151.53	352	ePKPbc	PKPbc	20 10 07.8	+2.1
POLO	Lamas de Olo	152.04	351	ePKPbc	PKPbc	20 10 09.7	+2.8
POLO	Lamas de Olo	152.04	351	ePKPbc	PKPbc	20 10 09.7	+2.8
MVO	Moncorvo	152.12	350	ePKPbc	PKPbc	20 10 09.3	+2.3
MVO	Moncorvo	152.12	350	ePKPbc	PKPbc	20 10 09.3	+2.3
PVRL	Vila Real	152.12	351	ePKPbc	PKPbc	20 10 10.1	+3.1
PVRL	Vila Real	152.12	351	ePKPbc	PKPbc	20 10 10.1	+3.1
ESDC	Sonseca Array	152.87	344	PKPbc	PKPbc	20 10 07.1	-1.6
	comp=Z,1.8nm,0.7s,baz=8.5,slow=2.6,SNR=5.2						
MTE	Manteigas	152.95	350	ePKPbc	PKPbc	20 10 11.4	+2.5
MTE	Manteigas	152.95	350	ePKPbc	PKPbc	20 10 11.4	+2.5
PCAS	Casmilo, Conde	153.44	352	ePKPbc	PKPbc	20 10 11.7	+1.8
PCAS	Casmilo, Conde	153.44	352	ePKPbc	PKPbc	20 10 11.7	+1.8
TORD	Torodi Ar. Bea	165.32	269	PKP	PKPdf	20 10 15.5	-1.1
	comp=Z,1.0nm,0.8s,baz=91,slow=0.6,SNR=5.9						

MEX 02 19:58:27.0±0.8, 17°.27N×95°.05W, h126km±7km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.24	139	eP	Pn	19 58 43.4	-1.1
CMIG				i S	Sn	19 58 55.7	-1.9
TUIG	Tuzandepetl	0.96	38	i P	Pn	19 58 47.5	-1.7
TUIG				eS	Sn	19 59 04.1	-1.9
VHO	Vista Hermosa	1.62	263	eP	Pn	19 58 55.5	-1.0
VHO				eS	Sn	19 59 17.9	-1.1
HUIG	Huatulco	1.81	214	i P	Pn	19 58 56.3	-2.2
HUIG				eS	Sn	19 59 20.8	-1.7

JMA 02 20:05:54.0±0.1, 25°.79N×130°.04E, h42km, M3.5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMZ	Minamidaito 2	1.06	88	P	Pn	20 06 12.9	+0.4
JMZ				eS	Sn	20 06 26.1	0.0
JOW	Kunigami	1.89	304	P	Pn	20 06 25.0	+1.1
JOW				eS	Sn	20 06 46.8	+0.2
JNTH	Nagotoyohara	1.95	292	P	Pn	20 06 25.5	+0.8
JNTH				eS	Sn	20 06 46.9	-1.1
JOKE	Okinoerabujima	2.04	320	P	Pn	20 06 27.7	+1.8
JOKE				eS	Sn	20 06 50.9	+0.6
JJT2	Tamagusuku 2	2.09	280	P	Pn	20 06 27.9	+1.4
JJT2				eS	Sn	20 06 52.1	+0.7
JIH	Iheya	2.23	304	P	Pn	20 06 29.9	+1.4
JIH				eS	Sn	20 06 54.2	-0.7
JAMN	Amaminishikomi	2.56	343	P	Pn	20 06 34.7	+1.7
JAMN				eS	Sn	20 07 02.7	-0.3
JAGN	Aguni-jima	2.64	288	P	Pn	20 06 35.4	+1.4
JAGN				eS	Sn	20 07 04.8	0.0
JKE	Kume jima 2	2.98	281	P	Pn	20 06 39.2	+0.5

*ISCJB **02** 20:09:11.6±1.0, 35°.89N±0°.03×21°.25E±0°.04, h4km±7km, mb3.8/7, Error ellipse: s-maj=6.2km s-min=4.9km az=138.8*

*IDC **02** 20:09:12.4±1.1, 36°.12N×21°.48E, h0km, mb3.8/8, mb1 3.8/12, mb1mx3.7/32, mbtmp3.7/12, ML2.6/2, Error ellipse: s-maj=29.0km s-min=18.1km az=155.0*

*ATH **02** 20:09:13.5, 35°.96N×21°.24E, h19km±1km, MD3.8/19, ML3.4*

*CSEM **02** 20:09:13.5±0.6, 35°.90N×21°.24E, h10km, ML3.4, Error ellipse: s-maj=13.3km s-min=6.1km az=35.0*

*THE **02** 20:09:16.2, 36°.02N×21°.41E, h4km±1km, ML3.4/9, Error ellipse: s-maj=2.1km s-min=1.2km az=238.0*

ISC 02 20:09:14.9±1.5, 35°.99N±0°.04×21°.36E±0°.04, h8km±10km, n149, σ0°.99/162, mb3.9/7, 3C, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYL	PYLOS	0.96	18	P	Pg	20 09 32.6	-0.7
PYL				S	Sb	20 09 46.5	0.0
PYL	PYLOS	0.96	18	ePN	Pg	20 09 32.8	-0.5
PYL				eSN	Sb	20 09 47.0	+0.5
PYL	PYLOS	0.96	18	ePn	Pg	20 09 32.8	-0.5
ITM	Ithomi	1.27	21	P	Pg	20 09 39.0	-0.3
ITM				S	Sn	20 09 57.7	+1.4
ITM	Ithomi	1.27	21	ePN	Pg	20 09 38.7	-0.6
ITM				eSN	Sn	20 09 57.5	+1.2
ITM	Ithomi	1.27	21	ePn	Pg	20 09 38.7	-0.6
ITM	Ithomi	1.27	21	P	Pg	20 09 39.0	-0.3
ITM				eSn	Sn	20 09 57.5	+1.2
SFD	Strofades	1.29	348	P	Pg	20 09 40.1	+0.4
SFD				S	Sn	20 09 58.4	+1.7
SFD	Strofades	1.29	348	P	Pg	20 09 40.1	+0.4
SFD				S	Sn	20 09 58.4	+1.7
KYTH	Kithira	1.39	77	P	Pg	20 09 42.0	+0.6
KYTH	Kithira	1.39	77	P	Pg	20 09 42.0	+0.6
VLI	Veliai	1.47	60	P	Pn	20 09 42.4	+0.8
VLI				S	Sn	20 10 02.0	+1.1
VLI	Veliai	1.47	60	ePN	Pn	20 09 42.9	+1.3
VLI				eSN	Sn	20 10 03.6	+2.7
VLI	Veliai	1.47	60	P	Pn	20 09 42.4	+0.8
VLI	Veliai	1.47	60	ePn	Pn	20 09 42.9	+1.3
VLI				S	Sn	20 10 02.0	+1.1
VLI				eSn	Sn	20 10 03.6	+2.7
AMT	Artemida-Makis	1.57	10	P	Pn	20 09 43.3	+0.3
AMT				S	Sg	20 10 05.8	+0.5
AMT	Artemida-Makis	1.57	10	ePN	Pn	20 09 43.0	0.0
AMT	Artemida-Makis	1.57	10	ePn	Pn	20 09 43.0	0.0
AMT	Artemida-Makis	1.57	10	P	Pn	20 09 43.3	+0.3
AMT				S	Sg	20 10 05.8	+0.5
ANKY	Antikythira Is	1.58	94	P	Pn	20 09 44.2	+1.1
ANKY				S	Sb	20 10 05.3	+1.0
ANKY	Antikythira Is	1.58	94	ePN	Pn	20 09 44.0	+0.9
ANKY	Antikythira Is	1.58	94	ePn	Pn	20 09 44.0	+0.9
ANKY				S	Sb	20 10 05.3	+1.0
VLX	Vlachokerasia	1.60	30	P	Pn	20 09 43.5	-0.1
VLX				S	Sg	20 10 06.6	+0.1
VLX	Vlachokerasia	1.60	30	ePN	Pn	20 09 44.2	+0.6
VLX	Vlachokerasia	1.60	30	P	Pn	20 09 43.5	-0.1
VLX	Vlachokerasia	1.60	30	ePn	Pn	20 09 44.2	+0.6
VLX				S	Sg	20 10 06.6	+0.1
DRO	Drossia	1.98	8	P	Pn	20 09 49.4	+0.7
DRO				S	Sn	20 10 14.6	+0.9
DRO	Drossia	1.98	8	ePN	Pn	20 09 48.9	+0.2
DRO	Drossia	1.98	8	ePn	Pn	20 09 48.9	+0.2
DRO	Drossia	1.98	8	P	Pn	20 09 49.4	+0.7
DRO				S	Sn	20 10 14.6	+0.9
RLS	Riolos of Patr	2.07	2	P	Pn	20 09 51.1	+1.2
RLS	Riolos of Patr	2.07	2	ePN	Pn	20 09 49.8	-0.1
RLS	Riolos of Patr	2.07	2	ePn	Pn	20 09 49.8	-0.1
RLS	Riolos of Patr	2.07	2	P	Pn	20 09 51.1	+1.2
GUR	Goura	2.10	22	P	Pn	20 09 50.9	+0.5
GUR	Goura	2.10	22	ePN	Pn	20 09 51.1	+0.7
GUR	Goura	2.10	22	P	Pn	20 09 50.9	+0.5
DID	Didima	2.14	44	P	Pn	20 09 50.4	-0.4
DID				S	Sn	20 10 17.1	-0.5
DID	Didima	2.14	44	ePB	Pn	20 09 51.1	+0.3
DID	Didima	2.14	44	P	Pn	20 09 50.4	-0.4
DID	Didima	2.14	44	ePb	Pn	20 09 51.1	+0.3
DID				S	Sn	20 10 17.1	-0.5
KLV	Kalavryta, Ach	2.15	17	P	Pn	20 09 51.5	+0.5
KLV				S	Sn	20 10 18.7	+0.8
KLV	Kalavryta, Ach	2.15	17	ePN	Pn	20 09 51.8	+0.8
KLV	Kalavryta, Ach	2.15	17	P	Pn	20 09 51.5	+0.5
KLV	Kalavryta, Ach	2.15	17	ePn	Pn	20 09 51.8	+0.8
KLV				S	Sn	20 10 18.7	+0.8
KARN	Karanos	2.16	105	P	Pn	20 09 52.2	+1.1
KARN				S	Sn	20 10 18.7	+0.6
KARN	Karanos	2.16	105	ePN	Pn	20 09 52.4	+1.3
KARN	Karanos	2.16	105	P	Pn	20 09 52.2	+1.1
KARN				S	Sn	20 10 18.7	+0.6
VLS	Valsamata	2.27	344	P	Pn	20 09 52.5	-0.2
VLS	Valsamata	2.27	344	ePN	Pn	20 09 52.6	-0.2
VLS	Valsamata	2.27	344	P	Pn	20 09 52.5	-0.2
VAM	Vamos	2.38	103	ePN	Pn	20 09 54.7	+0.5
VAM	Vamos	2.38	103	ePn	Pn	20 09 54.7	+0.5
LTK	Loutraki	2.40	32	P	Pn	20 09 54.7	+0.2
LTK	Loutraki	2.40	32	ePN	Pn	20 09 54.5	0.0
LTK	Loutraki	2.40	32	ePn	Pn	20 09 54.5	0.0
EFP	Efpalio	2.47	10	P	Pn	20 09 56.4	+1.0
EFP	Efpalio	2.47	10	ePB	Pn	20 09 56.5	+1.0
EFP	Efpalio	2.47	10	P	Pn	20 09 56.4	+1.0
KALE	Kalithea	2.48	14	P	Pn	20 09 56.6	+1.0
KALE				S	Sn	20 10 27.4	+1.3
KALE	Kalithea	2.48	14	ePB	Pn	20 09 56.2	+0.6
KALE	Kalithea	2.48	14	ePb	Pn	20 09 56.2	+0.6
KALE	Kalithea	2.48	14	P	Pn	20 09 56.6	+1.0
KALE				S	Sn	20 10 27.4	+1.3
DSF	Desfina	2.59	21	ePN	Pn	20 09 57.3	+0.2
DSF	Desfina	2.59	21	ePn	Pn	20 09 57.3	+0.2
PDO	Prodromos	2.61	357	P	Pn	20 09 57.9	+0.6
PDO				S	Sn	20 10 31.2	+2.0
PDO	Prodromos	2.61	357	ePB	Pn	20 09 58.0	+0.6
PDO	Prodromos	2.61	357	P	Pn	20 09 57.9	+0.6
PDO				S	Sn	20 10 31.2	+2.0
ATH	Athens Observa	2.73	43	ePN	Pn	20 09 59.5	+0.5
ATH	Athens Observa	2.73	43	ePn	Pn	20 09 59.5	+0.5
LKD2	Lefkada island	2.85	349	P	Pn	20 10 01.5	+0.8
LKD2	Lefkada island	2.85	349	ePN	Pn	20 10 00.8	+0.1
LKD2	Lefkada island	2.85	349	ePn	Pn	20 10 00.8	+0.1
LKD2	Lefkada island	2.85	349	P	Pn	20 10 01.5	+0.8
EVR	Evrytania	2.95	7	ePN	Pn	20 10 02.4	+0.4
EVR	Evrytania	2.95	7	ePn	Pn	20 10 02.4	+0.4
AXAR	Agios Charalam	2.96	20	ePN	Pn	20 10 03.0	+0.8
AXAR	Agios Charalam	2.96	20	ePn	Pn	20 10 03.0	+0.8
LKR	Lokris	2.96	26	ePN	Pn	20 10 01.9	-0.2
LKR	Lokris	2.96	26	ePn	Pn	20 10 01.9	-0.2
AGG	Agios Georgios	3.13	14	ePN	Pn	20 10 05.5	+1.0
AGG	Agios Georgios	3.13	14	P	Pn	20 10 05.9	+1.4
AGG	Agios Georgios	3.13	14	ePN	Pn	20 10 05.5	+1.0
AGG	Agios Georgios	3.13	14	ePn	Pn	20 10 05.5	+1.0
AGG	Agios Georgios	3.13	14	P	Pn	20 10 05.9	+1.4
APE	Apeiranthos	3.53	71	ePN	Pn	20 10 08.5	-1.5
APE	Apeiranthos	3.53	71	ePn	Pn	20 10 08.5	-1.5
THL	Klokotos Trika	3.61	8	ePN	Pn	20 10 11.3	+0.3
THL	Klokotos Trika	3.61	8	ePn	Pn	20 10 11.3	+0.3
NEO	Neokhori	3.63	23	ePN	Pn	20 10 11.9	+0.6
NEO	Neokhori	3.63	23	ePn	Pn	20 10 11.9	+0.6
IGT	Igoumenitsa	3.63	347	ePN	Pn	20 10 10.6	-0.8
IGT	Igoumenitsa	3.63	347	ePN	Pn	20 10 10.5	-0.9
IGT	Igoumenitsa	3.63	347	ePn	Pn	20 10 10.5	-0.9
AOS	Alonnisos	3.75	31	ePN	Pn	20 10 10.9	-2.1
AOS	Alonnisos	3.75	31	ePn	Pn	20 10 11.0	-2.1
KEK	Kerkira	3.92	342	ePN	Pn	20 10 15.2	-0.1
KEK	Kerkira	3.92	342	ePn	Pn	20 10 15.2	-0.1
NEST	Nestorio	4.43	357	ePN	Pn	20 10 23.4	+1.0
NEST	Nestorio	4.43	357	ePn	Pn	20 10 23.4	+1.0
CHOS	Chios island	4.45	56	ePN	Pn	20 10 21.5	-1.1
CHOS	Chios island	4.45	56	ePn	Pn	20 10 21.5	-1.1
FNA	Florina	4.79	0	ePN	Pn	20 10 26.4	-0.9
FNA	Florina	4.79	0	ePN	Pn	20 10 26.9	-0.4
FNA	Florina	4.79	0	ePn	Pn	20 10 26.9	-0.4
SIGR	SIGRI	4.80	47	ePN	Pn	20 10 25.9	-1.6
SIGR	SIGRI	4.80	47	ePn	Pn	20 10 25.9	-1.6
OUR	Ouranopolis	4.81	25	ePN	Pn	20 10 27.4	0.0
OUR	Ouranopolis	4.81	25	ePn	Pn	20 10 27.5	0.0
BODT	Bodrum	4.91	76	ePN	Pn	20 10 27.9	-1.0
BODT	Bodrum	4.91	76	ePn	Pn	20 10 27.9	-1.0
GRG	Griva	5.03	9	ePN	Pn	20 10 30.3	-0.3
GRG	Griva	5.03	9	ePn	Pn	20 10 30.3	-0.3
DAT	Datca	5.07	80	ePN	Pn	20 10 30.0	-1.2
DAT	Datca	5.07	80	ePn	Pn	20 10 30.0	-1.2
SOH	Sokhos	5.07	17	ePN	Pn	20 10 31.2	0.0
SOH	Sokhos	5.07	17	ePn	Pn	20 10 31.2	0.0
KNT	Kendrikon	5.30	13	ePN	Pn	20 10 34.1	-0.3
KNT	Kendrikon	5.30	13	ePN	Pn	20 10 34.5	+0.1
KNT	Kendrikon	5.30	13	ePn	Pn	20 10 34.5	+0.1
GADA	Gvkgeada	5.51	39	ePN	Pn	20 10 38.1	+0.9
GADA	Gvkgeada	5.51	39	ePn	Pn	20 10 38.1	+0.9
GELI	Tayfur-Gelibol	5.97	41	eP	Pn	20 10 43.9	+0.5
GELI	Tayfur-Gelibol	5.97	41	eP	Pn	20 10 43.9	+0.5
ALN	Alexandroupoli	6.13	35	ePN	Pn	20 10 43.1	-2.5
ALN	Alexandroupoli	6.13	35	ePn	Pn	20 10 43.1	-2.5
BARS	Barje	6.83	3	⇑iPn	Pn	20 10 54.0	-1.3
STON	Ston	7.44	339	ePn	Pn	20 11 00.5	-3.2
STON				Sn	Sn	20 12 16.7	-11
STON	Ston	7.44	339	ePn	Pn	20 11 00.4	-3.2
IVAS	Ivanjica	7.64	353	ePn	Pn	20 11 03.4	-3.0
DIVS	Divibare	8.17	353	⇑iPn	Pn	20 11 10.9	-2.9
TEKS	Tekeris	8.67	351	⇑iPn	Pn	20 11 18.1	-2.4
UDBI	Udbina	9.54	335	ePn	Pn	20 11 29.2	-3.3
UDBI				Sn	Sn	20 13 09.0	-11
UDBI	Udbina	9.54	335	ePn	Pn	20 11 29.2	-3.3
KEST	Kesra	9.76	272	Pn	Pn	20 11 36.4	+0.8
	0.1nm,0.3s,baz=51,slow=14,SNR=2.7						
NVLJ	Novalja	9.89	332	ePn	Pn	20 11 36.1	-1.2
NVLJ				Sn	Sn	20 13 17.2	-11
NVLJ	Novalja	9.89	332	ePn	Pn	20 11 36.0	-1.2
BRTR	Keskin Array B	10.40	65	Pn	Pn	20 11 43.9	-0.5
	0.0nm,0.3s,baz=254,slow=12,SNR=4.0						
AKASG	Malin Array Be	15.77	19	Pn	Pn	20 12 51.6	-5.5
	0.8nm,0.3s,baz=213,slow=9.9,SNR=2.7						
BRG	Berggiesshubel	15.81	343	eP	P	20 13 05.7	+4.2
	6.2nm,1.2s						
KBZ	Khabaz	18.22	58	P	Pn	20 13 24.8	-3.2
	baz=323,slow=20						
ESDC	Sonseca Array	20.32	288	P	P	20 13 49.9	-1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.2nm,0.6s,baz=83,slow=9.5,SNR=6.2						
FINES	FINESS Array B	25.65	5	P	P	20 14 42.4	-2.4
	0.7nm,0.5s,baz=166,slow=12,SNR=5.9						
TORD	Torodi Ar. Bea	28.82	223	P	P	20 15 13.6	0.0
	0.6nm,0.7s,baz=44,slow=9.0,SNR=5.2						
ARCES	ARCESS Array B	33.68	3	P	P	20 15 54.4	-1.5
	1.2nm,0.8s,baz=192,slow=7.4,SNR=2.8						
MKAR	Makanchi Array	45.91	57	P	P	20 17 35.0	-2.8
	1.0nm,0.4s,baz=271,slow=7.2,SNR=19						
ZALV	Zalesovo Beam	46.68	47	P	P	20 17 40.1	-3.6
	0.7nm,0.3s,baz=284,slow=7.5,SNR=8.4						
SONM	Songino Array	61.34	50	P	P	20 19 29.0	-2.1
	0.8nm,0.6s,baz=287,slow=8.7,SNR=8.3						
CMAR	Chiang Mai Arr	69.53	82	P	P	20 20 23.1	-1.3
	0.8nm,0.8s,baz=294,slow=7.4,SNR=6.6						

IDC 02 20:21:17.1±2.4, 6°.47S×129°.37E, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.2/19, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=145.1km s-min=32.9km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.24	161	Pn	Pn	20 24 39.6	-0.6
	0.2nm,0.3s,baz=343,slow=13,SNR=15						
WRA				Sn	Sn	20 27 05.6	-13
	0.2nm,0.3s,baz=334,slow=22,SNR=6.4						
ASAR	Alice Springs	17.65	166	P	Pn	20 25 24.9	+0.3
	0.1nm,0.3s,baz=345,slow=12,SNR=6.4						
MKAR	Makanchi Array	67.44	327	P	P	20 32 14.7	0.0
	0.1nm,0.4s,baz=114,slow=7.7,SNR=3.3						

ISCJB 02 20:25:34.2±0.3, 38°.09N±0°.02×23°.29E±0°.02, h5km±3km, Error ellipse: s-maj=2.8km s-min=2.7km az=5.0
CSEM 02 20:25:34.3±0.1, 38°.10N×23°.27E, h10km, MD2.8, Error ellipse: s-maj=2.1km s-min=2.0km az=146.0
ATH 02 20:25:34.7, 38°.11N×23°.27E, h9km±1km, MD2.8/15, ML2.1
THE 02 20:25:34.8, 38°.11N×23°.27E, h4km±1km, ML2.2/15, Error ellipse: s-maj=1.2km s-min=0.4km az=87.0
ISC 02 20:25:34.5±0.8, 38°.11N±0°.02×23°.27E±0°.02, h7km±5km, n69, σ0ˢ.43/112, Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VILL	Villia	0.06	36	P	Pg	20 25 36.2	0.0
VILL				S	Sg	20 25 37.8	+0.3
VILL	Villia	0.06	36	ePg	Pg	20 25 36.3	0.0
VILL				S	Sg	20 25 37.8	+0.3
VILL				eSg	Sg	20 25 38.4	+0.8
VIL2	Platees	0.10	1	ePG	Pg	20 25 36.3	-0.5
VIL2				eSG	Sg	20 25 38.4	+0.1
LTK	Loutraki	0.25	249	P	Pg	20 25 38.9	-0.5
LTK				S	Sg	20 25 43.4	+0.6
LTK	Loutraki	0.25	249	ePG	Pg	20 25 39.0	-0.5
LTK				eSG	Sg	20 25 44.0	+1.2
LTK	Loutraki	0.25	249	ePg	Pg	20 25 39.0	-0.5
LTK				S	Sg	20 25 43.4	+0.6
LTK				eSg	Sg	20 25 44.0	+1.2
ATH	Athens Observa	0.38	111	P	Pg	20 25 42.1	+0.2
ATH				S	Sg	20 25 47.6	+0.6
ATH	Athens Observa	0.38	111	ePB	Pg	20 25 42.4	+0.5
ATH				eSB	Sg	20 25 47.4	+0.4
ATH	Athens Observa	0.38	111	P	Pg	20 25 42.1	+0.2
ATH	Athens Observa	0.38	111	ePb	Pg	20 25 42.4	+0.5
ATH				eSb	Sg	20 25 47.4	+0.4
ATHU	Athens Univers	0.43	109	P	Pg	20 25 43.0	+0.1
ATHU				S	Sg	20 25 49.5	+0.9
ATHU	Athens Univers	0.43	109	P	Pg	20 25 43.0	+0.1
ATHU				S	Sg	20 25 49.5	+0.9
PTL	Penteli	0.48	98	P	Pg	20 25 43.6	-0.1
PTL	Penteli	0.48	98	ePB	Pg	20 25 43.4	-0.3
PTL				eSB	Sg	20 25 49.9	-0.1
PTL	Penteli	0.48	98	P	Pg	20 25 43.6	-0.1
PTL				eSb	Sg	20 25 49.9	-0.1
LKR	Lokris	0.58	339	P	Pg	20 25 45.5	-0.1
LKR				S	Sg	20 25 53.4	+0.3
LKR	Lokris	0.58	339	ePG	Pg	20 25 45.6	-0.1
LKR	Lokris	0.58	339	P	Pg	20 25 45.5	-0.1
LKR				S	Sg	20 25 53.4	+0.3
DID	Didima	0.61	182	P	Pg	20 25 45.3	-0.9
DID				S	Sb	20 25 55.3	-0.9
DID	Didima	0.61	182	ePB	Pg	20 25 45.7	-0.5
DID				eSB	Sg	20 25 54.6	+0.5
DID	Didima	0.61	182	P	Pg	20 25 45.3	-0.9
DID	Didima	0.61	182	ePb	Pg	20 25 45.7	-0.5
DID				eSb	Sg	20 25 54.6	+0.5
DID				S	Sb	20 25 55.3	-0.9
MRKA	Markates	0.64	23	P	Pg	20 25 47.2	+0.3
MRKA				S	Sb	20 25 57.2	-0.1
MRKA	Markates	0.64	23	ePG	Pg	20 25 46.9	0.0
MRKA	Markates	0.64	23	ePg	Pg	20 25 46.9	0.0
MRKA	Markates	0.64	23	P	Pg	20 25 47.2	+0.3
MRKA				S	Sb	20 25 57.2	-0.1
DSF	Desfina	0.65	297	P	Pg	20 25 46.6	-0.5
DSF				S	Sb	20 25 57.4	-0.2
DSF	Desfina	0.65	297	ePB	Pg	20 25 46.7	-0.4
DSF	Desfina	0.65	297	ePb	Pg	20 25 46.7	-0.4
DSF				S	Sb	20 25 57.4	-0.2
GUR	Goura	0.75	257	P	Pg	20 25 49.0	+0.1
GUR				S	Sb	20 25 59.9	-0.5
GUR	Goura	0.75	257	ePB	Pg	20 25 49.1	+0.1
GUR				eSB	Sb	20 26 00.0	-0.5
GUR	Goura	0.75	257	P	Pg	20 25 49.0	+0.1
GUR				S	Sb	20 25 59.9	-0.5
SMIA	Simia	0.77	357	ePB	Pg	20 25 49.5	+0.3
SMIA	Simia	0.77	357	ePb	Pg	20 25 49.5	+0.3
AXAR	Agios Charalam	0.81	324	P	Pg	20 25 49.7	-0.3
AXAR				S	Sb	20 26 02.2	+0.2
AXAR	Agios Charalam	0.81	324	ePG	Pg	20 25 49.9	-0.1
AXAR	Agios Charalam	0.81	324	ePg	Pg	20 25 49.9	-0.1
AXAR				S	Sb	20 26 02.2	+0.2
KLV	Kalavryta, Ach	0.88	266	ePB	Pg	20 25 50.6	-0.8
KLV				eSB	Sb	20 26 04.2	0.0
KLV	Kalavryta, Ach	0.88	266	ePb	Pg	20 25 50.6	-0.8
KLV				eSb	Sb	20 26 04.2	0.0
KALE	Kalithea	0.93	288	ePB	Pg	20 25 52.5	+0.2
KALE	Kalithea	0.93	288	ePb	Pg	20 25 52.5	+0.2
VLX	Vlachokerasia	1.02	224	P	Pg	20 25 53.8	-0.3
VLX				S	Sb	20 26 08.8	+0.6
VLX	Vlachokerasia	1.02	224	ePN	Pb	20 25 54.7	+0.1
VLX	Vlachokerasia	1.02	224	P	Pg	20 25 53.8	-0.3
VLX	Vlachokerasia	1.02	224	ePn	Pb	20 25 54.7	+0.1
VLX				S	Sb	20 26 08.8	+0.6
EFP	Efpalio	1.11	287	ePN	Pg	20 25 56.0	+0.1
EFP	Efpalio	1.11	287	ePn	Pg	20 25 56.0	+0.1
AOS	Alonnisos	1.16	24	P	Pb	20 25 56.3	-0.6
AOS				S	Sn	20 26 13.1	-0.2
AOS	Alonnisos	1.16	24	ePB	Pb	20 25 56.6	-0.3
AOS	Alonnisos	1.16	24	P	Pb	20 25 56.3	-0.6
AOS	Alonnisos	1.16	24	ePb	Pb	20 25 56.6	-0.3
AOS				S	Sn	20 26 13.1	-0.2
AGG	Agios Georgios	1.17	321	P	Pb	20 25 56.6	-0.4
AGG				S	Sn	20 26 13.5	0.0
AGG	Agios Georgios	1.17	321	ePB	Pb	20 25 56.9	-0.1
AGG	Agios Georgios	1.17	321	P	Pb	20 25 56.6	-0.4
AGG	Agios Georgios	1.17	321	ePb	Pb	20 25 56.9	-0.1
AGG				S	Sn	20 26 13.5	0.0
NEO	Neokhori	1.19	358	P	Pb	20 25 57.4	-0.1
NEO	Neokhori	1.19	358	ePB	Pb	20 25 57.6	+0.1
NEO	Neokhori	1.19	358	P	Pb	20 25 57.4	-0.1
DRO	Drossia	1.24	263	P	Pn	20 25 58.0	-0.3
DRO				S	Sn	20 26 16.2	+0.9
DRO	Drossia	1.24	263	P	Pn	20 25 58.0	-0.3
DRO				S	Sn	20 26 16.2	+0.9
XOR	Xorichti	1.25	357	P	Pn	20 25 58.2	-0.3
XOR				S	Sn	20 26 15.8	+0.2
XOR	Xorichti	1.25	357	ePB	Pn	20 25 58.3	-0.3
XOR	Xorichti	1.25	357	P	Pn	20 25 58.2	-0.3
XOR				S	Sn	20 26 15.8	+0.2
AMT	Artemida-Makis	1.36	245	P	Pb	20 26 00.5	+0.2
AMT				S	Sg	20 26 18.7	+0.4
AMT	Artemida-Makis	1.36	245	P	Pb	20 26 00.5	+0.2
AMT				S	Sg	20 26 18.7	+0.4
ITM	Ithomi	1.41	229	ePG	Pb	20 26 01.1	-0.1
ITM	Ithomi	1.41	229	ePg	Pb	20 26 01.1	-0.1
VLI	Veliai	1.42	191	ePG	Pn	20 26 00.6	-0.1
VLI	Veliai	1.42	191	ePg	Pn	20 26 00.6	-0.1

MAN 02 20:26:18, 10°.01N×123°.46E, h1km, mb4.4, ML3.2, MS3.1, Cebu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TBP	Tagbilaran	0.51	128	eP	Pg	20 26 27.9	+0.1
TBP				eS	Sg	20 26 33.4	-1.1
GUIM	Jordan	1.05	306	eP	Pb	20 26 39.4	+0.4
GUIM				eS	Sn	20 26 54.9	-0.2
MSLP	Maasin	1.39	85	eP	Pn	20 26 44.3	-0.2
MSLP				eS	Sn	20 27 03.8	+0.2
DCPH	Dipolog City	1.42	184	i P	Pg	20 26 45.3	0.0
OCLP	Ormoc	1.54	48	eP	Pg	20 26 47.6	+0.2
PAGZ	Pagadian	2.15	182	eP	Pn	20 26 55.8	+0.7
BUKP	Musuan	2.65	143	eP	Pn	20 27 02.3	+0.4

IDC 02 20:39:17.7±1.1, 36°.15N×21°.42E, h0km, mb3.7/9, mb1 3.8/12, mb1mx3.7/28, mbtmp3.6/12, ML3.3/3, Error ellipse: s-maj=27.1km s-min=18.5km az=151.0
CSEM 02 20:39:20.2±0.4, 36°.03N×21°.26E, h10km, MD3.7, Error ellipse: s-maj=9.1km s-min=4.7km az=41.0
THE 02 20:39:22.2, 36°.08N×21°.31E, h13km±2km, ML3.3/9, Error ellipse: s-maj=3.2km s-min=0.9km az=231.0
ATH 02 20:39:25.4, 36°.19N×21°.75E, h36km±3km, MD3.7/24, ML3.2
ISC 02 20:39:21.0±1.4, 36°.06N±0°.04×21°.30E±0°.04, h18km±6km, n155, σ1ˢ.35/170, mb3.6/8, Southern Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.91	23	P	Pg	20 39 38.0	-0.6
PYL				S	Sn	20 39 52.1	+0.7
PYL	PYLOS	0.91	23	ePN	Pg	20 39 39.2	+0.6
PYL				eSN	Sg	20 39 49.6	-1.0
PYL	PYLOS	0.91	23	P	Pg	20 39 38.0	-0.6
PYL	PYLOS	0.91	23	ePn	Pg	20 39 39.2	+0.6
PYL				S	Sn	20 39 52.1	+0.7
SFD	Strofades	1.21	349	P	Pn	20 39 43.1	+0.1
SFD				S	Sg	20 40 01.3	+1.2
SFD	Strofades	1.21	349	P	Pn	20 39 43.1	+0.1
SFD				S	Sg	20 40 01.3	+1.2
ITM	Ithomi	1.22	24	P	Pn	20 39 44.2	+1.0
ITM	Ithomi	1.22	24	ePB	Pn	20 39 43.8	+0.6
ITM				eSN	Sb	20 39 57.9	-1.2
ITM	Ithomi	1.22	24	ePn	Pn	20 39 43.8	+0.6
ITM	Ithomi	1.22	24	P	Pn	20 39 44.2	+1.0
KYTH	Kithira	1.42	81	P	Pn	20 39 47.2	+1.2
KYTH	Kithira	1.42	81	P	Pn	20 39 47.2	+1.2
VLI	Veliai	1.48	63	P	Pn	20 39 47.8	+1.1
VLI				S	Sn	20 40 07.2	+1.7
VLI	Veliai	1.48	63	ePN	Pn	20 39 47.9	+1.2
VLI				eSN	Sn	20 40 00.6	-4.9
VLI	Veliai	1.48	63	P	Pn	20 39 47.8	+1.1
VLI				S	Sn	20 40 07.2	+1.7
AMT	Artemida-Makis	1.50	13	P	Pn	20 39 47.8	+0.7
AMT				S	Sn	20 40 07.2	+0.9
AMT	Artemida-Makis	1.50	13	ePN	Pb	20 39 49.4	+1.0
AMT	Artemida-Makis	1.50	13	P	Pn	20 39 47.8	+0.7
AMT	Artemida-Makis	1.50	13	ePn	Pb	20 39 49.4	+1.0
AMT				S	Sn	20 40 07.2	+0.9
VLX	Vlachokerasia	1.57	33	P	Pn	20 39 48.9	+0.9
VLX				S	Sn	20 40 08.7	+0.8
VLX	Vlachokerasia	1.57	33	ePN	Pn	20 39 48.9	+0.9
VLX				eSN	Sn	20 40 05.8	-2.1
VLX	Vlachokerasia	1.57	33	P	Pn	20 39 48.9	+0.9
VLX				S	Sn	20 40 08.7	+0.8
ANKY	Antikythira Is	1.64	96	P	Pn	20 39 50.2	+1.3
ANKY				S	Sn	20 40 11.6	+2.1
ANKY	Antikythira Is	1.64	96	ePN	Pn	20 39 48.7	-0.2
ANKY				eSN	Sn	20 40 05.9	-3.6
ANKY	Antikythira Is	1.64	96	ePn	Pn	20 39 48.7	-0.2
ANKY	Antikythira Is	1.64	96	P	Pn	20 39 50.2	+1.3
ANKY				S	Sn	20 40 11.6	+2.1
DRO	Drossia	1.91	10	P	Pn	20 39 54.1	+1.4
DRO	Drossia	1.91	10	ePN	Pn	20 39 54.6	+1.9
DRO	Drossia	1.91	10	P	Pn	20 39 54.1	+1.4
DRO	Drossia	1.91	10	ePn	Pn	20 39 54.6	+1.9
RLS	Riolos of Patr	2.00	4	ePN	Pn	20 39 56.2	+2.4
RLS	Riolos of Patr	2.00	4	ePn	Pn	20 39 56.2	+2.4
GUR	Goura	2.05	24	P	Pn	20 39 56.2	+1.6
GUR				S	Sn	20 40 21.4	+1.6
GUR	Goura	2.05	24	ePB	Pn	20 39 56.6	+2.0
GUR	Goura	2.05	24	P	Pn	20 39 56.2	+1.6
GUR	Goura	2.05	24	ePb	Pn	20 39 56.6	+2.0
GUR				S	Sn	20 40 21.4	+1.6
KLV	Kalavryta, Ach	2.09	19	P	Pn	20 39 56.0	+0.8
KLV	Kalavryta, Ach	2.09	19	ePN	Pn	20 39 56.9	+1.7
KLV	Kalavryta, Ach	2.09	19	P	Pn	20 39 56.0	+0.8
KLV	Kalavryta, Ach	2.09	19	ePn	Pn	20 39 56.9	+1.7
DID	Didima	2.12	47	P	Pn	20 39 56.2	+0.7
DID				S	Sn	20 40 22.6	+1.1
DID	Didima	2.12	47	ePB	Pn	20 39 56.3	+0.7
DID	Didima	2.12	47	P	Pn	20 39 56.2	+0.7
DID				S	Sn	20 40 22.6	+1.1
KARN	Karanos	2.23	106	P	Pn	20 39 57.6	+0.5
KARN				S	Sn	20 40 26.7	+2.5
KARN	Karanos	2.23	106	ePN	Pn	20 39 57.7	+0.6
KARN	Karanos	2.23	106	P	Pn	20 39 57.6	+0.5
KARN				S	Sn	20 40 26.7	+2.5
LTK	Loutraki	2.37	34	ePN	Pn	20 39 59.8	+0.8
LTK	Loutraki	2.37	34	ePn	Pn	20 39 59.8	+0.8
EFP	Efpalio	2.41	11	ePN	Pn	20 40 02.2	+2.7
EFP	Efpalio	2.41	11	ePn	Pn	20 40 02.2	+2.7
KALE	Kalithea	2.42	16	ePN	Pn	20 40 02.2	+2.5
KALE	Kalithea	2.42	16	ePn	Pn	20 40 02.2	+2.5
VAM	Vamos	2.45	105	ePN	Pn	20 40 00.5	+0.4
VAM	Vamos	2.45	105	ePn	Pn	20 40 00.5	+0.4
PDO	Prodromos	2.53	358	P	Pn	20 40 03.0	+1.8
PDO	Prodromos	2.53	358	ePN	Pn	20 40 03.6	+2.4
PDO	Prodromos	2.53	358	P	Pn	20 40 03.0	+1.8
PDO	Prodromos	2.53	358	ePn	Pn	20 40 03.6	+2.4
DSF	Desfina	2.54	22	ePN	Pn	20 40 02.2	+0.8
DSF	Desfina	2.54	22	ePn	Pn	20 40 02.2	+0.8
VILL	Villia	2.64	37	ePn	Pn	20 40 03.2	+0.4
VIL2	Platees	2.66	36	ePN	Pn	20 40 03.2	+0.2
ATH	Athens Observa	2.72	45	ePN	Pn	20 40 04.1	+0.4
ATH	Athens Observa	2.72	45	ePn	Pn	20 40 04.1	+0.4
LKD2	Lefkada island	2.77	350	P	Pn	20 40 05.1	+0.6
LKD2				S	Sn	20 40 39.2	+1.8
LKD2	Lefkada island	2.77	350	P	Pn	20 40 05.1	+0.6
LKD2				S	Sn	20 40 39.2	+1.8
PTL	Penteli	2.85	45	ePN	Pn	20 40 05.7	0.0
PTL	Penteli	2.85	45	ePn	Pn	20 40 05.7	0.0
EVR	Evrytania	2.88	8	P	Pn	20 40 07.6	+1.6
EVR	Evrytania	2.88	8	ePN	Pn	20 40 09.5	+3.5
EVR	Evrytania	2.88	8	P	Pn	20 40 07.6	+1.6
AXAR	Agios Charalam	2.91	21	P	Pn	20 40 07.7	+1.3
AXAR	Agios Charalam	2.91	21	ePN	Pn	20 40 08.6	+2.2
AXAR	Agios Charalam	2.91	21	P	Pn	20 40 07.7	+1.3
AXAR	Agios Charalam	2.91	21	ePn	Pn	20 40 08.6	+2.2
LKR	Lokris	2.92	27	P	Pn	20 40 07.5	+1.0
LKR	Lokris	2.92	27	ePN	Pn	20 40 07.2	+0.7
LKR	Lokris	2.92	27	ePn	Pn	20 40 07.2	+0.7
LKR	Lokris	2.92	27	P	Pn	20 40 07.5	+1.0
AGG	Agios Georgios	3.07	15	ePN	Pn	20 40 09.5	+1.0
AGG	Agios Georgios	3.07	15	P	Pn	20 40 10.3	+1.7
AGG				S	Sn	20 40 47.1	+2.3
AGG	Agios Georgios	3.07	15	ePn	Pn	20 40 09.5	+1.0
AGG	Agios Georgios	3.07	15	P	Pn	20 40 10.3	+1.7
AGG				S	Sn	20 40 47.1	+2.3
DSL	Palaion Diasel	3.07	357	P	Pn	20 40 09.2	+0.6
DSL	Palaion Diasel	3.07	357	P	Pn	20 40 09.2	+0.6
SMIA	Simia	3.20	28	ePN	Pn	20 40 11.6	+1.3
SMIA	Simia	3.20	28	ePn	Pn	20 40 11.6	+1.3
MRKA	Markates	3.21	34	ePN	Pn	20 40 10.9	+0.4
MRKA	Markates	3.21	34	ePn	Pn	20 40 10.9	+0.4
LAST	Lasithi	3.52	104	ePN	Pn	20 40 15.8	+0.9
LAST	Lasithi	3.52	104	ePn	Pn	20 40 15.8	+0.9
THL	Klokotos Trika	3.54	9	P	Pn	20 40 15.9	+0.8
THL	Klokotos Trika	3.54	9	ePN	Pn	20 40 16.8	+1.8
THL	Klokotos Trika	3.54	9	P	Pn	20 40 15.9	+0.8
THL	Klokotos Trika	3.54	9	ePn	Pn	20 40 16.8	+1.8
IGT	Igoumenitsa	3.55	348	ePN	Pn	20 40 14.3	-0.9
IGT	Igoumenitsa	3.55	348	ePn	Pn	20 40 14.3	-0.9
APE	Apeiranthos	3.55	72	ePN	Pn	20 40 12.9	-2.4
APE	Apeiranthos	3.55	72	ePn	Pn	20 40 12.9	-2.4
NEO	Neokhori	3.58	25	P	Pn	20 40 16.4	+0.8
NEO	Neokhori	3.58	25	ePN	Pn	20 40 16.6	+1.0
NEO	Neokhori	3.58	25	ePn	Pn	20 40 16.6	+1.0
XOR	Xorichti	3.62	24	ePN	Pn	20 40 18.0	+1.8
XOR	Xorichti	3.62	24	ePn	Pn	20 40 18.0	+1.8
AOS	Alonnisos	3.72	33	ePN	Pn	20 40 17.6	+0.1
AOS	Alonnisos	3.72	33	ePn	Pn	20 40 17.6	+0.1
KZN	Kozani	4.25	5	P	Pn	20 40 26.7	+1.8
KZN	Kozani	4.25	5	P	Pn	20 40 26.7	+1.8
NEST	Nestorio	4.35	358	P	Pn	20 40 28.1	+1.8
NEST	Nestorio	4.35	358	P	Pn	20 40 28.1	+1.8
CHOS	Chios island	4.45	57	ePN	Pn	20 40 25.0	-2.6
CHOS	Chios island	4.45	57	ePn	Pn	20 40 25.0	-2.6
PLG	Polygyros	4.62	21	ePN	Pn	20 40 30.7	+0.7
PLG	Polygyros	4.62	21	ePn	Pn	20 40 30.7	+0.7
FNA	Florina	4.71	1	ePN	Pn	20 40 31.2	0.0
FNA	Florina	4.71	1	P	Pn	20 40 32.1	+0.9
FNA	Florina	4.71	1	ePn	Pn	20 40 31.2	0.0
FNA	Florina	4.71	1	P	Pn	20 40 32.1	+0.9
HORT	Hortiatis	4.74	17	ePN	Pn	20 40 31.1	-0.6
HORT	Hortiatis	4.74	17	ePn	Pn	20 40 31.1	-0.6
TIP	Timpagrande	4.76	312	P	Pn	20 40 32.1	+0.2
TIP	Timpagrande	4.76	312	P	Pn	20 40 32.1	+0.2
OUR	Ouranopolis	4.76	26	ePN	Pn	20 40 25.1	-6.7
SIGR	SIGRI	4.79	48	ePN	Pn	20 40 30.8	-1.4
SIGR	SIGRI	4.79	48	ePn	Pn	20 40 30.8	-1.4
GRG	Griva	4.96	10	ePN	Pn	20 40 34.4	-0.2
GRG	Griva	4.96	10	P	Pn	20 40 35.7	+1.1
GRG	Griva	4.96	10	ePn	Pn	20 40 34.4	-0.2
GRG	Griva	4.96	10	P	Pn	20 40 35.7	+1.1
SOH	Sokhos	5.02	18	P	Pn	20 40 36.4	+1.0
SOH	Sokhos	5.02	18	P	Pn	20 40 36.4	+1.0
KNT	Kendrikon	5.24	13	ePN	Pn	20 40 38.1	-0.4
KNT	Kendrikon	5.24	13	ePn	Pn	20 40 38.1	-0.4
ALN	Alexandroupoli	6.10	36	eP	Pn	20 40 48.8	-1.4
ALN	Alexandroupoli	6.10	36	eP	Pn	20 40 48.8	-1.4
BARS	Barje	6.76	3	i Pn	Pn	20 40 59.1	-0.1
STON	Ston	7.34	339	ePn	Pn	20 41 05.7	-1.6
STON				Sn	Sn	20 42 21.6	-8.5
STON	Ston	7.34	339	ePn	Pn	20 41 05.7	-1.6
IVAS	Ivanjica	7.55	354	i Pn	Pn	20 41 09.8	-0.4
UDBI	Udbina	9.45	335	ePn	Pn	20 41 33.8	-2.4
UDBI				Sn	Sn	20 43 15.0	-7.0
KEST	Kesra	9.70	272	Pn	Pn	20 41 42.0	+2.2
	0.1nm,0.3s,baz=114,slow=20,SNR=2.9						
KEST				Sn	Sn	20 43 24.1	-4.2
	0.0nm,0.3s,baz=84,slow=18,SNR=2.7						
NVLJ	Novalja	9.80	332	ePn	Pn	20 41 41.0	0.0
NVLJ				Sn	Sn	20 43 22.0	-8.5
NVLJ	Novalja	9.80	332	ePn	Pn	20 41 40.9	0.0
BRTR	Keskin Array B	10.42	66	Pn	Pn	20 41 51.8	+2.2
	0.1nm,0.3s,baz=257,slow=14,SNR=3.8						
AKASG	Malin Array Be	15.71	19	Pn	Pn	20 42 59.0	-2.2
	0.5nm,0.3s,baz=212,slow=9.2,SNR=3.2						
KBZ	Khabaz	18.23	59	P	Pn	20 43 30.4	-2.4
	0.1nm,0.3s,baz=323,slow=20,SNR=3.1						
ESDC	Sonseca Array	20.24	288	P	P	20 43 55.1	-0.1
	1.4nm,0.7s,baz=83,slow=9.8,SNR=6.1						
FINES	FINESS Array B	25.58	5	P	P	20 44 48.0	-0.7
	0.7nm,0.5s,baz=172,slow=13,SNR=5.8						
NOA	NORSAR Array B	25.81	349	P	P	20 44 49.1	-1.7
	0.7nm,0.7s,baz=148,slow=10.0,SNR=3.3						
TORD	Torodi Ar. Bea	28.84	223	P	P	20 45 18.7	+0.3
	0.6nm,0.8s,baz=38,slow=8.7,SNR=4.2						
ARCES	ARCESS Array B	33.61	3	P	P	20 45 56.9	-3.0
	2.8nm,1.1s,baz=192,slow=12,SNR=3.5						
MKAR	Makanchi Array	45.91	57	P	P	20 47 41.0	-1.4
	0.6nm,0.3s,baz=271,slow=7.7,SNR=16						
ZALV	Zalesovo Beam	46.66	47	P	P	20 47 46.4	-1.8
	1.0nm,0.4s,baz=271,slow=8.3,SNR=6.2						
SONM	Songino Array	61.33	50	P	P	20 49 33.9	-1.7
	0.2nm,0.5s,baz=299,slow=9.7,SNR=4.9						
CMAR	Chiang Mai Arr	69.58	82	P	P	20 50 28.6	-0.6
	0.4nm,0.8s,baz=308,slow=8.9,SNR=4.9						

IDC 02 21:05:03.3±1.5, 39°.12S×178°.36E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/23, mbtmp3.7/2, Error ellipse: s-maj=69.0km s-min=41.6km az=16.0
NEIC 02 21:05:07.5, 38°.93S×178°.54E, h27km, ML4.2(WEL), After WEL.
WEL 02 21:05:08.6±0.2, 38°.90S×178°.48E, h33km, ML4.1/43, Error ellipse: s-maj=2.8km s-min=1.3km az=90.0
ISC 02 21:05:04.0±1.8, 39°.04S±0°.03×178°.65E±0°.07, h17km±10km, n191, σ1ˢ.13/195, 14C-15D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRGZ	Paritu Road	0.60	280	⇑PN	Pn	21 05 18.3	+0.3
PRGZ				eSN	Sg	21 05 24.0	-0.1
PRGZ	Paritu Road	0.60	280	P*	Pn	21 05 18.3	+0.3
CNGZ	Carnagh Statio	0.65	328	PN	Pb	21 05 18.4	+1.5
CNGZ	Carnagh Statio	0.65	328	P*	Pb	21 05 18.4	+1.5
KNZ	Kokohu	0.76	271	⇑PN	Pn	21 05 20.5	+0.6
KNZ				eSN	Sg	21 05 27.9	-0.9
KNZ	Kokohu	0.76	271	P*	Pn	21 05 20.5	+0.6
RIGZ	Rimuhau	0.77	295	PN	Pb	21 05 20.1	+1.2
TKGZ	Te Karaka	0.86	313	⇑PN	Pg	21 05 21.1	+0.3
TWGZ	Tauwhareparae	1.00	328	⇑PN	Pb	21 05 23.3	+0.3
PUZ	Puketiti	1.01	342	⇑PN	Pb	21 05 23.1	0.0
PUZ				SN	Sb	21 05 33.8	-2.3
PUZ				AML	AML	21 05 35.4	
PUZ	Puketiti	1.01	342	Pn	Pb	21 05 23.1	0.0
SNGZ	Shannon Statio	1.05	284	⇑PN	Pb	21 05 24.3	+0.5
WHHZ	Waihua	1.10	267	⇓PN	Pn	21 05 25.8	+1.1
RAGZ	Rawiri	1.10	299	⇑PN	Pb	21 05 24.7	0.0
MWZ	Matawai	1.12	308	PN	Pn	21 05 24.7	-0.3
MWZ				eSN	Sb	21 05 36.6	-2.7
MWZ				AML	AML	21 05 37.7	
MWZ				AML	AML	21 05 42.0	
MWZ	Matawai	1.12	308	Pn	Pn	21 05 24.7	-0.3
RAHZ	Arahi	1.22	275	⇑PN	Pn	21 05 27.1	+0.7
RAHZ	Arahi	1.22	275	Pn	Pn	21 05 27.1	+0.7
WMGZ	Waiomatatini S	1.23	351	PN	Pn	21 05 27.0	+0.5
ARHZ	Aropaoanui	1.30	259	⇓PN	Pb	21 05 28.9	+0.9
CKHZ	Cape Kidnapper	1.37	242	PN	Pb	21 05 29.7	+0.5
CKHZ	Cape Kidnapper	1.37	242	Pn	Pb	21 05 29.7	+0.5
URZ	Urewera	1.43	302	PN	Pn	21 05 29.2	0.0
URZ				AML	AML	21 05 47.3	
URZ				AML	AML	21 05 47.5	
URZ	Urewera	1.43	302	ePn	Pn	21 05 28.9	-0.4
URZ				eSn	Sn	21 05 46.0	-1.7
NMHZ	Naumai	1.43	267	PN	Pn	21 05 30.5	+1.1
NMHZ	Naumai	1.43	267	Pn	Pn	21 05 30.5	+1.1
HAZ	Te Kaha	1.45	332	PN	Pn	21 05 29.2	-0.3
MXZ	Matakaoa Point	1.49	350	PN	Pn	21 05 30.6	+0.5
MXZ				AML	AML	21 05 48.4	
MXZ				AML	AML	21 05 48.4	
MXZ				AML	AML	21 05 48.5	
MXZ				AML	AML	21 05 48.5	
MXZ	Matakaoa Point	1.49	350	Pn	Pn	21 05 30.6	+0.5
KAHZ	Kahuranaki	1.57	240	PN	Pn	21 05 32.6	+1.4
KAHZ	Kahuranaki	1.57	240	Pn	Pn	21 05 32.6	+1.4
MCHZ	McNeill Hill	1.57	254	⇓PN	Pn	21 05 32.8	+1.6
MCHZ	McNeill Hill	1.57	254	Pn	Pn	21 05 32.8	+1.6
BKZ	Black Stump Fm	1.68	265	⇑PN	Pn	21 05 33.6	+0.8
BKZ				eSN	Sn	21 05 51.9	-2.1
BKZ				AML	AML	21 05 53.2	
BKZ	Black Stump Fm	1.68	265	Pn	Pn	21 05 33.6	+0.8
PXZ	Pawanui	1.70	234	⇑PN	Pn	21 05 33.8	+0.9
PXZ				AML	AML	21 05 55.8	
PXZ				AML	AML	21 05 55.8	
PXZ				AML	AML	21 05 57.2	
PXZ				AML	AML	21 05 57.2	
PXZ	Pawanui	1.70	234	Pn	Pn	21 05 33.8	+0.9
EDRZ	Edgecumbe	1.76	301	⇓PN	Pn	21 05 34.5	+0.7
EDRZ				AML	AML	21 05 56.5	
EDRZ				AML	AML	21 05 57.2	
EDRZ	Edgecumbe	1.76	301	Pn	Pn	21 05 34.5	+0.7
KWHZ	Kaweka Forest	1.77	257	PN	Pn	21 05 35.2	+1.2
RRRZ	Republican Roa	1.81	292	PN	Pn	21 05 35.0	+0.5
RRRZ	Republican Roa	1.81	292	Pn	Pn	21 05 35.0	+0.5
PRRZ	Plateau Road	1.84	286	⇓PN	Pn	21 05 35.5	+0.6
PRRZ	Plateau Road	1.84	286	Pn	Pn	21 05 35.5	+0.6
TARZ	Mount Tarawera	1.86	295	⇓PN	Pn	21 05 35.8	+0.6
TARZ	Mount Tarawera	1.86	295	Pn	Pn	21 05 35.8	+0.6
ALRZ	Allen Road	1.86	284	⇓PN	Pn	21 05 36.0	+0.8
ALRZ	Allen Road	1.86	284	Pn	Pn	21 05 36.0	+0.8
KRHZ	Kereru	1.87	250	⇓PN	Pn	21 05 36.3	+1.1
MARZ	Manawahe	1.87	303	PN	Pn	21 05 35.6	+0.3
MARZ	Manawahe	1.87	303	Pn	Pn	21 05 35.6	+0.3

WIZ	White Island	1.89	322	PN	Pn	21 05 35.2	-0.4
WIZ	White Island	1.89	322	Pn	Pn	21 05 35.2	-0.4
HRRZ	Handcock Road	1.96	288	⇓PN	Pn	21 05 36.9	+0.4
HRRZ	Handcock Road	1.96	288	Pn	Pn	21 05 36.9	+0.4
HLRZ	Highlands Stat	1.96	293	PN	Pn	21 05 37.1	+0.5
PRHZ	Porangahau	1.98	231	PN	Pn	21 05 37.5	+0.7
PRHZ	Porangahau	1.98	231	Pn	Pn	21 05 37.5	+0.7
WPHZ	Waipukurau	1.99	238	⇓PN	Pn	21 05 37.8	+0.9
WPHZ	Waipukurau	1.99	238	Pn	Pn	21 05 37.8	+0.9
WPRZ	Whakapapatarin	2.01	284	PN	Pn	21 05 38.1	+0.9
OMRZ	Omania	2.01	297	PN	Pn	21 05 37.6	+0.3
OMRZ	Omania	2.01	297	Pn	Pn	21 05 37.6	+0.3
HSRZ	Hossack Road	2.01	290	PN	Pn	21 05 37.7	+0.4
OPRZ	Ohinepanea	2.03	305	⇑PN	Pn	21 05 37.2	-0.2
OPRZ	Ohinepanea	2.03	305	Pn	Pn	21 05 37.2	-0.2
BHHZ	Black Hill Sta	2.06	256	⇓PN	Pn	21 05 39.0	+1.1
BHHZ	Black Hill Sta	2.06	256	Pn	Pn	21 05 39.0	+1.1
KARZ	Kaharoa	2.14	298	PN	Pn	21 05 39.1	0.0
KARZ	Kaharoa	2.14	298	Pn	Pn	21 05 39.1	0.0
RITZ	Rihia Road	2.17	271	PN	Pn	21 05 40.8	+1.4
RITZ				AML	AML	21 06 07.9	
RITZ				AML	AML	21 06 09.5	
RITZ	Rihia Road	2.17	271	Pn	Pn	21 05 40.9	+1.4
ANWZ	Angora Road	2.20	229	PN	Pn	21 05 40.6	+0.9
RATZ	Rangitukua	2.25	273	PN	Pn	21 05 41.5	+0.9
RATZ				AML	AML	21 06 12.5	
RATZ				AML	AML	21 06 23.7	
RATZ	Rangitukua	2.25	273	Pn	Pn	21 05 41.5	+0.9
MOVZ	Moawhango	2.28	260	PN	Pn	21 05 42.5	+1.6
MOVZ				AML	AML	21 06 08.5	
MOVZ				AML	AML	21 06 08.7	
MOVZ	Moawhango	2.28	260	Pn	Pn	21 05 42.5	+1.6
DVHZ	Dannevirke	2.29	236	⇓PN	Pn	21 05 41.6	+0.5
DVHZ	Dannevirke	2.29	236	Pn	Pn	21 05 41.6	+0.5
KATZ	Kakaramea	2.30	271	PN	Pn	21 05 42.6	+1.3
KATZ				AML	AML	21 06 08.5	
KATZ				AML	AML	21 06 08.5	
KATZ	Kakaramea	2.30	271	Pn	Pn	21 05 42.6	+1.3
TSZ	Takapari Road	2.31	243	PN	Pn	21 05 42.0	+0.6
TSZ				SN	Sn	21 06 07.6	-1.9
TSZ				AML	AML	21 06 09.8	
TSZ	Takapari Road	2.31	243	Pn	Pn	21 05 42.0	+0.6
OTVZ	Oturere	2.32	266	PN	Pn	21 05 43.1	+1.4
OTVZ				AML	AML	21 06 09.1	
OTVZ				AML	AML	21 06 13.6	
OTVZ	Oturere	2.32	266	Pn	Pn	21 05 43.1	+1.4
KRVZ	Karewarewa	2.34	268	PN	Pn	21 05 42.9	+1.1
KRVZ				AML	AML	21 06 08.8	
KRVZ				AML	AML	21 06 12.7	
KRVZ	Karewarewa	2.34	268	Pn	Pn	21 05 42.9	+1.1
NGZ	Ngauruhoe	2.37	266	*e*PN	Pn	21 05 43.7	+1.3
NGZ				AML	AML	21 06 10.0	
NGZ				AML	AML	21 06 12.0	
WTVZ	West Tongariro	2.38	267	PN	Pn	21 05 43.8	+1.3
WTVZ				AML	AML	21 06 12.9	
WTVZ				AML	AML	21 06 17.9	
WTVZ	West Tongariro	2.38	267	Pn	Pn	21 05 43.8	+1.3
WNVZ	Wahianoa	2.39	262	PN	Pn	21 05 44.0	+1.4
WNVZ	Wahianoa	2.39	262	Pn	Pn	21 05 44.0	+1.4
WHVZ	Whangaehu Hut	2.39	263	⇑PN	Pn	21 05 44.0	+1.4
DRZ	Dome Shelter	2.41	263	PN	Pn	21 05 44.7	+1.8
DRZ				AML	AML	21 06 13.8	
DRZ				AML	AML	21 06 14.1	
DRZ	Dome Shelter	2.41	263	Pn	Pn	21 05 44.7	+1.8
FWVZ	Far West T-bar	2.42	264	⇓PN	Pn	21 05 44.3	+1.3
FWVZ				AML	AML	21 06 13.0	
FWVZ				AML	AML	21 06 13.1	
FWVZ	Far West T-bar	2.42	264	Pn	Pn	21 05 44.3	+1.3
WPVZ	Whakapapa	2.42	265	PN	Pn	21 05 44.3	+1.4
WPVZ				AML	AML	21 06 12.2	
WPVZ				AML	AML	21 06 16.3	
WPVZ	Whakapapa	2.42	265	Pn	Pn	21 05 44.4	+1.4
COVZ	Chateau Observ	2.42	265	PN	Pn	21 05 44.3	+1.3
TRVZ	Turoa	2.42	263	⇑PN	Pn	21 05 44.4	+1.3
TRVZ				AML	AML	21 06 12.1	
TRVZ				AML	AML	21 06 13.1	
TRVZ	Turoa	2.42	263	Pn	Pn	21 05 44.4	+1.3
BFZ	Birch Farm	2.47	228	PN	Pn	21 05 43.6	0.0
BFZ				SN	Sn	21 06 12.1	-1.3
BFZ	Birch Farm	2.47	228	Pn	Pn	21 05 43.6	0.0
MTVZ	Mangateitei	2.49	261	PN	Pn	21 05 45.3	+1.4
MTVZ				AML	AML	21 06 12.5	
MTVZ				AML	AML	21 06 16.4	
MTVZ	Mangateitei	2.49	261	Pn	Pn	21 05 45.3	+1.4
TWVZ	Taurewa	2.50	268	PN	Pn	21 05 44.9	+0.9
TWVZ	Taurewa	2.50	268	Pn	Pn	21 05 45.0	+0.9
TLZ	Tolley Road	2.53	285	PN	Pn	21 05 44.7	+0.3
PRWZ	Pori Road	2.56	233	PN	Pn	21 05 45.8	+1.0
PKVZ	Pokaka	2.58	263	⇓PN	Pn	21 05 46.5	+1.5
PKVZ				AML	AML	21 06 21.2	
PKVZ	Pokaka	2.58	263	Pn	Pn	21 05 46.5	+1.5
POWZ	Post Office Ro	2.60	238	PN	Pn	21 05 46.4	+1.1
POWZ	Post Office Ro	2.60	238	Pn	Pn	21 05 46.4	+1.1
CPWZ	Castlepoint	2.65	224	PN	Pn	21 05 46.7	+0.7
TIWZ	Tintock	2.75	230	PN	Pn	21 05 47.9	+0.5
TIWZ				AML	AML	21 06 22.1	
TIWZ				AML	AML	21 06 25.3	
TIWZ	Tintock	2.75	230	Pn	Pn	21 05 47.9	+0.5
MRZ	Mangatainoka R	2.87	235	PN	Pn	21 05 49.2	+0.2
MRZ				SN	Sn	21 06 21.0	-2.1
MRZ				AML	AML	21 06 22.8	
MRZ	Mangatainoka R	2.87	235	Pn	Pn	21 05 49.2	+0.2
WAZ	Wanganui	2.93	255	PN	Pn	21 05 51.9	+2.1
WAZ				AML	AML	21 06 29.3	
WAZ				AML	AML	21 06 33.0	
WAZ	Wanganui	2.93	255	Pn	Pn	21 05 51.9	+2.1
TMWZ	Te Maipa	2.96	225	PN	Pn	21 05 49.7	-0.5
TMWZ	Te Maipa	2.96	225	Pn	Pn	21 05 49.7	-0.5
HIZ	Hauiti	3.01	279	⇑PN	Pn	21 05 51.9	+1.0
HIZ				AML	AML	21 06 26.1	
HIZ	Hauiti	3.01	279	Pn	Pn	21 05 51.9	+1.0
VRZ	Vera Road	3.03	267	PN	Pn	21 05 52.6	+1.4
VRZ				AML	AML	21 06 30.7	
VRZ	Vera Road	3.03	267	Pn	Pn	21 05 52.6	+1.4
HOWZ	Holdsworth Sta	3.04	231	PN	Pn	21 05 51.2	-0.2
HOWZ	Holdsworth Sta	3.04	231	Pn	Pn	21 05 51.2	-0.2
MTW	Mount Morrison	3.21	228	PN	Pn	21 05 53.2	-0.5
MTW				AML	AML	21 06 30.3	
MTW				AML	AML	21 06 30.6	
MTW	Mount Morrison	3.21	228	Pn	Pn	21 05 53.2	-0.5
OGWZ	Otaki Gorge	3.21	235	PN	Pn	21 05 53.8	+0.1
OGWZ	Otaki Gorge	3.21	235	Pn	Pn	21 05 53.8	+0.1
KUZ	Kuaotunu	3.25	314	PN	Pn	21 05 53.2	-1.0
KUZ	Kuaotunu	3.25	314	Pn	Pn	21 05 53.2	-1.0
TRWZ	Traveller	3.27	223	PN	Pn	21 05 53.4	-1.2
TRWZ				AML	AML	21 06 34.1	
TRWZ				AML	AML	21 06 35.7	
TRWZ	Traveller	3.27	223	Pn	Pn	21 05 53.4	-1.2
LREZ	Lake Rotokare	3.32	261	PN	Pn	21 05 57.1	+1.8
MKAZ	Moumakai	3.35	304	PN	Pn	21 05 55.7	+0.1
MKAZ	Moumakai	3.35	304	Pn	Pn	21 05 55.8	+0.1
MHEZ	Mangahewa	3.37	268	PN	Pn	21 05 58.1	+2.3
MHEZ	Mangahewa	3.37	268	Pn	Pn	21 05 58.1	+2.3
KIW	Kapiti Island	3.40	236	PN	Pn	21 05 56.5	+0.2
KIW				AML	AML	21 06 34.9	
KIW				AML	AML	21 06 35.3	
KIW	Kapiti Island	3.40	236	Pn	Pn	21 05 56.5	+0.2
PAWZ	Paruwai Farm	3.40	225	PN	Pn	21 05 58.0	+1.6
PAWZ				AML	AML	21 06 38.5	
PAWZ				AML	AML	21 06 39.8	
PAWZ	Paruwai Farm	3.40	225	Pn	Pn	21 05 58.0	+1.6
CAW	Cannon Point	3.44	232	PN	Pn	21 05 56.8	-0.1
CAW				AML	AML	21 06 36.0	
CAW				AML	AML	21 06 36.1	
CAW	Cannon Point	3.44	232	Pn	Pn	21 05 56.8	-0.1
MSWZ	Moikau Station	3.52	226	PN	Pn	21 05 56.8	-1.2
MSWZ				AML	AML	21 06 38.3	
MSWZ				AML	AML	21 06 38.6	
MSWZ	Moikau Station	3.52	226	Pn	Pn	21 05 56.8	-1.2
KHEZ	Kahui Hut	3.61	264	⇓PN	Pn	21 06 01.7	+2.4
PLWZ	Palliser	3.62	225	PN	Pn	21 05 58.2	-1.2
PLWZ	Palliser	3.62	225	Pn	Pn	21 05 58.2	-1.2
PKE	Pukeiti	3.63	266	PN	Pn	21 06 01.6	+2.1
PKE				AML	AML	21 06 02.8	
PKE				AML	AML	21 06 03.2	
PKE	Pukeiti	3.63	266	Pn	Pn	21 06 01.6	+2.1
NMEZ	Namu Road	3.72	263	PN	Pn	21 06 02.8	+2.1
NWEZ	Newall Road	3.72	265	Pn	Pn	21 06 03.2	+2.5
BHW	Baring Head	3.74	229	PN	Pn	21 05 60.0	-0.9
BHW				AML	AML	21 06 43.3	
BHW				AML	AML	21 06 43.5	
BHW	Baring Head	3.74	229	Pn	Pn	21 06 00.0	-0.9
TCW	Tory Channel	3.99	236	PN	Pn	21 06 03.7	-0.7
TCW				AML	AML	21 06 51.2	
TCW				AML	AML	21 06 51.3	
TCW	Tory Channel	3.99	236	Pn	Pn	21 06 03.7	-0.7
DUWZ	D'Urville Isla	4.04	243	PN	Pn	21 06 05.1	-0.1
DUWZ	D'Urville Isla	4.04	243	Pn	Pn	21 06 05.1	-0.1
TUWZ	Tuamarina	4.32	235	PN	Pn	21 06 08.0	-1.0
TUWZ				AML	AML	21 06 57.0	
TUWZ				AML	AML	21 07 00.1	
TUWZ	Tuamarina	4.32	235	Pn	Pn	21 06 08.0	-1.0
BSWZ	Blackbirch Sta	4.52	232	PN	Pn	21 06 10.5	-1.2
BSWZ				AML	AML	21 07 05.1	
BSWZ	Blackbirch Sta	4.52	232	Pn	Pn	21 06 10.5	-1.2
QRZ	Quartz Range	5.03	247	PN	Pn	21 06 17.4	-1.3
QRZ	Quartz Range	5.03	247	Pn	Pn	21 06 17.4	-1.3
KHZ	Kahutara	5.14	227	PN	Pn	21 06 19.2	-1.0
KHZ				AML	AML	21 07 16.6	
KHZ				AML	AML	21 07 16.8	
KHZ	Kahutara	5.14	227	Pn	Pn	21 06 19.2	-1.0
THZ	Tophouse	5.16	236	PN	Pn	21 06 19.1	-1.5
THZ				AML	AML	21 07 20.0	
THZ				AML	AML	21 07 24.2	
THZ	Tophouse	5.16	236	Pn	Pn	21 06 19.1	-1.5
DSZ	Denniston Nort	5.88	240	*e*PN	Pn	21 06 28.9	-1.5
CTZ	Chatham Island	5.89	144	*e*PN	Pn	21 06 35.8	+5.3
LTZ	Lake Taylor	6.11	230	*e*PN	Pn	21 06 32.5	-1.1
LTZ				AML	AML	21 07 40.0	
LTZ				AML	AML	21 07 40.6	
MQZ	McQueen's Vall	6.49	222	*e*PN	Pn	21 06 35.9	-2.8
OXZ	Oxford	6.57	227	*e*PN	Pn	21 06 37.3	-2.6
RPZ	Rata Peaks	7.38	228	AML	AML	21 08 08.6	
RPZ				AML	AML	21 08 09.4	
LBZ	Lake Benmore	8.28	227	AML	AML	21 09 04.9	
LBZ	Lake Benmore	8.28	227	Pn	Pn	21 07 02.0	-1.4
ODZ	Otahua Downs	8.45	222	Pn	Pn	21 07 04.8	-0.8
JCZ	Jackson Bay	8.96	233	PN	Pn	21 07 11.2	-1.5
JCZ	Jackson Bay	8.96	233	Pn	Pn	21 07 11.2	-1.5
AS31	Alice Springs	40.75	279	*e*P	P	21 12 45.0	+0.8
ASAR	Alice Springs	40.75	279	P	P	21 12 44.8	+0.5
	1.3nm,0.8s,baz=129,slow=8.8,SNR=11						
WRA	Warramunga Arr	42.52	284	P	P	21 12 58.5	-0.3
	0.6nm,0.8s,baz=128,slow=7.3,SNR=7.4						
ARCES	ARCESS Array B	146.26	343	PKPbc	PKPab	21 24 44.3	+1.0
	2.8nm,0.8s,baz=64,slow=2.1,SNR=8.9						
FINES	FINESS Array B	151.91	332	PKPbc	PKPbc	21 24 58.6	+1.5
	0.7nm,0.6s,baz=354,slow=3.8,SNR=4.9						
BRTR	Keskin Array B	153.04	283	PKPbc	PKPbc	21 25 02.2	+1.6
	0.6nm,0.8s,baz=57,slow=6.0,SNR=4.0						
TORD	Torodi Ar. Bea	154.07	187	PKPab	PKPab	21 25 17.9	+1.2
	0.5nm,0.6s,baz=191,slow=3.3,SNR=5.2						

*IDC **02** 21:08:22.6±3.7, 22°.89N×97°.76E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/26, mbtmp3.2/3, Error ellipse: s-maj=400.5km s-min=30.3km az=58.0*

ISC 02 21:08:14.3±1.9**, 24°.7N**±0°.5×**95°.0E**±0°.2**, h104**km**, n13,** σ**0.75**/12**, mb3.2**/3**, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMP	Imphal	1.01	274	*e*S	Sn	21 08 50.0	-0.9
SHL	Shillong	2.98	287	*e*PN	Pn	21 09 08.5	+8.4
SHL				*e*SN	Sn	21 09 51.0	+15
TAPN	Taplejung	7.10	293	*e*P	Pn	21 09 56.2	+0.4
	6.4nm,0.3s						
ODAN	Odare	7.22	289	*e*P	Pn	21 09 58.5	+1.1
RAMN	Ramite	7.92	288	*e*P	Pn	21 10 08.4	+1.4
	4.7nm,0.3s						
JIRN	Jiri	8.47	292	*e*P	Pn	21 10 14.6	0.0
	5.9nm,0.3s						
GUN	Gumba	8.81	293	*e*P	Pn	21 10 19.3	+0.1
	5.2nm,0.2s						
PKI	Pulchoki	9.11	290	*e*P	Pn	21 10 23.7	+0.5
	3.3nm,0.2s						
KKN	Kakani	9.28	291	*e*P	Pn	21 10 25.6	+0.2
	7.7nm,0.3s						
GKN	Gorkha	9.89	292	*e*P	Pn	21 10 33.1	-0.5
	5.1nm,0.4s						
GKN				*e*S	Sn	21 12 22.4	-0.4
MKAR	Makanchi Array	24.28	338	P	P	21 14 05.5	+44
	0.2nm,0.6s,baz=141,slow=9.3,SNR=2.6						
WRA	Warramunga Arr	58.59	136	P	P	21 18 00.3	-0.2
	0.3nm,0.4s,baz=325,slow=7.6,SNR=7.1						
ASAR	Alice Springs	61.10	139	P	P	21 18 17.6	0.0
	0.1nm,0.4s,baz=318,slow=6.9,SNR=4.6						

IDC 02 21:30:17.2±9.9**, 3°.63S**×**143°.80E, h0**km**, mb3.1**/2**, mb1 3.4**/3**, mb1mx3.2**/17**, mbtmp3.2**/3**, ML3.2**/1**, Error ellipse: s-maj=347.5km s-min=34.6km az=95.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.66	209	P	Pn	21 34 37.4	+0.3
	0.1nm,0.3s,baz=29,slow=12,SNR=6.0						
ASAR	Alice Springs	22.10	205	P	P	21 35 13.9	-0.4
	0.4nm,0.5s,baz=35,slow=12,SNR=8.0						
MKAR	Makanchi Array	73.65	321	P	P	21 41 52.8	0.0
	0.2nm,0.7s,baz=115,slow=6.5,SNR=2.5						

MEX 02 21:51:22.8±0.4**, 16°.36N**×**98°.42W, h10**km±6km**, MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.28	84	*i* P	Pg	21 51 28.0	-0.6
PNIG				*i* S	Sg	21 51 32.4	-0.1
VHO	Vista Hermosa	1.77	66	*e*P	Pn	21 51 50.5	-3.3
VHO				*i* S	Sn	21 52 10.8	-5.7
MEIG	Mezcala	1.93	324	*i* P	Pn	21 51 52.4	-3.5
MEIG				*i* S	Sn	21 52 16.3	-4.0
YAIG	Yautepec	2.56	346	*i* P	Pn	21 52 01.1	-3.6
YAIG				*i* S	Sn	21 52 31.4	-4.6

*GUC **02** 22:08:04.5±0.6, 34°.35S×72°.56W, h20km±4km, ML3.9*
*IDC **02** 22:08:06.8±3.5, 34°.51S×72°.11W, h0km, mb1 3.8/2, mb1mx3.6/15, mbtmp3.6/2, ML4.0/2, Error ellipse: s-maj=228.9km s-min=23.8km az=86.0*

ISC 02 22:08:03.8±3.7**, 34°.36S**±0°.05×**72°.60W**±0°.10**, h8**km±27km**, n16,** σ**0.65**/22**, 5C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	Longovilo	1.06	68	⇑*i*P	Pb	22 08 24.4	-0.1
LNV				*i* S	Sn	22 08 38.9	-1.2
NICH	Los Niches	1.30	120	⇑*i*P	Pn	22 08 27.9	-0.4
NICH				*i* S	Sb	22 08 46.1	+0.8
TALC	Talca	1.30	143	⇑*i*P	Pn	22 08 28.0	-0.4
TALC				*i* S	Sb	22 08 46.1	+0.5
TACH	Talagante	1.55	63	*e*P	Pn	22 08 31.9	+0.1
IHA	Instituto Hidr	1.55	31	*e*P	Pb	22 08 32.4	-0.4
CHCH	Chadas Angostu	1.67	76	*e*P	Pn	22 08 33.8	+0.3
CHCH				*i* S	Sb	22 08 56.4	+0.3
CACH	El Canelo	1.67	82	⇓*i*P	Pb	22 08 34.5	-0.4
CACH				*i* S	Sb	22 08 57.4	+1.1
SAN	Santiago	1.85	61	*e*P	Pn	22 08 36.9	+1.0
SAN				*i* S	Sb	22 09 00.9	-0.3
PCH	Pirque	1.88	68	*e*P	Pn	22 08 37.3	+0.8
ROCH	El Roble	1.92	44	⇑*i*P	Pn	22 08 37.3	+0.3
ROCH				AML	AML	22 09 16.3	
	comp=E,902nm,0.7s						
CLCH	Cerro Calan	1.97	61	⇓*i*P	Pn	22 08 38.4	+0.8
CLCH				*i* S	Sb	22 09 04.6	-0.1
CLCH				AML	AML	22 09 12.7	
	comp=N,2μm,0.6s						
PEL	Peldehue	2.00	53	⇑*i*P	Pb	22 08 40.1	-0.5
PEL				*i* S	Sb	22 09 05.4	-0.3
PEL				AML	AML	22 09 15.1	
	comp=E,2μm,0.4s						
PLCA	Paso Flores	6.57	166	Pn	Pn	22 09 41.2	+0.4
	comp=E,1.1nm,0.3s,baz=340,slow=12,SNR=6.3						
PLCA				Lg	Lg	22 11 28.2	
	comp=E,0.2nm,0.3s,baz=303,slow=7.3,SNR=4.8						
LPAZ	La Paz	18.44	14	P	Pn	22 12 24.2	+3.7
	comp=E,0.1nm,0.3s,baz=180,slow=11,SNR=4.4						
BVAR	Borovoye Array	147.86	43	PKPbc	PKPab	22 27 52.0	+0.5
	comp=E,0.8nm,0.6s,baz=294,slow=1.4,SNR=6.2						
ZALV	Zalesovo Beam	154.78	32	PKPbc	PKPbc	22 28 09.9	+4.8
	comp=E,0.7nm,0.6s,baz=291,slow=4.0,SNR=4.4						

MEX 02 22:28:33.1±0.4**, 13°.71N**×**92°.69W, h25**km±72km**, MD3.8, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		1.26	19	*e*P	Pn	22 28 52.4	-2.7
THIG				*i* S	Sn	22 29 07.2	-4.1
TGIG		3.08	352	*i* P	Pn	22 29 17.9	-2.5
TGIG				*i* S	Sn	22 29 53.8	-2.7

*NIED **02** 22:39:00, 39°.00N×140°.90E, h5km, Mw4.4 Best double couple: M0 3.96000×10^15 NP1:φs195.00000°, δ29.00000°, λ110.00000°. NP2:φs353.00000°, δ62.00000°, λ79.00000°.*
*BJI **02** 22:39:17.3, 38°.72N×141°.49E, h5km, mb4.6/44, mB4.8/27, Ms4.3/29, Ms7 4.0/22*
*ISCJB **02** 22:39:24.9±0.4, 39°.03N±0°.02×140°.90E±0°.02, h19km±3km, mb4.6/99, MS3.5/15, Error ellipse: s-maj=3.9km s-min=2.9km az=153.9*
*JMA **02** 22:39:24.6, 39°.04N×140°.87E, h7km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φs333.00000°, δ65.00000°, λ71.00000°. NP2: φs192.00000°, δ31.00000°, λ124.00000°. Principal axes: T Plg65.0000°, Azm211.0000°; N Plg17.0000°, Azm341.0000°; P Plg18.0000°, Azm77.0000°;*
JMA Felt III J1.
*MOS **02** 22:39:27.9±1.1, 39°.07N×140°.66E, h38km, mb4.8/41 Error ellipse: s-maj=8.5km s-min=5.3km az=103.1*
*IDC **02** 22:39:28.3±3.4, 39°.02N×140°.60E, h33km±25km, mb4.2/30, mb1 4.3/34, mb1mx4.2/52, mbtmp4.4/34, ML3.4/3, MS3.4/18, Ms1 3.4/18, ms1mx3.2/37, Error ellipse: s-maj=14.2km s-min=12.0km az=93.0*
*NEIC **02** 22:39:30.2±0.7, 38°.98N×140°.75E, h51km±7km, mb4.8/47, MW4.3(NIED), Error ellipse: s-maj=7.0km s-min=4.8km az=133.0*

ISC 02 22:39:25.6±0.5**, 39°.03N**±0°.03×**140°.89E**±0°.03**, h15**km±3km**, n341,** σ**1.33**/331**, mb4.8**/113**, MS3.5**/15**, 23C-31D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMK	Ichinoseki	0.27	106	⇓P	Pg	22 39 30.1	-1.4
JMK				*e*S	Sg	22 39 34.1	-1.3
JRG	Rokugo	0.42	332	⇑P	Pg	22 39 32.4	-1.7
JRG				*e*S	Sg	22 39 38.4	-1.4
JYK	Kaneyama	0.42	255	⇓P	Pg	22 39 32.8	-1.4
JYK				*e*S	Sg	22 39 38.7	-1.3
JOM	Ohasama	0.55	35	⇓P	Pg	22 39 34.8	-1.6
JOM				S	Sg	22 39 42.5	-1.2
JIO	Ouri	0.68	148	⇓P	Pg	22 39 37.6	-1.3
JIO				S	Sg	22 39 47.1	-0.7
JOU	Okura	0.68	195	⇑P	Pg	22 39 37.9	-1.1
JOU				S	Sg	22 39 47.3	-0.8
MAJO	Matsushiro	3.26	221	*i* P	Pn	22 40 17.3	+1.1
MAJO	Matsushiro	3.26	221	*e*Pn	Pn	22 40 17.8	+1.6
MJAR	Matsushiro Arr	3.26	221	Pn	Pn	22 40 16.0	-0.2
	4.3nm,0.3s,baz=24,slow=14,SNR=64						
MJAR				Lg	Lg	22 41 07.1	
	4.1nm,0.3s,baz=22,slow=26,SNR=7.0						
MJAR				LR	LR	22 41 51.3	
	comp=Z,373nm,20.0s,baz=35,slow=46						
MAT	Matsushiro	3.27	221	P	Pn	22 40 17.2	+1.0
MAT				*e*S	Sn	22 40 55.1	+0.3
ERM	Erimo	3.45	29	*ce*P	Pn	22 40 20.9	+2.2
ERM				pmax	pmax		
	comp=Z,38nm,1.0s						
ERM	Erimo	3.45	29	*e*Pn	Pn	22 40 19.8	+1.1
ASAJ	Asahikawa	5.24	14	*e*Pn	Pn	22 40 46.9	+3.5
JHJ2	Mitsune	5.97	189	*e*Pn	Pn	22 40 55.6	+2.2
YUK	Yuzh-Kuril'sk	6.24	35	*d i*P	Pn	22 41 01.0	+3.9
YUK				*i* S	Sn	22 42 13.6	+5.5
YUK				pmax	pmax		
	comp=N,21nm,0.5s						
YUK				pmax	pmax		
	comp=E,14nm,0.5s						
YUK				pmax	pmax		
	comp=Z,57nm,0.5s						
YUK				smax	smax		
	comp=N,56nm,0.6s						
YUK				smax	smax		
	comp=E,5.0nm,0.6s						
YUK				MLR	MLR		
	comp=N,364nm,12.0s						
YUK				MLR	MLR		
	comp=Z,219nm,12.0s						
KUR	Kuril'sk	8.08	38	P	Pn	22 41 28.0	+5.7
KUR				S	Sn	22 42 51.0	-2.3
USRK	Ussuriysk Ar.	8.43	311	Pn	Pn	22 41 26.6	-0.6
	comp=Z,0.8nm,0.3s,baz=114,slow=14,SNR=8.2						
USRK				LR	LR	22 44 29.7	
	comp=Z,274nm,18.6s,baz=124,slow=36						
KSULJ	Uljin	9.37	259	P	Pn	22 41 43.6	+3.6
	SNR=6.9						
KSULJ	Uljin	9.37	259	P	Pn	22 41 43.6	+3.6
	SNR=6.9						
KSJMJ	Jumunjin	9.59	267	P	Pn	22 41 46.4	+3.5
	SNR=7.1						
KSJMJ	Jumunjin	9.59	267	P	Pn	22 41 46.4	+3.5
	SNR=7.1						
KSTBA	Taebaek	9.60	262	P	Pn	22 41 46.6	+3.4
	SNR=22						
KSTBA	Taebaek	9.60	262	P	Pn	22 41 46.6	+3.4
	SNR=22						
KSDGY	Daegwallycong	9.69	266	P	Pn	22 41 47.9	+3.5
	SNR=6.0						
KSDGY	Daegwallycong	9.69	266	P	Pn	22 41 47.9	+3.5
	SNR=6.0						
KSSKC	Sokcho	9.70	270	P	Pn	22 41 48.5	+4.0
	SNR=8.9						
KSSKC	Sokcho	9.70	270	P	Pn	22 41 48.5	+4.0
	SNR=8.9						
KSJES	JEONGSEON	9.75	264	P	Pn	22 41 50.0	+4.8
	SNR=6.8						
KSJES	JEONGSEON	9.75	264	P	Pn	22 41 50.0	+4.8
	SNR=6.8						
SEHB	SEOHWA	9.91	270	P	Pn	22 41 51.3	+3.8
	SNR=11						
SEHB	SEOHWA	9.91	270	P	Pn	22 41 51.3	+3.8
	SNR=11						
JNU	Nakatsue	10.01	237	Pn	Pn	22 41 50.1	+1.2
	comp=Z,0.4nm,0.3s,baz=48,slow=11,SNR=11						
JNU				LR	LR	22 45 42.5	
	comp=Z,309nm,19.8s,baz=40,slow=38						
JNU	Nakatsue	10.01	237	*e*Pn	Pn	22 41 52.9	+4.0
JNU				*e*Sn	Sn	22 43 39.1	-1.9
KSEUS	ULSEONG	10.03	258	P	Pn	22 41 53.8	+4.7
	SNR=6.1						
KSEUS	ULSEONG	10.03	258	P	Pn	22 41 53.8	+4.7
	SNR=6.1						
KSIJA	INJE	10.07	268	P	Pn	22 41 53.9	+4.3
	SNR=30						
KSIJA	INJE	10.07	268	P	Pn	22 41 53.9	+4.3
	SNR=30						
MDJ	Mudanjiang	10.11	307	P	Pn	22 41 50.0	-0.1
MDJ				PcP	PcP	22 48 00.4	+1.1
MDJ				PcS	PcS	22 51 33.9	+1.2
MDJ				PMZ			
	comp=Z,2.0nm,0.6s						
MDJ				PMZ			
	comp=Z,54nm,5.3s						
MDJ				LN			
	comp=Z,270nm,20.1s						
MDJ				LE			
	comp=Z,160nm,21.0s						
KSWJU	Wonju	10.23	265	P	Pn	22 41 56.2	+4.4
	SNR=7.4						
KSWJU	Wonju	10.23	265	P	Pn	22 41 56.2	+4.4
	SNR=7.4						
KSRS	Korea Array	10.32	265	Pn	Pn	22 41 53.2	+0.3
	comp=Z,1.9nm,0.3s,baz=81,slow=14,SNR=49						
KSRS				Sn	Sn	22 43 52.5	+4.1
	comp=Z,1.4nm,0.3s,baz=84,slow=23,SNR=18						
KSRS				LR	LR	22 45 26.9	
	comp=Z,216nm,19.1s,baz=64,slow=35						
KSRS	Korea Array	10.32	265	P	Pn	22 41 53.3	+0.3
KSRS						22 43 52.5	
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.3s						

KSRS smax smax
comp=N,1.0nm,0.3s
KSRS MLR MLR
comp=Z,216nm,19.1s
KS01 Wonju Array Si 10.34 265 *e*Pn **Pn 22 41 56.3 +3.1**
KS01 *e*Sn Sn 22 43 55.3 +6.5
HABR Khabarovsk 10.34 338 *e*P **Pn 22 41 52.7 -0.5**
HABR *e* 22 43 48.3
HABR MLR MLR
comp=Z,139nm,14.0s
KS15 Wonju Array Si 10.35 265 *e*Pn **Pn 22 41 53.2 -0.2**
KS15 *e*Sn **Sn 22 43 52.5 +3.3**
KSCHJ Chungju 10.42 262 P Pn 22 41 58.2 +3.8
SNR=15
KSCHJ Chungju 10.42 262 P Pn 22 41 58.2 +3.8
SNR=15
KSCWO Cheorwon 10.52 269 P Pn 22 41 60.0 +4.2
SNR=19
KSCWO Cheorwon 10.52 269 P Pn 22 41 60.0 +4.2
SNR=19
KSCPR CHUPUNGNYEONG0.62 259 P Pn 22 42 01.9 +4.7
SNR=6.8
KSBON Boeun 10.66 260 P Pn 22 42 01.5 +3.7
SNR=28
KSBON Boeun 10.66 260 P Pn 22 42 01.5 +3.7
SNR=28
KSICN Icheon 10.75 265 P Pn 22 42 03.3 +4.3
SNR=6.5
YNCB YEONCHEON 10.98 269 P Pn 22 42 06.2 +4.1
SNR=12
KSCEA Cheonan 10.99 263 P Pn 22 42 06.6 +4.3
SNR=16
KSMUS Musan 11.14 269 P Pn 22 42 09.0 +4.7
SNR=7.3
KLR Kul'dur 12.12 330 *e*P **Pn 22 42 17.8 +0.2**
KLR pmax pmax
comp=E,50nm,1.6s
KLR pmax pmax
comp=Z,65nm,1.6s
CN2 Changchun 12.53 297 *e*P Pn 22 42 28.0 +4.8
CN2 *e*S **Sn 22 44 45.5 +3.1**
CN2 PMZ
comp=Z,10.0nm,0.4s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,200nm,15.0s
CN2 LE
comp=Z,200nm,15.0s
DL2 Dalian 14.99 276 *e*P **Pn 22 42 58.4 +1.6**
DL2 PMZ
comp=Z,28nm,0.8s
PETK Petropavlovsk- 18.22 34 P **P 22 43 40.4 +2.5**
baz=245,slow=12,SNR=2.1
PETK LR LR 22 51 36.5
comp=Z,20nm,20.0s,baz=231,slow=40
PEA2 Petropavlovsk- 18.22 34 *e*P **P 22 43 40.4 +2.5**
TIA Tai'an 19.02 269 ⇓P **P 22 43 47.6 +0.7**
TIA PMZ
comp=Z,10.0nm,1.3s
BJI Beijing 19.08 281 P **P 22 43 47.1 -0.3**
BJI pP **Pn 22 43 50.0 +1.8**
BJI S **Sn 22 47 19.9 -1.7**
BJI PMZ
comp=Z,16nm,1.0s
BJI PMZ
comp=Z,160nm,5.8s
BJI LN
comp=Z,230nm,17.3s
BJI LE
comp=Z,78nm,18.6s
NJ2 Nanjing 19.21 256 *e*P **Pn 22 43 52.3 +2.4**
NJ2 S **S 22 47 27.5 +1.4**
NJ2 PMZ
comp=Z,70nm,1.1s
NJ2 LN
comp=Z,360nm,12.1s
NJ2 LE
comp=Z,450nm,9.5s
YHNB Yeheng 21.84 235 *e*P **P 22 44 18.5 +0.9**
comp=Z,225nm,2.3s
HHC Hu-ho-hao-te 22.51 284 *e*P P 22 44 20.6 -4.2
HHC pP pP 22 44 25.6 -3.5
HHC sP sP 22 44 28.4 -2.8
HHC S **S 22 48 25.6 -5.6**
HHC PMZ
comp=Z,29nm,0.7s
HHC PMZ
comp=Z,76nm,4.1s
HHC LN
comp=Z,200nm,9.1s
HHC LE
comp=Z,170nm,10.0s
HHC LZ
comp=Z,180nm,10.7s
SSLB Suanglung 22.73 234 *e*P **P 22 44 24.5 -2.6**
comp=Z,347nm,2.8s
YULB Yu-li 22.81 233 *e*P **P 22 44 26.6 -1.3**
comp=Z,327nm,2.8s
TPUB Ta-pu 23.29 234 *e*P **P 22 44 29.9 -2.9**
comp=Z,481nm,2.2s
WHN Wuhan 23.32 257 P P 22 44 38.5 +5.5
WHN S Sn 22 48 57.4 -6.2
WHN LR LR
comp=Z,370nm,23.7s
YAK Yakutsk 24.04 347 LR LR 22 53 06.8
comp=Z,43nm,20.9s,baz=181,slow=34
YAK Yakutsk 24.04 347 *e*P **P 22 44 38.1 -1.6**
YAK *e**PP pP 22 44 53.1 +8.7
YAK *e* 22 45 08.1
YAK *e*S **S 22 48 51.1 -4.9**
YAK pmax pmax
comp=Z,30nm,1.0s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,12nm,0.6s
YAK pmax pmax
comp=N,4.0nm,0.6s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK smax smax
comp=E,34nm,2.4s
YAK smax smax
comp=N,92nm,2.5s
YAK MLR MLR
comp=Z,101nm,13.0s
SEY Seymchan 24.93 12 P **P 22 44 48.5 +0.7**
comp=Z,5.9nm,0.7s,baz=203,slow=6.6,SNR=11
GUMO Guam 25.58 171 LR LR 22 54 09.2
comp=Z,30nm,21.8s,baz=70,slow=34
ULN Ulaanbaatar 25.93 301 *e*P **P 22 44 57.6 +0.3**
ULN pmax pmax
comp=Z,3.0nm,0.7s
ULN Ulaanbaatar 25.93 301 *e*P **P 22 44 57.6 +0.3**
comp=Z,3.4nm,0.7s
XAN Xi'an 26.08 269 P **P 22 44 58.4 -0.3**
XAN PMZ
comp=Z,2.0nm,0.8s
SONA1 Songino Array 26.36 301 *e*P **P 22 45 01.6 +0.4**
SONA0 Songino Array 26.37 301 *e*P **P 22 44 59.8 -1.4**
SONM Songino Array 26.37 301 P **P 22 44 59.8 -1.4**
comp=Z,1.5nm,0.8s,baz=94,slow=8.2,SNR=10
SONM LR LR 22 55 36.7
comp=Z,79nm,18.8s,baz=92,slow=37
SONM Songino Array 26.37 301 P **P 22 44 59.8 -1.4**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM MLR MLR
comp=Z,79nm,18.8s
ZAK Zakamensk 28.74 306 *e*P **P 22 45 20.6 -1.8**
ZAK pmax pmax
comp=Z,2.0nm,1.6s
TLY Talaya 28.74 308 LR LR 22 57 25.1
comp=Z,114nm,18.0s,baz=102,slow=38
TLY Talaya 28.74 308 *e*P **P 22 45 23.5 +1.2**
TLY *e*S S 22 50 05.4 -5.5
TLY pmax pmax
comp=Z,2.0nm,0.8s
TLY MLR MLR
comp=Z,139nm,19.0s
LZH Lanzhou 29.38 276 *e*P **P 22 45 29.3 +1.0**
LZH pP **pP 22 45 33.1 +0.1**
LZH sP **sP 22 45 35.7 +0.8**
LZH *e*S **S 22 50 16.7 -4.9**
LZH PMZ
comp=Z,27nm,1.4s
LZH PMZ
comp=Z,110nm,4.5s
LZH LN
comp=Z,1μm,14.2s
LZH LE
comp=Z,1μm,14.4s
LZH LZ
comp=Z,1μm,15.0s
GYA Guiyang 31.21 257 *e*P **P 22 45 45.2 +0.7**
GYA PP **PnPn 22 46 48.7 +2.3**
GYA S **S 22 50 50.4 +0.1**
GYA ScP **ScP 22 52 23.0 +1.6**
GYA SS **SnSn 22 52 35.2 +2.6**
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,90nm,4.9s
GYA LN
comp=Z,460nm,16.6s
GYA LE
comp=Z,390nm,17.0s
GYA LZ
comp=Z,450nm,16.8s
CD2 Chengdu 31.32 267 *e*P **P 22 45 45.0 -0.3**
CD2 pP **pP 22 45 48.5 -1.5**
CD2 PcP **PcP 22 48 39.4 +0.2**
CD2 S **S 22 50 51.9 +0.2**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
GTA Gaotai 31.63 284 *e*P **P 22 45 48.8 +0.7**
GTA pP **pP 22 45 53.2 +0.4**
GTA sP **sP 22 45 55.8 +1.1**
GTA PcP **PcP 22 48 41.3 +1.3**
GTA PMZ
comp=Z,3.0nm,1.1s
KMI Kunming 34.91 258 P **P 22 46 17.1 +0.2**
KMI S **S 22 51 50.6 +2.7**
KMI PMZ
comp=Z,5.0nm,0.8s
KMI LN
comp=Z,140nm,9.3s
KMI LE
comp=Z,130nm,11.7s
KMI LZ
comp=Z,120nm,15.0s
SPIA Saint Paul Isl 36.39 44 *e*P **P 22 46 29.5 +0.5**
comp=Z,358nm,1.7s
WMQ Urumqi 39.60 295 P **P 22 46 57.7 +1.3**
WMQ PMZ
comp=Z,6.0nm,0.5s
WMQ PMZ
comp=Z,89nm,4.6s
WMQ LN
comp=Z,130nm,8.4s
WMQ LE
comp=Z,140nm,6.8s
ZAA0 Zalesovo Array 40.28 311 *e*P **P 22 47 01.2 -0.6**
ZAA0 *e*PcP **PcP 22 49 05.3 +0.1**
ZAA1 Zalesovo Array 40.28 311 *e*P **P 22 47 00.1 -1.6**
ZAA1 *e*PcP **PcP 22 49 04.0 -1.2**
ZALV Zalesovo Beam 40.28 311 P **P 22 47 00.1 -1.6**
comp=Z,5.5nm,0.7s,baz=91,slow=7.5,SNR=27
ZALV PcP **PcP 22 49 04.0 -1.2**
comp=Z,1.1nm,0.6s,baz=45,slow=2.4,SNR=3.6
ZALV LR LR 23 04 19.8
comp=Z,68nm,18.6s,baz=70,slow=37
ZALV Zalesovo Beam 40.28 311 *i* P **P 22 47 01.5 -0.3**
ZALV pmax pmax
comp=Z,6.0nm,0.7s
NVS Novosibirsk 41.18 312 *e*P **P 22 47 08.3 -0.9**
NVS pmax pmax
comp=E,3.0nm,0.8s
NVS pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 41.42 253 *e*P **P 22 47 12.4 +0.8**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 41.42 253 *e*P **P 22 47 12.4 +0.8**
comp=Z,4.9nm,0.9s
CM31 Chiang Mai Arr 41.65 253 *e*P P 22 47 10.4 -3.0
CM31 *e*PcP **PcP 22 49 10.2 -0.1**
CMAR Chiang Mai Arr 41.65 253 P P 22 47 10.4 -3.0
comp=Z,0.8nm,0.3s,baz=58,slow=8.6,SNR=4.6
CMAR PcP **PcP 22 49 10.2 -0.1**
comp=Z,1.1nm,0.7s,baz=29,slow=2.1,SNR=5.0
CMAR LR LR 23 05 46.5
comp=Z,36nm,21.8s,baz=127,slow=38
CMAR Chiang Mai Arr 41.65 253 *i* P P 22 47 19.7 +6.3
MK01 Makanchi Array 42.73 300 *e*P **P 22 47 21.5 -0.5**
MK32 Makanchi Array 42.73 300 *e*P **P 22 47 20.9 -1.1**
MKAR Makanchi Array 42.73 300 P **P 22 47 20.9 -1.1**
comp=Z,5.8nm,0.7s,baz=86,slow=9.7,SNR=59
MKAR LR LR 23 05 36.7
comp=Z,32nm,19.6s,baz=81,slow=37
MKAR Makanchi Array 42.73 300*c**e*P **P 22 47 21.6 -0.4**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 42.73 300 *e*P **P 22 47 21.7 -0.3**
KURK Kurchatov 44.40 306 *e*P **P 22 47 35.0 -0.3**
KURK pmax pmax
comp=Z,18nm,0.9s
KURK Kurchatov 44.40 306 *e*P **P 22 47 35.0 -0.3**
comp=Z,18nm,0.9s
KURBB Kurchatov Arra 44.47 306 P **P 22 47 34.4 -1.5**
comp=Z,14nm,0.8s,baz=83,slow=8.2,SNR=87
TAPN Taplejung 45.42 272 *e*P **P 22 47 44.6 +0.4**
comp=Z,12nm,0.8s
ODAN Odare 45.91 271 *e*P **P 22 47 48.1 +0.1**
comp=Z,16nm,0.8s
KDAK Kodiak Island 45.91 43 *e*P **P 22 47 48.0 +0.7**
KDAK pmax pmax
comp=Z,116nm,1.8s
KDAK Kodiak Island 45.91 43 *e*P **P 22 47 48.0 +0.7**
comp=Z,116nm,1.8s
BPAW Bear Paw Mtn. 46.30 34 *e*P P 22 47 53.9 +3.6
JIRN Jiri 46.46 273 *e*P **P 22 47 52.9 +0.5**
comp=Z,18nm,0.8s
RAMN Ramite 46.48 272 *e*P **P 22 47 52.6 +0.1**
comp=Z,30nm,1.0s
SUA Susitna One 46.53 38 *e*P **P 22 47 52.5 +0.2**
GUN Gumba 46.58 274 *e*P **P 22 47 53.7 +0.3**
comp=Z,71nm,0.9s
TRF Thorofare Moun 46.63 35 *e*P **P 22 47 54.0 +0.9**
comp=Z,78nm,2.7s
KKN Kakani 47.10 274 *e*P **P 22 47 57.6 +0.3**
comp=Z,47nm,0.7s
PKI Pulchoki 47.11 273 *e*P **P 22 47 57.3 -0.2**
comp=Z,11nm,0.7s
DMN Daman 47.33 274 *e*P **P 22 47 59.5 +0.4**
MDM Murphy Dome 47.46 33 *e*P **P 22 48 01.3 +1.9**
comp=Z,17nm,1.4s
GKN Gorkha 47.50 274 *e*P **P 22 48 00.5 +0.2**
comp=Z,35nm,0.8s
SAUI Saumlaki 47.61 193 *e*P **P 22 47 59.0 -2.0**
comp=Z,358nm,0.9s
KAPI Kappang 47.98 209 *e*P **P 22 48 03.8 -0.1**
comp=Z,2.6nm,1.0s
IL1 Eielson Array 48.05 33 *e*P **P 22 48 04.5 +0.7**
ILAR Eielson Array 48.05 33 P **P 22 48 04.5 +0.7**
comp=Z,3.1nm,0.8s,baz=270,slow=6.4,SNR=24
ILAR PcP **PcP 22 49 31.5 0.0**
comp=Z,1.1nm,0.9s,baz=269,slow=3.5,SNR=4.5
ILAR Eielson Array 48.05 33 P **P 22 48 04.6 +0.7**
ILAR 22 49 31.5
ILAR pmax pmax
comp=Z,3.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILB Eielson Array 48.05 33 *e*P **P 22 48 04.5 +0.7**
ILB *e*PcP **PcP 22 49 31.5 0.0**
TKM2 Tokmak 2 48.34 297 *e*P **P 22 48 07.3 +0.6**
TKM2 pmax pmax
comp=Z,17nm,1.0s
TKM2 Tokmak 2 48.34 297 *e*P **P 22 48 07.2 +0.6**
comp=Z,17nm,1.0s
KOLN Koldanda 48.42 275 *e*P **P 22 48 07.8 +0.3**
comp=Z,14nm,0.7s
BVAR Borovoye Array 48.94 311 P **P 22 48 09.6 -1.3**
comp=Z,3.0nm,0.6s,baz=82,slow=7.3,SNR=11
BVAR PcP **PcP 22 49 34.3 -0.6**
comp=Z,2.6nm,0.8s,baz=32,slow=3.7,SNR=5.3
BVAR Borovoye Array 48.94 311 P **P 22 48 09.6 -1.3**
BVAR 22 49 34.3
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 48.99 311*c**e*P **P 22 48 12.0 +0.7**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
AAK Ala-Archa 49.20 297⇓*e*P **P 22 48 14.1 +0.8**
AAK pmax pmax
comp=Z,22nm,1.7s
AAK Ala-Archa 49.20 297 *e*P **P 22 48 13.8 +0.6**
comp=Z,6.7nm,1.0s
KSH Kashi 49.24 292 P P 22 48 17.7 +4.1
KSH pP pP 22 48 23.4 +5.0
KSH *e*PcP **PcP 22 49 40.3 +3.9**
KSH PP **PP 22 50 11.4 +4.2**
KSH PcS **PcS 22 53 33.7 +0.7**
KSH S **S 22 55 21.8 +2.8**
KSH PMZ
comp=Z,14nm,1.1s
KSH PMZ
comp=Z,100nm,5.1s
KSH LN
comp=Z,95nm,4.4s
KSH LE
comp=Z,82nm,5.1s
KSH LZ
comp=Z,150nm,5.2s
SCRK Sand Creek 49.38 34 *e*P P 22 48 06.6 -7.7
comp=Z,8.0nm,1.0s
EKS2 Erkin-Say 49.69 297 *e*P **P 22 48 17.5 +0.6**
EKS2 pmax pmax
comp=Z,5.0nm,0.9s
EKS2 Erkin-Say 49.69 297 *e*P **P 22 48 17.5 +0.6**
comp=Z,4.7nm,0.9s
KKAR Karatay Array 51.79 299 *e*P **P 22 48 32.8 +0.2**
KKAR Karatay Array 51.79 299 *e*P **P 22 48 32.8 +0.2**
PSI Prapat 52.49 237 *e*P **P 22 48 39.0 +0.8**
PSI pmax pmax
comp=Z,9.0nm,0.9s
PSI Prapat 52.49 237 *e*P **P 22 48 39.0 +0.8**
comp=Z,8.5nm,0.9s
COEN Coen 52.75 177 *e*P **P 22 48 38.5 -1.5**
comp=Z,14nm,1.1s
HYT Haines Junctio 52.96 37 *e*P P 22 48 45.6 +4.4
SVE Sverdlovsk 53.39 318⇓*e*P **P 22 48 44.8 +0.6**
SVE pmax pmax
comp=Z,17nm,1.0s
GSI Gunungsitoli 54.49 237 *e*P **P 22 48 53.9 +1.1**
comp=Z,19nm,0.9s
ARU Arti 54.60 318*d i*P **P 22 48 52.6 -0.5**
ARU 22 49 55.8
ARU 22 50 54.3
ARU S **S 22 56 30.9 -1.0**
ARU SS **SS 23 00 12.2 -1.9**
ARU pmax pmax
comp=Z,15nm,1.0s
ARU Arti 54.60 318 *e*P **P 22 48 52.1 -1.0**
comp=Z,11nm,0.7s
KBL Kabul 56.34 290 *e*P **P 22 49 05.8 -0.4**
KBL pmax pmax
comp=Z,14nm,0.9s
KBL Kabul 56.34 290 *e*P **P 22 49 05.8 -0.4**
comp=Z,14nm,0.9s
AKTO Aktyubinsk 57.05 311 LR LR 23 12 45.8
comp=Z,42nm,19.0s,slow=35
KBS Kingsbay 58.62 350 *e*P **P 22 49 20.0 -1.4**
KBS pmax pmax
comp=Z,7.0nm,1.5s
KBS Kingsbay 58.62 350 *e*P **P 22 49 20.0 -1.4**
comp=Z,7.1nm,1.5s
PRGR Permogore 58.87 326 *e*P **P 22 49 21.9 -1.4**
PRGR pmax pmax
comp=Z,10.0nm,1.0s
WRAB Tennant Creek 58.97 187⇓*e*P **P 22 49 23.0 -1.4**
WRAB pmax pmax
comp=Z,28nm,1.2s
WRA Warramunga Arr 58.98 187 P **P 22 49 24.1 -0.4**
comp=Z,4.9nm,0.5s,baz=4.7,slow=7.2,SNR=73
RES Resolute Bay 60.78 15 *e*P **P 22 49 36.5 +0.3**
RES pmax pmax
comp=Z,12nm,0.8s
RES Resolute Bay 60.78 15 *e*P **P 22 49 36.5 +0.3**
comp=Z,12nm,0.8s
KLMR Klimovskoe 61.85 327 *e*P **P 22 49 42.9 -0.8**
KLMR pmax pmax
comp=Z,11nm,1.3s
ARA0 ARCESS Array S 61.99 339 *e*P **P 22 49 43.8 -0.8**
ARCES ARCESS Array B 61.99 339 P **P 22 49 43.8 -0.7**
comp=Z,2.2nm,0.8s,baz=51,slow=6.4,SNR=5.9
ARCES ARCESS Array B 61.99 339 P **P 22 49 43.8 -0.7**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 62.30 31 P **P 22 49 47.6 +0.9**
comp=Z,0.8nm,0.8s,baz=299,slow=7.2,SNR=4.3
YKA PcP **PcP 22 50 27.5 +1.2**
comp=Z,1.1nm,0.8s,baz=300,slow=4.4,SNR=5.8
YKA Yellowknife Ar 62.30 31 P **P 22 49 47.6 +0.9**
YKA 22 50 27.5
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKB5 Yellowknife Ar 62.30 31 *e*P **P 22 49 47.6 +1.0**
YKB5 *e*PcP **PcP 22 50 27.5 +1.2**
AS01 Alice Springs 62.70 187 *e*P **P 22 49 50.0 +0.3**
AS12 Alice Springs 62.71 187 *e*P **P 22 49 49.6 -0.2**
ASAR Alice Springs 62.71 187 P **P 22 49 49.6 -0.2**
comp=Z,3.4nm,0.7s,baz=11,slow=6.3,SNR=33
ASAR Alice Springs 62.71 187 P **P 22 49 49.7 -0.2**
ASAR pmax pmax
comp=Z,3.0nm,0.7s
EIDS Eidsvold 64.77 170 *e*P **P 22 50 02.1 -1.2**
comp=Z,61nm,2.2s
OBN Obninsk 66.26 323⇑*e*P **P 22 50 13.1 +0.4**
OBN *e* 22 52 39.1
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,51nm,15.0s
PIER Pier 30 Seattl 66.46 47 *e*P P 22 50 18.3 +4.1
FIA0 FINESS Array S 66.86 332 *e*P **P 22 50 16.3 -0.2**
FIA0 FINESS Array S 66.86 332 *e*P **P 22 50 16.2 -0.2**
FINES FINESS Array B 66.86 332 P **P 22 50 16.2 -0.2**
comp=Z,8.2nm,0.7s,baz=59,slow=7.4,SNR=32
FINES LR LR 23 20 21.8
comp=Z,42nm,18.5s,baz=94,slow=37
ASR Mount Adams--S 67.67 48 *e*P **P 22 50 22.9 +0.9**
SUMG Summit 68.69 360 *i* P **P 22 50 28.3 -0.1**
comp=Z,5.9nm,0.7s
SUMG Summit 68.69 360 *e*P **P 22 50 28.9 +0.5**
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 68.69 360 *e*P **P 22 50 28.9 +0.5**
comp=Z,7.9nm,0.9s
ZEI Tsey 69.22 309 *e*P **P 22 50 30.3 -1.6**
ZEI pmax pmax
comp=Z,12nm,0.9s
KIV Kislovodsk 69.30 310 *e*P **P 22 50 33.1 +0.9**
KIV pmax pmax
comp=Z,41nm,1.0s
KIV Kislovodsk 69.30 310 *e*P **P 22 50 33.6 +1.4**
comp=Z,35nm,0.9s
KBZ Khabaz 69.30 310 P **P 22 50 32.5 +0.4**
comp=Z,8.5nm,0.8s,baz=146,slow=24,SNR=8.9
FORT Forrest 70.47 192 *e*P **P 22 50 37.4 -1.8**
comp=Z,14nm,0.9s
STKA Stephens Creek 70.55 179 P **P 22 50 40.0 +0.3**
comp=Z,1.7nm,0.7s,baz=311,slow=7.4,SNR=4.6
STKA PP **PP 22 53 13.8 -2.6**
comp=Z,1.4nm,0.8s,baz=345,slow=11,SNR=2.9
STKA Stephens Creek 70.55 179 P **P 22 50 40.0 +0.3**
STKA 22 53 13.9
STKA pmax pmax
comp=Z,2.0nm,0.7s
STKA pmax pmax
comp=Z,1.0nm,0.8s
STKA Stephens Creek 70.55 179 *e*P **P 22 50 38.5 -1.2**
comp=Z,11nm,2.3s
SLMT Seeley Lake 71.57 44 *e*P **P 22 50 47.4 +1.3**
BBOO Buckleboo 71.61 184 *e*P **P 22 50 44.3 -1.9**
comp=Z,54nm,1.8s
ANN Anapa 71.86 313 *e*P P 22 50 44.5 -3.2
ANN *e* 22 53 24.1
ANN *e*S **S 23 00 02.3 -5.4**
ANN *e*SS SS 23 04 36.5 -6.7
ANN pmax pmax

comp=Z,58nm,1.5s
HFS Hagfors 72.10 335 P P 22 50 49.0 +0.1
comp=Z,4.9nm,0.6s,baz=60,slow=5.8,SNR=10
HFS Hagfors 72.10 335 P P 22 50 49.0 +0.1
HFS pmax pmax
comp=Z,5.0nm,0.6s
NB201 NORSAR Array S 72.16 337 eP P 22 50 48.4 -0.9
NB2 NORSAR Subarra 72.19 337 P P 22 50 49.1 -0.3
comp=Z,6.4nm,0.8s,baz=40,slow=6.2
NB200 NORSAR Array S 72.19 337 eP P 22 50 49.1 -0.3
NOA NORSAR Array B 72.19 337 P P 22 50 49.1 -0.3
comp=Z,4.7nm,0.7s,baz=40,slow=6.0,SNR=19
NOA LR LR 23 25 38.9
comp=Z,23nm,18.1s,baz=50,slow=38
NOA NORSAR Array B 72.19 337 P P 22 50 49.2 -0.3
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA MLR MLR
comp=Z,23nm,18.1s
FFC Flin Flon 72.26 33 eP P 22 50 50.7 +0.8
FFC pmax pmax
comp=Z,70nm,3.0s
FFC Flin Flon 72.26 33 eP P 22 50 50.7 +0.8
comp=Z,70nm,3.0s
NBO02 NORSAR Array S 72.29 337 eP P 22 50 50.2 +0.2
FCC Fort Churchill 72.41 27 eP P 22 50 50.4 -0.3
FCC pmax pmax
comp=Z,4.0nm,0.9s
FCC Fort Churchill 72.41 27 eP P 22 50 50.4 -0.3
comp=Z,3.6nm,0.9s
AKASG Malin Array Be 72.47 322 P P 22 50 50.7 -0.6
comp=Z,5.8nm,0.8s,baz=48,slow=5.9,SNR=17
AKASG LR LR 23 24 07.0
comp=Z,18nm,18.3s,baz=90,slow=37
AKASG Malin Array Be 72.47 322 P P 22 50 50.7 -0.6
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG MLR MLR
comp=Z,18nm,18.3s
AKBB Malin Array Si 72.47 322 eP P 22 50 50.7 -0.6
AKBB Malin Array Si 72.47 322 eP P 22 50 50.7 -0.6
KIEV Kiev 72.48 322 eP P 22 50 50.5 -0.9
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 72.48 322 eP P 22 50 50.5 -0.9
comp=Z,8.9nm,0.9s
MFID Camas Ranch 72.60 48 eP P 22 50 52.1 -0.3
comp=Z,3.8nm,0.7s
HRY Holter Researc 72.79 43 eP P 22 50 55.4 +2.0
LRM Limekiln Ridge 73.02 44 eP P 22 50 56.4 +1.5
DLMT Dillon 73.22 45 eP P 22 50 57.7 +1.6
comp=Z,16nm,1.8s
WAKR Walker 73.38 54 eP P 22 50 56.4 -0.7
BOZ Bozeman (W) 73.57 44 eP P 22 51 00.2 +2.1
BOZ pmax pmax
comp=Z,6.0nm,0.8s
BOZ Bozeman (W) 73.57 44 eP P 22 51 00.2 +2.1
comp=Z,5.7nm,0.8s
NV01 Mina Array Sit 74.13 53 eP P 22 51 03.6 +2.0
NVAR Mina Array Bea 74.13 53 P P 22 51 03.6 +2.0
comp=Z,2.6nm,0.9s,baz=300,slow=6.8,SNR=7.7
H17A Grant Village 74.95 45 eP P 22 51 06.5 +0.2
comp=Z,5.4nm,0.7s
IMW Indian Meadow 75.07 45 eP P 22 51 07.8 +0.7
comp=Z,4.3nm,0.8s
FXWY Fox Creek 75.19 46 eP P 22 51 07.6 0.0
comp=Z,3.0nm,0.9s
MALT Malatya 75.23 307 ⇓P P 22 51 08.9 +1.1
MALT Malatya 75.23 307 ⇓iP P 22 51 08.9 +1.1
KWP Kalwaria Pacla 76.27 324 eP P 22 51 14.4 +0.9
KWP Kalwaria Pacla 76.27 324 eP P 22 51 14.4 +0.9
TPNV Topopah Spring 76.32 53 eP P 22 51 18.2 +4.0
TPNV pmax pmax
comp=Z,7.0nm,1.1s
TPNV Topopah Spring 76.32 53 eP P 22 51 18.2 +4.0
comp=Z,6.9nm,1.1s
DUG Dugway, Tooele 76.37 49 eP P 22 51 18.6 +4.2
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG Dugway, Tooele 76.37 49 eP P 22 51 18.6 +4.2
comp=Z,3.7nm,0.9s
BUR04 Bucovina Ar. S 76.50 321 eP P 22 51 15.3 +0.4
BURAR Bucovina Array 76.50 321 ⇑P P 22 51 15.2 +0.3
BURAR Bucovina Array 76.50 321 ⇑iP P 22 51 15.2 +0.3
TESR Tescani 76.54 320 ⇓iP P 22 51 15.4 +0.4
BW06 Boulder Array 76.57 46 eP P 22 51 16.7 +1.1
comp=Z,3.1nm,0.9s
PD31 Pinedale Array 76.57 46 eP P 22 51 16.1 +0.5
PDAR Pinedale Array 76.57 46 P P 22 51 16.1 +0.5
comp=Z,2.0nm,0.8s,baz=306,slow=2.9,SNR=10
CFR Carcaliu 76.69 318 ⇑P P 22 51 14.6 -1.2
CFR Carcaliu 76.69 318 ⇑iP P 22 51 14.6 -1.2
MWC Mount Wilson 76.86 57 eP P 22 51 12.7 -4.6
MWC pmax pmax
comp=Z,63nm,2.3s
MWC Mount Wilson 76.86 57 eP P 22 51 12.7 -4.6
comp=Z,63nm,2.3s
VRI Vrincioaia 76.94 319 ⇑P P 22 51 17.3 0.0
VRI Vrincioaia 76.94 319 ⇑iP P 22 51 17.3 0.0
KOLS Kolonicke sedl 76.97 324 eP P 22 51 18.0 +0.6
KOLS Kolonicke sedl 76.97 324 eP P 22 51 18.0 +0.6
STHS Stebnicka Huta 77.09 324 eP P 22 51 19.6 +1.5
STHS Stebnicka Huta 77.09 324 eP P 22 51 19.6 +1.5
TLB Topalu 77.14 318 ⇑P P 22 51 18.8 +0.4
TLB Topalu 77.14 318 ⇑iP P 22 51 18.8 +0.4
OJC Ojcow 77.16 326 eP P 22 51 18.9 +0.5
OJC Ojcow 77.16 326 eP P 22 51 18.8 +0.4
OJC pmax pmax
comp=Z,10.0nm,0.9s
OJC Ojcow 77.16 326 eP P 22 51 18.8 +0.4
comp=Z,10nm,0.9s
BR101 Keskin Array S 77.23 311 eP P 22 51 18.2 -1.0
BRTR Keskin Array B 77.23 311 P P 22 51 18.2 -1.0
comp=Z,1.9nm,0.7s,baz=90,slow=4.9,SNR=9.7
BRTR Keskin Array B 77.23 311 P P 22 51 18.2 -1.0
BRTR pmax pmax
comp=Z,2.0nm,0.7s
TRPA Tarpa 77.42 323 ⇓iP P 22 51 20.7 +0.8
NIE Niedzica 77.51 325 eP P 22 51 21.6 +1.1
NIE Niedzica 77.51 325 eP P 22 51 21.6 +1.1
ISR Istrita 77.55 319 ⇓P P 22 51 22.4 +1.6
ISR Istrita 77.55 319 ⇓iP P 22 51 22.4 +1.6
DOPR Dopca 77.55 320 ⇑iP P 22 51 22.9 +2.2
MSAB Monastry St. A 77.58 317 ⇓iP P 22 51 22.0 +1.1
BR231 Keskin MP Arra 77.66 311 eP P 22 51 20.1 -1.5
MVU Marysvale 77.81 50 eP P 22 51 27.1 +4.5
comp=Z,3.3nm,1.0s
OKC Ostrava-Krasne 78.16 326 eP P 22 51 24.7 +0.7
OKC Ostrava-Krasne 78.16 326 eP P 22 51 24.7 +0.7
KSP Ksiaz 78.19 328 eP P 22 51 24.8 +0.6
KSP Ksiaz 78.19 328 eP P 22 51 24.8 +0.6
SIBR Sibiu 78.27 320 ⇓iP P 22 51 26.6 +1.9
ARR Arges 78.35 320 ⇓iP P 22 51 27.0 +1.7
DPP Dos Picos Cty 78.35 57 eP P 22 51 23.9 -1.5
DPC Dobruska-Polom 78.55 327 eP P 22 51 26.8 +0.5
DPC Dobruska-Polom 78.55 327 eP P 22 51 26.8 +0.5
PSZ Piszkesteto 78.80 324 ⇑P P 22 51 29.5 +1.8
PSZ Piszkesteto 78.80 324 ⇑iP P 22 51 29.5 +1.8
BRG Berggiesshubel 79.13 329 eP P 22 51 29.7 +0.4
comp=Z,2.5nm,0.7s
BRG Berggiesshubel 79.13 329 eP P 22 51 29.7 +0.4
BRG pmax pmax
comp=Z,6.0nm,0.7s
CLL Collm 79.17 330 ⇑iP P 22 51 29.4 -0.1
comp=Z,5.0nm,0.9s
CLL Collm 79.17 330 ⇑iP P 22 51 29.4 -0.1
CLL pmax pmax
comp=Z,5.0nm,0.9s
VRAC Vranov 79.23 327 P P 22 51 28.8 -1.2
comp=Z,3.8nm,0.7s,baz=26,slow=4.4,SNR=5.8
VRAC Vranov 79.23 327 ⇓P P 22 51 30.5 +0.6
VRAC Vranov 79.23 327 ⇓iP P 22 51 30.5 +0.6
RAYN Ar Rayn 79.52 292 eP P 22 51 32.2 +0.2
comp=Z,6.1nm,0.7s
PRU Pruhonice 79.57 328 eP P 22 51 32.6 +0.8
PRU Pruhonice 79.57 328 eP P 22 51 32.6 +0.8
TREC Trest 79.71 327 eP P 22 51 33.5 +0.9
TREC Trest 79.71 327 eP P 22 51 33.5 +0.9
PV10 Paradox Valley 79.77 49 eP P 22 51 35.8 +2.4
MMAI Mount Meron Ar 80.48 305 P P 22 51 36.5 -0.6
comp=Z,5.0nm,0.9s,baz=43,slow=7.4,SNR=8.3
KDZ Kurdzhali 80.55 317 ⇓P P 22 51 37.2 0.0
KDZ Kurdzhali 80.55 317 ⇓iP P 22 51 37.2 0.0
CONA Conrad Observa 80.59 326 ⇓iP P 22 51 38.4 +0.9

comp=Z,4.1nm,0.8s
KHC Kasperske Hory 80.63 328 eP P 22 51 37.7 +0.1
KHC Kasperske Hory 80.63 328 eP P 22 51 37.7 +0.1
GEC2 GERESS Array S 80.80 328 eP P 22 51 38.1 -0.5
GEC2 GERESS Array S 80.80 328 eP P 22 51 38.1 -0.5
GERES GERESS Array B 80.80 328 P P 22 51 38.1 -0.5
comp=Z,1.4nm,0.7s,baz=14,slow=7.2,SNR=5.0
GERES LR LR 23 29 16.3
comp=Z,39nm,18.4s,baz=72,slow=37
GERES GERESS Array B 80.80 328 P P 22 51 38.1 -0.5
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,39nm,18.4s
VTS Vitosha 81.04 319 ⇓P P 22 51 41.0 +1.0
VTS Vitosha 81.04 319 ⇓iP P 22 51 41.0 +1.0
GRA3 Grafenberg Arr 81.05 330 eP P 22 51 40.6 +0.9
comp=Z,10.0nm,0.9s
GRA2 Grafenberg Arr 81.11 330 eP P 22 51 40.9 +0.8
comp=Z,10.0nm,1.0s
EKA Eskdalemuir Ar 81.12 340 P P 22 51 39.4 -0.6
comp=Z,1.6nm,0.7s,baz=19,slow=5.3,SNR=6.5
GRF Grafenberg Arr 81.14 330 eP P 22 51 41.1 +0.9
comp=Z,9.0nm,0.9s
GRB4 Grafenberg Arr 81.18 329 eP P 22 51 41.1 +0.6
comp=Z,24nm,1.9s
GRB5 Grafenberg Arr 81.42 329 eP P 22 51 42.5 +0.8
comp=Z,6.0nm,0.8s
MMB Musomiste 81.49 318 ⇓P P 22 51 42.7 +0.4
MMB Musomiste 81.49 318 ⇓iP P 22 51 42.7 +0.4
GRC4 Grafenberg Arr 81.50 329 eP P 22 51 42.7 +0.5
comp=Z,5.0nm,0.8s
DIVS Divibare 81.56 321 ⇓iP P 22 51 42.8 +0.1
SOKA Soboth 81.91 326 ⇑iP P 22 51 44.8 +0.3
comp=Z,8.0nm,1.3s
KBA Koelnbreinsper 82.33 327 ⇓iPcP P 22 51 48.0 +1.3
comp=Z,6.5nm,0.8s
EIL Elat 82.95 303 P P 22 51 48.8 -1.3
comp=Z,5.1nm,0.9s,baz=22,slow=16,SNR=2.6
MOTA Moosalm 83.06 328 ⇑iP P 22 51 50.7 +0.2
comp=Z,5.7nm,0.9s
RETA Reutte 83.08 329 ⇑iPcP P 22 51 51.0 +0.4
comp=Z,7.1nm,0.7s
BFO Black Forest 83.37 330 i P P 22 51 52.8 +0.9
BFO Black Forest 83.37 330 eP P 22 51 52.0 +0.1
comp=Z,5.2nm,0.8s
FETA Feichten 83.47 328 ⇓iPcP P 22 51 52.8 +0.2
comp=Z,3.5nm,0.6s
SCHQ Schefferville 83.53 16 P P 22 51 52.2 -0.4
comp=Z,2.8nm,0.7s,baz=31,slow=6.4,SNR=4.4
SCHQ Schefferville 83.53 16 eP P 22 51 52.2 -0.4
comp=Z,222nm,3.0s
DAVA Damuels 83.60 329 ⇑iPcP P 22 51 53.7 +0.3
comp=Z,7.7nm,0.8s
FUORN Ofenpass-Fuorn 83.98 328 eP P 22 51 55.6 +0.2
comp=Z,12nm,0.6s
DAVOX Davos/Dischmat 84.01 329 P P 22 51 54.7 -0.8
comp=Z,3.1nm,0.8s,baz=90,slow=7.0,SNR=5.2
IDI Anoyia 85.33 312 P P 22 52 01.0 -1.2
comp=Z,5.1nm,0.6s,baz=29,slow=5.3,SNR=5.3
PPT Papeete 85.89 116 LR LR 23 33 38.2
comp=Z,26nm,18.1s,baz=128,slow=38
TX31 Lajitas Ar. Si 89.23 52 eP P 22 52 22.4 +1.2
LTX Lajitas 89.23 52 eP P 22 52 22.2 +1.0
LTX Lajitas 89.23 52 eP P 22 52 22.2 +1.0
TXAR Lajitas Array 89.23 52 P P 22 52 22.2 +1.0
comp=Z,1.1nm,0.8s,baz=277,slow=3.7,SNR=8.0
TXAR Lajitas Array 89.23 52 P P 22 52 22.2 +1.0
TXAR pmax pmax
comp=Z,1.0nm,0.8s
MSEY Mahe Island 89.35 264 i P P 22 52 26.4 +4.6
TOA0 Torodi Ar. Sit 115.63 315 ePKPdf PKPdf 22 58 05.7 -2.0
TORD Torodi Ar. Bea 115.63 315 PKP PKPdf 22 58 05.7 -2.0
comp=Z,0.3nm,0.7s,baz=16,slow=4.2,SNR=3.5
VNA2 Neumayer--Watz 144.11 197 P PKPbc 22 58 57.8 +0.3
baz=104,slow=2.7
VNA1 Neumayer--Stat 144.50 197 P PKPbc 22 58 59.6 +0.9
LPAZ La Paz 145.99 56 PKPbc PKPdf 22 59 05.0 -0.1
comp=Z,5.9nm,0.8s,baz=50,slow=0.1,SNR=16
LPAZ La Paz 145.99 56 PKP2 PKPdf 22 59 05.0 -0.1
LPAZ pmax pmax
comp=Z,6.0nm,0.8s
LPAZ La Paz 145.99 56 ePKPdf PKPbc 22 59 06.4 +0.5
SIV San Ignacio 150.06 46 PKPbc PKPbc 22 59 16.6 +0.6
comp=Z,4.7nm,0.9s,baz=341,slow=1.9,SNR=11

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*IDC **02** 22:44:50.4±0.9, 36.̊26N×21.̊62E, h0km, mb3.7/9, mb1 3.7/14, mb1mx3.6/54, mbtmp3.6/14, ML3.5/5, MS3.0/8, Ms1 3.0/8, ms1mx2.7/45, Error ellipse: s-maj=19.7km s-min=14.5km az=17.0*
*THE **02** 22:44:53.7, 36.̊19N×21.̊64E, h0km±2km, ML3.6/8, Error ellipse: s-maj=3.1km s-min=1.1km az=225.0*
*CSEM **02** 22:44:54.0±0.4, 36.̊11N×21.̊53E, h20km, MD3.7, Error ellipse: s-maj=10.5km s-min=4.5km az=35.0*
*ATH **02** 22:44:55.3, 36.̊27N×21.̊83E, h22km±1km, MD3.7/22, ML3.5*
ISC 02 22:44:55.5±0.9, **36.̊22N**±0.̊06×**21.̊54E**±0.̊05, **h38**km±2km, **n187**, σ1.̊93/198, **mb3.7**/8, **MS3.3**/3, **1C, Southern Greece**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PYL PYLOS 0.70 14 P Pn 22 45 06.9 -2.0
PYL S Sn 22 45 18.2 -0.2
PYL PYLOS 0.70 14 ePB Pn 22 45 07.1 -1.8
PYL eSN Sn 22 45 17.0 -1.4
PYL PYLOS 0.70 14 ePb Pn 22 45 07.1 -1.8
PYL S Sn 22 45 18.2 -0.2
ITM Ithomi 1.01 18 P Pn 22 45 12.9 -0.2
ITM S Sn 22 45 27.6 +1.5
ITM Ithomi 1.01 18 ePN Pn 22 45 12.9 -0.2
ITM Ithomi 1.01 18 P Pn 22 45 12.9 -0.2
ITM S Sn 22 45 27.6 +1.5
SFD Strofades 1.11 338 P Pn 22 45 16.0 +1.5
SFD S Sn 22 45 32.2 +3.6
SFD Strofades 1.11 338 ePB Pn 22 45 16.2 +1.7
SFD eSN Sn 22 45 34.1 +5.5
SFD Strofades 1.11 338 P Pn 22 45 16.0 +1.5
SFD S Sn 22 45 32.2 +3.6
SFD eSn Sn 22 45 34.1 +5.5
KYTH Kithira 1.21 87 P Pn 22 45 15.1 -0.8
KYTH Kithira 1.21 87 P Pn 22 45 15.1 -0.8
VLI Veliai 1.23 66 P Pn 22 45 15.5 -0.7
VLI S Sn 22 45 32.7 +1.1
VLI Veliai 1.23 66 ePN Pn 22 45 15.4 -0.7
VLI eSN Sn 22 45 28.1 -3.5
VLI Veliai 1.23 66 P Pn 22 45 15.5 -0.7
VLI S Sn 22 45 32.7 +1.1
AMT Artemida-Makis 1.32 6 P Pn 22 45 18.6 +1.2
AMT S Sn 22 45 38.5 +4.7
AMT Artemida-Makis 1.32 6 ePN Pn 22 45 18.8 +1.4
AMT Artemida-Makis 1.32 6 ePn Pn 22 45 18.8 +1.4
AMT S Sn 22 45 38.5 +4.7
VLX Vlachokerasia 1.33 30 P Pn 22 45 18.0 +0.3
VLX S Sn 22 45 37.8 +3.6
VLX Vlachokerasia 1.33 30 ePN Pn 22 45 18.2 +0.5
VLX eSN Sn 22 45 33.7 -0.5
VLX Vlachokerasia 1.33 30 ePn Pn 22 45 18.2 +0.5
VLX S Sn 22 45 37.8 +3.6
ANKY Antikythira Is 1.47 103 P Pn 22 45 19.1 -0.3
ANKY S Sn 22 45 40.4 +3.0
ANKY Antikythira Is 1.47 103 ePN Pn 22 45 19.6 +0.2
ANKY Antikythira Is 1.47 103 P Pn 22 45 19.1 -0.3
ANKY Antikythira Is 1.47 103 ePn Pn 22 45 19.6 +0.2
ANKY S Sn 22 45 40.4 +3.0
DRO Drossia 1.74 4 P Pn 22 45 25.4 +2.3
DRO Drossia 1.74 4 ePN Pn 22 45 25.7 +2.6
DRO Drossia 1.74 4 P Pn 22 45 25.4 +2.3
DRO Drossia 1.74 4 ePn Pn 22 45 25.7 +2.6
GUR Goura 1.83 20 P Pn 22 45 26.9 +2.4
GUR Goura 1.83 20 ePN Pn 22 45 26.8 +2.3
GUR Goura 1.83 20 ePn Pn 22 45 26.8 +2.3
RLS Riolos of Patr 1.84 358 P Pn 22 45 26.2 +1.7
RLS Riolos of Patr 1.84 358 ePN Pn 22 45 27.0 +2.5
RLS Riolos of Patr 1.84 358 P Pn 22 45 26.2 +1.7
RLS Riolos of Patr 1.84 358 ePn Pn 22 45 27.0 +2.5
DID Didima 1.87 46 P Pn 22 45 26.0 +0.9
DID Didima 1.87 46 ePN Pn 22 45 25.9 +0.9
DID Didima 1.87 46 ePn Pn 22 45 25.9 +0.9
KLV Kalavryta, Ach 1.89 15 P Pn 22 45 27.8 +2.5
KLV Kalavryta, Ach 1.89 15 ePN Pn 22 45 27.7 +2.5
KLV Kalavryta, Ach 1.89 15 ePn Pn 22 45 27.7 +2.5

KARN Karanos 2.10 112 P Pn 22 45 27.7 -0.4
KARN Karanos 2.10 112 P Pn 22 45 27.7 -0.4
EFP Efpalio 2.23 7 ePN Pn 22 45 32.6 +2.8
EFP Efpalio 2.23 7 ePn Pn 22 45 32.6 +2.8
VAM Vamos 2.31 110 ePB Pn 22 45 30.7 -0.2
VAM Vamos 2.31 110 ePb Pn 22 45 30.7 -0.2
DSF Desfina 2.33 19 P Pn 22 45 32.7 +1.4
DSF Desfina 2.33 19 ePN Pn 22 45 32.3 +1.0
DSF Desfina 2.33 19 ePn Pn 22 45 32.3 +1.0
DSF Desfina 2.33 19 P Pn 22 45 32.7 +1.4
PDO Prodromos 2.40 353 P Pn 22 45 34.5 +2.4
PDO Prodromos 2.40 353 ePN Pn 22 45 35.0 +2.9
PDO Prodromos 2.40 353 P Pn 22 45 34.5 +2.4
PDO Prodromos 2.40 353 ePn Pn 22 45 35.0 +2.9
ATH Athens Observa 2.47 44 ePB Pn 22 45 34.0 +0.9
ATH Athens Observa 2.47 44 ePb Pn 22 45 34.0 +0.9
LKD2 Lefkada island 2.66 345 P Pn 22 45 38.8 +3.0
LKD2 Lefkada island 2.66 345 P Pn 22 45 38.8 +3.0
LKR Lokris 2.69 25 ePN Pn 22 45 37.5 +1.3
LKR Lokris 2.69 25 ePn Pn 22 45 37.5 +1.3
AXAR Agios Charalam 2.70 19 P Pn 22 45 38.2 +1.9
AXAR Agios Charalam 2.70 19 ePN Pn 22 45 38.3 +1.9
AXAR Agios Charalam 2.70 19 P Pn 22 45 38.2 +1.9
AGG Agios Georgios 2.87 12 eP Pn 22 45 41.7 +2.9
AGG Agios Georgios 2.87 12 P Pn 22 45 41.6 +2.9
AGG Agios Georgios 2.87 12 ePB Pn 22 45 41.9 +3.2
AGG Agios Georgios 2.87 12 P Pn 22 45 41.6 +2.9
AGG Agios Georgios 2.87 12 ePb Pn 22 45 41.9 +3.2
IDI Anoyia 2.88 108 Pn Pn 22 45 38.7 -0.1
1.4nm,0.3s,baz=285,slow=13,SNR=23
IDI Sn Sn 22 46 11.6 -0.7
13nm,0.3s,baz=77,slow=6.1,SNR=8.4
IDI LR LR 22 46 54.4
comp=Z,285nm,20.4s,baz=264,slow=44
DSL Palaion Diasel 2.93 353 P Pn 22 45 42.1 +2.5
DSL Palaion Diasel 2.93 353 P Pn 22 45 42.1 +2.5
MRKA Markates 2.97 33 P Pn 22 45 41.1 +1.0
MRKA Markates 2.97 33 ePN Pn 22 45 41.4 +1.3
MRKA Markates 2.97 33 P Pn 22 45 41.1 +1.0
MRKA Markates 2.97 33 ePn Pn 22 45 41.4 +1.3
SANT Santorini 3.17 86 ePN Pn 22 45 42.6 -0.2
SANT Santorini 3.17 86 ePn Pn 22 45 42.6 -0.2
APE Apeiranthos 3.32 74 eP Pn 22 45 43.4 -1.5
APE Apeiranthos 3.32 74 eP Pn 22 45 43.4 -1.5
NEO Neokhori 3.36 23 P Pn 22 45 46.5 +1.1
NEO Neokhori 3.36 23 ePN Pn 22 45 47.1 +1.7
NEO Neokhori 3.36 23 P Pn 22 45 46.5 +1.1
NEO Neokhori 3.36 23 ePn Pn 22 45 47.1 +1.7
THL Klokotos Trika 3.36 6 P Pn 22 45 47.8 +2.4
THL Klokotos Trika 3.36 6 ePN Pn 22 45 47.9 +2.5
THL Klokotos Trika 3.36 6 P Pn 22 45 47.8 +2.4
FYTO Fytoko, Volos 3.37 19 P Pn 22 45 48.8 +3.2
FYTO Fytoko, Volos 3.37 19 P Pn 22 45 48.8 +3.2
IGT Igoumenitsa 3.44 344 eP Pn 22 45 48.0 +1.4
IGT Igoumenitsa 3.44 344 P Pn 22 45 48.0 +1.4
IGT Igoumenitsa 3.44 344 P Pn 22 45 48.0 +1.4
JAN Janina 3.48 351 ePN Pn 22 45 49.6 +2.6
JAN Janina 3.48 351 ePn Pn 22 45 49.6 +2.6
AOS Alonnisos 3.48 31 eP Pn 22 45 48.8 +1.7
AOS Alonnisos 3.48 31 eP Pn 22 45 48.8 +1.7
SGD Sagiada 3.54 343 P Pn 22 45 49.4 +1.5
SGD Sagiada 3.54 343 P Pn 22 45 49.4 +1.5
KZN Kozani 4.09 2 P Pn 22 45 57.0 +1.5
KZN Kozani 4.09 2 ePN Pn 22 45 58.0 +2.5
KZN Kozani 4.09 2 P Pn 22 45 57.0 +1.5
KZN Kozani 4.09 2 ePn Pn 22 45 58.0 +2.5
CHOS Chios island 4.20 58 eP Pn 22 45 56.6 -0.4
CHOS Chios island 4.20 58 eP Pn 22 45 56.6 -0.4
NEST Nestorio 4.21 355 P Pn 22 46 00.0 +2.8
NEST Nestorio 4.21 355 P Pn 22 46 00.0 +2.8
PLG Polygyros 4.41 19 ePN Pn 22 46 02.1 +2.2
PLG Polygyros 4.41 19 ePn Pn 22 46 02.1 +2.2
OUR Ouranopolis 4.54 24 eP Pn 22 46 04.2 +2.6
OUR Ouranopolis 4.54 24 eP Pn 22 46 04.2 +2.6
HORT Hortiatis 4.54 15 eP Pn 22 46 03.7 +2.0
HORT Hortiatis 4.54 15 eP Pn 22 46 03.7 +2.0
SIGR SIGRI 4.54 48 eP Pn 22 46 01.2 -0.5
SIGR SIGRI 4.54 48 eP Pn 22 46 01.2 -0.5
FNA Florina 4.56 358 eP Pn 22 46 04.1 +2.1
FNA Florina 4.56 358 P Pn 22 46 03.5 +1.5
FNA Florina 4.56 358 P Pn 22 46 03.5 +1.5
BODT Bodrum 4.72 78 eP Pn 22 46 04.4 +0.3
BODT Bodrum 4.72 78 eP Pn 22 46 04.4 +0.3
GRG Griva 4.78 8 eP Pn 22 46 06.1 +1.1
GRG Griva 4.78 8 P Pn 22 46 06.5 +1.6
GRG Griva 4.78 8 P Pn 22 46 06.5 +1.6
TIP Timpagrande 4.81 309 P Pn 22 46 06.6 +1.3
TIP Timpagrande 4.81 309 P Pn 22 46 06.6 +1.3
BLCB Balcova 4.89 62 eP Pn 22 46 08.2 +1.8
BLCB Balcova 4.89 62 eP Pn 22 46 08.2 +1.8
DAT Datca 4.89 82 eP Pn 22 46 07.0 +0.4
DAT Datca 4.89 82 eP Pn 22 46 07.0 +0.4
OHR Ohrid 4.92 353 ePn Pn 22 46 07.9 +1.0
OHR eSg Sn 22 47 03.9 +1.3
OHR Ohrid 4.92 353 ePn Pn 22 46 07.9 +1.0
OHR eSg Sn 22 47 03.9 +1.3
KNT Kendrikon 5.05 12 eP Pn 22 46 10.4 +1.8
KNT Kendrikon 5.05 12 eP Pn 22 46 10.4 +1.8
VAY Valandovo 5.16 9 ePn Pn 22 46 12.0 +1.8
VAY eSn Sn 22 47 00.3 -8.1
VAY Valandovo 5.16 9 ePn Pn 22 46 11.9 +1.8
GADA Gvkgeada 5.25 40 eP Pn 22 46 13.5 +2.2
GADA Gvkgeada 5.25 40 eP Pn 22 46 13.5 +2.2
AYDB Zeytinkoy-Aydi 5.36 69 eP Pn 22 46 15.1 +2.0
AYDB Zeytinkoy-Aydi 5.36 69 eP Pn 22 46 15.1 +2.0
NVR Nevrokopi 5.44 19 ePN Pn 22 46 16.0 +2.0
NVR Nevrokopi 5.44 19 ePn Pn 22 46 16.0 +2.0
YER Yerkesik 5.50 78 eP Pn 22 46 16.6 +1.8
YER Yerkesik 5.50 78 eP Pn 22 46 16.6 +1.8
GELI Tayfur-Gelibol 5.70 41 eP Pn 22 46 17.8 +0.3
GELI Tayfur-Gelibol 5.70 41 eP Pn 22 46 17.8 +0.3
SKO Skopje 5.75 359 ePn Pn 22 46 18.8 +0.6
SKO Skopje 5.75 359 ePn Pn 22 46 18.8 +0.6
DALY Dalyan (Mu˜la 5.76 82 eP Pn 22 46 19.7 +1.3
DALY Dalyan (Mu˜la 5.76 82 eP Pn 22 46 19.7 +1.3
ALN Alexandroupoli 5.86 36 eP Pn 22 46 20.8 +1.2
ALN Alexandroupoli 5.86 36 eP Pn 22 46 20.8 +1.2
BARS Barje 6.59 2 ePn Pn 22 46 30.7 +0.9
ELL Elmali 6.76 83 eP Pn 22 46 33.1 +0.8
ELL Elmali 6.76 83 eP Pn 22 46 33.1 +0.8
STON Ston 7.28 337 ePn Pn 22 46 37.6 -1.5
STON Sn Sn 22 47 56.2 -4.2
IVAS Ivanjica 7.43 352 ePn Pn 22 46 41.1 -0.2
BBLS Lazići 7.81 349 i Pn Pn 22 46 46.2 -0.4
DIVS Divibare 7.96 352 ⇑iPn Pn 22 46 48.0 -0.6
TEKS Tekeris 8.46 350 i Pn Pn 22 46 54.9 -0.6
FGSL Fruska Gora 9.03 352 ePn Pn 22 47 02.4 -0.8
UDBI Udbina 9.40 334 i Pn Pn 22 47 09.8 +1.5
UDBI Sn Sn 22 48 49.5 -3.1
UDBI Udbina 9.40 334 i Pn Pn 22 47 09.8 +1.5
NVLJ Novalja 9.76 331 ePn Pn 22 47 14.5 +1.3
NVLJ Sn Sn 22 48 56.9 -4.5
NVLJ Novalja 9.76 331 ePn Pn 22 47 14.5 +1.3
BRTR Keskin Array B 10.17 66 Pn Pn 22 47 19.4 +0.3
0.1nm,0.3s,baz=300,slow=41,SNR=3.0
BOJS Bojanci 10.42 335 i Pn Pn 22 47 22.3 0.0
BOJS i Sn Sn 22 49 13.1 -4.6
BOJS Bojanci 10.42 335 i Pn Pn 22 47 22.3 0.0
CRES Cresnjev 10.64 336 i Pn Pn 22 47 24.6 -0.6
CRES i Sn Sn 22 49 16.5 -6.4
CRES Cresnjev 10.64 336 i Pn Pn 22 47 24.6 -0.6
VISS Visnje 10.83 334 i Pn Pn 22 47 29.4 +1.6
VISS i Sn Sn 22 49 23.8 -3.8
VISS Visnje 10.83 334 i Pn Pn 22 47 29.4 +1.6
MMAI Mount Meron Ar 11.86 102 Pn Pn 22 47 40.0 -2.1
0.6nm,0.3s,baz=266,slow=12,SNR=6.1
MMAI Sn Sn 22 49 42.3 -11
1.0nm,0.3s,baz=283,slow=28,SNR=5.2
KOLS Kolonicke sedl 12.72 2 e P 22 48 04.7 +0.5
EIL Elat 13.01 116 Pn Pn 22 47 54.7 -3.1
0.2nm,0.3s,baz=292,slow=5.4,SNR=3.3
EIL Sn Sn 22 50 09.2 -12
0.2nm,0.3s,baz=196,slow=18,SNR=4.4
VRAC Vranov 13.57 346 LR LR 22 55 16.7
comp=Z,97nm,18.2s,baz=164,slow=46
DAVOX Davos/Dischmat 13.69 324 LR LR 22 54 47.9
comp=Z,35nm,19.6s,baz=90,slow=44
GERES GERESS Array B 13.87 338 Pn Pn 22 48 08.7 -0.7
0.3nm,0.3s,baz=163,slow=14,SNR=4.3
GERES Sn Sn 22 50 37.0 -5.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.3nm,0.3s,baz=142,slow=22,SNR=4.3						
GERES				LR	LR	22 54 09.3	
	comp=Z,38nm,21.6s,baz=133,slow=40						
GNI	**Garni**	**18.64**	**71**	LR	LR	22 58 15.0	
	comp=Z,20nm,19.6s,baz=270,slow=43						
ESDC	**Sonseca Array**	**20.38**	**287**	P	**P**	**22 49 29.9**	**+0.9**
	1.4nm,0.8s,baz=87,slow=11,SNR=6.3						
MDT	**Midelt**	**21.79**	**269**	P	**P**	**22 49 45.0**	**+0.8**
	1.8nm,1.0s,baz=79,slow=6.7,SNR=5.3						
HFS	**Hagfors**	**24.46**	**351**	P	**P**	**22 50 10.7**	**+0.2**
	1.0nm,0.4s,baz=164,slow=12,SNR=16						
HFS				LR	LR	23 02 15.3	
	comp=Z,107nm,18.9s,baz=19,slow=43						
EKA	**Eskdalemuir Ar**	**25.50**	**326**	P	**P**	**22 50 20.7**	**+0.7**
	0.3nm,0.4s,baz=134,slow=9.0,SNR=5.5						
NOA	**NORSAR Array B**	**25.70**	**348**	LR	LR	23 01 13.9	
	comp=Z,13nm,19.9s,baz=325,slow=38						
TORD	**Torodi Ar. Bea**	**29.08**	**223**	P	**P**	**22 50 52.8**	**+0.3**
	0.3nm,0.4s,baz=33,slow=9.8,SNR=12						
TORD				LR	LR	23 04 17.5	
	comp=Z,70nm,19.4s,baz=285,slow=40						
ARCES	**ARCESS Array B**	**33.45**	**3**	P	**P**	**22 51 30.1**	**-0.3**
	3.1nm,1.0s,baz=90,slow=4.9,SNR=6.7						
MKAR	**Makanchi Array**	**45.66**	**57**	P	**P**	**22 53 11.7**	**-0.7**
	0.4nm,0.4s,baz=270,slow=8.0,SNR=11						
ZALV	**Zalesovo Beam**	**46.42**	**47**	P	**P**	**22 53 17.5**	**-0.6**
	0.6nm,0.4s,baz=260,slow=9.6,SNR=3.9						
SCHQ	**Schefferville**	**60.46**	**318**	P	**P**	**22 55 02.0**	**+0.9**
	1.7nm,0.6s,baz=45,slow=7.4,SNR=4.2						

KRSC 02 22:50:06.7±2.6**, 48°.25N×155°.98E, h17**km±34km**, ML4.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.43**	**2**	*e*P	Pn	22 50 45.1	-0.5
SKR				*e*S	Sn	22 51 15.4	+0.4
PAU	**Pauzhetka**	**3.26**	**9**	*e*S	Sb	22 51 40.6	-2.9
MIPR	**Malaya Ipel'ka**	**4.06**	**7**	*e*P	Pn	22 51 12.1	+4.1
ASAK	**Asacha**	**4.31**	**16**	*e*P	Pn	22 51 16.4	+4.8
MTVR	**Mutnovka**	**4.46**	**18**	*e*P	Pn	22 51 18.2	+4.5
MTVR				*e*S	Sn	22 52 11.7	+6.3
RUS	**Russkaya**	**4.49**	**20**	*e*P	Pn	22 51 17.7	+3.9
AVH	**Avacha**	**5.31**	**18**	*e*P	Pn	22 51 31.4	+6.1
KOK	**Koryaka**	**5.32**	**17**	*e*P	Pn	22 51 31.3	+5.9
SMAR	**Somma**	**5.33**	**19**	*e*P	Pn	22 51 31.6	+5.9
SDLR	**Sedlovina**	**5.36**	**19**	*e*P	Pn	22 51 30.4	+4.4
KRX	**Arik**	**5.38**	**17**	*e*P	Pn	22 51 31.4	+5.0
SPN	**Mys Shipunski**	**5.49**	**26**	*e*P	Pn	22 51 31.7	+4.1
SPN				*e*S	Sn	22 52 35.0	+4.7
GNL	**Ganaly**	**5.59**	**12**	*e*P	Pn	22 51 33.5	+4.4
MKZ	**Mys Kozlova**	**7.26**	**27**	*e*P	Pn	22 51 56.2	+4.3
TUMR	**Tumrok**	**7.50**	**19**	*e*P	Pn	22 51 58.4	+3.1
KBTR	**Krutoberegovo**	**9.00**	**25**	*e*P	Pn	22 52 19.9	+4.2

*IDC **02** 23:12:31.6±1.1, 34°.27N×25°.01E, h0km, mb3.7/8, mb1 3.8/13, mb1mx3.6/33, mbtmp3.7/13, ML4.0/4, Error ellipse: s-maj=20.6km s-min=19.4km az=43.0*
*ATH **02** 23:12:34.4, 34°.24N×25°.02E, h25km±1km, MD3.6/12*
*CSEM **02** 23:12:35.9±0.3, 34°.30N×25°.06E, h15km, ML2.9, Error ellipse: s-maj=7.5km s-min=3.4km az=2.0*
*ISCJB **02** 23:12:35.5±0.7, 34°.20N±0°.05×25°.10E±0°.03, h50km±7km, mb3.6/8, Error ellipse: s-maj=8.6km s-min=4.2km az=3.1*
*THE **02** 23:12:36.2, 34°.28N×25°.08E, h10km±2km, ML2.9/3, Error ellipse: s-maj=3.3km s-min=1.5km az=189.0*
*DDA **02** 23:13:34.4, 35°.55N×26°.89E, h31km, MD3.8*
ISC 02 23:12:36.8±1.0**, 34°.23N**±0°.07×**25°.10E**±0°.04**, h38**km±2km**, n104, σ1s.23**/135**, mb3.7**/8**, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.82**	**343**	P	**Pn**	**23 12 49.9**	**-2.0**
SIVA				S	**Sn**	**23 13 02.7**	**-0.1**
SIVA	**Sivas**	**0.82**	**343**	*e*PN	**Pn**	**23 12 50.0**	**-2.0**
SIVA				*e*SN	**Sn**	**23 13 01.2**	**-1.6**
SIVA	**Sivas**	**0.82**	**343**	P	**Pn**	**23 12 49.9**	**-2.0**
SIVA				*e*Sn	**Sn**	**23 13 01.2**	**-1.6**
SIVA				S	**Sn**	**23 13 02.7**	**-0.1**
LAST	**Lasithi**	**0.98**	**19**	P	**Pn**	**23 12 52.8**	**-1.4**
LAST				S	**Sn**	**23 13 08.0**	**+1.1**
LAST	**Lasithi**	**0.98**	**19**	*e*PN	**Pn**	**23 12 53.2**	**-1.0**
LAST				*e*SN	**Sn**	**23 13 07.6**	**+0.7**
LAST	**Lasithi**	**0.98**	**19**	P	**Pn**	**23 12 52.8**	**-1.4**
LAST	**Lasithi**	**0.98**	**19**	*e*Pn	**Pn**	**23 12 53.2**	**-1.0**
LAST				*e*Sn	**Sn**	**23 13 07.6**	**+0.7**
LAST				S	**Sn**	**23 13 08.0**	**+1.1**
GVD	**Gavdhos**	**1.03**	**306**	P	**Pn**	**23 12 54.6**	**-0.2**
GVD				S	**Sn**	**23 13 09.4**	**+1.4**
GVD	**Gavdhos**	**1.03**	**306**	*e*PN	**Pn**	**23 12 53.8**	**-1.0**
GVD				*e*SN	**Sn**	**23 13 06.3**	**-1.7**
GVD	**Gavdhos**	**1.03**	**306**	*e*Pn	**Pn**	**23 12 53.8**	**-1.0**
GVD	**Gavdhos**	**1.03**	**306**	P	**Pn**	**23 12 54.6**	**-0.2**
GVD				*e*Sn	**Sn**	**23 13 06.3**	**-1.7**
GVD				S	**Sn**	**23 13 09.4**	**+1.4**
IDI	**Anoyia**	**1.07**	**351**	Pn	**Pn**	**23 12 54.0**	**-1.3**
	17nm,0.3s,baz=169,slow=23,SNR=38						
IDI				LR	LR	23 13 37.8	
	comp=Z,100nm,19.9s,baz=230,slow=65						
NPS	**Neapolis**	**1.11**	**22**	P	**Pn**	**23 12 55.5**	**-0.4**
NPS				S	**Sn**	**23 13 11.9**	**+1.9**
NPS	**Neapolis**	**1.11**	**22**	*e*PN	**Pn**	**23 12 55.7**	**-0.2**
NPS				*e*SN	**Sn**	**23 13 11.3**	**+1.3**
NPS	**Neapolis**	**1.11**	**22**	P	**Pn**	**23 12 55.5**	**-0.4**
NPS				*e*Sn	**Sn**	**23 13 11.3**	**+1.3**
ZKR	**Zakros**	**1.28**	**46**	P	**Pn**	**23 12 59.0**	**+0.9**
ZKR				S	**Sn**	**23 13 14.2**	**+0.2**
ZKR	**Zakros**	**1.28**	**46**	P	**Pn**	**23 12 59.0**	**+0.9**
ZKR				S	**Sn**	**23 13 14.2**	**+0.2**
VAM	**Vamos**	**1.39**	**328**	*e*PN	**Pn**	**23 12 59.6**	**-0.1**
VAM				*e*SN	**Sn**	**23 13 18.3**	**+1.5**
VAM	**Vamos**	**1.39**	**328**	*e*Pn	**Pn**	**23 12 59.6**	**-0.1**
VAM				*e*Sn	**Sn**	**23 13 18.3**	**+1.5**
KARN	**Karanos**	**1.52**	**321**	P	**Pn**	**23 13 01.2**	**-0.3**
KARN				S	**Sn**	**23 13 20.0**	**-0.1**
KARN	**Karanos**	**1.52**	**321**	*e*PN	**Pn**	**23 13 01.8**	**+0.3**
KARN	**Karanos**	**1.52**	**321**	P	**Pn**	**23 13 01.2**	**-0.3**
KARN	**Karanos**	**1.52**	**321**	*e*Pn	**Pn**	**23 13 01.8**	**+0.3**
KARN				S	**Sn**	**23 13 20.0**	**-0.1**
THR6	**Thira Island,**	**2.14**	**7**	P	**Pn**	**23 13 09.8**	**-0.1**
THR6	**Thira Island,**	**2.14**	**7**	P	**Pn**	**23 13 09.8**	**-0.1**
SANT	**Santorini**	**2.16**	**8**	P	**Pn**	**23 13 10.5**	**+0.2**
SANT				S	**Sn**	**23 13 37.4**	**+1.6**
SANT	**Santorini**	**2.16**	**8**	*e*PN	**Pn**	**23 13 10.5**	**+0.2**
SANT	**Santorini**	**2.16**	**8**	P	**Pn**	**23 13 10.5**	**+0.2**
SANT				S	**Sn**	**23 13 37.4**	**+1.6**
THR5	**Thira Island,**	**2.19**	**5**	*e*PN	**Pn**	**23 13 10.1**	**-0.6**
THR5	**Thira Island,**	**2.19**	**5**	*e*Pn	**Pn**	**23 13 10.1**	**-0.6**
ANKY	**Antikythira Is**	**2.20**	**318**	P	**Pn**	**23 13 11.3**	**+0.5**
ANKY				S	**Sn**	**23 13 38.8**	**+2.0**
ANKY	**Antikythira Is**	**2.20**	**318**	P	**Pn**	**23 13 11.3**	**+0.5**
THR2	**Thira island,**	**2.23**	**7**	P	**Pn**	**23 13 10.9**	**-0.3**
THR2	**Thira island,**	**2.23**	**7**	P	**Pn**	**23 13 10.9**	**-0.3**
KYTH	**Kithira**	**2.65**	**321**	*e*PN	**Pn**	**23 13 17.6**	**+0.5**
KYTH	**Kithira**	**2.65**	**321**	*e*Pn	**Pn**	**23 13 17.6**	**+0.5**
APE	**Apeiranthos**	**2.85**	**7**	*e*PN	**Pn**	**23 13 19.0**	**-0.9**
APE	**Apeiranthos**	**2.85**	**7**	P	**Pn**	**23 13 19.4**	**-0.5**
APE				S	**Sn**	**23 13 53.2**	**+0.2**
APE	**Apeiranthos**	**2.85**	**7**	*e*Pn	**Pn**	**23 13 19.0**	**-0.9**
APE	**Apeiranthos**	**2.85**	**7**	P	**Pn**	**23 13 19.4**	**-0.5**
APE				S	**Sn**	**23 13 53.2**	**+0.2**
VLI	**Veliai**	**3.04**	**325**	P	**Pn**	**23 13 22.3**	**-0.1**
VLI	**Veliai**	**3.04**	**325**	P	**Pn**	**23 13 22.3**	**-0.1**
ARG	**Arkhangelos**	**3.17**	**51**	P	**Pn**	**23 13 26.0**	**+1.8**
ARG				S	**Sn**	**23 14 03.0**	**+2.2**
ARG	**Arkhangelos**	**3.17**	**51**	*e*PN	**Pn**	**23 13 26.1**	**+1.8**
ARG	**Arkhangelos**	**3.17**	**51**	P	**Pn**	**23 13 26.0**	**+1.8**
ARG				S	**Sn**	**23 14 03.0**	**+2.2**
DAT	**Datca**	**3.21**	**38**	*e*PN	**Pn**	**23 13 25.6**	**+0.8**
DAT	**Datca**	**3.21**	**38**	*e*Pn	**Pn**	**23 13 25.6**	**+0.8**
BODT	**Bodrum**	**3.35**	**32**	*e*PN	**Pn**	**23 13 26.9**	**+0.2**
BODT	**Bodrum**	**3.35**	**32**	*e*Pn	**Pn**	**23 13 26.9**	**+0.2**
VLX	**Vlachokerasia**	**3.83**	**326**	P	**Pn**	**23 13 34.5**	**+1.2**
VLX	**Vlachokerasia**	**3.83**	**326**	*e*PN	**Pn**	**23 13 34.6**	**+1.2**
VLX	**Vlachokerasia**	**3.83**	**326**	P	**Pn**	**23 13 34.5**	**+1.2**
DALY	**Dalyan (Mu˜la**	**3.88**	**47**	*e*PN	**Pn**	**23 13 35.5**	**+1.6**
DALY	**Dalyan (Mu˜la**	**3.88**	**47**	*e*Pn	**Pn**	**23 13 35.5**	**+1.6**
TURN	**Turunc**	**3.89**	**46**	*i* P	Pn	23 13 30.7	-3.3
TURN				*i* S	Sn	23 14 10.1	-8.3
TURN	**Turunc**	**3.89**	**46**	*i* P	Pn	23 13 30.7	-3.3
YER	**Yerkesik**	**3.89**	**41**	*e*PN	**Pn**	**23 13 35.2**	**+1.2**
YER	**Yerkesik**	**3.89**	**41**	*e*Pn	**Pn**	**23 13 35.3**	**+1.2**
ITM	**Ithomi**	**3.91**	**320**	*e*PN	**Pn**	**23 13 34.6**	**+0.2**
ITM	**Ithomi**	**3.91**	**320**	*e*Pn	**Pn**	**23 13 34.6**	**+0.2**
AKAS	**Kas**	**4.20**	**60**	*i* P	**Pn**	**23 13 39.3**	**+0.9**
AKAS				*i* S	**Sn**	**23 14 25.2**	**-1.0**
AKAS	**Kas**	**4.20**	**60**	*i* P	**Pn**	**23 13 39.3**	**+0.9**
AKAS				*i* S	**Sn**	**23 14 25.2**	**-1.0**
CHOS	**Chios island**	**4.22**	**10**	*e*PN	**Pn**	**23 13 38.4**	**-0.3**
CHOS	**Chios island**	**4.22**	**10**	*e*PN	**Pn**	**23 13 39.2**	**+0.5**
CHOS	**Chios island**	**4.22**	**10**	*e*Pn	**Pn**	**23 13 39.2**	**+0.5**
GUR	**Goura**	**4.32**	**330**	*e*PN	**Pn**	**23 13 39.6**	**-0.5**
GUR	**Goura**	**4.32**	**330**	*e*Pn	**Pn**	**23 13 39.6**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**4.34**	**31**	*e*PN	**Pn**	**23 13 41.1**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**4.34**	**31**	*e*Pn	**Pn**	**23 13 41.1**	**+0.7**
BLCB	**Balcova**	**4.43**	**20**	*e*PN	**Pn**	**23 13 41.3**	**-0.2**
BLCB	**Balcova**	**4.43**	**20**	*e*Pn	**Pn**	**23 13 41.3**	**-0.2**
ELL	**Elmali**	**4.66**	**56**	*e*PN	**Pn**	**23 13 46.1**	**+1.4**
ELL	**Elmali**	**4.66**	**56**	*e*Pn	**Pn**	**23 13 46.1**	**+1.4**
GOLH	**Golhisar**	**4.71**	**49**	*i* P	**Pn**	**23 13 46.6**	**+1.2**
GOLH				*i* S	**Sn**	**23 14 39.0**	**+0.2**
GOLH	**Golhisar**	**4.71**	**49**	*i* P	**Pn**	**23 13 46.6**	**+1.2**
GOLH				*i* S	**Sn**	**23 14 39.0**	**+0.2**
SIGR	**SIGRI**	**5.01**	**7**	*e*PN	**Pn**	**23 13 48.8**	**-0.6**
KORT	**Korkueli**	**5.09**	**56**	*i* P	**Pn**	**23 13 52.9**	**+2.2**
KORT				*i* S	**Sn**	**23 14 48.2**	**-0.2**
KORT	**Korkueli**	**5.09**	**56**	*i* P	**Pn**	**23 13 52.9**	**+2.2**
KORT				*i* S	**Sn**	**23 14 48.2**	**-0.2**
AGG	**Agios Georgios**	**5.28**	**336**	*e*P	**Pn**	**23 13 52.9**	**-0.2**
AGG	**Agios Georgios**	**5.28**	**336**	*e*P	**Pn**	**23 13 52.9**	**-0.2**
VLS	**Valsamata**	**5.37**	**319**	*e*PN	**Pn**	**23 13 55.0**	**+0.7**
VLS	**Valsamata**	**5.37**	**319**	*e*Pn	**Pn**	**23 13 55.0**	**+0.7**
PDO	**Prodromos**	**5.38**	**325**	*e*PN	**Pn**	**23 13 56.5**	**+2.0**
PDO	**Prodromos**	**5.38**	**325**	*e*Pn	**Pn**	**23 13 56.5**	**+2.0**
ERMK	**Ermenek**	**6.82**	**67**	*i* P	**Pn**	**23 14 16.7**	**+2.3**
ERMK	**Ermenek**	**6.82**	**67**	*i* P	**Pn**	**23 14 16.7**	**+2.3**
KDHN	**Kadinhani**	**7.10**	**51**	*i* P	**Pn**	**23 14 19.6**	**+1.4**
KDHN	**Kadinhani**	**7.10**	**51**	*i* P	**Pn**	**23 14 19.6**	**+1.4**
MMAI	**Mount Meron Ar**	**8.68**	**95**	Pn	**Pn**	**23 14 39.4**	**-0.5**
	0.9nm,0.3s,baz=270,slow=12,SNR=7.7						
MMAI				Sn	**Sn**	**23 16 13.0**	**-3.5**
	1.8nm,0.3s,baz=266,slow=25,SNR=7.5						
BRTR	**Keskin Array B**	**8.76**	**49**	Pn	**Pn**	**23 14 43.7**	**+2.7**
	0.1nm,0.3s,baz=221,slow=15,SNR=5.3						
EIL	**Elat**	**9.52**	**116**	Pn	**Pn**	**23 14 51.3**	**-0.1**
	0.5nm,0.3s,baz=196,slow=2.8,SNR=7.6						
EIL				Sn	**Sn**	**23 16 32.6**	**-4.5**
	0.3nm,0.3s,baz=238,slow=19,SNR=4.5						
STON	**Ston**	**10.39**	**328**	*e*Pn	Pn	23 14 59.5	-3.7
STON				Sn	Sn	23 16 42.9	-15
UDBI	**Udbina**	**12.55**	**328**	*e*Pn	Pn	23 15 29.0	-3.9
NVLJ	**Novalja**	**12.99**	**326**	*i* Pn	Pn	23 15 32.9	-5.8
NVLJ				Sn	Sn	23 17 48.2	-14
AKASG	**Malin Array Be**	**16.73**	**9**	Pn	**Pn**	**23 16 28.2**	**0.0**
	1.1nm,0.3s,baz=201,slow=11,SNR=4.1						
GERES	**GERESS Array B**	**16.88**	**333**	Pn	**Pn**	**23 16 30.6**	**+0.4**
	0.4nm,0.3s,baz=138,slow=12,SNR=9.3						
FINES	**FINESS Array B**	**27.24**	**1**	P	**P**	**23 18 15.0**	**-1.9**
	1.1nm,0.8s,baz=167,slow=13,SNR=3.1						
NOA	**NORSAR Array B**	**28.28**	**346**	P	**P**	**23 18 25.1**	**-1.3**
	0.5nm,0.8s,baz=149,slow=9.5,SNR=2.7						
EKA	**Eskdalemuir Ar**	**28.77**	**326**	P	**P**	**23 18 31.7**	**+1.0**
	0.2nm,0.4s,baz=123,slow=10.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**29.86**	**231**	P	**P**	**23 18 40.7**	**0.0**
	0.7nm,0.5s,baz=34,slow=8.0,SNR=15						
ARCES	**ARCESS Array B**	**35.36**	**0**	P	**P**	**23 19 26.3**	**-2.0**
	1.3nm,0.9s,baz=184,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**44.33**	**56**	P	**P**	**23 20 44.0**	**+0.9**
	0.6nm,0.6s,baz=275,slow=6.5,SNR=6.5						
ZALV	**Zalesovo Beam**	**45.69**	**46**	P	**P**	**23 20 53.5**	**-0.2**
	1.5nm,0.4s,baz=272,slow=7.8,SNR=8.2						
SONM	**Songino Array**	**60.12**	**50**	P	**P**	**23 22 41.3**	**+0.9**
	0.3nm,0.3s,baz=286,slow=5.7,SNR=3.4						

*CRAAG **02** 23:19:12.9, 35°.75N×4°.07E, Ml3.0*
*ISCJB **02** 23:19:16.4±0.8, 35°.99N±0°.09×4°.06E±0°.04, h9km±6km, Error ellipse: s-maj=14.5km s-min=5.8km az=7.0*
*MDD **02** 23:19:16.5±0.7, 35°.89N×4°.11E, h0km, mb3.9/4, Error ellipse: s-maj=17.8km s-min=4.0km az=17.0, PRXIMO*
*CSEM **02** 23:19:16.2±0.3, 35°.93N×4°.11E, h2km, ML3.0, Error ellipse: s-maj=15.0km s-min=4.5km az=6.0*
ISC 02 23:19:16.1±1.5**, 35°.93N**±0°.06×**4°.12E**±0°.03**, h3**km±12km**, n39, σ0s.88**/50**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.14**	**114**	P	**Pg**	**23 19 18.5**	**-0.3**
ATAF	**Djebel Tarf**	**0.14**	**114**	P	**Pg**	**23 19 18.5**	**-0.3**
ATAF	**Djebel Tarf**	**0.14**	**114**	P	**Pg**	**23 19 18.5**	**-0.3**
AKET	**Djebel Ketaf**	**0.23**	**301**	P	**Pg**	**23 19 20.3**	**-0.2**
AKET	**Djebel Ketaf**	**0.23**	**301**	P	**Pg**	**23 19 20.3**	**-0.2**
AKET	**Djebel Ketaf**	**0.23**	**301**	P	**Pg**	**23 19 20.3**	**-0.2**
ADJB	**Djebel Djouab**	**0.60**	**292**	P	**Pg**	**23 19 27.9**	**+0.3**
ADJB	**Djebel Djouab**	**0.60**	**292**	P	**Pg**	**23 19 27.9**	**+0.3**
ADJB	**Djebel Djouab**	**0.60**	**292**	P	**Pg**	**23 19 27.9**	**+0.3**
SET	**Setif**	**1.07**	**75**	P	**Pg**	**23 19 37.0**	**+0.4**
SET	**Setif**	**1.07**	**75**	P	**Pg**	**23 19 37.0**	**+0.4**
SET	**Setif**	**1.07**	**75**	P	**Pg**	**23 19 37.0**	**+0.4**
CKHR	**Kef el Ahmar**	**1.13**	**85**	P	**Pg**	**23 19 37.9**	**+0.2**
CKHR	**Kef el Ahmar**	**1.13**	**85**	P	**Pg**	**23 19 37.9**	**+0.2**
CKHR	**Kef el Ahmar**	**1.13**	**85**	P	**Pg**	**23 19 37.9**	**+0.2**
DFRA	**Djebel Bou Aff**	**1.54**	**66**	P	**Pg**	**23 19 46.4**	**+0.7**
DFRA	**Djebel Bou Aff**	**1.54**	**66**	P	**Pg**	**23 19 46.4**	**+0.7**
DFRA	**Djebel Bou Aff**	**1.54**	**66**	P	**Pg**	**23 19 46.4**	**+0.7**
CASM	**Ain Smara**	**1.94**	**80**	P	**Pg**	**23 19 53.5**	**+0.1**
CASM	**Ain Smara**	**1.94**	**80**	P	**Pg**	**23 19 53.5**	**+0.1**
OKGL	**Djebel Kef Gue**	**2.82**	**273**	P	**Pn**	**23 20 01.5**	**-0.6**
	3.3nm,0.1s,SNR=7.9						
OKGL				S	**Sn**	**23 20 37.4**	**+0.8**
	21nm,0.3s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.82**	**273**	P	**Pn**	**23 20 01.5**	**-0.6**
	3.3nm,0.1s,SNR=7.9						
OKGL				S	**Sn**	**23 20 37.4**	**+0.8**
	21nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.80**	**325**	P	**Pn**	**23 20 15.4**	**-0.1**
	1.0nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**23 20 59.5**	**-1.2**
	1.5nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.80**	**325**	P	**Pn**	**23 20 15.4**	**-0.1**
	1.0nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**23 20 58.8**	**-1.9**
	0.3nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.97**	**345**	P	**Pn**	**23 20 17.3**	**-0.5**
	0.4nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**4.70**	**296**	P	**Pn**	**23 20 27.7**	**-0.2**
	2.9nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**4.70**	**296**	P	**Pn**	**23 20 27.7**	**-0.2**
	2.9nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**5.27**	**303**	P	**Pn**	**23 20 36.5**	**+0.8**
	0.9nm,0.3s,SNR=6.6						
ETOB				S	**Sn**	**23 21 36.3**	**-0.8**
	0.9nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**5.27**	**303**	P	**Pn**	**23 20 36.5**	**+0.8**
	0.9nm,0.3s,SNR=6.6						
ETOB				S	**Sn**	**23 21 37.0**	**0.0**
	0.9nm,0.4s,SNR=7.9						
EHUE	**Huescar**	**5.70**	**291**	P	**Pn**	**23 20 44.2**	**+2.5**
	0.9nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**5.70**	**291**	P	**Pn**	**23 20 42.2**	**+0.5**
	0.9nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.72**	**322**	P	**Pn**	**23 20 42.0**	**0.0**
	0.4nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**5.72**	**322**	P	**Pn**	**23 20 42.0**	**0.0**
	0.5nm,0.3s,SNR=7.9						
EBER	**Berja**	**5.74**	**282**	P	**Pn**	**23 20 41.9**	**-0.3**
	0.8nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**23 21 46.3**	**-2.4**
	0.5nm,0.2s,SNR=7.9						
EBER	**Berja**	**5.74**	**282**	P	**Pn**	**23 20 41.9**	**-0.3**
	0.8nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**5.76**	**294**	P	**Pn**	**23 20 43.8**	**+1.2**
	1.4nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**23 21 48.4**	**-0.9**
	1.7nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**5.76**	**294**	P	**Pn**	**23 20 43.8**	**+1.2**
	1.4nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**23 21 48.4**	**-0.9**
	SNR=7.9						
EQES	**Quesada**	**6.06**	**290**	P	**Pn**	**23 20 47.8**	**+1.2**
	1.7nm,0.4s,SNR=10						
EQES				S	**Sn**	**23 21 57.7**	**+1.1**
	0.7nm,0.3s,SNR=7.9						
EQES	**Quesada**	**6.06**	**290**	P	**Pn**	**23 20 48.5**	**+1.8**
	1.7nm,0.4s,SNR=10						
EQES				S	**Sn**	**23 21 57.7**	**+1.1**
	0.7nm,0.3s,SNR=7.9						

KRSC 02 23:40:13.3±2.4**, 49°.52N×156°.86E, h15**km±7km**, ML3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.26**	**338**	*e*P	Pn	23 40 34.5	-1.9
SKR				*e*S	Sb	23 40 50.1	-2.7
MIPR	**Malaya Ipel'ka**	**2.77**	**359**	*e*P	Pn	23 40 58.0	+1.0
ASAK	**Asacha**	**2.94**	**12**	*e*P	Pb	23 41 02.8	-2.8
MTVR	**Mutnovka**	**3.08**	**15**	*e*P	Pb	23 41 05.3	-2.7
MTVR				*e*S	Sb	23 41 42.9	-2.7
RUS	**Russkaya**	**3.10**	**19**	*e*P	Pn	23 41 04.3	+2.7
RUS				*e*S	Sn	23 41 42.0	+3.6
AVH	**Avacha**	**3.93**	**17**	*e*P	Pb	23 41 17.8	-4.6
KOK	**Koryaka**	**3.94**	**16**	*e*P	Pb	23 41 18.1	-4.4
SMAR	**Somma**	**3.94**	**17**	*e*P	Pn	23 41 17.8	+4.3
SDLR	**Sedlovina**	**3.97**	**18**	*e*P	Pn	23 41 17.3	+3.5
SDLR				*e*S	Sn	23 42 05.5	+5.3
NLC	**Nalytchevo**	**3.98**	**22**	*e*S	Sn	23 42 02.6	+2.7
KRX	**Arik**	**4.01**	**15**	*e*P	Pn	23 41 19.0	+4.7
SPN	**Mys Shipunski**	**4.10**	**28**	*e*P	Pn	23 41 19.1	+3.8
SPN				*e*S	Sn	23 42 08.4	+5.5
GNL	**Ganaly**	**4.24**	**9**	*e*P	Pn	23 41 21.9	+4.5
MKZ	**Mys Kozlova**	**5.87**	**29**	*e*P	Pn	23 41 42.9	+3.3
KBTR	**Krutoberegovo**	**7.61**	**26**	*e*P	Pn	23 42 07.8	+4.3

*KRSC **02** 23:43:00.9±1.6, 48°.75N×157°.90E, h19km±42km, ML4.1*
*MOS **02** 23:43:00.9±2.4, 48°.75N×157°.90E, h19km, mb4.2/1, Error ellipse: s-maj=54.1km s-min=9.0km az=88.8*
ISC 02 23:43:03.1±4.2**, 48°.7N**±0°.2×**157°.5E**±0°.1**, h16**km**, n28, σ0s.93**/41**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.21**	**336**	P	**Pn**	**23 43 37.9**	**-1.2**
SKR				S	**Sn**	**23 44 06.1**	**+0.1**
SKR	**Severo-Kuril's**	**2.21**	**336**	*e*PN	Pn	23 43 27.6	-11
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				pmax	pmax		
	comp=N,70nm,0.3s						
PAU	**Pauzhetka**	**2.83**	**351**	*e*P	**Pn**	**23 43 47.4**	**-0.2**
PAU				*e*S	**Sn**	**23 44 21.6**	**+0.2**
PAU	**Pauzhetka**	**2.83**	**351**	PN	**Pn**	**23 43 47.4**	**-0.2**
PAU				S	**Sn**	**23 44 21.6**	**+0.2**
MIPR	**Malaya Ipel'ka**	**3.64**	**352**	*e*P	**Pn**	**23 43 58.7**	**0.0**
ASAK	**Asacha**	**3.72**	**3**	*e*P	**Pn**	**23 43 59.7**	**-0.2**
ASAK				*e*S	**Sn**	**23 44 42.3**	**-1.1**
RUS	**Russkaya**	**3.81**	**9**	*e*P	**Pn**	**23 44 00.6**	**-0.5**
RUS				*e*S	**Sn**	**23 44 44.8**	**-0.7**
RUS	**Russkaya**	**3.81**	**9**	PN	**Pn**	**23 44 00.6**	**-0.5**
RUS				S	**Sn**	**23 44 44.8**	**-0.7**
MTVR	**Mutnovka**	**3.83**	**6**	*e*P	**Pn**	**23 44 01.8**	**+0.3**
MTVR				*e*S	**Sn**	**23 44 46.3**	**0.0**
APC	**Apacha**	**4.26**	**357**	*e*P	**Pn**	**23 44 07.8**	**+0.5**
APC	**Apacha**	**4.26**	**357**	PN	**Pn**	**23 44 07.8**	**+0.5**
UGLR	**Uglovaya**	**4.61**	**10**	*e*P	**Pn**	**23 44 13.1**	**+0.9**
NLC	**Nalytchevo**	**4.64**	**14**	*e*P	**Pn**	**23 44 11.7**	**-0.8**
NLC				*e*S	**Sn**	**23 45 04.2**	**-1.8**
NLC	**Nalytchevo**	**4.64**	**14**	PN	**Pn**	**23 44 11.7**	**-0.8**
NLC				S	**Sn**	**23 45 04.2**	**-1.8**
AVH	**Avacha**	**4.66**	**9**	*e*P	**Pn**	**23 44 14.0**	**+1.2**
AVH	**Avacha**	**4.66**	**9**	PN	**Pn**	**23 44 14.0**	**+1.2**
SMAR	**Somma**	**4.66**	**9**	*e*P	**Pn**	**23 44 13.8**	**+0.8**
KOK	**Koryaka**	**4.67**	**8**	*e*P	**Pn**	**23 44 14.3**	**+1.3**
KOK				*e*S	**Sn**	**23 45 08.1**	**+1.2**
KOK	**Koryaka**	**4.67**	**8**	PN	**Pn**	**23 44 14.3**	**+1.3**
KOK				S	**Sn**	**23 45 08.1**	**+1.2**
SDLR	**Sedlovina**	**4.68**	**10**	*e*P	**Pn**	**23 44 13.3**	**+0.1**
SDLR				*e*S	**Sn**	**23 45 07.0**	**-0.3**
SPN	**Mys Shipunski**	**4.70**	**19**	*e*P	**Pn**	**23 44 13.7**	**+0.4**
SPN				*e*S	**Sn**	**23 45 06.8**	**-0.6**
SPN	**Mys Shipunski**	**4.70**	**19**	PN	**Pn**	**23 44 13.7**	**+0.4**
SPN				S	**Sn**	**23 45 06.8**	**-0.6**
KRX	**Arik**	**4.74**	**8**	*e*P	**Pn**	**23 44 15.2**	**+1.2**
GNL	**Ganaly**	**5.03**	**3**	*e*P	**Pn**	**23 44 19.2**	**+1.2**
GNL	**Ganaly**	**5.03**	**3**	PN	**Pn**	**23 44 19.2**	**+1.2**
MKZ	**Mys Kozlova**	**6.44**	**22**	*e*P	**Pn**	**23 44 37.2**	**0.0**
MKZ	**Mys Kozlova**	**6.44**	**22**	PN	**Pn**	**23 44 37.2**	**0.0**
TUMR	**Tumrok**	**6.81**	**13**	P	**Pn**	**23 44 44.4**	**+2.0**

*ISCJB **03** 00:11:52.4±1.4, 19°.0S±0°.3×177°.6W±0°.3, h570km, mb3.8/8, Error ellipse: s-maj=49.6km s-min=19.6km az=143.1*
*IDC **03** 00:11:54.4±6.2, 19°.09S×177°.57W, h584km±69km, mb3.3/8, mb1 3.6/8, mb1mx3.2/29, mbtmp4.2/8, Error ellipse: s-maj=47.1km s-min=28.8km az=133.0*
ISC 03 00:11:52.9±1.4**, 19°.1S**±0°.3×**177°.5W**±0°.2**, h570**km**, n11, σ0s.62**/12**, mb3.9**/8**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.81**	**243**	P	**P**	**00 18 30.1**	**+0.2**
	4.4nm,0.6s,baz=80,slow=9.9,SNR=12						
WRA	**Warramunga Arr**	**45.25**	**261**	P	**P**	**00 19 20.1**	**-0.4**
	2.7nm,0.4s,baz=97,slow=8.1,SNR=25						
ASAR	**Alice Springs**	**45.29**	**255**	P	**P**	**00 19 20.9**	**+0.2**
	9.8nm,0.8s,baz=87,slow=8.5,SNR=83						
ASAR				PcP	**PcP**	**00 20 47.8**	**-0.6**
	0.7nm,0.5s,baz=111,slow=4.1,SNR=4.7						
MJAR	**Matsushiro Arr**	**69.34**	**323**	P	**P**	**00 22 04.5**	**+0.4**
	0.7nm,0.4s,baz=159,slow=5.3,SNR=4.8						
PETK	**Petropavlovsk-**	**75.03**	**345**	P	**P**	**00 22 36.6**	**+0.1**
	1.7nm,0.7s,baz=146,slow=11,SNR=3.5						
TXAR	**Lajitas Array**	**85.92**	**57**	P	**P**	**00 23 34.4**	**+0.8**
	0.6nm,0.8s,baz=217,slow=7.9,SNR=5.3						
ILAR	**Eielson Array**	**86.84**	**13**	P	**P**	**00 23 36.5**	**-0.5**
	0.3nm,0.7s,baz=218,slow=5.7,SNR=3.8						
CMAR	**Chiang Mai Arr**	**90.06**	**289**	P	**P**	**00 23 53.7**	**+0.6**
	0.8nm,0.3s,baz=115,slow=4.1,SNR=5.2						
ARCES	**ARCESS Array B**	**127.61**	**350**	PKP	**PKPdf**	**00 29 53.0**	**-0.2**
	1.4nm,0.8s,baz=325,slow=1.5,SNR=6.4						
BRTR	**Keskin Array B**	**146.20**	**314**	PKPbc	**PKPbc**	**00 30 29.9**	**-0.6**
	1.5nm,0.8s,baz=155,slow=4.1,SNR=6.3						
GERES	**GERESS Array B**	**148.96**	**346**	PKPbc	**PKPbc**	**00 30 36.1**	**-1.0**
	0.8nm,0.6s,baz=46,slow=3.9,SNR=4.7						

IDC 03 00:51:37.6±7.3**, 6°.03S×148°.22E, h159**km±65km**, mb3.4**/5**, mb1 3.6**/6**, mb1mx3.2**/33**, mbtmp3.9**/6**, Error ellipse: s-maj=64.2km s-min=21.0km az=106.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.32**	**223**	P	P	00 55 50.7	0.0
	0.8nm,0.3s,baz=48,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.30**	**217**	P	P	00 56 22.1	-0.1
	1.7nm,0.4s,baz=47,slow=9.4,SNR=27						
ASAR				PcP	PcP	01 00 12.7	+0.6
	0.4nm,0.9s,baz=104,slow=2.8,SNR=4.8						
MJAR	**Matsushiro Arr**	**43.38**	**348**	P	P	00 59 23.6	-0.7
	0.6nm,0.3s,baz=152,slow=7.4,SNR=4.2						
PETK	**Petropavlovsk-**	**59.46**	**7**	P	P	01 01 24.7	+1.1
	1.4nm,0.5s,baz=170,slow=9.7,SNR=5.9						
SONM	**Songino Array**	**65.03**	**330**	P	P	01 02 00.9	0.0
	0.3nm,0.4s,baz=129,slow=10.0,SNR=3.3						
ILAR	**Eielson Array**	**85.04**	**23**	P	P	01 03 53.8	-1.2
	0.5nm,0.6s,baz=262,slow=4.5,SNR=6.2						
TORD	**Torodi Ar. Bea**	**146.28**	**285**	PKPbc	PKPdf	01 10 59.3	+0.1
	0.3nm,0.4s,baz=82,slow=2.8,SNR=14						

IDC 03 00:58:11.6±1.9**, 6°.82S×130°.12E, h0**km**, mb3.6**/1**, mb1 3.6**/4**, mb1mx3.4**/29**, mbtmp3.5**/4**, ML3.5**/3**, Error ellipse: s-maj=77.3km s-min=28.7km az=80.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.02**	**11**	Pn	Pn	00 59 43.4	+1.3
	1.6nm,0.3s,baz=90,slow=5.1,SNR=15						
SIJI				Sn	Sn	01 00 45.8	-6.0
	2.4nm,0.3s,baz=204,slow=22,SNR=7.1						
WRA	**Warramunga Arr**	**13.67**	**163**	Pn	Pn	01 01 26.2	-0.7
	0.2nm,0.3s,baz=348,slow=13,SNR=3.9						
WRA				Sn	Sn	01 03 49.2	-10
	0.7nm,0.3s,baz=341,slow=19,SNR=8.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**17.14**	**168**	P	P	01 02 13.9	-0.6
	0.1nm,0.3s,baz=350,slow=10,SNR=6.3						
ASAR				S	Sn	01 05 12.8	-11
	0.2nm,0.3s,baz=357,slow=25,SNR=4.1						
MKAR	**Makanchi Array**	**68.14**	**327**	P	P	01 09 13.1	-0.5
	0.3nm,0.4s,baz=119,slow=7.3,SNR=4.7						

IDC 03 01:05:19.3±1.7**, 6°35S×127°88E, h0**km**, mb3.4**/1**, mb1 3.7**/4**, mb1mx3.5**/22**, mbtmp3.6**/4**, ML3.7**/3**, Error ellipse: s-maj=57.1km s-min=29.0km az=76.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.41**	**32**	Pn	Pn	01 06 55.3	+0.3
	3.0nm,0.3s,baz=99,slow=7.5,SNR=29						
WRA	**Warramunga Arr**	**14.90**	**156**	Pn	Pn	01 08 52.9	+1.4
	0.3nm,0.3s,baz=338,slow=15,SNR=7.4						
WRA				Sn	Sn	01 11 23.3	-14
	0.8nm,0.3s,baz=334,slow=21,SNR=6.2						
ASAR	**Alice Springs**	**18.17**	**162**	P	Pn	01 09 32.2	-1.0
	0.3nm,0.3s,baz=344,slow=10.0,SNR=9.9						
ASAR				S	Sn	01 12 46.5	-10
	0.2nm,0.3s,baz=356,slow=27,SNR=4.9						
MKAR	**Makanchi Array**	**66.54**	**328**	P	P	01 16 11.1	0.0
	0.2nm,0.4s,baz=118,slow=6.7,SNR=3.5						

IDC 03 01:25:01.6±3.9**, 4°95S×153°21E, h0**km**, mb3.6**/3**, mb1 3.7**/3**, mb1mx3.4**/20**, mbtmp3.7**/3**, Error ellipse: s-maj=142.4km s-min=40.3km az=114.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.65**	**229**	P	P	01 30 15.1	+0.2
	0.5nm,0.7s,baz=52,slow=9.4,SNR=4.1						
MKAR	**Makanchi Array**	**80.70**	**319**	P	P	01 37 17.8	+0.9
	0.4nm,0.5s,baz=100,slow=6.7,SNR=5.3						
BVAR	**Borovoye Array**	**89.60**	**323**	P	P	01 38 00.5	-0.7
	0.8nm,0.7s,baz=106,slow=5.2,SNR=5.3						
TORD	**Torodi Ar. Bea**	**150.74**	**288**	PKPbc	PKPbc	01 44 56.3	-0.7
	0.7nm,0.6s,baz=64,slow=1.3,SNR=19						

*MOS **03** 01:31:49.9±1.6, 43°22N×45°98E, h9km, mb3.9/1, Error ellipse: s-maj=9.0km s-min=6.4km az=44.1*
*TIF **03** 01:31:49.3, 43°37N×46°04E, h28km±2km*
*ISCJB **03** 01:31:50.3±0.7, 43°39N±0°06×46°06E±0°05, h18km±9km, Error ellipse: s-maj=10.8km s-min=4.4km az=28.3*
*CSEM **03** 01:31:50.1±0.3, 43°25N×45°98E, h2km, mb3.9, Error ellipse: s-maj=9.1km s-min=4.1km az=17.0*
ISC 03 01:31:49.9±1.3**, 43°26N**±0°04×**45°98E**±0°02**, h3**km±10km**, n47,** σ**1s03**/79**, 3D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.51**	**112**	*e*PG	**Pb**	**01 32 02.0**	**+0.4**
DLMR				*e*S	**Sn**	**01 32 13.0**	**-0.4**
DLMR				pmax	pmax		
	comp=Z,69nm,0.2s						
DLMR	**Dylym**	**0.51**	**112**	*e*Pg	**Pb**	**01 32 02.0**	**+0.4**
	comp=Z,69nm,0.2s						
DLMR				*e*Sg	**Sn**	**01 32 13.0**	**-0.4**
BTLR	**Botlikh**	**0.62**	**163**	PG	**Pg**	**01 32 00.0**	**-1.9**
BTLR				*e*S	**Sg**	**01 32 09.0**	**-1.0**
BTLR				pmax	pmax		
	comp=Z,32nm,0.2s						
BTLR	**Botlikh**	**0.62**	**163**	Pg	**Pg**	**01 32 00.0**	**-1.9**
	comp=Z,32nm,0.2s						
BTLR				*e*Sg	**Sg**	**01 32 09.0**	**-1.0**
DBC	**Dubki**	**0.67**	**111**	⇓*i*PG	**Pg**	**01 32 01.8**	**-0.9**
DBC				*i* S	**Sg**	**01 32 12.1**	**+0.7**
DBC	**Dubki**	**0.67**	**111**	*i* Pg	**Pg**	**01 32 01.8**	**-0.9**
DBC				*i* Sg	**Sg**	**01 32 12.1**	**+0.7**
KRNR	**Karanay**	**0.81**	**122**	⇓*i*PG	**Pg**	**01 32 04.8**	**-0.6**
KRNR				*i* S	**Sn**	**01 32 22.8**	**+2.0**
KRNR				pmax	pmax		
	comp=Z,57nm,0.2s						
KRNR	**Karanay**	**0.81**	**122**	*i* Pg	**Pg**	**01 32 04.8**	**-0.6**
	comp=Z,57nm,0.2s						
KRNR				*i* Sg	**Sn**	**01 32 22.8**	**+2.0**
UNCR	**Uncukul**	**0.81**	**132**	*e*PG	**Pg**	**01 32 04.8**	**-0.7**
UNCR				*e*S	**Sb**	**01 32 17.0**	**-1.0**
UNCR				pmax	pmax		
	comp=Z,61nm,0.2s						
UNCR	**Uncukul**	**0.81**	**132**	*e*Pg	**Pg**	**01 32 04.8**	**-0.7**
	comp=Z,61nm,0.2s						
UNCR				*e*Sg	**Sb**	**01 32 17.0**	**-1.0**
BUJR	**Buynaksk**	**0.94**	**117**	*e*PG	**Pg**	**01 32 07.0**	**-0.9**
BUJR				*i* S	**Sb**	**01 32 22.2**	**+0.6**
BUJR				pmax	pmax		
	comp=Z,67nm,0.2s						
BUJR	**Buynaksk**	**0.94**	**117**	*e*Pg	**Pg**	**01 32 07.0**	**-0.9**
	comp=Z,67nm,0.2s						
BUJR				*i* Sg	**Sb**	**01 32 22.2**	**+0.6**
VLKR	**Vladikavkaz**	**0.98**	**258**	*e*PG	**Pg**	**01 32 08.5**	**-0.2**
VLKR	**Vladikavkaz**	**0.98**	**258**	*e*Pg	**Pg**	**01 32 08.5**	**-0.2**
ARKR	**Arakani**	**0.99**	**131**	*e*PG	**Pg**	**01 32 07.5**	**-1.5**
ARKR				*e*S	**Sn**	**01 32 25.0**	**-0.3**
ARKR	**Arakani**	**0.99**	**131**	*e*Pg	**Pg**	**01 32 07.5**	**-1.5**
ARKR				*e*Sg	**Sn**	**01 32 25.0**	**-0.3**
TRKR	**Terskaya**	**1.02**	**297**	*e*PG	**Pn**	**01 32 10.6**	**-0.5**
TRKR	**Terskaya**	**1.02**	**297**	*e*Pg	**Pn**	**01 32 10.6**	**-0.5**
BTKR	**Batakoyurt**	**1.06**	**276**	*i* PG	**Pg**	**01 32 10.1**	**-0.1**
BTKR				*e*S	**Sn**	**01 32 26.8**	**0.0**
BTKR	**Batakoyurt**	**1.06**	**276**	*i* Pg	**Pg**	**01 32 10.1**	**-0.1**
BTKR				*e*Sg	**Sn**	**01 32 26.8**	**0.0**
GNBR	**Gunib**	**1.13**	**140**	⇓*i*PG	**Pb**	**01 32 11.9**	**-0.3**
GNBR				*i* S	**Sn**	**01 32 28.4**	**-0.4**
GNBR	**Gunib**	**1.13**	**140**	*i* Pg	**Pb**	**01 32 11.9**	**-0.3**
GNBR				*i* Sg	**Sn**	**01 32 28.4**	**-0.4**
MAK	**Makhachkala**	**1.16**	**105**	*e*PG	**Pn**	**01 32 15.0**	**+2.1**
MAK				*e*		01 32 29.1	
MAK				pmax	pmax		
	comp=Z,142nm,0.5s						
MAK				smax	smax		
	comp=N,398nm,0.4s						
MAK				smax	smax		
	comp=E,301nm,0.4s						
MAK	**Makhachkala**	**1.16**	**105**	*e*Pg	**Pn**	**01 32 15.0**	**+2.1**
	comp=E,142nm,0.5s						
MAK				*e*Sg	**Sn**	**01 32 29.1**	**-0.1**
	comp=E,398nm,0.4s						
KMKR	**Kumukh**	**1.40**	**144**	*e*PG	**Pn**	**01 32 16.0**	**-0.5**
KMKR				*i* S	**Sn**	**01 32 35.0**	**-0.5**
KMKR				pmax	pmax		
	comp=Z,129nm,0.3s						
KMKR	**Kumukh**	**1.40**	**144**	*e*Pg	**Pn**	**01 32 16.0**	**-0.5**
	comp=Z,129nm,0.3s						
KMKR				*i* Sg	**Sn**	**01 32 35.0**	**-0.5**
DUS	**Dusheti**	**1.50**	**219**	P	**Pg**	**01 32 19.6**	**+0.8**
DUS				S	**Sg**	**01 32 39.8**	**+1.6**
DUS	**Dusheti**	**1.50**	**219**	PG	**Pg**	**01 32 19.5**	**+0.8**
DUS				S	**Sg**	**01 32 39.8**	**+1.6**
DUS	**Dusheti**	**1.50**	**219**	Pg	**Pg**	**01 32 19.5**	**+0.8**
DUS				S	**Sg**	**01 32 39.8**	**+1.6**
NCK	**Nalchik**	**1.75**	**278**	*i* PN	**Pn**	**01 32 19.9**	**-1.3**
NCK	**Nalchik**	**1.75**	**278**	*i* Pn	**Pn**	**01 32 19.9**	**-1.3**
TBLG	**Delisi**	**1.79**	**211**	P	**Pn**	**01 32 21.7**	**+0.1**
TBLG				S	**Sb**	**01 32 46.5**	**+0.5**
TBLG	**Delisi**	**1.79**	**211**	PN	**Pn**	**01 32 21.7**	**+0.1**
TBLG				S	**Sb**	**01 32 46.4**	**+0.5**
TBLG	**Delisi**	**1.79**	**211**	P	**Pn**	**01 32 21.7**	**+0.1**
TBLG				S	**Sb**	**01 32 46.5**	**+0.5**
DGRG	**David-gareji**	**1.86**	**194**	P	**Pb**	**01 32 24.0**	**-0.7**
DGRG				S	**Sg**	**01 32 52.0**	**+2.1**
DGRG	**David-gareji**	**1.86**	**194**	PN	**Pb**	**01 32 23.9**	**-0.7**
DGRG				S	**Sg**	**01 32 51.9**	**+2.1**
DGRG	**David-gareji**	**1.86**	**194**	Pn	**Pb**	**01 32 23.9**	**-0.7**
DGRG				Sg	**Sg**	**01 32 51.9**	**+2.1**
ONI	**Oni**	**1.97**	**251**	P	**Pb**	**01 32 25.4**	**-1.2**
ONI				S	**Sb**	**01 32 50.6**	**-0.9**
ONI	**Oni**	**1.97**	**251**	PN	**Pb**	**01 32 25.3**	**-1.2**
ONI	**Oni**	**1.97**	**251**	Pn	**Pb**	**01 32 25.3**	**-1.2**
ONI				S	**Sb**	**01 32 50.6**	**-0.9**
NEY	**Neytrino**	**2.38**	**271**	*e*PN	**Pn**	**01 32 30.8**	**+0.8**
NEY	**Neytrino**	**2.38**	**271**	*e*Pn	**Pn**	**01 32 30.8**	**+0.8**
KIV	**Kislovodsk**	**2.49**	**287**	*e*PN	**Pn**	**01 32 31.1**	**-0.3**
KIV	**Kislovodsk**	**2.49**	**287**	*e*Pn	**Pn**	**01 32 31.1**	**-0.3**
GNI	**Garni**	**3.25**	**197**	*i* PN	**Pn**	**01 32 41.2**	**-0.6**
GNI				*i*		01 32 49.2	
GNI	**Garni**	**3.25**	**197**	*i* Pn	**Pn**	**01 32 41.2**	**-0.6**
GNI	**Garni**	**3.25**	**197**	*i* Pb	**Pb**	**01 32 49.2**	**+1.0**

*CSEM **03** 01:35:34.4, 37°47N×20°13E, h20km, MD3.3*
ATH 03 01:35:34.3, 37°47N×20°13E, h20km±5km**, MD3.3**/7**, Ionian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.79**	**27**	*e*PN	Pb	01 35 49.6	+0.1
VLS				*e*SN	Sn	01 36 01.2	-0.5
VLS	**Valsamata**	**0.79**	**27**	*e*Pn	Pb	01 35 49.6	+0.1
VLS				*e*Sn	Sn	01 36 01.2	-0.5
RLS	**Riolos of Patr**	**1.21**	**61**	*e*PN	Pb	01 35 56.9	+0.4
RLS	**Riolos of Patr**	**1.21**	**61**	*e*Pn	Pb	01 35 56.9	+0.4
AMT	**Artemida-Makis**	**1.26**	**87**	*e*PN	Pb	01 35 58.4	+1.0
AMT	**Artemida-Makis**	**1.26**	**87**	*e*Pn	Pb	01 35 58.4	+1.0
DRO	**Drossia**	**1.34**	**69**	*e*PN	Pb	01 36 00.1	+1.3
DRO	**Drossia**	**1.34**	**69**	*e*Pn	Pb	01 36 00.1	+1.3
PDO	**Prodromos**	**1.40**	**36**	*e*PN	Pb	01 36 01.9	+2.1
PDO	**Prodromos**	**1.40**	**36**	*e*Pn	Pb	01 36 01.9	+2.1
EFP	**Efpalio**	**1.70**	**55**	*e*PN	Pb	01 36 05.3	+0.5
EFP	**Efpalio**	**1.70**	**55**	*e*Pn	Pb	01 36 05.3	+0.5
KLV	**Kalavryta, Ach**	**1.70**	**70**	P	Pb	01 36 04.5	-0.5
KLV	**Kalavryta, Ach**	**1.70**	**70**	*e*PN	Pb	01 36 04.5	-0.5
KLV	**Kalavryta, Ach**	**1.70**	**70**	P	Pb	01 36 04.5	-0.5
KLV	**Kalavryta, Ach**	**1.70**	**70**	*e*Pn	Pb	01 36 04.5	-0.5

*ATH **03** 01:35:43.9, 38°57N×23°49E, h29km±1km, MD3.0/14, ML2.0*
*ISCJB **03** 01:35:44.5±0.3, 38°57N±0°02×23°54E±0°03, h27km±3km, Error ellipse: s-maj=4.4km s-min=3.0km az=177.3*
*CSEM **03** 01:35:44.5±0.2, 38°58N×23°48E, h20km, ML2.2, Error ellipse: s-maj=3.6km s-min=2.6km az=88.0*
*THE **03** 01:35:45.1, 38°58N×23°48E, h12km±1km, ML2.2/10, Error ellipse: s-maj=1.3km s-min=0.5km az=39.0*
ISC 03 01:35:44.4±0.9**, 38°58N**±0°02×**23°49E**±0°02**, h18**km±3km**, n51,** σ**0s64**/91**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.15**	**32**	P	**Pg**	**01 35 48.5**	**-0.3**
MRKA				S	**Sg**	**01 35 51.4**	**-0.2**
MRKA	**Markates**	**0.15**	**32**	*e*PB	**Pg**	**01 35 48.4**	**-0.3**
MRKA				*e*SB	**Sg**	**01 35 54.5**	**+2.9**
MRKA	**Markates**	**0.15**	**32**	*e*Pb	**Pg**	**01 35 48.4**	**-0.3**
MRKA				S	**Sg**	**01 35 51.4**	**-0.2**
MRKA				*e*Sb	Sb	01 35 54.5	+5.0
SMIA	**Simia**	**0.37**	**324**	P	**Pb**	**01 35 52.5**	**-0.1**
SMIA				S	**Sb**	**01 35 57.8**	**-0.2**
SMIA	**Simia**	**0.37**	**324**	*e*PB	**Pb**	**01 35 52.4**	**-0.1**
SMIA				*e*SB	**Sb**	**01 35 58.2**	**+0.2**
SMIA	**Simia**	**0.37**	**324**	P	**Pb**	**01 35 52.5**	**-0.1**
SMIA				S	**Sb**	**01 35 57.8**	**-0.2**
SMIA				*e*Sb	**Sb**	**01 35 58.2**	**+0.2**
ATAL	**Atalanti**	**0.38**	**287**	P	**Pg**	**01 35 51.9**	**-0.5**
ATAL				S	**Sb**	**01 35 58.7**	**+0.3**
ATAL	**Atalanti**	**0.38**	**287**	P	**Pg**	**01 35 51.9**	**-0.5**
ATAL				S	**Sb**	**01 35 58.7**	**+0.3**
LKR	**Lokris**	**0.39**	**280**	P	**Pg**	**01 35 51.9**	**-0.6**
LKR	**Lokris**	**0.39**	**280**	*e*PB	**Pg**	**01 35 52.0**	**-0.6**
LKR	**Lokris**	**0.39**	**280**	*e*Pb	**Pg**	**01 35 52.0**	**-0.6**
VIL2	**Platees**	**0.41**	**205**	*e*PB	**Pb**	**01 35 53.2**	**0.0**
VIL2				*e*SB	**Sb**	**01 36 00.7**	**+1.6**
VILL	**Villia**	**0.44**	**198**	P	**Pg**	**01 35 53.1**	**-0.4**
VILL				S	**Sb**	**01 36 00.3**	**+0.3**
VILL	**Villia**	**0.44**	**198**	*e*Pb	**Pg**	**01 35 53.2**	**-0.3**
VILL				S	**Sb**	**01 36 00.3**	**+0.3**
PTL	**Penteli**	**0.61**	**151**	P	**Pg**	**01 35 56.8**	**+0.2**
PTL	**Penteli**	**0.61**	**151**	*e*PN	**Pb**	**01 35 55.3**	**-1.2**
PTL				*e*SN	**Sb**	**01 36 04.4**	**-0.3**
PTL	**Penteli**	**0.61**	**151**	P	**Pg**	**01 35 56.8**	**+0.2**
PTL				*e*Sn	**Sb**	**01 36 04.4**	**-0.3**
ATH	**Athens Observa**	**0.64**	**164**	P	**Pg**	**01 35 57.2**	**+0.2**
ATH				S	**Sn**	**01 36 07.0**	**-1.1**
ATH	**Athens Observa**	**0.64**	**164**	*e*PN	**Pb**	**01 35 56.4**	**-0.5**
ATH				*e*SN	**Sg**	**01 36 05.9**	**+0.4**
ATH	**Athens Observa**	**0.64**	**164**	P	**Pg**	**01 35 57.2**	**+0.2**
ATH				*e*Sn	**Sg**	**01 36 05.9**	**+0.4**
ATH				S	**Sn**	**01 36 07.0**	**-1.1**
AOS	**Alonnisos**	**0.66**	**27**	P	**Pg**	**01 35 57.7**	**+0.2**
AOS				S	**Sg**	**01 36 07.5**	**+1.1**
AOS	**Alonnisos**	**0.66**	**27**	*e*PN	**Pg**	**01 35 57.8**	**+0.2**
AOS				*e*SN	**Sg**	**01 36 07.2**	**+0.8**
AOS	**Alonnisos**	**0.66**	**27**	P	**Pg**	**01 35 57.7**	**+0.2**
AOS				*e*Sn	**Sg**	**01 36 07.2**	**+0.8**
AXAR	**Agios Charalam**	**0.68**	**286**	P	**Pb**	**01 35 57.2**	**-0.4**
AXAR				S	**Sn**	**01 36 08.5**	**-0.7**
AXAR	**Agios Charalam**	**0.68**	**286**	*e*PN	**Pb**	**01 35 57.1**	**-0.5**
AXAR				*e*SN	**Sn**	**01 36 08.7**	**-0.5**
AXAR	**Agios Charalam**	**0.68**	**286**	P	**Pb**	**01 35 57.2**	**-0.4**
AXAR				*e*Sn	**Sn**	**01 36 08.7**	**-0.5**
LTK	**Loutraki**	**0.69**	**216**	P	**Pb**	**01 35 57.9**	**0.0**
LTK				S	**Sn**	**01 36 08.9**	**-0.7**
LTK	**Loutraki**	**0.69**	**216**	*e*PN	**Pb**	**01 35 57.7**	**-0.2**
LTK	**Loutraki**	**0.69**	**216**	P	**Pb**	**01 35 57.9**	**0.0**
LTK				S	**Sn**	**01 36 08.9**	**-0.7**
NEO	**Neokhori**	**0.75**	**344**	P	**Pn**	**01 35 59.9**	**-0.3**
NEO				S	**Sn**	**01 36 10.6**	**-0.5**
NEO	**Neokhori**	**0.75**	**344**	*e*PN	**Pn**	**01 35 59.8**	**-0.4**
NEO				*e*SN	**Sn**	**01 36 10.3**	**-0.8**
NEO	**Neokhori**	**0.75**	**344**	*e*Pn	**Pn**	**01 35 59.8**	**-0.4**
NEO				*e*Sn	**Sn**	**01 36 10.3**	**-0.8**
DSF	**Desfina**	**0.77**	**258**	P	**Pb**	**01 35 58.5**	**-0.9**
DSF				S	**Sn**	**01 36 11.4**	**-0.3**
DSF	**Desfina**	**0.77**	**258**	*e*PN	**Pb**	**01 35 58.5**	**-0.9**
DSF				*e*SN	**Sn**	**01 36 11.1**	**-0.6**
DSF	**Desfina**	**0.77**	**258**	P	**Pb**	**01 35 58.5**	**-0.9**
DSF				*e*Sn	**Sn**	**01 36 11.1**	**-0.6**
XOR	**Xorichti**	**0.82**	**344**	P	**Pg**	**01 36 00.7**	**+0.3**
XOR				S	**Sn**	**01 36 12.2**	**-0.5**
XOR	**Xorichti**	**0.82**	**344**	*e*PN	**Pn**	**01 36 00.9**	**-0.2**
XOR				*e*SN	**Sn**	**01 36 12.7**	**0.0**
XOR	**Xorichti**	**0.82**	**344**	*e*Pn	**Pn**	**01 36 00.9**	**-0.2**
XOR				S	**Sn**	**01 36 12.2**	**-0.5**
AGG	**Agios Georgios**	**1.01**	**296**	P	**Pb**	**01 36 03.4**	**+0.1**
AGG	**Agios Georgios**	**1.01**	**296**	*e*PN	**Pb**	**01 36 03.1**	**-0.2**
AGG				*e*SN	**Sn**	**01 36 17.9**	**+0.5**
AGG	**Agios Georgios**	**1.01**	**296**	P	**Pb**	**01 36 03.4**	**+0.1**
AGG				*e*Sn	**Sn**	**01 36 17.9**	**+0.5**
KALE	**Kalithea**	**1.08**	**260**	P	**Pb**	**01 36 04.1**	**-0.5**
KALE	**Kalithea**	**1.08**	**260**	*e*PN	**Pb**	**01 36 04.0**	**-0.5**
KALE	**Kalithea**	**1.08**	**260**	P	**Pb**	**01 36 04.1**	**-0.5**
DID	**Didima**	**1.09**	**191**	P	**Pn**	**01 36 04.9**	**+0.1**
DID				S	**Sg**	**01 36 21.7**	**+1.7**
DID	**Didima**	**1.09**	**191**	*e*PN	**Pn**	**01 36 05.0**	**+0.1**
DID	**Didima**	**1.09**	**191**	P	**Pn**	**01 36 04.9**	**+0.1**
GUR	**Goura**	**1.11**	**235**	P	**Pn**	**01 36 05.0**	**-0.1**
GUR				S	**Sg**	**01 36 21.5**	**+1.0**
GUR	**Goura**	**1.11**	**235**	*e*PN	**Pb**	**01 36 05.6**	**+0.5**
GUR	**Goura**	**1.11**	**235**	P	**Pn**	**01 36 05.0**	**-0.1**
GUR	**Goura**	**1.11**	**235**	*e*Pn	**Pb**	**01 36 05.6**	**+0.5**
GUR				S	**Sg**	**01 36 21.5**	**+1.0**

IDC 03 01:35:56.0±3.1**, 34°11N×87°50E, h0**km**, mb3.3**/1**, mb1 3.4**/3**, mb1mx3.2**/25**, mbtmp3.4**/3**, ML3.1**/2**, MS1.9**/1**, Ms1 2.1**/1**, ms1mx2.0**/20**, Error ellipse: s-maj=79.9km s-min=41.1km az=140.0, Xizang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.27**	**344**	Pn	Pn	01 39 03.9	-1.7
	0.1nm,0.3s,baz=159,slow=14,SNR=10						
CMAR	**Chiang Mai Arr**	**18.64**	**144**	LR	LR	01 49 06.5	
	comp=Z,3.3nm,18.8s,baz=255,slow=42						
SONM	**Songino Array**	**19.72**	**40**	P	P	01 40 27.1	0.0
	0.1nm,0.3s,baz=243,slow=13,SNR=4.2						
TORD	**Torodi Ar. Bea**	**79.32**	**279**	P	P	01 48 04.0	0.0
	0.2nm,0.6s,baz=52,slow=5.5,SNR=5.3						

NNC 03 01:50:31.1±9.2**, 35°55N×72°64E, h0**km**, mb3.8, mpv3.4, 7C, Error ellipse: s-maj=70.6km s-min=46.1km az=158.0, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**4.46**	**318**	⇑P	Pn	01 51 43.6	+3.5
	0.9nm,0.2s						
DZET				⇑S	Sn	01 52 32.8	0.0
	4.8nm,0.4s						
SFK	**Sufi-Kurgan**	**4.51**	**8**	⇑P	Pn	01 51 39.7	-1.4
	1.3nm,0.2s						
SFK				⇑S	Sn	01 52 39.0	+4.5
	2.7nm,0.3s						
MNAS	**Manas**	**6.93**	**359**	⇑P	Pn	01 52 11.3	-2.8
	1.0nm,0.4s						
MNAS				⇑S	Sn	01 53 32.1	-1.7
	0.7nm,0.5s						
KK31	**Karatay Array**	**7.72**	**348**	P	Pn	01 52 22.2	-2.6
	2.2nm,0.4s,baz=162,slow=12,SNR=51						
KK31				⇑S	Sn	01 53 52.3	-0.8
	0.5nm,0.4s,baz=165,slow=25						

*IDC **03** 02:11:12.1±3.5, 20°34S×176°33W, h224km±30km, mb3.5/8, mb1 3.8/8, mb1mx3.6/26, mbtmp4.1/8, Error ellipse: s-maj=21.5km s-min=16.4km az=148.0*
ISC 03 02:11:10.4±0.6**, 20°8S**±0°1×**176°1W**±0°2**, h200**km**, n45,** σ**2s55**/47**, mb3.7**/9**, 5C-4D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.29**	**262**	P	**Pn**	**02 14 50.1**	**+1.7**
	2.5nm,0.3s,baz=270,slow=24,SNR=17						
MWZ	**Matawai**	**18.31**	**196**	*e*PN	**P**	**02 15 11.6**	**+1.9**
MWZ				SN	**S**	**02 18 27.7**	**-0.8**
URZ	**Urewera**	**18.35**	**197**	P	**P**	**02 15 11.3**	**+1.3**
	3.9nm,0.3s,baz=2.9,slow=6.0,SNR=18						
URZ				S	**S**	**02 18 25.8**	**-3.4**
	0.9nm,0.3s,baz=133,slow=18,SNR=5.1						
URZ	**Urewera**	**18.35**	**197**	*e*PN	**P**	**02 15 09.7**	**-0.4**
URZ				SN	**S**	**02 18 25.6**	**-3.5**
SNGZ	**Shannon Statio**	**18.78**	**196**	*e*PN	**P**	**02 15 17.5**	**+2.8**
BKZ	**Black Stump Fm**	**19.37**	**198**	*e*PN	**P**	**02 15 20.9**	**-0.2**
THZ	**Tophouse**	**22.86**	**202**	*e*PN	**P**	**02 15 56.9**	**+0.3**
LTZ	**Lake Taylor**	**23.98**	**201**	*e*PN	**P**	**02 16 08.5**	**+1.8**
RPZ	**Rata Peaks**	**25.23**	**202**	P	**P**	**02 16 20.0**	**+2.1**
	27nm,0.5s,baz=307,slow=0.6,SNR=38						
FOZ	**Fox Glacier**	**25.60**	**204**	*e*PN	**P**	**02 16 20.8**	**-0.4**
JCZ	**Jackson Bay**	**26.39**	**205**	*e*PN	**P**	**02 16 29.5**	**+1.1**
CTA	**Charters Tower**	**35.22**	**264**	P	**P**	**02 17 44.6**	**-1.3**
	3.3nm,0.4s,baz=86,slow=10,SNR=7.9						
STKA	**Stephens Creek**	**39.25**	**245**	P	**P**	**02 18 20.3**	**+0.6**
	2.2nm,0.5s,baz=92,slow=9.9,SNR=13						
ASAR	**Alice Springs**	**46.16**	**257**	P	P	02 19 13.8	-1.6
	2.3nm,0.7s,baz=95,slow=8.1,SNR=24						
ASAR				pP	pP	02 20 02.6	+3.7
	2.0nm,0.9s,baz=88,slow=7.8,SNR=3.5						
ASAR				ScP	**ScP**	**02 24 19.3**	**-2.9**
	0.4nm,0.8s,baz=101,slow=4.7,SNR=4.2						
WRA	**Warramunga Arr**	**46.30**	**262**	P	P	02 19 13.8	-2.8
	0.6nm,0.3s,baz=96,slow=7.8,SNR=22						
WRA				PcP	**PcP**	**02 20 46.3**	**-2.2**
	0.4nm,0.6s,baz=92,slow=3.1,SNR=2.5						
VNDA	**Vanda**	**57.77**	**186**	P	**P**	**02 20 43.1**	**+3.0**
	0.9nm,0.7s,baz=1.3,slow=7.5,SNR=5.5						
NVAR	**Mina Array Bea**	**80.05**	**42**	P	**P**	**02 22 56.8**	**-1.3**
	0.4nm,0.6s,baz=222,slow=9.3,SNR=5.1						
TXAR	**Lajitas Array**	**85.74**	**57**	P	**P**	**02 23 26.8**	**-0.6**
	1.8nm,0.9s,baz=220,slow=8.3,SNR=19						
ILAR	**Eielson Array**	**88.23**	**12**	P	P	02 23 35.0	-3.4
	0.4nm,0.7s,baz=219,slow=5.4,SNR=4.5						
KURBB	**Kurchatov Arra**	**115.47**	**317**	PKP	**PKPdf**	**02 29 24.9**	**-3.4**
	0.9nm,0.6s,baz=96,slow=1.7,SNR=13						
BVAR	**Borovoye Array**	**120.45**	**320**	PKP	**PKPdf**	**02 29 34.4**	**-3.4**
	2.0nm,0.4s,baz=142,slow=2.1,SNR=13						
ARCES	**ARCESS Array B**	**129.53**	**350**	PKP	**PKPdf**	**02 29 52.0**	**-2.7**
	4.5nm,1.0s,baz=28,slow=4.1,SNR=7.9						
AKASG	**Malin Array Be**	**144.12**	**332**	PKhKP	PKPpre	02 30 16.4	
	0.5nm,0.3s,baz=44,slow=4.1,SNR=6.4						
BURAR	**Bucovina Array**	**148.17**	**332**	⇑*i*P	**PKPdf**	**02 30 31.5**	**+2.3**
BRTR	**Keskin Array B**	**148.34**	**313**	PKPbc	**PKPdf**	**02 30 30.6**	**+0.8**
	0.9nm,0.5s,baz=146,slow=4.5,SNR=5.3						
CLL	**Collm**	**148.73**	**349**	*i* PKP	**PKPdf**	**02 30 31.5**	**+1.7**
	comp=Z,7.0nm,0.9s						
UPC	**Upice**	**148.85**	**345**	*e*PKP	**PKPdf**	**02 30 31.9**	**+1.8**
UPC				*e*x	x	02 30 35.3	
DPC	**Dobruska-Polom**	**148.92**	**344**	*e*PKP	**PKPdf**	**02 30 32.1**	**+1.8**
DPC				*e*x	x	02 30 36.9	
BRG	**Berggiesshubel**	**148.97**	**348**	*e*PKP	**PKPdf**	**02 30 32.1**	**+1.9**
	comp=Z,4.6nm,0.8s						
BRG				*e*		02 30 36.3	
	comp=Z,3.4nm,0.8s						
GRER		**148.99**	**328**	⇑*i*P	**PKPbc**	**02 30 35.8**	**+1.1**
DOPR	**Dopca**	**149.34**	**330**	⇑*i*P	**PKPdf**	**02 30 34.1**	**+3.1**
MLR	**Muntele Rosu**	**149.42**	**329**	⇑*i*P	**PKPdf**	**02 30 32.8**	**+1.5**
PRA	**Prague**	**149.62**	**347**	*e*PKP	**PKPdf**	**02 30 33.9**	**+2.6**
PRU	**Pruhonice**	**149.68**	**346**	*e*PKP	**PKPdf**	**02 30 33.7**	**+2.3**
GOPC	**GO Pecny, Ondr**	**149.69**	**346**	*e*PKP	**PKPdf**	**02 30 33.9**	**+2.4**
GOPC				*e*x	x	02 30 38.0	
NKC	**Novy Kostel**	**149.86**	**349**	*e*PKP	**PKPbc**	**02 30 39.1**	**+2.4**
TREC	**Trest**	**150.10**	**345**	*e*PKP	**PKPdf**	**02 30 34.5**	**+2.4**
ARR	**Arges**	**150.14**	**330**	⇓*i*P	**PKPdf**	**02 30 36.3**	**+3.9**
KHC	**Kasperske Hory**	**150.69**	**347**	*e*PKP	**PKPdf**	**02 30 36.1**	**+3.0**
KHC				*e*x	x	02 30 40.4	
KHC				*e*x	x	02 30 43.8	
GERES	**GERESS Array B**	**150.94**	**347**	PKPbc	**PKPdf**	**02 30 36.9**	**+3.3**
	comp=Z,1.9nm,0.8s,baz=17,slow=1.8,SNR=12						
CSNA	**Conrad Observa**	**151.27**	**343**	⇑*i*PKPbc	**PKPdf**	**02 30 38.0**	**+4.0**
	comp=Z,4.4nm,0.9s						
BZS	**Buzias**	**151.28**	**334**	⇓*i*P	**PKPdf**	**02 30 37.7**	**+3.7**
VTS	**Vitosha**	**152.88**	**328**	⇓*i*P	**PKPdf**	**02 30 41.5**	**+4.8**
MMB	**Musomiste**	**153.34**	**325**	⇓*i*P	**PKPdf**	**02 30 41.9**	**+4.6**
TORD	**Torodi Ar. Bea**	**172.10**	**164**	PKP	**PKPdf**	**02 30 53.1**	**-2.9**
	comp=Z,0.6nm,0.8s,baz=196,slow=2.5,SNR=3.8						
TORD				PKPab	**PKPab**	**02 32 20.1**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=201,slow=4.5,SNR=9.5						

*SJA **03** 02:53:15.8±0.9, 34°70S×73°88W, h40km, ML3.8, MW3.9*
*IDC **03** 02:53:24.5±1.5, 34°78S×72°40W, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.6/24, mbtmp3.6/5, ML3.2/3, MS3.6/1, Ms1 3.6/1, ms1mx2.9/17, Error ellipse: s-maj=37.7km s-min=20.4km az=90.0*
*ISCJB **03** 02:53:25.7±1.5, 34°80S±0°04×72°55W±0°08, h19km±11km, mb3.5/3, MS3.6/1, Error ellipse: s-maj=11.8km s-min=6.1km az=13.0*
*GUC **03** 02:53:27.7±0.6, 34°78S×72°41W, h24km±2km, ML4.3*
ISC 03 02:53:24.7±1.9**, 34°78S**±0°03×**72°44W**±0°08**, h5**km±11km**, n39,** σ**1s52**/44**, mb3.6**/3**, 6C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.91**	**133**	⇓*i*P	**Pn**	**02 53 43.5**	**-0.6**
TALC				*i* S	**Sb**	**02 53 55.5**	**+0.3**
NICH	**Los Niches**	**1.02**	**103**	⇓*i*P	**Pn**	**02 53 45.5**	**-0.2**
NICH				*i* S	**Sn**	**02 53 59.0**	**-1.4**
LNV	**Longovilo**	**1.18**	**46**	⇑*i*P	**Pg**	**02 53 48.0**	**+0.6**
LNV				*i* S	**Sn**	**02 54 03.2**	**-1.2**
LNCH	**Linares**	**1.27**	**147**	⇑*i*P	**Pg**	**02 53 49.2**	**+0.2**
LNCH				*i* S	**Sg**	**02 54 05.7**	**+0.3**
CACH	**El Canelo**	**1.66**	**67**	⇑*i*P	**Pb**	**02 53 56.1**	**+0.3**
CACH				*i* S	**Sg**	**02 54 17.9**	**-0.1**
TACH	**Talagante**	**1.68**	**48**	*e*P	**Pb**	**02 53 55.7**	**-0.3**
CHCH	**Chadas Angostu**	**1.70**	**61**	*e*P	**Pb**	**02 53 56.5**	**0.0**
PCH	**Pirque**	**1.97**	**55**	*e*P	**Pb**	**02 54 00.9**	**-0.3**
PCH				*e*S	**Sb**	**02 54 26.2**	**+0.2**
SAN	**Santiago**	**1.98**	**49**	*e*P	**Pb**	**02 54 01.2**	**-0.1**
SAN				*e*S	**Sb**	**02 54 26.2**	**-0.1**
SJCH	**San Jose de Ma**	**2.07**	**57**	⇑*i*P	**Pb**	**02 54 01.9**	**-0.9**
SJCH				*i* S	**Sb**	**02 54 28.1**	**-0.8**
CLCH	**Cerro Calan**	**2.10**	**49**	⇑*i*P	**Pb**	**02 54 02.7**	**-0.6**
CLCH				*i* S	**Sb**	**02 54 29.3**	**-0.4**
CLCH				AML	AML	02 54 42.0	
	comp=N,2μm,0.7s						
ROCH	**El Roble**	**2.16**	**34**	AML	AML	02 54 41.7	
	comp=E,2μm,0.5s						
PEL	**Peldehue**	**2.19**	**42**	⇑*i*P	**Pb**	**02 54 03.4**	**-1.4**
PEL				*i* S	**Sb**	**02 54 31.2**	**-1.0**
PEL				AML	AML	02 54 41.6	
	comp=E,4μm,0.6s						
CANA	**Caviahue**	**3.30**	**161**	*e*P	**Pb**	**02 54 22.2**	**-1.6**
CANA				*e*S	**Sn**	**02 54 56.8**	**0.0**
CANA				AML	AML	02 55 20.1	
	comp=Z,116nm,0.6s						
AAGR	**Agrelo**	**3.45**	**62**	*e*P	**Pb**	**02 54 26.2**	**-0.1**
AAGR				*e*S	**Sg**	**02 55 15.4**	**0.0**
ARCO	**CERRO ARCO**	**3.50**	**58**	*e*P	**Pb**	**02 54 27.8**	**+0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARCO				eS	Sg	02 55 16.1	-1.1
ARCO				AML	AML	02 55 23.1	
	comp=Z,113nm,0.7s						
AUSP	Uspallata	3.61	46	eP	Pb	02 54 24.9	-4.2
AUSP				eS	Sb	02 55 16.7	+3.4
ASAL	Salagasta	3.71	55	eP	Pb	02 54 28.7	-2.2
ASAL				eS	Sb	02 55 20.0	+3.7
RTLS	Leoncito	3.97	42	eP	Pn	02 54 29.7	+3.2
RTLS				eP	Pn	02 54 29.7	+3.2
RTCV	Cerro Valdivia	4.37	49	eP	Pn	02 54 35.3	+3.4
RTCV				eS	Sb	02 55 34.2	-0.9
CFAA	Coronel Fontan	4.74	49	Pn	Pn	02 54 38.4	+1.6
	comp=Z,0.1nm,0.3s,baz=247,slow=15,SNR=18						
CFAA				Sn	Sn	02 55 33.0	+0.8
	comp=Z,0.4nm,0.3s,baz=265,slow=8.3,SNR=4.0						
CFAA				Lg	Lg	02 55 47.9	
	comp=Z,1.3nm,0.3s,baz=11,slow=5.9,SNR=8.7						
RTLL	Cerro Villicun	4.79	45	eP	Pn	02 54 39.5	+1.9
ACAN	Cantantal	5.05	62	eP	Pn	02 54 45.6	+4.5
AMOG	MOGNA	5.07	42	eP	Pn	02 54 43.0	+1.5
AVFE	Valle Fertil	5.88	47	eP	Pn	02 54 52.7	+0.2
AVFE				eS	Sb	02 56 12.6	-5.8
PLCA	Paso Flores	6.13	166	Pn	Pn	02 54 58.1	+2.2
	comp=Z,0.3nm,0.3s,baz=338,slow=14,SNR=13						
PLCA				Lg	Lg	02 56 36.9	
	comp=Z,0.6nm,0.3s,baz=254,slow=21,SNR=4.3						
ACLC	CERRO LA CRUZ	7.08	43	eP	Pn	02 55 08.9	-0.3
CYA	Choya	8.48	44	eP	Pn	02 55 22.5	-5.7
LPAZ	La Paz	18.82	13	P	Pn	02 57 45.9	-0.4
	comp=Z,0.0nm,0.3s,baz=252,slow=6.4,SNR=2.5						
SIV	San Ignacio	21.31	31	P	P	02 58 12.5	0.0
	comp=Z,1.9nm,0.7s,baz=223,slow=11,SNR=6.2						
ROSC	El Rosal	39.46	357	LR	LR	03 16 40.6	
	comp=Z,85nm,18.4s,baz=284,slow=35						
TXAR	Lajitas Array	70.25	331	P	P	03 04 40.0	+1.0
	comp=Z,0.3nm,0.6s,baz=152,slow=8.0,SNR=4.6						
TORD	Torodi Ar. Bea	84.79	70	P	P	03 06 00.2	-0.2
	comp=Z,0.7nm,1.1s,baz=226,slow=7.6,SNR=2.7						
H11S2	WAKE ISLAND Hy	125.42	269	T	T	05 30 53.7	
	baz=121						
H11S1	WAKE ISLAND Hy	125.44	269	T	T	05 30 34.9	
	baz=121						
H11S3	WAKE ISLAND Hy	125.44	269	T	T	05 30 50.3	
	baz=121						
H11N3	WAKE ISLAND Hy	125.86	270	T	T	05 31 12.1	
	baz=123						
H11N1	WAKE ISLAND Hy	125.87	270	T	T	05 31 07.8	
	baz=123,SNR=4.9						
H11N2	WAKE ISLAND Hy	125.87	270	T	T	05 31 04.1	
	baz=123						

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*ISCJB **03** 02:58:47.7±0.5, 6°.68N±0°.06×72°.99W±0°.05, h161km, mb3.4/7, Error ellipse: s-maj=9.7km s-min=5.7km az=142.7*

*IDC **03** 02:58:49.0±3.5, 6°.56N×72°.92W, h167km±36km, mb3.2/8, mb1 3.5/9, mb1mx3.2/27, mbtmp3.7/9, Error ellipse: s-maj=35.5km s-min=13.6km az=56.0*

*FUNV **03** 02:58:50.1, 6°.84N×73°.13W, h170km, MW3.7*

ISC 03 02:58:49.0±0.7**, 6°.76N**±0°.06×**73°.00W**±0°.07**, h161**km**, n31, σ1s57**/36**, mb3.5**/7**, 1C-7D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.29	32	⇓iP	Pn	02 59 18.8	+1.1
CAPV				eS	Sn	02 59 40.0	+0.4
ROSC	El Rosal	2.31	215	P	Pn	02 59 30.8	+2.0
	35nm,0.3s,baz=294,slow=5.8,SNR=65						
ROSC				S	Sn	02 59 56.7	-2.8
	24nm,0.3s,baz=106,slow=7.7,SNR=6.0						
SOCV	Socops	2.61	54	⇓iP	Pn	02 59 33.5	+1.5
SOCV				eS	Sn	03 00 04.7	-0.7
VIGV	El Vigia	2.63	38	⇓iP	Pn	02 59 33.2	+1.0
VIGV				eS	Sn	03 00 05.5	-0.3
ELOV	Elorza	3.50	86	⇓eP	Pn	02 59 44.8	+1.6
VIRV	Villa del Rosa	3.76	9	⇑iP	Pn	02 59 45.5	-1.0
VIRV				eS	Sn	03 00 26.8	-4.6
QARV	Quebrada Arrib	4.21	35	⇓iP	Pn	02 59 53.0	+0.6
SANV	Sanarito	4.38	51	eP	Pn	02 59 54.8	+0.2
CURV	Curarigua	4.42	43	⇓eP	Pn	02 59 55.4	+0.3
DABV	Dabajuro	4.75	29	eP	Pn	02 59 59.4	+0.1
SIQV	Siquisique	4.99	39	eP	Pn	03 00 02.4	-0.1
BAUV	El Baul	5.37	66	eP	Pn	03 00 07.5	0.0
MAPV	Macapo	5.43	56	⇓iP	Pn	03 00 08.4	0.0
MONV	Montecano	5.96	30	eP	Pn	03 00 14.5	-0.8
TURV	Turiamo	6.28	54	eP	Pn	03 00 19.8	+0.2
MERV	Las Mercedes	7.09	69	eP	Pn	03 00 30.1	-0.2
BIRV	Birongo	7.61	61	eP	Pn	03 00 36.4	-0.9
CUPV	Cœpira	7.85	65	eP	Pn	03 00 39.9	-0.6
PCRV	Puerto La Cruz	8.94	67	P	Pn	03 00 56.3	+1.3
	0.8nm,0.3s,baz=229,slow=11,SNR=4.2						
PCRV	Puerto La Cruz	8.94	67	eP	Pn	03 00 55.8	+0.8
JTS	JuntasAbangare	12.33	287	P	P	03 01 46.2	+1.3
	0.6nm,0.3s,baz=92,slow=0.8,SNR=6.3						
TEIG	Tepich	19.96	314	P	P	03 03 11.1	+2.3
	5.9nm,0.7s,baz=129,slow=3.8,SNR=4.0						
LPAZ	La Paz	23.40	168	P	P	03 03 40.0	-4.3
	0.5nm,0.3s,baz=329,slow=12,SNR=5.1						
CMIG	Matias Romero	23.71	298	P	P	03 03 48.3	+1.9
	1.2nm,0.7s,baz=100,slow=12,SNR=2.1						
SIV	San Ignacio	25.51	153	P	P	03 04 00.8	-1.9
	0.7nm,0.5s,baz=310,slow=7.9,SNR=2.4						
TXAR	Lajitas Array	36.59	312	P	P	03 05 40.5	+0.7
	0.5nm,0.6s,baz=128,slow=9.7,SNR=6.6						
PDAR	Pinedale Array	48.19	324	P	P	03 07 13.8	+0.4
	0.4nm,0.8s,baz=112,slow=6.9,SNR=3.8						
NVAR	Mina Array Bea	51.61	315	P	P	03 07 39.7	+0.4
	0.4nm,0.6s,baz=116,slow=8.1,SNR=3.0						
YKA	Yellowknife Ar	63.36	340	P	P	03 09 01.0	+0.2
	0.6nm,0.6s,baz=134,slow=7.0,SNR=8.3						
ASAR	Alice Springs	149.17	234	PKPbc	PKPbc	03 18 18.6	-0.7
	0.8nm,0.6s,baz=121,slow=3.7,SNR=9.5						
WRA	Warramunga Arr	150.41	241	PKPbc	PKPbc	03 18 22.0	-0.4
	0.5nm,0.4s,baz=109,slow=2.4,SNR=17						

IDC 03 03:07:40.0±3.5**, 4°.42N**×**127°.33E, h0**km**, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.3**/23**, mbtmp3.3**/3**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.3**/25**, Error ellipse: s-maj=308.2km s-min=27.3km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.17	164	P	P	03 13 06.3	-1.0
	0.5nm,0.8s,baz=344,slow=10,SNR=4.3						
ASAR	Alice Springs	28.64	167	P	P	03 13 39.5	+0.9
	0.1nm,0.4s,baz=346,slow=15,SNR=4.2						
MKAR	Makanchi Array	57.34	325	P	P	03 17 29.9	-0.1
	0.2nm,0.4s,baz=126,slow=7.8,SNR=6.1						
MKAR				LR	LR	03 42 01.4	
	comp=Z,23nm,18.8s,baz=238,slow=36						

KRSC 03 03:42:44.8±1.3**, 50°.04N**×**157°.04E, h19**km±25km**, ML3.9, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.88	318	eP	Pb	03 43 00.4	-0.9
SKR				eS	Sb	03 43 11.9	-0.7
PAU	Pauzhetka	1.44	354	eS	Sb	03 43 29.5	+0.6
ASAK	Asacha	2.41	13	eP	Pb	03 43 26.1	-1.5
MTVR	Mutnovka	2.56	16	eP	Pn	03 43 27.5	+2.2
MTVR				eS	Sb	03 43 59.0	-2.3
RUS	Russkaya	2.57	21	eP	Pn	03 43 26.8	+1.5
RUS				eS	Sn	03 43 58.2	+2.2
UGLR	Uglovaya	3.37	19	eP	Pb	03 43 40.2	-3.7
AVH	Avacha	3.40	17	eP	Pb	03 43 40.8	-3.7
KOK	Koryaka	3.41	16	eP	Pn	03 43 40.6	+3.6
SMAR	Somma	3.41	18	eP	Pn	03 43 40.9	+3.7
SDLR	Sedlovina	3.44	19	eP	Pn	03 43 40.6	+3.1
SDLR				eS	Sn	03 44 21.4	+3.5
KRX	Arik	3.48	16	eP	Pn	03 43 41.7	+3.7
SPN	Mys Shipunski	3.59	30	eP	Pn	03 43 42.4	+3.1

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*IDC **03** 03:57:30.0±1.5, 10°.70S×164°.37E, h0km, mb4.0/5, mb1 4.2/7, mb1mx3.9/40, mbtmp4.1/7, ML4.0/2, MS3.5/2, Ms1 3.5/2, ms1mx3.0/24, Error ellipse: s-maj=47.0km s-min=25.2km az=123.0*

*ISCJB **03** 03:57:31.8±1.1, 10°.9S±0°.1×164°.4E±0°.2, h24km, mb3.8/5, MS3.4/2, Error ellipse: s-maj=24.1km s-min=18.7km az=5.6*

ISC 03 03:57:33.6±1.3**, 10°.8S**±0°.1×**164°.4E**±0°.2**, h24**km**, n13, σ0s91**/7**, mb3.9**/5**, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.39	170	Pn	Pn	04 00 14.7	-0.4
	0.9nm,0.3s,baz=270,slow=20,SNR=8.1						
CTA	Charters Tower	19.75	240	P	Pn	04 02 03.0	-0.6
	0.3nm,0.3s,baz=67,slow=13,SNR=8.2						
H11S2	WAKE ISLAND Hy	29.18	5	T	T	04 34 11.7	
	baz=184,slow=76,SNR=6.7						
H11S3	WAKE ISLAND Hy	29.18	4	T	T	04 34 16.2	
	baz=184,slow=76,SNR=4.0						
H11S1	WAKE ISLAND Hy	29.20	5	T	T	04 34 15.1	
	baz=184,slow=76,SNR=3.9						
STKA	Stephens Creek	29.73	222	P	P	04 03 39.6	+1.5
	1.4nm,0.7s,baz=53,slow=11,SNR=6.4						
STKA				LR	LR	04 14 10.9	
	comp=Z,118nm,20.1s,baz=29,slow=34						
WRA	Warramunga Arr	30.32	249	P	P	04 03 43.1	-0.5
	1.1nm,0.8s,baz=80,slow=9.0,SNR=5.1						
WRA				LR	LR	04 16 11.6	
	comp=Z,76nm,19.8s,baz=105,slow=37						
H11N1	WAKE ISLAND Hy	30.41	5	T	T	04 35 49.3	
	baz=184,slow=76,SNR=5.0						
H11N3	WAKE ISLAND Hy	30.41	5	T	T	04 35 46.9	
	baz=184,slow=76,SNR=5.5						
H11N2	WAKE ISLAND Hy	30.43	5	T	T	04 35 44.2	
	baz=184,slow=76,SNR=4.1						
ASAR	Alice Springs	31.72	242	P	P	04 03 55.3	-0.6
	0.6nm,0.7s,baz=68,slow=9.7,SNR=5.1						
ILAR	Eielson Array	83.70	19	P	P	04 10 00.1	0.0
	0.8nm,0.7s,baz=239,slow=5.1,SNR=9.2						
MKAR	Makanchi Array	92.42	317	P	P	04 10 42.5	0.0
	1.0nm,0.9s,baz=104,slow=4.6,SNR=5.6						

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*ISCJB **03** 04:01:26.9±0.3, 36°.99S±0°.04×73°.76W±0°.08, h10km, mb4.6/31, MS3.9/4, Error ellipse: s-maj=9.4km s-min=5.2km az=175.0*

*IDC **03** 04:01:26.7±0.8, 36°.87S×73°.69W, h0km, mb4.4/11, mb1 4.5/15, mb1mx4.4/20, mbtmp4.4/15, ML3.5/3, MS4.1/5, Ms1 4.0/5, ms1mx3.7/23, Error ellipse: s-maj=24.3km s-min=13.9km az=80.0*

*NEIC **03** 04:01:29.0, 37°.22S×73°.77W, h6km, mb4.7/21, After GUC.*

NEIC Felt [II] at Lota and Talcahuano.

*GUC **03** 04:01:29.2±0.9, 37°.22S×73°.77W, h6km±8km, ML4.3*

*BJI **03** 04:01:31.4, 36°.55S×73°.10W, h33km, mB5.1/2, Ms5.2/1, Ms7 5.2/1*

ISC 03 04:01:28.6±0.5**, 36°.94S**±0°.04×**73°.80W**±0°.06**, h10**km**, n92, σ1s31**/92**, mb4.6**/31**, MS4.1**/4**, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.56	81	⇑eP	Pn	04 01 42.1	-0.6
CCSP				eS	Sn	04 01 52.5	+0.5
CCSP				AML	AML	04 01 55.5	
	comp=N,45μm,0.4s						
LNCH	Linares	2.08	59	eP	Pb	04 02 07.5	+1.1
LNCH				eS	Sg	04 02 36.3	+0.8
TALC	Talca	2.33	49	eP	Pb	04 02 11.8	+1.1
TALC				eS	Sg	04 02 43.1	-0.4
VLCH	Valdivia	2.90	171	eP	Pn	04 02 13.0	-1.8
OSCH	Osorno	3.67	172	eP	Pn	04 02 23.3	-2.1
CHCH	Chadas Angostu	3.95	42	eP	Pn	04 02 29.4	+0.1
TACH	Talagante	4.03	36	eP	Pn	04 02 29.9	-0.5
IHA	Instituto Hidr	4.29	25	eP	Pn	04 02 26.8	-7.1
CLCH	Cerro Calan	4.43	38	eP	Pn	04 02 35.7	-0.2
PLCA	Paso Flores	4.56	147	Pn	Pn	04 02 37.7	0.0
	comp=N,0.9nm,0.3s,baz=316,slow=14,SNR=22						
PLCA				Lg	Lg	04 03 53.6	
	comp=N,6.3nm,0.3s,baz=258,slow=14,SNR=6.4						
PLCA	Paso Flores	4.56	147	eP	Pn	04 02 37.9	+0.2
PLCA	Paso Flores	4.56	147	ePn	Pn	04 02 38.0	+0.2
PLCA				ePg	Pb	04 02 51.8	+3.0
PLCA				Lg	Lg	04 03 53.6	
PLCA				eS	Sg	04 03 54.6	-0.4
HUNY	Huinay	5.54	169	eP	Pn	04 02 49.5	-1.6
CFAA	Coronel Fontan	7.04	42	Pn	Pn	04 03 10.2	-1.5
	comp=N,0.5nm,0.3s,baz=216,slow=13,SNR=30						
CFAA				Sn	Sn	04 04 31.2	-0.6
	comp=N,0.4nm,0.3s,baz=127,slow=20,SNR=2.7						
CFAA				Lg	Lg	04 04 58.0	
	comp=N,0.3nm,0.3s,baz=298,slow=17,SNR=3.5						
CFAA				LR	LR	04 05 52.8	
	comp=N,47nm,20.3s,baz=228,slow=38						
TLL	Tololo Astrono	7.20	21	eP	Pn	04 03 12.9	-1.3
LCO	Las Campanas	8.32	19	ePn	Pn	04 03 27.3	-2.3
LCO				eS	Sn	04 05 08.2	+4.4
TRQA	Tornquist	9.46	100	ePn	Pn	04 03 46.0	+1.0
LVC	Limon Verde	14.89	18	Pn	Pn	04 04 58.3	-1.1
	comp=N,12nm,0.3s,baz=194,slow=10,SNR=4.6						
LVC				Lg	Lg	04 09 13.5	
	comp=N,6.3nm,0.3s,baz=291,slow=16,SNR=3.1						
LVC	Limon Verde	14.89	18	ePn	Pn	04 04 59.2	-0.3
LVC				Lg	Lg	04 09 13.5	
PB07	IPOC Station P	15.54	14	eP	P	04 05 13.2	+0.9
PB09	IPOC Station P	15.60	16	eP	Pn	04 05 08.4	-0.4
PB01	IPOC Station P	16.28	15	eP	Pn	04 05 15.9	-1.5
CPUP	Villa Florida	17.54	58	ePn	Pn	04 05 34.1	+0.9
	comp=N,0.3nm,1.0s						
MNMC	Minimini	18.12	13	⇓eP	Pn	04 05 40.3	-0.4
USHA	Ushuaia	18.27	170	P	Pn	04 05 41.9	-0.2
	comp=N,0.1nm,0.3s,baz=353,slow=14,SNR=2.2						
USHA				LR	LR	04 13 20.8	
	comp=N,649nm,19.2s,baz=250,slow=39						
EFI	East Falkland	18.48	148	ePn	P	04 05 43.7	-0.9
	comp=N,93nm,1.3s						
LPAZ	La Paz	21.18	15	P	P	04 06 14.6	-0.2
	comp=N,11nm,0.9s,baz=184,slow=8.2,SNR=28						
LPAZ	La Paz	21.18	15	ePn	P	04 06 16.2	+1.4
	comp=N,29nm,1.2s						
SIV	San Ignacio	23.73	32	P	P	04 06 38.8	-2.2
	comp=N,19nm,0.9s,baz=229,slow=10,SNR=44						
SIV				LR	LR	04 17 52.3	
	comp=N,583nm,19.5s,baz=220,slow=42						
PMSA	Palmer Station	28.47	171	LR	LR	04 19 54.9	
	comp=N,444nm,18.1s,baz=344,slow=39						
SAML	Samuel	29.48	22	eP	P	04 07 32.5	-0.4
	comp=N,4.2nm,0.8s						
ATAH	Atahualpa	29.96	351	LR	LR	04 17 24.8	
	comp=N,73nm,18.6s,baz=183,slow=32						
BDFB	Brasilia	31.20	54	P	P	04 07 46.4	-1.9
	comp=N,8.5nm,0.9s,baz=220,slow=8.5,SNR=8.5						
BDFB				LR	LR	04 21 45.4	
	comp=N,440nm,18.3s,baz=172,slow=39						
BDFB	Brasilia	31.20	54	eP	P	04 07 47.5	-0.7
PAYG	Puerto Ayora	39.17	333	eP	P	04 08 58.6	+1.8
	comp=N,350nm,1.3s						
SDV	Santo Domingo	45.68	4	eP	P	04 09 49.1	-0.8
	comp=N,8.1nm,0.9s						
VNA1	Neumayer--Stat	47.57	156	P	P	04 10 04.9	+1.1
SNAA	Sanae	49.43	157	P	P	04 10 11.8	-6.6
SNAA	Sanae	49.43	157	P	P	04 10 18.3	-0.1
	comp=N,3.5nm,0.9s,baz=281,slow=7.1,SNR=14						
SNAA	Sanae	49.43	157	eP	P	04 10 11.6	-6.7
	comp=N,13nm,1.0s						
TBI	Tubuai	65.28	259	eLR	LR	04 31 50.8	
	comp=N,160nm,26.0s						
TVO	Taravao	68.07	264	eT	T	05 26 21.6	
	comp=N,0.5nm,0.2s						
PPT2	Papeete2	68.44	264	eLR	LR	04 33 13.7	
	comp=N,184nm,24.8s						
MAW	Mawson	70.77	164	P	P	04 12 44.2	-0.4
	comp=N,5.6nm,0.8s,baz=252,slow=4.7,SNR=6.4						
MAW	Mawson	70.77	164	eP	P	04 12 44.6	0.0
	comp=N,1.1nm,0.8s						
TXAR	Lajitas Array	71.64	333	P	P	04 12 50.0	-0.3
	comp=N,1.7nm,0.8s,baz=152,slow=8.8,SNR=16						
ABTX	Abilene, Hawle	73.30	337	eP	P	04 13 00.2	+0.1
	comp=N,12nm,1.3s						
MNTX	Cornudas Mount	74.40	332	eP	P	04 13 05.7	-1.0
	comp=N,4.0nm,1.0s						
AMTX	Amarillo	76.02	337	eP	P	04 13 16.9	+0.9
	comp=N,7.8nm,1.0s						
LIC	Lamto	77.06	72	eP	P	04 13 22.2	-0.1
	comp=N,47nm,1.3s						
TIC	Toumodi	77.33	72	eP	P	04 13 23.8	0.0
KIC	Kosan Boka	77.36	72	eP	P	04 13 24.1	+0.1
	comp=N,30nm,1.0s						
DBIC	Dimbokro	77.47	72	P	P	04 13 23.8	-0.8
	comp=N,14nm,1.0s,baz=181,slow=7.0,SNR=6.9						
DBIC	Dimbokro	77.47	72	eP	P	04 13 24.7	+0.2
	comp=N,199nm,2.7s						
ANMO	Albuquerque	77.70	333	eP	P	04 13 25.8	+0.2
	comp=N,5.3nm,1.1s						
SDCO	Great Sand Dun	79.89	335	eP	P	04 13 37.7	0.0
	comp=N,23nm,2.6s						
BOSA	Boshof	79.97	118	P	P	04 13 37.9	-0.5
	comp=N,6.5nm,0.9s,baz=232,slow=3.5,SNR=5.5						
SMCO	Snowmass	81.68	335	eP	P	04 13 48.1	+0.7
	comp=N,9.8nm,1.4s						
LBTB	Lobatse	82.36	115	eP	P	04 13 50.7	-0.4
	comp=N,14nm,0.9s						
ECSD	EROS Data Cent	82.93	344	eP	P	04 13 52.8	-0.5
	comp=N,8.6nm,0.9s						
DAC	Darwin (Calif)	83.41	326	eP	P	04 14 00.1	+3.9
	comp=N,2.7nm,0.8s						
DUG	Dugway, Tooele	84.71	331	eP	P	04 14 03.6	+1.0
	comp=N,2.9nm,0.9s						
RSSD	Black Hills	85.22	339	eP	P	04 14 08.1	+2.8
	comp=N,4.7nm,1.0s						
HWUT	Hardware Ranch	85.46	333	eP	P	04 14 06.7	+0.3
	comp=N,8.8nm,1.3s						
NVAR	Mina Array Bea	85.50	326	P	P	04 14 06.8	0.0
	comp=N,0.7nm,0.7s,baz=148,slow=6.8,SNR=4.2						
PDAR	Pinedale Array	85.76	334	P	P	04 14 07.9	-0.1
	comp=N,1.0nm,0.8s,baz=129,slow=3.6,SNR=8.7						
BW06	Boulder Array	85.76	334	eP	P	04 14 08.1	+0.1
	comp=N,4.4nm,1.3s						
TOA0	Torodi Ar. Sit	86.55	71	eP	P	04 14 11.7	-0.5
TORD	Torodi Ar. Bea	86.55	71	P	P	04 14 11.3	-0.9
	comp=N,2.3nm,0.8s,baz=228,slow=4.4,SNR=12						
TPAW	Teton Pass	86.88	334	eP	P	04 14 17.1	+3.6
	comp=N,4.9nm,1.0s						
AGMN	Agassiz Nation	87.11	345	eP	P	04 14 13.7	-0.5
MCMT	McKenzie Canyo	88.72	333	eP	P	04 14 23.4	+1.2
	comp=N,1.0nm,0.9s						
ABKAR	Akbulak array	144.59	55	ePKPdf	PKPab	04 21 03.1	-0.4
RCLA	Racherla	147.71	124	ePKPbc	PKPbc	04 21 13.2	-0.8
KLRI	Killari	147.91	118	ePKPbc	PKPdf	04 21 13.4	+1.9
SRLM	Srisailam	148.13	123	ePKPbc	PKPbc	04 21 14.6	-0.5
ADKI	Addanki	148.66	125	ePKPbc	PKPbc	04 21 16.2	-0.2
NJS	Nagarjunasagar	148.73	123	ePKPbc	PKPbc	04 21 16.0	-0.6
HYB	Hyderabad	148.83	121	i PKP	PKPbc	04 21 16.0	-0.9
HYBB	Hyderabad (bro	148.83	121	ePKPbc	PKPbc	04 21 16.6	-0.3
SRSP	Sriramsagar	149.71	119	ePKPbc	PKPbc	04 21 18.4	-0.6
RPR	Rampur	150.33	120	ePKPbc	PKPbc	04 21 19.4	-1.1
BVAR	Borovoye Array	150.38	46	PKPbc	PKPbc	04 21 18.9	-0.7
	comp=N,2.2nm,0.8s,baz=292,slow=7.8,SNR=9.0						
PVM	Polavaram	150.77	126	ePKPbc	PKPbc	04 21 21.1	-0.4
AAK	Ala-Archa	155.07	67	PKPab	PKPab	04 21 45.5	-1.0
	comp=N,2.4nm,0.7s,baz=185,slow=4.1,SNR=6.2						
KSH	Kashi	156.17	75	PKPab	PKPab	04 21 50.2	-1.0
MKAR	Makanchi Array	159.72	53	PKP	PKPdf	04 21 25.7	-1.7
	comp=N,0.5nm,0.8s,baz=318,slow=1.6,SNR=4.9						
MKAR				PKPab	PKPab	04 22 05.0	-1.1
	comp=N,1.2nm,0.8s,baz=306,slow=4.2,SNR=9.1						
MKAR				PP	PP	04 25 47.1	-1.0
	comp=N,0.7nm,0.8s,baz=262,slow=5.5,SNR=5.2						
CN2	Changchun	163.82	301	ePKP	PKPdf	04 21 32.9	+1.3
WMQ	Urumqi	164.33	58	ePKP	PKPdf	04 21 33.4	+1.2
KMI	Kunming	167.86	165	PKP	PKPdf	04 21 35.8	0.0
CD2	Chengdu	173.65	161	PKP	PKPdf	04 21 38.2	-0.2
HHC	Hu-ho-hao-te	174.28	315	ePKP	PKPdf	04 21 38.2	-0.2
HHC				pPKP	pPKPdf	04 21 48.5	+6.6
HHC				sPKP		04 21 54.8	

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*IDC **03** 04:05:02.5±0.9, 6°.22S×149°.65E, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.0/17, mbtmp4.0/7, Error ellipse: s-maj=47.6km s-min=19.7km az=108.0*

*ISCJB **03** 04:05:08.8±0.9, 6°.2S±0°.1×149°.4E±0°.3, h58km, mb3.8/6, Error ellipse: s-maj=43.5km s-min=16.5km az=20.0*

ISC 03 04:05:10.3±0.9**, 6°.2S**±0°.2×**149°.4E**±0°.3**, h58**km**, n9, σ0s68**/10**, mb3.8**/6**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.04	226	P	P	04 09 38.3	-0.5
	6.7nm,0.8s,baz=49,slow=10,SNR=38						
WRA				PcP	PcP	04 13 52.7	-0.2
	0.4nm,0.6s,baz=28,slow=2.2,SNR=4.2						
ASAR	Alice Springs	22.90	219	P	P	04 10 08.8	-0.6
	4.0nm,0.6s,baz=56,slow=9.1,SNR=45						
STKA	Stephens Creek	26.56	195	P	P	04 10 43.5	+0.6
	3.1nm,0.8s,baz=23,slow=12,SNR=8.7						
PETK	Petropavlovsk-	59.51	6	P	P	04 15 07.4	0.0
	2.5nm,0.5s,baz=163,slow=7.6,SNR=7.8						
VNDA	Vanda	71.57	177	P	P	04 16 25.5	+0.6
	0.7nm,0.7s,baz=326,slow=5.7,SNR=3.7						
MKAR	Makanchi Array	79.21	320	P	P	04 17 10.2	+0.9
	0.1nm,0.4s,baz=109,slow=5.3,SNR=3.1						
ILAR	Eielson Array	84.73	23	P	P	04 17 37.5	-0.4
	0.3nm,0.6s,baz=250,slow=5.3,SNR=6.4						
TORD	Torodi Ar. Bea	147.49	285	PKPbc	PKPab	04 24 50.7	-0.5
	0.5nm,0.5s,baz=66,slow=3.1,SNR=17						
BDFB	Brasilia	152.25	142	PKPbc	PKPbc	04 24 60.0	-0.8
	0.5nm,0.3s,baz=270,slow=2.0,SNR=3.6						

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*CSEM **03** 04:05:47.0±0.1, 43°.67N×11°.11E, h10km, ML2.3/5, Error ellipse: s-maj=2.3km s-min=1.6km az=21.0*

ROM 03 04:05:46.3±0.1**, 43°.67N**×**11°.11E, h7**km±1km**, Md2.1**/14**, Ml1.7**/5**, Error ellipse: s-maj=1.5km s-min=1.1km az=49.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FIR	Firenze	0.15	45	Pg	Pg	04 05 50.0	+0.7
FIR				Sg	Sg	04 05 52.7	+1.3
	502nm,0.1s						
FIR	Firenze	0.15	45	Pg	Pg	04 05 50.0	+0.7
FIR				Sg	Sg	04 05 52.7	+1.3
	502nm,0.1s						
CRMI	Carmignano	0.16	319	Pg	Pg	04 05 50.1	+0.5
CRMI				Sg	Sg	04 05 52.9	+1.0
	138nm,0.3s						
CRMI	Carmignano	0.16	319	Pg	Pg	04 05 50.1	+0.5
CRMI				Sg	Sg	04 05 52.9	+1.0
	138nm,0.3s						
CSNT	Castellina Chi	0.24	147	Pg	Pg	04 05 51.6	+0.5
CSNT				Sg	Sg	04 05 55.6	+1.3
	102nm,0.4s						
CSNT	Castellina Chi	0.24	147	Pg	Pg	04 05 51.6	+0.5
CSNT				Sg	Sg	04 05 55.6	+1.3
	102nm,0.4s						
SEI	Scarperia	0.42	25	Pg	Pg	04 05 55.2	+0.6
	74nm,0.4s						
SEI	Scarperia	0.42	25	Pg	Pg	04 05 55.2	+0.6
	74nm,0.4s						
VMG	Vicchio	0.43	47	Pg	Pg	04 05 55.4	+0.8
	18nm,0.1s						
VMG	Vicchio	0.43	47	Pg	Pg	04 05 55.4	+0.8
	18nm,0.1s						
PII	Pisa	0.43	277	Pg	Pg	04 05 55.2	+0.6
	22nm,0.2s						
PII	Pisa	0.43	277	Pg	Pg	04 05 55.2	+0.6
	22nm,0.2s						
ASQU	Asqua	0.51	75	Pg	Pg	04 05 56.6	+0.4
ASQU				Sg	Sb	04 06 04.4	-1.0
ASQU	Asqua	0.51	75	Pg	Pg	04 05 56.6	+0.4
ASQU				Sg	Sb	04 06 04.4	-1.0
MAIM	Mastiano	0.51	299	P	Pg	04 05 56.7	+0.5
GRFL	Gerfalco	0.53	191	Pg	Pb	04 05 57.8	-0.3
GRFL	Gerfalco	0.53	191	Pg	Pb	04 05 57.8	-0.3
BDI	Bagni Di Lucca	0.54	317	Pg	Pb	04 05 58.1	-0.2
BDI				Sg	Sb	04 06 05.9	-0.5
	32nm,0.3s						
BDI	Bagni Di Lucca	0.54	317	Pg	Pb	04 05 58.1	-0.2
BDI				Sg	Sb	04 06 05.9	-0.5
	32nm,0.3s						
SFI	Santa Sofia	0.58	66	Pg	Pb	04 05 58.6	-0.3
SFI				Sg	Sb	04 06 06.8	-0.6
SFI	Santa Sofia	0.58	66	Pg	Pb	04 05 58.6	-0.3
SFI				Sg	Sb	04 06 06.8	-0.6
CRE	Caprese Michel	0.61	95	Pg	Pg	04 05 58.8	+0.6
CRE				Sg	Sb	04 06 08.1	-0.3
	27nm,0.3s						
CRE	Caprese Michel	0.61	95	Pg	Pg	04 05 58.8	+0.6
CRE				Sg	Sb	04 06 08.1	-0.3
	27nm,0.3s						
CAFI	Castiglion Fio	0.71	119	Pg	Pb	04 06 00.6	-0.5
CAFI				Sg	Sb	04 06 10.5	-0.6
CAFI	Castiglion Fio	0.71	119	Pg	Pb	04 06 00.6	-0.5
CAFI				Sg	Sb	04 06 10.5	-0.6
PARC	Parchiule	0.82	91	Pg	Pb	04 06 03.1	+0.2
PARC	Parchiule	0.82	91	Pg	Pb	04 06 03.1	+0.2
BADI	Badiali	0.84	101	Pg	Pb	04 06 03.3	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BADI	Badiali	0.84	101	Pg	Pb	04 06 03.3	+0.1

MAN 03 04:23:40, 18°.77N×120°.43E, h14km, mb4.6, ML3.5, MS3.4, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABRA	Dolores	1.15	166	eP	Pb	04 24 00.1	-1.6
APYP	Conner	1.19	139	eP	Pn	04 24 01.8	-0.4
APYP				eS	Sg	04 24 19.1	+0.5
SGCP	Mt. Cagua	1.62	109	eP	Pn	04 24 08.1	-0.1
CAUP	Cauayan	2.25	144	eP	Pb	04 24 19.6	-0.8

BJI **03** *04:32:40.8, 71°.07N×14°.64W, h11km, mb4.9/53, mB5.5/43, Ms5.3/53, Ms7 5.0/53*

IDC **03** *04:32:40.6±0.3, 70°.72N×14°.46W, h0km, mb4.6/38, mb1 4.7/45, mb1mx4.7/45, mbtmp4.6/45, ML4.2/6, MS5.0/40, Ms1 5.0/40, ms1mx4.9/50, Error ellipse: s-maj=10.2km s-min=8.3km az=33.0*

MOS **03** *04:32:40.7±1.0, 70°.71N×14°.41W, h10km, mb5.4/82, MS5.0/90, Error ellipse: s-maj=10.7km s-min=4.4km az=102.1*

ISCJB **03** *04:32:40.9±0.1, 70°.61N±0°.01×14°.65W±0°.03, h11km, mb5.2/273, MS5.2/330, Error ellipse: s-maj=1.9km s-min=1.2km az=31.1*

REY **03** *04:32:41.1, 70°.26N×12°.59W, h10km, ML4.4, ML4.1*

CSEM **03** *04:32:41.3±0.1, 70°.64N×14°.16W, h10km, mb5.4/99, Ms5.1, Mw5.6, Error ellipse: s-maj=2.2km s-min=1.8km az=47.0*

GCMT **03** *04:32:42.5±0.1, 70°.77N×14°.21W, h12km, MW5.6/116, Moment Tensor Solution. s87,c137; s116,c315; Duration: 1s.6 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.61±.03; $M_{\theta\theta}$1.71±.04; $M_{\phi\phi}$0.90±.03; $M_{r\theta}$0.56±.11; $M_{\theta\phi}$2.00±.03; $M_{\phi r}$-1.10±.10; Best double couple: $M_0$3.28200×10^{17} NP1:ϕ_s27.00000°, δ53.00000°, λ-123.00000°. NP2:ϕ_s254.00000°, δ48.00000°, λ-54.00000°. Principal axes: T 3.3590, Plg3.0000°, Azm140.0000°; N -0.1510, Plg26.0000°, Azm49.0000°; P -3.2060, Plg64.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

SZGRF **03** *04:32:42.8, 70°.59N×14°.40W, h10km, mb5.4, MS4.8, Jan Mayen Island region*

NEIC **03** *04:32:42.5±0.1, 70°.71N×14°.38W, h10km, mb5.3/186, MS5.3/271, MW5.5, Error ellipse: s-maj=3.0km s-min=1.9km az=22.0, Moment Tensor Solution. s57 Moment tensor: Scale 10^{17}Nm; M_{rr}0.23; $M_{\theta\theta}$-0.18; $M_{\phi\phi}$-0.05; $M_{r\theta}$1.11; $M_{\theta\phi}$1.64; $M_{\phi r}$1.27; Best double couple: $M_0$2.40000×10^{17} NP1:ϕ_s95.00000°, δ63.00000°, λ23.00000°. NP2:ϕ_s354.00000°, δ70.00000°, λ151.00000°. Principal axes: T 2.6800, Plg34.0000°, Azm313.0000°; N -0.9200, Plg55.0000°, Azm141.0000°; P -1.7600, Plg4.0000°, Azm46.0000°;*

NAO **03** *04:32:43.8±2.8, 70°.85N×13°.17W, ML4.5*

BER **03** *04:32:50.1±3.3, 70°.82N×13°.05W, h10km, MD3.4, ML3.2, ML4.5(NAO)*

ISC 03 04:32:42.6±0.2, 70°.67N±0°.01×14°.33W±0°.01, h12km±1km, h12km:pP-P, n1769, σ1s.31/1798, mb5.3/297, MS5.2/333, 287C-247D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMI	Jan Mayen	1.87	79	eP	Pn	04 33 10.9	-3.3
JMI				eS	Sn	04 33 32.3	-5.4
JMI				IAML		04 33 36.6	
	comp=Z,466nm,0.6s						
JMI	Jan Mayen	1.87	79	eP	Pn	04 33 10.9	-3.3
	SNR=50						
JMI				eS	Sn	04 33 32.3	-5.4
	SNR=50						
JMIC	Jan Mayen	1.95	78	Pg	Pn	04 33 10.7	-4.7
JMIC				Lg	Lg	04 33 33.2	
JMIC	Jan Mayen	1.95	78	Pg	Pn	04 33 10.7	-4.7
JMIC				Lg	Lg	04 33 33.2	
JMIC	Jan Mayen	1.95	78	eP	Pn	04 33 12.6	-2.8
JMIC				eS	Sn	04 33 34.9	-4.8
JMIC				IAML		04 33 38.6	
	comp=Z,386nm,0.3s						
JMIC	Jan Mayen	1.95	78	Pn	Pn	04 33 11.2	-4.2
	comp=Z,30nm,0.3s,baz=207,slow=3.8,SNR=16						
JMIC				Sn	Sn	04 33 32.2	-7.5
	comp=Z,154nm,0.3s,baz=239,slow=18,SNR=18						
JMIC	Jan Mayen	1.95	78	eP	Pn	04 33 12.6	-2.8
	SNR=50						
JMIC				eSn	Sn	04 33 32.2	-7.5
JMIC				Lg	Lg	04 33 33.2	
JMIC				eS	Sn	04 33 34.9	-4.8
	SNR=50						
ILEI	Leirhofn	4.35	192	P	Pn	04 33 44.9	-3.4
ILEI				S	Sn	04 34 34.8	-4.1
ILEI	Leirhofn	4.35	192	P	Pn	04 33 44.9	-3.4
	baz=202						
ILEI				S	Sn	04 34 34.8	-4.1
	baz=202						
IGRI	Grimsey	4.36	200	P	Pn	04 33 46.5	-1.9
IGRI				S	Sn	04 34 37.7	-1.3
IGRI	Grimsey	4.36	200	P	Pn	04 33 46.5	-1.9
	baz=211						
IGRI				S	Sn	04 34 37.7	-1.3
	baz=211						
IGIL	Gilhagi	4.67	190	P	Pn	04 33 49.3	-3.4
IGIL	Gilhagi	4.67	190	P	Pn	04 33 49.3	-3.4
	baz=200						
IGIL				S	Sn	04 34 42.7	-4.0
	baz=200						
IFLA	Flatey	4.71	198	P	Pn	04 33 51.3	-1.9
IFLA				S	Sn	04 34 45.3	-2.3
IFLA	Flatey	4.71	198	P	Pn	04 33 51.3	-1.9
	baz=208						
IFLA				S	Sn	04 34 45.3	-2.3
	baz=208						
IHED	Heoinshofoi	4.74	195	P	Pn	04 33 50.9	-2.7
IHED				S	Sn	04 34 45.4	-2.9
IHED	Heoinshofoi	4.74	195	P	Pn	04 33 50.9	-2.7
	baz=205						
IHED				S	Sn	04 34 45.4	-2.9
	baz=205						
IBRE	Brettingsstaoi	4.75	198	P	Pn	04 33 51.8	-2.0
IBRE				S	Sn	04 34 45.9	-2.8
IBRE	Brettingsstaoi	4.75	198	P	Pn	04 33 51.9	-2.0
	baz=208						
IBRE				S	Sn	04 34 45.9	-2.8
	baz=208						
IDIM	Dimmadalsˆ¡s	4.82	193	P	Pn	04 33 51.8	-3.0
IDIM				S	Sn	04 34 46.2	-4.3
IDIM	Dimmadalsˆ¡s	4.82	193	P	Pn	04 33 51.8	-3.0
	baz=203						
IDIM				S	Sn	04 34 46.1	-4.3
	baz=203						
ISIG	Siglufjorour	4.86	203	P	Pn	04 33 54.3	-1.0
ISIG	Siglufjorour	4.86	203	P	Pn	04 33 54.3	-1.0
	baz=213						
IGRA	Granastaoir	4.92	196	P	Pn	04 33 53.7	-2.4
IGRA				S	Sn	04 34 49.7	-3.1
IGRA	Granastaoir	4.92	196	P	Pn	04 33 53.7	-2.4
	baz=206						
IGRA				S	Sn	04 34 49.7	-3.1
	baz=206						
ISKI	Skildingahˆ‡ls	4.92	193	P	Pn	04 33 53.9	-2.3
ISKI				S	Sn	04 34 49.2	-3.7
ISKI	Skildingahˆ‡ls	4.92	193	P	Pn	04 33 53.9	-2.3
	baz=203						
ISKI				S	Sn	04 34 49.2	-3.7
	baz=203						
IGHA	Grjothals	4.92	191	P	Pn	04 33 53.0	-3.2
IGHA				S	Sn	04 34 49.6	-3.4
IGHA	Grjothals	4.92	191	P	Pn	04 33 53.0	-3.2
	baz=201						
IGHA				S	Sn	04 34 49.6	-3.4
	baz=201						
IHLA	Hella	4.98	200	P	Pn	04 33 55.3	-1.6
IHLA				S	Sn	04 34 52.1	-2.1
IHLA	Hella	4.98	200	P	Pn	04 33 55.4	-1.6
	baz=209						
IHLA				S	Sn	04 34 52.1	-2.1
	baz=209						
IHRN	Hraun	5.05	208	P	Pn	04 33 58.3	+0.4
IHRN				S	Sn	04 34 56.6	+0.6
IHRN	Hraun	5.05	208	P	Pn	04 33 58.3	+0.4
	baz=218						
IHRN				S	Sn	04 34 56.6	+0.6
	baz=218						
IGRS	Grimsstaoir	5.10	188	P	Pn	04 33 55.2	-3.4
IGRS				S	Sn	04 34 53.5	-3.7
IGRS	Grimsstaoir	5.10	188	P	Pn	04 33 55.2	-3.4
	baz=198						
IGRS				S	Sn	04 34 53.5	-3.7
	baz=198						
IREN	Reynihlio	5.13	192	P	Pn	04 33 56.7	-2.4
IREN				S	Sn	04 34 55.0	-3.1
IREN	Reynihlio	5.13	192	P	Pn	04 33 56.7	-2.4
	baz=201						
IREN				S	Sn	04 34 55.0	-3.1
	baz=201						
IMEL	Melhnausar	5.19	191	P	Pn	04 33 56.7	-3.2
IMEL	Melhnausar	5.19	191	P	Pn	04 33 56.7	-3.2
	baz=200						
ISVA	Svartarkot	5.47	193	P	Pn	04 34 01.7	-1.9
ISVA	Svartarkot	5.47	193	P	Pn	04 34 01.7	-1.9
	baz=202						
ISVA				S	Sn	04 35 04.2	-2.1
	baz=202						
IADA	Aoalbol	5.69	185	P	Pn	04 34 03.5	-3.3
	baz=194						
IGLU	Glumsstadir	5.72	183	P	Pn	04 34 03.9	-3.2
	baz=191						
IMKO	Mokollar	5.77	189	P	Pn	04 34 04.8	-3.0
IMKO	Mokollar	5.77	189	P	Pn	04 34 04.8	-3.0
	baz=197						
IHVA	Hvannstoosfjol	5.77	187	P	Pn	04 34 04.7	-3.1
IHVA	Hvannstoosfjol	5.77	187	P	Pn	04 34 04.7	-3.1
	baz=195						
IBRU	Bruarjokull	5.90	187	P	Pn	04 34 06.4	-3.3
	baz=196						
IVSH	V-Sauoahnukur	5.91	186	P	Pn	04 34 06.3	-3.5
	baz=194						
IKRE	Kreppuhraun	5.96	188	P	Pn	04 34 07.3	-3.2
	baz=197						
IHVE	Hveravellir	6.15	201	P	Pn	04 34 13.6	+0.6
IHVE	Hveravellir	6.15	201	P	Pn	04 34 13.6	+0.6
	baz=210						
DAG	Danmarks Havn	6.26	351	i P	Pn	04 34 10.6	-3.8
DAG	Danmarks Havn	6.26	351	i P	Pn	04 34 10.6	-3.8
DAG	Danmarks Havn	6.26	351	i P	Pn	04 34 10.6	-3.8
ISKR	Skrokkalda	6.33	196	P	Pn	04 34 15.0	-0.5
ISKR	Skrokkalda	6.33	196	P	Pn	04 34 15.0	-0.5
	baz=204						
IASB	`sbjarnarst	6.51	207	P	Pn	04 34 19.5	+1.6
	baz=215						
BORG	Borgarnes	6.51	207	Pn	Pn	04 34 19.0	+1.1
	comp=Z,3µm,0.6s,SNR=39						
BORG	Borgarnes	6.51	207	Pn	Pn	04 34 18.2	+0.3
	comp=Z,40nm,0.3s,baz=14,slow=8.5,SNR=130						
BORG				Sn	Sn	04 35 34.7	+2.8
	baz=38,slow=19,SNR=4.4						
BORG				LR	LR	04 36 17.9	
	comp=Z,18µm,18.6s,baz=16,slow=33						
BORG	Borgarnes	6.51	207	P	Pn	04 34 18.2	+0.3
BORG						04 35 34.7	
BORG				pmax	pmax		
	comp=Z,40nm,0.3s						
BORG				MLR	MLR		
	comp=Z,18µm,18.6s						
BORG	Borgarnes	6.51	207	ePn	Pn	04 34 19.8	+1.9
BORG				eSn	Sn	04 35 31.5	-0.4
BORG	Borgarnes	6.51	207	ePn	Pn	04 34 19.8	+1.9
BORG				eSn	Sn	04 35 31.5	-0.4
BORG				eLg	Lg	04 36 17.9	
IKAL	Kalfafell	6.87	192	P	Pn	04 34 22.9	0.0
IKAL	Kalfafell	6.87	192	P	Pn	04 34 22.9	0.0
	baz=200						
IFAG	Fagurholsmyri	6.88	189	P	Pn	04 34 21.9	-1.1
IFAG	Fagurholsmyri	6.88	189	P	Pn	04 34 21.9	-1.1
	baz=196						
SUMG	Summit	7.83	295	⥣iP	Pn	04 34 33.5	-2.9
SUMG	Summit	7.83	295	⥣iP	Pn	04 34 33.5	-2.9
SUMG	Summit	7.83	295	ePn	Pn	04 34 33.4	-3.0
SUMG				eSn	Sn	04 36 03.8	-1.1
SOFL	Sornfelli, Far	9.12	158	AMS	AMS	04 37 24.4	
	comp=Z,28µm,19.0s						
LOF	Lofoten	10.09	91	eP	Pn	04 35 04.1	-2.8
LOF				IAML		04 36 58.3	
	comp=Z,9.0nm,0.4s						
LOF	Lofoten	10.09	91	eP	Pn	04 35 04.1	-2.8
	SNR=47						
HSPB	Hornsund (broa	10.32	39	eP	Pn	04 35 08.4	-1.7
HSPB	Hornsund (broa	10.32	39	eP	Pn	04 35 08.4	-1.7
	SNR=47						
HSP	Hornsund	10.33	39	Pn	Pn	04 35 09.2	-1.0
HSP	Hornsund	10.33	39	Pn	Pn	04 35 09.2	-1.0
HSP	Hornsund	10.33	39	Pn	Pn	04 35 09.2	-1.0
KBS	Kingsbay	10.62	28	Pn	Pn	04 35 12.0	-2.2
KBS				Sn	Sn	04 37 03.6	-9.3
KBS	Kingsbay	10.62	28	Pn	Pn	04 35 12.0	-2.2
KBS				Sn	Sn	04 37 03.6	-9.3
KBS	Kingsbay	10.62	28	eP	Pn	04 35 12.0	-2.2
KBS				eS	Sn	04 36 58.4	-14
KBS	Kingsbay	10.62	28	eP	Pn	04 35 11.8	-2.4
KBS	Kingsbay	10.62	28	eP	Pn	04 35 12.0	-2.2
	SNR=47						
KBS	Kingsbay	10.62	28	ePn	Pn	04 35 11.8	-2.4
KBS				eSn	Sn	04 37 01.8	-11
KONS	Konsvik	10.80	99	eP	Pn	04 35 14.2	-2.4
KONS				IAML		04 37 14.1	
	comp=Z,11nm,0.5s						
KONS	Konsvik	10.80	99	eP	Pn	04 35 14.2	-2.4
	SNR=47						
STOK	Stokkvaagen	10.86	100	eP	Pn	04 35 15.7	-1.8
STOK				IAML		04 37 12.8	
	comp=Z,18nm,0.5s						
STOK	Stokkvaagen	10.86	100	eP	Pn	04 35 15.7	-1.8
	SNR=47						
FLOS	Flostrand	10.97	100	eP	Pn	04 35 17.4	-1.6
FLOS				eSn	Sn	04 37 12.2	-9.2
FLOS				IAML		04 37 19.6	
	comp=Z,36nm,0.8s						
FLOS	Flostrand	10.97	100	eP	Pn	04 35 17.4	-1.6
	SNR=47						
SPA0	Spitsbergen Ar	10.98	34	Pn	Pn	04 35 18.1	-1.0
	baz=230,slow=16						
SPA0				Sn	Sn	04 37 15.9	-5.6
	baz=245,slow=16						
SPA0	Spitsbergen Ar	10.98	34	Pn	Pn	04 35 18.1	-1.0
	baz=230,slow=16						
SPA0				Sn	Sn	04 37 15.9	-5.6
	baz=245,slow=16						
SPA0	Spitsbergen Ar	10.98	34	Pn	Pn	04 35 18.1	-1.0
	baz=230,slow=16						
SPA0				Sn	Sn	04 37 15.9	-5.6
	baz=245,slow=16						
SPA0	Spitsbergen Ar	10.98	34	ePn	Pn	04 35 17.0	-2.1
SPA0	Spitsbergen Ar	10.98	34	ePn	Pn	04 35 17.0	-2.1
SPA0				eSn	Sn	04 37 15.5	-6.1
SPA0				eLg	Lg	04 38 41.4	
SPITS	Spitsbergen Ar	10.98	34	Pn	Pn	04 35 17.0	-2.1
	baz=230,slow=13,SNR=162						
SPITS				Sn	Sn	04 37 15.5	-6.1
	baz=244,slow=19,SNR=2.0						
SPITS				LR	LR	04 38 41.4	
	comp=Z,7µm,18.5s,baz=235,slow=33						
SPITS	Spitsbergen Ar	10.98	34	P	Pn	04 35 17.0	-2.1
SPITS						04 37 15.5	
SPITS				MLR	MLR		
	comp=Z,7µm,18.5s						
SPITS	Spitsbergen Ar	10.98	34	P	Pn	04 35 17.0	-2.1
	comp=Z,7µm,18.5s						
TRO	Tromso	11.26	79	eP	Pn	04 35 18.4	-4.6
TRO				eSn	Sn	04 37 16.9	-12
TRO				IAML		04 37 19.9	
	comp=Z,7.2nm,0.6s						
MOR8	Moi Rana	11.42	99	eP	Pn	04 35 23.6	-1.6
MOR8				eSn	Sn	04 37 22.0	-11
MOR8				IAML		04 37 28.5	
	comp=Z,16nm,0.5s						
MOR8	Moi Rana	11.42	99	eP	Pn	04 35 23.6	-1.6
	SNR=47						
YEL1	Yell	11.50	145	eP	Pn	04 35 27.4	+1.3
WAL1	Walls	11.67	147	eP	Pn	04 35 29.0	+0.4
NSS	Namsos	11.68	109	eP	Pn	04 35 26.6	-2.0
NSS				eSn	Sn	04 37 29.3	-9.3
NSS				IAML		04 37 33.2	
	comp=Z,8.8nm,0.6s						
NSS	Namsos	11.68	109	eP	Pn	04 35 26.6	-2.0
	SNR=47						
LRW	Lerwick	11.86	146	eP	Pn	04 35 32.0	+0.8
LRW				AMB	AMB	04 35 34.1	
	comp=Z,113nm,1.7s						
LRW				AMS	AMS	04 38 41.7	
	comp=Z,15µm,21.5s						
FOO	Floro	11.94	130	⥣iP	Pn	04 35 32.4	+0.2
SAN1	Sandwick	11.96	147	eP	Pn	04 35 33.4	+0.9
AKN	Aaknes	11.97	125	Pn	Pn	04 35 33.1	+0.4
AKN	Aaknes	11.97	125	Pn	Pn	04 35 33.1	+0.4
AKN	Aaknes	11.97	125	eP	Pn	04 35 32.5	-0.2
AKN				eSn	Sn	04 37 39.3	-6.7
TBLU	Trondheim	12.07	116	eP	Pn	04 35 33.5	-0.5
ILULI	Ilulissat	12.57	281	⥣iP	Pn	04 35 36.4	-4.5
	comp=Z,200nm,1.2s						
HYA	Hoyanger	12.60	129	eP	Pn	04 35 41.3	+0.1
RUND	Rundenannen	13.04	132	eP	Pn	04 35 46.9	-0.4
RUND	Rundenannen	13.04	132	eP	Pn	04 35 46.9	-0.4
	SNR=47						
MLA1	Latheron	13.24	154	eP	Pn	04 35 50.2	+0.2
ARA0	ARCESS Array S	13.44	76	Pn	Pn	04 35 51.5	-1.2
	baz=287,slow=12						
ARA0	ARCESS Array S	13.44	76	Pn	Pn	04 35 51.5	-1.2
	baz=287,slow=12						
ARA0	ARCESS Array S	13.44	76	Pn	Pn	04 35 51.5	-1.2
	baz=287,slow=12						
ARA0	ARCESS Array S	13.44	76	Pn	Pn	04 35 51.5	-1.2
	SNR=50						
ARA0	ARCESS Array S	13.44	76	ePn	Pn	04 35 53.3	+0.6
ARA0				eSn	Sn	04 38 13.5	-8.2
ARCES	ARCESS Array B	13.44	76	Pn	Pn	04 35 51.0	-1.7
	comp=Z,0.2nm,0.3s,baz=286,slow=12,SNR=16						
ARCES				Sn	Sn	04 38 13.5	-8.2
	comp=Z,0.2nm,0.3s,baz=265,slow=15,SNR=2.4						
ARCES				LR	LR	04 40 10.3	
	comp=Z,5µm,19.4s,baz=290,slow=33						
SFJD	Kangerlussuaq	13.46	272	i P	Pn	04 35 47.8	-5.1
SFJD	Kangerlussuaq	13.46	272	Pn	Pn	04 35 47.6	-5.3
	comp=Z,2.0nm,0.3s,baz=62,slow=14,SNR=8.5						
SFJD				Sn	Sn	04 38 06.7	-15
	comp=Z,1.3nm,0.3s,baz=137,slow=19,SNR=3.5						
SFJD				LR	LR	04 40 19.2	
	comp=Z,8µm,19.2s,baz=54,slow=34						
SFJD	Kangerlussuaq	13.46	272	ePn	Pn	04 35 49.5	-3.4
SFJD				eSn	Sn	04 38 07.0	-15
MVH1	Achvaich	13.49	156	eP	Pn	04 35 52.9	-0.6
MVH1	Achvaich	13.49	156	eP	Pn	04 35 52.9	-0.6
KAC	Achnashellach	13.77	159	eP	Pn	04 35 57.3	+0.1
KAC	Achnashellach	13.77	159	eP	Pn	04 35 57.3	+0.1
KEV	Kevo	13.84	74	eP	Pn	04 35 57.5	-0.5
KEV	Kevo	13.84	74	ePn	Pn	04 35 57.5	-0.5
KEV				eSn	Sn	04 38 19.3	-12
KPL	Plockton	13.88	160	eP	Pn	04 35 58.5	-0.3
KPL	Plockton	13.88	160	eP	Pn	04 35 58.5	-0.3
MDO	Dochfour	13.94	157	eP	Pn	04 35 58.9	-0.7
MDO	Dochfour	13.94	157	eP	Pn	04 35 58.9	-0.7
MCD	Coleburn Disti	13.96	155	eP	Pn	04 35 59.5	-0.3
MCD	Coleburn Disti	13.96	155	eP	Pn	04 35 59.5	-0.3
NBO02	NORSAR Array S	13.97	121	ePn	Pn	04 35 59.1	-0.9
NBO02	NORSAR Array S	13.97	121	ePn	Pn	04 35 59.1	-0.9
KSB	Sheil Bridge	14.04	160	eP	Pn	04 36 00.8	-0.1
NB2	NORSAR Subarra	14.08	120	Pn	Pn	04 36 00.6	-1.0
	baz=319,slow=14						
NB2	NORSAR Subarra	14.08	120	Pn	Pn	04 36 00.6	-1.0
	baz=319,slow=14						
NB2	NORSAR Subarra	14.08	120	Pn	Pn	04 36 00.6	-1.0
	comp=Z,139nm,1.7s,baz=325,slow=14						
NB2	NORSAR Subarra	14.08	120	Pn	Pn	04 36 00.6	-1.0
	baz=319,slow=14						
NB2	NORSAR Subarra	14.08	120	Pn	Pn	04 36 00.6	-1.0
	SNR=50						
NB200	NORSAR Array S	14.08	120	ePn	Pn	04 36 00.3	-1.2
NB200	NORSAR Array S	14.08	120	ePn	Pn	04 36 00.3	-1.2
NOA	NORSAR Array B	14.08	120	Pn	Pn	04 36 00.3	-1.2
	comp=Z,0.5nm,0.3s,baz=326,slow=13,SNR=16						
NOA				LR	LR	04 40 53.3	
	comp=Z,6µm,20.4s,baz=325,slow=35						
NOA	NORSAR Array B	14.08	120	P	Pn	04 36 00.4	-1.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA				MLR	MLR		
	comp=Z,6µm,20.4s						
MME1	Meikle Cairn	14.26	154	eP	Pn	04 36 03.4	-0.5
KONO	Kongsberg	14.79	126	eP	Pn	04 36 11.2	+0.1
KONO	Kongsberg	14.79	126	ePn	Pn	04 36 11.2	+0.1
EAB	Aberfoyle	15.17	158	eP	Pn	04 36 16.3	+0.1
ALE	Alert	15.42	338	Pn	Pn	04 36 11.2	-8.2
	comp=Z,269nm,1.0s,SNR=24						
PGBU	Glenifferbraes	15.52	159	eP	P	04 36 21.5	-3.6
PGBU				AMB	AMB	04 36 28.3	
	comp=Z,251nm,2.7s						
PGBU				AMS	AMS	04 41 26.5	
	comp=Z,10µm,17.1s						
HFS	Hagfors	15.54	119	P	Pn	04 36 20.0	-1.0
	baz=321,slow=11						
HFS	Hagfors	15.54	119	P	Pn	04 36 20.0	-1.0
	baz=321,slow=11						
HFS	Hagfors	15.54	119	P	Pn	04 36 20.0	-1.0
	baz=321,slow=11						
HFS	Hagfors	15.54	119	Pn	Pn	04 36 19.1	-2.0
	comp=Z,0.3nm,0.3s,baz=326,slow=13,SNR=15						
HFS				LR	LR	04 41 38.6	
	comp=Z,8µm,21.7s,baz=318,slow=34						
ESY	Stoneypath	15.66	155	eP	Pn	04 36 23.0	+0.4
EBL	Broad Law	15.74	156	eP	P	04 36 24.6	-3.0
EKA	Eskdalemuir Ar	16.15	157	Pn	Pn	04 36 27.7	-1.3
	baz=346,slow=14,SNR=30						
EKA				LR	LR	04 42 11.5	
	comp=Z,13µm,18.1s,baz=330,slow=35						
ESK	Eskdalemuir	16.16	157	Pn	P	04 36 30.3	-2.0
	comp=Z,278nm,1.2s,SNR=8.9						
ESK	Eskdalemuir	16.16	157	eP	Pn	04 36 29.0	-0.1
ESK				e		04 39 24.2	
ESK				pmax	pmax		
	comp=Z,241nm,2.5s						
ESK	Eskdalemuir	16.16	157	ePn	Pn	04 36 29.0	-0.1
	comp=Z,241nm,2.5s						
ESK				eSn	Sn	04 39 24.2	-3.8
ESK	Eskdalemuir	16.16	157	ePn	Pn	04 36 29.0	-0.1
	comp=Z,241nm,2.5s						
ESK				eSn	Sn	04 39 24.2	-3.8
ECK	Cauldkaine Hil	16.30	157	eP	Pn	04 36 30.1	-0.9
GAL1	Galloway	16.42	160	eP	Pn	04 36 31.9	-0.5
GAL1				AMB	AMB	04 36 37.9	
	comp=Z,121nm,1.6s						
GAL1				AMS	AMS	04 42 03.5	
	comp=Z,9µm,17.5s						
APA0	Apatity Array	16.77	77	P	Pn	04 36 35.4	-1.4
	baz=323,slow=10						
APA0	Apatity Array	16.77	77	P	Pn	04 36 35.4	-1.4
	baz=323,slow=10						
APA0	Apatity Array	16.77	77	P	Pn	04 36 35.4	-1.4
	baz=323,slow=10						
APA0	Apatity Array	16.77	77	P	Pn	04 36 35.4	-1.4
	SNR=47						
KESW	Keswick, Cumbr	16.89	157	eP	Pn	04 36 37.1	-1.2
KESW				AMB	AMB	04 36 42.4	
	comp=Z,259nm,2.1s						
GMM	Mts of Mourne	16.91	163	eP	P	04 36 38.8	-1.7
GMM	Mts of Mourne	16.91	163	eP	P	04 36 38.8	-1.7
APA	Apatity	16.93	77	⥣iP	Pn	04 36 37.1	-1.7
APA				i		04 39 37.0	
APA				pmax	pmax		
	comp=Z,160nm,1.5s						
APA				MLR	MLR		
	comp=Z,4µm,21.0s						
LCP	Cassop	16.97	154	eP	P	04 36 38.8	-2.5
LCP	Cassop	16.97	154	eP	P	04 36 38.8	-2.5
LVZ	Lovozero	17.16	75	Pn	Pn	04 36 40.5	-1.2
	comp=Z,444nm,0.9s,SNR=7.1						
LVZ	Lovozero	17.16	75	eP	Pn	04 36 39.8	-1.9
LVZ				pmax	pmax		
	comp=Z,80nm,1.0s						
LVZ	Lovozero	17.16	75	ePn	Pn	04 36 39.8	-1.9
	comp=Z,80nm,1.0s						
LVZ	Lovozero	17.16	75	ePn	Pn	04 36 39.8	-1.9
	comp=Z,80nm,1.0s						
MUD	Monsted U'grnd	17.48	133	⥣iP	P	04 36 45.3	-1.6
	comp=Z,16nm,1.0s						
MUD	Monsted U'grnd	17.48	133	⥣iP	P	04 36 45.3	-1.6
MUD				pmax	pmax		
	comp=Z,16nm,1.0s						
MUD	Monsted U'grnd	17.48	133	i P	P	04 36 45.3	-1.6
	comp=Z,16nm,1.0s						
HPK	Haverah Park	17.70	155	eP	P	04 36 48.7	-0.6

HPK AMB AMB 04 36 50.1
comp=Z,144nm,1.9s
HPK AMS AMS 04 43 01.7
comp=Z,10μm,17.3s
HPK Haverah Park 17.70 155 *e*P **P 04 36 48.7 -0.6**
DSB Dublin 17.85 164 *e*Pn **P 04 36 51.9 +0.9**
comp=Z,578nm,2.4s
DSB *e*Sn **Sn 04 40 04.8 -4.1**
WME Myndd Eilian 17.91 160 *e*P **P 04 36 51.1 -0.5**
WME Myndd Eilian 17.91 160 *e*P **P 04 36 51.1 -0.5**
WLF1 Llynfaes 18.00 160 *e*P **P 04 36 52.2 -0.5**
WLF1 AMB AMB 04 36 55.4
comp=Z,100nm,3.6s
WLF1 AMS AMS 04 42 52.3
comp=Z,8μm,18.7s
WLF1 Llynfaes 18.00 160 *e*P **P 04 36 52.2 -0.5**
LHO Holmfirth 18.07 155 *e*P **P 04 36 53.1 -0.4**
LHO Holmfirth 18.07 155 *e*P **P 04 36 53.1 -0.4**
WPM1 Penmaenmawr 18.09 160 *e*P **P 04 36 52.6 -1.1**
WPM1 Penmaenmawr 18.09 160 *e*P **P 04 36 52.6 -1.1**
YLL Llanberis 18.18 160 *e*P **P 04 36 54.1 -0.5**
YLL Llanberis 18.18 160 *e*P **P 04 36 54.1 -0.5**
YRE Yr Eifl 18.31 161 *e*P **P 04 36 55.7 -0.3**
YRE Yr Eifl 18.31 161 *e*P **P 04 36 55.7 -0.3**
LMK Market Rasen 18.38 153 *e*P **P 04 36 55.8 -1.0**
LMK AMB AMB 04 37 01.8
comp=Z,307nm,2.2s
LMK AMS AMS 04 43 14.0
comp=Z,8μm,18.1s
LMK Market Rasen 18.38 153 *e*P **P 04 36 55.8 -1.0**
FIA0 FINESS Array S 18.42 100 P **Pn 04 36 55.3 -1.9**
baz=324,slow=12
FIA0 FINESS Array S 18.42 100 P **Pn 04 36 55.3 -1.9**
baz=324,slow=12
FIA0 FINESS Array S 18.42 100 P **Pn 04 36 55.3 -1.9**
baz=324,slow=12
FIA0 FINESS Array S 18.42 100 *e*P **P 04 36 56.4 -0.8**
FIA0 FINESS Array S 18.42 100 *e*P **P 04 36 56.4 -0.8**
FIA0 FINESS Array S 18.42 100 *e*P **P 04 36 56.4 -0.8**
FINES FINESS Array B 18.42 100 P **P 04 36 56.3 -0.8**
comp=Z,2.2nm,0.3s,baz=325,slow=9.7,SNR=83
FINES LR LR 04 43 15.9
comp=Z,9μm,18.9s,baz=316,slow=34
FINES FINESS Array B 18.42 100 P **P 04 36 56.3 -0.8**
FINES pmax pmax
comp=Z,2.0nm,0.3s
FINES MLR MLR
comp=Z,9μm,18.9s
HLM1 Long Mynd 18.94 158 *e*P **Pn 04 37 03.0 -0.7**
HLM1 AMB AMB 04 37 05.9
comp=Z,89nm,2.6s
HLM1 AMS AMS 04 44 05.5
comp=Z,7μm,16.0s
HLM1 Long Mynd 18.94 158 *e*P **Pn 04 37 03.0 -0.7**
COP Copenhagen 19.00 128⇑ *i*P **Pn 04 37 04.0 -0.2**
COP *i* S S 04 40 58.9 +20
COP Copenhagen 19.00 128⇑ *i*P **Pn 04 37 04.0 -0.2**
LPW Lampeter 19.20 160 *e*P **P 04 37 04.0 -1.8**
LPW AMB AMB 04 37 09.2
comp=Z,65nm,1.8s
LPW AMS AMS 04 43 37.9
comp=Z,7μm,19.5s
LPW Lampeter 19.20 160 *e*P **P 04 37 04.0 -1.8**
LLD Lille Linde 19.25 129 *i* P **Pn 04 37 06.7 -0.7**
LLD Lille Linde 19.25 129 *i* P **Pn 04 37 06.7 -0.7**
MCH1 Michaelchurch 19.44 159 *e*P **Pn 04 37 08.1 -1.5**
MCH1 AMB AMB 04 37 12.1
comp=Z,67nm,2.6s
MCH1 AMS AMS 04 43 55.3
comp=Z,6μm,18.1s
MCH1 Michaelchurch 19.44 159 *e*P **Pn 04 37 08.1 -1.5**
MONM Monmouth 19.62 158 *e*P **Pn 04 37 10.2 -1.6**
MONM AMB AMB 04 37 13.3
comp=Z,76nm,2.1s
MONM AMS AMS 04 44 10.3
comp=Z,7μm,17.6s
MONM Monmouth 19.62 158 *e*P **Pn 04 37 10.2 -1.6**
STRD Stroud 19.76 157 *e*P **Pn 04 37 12.3 -1.2**
STRD AMB AMB 04 37 21.1
comp=Z,138nm,2.1s
STRD AMS AMS 04 44 14.9
comp=Z,8μm,17.8s
STRD Stroud 19.76 157 *e*P **Pn 04 37 12.3 -1.2**
SWN1 Swindon 20.07 157 *e*P Pn 04 37 15.4 -1.7
SWN1 AMB AMB 04 37 21.4
comp=Z,205nm,2.3s
SWN1 AMS AMS 04 44 25.1
comp=Z,8μm,18.0s
SWN1 Swindon 20.07 157 *e*P Pn 04 37 15.4 -1.7
BATH Bath 20.07 158 *e*P Pn 04 37 15.5 -1.5
BATH AMB AMB 04 37 18.8
comp=Z,91nm,1.9s
BATH Bath 20.07 158 *e*P Pn 04 37 15.5 -1.6
BSD Bornholm Skovb 20.16 125⇑ *i*P Pn 04 37 15.9 -2.3
comp=Z,42nm,1.2s
BSD *i* S Sn 04 41 15.3 +11
comp=Z,4μm,13.0s
BSD Bornholm Skovb 20.16 125⇑ *i*P Pn 04 37 15.9 -2.3
BSD pmax pmax
comp=Z,42nm,1.2s
BSD MLR MLR
comp=Z,4μm,13.0s
BSD Bornholm Skovb 20.16 125 *i* P Pn 04 37 15.9 -2.3
comp=Z,4μm,13.0s
RGN Rugen 20.24 129 PFAKE 04 37 30.0 +11
RGN LR LR
comp=Z,6μm,20.0s
WOL Wolverton 20.34 156 *e*P Pn 04 37 18.5 -1.7
WOL AMB AMB 04 37 23.2
comp=Z,207nm,2.3s
WOL AMS AMS 04 44 33.4
comp=Z,9μm,17.9s
WOL Wolverton 20.34 156 *e*P Pn 04 37 18.5 -1.8
DYA Yadsworthy 20.87 161 *e*P Pn 04 37 23.9 -2.6
comp=Z,55nm,1.1s
DYA Yadsworthy 20.87 161 *e*P Pn 04 37 23.9 -2.6
comp=Z,55nm,1.1s
DYA LR LR
comp=Z,8μm,19.0s
VSU Vasula 20.91 105*c i*P Pn 04 37 24.6 -2.3
VSU pmax pmax
comp=Z,614nm,1.1s
IBBN Ibbenburen 20.98 140 *e*P Pn 04 37 25.6 -2.1
comp=Z,63nm,1.3s
IBBN *e*PcP **PcP 04 41 33.1 +1.3**
PUL Pulkovo 21.07 98⇓ *i*P **P 04 37 27.0 +1.0**
PUL pmax pmax
comp=Z,189nm,0.6s
WTSB Winterswijk 21.09 142 *e*P **P 04 37 26.8 +0.5**
comp=Z,156nm,1.5s
NRDL Niedersach Rie 21.33 136 *e*P **P 04 37 29.4 +0.6**
comp=Z,360nm,1.6s
FRB Frobisher Bay 21.39 278 P **P 04 37 29.0 -0.4**
comp=Z,29nm,0.9s,baz=39,slow=10,SNR=42
FRB LR LR 04 45 21.7
comp=Z,6μm,20.9s,baz=48,slow=36
BUG Bochum--Univer 21.69 141 *e*P **P 04 37 33.3 +0.5**
comp=Z,347nm,1.6s
UCC Uccle 21.73 147 *e*P **P 04 37 33.2 0.0**
UCC pmax pmax
comp=Z,179nm,1.6s
UCC MLR MLR
comp=Z,6μm,20.0s
UCC Uccle 21.73 147 *e*P **P 04 37 33.2 0.0**
comp=Z,179nm,1.6s
UCC Uccle 21.73 147 *e*P **P 04 37 33.2 0.0**
comp=Z,179nm,1.6s
UCC LR LR
comp=Z,6μm,20.0s
BEBN Eben Emael 21.98 145 P **P 04 37 36.7 +0.8**
comp=Z,52nm,1.5s
SNF Seneffe 22.00 147 P **P 04 37 36.3 +0.2**
HGN Heimansgroeve 22.06 144 *e*P **P 04 37 37.4 +0.6**
comp=Z,264nm,1.4s
HGN *e*S Sn 04 41 43.3 -7.0
HGN *e*L L 04 46 49.0
comp=Z,9μm,18.2s
MEM Membach 22.22 144 P **P 04 37 39.1 +0.5**
comp=Z,66nm,1.6s
MEM Membach 22.22 144 *e*P **P 04 37 38.8 +0.3**
MEM pmax pmax
comp=Z,177nm,1.4s
MEM MLR MLR
comp=Z,9μm,18.0s
MEM Membach 22.22 144 *e*P **P 04 37 38.8 +0.3**
comp=Z,177nm,1.4s
MEM LR LR
comp=Z,9μm,18.0s
RUE Ruedersdorf 22.23 130 PFAKE 04 37 50.0 +11
RUE LR LR
comp=Z,8μm,18.0s
BCLA Clavier 22.27 145 P **P 04 37 39.5 +0.5**
comp=Z,52nm,2.1s
GKP Gorka Klasztor 22.43 125 *e*P **P 04 37 41.8 +1.1**
GKP *e*S **S 04 41 49.4 +3.0**
GKP Gorka Klasztor 22.43 125 *e*P **P 04 37 41.8 +1.1**
GKP *e*S **S 04 41 49.5 +3.0**
GKP pmax pmax
comp=Z,200nm,1.5s
DOU Dourbes 22.45 147 P **P 04 37 40.9 0.0**
RES Resolute Bay 22.56 317 P **P 04 37 41.4 -0.5**
comp=Z,19nm,1.1s,baz=59,slow=11,SNR=29
RES LR LR 04 46 24.2
comp=Z,15μm,18.4s,baz=70,slow=37
RES Resolute Bay 22.56 317 P **P 04 37 41.4 -0.5**
RES pmax pmax
comp=Z,19nm,1.1s
RES MLR MLR
comp=Z,15μm,18.4s
RES Resolute Bay 22.56 317 *e*P **P 04 37 41.0 -0.9**
comp=Z,930nm,2.8s
RES Resolute Bay 22.56 317 *e*P **P 04 37 41.0 -0.9**
comp=Z,930nm,2.8s
RES LR LR
comp=Z,14μm,20.0s
UBBA Unterbreizbach 22.86 138 *e*P **P 04 37 45.8 +0.6**
comp=Z,354nm,2.0s
ISAL Salakas 23.07 110 *e*P **P 04 37 47.5 0.0**
ISAL IAmb IAmb 04 37 54.6
comp=Z,93nm,1.0s
ISAL Salakas 23.07 110 *e*P **P 04 37 47.5 0.0**
SNR=33
TNS Taunus Mts 23.09 141 *e*P **P 04 37 48.4 +0.7**
comp=Z,1μm,2.9s
CLL Collm 23.11 133 *e*P **P 04 37 48.2 +0.3**
comp=Z,930nm,3.0s
CLL *e*PcP **PcP 04 41 36.9 +0.9**
CLL Collm 23.11 133⇑ *i*P **P 04 37 48.4 +0.5**
comp=Z,195nm,1.9s
CLL *e*Plp 04 37 50.0
comp=Z,900nm,21.0s
CLL *i* sP **sP 04 37 54.6 +1.5**
comp=Z,71nm,1.2s
CLL *i* 04 37 56.4
comp=Z,136nm,1.5s
CLL *e*PcP **PcP 04 41 37.0 +0.9**
comp=Z,13nm,1.2s
CLL *e*S Sn 04 42 07.0 -8.4
CLL Lm MLR 04 45 00.0
comp=N,5μm,21.5s
CLL Lm MLR 04 45 00.0
comp=E,3μm,20.3s
CLL Lm MLR 04 45 00.0
comp=Z,6μm,21.3s
CLL Collm 23.11 133⇑ *i*P **P 04 37 48.4 +0.5**
CLL *i* 04 37 54.6
CLL *e* 04 41 37.0
CLL pmax pmax
comp=Z,195nm,1.9s
CLL Collm 23.11 133 *e*P **P 04 37 48.0 +0.2**
comp=Z,98nm,1.2s
CLL LR LR
comp=Z,6μm,21.0s
WLF Walferdange 23.15 145 P **P 04 37 49.7 +1.4**
comp=Z,65nm,2.1s
WLF Walferdange 23.15 145 *e*P **P 04 37 48.9 +0.6**
comp=Z,109nm,1.4s
WLF Walferdange 23.15 145 *e*P **P 04 37 49.5 +1.2**
WLF pmax pmax
comp=Z,254nm,2.0s
WLF MLR MLR
comp=Z,7μm,19.0s
WLF Walferdange 23.15 145 *e*P **P 04 37 49.5 +1.2**
comp=Z,254nm,2.0s
WLF LR LR
comp=Z,7μm,19.0s
IIGN Ignalina 23.29 110 *e*P **P 04 37 49.4 -0.2**
IIGN IAmb IAmb 04 37 58.4
comp=Z,178nm,1.4s
IIGN Ignalina 23.29 110 *e*P **P 04 37 49.4 -0.2**
SNR=29
KLMR Klimovskoe 23.31 87*c i*P **P 04 37 49.2 -0.6**
KLMR *i* S **S 04 42 02.8 +1.1**
KLMR pmax pmax
comp=Z,196nm,1.1s
KLMR MLR MLR
comp=Z,4μm,14.0s
KLMR Klimovskoe 23.31 87 *i* P **P 04 37 49.2 -0.6**
comp=Z,196nm,1.1s
MOX Moxa 23.40 135 *e*P **P 04 37 51.2 +0.4**
comp=Z,494nm,2.7s
MOX *e*L L 04 46 10.8
comp=N,3μm,20.8s
IDID Didziasalis 23.48 110 *e*P **P 04 37 51.5 0.0**
IDID IAmb IAmb 04 37 58.9
comp=Z,72nm,0.8s
IDID Didziasalis 23.48 110 *e*P **P 04 37 51.5 0.0**
SNR=28
SUW Suwalki 23.50 116 *e*P **P 04 37 51.2 -0.5**
SUW *e*S **S 04 42 08.0 +3.2**
SUW LMZ LR 04 45 58.8
SUW Suwalki 23.50 116 *e*P **P 04 37 51.2 -0.5**
SUW *e*S **S 04 42 08.0 +3.2**
SUW pmax pmax
comp=Z,300nm,2.2s
SUW MLR MLR
comp=Z,11μm,22.4s
SUW Suwalki 23.50 116 *e*P **P 04 37 51.2 -0.5**
comp=Z,300nm,2.2s
BRG Berggiesshubel 23.75 132 *i* P **P 04 37 54.6 +0.4**
comp=Z,50nm,2.0s
BRG *i* 04 41 38.5
comp=Z,16nm,1.4s
BRG S S 04 41 58.0 -11
BRG SS Sn 04 42 21.0 -10
comp=N,5μm,16.7s
comp=E,4μm,17.8s
comp=Z,7μm,18.3s
BRG Berggiesshubel 23.75 132 *e*P **P 04 37 54.4 +0.2**
comp=Z,269nm,2.4s
BRG *e*PcP **PcP 04 41 38.5 +1.1**
BRG Berggiesshubel 23.75 132 *i* P **P 04 37 54.6 +0.4**
BRG *i* 04 41 38.5
BRG S S 04 41 58.0 -11
BRG MLR MLR
comp=N,50μm,16.7s
BRG MLR MLR
comp=E,5μm,17.8s
BRG MLR MLR
comp=Z,4μm,18.3s
BRG Berggiesshubel 23.75 132 *e*P **P 04 37 54.4 +0.2**
comp=Z,269nm,2.4s
TANN Tannenbergstha 23.81 134 *e*P **P 04 37 55.7 +0.8**
comp=Z,724nm,2.7s
TANN *e*PcP **PcP 04 41 38.7 +1.1**
NACGM Naroch 23.84 110 *e*P **P 04 37 52.0 -3.0**
NACGM Naroch 23.84 110 *e*P **P 04 37 53.0 -2.0**
NKC Novy Kostel 23.98 135 *e*P **P 04 37 57.2 +0.8**
NKC *ex* x 04 38 12.9
NKC *e*PCP **PcP 04 41 39.4 +1.4**
NKC *e*S S 04 42 18.2 +5.6
NKC AMS AMS 04 49 30.0
comp=Z,2μm,14.6s
NKC Novy Kostel 23.98 135 *e*P **P 04 37 57.2 +0.8**
NKC *e* 04 41 39.4
NKC *e*S S 04 42 18.2 +5.6
NKC MLR MLR
comp=Z,2μm,14.6s
LANF Langenberg 24.13 143⇑ *e*P **P 04 37 59.0 +1.1**
GRF Grafenberg Arr 24.20 137 *e*P **P 04 37 59.5 +1.0**
comp=Z,733nm,2.6s
GRF *e*PcP **PcP 04 41 39.5 +1.1**
GRF *e*L L 04 47 06.2
comp=N,4μm,20.2s
GRFO Grafenberg 24.20 137 *e*P **P 04 37 59.7 +1.3**
GRFO pmax pmax
comp=Z,207nm,1.7s
GRFO MLR MLR
comp=Z,4μm,21.0s
GRFO Grafenberg 24.20 137 *e*P **P 04 37 59.7 +1.3**
comp=Z,208nm,1.7s
GRFO LR LR
comp=Z,4μm,21.0s
PVCC Panska Ves 24.22 131 *e*P **P 04 37 59.3 +0.7**
PVCC *e*PCP **PcP 04 41 40.2 +1.8**
PVCC *e*S S 04 42 24.4 +8.0
PVCC AMS AMS 04 47 50.0
comp=Z,5μm,17.6s
PVCC Panska Ves 24.22 131 *e*P **P 04 37 59.3 +0.7**
PVCC *e* 04 41 40.2
PVCC MLR MLR
comp=Z,5μm,17.6s
ROTZ Rotzenmuhle 24.35 135 *e*P **P 04 38 00.9 +1.0**
comp=Z,210nm,2.4s
KSP Ksiaz 24.37 128 *e*P **P 04 38 01.2 +1.2**
KSP *e*S S 04 42 25.9 +7.0
KSP LMZ LR 04 44 51.4
KSP Ksiaz 24.37 128 *e*P **P 04 38 01.3 +1.2**
KSP *e*S S 04 42 25.9 +7.0
KSP pmax pmax
comp=Z,200nm,1.9s
GRB4 Grafenberg Arr 24.48 137 *e*PcP **PcP 04 41 40.3 +1.2**
THEF They Montfort 24.50 146⇑ *e*P **P 04 38 02.7 +1.4**
MNK Minsk 24.51 109 *e*P **P 04 38 01.0 -0.2**
MNK *e* 04 38 32.0
MNK *e*S **S 04 42 16.0 -5.0**
MNK *e*SS SnSn 04 43 34.0 +29
MNK MLR MLR
comp=Z,12μm,16.0s
MICGM Minsk 24.52 109 *e*P **P 04 38 01.0 -0.4**
UPC Upice 24.61 129 *e*P **P 04 38 02.2 0.0**
UPC *e*pP **pP 04 38 04.9 -1.1**
UPC *e*PCP **PcP 04 41 40.9 +1.6**
UPC Upice 24.61 129 *e*P **P 04 38 02.2 0.0**
UPC *e* 04 38 04.9
UPC *e* 04 41 40.9
UPC Upice 24.61 129 P **P 04 38 02.2 0.0**
PRA Prague 24.61 132 *e*P **P 04 38 03.1 +0.9**
PRA *e*PCP **PcP 04 41 40.5 +1.2**
PRA *e*S S 04 42 29.2 +6.5
PRA AMS AMS 04 48 40.0
comp=Z,6μm,17.3s
PRA Prague 24.61 132 *e*P **P 04 38 03.1 +0.9**
PRA *e* 04 41 40.5
PRA *e*S S 04 42 29.2 +6.5
PRA MLR MLR
comp=Z,6μm,17.3s
STU Stuttgart 24.62 141 *e*P **P 04 38 03.6 +1.2**
comp=Z,492nm,2.7s
STU Stuttgart 24.62 141 *e*P **P 04 38 03.5 +1.2**
STU pmax pmax
comp=Z,487nm,2.7s
STU MLR MLR
comp=Z,6μm,22.0s
STU Stuttgart 24.62 141 *e*P **P 04 38 03.5 +1.2**
comp=Z,487nm,2.7s
STU LR LR
comp=Z,6μm,22.0s
GRB3 Grafenberg Arr 24.66 136 *e*PcP **PcP 04 41 40.9 +1.5**
BEL Belsk 24.70 121 *e*P **P 04 38 04.3 +1.3**
BEL *e*S **S 04 42 28.9 +4.7**
BEL LMZ LR 04 45 53.6
BEL Belsk 24.70 121 *e*P **P 04 38 04.3 +1.3**
BEL *e*S **S 04 42 28.9 +4.7**
BEL pmax pmax
comp=Z,100nm,1.2s
PRU Pruhonice 24.71 132 *e*P **P 04 38 04.4 +1.3**
PRU *e*pP **pP 04 38 07.7 +0.8**
PRU *e*PCP **PcP 04 41 41.0 +1.5**
PRU *e*S S 04 42 30.9 +6.6
PRU AMS AMS 04 48 20.0
comp=Z,6μm,16.4s
PRU Pruhonice 24.71 132 *e*P **P 04 38 04.4 +1.3**
PRU *e* 04 38 07.7
PRU *e* 04 41 41.0
PRU *e*S S 04 42 30.9 +6.6
PRU MLR MLR
comp=Z,6μm,16.4s
ECH Echery 24.73 144⇑ *e*P **P 04 38 05.3 +1.9**
PRGR Permogore 24.76 81 *e*P **P 04 38 01.6 -1.8**
PRGR pmax pmax
comp=Z,86nm,1.2s
DPC Dobruska-Polom 24.83 129 *e*P **P 04 38 05.3 +1.1**
DPC *e*pP **pP 04 38 08.5 +0.5**
DPC *e*PCP **PcP 04 41 41.5 +1.7**
DPC *e*S S 04 42 34.8 +8.4
DPC AMS AMS 04 48 00.0
comp=Z,5μm,17.2s
DPC Dobruska-Polom 24.83 129 *e*P **P 04 38 05.3 +1.1**
DPC *e* 04 38 08.5
DPC *e* 04 41 41.5
DPC *e*S S 04 42 34.8 +8.4
DPC MLR MLR
comp=Z,5μm,17.2s
GOPC GO Pecny, Ondr 24.84 132 *e*P **P 04 38 05.6 +1.3**
GOPC *e*pP **pP 04 38 08.8 +0.7**
GOPC *e*sP **sP 04 38 11.0 +1.4**
GOPC *e*PCP **PcP 04 41 41.5 +1.7**
GOPC *e*S **S 04 42 23.8 -2.7**
GOPC AMS AMS 04 48 20.0
comp=Z,6μm,15.5s
GRB5 Grafenberg Arr 24.84 137 *e*PcP **PcP 04 41 40.9 +1.0**
BFO Black Forest 24.86 142 P **P 04 38 05.7 +1.2**
comp=Z,268nm,1.2s,SNR=24
BFO Black Forest 24.86 142 *e*P **P 04 38 05.6 +1.1**
comp=Z,74nm,1.2s
BFO Black Forest 24.86 142*ce*P **P 04 38 06.2 +1.7**
BFO Black Forest 24.86 142 *e*P **P 04 38 05.8 +1.2**
comp=Z,53nm,1.0s
BFO *e*PcP **PcP 04 41 41.2 +1.3**
GRC1 Grafenberg Arr 24.92 137 *e*PcP **PcP 04 41 40.9 +0.9**
GRC3 Grafenberg Arr 25.03 137 *e*PcP **PcP 04 41 41.1 +0.8**
MOF Molkenrain 25.08 144⇑ *e*P **P 04 38 08.1 +1.5**
WET Wettzell 25.09 135 *e*P **P 04 38 08.0 +1.4**
comp=Z,97nm,1.6s
WET *e*PcP **PcP 04 41 41.4 +1.0**
KHC Kasperske Hory 25.27 134 *e*P **P 04 38 10.6 +2.4**
KHC *e*pP **pP 04 38 13.0 +1.0**
KHC *e*PCP **PcP 04 41 42.0 +1.2**
KHC *e*S **S 04 42 32.9 -0.5**
KHC AMS AMS 04 48 30.0
comp=Z,4μm,18.1s
KHC Kasperske Hory 25.27 134 *e*P **P 04 38 09.8 +1.6**
KHC *e* 04 41 41.0
KHC pmax pmax
comp=Z,16nm,1.2s
KHC MLR MLR
comp=Z,2μm,22.0s
KHC Kasperske Hory 25.27 134 *e*PcP **PcP 04 41 41.0 +0.1**
KHC S **S 04 42 32.9 -0.5**
KHC Kasperske Hory 25.27 134 *e*P **P 04 38 09.8 +1.6**
comp=Z,16nm,1.2s
KHC *e*PcP **PcP 04 41 41.0 +0.1**
KHC LR LR
comp=Z,2μm,22.0s
LOMF Lomont 25.50 145⇑ *e*P **P 04 38 11.8 +1.4**
RAC Raciborz 25.57 127 *e*P **P 04 38 11.6 +0.8**
RAC MLR MLR
comp=Z,4μm,22.4s
GEC2 GERESS Array S 25.57 134 *e*P **P 04 38 12.7 +1.7**
comp=Z,57nm,1.3s
GEC2 GERESS Array S 25.57 134 *e*P **P 04 38 12.6 +1.6**
GEC2 *e* 04 41 42.2
GEC2 GERESS Array S 25.57 134 *e*P **P 04 38 12.6 +1.6**
GEC2 *e*PcP **PcP 04 41 42.2 +0.6**
GERES GERESS Array B 25.57 134 P **P 04 38 11.8 +0.8**
comp=Z,15nm,1.0s,baz=340,slow=7.3,SNR=30
GERES PcP **PcP 04 41 42.2 +0.6**
comp=Z,0.8nm,0.7s,baz=341,slow=3.2,SNR=4.1
GERES GERESS Array B 25.57 134 P **P 04 38 11.8 +0.8**
GERES 04 41 42.2
GERES pmax pmax
comp=Z,15nm,1.0s
TREC Trest 25.59 131 *e*P **P 04 38 12.4 +1.3**
TREC *e*pP **pP 04 38 15.5 +0.7**
TREC *e*PCP **PcP 04 41 42.0 +0.5**
TREC *e*S **S 04 42 38.5 +0.1**
TREC AMS AMS 04 49 20.0
comp=Z,6μm,16.0s
TREC Trest 25.59 131 *e*P **P 04 38 12.4 +1.3**
TREC *e* 04 38 15.5
TREC *e* 04 41 42.0
TREC *e*S **S 04 42 38.5 +0.1**
TREC MLR MLR
comp=Z,6μm,16.0s

OKC	**Ostrava-Krasne**	**25.78**	**127**	*e*P	**P**	**04 38 13.4**	**+0.6**
OKC				*e*pP	**pP**	**04 38 15.9**	**-0.6**
OKC				*e*sP	**sP**	**04 38 18.0**	**-0.1**
OKC				*e*x	x	04 38 30.6	
OKC				*e*S	**S**	**04 42 45.5**	**+4.2**
OKC				AMS	AMS	04 50 30.0	
	comp=Z,3µm,13.8s						
OKC	**Ostrava-Krasne**	**25.78**	**127**	*e*P	**P**	**04 38 13.4**	**+0.6**
OKC				*e*		04 38 15.9	
OKC				*e*		04 38 18.0	
OKC				*e*S	**S**	**04 42 45.5**	**+4.2**
OKC				MLR	MLR		
	comp=Z,3µm,13.8s						
VRAC	**Vranov**	**25.86**	**130**	P	**P**	**04 38 14.4**	**+0.9**
	comp=Z,14nm,0.8s,baz=336,slow=12,SNR=17						
VRAC				LR	LR	04 48 40.9	
	comp=Z,6µm,18.6s,baz=330,slow=37						
VRAC	**Vranov**	**25.86**	**130**	⇑*i*P	**P**	**04 38 16.2**	**+2.7**
OJC	**Ojcow**	**25.88**	**124**	*e*P	**P**	**04 38 14.3**	**+0.6**
OJC				*e*S	**S**	**04 42 48.4**	**+5.5**
OJC				LMZ	LR	04 46 25.3	
OJC	**Ojcow**	**25.88**	**124**	*e*P	**P**	**04 38 14.4**	**+0.8**
OJC				*e*S	**S**	**04 42 48.4**	**+5.5**
OJC	**Ojcow**	**25.88**	**124**	*e*P	**P**	**04 38 14.5**	**+0.8**
	comp=Z,53nm,1.1s						
RETA	**Reutte**	**26.17**	**139**	⇑*i*P	**P**	**04 38 18.2**	**+1.7**
	comp=Z,29nm,1.5s,SNR=8.1						
DAVA	**Damuels**	**26.17**	**141**	⇓*i*pP	pP	04 38 19.1	-1.3
	comp=Z,54nm,0.9s,SNR=12						
PLDF	**La Plantade**	**26.27**	**151**	⇑*e*P	**P**	**04 38 19.5**	**+2.1**
MOTA	**Moosalm**	**26.38**	**139**	⇓*i*P	**P**	**04 38 19.8**	**+1.3**
	comp=Z,16nm,0.9s,SNR=9.3						
PYM	**Petit Puy Mans**	**26.39**	**152**	⇑*e*P	P	04 38 22.7	+4.3
OG01	**Vacheresse**	**26.46**	**146**	⇑*e*P	P	04 38 23.2	+4.2
SENIN	**Lac Senin/Sane**	**26.54**	**145**	*e*P	**P**	**04 38 22.8**	**+2.8**
SENIN				*e*PcP	**PcP**	**04 41 45.9**	**+1.9**
WTTA	**Wattenberg**	**26.58**	**138**	*i* pP	pP	04 38 22.9	-1.1
	comp=Z,36nm,1.5s,SNR=11						
DAVOX	**Davos/Dischmat**	**26.66**	**141**	P	**P**	**04 38 21.6**	**+0.7**
	comp=Z,8.6nm,1.0s,baz=345,slow=19,SNR=4.2						
DAVOX				PcP	**PcP**	**04 41 44.6**	**+0.3**
	comp=Z,3.3nm,0.6s,baz=333,slow=6.8,SNR=4.7						
DAVOX				LR	LR	04 48 33.5	
	comp=Z,5µm,21.6s,baz=350,slow=36						
MOS	**Moscow**	**26.66**	**97**	*e*P	**P**	**04 38 22.7**	**+2.1**
MOS				*e*S	**S**	**04 42 57.4**	**+2.3**
MOS				*e*SS	**SnSn**	**04 44 04.3**	**+6.7**
MOS				*i*		04 49 16.1	
MOS				pmax	pmax		
	comp=Z,70nm,0.9s						
MOS				MLR	MLR		
	comp=Z,2µm,15.0s						
COLF	**Collangettes**	**26.72**	**151**	⇑*e*P	**P**	**04 38 22.8**	**+1.4**
NIE	**Niedzica**	**26.75**	**124**	*e*P	**P**	**04 38 23.0**	**+1.5**
NIE				LMZ	LR	04 46 47.6	
NIE	**Niedzica**	**26.75**	**124**	*e*P	**P**	**04 38 23.1**	**+1.5**
LANS	**Liptovska Anna**	**26.76**	**126**	*e*P	**P**	**04 38 20.4**	**-1.3**
OBN	**Obninsk**	**26.82**	**99**	P	**P**	**04 38 22.1**	**0.0**
	comp=Z,20nm,0.4s,baz=339,slow=6.2,SNR=6.6						
OBN				LR	LR	04 48 18.9	
	comp=Z,5µm,19.8s,baz=327,slow=35						
OBN	**Obninsk**	**26.82**	**99**c	*i*P	**P**	**04 38 22.5**	**+0.4**
OBN				*i*		04 39 07.2	
OBN				*i* S	**S**	**04 42 57.4**	**-0.2**
OBN				pmax	pmax		
	comp=Z,83nm,1.2s						
OBN				MLR	MLR		
	comp=Z,4µm,17.0s						
OBN	**Obninsk**	**26.82**	**99**	*e*P	**P**	**04 38 22.0**	**-0.1**
	comp=Z,82nm,1.1s						
OBN	**Obninsk**	**26.82**	**99**	*e*P	**P**	**04 38 22.0**	**-0.1**
	comp=Z,82nm,1.1s						
OBN				LR	LR		
	comp=Z,5µm,20.0s						
TUE	**Stuetta**	**26.84**	**142**	PFAKE		04 38 40.0	+17
TUE				LR	LR		
	comp=Z,6µm,21.0s						
FUORN	**Ofenpass-Fuorn**	**26.89**	**141**	*e*P	**P**	**04 38 25.2**	**+2.1**
	comp=Z,30nm,1.0s						
FUORN				*e*PcP	**PcP**	**04 41 46.0**	**+1.1**
FUORN				LR	LR		
	comp=Z,5µm,22.0s						
LBL	**Lubilhac**	**26.93**	**152**	⇑*e*P	**P**	**04 38 24.5**	**+1.2**
STHS	**Stebnicka Huta**	**27.00**	**123**	*e*P	**P**	**04 38 25.8**	**+1.9**
STHS				pmax	pmax		
	comp=Z,19nm,1.0s						
STHS	**Stebnicka Huta**	**27.00**	**123**	*e*P	**P**	**04 38 25.8**	**+1.9**
SOP	**Sopron**	**27.35**	**131**	⇑*e*P	**P**	**04 38 28.8**	**+1.8**
LVV	**L'vov**	**27.44**	**119**	*e*P	P	04 38 31.7	+4.0
LVV				*e*		04 39 22.9	
LVV				*e*S	**S**	**04 43 11.7**	**+4.2**
LVV				*e*SS	SnSn	04 44 32.2	+15
LVV				MLR	MLR		
	comp=N,2µm,13.0s						
LVV				MLR	MLR		
	comp=E,1µm,13.0s						
LVV				MLR	MLR		
	comp=Z,2µm,13.0s						
SCHQ	**Schefferville**	**27.58**	**263**	P	**P**	**04 38 28.2**	**-0.8**
	comp=Z,19nm,0.8s,baz=39,slow=8.1,SNR=23						
SCHQ				LR	LR	04 48 13.4	
	comp=Z,5µm,21.8s,baz=42,slow=34						
SCHQ	**Schefferville**	**27.58**	**263**	*e*P	**P**	**04 38 28.2**	**-0.8**
	comp=Z,341nm,2.1s						
SCHQ				*e*S	**S**	**04 43 08.7**	**-1.0**
SCHQ	**Schefferville**	**27.58**	**263**	*e*P	**P**	**04 38 28.2**	**-0.8**
	comp=Z,341nm,2.1s						
SCHQ				*e*S	**S**	**04 43 08.7**	**-1.0**
KECS	**Kecovo**	**27.64**	**125**	*e*P	**P**	**04 38 32.4**	**+2.8**
KECS				pmax	pmax		
	comp=Z,16nm,1.3s						
KECS	**Kecovo**	**27.64**	**125**	*e*P	**P**	**04 38 32.4**	**+2.8**
BNI	**Bardonecchia**	**27.69**	**147**	*e*P	**P**	**04 38 30.7**	**+0.5**
BNI				*e*		04 41 46.5	
BNI				pmax	pmax		
	comp=Z,33nm,1.3s						
BNI				MLR	MLR		
	comp=Z,4µm,21.0s						
BNI	**Bardonecchia**	**27.69**	**147**	*e*P	**P**	**04 38 30.7**	**+0.5**
	comp=Z,33nm,1.3s						
BNI				*e*PcP	**PcP**	**04 41 46.5**	**-0.2**
BNI				LR	LR		
	comp=Z,4µm,21.0s						
KOLS	**Kolonicke sedl**	**27.73**	**122**	*e*P	**P**	**04 38 32.0**	**+1.6**
KOLS				pmax	pmax		
	comp=Z,50nm,1.5s						
KOLS	**Kolonicke sedl**	**27.73**	**122**	*e*P	**P**	**04 38 32.0**	**+1.6**
KOLS				*e*S	**S**	**04 43 17.0**	**+4.8**
PERS	**Pernice**	**27.97**	**134**	*i* P	**P**	**04 38 34.2**	**+1.6**
PERS				*e*S	**S**	**04 43 20.9**	**+4.8**
PSZ	**Piszkesteto**	**28.00**	**126**	*e*P	**P**	**04 38 34.3**	**+1.4**
PSZ				*e*		04 41 47.5	
PSZ				pmax	pmax		
	comp=Z,96nm,1.7s						
PSZ				MLR	MLR		
	comp=Z,3µm,20.0s						
PSZ	**Piszkesteto**	**28.00**	**126**	⇑*i*P	**P**	**04 38 35.4**	**+2.5**
PSZ	**Piszkesteto**	**28.00**	**126**	*e*P	**P**	**04 38 34.3**	**+1.4**
	comp=Z,96nm,1.7s						
PSZ				*e*PcP	**PcP**	**04 41 47.5**	**+0.2**
PSZ				LR	LR		
	comp=Z,3µm,20.0s						
PSZ	**Piszkesteto**	**28.00**	**126**	⇑*e*P	**P**	**04 38 34.7**	**+1.8**
PKSG		**28.09**	**129**	⇑*e*P	**P**	**04 38 35.0**	**+1.5**
PKST	**T^'s**	**28.12**	**129**	⇑*e*P	**P**	**04 38 34.5**	**+0.6**
BUD	**Budapest**	**28.17**	**128**	⇑*e*P	P	04 38 36.3	+2.0
AKASG	**Malin Array Be**	**28.21**	**112**	P	**P**	**04 38 34.6**	**0.0**
	comp=Z,7.2nm,0.7s,baz=330,slow=9.3,SNR=26						
AKASG				PcP	**PcP**	**04 41 47.6**	**0.0**
	comp=Z,1.8nm,0.7s,baz=347,slow=2.6,SNR=4.7						
AKASG				LR	LR	04 49 14.0	
	comp=Z,5µm,21.0s,baz=325,slow=35						
AKASG	**Malin Array Be**	**28.21**	**112**	P	**P**	**04 38 34.6**	**0.0**
AKASG						04 41 47.7	
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
AKASG				MLR	MLR		
	comp=Z,5µm,21.0s						
AKBB	**Malin Array Si**	**28.21**	**112**	*e*P	**P**	**04 38 34.6**	**0.0**
AKBB				*e*		04 41 47.6	
AKBB				*e*		04 49 14.0	
AKBB	**Malin Array Si**	**28.21**	**112**	*e*P	**P**	**04 38 34.6**	**0.0**
AKBB	**Malin Array Si**	**28.21**	**112**	*e*P	**P**	**04 38 34.6**	**0.0**
AKBB				*e*PcP	**PcP**	**04 41 47.6**	**0.0**
AKBB				*e*ScS	ScS	04 49 14.0	-6.4
KIEV	**Kiev**	**28.21**	**112**	*e*P	**P**	**04 38 34.9**	**+0.3**
KIEV				pmax	pmax		
	comp=Z,34nm,1.2s						
KIEV				MLR	MLR		
	comp=Z,4µm,20.0s						
KIEV	**Kiev**	**28.21**	**112**	*e*P	**P**	**04 38 34.9**	**+0.3**
	comp=Z,34nm,1.2s						
KIEV				LR	LR		
	comp=Z,4µm,20.0s						
AK11	**Malin Array Si**	**28.22**	**112**	*e*P	**P**	**04 38 33.8**	**-0.8**
AK11	**Malin Array Si**	**28.22**	**112**	*e*P	**P**	**04 38 33.8**	**-0.8**
AK11				*e*PcP	**PcP**	**04 41 47.4**	**-0.2**
LJU	**Ljubljana**	**28.39**	**135**	*e*P	**P**	**04 38 35.9**	**-0.4**
KOGS	**Kog**	**28.42**	**132**	*e*P	**P**	**04 38 37.9**	**+1.4**
DOBS	**Dobrina**	**28.51**	**134**	*i* P	**P**	**04 38 38.3**	**+1.0**
DOBS				*e*S	**S**	**04 43 27.8**	**+3.3**
TRI	**Trieste**	**28.53**	**136**	PFAKE		04 38 50.0	+13
TRI				LR	LR		
	comp=Z,3µm,19.0s						
TRPA	**Tarpa**	**28.53**	**123**	⇑*i*P	P	04 38 40.7	+3.2
TRPA	**Tarpa**	**28.53**	**123**	⇑*e*P	P	04 38 39.4	+1.9
BEHE	**Becsehely**	**28.53**	**132**	⇑*e*P	P	04 38 39.8	+2.3
PKS9	**Tamasi**	**28.80**	**130**	⇑*e*P	P	04 38 41.9	+2.0
PGAV	**Gavieira, Arco**	**28.94**	**171**	*e*P	P	04 38 43.7	+2.4
	comp=Z,32nm,1.9s						
PGAV				*e*S	**S**	**04 43 35.8**	**+4.4**
PGAV				*e*LQ	LQ	04 45 33.2	
PGAV				*e*LR	LR	04 46 35.3	
	comp=Z,2µm,24.2s						
PGAV	**Gavieira, Arco**	**28.94**	**171**	*e*P	P	04 38 43.7	+2.4
	comp=Z,32nm,1.9s						
PGAV				*e*S	**S**	**04 43 35.8**	**+4.4**
PGAV				*e*LQ	LQ	04 45 33.2	
PGAV				*e*LR	LR	04 46 35.3	
	comp=Z,2µm,24.2s						
PKSM	**Moragy**	**29.25**	**129**	⇑*e*P	**P**	**04 38 45.3**	**+1.5**
VLC	**Villacollemand**	**29.27**	**142**	*e*P	P	04 38 46.3	+2.2
	comp=Z,84nm,1.2s						
VLC				LR	LR		
	comp=Z,6µm,20.0s						
DRLN	**Deer Lake**	**29.37**	**246**	*e*P	**P**	**04 38 44.3**	**-0.6**
	comp=Z,442nm,2.3s						
DRLN	**Deer Lake**	**29.37**	**246**	*e*P	**P**	**04 38 44.3**	**-0.6**
	comp=Z,442nm,2.3s						
DRLN				LR	LR		
	comp=Z,1µm,18.0s						
POLO	**Lamas de Olo**	**29.55**	**170**	*e*P	**P**	**04 38 48.6**	**+1.9**
	comp=Z,18nm,1.6s						
POLO	**Lamas de Olo**	**29.55**	**170**	*e*P	**P**	**04 38 48.6**	**+1.9**
	comp=Z,18nm,1.6s						
PVRL	**Vila Real**	**29.66**	**170**	A	A	04 38 59.9	
	comp=Z,33nm,1.9s						
PVRL	**Vila Real**	**29.66**	**170**	A	A	04 38 59.9	
	comp=Z,33nm,1.9s						
LPSR	**Galich'ya Gora**	**29.69**	**99**	*e*P	**P**	**04 38 48.3**	**+0.6**
LPSR				*e*S	**S**	**04 43 46.4**	**+3.6**
LPSR				pmax	pmax		
	comp=N,4.0nm,0.9s						
LPSR				pmax	pmax		
	comp=E,6.0nm,0.9s						
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
LPSR				smax	smax		
	comp=N,180nm,3.3s						
LPSR				smax	smax		
	comp=E,340nm,3.3s						
LPSR				smax	smax		
	comp=Z,70nm,3.3s						
LPSR				MLR	MLR		
	comp=N,2µm,17.0s						
LPSR				MLR	MLR		
	comp=E,4µm,17.0s						
LPSR				MLR	MLR		
	comp=Z,3µm,17.0s						
BUR04	**Bucovina Ar. S**	**29.76**	**120**	*e*P	P	04 38 50.3	+1.8
BURAR	**Bucovina Array**	**29.76**	**120**	⇑*i*P	P	04 38 51.0	+2.4
DRGR		**29.80**	**124**	⇑*i*P	P	04 38 58.6	+10
MVO	**Moncorvo**	**29.81**	**169**	*e*P	P	04 38 51.8	+2.8
	comp=Z,29nm,2.1s						
MVO				*e*S	S	04 43 51.3	+6.3
MVO				*e*LQ	LQ	04 45 58.2	
MVO				*e*LR	LR	04 47 12.4	
	comp=Z,3µm,20.0s						
MVO	**Moncorvo**	**29.81**	**169**	*e*P	P	04 38 51.8	+2.8
	comp=Z,29nm,2.1s						
MVO				*e*S	S	04 43 51.3	+6.3
MVO				*e*LQ	LQ	04 45 58.2	
MVO				*e*LR	LR	04 47 12.4	
	comp=Z,3µm,20.0s						
SIRR	**Siria**	**30.00**	**125**	⇑*i*P	P	04 38 53.5	+3.0
PVIS	**Viseu**	**30.20**	**170**	A	A	04 39 04.0	
	comp=Z,38nm,1.3s						
PVIS	**Viseu**	**30.20**	**170**	A	A	04 39 04.0	
	comp=Z,38nm,1.3s						
MTE	**Manteigas**	**30.54**	**170**	*e*P	P	04 38 57.8	+2.4
	comp=Z,22nm,1.1s						
MTE				LR	LR		
	comp=Z,2µm,22.0s						
MTE	**Manteigas**	**30.54**	**170**	*e*P	P	04 38 58.0	+2.6
	comp=Z,27nm,1.8s						
MTE				*e*S	S	04 44 03.4	+6.9
MTE				*e*LR	LR	04 47 24.6	
	comp=Z,2µm,22.0s						
MTE	**Manteigas**	**30.54**	**170**	*e*P	P	04 38 58.0	+2.6
	comp=Z,27nm,1.8s						
MTE				*e*S	S	04 44 03.4	+6.9
MTE				*e*LR	LR	04 47 24.6	
	comp=Z,2µm,22.0s						
BZS	**Buzias**	**30.58**	**126**	⇑*i*P	P	04 38 58.7	+3.0
PCAS	**Casmilo, Conde**	**30.83**	**171**	*e*P	P	04 38 59.9	+2.0
	comp=Z,52nm,1.4s						
PCAS	**Casmilo, Conde**	**30.83**	**171**	*e*P	P	04 38 59.9	+2.0
	comp=Z,52nm,1.4s						
VSR	**Storozhevoye**	**30.94**	**101**	*e*P	**P**	**04 38 59.2**	**+0.4**
VSR				*e*S	**S**	**04 44 00.8**	**-1.7**
VSR				pmax	pmax		
	comp=N,70nm,0.9s						
VSR				pmax	pmax		
	comp=E,20nm,0.9s						
VSR				pmax	pmax		
	comp=Z,50nm,0.9s						
VSR				smax	smax		
	comp=N,40nm,1.6s						
VSR				smax	smax		
	comp=E,60nm,1.6s						
VSR				smax	smax		
	comp=Z,20nm,1.2s						
VSR				MLR	MLR		
	comp=N,3µm,17.0s						
VSR				MLR	MLR		
	comp=E,3µm,17.0s						
VSR				MLR	MLR		
	comp=Z,5µm,17.0s						
PCBR	**Castelo Branco**	**31.10**	**170**	*e*P	P	04 39 02.3	+2.0
	comp=Z,31nm,1.9s						
PCBR	**Castelo Branco**	**31.10**	**170**	*e*P	P	04 39 02.3	+2.0
	comp=Z,31nm,1.9s						
GZR	**Gura Zlata**	**31.10**	**125**	⇑*i*P	P	04 39 02.5	+2.1
TESR	**Tescani**	**31.18**	**119**	⇓*i*P	P	04 39 03.2	+2.3
VORD	**Divnogorie**	**31.20**	**101**	*e*P	**P**	**04 39 00.7**	**-0.3**
VORD				*e*S	**S**	**04 44 04.9**	**-1.6**
VORD				pmax	pmax		
	comp=N,40nm,0.9s						
VORD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VORD				pmax	pmax		
	comp=E,20nm,0.7s						
VORD				smax	smax		
	comp=N,160nm,3.7s						
VORD				smax	smax		
	comp=E,350nm,3.7s						
VORD				smax	smax		
	comp=Z,100nm,3.7s						
VORD				MLR	MLR		
	comp=N,5µm,19.0s						
VORD				MLR	MLR		
	comp=E,3µm,19.0s						
VORD				MLR	MLR		
	comp=Z,5µm,19.0s						
PTOM	**Tomar**	**31.27**	**171**	*e*P	**P**	**04 39 03.0**	**+1.2**
	comp=Z,87nm,1.1s						
PTOM	**Tomar**	**31.27**	**171**	*e*P	**P**	**04 39 03.0**	**+1.2**
	comp=Z,87nm,1.1s						
DOPR	**Dopca**	**31.31**	**121**	⇑*i*P	P	04 39 04.8	+2.7
KIS	**Kishinev**	**31.38**	**116**	*e*P	**P**	**04 39 03.0**	**+0.3**
KIS	**Kishinev**	**31.38**	**116**	*e*PPP	PPP	04 40 08.0	
KIS				*e*S	**S**	**04 44 06.0**	**-3.4**
KIS				*e*SS	ScP	04 45 30.0	-8.2
KIS				*e*LR	LR	04 47 14.0	
	comp=Z,7µm,20.0s						
KIS	**Kishinev**	**31.38**	**116**	*e*P	**P**	**04 39 03.0**	**+0.3**
KIS				*e*PPP	PPP	04 40 08.0	
KIS				*e*		04 40 20.0	
KIS				*e*S	**S**	**04 44 06.0**	**-3.4**
KIS				*e*		04 44 15.0	
ES19	**SONSECA Array**	**31.50**	**164**	*e*P	**P**	**04 39 04.4**	**+0.5**
ES19	**SONSECA Array**	**31.50**	**164**	*e*P	**P**	**04 39 04.4**	**+0.5**
PMRV	**Marv??o**	**31.51**	**170**	*e*P	**P**	**04 39 05.5**	**+1.5**
	comp=Z,46nm,1.3s						
PMRV				*e*S	S	04 44 18.3	+6.6
PMRV				*e*LQ	LQ	04 46 45.0	
PMRV				*e*LR	LR	04 48 02.4	
	comp=Z,2µm,18.0s						
PMRV	**Marv??o**	**31.51**	**170**	*e*P	**P**	**04 39 05.5**	**+1.5**
	comp=Z,46nm,1.3s						
PMRV				*e*S	S	04 44 18.3	+6.6
PMRV				*e*LQ	LQ	04 46 45.0	
PMRV				*e*LR	LR	04 48 02.4	
	comp=Z,2µm,18.0s						
ESDC	**Sonseca Array**	**31.52**	**165**	P	**P**	**04 39 04.5**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=357,slow=9.0,SNR=13						
ESDC				LR	LR	04 51 48.5	
	comp=Z,4µm,18.1s,baz=350,slow=36						
PAB	**San Pablo**	**31.62**	**165**	*e*P	**P**	**04 39 06.5**	**+1.5**
PAB				pmax	pmax		
	comp=Z,29nm,1.5s						
PAB				MLR	MLR		
	comp=Z,4µm,20.0s						
PAB	**San Pablo**	**31.62**	**165**	*e*P	**P**	**04 39 06.5**	**+1.5**
	comp=Z,29nm,1.5s						
PAB				LR	LR		
	comp=Z,4µm,20.0s						
AQU	**L'Aquila**	**31.63**	**139**	PFAKE		04 39 20.0	+15
AQU				LR	LR		
	comp=Z,4µm,19.0s						
ARR	**Arges**	**31.64**	**122**	⇑*i*P	P	04 39 08.4	+3.3
VOIR		**31.70**	**122**	⇑*i*P	P	04 39 08.6	+3.0
PLOR	**Plostina**	**31.78**	**119**	⇑*i*P	P	04 39 09.2	+2.9
VRI	**Vrincioaia**	**31.79**	**119**	⇑*i*P	P	04 39 09.1	+2.8
PMTG	**Montargil**	**31.82**	**171**	*e*P	P	04 39 08.8	+2.1
	comp=Z,36nm,1.1s						
PMTG	**Montargil**	**31.82**	**171**	*e*P	P	04 39 08.8	+2.1
	comp=Z,36nm,1.1s						
MLR	**Muntele Rosu**	**31.90**	**121**	⇑*i*P	P	04 39 09.5	+2.0
PESTR	**Estremoz**	**32.06**	**170**	*e*P	**P**	**04 39 09.9**	**+1.1**
	comp=Z,36nm,1.4s						
PESTR	**Estremoz**	**32.06**	**170**	*e*P	**P**	**04 39 09.9**	**+1.1**
	comp=Z,36nm,1.4s						
LIS	**Lisbon**	**32.13**	**172**	*e*P	**P**	**04 39 10.9**	**+1.6**
LIS				*e*S	**S**	**04 44 25.5**	**+4.3**
LIS				AMS	AMS	04 51 48.1	
	comp=N,4µm,17.0s						
LIS	**Lisbon**	**32.13**	**172**	*e*P	**P**	**04 39 10.9**	**+1.6**
LIS				*e*S	**S**	**04 44 25.5**	**+4.3**
PBAR	**Barrancos**	**32.78**	**169**	A	A	04 39 33.7	
	comp=N,48nm,1.5s						
PBAR	**Barrancos**	**32.78**	**169**	A	A	04 39 33.7	
	comp=N,48nm,1.5s						
CFR	**Carcaliu**	**32.82**	**118**	⇑*i*P	**P**	**04 39 17.1**	**+1.8**
ARU	**Arti**	**33.02**	**77**	P	**P**	**04 39 18.2**	**+1.2**
	comp=N,234nm,1.4s,SNR=7.7						
ARU	**Arti**	**33.02**	**77***d*	*i*P	**P**	**04 39 17.7**	**+0.7**
ARU						04 40 25.6	
ARU						04 41 58.7	
ARU				S	**S**	**04 44 38.3**	**+3.5**
ARU				SS	**SnSn**	**04 46 34.9**	**+2.4**
ARU				pmax	pmax		
	comp=Z,40nm,1.0s						
ARU				MLR	MLR		
	comp=Z,3µm,19.0s						
ARU	**Arti**	**33.02**	**77**	*e*P	**P**	**04 39 17.6**	**+0.7**
	comp=Z,52nm,1.1s						
ARU				LR	LR		
	comp=Z,3µm,20.0s						
MESJ	**Messejana**	**33.05**	**171**	*e*P	P	04 39 19.4	+2.0
MESJ				*e*S	**S**	**04 44 40.2**	**+4.7**
MESJ				AMS	AMS	04 51 22.1	
	comp=Z,3µm,20.0s						
MESJ	**Messejana**	**33.05**	**171**	*e*P	P	04 39 19.4	+2.0
MESJ				*e*S	**S**	**04 44 40.2**	**+4.7**
MESJ	**Messejana**	**33.05**	**171**	*e*P	P	04 39 20.0	+2.6
	comp=Z,38nm,1.6s						
MESJ	**Messejana**	**33.05**	**171**	*e*P	P	04 39 20.0	+2.6
	comp=Z,38nm,1.6s						
HARR	**Harsova**	**33.21**	**119**	⇑*i*P	**P**	**04 39 20.3**	**+1.6**
PCVE	**Castro Verde**	**33.27**	**171**	*e*P	**P**	**04 39 19.1**	**-0.2**
PCVE	**Castro Verde**	**33.27**	**171**	*e*P	**P**	**04 39 19.1**	**-0.2**
FCC	**Fort Churchill**	**33.32**	**291**	*e*P	**P**	**04 39 19.3**	**-0.3**
FCC				pmax	pmax		
	comp=Z,12nm,1.0s						
FCC	**Fort Churchill**	**33.32**	**291**	*e*P	**P**	**04 39 19.2**	**-0.3**
	comp=Z,12nm,1.0s						
FCC	**Fort Churchill**	**33.32**	**291**	*e*P	**P**	**04 39 19.2**	**-0.3**
	comp=Z,12nm,1.0s						
TLB	**Topalu**	**33.34**	**119**	⇑*i*P	**P**	**04 39 20.8**	**+1.0**
SVE	**Sverdlovsk**	**33.37**	**75**	*e*P	**P**	**04 39 21.3**	**+1.3**
SVE				*e*S	S	04 44 45.6	+5.4
SVE				pmax	pmax		
	comp=Z,32nm,1.4s						
SVE				MLR	MLR		
	comp=Z,2µm,15.0s						
PVAQ	**Vaqueiros**	**33.51**	**170**	*e*S	S	04 44 48.8	+6.1
PVAQ				*e*LQ	LQ	04 47 40.9	
PVAQ				*e*LR	LR	04 48 48.5	
	comp=Z,3µm,20.0s						
PVAQ	**Vaqueiros**	**33.51**	**170**	*e*S	S	04 44 48.8	+6.1
PVAQ				*e*LQ	LQ	04 47 40.9	
PVAQ				*e*LR	LR	04 48 48.5	
	comp=Z,3µm,20.0s						
MORF	**Marmelete**	**33.56**	**172**	*e*P	**P**	**04 39 23.5**	**+1.6**
MORF				*e*S	**S**	**04 44 47.9**	**+4.3**
MORF				AMS	AMS	04 51 24.7	
	comp=Z,5µm,19.5s						
MORF	**Marmelete**	**33.56**	**172**	*e*P	**P**	**04 39 23.5**	**+1.6**
MORF				*e*S	**S**	**04 44 47.9**	**+4.3**
TIRR	**Tirgusor**	**33.56**	**118**	*e*P	P	04 39 23.6	+1.8
TIRR				pmax	pmax		
	comp=Z,15nm,1.0s						
TIRR				MLR	MLR		
	comp=Z,6µm,20.0s						
TIRR	**Tirgusor**	**33.56**	**118**	⇑*i*P	P	04 39 23.6	+1.8
TIRR	**Tirgusor**	**33.56**	**118**	*e*P	P	04 39 23.6	+1.8
	comp=Z,15nm,1.0s						
TIRR				LR	LR		
	comp=Z,6µm,20.0s						
VSL	**Villasalto**	**33.56**	**146**	PFAKE		04 39 30.0	+8.1
VSL				LR	LR		
	comp=Z,3µm,18.0s						
VTS	**Vitosha**	**33.82**	**126**	⇑*i*P	P	04 39 27.1	+2.9
SKO	**Skopje**	**33.93**	**129**	*e*P	**P**	**04 39 26.1**	**+1.1**
TIR	**Tirane**	**34.11**	**131**	PFAKE		04 39 40.0	+13
TIR				LR	LR		
	comp=Z,4µm,19.0s						
PSN	**Preselentsi**	**34.20**	**119**	⇑*i*P	P	04 39 31.2	+3.8
CUC	**Castrocucco**	**34.42**	**137**	PFAKE		04 39 40.0	+11
CUC				LR	LR		
	comp=Z,2µm,20.0s						
OHR	**Ohrid**	**34.57**	**130**	*e*P	**P**	**04 39 29.3**	**-1.3**
VAY	**Valandovo**	**34.83**	**128**	*i* P	**P**	**04 39 34.0**	**+1.2**
SIM	**Simferopol'**	**34.84**	**112**	*e*P	P	04 39 39.7	+6.8
SIM				*e*		04 40 49.2	
SIM				*e*S	S	04 45 10.0	+6.9
SIM				*e*SS	**SnSn**	**04 47 23.0**	**+6.2**
SIM				pmax	pmax		
	comp=Z,150nm,9.6s						
SIM				MLR	MLR		
	comp=Z,2µm,15.0s						
PQI	**Presque Isle**	**34.96**	**256**	*e*P	**P**	**04 39 33.9**	**0.0**
	comp=Z,477nm,2.3s						
PQI	**Presque Isle**	**34.96**	**256**	*e*P	**P**	**04 39 33.9**	**0.0**
	comp=Z,477nm,2.3s						
FNA	**Florina**	**35.02**	**129**	*e*P	**P**	**04 39 35.5**	**+0.9**
KNT	**Kendrikon**	**35.07**	**127**	*e*P	P	04 39 37.5	+2.6
GRG	**Griva**	**35.13**	**128**	*e*P	P	04 39 38.0	+2.5
NVR	**Nevrokopi**	**35.15**	**126**	*e*P	P	04 39 38.0	+2.4
NEST	**Nestorio**	**35.29**	**130**	*e*P	**P**	**04 39 38.0**	**+1.1**
INK	**Inuvik**	**35.42**	**326**	P	**P**	**04 39 37.5**	**-0.2**
	comp=Z,4.3nm,0.5s,baz=28,slow=8.7,SNR=10						
INK	**Inuvik**	**35.42**	**326**	*e*P	**P**	**04 39 37.4**	**-0.2**

INK *e* 04 42 07.2
INK pmax pmax
comp=Z,116nm,1.5s
INK MLR MLR
comp=Z,8µm,19.0s
INK Inuvik 35.42 326 *e*P **P 04 39 37.3 -0.3**
comp=Z,116nm,1.5s
INK Inuvik 35.42 326 *e*P **P 04 39 37.4 -0.3**
comp=Z,116nm,1.5s
INK *e*PcP **PcP 04 42 07.2 +0.4**
INK LR LR
comp=Z,8µm,19.0s
SOH Sokhos 35.51 127 *e*P P 04 39 41.0 +2.3
THE Thessaloniki 35.58 128 *e*P P 04 39 42.5 +3.2
IGT Igoumenitsa 35.94 131 *e*P P 04 39 49.5 +7.1
PLG Polygyros 35.95 127 *e*P P 04 39 46.5 +4.0
LIT Litokhoron 35.95 128 *e*P P 04 39 39.0 -3.6
ANN Anapa 36.01 108 *e*P **P 04 39 41.5 -1.4**
ANN *e**PP **pP 04 39 44.1 -2.7**
ANN *e*S **S 04 45 25.1 +4.1**
ANN pmax pmax
comp=Z,122nm,1.5s
ANN MLR MLR
comp=Z,6µm,14.0s
ANN MLR MLR
comp=N,2µm,14.0s
CEL Celeste 36.10 138 PFAKE 04 40 00.0 +16
CEL LR LR
comp=Z,2µm,18.0s
OUR Ouranopolis 36.13 127 *e*P P 04 39 47.0 +3.0
YKA Yellowknife Ar 36.14 309 P **P 04 39 43.6 -0.3**
comp=Z,4.4nm,0.7s,baz=28,slow=8.2,SNR=18
YKA PcP **PcP 04 42 08.6 -0.5**
comp=Z,3.6nm,0.9s,baz=33,slow=2.9,SNR=10
YKA Yellowknife Ar 36.14 309 P **P 04 39 43.6 -0.3**
YKA 04 42 08.6
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKB5 Yellowknife Ar 36.14 309 *e*P **P 04 39 44.1 +0.2**
YKB5 Yellowknife Ar 36.14 309 *e*P **P 04 39 44.1 +0.2**
YKB5 *e*PcP **PcP 04 42 08.5 -0.6**
ALN Alexandroupoli 36.17 124 *e*P **P 04 39 46.0 +1.7**
CLTB Caltabellotta 36.17 142 PFAKE 04 40 00.0 +15
CLTB LR LR
comp=Z,2µm,21.0s
THL Klokotos Trika 36.34 129 *e*P P 04 39 50.0 +4.2
PAIG Paliouri 36.43 127 *e*P **P 04 39 48.0 +1.4**
EMMW East Machias 36.52 253 *e*P **P 04 39 46.4 -0.9**
comp=Z,136nm,1.3s
EMMW East Machias 36.52 253 *e*P **P 04 39 46.4 -0.9**
comp=Z,136nm,1.3s
PKME Peaks-Kenny Pk 36.62 256 *e*P **P 04 39 48.7 +0.6**
comp=Z,124nm,1.1s
PKME Peaks-Kenny Pk 36.62 256 *e*P **P 04 39 48.7 +0.6**
comp=Z,124nm,1.1s
PKME LR LR
comp=Z,1µm,18.0s
LKD2 Lefkada island 36.73 131 *e*P P 04 39 56.0 +6.9
XOR Xorichti 36.83 128 *e*P **P 04 39 48.5 -1.5**
LIA Limnos Island 36.86 125 *e*P P 04 39 54.0 +3.8
MAKR Makrakomi, Fth 36.89 130 *e*P P 04 39 52.5 +2.0
NEO Neokhori 36.89 128 *e*P P 04 39 56.0 +5.4
EVR Evrytania 36.90 130 *e*P P 04 39 52.5 +1.8
AGG Agios Georgios 36.93 129 *e*P **P 04 39 52.5 +1.6**
AGG Agios Georgios 36.93 129 *e*P **P 04 39 51.8 +0.9**
AGG pmax pmax
comp=Z,40nm,0.9s
AGG MLR MLR
comp=Z,2µm,20.0s
AGG Agios Georgios 36.93 129 *e*P **P 04 39 51.8 +0.9**
comp=Z,40nm,0.9s
AGG LR LR
comp=Z,2µm,20.0s
PDO Prodromos 37.04 131 *e*P **P 04 39 52.5 +0.7**
AOS Alonnisos 37.20 127 *e*P **P 04 39 53.5 +0.4**
KEST Kesra 37.21 147 P **P 04 39 54.0 +0.6**
comp=Z,1.9nm,0.9s,baz=320,slow=7.3,SNR=4.2
KEST LR LR 04 54 27.9
comp=Z,1µm,21.8s,baz=300,slow=35
KEST Kesra 37.21 147 *e*P **P 04 39 54.4 +1.0**
AXAR Agios Charalam 37.26 129 *e*P P 04 40 01.0 +7.4
VLS Valsamata 37.29 132 *e*P P 04 39 56.5 +2.6
SMIA Simia 37.29 128 *e*P P 04 39 56.5 +2.5
WVL Waterville 37.36 256 *e*P **P 04 39 54.5 +0.1**
comp=Z,572nm,2.1s
WVL Waterville 37.36 256 *e*P **P 04 39 54.5 +0.1**
comp=Z,572nm,2.1s
WVL LR LR
comp=Z,2µm,21.0s
EFP Efpalio 37.38 130 *e*P P 04 39 58.0 +3.3
LKR Lokris 37.45 129 *e*P P 04 40 07.0 +12
KALE Kalithea 37.48 130 *e*P P 04 39 58.5 +2.9
MRKA Markates 37.55 128 *e*P P 04 39 59.5 +3.3
DSF Desfina 37.56 129 *e*P **P 04 39 58.0 +1.8**
GOF Gofitskoye 37.59 102 *e*P **P 04 39 57.2 +0.8**
GOF pmax pmax
comp=Z,50nm,1.0s
RLS Riolos of Patr 37.62 131 *e*P P 04 39 59.5 +2.8
SIGR SIGRI 37.69 125 *e*P P 04 40 01.5 +4.3
DRO Drossia 37.78 131 *e*P **P 04 39 59.0 +0.9**
KLV Kalavryta, Ach 37.81 130 *e*P P 04 40 01.0 +2.6
SOC Sochi 37.83 106 *c i*P **P 04 39 59.4 +1.0**
SOC *i* 04 41 23.6
SOC *e*S **S 04 45 51.6 +2.8**
SOC *e*SS **SnSn 04 48 26.4 -2.7**
SOC pmax pmax
comp=Z,33nm,0.9s
SOC MLR MLR
comp=Z,6µm,13.0s
AKTO Aktyubinsk 37.86 83 LR LR 04 54 59.2
comp=Z,2µm,19.7s,slow=35
PMOZ Porto Moniz, M 37.93 184 *e*LQ LQ 04 48 43.3
PMOZ *e*LR LR 04 50 22.0
comp=Z,905nm,16.0s
PMOZ Porto Moniz, M 37.93 184 *e*LQ LQ 04 48 43.3
PMOZ *e*LR LR 04 50 22.0
comp=Z,905nm,16.0s
GUR Goura 37.96 130 *e*P P 04 40 03.0 +3.3
WDD Wield Dalam 38.10 141 PFAKE 04 40 10.0 +9.3
WDD LR LR
comp=Z,2µm,22.0s
MDT Midelt 38.28 167 P **P 04 40 03.5 +1.1**
comp=Z,1.2nm,0.8s,baz=1.0,slow=9.2,SNR=3.6
MDT PcP **PcP 04 42 16.7 +0.4**
comp=Z,2.1nm,0.9s,baz=310,slow=4.2,SNR=4.1
KIV Kislovodsk 38.45 103 *e*P P 04 40 05.8 +2.0
KIV *e* 04 41 32.4
KIV *e*S **S 04 46 01.7 +3.3**
KIV pmax pmax
comp=Z,31nm,1.0s
KIV MLR MLR
comp=Z,2µm,16.0s
KIV Kislovodsk 38.45 103 *e*P **P 04 40 04.9 +1.1**
comp=Z,44nm,1.2s
KIV LR LR
comp=Z,2µm,18.0s
VLX Vlachokerasia 38.50 130 *e*P P 04 40 09.0 +4.7
CHOS Chios island 38.51 125 *e*P **P 04 40 06.0 +1.7**
DID Didima 38.59 129 *e*P **P 04 40 05.5 +0.5**
KBZ Khabaz 38.72 103 P **P 04 40 07.2 +1.3**
comp=Z,8.7nm,1.0s,baz=323,slow=20,SNR=8.4
KBZ LR LR 04 56 02.6
comp=Z,3µm,18.7s,baz=20,slow=36
PYL PYLOS 38.79 131 *e*P P 04 40 09.5 +2.9
LONY Lake Ozonia 38.92 261 *e*P **P 04 40 08.3 +0.7**
comp=Z,58nm,1.3s
LONY Lake Ozonia 38.92 261 *e*P **P 04 40 08.3 +0.7**
comp=Z,58nm,1.3s
LONY *e*PcP **PcP 04 42 17.7 -0.2**
LONY LR LR
comp=Z,2µm,20.0s
HNH Hanover 38.98 258 *e*P **P 04 40 08.6 +0.5**
comp=Z,93nm,1.6s
HNH Hanover 38.98 258 *e*P **P 04 40 08.6 +0.5**
comp=Z,93nm,1.6s
FFD Franklin Falls 38.98 257 *e*P **P 04 40 09.1 +1.0**
comp=Z,304nm,2.0s
FFD Franklin Falls 38.98 257 *e*P **P 04 40 09.1 +1.0**
comp=Z,304nm,2.0s
FFD LR LR
comp=Z,2µm,22.0s
MDV Middlebury 39.01 259 *e*P **P 04 40 09.0 +0.7**
MDV Middlebury 39.01 259 *e*P **P 04 40 09.0 +0.7**
FYU Fort Yukon 39.01 331 *e*P **P 04 40 09.6 +1.5**
comp=Z,139nm,1.3s
FYU LR LR
comp=Z,2µm,19.0s
BR231 Keskin MP Arra 39.08 117 *e*P P 04 40 11.0 +1.8
BR231 *e*PP **PnPn 04 41 41.6 +0.6**
PTN Potsdam (NY) 39.09 261 *e*P **P 04 40 09.9 +0.9**
PTN MLR MLR
comp=Z,5µm,18.0s
PTN Potsdam (NY) 39.09 261 *e*P **P 04 40 09.9 +0.9**
comp=Z,186nm,1.5s
PTN Potsdam (NY) 39.09 261 *e*P **P 04 40 09.9 +0.9**
comp=Z,186nm,1.5s
PTN LR LR
comp=Z,5µm,18.0s
FFC Flin Flon 39.11 293 P **P 04 40 09.5 +0.5**
comp=Z,248nm,0.9s,SNR=18
FFC Flin Flon 39.11 293 *e*P **P 04 40 09.3 +0.2**
FFC pmax pmax
comp=Z,43nm,1.0s
FFC Flin Flon 39.11 293 *e*P **P 04 40 09.3 +0.2**
comp=Z,43nm,1.0s
FFC Flin Flon 39.11 293 *e*P **P 04 40 09.3 +0.2**
comp=Z,43nm,1.0s
COLD Coldfoot 39.15 335 *e*P **P 04 40 09.3 0.0**
comp=Z,23nm,1.4s
COLD Coldfoot 39.15 335 *e*P **P 04 40 09.3 0.0**
comp=Z,23nm,1.4s
COLD LR LR
comp=Z,3µm,19.0s
VLI Velial 39.26 130 *e*P **P 04 40 08.0 -2.5**
SMG Samos 39.36 125 *e*P **P 04 40 13.0 +1.6**
NCB Newcomb 39.38 260 *e*P **P 04 40 12.1 +0.7**
comp=Z,189nm,1.9s
NCB Newcomb 39.38 260 *e*P **P 04 40 12.1 +0.7**
comp=Z,189nm,1.9s
NCB LR LR
comp=Z,2µm,21.0s
BR101 Keskin Array S 39.45 116 *e*P **P 04 40 13.5 +1.2**
BR101 *e*PP **PnPn 04 41 42.8 -2.6**
BRTR Keskin Array B 39.45 116 P **P 04 40 13.5 +1.2**
comp=Z,2.9nm,0.8s,baz=338,slow=6.1,SNR=11
BRTR PP **PnPn 04 41 42.8 -2.6**
comp=Z,1.8nm,0.9s,baz=352,slow=7.5,SNR=3.9
BRTR LR LR 04 58 19.3
comp=Z,2µm,18.8s,baz=308,slow=39
BRTR Keskin Array B 39.45 116 *ce*P P 04 40 14.6 +2.4
AB31 Akbulak array 39.51 82 *i* P **P 04 40 12.4 -0.1**
AB31 pmax pmax
comp=Z,34nm,1.2s
ABKAR Akbulak array 39.51 82 *e*P **P 04 40 13.4 +0.9**
BRVK Borovoye 39.59 71 P **P 04 40 14.9 +1.8**
comp=Z,60nm,1.0s,SNR=10.0
BRVK Borovoye 39.59 71 ⇑*i*P **P 04 40 14.6 +1.5**
BRVK pmax pmax
comp=Z,42nm,2.5s
BRVK Borovoye 39.59 71 P P 04 40 15.1 +2.0
SNR=12
BRVK Borovoye 39.59 71 *e*P **P 04 40 14.4 +1.3**
comp=Z,129nm,2.3s
BRVK *e*PP **PnPn 04 41 44.1 -2.6**
BRVK LR LR
comp=Z,1µm,20.0s
BVAR Borovoye Array 39.65 70 P **P 04 40 14.4 +0.8**
comp=Z,12nm,1.0s,baz=319,slow=4.3,SNR=23
BVAR PP **PnPn 04 41 51.6 +4.2**
comp=Z,6.1nm,0.9s,baz=345,slow=11,SNR=4.3
BVAR LR LR 04 56 22.1
comp=Z,953nm,20.7s,baz=318,slow=36
BVAR Borovoye Array 39.65 70 P **P 04 40 14.4 +0.8**
BVAR 04 41 51.6
BVAR pmax pmax
comp=Z,12nm,1.0s
BVAR pmax pmax
comp=Z,6.0nm,0.9s
BVAR MLR MLR
comp=Z,953nm,20.7s
ACCN Adirondack Com 39.72 259 *e*P **P 04 40 15.3 +1.0**
comp=Z,163nm,1.8s
ACCN Adirondack Com 39.72 259 *e*P **P 04 40 15.3 +1.0**
comp=Z,163nm,1.8s
ACCN LR LR
comp=Z,2µm,21.0s
HRV Adam Dziewonsk 39.82 256 *e*P **P 04 40 15.9 +0.8**
HRV pmax pmax
comp=Z,53nm,0.9s
HRV MLR MLR
comp=Z,2µm,20.0s
HRV Adam Dziewonsk 39.82 256 *e*P **P 04 40 15.9 +0.8**
comp=Z,53nm,0.9s
HRV Adam Dziewonsk 39.82 256 *e*P **P 04 40 15.9 +0.8**
comp=Z,53nm,0.9s
HRV LR LR
comp=Z,2µm,20.0s
ZEI Tsey 39.89 103 *e*P **P 04 40 16.8 +0.8**
ZEI pmax pmax
comp=Z,19nm,0.9s
EGAK Eagle 39.97 328 *e*P **P 04 40 15.0 -1.1**
comp=Z,68nm,1.3s
EGAK Eagle 39.97 328 *e*P **P 04 40 15.0 -1.1**
comp=Z,68nm,1.3s
EGAK LR LR
comp=Z,7µm,18.0s
SANT Santorini 40.25 127 PFAKE 04 40 30.0 +11
SANT LR LR
comp=Z,2µm,21.0s
QUA2 Belchertown 40.28 257 PFAKE 04 40 30.0 +11
QUA2 LR LR
comp=Z,1µm,19.0s
ISP Isparta 40.29 120 PFAKE 04 40 30.0 +11
ISP LR LR
comp=Z,2µm,19.0s
DAWY Dawson 40.30 326 *e*P **P 04 40 18.8 -0.1**
DAWY Dawson 40.30 326 *e*P **P 04 40 18.8 -0.1**
DAWY LR LR
comp=Z,6µm,18.0s
TRY Troy 40.30 258 *e*P **P 04 40 20.1 +1.0**
comp=Z,169nm,1.9s
TRY Troy 40.30 258 *e*P **P 04 40 20.1 +1.0**
comp=Z,169nm,1.9s
KARN Karanos 40.76 129 *e*P P 04 40 27.0 +4.0
VAM Vamos 40.83 129 *e*P P 04 40 26.0 +2.5
IM04 Indian Mountai 40.83 336 *e*P **P 04 40 23.9 +0.6**
IM04 Indian Mountai 40.83 336 *e*P **P 04 40 23.9 +0.6**
IM04 *e*PcP **PcP 04 42 24.1 +0.4**
MAK Makhachkala 40.91 99 *e*P **P 04 40 25.0 +0.9**
MAK *e* 04 41 55.8
MAK *e*PPP PPP 04 42 26.7
MAK *e*S **S 04 46 39.1 +4.0**
MAK *e* 04 50 29.4
MAK pmax pmax
comp=Z,44nm,0.3s
MAK MLR MLR
comp=Z,2µm,16.0s
IL1 Eielson Array 40.94 331 *e*P **P 04 40 24.5 +0.4**
IL1 Eielson Array 40.94 331 *e*P **P 04 40 24.5 +0.4**
IL1 *e*PcP **PcP 04 42 23.8 -0.3**
ILAR Eielson Array 40.94 331 P **P 04 40 24.0 -0.1**
comp=Z,3.1nm,0.9s,baz=26,slow=6.0,SNR=30
ILAR PcP **PcP 04 42 23.6 -0.5**
comp=Z,3.3nm,0.9s,baz=360,slow=3.7,SNR=5.8
ILAR LR LR 05 00 39.0
comp=Z,4µm,20.0s,baz=52,slow=41
ILB Eielson Array 40.94 331 *e*P **P 04 40 24.0 -0.1**
ILB Eielson Array 40.94 331 *e*P **P 04 40 24.1 -0.1**
ILB *e*PcP **PcP 04 42 23.6 -0.5**
MDM Murphy Dome 40.98 332 *e*P **P 04 40 25.2 +0.7**
comp=Z,74nm,1.6s
MDM Murphy Dome 40.98 332 *e*P **P 04 40 25.2 +0.7**
comp=Z,74nm,1.6s
MDM *e*PP **PP 04 41 59.4 +0.8**
MDM LR LR
comp=Z,3µm,22.0s
COLA College 41.00 332 ⇑*i*P **P 04 40 26.4 +1.8**
COLA pmax pmax
comp=Z,215nm,1.5s
COLA College 41.00 332 PFAKE 04 40 40.0 +15
COLA LR LR
comp=Z,3µm,22.0s
IDI Anoyia 41.12 128 LR LR 04 58 45.7
comp=Z,780nm,19.0s,baz=325,slow=38
SCRK Sand Creek 41.20 329 *e*P **P 04 40 25.8 -0.6**
comp=Z,154nm,2.7s
SCRK Sand Creek 41.20 329 *e*P **P 04 40 25.8 -0.6**
comp=Z,154nm,2.7s
SCRK LR LR
comp=Z,6µm,20.0s
CCB Clear Creek Bu 41.20 332 *e*P **P 04 40 26.4 +0.1**
comp=Z,40nm,1.4s
CCB LR LR
comp=Z,3µm,19.0s
HDA Harding Lake 41.29 331 *e*P **P 04 40 28.5 +1.4**
comp=Z,35nm,1.0s
HDA Harding Lake 41.29 331 *e*P **P 04 40 28.5 +1.4**
comp=Z,35nm,1.0s
HDA LR LR
comp=Z,4µm,20.0s
MLY Manley 41.29 334 PFAKE 04 40 40.0 +13
MLY LR LR
comp=Z,3µm,22.0s
GVD Gavdhos 41.34 129 PFAKE 04 40 40.0 +12
GVD LR LR
comp=Z,4µm,19.0s
SIVA Sivas 41.35 128 *e*P **P 04 40 27.0 -0.8**
LAST Lasithi 41.39 128 *e*P **P 04 40 30.0 +1.7**
WRH Wood River Hil 41.41 332 *e*P **P 04 40 29.1 +1.1**
comp=Z,22nm,1.3s
WRH Wood River Hil 41.41 332 *e*P **P 04 40 29.1 +1.1**
comp=Z,22nm,1.3s
WRH *e*PP **PnPn 04 42 05.6 -2.3**
WRH LR LR
comp=Z,3µm,18.0s
BINY Binghamton 41.54 260 *e*P **P 04 40 30.3 +1.0**
comp=Z,167nm,1.7s
BINY Binghamton 41.54 260 *e*P **P 04 40 30.3 +1.0**
comp=Z,167nm,1.7s
BINY *e*PcP PcP 04 42 21.0 -5.4
BINY LR LR
comp=Z,3µm,21.0s
EYMN Ely 41.60 279 *e*P **P 04 40 29.9 +0.1**
comp=Z,32nm,0.9s
EYMN Ely 41.60 279 *e*P **P 04 40 29.9 +0.1**
comp=Z,32nm,0.9s
EYMN *e*PP **PP 04 42 05.6 -0.1**
EYMN LR LR
comp=Z,5µm,20.0s
MMNY Mt. Morris Dam 41.69 263 *e*P **P 04 40 31.6 +1.0**
comp=Z,298nm,1.8s
MMNY Mt. Morris Dam 41.69 263 *e*P **P 04 40 31.6 +1.0**
comp=Z,298nm,1.8s
MMNY *e*PP **PP 04 42 08.1 +1.4**
MMNY *e*PcP **PcP 04 42 26.1 -0.7**
MMNY LR LR
comp=Z,7µm,19.0s
BWN Browne 41.91 332 *e*P **P 04 40 33.0 +0.9**
comp=Z,69nm,0.8s
BWN Browne 41.91 332 *e*P **P 04 40 33.0 +0.9**
comp=Z,69nm,0.8s
BWN LR LR
comp=Z,2µm,20.0s
PAL Palisades 41.93 258 PFAKE 04 40 40.0 +7.5
PAL LR LR
comp=Z,1µm,21.0s
NVS Novosibirsk 41.95 59 *e*P **P 04 40 33.9 +1.4**
NVS pmax pmax
comp=N,46nm,2.0s
NVS pmax pmax
comp=Z,141nm,2.0s
NVS pmax pmax
comp=E,17nm,1.3s
KSPA Keystone Colle 42.04 260 *e*P **P 04 40 34.5 +1.1**
comp=E,49nm,1.3s
KSPA Keystone Colle 42.04 260 *e*P **P 04 40 34.5 +1.1**
comp=E,49nm,1.3s
KSPA LR LR
comp=Z,2µm,18.0s
GLMI Grayling 42.06 271 *e*P **P 04 40 34.5 +0.9**
comp=Z,81nm,1.0s
GLMI Grayling 42.06 271 *e*P **P 04 40 34.5 +0.9**
comp=Z,81nm,1.0s
GLMI LR LR
comp=Z,3µm,21.0s
ODNJ Ogdensburg 42.09 258 *e*P **P 04 40 34.4 +0.6**
comp=Z,54nm,1.4s
ODNJ Ogdensburg 42.09 258 *e*P **P 04 40 34.4 +0.6**
comp=Z,54nm,1.4s
ODNJ LR LR
comp=Z,2µm,20.0s
BPAW Bear Paw Mtn. 42.21 333 *e*P **P 04 40 35.5 +0.9**
comp=Z,23nm,1.6s
BPAW Bear Paw Mtn. 42.21 333 *e*P **P 04 40 35.5 +0.9**
comp=Z,23nm,1.6s
MCK McKinley 42.24 332 *e*P **P 04 40 36.3 +1.5**
MCK pmax pmax
comp=Z,128nm,1.5s
MCK MLR MLR
comp=Z,3µm,20.0s
MCK McKinley 42.24 332 *e*P **P 04 40 36.3 +1.5**
comp=Z,128nm,1.5s
MCK LR LR
comp=Z,3µm,20.0s
PAX Paxson 42.38 329 *e*P **P 04 40 37.0 +0.9**
PAX pmax pmax
comp=Z,15nm,0.9s
PAX MLR MLR
comp=Z,6µm,18.0s
PAX Paxson 42.38 329 *e*P **P 04 40 37.0 +0.9**
comp=Z,15nm,0.9s
PAX Paxson 42.38 329 *e*P **P 04 40 37.0 +0.9**
comp=Z,15nm,0.9s
PAX LR LR
comp=Z,6µm,18.0s
BRNJ Basking Ridge 42.44 258 *e*P **P 04 40 37.5 +0.9**
comp=Z,19nm,1.2s
BRNJ Basking Ridge 42.44 258 *e*P **P 04 40 37.5 +0.9**
comp=Z,19nm,1.2s
RND Reindeer 42.53 332 *e*P **P 04 40 37.7 +0.4**
RND pmax pmax
comp=Z,45nm,1.6s
RND MLR MLR
comp=Z,4µm,20.0s
RND Reindeer 42.53 332 *e*P **P 04 40 37.7 +0.4**
comp=Z,45nm,1.6s
RND Reindeer 42.53 332 *e*P **P 04 40 37.7 +0.4**
comp=Z,45nm,1.6s
RND LR LR
comp=Z,4µm,20.0s
GNI Garni 42.54 103 P **P 04 40 37.9 +0.2**
comp=Z,3.3nm,0.3s,baz=176,slow=4.0,SNR=5.1
GNI LR LR 04 58 09.0
comp=Z,4µm,22.0s,baz=334,slow=36
GNI Garni 42.54 103 ⇓*i*P P 04 40 39.6 +1.9
GNI pmax pmax
comp=Z,26nm,1.2s
GNI Garni 42.54 103 *e*P **P 04 40 39.3 +1.6**
comp=Z,46nm,1.1s
GNI *e*PP **PP 04 42 15.8 -0.3**
GNI LR LR
comp=Z,4µm,22.0s
KTH Kantishna Hill 42.71 333 PFAKE 04 40 50.0 +11
KTH LR LR
comp=Z,2µm,19.0s
TRF Thorofare Moun 42.71 333 *e*P **P 04 40 38.7 -0.2**
comp=Z,123nm,2.3s
TRF Thorofare Moun 42.71 333 *e*P **P 04 40 38.7 -0.2**
comp=Z,123nm,2.3s
TRF LR LR
comp=Z,2µm,19.0s
AGMN Agassiz Nation 42.72 283 *e*P **P 04 40 39.0 +0.1**
comp=Z,212nm,2.1s
AGMN Agassiz Nation 42.72 283 ⇑P **P 04 40 39.2 +0.3**
baz=42,SNR=21
AGMN ⇑S **S 04 47 00.6 -1.2**
baz=42
AGMN Agassiz Nation 42.72 283 *e*P **P 04 40 39.0 +0.1**
comp=Z,212nm,2.1s
AGMN *e*PP **PP 04 42 17.0 -0.7**
AGMN LR LR
comp=Z,6µm,18.0s
LUPA Lehigh Univers 42.78 259 *e*P **P 04 40 40.5 +1.1**
comp=Z,10nm,1.1s
LUPA Lehigh Univers 42.78 259 *e*P **P 04 40 40.5 +1.1**
comp=Z,10nm,1.1s
LUPA LR LR
comp=Z,300nm,21.0s
TNA Tin City 42.83 344 PFAKE 04 40 50.0 +10
TNA LR LR
comp=Z,2µm,20.0s
HYT Haines Junctio 42.89 323 *e*P **P 04 40 41.5 +1.2**
HYT Haines Junctio 42.89 323 *e*P **P 04 40 41.5 +1.2**
A30A Hoffart Farm, 42.95 286 ⇓P **P 04 40 40.6 -0.2**
baz=43,SNR=7.3
CAST Castle Rocks 43.01 334 *e*P **P 04 40 41.9 +0.8**

comp=Z,34nm,1.4s
CAST Castle Rocks 43.01 334 *e*P **P** **04 40 41.9 +0.8**
comp=Z,34nm,1.4s
CAST LR LR
comp=Z,2µm,19.0s
ZAA1 Zalesovo Array 43.17 59 *e*P **P** **04 40 42.8 +0.3**
ZALV Zalesovo Beam 43.18 59 P **P** **04 40 42.8 +0.3**
comp=Z,4.2nm,0.4s,baz=330,slow=8.6,SNR=6.7
ZALV LR LR 05 00 60.0
comp=Z,1µm,20.7s,baz=252,slow=39
ZALV Zalesovo Beam 43.18 59 P **P** **04 40 42.8 +0.3**
ZALV pmax pmax
comp=Z,4.0nm,0.4s
ZALV MLR MLR
comp=Z,1µm,20.7s
A29A Manning Farm, 43.26 287 ⇓P **P** **04 40 43.1 -0.2**
baz=43,SNR=18
B30A Myrvik Farm, E 43.38 285 ⇑P **P** **04 40 44.1 -0.1**
baz=43,SNR=13
ALLY Alegheny Colle 43.40 264 *e*P **P** **04 40 45.2 +0.7**
comp=Z,102nm,1.1s
ALLY Alegheny Colle 43.40 264 *e*P **P** **04 40 45.2 +0.7**
comp=Z,102nm,1.1s
DLBC Dease Lake 43.45 316 PFAKE 04 41 00.0 +15
DLBC LR LR
comp=Z,6µm,19.0s
PPLA Purkeypile 43.52 333 *e*P **P** **04 40 47.2 +1.8**
comp=Z,46nm,1.5s
PPLA LR LR
comp=Z,3µm,20.0s
SSPA Standing Stone 43.57 261 *e*P **P** **04 40 46.8 +1.0**
comp=Z,107nm,1.4s
SSPA Standing Stone 43.57 261 *e*P **P** **04 40 46.8 +1.0**
comp=Z,107nm,1.4s
SSPA LR LR
comp=Z,3µm,20.0s
A28A Rude Farm, Bot 43.60 287 ⇓P **P** **04 40 46.3 +0.3**
baz=43,SNR=15
B29A Wagenman Farm, 43.70 286 ⇑P **P** **04 40 46.8 0.0**
baz=44,SNR=14
SCM Sheep Creek Mo 43.76 330 *e*P **P** **04 40 47.3 +0.1**
SCM pmax pmax
comp=Z,48nm,1.2s
SCM MLR MLR
comp=Z,4µm,18.0s
SCM Sheep Creek Mo 43.76 330 *e*P **P** **04 40 47.3 +0.1**
comp=Z,48nm,1.2s
SCM Sheep Creek Mo 43.76 330 *e*P **P** **04 40 47.3 +0.1**
comp=Z,48nm,1.2s
SCM LR LR
comp=Z,4µm,18.0s
CSS Prodhromos 43.77 119 *e*P **P** **04 40 49.3 +1.8**
comp=Z,35nm,2.1s
CSS LR LR
comp=Z,500nm,22.0s
EDM Edmonton 43.78 301 *e*P **P** **04 40 47.8 +0.4**
EDM MLR MLR
comp=Z,6µm,19.0s
EDM Edmonton 43.78 301 *e*P **P** **04 40 47.8 +0.4**
EDM Edmonton 43.78 301 *e*P **P** **04 40 47.8 +0.4**
EDM LR LR
comp=Z,6µm,19.0s
A27A Ledoux Ranch, 43.87 288 ⇑P **P** **04 40 47.9 -0.3**
baz=44
AAM Ann Arbor 43.99 268 *e*P **P** **04 40 49.9 +0.8**
AAM pmax pmax
comp=Z,159nm,1.8s
AAM MLR MLR
comp=Z,2µm,20.0s
AAM Ann Arbor 43.99 268 *e*P **P** **04 40 49.9 +0.8**
comp=Z,159nm,1.8s
AAM Ann Arbor 43.99 268 *e*P **P** **04 40 49.9 +0.8**
comp=Z,159nm,1.8s
AAM LR LR
comp=Z,2µm,20.0s
B28A Dugan Ranch, T 44.04 287 ⇑P **P** **04 40 49.8 +0.3**
baz=44,SNR=8.9
C30A Mose, Pekin 44.09 285 ⇑P **P** **04 40 49.7 -0.3**
baz=44,SNR=5.1
BMRM Bremner River 44.10 328 *e*P **P** **04 40 49.9 0.0**
comp=Z,338nm,2.4s
BMRM Bremner River 44.10 328 *e*P **P** **04 40 49.9 0.0**
comp=Z,338nm,2.4s
BMRM LR LR
comp=Z,6µm,19.0s
IMRD Marand 44.16 103 *e*P **P** **04 40 52.0 +1.3**
DIV Divide 44.16 329 PFAKE 04 41 00.0 +10
DIV LR LR
comp=Z,6µm,18.0s
A26A Wade Farm, Ken 44.17 289 ⇑P **P** **04 40 51.0 +0.4**
baz=44,SNR=8.2
KURK Kurchatov 44.20 66 P **P** **04 40 51.6 +0.9**
comp=Z,37nm,1.2s,SNR=12
KURK Kurchatov 44.20 66 P **P** **04 40 51.3 +0.6**
KURK pmax pmax
comp=Z,21nm,1.5s
KURK Kurchatov 44.20 66 P **P** **04 40 51.9 +1.2**
SNR=14
KURK Kurchatov 44.20 66 *e*P **P** **04 40 51.5 +0.8**
comp=Z,289nm,2.6s
KURK LR LR
comp=Z,2µm,18.0s
MDND Maddock 44.32 286 *e*P **P** **04 40 52.0 +0.2**
comp=Z,346nm,1.1s
MDND Maddock 44.32 286 ⇑P **P** **04 40 51.7 -0.2**
baz=44,SNR=7.9
MDND Maddock 44.32 286 *e*P **P** **04 40 52.0 +0.2**
comp=Z,346nm,1.1s
MDND LR LR
comp=Z,2µm,20.0s
SDMD Soldier's Deli 44.33 260 *e*P **P** **04 40 53.2 +1.3**
SDMD Soldier's Deli 44.33 260 *e*P **P** **04 40 53.2 +1.3**
B27A Peters Farms, 44.36 288 ⇑P **P** **04 40 52.2 +0.1**
baz=44
BESE Bessie Mountai 44.39 320 PFAKE 04 41 00.0 +7.7
BESE LR LR
comp=Z,4µm,22.0s
SPMN Marine on St. 44.43 278 *e*P **P** **04 40 53.2 +0.6**
comp=Z,31nm,0.8s
SPMN Marine on St. 44.43 278 ⇓P **P** **04 40 53.1 +0.4**
baz=44,SNR=15
SPMN Marine on St. 44.43 278 *e*P **P** **04 40 53.2 +0.6**
comp=Z,31nm,0.8s
SPMN LR LR
comp=Z,3µm,19.0s
A25A Svangstu Ranch 44.47 290 ⇓P **P** **04 40 53.6 +0.6**
baz=44
DHAK Deception Hill 44.63 322 PFAKE 04 41 10.0 +16
DHAK LR LR
comp=Z,6µm,21.0s
RAGM Ragged Mountai 44.66 327 PFAKE 04 41 10.0 +16
RAGM LR LR
comp=Z,6µm,19.0s
SUA Susitna One 44.66 332 *e*P **P** **04 40 55.3 +0.8**
SUA Susitna One 44.66 332 *e*P **P** **04 40 55.3 +0.8**
C28A Hausaus Farms 44.69 287 ⇓P **P** **04 40 55.1 +0.3**
baz=44,SNR=5.7
B26A Jensen Ranch, 44.69 289 ⇓P **P** **04 40 54.9 +0.1**
baz=44
D30A Buchanan 44.70 285 ⇓P **P** **04 40 54.6 -0.2**
baz=44,SNR=18
A24A Westby 44.77 291 ⇑P **P** **04 40 56.1 +0.7**
baz=44,SNR=7.6
RC01 Rabbit Creek A 44.86 331 *e*P **P** **04 40 57.2 +1.3**
comp=Z,167nm,1.9s
RC01 Rabbit Creek A 44.86 331 *e*P **P** **04 40 57.2 +1.3**
comp=Z,167nm,1.9s
RC01 LR LR
comp=Z,3µm,19.0s
GAMB Gambell 44.91 346 PFAKE 04 41 10.0 +14
GAMB LR LR
comp=Z,1µm,21.0s
A23A Redstone 45.01 291 ⇓P **P** **04 40 56.9 -0.4**
baz=45
D29A Pettibone, Tap 45.02 286 ⇓P **P** **04 40 56.7 -0.6**
baz=45
C27A Sayler Ranch, 45.05 288 ⇓P **P** **04 40 58.3 +0.7**
baz=45,SNR=5.7
B25A Knox Farm, Ray 45.08 289 ⇑P **P** **04 40 58.6 +0.7**
baz=45
SPU Mount Spurr 45.13 333 *e*P **P** **04 40 58.7 +0.5**
SPU Mount Spurr 45.13 333 *e*P **P** **04 40 58.6 +0.5**
C26A Wahner Farm, P 45.14 288 ⇓P **P** **04 40 58.7 +0.4**
baz=45,SNR=6.9
D28A Regan 45.21 286 ⇓P **P** **04 40 59.0 +0.1**
baz=45,SNR=5.4
YAK Yakutsk 45.21 23 *e*P **P** **04 40 58.8 +0.1**

YAK *e**PP **pP** **04 41 05.4 +2.9**
YAK *e* 04 42 37.6
YAK *e* 04 42 45.6
YAK *e*PPP PPP 04 43 22.4
YAK *e*S **S** **04 47 39.2 +1.5**
YAK *e**SS sS 04 47 54.9 +11
YAK *e* 04 50 57.6
YAK *e*SSS SSS 04 51 55.4
YAK pmax pmax
comp=Z,11nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.5s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=N,7.0nm,0.4s
YAK pmax pmax
comp=Z,35nm,0.6s
YAK pmax pmax
comp=E,13nm,0.9s
YAK smax smax
comp=N,187nm,3.2s
YAK smax smax
comp=E,33nm,2.0s
YAK MLR MLR
comp=Z,2µm,23.0s
YAK MLR MLR
comp=E,163nm,16.0s
YAK MLR MLR
comp=N,245nm,25.0s
DGMT Dagmar 45.23 290 *e*P **P** **04 40 59.8 +0.7**
comp=N,185nm,2.1s
DGMT Dagmar 45.23 290 ⇑P **P** **04 40 59.3 +0.2**
baz=45
DGMT Dagmar 45.23 290 *e*P **P** **04 40 59.8 +0.7**
comp=N,185nm,2.1s
DGMT LR LR
comp=Z,4µm,20.0s
E30A Jud 45.29 285 ⇓P **P** **04 40 59.4 -0.1**
baz=45
A22A Carney Farms, 45.30 292 ⇓P **P** **04 40 59.8 +0.2**
baz=45,SNR=8.0
E29A Napoleon 45.47 285 ⇓P **P** **04 41 00.8 -0.2**
baz=45,SNR=5.6
B23A Brockton 45.48 291 ⇑P **P** **04 41 01.6 +0.6**
baz=45,SNR=11
D27A Center 45.59 287 ⇓P **P** **04 41 02.1 +0.2**
baz=45
CBN Corbin Frederi 45.60 259 *e*P **P** **04 41 03.5 +1.5**
comp=Z,254nm,2.1s
CBN Corbin Frederi 45.60 259 *e*P **P** **04 41 03.5 +1.5**
comp=Z,254nm,2.1s
CBN LR LR
comp=Z,2µm,18.0s
C25A Freed Ranch, W 45.60 289 ⇓P **P** **04 41 03.0 +1.0**
baz=45
A21A Bergtoll Ranch 45.61 293 ⇑P **P** **04 41 02.4 +0.3**
baz=45,SNR=26
ACSO Alum Creek Sta 45.62 266 *e*P **P** **04 41 03.2 +1.0**
comp=Z,54nm,1.1s
ACSO Alum Creek Sta 45.62 266 *e*PcP **PcP** **04 42 40.0 -0.2**
ACSO Alum Creek Sta 45.62 266 *e*P **P** **04 41 03.2 +1.0**
comp=Z,54nm,1.1s
ACSO *e*PcP **PcP** **04 42 40.0 -0.2**
ACSO LR LR
comp=Z,3µm,19.0s
JFWS Jewell Farm 45.63 275 *e*P **P** **04 41 02.9 +0.6**
JFWS *e* 04 42 39.3
JFWS MLR MLR
comp=Z,2µm,20.0s
JFWS Jewell Farm 45.63 275 *e*P **P** **04 41 02.9 +0.6**
JFWS Jewell Farm 45.63 275 *e*P **P** **04 41 02.9 +0.6**
JFWS *e*PcP **PcP** **04 42 39.3 -0.9**
JFWS LR LR
comp=Z,2µm,20.0s
SEW Seward 45.75 330 PFAKE 04 41 10.0 +7.1
SEW LR LR
comp=Z,3µm,20.0s
E28A Huff 45.80 286 ⇑P **P** **04 41 03.3 -0.3**
baz=46
WRAK Wrangell Islan 45.81 317 PFAKE 04 41 20.0 +17
WRAK LR LR
comp=Z,5µm,21.0s
F30A Leola 45.92 284 ⇑P **P** **04 41 04.9 +0.4**
baz=46,SNR=6.0
B22A Reddig Ranch S 45.94 292 ⇓P **P** **04 41 05.0 +0.3**
baz=46,SNR=5.8
D26A Manning 45.95 288 ⇑P **P** **04 41 05.0 +0.3**
baz=46
A20A Cobblestone Ra 46.02 294 ⇑P **P** **04 41 05.4 +0.1**
baz=46,SNR=9.0
D25A Fairfield 46.12 289 ⇑P **P** **04 41 07.5 +1.4**
baz=46,SNR=5.2
C23A Lambert 46.13 291 ⇑P **P** **04 41 06.9 +0.7**
baz=46,SNR=9.6
C24A Savage 46.13 290 ⇑P **P** **04 41 06.6 +0.4**
baz=46,SNR=5.6
B21A Ellsworth Farm 46.14 293 ⇓P **P** **04 41 06.0 -0.2**
baz=46
F29A Eureka 46.18 285 ⇑P **P** **04 41 06.8 +0.2**
baz=46,SNR=16
MMAI Mount Meron Ar 46.20 117 LR LR 05 01 24.4
comp=Z,1µm,21.4s,baz=345,slow=37
E27A Carson 46.20 287 ⇑P **P** **04 41 07.2 +0.4**
baz=46
A19A Klindworth Far 46.22 294 ⇓P **P** **04 41 07.3 +0.4**
baz=46,SNR=15
URVA University of 46.23 259 *e*P **P** **04 41 08.2 +1.2**
URVA University of 46.23 259 *e*P **P** **04 41 08.2 +1.2**
JSRW J. Sargeant Re 46.23 260 *e*P **P** **04 41 08.0 +1.0**
JSRW J. Sargeant Re 46.23 260 *e*P **P** **04 41 08.0 +1.0**
JSRW *e*PcP **PcP** **04 42 42.4 0.0**
BRLK Bradley Lake 46.30 331 *e*P **P** **04 41 07.2 -0.2**
comp=Z,45nm,1.2s
BRLK Bradley Lake 46.30 331 *e*P **P** **04 41 07.2 -0.2**
comp=Z,45nm,1.2s
BRLK LR LR
comp=Z,2µm,20.0s
SEY Seymchan 46.36 8 P **P** **04 41 07.6 -0.1**
comp=Z,8.4nm,1.1s,baz=360,slow=7.8,SNR=5.8
SEY Seymchan 46.36 8 *e*P **P** **04 41 09.1 +1.4**
B20A Solberg Farm, 46.44 293 ⇑P **P** **04 41 08.7 +0.1**
baz=46
E26A Carlson Angus 46.45 288 ⇑P **P** **04 41 09.4 +0.6**
baz=46,SNR=18
D24A Glendive 46.47 290 ⇓P **P** **04 41 10.0 +1.1**
baz=46,SNR=8.7
F28A McLaughlin 46.48 286 ⇓P **P** **04 41 09.1 +0.2**
baz=46,SNR=8.7
G30A Faulkton 46.58 284 ⇓P **P** **04 41 09.8 0.0**
baz=46,SNR=18
D23A Lindsay 46.69 290 P **P** **04 41 11.1 +0.5**
baz=46
C21A Desert Coulee 46.70 292 ⇑P **P** **04 41 11.0 +0.3**
baz=46,SNR=7.8
B19A Brinkman Farms 46.70 294 ⇑P **P** **04 41 10.6 -0.1**
baz=46
E25A Miller Ranch, 46.72 288 ⇓P **P** **04 41 12.0 +1.1**
baz=46,SNR=7.1
G29A Hoven 46.78 285 ⇑P **P** **04 41 11.2 -0.1**
baz=46,SNR=8.3
F27A Lemmon 46.84 287 ⇑P **P** **04 41 12.2 +0.4**
baz=47,SNR=19
SFIN Lafayette 46.85 270 *e*P **P** **04 41 12.7 +0.8**
comp=Z,145nm,1.6s
SFIN Lafayette 46.85 270 ⇓P **P** **04 41 12.5 +0.6**
baz=47,SNR=12
SFIN Lafayette 46.85 270 *e*P **P** **04 41 12.7 +0.8**
comp=Z,145nm,1.6s
SFIN *e*PcP **PcP** **04 42 43.3 -1.2**
SFIN LR LR
comp=Z,3µm,20.0s
E24A Baker 46.96 289 ⇓P **P** **04 41 13.3 +0.6**
baz=47
BBSR BB Station 46.98 243 PFAKE 04 41 30.0 +17
BBSR LR LR
comp=Z,500nm,21.0s
ECSD EROS Data Cent 47.00 281 *e*P **P** **04 41 13.3 +0.2**
comp=Z,27nm,1.1s
ECSD EROS Data Cent 47.00 281 ⇓P **P** **04 41 13.3 +0.2**
baz=47,SNR=14
ECSD EROS Data Cent 47.00 281 *e*P **P** **04 41 13.3 +0.2**
comp=Z,27nm,1.1s
ECSD *e*PcP **PcP** **04 42 44.5 -0.6**
ECSD LR LR
comp=Z,6µm,20.0s
D22A Cohagen 47.02 291 ⇑P **P** **04 41 14.0 +0.8**
baz=47,SNR=21
F26A Lodgepole 47.07 287 ⇑P **P** **04 41 14.3 +0.7**
baz=47,SNR=13
C20A Veseth Ranch, 47.08 293 ⇑P **P** **04 41 13.7 0.0**
baz=47,SNR=24
BRSD Miller 47.13 283 *e*P **P** **04 41 14.1 0.0**
comp=Z,55nm,1.0s
BRSD Miller 47.13 283 ⇓P **P** **04 41 13.9 -0.2**
baz=47,SNR=5.0
BRSD Miller 47.13 283 *e*P **P** **04 41 14.1 0.0**
comp=Z,55nm,1.0s
BRSD *e*PcP **PcP** **04 42 44.9 -0.6**
BRSD LR LR
comp=Z,4µm,20.0s
G28A Parade 47.20 285 ⇑P **P** **04 41 15.1 +0.5**
baz=47
F25A Bowman 47.25 288 ⇑P **P** **04 41 15.7 +0.6**
baz=47
G27A Dupree 47.26 286 ⇑P **P** **04 41 15.2 +0.2**
baz=47,SNR=11
VWCC Virginia Weste 47.32 261 *e*P **P** **04 41 16.5 +0.9**
VWCC Virginia Weste 47.32 261 *e*P **P** **04 41 16.5 +0.9**
E23A Ismay 47.33 290 ⇓P **P** **04 41 16.2 +0.6**
baz=47,SNR=8.8
EGMT Eagleton 47.33 295 *e*P **P** **04 41 16.1 +0.5**
comp=Z,93nm,1.3s
EGMT Eagleton 47.33 295 ⇓P **P** **04 41 15.9 +0.2**
baz=47,SNR=32
EGMT Eagleton 47.33 295 *e*P **P** **04 41 16.1 +0.5**
comp=Z,93nm,1.3s
EGMT LR LR
comp=Z,5µm,21.0s
D21A La Casta Ranch 47.34 292 P **P** **04 41 15.3 -0.4**
baz=47
H29A Onida 47.38 285 ⇓P **P** **04 41 16.2 +0.3**
baz=47
C19A Slack Wire Ran 47.38 294 ⇑P **P** **04 41 16.0 0.0**
baz=47,SNR=14
HDIL Hopedale 47.43 272 *e*P **P** **04 41 17.2 +0.9**
comp=Z,168nm,1.7s
HDIL Hopedale 47.43 272 *e*P **P** **04 41 17.2 +0.9**
comp=Z,168nm,1.7s
HDIL *e*PcP **PcP** **04 42 46.1 -0.5**
HDIL LR LR
comp=Z,3µm,21.0s
LAO LASA Array 47.44 291 *e*P **P** **04 41 17.2 +0.7**
comp=Z,184nm,1.9s
LAO LASA Array 47.44 291 *e*P **P** **04 41 17.2 +0.7**
comp=Z,184nm,1.9s
LAO *e*PcP **PcP** **04 42 46.9 +0.3**
LAO LR LR
comp=Z,5µm,19.0s
BLA Blacksburg 47.50 262 *e*P **P** **04 41 18.2 +1.2**
BLA pmax pmax
comp=Z,46nm,1.0s
BLA MLR MLR
comp=Z,3µm,20.0s
BLA Blacksburg 47.50 262 *e*P **P** **04 41 18.2 +1.2**
comp=Z,46nm,1.0s
BLA Blacksburg 47.50 262 *e*P **P** **04 41 18.2 +1.2**
comp=Z,46nm,1.0s
BLA LR LR
comp=Z,3µm,20.0s
SCIA State Center 47.52 277 *e*P **P** **04 41 17.4 +0.4**
comp=Z,250nm,1.9s
SCIA State Center 47.52 277 *e*P **P** **04 41 17.4 +0.4**
comp=Z,250nm,1.9s
SCIA *e*PcP **PcP** **04 42 46.8 -0.1**
SCIA LR LR
comp=Z,3µm,21.0s
G26A Maurine 47.54 287 ⇑P **P** **04 41 17.5 +0.2**
baz=47,SNR=12
E22A Miles City 47.58 291 ⇑P **P** **04 41 17.8 +0.2**
baz=47,SNR=6.2
H28A Mission Ridge 47.59 285 ⇑P **P** **04 41 17.9 +0.2**
baz=47
F24A Ekalaka 47.64 289 ⇓P **P** **04 41 18.6 +0.6**
baz=47,SNR=16
WALA Waterton Lakes 47.64 299 *e*P **P** **04 41 17.5 -0.6**
comp=Z,30nm,1.1s
WALA Waterton Lakes 47.64 299 *e*P **P** **04 41 17.5 -0.6**
comp=Z,30nm,1.1s
WALA *e*PcP **PcP** **04 42 50.2 +2.8**
WALA LR LR
comp=Z,4µm,19.0s
D20A Manuel Ranch, 47.67 293 ⇓P **P** **04 41 18.7 +0.4**
baz=47,SNR=18
BLO Bloomington 47.75 269 *e*P **P** **04 41 19.3 +0.4**
BLO *e* 04 42 46.4
BLO pmax pmax
comp=Z,88nm,1.4s
BLO MLR MLR
comp=Z,2µm,20.0s
BLO Bloomington 47.75 269 *e*P **P** **04 41 19.3 +0.4**
comp=Z,88nm,1.4s
BLO Bloomington 47.75 269 *e*P **P** **04 41 19.3 +0.4**
comp=Z,88nm,1.4s
BLO *e*PcP **PcP** **04 42 46.4 -1.4**
BLO LR LR
comp=Z,2µm,20.0s
I30A Oacoma 47.76 283 ⇑P **P** **04 41 19.1 +0.2**
baz=48,SNR=6.0
D19A Cripps Ranch, 47.84 293 ⇑P **P** **04 41 19.6 0.0**
baz=48,SNR=18
E21A Keefer Ranch, 47.84 292 ⇓P **P** **04 41 20.0 +0.4**
baz=48
G25A Newell 47.89 288 ⇓P **P** **04 41 20.4 +0.4**
baz=48,SNR=13
I29A Vivian Onida 47.95 284 ⇑P **P** **04 41 20.4 0.0**
baz=48
H27A Howes 47.97 286 ⇑P **P** **04 41 20.7 +0.1**
baz=48,SNR=8.0
F23A Volborg 48.05 290 ⇑P **P** **04 41 21.6 +0.3**
baz=48,SNR=8.6
G24A Alzada 48.09 289 ⇑P **P** **04 41 21.7 +0.1**
baz=48,SNR=7.0
H26A Fairpoint 48.20 287 ⇓P **P** **04 41 22.6 +0.2**
baz=48,SNR=19
I28A Midland 48.24 285 ⇑P **P** **04 41 23.1 +0.4**
baz=48,SNR=9.8
F22A Rosebud 48.26 290 ⇓P **P** **04 41 23.2 +0.3**
baz=48,SNR=6.2
J30A Dallas 48.30 283 ⇓P **P** **04 41 23.0 -0.2**
baz=48,SNR=18
KK31 Karatay Array 48.40 77 *i*P **P** **04 41 25.7 +1.8**
KKAR Karatay Array 48.40 77 *e*P **P** **04 41 25.3 +1.4**
KKAR *e* 04 43 15.1
KKAR Karatay Array 48.40 77 *e*P **P** **04 41 25.3 +1.4**
KKAR *e*PP **PP** **04 43 15.1 -1.1**
E19A Rath Farm, Rou 48.44 293 ⇓P **P** **04 41 24.5 +0.3**
baz=48,SNR=15
H25A Fruitdale 48.46 287 ⇓P **P** **04 41 24.5 0.0**
baz=48,SNR=12
KDAK Kodiak Island 48.46 332 PFAKE 04 41 40.0 +16
KDAK LR LR
comp=Z,4µm,19.0s
I27A Quinn 48.47 286 ⇑P **P** **04 41 24.4 0.0**
baz=48,SNR=14
CNNC Cliffs of the 48.47 258 PFAKE 04 41 40.0 +16
CNNC LR LR
comp=Z,1µm,18.0s
F21A Absaloka Mine, 48.49 291 ⇓P **P** **04 41 25.0 +0.3**
baz=48
J29A Okreek 48.50 284 ⇓P **P** **04 41 24.7 0.0**
baz=48,SNR=5.3
L34A Svendsen Farm, 48.51 280 ⇑P **P** **04 41 24.3 -0.4**
baz=48
WCI Wyandotte Cave 48.53 268 *e*P **P** **04 41 25.3 +0.4**
WCI *e* 04 42 50.4
WCI MLR MLR
comp=Z,2µm,18.0s
WCI Wyandotte Cave 48.53 268 *e*P **P** **04 41 25.3 +0.4**
comp=Z,448nm,2.6s
WCI Wyandotte Cave 48.53 268 *e*P **P** **04 41 25.3 +0.4**
comp=Z,448nm,2.6s
WCI *e*PcP **PcP** **04 42 50.4 -0.2**
WCI LR LR
comp=Z,2µm,18.0s
IMHD Mahdasht 48.53 100 *e*P P 04 41 27.3 +2.2
IRAZ Razeghan 48.55 101 *e*P P 04 41 28.7 +3.3
H24A Dirks Ranch, A 48.65 288 ⇓P **P** **04 41 25.4 -0.5**
baz=48,SNR=12
OLIL Olney 48.67 270 *e*P **P** **04 41 26.4 +0.4**
comp=Z,664nm,2.8s
OLIL Olney 48.67 270 *e*P **P** **04 41 26.4 +0.4**
comp=Z,664nm,2.8s
OLIL *e*PcP **PcP** **04 42 50.7 -0.4**

YBMT Yellow Bay 48.75 298 eP P 04 41 26.1 -0.5
YBMT Yellow Bay 48.75 298 eP P 04 41 26.1 -0.5
YBMT ePP PP 04 43 22.2 +2.9
I26A New Underwood 48.76 286 ⇑P P 04 41 26.8 +0.1
baz=48,SNR=5.7
G22A Birney 48.78 290 ⇓P P 04 41 26.8 -0.1
baz=48
J28A Allard Ranch, 48.78 285 ⇓P P 04 41 27.1 +0.2
baz=48,SNR=14
MK31 Makanchi Array 48.80 65 i P P 04 41 27.4 +0.5
MK31 pmax pmax
comp=Z,19nm,1.1s
MK32 Makanchi Array 48.80 65 eP P 04 41 27.0 +0.1
MK32 Makanchi Array 48.80 65 eP P 04 41 27.1 +0.1
MK32 ePP PP 04 43 21.1 +1.4
MKAR Makanchi Array 48.80 65 P P 04 41 27.1 +0.2
comp=Z,8.4nm,1.0s,baz=339,slow=5.8,SNR=46
MKAR PP PP 04 43 21.1 +1.4
comp=Z,3.1nm,1.1s,baz=358,slow=9.1,SNR=3.7
MKAR LR LR 05 04 58.5
comp=Z,567nm,18.6s,baz=325,slow=40
MKAR Makanchi Array 48.80 65 P P 04 41 27.1 +0.2
MKAR 04 43 21.1
MKAR pmax pmax
comp=Z,8.0nm,1.0s
MKAR pmax pmax
comp=Z,3.0nm,1.1s
MKAR MLR MLR
comp=Z,567nm,18.6s
MKAR Makanchi Array 48.80 65 eP P 04 41 27.6 +0.7
MKAR ePcP PcP 04 42 50.3 -1.2
MKAR ePP PP 04 43 15.2 -4.5
MK01 Makanchi Array 48.82 65 eP P 04 41 27.6 +0.5
MK01 ePcP PcP 04 42 50.6 -0.9
MK01 ePP PP 04 43 23.3 +3.4
F20A Billings 48.83 292 ⇑P P 04 41 27.1 -0.2
baz=49
IR3 Iran Long-Peri 48.84 100 eP P 04 41 29.8 +2.3
K30A Basset 48.93 283 ⇓P P 04 41 28.1 +0.1
baz=49,SNR=7.0
JTMT Jette 48.93 298 eP P 04 41 28.0 -0.1
JTMT Jette 48.93 298 eP P 04 41 28.0 -0.1
BSMT Bassoo Peak 48.99 299 eP P 04 41 28.9 +0.3
BSMT Bassoo Peak 48.99 299 eP P 04 41 28.9 +0.3
BSMT ePcP PcP 04 42 51.9 -0.5
M34A Aspy Farms, Fr 48.99 279 ⇓P P 04 41 27.5 -0.9
baz=49
F19A Roth Farm, Mol 49.03 293 ⇓P P 04 41 28.8 0.0
baz=49,SNR=10
I25A Rochford 49.05 287 ⇑P P 04 41 29.2 +0.2
baz=49,SNR=11
RSSD Black Hills 49.05 288 eP P 04 41 29.4 +0.3
RSSD e 04 42 52.0
RSSD pmax pmax
comp=Z,28nm,1.4s
RSSD MLR MLR
comp=Z,3µm,21.0s
RSSD Black Hills 49.05 288 eP P 04 41 29.4 +0.3
comp=Z,28nm,1.4s
RSSD Black Hills 49.05 288 eP P 04 41 29.4 +0.3
comp=Z,28nm,1.4s
RSSD ePcP PcP 04 42 52.0 -0.7
RSSD LR LR
comp=Z,3µm,21.0s
G21A Lodge Grass 49.06 291 ⇑P P 04 41 28.8 -0.2
baz=49
SWMT Swartz Lake 49.06 298 eP P 04 41 29.0 0.0
SWMT Swartz Lake 49.06 298 eP P 04 41 29.1 0.0
K29A Lazy Trails An 49.08 284 ⇓P P 04 41 29.2 0.0
baz=49,SNR=7.5
H23A Clabaugh Cattl 49.09 289 ⇑P P 04 41 28.6 -0.7
baz=49
L31A Butterfield Fa 49.12 282 ⇑P P 04 41 29.2 -0.3
baz=49
HRY Holter Researc 49.14 296 eP P 04 41 28.7 -0.9
HRY Holter Researc 49.14 296 eP P 04 41 28.7 -0.9
TZTN Tazewell 49.14 265 eP P 04 41 30.0 +0.3
comp=Z,67nm,1.4s
TZTN Tazewell 49.14 265 eP P 04 41 30.0 +0.3
comp=Z,67nm,1.4s
TZTN ePcP PcP 04 42 51.9 -0.9
TZTN ePP PP 04 43 23.2 +0.1
SLMT Seeley Lake 49.15 297 eP P 04 41 29.4 -0.4
SLMT Seeley Lake 49.15 297 eP P 04 41 29.4 -0.4
J27A Elkhorn Farm, 49.18 285 ⇑P P 04 41 30.3 +0.3
baz=49
EIL Elat 49.20 119 LR LR 05 03 17.6
comp=Z,839nm,21.7s,baz=343,slow=37
USIN University of 49.22 269 eP P 04 41 30.4 +0.2
comp=Z,130nm,1.4s
USIN University of 49.22 269 eP P 04 41 30.4 +0.2
comp=Z,130nm,1.4s
USIN ePcP PcP 04 42 52.6 -0.5
USIN LR LR
comp=Z,2µm,19.0s
N35A Tabor 49.26 278 ⇓P P 04 41 30.4 -0.1
baz=49
ISHM Shahmirzad 49.29 97 eP P 04 41 33.8 +2.7
NEW Newport 49.29 301 P P 04 41 30.6 -0.1
comp=Z,6.1nm,0.9s,baz=14,slow=7.2,SNR=4.3
NEW Newport 49.29 301 eP P 04 41 31.0 +0.3
NEW pmax pmax
comp=Z,148nm,2.9s
NEW MLR MLR
comp=Z,4µm,18.0s
NEW Newport 49.29 301 eP P 04 41 31.0 +0.3
comp=Z,148nm,2.9s
NEW Newport 49.29 301 ⇓P P 04 41 30.2 -0.4
baz=49
NEW Newport 49.29 301 eP P 04 41 31.0 +0.3
comp=Z,148nm,2.9s
NEW LR LR
comp=Z,4µm,18.0s
GCMT Greycliff 49.31 293 eP P 04 41 31.6 +0.6
GCMT Greycliff 49.31 293 eP P 04 41 31.6 +0.6
H22A Clearmont 49.36 290 ⇑P P 04 41 31.3 -0.1
baz=49,SNR=7.3
G20A Bridger 49.37 292 ⇑P P 04 41 31.4 -0.1
baz=49,SNR=11
CHMT Chamberlain Mo 49.38 297 eP P 04 41 31.1 -0.5
CHMT Chamberlain Mo 49.38 297 eP P 04 41 31.1 -0.5
CHMT ePcP PcP 04 42 56.3 +2.5
K28A Ten Mile Ranch 49.46 284 ⇓P P 04 41 32.3 +0.2
baz=49,SNR=6.0
J26A Sides Ranch, S 49.47 286 ⇑P P 04 41 32.2 +0.1
baz=49
I24A Kuemmerle Ranc 49.47 288 ⇑P P 04 41 32.0 -0.3
baz=49
IVRN Varamin 49.51 99 eP P 04 41 34.3 +1.8
CLNS Chul'man 49.52 28 eP P 04 41 32.0 -0.4
CLNS pmax pmax
comp=Z,16nm,1.2s
CLNS pmax pmax
comp=N,20nm,1.2s
MOY Mondy 49.53 48 eP P 04 41 34.5 +1.9
MOY pmax pmax
comp=Z,195nm,3.0s
H21A Big Horn, Sher 49.54 290 ⇓P P 04 41 32.2 -0.6
baz=49
N34A Lincoln 49.56 279 ⇑P P 04 41 32.2 -0.6
baz=49
BGNE Belgrade 49.59 281 ⇓P P 04 41 32.4 -0.6
baz=49
BGNE Belgrade 49.59 281 PFAKE 04 41 50.0 +17
BGNE LR LR
comp=Z,6µm,18.0s
L30A Spencer Herefo 49.61 283 ⇑P P 04 41 32.7 -0.5
baz=49
J25A Sunshine Ranch 49.63 287 ⇑P P 04 41 33.5 0.0
baz=49
I23A Meade Ranch, G 49.65 289 ⇑P P 04 41 33.3 -0.3
baz=49
MSO Missoula 49.66 297 eP P 04 41 33.3 -0.3
comp=Z,40nm,1.0s
MSO Missoula 49.66 297 ⇑P P 04 41 33.5 -0.1
baz=49,SNR=37
MSO Missoula 49.66 297 eP P 04 41 33.3 -0.3
comp=Z,40nm,1.0s
MSO LR LR
comp=Z,7µm,18.0s
KMSC Kings Mountain 49.69 262 eP P 04 41 34.5 +0.7
comp=Z,36nm,1.1s
KMSC Kings Mountain 49.69 262 ⇓P P 04 41 34.5 +0.7
baz=50,SNR=12
KMSC Kings Mountain 49.69 262 eP P 04 41 34.5 +0.7
comp=Z,36nm,1.1s
KMSC ePcP PcP 04 42 53.3 -1.5
KMSC LR LR
comp=Z,4µm,20.0s
O36A Bolckow 49.69 277 ⇓P P 04 41 33.3 -0.5
baz=50
K27A Flueckinger Fa 49.75 285 ⇓P P 04 41 34.2 -0.2
baz=50,SNR=10.0
L29A Maesberg Ranch 49.76 283 ⇓P P 04 41 34.3 -0.1
baz=50
RLMT Red Lodge 49.79 293 eP P 04 41 35.0 +0.3
comp=Z,34nm,1.4s
RLMT Red Lodge 49.79 293 eP P 04 41 35.0 +0.3
comp=Z,34nm,1.4s
RLMT ePcP PcP 04 42 56.0 +0.7
RLMT LR LR
comp=Z,5µm,20.0s
B08A Colville Reser 49.83 303 eP P 04 41 34.8 0.0
comp=Z,45nm,1.5s
B08A Colville Reser 49.83 303 eP P 04 41 34.8 0.0
comp=Z,45nm,1.5s
B08A ePP PP 04 43 30.9 +1.8
EKS2 Erkin-Say 49.85 75 P P 04 41 37.5 +2.3
SNR=5.9
EKS2 Erkin-Say 49.85 75 eP P 04 41 37.1 +2.0
EKS2 e 04 43 30.7
EKS2 pmax pmax
comp=Z,144nm,2.5s
EKS2 MLR MLR
comp=Z,1µm,19.0s
EKS2 Erkin-Say 49.85 75 eP P 04 41 37.1 +2.0
comp=Z,144nm,2.5s
EKS2 ePP PP 04 43 30.7 +1.2
EKS2 LR LR
comp=Z,1µm,19.0s
CHMS Chumysh 49.86 74 P P 04 41 37.0 +1.9
SNR=6.9
O35A Humboldt 49.88 278 ⇑P P 04 41 34.4 -0.9
baz=50
M31A Lambtecht Ranc 49.92 282 ⇓P P 04 41 35.2 -0.4
baz=50
J24A Dixon Ranch, L 49.96 288 ⇓P P 04 41 35.6 -0.4
baz=50
SIUC Southern Illin 49.97 271 PFAKE 04 41 50.0 +14
SIUC LR LR
comp=Z,2µm,20.0s
FRU Bishkek 49.97 74 eP P 04 41 37.0 +1.1
FRU pmax pmax
comp=Z,330nm,3.0s
H20A Greybull 49.97 291 ⇓P P 04 41 35.8 -0.2
baz=50,SNR=14
TKL Tuckaleechee C 50.02 264 eP P 04 41 36.8 +0.4
TKL e 04 42 56.0
TKL e 04 43 30.3
TKL Tuckaleechee C 50.02 264 eP P 04 41 36.8 +0.4
TKL Tuckaleechee C 50.02 264 eP P 04 41 36.8 +0.4
TKL ePcP PcP 04 42 56.0 -0.1
TKL ePP PP 04 43 30.3 -0.8
I22A 9 Mile Ranch, 50.03 289 ⇓P P 04 41 36.2 -0.3
baz=50,SNR=10
M30A Dale-Ortello V 50.03 282 ⇓P P 04 41 36.3 -0.2
baz=50
BOZ Bozeman (W) 50.03 295 eP P 04 41 36.3 -0.2
BOZ pmax pmax
comp=Z,11nm,1.0s
BOZ MLR MLR
comp=Z,4µm,19.0s
BOZ Bozeman (W) 50.03 295 eP P 04 41 36.3 -0.2
comp=Z,11nm,1.0s
BOZ Bozeman (W) 50.03 295 eP P 04 41 36.3 -0.2
comp=Z,11nm,1.0s
BOZ LR LR
comp=Z,4µm,19.0s
C09A Chrisman Ranch 50.04 301 eP P 04 41 36.2 -0.1
comp=Z,33nm,1.5s
C09A Chrisman Ranch 50.04 301 eP P 04 41 36.2 -0.1
comp=Z,33nm,1.5s
C09A ePcP PcP 04 42 57.2 +1.3
C09A ePP PP 04 43 30.7 -0.3
K26A Motz Farm, Whi 50.05 286 ⇑P P 04 41 36.3 -0.3
baz=50
AAK Ala-Archa 50.11 74 P P 04 41 39.5 +2.3
comp=Z,58nm,1.2s,SNR=7.4
AAK Ala-Archa 50.11 74 P P 04 41 39.5 +2.3
SNR=8.6
AAK Ala-Archa 50.11 74 P P 04 41 37.1 0.0
comp=Z,10nm,1.0s,baz=312,slow=4.4,SNR=14
AAK LR LR 05 02 30.6
comp=Z,761nm,19.2s,baz=318,slow=36
AAK Ala-Archa 50.11 74 ⇓iP P 04 41 39.2 +2.1
AAK pmax pmax
comp=Z,95nm,2.5s
AAK Ala-Archa 50.11 74 P P 04 41 39.3 +2.2
SNR=11
AAK Ala-Archa 50.11 74 eP P 04 41 39.0 +1.9
comp=Z,143nm,2.5s
AAK LR LR
comp=Z,1µm,20.0s
H19A Powell 50.11 292 ⇑P P 04 41 37.3 +0.2
baz=50,SNR=12
LRM Limekiln Ridge 50.12 296 eP P 04 41 37.9 +0.6
LRM Limekiln Ridge 50.12 296 eP P 04 41 37.9 +0.6
L28A Connealy Angus 50.15 284 ⇑P P 04 41 37.2 -0.1
baz=50
TLY Talaya 50.16 46 P P 04 41 38.5 +1.2
comp=Z,40nm,1.1s,SNR=5.8
TLY Talaya 50.16 46 P P 04 41 37.0 -0.3
comp=Z,1.8nm,0.6s,baz=337,slow=6.1,SNR=5.9
TLY PcP PcP 04 42 57.0 +0.6
comp=Z,5.8nm,0.8s,baz=310,slow=3.3,SNR=7.4
TLY LR LR 05 05 19.9
comp=Z,826nm,18.1s,baz=341,slow=39
TLY Talaya 50.16 46c iP P 04 41 37.8 +0.5
TLY e 04 42 57.3
TLY e 04 43 34.8
TLY eS S 04 48 48.5 +0.2
TLY pmax pmax
comp=Z,7.0nm,1.4s
TLY MLR MLR
comp=Z,1µm,17.0s
TLY Talaya 50.16 46 eP P 04 41 37.7 +0.5
TLY Talaya 50.16 46 P P 04 41 38.3 +1.1
SNR=6.7
TLY Talaya 50.16 46 eP P 04 41 37.7 +0.4
TLY ePcP PcP 04 42 57.2 +0.8
TLY LR LR
comp=Z,800nm,18.0s
J23A Dilts Ranch, B 50.18 288 ⇑P P 04 41 37.3 -0.3
baz=50
TKM2 Tokmak 2 50.20 73 P P 04 41 40.2 +2.3
SNR=11
TKM2 Tokmak 2 50.20 73 P P 04 41 39.2 +1.3
TKM2 pmax pmax
comp=Z,19nm,1.3s
TKM2 Tokmak 2 50.20 73 eP P 04 41 39.5 +1.6
comp=Z,12nm,1.0s
TKM2 ePcP PcP 04 42 56.7 -0.2
TKM2 ePP PP 04 43 33.4 +0.7
TKM2 LR LR
comp=Z,2µm,19.0s
N32A Stulken Farm, 50.22 281 ⇑P P 04 41 37.1 -0.7
baz=50
P36A Good Intent, A 50.23 277 ⇑P P 04 41 37.1 -0.8
baz=50
B06A Marblemount 50.28 304 PFAKE 04 41 50.0 +12
B06A LR LR
comp=Z,4µm,20.0s
AML Almayashu 50.30 75 P P 04 41 41.7 +2.8
SNR=6.6
H18A Shoshone NF, C 50.31 293 ⇑P P 04 41 38.4 -0.4
baz=50,SNR=10
L27A T5 Ranch, Ells 50.33 285 ⇓P P 04 41 38.9 +0.1
baz=50
I21A Big Trails, Te 50.35 290 ⇓P P 04 41 38.3 -0.7
baz=50,SNR=24
K25A Mack Ranch, Ha 50.35 287 ⇑P P 04 41 39.1 +0.1
baz=50
N31A Bailey Ranch, 50.38 281 ⇓P P 04 41 38.7 -0.4
baz=50
M29A Burnside Ranch 50.38 283 ⇓P P 04 41 38.8 -0.3
baz=50
JSC Jenkinsville 50.45 261 eP P 04 41 41.0 +1.4
JSC e 04 42 57.7
JSC e 04 43 36.0
JSC Jenkinsville 50.45 261 eP P 04 41 41.0 +1.4
JSC Jenkinsville 50.45 261 eP P 04 41 41.0 +1.4
JSC ePcP PcP 04 42 57.7 +0.1
JSC ePP PP 04 43 36.0 +1.0
J22A Midwest 50.46 289 ⇑P P 04 41 38.7 -1.1
baz=50,SNR=15
CPCT Cooper Cave 50.46 265 eP P 04 41 40.6 +0.9
CPCT Cooper Cave 50.46 265 eP P 04 41 40.6 +0.9
CPCT ePP PP 04 43 36.2 +1.1
UCH Uchtor 50.48 74 P P 04 41 42.8 +2.5
SNR=13
I20A Worland 50.49 291 ⇓P P 04 41 40.2 +0.2
baz=50,SNR=12
K24A Anderson Ranch 50.56 287 ⇑P P 04 41 40.1 -0.4
baz=50
DLMT Dillon 50.58 295 eP P 04 41 40.8 +0.1
comp=Z,16nm,1.2s
DLMT Dillon 50.58 295 eP P 04 41 40.8 +0.1
comp=Z,16nm,1.2s
DLMT LR LR
comp=Z,6µm,19.0s
P35A Duane Minner, 50.58 278 ⇓P P 04 41 40.1 -0.5
baz=50,SNR=6.1
YNR Norris Junctio 50.59 293 PFAKE 04 41 50.0 +9.1
YNR LR LR
comp=Z,7µm,21.0s
O33A Hebron 50.60 280 ⇓P P 04 41 39.6 -1.1
baz=50,SNR=7.2
L26A Underwood Farm 50.62 286 ⇓P P 04 41 41.0 +0.1
baz=50
LKWY Lake 50.64 293 eP P 04 41 42.3 +1.0
LKWY e 04 43 36.4
LKWY pmax pmax
comp=Z,87nm,2.1s
LKWY MLR MLR
comp=Z,11µm,18.0s
LKWY Lake 50.64 293 eP P 04 41 42.2 +1.0
comp=Z,87nm,2.1s
LKWY Lake 50.64 293 eP P 04 41 42.2 +1.0
comp=Z,87nm,2.1s
LKWY ePP PP 04 43 36.4 -0.4
LKWY LR LR
comp=Z,11µm,18.0s
M28A Bar X Bar Ranc 50.65 284 ⇓P P 04 41 40.8 -0.4
baz=50
Q37A Longview Farm, 50.65 276 ⇑P P 04 41 40.5 -0.6
baz=50
O32A Brockman Farm, 50.66 280 ⇑P P 04 41 40.4 -0.8
baz=50
I19A Meeteetse 50.68 292 ⇑P P 04 41 41.7 +0.2
baz=50
PGC Sidney 50.70 306 PFAKE 04 41 50.0 +8.7
PGC LR LR
comp=Z,5µm,20.0s
YMR Madison River 50.72 294 PFAKE 04 41 50.0 +8.2
YMR LR LR
comp=Z,7µm,18.0s
N30A Hueftle Ranch, 50.78 282 ⇓P P 04 41 41.8 -0.3
baz=50
K23A Bowen Ranch, D 50.78 288 ⇓P P 04 41 41.7 -0.5
baz=50
L25A Engebretsen Ra 50.80 286 ⇑P P 04 41 42.3 0.0
baz=51
J21A Lysite 50.82 290 ⇓P P 04 41 42.2 -0.4
baz=51,SNR=13
P34A Walnut Farm, R 50.83 279 ⇓P P 04 41 41.8 -0.6
baz=51,SNR=7.4
H17A Grant Village 50.84 293 eP P 04 41 44.4 +1.6
comp=Z,28nm,1.1s
H17A Grant Village 50.84 293 ⇓P P 04 41 44.1 +1.3
baz=51,SNR=18
H17A Grant Village 50.84 293 eP P 04 41 44.4 +1.6
comp=Z,28nm,1.1s
H17A ePcP PcP 04 43 01.4 +2.1
H17A ePP PP 04 43 45.5 +6.9
H17A LR LR
comp=Z,6µm,21.0s
M27A Reverse DX Ran 50.86 285 ⇑P P 04 41 42.2 -0.5
baz=51
YFT Old Faithful 50.87 293 eP P 04 41 44.4 +1.4
comp=Z,20nm,1.0s
YFT Old Faithful 50.87 293 eP P 04 41 44.4 +1.4
comp=Z,20nm,1.0s
Q36A Arnold C. Orve 50.91 277 ⇓P P 04 41 42.2 -0.8
baz=51
N29A Votaw Ranch, W 50.93 283 ⇓P P 04 41 42.7 -0.5
baz=51
IKLH Kolahrood 51.00 100 eP P 04 41 45.3 +1.2
ULHL Ulahol 51.02 73 P P 04 41 46.1 +2.0
SNR=5.7
J20A Shoshoni 51.02 291 ⇓P P 04 41 44.0 0.0
baz=51,SNR=26
UTMT University of 51.09 270 eP P 04 41 44.8 +0.4
comp=Z,96nm,1.2s
UTMT University of 51.09 270 eP P 04 41 44.8 +0.4
comp=Z,96nm,1.2s
O31A Woolen Ranch, 51.11 281 ⇑P P 04 41 43.8 -0.7
baz=51
MCMT McKenzie Canyo 51.14 295 eP P 04 41 45.5 +0.5
MCMT McKenzie Canyo 51.14 295 eP P 04 41 45.5 +0.5
SWET Sewanee 51.14 266 eP P 04 41 44.6 -0.3
SWET Sewanee 51.14 266 eP P 04 41 44.6 -0.3
SWET ePP PP 04 43 40.9 -0.4
M26A McRoberts Ranc 51.16 285 ⇑P P 04 41 44.6 -0.4
baz=51
K22A Casper 51.16 289 eP P 04 41 44.5 -0.6
comp=Z,40nm,1.0s
K22A Casper 51.16 289 ⇓P P 04 41 44.3 -0.8
baz=51,SNR=19
K22A Casper 51.16 289 eP P 04 41 44.5 -0.6
comp=Z,40nm,1.0s
K22A ePcP PcP 04 42 59.3 -1.1
K22A ePP PP 04 43 38.1 -3.4
K22A LR LR
comp=Z,4µm,21.0s
KSU1 Kansas State U 51.16 278 ⇓P P 04 41 44.2 -0.7
baz=51
KSU1 Kansas State U 51.16 278 PFAKE 04 42 00.0 +15
KSU1 LR LR
comp=Z,5µm,20.0s
FLWY Flagg Ranch 51.16 293 PFAKE 04 42 00.0 +15
FLWY LR LR
comp=Z,4µm,22.0s
Q35A Mercer Eighty, 51.19 278 ⇑P P 04 41 44.2 -0.9
baz=51,SNR=7.1
LTY Liberty 51.21 303 PFAKE 04 42 00.0 +15
LTY LR LR
comp=Z,4µm,20.0s
P33A Williams Farm, 51.22 279 ⇓P P 04 41 44.5 -0.9
baz=51
PBMO Poplar Bluff 51.22 271 eP P 04 41 45.1 -0.2
comp=Z,60nm,1.3s
PBMO Poplar Bluff 51.22 271 eP P 04 41 45.1 -0.2
comp=Z,60nm,1.3s
PBMO ePcP PcP 04 43 00.2 -0.2
PBMO LR LR
comp=Z,3µm,21.0s
OGNE Ogallala 51.27 284 ⇓P P 04 41 45.6 -0.2
baz=51,SNR=6.0
I17A Pilgrim Ck. 51.27 293 ⇑P P 04 41 45.4 -0.6
baz=51
ZAK Zakamensk 51.28 47 ⇓eP P 04 41 46.5 +0.7
ZAK e 04 43 46.8
ZAK pmax pmax
comp=Z,9.0nm,2.5s
R37A Teagarden Farm 51.29 276 ⇑P P 04 41 45.0 -0.9
baz=51,SNR=7.8
SPIA Saint Paul Isl 51.30 343 PFAKE 04 42 00.0 +14
SPIA LR LR
comp=Z,2µm,19.0s
PVMO Portageville 51.31 270 PFAKE 04 42 00.0 +14
PVMO LR LR
comp=Z,2µm,20.0s
O30A MW Ranch, Wils 51.32 282 ⇓P P 04 41 45.5 -0.6
baz=51
N28A Pribbeno Ranch 51.34 283 ⇓P P 04 41 46.0 -0.3
baz=51
P32A Huiting Farm, 51.35 280 ⇑P P 04 41 45.2 -1.2
baz=51,SNR=8.7
IPIR Pirpir 51.36 101 eP P 04 41 47.3 +0.5
F10A Beach Ranch, E 51.40 300 PFAKE 04 42 00.0 +13
F10A LR LR
comp=Z,3µm,19.0s
J19A Crowheart 51.40 291 ⇑P P 04 41 46.9 0.0
baz=51,SNR=19
IMW Indian Meadow 51.41 293 eP P 04 41 47.5 +0.5
comp=Z,12nm,0.9s
IMW Indian Meadow 51.41 293 eP P 04 41 47.5 +0.5
comp=Z,12nm,0.9s
IMW ePcP PcP 04 43 01.5 +0.1

IMW ePP PP 04 43 45.9 +2.1
IMW LR LR
comp=Z,5µm,22.0s
Q34A Chapman 51.44 278 ⇑P P 04 41 46.5 -0.5
baz=51
M25A Palm-Egli Farm 51.48 286 ⇓P P 04 41 47.5 0.0
baz=51
MOOW Moose Ponds 51.48 293 eP P 04 41 47.9 +0.4
comp=Z,45nm,2.3s
MOOW Moose Ponds 51.48 293 eP P 04 41 47.9 +0.4
comp=Z,45nm,2.3s
R36A Gordon, Harris 51.50 277 ⇑P P 04 41 46.7 -0.8
baz=51,SNR=19
N27A Anderson Farm, 51.56 284 ⇑P P 04 41 48.2 +0.2
baz=51
LOHW Long Hollow 51.56 293 eP P 04 41 47.8 -0.3
comp=Z,38nm,1.9s
LOHW Long Hollow 51.56 293 eP P 04 41 47.8 -0.3
comp=Z,38nm,1.9s
LOHW ePP PP 04 43 46.1 +0.9
LOHW LR LR
comp=Z,4µm,21.0s
O29A 4D Ranch, Culb 51.61 282 ⇓P P 04 41 47.2 -1.1
baz=51
D05A Enumclaw 51.64 304 PFAKE 04 42 00.0 +12
D05A LR LR
comp=Z,4µm,20.0s
Q33A Connelly Farm, 51.66 279 ⇓P P 04 41 47.6 -1.1
baz=51,SNR=8.1
FXWY Fox Creek 51.67 293 eP P 04 41 49.4 +0.4
comp=Z,69nm,2.3s
FXWY Fox Creek 51.67 293 eP P 04 41 49.4 +0.4
comp=Z,69nm,2.3s
FXWY ePcP PcP 04 43 02.9 +0.6
FXWY ePP PP 04 43 49.5 +3.5
FXWY LR LR
comp=Z,5µm,21.0s
HAWA Hanford 51.68 302 eP P 04 41 48.3 -0.4
comp=Z,112nm,2.3s
HAWA Hanford 51.68 302 eP P 04 41 48.4 -0.4
comp=Z,112nm,2.3s
HAWA ePP PP 04 43 47.3 +1.5
HAWA LR LR
comp=Z,6µm,18.0s
P31A Stockton 51.69 281 ⇑P P 04 41 48.1 -0.8
baz=52
R35A Emporia Munici 51.73 277 ⇑P P 04 41 48.2 -1.0
baz=52
SNOW Snow King Moun 51.74 293 eP P 04 41 50.0 +0.5
comp=Z,10nm,0.9s
SNOW Snow King Moun 51.74 293 eP P 04 41 50.0 +0.5
comp=Z,10nm,0.9s
SNOW ePP PP 04 43 51.6 +4.8
SNOW LR LR
comp=Z,4µm,21.0s
N26A Koester Ranch, 51.76 285 ⇓P P 04 41 49.2 -0.3
baz=52
TPAW Teton Pass 51.78 293 eP P 04 41 49.7 -0.1
comp=Z,64nm,2.1s
TPAW Teton Pass 51.78 293 eP P 04 41 49.7 -0.1
comp=Z,64nm,2.1s
TPAW ePcP PcP 04 43 03.6 +0.8
TPAW ePP PP 04 43 48.1 +1.0
TPAW LR LR
comp=Z,4µm,22.0s
REDW Red Top Meadow 51.87 293 eP P 04 41 50.8 +0.4
comp=Z,63nm,1.9s
REDW Red Top Meadow 51.87 293 eP P 04 41 50.9 +0.4
comp=Z,63nm,1.9s
REDW ePP PP 04 43 48.3 +0.5
REDW LR LR
comp=Z,4µm,22.0s
Q32A Meitler Ranch, 51.91 280 ⇑P P 04 41 49.5 -1.0
baz=52,SNR=8.4
O28A Krutsinger Ran 51.93 283 ⇓P P 04 41 50.5 -0.2
baz=52
P30A Selden 51.96 282 ⇓P P 04 41 50.2 -0.7
baz=52,SNR=9.6
NLWA Neilton Lookou 51.96 306 PFAKE 04 42 00.0 +9.1
NLWA LR LR
comp=Z,5µm,19.0s
BW06 Boulder Array 52.01 291 eP P 04 41 50.8 -0.7
BW06 Boulder Array 52.01 291 eP P 04 41 50.8 -0.7
BW06 ePP PP 04 43 46.2 -2.9
BW06 LR LR
comp=Z,6µm,20.0s
PD31 Pinedale Array 52.01 291 eP P 04 41 50.6 -0.9
PD31 Pinedale Array 52.01 291 eP P 04 41 50.6 -0.9
PD31 ePP PP 04 43 49.3 +0.1
PDAR Pinedale Array 52.01 291 P P 04 41 50.6 -0.9
comp=Z,8.4nm,0.9s,baz=39,slow=7.6,SNR=57
PDAR PP PP 04 43 50.6 +1.5
comp=Z,1.0nm,0.8s,baz=42,slow=11,SNR=3.6
PDAR LR LR 05 03 43.9
comp=Z,5µm,20.0s,baz=28,slow=36
PHWY Pilot Hill 52.05 287 eP P 04 41 51.3 -0.6
comp=Z,14nm,1.0s
PHWY Pilot Hill 52.05 287 eP P 04 41 51.3 -0.6
comp=Z,14nm,1.0s
PHWY ePcP PcP 04 43 03.4 -0.4
PHWY LR LR
comp=Z,2µm,18.0s
S36A Lake Cedric, C 52.08 277 ⇓P P 04 41 50.5 -1.2
baz=52,SNR=7.0
O27A Beecher Island 52.10 284 ⇓P P 04 41 51.3 -0.7
baz=52
R34A Isabella, Hill 52.10 278 ⇓P P 04 41 50.8 -1.2
baz=52,SNR=6.2
P29A Atwood 52.13 282 ⇓P P 04 41 51.5 -0.8
baz=52
Q31A Ellis 52.17 281 ⇓P P 04 41 51.6 -0.9
baz=52,SNR=5.6
O26A Horse Wrangler 52.32 285 ⇓P P 04 41 52.7 -1.0
baz=52
R33A Olander Ranch, 52.34 279 ⇓P P 04 41 52.2 -1.5
baz=52
S35A Otter Creek Ra 52.35 277 ⇓P P 04 41 52.6 -1.3
baz=52
T37A Cheneyville 18 52.40 276 ⇓P P 04 41 52.9 -1.2
baz=52,SNR=8.1
P28A Saint Francis 52.42 283 ⇓P P 04 41 54.1 -0.3
baz=52,SNR=8.7
BMO Blue Mountains 52.44 299 eP P 04 41 53.8 -0.7
comp=Z,17nm,1.0s
BMO Blue Mountains 52.44 299 eP P 04 41 53.8 -0.7
comp=Z,17nm,1.0s
BMO LR LR
comp=Z,3µm,20.0s
Q30A Quinter 52.46 281 ⇓P P 04 41 54.1 -0.6
baz=52,SNR=5.4
R32A Long Quarter, 52.47 280 ⇑P P 04 41 53.6 -1.1
baz=52,SNR=5.2
AHID Auburn Hatcher 52.48 293 PFAKE 04 42 10.0 +15
AHID LR LR
comp=Z,3µm,22.0s
G08A Pilot Rock 52.52 301 eP P 04 41 55.0 -0.1
comp=Z,35nm,1.3s
G08A Pilot Rock 52.52 301 eP P 04 41 55.0 -0.1
comp=Z,35nm,1.3s
N23A Red Feather La 52.57 287 eP P 04 41 56.2 +0.5
comp=Z,79nm,1.3s
N23A Red Feather La 52.57 287 ⇑P P 04 41 56.0 +0.2
baz=52,SNR=25
N23A Red Feather La 52.57 287 eP P 04 41 56.2 +0.5
comp=Z,79nm,1.3s
N23A ePcP PcP 04 43 05.9 +0.1
N23A LR LR
comp=Z,3µm,22.0s
S34A Willow Spring 52.60 278 ⇑P P 04 41 54.6 -1.0
baz=52
P27A Ficken Ranch, 52.70 284 ⇑P P 04 41 56.3 -0.2
baz=52,SNR=10
HLID Hailey 52.76 296 eP P 04 41 57.1 +0.1
comp=Z,19nm,1.2s
HLID Hailey 52.76 296 ⇓P P 04 41 56.9 -0.1
baz=52,SNR=15
HLID Hailey 52.76 296 eP P 04 41 57.1 +0.1
comp=Z,19nm,1.2s
HLID LR LR
comp=Z,6µm,18.0s
T36A Boggs Farm, Ca 52.77 276 ⇓P P 04 41 55.7 -1.2
baz=53,SNR=8.0
Q29A Oakley 52.79 282 ⇑P P 04 41 56.8 -0.4
baz=53,SNR=5.3
N22A Wattenberg Ran 52.81 288 ⇑P P 04 41 57.7 +0.1
baz=53,SNR=12
R31A Burdett 52.86 280 ⇑P P 04 41 56.8 -0.8
baz=53,SNR=9.3
F04A Amboy 52.91 304 eP P 04 41 57.7 -0.1
comp=Z,67nm,1.3s
F04A Amboy 52.91 304 eP P 04 41 57.7 -0.1
comp=Z,67nm,1.3s
F04A LR LR
comp=Z,6µm,21.0s
Q28A Sharon Springs 52.91 283 ⇓P P 04 41 57.8 -0.3
baz=53,SNR=10.0
ICHK Chekchek 52.91 98 eP P 04 42 00.3 +2.0
F04D Rainier, OR 52.93 304 ⇓P P 04 41 56.0 -2.0
baz=53
OXF Oxford 52.94 269 eP P 04 41 57.1 -1.1
OXF e 04 43 06.1
OXF pmax pmax
comp=Z,111nm,1.1s
OXF MLR MLR
comp=Z,2µm,18.0s
OXF Oxford 52.94 269 eP P 04 41 57.1 -1.1
comp=Z,111nm,1.1s
OXF Oxford 52.94 269 eP P 04 41 57.1 -1.1
comp=Z,111nm,1.1s
OXF ePcP PcP 04 43 06.0 -0.9
OXF LR LR
comp=Z,2µm,18.0s
P26A Davis Ranch, A 52.95 284 ⇓P P 04 41 58.1 -0.3
baz=53,SNR=5.7
ISAD Sadrabad 52.98 99 eP P 04 42 02.0 +3.1
S33A Kaszmaul Farm, 52.99 279 ⇓P P 04 41 57.7 -0.8
baz=53
WMQ Urumqi 53.10 62 P P 04 42 01.8 +2.4
WMQ pP pP 04 42 04.3 +1.0
WMQ PP PP 04 44 03.1 +4.3
WMQ PcS PcS 04 47 07.7 +1.4
WMQ S S 04 49 29.4 +0.4
WMQ sS sS 04 49 37.0 +1.5
WMQ ScS ScS 04 51 47.6 -0.7
WMQ SS SS 04 53 07.7 +0.1
WMQ PMZ
comp=Z,15nm,0.8s
WMQ PMZ
comp=Z,450nm,4.0s
WMQ LN
comp=Z,1µm,13.6s
WMQ LE
comp=Z,2µm,17.7s
WMQ LZ
comp=Z,1µm,17.7s
R30A Dighton 53.11 281 ⇑P P 04 41 59.0 -0.4
baz=53,SNR=11
T35A Sooner Cattle 53.11 277 ⇑P P 04 41 58.5 -1.0
baz=53,SNR=12
O23A Lake Granby, G 53.18 287 ⇑P P 04 42 00.6 +0.4
baz=53,SNR=16
S32A Newby Ranch, P 53.20 280 ⇓P P 04 41 59.4 -0.7
baz=53
KSCO Kaye Shedlock' 53.21 284 eP P 04 42 00.3 -0.1
comp=Z,144nm,1.8s
KSCO Kaye Shedlock' 53.21 284 ⇑P P 04 42 00.2 -0.1
baz=53
KSCO Kaye Shedlock' 53.21 284 eP P 04 42 00.3 -0.1
comp=Z,144nm,1.8s
KSCO ePcP PcP 04 43 06.4 -1.7
KSCO ePP PP 04 44 02.8 +2.8
KSCO LR LR
comp=Z,3µm,20.0s
G05D Wamic, OR 53.23 302 ⇑P P 04 42 00.5 +0.2
baz=53
T34A McClaskey Farm 53.24 278 ⇓P P 04 41 59.3 -1.1
baz=53,SNR=9.0
R29A Marienthal 53.26 282 ⇑P P 04 42 00.0 -0.6
baz=53
MFID Camas Ranch 53.32 297 eP P 04 42 00.2 -0.8
MFID Camas Ranch 53.32 297 eP P 04 42 00.2 -0.8
MFID ePcP PcP 04 43 07.8 -0.6
MFID LR LR
comp=Z,6µm,18.0s
N20A Spence Gulch, 53.36 289 ⇓P P 04 42 01.0 -0.5
baz=53,SNR=14
KSH Kashi 53.40 74 P P 04 42 06.1 +4.4
KSH epP pP 04 42 10.1 +4.4
KSH PP PP 04 44 08.5 +6.8
KSH PcS PcS 04 47 11.5 +3.7
KSH S S 04 49 35.0 +1.7
KSH sS sS 04 49 43.4 +3.6
KSH ScS ScS 04 51 51.5 +0.9
KSH SS SKiKP 04 53 15.5 -1.5
KSH PMZ
comp=Z,41nm,1.5s
KSH LN
comp=Z,1µm,11.9s
KSH LE
comp=Z,1µm,12.9s
KSH LZ
comp=Z,820nm,19.3s
O22A Kremmling 53.42 288 ⇑P P 04 42 02.1 0.0
baz=53,SNR=17
S31A Mullinville 53.45 280 ⇓P P 04 42 01.5 -0.5
baz=53,SNR=6.0
ISCO Idaho Springs 53.46 287 ⇑P P 04 42 02.5 +0.1
baz=53
ISCO Idaho Springs 53.46 287 PFAKE 04 42 10.0 +7.6
ISCO LR LR
comp=Z,3µm,22.0s
LRAL Lakeview Retre 53.49 266 eP P 04 42 01.3 -0.9
comp=Z,283nm,2.9s
LRAL Lakeview Retre 53.49 266 eP P 04 42 01.3 -0.9
comp=Z,283nm,2.9s
LRAL ePcP PcP 04 43 07.2 -1.8
LRAL ePP PP 04 44 00.8 -1.7
LRAL LR LR
comp=Z,2µm,19.0s
T33A Patterson Ranc 53.53 279 ⇓P P 04 42 01.6 -0.9
baz=53
R28A Tribune 53.56 282 ⇑P P 04 42 02.4 -0.4
baz=53,SNR=15
Q26A Hugo 53.58 284 ⇑P P 04 42 02.6 -0.5
baz=53
T32A Huddler Ranch, 53.67 279 ⇑P P 04 42 03.0 -0.6
baz=53,SNR=5.3
UALR University of 53.68 272 eP P 04 42 03.3 -0.3
comp=Z,255nm,2.6s
UALR University of 53.68 272 eP P 04 42 03.3 -0.3
comp=Z,255nm,2.6s
UALR ePcP PcP 04 43 08.6 -1.1
HWUT Hardware Ranch 53.68 293 eP P 04 42 03.6 -0.2
comp=Z,150nm,2.3s
HWUT Hardware Ranch 53.68 293 eP P 04 42 03.6 -0.2
comp=Z,150nm,2.3s
HWUT ePcP PcP 04 43 10.4 +0.5
HWUT LR LR
comp=Z,4µm,21.0s
S30A Montezuma 53.76 281 ⇑P P 04 42 03.8 -0.4
baz=54
IMEH Mehriz 53.77 98 eP P 04 42 06.0 +1.4
I07A Izee 53.78 300 eP P 04 42 04.8 +0.4
comp=Z,15nm,1.0s
I07A Izee 53.78 300 eP P 04 42 04.8 +0.4
comp=Z,15nm,1.0s
I07A LR LR
comp=Z,2µm,21.0s
TUL1 Leonard 53.79 276 eP P 04 42 04.3 -0.1
TUL1 Leonard 53.79 276 ⇑P P 04 42 03.0 -1.4
baz=54
TUL1 Leonard 53.79 276 eP P 04 42 04.3 -0.1
TUL1 ePcP PcP 04 43 09.8 -0.4
TUL1 LR LR
comp=Z,2µm,21.0s
TIGA Tifton 53.83 262 eP P 04 42 04.6 -0.1
comp=Z,414nm,2.5s
TIGA Tifton 53.83 262 ⇓P P 04 42 05.1 +0.4
baz=54
TIGA Tifton 53.83 262 eP P 04 42 04.6 -0.1
comp=Z,414nm,2.5s
TIGA ePcP PcP 04 43 10.6 +0.3
TIGA LR LR
comp=Z,3µm,22.0s
U34A Anderson Ranch 53.89 278 ⇓P P 04 42 04.5 -0.6
baz=54,SNR=5.2
U34A Anderson Ranch 53.89 278 PFAKE 04 42 20.0 +15
U34A LR LR
comp=Z,4µm,20.0s
HVU Hansel Valley 53.89 294 eP P 04 42 05.2 -0.1
HVU pmax pmax
comp=Z,21nm,1.4s
HVU MLR MLR
comp=Z,5µm,21.0s
HVU Hansel Valley 53.89 294 eP P 04 42 05.2 -0.1
comp=Z,21nm,1.4s
HVU Hansel Valley 53.89 294 eP P 04 42 05.2 -0.1
comp=Z,21nm,1.4s
HVU LR LR
comp=Z,5µm,21.0s
P23A Jefferson 53.92 287 ⇑P P 04 42 05.8 +0.1
baz=54,SNR=7.9
R27A Eads 53.93 283 ⇑P P 04 42 05.8 +0.2
baz=54
O20A White River Ci 53.99 289 eP P 04 42 06.2 +0.1
comp=Z,55nm,1.0s
O20A White River Ci 53.99 289 ⇓P P 04 42 06.3 +0.1
baz=54,SNR=13
O20A White River Ci 53.99 289 eP P 04 42 06.2 +0.1
comp=Z,55nm,1.0s
O20A LR LR
comp=Z,3µm,20.0s
S29A Ulysses 53.99 281 ⇓P P 04 42 05.4 -0.6
baz=54
T31A Randall Ranch, 53.99 280 ⇑P P 04 42 05.5 -0.5
baz=54
P22A Eagle 54.01 287 ⇑P P 04 42 05.9 -0.4
baz=54
I05D Terrebonne, OR 54.07 302 ⇑P P 04 42 04.8 -1.6
baz=54
Q24A Divide 54.07 286 eP P 04 42 06.5 -0.3
comp=Z,12nm,1.1s
Q24A Divide 54.07 286 ⇓P P 04 42 06.4 -0.5
baz=54,SNR=7.3
Q24A Divide 54.07 286 eP P 04 42 06.5 -0.3
comp=Z,12nm,1.1s
Q24A ePcP PcP 04 43 11.1 -0.5
Q24A LR LR
comp=Z,3µm,18.0s
TCUT Toone Canyon 54.08 292 PFAKE 04 42 20.0 +13
TCUT LR LR
comp=Z,4µm,19.0s
U33A Lingo Farm, Me 54.08 278 ⇑P P 04 42 05.8 -0.8
baz=54
R26A Arlington 54.12 284 ⇑P P 04 42 06.8 -0.2
baz=54
W38A Poteau 54.13 274 ⇑P P 04 42 06.4 -0.5
baz=54,SNR=14
UNV Unalaska Valle 54.20 340 PFAKE 04 42 20.0 +13
UNV LR LR
comp=Z,2µm,20.0s
S28A Manter 54.27 282 ⇑P P 04 42 07.3 -0.7
baz=54,SNR=5.2
V35A Meyer Ranch, C 54.27 277 ⇓P P 04 42 07.2 -0.7
baz=54,SNR=5.5
MIAR Mount Ida 54.30 273 eP P 04 42 07.6 -0.5
MIAR e 04 43 11.5
MIAR pmax pmax
comp=Z,170nm,2.1s
MIAR MLR MLR
comp=Z,2µm,18.0s
MIAR Mount Ida 54.30 273 eP P 04 42 07.6 -0.5
comp=Z,170nm,2.1s
MIAR Mount Ida 54.30 273 eP P 04 42 07.6 -0.5
comp=Z,170nm,2.1s
MIAR ePcP PcP 04 43 11.5 -0.6
MIAR LR LR
comp=Z,2µm,18.0s
T30A Plains 54.31 281 ⇓P P 04 42 07.8 -0.5
baz=54
Q23A Hartsel 54.34 286 ⇓P P 04 42 08.2 -0.6
baz=54
W37A Quinton 54.37 275 ⇓P P 04 42 07.9 -0.8
baz=54,SNR=6.1
COR Corvallis 54.39 304 PFAKE 04 42 20.0 +11
COR LR LR
comp=Z,4µm,21.0s
SONA1 Songino Array 54.39 45 eP P 04 42 09.3 +0.4
SONA1 Songino Array 54.39 45 eP P 04 42 09.3 +0.4
SONA1 ePcP PcP 04 43 13.0 +0.6
SONA0 Songino Array 54.40 45 eP P 04 42 09.1 +0.2
SONA0 Songino Array 54.40 45 eP P 04 42 09.1 +0.2
SONA0 ePcP PcP 04 43 12.5 +0.1
SONM Songino Array 54.40 45 P P 04 42 09.1 +0.2
comp=Z,3.8nm,0.9s,baz=328,slow=6.8,SNR=9.2
SONM PcP PcP 04 43 12.5 +0.1
comp=Z,2.8nm,0.8s,baz=354,slow=4.3,SNR=3.7
SONM LR LR 05 08 04.9
comp=Z,2µm,20.0s,baz=346,slow=39
SONM Songino Array 54.40 45 P P 04 42 09.1 +0.2
SONM 04 43 12.5
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM MLR MLR
comp=Z,2µm,20.0s
PINOR Pine Mountain 54.42 301 PFAKE 04 42 20.0 +11
PINOR LR LR
comp=Z,3µm,18.0s
U32A Winter Ranch, 54.42 279 ⇑P P 04 42 08.7 -0.4
baz=54,SNR=7.9
V34A Guthrie 54.43 277 eP P 04 42 08.5 -0.6
comp=Z,183nm,2.0s
V34A Guthrie 54.43 277 ⇑P P 04 42 08.5 -0.6
baz=54,SNR=6.7
V34A Guthrie 54.43 277 eP P 04 42 08.5 -0.6
comp=Z,183nm,2.0s
V34A ePcP PcP 04 43 13.3 +0.7
V34A LR LR
comp=Z,4µm,20.0s
SMCO Snowmass 54.46 287 eP P 04 42 09.7 -0.1
comp=Z,26nm,1.1s
SMCO Snowmass 54.46 287 eP P 04 42 09.7 -0.1
comp=Z,27nm,1.1s
SMCO ePcP PcP 04 43 12.8 -0.4
SMCO ePP PP 04 44 09.9 -1.6
SMCO LR LR
comp=Z,2µm,22.0s
T29A Hugoton 54.47 281 ⇓P P 04 42 08.7 -0.8
baz=54
S27A Las Animas 54.51 283 ⇓P P 04 42 09.5 -0.3
baz=54
ULN Ulaanbaatar 54.53 45 eP P 04 42 12.8 +2.9
ULN pmax pmax
comp=Z,186nm,2.5s
ULN MLR MLR
comp=Z,2µm,19.0s
ULN Ulaanbaatar 54.53 45 P P 04 42 15.8 +6.0
SNR=17
ULN Ulaanbaatar 54.53 45 eP P 04 42 12.8 +2.9
comp=Z,186nm,2.5s
ULN LR LR
comp=Z,2µm,19.0s
JLU Jordanelle 54.56 292 eP P 04 42 08.3 -2.0
JLU Jordanelle 54.56 292 eP P 04 42 08.3 -2.0
JLU ePcP PcP 04 43 10.6 -2.7
JLU LR LR
comp=Z,4µm,18.0s
CTU Camp Tracy 54.57 292 eP P 04 42 09.8 -0.5
comp=Z,24nm,1.4s
CTU Camp Tracy 54.57 292 eP P 04 42 09.8 -0.5
comp=Z,24nm,1.4s
CTU LR LR
comp=Z,4µm,19.0s
W36A Wetumka 54.64 276 ⇓P P 04 42 10.1 -0.5
baz=54
V33A Lossen Ranch, 54.70 278 ⇓P P 04 42 10.4 -0.6
baz=54,SNR=5.4
U31A Nine Bar Ranch 54.71 280 ⇓P P 04 42 10.7 -0.5
baz=54
BGU Big Grassy Mou 54.75 293 eP P 04 42 11.6 0.0
comp=Z,40nm,1.1s
BGU Big Grassy Mou 54.75 293 eP P 04 42 11.6 0.0
comp=Z,40nm,1.1s
BGU LR LR
comp=Z,5µm,21.0s
S26A Kim 54.75 284 ⇓P P 04 42 10.9 -0.7
baz=54,SNR=6.8
T28A Walsh 54.77 282 ⇓P P 04 42 11.4 -0.2
baz=54,SNR=11
U30A WK&E Inc. Balk 54.83 280 ⇓P P 04 42 11.8 -0.3
baz=55
W35A Tecumseh 54.84 276 ⇑P P 04 42 11.4 -0.7
baz=55,SNR=9.5
X37A Clayton 54.86 275 ⇓P P 04 42 11.8 -0.4
baz=55,SNR=9.8
I04A Tendick Farm, 54.87 303 ⇓P P 04 42 11.5 -0.7
baz=55
R23A Moffat 54.99 286 ⇑P P 04 42 13.4 0.0
baz=55,SNR=8.6
J05D Fort Rock, OR 55.01 301 ⇓P P 04 42 14.0 +0.6

baz=55,SNR=9.7
T27A Campo 55.02 283 ⇑P P 04 42 13.3 -0.3
baz=55,SNR=10
V32A Arapaho 55.04 279 ⇑P P 04 42 13.2 -0.4
baz=55
WVOR Wild Horse Val 55.04 299 PFAKE 04 42 30.0 +16
WVOR LR LR
comp=Z,2µm,20.0s
W34A Bridge Creek, 55.06 277 eP P 04 42 13.2 -0.5
comp=Z,114nm,1.9s
W34A Bridge Creek, 55.06 277 ⇓P P 04 42 13.2 -0.5
baz=55
W34A Bridge Creek, 55.06 277 eP P 04 42 13.2 -0.5
comp=Z,114nm,1.9s
W34A ePcP PcP 04 43 10.4 -4.6
W34A LR LR
comp=Z,4µm,20.0s
U29A Oasis Ranch, S 55.10 281 ⇓P P 04 42 13.5 -0.5
baz=55
MPU Maple Canyon 55.15 292 eP P 04 42 14.7 +0.2
comp=Z,47nm,1.2s
MPU Maple Canyon 55.15 292 eP P 04 42 14.7 +0.2
comp=Z,47nm,1.2s
MPU ePP PP 04 44 21.4 +3.9
MPU LR LR
comp=Z,14µm,19.0s
NKL Nikolayevsk 55.19 18 eP P 04 42 11.0 -3.3
NKL eS S 04 50 00.0 +3.3
NKL pmax pmax
comp=Z,70nm,1.5s
NKL pmax pmax
comp=Z,400nm,3.0s
NKL smax smax
comp=N,500nm,14.0s
NKL MLR MLR
comp=N,600nm,15.0s
NKL MLR MLR
comp=Z,1µm,15.0s
T26A Comanche Natio 55.20 283 ⇑P P 04 42 14.7 -0.2
baz=55,SNR=7.3
X36A Centrahoma 55.20 276 ⇑P P 04 42 14.4 -0.3
baz=55,SNR=6.0
Y38A Idabel 55.25 274 P P 04 42 15.0 0.0
baz=55
V31A Spring Creek L 55.25 279 ⇓P P 04 42 15.2 +0.1
baz=55,SNR=5.4
SDCO Great Sand Dun 55.29 285 eP P 04 42 15.5 -0.2
comp=Z,25nm,1.5s
SDCO Great Sand Dun 55.29 285 ⇑P P 04 42 15.4 -0.2
baz=55,SNR=8.4
SDCO Great Sand Dun 55.29 285 eP P 04 42 15.5 -0.2
comp=Z,25nm,1.5s
SDCO ePcP PcP 04 43 16.6 +0.4
SDCO LR LR
comp=Z,3µm,19.0s
J04D Umpqua Nationa 55.30 302 ⇓P P 04 42 14.2 -1.3
baz=55
NLU North Lily Min 55.34 292 eP P 04 42 16.6 +0.7
comp=Z,138nm,2.7s
NLU North Lily Min 55.34 292 eP P 04 42 16.6 +0.7
comp=Z,138nm,2.7s
NLU ePP PP 04 44 24.2 +5.0
NLU LR LR
comp=Z,4µm,20.0s
DUG Dugway, Tooele 55.35 293 eP P 04 42 16.5 +0.6
DUG pmax pmax
comp=Z,36nm,1.0s
DUG MLR MLR
comp=Z,5µm,22.0s
DUG Dugway, Tooele 55.35 293 eP P 04 42 16.5 +0.6
comp=Z,36nm,1.0s
DUG Dugway, Tooele 55.35 293 ⇑P P 04 42 16.4 +0.5
baz=55,SNR=26
DUG Dugway, Tooele 55.35 293 eP P 04 42 16.5 +0.6
comp=Z,36nm,1.0s
DUG LR LR
comp=Z,5µm,22.0s
BRAL Brewton 55.37 265 eP P 04 42 14.6 -1.3
comp=Z,95nm,1.0s
BRAL Brewton 55.37 265 eP P 04 42 14.6 -1.3
comp=Z,95nm,1.0s
BRAL LR LR
comp=Z,2µm,22.0s
W33A Caddo, Fort Co 55.37 278 ⇓P P 04 42 16.2 +0.3
baz=55,SNR=8.6
VBMS Vicksburg 55.41 269 eP P 04 42 15.9 -0.3
comp=Z,472nm,2.3s
VBMS Vicksburg 55.41 269 eP P 04 42 15.9 -0.3
comp=Z,472nm,2.3s
VBMS ePcP PcP 04 43 17.1 +0.8
VBMS LR LR
comp=Z,2µm,18.0s
K05A Summer Lake 55.43 301 eP P 04 42 17.4 +0.9
comp=Z,56nm,1.1s
K05A Summer Lake 55.43 301 eP P 04 42 17.4 +0.9
comp=Z,56nm,1.1s
U28A Mallet 55.48 282 ⇑P P 04 42 16.9 0.0
baz=55
S23A Nye Farm, Mont 55.49 286 ⇓P P 04 42 17.3 +0.3
baz=55
T25A Trinidad 55.49 284 eP P 04 42 17.2 +0.1
comp=Z,81nm,2.3s
T25A Trinidad 55.49 284 ⇓P P 04 42 16.5 -0.5
baz=55
T25A Trinidad 55.49 284 eP P 04 42 17.2 +0.1
comp=Z,81nm,2.3s
T25A ePcP PcP 04 43 15.2 -1.7
T25A ePP PP 04 44 26.6 +5.9
T25A LR LR
comp=Z,3µm,20.0s
Y37A Hugo 55.50 275 P P 04 42 16.9 +0.1
baz=55
V30A Spur Ranch, Mi 55.54 280 ⇑P P 04 42 17.4 +0.1
baz=55,SNR=5.5
X35A Drake 55.56 276 ⇓P P 04 42 16.5 -0.8
baz=55,SNR=19
ELK Elko 55.59 295 eP P 04 42 17.8 +0.1
ELK pmax pmax
comp=Z,9.0nm,1.0s
ELK Elko 55.59 295 eP P 04 42 17.8 +0.1
comp=Z,8.8nm,1.0s
ELK Elko 55.59 295 eP P 04 42 17.8 +0.1
comp=Z,8.8nm,1.0s
SRU San Rafael Swe 55.64 290 eP P 04 42 17.9 -0.1
SRU pmax pmax
comp=Z,29nm,1.0s
SRU MLR MLR
comp=Z,4µm,22.0s
SRU San Rafael Swe 55.64 290 eP P 04 42 17.9 -0.1
comp=Z,29nm,1.0s
SRU San Rafael Swe 55.64 290 eP P 04 42 17.9 -0.1
comp=Z,29nm,1.0s
SRU LR LR
comp=Z,4µm,22.0s
U27A Thompson Grove 55.64 282 ⇓P P 04 42 17.7 -0.2
baz=55,SNR=12
W32A Sentinel 55.65 279 ⇑P P 04 42 17.7 -0.2
baz=55,SNR=5.0
X34A Smith Ranch, M 55.66 277 ⇑P P 04 42 18.3 +0.3
baz=56,SNR=12
KBL Kabul 55.67 83 PFAKE 04 42 30.0 +12
KBL LR LR
comp=Z,1µm,19.0s
TMUT Trail Mountain 55.68 291 eP P 04 42 19.1 +0.6
comp=Z,278nm,2.9s
TMUT Trail Mountain 55.68 291 eP P 04 42 19.1 +0.6
comp=Z,278nm,2.9s
Z39A Irene McRaven, 55.69 273 ⇓P P 04 42 18.1 -0.1
baz=56
V29A Stinnett 55.71 281 ⇓P P 04 42 18.0 -0.5
baz=56
S22A 4UR Ranch, Cre 55.72 287 eP P 04 42 19.2 +0.5
comp=Z,37nm,1.4s
S22A 4UR Ranch, Cre 55.72 287 ⇓P P 04 42 19.3 +0.5
baz=56,SNR=7.4
S22A 4UR Ranch, Cre 55.72 287 eP P 04 42 19.2 +0.5
comp=Z,37nm,1.4s
S22A ePcP PcP 04 43 19.0 +1.1
S22A LR LR
comp=Z,3µm,19.0s
PV09 Paradox Valley 55.76 289 eP P 04 42 19.0 0.0
PV09 Paradox Valley 55.76 289 eP P 04 42 19.0 0.0
K04D Chiloquin, OR 55.76 302 ⇑P P 04 42 17.3 -1.5
baz=56
Y36A Durant 55.79 275 P P 04 42 18.8 -0.1
baz=56
W31A Holland Ranch, 55.82 279 ⇑P P 04 42 19.1 -0.2
baz=56,SNR=6.3

WMOK Wichita Mounta 55.85 278 eP P 04 42 19.3 -0.1
WMOK e 04 43 18.1
WMOK pmax pmax
comp=Z,73nm,1.8s
WMOK MLR MLR
comp=Z,4µm,20.0s
WMOK Wichita Mounta 55.85 278 eP P 04 42 19.3 -0.1
comp=Z,73nm,1.8s
WMOK Wichita Mounta 55.85 278 eP P 04 42 19.3 -0.1
comp=Z,73nm,1.8s
WMOK ePcP PcP 04 43 18.1 0.0
WMOK LR LR
comp=Z,4µm,20.0s
HIA Hailar 55.90 35 PFAKE 04 42 30.0 +10
HIA LR LR
comp=Z,1µm,19.0s
PV01 Paradox Valley 55.91 288 eP P 04 42 20.3 +0.2
PV01 Paradox Valley 55.91 288 eP P 04 42 20.3 +0.2
X33A Lawton 55.94 278 ⇓P P 04 42 19.8 -0.2
baz=56
Z38A Mt. Pleasant 55.95 274 ⇓P P 04 42 20.0 0.0
baz=56
SACV Santiago Islan 55.96 191 PFAKE 04 42 30.0 +10
SACV LR LR
comp=Z,1µm,20.0s
W30A Crocket Farms 56.03 280 ⇑P P 04 42 20.7 -0.1
baz=56
V28A Channing 56.05 282 ⇑P P 04 42 20.9 -0.1
baz=56,SNR=6.5
HUMO Hull Mountain 56.12 303 PFAKE 04 42 30.0 +8.8
HUMO LR LR
comp=Z,4µm,19.0s
PV05 Paradox Valley 56.13 289 eP P 04 42 20.9 -0.8
PV05 Paradox Valley 56.13 289 eP P 04 42 20.9 -0.8
Z37A Pogue Cattle C 56.21 274 ⇑P P 04 42 21.9 -0.1
baz=56
Y34A Reagan Ranch, 56.22 277 ⇓P P 04 42 21.8 -0.3
baz=56
V27A Dan Oppiter Fa 56.25 282 ⇑P P 04 42 21.6 -0.7
baz=56
KEBM Edson Butte 56.26 304 PFAKE 04 42 30.0 +7.7
KEBM LR LR
comp=Z,5µm,21.0s
139A Bunkhouse Ranc 56.28 273 ⇑P P 04 42 22.5 +0.1
baz=56
X32A Elmer 56.30 278 ⇓P P 04 42 23.1 +0.4
baz=56,SNR=7.3
X31A McDonald Ranch 56.34 279 ⇑P P 04 42 23.3 +0.4
baz=56,SNR=8.2
PEA0 Petropavlovsk- 56.40 6 eP P 04 42 23.6 +0.6
PEA0 Petropavlovsk- 56.40 6 eP P 04 42 23.6 +0.6
PEA2 Petropavlovsk- 56.40 6 eP P 04 42 23.0 0.0
PEA2 Petropavlovsk- 56.40 6 eP P 04 42 23.1 0.0
PETK Petropavlovsk- 56.40 6 P P 04 42 23.1 0.0
comp=Z,6.0nm,1.2s,baz=65,slow=6.8,SNR=6.4
PETK LR LR 05 08 07.8
comp=Z,383nm,18.1s,baz=20,slow=38
PETK Petropavlovsk- 56.40 6 P P 04 42 23.1 0.0
PETK pmax pmax
comp=Z,6.0nm,1.2s
PETK MLR MLR
comp=Z,383nm,18.1s
W29A Amarillo 56.44 281 ⇓P P 04 42 23.4 -0.3
baz=56
Y33A Hilltop Ranch, 56.47 277 ⇓P P 04 42 23.9 +0.1
baz=56
BMN Battle Mountai 56.47 297 eP P 04 42 23.3 -0.7
BMN pmax pmax
comp=Z,22nm,1.5s
BMN MLR MLR
comp=Z,5µm,20.0s
BMN Battle Mountai 56.47 297 eP P 04 42 23.2 -0.7
comp=Z,22nm,1.5s
BMN Battle Mountai 56.47 297 eP P 04 42 23.2 -0.7
comp=Z,22nm,1.5s
BMN LR LR
comp=Z,5µm,20.0s
W28A Vega 56.50 281 ⇓P P 04 42 24.2 +0.1
baz=56
PET Petropavlovsk 56.51 5 eP P 04 42 24.4 +0.6
PET eS S 04 50 14.8 +0.5
PET pmax pmax
comp=Z,200nm,12.0s
PET pmax pmax
comp=Z,100nm,13.3s
PET MLR MLR
comp=Z,600nm,17.0s
PET MLR MLR
comp=Z,500nm,20.0s
PET Petropavlovsk 56.51 5 PFAKE 04 42 40.0 +16
PET LR LR
comp=Z,600nm,21.0s
138A Matatall Enter 56.53 274 ⇑P P 04 42 24.2 0.0
baz=56
M04C Macdoel 56.57 301 ⇑P P 04 42 24.0 -0.5
baz=56
ATKA Atka Island 56.58 345 PFAKE 04 42 40.0 +16
ATKA LR LR
comp=Z,400nm,22.0s
Z35A Perchaven, San 56.63 276 ⇓P P 04 42 24.4 -0.6
baz=56
AMTX Amarillo 56.67 281 ⇑P P 04 42 25.0 -0.4
baz=56
AMTX Amarillo 56.67 281 PFAKE 04 42 40.0 +15
AMTX LR LR
comp=Z,5µm,19.0s
L02D Cave Junction, 56.72 303 ⇓P P 04 42 25.3 -0.2
baz=56
MVU Marysvale 56.72 292 PFAKE 04 42 40.0 +14
MVU LR LR
comp=Z,4µm,19.0s
MVCO Mesa Verde 56.74 288 ⇓P P 04 42 26.5 +0.5
baz=56
MVCO Mesa Verde 56.74 288 PFAKE 04 42 40.0 +14
MVCO LR LR
comp=Z,3µm,22.0s
Y32A R-V Farms, Ver 56.74 278 ⇑P P 04 42 26.0 +0.3
baz=56,SNR=7.3
SMY Shemya 56.76 354 eP P 04 42 25.1 -0.5
SMY Shemya 56.76 354 eP P 04 42 25.1 -0.5
SMY Shemya 56.76 354 eP P 04 42 25.1 -0.5
X30A Coker Ranch, T 56.80 280 ⇑P P 04 42 26.5 +0.2
baz=57,SNR=11
137A Heron Place, G 56.81 274 ⇓P P 04 42 26.2 0.0
baz=57
Z34A Collier Ranch, 56.81 276 ⇑P P 04 42 25.8 -0.5
baz=57
KBO Bosley Butte 56.84 303 PFAKE 04 42 40.0 +14
KBO LR LR
comp=Z,4µm,18.0s
YBH Yreka Blue Hor 56.86 302 PFAKE 04 42 40.0 +13
YBH LR LR
comp=Z,3µm,22.0s
239A Gary 56.91 273 ⇑P P 04 42 26.7 -0.2
baz=57
Y31A Rekieta Farm, 57.05 279 ⇑P P 04 42 28.1 +0.1
baz=57,SNR=8.6
X29A Tulia 57.08 280 ⇑P P 04 42 27.9 -0.3
baz=57
ADK Adak 57.10 347 PFAKE 04 42 40.0 +12
ADK LR LR
comp=Z,1µm,20.0s
238A Jacksonville 57.14 273 ⇑P P 04 42 28.8 +0.3
baz=57
X28A Dimmitt 57.17 281 ⇑P P 04 42 28.9 0.0
baz=57,SNR=7.8
Z33A Whitaker Ranch 57.17 277 ⇓P P 04 42 28.5 -0.3
baz=57,SNR=5.8
NATX Nacogdoches 57.21 273 ⇑P P 04 42 29.0 -0.1
baz=57
M02C Callahan 57.22 302 ⇓P P 04 42 27.6 -1.4
baz=57
340A Bronson 57.27 272 ⇑P P 04 42 29.8 +0.3
baz=57
Y30A Stafford Cattl 57.33 279 ⇑P P 04 42 30.2 +0.2
baz=57,SNR=21
237A Washetta, Mont 57.37 274 ⇓P P 04 42 29.9 -0.2
baz=57
Z32A Haskell 57.39 278 ⇓P P 04 42 30.2 -0.2
baz=57,SNR=17
135A Vickery Place, 57.39 276 ⇓P P 04 42 30.0 -0.3
baz=57
N02D Trinity Center 57.56 302 ⇑P P 04 42 30.1 -1.4
baz=57
339A Huntington 57.57 272 ⇑P P 04 42 31.6 +0.1
baz=57
Z31A Sharp Cattle R 57.60 278 ⇑P P 04 42 31.6 -0.2
baz=57,SNR=15
134A White-Moore Ra 57.60 276 ⇓P P 04 42 31.5 -0.3
baz=57
Y29A Porterfield Fa 57.60 280 ⇑P P 04 42 31.6 -0.3
baz=57,SNR=5.2
236A Katherine and 57.61 275 ⇑P P 04 42 32.0 +0.1
baz=57
TYV Tymovskoe 57.65 17 eP P 04 42 32.8 +0.9
TYV e 04 50 45.0
TYV pmax pmax
comp=Z,48nm,1.2s
TYV pmax pmax
comp=Z,500nm,3.0s
Y28A McKinney Farm, 57.75 281 ⇓P P 04 42 32.8 -0.2
baz=58,SNR=10
338A Crockett 57.80 273 ⇑P P 04 42 33.6 +0.4
baz=58
133A Hamilton Ranch 57.84 277 ⇓P P 04 42 33.1 -0.5
baz=58,SNR=9.0
MSTX Muleshoe 57.86 281 eP P 04 42 33.5 -0.3
comp=Z,81nm,1.9s
MSTX Muleshoe 57.86 281 ⇓P P 04 42 33.4 -0.3
baz=58
MSTX Muleshoe 57.86 281 eP P 04 42 33.5 -0.3
comp=Z,81nm,1.9s
MSTX ePcP PcP 04 43 26.2 +0.1
MSTX LR LR
comp=Z,6µm,18.0s
WDC Whiskeytown Da 57.88 301 eP P 04 42 33.6 -0.1
WDC pmax pmax
comp=Z,85nm,2.1s
WDC MLR MLR
comp=Z,3µm,18.0s
WDC Whiskeytown Da 57.88 301 eP P 04 42 33.6 -0.1
comp=Z,86nm,2.1s
WDC Whiskeytown Da 57.88 301 eP P 04 42 33.6 -0.1
comp=Z,86nm,2.1s
WDC LR LR
comp=Z,3µm,18.0s
R11A Troy Canyon, C 57.89 294 ⇓P P 04 42 34.2 +0.2
baz=58,SNR=7.1
R11A Troy Canyon, C 57.89 294 PFAKE 04 42 50.0 +16
R11A LR LR
comp=Z,4µm,18.0s
440A Kirbyville 57.91 272 ⇑P P 04 42 34.3 +0.3
baz=58
WHTX Lake Whitney, 57.93 275 eP P 04 42 34.0 -0.1
comp=Z,105nm,2.0s
WHTX Lake Whitney, 57.93 275 ePcP PcP 04 43 26.0 -0.2
WHTX Lake Whitney, 57.93 275 ⇓P P 04 42 33.8 -0.3
baz=58
WHTX Lake Whitney, 57.93 275 eP P 04 42 34.0 -0.1
comp=Z,105nm,2.0s
WHTX ePcP PcP 04 43 26.0 -0.2
WHTX LR LR
comp=Z,2µm,20.0s
KLR Kul'dur 57.94 26 eP P 04 42 30.4 -3.5
KLR eS S 04 50 36.5 +3.3
KLR pmax pmax
comp=Z,50nm,1.6s
KHMM Horse Mountain 57.94 302 PFAKE 04 42 50.0 +16
KHMM LR LR
comp=Z,5µm,18.0s
Z30A Sanderson Ranc 57.95 279 ⇑P P 04 42 33.5 -0.9
baz=58,SNR=7.2
337A Centerville 58.02 274 ⇑P P 04 42 35.4 +0.6
baz=58
ABTX Abilene, Hawle 58.07 278 eP P 04 42 34.8 -0.3
comp=Z,151nm,1.8s
ABTX Abilene, Hawle 58.07 278 ⇑P P 04 42 35.0 -0.1
baz=58,SNR=13
ABTX Abilene, Hawle 58.07 278 eP P 04 42 34.8 -0.3
comp=Z,151nm,1.8s
ABTX ePP PP 04 44 44.5 +1.1
ABTX LR LR
comp=Z,5µm,18.0s
439A Center Grove, 58.13 272 ⇓P P 04 42 36.1 +0.6
baz=58
234A Clairette 58.14 276 ⇓P P 04 42 35.2 -0.4
baz=58,SNR=14
RAYN Ar Rayn 58.14 111 P P 04 42 37.6 +1.8
comp=Z,110nm,1.2s,SNR=6.2
RAYN Ar Rayn 58.14 111 eP P 04 42 37.2 +1.4
comp=Z,16nm,1.3s
RAYN ePcP PcP 04 43 28.7 +1.5
RAYN ePP PP 04 44 44.0 -0.2
RAYN LR LR
comp=Z,806nm,20.0s
ANMO Albuquerque 58.16 285 ⇓iP P 04 42 36.2 +0.2
ANMO pmax pmax
comp=Z,69nm,1.7s
ANMO Albuquerque 58.16 285 eP P 04 42 36.0 0.0
ANMO Albuquerque 58.16 285 eP P 04 42 36.0 0.0
ANMO eSP sP 04 42 36.6 -4.9
ANMO ePcP PcP 04 43 27.6 +0.3
ANMO ePP PP 04 44 44.2 -0.1
ANMO LR LR
comp=Z,3µm,20.0s
Z29A Hungry Hill Ra 58.16 280 ⇓P P 04 42 35.5 -0.4
baz=58,SNR=14
131A Roby 58.27 278 ⇓P P 04 42 36.1 -0.4
baz=58,SNR=6.6
KNB Kanab 58.27 291 PFAKE 04 42 50.0 +13
KNB LR LR
comp=Z,4µm,20.0s
336A Riesel 58.28 275 ⇑P P 04 42 36.1 -0.5
baz=58
TOA0 Torodi Ar. Sit 58.34 162 eP P 04 42 35.6 -1.5
TOA0 Torodi Ar. Sit 58.34 162 eP P 04 42 37.1 0.0
TOA0 Torodi Ar. Sit 58.34 162 eP P 04 42 37.1 0.0
TOA0 ePcP PcP 04 43 27.6 -0.3
TORD Torodi Ar. Bea 58.34 162 P P 04 42 36.9 -0.2
comp=Z,22nm,0.9s,baz=352,slow=6.8,SNR=100
TORD LR LR 05 08 51.0
comp=Z,2µm,18.5s,baz=0.0,slow=37
Z28A Tucker Farm, M 58.36 280 ⇓P P 04 42 37.3 +0.1
baz=58,SNR=15
233A Rising Star 58.38 277 ⇑P P 04 42 37.0 -0.4
baz=58,SNR=7.9
540A Vidor 58.41 271 ⇓P P 04 42 37.5 0.0
baz=58
438A Sam Houston St 58.41 273 ⇓P P 04 42 38.0 +0.6
baz=58
130A Snyder 58.53 279 ⇑P P 04 42 38.0 -0.4
baz=58,SNR=7.7
KMRM Mail Ridge 58.54 302 PFAKE 04 42 50.0 +12
KMRM LR LR
comp=Z,6µm,19.0s
437A Phantom Ranch, 58.56 274 ⇓P P 04 42 38.3 -0.2
baz=58
335A Moody 58.57 275 ⇓P P 04 42 38.2 -0.4
baz=58
NV01 Mina Array Sit 58.63 297 eP P 04 42 38.1 -1.2
NV01 Mina Array Sit 58.63 297 eP P 04 42 38.1 -1.2
NV01 ePP PP 04 44 50.6 +2.1
TPH Tonopah 58.64 296 PFAKE 04 42 50.0 +11
TPH LR LR
comp=Z,6µm,18.0s
232A Coleman 58.75 277 ⇓P P 04 42 39.4 -0.5
baz=58,SNR=16
539A Cross D Ranch, 58.75 272 ⇑P P 04 42 39.7 -0.1
baz=59
334A Lometa 58.79 276 ⇓P P 04 42 39.5 -0.7
baz=59
129A Stewart Farms, 58.80 280 ⇓P P 04 42 39.5 -0.7
baz=59
436A Wall Ranch, Ga 58.83 274 ⇑P P 04 42 40.5 0.0
baz=59
LAZ Ladron 58.88 285 eP P 04 42 41.3 +0.3
LAZ Ladron 58.88 285 eP P 04 42 41.3 +0.3
538A Harpers Horsep 58.90 273 ⇓P P 04 42 41.6 +0.7
baz=59
WAKR Walker 58.90 298 eP P 04 42 40.7 -0.4
WAKR Walker 58.90 298 eP P 04 42 40.7 -0.4
WAKR ePcP PcP 04 43 31.8 +1.5
231A Bronte 58.92 278 ⇓P P 04 42 40.6 -0.5
baz=59,SNR=10
KCPM Cahto Peak 59.00 302 PFAKE 04 42 50.0 +8.3
KCPM LR LR
comp=Z,3µm,20.0s
128A Castleberry Fa 59.01 280 ⇓P P 04 42 41.6 -0.1
baz=59,SNR=14
333A Richland Sprin 59.05 277 ⇑P P 04 42 41.4 -0.6
baz=59,SNR=15
W18A Petrified Fore 59.05 288 ⇑P P 04 42 41.8 -0.3
baz=59

W18A	Petrified Fore	59.05	288	PFAKE		04 42 50.0	+7.8
W18A				LR	LR		
	comp=Z,3µm,22.0s						
435B	Jarrell	59.08	275	⇓P	P	04 42 41.8	-0.4
	baz=59						
Y22D	IRIS PASSCAL I	59.11	285	⇓P	P	04 42 41.7	-0.8
	baz=59						
HABR	Khabarovsk	59.13	23	eP	P	04 42 40.9	-1.3
HABR				e*PP	pP	04 42 44.1	-2.1
HABR				e*SP	sP	04 42 45.5	-2.2
HABR				e		04 43 29.7	
HABR				e		04 44 51.4	
HABR				eS	S	04 50 48.3	-0.4
HABR				pmax	pmax		
	comp=Z,54nm,1.6s						
HABR				MLR	MLR		
	comp=Z,412nm,20.0s						
WUAZ	Wupatki	59.20	290	⇓P	P	04 42 42.4	-0.7
	baz=59						
WUAZ	Wupatki	59.20	290	PFAKE		04 43 00.0	+17
WUAZ				LR	LR		
	comp=Z,4µm,22.0s						
230A	Sterling City	59.23	279	⇑P	P	04 42 43.0	-0.3
	baz=59,SNR=7.2						
332A	Millersview	59.24	277	⇑P	P	04 42 43.2	-0.1
	baz=59,SNR=27						
HKT	Hockley	59.26	273	eP	P	04 42 43.8	+0.4
HKT				pmax	pmax		
	comp=Z,92nm,1.9s						
HKT				MLR	MLR		
	comp=Z,3µm,19.0s						
HKT	Hockley	59.26	273	eP	P	04 42 43.8	+0.4
	comp=Z,92nm,1.9s						
HKT	Hockley	59.26	273	eP	P	04 42 43.8	+0.4
	comp=Z,92nm,1.9s						
HKT				LR	LR		
	comp=Z,3µm,19.0s						
434A	Burnet	59.28	276	⇓P	P	04 42 43.0	-0.5
	baz=59						
537A	Green Hill Far	59.30	273	⇓P	P	04 42 43.9	+0.2
	baz=59						
TPNV	Topopah Spring	59.39	294	⇑P	P	04 42 44.0	-0.5
	baz=59						
TPNV	Topopah Spring	59.39	294	PFAKE		04 43 00.0	+16
TPNV				LR	LR		
	comp=Z,4µm,20.0s						
229A	Bryant Ranch,	59.39	279	⇑P	P	04 42 43.4	-0.9
	baz=59,SNR=5.3						
HOPS	Hopland Field	59.50	301	PFAKE		04 43 00.0	+15
HOPS				LR	LR		
	comp=Z,3µm,20.0s						
228A	UT Block 9, Go	59.50	280	⇓P	P	04 42 44.8	-0.4
	baz=59,SNR=6.5						
MLAC	Mammoth, Mammo	59.53	297	⇓P	P	04 42 46.2	+0.6
	baz=59						
331A	San Angelo	59.54	278	⇓P	P	04 42 45.0	-0.4
	baz=59,SNR=22						
536A	Bastrop	59.56	274	⇑P	P	04 42 45.0	-0.4
	baz=59						
433A	Art	59.60	276	⇓P	P	04 42 45.4	-0.4
	baz=59,SNR=15						
CMB	Columbia Colle	59.62	298	eP	P	04 42 45.7	-0.1
CMB				pmax	pmax		
	comp=Z,16nm,1.1s						
CMB				MLR	MLR		
	comp=Z,4µm,19.0s						
CMB	Columbia Colle	59.62	298	eP	P	04 42 45.7	-0.1
	comp=Z,16nm,1.1s						
CMB	Columbia Colle	59.62	298	eP	P	04 42 45.7	-0.1
	comp=Z,16nm,1.1s						
CMB				LR	LR		
	comp=Z,4µm,19.0s						
GRAC	Grapevine Rang	59.68	295	⇓P	P	04 42 45.5	-0.8
	baz=59						
330A	Mertzon	59.69	279	⇑P	P	04 42 45.8	-0.7
	baz=60,SNR=9.0						
432A	Menard	59.73	277	⇑P	P	04 42 46.0	-0.7
	baz=60,SNR=6.6						
535A	Dale	59.77	275	⇑P	P	04 42 46.4	-0.6
	baz=60						
329A	Wagon Wheel Ra	59.88	279	⇑P	P	04 42 47.2	-0.6
	baz=60,SNR=6.5						
TIN	Tinemaha, Big	59.88	296	⇓P	P	04 42 48.6	+0.8
	baz=60						
637A	Eagle Lake	59.90	273	⇑P	P	04 42 48.8	+1.0
	baz=60						
FURC	Furnace Creek,	60.01	295	⇑P	P	04 42 48.6	+0.1
	baz=60						
534A	Blanco	60.07	275	⇑P	P	04 42 48.5	-0.5
	baz=60,SNR=15						
JCT	Junction City	60.09	277	eP	P	04 42 49.0	-0.2
JCT				e		04 43 35.0	
JCT				pmax	pmax		
	comp=Z,93nm,1.6s						
JCT				MLR	MLR		
	comp=Z,3µm,18.0s						
JCT	Junction City	60.09	277	eP	P	04 42 49.0	-0.2
	comp=Z,94nm,1.6s						
JCT	Junction City	60.09	277	⇓P	P	04 42 49.0	-0.2
	baz=60,SNR=15						
JCT	Junction City	60.09	277	eP	P	04 42 49.0	-0.2
	comp=Z,94nm,1.6s						
JCT				ePcP	PcP	04 43 35.0	+0.1
JCT				ePP	PP	04 44 51.3	-10
JCT				LR	LR		
	comp=Z,3µm,18.0s						
636A	Smothers Creek	60.10	274	⇑P	P	04 42 49.4	+0.2
	baz=60						
431A	Sonora	60.17	278	⇑P	P	04 42 49.8	0.0
	baz=60,SNR=15						
533A	Kerrville	60.22	276	⇑P	P	04 42 49.8	-0.3
	baz=60,SNR=6.0						
MCCM	Marconi Confer	60.24	301	PFAKE		04 43 00.0	+10
MCCM				LR	LR		
	comp=Z,2µm,19.0s						
430A	Baggett Ranch,	60.28	278	⇓P	P	04 42 50.3	-0.3
	baz=60,SNR=22						
SHOC	Shoshone, Teco	60.37	294	⇓P	P	04 42 51.4	+0.4
	baz=60						
CWC	Cottonwood Cre	60.41	296	⇑P	P	04 42 52.0	+0.5
	baz=60						
DAC	Darwin (Calif)	60.41	295	PFAKE		04 43 00.0	+8.4
DAC				LR	LR		
	comp=Z,5µm,20.0s						
635A	Leesville	60.43	275	⇓P	P	04 42 51.8	+0.3
	baz=60						
532A	Rocksprings	60.45	277	⇓P	P	04 42 51.6	-0.1
	baz=60,SNR=8.7						
737A	Port Lavaca	60.56	273	⇑P	P	04 42 52.9	+0.5
	baz=60						
MPMC	Manual Prospec	60.58	295	⇑P	P	04 42 53.2	+0.5
	baz=60,SNR=5.3						
736A	Circle Diamond	60.59	274	⇑P	P	04 42 53.2	+0.6
	baz=60						
GTA	Gaotai	60.62	54	⇑P	P	04 42 53.9	+1.1
GTA				pP	pP	04 42 58.7	+1.9
GTA				sP	sP	04 43 01.0	+2.7
GTA				S	S	04 51 07.6	-0.8
GTA				sS	sS	04 51 15.7	+0.7
GTA				SS	SS	04 55 07.3	+1.4
GTA				PMZ			
	comp=Z,20nm,2.4s						
GTA				PMZ			
	comp=Z,380nm,5.5s						
GTA				LN			
	comp=Z,980nm,15.2s						
GTA				LE			
	comp=Z,1µm,16.2s						
GTA				LZ			
	comp=Z,1µm,15.7s						
634A	China Grove, S	60.62	275	⇓P	P	04 42 53.1	+0.3
	baz=60						
531A	Rocksprings	60.63	277	⇓P	P	04 42 52.8	-0.1
	baz=60,SNR=7.7						
429A	Davenport Ranc	60.65	279	⇑P	P	04 42 52.5	-0.5
	baz=60,SNR=12						
TUQ	Turquoise Moun	60.69	293	⇑P	P	04 42 53.0	-0.4
	baz=60						
HUMP	Col San Antoni	60.73	239	PFAKE		04 43 10.0	+16
HUMP				LR	LR		
	comp=Z,400nm,18.0s						
MNTX	Cornudas Mount	60.80	282	eP	P	04 42 52.9	-1.1
MNTX	Cornudas Mount	60.80	282	⇓P	P	04 42 53.5	-0.5
	baz=61,SNR=6.1						
MNTX	Cornudas Mount	60.80	282	eP	P	04 42 52.9	-1.1
MNTX				ePcP	PcP	04 43 37.9	+0.2
MNTX				LR	LR		
	comp=Z,5µm,19.0s						
121A	Cookes Peak, D	60.81	285	⇑P	P	04 42 54.4	+0.2
	baz=61						
633A	Saathoff Ranch	60.83	276	⇓P	P	04 42 54.0	-0.2
	baz=61,SNR=8.9						
LRS	Lares	60.88	240	eP	P	04 42 54.7	+0.1
LRS	Lares	60.88	240	eP	P	04 42 54.7	+0.1
RCTC	Rector, Farmer	60.88	297	⇓P	P	04 42 54.5	+0.1
	baz=61						
530A	J-C Ranch, Com	60.91	278	⇓P	P	04 42 54.7	-0.1
	baz=61,SNR=12						
735A	Kenedy	60.93	274	⇑P	P	04 42 54.6	-0.3
	baz=61						
632A	Uvalde	60.98	276	⇑P	P	04 42 55.3	0.0
	baz=61,SNR=11						
GSC	Goldstone, Bar	61.08	294	⇓P	P	04 42 56.1	+0.2
	baz=61						
GSC	Goldstone, Bar	61.08	294	PFAKE		04 43 10.0	+14
GSC				LR	LR		
	comp=Z,3µm,18.0s						
LRMC	Laurel Mtn Rad	61.18	295	⇓P	P	04 42 57.0	+0.4
	baz=61						
734A	La Parita Cree	61.19	275	⇑P	P	04 42 56.6	0.0
	baz=61						
PDMCI	Parker Dam,Lak	61.19	291	⇑P	P	04 42 57.1	+0.5
	baz=61						
GMRC	Granite Mounta	61.21	293	⇑P	P	04 42 57.4	+0.5
	baz=61,SNR=6.2						
529A	Stev Forest Ra	61.22	279	⇓P	P	04 42 56.3	-0.6
	baz=61,SNR=10						
ISA	Isabella, Lake	61.25	296	eP	P	04 42 58.1	+1.0
ISA				pmax	pmax		
	comp=Z,20nm,1.0s						
ISA	Isabella, Lake	61.25	296	eP	P	04 42 58.1	+1.0
	comp=Z,20nm,1.0s						
ISA	Isabella, Lake	61.25	296	⇑P	P	04 42 57.6	+0.6
	baz=61,SNR=6.6						
ISA	Isabella, Lake	61.25	296	eP	P	04 42 58.1	+1.0
	comp=Z,20nm,1.0s						
VES	Vestal, Richgr	61.27	296	⇑P	P	04 42 56.5	-0.6
	baz=61						
631A	Perdido Creek	61.33	277	⇓P	P	04 42 56.9	-0.7
	baz=61						
HEC	Hector,Ludlow	61.37	294	⇓P	P	04 42 57.0	-0.9
	baz=61,SNR=5.0						
835A	Beeville	61.46	274	⇓P	P	04 42 59.0	+0.5
	baz=61						
YSS	Yuzh-Sakhalins	61.52	18	eP	P	04 42 59.0	+0.4
YSS				eS	S	04 51 20.0	+0.5
YSS				ePS	PnS	04 51 28.0	-5.4
YSS				eSS	SS	04 55 16.0	-3.4
YSS				eSSS	SSS	04 58 04.0	
RRX	Edison Barstow	61.53	294	⇓P	P	04 42 59.1	+0.2
	baz=61						
SDDR	Presa de Saban	61.53	244	eP	P	04 42 59.3	+0.2
	comp=Z,26nm,1.0s						
SDDR	Presa de Saban	61.53	244	eP	P	04 42 59.3	+0.2
	comp=Z,26nm,1.0s						
SDDR				LR	LR		
	comp=Z,399nm,22.0s						
733A	Divot King Ran	61.55	276	⇓P	P	04 42 59.2	+0.1
	baz=61						
IRM	Iron Mountain	61.63	292	⇓P	P	04 42 59.6	0.0
	baz=61						
732A	Laxson Ranch,	61.76	276	⇑P	P	04 43 00.1	-0.4
	baz=62,SNR=10						
PTRM	Twissleman Ran	61.77	297	eP	P	04 43 01.4	+0.8
PTRM	Twissleman Ran	61.77	297	eP	P	04 43 01.4	+0.8
GTBY	Guantanamo Bay	61.81	249	PFAKE		04 43 10.0	+9.1
GTBY				LR	LR		
	comp=Z,600nm,18.0s						
Y12C	Blythe	61.81	292	⇓P	P	04 43 01.6	+0.8
	baz=62						
EDW2	Edwards Air Fo	61.83	295	⇑P	P	04 43 00.7	-0.3
	baz=62						
834A	Tilden	61.85	275	⇓P	P	04 43 02.0	+0.9
	baz=62						
ARVC	Arvin	61.85	296	⇑P	P	04 43 01.6	+0.6
	baz=62						
833A	Chaparral WMA,	61.95	276	⇑P	P	04 43 01.9	+0.1
	baz=62,SNR=5.5						
TUC	Tucson	61.98	288	PFAKE		04 43 10.0	+8.0
TUC				LR	LR		
	comp=Z,2µm,20.0s						
SMMC	Simmler	62.03	297	⇓P	P	04 43 01.9	-0.4
	baz=62						
BELC	Belle Mtn. Jos	62.04	293	⇑P	P	04 43 03.4	+0.9
	baz=62,SNR=7.3						
BBRC	Big Bear Solar	62.08	294	⇑P	P	04 43 03.5	+0.7
	baz=62						
BTO	Baotou	62.08	45	eP	P	04 43 04.3	+1.7
MDJ	Mudanjiang	62.11	28	P	P	04 43 03.2	+0.6
MDJ				pP	pP	04 43 06.1	-0.6
MDJ				S	S	04 51 32.5	+5.5
MDJ				PMZ			
	comp=Z,13nm,0.7s						
MDJ				PMZ			
	comp=Z,130nm,4.6s						
MDJ				LN			
	comp=Z,290nm,15.6s						
MDJ				LE			
	comp=Z,430nm,15.6s						
MDJ				LZ			
	comp=Z,550nm,17.3s						
MDJ	Mudanjiang	62.11	28	eP	P	04 43 03.0	+0.3
	comp=Z,26nm,1.0s						
MDJ	Mudanjiang	62.11	28	eP	P	04 43 03.0	+0.3
	comp=Z,26nm,1.0s						
KVTX	Kingsville	62.17	274	PFAKE		04 43 20.0	+17
KVTX				LR	LR		
	comp=Z,2µm,18.0s						
832A	Faith Ranch, C	62.17	276	⇓P	P	04 43 02.9	-0.4
	baz=62,SNR=5.7						
BC3	Big Chuckawall	62.19	292	⇓P	P	04 43 04.0	+0.5
	baz=62						
HHC	Hu-ho-hao-te	62.21	44	eP	P	04 43 03.6	+0.1
HHC				pP	pP	04 43 08.3	+0.8
HHC				PP	PP	04 45 21.0	+1.1
HHC				S	S	04 51 27.5	-1.1
HHC				sS	sS	04 51 33.7	-1.5
HHC				SS	SS	04 55 28.7	-2.0
HHC				PMZ			
	comp=Z,35nm,1.2s						
HHC				PMZ			
	comp=Z,190nm,6.3s						
HHC				LN			
	comp=Z,1µm,16.2s						
HHC				LE			
	comp=Z,1µm,16.8s						
HHC				LZ			
	comp=Z,1µm,16.6s						
OSI	Osito Audit: C	62.30	296	⇓P	P	04 43 04.2	+0.1
	baz=62						
OSI	Osito Audit: C	62.30	296	PFAKE		04 43 20.0	+16
OSI				LR	LR		
	comp=Z,7µm,19.0s						
934A	Benavides	62.32	274	⇓P	P	04 43 04.6	+0.3
	baz=62						
BFSC	Mount Baldy Ra	62.32	294	⇓P	P	04 43 04.8	+0.4
	baz=62						
PKM	Mcpherson Peak	62.36	297	⇓P	P	04 43 03.7	-1.0
	baz=62						
LTX	Lajitas	62.42	280	eP	P	04 43 04.0	-1.1
LTX				e		04 43 44.1	
LTX	Lajitas	62.42	280	eP	P	04 43 04.0	-1.1
LTX	Lajitas	62.42	280	eP	P	04 43 04.0	-1.1
LTX				ePcP	PcP	04 43 44.1	-0.3
TX31	Lajitas Ar. Si	62.42	280	ePcP	PcP	04 43 44.5	+0.1
TX31	Lajitas Ar. Si	62.42	280	ePcP	PcP	04 43 44.5	+0.1
TX31				ePP	PP	04 45 16.2	-5.8
TXAR	Lajitas Array	62.42	280	P	P	04 43 04.0	-1.1
	comp=Z,3.7nm,0.9s,baz=47,slow=5.7,SNR=28						
TXAR				PcP	PcP	04 43 44.1	-0.3
	comp=Z,6.2nm,1.0s,baz=56,slow=3.2,SNR=7.7						
TXAR				LR	LR	05 10 01.6	
	comp=Z,4µm,19.6s,baz=0.0,slow=36						
TXAR	Lajitas Array	62.42	280	P	P	04 43 04.0	-1.1
TXAR						04 43 44.1	
TXAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TXAR				MLR	MLR		
	comp=Z,4µm,19.6s						
DECC	Green Verdugo	62.52	295	⇓P	P	04 43 05.6	0.0
	baz=62						
PFO	Pinyon Flats O	62.54	293	⇓P	P	04 43 06.4	+0.6
	baz=62						
PFO	Pinyon Flats O	62.54	293	PFAKE		04 43 20.0	+14
PFO				LR	LR		
	comp=Z,2µm,19.0s						
PASC	Pasadena Art C	62.55	295	PFAKE		04 43 20.0	+14
PASC				LR	LR		
	comp=Z,2µm,21.0s						
GLA	Glamis	62.56	291	⇓P	P	04 43 06.3	+0.5
	baz=62						
933A	Laredo	62.56	275	⇑P	P	04 43 06.2	+0.3
	baz=62						
SBC	Santa Barbara	62.75	296	⇑P	P	04 43 07.3	+0.2
	baz=62						
MURC	Murrieta	62.78	294	⇓P	P	04 43 07.3	0.0
	baz=62						
035A	Encino	62.80	274	⇓P	P	04 43 08.0	+0.6
	baz=63						
BLG	Laguna Peak, P	62.87	296	⇓P	P	04 43 07.3	-0.5
	baz=63						
034A	Hebbronville	62.87	274	⇑P	P	04 43 08.5	+0.6
	baz=63,SNR=5.7						
USRK	Ussuriysk Ar.	62.89	27	P	P	04 43 07.0	-0.9
	comp=Z,11nm,0.9s,baz=352,slow=6.9,SNR=13						
USRK				LR	LR	05 09 29.3	
	comp=Z,601nm,21.6s,baz=342,slow=35						
214A	Organ Pipe Nat	62.94	289	⇓P	P	04 43 07.9	-0.5
	baz=63						
SWSC	Sam W. Stewart	62.96	292	eP	P	04 43 05.7	-2.8
SWSC	Sam W. Stewart	62.96	292	⇑P	P	04 43 08.4	-0.1
	baz=63						
SWSC	Sam W. Stewart	62.96	292	eP	P	04 43 05.7	-2.8
FMP	Fort Macarthur	63.00	295	⇓P	P	04 43 09.1	+0.4
	baz=63						
BSC	Santa Cruz Isl	63.15	296	⇓P	P	04 43 09.8	+0.1
	baz=63						
MONP	Monument Peak,	63.20	293	⇓P	P	04 43 10.6	+0.3
	baz=63						
035Z	Hargill	63.23	274	⇑P	P	04 43 10.7	+0.4
	baz=63						
IBP	Imperial Bould	63.31	292	⇓P	P	04 43 11.4	+0.5
	baz=63						
CIS	Catalina Islan	63.32	295	⇓P	P	04 43 11.2	+0.3
	baz=63						
109C	Camp Elliot, M	63.41	293	⇑P	P	04 43 11.8	+0.3
	baz=63						
SCI	San Clemente I	63.76	295	⇓P	P	04 43 14.7	+0.9
	baz=64						
BJI	Beijing	64.02	40	P	P	04 43 16.4	+1.1
BJI				S	S	04 51 53.8	+2.9
BJI				SS	SS	04 55 55.3	-3.3
BJI				PMZ			
	comp=Z,18nm,2.5s						
BJI				LN			
	comp=Z,1µm,22.7s						
BJI				LE			
	comp=Z,1µm,18.6s						
BJI				LZ			
	comp=Z,1µm,24.4s						
BJT	Baijiatuau	64.03	41	PFAKE		04 43 30.0	+15
BJT				LR	LR		
	comp=Z,1µm,18.0s						
MTDJ	Mount Denham	64.16	250	PFAKE		04 43 30.0	+13
MTDJ				LR	LR		
	comp=Z,400nm,20.0s						
DBIC	Dimbokro	64.21	170	P	P	04 43 16.7	-0.1
	comp=Z,7.7nm,0.8s,baz=334,slow=5.8,SNR=9.2						
DBIC				LR	LR	05 11 56.1	
	comp=Z,843nm,18.7s,baz=344,slow=37						
DBIC	Dimbokro	64.21	170	eP	P	04 43 16.7	-0.1
DBIC				pmax	pmax		
	comp=Z,94nm,1.9s						
DBIC	Dimbokro	64.21	170	eP	P	04 43 16.7	-0.1
	comp=Z,94nm,1.9s						
DBIC	Dimbokro	64.21	170	eP	P	04 43 16.7	-0.1
	comp=Z,94nm,1.9s						
TIC	Toumodi	64.22	170	eP	P	04 43 17.3	+0.3
ASAJ	Asahikawa	64.32	18	PFAKE		04 43 30.0	+13
ASAJ				LR	LR		
	comp=Z,600nm,20.0s						
KIC	Kosan Boka	64.52	169	eP	P	04 43 19.4	+0.5
	comp=Z,49nm,0.9s						
LIC	Lamto	64.64	170	eP	P	04 43 19.2	-0.5
	comp=Z,46nm,0.9s						
YUK	Yuzh-Kuril'sk	64.72	16	eP	P	04 43 18.5	-1.3
YUK				i		04 43 53.9	
YUK				i		04 45 40.5	
YUK				i PPP	PPP	04 47 12.7	
YUK				i S	S	04 52 00.6	+1.2
YUK				i		04 53 13.0	
YUK				i SS	SS	04 56 12.7	+3.4
YUK				MLR	MLR		
	comp=N,508nm,20.0s						
YUK				MLR	MLR		
	comp=E,673nm,20.0s						
YUK				MLR	MLR		
	comp=Z,495nm,20.0s						
LZH	Lanzhou	64.81	52	eP	P	04 43 21.7	+0.8
LZH				pP	pP	04 43 24.7	-0.2
LZH				sP	sP	04 43 26.6	+0.2
LZH				PP	PP	04 45 49.6	+6.7
LZH				eS	S	04 52 00.0	-1.2
LZH				sS	sS	04 52 09.3	+1.4
LZH				SS	SS	04 56 09.0	-2.6
LZH				PMZ			
	comp=Z,25nm,1.2s						
LZH				PMZ			
	comp=Z,130nm,4.4s						
LZH				LN			
	comp=Z,790nm,14.7s						
LZH				LE			
	comp=Z,650nm,14.1s						
LZH				LZ			
	comp=Z,1µm,15.6s						
TEIG	Tepich	65.76	262	eP	P	04 43 26.8	-0.1
	comp=Z,322nm,2.1s						
TEIG	Tepich	65.76	262	eP	P	04 43 26.8	-0.1
	comp=Z,322nm,2.1s						
TEIG				LR	LR		
	comp=Z,2µm,19.0s						
DAMY	Dhamar	66.22	115	eP	P	04 43 31.8	+1.5
	comp=Z,27nm,1.0s						
DAMY				LR	LR		
	comp=Z,2µm,19.0s						
DL2	Dalian	66.23	36	P	P	04 43 30.0	+0.2
DL2				S	S	04 52 23.7	+5.6
DL2				PMZ			
	comp=Z,240nm,3.5s						
DL2				LE			
	comp=Z,540nm,20.0s						
DL2				LZ			
	comp=Z,510nm,21.6s						
ERM	Erimo	66.45	18	P	P	04 43 31.9	+0.8
	comp=Z,281nm,1.1s,SNR=6.9						
ERM	Erimo	66.45	18	ceP	P	04 43 30.3	-0.8
ERM				pmax	pmax		
	comp=Z,75nm,1.2s						
ERM	Erimo	66.45	18	eP	P	04 43 31.2	+0.1
	comp=Z,61nm,1.1s						
ERM	Erimo	66.45	18	eP	P	04 43 31.2	+0.1
	comp=Z,61nm,1.1s						
ERM				ePP	PP	04 45 55.9	-0.9
KOLN	Koldanda	66.65	73	eP	P	04 43 33.2	+0.3
	comp=Z,27nm,1.0s						
GKN	Gorkha	66.77	72	eP	P	04 43 33.8	+0.3
KKN	Kakani	67.17	71	eP	P	04 43 36.3	+0.1
	comp=Z,48nm,1.1s						
LSA	Lhasa	67.20	65	eP	P	04 43 36.5	-0.2
LSA				pmax	pmax		
	comp=Z,28nm,1.4s						
LSA				MLR	MLR		
	comp=Z,800nm,21.0s						
LSA	Lhasa	67.20	65	eP	P	04 43 36.5	-0.2
	comp=Z,28nm,1.4s						
LSA	Lhasa	67.20	65	eP	P	04 43 36.5	-0.2
	comp=Z,28nm,1.4s						
LSA				LR	LR		
	comp=Z,800nm,21.0s						
GUN	Gumba	67.24	71	eP	P	04 43 37.4	+0.6
	comp=Z,140nm,1.2s						
DMN	Daman	67.28	72	eP	P	04 43 37.3	+0.4
	comp=Z,91nm,1.4s						
PKI	Pulchoki	67.41	71	eP	P	04 43 37.8	0.0
	comp=Z,47nm,1.2s						
JIRN	Jiri	67.58	71	eP	P	04 43 39.7	+0.8
	comp=Z,359nm,1.9s						
TIA	Tai'an	67.90	41	⇑P	P	04 43 41.1	+0.7
TIA				PMZ			
	comp=Z,20nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TIA				PMZ			
	comp=Z,480nm,4.0s						
TIA				LN			
	comp=Z,730nm,27.9s						
TIA				LE			
	comp=Z,1µm,22.0s						
TIA				LZ			
	comp=Z,760nm,27.0s						
XAN	**Xi'an**	**68.06**	**48**	P	**P**	**04 43 41.1**	**-0.4**
XAN				pP	**pP**	**04 43 46.4**	**+0.9**
XAN				S	**S**	**04 52 37.2**	**-3.1**
XAN				SS	**SS**	**04 56 57.4**	**-4.3**
XAN				PMZ			
	comp=Z,4.0nm,1.7s						
XAN				PMZ			
	comp=Z,36nm,3.8s						
XAN				LN			
	comp=Z,1µm,18.4s						
XAN				LZ			
	comp=Z,430nm,23.5s						
TAPN	**Taplejung**	**68.34**	**69**	*e*P	**P**	**04 43 44.3**	**+0.7**
	comp=Z,99nm,1.4s						
RAMN	**Ramite**	**68.36**	**71**	*e*P	**P**	**04 43 44.1**	**+0.3**
	comp=Z,81nm,1.2s						
INCN	**Inchon**	**68.56**	**33**	PFAKE		04 44 00.0	+15
INCN				LR	LR		
	comp=Z,600nm,18.0s						
ODAN	**Odare**	**68.70**	**70**	*e*P	**P**	**04 43 46.5**	**+0.7**
	comp=Z,192nm,1.5s						
KSRS	**Korea Array**	**68.81**	**31**	P	**P**	**04 43 46.2**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=345,slow=6.3,SNR=5.6						
KSRS				LR	LR	05 15 39.8	
	comp=Z,512nm,19.1s,baz=352,slow=38						
KS15	**Wonju Array Si**	**68.82**	**32**	*e*P	**P**	**04 43 46.2**	**+0.1**
KS15	**Wonju Array Si**	**68.82**	**32**	*e*P	**P**	**04 43 46.2**	**+0.1**
CD2	**Chengdu**	**69.69**	**54**	P	**P**	**04 43 50.2**	**-1.5**
CD2				pP	**pP**	**04 43 53.7**	**-2.0**
CD2				PcP	**PcP**	**04 44 13.3**	**-1.1**
CD2				S	**S**	**04 52 58.1**	**-1.6**
CD2				SS	**SS**	**04 57 26.3**	**-0.7**
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,290nm,4.7s						
CD2				LN			
	comp=Z,950nm,16.6s						
CD2				LE			
	comp=Z,1µm,19.1s						
CD2				LZ			
	comp=Z,1µm,16.6s						
SLBS	**Sierra La Lagu**	**69.71**	**283**	*e*P	**P**	**04 43 52.1**	**+0.2**
	comp=Z,69nm,1.4s						
SLBS	**Sierra La Lagu**	**69.71**	**283**	*e*P	**P**	**04 43 52.1**	**+0.2**
	comp=Z,69nm,1.4s						
SLBS				LR	LR		
	comp=Z,2µm,20.0s						
TJN	**Taejon**	**69.76**	**32**	*i* P	**P**	**04 43 52.2**	**+0.2**
FURI	**Furi**	**69.95**	**123**	PFAKE		04 44 10.0	+16
FURI				LR	LR		
	comp=Z,500nm,19.0s						
SDV	**Santo Domingo**	**70.89**	**240**	*e*P	**P**	**04 43 59.9**	**+0.6**
	comp=Z,20nm,1.1s						
SDV	**Santo Domingo**	**70.89**	**240**	*e*P	**P**	**04 43 59.9**	**+0.6**
	comp=Z,20nm,1.1s						
MAJO	**Matsushiro**	**71.28**	**23**	*e*P	**P**	**04 44 01.3**	**0.0**
MAJO				pmax	pmax		
	comp=Z,22nm,1.0s						
MAJO				MLR	MLR		
	comp=Z,400nm,19.0s						
MAJO	**Matsushiro**	**71.28**	**23**	*e*P	**P**	**04 44 01.3**	**0.0**
	comp=Z,22nm,1.0s						
MAJO	**Matsushiro**	**71.28**	**23**	*e*P	**P**	**04 44 01.3**	**0.0**
	comp=Z,22nm,1.0s						
MAJO				LR	LR		
	comp=Z,400nm,19.0s						
MAT	**Matsushiro**	**71.28**	**23**	P	**P**	**04 44 01.2**	**-0.1**
MAT				S	**S**	**04 53 23.0**	**+4.9**
MJAR	**Matsushiro Arr**	**71.28**	**23**	P	**P**	**04 44 00.7**	**-0.6**
	comp=Z,23nm,1.0s,baz=346,slow=5.6,SNR=28						
MJAR	**Matsushiro Arr**	**71.28**	**23**	P	**P**	**04 44 00.7**	**-0.6**
MJAR				pmax	pmax		
	comp=Z,23nm,1.0s						
ENH	**Enshi**	**71.78**	**49**	PFAKE		04 44 20.0	+16
ENH				LR	LR		
	comp=Z,1µm,18.0s						
NJ2	**Nanjing**	**72.28**	**41**	*e*P	**P**	**04 44 09.5**	**+2.2**
NJ2				PMZ			
	comp=Z,30nm,0.7s						
WHN	**Wuhan**	**72.71**	**45**	⇑P	**P**	**04 44 09.9**	**0.0**
WHN				S	**S**	**04 53 36.9**	**+2.3**
WHN				LN			
	comp=Z,1µm,12.2s						
WHN				LE			
	comp=Z,2µm,15.4s						
WHN				LZ			
	comp=Z,3µm,22.9s						
SRSP	**Sriramsagar**	**73.18**	**81**	*e*P	**P**	**04 44 12.5**	**-0.3**
SRSP				IAmb	IAmb	04 44 13.5	
	comp=Z,21nm,1.2s						
BCIP	**Isla Barro Col**	**73.41**	**250**	*e*P	**P**	**04 44 14.2**	**0.0**
	comp=Z,183nm,1.9s						
BCIP	**Isla Barro Col**	**73.41**	**250**	*e*P	**P**	**04 44 14.2**	**0.0**
	comp=Z,183nm,1.9s						
KLRI	**Killari**	**73.41**	**83**	*e*P	**P**	**04 44 14.3**	**+0.1**
KLRI				IAmb	IAmb	04 44 15.4	
	comp=Z,33nm,1.0s						
RPR	**Rampur**	**73.56**	**80**	*e*P	**P**	**04 44 15.6**	**+0.5**
RPR				IAmb	IAmb	04 44 16.3	
	comp=Z,24nm,1.1s						
SSE	**Sheshan**	**73.69**	**39**	*e*P	**P**	**04 44 16.4**	**+0.7**
SSE				S	**S**	**04 53 44.8**	**-1.0**
SSE				PMZ			
	comp=Z,18nm,0.5s						
SSE				PMZ			
	comp=Z,90nm,3.5s						
SSE				LN			
	comp=Z,530nm,19.8s						
SSE				LE			
	comp=Z,890nm,19.9s						
SSE				LZ			
	comp=Z,970nm,17.6s						
MSKU	**Masuku**	**74.51**	**151**	*e*P	**P**	**04 44 20.8**	**+0.2**
	comp=Z,24nm,1.0s						
MSKU	**Masuku**	**74.51**	**151**	*e*P	**P**	**04 44 20.8**	**+0.2**
	comp=Z,24nm,1.0s						
MSKU				LR	LR		
	comp=Z,1µm,18.0s						
HYBB	**Hyderabad (bro**	**74.66**	**81**	*e*P	**P**	**04 44 21.6**	**0.0**
HYBB				IAmb	IAmb	04 44 22.1	
	comp=Z,21nm,0.9s						
HYBB				*e*sP	**sP**	**04 44 26.3**	**-0.8**
HYB	**Hyderabad**	**74.66**	**81**	*i* P	**P**	**04 44 21.0**	**-0.5**
GYA	**Guiyang**	**74.69**	**53**	⇑*i*P	**P**	**04 44 19.9**	**-1.8**
GYA				PP	**PP**	**04 47 12.0**	**+3.9**
GYA				S	**S**	**04 53 57.2**	**-0.1**
GYA				SS	**SS**	**04 58 46.0**	**+2.3**
GYA				PMZ			
	comp=Z,20nm,0.9s						
GYA				PMZ			
	comp=Z,140nm,5.8s						
GYA				LN			
	comp=Z,720nm,19.2s						
GYA				LE			
	comp=Z,620nm,20.4s						
GYA				LZ			
	comp=Z,740nm,18.6s						
KMI	**Kunming**	**74.89**	**57**	⇑P	**P**	**04 44 22.8**	**-0.2**
KMI				pP	**pP**	**04 44 25.7**	**-1.4**
KMI				PP	**PP**	**04 47 11.7**	**+1.7**
KMI				S	**S**	**04 53 57.8**	**-2.0**
KMI				SKS	**SKSac**	**04 54 25.7**	**-5.8**
KMI				SS	**SS**	**04 58 48.1**	**+1.0**
KMI				PMZ			
	comp=Z,14nm,2.0s						
KMI				LN			
	comp=Z,640nm,20.2s						
KMI				LE			
	comp=Z,840nm,17.1s						
KMI				LZ			
	comp=Z,960nm,21.7s						
NJS	**Nagarjunasagar**	**75.72**	**81**	*e*P	**P**	**04 44 27.3**	**-0.3**
NJS				IAmb	IAmb	04 44 28.9	
	comp=Z,52nm,1.1s						
ROSC	**El Rosal**	**75.80**	**243**	P	**P**	**04 44 29.0**	**+0.4**
	comp=Z,11nm,0.7s,baz=70,slow=4.4,SNR=15						
ROSC	**El Rosal**	**75.80**	**243**	*e*P	**P**	**04 44 30.1**	**+1.6**
PVM	**Polavaram**	**75.83**	**79**	*e*P	**P**	**04 44 29.5**	**+1.4**
PVM				IAmb	IAmb	04 44 32.1	
	comp=Z,64nm,1.8s						
SRLM	**Srisailam**	**76.00**	**82**	*e*P	**P**	**04 44 29.2**	**0.0**
SRLM				IAmb	IAmb	04 44 32.3	
	comp=Z,104nm,2.1s						
URV	**Uravakonda**	**76.54**	**83**	*e*P	**P**	**04 44 31.3**	**-1.0**
URV				IAmb	IAmb	04 44 33.1	
	comp=Z,32nm,1.2s						
ADKI	**Addanki**	**76.60**	**81**	*e*P	**P**	**04 44 33.5**	**+1.0**
ADKI				IAmb	IAmb	04 44 36.7	
	comp=Z,23nm,1.2s						
RCLA	**Racherla**	**76.62**	**82**	*e*P	**P**	**04 44 33.3**	**+0.5**
RCLA				IAmb	IAmb	04 44 37.4	
	comp=Z,23nm,1.4s						
SKHT	**Srikalahasti**	**78.48**	**82**	*e*P	**P**	**04 44 43.2**	**+0.1**
SKHT				IAmb	IAmb	04 44 46.4	
	comp=Z,27nm,1.4s						
CMAI	**Chiengmai2**	**78.74**	**62**	P	**P**	**04 44 45.5**	**+0.8**
	comp=Z,29nm,1.2s						
CRAI	**Chiangrai**	**78.85**	**60**	P	P	04 44 41.8	-3.3
	comp=Z,33nm,1.8s						
KMBO	**Kilima Mbogo**	**79.14**	**127**	P	**P**	**04 44 47.3**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=354,slow=9.2,SNR=3.1						
KMBO	**Kilima Mbogo**	**79.14**	**127**	*e*P	**P**	**04 44 47.3**	**+0.3**
KMBO				pmax	pmax		
	comp=Z,181nm,2.2s						
KMBO				MLR	MLR		
	comp=Z,2µm,19.0s						
KMBO	**Kilima Mbogo**	**79.14**	**127**	*e*P	**P**	**04 44 47.3**	**+0.3**
	comp=Z,181nm,2.2s						
KMBO				LR	LR		
	comp=Z,2µm,19.0s						
CHTO	**Chiang Mai**	**79.77**	**62**	*e*P	**P**	**04 44 49.3**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,15nm,1.1s						
CHTO				MLR	MLR		
	comp=Z,500nm,20.0s						
CHTO	**Chiang Mai**	**79.77**	**62**	*e*P	**P**	**04 44 49.3**	**-0.9**
	comp=Z,15nm,1.1s						
CHTO	**Chiang Mai**	**79.77**	**62**	P	**P**	**04 44 48.1**	**-2.1**
	SNR=7.1						
CHTO	**Chiang Mai**	**79.77**	**62**	*e*P	**P**	**04 44 49.3**	**-0.9**
	comp=Z,15nm,1.1s						
CHTO				LR	LR		
	comp=Z,500nm,20.0s						
YHNB	**Yeheng**	**79.95**	**40**	PFAKE		04 45 00.0	+8.8
YHNB				LR	LR		
	comp=Z,1µm,20.0s						
CM31	**Chiang Mai Arr**	**80.11**	**62**	*e*P	**P**	**04 44 52.1**	**+0.1**
CM31	**Chiang Mai Arr**	**80.11**	**62**	*e*P	**P**	**04 44 52.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**80.11**	**62**	P	**P**	**04 44 52.1**	**+0.1**
	comp=Z,3.4nm,0.6s,baz=321,slow=5.9,SNR=22						
CMAR	**Chiang Mai Arr**	**80.11**	**62**	P	**P**	**04 44 52.1**	**+0.1**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CM01	**Chiang Mai Arr**	**80.15**	**62**	*e*P	**P**	**04 44 52.1**	**-0.1**
CM01	**Chiang Mai Arr**	**80.15**	**62**	*e*P	**P**	**04 44 52.1**	**-0.1**
NACB	**Ninganchiao**	**80.48**	**40**	PFAKE		04 45 10.0	+16
NACB				LR	LR		
	comp=Z,1µm,19.0s						
YOJ	**Yonaguni jima**	**80.50**	**39**	PFAKE		04 45 10.0	+16
YOJ				LR	LR		
	comp=Z,900nm,18.0s						
SSLB	**Suanglung**	**80.71**	**41**	PFAKE		04 45 10.0	+15
SSLB				LR	LR		
	comp=Z,900nm,22.0s						
YULB	**Yu-li**	**81.17**	**41**	PFAKE		04 45 10.0	+12
YULB				LR	LR		
	comp=Z,900nm,18.0s						
UTTA	**Uttaradit**	**81.25**	**61**	P	**P**	**04 44 58.6**	**+0.5**
OTAV	**Otavalo**	**81.42**	**245**	*e*P	**P**	**04 44 58.6**	**-0.9**
	comp=Z,132nm,1.6s						
OTAV	**Otavalo**	**81.42**	**245**	*e*P	**P**	**04 44 58.6**	**-0.9**
	comp=Z,132nm,1.6s						
TWG	**Pinlang**	**81.67**	**41**	PFAKE		04 45 10.0	+10
TWG				LR	LR		
	comp=Z,5µm,19.0s						
QIZ	**Qiongzhong**	**82.61**	**52**	P	**P**	**04 45 07.1**	**+1.8**
QIZ				S	**S**	**04 55 23.1**	**+1.1**
QIZ				LN			
	comp=Z,760nm,17.9s						
QIZ				LZ			
	comp=Z,790nm,17.4s						
SAML	**Samuel**	**85.94**	**228**	*e*P	**P**	**04 45 22.3**	**+0.3**
	comp=Z,97nm,1.6s						
SAML	**Samuel**	**85.94**	**228**	*e*P	**P**	**04 45 22.3**	**+0.3**
	comp=Z,97nm,1.6s						
BDFB	**Brasilia**	**89.18**	**212**	P	**P**	**04 45 38.1**	**+0.4**
	comp=Z,3.6nm,1.0s,baz=18,slow=4.5,SNR=3.1						
BDFB				LR	LR	05 18 38.6	
	comp=Z,872nm,20.0s,baz=347,slow=31						
BDFB	**Brasilia**	**89.18**	**212**	*e*P	**P**	**04 45 37.0**	**-0.7**
BDFB	**Brasilia**	**89.18**	**212**	*e*P	**P**	**04 45 37.0**	**-0.7**
LSZ	**Lusaka**	**90.57**	**139**	PFAKE		04 46 00.0	+16
LSZ				LR	LR		
	comp=Z,1µm,18.0s						
TSUM	**Tsumeb**	**92.36**	**150**	PFAKE		04 46 00.0	+7.6
TSUM				LR	LR		
	comp=Z,1µm,20.0s						
KULM	**Kulim**	**93.08**	**65**	PFAKE		04 46 10.0	+14
KULM				LR	LR		
	comp=Z,600nm,22.0s						
IPM	**Ipoh**	**93.96**	**65**	PFAKE		04 46 10.0	+10
IPM				LR	LR		
	comp=Z,500nm,20.0s						
LPAZ	**La Paz**	**94.24**	**231**	P	**P**	**04 46 01.1**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=7.7,slow=4.2,SNR=4.4						
LPAZ				LR	LR	05 25 30.4	
	comp=Z,195nm,21.2s,baz=6.5,slow=34						
MYKOM	**Kota Tinggi**	**97.35**	**63**	PFAKE		04 46 30.0	+15
MYKOM				LR	LR		
	comp=Z,700nm,22.0s						
SBUM	**Sibu**	**99.10**	**54**	PFAKE		04 46 30.0	+6.8
SBUM				LR	LR		
	comp=Z,600nm,21.0s						
KSM	**Kuching**	**99.51**	**57**	PFAKE		04 46 40.0	+15
KSM				LR	LR		
	comp=Z,400nm,22.0s						
TOLI	**Toli-Toli**	**102.57**	**46**	PFAKE		04 46 50.0	+11
TOLI				LR	LR		
	comp=Z,200nm,22.0s						
LUWI	**Luwuk**	**105.13**	**45**	PFAKE		04 51 20.0	
LUWI				LR	LR		
	comp=Z,200nm,21.0s						
SUR	**Sutherland**	**105.79**	**150**	PFAKE		04 51 20.0	
SUR				LR	LR		
	comp=Z,2µm,20.0s						
PPT2	**Papeete2**	**120.58**	**309**	*e*SP	SP	05 02 50.3	-0.1
	comp=Z,527nm,24.5s						
PPT2				*e*SS	**SS**	**05 09 34.3**	**+4.6**
	comp=Z,2µm,30.2s						
PPT2	**Papeete2**	**120.58**	**309**	*e*LR	LR	05 28 33.3	
	comp=Z,2µm,25.5s						
RKT	**Rikitea**	**121.63**	**292**	*e*LR	LR	05 29 03.7	
	comp=Z,2µm,22.5s						
WRA	**Warramunga Arr**	**125.97**	**37**	PKP	**PKPdf**	**04 51 43.3**	**-0.5**
	comp=Z,4.5nm,1.0s,baz=352,slow=2.6,SNR=15						
CRZF	**Crozet Islands**	**126.01**	**129**	SP	SP	05 03 33.0	-4.7
CRZF				SS	**SS**	**05 10 37.0**	**-1.8**
CRZF				R		05 33 00.0	
TBI	**Tubuai**	**126.05**	**307**	*e*SS	SS	05 10 45.3	+6.4
	comp=Z,1µm,35.0s						
TBI	**Tubuai**	**126.05**	**307**	*e*LR	LR	05 31 05.0	
	comp=Z,1µm,23.8s						
AS12	**Alice Springs**	**129.49**	**39**	*e*PKIKP	**PKPdf**	**04 51 49.9**	**-0.6**
AS12	**Alice Springs**	**129.49**	**39**	*e*PKPdf	**PKPdf**	**04 51 49.9**	**-0.6**
ASAR	**Alice Springs**	**129.49**	**39**	PKP	**PKPdf**	**04 51 49.9**	**-0.6**
	comp=Z,2.6nm,1.0s,baz=1.2,slow=2.3,SNR=15						
ASAR	**Alice Springs**	**129.49**	**39**	PKIKP	**PKPdf**	**04 51 49.9**	**-0.6**
ASAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AS01	**Alice Springs**	**129.50**	**39**	*e*PKIKP	**PKPdf**	**04 51 49.8**	**-0.7**
AS01	**Alice Springs**	**129.50**	**39**	*e*PKPdf	**PKPdf**	**04 51 49.8**	**-0.7**
DZM	**Mont Dzumac**	**131.39**	**359**	*e*LR	LR	05 33 24.4	
	comp=Z,878nm,27.2s						
PAF	**Port-aux-Franc**	**133.84**	**116**	SS	SS	05 12 09.0	-5.9
PAF				R		05 35 00.0	
FORT	**Forrest**	**135.01**	**48**	PFAKE		04 52 10.0	+9.4
FORT				LR	LR		
	comp=Z,800nm,18.0s						
SNAA	**Sanae**	**142.30**	**174**	P	PKPdf	04 52 03.0	-10
SYO	**Syowa Base**	**143.99**	**150**	⇓*e*P	PKPab	04 52 12.0	-1.1
SYO	**Syowa Base**	**143.99**	**150**	⇑*e*P	**PKPdf**	**04 52 18.4**	**+2.8**
URZ	**Urewera**	**146.98**	**343**	PKPbc	**PKPbc**	**04 52 23.3**	**-0.5**
	comp=Z,17nm,1.0s,baz=79,slow=2.8,SNR=3.7						
MAW	**Mawson**	**147.42**	**136**	PKPbc	**PKPab**	**04 52 24.1**	**-2.1**
	comp=Z,17nm,1.1s,baz=354,slow=2.2,SNR=11						
MAW	**Mawson**	**147.42**	**136**	*e*PKP2	**PKPab**	**04 52 25.6**	**-0.6**
MAW	**Mawson**	**147.42**	**136**	*e*PKPbc	**PKPab**	**04 52 25.5**	**-0.6**
MAW	**Mawson**	**147.42**	**136**	*e*PKPbc	**PKPab**	**04 52 25.6**	**-0.6**
BKZ	**Black Stump Fm**	**147.93**	**344**	PFAKE		04 52 40.0	+11
BKZ				LR	LR		
	comp=Z,700nm,22.0s						
RPZ	**Rata Peaks**	**152.84**	**351**	PKPbc	**PKPbc**	**04 52 36.5**	**-1.6**
	comp=Z,10nm,0.8s,baz=164,slow=11,SNR=4.7						
SBA	**Scott Base**	**172.77**	**182**	*e*PKIKP	**PKPdf**	**04 52 46.8**	**-2.2**
SBA	**Scott Base**	**172.77**	**182**	*e*PKPdf	**PKPdf**	**04 52 46.8**	**-2.2**
SBA				*e*PKPab	**PKPab**	**04 54 17.9**	**+2.5**
VNDA	**Vanda**	**173.03**	**173**	PKP	**PKPdf**	**04 52 49.2**	**0.0**
	comp=Z,1.1nm,1.1s,baz=299,slow=11,SNR=3.3						
VNDA				PKPab	**PKPab**	**04 54 17.8**	**+1.1**
	comp=Z,2.1nm,1.0s,baz=240,slow=5.7,SNR=6.5						
VNDA	**Vanda**	**173.03**	**173**	*e*PKIKP	**PKPdf**	**04 52 50.0**	**+0.8**
VNDA	**Vanda**	**173.03**	**173**	*e*PKPdf	**PKPdf**	**04 52 50.0**	**+0.8**
VNDA				*e*PKPab	**PKPab**	**04 54 18.2**	**+1.6**

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*DDA **03** 04:34:24.8, 37°.30N×36°.87E, h10^{km}, MD3.0*
*ISK **03** 04:34:24.4, 37°.31N×36°.92E, h5^{km}, MD2.7*
*ISCJB **03** 04:34:25.1±0.4, 37°.29N±0°.03×36°.88E±0°.03, h8^{km}±4^{km}, Error ellipse: s-maj=4.8km s-min=3.7km az=40.7*
*CSEM **03** 04:34:25.1±0.2, 37°.31N×36°.88E, h12^{km}, MD2.7, Error ellipse: s-maj=4.2km s-min=3.6km az=149.0*
ISC 03 04:34:24.7±0.8**, 37°.30N**±0°.02×**36°.88E**±0°.02**, h10**^{km}±5^{km}**, n28, σ0^{s}66**/48**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HCB	**Kahramanmara¯**	**0.05**	**28**	*i* P	**Pg**	**04 34 26.9**	**+0.1**
HCB				*i* S	**Sg**	**04 34 28.4**	**0.0**
KMRS	**Kahramanmaras**	**0.20**	**4**	*e*PG	**Pg**	**04 34 28.8**	**-0.3**
KMRS				*e*SG	**Sg**	**04 34 32.3**	**+0.3**
KMRS	**Kahramanmaras**	**0.20**	**4**	*e*Pg	**Pg**	**04 34 28.8**	**-0.3**
KMRS				*e*Sg	**Sg**	**04 34 32.3**	**+0.3**
KAMA	**Osmaniye**	**0.21**	**236**	*i* P	**Pg**	**04 34 29.3**	**+0.2**
KAMA				*i* S	**Sg**	**04 34 32.5**	**+0.4**
ANDN	**Andirin**	**0.51**	**303**	*i* P	**Pg**	**04 34 35.1**	**+0.4**
ANDN				*i* S	**Sg**	**04 34 41.6**	**+0.1**
ANDN	**Andirin**	**0.51**	**303**	*i* P	**Pg**	**04 34 35.1**	**+0.4**
ANDN				*i* S	**Sg**	**04 34 41.6**	**+0.1**
KUZU	**Kuzuini**	**0.55**	**164**	*i* P	**Pb**	**04 34 36.3**	**-0.2**
KUZU				*i* S	**Sg**	**04 34 43.5**	**+0.8**
KUZU	**Kuzuini**	**0.55**	**164**	*i* P	**Pb**	**04 34 36.3**	**-0.2**
KUZU				*i* S	**Sg**	**04 34 43.5**	**+0.8**
KOZT	**Kozan**	**0.86**	**282**	*e*PG	**Pb**	**04 34 41.9**	**+0.2**
KOZT				*e*SG	**Sn**	**04 34 55.0**	**-0.5**
KOZT	**Kozan**	**0.86**	**282**	*e*Pg	**Pb**	**04 34 41.9**	**+0.2**
KOZT				*e*Sg	**Sn**	**04 34 55.0**	**-0.5**
CEYT	**Ceyhan**	**0.95**	**252**	*e*PG	**Pb**	**04 34 43.7**	**+0.4**
CEYT				*e*SG	**Sn**	**04 34 57.2**	**-0.5**
CEYT	**Ceyhan**	**0.95**	**252**	*e*Pg	**Pb**	**04 34 43.7**	**+0.4**
CEYT				*e*Sg	**Sn**	**04 34 57.2**	**-0.5**
TAHT	**Tahtakopru-Hat**	**1.08**	**211**	*e*PN	**Pn**	**04 34 45.9**	**0.0**
TAHT	**Tahtakopru-Hat**	**1.08**	**211**	*e*Pn	**Pn**	**04 34 45.9**	**0.0**
ATAB	**Bozova**	**1.14**	**81**	*i* P	**Pn**	**04 34 46.9**	**+0.2**
ATAB				*i* S	**Sb**	**04 35 00.8**	**-0.6**
ATAB	**Bozova**	**1.14**	**81**	*i* P	**Pn**	**04 34 46.9**	**+0.2**
ATAB				*i* S	**Sb**	**04 35 00.8**	**-0.6**
AKCD	**Akcadag**	**1.29**	**39**	*i* P	**Pg**	**04 34 49.7**	**+0.2**
AKCD				*i* S	**Sg**	**04 35 07.4**	**+1.1**
AKCD	**Akcadag**	**1.29**	**39**	*i* P	**Pg**	**04 34 49.7**	**+0.2**
AKCD				*i* S	**Sg**	**04 35 07.4**	**+1.1**
DARE	**Darende-Malaty**	**1.35**	**20**	*e*PN	**Pb**	**04 34 50.6**	**+0.4**
DARE	**Darende-Malaty**	**1.35**	**20**	*e*Pn	**Pb**	**04 34 50.6**	**+0.4**
YAYL	**Yayladag**	**1.41**	**206**	*i* P	**Pn**	**04 34 50.2**	**-0.4**
YAYL				*i* S	**Sn**	**04 35 09.0**	**-0.2**
YAYL	**Yayladag**	**1.41**	**206**	*i* P	**Pn**	**04 34 50.2**	**-0.4**
YAYL				*i* S	**Sn**	**04 35 09.0**	**-0.2**
PINB	**Pinarbasi**	**1.42**	**345**	*i* P	**Pn**	**04 34 49.3**	**-1.6**
PINB				*i* S	**Sg**	**04 35 12.5**	**+1.9**
PINB	**Pinarbasi**	**1.42**	**345**	*i* P	**Pn**	**04 34 49.3**	**-1.6**
PINB				*i* S	**Sg**	**04 35 12.5**	**+1.9**
URFA	**Urfa**	**1.55**	**84**	*e*PN	**Pb**	**04 34 53.3**	**-0.3**
URFA	**Urfa**	**1.55**	**84**	*e*Pn	**Pb**	**04 34 53.3**	**-0.3**
MALT	**Malatya**	**1.59**	**50**	*e*PN	**Pn**	**04 34 53.3**	**+0.3**
MALT	**Malatya**	**1.59**	**50**	*e*Pn	**Pn**	**04 34 53.3**	**+0.3**

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*ISCJB **03** 04:38:23.6±0.5, 32°.18N±0°.02×115°.20W±0°.02, h11^{km}±4^{km}, Error ellipse: s-maj=3.4km s-min=2.9km az=9.2*
*NEIC **03** 04:38:26.0, 32°.21N×115°.27W, h8^{km}, MD3.8(MEX), ML3.8(PAS), After ECX.*
NEIC Felt at Mexicali.
*MEX **03** 04:38:26.6±0.5, 32°.27N×115°.15W, h19^{km}±10^{km}, MD3.8*
*ECX **03** 04:38:26.0±0.6, 32°.21N×115°.27W, h8^{km}, MD3.8, ML4.0, Fault plane solution: NP1:ϕ_s206.57000°, δ75.52000°, λ-26.57000°.*
ISC 03 04:38:24.0±1.1**, 32°.15N**±0°.02×**115°.31W**±0°.02**, h3**^{km}±10^{km}**, n55, σ1^{s}63**/93**, 10C-8D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.27**	**1**	⇓*e*P	**Pg**	**04 38 29.9**	**+0.8**
CPBX				*e*S	**Sg**	**04 38 33.0**	**+0.3**
CPBX				*e*		04 38 34.4	
CPBX				IAML		04 38 34.4	
	comp=N,72µm,0.3s						
CPBX				*e*		04 38 35.8	
CPBX				IAML		04 38 35.8	
	comp=E,65µm,0.3s						
MBIG	**Mexicali**	**0.27**	**20**	*e*P	**Pg**	**04 38 29.9**	**+0.6**
MBIG				*e*S	**Sg**	**04 38 32.2**	**-0.7**
RDX	**Rancho Dawling**	**0.58**	**248**	⇑*e*P	**Pb**	**04 38 37.7**	**+0.8**
RDX				*e*S	**Sb**	**04 38 46.2**	**+0.6**
RDX				IAML		04 38 47.7	
	comp=N,6µm,0.5s						
RDX				⇑*e*		04 38 47.7	
SGL	**Mount Signal**	**0.61**	**325**	⇑*i*P	**Pg**	**04 38 36.4**	**+0.7**
EMSC	**East Mesa**	**0.65**	**25**	⇓*i*P	**Pg**	**04 38 36.4**	**-0.1**
DREC	**Desert Rsrch C**	**0.67**	**350**	⇓*i*P	**Pg**	**04 38 37.3**	**+0.6**
WESC	**Westside Schoo**	**0.71**	**330**	⇑*i*P	**Pg**	**04 38 37.9**	**+0.3**
ECBX	**El Chinero**	**0.71**	**162**	⇓*e*P	**Pg**	**04 38 36.9**	**-0.7**
ECBX				*e*S	**Sg**	**04 38 47.2**	**+0.4**
YUH	**Yuha Desert**	**0.72**	**314**	⇑*i*P	**Pg**	**04 38 38.2**	**+0.4**
COA	**Coachella**	**0.73**	**12**	⇓*i*P	**Pg**	**04 38 37.5**	**-0.5**
YMD	**Yuma Desert**	**0.76**	**58**	⇑*i*P	**Pg**	**04 38 37.9**	**-0.7**
RMX	**La Rumorosa**	**0.79**	**305**	⇑*e*P	**Pg**	**04 38 39.8**	**+0.6**
RMX				*e*S	**Sg**	**04 38 50.5**	**+0.9**
RMX				IAML		04 38 51.1	
	comp=N,5µm,0.2s						
RMX				⇓*e*		04 38 51.1	
IBP	**Imperial Bould**	**0.84**	**308**	P	**Pg**	**04 38 40.4**	**+0.4**
	baz=0.8						
IBP				S	**Sg**	**04 38 51.8**	**+0.9**
	baz=0.8						
SWSC	**Sam W. Stewart**	**0.89**	**333**	P	**Pg**	**04 38 40.1**	**-0.9**
	baz=0.9						
GLA	**Glamis**	**0.99**	**24**	P	**Pg**	**04 38 41.0**	**-1.9**
	baz=0.9						
GLA				S	**Sg**	**04 38 52.5**	**-3.3**
	baz=0.9						
GLA	**Glamis**	**0.99**	**24**	*e*Pg	**Pg**	**04 38 41.1**	**-1.9**
GLA				*e*S	**Sg**	**04 38 52.7**	**-3.0**
ZAX	**El Zacaton**	**1.04**	**233**	⇓*e*P	**Pn**	**04 38 45.3**	**-0.2**
ZAX				*e*S	**Sn**	**04 39 00.3**	**-0.2**
ZAX				IAML		04 39 02.4	
	comp=N,9µm,0.7s						
SPX	**San Pedro Mart**	**1.11**	**187**	⇓*e*P	**Pb**	**04 38 46.1**	**+0.1**
SPX				*e*S	**Sn**	**04 39 02.6**	**0.0**
CBX	**Cerro Bola**	**1.16**	**278**	*e*P	**Pg**	**04 38 46.2**	**0.0**
CBX				*i* S	**Sg**	**04 39 01.5**	**+0.2**
CBX	**Cerro Bola**	**1.16**	**278**	⇑*e*P	**Pg**	**04 38 46.3**	**0.0**
CBX				*e*S	**Sb**	**04 39 02.5**	**+0.2**
MONP	**Monument Peak,**	**1.20**	**308**	P	**Pg**	**04 38 45.7**	**-1.2**
	baz=1.2						
MONP				S	**Sg**	**04 39 02.3**	**-0.2**
	baz=1.2						
ECNX	**Esteban Cantu**	**1.20**	**246**	*e*P	**Pn**	**04 38 47.8**	**+0.1**
ECNX				*e*S	**Sn**	**04 39 04.8**	**+0.2**
BAR	**Barrett**	**1.27**	**295**	*e*Pn	**Pn**	**04 38 47.3**	**-1.3**
BAR				*e*S	**Sb**	**04 39 04.5**	**-0.7**
BAR	**Barrett**	**1.27**	**295**	⇑*e*P	**Pn**	**04 38 47.3**	**-1.3**
PBX	**Punta Banda**	**1.27**	**252**	⇑*e*P	**Pb**	**04 38 48.6**	**+0.1**
PBX				*e*S	**Sn**	**04 39 06.5**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SDRC	San Diego Road	1.50	293	ePn	Pn	04 38 50.6	-1.2
BC3	Big Chuckawall	1.51	355	P	Pn	04 38 49.0	-3.0
	baz=1.4						
109C	Camp Elliot, M	1.69	296	P	Pn	04 38 53.3	-1.1
	baz=1.7						
109C				S	Sn	04 39 16.4	0.0
	baz=1.7						
PFO	Pinyon Flats O	1.75	327	P	Pn	04 38 52.8	-2.5
	baz=1.7						
PFO				Sb	Sb	04 39 18.8	-0.4
	baz=1.7						
PFO	Pinyon Flats O	1.75	327	ePn	Pn	04 38 52.7	-2.5
PFO				eS	Sb	04 39 18.5	-0.6
214A	Organ Pipe Nat	2.13	95	P	Pn	04 38 57.6	-2.8
	baz=2.1						
214A	Organ Pipe Nat	2.13	95	ePn	Pn	04 38 57.5	-2.9
214A				eS	Sb	04 39 29.5	-0.5
MURC	Murrieta	2.15	313	Sb	Sb	04 39 31.5	+0.8
	baz=2.1						
BBRC	Big Bear Solar	2.50	328	Sb	Sb	04 39 41.8	+0.8
	baz=2.5						
BFSC	Mount Baldy Ra	2.87	317	Sb	Sb	04 39 52.0	+0.6
	baz=2.8						
CIS	Catalina Islan	2.89	297	Sb	Sb	04 39 53.4	+1.4
	baz=2.9						
MWC	Mount Wilson	3.10	313	ePn	Pn	04 39 14.2	+0.3
MWC				eS	Sb	04 39 55.5	-2.5
PASC	Pasadena Art C	3.15	311	Pn	Pn	04 39 15.7	+1.4
PASC				eS	Sb	04 40 00.3	+1.1
GSC	Goldstone, Bar	3.38	339	ePn	Pn	04 39 17.5	-0.3
GSC				ePg	Pg	04 39 27.7	-1.1
GSC				eS	Sg	04 40 12.8	+0.1
OSI	Osito Audit: C	3.77	312	ePn	Pn	04 39 22.0	-1.0
OSI				ePg	Pb	04 39 31.3	+0.2
OSI				eS	Sg	04 40 22.5	-2.6
TUC	Tucson	3.84	86	ePn	Pn	04 39 22.4	-1.6
TUC				ePg	Pg	04 39 37.6	+0.1
TUC				eS	Sb	04 40 22.5	+3.3
SHPR	Sheep Range	4.35	2	ePn	Pn	04 39 30.6	-0.5
SHPR				ePg	Pg	04 39 47.5	+0.3
SHPR				eS	Sg	04 40 47.7	+4.1
ISA	Isabella, Lake	4.38	324	ePn	Pn	04 39 30.1	-1.4
ISA				ePg	Pb	04 39 44.6	+3.0
ISA				eS	Sg	04 40 40.3	-4.5
DAC	Darwin (Calif)	4.53	336	ePn	Pn	04 39 32.7	-0.9
DAC				ePg	Pg	04 39 49.6	-1.3
DAC				eS	Sb	04 40 43.0	+3.7
WUAZ	Wupatki	4.69	43	ePn	Pn	04 39 35.7	-0.1
WUAZ				eS	Sg	04 40 51.8	-2.9
W18A	Petrified Fore	5.51	56	ePn	Pn	04 39 44.4	-2.7
	comp=N,8.2nm,0.6s						
W18A				eSg	Sg	04 41 24.7	+3.7
R11A	Troy Canyon, C	6.19	358	ePn	Pn	04 39 57.2	+0.8
R11A				ePg	Pg	04 40 20.8	-1.8
R11A				eS	Sg	04 41 42.6	-0.2
121A	Cookes Peak, D	6.38	85	ePn	Pn	04 39 57.9	-1.1
	comp=N,6.9nm,0.6s						
121A				eSg	Sg	04 41 53.1	+4.3
MVU	Marysvale	6.83	21	ePn	Pn	04 40 05.1	-0.1
	comp=N,5.6nm,0.5s						
MVU				ePg	Pg	04 40 30.8	-3.9
MSU	Marysvale	6.84	21	Pn	Pn	04 40 06.2	+0.8
	comp=N,5.4nm,0.6s						
MVCO	Mesa Verde	7.54	46	ePn	Pn	04 40 15.7	+0.7
	comp=N,6.1nm,0.6s						
SRU	San Rafael Swe	7.96	28	Pn	Pn	04 40 20.7	0.0
	comp=N,4.4nm,0.5s						
PV01	Paradox Valley	8.13	41	ePn	Pn	04 40 23.1	+0.1
	comp=N,330nm,0.6s						
PV04	Paradox Valley	8.14	38	ePn	Pn	04 40 25.9	+2.8
MNTX	Cornudas Mount	8.45	90	ePn	Pn	04 40 26.6	-0.7

*IDC **03** 04:53:24.8±0.5, 40.°52N×50.°37E, h0km, mb4.3/27, mb1 4.4/36, mb1mx4.4/41, mbtmp4.3/36, ML4.4/5, Error ellipse: s-maj=11.8km s-min=7.8km az=178.0*

*THR **03** 04:53:28.0±0.6, 40.°58N×50.°53E, h15km, ML4.6, Fault plane solution: NP1:φs100.00000°, δ50.00000°, λ0.00000°.*

*BJI **03** 04:53:29.5, 40.°70N×50.°40E, h39km, mb4.6/15, mB4.8/10, Ms4.8/5, Ms7 4.6/5*

*ISCJB **03** 04:53:30.9±0.2, 40.°54N±0.°02×50.°48E±0.°02, h61km±2km, mb4.4/56, Error ellipse: s-maj=3.5km s-min=2.2km az=28.0*

*NEIC **03** 04:53:31.6±0.6, 40.°68N×50.°41E, h46km±6km, mb4.5/20, Error ellipse: s-maj=6.0km s-min=3.9km az=167.0*

*AZER **03** 04:53:31.1±6.2, 40.°47N×50.°41E, h57km, Error ellipse: s-maj=5.7km s-min=2.9km az=275.0*

*MOS **03** 04:53:31.2±1.1, 40.°70N×50.°45E, h27km, mb4.8/15, Error ellipse: s-maj=6.6km s-min=4.1km az=39.5*

*TEH **03** 04:53:31.7, 40.°68N×50.°46E, h32km, ML4.7*

*CSEM **03** 04:53:32.2±0.1, 40.°57N×50.°46E, h55km±1km, mb4.4/21, Error ellipse: s-maj=3.4km s-min=2.1km az=32.0*

*NNC **03** 04:53:35.7±2.2, 41.°05N×51.°38E, h0km, mb4.5, Error ellipse: s-maj=28.4km s-min=16.4km az=113.0*

ISC 03 04:53:31.5±0.3**, 40.°61N**±0.°03×**50.°51E**±0.°03**, h49**km±3km**, h49**km**:pP-P, n509,** σ1.s52/601**, mb4.5**/59**, 65C-31D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	Gala	0.34	234	⇑P	Pn	04 53 42.0	+1.0
	SNR=43						
GALA				⇓S	Sn	04 53 51.0	+3.3
GALA	Gala	0.34	234	P	Pn	04 53 42.0	+1.0
	SNR=43						
GALA				S	Sn	04 53 51.0	+3.3
NDR	Nardaran	0.40	266	⇑P	Pn	04 53 43.0	+1.4
	SNR=47						
NDR				⇑S	Sn	04 53 52.5	+3.7
NDR	Nardaran	0.40	266	P	Pn	04 53 43.0	+1.4
	SNR=47						
NDR				S	Sn	04 53 52.5	+3.7
GOBA	Gobu	0.63	251	⇓P	Pn	04 53 46.4	+2.0
	SNR=46						
GOBA	Gobu	0.63	251	P	Pn	04 53 46.4	+2.0
	SNR=46						
ATGJ	Altiaghaj	1.22	282	⇑P	Pn	04 53 53.3	+1.0
	SNR=15						
ATGJ				⇑S	Sn	04 54 09.9	+2.1
ATGJ	Altiaghaj	1.22	282	P	Pn	04 53 53.3	+1.0
	SNR=15						
ATGJ				S	Sn	04 54 09.9	+2.1
PQL	Pirkuli	1.47	278	⇑P	Pn	04 53 56.5	+0.8
	SNR=62						
PQL				⇓S	Sn	04 54 14.0	+0.1
PQL	Pirkuli	1.47	278	P	Pn	04 53 56.5	+0.8
	SNR=62						
PQL				S	Sn	04 54 14.0	+0.1
QUBA	Quba, Azerbaij	1.70	297	⇓Pn	Pn	04 54 00.2	+1.4
	SNR=12						
QUBA				⇓S	Sn	04 54 21.4	+2.0
QUBA	Quba, Azerbaij	1.70	297	Pn	Pn	04 54 00.2	+1.4
	SNR=12						
QUBA				S	Sn	04 54 21.4	+2.0
SAAT	Saatly	1.77	246	⇓Pn	Pn	04 53 59.1	-0.5
SAAT	Saatly	1.77	246	Pn	Pn	04 53 59.1	-0.5
IML	Ismayilli	1.78	277	⇑Pn	Pn	04 54 00.3	+0.4
	SNR=40						
IML				⇓S	Sn	04 54 22.7	+1.3
IML	Ismayilli	1.78	277	Pn	Pn	04 54 00.3	+0.4
	SNR=40						
IML				S	Sn	04 54 22.7	+1.3
KDMR	Kurdemir	1.79	263	⇑S	Sn	04 54 22.8	+1.3
KDMR	Kurdemir	1.79	263	S	Sn	04 54 22.8	+1.3
KSMR	Kasumkent	2.06	300	iP	Pn	04 54 05.0	+1.3
KSMR				eS	Sn	04 54 30.0	+1.8
KSMR				pmax	pmax		
	comp=Z,1μm,0.1s						
KSMR	Kasumkent	2.06	300	iP	Pn	04 54 05.0	+1.3
	comp=Z,1μm,0.1s						
KSMR				eS	Sn	04 54 30.0	+1.8
GLBA	Clilabad	2.13	231	⇓Pn	Pn	04 54 03.4	-1.2
	SNR=25						
GLBA				⇓Sn	Sn	04 54 28.1	-1.7
GLBA	Clilabad	2.13	231	Pn	Pn	04 54 03.4	-1.2
	SNR=25						
GLBA				Sn	Sn	04 54 28.1	-1.7
AKT	Akhty	2.28	293	⇑iP	Pn	04 54 08.0	+1.2
AKT				eS	Sn	04 54 28.5	-5.2
AKT				pmax	pmax		
	comp=Z,122nm,0.2s						
AKT	Akhty	2.28	293	iP	Pn	04 54 08.0	+1.2
	comp=Z,122nm,0.2s						
LKRN	Lenkeran, Azer	2.32	216	Pn	Pn	04 54 06.0	-1.3
	SNR=15						
LKRN				⇑Sn	Sn	04 54 31.4	-3.1
LKRN	Lenkeran, Azer	2.32	216	Pn	Pn	04 54 06.0	-1.3
	SNR=15						
BRDA	Brd	2.57	263	⇑Pn	Pn	04 54 10.4	-0.2
	SNR=6.8						
BRDA				⇓Sn	Sn	04 54 41.9	+1.3
BRDA	Brd	2.57	263	Pn	Pn	04 54 10.4	-0.2
	SNR=6.8						
BRDA				Sn	Sn	04 54 41.9	+1.3
SEKA	Sheki	2.58	284	P	Pn	04 54 11.4	+0.5
	SNR=306						
SEKA				Pn	Pn	04 54 11.5	+0.6
	SNR=121						
SEKA				⇓Sn	Sn	04 54 41.3	+0.2
SEKA	Sheki	2.58	284	P	Pn	04 54 11.4	+0.5
	SNR=306						
SEKA				Sn	Sn	04 54 41.3	+0.2
LRK	Lerik	2.58	221	⇓Pn	Pn	04 54 09.6	-1.4
	SNR=18						
LRK				⇓Sn	Sn	04 54 38.2	-3.1
LRK	Lerik	2.58	221	Pn	Pn	04 54 09.6	-1.4
	SNR=18						
LRK				Sn	Sn	04 54 38.2	-3.1
MNGR	Mingechevir, A	2.61	275	⇑Pn	Pn	04 54 11.2	0.0
	SNR=4.1						
MNGR				⇓Sn	Sn	04 54 42.0	+0.4
MNGR	Mingechevir, A	2.61	275	Pn	Pn	04 54 11.2	0.0
	SNR=4.1						
MNGR				Sn	Sn	04 54 42.0	+0.4
ZKTA	Zakatala	3.11	291	Pn	Pn	04 54 18.9	+0.8
	SNR=56						
ZKTA				⇑Sn	Sn	04 54 55.5	+1.5
GANJ	Ganja	3.19	272	⇓Pn	Pn	04 54 17.9	-1.3
	SNR=17						
GANJ				⇑Sn	Sn	04 54 53.4	-2.6
GANJ	Ganja	3.19	272	Pn	Pn	04 54 17.9	-1.3
	SNR=17						
GNBR	Gunib	3.20	305	eP	Pn	04 54 22.3	+2.9
GNBR	Gunib	3.20	305	eP	Pn	04 54 22.3	+2.9
MAK	Makhachkala	3.25	317	eP	Pn	04 54 18.7	-1.3
MAK				eS	Sn	04 54 55.8	-1.6
MAK				pmax	pmax		
	comp=Z,149nm,0.3s						
MAK				smax	smax		
	comp=N,166nm,0.5s						
MAK	Makhachkala	3.25	317	eP	Pn	04 54 18.7	-1.3
	comp=N,149nm,0.3s						
MAK				eS	Sn	04 54 55.8	-1.6
	comp=N,166nm,0.5s						
IHRS	Heris	3.53	231	ePn	Pn	04 54 24.2	+0.2
IHRS				e		04 55 05.8	
	comp=Z,13μm,0.2s						
IHRS	Heris	3.53	231	ePn	Pn	04 54 24.2	+0.2
DBC	Dubki	3.66	312	⇑iP	Pn	04 54 27.5	+1.9
DBC				iS	Sn	04 55 10.7	+3.2
DBC	Dubki	3.66	312	iP	Pn	04 54 27.5	+1.9
DBC				iS	Sn	04 55 10.7	+3.2
BTLR	Botlikh	3.81	304	eP	Pn	04 54 29.4	+1.6
BTLR	Botlikh	3.81	304	eP	Pn	04 54 29.4	+1.6
QZX	Qazax, Azerbai	3.92	278	⇓Pn	Pn	04 54 28.5	-0.8
	SNR=32						
QZX				⇑Sn	Sn	04 55 13.0	-1.1
QZX	Qazax, Azerbai	3.92	278	Pn	Pn	04 54 28.5	-0.8
	SNR=32						
QZX				Sn	Sn	04 55 13.0	-1.1
DGRG	David-gareji	3.98	284	P	Pn	04 54 30.8	+0.7
DGRG				S	Sn	04 55 15.6	+0.2
DGRG	David-gareji	3.98	284	P	Pn	04 54 30.7	+0.7
DGRG				S	Sn	04 55 15.6	+0.2
DGRG	David-gareji	3.98	284	P	Pn	04 54 30.7	+0.7
DGRG				S	Sn	04 55 15.6	+0.2
NAX	Nakhchivan	4.12	251	⇑Pn	Pn	04 54 31.8	-0.2
NAX				⇑Sn	Sn	04 55 18.6	-0.3
NAX	Nakhchivan	4.12	251	Pn	Pn	04 54 31.8	-0.2
NAX				Sn	Sn	04 55 18.6	-0.3
ITBZ	Tabriz	4.13	236	ePn	Pn	04 54 32.1	-0.1
ITBZ				e		04 55 19.8	
	comp=Z,2μm,0.2s						
ITBZ	Tabriz	4.13	236	ePn	Pn	04 54 32.1	-0.1
IMRD	Marand	4.17	245	ePn	Pn	04 54 32.2	-0.6
IMRD				e		04 55 30.1	
	comp=Z,8μm,0.2s						
IMRD	Marand	4.17	245	ePn	Pn	04 54 32.2	-0.6
IGZV	Ghazvin	4.22	183	ePn	Pn	04 54 31.6	-2.0
IGZV				e		04 55 22.8	
	comp=Z,23μm,0.2s						
IGZV	Ghazvin	4.22	183	ePn	Pn	04 54 31.6	-2.0
GNI	Garni	4.43	266	Pn	Pn	04 54 35.6	-0.7
	comp=Z,4.3nm,0.3s,baz=49,slow=3.5,SNR=9.4						
GNI	Garni	4.43	266	⇑iP	Pn	04 54 37.1	+0.7
GNI				pmax	pmax		
	comp=Z,22nm,0.7s						
GNI	Garni	4.43	266	ePn	Pn	04 54 36.9	+0.5
GNI				eS	Sn	04 55 30.0	+3.3
GNI	Garni	4.43	266	ePn	Pn	04 54 36.9	+0.5
GNI				eS	Sn	04 55 30.0	+3.3
SEAG	Tbilisi Sea	4.46	287	P	Pn	04 54 35.8	-0.8
SEAG				S	Sn	04 55 23.5	-3.7
SEAG	Tbilisi Sea	4.46	287	P	Pn	04 54 35.8	-0.8
SEAG				S	Sn	04 55 23.5	-3.7
TBLG	Delisi	4.50	286	P	Pn	04 54 37.0	-0.1
TBLG				S	Sn	04 55 25.6	-2.7
TBLG	Delisi	4.50	286	P	Pn	04 54 37.0	-0.1
TBLG				S	Sn	04 55 25.5	-2.7
TBLG	Delisi	4.50	286	P	Pn	04 54 37.0	-0.1
TBLG				S	Sn	04 55 25.5	-2.7
IAZR	Azarshahr	4.58	232	ePn	Pn	04 54 38.7	+0.2
IAZR				e		04 55 38.1	
	comp=Z,3μm,0.2s						
IAZR	Azarshahr	4.58	232	ePn	Pn	04 54 38.7	+0.2
IPRN	Peran	4.59	161	ePn	Pn	04 54 37.9	-0.6
IPRN				e		04 55 30.1	
	comp=Z,40μm,0.1s						
DUS	Dusheti	4.62	291	P	Pn	04 54 39.6	+0.8
DUS				S	Sn	04 55 29.9	-1.2
DUS	Dusheti	4.62	291	P	Pn	04 54 39.6	+0.8
DUS				S	Sn	04 55 29.9	-1.2
DUS	Dusheti	4.62	291	P	Pn	04 54 39.6	+0.8
DUS				S	Sn	04 55 29.9	-1.2
MAKU	Maku	4.65	256	ePn	Pn	04 54 40.0	+0.6
MAKU	Maku	4.65	256	ePn	Pn	04 54 40.0	+0.6
CHTH	Charan	4.72	174	ePn	Pn	04 54 39.9	-0.5
CHTH	Charan	4.72	174	ePn	Pn	04 54 39.9	-0.5
IAFJ	Afjeh	4.84	168	ePn	Pn	04 54 41.5	-0.6
IAFJ				e		04 55 38.5	
	comp=Z,99nm,0.1s						
IAFJ	Afjeh	4.84	168	ePn	Pn	04 54 41.5	-0.6
IGLO	Ghaloghah	4.86	147	ePn	Pn	04 54 41.8	-0.5
IGLO				e		04 55 39.9	
	comp=Z,21μm,0.1s						
IALA	Alasht	4.87	157	ePn	Pn	04 54 42.2	-0.3
IALA				e		04 55 37.5	
	comp=Z,56μm,0.1s						
IALA	Alasht	4.87	157	ePn	Pn	04 54 42.2	-0.3
IMHD	Mahdasht	4.92	179	ePn	Pn	04 54 43.7	+0.7
IMHD				e		04 55 44.2	
	comp=Z,5μm,0.1s						
IMHD	Mahdasht	4.92	179	ePn	Pn	04 54 43.7	+0.7
IKIA	Kiasar	5.05	149	ePn	Pn	04 54 45.4	+0.4
IKIA				e		04 55 44.7	
	comp=Z,9μm,0.1s						
IKIA	Kiasar	5.05	149	ePn	Pn	04 54 45.4	+0.4
DAMV	Damavand	5.10	167	ePn	Pn	04 54 46.2	+0.5
DAMV				AML	AML	04 55 43.7	
	comp=E,497nm,0.4s						
DAMV	Damavand	5.10	167	ePn	Pn	04 54 46.2	+0.5
	comp=E,497nm,0.4s						
IR3	Iran Long-Peri	5.14	175	ePn	Pn	04 54 42.6	-3.5
IR3	Iran Long-Peri	5.14	175	ePn	Pn	04 54 42.6	-3.5
IDMV	Damavand	5.17	166	ePn	Pn	04 54 47.8	+1.2
IDMV				e		04 55 47.3	
	comp=Z,9μm,0.1s						
IDMV	Damavand	5.17	166	ePn	Pn	04 54 47.8	+1.2
IRAZ	Razeghan	5.22	185	ePn	Pn	04 54 46.2	-1.0
IRAZ				e		04 55 50.2	
	comp=Z,5μm,0.2s						
IRAZ	Razeghan	5.22	185	ePn	Pn	04 54 46.2	-1.0
MRVT	Maraveh tapeh	5.24	122	ePn	Pn	04 54 47.6	+0.2
MRVT				AML	AML	04 55 46.1	
	comp=N,277nm,0.4s						
MRVT	Maraveh tapeh	5.24	122	ePn	Pn	04 54 47.6	+0.2
	comp=N,277nm,0.4s						
IFIR	Firoozkooh	5.27	160	ePn	Pn	04 54 48.4	+0.5
IFIR				e		04 55 47.8	
	comp=Z,11μm,0.1s						
IFIR	Firoozkooh	5.27	160	ePn	Pn	04 54 48.4	+0.5
ISHM	Shahmirzad	5.27	155	ePn	Pn	04 54 48.6	+0.6
ISHM				e		04 55 49.4	
	comp=Z,38μm,0.1s						
ILAS	Lasjerd	5.57	159	ePn	Pn	04 54 52.8	+0.8
ILAS				e		04 56 05.1	
	comp=Z,5μm,0.3s						
ILAS	Lasjerd	5.57	159	ePn	Pn	04 54 52.8	+0.8
ONI	Oni	5.65	293	P	Pn	04 54 53.7	+0.7
ONI				S	Sn	04 55 50.8	-5.7
ONI	Oni	5.65	293	P	Pn	04 54 53.7	+0.7
ONI				S	Sn	04 55 50.8	-5.7
ONI	Oni	5.65	293	P	Pn	04 54 53.7	+0.7
IVRN	Varamin	5.69	170	ePn	Pn	04 54 54.4	+0.9
IVRN				e		04 56 03.6	
	comp=Z,3μm,0.1s						
IVRN	Varamin	5.69	170	ePn	Pn	04 54 54.4	+0.9
IANJ	Anjilo	5.79	151	ePn	Pn	04 54 55.9	+0.7
IANJ				e		04 56 09.6	
	comp=Z,3μm,0.1s						
IANJ	Anjilo	5.79	151	ePn	Pn	04 54 55.9	+0.7
NCK	Nalchik	5.90	302	iP	Pn	04 54 57.6	+1.2
NCK	Nalchik	5.90	302	iP	Pn	04 54 57.6	+1.2
SNGE	Sanandaj	6.05	205	ePn	Pn	04 54 59.2	+0.6
SNGE	Sanandaj	6.05	205	ePn	Pn	04 54 59.2	+0.6
ASAO	Ashtian	6.06	184	ePn	Pn	04 54 58.9	+0.1
ASAO	Ashtian	6.06	184	ePn	Pn	04 54 58.9	+0.1
BJRD	Bojnurd	6.10	116	ePn	Pn	04 54 59.5	+0.3
BJRD	Bojnurd	6.10	116	ePn	Pn	04 54 59.5	+0.3
SHRO	Shahrood	6.32	135	ePn	Pn	04 55 02.5	+0.2
SHRO	Shahrood	6.32	135	ePn	Pn	04 55 02.5	+0.2
NEY	Neytrino	6.38	297	iP	Pn	04 55 04.6	+1.5
NEY	Neytrino	6.38	297	iP	Pn	04 55 04.6	+1.5
ISHV	Shirvan	6.38	116	e		04 55 06.0	
	comp=Z,4μm,0.1s						
ISHV				ePn	Pn	04 55 03.4	+0.3
ISHV				eSn	Sn	04 56 11.8	-3.1
KBZ	Khabaz	6.46	301	Pn	Pn	04 55 02.9	-1.1
	comp=Z,0.6nm,0.3s,baz=326,slow=24,SNR=11						
KBZ				Sn	Sn	04 56 12.8	-3.4
	comp=Z,5.9nm,0.3s,baz=149,slow=23,SNR=5.1						
KIV	Kislovodsk	6.70	303	iP	Pn	04 55 07.3	0.0
KIV				iS	Sn	04 56 22.2	-0.1
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
KIV	Kislovodsk	6.70	303	ePn	Pn	04 55 06.5	-0.8
KIV	Kislovodsk	6.70	303	iP	Pn	04 55 07.3	0.0
	comp=Z,11nm,1.1s						
KIV				iS	Sn	04 56 22.2	-0.1
KIV	Kislovodsk	6.70	303	ePn	Pn	04 55 06.5	-0.8
KIV				eS	Sn	04 56 18.8	-3.5
ISFR	Sfrayin	6.84	119	ePn	Pn	04 55 10.1	+0.6
ISFR				e		04 56 30.4	
	comp=Z,3μm,0.3s						
ISFR	Sfrayin	6.84	119	ePn	Pn	04 55 10.1	+0.6
KHMZ	Khomeyn	6.87	184	ePn	Pn	04 55 10.7	+0.8
KHMZ	Khomeyn	6.87	184	ePn	Pn	04 55 10.7	+0.8
IKLH	Kolahrood	7.33	173	ePn	Pn	04 55 16.7	+0.5
IKLH				e		04 56 59.0	
	comp=Z,694nm,0.3s						
IKLH	Kolahrood	7.33	173	ePn	Pn	04 55 16.7	+0.5
IAKL	Akhelmad	7.59	119	ePn	Pn	04 55 20.2	+0.3
IAKL				e		04 56 51.3	
	comp=Z,922nm,0.1s						
IPIR	Pirpir	7.92	178	ePn	Pn	04 55 25.5	+1.2
IPIR				e		04 55 28.1	
	comp=Z,332nm,0.2s						
IPIR	Pirpir	7.92	178	ePn	Pn	04 55 25.5	+1.2
NASN	Na'in	8.01	166	ePn	Pn	04 55 26.5	+0.9
NASN	Na'in	8.01	166	ePn	Pn	04 55 26.5	+0.9
TABS	Tabas	8.72	141	ePn	Pn	04 55 35.7	+0.6
TABS	Tabas	8.72	141	ePn	Pn	04 55 35.7	+0.6
SHRT	Shahrakht	10.45	129	ePn	Pn	04 55 58.8	+0.1
SHRT	Shahrakht	10.45	129	ePn	Pn	04 55 58.8	+0.1
ANN	Anapa	10.49	298	eP	Pn	04 55 52.9	-6.3
ANN				pmax	pmax		
	comp=Z,91nm,1.2s						
AB31	Akbulak array	10.92	35	⇑Pn	Pn	04 56 04.7	-0.3
	comp=Z,6.6nm,0.4s,baz=155,slow=16,SNR=144						
AB31				⇑Sn	Sn	04 58 00.4	-5.2
	comp=Z,44nm,0.8s,baz=193,slow=27,SNR=5.4						
AB31	Akbulak array	10.92	35	P	Pn	04 56 04.2	-0.8
AB31						04 58 01.2	
AB31				pmax	pmax		
	comp=Z,15nm,0.4s						
AB31				smax	smax		
	comp=Z,13nm,0.2s						
AB31	Akbulak array	10.92	35	Pn	Pn	04 56 04.7	-0.3
	comp=Z,6.6nm,0.4s,SNR=144						
ABKAR	Akbulak array	10.92	35	ePn	Pn	04 56 03.6	-1.4
ABKAR				eS	Sn	04 58 01.6	-4.0
AKTO	Aktyubinsk	11.14	26	⇑Pn	Pn	04 56 07.2	-0.9
	comp=Z,14nm,0.4s						
AKTO				⇓Sn	Sn	04 58 05.8	-5.2
	comp=Z,67nm,0.6s						
AKTO	Aktyubinsk	11.14	26	Pn	Pn	04 56 06.7	-1.4
	comp=Z,6.0nm,0.3s,baz=209,slow=12,SNR=75						
AKTO				Sn	Sn	04 58 05.1	-5.9
	comp=Z,15nm,0.3s,baz=202,slow=22,SNR=15						
AKTO	Aktyubinsk	11.14	26	P	Pn	04 56 07.1	-0.9
AKTO						04 58 05.8	
AKTO				pmax	pmax		
	comp=Z,40nm,0.8s						
AKTO				smax	smax		
	comp=Z,67nm,0.6s						
BRTR	Keskin Array B	12.94	272	Pn	Pn	04 56 33.4	+0.6
	comp=Z,0.1nm,0.3s,baz=95,slow=15,SNR=5.3						
BRTR	Keskin Array B	12.94	272	iP	Pn	04 56 33.2	+0.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	12.94	272	iP	Pn	04 56 33.2	+0.4
	comp=Z,1.0nm,0.8s						
VORD	Divnogorie	12.96	327	eP	Pn	04 56 37.2	+4.3
VORD				pmax	pmax		
	comp=N,10.0nm,0.4s						
VORD				pmax	pmax		
	comp=E,4.0nm,0.4s						
VORD				pmax	pmax		
	comp=Z,6.0nm,0.4s						
VSR	Storozhevoye	13.21	327	eP	Pn	04 56 34.1	-2.1
VSR				pmax	pmax		
	comp=N,20nm,0.4s						
VSR				pmax	pmax		
	comp=E,20nm,0.4s						
VSR				pmax	pmax		
	comp=Z,20nm,0.4s						
ASF	Jabal al Asfar	13.81	237	Pn	Pn	04 56 44.7	0.0
	baz=66,slow=12,SNR=2.7						
MMAI	Mount Meron Ar	14.27	243	Pn	Pn	04 56 51.7	+0.9
	comp=Z,0.5nm,0.3s,baz=63,slow=10,SNR=2.5						
LPSR	Galich'ya Gora	14.37	330	eP	Pn	04 56 52.2	+0.3
LPSR				pmax	pmax		
	comp=N,5.0nm,0.6s						
LPSR				pmax	pmax		
	comp=E,3.0nm,0.6s						
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KK31	Karatay Array	15.11	74	⇑P	Pn	04 57 01.9	+0.1
	comp=Z,4.9nm,0.5s,baz=270,slow=17,SNR=42						
KK31				⇓S	Sn	04 59 39.4	-8.5
	comp=Z,6.7nm,0.5s,baz=270,slow=24,SNR=8.0						
KK31	Karatay Array	15.11	74	P	Pn	04 57 02.5	+0.8
KK31				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KKAR	Karatay Array	15.11	74	eP	Pn	04 57 02.1	+0.3
KKAR				eS	Sn	04 59 43.3	-4.6
KKAR	Karatay Array	15.11	74	ePn	Pn	04 57 02.1	+0.3
KKAR	Karatay Array	15.11	74	ePn	Pn	04 57 02.1	+0.3
KKAR				eS	Sn	04 59 43.3	-4.6
MNAS	Manas	16.57	76	⇑P	P	04 57 21.7	-0.7
	comp=Z,5.3nm,0.8s						
ARU	Arti	16.68	16d	iP	Pn	04 57 18.4	-3.3
ARU				S	Sn	05 00 19.3	-6.5
ARU				pmax	pmax		
	comp=Z,11nm,0.7s						
ARU	Arti	16.68	16	ePn	Pn	04 57 18.5	-3.1
	comp=Z,22nm,0.6s						

ARU eS Sn 05 00 17.3 -8.6
TIRR Tirgusor 16.73 291 eP **Pn** **04 57 22.3 +0.1**
TIRR pmax pmax
comp=Z,13nm,0.9s
TIRR Tirgusor 16.73 291 ⇑iP **P** **04 57 23.0 -0.9**
TIRR Tirgusor 16.73 291 eP **Pn** **04 57 22.3 +0.1**
comp=Z,13nm,0.9s
TIRR Tirgusor 16.73 291 ePn **Pn** **04 57 22.3 +0.1**
comp=Z,13nm,0.9s
PSN Preselentsi 16.83 288 ⇑P **P** **04 57 25.4 +0.3**
PSN Preselentsi 16.83 288 ⇑iP **P** **04 57 25.4 +0.3**
PSN Preselentsi 16.83 288 P **P** **04 57 25.4 +0.3**
TLB Topalu 17.00 291 ⇓P **Pn** **04 57 25.7 0.0**
TLB Topalu 17.00 291 ⇓iP **Pn** **04 57 25.7 0.0**
TLB Topalu 17.00 291 P **Pn** **04 57 25.7 0.0**
CFR Carcaliu 17.00 293 ⇑P **Pn** **04 57 23.3 -2.4**
CFR Carcaliu 17.00 293 ⇑iP **Pn** **04 57 23.3 -2.4**
MSAB Monastry St. A 17.11 289 ⇑iP **Pn** **04 57 26.8 -0.3**
OBN Obninsk 17.21 332 P **Pn** **04 57 28.0 -0.2**
comp=Z,7.3nm,0.3s,baz=172,slow=4.8,SNR=4.6
OBN Obninsk 17.21 332 ⇓eP **P** **04 57 28.9 -0.3**
OBN pmax pmax
comp=Z,24nm,0.7s
OBN Obninsk 17.21 332 ePn **Pn** **04 57 28.2 0.0**
OBN Obninsk 17.21 332 eP **P** **04 57 28.9 -0.3**
comp=Z,24nm,0.7s
OBN Obninsk 17.21 332 ePn **Pn** **04 57 28.2 0.0**
MOS Moscow 17.36 335 eP **P** **04 57 34.0 +3.2**
MOS e 05 00 43.8
MOS Moscow 17.36 335 eP **P** **04 57 34.0 +3.2**
EKS2 Erkin-Say 17.50 76 eP **P** **04 57 34.2 +1.5**
EKS2 pmax pmax
comp=Z,9.0nm,0.8s
EKS2 Erkin-Say 17.50 76 eP **P** **04 57 34.2 +1.5**
comp=Z,9.0nm,0.8s
EKS2 Erkin-Say 17.50 76 ePn **P** **04 57 34.2 +1.5**
comp=Z,8.5nm,0.8s
SVE Sverdlovsk 17.52 19 eP P 04 57 41.3 +8.7
SVE pmax pmax
comp=Z,21nm,0.6s
RAYN Ar Rayn 17.55 195 ePn **P** **04 57 33.2 0.0**
comp=Z,39nm,1.9s
RAYN Ar Rayn 17.55 195 ePn **P** **04 57 33.2 0.0**
comp=Z,39nm,1.9s
AK02 Malin Array Si 17.91 311 ePn **Pn** **04 57 34.4 -2.5**
AKASG Malin Array Be 17.92 311 P **Pn** **04 57 34.9 -2.0**
comp=Z,18nm,0.3s,baz=106,slow=9.8,SNR=34
AKASG S **Sn** **05 00 55.5 -0.2**
comp=Z,1.4nm,0.3s,baz=118,slow=22,SNR=8.7
AKASG Malin Array Be 17.92 311 *i* P **Pn** **04 57 35.0 -2.0**
AKASG pmax pmax
comp=Z,13nm,0.4s
AKBB Malin Array Si 17.92 311 eP **Pn** **04 57 35.4 -1.5**
AKBB Malin Array Si 17.92 311 eP **Pn** **04 57 35.4 -1.5**
AKBB Malin Array Si 17.92 311 ePn **Pn** **04 57 35.4 -1.5**
AK01 Malin Array Si 17.92 311 ePn **Pn** **04 57 34.9 -2.1**
AK01 eS **Sn** **05 00 55.0 -0.8**
KIEV Kiev 17.92 311 eP **Pn** **04 57 35.1 -1.9**
KIEV eS **Sn** **05 00 55.4 -0.5**
KIEV pmax pmax
comp=Z,34nm,0.5s
KIEV Kiev 17.92 311 ePn **Pn** **04 57 35.1 -1.9**
comp=Z,34nm,0.5s
KIEV eS **Sn** **05 00 55.4 -0.5**
AAK Ala-Archa 18.03 76 P **Pn** **04 57 40.9 +2.2**
comp=Z,14nm,1.6s
AAK Ala-Archa 18.03 76 P **Pn** **04 57 39.8 +1.2**
comp=Z,0.7nm,0.3s,baz=198,slow=7.8,SNR=10
AAK Ala-Archa 18.03 76 ⇓iP **Pn** **04 57 41.3 +2.7**
AAK pmax pmax
comp=Z,12nm,0.8s
AAK Ala-Archa 18.03 76 P **Pn** **04 57 39.8 +1.2**
AAK ePn **P** **04 57 41.0 +2.5**
VRI Vrincioaia 18.08 295 ⇑P **Pn** **04 57 39.1 +0.1**
VRI Vrincioaia 18.08 295 ⇑iP **Pn** **04 57 39.1 +0.1**
VRI Vrincioaia 18.08 295 P **Pn** **04 57 39.1 +0.1**
FRU Bishkek 18.12 75 eP Pn 04 57 47.0 +7.5
PLOR Plostina 18.13 295 ⇑P **Pn** **04 57 39.7 +0.1**
PLOR Plostina 18.13 295 ⇑iP **Pn** **04 57 39.7 +0.1**
PLOR Plostina 18.13 295 P **Pn** **04 57 39.7 +0.1**
TESR Tescani 18.24 297 ⇑iP **P** **04 57 39.8 -0.8**
BRVK Borovoye 18.31 41 ⇑P **Pn** **04 57 41.8 +0.1**
comp=Z,51nm,1.3s
BRVK ⇑S Sn 05 00 55.7 -9.4
comp=Z,12nm,0.7s
BRVK Borovoye 18.31 41 ⇑iP **Pn** **04 57 42.3 +0.6**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK Borovoye 18.31 41 eP **Pn** **04 57 42.4 +0.7**
comp=Z,36nm,1.3s
BRVK Borovoye 18.31 41 eP **Pn** **04 57 42.4 +0.7**
comp=Z,36nm,1.3s
BVA0 Borovoye Array 18.34 41 ⇓P **Pn** **04 57 42.9 +0.8**
comp=Z,13nm,0.7s,baz=227,slow=13,SNR=44
BVA0 ⇓S **Sn** **05 00 60.0 -6.0**
comp=Z,14nm,0.9s,baz=232,slow=25,SNR=5.8
BVA0 Borovoye Array 18.34 41 eP **Pn** **04 57 42.8 +0.8**
BVA0 *i* 05 00 59.9
BVA0 smax smax
comp=Z,1.0nm,0.6s
BVA0 Borovoye Array 18.34 41 P **Pn** **04 57 42.9 +0.8**
comp=Z,13nm,0.7s,SNR=44
BVAR Borovoye Array 18.34 41 P **Pn** **04 57 42.1 0.0**
comp=Z,2.1nm,0.3s,baz=241,slow=11,SNR=13
BVAR S **Sn** **05 00 59.4 -6.5**
comp=Z,1.3nm,0.3s,baz=226,slow=23,SNR=5.1
MLR Muntele Rosu 18.58 293 P **P** **04 57 43.1 -1.3**
comp=Z,0.1nm,0.3s,baz=61,slow=10,SNR=3.9
MLR Muntele Rosu 18.58 293 ⇑P **P** **04 57 43.7 -0.8**
MLR Muntele Rosu 18.58 293 ⇑iP **P** **04 57 43.7 -0.8**
MLR Muntele Rosu 18.58 293 P **P** **04 57 43.7 -0.8**
TKM2 Tokmak 2 18.84 75 ⇓P **P** **04 57 45.8 -1.7**
comp=Z,21nm,1.1s
TKM2 Tokmak 2 18.84 75 P **P** **04 57 48.0 +0.6**
TKM2 pmax pmax
comp=Z,21nm,1.1s
TKM2 Tokmak 2 18.84 75 eP **Pn** **04 57 48.6 +0.2**
comp=Z,13nm,0.7s
TKM2 eS **S** **05 01 21.7 +2.6**
TKM2 Tokmak 2 18.84 75 eP **Pn** **04 57 48.6 +0.2**
comp=Z,13nm,0.7s
TKM2 eS **S** **05 01 21.7 +2.6**
KDZ Kurdzhali 18.92 281 ⇑P **P** **04 57 48.3 +0.2**
KDZ Kurdzhali 18.92 281 ⇑iP **P** **04 57 48.3 +0.2**
KDZ Kurdzhali 18.92 281 P **P** **04 57 48.3 +0.2**
CHOS Chios island 18.99 271 eP **P** **04 57 46.5 -2.5**
DOPR Dopca 19.02 295 ⇑iP **P** **04 57 48.6 -0.6**
VOIR 19.20 293 ⇑P **P** **04 57 51.7 +0.5**
VOIR 19.20 293 ⇑iP **P** **04 57 51.7 +0.5**
VOIR 19.20 293 P **P** **04 57 51.7 +0.5**
BURAR Bucovina Array 19.41 300 ⇑P **P** **04 57 53.4 -0.2**
BURAR Bucovina Array 19.41 300 ⇑iP **P** **04 57 53.4 -0.2**
BUR08 Bucovina Ar. S 19.43 300 eP **P** **04 57 53.3 -0.5**
BUR08 Bucovina Ar. S 19.43 300 eP **P** **04 57 53.3 -0.5**
ARR Arges 19.48 293 ⇑iP **P** **04 57 54.7 +0.4**
LOT Lotru 20.10 293 ⇑iP **P** **04 58 01.0 0.0**
NVR Nevrokopi 20.11 281 eP Pn 04 58 03.0 -0.4
NPS Neapolis 20.32 263 eP Pn 04 58 06.0 +0.1
AOS Alonnisos 20.46 275 eP **P** **04 58 02.0 -2.9**
VTS Vitosha 20.48 285 ⇑P **P** **04 58 06.2 +0.9**
VTS Vitosha 20.48 285 ⇑iP **P** **04 58 06.2 +0.9**
VTS Vitosha 20.48 285 P **P** **04 58 06.2 +0.9**
MICGM Minsk 20.52 320 eP **P** **04 58 03.0 -2.4**
MNK Minsk 20.55 320 eP **P** **04 58 03.0 -2.7**
MNK eS S 05 01 45.0 -7.6
PLG Polygyros 20.56 278 eP **P** **04 58 07.0 +1.0**
HORT Hortiatis 20.79 279 eP **P** **04 58 09.0 +0.5**
GZR Gura Zlata 20.79 292 ⇓iP **P** **04 58 07.8 -0.7**
MRKA Markates 20.79 274 eP **P** **04 58 08.5 0.0**
IDI Anoyia 20.86 263 P **P** **04 58 07.8 -1.5**
comp=Z,5.8nm,0.4s,baz=31,slow=9.2,SNR=14
NEO Neokhori 20.93 275 eP **P** **04 58 10.5 +0.5**
DRGR 20.96 296 ⇓P **P** **04 58 10.4 0.0**
DRGR 20.96 296 ⇓iP **P** **04 58 10.4 0.0**
DRGR 20.96 296 P **P** **04 58 10.4 0.0**
VIL2 Platees 21.16 272 eP **P** **04 58 13.0 +0.6**
LKR Lokris 21.25 274 eP **P** **04 58 13.0 -0.4**
GRG Griva 21.26 280 eP **P** **04 58 12.5 -1.0**
PRGR Permogore 21.26 354 eP **P** **04 58 12.2 -1.1**
PRGR eS **S** **05 02 03.9 -2.7**
PRGR pmax pmax
comp=Z,67nm,0.7s
PRGR Permogore 21.26 354 eP **P** **04 58 12.2 -1.1**
comp=Z,67nm,0.7s
NACGM Naroch 21.28 320 eP **P** **04 58 12.0 -1.5**
TRPA Tarpa 21.28 300 ⇑iP **P** **04 58 14.4 +0.8**
VAM Vamos 21.34 264 eP **P** **04 58 13.5 -0.9**
KLMR Klimovskoe 21.37 345 eP **P** **04 58 12.7 -1.8**
KLMR eS **S** **05 02 03.1 -5.7**
KLMR pmax pmax
comp=Z,9.0nm,0.5s
DID Didima 21.37 271 eP **P** **04 58 14.0 -0.8**
LTK Loutraki 21.43 272 eP **P** **04 58 13.5 -1.9**
AXAR Agios Charalam 21.48 274 eP **P** **04 58 16.5 +0.6**
IDID Didziasalis 21.52 321 eP **P** **04 58 15.9 -0.2**
IDID IAmb IAmb 04 58 27.5
comp=Z,10.0nm,1.2s
IDID Didziasalis 21.52 321 eP **P** **04 58 15.9 -0.2**
SNR=34
KOLS Kolonicke sedl 21.61 302 eP **P** **04 58 19.0 +1.8**
KOLS Kolonicke sedl 21.61 302 eP **P** **04 58 19.0 +1.8**
KOLS Kolonicke sedl 21.61 302 eP **P** **04 58 19.0 +1.8**
BZS Buzias 21.62 293 ⇑P **P** **04 58 16.5 -0.8**
BZS Buzias 21.62 293 ⇑iP **P** **04 58 16.5 -0.8**
BZS Buzias 21.62 293 P **P** **04 58 16.5 -0.8**
SIRR Siria 21.63 295 ⇑iP **P** **04 58 17.1 -0.3**
DSF Desfina 21.67 273 eP **P** **04 58 16.5 -1.5**
AGG Agios Georgios 21.67 275 eP **P** **04 58 18.0 0.0**
IIGN Ignalina 21.79 321 eP **P** **04 58 18.8 -0.2**
IIGN IAmb IAmb 04 58 34.9
comp=Z,15nm,0.3s
IIGN Ignalina 21.79 321 eP **P** **04 58 18.8 -0.2**
SNR=33
THL Klokotos Trika 21.79 277 eP **P** **04 58 19.0 -0.2**
MAKR Makrakomi, Fth 21.82 275 eP **P** **04 58 20.0 +0.4**
KZN Kozani 21.83 279 eP P 04 58 34.0 +14
VLI Veliai 21.84 269 eP **P** **04 58 17.5 -2.3**
ANKY Antikythira Is 21.85 266 eP **P** **04 58 18.0 -1.9**
KURBB Kurchatov Arra 21.89 53 ⇑P **P** **04 58 21.3 +1.2**
comp=Z,8.8nm,0.8s
KURBB ⇑S **S** **05 02 19.9 +0.9**
comp=Z,7.4nm,0.7s
KURBB Kurchatov Arra 21.89 53 P **P** **04 58 21.6 +1.5**
comp=Z,3.8nm,0.6s,baz=257,slow=11,SNR=30
KURBB S **S** **05 02 21.0 +2.0**
comp=Z,0.4nm,0.7s,baz=278,slow=39,SNR=3.5
KURBB Kurchatov Arra 21.89 53 P **P** **04 58 21.3 +1.2**
comp=Z,8.8nm,0.8s
KURBB S **S** **05 02 19.9 +0.9**
comp=Z,7.4nm,0.7s
GUR Goura 21.93 272 eP **P** **04 58 20.0 -0.9**
ISAL Salakas 21.95 321 eP **P** **04 58 20.5 -0.3**
ISAL IAmb IAmb 04 58 34.2
comp=Z,10nm,0.8s
ISAL Salakas 21.95 321 eP **P** **04 58 20.5 -0.3**
SNR=33
KURK Kurchatov 21.97 53 ⇑P **P** **04 58 22.4 +1.4**
comp=Z,11nm,0.7s
KURK ⇑S **S** **05 02 18.7 -1.8**
comp=Z,5.8nm,1.6s
KURK Kurchatov 21.97 53 eP **P** **04 58 23.1 +2.1**
KURK S **S** **05 02 21.0 +0.5**
KURK pmax pmax
comp=Z,25nm,0.6s
KURK Kurchatov 21.97 53 P **P** **04 58 22.4 +1.4**
comp=Z,11nm,0.7s
KURK S **S** **05 02 21.0 +0.5**
KURK Kurchatov 21.97 53 eP **P** **04 58 23.1 +2.1**
comp=Z,25nm,0.6s
KURK S **S** **05 02 21.0 +0.5**
KALE Kalithea 21.97 273 eP **P** **04 58 20.5 -0.7**
KLV Kalavryta, Ach 22.05 273 eP **P** **04 58 22.0 -0.1**
FNA Florina 22.05 280 eP **P** **04 58 23.0 +1.0**
VLX Vlachokerasia 22.07 271 eP **P** **04 58 21.0 -1.3**
EVR Evrytania 22.09 275 eP **P** **04 58 23.0 +0.5**
EFP Efpalio 22.14 274 eP **P** **04 58 23.0 +0.1**
STHS Stebnicka Huta 22.37 303 eP **P** **04 58 26.7 +1.3**
STHS Stebnicka Huta 22.37 303 eP **P** **04 58 26.7 +1.3**
STHS Stebnicka Huta 22.37 303 eP **P** **04 58 26.7 +1.3**
DRO Drossia 22.41 273 eP **P** **04 58 26.0 +0.1**
ITM Ithomi 22.47 271 eP **P** **04 58 24.0 -2.5**
AMT Artemida-Makis 22.53 272 eP **P** **04 58 26.0 -1.2**
RLS Riolos of Patr 22.57 273 eP **P** **04 58 27.0 -0.5**
PDO Prodromos 22.64 274 eP **P** **04 58 27.5 -0.8**
JAN Janina 22.65 277 eP **P** **04 58 30.5 +2.0**
KECS Kecovo 22.69 300 eP **P** **04 58 27.6 -1.2**
KECS Kecovo 22.69 300 eP **P** **04 58 27.6 -1.2**
KECS Kecovo 22.69 300 eP **P** **04 58 27.6 -1.2**
PYL PYLOS 22.70 270 eP **P** **04 58 25.5 -3.4**
DIVS Divibare 22.76 289 ⇓iP **P** **04 58 29.4 -0.2**
DIVS Divibare 22.76 289 ⇓iP **P** **04 58 29.4 -0.2**
PSZ Piszkesteto 23.00 299 eP **P** **04 58 33.0 +0.9**
PSZ pmax pmax
comp=Z,6.0nm,0.8s
PSZ Piszkesteto 23.00 299 ⇑iP **P** **04 58 33.5 +1.4**
PSZ Piszkesteto 23.00 299 eP **P** **04 58 33.0 +0.9**
comp=Z,5.8nm,0.8s
PSZ Piszkesteto 23.00 299 eP **P** **04 58 33.0 +0.9**
comp=Z,5.8nm,0.8s
PSZ Piszkesteto 23.00 299 ⇑eP **P** **04 58 33.3 +1.2**
VLS Valsamata 23.20 274 eP **P** **04 58 32.0 -2.1**
VSU Vasula 23.39 328 *i* P **P** **04 58 35.5 -0.2**
VSU pmax pmax
comp=Z,66nm,1.0s
VSU Vasula 23.39 328 *i* P **P** **04 58 35.5 -0.2**
comp=Z,66nm,1.0s
KEK Kerkira 23.43 278 eP **P** **04 58 36.0 -0.3**
MK31 Makanchi Array 23.68 64 P **P** **04 58 40.2 +1.6**
comp=Z,7.2nm,0.7s,baz=264,slow=7.9,SNR=46
MK31 Makanchi Array 23.68 64 eP **P** **04 58 40.4 +1.8**
MK31 Makanchi Array 23.68 64 P **P** **04 58 40.2 +1.6**
comp=Z,7.2nm,0.7s,SNR=46
MK31 Makanchi Array 23.68 64 eP **P** **04 58 40.4 +1.8**
MK31 eS Sn 05 03 02.4 -12
MKAR Makanchi Array 23.68 64 P **P** **04 58 39.7 +1.1**
comp=Z,3.3nm,0.5s,baz=267,slow=6.5,SNR=40
MKAR PcP **PcP** **05 02 21.1 -0.5**
comp=Z,0.4nm,0.5s,baz=285,slow=2.7,SNR=3.1
MKAR Makanchi Array 23.68 64 *i* P **P** **04 58 40.2 +1.6**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 23.68 64 *i* P **P** **04 58 40.2 +1.6**
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 23.68 64 eP **P** **04 58 40.3 +1.7**
MKAR PcP **PcP** **05 02 21.1 -0.5**
PKSM Moragy 23.72 294 eP **P** **04 58 38.6 -0.2**
PKSM Moragy 23.72 294 eP **P** **04 58 38.6 -0.2**
PKSG 23.96 297 eP **P** **04 58 42.7 +1.6**
PKSG 23.96 297 eP **P** **04 58 42.7 +1.6**
PKS9 Tamasi 23.98 295 eP **P** **04 58 41.6 +0.3**
PKS9 Tamasi 23.98 295 eP **P** **04 58 41.6 +0.3**
CSKK Cs˙ˇtkako 24.05 297 eP **P** **04 58 43.0 +1.1**
CSKK Cs˙ˇtkako 24.05 297 eP **P** **04 58 43.0 +1.1**
PKST T¨s 24.19 297 ⇑eP **P** **04 58 43.7 +0.5**
PKST T¨s 24.19 297 ⇑eP **P** **04 58 43.7 +0.5**
STON Ston 24.50 286 P **P** **04 58 45.9 -0.2**
STON Ston 24.50 286 *i* P **P** **04 58 45.8 -0.2**
TMCR Tamitsa 24.70 347 eP **P** **04 58 51.6 +4.0**
TMCR pmax pmax
comp=Z,17nm,0.9s
VRAC Vranov 25.35 301 P **P** **04 58 52.6 -1.1**
comp=Z,3.0nm,0.5s,baz=89,slow=8.5,SNR=6.1
KOGS Kog 25.38 295 *i* P **P** **04 58 54.6 +0.6**
FIA1 FINESS Array S 25.62 333 eP **P** **04 58 56.0 0.0**
FIA1 FINESS Array S 25.62 333 eP **P** **04 58 56.0 0.0**
FIA1 eS **S** **05 03 23.8 +3.3**
FINES FINESS Array B 25.62 333 P **P** **04 58 55.8 -0.2**
comp=Z,6.2nm,0.6s,baz=141,slow=11,SNR=37
FINES S **S** **05 03 19.1 -1.3**
comp=Z,1.6nm,0.7s,baz=137,slow=16,SNR=2.5
FINES FINESS Array B 25.62 333 *i* P **P** **04 58 56.0 0.0**
FINES pmax pmax
comp=Z,6.0nm,0.6s
DPC Dobruska-Polom 25.67 304 eP **P** **04 58 57.4 +0.7**
DPC ex x 04 58 59.1
DPC epP **pP** **04 59 08.4 -0.9**
DPC ex x 04 59 12.0
DPC Dobruska-Polom 25.67 304 eP **P** **04 58 57.4 +0.7**
DPC e 04 59 12.0
DPC Dobruska-Polom 25.67 304 eP **P** **04 58 57.4 +0.7**
CONA Conrad Observa 25.70 298 ⇑iP **P** **04 58 59.1 +2.1**
comp=Z,5.8nm,1.0s
CONA Conrad Observa 25.70 298 P **P** **04 58 59.1 +2.1**
comp=Z,5.8nm,1.0s
UDBI Udbina 25.77 290 P **P** **04 58 57.6 0.0**
UDBI Udbina 25.77 290 *i* P **P** **04 58 57.6 0.0**
TIP Timpagrande 25.85 278 eP **P** **04 58 59.1 +0.7**
comp=Z,7.4nm,0.6s
TIP Timpagrande 25.85 278 eP **P** **04 58 59.1 +0.7**
comp=Z,7.4nm,0.6s
UPC Upice 25.89 304 eP **P** **04 58 59.2 +0.6**
UPC epP **pP** **04 59 14.7 +3.4**
UPC esP **sP** **04 59 19.3 +2.1**
UPC Upice 25.89 304 eP **P** **04 58 59.2 +0.6**
UPC e 04 59 14.7
UPC e 04 59 19.3
UPC Upice 25.89 304 eP **P** **04 58 59.2 +0.6**
NVS Novosibirsk 25.92 46 eP P 04 59 10.1 +11
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,4.0nm,1.0s
NVS pmax pmax
comp=Z,9.0nm,1.0s
SOKA Soboth 26.22 295 ⇑iP **P** **04 59 02.4 +0.7**
comp=Z,11nm,1.1s
SOKA Soboth 26.22 295 P **P** **04 59 02.4 +0.7**
comp=Z,11nm,1.1s
NVLJ Novalja 26.40 290 P **P** **04 59 03.2 -0.1**
NVLJ Novalja 26.40 290 *i* P **P** **04 59 03.1 -0.1**
LJU Ljubljana 26.58 294 *i* P **P** **04 59 05.7 +0.9**
GERES GERESS Array B 27.20 300 P **P** **04 59 09.7 -0.8**
comp=Z,0.9nm,0.4s,baz=99,slow=9.3,SNR=8.5
KHC Kasperske Hory 27.30 301 eP **P** **04 59 13.3 +2.0**
KHC esP **sP** **04 59 33.2 +3.2**
KHC Kasperske Hory 27.30 301 eP **P** **04 59 13.3 +2.0**
KHC e 04 59 33.2
KHC Kasperske Hory 27.30 301 P **P** **04 59 13.3 +2.0**
WMQ Urumqi 27.57 71 P **P** **04 59 18.3 +4.4**
WMQ pP **pP** **04 59 28.2 +1.6**
WMQ PP **PnPn** **05 00 06.8 +6.0**
WMQ S **S** **05 03 55.9 +4.1**
WMQ sS **sS** **05 04 11.7 -1.6**
WMQ PMZ
comp=Z,29nm,0.4s
WMQ PMZ
comp=Z,190nm,8.4s
WMQ LN
comp=Z,970nm,14.4s
WMQ LE
comp=Z,870nm,15.2s
WMQ LZ
comp=Z,540nm,18.2s
CLL Collm 27.89 305 *i* sP **sP** **04 59 33.1 -2.1**
comp=Z,5.0nm,0.7s
CLL e 04 59 44.0
CLL Collm 27.89 305 *i* P **sP** **04 59 33.1 -2.1**
CLL e 04 59 44.0
CLL pmax pmax
comp=Z,5.0nm,0.7s
APA Apatity 28.60 346 eP **sP** **04 59 40.0 -1.3**
APA MLR MLR
comp=Z,500nm,23.0s
DAVOX Davos/Dischmat 29.76 296 P **P** **04 59 32.1 -1.4**
comp=Z,2.2nm,0.4s,baz=109,slow=6.3,SNR=4.0
DAVOX PcP **PcP** **05 02 36.3 +0.3**
comp=Z,3.0nm,0.6s,baz=82,slow=4.5,SNR=3.9
HFS Hagfors 29.96 323 P **P** **04 59 34.7 -0.1**
comp=Z,11nm,0.3s,baz=116,slow=9.8,SNR=165
NB2 NORSAR Subarra 31.44 324 P **P** **04 59 47.5 -0.5**
comp=Z,3.4nm,0.3s,baz=116,slow=8.6
NB2 NORSAR Subarra 31.44 324 P **P** **04 59 47.5 -0.5**
comp=Z,3.4nm,0.3s,baz=116,slow=8.2,SNR=3.4
NOA NORSAR Array B 31.44 324 P **P** **04 59 47.4 -0.5**
comp=Z,1.5nm,0.3s,baz=119,slow=8.3,SNR=58
NAO01 NORSAR Array S 31.52 323 eP **P** **04 59 48.3 -0.2**
comp=Z,8.1nm,0.5s
SENIN Lac Senin/Sane 31.57 295 eP **P** **04 59 48.8 -0.7**
KEV Kevo 31.70 345 eP **P** **04 59 50.2 +0.3**
KEV pmax pmax
comp=Z,6.0nm,0.8s
KEV Kevo 31.70 345 eP **P** **04 59 50.2 +0.3**
comp=Z,5.6nm,0.8s
ARCES ARCESS Array B 31.83 344 P **P** **04 59 51.2 0.0**
comp=Z,0.8nm,0.4s,baz=146,slow=10,SNR=39
ARE0 ARCESS Array S 31.83 344 eP **P** **04 59 51.8 +0.6**
BNI Bardonecchia 32.15 293 eP **P** **04 59 54.4 -0.1**
BNI pmax pmax
comp=Z,5.0nm,0.6s
BNI Bardonecchia 32.15 293 eP **P** **04 59 54.4 -0.1**
comp=Z,4.5nm,0.6s
KEST Kesra 32.51 275 P **P** **04 59 56.8 -0.9**
comp=Z,3.1nm,0.7s,baz=56,slow=3.5,SNR=10.0
SSB Saint Sauveur 33.62 294 eP **P** **05 00 06.9 -0.2**
SSB pmax pmax
comp=Z,9.0nm,0.5s
SSB Saint Sauveur 33.62 294 eP **P** **05 00 06.9 -0.2**
comp=Z,8.7nm,0.5s
GTA Gaotai 37.39 75 eP **P** **05 00 42.1 +2.4**
GTA pP **pP** **05 00 52.5 -0.1**
GTA sP **sP** **05 00 56.5 -2.0**
GTA PMZ
comp=Z,4.0nm,1.3s
DRUM Mains of Drumt 37.49 314 eP **P** **05 00 40.5 +0.4**
DRUM AMB AMB 05 00 41.3
comp=Z,21nm,0.7s
DRUM Mains of Drumt 37.49 314 eP **P** **05 00 40.5 +0.4**
ESY Stoneypath 37.53 312 eP **P** **05 00 40.8 +0.3**
ESY Stoneypath 37.53 312 eP **P** **05 00 40.8 +0.3**
EBL Broad Law 37.77 312 eP **P** **05 00 43.1 +0.6**
EBL Broad Law 37.77 312 eP **P** **05 00 43.1 +0.6**
MME1 Meikle Cairn 37.77 315 eP **P** **05 00 42.8 +0.3**
MME1 Meikle Cairn 37.77 315 eP **P** **05 00 42.8 +0.3**
KESW Keswick, Cumbr 37.81 310 eP **P** **05 00 43.2 +0.4**
KESW AMB AMB 05 00 44.8
comp=Z,16nm,1.0s
KESW Keswick, Cumbr 37.81 310 eP **P** **05 00 43.2 +0.4**
ECK Cauldkaine Hil 37.81 311 eP **P** **05 00 42.7 -0.2**
ECK Cauldkaine Hil 37.81 311 eP **P** **05 00 42.7 -0.2**
ESK Eskdalemuir 37.86 311 eP **P** **05 00 43.0 -0.2**
ESK Eskdalemuir 37.86 311 eP **P** **05 00 43.0 -0.2**
MCH1 Michaelchurch 37.86 306 eP **P** **05 00 43.2 -0.1**
MCH1 AMB AMB 05 00 44.1
comp=Z,23nm,3.0s
MCH1 Michaelchurch 37.86 306 eP **P** **05 00 43.2 -0.1**
FOEL Foel Wylfa 37.92 307 eP **P** **05 00 44.7 +0.8**
FOEL Foel Wylfa 37.92 307 eP **P** **05 00 44.7 +0.8**
WPM1 Penmaenmawr 38.33 308 eP **P** **05 00 47.5 +0.2**
WPM1 Penmaenmawr 38.33 308 eP **P** **05 00 47.5 +0.2**
MVH1 Achvaich 38.45 316 eP **P** **05 00 47.8 -0.4**
MVH1 Achvaich 38.45 316 eP **P** **05 00 47.8 -0.4**
EAB Aberfoyle 38.50 313 eP **P** **05 00 48.7 +0.1**
EAB Aberfoyle 38.50 313 eP **P** **05 00 48.7 +0.1**
WLF1 Llynfaes 38.62 308 eP **P** **05 00 50.1 +0.4**
WLF1 AMB AMB 05 00 50.9
comp=Z,18nm,2.6s
WLF1 Llynfaes 38.62 308 eP **P** **05 00 50.1 +0.4**
YRC Rhoscolyn 38.73 308 eP **P** **05 00 51.2 +0.6**
YRC Rhoscolyn 38.73 308 eP **P** **05 00 51.2 +0.6**
SPITS Spitsbergen Ar 40.15 350 P **P** **05 01 02.5 +0.3**
comp=Z,1.3nm,0.4s,baz=136,slow=11,SNR=24
ESDC Sonseca Array 41.09 287 P **P** **05 01 09.7 -0.7**
comp=Z,3.1nm,0.5s,baz=67,slow=8.5,SNR=30
ESDC PcP **PcP** **05 03 09.6 +0.3**
comp=Z,0.4nm,0.3s,baz=50,slow=2.0,SNR=6.5
ESLA Sonseca Array 41.09 287 eP **P** **05 01 09.8 -0.6**
comp=Z,0.6nm,0.6s
ESLA Sonseca Array 41.09 287 eP **P** **05 01 09.8 -0.6**
comp=Z,0.6nm,0.6s
PVRL Vila Real 43.26 291 eP **P** **05 01 27.2 -0.9**
PVRL Vila Real 43.26 291 eP **P** **05 01 27.2 -0.9**
PCAB Cabril 43.34 291 eP **P** **05 01 29.1 +0.4**
comp=Z,27nm,1.7s
PCAB Cabril 43.34 291 eP **P** **05 01 29.1 +0.4**
comp=Z,27nm,1.7s
PGAV Gavieira, Arco 43.43 292 eP **P** **05 01 30.3 +0.8**
PGAV Gavieira, Arco 43.43 292 eP **P** **05 01 30.3 +0.8**
MTE Manteigas 43.43 290 eP **P** **05 01 29.8 +0.3**
MTE Manteigas 43.43 290 eP **P** **05 01 29.8 +0.3**
PVIS Viseu 43.57 290 eP **P** **05 01 31.0 +0.4**
PVIS Viseu 43.57 290 eP **P** **05 01 31.0 +0.4**
PCBR Castelo Branco 43.58 289 eP **P** **05 01 30.8 +0.2**
PCBR Castelo Branco 43.58 289 eP **P** **05 01 30.8 +0.2**
PMRV Marv??o 43.66 288 eP **P** **05 01 31.9 +0.6**
PMRV Marv??o 43.66 288 eP **P** **05 01 31.9 +0.6**
CD2 Chengdu 43.70 85 P **P** **05 01 31.9 +0.1**
CD2 pP **pP** **05 01 43.0 -2.0**
CD2 PP **PP** **05 03 14.2 +0.2**
CD2 S **S** **05 07 59.9 +1.5**
CD2 sS **sS** **05 08 18.8 -1.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
PBAR	**Barrancos**	**43.86**	**286**	*e*P	**P**	**05 01 32.5**	**-0.4**
PBAR	**Barrancos**	**43.86**	**286**	*e*P	**P**	**05 01 32.5**	**-0.4**
PESTR	**Estremoz**	**44.01**	**287**	*e*P	**P**	**05 01 33.9**	**-0.2**
PESTR	**Estremoz**	**44.01**	**287**	*e*P	**P**	**05 01 33.9**	**-0.2**
MDT	**Midelt**	**44.25**	**278**	P	**P**	**05 01 35.5**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=72,slow=9.2,SNR=5.3						
PTOM	**Tomar**	**44.33**	**289**	*e*P	**P**	**05 01 37.0**	**+0.4**
PTOM	**Tomar**	**44.33**	**289**	*e*P	**P**	**05 01 37.0**	**+0.4**
PMTG	**Montargil**	**44.39**	**288**	*e*P	**P**	**05 01 37.2**	**+0.1**
PMTG	**Montargil**	**44.39**	**288**	*e*P	**P**	**05 01 37.2**	**+0.1**
EVO	**Evora**	**44.44**	**287**	*e*P	**P**	**05 01 37.4**	**-0.1**
EVO	**Evora**	**44.44**	**287**	*e*P	**P**	**05 01 37.4**	**-0.1**
PVAQ	**Vaqueiros**	**44.65**	**286**	*e*P	**P**	**05 01 39.0**	**-0.2**
PVAQ	**Vaqueiros**	**44.65**	**286**	*e*P	**P**	**05 01 39.0**	**-0.2**
PNCL	**Nicolau / Gran**	**44.97**	**287**	*e*P	**P**	**05 01 42.0**	**+0.2**
PNCL	**Nicolau / Gran**	**44.97**	**287**	*e*P	**P**	**05 01 42.0**	**+0.2**
HHC	**Hu-ho-hao-te**	**45.41**	**69**	*e*P	**P**	**05 01 45.7**	**+0.3**
HHC				PMZ			
	comp=Z,31nm,1.0s						
HHC				PMZ			
	comp=Z,86nm,5.8s						
XAN	**Xi'an**	**46.18**	**79**	P	**P**	**05 01 52.7**	**+1.3**
XAN				PMZ			
	comp=Z,3.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**46.88**	**103**	P	**P**	**05 01 57.5**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=300,slow=8.6,SNR=8.1						
CMAR				PcP	**PcP**	**05 03 30.3**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=281,slow=5.4,SNR=2.8						
CMAR	**Chiang Mai Arr**	**46.88**	**103**	*i* P	**P**	**05 01 57.7**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TOA0	**Torodi Ar. Sit**	**50.59**	**252**	*e*P	**P**	**05 02 24.0**	**-1.5**
TOA0	**Torodi Ar. Sit**	**50.59**	**252**	*e*P	**P**	**05 02 24.9**	**-0.6**
TOA0	**Torodi Ar. Sit**	**50.59**	**252**	*e*P	**P**	**05 02 24.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**50.59**	**252**	P	**P**	**05 02 24.6**	**-0.9**
	comp=Z,1.6nm,0.4s,baz=32,slow=8.2,SNR=54						
SUMG	**Summit**	**51.51**	**337**	*i* P	**P**	**05 02 33.4**	**+1.3**
	comp=Z,3.8nm,0.9s						
SUMG	**Summit**	**51.51**	**337**	*i* P	**P**	**05 02 33.4**	**+1.3**
SUMG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SUMG	**Summit**	**51.51**	**337**	*i* P	**P**	**05 02 33.4**	**+1.3**
	comp=Z,4.0nm,0.9s						
CN2	**Changchun**	**53.81**	**60**	*e*P	**P**	**05 02 50.6**	**+1.5**
MSKU	**Masuku**	**53.85**	**228**	P	**P**	**05 02 48.3**	**-1.4**
	comp=Z,1.9nm,0.3s,baz=27,slow=11,SNR=3.8						
KLR	**Kul'dur**	**55.55**	**52**	*e*P	P	05 03 06.7	+5.1
USRK	**Ussuriysk Ar.**	**57.88**	**57**	P	**P**	**05 03 17.6**	**-0.6**
	comp=Z,3.2nm,0.6s,baz=264,slow=7.8,SNR=5.6						
KSAR	**Wonju Array Be**	**58.33**	**66**	P	**P**	**05 03 22.6**	**+1.1**
KSAR	**Wonju Array Be**	**58.33**	**66**	P	**P**	**05 03 22.5**	**+1.1**
KSAR	**Wonju Array Be**	**58.33**	**66**	P	**P**	**05 03 22.6**	**+1.1**
KSRS	**Korea Array**	**58.35**	**66**	P	**P**	**05 03 22.6**	**+1.0**
	comp=Z,4.0nm,0.7s,baz=288,slow=7.0,SNR=14						
KSRS	**Korea Array**	**58.35**	**66**	P	**P**	**05 03 22.6**	**+1.0**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
DBIC	**Dimbokro**	**59.70**	**251**	P	**P**	**05 03 30.4**	**-0.7**
	comp=Z,4.3nm,0.5s,baz=38,slow=5.7,SNR=23						
KIC	**Kosan Boka**	**59.83**	**251**	*e*P	**P**	**05 03 31.1**	**-1.0**
	comp=Z,6.6nm,0.4s						
TIC	**Toumodi**	**59.83**	**251**	*e*P	**P**	**05 03 31.9**	**-0.2**
LIC	**Lamto**	**60.12**	**251**	*e*P	**P**	**05 03 33.9**	**-0.2**
	comp=Z,36nm,0.6s						
JNU	**Nakatsue**	**62.64**	**69**	P	**P**	**05 03 51.5**	**+0.5**
	comp=Z,8.5nm,0.9s,baz=195,slow=22,SNR=3.6						
MJAR	**Matsushiro Arr**	**65.86**	**62**	P	**P**	**05 04 12.6**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=318,slow=9.1,SNR=4.5						
LBTB	**Lobatse**	**69.28**	**204**	*e*P	**P**	**05 04 34.9**	**+1.3**
LBTB				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LBTB	**Lobatse**	**69.28**	**204**	*e*P	**P**	**05 04 34.8**	**+1.3**
	comp=Z,8.3nm,0.6s						
LBTB	**Lobatse**	**69.28**	**204**	*e*P	**P**	**05 04 34.9**	**+1.3**
	comp=Z,8.3nm,0.6s						
SCHQ	**Schefferville**	**70.94**	**327**	P	**P**	**05 04 44.0**	**+0.6**
	comp=Z,4.0nm,0.6s,baz=34,slow=5.7,SNR=9.3						
BOSA	**Boshof**	**72.75**	**203**	P	**P**	**05 04 55.1**	**+0.5**
	comp=Z,5.7nm,0.7s,baz=19,slow=5.3,SNR=9.9						
BOSA	**Boshof**	**72.75**	**203**	P	**P**	**05 04 55.1**	**+0.5**
BOSA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BOSA	**Boshof**	**72.75**	**203**	*e*P	**P**	**05 04 55.4**	**+0.8**
ILAR	**Eielson Array**	**74.07**	**8**	P	**P**	**05 05 03.0**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=339,slow=4.6,SNR=10						
YKA	**Yellowknife Ar**	**76.55**	**353**	P	**P**	**05 05 16.6**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=7.4,slow=5.7,SNR=26						
FCC	**Fort Churchill**	**76.70**	**342**	*e*P	**P**	**05 05 18.3**	**+1.3**
FCC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FCC	**Fort Churchill**	**76.70**	**342**	*e*P	**P**	**05 05 18.3**	**+1.3**
	comp=Z,3.7nm,0.7s						
FCC	**Fort Churchill**	**76.70**	**342**	*e*P	**P**	**05 05 18.3**	**+1.3**
	comp=Z,3.7nm,0.7s						
RC01	**Rabbit Creek A**	**77.31**	**10**	*e*P	**P**	**05 05 21.7**	**+1.3**
	comp=Z,5.5nm,0.5s						
RC01	**Rabbit Creek A**	**77.31**	**10**	*e*P	**P**	**05 05 21.7**	**+1.3**
	comp=Z,5.5nm,0.5s						
FFC	**Flin Flon**	**82.16**	**344**	*e*P	**P**	**05 05 47.3**	**+0.5**
FFC				pmax	pmax		
	comp=Z,3.0nm,0.4s						
FFC	**Flin Flon**	**82.16**	**344**	*e*P	**P**	**05 05 47.3**	**+0.5**
	comp=Z,3.0nm,0.4s						
FFC	**Flin Flon**	**82.16**	**344**	*e*P	**P**	**05 05 47.2**	**+0.5**
	comp=Z,2.8nm,0.4s						
EYMN	**Ely**	**85.61**	**335**	*e*P	**P**	**05 06 05.2**	**+0.7**
	comp=Z,1.5nm,0.4s						
EYMN	**Ely**	**85.61**	**335**	*e*P	**P**	**05 06 05.2**	**+0.7**
	comp=Z,1.5nm,0.4s						
WRA	**Warramunga Arr**	**98.21**	**109**	P	**P**	**05 07 02.5**	**-1.1**
	comp=Z,2.1nm,0.6s,baz=320,slow=4.0,SNR=29						
WRA				PKKPbc	**PKKPbc**	**05 23 34.7**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=122,slow=3.4,SNR=4.8						

DDA 03 04:57:21.3, 39.°74N×29.°09E, h7km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.50**	**254**	*i* P	Pg	04 57 30.9	-0.1
DURS				*i* S	Sb	04 57 39.0	-1.1
BALY	**Balya**	**1.14**	**270**	*i* P	Pg	04 57 42.4	-0.7
BALY				*i* S	Sn	04 57 59.1	-0.5

*IDC **03** 05:06:20.0±0.8, 33.°35N×96.°28E, h0km, mb3.7/11, mb1 3.9/15, mb1mx3.8/29, mbtmp3.8/15, ML4.1/4, Error ellipse: s-maj=29.2km s-min=15.7km az=46.0*

*BJI **03** 05:06:21.8, 33.°34N×96.°20E, h7km, mb3.6/1, ML3.7/9, Ms7 3.4/2*

*ISCJB **03** 05:06:23.1±0.4, 33.°27N±0.°06×96.°07E±0.°06, h33km, mb3.8/11, Error ellipse: s-maj=9.6km s-min=5.7km az=142.7*

ISC 03 05:06:25.1±0.7**, 33.°30N**±0.°08×**96.°21E**±0.°10**, h35km, n27, σ1.s04**/25**, mb3.9**/11**, Qinghai**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.61**	**232**	Pn	**Pn**	**05 07 49.5**	**+3.0**
GTA	**Gaotai**	**6.76**	**24**	*e*Pn	**Pn**	**05 08 03.7**	**+1.8**
LZH	**Lanzhou**	**6.88**	**64**	*e*Pn	Pn	05 08 07.9	+4.3
LZH				*e*Sn	Sn	05 09 26.6	+5.9
LZH				SMN			
	72nm,1.2s						
LZH				SME			
	51nm,1.1s						
TAPN	**Taplejung**	**9.44**	**233**	*e*P	**Pn**	**05 08 38.9**	**+0.1**
	18nm,0.5s						
ODAN	**Odare**	**9.97**	**232**	*e*P	**Pn**	**05 08 46.4**	**+0.3**
	48nm,0.5s						
JIRN	**Jiri**	**10.31**	**240**	*e*P	**Pn**	**05 08 51.3**	**+0.5**
GUN	**Gumba**	**10.39**	**242**	*e*P	**Pn**	**05 08 51.2**	**-0.8**
RAMN	**Ramite**	**10.45**	**235**	*e*P	**Pn**	**05 08 52.3**	**-0.3**
	17nm,0.5s						
PKI	**Pulchoki**	**10.93**	**241**	*e*P	**Pn**	**05 08 58.1**	**-1.2**
DMN	**Daman**	**11.13**	**242**	*e*P	**Pn**	**05 09 01.0**	**-1.0**
KOLN	**Koldanda**	**12.18**	**246**	*e*P	Pn	05 09 12.0	-4.3
	12nm,0.6s						
CMAR	**Chiang Mai Arr**	**14.98**	**170**	Pn	**Pn**	**05 09 53.3**	**-1.0**
	0.5nm,0.3s,baz=342,slow=11,SNR=4.0						
SONM	**Songino Array**	**16.43**	**25**	Pn	**Pn**	**05 10 11.9**	**-1.1**
	0.4nm,0.3s,baz=212,slow=15,SNR=7.8						
MKAR	**Makanchi Array**	**17.14**	**326**	P	**Pn**	**05 10 20.9**	**-0.9**
	0.3nm,0.3s,baz=136,slow=14,SNR=11						
AAK	**Ala-Archa**	**19.45**	**305**	P	**P**	**05 10 47.4**	**-1.3**
	0.8nm,0.3s,baz=90,slow=15,SNR=2.9						
KURBB	**Kurchatov Arra**	**21.64**	**328**	P	**P**	**05 11 12.3**	**+0.1**
	3.0nm,0.7s,baz=137,slow=11,SNR=16						
KSRS	**Korea Array**	**26.12**	**72**	P	**P**	**05 11 55.0**	**-0.7**
	0.4nm,0.4s,baz=274,slow=10,SNR=2.9						
BRTR	**Keskin Array B**	**49.80**	**296**	P	**P**	**05 15 15.0**	**+0.4**
	1.1nm,0.8s,baz=81,slow=8.9,SNR=3.6						
AKASG	**Malin Array Be**	**50.95**	**311**	P	**P**	**05 15 23.4**	**+0.5**
	1.1nm,0.6s,baz=69,slow=7.2,SNR=2.8						
FINES	**FINESS Array B**	**51.98**	**325**	P	**P**	**05 15 30.6**	**+0.1**
	1.1nm,0.7s,baz=76,slow=8.0,SNR=4.4						
ARCES	**ARCESS Array B**	**52.49**	**335**	P	**P**	**05 15 34.5**	**+0.3**
	1.4nm,0.8s,baz=77,slow=7.9,SNR=4.3						
NB2	**NORSAR Subarra**	**59.14**	**326**	P	**P**	**05 16 22.1**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=81,slow=7.4						
NOA	**NORSAR Array B**	**59.14**	**326**	P	**P**	**05 16 21.7**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=78,slow=7.0,SNR=4.4						
WRA	**Warramunga Arr**	**64.25**	**140**	P	**P**	**05 16 56.8**	**0.0**
	comp=Z,0.9nm,0.8s,baz=320,slow=8.7,SNR=8.6						
ASAR	**Alice Springs**	**67.08**	**143**	P	**P**	**05 17 15.7**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=325,slow=6.7,SNR=8.8						
ILAR	**Eielson Array**	**70.65**	**24**	P	**P**	**05 17 35.6**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=284,slow=3.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**86.60**	**283**	P	**P**	**05 19 06.2**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=60,slow=4.8,SNR=3.0						

*IDC **03** 05:25:25.9±4.8, 36.°29N×140.°05E, h83km±36km, mb3.1/2, mb1 3.3/2, mb1mx3.0/24, mbtmp3.5/2, Error ellipse: s-maj=51.6km s-min=29.6km az=71.0*

*ISCJB **03** 05:25:26.1±0.8, 36.°19N±0.°06×139.°89E±0.°07, h89km±6km, mb3.4/2, Error ellipse: s-maj=10.6km s-min=8.8km az=165.4*

*JMA **03** 05:25:27.5±0.1, 36.°23N×139.°88E, h78km±1km, M3.0*

ISC 03 05:25:26.7±1.1**, 36.°20N**±0.°06×**139.°90E**±0.°06**, h83km**±8km**, n14, σ0.s58**/20**, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.24**	**82**	P	**Pn**	**05 25 39.3**	**+0.3**
JYT				S	**Sn**	**05 25 48.2**	**+0.1**
JAG	**Ashikaga**	**0.43**	**302**	P	**Pn**	**05 25 40.2**	**0.0**
JAG				S	**Sn**	**05 25 49.6**	**-0.6**
JRY	**Ryogami san**	**0.83**	**258**	P	**Pn**	**05 25 44.6**	**+0.5**
JRY				S	**Sn**	**05 25 57.0**	**0.0**
JOD2	**Odawara 2**	**1.14**	**216**	P	**Pn**	**05 25 48.2**	**+0.5**
JFY	**Yanaizu**	**1.22**	**353**	P	**Pn**	**05 25 49.0**	**+0.3**
JHK	**Hiroka**	**1.27**	**326**	P	**Pn**	**05 25 49.7**	**+0.5**
JHK				S	**Sn**	**05 26 06.5**	**+0.3**
JYN	**Shimob**	**1.31**	**238**	P	**Pn**	**05 25 50.6**	**+0.8**
JFT	**Otama**	**1.36**	**15**	P	**Pn**	**05 25 51.1**	**+0.6**
JFK	**Kawauchi**	**1.41**	**33**	P	**Pn**	**05 25 51.4**	**+0.4**
MJAR	**Matsushiro Arr**	**1.41**	**285**	P	**Pn**	**05 25 51.2**	**+0.2**
	23nm,0.3s,baz=96,slow=14,SNR=153						
MJAR				S	**Sn**	**05 26 09.9**	**+0.5**
	13nm,0.3s,baz=94,slow=17,SNR=10						
MAT	**Matsushiro**	**1.41**	**285**	P	**Pn**	**05 25 51.6**	**+0.5**
MAT				S	**Sn**	**05 26 08.2**	**-1.2**
MAT	**Matsushiro**	**1.41**	**285**	P	**Pn**	**05 25 51.6**	**+0.5**
MKAR	**Makanchi Array**	**43.54**	**303**	P	**P**	**05 33 22.1**	**0.0**
	0.5nm,0.7s,baz=80,slow=7.5,SNR=3.6						
WRA	**Warramunga Arr**	**56.08**	**186**	P	**P**	**05 34 56.8**	**-0.5**
	0.2nm,0.5s,baz=0.5,slow=7.4,SNR=6.2						

WEL 03 05:30:34.8±0.6**, 36.°77S**×**176.°69E, h242km**±5km**, ML3.5**/11**, 2D, Error ellipse: s-maj=6.8km s-min=4.9km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.31**	**139**	PN	Pn	05 31 10.9	+0.1
HAZ				SN	S	05 31 38.5	-0.7
MXZ	**Matakaoa Point**	**1.51**	**122**	PN	Pn	05 31 12.4	+0.1
MXZ				SN	S	05 31 41.3	-0.5
URZ	**Urewera**	**1.52**	**167**	PN	Pn	05 31 12.8	+0.5
WMGZ	**Waiomatatini S**	**1.73**	**128**	PN	Pn	05 31 14.3	+0.3
WMGZ				SN	S	05 31 44.4	-0.6
PUZ	**Puketiti**	**1.80**	**137**	PN	Pn	05 31 14.7	0.0
SNGZ	**Shannon Statio**	**2.07**	**166**	PN	Pn	05 31 17.5	+0.4
CNGZ	**Carnagh Statio**	**2.09**	**145**	PN	Pn	05 31 17.6	+0.3
RIGZ	**Rimuhau**	**2.11**	**157**	PN	Pn	05 31 17.8	+0.2
RAHZ	**Arahi**	**2.16**	**172**	PN	Pn	05 31 18.6	+0.6
NMHZ	**Naumai**	**2.32**	**178**	PN	Pn	05 31 20.5	+0.9
KNZ	**Kokohu**	**2.38**	**161**	PN	Pn	05 31 19.7	-0.3
BKZ	**Black Stump Fm**	**2.39**	**184**	PN	Pn	05 31 20.0	-0.3
ARHZ	**Aropaoanui**	**2.50**	**175**	PN	Pn	05 31 21.6	+0.3
KWHZ	**Kaweka Forest**	**2.65**	**184**	PN	Pn	05 31 23.1	0.0
MCHZ	**McNeill Hill**	**2.67**	**180**	*e*PN	Pn	05 31 23.3	+0.2
BHHZ	**Black Hill Sta**	**2.75**	**190**	⇓PN	Pn	05 31 24.0	-0.1
KAHZ	**Kahuranaki**	**3.02**	**177**	PN	Pn	05 31 26.4	-0.6
PNHZ	**Pukenui**	**3.16**	**187**	PN	Pn	05 31 27.4	-1.0
WPHZ	**Waipukurau**	**3.29**	**183**	*e*PN	Pn	05 31 28.3	-1.6
TSZ	**Takapari Road**	**3.33**	**190**	PN	Pn	05 31 29.3	-1.1
MRZ	**Mangatainoka R**	**3.98**	**192**	⇓PN	Pn	05 31 36.0	-1.9
MRZ				SN	S	05 32 24.4	-3.5
HOWZ	**Holdsworth Sta**	**4.22**	**192**	PN	Pn	05 31 38.6	-2.2
KIW	**Kapiti Island**	**4.31**	**198**	PN	Pn	05 31 39.9	-1.9
MTW	**Mount Morrison**	**4.47**	**192**	PN	Pn	05 31 41.8	-2.0
CAW	**Cannon Point**	**4.51**	**196**	PN	Pn	05 31 41.9	-2.3
TCW	**Tory Channel**	**4.81**	**202**	PN	Pn	05 31 45.8	-2.1
TUWZ	**Tuamarina**	**5.12**	**204**	PN	Pn	05 31 49.2	-2.4
QRZ	**Quartz Range**	**5.19**	**217**	PN	Pn	05 31 50.3	-2.3
THZ	**Tophouse**	**5.78**	**209**	PN	Pn	05 31 58.1	-1.9

*IDC **03** 05:35:40.5±0.4, 33.°34N×96.°23E, h0km, mb4.8/27, mb1 4.9/32, mb1mx4.8/33, mbtmp4.8/32, ML4.3/5, MS4.9/34, Ms1 5.0/34, ms1mx4.9/40, Error ellipse: s-maj=11.7km s-min=10.3km az=47.0*

*BJI **03** 05:35:42.0, 33.°31N×96.°22E, h11km, mb4.9/54, mB5.3/36, ML5.0/11, Ms5.4/58, Ms7 5.3/61*

*MOS **03** 05:35:43.7±0.9, 33.°32N×96.°20E, h31km, mb5.4/63, MS5.1/35, Error ellipse: s-maj=6.2km s-min=3.9km az=121.6*

*ISCJB **03** 05:35:44.5±0.1, 33.°31N±0.°02×96.°11E±0.°02, h33km, mb5.1/196, MS5.1/65, Error ellipse: s-maj=2.3km s-min=1.9km az=38.6*

*GCMT **03** 05:35:44.7±0.1, 33.°23N×96.°28E, h24km, MW5.5/116, Moment Tensor Solution. s77,c127; s116,c232; Duration: 1.s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.26±.03; $M_{\theta\theta}$-0.28±.03; $M_{\phi\phi}$0.02±.03; $M_{r\theta}$-0.33±.04; $M_{\theta\phi}$1.97±.03; $M_{\phi r}$-0.04±.04; Best double couple: $M_0$2.00600×10^{17} NP1:ϕ_s268.00000°, δ87.00000°, λ10.00000°. NP2:ϕ_s178.00000°, δ80.00000°, λ177.00000°. Principal axes: T 1.8860, Plg9.0000°, Azm133.0000°; N 0.2400, Plg80.0000°, Azm282.0000°; P -2.1260, Plg5.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **03** 05:35:44.8±1.4, 33.°34N×96.°15E, h24km±10km, mb5.2/82 Error ellipse: s-maj=4.6km s-min=3.4km az=218.0*

*SZGRF **03** 05:35:51.8, 33.°68N×95.°44E, h33km, mb5.4, MS5.6, Qinghai, China*

ISC 03 05:35:44.3±0.4**, 33.°30N**±0.°03×**96.°19E**±0.°02**, h19km**±1km**, h18km:pP-P, n697, σ1.s47**/779**, mb5.2**/207**, MS5.1**/70**, 51C-23D, Qinghai**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.60**	**232**	Pn	**Pn**	**05 37 09.8**	**+2.7**
LSA				LN			
	13μm,9.7s						
LSA				LE			
	16μm,11.2s						
LSA				LZ			
	28μm,12.6s						
LSA	**Lhasa**	**5.60**	**232**	*e*P	**Pn**	**05 37 09.5**	**+2.4**
LSA				*e*		05 38 15.6	
LSA				pmax	pmax		
	comp=Z,852nm,0.7s						
LSA	**Lhasa**	**5.60**	**232**	*e*Pn	**Pn**	**05 37 09.5**	**+2.4**
	comp=Z,852nm,0.7s						
LSA				*e*Sn	**Sn**	**05 38 15.6**	**+4.4**
GTA	**Gaotai**	**6.76**	**25**	Pn	**Pn**	**05 37 23.2**	**+0.5**
GTA				Sn	**Sn**	**05 38 40.7**	**+1.5**
GTA				LN			
	comp=Z,25μm,9.7s						
GTA				LZ			
	comp=Z,14μm,13.8s						
CD2	**Chengdu**	**6.85**	**108**	Pn	**Pn**	**05 37 25.0**	**+1.2**
CD2				Sn	**Sn**	**05 38 39.9**	**-1.3**
CD2				Sg	**Sg**	**05 39 19.1**	**-4.9**
CD2				SMN			
	comp=Z,1μm,1.5s						
CD2				SME			
	comp=Z,2μm,1.4s						
LZH	**Lanzhou**	**6.89**	**64**	*e*Pn	**Pn**	**05 37 26.4**	**+2.0**
LZH				*e*Sn	**Sn**	**05 38 38.2**	**-4.2**
LZH				SMN			
	comp=Z,1μm,1.4s						
LZH				SME			
	comp=Z,800nm,1.2s						
LZH				LE			
	comp=Z,25μm,7.0s						
LZH				LZ			
	comp=Z,23μm,8.8s						
SHL	**Shillong**	**8.57**	**207**	⇓*i*P	**Pn**	**05 37 46.0**	**-1.6**
SHL				AMB	AMB	05 37 52.5	
	comp=Z,71nm,0.4s						
SHL				*e*x	x	05 39 14.0	
IMP	**Imphal**	**8.71**	**194**	*e*P	**Pn**	**05 37 47.0**	**-2.4**
IMP				*e*S	**Sn**	**05 39 22.0**	**-5.2**
TAPN	**Taplejung**	**9.43**	**233**	*e*P	**Pn**	**05 37 58.8**	**-0.6**
	comp=Z,105nm,0.4s						
KMI	**Kunming**	**9.95**	**143**	⇑P	**Pn**	**05 38 06.3**	**-0.2**
KMI				pP		05 38 08.5	
KMI				PP	**PnPn**	**05 38 16.1**	**+1.9**
KMI				S	**Sn**	**05 39 59.7**	**+1.9**
KMI				sS		05 40 04.5	
KMI				SS	**SnSn**	**05 40 13.0**	**+3.3**
KMI				PMZ			
	comp=Z,230nm,0.8s						
KMI				LE			
	comp=Z,23μm,10.7s						
KMI				LZ			
	comp=Z,18μm,10.1s						
ODAN	**Odare**	**9.96**	**232**	*e*P	**Pn**	**05 38 06.0**	**-0.7**
	comp=Z,384nm,0.6s						
JIRN	**Jiri**	**10.29**	**240**	*e*P	**Pn**	**05 38 11.0**	**-0.4**
	comp=Z,135nm,0.7s						
GUN	**Gumba**	**10.38**	**242**	*e*P	**Pn**	**05 38 11.4**	**-1.1**
	comp=Z,129nm,0.4s						
RAMN	**Ramite**	**10.44**	**235**	*e*P	**Pn**	**05 38 11.7**	**-1.5**
	comp=Z,220nm,0.6s						
XAN	**Xi'an**	**10.63**	**83**	P	**Pn**	**05 38 16.8**	**+1.1**
XAN				pP		05 38 22.1	
XAN				S	**Sn**	**05 40 14.8**	**+0.5**
XAN				PMZ			
	comp=Z,8.0nm,0.8s						
XAN				LN			
	comp=Z,22μm,13.7s						
XAN				LZ			
	comp=Z,4μm,9.8s						
KKN	**Kakani**	**10.89**	**243**	*e*P	**Pn**	**05 38 18.0**	**-1.4**
	comp=Z,155nm,0.6s						
PKI	**Pulchoki**	**10.91**	**241**	*e*P	**Pn**	**05 38 18.2**	**-1.6**
	comp=Z,137nm,0.5s						
DMN	**Daman**	**11.12**	**242**	*e*P	**Pn**	**05 38 21.0**	**-1.5**
	comp=Z,159nm,0.6s						
GKN	**Gorkha**	**11.26**	**245**	*e*P	**Pn**	**05 38 22.8**	**-1.6**
	comp=Z,152nm,0.7s						
GYA	**Guiyang**	**11.36**	**124**	⇑*i*P	**Pn**	**05 38 24.2**	**-1.5**
GYA				PP	**PnPn**	**05 38 36.8**	**+3.4**
GYA				S	**Sn**	**05 40 32.4**	**+0.3**
GYA				SS	**SnSn**	**05 40 52.0**	**+8.0**
GYA				PMZ			
	comp=Z,60nm,1.0s						
GYA				PMZ			
	comp=Z,130nm,4.6s						
GYA				LE			
	comp=Z,13μm,8.7s						
GYA				LZ			
	comp=Z,12μm,9.8s						
ENH	**Enshi**	**11.71**	**101**	*e*Pn	**Pn**	**05 38 29.8**	**-0.6**
	comp=Z,105nm,1.0s						
KOLN	**Koldanda**	**12.17**	**246**	*e*P	**Pn**	**05 38 34.6**	**-2.3**
WMQ	**Urumqi**	**12.42**	**330**	P	**Pn**	**05 38 39.0**	**-1.1**
WMQ				pP	pP	05 38 42.3	
WMQ				sP		05 38 45.5	
WMQ				PP	**PnPn**	**05 38 47.8**	**-0.2**
WMQ				S	**Sn**	**05 40 58.1**	**0.0**
WMQ				SS	**SnSn**	**05 41 12.6**	**+2.3**
WMQ				PcP	**PcP**	**05 44 19.1**	**-1.0**
WMQ				ScS	**ScS**	**05 51 26.2**	**-2.0**
WMQ				PMZ			
	comp=Z,160nm,1.4s						
WMQ				PMZ			
	comp=Z,420nm,4.0s						
WMQ				LN			
	comp=Z,6μm,7.0s						
WMQ				LE			
	comp=Z,5μm,7.8s						
BOK	**Bokaro**	**13.10**	**226**	*e*P	**Pn**	**05 38 46.3**	**-3.1**
BOK				AMB	AMB	05 38 49.6	
	comp=Z,207nm,1.2s						
BTO	**Baotou**	**13.24**	**53**	*e*P	**Pn**	**05 38 48.7**	**-2.6**
BTO				LN			
	comp=Z,4μm,8.4s						
BTO				LE			
	comp=Z,2μm,8.0s						
CRAI	**Chiangrai**	**13.54**	**163**	P	Pn	05 38 52.1	-3.3
	comp=Z,66nm,1.2s,comp=Z,23μm						
CMAI	**Chiengmai2**	**13.55**	**168**	P	**Pn**	**05 38 57.0**	**+1.2**
	comp=Z,34nm,1.3s,comp=Z,804nm						
HHC	**Hu-ho-hao-te**	**14.39**	**54**	*e*P	**Pn**	**05 39 04.0**	**-3.0**
HHC				PP	**PnPn**	**05 39 16.3**	**+1.4**
HHC				S	**Sn**	**05 41 47.5**	**+1.4**
HHC				sS	sS	05 41 53.1	
HHC				SS	**SnSn**	**05 42 01.0**	**+2.4**
HHC				PMZ			
	comp=Z,42nm,0.7s						
HHC				PMZ			
	comp=Z,320nm,4.1s						
HHC				LN			
	comp=Z,6μm,8.2s						
HHC				LE			
	comp=Z,8μm,8.4s						
HHC				LZ			
	comp=Z,5μm,9.4s						
CHTO	**Chiang Mai**	**14.63**	**170**	P	**Pn**	**05 39 10.1**	**-0.3**
	comp=Z,397nm,0.8s,comp=Z,4μm						
CHTO	**Chiang Mai**	**14.63**	**170**	*e*P	**Pn**	**05 39 09.4**	**-1.0**
CHTO	**Chiang Mai**	**14.63**	**170**	P	**Pn**	**05 39 10.3**	**-0.2**
	SNR=29						
CHTO	**Chiang Mai**	**14.63**	**170**	*e*Pn	**Pn**	**05 39 09.3**	**-1.0**
CMMT	**Chiang Mai**	**14.64**	**170**	P	**Pn**	**05 39 10.1**	**-0.4**
	comp=Z,115nm,0.8s,comp=Z,1μm						
CM31	**Chiang Mai Arr**	**14.98**	**170**	*e*Pn	**Pn**	**05 39 14.7**	**-0.5**
	comp=Z,28nm,0.6s						
CMAR	**Chiang Mai Arr**	**14.98**	**170**	Pn	**Pn**	**05 39 14.7**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=339,slow=11,SNR=56						
CMAR				Sn	**S**	**05 42 18.0**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=347,slow=19,SNR=2.3						
CMAR				Lg	Lg	05 43 45.3	
	comp=Z,0.8nm,0.3s,baz=344,slow=19,SNR=4.6						
CMAR				LR	LR	05 45 12.3	
	comp=Z,9μm,18.4s,baz=347,slow=38						
CMAR	**Chiang Mai Arr**	**14.98**	**170**	*ce*P	**Pn**	**05 39 14.6**	**-0.5**
CMAR				pmax	pmax		
	comp=Z,23nm,0.9s						
LAMP	**Lampang**	**15.04**	**167**	P	**Pn**	**05 39 16.1**	**+0.3**
	comp=Z,32nm,0.9s,comp=Z,234nm						
MHMT	**Maesarieng**	**15.14**	**174**	P	**Pn**	**05 39 19.2**	**+2.0**
	comp=Z,25nm,1.1s,comp=Z,564nm						
WHN	**Wuhan**	**15.66**	**95**	P	**Pn**	**05 39 22.1**	**-1.9**
WHN				S	**Sn**	**05 42 14.5**	**-2.5**
WHN				LZ			
	comp=Z,28μm,18.7s						
UTTA	**Uttaradit**	**15.98**	**165**	P	**Pn**	**05 39 27.9**	**-0.2**
	comp=Z,23nm,1.0s,comp=Z,198nm						
SMLA	**Simla**	**16.25**	**268**	*i* x	**Pn**	**05 39 32.8**	**+1.3**
	baz=119,slow=28						
SMLA				*i* P	**Pn**	**05 39 32.8**	**+1.3**
SMLA	**Simla**	**16.25**	**268**	*i* P	**Pn**	**05 39 32.8**	**+1.3**
SMLA				AMB	AMB	05 39 37.2	
	comp=Z,103nm,0.8s						
LOEI	**Loei**	**16.37**	**163**	P	**P**	**05 39 34.8**	**-1.1**
	comp=Z,60nm,1.3s,comp=Z,782nm						
NONG	**Nongkai**	**16.41**	**156**	P	**Pn**	**05 39 33.7**	**+0.1**
	comp=Z,189nm,1.0s,comp=Z,7μm						
SONM	**Songino Array**	**16.44**	**25**	Pn	**Pn**	**05 39 32.0**	**-1.9**

comp=Z,3.6nm,0.3s,baz=224,slow=5.8,SNR=78
SONM Lg Lg 05 44 25.3
baz=208,slow=30,SNR=3.0
SONM LR LR 05 46 20.8
comp=Z,5µm,20.4s,baz=210,slow=39
SONM Songino Array 16.44 25 P **Pn 05 39 32.0 -1.9**
ULN Ulaanbaatar 16.70 26 *eP* **P 05 39 39.5 -0.1**
ULN pmax pmax
comp=Z,153nm,1.5s
ULN Ulaanbaatar 16.70 26 P **P 05 39 42.2 +2.7**
SNR=66
ULN Ulaanbaatar 16.70 26 *eP* **P 05 39 39.5 -0.1**
comp=Z,153nm,1.5s
DHRM DHARAMSHALA 16.77 272 *eP* **Pn 05 39 38.7 +0.3**
NDI New Delhi 16.91 259 *eP* **Pn 05 39 39.0 -0.9**
NDI *ex* **S 05 42 52.0 -5.4**
DLH Dalhousie 17.00 273 *ex* **P 05 39 44.0 +0.9**
MK31 Makanchi Array 17.14 326 P **Pn 05 39 40.5 -2.2**
MK31 pmax pmax
comp=Z,33nm,0.7s
MK31 Makanchi Array 17.14 326 *eP*n **Pn 05 39 40.4 -2.2**
MKAR Makanchi Array 17.14 326 P **Pn 05 39 40.1 -2.6**
comp=Z,2.0nm,0.3s,baz=135,slow=14,SNR=50
MKAR S **Sn 05 42 47.6 -5.1**
baz=139,slow=24,SNR=1.9
MKAR LR LR 05 46 52.7
comp=Z,5µm,21.2s,baz=134,slow=39
MKAR ScP **ScP 05 48 00.2 -0.2**
comp=Z,0.1nm,0.3s,baz=106,slow=5.1,SNR=3.6
MKAR Makanchi Array 17.14 326 *i* P **Pn 05 39 40.0 -2.6**
MKAR pmax pmax
comp=Z,23nm,0.7s
PBKT Sadao Pong 17.21 164 P **Pn 05 39 43.5 -0.2**
comp=Z,73nm,1.0s,comp=Z,922nm
BJT Baijiatuan 17.36 62 *eP* **P 05 39 46.3 -0.4**
BJT pmax pmax
comp=Z,101nm,1.3s
BJT Baijiatuan 17.36 62 *eP* **P 05 39 46.3 -0.4**
comp=Z,101nm,1.3s
BJI Beijing 17.37 62 P **P 05 39 46.5 -0.3**
BJI S **S 05 43 02.7 -4.0**
BJI PMZ
comp=Z,57nm,1.7s
BJI PMZ
comp=Z,720nm,7.8s
BJI LE
comp=Z,7µm,13.6s
BJI LZ
comp=Z,5µm,26.4s
KSH Kashi 17.40 297 P **P 05 39 47.1 -0.3**
KSH sP **sP 05 39 55.2 +0.1**
KSH PP PnPn 05 40 03.9 +7.6
KSH S **Sn 05 43 00.9 +1.5**
KSH sS **S 05 43 11.3 +3.6**
KSH SS SnSn 05 43 26.6 +14
KSH PcP **PcP 05 44 29.0 +1.8**
KSH PMZ
comp=Z,130nm,1.5s
KSH PMZ
comp=Z,500nm,3.6s
KSH LN
comp=Z,8µm,11.8s
KSH LE
comp=Z,6µm,8.9s
KSH LZ
comp=Z,7µm,10.4s
TIA Tai'an 17.44 75 ⇓P **P 05 39 48.2 +0.5**
TIA S **Sn 05 43 03.9 +3.7**
TIA PMZ
comp=Z,30nm,1.7s
TIA LE
comp=Z,11µm,11.6s
TIA LZ
comp=Z,14µm,11.3s
SKNT Sakolnakorn 17.71 155 P **P 05 39 50.7 0.0**
comp=Z,213nm,1.3s,comp=Z,3µm
ZAK Zakamensk 17.85 15 *eP* **Pn 05 39 50.6 -1.0**
ZAK pmax pmax
comp=Z,35nm,1.7s
UTHA Uthaitani 17.91 170 P **P 05 39 53.7 +0.8**
comp=Z,33nm,1.2s,comp=Z,288nm
AAA Alma-Ata 18.06 309 *i* P **P 05 39 54.8 +0.3**
AAA pmax pmax
comp=Z,4µm,3.3s
AAA MLR MLR
comp=Z,11µm,10.0s
ULHL Ulahol 18.09 305 P **P 05 39 55.8 +0.7**
SNR=62
CHAI Chaiyaphum 18.10 162 P **Pn 05 39 54.0 -0.7**
comp=Z,44nm,0.9s,comp=Z,380nm
GZH Guangzhou 18.20 120 P **Pn 05 39 53.2 -2.7**
GZH S **Sn 05 43 19.6 +1.0**
GZH PMZ
comp=Z,2µm,4.4s
CHLP Challavanipeta 18.31 219 *eP* **Pn 05 39 56.9 -0.4**
CHLP IAmb IAmb 05 40 02.0
comp=Z,108nm,1.5s
CHLP *eS* **S 05 43 24.8 -1.2**
CHLP IVMs_BB IVMs_BB 05 46 53.2
comp=Z,2µm,16.7s
KHLT Khaolaem Dam 18.55 173 P **Pn 05 40 03.5 +3.3**
comp=Z,27nm,1.7s,comp=Z,560nm
MOY Mondy 18.69 9 *eP* **Pn 05 40 02.0 +0.2**
MOY pmax pmax
comp=Z,118nm,2.9s
KZA Kyzart 18.71 304 P **Pn 05 40 03.8 +1.3**
SNR=73
QIZ Qiongzhong 18.73 136 P **Pn 05 40 02.7 +0.2**
QIZ pP **pP 05 40 05.0 -2.3**
QIZ sP **sP 05 40 07.5 -2.2**
QIZ S **S 05 43 34.2 -0.5**
QIZ sS **sS 05 43 42.4 -0.6**
QIZ PMZ
comp=Z,110nm,1.3s
QIZ PMZ
comp=Z,850nm,10.1s
QIZ LN
comp=Z,9µm,9.8s
QIZ LE
comp=Z,6µm,12.4s
QIZ LZ
comp=Z,21µm,11.6s
QIZ Qiongzhong 18.73 136 *eP* **Pn 05 40 02.5 0.0**
comp=Z,91nm,1.0s
TKM2 Tokmak 2 18.80 307 P **Pn 05 40 03.7 +0.4**
SNR=22
TKM2 Tokmak 2 18.80 307 *eP* **P 05 40 02.6 -0.2**
TKM2 pmax pmax
comp=Z,222nm,1.4s
TKM2 Tokmak 2 18.80 307 *eP* **P 05 40 02.6 -0.2**
comp=Z,222nm,1.4s
SRDT SRDT 19.05 171 P **Pn 05 40 07.1 +0.8**
comp=Z,243nm,1.3s
NJ2 Nanjing 19.12 88 *eP* **P 05 40 06.4 +0.3**
NJ2 pP **pP 05 40 10.3 -1.1**
NJ2 S **S 05 43 44.0 +1.8**
NJ2 sS **sS 05 43 50.0 -0.6**
NJ2 PMZ
comp=Z,20nm,0.7s
NJ2 PMZ
comp=Z,670nm,8.6s
KBK Karagaybulak 19.13 305 P **Pn 05 40 08.4 +1.1**
SNR=29
TLY Talaya 19.16 14 P **Pn 05 40 07.7 +0.3**
comp=Z,66nm,1.4s,SNR=11
TLY Talaya 19.16 14 P **P 05 40 06.0 -0.4**
comp=Z,0.0nm,0.3s,baz=206,slow=11,SNR=10
TLY S **Sn 05 43 41.0 -0.4**
comp=Z,0.0nm,0.3s,baz=37,slow=20,SNR=1.9
TLY Lg Lg 05 45 52.3
comp=Z,0.0nm,0.3s,baz=99,slow=19,SNR=1.9
TLY LR LR 05 48 02.8
comp=Z,4µm,20.6s,baz=190,slow=39
TLY Talaya 19.16 14*c i*P **Pn 05 40 07.0 -0.4**
TLY *eS* **Sn 05 43 37.4 -4.0**
TLY pmax pmax
comp=Z,44nm,1.8s
TLY MLR MLR
comp=Z,4µm,9.0s
TLY Talaya 19.16 14 P **Pn 05 40 07.3 0.0**
SNR=21
TLY Talaya 19.16 14 *eP* **P 05 40 06.9 +0.4**
comp=Z,86nm,1.8s
TLY S **Sn 05 43 41.0 -0.4**
UCH Uchtor 19.28 304 P **Pn 05 40 09.6 +0.2**
SNR=37

HKC Hong Kong Obse 19.29 120 *eP* **Pn 05 40 10.0 +0.9**
HKC *eS* **S 05 43 52.0 +6.3**
BHPL Bhopal 19.30 244 *eP* **P 05 40 06.7 -1.6**
BHPL AMB AMB 05 40 08.8
comp=Z,122nm,1.2s
VIS Vishakhapatnam 19.35 220 *eP* **Pn 05 40 09.8 -0.1**
CHMS Chumysh 19.40 306 P **Pn 05 40 09.9 -0.4**
SNR=30
FRU Bishkek 19.43 306 *eP* **P 05 40 10.0 +0.5**
FRU pmax pmax
comp=Z,420nm,2.2s
NGP Nagpur 19.43 236 *i* P **P 05 40 09.2 -0.5**
NGP *ex* x 05 40 34.8
comp=Z,134nm,1.3s
NGP *i* S **S 05 43 48.7 0.0**
AAK Ala-Archa 19.44 305 Pn **Pn 05 40 11.8 +0.8**
comp=Z,497nm,1.1s,SNR=37
AAK Ala-Archa 19.44 305 P **Pn 05 40 11.1 +0.1**
SNR=64
AAK Ala-Archa 19.44 305 P **Pn 05 40 10.7 -0.3**
comp=Z,1.0nm,0.3s,baz=102,slow=7.4,SNR=36
AAK LR LR 05 48 40.1
comp=Z,7µm,20.6s,baz=91,slow=40
AAK Ala-Archa 19.44 305*c i*P **Pn 05 40 11.1 +0.1**
AAK pmax pmax
comp=Z,343nm,1.2s
AAK Ala-Archa 19.44 305 P **Pn 05 40 11.3 +0.3**
SNR=78
AAK Ala-Archa 19.44 305 *eP* **Pn 05 40 11.0 +0.1**
comp=Z,113nm,1.1s
NAYO Nakonayok 19.47 165 P **Pn 05 40 11.4 +0.1**
comp=Z,60nm,0.8s,comp=Z,736nm
USP Ospenovka 19.67 307 P **Pn 05 40 13.7 0.0**
SNR=70
IRK Irkutsk 19.82 15 *eP* **Pn 05 40 14.8 -0.5**
IRK pmax pmax
comp=Z,235nm,1.7s
AML Almayashu 19.82 303 P **Pn 05 40 18.5 +2.7**
SNR=66
EKS2 Erkin-Say 19.94 304 P **Pn 05 40 16.6 -0.4**
SNR=27
EKS2 Erkin-Say 19.94 304 *eP* **Pn 05 40 16.4 -0.5**
EKS2 pmax pmax
comp=Z,139nm,1.1s
EKS2 Erkin-Say 19.94 304 *eP* **Pn 05 40 16.4 -0.5**
comp=Z,139nm,1.1s
DGPR DIGLIPUR 20.25 189 *eP* **P 05 40 18.4 -0.2**
DGPR AMB AMB 05 40 24.5
comp=Z,146nm,0.8s
PVM Polavaram 20.67 223 *eP* **P 05 40 21.3 -1.8**
PVM IAmb IAmb 05 40 27.3
comp=Z,294nm,1.6s
PVM *eS* **S 05 44 13.4 0.0**
PVM IVMs_BB IVMs_BB 05 48 17.5
comp=Z,3µm,15.4s
PATY Pattaya 20.73 167 P Pn 05 40 25.8 -0.4
comp=Z,18nm,0.8s
RPR Rampur 20.87 231 *eP* **P 05 40 25.1 -0.2**
RPR IAmb IAmb 05 40 34.6
comp=Z,107nm,0.9s
RPR *eS* **S 05 44 16.6 -0.7**
RPR IVMs_BB IVMs_BB 05 48 28.5
comp=Z,4µm,13.2s
CHBT CHBT 21.21 163 P **P 05 40 31.9 +3.0**
comp=Z,238nm,1.0s,comp=Z,3µm
QZH Quanzhou 21.24 107 ⇓*i*P **P 05 40 30.8 +1.6**
QZH S **S 05 44 21.4 -3.2**
SSE Sheshan 21.25 89 P **P 05 40 30.6 +1.2**
SSE S **S 05 44 26.8 +2.0**
SSE sS Sn 05 44 32.5 +0.3
SSE PMZ
comp=Z,25nm,0.8s
SSE PMZ
comp=Z,140nm,7.2s
SSE LN
comp=Z,8µm,12.6s
SSE LE
comp=Z,6µm,12.5s
SSE LZ
comp=Z,8µm,13.8s
DL2 Dalian 21.27 67 P **P 05 40 30.9 +1.4**
DL2 S **S 05 44 25.9 +0.9**
DL2 PMZ
comp=Z,53nm,0.8s
DL2 PMZ
comp=Z,280nm,10.3s
DL2 LN
comp=Z,7µm,17.2s
DL2 LZ
comp=Z,6µm,13.2s
SRSP Sriramsagar 21.44 233 *eP* **P 05 40 31.2 -0.3**
SRSP IAmb IAmb 05 40 34.4
comp=Z,552nm,2.0s
SRSP *eS* **S 05 44 27.5 -1.2**
SRSP IVMs_BB IVMs_BB 05 48 46.8
comp=Z,3µm,12.7s
KURBB Kurchatov Arra 21.63 328 P **P 05 40 32.2 -1.0**
comp=Z,44nm,0.8s,baz=137,slow=11,SNR=149
KURK Kurchatov 21.66 329 P **P 05 40 32.5 -1.1**
comp=Z,349nm,0.9s,SNR=57
KURK Kurchatov 21.66 329 *eP* **P 05 40 32.4 -1.1**
KURK *eS* **S 05 44 28.7 -3.9**
KURK pmax pmax
comp=Z,100nm,0.9s
KURK Kurchatov 21.66 329 P **P 05 40 32.9 -0.7**
SNR=84
KURK mb 05 40 40.7
SNR=142
KURK Kurchatov 21.66 329 *eP* **P 05 40 32.4 -1.2**
comp=Z,100nm,0.9s
KURK *eS* **S 05 44 28.7 -3.9**
PBA Port Blair 21.77 189 *eP* P 05 40 36.6 +1.6
PBA AMB AMB 05 40 51.6
comp=Z,104nm,1.1s
ZAA0 Zalesovo Array 22.17 342 *eP* **P 05 40 37.6 -1.3**
ZALV Zalesovo Beam 22.17 342 P **P 05 40 38.0 -1.0**
comp=Z,28nm,0.7s,baz=157,slow=9.6,SNR=30
ZALV S **S 05 44 38.5 -3.8**
comp=Z,0.8nm,0.6s,baz=135,slow=16,SNR=2.3
ZALV LR LR 05 49 42.3
comp=Z,3µm,20.1s,baz=200,slow=38
KK31 Karatay Array 22.35 303 *i* P **P 05 40 40.2 -0.9**
KK31 pmax pmax
comp=Z,110nm,1.1s
KKAR Karatay Array 22.35 303 *eP* **P 05 40 40.3 -0.8**
KKAR Karatay Array 22.35 303 *eP* **P 05 40 40.3 -0.8**
HYB Hyderabad 22.40 229 *i* P **P 05 40 40.0 -1.8**
HYB *eS* **S 05 44 51.0 +3.8**
HYB LR LR 05 44 51.0
comp=Z,12nm,16.0s
HYB Hyderabad 22.40 229 *eP* **P 05 40 41.8 0.0**
HYBB Hyderabad (bro 22.40 229 *eP* **P 05 40 41.5 -0.3**
HYBB IAmb IAmb 05 40 47.6
comp=Z,78nm,1.2s
HYBB *eS* **S 05 44 46.3 -0.9**
HYBB IVMs_BB IVMs_BB 05 49 23.0
comp=Z,3µm,12.0s
KBL Kabul 22.54 281 *eP* **P 05 40 42.3 -1.1**
KBL *eS* **S 05 44 51.7 +1.7**
KBL Kabul 22.54 281 *eP* **P 05 40 42.3 -1.1**
KBL *eS* **S 05 44 51.7 +1.7**
NJS Nagarjunasagar 22.58 227 *eP* **P 05 40 41.8 -2.0**
NJS IAmb IAmb 05 40 47.7
comp=Z,43nm,0.9s
NJS *eS* **S 05 44 48.8 -1.7**
NJS IVMs_BB IVMs_BB 05 49 24.4
comp=Z,3µm,22.6s
ADKI Addanki 22.74 224 *eP* **P 05 40 44.8 -0.6**
ADKI IAmb IAmb 05 40 49.7
comp=Z,66nm,0.9s
ADKI *eS* **S 05 44 55.2 +1.9**
DZET Dzherino 22.75 292 P **P 05 40 44.8 -0.7**
DZET pmax pmax
comp=Z,72nm,0.9s
KRAR Krasnoyarsk 22.83 355 *i* P **P 05 40 48.8 +2.8**
SRLM Srisailam 23.18 227 *eP* **P 05 40 48.3 -1.8**
SRLM IAmb IAmb 05 40 57.4
comp=Z,88nm,1.3s
SRLM *eS* **S 05 44 59.5 -1.5**
SRLM IVMs_BB IVMs_BB 05 49 44.2
comp=Z,3µm,17.5s
KLRI Killari 23.21 234 *eP* **P 05 40 48.5 -1.8**
KLRI IAmb IAmb 05 40 53.9
comp=Z,125nm,0.9s
KLRI *eS* **S 05 45 00.2 -1.3**
KLRI IVMs_BB IVMs_BB 05 49 48.0
comp=Z,4µm,24.7s
SNY Shenyang 23.24 61 ⇓P **P 05 40 52.1 +1.7**
SNY S **S 05 45 03.1 +1.5**
SNY PMZ
comp=Z,46nm,1.9s
SNY PMZ
comp=Z,860nm,4.3s
SNY LN
comp=Z,4µm,14.5s
SNY LE
comp=Z,3µm,13.5s
SNY LZ
comp=Z,5µm,21.1s
NVS Novosibirsk 23.39 341 *eP* **P 05 40 49.1 -2.6**
NVS *eS* **S 05 45 01.5 -2.1**
NVS pmax pmax
comp=N,69nm,1.5s
NVS pmax pmax
comp=E,47nm,1.5s
NVS pmax pmax
comp=Z,95nm,1.5s
NVS smax smax
comp=N,485nm,3.8s
NVS smax smax
comp=E,220nm,2.8s
KSBAR Backryungdo 23.60 70 P **P 05 40 54.5 +0.5**
SNR=9.8
YHNB Yeheng 23.60 105 *eP* **P 05 40 54.9 +0.7**
comp=E,69nm,1.0s
RCLA Racherla 23.64 225 *eP* **P 05 40 52.8 -1.7**
RCLA IAmb IAmb 05 41 05.0
comp=Z,211nm,1.6s
RCLA *eS* **S 05 45 07.4 -1.0**
RCLA IVMsBB 05 50 15.6
comp=Z,3µm,9.8s
SSLB Suanglung 23.68 107 *eP* **P 05 40 56.0 +1.1**
comp=Z,79nm,1.3s
HIA Hailar 23.68 41 *eP* **P 05 40 54.6 -0.1**
HIA pmax pmax
comp=Z,254nm,1.5s
HIA Hailar 23.68 41 *eP* **P 05 40 54.6 -0.1**
comp=Z,254nm,1.5s
NACB Ninganchiao 24.01 106 *eP* **P 05 40 59.0 +1.0**
comp=Z,212nm,1.4s
YULB Yu-li 24.15 108 *eP* **P 05 41 01.0 +1.8**
comp=Z,52nm,1.1s
TWG Pinlang 24.25 109 P **P 05 41 00.3 +0.1**
comp=Z,320nm,1.0s
KSHUK Heuksando 24.27 79 P **P 05 40 59.8 -0.4**
SNR=25
SURT Suratani 24.34 174 P **P 05 41 03.0 +1.9**
comp=Z,50nm,1.3s,comp=Z,619nm
SKHT Srikalahasti 24.58 222 *eP* **P 05 41 02.4 -0.8**
SKHT IAmb IAmb 05 41 06.8
comp=Z,33nm,0.7s
SKHT *eS* **S 05 45 24.2 +0.8**
SKHT IVMs_BB IVMs_BB 05 50 41.7
comp=Z,2µm,16.7s
POO Poona 24.83 239 *eP* **P 05 41 06.5 +1.0**
POO AMB AMB 05 41 07.5
comp=Z,74nm,1.5s
KSGAH Ganghwa 24.96 71 P **P 05 41 08.2 +1.6**
SNR=7.0
URV Uravakonda 25.07 228 *eP* **P 05 41 06.7 -1.0**
URV IAmb IAmb 05 41 13.1
comp=Z,57nm,1.1s
URV *eS* **S 05 45 30.8 -0.6**
URV IVMs_BB IVMs_BB 05 50 52.7
comp=Z,2µm,16.7s
INCN Inchon 25.11 72 *eP* **P 05 41 08.5 +0.6**
comp=Z,18nm,0.4s
KSGUS GUNSAN 25.26 75 P **P 05 41 09.8 +0.5**
SNR=6.4
YNCB YEONCHEON 25.35 70 P **P 05 41 10.9 +0.9**
SNR=10
BHJ Bhuj 25.36 254 *eP* **P 05 41 10.8 +0.5**
BHJ AMB AMB 05 41 14.3
comp=Z,129nm,1.0s
PKDT Phuket 25.36 175 P **P 05 41 13.9 +3.6**
comp=Z,95nm,0.6s
KSSWO Suwon 25.37 72 P **P 05 41 10.0 -0.2**
SNR=6.3
TJN Taejon 25.71 74 *i* P **P 05 41 13.0 -0.4**
KSICN Icheon 25.73 72 P **P 05 41 13.7 +0.1**
SNR=9.1
KSCWO Cheorwon 25.82 70 P **P 05 41 16.0 +1.6**
SNR=9.3
KSBON Boeun 26.06 74 P **P 05 41 17.3 +0.7**
SNR=12
KSAR Wonju Array Be 26.10 72 P **P 05 41 15.8 -1.1**
KSAR Wonju Array Be 26.10 72 P **P 05 41 15.8 -1.1**
KSRS Korea Array 26.14 72 P **P 05 41 15.8 -1.4**
comp=Z,4.1nm,0.6s,baz=274,slow=9.6,SNR=25
KSRS LR LR 05 51 40.2
comp=Z,4µm,19.6s,baz=268,slow=37
KSRS Korea Array 26.14 72 P **P 05 41 15.8 -1.4**
KSRS pmax pmax
comp=Z,4.0nm,0.6s
KSRS MLR MLR
comp=Z,4µm,19.7s
KSIJA INJE 26.28 71 P **P 05 41 18.9 +0.3**
SNR=10
SKLT Songkhla 26.32 170 P **P 05 41 20.7 +1.7**
comp=Z,38nm,1.4s
BVA0 Borovoye Array 27.01 325 *eP* **P 05 41 24.1 -0.9**
BVA0 pmax pmax
comp=Z,17nm,0.9s
BVAR Borovoye Array 27.01 325 P **P 05 41 24.3 -0.7**
comp=Z,3.0nm,0.6s,baz=124,slow=10,SNR=16
BVAR PcP **PcP 05 44 45.8 -0.2**
comp=Z,2.8nm,0.8s,baz=150,slow=1.2,SNR=3.5
BVAR S **S 05 46 00.9 -0.6**
comp=Z,0.5nm,0.5s,baz=150,slow=24,SNR=2.5
BVAR ScP **ScP 05 48 26.2 +0.9**
comp=Z,1.6nm,0.8s,baz=172,slow=4.2,SNR=4.5
BVAR LR LR 05 52 16.2
comp=Z,4µm,21.0s,baz=120,slow=37
BRVK Borovoye 27.08 325 P **P 05 41 25.0 -0.6**
comp=Z,146nm,0.8s,SNR=5.0
BRVK Borovoye 27.08 325*c i*P **P 05 41 25.5 -0.1**
BRVK pmax pmax
comp=Z,15nm,1.0s
BRVK Borovoye 27.08 325 P **P 05 41 26.0 +0.4**
SNR=12
BRVK Borovoye 27.08 325 *eP* **P 05 41 25.9 +0.4**
comp=Z,28nm,1.1s
BOD Bodaibo 27.34 21 *eP* **P 05 41 28.8 +1.0**
BOD pmax pmax
comp=Z,29nm,1.6s
MDJ Mudanjiang 28.14 56 P **P 05 41 36.1 +1.0**
MDJ S **S 05 46 22.0 +2.6**
MDJ sS **sS 05 46 30.1 +1.3**
MDJ PMZ
comp=Z,6.0nm,0.5s
MDJ PMZ
comp=Z,91nm,7.6s
MDJ LN
comp=Z,6µm,13.8s
MDJ LE
comp=Z,2µm,14.8s
MDJ LZ
comp=Z,5µm,16.8s
KULM Kulim 28.18 171 ⇓P **P 05 41 36.7 +1.0**
KULM Kulim 28.18 171 P **P 05 41 36.5 +0.8**
comp=Z,92nm,1.8s
KTGM Kuala Trenggan 28.57 165 ⇓P **P 05 41 41.5 +2.3**
JNU Nakatsue 28.94 81 P **P 05 41 42.8 +0.3**
comp=Z,9.6nm,0.8s,baz=301,slow=4.2,SNR=6.4
IPM Ipoh 29.03 170 ⇑P **P 05 41 44.4 +1.2**
IPM Ipoh 29.03 170 *eP* **P 05 41 43.1 -0.1**
comp=Z,23nm,1.1s
TGY Tagaytay City 29.51 124 LR LR 05 53 33.1
comp=Z,14nm,18.3s,baz=284,slow=36
VLA Vladivostok 29.52 60⇑*i*P **P 05 41 46.9 -0.5**
VLA *i* 05 42 41.1
VLA *i* 05 44 52.7
VLA *i* S **S 05 46 42.0 +0.9**
VLA pmax pmax
comp=Z,25nm,0.7s
VLA MLR MLR
comp=E,76µm,15.0s
USRK Ussuriysk Ar. 29.75 58 P **P 05 41 49.4 -0.1**
comp=E,1.8nm,0.6s,baz=262,slow=13,SNR=6.0
USRK LR LR 05 54 49.2
comp=E,3µm,18.2s,baz=252,slow=39
FRIM Kepong 30.34 169 ⇓P **P 05 41 55.6 +0.7**

IDAH	**Dahanechah**	**30.37**	**279**	*e*P	**P**	**05 41 55.8**	**+0.5**
CLNS	**Chul'man**	**30.66**	**31**	*e*P	**P**	**05 41 57.9**	**+0.5**
CLNS				*e**PP	**pP**	**05 42 04.7**	**+1.6**
CLNS				*e*		05 42 56.8	
CLNS				*e*		05 44 57.0	
CLNS				*e*S	**S**	**05 46 56.5**	**-2.3**
CLNS				*e*SSS	SSS	05 48 57.7	
CLNS				pmax	pmax		
	comp=Z,28nm,1.1s						
CLNS				pmax	pmax		
	comp=E,27nm,1.3s						
CLNS				pmax	pmax		
	comp=N,17nm,1.1s						
CLNS				pmax	pmax		
	comp=E,2.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CLNS				pmax	pmax		
	comp=N,7.0nm,1.0s						
CLNS				smax	smax		
	comp=E,391nm,14.0s						
CLNS				MLR	MLR		
	comp=N,2μm,12.0s						
CLNS				MLR	MLR		
	comp=Z,3μm,11.0s						
CLNS				MLR	MLR		
	comp=E,2μm,11.0s						
IAKL	**Akhelmad**	**30.73**	**287**	*e*P	**P**	**05 41 59.1**	**+0.5**
KLR	**Kul'dur**	**30.76**	**48**	*e*P	P	05 41 55.0	-3.4
KLR				*e*		05 47 04.5	
KLR				pmax	pmax		
	comp=E,78nm,1.8s						
KLR				pmax	pmax		
	comp=Z,100nm,1.8s						
KLR				MLR	MLR		
	comp=E,4μm,12.0s						
KLR				MLR	MLR		
	comp=Z,22μm,12.0s						
IKOO	**Kooshah**	**31.14**	**279**	*e*P	**P**	**05 42 02.0**	**-0.3**
AB31	**Akbulak array**	**31.20**	**312**	*e*P	**P**	**05 42 01.7**	**-0.5**
AB31				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ABKAR	**Akbulak array**	**31.20**	**312**	*e*P	**P**	**05 42 02.3**	**+0.1**
	comp=Z,3.6nm,0.5s						
ISFR	**Sfrayin**	**31.30**	**288**	*e*P	**P**	**05 42 04.8**	**+1.2**
KGM	**Kluang**	**31.83**	**166**	⇓P	**P**	**05 42 09.4**	**+1.4**
GSI	**Gunungsitoli**	**31.85**	**177**	P	**P**	**05 42 09.3**	**+1.1**
	comp=Z,51nm,1.3s						
GSI	**Gunungsitoli**	**31.85**	**177**	*e*P	**P**	**05 42 09.0**	**+0.7**
	comp=Z,16nm,0.6s						
MYKOM	**Kota Tinggi**	**32.16**	**166**	⇓P	**P**	**05 42 11.6**	**+0.7**
HABR	**Khabarovsk**	**32.66**	**51**	*e*P	**P**	**05 42 13.3**	**-1.7**
HABR						05 43 21.2	
HABR				S	**S**	**05 47 30.9**	**+0.7**
HABR				*e*SS	**SnSn**	**05 49 24.9**	**-0.5**
HABR				pmax	pmax		
	comp=Z,13nm,1.8s						
HABR				MLR	MLR		
	comp=Z,8μm,20.0s						
AKTO	**Aktyubinsk**	**32.74**	**313**	P	**P**	**05 42 15.0**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,18nm,0.8s						
KKM	**Kota Kinabalu**	**32.89**	**141**	⇓P	**P**	**05 42 17.8**	**+0.4**
KKM	**Kota Kinabalu**	**32.89**	**141**	*e*P	**P**	**05 42 17.5**	**+0.1**
	comp=Z,44nm,0.8s						
SVE	**Sverdlovsk**	**33.80**	**325**	*e*P	**P**	**05 42 25.7**	**+0.9**
SVE				pmax	pmax		
	comp=Z,29nm,0.9s						
SVE				MLR	MLR		
	comp=Z,3μm,17.0s						
KSM	**Kuching**	**34.32**	**154**	⇑P	**P**	**05 42 31.3**	**+1.5**
KSM	**Kuching**	**34.32**	**154**	*e*P	**P**	**05 42 30.6**	**+0.9**
	comp=Z,46nm,1.1s						
MAJO	**Matsushiro**	**34.41**	**73**	*i* P	**P**	**05 42 30.9**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,59nm,1.3s						
MJAR	**Matsushiro Arr**	**34.41**	**73**	P	**P**	**05 42 28.6**	**-1.9**
	comp=Z,1.4nm,0.3s,baz=279,slow=9.4,SNR=9.8						
MJAR				PcP	**PcP**	**05 45 05.5**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=255,slow=2.1,SNR=6.8						
MJAR				LR	LR	05 57 39.1	
	comp=Z,2μm,18.1s,baz=265,slow=38						
ARU	**Arti**	**34.63**	**323***c*	*i*P	**P**	**05 42 31.6**	**-0.5**
ARU						05 43 45.7	
ARU						05 45 04.1	
ARU				S	**S**	**05 48 02.0**	**+1.5**
ARU				pmax	pmax		
	comp=Z,27nm,1.0s						
ARU				MLR	MLR		
	comp=Z,3μm,20.0s						
ARU	**Arti**	**34.63**	**323**	*e*P	**P**	**05 42 31.9**	**-0.2**
	comp=Z,42nm,1.3s						
IGLO	**Ghaloghah**	**34.69**	**287**	*e*P	**P**	**05 42 36.2**	**+3.1**
IANJ	**Anjilo**	**34.77**	**286**	*e*P	**P**	**05 42 33.8**	**0.0**
IFIR	**Firoozkooh**	**35.68**	**286**	*e*P	**P**	**05 42 38.7**	**-3.0**
YAK	**Yakutsk**	**35.79**	**26**	P	**P**	**05 42 39.8**	**-2.2**
	comp=Z,10nm,0.6s,baz=340,slow=15,SNR=8.8						
YAK	**Yakutsk**	**35.79**	**26**	*e*P	**P**	**05 42 41.7**	**-0.2**
YAK				*e**PP	**pP**	**05 42 50.9**	**+3.2**
YAK				*e*		05 44 03.3	
YAK				*e*S	**S**	**05 48 19.0**	**+0.9**
YAK				*e**SS	**sS**	**05 48 30.6**	**+3.0**
YAK				*e*SS	**SS**	**05 51 00.6**	**+6.6**
YAK				pmax	pmax		
	comp=Z,40nm,0.9s						
YAK				pmax	pmax		
	comp=N,17nm,1.1s						
YAK				pmax	pmax		
	comp=E,42nm,1.5s						
YAK				pmax	pmax		
	comp=Z,15nm,0.6s						
YAK				pmax	pmax		
	comp=E,6.0nm,0.6s						
YAK				pmax	pmax		
	comp=N,6.0nm,0.9s						
YAK				smax	smax		
	comp=N,65nm,2.2s						
YAK				smax	smax		
	comp=E,44nm,2.2s						
YAK				MLR	MLR		
	comp=E,2μm,16.0s						
YAK				MLR	MLR		
	comp=Z,3μm,16.0s						
YAK				MLR	MLR		
	comp=N,1μm,14.0s						
STKI	**Sintang**	**36.05**	**153**	P	**P**	**05 42 46.7**	**+2.0**
	comp=N,42nm,1.0s,comp=N,21μm						
IDMV	**Damavand**	**36.27**	**286**	*e*P	**P**	**05 42 44.1**	**-2.7**
PPBI	**Pangkal Pinang**	**36.50**	**163**	P	**P**	**05 42 50.4**	**+1.9**
	comp=N,26nm,1.3s,comp=N,18μm						
IZEF	**Zefreh**	**36.55**	**282**	*e*P	**P**	**05 42 48.9**	**-0.3**
IVRN	**Varamin**	**36.61**	**285**	*e*P	**P**	**05 42 49.3**	**-0.2**
IKLH	**Kolahrood**	**37.07**	**283**	*e*P	**P**	**05 42 53.3**	**-0.3**
NKL	**Nikolayevsk**	**37.24**	**44**	*e*P	**P**	**05 42 54.0**	**-0.5**
NKL				*e*		05 48 44.0	
NKL				pmax	pmax		
	comp=E,52nm,1.5s						
NKL				pmax	pmax		
	comp=Z,130nm,1.5s						
NKL				pmax	pmax		
	comp=Z,400nm,2.0s						
NKL				MLR	MLR		
	comp=N,2μm,10.0s						
NKL				MLR	MLR		
	comp=E,4μm,10.0s						
NKL				MLR	MLR		
	comp=Z,4μm,10.0s						
ASAJ	**Asahikawa**	**37.34**	**59**	LR	LR	05 58 24.8	
	comp=Z,2μm,19.8s,slow=37						
ASAJ	**Asahikawa**	**37.34**	**59**	*e*P	**P**	**05 42 55.1**	**-0.4**
	comp=Z,36nm,1.4s						
IMHD	**Mahdasht**	**37.34**	**287**	*e*P	**P**	**05 42 56.4**	**+0.6**
TPI	**Tanjungpandan**	**37.46**	**161**	P	**P**	**05 42 58.7**	**+2.0**
	comp=Z,29nm,1.4s						
YSS	**Yuzh-Sakhalins**	**37.58**	**55**	*e*P	**P**	**05 42 57.0**	**-0.4**
YSS				*e*		05 43 04.0	
YSS				*e*		05 44 22.0	
YSS				*e*S	**S**	**05 48 46.0**	**+0.2**
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS				MLR	MLR		
	comp=Z,2μm,14.0s						
YSS				MLR	MLR		
	comp=N,2μm,12.0s						
YSS	**Yuzh-Sakhalins**	**37.58**	**55**	*e*P	**P**	**05 42 57.8**	**+0.4**
	comp=N,20nm,0.6s						
IGZV	**Ghazvin**	**37.59**	**288**	*e*P	**P**	**05 42 59.9**	**+1.9**
IPIR	**Pirpir**	**37.77**	**282**	*e*P	**P**	**05 42 58.6**	**-1.0**
TYV	**Tymovskoe**	**37.98**	**48**	*e*P	**P**	**05 43 02.2**	**+1.5**
TYV				pmax	pmax		
	comp=Z,48nm,1.2s						
TYV				MLR	MLR		
	comp=E,8μm,14.0s						
TYV				MLR	MLR		
	comp=Z,8μm,14.0s						
MDSI	**Maura Dua**	**38.33**	**167**	P	**P**	**05 43 04.0**	**0.0**
	comp=Z,17nm,1.0s						
MTKI	**Muara Teweh, K**	**38.35**	**149**	P	**P**	**05 43 05.9**	**+1.7**
	comp=Z,80nm,0.8s						
BKB	**Balikpapan**	**39.53**	**146**	P	**P**	**05 43 15.3**	**+1.2**
	comp=Z,147nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**39.70**	**59**	*e*P	**P**	**05 43 15.3**	**+0.1**
YUK				*i*		05 44 45.6	
YUK				*i* PPP	PPP	05 45 08.2	
YUK				*i*		05 45 22.9	
YUK				*i* S	**S**	**05 49 19.7**	**+1.9**
YUK				*i* SSS	SSS	05 52 33.5	
YUK				*i*		05 53 23.4	
YUK				MLR	MLR		
	comp=N,287nm,11.0s						
YUK				MLR	MLR		
	comp=E,579nm,11.0s						
YUK				MLR	MLR		
	comp=Z,733nm,11.0s						
IBZA	**Bozab**	**39.84**	**286**	*e*P	**P**	**05 43 17.4**	**+0.5**
MRSI	**Marisa**	**40.64**	**138**	P	**P**	**05 43 24.4**	**+1.1**
	comp=Z,32nm,0.8s,comp=Z,1μm						
DGRG	**David-gareji**	**40.70**	**297**	P	**P**	**05 43 24.8**	**+1.1**
DGRG	**David-gareji**	**40.70**	**297**	P	**P**	**05 43 24.8**	**+1.1**
IAZR	**Azarshahr**	**40.73**	**291**	*e*P	**P**	**05 43 24.2**	**0.0**
IMRD	**Marand**	**40.78**	**292**	*e*P	**P**	**05 43 24.7**	**+0.2**
KBKI	**Kotabaru**	**41.01**	**149**	P	**P**	**05 43 28.0**	**+1.6**
	comp=Z,33nm,0.8s,comp=Z,1μm						
GNI	**Garni**	**41.32**	**295**	LR	LR	06 03 40.6	
	comp=Z,869nm,18.4s,baz=84,slow=41						
GNI	**Garni**	**41.32**	**295**⇓	*i*P	**P**	**05 43 29.7**	**+0.7**
GNI				pmax	pmax		
	comp=Z,58nm,1.2s						
GNI	**Garni**	**41.32**	**295**	P	**P**	**05 43 30.3**	**+1.4**
	SNR=8.4						
GNI	**Garni**	**41.32**	**295**	*e*P	**P**	**05 43 29.4**	**+0.4**
	comp=Z,67nm,1.2s						
APSI	**Ampana**	**41.63**	**140**	P	**P**	**05 43 33.4**	**+1.9**
	comp=Z,75nm,1.3s,comp=Z,683nm						
ZEI	**Tsey**	**41.67**	**299**	*e*P	**P**	**05 43 33.8**	**+1.9**
ZEI				pmax	pmax		
	comp=Z,30nm,1.2s						
KMSI	**Cibinong**	**41.73**	**136**	P	**P**	**05 43 34.1**	**+1.8**
	comp=Z,330nm,1.1s,comp=Z,5μm						
ONI	**Oni**	**42.02**	**299**	P	**P**	**05 43 36.2**	**+1.6**
GOF	**Gofitskoye**	**42.14**	**302**	*e*P	**P**	**05 43 34.6**	**-0.8**
KBZ	**Khabaz**	**42.33**	**300**	P	**P**	**05 43 36.6**	**-0.3**
	comp=Z,6.9nm,0.7s,baz=143,slow=20,SNR=11						
KBZ				LR	LR	06 04 23.6	
	comp=Z,3μm,19.1s,baz=104,slow=41						
KIV	**Kislovodsk**	**42.47**	**301**	*e*P	**P**	**05 43 38.7**	**+0.5**
KIV				*e*		05 45 16.1	
KIV				*e*S	**S**	**05 50 01.5**	**+2.3**
KIV				pmax	pmax		
	comp=Z,53nm,1.0s						
KIV				pmax	pmax		
	comp=Z,44nm,6.3s						
KIV				MLR	MLR		
	comp=Z,1μm,16.0s						
KIV	**Kislovodsk**	**42.47**	**301**	P	**P**	**05 43 40.8**	**+2.7**
	SNR=7.9						
KIV	**Kislovodsk**	**42.47**	**301**	*e*P	**P**	**05 43 38.3**	**+0.1**
	comp=Z,54nm,1.0s						
TTSI	**Tana Toraja**	**42.49**	**144**	P	**P**	**05 43 39.5**	**+1.0**
	comp=Z,127nm,0.9s,comp=Z,1μm						
NEY	**Neytrino**	**42.50**	**300**	*i* P	**P**	**05 43 39.9**	**+1.4**
PRGR	**Permogore**	**42.77**	**327**	*e*P	P	05 43 33.7	-6.5
PRGR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
SPSI	**Sidrap Palu**	**43.26**	**144**	P	**P**	**05 43 45.3**	**+0.6**
	comp=Z,73nm,1.4s,comp=Z,814nm						
TNTI	**Ternate**	**43.63**	**131**	P	**P**	**05 43 48.3**	**+0.6**
	comp=Z,100nm,1.3s						
TNTI	**Ternate**	**43.63**	**131**	*e*P	**P**	**05 43 47.2**	**-0.6**
	comp=Z,174nm,1.2s						
KAPI	**Kappang**	**44.16**	**145**	*e*P	**P**	**05 43 52.1**	**+0.1**
	comp=Z,18nm,0.8s						
VORD	**Divnogorie**	**44.56**	**311**	*e*P	**P**	**05 43 53.7**	**-1.1**
VORD				pmax	pmax		
	comp=N,40nm,0.9s						
VORD				pmax	pmax		
	comp=E,70nm,0.9s						
VORD				pmax	pmax		
	comp=Z,20nm,0.9s						
VORD				MLR	MLR		
	comp=N,390nm,18.0s						
VORD				MLR	MLR		
	comp=E,1μm,18.0s						
VORD				MLR	MLR		
	comp=Z,2μm,18.0s						
BKSI	**Bulukumba**	**44.61**	**145**	P	**P**	**05 43 56.6**	**+1.0**
	comp=Z,26nm,0.8s						
VSR	**Storozhevoye**	**44.64**	**311**	*e*P	**P**	**05 43 54.7**	**-0.8**
VSR				*e**PP	**pP**	**05 44 04.6**	**+3.3**
VSR				*e*		05 45 38.3	
VSR				*e*S	**S**	**05 50 30.3**	**-0.3**
VSR				pmax	pmax		
	comp=N,10.0nm,1.0s						
VSR				pmax	pmax		
	comp=E,70nm,1.0s						
VSR				pmax	pmax		
	comp=Z,50nm,1.0s						
VSR				smax	smax		
	comp=N,40nm,1.9s						
VSR				smax	smax		
	comp=E,40nm,1.9s						
VSR				smax	smax		
	comp=Z,30nm,1.9s						
LBMI	**Labuha**	**44.81**	**132**	P	**P**	**05 43 58.5**	**+1.3**
	comp=Z,106nm,0.8s,comp=Z,1μm						
LPSR	**Galich'ya Gora**	**44.83**	**313**	*e*P	**P**	**05 43 56.0**	**-0.9**
LPSR				*e*S	**S**	**05 50 35.3**	**+2.1**
LPSR				*e*SS	**SS**	**05 53 54.9**	**+0.7**
LPSR				pmax	pmax		
	comp=N,6.0nm,1.1s						
LPSR				pmax	pmax		
	comp=E,30nm,1.1s						
LPSR				pmax	pmax		
	comp=Z,100nm,1.1s						
LPSR				smax	smax		
	comp=N,40nm,1.7s						
LPSR				smax	smax		
	comp=E,80nm,1.7s						
LPSR				smax	smax		
	comp=Z,10.0nm,1.7s						
LPSR				MLR	MLR		
	comp=N,1μm,15.0s						
LPSR				MLR	MLR		
	comp=E,830nm,15.0s						
LPSR				MLR	MLR		
	comp=Z,960nm,15.0s						
KLMR	**Klimovskoe**	**45.43**	**325**	*e*P	**P**	**05 43 59.7**	**-1.9**
KLMR				*e*		05 45 41.0	
KLMR				pmax	pmax		
	comp=Z,48nm,1.4s						
KLMR				MLR	MLR		
	comp=Z,2μm,14.0s						
BSSI	**Bau Bau, Buton**	**45.50**	**145**	P	**P**	**05 44 04.2**	**+1.5**
	comp=Z,124nm,1.0s						
SEY	**Seymchan**	**45.65**	**32***c*	*e*P	**P**	**05 44 03.2**	**-0.1**
MOS	**Moscow**	**45.76**	**318**	*e*P	**P**	**05 44 05.0**	**+0.7**
MOS				*e*		05 45 57.0	
MOS				*e*S	**S**	**05 50 48.4**	**+1.7**
MOS				pmax	pmax		
	comp=Z,100nm,1.2s						
MOS				pmax	pmax		
	comp=Z,89nm,1.1s						
MOS				MLR	MLR		
	comp=Z,3μm,18.0s						
ANN	**Anapa**	**46.13**	**302**	*e*P	**P**	**05 44 06.8**	**-0.6**
ANN				*e*S	**S**	**05 50 54.2**	**+1.9**
ANN				pmax	pmax		
	comp=Z,106nm,1.4s						
ANN				MLR	MLR		
	comp=E,675nm,16.0s						
ANN				MLR	MLR		
	comp=N,3μm,16.0s						
ANN				MLR	MLR		
	comp=Z,2μm,16.0s						
OBN	**Obninsk**	**46.33**	**317***c*	*e*P	**P**	**05 44 08.6**	**-0.1**
OBN				*e*		05 46 00.3	
OBN				*e*S	**S**	**05 50 55.7**	**+0.9**
OBN				pmax	pmax		
	comp=Z,55nm,1.2s						
OBN				MLR	MLR		
	comp=Z,3μm,20.0s						
OBN	**Obninsk**	**46.33**	**317**	*e*P	**P**	**05 44 09.2**	**+0.5**
	comp=Z,62nm,1.3s						
MALT	**Malatya**	**46.47**	**293**⇑	*i*P	**P**	**05 44 09.8**	**-0.5**
NLAI	**Namlea**	**46.62**	**135**	P	**P**	**05 44 13.5**	**+2.0**
	comp=Z,44nm,0.8s						
TMCR	**Tamitsa**	**46.78**	**329**	*e*P	**P**	**05 44 13.4**	**+1.3**
TMCR				pmax	pmax		
	comp=Z,17nm,0.7s						
SWI	**Sorong**	**47.37**	**129**	P	**P**	**05 44 18.1**	**+0.7**
	comp=Z,31nm,1.4s						
PEA0B	**Petropavlovsk-**	**47.40**	**46**	*e*P	**P**	**05 44 17.8**	**+0.6**
PEA0B				*e*PP	**PP**	**05 46 10.0**	**+1.6**
PETK	**Petropavlovsk-**	**47.40**	**46**	P	**P**	**05 44 15.2**	**-2.0**
	comp=Z,3.6nm,0.5s,baz=243,slow=6.5,SNR=7.7						
PETK				LR	LR	06 04 34.8	
	comp=Z,1μm,21.1s,baz=260,slow=37						
PET	**Petropavlovsk**	**47.98**	**46**	*e*P	P	05 44 33.4	+12
GUMO	**Guam**	**48.29**	**102**	LR	LR	06 04 07.5	
	comp=Z,812nm,20.4s,baz=310,slow=35						
SIM	**Simferopol'**	**48.45**	**303**	*e*P	**P**	**05 44 27.2**	**+1.7**
SIM				*e*S	**S**	**05 51 25.0**	**-0.4**
SIM				pmax	pmax		
	comp=Z,24nm,8.0s						
SIM				MLR	MLR		
	comp=N,1μm,17.2s						
MMRI	**Maumere**	**48.51**	**145**	P	**P**	**05 44 27.7**	**+1.6**
	comp=N,84nm,0.7s,comp=N,9μm						
APA	**Apatity**	**49.34**	**333**⇓	*i*P	**P**	**05 44 32.5**	**+0.6**
APA				*e*S	**S**	**05 51 36.0**	**-1.2**
APA				MLR	MLR		
	comp=Z,4μm,16.0s						
RKPI	**Ransiki, Papua**	**49.79**	**126**	P	**P**	**05 44 38.0**	**+2.0**
	comp=Z,61nm,0.9s,comp=Z,27μm						
BR131	**Keskin Array S**	**49.79**	**296**	*e*P	**P**	**05 44 35.1**	**-0.9**
	comp=Z,18nm,0.9s						
BRTR	**Keskin Array B**	**49.79**	**296**	P	**P**	**05 44 34.9**	**-1.1**
	comp=Z,16nm,0.8s,baz=100,slow=6.4,SNR=32						
BRTR				LR	LR	06 08 24.8	
	comp=Z,469nm,20.8s,baz=68,slow=39						
DAMY	**Dhamar**	**50.35**	**261**	P	**P**	**05 44 42.1**	**+1.4**
ANTO	**Ankara**	**50.39**	**297**	*e*P	**P**	**05 44 39.8**	**-0.7**
ANTO				pmax	pmax		
	comp=Z,61nm,1.0s						
ANTO	**Ankara**	**50.39**	**297**	*e*P	**P**	**05 44 39.8**	**-0.7**
	comp=Z,61nm,1.0s						
SOEI	**Soe**	**50.47**	**143**	P	**P**	**05 44 42.6**	**+1.3**
	comp=Z,105nm,0.8s						
SOEI	**Soe**	**50.47**	**143**	*e*P	**P**	**05 44 41.8**	**+0.5**
	comp=Z,76nm,0.8s						
AKASG	**Malin Array Be**	**50.94**	**311**	P	**P**	**05 44 43.1**	**-1.2**
	comp=Z,13nm,0.5s,baz=69,slow=7.1,SNR=23						
AKASG				LR	LR	06 07 59.3	
	comp=Z,1μm,20.0s,baz=80,slow=38						
AKBB	**Malin Array Si**	**50.94**	**311**	*e*P	**P**	**05 44 43.0**	**-1.3**
AKBB	**Malin Array Si**	**50.94**	**311**	*e*P	**P**	**05 44 43.0**	**-1.3**
AK01	**Malin Array Si**	**50.95**	**311**	*e*P	**P**	**05 44 43.2**	**-1.2**
KIEV	**Kiev**	**50.95**	**311**	*e*P	**P**	**05 44 42.8**	**-1.6**
KIEV				pmax	pmax		
	comp=Z,50nm,1.1s						
KIEV	**Kiev**	**50.95**	**311**	*e*P	**P**	**05 44 42.8**	**-1.6**
	comp=Z,50nm,1.1s						
AK02	**Malin Array Si**	**50.96**	**311**	*e*P	**P**	**05 44 43.1**	**-1.4**
CSS	**Prodhromos**	**51.28**	**290**	*e*P	**P**	**05 44 46.8**	**-0.4**
	comp=Z,5.4nm,0.8s						
MICGM	**Minsk**	**51.36**	**316**	*e*	**P**	**05 44 47.0**	**-0.4**
MNK	**Minsk**	**51.39**	**316**	*e*P	**P**	**05 44 47.0**	**-0.6**
KIS	**Kishinev**	**51.76**	**306**⇑	*i*P	**P**	**05 44 52.0**	**+1.5**
	comp=Z,200nm,1.1s						
KIS				*e*S	**S**	**05 52 11.0**	**-0.5**
KIS	**Kishinev**	**51.76**	**306**	*e*PS		05 52 20.0	
KIS				*e*LR	LR	06 02 00.0	
	comp=Z,1μm,18.0s						
KIS	**Kishinev**	**51.76**	**306**⇑	*i*P	**P**	**05 44 52.0**	**+1.5**
KIS				*e*S	**S**	**05 52 11.0**	**-0.5**
KIS				*e*PS	PS	05 52 20.0	
KIS				pmax	pmax		
	comp=Z,200nm,1.1s						
KIS				MLR	MLR		
	comp=Z,1μm,18.0s						
KIS				MLR	MLR		
	comp=Z,2μm,19.0s						
IDID	**Didziasalis**	**51.95**	**317**	*e*P	**P**	**05 44 51.4**	**-0.3**
NACGM	**Naroch**	**51.96**	**317**	*e*	**P**	**05 44 50.0**	**-1.9**
FIA1	**FINESS Array S**	**51.97**	**325**	*e*P	**P**	**05 44 50.9**	**-0.9**
FINES	**FINESS Array B**	**51.97**	**325**	P	**P**	**05 44 51.2**	**-0.6**
	comp=Z,11nm,0.8s,baz=101,slow=10,SNR=27						
FINES				LR	LR	06 08 34.8	
	comp=Z,2μm,19.1s,baz=92,slow=38						
KEV	**Kevo**	**51.99**	**336**	*e*P	**P**	**05 44 52.4**	**+0.6**
KEV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KEV	**Kevo**	**51.99**	**336**	*e*P	**P**	**05 44 52.4**	**+0.6**
	comp=Z,7.4nm,0.8s						
IIGN	**Ignalina**	**52.24**	**317**	*e*P	**P**	**05 44 53.6**	**-0.3**
IIGN				IAmb	IAmb	05 44 57.8	
	comp=Z,32nm,1.1s						
ISAL	**Salakas**	**52.27**	**318**	*e*P	**P**	**05 44 53.9**	**-0.2**
ISAL				IAmb	IAmb	05 44 57.1	
	comp=Z,20nm,0.7s						
ARCES	**ARCESS Array B**	**52.49**	**335**	P	**P**	**05 44 54.9**	**-0.7**
	comp=Z,3.2nm,0.5s,baz=86,slow=7.0,SNR=35						
ARCES				PcP	**PcP**	**05 46 05.5**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=92,slow=4.8,SNR=4.8						
ARCES				LR	LR	06 09 50.7	
	comp=Z,2μm,18.7s,baz=99,slow=39						
TIRR	**Tirgusor**	**52.54**	**303**	*e*P	**P**	**05 44 55.7**	**-0.6**
TIRR				pmax	pmax		
	comp=Z,26nm,1.1s						
TIRR	**Tirgusor**	**52.54**	**303**⇑	*i*P	**P**	**05 44 56.1**	**-0.2**
TIRR	**Tirgusor**	**52.54**	**303**	*e*P	**P**	**05 44 55.7**	**-0.6**
	comp=Z,26nm,1.1s						
CFR	**Carcaliu**	**52.58**	**304**⇑	*i*P	**P**	**05 44 55.9**	**-0.7**
TLB	**Topalu**	**52.77**	**304**⇓	*i*P	**P**	**05 44 57.6**	**-0.4**
HARR	**Harsova**	**52.83**	**304**⇓	*i*P	**P**	**05 44 58.1**	**-0.4**
PSN	**Preselentsi**	**52.87**	**302**⇓	*i*P	**P**	**05 44 59.1**	**+0.3**
MSAB	**Monastry St. A**	**53.03**	**303**⇑	*i*P	**P**	**05 45 00.2**	**+0.2**
SMPI	**Sarmi**	**53.27**	**123**	P	**P**	**05 45 03.5**	**+1.5**
	comp=Z,29nm,1.1s,comp=Z,4μm						
TESR	**Tescani**	**53.32**	**306**⇑	*i*P	**P**	**05 45 01.9**	**-0.2**
VRI	**Vrincioaia**	**53.40**	**305**⇑	*i*P	**P**	**05 45 02.8**	**+0.1**
PLOR	**Plostina**	**53.46**	**305**⇓	*i*P	**P**	**05 45 03.6**	**+0.4**
ISR	**Istrita**	**53.69**	**305**⇓	*i*P	**P**	**05 45 05.6**	**+0.7**
MLR	**Muntele Rosu**	**54.02**	**305**⇑	*i*P	**P**	**05 45 07.8**	**+0.4**
BURAR	**Bucovina Array**	**54.05**	**308**⇑	*i*P	**P**	**05 45 07.3**	**-0.3**
BUR08	**Bucovina Ar. S**	**54.05**	**308**	*e*P	**P**	**05 45 06.7**	**-0.9**
SUW	**Suwalki**	**54.16**	**316**	*e*P	**P**	**05 45 06.8**	**-1.3**
SUW				LMZ	LR	06 08 35.9	
SUW	**Suwalki**	**54.16**	**316**	*e*P	**P**	**05 45 06.9**	**-1.2**
SUW				MLR	MLR		
	comp=Z,3μm,19.7s						
DOPR	**Dopca**	**54.29**	**306**⇑	*i*P	**P**	**05 45 09.7**	**+0.4**
JMB	**Yambol**	**54.30**	**301**⇑	*i*P	**P**	**05 45 09.0**	**-0.3**
LVV	**L'vov**	**54.37**	**311**	*e*P	**P**	**05 45 10.1**	**+0.4**
LVV				*e*PPP	PPP	05 48 25.7	
LVV				*e*S	**S**	**05 52 44.7**	**-2.3**
VOIR		**54.65**	**305**⇑	*i*P	**P**	**05 45 11.7**	**-0.2**
ARG	**Arkhangelos**	**54.94**	**294**	*e*P	**P**	**05 45 15.0**	**+0.9**
ARR	**Arges**	**54.95**	**305**⇓	*i*P	**P**	**05 45 14.1**	**0.0**
ALN	**Alexandroupoli**	**55.11**	**300**	*e*P	**P**	**05 45 14.0**	**-1.2**
KWP	**Kalwaria Pacla**	**55.25**	**311**	*e*P	**P**	**05 45 15.8**	**-0.3**
KWP				LMZ	LR	06 08 47.9	
KWP	**Kalwaria Pacla**	**55.25**	**311**	*e*P	**P**	**05 45 15.8**	**-0.3**
KDZ	**Kurdzhali**	**55.36**	**301**⇑	*i*P	**P**	**05 45 17.1**	**+0.1**
SMG	**Samos**	**55.46**	**296**	*e*P	**P**	**05 45 16.5**	**-1.3**
SMTH	**Samothraki Isl**	**55.61**	**299**	*e*P	**P**	**05 45 19.0**	**+0.2**
KOLS	**Kolonicke sedl**	**55.68**	**310**	*e*P	**P**	**05 45 18.5**	**-0.7**
KOLS				pmax	pmax		
	comp=Z,15nm,1.1s						
KOLS	**Kolonicke sedl**	**55.68**	**310**	*e*P	**P**	**05 45 18.5**	**-0.7**
TRPA	**Tarpa**	**55.70**	**309**⇑	*i*P	**P**	**05 45 19.8**	**+0.5**
CHOS	**Chios island**	**55.84**	**297**	P	**P**	**05 45 19.1**	**-1.5**
CHOS	**Chios island**	**55.84**	**297**	*e*P	**P**	**05 45 20.0**	**-0.6**
CHOS	**Chios island**	**55.84**	**297**	P	**P**	**05 45 19.1**	**-1.5**
DRGR		**55.90**	**307**⇑	*i*P	**P**	**05 45 21.3**	**+0.4**
BEL	**Belsk**	**55.98**	**314**	*e*P	**P**	**05 45 20.7**	**-0.6**

BEL LMZ LR 06 10 03.4
BEL Belsk 55.98 314 *e*P **P 05 45 20.7 -0.6**
BEL MLR MLR
comp=Z,2μm,22.4s
LIA Limnos Island 56.03 299 P **P 05 45 20.3 -1.5**
LIA Limnos Island 56.03 299 *e*P **P 05 45 20.5 -1.3**
LIA Limnos Island 56.03 299 P **P 05 45 20.3 -1.5**
GZR Gura Zlata 56.21 306⇑ *i*P **P 05 45 22.4 -0.7**
STHS Stebnicka Huta 56.23 311 *e*P **P 05 45 22.5 -0.7**
STHS pmax pmax
comp=Z,12nm,0.9s
STHS Stebnicka Huta 56.23 311 *e*P **P 05 45 22.5 -0.7**
NVR Nevrokopi 56.56 301 *e*P **P 05 45 25.0 -0.7**
APE Apeiranthos 56.65 295 *e*P **P 05 45 27.0 +0.6**
VTS Vitosha 56.67 302 P **P 05 45 27.3 +0.7**
VTS Vitosha 56.67 302 P **P 05 45 27.3 +0.7**
VTS Vitosha 56.67 302⇓ *i*P **P 05 45 25.6 -1.0**
VTS Vitosha 56.67 302 P **P 05 45 27.3 +0.7**
SIRR Siria 56.73 307⇑ *i*P **P 05 45 26.7 -0.1**
OUR Ouranopolis 56.78 300 *e*P **P 05 45 26.0 -1.1**
NIE Niedzica 56.82 311 *e*P **P 05 45 27.4 +0.1**
NIE LMZ LR 06 14 57.8
NIE Niedzica 56.82 311 *e*P **P 05 45 27.5 +0.1**
NIE MLR MLR
comp=Z,1μm,17.9s
BZS Buzias 56.94 306⇑ *i*P **P 05 45 27.1 -1.1**
KECS Kecovo 56.94 310 *e*P **P 05 45 28.1 -0.1**
KECS pmax pmax
comp=Z,11nm,0.7s
KECS Kecovo 56.94 310 *e*P **P 05 45 28.1 -0.1**
OJC Ojcow 56.95 312 *e*P **P 05 45 28.2 -0.1**
OJC LMZ LR 06 10 55.0
OJC MLR MLR
comp=Z,2μm,18.4s
PAIG Paliouri 57.12 299 *e*P **P 05 45 28.0 -1.6**
PLG Polygyros 57.16 300 *e*P **P 05 45 28.0 -1.9**
NPS Neapolis 57.18 293 *e*P **P 05 45 28.0 -2.2**
KNT Kendrikon 57.31 301 *e*P **P 05 45 31.0 0.0**
LAT Lasithi 57.32 293 *e*P **P 05 45 30.0 -1.2**
HORT Hortiatis 57.34 300 *e*P **P 05 45 30.0 -1.3**
PSZ Piszkesteto 57.47 309 *e*P **P 05 45 32.1 +0.1**
PSZ pmax pmax
comp=Z,21nm,1.1s
PSZ Piszkesteto 57.47 309⇑ *i*P **P 05 45 32.8 +0.8**
PSZ Piszkesteto 57.47 309 *e*P **P 05 45 32.1 +0.1**
comp=Z,21nm,1.1s
PSZ Piszkesteto 57.47 309⇑ *e*P **P 05 45 34.2 +2.2**
MRKA Markates 57.58 298 *e*P **P 05 45 32.0 -0.9**
NEO Neokhori 57.65 299 *e*P **P 05 45 32.0 -1.4**
XOR Xorichti 57.66 299 P **P 05 45 31.1 -2.3**
XOR Xorichti 57.66 299 *e*P **P 05 45 32.0 -1.4**
XOR Xorichti 57.66 299 P **P 05 45 31.1 -2.3**
GRG Griva 57.73 301 P **P 05 45 32.5 -1.5**
GRG Griva 57.73 301 *e*P **P 05 45 32.0 -2.0**
GRG Griva 57.73 301 P **P 05 45 32.5 -1.5**
GRG Griva 57.73 301 P **P 05 45 32.5 -1.5**
GKP Gorka Klasztor 57.77 316 *e*P **P 05 45 31.6 -2.4**
GKP LMZ LR 06 11 16.4
GKP Gorka Klasztor 57.77 316 *e*P **P 05 45 31.7 -2.3**
GKP MLR MLR
comp=Z,4μm,19.0s
SMIA Simia 57.80 298 *e*P **P 05 45 35.5 +1.1**
SIVA Sivas 57.89 293 *e*P **P 05 45 34.5 -0.6**
LIT Litokhoron 57.94 300 *e*P **P 05 45 36.0 +0.6**
LKR Lokris 58.03 298 *e*P **P 05 45 36.0 0.0**
OKC Ostrava-Krasne 58.08 312 *e*P **P 05 45 36.1 -0.1**
OKC *ex* x 05 45 38.4
OKC *eS* **S 05 53 38.1 +2.0**
OKC AMS AMS 06 11 40.0
comp=Z,2μm,15.1s
OKC Ostrava-Krasne 58.08 312 *e*P **P 05 45 36.1 -0.1**
OKC *eS* **S 05 53 38.1 +2.0**
OKC MLR MLR
comp=Z,2μm,15.1s
VAM Vamos 58.22 294 *e*P **P 05 45 38.0 +0.6**
DID Didima 58.23 297 *e*P **P 05 45 37.5 0.0**
AXAR Agios Charalam 58.24 298 *e*P **P 05 45 36.0 -1.5**
LTK Loutraki 58.26 297 *e*P P 05 45 33.0 -4.7
AGG Agios Georgios 58.40 299 P **P 05 45 38.1 -0.6**
AGG Agios Georgios 58.40 299 *e*P P 05 45 33.5 -5.2
AGG Agios Georgios 58.40 299 P **P 05 45 38.1 -0.6**
AGG Agios Georgios 58.40 299 P **P 05 45 38.1 -0.6**
KARN Karanos 58.44 294 P **P 05 45 37.5 -1.4**
KARN Karanos 58.44 294 *e*P **P 05 45 37.5 -1.4**
KARN Karanos 58.44 294 P **P 05 45 37.6 -1.4**
THL Klokotos Trika 58.45 299 P **P 05 45 36.9 -2.1**
THL Klokotos Trika 58.45 299 *e*P **P 05 45 36.5 -2.5**
DSF Desfina 58.46 298 *e*P **P 05 45 37.0 -2.1**
DIVS Divibare 58.48 305 P **P 05 45 39.6 +0.4**
DIVS Divibare 58.48 305⇑ *i*P **P 05 45 38.8 -0.4**
GVD Gavdhos 58.51 293 *e*P **P 05 45 40.0 +0.6**
FNA Florina 58.52 301 *e*P **P 05 45 39.0 -0.5**
MAKR Makrakomi, Fth 58.55 299 P **P 05 45 37.5 -2.2**
MAKR Makrakomi, Fth 58.55 299 *e*P **P 05 45 37.5 -2.2**
MAKR Makrakomi, Fth 58.55 299 P **P 05 45 37.5 -2.2**
BSD Bornholm Skovb 58.65 318 *i* P **P 05 45 39.8 -0.3**
comp=Z,25nm,0.9s
BSD Bornholm Skovb 58.65 318 *i* P **P 05 45 39.8 -0.3**
BSD pmax pmax
comp=Z,25nm,0.9s
KALE Kalithea 58.75 298 *e*P **P 05 45 38.0 -3.2**
GUR Goura 58.75 297 *e*P **P 05 45 40.5 -0.7**
PKSM Moragy 58.76 308⇓ *e*P **P 05 45 40.3 -0.7**
EVR Evrytania 58.82 299 P **P 05 45 40.4 -1.3**
EVR Evrytania 58.82 299 *e*P P 05 45 37.5 -4.2
EVR Evrytania 58.82 299 P **P 05 45 40.4 -1.3**
KLV Kalavryta, Ach 58.86 298 *e*P **P 05 45 40.0 -1.9**
NEST Nestorio 58.88 300 *e*P **P 05 45 42.0 -0.1**
EFP Efpalio 58.91 298 *e*P **P 05 45 41.0 -1.2**
VLX Vlachokerasia 58.92 297 *e*P **P 05 45 40.0 -2.4**
KSP Ksiaz 58.96 313 *e*P **P 05 45 42.0 -0.3**
KSP LMZ LR 06 12 04.8
KSP Ksiaz 58.96 313 *e*P **P 05 45 42.0 -0.3**
KSP MLR MLR
comp=Z,2μm,21.5s
DPC Dobruska-Polom 59.07 313 *e*P **P 05 45 43.1 -0.1**
DPC *ex* x 05 45 45.6
DPC *eS* **S 05 53 46.9 -2.3**
DPC AMS AMS 06 12 20.0
comp=Z,2μm,18.8s
DPC Dobruska-Polom 59.07 313 *e*P **P 05 45 43.1 -0.1**
DPC *eS* **S 05 53 46.9 -2.3**
DPC MLR MLR
comp=Z,2μm,18.8s
NB2 NORSAR Subarra 59.13 326 P **P 05 45 41.7 -1.7**
comp=Z,21nm,0.9s,baz=78,slow=6.9
NB2 NORSAR Subarra 59.13 326 P **P 05 45 41.7 -1.7**
baz=78,slow=6.9
NOA NORSAR Array B 59.13 326 P **P 05 45 42.2 -1.2**
comp=Z,9.5nm,0.7s,baz=77,slow=7.0,SNR=41
NOA LR LR 06 12 47.2
comp=Z,2μm,19.8s,baz=75,slow=38
VRAC Vranov 59.20 311⇑ *i*P **P 05 45 44.6 +0.6**
DRO Drossia 59.22 298 *e*P **P 05 45 46.5 +2.1**
UPC Upice 59.22 313 *e*P **P 05 45 43.2 -0.9**
UPC *ex* x 05 45 45.6
UPC Upice 59.22 313 *e*P **P 05 45 43.2 -0.9**
DSL Palaion Diasel 59.27 299 P **P 05 45 42.4 -2.3**
DSL Palaion Diasel 59.27 299 P **P 05 45 42.4 -2.3**
ITM Ithomi 59.32 297 *e*P **P 05 45 43.0 -2.1**
NAO01 NORSAR Array S 59.34 325 *e*P **P 05 45 43.3 -1.5**
comp=Z,40nm,1.1s
AMT Artemida-Makis 59.36 297 *e*P P 05 45 36.0 -9.4
PDO Prodromos 59.39 298 P **P 05 45 43.9 -1.6**
PDO Prodromos 59.39 298 *e*P P 05 45 42.0 -3.5
PYL PYLOS 59.56 296 P P 05 45 43.4 -3.3
PYL PYLOS 59.56 296 *e*P P 05 45 43.5 -3.3
PYL PYLOS 59.56 296 P P 05 45 43.4 -3.3
IGT Igoumenitsa 59.69 300 *e*P **P 05 45 45.0 -2.6**
LKD2 Lefkada island 59.71 299 *e*P P 05 45 44.5 -3.2
TREC Trest 59.89 312 *e*P **P 05 45 49.0 +0.2**
TREC *ex* x 05 45 51.3
TREC AMS AMS 06 13 40.0
comp=Z,2μm,14.8s
TREC Trest 59.89 312 *e*P **P 05 45 49.0 +0.2**
TREC MLR MLR
comp=Z,2μm,14.8s
VLS Valsamata 59.97 298 *e*P P 05 45 46.0 -3.5
RUE Ruedersdorf 60.00 316 *e*P **P 05 45 48.8 -0.7**
comp=Z,39nm,0.9s
CONA Conrad Observa 60.07 310⇑ *i*P **P 05 45 49.8 -0.3**
comp=Z,38nm,0.9s,SNR=30
PVCC Panska Ves 60.10 313 *e*P **P 05 45 49.9 -0.3**
PVCC *ex* x 05 45 52.1
PVCC AMS AMS 06 13 10.0
comp=Z,2μm,14.3s
PVCC Panska Ves 60.10 313 *e*P **P 05 45 49.9 -0.3**
PVCC MLR MLR
comp=Z,2μm,14.3s
GOPC GO Pecny, Ondr 60.15 313 *e*P **P 05 45 49.9 -0.6**
GOPC *ex* x 05 45 52.5
GOPC AMS AMS 06 13 00.0
comp=Z,2μm,20.9s
KONO Kongsberg 60.26 324 *e*P **P 05 45 50.2 -0.9**
KONO pmax pmax
comp=Z,26nm,1.0s
KONO Kongsberg 60.26 324 *e*P **P 05 45 50.2 -0.9**
comp=Z,26nm,1.0s
PRU Pruhonice 60.27 313 *e*P **P 05 45 51.1 -0.3**
PRU *ex* x 05 45 53.6
PRU *eS* **S 05 54 04.5 -0.1**
PRU AMS AMS 06 13 00.0
comp=Z,2μm,19.2s
PRU Pruhonice 60.27 313 *e*P **P 05 45 51.1 -0.3**
PRU *eS* **S 05 54 04.5 -0.1**
PRU MLR MLR
comp=Z,2μm,19.2s
PRA Prague 60.32 313 *e*P **P 05 45 51.1 -0.6**
PRA *ex* x 05 45 53.9
PRA Prague 60.32 313 *e*P **P 05 45 51.1 -0.6**
BRG Berggiesshubel 60.38 314 *e*P **P 05 45 51.8 -0.3**
comp=Z,9.7nm,0.7s
BRG S **S 05 54 11.0 +5.2**
comp=N,2μm,16.2s
comp=E,2μm,18.0s
comp=Z,2μm,18.0s
BRG Berggiesshubel 60.38 314 *e*P **P 05 45 51.6 -0.5**
comp=Z,30nm,0.9s
BRG Berggiesshubel 60.38 314 *e*P **P 05 45 51.8 -0.3**
BRG S **S 05 54 11.0 +5.2**
BRG pmax pmax
comp=Z,7.0nm,0.7s
BRG MLR MLR
comp=N,10μm,16.2s
BRG MLR MLR
comp=E,2μm,18.0s
BRG MLR MLR
comp=Z,2μm,18.0s
GROS Grobnik 60.76 309 *i* P **P 05 45 53.9 -1.0**
CLL Collm 60.81 314 *e*P **P 05 45 54.2 -0.8**
comp=Z,36nm,1.2s
CLL Collm 60.81 314 *i* P **P 05 45 54.2 -0.8**
comp=Z,7.0nm,0.9s
CLL *i* Pmax 05 45 56.4
comp=Z,36nm,1.2s
CLL *eSS* SS 05 58 19.0 +9.2
CLL LmH 06 09 00.0
comp=N,4μm,19.9s
CLL LmH 06 09 00.0
comp=E,2μm,20.5s
CLL Collm 60.81 314 *i* P **P 05 45 54.2 -0.8**
CLL pmax pmax
comp=Z,7.0nm,0.9s
CRES Cresnjev 60.99 308 *e*P **P 05 45 57.2 +0.8**
SOKA Soboth 60.99 309 *i* P **P 05 45 56.0 -0.5**
comp=Z,31nm,1.1s,SNR=20
KHC Kasperske Hory 61.13 312 *e*P **P 05 45 57.2 -0.1**
KHC *ex* x 05 45 59.1
KHC *eS* **S 05 54 17.9 +2.2**
KHC AMS AMS 06 13 30.0
comp=Z,2μm,15.5s
KHC Kasperske Hory 61.13 312 *e*P **P 05 45 56.9 -0.5**
KHC pmax pmax
comp=Z,9.0nm,1.3s
KHC Kasperske Hory 61.13 312 *e*P **P 05 45 56.9 -0.5**
comp=Z,8.8nm,1.3s
GEC2 GERESS Array S 61.15 312 *e*P **P 05 45 57.1 -0.4**
comp=Z,23nm,1.0s
GERES GERESS Array B 61.15 312 P **P 05 45 56.9 -0.6**
comp=Z,9.1nm,0.8s,baz=64,slow=6.4,SNR=33
GERES LR LR 06 13 48.2
comp=Z,2μm,20.0s,baz=70,slow=37
BOJS Bojanci 61.23 308 *i* P **P 05 45 59.0 +1.0**
MUD Monsted U'grnd 61.40 321 *i* P **P 05 46 00.5 +1.6**
comp=Z,55nm,1.3s
MUD Monsted U'grnd 61.40 321 *e*P **P 05 46 00.5 +1.6**
MUD pmax pmax
comp=Z,55nm,1.3s
TANN Tannenbergstha 61.41 314 *e*P **P 05 45 58.8 -0.4**
comp=Z,18nm,0.9s
NKC Novy Kostel 61.48 313 *e*P **P 05 45 59.0 -0.6**
NKC *ex* x 05 46 01.6
NKC AMS AMS 06 13 30.0
comp=Z,1μm,17.8s
NKC Novy Kostel 61.48 313 *e*P **P 05 45 59.0 -0.6**
NKC MLR MLR
comp=Z,1μm,17.8s
WET Wettzell 61.57 312 *e*P **P 05 46 00.0 -0.2**
comp=Z,20nm,1.1s
ROTZ Rotzenmuhle 61.78 313 *e*P **P 05 46 01.6 0.0**
comp=Z,50nm,1.1s
MOX Moxa 61.85 314 *e*P **P 05 46 01.6 -0.5**
comp=Z,33nm,1.3s
MOX *eL* L 06 10 29.8
comp=N,3μm,19.6s
KBA Koelnbreinsper 61.95 310⇓ *i*P **P 05 46 02.2 -0.8**
comp=N,22nm,1.1s
RJOB Jochberg 62.08 311 *e*P **P 05 46 03.5 -0.3**
comp=Z,36nm,1.4s
NRDL Niedersach Rie 62.14 316 *e*P **P 05 46 04.0 +0.1**
comp=Z,49nm,1.0s
TRI Trieste 62.15 308 P **P 05 46 03.5 -0.7**
TRI pmax pmax
comp=Z,30nm,0.8s
TRI Trieste 62.15 308 P **P 05 46 03.5 -0.7**
comp=Z,30nm,0.8s
CLZ Clausthal 62.20 316 *e*P **P 05 46 04.4 0.0**
comp=Z,68nm,1.0s
GRF Grafenberg Arr 62.41 313 *e*P **P 05 46 05.7 -0.2**
comp=Z,46nm,0.9s
GRF *eL* L 06 10 47.9
comp=N,4μm,19.1s
GRFO Grafenberg 62.41 313 *e*P **P 05 46 05.2 -0.6**
GRFO pmax pmax
comp=Z,65nm,1.2s
GRFO Grafenberg 62.41 313 *e*P **P 05 46 05.2 -0.6**
comp=Z,65nm,1.2s
ABTA Abfaltersbach 62.60 310⇓ *i*P **P 05 46 05.7 -1.6**
comp=Z,15nm,0.9s,SNR=7.0
FUR Furstenfeldbru 62.90 311 *e*P **P 05 46 09.2 0.0**
comp=Z,82nm,0.9s
WTTA Wattenberg 62.98 310 *i* P **P 05 46 09.2 -0.8**
comp=Z,34nm,0.9s,SNR=18
WATA Walderalm 63.00 311⇑ *i*P **P 05 46 10.0 0.0**
comp=Z,15nm,0.8s,SNR=14
MOTA Moosalm 63.30 311⇑ *i*P **P 05 46 10.1 -1.9**
comp=Z,44nm,1.1s,SNR=14
CEL Celeste 63.38 300 *e*P **P 05 46 12.0 -0.6**
comp=Z,56nm,0.9s
RETA Reutte 63.46 311⇓ *i*P **P 05 46 12.4 -0.6**
comp=Z,32nm,1.0s,SNR=11
IBBN Ibbenburen 63.55 317 *e*P **P 05 46 14.1 +0.7**
comp=Z,47nm,1.2s
AQU L'Aquila 63.60 305 P **P 05 46 13.5 -0.4**
AQU pmax pmax
comp=Z,39nm,0.9s
AQU L'Aquila 63.60 305 P **P 05 46 13.5 -0.4**
comp=Z,39nm,0.9s
FETA Feichten 63.65 310 *i* P **P 05 46 13.4 -1.0**
comp=Z,33nm,0.9s,SNR=27
TNS Taunus Mts 63.90 314 *e*P **P 05 46 15.3 -0.5**
comp=Z,29nm,1.2s
ALE Alert 63.94 357 P **P 05 46 17.6 +2.1**
comp=Z,60nm,1.1s,SNR=7.0
STU Stuttgart 63.97 313 *e*P **P 05 46 17.6 +1.4**
comp=Z,32nm,0.9s
STU Stuttgart 63.97 313 *e*P **P 05 46 15.1 -1.1**
STU pmax pmax
comp=Z,32nm,0.9s
STU Stuttgart 63.97 313 *e*P **P 05 46 15.1 -1.1**
comp=Z,32nm,0.9s
BUG Bochum--Univer 64.15 316 *e*P **P 05 46 17.0 -0.3**
comp=Z,32nm,1.1s
WRAB Tennant Creek 64.25 140 P **P 05 46 17.2 -1.2**
comp=Z,286nm,0.8s,SNR=11
WRAB Tennant Creek 64.25 140 *ce*P **P 05 46 18.0 -0.4**
WRAB Tennant Creek 64.25 140 *e*P **P 05 46 17.6 -0.8**
comp=Z,38nm,0.8s
WRAB *e*PcP **PcP 05 46 55.0 +2.0**
WRA Warramunga Arr 64.26 140 P **P 05 46 17.5 -0.9**
comp=Z,28nm,0.9s,baz=320,slow=8.9,SNR=76
WRA PKP2bc 06 15 12.8
comp=Z,1.6nm,1.0s,baz=158,slow=1.8,SNR=6.1
WRA LR LR 06 16 21.9
comp=Z,707nm,21.9s,baz=325,slow=38
PMG Port Moresby 64.42 122 *ce*P **P 05 46 20.6 +1.0**
PMG Port Moresby 64.42 122 *e*P **P 05 46 20.5 +1.0**
comp=Z,39nm,0.8s
BFO Black Forest 64.67 312 P **P 05 46 20.7 -0.2**
comp=Z,163nm,0.9s,SNR=9.0
BFO Black Forest 64.67 312 *e*P **P 05 46 20.1 -0.8**
comp=Z,36nm,1.1s
BFO Black Forest 64.67 312 *e*P **P 05 46 19.8 -1.0**
BFO pmax pmax
comp=Z,36nm,1.1s
BFO Black Forest 64.67 312 *e*P **P 05 46 19.8 -1.0**
comp=Z,36nm,1.1s
TUE Stuetta 64.74 310 *e*P **P 05 46 20.6 -1.0**
comp=Z,24nm,0.6s
LANF Langenberg 64.75 313 *e*P **P 05 46 23.0 +1.7**
KMBO Kilima Mbogo 65.08 251 P **P 05 46 23.8 -0.4**
comp=Z,17nm,0.8s,baz=50,slow=12,SNR=3.1
KMBO LR LR 06 14 40.7
comp=Z,584nm,18.6s,baz=42,slow=36
MEM Membach 65.20 315 P **P 05 46 26.3 +2.1**
comp=Z,14nm,1.3s
ECH Echery 65.44 313⇑ *e*P **P 05 46 27.2 +1.4**
ECH Echery 65.44 313 *e*P **P 05 46 25.0 -0.8**
ECH pmax pmax
comp=Z,22nm,1.1s
ECH Echery 65.44 313 *e*P **P 05 46 25.0 -0.8**
comp=Z,22nm,1.1s
WLF Walferdange 65.48 314 P **P 05 46 28.3 +2.3**
comp=Z,48nm,1.3s
WLF Walferdange 65.48 314 *e*P **P 05 46 26.2 +0.1**
comp=Z,80nm,1.1s
WLF Walferdange 65.48 314 *e*P **P 05 46 27.9 +1.8**
WLF pmax pmax
comp=Z,67nm,0.9s
WLF Walferdange 65.48 314 *e*P **P 05 46 27.9 +1.8**
comp=Z,67nm,0.9s
MOF Molkenrain 65.60 312 *e*P **P 05 46 25.5 -1.5**
BCLA Clavier 65.69 315 P **P 05 46 27.3 -0.1**
comp=Z,15nm,1.5s
LOMF Lomont 65.98 312⇑ *e*P **P 05 46 30.0 +0.5**
THEF They Montfort 66.15 313 *e*P **P 05 46 32.0 +1.6**
DOU Dourbes 66.23 315 P **P 05 46 32.8 +1.9**
comp=Z,9.1nm,1.1s
SNF Seneffe 66.25 316 P **P 05 46 32.8 +1.9**
OG01 Vacheresse 66.49 311 *e*P **P 05 46 34.3 +1.6**
SAOF Saorge 66.89 308⇑ *e*P **P 05 46 36.9 +1.7**
AUTN L'Aution 66.97 308⇑ *e*P P 05 46 39.4 +3.4
BNI Bardonecchia 67.02 310 *e*P **P 05 46 35.2 -1.0**
BNI pmax pmax
comp=Z,23nm,0.8s
BNI Bardonecchia 67.02 310 *e*P **P 05 46 35.2 -1.0**
comp=Z,23nm,0.8s
TOUF Mont Tournerai 67.08 308⇑ *e*P **P 05 46 38.2 +1.6**
AS31 Alice Springs 67.08 142 *e*P **P 05 46 36.1 -0.5**
ASAR Alice Springs 67.08 142 P **P 05 46 35.8 -0.8**
comp=Z,17nm,0.7s,baz=326,slow=6.4,SNR=78
ASAR PKP2bc 06 15 05.0
comp=Z,1.0nm,0.9s,baz=139,slow=3.3,SNR=7.4
ASAR LR LR 06 18 03.7
comp=Z,415nm,20.8s,baz=304,slow=38
MVIF Mont Vial 67.19 308⇑ *e*P P 05 46 31.5 -5.8
IM04 Indian Mountai 67.60 25 *e*P **P 05 46 40.0 +0.6**
COLD Coldfoot 68.11 23 *e*P **P 05 46 43.6 +1.0**
comp=Z,9.6nm,0.9s
ESK Eskdalemuir 68.27 323 *e*P **P 05 46 42.8 -0.9**
ESK pmax pmax
comp=Z,31nm,1.1s
ESK Eskdalemuir 68.27 323 *e*P **P 05 46 42.8 -0.9**
comp=Z,31nm,1.1s
PLDF La Plantade 68.57 312 *e*P **P 05 46 44.9 -1.0**
PYM Petit Puy Mans 69.05 312 *e*P **P 05 46 49.3 +0.4**
LBL Lubilhac 69.13 311⇑ *e*P **P 05 46 49.3 -0.1**
KEST Kesra 69.19 300 P **P 05 46 49.0 -1.0**
comp=Z,5.9nm,0.9s,baz=312,slow=4.2,SNR=10.0
KEST LR LR 06 23 07.0
comp=Z,228nm,18.2s,baz=355,slow=41
KEST Kesra 69.19 300 *e*P **P 05 46 49.5 -0.5**
BPAW Bear Paw Mtn. 69.62 26 *e*P **P 05 46 52.1 +0.1**
comp=Z,7.4nm,1.3s
PPLA Purkeypile 69.85 27 *e*P **P 05 46 53.5 -0.1**
comp=Z,130nm,1.3s
SUMG Summit 69.89 347 *i* P **P 05 46 54.4 +0.4**
comp=Z,20nm,1.1s
SUMG Summit 69.89 347 *i* P **P 05 46 54.4 +0.4**
SUMG pmax pmax
comp=Z,20nm,1.1s
SUMG Summit 69.89 347 *e*P **P 05 46 52.9 -1.1**
comp=Z,26nm,1.3s
KTH Kantishna Hill 69.95 26 *e*P **P 05 46 55.1 +1.0**
comp=Z,52nm,1.4s
TRF Thorofare Moun 70.25 26 *e*P **P 05 46 56.2 +0.2**
comp=Z,13nm,1.3s
TRF *e*PP **PP 05 49 28.2 -2.8**
COLA College 70.27 24 *e*P **P 05 46 55.3 -0.6**
COLA pmax pmax
comp=Z,12nm,0.9s
COLA College 70.27 24 *e*P **P 05 46 55.3 -0.6**
comp=Z,12nm,0.9s
ILAR Eielson Array 70.66 24 P **P 05 46 56.5 -1.8**
comp=Z,3.6nm,1.0s,baz=295,slow=4.3,SNR=26
ILAR PP **PP 05 49 31.6 -2.7**
comp=Z,1.9nm,1.1s,baz=295,slow=7.2,SNR=4.0
ILAR LR LR 06 20 51.2
comp=Z,1μm,18.4s,baz=334,slow=38
DSB Dublin 70.90 322 *e*P **P 05 47 00.6 +0.7**
comp=Z,12nm,1.0s
VALF Valcebollere 71.22 309⇑ *e*P **P 05 47 03.5 +1.2**
CTAO Charters Tower 71.41 131 *e*P **P 05 47 03.4 -0.1**
CTAO pmax pmax
comp=Z,19nm,0.8s
CTAO Charters Tower 71.41 131 *e*P **P 05 47 03.4 -0.1**
comp=Z,20nm,0.8s
MLS Moulis 71.55 310⇑ *e*P **P 05 47 04.8 +0.6**
RC01 Rabbit Creek A 71.84 28 *e*P **P 05 47 05.2 -0.4**
comp=Z,26nm,1.0s
RESF Ens 72.11 310⇑ *e*P **P 05 47 09.9 +2.2**
INK Inuvik 72.19 17 *e*P **P 05 47 07.3 -0.1**
INK pmax pmax
comp=Z,7.0nm,0.6s
INK Inuvik 72.19 17 *e*P **P 05 47 07.3 -0.1**
comp=Z,7.0nm,0.6s
VIEF Viey 72.28 310⇑ *e*P **P 05 47 10.6 +2.0**
EGAK Eagle 72.53 22 *e*P **P 05 47 09.6 0.0**
comp=Z,9.1nm,1.0s
SEW Seward 72.55 29 *e*P **P 05 47 08.9 -0.8**
comp=Z,36nm,1.3s
KDAK Kodiak Island 72.60 32 P **P 05 47 08.0 -2.1**
comp=Z,156nm,1.0s,SNR=5.5
KDAK Kodiak Island 72.60 32 *e*P **P 05 47 10.2 +0.1**
KDAK pmax pmax
comp=Z,61nm,1.3s
KDAK Kodiak Island 72.60 32 *e*P **P 05 47 10.2 +0.1**
comp=Z,61nm,1.3s
OHAK Old Harbor 72.61 32 *e*P **P 05 47 09.9 -0.3**
comp=Z,34nm,1.0s
DAWY Dawson 73.58 22 *e*P **P 05 47 15.6 -0.3**
comp=Z,6.7nm,1.0s
ILULI Ilulissat 75.00 348 *i* P **P 05 47 24.1 +0.2**
comp=Z,13nm,0.8s
ESDC Sonseca Array 76.50 309 P **P 05 47 31.5 -1.7**
comp=Z,7.8nm,0.9s,baz=50,slow=6.2,SNR=23
ESDC LR LR 06 26 38.6
comp=Z,415nm,18.2s,baz=45,slow=40
ESLA Sonseca Array 76.50 309 *e*P **P 05 47 34.2 +1.1**
comp=Z,5.1nm,1.3s
SFJD Kangerlussuaq 76.88 347 *i* P **P 05 47 34.9 +0.2**
comp=Z,24nm,1.1s
SFJD Kangerlussuaq 76.88 347 *i* P **P 05 47 34.9 +0.2**
SFJD pmax pmax
comp=Z,24nm,1.1s
SFJD Kangerlussuaq 76.88 347 *e*P **P 05 47 34.9 +0.2**
comp=Z,26nm,1.0s
PBRG Braganca 77.13 312 *e*P **P 05 47 36.5 -0.2**
comp=Z,24nm,1.5s
PBRG Braganca 77.13 312 *e*P **P 05 47 36.5 -0.2**
comp=Z,24nm,1.5s
MVO Moncorvo 77.66 311 *e*P **P 05 47 39.7 0.0**
comp=Z,31nm,0.9s
MVO Moncorvo 77.66 311 *e*P **P 05 47 39.7 0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,31nm,0.9s						
STKA	**Stephens Creek**	**77.70**	**142**	P	**P**	**05 47 39.0**	**-0.7**
	comp=Z,13nm,0.8s,baz=324,slow=6.7,SNR=20						
STKA				LR	LR	06 24 36.8	
	comp=Z,452nm,21.9s,baz=301,slow=38						
STKA	**Stephens Creek**	**77.70**	**142**	P	**P**	**05 47 39.0**	**-0.7**
STKA				pmax	pmax		
	comp=Z,13nm,0.8s						
STKA				MLR	MLR		
	comp=Z,452nm,21.9s						
STKA	**Stephens Creek**	**77.70**	**142**	*e*P	**P**	**05 47 39.8**	**+0.1**
	comp=Z,3.1nm,0.9s						
PCAB	**Cabril**	**77.98**	**312**	*e*P	**P**	**05 47 43.8**	**+2.4**
	comp=Z,42nm,1.3s						
PCAB	**Cabril**	**77.98**	**312**	*e*P	**P**	**05 47 43.8**	**+2.4**
	comp=Z,42nm,1.3s						
PGAV	**Gavieira, Arco**	**77.99**	**312**	*e*P	**P**	**05 47 41.6**	**0.0**
	comp=Z,42nm,1.2s						
PGAV	**Gavieira, Arco**	**77.99**	**312**	*e*P	**P**	**05 47 41.6**	**0.0**
	comp=Z,42nm,1.2s						
TAM	**Tamanrasset**	**78.38**	**290**	P	**P**	**05 47 43.9**	**-0.2**
TAM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TAM	**Tamanrasset**	**78.38**	**290**	P	**P**	**05 47 43.9**	**-0.2**
	comp=Z,2.3nm,0.8s						
MTE	**Manteigas**	**78.41**	**311**	*e*P	**P**	**05 47 44.1**	**+0.2**
	comp=Z,37nm,1.2s						
MTE	**Manteigas**	**78.41**	**311**	*e*P	**P**	**05 47 44.1**	**+0.2**
	comp=Z,37nm,1.2s						
PVIS	**Viseu**	**78.46**	**311**	*e*P	**P**	**05 47 44.2**	**+0.1**
	comp=Z,36nm,1.3s						
PVIS	**Viseu**	**78.46**	**311**	*e*P	**P**	**05 47 44.2**	**+0.1**
	comp=Z,36nm,1.3s						
PCBR	**Castelo Branco**	**78.68**	**310**	*e*P	**P**	**05 47 47.5**	**+2.2**
	comp=Z,26nm,1.3s						
PCBR	**Castelo Branco**	**78.68**	**310**	*e*P	**P**	**05 47 47.5**	**+2.2**
	comp=Z,26nm,1.3s						
PMRV	**Marv??o**	**78.85**	**310**	*e*P	**P**	**05 47 48.0**	**+1.7**
	comp=Z,34nm,1.3s						
PMRV	**Marv??o**	**78.85**	**310**	*e*P	**P**	**05 47 48.0**	**+1.7**
	comp=Z,34nm,1.3s						
PESTR	**Estremoz**	**79.30**	**310**	*e*P	**P**	**05 47 50.9**	**+2.2**
	comp=Z,21nm,1.2s						
PESTR	**Estremoz**	**79.30**	**310**	*e*P	**P**	**05 47 50.9**	**+2.2**
	comp=Z,21nm,1.2s						
PBAR	**Barrancos**	**79.32**	**309**	*e*P	**P**	**05 47 49.8**	**+1.0**
	comp=Z,72nm,1.3s						
PBAR	**Barrancos**	**79.32**	**309**	*e*P	**P**	**05 47 49.8**	**+1.0**
	comp=Z,72nm,1.3s						
PTOM	**Tomar**	**79.40**	**310**	*e*P	**P**	**05 47 51.5**	**+2.3**
	comp=Z,46nm,1.3s						
PTOM	**Tomar**	**79.40**	**310**	*e*P	**P**	**05 47 51.5**	**+2.3**
	comp=Z,46nm,1.3s						
PMTG	**Montargil**	**79.59**	**310**	*e*P	**P**	**05 47 51.9**	**+1.6**
PMTG	**Montargil**	**79.59**	**310**	*e*P	**P**	**05 47 51.9**	**+1.6**
EVO	**Evora**	**79.76**	**309**	*e*P	**P**	**05 47 51.1**	**-0.1**
	comp=Z,38nm,1.3s						
EVO	**Evora**	**79.76**	**309**	*e*P	**P**	**05 47 51.1**	**-0.1**
	comp=Z,38nm,1.3s						
PVAQ	**Vaqueiros**	**80.20**	**308**	*e*P	**P**	**05 47 55.3**	**+1.7**
PVAQ	**Vaqueiros**	**80.20**	**308**	*e*P	**P**	**05 47 55.3**	**+1.7**
MESJ	**Messejana**	**80.28**	**309**	*e*P	**P**	**05 47 53.7**	**-0.3**
MESJ				AMS	AMS	06 23 17.3	
	comp=Z,682nm,16.9s						
MESJ	**Messejana**	**80.28**	**309**	*e*P	**P**	**05 47 53.7**	**-0.3**
MESJ	**Messejana**	**80.28**	**309**	*e*P	**P**	**05 47 55.7**	**+1.7**
MESJ	**Messejana**	**80.28**	**309**	*e*P	**P**	**05 47 55.7**	**+1.7**
PCVE	**Castro Verde**	**80.28**	**309**	*e*P	**P**	**05 47 56.7**	**+2.6**
PCVE	**Castro Verde**	**80.28**	**309**	*e*P	**P**	**05 47 56.7**	**+2.6**
PNCL	**Nicolau / Gran**	**80.33**	**309**	*e*P	**P**	**05 47 56.8**	**+2.5**
PNCL	**Nicolau / Gran**	**80.33**	**309**	*e*P	**P**	**05 47 56.8**	**+2.5**
DLBC	**Dease Lake**	**80.80**	**23**	LR	LR	06 26 03.7	
	comp=Z,1μm,19.8s,baz=324,slow=37						
LSZ	**Lusaka**	**80.81**	**245**	*e*P	**P**	**05 47 56.8**	**-0.5**
LSZ				pmax	pmax		
	comp=Z,15nm,0.6s						
LSZ	**Lusaka**	**80.81**	**245**	*e*P	**P**	**05 47 56.8**	**-0.5**
	comp=Z,15nm,0.6s						
MORF	**Marmelete**	**80.87**	**309**	*e*S	**S**	**05 58 05.5**	**+0.6**
MORF				AMS	AMS	06 23 48.3	
	comp=N,1μm,23.9s						
MORF	**Marmelete**	**80.87**	**309**	*e*P	**P**	**05 48 00.1**	**+2.8**
MORF	**Marmelete**	**80.87**	**309**	*e*P	**P**	**05 48 00.1**	**+2.8**
PFVI	**Vila Bisbo**	**81.08**	**309**	*e*P	**P**	**05 47 59.9**	**+1.6**
PFVI	**Vila Bisbo**	**81.08**	**309**	*e*P	**P**	**05 47 59.9**	**+1.6**
YKA	**Yellowknife Ar**	**81.38**	**14**	P	**P**	**05 47 57.8**	**-1.6**
	comp=N,6.0nm,0.9s,baz=336,slow=5.2,SNR=20						
BBB	**Bella Bella**	**86.47**	**26**	LR	LR	06 31 30.4	
	comp=N,586nm,18.6s,baz=326,slow=39						
TOA0	**Torodi Ar. Sit**	**86.59**	**283**	*e*P	**P**	**05 48 26.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**86.59**	**283**	P	**P**	**05 48 25.3**	**-1.5**
	comp=N,6.6nm,0.9s,baz=65,slow=3.8,SNR=28						
TORD				PP	**PP**	**05 51 45.8**	**-2.8**
	comp=N,2.1nm,1.0s,baz=48,slow=6.5,SNR=4.4						
TORD				LR	LR	06 31 08.0	
	comp=N,771nm,18.4s,baz=50,slow=38						
DZM	**Mont Dzumac**	**86.66**	**119**	*e*LR	LR	06 15 54.1	
	comp=N,533nm,22.8s						
FCC	**Fort Churchill**	**87.89**	**5**	*e*P	**P**	**05 48 30.9**	**-1.4**
FCC				pmax	pmax		
	comp=Z,17nm,1.2s						
FCC	**Fort Churchill**	**87.89**	**5**	*e*P	**P**	**05 48 30.9**	**-1.4**
	comp=Z,17nm,1.2s						
LBTB	**Lobatse**	**88.70**	**239**	*e*P	**P**	**05 48 36.5**	**-0.3**
LBTB				pmax	pmax		
	comp=Z,12nm,0.8s						
LBTB	**Lobatse**	**88.70**	**239**	*e*P	**P**	**05 48 36.5**	**-0.3**
	comp=Z,12nm,0.8s						
EDM	**Edmonton**	**90.09**	**17**	*e*P	**P**	**05 48 42.5**	**-0.4**
EDM				pmax	pmax		
	comp=Z,30nm,1.1s						
EDM	**Edmonton**	**90.09**	**17**	*e*P	**P**	**05 48 42.5**	**-0.4**
	comp=Z,30nm,1.1s						
FFC	**Flin Flon**	**90.94**	**10**	P	**P**	**05 48 45.9**	**-0.9**
	comp=Z,69nm,1.2s,SNR=7.3						
FFC	**Flin Flon**	**90.94**	**10**	*e*P	**P**	**05 48 45.5**	**-1.3**
FFC				pmax	pmax		
	comp=Z,11nm,1.0s						
FFC	**Flin Flon**	**90.94**	**10**	*e*P	**P**	**05 48 45.5**	**-1.3**
	comp=Z,11nm,1.0s						
SCHQ	**Schefferville**	**91.02**	**350**	P	**P**	**05 48 46.0**	**-1.1**
	comp=Z,3.3nm,0.8s,baz=33,slow=8.7,SNR=3.7						
SCHQ				LR	LR	06 31 55.3	
	comp=Z,656nm,20.3s,baz=12,slow=37						
BOSA	**Boshof**	**91.14**	**236**	P	**P**	**05 48 46.9**	**-1.2**
	comp=Z,4.2nm,0.9s,baz=55,slow=12,SNR=3.2						
BOSA				LR	LR	06 27 07.8	
	comp=Z,969nm,20.9s,baz=46,slow=34						
NEW	**Newport**	**93.50**	**22**	P	**P**	**05 48 59.1**	**+0.3**
	baz=93						
SWMT	**Swartz Lake**	**95.11**	**20**	*e*P	**P**	**05 49 06.9**	**+0.6**
	comp=Z,4.0nm,1.2s						
A19A	**Klindworth Far**	**95.17**	**16**	P	**P**	**05 49 07.0**	**+0.5**
	baz=95						
DBIC	**Dimbokro**	**95.53**	**282**	LR	LR	06 36 09.3	
	comp=Z,805nm,20.0s,baz=32,slow=38						
B19A	**Brinkman Farms**	**95.56**	**17**	P	**P**	**05 49 09.2**	**+1.0**
	baz=95						
MSO	**Missoula**	**95.74**	**20**	P	**P**	**05 49 09.6**	**+0.4**
	baz=95						
EGMT	**Eagleton**	**95.77**	**17**	P	**P**	**05 49 09.5**	**+0.2**
	baz=95						
B20A	**Solberg Farm,**	**95.80**	**16**	P	**P**	**05 49 09.4**	**+0.1**
	baz=95						
A23A	**Redstone**	**95.98**	**14**	P	**P**	**05 49 09.3**	**-0.8**
	baz=96						
A26A	**Wade Farm, Ken**	**96.57**	**12**	P	**P**	**05 49 12.6**	**-0.2**
	baz=96						
A29A	**Manning Farm,**	**97.00**	**10**	P	**P**	**05 49 13.8**	**-0.8**
	baz=97						
A30A	**Hoffart Farm,**	**97.11**	**10**	P	Pdif	05 49 15.5	+0.2
	baz=97						
D22A	**Cohagen**	**97.42**	**15**	P	Pdif	05 49 17.5	+0.7
	baz=97						
D30A	**Buchanan**	**98.84**	**10**	P	**P**	**05 49 22.1**	**-0.9**
	baz=98						
NVAR	**Mina Array Bea**	**101.76**	**27**	P	**Pdif**	**05 49 36.0**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=36,slow=3.4,SNR=2.9						
NVAR				PP	**PP**	**05 53 43.3**	**-2.8**
	comp=Z,0.9nm,1.0s,baz=320,slow=6.6,SNR=4.1						
DRV	**Dumont d'Urvil**	**105.10**	**163**	R		05 53 00.0	
DRV				L	L	06 20 00.0	
DRV				R		06 27 00.0	
TXAR	**Lajitas Array**	**114.93**	**19**	PKP	PKPdf	05 54 23.4	-1.0
	comp=Z,0.4nm,0.8s,baz=29,slow=2.1,SNR=3.8						
VNDA	**Vanda**	**117.28**	**167**	PKP	**PKPdf**	**05 54 26.2**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=222,slow=6.3,SNR=3.2						
PPT2	**Papeete2**	**119.47**	**92**	*e*LR	LR	06 31 10.0	
	comp=Z,758nm,25.8s						
TBI	**Tubuai**	**122.19**	**98**	*e*LR	LR	06 32 17.6	
	comp=Z,389nm,24.2s						
RKT	**Rikitea**	**134.17**	**91**	*e*LR	LR	06 37 55.4	
	comp=Z,529nm,29.2s						
ROSC	**El Rosal**	**141.00**	**345**	PKhKP	PKPpre	05 55 10.0	
	comp=Z,12nm,0.9s,baz=97,slow=19,SNR=6.7						
ROSC	**El Rosal**	**141.00**	**345**	*e*PKPdf	PKPpre	05 55 09.5	
ROSC				PKPpre	PKPpre	05 55 10.0	
BDFB	**Brasilia**	**143.22**	**290**	PKhKP	PKPpre	05 55 13.9	
	comp=Z,4.2nm,0.8s,baz=45,slow=5.1,SNR=4.8						
OTAV	**Otavalo**	**146.26**	**350**	*e*PKPdf	**PKPdf**	**05 55 23.6**	**-0.2**
SAML	**Samuel**	**149.19**	**317**	*e*PKPdf	**PKPdf**	**05 55 28.4**	**+0.5**
SIV	**San Ignacio**	**153.19**	**304**	PKP	**PKPdf**	**05 55 30.8**	**-3.3**
	comp=Z,1.2nm,0.8s,baz=36,slow=8.7,SNR=2.5						
SIV				PKPbc	**PKiKP**	**05 55 41.7**	**+0.1**
	comp=Z,5.5nm,0.9s,baz=89,slow=3.8,SNR=10.0						
ATAH	**Atahualpa**	**153.49**	**348**	PKPbc	**PKPbc**	**05 55 42.4**	**-0.3**
	comp=Z,4.8nm,0.8s,baz=23,slow=6.9,SNR=3.9						
ATAH				PKPab	**PKPab**	**05 55 55.5**	**+0.7**
	comp=Z,9.2nm,0.9s,baz=299,slow=3.3,SNR=3.9						
LPAZ	**La Paz**	**157.93**	**316**	PKP	**PKPdf**	**05 55 41.0**	**-0.1**
	comp=Z,4.0nm,1.1s,baz=13,slow=8.1,SNR=8.7						
LVC	**Limon Verde**	**163.09**	**305**	PKPab	**PKPab**	**05 56 37.2**	**+1.2**
	comp=Z,26nm,1.1s,baz=54,slow=4.5,SNR=3.1						
CFAA	**Coronel Fontan**	**166.74**	**273**	PKP	**PKPdf**	**05 55 48.7**	**-0.1**
	comp=Z,0.7nm,1.0s,baz=3.5,slow=19,SNR=8.3						
CFAA				PKPab	**PKPab**	**05 56 50.7**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=54,slow=3.9,SNR=7.4						
PLCA	**Paso Flores**	**167.08**	**231**	PKP	**PKPdf**	**05 55 50.0**	**+1.2**
	comp=Z,3.3nm,1.1s,baz=134,slow=10,SNR=2.8						

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*ATH **03** 05:39:48.9, 38°.21N×26°.60E, h36km±8km, MD2.8/4*
*ISCJB **03** 05:39:49.5±0.5, 38°.24N±0°.04×26°.62E±0°.07, h20km±4km, Error ellipse: s-maj=10.9km s-min=4.4km az=150.4*
*CSEM **03** 05:39:49.2±0.1, 38°.24N×26°.53E, h12km, ML2.4, Error ellipse: s-maj=3.6km s-min=1.4km az=64.0*
*DDA **03** 05:39:50.1, 38°.24N×26°.66E, h7km, MD2.8*
*THE **03** 05:39:50.3, 38°.21N×26°.61E, h14km, ML2.4/2, Error ellipse: s-maj=1.5km s-min=0.4km az=230.0*
ISC 03 05:39:49.6±0.9**, 38°.24N**±0°.04×**26°.62E**±0°.05**, h16**km±6km**,**
n17, σ0s.47/30**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEY	**˜zmir**	**0.09**	**269**	*i* P	**Pg**	**05 39 52.9**	**0.0**
ZEY				*i* S	**Sg**	**05 39 55.1**	**+0.1**
URLA	**Izmir**	**0.12**	**352**	*i* P	**Pg**	**05 39 53.3**	**0.0**
URLA				*i* S	**Sg**	**05 39 55.9**	**+0.2**
URLA	**Izmir**	**0.12**	**352**	*i* P	**Pg**	**05 39 53.3**	**0.0**
URLA				*i* S	**Sg**	**05 39 55.9**	**+0.2**
CHOS	**Chios island**	**0.47**	**288**	P	**Pg**	**05 39 59.7**	**+0.7**
CHOS				S	**Sb**	**05 40 07.0**	**+0.8**
SMG	**Samos**	**0.56**	**162**	P	**Pg**	**05 40 00.6**	**-0.1**
SMG				S	**Sg**	**05 40 08.8**	**+0.6**
SMG	**Samos**	**0.56**	**162**	*e*PN	**Pg**	**05 40 00.7**	**0.0**
SMG				*e*SN	**Sg**	**05 40 08.7**	**+0.6**
SMG	**Samos**	**0.56**	**162**	P	**Pg**	**05 40 00.6**	**-0.1**
SMG				*e*Sn	**Sg**	**05 40 08.7**	**+0.6**
GCAM	**G?zelcaml?**	**0.73**	**138**	*i* P	**Pg**	**05 40 04.0**	**+0.2**
GCAM				*i* S	**Sb**	**05 40 14.2**	**+0.5**
GCAM	**G?zelcaml?**	**0.73**	**138**	*i* P	**Pg**	**05 40 04.0**	**+0.2**
GCAM				*i* S	**Sb**	**05 40 14.2**	**+0.5**
PRK	**Paraskevi**	**1.04**	**345**	*e*PN	**Pb**	**05 40 09.5**	**+0.2**
PRK				*e*SN	**Sb**	**05 40 23.1**	**+0.4**
PRK	**Paraskevi**	**1.04**	**345**	*e*Pn	**Pb**	**05 40 09.5**	**+0.2**
PRK				*e*Sn	**Sb**	**05 40 23.1**	**+0.4**
SIGR	**SIGRI**	**1.14**	**329**	P	**Pb**	**05 40 10.9**	**0.0**
SIGR	**SIGRI**	**1.14**	**329**	*e*PN	**Pb**	**05 40 10.7**	**-0.2**
SIGR				*e*SN	**Sb**	**05 40 25.6**	**+0.1**
SIGR	**SIGRI**	**1.14**	**329**	*e*Pn	**Pb**	**05 40 10.7**	**-0.2**
SIGR				*e*Sn	**Sb**	**05 40 25.6**	**+0.1**
APE	**Apeiranthos**	**1.45**	**217**	P	**Pn**	**05 40 14.5**	**-0.8**
APE	**Apeiranthos**	**1.45**	**217**	*e*PN	**Pn**	**05 40 14.3**	**-1.0**
APE	**Apeiranthos**	**1.45**	**217**	P	**Pn**	**05 40 14.5**	**-0.8**

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*CSEM **03** 05:40:02.0±0.1, 42°.93N×1°.15E, h15km, ML2.9/17, Error ellipse: s-maj=1.4km s-min=1.3km az=125.0*
*STR **03** 05:40:02.6±0.1, 42°.85N×1°.13E, h10km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **03** 05:40:02.9±0.0, 42°.89N×1°.15E, h10km, Md2.7/3, Ml3.0/17, Error ellipse: s-maj=0.6km s-min=0.5km az=96.0*
*MDD **03** 05:40:03.5±0.2, 42°.88N×1°.14E, h10km, mbLg2.3/37, Error ellipse: s-maj=2.0km s-min=1.5km az=17.0, PRXIMO*
*MRB **03** 05:40:04.0, 42°.85N×1°.14E, h7km±1km, ML2.2/7, Error ellipse: s-maj=1.0km s-min=0.4km az=328.0*
ISC 03 05:40:01.9±0.8**, 42°.93N**±0°.01×**1°.15E**±0°.01**, h18**km±1km**,**
n160, σ0s.76/271**, 2C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLS	**Moulis**	**0.05**	**307**	Pg	**Pg**	**05 40 06.3**	**+1.0**
MLS				Sg	**Sg**	**05 40 08.9**	**+1.3**
MLS	**Moulis**	**0.05**	**307**	P	**Pg**	**05 40 06.3**	**+1.0**
MLS				S	**Sg**	**05 40 08.9**	**+1.3**
MLS	**Moulis**	**0.05**	**307**	Pg	**Pg**	**05 40 06.3**	**+1.0**
SALF	**Salau**	**0.17**	**170**	Pg	**Pg**	**05 40 06.7**	**+0.2**
SALF				Sg	**Sb**	**05 40 08.5**	**+0.3**
SALF	**Salau**	**0.17**	**170**	P	**Pg**	**05 40 06.8**	**+0.2**
SALF				S	**Sb**	**05 40 09.0**	**+0.9**
SALF	**Salau**	**0.17**	**170**	Pg	**Pg**	**05 40 06.7**	**+0.2**
SALF				Sg	**Sb**	**05 40 08.5**	**+0.3**
MELF	**Melles**	**0.29**	**259**	Pg	**Pb**	**05 40 08.8**	**+0.3**
MELF				Sg	**Sg**	**05 40 12.7**	**-0.1**
MELF	**Melles**	**0.29**	**259**	P	**Pb**	**05 40 08.8**	**+0.3**
MELF				S	**Sg**	**05 40 12.7**	**-0.1**
MELF	**Melles**	**0.29**	**259**	Pg	**Pb**	**05 40 08.8**	**+0.3**
MELF				Sg	**Sg**	**05 40 12.7**	**-0.1**
GRBF	**Gourbit**	**0.30**	**107**	P	**Pb**	**05 40 09.5**	**+0.8**
GRBF				S	**Sb**	**05 40 13.8**	**+0.5**
CEST	**Esterri de Car**	**0.34**	**166**	P	**Pg**	**05 40 09.1**	**-0.1**
CEST				S	**Sg**	**05 40 13.3**	**-0.8**
CEST	**Esterri de Car**	**0.34**	**166**	P	**Pg**	**05 40 09.2**	**0.0**
CEST				S	**Sg**	**05 40 13.3**	**-0.8**
CSOR	**Sort**	**0.55**	**181**	⇑Pg	**Pg**	**05 40 13.0**	**0.0**
	57nm,0.2s,SNR=18						
CSOR				Lg	Lg	05 40 19.6	
	439nm,0.2s,SNR=17						
CSOR	**Sort**	**0.55**	**181**	P	**Pg**	**05 40 13.0**	**0.0**
CSOR				S	**Sg**	**05 40 19.7**	**-0.8**
	383nm,0.3s						
ARBS	**La Rabassa**	**0.56**	**148**	P	**Pg**	**05 40 13.3**	**0.0**
ARBS				S	**Sg**	**05 40 20.8**	**-0.1**
	127nm,0.2s						
EPF	**Esparros**	**0.60**	**280**	*e*Pg	**Pg**	**05 40 14.6**	**+0.7**
EPF				*e*Sg	**Sb**	**05 40 22.9**	**+1.0**
	26nm,0.2s,SNR=1.0						
EPF	**Esparros**	**0.60**	**280**	Pg	**Pg**	**05 40 14.6**	**+0.7**
EPF				Lg	Lg	05 40 22.9	
	13nm,0.2s						
EPF	**Esparros**	**0.60**	**280**	*e*Pg	**Pg**	**05 40 14.6**	**+0.7**
EPF				*e*Sg	**Sb**	**05 40 22.9**	**+1.0**
	13nm,0.2s,SNR=1.0						
RESF	**Ens**	**0.61**	**259**	Pg	**Pg**	**05 40 14.4**	**+0.4**
RESF				Sg	**Sg**	**05 40 21.9**	**-0.3**
RESF	**Ens**	**0.61**	**259**	P	**Pg**	**05 40 14.4**	**+0.4**
RESF				S	**Sg**	**05 40 21.2**	**-1.0**
RESF	**Ens**	**0.61**	**259**	Pg	**Pg**	**05 40 14.4**	**+0.4**
RESF				Sg	**Sg**	**05 40 21.9**	**-0.3**
CTRE	**Tremp**	**0.66**	**205**	P	**Pb**	**05 40 14.9**	**0.0**
CTRE				S	**Sb**	**05 40 23.1**	**-0.7**
CTRE	**Tremp**	**0.66**	**205**	P	**Pb**	**05 40 15.0**	**0.0**
CTRE				S	**Sb**	**05 40 23.1**	**-0.7**
FNEB	**N˜'bias**	**0.71**	**92**	P	**Pn**	**05 40 17.5**	**+0.5**
FNEB				S	**Sn**	**05 40 27.1**	**-0.3**
FNEB	**N˜'bias**	**0.71**	**92**	P	**Pn**	**05 40 17.5**	**+0.5**
FNEB				S	**Sn**	**05 40 27.1**	**-0.3**
CORG	**Organya**	**0.71**	**170**	P	**Pb**	**05 40 15.7**	**+0.1**
CORG	**Organya**	**0.71**	**170**	P	**Pb**	**05 40 15.8**	**+0.1**
CORG				S	**Sb**	**05 40 25.0**	**-0.1**
CARF	**Carcanieres**	**0.74**	**106**	Pg	**Pb**	**05 40 16.0**	**-0.2**
CARF				Sg	**Sg**	**05 40 26.5**	**+0.3**
CARF	**Carcanieres**	**0.74**	**106**	P	**Pb**	**05 40 13.7**	**-2.5**
CARF				S	**Sb**	**05 40 25.9**	**0.0**
CARF	**Carcanieres**	**0.74**	**106**	Pg	**Pb**	**05 40 16.0**	**-0.2**
CARF				Sg	**Sg**	**05 40 26.5**	**+0.3**
CLLI	**Llivia**	**0.76**	**126**	Pg	**Pb**	**05 40 16.7**	**+0.1**
	0.8nm,0.0s,SNR=23						
CLLI				Lg	Lg	05 40 26.3	
	21nm,0.1s,SNR=21						
CLLI	**Llivia**	**0.76**	**126**	Pg	**Pb**	**05 40 16.6**	**0.0**
	0.8nm,0.0s,SNR=23						
CLLI	**Llivia**	**0.76**	**126**	P	**Pb**	**05 40 16.9**	**+0.3**
CLLI				Lg	Lg	05 40 26.3	
	21nm,0.1s,SNR=21						
CLLI				S	**Sb**	**05 40 27.0**	**+0.4**
LABF	**Labassere**	**0.80**	**279**	Pg	**Pn**	**05 40 18.3**	**+0.1**
LABF				Sg	**Sn**	**05 40 29.3**	**-0.4**
LABF	**Labassere**	**0.80**	**279**	P	**Pn**	**05 40 18.4**	**+0.2**
LABF				S	**Sg**	**05 40 28.2**	**+0.2**
LABF	**Labassere**	**0.80**	**279**	Pg	**Pn**	**05 40 18.3**	**+0.1**
LABF				Sg	**Sn**	**05 40 29.3**	**-0.4**
VIEF	**Viey**	**0.83**	**267**	Pg	**Pg**	**05 40 18.3**	**+0.2**
VIEF				Sg	**Sg**	**05 40 29.3**	**+0.2**
VIEF	**Viey**	**0.83**	**267**	P	**Pg**	**05 40 18.4**	**+0.2**
VIEF				S	**Sb**	**05 40 28.7**	**+0.1**
VIEF	**Viey**	**0.83**	**267**	Pg	**Pg**	**05 40 18.3**	**+0.2**
VIEF				Sg	**Sg**	**05 40 29.3**	**+0.2**
VALF	**Valcebollere**	**0.83**	**129**	Pg	**Pb**	**05 40 18.3**	**+0.5**
VALF				Sg	**Sb**	**05 40 28.4**	**-0.3**
VALF	**Valcebollere**	**0.83**	**129**	P	**Pb**	**05 40 18.1**	**+0.3**
VALF				S	**Sb**	**05 40 28.6**	**-0.1**
VALF	**Valcebollere**	**0.83**	**129**	Pg	**Pb**	**05 40 18.3**	**+0.5**
VALF				Sg	**Sb**	**05 40 28.4**	**-0.3**
MTLF	**Montolieu**	**0.89**	**62**	*e*Pg	**Pn**	**05 40 20.2**	**+0.8**
MTLF				*e*Sg	**Sn**	**05 40 31.7**	**-0.1**
	66nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**0.89**	**62**	Pg	**Pn**	**05 40 20.2**	**+0.8**
MTLF				Lg	Lg	05 40 31.7	
	33nm,0.2s						
MTLF	**Montolieu**	**0.89**	**62**	*e*Pg	**Pn**	**05 40 20.2**	**+0.8**
MTLF				*e*Sg	**Sn**	**05 40 31.7**	**-0.1**
	33nm,0.2s,SNR=1.0						
CBRU	**Bruguera**	**1.00**	**130**	P	**Pb**	**05 40 21.0**	**+0.3**
CBRU				S	**Sg**	**05 40 34.7**	**+0.3**
	5.9nm,0.2s						
CBRU	**Bruguera**	**1.00**	**130**	P	**Pb**	**05 40 21.0**	**+0.3**
CBRU				S	**Sg**	**05 40 34.7**	**+0.3**
	12nm,0.2s						
LRDF	**Laroque-de-Fa**	**1.02**	**89**	S	**Sn**	**05 40 35.6**	**+0.5**
EMIR	**Miracle**	**1.05**	**164**	⇑Pg	**Pn**	**05 40 22.3**	**+0.5**
	4.2nm,0.1s,SNR=18						
EMIR				Lg	Lg	05 40 35.8	
	26nm,0.1s,SNR=12						
EMIR	**Miracle**	**1.05**	**164**	Pg	**Pn**	**05 40 22.3**	**+0.5**
	4.2nm,0.1s,SNR=18						
EMIR				Lg	Lg	05 40 35.8	
	26nm,0.1s,SNR=12						
CAVN	**Les Avellanes**	**1.08**	**196**	P	**Pn**	**05 40 22.7**	**+0.5**
CAVN				S	**Sb**	**05 40 35.8**	**-0.1**
	75nm,0.3s						
CAVN	**Les Avellanes**	**1.08**	**196**	P	**Pn**	**05 40 22.7**	**+0.5**
CAVN				S	**Sb**	**05 40 35.9**	**0.0**
	150nm,0.3s						
CORI	**Orista**	**1.17**	**145**	P	**Pg**	**05 40 24.4**	**0.0**
CORI				S	**Sn**	**05 40 39.2**	**+0.6**
	46nm,0.2s						
CORI	**Orista**	**1.17**	**145**	P	**Pg**	**05 40 24.4**	**0.0**
CORI				S	**Sn**	**05 40 39.2**	**+0.6**
	46nm,0.2s						
ETSF	**Etsaut**	**1.25**	**269**	*e*Pn	**Pb**	**05 40 25.1**	**+0.1**
	SNR=1.0						
ETSF	**Etsaut**	**1.25**	**269**	*e*Pg	**Pg**	**05 40 26.6**	**+0.5**
	SNR=1.0						
ETSF				*e*Sn	**Sb**	**05 40 40.9**	**+0.1**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**05 40 42.4**	**-0.2**
	12nm,0.2s,SNR=1.0						
ETSF	**Etsaut**	**1.25**	**269**	Pg	**Pg**	**05 40 26.6**	**+0.5**
ETSF				Lg	Lg	05 40 42.4	
	5.8nm,0.2s						
ETSF	**Etsaut**	**1.25**	**269**	*e*Pn	**Pb**	**05 40 25.1**	**+0.1**
	SNR=1.0						
ETSF	**Etsaut**	**1.25**	**269**	*e*Pg	**Pg**	**05 40 26.6**	**+0.5**
	SNR=1.0						
ETSF				*e*Sn	**Sb**	**05 40 40.9**	**+0.1**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**05 40 42.4**	**-0.2**
	5.8nm,0.2s,SNR=1.0						
CBEU	**Beuda**	**1.31**	**120**	P	**Pg**	**05 40 27.2**	**-0.1**
CBEU				S	**Sg**	**05 40 44.9**	**+0.5**
	16nm,0.2s						
SJAF	**Saint Jean de**	**1.35**	**109**	Pg	**Pg**	**05 40 28.5**	**+0.5**
	0.2nm,0.1s,SNR=7.9						
SJAF				Lg	Lg	05 40 45.5	
	1.2nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**1.35**	**109**	Pg	**Pg**	**05 40 28.3**	**+0.3**
	0.2nm,0.1s,SNR=7.9						
SJAF				Lg	Lg	05 40 45.5	
	1.2nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**1.37**	**110**	Pg	**Pg**	**05 40 29.4**	**+1.0**
	1.4nm,0.2s,SNR=7.9						
EJON				Lg	Lg	05 40 46.1	
	2.1nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**1.37**	**110**	Pg	**Pg**	**05 40 29.4**	**+1.0**
	0.2nm,0.1s,SNR=7.9						
EJON				Lg	Lg	05 40 46.0	
	2.1nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**1.51**	**140**	Pn	**Pb**	**05 40 29.9**	**+0.5**
	1.1nm,0.1s,SNR=7.9						
CFON				Pg	**Pg**	**05 40 30.5**	**-0.4**
	1.9nm,0.1s,SNR=9.2						
CFON				Lg	Lg	05 40 49.3	
	34nm,0.2s,SNR=18						
CFON	**Fontmartina**	**1.51**	**140**	P	**Pb**	**05 40 29.9**	**+0.5**
CFON	**Fontmartina**	**1.51**	**140**	Pg	**Pg**	**05 40 30.5**	**-0.4**
	1.9nm,0.1s,SNR=9.2						
CFON				Lg	Lg	05 40 49.3	
	24nm,0.1s,SNR=18						
CFON				S	**Sb**	**05 40 49.5**	**+1.4**
	50nm,0.2s						
EPOB	**Poblet**	**1.58**	**182**	Pn	**Pn**	**05 40 30.0**	**+1.1**
	0.2nm,0.1s,SNR=7.9						
EPOB				Pg	**Pb**	**05 40 31.2**	**+0.7**
	5.9nm,0.1s,SNR=21						
EPOB				Lg	Lg	05 40 50.6	
	27nm,0.2s,SNR=25						
EPOB	**Poblet**	**1.58**	**182**	Pn	**Pn**	**05 40 30.0**	**+1.1**
	0.2nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.70**	**225**	Pg	**Pg**	**05 40 34.5**	**-0.1**
	21nm,0.3s,SNR=6.3						
ESAC				Lg	Lg	05 40 55.7	
	137nm,0.3s,SNR=26						
ESAC	**San Caprasio**	**1.70**	**225**	Pg	**Pg**	**05 40 34.5**	**-0.1**
	21nm,0.3s,SNR=6.3						
ESAC				Lg	Lg	05 40 55.7	
	137nm,0.3s,SNR=26						
YARA	**Arangoiti**	**1.74**	**262**	Pg	**Pg**	**05 40 35.1**	**-0.3**
	SNR=7.9						
YARA				Lg	Lg	05 40 58.5	
	20nm,0.4s,SNR=7.9						
YARA	**Arangoiti**	**1.74**	**262**	Pg	**Pg**	**05 40 35.1**	**-0.3**
	SNR=7.9						
YARA				Lg	Lg	05 40 58.5	
	20nm,0.4s,SNR=7.9						
SJPF	**Ste Jean**	**1.75**	**277**	*e*Pg	**Pg**	**05 40 35.6**	**+0.1**
	SNR=1.0						
SJPF				*e*Sn	**Sn**	**05 40 52.6**	**-0.5**
SJPF				*e*Sg	**Sg**	**05 40 58.2**	**-0.1**
	12nm,0.5s,SNR=1.0						
SJPF	**Ste Jean**	**1.75**	**277**	Pg	**Pg**	**05 40 35.6**	**+0.1**
SJPF				Sn	**Sn**	**05 40 52.6**	**-0.5**
SJPF				Lg	Lg	05 40 58.2	
	5.8nm,0.5s						
SJPF	**Ste Jean**	**1.75**	**277**	*e*Pg	**Pg**	**05 40 35.6**	**+0.1**
	SNR=1.0						
SJPF				*e*Sn	**Sn**	**05 40 52.6**	**-0.5**
SJPF				*e*Sg	**Sg**	**05 40 58.2**	**-0.1**
	5.8nm,0.5s,SNR=1.0						
IELO	**Elcoad**	**1.75**	**268**	Pg	**Pg**	**05 40 36.0**	**+0.4**
	5.1nm,0.3s,SNR=7.9						
IELO				Lg	Lg	05 40 59.5	
	9.1nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**1.75**	**268**	Pg	**Pg**	**05 40 36.0**	**+0.4**
	5.1nm,0.3s,SNR=7.9						
IELO				Lg	Lg	05 40 59.5	
	9.1nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**1.78**	**266**	Pg	**Pg**	**05 40 36.0**	**-0.2**
	SNR=7.9						
IEPA				Lg	Lg	05 41 00.4	
	14nm,0.3s,SNR=7.9						
IEPA	**Eparoz**	**1.78**	**266**	Pg	**Pg**	**05 40 36.0**	**-0.2**
	SNR=7.9						
IEPA				Lg	Lg	05 41 00.4	

14nm,0.3s,SNR=7.9
YNAR Nardues-Alduna 1.87 262 Pg Pg 05 40 38.5 +0.6
6.3nm,0.3s,SNR=7.9
YNAR Lg Lg 05 41 03.8
11nm,0.2s,SNR=7.9
YNAR Nardues-Alduna 1.87 262 Pg Pg 05 40 38.0 +0.1
SNR=7.9
YNAR Lg Lg 05 41 03.0
15nm,0.4s,SNR=7.9
IZUN Zunzarren 1.92 269 Pg Pg 05 40 39.0 +0.3
SNR=7.9
IZUN Lg Lg 05 41 04.2
3.6nm,0.3s,SNR=7.9
IZUN Zunzarren 1.92 269 Pg Pg 05 40 39.0 +0.3
SNR=7.9
IZUN Lg Lg 05 41 04.2
3.6nm,0.3s,SNR=7.9
IUNC Unciti 1.95 266 Pg Pg 05 40 39.9 +0.5
SNR=7.9
IUNC Lg Lg 05 41 06.4
9.4nm,0.4s,SNR=7.9
IUNC Unciti 1.95 266 Pg Pg 05 40 39.9 +0.5
SNR=7.9
IUNC Lg Lg 05 41 06.4
9.4nm,0.4s,SNR=7.9
EALK Alkurruntz 1.97 279 Pg Pg 05 40 41.4 +1.7
1.4nm,0.3s,SNR=4.9
EALK Lg Lg 05 41 07.6
9.1nm,0.3s,SNR=5.7
EALK Alkurruntz 1.97 279 Pg Pg 05 40 41.4 +1.7
0.5nm,0.1s,SNR=4.9
EALK Lg Lg 05 41 10.3
9.1nm,0.3s,SNR=5.7
IUSE Utxeti 1.98 271 Pg Pg 05 40 40.2 +0.3
SNR=7.9
IUSE Lg Lg 05 41 05.8
3.8nm,0.2s,SNR=7.9
IUSE Utxeti 1.98 271 Pg Pg 05 40 40.2 +0.3
SNR=7.9
IUSE Lg Lg 05 41 05.8
3.8nm,0.2s,SNR=7.9
LFF La Frestale 2.03 352 ePn Pn 05 40 35.9 +0.7
LFF La Frestale 2.03 352 ePg Pg 05 40 41.6 +0.7
SNR=1.0
LFF eSn Sn **05 41 00.3 +0.3**
LFF eSg Sg **05 41 08.4 +1.1**
36nm,0.3s,SNR=1.0
LFF La Frestale 2.03 352 Pn Pn 05 40 35.9 +0.7
LFF Pg Pg **05 40 41.6 +0.7**
LFF Sn Sn **05 41 00.3 +0.3**
LFF Lg Lg 05 41 08.4
18nm,0.3s
LFF La Frestale 2.03 352 ePn Pn 05 40 35.9 +0.7
LFF La Frestale 2.03 352 ePg Pg 05 40 41.6 +0.7
SNR=1.0
LFF eSn Sn **05 41 00.3 +0.3**
LFF eSg Sg **05 41 08.4 +1.1**
18nm,0.3s,SNR=1.0
ERTA Horta de San J 2.06 197 Pg Pb 05 40 40.0 +1.2
0.4nm,0.3s,SNR=9.7
ERTA Lg Lg 05 41 05.5
24nm,0.3s,SNR=5.9
ERTA Horta de San J 2.06 197 Pg Pb 05 40 39.4 +0.6
0.2nm,0.1s,SNR=9.7
ERTA Lg Lg 05 41 06.0
9.7nm,0.2s,SNR=5.9
CAF Calviac 2.10 18 ePn Pn 05 40 37.1 +0.9
SNR=1.0
CAF Calviac 2.10 18 ePg Pg 05 40 43.1 +0.8
SNR=1.0
CAF eSn Sn **05 41 01.7 -0.2**
CAF eSg Sg **05 41 10.5 +0.9**
35nm,0.2s,SNR=1.0
CAF Calviac 2.10 18 Pn Pn 05 40 37.1 +0.9
CAF Pg Pg **05 40 43.1 +0.8**
CAF Sn Sn **05 41 01.7 -0.2**
CAF Lg Lg 05 41 10.5
18nm,0.2s
CAF Calviac 2.10 18 ePn Pn 05 40 37.1 +0.9
SNR=1.0
CAF Calviac 2.10 18 ePg Pg 05 40 43.1 +0.8
SNR=1.0
CAF eSn Sn **05 41 01.7 -0.2**
CAF eSg Sg **05 41 10.5 +0.9**
18nm,0.2s,SNR=1.0
LASF Ste Croix 2.28 59 ePg Pg 05 40 45.7 0.0
SNR=1.0
LASF eSn Sn **05 41 06.1 -0.1**
LASF eSg Sg **05 41 15.7 +0.4**
18nm,0.4s,SNR=1.0
LASF Ste Croix 2.28 59 Pg Pg 05 40 45.7 0.0
LASF Sn Sn **05 41 06.1 -0.1**
LASF Lg Lg 05 41 15.7
9.1nm,0.4s
LASF Ste Croix 2.28 59 ePg Pg 05 40 45.7 0.0
SNR=1.0
LASF eSn Sn **05 41 06.1 -0.1**
LASF eSg Sg **05 41 15.7 +0.4**
9.1nm,0.4s,SNR=1.0
RJF Les Rejaudoux 2.39 6 ePn Pn 05 40 41.1 +1.0
RJF Les Rejaudoux 2.39 6 ePg Pg 05 40 48.1 +0.3
SNR=1.0
RJF eSn Sn **05 41 08.6 -0.3**
RJF eSg Sg **05 41 19.3 +0.5**
18nm,0.2s,SNR=1.0
RJF Les Rejaudoux 2.39 6 Pn Pn 05 40 41.1 +1.0
RJF Pg Pg **05 40 48.1 +0.3**
RJF Sn Sn **05 41 08.6 -0.3**
RJF Lg Lg 05 41 19.3
0.0nm,0.2s
RJF Les Rejaudoux 2.39 6 ePn Pn 05 40 41.1 +1.0
RJF Les Rejaudoux 2.39 6 ePg Pg 05 40 48.1 +0.3
SNR=1.0
RJF eSn Sn **05 41 08.6 -0.3**
RJF eSg Sg **05 41 19.3 +0.5**
9.0nm,0.2s,SNR=1.0
EMOS Mosqueruela 2.83 206 Pn Pb 05 40 50.0 -2.0
0.2nm,0.1s,SNR=7.9
EMOS Pg Pg **05 40 56.1 -0.2**
1.7nm,0.3s,SNR=10
EMOS Sn Sn **05 41 19.2 -0.9**
0.1nm,0.5s,SNR=7.9
EMOS Lg Lg 05 41 30.3
1.9nm,0.2s,SNR=7.9
EMOS Mosqueruela 2.83 206 Pn Pb 05 40 50.0 -2.0
0.2nm,0.1s,SNR=7.9
EMOS Mosqueruela 2.83 206 Pg Pg 05 40 56.1 -0.2
0.3nm,0.1s,SNR=10
EMOS Sn Sn **05 41 19.2 -0.9**
SNR=7.9
EMOS Lg Lg 05 41 30.0
1.9nm,0.2s,SNR=7.9
ETOR Torete 3.19 230 Pn Pn 05 40 53.4 +2.2
2.4nm,0.2s,SNR=7.9
ETOR Pg Pg **05 41 04.1 +1.1**
4.6nm,0.2s,SNR=7.9
ETOR Sn Sn **05 41 28.2 -0.5**
5.0nm,0.3s,SNR=7.9
ETOR Lg Lg 05 41 44.4
7.1nm,0.2s,SNR=7.9
ETOR Torete 3.19 230 Pn Pn 05 40 52.8 +1.7
2.5nm,0.0s,SNR=7.9
VIVF Saint-Julien-l 3.19 52 ePn Pn 05 40 52.0 +0.8
VIVF Saint-Julien-l 3.19 52 ePg Pg 05 41 02.5 -0.6
VIVF eSn Sn **05 41 28.1 -0.7**
VIVF eSg Sg **05 41 44.2 -0.3**
5.4nm,0.2s,SNR=1.0
VIVF Saint-Julien-l 3.19 52 Pn Pn 05 40 52.0 +0.8
VIVF Pg Pg **05 41 02.5 -0.6**
VIVF Sn Sn **05 41 28.1 -0.7**
VIVF Lg Lg 05 41 44.2
2.7nm,0.2s
VIVF Saint-Julien-l 3.19 52 ePn Pn 05 40 52.0 +0.8
VIVF Saint-Julien-l 3.19 52 ePg Pg 05 41 02.5 -0.6
VIVF eSn Sn **05 41 28.1 -0.7**
VIVF eSg Sg **05 41 44.2 -0.3**
2.7nm,0.2s,SNR=1.0
ETOS Mallorca 3.40 158 Sn Sn 05 41 33.1 -0.7
0.4nm,0.2s,SNR=7.9
TCF Toulx Ste Croi 3.44 12 ePn Pn 05 40 55.3 +0.7
TCF Toulx Ste Croi 3.44 12 ePg Pg 05 41 07.4 -0.5
TCF eSn Sn **05 41 33.9 -1.0**
TCF eSg Sg **05 41 52.4 -0.1**
9.8nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 3.44 12 Pn Pn 05 40 55.3 +0.7
TCF Pg Pg **05 41 07.4 -0.5**
TCF Sn Sn **05 41 33.9 -1.0**
TCF Lg Lg 05 41 52.4
4.9nm,0.4s
TCF Toulx Ste Croi 3.44 12 ePn Pn 05 40 55.3 +0.7
TCF Toulx Ste Croi 3.44 12 ePg Pg 05 41 07.4 -0.5
TCF eSn Sn **05 41 33.9 -1.0**
TCF eSg Sg **05 41 52.4 -0.1**
4.9nm,0.4s,SNR=1.0
MFF Saint Martin d 3.79 346 ePn Pn 05 40 59.9 +0.6
SNR=1.0
MFF Saint Martin d 3.79 346 ePg Pg 05 41 13.9 -0.5
MFF eSg Sg **05 42 02.5 -1.0**
3.9nm,0.3s,SNR=1.0
MFF Saint Martin d 3.79 346 Pn Pn 05 40 59.9 +0.6
MFF Pg Pg **05 41 13.9 -0.5**
MFF Lg Lg 05 42 02.5
1.9nm,0.3s
MFF Saint Martin d 3.79 346 ePn Pn 05 40 59.9 +0.6
SNR=1.0
MFF Saint Martin d 3.79 346 ePg Pg 05 41 13.9 -0.5
MFF eSg Sg **05 42 02.5 -1.0**
2.0nm,0.3s,SNR=1.0
BGF Bois d'Agland 3.83 18 ePn Pn 05 41 00.7 +0.9
BGF Bois d'Agland 3.83 18 ePg Pg 05 41 14.1 -1.0
BGF eSg Sg **05 42 03.9 -0.8**
47nm,0.4s,SNR=1.0
BGF Bois d'Agland 3.83 18 Pn Pn 05 41 00.7 +0.9
BGF Pg Pg **05 41 14.1 -1.0**
BGF Lg Lg 05 42 03.9
24nm,0.4s
BGF Bois d'Agland 3.83 18 ePn Pn 05 41 00.7 +0.9
BGF Bois d'Agland 3.83 18 ePg Pg 05 41 14.1 -1.0
BGF eSg Sg **05 42 03.9 -0.8**
24nm,0.4s,SNR=1.0
AVF Avril sur Loir 4.17 21 ePn Pn 05 41 05.1 +0.6
AVF Avril sur Loir 4.17 21 ePg Pg 05 41 21.1 -0.6
AVF eSg Sg **05 42 15.1 -0.6**
4.8nm,0.3s,SNR=1.0
AVF Avril sur Loir 4.17 21 Pn Pn 05 41 05.1 +0.6
AVF Pg Pg **05 41 21.1 -0.6**
AVF Lg Lg 05 42 15.1
2.4nm,0.3s
AVF Avril sur Loir 4.17 21 ePn Pn 05 41 05.1 +0.6
AVF Avril sur Loir 4.17 21 ePg Pg 05 41 21.1 -0.6
AVF eSg Sg **05 42 15.1 -0.6**
2.4nm,0.3s,SNR=1.0
SMF Signal de Mont 4.18 26 ePn Pn 05 41 05.5 +0.8
SMF Signal de Mont 4.18 26 ePg Pg 05 41 21.3 -0.7
SMF eSg Sg **05 42 15.3 -0.8**
2.7nm,0.2s,SNR=1.0
SMF Signal de Mont 4.18 26 Pn Pn 05 41 05.5 +0.8
SMF Pg Pg **05 41 21.3 -0.7**
SMF Lg Lg 05 42 15.3
1.4nm,0.2s
SMF Signal de Mont 4.18 26 ePn Pn 05 41 05.5 +0.8
SMF Signal de Mont 4.18 26 ePg Pg 05 41 21.3 -0.7
SMF eSg Sg **05 42 15.3 -0.8**
1.4nm,0.2s,SNR=1.0
SSF Saint Saulge 4.46 21 ePn Pn 05 41 09.2 +0.7
SSF Saint Saulge 4.46 21 ePg Pg 05 41 26.0 -1.2
SSF eSg Sg **05 42 23.6 -1.4**
3.4nm,0.3s
SSF Saint Saulge 4.46 21 Pn Pn 05 41 09.2 +0.7
SSF Pg Pg **05 41 26.0 -1.2**
SSF Lg Lg 05 42 23.6
1.7nm,0.3s
SSF Saint Saulge 4.46 21 ePn Pn 05 41 09.2 +0.7
SSF Saint Saulge 4.46 21 ePg Pg 05 41 26.0 -1.2
SSF eSg Sg **05 42 23.6 -1.4**
1.7nm,0.3s
GUD Guadarrama 4.57 242 Sn Sn 05 42 03.7 +0.7
0.9nm,0.4s,SNR=7.9
LOR Lormes 4.75 23 eSg Sg 05 42 32.7 -1.4
3.4nm,0.3s
LOR Lormes 4.75 23 Lg Lg 05 42 32.7
1.7nm,0.3s
LOR Lormes 4.75 23 eSg Sg 05 42 32.7 -1.4
1.7nm,0.3s
ROSF Rostrenen 6.23 332 eSn Sn 05 42 40.0 -3.6
4.4nm,0.7s,SNR=1.0
ROSF Rostrenen 6.23 332 Sn Sn 05 42 40.0 -3.6
2.2nm,0.7s
BAIF Baives 7.44 15 ePn Pn 05 41 49.2 -0.2
SNR=1.0
BAIF Baives 7.44 15 Pn Pn 05 41 49.2 -0.2
BAIF Baives 7.44 15 ePn Pn 05 41 49.2 -0.2
SNR=1.0

*NNC **03** 05:43:07.9±1.3, 41°.39N×72°.97E, h0km, mb2.9, mpv2.8, Error ellipse: s-maj=18.3km s-min=7.9km az=74.0*
*ISCJB **03** 05:43:09.5±0.8, 41°.40N±0°.04×73°.00E±0°.09, h9km, Error ellipse: s-maj=10.1km s-min=5.7km az=169.7*
ISC 03 05:43:08.0±1.1, 41°.40N±0°.04×72°.99E±0°.05, h9km, n12, σ0s81/16, 7C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**0.90**	**36**	P	**Pg**	**05 43 24.4**	**-1.0**
	SNR=18						
MNAS	**Manas**	**1.14**	**342**	⇑P	**Pb**	**05 43 28.9**	**-1.1**
	4.2nm,0.7s						
MNAS				⇓S	**Sn**	**05 43 45.8**	**-0.4**
	6.5nm,0.3s						
UCH	**Uchtor**	**1.41**	**54**	P	**Pn**	**05 43 34.6**	**+0.4**
	SNR=39						
SFK	**Sufi-Kurgan**	**1.44**	**164**	⇑P	**Pb**	**05 43 35.2**	**+0.1**
	4.3nm,0.2s						
SFK				⇓S	**Sg**	**05 43 53.7**	**-0.7**
	65nm,0.6s						
AAK	**Ala-Archa**	**1.67**	**42**	⇑Pn	**Pb**	**05 43 38.9**	**-0.1**
	7.8nm,0.9s						
AAK				⇑Sn	**Sn**	**05 43 59.6**	**+0.4**
	14nm,0.9s						
AAK	**Ala-Archa**	**1.67**	**42**	eS	**Pn**	**05 43 38.7**	**+1.1**
KZA	**Kyzart**	**1.82**	**67**	P	**Pb**	**05 43 41.2**	**-0.6**
	SNR=13						
USP	**Ospenovka**	**2.18**	**31**	P	**Pb**	**05 43 47.5**	**-0.1**
	SNR=7.8						
TKM2	**Tokmak 2**	**2.46**	**51**	P	**Pb**	**05 43 52.5**	**-0.1**
	SNR=7						
TKM2	**Tokmak 2**	**2.46**	**51**	⇓Pn	**Pb**	**05 43 52.2**	**-0.4**
	9.8nm,0.9s						
TKM2				⇑Sn	**Sb**	**05 44 24.8**	**+1.6**
	23nm,0.5s						
KK31	**Karatay Array**	**2.50**	**314**	⇑Pn	**Pb**	**05 43 53.6**	**+0.4**
	1.5nm,0.4s,baz=132,slow=16,SNR=13						
KK31				⇑Lg	Lg	05 44 28.6	
	11nm,0.6s,baz=135,slow=26,SNR=8.3						
ULHL	**Ulahol**	**2.58**	**70**	P	**Pb**	**05 43 53.5**	**-0.9**
	SNR=6.0						

IDC 03 05:46:45.0±1.8, 33°.28N×96°.01E, h0km, mb3.4/2, mb1 3.4/4, mb1mx3.2/27, mbtmp3.3/4, ML3.5/2, MS4.1/2, Ms1 4.1/2, ms1mx3.4/28, Error ellipse: s-maj=79.7km s-min=28.6km az=60.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**16.52**	**25**	Pn	Pn	05 50 38.1	-0.1
	0.4nm,0.3s,baz=212,slow=14,SNR=2.8						
SONM				LR	LR	05 56 12.0	
	comp=Z,662nm,19.4s,baz=243,slow=34						
MKAR	**Makanchi Array**	**17.07**	**326**	P	Pn	05 50 45.4	+0.4
	0.1nm,0.3s,baz=139,slow=14,SNR=5.0						
AAK	**Ala-Archa**	**19.32**	**305**	LR	LR	06 00 33.7	
	comp=Z,591nm,19.3s,baz=112,slow=43						
KURBB	**Kurchatov Arra**	**21.57**	**329**	P		05 51 35.8	-0.2
	0.7nm,0.6s,baz=137,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**67.16**	**142**	P	P	05 57 40.9	0.0
	0.2nm,0.4s,baz=327,slow=6.6,SNR=4.4						

*ISCJB **03** 05:46:57.0±0.2, 33°.24N±0°.02×96°.19E±0°.03, h10km, mb4.4/31, Error ellipse: s-maj=3.7km s-min=3.6km az=29.6*
*IDC **03** 05:46:57.0±0.6, 33°.19N×96°.25E, h0km, mb4.1/18, mb1 4.3/23, mb1mx4.1/38, mbtmp4.1/23, ML4.0/5, Error ellipse: s-maj=19.3km s-min=12.3km az=46.0*
*BJI **03** 05:46:57.2, 33°.28N×96°.31E, h10km, mb4.4/16, ML4.3/4, Ms4.3/7, Ms7 4.3/7*
*MOS **03** 05:46:59.4±1.0, 33°.28N×96°.26E, h28km, mb4.6/14, Error ellipse: s-maj=11.7km s-min=6.0km az=118.5*

*NEIC **03** 05:47:01.7±1.8, 33°.25N×96°.21E, h28km±14km, mb4.4/5, Error ellipse: s-maj=7.5km s-min=4.9km az=49.0*
ISC 03 05:46:58.6±0.4, 33°.24N±0°.04×96°.24E±0°.04, h10km, n130, σ1s35/126, mb4.5/31, 3C-6D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**6.79**	**108**	Pn	**Pn**	**05 48 38.0**	**-0.4**
CD2				Sn	**Sn**	**05 49 50.4**	**-5.4**
CD2				Sg	Sg	05 50 28.7	-8.0
GTA	**Gaotai**	**6.80**	**24**	ePn	Pn	05 48 39.8	+1.3
GTA				Sn	**Sn**	**05 49 58.6**	**+2.6**
GTA				LZ			
	1μm,9.5s						
LZH	**Lanzhou**	**6.88**	**64**	eP	Pn	05 48 42.8	+3.2
LZH				pP	pP	05 48 46.6	
LZH				sP	sP	05 48 48.9	
LZH				eS	**Sn**	**05 49 58.6**	**+0.5**
LZH				sS	sS	05 50 06.0	
LZH				pmax	pmax		
	comp=Z,250nm,1.2s						
LZH				pmax	pmax		
	comp=Z,1μm,5.8s						
LZH				smax	smax		
	comp=N,93nm,1.0s						
LZH				smax	smax		
	comp=E,120nm,1.2s						
LZH				LR	LR		
	comp=N,5μm,6.2s						
LZH				LR	LR		
	comp=E,3μm,6.9s						
LZH				LR	LR		
	comp=Z,3μm,8.1s						
SHL	**Shillong**	**8.54**	**207**	eP	**Pn**	**05 49 03.0**	**+0.5**
SHL				AMB	AMB	05 49 05.3	
	comp=Z,68nm,4.4s						
SHL				ex	x	05 50 40.0	
TAPN	**Taplejung**	**9.42**	**234**	eP	**Pn**	**05 49 15.6**	**+0.9**
KMI	**Kunming**	**9.88**	**143**	P	**Pn**	**05 49 22.5**	**+1.5**
KMI				S	**Sn**	**05 51 15.9**	**+3.8**
KMI				PMZ			
	comp=Z,19nm,0.7s						
KMI				LZ			
	comp=Z,2μm,10.8s						
ODAN	**Odare**	**9.96**	**233**	eP	**Pn**	**05 49 24.0**	**+2.0**
	comp=Z,124nm,0.4s						
JIRN	**Jiri**	**10.30**	**240**	eP	**Pn**	**05 49 27.3**	**+0.5**
GUN	**Gumba**	**10.39**	**242**	eP	**Pn**	**05 49 27.6**	**-0.3**
GUN				eS	**Sn**	**05 51 21.4**	**-3.2**
RAMN	**Ramite**	**10.44**	**236**	eP	**Pn**	**05 49 28.8**	**+0.3**
XAN	**Xi'an**	**10.61**	**82**	P	Pn	05 49 33.2	+2.6
XAN				PMZ			
	comp=Z,4.0nm,0.9s						
KKN	**Kakani**	**10.90**	**243**	eP	**Pn**	**05 49 33.8**	**-1.0**
	comp=Z,31nm,0.5s						
PKI	**Pulchoki**	**10.92**	**242**	eP	**Pn**	**05 49 35.1**	**-0.1**
	comp=Z,40nm,0.5s						
DMN	**Daman**	**11.12**	**243**	eP	**Pn**	**05 49 36.9**	**-1.1**
	comp=Z,22nm,0.5s						
GKN	**Gorkha**	**11.27**	**245**	eP	**Pn**	**05 49 39.2**	**-0.7**
ENH	**Enshi**	**11.66**	**101**	ePn	Pn	05 49 47.4	+2.3
	comp=Z,22nm,1.1s						
KOLN	**Koldanda**	**12.18**	**247**	eP	**Pn**	**05 49 51.6**	**-0.8**
	comp=Z,16nm,0.4s						
WMQ	**Urumqi**	**12.49**	**330**	P	**Pn**	**05 49 56.0**	**-0.4**
WMQ				pP		05 49 59.3	
WMQ				sP		05 50 02.5	
WMQ				PP	**PnPn**	**05 50 07.4**	**+3.2**
WMQ				S	**Sn**	**05 52 15.1**	**-0.5**
WMQ				SS	**SnSn**	**05 52 29.6**	**+1.8**
WMQ				PcP	**PcP**	**05 55 36.1**	**+0.1**
WMQ				ScS	**ScS**	**06 02 42.2**	**-3.0**
WMQ				PMZ			
	comp=Z,21nm,0.5s						
WMQ				LE			
	comp=Z,900nm,10.1s						
BOK	**Bokaro**	**13.08**	**227**	eP	**Pn**	**05 50 02.9**	**-1.6**
BOK				AMB	AMB	05 50 05.8	
	comp=Z,24nm,1.9s						
CRAI	**Chiangrai**	**13.48**	**163**	P	**Pn**	**05 50 08.9**	**-1.0**
CMAI	**Chiengmai2**	**13.49**	**169**	P	P	05 50 23.3	+3.7
HHC	**Hu-ho-hao-te**	**14.39**	**54**	eP	Pn	05 50 17.9	-4.5
HHC				PMZ			
	comp=Z,26nm,0.6s						
CHTO	**Chiang Mai**	**14.57**	**170**	P	P	05 50 27.4	-4.1
	comp=Z,191nm,1.8s						
CHTO	**Chiang Mai**	**14.57**	**170**	eP	**Pn**	**05 50 26.8**	**+1.8**
CHTO	**Chiang Mai**	**14.57**	**170**	ePn	**Pn**	**05 50 26.8**	**+1.8**
CMMT	**Chiang Mai**	**14.58**	**170**	P	P	05 50 27.3	-4.2
	comp=Z,60nm,2.1s						
CMAR	**Chiang Mai Arr**	**14.92**	**170**	Pn	**Pn**	**05 50 30.6**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=342,slow=11,SNR=14						
CMAR				Lg	Lg	05 54 54.5	
	comp=Z,0.9nm,0.3s,baz=358,slow=28,SNR=4.8						
CMAR	**Chiang Mai Arr**	**14.92**	**170**	eP	P	05 50 31.6	-3.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LAMP	**Lampang**	**14.97**	**167**	P	**P**	**05 50 34.4**	**-1.5**
	comp=Z,5.1nm,0.8s						
UTTA	**Uttaradit**	**15.91**	**165**	P	**P**	**05 50 49.2**	**+2.9**
	comp=Z,3.9nm,0.9s,comp=Z,162nm						
SMLA	**Simla**	**16.28**	**268**	eP	**Pn**	**05 50 48.1**	**+0.7**
SMLA				AMB	AMB	05 51 10.3	
	comp=Z,24nm,3.4s						
SONM	**Songino Array**	**16.47**	**25**	Pn	**P**	**05 50 50.9**	**-1.6**
	comp=Z,1.1nm,0.3s,baz=209,slow=14,SNR=24						
DHRM	**DHARAMSHALA**	**16.80**	**272**	eP	**P**	**05 50 55.5**	**-0.9**
PBKT	**Sadao Pong**	**17.14**	**164**	P	P	05 51 04.4	+4.5
	comp=Z,108nm,1.0s						
MK31	**Makanchi Array**	**17.20**	**326**	eP	**P**	**05 50 59.0**	**-1.5**
MK31	**Makanchi Array**	**17.20**	**326**	ePn	**P**	**05 50 59.0**	**-1.5**
MKAR	**Makanchi Array**	**17.20**	**326**	P	**P**	**05 50 58.6**	**-1.9**
	comp=Z,0.8nm,0.3s,baz=137,slow=14,SNR=38						
MKAR				ScP	**ScP**	**05 59 17.7**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=111,slow=3.2,SNR=3.1						
MKAR	**Makanchi Array**	**17.20**	**326**	ePn	**P**	**05 50 58.9**	**-1.6**
BJI	**Beijing**	**17.36**	**61**	P	**P**	**05 51 02.2**	**-0.1**
BJI				PMZ			
	comp=Z,10.0nm,1.1s						
SKNT	**Sakolnakorn**	**17.64**	**155**	P	**P**	**05 51 07.8**	**+2.3**
	comp=Z,76nm,1.4s						
UTHA	**Uthaitani**	**17.85**	**170**	P	P	05 51 12.7	+5.0
	comp=Z,8.9nm,0.9s						
ZAK	**Zakamensk**	**17.90**	**15**	eP	**P**	**05 51 07.2**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
CHAI	**Chaiyaphum**	**18.03**	**162**	P	**P**	**05 51 12.3**	**+2.5**
	comp=Z,5.6nm,0.9s						
ULHL	**Ulahol**	**18.16**	**305**	P	**P**	**05 51 15.0**	**+3.8**
	SNR=11						
KZA	**Kyzart**	**18.77**	**304**	P	**Pn**	**05 51 20.5**	**+1.8**
	SNR=15						
TKM2	**Tokmak 2**	**18.86**	**307**	P	**Pn**	**05 51 21.0**	**+1.5**
	SNR=8.4						
TKM2	**Tokmak 2**	**18.86**	**307**	eP	**Pn**	**05 51 19.8**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,15nm,1.0s						
TKM2	**Tokmak 2**	**18.86**	**307**	eP	**Pn**	**05 51 19.8**	**+0.3**
	comp=Z,15nm,1.0s						
SRDT	**SRDT**	**18.99**	**171**	P	Pn	05 51 26.1	+5.1
	comp=Z,247nm,1.2s						
TLY	**Talaya**	**19.20**	**14**	P	**Pn**	**05 51 22.8**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=227,slow=18,SNR=2.1						
TLY				Lg	Lg	05 57 05.4	
	baz=240,slow=20,SNR=1.5						
BHPL	**Bhopal**	**19.31**	**244**	eP	**Pn**	**05 51 24.5**	**-0.5**
BHPL				AMB	AMB	05 52 09.5	
	comp=Z,94nm,1.8s						
UCH	**Uchtor**	**19.34**	**304**	P	**Pn**	**05 51 26.1**	**+0.5**
	SNR=7.9						
NGP	**Nagpur**	**19.43**	**236**	eP	**Pn**	**05 51 25.7**	**-0.7**
AAK	**Ala-Archa**	**19.50**	**305**	P	**Pn**	**05 51 26.6**	**-0.6**
	SNR=8.8						
AAK	**Ala-Archa**	**19.50**	**305**	P	**Pn**	**05 51 27.0**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=86,slow=8.0,SNR=14						
AAK	**Ala-Archa**	**19.50**	**305**	⇓iP	**Pn**	**05 51 28.3**	**+1.1**
AAK				pmax	pmax		
	comp=Z,35nm,1.2s						
AAK	**Ala-Archa**	**19.50**	**305**	P	**Pn**	**05 51 27.0**	**-0.1**
AAK				ePn	**pP**	**05 51 27.9**	**-1.0**
USP	**Ospenovka**	**19.74**	**307**	P	**Pn**	**05 51 30.6**	**+0.7**
	SNR=6.9						
EKS2	**Erkin-Say**	**20.00**	**305**	P	Pn	05 51 32.6	-0.6
	SNR=9.8						
EKS2	**Erkin-Say**	**20.00**	**305**	eP	Pn	05 51 32.5	-0.7
EKS2				pmax	pmax		

comp=Z,23nm,1.1s
EKS2 Erkin-Say 20.00 305 *e*P P 05 51 32.5 -0.7
comp=Z,23nm,1.1s
DGPR DIGLIPUR 20.20 189 *e*P P 05 51 34.6 -0.8
AKL Akola 21.16 239 *e*P **P** **05 51 46.5 +2.5**
AKL AMB AMB 05 52 33.2
comp=Z,54nm,5.8s
KURBB Kurchatov Arra 21.70 328 P **P** **05 51 49.2 -0.3**
comp=Z,13nm,0.8s,baz=133,slow=11,SNR=19
KURBB ScP **ScP** **05 59 26.6 -0.8**
comp=Z,0.2nm,0.5s,baz=137,slow=1.7,SNR=2.9
KURK Kurchatov 21.73 329 P **P** **05 51 49.2 -0.6**
KURK pmax pmax
comp=Z,13nm,0.8s
KURK Kurchatov 21.73 329 *e*P **P** **05 51 49.5 -0.4**
comp=Z,20nm,0.9s
ZAA0 Zalesovo Array 22.23 342 *e*P **P** **05 51 54.8 -0.4**
ZALV Zalesovo Beam 22.23 342 P **P** **05 51 56.1 +1.0**
comp=Z,6.3nm,0.8s,baz=154,slow=9.6,SNR=18
ZALV Zalesovo Beam 22.23 342 *i* P **P** **05 51 56.2 +1.0**
ZALV pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 22.41 304 *e*P **P** **05 51 58.0 +0.7**
KKAR Karatay Array 22.41 304 *e*P **P** **05 51 58.0 +0.7**
SURT Suratani 24.28 174 P P 05 52 21.1 +5.0
POO Poona 24.83 239 *e*P **P** **05 52 21.1 -0.1**
POO AMB AMB 05 52 34.0
comp=Z,28nm,2.5s
CN2 Changchun 25.05 57 *e*P **P** **05 52 22.8 -0.1**
TJN Taejon 25.69 74≀∩ *e*P **P** **05 52 26.6 -2.2**
KSAR Wonju Array Be 26.09 72 P **P** **05 52 32.9 +0.5**
KSAR Wonju Array Be 26.09 72 P **P** **05 52 32.9 +0.5**
KSRS Korea Array 26.12 72 P **P** **05 52 32.9 +0.2**
comp=Z,1.7nm,0.7s,baz=261,slow=8.8,SNR=10
KSRS Korea Array 26.12 72 P **P** **05 52 32.9 +0.2**
KSRS pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 27.08 325 P **P** **05 52 43.3 +2.1**
comp=Z,0.6nm,0.5s,baz=132,slow=8.6,SNR=3.7
BRVK Borovoye 27.15 325 ⇓P **P** **05 52 42.7 +0.9**
ABKAR Akbulak array 31.27 312 *e*P **P** **05 53 19.2 +0.8**
MJAR Matsushiro Arr 34.39 72 P **P** **05 53 44.9 -1.0**
comp=Z,0.5nm,0.3s,baz=268,slow=12,SNR=3.2
ARU Arti 34.70 323 *d i*P **P** **05 53 48.4 +0.1**
ARU 05 55 02.1
ARU S **S** **05 59 20.0 +2.0**
ARU SS **SnSn** **06 01 33.2 +2.7**
ARU pmax pmax
comp=Z,10.0nm,1.7s
ARU Arti 34.70 323 *e*P **P** **05 53 48.0 -0.3**
KIV Kislovodsk 42.53 301 *e*P **P** **05 54 54.1 -0.2**
KIV pmax pmax
comp=Z,8.0nm,0.8s
VSR Storozhevoye 44.71 311 *e*P **P** **05 55 11.6 0.0**
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR pmax pmax
comp=Z,6.0nm,0.6s
LPSR Galich'ya Gora 44.89 313 *e*P **P** **05 55 11.7 -1.4**
LPSR pmax pmax
comp=N,2.0nm,0.6s
LPSR pmax pmax
comp=E,9.0nm,0.6s
LPSR pmax pmax
comp=Z,7.0nm,0.6s
KLMR Klimovskoe 45.50 325 *e*P **P** **05 55 17.5 -0.3**
KLMR pmax pmax
comp=Z,14nm,1.5s
BRTR Keskin Array B 49.85 296 P **P** **05 55 52.2 +0.1**
comp=Z,1.0nm,0.6s,baz=81,slow=7.6,SNR=4.3
AKASG Malin Array Be 51.01 311 P **P** **05 55 60.0 -0.5**
comp=Z,3.5nm,0.8s,baz=75,slow=6.6,SNR=6.0
AKASG Malin Array Be 51.01 311 *ce*P **P** **05 56 00.1 -0.4**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
KIEV Kiev 51.02 311 *e*P **P** **05 56 00.5 -0.1**
KIEV pmax pmax
comp=Z,10.0nm,1.4s
KIEV Kiev 51.02 311 *e*P **P** **05 56 00.5 -0.1**
comp=Z,9.5nm,1.4s
FINES FINESS Array B 52.03 325 P **P** **05 56 08.4 +0.5**
comp=Z,3.5nm,0.8s,baz=116,slow=8.7,SNR=13
ARCES ARCESS Array B 52.55 335 P **P** **05 56 12.7 +1.0**
comp=Z,3.0nm,0.7s,baz=84,slow=7.6,SNR=18
ARCES ARCESS Array B 52.55 335 P **P** **05 56 12.7 +1.0**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
KOLS Kolonicke sedl 55.75 310 *e*P **P** **05 56 36.6 +1.2**
KOLS Kolonicke sedl 55.75 310 *e*P **P** **05 56 36.6 +1.2**
STHS Stebnicka Huta 56.30 311 *e*P **P** **05 56 38.9 -0.4**
STHS Stebnicka Huta 56.30 311 *e*P **P** **05 56 38.9 -0.4**
DPC Dobruska-Polom 59.14 313 *e*P **P** **05 56 59.9 +0.6**
DPC *ex* x 05 57 02.4
DPC Dobruska-Polom 59.14 313 *e*P **P** **05 56 59.9 +0.6**
NB2 NORSAR Subarra 59.20 326 P **P** **05 57 00.0 +0.4**
comp=Z,6.0nm,0.8s,baz=77,slow=6.9
NOA NORSAR Array B 59.20 326 P **P** **05 57 00.0 +0.4**
comp=Z,4.2nm,0.8s,baz=77,slow=7.0,SNR=15
UPC Upice 59.28 313 *e*P **P** **05 57 01.3 +1.0**
UPC *ex* x 05 57 03.6
UPC Upice 59.28 313 *e*P **P** **05 57 01.3 +1.0**
PRU Pruhonice 60.34 313 *e*P **P** **05 57 08.5 +1.0**
PRU *ex* x 05 57 10.6
PRU Pruhonice 60.34 313 *e*P **P** **05 57 08.5 +1.0**
BRG Berggiesshubel 60.44 314 *e*P **P** **05 57 06.4 -1.8**
comp=Z,2.3nm,0.5s
BRG Berggiesshubel 60.44 314 *e*P **P** **05 57 06.4 -1.8**
BRG pmax pmax
comp=Z,2.0nm,0.5s
CLL Collm 60.88 314 ⇓ *i*P **P** **05 57 11.3 +0.2**
comp=Z,4.0nm,0.9s
CLL Collm 60.88 314 ⇓ *i e*P **P** **05 57 11.3 +0.2**
CLL 05 57 17.0
CLL pmax pmax
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 61.20 312 *e*P **P** **05 57 12.8 -0.7**
KHC *ex* x 05 57 15.8
KHC Kasperske Hory 61.20 312 *e*P **P** **05 57 12.8 -0.7**
GERES GERESS Array B 61.21 312 P **P** **05 57 13.7 +0.1**
comp=Z,1.0nm,0.6s,baz=49,slow=4.1,SNR=8.4
WRAB Tennant Creek 64.19 140 ⇓P **P** **05 57 34.0 +0.4**
WRAB pmax pmax
comp=Z,25nm,1.2s
WRA Warramunga Arr 64.19 140 P **P** **05 57 33.1 -0.5**
comp=Z,3.0nm,0.8s,baz=318,slow=9.3,SNR=21
WRA Warramunga Arr 64.19 140 *i* P **P** **05 57 32.9 -0.7**
WRA pmax pmax
comp=Z,3.0nm,0.8s
TUE Stuetta 64.80 310 *e*P P 05 57 34.1 -3.6
comp=Z,441nm,0.5s
KMBO Kilima Mbogo 65.10 251 P **P** **05 57 39.9 -0.2**
comp=Z,3.3nm,0.7s,baz=37,slow=10,SNR=5.9
ASAR Alice Springs 67.02 143 P **P** **05 57 52.0 +0.2**
comp=Z,2.1nm,0.5s,baz=327,slow=6.8,SNR=32
BPAW Bear Paw Mtn. 69.65 26 *e*P **P** **05 58 08.2 +0.3**
PPLA Purkeypile 69.89 27 *e*P P 05 58 12.0 +2.4
comp=Z,16nm,1.2s
ILAR Eielson Array 70.69 24 P **P** **05 58 14.9 +0.6**
comp=Z,0.5nm,1.0s,baz=295,slow=3.3,SNR=4.6
STKA Stephens Creek 77.63 142 P **P** **05 58 55.2 +0.2**
comp=Z,2.5nm,0.8s,baz=323,slow=11,SNR=4.3
YKA Yellowknife Ar 81.42 14 P **P** **05 59 16.0 +0.7**
comp=Z,0.9nm,0.8s,baz=335,slow=4.6,SNR=7.2
YKA Yellowknife Ar 81.42 14 P **P** **05 59 16.0 +0.7**
YKA pmax pmax
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 86.64 283 P **P** **05 59 43.0 +0.2**
comp=Z,0.6nm,0.8s,baz=52,slow=4.3,SNR=6.8
SAML Samuel 149.25 317 *e*PKPbc **PKPbc** **06 06 48.0 -0.1**

IDC ***03*** *06:01:32.7±1.4, 14.°81S×166.°53E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/20, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=50.1km s-min=30.3km az=126.0*
ISCJB ***03*** *06:01:36.3±1.3, 15.°09S±0.°09×166.°5E±0.°2, h36km, mb3.7/4, Error ellipse: s-maj=32.9km s-min=12.0km az=173.3*

ISC 03 06:01:38.0±1.2, 15.°0S±0.°1×166.°6E±0.°3, h36km, n6, σ1§32/7, mb3.6/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.04**	**181**	Pn	**Pn**	**06 03 20.0**	**+1.4**
	1.1nm,0.3s,baz=90,slow=20,SNR=18						
DZM				Sn	**Sn**	**06 04 36.0**	**-1.5**
	0.3nm,0.3s,baz=90,slow=20,SNR=1.9						
WRA	**Warramunga Arr**	**31.11**	**256**	P	**P**	**06 07 52.9**	**-0.4**
	0.5nm,0.8s,baz=89,slow=10,SNR=2.8						
ASAR	**Alice Springs**	**31.95**	**249**	P	**P**	**06 08 00.3**	**-0.4**
	0.3nm,0.6s,baz=76,slow=8.7,SNR=4.3						
ILAR	**Eielson Array**	**86.99**	**18**	P	**P**	**06 14 17.9**	**-1.2**
	0.9nm,0.8s,baz=238,slow=5.3,SNR=11						
MKAR	**Makanchi Array**	**96.93**	**316**	P	**P**	**06 15 06.7**	**+0.9**
	0.3nm,0.7s,baz=114,slow=3.5,SNR=2.7						
ARCES	**ARCESS Array B**	**120.34**	**345**	PKP	**PKPdf**	**06 20 25.3**	**+0.5**
	0.7nm,0.4s,baz=54,slow=2.1,SNR=11						

ISCJB ***03*** *06:23:52.7±0.7, 51.°64N±0.°09×175.°58W±0.°06, h55km, mb3.4/4, Error ellipse: s-maj=13.2km s-min=4.4km az=168.5*
IDC ***03*** *06:23:53.4±1.4, 51.°90N×175.°74W, h52km±9km, mb3.1/4, mb1 3.4/5, mb1mx3.1/27, mbtmp3.3/5, Error ellipse: s-maj=54.5km s-min=19.5km az=1.0*
NEIC ***03*** *06:23:54.2, 51.°77N×175.°70W, h50km, ML3.3(AEIC), After AEIC.*

ISC 03 06:23:53.5±0.9, 51.°7N±0.°1×175.°64W±0.°04, h55km, n38, σ1§01/39, mb3.5/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSMY	**Great Sitkin M**	**0.41**	**321**	P	**Pn**	**06 24 04.2**	**+0.1**
GSCK	**Great Sitkin C**	**0.43**	**312**	P	**Pn**	**06 24 04.5**	**+0.2**
GSTR	**Great Sitkin T**	**0.45**	**325**	*e*Pn	**Pn**	**06 24 04.8**	**+0.2**
GSTD	**Great Sitkin T**	**0.45**	**317**	P	**Pn**	**06 24 04.8**	**+0.1**
GSTD				S	**Sn**	**06 24 13.1**	**+0.4**
ETKA	**Kagalaska Isla**	**0.49**	**286**	P	**Pn**	**06 24 05.4**	**+0.4**
ADAG	**Mount Adagdak**	**0.65**	**294**	P	**Pn**	**06 24 07.5**	**+0.7**
ADK	**Adak**	**0.67**	**284**	P	**Pn**	**06 24 06.7**	**-0.3**
ADK				S	**Sn**	**06 24 17.3**	**+0.4**
KIRH	**Kanaga Island**	**0.92**	**282**	P	**Pn**	**06 24 10.8**	**+0.5**
KIKV	**Kanaga Island**	**0.96**	**280**	P	**Pn**	**06 24 11.2**	**+0.4**
KICM	**Kanaga Island**	**0.98**	**282**	P	**Pn**	**06 24 11.6**	**+0.6**
ATKA	**Atka Island**	**1.01**	**61**	P	**Pn**	**06 24 11.7**	**+0.2**
ATKA				S	**Sn**	**06 24 25.0**	**+0.2**
KOKL	**Mount Kliuchef**	**1.07**	**56**	P	**Pn**	**06 24 13.8**	**+1.4**
KOFP	**Korovin Flat P**	**1.10**	**59**	P	**Pn**	**06 24 13.9**	**+1.1**
TAPA	**Tanaga Point A**	**1.35**	**275**	P	**Pn**	**06 24 16.7**	**+0.7**
TAFL	**Tanaga Flats**	**1.40**	**272**	P	**Pn**	**06 24 17.5**	**+0.8**
TAFP	**Tanaga Falls P**	**1.46**	**278**	P	**Pn**	**06 24 18.1**	**+0.5**
TAFP				S	**Sn**	**06 24 37.8**	**+2.1**
TASE	**Tanaga Southea**	**1.49**	**275**	P	**Pn**	**06 24 18.7**	**+0.7**
GAEA	**Gareloi East**	**1.93**	**273**	P	**Pn**	**06 24 25.0**	**+1.1**
CERAA	**Semis' Rag'd T**	**2.91**	**275**	P	**Pn**	**06 24 38.5**	**+1.3**
CEAP	**Semis' Anvil P**	**2.98**	**277**	P	**Pn**	**06 24 39.6**	**+1.5**
CESW	**Semis' Southwe**	**2.98**	**275**	P	**Pn**	**06 24 39.4**	**+1.2**
CETU	**Semis' Tuman**	**3.03**	**276**	P	**Pn**	**06 24 39.4**	**+0.6**
AMKA	**Amchitka**	**3.17**	**266**	P	**Pn**	**06 24 41.6**	**+0.7**
LSPA	**Little Sitkin**	**3.59**	**276**	P	**Pn**	**06 24 48.0**	**+1.3**
LSNW	**Little Sitkin**	**3.63**	**276**	P	**Pn**	**06 24 48.5**	**+1.3**
LSSA	**Little Sitkin**	**3.63**	**276**	P	**Pn**	**06 24 48.3**	**+1.2**
SPIA	**Saint Paul Isl**	**6.30**	**28**	P	**Pn**	**06 25 25.6**	**+1.9**
ILAR	**Eielson Array**	**19.75**	**38**	P	**P**	**06 28 18.3**	**-0.2**
	0.2nm,0.3s,baz=236,slow=11,SNR=16						
H11N2	**WAKE ISLAND Hy**	**34.74**	**210**	T	T	07 07 20.7	
	baz=18,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**34.75**	**210**	T	T	07 07 24.1	
	baz=18,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**34.76**	**210**	T	T	07 07 24.6	
	baz=18,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**35.95**	**209**	T	T	07 09 04.6	
	baz=18,slow=74,SNR=32						
H11S2	**WAKE ISLAND Hy**	**35.97**	**209**	T	T	07 09 04.6	
	baz=18,slow=74,SNR=23						
H11S3	**WAKE ISLAND Hy**	**35.97**	**209**	T	T	07 09 05.8	
	baz=18,SNR=10						
KSRS	**Korea Array**	**41.60**	**273**	P	**P**	**06 31 36.5**	**+0.8**
	0.5nm,0.4s,baz=60,slow=7.6,SNR=4.5						
PDAR	**Pinedale Array**	**44.32**	**74**	P	**P**	**06 31 58.2**	**+0.2**
	0.5nm,0.6s,baz=331,slow=5.4,SNR=4.9						
PDAR				pP	**pP**	**06 32 12.4**	**0.0**
	0.4nm,0.5s,baz=316,slow=5.0,SNR=3.2						
TXAR	**Lajitas Array**	**56.65**	**84**	P	**P**	**06 33 30.6**	**-0.5**
	0.1nm,0.5s,baz=293,slow=4.7,SNR=3.5						
TXAR				pP	**pP**	**06 33 45.9**	**0.0**
	0.7nm,0.8s,baz=307,slow=5.0,SNR=6.6						
MKAR	**Makanchi Array**	**61.34**	**310**	P	**P**	**06 34 01.7**	**-1.5**
	0.1nm,0.3s,baz=38,slow=7.3,SNR=3.4						
MKAR				pP	**pP**	**06 34 15.6**	**-2.5**
	0.1nm,0.4s,baz=55,slow=7.6,SNR=1.8						

KRSC 03 06:27:14.7±1.2, 55.°96N×163.°71E, h6km±21km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.56**	**297**	*e*P	Pg	06 27 25.8	+0.3
KBTR				*e*S	Sg	06 27 33.3	+0.5
SMKR	**Semkarok**	**1.40**	**298**	*e*P	Pn	06 27 40.6	-0.3
SMKR				*e*S	Sb	06 27 58.8	-0.8
BKI	**Bering**	**1.49**	**120**	*e*P	Pg	06 27 43.3	0.0
BKI				*e*S	Sg	06 28 02.6	0.0
BDR	**Baidarnaya**	**1.52**	**295**	*e*P	Pn	06 27 42.8	+0.1
BDR				*e*S	Sn	06 28 02.4	-0.5
SRKR	**Sorokina**	**1.58**	**297**	*e*P	Pn	06 27 43.5	+0.1
SRKR				*e*S	Sn	06 28 03.7	-0.5
KLY	**Klyuchi**	**1.75**	**283**	*e*P	Pn	06 27 45.2	-0.4
KLY				*e*S	Sn	06 28 06.3	-1.9
MKZ	**Mys Kozlova**	**1.80**	**220**	*e*P	Pb	06 27 48.1	0.0
MKZ				*e*S	Sb	06 28 11.5	+0.5
KPT	**Kopyto**	**1.96**	**272**	*e*P	Pb	06 27 49.9	-1.1
KMNR	**Kamenistaya**	**1.97**	**266**	*e*P	Pb	06 27 51.6	+0.5
KZV	**Kizimen**	**2.12**	**248**	*e*P	Pn	06 27 52.3	+1.4
TUMR	**Tumrok**	**2.13**	**253**	*e*P	Pb	06 27 53.6	-0.3
TUMR				*e*S	Sb	06 28 20.6	-0.1
KOZ	**Kozyrevsk**	**2.16**	**274**	*e*P	Pb	06 27 52.9	-1.3
KOZ				*e*S	Sb	06 28 19.9	-1.3
SRDR	**Sredinnyy**	**2.26**	**281**	*e*P	Pb	06 27 54.5	-1.6
SRDR				*e*S	Sn	06 28 22.6	+1.5
ESO	**Esso**	**2.82**	**271**	*e*P	Pn	06 28 02.8	+2.5
SPN	**Mys Shipunski**	**3.58**	**218**	*e*P	Pn	06 28 13.5	+2.7
NLC	**Nalytchevo**	**3.77**	**224**	*e*P	Pn	06 28 16.4	+3.0
SDLR	**Sedlovina**	**3.88**	**228**	*e*P	Pn	06 28 18.0	+2.9
KRX	**Arik**	**3.93**	**231**	*e*P	Pn	06 28 19.4	+3.7
SMAR	**Somma**	**3.93**	**229**	*e*P	Pn	06 28 18.7	+2.8
AVH	**Avacha**	**3.95**	**229**	*e*P	Pn	06 28 19.8	+3.8
UGLR	**Uglovaya**	**3.96**	**228**	*e*P	Pn	06 28 18.4	+2.3
KOK	**Koryaka**	**3.98**	**230**	*e*P	Pn	06 28 19.8	+3.4
GNL	**Ganaly**	**4.03**	**238**	P	Pn	06 28 19.8	+2.6
RUS	**Russkaya**	**4.67**	**223**	*e*P	Pn	06 28 28.8	+3.1
ASAK	**Asacha**	**4.95**	**226**	P	Pn	06 28 33.9	+4.2

IDC ***03*** *06:39:14.1±0.8, 8.°17N×104.°17W, h0km, mb4.2/12, mb1 4.5/13, mb1mx4.3/21, mbtmp4.2/13, ML3.5/1, MS4.2/7, Ms1 4.2/7, ms1mx3.9/17, Error ellipse: s-maj=32.6km s-min=14.2km az=59.0*
NEIC ***03*** *06:39:16.5±0.3, 8.°22N×103.°95W, h10km, mb4.6/85, Error ellipse: s-maj=8.5km s-min=4.7km az=52.0*
GCMT ***03*** *06:39:16.5±0.5, 8.°48N×103.°99W, h14km±1km, MW4.9/76, Moment Tensor Solution. s19,c22; s76,c101; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.92±.17; Mθθ0.73±.14; Mφφ0.18±.14; Mrθ-1.73±.41; Mφθ-2.60±.10; Mφr0.86±.34; Best double couple: Mo3.13200×10^16 NP1:φs93.00000°, δ85.00000°, λ-142.00000°. NP2: φs359.00000°, δ53.00000°, λ-6.00000°. Principal axes: T 3.8130, Plg22.0000°, Azm220.0000°; N -1.3640, Plg52.0000°, Azm99.0000°; P -2.4510, Plg29.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***03*** *06:39:18.1±0.5, 8.°25N±0.°05×103.°91W±0.°05, h33km, mb4.6/94, MS4.2/6 Error ellipse: s-maj=8.6km s-min=6.1km az=38.7*
BJI ***03*** *06:39:19.6, 8.°40N×103.°80W, h10km, mB5.3/4, Ms5.0/1, Ms7 4.9/1*

ISC 03 06:39:20.0±0.6, 8.°27N±0.°09×104.°0W±0.°1, h35km, n392, σ0§73/379, mb4.6/94, MS4.3/6, 121C-126D, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H06E1	**SOCORRO T-PHAS**	**12.43**	**328**	T	T	06 54 50.2	

SNR=12
CMIG Matias Romero 12.48 44 Pn **Pn** **06 42 14.7 -0.6**
0.3nm,0.3s,baz=215,slow=9.7,SNR=10
CMIG LR LR 06 45 48.6
comp=Z,2μm,21.1s,baz=200,slow=31
LPIG La Paz 16.87 340 LR LR 06 48 00.1
comp=Z,531nm,20.6s,baz=338,slow=31
JTS JuntasAbangare 18.90 82 *e*P **P** **06 43 37.2 -0.6**
56nm,1.4s
034A Hebbronville 19.36 14 ⇓P **Pn** **06 43 45.2 +1.2**
baz=20
035A Encino 19.39 16 ⇑P **Pn** **06 43 45.6 +1.3**
baz=20
933A Laredo 19.75 12 ⇓P **Pn** **06 43 49.6 +0.9**
baz=20
934A Benavides 19.92 14 ⇑P **Pn** **06 43 50.9 +0.3**
baz=20
832A Faith Ranch, C 20.27 10 ⇓P **P** **06 43 53.3 +0.7**
baz=20,SNR=9.3
833A Chaparral WMA, 20.42 12 ⇑P **P** **06 43 55.0 +0.8**
baz=21
732A Laxson Ranch, 20.70 10 ⇑P **P** **06 43 57.7 +0.4**
baz=21
733A Divot King Ran 20.82 12 ⇑P **P** **06 43 59.4 +0.8**
baz=21,SNR=6.3
TXAR Lajitas Array 20.96 1 P **P** **06 44 00.8 +0.6**
8.1nm,0.8s,baz=183,slow=11,SNR=60
TXAR LR LR 06 51 32.6
comp=Z,1μm,18.7s,baz=0.0,slow=35
TX31 Lajitas Ar. Si 20.96 1 *e*P **P** **06 44 00.5 +0.2**
734A La Parita Cree 21.10 13 ⇑P **P** **06 44 02.1 +0.5**
baz=21
631A Perdido Creek 21.28 8 ⇑P **P** **06 44 04.0 +0.4**
baz=21,SNR=10
735A Kenedy 21.29 15 ⇑P **P** **06 44 04.5 +0.9**
baz=21
632A Uvalde 21.50 10 ⇑P **P** **06 44 07.2 +1.4**
baz=22,SNR=6.5
633A Saathoff Ranch 21.56 11 ⇓P **P** **06 44 07.0 +0.5**
baz=22,SNR=9.7
736A Circle Diamond 21.59 17 ⇓P **P** **06 44 07.1 +0.3**
baz=22
529A Stev Forest Ra 21.81 4 ⇓P **P** **06 44 09.7 +0.4**
baz=22
530A J-C Ranch, Com 21.91 6 ⇓P **P** **06 44 11.5 +1.1**
baz=22,SNR=29
531A Rocksprings 22.02 8 ⇓P **P** **06 44 12.4 +0.8**
baz=22,SNR=10.0
532A Rocksprings 22.08 9 ⇑P **P** **06 44 12.7 +0.5**
baz=22,SNR=8.3
636A Smothers Creek 22.09 16 ⇑P **P** **06 44 12.4 +0.2**
baz=22
533A Kerrville 22.18 11 ⇑P **P** **06 44 13.9 +0.6**
baz=22,SNR=11
637A Eagle Lake 22.26 18 ⇓P **P** **06 44 14.4 +0.4**
baz=22
534A Blanco 22.26 13 ⇑P **P** **06 44 14.1 0.0**
baz=22,SNR=16
429A Davenport Ranc 22.33 5 ⇓P **P** **06 44 15.2 +0.4**
baz=22
JCT Junction City 22.44 10 ⇑P **P** **06 44 16.7 +0.6**
baz=23,SNR=12
JCT Junction City 22.44 10 *e*P **P** **06 44 16.1 0.0**
32nm,1.1s
535A Dale 22.47 15 ⇓P **P** **06 44 16.6 +0.2**
baz=23
431A Sonora 22.52 8 ⇓P **P** **06 44 17.5 +0.5**
baz=23,SNR=10
430A Baggett Ranch, 22.55 6 ⇓P **P** **06 44 17.8 +0.6**
baz=23,SNR=15
536A Bastrop 22.65 16 ⇑P **P** **06 44 18.4 +0.2**
baz=23
432A Menard 22.83 9 ⇓P **P** **06 44 20.7 +0.5**
baz=23,SNR=9.5
433A Art 22.84 11 ⇓P **P** **06 44 20.3 +0.1**
baz=23,SNR=10
537A Green Hill Far 22.86 17 ⇑P **P** **06 44 20.4 -0.1**
baz=23
HKT Hockley 22.89 18 *e*P **P** **06 44 20.3 -0.4**
85nm,1.7s
434A Burnet 23.06 13 ⇓P **P** **06 44 22.9 +0.4**
baz=23,SNR=7.0
331A San Angelo 23.16 8 ⇑P **P** **06 44 23.8 +0.2**
baz=23,SNR=9.5
330A Mertzon 23.17 6 ⇓P **P** **06 44 23.5 -0.1**
baz=23,SNR=7.3
329A Wagon Wheel Ra 23.18 4 ⇓P **P** **06 44 24.0 +0.3**
baz=23
435B Jarrell 23.19 14 ⇓P **P** **06 44 23.7 -0.1**
baz=23
332A Millersview 23.34 9 ⇑P **P** **06 44 25.1 -0.2**
baz=24
MNTX Cornudas Mount 23.35 357 ⇑P **P** **06 44 25.4 0.0**
baz=24,SNR=18
MNTX Cornudas Mount 23.35 357 *e*P **P** **06 44 25.1 -0.3**
28nm,1.3s
333A Richland Sprin 23.41 11 ⇑P **P** **06 44 25.5 -0.4**
baz=24,SNR=13
334A Lometa 23.57 12 ⇑P **P** **06 44 27.1 -0.4**
baz=24
229A Bryant Ranch, 23.67 5 ⇓P **P** **06 44 28.2 -0.3**
baz=24
335A Moody 23.70 14 ⇓P **P** **06 44 28.5 -0.2**
baz=24
438A Sam Houston St 23.74 18 ⇑P **P** **06 44 28.8 -0.4**
baz=24
228A UT Block 9, Go 23.77 3 ⇓P **P** **06 44 29.2 -0.3**
baz=24
231A Bronte 23.80 8 ⇑P **P** **06 44 29.2 -0.5**
baz=24,SNR=6.4
232A Coleman 23.85 9 ⇑P **P** **06 44 29.9 -0.3**
baz=24
336A Riesel 23.95 15 ⇓P **P** **06 44 30.9 -0.2**
baz=24
233A Rising Star 24.10 11 ⇑P **P** **06 44 32.4 -0.1**
baz=24
337A Centerville 24.15 17 ⇑P **P** **06 44 33.0 +0.1**
baz=24
234A Clairette 24.24 12 ⇑P **P** **06 44 33.4 -0.4**
baz=24
128A Castleberry Fa 24.27 3 ⇓P **P** **06 44 34.3 +0.1**
baz=24
129A Stewart Farms, 24.32 4 ⇑P **P** **06 44 35.0 +0.4**
baz=24,SNR=5.0
130A Snyder 24.37 6 ⇑P **P** **06 44 35.2 +0.2**
baz=24,SNR=8.2
WHTX Lake Whitney, 24.38 14 ⇑P **P** **06 44 35.2 +0.2**
baz=24,SNR=6.1
WHTX Lake Whitney, 24.38 14 *e*P **P** **06 44 35.4 +0.4**
22nm,1.0s
121A Cookes Peak, D 24.40 352 ⇓P **P** **06 44 35.8 +0.4**
baz=25,SNR=12
121A Cookes Peak, D 24.40 352 *e*P **P** **06 44 35.8 +0.4**
80nm,1.8s
131A Roby 24.52 7 ⇑P **P** **06 44 36.0 -0.3**
baz=25
ABTX Abilene, Hawle 24.57 9 ⇓P **P** **06 44 36.2 -0.6**
baz=25,SNR=15
ABTX Abilene, Hawle 24.57 9 *e*P **P** **06 44 36.2 -0.6**
23nm,0.8s
339A Huntington 24.58 20 ⇑P **P** **06 44 35.8 -1.1**
baz=25
236A Katherine and 24.61 15 ⇑P **P** **06 44 36.8 -0.3**
baz=25
133A Hamilton Ranch 24.68 10 ⇑P **P** **06 44 36.9 -0.8**
baz=25
TUC Tucson 24.74 346 *e*P **P** **06 44 39.0 +0.6**
20nm,1.3s
134A White-Moore Ra 24.80 12 ⇓P **P** **06 44 37.8 -1.1**
baz=25
237A Washetta, Mont 24.81 17 ⇑P **P** **06 44 37.9 -1.1**
baz=25
Z28A Tucker Farm, M 24.94 3 ⇓P **P** **06 44 40.2 -0.1**
baz=25,SNR=9.8
214A Organ Pipe Nat 24.96 342 ⇑P **P** **06 44 40.5 +0.1**
baz=25
Z29A Hungry Hill Ra 24.96 5 ⇓P **P** **06 44 40.0 -0.3**
baz=25,SNR=12
238A Jacksonville 25.02 18 ⇑P **P** **06 44 39.9 -0.9**
baz=25
Z30A Sanderson Ranc 25.04 6 ⇑P **P** **06 44 40.2 -0.8**
baz=25,SNR=11
Z31A Sharp Cattle R 25.18 8 ⇓P **P** **06 44 41.7 -0.6**
baz=25,SNR=10
Z32A Haskell 25.27 9 ⇓P **P** **06 44 43.0 -0.1**
baz=25,SNR=13
Z33A Whitaker Ranch 25.36 10 ⇓P **P** **06 44 43.7 -0.3**
baz=26,SNR=12

137A	Heron Place, G baz=26	25.39	16	⇑P		P	06 44 43.5	-0.7
Y29A	Porterfield Fa baz=26,SNR=16	25.56	4	⇓P		P	06 44 46.4	+0.6
Y28A	McKinney Farm, baz=26,SNR=8.1	25.57	3	⇓P		P	06 44 46.1	+0.2
MSTX	Muleshoe baz=26,SNR=14	25.60	2	⇓P		P	06 44 46.2	0.0
MSTX	Muleshoe 12nm,1.0s	25.60	2	eP		P	06 44 45.9	-0.3
Z34A	Collier Ranch, baz=26	25.61	12	⇑P		P	06 44 45.9	-0.3
138A	Matatall Enter baz=26	25.64	18	⇑P		P	06 44 45.7	-0.7
Y30A	Stafford Cattl baz=26	25.65	6	⇑P		P	06 44 46.3	-0.3
Z35A	Perchaven, San baz=26	25.71	13	⇓P		P	06 44 46.5	-0.6
Y31A	Rekieta Farm, baz=26	25.80	7	⇓P		P	06 44 47.8	-0.2
BNM	Barren Site	25.87	355	eP		P	06 44 51.8	+3.0
Y32A	R-V Farms, Ver baz=26	25.95	9	⇓P		P	06 44 48.5	-0.8
Z37A	Pogue Cattle C baz=26	25.99	16	⇑P		P	06 44 48.7	-0.9
Y33A	Hilltop Ranch, baz=26	26.09	10	⇑P		P	06 44 50.1	-0.5
X29A	Tulia baz=26	26.14	4	⇑P		P	06 44 50.8	-0.3
LAZ	Ladron	26.17	354	eP		P	06 44 52.8	+1.3
X28A	Dimmitt baz=26,SNR=8.2	26.18	3	⇑P		P	06 44 51.2	-0.3
Y34A	Reagan Ranch, baz=26	26.20	12	⇓P		P	06 44 50.7	-0.9
Z38A	Mt. Pleasant baz=26	26.22	17	⇑P		P	06 44 50.9	-0.8
X32A	Elmer baz=26,SNR=5.5	26.39	9	⇓P		P	06 44 53.3	+0.1
X31A	McDonald Ranch baz=27	26.50	7	⇓P		P	06 44 54.1	-0.2
AMTX	Amarillo baz=27	26.58	4	⇑P		P	06 44 55.1	+0.1
AMTX	Amarillo 19nm,1.1s	26.58	4	eP		P	06 44 55.3	+0.3
GLA	Glamis baz=27	26.63	339	⇓P		P	06 44 56.0	+0.6
GLA	Glamis	26.63	339	eP		P	06 44 56.7	+1.2
X33A	Lawton baz=27	26.63	10	⇓P		P	06 44 55.2	-0.2
ANMO	Albuquerque 2.2nm,0.9s,baz=172,slow=6.8,SNR=9.6	26.65	355	P		P	06 44 56.4	+0.6
ANMO	Albuquerque 47nm,2.5s	26.65	355	eP		P	06 44 55.9	+0.1
OTAV	Otavalo 19nm,1.1s	26.67	106	eP		P	06 44 58.0	+1.5
X35A	Drake baz=27,SNR=7.1	26.80	13	⇑P		P	06 44 56.5	-0.4
W29A	Amarillo baz=27	26.81	4	⇓P		P	06 44 57.6	+0.5
X34A	Smith Ranch, M baz=27	26.81	11	⇓P		P	06 44 56.8	-0.3
W28A	Vega baz=27	26.91	3	⇑P		P	06 44 58.7	+0.6
MONP	Monument Peak, baz=27	27.07	337	⇓P		P	06 45 00.1	+0.4
W32A	Sentinel baz=27	27.08	9	⇑P		P	06 44 59.4	-0.1
X36A	Centrahoma baz=27	27.11	14	⇑P		P	06 44 59.2	-0.4
W33A	Caddo, Fort Co baz=27	27.23	10	⇑P		P	06 45 00.5	-0.3
X37A	Clayton baz=28	27.37	16	⇓P		P	06 45 01.6	-0.5
BC3	Big Chuckawall baz=28	27.39	339	⇓P		P	06 45 02.2	-0.2
V28A	Channing baz=28	27.40	3	⇑P		P	06 45 02.3	-0.1
PDMCI	Parker Dam,Lak baz=28	27.54	342	⇓P		P	06 45 04.4	+0.8
W35A	Tecumseh baz=28	27.54	13	⇓P		P	06 45 03.1	-0.5
V31A	Spring Creek L baz=28	27.64	7	⇑P		P	06 45 04.4	-0.2
W36A	Wetumka baz=28	27.68	14	⇑P		P	06 45 04.6	-0.2
PFO	Pinyon Flats O 2.9nm,1.0s,baz=178,slow=11,SNR=5.1	27.72	337	P		P	06 45 05.1	-0.3
PFO	Pinyon Flats O baz=28	27.72	337	⇓P		P	06 45 05.6	+0.2
PFO	Pinyon Flats O 28nm,1.8s	27.72	337	eP		P	06 45 06.3	+0.9
IRM	Iron Mountain baz=28	27.74	340	⇑P		P	06 45 05.7	+0.2
MIAR	Mount Ida 23nm,1.2s	27.85	19	eP		P	06 45 05.3	-1.1
W37A	Quinton baz=28	27.87	15	⇑P		P	06 45 06.4	-0.2
BELC	Belle Mtn. Jos baz=28	27.90	338	⇓P		P	06 45 07.5	+0.5
V33A	Lossen Ranch, baz=28	27.92	10	⇓P		P	06 45 06.9	-0.1
WUAZ	Wupatki baz=28	27.95	347	⇑P		P	06 45 08.0	+0.5
WUAZ	Wupatki 14nm,1.1s	27.95	347	eP		P	06 45 08.4	+0.9
U28A	Mallet baz=28	28.03	3	⇑P		P	06 45 08.0	-0.1
U27A	Thompson Grove baz=28	28.05	2	⇑P		P	06 45 08.0	-0.2
W38A	Poteau baz=28	28.06	17	⇓P		P	06 45 07.7	-0.5
V34A	Guthrie baz=28	28.07	11	⇓P		P	06 45 08.2	-0.1
V34A	Guthrie 15nm,1.1s	28.07	11	eP		P	06 45 08.4	+0.1
U30A	WK&E Inc. Balk baz=28	28.30	6	⇓P		P	06 45 11.3	+0.9
UALR	University of 12nm,1.1s	28.47	20	eP		P	06 45 11.9	+0.1
GMRC	Granite Mounta baz=29	28.48	340	⇓P		P	06 45 12.8	+0.7
CLTC	Calectric	28.48	336	eP		P	06 45 13.1	+1.1
CLTC				ePP		PP	06 46 13.1	-3.7
TUL1	Leonard baz=29	28.52	14	⇓P		P	06 45 12.4	+0.1
TUL1	Leonard 36nm,1.6s	28.52	14	eP		P	06 45 12.2	-0.1
T25A	Trinidad baz=29	28.74	359	⇑P		P	06 45 14.9	+0.4
T25A	Trinidad 19nm,1.4s	28.74	359	eP		P	06 45 15.0	+0.4
BFSC	Mount Baldy Ra baz=29	28.75	336	⇓P		P	06 45 15.7	+1.2
T26A	Comanche Natio baz=29	28.78	1	⇓P		P	06 45 15.6	+0.7
T29A	Hugoton baz=29	28.86	4	⇑P		P	06 45 16.0	+0.5
MVCO	Mesa Verde baz=29	29.10	353	⇓P		P	06 45 18.1	+0.4
MVCO	Mesa Verde 7.5nm,1.1s	29.10	353	eP		P	06 45 17.8	0.0
S26A	Kim baz=29	29.23	1	⇑P		P	06 45 19.1	+0.3
BLG	Laguna Peak, P baz=29	29.23	334	⇓P		P	06 45 19.6	+1.0
LRAL	Lakeview Retre 8.6nm,1.0s	29.24	30	eP		P	06 45 18.6	-0.2
S28A	Manter baz=29	29.25	3	⇑P		P	06 45 19.4	+0.4
T34A	McClaskey Farm baz=29	29.29	11	⇓P		P	06 45 19.4	+0.3
T35A	Sooner Cattle baz=30	29.32	12	⇑P		P	06 45 19.8	+0.4
GSC	Goldstone, Bar baz=30	29.36	338	⇓P		P	06 45 21.0	+1.1
GSC	Goldstone, Bar 31nm,1.9s	29.36	338	eP		P	06 45 20.7	+0.9
SDCO	Great Sand Dun baz=30	29.38	358	⇓P		P	06 45 21.0	+0.7
SDCO	Great Sand Dun 8.8nm,1.5s	29.38	358	eP		P	06 45 21.4	+1.1
S30A	Montezuma baz=30	29.42	6	⇓P		P	06 45 20.9	+0.5
S22A	4UR Ranch, Cre baz=30	29.46	355	⇑P		P	06 45 21.0	0.0
S22A	4UR Ranch, Cre 7.6nm,1.3s	29.46	355	eP		P	06 45 21.3	+0.3
T36A	Boggs Farm, Ca baz=30	29.60	13	⇓P		P	06 45 21.9	0.0
ROSC	El Rosal 5.4nm,0.9s,baz=266,slow=8.9,SNR=4.7	29.66	95	P		P	06 45 24.3	+1.2
KNB	Kanab 9.6nm,1.0s	29.72	346	eP		P	06 45 24.3	+1.1
R23A	Moffat baz=30,SNR=7.4	29.84	357	⇑P		P	06 45 24.3	0.0
T37A	Cheneyville 18 baz=30	29.88	15	⇓P		P	06 45 24.1	-0.3
SHPR	Sheep Range	29.89	342	eP		P	06 45 25.8	+1.1
R26A	Arlington baz=30,SNR=11	29.91	1	⇓P		P	06 45 24.7	0.0
R27A	Eads baz=30	29.91	2	⇓P		P	06 45 25.4	+0.7
R30A	Dighton baz=30	30.07	6	⇓P		P	06 45 27.1	+0.9
MPMC	Manual Prospec baz=30	30.29	338	⇓P		P	06 45 28.9	+0.7
PV04	Paradox Valley	30.32	352	eP		P	06 45 28.9	+0.5
PV10	Paradox Valley	30.32	352	eP		P	06 45 28.8	+0.2
R32A	Long Quarter, baz=31	30.40	8	⇓P		P	06 45 29.5	+0.5
R34A	Isabella, Hill baz=31	30.52	10	⇓P		P	06 45 30.1	+0.1
DAC	Darwin (Calif) 19nm,1.9s	30.52	338	eP		P	06 45 31.1	+0.8
Q26A	Hugo baz=31	30.53	1	⇑P		P	06 45 30.6	+0.3
KSCO	Kaye Shedlock' baz=31	30.64	2	⇓P		P	06 45 31.5	+0.3
KSCO	Kaye Shedlock' 20nm,1.0s	30.64	2	eP		P	06 45 31.4	+0.3
TPNV	Topopah Spring baz=31	30.65	341	⇓P		P	06 45 32.0	+0.6
TPNV	Topopah Spring 51nm,2.3s	30.65	341	eP		P	06 45 32.6	+1.3
R35A	Emporia Munici baz=31	30.74	12	⇑P		P	06 45 32.0	+0.1
Q30A	Quinter baz=31	30.76	6	⇑P		P	06 45 32.7	+0.4
SMCO	Snowmass 10nm,1.1s	30.89	355	eP		P	06 45 34.1	+0.3
PBMO	Poplar Bluff 8.4nm,0.9s	30.95	21	eP		P	06 45 33.7	-0.1
Q32A	Meitler Ranch, baz=31	30.98	8	⇑P		P	06 45 34.6	+0.5
MVU	Marysvale 20nm,2.1s	31.00	347	eP		P	06 45 35.8	+1.2
MSU	Marysvale 3.7nm,1.1s	31.00	347	eP		P	06 45 35.4	+0.9
P23A	Jefferson baz=31,SNR=6.9	31.02	357	⇓P		P	06 45 35.2	+0.4
R37A	Teagarden Farm baz=31	31.04	14	⇓P		P	06 45 34.7	+0.1
SRU	San Rafael Swe 6.5nm,1.1s	31.27	350	eP		P	06 45 37.9	+1.1
P31A	Stockton baz=32	31.39	7	⇑P		P	06 45 38.1	+0.3
ISCO	Idaho Springs baz=32	31.43	358	⇓P		P	06 45 38.9	+0.5
ISCO	Idaho Springs 44nm,2.8s	31.43	358	eP		P	06 45 39.3	+0.9
P32A	Huiting Farm, baz=32	31.59	8	⇑P		P	06 45 39.8	+0.3
R11A	Troy Canyon, C baz=32	31.72	343	⇓P		P	06 45 41.7	+0.8
R11A	Troy Canyon, C 12nm,1.8s	31.72	343	eP		P	06 45 42.0	+1.1
O27A	Beecher Island baz=32	31.82	2	⇑P		P	06 45 41.9	+0.4
O22A	Kremmling baz=32	31.84	356	⇓P		P	06 45 42.3	+0.3
O26A	Horse Wrangler baz=32	31.85	1	⇓P		P	06 45 41.8	0.0
O23A	Lake Granby, G baz=32	31.86	357	⇓P		P	06 45 42.1	0.0
P35A	Duane Minner, baz=32	31.94	12	⇓P		P	06 45 42.7	+0.2
O20A	White River Ci baz=32,SNR=7.3	31.96	354	⇑P		P	06 45 43.2	+0.3
O20A	White River Ci 21nm,1.3s	31.96	354	eP		P	06 45 43.8	+0.9
SIUC	Southern Illin 21nm,1.3s	32.22	22	eP		P	06 45 45.2	+0.3
MPU	Maple Canyon 38nm,1.0s	32.34	349	eP		P	06 45 47.1	+0.8
N27A	Anderson Farm, baz=33	32.43	2	⇑P		P	06 45 47.8	+0.9
N22A	Wattenberg Ran baz=33	32.47	357	⇓P		P	06 45 48.8	+1.3
N23A	Red Feather La baz=33	32.54	357	⇓P		P	06 45 48.7	+0.7
N23A	Red Feather La 5.1nm,0.9s	32.54	357	eP		P	06 45 48.1	0.0
N20A	Spence Gulch, baz=33	32.65	354	⇑P		P	06 45 49.3	+0.3
NV01	Mina Array Sit	32.69	339	eP		P	06 45 49.6	+0.3
NVAR	Mina Array Bea 0.6nm,0.8s,baz=156,slow=8.0,SNR=4.9	32.69	339	P		P	06 45 49.3	-0.1
DUG	Dugway, Tooele baz=33	32.76	347	⇑P		P	06 45 50.8	+1.0
DUG	Dugway, Tooele 7.6nm,1.2s	32.76	347	eP		P	06 45 50.2	+0.4
JLU	Jordanelle 55nm,2.7s	32.88	350	eP		P	06 45 51.0	0.0
SDV	Santo Domingo 38nm,1.3s	32.98	86	eP		P	06 45 52.5	+0.3
M26A	McRoberts Ranc baz=33	33.07	1	⇑P		P	06 45 53.0	+0.5
TCUT	Toone Canyon 13nm,0.9s	33.37	350	eP		P	06 45 56.2	+0.9
BGNE	Belgrade baz=34	33.41	8	⇑P		P	06 45 55.9	+0.6
BGU	Big Grassy Mou 27nm,2.1s	33.50	348	eP		P	06 45 57.7	+1.4
L26A	Underwood Farm baz=34	33.64	1	⇓P		P	06 45 58.6	+1.1
L30A	Spencer Herefo baz=34	33.76	6	⇓P		P	06 45 59.0	+0.6
KMSC	Kings Mountain baz=34	33.86	35	⇑P		P	06 45 59.0	-0.3
KMSC	Kings Mountain 8.6nm,1.0s	33.86	35	eP		P	06 45 58.8	-0.5
HWUT	Hardware Ranch 9.0nm,1.1s	33.88	350	eP		P	06 46 00.2	+0.6
K25A	Mack Ranch, Ha baz=34	34.21	0	⇓P		P	06 46 03.4	+1.0
HVU	Hansel Valley 5.4nm,1.0s	34.27	348	eP		P	06 46 03.5	+0.5
K22A	Casper baz=34	34.32	357	⇓P		P	06 46 04.6	+1.2
K23A	Bowen Ranch, D baz=35	34.38	358	⇑P		P	06 46 04.6	+0.6
K29A	Lazy Trails An baz=35	34.51	5	⇓P		P	06 46 05.8	+0.8
BLO	Bloomington 14nm,1.0s	34.54	24	eP		P	06 46 05.1	-0.1
BW06	Boulder Array	34.71	353	eP		P	06 46 07.2	+0.3
PDAR	Pinedale Array 3.6nm,0.9s,baz=160,slow=9.1,SNR=19	34.71	353	P		P	06 46 06.9	0.0
HDIL	Hopedale 38nm,0.6s	34.72	20	eP		P	06 46 06.3	-0.4
J26A	Sides Ranch, S baz=35	34.92	1	⇓P		P	06 46 09.3	+0.8
J25A	Sunshine Ranch baz=35	34.99	0	⇓P		P	06 46 10.3	+1.2
J21A	Lysite baz=35	35.07	356	⇓P		P	06 46 11.0	+1.0
J22A	Midwest baz=35	35.08	357	⇓P		P	06 46 11.0	+1.0
J28A	Allard Ranch, baz=35	35.10	3	⇓P		P	06 46 11.1	+1.0
J20A	Shoshoni baz=35	35.13	355	⇓P		P	06 46 11.3	+0.8
J30A	Dallas baz=35	35.14	6	⇑P		P	06 46 11.2	+0.9
J29A	Okreek baz=35	35.15	5	⇓P		P	06 46 11.2	+0.8
SFIN	Lafayette baz=36,SNR=6.3	35.35	23	⇑P		P	06 46 11.7	-0.5
SFIN	Lafayette 15nm,0.9s	35.35	23	eP		P	06 46 11.8	-0.3
REDW	Red Top Meadow 9.1nm,1.2s	35.47	351	eP		P	06 46 14.2	+0.7
I21A	Big Trails, Te baz=36	35.52	356	⇑P		P	06 46 14.5	+0.7
SNOW	Snow King Moun 11nm,1.3s	35.55	352	eP		P	06 46 15.2	+1.0
TPAW	Teton Pass 5.8nm,1.1s	35.61	351	eP		P	06 46 15.8	+1.1
I28A	Midland baz=36	35.68	3	⇑P		P	06 46 15.3	+0.3
LOHW	Long Hollow 11nm,1.3s	35.68	352	eP		P	06 46 15.8	+0.6
RSSD	Black Hills 9.3nm,1.6s	35.72	360	eP		P	06 46 14.9	-0.6
I20A	Worland baz=36	35.73	355	⇑P		P	06 46 15.8	+0.3
I29A	Vivian Onida baz=36	35.76	5	⇓P		P	06 46 15.8	+0.2
FXWY	Fox Creek 3.7nm,0.9s	35.77	351	eP		P	06 46 16.1	+0.1
ECSD	EROS Data Cent baz=36	35.91	9	⇓P		P	06 46 16.3	-0.7
ECSD	EROS Data Cent 8.0nm,1.1s	35.91	9	eP		P	06 46 16.8	-0.2
FLWY	Flagg Ranch 8.2nm,0.9s	36.16	352	eP		P	06 46 20.1	+0.8
H26A	Fairpoint baz=36	36.23	1	⇓P		P	06 46 20.3	+0.6
H22A	Clearmont baz=36	36.25	357	⇑P		P	06 46 20.4	+0.5
H27A	Howes baz=36	36.27	2	⇓P		P	06 46 20.3	+0.3
HLID	Hailey baz=36	36.32	347	⇑P		P	06 46 21.6	+0.9
HLID	Hailey 8.2nm,1.2s	36.32	347	eP		P	06 46 21.5	+0.9
H24A	Dirks Ranch, A baz=36	36.35	359	⇓P		P	06 46 21.1	+0.3
H29A	Onida baz=36	36.37	5	⇑P		P	06 46 21.3	+0.4
WVOR	Wild Horse Val 22nm,1.8s	36.40	342	eP		P	06 46 22.3	+1.1
H17A	Grant Village baz=37	36.44	352	⇑P		P	06 46 22.3	+0.5
H17A	Grant Village 10nm,1.4s	36.44	352	eP		P	06 46 25.1	+3.2
MFID	Camas Ranch 3.6nm,1.0s	36.51	345	eP		P	06 46 23.2	+1.0
H19A	Powell baz=37	36.52	354	⇓P		P	06 46 23.3	+1.0
YFT	Old Faithful 11nm,1.0s	36.53	352	eP		P	06 46 22.3	-0.3
G25A	Newell baz=37	36.79	1	⇑P		P	06 46 25.0	+0.5
G26A	Maurine baz=37,SNR=11	36.91	2	⇓P		P	06 46 25.2	-0.3
M04C	Macdoel baz=37	36.92	338	⇓P		P	06 46 26.3	+0.5
G30A	Faulkton baz=37	36.96	6	⇑P		P	06 46 26.2	+0.3
G20A	Bridger baz=37	37.00	355	⇓P		P	06 46 26.7	+0.4
G27A	Dupree baz=37	37.02	2	⇓P		P	06 46 26.9	+0.4
MCMT	McKenzie Canyo	37.23	350	eP		P	06 46 29.7	+1.3
F23A	Volborg baz=38	37.34	358	⇑P		P	06 46 29.7	+0.5
F24A	Ekalaka baz=38	37.44	359	⇑P		P	06 46 30.4	+0.3
F26A	Lodgepole baz=38	37.46	2	⇓P		P	06 46 30.9	+0.7
F27A	Lemmon baz=38	37.51	2	⇑P		P	06 46 30.8	+0.2
F28A	McLaughlin baz=38	37.55	4	⇑P		P	06 46 31.0	+0.2
F20A	Billings baz=38	37.57	355	⇓P		P	06 46 31.5	+0.4
JSRW	J. Sargeant Re	37.63	35	eP		P	06 46 31.4	-0.3
F30A	Leola baz=38	37.67	6	⇓P		P	06 46 31.7	-0.2
DLMT	Dillon 7.6nm,1.1s	37.70	350	eP		P	06 46 33.1	+0.8
GCMT	Greycliff	37.70	354	eP		P	06 46 34.0	+1.6
BOZ	Bozeman (W) 9.8nm,1.5s	37.82	351	eP		P	06 46 34.1	+0.7
J05D	Fort Rock, OR baz=38	38.01	339	⇓P		P	06 46 35.3	+0.3
SPMN	Marine on St. baz=38	38.07	13	⇓P		P	06 46 35.1	-0.1
SPMN	Marine on St. 8.1nm,0.8s	38.07	13	eP		P	06 46 34.2	-1.1
LRM	Limekiln Ridge	38.12	350	eP		P	06 46 36.7	+0.7
E24A	Baker baz=38	38.16	360	⇑P		P	06 46 36.1	0.0
E28A	Huff baz=38	38.27	4	⇑P		P	06 46 37.1	+0.1
E19A	Rath Farm, Rou baz=38,SNR=12	38.28	355	⇓P		P	06 46 37.1	-0.1
E29A	Napoleon baz=38	38.34	5	⇑P		P	06 46 37.8	+0.2
D26A	Manning baz=39	38.65	2	⇓P		P	06 46 40.6	+0.5
D25A	Fairfield baz=39	38.75	1	⇓P		P	06 46 41.3	+0.2
D22A	Cohagen baz=39	38.79	358	⇑P		P	06 46 41.8	+0.4
D20A	Manuel Ranch, baz=39	38.85	355	⇑P		P	06 46 42.4	+0.6
HRY	Holter Researc	38.89	351	eP		P	06 46 42.6	+0.3
D19A	Cripps Ranch, baz=39	38.98	355	⇓P		P	06 46 43.1	+0.1
CHMT	Chamberlain Mo 1.7nm,0.8s	39.32	350	eP		P	06 46 47.1	+1.2
MSO	Missoula baz=40	39.36	349	⇑P		P	06 46 46.4	+0.2
MSO	Missoula 4.7nm,1.0s	39.36	349	eP		P	06 46 46.1	-0.1
C27A	Sayler Ranch, baz=40	39.37	3	⇑P		P	06 46 46.7	+0.6
C23A	Lambert baz=40,SNR=8.8	39.41	359	⇑P		P	06 46 46.5	-0.1
C28A	Hausauer Farms baz=40	39.43	4	⇑P		P	06 46 46.5	-0.2
C26A	Wahner Farm, P baz=40	39.45	2	⇑P		P	06 46 47.1	+0.2
C20A	Veseth Ranch, baz=40	39.46	356	⇑P		P	06 46 46.9	0.0
C21A	Desert Coulee baz=40	39.51	357	⇑P		P	06 46 47.8	+0.4
C19A	Slack Wire Ran baz=40	39.56	355	⇓P		P	06 46 47.9	+0.1
SLMT	Seeley Lake 8.8nm,1.3s	39.67	350	eP		P	06 46 49.8	+0.9
SSPA	Standing Stone 12nm,1.1s	39.73	32	eP		P	06 46 48.9	-0.4
TAOE	Nuku Hiva Isla 116nm,0.2s	39.84	246	eT		T	07 28 53.9	
EGMT	Eagleton baz=40	39.92	354	⇑P		P	06 46 51.3	+0.4
EGMT	Eagleton 70nm,2.4s	39.92	354	eP		P	06 46 51.2	+0.4
SWMT	Swartz Lake 2.6nm,0.9s	40.02	349	eP		P	06 46 51.4	-0.3
DGMT	Dagmar baz=40	40.07	360	⇑P		P	06 46 52.5	+0.5
DGMT	Dagmar 14nm,0.9s	40.07	360	eP		P	06 46 52.5	+0.5
B23A	Brockton baz=40	40.07	359	⇓P		P	06 46 52.2	+0.2
B28A	Dugan Ranch, T baz=40	40.16	4	⇑P		P	06 46 52.8	+0.1
B20A	Solberg Farm, baz=40	40.18	356	⇓P		P	06 46 52.9	0.0
B29A	Wagenman Farm, baz=40	40.25	5	⇑P		P	06 46 53.4	0.0
B30A	Myrvik Farm, E baz=40,SNR=11	40.33	6	⇑P		P	06 46 53.6	-0.6
AGMN	Agassiz Nation baz=41,SNR=15	40.48	8	⇓P		P	06 46 54.6	-0.7
AGMN	Agassiz Nation 28nm,1.3s	40.48	8	eP		P	06 46 54.8	-0.5
A24A	Westby baz=41	40.52	360	⇓P		P	06 46 55.9	+0.2
A26A	Wade Farm, Ken baz=41	40.53	2	⇓P		P	06 46 55.6	-0.1
A25A	Svangstu Ranch baz=41	40.54	1	⇓P		P	06 46 55.8	-0.1
A20A	Cobblestone Ra baz=41	40.61	356	⇑P		P	06 46 56.5	0.0
A22A	Carney Farms, baz=41	40.62	358	⇑P		P	06 46 56.6	0.0
A28A	Rude Farm, Bot baz=41,SNR=5.9	40.63	4	⇑P		P	06 46 56.3	-0.3
A21A	Bergtoll Ranch	40.66	357	⇑P		P	06 46 57.0	+0.1

	baz=41						
A29A	**Manning Farm,**	**40.72**	**5**	⇑P	**P**	**06 46 56.8**	**-0.5**
	baz=41,SNR=7.8						
A19A	**Klindworth Far**	**40.72**	**355**	⇑P	**P**	**06 46 57.1**	**-0.3**
	baz=41						
A30A	**Hoffart Farm,**	**40.82**	**6**	⇓P	**P**	**06 46 57.8**	**-0.3**
	baz=41						
EYMN	**Ely**	**40.94**	**13**	*e*P	**P**	**06 46 58.0**	**-1.2**
	83nm,2.2s						
NEW	**Newport**	**41.38**	**347**	⇓P	**P**	**06 47 02.7**	**-0.2**
	baz=42,SNR=7.8						
NEW	**Newport**	**41.38**	**347**	*e*P	**P**	**06 47 03.3**	**+0.5**
	7.5nm,0.8s						
BINY	**Binghamton**	**41.85**	**32**	*e*P	**P**	**06 47 06.6**	**-0.1**
	24nm,1.1s						
LPAZ	**La Paz**	**43.07**	**125**	P	**P**	**06 47 18.9**	**+1.2**
	9.6nm,1.0s,baz=320,slow=8.9,SNR=31						
LPAZ	**La Paz**	**43.07**	**125**	*e*P	**P**	**06 47 18.8**	**+1.2**
	28nm,1.0s						
RKT	**Rikitea**	**43.50**	**224**	*e*LR	LR	06 59 26.5	
	819nm,27.5s,baz=44						
RKT	**Rikitea**	**43.50**	**224**	*e*T	T	07 33 33.7	
	13nm,0.3s						
SAML	**Samuel**	**44.10**	**112**	*e*P	**P**	**06 47 24.5**	**-0.9**
	9.9nm,0.9s						
EDM	**Edmonton**	**45.47**	**352**	*e*P	**P**	**06 47 35.3**	**-0.4**
LVC	**Limon Verde**	**46.07**	**132**	P	**P**	**06 47 42.6**	**+1.5**
	17nm,1.0s,baz=296,slow=9.6,SNR=4.0						
FFC	**Flin Flon**	**46.36**	**2**	*e*P	**P**	**06 47 42.1**	**-0.5**
	7.1nm,1.2s						
MEH	**Mehetia**	**50.68**	**239**	*e*T	T	07 42 28.2	
	13nm,0.3s						
FCC	**Fort Churchill**	**50.95**	**7**	*e*P	**P**	**06 48 17.0**	**-0.8**
	9.8nm,1.1s						
PPT	**Papeete**	**51.84**	**240**	LR	LR	07 04 31.7	
	comp=Z,185nm,19.5s,baz=18,slow=29						
PPT2	**Papeete2**	**51.84**	**240**	*e*LR	LR	07 03 07.7	
	581nm,25.8s,baz=53						
TBI	**Tubuai**	**54.43**	**234**	*e*LR	LR	07 04 19.7	
	454nm,28.2s,baz=58						
YKA	**Yellowknife Ar**	**54.68**	**354**	P	**P**	**06 48 43.9**	**-1.4**
	0.8nm,0.7s,baz=165,slow=7.0,SNR=5.3						
SCHQ	**Schefferville**	**55.05**	**25**	LR	LR	07 13 38.6	
	comp=Z,260nm,18.9s,baz=254,slow=37						
CPUP	**Villa Florida**	**56.87**	**129**	*e*P	**P**	**06 49 02.6**	**+1.1**
PLCA	**Paso Flores**	**57.67**	**150**	P	**P**	**06 49 04.9**	**-2.2**
	1.6nm,0.8s,baz=0.0,slow=17,SNR=2.5						
BDFB	**Brasilia**	**60.31**	**113**	P	**P**	**06 49 24.3**	**-1.7**
	5.0nm,0.8s,baz=249,slow=6.1,SNR=5.9						
DAWY	**Dawson**	**61.12**	**343**	*e*P	**P**	**06 49 30.9**	**+0.3**
INK	**Inuvik**	**63.08**	**348**	*e*P	**P**	**06 49 43.6**	**0.0**
	8.5nm,0.9s						
RND	**Reindeer**	**63.69**	**339**	*e*P	**P**	**06 49 48.7**	**+0.9**
	7.4nm,1.0s						
IL1	**Eielson Array**	**63.91**	**341**	*e*P	**P**	**06 49 47.8**	**-1.3**
ILAR	**Eielson Array**	**63.91**	**341**	P	**P**	**06 49 48.1**	**-1.0**
	3.5nm,1.0s,baz=152,slow=4.9,SNR=27						
PPLA	**Purkeypile**	**64.58**	**338**	*e*P	**P**	**06 49 55.4**	**+1.6**
	12nm,1.3s						
MLY	**Manley**	**65.34**	**340**	*e*P	**P**	**06 49 58.5**	**0.0**
	6.6nm,1.3s						
COLD	**Coldfoot**	**66.53**	**342**	*e*P	**P**	**06 50 06.3**	**+0.2**
	54nm,2.8s						
SUMG	**Summit**	**74.95**	**16**	*i* P	**P**	**06 50 57.8**	**+0.1**
	9.6nm,1.2s						
SUMG				*i*		06 51 09.2	
SUMG	**Summit**	**74.95**	**16**	*e*P	**P**	**06 50 58.0**	**+0.3**
	9.4nm,1.1s						
DZM	**Mont Dzumac**	**92.66**	**248**	*e*LR	LR	07 22 11.8	
	137nm,22.2s						
NOA	**NORSAR Array B**	**94.61**	**26**	LR	LR	07 35 20.0	
	comp=Z,52nm,19.4s,baz=295,slow=36						
ARCES	**ARCESS Array B**	**95.03**	**16**	LR	LR	07 36 08.4	
	comp=Z,100nm,18.5s,baz=275,slow=36						
KHC	**Kasperske Hory**	**101.14**	**36**	AMS	AMS	07 37 30.0	
	comp=Z,100nm,16.4s						
KECS	**Kecovo**	**105.43**	**35**	PDIF	**Pdif**	**06 53 26.5**	**+0.6**
KOLS	**Kolonicke sedl**	**106.18**	**34**	PDIF	**Pdif**	**06 53 31.9**	**+2.7**
HHC	**Hu-ho-hao-te**	**121.18**	**329**	*e*PKP	**PKPdf**	**06 58 11.3**	**+1.5**
HHC				PP	PP	06 59 46.0	+6.7
HHC				SKS	**SKSdf**	**07 05 18.9**	**-0.6**
HHC				PPMZ			
	75nm,9.3s						
WRA	**Warramunga Arr**	**122.50**	**252**	PKP	**PKPdf**	**06 58 12.0**	**-0.7**
	0.8nm,0.9s,baz=91,slow=1.1,SNR=5.2						
ASAR	**Alice Springs**	**122.64**	**247**	PKP	**PKPdf**	**06 58 12.2**	**-0.7**
	0.7nm,0.9s,baz=98,slow=1.7,SNR=5.9						
MKAR	**Makanchi Array**	**124.90**	**355**	PKP	**PKPdf**	**06 58 15.7**	**-0.9**
	0.6nm,0.9s,baz=56,slow=1.0,SNR=4.2						
WHN	**Wuhan**	**126.69**	**318**	PKP	**PKPdf**	**06 58 22.9**	**+2.4**
WMQ	**Urumqi**	**127.08**	**349**	PKP	**PKPdf**	**06 58 24.2**	**+3.2**
WMQ				PP	PP	07 00 26.0	+7.7
CD2	**Chengdu**	**132.83**	**327**	PKP	**PKPdf**	**06 58 31.5**	**-0.7**
CD2				sPKP		06 58 36.3	
CD2				SKKS		07 07 50.8	
CD2				PPMZ			
	120nm,7.4s						
KMI	**Kunming**	**137.81**	**323**	PKP	**PKPdf**	**06 58 40.2**	**-1.7**
CMAR	**Chiang Mai Arr**	**145.11**	**320**	PKPbc	**PKPbc**	**06 58 54.2**	**-0.1**
	2.0nm,0.5s,baz=0.9,slow=2.4,SNR=8.8						

MEX 03 06:58:59.2±0.4**, 14°.01N**×**93°.25W, h16**km±96km**, MD3.7, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		**1.31**	**47**	*e*P	Pn	06 59 19.0	-3.8
THIG				*e*S	Sb	06 59 34.2	-5.7
PCIG		**1.68**	**1**	*e*P	Pn	06 59 23.8	-4.2
PCIG				*e*S	Sn	06 59 43.5	-5.7
CCIG	**Comitan**	**2.50**	**25**	*e*P	Pn	06 59 35.7	-3.8
CCIG				*i* S	Sn	07 00 05.5	-4.3
TGIG		**2.75**	**3**	*e*P	Pn	06 59 40.7	-2.1
TGIG				*e*S	Sn	07 00 11.3	-4.6

IDC 03 07:19:13.7±4.1**, 26°.24S**×**70°.56E, h0**km**, mb3.5**/5**, mb1 3.7**/5**, mb1mx3.5**/25**, mbtmp3.5**/5**, Error ellipse: s-maj=152.6km s-min=31.7km az=41.0, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.58**	**6**	T	T	07 42 17.7	
	baz=185,slow=76,SNR=17						
H08S2	**Diego Garcia H**	**18.59**	**6**	T	T	07 42 21.4	
	baz=185,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**18.60**	**6**	T	T	07 42 18.8	
	baz=185,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**38.25**	**114**	T	T	08 06 29.0	
	baz=268,slow=76						
H01W3	**Cape Leeuwin H**	**38.25**	**114**	T	T	08 06 29.2	
	baz=268,slow=76						
H01W1	**Cape Leeuwin H**	**38.27**	**114**	T	T	08 06 30.3	
	baz=268,slow=76						
ASAR	**Alice Springs**	**56.97**	**102**	P	P	07 29 00.8	-0.5
	0.3nm,0.5s,baz=254,slow=6.7,SNR=5.7						
WRA	**Warramunga Arr**	**58.50**	**98**	P	P	07 29 12.7	+0.5
	0.4nm,0.6s,baz=254,slow=6.9,SNR=3.3						
MKAR	**Makanchi Array**	**73.46**	**8**	P	P	07 30 47.7	-0.1
	0.4nm,0.7s,baz=208,slow=7.7,SNR=3.8						
BRTR	**Keskin Array B**	**74.11**	**331**	P	P	07 30 51.9	0.0
	0.3nm,0.6s,baz=131,slow=6.6,SNR=2.3						
KURBB	**Kurchatov Arra**	**76.85**	**5**	P	P	07 31 07.4	+0.2
	0.1nm,0.5s,baz=201,slow=6.5,SNR=3.6						

MEX 03 07:21:48.3±0.4**, 14°.63N**×**93°.18W, h16**km±29km**, MD3.6, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		**0.92**	**73**	*e*P	Pb	07 22 03.1	-2.8
THIG				*e*S	Sb	07 22 13.8	-4.1
PCIG		**1.07**	**358**	*e*P	Pb	07 22 04.9	-3.5
PCIG				*i* S	Sb	07 22 17.4	-4.6
CCIG	**Comitan**	**1.92**	**31**	*e*P	Pn	07 22 17.3	-3.3
CCIG				*i* S	Sn	07 22 40.6	-4.0
TGIG		**2.13**	**1**	*e*P	Pn	07 22 21.0	-2.3
TGIG				*e*S	Sn	07 22 45.4	-4.2

*IDC **03** 07:23:14.3±2.6, 54°.12N×86°.50E, h0km, mb1 3.1/2, mb1mx3.0/29, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=21.5km s-min=13.2km az=57.0*

*NNC **03** 07:23:22.9±11.0, 53°.54N×85°.79E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=89.3km s-min=60.7km az=14.0*

ISC 03 07:23:23.4±4.2**, 54°.0N**±0°.2×**85°.7E**±0°.2**, h35**km**, n7,** σ**1^{s}97**/10**, 6C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.51**	**263**	*i*		07 29 40.0	
	baz=79,slow=317,SNR=2.1						
ZALV	**Zalesovo Beam**	**0.51**	**263**	Pg	**Pn**	**07 23 33.8**	**-0.4**
	3.3nm,0.3s,baz=84,slow=18,SNR=2.6						
ZALV				Lg	Lg	07 23 46.8	
	6.7nm,0.3s,baz=78,slow=31,SNR=3.9						
ZALV				Rg	Rg	07 23 52.8	
	7.5nm,0.3s,baz=71,slow=27,SNR=8.5						
KURK	**Kurchatov**	**5.44**	**235**	⇓Pn	**Pn**	**07 24 44.0**	**+2.1**
	1.0nm,0.9s						
KURK				⇓Sn	**Sn**	**07 25 41.4**	**-1.8**
	0.5nm,0.7s						
KURK				⇑Lg	Lg	07 26 13.0	
	1.7nm,1.1s						
KURBB	**Kurchatov Arra**	**5.54**	**235**	⇑Pn	**Pn**	**07 24 44.8**	**+1.5**
	1.6nm,0.4s						
KURBB				⇓Sn	**Sn**	**07 25 43.9**	**-1.9**
	1.2nm,0.8s						
KURBB				⇑Lg	Lg	07 26 16.9	
	3.2nm,0.8s						
KURBB	**Kurchatov Arra**	**5.54**	**235**	Pn	**Pn**	**07 24 45.0**	**+1.7**
	0.3nm,0.3s,baz=54,slow=13,SNR=12						
KURBB				Lg	Lg	07 26 24.7	
	0.0nm,0.3s,baz=50,slow=28,SNR=4.2						
MK31	**Makanchi Array**	**7.54**	**198**	⇑Pn	**Pn**	**07 25 09.5**	**-1.4**
	0.3nm,0.6s,baz=28,slow=14,SNR=12						
MK31				⇑Sn	**Sn**	**07 26 34.8**	**-0.4**
	0.5nm,0.7s,baz=24,slow=30						
MK31				⇑Lg	Lg	07 27 15.6	
	1.2nm,1.1s,baz=21,slow=26						
MKAR	**Makanchi Array**	**7.54**	**198**	Pn	**Pn**	**07 25 09.8**	**-1.1**
	0.2nm,0.3s,baz=22,slow=13,SNR=8.2						
MKAR				Sn	**Sn**	**07 26 37.9**	**+2.8**
	0.1nm,0.3s,baz=22,slow=30,SNR=4.5						
MKAR				Lg	Lg	07 27 22.5	
	0.1nm,0.3s,baz=26,slow=30,SNR=4.7						

*ISCJB **03** 07:32:43.0±0.9, 8°.15S±0°.08×120°.0E±0°.2, h201km, mb3.5/2, Error ellipse: s-maj=23.8km s-min=7.8km az=157.4*

*DJA **03** 07:32:45.6±0.9, 8°S±5°×12°0E±°, h176km±16km, M3.8/9, MLv3.8/9*

*IDC **03** 07:32:46.5±2.0, 7°.82S×120°.45E, h223km±17km, mb3.2/3, mb1 3.3/5, mb1mx3.1/23, mbtmp3.8/5, Error ellipse: s-maj=87.0km s-min=11.6km az=54.0*

ISC 03 07:32:43.9±1.1**, 8°.13S**±0°.07×**120°.1E**±0°.1**, h201**km**, n11,** σ**1^{s}43**/14**, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.54**	**171**	P	**Pn**	**07 33 17.8**	**-0.3**
BSSI	**Bau Bau, Buton**	**2.03**	**13**	P	**Pn**	**07 33 22.1**	**-0.7**
BASI	**Baing, Sumba**	**2.14**	**166**	P	**Pn**	**07 33 24.1**	**+0.2**
BKSI	**Bulukumba**	**2.79**	**2**	P	**Pn**	**07 33 31.2**	**-0.1**
KAPI	**Kappang**	**3.11**	**355**	P	**Pn**	**07 33 35.4**	**+0.4**
	8.1nm,0.3s,baz=172,slow=7.9,SNR=38						
SPSI	**Sidrap Palu**	**4.15**	**356**	P	**Pn**	**07 33 48.5**	**+0.8**
SOEI	**Soe**	**4.47**	**111**	P	**Pn**	**07 33 52.0**	**+0.2**
WRA	**Warramunga Arr**	**18.15**	**132**	P	**P**	**07 36 41.2**	**-0.2**
	0.8nm,0.3s,baz=310,slow=10,SNR=54						
WRA				S	**S**	**07 39 57.1**	**-1.7**
	0.2nm,0.3s,baz=301,slow=23,SNR=1.8						
ASAR	**Alice Springs**	**20.37**	**141**	P	**P**	**07 37 06.7**	**+1.3**
	0.9nm,0.3s,baz=325,slow=14,SNR=12						
ASAR				S	**S**	**07 40 42.7**	**+0.3**
	1.9nm,1.2s,baz=313,slow=17,SNR=5.7						
ASAR				ScP	**ScP**	**07 44 23.4**	**-3.7**
	0.4nm,0.3s,baz=328,slow=2.2,SNR=4.8						
STKA	**Stephens Creek**	**30.98**	**143**	P	**P**	**07 38 44.1**	**+1.6**
	0.7nm,0.4s,baz=334,slow=7.6,SNR=3.4						
MKAR	**Makanchi Array**	**64.17**	**332**	P	**P**	**07 42 56.8**	**-0.3**
	0.6nm,0.6s,baz=142,slow=7.1,SNR=9.0						

*NIED **03** 07:37:00, 43°.90N×148°.10E, h23km, Mw4.1 Best double couple: $M_0$1.65000×10^{15} NP1:ϕ_s248.00000°, δ24.00000°, λ109.00000°. NP2:ϕ_s48.00000°, δ67.00000°, λ82.00000°.*

*JMA **03** 07:37:54.0±0.5, 43°.92N×148°.08E, h0km, M4.3*

*ISCJB **03** 07:37:56.0±0.7, 44°.02N±0°.04×148°.22E±0°.06, h44km±5km, mb4.2/43, MS3.2/1, Error ellipse: s-maj=8.6km s-min=5.2km az=140.6*

*MOS **03** 07:37:55.2±1.1, 44°.00N×148°.31E, h41km, mb4.6/18, Error ellipse: s-maj=9.3km s-min=7.1km az=96.1*

*IDC **03** 07:37:57.3±2.3, 44°.05N×148°.20E, h45km±21km, mb3.9/24, mb1 4.0/29, mb1mx4.0/35, mbtmp4.1/29, ML3.5/5, MS3.1/5, Ms1 3.1/5, ms1mx2.8/38, Error ellipse: s-maj=18.0km s-min=12.8km az=156.0*

*SKHL **03** 07:37:57.4±0.8, 44°.00N×148°.24E, h51km±3km, mb4.7/8*

*NEIC **03** 07:37:58.2±0.8, 44°.00N×148°.24E, h54km±7km, mb4.4/11, Error ellipse: s-maj=9.9km s-min=5.9km az=148.0*

*BJI **03** 07:38:00.6, 44°.31N×147°.81E, h49km, mb4.7/9, mB4.7/8, Ms4.3/5, Ms7 4.0/5*

ISC 03 07:37:58.1±0.7**, 44°.03N**±0°.05×**148°.20E**±0°.05**, h51**km±4km**, n164,** σ**1^{s}14**/177**, mb4.3**/43**, 9C-6D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.00**	**261**	*e*P	**Pn**	**07 38 14.3**	**-1.5**
SHO				AMB	AMB	07 38 16.3	
	300nm,0.4s						
SHO				*e*S	**Sn**	**07 38 27.4**	**-1.4**
SHO				A	A	07 38 30.5	
	3µm,0.6s						
KUR	**Kuril'sk**	**1.23**	**349**	*d i*PN	**Pn**	**07 38 17.1**	**-1.8**
KUR				*e*S	**Sn**	**07 38 33.8**	**-0.5**
KUR				pmax	pmax		
	comp=E,203nm,0.4s						
KUR				pmax	pmax		
	comp=Z,479nm,0.4s						
KUR				pmax	pmax		
	comp=N,121nm,0.2s						
KUR				smax	smax		
	comp=N,322nm,0.5s						
KUR				smax	smax		
	comp=E,704nm,0.5s						
KUR	**Kuril'sk**	**1.23**	**349**	*e*P	**Pn**	**07 38 17.0**	**-1.8**
KUR				AMB	AMB	07 38 17.4	
	comp=E,1µm,0.5s						
KUR				*e*S	**Sn**	**07 38 32.0**	**-2.3**
KUR				A	A	07 38 38.8	
	comp=E,2µm,0.4s						
KUR				A	A	07 38 38.8	
	comp=E,410nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.69**	**271**	*d i*PN	**Pn**	**07 38 23.7**	**-1.4**
YUK				*i* S	**Sn**	**07 38 42.6**	**-2.9**
YUK				pmax	pmax		
	comp=N,100nm,0.4s						
YUK				pmax	pmax		
	comp=E,82nm,0.4s						
YUK				pmax	pmax		
	comp=Z,238nm,0.4s						
YUK				smax	smax		
	comp=N,857nm,0.7s						
YUK				smax	smax		
	comp=E,365nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**1.69**	**271**	*e*P	**Pn**	**07 38 23.7**	**-1.4**
YUK				AMB	AMB	07 38 27.2	
	comp=E,100nm,0.4s						
YUK				AMB	AMB	07 38 27.2	
	comp=E,82nm,0.4s						
YUK				AMB	AMB	07 38 27.2	
	comp=E,238nm,0.4s						
YUK				*e*S	**Sn**	**07 38 42.6**	**-2.9**
YUK				A	A	07 38 51.9	
	comp=E,857nm,0.6s						
YUK				A	A	07 38 51.9	
	comp=E,365nm,0.6s						
NEM2	**Nemuro 2**	**1.90**	**250**	P	**Pn**	**07 38 26.5**	**-1.5**
NEM2				*e*S	**Sn**	**07 38 50.2**	**-0.6**
JRA	**Rausu**	**2.22**	**269**	P	**Pn**	**07 38 32.0**	**-0.4**
JNK	**Nakash**	**2.56**	**261**	P	**Pn**	**07 38 36.5**	**-0.5**
JAK	**Akkeshi**	**2.75**	**249**	P	**Pn**	**07 38 38.3**	**-1.3**
JAR	**Ashorobuto**	**3.30**	**259**	P	**Pn**	**07 38 47.5**	**+0.4**
JKA	**Kamikawa-asahi**	**4.04**	**273**	*e*P	**Pn**	**07 38 57.2**	**-0.1**
ASAJ	**Asahikawa**	**4.04**	**273**	P	**Pn**	**07 38 57.2**	**-0.1**
	comp=E,1.9nm,0.3s,baz=71,slow=13,SNR=10.0						
ASAJ	**Asahikawa**	**4.04**	**273**	PN	**Pn**	**07 38 57.2**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**4.04**	**273**	*e*P	**Pn**	**07 38 59.3**	**+2.0**
ASAJ	**Asahikawa**	**4.04**	**273**	*e*Pn	**Pn**	**07 38 58.5**	**+1.2**
ASAJ				*e*Sn	**Sn**	**07 39 42.7**	**-0.6**
ERM	**Erimo**	**4.21**	**243**	⇑*i*PN	**Pn**	**07 39 01.3**	**+1.6**
ERM				pmax	pmax		
	comp=Z,19nm,0.6s						
ERM	**Erimo**	**4.21**	**243**	*e*P	**Pn**	**07 39 01.3**	**+1.6**
ERM	**Erimo**	**4.21**	**243**	*e*Pn	**Pn**	**07 39 01.2**	**+1.6**
ERM				*e*Sn	**Sn**	**07 39 44.5**	**-3.0**
JNBK	**Urakawa-nobuka**	**4.35**	**248**	P	**Pn**	**07 39 01.5**	**-0.1**
YSS	**Yuzh-Sakhalins**	**4.81**	**309**	*e*PN	Pn	07 39 03.0	-4.9
YSS				*e*S	Sn	07 39 48.0	-14
YSS				smax	smax		
	comp=E,300nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.81**	**309**	*e*P	**Pn**	**07 39 08.5**	**+0.6**
YSS				*e*S	**Sn**	**07 40 02.0**	**-0.4**
YSS				A	A	07 40 06.2	
	comp=E,96nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.81**	**309**	*e*Pn	**Pn**	**07 39 08.8**	**+0.8**
JKB	**Kayabe**	**5.68**	**250**	P	**Pn**	**07 39 20.0**	**+0.2**
JKB				*e*S	**Sn**	**07 40 21.5**	**-2.1**
JOT	**Ohata**	**5.89**	**246**	P	**Pn**	**07 39 23.1**	**+0.3**
UGL	**Uglegorsk**	**6.58**	**322**	*e*PN	Pn	07 39 44.5	+12
TYV	**Tymovskoe**	**7.80**	**333**	*e*P	**Pn**	**07 39 50.2**	**+1.4**
TYV				AMB	AMB	07 39 54.8	
	comp=E,18nm,1.0s						
HABR	**Khabarovsk**	**10.13**	**301**	*e*PN	Pn	07 40 33.6	+13
HABR				pmax	pmax		
	comp=E,57nm,1.6s						
HABR				pmax	pmax		
	comp=Z,14nm,1.6s						
HABR				pmax	pmax		
	comp=N,10.0nm,0.9s						
HABR				MLR	MLR		
	comp=Z,147nm,16.0s						
MJAR	**Matsushiro Arr**	**10.68**	**229**	P	**Pn**	**07 40 27.2**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=31,slow=12,SNR=8.5						
MJAR				S	**Sn**	**07 42 22.7**	**-3.7**
	comp=Z,1.1nm,0.3s,baz=54,slow=12,SNR=7.1						
MJAR				LR	LR	07 44 57.9	
	comp=Z,41nm,20.3s,baz=70,slow=39						
PETK	**Petropavlovsk-**	**11.04**	**31**	P	**Pn**	**07 40 32.2**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=201,slow=15,SNR=7.3						
USRK	**Ussuriysk Ar.**	**11.66**	**276**	LR	LR	07 45 24.5	
	comp=Z,158nm,18.2s,baz=130,slow=38						
KLR	**Kul'dur**	**12.44**	**300**	*e*PN	**Pn**	**07 40 54.0**	**+1.8**
KLR	**Kul'dur**	**12.44**	**300**	*e*P	**Pn**	**07 40 54.0**	**+1.8**
EKMR	**Ekimchan**	**13.53**	**317**	*e*P	**Pn**	**07 41 08.5**	**+1.3**
EKMR				AMB	AMB	07 41 22.9	
	comp=Z,8.0nm,0.9s						
CN2	**Changchun**	**16.39**	**277**	*e*P	**Pn**	**07 41 44.6**	**+0.1**
BMKR	**Bomnak**	**16.47**	**317**	*e*P	**P**	**07 41 47.5**	**+0.1**
BMKR				AMB	AMB	07 41 50.0	
	comp=Z,35nm,0.7s						
KSRS	**Korea Array**	**16.69**	**254**	P	**Pn**	**07 41 49.1**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=62,slow=12,SNR=11						
KSAR	**Wonju Array Be**	**16.72**	**254**	P	**Pn**	**07 41 49.1**	**+0.4**
KSAR	**Wonju Array Be**	**16.72**	**254**	P	**Pn**	**07 41 49.1**	**+0.4**
ZEA	**Zeya**	**16.80**	**313**	*e*P	**Pn**	**07 41 49.0**	**-0.5**
ZEA				AMB	AMB	07 41 52.8	
	comp=Z,21nm,1.2s						
JNU	**Nakatsue**	**17.34**	**237**	LR	LR	07 47 41.4	
	comp=Z,46nm,18.3s,baz=44,slow=34						
SEY	**Seymchan**	**19.09**	**6**	P	**P**	**07 42 14.9**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=190,slow=9.5,SNR=9.4						
SEY				LR	LR	07 49 35.9	
	comp=Z,78nm,19.3s,baz=48,slow=37						
SEY	**Seymchan**	**19.09**	**6**	⇑*i*P	**P**	**07 42 14.7**	**-1.5**
YAK	**Yakutsk**	**21.05**	**335**	LR	LR	07 50 56.3	
	comp=Z,97nm,19.2s,baz=158,slow=37						
HHC	**Hu-ho-hao-te**	**27.08**	**276**	*e*P	**P**	**07 43 37.9**	**+2.0**
HHC				pP	**pP**	**07 43 48.8**	**-0.1**
HHC				sP	**sP**	**07 43 55.5**	**+0.6**
HHC				PP	**PnPn**	**07 44 19.8**	**-0.8**
HHC				S	**S**	**07 48 08.0**	**-2.4**
HHC				SS	**SnSn**	**07 49 22.8**	**+2.3**
HHC				PMZ			
	comp=Z,22nm,0.8s						
HHC				PMZ			
	comp=Z,51nm,3.7s						
HHC				LN			
	comp=Z,90nm,11.4s						
HHC				LE			
	comp=Z,110nm,10.2s						
HHC				LZ			
	comp=Z,86nm,11.1s						
H11N2	**WAKE ISLAND Hy**	**28.83**	**141**	T	T	08 14 33.2	
	baz=332,slow=76,SNR=150						
H11N1	**WAKE ISLAND Hy**	**28.84**	**141**	T	T	08 14 40.1	
	baz=332,slow=76,SNR=104						
H11N3	**WAKE ISLAND Hy**	**28.85**	**141**	T	T	08 14 40.4	
	baz=332,slow=76,SNR=129						
H11S1	**WAKE ISLAND Hy**	**29.82**	**143**	T	T	08 15 47.7	
	baz=333,slow=76,SNR=350						
H11S3	**WAKE ISLAND Hy**	**29.82**	**143**	T	T	08 15 48.7	
	baz=333,slow=76,SNR=146						
H11S2	**WAKE ISLAND Hy**	**29.84**	**143**	T	T	08 15 48.9	
	baz=333,slow=76,SNR=47						
CD2	**Chengdu**	**37.19**	**265**	*e*P	**P**	**07 45 06.7**	**+2.4**
CD2				pP	**pP**	**07 45 18.6**	**+1.1**
CD2				sP	**sP**	**07 45 24.0**	**+0.5**
CD2				S	**S**	**07 50 49.5**	**+2.0**
CD2				sS	**sS**	**07 51 09.9**	**+0.1**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
IM04	**Indian Mountai**	**37.97**	**34**	*e*P	**P**	**07 45 10.7**	**+0.2**
KDAK	**Kodiak Island**	**38.50**	**48**	*ce*P	**P**	**07 45 15.1**	**+0.1**
KDAK	**Kodiak Island**	**38.50**	**48**	*e*P	**P**	**07 45 15.1**	**+0.1**
COLD	**Coldfoot**	**39.51**	**33**	*e*P	**P**	**07 45 24.2**	**+0.9**
	comp=Z,3.5nm,0.5s						
COLA	**College**	**40.40**	**36**	*e*P	**P**	**07 45 31.9**	**+1.2**
COLA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
COLA	**College**	**40.40**	**36**	*e*P	**P**	**07 45 31.9**	**+1.2**
COLA	**College**	**40.40**	**36**	*e*P	**P**	**07 45 31.9**	**+1.2**
	comp=Z,7.0nm,1.0s						
ILAR	**Eielson Array**	**40.81**	**36**	P	**P**	**07 45 34.3**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=255,slow=7.6,SNR=31						
KMI	**Kunming**	**41.32**	**258**	P	P	07 45 44.9	+5.9
KMI				PMZ			
	comp=Z,8.0nm,0.6s						
WMQ	**Urumqi**	**42.70**	**292**	*e*P	P	07 45 54.5	+4.6
WMQ				pP	pP	07 46 06.8	+3.5
WMQ				sP	sP	07 46 12.2	+3.0
WMQ				PMZ			
	comp=Z,14nm,0.9s						
WMQ				PMZ			
	comp=Z,65nm,4.2s						
WMQ				LN			
	comp=Z,82nm,7.5s						
WMQ				LE			
	comp=Z,51nm,7.0s						
WMQ				LZ			
	comp=Z,38nm,20.4s						
EGAK	**Eagle**	**43.26**	**36**	*e*P	**P**	**07 45 54.4**	**+0.3**
	comp=Z,5.7nm,1.0s						
MK31	**Makanchi Array**	**45.12**	**298**	*e*P	**P**	**07 46 09.8**	**+0.5**
MK31	**Makanchi Array**	**45.12**	**298**	*e*P	**P**	**07 46 09.8**	**+0.5**
MKAR	**Makanchi Array**	**45.12**	**298**	P	**P**	**07 46 09.7**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=77,slow=7.8,SNR=24						
MKAR				PcP	**PcP**	**07 47 49.8**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=69,slow=5.8,SNR=4.8						
MKAR				pPcP		07 48 00.8	
	comp=Z,0.8nm,0.7s,baz=67,slow=3.5,SNR=4.2						
MKAR	**Makanchi Array**	**45.12**	**298**	*e*P	**P**	**07 46 10.0**	**+0.7**
MKAR						07 47 49.8	
MKAR						07 48 00.8	
MKAR	**Makanchi Array**	**45.12**	**298**	*e*P	**P**	**07 46 10.0**	**+0.7**
MKAR	**Makanchi Array**	**45.12**	**298**	*e*P	**P**	**07 46 10.0**	**+0.7**
MKAR				PcP	**PcP**	**07 47 49.8**	**+0.8**
MKAR				pPcP		07 48 00.8	
HYT	**Haines Junctio**	**45.62**	**41**	*e*P	**P**	**07 46 15.2**	**+2.1**
INK	**Inuvik**	**45.78**	**31**	P	**P**	**07 46 13.6**	**-0.5**
	comp=Z,2.9nm,0.3s,baz=307,slow=13,SNR=4.0						
KURK	**Kurchatov**	**46.00**	**304**	*e*P	**P**	**07 46 16.4**	**+0.3**
KURK						07 47 53.0	
KURK						07 48 02.9	
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**46.00**	**304**	*e*P	**P**	**07 46 16.4**	**+0.3**
KURK	**Kurchatov**	**46.00**	**304**	*e*P	**P**	**07 46 16.4**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.8nm,0.7s						
KURK				PcP	PcP	07 47 53.0	+1.1
KURK				pPcP		07 48 02.9	
KURBB	Kurchatov Arra	46.09	304	P	P	07 46 15.9	-0.8
	comp=Z,2.0nm,0.8s,baz=74,slow=8.7,SNR=12						
KURBB				PcP	PcP	07 47 53.0	+0.8
	comp=Z,1.3nm,0.7s,baz=74,slow=3.4,SNR=11						
KURBB				pPcP		07 48 02.9	
	comp=Z,0.9nm,0.8s,baz=73,slow=3.4,SNR=5.3						
BVAR	Borovoye Array	49.91	309	P	P	07 46 45.3	-0.9
	comp=Z,0.3nm,0.3s,baz=94,slow=7.4,SNR=3.0						
BVAR				PcP	PcP	07 48 06.8	+0.9
	comp=Z,0.6nm,0.5s,baz=85,slow=3.3,SNR=4.8						
TKM2	Tokmak 2	51.07	296	eP	P	07 46 56.7	+1.3
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TKM2	Tokmak 2	51.07	296	eP	P	07 46 56.7	+1.3
	comp=Z,3.6nm,0.9s						
AAK	Ala-Archa	51.92	296	P	P	07 47 01.6	-0.1
	comp=Z,1.2nm,0.3s,baz=45,slow=2.9,SNR=4.3						
AAK	Ala-Archa	51.92	296	deP	P	07 47 02.6	+0.9
AAK				pmax	pmax		
	comp=Z,11nm,1.7s						
AAK	Ala-Archa	51.92	296	eP	P	07 47 02.6	+0.9
KKAR	Karatay Array	54.25	298	eP	P	07 47 19.4	+0.7
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	Karatay Array	54.25	298	eP	P	07 47 19.4	+0.7
	comp=Z,2.5nm,0.6s						
ARU	Arti	54.66	317	d iP	P	07 47 19.6	-1.8
ARU				S	S	07 54 54.5	-2.9
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ARU	Arti	54.66	317	eP	P	07 47 19.8	-1.6
YKA	Yellowknife Ar	55.15	34	P	P	07 47 25.4	+0.6
	comp=Z,1.5nm,0.6s,baz=298,slow=6.7,SNR=13						
YKA	Yellowknife Ar	55.15	34	eP	P	07 47 25.1	+0.3
ABKAR	Akbulak array	57.48	309	eP	P	07 47 42.2	+0.6
	comp=Z,1.8nm,0.5s						
AKTO	Aktyubinsk	57.92	311	P	P	07 47 44.4	-0.4
	comp=Z,1.0nm,0.6s,baz=60,slow=12,SNR=4.1						
ARCES	ARCESS Array B	59.24	340	P	P	07 47 52.5	-1.2
	comp=Z,1.2nm,0.8s,baz=54,slow=8.4,SNR=6.9						
WRA	Warramunga Arr	64.91	194	P	P	07 48 31.8	-0.4
	comp=Z,0.2nm,0.5s,baz=12,slow=6.9,SNR=4.1						
FINES	FINESS Array B	64.97	333	P	P	07 48 30.2	-1.8
	comp=Z,1.8nm,0.5s,baz=47,slow=6.5,SNR=20						
FINES	FINESS Array B	64.97	333	i P	P	07 48 31.2	-0.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	64.97	333	eP	P	07 48 31.1	-1.0
FFC	Flin Flon	65.02	37	eP	P	07 48 32.2	-0.3
FFC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FFC	Flin Flon	65.02	37	eP	P	07 48 35.3	+2.7
FFC	Flin Flon	65.02	37	eP	P	07 48 32.2	-0.3
	comp=Z,3.5nm,0.8s						
FCC	Fort Churchill	65.40	30	eP	P	07 48 34.8	-0.1
FCC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FCC	Fort Churchill	65.40	30	eP	P	07 48 34.8	-0.1
FCC	Fort Churchill	65.40	30	eP	P	07 48 34.8	-0.1
	comp=Z,2.5nm,0.8s						
BOZ	Bozeman (W)	66.16	49	eP	P	07 48 40.6	+0.3
BOZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BOZ	Bozeman (W)	66.16	49	eP	P	07 48 40.9	+0.7
BOZ	Bozeman (W)	66.16	49	eP	P	07 48 40.6	+0.3
	comp=Z,3.2nm,1.0s						
NVAR	Mina Array Bea	66.79	59	P	P	07 48 45.0	+0.6
	comp=Z,1.2nm,0.6s,baz=294,slow=6.8,SNR=15						
ASAR	Alice Springs	68.63	194	P	P	07 48 54.5	-1.3
	comp=Z,0.3nm,0.7s,baz=14,slow=6.0,SNR=4.0						
FRB	Frobisher Bay	68.70	17	P	P	07 48 54.7	-1.0
	comp=Z,4.3nm,0.4s,baz=323,slow=7.6,SNR=19						
PDAR	Pinedale Array	69.15	50	P	P	07 48 58.1	-1.2
	comp=Z,0.8nm,0.6s,baz=349,slow=1.0,SNR=7.6						
NB2	NORSAR Subarra	69.61	339	P	P	07 49 01.1	-0.4
	comp=Z,1.3nm,0.4s,baz=30,slow=6.5						
NOA	NORSAR Array B	69.61	339	P	P	07 49 01.4	-0.1
	comp=Z,0.7nm,0.4s,baz=54,slow=7.0,SNR=15						
KBZ	Khabaz	70.18	312	P	P	07 49 06.2	+0.9
	comp=Z,7.2nm,0.9s,baz=142,slow=19						
AKASG	Malin Array Be	71.80	324	P	P	07 49 14.7	-0.2
	comp=Z,1.6nm,0.4s,baz=38,slow=6.2,SNR=9.0						
AKASG	Malin Array Be	71.80	324	ceP	P	07 49 15.0	+0.1
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AK01	Malin Array Si	71.81	324	eP	P	07 49 14.9	0.0
KWP	Kalwaria Pacla	75.29	327	eP	P	07 49 36.4	+1.0
KWP	Kalwaria Pacla	75.29	327	eP	P	07 49 36.5	+1.0
BUR08	Bucovina Ar. S	75.84	324	eP	P	07 49 39.3	+0.5
BURAR	Bucovina Array	75.86	324	⇑iP	P	07 49 39.4	+0.5
OJC	Ojcow	75.94	329	eP	P	07 49 39.9	+0.8
OJC	Ojcow	75.94	329	eP	P	07 49 40.0	+0.8
OJC	Ojcow	75.94	329	eP	P	07 49 40.0	+0.8
KOLS	Kolonicke sedl	76.02	327	eP	P	07 49 40.9	+1.2
KOLS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KOLS	Kolonicke sedl	76.02	327	eP	P	07 49 40.9	+1.2
STHS	Stebnicka Huta	76.03	327	eP	P	07 49 41.3	+1.5
STHS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
STHS	Stebnicka Huta	76.03	327	eP	P	07 49 41.3	+1.5
ANMO	Albuquerque	76.22	55	⇑iP	P	07 49 42.1	+0.8
ANMO				pmax	pmax		
	comp=Z,21nm,2.5s						
NIE	Niedzica	76.39	328	eP	P	07 49 43.1	+1.3
NIE	Niedzica	76.39	328	eP	P	07 49 43.1	+1.3
TRPA	Tarpa	76.55	326	⇑iP	P	07 49 43.8	+1.1
KSP	Ksiaz	76.69	331	eP	P	07 49 44.0	+0.6
KSP	Ksiaz	76.69	331	eP	P	07 49 44.1	+0.6
KSP	Ksiaz	76.69	331	eP	P	07 49 44.1	+0.6
KECS	Kecovo	77.08	327	eP	P	07 49 46.7	+1.0
KECS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KECS	Kecovo	77.08	327	eP	P	07 49 46.7	+1.0
DPC	Dobruska-Polom	77.09	331	eP	P	07 49 46.2	+0.4
DPC	Dobruska-Polom	77.09	331	eP	P	07 49 46.2	+0.4
SCHQ	Schefferville	77.10	20	P	P	07 49 45.7	0.0
	comp=Z,2.4nm,0.7s,baz=270,slow=6.1,SNR=5.3						
CLL	Collm	77.41	333	eP	P	07 49 47.6	+0.2
	comp=Z,14nm,1.2s						
CLL	Collm	77.41	333	⇓iP	P	07 49 47.0	-0.4
	comp=Z,14nm,1.2s						
CLL				ePcP	PcP	07 49 57.0	-0.7
CLL	Collm	77.41	333	⇓iP	P	07 49 47.0	-0.4
CLL				pmax	pmax		
	comp=Z,14nm,1.2s						
CLL	Collm	77.41	333	eP	P	07 49 47.0	-0.4
BRTR	Keskin Array B	77.89	314	P	P	07 49 50.2	-0.3
	comp=Z,1.2nm,0.7s,baz=36,slow=4.6,SNR=5.4						
BRTR	Keskin Array B	77.89	314	ceP	P	07 49 50.2	-0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GOPC	GO Pecny, Ondr	78.00	331	eP	P	07 49 51.1	+0.3
PRU	Pruhonice	78.02	331	eP	P	07 49 51.1	+0.3
PRU	Pruhonice	78.02	331	eP	P	07 49 51.1	+0.3
PRU	Pruhonice	78.02	331	eP	P	07 49 51.1	+0.3
NKC	Novy Kostel	78.51	333	eP	P	07 49 54.8	+1.2
NKC	Novy Kostel	78.51	333	eP	P	07 49 54.8	+1.2
ROTZ	Rotzenmuhle	79.00	333	eP	P	07 49 56.9	+0.6
	comp=Z,6.0nm,1.4s						
KHC	Kasperske Hory	79.08	332	eP	P	07 49 57.2	+0.4
KHC	Kasperske Hory	79.08	332	eP	P	07 49 57.2	+0.4
KHC	Kasperske Hory	79.08	332	eP	P	07 49 57.2	+0.4
GERES	GERESS Array B	79.28	331	P	P	07 49 58.1	+0.1
	comp=Z,0.7nm,0.5s,baz=28,slow=6.3,SNR=8.1						
WET	Wettzell	79.31	332	eP	P	07 49 58.7	+0.7
	comp=Z,5.0nm,0.9s						
GRF	Grafenberg Arr	79.38	333	eP	P	07 49 59.3	+0.9
	comp=Z,11nm,1.0s						
GRFO	Grafenberg	79.38	333	eP	P	07 49 59.5	+1.1
GRFO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GRFO	Grafenberg	79.38	333	eP	P	07 49 59.5	+1.1
	comp=Z,7.1nm,0.9s						
GRB5	Grafenberg Arr	79.73	333	eP	P	07 50 00.7	+0.4
BFO	Black Forest	81.50	334	ceP	P	07 50 11.3	+1.5
TXAR	Lajitas Array	81.86	57	P	P	07 50 12.6	+0.5
	comp=Z,2.8nm,0.6s,baz=300,slow=4.0,SNR=56						
TKL	Tuckaleechee C	87.70	40	P	P	07 50 39.9	-1.4
	comp=Z,2.1nm,0.8s,baz=60,slow=3.8,SNR=2.7						
ESDC	Sonseca Array	92.97	339	P	P	07 51 05.6	-0.3
	comp=Z,0.2nm,0.3s,baz=55,slow=4.9,SNR=2.6						
TORD	Torodi Ar. Bea	115.43	323	PKP	PKPdf	07 56 33.4	-1.1
	comp=Z,0.5nm,1.1s,baz=15,slow=1.3,SNR=2.9						
ROSC	El Rosal	118.13	50	PKP	PKPdf	07 56 39.0	-1.3
	comp=Z,2.6nm,0.5s,baz=252,slow=20,SNR=3.7						
BDFB	Brasilia	148.53	31	PKPbc	PKPbc	07 57 39.7	+0.1
	comp=Z,1.0nm,0.6s,baz=0.0,slow=7.1,SNR=3.2						

IDC 03 07:42:35.5±2.9, 54°.26N×86°.27E, h0km, mb1 2.7/2, mb1mx2.7/29, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=24.2km s-min=15.1km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.91	250	i		07 48 40.0	
	baz=70,slow=320,SNR=1.2						
ZALV	Zalesovo Beam	0.91	250	Pg	Pg	07 42 51.7	-1.3
	5.0nm,0.3s,baz=67,slow=19,SNR=2.9						
ZALV				Lg	Lg	07 43 06.3	
	5.9nm,0.3s,baz=73,slow=29,SNR=3.0						
KURBB	Kurchatov Arra	5.97	236	Pn	Pn	07 44 05.4	+0.3
	0.0nm,0.3s,baz=52,slow=14,SNR=5.8						
MKAR	Makanchi Array	7.89	200	Pn	Pn	07 44 32.9	+1.4
	0.1nm,0.3s,baz=22,slow=14,SNR=6.4						

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*IDC **03** 07:43:39.1±0.6, 13°.62N×44°.80W, h0km, mb4.3/23, mb1 4.5/23, mb1mx4.4/29, mbtmp4.3/23, MS3.9/21, Ms1 3.9/21, ms1mx3.8/25, Error ellipse: s-maj=16.5km s-min=14.3km az=115.0*

*ISCJB **03** 07:43:40.2±0.3, 13°.62N±0°.06×44°.91W±0°.04, h10km, mb4.7/102, MS3.9/20, Error ellipse: s-maj=8.6km s-min=5.8km az=174.4*

*MOS **03** 07:43:40.1±1.2, 13°.54N×44°.83W, h10km, mb5.0/28, Error ellipse: s-maj=10.1km s-min=8.3km az=123.5*

*GCMT **03** 07:43:41.2±0.3, 13°.52N×44°.80W, h12km, MW4.9/89, Moment Tensor Solution. s26,c30; s89,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.63±.08; $M_{\theta\theta}$0.17±.08; $M_{\phi\phi}$2.46±.06; $M_{r\theta}$-0.72±.36; $M_{\theta\phi}$0.25±.07; $M_{\phi r}$-0.65±.25; Best double couple: $M_0$2.72700×10^{16} NP1:ϕ_s18.00000°, δ54.00000°, λ-76.00000°. NP2: ϕ_s175.00000°, δ38.00000°, λ-109.00000°. Principal axes: T 2.5890, Plg8.0000°, Azm98.0000°; N 0.2760, Plg12.0000°, Azm190.0000°; P -2.8650, Plg76.0000°, Azm334.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **03** 07:43:41.2±0.3, 13°.52N×44°.65W, h10km, mb4.9/74 Error ellipse: s-maj=8.2km s-min=6.9km az=171.0*

ISC 03 07:43:41.5±0.4, 13°.53N±0°.08×44°.77W±0°.08, h10km, n461, σ0s.92/452, mb4.9/103, MS3.9/20, 142C-144D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H05S1	Guadeloupe/Mar	15.62	275	T	T	08 03 16.6	
	SNR=31						
H05N1	Guadeloupe/Mar	15.98	282	T	T	08 03 38.8	
	SNR=5.8						
PCRV	Puerto La Cruz	19.72	262	LR	LR	07 56 17.4	
	comp=Z,231nm,20.0s,baz=58,slow=39						
SJG	San Juan	21.06	285	eP	P	07 48 27.0	+1.0
SJG				pmax	pmax		
	comp=Z,135nm,1.5s						
SJG	San Juan	21.06	285	eP	P	07 48 27.0	+1.0
	comp=Z,136nm,1.5s						
RCBR	Riachuelo	21.15	155	LR	LR	07 54 46.2	
	comp=Z,628nm,18.9s,baz=335,slow=31						
CELP	Cerrillos	21.46	285	eP	P	07 48 30.2	-0.1
OBIP	Obispado Ponce	21.48	285	eP	P	07 48 31.2	+0.8
	comp=Z,118nm,1.4s						
LRS	Lares	21.74	285	eP	P	07 48 34.6	+1.2
SDV	Santo Domingo	25.77	262	eP	P	07 49 12.6	-0.5
	comp=Z,17nm,1.0s						
SDDR	Presa de Saban	26.01	286	eP	P	07 49 17.3	+2.3
	comp=Z,30nm,1.2s						
SAML	Samuel	28.86	220	eP	P	07 49 40.2	-0.3
	comp=Z,3.4nm,1.0s						
BDFB	Brasilia	29.16	186	P	P	07 49 43.8	+0.5
	comp=Z,9.8nm,0.9s,baz=23,slow=6.3,SNR=13						
BDFB				LR	LR	08 00 52.0	
	comp=Z,328nm,18.7s,baz=334,slow=35						
BDFB	Brasilia	29.16	186	eP	P	07 49 44.5	+1.2
BDFB	Brasilia	29.16	186	eP	P	07 49 44.5	+1.2
ROSC	El Rosal	30.39	256	LR	LR	08 03 24.0	
	comp=Z,260nm,18.1s,baz=80,slow=39						
SIV	San Ignacio	33.47	209	P	P	07 50 20.2	-0.9
	comp=Z,2.6nm,0.9s,baz=57,slow=9.2,SNR=5.8						
OTAV	Otavalo	35.87	251	eP	P	07 50 43.1	+0.6
	comp=Z,29nm,1.5s						
H10N3	ASCENSION HYDR	36.80	124	T	T	08 29 49.5	
	baz=305,slow=75,SNR=173						
H10N2	ASCENSION HYDR	36.80	123	T	T	08 29 59.9	
	baz=305,slow=75,SNR=182						
H10N1	ASCENSION HYDR	36.82	124	T	T	08 29 51.0	
	baz=305,slow=75,SNR=206						
H10S3	ASCENSION HYDR	37.32	125	T	T	08 30 30.6	
	baz=306,slow=75,SNR=150						
H10S1	ASCENSION HYDR	37.32	125	T	T	08 30 34.4	
	baz=306,slow=75,SNR=147						
H10S2	ASCENSION HYDR	37.33	125	T	T	08 30 36.5	
	baz=306,slow=75,SNR=142						
LPAZ	La Paz	37.56	219	P	P	07 50 56.7	-0.3
	comp=Z,11nm,1.2s,baz=20,slow=8.3,SNR=14						
LPAZ				LR	LR	08 06 12.9	
	comp=Z,392nm,20.3s,baz=38,slow=36						
LPAZ	La Paz	37.56	219	eP	P	07 50 57.0	0.0
LPAZ				pmax	pmax		
	comp=Z,13nm,1.1s						
LPAZ	La Paz	37.56	219	eP	P	07 50 57.0	0.0
	comp=Z,13nm,1.1s						
DBIC	Dimbokro	39.84	96	P	P	07 51 13.6	-2.0
	comp=Z,11nm,1.1s,baz=253,slow=5.4,SNR=3.3						
DBIC				LR	LR	08 05 53.3	
	comp=Z,297nm,18.4s,baz=262,slow=34						
LRAL	Lakeview Retre	43.02	304	eP	P	07 51 42.6	+1.1
	comp=Z,16nm,1.2s						
ESDC	Sonseca Array	44.27	46	P	P	07 51 51.0	-0.6
	comp=Z,0.2nm,0.3s,baz=214,slow=10,SNR=3.2						
ESDC				LR	LR	08 07 39.3	
	comp=Z,142nm,19.4s,baz=240,slow=33						
SCHQ	Schefferville	44.67	342	P	P	07 51 52.6	-1.8
	comp=Z,7.0nm,1.2s,baz=153,slow=4.5,SNR=2.7						
SCHQ				LR	LR	08 07 44.5	
	comp=Z,150nm,18.6s,baz=112,slow=32						
TORD	Torodi Ar. Bea	45.16	85	P	P	07 51 58.0	-0.9
	comp=Z,2.1nm,1.1s,baz=282,slow=6.5,SNR=7.2						
TORD				LR	LR	08 08 48.1	
	comp=Z,467nm,20.4s,baz=270,slow=33						
MET	Memphis--Engin	45.95	306	eP	P	07 52 07.3	+2.5
	comp=Z,140nm,0.4s						
PBMO	Poplar Bluff	46.81	308	eP	P	07 52 11.8	+0.2
	comp=Z,12nm,1.4s						
UALR	University of	47.77	305	eP	P	07 52 19.1	+0.1
	comp=Z,21nm,1.3s						
MIAR	Mount Ida	48.70	304	eP	P	07 52 27.4	+1.1
MIAR				pmax	pmax		
	comp=Z,12nm,1.3s						
MIAR	Mount Ida	48.70	304	eP	P	07 52 27.4	+1.1
	comp=Z,12nm,1.3s						
238A	Jacksonville	49.46	301	⇓P	P	07 52 32.6	+0.4
	baz=50						
538A	Harpers Horsep	49.50	298	⇓P	P	07 52 32.8	+0.3
	baz=50						
338A	Crockett	49.52	300	⇓P	P	07 52 33.2	+0.6
	baz=50						
138A	Matatall Enter	49.55	301	⇑P	P	07 52 33.4	+0.5
	baz=50						
W38A	Poteau	49.57	305	⇑P	P	07 52 33.2	+0.2
	baz=50,SNR=5.9						
Z38A	Mt. Pleasant	49.58	302	⇑P	P	07 52 32.8	-0.2
	baz=50						
337A	Centerville	50.00	300	⇓P	P	07 52 36.3	0.0
	baz=50						
237A	Washetta, Mont	50.04	300	⇓P	P	07 52 36.5	-0.1
	baz=50						
X37A	Clayton	50.16	304	⇓P	P	07 52 37.4	-0.1
	baz=50						
537A	Green Hill Far	50.19	298	⇑P	P	07 52 37.8	+0.1
	baz=50						
W37A	Quinton	50.31	305	⇓P	P	07 52 38.6	-0.1
	baz=50,SNR=11						
T37A	Cheneyville 18	50.36	307	⇓P	P	07 52 39.0	0.0
	baz=50						
Q37A	Longview Farm,	50.46	309	⇑P	P	07 52 39.5	-0.2
	baz=51						
236A	Katherine and	50.65	300	⇓P	P	07 52 40.8	-0.4
	baz=51						
436A	Wall Ranch, Ga	50.69	299	⇑P	P	07 52 41.4	-0.2
	baz=51						
736A	Circle Diamond	50.71	296	⇓P	P	07 52 42.1	+0.4
	baz=51						
636A	Smothers Creek	50.76	297	⇓P	P	07 52 41.7	-0.3
	baz=51						
TUL1	Leonard	50.77	305	⇓P	P	07 52 41.4	-0.7
	baz=51						
336A	Riesel	50.82	300	⇓P	P	07 52 41.8	-0.7
	baz=51						
536A	Bastrop	50.83	298	⇑P	P	07 52 41.9	-0.7
	baz=51						
X36A	Centrahoma	50.94	304	⇓P	P	07 52 43.1	-0.3
	baz=51,SNR=7.5						
W36A	Wetumka	50.95	304	⇓P	P	07 52 43.0	-0.4
	baz=51,SNR=5.9						
S36A	Lake Cedric, C	51.03	308	⇓P	P	07 52 43.5	-0.5
	baz=51						
T36A	Boggs Farm, Ca	51.10	307	⇑P	P	07 52 43.6	-0.9
	baz=51						
R36A	Gordon, Harris	51.11	309	⇑P	P	07 52 44.0	-0.6
	baz=51						
O36A	Bolckow	51.20	311	⇑P	P	07 52 44.5	-0.7
	baz=51						
P36A	Good Intent, A	51.23	310	⇑P	P	07 52 44.9	-0.6
	baz=51						
Q36A	Arnold C. Orve	51.24	309	⇑P	P	07 52 44.8	-0.8
	baz=51						
535A	Dale	51.26	298	⇑P	P	07 52 45.2	-0.7
	baz=51						
335A	Moody	51.30	299	⇑P	P	07 52 45.6	-0.5
	baz=51						
835A	Beeville	51.31	295	⇑P	P	07 52 46.0	-0.2
	baz=51						
735A	Kenedy	51.34	296	⇑P	P	07 52 46.3	-0.2
	baz=51						
435B	Jarrell	51.37	299	⇓P	P	07 52 46.0	-0.7
	baz=52						
635A	Leesville	51.37	297	⇑P	P	07 52 46.3	-0.3
	baz=52						
SPMN	Marine on St.	51.38	318	⇑P	P	07 52 46.7	+0.2
	baz=52						
X35A	Drake	51.42	303	⇓P	P	07 52 47.0	0.0
	baz=52						
WHTX	Lake Whitney,	51.42	300	⇑P	P	07 52 46.3	-0.8
	baz=52						
WHTX	Lake Whitney,	51.42	300	eP	P	07 52 47.9	+0.8
	comp=Z,16nm,0.8s						
Z35A	Perchaven, San	51.46	302	⇓P	P	07 52 47.2	-0.1
	baz=52						
135A	Vickery Place,	51.47	301	⇑P	P	07 52 46.7	-0.6
	baz=52						
W35A	Tecumseh	51.48	304	⇓P	P	07 52 46.7	-0.7
	baz=52,SNR=8.9						
T35A	Sooner Cattle	51.56	307	⇓P	P	07 52 47.2	-0.8
	baz=52						
V35A	Meyer Ranch, C	51.57	305	⇑P	P	07 52 47.5	-0.6
	baz=52						
S35A	Otter Creek Ra	51.58	308	⇓P	P	07 52 47.6	-0.5
	baz=52						
R35A	Emporia Munici	51.64	308	⇑P	P	07 52 47.6	-1.0
	baz=52						
Q35A	Mercer Eighty,	51.65	309	⇓P	P	07 52 47.5	-1.2
	baz=52						
P35A	Duane Minner,	51.81	310	⇓P	P	07 52 48.9	-1.0
	baz=52						
O35A	Humboldt	51.93	311	⇓P	P	07 52 49.9	-0.8
	baz=52						
434A	Burnet	51.95	299	⇓P	P	07 52 50.1	-1.0
	baz=52,SNR=6.3						
Y34A	Reagan Ranch,	51.98	303	⇑P	P	07 52 50.4	-0.7
	baz=52,SNR=8.9						
334A	Lometa	51.99	299	⇓P	P	07 52 50.4	-0.9
	baz=52,SNR=6.7						
234A	Clairette	52.00	300	⇑P	P	07 52 50.9	-0.4
	baz=52						
734A	La Parita Cree	52.00	296	⇑P	P	07 52 50.9	-0.5
	baz=52						
Z34A	Collier Ranch,	52.01	302	⇑P	P	07 52 50.8	-0.6
	baz=52						
134A	White-Moore Ra	52.03	301	⇓P	P	07 52 51.0	-0.5
	baz=52						
534A	Blanco	52.04	298	⇑P	P	07 52 50.4	-1.4
	baz=52,SNR=6.1						
T34A	McClaskey Farm	52.11	307	⇓P	P	07 52 51.3	-0.8
	baz=52						
V34A	Guthrie	52.13	305	⇑P	P	07 52 52.3	0.0
	baz=52,SNR=13						
V34A	Guthrie	52.13	305	eP	P	07 52 52.3	0.0
	comp=Z,43nm,1.1s						
X34A	Smith Ranch, M	52.15	303	⇑P	P	07 52 52.2	-0.2
	baz=52,SNR=7.9						
S34A	Willow Spring	52.20	307	⇓P	P	07 52 52.1	-0.6
	baz=52						
W34A	Bridge Creek,	52.22	304	⇓P	P	07 52 52.5	-0.5
	baz=52						
U34A	Anderson Ranch	52.26	306	⇑P	P	07 52 52.4	-0.8
	baz=52						
Q34A	Chapman	52.35	309	⇑P	P	07 52 53.8	-0.1
	baz=52						
P34A	Walnut Farm, R	52.42	310	⇑P	P	07 52 53.7	-0.7
	baz=52						
R34A	Isabella, Hill	52.44	308	⇑P	P	07 52 53.9	-0.6
	baz=52						
533A	Kerrville	52.53	298	⇑P	P	07 52 54.5	-0.9
	baz=53						
933A	Laredo	52.53	294	⇑P	P	07 52 54.7	-0.6
	baz=53						
633A	Saathoff Ranch	52.59	297	⇓P	P	07 52 55.3	-0.5
	baz=53,SNR=10.0						
333A	Richland Sprin	52.63	299	⇓P	P	07 52 55.0	-1.1
	baz=53,SNR=14						
733A	Divot King Ran	52.63	296	⇑P	P	07 52 54.6	-1.5
	baz=53						
233A	Rising Star	52.64	300	⇑P	P	07 52 54.7	-1.5
	baz=53,SNR=9.8						
433A	Art	52.65	298	⇑P	P	07 52 54.8	-1.5
	baz=53						
X33A	Lawton	52.68	303	⇓P	P	07 52 55.5	-0.9
	baz=53						
833A	Chaparral WMA,	52.69	295	⇑P	P	07 52 55.5	-1.0
	baz=53						
Y33A	Hilltop Ranch,	52.70	303	⇓P	P	07 52 55.5	-1.0
	baz=53,SNR=7.2						
Z33A	Whitaker Ranch	52.70	302	⇓P	P	07 52 55.4	-1.1
	baz=53,SNR=5.5						
U33A	Lingo Farm, Me	52.72	306	⇑P	P	07 52 55.7	-0.9
	baz=53						
133A	Hamilton Ranch	52.73	301	⇑P	P	07 52 55.8	-1.1
	baz=53						
V33A	Lossen Ranch,	52.74	305	⇑P	P	07 52 56.0	-0.8
	baz=53						
L34A	Svendsen Farm,	52.74	313	⇑P	P	07 52 56.1	-0.6
	baz=53						
W33A	Caddo, Fort Co	52.76	304	⇓P	P	07 52 55.8	-1.2
	baz=53,SNR=7.2						
FRB	Frobisher Bay	52.84	347	P	P	07 52 54.1	-2.9
	comp=Z,6.1nm,1.0s,baz=174,slow=10,SNR=4.7						
WMOK	Wichita Mounta	52.94	303	eP	P	07 52 57.8	-0.6
WMOK				pmax	pmax		
	comp=Z,13nm,1.1s						
WMOK	Wichita Mounta	52.94	303	eP	P	07 52 57.8	-0.6
	comp=Z,12nm,1.1s						
T33A	Patterson Ranc	52.95	306	⇓P	P	07 52 57.5	-0.8
	baz=53						
R33A	Olander Ranch,	53.01	308	⇑P	P	07 52 57.5	-1.3
	baz=53						
P33A	Williams Farm,	53.04	309	⇓P	P	07 52 58.1	-0.9
	baz=53						
Q33A	Connelly Farm,	53.05	309	⇓P	P	07 52 58.2	-0.9
	baz=53						
O33A	Hebron	53.12	310	⇓P	P	07 52 58.9	-0.6
	baz=53						
632A	Uvalde	53.13	297	⇑P	P	07 52 59.5	-0.3
	baz=53,SNR=7.7						
832A	Faith Ranch, C	53.19	295	⇑P	P	07 52 59.9	-0.4
	baz=53						
KEST	Kesra	53.20	55	LR	LR	08 12 11.7	
	comp=Z,43nm,21.5s,baz=223,slow=32						
732A	Laxson Ranch,	53.22	296	⇓P	P	07 52 59.9	-0.6
	baz=53,SNR=5.9						
JCT	Junction City	53.23	298	eP	P	07 53 00.3	-0.3
JCT				pmax	pmax		
	comp=Z,11nm,1.0s						

JCT Junction City 53.23 298 ⇓P P 07 52 59.8 -0.8
baz=53
JCT Junction City 53.23 298 eP P 07 53 00.2 -0.3
comp=Z,11nm,1.0s
232A Coleman 53.26 300 ⇓P P 07 52 59.6 -1.1
baz=53,SNR=7.7
432A Menard 53.27 298 ⇑P P 07 52 59.8 -1.0
baz=53,SNR=9.0
332A Millersview 53.28 299 ⇑P P 07 52 59.9 -1.0
baz=53
532A Rocksprings 53.29 298 ⇓P P 07 53 00.5 -0.5
baz=53,SNR=5.5
Z32A Haskell 53.30 302 ⇓P P 07 53 00.2 -0.8
baz=53,SNR=5.5
X32A Elmer 53.30 303 ⇓P P 07 53 00.1 -0.9
baz=53,SNR=8.2
V32A Arapaho 53.32 305 ⇓P P 07 53 00.3 -0.9
baz=53
ABTX Abilene, Hawle 53.34 301 ⇑P P 07 53 00.4 -0.9
baz=53,SNR=7.6
ABTX Abilene, Hawle 53.34 301 eP P 07 53 01.1 -0.3
comp=Z,16nm,1.1s
Y32A R-V Farms, Ver 53.37 302 ⇑P P 07 53 01.0 -0.5
baz=54,SNR=7.0
U32A Winter Ranch, 53.41 305 ⇓P P 07 53 00.9 -0.8
baz=54
ECSD EROS Data Cent 53.43 315 ⇓P P 07 53 01.2 -0.6
baz=54
T32A Huddler Ranch, 53.50 306 ⇓P P 07 53 01.5 -1.0
baz=54
R32A Long Quarter, 53.59 308 ⇑P P 07 53 02.2 -0.8
baz=54
Q32A Meitler Ranch, 53.60 309 ⇓P P 07 53 02.3 -0.8
baz=54
631A Perdido Creek 53.80 297 ⇑P P 07 53 03.8 -1.0
baz=54
231A Bronte 53.83 300 ⇑P P 07 53 03.9 -1.0
baz=54
331A San Angelo 53.85 299 ⇑P P 07 53 04.1 -1.0
baz=54
Z31A Sharp Cattle R 53.85 301 ⇑P P 07 53 04.5 -0.6
baz=54,SNR=8.6
BGNE Belgrade 53.87 312 ⇓P P 07 53 04.2 -0.8
baz=54
BGNE Belgrade 53.87 312 eP P 07 53 05.3 +0.2
comp=Z,40nm,1.1s
X31A McDonald Ranch 53.90 303 ⇓P P 07 53 04.3 -1.1
baz=54,SNR=5.3
431A Sonora 53.94 298 ⇑P P 07 53 05.2 -0.7
baz=54,SNR=11
W31A Holland Ranch, 53.96 304 ⇑P P 07 53 04.7 -1.2
baz=54
131A Roby 53.97 301 ⇓P P 07 53 04.9 -1.1
baz=54
V31A Spring Creek L 53.97 304 ⇓P P 07 53 04.9 -1.0
baz=54
S31A Mullinville 54.02 307 ⇑P P 07 53 05.4 -0.8
baz=54
Y31A Rekieta Farm, 54.04 302 ⇓P P 07 53 05.9 -0.6
baz=54,SNR=8.8
T31A Randall Ranch, 54.07 306 ⇓P P 07 53 05.7 -1.0
baz=54
R31A Burdett 54.19 308 ⇓P P 07 53 06.6 -0.8
baz=54,SNR=7.4
P31A Stockton 54.33 309 ⇓P P 07 53 07.8 -0.7
baz=54
130A Snyder 54.45 300 ⇓P P 07 53 08.6 -0.9
baz=54
M31A Lambtecht Ranc 54.46 311 ⇓P P 07 53 08.5 -0.9
baz=54
AGMN Agassiz Nation 54.48 320 ⇓P P 07 53 08.5 -0.8
baz=55
430A Baggett Ranch, 54.49 298 ⇓P P 07 53 08.5 -1.3
baz=55
330A Mertzon 54.50 299 ⇑P P 07 53 08.9 -0.9
baz=55,SNR=6.7
530A J-C Ranch, Com 54.52 297 ⇑P P 07 53 08.9 -1.2
baz=55
Y30A Stafford Cattl 54.55 302 ⇑P P 07 53 09.1 -1.1
baz=55,SNR=6.6
L31A Butterfield Fa 54.56 312 ⇓P P 07 53 09.3 -0.8
baz=55
X30A Coker Ranch, T 54.61 303 ⇑P P 07 53 09.1 -1.4
baz=55,SNR=7.7
V30A Spur Ranch, Mi 54.65 304 ⇑P P 07 53 10.0 -0.9
baz=55
Z30A Sanderson Ranc 54.66 301 ⇓P P 07 53 10.1 -1.0
baz=55,SNR=7.4
U30A WK&E Inc. Balk 54.74 305 ⇓P P 07 53 10.8 -0.8
baz=55
R30A Dighton 54.77 307 ⇓P P 07 53 11.3 -0.4
baz=55,SNR=8.7
S30A Montezuma 54.79 307 ⇑P P 07 53 11.0 -0.9
baz=55
Q30A Quinter 54.86 308 ⇓P P 07 53 12.1 -0.2
baz=55,SNR=7.0
O30A MW Ranch, Wils 54.98 310 ⇑P P 07 53 12.7 -0.5
baz=55
P30A Selden 54.99 309 ⇑P P 07 53 12.2 -1.1
baz=55
429A Davenport Ranc 55.04 298 ⇓P P 07 53 12.6 -1.2
baz=55
229A Bryant Ranch, 55.09 300 ⇓P P 07 53 13.1 -1.0
baz=55
Z29A Hungry Hill Ra 55.14 301 ⇑P P 07 53 13.9 -0.6
baz=55,SNR=6.8
Y29A Porterfield Fa 55.19 302 ⇑P P 07 53 13.3 -1.5
baz=55
329A Wagon Wheel Ra 55.19 299 ⇑P P 07 53 13.3 -1.5
baz=55
129A Stewart Farms, 55.21 300 ⇓P P 07 53 14.0 -1.0
baz=55,SNR=6.9
X29A Tulia 55.28 303 ⇑P P 07 53 14.4 -1.1
baz=55
529A Stev Forest Ra 55.28 297 ⇓P P 07 53 14.9 -0.7
baz=55,SNR=5.5
AMTX Amarillo 55.33 303 ⇑P P 07 53 15.2 -0.6
baz=55
AMTX Amarillo 55.33 303 eP P 07 53 15.5 -0.3
comp=Z,17nm,1.0s
J30A Dallas 55.33 314 ⇓P P 07 53 14.7 -0.9
baz=55
W29A Amarillo 55.33 303 ⇓P P 07 53 14.9 -1.0
baz=55,SNR=7.8
T29A Hugoton 55.36 306 ⇑P P 07 53 15.0 -1.0
baz=55
R29A Marienthal 55.46 307 ⇑P P 07 53 15.3 -1.4
baz=56
P29A Atwood 55.52 309 ⇑P P 07 53 17.1 -0.1
baz=56
G30A Faulkton 55.58 316 ⇑P P 07 53 16.3 -1.1
baz=56,SNR=5.4
Y28A McKinney Farm, 55.67 302 ⇑P P 07 53 17.3 -1.0
baz=56,SNR=11
X28A Dimmitt 55.70 303 ⇑P P 07 53 17.4 -1.1
baz=56
Z28A Tucker Farm, M 55.71 301 ⇓P P 07 53 17.7 -0.9
baz=56
K29A Lazy Trails An 55.77 313 ⇑P P 07 53 18.1 -0.7
baz=56
S28A Manter 55.90 306 ⇓P P 07 53 19.3 -0.7
baz=56,SNR=5.7
D30A Buchanan 55.91 318 ⇑P P 07 53 18.8 -0.9
baz=56,SNR=6.2
C30A Mose, Pekin 55.92 319 ⇑P P 07 53 18.8 -1.0
baz=56
J29A Okreek 55.93 313 ⇑P P 07 53 19.3 -0.7
baz=56
R28A Tribune 55.96 307 ⇑P P 07 53 20.1 -0.3
baz=56,SNR=10
U28A Mallet 55.97 305 ⇓P P 07 53 19.5 -1.0
baz=56
T28A Walsh 56.00 306 ⇓P P 07 53 19.4 -1.2
baz=56
B30A Myrvik Farm, E 56.07 320 ⇓P P 07 53 20.0 -0.8
baz=56
I29A Vivian Onida 56.08 314 ⇓P P 07 53 19.8 -1.1
baz=56
MSTX Muleshoe 56.11 302 ⇑P P 07 53 21.1 -0.4
baz=56,SNR=16
MSTX Muleshoe 56.11 302 eP P 07 53 21.3 -0.2
comp=Z,34nm,1.1s
G29A Hoven 56.12 316 ⇓P P 07 53 20.7 -0.6
baz=56
O28A Krutsinger Ran 56.26 309 ⇑P P 07 53 22.0 -0.5
baz=56,SNR=5.5
U27A Thompson Grove 56.46 305 ⇑P P 07 53 23.0 -1.0
baz=56

T27A Campo 56.47 306 ⇓P P 07 53 23.2 -0.9
baz=57
TXAR Lajitas Array 56.49 296 P P 07 53 22.4 -1.9
comp=Z,2.1nm,0.9s,baz=107,slow=6.2,SNR=18
TXAR PcP PcP 07 54 21.9 +0.8
comp=Z,1.9nm,1.0s,baz=111,slow=4.3,SNR=5.2
TXAR LR LR 08 16 05.9
comp=Z,134nm,21.6s,baz=0.0,slow=34
K28A Ten Mile Ranch 56.51 312 ⇓P P 07 53 23.5 -0.6
baz=57
J28A Allard Ranch, 56.58 313 ⇑P P 07 53 24.2 -0.5
baz=57
R27A Eads 56.72 307 ⇑P P 07 53 25.7 -0.1
baz=57,SNR=8.0
B29A Wagenman Farm, 56.72 320 ⇑P P 07 53 24.6 -0.9
baz=57
A29A Manning Farm, 56.79 320 ⇑P P 07 53 25.5 -0.5
baz=57
O27A Beecher Island 56.80 309 ⇑P P 07 53 25.6 -0.8
baz=57
F28A McLaughlin 56.90 316 ⇑P P 07 53 26.1 -0.7
baz=57
S26A Kim 57.14 306 ⇑P P 07 53 28.7 -0.1
baz=57,SNR=9.8
C28A Hausauer Farms 57.15 318 ⇓P P 07 53 27.8 -0.8
baz=57
T26A Comanche Natio 57.17 306 ⇓P P 07 53 28.8 -0.3
baz=57,SNR=8.7
R26A Arlington 57.23 307 ⇓P P 07 53 29.2 -0.2
baz=57,SNR=12
I27A Quinn 57.31 314 ⇓P P 07 53 28.8 -1.0
baz=57
P26A Davis Ranch, A 57.35 308 ⇓P P 07 53 29.3 -1.0
baz=57
A28A Rude Farm, Bot 57.44 320 ⇓P P 07 53 29.9 -0.6
baz=58
G27A Dupree 57.54 315 ⇓P P 07 53 30.9 -0.5
baz=58
F27A Lemmon 57.73 316 ⇓P P 07 53 32.2 -0.5
baz=58,SNR=5.7
T25A Trinidad 57.82 305 ⇓P P 07 53 33.7 0.0
baz=58,SNR=6.0
J26A Sides Ranch, S 57.86 313 ⇑P P 07 53 33.0 -0.8
baz=58
G26A Maurine 57.98 315 ⇑P P 07 53 33.7 -0.8
baz=58
FCC Fort Churchill 58.07 332 eP P 07 53 33.9 -0.8
FCC pmax pmax
comp=Z,4.0nm,0.9s
FCC Fort Churchill 58.07 332 eP P 07 53 33.9 -0.8
comp=Z,4.3nm,0.9s
MNTX Cornudas Mount 58.10 299 ⇓P P 07 53 35.5 0.0
baz=58,SNR=12
MNTX Cornudas Mount 58.10 299 eP P 07 53 35.2 -0.3
comp=Z,21nm,1.4s
F26A Lodgepole 58.16 316 ⇑P P 07 53 35.5 -0.3
baz=58
M25A Palm-Egli Farm 58.21 310 ⇑P P 07 53 35.6 -0.7
baz=58
I25A Rochford 58.48 314 ⇓P P 07 53 38.0 -0.1
baz=59,SNR=7.9
H25A Fruitdale 58.51 314 ⇑P P 07 53 37.5 -0.7
baz=59
G25A Newell 58.52 315 ⇓P P 07 53 38.2 -0.1
baz=59,SNR=6.8
SDCO Great Sand Dun 58.76 306 ⇓P P 07 53 40.3 -0.1
baz=59,SNR=22
SDCO Great Sand Dun 58.76 306 eP P 07 53 41.1 +0.7
comp=Z,9.6nm,1.0s
J24A Dixon Ranch, L 59.00 313 ⇑P P 07 53 41.6 -0.1
baz=59
PLCA Paso Flores 59.04 203 P P 07 53 41.2 -0.6
comp=Z,4.1nm,0.9s,baz=37,slow=9.6,SNR=4.9
R23A Moffat 59.06 306 ⇓P P 07 53 43.0 +0.6
baz=59,SNR=7.8
ISCO Idaho Springs 59.12 308 eP P 07 53 44.0 +1.2
ISCO pmax pmax
comp=Z,24nm,1.2s
ISCO Idaho Springs 59.12 308 ⇓P P 07 53 43.3 +0.5
baz=59,SNR=24
ISCO Idaho Springs 59.12 308 eP P 07 53 44.0 +1.2
comp=Z,24nm,1.2s
SUMG Summit 59.14 2 eP P 07 53 43.4 +0.9
SUMG pmax pmax
comp=Z,52nm,2.1s
SUMG Summit 59.14 2 eP P 07 53 43.4 +0.9
comp=Z,52nm,2.1s
H24A Dirks Ranch, A 59.21 314 ⇓P P 07 53 42.6 -0.5
baz=59
P23A Jefferson 59.23 308 ⇓P P 07 53 44.9 +1.3
baz=59,SNR=9.8
ANMO Albuquerque 59.23 303 eP P 07 53 44.4 +0.8
ANMO pmax pmax
comp=Z,5.0nm,1.2s
ANMO Albuquerque 59.23 303 eP P 07 53 44.4 +0.8
comp=Z,5.3nm,1.2s
KHC Kasperske Hory 59.30 41 eP P 07 53 44.7 +1.1
KHC epP pP 07 53 46.2 -0.6
KHC ex x 07 53 52.2
KHC Kasperske Hory 59.30 41 eP P 07 53 44.7 +1.1
KHC e 07 53 46.2
KHC e 07 53 52.2
GERES GERESS Array B 59.30 41 LR LR 08 15 58.2
comp=Z,60nm,21.6s,baz=250,slow=33
F24A Ekalaka 59.37 315 ⇓P P 07 53 43.6 -0.6
baz=59
N23A Red Feather La 59.53 310 ⇑P P 07 53 44.6 -1.0
baz=60
CLL Collm 59.57 38 e(sP) pP 07 53 49.0 +0.5
CLL LmV 08 14 00.0
comp=Z,100nm,19.3s
CLL Collm 59.57 38 eP pP 07 53 49.0 +0.5
S22A 4UR Ranch, Cre 59.80 306 ⇑P P 07 53 47.2 -0.3
baz=60,SNR=20
DGMT Dagmar 59.81 318 ⇓P P 07 53 47.1 -0.1
baz=60
DGMT Dagmar 59.81 318 eP P 07 53 48.2 +1.0
comp=Z,35nm,1.4s
O22A Kremmling 59.88 309 ⇑P P 07 53 47.4 -0.7
baz=60
N22A Wattenberg Ran 59.90 309 ⇓P P 07 53 47.3 -0.8
baz=60
P22A Eagle 59.96 308 ⇓P P 07 53 47.8 -0.8
baz=60
F23A Volborg 60.00 315 ⇑P P 07 53 47.8 -0.7
baz=60
SMCO Snowmass 60.08 308 eP P 07 53 50.5 +1.0
comp=Z,16nm,1.4s
E23A Ismay 60.09 316 ⇑P P 07 53 48.7 -0.4
baz=60
121A Cookes Peak, D 60.18 300 ⇓P P 07 53 50.0 -0.2
baz=60,SNR=6.1
121A Cookes Peak, D 60.18 300 eP P 07 53 51.2 +1.1
comp=Z,11nm,1.0s
K22A Casper 60.23 312 ⇑P P 07 53 49.8 -0.4
baz=60
C23A Lambert 60.30 318 ⇑P P 07 53 50.8 +0.3
baz=60
J22A Midwest 60.32 312 ⇑P P 07 53 50.9 0.0
baz=60
B23A Brockton 60.33 318 ⇓P P 07 53 50.6 -0.1
baz=60
FFC Flin Flon 60.33 326 eP P 07 53 50.5 0.0
FFC pmax pmax
comp=Z,9.0nm,1.3s
FFC Flin Flon 60.33 326 eP P 07 53 50.5 0.0
comp=Z,9.4nm,1.3s
I22A 9 Mile Ranch, 60.41 313 ⇑P P 07 53 50.8 -0.6
baz=60
H22A Clearmont 60.44 314 ⇓P P 07 53 50.8 -0.8
baz=60
G22A Birney 60.51 314 ⇓P P 07 53 51.5 -0.5
baz=61
E22A Miles City 60.51 316 ⇓P P 07 53 51.5 -0.5
baz=61
F22A Rosebud 60.59 315 ⇓P P 07 53 52.2 -0.3
baz=61
LAO LASA Array 60.75 316 eP P 07 53 54.6 +1.0
comp=Z,16nm,1.4s
D22A Cohagen 60.82 317 ⇓P P 07 53 54.3 +0.2
baz=61,SNR=9.3
I21A Big Trails, Te 60.97 313 ⇓P P 07 53 54.0 -1.3
baz=61,SNR=11
A22A Carney Farms, 61.05 319 ⇓P P 07 53 55.0 -0.6
baz=61
MVCO Mesa Verde 61.07 305 ⇑P P 07 53 56.7 +0.5
baz=61,SNR=6.6
MVCO Mesa Verde 61.07 305 eP P 07 53 57.3 +1.1
comp=Z,20nm,1.4s
O20A White River Ci 61.16 308 ⇓P P 07 53 56.1 -0.7
baz=61
O20A White River Ci 61.16 308 eP P 07 53 58.1 +1.4
comp=Z,25nm,1.4s
PV01 Paradox Valley 61.21 306 eP P 07 53 58.2 +1.1
comp=Z,1um,1.1s
N20A Spence Gulch, 61.26 309 ⇓P P 07 53 56.5 -0.9
baz=61
DPC Dobruska-Polom 61.33 40 eP P 07 53 58.8 +1.3
DPC Dobruska-Polom 61.33 40 eP P 07 53 58.8 +1.3
J20A Shoshoni 61.47 312 ⇓P P 07 53 58.3 -0.4
baz=62,SNR=7.3
C21A Desert Coulee 61.56 317 ⇓P P 07 53 58.5 -0.6
baz=62
H20A Greybull 61.58 313 ⇓P P 07 53 58.8 -0.6
baz=62
I20A Worland 61.59 313 ⇑P P 07 53 59.0 -0.5
baz=62,SNR=7.4
B21A Ellsworth Farm 61.63 318 ⇑P P 07 53 59.2 -0.3
baz=62
A21A Bergtoll Ranch 61.69 319 ⇑P P 07 53 59.4 -0.6
baz=62
G20A Bridger 61.85 314 ⇑P P 07 54 00.4 -0.8
baz=62,SNR=6.1
F20A Billings 61.90 315 ⇑P P 07 54 01.4 0.0
baz=62,SNR=7.7
W18A Petrified Fore 61.93 303 ⇓P P 07 54 01.1 -0.9
baz=62
NOA NORSAR Array B 62.10 27 P P 07 54 01.5 -1.0
comp=Z,0.9nm,1.0s,baz=227,slow=12,SNR=2.4
D20A Manuel Ranch, 62.12 316 ⇓P P 07 54 02.8 -0.1
baz=62,SNR=6.3
C20A Veseth Ranch, 62.14 317 ⇑P P 07 54 02.4 -0.6
baz=62
J19A Crowheart 62.15 312 ⇑P P 07 54 02.5 -0.8
baz=62
I19A Meeteetse 62.22 313 ⇓P P 07 54 02.8 -0.9
baz=62,SNR=5.5
H19A Powell 62.30 313 ⇓P P 07 54 03.7 -0.6
baz=62,SNR=6.6
A20A Cobblestone Ra 62.32 318 ⇑P P 07 54 03.7 -0.5
baz=62
E19A Rath Farm, Rou 62.45 316 ⇑P P 07 54 04.6 -0.5
baz=62
F19A Roth Farm, Mol 62.45 315 ⇑P P 07 54 04.9 -0.3
baz=62,SNR=5.6
BW06 Boulder Array 62.46 311 eP P 07 54 04.9 -0.6
comp=Z,7.9nm,1.2s
PDAR Pinedale Array 62.46 311 P P 07 54 04.1 -1.4
comp=Z,4.5nm,1.1s,baz=94,slow=5.5,SNR=17
D19A Cripps Ranch, 62.63 316 ⇑P P 07 54 06.0 -0.3
baz=63
TUC Tucson 62.71 299 eP P 07 54 07.8 +0.6
TUC pmax pmax
comp=Z,7.0nm,1.0s
TUC Tucson 62.71 299 eP P 07 54 07.8 +0.6
comp=Z,7.4nm,1.0s
SRU San Rafael Swe 62.82 307 eP P 07 54 08.5 +0.7
SRU pmax pmax
comp=Z,21nm,1.4s
SRU San Rafael Swe 62.82 307 eP P 07 54 08.5 +0.7
comp=Z,22nm,1.4s
C19A Slack Wire Ran 62.84 317 ⇑P P 07 54 07.6 -0.1
baz=63
A19A Klindworth Far 62.85 318 ⇑P P 07 54 07.9 +0.1
baz=63
HFS Hagfors 62.88 29 LR LR 08 17 24.4
comp=Z,51nm,18.8s,baz=266,slow=32
WUAZ Wupatki 63.28 303 ⇓P P 07 54 11.1 +0.1
baz=63
WUAZ Wupatki 63.28 303 eP P 07 54 13.0 +2.0
comp=Z,21nm,1.4s
LOHW Long Hollow 63.32 312 eP P 07 54 11.1 -0.1
comp=Z,6.0nm,1.2s
EGMT Eagleton 63.36 317 ⇑P P 07 54 11.2 +0.1
baz=63
EGMT Eagleton 63.36 317 eP P 07 54 11.7 +0.6
comp=Z,12nm,1.1s
MOOW Moose Ponds 63.44 312 eP P 07 54 11.8 -0.1
comp=Z,13nm,1.6s
FLWY Flagg Ranch 63.44 313 eP P 07 54 12.1 +0.1
comp=Z,9.4nm,1.0s
REDW Red Top Meadow 63.47 312 eP P 07 54 12.6 +0.4
comp=Z,26nm,1.6s
TPAW Teton Pass 63.55 312 eP P 07 54 12.6 -0.2
comp=Z,7.1nm,1.1s
IMW Indian Meadow 63.59 312 eP P 07 54 13.2 +0.1
comp=Z,21nm,1.4s
FXWY Fox Creek 63.63 312 eP P 07 54 13.0 -0.2
comp=Z,8.9nm,1.4s
JLU Jordanelle 63.65 309 eP P 07 54 14.1 +0.6
comp=Z,27nm,1.5s
HWUT Hardware Ranch 63.82 310 eP P 07 54 13.7 -0.8
comp=Z,17nm,1.0s
MSU Marysvale 64.07 306 eP P 07 54 17.1 +0.9
MSU pmax pmax
comp=Z,7.0nm,1.1s
MSU Marysvale 64.07 306 eP P 07 54 17.1 +0.9
comp=Z,7.3nm,1.1s
NLU North Lily Min 64.08 308 eP P 07 54 17.0 +0.8
comp=Z,6.5nm,1.0s
MVU Marysvale 64.09 306 eP P 07 54 17.4 +1.0
comp=Z,7.3nm,1.1s
STHS Stebnicka Huta 64.26 41 eP P 07 54 19.4 +2.4
STHS Stebnicka Huta 64.26 41 epP P 07 54 19.4 +2.4
BOZ Bozeman (W) 64.29 314 eP P 07 54 17.3 -0.1
BOZ pmax pmax
comp=Z,42nm,2.6s
BOZ Bozeman (W) 64.29 314 eP P 07 54 17.3 -0.1
comp=Z,42nm,2.6s
214A Organ Pipe Nat 64.43 299 ⇑P P 07 54 18.7 +0.2
baz=64,SNR=6.3
HRY Holter Researc 64.56 315 eP P 07 54 19.9 +0.8
comp=Z,2.6nm,0.8s
DUG Dugway, Tooele 64.66 308 eP P 07 54 20.4 +0.5
DUG pmax pmax
comp=Z,17nm,1.4s
DUG Dugway, Tooele 64.66 308 ⇓P P 07 54 19.9 0.0
baz=65,SNR=7.3
DUG Dugway, Tooele 64.66 308 eP P 07 54 20.4 +0.5
comp=Z,17nm,1.4s
KOLS Kolonicke sedl 64.85 42 eP P 07 54 23.0 +2.1
KOLS Kolonicke sedl 64.85 42 epP P 07 54 23.0 +2.1
BGU Big Grassy Mou 64.87 309 eP P 07 54 21.4 +0.1
comp=Z,25nm,1.2s
DLMT Dillon 64.93 314 eP P 07 54 22.7 +1.1
comp=Z,9.0nm,1.1s
PDMCI Parker Dam,Lak 65.53 302 ⇓P P 07 54 25.9 +0.4
baz=66
SLMT Seeley Lake 65.75 316 eP P 07 54 26.8 -0.1
comp=Z,11nm,1.1s
Y12C Blythe 65.86 301 ⇑P P 07 54 28.0 +0.3
baz=66
MSO Missoula 66.01 315 ⇑P P 07 54 28.8 +0.2
baz=66
HLID Hailey 66.07 312 ⇓P P 07 54 28.5 -0.6
baz=66,SNR=5.1
HLID Hailey 66.07 312 eP P 07 54 29.4 +0.3
comp=Z,6.6nm,1.3s
SWMT Swartz Lake 66.12 316 eP P 07 54 29.2 0.0
comp=Z,7.3nm,1.2s
IRM Iron Mountain 66.37 302 ⇓P P 07 54 31.3 +0.2
baz=66,SNR=9.3
EDM Edmonton 66.46 322 eP P 07 54 31.1 -0.1
EDM Edmonton 66.46 322 eP P 07 54 31.1 -0.1
ELK Elko 66.53 309 eP P 07 54 32.6 +0.5
ELK pmax pmax
comp=Z,8.0nm,1.0s
ELK Elko 66.53 309 eP P 07 54 32.6 +0.5
comp=Z,8.0nm,1.0s
BC3 Big Chuckawall 66.63 301 ⇑P P 07 54 33.1 +0.3
baz=67
R11A Troy Canyon, C 66.73 306 ⇓P P 07 54 33.3 -0.1
baz=67,SNR=9.7
R11A Troy Canyon, C 66.73 306 eP P 07 54 34.3 +0.9
comp=Z,5.0nm,1.0s
GMRC Granite Mounta 66.79 302 ⇓P P 07 54 34.2 +0.4
baz=67,SNR=9.9
SWSC Sam W. Stewart 66.94 300 ⇑P P 07 54 34.4 -0.2
baz=67
TUQ Turquoise Moun 67.00 303 ⇑P P 07 54 35.1 0.0
baz=67
BELC Belle Mtn. Jos 67.08 301 ⇓P P 07 54 36.2 +0.5
baz=67,SNR=6.4
MFID Camas Ranch 67.09 312 eP P 07 54 35.8 +0.3
comp=Z,20nm,1.4s
TPNV Topopah Spring 67.25 305 ⇓P P 07 54 37.5 +0.8

baz=67,SNR=6.3
SHOC Shoshone, Teco 67.28 303 ⇑P P 07 54 37.4 +0.7
baz=67
HEC Hector,Ludlow 67.34 302 ⇓P P 07 54 37.7 +0.5
baz=67
MONP Monument Peak, 67.46 300 ⇑P P 07 54 38.3 +0.2
baz=68
PFO Pinyon Flats O 67.47 301 ⇑P P 07 54 38.4 +0.3
baz=68
GSC Goldstone, Bar 67.72 303 eP P 07 54 40.7 +1.1
GSC pmax pmax
comp=Z,8.0nm,1.0s
GSC Goldstone, Bar 67.72 303 ⇓P P 07 54 40.2 +0.6
baz=68,SNR=6.4
GSC Goldstone, Bar 67.72 303 eP P 07 54 40.7 +1.1
comp=Z,8.1nm,1.0s
FURC Furnace Creek, 67.75 304 ⇑P P 07 54 40.6 +1.0
baz=68,SNR=6.4
BBRC Big Bear Solar 67.84 302 ⇑P P 07 54 40.6 0.0
baz=68
TPH Tonopah 68.02 306 eP P 07 54 42.3 +0.7
TPH pmax pmax
comp=Z,10.0nm,1.1s
TPH Tonopah 68.02 306 eP P 07 54 42.3 +0.7
comp=Z,9.6nm,1.1s
MURC Murrieta 68.09 301 ⇑P P 07 54 42.7 +0.7
baz=68
GRAC Grapevine Rang 68.15 305 ⇓P P 07 54 42.5 +0.3
baz=68
MPMC Manual Prospec 68.26 304 ⇓P P 07 54 43.7 +0.6
baz=68,SNR=5.8
NEW Newport 68.28 317 P P 07 54 40.9 -2.0
comp=Z,7.7nm,1.0s,baz=114,slow=5.4,SNR=9.2
NEW Newport 68.28 317 eP P 07 54 42.7 -0.1
NEW Newport 68.28 317 ⇓P P 07 54 42.5 -0.3
baz=68,SNR=8.1
NEW Newport 68.28 317 eP P 07 54 42.7 -0.1
DAC Darwin (Calif) 68.34 304 eP P 07 54 45.0 +1.4
DAC pmax pmax
comp=Z,13nm,1.4s
DAC Darwin (Calif) 68.34 304 eP P 07 54 45.0 +1.4
comp=Z,13nm,1.4s
LRMC Laurel Mtn Rad 68.44 303 ⇓P P 07 54 44.4 +0.3
baz=68
BFSC Mount Baldy Ra 68.45 302 ⇑P P 07 54 44.4 +0.1
baz=68
EDW2 Edwards Air Fo 68.70 302 ⇓P P 07 54 45.9 +0.1
baz=69
YKA Yellowknife Ar 68.80 332 P P 07 54 43.5 -2.2
comp=Z,2.9nm,1.0s,baz=102,slow=6.5,SNR=14
NVAR Mina Array Bea 68.87 306 P P 07 54 46.5 -0.4
comp=Z,1.8nm,1.1s,baz=77,slow=5.6,SNR=6.7
FINES FINESS Array B 69.07 29 P P 07 54 46.9 -0.5
comp=Z,2.1nm,0.9s,baz=266,slow=9.1,SNR=4.6
FINES LR LR 08 20 10.8
comp=Z,64nm,21.6s,baz=321,slow=32
ISA Isabella, Lake 69.07 303 eP P 07 54 49.7 +1.6
ISA pmax pmax
comp=Z,21nm,1.4s
ISA Isabella, Lake 69.07 303 ⇓P P 07 54 48.9 +0.9
baz=69,SNR=5.1
ISA Isabella, Lake 69.07 303 eP P 07 54 49.7 +1.6
comp=Z,21nm,1.4s
WVOR Wild Horse Val 69.12 310 eP P 07 54 48.7 +0.4
WVOR pmax pmax
comp=Z,10.0nm,1.5s
WVOR Wild Horse Val 69.12 310 eP P 07 54 48.7 +0.4
comp=Z,9.9nm,1.5s
KIEV Kiev 69.50 41 P P 07 54 51.6 +1.3
AKASG Malin Array Be 69.52 41 P P 07 54 49.5 -0.9
comp=Z,0.8nm,0.4s,baz=284,slow=3.8,SNR=4.5
AKASG LR LR 08 22 20.1
comp=Z,40nm,21.8s,baz=310,slow=33
RCTC Rector, Farmer 69.67 304 ⇑P P 07 54 51.4 -0.2
baz=70
WAKR Walker 69.76 306 eP P 07 54 53.8 +1.4
ARCES ARCESS Array B 70.54 21 P P 07 54 54.4 -1.9
comp=Z,1.8nm,0.8s,baz=273,slow=7.2,SNR=11
ARCES LR LR 08 21 22.7
comp=Z,29nm,18.1s,baz=268,slow=32
K05A Summer Lake 70.79 311 eP P 07 54 59.9 +1.3
comp=Z,48nm,1.2s
J05D Fort Rock, OR 71.03 311 ⇑P P 07 55 00.2 +0.1
baz=71
M04C Macdoel 71.51 310 ⇓P P 07 55 03.7 +0.8
baz=72,SNR=8.2
I04A Tendick Farm, 71.87 312 ⇑P P 07 55 04.7 -0.3
baz=72
YBH Yreka Blue Hor 72.16 310 P P 07 55 04.4 -2.5
comp=Z,4.6nm,1.1s,baz=296,slow=3.6,SNR=4.3
N02D Trinity Center 72.19 309 ⇑P P 07 55 06.6 -0.4
baz=72
M02C Callahan 72.28 309 ⇑P P 07 55 07.1 -0.4
baz=72
BRTR Keskin Array B 72.62 52 P P 07 55 09.3 -0.3
comp=Z,0.7nm,0.7s,baz=319,slow=4.2,SNR=3.2
BRTR LR LR 08 24 21.4
comp=Z,25nm,21.9s,baz=242,slow=34
L02D Cave Junction, 72.81 310 ⇑P P 07 55 10.1 -0.5
baz=73
KHMM Horse Mountain 72.97 309 eP P 07 55 12.3 +0.6
KMRM Mail Ridge 73.00 308 eP P 07 55 14.5 +2.7
comp=Z,37nm,1.1s
OBN Obninsk 74.07 36 ⇓eP P 07 55 19.8 +2.1
OBN pmax pmax
comp=Z,8.0nm,1.2s
ANN Anapa 75.10 47 eP P 07 55 26.1 +2.3
ANN pmax pmax
comp=Z,41nm,1.1s
KLMR Klimovskoe 75.52 30 eP P 07 55 24.7 -1.2
KLMR pmax pmax
comp=Z,17nm,1.3s
DLBC Dease Lake 76.11 327 P P 07 55 29.3 -0.2
comp=Z,4.7nm,0.9s,baz=65,slow=6.3,SNR=5.0
DLBC Dease Lake 76.11 327 eP P 07 55 30.4 +0.9
INK Inuvik 77.07 338 P P 07 55 34.3 -0.4
comp=Z,2.4nm,0.3s,baz=102,slow=6.6,SNR=4.7
PRGR Permogore 78.40 29 eP P 07 55 42.8 +0.6
PRGR e 07 55 51.5
PRGR pmax pmax
comp=Z,22nm,1.1s
BOSA Boshof 79.55 123 LR LR 08 23 35.7
comp=Z,134nm,21.7s,baz=288,slow=30
DAWY Dawson 79.96 334 eP P 07 55 50.2 -0.6
GNI Garni 81.05 51 LR LR 08 30 47.2
comp=Z,30nm,21.6s,baz=272,slow=35
PAX Paxson 82.86 333 eP P 07 56 06.3 +0.1
PAX pmax pmax
comp=Z,9.0nm,1.3s
PAX Paxson 82.86 333 eP P 07 56 06.3 +0.1
comp=Z,8.7nm,1.3s
ILAR Eielson Array 82.96 335 P P 07 56 07.2 +0.7
comp=Z,7.3nm,0.9s,baz=73,slow=4.2,SNR=45
ILAR LR LR 08 33 10.7
comp=Z,34nm,18.0s,baz=80,slow=36
COLA College 83.32 335 eP P 07 56 09.3 +0.9
COLA pmax pmax
comp=Z,10.0nm,0.9s
COLA College 83.32 335 eP P 07 56 09.2 +0.9
comp=Z,9.9nm,0.9s
COLD Coldfoot 83.49 338 eP P 07 56 11.1 +1.9
comp=Z,4.1nm,1.0s
TRF Thorofare Moun 84.79 334 eP P 07 56 17.5 +1.3
comp=Z,12nm,1.1s
BPAW Bear Paw Mtn. 84.86 335 eP P 07 56 17.2 +0.8
comp=Z,1.5nm,0.9s
PMR Palmer 84.90 332 eP P 07 56 16.1 -0.4
PMR pmax pmax
comp=Z,5.0nm,1.0s
PMR Palmer 84.90 332 eP P 07 56 16.1 -0.4
comp=Z,4.9nm,1.0s
KTH Kantishna Hill 85.02 334 eP P 07 56 18.2 +1.0
comp=Z,11nm,1.1s
IM04 Indian Mountai 85.27 337 eP P 07 56 18.6 +0.3
ARU Arti 86.06 33 d iP P 07 56 24.1 +1.7
ARU 07 59 44.8
ARU S S 08 06 50.0 -6.7
ARU SS SS 08 12 43.3 +9.2
ARU pmax pmax
comp=Z,18nm,2.5s
SNAA Sanae 89.52 168 ⇓iP P 07 56 39.9 +1.3
BRVK Borovoye 93.62 33 ⇑eP P 07 56 58.3 +0.2
BVAR Borovoye Array 93.70 33 LR LR 08 36 46.5
comp=Z,70nm,20.8s,baz=256,slow=34
WMQ Urumqi 108.35 34 Pdif Pdif 07 58 07.1 +2.6
WMQ PPMZ
comp=Z,87nm,9.8s
WMQ LN
comp=Z,120nm,10.0s
WMQ LE
comp=Z,210nm,7.8s
HHC Hu-ho-hao-te 121.62 21 ePKP PKPdf 08 02 36.2 +0.1
HHC PP PP 08 04 08.8 +1.7
HHC PKS PKSdf 08 06 12.9 0.0
HHC SKKS 08 11 01.8
HHC SS SS 08 20 43.8 +1.4
HHC PPMZ
comp=Z,58nm,9.4s
HHC LN
comp=Z,120nm,20.6s
HHC LE
comp=Z,120nm,20.4s
CN2 Changchun 122.25 8 ePKP PKPdf 08 02 33.6 -3.5
CD2 Chengdu 126.45 34 PKP PKPdf 08 02 44.5 -1.1
CD2 sPKP 08 02 49.2
CD2 SKS SKSdf 08 09 56.3 -1.6
CD2 SKKS SKKSac 08 11 35.8 -3.6
CD2 SS SS 08 21 44.0 -0.1
CD2 PPMZ
comp=Z,120nm,5.4s
MJAR Matsushiro Arr 130.12 357 PKP PKPdf 08 02 50.7 -1.6
comp=Z,1.0nm,0.7s,baz=97,slow=3.0,SNR=3.3
KMI Kunming 130.20 40 PKP PKPdf 08 02 53.4 +0.3
GYA Guiyang 131.51 35 ePdif Pdif 07 59 47.0 -0.9
GYA PKP PKPdf 08 02 55.0 -0.4
GYA PP PP 08 05 16.8 +3.6
GYA PPMZ
comp=Z,120nm,7.9s
WHN Wuhan 131.79 24 PKP PKPdf 08 02 57.9 +2.3

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*ISCJB **03** 07:48:38.2±0.8, 53°.53N±0°.08×159°.15W±0°.07, h10km, mb3.6/4, Error ellipse: s-maj=11.4km s-min=5.8km az=167.1*
*IDC **03** 07:48:38.9±1.9, 53°.55N×159°.02W, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.6/30, mbtmp3.7/6, ML3.8/2, Error ellipse: s-maj=35.2km s-min=32.8km az=163.0*
*NEIC **03** 07:48:42.1, 53°.64N×159°.30W, h2km, ML3.3(AEIC), After AEIC.*
ISC 03 07:48:40.5±1.4, **53°.6N**±0°.1×**159°.21W**±0°.08, **h10**km, **n21**, σ**0.s58**/21, **mb3.7**/4, **South of Alaska**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
SDPT Sand Point 1.90 338 P Pn 07 49 12.8 -0.1
SDPT S Sn 07 49 36.8 -0.1
DRIA Deer Island 2.25 309 P Pn 07 49 17.6 -0.1
DT1 Dutton Round H 2.35 311 P Pn 07 49 18.9 -0.1
DTNA Dutton South F 2.36 312 P Pn 07 49 19.5 +0.3
VNHG Veniaminof 1 2.63 1 P Pn 07 49 23.9 +0.9
SSLW Shishaldin Wes 3.12 294 P Pn 07 49 29.6 0.0
WESN West Dahl Nort 3.31 289 P Pn 07 49 32.8 +0.5
AKSA Akutan Strait 3.88 281 P Pn 07 49 40.4 +0.3
ZRO Akutan Zero 4.04 280 P Pn 07 49 42.9 +0.6
UNV Unalaska Valle 4.34 276 P Pn 07 49 46.1 -0.3
UNV S Sn 07 50 35.7 -1.2
MSW Makushin Switc 4.50 277 P Pn 07 49 48.9 +0.2
MSW S Sn 07 50 40.8 -0.3
OHAK Old Harbor 4.96 41 P Pn 07 49 53.3 -1.5
KABR Katmai Barrier 5.13 26 P Pn 07 49 57.2 -0.1
OKSP Okmok Steeple 5.44 270 P Pn 07 50 01.5 0.0
KDAK Kodiak Island 5.62 39 P Pn 07 50 03.3 -0.7
ILAR Eielson Array 12.83 24 Pn Pn 07 51 38.2 -4.4
0.1nm,0.3s,baz=217,slow=12,SNR=12
ILAR Sn Sn 07 53 54.3 -11
0.0nm,0.3s,baz=215,slow=22,SNR=2.2
INK Inuvik 19.07 30 P P 07 53 01.5 -1.1
0.5nm,0.3s,baz=235,slow=13,SNR=2.6
YKA Yellowknife Ar 24.74 51 P P 07 54 01.8 +0.2
0.6nm,0.8s,baz=257,slow=8.1,SNR=3.9
TXAR Lajitas Array 46.70 98 P P 07 57 07.9 -1.5
0.2nm,0.6s,baz=309,slow=4.3,SNR=2.7
BVAR Borovoye Array 66.01 330 P P 07 59 27.7 +1.0
1.4nm,0.6s,baz=38,slow=7.5,SNR=8.3
BRTR Keskin Array B 86.39 350 P P 08 01 22.9 0.0
0.5nm,0.4s,baz=17,slow=5.3,SNR=4.1

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*ISCJB **03** 07:50:37.3±0.5, 39°.10S±0°.04×174°.77E±0°.06, h231km±4km, mb3.2/2, Error ellipse: s-maj=8.8km s-min=4.7km az=43.4*
*IDC **03** 07:50:37.4±1.2, 39°.33S×174°.96E, h223km±21km, mb3.0/2, mb1 3.3/3, mb1mx3.1/15, mbtmp3.7/3, Error ellipse: s-maj=50.9km s-min=15.7km az=132.0*
*NEIC **03** 07:50:39.1, 39°.05S×174°.88E, h225km, MG4.1(WEL), After WEL.*
*WEL **03** 07:50:39.5±0.3, 39°.05S×174°.90E, h222km±2km, ML4.1/19, Error ellipse: s-maj=2.1km s-min=1.9km az=90.0*
ISC 03 07:50:37.1±1.0, **39°.09S**±0°.05×**174°.82E**±0°.05, **h233**km±6km, **n178**, σ**1.s13**/193, **30C-19D, North Island**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
VRZ Vera Road 0.06 234 ⇑PN Pn 07 51 07.6 +0.3
VRZ SN S 07 51 29.3 -1.6
VRZ Vera Road 0.06 234 Pn Pn 07 51 07.6 +0.3
VRZ Sn S 07 51 29.3 -1.6
PKVZ Pokaka 0.46 116 ⇑PN Pn 07 51 08.8 +0.8
PKVZ SN S 07 51 30.7 -1.6
PKVZ Pokaka 0.46 116 Pn Pn 07 51 08.8 +0.8
PKVZ Sn S 07 51 30.7 -1.6
TWVZ Taurewa 0.48 88 PN Pn 07 51 08.7 +0.5
TWVZ SN S 07 51 30.5 -1.9
TWVZ Taurewa 0.48 88 Pn Pn 07 51 08.7 +0.5
TWVZ Sn S 07 51 30.5 -1.9
LREZ Lake Rotokare 0.49 221 ⇑PN Pn 07 51 09.2 +1.2
DREZ Durham Road 0.49 258 PN Pn 07 51 09.0 +1.0
DREZ Durham Road 0.49 258 Pn Pn 07 51 09.0 +1.0
COVZ Chateau Observ 0.57 101 PN Pn 07 51 09.2 +0.7
PREZ Palmer Road 0.57 244 PN Pn 07 51 09.5 +1.1
HIZ Hauiti 0.57 3 ⇑PN Pn 07 51 08.7 +0.3
HIZ SN S 07 51 31.3 -1.6
HIZ Hauiti 0.57 3 Pn Pn 07 51 08.7 +0.3
HIZ Sn S 07 51 31.3 -1.6
WPVZ Whakapapa 0.57 102 PN Pn 07 51 09.3 +0.8
WPVZ Whakapapa 0.57 102 Pn Pn 07 51 09.3 +0.8
MTVZ Mangateitei 0.58 121 PN Pn 07 51 09.3 +0.8
MTVZ Mangateitei 0.58 121 Pn Pn 07 51 09.3 +0.8
FWVZ Far West T-bar 0.59 107 ⇑PN Pn 07 51 09.5 +0.8
FWVZ SN S 07 51 31.1 -2.3
FWVZ Far West T-bar 0.59 107 Pn Pn 07 51 09.5 +0.8
WTVZ West Tongariro 0.60 93 PN Pn 07 51 09.4 +0.8
WTVZ West Tongariro 0.60 93 Pn Pn 07 51 09.4 +0.8
TRVZ Turoa 0.60 111 ⇑PN Pn 07 51 09.6 +0.8
TRVZ Turoa 0.60 111 Pn Pn 07 51 09.6 +0.8
NGZ Ngauruhoe 0.61 98 PN Pn 07 51 09.5 +0.9
NGZ Ngauruhoe 0.61 98 Pn Pn 07 51 09.6 +0.9
WHVZ Whangaehu Hut 0.63 108 PN Pn 07 51 09.8 +0.9
KRVZ Karewarewa 0.64 91 ⇓PN Pn 07 51 09.5 +0.7
KRVZ Karewarewa 0.64 91 Pn Pn 07 51 09.5 +0.7
WNVZ Wahianoa 0.65 112 PN Pn 07 51 09.9 +1.1
WNVZ Wahianoa 0.65 112 Pn Pn 07 51 09.9 +1.1
PKE Pukeiti 0.66 261 PN Pn 07 51 09.7 +1.0
PKE Pukeiti 0.66 261 Pn Pn 07 51 09.7 +1.0
KHEZ Kahui Hut 0.66 252 PN Pn 07 51 09.8 +1.0
OTVZ Oturere 0.66 97 PN Pn 07 51 10.0 +1.1
OTVZ Oturere 0.66 97 Pn Pn 07 51 10.0 +1.1
TUVZ Tukino 0.67 106 PN Pn 07 51 10.0 +1.1
TUVZ Tukino 0.67 106 Pn Pn 07 51 10.0 +1.1
WAZ Wanganui 0.68 169 ⇑PN Pn 07 51 10.1 +1.4
WAZ SN S 07 51 32.7 -0.9
WAZ Wanganui 0.68 169 Pn Pn 07 51 10.1 +1.4
MOVZ Moawhango 0.79 114 ⇑PN Pn 07 51 09.9 +0.6
MOVZ Moawhango 0.79 114 Pn Pn 07 51 09.9 +0.6
NMEZ Namu Road 0.80 246 ⇑PN Pn 07 51 10.5 +1.3
WATZ Wairara 0.81 62 ⇓PN Pn 07 51 10.1 +0.7
WATZ Wairara 0.81 62 Pn Pn 07 51 10.1 +0.7
BHHZ Black Hill Sta 1.04 113 PN Pn 07 51 11.3 +0.6
BHHZ Black Hill Sta 1.04 113 Pn Pn 07 51 11.3 +0.6
MRHZ Matea Rd 1.27 79 ⇓PN Pn 07 51 12.2 0.0
KWHZ Kaweka Forest 1.29 106 ⇓PN Pn 07 51 13.4 +1.1
ALRZ Allen Road 1.30 67 PN Pn 07 51 12.4 0.0
ALRZ Allen Road 1.30 67 Pn Pn 07 51 12.4 0.0
BKZ Black Stump Fm 1.30 94 PN Pn 07 51 12.8 +0.4
BKZ SN S 07 51 37.2 -2.8
BKZ AML AML 07 51 37.3
BKZ Black Stump Fm 1.30 94 Pn Pn 07 51 12.8 +0.4
TSZ Takapari Road 1.31 138 PN Pn 07 51 13.6 +1.1
TSZ AML AML 07 51 39.0
TSZ AML AML 07 51 40.6
TSZ Takapari Road 1.31 138 Pn Pn 07 51 13.6 +1.1
KRHZ Kereru 1.32 115 PN Pn 07 51 13.5 +1.0
PNHZ Pukenui 1.35 128 ⇑PN Pn 07 51 13.8 +1.1
PNHZ Pukenui 1.35 128 Pn Pn 07 51 13.8 +1.1
PRRZ Plateau Road 1.36 65 ⇓PN Pn 07 51 12.7 -0.1
PRRZ Plateau Road 1.36 65 Pn Pn 07 51 12.8 -0.1
POWZ Post Office Ro 1.49 151 ⇑PN Pn 07 51 14.7 +1.0
POWZ Post Office Ro 1.49 151 Pn Pn 07 51 14.7 +1.0
MCHZ McNeill Hill 1.50 104 ⇓PN Pn 07 51 15.3 +1.5
MCHZ McNeill Hill 1.50 104 Pn Pn 07 51 15.3 +1.5
RRRZ Republican Roa 1.52 61 ⇓PN Pn 07 51 14.1 0.0
RRRZ Republican Roa 1.52 61 Pn Pn 07 51 14.2 0.0
NMHZ Naumai 1.54 91 ⇓PN Pn 07 51 15.7 +1.4
NMHZ Naumai 1.54 91 Pn Pn 07 51 15.7 +1.4
TARZ Mount Tarawera 1.57 58 ⇓PN Pn 07 51 14.8 +0.2
TARZ Mount Tarawera 1.57 58 Pn Pn 07 51 14.8 +0.2
WPHZ Waipukurau 1.59 128 ⇑PN Pn 07 51 15.8 +1.3
WPHZ Waipukurau 1.59 128 Pn Pn 07 51 15.8 +1.3
DVHZ Dannevirke 1.59 140 PN Pn 07 51 15.5 +0.9
DVHZ Dannevirke 1.59 140 Pn Pn 07 51 15.5 +0.9
MRZ Mangatainoka R 1.68 160 ⇑PN Pn 07 51 16.1 +0.8
MRZ AML AML 07 51 43.8
MRZ AML AML 07 51 44.0
MRZ Mangatainoka R 1.68 160 Pn Pn 07 51 16.1 +0.8
ARHZ Aropaoanui 1.70 97 ⇓PN Pn 07 51 16.6 +1.1
PRWZ Pori Road 1.71 149 PN Pn 07 51 16.7 +1.2
KAHZ Kahuranaki 1.74 115 ⇓PN Pn 07 51 17.3 +1.4
KAHZ Kahuranaki 1.74 115 Pn Pn 07 51 17.3 +1.4
OGWZ Otaki Gorge 1.75 171 ⇑PN Pn 07 51 17.0 +1.2
OGWZ Otaki Gorge 1.75 171 Pn Pn 07 51 17.0 +1.2
KIW Kapiti Island 1.77 178 ⇑PN Pn 07 51 17.0 +0.9
KIW eSN S 07 51 44.4 -2.3
KIW AML AML 07 51 46.0
KIW Kapiti Island 1.77 178 Pn Pn 07 51 17.0 +0.9
RAHZ Arahi 1.77 85 ⇓PN Pn 07 51 17.0 +0.8
RAHZ Arahi 1.77 85 Pn Pn 07 51 17.0 +0.8
PXZ Pawanui 1.84 121 ⇓PN Pn 07 51 17.8 +1.1
PXZ AML AML 07 51 46.9
PXZ AML AML 07 51 46.9
PXZ AML AML 07 51 48.9
PXZ AML AML 07 51 48.9
PXZ Pawanui 1.84 121 Pn Pn 07 51 17.8 +1.1
CKHZ Cape Kidnapper 1.84 109 PN Pn 07 51 18.1 +1.4
CKHZ Cape Kidnapper 1.84 109 Pn Pn 07 51 18.1 +1.4
OPRZ Ohinepanea 1.84 48 PN Pn 07 51 16.7 -0.1
OPRZ Ohinepanea 1.84 48 Pn Pn 07 51 16.2 -0.6
DUWZ D'Urville Isla 1.85 202 ⇑PN Pn 07 51 17.8 +1.0
DUWZ D'Urville Isla 1.85 202 Pn Pn 07 51 17.8 +1.0
ANWZ Angora Road 1.87 138 ⇑PN Pn 07 51 18.2 +1.2
TIWZ Tintock 1.87 154 ⇑PN Pn 07 51 17.9 +0.9
TIWZ AML AML 07 51 48.3
TIWZ AML AML 07 51 49.3
TIWZ Tintock 1.87 154 Pn Pn 07 51 17.9 +0.9
WHHZ Waihua 1.88 90 PN Pn 07 51 18.0 +0.9
HOWZ Holdsworth Sta 1.88 164 ⇑PN Pn 07 51 17.8 +0.7
HOWZ Holdsworth Sta 1.88 164 Pn Pn 07 51 17.8 +0.7
BFZ Birch Farm 1.93 146 ⇓PN Pn 07 51 18.3 +0.8
BFZ Birch Farm 1.93 146 Pn Pn 07 51 18.3 +0.8
URZ Urewera 1.97 66 PN Pn 07 51 17.4 -0.6
URZ SN S 07 51 45.3 -4.6
URZ AML AML 07 51 46.2
URZ Urewera 1.97 66 P Pn 07 51 17.3 -0.6
45nm,0.3s,baz=244,slow=7.1,SNR=487
URZ S S 07 51 45.2 -4.7
18nm,0.3s,baz=235,slow=4.1,SNR=17
SNGZ Shannon Statio 1.99 82 ⇓PN Pn 07 51 18.7 +0.5
CAW Cannon Point 2.02 175 ⇑PN Pn 07 51 19.3 +0.9
CAW AML AML 07 51 50.1
CAW AML AML 07 51 51.2
CAW Cannon Point 2.02 175 Pn Pn 07 51 19.3 +0.9
CPWZ Castlepoint 2.10 150 PN Pn 07 51 20.5 +1.3
MTW Mount Morrison 2.13 166 ⇑PN Pn 07 51 20.0 +0.6
MTW AML AML 07 51 52.1
MTW AML AML 07 51 57.8
MTW Mount Morrison 2.13 166 Pn Pn 07 51 20.0 +0.6
TCW Tory Channel 2.16 191 ⇑PN Pn 07 51 20.8 +1.1
TCW AML AML 07 51 22.3
TCW AML AML 07 51 22.3
TCW Tory Channel 2.16 191 Pn Pn 07 51 20.8 +1.1
TMWZ Te Maipa 2.18 158 ⇑PN Pn 07 51 20.6 +0.7
TMWZ Te Maipa 2.18 158 Pn Pn 07 51 20.6 +0.7
WEL Wellington 2.19 181 PN Pn 07 51 20.8 +0.8
WEL Wellington 2.19 181 Pn Pn 07 51 20.8 +0.8
SNZO South Karori 2.22 182 ePn Pn 07 51 21.0 +0.8
KNZ Kokohu 2.22 89 ⇓PN Pn 07 51 20.9 +0.5
KNZ Kokohu 2.22 89 Pn Pn 07 51 20.9 +0.5
MWZ Matawai 2.25 71 PN Pn 07 51 20.4 -0.2
MWZ AML AML 07 51 21.1
MWZ AML AML 07 51 21.1
MWZ AML AML 07 51 51.3
MWZ Matawai 2.25 71 Pn Pn 07 51 20.4 -0.2
BHW Baring Head 2.32 179 ⇑PN Pn 07 51 21.8 +0.6
BHW AML AML 07 51 57.0
BHW AML AML 07 51 57.2
BHW Baring Head 2.32 179 Pn Pn 07 51 21.8 +0.6
RIGZ Rimuhau 2.33 81 ⇓PN Pn 07 51 21.8 +0.4
PAWZ Paruwai Farm 2.34 169 ⇑PN Pn 07 51 22.1 +0.7
PAWZ AML AML 07 51 56.2
PAWZ AML AML 07 51 56.3
PAWZ Paruwai Farm 2.34 169 Pn Pn 07 51 22.1 +0.7
MSWZ Moikau Station 2.35 172 ⇑PN Pn 07 51 22.2 +0.6
MSWZ AML AML 07 51 57.4
MSWZ AML AML 07 52 00.9
MSWZ Moikau Station 2.35 172 Pn Pn 07 51 22.2 +0.6
PRGZ Paritu Road 2.39 87 PN Pn 07 51 22.6 +0.5
PRGZ Paritu Road 2.39 87 Pn Pn 07 51 22.6 +0.5
TRWZ Traveller 2.40 164 PN Pn 07 51 22.8 +0.7
TRWZ AML AML 07 51 57.2
TRWZ AML AML 07 51 58.2
TRWZ Traveller 2.40 164 Pn Pn 07 51 22.8 +0.7
TUWZ Tuamarina 2.43 196 PN Pn 07 51 23.3 +0.8
TUWZ AML AML 07 51 24.1
TUWZ AML AML 07 51 58.0
TUWZ Tuamarina 2.43 196 Pn Pn 07 51 23.3 +0.8
TKGZ Te Karaka 2.45 76 ⇓PN Pn 07 51 23.1 +0.4
QRZ Quartz Range 2.47 225 ⇓PN Pn 07 51 22.9 0.0
QRZ Quartz Range 2.47 225 Pn Pn 07 51 22.9 0.0
PLWZ Palliser 2.50 173 ⇑PN Pn 07 51 23.6 +0.4
PLWZ Palliser 2.50 173 Pn Pn 07 51 23.6 +0.4
TWGZ Tauwhareparae 2.64 71 PN Pn 07 51 24.8 +0.1
HAZ Te Kaha 2.68 61 PN Pn 07 51 24.0 -1.1
BSWZ Blackbirch Sta 2.72 195 PN Pn 07 51 26.4 +1.0
BSWZ AML AML 07 52 05.2
BSWZ AML AML 07 52 06.2
BSWZ Blackbirch Sta 2.72 195 Pn Pn 07 51 26.4 +1.0
PUZ Puketiti 2.88 70 PN Pn 07 51 26.8 -0.5
PUZ AML AML 07 51 28.8
PUZ AML AML 07 52 11.2
PUZ Puketiti 2.88 70 Pn Pn 07 51 26.8 -0.5
THZ Tophouse 3.04 208 ⇑PN Pn 07 51 29.4 +0.3
THZ Tophouse 3.04 208 Pn Pn 07 51 29.4 +0.3
WMGZ Waiomatatini S 3.09 67 PN Pn 07 51 29.1 -0.6
MXZ Matakaoa Point 3.14 62 PN Pn 07 51 29.7 -0.4
MXZ Matakaoa Point 3.14 62 Pn Pn 07 51 29.7 -0.4
KHZ Kahutara 3.46 196 ⇑PN Pn 07 51 34.3 +0.5
KHZ AML AML 07 52 16.7
KHZ AML AML 07 52 18.2
KHZ Kahutara 3.46 196 ePn Pn 07 51 34.2 +0.5
DSZ Denniston Nort 3.51 220 ⇑PN Pn 07 51 34.3 -0.2
DSZ Denniston Nort 3.51 220 Pn Pn 07 51 34.3 -0.2
LTZ Lake Taylor 4.16 207 PN Pn 07 51 42.3 +0.2
LTZ Lake Taylor 4.16 207 Pn Pn 07 51 42.3 +0.2
OXZ Oxford 4.72 205 PN Pn 07 51 48.2 -0.7
CRLZ Canterbury Las 4.78 200 PN Pn 07 51 48.9 -0.6
CRLZ Canterbury Las 4.78 200 Pn Pn 07 51 48.9 -0.6
MQZ McQueen's Vall 4.89 199 PN Pn 07 51 50.0 -1.0
MQZ McQueen's Vall 4.89 199 Pn Pn 07 51 50.0 -1.0
WVZ Waitaha Valley 5.04 216 PN Pn 07 51 52.5 -0.3
WVZ Waitaha Valley 5.04 216 Pn Pn 07 51 52.5 -0.3
RPZ Rata Peaks 5.42 210 PN Pn 07 51 56.9 -0.7
RPZ Rata Peaks 5.42 210 P Pn 07 51 57.3 -0.3
3.8nm,0.3s,baz=327,slow=1.9,SNR=28
RPZ S S 07 52 57.4 -4.1
8.7nm,0.3s,baz=332,slow=24,SNR=37
RPZ Rata Peaks 5.42 210 Pn Pn 07 51 56.9 -0.7
FOZ Fox Glacier 5.91 219 PN Pn 07 52 01.8 -1.8
FOZ Fox Glacier 5.91 219 Pn Pn 07 52 01.8 -1.8
LBZ Lake Benmore 6.33 212 PN Pn 07 52 08.3 -0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LBZ	Lake Benmore	6.33	212	Pn	Pn	07 52 08.3	-0.7
ODZ	Otahua Downs	6.71	206	PN	Pn	07 52 14.0	+0.2
ODZ	Otahua Downs	6.71	206	Pn	Pn	07 52 14.0	+0.2
JCZ	Jackson Bay	6.74	220	PN	Pn	07 52 13.6	-0.8
JCZ	Jackson Bay	6.74	220	Pn	Pn	07 52 13.6	-0.8
WKZ	Wanaka	7.18	215	Pn	Pn	07 52 18.2	-1.6
TUZ	Tuapeka	7.86	207	Pn	Pn	07 52 29.1	+0.7
ASAR	Alice Springs	37.83	282	P	P	07 57 34.0	+2.4
	0.7nm,0.8s,baz=125,slow=7.6,SNR=6.0						
WRA	Warramunga Arr	39.66	287	P	P	07 57 49.1	+2.4
	0.5nm,0.7s,baz=125,slow=8.3,SNR=5.7						
ARCES	ARCESS Array B	145.41	342	PKPbc	PKPbc	08 09 47.8	+1.3
	2.2nm,1.1s,baz=54,slow=2.1,SNR=7.0						

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*IDC **03** 08:24:33.2±4.3, 36°.40N×71°.29E, h160^{km}±36^{km}, mb3.6/8, mb1 3.6/14, mb1mx3.3/32, mbtmp4.0/14, MS4.0/2, Ms1 4.0/2, ms1mx2.9/33, Error ellipse: s-maj=30.0km s-min=22.0km az=11.0*

*ISCJB **03** 08:24:36.1±0.4, 36°.65N±0°.04×71°.36E±0°.07, h200^{km}, mb3.6/8, Error ellipse: s-maj=8.7km s-min=3.5km az=150.3*

*NNC **03** 08:24:42.6±6.1, 37°.28N×71°.38E, h0^{km}, mb4.2, mpv3.9, Error ellipse: s-maj=52.8km s-min=20.2km az=167.0*

ISC 03 08:24:36.5±0.6, **36°.63N**±0°.05×**71°.31E**±0°.06, **h200**^{km}, **n49**, σ**2^{s}23**/57, **mb3.8**/8, **7C-6D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.93	319	⇓P	Pn	08 25 23.9	-1.4
	98nm,0.4s						
DZET				⇓S	Sn	08 25 59.4	-4.3
	322nm,0.4s						
SFK	Sufi-Kurgan	3.79	26	⇑P	Pn	08 25 35.3	-0.6
	14nm,0.3s						
SFK				⇓S	Sn	08 26 18.2	-4.4
	41nm,0.2s						
DLH	Dalhousie	5.61	135	eP	Pn	08 25 58.0	-0.9
DLH				eS	Sn	08 27 01.0	-2.9
AML	Almayashu	5.79	18	P	Pn	08 26 01.0	-0.5
	SNR=27						
MNAS	Manas	5.92	9	⇑P	Pn	08 26 01.6	-1.2
	3.4nm,0.3s						
MNAS				⇑S	Sn	08 27 05.4	-5.7
	26nm,0.4s						
UCH	Uchtor	6.12	23	P	Pn	08 26 05.5	-0.1
	SNR=14						
KZA	Kyzart	6.24	28	P	Pn	08 26 06.5	-0.6
	SNR=8.7						
EKS2	Erkin-Say	6.32	17	P	Pn	08 26 07.9	0.0
	SNR=6.0						
AAK	Ala-Archa	6.48	21	P	Pn	08 26 10.0	-0.1
	SNR=6.9						
AAK	Ala-Archa	6.48	21	⇓P	Pn	08 26 09.6	-0.4
	2.0nm,0.3s						
AAK				⇓S	Sn	08 27 17.1	-7.1
	10.0nm,0.4s						
AAK	Ala-Archa	6.48	21	P	Pn	08 26 10.0	-0.1
	2.4nm,0.3s,baz=171,slow=8.3,SNR=12						
AAK				S	Sn	08 27 17.3	-6.9
	1.3nm,0.3s,baz=195,slow=15,SNR=5.7						
KK31	Karatay Array	6.49	355	P	Pn	08 26 08.8	-1.2
	5.3nm,0.4s,baz=177,slow=12,SNR=89						
KK31				S	Sn	08 27 12.2	-12
	56nm,0.8s,baz=175,slow=17,SNR=35						
TKM2	Tokmak 2	7.10	26	P	Pn	08 26 18.2	+0.1
	SNR=10						
TKM2	Tokmak 2	7.10	26	⇑P	Pn	08 26 17.9	-0.2
	3.1nm,0.3s						
TKM2				⇑S	Sn	08 27 34.4	-4.4
	14nm,1.0s						
SMLA	Simla	7.34	137	iP	Pn	08 26 21.7	+0.5
SMLA				iS	Sn	08 27 40.8	-3.5
SMLA				iS	Sn	08 27 41.0	-3.2
JOSI	Joshimath	9.17	129	eP	Pn	08 26 48.5	+3.3
JOSI				eS	Sn	08 28 26.0	-2.0
JOSI				AML	AML	08 28 28.4	
	comp=N,72nm,0.6s						
JOSI				AML	AML	08 28 34.0	
	comp=E,164nm,0.5s						
KHET	Khetri	9.34	155	eP	Pn	08 26 44.3	-3.0
KHET				eS	Sn	08 28 25.1	-6.8
KHET				AML	AML	08 28 27.6	
	comp=E,111nm,0.1s						
KHET				AML	AML	08 28 27.9	
	comp=N,93nm,0.2s						
NDI	New Delhi	9.36	146	eP	Pn	08 26 48.0	+0.5
NDI				eS	Sn	08 28 28.0	-4.3
SONA	Sohna	9.68	148	eP	Pn	08 26 51.1	-0.4
SONA				eS	Sn	08 28 31.7	-8.1
SONA				AML	AML	08 28 36.7	
	comp=N,18nm,1.1s						
SONA				AML	AML	08 28 40.2	
	comp=E,39nm,0.4s						
AGRA	Agra	10.93	147	eS	Sn	08 29 02.2	-7.6
AGRA				AML	AML	08 29 16.1	
	comp=N,47nm,0.0s						
AGRA				AML	AML	08 29 17.0	
	comp=E,51nm,0.1s						
MK31	Makanchi Array	13.04	35	P	P	08 27 38.6	+1.1
	comp=E,0.9nm,0.5s,baz=210,slow=10.0,SNR=18						
MKAR	Makanchi Array	13.04	35	P	Pn	08 27 34.9	+0.5
	comp=E,0.4nm,0.3s,baz=211,slow=8.8,SNR=15						
MKAR				S	Sn	08 30 02.4	+2.6
	comp=E,0.1nm,0.3s,baz=218,slow=23,SNR=3.6						
KOLN	Koldanda	13.64	127	eP	Pn	08 27 41.9	-0.4
	comp=E,14nm,0.3s						
GKN	Gorkha	14.17	124	eP	P	08 27 48.9	-1.5
	comp=E,41nm,0.4s						
KKN	Kakani	14.74	123	eP	P	08 27 56.9	+0.1
	comp=E,31nm,0.6s						
DMN	Daman	14.74	124	eP	P	08 27 57.0	+0.2
	comp=E,39nm,0.4s						
KURBB	Kurchatov Arra	14.92	18	P	P	08 27 59.2	+0.9
	comp=E,0.1nm,0.3s,baz=207,slow=10,SNR=10						
PKI	Pulchoki	14.97	123	eP	P	08 27 59.5	+0.1
	comp=E,37nm,0.5s						
GUN	Gumba	15.07	121	eP	P	08 28 00.6	0.0
	comp=E,23nm,0.3s						
AB31	Akbulak array	15.09	330	P	P	08 28 01.4	+1.3
	comp=E,1.0nm,0.4s,baz=134,slow=14,SNR=12						
AB31				⇑S	S	08 30 36.7	-10
	comp=E,2.0nm,0.5s,baz=151,slow=25,SNR=7.2						
JIRN	Jiri	15.44	121	eP	P	08 28 05.6	+0.9
	comp=E,58nm,0.4s						
RAMN	Ramite	16.18	122	eP	Pn	08 28 13.9	+0.7
	comp=E,36nm,0.5s						
BVAR	Borovoye Array	16.41	358	P	Pn	08 28 15.6	+0.1
	comp=E,0.6nm,0.3s,baz=171,slow=12,SNR=6.5						
TAPN	Taplejung	16.69	119	eP	Pn	08 28 20.4	+0.9
	comp=E,20nm,0.5s						
ODAN	Odare	16.77	121	eP	Pn	08 28 21.4	+1.0
AKTO	Aktyubinsk	16.79	329	⇑P	Pn	08 28 20.7	+0.6
	comp=E,3.9nm,0.8s						
AKTO				⇓S	S	08 31 19.6	-4.2
	comp=E,3.0nm,0.8s						
AKTO	Aktyubinsk	16.79	329	P	Pn	08 28 20.7	+0.6
	comp=E,0.8nm,0.3s,baz=154,slow=8.1,SNR=7.9						
AKTO				S	S	08 31 17.6	-6.3
	comp=E,0.2nm,0.3s,baz=89,slow=15,SNR=2.8						
ZALV	Zalesovo Beam	19.69	24	P	P	08 28 51.0	+0.7
	comp=E,3.0nm,0.3s,baz=221,slow=11,SNR=2.1						
AKASG	Malin Array Be	33.05	309	P	P	08 30 54.2	+1.3
	comp=E,1.1nm,0.5s,baz=78,slow=7.4,SNR=4.4						
FINES	FINESS Array B	37.51	326	P	P	08 31 33.1	+2.3
	comp=E,1.1nm,0.4s,baz=126,slow=10,SNR=8.9						
ARCES	ARCESS Array B	41.12	337	P	P	08 32 03.0	+2.5
	comp=E,2.1nm,0.7s,baz=113,slow=9.3,SNR=17						
HFS	Hagfors	43.12	322	P	P	08 32 18.9	+2.2
	comp=E,5.4nm,0.5s,baz=108,slow=9.5,SNR=20						
NB2	NORSAR Subarra	44.42	323	P	P	08 32 28.9	+1.7
	comp=Z,1.7nm,0.5s,baz=96,slow=7.9						
NOA	NORSAR Array B	44.42	323	P	P	08 32 29.1	+2.0
	comp=Z,2.4nm,0.6s,baz=96,slow=7.8,SNR=12						
JNU	Nakatsue	48.32	76	LR	LR	08 57 32.6	
	comp=Z,63nm,18.6s,baz=32,slow=41						
JCJ	Chichijima	59.73	77	LR	LR	09 03 20.5	
	comp=Z,227nm,19.1s,baz=115,slow=39						
TORD	Torodi Ar. Bea	65.97	269	P	P	08 35 02.1	+0.5
	comp=Z,1.3nm,0.7s,baz=50,slow=5.8,SNR=11						
YKA	Yellowknife Ar	81.10	3	P	P	08 36 31.2	+2.3
	comp=Z,0.6nm,0.5s,baz=352,slow=5.5,SNR=16						
WRA	Warramunga Arr	81.85	122	P	P	08 36 34.8	+1.2
	comp=Z,0.2nm,0.8s,baz=323,slow=4.6,SNR=3.2						

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*ISCJB **03** 08:27:17.0±0.3, 11°.68N±0°.03×65°.52W±0°.03, h69^{km}±11^{km}, Error ellipse: s-maj=5.3km s-min=3.9km az=151.0*

*FUNV **03** 08:27:18.5, 11°.60N×65°.53W, h15^{km}, MW3.6*

ISC 03 08:27:18.1±1.1, **11°.69N**±0°.05×**65°.51W**±0°.04, **h47**^{km}±37^{km}, **n40**, σ**1^{s}09**/49, **8C, Caribbean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORCV	Isla La Orchil	0.68	281	⇑eP	Pn	08 27 31.3	-0.2
ORCV				eS	Sn	08 27 41.3	0.0
BIRV	Birongo	1.42	212	⇑eP	Pn	08 27 41.3	-0.2
BIRV				eS	Sn	08 27 59.2	+0.2
CUPV	Cœpira	1.64	190	eP	Pn	08 27 45.0	+0.4
CUPV				eS	Sn	08 28 05.7	+1.0
PCRV	Puerto La Cruz	1.73	150	eP	Pn	08 27 46.4	+0.6
MERV	Las Mercedes	2.54	198	⇑eP	Pn	08 27 57.6	+0.6
MERV				eS	Sn	08 28 26.2	-0.4
TURV	Turiamo	2.60	242	eS	Sn	08 28 28.1	0.0
GUNV	Guanoco	2.94	121	eP	Pn	08 28 03.7	+1.3
GUNV				eS	Sn	08 28 37.2	+0.7
PRGV	PARIAGUAN	3.03	164	eP	Pn	08 28 04.3	+0.6
PRGV				eS	Sn	08 28 37.0	-1.7
JACV	Jacura	3.31	260	eP	Pn	08 28 07.7	+0.2
ORIV	Oritupano	3.32	141	eP	Pn	08 28 07.3	-0.3
ORIV				eS	Sn	08 28 45.5	-0.3
GUIV	Guiria	3.39	107	eP	Pn	08 28 09.6	+1.1
BAUV	El Baul	3.69	223	eP	Pn	08 28 12.7	-0.1
GRGR	Grenville	3.80	83	eP	Pn	08 28 14.9	+0.8
GRGR				eS	Sn	08 28 55.9	-1.8
SIQV	Siquisique	4.34	257	⇑eP	Pn	08 28 21.9	+0.2
MONV	Montecano	4.38	274	eP	Pn	08 28 22.9	+0.8
SVB	Belmont	4.45	69	⇑iP	Pn	08 28 23.6	+0.6
SANV	Sanarito	4.52	242	⇑eP	Pn	08 28 25.0	+0.8
CURV	Curarigua	4.68	250	eP	Pn	08 28 26.6	+0.3
CURV				eS	Sn	08 29 16.8	-2.6
MCLT	Moule a Chique	4.89	65	eP	Pn	08 28 29.7	+0.5
DABV	Dabajuro	5.09	262	eP	Pn	08 28 32.5	+0.6
QARV	Quebrada Arrib	5.14	254	eP	Pn	08 28 33.1	+0.4
TRMF	Trois Ilets	5.18	56	eP	Pn	08 28 33.7	+0.5
FDF	Fort de France	5.21	54	eP	Pn	08 28 34.6	+0.9
FDF	Fort de France	5.21	54	eP	Pn	08 28 35.0	+1.4
FDF	Fort de France	5.21	54	eS	Sn	08 29 30.0	-2.6
FDF	Fort de France	5.21	54	eS	Sn	08 29 31.5	-1.1
ZAM	Aeronautique	5.22	56	eP	Pn	08 28 34.5	+0.7
LPMF	Morne Lapointe	5.27	57	eP	Pn	08 28 35.0	+0.5
BVM	Bellevue	5.28	55	eP	Pn	08 28 35.9	+1.2
MVM	Montagne Vaucl	5.32	57	eP	Pn	08 28 36.0	+0.9
HMG	Houelmont	5.65	40	eP	Pn	08 28 41.0	+1.4
MLG	Mont-d'or	5.70	40	eP	Pn	08 28 43.2	+2.8
MLG	Mont-d'or	5.70	40	eS	Sn	08 29 43.6	-1.0
FNG	Fond-Bernard	5.72	40	eP	Pn	08 28 42.2	+1.6
DOG	Dongo Capester	5.74	41	eP	Pn	08 28 42.4	+1.6
ELOV	Elorza	6.09	220	eP	Pn	08 28 45.6	0.0
SOCV	Socops	6.26	238	⇑eP	Pn	08 28 48.2	+0.2
VIGV	El Vigia	6.42	244	eP	Pn	08 28 50.0	-0.3
VIRV	Villa del Rosa	6.87	261	⇑eP	Pn	08 28 55.9	-0.5
LUEV	Luepa	7.05	145	eP	Pn	08 28 58.4	-0.6

IDC 03 08:34:13.1±1.7, **21°.11S**×**179°.74W, h0**^{km}, **mb4.1**/4, **mb1 4.3**/5, **mb1mx3.9**/19, **mbtmp4.1**/5, **ML4.2**/1, **Error ellipse: s-maj=56.3km s-min=32.7km az=157.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	17.31	188	P	Pn	08 38 16.1	0.0
	0.8nm,0.3s,baz=101,slow=5.2,SNR=6.3						
STKA	Stephens Creek	36.06	245	P	P	08 41 15.1	-1.4
	1.4nm,0.6s,baz=86,slow=10,SNR=6.0						
ASAR	Alice Springs	42.80	258	P	P	08 42 12.8	-0.2
	3.5nm,0.8s,baz=96,slow=8.0,SNR=33						
WRA	Warramunga Arr	42.91	263	P	P	08 42 14.7	+0.9
	1.2nm,0.3s,baz=92,slow=8.4,SNR=148						
TXAR	Lajitas Array	88.75	58	P	P	08 47 09.1	0.0
	0.2nm,0.7s,baz=208,slow=5.1,SNR=4.1						

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*IDC **03** 08:49:53.2±1.6, 20°.42S×167°.99E, h0^{km}, mb3.8/5, mb1 4.0/6, mb1mx3.8/17, mbtmp3.8/6, ML3.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/25, Error ellipse: s-maj=56.4km s-min=23.2km az=138.0*

*ISCJB **03** 08:49:55.4±1.1, 20°.6S±0°.1×168°.2E±0°.1, h33^{km}, mb3.8/6, Error ellipse: s-maj=19.8km s-min=9.1km az=137.8*

ISC 03 08:49:57.8±1.2, **20°.6S**±0°.1×**168°.1E**±0°.1, **h35**^{km}, **n12**, σ**0^{s}99**/13, **mb3.9**/6, **Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	0.84	259	eP	Pn	08 50 12.2	-0.9
LIFNC				eS	Sn	08 50 25.8	+1.5
DZM	Mont Dzumac	2.12	227	Pn	Pn	08 50 30.6	-0.3
	5.7nm,0.3s,baz=91,slow=23,SNR=48						
DZM				Sn	Sn	08 50 58.3	+2.2
	22nm,0.3s,baz=270,slow=23,SNR=8.8						
DZM	Mont Dzumac	2.12	227	eP	Pn	08 50 30.1	-0.8
DZM				eS	Sn	08 50 55.8	-0.4
NOUC	Port Laguerre	2.24	229	eP	Pn	08 50 31.6	-0.9
NOUC				eS	Sn	08 50 59.9	+1.0
RAO	Raoul Island	15.29	127	LR	LR	08 58 15.4	
	comp=Z,73nm,18.9s,baz=132,slow=32						
STKA	Stephens Creek	26.23	239	P	P	08 55 30.4	+0.8
	1.4nm,0.7s,baz=86,slow=10,SNR=5.4						
WRA	Warramunga Arr	31.66	265	P	P	08 56 17.6	-0.5
	0.3nm,0.5s,baz=91,slow=8.4,SNR=7.8						
ASAR	Alice Springs	31.79	258	P	P	08 56 19.7	+0.5
	3.1nm,0.9s,baz=84,slow=8.8,SNR=25						
PETK	Petropavlovsk-	73.98	353	P	P	09 01 36.6	+7.3
	1.4nm,0.6s,baz=186,slow=12,SNR=1.8						
CMAR	Chiang Mai Arr	78.12	295	P	P	09 01 53.0	-0.8
	0.9nm,0.5s,baz=132,slow=4.5,SNR=4.8						
NVAR	Mina Array Bea	90.50	49	P	P	09 02 57.6	+1.2
	0.1nm,0.4s,baz=216,slow=7.6,SNR=2.3						
GERES	GERESS Array B	145.19	330	PKP	PKPbc	09 09 30.5	-0.9
	0.3nm,0.4s,baz=57,slow=3.6,SNR=5.9						

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*IDC **03** 09:00:22.1±36.0, 7°.14N×123°.72E, h0^{km}, mb3.7/3, mb1 3.9/3, mb1mx3.4/24, mbtmp3.7/3, Error ellipse: s-maj=609.5km s-min=208.1km az=155.0*

ISC 03 09:00:49.6±1.3, **6°N**±1°×**12°6E**±°, **h150**^{km}, **n6**, σ**0^{s}26**/5, **mb3.3**/3, **Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	Mati	0.85	49	eP	Pn	09 01 05.8	-7.4
MATI				eS	Sn	09 01 18.3	-13
BUKP	Musuan	1.58	340	eP	Pn	09 01 19.9	-0.2
BUKP				eS	Sn	09 01 43.9	+0.3
PAGZ	Pagadian	2.65	304	eP	Pn	09 01 24.9	-7.6
WRA	Warramunga Arr	27.53	162	P	P	09 06 22.5	+0.1
	0.2nm,0.3s,baz=338,slow=10,SNR=18						
ASAR	Alice Springs	30.94	165	P	P	09 06 52.6	-0.1
	0.2nm,0.3s,baz=335,slow=7.3,SNR=12						
STKA	Stephens Creek	40.99	159	P	P	09 08 18.0	+0.1
	1.0nm,0.5s,baz=315,slow=8.6,SNR=5.3						

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*DJA **03** 09:04:04.8±0.4, 6°S±3°×11°3E±°, h19^{km}±6^{km}, M4.0/15, MLv4.0/15*

*IDC **03** 09:04:28.7±10.0, 9°.07S×114°.51E, h0^{km}, mb3.3/3, mb1 3.6/4, mb1mx3.3/21, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=172.0km s-min=47.9km az=105.0*

ISC 03 09:04:03.1±1.5, **6°.00S**±0°.06×**113°.29E**±0°.04, **h5**^{km}±13^{km}, **n16**, σ**0^{s}77**/21, **mb3.5**/3, **Java Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BWJI	Bawean	0.65	283	P	Pg	09 04 15.9	+0.3
BWJI				S	Sb	09 04 25.4	-0.9
GRJI	Gresik	1.22	221	P	Pn	09 04 26.3	-0.6
KMMI	Kalianget	1.24	147	P	Pn	09 04 26.4	-0.8
KMMI				S	Sn	09 04 46.0	+1.6
TBJI	Tambak Boyo	1.65	240	P	Pn	09 04 33.3	+0.5
TBJI				S	Sg	09 04 56.8	+0.5
BLJI	Banyuglugur	1.77	170	P	Pn	09 04 34.6	+0.2
BLJI				S	Sb	09 04 58.9	+0.4
ABJI	Asem Bagus	2.02	152	P	Pn	09 04 39.0	+1.1
UWJI	Ujung Watu	2.37	260	P	Pb	09 04 46.5	+0.2
UWJI				S	Sg	09 05 19.1	-0.2
SRBI	Singaraja	2.82	138	P	Pn	09 04 48.4	-0.5
BBKI	Banjar Baru	2.95	32	P	Pn	09 04 51.6	+0.9
WOJI	Wonogiri, Jawa	2.98	232	P	Pn	09 04 51.0	-0.1
PCJI	Pacitan	3.03	224	P	Pn	09 04 51.6	-0.2
UGM	Wanagama	3.34	235	P	Pn	09 04 55.8	-0.3
KAPI	Kappang	6.50	82	Pn	Pg	09 06 07.2	-0.5
	0.5nm,0.3s,baz=279,slow=13,SNR=2.7						
WRA	Warramunga Arr	24.71	126	P	P	09 09 24.1	-1.4
	1.0nm,0.9s,baz=302,slow=12,SNR=4.4						
ASAR	Alice Springs	26.50	134	P	P	09 09 41.5	-0.2
	0.2nm,0.6s,baz=311,slow=8.4,SNR=4.2						
STKA	Stephens Creek	36.91	138	P	P	09 11 13.0	-0.1
	1.1nm,0.8s,baz=323,slow=10,SNR=2.6						

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*IDC **03** 09:12:56.5±0.5, 51°.46N×178°.09W, h0^{km}, mb4.0/25, mb1 4.2/27, mb1mx4.1/31, mbtmp4.0/27, ML2.8/2, Error ellipse: s-maj=18.1km s-min=12.2km az=168.0*

*ISCJB **03** 09:13:01.2±0.2, 51°.19N±0°.04×178°.04W±0°.03, h45^{km}, mb4.2/36, Error ellipse: s-maj=6.1km s-min=3.0km az=176.6*

*NEIC **03** 09:13:01.0, 51°.15N×178°.04W, h38^{km}, mb4.2/13, ML3.8(AEIC), After AEIC.*

ISC 03 09:13:02.8±0.5, **51°.34N**±0°.08×**178°.12W**±0°.03, **h45**^{km}, **n254**, σ**0^{s}82**/256, **mb4.2**/44, **90C-73D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TAFL	Tanaga Flats	0.44	19	P	Pn	09 13 13.2	+0.1
TASE	Tanaga Southea	0.49	6	P	Pn	09 13 14.5	+0.7
TAFP	Tanaga Falls P	0.56	9	P	Pn	09 13 15.3	+0.6
TANO	Tanaga North	0.57	0	P	Pn	09 13 15.8	+1.1
GAEA	Gareloi East	0.59	319	P	Pn	09 13 15.8	+0.9
GANE	Gareloi Northe	0.63	320	P	Pn	09 13 16.3	+0.9
KIKV	Kanaga Island	0.80	48	P	Pn	09 13 17.6	-0.2
KICM	Kanaga Island	0.81	45	P	Pn	09 13 18.1	+0.1
KIRH	Kanaga Island	0.85	49	P	Pn	09 13 18.4	-0.1
ADK	Adak	1.05	58	P	Pn	09 13 20.5	-0.5
ADK				S	Sn	09 13 35.4	+0.8
ADAG	Mount Adagdak	1.14	55	P	Pn	09 13 22.8	+0.4
ETKA	Kagalaska Isla	1.19	63	P	Pn	09 13 22.3	-0.7
GSCK	Great Sitkin C	1.39	60	P	Pn	09 13 25.7	-0.1
GSTD	Great Sitkin T	1.42	59	P	Pn	09 13 26.2	-0.1
GSTD				S	Sn	09 13 47.0	+3.1
GSMY	Great Sitkin M	1.46	61	P	Pn	09 13 26.5	-0.2
CERAA	Semis' Rag'd T	1.48	293	P	Pn	09 13 27.9	+0.9
GSTR	Great Sitkin T	1.49	59	ePn	Pn	09 13 27.4	+0.3
CESW	Semis' Southwe	1.55	292	P	Pn	09 13 28.6	+0.6
AMKA	Amchitka	1.62	272	P	Pn	09 13 27.6	-1.2
AMKA				S	Sn	09 13 51.0	+2.5
LSPA	Little Sitkin	2.15	288	P	Pn	09 13 37.0	+0.9
LSNW	Little Sitkin	2.19	288	P	Pn	09 13 37.2	+0.6
ATKA	Atka Island	2.59	69	P	Pn	09 13 42.0	-0.1
KOFP	Korovin Flat P	2.67	68	P	Pn	09 13 43.6	+0.3
NIKH	Nikolski High	5.93	70	P	Pn	09 14 28.1	+0.1
UNV	Unalaska Valle	7.51	66	ePn	Pn	09 14 49.1	-0.5
PETK	Petropavlovsk-	14.91	286	Pn	Pn	09 16 27.6	-2.8
	0.0nm,0.3s,baz=90,slow=19,SNR=2.2						
PPLA	Purkeypile	18.07	40	ePn	Pn	09 17 12.6	+2.3
	6.4nm,0.5s						
KTH	Kantishna Hill	18.88	39	eP	Pn	09 17 20.3	+0.2
	13nm,0.8s						
TRF	Thorofare Moun	19.09	40	eP	Pn	09 17 23.0	+0.4
	9.7nm,0.8s						
BPAW	Bear Paw Mtn.	19.12	38	eP	Pn	09 17 22.8	-0.1
	1.4nm,1.0s						
IM04	Indian Mountai	19.17	31	eP	Pn	09 17 24.3	+0.8
SEY	Seymchan	19.56	318	P	P	09 17 23.3	-3.1
	0.2nm,0.3s,baz=37,slow=20,SNR=2.4						
ILAR	Eielson Array	21.01	38	P	P	09 17 39.3	-2.9
	0.5nm,0.5s,baz=248,slow=9.5,SNR=12						
ILAR				PcP	PcP	09 21 46.9	-0.6
	0.4nm,0.7s,baz=267,slow=2.5,SNR=4.2						
ASAJ	Asahikawa	27.13	270	P	P	09 18 41.7	+0.2
	4.6nm,0.8s,baz=52,slow=8.7						
H11N2	WAKE ISLAND Hy	33.68	206	T	T	09 55 24.7	
	baz=17,slow=75,SNR=237						
H11N3	WAKE ISLAND Hy	33.69	206	T	T	09 55 21.0	
	baz=17,slow=75,SNR=249						
H11N1	WAKE ISLAND Hy	33.70	206	T	T	09 55 22.1	
	baz=17,slow=75,SNR=253						
USRK	Ussuriysk Ar.	33.72	278	P	P	09 19 39.9	+0.3
	3.6nm,0.6s,baz=57,slow=8.0,SNR=23						
MJAR	Matsushiro Arr	34.20	262	P	P	09 19 44.4	+0.6
	1.7nm,0.8s,baz=51,slow=7.3,SNR=6.4						
H11S1	WAKE ISLAND Hy	34.90	206	T	T	09 56 58.6	
	baz=17,slow=76,SNR=307						
H11S2	WAKE ISLAND Hy	34.91	206	T	T	09 57 00.7	
	baz=17,slow=76,SNR=233						
H11S3	WAKE ISLAND Hy	34.92	206	T	T	09 56 59.8	
	baz=17,slow=76,SNR=225						
YKA	Yellowknife Ar	34.95	47	P	P	09 19 48.6	-1.4
	0.9nm,0.8s,baz=279,slow=8.5,SNR=8.0						
YKA				PcP	PcP	09 22 21.9	+0.5
	0.3nm,0.5s,baz=284,slow=3.0,SNR=5.2						
G05D	Wamic, OR	37.46	76	⇑P	P	09 20 13.1	+1.4
	baz=37						
I04A	Tendick Farm,	37.53	79	⇑P	P	09 20 14.1	+1.7
	baz=37						
EDM	Edmonton	38.46	61	eP	P	09 20 19.9	-0.2
NEW	Newport	38.50	70	⇓P	P	09 20 21.1	+0.7
	baz=38,SNR=7.3						
NEW	Newport	38.50	70	eP	P	09 20 21.1	+0.7
	7.8nm,0.9s						
J05D	Fort Rock, OR	38.53	79	⇑P	P	09 20 22.8	+2.0
	baz=38						
M04C	Macdoel	38.98	81	⇓P	P	09 20 26.4	+1.8
	baz=39						
KSRS	Korea Array	40.06	271	P	P	09 20 34.8	+1.3
	1.6nm,0.6s,baz=55,slow=8.0,SNR=10						
BSMT	Bassoo Peak	40.07	69	eP	P	09 20 34.5	+0.8
	5.3nm,0.8s						
KSAR	Wonju Array Be	40.09	271	P	P	09 20 34.8	+1.0
WVOR	Wild Horse Val	40.59	79	eP	P	09 20 38.9	+0.9
	3.4nm,0.8s						
JNU	Nakatsue	40.99	264	P	P	09 20 41.5	+0.2
	4.7nm,0.8s,baz=35,slow=12,SNR=4.0						
MSO	Missoula	41.08	70	⇑P	P	09 20 42.7	+0.8
	baz=41						
HLID	Hailey	42.54	75	⇑P	P	09 20 54.7	+0.7
	baz=42,SNR=5.3						
HLID	Hailey	42.54	75	eP	P	09 20 54.5	+0.5
	1.9nm,0.8s						
EGMT	Eagleton	42.90	66	⇑P	P	09 20 56.8	0.0
	baz=43,SNR=5.7						
A19A	Klindworth Far	43.02	65	⇑P	P	09 20 57.7	0.0
	baz=43						
NVAR	Mina Array Bea	43.13	83	P	P	09 20 59.9	+1.0
	0.9nm,0.6s,baz=280,slow=9.0,SNR=6.5						
B19A	Brinkman Farms	43.15	65	⇑P	P	09 20 59.0	+0.3
	baz=43						
C19A	Slack Wire Ran	43.46	66	⇓P	P	09 21 01.8	+0.5
	baz=43,SNR=10						
A20A	Cobblestone Ra	43.51	64	⇓P	P	09 21 01.9	+0.3
	baz=43						
B20A	Solberg Farm,	43.68	65	⇑P	P	09 21 03.4	+0.4
	baz=44						
D19A	Cripps Ranch,	43.86	67	⇓P	P	09 21 04.9	+0.4
	baz=44,SNR=6.2						
A21A	Bergtoll Ranch	44.01	64	⇓P	P	09 21 06.1	+0.4
	baz=44						
C20A	Veseth Ranch,	44.07	66	⇑P	P	09 21 06.8	+0.7
	baz=44						
E19A	Rath Farm, Rou	44.29	68	⇓P	P	09 21 08.7	+0.7
	baz=44						
D20A	Manuel Ranch,	44.33	67	⇑P	P	09 21 08.7	+0.5
	baz=44						
H17A	Grant Village	44.38	71	⇑P	P	09 21 10.1	+1.3
	baz=44						
C21A	Desert Coulee	44.53	65	⇓P	P	09 21 09.8	0.0
	baz=44,SNR=5.5						
F19A	Roth Farm, Mol	44.53	69	⇓P	P	09 21 10.3	+0.4
	baz=44						
A22A	Carney Farms,	44.58	63	⇑P	P	09 21 10.4	+0.2
	baz=44						
R11A	Troy Canyon, C	44.87	81	⇓P	P	09 21 13.3	+0.5
	baz=45						
B22A	Reddig Ranch S	44.90	64	⇑P	P	09 21 12.8	+0.1
	baz=45						
F20A	Billings	45.02	68	⇑P	P	09 21 14.4	+0.5
	baz=45						
H19A	Powell	45.16	70	⇑P	P	09 21 16.5	+1.5
	baz=45						
G20A	Bridger	45.31	69	⇑P	P	09 21 16.8	+0.6
	baz=45						
TPNV	Topopah Spring	45.33	83	⇓P	P	09 21 17.4	+1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=45						
B23A	Brockton	45.38	63	⇑P	P	09 21 17.2	+0.7
	baz=45						
D22A	Cohagen	45.42	66	⇓P	P	09 21 17.3	+0.4
	baz=45,SNR=9.8						
DUG	Dugway, Tooele	45.46	78	⇓P	P	09 21 18.0	+0.6
	baz=45,SNR=7.6						
C23A	Lambert	45.63	64	⇓P	P	09 21 19.0	+0.5
	baz=46						
A24A	Westby	45.68	62	⇑P	P	09 21 19.4	+0.4
	baz=46						
H20A	Greybull	45.85	70	⇑P	P	09 21 20.9	+0.5
	baz=46						
BW06	Boulder Array	45.91	73	*e*P	P	09 21 21.3	+0.2
	2.6nm,0.6s						
PDAR	Pinedale Array	45.91	73	P	P	09 21 21.7	+0.6
	2.8nm,0.6s,baz=336,slow=4.1,SNR=28						
FMP	Fort Macarthur	46.13	88	⇑P	P	09 21 25.5	+3.0
	baz=46						
F22A	Rosebud	46.13	67	⇑P	P	09 21 22.5	0.0
	baz=46						
A25A	Svangstu Ranch	46.17	62	⇓P	P	09 21 22.7	0.0
	baz=46						
E23A	Ismay	46.28	66	⇑P	P	09 21 24.4	+0.8
	baz=46						
G22A	Birney	46.43	68	⇓P	P	09 21 25.3	+0.3
	baz=46						
J20A	Shoshoni	46.45	71	⇑P	P	09 21 26.3	+1.1
	baz=46						
D24A	Glendive	46.49	65	⇓P	P	09 21 25.9	+0.6
	baz=46						
B25A	Knox Farm, Ray	46.51	63	⇑P	P	09 21 25.4	-0.1
	baz=46						
I21A	Big Trails, Te	46.65	70	⇑P	P	09 21 27.1	+0.3
	baz=46						
F23A	Volborg	46.66	67	⇓P	P	09 21 27.0	+0.3
	baz=46,SNR=7.2						
C25A	Freed Ranch, W	46.76	63	⇓P	P	09 21 28.6	+1.2
	baz=47						
E24A	Baker	46.81	65	⇓P	P	09 21 28.7	+0.8
	baz=47						
J21A	Lysite	46.83	71	⇑P	P	09 21 28.7	+0.5
	baz=47						
MURC	Murrieta	46.89	88	⇓P	P	09 21 31.3	+2.7
	baz=47						
SONM	Songino Array	47.04	297	P	P	09 21 30.5	+0.8
	1.1nm,0.6s,baz=92,slow=7.7,SNR=4.7						
I22A	9 Mile Ranch,	47.08	70	⇑P	P	09 21 31.3	+1.2
	baz=47						
C26A	Wahner Farm, P	47.35	63	⇑P	P	09 21 31.9	-0.1
	baz=47						
E25A	Miller Ranch,	47.36	65	⇑P	P	09 21 31.5	-0.7
	baz=47						
J22A	Midwest	47.37	70	⇑P	P	09 21 32.4	+0.1
	baz=47,SNR=5.6						
G24A	Alzada	47.45	67	⇓P	P	09 21 32.8	-0.1
	baz=47						
H24A	Dirks Ranch, A	47.71	68	⇑P	P	09 21 34.5	-0.4
	baz=48						
N20A	Spence Gulch,	47.84	74	⇓P	P	09 21 35.8	-0.4
	baz=48						
E26A	Carlson Angus	47.91	64	⇑P	P	09 21 36.4	0.0
	baz=48						
O20A	White River Ci	48.28	75	⇓P	P	09 21 40.4	+0.8
	baz=48						
O20A	White River Ci	48.28	75	*e*P	P	09 21 39.3	-0.2
	7.2nm,0.8s						
J24A	Dixon Ranch, L	48.48	69	⇑P	P	09 21 40.7	-0.2
	baz=48						
G26A	Maurine	48.52	66	⇑P	P	09 21 41.0	-0.1
	baz=48,SNR=6.2						
I25A	Rochford	48.62	68	⇓P	P	09 21 41.8	-0.2
	baz=48						
G27A	Dupree	48.85	65	⇓P	P	09 21 43.3	-0.3
	baz=49						
N22A	Wattenberg Ran	48.95	73	⇓P	P	09 21 45.3	+0.6
	baz=49						
B30A	Myrvik Farm, E	49.07	60	⇓P	P	09 21 45.3	+0.1
	baz=49						
I26A	New Underwood	49.11	67	⇑P	P	09 21 45.7	0.0
	baz=49						
H27A	Howes	49.21	66	⇑P	P	09 21 46.3	-0.1
	baz=49						
WUAZ	Wupatki	49.27	82	⇓P	P	09 21 47.9	+0.8
	baz=49						
O22A	Kremmling	49.29	74	⇓P	P	09 21 47.3	-0.1
	baz=49						
PV01	Paradox Valley	49.33	77	*e*P	P	09 21 47.6	0.0
	529nm,0.7s						
C30A	Mose, Pekin	49.42	61	⇓P	P	09 21 48.0	+0.1
	baz=49						
I27A	Quinn	49.56	67	⇑P	P	09 21 49.1	0.0
	baz=49						
D30A	Buchanan	49.62	62	⇓P	P	09 21 49.3	-0.1
	baz=50						
O23A	Lake Granby, G	49.63	73	⇑P	P	09 21 50.7	+0.8
	baz=50,SNR=5.8						
H28A	Mission Ridge	49.79	66	⇓P	P	09 21 51.1	+0.3
	baz=50						
MVCO	Mesa Verde	49.96	78	*e*P	P	09 21 52.7	+0.3
ISCO	Idaho Springs	50.07	73	⇑P	P	09 21 54.4	+1.0
	baz=50						
J27A	Elkhorn Farm,	50.08	68	⇑P	P	09 21 53.3	+0.2
	baz=50						
I28A	Midland	50.11	66	⇑P	P	09 21 53.4	+0.1
	baz=50,SNR=7.3						
J28A	Allard Ranch,	50.42	67	⇑P	P	09 21 55.8	+0.2
	baz=50						
G30A	Faulkton	50.58	64	⇑P	P	09 21 56.4	-0.3
	baz=50						
I29A	Vivian Onida	50.59	66	⇓P	P	09 21 57.0	+0.2
	baz=50						
S22A	4UR Ranch, Cre	50.63	76	⇑P	P	09 21 58.9	+1.3
	baz=50						
J29A	Okreek	50.95	67	⇑P	P	09 21 59.8	+0.2
	baz=51,SNR=7.9						
SDCO	Great Sand Dun	51.44	75	⇑P	P	09 22 04.7	+1.1
	baz=51						
SDCO	Great Sand Dun	51.44	75	*e*P	P	09 22 04.2	+0.5
	1.4nm,0.8s						
J30A	Dallas	51.48	66	⇓P	P	09 22 03.6	+0.1
	baz=51						
P26A	Davis Ranch, A	51.58	72	⇓P	P	09 22 05.5	+1.0
	baz=51						
K30A	Basset	51.82	67	⇑P	P	09 22 06.6	+0.5
	baz=52						
P27A	Ficken Ranch,	52.04	72	⇓P	P	09 22 08.0	+0.1
	baz=52						
O28A	Krutsinger Ran	52.16	71	⇑P	P	09 22 09.2	+0.5
	baz=52						
L30A	Spencer Herefo	52.21	68	⇓P	P	09 22 08.9	-0.1
	baz=52						
T25A	Trinidad	52.50	75	⇑P	P	09 22 12.5	+1.0
	baz=52						
L31A	Butterfield Fa	52.58	67	⇑P	P	09 22 12.7	+1.0
	baz=52						
R27A	Eads	52.73	73	⇓P	P	09 22 13.6	+0.6
	baz=53						
O29A	4D Ranch, Culb	52.73	70	⇑P	P	09 22 14.3	+1.4
	baz=53						
S26A	Kim	52.75	74	⇑P	P	09 22 13.8	+0.6
	baz=53						
ECSD	EROS Data Cent	52.87	64	⇑P	P	09 22 13.0	-0.8
	baz=53						
O30A	MW Ranch, Wils	53.14	70	⇑P	P	09 22 16.9	+1.0
	baz=53						
R28A	Tribune	53.28	72	⇓P	P	09 22 17.8	+0.8
	baz=53						
P30A	Selden	53.43	70	⇓P	P	09 22 18.8	+0.7
	baz=53						
BGNE	Belgrade	53.46	67	⇑P	P	09 22 18.8	+0.5
	baz=53						
R29A	Marienthal	53.63	72	⇓P	P	09 22 20.7	+1.1
	baz=54						
S28A	Manter	53.72	73	⇑P	P	09 22 20.9	+0.7
	baz=54						
U27A	Thompson Grove	53.93	75	⇑P	P	09 22 22.1	+0.2
	baz=54						
L34A	Svendsen Farm,	54.12	66	⇓P	P	09 22 22.8	-0.2
	baz=54						
R30A	Dighton	54.23	71	⇑P	P	09 22 24.6	+0.6
	baz=54						
Q31A	Ellis	54.28	70	⇓P	P	09 22 24.8	+0.5
	baz=54						
P32A	Huiting Farm,	54.35	69	⇑P	P	09 22 25.2	+0.4
	baz=54						
S30A	Montezuma	54.54	72	⇑P	P	09 22 27.0	+0.7
	baz=54						
O33A	Hebron	54.65	68	⇓P	P	09 22 26.9	0.0
	baz=54						
Q32A	Meitler Ranch,	54.79	70	⇓P	P	09 22 28.2	+0.3
	baz=55						
R32A	Long Quarter,	55.07	70	⇓P	P	09 22 30.2	+0.2
	baz=55						
S31A	Mullinville	55.14	72	⇑P	P	09 22 30.5	0.0
	baz=55						
U30A	WK&E Inc. Balk	55.17	73	⇑P	P	09 22 30.9	+0.2
	baz=55						
Q33A	Connelly Farm,	55.21	69	⇓P	P	09 22 31.2	+0.3
	baz=55						
N35A	Tabor	55.26	66	⇑P	P	09 22 31.7	+0.4
	baz=55,SNR=6.5						
T31A	Randall Ranch,	55.37	72	⇑P	P	09 22 32.2	0.0
	baz=55						
MNTX	Cornudas Mount	55.53	81	⇑P	P	09 22 34.1	+0.8
	baz=55						
MNTX	Cornudas Mount	55.53	81	*e*P	P	09 22 33.6	+0.2
	1.6nm,0.9s						
R33A	Olander Ranch,	55.58	70	⇑P	P	09 22 33.4	-0.2
	baz=55						
X28A	Dimmitt	55.58	76	⇑P	P	09 22 33.9	+0.1
	baz=55						
MSTX	Muleshoe	55.60	77	⇑P	P	09 22 33.7	-0.2
	baz=55						
T32A	Huddler Ranch,	55.77	72	⇓P	P	09 22 35.2	+0.2
	baz=56						
Q34A	Chapman	55.78	69	⇑P	P	09 22 35.0	-0.1
	baz=56						
R34A	Isabella, Hill	56.01	70	⇓P	P	09 22 36.4	-0.3
	baz=56						
Z28A	Tucker Farm, M	56.29	77	⇓P	P	09 22 39.0	+0.1
	baz=56						
P36A	Good Intent, A	56.33	67	⇓P	P	09 22 38.9	-0.1
	baz=56						
Y29A	Porterfield Fa	56.34	76	⇓P	P	09 22 39.9	+0.6
	baz=56						
X30A	Coker Ranch, T	56.43	75	⇓P	P	09 22 40.3	+0.5
	baz=56						
S34A	Willow Spring	56.49	70	⇑P	P	09 22 40.0	-0.2
	baz=56						
R35A	Emporia Munici	56.61	69	⇓P	P	09 22 40.5	-0.4
	baz=56						
128A	Castleberry Fa	56.69	78	⇑P	P	09 22 41.8	+0.1
	baz=56						
U33A	Lingo Farm, Me	56.75	72	⇓P	P	09 22 41.8	-0.2
	baz=57						
Y30A	Stafford Cattl	56.80	76	⇑P	P	09 22 42.6	+0.1
	baz=57						
X31A	McDonald Ranch	56.85	75	⇓P	P	09 22 42.8	+0.1
	baz=57						
T34A	McClaskey Farm	56.90	71	⇑P	P	09 22 42.9	-0.2
	baz=57						
S35A	Otter Creek Ra	56.97	69	⇓P	P	09 22 43.6	+0.1
	baz=57						
R36A	Gordon, Harris	57.02	68	⇓P	P	09 22 43.0	-0.9
	baz=57,SNR=5.2						
V33A	Lossen Ranch,	57.06	72	⇑P	P	09 22 44.5	+0.3
	baz=57						
Z30A	Sanderson Ranc	57.06	77	⇑P	P	09 22 44.2	-0.1
	baz=57						
U34A	Anderson Ranch	57.09	71	⇓P	P	09 22 44.5	+0.2
	baz=57						
S36A	Lake Cedric, C	57.37	69	⇓P	P	09 22 45.8	-0.6
	baz=57						
X32A	Elmer	57.41	74	⇑P	P	09 22 46.5	-0.2
	baz=57						
Y32A	R-V Farms, Ver	57.60	75	⇓P	P	09 22 48.4	+0.4
	baz=57						
T36A	Boggs Farm, Ca	57.65	70	⇓P	P	09 22 47.7	-0.6
	baz=58						
V35A	Meyer Ranch, C	57.96	72	⇑P	P	09 22 50.2	-0.3
	baz=58						
230A	Sterling City	58.04	78	⇓P	P	09 22 51.2	+0.1
	baz=58,SNR=6.3						
Z32A	Haskell	58.05	75	⇑P	P	09 22 51.5	+0.3
	baz=58						
T37A	Cheneyville 18	58.17	69	⇑P	P	09 22 51.3	-0.6
	baz=58						
ARCES	ARCESS Array B	58.20	350	P	P	09 22 49.6	-2.1
	0.7nm,0.4s,baz=27,slow=8.1,SNR=6.6						
ARCES				PcP	PcP	09 23 42.6	0.0
	0.9nm,0.8s,baz=15,slow=7.5,SNR=4.1						
TXAR	Lajitas Array	58.24	82	P	P	09 22 51.8	-0.8
	0.4nm,0.6s,baz=297,slow=5.8,SNR=9.1						
W35A	Tecumseh	58.36	72	⇑P	P	09 22 53.5	+0.2
	baz=58						
TUL1	Leonard	58.48	71	⇑P	P	09 22 54.0	-0.1
	baz=58						
Y34A	Reagan Ranch,	58.65	74	⇓P	P	09 22 55.5	+0.2
	baz=58						
430A	Baggett Ranch,	58.73	79	⇑P	P	09 22 55.9	-0.1
	baz=59						
331A	San Angelo	58.86	78	⇓P	P	09 22 57.0	+0.1
	baz=59						
133A	Hamilton Ranch	58.88	76	⇑P	P	09 22 57.0	+0.1
	baz=59						
232A	Coleman	58.93	77	⇓P	P	09 22 56.8	-0.5
	baz=59						
X36A	Centrahoma	59.07	72	⇑P	P	09 22 58.5	+0.3
	baz=59,SNR=5.1						
530A	J-C Ranch, Com	59.11	79	⇑P	P	09 22 58.6	0.0
	baz=59						
431A	Sonora	59.18	78	⇓P	P	09 22 58.9	-0.2
	baz=59						
332A	Millersview	59.23	77	⇓P	P	09 22 59.4	0.0
	baz=59						
W37A	Quinton	59.23	71	⇑P	P	09 22 59.0	-0.3
	baz=59						
134A	White-Moore Ra	59.41	75	⇓P	P	09 23 01.5	+0.9
	baz=59						
X37A	Clayton	59.64	72	⇑P	P	09 23 03.4	+1.3
	baz=60						
234A	Clairette	59.77	76	⇓P	P	09 23 03.5	+0.4
	baz=60						
W38A	Poteau	59.81	71	⇑P	P	09 23 03.5	+0.2
	baz=60						
334A	Lometa	60.18	76	⇓P	P	09 23 05.7	-0.2
	baz=60						
MK31	Makanchi Array	60.39	309	*e*P	P	09 23 07.2	0.0
MKAR	Makanchi Array	60.39	309	P	P	09 23 05.3	-1.9
	0.5nm,0.5s,baz=45,slow=5.9,SNR=8.1						
MKAR				PcP	PcP	09 23 51.5	-0.3
	0.5nm,0.7s,baz=56,slow=5.8,SNR=5.1						
732A	Laxson Ranch,	60.95	79	⇓P	P	09 23 11.6	+0.4
	baz=61						
BVAR	Borovoye Array	61.19	320	P	P	09 23 12.9	+0.4
	1.1nm,0.3s,baz=51,slow=5.9,SNR=6.5						
BVAR				PcP	PcP	09 23 55.3	+0.4
	1.2nm,0.5s,baz=98,slow=2.9,SNR=4.9						
FINES	FINESS Array B	65.91	348	P	P	09 23 42.0	-1.4
	1.7nm,0.8s,baz=58,slow=4.7,SNR=4.1						
KMSC	Kings Mountain	67.32	62	⇑P	P	09 23 53.7	+0.8
	baz=67						
KMSC	Kings Mountain	67.32	62	*e*P	P	09 23 53.3	+0.4
	11nm,0.9s						
NOA	NORSAR Array B	67.72	355	P	P	09 23 55.1	+0.1
	0.3nm,0.6s,baz=8.1,slow=5.8,SNR=4.0						
CMAR	Chiang Mai Arr	71.44	276	P	P	09 24 18.8	+0.3
	0.7nm,0.4s,baz=25,slow=6.6,SNR=4.3						
TAPN	Taplejung	71.62	291	*e*P	P	09 24 21.3	+1.4
	50nm,0.9s						
GUN	Gumba	72.26	292	*e*P	P	09 24 25.2	+1.4
	84nm,0.6s						
JIRN	Jiri	72.27	292	*e*P	P	09 24 25.3	+1.4
	69nm,0.7s						
RAMN	Ramite	72.57	291	*e*P	P	09 24 26.7	+1.2
	54nm,0.7s						
KKN	Kakani	72.70	293	*e*P	P	09 24 27.5	+1.2
	31nm,0.7s						
PKI	Pulchoki	72.79	293	*e*P	P	09 24 27.9	+1.0
GKN	Gorkha	72.91	293	*e*P	P	09 24 28.4	+1.0
	29nm,0.8s						
DMN	Daman	72.94	293	*e*P	P	09 24 29.0	+1.3
	31nm,0.9s						
PPT	Papeete	73.03	152	P	P	09 24 28.6	+0.8
	9.6nm,0.5s,baz=33,slow=3.1,SNR=2.8						
KOLN	Koldanda	73.68	294	*e*P	P	09 24 32.8	+0.8
	16nm,0.8s						
AKASG	Malin Array Be	75.71	342	P	P	09 24 42.6	-0.5
	0.4nm,0.3s,baz=19,slow=6.0,SNR=5.0						
KBZ	Khabaz	78.85	331	P	P	09 25 01.2	+0.4
	2.6nm,0.8s,baz=323,slow=20						
BUR08	Bucovina Ar. S	79.38	344	*e*P	P	09 25 03.4	-0.4
GERES	GERESS Array B	79.68	352	P	P	09 25 04.5	-0.9
	0.5nm,0.6s,baz=357,slow=9.8,SNR=3.7						
WRA	Warramunga Arr	82.28	224	P	P	09 25 18.4	-1.0
	0.6nm,0.7s,baz=31,slow=5.7,SNR=5.8						
BR131	Keskin Array S	85.15	336	*e*P	P	09 25 33.9	-0.3
	3.2nm,0.9s						
BRTR	Keskin Array B	85.15	336	P	P	09 25 34.5	+0.3
	3.0nm,0.8s,baz=51,slow=3.0,SNR=16						
ASAR	Alice Springs	85.75	223	P	P	09 25 37.0	+0.1
	1.0nm,0.7s,baz=28,slow=5.5,SNR=14						
ESDC	Sonseca Array	89.22	5	P	P	09 25 53.4	-0.3
	0.2nm,0.3s,baz=338,slow=4.3,SNR=3.2						
STKA	Stephens Creek	90.13	213	P	P	09 25 58.0	+0.3
	1.6nm,0.7s,baz=340,slow=5.6,SNR=7.4						
TORD	Torodi Ar. Bea	115.78	0	PKP	PKPdf	09 31 39.7	-0.8
	0.2nm,0.5s,baz=0.7,slow=1.9,SNR=6.3						
BOSA	Boshof	151.31	313	PKPbc	PKPbc	09 32 51.4	+0.1
	3.3nm,0.7s,baz=4.7,slow=2.4,SNR=12						

IDC 03 09:21:52.5±7.0**, 3°.01S×103°.55E, h0**^{km}**, mb3.2**/3**, mb1 3.3**/3**, mb1mx3.2**/23**, mbtmp3.2**/3**, Error ellipse: s-maj=402.5km s-min=29.3km az=52.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	34.44	122	P	P	09 28 42.5	+0.3
	0.2nm,0.7s,baz=308,slow=9.3,SNR=4.6						
ASAR	Alice Springs	35.81	128	P	P	09 28 53.7	-0.4
	0.3nm,0.9s,baz=298,slow=7.4,SNR=3.4						
MKAR	Makanchi Array	53.02	342	P	P	09 31 11.3	+0.1
	0.2nm,0.5s,baz=154,slow=8.7,SNR=3.7						
TXAR	Lajitas Array	143.21	42	PKP	PKPbc	09 41 28.1	+1.6
	0.1nm,0.5s,baz=284,slow=0.9,SNR=6.7						

JMA 03 09:23:21.2, 33°.69N×133°.76E, h5^{km}±1^{km}**, M0.7, Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMN	Monobe	0.11	69	P	Pg	09 23 23.6	+0.1
JMN				S	Sg	09 23 25.5	+0.4
JAI	Aioi	0.58	80	S	Sg	09 23 39.9	-0.2

SZGRF ***03*** *09:24:08.1, 4°.64N×95°.23E, h33^{km}, mb5.8, MS4.7, Northern Sumatera, Indonesia*

BJI ***03*** *09:24:09.4, 4°.27N×95°.58E, h75^{km}, mb5.5/75, mB5.3/49, Ms4.7/77, Ms7 4.4/70*

ISCJB ***03*** *09:24:15.4±0.3, 4°.69N±0°.02×95°.77E±0°.02, h89^{km}±2^{km}, mb5.5/262, Error ellipse: s-maj=3.3km s-min=2.4km az=36.8*

NEIC ***03*** *09:24:15.6±0.1, 4°.78N×95°.79E, h74^{km}, mb5.5/128, ME4.9, MW5.4, Error ellipse: s-maj=4.2km s-min=2.8km az=210.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{17}Nm; M_{rr}0.73; $M_{\theta\theta}$0.54; $M_{\phi\phi}$-1.26; $M_{r\theta}$0.56; $M_{\theta\phi}$-0.54; $M_{\phi r}$-0.39; Best double couple: $M_0$1.40000×10^{17} NP1: ϕ_s51.00000°, δ54.00000°, λ148.00000°. NP2: ϕ_s161.00000°, δ65.00000°, λ41.00000°. Principal axes: T 1.3700, Plg46.0000°, Azm20.0000°; N 0.0700, Plg43.0000°, Azm187.0000°; P -1.4400, Plg6.0000°, Azm283.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s188.00000°, δ57.00000°, λ50.00000°. NP2: ϕ_s65.00000°, δ50.00000°, λ135.00000°. Principal axes: T Plg57.0000°, Azm41.0000°; N Plg0.0000°, Azm0.0000°; P Plg4.0000°, Azm305.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Calang and Meulaboh; [III] at Banda Aceh and on Pulau Simeulue.

IDC ***03*** *09:24:15.5±0.4, 4°.84N×95°.88E, h74^{km}±3^{km}, mb5.0/36, mb1 5.1/39, mb1mx5.1/39, mbtmp5.3/39, MS4.2/25, Ms1 4.2/25, ms1mx4.0/49 Error ellipse: s-maj=10.6km s-min=7.4km az=48.0*

MOS ***03*** *09:24:15.0±0.7, 4°.73N×95°.77E, h93^{km}, mb5.7/92, Error ellipse: s-maj=7.7km s-min=4.5km az=124.2*

GCMT ***03*** *09:24:15.6±0.2, 4°.71N×95°.77E, h88^{km}±1^{km}, MW5.4/99, Moment Tensor Solution. s95,c160; s99,c183; Duration: 1s.2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.63±.02; $M_{\theta\theta}$0.58±.03; $M_{\phi\phi}$-1.22±.03; $M_{r\theta}$0.55±.02; $M_{\theta\phi}$-1.12±.03; $M_{\phi r}$-0.43±.02; Best double couple: $M_0$1.68500×10^{17} NP1:ϕ_s167.00000°, δ69.00000°, λ29.00000°. NP2:ϕ_s65.00000°, δ63.00000°, λ156.00000°. Principal axes: T 1.6030, Plg35.0000°, Azm27.0000°; N 0.1580, Plg54.0000°, Azm199.0000°; P -1.7660, Plg4.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

KLM ***03*** *09:24:17.3, 4°.57N×95°.76E, h80^{km}, mb5.5, ML5.3, MS6.4*

DJA ***03*** *09:24:17.5±0.3, 5°N±2°×9°6E±°, h69^{km}±2^{km}, M5.4/114, mb5.5/114, mB5.8/72, MLv5.8/14, Mw(mB)5.4/72*

ISC 03 09:24:15.9±0.2**, 4°.76N**±0°.03×**95°.73E**±0°.03**, h80**^{km}±1^{km}**, h80**^{km}**:pP-P, n1619,** σ**1s.30**/1837**, mb5.6**/279**, 330C-208D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	Banda Aceh	0.85	330	P	Pn	09 24 35.2	+2.0
LHMI	Lhok Sumawe	1.30	69	P	Pn	09 24 40.0	+1.3
LHMI				S	Sn	09 24 59.0	+3.1
LHMI	Lhok Sumawe	1.30	69	*e*Pn	Pn	09 24 40.1	+1.4
KCSI	Kotacane, Aceh	2.38	121	P	Pn	09 24 52.7	-0.2
SNSI	Sinabang, Aceh	2.41	166	P	Pn	09 24 51.1	-2.2
CMBY	CAMPBELL BAY	2.87	321	*e*P	Pn	09 25 00.6	+1.2
CMBY				AMB	AMB	09 25 03.0	
	comp=Z,3μm,0.5s						
TSI	Tuntungan	3.10	114	P	Pn	09 25 03.0	+0.5
PSI	Prapat	3.74	121	P	Pn	09 25 11.9	+0.6
	comp=Z,375nm,0.3s,baz=298,slow=11,SNR=496						
PSI				S	Sn	09 25 54.1	-0.2
	comp=Z,145nm,0.3s,baz=357,slow=18,SNR=3.1						
PSI				LR	LR	09 26 30.6	
	comp=Z,6μm,20.9s,baz=6.0,slow=36						
GSI	Gunungsitoli	3.90	152	P	Pn	09 25 11.1	-2.4
GSI				S	Sn	09 25 54.7	-3.4
GSI	Gunungsitoli	3.90	152	*e*Pn	Pn	09 25 10.5	-3.0
PKDT	Phuket	4.05	40	P	Pn	09 25 17.2	+1.6
SURT	Suratani	5.17	36	P	Pn	09 25 32.6	+1.9
	comp=Z,2μm,1.0s,comp=Z,18μmcomp=Z,6.6nm						
IPM	Ipoh	5.29	93	⇑P	Pn	09 25 32.9	+0.5
IPM	Ipoh	5.29	93	*e*Pn	Pn	09 25 31.9	-0.6
SKLT	Songkhla	5.43	64	P	Pn	09 25 35.8	+1.5
	comp=Z,1μm,0.9s,comp=Z,16μmcomp=Z,4.1nm						
MNSI	Mandailing Nat	5.50	136	P	Pn	09 25 34.6	-0.8
	comp=Z,3μm,0.9s,comp=Z,39μmcomp=Z,9.9nm						
MNSI				S	Sn	09 26 33.9	-3.5
	comp=Z,3μm,0.9s,comp=Z,39μmcomp=Z,9.9nm						
FRIM	Kepong	6.08	104	⇓P	Pn	09 25 42.7	-0.5
BKNI	Bangkinang	6.90	130	P	Pn	09 25 53.3	-1.1
	comp=Z,3μm,1.1s,comp=Z,25μmcomp=Z,9.1nm						
BKNI	Bangkinang	6.90	130	*e*Pn	Pn	09 25 53.5	-0.9
PDSI	Padang	7.36	140	P	Pn	09 25 59.3	-1.4
	comp=Z,2μm,1.1s,comp=Z,18μmcomp=Z,6.1nm						
PDSI				S	Sn	09 27 15.9	-6.8
	comp=Z,2μm,1.1s,comp=Z,18μmcomp=Z,6.1nm						
KTGM	Kuala Trenggan	7.40	85	⇑P	Pn	09 26 02.4	+1.1
PBA	Port Blair	7.46	337	*e*P	Pn	09 26 01.6	-0.5
PBA				AMB	AMB	09 26 12.3	
	comp=Z,353nm,1.6s						
SDSI	Sungai Dareh	8.03	135	P	Pn	09 26 08.8	-1.0
	comp=Z,357nm,1.0s,comp=Z,28μmcomp=Z,1.1nm						
KGM	Kluang	8.05	110	⇑P	Pn	09 26 10.2	0.0
RGRI	Rengat	8.32	127	P	Pn	09 26 13.2	-0.7
	comp=Z,1μm,1.1s						
MYKOM	Kota Tinggi	8.63	110	⇑P	Pn	09 26 17.9	-0.2
MYKOM	Kota Tinggi	8.63	110	*e*Pn	Pn	09 26 17.4	-0.7
DGPR	DIGLIPUR	8.81	342	*e*P	Pn	09 26 19.9	-0.5
DGPR				AMB	AMB	09 26 32.5	
	comp=Z,239nm,0.5s						
KRJI	Kerinci	8.90	140	P	Pn	09 26 20.7	-1.1
	comp=Z,37nm,1.1s,comp=Z,3μm						
PATY	Pattaya	9.57	32	P	Pn	09 26 33.8	+2.9
	comp=Z,64nm,0.9s,comp=Z,1μm						
TPRI	Tanjung Pinang	9.58	113	P	Pn	09 26 31.3	+0.3
	comp=Z,520nm,1.0s,comp=Z,24μm						
SRDT	SRDT	10.10	19	P	Pn	09 26 42.6	+4.5
	comp=Z,942nm,1.5s,comp=Z,17μm						
JMBI	JAMBI	10.14	129	P	Pn	09 26 38.1	-0.6
	comp=Z,2μm,1.1s						
MASI	Maura Aman, Be	10.20	140	P	Pn	09 26 38.2	-1.3
	comp=Z,824nm,0.8s,comp=Z,9μm						

DSRI Dabo 10.26 120 P **Pn** **09 26 39.6 -0.7**
comp=Z,471nm,1.4s,comp=Z,7µm
CHBT CHBT 10.28 39 P **Pn** **09 26 43.7 +3.2**
comp=Z,326nm,1.1s,comp=Z,7µm
KHLT Khaolaem Dam 10.37 16 P Pn 09 26 46.0 +4.3
comp=Z,247nm,1.4s,comp=Z,4µm
UTHA Uthaitani 11.34 19 P Pn 09 26 58.9 +3.9
comp=Z,92nm,1.2s,comp=Z,940nm
LHSI Lahat 11.55 137 P **Pn** **09 26 55.8 -2.1**
comp=Z,957nm,0.9s,comp=Z,7µm
MNAI Manna 11.59 141 P Pn 09 26 54.5 -3.9
comp=Z,927nm,0.6s,comp=Z,12µm
MNAI Manna 11.59 141 *e*Pn Pn 09 26 55.1 -3.3
comp=Z,494nm,0.5s
PMBI Palembang 11.83 130 P **Pn** **09 26 59.7 -2.0**
comp=Z,551nm,1.1s,comp=Z,25µm
PPBI Pangkal Pinang 12.47 123 P **Pn** **09 27 09.8 -0.6**
comp=Z,275nm,1.3s,comp=Z,13µm
MDSI Maura Dua 12.47 137 P **Pn** **09 27 07.5 -2.9**
comp=Z,687nm,1.0s,comp=Z,5µm
CHAI Chaiyaphum 12.67 29 P Pn 09 27 16.5 +3.5
comp=Z,75nm,0.9s
LWLI Liwa 12.79 139 P Pn 09 27 11.2 -3.6
comp=Z,334nm,0.8s,comp=Z,10µm
PBKT Sadao Pong 12.82 23 P Pn 09 27 18.3 +3.3
comp=Z,311nm,0.8s,comp=Z,4µm
KLI Kotabumi 13.21 136 P **Pn** **09 27 19.3 -1.0**
comp=Z,337nm,1.1s,comp=Z,5µm
KASI Kota Agung 13.46 139 P Pn 09 27 18.6 -4.9
comp=Z,248nm,0.5s,comp=Z,3µm
MHMT Maesarieng 13.51 9 P **P** **09 27 27.5 -3.0**
comp=Z,256nm,1.1s,comp=Z,2µm
UTTA Uttaradit 13.74 20 P **P** **09 27 30.9 -2.2**
comp=Z,76nm,0.9s,comp=Z,630nm
LOEI Loei 13.78 23 P **P** **09 27 33.0 -0.6**
comp=Z,340nm,1.0s,comp=Z,4µm
CM31 Chiang Mai Arr 13.97 13 *e*P **P** **09 27 34.3 -1.4**
comp=Z,621nm,0.9s
CMAR Chiang Mai Arr 13.97 13 P **Pn** **09 27 30.4 0.0**
comp=Z,0.8nm,0.3s,baz=198,slow=11,SNR=166
CMAR LR LR 09 32 58.2
comp=Z,1µm,18.4s,baz=202,slow=38
CMAR ScP **ScP** **09 36 12.2 -0.5**
comp=Z,0.2nm,0.3s,baz=228,slow=3.1,SNR=14
TPI Tanjungpandan 14.06 122 P **Pn** **09 27 30.4 -1.1**
comp=Z,226nm,1.2s,comp=Z,3µm
LAMP Lampang 14.20 15 P **P** **09 27 37.1 -1.2**
comp=Z,200nm,0.9s,comp=Z,2µm
CHTO Chiang Mai 14.32 12 P **P** **09 27 38.3 -1.3**
comp=Z,2µm,1.0s,comp=Z,20µm
CHTO Chiang Mai 14.32 12 *e*P **P** **09 27 38.5 -1.1**
CHTO Chiang Mai 14.32 12 Pn **P** **09 27 39.1 -0.4**
SNR=168
CHTO Chiang Mai 14.32 12 *e*Pn **P** **09 27 38.5 -1.1**
CMMT Chiang Mai 14.32 12 P **P** **09 27 38.3 -1.3**
comp=Z,556nm,1.0s,comp=Z,6µm
SKNT Sakolnakorn 14.59 33 P **P** **09 27 41.1 -1.5**
comp=Z,369nm,1.4s,comp=Z,7µm
KSM Kuching 14.92 102 ⇑P **Pn** **09 27 43.1 +0.5**
KSM Kuching 14.92 102 *e*Pn **Pn** **09 27 43.1 +0.5**
SBJI Serang 14.99 136 P **Pn** **09 27 43.5 0.0**
comp=Z,197nm,1.1s,comp=Z,9µm
CGJI Cibinong 15.05 139 P Pn 09 27 39.3 -5.0
comp=Z,212nm,0.7s,comp=Z,2µm
NONG Nongkai 15.08 29 P **P** **09 27 47.3 -0.7**
comp=Z,232nm,2.1s,comp=Z,4µm
PALK Pallekele 15.15 280 *e*P **P** **09 27 48.5 -0.4**
PALK pmax pmax
comp=Z,378nm,0.7s
PALK Pallekele 15.15 280 ⇓P **P** **09 27 48.1 -0.7**
SNR=12
PALK Pallekele 15.15 280 *e*Pn **P** **09 27 48.5 -0.4**
comp=Z,378nm,0.7s
CMAI Chiengmai2 15.43 12 P **P** **09 27 52.3 +0.3**
comp=Z,284nm,1.3s,comp=Z,5µm
CRAI Chiangrai 16.03 16 P **Pn** **09 27 56.8 +0.2**
comp=Z,144nm,1.3s,comp=Z,10µm
STKI Sintang 16.41 106 P **P** **09 28 02.1 -0.7**
comp=Z,185nm,1.0s,comp=Z,17µm
CNJI Cibinong 16.53 136 P **Pn** **09 27 59.2 -3.6**
comp=Z,208nm,1.1s,comp=Z,2µm
LEM Lembang 16.53 134 P **Pn** **09 28 02.0 -1.1**
comp=Z,168nm,1.1s,comp=Z,2µm
LEM Lembang 16.53 134 P **Pn** **09 28 01.4 -1.7**
comp=Z,6.5nm,0.3s,baz=36,slow=7.9,SNR=7.1
SBUM Sibu 16.62 97 ⇓P **P** **09 28 05.0 -0.2**
SBUM Sibu 16.62 97 *e*P **Pn** **09 28 04.5 +0.5**
comp=Z,160nm,1.3s
CISI Cisompet, Garu 17.18 135 P P 09 28 22.9 +12
CISI Cisompet, Garu 17.18 135 *e*Pn **Pn** **09 28 06.7 -4.2**
comp=Z,214nm,1.1s
MDRS Chennai 17.37 299 *e*P **P** **09 28 14.0 +0.7**
MDRS AMB AMB 09 28 18.3
comp=Z,430nm,0.9s
BTM Bintulu 17.39 94 ⇓P **P** **09 28 15.2 +1.6**
PBKI Pangkalan Bun 17.57 115 P **P** **09 28 14.5 -1.1**
comp=Z,837nm,1.0s,comp=Z,7µm
VIS Vishakhapatnam 17.70 318 *e*P **Pn** **09 28 18.2 +1.0**
CMJI Cimerak 17.79 134 P **P** **09 28 13.8 -4.2**
comp=Z,198nm,1.3s
CHLP Challavanipeta 17.80 321 *e*P **P** **09 28 18.2 +0.1**
CHLP IAmb IAmb 09 28 25.4
comp=Z,230nm,1.3s
CHLP *e* 09 31 23.3
CHLP *e*S **S** **09 31 37.6 -0.2**
CHLP IVMs_BB IVMs_BB 09 34 04.6
comp=Z,416nm,4.4s
XMIS Christmas Isla 18.08 147 *e*P **P** **09 28 21.0 -0.2**
comp=Z,176nm,0.8s
SKHT Srikalahasti 18.14 301 *e*P **Pn** **09 28 25.1 +2.6**
SKHT IAmb IAmb 09 28 27.1
comp=Z,192nm,1.0s
SKHT *e* 09 31 32.7
SKHT *e*Sn **S** **09 31 44.2 -0.6**
SKHT IVMs_BB IVMs_BB 09 34 32.3
comp=Z,650nm,5.0s
PVM Polavaram 18.57 313 *e*Pn **Pn** **09 28 28.9 +1.2**
PVM IAmb IAmb 09 28 34.3
comp=Z,913nm,0.7s
PVM *e* 09 31 43.5
PVM *e*S **Sn** **09 31 54.7 -0.5**
PVM IVMs_BB IVMs_BB 09 33 07.4
comp=Z,483nm,4.7s
UWJI Ujung Watu 18.82 126 P **Pn** **09 28 30.4 -0.3**
comp=Z,540nm,1.1s,comp=Z,4µm
ADKI Addanki 19.00 307 *e*Pn **Pn** **09 28 34.2 +1.4**
ADKI IAmb IAmb 09 28 38.2
comp=Z,357nm,1.4s
ADKI *e* 09 31 50.1
ADKI *e*S **Sn** **09 32 04.8 -0.6**
TRD Trivandrum 19.01 282⇑ *e*x Pn 09 28 39.2 +6.2
UGM Wanagama 19.40 130 P **P** **09 28 34.8 -0.9**
comp=Z,209nm,1.8s
RCLA Racherla 19.62 304 *e*Pn **Pn** **09 28 40.7 +0.5**
RCLA *e*pP **pP** **09 28 51.7 -2.4**
RCLA IAmb IAmb 09 29 01.4
comp=Z,124nm,0.7s
RCLA *e* 09 32 09.1
RCLA *e*S **S** **09 32 17.3 +2.0**
WOJI Wonogiri, Jawa 19.66 129 P **Pn** **09 28 39.7 -0.9**
comp=Z,140nm,1.6s
QIZ Qiongzhong 19.77 43 P **P** **09 28 39.6 -0.1**
QIZ pP **pP** **09 28 55.8 0.0**
QIZ sP **sP** **09 29 05.2 -0.7**
QIZ S **S** **09 32 18.5 +0.1**
QIZ sS **sS** **09 32 45.1 +0.4**
QIZ PMZ
comp=Z,220nm,1.4s
QIZ LN
comp=Z,2µm,18.9s
QIZ LE
comp=Z,690nm,17.2s
QIZ LZ
comp=Z,1µm,37.3s
QIZ Qiongzhong 19.77 43 *e*Pn **Pn** **09 28 42.3 +0.4**
comp=Z,365nm,1.3s
TBJI Tambak Boyo 19.78 125 P **Pn** **09 28 41.5 -0.5**
comp=Z,527nm,1.2s
NJS Nagarjunasagar 19.92 307 *e*Pn **Pn** **09 28 43.8 +0.1**
NJS IAmb IAmb 09 28 45.9
comp=Z,418nm,0.9s
NJS *e* 09 32 06.4
NJS *e*S **S** **09 32 22.7 +1.4**
NJS IVMs_BB IVMs_BB 09 35 14.6
comp=Z,663nm,4.8s
BWJI Bawean 19.92 122 P **Pn** **09 28 44.4 +0.7**
comp=Z,109nm,0.6s,comp=Z,4µm
MTKI Muara Teweh, K 19.97 106 P **Pn** **09 28 44.3 0.0**
comp=Z,198nm,1.0s
IMP Imphal 19.98 355 *e*P **P** **09 28 43.0 +1.0**
SRLM Srisailam 20.00 306 *e*Pn Pn 09 28 44.6 -0.1
SRLM IAmb IAmb 09 28 46.8
comp=Z,649nm,0.9s
SRLM *e* 09 32 18.5
SRLM *e*S **S** **09 32 25.4 +2.3**
SRLM IVMs_BB IVMs_BB 09 34 49.5
comp=Z,646nm,5.5s
PCJI Pacitan 20.08 130 P Pn 09 28 44.4 -1.1
comp=Z,130nm,1.2s
GRJI Gresik 20.35 125 P Pn 09 28 47.6 -1.1
comp=Z,341nm,1.0s,comp=Z,3µm
KKM Kota Kinabalu 20.44 85 ⇓P Pn 09 28 49.1 -0.8
KKM Kota Kinabalu 20.44 85 *e*Pn **P** **09 28 47.8 +0.7**
comp=Z,230nm,1.2s
PWJI Pagerwojo 20.45 128 P **P** **09 28 47.0 -0.1**
comp=Z,91nm,1.4s
BBKI Banjar Baru 20.77 113 P **P** **09 28 51.6 +1.0**
comp=Z,588nm,0.9s,comp=Z,5µm
URV Uravakonda 20.80 300 *e*P **P** **09 28 52.5 +1.6**
URV IAmb IAmb 09 28 55.3
comp=Z,347nm,0.9s
URV *e* 09 32 33.5
URV *e*S **S** **09 32 40.6 +2.0**
URV IVMs_BB IVMs_BB 09 35 05.3
comp=Z,430nm,4.9s
HYB Hyderabad 21.00 308 *i* P **P** **09 28 55.0 +2.0**
comp=Z,120nm,1.0s
HYB *e*S **S** **09 32 44.0 +1.3**
HYB Hyderabad 21.00 308 *e*P **P** **09 28 55.9 +2.8**
HYB AMB AMB 09 28 56.7
comp=Z,251nm,1.6s
HYBB Hyderabad (bro 21.00 308 *e*P **P** **09 28 55.3 +2.2**
HYBB IAmb IAmb 09 28 56.9
comp=Z,243nm,0.9s
HYBB *e*S **S** **09 32 44.6 +1.9**
SHL Shillong 21.02 350 *e*P **P** **09 28 52.0 -1.3**
SHL *ex* x 09 32 39.0
BOK Bokaro 21.17 334 *e*P **P** **09 28 53.5 -1.2**
RPR Rampur 21.30 312 *e*P **P** **09 28 57.8 +1.6**
RPR IAmb IAmb 09 29 02.5
comp=Z,100nm,0.8s
RPR *e*S **S** **09 32 50.2 +1.7**
RPR IVMs_BB IVMs_BB 09 35 28.6
comp=Z,514nm,5.1s
KMI Kunming 21.34 18 ⇑P **P** **09 28 59.8 +3.0**
KMI pP **pP** **09 29 17.3 +4.2**
KMI sP **sP** **09 29 27.6 +4.4**
KMI S **S** **09 32 48.1 -1.5**
KMI SS **SnSn** **09 33 28.5 +10**
KMI PMZ
comp=Z,170nm,1.0s
KMI PMZ
comp=Z,1µm,3.5s
KMI LN
comp=Z,1µm,14.1s
KMI LE
comp=Z,1µm,15.1s
KMI LZ
comp=Z,1µm,20.1s
KMMI Kallanget 21.66 123 P **P** **09 29 01.4 +1.4**
comp=Z,613nm,0.9s,comp=Z,5µm
BLJI Banyuglugur 21.73 125 P **P** **09 29 01.7 +0.9**
comp=Z,244nm,1.0s,comp=Z,4µm
KBKI Kotabaru 21.93 111 P **P** **09 29 05.8 +2.8**
comp=Z,116nm,0.9s,comp=Z,2µm
BKB Balikpapan 21.98 105 P **P** **09 29 05.5 +2.0**
comp=Z,399nm,0.9s,comp=Z,4µm
SRSP Sriramsagar 22.05 311 *e*P **P** **09 29 06.0 +1.8**
SRSP IAmb IAmb 09 29 10.1
comp=Z,79nm,0.7s
SRSP *e*S **S** **09 33 05.5 +2.6**
SRSP IVMs_BB IVMs_BB 09 34 55.3
comp=Z,590nm,4.7s
MNGI Mangalore 22.18 293 *ex* PcP 09 32 51.3 -8.5
ABJI Asem Bagus 22.28 124 P **P** **09 29 07.1 +0.4**
comp=Z,231nm,0.9s,comp=Z,3µm
JAGI Jajag, Banyuwa 22.59 126 *e*P **P** **09 29 08.2 -1.8**
comp=Z,177nm,0.9s
KLRI Killari 22.91 307 *e*P **P** **09 29 14.8 +1.5**
KLRI IAmb IAmb 09 29 19.5
comp=Z,138nm,0.7s
KLRI *e*sP **sP** **09 29 38.7 -1.2**
KLRI *e*S **S** **09 33 19.6 +2.4**
NGP Nagpur 22.97 317 *e*P **P** **09 29 14.3 +0.5**
NGP *ex* x 09 29 18.4
comp=Z,346nm,1.0s
NGP *e*S **S** **09 33 19.6 +1.6**
SRBI Singaraja 23.25 123 P **P** **09 29 17.2 +0.6**
comp=Z,271nm,1.2s,comp=Z,4µm
GYA Guiyang 23.98 25⇑ *i*P **P** **09 29 23.3 +0.1**
GYA pP **pP** **09 29 44.8 +3.5**
GYA sP **sP** **09 29 52.0 +0.9**
GYA PP **PnPn** **09 30 01.2 +4.8**
GYA PcP **PcP** **09 33 05.4 +1.8**
GYA S S 09 33 42.9 +8.4
GYA sS Sn 09 34 04.0 -0.9
GYA SS **SnSn** **09 34 30.6 +7.4**
GYA PMZ
comp=Z,190nm,0.9s
GYA PMZ
comp=Z,540nm,6.5s
GYA LN
comp=Z,900nm,13.9s
GYA LE
comp=Z,820nm,13.2s
GYA LZ
comp=Z,840nm,13.6s
GOA Goa 24.02 298 *e*P **P** **09 29 24.5 +1.0**
GOA AMB AMB 09 29 28.3
comp=Z,109nm,0.4s
AKL Akola 24.12 313 *e*P **P** **09 29 25.6 +1.2**
AKL AMB AMB 09 29 31.2
comp=Z,170nm,0.9s
MPSI Mapaga 24.54 100 P **P** **09 29 28.5 +0.3**
comp=Z,245nm,1.1s,comp=Z,3µm
PCI Palu 24.74 103 P **P** **09 29 30.2 +0.1**
comp=Z,222nm,1.8s,comp=Z,4µm
LSA Lhasa 25.18 351 P **P** **09 29 35.0 +0.5**
LSA PMZ
comp=Z,100nm,1.2s
LSA Lhasa 25.18 351 *e*P **P** **09 29 35.4 +0.9**
LSA Lhasa 25.18 351 *e*P **P** **09 29 35.4 +0.9**
LSA *e*ScP **ScP** **09 36 40.1 +1.3**
TTSI Tana Toraja 25.29 107 P **P** **09 29 35.4 +0.3**
comp=Z,82nm,1.2s,comp=Z,2µm
POO Poona 25.38 304 *e*P **P** **09 29 38.9 +3.0**
BHPL Bhopal 25.49 318 *e*P **P** **09 29 38.8 +1.9**
SPSI Sidrap Palu 25.54 109 P **P** **09 29 39.4 +2.1**
comp=Z,71nm,0.9s,comp=Z,1µm
KAPI Kappang 25.89 112 P **P** **09 29 40.2 -0.3**
comp=Z,11nm,0.3s,baz=290,slow=8.4,SNR=13
KAPI LR LR 09 40 10.0
comp=Z,687nm,19.9s,baz=289,slow=37
KAPI Kappang 25.89 112 P **P** **09 29 41.1 +0.6**
SNR=10.0
KAPI Kappang 25.89 112 *e*P **P** **09 29 40.3 -0.2**
comp=Z,39nm,1.2s
H08S2 Diego Garcia H 26.25 242 T T 09 56 50.4
baz=61,slow=76,SNR=873
H08S3 Diego Garcia H 26.25 242 T T 09 56 53.2
baz=61,slow=76,SNR=754
H08S1 Diego Carcia H 26.27 242 T T 09 56 55.8
baz=61,slow=76,SNR=722
BKSI Bulukumba 26.34 112 P **P** **09 29 44.2 -0.4**
comp=Z,304nm,1.0s,comp=Z,3µm
APSI Ampana 26.50 102 P **P** **09 29 46.4 +0.3**
comp=Z,296nm,1.1s,comp=Z,3µm
TGY Tagaytay City 26.52 68 P **P** **09 29 46.4 +0.2**
comp=Z,128nm,0.5s,baz=164,slow=4.5,SNR=3.7
MRSI Marisa 26.52 98 P **P** **09 29 45.5 -0.8**
comp=Z,118nm,1.4s,comp=Z,2µm
CD2 Chengdu 27.09 15 P **P** **09 29 51.6 +0.4**
CD2 pP **pP** **09 30 10.5 +0.7**
CD2 sP **sP** **09 30 20.4 +1.2**
CD2 S **S** **09 34 25.0 +1.4**
CD2 sS **sS** **09 34 58.4 +2.6**
CD2 PMZ
comp=Z,310nm,0.7s
CD2 PMZ
comp=Z,230nm,4.7s
CD2 LN
comp=Z,730nm,14.2s
CD2 LE
comp=Z,920nm,11.2s
CD2 LZ
comp=Z,790nm,15.6s
SZP Santa 27.34 60 *e*P **P** **09 29 55.4 +1.9**
comp=Z,844nm,0.9s
LUWI Luwuk 27.63 101 *e*P **P** **09 29 55.7 -0.4**
comp=Z,93nm,0.7s
ENH Enshi 28.51 26 *e*P **P** **09 30 03.8 -0.1**
comp=Z,32nm,0.8s
NDI New Delhi 29.58 326 *ex* **sP** **09 30 39.0 -2.4**
NDI *ex* **S** **09 35 02.0 -0.7**
TWG Pinlang 30.37 51 *e*P **P** **09 30 21.7 +1.3**
comp=Z,379nm,1.2s
DDI Dehra Dun 30.41 329 *e*P **P** **09 30 21.9 +1.2**
DDI AMB AMB 09 30 23.7
comp=Z,139nm,1.9s
SSLB Suanglung 30.81 50 *e*P **P** **09 30 25.9 +1.6**
comp=Z,66nm,1.1s
YULB Yu-li 30.85 51 *e*P **P** **09 30 25.9 +1.3**
comp=Z,24nm,0.9s
WHN Wuhan 31.08 32⇓ *i*P **P** **09 30 28.0 +1.5**
WHN S S 09 35 37.1 +11
WHN LN
comp=Z,2µm,14.7s
WHN LE
comp=Z,1µm,11.6s
WHN LZ
comp=Z,1µm,13.4s
NACB Ninganchiao 31.51 50 *e*P **P** **09 30 31.3 +0.9**
comp=Z,36nm,0.8s
SMLA Simla 31.51 329 *i* P **P** **09 30 31.1 +0.8**
SMLA AMB AMB 09 30 33.1
comp=Z,125nm,1.1s
XAN Xi'an 31.61 21 P **P** **09 30 31.2 0.0**
XAN pP **pP** **09 30 50.2 +0.2**
XAN sP **sP** **09 30 59.7 +0.3**
XAN S **S** **09 35 30.6 -3.9**
XAN sS **sS** **09 36 05.2 -1.7**
XAN PcS **PcS** **09 37 05.4 -1.1**
XAN PMZ
comp=Z,29nm,0.9s
XAN PMZ
comp=Z,53nm,4.7s
XAN LN
comp=Z,420nm,14.3s
XAN LE
comp=Z,230nm,16.3s
XAN LZ
comp=Z,210nm,17.3s
YHNB Yeheng 31.62 49 *e*P **P** **09 30 32.1 +0.7**
comp=Z,93nm,1.2s
TNTI Ternate 31.84 96 *e*P **P** **09 30 32.0 -1.5**
comp=Z,85nm,1.0s
SOEI Soe 31.88 117 P P 09 30 37.4 +3.4
comp=Z,93nm,1.3s
SOEI Soe 31.88 117 *e*P P 09 30 37.4 +3.4
comp=Z,80nm,0.9s
LZH Lanzhou 32.06 12 *e*P **P** **09 30 35.7 +0.4**
LZH pP **pP** **09 30 56.4 +2.3**
LZH PP **PP** **09 31 46.6 -2.6**
LZH PcP **PcP** **09 33 25.0 +1.8**
LZH *e*S **S** **09 35 45.0 +3.3**
LZH sS sS 09 36 21.5 +7.4
LZH ScP **ScP** **09 36 59.8 0.0**
LZH SS **SnSn** **09 37 42.2 +2.7**
LZH ScS **ScS** **09 40 57.3 -1.4**
LZH PMZ
comp=Z,180nm,1.0s
LZH PMZ
comp=Z,460nm,4.0s
LZH LN
comp=Z,1µm,14.4s
LZH LE
comp=Z,2µm,14.8s
LZH LZ
comp=Z,3µm,15.2s
LBMI Labuha 32.19 99 P **P** **09 30 36.8 +0.2**
comp=Z,89nm,1.1s,comp=Z,2µm
NLAI Namlea 32.34 104 P **P** **09 30 40.5 +2.7**
comp=Z,45nm,0.7s,comp=Z,656nm
DHRM DHARAMSHALA 32.84 329 *e*P **P** **09 30 42.6 +0.3**
DHRM AMB AMB 09 30 44.5
comp=Z,269nm,1.5s
DLH Dalhousie 33.25 329 *e*P **P** **09 30 46.0 +0.2**
DLH *ex* x 09 35 57.0
GTA Gaotai 34.69 6 ⇑P **P** **09 30 57.9 -0.2**
GTA pP **pP** **09 31 15.9 -1.2**
GTA sP **sP** **09 31 25.0 -1.4**
GTA PP **PnPn** **09 32 17.0 +0.4**
GTA PcP **PcP** **09 33 32.1 +1.6**
GTA S **S** **09 36 20.9 -1.5**
GTA ScP **ScP** **09 37 09.2 +0.3**
GTA PcS **PcS** **09 37 16.9 -0.3**
GTA ScS **ScS** **09 41 09.6 -2.6**
GTA PMZ
comp=Z,69nm,1.6s
GTA PMZ
comp=Z,370nm,6.6s
GTA LN
comp=Z,250nm,20.9s
GTA LE
comp=Z,430nm,21.8s
GTA LZ
comp=Z,270nm,20.9s
NJ2 Nanjing 34.74 36 *e*P **P** **09 30 58.6 +0.2**
NJ2 pP **pP** **09 31 17.7 +0.3**
NJ2 sP **sP** **09 31 26.0 -0.7**
NJ2 S **S** **09 36 21.5 -1.4**
NJ2 sS **sS** **09 36 54.5 -1.0**
NJ2 PMZ
comp=Z,40nm,0.8s
NJ2 PMZ
comp=Z,440nm,6.4s
NJ2 LN
comp=Z,760nm,10.8s
NJ2 LE
comp=Z,1µm,11.0s
NJ2 LZ
comp=Z,980nm,12.9s
MBWA Marble Bar 34.90 138 *e*pP pP 09 31 23.3 +4.4
SWI Sorong 35.94 98 P **P** **09 31 07.8 -1.2**
comp=Z,158nm,1.0s,comp=Z,2µm
TIA Tai'an 36.98 29 ⇑P **P** **09 31 17.9 +0.4**
TIA PP **PnPn** **09 32 46.5 +2.1**
TIA PMZ
comp=Z,40nm,1.6s
TIA LN
comp=Z,400nm,13.1s
TIA LE
comp=Z,620nm,13.7s
TIA LZ
comp=Z,380nm,13.1s
FAKI Fak Fak 37.28 101 P **P** **09 31 19.1 -1.3**
comp=Z,64nm,0.9s,comp=Z,979nm
BTO Baotou 37.94 18 *e*P **P** **09 31 26.1 +0.4**
JOW Kunigami 38.03 51 *e*P **P** **09 31 27.9 +1.3**
comp=Z,69nm,0.8s
KBL Kabul 38.59 324 *e*P **P** **09 31 30.8 -0.7**
KBL pmax pmax
comp=Z,60nm,0.7s
KBL Kabul 38.59 324 *e*P **P** **09 31 30.8 -0.7**
comp=Z,60nm,0.7s
HHC Hu-ho-hao-te 38.65 19 *e*P **P** **09 31 33.4 +1.7**
HHC pP **pP** **09 31 52.1 +1.2**
HHC sP **sP** **09 31 58.6 -1.6**
HHC PP **PnPn** **09 33 10.1 +5.6**
HHC S **ScP** **09 37 24.6 +1.1**
HHC sS **sS** **09 37 57.3 +1.9**
HHC SS **SS** **09 40 11.7 -4.3**
HHC PMZ
comp=Z,170nm,1.0s
HHC PMZ
comp=Z,800nm,5.4s
HHC LN
comp=Z,590nm,13.3s
HHC LE
comp=Z,510nm,12.9s
HHC LZ
comp=Z,630nm,13.5s
RKPI Ransiki, Papua 38.92 98 P **P** **09 31 34.9 +0.7**
comp=Z,70nm,0.9s,comp=Z,18µm
KSH Kashi 38.94 335 P **P** **09 31 32.9 -1.3**
KSH PcP **PcP** **09 33 44.5 +1.1**
KSH S **S** **09 37 24.4 -2.6**

KSH sS **sS** **09 38 03.3 +3.3**
KSH PMZ
comp=Z,38nm,0.7s
KSH LN
comp=Z,180nm,6.7s
KSH LE
comp=Z,140nm,5.7s
KSH LZ
comp=Z,140nm,7.6s
WMQ Urumqi 39.54 351 P **P** **09 31 39.2 +0.1**
WMQ pP **pP** **09 31 57.5 -0.8**
WMQ sP **sP** **09 32 06.6 -1.0**
WMQ PP **PnPn** **09 33 15.1 0.0**
WMQ PcP **PcP** **09 33 42.8 -2.3**
WMQ ScP **ScP** **09 37 25.1 -1.8**
WMQ S **S** **09 37 32.9 -2.9**
WMQ PcS **PcS** **09 37 35.4 +0.3**
WMQ SS **SS** **09 40 27.0 -6.5**
WMQ ScS **ScS** **09 41 37.0 -2.3**
WMQ PMZ
comp=Z,19nm,1.3s
WMQ PMZ
comp=Z,160nm,4.0s
WMQ LN
comp=Z,280nm,18.0s
WMQ LE
comp=Z,350nm,14.8s
WMQ LZ
comp=Z,280nm,27.7s
BJT Baijiatuau 39.65 25 *e*P **P** **09 31 42.1 +2.1**
BJT pmax pmax
comp=Z,184nm,1.0s
BJT Baijiatuau 39.65 25 *e*P **P** **09 31 42.0 +2.1**
comp=Z,184nm,1.0s
BJI Beijing 39.67 25 P **P** **09 31 41.9 +1.8**
BJI sP **sP** **09 32 09.2 +0.6**
BJI PP **PnPn** **09 33 16.7 +0.1**
BJI PcP **PcP** **09 33 44.3 -1.2**
BJI S **S** **09 37 41.8 +4.1**
BJI sS **sS** **09 38 15.0 +4.4**
BJI PMZ
comp=Z,180nm,1.2s
BJI PMZ
comp=Z,680nm,4.2s
BJI LN
comp=Z,370nm,20.6s
BJI LE
comp=Z,430nm,22.5s
BJI LZ
comp=Z,330nm,29.4s
SFK Sufi-Kurgan 40.42 333 P **P** **09 31 47.4 +0.8**
SFK pmax pmax
comp=Z,8.0nm,0.4s
KSJJU Jeju 40.46 41 P **P** **09 31 48.3 +1.5**
SNR=8.6
KSJJU Jeju 40.46 41 P **P** **09 31 48.3 +1.5**
SNR=8.6
KSHUK Heuksando 40.55 39 P **P** **09 31 48.2 +0.8**
SNR=9.1
KSHUK Heuksando 40.55 39 P **P** **09 31 48.2 +0.8**
SNR=9.1
KSJDO Jindo 40.96 40 P **P** **09 31 52.1 +1.3**
SNR=12
KSJDO Jindo 40.96 40 P **P** **09 31 52.1 +1.3**
SNR=12
ULHL Ulahol 41.17 338 P **P** **09 31 53.4 +0.7**
SNR=6.5
DL2 Dalian 41.32 31 P **P** **09 31 54.9 +1.2**
DL2 S **S** **09 38 03.4 +1.2**
DL2 PMZ
comp=Z,130nm,1.0s
DL2 PMZ
comp=Z,180nm,4.7s
DL2 LN
comp=Z,270nm,13.2s
DL2 LE
comp=Z,250nm,15.7s
DL2 LZ
comp=Z,210nm,10.3s
KZA Kyzart 41.40 337 P **P** **09 31 55.8 +0.9**
SNR=28
HOQ Hoqain 41.48 301 P **P** **09 31 58.4 +3.2**
SNR=6.0
KSGWJ Gwangju-acc 41.77 40 P **P** **09 31 58.8 +1.4**
SNR=7.7
DZET Dzherino 41.77 328 P **P** **09 31 56.8 -0.7**
DZET pmax pmax
comp=Z,159nm,1.1s
KSKWJ Gwangju 41.82 40 P **P** **09 31 58.9 +1.1**
SNR=28
KSKWJ Gwangju 41.82 40 P **P** **09 31 58.9 +1.1**
SNR=28
UCH Uchtor 41.82 336 P **P** **09 31 59.3 +1.0**
SNR=79
TKM2 Tokmak 2 41.99 338 P **P** **09 32 00.0 +0.6**
SNR=32
TKM2 Tokmak 2 41.99 338 P **P** **09 31 59.7 +0.3**
TKM2 pmax pmax
comp=Z,45nm,1.0s
TKM2 Tokmak 2 41.99 338 *e*P **P** **09 32 00.0 +0.6**
comp=Z,25nm,0.7s
KSJEU Jeongeup 41.99 39 P **P** **09 32 00.3 +1.0**
SNR=8.8
KSJEU Jeongeup 41.99 39 P **P** **09 32 00.3 +1.0**
SNR=8.8
KBK Karagaybulak 42.01 337 P **P** **09 32 00.7 +1.1**
SNR=86
AML Almayashu 42.08 335 P **P** **09 32 01.3 +1.0**
SNR=61
AAK Ala-Archa 42.17 337 P **P** **09 32 01.9 +1.0**
SNR=32
AAK Ala-Archa 42.17 337 P **P** **09 32 01.4 +0.6**
comp=Z,28nm,0.7s,baz=132,slow=6.0,SNR=72
AAK ScP **ScP** **09 37 38.6 +1.2**
comp=Z,7.2nm,0.6s,baz=169,slow=5.1,SNR=6.7
AAK S **S** **09 38 13.6 -1.4**
comp=Z,7.1nm,0.9s,baz=217,slow=5.1,SNR=2.7
AAK Ala-Archa 42.17 337*c i*P **P** **09 32 01.9 +1.0**
AAK pmax pmax
comp=Z,94nm,0.8s
AAK Ala-Archa 42.17 337 P **P** **09 32 02.1 +1.3**
SNR=33
AAK Ala-Archa 42.17 337 *e*P **P** **09 32 01.8 +1.0**
comp=Z,48nm,0.8s
AAK *e*ScP **ScP** **09 37 38.3 +0.9**
AAK ScP **ScP** **09 37 38.6 +1.2**
AAK S **S** **09 38 13.6 -1.4**
KSNAH Namhae 42.21 41 P **P** **09 32 02.5 +1.4**
SNR=6.5
KSNAH Namhae 42.21 41 P **P** **09 32 02.5 +1.4**
SNR=6.5
KSGUS GUNSAN 42.25 38 P **P** **09 32 01.9 +0.6**
SNR=8.6
FRU Bishkek 42.29 337 *e*P **P** **09 32 01.0 -0.6**
FRU *e* 09 32 30.0
FRU *e*S **S** **09 38 16.0 -0.6**
FRU pmax pmax
comp=Z,100nm,2.0s
FRU smax smax
comp=E,160nm,2.5s
KSBAR Backryungdo 42.32 35 P **P** **09 32 02.1 +0.2**
SNR=11
KSBAR Backryungdo 42.32 35 P **P** **09 32 02.1 +0.2**
SNR=11
CHMS Chumysh 42.38 337 P **P** **09 32 03.0 +0.7**
SNR=19
EKS2 Erkin-Say 42.48 336 P **P** **09 32 04.7 +1.4**
SNR=38
EKS2 Erkin-Say 42.48 336 *e*P **P** **09 32 04.4 +1.1**
EKS2 pmax pmax
comp=Z,46nm,0.7s
EKS2 Erkin-Say 42.48 336 *e*P **P** **09 32 04.4 +1.1**
comp=Z,46nm,0.7s
KSJEO Jeonju 42.50 39 P **P** **09 32 04.2 +0.8**
SNR=11
KSJEO Jeonju 42.50 39 P **P** **09 32 04.2 +0.8**
SNR=11
KSSES Seosan 42.54 37 P **P** **09 32 04.0 +0.4**
SNR=11
KSSES Seosan 42.54 37 P **P** **09 32 04.0 +0.4**
SNR=11
NWAO Narrogin (SRO) 42.67 153 P **P** **09 32 04.6 -0.2**
comp=Z,30nm,0.8s,baz=329,slow=7.1,SNR=14
USP Ospenovka 42.70 337 P **P** **09 32 05.6 +0.6**
SNR=89
KSKOJ Gongju 42.75 38 P **P** **09 32 06.2 +0.8**
SNR=8.7
KSKOJ Gongju 42.75 38 P **P** **09 32 06.2 +0.8**
SNR=8.7
KSTEJ Daejeon 42.83 39 P **P** **09 32 06.6 +0.6**
SNR=9.6
KSTEJ Daejeon 42.83 39 P **P** **09 32 06.6 +0.6**
SNR=9.6
TJN Taejon 42.83 39*c i*P **P** **09 32 06.3 +0.3**
MNAS Manas 42.87 335 P **P** **09 32 07.1 +0.6**
MNAS pmax pmax
comp=Z,58nm,1.4s
INCN Inchon 43.10 37 P **P** **09 32 08.3 0.0**
SNR=14
INCN Inchon 43.10 37 *e*P **P** **09 32 08.5 +0.2**
comp=Z,130nm,1.2s
KSSWO Suwon 43.16 37 P **P** **09 32 09.1 +0.4**
SNR=5.9
BANOM Banah 43.19 303 ⇑P **P** **09 32 11.8 +2.6**
JNU Nakatsue 43.23 45 P **P** **09 32 08.7 -0.7**
comp=Z,76nm,0.9s,baz=170,slow=3.1,SNR=45
JNU Nakatsue 43.23 45 *e*P P 09 32 05.3 -4.1
comp=Z,36nm,0.9s
KSMUS Musan 43.45 36 P **P** **09 32 11.2 +0.2**
SNR=9.3
KSMUS Musan 43.45 36 P **P** **09 32 11.2 +0.2**
SNR=9.3
MK31 Makanchi Array 43.46 347 *i* P **P** **09 32 10.5 -0.5**
MK31 pmax pmax
comp=Z,50nm,0.7s
MK31 Makanchi Array 43.46 347 *e*P **P** **09 32 10.7 -0.3**
MKAR Makanchi Array 43.46 347 P **P** **09 32 10.7 -0.3**
comp=Z,66nm,0.7s,baz=165,slow=8.1,SNR=554
MKAR PcP **PcP** **09 33 58.2 +0.3**
comp=Z,11nm,0.9s,baz=179,slow=5.8,SNR=2.1
MKAR ScP **ScP** **09 37 41.4 -0.9**
comp=Z,4.8nm,1.1s,baz=141,slow=5.5,SNR=4.9
MKAR S **S** **09 38 31.7 -1.8**
comp=Z,2.7nm,0.9s,baz=157,slow=17,SNR=3.4
MKAR LR LR 09 53 57.8
comp=Z,141nm,21.1s,baz=163,slow=41
KSCHJ Chungju 43.52 38 P **P** **09 32 12.3 +0.7**
SNR=24
KSCHJ Chungju 43.52 38 P **P** **09 32 12.3 +0.7**
SNR=24
IDAH Dahanechah 43.52 314 *e*P **P** **09 32 14.1 +2.0**
ASUD Al Ashush, Dub 43.54 301 P P 09 32 15.8 +3.9
SNR=7.4
ASUD Al Ashush, Dub 43.54 301 ⇑P **P** **09 32 15.1 +3.2**
SNR=22
YNCB YEONCHEON 43.64 36 P **P** **09 32 12.4 -0.1**
SNR=33
YNCB YEONCHEON 43.64 36 P **P** **09 32 12.4 -0.1**
SNR=33
KSAR Wonju Array Be 43.83 38 P **P** **09 32 13.3 -0.8**
KSAR 09 33 58.9
KSAR Wonju Array Be 43.83 38 P **P** **09 32 13.3 -0.8**
KSAR PcP **PcP** **09 33 58.9 -0.4**
KSAR ScP **ScP** **09 37 42.1 -1.8**
KSRS Korea Array 43.86 38 P **P** **09 32 13.3 -1.0**
comp=Z,38nm,0.9s,baz=226,slow=8.9,SNR=186
KSRS PcP **PcP** **09 33 58.9 -0.5**
comp=Z,5.3nm,0.6s,baz=210,slow=3.3,SNR=7.8
KSRS ScP **ScP** **09 37 42.1 -1.9**
comp=Z,1.7nm,0.9s,baz=228,slow=4.3,SNR=5.0
KSRS LR LR 09 51 57.8
comp=Z,207nm,19.0s,baz=212,slow=38
SONM Songino Array 43.88 10 P **P** **09 32 14.6 +0.1**
comp=Z,65nm,0.9s,baz=191,slow=8.6,SNR=112
SONM PcP **PcP** **09 34 00.3 +0.9**
comp=Z,38nm,0.9s,baz=191,slow=3.3,SNR=12
SONM ScP **ScP** **09 37 41.8 -2.3**
comp=Z,3.4nm,0.8s,baz=156,slow=11,SNR=5.5
SONM LR LR 09 52 47.2
comp=Z,368nm,19.8s,baz=181,slow=39
KSWJU Wonju 43.91 38 P **P** **09 32 15.8 +1.1**
SNR=6.7
KSWJU Wonju 43.91 38 P **P** **09 32 15.8 +1.1**
SNR=6.7
KSPHA Pohang 43.98 40 P **P** **09 32 17.0 +1.7**
SNR=10
KSPHA Pohang 43.98 40 P **P** **09 32 17.0 +1.7**
SNR=10
KSCHC Chuncheon 44.00 37 P **P** **09 32 16.1 +0.6**
SNR=7.4
KSCHC Chuncheon 44.00 37 P **P** **09 32 16.1 +0.6**
SNR=7.4
KSYOW Yeongwol 44.01 38 P **P** **09 32 16.7 +1.2**
SNR=5.6
KSCWO Cheorwon 44.02 37 P **P** **09 32 15.8 +0.2**
SNR=19
KSCWO Cheorwon 44.02 37 P **P** **09 32 15.8 +0.2**
SNR=19
ULN Ulaanbaatar 44.03 11 *e*P P 09 32 20.9 +5.1
ULN pmax pmax
comp=Z,37nm,0.8s
ULN Ulaanbaatar 44.03 11 P P 09 32 21.0 +5.3
SNR=27
ULN Ulaanbaatar 44.03 11 *e*P P 09 32 20.9 +5.1
comp=Z,37nm,0.8s
KK31 Karatay Array 44.24 333 *e*P **P** **09 32 17.0 -0.3**
KK31 pmax pmax
comp=Z,44nm,0.8s
KKAR Karatay Array 44.24 333 *e*P **P** **09 32 17.5 +0.2**
KKAR Karatay Array 44.24 333 *e*P **P** **09 32 17.5 +0.2**
KSTBA Taebaek 44.29 39 P **P** **09 32 18.7 +0.9**
SNR=52
KSTBA Taebaek 44.29 39 P **P** **09 32 18.7 +0.9**
SNR=52
KSJES JEONGSEON 44.30 38 P **P** **09 32 19.1 +1.2**
SNR=6.5
KSULJ Uljin 44.31 40 P **P** **09 32 19.5 +1.6**
SNR=11
KSIJA INJE 44.32 37 P **P** **09 32 18.7 +0.7**
SNR=30
KSIJA INJE 44.32 37 P **P** **09 32 19.0 +1.0**
SNR=17
KSDGY Daegwallycong 44.47 38 P **P** **09 32 20.2 +0.9**
SNR=12
KSDGY Daegwallycong 44.47 38 P **P** **09 32 20.2 +0.9**
SNR=12
SNY Shenyang 44.50 30 ⇑P **P** **09 32 19.8 +0.5**
SNY S **S** **09 38 45.8 -2.9**
SNY PMZ
comp=Z,270nm,4.2s
SNY LN
comp=Z,490nm,16.8s
SNY LE
comp=Z,560nm,18.0s
SNY LZ
comp=Z,330nm,18.0s
SEHB SEOHWA 44.58 37 P **P** **09 32 20.5 +0.4**
SNR=18
SEHB SEOHWA 44.58 37 P **P** **09 32 20.5 +0.4**
SNR=18
KSJMJ Jumunjin 44.64 38 P **P** **09 32 21.4 +0.8**
SNR=12
KSJMJ Jumunjin 44.64 38 P **P** **09 32 21.4 +0.8**
SNR=12
KSSKC Sokcho 44.76 37 P **P** **09 32 22.6 +1.1**
SNR=16
KSSKC Sokcho 44.76 37 P **P** **09 32 22.6 +1.1**
SNR=16
GENI Genyem 45.00 98 P pP 09 32 43.4 0.0
WRA Warramunga Arr 45.20 124 P **P** **09 32 24.6 -0.6**
comp=Z,29nm,0.7s,baz=302,slow=9.4,SNR=180
WRA pP **pP** **09 32 43.0 -1.9**
comp=Z,89nm,0.8s,baz=302,slow=9.3,SNR=16
WRA ScP **ScP** **09 37 49.0 -1.0**
comp=Z,4.0nm,0.9s,baz=307,slow=3.7,SNR=4.7
WRA S **S** **09 38 54.1 -5.4**
comp=Z,2.9nm,1.0s,baz=294,slow=16,SNR=7.2
WRA LR LR 09 53 15.6
comp=Z,267nm,21.4s,baz=325,slow=39
WRAB Tennant Creek 45.20 124 *e*P **P** **09 32 24.9 -0.4**
WRAB pmax pmax
comp=Z,138nm,0.9s
WRAB Tennant Creek 45.20 124 *e*P **P** **09 32 24.9 -0.4**
comp=Z,138nm,0.9s
IMYA Miami 45.36 319 *e*P **P** **09 32 27.2 +0.7**
IMOG Moghan 45.73 318 *e*P **P** **09 32 30.9 +1.3**
KSULL Ulleungdo 45.73 40 P **P** **09 32 31.5 +2.3**
SNR=14
ZAK Zakamensk 45.91 7 *e*P **P** **09 32 30.2 -0.3**
ZAK *e* 09 34 07.1
ZAK pmax pmax
comp=Z,19nm,1.7s
IBAF Bafgh 46.14 310 *e*P **P** **09 32 33.9 +1.2**
HVS Khovu-Aksy 46.25 358⇓*i*P **P** **09 32 33.3 +0.1**
HVS pmax pmax
comp=Z,146nm,1.3s
IAKL Akhelmad 46.40 318 *e*P **P** **09 32 36.0 +1.2**
IKRD Kardeh 46.66 318 *e*P P 09 32 33.4 -3.4
AS31 Alice Springs 46.73 129 *e*P **P** **09 32 36.8 -0.5**
ASAR Alice Springs 46.73 129 P **P** **09 32 36.9 -0.4**
comp=Z,33nm,0.4s,baz=300,slow=7.5,SNR=1157
ASAR pP **pP** **09 32 55.4 -1.6**
comp=Z,20nm,0.5s,baz=299,slow=7.9,SNR=6.4
ASAR PcP **PcP** **09 34 10.2 +0.5**
comp=Z,20nm,0.9s,baz=300,slow=3.0,SNR=8.0
ASAR ScP **ScP** **09 37 56.2 -0.1**
comp=Z,2.0nm,0.9s,baz=313,slow=4.2,SNR=4.6
ASAR S **S** **09 39 17.5 -4.0**
comp=Z,9.3nm,1.0s,baz=294,slow=13,SNR=17
ASAR LR LR 09 51 22.5
comp=Z,170nm,21.9s,baz=296,slow=35
ASAR PKPPKP P'P'df 10 03 48.5 -10
comp=Z,0.7nm,1.0s,baz=146,slow=3.2,SNR=4.6
CN2 Changchun 46.88 29 ⇑P **P** **09 32 38.4 +0.3**
CN2 *e*sP **sP** **09 33 07.6 +0.6**
CN2 *e*PcP **PcP** **09 34 09.5 -0.2**
CN2 *e*ScP **ScP** **09 37 54.3 -2.2**
CN2 *e*S **S** **09 39 23.5 +0.5**
CN2 PMZ
comp=Z,60nm,0.8s
CN2 LN
comp=Z,300nm,17.0s
CN2 LE
comp=Z,300nm,17.0s
CN2 LZ
comp=Z,300nm,17.0s
FORT Forrest 46.94 141 *e*P **P** **09 32 39.1 +0.4**
comp=Z,112nm,0.8s
MOY Mondy 46.96 4 *e*P **P** **09 32 38.8 +0.1**
MOY *e* 09 34 10.9
ISRV Sarvestan 47.13 306 *e*P **P** **09 32 42.1 +1.4**
ISFR Sfrayin 47.15 318 *e*P **P** **09 32 42.0 +1.3**
TLY Talaya 47.23 7 P **P** **09 32 41.3 +0.6**
comp=Z,108nm,0.9s,SNR=9.4
TLY Talaya 47.23 7 ScP **ScP** **09 37 57.3 -0.4**
comp=Z,1.3nm,0.4s,baz=204,slow=6.9,SNR=5.8
TLY Talaya 47.23 7*c i*P **P** **09 32 40.8 +0.1**
TLY *e* 09 34 11.6
TLY *e*S **S** **09 39 27.0 -0.7**
TLY pmax pmax
comp=Z,20nm,1.0s
TLY MLR MLR
comp=Z,171nm,15.0s
TLY Talaya 47.23 7 P **P** **09 32 41.4 +0.8**
SNR=17
TLY Talaya 47.23 7 *e*P **P** **09 32 41.5 +0.8**
comp=Z,70nm,1.7s
TLY ScP **ScP** **09 37 57.4 -0.4**
IPAR Pars 47.36 307 *e*P **P** **09 32 43.6 +1.2**
ISHV Shirvan 47.62 318 *e*P **P** **09 32 45.8 +1.6**
OTUK Ortayu 47.72 339 P **P** **09 32 44.8 +0.2**
OTUK pmax pmax
comp=Z,67nm,0.8s
IRK Irkutsk 47.86 7 *e*P **P** **09 32 44.6 -0.9**
IRK *e* 09 34 12.7
IRK pmax pmax
comp=Z,80nm,1.7s
KURBB Kurchatov Arra 47.94 345 ScP **ScP** **09 38 01.1 +0.3**
comp=Z,7.9nm,0.7s,baz=170,slow=3.9,SNR=14
KURBB S S 09 39 30.1 -7.6
comp=Z,3.8nm,1.0s,baz=154,slow=15,SNR=4.3
KURK Kurchatov 48.00 345 *e*P **P** **09 32 46.7 +0.1**
KURK S S 09 39 30.1 -8.5
KURK pmax pmax
comp=Z,45nm,0.7s
KURK Kurchatov 48.00 345 P **P** **09 32 46.7 +0.1**
SNR=28
KURK Kurchatov 48.00 345 *e*P **P** **09 32 46.7 +0.1**
comp=Z,45nm,0.7s
KURK ScP **ScP** **09 38 01.1 +0.1**
KURK S S 09 39 30.1 -8.5
HIA Hailar 48.81 21 *e*P **P** **09 32 53.7 +0.7**
HIA pmax pmax
comp=Z,195nm,1.0s
HIA Hailar 48.81 21 *e*P **P** **09 32 53.6 +0.7**
comp=Z,195nm,1.0s
IANJ Anjilo 49.16 314 *e*P **P** **09 32 56.6 +0.4**
CIT Chita 49.38 14 *e*P **P** **09 32 57.0 -0.3**
CIT *e* 09 34 19.7
CIT pmax pmax
comp=Z,172nm,1.3s
MDJ Mudanjiang 49.56 32 P **P** **09 32 59.7 +1.0**
MDJ pP **pP** **09 33 19.0 +0.4**
MDJ sP **sP** **09 33 31.3 +3.6**
MDJ S **S** **09 40 02.2 +1.5**
MDJ PMZ
comp=Z,80nm,0.9s
MDJ PMZ
comp=Z,210nm,5.0s
MDJ LN
comp=Z,370nm,14.9s
MDJ LE
comp=Z,360nm,21.5s
MDJ LZ
comp=Z,350nm,16.6s
MDJ Mudanjiang 49.56 32 *e*P **P** **09 32 59.7 +1.0**
comp=Z,155nm,1.3s
IKIA Kiasar 49.68 315 *e*P **P** **09 33 00.6 +0.5**
IGLO Ghaloghah 49.72 315 *e*P **P** **09 33 01.7 +1.3**
VLA Vladivostok 49.81 34⇓*i*P **P** **09 33 00.4 -0.2**
VLA *i* 09 34 20.1
VLA *e* 09 34 55.1
VLA *e*S **S** **09 40 06.0 +1.7**
VLA pmax pmax
comp=Z,87nm,1.1s
ZAA0 Zalesovo Array 49.84 352 *e*P **P** **09 33 00.4 -0.2**
ZALV Zalesovo Beam 49.84 352 P **P** **09 33 00.6 -0.1**
comp=Z,82nm,0.7s,baz=176,slow=7.3,SNR=39
ZALV ScP **ScP** **09 38 07.3 -1.5**
comp=Z,3.2nm,0.3s,baz=151,slow=3.3,SNR=3.6
ZALV S **S** **09 40 01.5 -2.8**
comp=Z,6.7nm,0.3s,baz=186,slow=12,SNR=7.5
ZALV LR LR 09 58 27.5
comp=Z,187nm,19.1s,baz=250,slow=41
MAJO Matsushiro 50.15 45 *e*P **P** **09 33 03.6 +0.2**
MAJO pmax pmax
comp=Z,47nm,0.9s
MAJO Matsushiro 50.15 45 *e*P **P** **09 33 03.6 +0.2**
comp=Z,47nm,0.9s
MAT Matsushiro 50.15 45 P **P** **09 33 02.8 -0.6**
MAT S **S** **09 40 08.2 -1.1**
MJAR Matsushiro Arr 50.15 45 P **P** **09 33 03.2 -0.2**
comp=Z,30nm,0.8s,baz=240,slow=9.1,SNR=85
MJAR PcP **PcP** **09 34 22.5 +0.7**
comp=Z,32nm,1.0s,baz=244,slow=4.9,SNR=17
MJAR ScP **ScP** **09 38 09.7 -0.9**
comp=Z,2.6nm,1.0s,baz=247,slow=4.0,SNR=4.5
MJAR LR LR 09 54 32.0
comp=Z,321nm,21.8s,baz=250,slow=36
IVRN Varamin 50.53 312 *e*P **P** **09 33 07.3 +1.0**
USRK Ussuriysk Ar. 50.56 33 P **P** **09 33 06.8 +0.5**
comp=Z,41nm,0.8s,baz=238,slow=6.8,SNR=79
USRK LR LR 09 56 16.7
comp=Z,359nm,19.4s,baz=210,slow=38
COEN Coen 50.61 112 *e*P **P** **09 33 06.2 -0.9**
comp=Z,86nm,1.3s
IPRN Peran 50.65 314 *e*P **P** **09 33 07.9 +0.6**
NVS Novosibirsk 50.95 351⇑*i*P **P** **09 33 08.1 -0.9**
NVS *e* 09 34 23.4
NVS *e*S S 09 40 10.7 -8.9
NVS pmax pmax
comp=N,41nm,0.9s
NVS pmax pmax
comp=E,24nm,0.9s
NVS pmax pmax
comp=Z,70nm,0.9s
NVS smax smax
comp=N,37nm,1.0s
NVS smax smax
comp=E,69nm,1.0s
DAMY Dhamar 51.43 285 *e*P P 09 33 17.2 +3.6
comp=E,192nm,1.4s
RAYN Ar Rayn 51.83 296 *e*ScP **ScP** **09 38 18.8 +0.6**
BVA0 Borovoye Array 52.43 341 *i* P **P** **09 33 19.3 -0.8**
BVA0 pmax pmax
comp=Z,61nm,0.8s
BVAR Borovoye Array 52.43 341 P **P** **09 33 19.6 -0.5**
comp=Z,48nm,0.7s,baz=143,slow=8.7,SNR=244
BVAR ScP **ScP** **09 38 19.8 -0.2**
comp=Z,2.7nm,0.9s,baz=126,slow=7.3,SNR=3.6

BVAR S **S** 09 40 36.4 -3.6
comp=Z,3.2nm,0.8s,baz=144,slow=16,SNR=9.3
BVAR LR LR 09 57 48.8
comp=Z,169nm,21.1s,baz=150,slow=38
BRVK Borovoye 52.49 341*c* *i*P **P** 09 33 20.1 -0.4
BRVK pmax pmax
comp=Z,75nm,1.0s
BRVK Borovoye 52.49 341 P **P** 09 33 20.4 -0.1
SNR=22
BRVK Borovoye 52.49 341 *e*P **P** 09 33 20.3 -0.3
comp=Z,55nm,0.7s
OPO Ambohidratompo 53.14 243 P **P** 09 33 28.9 +2.8
comp=Z,7.7nm,0.5s,baz=75,slow=5.6,SNR=15
PMG Port Moresby 53.15 105*c* *i*P **P** 09 33 25.4 -0.6
PMG pmax pmax
comp=Z,223nm,1.0s
PMG Port Moresby 53.15 105 *e*P **P** 09 33 25.5 -0.6
comp=Z,15nm,1.0s
BBOO Buckleboo 53.46 137 *e*P **P** 09 33 27.5 -0.5
comp=Z,30nm,0.8s
AB31 Akbulak array 53.70 332 P **P** 09 33 29.5 0.0
AB31 pmax pmax
comp=Z,130nm,1.0s
ABKAR Akbulak array 53.70 332 *e*P **P** 09 33 29.7 +0.2
KLR Kul'dur 53.80 29⇓ *i*P **P** 09 33 28.0 -2.2
KLR *e*S **S** 09 40 57.5 -1.3
KLR pmax pmax
comp=N,50nm,1.6s
KLR pmax pmax
comp=E,180nm,1.6s
KLR pmax pmax
comp=Z,400nm,1.6s
IDHR Dehrash 54.43 310 *e*P **P** 09 33 34.8 -0.6
BOD Bodaibo 54.83 12 *e*P **P** 09 33 37.7 +0.2
BOD pmax pmax
comp=Z,69nm,1.0s
HABR Khabarovsk 54.93 31*d* *e*P **P** 09 33 38.1 -0.3
HABR *e**SP sP 09 34 01.0 -6.7
HABR *e* 09 34 39.2
HABR *e* 09 35 41.6
HABR *e*PPP PPP 09 36 53.4
HABR *e*S **S** **09 41 15.9 +1.9**
HABR *e**SS **sS** **09 41 43.7 -4.8**
HABR 09 43 20.5
HABR *e*SS **SS** **09 45 01.3 +2.6**
HABR pmax pmax
comp=E,24nm,1.0s
HABR pmax pmax
comp=Z,74nm,1.0s
HABR pmax pmax
comp=N,11nm,0.5s
HABR MLR MLR
comp=Z,166nm,17.0s
AKTO Aktyubinsk 55.42 332 ScP **ScP** 09 38 32.8 -0.3
comp=Z,2.9nm,0.6s,baz=112,slow=1.9,SNR=3.7
AKTO S **S** **09 41 18.6 -1.9**
comp=Z,8.6nm,0.9s,baz=190,slow=19,SNR=18
AKTO LR LR 10 00 48.9
comp=Z,157nm,19.6s,baz=139,slow=40
AKTO Aktyubinsk 55.42 332 P **P** 09 33 41.6 -0.3
AKTO pmax pmax
comp=Z,112nm,1.3s
CTAO Charters Tower 55.44 118 *e*P **P** 09 33 41.8 -0.8
CTAO pmax pmax
comp=Z,74nm,1.1s
CTAO Charters Tower 55.44 118 *e*P **P** 09 33 41.8 -0.8
comp=Z,74nm,1.1s
IAZR Azarshahr 55.87 313 *e*P **P** 09 33 46.1 +0.4
ERM Erimo 56.13 41*d* *i*P **P** 09 33 48.1 +1.0
ERM pmax pmax
comp=Z,36nm,1.1s
ERM Erimo 56.13 41 *e*P **P** 09 33 47.6 +0.5
comp=Z,36nm,0.8s
IMRD Marand 56.48 314 *e*P **P** 09 33 50.6 +0.7
ASAJ Asahikawa 56.78 39 *e*P **P** 09 33 52.6 +0.9
comp=Z,38nm,1.0s
CLNS Chul'man 56.83 19 *e*P **P** 09 33 52.5 +0.6
CLNS *e**PP **PcP** **09 34 46.8 +0.1**
CLNS *e* 09 36 01.0
CLNS *e*PPP PPP 09 37 26.3
CLNS *e*S S 09 41 26.9 -12
CLNS *e*SS **SS** **09 45 32.7 +4.3**
CLNS pmax pmax
comp=Z,61nm,0.9s
CLNS pmax pmax
comp=N,38nm,1.0s
CLNS pmax pmax
comp=E,29nm,1.0s
CLNS pmax pmax
comp=Z,6.0nm,0.9s
CLNS pmax pmax
comp=N,9.0nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS smax smax
comp=N,49nm,12.3s
CLNS smax smax
comp=E,282nm,18.5s
STKA Stephens Creek 56.83 133 P **P** 09 33 51.3 -1.0
comp=E,31nm,1.0s,baz=303,slow=7.2,SNR=45
STKA pP **pP** **09 34 11.5 -1.1**
comp=E,23nm,0.8s,baz=316,slow=6.3,SNR=7.0
STKA Stephens Creek 56.83 133 *e*P **P** 09 33 52.0 -0.3
STKA *PP **pP** **09 34 11.5 -1.1**
STKA pmax pmax
comp=Z,7.0nm,1.0s
STKA Stephens Creek 56.83 133 *e*P **P** 09 33 52.0 -0.3
comp=Z,7.3nm,1.0s
STKA pP **pP** **09 34 11.5 -1.1**
GNI Garni 57.74 315 P **P** 09 33 59.2 +0.5
comp=Z,15nm,0.7s,baz=164,slow=7.3,SNR=25
GNI Garni 57.74 315⇓ *i*P **P** 09 34 00.4 +1.6
GNI pmax pmax
comp=Z,92nm,1.4s
GNI Garni 57.74 315 P **P** 09 34 00.4 +1.6
SNR=15
GNI Garni 57.74 315⇓ *e*P **P** 09 33 59.6 +0.8
SNR=13
GNI Garni 57.74 315 *e*P **P** 09 34 00.1 +1.3
comp=Z,195nm,1.5s
GNI *e*pP **pP** **09 34 18.6 -0.6**
DGRG David-gareji 57.84 317 P **P** 09 34 00.7 +1.3
DGRG David-gareji 57.84 317 P **P** 09 34 00.6 +1.3
PAF Port-aux-Franc 58.27 199 P **P** 09 34 05.0 +3.0
PAF S S 09 42 10.0 +12
PAF R 09 51 00.0
YSS Yuzh-Sakhalins 58.31 36*α* *i*P **P** **09 34 03.0 +0.6**
YSS *e* 09 34 29.0
YSS pmax pmax
comp=Z,200nm,1.0s
YSS Yuzh-Sakhalins 58.31 36 *e*P **P** 09 34 03.3 +0.9
comp=Z,328nm,1.2s
SEAG Tbilisi Sea 58.35 317 P **P** 09 34 03.1 +0.2
TBLG Delisi 58.38 317 P **P** 09 34 03.9 +0.7
TBLG Delisi 58.38 317 P **P** 09 34 03.8 +0.7
KMBO Kilima Mbogo 58.71 266 *e*P **P** 09 34 09.1 +3.0
KMBO Kilima Mbogo 58.71 266 P **P** 09 34 08.8 +2.7
comp=Z,17nm,0.8s,baz=61,slow=10,SNR=35
KMBO LR LR 09 55 29.5
comp=Z,190nm,19.8s,baz=100,slow=32
KMBO Kilima Mbogo 58.71 266 *e*P **P** 09 34 09.2 +3.1
comp=Z,6.1nm,1.0s
YUK Yuzh-Kuril'sk 58.81 40*c* *i*P **P** 09 34 06.5 +0.5
YUK *i* 09 34 52.7
YUK *i* 09 36 16.4
YUK *i* PPP PPP 09 37 37.4
YUK *i* S **S** **09 42 06.8 +1.5**
YUK *i* SS **SS** **09 46 01.7 +1.8**
YUK pmax pmax
comp=Z,182nm,2.6s
SVE Sverdlovsk 58.86 338*d* *i*P **P** 09 34 06.3 +0.2
SVE *e*S **S** **09 42 04.4 -1.1**
SVE pmax pmax
comp=Z,178nm,1.2s
AKH Akhalkalaki 59.11 316 P **P** 09 34 09.4 +1.0
AKH Akhalkalaki 59.11 316 P **P** 09 34 09.3 +1.0
ARU Arti 59.35 337*c* *i*P **P** 09 34 08.9 -0.6
ARU *e* 09 34 57.0
ARU 09 36 19.2
ARU S **S** **09 42 09.9 -2.0**
ARU *SS **sS** **09 42 42.4 -4.3**
ARU 09 43 48.0
ARU pmax pmax
comp=Z,93nm,1.2s
ARU Arti 59.35 337 *e*P **P** 09 34 08.7 -0.8
comp=Z,76nm,1.1s
ZEI Tsey 59.39 318 *e*P **P** 09 34 10.2 -0.1
ZEI pmax pmax
comp=Z,95nm,1.3s
ONI Oni 59.61 317 P **P** 09 34 12.7 +1.1
ONI Oni 59.61 317 P **P** 09 34 12.7 +1.1
TYV Tymovskoe 60.33 32 *e*P **P** 09 34 17.5 +1.2
TYV pmax pmax
comp=E,40nm,1.2s
TYV pmax pmax
comp=Z,80nm,1.2s
TYV pmax pmax
comp=N,79nm,1.4s
KBZ Khabaz 60.44 318 P **P** 09 34 17.9 +0.7
comp=N,58nm,0.9s,baz=142,slow=20
NKL Nikolayevsk 60.62 29 *i*P **P** 09 34 18.0 -0.2
NKL pmax pmax
comp=N,30nm,0.8s
NKL pmax pmax
comp=E,40nm,0.8s
NKL pmax pmax
comp=Z,100nm,0.8s
NKL pmax pmax
comp=Z,400nm,2.5s
KUR Kuril'sk 60.63 40 *e*P **P** 09 34 18.5 +0.1
KUR pmax pmax
comp=N,24nm,1.0s
KUR pmax pmax
comp=Z,82nm,1.0s
KUR pmax pmax
comp=E,23nm,1.0s
KUR MLR MLR
comp=Z,64nm,18.0s
KIV Kislovodsk 60.68 319 P **P** 09 34 19.5 +0.6
comp=Z,786nm,1.0s,SNR=16
KIV Kislovodsk 60.68 319 *e*P **P** 09 34 19.3 +0.4
KIV *e* 09 35 00.3
KIV *e*S **S** **09 42 28.1 -1.4**
KIV pmax pmax
comp=Z,179nm,1.1s
KIV pmax pmax
comp=Z,28nm,4.3s
KIV MLR MLR
comp=Z,70nm,17.0s
KIV Kislovodsk 60.68 319 P **P** 09 34 19.8 +0.9
SNR=24
KIV Kislovodsk 60.68 319 ⇓P **P** 09 34 19.4 +0.4
SNR=11
KIV Kislovodsk 60.68 319 *e*P **P** 09 34 19.6 +0.7
comp=Z,152nm,1.0s
GOF Gofitskoye 60.90 320 *e*P **P** 09 34 18.2 -2.1
GOF pmax pmax
comp=Z,140nm,1.3s
EIDS Eidsvold 61.48 122 *e*P **P** 09 34 24.4 -0.2
comp=Z,17nm,0.9s
EIDS *e*pP **pP** **09 34 42.4 -2.7**
SOKR Solikamsk 62.27 339*c* *i*P **P** 09 34 28.9 -0.3
SOKR S **S** **09 42 46.2 -2.7**
SOKR SS **SS** **09 46 49.4 -4.1**
SOKR pmax pmax
comp=Z,120nm,1.0s
RCY Rachaya 62.42 305 *e*P **P** 09 34 33.4 +2.5
YAK Yakutsk 62.46 17 *e*P **P** 09 34 29.1 -1.3
YAK *e**PP **pP** **09 34 52.2 +1.2**
YAK *e* 09 35 08.0
YAK *e* 09 36 47.6
YAK *e*S **S** **09 42 49.8 -1.4**
YAK *e**SS **sS** **09 43 25.2 -1.1**
YAK *e* 09 44 08.2
YAK *e*SS **SS** **09 46 57.2 +0.9**
YAK *e*SSS SSS 09 49 43.0
YAK pmax pmax
comp=Z,233nm,1.1s
YAK pmax pmax
comp=E,75nm,1.3s
YAK pmax pmax
comp=N,73nm,1.3s
YAK pmax pmax
comp=Z,8.0nm,0.9s
YAK pmax pmax
comp=N,22nm,1.5s
YAK pmax pmax
comp=E,15nm,1.6s
YAK smax smax
comp=N,42nm,1.4s
YAK smax smax
comp=E,41nm,1.5s
YAK MLR MLR
comp=Z,329nm,18.0s
YAK MLR MLR
comp=E,219nm,23.0s
YAK MLR MLR
comp=N,149nm,20.0s
YAK Yakutsk 62.46 17 *e*P **P** 09 34 30.0 -0.4
comp=N,220nm,0.9s
HWQ Hawqa 62.51 306 *e*P **P** 09 34 33.6 +2.1
SOC Sochi 62.52 317*c* *i*P **P** 09 34 30.8 -0.4
SOC *e* 09 36 53.0
SOC *e*PPP PPP 09 38 17.8
SOC *e*S **S** **09 42 54.3 +1.7**
SOC *e**SS **pS** **09 43 13.8 -2.7**
SOC pmax pmax
comp=Z,152nm,1.0s
BHL Bhannes 62.66 306 *e*P **P** 09 34 34.8 +2.4
MMAI Mount Meron Ar 62.66 305 LR LR 10 05 09.6
comp=Z,205nm,18.4s,baz=100,slow=39
DQRL Deir Qamar 62.68 306 *e*P **P** 09 34 34.4 +1.8
ARMA Armidale 63.83 127 *e*P **P** 09 34 41.5 +1.3
comp=Z,47nm,1.1s
CAN Canberra 63.90 133 *e*P **P** 09 34 40.8 +0.2
CAN pmax pmax
comp=Z,61nm,1.0s
CAN Canberra 63.90 133 *e*P **P** 09 34 40.8 +0.2
comp=Z,61nm,1.0s
ANN Anapa 64.48 318 *e*P **P** 09 34 42.8 -1.3
ANN *e*S **S** **09 43 18.4 +1.4**
ANN pmax pmax
comp=Z,105nm,1.4s
CSS Prodhromos 64.77 306 *e*P **P** 09 34 47.9 +1.7
CSS Prodhromos 64.77 306 *e*P **P** 09 34 47.9 +1.7
comp=Z,28nm,1.3s
MBAR Mbarara 65.13 267 *e*P **P** 09 34 51.3 +2.1
MBAR Mbarara 65.13 267 P **P** 09 34 51.3 +2.1
MBAR Mbarara 65.13 267 *i*P **P** 09 34 51.3 +2.1
HNR Honiara 65.53 103 *e*P **P** 09 34 50.3 -1.1
HNR pmax pmax
comp=Z,132nm,1.0s
HNR Honiara 65.53 103 P **P** 09 34 51.0 -0.4
HNR Honiara 65.53 103 *e*P **P** 09 34 50.3 -1.1
comp=Z,132nm,1.0s
VORD Divnogorie 65.65 325 *e*P **P** 09 34 50.8 -0.7
VORD *e**PP **pP** **09 35 09.7 -2.6**
VORD *e**SP **sP** **09 35 18.0 -3.2**
VORD *e*S **S** **09 43 25.4 -5.7**
VORD pmax pmax
comp=N,80nm,1.0s
VORD pmax pmax
comp=E,150nm,1.0s
VORD pmax pmax
comp=Z,180nm,1.0s
VORD smax smax
comp=N,160nm,1.4s
VORD smax smax
comp=E,160nm,1.4s
VORD smax smax
comp=Z,30nm,1.4s
BR131 Keskin Array S 65.65 312 *e*P **P** 09 34 52.2 +0.2
comp=Z,26nm,0.6s
BRTR Keskin Array B 65.65 312 P **P** 09 34 52.1 +0.2
comp=Z,33nm,0.7s,baz=129,slow=7.4,SNR=172
BRTR pP **pP** **09 35 13.3 +0.5**
comp=Z,20nm,0.6s,baz=139,slow=6.6,SNR=7.1
BRTR sP **sP** **09 35 20.6 -1.1**
comp=Z,24nm,0.8s,baz=145,slow=6.5,SNR=6.2
VSR Storozhevoye 65.83 325 *e*P **P** 09 34 52.0 -0.7
VSR *e**PP **pP** **09 35 10.8 -2.7**
VSR *e**SP **sP** **09 35 19.1 -3.3**
VSR *e*S **S** **09 43 27.9 -5.3**
VSR pmax pmax
comp=E,100nm,0.9s
VSR pmax pmax
comp=Z,160nm,0.9s
VSR pmax pmax
comp=N,30nm,0.4s
VSR smax smax
comp=N,210nm,1.4s
VSR smax smax
comp=Z,10.0nm,1.4s
VSR smax smax
comp=E,110nm,1.5s
ANTO Ankara 66.32 312 *e*P **P** 09 34 56.6 +0.4
ANTO pmax pmax
comp=Z,71nm,1.1s
ANTO Ankara 66.32 312 *e*P **P** 09 34 56.6 +0.4
comp=Z,71nm,1.1s
LPSR Galich'ya Gora 66.54 326 *e*P **P** 09 34 56.8 -0.4
LPSR *e**PP **pP** **09 35 15.7 -2.3**
LPSR *e**SP **sP** **09 35 24.0 -2.9**
LPSR *e*S **S** **09 43 36.6 -5.1**
LPSR pmax pmax
comp=N,10.0nm,0.9s
LPSR pmax pmax
comp=E,30nm,0.9s
LPSR pmax pmax
comp=Z,170nm,0.9s
LPSR smax smax
comp=N,150nm,1.8s
LPSR smax smax
comp=E,290nm,1.8s
LPSR smax smax
comp=Z,30nm,1.4s
SIM Simferopol' 66.77 317*c* *i*P **P** 09 34 59.3 +0.5
SIM *e**PP **PcP** **09 35 26.0 -1.2**
SIM *e*S **S** **09 43 42.0 -2.8**
SIM pmax pmax
comp=Z,96nm,1.1s
ISP Isparta 67.58 309 *e*P **P** 09 35 04.5 +0.2
ISP pmax pmax
comp=Z,117nm,1.3s
ISP Isparta 67.58 309⇑ *i*P **P** 09 35 05.6 +1.3
ISP Isparta 67.58 309 *e*P **P** 09 35 04.5 +0.2
comp=Z,117nm,1.3s
PRGR Permogore 67.81 337⇑ *i*P **P** 09 35 04.8 -0.2
PRGR *e* 09 35 33.1
PRGR *e*S **S** **09 43 52.9 -3.8**
PRGR *SS **pS** **09 44 21.0 -0.6**
PRGR pmax pmax
comp=Z,129nm,0.5s
SKR Severo-Kuril's 67.86 37 *e*P P 09 34 56.3 -9.3
SKR *e* 09 35 19.5
SKR pmax pmax
comp=N,220nm,1.0s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,450nm,1.0s
SKR pmax pmax
comp=Z,1μm,3.0s
ALT Altintas 68.16 310 P **P** 09 35 08.3 +0.4
ALT Altintas 68.16 310 P **P** 09 35 08.3 +0.4
MOS Moscow 68.54 329 *e*P **P** 09 35 08.0 -1.8
MOS *e**PP **pP** **09 35 27.2 -3.5**
MOS *e* 09 35 35.8
MOS *e* 09 37 38.3
MOS *e*S **S** **09 44 00.3 -5.4**
MOS *e**SS sS 09 44 33.5 -7.8
MOS pmax pmax
comp=Z,500nm,1.4s
MOS pmax pmax
comp=Z,381nm,1.3s
OBN Obninsk 68.84 328*c* *i*P **P** **09 35 11.6 0.0**
OBN *e* 09 35 30.8
OBN *e* 09 37 45.0
OBN *i*S **S** **09 44 05.8 -3.3**
OBN *e*SS **SS** **09 48 29.0 -6.7**
OBN pmax pmax
comp=Z,306nm,1.2s
OBN MLR MLR
comp=Z,129nm,19.0s
OBN Obninsk 68.84 328 *e*P **P** **09 35 11.6 0.0**
comp=Z,237nm,1.1s
KULA Kula-Manisa 69.16 309 P **P** **09 35 14.7 +0.6**
KULA Kula-Manisa 69.16 309 P **P** **09 35 14.7 +0.6**
ISK Istanbul-Kandi 69.37 312 P **P** **09 35 15.3 +0.1**
ISK Istanbul-Kandi 69.37 312 P **P** **09 35 15.3 +0.1**
ISK Istanbul-Kandi 69.37 312 P **P** **09 35 15.3 +0.1**
PEA0B Petropavlovsk- 69.63 35 *e*P **P** **09 35 15.8 -0.8**
PETK Petropavlovsk- 69.63 35 P **P** **09 35 15.4 -1.1**
comp=Z,14nm,0.9s,baz=204,slow=3.3,SNR=22
PETK PKP2bc 10 03 21.9
comp=Z,1.4nm,0.7s,baz=38,slow=5.4,SNR=3.6
PETK LR LR 10 08 18.5
comp=Z,144nm,19.2s,baz=237,slow=38
LSZ Lusaka 69.76 252 *e*P **P** **09 35 20.3 +2.1**
LSZ Lusaka 69.76 252 *e*P **P** **09 35 20.0 +1.8**
LSZ Lusaka 69.76 252 *e*P **P** **09 35 20.0 +1.8**
comp=Z,7.7nm,0.7s
KLMR Klimovskoe 69.93 334*c* *i*P **P** **09 35 17.9 -0.3**
KLMR *e*S **S** **09 44 17.6 -4.2**
KLMR pmax pmax
comp=Z,191nm,1.0s
PET Petropavlovsk 70.14 35*c* *i*P **P** **09 35 18.7 -1.0**
PET *e*S **S** **09 44 21.4 -3.2**
PET pmax pmax
comp=Z,111nm,1.0s
PET MLR MLR
comp=Z,100nm,21.0s
PET MLR MLR
comp=Z,200nm,20.0s
PET Petropavlovsk 70.14 35 *e*P **P** **09 35 19.5 -0.2**
comp=Z,82nm,0.9s
TLCR 70.45 316⇑ *i*P **P** **09 35 22.7 +1.0**
PSN Preselentsi 70.56 315⇑ *i*P **P** **09 35 23.2 +0.8**
PSN Preselentsi 70.56 315 *i*P **P** **09 35 23.8 +1.4**
TIRR Tirgusor 70.56 316 *e*P **P** **09 35 23.0 +0.5**
TIRR pmax pmax
comp=Z,181nm,1.3s
TIRR Tirgusor 70.56 316⇑ *i*P **P** **09 35 22.9 +0.5**
TIRR Tirgusor 70.56 316 *e*P **P** **09 35 23.0 +0.5**
comp=Z,181nm,1.3s
TLB Topalu 70.85 316⇓ *i*P **P** **09 35 24.8 +0.6**
KIS Kishinev 70.88 318⇑ *i*P **P** **09 35 23.5 -0.8**
comp=Z,300nm,1.1s
KIS *i* pP pP 09 35 54.0 +8.7
KIS *e*S **S** **09 44 29.5 -3.9**
KIS *e*SS **sS** **09 45 14.0 +4.8**
KIS LRM MLR 10 07 12.0
comp=Z,300nm,20.0s
KIS Kishinev 70.88 318⇑ *i*P **P** **09 35 23.5 -0.8**
KIS *i* *PP pP 09 35 54.0 +8.7
KIS *e*S **S** **09 44 29.5 -3.9**
KIS *e**SS **sS** **09 45 14.0 +4.8**
KIS pmax pmax
comp=Z,300nm,1.1s
KIS MLR MLR
comp=Z,300nm,20.0s
MSAB Monastry St. A 70.89 315⇑ *i*P **P** **09 35 25.3 +0.8**
CFR Carcaliu 70.92 316⇑ *i*P **P** **09 35 25.3 +0.8**
HARR Harsova 70.95 316⇑ *i*P **P** **09 35 26.1 +1.3**
PRD Provadia 71.01 314 *i*P **P** **09 35 26.0 +0.8**
NPS Neapolis 71.05 306 P **P** **09 35 26.9 +1.3**
NPS Neapolis 71.05 306 *e*P **P** **09 35 27.4 +1.8**
NPS Neapolis 71.05 306 P **P** **09 35 26.9 +1.3**
NPS Neapolis 71.05 306 P **P** **09 35 26.9 +1.3**
SEY Seymchan 71.10 24⇑ *i*P **P** **09 35 25.4 +0.1**
PRK Paraskevi 71.12 310 P **P** **09 35 26.9 +1.0**
PRK Paraskevi 71.12 310 *e*P **P** **09 35 27.0 +1.0**
PRK Paraskevi 71.12 310 P **P** **09 35 26.9 +1.0**
PRK Paraskevi 71.12 310 P **P** **09 35 26.9 +1.0**
LAST Lasithi 71.14 305 P **P** **09 35 27.5 +1.2**
LAST Lasithi 71.14 305 P **P** **09 35 27.5 +1.2**
CHOS Chios island 71.15 309 P **P** **09 35 27.5 +1.2**
CHOS Chios island 71.15 309 *e*P **P** **09 35 27.2 +0.9**
CHOS Chios island 71.15 309 P **P** **09 35 27.5 +1.2**
SANT Santorini 71.32 307 *e*P **P** **09 35 27.5 +0.2**
comp=Z,226nm,1.4s
APE Apeiranthos 71.36 307⇑ *i*P **P** **09 35 28.3 +0.8**
JMB Yambol 71.46 313 P **P** **09 35 28.7 +0.8**
JMB Yambol 71.46 313 P **P** **09 35 28.7 +0.8**
JMB Yambol 71.46 313⇑ *i*P **P** **09 35 29.1 +1.2**
JMB Yambol 71.46 313 *i*P **P** **09 35 28.8 +0.8**
JMB Yambol 71.46 313 P **P** **09 35 28.7 +0.8**
AK02 Malin Array Si 71.56 322 *e*P **P** **09 35 27.8 -0.6**
AKASG Malin Array Be 71.56 322 P **P** **09 35 27.8 -0.5**
comp=Z,22nm,0.8s,baz=89,slow=4.8,SNR=104
AKASG pP **PcP** **09 35 46.8 -0.4**
comp=Z,10nm,0.6s,baz=89,slow=4.8,SNR=4.4
AKASG PP **PP** **09 38 05.6 -2.5**
comp=Z,0.8nm,0.4s,baz=87,slow=7.8,SNR=3.5
AKASG LR LR 10 12 57.6

comp=Z,50nm,18.1s,baz=80,slow=41
AK01 Malin Array Si 71.57 322 *e*P **P** 09 35 28.0 -0.3
KIEV Kiev 71.57 322 *e*P **P** 09 35 27.9 -0.5
KIEV *e**PP **PcP** 09 35 46.9 -0.4
KIEV pmax pmax
comp=Z,57nm,0.9s
KIEV Kiev 71.57 322 *e*P **P** 09 35 27.9 -0.5
comp=Z,57nm,0.9s
KIEV *ep*P **PcP** 09 35 46.9 -0.4
ALN Alexandroupoli 71.57 311 P **P** 09 35 29.0 +0.4
ALN Alexandroupoli 71.57 311 *e*P **P** 09 35 29.1 +0.4
ALN Alexandroupoli 71.57 311 P **P** 09 35 29.0 +0.4
ALN Alexandroupoli 71.57 311 P **P** 09 35 29.0 +0.4
SIVA Sivas 71.67 305 P **P** 09 35 30.5 +1.2
SIVA Sivas 71.67 305 *e*P **P** 09 35 30.7 +1.4
SIVA Sivas 71.67 305 P **P** 09 35 30.5 +1.2
CASY Casey 71.67 174 *e*P **P** 09 35 29.9 +1.3
comp=Z,37nm,1.0s
SMTH Samothraki Isl 71.89 311 P **P** 09 35 30.9 +0.4
SMTH Samothraki Isl 71.89 311 *e*P **P** 09 35 31.0 +0.4
SMTH Samothraki Isl 71.89 311 P **P** 09 35 30.9 +0.4
SLR Silverton 71.99 241 *e*P **P** 09 35 33.6 +2.0
SLR AMB AMB 09 35 34.5
comp=Z,29nm,0.7s
SLR AMS AMS 10 02 41.6
comp=Z,371nm,5.0s
SLR Silverton 71.99 241 P **P** 09 35 33.6 +2.0
SLR pmax pmax
comp=Z,29nm,0.7s
SLR Silverton 71.99 241 P **P** 09 35 33.6 +2.0
comp=Z,29nm,0.7s
ISR Istrita 72.00 316⇓ *i*P **P** 09 35 33.3 +2.1
VRI Vrincioaia 72.03 317⇑ *i*P **P** 09 35 32.6 +1.3
LIA Limnos Island 72.06 310 P **P** 09 35 32.1 +0.5
LIA Limnos Island 72.06 310 *e*P **P** 09 35 32.3 +0.7
LIA Limnos Island 72.06 310 P **P** 09 35 32.1 +0.5
SZH Strazhica 72.08 314 *i* P **P** 09 35 31.5 -0.1
PLOR Plostina 72.08 317⇑ *i*P **P** 09 35 32.9 +1.3
TMCR Tamitsa 72.09 337 *e*P **P** 09 35 30.2 -1.0
TMCR *e* 09 35 49.7
TMCR *e* 09 38 09.7
TMCR pmax pmax
comp=Z,235nm,1.1s
KDZ Kurdzhali 72.17 312⇑ *i*P **P** 09 35 33.2 +1.0
KDZ Kurdzhali 72.17 312 *i* P **P** 09 35 32.8 +0.6
VAM Vamos 72.21 306 *e*P **P** 09 35 34.1 +1.5
TESR Tescani 72.22 317⇑ *i*P **P** 09 35 33.2 +0.8
GVD Gavdhos 72.24 305 *e*P **P** 09 35 33.7 +1.0
GVD Gavdhos 72.24 305 *e*P **P** 09 35 33.9 +1.2
comp=Z,189nm,0.9s
KARN Karanos 72.44 306 P **P** 09 35 35.1 +1.1
KARN Karanos 72.44 306 *e*P **P** 09 35 35.1 +1.1
KARN Karanos 72.44 306 P **P** 09 35 35.1 +1.1
MLR Muntele Rosu 72.49 316⇑ *i*P **P** 09 35 35.2 +1.0
MLR Muntele Rosu 72.49 316⇑ *i*P **S** 09 44 53.2 +0.9
KAVA Kavala 72.73 311 P **P** 09 35 36.1 +0.5
KAVA Kavala 72.73 311 *e*P **P** 09 35 35.6 0.0
KAVA Kavala 72.73 311 P **P** 09 35 36.1 +0.5
PLD Plovdiv 72.77 313 P **P** 09 35 36.0 +0.3
PLD Plovdiv 72.77 313 P **P** 09 35 36.0 +0.3
PLD Plovdiv 72.77 313 P **P** 09 35 36.0 +0.3
PTL Penteli 72.81 308 P **P** 09 35 36.0 -0.1
PTL Penteli 72.81 308 P **P** 09 35 36.0 -0.1
ATHU Athens Univers 72.86 308 P **P** 09 35 36.2 -0.2
ATHU Athens Univers 72.86 308 P **P** 09 35 36.2 -0.2
ATH Athens Observa 72.92 308 P **P** 09 35 36.5 -0.2
ATH Athens Observa 72.92 308 P **P** 09 35 36.5 -0.2
ATH Athens Observa 72.92 308 P **P** 09 35 36.5 -0.2
AOS Alonnisos 72.95 309 *e*P **P** 09 35 37.3 +0.4
DOPR Dopca 72.97 317⇑ *i*P **P** 09 35 36.6 -0.3
ANKY Antikythira Is 72.99 306 P **P** 09 35 38.5 +1.3
ANKY Antikythira Is 72.99 306 *e*P **P** 09 35 38.5 +1.3
ANKY Antikythira Is 72.99 306 P **P** 09 35 38.5 +1.3
NAIG Nisos Aigina 73.07 308 *e*P **P** 09 35 37.1 -0.5
PRYS Parys 73.09 240 *e*P **P** 09 35 39.7 +1.6
PRYS AMB AMB 09 35 40.6
comp=Z,18nm,2.3s
PRYS Parys 73.09 240 P **P** 09 35 39.7 +1.6
comp=Z,18nm,2.3s
VOIR 73.10 316⇑ *i*P **P** 09 35 37.9 +0.1
VOIR 73.10 316⇓ *i*P **S** 09 44 57.6 -1.5
PAIG Paliouri 73.21 310 P **P** 09 35 38.7 +0.3
PAIG Paliouri 73.21 310 *e*P **P** 09 35 38.3 -0.1
PAIG Paliouri 73.21 310 P **P** 09 35 38.7 +0.3
PAIG Paliouri 73.21 310 P **P** 09 35 38.7 +0.3
SEK Senekal 73.21 239 *e*P **P** 09 35 41.0 +2.1
SEK AMB AMB 09 35 50.1
comp=Z,24nm,3.0s
SEK Senekal 73.21 239 P **P** 09 35 41.0 +2.1
comp=Z,24nm,3.0s
DID Didima 73.24 308 P **P** 09 35 37.6 -1.1
DID Didima 73.24 308 *e*P **P** 09 35 37.8 -0.9
DID Didima 73.24 308 P **P** 09 35 37.6 -1.1
VILL Villia 73.26 308 P **P** 09 35 37.9 -0.9
NVR Nevrokopi 73.27 312 P **P** 09 35 39.0 +0.2
NVR Nevrokopi 73.27 312 *e*P **P** 09 35 39.1 +0.2
NVR Nevrokopi 73.27 312 P **P** 09 35 39.0 +0.2
VIL2 Platees 73.30 308 *e*P **P** 09 35 38.2 -0.8
MICGM Minsk 73.37 326⇑ *e*P **P** 09 35 38.0 -1.0
ARR Arges 73.38 316⇑ *i*P **P** 09 35 39.8 +0.4
MNK Minsk 73.40 326⇑ *e*P **P** 09 35 38.0 -1.2
MNK *e**PP **PcP** 09 35 54.0 -1.0
MNK *eS* **S** 09 44 57.0 -5.0
MNK pmax pmax
comp=E,600nm,1.0s
MNK pmax pmax
comp=Z,350nm,1.0s
BURAR Bucovina Array 73.40 318⇑ *i*P **P** 09 35 41.0 +1.5
BURAR Bucovina Array 73.40 318 S S 09 44 47.3 -15
MMB Musomiste 73.41 312⇑ *i*P **P** 09 35 39.6 0.0
MMB Musomiste 73.41 312 *i* P **P** 09 35 39.8 +0.2
BUR08 Bucovina Ar. S 73.42 318 *e*P **P** 09 35 40.6 +0.9
SMIA Simia 73.43 309 *e*P **P** 09 35 39.3 -0.5
SRS Serrai 73.44 311 P **P** 09 35 39.7 -0.1
SRS Serrai 73.44 311 P **P** 09 35 39.7 -0.1
SRS Serrai 73.44 311 P **P** 09 35 39.7 -0.1
PLG Polygyros 73.45 311 *e*P **P** 09 35 40.1 +0.3
LTK Loutraki 73.51 308 P **P** 09 35 39.0 -1.2
LTK Loutraki 73.51 308 *e*P **P** 09 35 39.5 -0.7
LTK Loutraki 73.51 308 P **P** 09 35 39.0 -1.2
ATAL Atalanti 73.55 309 P **P** 09 35 39.5 -0.9
ATAL Atalanti 73.55 309 P **P** 09 35 39.5 -0.9
LKR Lokris 73.56 309 P **P** 09 35 39.4 -1.1
LKR Lokris 73.56 309 *e*P **P** 09 35 39.5 -1.1
LKR Lokris 73.56 309 P **P** 09 35 39.4 -1.1
SOH Sokhos 73.58 311 P **P** 09 35 40.6 0.0
SOH Sokhos 73.58 311 *e*P **P** 09 35 40.6 0.0
SOH Sokhos 73.58 311 P **P** 09 35 40.6 0.0
SOH Sokhos 73.58 311 P **P** 09 35 40.6 0.0
PUL Pulkovo 73.68 331⇑ *e*P **P** 09 35 41.4 +0.7
PUL pmax pmax
comp=Z,180nm,0.6s
HORT Hortiatis 73.74 311 P **P** 09 35 41.3 -0.3
HORT Hortiatis 73.74 311 *e*P **P** 09 35 40.8 -0.8
HORT Hortiatis 73.74 311 P **P** 09 35 41.3 -0.3
VLX Vlachokerasia 73.90 307 P **P** 09 35 42.5 -0.1
VLX Vlachokerasia 73.90 307 *e*P **P** 09 35 42.5 -0.1
VLX Vlachokerasia 73.90 307 P **P** 09 35 42.5 -0.1
DSF Desfina 73.90 308 *e*P **P** 09 35 41.8 -0.8
KKB Krupnik 73.93 312 *i* P **P** 09 35 42.2 -0.4
VTS Vitosha 73.94 313 P **P** 09 35 43.1 +0.3
VTS Vitosha 73.94 313 P **P** 09 35 43.1 +0.3
VTS Vitosha 73.94 313⇑ *i*P **P** 09 35 43.1 +0.3
VTS Vitosha 73.94 313 P **P** 09 35 43.1 +0.3
KNT Kendrikon 73.97 311 P **P** 09 35 42.7 -0.1
KNT Kendrikon 73.97 311 *e*P **P** 09 35 42.7 -0.1
KNT Kendrikon 73.97 311 P **P** 09 35 42.7 -0.1
KNT Kendrikon 73.97 311 P **P** 09 35 42.7 -0.1
LOT Lotru 73.99 316⇑ *i*P **P** 09 35 43.2 +0.2
GUR Goura 73.99 308 P **P** 09 35 42.6 -0.6
GUR Goura 73.99 308 *e*P **P** 09 35 42.8 -0.4
GUR Goura 73.99 308 P **P** 09 35 42.6 -0.6
DZM Mont Dzumac 74.07 114 *e*P **P** 09 35 44.6 +0.7
comp=Z,56nm,1.2s
DZM *ep*P **pP** **09 36 09.9 +4.9**
comp=Z,81nm,1.3s
DZM Mont Dzumac 74.07 114 *e*LR LR 09 59 29.4
comp=Z,790nm,36.9s
DZM Mont Dzumac 74.07 114 P **P** **09 35 44.2 +0.3**
comp=Z,17nm,1.0s,baz=90,slow=20
NACGM Naroch 74.09 326 *e*P P 09 35 40.0 -3.2

AGG Agios Georgios 74.13 309 P **P** **09 35 42.8 -1.0**
AGG Agios Georgios 74.13 309 *e*P **P** **09 35 42.8 -1.0**
AGG Agios Georgios 74.13 309 P **P** **09 35 42.8 -1.0**
AGG Agios Georgios 74.13 309 P **P** **09 35 42.8 -1.0**
LIT Litokhoron 74.14 310 P **P** **09 35 43.5 -0.3**
LIT Litokhoron 74.14 310 *e*P **P** **09 35 43.6 -0.3**
LIT Litokhoron 74.14 310 P **P** **09 35 43.5 -0.3**
LIT Litokhoron 74.14 310 P **P** **09 35 43.5 -0.3**
KLV Kalavryta, Ach 74.15 308 P **P** **09 35 43.5 -0.6**
KLV Kalavryta, Ach 74.15 308 P **P** **09 35 43.5 -0.6**
LBTB Lobatse 74.17 242 *e*P **P** **09 35 47.0 +2.6**
LBTB AMB AMB 09 35 47.5
comp=Z,31nm,0.8s
LBTB AMS AMS 10 03 31.1
comp=Z,371nm,20.6s
LBTB Lobatse 74.17 242 LR LR 10 03 50.0
comp=Z,343nm,21.4s,baz=72,slow=32
LBTB Lobatse 74.17 242 *e*P **P** **09 35 47.1 +2.6**
LBTB pmax pmax
comp=Z,34nm,0.8s
LBTB Lobatse 74.17 242 *e*P **P** **09 35 47.1 +2.6**
comp=Z,34nm,0.8s
KALE Kalithea 74.20 308 P **P** **09 35 43.6 -0.7**
KALE Kalithea 74.20 308 *e*P **P** **09 35 43.9 -0.4**
KALE Kalithea 74.20 308 P **P** **09 35 43.6 -0.7**
IDID Didziasalis 74.22 326 *e*P **P** **09 35 44.8 +0.8**
IDID IAmb IAmb 09 35 46.0
comp=Z,78nm,0.9s
VAY Valandovo 74.23 311 P **P** **09 35 44.3 -0.1**
VAY Valandovo 74.23 311 *i* P **P** **09 35 44.7 +0.4**
VAY Valandovo 74.23 311 *i* P **P** **09 35 44.8 +0.4**
VAY Valandovo 74.23 311 P **P** **09 35 44.3 -0.1**
VAY Valandovo 74.23 311 P **P** **09 35 44.3 -0.1**
ITM Ithomi 74.24 307 P **P** **09 35 44.4 -0.1**
ITM Ithomi 74.24 307 *e*P **P** **09 35 45.0 +0.5**
ITM Ithomi 74.24 307 P **P** **09 35 44.4 -0.1**
MAKR Makrakomi, Fth 74.28 309 P **P** **09 35 43.9 -0.8**
MAKR Makrakomi, Fth 74.28 309 *e*P **P** **09 35 44.1 -0.6**
MAKR Makrakomi, Fth 74.28 309 P **P** **09 35 43.9 -0.8**
GRG Griva 74.31 311 P **P** **09 35 44.6 -0.3**
GRG Griva 74.31 311 *e*P **P** **09 35 44.4 -0.5**
GRG Griva 74.31 311 P **P** **09 35 44.6 -0.3**
GRG Griva 74.31 311 P **P** **09 35 44.6 -0.3**
CJR Cluj-Napoca 74.32 317⇓ *i*P **P** **09 35 46.7 +1.9**
PYL PYLOS 74.35 307 P **P** **09 35 44.7 -0.5**
PYL PYLOS 74.35 307 *e*P **P** **09 35 44.7 -0.5**
PYL PYLOS 74.35 307 P **P** **09 35 44.7 -0.5**
EFP Efpalio 74.39 308 *e*P **P** **09 35 45.6 +0.3**
THL Klokotos Trika 74.43 310 P **P** **09 35 44.2 -1.4**
THL Klokotos Trika 74.43 310 *e*P **P** **09 35 44.2 -1.4**
AMT Artemida-Makis 74.45 308 P **P** **09 35 45.6 -0.1**
AMT Artemida-Makis 74.45 308 *e*P **P** **09 35 46.1 +0.4**
DRO Drossia 74.49 308 *e*P **P** **09 35 46.4 +0.4**
IIGN Ignalina 74.52 326 *e*P **P** **09 35 46.4 +0.7**
IIGN IAmb IAmb 09 35 47.8
comp=Z,89nm,0.9s
BMR Baia Mare 74.56 318⇑ *i*P **P** **09 35 46.7 +0.6**
LVV L'vov 74.60 320 *e*P **P** **09 35 46.5 +0.2**
LVV *e* 09 36 10.9
LVV *e* 09 38 36.5
ISAL Salakas 74.63 326 *e*P **P** **09 35 47.1 +0.8**
ISAL IAmb IAmb 09 35 48.3
comp=Z,54nm,0.9s
GZR Gura Zlata 74.67 316⇑ *i*P **P** **09 35 48.1 +1.2**
RLS Riolos of Patr 74.69 308 P **P** **09 35 47.6 +0.5**
RLS Riolos of Patr 74.69 308 *e*P **P** **09 35 47.5 +0.5**
RLS Riolos of Patr 74.69 308 P **P** **09 35 47.6 +0.5**
DRGR 74.94 317⇑ *i*P **P** **09 35 49.7 +1.3**
PDO Prodromos 74.97 309 P **P** **09 35 48.9 +0.2**
PDO Prodromos 74.97 309 *e*P **P** **09 35 48.9 +0.2**
LVZ Lovozero 75.01 340 P **P** **09 35 48.0 -0.4**
comp=Z,959nm,0.7s,SNR=18
LVZ Lovozero 75.01 340*c* *i*P **P** **09 35 48.2 -0.2**
LVZ pmax pmax
comp=Z,191nm,1.2s
LVZ Lovozero 75.01 340 *e*P **P** **09 35 47.3 -1.1**
comp=Z,116nm,0.8s
VSU Vasula 75.06 329*c* *i*P **P** **09 35 48.9 +0.2**
VSU pmax pmax
comp=Z,383nm,1.0s
FNA Florina 75.06 311 P **P** **09 35 48.5 -0.8**
FNA Florina 75.06 311 *e*P **P** **09 35 47.6 -1.7**
FNA Florina 75.06 311 P **P** **09 35 48.5 -0.8**
FNA Florina 75.06 311 P **P** **09 35 48.5 -0.8**
DSL Palaion Diasel 75.09 309 P **P** **09 35 49.2 -0.2**
DSL Palaion Diasel 75.09 309 P **P** **09 35 49.2 -0.2**
SKO Skopje 75.16 312 *e*P **P** **09 35 48.6 -1.2**
SKO Skopje 75.16 312 *e*P **P** **09 35 48.5 -1.2**
KFL Anninata 75.23 308 P **P** **09 35 50.5 +0.3**
NEST Nestorio 75.27 310 P **P** **09 35 49.6 -0.9**
NEST Nestorio 75.27 310 *e*P **P** **09 35 49.9 -0.6**
TRPA Tarpa 75.27 318⇑ *i*P **P** **09 35 51.3 +1.1**
TRPA Tarpa 75.27 318⇓ *e*P **P** **09 35 51.2 +1.1**
APA Apatity 75.30 339⇑ *i*P **P** **09 35 50.0 0.0**
APA *i* 09 36 17.5
APA *i* S **S** **09 45 19.0 -3.7**
APA pmax pmax
comp=Z,159nm,1.0s
APA MLR MLR
comp=Z,400nm,15.0s
BOSA Boshof 75.31 239 *e*P **P** **09 35 52.7 +1.7**
BOSA AMB AMB 09 35 57.2
comp=Z,26nm,6.0s
BOSA AMS AMS 10 00 16.9
comp=Z,383nm,5.2s
BOSA Boshof 75.31 239 P **P** **09 35 52.1 +1.2**
comp=Z,14nm,0.8s,baz=68,slow=4.5,SNR=21
BOSA LR LR 10 04 08.4
comp=Z,127nm,21.1s,baz=74,slow=32
BOSA Boshof 75.31 239 *e*P **P** **09 35 53.0 +2.0**
comp=Z,18nm,0.9s
VLS Valsamata 75.39 308 P **P** **09 35 51.0 -0.1**
VLS Valsamata 75.39 308 *e*P **P** **09 35 51.2 +0.1**
VLS Valsamata 75.39 308 P **P** **09 35 51.0 -0.1**
VLS Valsamata 75.39 308 P **P** **09 35 51.0 -0.1**
LKD2 Lefkada island 75.40 309 P **P** **09 35 51.3 +0.1**
LKD2 Lefkada island 75.40 309 *e*P **P** **09 35 51.4 +0.2**
LKD2 Lefkada island 75.40 309 P **P** **09 35 51.3 +0.1**
KWP Kalwaria Pacla 75.41 320 *e*P **P** **09 35 51.8 +0.8**
KWP Kalwaria Pacla 75.41 320 *e*P **P** **09 35 51.9 +0.9**
BZS Buzias 75.51 316⇑ *i*P **P** **09 35 52.5 +0.9**
OHR Ohrid 75.53 311 *i* P **P** **09 35 50.1 -1.9**
OHR Ohrid 75.53 311 *i* P **P** **09 35 50.0 -1.9**
SIRR Siria 75.57 316⇑ *i*P **P** **09 35 53.3 +1.3**
KOLS Kolonicke sedl 75.58 319 *e*P **P** **09 35 53.2 +1.2**
KOLS pmax pmax
comp=Z,97nm,1.1s
KOLS Kolonicke sedl 75.58 319 *e*P **P** **09 35 53.2 +1.2**
IGT Igoumenitsa 75.72 309 *e*P **P** **09 35 52.4 -0.6**
SGD Sagiada 75.81 310 *e*P **P** **09 35 53.5 +0.1**
MAW Mawson 75.84 192 P **P** **09 35 54.0 +1.1**
comp=Z,10.0nm,0.8s,baz=12,slow=5.4,SNR=11
MAW LR LR 10 03 03.1
comp=Z,134nm,19.3s,baz=59,slow=31
MAW Mawson 75.84 192 P **P** **09 35 54.0 +1.1**
MAW Mawson 75.84 192 *e*P **P** **09 35 55.1 +2.1**
comp=Z,6.9nm,0.5s
MAW *ep*P **pP** **09 36 15.1 +0.9**
PHP Peshkopia 75.86 312 P **P** **09 35 52.9 -0.9**
PHP Peshkopia 75.86 312 P **P** **09 35 52.9 -0.9**
PHP Peshkopia 75.86 312 P **P** **09 35 52.9 -0.9**
SUW Suwalki 75.94 325 *e*P **P** **09 35 53.7 -0.2**
SUW Suwalki 75.94 325 *e*P **P** **09 35 53.7 -0.2**
KEK Kerkira 76.15 310 *e*P **P** **09 35 55.8 +0.4**
FIA1 FINESS Array S 76.18 332 *e*P **P** **09 35 55.0 -0.1**
FINES FINESS Array B 76.18 332 P **P** **09 35 55.1 -0.1**
comp=Z,45nm,0.7s,baz=111,slow=8.4,SNR=145
FINES FINESS Array B 76.18 332*ce*P **P** **09 35 55.0 -0.1**
FINES pmax pmax
comp=Z,45nm,0.7s
STHS Stebnicka Huta 76.32 320 *e*P **P** **09 35 57.3 +1.1**
STHS pmax pmax
comp=Z,91nm,1.5s
STHS Stebnicka Huta 76.32 320 *e*P **P** **09 35 57.2 +1.1**
PVY Plav 76.32 313 *e*P **P** **09 35 56.1 -0.4**
IVA Berane 76.40 313 *e*P **P** **09 35 56.9 0.0**
DIVS Divibare 76.46 314 P **P** **09 35 57.4 +0.2**
DIVS Divibare 76.46 314⇑ *i*P **P** **09 35 57.8 +0.6**
KECS Kecovo 76.68 319 *e*P **P** **09 35 59.1 +0.9**
KECS pmax pmax
comp=Z,22nm,0.8s
KECS Kecovo 76.68 319 *e*P **P** **09 35 59.1 +0.9**

KECS *ep*P **pP** **09 36 18.3 -1.2**
ULC Ulcinj 76.78 312⇑ *i*P **P** **09 35 58.4 -0.6**
PLE Pljevlja 76.81 313⇑ *i*P **P** **09 35 59.3 +0.1**
TTG Podgorica 76.82 312⇑ *i*P **P** **09 35 59.0 -0.1**
DRME Dracevica, Mon 76.85 312⇑ *i*P **P** **09 35 59.2 -0.1**
NIE Niedzica 76.92 320 *e*P **P** **09 36 00.8 +1.2**
NIE Niedzica 76.92 320 *e*P **P** **09 36 00.8 +1.2**
BEL Belsk 76.98 322 *e*P **P** **09 36 00.5 +0.8**
BEL Belsk 76.98 322 *e*P **P** **09 36 00.6 +0.8**
PSZ Piszkesteto 76.99 318 *e*P **P** **09 36 00.9 +0.9**
PSZ pmax pmax
comp=Z,248nm,1.6s
PSZ Piszkesteto 76.99 318⇑ *i*P **P** **09 36 01.0 +0.9**
PSZ Piszkesteto 76.99 318 *e*P **P** **09 36 00.9 +0.9**
comp=Z,248nm,1.6s
PSZ Piszkesteto 76.99 318⇑ *e*P **P** **09 36 01.0 +0.9**
NKY Niksic 77.05 313⇑ *i*P **P** **09 36 00.8 +0.2**
BUM Brajici-Budva 77.08 312⇑ *i*P **P** **09 36 00.1 -0.6**
NKME Niksic 77.08 313⇑ *i*P **P** **09 36 00.5 -0.1**
UPM Unac-Piva 77.15 313⇑ *i*P **P** **09 36 00.7 -0.5**
OJC Ojcow 77.36 320 *e*P **P** **09 36 02.7 +0.7**
OJC Ojcow 77.36 320 *e*P **P** **09 36 03.0 +1.0**
OJC pmax pmax
comp=Z,162nm,1.2s
OJC Ojcow 77.36 320 *e*P **P** **09 36 03.0 +1.0**
comp=Z,162nm,1.2s
HCY Herceg Novi 77.38 312⇑ *i*P **P** **09 36 02.0 -0.3**
BRY Bratogost 77.39 313⇑ *i*P **P** **09 36 02.3 -0.2**
BUD Budapest 77.52 317⇑ *e*P **P** **09 36 03.6 +0.6**
PKSM Moragy 77.64 316⇑ *e*P **P** **09 36 04.3 +0.6**
PKS9 Tamasi 77.93 316⇓ *e*P **P** **09 36 06.1 +0.8**
PKSG 77.94 317⇓ *e*P **P** **09 36 06.6 +1.3**
DRV Dumont d'Urvil 77.96 163 S **S** **09 45 56.0 +4.4**
DRV L L 09 56 00.0
DRV R 09 59 00.0
PKST T``s 78.17 317⇑ *e*P **P** **09 36 07.4 +0.8**
RAC Raciborz 78.37 320 *e*P **P** **09 36 09.1 +1.5**
OKC Ostrava-Krasne 78.37 320 *e*P **P** **09 36 08.6 +1.0**
OKC *ep*P **pP** **09 36 28.3 -0.7**
OKC *es*P **sP** **09 36 36.0 -1.7**
OKC *eS* **S** **09 45 54.1 -2.7**
OKC Ostrava-Krasne 78.37 320 *e*P **P** **09 36 08.6 +1.0**
OKC *e* 09 36 36.0
OKC *eS* **S** **09 45 54.1 -2.7**
TIP Timpagrande 78.46 309 *e*P **P** **09 36 09.5 +1.1**
comp=Z,48nm,1.4s
ARCES ARCESS Array B 78.71 340 P **P** **09 36 09.3 +0.2**
comp=Z,101nm,0.9s,baz=98,slow=5.0,SNR=196
ARCES LR LR 10 13 58.9
comp=Z,230nm,21.0s,baz=106,slow=38
ARE0 ARCESS Array S 78.71 340⇑ *i*P **P** **09 36 09.4 +0.3**
ARE0 IAmb IAmb 09 36 10.4
comp=Z,216nm,1.2s
ARE0 ARCESS Array S 78.71 340 *e*P **P** **09 36 09.3 +0.2**
BEHE Becsehely 78.96 316⇑ *e*P **P** **09 36 12.5 +1.6**
CEL Celeste 79.09 308 *e*P **P** **09 36 12.8 +0.9**
comp=Z,88nm,0.9s
CEL *ep*P **pP** **09 36 33.1 -0.2**
SOP Sopron 79.20 317⇑ *e*P **P** **09 36 13.0 +0.8**
CUC Castrocucco 79.23 310 *e*P **P** **09 36 12.3 -0.4**
comp=Z,20nm,0.8s
KRLC Kraliky 79.27 320 *e*P **P** **09 36 13.9 +1.3**
KRLC *e*PCP **PcP** **09 36 22.9 +2.3**
KRLC *ep*P **pP** **09 36 33.3 -0.7**
KRLC Kraliky 79.27 320 *e*P **P** **09 36 13.9 +1.3**
KRLC *e* 09 36 22.9
KRLC *e* 09 36 33.3
KOGS Kog 79.32 316 *i* P **P** **09 36 14.0 +1.1**
KOGS Kog 79.32 316 *i* P **P** **09 36 14.0 +1.1**
GKP Gorka Klasztor 79.32 323 *e*P **P** **09 36 12.8 +0.1**
GKP Gorka Klasztor 79.32 323 *e*P **P** **09 36 12.9 +0.2**
VRAC Vranov 79.32 319⇑ *i*P **P** **09 36 14.0 +1.1**
KTK1 Kautokeino 79.34 340 *e*P **P** **09 36 12.8 +0.2**
DPC Dobruska-Polom 79.59 320 *e*P **P** **09 36 15.6 +1.2**
DPC *e*PCP **PcP** **09 36 24.9 +2.9**
DPC *ex* x 09 36 30.1
DPC *ep*P **pP** **09 36 35.0 -0.8**
DPC *eS* **S** **09 46 07.6 -2.3**
DPC Dobruska-Polom 79.59 320 *e*P **P** **09 36 15.6 +1.2**
DPC *e* 09 36 24.9
DPC *e* 09 36 35.0
DPC *eS* **S** **09 46 07.6 -2.3**
KSP Ksiaz 79.65 321 *e*P **P** **09 36 15.7 +1.1**
KSP Ksiaz 79.65 321 *e*P **P** **09 36 15.7 +1.1**
CONA Conrad Observa 79.69 318 *i* P **P** **09 36 15.7 +0.7**
comp=Z,18nm,0.8s,SNR=17
UPC Upice 79.80 320 *e*P **P** **09 36 16.5 +1.1**
UPC *ep*P **pP** **09 36 36.0 -0.9**
UPC *es*P **sP** **09 36 43.8 -1.8**
UPC Upice 79.80 320 *e*P **P** **09 36 16.5 +1.1**
UPC *e* 09 36 43.8
SUR Sutherland 79.89 236 *e*P **P** **09 36 18.2 +1.7**
SUR AMB AMB 09 36 20.1
comp=Z,17nm,1.0s
SUR AMS AMS 10 02 49.5
comp=Z,340nm,29.5s
SUR Sutherland 79.89 236 LR LR 10 05 47.2
comp=Z,178nm,18.6s,baz=78,slow=31
SUR Sutherland 79.89 236 *e*P **P** **09 36 19.6 +3.1**
comp=Z,46nm,2.0s
BOJS Bojanci 79.95 315 *i* P **P** **09 36 17.3 +1.0**
BOJS *i* 09 46 11.5
BOJS Bojanci 79.95 315 *i* P **P** **09 36 17.3 +1.0**
TREC Trest 80.04 319 *e*P **P** **09 36 17.5 +0.7**
TREC *ep*P **pP** **09 36 38.2 0.0**
TREC *es*P **sP** **09 36 45.8 -1.2**
TREC Trest 80.04 319 *e*P **P** **09 36 17.5 +0.7**
TREC *e* 09 36 38.2
PERS Pernice 80.11 316 *i* P **P** **09 36 18.4 +1.1**
PERS *e* 09 46 15.7
PERS Pernice 80.11 316 *i* P **P** **09 36 18.4 +1.1**
SOKA Soboth 80.17 316⇑ *i*P **P** **09 36 18.7 +1.0**
comp=Z,59nm,1.0s,SNR=61
TSUM Tsumeb 80.41 250 *e*P **P** **09 36 21.6 +2.1**
TSUM Tsumeb 80.41 250 LR LR 10 08 16.2
comp=Z,180nm,19.5s,baz=164,slow=33
TSUM Tsumeb 80.41 250 *e*P **P** **09 36 22.3 +2.8**
comp=Z,14nm,0.8s
TSUM *ep*P **pP** **09 36 42.7 +1.8**
LJU Ljubljana 80.48 316 *i* P **P** **09 36 20.4 +1.2**
LJU Ljubljana 80.48 316 *i* P **P** **09 36 20.4 +1.2**
OBKA Obir 80.49 316 *i* P **P** **09 36 20.5 +1.2**
comp=Z,34nm,0.8s,SNR=17
DCZ Deep Cove 80.52 137 *e*P **P** **09 36 20.0 +0.7**
comp=Z,43nm,1.1s
GOPC GO Pecny, Ondr 80.54 320 *e*P **P** **09 36 20.5 +1.1**
GOPC *ep*P **pP** **09 36 40.0 -0.9**
GOPC *es*P **sP** **09 36 47.9 -1.7**
GOPC *eS* **S** **09 46 15.5 -4.4**
PRU Pruhonice 80.70 320 *e*P **P** **09 36 21.3 +1.0**
PRU *e*PCP **PcP** **09 36 29.2 +2.4**
PRU *ep*P **pP** **09 36 40.1 -1.6**
PRU *eS* **S** **09 46 18.6 -2.9**
PRU Pruhonice 80.70 320 *e*P **P** **09 36 21.3 +1.0**
PRU *eS* **S** **09 46 18.6 -2.9**
PVCC Panska Ves 80.72 320 *e*P **P** **09 36 21.5 +1.1**
PVCC *ep*P **pP** **09 36 40.1 -1.7**
PVCC *es*P **sP** **09 36 47.4 -3.2**
PVCC Panska Ves 80.72 320 *e*P **P** **09 36 21.5 +1.1**
PVCC *e* 09 36 47.4
PRA Prague 80.78 320 *e*P **P** **09 36 21.8 +1.1**
PRA Prague 80.78 320 *e*P **P** **09 36 21.8 +1.1**
BSD Bornholm Skovb 80.86 325⇑ *i*P **P** **09 36 20.6 -0.3**
comp=Z,130nm,1.2s
BSD Bornholm Skovb 80.86 325⇑ *i*P **P** **09 36 20.6 -0.3**
BSD pmax pmax
comp=Z,130nm,1.2s
TRO Tromso 80.97 340 *e*P **P** **09 36 18.7 -2.6**
TRO IAmb IAmb 09 36 19.7
comp=Z,143nm,0.9s
TRI Trieste 81.00 315 *e*P **P** **09 36 22.3 +0.3**
TRI pmax pmax
comp=Z,35nm,0.7s
TRI Trieste 81.00 315 *e*P **P** **09 36 22.3 +0.3**
comp=Z,35nm,0.7s
CADS Cadrg 81.04 316 *i* P **P** **09 36 22.7 +0.5**
CADS Cadrg 81.04 316 *i* P **P** **09 36 22.7 +0.5**
MYKA Terra Mystica 81.12 316 *i* P **P** **09 36 23.4 +0.8**
comp=Z,28nm,0.7s,SNR=22
BRG Berggiesshubel 81.14 321 *e*P **P** **09 36 23.6 +1.0**
comp=Z,46nm,1.7s
BRG *ep*P **pP** **09 36 42.9 -1.2**

comp=Z,11nm,0.8s
BRG S **S** 09 46 24.0 -2.0
comp=N,386nm,19.4s
comp=E,296nm,16.0s
comp=Z,551nm,15.5s
BRG Berggiesshubel 81.14 321 *e*P **P** 09 36 23.4 +0.8
comp=Z,141nm,1.7s
BRG Berggiesshubel 81.14 321 *e*P **P** 09 36 23.6 +1.0
BRG S **S** 09 46 24.0 -2.0
BRG pmax pmax
comp=Z,33nm,1.7s
BRG MLR MLR
comp=N,11µm,19.4s
BRG MLR MLR
comp=E,386nm,16.0s
BRG MLR MLR
comp=Z,296nm,15.5s
AQU L'Aquila 81.14 312 *e*P **P** 09 36 24.1 +1.2
AQU pmax pmax
comp=Z,95nm,0.8s
AQU L'Aquila 81.14 312 *e*P **P** 09 36 24.1 +1.2
comp=Z,94nm,0.8s
GEC2 GERESS Array S 81.19 319 *e*P **P** 09 36 23.9 +0.9
comp=Z,186nm,1.6s
GEC2 GERESS Array S 81.19 319 *e*P **P** 09 36 23.9 +0.9
GEC2 GERESS Array S 81.19 319 *e*P **P** 09 36 23.9 +0.9
GERES GERESS Array B 81.19 319 P **P** 09 36 23.9 +0.9
comp=Z,21nm,0.7s,baz=91,slow=5.6,SNR=149
GERES pP **pP** 09 36 42.6 -1.8
comp=Z,15nm,0.8s,baz=83,slow=4.5,SNR=6.3
KHC Kasperske Hory 81.28 319 *e*P **P** 09 36 24.2 +0.8
KHC *e*PCP **PcP** 09 36 32.8 +3.4
KHC *e*pP **pP** 09 36 44.8 -0.1
KHC *e*S **S** 09 46 26.2 -1.5
KHC Kasperske Hory 81.28 319 *e*P **P** 09 36 24.3 +0.8
KHC pmax pmax
comp=Z,7.0nm,0.8s
KHC Kasperske Hory 81.28 319 *e*P **P** 09 36 24.2 +0.8
comp=Z,7.1nm,0.8s
RUE Ruedersdorf 81.34 322 *e*P **P** 09 36 24.3 +0.8
comp=Z,232nm,1.2s
RUE *e*PP **PP** 09 39 29.9 -0.3
KBA Koelnbreinsper 81.35 317⇓ *i*P **P** 09 36 24.1 +0.1
comp=Z,37nm,1.2s,SNR=10
WIN Windhoek 81.36 246 *e*P **P** 09 36 27.1 +2.6
WIN AMB AMB 09 36 28.1
comp=Z,12nm,0.8s
WIN AMS AMS 10 05 33.8
comp=Z,132nm,6.4s
WIN Windhoek 81.36 246 P **P** 09 36 27.2 +2.6
WIN pmax pmax
comp=Z,12nm,0.8s
WIN Windhoek 81.36 246 P **P** 09 36 27.1 +2.6
comp=Z,12nm,0.8s
WET Wettzell 81.74 319 *e*P **P** 09 36 26.7 +0.8
comp=Z,140nm,1.8s
RJOB Jochberg 81.74 317 *e*P **P** 09 36 26.0 +0.1
comp=Z,29nm,0.9s
CLL Collm 81.76 321 *e*P **P** 09 36 26.2 +0.4
comp=Z,84nm,1.5s
CLL Collm 81.76 321⇑ *i*P **P** 09 36 26.1 +0.3
comp=Z,83nm,1.5s
CLL *e*(PcP) **PcP** 09 36 30.0 -1.4
CLL *e*pP **pP** 09 36 47.0 -0.3
CLL *e* 09 37 05.0
CLL *e*S **S** 09 46 28.0 -4.3
CLL *e*PPS PPS 09 47 47.0
CLL *e*SSSS 09 58 00.0
CLL Collm 81.76 321⇑ *i*P **P** 09 36 26.1 +0.3
CLL *e*S **S** 09 46 28.0 -4.3
CLL pmax pmax
comp=Z,83nm,1.5s
CLL Collm 81.76 321 *e*P **P** 09 36 26.2 +0.4
comp=Z,31nm,0.9s
ABTA Abfaltersbach 81.91 316 *i*P **P** 09 36 27.0 +0.2
comp=Z,28nm,1.1s,SNR=12
STEI Steigen 82.04 338 *e*P **P** 09 36 27.1 +0.2
STEI IAmb IAmb 09 36 27.9
comp=Z,155nm,0.9s
TANN Tannenbergstha 82.06 320 *e*P **P** 09 36 28.2 +0.7
comp=Z,46nm,1.5s
NKC Novy Kostel 82.06 320 *e*P **P** 09 36 28.3 +0.8
NKC *e*pP **pP** 09 36 46.1 -2.9
NKC *e*sP **sP** 09 36 53.4 -4.3
NKC Novy Kostel 82.06 320 *e*P **P** 09 36 28.3 +0.8
NKC *e* 09 36 53.4
ROTZ Rotzenmuhle 82.20 319 *e*P **P** 09 36 29.5 +1.3
comp=Z,148nm,1.8s
AMKA Amchitka 82.29 39 *e*P **P** 09 36 28.3 -0.3
comp=Z,236nm,0.8s
COP Copenhagen 82.31 325 *i*P **P** 09 36 27.9 -0.7
COP Copenhagen 82.31 325 *i*P **P** 09 36 27.9 -0.7
LLD Lille Linde 82.42 325 *i*P P 09 36 24.4 -4.7
LLD Lille Linde 82.42 325 *i*P P 09 36 24.4 -4.7
WTTA Wattenberg 82.52 317 *i*P **P** 09 36 30.3 +0.2
comp=Z,49nm,0.8s,SNR=29
WATA Walderalm 82.56 317⇑ *i*P **P** 09 36 30.1 -0.2
comp=Z,28nm,0.7s,SNR=22
MOX Moxa 82.61 320 *e*P **P** 09 36 31.0 +0.7
comp=Z,91nm,1.8s
MOX *e*L L 10 29 31.4
comp=N,246nm,21.2s
LOF Lofoten 82.69 338 *e*P **P** 09 36 30.1 -0.2
LOF IAmb IAmb 09 36 30.7
comp=Z,72nm,0.9s
KONS Konsvik 82.71 336 *e*P **P** 09 36 30.4 0.0
RPZ Rata Peaks 82.75 135 P **P** 09 36 30.7 -0.4
comp=Z,29nm,1.0s,baz=21,slow=2.2
RPZ Rata Peaks 82.75 135 *e*P **P** 09 36 31.4 +0.3
FUR Furstenfeldbru 82.78 318 *e*P **P** 09 36 31.5 +0.2
comp=Z,202nm,1.9s
GRF Grafenberg Arr 82.84 319 *e*P **P** 09 36 32.6 +1.1
comp=Z,168nm,1.6s
GRF *e*L L 10 30 27.5
comp=N,391nm,20.1s
GRFO Grafenberg 82.84 319 *e*P **P** 09 36 32.8 +1.3
GRFO pmax pmax
comp=Z,158nm,1.6s
GRFO Grafenberg 82.84 319 *e*P **P** 09 36 32.8 +1.3
comp=Z,158nm,1.6s
GRFO *e*pP **pP** 09 36 52.2 -0.9
MOTA Moosalm 82.88 317⇓ *i*P **P** 09 36 31.8 -0.1
comp=Z,32nm,0.7s,SNR=27
SYO Syowa Base 82.92 198⇑ *e*P P 09 36 27.2 -4.2
NC602 NORSAR Array S 83.03 330 *e*P **P** 09 36 31.8 -0.4
NC602 IAmb IAmb 09 36 33.0
comp=Z,78nm,1.0s
NSS Namsos 83.04 334 *e*P **P** 09 36 32.4 +0.1
NSS IAmb IAmb 09 36 34.3
comp=Z,105nm,1.0s
RETA Reutte 83.11 317 *i*P **P** 09 36 33.4 +0.3
comp=Z,56nm,0.7s,SNR=33
FETA Feichten 83.13 317 *i*P **P** 09 36 33.8 +0.5
comp=Z,29nm,0.8s,SNR=22
HSPB Hornsund (broa 83.18 347 *e*P **P** 09 36 33.0 +0.2
SPA0 Spitsbergen Ar 83.19 348⇑ *i*P **P** 09 36 32.1 -0.7
SPA0 IAmb IAmb 09 36 34.5
comp=Z,329nm,1.2s
NB2 NORSAR Subarra 83.20 331 P **P** 09 36 33.1 -0.1
comp=Z,73nm,1.0s,baz=96,slow=4.8
NB2 NORSAR Subarra 83.20 331 P **P** 09 36 33.1 -0.1
baz=96,slow=4.8
NOA NORSAR Array B 83.20 331 P **P** 09 36 33.2 +0.1
comp=Z,39nm,0.9s,baz=93,slow=5.4,SNR=73
NOA pP **pP** 09 36 52.2 -2.5
comp=Z,12nm,0.9s,baz=93,slow=5.4,SNR=4.6
NOA PP **PP** 09 39 45.9 +0.6
comp=Z,1.6nm,0.7s,baz=98,slow=8.1,SNR=3.4
NAO01 NORSAR Array S 83.35 331 *e*P **P** 09 36 33.9 0.0
comp=Z,46nm,0.9s
OSL Oslo 83.40 330 *e*P **P** 09 36 35.1 +1.0
OSL IAmb IAmb 09 36 35.7
comp=Z,150nm,1.1s
CLZ Clausthal 83.41 322 *e*P **P** 09 36 35.2 +0.7
comp=Z,156nm,1.6s
FUORN Ofenpass-Fuorn 83.45 316 *e*P **P** 09 36 35.9 +0.8
comp=Z,201nm,1.6s
BSEG Bad Segeberg 83.48 324 *e*P **P** 09 36 35.6 +0.9
comp=Z,178nm,1.3s
NRDL Niedersach Rie 83.58 322 *e*P **P** 09 36 36.3 +1.1
comp=Z,141nm,1.4s
UBBA Unterbreizbach 83.64 320 *e*P **P** 09 36 36.3 +0.8
comp=Z,78nm,1.9s
DAVA Damuels 83.71 317 *i*P **P** 09 36 37.0 +0.7
comp=Z,57nm,1.1s,SNR=17
TBLU Trondheim 83.73 333 IAMs_20 IAMs_20 10 22 32.5
comp=Z,2µm,21.2s
KONO Kongsberg 83.96 329 *e*P **P** 09 36 37.1 0.0
KONO IAmb IAmb 09 36 38.4
comp=Z,120nm,1.2s
KONO Kongsberg 83.96 329 *e*P **P** 09 36 37.3 +0.3
KONO pmax pmax
comp=Z,94nm,1.1s
KONO Kongsberg 83.96 329 *e*P **P** 09 36 37.3 +0.3
comp=Z,94nm,1.1s
KONO *e*pP **pP** 09 36 56.6 -2.0
TUE Stuetta 84.08 316 *e*P **P** 09 36 38.6 +0.3
comp=Z,382nm,0.6s
MUD Monsted U'grnd 84.16 326⇑ *i*P **P** 09 36 39.2 +1.1
comp=Z,118nm,1.2s
MUD Monsted U'grnd 84.16 326⇑ *i*P **P** 09 36 39.2 +1.1
MUD pmax pmax
comp=Z,120nm,1.2s
KBS Kingsbay 84.16 349⇑ *i*P **P** 09 36 37.1 -0.6
KBS IAmb IAmb 09 36 38.1
comp=Z,75nm,0.9s
KBS IAMs_20 IAMs_20 10 21 45.5
comp=Z,651nm,15.8s
KBS Kingsbay 84.16 349 *e*P **P** 09 36 36.9 -0.8
KBS pmax pmax
comp=Z,22nm,1.1s
KBS Kingsbay 84.16 349 *e*P **P** 09 36 36.9 -0.8
comp=Z,22nm,1.1s
STU Stuttgart 84.16 318 *e*P **P** 09 36 38.8 +0.5
comp=Z,37nm,0.9s
STU Stuttgart 84.16 318 *e*P **P** 09 36 38.9 +0.6
STU pmax pmax
comp=Z,30nm,0.6s
STU Stuttgart 84.16 318 *e*P **P** 09 36 38.9 +0.6
comp=Z,30nm,0.6s
KHZ Kahutara 84.24 133 *e*P **P** 09 36 37.8 -1.0
comp=Z,41nm,1.2s
KEST Kesra 84.31 305 P **P** 09 36 40.9 +1.4
comp=Z,24nm,0.9s,baz=141,slow=0.8,SNR=40
KEST Kesra 84.31 305 *e*P **P** 09 36 41.5 +2.0
HOMB Hombersund 84.52 328 IAMs_20 IAMs_20 10 25 22.9
comp=Z,1µm,19.1s
TNS Taunus Mts 84.63 320 *e*P **P** 09 36 41.5 +0.8
comp=Z,87nm,1.7s
BFO Black Forest 84.75 318 *e*P **P** 09 36 41.5 +0.2
comp=Z,159nm,2.0s
BFO Black Forest 84.75 318 *e*P **P** 09 36 41.7 +0.4
BFO pmax pmax
comp=Z,31nm,0.7s
BFO Black Forest 84.75 318 *e*P **P** 09 36 41.7 +0.4
comp=Z,31nm,0.7s
ADK Adak 84.80 38 *e*P **P** 09 36 40.6 -0.8
ADK pmax pmax
comp=Z,171nm,1.1s
ADK Adak 84.80 38 *e*P **P** 09 36 40.6 -0.8
comp=Z,171nm,1.1s
IBBN Ibbenburen 85.03 322 *e*P **P** 09 36 43.4 +0.9
comp=Z,272nm,1.7s
LANF Langenberg 85.08 319⇑ *e*P **P** 09 36 43.8 +0.9
GSTR Great Sitkin T 85.18 38 *e*P **P** 09 36 42.6 -0.8
comp=Z,128nm,1.0s
SNART Snartemo 85.20 328 *e*P **P** 09 36 44.2 +0.9
SNART IAmb IAmb 09 36 45.0
comp=Z,62nm,1.3s
AKN Aaknes 85.23 332⇑ *i*P **P** 09 36 44.3 +0.9
BUG Bochum--Univer 85.35 321 *e*P **P** 09 36 45.0 +0.8
comp=Z,244nm,1.8s
SAOF Saorge 85.41 314⇑ *e*P **P** 09 36 45.4 +0.6
ODD1 Odda 85.46 330 *e*P **P** 09 36 45.7 +1.0
ODD1 IAmb IAmb 09 36 46.4
comp=Z,86nm,1.3s
AUTN L'Aution 85.50 314⇑ *e*P **P** 09 36 47.3 +1.8
SENIN Lac Senin/Sane 85.50 316 *e*P **P** 09 36 46.0 +0.6
ECH Echery 85.53 318⇑ *e*P **P** 09 36 45.1 -0.1
ECH Echery 85.53 318 *e*P **P** 09 36 45.2 0.0
ECH pmax pmax
comp=Z,22nm,0.8s
ECH Echery 85.53 318 *e*P **P** 09 36 45.2 0.0
comp=Z,22nm,0.8s
REVF Revere 85.56 313⇑ *e*P **P** 09 36 46.2 +0.7
MOF Molkenrain 85.56 318⇑ *e*P **P** 09 36 45.4 -0.1
BLS5 Blasjo 85.57 329 *e*P **P** 09 36 46.0 +0.9
BLS5 IAmb IAmb 09 36 47.2
comp=Z,124nm,1.0s
TOUF Mont Tournerai 85.63 314⇑ *e*P **P** 09 36 47.0 +0.9
HYA Hoyanger 85.64 331 *e*P **P** 09 36 46.0 +0.6
HYA IAmb IAmb 09 36 47.1
comp=Z,169nm,1.2s
MVIF Mont Vial 85.71 314⇑ *e*P **P** 09 36 46.9 +0.5
LOMF Lomont 85.79 317⇑ *e*P **P** 09 36 46.9 +0.3
ABSA Djebel Ababsia 85.80 306 P **P** 09 36 48.8 +1.8
CMAH Djebel Manchou 85.83 306 P **P** 09 36 48.8 +1.7
BKZ Black Stump Fm 85.84 130 *e*P **P** 09 36 46.6 -0.4
comp=Z,32nm,0.9s
CALN Calern 85.90 313⇑ *e*P **P** 09 36 48.3 +1.0
BNI Bardonecchia 85.99 315 *e*P **P** 09 36 47.9 +0.2
BNI pmax pmax
comp=Z,23nm,0.9s
BNI Bardonecchia 85.99 315 *e*P **P** 09 36 47.9 +0.2
comp=Z,23nm,0.9s
BER Bergen 86.09 330 *e*P **P** 09 36 48.8 +1.1
BER IAMs_20 IAMs_20 10 23 23.6
comp=Z,1µm,17.1s
WLF Walferdange 86.13 319 *e*P **P** 09 36 49.3 +1.2
comp=Z,98nm,1.6s
URZ Urewera 86.17 129 P **P** 09 36 47.3 -1.2
comp=Z,51nm,1.0s,baz=324,slow=2.0,SNR=15
URZ Urewera 86.17 129 *e*P **P** 09 36 47.5 -1.0
comp=Z,67nm,1.1s
MEM Membach 86.18 320 P **P** 09 36 49.0 +0.7
MEM Membach 86.18 320 *e*P **P** 09 36 49.5 +1.1
MEM pmax pmax
comp=Z,26nm,0.8s
MEM Membach 86.18 320 *e*P **P** 09 36 49.5 +1.1
comp=Z,26nm,0.8s
KMY Karmy 86.19 329 *e*P **P** 09 36 49.4 +1.2
CAEH 'Ain El Ouahch 86.28 306 P **P** 09 36 50.3 +1.1
THEF They Montfort 86.31 318⇑ *e*P **P** 09 36 49.5 +0.4
ATKA Atka Island 86.33 38 *e*P **P** 09 36 49.7 +0.7
comp=Z,33nm,1.0s
SUE Sulen 86.34 331 *e*P **P** 09 36 49.1 +0.2
SUE IAmb IAmb 09 36 50.2
comp=Z,89nm,1.0s
CKFL Kef-Lekhel 86.41 306 P **P** 09 36 51.9 +1.9
CASM Ain Smara 86.60 306 P **P** 09 36 52.9 +2.1
BCLA Clavier 86.64 320 P **P** 09 36 51.3 +0.7
comp=Z,21nm,1.4s
CTEI Djebel Teioual 86.68 306 P **P** 09 36 53.6 +2.3
GAMB Gambell 86.91 26 *e*P **P** 09 36 52.2 +0.6
comp=Z,122nm,1.0s
OG26 St.-Nazaire-De 87.00 314⇑ *e*P **P** 09 36 53.8 +1.2
DFRA Djebel Bou Aff 87.08 306 P **P** 09 36 55.4 +2.2
DOU Dourbes 87.11 320 P **P** 09 36 53.7 +0.8
SNF Seneffe 87.28 320 P **P** 09 36 54.5 +0.8
SET Setif 87.49 306 P **P** 09 36 57.0 +1.8
SSB Saint Sauveur 87.49 315⇑ *e*P **P** 09 36 55.7 +0.8
SSB Saint Sauveur 87.49 315 *e*P **P** 09 36 55.3 +0.4
SSB pmax pmax
comp=Z,36nm,0.9s
SSB Saint Sauveur 87.49 315 *e*P **P** 09 36 55.3 +0.4
comp=Z,36nm,0.9s
COLF Collangettes 88.06 315⇑ *e*P **P** 09 36 58.5 +0.8
PLDF La Plantade 88.08 316⇑ *e*P **P** 09 36 57.3 -0.4
TNA Tin City 88.33 24 *e*P **P** 09 36 58.1 -0.3
comp=Z,88nm,1.3s
TAM Tamanrasset 88.37 293 *e*P **P** 09 37 01.7 +2.0
TAM pmax pmax
comp=Z,28nm,1.2s
TAM Tamanrasset 88.37 293 *e*P **P** 09 37 01.7 +2.0
comp=Z,28nm,1.2s
LBL Lubilhac 88.40 315 *e*P **P** 09 36 59.5 +0.2
PYM Petit Puy Mans 88.53 316⇑ *e*P **P** 09 36 59.5 -0.4
MENF Mencas 88.63 320⇑ *e*P **P** 09 37 01.4 +1.3
LRDF Laroque-de-Fa 89.13 313⇑ *e*P **P** 09 37 03.8 +1.1
FILF Fillols 89.15 312⇑ *e*P **P** 09 37 04.4 +1.6
ELSH Elham, Standar 89.21 321 *e*P **P** 09 37 03.9 +1.0
ELSH AMB AMB 09 37 04.5
comp=Z,154nm,0.8s
VNDA Vanda 89.58 169 P **P** 09 37 05.0 +1.0
comp=Z,6.7nm,0.8s,baz=294,slow=4.4,SNR=34
VNDA PKKPbc **PKKPdf** 09 54 38.5 +2.0
comp=Z,1.6nm,0.9s,baz=326,slow=2.0,SNR=7.0
VNDA LR LR 10 13 20.1
comp=Z,97nm,20.1s,baz=306,slow=33
VNDA Vanda 89.58 169 *e*P **P** 09 37 05.0 +1.0
VNDA pmax pmax
comp=Z,77nm,2.0s
VNDA Vanda 89.58 169 *e*P **P** 09 37 05.0 +1.0
comp=Z,77nm,2.0s
VNDA PKKPbc **PKKPdf** 09 54 38.5 +2.0
LMK Market Rasen 89.82 324 *e*P **P** 09 37 06.4 +0.8
LMK AMB AMB 09 37 07.9
comp=Z,175nm,1.6s
MLS Moulis 90.18 313⇑ *e*P **P** 09 37 08.1 +0.5
LCP Cassop 90.30 325 *e*P **P** 09 37 08.8 +1.0
HPK Haverah Park 90.51 324 *e*P **P** 09 37 09.8 +1.0
HPK AMB AMB 09 37 10.5
comp=Z,92nm,0.9s
HPK AMS AMS 10 26 25.4
comp=Z,885nm,17.5s
DRUM Mains of Drumt 90.53 327 *e*P **P** 09 37 09.2 +0.4
DRUM AMB AMB 09 37 11.1
comp=Z,46nm,1.7s
WOL Wolverton 90.66 321 *e*P **P** 09 37 10.9 +1.4
WOL AMB AMB 09 37 11.9
comp=Z,104nm,2.0s
LHO Holmfirth 90.71 324 *e*P **P** 09 37 10.7 +0.9
MLA1 Latheron 90.75 329 *e*P **P** 09 37 10.9 +1.1
ESY Stoneypath 90.76 326 *e*P **P** 09 37 10.5 +0.5
MCD Coleburn Disti 90.82 328 *e*P **P** 09 37 10.4 +0.2
VIEF Viey 90.97 313⇑ *e*P **P** 09 37 12.9 +1.5
BIGH Upper Bighouse 91.00 329 *e*P **P** 09 37 12.2 +1.2
BIGH AMB AMB 09 37 13.6
comp=Z,158nm,1.4s
EKA Eskdalemuir Ar 91.17 326 PKKPbc PKKPbc 09 54 34.6 -1.9
comp=Z,0.5nm,0.3s,baz=262,slow=2.1,SNR=5.3
ECK Cauldkaine Hil 91.17 325 *e*P **P** 09 37 12.0 +0.1
ESK Eskdalemuir 91.19 326 *e*P **P** 09 37 12.8 +0.8
ESK AMB AMB 09 37 13.5
comp=Z,40nm,1.4s
ESK AMS AMS 10 25 45.2
comp=Z,3µm,17.3s
ESK AMS AMS 10 25 45.5
comp=Z,941nm,17.2s
ESK Eskdalemuir 91.19 326 *e*P **P** 09 37 11.8 -0.2
ESK pmax pmax
comp=Z,93nm,1.6s
ESK Eskdalemuir 91.19 326 *e*P **P** 09 37 11.8 -0.2
comp=Z,93nm,1.6s
MVH1 Achvaich 91.25 328 *e*P **P** 09 37 12.7 +0.6
MDO Dochfour 91.44 328 *e*P **P** 09 37 13.3 +0.2
HLM1 Long Mynd 91.48 323 *e*P **P** 09 37 14.2 +0.8
HLM1 AMB AMB 09 37 15.6
comp=Z,36nm,1.7s
HLM1 AMS AMS 10 27 02.6
comp=Z,741nm,18.0s
MONM Monmouth 91.55 322 *e*P **P** 09 37 14.0 +0.3
FOEL Foel Wylfa 91.61 323 *e*P **P** 09 37 15.0 +1.0
FOEL AMS AMS 10 26 59.1
comp=Z,834nm,17.3s
MCH1 Michaelchurch 91.64 322 *e*P **P** 09 37 14.7 +0.5
MCH1 AMB AMB 09 37 17.0
comp=Z,23nm,2.9s
EAB Aberfoyle 91.67 327 *e*P **P** 09 37 14.9 +0.8
LARF Larrau 91.68 313⇑ *e*P **P** 09 37 16.4 +1.8
KAC Achnashellach 91.92 328 *e*P **P** 09 37 15.0 -0.3
KAC *e*P **PcP** 09 37 15.9 -0.2
WLF1 Llynfaes 92.25 324 *e*P **P** 09 37 18.0 +1.1
WLF1 AMB AMB 09 37 19.2
comp=Z,43nm,2.0s
LPW Lampeter 92.27 323 *e*P **P** 09 37 17.7 +0.7
ALE Alert 92.28 357 P **P** 09 37 17.3 +0.8
comp=Z,682nm,0.7s,SNR=40
DYA Yadsworthy 92.50 321 *e*P **P** 09 37 18.6 +0.5
DYA AMB AMB 09 37 20.1
comp=Z,49nm,2.2s
TOA0 Torodi Ar. Sit 92.84 283 *e*P **P** 09 37 21.7 +1.3
TORD Torodi Ar. Bea 92.84 283 P **P** 09 37 22.0 +1.6
comp=Z,14nm,0.9s,baz=86,slow=4.9,SNR=81
TORD pP **pP** 09 37 42.5 +0.2
comp=Z,4.8nm,0.8s,baz=90,slow=4.8,SNR=5.1
TORD PP **PP** 09 41 03.7 -0.1
comp=Z,1.7nm,1.0s,baz=87,slow=8.3,SNR=4.7
TORD PKKPbc **PKKPbc** 09 54 30.3 -0.6
comp=Z,1.5nm,0.8s,baz=314,slow=2.3,SNR=17
DSB Dublin 93.42 324 *e*P **P** 09 37 23.6 +1.3
comp=Z,15nm,0.9s
IM04 Indian Mountai 93.88 23 *e*P **P** 09 37 24.3 +0.1
ESDC Sonseca Array 94.42 310 P **P** 09 37 28.4 +1.1
comp=Z,4.9nm,0.8s,baz=64,slow=4.5,SNR=22
ESDC pP **pP** 09 37 48.2 -1.0
comp=Z,1.2nm,0.5s,baz=51,slow=5.0,SNR=3.3
ESDC PP **PP** 09 41 12.8 -2.7
comp=Z,0.3nm,0.3s,baz=93,slow=7.2,SNR=3.3
ESDC PKKPbc **PKKPbc** 09 54 27.5 -0.1
comp=Z,0.2nm,0.3s,baz=288,slow=2.5,SNR=6.2
ESLA Sonseca Array 94.42 310 *e*P **P** 09 37 28.3 +1.0
comp=Z,1.2nm,0.8s
QSPA South Pole Qui 94.68 180 LR LR 10 13 30.5
comp=Z,170nm,21.6s,baz=270,slow=31
COLD Coldfoot 94.72 21 *e*P **P** 09 37 28.9 +0.9
comp=Z,39nm,2.0s
PAB San Pablo 94.73 310 *e*P **P** 09 37 30.3 +1.5
PAB pmax pmax
comp=Z,10.0nm,1.1s
PAB San Pablo 94.73 310 *e*P **P** 09 37 30.2 +1.5
comp=Z,10nm,1.1s
SVW2 Sparrevohn 94.77 28 *e*P **P** 09 37 29.5 +1.2
comp=Z,67nm,1.3s
CAST Castle Rocks 95.50 25 *e*P **P** 09 37 32.4 +0.8
comp=Z,72nm,1.1s
PPLA Purkeypile 95.65 25 *e*P **P** 09 37 33.0 +0.5
comp=Z,18nm,1.0s
BPAW Bear Paw Mtn. 95.68 24 *e*P **P** 09 37 32.7 +0.2
comp=Z,26nm,1.2s
KTH Kantishna Hill 95.92 24 *e*P **P** 09 37 34.1 +0.5
comp=Z,12nm,1.0s
PBRG Braganca 96.09 313 *e*P **P** 09 37 37.2 +2.3
PBRG Braganca 96.09 313 *e*P **P** 09 37 37.2 +2.3
TRF Thorofare Moun 96.23 24 *e*P **P** 09 37 35.7 +0.5
comp=Z,25nm,1.2s
RSO Redoubt South 96.29 28 *e*P **P** 09 37 35.2 -0.3
comp=Z,20nm,0.9s
MVO Moncorvo 96.44 312 *e*P **P** 09 37 38.0 +1.5
MVO Moncorvo 96.44 312 *e*P **P** 09 37 38.0 +1.5
MCK McKinley 96.66 24 *e*P **P** 09 37 36.9 0.0
MCK pmax pmax
comp=Z,77nm,1.5s
MCK McKinley 96.66 24 *e*P **P** 09 37 36.9 0.0
comp=Z,77nm,1.5s
ILAR Eielson Array 97.01 23 P **P** 09 37 36.6 -1.8
comp=Z,3.8nm,0.9s,baz=296,slow=4.1,SNR=41
ILAR PP **PP** 09 41 30.6 -4.1
comp=Z,2.4nm,0.9s,baz=293,slow=6.7,SNR=6.7
ILAR PKKPbc **PKKPbc** 09 54 18.8 -2.7
comp=Z,0.6nm,0.6s,baz=142,slow=2.5,SNR=8.1
PBAR Barrancos 97.06 309 *e*P Pdif 09 37 40.7 +1.4
PBAR Barrancos 97.06 309 *e*P Pdif 09 37 40.7 +1.4
OHAK Old Harbor 97.18 31 *e*P Pdif 09 37 39.6 +0.1
comp=Z,48nm,1.0s
KDAK Kodiak Island 97.34 30 *e*P Pdif 09 37 40.3 +0.2
KDAK pmax pmax
comp=Z,46nm,1.0s
KDAK Kodiak Island 97.34 30 *e*P Pdif 09 37 40.3 +0.2
comp=Z,46nm,1.0s
RC01 Rabbit Creek A 97.42 26 *e*P **P** 09 37 39.6 -0.7
comp=Z,55nm,1.2s
PMR Palmer 97.48 26 *e*P **P** 09 37 40.3 -0.3
PMR pmax pmax
comp=Z,40nm,1.3s
PMR Palmer 97.48 26 *e*P **P** 09 37 40.3 -0.3
comp=Z,40nm,1.3s
SUMG Summit 97.51 347⇑ *i*P Pdif 09 37 41.2 +0.1
comp=Z,45nm,1.1s
SUMG Summit 97.51 347⇑ *i*P Pdif 09 37 41.2 +0.1
SUMG pmax pmax
comp=Z,45nm,1.1s
SUMG Summit 97.51 347 *e*P **P** 09 37 40.5 -0.5
comp=Z,55nm,1.2s
PVAQ Vaqueiros 97.74 309 *e*P Pdif 09 37 43.5 +1.1
PVAQ Vaqueiros 97.74 309 *e*P Pdif 09 37 43.5 +1.1
PAX Paxson 98.40 24 *e*P Pdif 09 37 45.3 +0.4
PAX pmax pmax
comp=Z,51nm,2.2s
PAX Paxson 98.40 24 *e*P Pdif 09 37 45.3 +0.4
comp=Z,50nm,2.2s
EGAK Eagle 99.14 21 *e*P **Pdif** 09 37 48.1 +0.1
comp=Z,104nm,2.8s
BMRM Bremner River 99.71 25 *e*Pdif **Pdif** 09 37 51.5 +0.8
comp=Z,27nm,0.9s
DBIC Dimbokro 99.92 278 P **Pdif** 09 37 55.0 +2.4
comp=Z,4.2nm,0.7s,baz=120,slow=2.3,SNR=4.0

DBIC PKKPbc **PKKPbc** 09 54 11.7 0.0
comp=Z,6.4nm,1.1s,baz=248,slow=2.0,SNR=3.2
DBIC Dimbokro 99.92 278 P **Pdif** 09 37 55.0 +2.4
DAWY Dawson 100.17 21 *e*Pdif **Pdif** 09 37 52.7 0.0
DLBC Dease Lake 107.20 23 *e*PP PP 09 42 54.5 +3.3
YKA Yellowknife Ar 109.05 14 Pdiff **Pdif** 09 38 32.4 +0.3
comp=Z,0.7nm,0.7s,baz=331,slow=4.5,SNR=4.6
YKA PKIKP **PKiKP** 09 42 35.6 -0.4
comp=Z,2.1nm,1.0s,baz=331,slow=2.6,SNR=8.0
YKA PP **PP** 09 43 01.6 -2.7
comp=Z,2.4nm,0.9s,baz=334,slow=7.9,SNR=4.0
YKA PKKPbc **PKKPbc** 09 53 42.8 -3.0
comp=Z,1.0nm,0.7s,baz=148,slow=3.3,SNR=6.5
YKA PKKPab **PKKPab** 09 53 55.8 -1.6
comp=Z,0.7nm,0.7s,baz=145,slow=3.7,SNR=4.1
TBI Tubuai 114.64 113 *e*SP SP 09 53 19.2 +2.9
comp=Z,106nm,34.5s
TBI Tubuai 114.64 113 *e*LR LR 10 18 16.1
comp=Z,278nm,31.2s
PPT2 Papeete2 114.96 107 *e*PS PS 09 53 33.7 +4.4
comp=Z,118nm,24.5s
PPT2 Papeete2 114.96 107 *e*LR LR 10 18 20.2
comp=Z,335nm,32.2s
FCC Fort Churchill 116.20 6 *e*PKIKP **PKPdf** 09 42 49.3 -0.4
FCC Fort Churchill 116.20 6 *e*PKPdf **PKPdf** 09 42 49.3 -0.4
EDM Edmonton 117.25 19 *e*PKIKP **PKPdf** 09 42 52.0 0.0
EDM Edmonton 117.25 19 *e*PKPdf **PKPdf** 09 42 52.0 0.0
SCHQ Schefferville 118.87 349 PKP **PKPdf** 09 42 55.4 +0.3
comp=Z,4.4nm,0.6s,baz=3.5,slow=3.1,SNR=11
SCHQ PKKPbc **PKKPbc** 09 53 09.9 -2.4
comp=Z,2.2nm,0.9s,baz=60,slow=20,SNR=4.6
SCHQ Schefferville 118.87 349 *e*PKPdf **PKPdf** 09 42 55.2 +0.2
SCHQ PKP **PKPdf** 09 42 55.4 +0.3
SCHQ PKKPbc **PKKPbc** 09 53 09.9 -2.4
FFC Flin Flon 118.92 12 *e*PKIKP **PKPdf** 09 42 54.8 -0.3
FFC Flin Flon 118.92 12 *e*PKPdf **PKPdf** 09 42 54.8 -0.3
G03D McMinnville, O 119.29 31 ⇑PKiKP **PKiKP** 09 42 56.4 +0.2
baz=119
NEW Newport 119.88 25 *e*PKIKP **PKPdf** 09 42 57.5 +0.2
NEW Newport 119.88 25 ⇑PKiKP **PKiKP** 09 42 57.9 +0.5
baz=120
NEW Newport 119.88 25 *e*PKPdf **PKPdf** 09 42 57.5 +0.2
G05D Wamic, OR 120.24 30 ⇑PKiKP **PKiKP** 09 42 58.4 +0.3
baz=120
HAWA Hanford 120.25 28 *e*PKPdf **PKPdf** 09 42 58.1 +0.2
I03D Drain, OR 120.29 32 ⇑PKiKP **PKiKP** 09 42 58.8 +0.7
baz=120
I04A Tendick Farm, 120.72 31 ⇓PKiKP **PKiKP** 09 42 59.4 +0.3
baz=120
I05D Terrebonne, OR 120.88 30 ⇑PKiKP **PKiKP** 09 42 59.9 +0.5
baz=121
BSMT Bassoo Peak 121.16 24 *e*PKPdf **PKPdf** 09 42 59.6 -0.3
L02D Cave Junction, 121.20 33 ⇑PKiKP **PKiKP** 09 43 01.0 +1.0
baz=121
HUMO Hull Mountain 121.25 33 *e*PKPdf **PKPdf** 09 43 00.9 +0.9
J04D Umpqua Nationa 121.26 32 ⇓PKiKP **PKiKP** 09 43 00.8 +0.5
baz=121
J05D Fort Rock, OR 121.68 31 ⇓PKiKP **PKiKP** 09 43 01.8 +0.6
baz=121
SWMT Swartz Lake 121.75 23 *e*PKPdf **PKPdf** 09 43 00.6 -0.3
K04D Chiloquin, OR 121.88 32 ⇓PKiKP **PKiKP** 09 43 02.0 +0.5
baz=122
I07A Izee 121.97 29 *e*PKPdf **PKPdf** 09 43 02.6 +1.1
KHMM Horse Mountain 121.99 35 *e*PKPdf **PKPdf** 09 43 02.9 +1.2
M02C Callahan 122.14 34 ⇓PKiKP **PKiKP** 09 43 02.4 +0.4
baz=122
SLMT Seeley Lake 122.16 23 *e*PKPdf **PKPdf** 09 43 01.3 -0.5
K05A Summer Lake 122.26 31 *e*PKPdf **PKPdf** 09 43 03.3 +1.1
MSO Missoula 122.32 24 ⇑PKiKP **PKPdf** 09 43 02.1 0.0
baz=122
MSO Missoula 122.32 24 *e*PKPdf **PKPdf** 09 43 01.9 -0.2
M04C Macdoel 122.42 33 ⇑PKiKP **PKiKP** 09 43 02.6 -0.1
baz=122
A19A Klindworth Far 122.43 19 ⇓PKiKP **PKPdf** 09 43 02.1 -0.1
baz=122
KMRM Mail Ridge 122.44 35 *e*PKPdf **PKPdf** 09 43 03.8 +1.4
N02D Trinity Center 122.50 34 ⇓PKiKP **PKiKP** 09 43 02.9 +0.2
baz=122
CHMT Chamberlain Mo 122.53 23 *e*PKPdf **PKPdf** 09 43 01.9 -0.7
A20A Cobblestone Ra 122.73 18 ⇓PKiKP **PKPdf** 09 43 02.6 -0.2
baz=122
B19A Brinkman Farms 122.78 19 ⇓PKiKP **PKPdf** 09 43 02.8 0.0
baz=122
WDC Whiskeytown Da 122.86 34 *e*PKIKP **PKPdf** 09 43 03.4 +0.3
WDC Whiskeytown Da 122.86 34 *e*PKPdf **PKPdf** 09 43 03.4 +0.3
EGMT Eagleton 122.88 20 ⇓PKiKP **PKiKP** 09 43 03.2 -0.1
baz=123
EGMT Eagleton 122.88 20 *e*PKPdf **PKPdf** 09 43 03.4 +0.4
A21A Bergtoll Ranch 122.94 18 ⇑PKiKP **PKPdf** 09 43 03.1 0.0
baz=123
B20A Solberg Farm, 123.09 19 ⇑PKiKP **PKPdf** 09 43 03.5 0.0
baz=123
A22A Carney Farms, 123.24 17 ⇓PKiKP **PKiKP** 09 43 03.9 0.0
baz=123
C19A Slack Wire Ran 123.37 20 ⇑PKiKP **PKiKP** 09 43 04.5 +0.3
baz=123
B21A Ellsworth Farm 123.42 18 ⇑PKiKP **PKiKP** 09 43 04.2 -0.1
baz=123
A23A Redstone 123.56 16 ⇓PKiKP **PKiKP** 09 43 04.6 +0.1
baz=123
HOPS Hopland Field 123.62 36 *e*PKPdf **PKPdf** 09 43 05.8 +1.2
C20A Veseth Ranch, 123.73 19 ⇑PKiKP **PKiKP** 09 43 05.0 +0.1
baz=124
LRM Limekiln Ridge 123.74 23 *e*PKPdf **PKPdf** 09 43 04.8 -0.2
A24A Westby 123.84 16 ⇑PKiKP **PKiKP** 09 43 05.3 +0.3
baz=124
B22A Reddig Ranch S 123.84 17 ⇓PKiKP **PKiKP** 09 43 05.3 +0.2
baz=124
D19A Cripps Ranch, 123.92 20 ⇑PKiKP **PKiKP** 09 43 05.4 0.0
baz=124
C21A Desert Coulee 123.92 18 ⇑PKiKP **PKiKP** 09 43 05.4 +0.1
baz=124
B23A Brockton 123.98 16 ⇓PKiKP **PKiKP** 09 43 05.5 +0.1
baz=124
A25A Svangstu Ranch 124.05 15 ⇑PKiKP **PKiKP** 09 43 05.5 0.0
baz=124
DLMT Dillon 124.06 24 *e*PKPdf **PKPdf** 09 43 06.2 +0.7
DGMT Dagmar 124.20 16 ⇑PKiKP **PKiKP** 09 43 05.9 +0.1
baz=124
DGMT Dagmar 124.20 16 *e*PKPdf **PKPdf** 09 43 06.3 +0.8
BOZ Bozeman (W) 124.21 23 *e*PKIKP **PKPdf** 09 43 06.3 +0.5
BOZ Bozeman (W) 124.21 23 *e*PKPdf **PKPdf** 09 43 06.2 +0.5
MFID Camas Ranch 124.22 27 *e*PKPdf **PKPdf** 09 43 06.7 +0.8
D20A Manuel Ranch, 124.23 20 ⇓PKiKP **PKiKP** 09 43 06.1 +0.1
baz=124
A26A Wade Farm, Ken 124.36 14 ⇑PKiKP **PKiKP** 09 43 06.2 +0.1
baz=124
MCMT McKenzie Canyo 124.39 24 *e*PKPdf **PKPdf** 09 43 07.2 +0.9
A27A Ledoux Ranch, 124.50 13 ⇓PKiKP **PKiKP** 09 43 06.5 +0.1
baz=124
C23A Lambert 124.53 17 ⇑PKiKP **PKiKP** 09 43 06.7 +0.2
baz=124
E19A Rath Farm, Rou 124.56 20 ⇓PKiKP **PKiKP** 09 43 06.7 +0.1
baz=124
D21A La Casta Ranch 124.63 19 PKiKP **PKiKP** 09 43 06.7 0.0
baz=124
B25A Knox Farm, Ray 124.66 15 ⇓PKiKP **PKiKP** 09 43 07.1 +0.4
baz=124
HLID Hailey 124.75 26 ⇓PKiKP **PKiKP** 09 43 07.5 +0.2
baz=124
HLID Hailey 124.75 26 *e*PKPdf **PKPdf** 09 43 07.6 +0.7
A28A Rude Farm, Bot 124.76 13 ⇑PKiKP **PKiKP** 09 43 06.7 -0.2
baz=124
D22A Cohagen 124.81 18 ⇑PKiKP **PKiKP** 09 43 07.5 +0.4
baz=124
GCMT Greycliff 124.82 21 *e*PKPdf **PKPdf** 09 43 07.6 +0.7
A29A Manning Farm, 124.97 12 ⇓PKiKP **PKPdf** 09 43 06.7 -0.2
baz=125
C24A Savage 124.99 17 ⇑PKiKP **PKiKP** 09 43 07.5 +0.1
baz=125
B27A Peters Farms, 125.01 14 ⇓PKiKP **PKiKP** 09 43 07.3 -0.1
baz=125
F19A Roth Farm, Mol 125.03 21 ⇑PKiKP **PKiKP** 09 43 07.6 0.0
baz=125
E21A Keefer Ranch, 125.07 19 ⇑PKiKP **PKiKP** 09 43 07.8 +0.2
baz=125
D23A Lindsay 125.09 17 PKiKP **PKiKP** 09 43 08.3 +0.6
baz=125
A30A Hoffart Farm, 125.14 11 ⇑PKiKP **PKPdf** 09 43 06.8 -0.4
baz=125
C25A Freed Ranch, W 125.15 16 ⇓PKiKP **PKiKP** 09 43 08.1 +0.4
baz=125
B28A Dugan Ranch, T 125.17 13 ⇓PKiKP **PKiKP** 09 43 07.6 -0.1
baz=125
LAO LASA Array 125.21 18 *e*PKPdf **PKPdf** 09 43 08.7 +1.2
C26A Wahner Farm, P 125.34 15 ⇓PKiKP **PKiKP** 09 43 08.2 +0.1
baz=125
F20A Billings 125.36 20 ⇑PKiKP **PKPdf** 09 43 08.0 +0.1
baz=125
YNR Norris Junctio 125.36 23 *e*PKPdf **PKPdf** 09 43 10.6 +2.5
B29A Wagenman Farm, 125.38 12 ⇓PKiKP **PKPdf** 09 43 07.6 -0.2
baz=125
D24A Glendive 125.39 17 ⇑PKiKP **PKiKP** 09 43 08.5 +0.3
baz=125
E22A Miles City 125.52 18 ⇑PKiKP **PKiKP** 09 43 08.6 +0.1
baz=125
RLMT Red Lodge 125.54 22 *e*PKPdf **PKPdf** 09 43 08.9 +0.4
C27A Sayler Ranch, 125.59 14 ⇓PKiKP **PKiKP** 09 43 08.6 0.0
baz=125
B30A Myrvik Farm, E 125.60 11 ⇑PKiKP **PKPdf** 09 43 07.8 -0.3
baz=125
D25A Fairfield 125.64 16 ⇑PKiKP **PKiKP** 09 43 09.3 +0.6
baz=125
E23A Ismay 125.66 18 ⇓PKiKP **PKiKP** 09 43 09.2 +0.4
baz=125
H17A Grant Village 125.66 23 ⇓PKiKP **PKiKP** 09 43 09.4 +0.2
baz=125
H17A Grant Village 125.66 23 *e*PKPdf **PKPdf** 09 43 10.7 +1.9
F21A Absaloka Mine, 125.68 20 ⇓PKiKP **PKiKP** 09 43 09.0 +0.1
baz=125
H18A Shoshone NF, C 125.78 22 ⇓PKiKP **PKiKP** 09 43 09.2 -0.1
baz=126
CMB Columbia Colle 125.82 35 *e*PKIKP **PKPdf** 09 43 09.5 +0.5
CMB Columbia Colle 125.82 35 *e*PKPdf **PKPdf** 09 43 09.5 +0.5
G20A Bridger 125.84 21 ⇑PKiKP **PKPdf** 09 43 09.1 +0.2
baz=126
C28A Hausauer Farms 125.86 13 ⇑PKiKP **PKiKP** 09 43 08.9 -0.2
baz=126
E24A Baker 125.90 17 ⇑PKiKP **PKiKP** 09 43 09.2 -0.1
baz=126
MDND Maddock 125.91 13 ⇓PKiKP **PKPdf** 09 43 08.6 -0.1
baz=126
D26A Manning 125.99 15 ⇓PKiKP **PKiKP** 09 43 09.5 +0.1
baz=126
F22A Rosebud 126.01 19 ⇓PKiKP **PKiKP** 09 43 09.5 0.0
baz=126
WAKR Walker 126.03 34 *e*PKPdf **PKPdf** 09 43 10.2 +0.7
H19A Powell 126.03 22 ⇓PKiKP **PKiKP** 09 43 10.1 +0.4
baz=126
I17A Pilgrim Ck. 126.06 23 ⇓PKiKP **PKiKP** 09 43 10.1 +0.2
baz=126
FXWY Fox Creek 126.12 24 *e*PKPdf **PKPdf** 09 43 10.5 +0.9
MOOW Moose Ponds 126.14 24 *e*PKPdf **PKPdf** 09 43 10.3 +0.7
D27A Center 126.15 15 ⇑PKiKP **PKiKP** 09 43 09.8 +0.1
baz=126
G21A Lodge Grass 126.18 20 ⇓PKiKP **PKiKP** 09 43 09.9 0.0
baz=126
AGMN Agassiz Nation 126.20 10 ⇑PKiKP **PKPdf** 09 43 08.7 -0.5
baz=126
E25A Miller Ranch, 126.22 16 ⇑PKiKP **PKiKP** 09 43 10.1 +0.2
baz=126
TPAW Teton Pass 126.27 24 *e*PKPdf **PKPdf** 09 43 10.7 +0.7
C30A Mose, Pekin 126.29 12 ⇑PKiKP **PKPdf** 09 43 09.0 -0.5
baz=126
D28A Regan 126.31 14 ⇑PKiKP **PKiKP** 09 43 09.9 -0.1
baz=126
F23A Volborg 126.33 18 ⇑PKiKP **PKPdf** 09 43 09.8 +0.1
baz=126
REDW Red Top Meadow 126.42 24 *e*PKPdf **PKPdf** 09 43 11.0 +0.8
G22A Birney 126.49 19 ⇓PKiKP **PKPdf** 09 43 10.2 +0.1
baz=126
E26A Carlson Angus 126.50 16 ⇑PKiKP **PKiKP** 09 43 10.3 -0.1
baz=126
F24A Ekalaka 126.51 17 ⇓PKiKP **PKPdf** 09 43 10.3 +0.2
baz=126
H20A Greybull 126.55 21 ⇓PKiKP **PKPdf** 09 43 10.4 +0.1
baz=126
ELK Elko 126.56 29 *e*PKIKP **PKPdf** 09 43 11.4 +0.9
ELK Elko 126.56 29 *e*PKPdf **PKPdf** 09 43 11.4 +0.9
I19A Meeteetse 126.57 22 ⇓PKiKP **PKiKP** 09 43 10.8 -0.1
baz=126
D29A Pettibone, Tap 126.66 13 ⇓PKiKP **PKPdf** 09 43 10.2 -0.1
baz=126
NVAR Mina Array Bea 126.70 33 PKP **PKPdf** 09 43 11.3 +0.5
comp=Z,13nm,0.9s,baz=274,slow=1.8,SNR=60
NVAR pPKP **pPKPdf** 09 43 30.8 -2.7
comp=Z,7.0nm,0.7s,baz=287,slow=1.5,SNR=7.3
NVAR PP **PP** 09 45 06.5 -1.0
comp=Z,2.0nm,0.9s,baz=303,slow=5.0,SNR=3.4
NVAR PKKPbc **PKKPab** 09 52 41.1 +0.6
comp=Z,0.7nm,0.9s,baz=144,slow=6.0,SNR=3.6
F25A Bowman 126.73 17 ⇓PKiKP **PKPdf** 09 43 10.5 +0.1
baz=126
H21A Big Horn, Sher 126.76 20 ⇓PKiKP **PKPdf** 09 43 10.4 -0.3
baz=126
E27A Carson 126.77 15 ⇓PKiKP **PKPdf** 09 43 10.5 0.0
baz=126
D30A Buchanan 126.79 12 ⇓PKiKP **PKPdf** 09 43 10.3 -0.2
baz=126
E28A Huff 126.86 14 ⇑PKiKP **PKiKP** 09 43 10.9 -0.2
baz=127
HVU Hansel Valley 126.90 27 *e*PKIKP **PKPdf** 09 43 11.8 +0.7
HVU Hansel Valley 126.90 27 *e*PKPdf **PKPdf** 09 43 11.8 +0.7
I20A Worland 126.97 21 ⇓PKiKP **PKPdf** 09 43 11.3 +0.2
baz=127
MLAC Mammoth, Mammt 126.98 34 ⇑PKiKP **PKPdf** 09 43 11.2 -0.3
baz=127
G24A Alzada 126.99 18 ⇑PKiKP **PKPdf** 09 43 10.8 -0.2
baz=127
F26A Lodgepole 127.02 16 ⇑PKiKP **PKPdf** 09 43 11.3 +0.2
baz=127
H22A Clearmont 127.03 20 ⇓PKiKP **PKPdf** 09 43 11.0 -0.1
baz=127
E29A Napoleon 127.11 13 ⇑PKiKP **PKPdf** 09 43 10.8 -0.3
baz=127
F27A Lemmon 127.17 16 ⇑PKiKP **PKPdf** 09 43 11.3 0.0
baz=127
J19A Crowheart 127.21 23 ⇓PKiKP **PKPdf** 09 43 11.5 -0.2
baz=127
E30A Jud 127.34 13 ⇓PKiKP **PKPdf** 09 43 11.5 -0.1
baz=127
H23A Clabaugh Cattl 127.37 19 ⇓PKiKP **PKPdf** 09 43 11.4 -0.4
baz=127
I21A Big Trails, Te 127.39 21 ⇑PKiKP **PKPdf** 09 43 11.6 -0.3
baz=127
G25A Newell 127.41 17 ⇑PKiKP **PKPdf** 09 43 11.7 -0.1
baz=127
BW06 Boulder Array 127.43 23 *e*PKPdf **PKPdf** 09 43 11.6 -0.5
PDAR Pinedale Array 127.43 23 PKP **PKPdf** 09 43 11.9 -0.3
comp=Z,11nm,1.0s,baz=349,slow=1.5,SNR=4.5
PDAR pPKP **pPKPdf** 09 43 32.1 -2.8
comp=Z,8.3nm,1.0s,baz=132,slow=1.3,SNR=5.5
PDAR PP **PP** 09 45 12.5 +0.5
comp=Z,2.4nm,0.9s,baz=346,slow=1.9,SNR=4.1
BGU Big Grassy Mou 127.46 27 *e*PKPdf **PKPdf** 09 43 12.6 +0.4
H24A Dirks Ranch, A 127.47 18 ⇓PKiKP **PKPdf** 09 43 11.7 -0.3
baz=127
J20A Shoshoni 127.50 22 ⇓PKiKP **PKPdf** 09 43 12.0 -0.1
baz=127
F28A McLaughlin 127.51 15 ⇑PKiKP **PKPdf** 09 43 11.9 0.0
baz=127
G26A Maurine 127.55 16 ⇓PKiKP **PKPdf** 09 43 12.0 0.0
baz=127
TPH Tonopah 127.55 33 *e*PKIKP **PKPdf** 09 43 13.4 +1.0
TPH Tonopah 127.55 33 *e*PKPdf **PKPdf** 09 43 13.4 +1.0
HWUT Hardware Ranch 127.57 26 *e*PKPdf **PKPdf** 09 43 12.0 -0.3
I22A 9 Mile Ranch, 127.60 20 ⇑PKiKP **PKPdf** 09 43 12.0 -0.3
baz=127
G27A Dupree 127.65 16 ⇑PKiKP **PKPdf** 09 43 12.1 -0.1
baz=127
RCTC Rector, Farmer 127.67 36 ⇓PKiKP **PKPdf** 09 43 12.1 -0.3
baz=127
J21A Lysite 127.74 21 ⇓PKiKP **PKPdf** 09 43 12.3 -0.3
baz=128
F29A Eureka 127.76 14 ⇑PKiKP **PKPdf** 09 43 12.1 -0.3
baz=128
H25A Fruitdale 127.87 17 ⇑PKiKP **PKPdf** 09 43 12.5 -0.2
baz=128
I23A Meade Ranch, G 127.88 19 ⇑PKiKP **PKPdf** 09 43 12.5 -0.3
baz=128
SMMC Simmler 127.90 37 ⇓PKiKP **PKiKP** 09 43 13.4 -0.2
baz=128
F30A Leola 127.94 13 ⇑PKiKP **PKPdf** 09 43 12.7 -0.1
baz=128
J22A Midwest 128.02 20 ⇓PKiKP **PKPdf** 09 43 12.5 -0.7
baz=128
TCUT Toone Canyon 128.03 26 *e*PKPdf **PKPdf** 09 43 13.7 +0.4
VES Vestal, Richgr 128.08 36 ⇑PKiKP **PKPdf** 09 43 13.0 -0.3
baz=128
H26A Fairpoint 128.12 17 ⇓PKiKP **PKPdf** 09 43 13.1 -0.1
baz=128
DUG Dugway, Tooele 128.15 28 *e*PKIKP **PKPdf** 09 43 14.5 +1.0
DUG Dugway, Tooele 128.15 28 ⇑PKiKP **PKiKP** 09 43 13.8 -0.3
baz=128
DUG Dugway, Tooele 128.15 28 *e*PKPdf **PKPdf** 09 43 14.5 +1.0
RSSD Black Hills 128.19 18 *e*PKIKP **PKPdf** 09 43 11.3 -2.3
RSSD Black Hills 128.19 18 *e*PKPdf **PKPdf** 09 43 11.2 -2.3
G28A Parade 128.20 15 ⇓PKiKP **PKPdf** 09 43 13.2 -0.1
baz=128
R11A Troy Canyon, C 128.21 31 ⇓PKiKP **PKiKP** 09 43 14.2 -0.1
baz=128
R11A Troy Canyon, C 128.21 31 *e*PKPdf **PKPdf** 09 43 14.5 +0.9
CTU Camp Tracy 128.23 27 *e*PKPdf **PKPdf** 09 43 14.8 +1.1
I24A Kuemmerle Ranc 128.24 19 ⇓PKiKP **PKPdf** 09 43 13.1 -0.4
baz=128
CWC Cottonwood Cre 128.25 35 ⇑PKiKP **PKPdf** 09 43 13.2 -0.6
baz=128
H27A Howes 128.30 16 ⇑PKiKP **PKPdf** 09 43 13.3 -0.2
baz=128
G29A Hoven 128.34 14 ⇑PKiKP **PKPdf** 09 43 13.3 -0.3
baz=128
J23A Dilts Ranch, B 128.35 20 ⇑PKiKP **PKPdf** 09 43 13.3 -0.4
baz=128
I25A Rochford 128.38 18 ⇓PKiKP **PKPdf** 09 43 13.6 -0.2
baz=128
PKME Peaks-Kenny Pk 128.43 347 *e*PKPdf **PKPdf** 09 43 14.8 +1.2
JLU Jordanelle 128.44 26 *e*PKPdf **PKPdf** 09 43 15.0 +0.9
H28A Mission Ridge 128.55 15 ⇓PKiKP **PKPdf** 09 43 13.8 -0.2
baz=128
ISA Isabella, Lake 128.56 36 *e*PKIKP **PKPdf** 09 43 14.9 +0.6
ISA Isabella, Lake 128.56 36 ⇓PKiKP **PKPdf** 09 43 14.2 -0.1
baz=128
ISA Isabella, Lake 128.56 36 *e*PKPdf **PKPdf** 09 43 14.9 +0.6
G30A Faulkton 128.58 13 ⇓PKiKP **PKPdf** 09 43 13.6 -0.4
baz=128
I26A New Underwood 128.63 17 ⇓PKiKP **PKPdf** 09 43 14.1 -0.1
baz=128
DAC Darwin (Calif) 128.64 35 *e*PKIKP **PKPdf** 09 43 14.4 -0.2
DAC Darwin (Calif) 128.64 35 *e*PKPdf **PKPdf** 09 43 14.4 -0.2
SBC Santa Barbara 128.66 38 ⇑PKiKP **PKPdf** 09 43 14.3 -0.1
baz=128
K22A Casper 128.67 21 ⇑PKiKP **PKPdf** 09 43 14.1 -0.4
baz=128
K22A Casper 128.67 21 *e*PKPdf **PKPdf** 09 43 14.0 -0.4
NLU North Lily Min 128.68 27 *e*PKPdf **PKPdf** 09 43 15.6 +1.1
J24A Dixon Ranch, L 128.71 19 ⇑PKiKP **PKPdf** 09 43 14.1 -0.3
baz=128
H29A Onida 128.80 15 ⇑PKiKP **PKPdf** 09 43 14.3 -0.1
baz=128
I27A Quinn 128.83 16 ⇓PKiKP **PKPdf** 09 43 14.5 -0.1
baz=129
MPMC Manual Prospec 128.85 35 ⇑PKiKP **PKiKP** 09 43 15.4 -0.3
baz=129
K23A Bowen Ranch, D 128.90 20 ⇑PKiKP **PKPdf** 09 43 14.6 -0.2
baz=129
TPNV Topopah Spring 128.90 33 ⇓PKiKP **PKPdf** 09 43 15.3 +0.3
baz=129
J25A Sunshine Ranch 128.93 18 ⇑PKiKP **PKPdf** 09 43 14.6 -0.2
baz=129
I28A Midland 129.13 16 ⇓PKiKP **PKPdf** 09 43 14.8 -0.3
baz=129
J26A Sides Ranch, S 129.22 18 ⇑PKiKP **PKPdf** 09 43 15.3 0.0
baz=129
BRSD Miller 129.28 14 ⇓PKiKP **PKPdf** 09 43 15.2 -0.1
baz=129
BRSD Miller 129.28 14 *e*PKPdf **PKPdf** 09 43 15.6 +0.3
BLG Laguna Peak, P 129.28 38 ⇓PKiKP **PKPdf** 09 43 15.7 0.0
baz=129
I29A Vivian Onida 129.34 15 ⇑PKiKP **PKPdf** 09 43 15.4 -0.1
baz=129
EDW2 Edwards Air Fo 129.39 36 ⇓PKiKP **PKPdf** 09 43 15.8 -0.1
baz=129
N20A Spence Gulch, 129.58 24 ⇑PKiKP **PKPdf** 09 43 16.3 0.0
baz=129
J27A Elkhorn Farm, 129.59 17 ⇑PKiKP **PKPdf** 09 43 16.0 0.0
baz=129
TMUT Trail Mountain 129.60 27 *e*PKPdf **PKPdf** 09 43 15.8 -0.6
K25A Mack Ranch, Ha 129.61 19 ⇓PKiKP **PKPdf** 09 43 16.1 -0.1
baz=129
SHOC Shoshone, Teco 129.65 34 ⇑PKiKP **PKPdf** 09 43 16.6 +0.3
baz=129
J28A Allard Ranch, 129.65 16 ⇓PKiKP **PKPdf** 09 43 16.2 +0.1
baz=129
SPMN Marine on St. 129.66 8 ⇑PKiKP **PKiKP** 09 43 16.5 -0.3
baz=129
SPMN Marine on St. 129.66 8 *e*PKPdf **PKPdf** 09 43 17.0 +1.0
I30A Oacoma 129.66 14 ⇑PKiKP **PKPdf** 09 43 16.2 +0.1
baz=129
K26A Motz Farm, Whi 129.74 18 ⇑PKiKP **PKPdf** 09 43 16.1 -0.2
baz=130
MVU Marysvale 129.77 29 *e*PKPdf **PKPdf** 09 43 16.6 -0.1
MSU Marysvale 129.78 29 *e*PKIKP **PKPdf** 09 43 17.7 +1.0
MSU Marysvale 129.78 29 *e*PKPdf **PKPdf** 09 43 17.7 +1.0
GSC Goldstone, Bar 129.78 35 *e*PKIKP **PKPdf** 09 43 18.1 +1.4
GSC Goldstone, Bar 129.78 35 ⇑PKiKP **PKiKP** 09 43 17.2 -0.2
baz=130
GSC Goldstone, Bar 129.78 35 *e*PKPdf **PKPdf** 09 43 18.1 +1.4
MWC Mount Wilson 129.81 37 *e*PKIKP **PKPdf** 09 43 16.4 -0.4
MWC Mount Wilson 129.81 37 *e*PKPdf **PKPdf** 09 43 16.4 -0.4
SHPR Sheep Range 129.81 33 *e*PKPdf **PKPdf** 09 43 18.3 +1.6
J29A Okreek 129.91 15 ⇓PKiKP **PKiKP** 09 43 17.2 -0.2
baz=130
RRX Edison Barstow 129.97 35 ⇓PKiKP **PKPdf** 09 43 17.1 +0.2
baz=130
L25A Engebretsen Ra 129.99 19 ⇑PKiKP **PKiKP** 09 43 17.4 -0.3
baz=130
K27A Flueckinger Fa 130.03 17 ⇓PKiKP **PKPdf** 09 43 17.1 +0.2
baz=130
BFSC Mount Baldy Ra 130.03 37 ⇓PKiKP **PKPdf** 09 43 17.5 +0.3
baz=130
SRU San Rafael Swe 130.06 27 *e*PKIKP **PKPdf** 09 43 17.2 0.0
SRU San Rafael Swe 130.06 27 *e*PKPdf **PKPdf** 09 43 17.2 0.0
LONY Lake Ozonia 130.08 351 *e*PKPdf **PKPdf** 09 43 16.7 -0.1
CIS Catalina Islan 130.16 38 ⇓PKiKP **PKPdf** 09 43 17.4 +0.1
baz=130
O20A White River Ci 130.19 24 ⇓PKiKP **PKPdf** 09 43 17.6 +0.1
baz=130
O20A White River Ci 130.19 24 *e*PKPdf **PKPdf** 09 43 17.5 +0.1
PTN Potsdam (NY) 130.19 351 *e*PKIKP **PKPdf** 09 43 18.1 +1.1
PTN Potsdam (NY) 130.19 351 *e*PKPdf **PKPdf** 09 43 18.1 +1.1
PTN *e*SKPbc **SKPbc** 09 46 33.0 -0.1
J30A Dallas 130.20 15 ⇑PKiKP **PKPdf** 09 43 17.3 +0.1
baz=130
PHWY Pilot Hill 130.24 21 *e*PKPdf **PKPdf** 09 43 17.6 -0.1
PHWY *e*SKPbc **SKPab** 09 46 32.0 -1.5
K28A Ten Mile Ranch 130.27 16 ⇓PKiKP **PKPdf** 09 43 17.2 -0.1
baz=130
N22A Wattenberg Ran 130.31 22 ⇑PKiKP **PKPdf** 09 43 17.7 -0.1
baz=130
L26A Underwood Farm 130.38 18 ⇑PKiKP **PKPdf** 09 43 17.6 0.0
baz=130
N23A Red Feather La 130.42 22 ⇑PKiKP **PKPdf** 09 43 17.9 0.0
baz=130
MDV Middlebury 130.45 349 *e*PKPdf **PKPdf** 09 43 17.7 +0.2
BBRC Big Bear Solar 130.45 36 ⇑PKiKP **PKPdf** 09 43 18.0 -0.2
baz=130
ECSD EROS Data Cent 130.46 12 ⇑PKiKP **PKiKP** 09 43 18.1 -0.3
baz=130
ECSD EROS Data Cent 130.46 12 *e*PKPdf **PKPdf** 09 43 17.8 +0.2
ECSD *e*SKPbc **SKPab** 09 46 32.2 -1.8
K29A Lazy Trails An 130.51 16 ⇓PKiKP **PKiKP** 09 43 18.3 -0.3
baz=130
M25A Palm-Egli Farm 130.60 20 ⇓PKiKP **PKPdf** 09 43 18.1 0.0
baz=130
GLMI Grayling 130.64 0 *e*PKPdf **PKPdf** 09 43 19.9 +2.0
GLMI *e*SKPbc **SKPab** 09 46 35.2 +0.4
MURC Murrieta 130.75 37 ⇑PKiKP **PKPdf** 09 43 18.9 +0.4
baz=130
K30A Basset 130.78 15 ⇓PKiKP **PKPdf** 09 43 18.7 +0.4
baz=130
GMRC Granite Mounta 130.81 34 ⇓PKiKP **PKPdf** 09 43 18.9 +0.2
baz=131
O22A Kremmling 130.83 23 ⇑PKiKP **PKPdf** 09 43 18.8 0.0
baz=131
M26A McRoberts Ranc 130.87 19 ⇑PKiKP **PKPdf** 09 43 18.8 +0.2
baz=131
O23A Lake Granby, G 131.03 22 ⇓PKiKP **PKiKP** 09 43 19.9 -0.2
baz=131
BELC Belle Mtn. Jos 131.18 35 ⇑PKiKP **PKiKP** 09 43 20.1 -0.3
baz=131
PFO Pinyon Flats O 131.19 36 ⇓PKiKP **PKiKP** 09 43 20.1 -0.3
baz=131
P22A Eagle 131.24 23 ⇑PKiKP **PKiKP** 09 43 20.3 -0.1
baz=131
PV04 Paradox Valley 131.37 26 *e*PKPdf **PKPdf** 09 43 20.2 +0.6
PV04 *e*SKPbc **SKPbc** 09 46 37.0 -0.7
N26A Koester Ranch, 131.42 19 ⇓PKiKP **PKiKP** 09 43 20.2 -0.4
baz=131
L30A Spencer Herefo 131.43 15 ⇑PKiKP **PKiKP** 09 43 20.1 -0.4

	baz=131						
L31A	Butterfield Fa	131.44	14	⇑PKiKP	PKiKP	09 43 20.7	+0.2
	baz=131						
ISCO	Idaho Springs	131.50	22	ePKIKP	PKPpre	09 43 14.3	
ISCO	Idaho Springs	131.50	22	⇑PKiKP	PKiKP	09 43 20.7	-0.3
	baz=131						
ISCO	Idaho Springs	131.50	22	ePKPdf	PKPpre	09 43 14.2	
ISCO				eSKPbc	SKPbc	09 46 37.2	-1.2
SMCO	Snowmass	131.51	24	ePKPdf	PKPdf	09 43 21.7	+1.5
SMCO				eSKPbc	SKPbc	09 46 37.5	-1.0
IRM	Iron Mountain	131.55	35	⇑PKiKP	PKiKP	09 43 20.9	0.0
	baz=131						
M29A	Burnside Ranch	131.63	17	⇓PKiKP	PKiKP	09 43 21.1	+0.1
	baz=131						
N27A	Anderson Farm,	131.66	19	⇓PKiKP	PKiKP	09 43 21.0	-0.1
	baz=131						
OGNE	Ogallala	131.69	18	⇑PKiKP	PKiKP	09 43 21.0	-0.1
	baz=131						
BAR	Barrett	131.71	37	ePKPdf	PKPdf	09 43 22.6	+2.3
BAR				eSKPbc	SKPbc	09 46 37.3	-1.7
MONP	Monument Peak,	131.72	37	⇑PKiKP	PKiKP	09 43 21.2	-0.4
	baz=132						
PV01	Paradox Valley	131.73	26	ePKPdf	PKPdf	09 43 18.9	-1.5
BC3	Big Chuckawall	131.74	35	⇓PKiKP	PKiKP	09 43 21.3	-0.1
	baz=132						
P23A	Jefferson	131.78	22	⇓PKiKP	PKPdf	09 43 21.1	+0.4
	baz=132						
O26A	Horse Wrangler	131.92	20	⇓PKiKP	PKiKP	09 43 21.4	-0.3
	baz=132						
PDMCI	Parker Dam,Lak	132.01	34	⇑PKiKP	PKiKP	09 43 21.4	-0.3
	baz=132						
SWSC	Sam W. Stewart	132.05	36	⇓PKiKP	PKiKP	09 43 21.6	-0.3
	baz=132						
N28A	Pribbeno Ranch	132.08	18	⇓PKiKP	PKiKP	09 43 21.5	-0.3
	baz=132						
M31A	Lambtecht Ranc	132.19	15	⇓PKiKP	PKiKP	09 43 21.6	-0.4
	baz=132						
Y12C	Blythe	132.20	35	⇑PKiKP	PKiKP	09 43 21.8	-0.4
	baz=132						
L34A	Svendsen Farm,	132.21	12	⇑PKiKP	PKiKP	09 43 21.7	-0.3
	baz=132						
N29A	Votaw Ranch, W	132.23	17	⇓PKiKP	PKPdf	09 43 21.6	+0.5
	baz=132						
O27A	Beecher Island	132.24	19	⇑PKiKP	PKiKP	09 43 22.0	-0.3
	baz=132						
JFWS	Jewell Farm	132.24	6	ePKIKP	PKPdf	09 43 20.7	-0.3
JFWS	Jewell Farm	132.24	6	ePKPdf	PKPdf	09 43 20.7	-0.3
JFWS				eSKPbc	SKPbc	09 46 39.4	-1.1
BGNE	Belgrade	132.34	14	⇓PKiKP	PKiKP	09 43 21.9	-0.4
	baz=132						
BGNE	Belgrade	132.34	14	ePKPdf	PKPdf	09 43 21.4	+0.2
MMNY	Mt. Morris Dam	132.38	354	ePKPdf	PKPdf	09 43 22.0	+0.8
MMNY				eSKPbc	SKPbc	09 46 41.4	+0.4
Q24A	Divide	132.40	22	⇓PKiKP	PKPdf	09 43 22.1	+0.3
	baz=132						
P26A	Davis Ranch, A	132.52	20	⇓PKiKP	PKiKP	09 43 22.7	-0.2
	baz=132						
MVCO	Mesa Verde	132.53	26	⇑PKiKP	PKiKP	09 43 22.6	-0.5
	baz=132						
MVCO	Mesa Verde	132.53	26	ePKPdf	PKPdf	09 43 23.0	+1.0
MVCO				eSKPbc	SKPab	09 46 43.0	-0.3
GLA	Glamis	132.54	35	⇑PKiKP	PKPdf	09 43 22.1	+0.2
	baz=132						
WUAZ	Wupatki	132.54	30	⇑PKiKP	PKiKP	09 43 22.5	-0.5
	baz=132						
M34A	Aspy Farms, Fr	132.61	13	⇓PKiKP	PKiKP	09 43 22.4	-0.5
	baz=132						
BINY	Binghamton	132.66	352	ePKPdf	PKPdf	09 43 22.1	+0.3
N31A	Bailey Ranch,	132.69	15	⇑PKiKP	PKPdf	09 43 22.4	+0.5
	baz=132						
P27A	Ficken Ranch,	132.78	19	⇓PKiKP	PKPdf	09 43 22.6	+0.3
	baz=132						
S22A	4UR Ranch, Cre	132.79	24	⇓PKiKP	PKPdf	09 43 22.8	+0.3
	baz=132						
R23A	Moffat	132.82	23	⇓PKiKP	PKPdf	09 43 22.8	+0.2
	baz=133						
O29A	4D Ranch, Culb	132.82	17	⇓PKiKP	PKPdf	09 43 22.8	+0.5
	baz=133						
SCIA	State Center	132.85	9	ePKPdf	PKPdf	09 43 23.0	+0.8
N32A	Stulken Farm,	132.91	15	⇑PKiKP	PKiKP	09 43 22.9	-0.6
	baz=133						
O30A	MW Ranch, Wils	132.99	17	⇓PKiKP	PKiKP	09 43 23.2	-0.5
	baz=133						
Q26A	Hugo	133.03	21	⇓PKiKP	PKPdf	09 43 23.3	+0.5
	baz=133						
P28A	Saint Francis	133.03	19	⇑PKiKP	PKPdf	09 43 23.3	+0.6
	baz=133						
O31A	Woolen Ranch,	133.21	16	⇓PKiKP	PKPdf	09 43 23.5	+0.6
	baz=133						
KSPA	Keystone Colle	133.26	351	ePKPdf	PKPdf	09 43 24.0	+1.1
KSPA				eSKPbc	SKPab	09 46 45.1	-0.9
KSCO	Kaye Shedlock'	133.26	20	⇑PKiKP	PKPdf	09 43 23.7	+0.6
	baz=133						
KSCO	Kaye Shedlock'	133.26	20	ePKPdf	PKPpre	09 43 19.2	
KSCO				eSKPbc	SKPbc	09 46 43.6	-0.8
N34A	Lincoln	133.26	13	⇑PKiKP	PKiKP	09 43 23.6	-0.5
	baz=133						
P29A	Atwood	133.26	18	⇓PKiKP	PKiKP	09 43 23.8	-0.5
	baz=133						
SDCO	Great Sand Dun	133.33	23	⇑PKiKP	PKPdf	09 43 23.9	+0.4
	baz=133						
SDCO	Great Sand Dun	133.33	23	ePKPdf	PKPpre	09 43 15.4	
N35A	Tabor	133.42	12	⇑PKiKP	PKiKP	09 43 24.0	-0.4
	baz=133						
Q28A	Sharon Springs	133.47	19	⇓PKiKP	PKiKP	09 43 24.5	-0.3
	baz=133						
PAL	Palisades	133.48	349	eSKPbc	SKPab	09 46 47.7	+0.7
P30A	Selden	133.52	17	⇓PKiKP	PKiKP	09 43 24.4	-0.4
	baz=133						
ODNJ	Ogdensburg	133.53	350	ePKPdf	PKPdf	09 43 24.5	+1.1
ODNJ				eSKPbc	SKPab	09 46 46.1	-1.1
R26A	Arlington	133.61	21	⇑PKiKP	PKiKP	09 43 24.5	-0.6
	baz=133						
W18A	Petrified Fore	133.67	29	⇑PKiKP	PKPdf	09 43 24.8	+0.6
	baz=133						
W18A	Petrified Fore	133.67	29	ePKPdf	PKPdf	09 43 24.7	+0.6
O33A	Hebron	133.74	14	⇓PKiKP	PKiKP	09 43 24.6	-0.6
	baz=134						
P31A	Stockton	133.79	16	⇑PKiKP	PKiKP	09 43 25.0	-0.4
	baz=134						
R27A	Eads	133.85	20	⇑PKiKP	PKPdf	09 43 24.7	+0.4
	baz=134						
Q29A	Oakley	133.90	18	⇓PKiKP	PKiKP	09 43 25.1	-0.6
	baz=134						
P32A	Huiting Farm,	133.91	15	⇓PKiKP	PKiKP	09 43 25.1	-0.5
	baz=134						
O35A	Humboldt	133.94	12	⇑PKiKP	PKiKP	09 43 25.1	-0.5
	baz=134						
Q30A	Quinter	134.05	17	⇓PKiKP	PKiKP	09 43 25.4	-0.4
	baz=134						
R28A	Tribune	134.13	19	⇓PKiKP	PKiKP	09 43 25.6	-0.5
	baz=134						
S26A	Kim	134.21	21	⇑PKiKP	PKiKP	09 43 25.9	-0.5
	baz=134						
O36A	Bolckow	134.26	11	⇑PKiKP	PKiKP	09 43 25.8	-0.4
	baz=134						
Q31A	Ellis	134.26	16	⇑PKiKP	PKiKP	09 43 25.9	-0.4
	baz=134						
R29A	Marienthal	134.28	19	⇑PKiKP	PKiKP	09 43 25.9	-0.5
	baz=134						
T25A	Trinidad	134.28	23	⇓PKiKP	PKPdf	09 43 25.8	+0.5
	baz=134						
P33A	Williams Farm,	134.31	15	⇑PKiKP	PKiKP	09 43 25.9	-0.4
	baz=134						
P34A	Walnut Farm, R	134.42	14	⇓PKiKP	PKiKP	09 43 26.1	-0.4
	baz=134						
SSPA	Standing Stone	134.45	353	ePKPdf	PKPdf	09 43 25.7	+0.6
SSPA				eSKPbc	SKPbc	09 46 47.9	-0.1
214A	Organ Pipe Nat	134.49	35	⇑PKiKP	PKiKP	09 43 26.4	-0.6
	baz=134						
214A	Organ Pipe Nat	134.49	35	ePKPdf	PKPdf	09 43 25.6	+0.1
Q32A	Meitler Ranch,	134.51	16	⇓PKiKP	PKiKP	09 43 26.3	-0.5
	baz=134						
T26A	Comanche Natio	134.56	22	⇓PKiKP	PKiKP	09 43 26.5	-0.6
	baz=134						
P35A	Duane Minner,	134.62	13	⇑PKiKP	PKiKP	09 43 26.7	-0.2
	baz=134						
R30A	Dighton	134.67	18	⇑PKiKP	PKiKP	09 43 26.8	-0.4
	baz=134						
Q33A	Connelly Farm,	134.69	15	⇓PKiKP	PKiKP	09 43 26.8	-0.4
	baz=134						
P36A	Good Intent, A	134.71	12	⇓PKiKP	PKiKP	09 43 26.8	-0.3
	baz=134						
S28A	Manter	134.79	20	⇓PKiKP	PKiKP	09 43 26.9	-0.5
	baz=134						
R31A	Burdett	134.89	17	⇓PKiKP	PKiKP	09 43 27.2	-0.4
	baz=135						
KSU1	Kansas State U	134.89	14	⇑PKiKP	PKiKP	09 43 27.2	-0.2
	baz=135						
KSU1	Kansas State U	134.89	14	ePKPdf	PKiKP	09 43 27.3	-0.2
T27A	Campo	134.97	21	⇑PKiKP	PKiKP	09 43 27.3	-0.6
	baz=135						
Q34A	Chapman	134.99	14	⇑PKiKP	PKiKP	09 43 27.3	-0.4
	baz=135						
R32A	Long Quarter,	135.00	16	⇑PKiKP	PKiKP	09 43 27.3	-0.5
	baz=135						
SFIN	Lafayette	135.01	3	⇑PKiKP	PKiKP	09 43 27.5	-0.2
	baz=135						
SFIN	Lafayette	135.01	3	ePKPdf	PKPdf	09 43 26.6	+0.4
S29A	Ulysses	135.02	19	⇓PKiKP	PKiKP	09 43 27.4	-0.6
	baz=135						
T28A	Walsh	135.14	20	⇓PKiKP	PKiKP	09 43 27.5	-0.7
	baz=135						
S30A	Montezuma	135.21	18	⇓PKiKP	PKiKP	09 43 27.8	-0.5
	baz=135						
Q35A	Mercer Eighty,	135.26	13	⇑PKiKP	PKiKP	09 43 27.6	-0.7
	baz=135						
Q36A	Arnold C. Orve	135.28	12	⇓PKiKP	PKiKP	09 43 27.7	-0.6
	baz=135						
R33A	Olander Ranch,	135.30	15	⇑PKiKP	PKiKP	09 43 27.9	-0.5
	baz=135						
ANMO	Albuquerque	135.33	26	ePKIKP	PKPpre	09 43 19.1	
ANMO	Albuquerque	135.33	26	ePKPdf	PKPpre	09 43 19.1	
ANMO				eSKPbc	SKPbc	09 46 49.5	-1.8
TUC	Tucson	135.34	33	ePKIKP	PKPpre	09 43 20.7	
TUC	Tucson	135.34	33	ePKPdf	PKPpre	09 43 20.7	
TUC				eSKPbc	SKPbc	09 46 50.8	-0.5
T29A	Hugoton	135.38	19	⇑PKiKP	PKiKP	09 43 28.0	-0.6
	baz=135						
LAZ	Ladron	135.48	27	ePKPdf	PKPdf	09 43 25.9	-1.7
R34A	Isabella, Hill	135.50	15	⇓PKiKP	PKiKP	09 43 28.2	-0.6
	baz=135						
U27A	Thompson Grove	135.51	21	⇓PKiKP	PKiKP	09 43 28.3	-0.7
	baz=135						
S31A	Mullinville	135.53	17	⇑PKiKP	PKiKP	09 43 28.4	-0.6
	baz=135						
Q37A	Longview Farm,	135.57	11	⇑PKiKP	PKiKP	09 43 28.7	-0.2
	baz=135						
S32A	Newby Ranch, P	135.61	17	⇓PKiKP	PKiKP	09 43 28.6	-0.5
	baz=135						
T30A	Plains	135.72	19	⇑PKiKP	PKiKP	09 43 28.9	-0.5
	baz=136						
R35A	Emporia Munici	135.73	13	⇓PKiKP	PKiKP	09 43 29.0	-0.3
	baz=136						
LENM	Lemitar	135.75	27	ePKPdf	PKPdf	09 43 30.4	+2.3
U28A	Mallet	135.76	21	⇑PKiKP	PKiKP	09 43 29.1	-0.4
	baz=136						
LPM	Los Pinos Moun	135.78	27	ePKPdf	PKPdf	09 43 29.1	+1.0
Y22D	IRIS PASSCAL I	135.85	27	⇑PKiKP	PKiKP	09 43 29.4	-0.4
	baz=136						
R36A	Gordon, Harris	135.89	13	⇑PKiKP	PKiKP	09 43 29.0	-0.5
	baz=136						
T31A	Randall Ranch,	135.95	18	⇑PKiKP	PKiKP	09 43 29.3	-0.5
	baz=136						
S33A	Kaszmaul Farm,	135.97	16	⇑PKiKP	PKiKP	09 43 29.3	-0.5
	baz=136						
U29A	Oasis Ranch, S	136.03	20	⇑PKiKP	PKiKP	09 43 29.5	-0.5
	baz=136						
R37A	Teagarden Farm	136.04	12	⇓PKiKP	PKiKP	09 43 29.2	-0.7
	baz=136						
V27A	Dan Oppiter Fa	136.09	22	⇓PKiKP	PKiKP	09 43 29.8	-0.5
	baz=136						
T32A	Huddler Ranch,	136.10	17	⇑PKiKP	PKiKP	09 43 29.4	-0.7
	baz=136						
S34A	Willow Spring	136.10	15	⇑PKiKP	PKiKP	09 43 29.7	-0.3
	baz=136						
U30A	WK&E Inc. Balk	136.16	19	⇑PKiKP	PKiKP	09 43 29.9	-0.4
	baz=136						
BLO	Bloomington	136.24	3	ePKIKP	PKPdf	09 43 30.5	+2.0
BLO	Bloomington	136.24	3	ePKPdf	PKPdf	09 43 30.5	+2.0
BLO				eSKPbc	SKPbc	09 46 52.8	-0.9
S35A	Otter Creek Ra	136.31	14	⇑PKiKP	PKiKP	09 43 30.1	-0.4
	baz=136						
V28A	Channing	136.32	21	⇑PKiKP	PKiKP	09 43 30.2	-0.4
	baz=136						
T33A	Patterson Ranc	136.38	16	⇑PKiKP	PKiKP	09 43 30.2	-0.4
	baz=136						
S36A	Lake Cedric, C	136.44	13	⇑PKiKP	PKiKP	09 43 30.3	-0.4
	baz=136						
V29A	Stinnett	136.47	20	⇓PKiKP	PKiKP	09 43 30.3	-0.6
	baz=136						
U31A	Nine Bar Ranch	136.57	18	⇑PKiKP	PKPdf	09 43 30.1	+0.8
	baz=136						
OLIL	Olney	136.58	4	ePKPdf	PKPdf	09 43 30.2	+1.0
OLIL				eSKPbc	SKPbc	09 46 53.8	-1.0
121A	Cookes Peak, D	136.71	29	⇓PKiKP	PKiKP	09 43 31.0	-0.7
	baz=136						
121A	Cookes Peak, D	136.71	29	ePKPdf	PKPdf	09 43 29.8	-0.1
T34A	McClaskey Farm	136.72	15	⇓PKiKP	PKiKP	09 43 30.8	-0.5
	baz=136						
W28A	Vega	136.77	22	⇑PKiKP	PKiKP	09 43 31.1	-0.5
	baz=136						
U32A	Winter Ranch,	136.82	17	⇓PKiKP	PKiKP	09 43 31.1	-0.4
	baz=137						
V30A	Spur Ranch, Mi	136.85	20	⇑PKiKP	PKiKP	09 43 31.2	-0.5
	baz=137						
T35A	Sooner Cattle	137.00	14	⇑PKiKP	PKiKP	09 43 31.6	-0.2
	baz=137						
T36A	Boggs Farm, Ca	137.01	14	⇑PKiKP	PKiKP	09 43 31.4	-0.5
	baz=137						
U33A	Lingo Farm, Me	137.03	16	⇑PKiKP	PKiKP	09 43 31.5	-0.4
	baz=137						
W29A	Amarillo	137.10	21	⇑PKiKP	PKiKP	09 43 31.8	-0.5
	baz=137						
V31A	Spring Creek L	137.12	19	⇓PKiKP	PKiKP	09 43 31.6	-0.6
	baz=137						
T37A	Cheneyville 18	137.17	13	⇑PKiKP	PKiKP	09 43 31.8	-0.4
	baz=137						
U34A	Anderson Ranch	137.18	16	⇑PKiKP	PKiKP	09 43 31.7	-0.5
	baz=137						
WCI	Wyandotte Cave	137.19	2	ePKIKP	PKPdf	09 43 30.4	0.0
WCI	Wyandotte Cave	137.19	2	ePKPdf	PKPdf	09 43 30.4	0.0
WCI				eSKPbc	SKPbc	09 46 56.7	+0.1
AMTX	Amarillo	137.30	21	⇑PKiKP	PKPdf	09 43 31.6	+0.9
	baz=137						
AMTX	Amarillo	137.30	21	ePKPdf	PKPpre	09 43 22.4	
AMTX				ePP	PP	09 46 11.9	-3.1
JSRW	J. Sargeant Re	137.35	353	ePKPdf	PKPdf	09 43 32.7	+2.1
V32A	Arapaho	137.41	18	⇑PKiKP	PKiKP	09 43 32.1	-0.7
	baz=137						
X28A	Dimmitt	137.43	22	⇑PKiKP	PKiKP	09 43 32.4	-0.6
	baz=137						
V33A	Lossen Ranch,	137.55	17	⇑PKiKP	PKiKP	09 43 32.3	-0.7
	baz=137						
W31A	Holland Ranch,	137.62	19	⇓PKiKP	PKiKP	09 43 32.5	-0.7
	baz=137						
X29A	Tulia	137.68	22	⇓PKiKP	PKiKP	09 43 32.6	-0.9
	baz=137						
MSTX	Muleshoe	137.70	23	⇓PKiKP	PKiKP	09 43 32.6	-0.9
	baz=137						
V34A	Guthrie	137.75	16	⇑PKiKP	PKiKP	09 43 32.6	-0.9
	baz=138						
W32A	Sentinel	137.90	18	⇑PKiKP	PKiKP	09 43 32.9	-0.9
	baz=138						
Y28A	McKinney Farm,	137.96	23	⇑PKiKP	PKiKP	09 43 33.1	-1.0
	baz=138						
X30A	Coker Ranch, T	137.98	21	⇓PKiKP	PKiKP	09 43 33.1	-0.9
	baz=138						
V35A	Meyer Ranch, C	138.00	15	⇑PKiKP	PKiKP	09 43 33.2	-0.8
	baz=138						
BLA	Blacksburg	138.09	355	ePKIKP	PKPdf	09 43 34.4	+2.3
BLA	Blacksburg	138.09	355	ePKPdf	PKPdf	09 43 34.4	+2.3
W33A	Caddo, Fort Co	138.12	18	⇑PKiKP	PKPdf	09 43 33.2	+1.0
	baz=138						
X31A	McDonald Ranch	138.12	20	⇓PKiKP	PKiKP	09 43 33.4	-0.8
	baz=138						
TUL1	Leonard	138.13	14	⇑PKiKP	PKiKP	09 43 33.6	-0.6
	baz=138						
Y29A	Porterfield Fa	138.22	22	⇑PKiKP	PKiKP	09 43 33.7	-0.9
	baz=138						
W34A	Bridge Creek,	138.24	17	⇓PKiKP	PKiKP	09 43 33.9	-0.6
	baz=138						
PBMO	Poplar Bluff	138.28	7	eSKPbc	SKPbc	09 46 59.2	-0.6
Z28A	Tucker Farm, M	138.45	23	⇑PKiKP	PKiKP	09 43 34.4	-0.7
	baz=138						
Y30A	Stafford Cattl	138.48	21	⇓PKiKP	PKPdf	09 43 33.9	+1.0
	baz=138						
X32A	Elmer	138.54	19	⇑PKiKP	PKiKP	09 43 34.1	-1.0
	baz=138						
MNTX	Cornudas Mount	138.54	28	⇓PKiKP	PKiKP	09 43 34.1	-1.0
	baz=138						
MNTX	Cornudas Mount	138.54	28	ePKPdf	PKPpre	09 43 24.6	
W35A	Tecumseh	138.57	16	⇑PKiKP	PKiKP	09 43 34.2	-1.0
	baz=138						
Y31A	Rekieta Farm,	138.63	20	⇑PKiKP	PKPdf	09 43 34.0	+0.8
	baz=138						
X33A	Lawton	138.67	18	⇑PKiKP	PKiKP	09 43 34.6	-0.8
	baz=138						
Z29A	Hungry Hill Ra	138.74	22	⇑PKiKP	PKiKP	09 43 34.6	-1.0
	baz=138						
W36A	Wetumka	138.75	15	⇑PKiKP	PKiKP	09 43 34.5	-1.0
	baz=138						
X34A	Smith Ranch, M	138.82	17	⇓PKiKP	PKiKP	09 43 34.8	-0.9
	baz=139						
Y32A	R-V Farms, Ver	138.87	19	⇑PKiKP	PKiKP	09 43 34.9	-0.8
	baz=139						
Z30A	Sanderson Ranc	138.93	22	⇓PKiKP	PKiKP	09 43 35.1	-0.9
	baz=139						
W37A	Quinton	138.95	14	⇓PKiKP	PKiKP	09 43 35.1	-0.8
	baz=139						
128A	Castleberry Fa	139.00	24	⇓PKiKP	PKiKP	09 43 35.2	-0.9
	baz=139						
Y33A	Hilltop Ranch,	139.13	18	⇑PKiKP	PKiKP	09 43 35.3	-1.0
	baz=139						
W38A	Poteau	139.23	13	⇑PKiKP	PKiKP	09 43 35.4	-1.1
	baz=139						
129A	Stewart Farms,	139.23	23	⇑PKiKP	PKiKP	09 43 35.9	-0.8
	baz=139						
X35A	Drake	139.25	16	⇑PKiKP	PKiKP	09 43 35.7	-0.8
	baz=139						
Z31A	Sharp Cattle R	139.25	21	⇓PKiKP	PKiKP	09 43 35.5	-1.1
	baz=139						
X36A	Centrahoma	139.26	15	⇓PKiKP	PKiKP	09 43 35.6	-0.9
	baz=139						
228A	UT Block 9, Go	139.40	24	⇓PKiKP	PKiKP	09 43 36.1	-0.9
	baz=139						
Y34A	Reagan Ranch,	139.44	17	⇓PKiKP	PKiKP	09 43 36.2	-0.7
	baz=139						
X37A	Clayton	139.49	14	⇓PKiKP	PKPdf	09 43 35.7	+1.1
	baz=139						
Z32A	Haskell	139.49	20	⇓PKiKP	PKPdf	09 43 35.7	+1.0
	baz=139						
130A	Snyder	139.61	22	⇓PKiKP	PKiKP	09 43 36.4	-1.0
	baz=139						
Z33A	Whitaker Ranch	139.75	19	⇑PKiKP	PKiKP	09 43 36.9	-0.7
	baz=140						
131A	Roby	139.75	21	⇓PKiKP	PKiKP	09 43 36.7	-1.0
	baz=140						
229A	Bryant Ranch,	139.84	23	⇓PKiKP	PKiKP	09 43 36.7	-1.2
	baz=140						
MIAR	Mount Ida	139.94	12	ePKHKP	PKPpre	09 43 27.3	
MIAR	Mount Ida	139.94	12	ePKPdf	PKPpre	09 43 27.3	
MIAR				eSKPbc	SKPbc	09 47 03.7	-0.7
UALR	University of	139.95	10	ePKPdf	PKPdf	09 43 36.1	+0.6
UALR				eSKPbc	SKPbc	09 47 04.4	0.0
ABTX	Abilene, Hawle	140.06	20	⇑PKiKP	PKiKP	09 43 37.3	-1.0
	baz=140						
ABTX	Abilene, Hawle	140.06	20	ePKPdf	PKPpre	09 43 27.7	
ABTX				ePP	PP	09 46 24.9	-7.1
ABTX				eSKPbc	SKPbc	09 47 04.5	-0.3
Z35A	Perchaven, San	140.17	17	⇓PKiKP	PKiKP	09 43 37.4	-1.1
	baz=140						
230A	Sterling City	140.19	23	⇓PKiKP	PKiKP	09 43 37.4	-1.2
	baz=140						
329A	Wagon Wheel Ra	140.20	24	⇑PKiKP	PKiKP	09 43 37.7	-1.0
	baz=140						
KMSC	Kings Mountain	140.22	356	⇓PKiKP	PKiKP	09 43 37.8	-0.7
	baz=140						
KMSC	Kings Mountain	140.22	356	ePKPdf	PKPpre	09 43 30.4	
KMSC				eSKPbc	SKPbc	09 47 05.5	+0.4
133A	Hamilton Ranch	140.32	20	⇓PKiKP	PKiKP	09 43 38.1	-0.7
	baz=140						
231A	Bronte	140.44	22	⇑PKiKP	PKiKP	09 43 38.1	-1.0
	baz=140						
330A	Mertzon	140.59	23	⇑PKiKP	PKiKP	09 43 38.4	-1.0
	baz=140						
134A	White-Moore Ra	140.62	19	⇑PKiKP	PKiKP	09 43 38.4	-1.0
	baz=140						
232A	Coleman	140.73	21	⇓PKiKP	PKiKP	09 43 38.7	-0.9
	baz=140						
Z37A	Pogue Cattle C	140.75	15	⇑PKiKP	PKiKP	09 43 38.6	-1.0
	baz=140						
135A	Vickery Place,	140.85	18	⇑PKiKP	PKiKP	09 43 39.3	-0.6
	baz=141						
Z38A	Mt. Pleasant	140.86	14	⇑PKiKP	PKiKP	09 43 39.5	-0.3
	baz=141						
233A	Rising Star	140.87	20	⇑PKiKP	PKiKP	09 43 39.1	-0.8
	baz=141						
331A	San Angelo	140.96	22	⇓PKiKP	PKiKP	09 43 39.8	-0.4
	baz=141						
429A	Davenport Ranc	140.99	24	⇑PKiKP	PKiKP	09 43 39.7	-0.6
	baz=141						
430A	Baggett Ranch,	141.11	24	⇓PKiKP	PKiKP	09 43 39.9	-0.6
	baz=141						
234A	Clairette	141.13	19	⇓PKiKP	PKiKP	09 43 39.8	-0.7
	baz=141						
332A	Millersview	141.15	21	⇓PKiKP	PKiKP	09 43 40.0	-0.6
	baz=141						
137A	Heron Place, G	141.28	16	⇓PKiKP	PKiKP	09 43 40.4	-0.3
	baz=141						
529A	Stev Forest Ra	141.29	25	⇓PKiKP	PKiKP	09 43 40.3	-0.6
	baz=141						
TXAR	Lajitas Array	141.32	28	PKhKP	PKPpre	09 43 31.5	
	comp=Z,1.6nm,0.5s,baz=278,slow=1.7,SNR=25						
TXAR				PKP	PKPdf	09 43 38.4	+0.1
	comp=Z,4.2nm,0.6s,baz=318,slow=1.2,SNR=15						
TXAR				PP	PP	09 46 40.7	+0.6
	comp=Z,3.1nm,1.0s,baz=328,slow=4.5,SNR=5.2						
TXAR				SKPbc	SKPbc	09 47 06.6	-1.7
	comp=Z,3.0nm,0.9s,baz=357,slow=1.4,SNR=6.1						
WHTX	Lake Whitney,	141.36	18	⇓PKiKP	PKiKP	09 43 40.4	-0.5
	baz=141						
431A	Sonora	141.45	23	⇓PKiKP	PKiKP	09 43 40.8	-0.4
	baz=141						
333A	Richland Sprin	141.47	20	⇓PKiKP	PKiKP	09 43 40.5	-0.7
	baz=141						
432A	Menard	141.59	22	⇑PKiKP	PKiKP	09 43 40.9	-0.6
	baz=141						
236A	Katherine and	141.63	17	⇓PKiKP	PKiKP	09 43 40.9	-0.5
	baz=141						
530A	J-C Ranch, Com	141.63	24	⇓PKiKP	PKiKP	09 43 40.8	-0.8
	baz=141						
334A	Lometa	141.72	19	⇑PKiKP	PKiKP	09 43 41.1	-0.6
	baz=142						
531A	Rocksprings	141.94	23	⇑PKiKP	PKiKP	09 43 41.4	-0.8
	baz=142						
JCT	Junction City	141.94	22	ePKHKP	PKPpre	09 43 33.0	
JCT	Junction City	141.94	22	⇑PKiKP	PKiKP	09 43 41.5	-0.7
	baz=142						
JCT	Junction City	141.94	22	ePKPdf	PKPpre	09 43 33.0	
JCT				eSKPbc	SKPbc	09 47 07.5	-2.3
433A	Art	141.95	21	⇓PKiKP	PKiKP	09 43 41.6	-0.6
	baz=142						
238A	Jacksonville	142.01	15	⇓PKiKP	PKiKP	09 43 41.8	-0.5
	baz=142						
336A	Riesel	142.11	18	⇑PKiKP	PKiKP	09 43 41.9	-0.6
	baz=142						
PLCA	Paso Flores	142.12	197	PKhKP	PKPpre	09 43 34.0	
	comp=Z,6.4nm,0.7s,baz=172,slow=0.9,SNR=15						
PLCA				SKPbc	SKPbc	09 47 09.8	-0.1
	comp=Z,4.6nm,1.0s,baz=90,slow=1.0,SNR=3.0						
PLCA	Paso Flores	142.12	197	PKPpre	PKPpre	09 43 34.0	
PLCA				ePKPdf	PKPdf	09 43 35.9	-3.4
PLCA				SKPbc	SKPbc	09 47 09.8	-0.1
239A	Gary	142.16	14	⇓PKiKP	PKiKP	09 43 42.0	-0.6
	baz=142						
434A	Burnet	142.18	20	⇑PKiKP	PKiKP	09 43 42.0	-0.7
	baz=142						
532A	Rocksprings	142.22	22	⇑PKiKP	PKiKP	09 43 41.9	-0.9
	baz=142						
NATX	Nacogdoches	142.36	15	ePKPdf	PKPdf	09 43 35.6	-4.3
NATX				eSKPbc	SKPbc	09 47 10.6	-0.1
435B	Jarrell	142.44	19	⇑PKiKP	PKiKP	09 43 42.5	-0.7
	baz=142						
337A	Centerville	142.46	16	⇓PKiKP	PKiKP	09 43 42.3	-0.9
	baz=142						
631A	Perdido Creek	142.59	24	⇑PKiKP	PKiKP	09 43 43.1	-0.4
	baz=142						
436A	Wall Ranch, Ga	142.70	18	⇑PKiKP	PKiKP	09 43 42.9	-0.8
	baz=142						
VBMS	Vicksburg	142.75	9	ePKPdf	PKPdf	09 43 37.1	-3.4
VBMS				eSKPbc	SKiKP	09 47 12.6	-0.3
BDFB	Brasilia	142.78	250	PKhKP	PKPpre	09 43 38.4	
	comp=Z,20nm,1.0s,baz=129,slow=3.3,SNR=11						
BDFB				PKP	PKPdf	09 43 42.4	+1.2
	comp=Z,20nm,1.0s,baz=81,slow=3.4,SNR=15						
BDFB	Brasilia	142.78	250	PKPpre	PKPpre	09 43 38.4	
BDFB				ePKPdf	PKPdf	09 43 39.1	-2.1
BDFB				PKP	PKPdf	09 43 42.4	+1.2
339A	Huntington	142.79	15	⇑PKiKP	PKiKP	09 43 43.5	-0.4
	baz=142						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
632A	Uvalde	142.82	23	⇓PKiKP	PKiKP	09 43 43.7	-0.3
	baz=143						
534A	Blanco	142.83	21	⇓PKiKP	PKiKP	09 43 43.6	-0.4
	baz=143						
HKT	Hockley	143.75	17	ePKIKP	PKPbc	09 43 39.7	-0.3
HKT	Hockley	143.75	17	ePKPdf	PKPbc	09 43 39.7	-0.3
HKT				eSKPbc	SKPbc	09 47 14.3	+0.2
BRAL	Brewton	144.33	4	ePKPdf	PKPbc	09 43 42.2	+0.4
933A	Laredo	144.71	23	⇓PKiKP	PKPdf	09 43 45.3	+1.1
	baz=144						
934A	Benavides	145.01	22	⇓PKiKP	PKPdf	09 43 46.0	+1.4
	baz=145						
KVTX	Kingsville	145.30	22	ePKPdf	PKPdf	09 43 46.4	+1.3
034A	Hebbronville	145.43	23	⇓PKiKP	PKPab	09 43 47.5	+1.8
	baz=145						
936A	North Padre Is	145.62	21	⇑PKiKP	PKiKP	09 43 48.2	-1.5
	baz=145						
035A	Encino	145.77	22	⇑PKiKP	PKPab	09 43 48.2	+1.3
	baz=146						
035Z	Hargill	146.21	23	⇑PKiKP	PKPab	09 43 49.8	+1.2
	baz=146						
CPUP	Villa Florida	146.47	227	ePKP2	PKPbc	09 43 48.1	-0.5
CPUP	Villa Florida	146.47	227	ePKPdf	PKPbc	09 43 48.1	-0.5
SMRT	St. Maarten	149.16	318	ePKPdf	PKPbc	09 43 54.4	-1.7
DOG	Dongo Capester	149.51	313	eP	PKPbc	09 43 57.7	+0.7
PHG	Guadaloupe-2	149.54	313	eP	PKPbc	09 43 57.9	+0.7
MLG	Mont-d'or	149.56	313	eP	PKPbc	09 43 58.3	+1.1
HMG	Houelmont	149.61	313	eP	PKPbc	09 43 58.2	+1.0
TBG	Guadaloupe-3	149.65	313	eP	PKPbc	09 43 58.2	+0.9
FDF	Fort de France	149.99	311	eP	PKPbc	09 43 59.1	+0.9
FDF	Fort de France	149.99	311	ePKIKP	PKPdf	09 43 54.4	+1.2
FDF	Fort de France	149.99	311	ePKPdf	PKPdf	09 43 54.4	+1.2
STVI	Saint Thomas	150.16	321	ePKPdf	PKPdf	09 43 54.6	+1.2
GRTK	Grand Turk	150.89	334	ePKPbc	PKPbc	09 44 00.4	+0.2
OBIP	Obispado Ponce	151.41	323	ePKPdf	PKPdf	09 43 56.1	+0.8
OBIP				ePKPbc	PKiKP	09 44 01.9	0.0
GRGR	Grenville	151.94	307	ePKPbc	PKPbc	09 44 03.2	+0.4
SMN1	Samana, DR	151.99	329	ePKPbc	PKPbc	09 44 02.7	-0.2
LCO	Las Campanas	152.66	207	ePKPdf	PKPdf	09 43 58.6	+1.3
SDDR	Presa de Saban	153.16	332	ePKPbc	PKPbc	09 44 05.9	+0.5
SDDR				ePKPab	PKPab	09 44 17.7	+0.6
TEIG	Tepich	154.86	9	ePKPab	PKPab	09 44 23.8	-0.4
LVC	Limon Verde	156.85	219	ePKPdf	PKPdf	09 44 05.2	+2.0
LVC				ePKPab	PKPab	09 44 35.9	+2.7
SAML	Samuel	158.65	258	ePKPdf	PKPdf	09 44 06.5	+1.2
LPAZ	La Paz	160.45	233	PKP	PKPdf	09 44 08.4	+0.4
	comp=Z,11nm,0.9s,baz=95,slow=1.4,SNR=37						
LPAZ				PKPab	PKPab	09 44 50.5	+1.1
	comp=Z,13nm,0.8s,baz=97,slow=5.7,SNR=15						
SDV	Santo Domingo	160.80	315	ePKPdf	PKPdf	09 44 08.2	+0.2
SDV				ePKPab	PKPab	09 44 51.0	+0.6
BCIP	Isla Barro Col	165.48	342	ePKPdf	PKPdf	09 44 10.7	-1.5
ROSC	El Rosal	166.22	314	PKP	PKPdf	09 44 13.6	+0.3
	comp=Z,13nm,0.8s,baz=293,slow=0.7,SNR=11						
ROSC				PKPab	PKPab	09 45 15.2	+0.8
	comp=Z,8.2nm,0.6s,baz=95,slow=14,SNR=3.2						
ROSC	El Rosal	166.22	314	PKP	PKPdf	09 44 13.6	+0.3
ROSC				ePKPdf	PKPdf	09 44 14.1	+0.7
ROSC				PKPab	PKPab	09 45 15.2	+0.8
OTAV	Otavalo	172.35	310	ePKPdf	PKPdf	09 44 17.5	+0.2
OTAV				ePKPab	PKPab	09 45 43.8	+2.0

DDA 03 09:28:22.6, 37.28N×28.18E, h7km, MD2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	Tasoluk	0.45	328	i P	Pg	09 28 31.4	0.0
AYDN				i S	Sg	09 28 38.7	+1.2
TURN	Turunc	0.53	140	i P	Pg	09 28 30.0	-2.8
TURN				i S	Sg	09 28 40.2	+0.6

DDA 03 09:32:41.9, 37.18N×27.88E, h7km, MD2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.36	252	i P	Pg	09 32 48.3	-0.7
BDRM				i S	Sb	09 32 55.5	-1.2
AYDN	Tasoluk	0.48	0	i P	Pg	09 32 51.6	+0.3
AYDN				i S	Sg	09 32 58.6	+0.9
TURN	Turunc	0.66	118	i P	Pg	09 32 52.4	-2.2
TURN				i S	Sg	09 32 59.1	-4.0

DDA 03 09:34:46.7, 37.23N×27.82E, h7km, MD2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.34	242	i P	Pg	09 34 52.7	-0.8
BDRM				i S	Sb	09 34 59.6	-1.3
AYDN	Tasoluk	0.44	6	i P	Pg	09 34 55.6	+0.3
AYDN				i S	Sb	09 35 02.7	-1.1
TURN	Turunc	0.72	119	i P	Pg	09 34 57.7	-2.8
TURN				i S	Sg	09 35 03.8	-6.0
TURN				i S	Sb	09 35 10.0	-1.5

*ISCJB **03** 09:38:52.9±0.4, 51.50N±0.02×16.14E±0.03, h0km, Error ellipse: s-maj=3.4km s-min=2.3km az=10.4*
*CSEM **03** 09:38:54.2±0.2, 51.53N×16.08E, h2km, ML3.8/12, Error ellipse: s-maj=3.2km s-min=3.0km az=1.0*
*VIE **03** 09:38:58.0±0.3, 51.29N×15.94E, h0km, mb2.3/2, ML3.2/4, Error ellipse: s-maj=1.9km s-min=1.5km az=36.0 77 km WNW of Wroclaw Suspected Mining induced.*
*UPP **03** 09:38:59.2, 51.88N×16.04E, h0km, ML2.2, Suspected Mining explosion.*
ISC 03 09:38:54.4±0.8, 51.58N±0.03×16.07E±0.02, h0km, n59, σ1§38/112, 5C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.75	169	ePg	Pg	09 39 08.6	-0.2
KSP				eSg	Sg	09 39 17.7	-0.8
KSP	Ksiaz	0.75	169	ePg	Pg	09 39 08.6	-0.2
KSP				eSg	Sg	09 39 17.7	-0.8
UPC	Upice	1.07	182	ePG	Pg	09 39 14.6	-0.4
UPC				eSG	Sg	09 39 26.9	-1.9
	comp=Z,118nm,0.3s						
UPC	Upice	1.07	182	Pg	Pg	09 39 14.6	-0.4
UPC				Sg	Sg	09 39 26.9	-1.9
	118nm,0.3s						
DPC	Dobruska-Polom	1.24	173	ePG	Pg	09 39 17.4	-0.8
DPC				eSG	Sg	09 39 32.2	-2.0
	comp=Z,128nm,0.3s						
DPC	Dobruska-Polom	1.24	173	Pg	Pg	09 39 17.4	-0.8
DPC				Sg	Sg	09 39 32.2	-2.0
	128nm,0.3s						
PVCC	Panska Ves	1.42	223	ePG	Pn	09 39 21.3	-0.1
PVCC				eSG	Sg	09 39 39.9	0.0
	comp=Z,334nm,0.2s						
PVCC	Panska Ves	1.42	223	Pg	Pn	09 39 21.3	-0.1
PVCC				Sg	Sg	09 39 39.9	0.0
	334nm,0.2s						
BRG	Berggiesshubel	1.51	243	PN	Pn	09 39 22.7	-0.1
BRG				PG	Pg	09 39 23.7	+0.3
BRG				SG	Sn	09 39 43.9	+0.8
	265nm,0.4s						
KRLC	Kraliky	1.57	163	ePG	Pn	09 39 22.9	-0.7
KRLC				eSG	Sn	09 39 42.4	-2.3
KRLC	Kraliky	1.57	163	Pg	Pn	09 39 22.9	-0.7
KRLC				Sg	Sn	09 39 42.4	-2.3
PRA	Prague	1.83	215	ePN	Pn	09 39 26.9	-0.2
PRA				ePG	Pb	09 39 28.6	-0.2
PRA				eSG	Sb	09 39 52.5	+0.3
	comp=Z,97nm,0.4s						
PRA	Prague	1.83	215	Pn	Pn	09 39 26.9	-0.2
PRA	Prague	1.83	215	Pg	Pb	09 39 28.6	-0.2
PRA				Sg	Sb	09 39 52.5	+0.3
	97nm,0.4s						
GOPC	GO Pecny, Ondr	1.85	207	ePN	Pn	09 39 26.9	-0.6
GOPC				ePG	Pb	09 39 29.0	-0.2
GOPC				eSG	Sn	09 39 52.5	+0.9
	comp=Z,45nm,0.3s						
GOPC	GO Pecny, Ondr	1.85	207	Pn	Pn	09 39 26.9	-0.6
GOPC	GO Pecny, Ondr	1.85	207	Pg	Pb	09 39 29.0	-0.2
GOPC				Sg	Sn	09 39 52.5	+0.9
	45nm,0.3s						
PRU	Pruhonice	1.86	212	ePN	Pn	09 39 27.0	-0.6
PRU				ePG	Pb	09 39 28.7	-0.6
PRU				eSG	Sn	09 39 52.8	+1.0
	comp=Z,152nm,0.4s						
PRU	Pruhonice	1.86	212	Pn	Pn	09 39 27.0	-0.6
CLL	Collm	1.94	263	ePn	Pn	09 39 28.0	-0.6
CLL				ePg	Pg	09 39 32.0	+0.4
CLL				i		09 39 34.6	
CLL				i Sg	Sg	09 39 58.5	+1.8
	comp=Z,66nm,0.4s						
CLL	Collm	1.94	263	ePP	Pn	09 39 28.0	-0.6
RAC	Raciborz	2.01	137	ePg	Pn	09 39 31.5	+1.9
RAC				eSg	Sb	09 39 57.9	+0.5
OKC	Ostrava-Krasne	2.19	142	ePN	Pn	09 39 31.0	-1.0
OKC				ePG	Pb	09 39 34.4	-0.4
OKC				eSG	Sn	09 40 02.1	+2.3
	comp=Z,70nm,0.4s						
OKC	Ostrava-Krasne	2.19	142	Pn	Pn	09 39 31.0	-1.0
CHZP	Chorzow	2.25	124	ePX		09 39 36.6	
VRAC	Vranov	2.30	171	ePn	Pn	09 39 33.3	-0.3
VRAC				eSg	Sn	09 40 04.4	+1.9
TREC	Trest	2.32	189	ePN	Pn	09 39 33.2	-0.6
TREC				ePG	Pb	09 39 36.5	-0.6
TREC				eSG	Sb	09 40 06.2	0.0
	comp=Z,62nm,0.3s						
TREC	Trest	2.32	189	Pn	Pn	09 39 33.2	-0.6
TREC	Trest	2.32	189	Pg	Pb	09 39 36.5	-0.6
TREC				Sg	Sb	09 40 06.2	0.0
	comp=Z,62nm,0.3s						
NKC	Novy Kostel	2.66	241	ePN	Pn	09 39 38.9	+0.3
NKC				ePG	Pg	09 39 44.9	-0.5
NKC				eSG	Sg	09 40 20.5	+0.7
	comp=Z,70nm,0.3s						
NKC	Novy Kostel	2.66	241	Pn	Pn	09 39 38.9	+0.3
NKC	Novy Kostel	2.66	241	Pg	Pg	09 39 44.9	-0.5
NKC				Sg	Sg	09 40 20.5	+0.7
	comp=Z,70nm,0.3s						
OJC	Ojcow	2.72	118	ePn	Pn	09 39 37.3	-2.1
OJC				ePg	Pb	09 39 45.4	+1.4
OJC				eSg	Sb	09 40 21.1	+3.2
OJC	Ojcow	2.72	118	ePn	Pn	09 39 37.3	-2.1
KHC	Kasperske Hory	2.92	214	ePN	Pn	09 39 41.8	-0.4
KHC				ePG	Pb	09 39 47.8	+0.4
KHC				eSN	Sn	09 40 16.2	-1.8
KHC				eSG	Sb	09 40 25.7	+2.0
	comp=Z,33nm,0.4s						
KHC	Kasperske Hory	2.92	214	Pn	Pn	09 39 41.8	-0.4
SMOL	Smolenice	3.19	164	ePg	Pg	09 39 54.8	-0.7
SMOL				eSg	Sg	09 40 35.6	-1.2
SMOL	Smolenice	3.19	164	ePG	Pg	09 39 54.8	-0.7
SMOL				eSG	Sg	09 40 35.6	-1.2
LANS	Liptovska Anna	3.26	137	ePn	Pn	09 39 47.9	+1.1
LANS	Liptovska Anna	3.26	137	ePg	Pb	09 39 55.9	+2.7
LANS				eSg	Sg	09 40 38.3	-0.8
NIE	Niedzica	3.46	127	eP	Pb	09 39 59.4	+2.8
NIE				eS	Sg	09 40 44.4	-1.3
CONA	Conrad Observa	3.66	182	⇑iPn	Pn	09 39 51.8	-0.5
CONA				⇑iSg	Sb	09 40 49.1	+4.3
	comp=Z,35nm,0.4s						
CONA	Conrad Observa	3.66	182	Pn	Pn	09 39 51.8	-0.5
CONA				Sg	Sb	09 40 49.1	+4.3
	comp=Z,35nm,0.4s						
MOA	Molln	3.91	198	⇓iPn	Pn	09 39 55.2	-0.5
MOA				⇑iSg	Sg	09 40 57.4	-2.6
	comp=Z,45nm,0.6s						
MOA	Molln	3.91	198	Pn	Pn	09 39 55.2	-0.5
STHS	Stebnicka Huta	3.95	121	ePn	Pn	09 39 57.5	+1.2
STHS	Stebnicka Huta	3.95	121	ePN	Pn	09 39 57.5	+1.2
STHS				ePG	Pg	09 40 09.7	-0.4
STHS				eSG	Sg	09 41 02.4	+1.2
KECS	Kecovo	4.21	136	ePn	Pn	09 39 59.0	-0.8
KECS				eSg	Sg	09 41 07.1	-2.4
KECS	Kecovo	4.21	136	ePN	Pn	09 39 59.0	-0.8
KECS				eSG	Sg	09 41 07.1	-2.4
BLEU	Blekinge	4.74	358	P	Pn	09 40 06.8	-0.2
BLEU				S	Sn	09 40 58.7	-3.9
BLEU	Blekinge	4.74	358	P	Pn	09 40 06.8	-0.2
BLEU				S	Sn	09 40 58.7	-3.9
KOLS	Kolonicke sedl	4.78	121	ePg	Pg	09 40 25.8	-0.2
KOLS				eSg	Sg	09 41 27.1	-0.8
KOLS	Kolonicke sedl	4.78	121	ePG	Pg	09 40 25.8	-0.2
KOLS				eSG	Sg	09 41 27.1	-0.8
KBA	Koelnbreinsper	4.84	203	⇑iPn	Pn	09 40 08.1	-0.6
KBA				⇑iSg	Sg	09 41 28.2	-1.7
	comp=Z,22nm,0.6s						
KBA	Koelnbreinsper	4.84	203	Pn	Pn	09 40 08.1	-0.6
KBA				Sg	Sg	09 41 28.2	-1.7
	comp=Z,22nm,0.6s						
DEL	Delary	5.07	346	P	Pn	09 40 11.4	-0.2
DEL	Delary	5.07	346	P	Pn	09 40 11.4	-0.2
VXJU	Vaexsjoe	5.39	353	P	Pn	09 40 16.5	+0.5
VXJU	Vaexsjoe	5.39	353	P	Pn	09 40 16.6	+0.5

*IDC **03** 09:50:14.0±0.6, 7.36N×126.64E, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.9/45, mbtmp3.9/13, ML3.9/1, Error ellipse: s-maj=39.2km s-min=13.6km az=78.0*
*NEIC **03** 09:50:15.5±0.3, 7.35N×126.66E, h10km, mb4.1/2, Error ellipse: s-maj=7.8km s-min=5.6km az=100.0*
*MAN **03** 09:50:22, 7.19N×126.86E, h28km, mb4.4, ML3.3, MS3.1*
ISC 03 09:50:22.9±0.5, 7.31N±0.08×126.16E±0.10, h71km, n33, σ1§41/29, mb3.9/14, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.38	164	eP	Pn	09 50 35.4	+0.6
MATI				eS	Sn	09 50 45.7	+2.2
DAV	Davao City (W)	0.62	247	ePg	Pn	09 50 36.9	-0.2
DAV				eSg	Sn	09 50 45.7	-1.7
BUKP	Musuan	1.22	298	eP	Pn	09 50 53.5	+9.2
BUTP	Butuan	1.73	342	eP	Pn	09 50 56.7	+5.7
PAGZ	Pagadian	2.80	281	eP	Pn	09 51 15.9	+11
SIJI	Sorong	9.59	148	Pn	Pn	09 52 32.1	-6.2
	1.1nm,0.3s,baz=339,slow=18,SNR=4.2						
SIJI				Sn	Sn	09 54 10.2	-14
	0.8nm,0.3s,baz=217,slow=20,SNR=4.0						
KAPI	Kappang	13.81	208	Pn	Pn	09 53 35.0	-0.6
WRAB	Tennant Creek	28.25	164	eP	P	09 56 08.3	-1.2
	0.8nm,0.6s						
WRA	Warramunga Arr	28.25	164	P	P	09 56 07.9	-1.7
	0.3nm,0.4s,baz=346,slow=9.7,SNR=9.2						
WRA				PcP	PcP	09 59 21.4	-0.2
	0.6nm,0.6s,baz=336,slow=2.6,SNR=6.1						
KSAR	Wonju Array Be	30.04	3	P	P	09 56 24.9	-0.3
KSRS	Korea Array	30.05	3	P	P	09 56 24.9	-0.4
	0.4nm,0.3s,baz=350,slow=28,SNR=4.6						
MAJO	Matsushiro	31.11	19	P	P	09 56 32.5	-2.2
	8.0nm,1.3s						
MJAR	Matsushiro Arr	31.11	19	P	P	09 56 31.9	-2.7
	1.1nm,0.7s,baz=190,slow=9.9,SNR=5.2						
AS31	Alice Springs	31.70	166	eP	P	09 56 38.9	-1.2
ASAR	Alice Springs	31.70	166	P	P	09 56 39.0	-1.0
	1.1nm,0.4s,baz=340,slow=7.2,SNR=36						
ASAR				PcP	PcP	09 59 31.4	+0.9
	1.0nm,0.4s,baz=350,slow=2.5,SNR=17						
USRK	Ussuriysk Ar.	37.10	7	P	P	09 57 25.2	-1.2
	2.4nm,0.7s,baz=160,slow=6.1,SNR=5.8						
H11S3	WAKE ISLAND Hy	40.94	70	T	T	10 41 15.6	
	baz=267						
H11S1	WAKE ISLAND Hy	40.96	70	T	T	10 41 26.7	
	baz=267						
H11S2	WAKE ISLAND Hy	40.96	70	T	T	10 41 26.3	
	baz=267						
H11N1	WAKE ISLAND Hy	41.36	68	T	T	10 42 12.4	
	baz=261,slow=74						
H11N2	WAKE ISLAND Hy	41.37	68	T	T	10 42 08.0	
	baz=261						
H11N3	WAKE ISLAND Hy	41.38	68	T	T	10 42 08.6	
	baz=261,slow=74						
STKA	Stephens Creek	41.66	160	P	P	09 58 03.3	-1.3
	1.2nm,0.5s,baz=356,slow=7.0,SNR=6.5						
STKA				PcP	PcP	10 00 00.9	+0.7
	0.7nm,0.7s,baz=236,slow=1.7,SNR=2.9						
MKAR	Makanchi Array	54.32	324	P	P	09 59 44.5	+2.4
	0.5nm,0.4s,baz=115,slow=7.0,SNR=13						
MKAR				PcP	PcP	10 00 47.0	+1.6
	0.4nm,0.7s,baz=109,slow=5.6,SNR=3.5						
KURK	Kurchatov	58.44	327	P	P	10 00 12.6	+1.2
KURBB	Kurchatov Arra	58.45	326	P	P	10 00 12.5	+1.2
	0.5nm,0.5s,baz=125,slow=6.4,SNR=6.3						
ILAR	Eielson Array	82.14	26	P	P	10 02 34.5	-1.1
	0.7nm,0.7s,baz=247,slow=4.8,SNR=13						
ARCES	ARCESS Array B	86.91	340	P	P	10 03 01.3	+1.6
	0.9nm,0.8s,baz=76,slow=11,SNR=2.9						
VNDA	Vanda	87.03	173	P	P	10 03 00.8	+0.8
	0.8nm,0.5s,baz=316,slow=6.7,SNR=7.8						
YKA	Yellowknife Ar	96.49	24	P	P	10 03 44.1	-0.2
	0.5nm,0.7s,baz=299,slow=4.8,SNR=3.1						
SCHQ	Schefferville	117.14	8	PKP	PKPdf	10 09 01.3	+1.4
	1.6nm,0.8s,baz=235,slow=12,SNR=2.4						
TXAR	Lajitas Array	119.81	50	PKP	PKPdf	10 09 06.6	+0.7
	0.2nm,0.5s,baz=354,slow=1.5,SNR=6.6						
TORD	Torodi Ar. Bea	121.21	290	PKP	PKPdf	10 09 10.2	+1.4
	0.3nm,0.4s,baz=54,slow=1.9,SNR=8.5						

MEX 03 10:09:34.3±0.4, 13.99N×92.42W, h66km±14km, MD3.5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.93	9	eP	Pn	10 09 50.3	-1.4
THIG				i S	Sn	10 10 02.9	-1.6
PCIG		1.87	336	eP	Pn	10 10 03.0	-1.2
PCIG				eS	Sn	10 10 25.0	-1.9
CCIG	Comitan	2.30	7	i P	Pn	10 10 09.1	-1.1
CCIG				i S	Sn	10 10 35.8	-1.7
TGIG		2.85	346	i P	Pn	10 10 17.0	-0.6
TGIG				eS	Sn	10 10 48.5	-2.4

*MOS **03** 10:16:13.3±1.0, 70.73N×14.47W, h10km, mb4.9/41, MS4.1/36, Error ellipse: s-maj=14.5km s-min=6.1km az=103.4*
*ISCJB **03** 10:16:13.7±0.1, 70.57N±0.02×14.66W±0.04, h14km, mb4.6/109, MS4.3/317, Error ellipse: s-maj=2.5km s-min=1.9km az=39.2*
*IDC **03** 10:16:13.2±0.5, 70.75N×14.41W, h0km, mb4.2/25, mb1 4.4/32, mb1mx4.3/39, mbtmp4.2/32, ML3.4/4, MS4.0/38, Ms1 4.0/38, ms1mx3.9/49, Error ellipse: s-maj=14.1km s-min=9.6km az=24.0*
*CSEM **03** 10:16:13.4±0.1, 70.56N×14.63W, h2km, mb4.9/70, Ms4.3, Error ellipse: s-maj=4.4km s-min=3.3km az=40.0*
*BER **03** 10:16:14.1±9.0, 70.79N×13.98W, h10km, MD1.9, ML3.1, ML4.3(NAO)*
*BJI **03** 10:16:14.6, 71.48N×14.53W, h10km, mb4.7/26, mB5.0/21, Ms4.8/16, Ms7 4.3/13*
*REY **03** 10:16:14.1, 70.19N×12.46W, h10km, ML4.0, ML3.9*
*NAO **03** 10:16:15.9±3.1, 70.76N×13.17W, ML4.3*
*GCMT **03** 10:16:15.2±0.2, 70.84N×14.09W, h12km, MW5.0/81, Moment Tensor Solution. s32,c37; s81,c134; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.13±.09; $M_{\theta\theta}$2.20±.09; $M_{\phi\phi}$0.92±.08; $M_{r\theta}$0.43±.31; $M_{\theta\phi}$2.20±.07; $M_{\phi r}$-1.50±.30; Best double couple: $M_0$3.87500×10^{16} NP1:ϕ_s30.00000°,δ55.00000°,λ-121.00000°. NP2: ϕ_s256.00000°,δ46.00000°,λ-54.00000°. Principal axes: T 3.8990, Plg5.0000°, Azm142.0000°; N -0.0550, Plg25.0000°, Azm49.0000°; P -3.8520, Plg65.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 10:16:15.2±0.2, 70.77N×14.30W, h10km, mb4.8/56, MS4.3/273 Error ellipse: s-maj=5.4km s-min=3.2km az=202.0*
*SZGRF **03** 10:16:16.4, 70.27N×14.78W, h10km, mb5.1, Jan Mayen Island region*
ISC 03 10:16:14.8±0.3, 70.65N±0.02×14.48W±0.02, h10km±1km, h9km:pP-P, n925, σ1§31/686, mb4.7/109, MS4.3/317, 127C-116D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	Jan Mayen	1.92	79	eP	Pn	10 16 42.2	-5.3
JMI				eS	Sn	10 17 01.9	-10
JMI				IAML		10 17 03.7	
	comp=Z,275nm,0.5s						
JMI	Jan Mayen	1.92	79	eP	Pn	10 16 42.2	-5.3
	SNR=50						
JMI				eS	Sn	10 17 02.0	-10
	SNR=50						
JMIC	Jan Mayen	2.00	77	Pg	Pn	10 16 42.8	-5.8
JMIC				Lg	Lg	10 17 05.3	
JMIC	Jan Mayen	2.00	77	eP	Pn	10 16 43.0	-5.6
JMIC				eS	Sn	10 17 05.0	-8.7
JMIC				IAML		10 17 06.5	
	comp=Z,350nm,0.4s						
JMIC	Jan Mayen	2.00	77	Pn	Pn	10 16 43.0	-5.6
	comp=Z,9.0nm,0.3s,baz=165,slow=2.2,SNR=7.5						
JMIC				Sn	Sn	10 17 03.6	-10
	comp=Z,93nm,0.3s,baz=192,slow=6.7,SNR=17						
JMIC	Jan Mayen	2.00	77	eP	Pn	10 16 43.0	-5.6
	SNR=50						
JMIC				eS	Sn	10 17 05.0	-8.7
	SNR=50						
JNW	Jan Mayen West	2.03	76	eP	Pn	10 16 43.5	-5.5
JNW	Jan Mayen West	2.03	76	eP	Pn	10 16 43.5	-5.5
	SNR=50						
IGRI	Grimsey	4.32	199	P	Pn	10 17 18.8	-1.6
IGRI	Grimsey	4.32	199	P	Pn	10 17 18.8	-1.6
	baz=212						
IGRI				S	Sn	10 18 10.0	-0.7
	baz=212						
IGIL	Gilhagi	4.64	189	P	Pn	10 17 21.7	-3.1
IGIL	Gilhagi	4.64	189	P	Pn	10 17 21.7	-3.1
	baz=201						
IGIL				S	Sn	10 18 14.8	-3.9
	baz=201						
IFLA	Flatey	4.67	197	P	Pn	10 17 23.8	-1.4
IFLA	Flatey	4.67	197	P	Pn	10 17 23.8	-1.4
	baz=209						
IFLA				S	Sn	10 18 17.4	-2.1
	baz=209						
IHED	Heoinshofoi	4.70	194	P	Pn	10 17 23.2	-2.5
IHED	Heoinshofoi	4.70	194	P	Pn	10 17 23.2	-2.5
	baz=206						
IHED				S	Sn	10 18 17.9	-2.3
	baz=206						
IBRE	Brettingsstaoi	4.72	197	P	Pn	10 17 24.2	-1.7
IBRE	Brettingsstaoi	4.72	197	P	Pn	10 17 24.2	-1.7
	baz=209						
IBRE				S	Sn	10 18 18.9	-1.6
	baz=209						
IDIM	Dimmadalsˆ¡s	4.79	192	P	Pn	10 17 24.1	-2.8
IDIM	Dimmadalsˆ¡s	4.79	192	P	Pn	10 17 24.1	-2.8
	baz=204						
IDIM				S	Sn	10 18 19.1	-3.3
	baz=204						
ISIG	Siglufjorour	4.82	202	P	Pn	10 17 26.7	-0.6
	baz=214						
IGRA	Granastaoir	4.89	195	P	Pn	10 17 26.2	-1.9
IGRA	Granastaoir	4.89	195	P	Pn	10 17 26.2	-1.9
	baz=206						
IGRA				S	Sn	10 18 22.5	-2.2
	baz=206						
ISKI	Skildingahˆ‡ls	4.89	192	P	Pn	10 17 26.0	-2.2
ISKI	Skildingahˆ‡ls	4.89	192	P	Pn	10 17 26.1	-2.2
	baz=204						
ISKI				S	Sn	10 18 21.1	-3.7
	baz=204						
IGHA	Grjothals	4.89	191	P	Pn	10 17 25.2	-3.1
IGHA	Grjothals	4.89	191	P	Pn	10 17 25.2	-3.1
	baz=202						
IHLA	Hella	4.94	199	P	Pn	10 17 27.8	-1.1
	baz=210						
IHLA				S	Sn	10 18 25.1	-0.9
	baz=210						
IHRN	Hraun	5.01	207	P	Pn	10 17 30.9	+1.0
	baz=219						
IHRN				S	Sn	10 18 28.9	+1.2
	baz=219						
IGRS	Grimsstaoir	5.07	188	P	Pn	10 17 27.7	-3.0
IGRS	Grimsstaoir	5.07	188	P	Pn	10 17 27.7	-3.0
	baz=199						
IGRS				S	Sn	10 18 25.3	-4.0
	baz=199						
IREN	Reynihlio	5.10	191	P	Pn	10 17 27.8	-3.4
IREN	Reynihlio	5.10	191	P	Pn	10 17 27.8	-3.4
	baz=202						
IMEL	Melhnausar	5.16	190	P	Pn	10 17 29.2	-2.8
IMEL	Melhnausar	5.16	190	P	Pn	10 17 29.2	-2.8
	baz=201						
ISVA	Svartarkot	5.43	192	P	Pn	10 17 33.9	-1.8
ISVA				S	Sn	10 18 36.0	-2.2
ISVA	Svartarkot	5.43	192	P	Pn	10 17 33.9	-1.8
	baz=203						
ISVA				S	Sn	10 18 36.0	-2.2
	baz=203						
IADA	Aoalbol	5.67	185	P	Pn	10 17 35.9	-3.0
IADA	Aoalbol	5.67	185	P	Pn	10 17 35.9	-3.0
	baz=194						

IASK Askja 5.68 189 P **Pn** **10 17 37.1 -2.0**
IASK Askja 5.68 189 P **Pn** **10 17 37.1 -2.0**
baz=199
IGLU Glumsstadir 5.70 183 P Pn 10 17 36.6 -2.7
IGLU Glumsstadir 5.70 183 P Pn 10 17 36.6 -2.7
baz=192
IMKO Mokollar 5.74 188 P Pn 10 17 37.3 -2.6
IMKO Mokollar 5.74 188 P Pn 10 17 37.3 -2.6
baz=198
IHVA Hvannstoosfjol 5.74 186 P Pn 10 17 37.0 -3.0
IHVA Hvannstoosfjol 5.74 186 P Pn 10 17 37.0 -3.0
baz=196
IBRU Bruarjokull 5.88 187 P Pn 10 17 38.8 -3.0
IBRU Bruarjokull 5.88 187 P Pn 10 17 38.8 -3.0
baz=196
IVSH V-Sauoahnukur 5.88 185 P Pn 10 17 38.9 -3.1
IVSH V-Sauoahnukur 5.88 185 P Pn 10 17 38.9 -3.1
baz=195
IKRE Kreppuhraun 5.93 188 P Pn 10 17 39.7 -2.9
IKRE Kreppuhraun 5.93 188 P Pn 10 17 39.7 -2.9
baz=197
DAG Danmarks Havn 6.27 351 *i* P Pn 10 17 40.5 -6.6
DAG *i* S Sn 10 18 48.1 -11
DAG Danmarks Havn 6.27 351 *i* Pn Pn 10 17 40.5 -6.6
DAG Danmarks Havn 6.27 351 *i* P Pn 10 17 40.5 -6.6
DAG Danmarks Havn 6.27 351 *i* Pn Pn 10 17 40.5 -6.6
SNR=5.0
BORG Borgarnes 6.47 207 Pn **Pn** **10 17 51.6 +1.7**
comp=Z,24nm,0.3s,baz=6.8,slow=6.1,SNR=88
BORG Sn **Sn** **10 19 05.7 +2.1**
baz=225,slow=5.7,SNR=2.3
BORG LR LR 10 19 50.1
comp=Z,1µm,18.0s,baz=6.1,slow=33
BORG Borgarnes 6.47 207 P **Pn** **10 17 51.6 +1.7**
BORG 10 19 05.7
BORG pmax pmax
comp=Z,24nm,0.3s
BORG MLR MLR
comp=Z,1µm,18.0s
BORG Borgarnes 6.47 207 *e*Pn **Pn** **10 17 52.9 +3.0**
BORG Sn **Sn** **10 19 05.7 +2.1**
SUMG Summit 7.79 296 *i* P **Pn** **10 18 08.1 -0.3**
SUMG Summit 7.79 296 *i* P **Pn** **10 18 08.1 -0.3**
SUMG Summit 7.79 296 *e*Pn **Pn** **10 18 07.3 -1.1**
HSPB Hornsund (broa 10.37 39 Pn **Pn** **10 18 40.3 -3.0**
HSP Hornsund 10.38 39 Pn **Pn** **10 18 40.3 -3.0**
HSP Hornsund 10.38 39 Pn **Pn** **10 18 40.3 -3.0**
KBS Kingsbay 10.67 28 *e*Pn Pn 10 18 44.0 -3.4
KBS Kingsbay 10.67 28 *e*P Pn 10 18 43.6 -3.7
KBS pmax pmax
comp=Z,11nm,0.6s
KBS Kingsbay 10.67 28 *e*Pn Pn 10 18 43.6 -3.7
comp=Z,11nm,0.6s
SPA0 Spitsbergen Ar 11.03 34 Pn **Pn** **10 18 49.8 -2.4**
baz=236,slow=12
SPA0 Spitsbergen Ar 11.03 34 Pn **Pn** **10 18 49.8 -2.4**
baz=236,slow=12
SPA0 Spitsbergen Ar 11.03 34 Pn **Pn** **10 18 49.8 -2.4**
baz=236,slow=12
SPITS Spitsbergen Ar 11.03 34 Pn **Pn** **10 18 50.0 -2.3**
baz=219,slow=12,SNR=110
SPITS Sn Sn 10 20 47.4 -8.0
baz=232,slow=24,SNR=3.3
SPITS LR LR 10 22 12.1
comp=Z,654nm,18.9s,baz=245,slow=33
AKN Aaknes 12.00 124 Pn **Pn** **10 19 04.8 -0.8**
AKN Aaknes 12.00 124 Pn **Pn** **10 19 04.8 -0.8**
AKN Aaknes 12.00 124 Pn **Pn** **10 19 04.8 -0.8**
ILULI Ilulissat 12.53 281 *i* P **Pn** **10 19 10.4 -2.4**
comp=Z,54nm,1.2s
SFJD Kangerlussuaq 13.41 272 Pn Pn 10 19 21.7 -3.1
comp=Z,0.6nm,0.3s,baz=58,slow=10,SNR=3.6
SFJD LR LR 10 23 51.8
comp=Z,853nm,18.5s,baz=51,slow=34
ARA0 ARCESS Array S 13.49 76 Pn **Pn** **10 19 23.6 -2.4**
baz=289,slow=12
ARA0 ARCESS Array S 13.49 76 Pn **Pn** **10 19 23.6 -2.4**
baz=289,slow=12
ARA0 ARCESS Array S 13.49 76 Pn **Pn** **10 19 23.6 -2.4**
baz=289,slow=12
ARCES ARCESS Array B 13.49 76 Pn **Pn** **10 19 23.9 -2.0**
comp=Z,0.1nm,0.3s,baz=287,slow=10,SNR=5.5
ARCES LR LR 10 23 41.9
comp=Z,460nm,19.2s,baz=288,slow=33
NB2 NORSAR Subarra 14.11 120 Pn **Pn** **10 19 33.4 -1.1**
baz=328,slow=7.9
NB2 NORSAR Subarra 14.11 120 Pn **Pn** **10 19 33.4 -1.1**
baz=328,slow=7.9
NB2 NORSAR Subarra 14.11 120 Pn **Pn** **10 19 33.2 -1.3**
comp=Z,28nm,1.4s,baz=325,slow=14
NB2 NORSAR Subarra 14.11 120 Pn **Pn** **10 19 33.4 -1.1**
baz=328,slow=7.9
NB2 NORSAR Subarra 14.11 120 Pn **Pn** **10 19 33.4 -1.1**
SNR=50
NOA NORSAR Array B 14.11 120 Pn **Pn** **10 19 33.2 -1.3**
comp=Z,0.2nm,0.3s,baz=322,slow=12,SNR=4.8
NOA LR LR 10 24 24.3
comp=Z,574nm,20.2s,baz=325,slow=35
HFS Hagfors 15.57 118 P **Pn** **10 19 53.8 -0.2**
baz=317,slow=16
HFS Hagfors 15.57 118 P **Pn** **10 19 53.8 -0.2**
baz=317,slow=16
HFS Hagfors 15.57 118 Pn **Pn** **10 19 53.8 -0.2**
baz=317,slow=16
HFS Hagfors 15.57 118 Pn **Pn** **10 19 53.5 -0.5**
comp=Z,0.7nm,0.3s,baz=332,slow=12,SNR=7.2
HFS LR LR 10 25 09.7
comp=Z,808nm,21.5s,baz=322,slow=34
HFS Hagfors 15.57 118 Pn **Pn** **10 19 53.8 -0.2**
SNR=50
EKA Eskdalemuir Ar 16.15 156 Pn **Pn** **10 20 01.2 -0.3**
baz=335,slow=14,SNR=17
ESK Eskdalemuir 16.16 156 *e*P **Pn** **10 20 02.0 +0.3**
ESK pmax pmax
comp=Z,42nm,1.4s
ESK Eskdalemuir 16.16 156 *e*P **Pn** **10 20 02.0 +0.3**
comp=Z,42nm,1.4s
ESK Eskdalemuir 16.16 156 *e*Pn **Pn** **10 20 02.0 +0.3**
comp=Z,42nm,1.4s
APA Apatity 16.98 77 ⇓ *i*P **Pn** **10 20 09.5 -2.5**
APA *i* 10 23 16.0
APA pmax pmax
comp=Z,25nm,1.2s
APA MLR MLR
comp=Z,400nm,14.0s
FIA0 FINESS Array S 18.46 99 P **P** **10 20 28.7 -1.5**
baz=320,slow=9.3
FIA0 FINESS Array S 18.46 99 P **P** **10 20 28.7 -1.5**
baz=320,slow=9.3
FIA0 FINESS Array S 18.46 99 Pn **P** **10 20 28.7 -1.5**
baz=320,slow=9.3
FIA0 FINESS Array S 18.46 99 Pn **P** **10 20 28.7 -1.5**
SNR=50
FINES FINESS Array B 18.46 99 P **P** **10 20 28.9 -1.4**
comp=Z,0.6nm,0.3s,baz=326,slow=9.5,SNR=19
FINES LR LR 10 26 46.4
comp=Z,768nm,18.4s,baz=320,slow=34
FIA1 FINESS Array S 18.46 99 *e*P **P** **10 20 29.3 -0.9**
BSEG Bad Segeberg 20.07 134 *e*P **P** **10 20 48.2 +0.4**
comp=Z,201nm,2.2s
BSEG Bad Segeberg 20.07 134 *e*P **P** **10 20 48.2 +0.4**
comp=Z,201nm,2.2s
RGN Rugen 20.27 128 PFAKE 10 21 00.0 +8.0
RGN LR LR
comp=Z,700nm,20.1s
TMCR Tamitsa 20.55 82 *e*P **P** **10 20 52.7 -0.3**
TMCR pmax pmax
comp=Z,20nm,0.5s
VSU Vasula 20.95 104 ⇓ *e*P Pn 10 21 00.9 +1.0
WTSB Winterswijk 21.11 141 *e*P **P** **10 20 60.0 +0.9**
comp=Z,31nm,1.0s
FRB Frobisher Bay 21.34 278 P **P** **10 21 01.9 +0.4**
comp=Z,10nm,1.0s,baz=42,slow=9.2,SNR=11
FRB LR LR 10 28 22.5
comp=Z,495nm,20.1s,baz=43,slow=34
NRDL Niedersach Rie 21.34 136 *e*P **P** **10 21 02.0 +0.4**
comp=Z,102nm,1.5s
NRDL Niedersach Rie 21.34 136 *e*P **P** **10 21 02.0 +0.4**
comp=Z,102nm,1.5s
MENF Mencas 21.59 150 *e*P **P** **10 21 05.4 +1.2**
MENF Mencas 21.59 150 *e*P **P** **10 21 05.4 +1.2**
BUG Bochum--Univer 21.70 141 *e*P **P** **10 21 05.8 +0.3**
comp=Z,79nm,1.5s
BUG Bochum--Univer 21.70 141 *e*P **P** **10 21 05.8 +0.3**
comp=Z,79nm,1.5s
UCC Uccle 21.74 146 PFAKE 10 21 20.0 +14
UCC LR LR
comp=Z,500nm,20.6s
BEBN Eben Emael 21.99 144 P **P** **10 21 08.9 +0.3**
BEBN Eben Emael 21.99 144 P **P** **10 21 08.9 +0.3**
CLZ Clausthal 22.01 136 *e*P **P** **10 21 09.1 +0.2**
comp=Z,51nm,1.6s
CLZ Clausthal 22.01 136 *e*P **P** **10 21 09.1 +0.2**
comp=Z,51nm,1.6s
HGN Heimansgroeve 22.07 144 *e*P **P** **10 21 09.6 +0.1**
comp=Z,123nm,1.8s
HGN *e*S **S** **10 25 11.8 -0.7**
HGN *e*L L 10 30 21.0
comp=Z,780nm,18.1s
MEM Membach 22.23 144 P **P** **10 21 12.0 +0.8**
comp=Z,19nm,1.6s
MEM Membach 22.23 144 *e*P **P** **10 21 12.5 +1.3**
MEM pmax pmax
comp=Z,30nm,1.0s
MEM MLR MLR
comp=Z,800nm,19.9s
MEM Membach 22.23 144 P **P** **10 21 12.0 +0.8**
comp=Z,19nm,1.6s
MEM Membach 22.23 144 *e*P **P** **10 21 12.5 +1.3**
comp=Z,30nm,1.0s
MEM LR LR
comp=Z,800nm,19.9s
RUE Ruedersdorf 22.26 130 PFAKE 10 21 20.0 +8.6
RUE LR LR
comp=Z,900nm,19.0s
BCLA Clavier 22.28 145 P **P** **10 21 13.4 +1.6**
comp=Z,26nm,1.9s
BCLA Clavier 22.28 145 P **P** **10 21 13.3 +1.6**
comp=Z,26nm,1.9s
DOU Dourbes 22.46 147 P **P** **10 21 14.5 +0.8**
comp=Z,15nm,2.1s
DOU Dourbes 22.46 147 P **P** **10 21 14.4 +0.8**
comp=Z,15nm,2.1s
GKP Gorka Klasztor 22.46 124 *e*P **P** **10 21 14.6 +1.0**
GKP Gorka Klasztor 22.46 124 *e*P **P** **10 21 14.6 +1.0**
RES Resolute Bay 22.54 317 P **P** **10 21 13.6 -0.7**
comp=Z,9.5nm,1.0s,baz=52,slow=9.2,SNR=6.9
RES LR LR 10 29 56.1
comp=Z,1µm,18.4s,baz=61,slow=37
UBBA Unterbreizbach 22.88 137 *e*P **P** **10 21 17.9 -0.1**
comp=Z,164nm,2.2s
UBBA Unterbreizbach 22.88 137 *e*P **P** **10 21 17.9 -0.1**
comp=Z,164nm,2.2s
TNS Taunus Mts 23.10 140 *e*P **P** **10 21 21.4 +1.0**
comp=Z,306nm,2.5s
TNS Taunus Mts 23.10 140 *e*P **P** **10 21 21.4 +1.0**
comp=Z,306nm,2.5s
CLL Collm 23.14 133 *e*P **P** **10 21 20.8 +0.1**
comp=Z,80nm,1.5s
CLL Collm 23.14 133 ⇓ *i*P **P** **10 21 20.9 +0.2**
comp=Z,239nm,2.8s
CLL *i* sP **sP** **10 21 26.7 +1.9**
comp=Z,79nm,1.5s
CLL *e*S S 10 25 39.0 +7.2
CLL *e*SS **SnSn** **10 26 12.0 +7.7**
CLL Lm MLR 10 29 00.0
comp=Z,500nm,21.4s
CLL Collm 23.14 133 ⇓ *i*P **P** **10 21 20.9 +0.2**
CLL *i* 10 21 26.7
CLL pmax pmax
comp=Z,239nm,2.8s
CLL MLR MLR
comp=Z,500nm,21.4s
CLL Collm 23.14 133 *e*P **P** **10 21 20.8 +0.1**
comp=Z,80nm,1.5s
CLL Collm 23.14 133 *e*P **P** **10 21 22.3 +1.6**
comp=Z,91nm,1.5s
CLL LR LR
comp=Z,600nm,20.8s
WLF Walferdange 23.16 144 *e*P **P** **10 21 22.6 +1.6**
comp=Z,78nm,1.7s
WLF Walferdange 23.16 144 *e*P **P** **10 21 22.6 +1.6**
comp=Z,78nm,1.7s
WLF Walferdange 23.16 144 PFAKE 10 21 30.0 +9.0
WLF LR LR
comp=Z,700nm,18.5s
RUP Ruppelstein 23.31 143 *e*P **P** **10 21 24.4 +1.9**
KLMR Klimovskoe 23.36 87 *e*P **P** **10 21 21.6 -1.3**
KLMR MLR MLR
comp=Z,278nm,11.0s
MOX Moxa 23.41 135 *e*P **P** **10 21 23.1 -0.5**
comp=Z,111nm,2.2s
MOX Moxa 23.41 135 *e*P **P** **10 21 23.1 -0.5**
comp=Z,111nm,2.2s
SUW Suwalki 23.53 115 *e*P **P** **10 21 24.5 -0.1**
SUW Suwalki 23.53 115 *e*P **P** **10 21 24.6 -0.1**
TOD Tromm 23.76 140 *e*P **P** **10 21 27.4 +0.4**
BRG Berggiesshubel 23.77 132 *e*P **P** **10 21 27.0 0.0**
comp=Z,14nm,1.4s
BRG Berggiesshubel 23.77 132 *e*P **P** **10 21 26.2 -0.8**
comp=Z,166nm,2.8s
BRG Berggiesshubel 23.77 132 *e*P **P** **10 21 27.0 0.0**
BRG Berggiesshubel 23.77 132 *e*P **P** **10 21 26.2 -0.8**
comp=Z,166nm,2.8s
TANN Tannenbergstha 23.83 134 *e*P **P** **10 21 27.3 -0.4**
comp=Z,230nm,2.6s
TANN Tannenbergstha 23.83 134 *e*P **P** **10 21 27.3 -0.4**
comp=Z,230nm,2.6s
NACGM Naroch 23.88 110 *e* **P** **10 21 25.0 -3.0**
NKC Novy Kostel 24.00 134 *e*P **P** **10 21 29.1 -0.1**
NKC *e*pP **pP** **10 21 36.2 +4.1**
NKC *e*x x 10 21 42.4
NKC *e*S **S** **10 25 51.3 +5.5**
NKC Novy Kostel 24.00 134 *e*P **P** **10 21 29.1 -0.1**
NKC *e* 10 21 36.2
NKC *e*S **S** **10 25 51.3 +5.5**
NKC Novy Kostel 24.00 134 *e*P **P** **10 21 29.1 -0.1**
LANF Langenberg 24.15 142 ⇓ *e*P **P** **10 21 31.1 +0.5**
LANF Langenberg 24.15 142 ⇑ *e*P **P** **10 21 31.1 +0.5**
GRFO Grafenberg 24.21 137 *e*P **P** **10 21 34.3 +3.1**
GRFO pmax pmax
comp=Z,31nm,1.1s
GRFO MLR MLR
comp=Z,400nm,21.2s
GRFO Grafenberg 24.21 137 *e*P **P** **10 21 34.2 +3.1**
comp=Z,31nm,1.1s
GRFO LR LR
comp=Z,400nm,21.2s
PVCC Panska Ves 24.24 131 *e*P **P** **10 21 32.6 +1.1**
PVCC AMS AMS 10 32 30.0
comp=Z,500nm,13.6s
PVCC Panska Ves 24.24 131 *e*P **P** **10 21 32.6 +1.1**
PVCC MLR MLR
comp=Z,500nm,13.6s
PVCC Panska Ves 24.24 131 *e*P **P** **10 21 32.6 +1.1**
comp=Z,500nm,13.6s
ROTZ Rotzenmuhle 24.37 135 *e*P **P** **10 21 31.9 -0.8**
comp=Z,83nm,2.6s
ROTZ Rotzenmuhle 24.37 135 *e*P **P** **10 21 31.9 -0.8**
comp=Z,83nm,2.6s
KSP Ksiaz 24.40 128 *e*P **P** **10 21 33.5 +0.6**
KSP Ksiaz 24.40 128 *e*P **P** **10 21 33.5 +0.6**
KSP Ksiaz 24.40 128 *e*P **P** **10 21 33.5 +0.6**
THEF They Montfort 24.51 146 ⇑ *e*P **P** **10 21 36.6 +2.7**
PRA Prague 24.63 132 *e*P **P** **10 21 35.5 +0.5**
PRA Prague 24.63 132 *e*P **P** **10 21 35.5 +0.5**
PRA Prague 24.63 132 *e*P **P** **10 21 35.5 +0.5**
UPC Upice 24.63 129 *e*P **P** **10 21 32.9 -2.1**
UPC *e*pP **pP** **10 21 36.7 -1.3**
UPC Upice 24.63 129 *e*P **P** **10 21 32.9 -2.1**
UPC *e* 10 21 36.7
UPC Upice 24.63 129 *e*P **P** **10 21 32.9 -2.1**
STU Stuttgart 24.63 140 *e*P **P** **10 21 35.5 +0.5**
comp=Z,36nm,1.4s
STU Stuttgart 24.63 140 *e*P **P** **10 21 35.5 +0.5**
comp=Z,36nm,1.4s
STU Stuttgart 24.63 140 PFAKE 10 21 50.0 +15
STU LR LR
comp=Z,500nm,20.9s
PRU Pruhonice 24.73 132 *e*P **P** **10 21 36.3 +0.4**
PRU *e*pP **pP** **10 21 38.2 -0.7**
PRU *e*sP **sP** **10 21 40.3 +0.2**
PRU *e*S S **10 26 02.2 +4.6**
PRU AMS AMS 10 32 00.0
comp=Z,600nm,18.9s
PRU Pruhonice 24.73 132 *e*P **P** **10 21 36.3 +0.4**
PRU *e* 10 21 38.2
PRU *e* 10 21 40.3
PRU *e*S **S** **10 26 02.2 +4.6**
PRU MLR MLR
comp=Z,600nm,18.9s
PRU Pruhonice 24.73 132 *e*P **P** **10 21 36.3 +0.4**
BEL Belsk 24.73 121 *e*P **P** **10 21 36.8 +0.9**
BEL Belsk 24.73 121 *e*P **P** **10 21 36.9 +1.0**
BEL Belsk 24.73 121 *e*P **P** **10 21 36.9 +1.0**
ECH Echery 24.75 144 ⇑ *e*P **P** **10 21 36.7 +0.6**
ECH Echery 24.75 144 *e*P **P** **10 21 36.5 +0.5**
ECH pmax pmax
comp=Z,17nm,1.1s
ECH Echery 24.75 144 ⇑ *e*P **P** **10 21 36.7 +0.6**
ECH Echery 24.75 144 *e*P **P** **10 21 36.6 +0.5**
comp=Z,17nm,1.1s
PRGR Permogore 24.81 81 *e*P **P** **10 21 36.7 +0.2**
PRGR pmax pmax
comp=Z,17nm,1.0s
PRGR Permogore 24.81 81 *e*P **P** **10 21 36.7 +0.2**
comp=Z,17nm,1.0s
DPC Dobruska-Polom 24.85 129 *e*P **P** **10 21 37.3 +0.2**
DPC *e*pP **pP** **10 21 39.4 -0.6**
DPC *e*sP **sP** **10 21 41.1 -0.1**
DPC *e*S S 10 26 08.1 +8.5
DPC AMS AMS 10 32 00.0
comp=Z,500nm,18.1s
DPC Dobruska-Polom 24.85 129 *e*P **P** **10 21 37.3 +0.2**
DPC *e* 10 21 39.4
DPC *e* 10 21 41.1
DPC MLR MLR
comp=Z,500nm,18.1s
DPC Dobruska-Polom 24.85 129 *e*P **P** **10 21 37.3 +0.2**
GOPC GO Pecny, Ondr 24.86 131 *e*P **P** **10 21 36.8 -0.3**
GOPC *e*pP **pP** **10 21 39.2 -0.9**
GOPC *e*sP **sP** **10 21 41.4 +0.1**
GOPC *e*S **S** **10 26 02.6 +2.9**
GOPC AMS AMS 10 31 50.0
comp=Z,600nm,16.0s
GOPC GO Pecny, Ondr 24.86 131 P **P** **10 21 36.8 -0.3**
GOPC S **S** **10 26 02.6 +2.9**
BFO Black Forest 24.87 142 *e*P **P** **10 21 38.2 +1.0**
comp=Z,224nm,3.2s
BFO Black Forest 24.87 142 *e*P **P** **10 21 38.3 +1.0**
BFO pmax pmax
comp=Z,24nm,1.2s
BFO MLR MLR
comp=Z,500nm,20.6s
BFO Black Forest 24.87 142 *e*P **P** **10 21 38.2 +1.0**
comp=Z,224nm,3.2s
BFO Black Forest 24.87 142 *e*P **P** **10 21 38.3 +1.0**
comp=Z,24nm,1.2s
BFO LR LR
comp=Z,500nm,20.6s
MOF Molkenrain 25.09 144 ⇑ *e*P **P** **10 21 40.0 +0.7**
MOF Molkenrain 25.09 144 ⇑ *e*P **P** **10 21 40.0 +0.7**
WET Wettzell 25.11 135 *e*P **P** **10 21 40.0 +0.6**
comp=Z,29nm,1.3s
WET Wettzell 25.11 135 *e*P **P** **10 21 40.0 +0.6**
comp=Z,29nm,1.3s
SPAK Spaichingen-Ko 25.18 142 *e*P **P** **10 21 41.0 +0.9**
KRLC Kraliky 25.23 128 *e*P **P** **10 21 40.8 +0.4**
KRLC *e*pP **pP** **10 21 45.1 +1.7**
KRLC Kraliky 25.23 128 *e*P **P** **10 21 40.8 +0.4**
KRLC *e* 10 21 45.1
KRLC Kraliky 25.23 128 *e*P **P** **10 21 40.8 +0.4**
FELD Feldberg im Sc 25.24 143 *e*P **P** **10 21 41.5 +0.8**
KHC Kasperske Hory 25.29 134 *e*P **P** **10 21 42.1 +1.1**
KHC *e*pP **pP** **10 21 45.6 +1.6**
KHC *e*sP **sP** **10 21 47.7 +2.5**
KHC *e*S **S** **10 26 11.2 +4.6**
KHC AMS AMS 10 32 00.0
comp=Z,300nm,16.9s
KHC Kasperske Hory 25.29 134 *e*P **P** **10 21 42.1 +1.1**
KHC *e* 10 21 45.6
KHC *e* 10 21 47.7
KHC *e*S **S** **10 26 11.2 +4.6**
KHC MLR MLR
comp=Z,300nm,16.9s
KHC Kasperske Hory 25.29 134 *e*P **P** **10 21 42.1 +1.1**
KHC Kasperske Hory 25.29 134 *e*P **P** **10 21 43.8 +2.7**
comp=Z,6.4nm,1.1s
KHC LR LR
comp=Z,201nm,21.3s
LOMF Lomont 25.51 145 ⇑ *e*P **P** **10 21 45.5 +2.4**
LOMF Lomont 25.51 145 ⇑ *e*P **P** **10 21 45.5 +2.4**
GEC2 GERESS Array S 25.59 134 *e*P **P** **10 21 45.2 +1.4**
comp=Z,46nm,1.6s
GEC2 GERESS Array S 25.59 134 *e*P **P** **10 21 46.8 +3.0**
GEC2 GERESS Array S 25.59 134 *e*P **P** **10 21 45.2 +1.4**
comp=Z,46nm,1.6s
GEC2 GERESS Array S 25.59 134 *e*P **P** **10 21 46.8 +3.0**
GERES GERESS Array B 25.59 134 P **P** **10 21 45.2 +1.4**
comp=Z,2.6nm,0.8s,baz=336,slow=6.3,SNR=8.6
TREC Trest 25.61 131 *e*P **P** **10 21 45.4 +1.5**
TREC *e*x x 10 21 51.2
TREC AMS AMS 10 33 00.0
comp=Z,600nm,14.8s
TREC Trest 25.61 131 *e*P **P** **10 21 45.4 +1.5**
TREC *e* 10 21 51.2
TREC MLR MLR
comp=Z,600nm,14.8s
TREC Trest 25.61 131 *e*P **P** **10 21 45.4 +1.5**
comp=Z,600nm,14.8s
OKC Ostrava-Krasne 25.80 127 *e*P P 10 21 50.6 +5.0
OKC *e*S S 10 26 22.7 +8.1
OKC AMS AMS 10 31 20.0
comp=Z,400nm,19.8s
OKC Ostrava-Krasne 25.80 127 *e*P P 10 21 50.6 +5.0
OKC *e*S S 10 26 22.7 +8.1
OKC MLR MLR
comp=Z,400nm,19.8s
VRAC Vranov 25.88 129 P **P** **10 21 47.0 +0.7**
comp=Z,5.8nm,0.8s,baz=334,slow=13,SNR=6.2
VRAC LR LR 10 32 03.0
comp=Z,534nm,18.6s,baz=329,slow=37
VRAC Vranov 25.88 129 *e*P **P** **10 21 46.4 +0.1**
OJC Ojcow 25.91 124 *e*P **P** **10 21 46.5 0.0**
OJC Ojcow 25.91 124 *e*P P 10 21 53.0 +6.4
OJC pmax pmax
comp=Z,18nm,1.2s
OJC MLR MLR
comp=Z,300nm,19.1s
OJC Ojcow 25.91 124 *e*P **P** **10 21 46.6 0.0**
OJC Ojcow 25.91 124 *e*P P 10 21 53.0 +6.4
comp=Z,18nm,1.2s
OJC LR LR
comp=Z,300nm,19.1s
PLDF La Plantade 26.28 151 ⇑ *e*P **P** **10 21 50.1 +0.1**
PLDF La Plantade 26.28 151 ⇑ *e*P **P** **10 21 50.1 +0.1**
PYM Petit Puy Mans 26.39 152 *e*P **P** **10 21 51.3 +0.2**
PYM Petit Puy Mans 26.39 152 *e*P **P** **10 21 51.3 +0.2**
SENIN Lac Senin/Sane 26.55 145 *e*P **P** **10 21 56.9 +4.2**
DAVOX Davos/Dischmat 26.67 141 P **P** **10 21 55.1 +1.4**
comp=Z,0.8nm,0.4s,baz=344,slow=20,SNR=2.1
DAVOX LR LR 10 32 05.2
comp=Z,421nm,21.6s,baz=336,slow=36
NIE Niedzica 26.77 124 *e*P **P** **10 21 54.9 +0.6**
NIE Niedzica 26.77 124 *e*P **P** **10 21 55.0 +0.6**
NIE Niedzica 26.77 124 *e*P **P** **10 21 55.0 +0.6**
TUE Stuetta 26.85 142 PFAKE 10 22 10.0 +15
TUE LR LR
comp=Z,1µm,21.6s
OBN Obninsk 26.86 99 P **P** **10 21 55.2 +0.2**
comp=Z,14nm,0.4s,baz=116,slow=11,SNR=5.4
OBN LR LR 10 31 49.6
comp=Z,403nm,19.4s,baz=280,slow=35
OBN Obninsk 26.86 99 ⇓ *i*P **P** **10 21 56.6 +1.5**
OBN *i* 10 22 01.8
OBN *e* 10 22 40.1
OBN *i*S **S** **10 26 35.6 +4.4**
OBN pmax pmax
comp=Z,29nm,1.0s
OBN MLR MLR
comp=Z,363nm,17.0s
FUORN Ofenpass-Fuorn 26.90 140 PFAKE 10 22 10.0 +14
FUORN LR LR
comp=Z,500nm,21.8s
STHS Stebnicka Huta 27.03 123 *e*P **P** **10 21 57.3 +0.6**
STHS Stebnicka Huta 27.03 123 *e*P **P** **10 21 57.3 +0.6**
STHS Stebnicka Huta 27.03 123 *e*P **P** **10 21 57.3 +0.6**
SCHQ Schefferville 27.53 262 P **P** **10 22 01.2 +0.1**
comp=Z,5.3nm,0.7s,baz=25,slow=10,SNR=5.1
SCHQ Schefferville 27.53 262 P **P** **10 22 01.2 +0.1**
SCHQ LR LR
comp=Z,700nm,20.9s
KECS Kecovo 27.67 125 *e*P **P** **10 22 02.1 -0.3**
KECS Kecovo 27.67 125 *e*P **P** **10 22 02.1 -0.3**
KECS Kecovo 27.67 125 *e*P **P** **10 22 02.1 -0.3**

BNI Bardonecchia 27.70 147 PFAKE 10 22 20.0 +17
BNI LR LR
comp=Z,500nm,21.4s
KOLS Kolonicke sedl 27.76 122 *e*P **P** **10 22 03.3 +0.1**
KOLS Kolonicke sedl 27.76 122 *e*P **P** **10 22 03.3 +0.1**
KOLS Kolonicke sedl 27.76 122 *e*P **P** **10 22 03.3 +0.1**
PSZ Piszkesteto 28.03 126 PFAKE 10 22 20.0 +14
PSZ LR LR
comp=Z,300nm,21.0s
AKASG Malin Array Be 28.25 112 P **P** **10 22 06.5 -1.0**
comp=Z,5.2nm,0.7s,baz=331,slow=9.5,SNR=11
AKASG LR LR 10 33 46.8
comp=Z,420nm,18.3s,baz=345,slow=37
AKASG Malin Array Be 28.25 112 P **P** **10 22 06.5 -1.0**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG MLR MLR
comp=Z,420nm,18.3s
KIEV Kiev 28.25 112 ⇓ *i* P **P** **10 22 10.1 +2.5**
KIEV Kiev 28.25 112 *i* P **P** **10 22 10.1 +2.5**
KIEV Kiev 28.25 112 PFAKE 10 22 20.0 +12
KIEV LR LR
comp=Z,500nm,20.3s
TRI Trieste 28.55 136 PFAKE 10 22 20.0 +10
TRI LR LR
comp=Z,300nm,19.5s
PGAV Gavieira, Arco 28.92 170 *e*LR LR 10 30 08.9
comp=Z,211nm,22.0s
PGAV Gavieira, Arco 28.92 170 *e*LR LR 10 30 08.9
comp=Z,211nm,22.0s
VLC Villacollemand 29.28 142 PFAKE 10 22 30.0 +13
VLC LR LR
comp=Z,600nm,21.0s
LPSR Galich'ya Gora 29.73 99 *e*P **P** **10 22 20.6 -0.1**
LPSR pmax pmax
comp=N,8.0nm,0.9s
LPSR pmax pmax
comp=E,7.0nm,0.9s
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 29.73 99 *e*P **P** **10 22 20.6 -0.1**
BUR08 Bucovina Ar. S 29.76 120 *e*P **P** **10 22 21.8 +0.6**
BUR08 Bucovina Ar. S 29.76 120 *e*P **P** **10 22 21.8 +0.6**
MVO Moncorvo 29.80 169 *e*S S 10 27 31.5 +14
MVO *e*LR LR 10 29 53.5
comp=Z,298nm,22.0s
MVO *e*LR LR 10 30 47.2
comp=Z,298nm,22.0s
MVO Moncorvo 29.80 169 *e*S S 10 27 31.5 +14
MVO *e*LR LR 10 29 53.5
comp=Z,298nm,22.0s
MVO *e*LR LR 10 30 47.2
comp=Z,298nm,22.0s
SOKR Solikamsk 29.98 75 *e*P **P** **10 22 24.8 +2.0**
SOKR pmax pmax
comp=Z,10.0nm,1.4s
SOKR MLR MLR
comp=Z,210nm,16.0s
MTE Manteigas 30.52 170 PFAKE 10 22 40.0 +12
MTE LR LR
comp=Z,300nm,21.9s
MTE Manteigas 30.52 170 *e*LR LR 10 30 50.5
comp=Z,201nm,22.0s
MTE Manteigas 30.52 170 *e*LR LR 10 30 50.5
comp=Z,201nm,22.0s
VSR Storozhevoye 30.99 100 *e*P **P** **10 22 33.2 +1.4**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 30.99 100 *e*P **P** **10 22 33.2 +1.4**
VORD Divnogorie 31.24 100 *e*P **P** **10 22 34.8 +0.8**
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,1.0s
VORD pmax pmax
comp=Z,8.0nm,1.0s
VORD Divnogorie 31.24 100 *e*P **P** **10 22 34.8 +0.8**
KIS Kishinev 31.41 116 *e*P P 10 22 42.0 +6.4
KIS *e*LR LR 10 31 40.0
comp=Z,700nm,22.0s
KIS Kishinev 31.41 116 *e*P P 10 22 42.0 +6.4
KIS MLR MLR
comp=Z,700nm,22.0s
KIS MLR MLR
comp=Z,800nm,17.0s
PMRV Marv??o 31.50 169 *e*S S 10 27 58.2 +14
PMRV *e*LR LR 10 30 16.2
comp=Z,228nm,18.0s
PMRV *e*LR LR 10 31 33.2
comp=Z,228nm,18.0s
PMRV Marv??o 31.50 169 *e*S S 10 27 58.2 +14
PMRV *e*LR LR 10 30 16.2
comp=Z,228nm,18.0s
PMRV *e*LR LR 10 31 33.2
comp=Z,228nm,18.0s
ESDC Sonseca Array 31.52 164 P **P** **10 22 38.3 +1.7**
comp=Z,0.3nm,0.4s,baz=357,slow=8.5,SNR=3.4
ESDC LR LR 10 35 21.2
comp=Z,316nm,18.0s,baz=330,slow=36
PAB San Pablo 31.61 165 PFAKE 10 22 50.0 +12
PAB LR LR
comp=Z,400nm,19.1s
AQU L'Aquila 31.65 139 PFAKE 10 22 50.0 +12
AQU LR LR
comp=Z,300nm,19.8s
MLR Muntele Rosu 31.93 120 LR LR 10 35 36.5
comp=Z,169nm,21.7s,baz=352,slow=36
ARU Arti 33.08 77 *d i* P **P** **10 22 49.5 -0.6**
ARU PPP PPP 10 24 07.8
ARU S **S** **10 28 08.2 -0.3**
ARU pmax pmax
comp=Z,25nm,1.2s
ARU Arti 33.08 77 *i* P **P** **10 22 49.5 -0.6**
comp=Z,25nm,1.2s
ARU Arti 33.08 77 *e*P **P** **10 22 50.5 +0.4**
comp=Z,18nm,1.0s
ARU LR LR
comp=Z,299nm,21.5s
SVE Sverdlovsk 33.42 75 *e*P **P** **10 22 53.2 +0.1**
SVE pmax pmax
comp=Z,20nm,1.4s
SVE Sverdlovsk 33.42 75 *e*P **P** **10 22 53.2 +0.1**
comp=Z,20nm,1.4s
PVAQ Vaqueiros 33.50 170 *e*S S 10 28 26.6 +11
PVAQ *e*LR LR 10 32 32.0
comp=Z,281nm,20.0s
PVAQ Vaqueiros 33.50 170 *e*S S 10 28 26.6 +11
PVAQ *e*LR LR 10 32 32.0
comp=Z,281nm,20.0s
TIRR Tirgusor 33.59 118 PFAKE 10 23 10.0 +15
TIRR LR LR
comp=Z,600nm,20.0s
TIR Tirane 34.13 131 PFAKE 10 23 10.0 +11
TIR LR LR
comp=Z,300nm,20.0s
CUC Castrocucco 34.44 137 PFAKE 10 23 10.0 +7.8
CUC LR LR
comp=Z,200nm,20.0s
INK Inuvik 35.41 326 PFAKE 10 23 20.0 +10
INK LR LR
comp=Z,800nm,19.1s
TIP Timpagrande 35.44 136 PFAKE 10 23 20.0 +9.2
TIP LR LR
comp=Z,300nm,20.0s
ANN Anapa 36.05 108 *e*P P 10 23 27.8 +12
ANN pmax pmax
comp=Z,93nm,1.6s
ANN MLR MLR
comp=N,307nm,15.0s
ANN MLR MLR
comp=Z,616nm,15.0s
CEL Celeste 36.12 138 PFAKE 10 23 30.0 +13
CEL LR LR
comp=Z,200nm,19.9s
YKA Yellowknife Ar 36.12 309 P **P** **10 23 16.1 -0.2**
comp=Z,4.8nm,1.0s,baz=32,slow=8.5,SNR=14
YKA PcP **PcP** **10 25 41.3 -0.3**
comp=Z,0.9nm,0.7s,baz=34,slow=3.3,SNR=4.2
CLTB Caltabellotta 36.19 141 PFAKE 10 23 30.0 +13
CLTB LR LR
comp=Z,200nm,20.4s
PKME Peaks-Kenny Pk 36.57 256 *e*P **P** **10 23 22.5 +2.2**
comp=Z,19nm,1.0s
PKME Peaks-Kenny Pk 36.57 256 *e*P **P** **10 23 22.5 +2.2**
comp=Z,19nm,1.0s
AGG Agios Georgios 36.95 129 PFAKE 10 23 40.0 +16
AGG LR LR
comp=Z,200nm,19.6s
KEST Kesra 37.22 147 LR LR 10 38 00.3
comp=Z,124nm,21.6s,baz=254,slow=35
WVL Waterville 37.31 256 PFAKE 10 23 40.0 +13
WVL LR LR
comp=Z,700nm,21.4s
PMOZ Porto Moniz, M 37.91 184 *e*LR LR 10 34 15.6
comp=Z,112nm,16.0s
PMOZ Porto Moniz, M 37.91 184 *e*LR LR 10 34 15.6
comp=Z,112nm,16.0s
AKTO Aktyubinsk 37.91 83 LR LR 10 37 17.0
comp=Z,166nm,19.8s,slow=33
WDD Wield Dalam 38.11 140 PFAKE 10 23 50.0 +17
WDD LR LR
comp=Z,400nm,20.0s
MDT Midelt 38.27 167 LR LR 10 39 42.8
comp=Z,102nm,18.8s,baz=356,slow=37
KIV Kislovodsk 38.49 103 *e*P **P** **10 23 38.7 +1.9**
KIV *e*S **S** **10 29 35.9 +3.9**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV Kislovodsk 38.49 103 *e*P **P** **10 23 38.7 +1.9**
comp=Z,14nm,1.0s
KIV Kislovodsk 38.49 103 PFAKE 10 23 50.0 +13
KIV LR LR
comp=Z,200nm,19.8s
KBZ Khabaz 38.77 103 P **P** **10 23 39.1 +0.2**
comp=Z,6.6nm,1.1s,baz=323,slow=20
KBZ LR LR 10 38 44.5
comp=Z,288nm,20.9s,baz=96,slow=35
LONY Lake Ozonia 38.87 261 PFAKE 10 23 50.0 +10
LONY LR LR
comp=Z,300nm,18.2s
HNH Hanover 38.93 258 PFAKE 10 23 50.0 +10
HNH LR LR
comp=Z,1μm,21.9s
FFD Franklin Falls 38.93 257 PFAKE 10 23 50.0 +10
FFD LR LR
comp=Z,300nm,19.4s
FYU Fort Yukon 39.01 331 PFAKE 10 23 50.0 +9.3
FYU LR LR
comp=Z,300nm,21.8s
PTN Potsdam (NY) 39.04 261 PFAKE 10 23 50.0 +8.8
PTN LR LR
comp=Z,800nm,21.1s
FFC Flin Flon 39.07 293 *e*P **P** **10 23 41.8 +0.4**
FFC pmax pmax
comp=Z,13nm,1.0s
FFC MLR MLR
comp=Z,500nm,19.0s
FFC Flin Flon 39.07 293 *e*P **P** **10 23 41.8 +0.4**
comp=Z,500nm,19.0s
FFC Flin Flon 39.07 293 *e*P **P** **10 23 41.8 +0.4**
comp=Z,13nm,1.0s
FFC LR LR
comp=Z,500nm,19.0s
COLD Coldfoot 39.15 335 PFAKE 10 23 50.0 +8.1
COLD LR LR
comp=Z,300nm,21.6s
NCB Newcomb 39.32 260 PFAKE 10 24 00.0 +16
NCB LR LR
comp=Z,300nm,19.7s
BRTR Keskin Array B 39.48 115 P **P** **10 23 45.4 +0.2**
comp=Z,1.1nm,0.8s,baz=352,slow=5.2,SNR=8.7
BRTR LR LR 10 40 47.6
comp=Z,149nm,18.5s,baz=314,slow=37
BRTR Keskin Array B 39.48 115 *i* P P 10 23 48.5 +3.4
BRTR pmax pmax
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 39.57 82 *e*P **P** **10 23 46.2 +0.6**
ABKAR Akbulak array 39.57 82 *e*P **P** **10 23 46.2 +0.6**
BRVK Borovoye 39.64 70 ⇓ *i* P **P** **10 23 47.1 +1.0**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 39.64 70 *i* P **P** **10 23 47.1 +1.0**
comp=Z,5.0nm,0.8s
BRVK Borovoye 39.64 70 *e*P **P** **10 23 48.7 +2.5**
comp=Z,8.2nm,1.0s
BRVK LR LR
comp=Z,100nm,21.0s
ACCN Adirondack Com 39.66 259 PFAKE 10 24 00.0 +14
ACCN LR LR
comp=Z,300nm,19.9s
BVAR Borovoye Array 39.70 70 P **P** **10 23 46.6 -0.1**
comp=Z,7.6nm,1.0s,baz=324,slow=7.1,SNR=15
BVAR LR LR 10 38 48.2
comp=Z,83nm,20.7s,baz=303,slow=34
HRV Adam Dziewonsk 39.77 256 PFAKE 10 24 00.0 +13
HRV LR LR
comp=Z,200nm,20.0s
EGAK Eagle 39.96 328 *e*P **P** **10 23 47.9 -0.7**
comp=Z,13nm,1.1s
EGAK Eagle 39.96 328 *e*P **P** **10 23 47.9 -0.7**
comp=Z,13nm,1.1s
EGAK LR LR
comp=Z,700nm,19.0s
QUA2 Belchertown 40.23 257 PFAKE 10 24 00.0 +8.9
QUA2 LR LR
comp=Z,300nm,20.7s
TRY Troy 40.25 258 PFAKE 10 24 00.0 +8.7
TRY LR LR
comp=Z,700nm,19.3s
SANT Santorini 40.27 127 PFAKE 10 24 00.0 +8.4
SANT LR LR
comp=Z,200nm,18.9s
BRYW Bryant College 40.29 256 PFAKE 10 24 00.0 +8.4
BRYW LR LR
comp=Z,400nm,21.4s
ISP Isparta 40.32 120 PFAKE 10 24 00.0 +7.9
ISP LR LR
comp=Z,200nm,18.7s
IM04 Indian Mountai 40.83 336 *e*P **P** **10 23 54.7 -1.2**
IM04 Indian Mountai 40.83 336 *e*P **P** **10 23 54.7 -1.2**
ILAR Eielson Array 40.94 331 P **P** **10 23 56.3 -0.4**
comp=Z,3.9nm,1.1s,baz=14,slow=7.4,SNR=22
ILAR PcP **PcP** **10 25 56.4 -0.3**
comp=Z,1.0nm,0.9s,baz=348,slow=3.7,SNR=5.0
ILAR LR LR 10 44 10.5
comp=Z,355nm,19.9s,baz=54,slow=41
MDM Murphy Dome 40.97 332 PFAKE 10 24 10.0 +13
MDM LR LR
comp=Z,300nm,21.6s
COLA College 40.99 332 *e*P P 10 23 53.6 -3.6
COLA pmax pmax
comp=Z,13nm,1.1s
COLA MLR MLR
comp=Z,300nm,20.2s
COLA College 40.99 332 *e*P P 10 23 53.5 -3.6
comp=Z,13nm,1.1s
COLA LR LR
comp=Z,300nm,20.2s
IDI Anoyia 41.14 128 LR LR 10 42 07.2
comp=Z,83nm,18.7s,baz=290,slow=38
CCB Clear Creek Bu 41.20 332 PFAKE 10 24 10.0 +11
CCB LR LR
comp=Z,300nm,20.8s
YLE Yale 41.28 257 PFAKE 10 24 10.0 +10
YLE LR LR
comp=Z,300nm,21.3s
HDA Harding Lake 41.29 331 PFAKE 10 24 10.0 +10
HDA LR LR
comp=Z,400nm,22.0s
MLY Manley 41.29 334 PFAKE 10 24 10.0 +10
MLY LR LR
comp=Z,300nm,21.8s
GVD Gavdhos 41.36 129 PFAKE 10 24 10.0 +9.5
GVD LR LR
comp=Z,400nm,20.4s
WRH Wood River Hil 41.41 332 PFAKE 10 24 10.0 +9.4
WRH LR LR
comp=Z,300nm,19.0s
BINY Binghamton 41.48 260 PFAKE 10 24 10.0 +8.5
BINY LR LR
comp=Z,400nm,20.1s
EYMN Ely 41.56 279 *e*P **P** **10 24 02.8 +0.8**
comp=Z,100nm,2.5s
EYMN Ely 41.56 279 *e*P **P** **10 24 02.8 +0.8**
comp=Z,100nm,2.5s
EYMN LR LR
comp=Z,500nm,19.7s
MMNY Mt. Morris Dam 41.64 263 PFAKE 10 24 20.0 +17
MMNY LR LR
comp=Z,800nm,20.0s
PAL Palisades 41.88 257 PFAKE 10 24 20.0 +15
PAL LR LR
comp=Z,200nm,19.2s
BWN Browne 41.90 332 PFAKE 10 24 20.0 +15
BWN LR LR
comp=Z,200nm,21.0s
KSPA Keystone Colle 41.99 260 PFAKE 10 24 20.0 +14
KSPA LR LR
comp=Z,200nm,18.7s
NVS Novosibirsk 42.00 59 ⇑ *i* P **P** **10 24 06.2 +0.7**
NVS pmax pmax
comp=Z,35nm,1.6s
NVS pmax pmax
comp=N,21nm,1.8s
NVS Novosibirsk 42.00 59 *i* P **P** **10 24 06.2 +0.7**
comp=N,21nm,1.8s
GLMI Grayling 42.02 271 PFAKE 10 24 20.0 +14
GLMI LR LR
comp=Z,300nm,19.0s
ODNJ Ogdensburg 42.04 258 PFAKE 10 24 20.0 +14
ODNJ LR LR
comp=Z,300nm,21.0s
BPAW Bear Paw Mtn. 42.20 333 *e*P **P** **10 24 07.5 +0.4**
comp=Z,1.7nm,1.0s
BPAW Bear Paw Mtn. 42.20 333 *e*P **P** **10 24 07.5 +0.4**
comp=Z,1.7nm,1.0s
MCK McKinley 42.23 332 *e*P **P** **10 24 07.9 +0.5**
MCK pmax pmax
comp=Z,16nm,1.1s
MCK MLR MLR
comp=Z,300nm,20.2s
MCK McKinley 42.23 332 *e*P **P** **10 24 07.9 +0.5**
comp=Z,300nm,20.2s
MCK McKinley 42.23 332 *e*P **P** **10 24 07.9 +0.5**
comp=Z,16nm,1.1s
MCK LR LR
comp=Z,300nm,20.2s
PAX Paxson 42.38 329 *e*P **P** **10 24 09.2 +0.5**
PAX pmax pmax
comp=Z,10.0nm,1.3s
PAX MLR MLR
comp=Z,599nm,18.7s
PAX Paxson 42.38 329 *e*P **P** **10 24 09.2 +0.5**
comp=Z,599nm,18.7s
PAX Paxson 42.38 329 *e*P **P** **10 24 09.2 +0.5**
comp=Z,10.0nm,1.3s
PAX LR LR
comp=Z,599nm,18.7s
RND Reindeer 42.53 332 PFAKE 10 24 20.0 +10
RND LR LR
comp=Z,400nm,20.2s
GNI Garni 42.58 103 LR LR 10 42 15.0
comp=Z,275nm,21.5s,baz=318,slow=37
GNI Garni 42.58 103 *ce* P 10 24 14.2 +3.5
GNI pmax pmax
comp=Z,12nm,1.7s
AGMN Agassiz Nation 42.68 283 *e*P **P** **10 24 11.6 +0.4**
comp=Z,8.9nm,1.1s
AGMN Agassiz Nation 42.68 283 ⇑ P **P** **10 24 11.6 +0.4**
baz=42
AGMN Agassiz Nation 42.68 283 *e*P **P** **10 24 11.6 +0.4**
comp=Z,8.9nm,1.1s
AGMN LR LR
comp=Z,600nm,20.0s
TRF Thorofare Moun 42.71 332 PFAKE 10 24 20.0 +8.5
TRF LR LR
comp=Z,300nm,19.1s
KTH Kantishna Hill 42.71 333 PFAKE 10 24 20.0 +8.7
KTH LR LR
comp=Z,198nm,19.0s
TNA Tin City 42.84 344 PFAKE 10 24 20.0 +7.8
TNA LR LR
comp=Z,200nm,20.9s
HARP HAARP 42.85 329 PFAKE 10 24 20.0 +7.6
HARP LR LR
comp=Z,400nm,20.3s
HYT Haines Junctio 42.88 323 *e*P **P** **10 24 14.0 +1.2**
HYT Haines Junctio 42.88 323 *e*P **P** **10 24 14.0 +1.2**
A30A Hoffart Farm, 42.91 286 ⇑ P **P** **10 24 13.2 +0.2**
baz=43
CAST Castle Rocks 43.01 334 *e*P **P** **10 24 15.6 +1.9**
comp=Z,14nm,1.4s
CAST Castle Rocks 43.01 334 *e*P **P** **10 24 15.6 +1.9**
comp=Z,14nm,1.4s
CAST LR LR
comp=Z,200nm,21.0s
A29A Manning Farm, 43.22 286 ⇑ P **P** **10 24 15.6 +0.1**
baz=43,SNR=6.0
ZALV Zalesovo Beam 43.23 58 P **P** **10 24 15.6 +0.1**
comp=Z,17nm,0.3s,baz=322,slow=9.1,SNR=2.4
ZALV LR LR 10 44 30.9
comp=Z,83nm,21.0s,baz=250,slow=39
B30A Myrvik Farm, E 43.34 285 ⇓ P **P** **10 24 16.8 +0.2**
baz=43,SNR=7.0
ALLY Alegheny Colle 43.35 264 PFAKE 10 24 30.0 +13
ALLY LR LR
comp=Z,300nm,21.0s
SSPA Standing Stone 43.52 261 *e*P **P** **10 24 19.0 +1.0**
comp=Z,31nm,1.7s
SSPA Standing Stone 43.52 261 *e*P **P** **10 24 19.0 +1.0**
comp=Z,31nm,1.7s
SSPA LR LR
comp=Z,400nm,20.4s
PPLA Purkeypile 43.52 333 PFAKE 10 24 30.0 +12
PPLA LR LR
comp=Z,302nm,20.5s
A28A Rude Farm, Bot 43.56 287 ⇑ P **P** **10 24 18.4 0.0**
baz=43
B29A Wagenman Farm, 43.66 286 ⇓ P **P** **10 24 19.2 +0.1**
baz=44
EDM Edmonton 43.75 301 *e*P **P** **10 24 20.2 +0.4**
EDM Edmonton 43.75 301 *e*P **P** **10 24 20.2 +0.4**
EDM Edmonton 43.75 301 *e*P **P** **10 24 20.2 +0.4**
SCM Sheep Creek Mo 43.76 330 PFAKE 10 24 30.0 +10
SCM LR LR
comp=Z,300nm,19.4s
CSS Prodhromos 43.80 118 PFAKE 10 24 30.0 +10
CSS LR LR
comp=Z,100nm,21.6s
A27A Ledoux Ranch, 43.83 288 ⇑ P **P** **10 24 20.8 +0.3**
baz=44
AAM Ann Arbor 43.94 268 PFAKE 10 24 30.0 +8.6
AAM LR LR
comp=Z,300nm,20.9s
C30A Mose, Pekin 44.05 285 ⇑ P **P** **10 24 22.1 -0.1**
baz=44
BMRM Bremner River 44.09 328 PFAKE 10 24 30.0 +7.5
BMRM LR LR
comp=Z,599nm,19.1s
A26A Wade Farm, Ken 44.13 289 ⇓ P **P** **10 24 22.8 -0.1**
baz=44
DIV Divide 44.15 328 PFAKE 10 24 30.0 +7.0
DIV LR LR
comp=Z,401nm,21.0s
KURK Kurchatov 44.25 65 *e*P **P** **10 24 23.1 -0.7**
KURK pmax pmax
comp=Z,10.0nm,0.9s
KURK MLR MLR
comp=Z,200nm,18.8s
KURK Kurchatov 44.25 65 *e*P **P** **10 24 23.1 -0.7**
comp=Z,200nm,18.8s
KURK Kurchatov 44.25 65 *e*P **P** **10 24 23.1 -0.7**
comp=Z,10nm,0.9s
KURK LR LR
comp=Z,200nm,18.8s
SDMD Soldier's Deli 44.28 259 PFAKE 10 24 40.0 +16
SDMD LR LR
comp=Z,600nm,20.4s
MDND Maddock 44.28 286 *e*P **P** **10 24 25.1 +1.0**
comp=Z,73nm,0.9s
MDND Maddock 44.28 286 ⇑ P **P** **10 24 24.2 +0.1**
baz=44
MDND Maddock 44.28 286 *e*P **P** **10 24 25.1 +1.0**
comp=Z,73nm,0.9s
MDND LR LR
comp=Z,300nm,20.6s
BESE Bessie Mountai 44.38 320 PFAKE 10 24 40.0 +15
BESE LR LR
comp=Z,300nm,18.9s
SPMN Marine on St. 44.38 278 *e*P **P** **10 24 26.1 +1.2**
comp=Z,7.3nm,0.6s
SPMN Marine on St. 44.38 278 ⇑ P **P** **10 24 25.2 +0.3**
baz=44
SPMN Marine on St. 44.38 278 *e*P **P** **10 24 26.1 +1.2**
comp=Z,7.3nm,0.6s

SPMN LR LR
comp=Z,400nm,20.5s
DHAK Deception Hill 44.61 322 PFAKE 10 24 40.0 +13
DHAK LR LR
comp=Z,700nm,21.9s
RAGM Ragged Mountai 44.65 327 PFAKE 10 24 40.0 +13
RAGM LR LR
comp=Z,600nm,19.1s
D30A Buchanan 44.66 285 ⇑P **P 10 24 27.5 +0.4**
baz=44
EYAK Cordova Ski Ar 44.69 328 PFAKE 10 24 40.0 +13
EYAK LR LR
comp=Z,800nm,18.4s
A24A Westby 44.73 290 ⇑P **P 10 24 27.8 +0.1**
baz=44
RC01 Rabbit Creek A 44.85 331 PFAKE 10 24 40.0 +12
RC01 LR LR
comp=Z,300nm,18.6s
GAMB Gambell 44.92 346 PFAKE 10 24 40.0 +11
GAMB LR LR
comp=Z,200nm,21.8s
C27A Sayler Ranch, 45.01 288 ⇓P **P 10 24 30.1 +0.2**
baz=45
DGMT Dagmar 45.19 290 PFAKE 10 24 40.0 +8.7
DGMT LR LR
comp=Z,400nm,20.8s
YAK Yakutsk 45.25 23 PFAKE 10 24 40.0 +8.4
YAK LR LR
comp=Z,100nm,18.9s
E29A Napoleon 45.42 285 ⇑P **P 10 24 33.6 +0.3**
baz=45
B23A Brockton 45.44 291 ⇑P **P 10 24 33.5 +0.2**
baz=45
CBN Corbin Frederi 45.55 259 PFAKE 10 24 50.0 +16
CBN LR LR
comp=Z,200nm,22.0s
ACSO Alum Creek Sta 45.57 266 PFAKE 10 24 50.0 +16
ACSO LR LR
comp=Z,300nm,22.0s
A21A Bergtoll Ranch 45.57 293 ⇑P **P 10 24 34.8 +0.4**
baz=45,SNR=6.6
JFWS Jewell Farm 45.59 274 PFAKE 10 24 50.0 +15
JFWS LR LR
comp=Z,300nm,19.3s
SEW Seward 45.74 330 PFAKE 10 24 50.0 +15
SEW LR LR
comp=Z,400nm,20.2s
WRAK Wrangell Islan 45.80 317 PFAKE 10 24 50.0 +14
WRAK LR LR
comp=Z,500nm,19.3s
B22A Reddig Ranch S 45.90 292 ⇓P **P 10 24 37.1 +0.2**
baz=46
D26A Manning 45.91 288 ⇓P **P 10 24 37.5 +0.4**
baz=46
A20A Cobblestone Ra 45.98 294 ⇑P **P 10 24 37.7 +0.1**
baz=46
D25A Fairfield 46.08 289 ⇑P **P 10 24 39.0 +0.6**
baz=46
C23A Lambert 46.09 291 ⇓P **P 10 24 38.7 +0.2**
baz=46
F29A Eureka 46.13 285 ⇓P **P 10 24 39.2 +0.4**
baz=46
E27A Carson 46.16 287 ⇓P **P 10 24 39.4 +0.3**
baz=46
A19A Klindworth Far 46.18 294 ⇑P **P 10 24 39.7 +0.4**
baz=46,SNR=6.3
MMAI Mount Meron Ar 46.23 117 LR LR 10 44 55.5
comp=Z,176nm,20.3s,baz=345,slow=37
BRLK Bradley Lake 46.30 331 PFAKE 10 24 50.0 +10
BRLK LR LR
comp=Z,400nm,22.0s
B20A Solberg Farm, 46.40 293 ⇓P **P 10 24 40.9 0.0**
baz=46
E26A Carlson Angus 46.41 288 ⇓P **P 10 24 41.6 +0.5**
baz=46
D24A Glendive 46.43 289 ⇑P **P 10 24 41.8 +0.6**
baz=46
HOM Homer 46.52 332 PFAKE 10 24 50.0 +8.4
HOM LR LR
comp=Z,500nm,18.9s
G30A Faulkton 46.54 284 ⇓P **P 10 24 42.4 +0.4**
baz=46
C21A Desert Coulee 46.66 292 ⇑P **P 10 24 42.9 -0.1**
baz=46
B19A Brinkman Farms 46.67 294 ⇓P **P 10 24 43.1 +0.1**
baz=46
E25A Miller Ranch, 46.68 288 ⇑P **P 10 24 43.5 +0.4**
baz=46
F27A Lemmon 46.80 287 ⇑P **P 10 24 44.4 +0.3**
baz=47
SFIN Lafayette 46.80 270 ⇑P **P 10 24 45.2 +1.1**
baz=47
SFIN Lafayette 46.80 270 PFAKE 10 25 00.0 +16
SFIN LR LR
comp=Z,300nm,20.1s
E24A Baker 46.92 289 ⇓P **P 10 24 45.5 +0.5**
baz=47
ECSD EROS Data Cent 46.96 281 *e*P **P 10 24 46.2 +0.9**
comp=Z,101nm,2.8s
ECSD EROS Data Cent 46.96 281 *e*P **P 10 24 46.2 +0.9**
comp=Z,101nm,2.8s
ECSD LR LR
comp=Z,500nm,21.0s
D22A Cohagen 46.98 291 ⇓P **P 10 24 45.9 +0.4**
baz=47,SNR=5.4
F26A Lodgepole 47.03 287 ⇑P **P 10 24 46.0 +0.1**
baz=47
C20A Veseth Ranch, 47.04 293 ⇑P **P 10 24 45.7 -0.2**
baz=47,SNR=7.4
BRSD Miller 47.09 283 ⇑P **P 10 24 46.9 +0.5**
baz=47
BRSD Miller 47.09 283 PFAKE 10 25 00.0 +14
BRSD LR LR
comp=Z,400nm,20.0s
G27A Dupree 47.21 286 ⇑P **P 10 24 48.0 +0.7**
baz=47
E23A Ismay 47.29 290 ⇓P **P 10 24 48.2 +0.3**
baz=47
EGMT Eagleton 47.30 295 *e*P **P 10 24 48.6 +0.6**
comp=Z,59nm,1.6s
EGMT Eagleton 47.30 295 ⇓P **P 10 24 47.9 -0.1**
baz=47,SNR=12
EGMT Eagleton 47.30 295 *e*P **P 10 24 48.6 +0.6**
comp=Z,59nm,1.6s
EGMT LR LR
comp=Z,600nm,19.1s
H29A Onida 47.33 284 ⇓P **P 10 24 48.9 +0.6**
baz=47
C19A Slack Wire Ran 47.34 294 ⇓P **P 10 24 48.3 0.0**
baz=47
LAO LASA Array 47.40 291 *e*P **P 10 24 50.6 +1.8**
comp=Z,42nm,1.8s
LAO LASA Array 47.40 291 *e*P **P 10 24 50.6 +1.8**
comp=Z,42nm,1.8s
LAO LR LR
comp=Z,500nm,20.4s
BLA Blacksburg 47.45 262 PFAKE 10 25 00.0 +11
BLA LR LR
comp=Z,200nm,19.6s
SCIA State Center 47.47 277 PFAKE 10 25 00.0 +11
SCIA LR LR
comp=Z,400nm,20.8s
G26A Maurine 47.50 287 ⇓P **P 10 24 49.9 +0.3**
baz=47
E22A Miles City 47.54 290 ⇓P **P 10 24 50.3 +0.4**
baz=47
H28A Mission Ridge 47.55 285 ⇑P **P 10 24 50.4 +0.5**
baz=47
F24A Ekalaka 47.60 289 ⇑P **P 10 24 50.5 +0.2**
baz=47
D20A Manuel Ranch, 47.64 293 ⇓P **P 10 24 50.7 +0.1**
baz=47,SNR=7.5
D19A Cripps Ranch, 47.80 293 ⇓P **P 10 24 51.7 -0.2**
baz=48,SNR=9.3
G25A Newell 47.85 288 ⇑P **P 10 24 52.5 +0.1**
baz=48,SNR=5.8
I29A Vivian Onida 47.90 284 ⇑P **P 10 24 53.2 +0.5**
baz=48
H27A Howes 47.93 286 ⇓P **P 10 24 53.2 +0.3**
baz=48
F23A Volborg 48.01 290 ⇑P **P 10 24 53.9 +0.3**
baz=48
G24A Alzada 48.05 288 ⇑P **P 10 24 54.3 +0.4**
baz=48
H26A Fairpoint 48.16 287 ⇑P **P 10 24 54.6 -0.1**
baz=48,SNR=5.6
HVS Khovu-Aksy 48.20 53*c i*P **P 10 24 55.3 +0.4**
HVS Khovu-Aksy 48.20 53 *i* P **P 10 24 55.3 +0.4**
I28A Midland 48.20 285 ⇓P **P 10 24 54.7 -0.3**
baz=48
F22A Rosebud 48.23 290 ⇑P **P 10 24 55.3 +0.1**
baz=48
J30A Dallas 48.26 283 ⇓P **P 10 24 56.4 +0.9**
baz=48
E19A Rath Farm, Rou 48.40 293 ⇓P **P 10 24 56.5 0.0**
baz=48
CNNC Cliffs of the 48.42 258 PFAKE 10 25 10.0 +13
CNNC LR LR
comp=Z,200nm,19.9s
H25A Fruitdale 48.42 287 ⇓P **P 10 24 56.7 0.0**
baz=48
I27A Quinn 48.42 286 ⇑P **P 10 24 56.8 +0.1**
baz=48
KKAR Karatay Array 48.45 77 *e*P **P 10 24 59.4 +2.5**
KKAR Karatay Array 48.45 77 *e*P **P 10 24 59.4 +2.5**
KKAR Karatay Array 48.45 77 *e*P **P 10 24 59.4 +2.5**
J29A Okreek 48.46 284 ⇑P **P 10 24 56.9 -0.1**
baz=48
KDAK Kodiak Island 48.46 331 PFAKE 10 25 10.0 +13
KDAK LR LR
comp=Z,500nm,20.0s
L34A Svendsen Farm, 48.46 279 ⇑P **P 10 24 57.4 +0.4**
baz=48
WCI Wyandotte Cave 48.48 268 PFAKE 10 25 10.0 +13
WCI LR LR
comp=Z,200nm,21.6s
H24A Dirks Ranch, A 48.61 288 ⇓P **P 10 24 57.9 -0.3**
baz=48
OLIL Olney 48.62 270 PFAKE 10 25 10.0 +12
OLIL LR LR
comp=Z,200nm,19.5s
I26A New Underwood 48.72 286 ⇑P **P 10 24 59.0 0.0**
baz=48
J28A Allard Ranch, 48.74 285 ⇓P **P 10 24 59.1 0.0**
baz=49,SNR=5.4
MK31 Makanchi Array 48.85 65 *e*P **P 10 24 59.8 -0.1**
MK31 Makanchi Array 48.85 65 *e*P **P 10 24 59.8 -0.1**
MK31 Makanchi Array 48.85 65 *e*P **P 10 24 59.8 -0.1**
MKAR Makanchi Array 48.85 65 P **P 10 24 59.5 -0.4**
comp=Z,2.7nm,0.9s,baz=340,slow=6.6,SNR=18
MKAR LR LR 10 48 38.4
comp=Z,65nm,18.5s,baz=323,slow=40
F19A Roth Farm, Mol 48.99 293 ⇓P **P 10 25 01.1 0.0**
baz=49
I25A Rochford 49.01 287 ⇑P **P 10 25 01.2 -0.1**
baz=49
RSSD Black Hills 49.01 287 PFAKE 10 25 10.0 +8.5
RSSD LR LR
comp=Z,300nm,21.7s
TZTN Tazewell 49.09 264 PFAKE 10 25 10.0 +8.1
TZTN LR LR
comp=Z,200nm,18.2s
J27A Elkhorn Farm, 49.14 285 ⇓P **P 10 25 02.8 +0.5**
baz=49
USIN University of 49.17 269 PFAKE 10 25 20.0 +18
USIN LR LR
comp=Z,200nm,20.5s
EIL Elat 49.23 119 LR LR 10 47 23.1
comp=Z,28nm,19.6s,baz=258,slow=38
NEW Newport 49.26 301 ⇑P **P 10 25 03.0 0.0**
baz=49
NEW Newport 49.26 301 PFAKE 10 25 20.0 +17
NEW LR LR
comp=Z,300nm,19.6s
GCMT Greycliff 49.27 293 *e*P **P 10 25 04.2 +0.9**
GCMT Greycliff 49.27 293 *e*P **P 10 25 04.2 +0.9**
H22A Clearmont 49.32 290 ⇑P **P 10 25 03.8 +0.2**
baz=49
G20A Bridger 49.34 292 ⇑P **P 10 25 03.6 -0.2**
baz=49
SLM Saint Louis 49.42 272 PFAKE 10 25 20.0 +16
SLM LR LR
comp=Z,200nm,20.4s
BGNE Belgrade 49.54 281 PFAKE 10 25 20.0 +15
BGNE LR LR
comp=Z,500nm,21.3s
MOY Mondy 49.59 48 *e*P **P 10 25 06.1 +0.5**
MOY Mondy 49.59 48 *e*P **P 10 25 06.1 +0.5**
J25A Sunshine Ranch 49.59 287 ⇓P **P 10 25 05.4 -0.4**
baz=49
MSO Missoula 49.62 297 *e*P **P 10 25 05.5 -0.5**
comp=Z,16nm,1.2s
MSO Missoula 49.62 297 ⇓P **P 10 25 05.3 -0.6**
baz=49,SNR=10
MSO Missoula 49.62 297 *e*P **P 10 25 05.5 -0.5**
comp=Z,16nm,1.2s
MSO LR LR
comp=Z,600nm,18.5s
KMSC Kings Mountain 49.64 261 ⇑P **P 10 25 07.6 +1.6**
baz=50
KMSC Kings Mountain 49.64 261 PFAKE 10 25 20.0 +14
KMSC LR LR
comp=Z,400nm,19.7s
K27A Flueckinger Fa 49.71 285 ⇑P **P 10 25 07.2 +0.5**
baz=50
RLMT Red Lodge 49.75 292 PFAKE 10 25 20.0 +13
RLMT LR LR
comp=Z,600nm,19.7s
EKS2 Erkin-Say 49.91 75 PFAKE 10 25 20.0 +12
EKS2 LR LR
comp=Z,200nm,21.1s
SIUC Southern Illin 49.92 270 *e*P **P 10 25 08.8 +0.7**
SIUC Southern Illin 49.92 270 *e*P **P 10 25 08.8 +0.7**
SIUC LR LR
comp=Z,300nm,19.2s
H20A Greybull 49.93 291 ⇑P **P 10 25 08.3 0.0**
baz=50,SNR=9.3
I22A 9 Mile Ranch, 49.99 289 ⇓P **P 10 25 08.8 0.0**
baz=50
BOZ Bozeman (W) 50.00 295 *e*P **P 10 25 08.9 0.0**
BOZ pmax pmax
comp=Z,23nm,2.3s
BOZ MLR MLR
comp=Z,500nm,19.0s
BOZ Bozeman (W) 50.00 295 *e*P **P 10 25 08.9 0.0**
comp=Z,500nm,19.0s
BOZ Bozeman (W) 50.00 295 *e*P **P 10 25 08.9 0.0**
comp=Z,23nm,2.3s
BOZ LR LR
comp=Z,500nm,19.0s
C09A Chrisman Ranch 50.01 301 PFAKE 10 25 20.0 +11
C09A LR LR
comp=Z,600nm,19.4s
H19A Powell 50.07 292 ⇑P **P 10 25 09.7 +0.3**
baz=50
AAK Ala-Archa 50.16 74 P **P 10 25 10.4 +0.2**
comp=Z,1.4nm,0.5s,baz=308,slow=7.9,SNR=5.3
AAK LR LR 10 45 12.1
comp=Z,119nm,19.8s,baz=321,slow=35
AAK Ala-Archa 50.16 74⇑*i*P **P 10 25 11.2 +1.0**
AAK pmax pmax
comp=Z,15nm,1.2s
TLY Talaya 50.22 46 *e*P **P 10 25 09.0 -1.3**
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY MLR MLR
comp=Z,100nm,17.0s
TLY Talaya 50.22 46 *e*P **P 10 25 09.0 -1.3**
comp=Z,100nm,17.0s
TLY Talaya 50.22 46 PFAKE 10 25 20.0 +10
TLY LR LR
comp=Z,100nm,18.4s
TKM2 Tokmak 2 50.25 73 *e*P **P 10 25 10.5 -0.4**
TKM2 pmax pmax
comp=Z,3.0nm,0.8s
TKM2 MLR MLR
comp=Z,100nm,20.0s
TKM2 Tokmak 2 50.25 73 *e*P **P 10 25 10.5 -0.4**
comp=Z,100nm,20.0s
TKM2 Tokmak 2 50.25 73 *e*P **P 10 25 10.5 -0.4**
comp=Z,3.1nm,0.8s
TKM2 LR LR
comp=Z,100nm,20.0s
H18A Shoshone NF, C 50.27 293 ⇑P **P 10 25 11.1 +0.1**
baz=50
I21A Big Trails, Te 50.32 290 ⇓P **P 10 25 10.8 -0.5**
baz=50,SNR=7.3
J22A Midwest 50.42 289 ⇑P **P 10 25 11.2 -0.9**
baz=50
I20A Worland 50.45 291 ⇑P **P 10 25 12.2 -0.1**
baz=50
P35A Duane Minner, 50.54 278 ⇓P **P 10 25 13.0 +0.1**
baz=50
DLMT Dillon 50.55 295 PFAKE 10 25 30.0 +17
DLMT LR LR
comp=Z,400nm,21.3s
LKWY Lake 50.60 293 PFAKE 10 25 30.0 +16
LKWY LR LR
comp=Z,800nm,19.3s
I19A Meeteetse 50.64 292 ⇓P **P 10 25 13.9 0.0**
baz=50
YMR Madison River 50.68 294 PFAKE 10 25 30.0 +16
YMR LR LR
comp=Z,795nm,19.9s
J21A Lysite 50.78 290 ⇑P **P 10 25 14.3 -0.6**
baz=51,SNR=5.6
P34A Walnut Farm, R 50.79 278 ⇓P **P 10 25 14.0 -0.8**
baz=51
H17A Grant Village 50.81 293 ⇑P **P 10 25 14.8 -0.3**
baz=51
H17A Grant Village 50.81 293 PFAKE 10 25 30.0 +15
H17A LR LR
comp=Z,800nm,21.5s
D08A Wollman Farm, 50.87 301 PFAKE 10 25 30.0 +15
D08A LR LR
comp=Z,500nm,19.4s
J20A Shoshoni 50.98 290 ⇑P **P 10 25 16.4 +0.1**
baz=51,SNR=10
UTMT University of 51.04 269 PFAKE 10 25 30.0 +13
UTMT LR LR
comp=Z,300nm,20.8s
KSU1 Kansas State U 51.12 278 PFAKE 10 25 30.0 +13
KSU1 LR LR
comp=Z,400nm,18.6s
NHSC New Hope 51.12 259 PFAKE 10 25 30.0 +13
NHSC LR LR
comp=Z,200nm,18.8s
K22A Casper 51.12 289 *e*P **P 10 25 17.5 +0.1**
comp=Z,20nm,1.4s
K22A Casper 51.12 289 ⇑P **P 10 25 16.9 -0.5**
baz=51
K22A Casper 51.12 289 *e*P **P 10 25 17.5 +0.1**
comp=Z,20nm,1.4s
K22A LR LR
comp=Z,400nm,20.4s
FLWY Flagg Ranch 51.13 293 PFAKE 10 25 30.0 +12
FLWY LR LR
comp=Z,400nm,21.0s
E09A Wood Farm, Sta 51.14 300 PFAKE 10 25 30.0 +13
E09A LR LR
comp=Z,300nm,18.3s
Q35A Mercer Eighty, 51.15 277 ⇓P **P 10 25 16.9 -0.6**
baz=51
PBMO Poplar Bluff 51.17 271 *e*P **P 10 25 18.3 +0.7**
comp=Z,19nm,1.5s
PBMO Poplar Bluff 51.17 271 *e*P **P 10 25 18.3 +0.7**
comp=Z,19nm,1.5s
PBMO LR LR
comp=Z,300nm,21.4s
OGNE Ogallala 51.23 284 ⇑P **P 10 25 18.1 0.0**
baz=51
PVMO Portageville 51.26 270 PFAKE 10 25 30.0 +12
PVMO LR LR
comp=Z,200nm,20.4s
P32A Huiting Farm, 51.30 280 ⇓P **P 10 25 17.9 -0.7**
baz=51
J19A Crowheart 51.36 291 ⇑P **P 10 25 18.8 -0.4**
baz=51,SNR=7.0
F10A Beach Ranch, E 51.37 299 PFAKE 10 25 30.0 +11
F10A LR LR
comp=Z,300nm,19.1s
IMW Indian Meadow 51.37 293 PFAKE 10 25 30.0 +11
IMW LR LR
comp=Z,500nm,20.3s
Q34A Chapman 51.39 278 ⇑P **P 10 25 19.1 -0.1**
baz=51
MOOW Moose Ponds 51.45 293 PFAKE 10 25 30.0 +10
MOOW LR LR
comp=Z,200nm,19.7s
R36A Gordon, Harris 51.46 277 ⇑P **P 10 25 19.4 -0.3**
baz=51
N27A Anderson Farm, 51.51 284 ⇓P **P 10 25 19.9 -0.4**
baz=51
LOHW Long Hollow 51.52 293 PFAKE 10 25 30.0 +9.5
LOHW LR LR
comp=Z,500nm,21.5s
Q33A Connelly Farm, 51.61 279 ⇓P **P 10 25 20.8 -0.1**
baz=52
FXWY Fox Creek 51.63 293 PFAKE 10 25 30.0 +8.7
FXWY LR LR
comp=Z,400nm,20.6s
HAWA Hanford 51.65 302 PFAKE 10 25 30.0 +8.9
HAWA LR LR
comp=Z,600nm,18.1s
P31A Stockton 51.65 281 ⇓P **P 10 25 21.0 -0.2**
baz=52
SNOW Snow King Moun 51.71 293 PFAKE 10 25 30.0 +8.1
SNOW LR LR
comp=Z,500nm,21.3s
TPAW Teton Pass 51.74 293 PFAKE 10 25 30.0 +7.8
TPAW LR LR
comp=Z,500nm,20.7s
REDW Red Top Meadow 51.83 293 PFAKE 10 25 40.0 +17
REDW LR LR
comp=Z,400nm,21.9s
Q32A Meitler Ranch, 51.86 280 ⇑P **P 10 25 22.1 -0.7**
baz=52
O28A Krutsinger Ran 51.88 283 ⇑P **P 10 25 22.8 -0.2**
baz=52
P30A Selden 51.91 282 ⇓P **P 10 25 23.3 +0.1**
baz=52
NLWA Neilton Lookou 51.94 306 PFAKE 10 25 40.0 +17
NLWA LR LR
comp=Z,600nm,19.6s
BW06 Boulder Array 51.97 291 PFAKE 10 25 40.0 +16
BW06 LR LR
comp=Z,500nm,19.5s
PDAR Pinedale Array 51.97 291 P **P 10 25 23.6 -0.3**
comp=Z,2.0nm,0.6s,baz=45,slow=7.1,SNR=21
PDAR LR LR 10 47 16.4
comp=Z,445nm,19.2s,baz=27,slow=36
PHWY Pilot Hill 52.00 287 *e*P **P 10 25 23.9 -0.3**
comp=Z,15nm,1.7s
PHWY Pilot Hill 52.00 287 *e*P **P 10 25 23.9 -0.3**
comp=Z,15nm,1.7s
PHWY LR LR
comp=Z,300nm,21.3s
R34A Isabella, Hill 52.05 278 ⇓P **P 10 25 24.2 0.0**
baz=52
P29A Atwood 52.08 282 ⇓P **P 10 25 24.5 -0.1**
baz=52
T37A Cheneyville 18 52.35 275 ⇑P **P 10 25 25.9 -0.5**
baz=52
BMO Blue Mountains 52.41 299 *e*P **P 10 25 26.4 -0.5**
comp=Z,24nm,1.8s
BMO Blue Mountains 52.41 299 *e*P **P 10 25 26.4 -0.5**
comp=Z,24nm,1.8s
BMO LR LR
comp=Z,300nm,18.5s
R32A Long Quarter, 52.42 280 ⇑P **P 10 25 26.6 -0.4**
baz=52
AHID Auburn Hatcher 52.45 293 PFAKE 10 25 40.0 +13
AHID LR LR
comp=Z,300nm,19.6s
MET Memphis--Engin 52.51 270 PFAKE 10 25 40.0 +12
MET LR LR
comp=Z,200nm,20.1s
N23A Red Feather La 52.53 287 ⇓P **P 10 25 28.1 +0.1**
baz=52,SNR=8.0
N23A Red Feather La 52.53 287 PFAKE 10 25 40.0 +12
N23A LR LR
comp=Z,300nm,20.5s
P27A Ficken Ranch, 52.66 284 ⇑P **P 10 25 28.3 -0.5**
baz=52
T36A Boggs Farm, Ca 52.73 276 ⇓P **P 10 25 28.1 -1.1**
baz=53
HLID Hailey 52.73 296 *e*P **P 10 25 29.6 +0.2**
comp=Z,8.2nm,1.4s
HLID Hailey 52.73 296 ⇑P **P 10 25 28.8 -0.5**
baz=52
HLID Hailey 52.73 296 *e*P **P 10 25 29.6 +0.2**
comp=Z,8.2nm,1.4s
HLID LR LR
comp=Z,500nm,19.0s
N22A Wattenberg Ran 52.77 288 ⇑P **P 10 25 28.8 -1.1**
baz=53
R31A Burdett 52.81 280 ⇓P **P 10 25 29.1 -0.8**
baz=53
FALS False Pass 52.84 338 PFAKE 10 25 40.0 +10
FALS LR LR
comp=Z,400nm,18.9s

Q28A Sharon Springs 52.87 283 ⇓P P **10 25 30.1 -0.2**
baz=53
OXF Oxford 52.89 269 PFAKE 10 25 40.0 +10
OXF LR LR
comp=Z,200nm,21.4s
R30A Dighton 53.06 281 ⇑P P **10 25 31.0 -0.7**
baz=53
T35A Sooner Cattle 53.07 277 ⇑P P **10 25 31.3 -0.4**
baz=53
O23A Lake Granby, G 53.14 287 ⇓P P **10 25 32.4 -0.2**
baz=53
WMQ Urumqi 53.16 62 P P **10 25 33.2 +0.8**
WMQ pP **pP** **10 25 37.7 +2.2**
WMQ PcP **PcP** **10 26 41.8 +1.4**
WMQ S **S** **10 33 04.0 +1.3**
WMQ PMZ
comp=Z,12nm,0.5s
WMQ PMZ
comp=Z,62nm,4.8s
WMQ LN
comp=Z,210nm,8.4s
WMQ LE
comp=Z,120nm,7.1s
WMQ LZ
comp=Z,81nm,14.8s
KSCO Kaye Shedlock' 53.17 283 ⇓P P **10 25 32.5 -0.1**
baz=53
KSCO Kaye Shedlock' 53.17 283 PFAKE 10 25 50.0 +17
KSCO LR LR
comp=Z,300nm,19.8s
T34A McClaskey Farm 53.19 277 ⇓P P **10 25 32.2 -0.4**
baz=53
MFID Camas Ranch 53.28 297 PFAKE 10 25 50.0 +17
MFID LR LR
comp=Z,600nm,19.2s
N20A Spence Gulch, 53.32 289 ⇓P P **10 25 32.9 -0.9**
baz=53,SNR=8.6
O22A Kremmling 53.38 287 ⇑P P **10 25 33.8 -0.6**
baz=53,SNR=7.0
S31A Mullinville 53.41 280 ⇓P P **10 25 34.0 -0.3**
baz=53
ISCO Idaho Springs 53.42 286 eP P **10 25 35.3 +0.6**
ISCO pmax pmax
comp=Z,8.0nm,1.4s
ISCO MLR MLR
comp=Z,300nm,19.8s
ISCO Idaho Springs 53.42 286 eP P **10 25 35.3 +0.6**
comp=Z,300nm,19.8s
ISCO Idaho Springs 53.42 286 ⇓P P **10 25 34.6 -0.1**
baz=53
ISCO Idaho Springs 53.42 286 eP P **10 25 35.3 +0.6**
comp=Z,7.5nm,1.4s
ISCO LR LR
comp=Z,300nm,19.8s
LRAL Lakeview Retre 53.44 266 PFAKE 10 25 50.0 +16
LRAL LR LR
comp=Z,300nm,20.4s
KSH Kashi 53.45 74 P P 10 25 38.2 +3.5
KSH pP pP 10 25 41.7 +3.9
KSH PcP PcP 10 26 48.5 +6.9
KSH PP **PP** **10 27 37.1 +2.3**
KSH PcS **PcS** **10 30 40.3 -0.4**
KSH S **S** **10 33 06.3 -0.6**
KSH sS sS 10 33 15.1 +3.1
KSH ScS **ScS** **10 35 19.3 -4.6**
KSH PMZ
comp=Z,6.0nm,1.0s
KSH PMZ
comp=Z,150nm,5.5s
KSH LN
comp=Z,140nm,5.3s
KSH LE
comp=Z,170nm,10.1s
KSH LZ
comp=Z,190nm,7.7s
T33A Patterson Ranc 53.49 278 ⇓P P **10 25 34.9 0.0**
baz=53
R28A Tribune 53.51 282 ⇑P P **10 25 34.7 -0.4**
baz=53
Q26A Hugo 53.54 284 ⇑P P **10 25 35.4 +0.1**
baz=53
T32A Huddler Ranch, 53.62 279 ⇓P P **10 25 35.4 -0.5**
baz=54
UALR University of 53.63 272 PFAKE 10 25 50.0 +14
UALR LR LR
comp=Z,300nm,20.2s
HWUT Hardware Ranch 53.64 292 PFAKE 10 25 50.0 +14
HWUT LR LR
comp=Z,500nm,19.8s
S30A Montezuma 53.71 281 ⇓P P **10 25 36.3 -0.2**
baz=54
TUL1 Leonard 53.74 276 PFAKE 10 25 50.0 +13
TUL1 LR LR
comp=Z,200nm,20.9s
I07A Izee 53.75 300 PFAKE 10 25 50.0 +13
I07A LR LR
comp=Z,400nm,18.3s
TIGA Tifton 53.77 262 PFAKE 10 25 50.0 +13
TIGA LR LR
comp=Z,300nm,20.9s
U34A Anderson Ranch 53.84 277 ⇓P P **10 25 36.9 -0.5**
baz=54
U34A Anderson Ranch 53.84 277 PFAKE 10 25 50.0 +13
U34A LR LR
comp=Z,400nm,19.1s
HVU Hansel Valley 53.86 294 PFAKE 10 25 50.0 +12
HVU LR LR
comp=Z,9196µm,19.5s
P23A Jefferson 53.88 286 ⇑P P **10 25 37.6 -0.5**
baz=54
R27A Eads 53.88 283 ⇓P P **10 25 37.4 -0.5**
baz=54
O20A White River Ci 53.95 289 eP P **10 25 38.6 +0.2**
comp=Z,25nm,1.1s
O20A White River Ci 53.95 289 ⇓P P **10 25 38.3 -0.1**
baz=54,SNR=7.1
O20A White River Ci 53.95 289 eP P **10 25 38.6 +0.2**
comp=Z,25nm,1.1s
O20A LR LR
comp=Z,500nm,22.0s
H04A Detroit Lake 53.96 303 PFAKE 10 25 50.0 +12
H04A LR LR
comp=Z,600nm,19.1s
P22A Eagle 53.97 287 ⇓P P **10 25 37.6 -1.0**
baz=54
Q24A Divide 54.03 286 ⇑P P **10 25 38.1 -1.0**
baz=54
Q24A Divide 54.03 286 PFAKE 10 25 50.0 +11
Q24A LR LR
comp=Z,300nm,18.3s
U33A Lingo Farm, Me 54.04 278 ⇓P P **10 25 37.9 -0.9**
baz=54
TCUT Toone Canyon 54.04 292 PFAKE 10 25 50.0 +11
TCUT LR LR
comp=Z,200nm,18.7s
W38A Poteau 54.09 274 ⇑P P **10 25 38.4 -0.8**
baz=54
MIAR Mount Ida 54.25 273 PFAKE 10 25 50.0 +10
MIAR LR LR
comp=Z,400nm,20.3s
COR Corvallis 54.36 304 PFAKE 10 25 50.0 +8.9
COR LR LR
comp=Z,500nm,18.0s
V34A Guthrie 54.38 277 PFAKE 10 25 50.0 +8.6
V34A LR LR
comp=Z,400nm,18.0s
PINOR Pine Mountain 54.39 301 PFAKE 10 25 50.0 +8.7
PINOR LR LR
comp=Z,400nm,20.3s
SMCO Snowmass 54.42 287 eP P 10 25 38.4 -3.6
comp=Z,8.7nm,0.9s
SMCO LR LR
comp=Z,200nm,20.1s
SONM Songino Array 54.45 45 P **P** **10 25 40.4 -1.5**
comp=Z,1.5nm,0.8s,baz=338,slow=6.2,SNR=3.2
SONM LR LR 10 51 34.9
comp=Z,156nm,20.0s,baz=91,slow=39
JLU Jordanelle 54.52 292 PFAKE 10 26 00.0 +17
JLU LR LR
comp=Z,400nm,19.1s
CTU Camp Tracy 54.53 292 PFAKE 10 26 00.0 +17
CTU LR LR
comp=Z,100nm,18.7s
ULN Ulaanbaatar 54.58 45 eP P 10 25 47.2 +4.4
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN MLR MLR
comp=Z,200nm,18.6s
ULN Ulaanbaatar 54.58 45 eP P 10 25 47.2 +4.4
comp=Z,5.4nm,1.0s
ULN LR LR
comp=Z,200nm,18.6s
V33A Lossen Ranch, 54.65 278 ⇑P P **10 25 42.7 -0.7**
baz=54
S26A Kim 54.71 283 ⇓P P **10 25 42.5 -1.4**
baz=54
BGU Big Grassy Mou 54.71 293 PFAKE 10 26 00.0 +16
BGU LR LR
comp=Z,8918µm,21.9s
T28A Walsh 54.72 282 ⇑P P **10 25 43.9 0.0**
baz=55
W35A Tecumseh 54.79 276 ⇑P P **10 25 44.0 -0.4**
baz=55
X37A Clayton 54.81 275 ⇑P P **10 25 43.9 -0.5**
baz=55
J05D Fort Rock, OR 54.98 301 ⇓P P **10 25 45.8 0.0**
baz=55
WVOR Wild Horse Val 55.01 299 PFAKE 10 26 00.0 +14
WVOR LR LR
comp=Z,300nm,20.5s
W34A Bridge Creek, 55.02 277 PFAKE 10 26 00.0 +14
W34A LR LR
comp=Z,400nm,19.4s
MPU Maple Canyon 55.12 292 PFAKE 10 26 00.0 +13
MPU LR LR
comp=Z,1µm,21.4s
X36A Centrahoma 55.15 275 ⇓P P **10 25 46.5 -0.4**
baz=55
V31A Spring Creek L 55.21 279 ⇑P P **10 25 47.5 +0.1**
baz=55
SDCO Great Sand Dun 55.25 285 eP P **10 25 48.8 +0.8**
comp=Z,11nm,1.6s
SDCO Great Sand Dun 55.25 285 ⇓P P **10 25 48.0 0.0**
baz=55
SDCO Great Sand Dun 55.25 285 eP P **10 25 48.8 +0.8**
comp=Z,11nm,1.6s
SDCO LR LR
comp=Z,300nm,21.1s
NLU North Lily Min 55.31 292 PFAKE 10 26 00.0 +12
NLU LR LR
comp=Z,400nm,20.8s
DUG Dugway, Tooele 55.31 293 eP P **10 25 49.0 +0.8**
DUG pmax pmax
comp=Z,9.0nm,0.9s
DUG MLR MLR
comp=Z,500nm,21.3s
DUG Dugway, Tooele 55.31 293 eP P **10 25 49.0 +0.8**
comp=Z,500nm,21.3s
DUG Dugway, Tooele 55.31 293 ⇑P P **10 25 49.0 +0.8**
baz=55,SNR=12
DUG Dugway, Tooele 55.31 293 eP P **10 25 49.0 +0.8**
comp=Z,8.9nm,0.9s
DUG LR LR
comp=Z,500nm,21.3s
BRAL Brewton 55.32 265 PFAKE 10 26 00.0 +12
BRAL LR LR
comp=Z,300nm,19.9s
VBMS Vicksburg 55.36 269 PFAKE 10 26 00.0 +12
VBMS LR LR
comp=Z,300nm,18.0s
K05A Summer Lake 55.40 301 eP P **10 25 50.5 +1.6**
comp=Z,45nm,1.5s
K05A Summer Lake 55.40 301 eP P **10 25 50.5 +1.6**
comp=Z,45nm,1.5s
K05A LR LR
comp=Z,400nm,20.9s
T25A Trinidad 55.45 284 PFAKE 10 26 00.0 +11
T25A LR LR
comp=Z,300nm,21.5s
X35A Drake 55.51 276 ⇓P P **10 25 49.0 -0.6**
baz=55,SNR=5.8
ELK Elko 55.55 295 PFAKE 10 26 00.0 +10
ELK LR LR
comp=Z,300nm,21.0s
U27A Thompson Grove 55.59 282 ⇑P P **10 25 50.2 -0.1**
baz=55
SRU San Rafael Swe 55.60 290 eP P **10 25 50.7 +0.3**
SRU pmax pmax
comp=Z,9.0nm,1.0s
SRU San Rafael Swe 55.60 290 eP P **10 25 50.7 +0.3**
comp=Z,9.0nm,1.0s
SRU San Rafael Swe 55.60 290 eP P **10 25 50.7 +0.3**
comp=Z,9.0nm,1.0s
W32A Sentinel 55.60 278 ⇓P P **10 25 50.4 +0.2**
baz=56
X34A Smith Ranch, M 55.61 277 ⇓P P **10 25 50.4 +0.1**
baz=56
S22A 4UR Ranch, Cre 55.68 286 ⇑P P **10 25 50.8 -0.2**
baz=56
S22A 4UR Ranch, Cre 55.68 286 PFAKE 10 26 00.0 +8.9
S22A LR LR
comp=Z,300nm,19.0s
KBL Kabul 55.73 83 PFAKE 10 26 00.0 +8.6
KBL LR LR
comp=Z,200nm,20.1s
PV04 Paradox Valley 55.74 289 eP P 10 25 58.0 +6.5
W31A Holland Ranch, 55.78 279 ⇑P P **10 25 51.8 +0.3**
baz=56
WMOK Wichita Mounta 55.80 278 eP P **10 25 52.2 +0.5**
WMOK pmax pmax
comp=Z,12nm,1.4s
WMOK MLR MLR
comp=Z,500nm,18.4s
WMOK Wichita Mounta 55.80 278 eP P **10 25 52.2 +0.5**
comp=Z,500nm,18.4s
WMOK Wichita Mounta 55.80 278 eP P **10 25 52.2 +0.5**
comp=Z,12nm,1.4s
WMOK LR LR
comp=Z,500nm,18.4s
SACV Santiago Islan 55.93 191 PFAKE 10 26 10.0 +17
SACV LR LR
comp=Z,200nm,18.0s
HIA Hailar 55.94 35 PFAKE 10 26 00.0 +7.5
HIA LR LR
comp=Z,100nm,18.5s
HUMO Hull Mountain 56.09 302 PFAKE 10 26 10.0 +16
HUMO LR LR
comp=Z,500nm,20.8s
X31A McDonald Ranch 56.30 279 ⇓P P **10 25 55.3 +0.1**
baz=56
Y33A Hilltop Ranch, 56.42 277 ⇓P P **10 25 56.8 +0.8**
baz=56
PETK Petropavlovsk- 56.42 6 LR LR 10 51 56.0
comp=Z,46nm,18.0s,baz=9.6,slow=38
BMN Battle Mountai 56.43 297 PFAKE 10 26 10.0 +14
BMN LR LR
comp=Z,500nm,19.2s
PET Petropavlovsk 56.54 5 PFAKE 10 26 10.0 +13
PET LR LR
comp=Z,100nm,20.9s
ATKA Atka Island 56.59 345 PFAKE 10 26 10.0 +13
ATKA LR LR
comp=Z,100nm,21.0s
AMTX Amarillo 56.62 280 PFAKE 10 26 10.0 +12
AMTX LR LR
comp=Z,500nm,21.0s
MVU Marysvale 56.68 292 PFAKE 10 26 10.0 +12
MVU LR LR
comp=Z,400nm,21.1s
Y32A R-V Farms, Ver 56.69 278 ⇑P P **10 25 58.4 +0.4**
baz=57
MVCO Mesa Verde 56.70 288 eP P **10 25 59.3 +1.0**
comp=Z,16nm,1.2s
MVCO Mesa Verde 56.70 288 ⇓P P **10 25 58.2 -0.1**
baz=56
MVCO Mesa Verde 56.70 288 eP P **10 25 59.3 +1.0**
comp=Z,16nm,1.2s
MVCO LR LR
comp=Z,300nm,19.3s
X30A Coker Ranch, T 56.76 280 ⇓P P **10 25 58.7 +0.2**
baz=57
KBO Bosley Butte 56.81 303 PFAKE 10 26 10.0 +11
KBO LR LR
comp=Z,500nm,18.4s
YBH Yreka Blue Hor 56.83 302 PFAKE 10 26 10.0 +11
YBH LR LR
comp=Z,200nm,22.0s
NATX Nacogdoches 57.16 273 PFAKE 10 26 10.0 +8.7
NATX LR LR
comp=Z,200nm,20.0s
Y30A Stafford Cattl 57.29 279 ⇓P P **10 26 02.6 +0.3**
baz=57
Z32A Haskell 57.34 278 ⇑P P **10 26 02.3 -0.4**
baz=57,SNR=6.8
N02D Trinity Center 57.53 302 ⇓P P **10 26 03.2 -0.7**
baz=57
Z31A Sharp Cattle R 57.55 278 ⇓P P **10 26 04.2 +0.1**
baz=57
134A White-Moore Ra 57.55 276 ⇓P P **10 26 03.9 -0.2**
baz=57
Y28A McKinney Farm, 57.70 281 ⇓P P **10 26 05.0 -0.3**
baz=58
133A Hamilton Ranch 57.80 277 ⇓P P **10 26 05.8 -0.1**
baz=58
MSTX Muleshoe 57.82 281 PFAKE 10 26 20.0 +14
MSTX LR LR
comp=Z,600nm,20.4s
WDC Whiskeytown Da 57.85 301 PFAKE 10 26 20.0 +14
WDC LR LR
comp=Z,300nm,20.3s
R11A Troy Canyon, C 57.86 294 eP P **10 26 06.6 +0.2**
comp=Z,6.4nm,0.9s
R11A Troy Canyon, C 57.86 294 ⇓P P **10 26 05.8 -0.6**
baz=58,SNR=16
R11A Troy Canyon, C 57.86 294 eP P **10 26 06.6 +0.2**
comp=Z,6.4nm,0.9s
R11A LR LR
comp=Z,400nm,20.3s
WHTX Lake Whitney, 57.88 275 ⇑P P **10 26 06.0 -0.4**
baz=58
WHTX Lake Whitney, 57.88 275 PFAKE 10 26 20.0 +14
WHTX LR LR
comp=Z,300nm,21.7s
Z30A Sanderson Ranc 57.91 279 ⇑P P **10 26 06.1 -0.6**
baz=58
KLR Kul'dur 57.98 25 eP P 10 26 00.0 -6.9
ABTX Abilene, Hawle 58.02 278 eP P **10 26 07.8 +0.4**
comp=Z,16nm,1.3s
ABTX Abilene, Hawle 58.02 278 ⇓P P **10 26 07.3 -0.1**
baz=58
ABTX Abilene, Hawle 58.02 278 eP P **10 26 07.8 +0.4**
comp=Z,16nm,1.3s
ABTX LR LR
comp=Z,500nm,18.7s
234A Clairette 58.09 276 ⇓P P **10 26 07.6 -0.3**
baz=58
ANMO Albuquerque 58.12 285 ⇑iP P **10 26 08.5 +0.2**
ANMO pmax pmax
comp=Z,14nm,1.7s
ANMO Albuquerque 58.12 285 iP P **10 26 08.5 +0.2**
comp=Z,14nm,1.7s
ANMO Albuquerque 58.12 285 eP P **10 26 08.7 +0.4**
comp=Z,22nm,2.2s
ANMO LR LR
comp=Z,200nm,19.5s
Z29A Hungry Hill Ra 58.12 280 ⇑P P **10 26 07.8 -0.4**
baz=58,SNR=5.2
RAYN Ar Rayn 58.18 111 eP P **10 26 09.1 +0.5**
comp=Z,5.4nm,1.3s
RAYN Ar Rayn 58.18 111 eP P **10 26 09.1 +0.5**
comp=Z,5.4nm,1.3s
RAYN LR LR
comp=Z,200nm,20.4s
KNB Kanab 58.23 291 PFAKE 10 26 20.0 +11
KNB LR LR
comp=Z,400nm,18.5s
Z28A Tucker Farm, M 58.32 280 ⇓P P **10 26 09.9 +0.4**
baz=58
TOA0 Torodi Ar. Sit 58.33 161 eP P **10 26 09.2 -0.5**
TORD Torodi Ar. Bea 58.33 161 P P **10 26 09.1 -0.6**
comp=Z,2.4nm,0.8s,baz=354,slow=6.8,SNR=17
TORD LR LR 10 52 14.8
comp=Z,120nm,18.7s,baz=340,slow=37
233A Rising Star 58.33 277 ⇓P P **10 26 09.3 -0.3**
baz=58
130A Snyder 58.48 279 ⇑P P **10 26 10.4 -0.3**
baz=58
KMRM Mail Ridge 58.51 302 PFAKE 10 26 20.0 +9.2
KMRM LR LR
comp=Z,500nm,21.1s
NVAR Mina Array Bea 58.60 297 P P **10 26 11.5 -0.1**
comp=Z,1.2nm,0.8s,baz=37,slow=4.7,SNR=8.0
TPH Tonopah 58.60 296 PFAKE 10 26 20.0 +8.3
TPH LR LR
comp=Z,500nm,18.9s
232A Coleman 58.70 277 ⇑P P **10 26 11.9 -0.3**
baz=59
334A Lometa 58.74 276 ⇓P P **10 26 12.2 -0.3**
baz=59
129A Stewart Farms, 58.75 280 ⇑P P **10 26 12.4 -0.2**
baz=59
231A Bronte 58.88 278 ⇓P P **10 26 13.3 -0.1**
baz=59
128A Castleberry Fa 58.96 280 ⇑P P **10 26 14.0 -0.1**
baz=59
KCPM Cahto Peak 58.97 302 PFAKE 10 26 30.0 +16
KCPM LR LR
comp=Z,300nm,19.6s
333A Richland Sprin 59.00 276 ⇑P P **10 26 13.6 -0.7**
baz=59,SNR=5.2
W18A Petrified Fore 59.01 288 ⇑P P **10 26 14.8 +0.3**
baz=59
W18A Petrified Fore 59.01 288 PFAKE 10 26 30.0 +15
W18A LR LR
comp=Z,300nm,21.9s
GRTK Grand Turk 59.05 245 PFAKE 10 26 30.0 +15
GRTK LR LR
comp=Z,200nm,18.8s
WUAZ Wupatki 59.16 289 eP P **10 26 16.0 +0.5**
comp=Z,25nm,1.6s
WUAZ Wupatki 59.16 289 ⇑P P **10 26 14.7 -0.8**
baz=59,SNR=7.6
WUAZ Wupatki 59.16 289 eP P **10 26 16.0 +0.5**
comp=Z,25nm,1.6s
WUAZ LR LR
comp=Z,500nm,20.1s
HABR Khabarovsk 59.17 23 eP P **10 26 13.0 -2.1**
HABR e*PP **pP** **10 26 16.3 -2.0**
HABR e*SP **sP** **10 26 17.5 -2.0**
HABR e 10 27 02.4
HABR e 10 28 22.9
HABR eS **S** **10 34 19.0 -3.2**
HABR eS S 10 34 22.9 +0.7
HABR e 10 36 02.7
HABR eSS **SS** **10 38 13.4 -2.0**
HABR eSSS SSS 10 40 48.1
HABR pmax pmax
comp=E,15nm,0.9s
HABR pmax pmax
comp=Z,6.0nm,1.1s
HABR pmax pmax
comp=N,11nm,1.9s
HABR MLR MLR
comp=Z,72nm,19.0s
230A Sterling City 59.18 279 ⇓P P **10 26 15.2 -0.4**
baz=59,SNR=5.5
332A Millersview 59.20 277 ⇑P P **10 26 15.3 -0.3**
baz=59,SNR=8.9
HKT Hockley 59.22 273 PFAKE 10 26 30.0 +14
HKT LR LR
comp=Z,300nm,20.0s
434A Burnet 59.23 275 ⇓P P **10 26 15.5 -0.4**
baz=59
537A Green Hill Far 59.26 273 ⇑P P **10 26 15.3 -0.7**
baz=59
229A Bryant Ranch, 59.34 279 ⇓P P **10 26 15.9 -0.8**
baz=59
TPNV Topopah Spring 59.35 294 ⇑P P **10 26 16.2 -0.6**
baz=59
TPNV Topopah Spring 59.35 294 PFAKE 10 26 30.0 +13
TPNV LR LR
comp=Z,400nm,20.0s
SHPR Sheep Range 59.43 293 eP P **10 26 18.6 +1.3**
SHPR Sheep Range 59.43 293 eP P **10 26 18.6 +1.3**
228A UT Block 9, Go 59.46 280 ⇑P P **10 26 16.9 -0.6**
baz=59
HOPS Hopland Field 59.47 301 PFAKE 10 26 30.0 +13
HOPS LR LR
comp=Z,400nm,19.3s
331A San Angelo 59.49 278 ⇓P P **10 26 17.5 -0.2**
baz=59
433A Art 59.56 276 ⇓P P **10 26 18.2 +0.1**
baz=59
CMB Columbia Colle 59.58 298 PFAKE 10 26 30.0 +12
CMB LR LR
comp=Z,300nm,19.7s
330A Mertzon 59.65 278 ⇓P P **10 26 18.7 -0.1**
baz=60
432A Menard 59.68 277 ⇑P P **10 26 18.9 -0.1**
baz=60

Code	Station	Δ°	AZ°	Op	ISC	Time	Res
329A	**Wagon Wheel Ra**	**59.84**	**279**	⇓P	**P**	**10 26 20.6**	**+0.5**
	baz=60						
SMRT	**St. Maarten**	**59.99**	**235**	PFAKE		10 26 30.0	+8.8
SMRT				LR	LR		
	comp=Z,100nm,19.1s						
534A	**Blanco**	**60.02**	**275**	⇓P	**P**	**10 26 21.4**	**0.0**
	baz=60						
JCT	**Junction City**	**60.05**	**277**	eP	**P**	**10 26 22.0**	**+0.5**
JCT				pmax	pmax		
	comp=Z,45nm,1.9s						
JCT				MLR	MLR		
	comp=Z,300nm,18.6s						
JCT	**Junction City**	**60.05**	**277**	eP	**P**	**10 26 22.0**	**+0.5**
	comp=Z,300nm,18.6s						
JCT	**Junction City**	**60.05**	**277**	⇓P	**P**	**10 26 21.0**	**-0.5**
	baz=60						
JCT	**Junction City**	**60.05**	**277**	eP	**P**	**10 26 22.0**	**+0.5**
	comp=Z,45nm,1.9s						
JCT				LR	LR		
	comp=Z,300nm,18.6s						
636A	**Smothers Creek**	**60.05**	**274**	⇓P	**P**	**10 26 21.5**	**0.0**
	baz=60						
431A	**Sonora**	**60.13**	**278**	⇓P	**P**	**10 26 22.0**	**-0.1**
	baz=60						
533A	**Kerrville**	**60.17**	**276**	⇑P	**P**	**10 26 22.5**	**+0.1**
	baz=60						
MCCM	**Marconi Confer**	**60.20**	**300**	PFAKE		10 26 40.0	+18
MCCM				LR	LR		
	comp=Z,300nm,18.9s						
STVI	**Saint Thomas**	**60.23**	**238**	PFAKE		10 26 40.0	+17
STVI				LR	LR		
	comp=Z,300nm,20.9s						
430A	**Baggett Ranch,**	**60.24**	**278**	⇓P	**P**	**10 26 23.1**	**+0.3**
	baz=60,SNR=5.5						
SHOC	**Shoshone, Teco**	**60.33**	**294**	⇓P	**P**	**10 26 23.1**	**-0.2**
	baz=60						
DAC	**Darwin (Calif)**	**60.38**	**295**	eP	**P**	**10 26 24.7**	**+0.8**
DAC				pmax	pmax		
	comp=Z,19nm,1.8s						
DAC				MLR	MLR		
	comp=Z,600nm,20.0s						
DAC	**Darwin (Calif)**	**60.38**	**295**	eP	**P**	**10 26 24.7**	**+0.8**
	comp=Z,600nm,20.0s						
DAC	**Darwin (Calif)**	**60.38**	**295**	eP	**P**	**10 26 24.7**	**+0.8**
	comp=Z,19nm,1.8s						
DAC				LR	LR		
	comp=Z,600nm,20.0s						
532A	**Rocksprings**	**60.41**	**277**	⇑P	**P**	**10 26 24.0**	**0.0**
	baz=60						
SABA	**Saba**	**60.45**	**236**	PFAKE		10 26 40.0	+16
SABA				LR	LR		
	comp=Z,300nm,20.2s						
SEUS	**St. Eustatius**	**60.50**	**235**	PFAKE		10 26 40.0	+15
SEUS				LR	LR		
	comp=Z,200nm,18.4s						
MPMC	**Manual Prospec**	**60.55**	**295**	⇑P	**P**	**10 26 25.1**	**0.0**
	baz=60,SNR=5.0						
531A	**Rocksprings**	**60.58**	**277**	⇑P	**P**	**10 26 25.0**	**-0.2**
	baz=60						
429A	**Davenport Ranc**	**60.60**	**279**	⇑P	**P**	**10 26 24.9**	**-0.5**
	baz=60						
GTA	**Gaotai**	**60.67**	**54**	eP	**P**	**10 26 24.7**	**-1.1**
GTA				pP	**pP**	**10 26 29.3**	**+0.4**
GTA				sP	**sP**	**10 26 31.8**	**+1.7**
GTA				S	**S**	**10 34 40.0**	**-2.0**
GTA				sS	**sS**	**10 34 47.6**	**+0.5**
GTA				PMZ			
	comp=Z,5.0nm,1.7s						
GTA				PMZ			
	comp=Z,100nm,5.2s						
GTA				LN			
	comp=Z,110nm,15.7s						
GTA				LE			
	comp=Z,150nm,15.7s						
GTA				LZ			
	comp=Z,120nm,15.4s						
HUMP	**Col San Antoni**	**60.68**	**238**	PFAKE		10 26 40.0	+14
HUMP				LR	LR		
	comp=Z,200nm,21.7s						
AOPR	**Arecibo Observ**	**60.74**	**239**	PFAKE		10 26 40.0	+14
AOPR				LR	LR		
	comp=Z,800nm,21.5s						
MNTX	**Cornudas Mount**	**60.76**	**282**	eP	**P**	**10 26 26.8**	**+0.4**
	comp=Z,9.0nm,1.4s						
MNTX	**Cornudas Mount**	**60.76**	**282**	⇓P	**P**	**10 26 26.3**	**0.0**
	baz=61						
MNTX	**Cornudas Mount**	**60.76**	**282**	eP	**P**	**10 26 26.8**	**+0.4**
	comp=Z,9.0nm,1.4s						
MNTX				LR	LR		
	comp=Z,400nm,18.5s						
121A	**Cookes Peak, D**	**60.77**	**285**	⇑P	**P**	**10 26 26.7**	**+0.1**
	baz=61,SNR=5.6						
SJG	**San Juan**	**60.79**	**239**	PFAKE		10 26 40.0	+13
SJG				LR	LR		
	comp=Z,100nm,18.9s						
530A	**J-C Ranch, Com**	**60.86**	**278**	⇓P	**P**	**10 26 27.0**	**-0.1**
	baz=61						
632A	**Uvalde**	**60.94**	**276**	⇑P	**P**	**10 26 27.5**	**-0.1**
	baz=61						
MPR	**Mayaguez**	**60.98**	**240**	PFAKE		10 26 40.0	+12
MPR				LR	LR		
	comp=Z,300nm,21.8s						
PDMCI	**Parker Dam,Lak**	**61.15**	**291**	⇑P	**P**	**10 26 28.6**	**-0.4**
	baz=61						
CRPR	**Cabo Rojo, PR**	**61.17**	**240**	PFAKE		10 26 40.0	+11
CRPR				LR	LR		
	comp=Z,200nm,20.4s						
529A	**Stev Forest Ra**	**61.17**	**279**	⇑P	**P**	**10 26 28.9**	**-0.3**
	baz=61						
GMRC	**Granite Mounta**	**61.17**	**293**	⇑P	**P**	**10 26 29.6**	**+0.3**
	baz=61,SNR=6.2						
SDDR	**Presa de Saban**	**61.48**	**244**	PFAKE		10 26 40.0	+8.7
SDDR				LR	LR		
	comp=Z,200nm,20.0s						
733A	**Divot King Ran**	**61.50**	**276**	⇑P	**P**	**10 26 31.5**	**+0.1**
	baz=61						
IRM	**Iron Mountain**	**61.59**	**292**	⇓P	**P**	**10 26 31.9**	**0.0**
	baz=61						
732A	**Laxson Ranch,**	**61.72**	**276**	⇓P	**P**	**10 26 32.7**	**-0.1**
	baz=62						
GTBY	**Guantanamo Bay**	**61.75**	**249**	PFAKE		10 26 50.0	+17
GTBY				LR	LR		
	comp=Z,200nm,21.9s						
TUC	**Tucson**	**61.93**	**287**	eP	**P**	**10 26 35.3**	**+0.9**
TUC				pmax	pmax		
	comp=Z,24nm,1.9s						
TUC				MLR	MLR		
	comp=Z,300nm,19.0s						
TUC	**Tucson**	**61.93**	**287**	eP	**P**	**10 26 35.2**	**+0.9**
	comp=Z,24nm,1.9s						
TUC	**Tucson**	**61.93**	**287**	eP	**P**	**10 26 35.2**	**+0.9**
	comp=Z,24nm,1.9s						
TUC				LR	LR		
	comp=Z,300nm,19.0s						
BELC	**Belle Mtn. Jos**	**62.00**	**293**	⇑P	**P**	**10 26 34.3**	**-0.6**
	baz=62,SNR=8.1						
PAPH	**Port-au-Prince**	**62.21**	**245**	PFAKE		10 26 50.0	+14
PAPH				LR	LR		
	comp=Z,200nm,18.9s						
CN2	**Changchun**	**62.26**	**32**	eP	**P**	**10 26 34.5**	**-1.7**
HHC	**Hu-ho-hao-te**	**62.26**	**44**	eP	**P**	**10 26 35.5**	**-1.0**
HHC				sP	**sP**	**10 26 42.1**	**+1.3**
HHC				PP	**PP**	**10 28 48.6**	**-4.3**
HHC				S	**S**	**10 34 56.9**	**-5.2**
HHC				SS	**SS**	**10 38 59.9**	**-4.5**
HHC				PMZ			
	comp=Z,16nm,1.2s						
HHC				PMZ			
	comp=Z,86nm,7.5s						
HHC				LN			
	comp=Z,210nm,16.7s						
HHC				LE			
	comp=Z,200nm,16.0s						
HHC				LZ			
	comp=Z,150nm,16.2s						
OSI	**Osito Audit: C**	**62.26**	**295**	PFAKE		10 26 50.0	+14
OSI				LR	LR		
	comp=Z,700nm,18.8s						
BFSC	**Mount Baldy Ra**	**62.29**	**294**	⇓P	**P**	**10 26 36.7**	**-0.1**
	baz=62						
LGNH	**LØogne**	**62.32**	**246**	PFAKE		10 26 50.0	+13
LGNH				LR	LR		
	comp=Z,300nm,21.0s						
TXAR	**Lajitas Array**	**62.38**	**280**	P	**P**	**10 26 37.2**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=47,slow=5.3,SNR=13						
TXAR				LR	LR	10 53 43.1	
	comp=Z,318nm,18.6s,baz=0.0,slow=36						

Code	Station	Δ°	AZ°	Op	ISC	Time	Res
PFO	**Pinyon Flats O**	**62.50**	**293**	PFAKE		10 26 50.0	+12
PFO				LR	LR		
	comp=Z,300nm,18.1s						
PASC	**Pasadena Art C**	**62.51**	**295**	PFAKE		10 26 50.0	+12
PASC				LR	LR		
	comp=Z,300nm,18.9s						
933A	**Laredo**	**62.52**	**275**	⇑P	**P**	**10 26 38.4**	**+0.2**
	baz=62						
GLA	**Glamis**	**62.52**	**291**	PFAKE		10 26 50.0	+12
GLA				LR	LR		
	comp=Z,300nm,21.0s						
JAKH	**Jacmel**	**62.55**	**245**	PFAKE		10 26 50.0	+12
JAKH				LR	LR		
	comp=Z,200nm,19.2s						
034A	**Hebbronville**	**62.83**	**274**	⇓P	**P**	**10 26 41.5**	**+1.2**
	baz=63						
USRK	**Ussuriysk Ar.**	**62.93**	**26**	P	**P**	**10 26 39.7**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=256,slow=11,SNR=4.5						
USRK				LR	LR	10 52 59.8	
	comp=Z,82nm,20.7s,baz=338,slow=35						
MONP	**Monument Peak,**	**63.16**	**293**	⇑P	**P**	**10 26 42.7**	**0.0**
	baz=63						
BJI	**Beijing**	**64.06**	**40**	P	**P**	**10 26 45.8**	**-2.5**
BJI				S	S	10 35 18.5	-5.9
BJI				PMZ			
	comp=Z,11nm,0.6s						
BJI				LN			
	comp=Z,190nm,25.1s						
BJI				LE			
	comp=Z,170nm,17.4s						
BJI				LZ			
	comp=Z,140nm,24.4s						
DBIC	**Dimbokro**	**64.19**	**169**	LR	LR	10 53 46.9	
	comp=Z,127nm,21.6s,baz=354,slow=35						
LZH	**Lanzhou**	**64.87**	**52**	eP	**P**	**10 26 56.6**	**+2.8**
LZH				pP	**pP**	**10 27 00.5**	**+3.5**
LZH				sP	**sP**	**10 27 02.0**	**+3.8**
LZH				PMZ			
	comp=Z,33nm,1.0s						
LZH				PMZ			
	comp=Z,130nm,4.3s						
TEIG	**Tepich**	**65.71**	**262**	PFAKE		10 27 10.0	+11
TEIG				LR	LR		
	comp=Z,300nm,22.0s						
DAMY	**Dhamar**	**66.26**	**115**	PFAKE		10 27 20.0	+17
DAMY				LR	LR		
	comp=Z,200nm,20.7s						
INCN	**Inchon**	**68.60**	**32**	PFAKE		10 27 30.0	+13
INCN				LR	LR		
	comp=Z,100nm,20.7s						
KSRS	**Korea Array**	**68.86**	**31**	P	**P**	**10 27 20.1**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=357,slow=8.5,SNR=3.1						
KSRS				LR	LR	10 59 10.0	
	comp=Z,47nm,19.3s,baz=351,slow=38						
KSAR	**Wonju Array Be**	**68.86**	**31**	P	**P**	**10 27 20.1**	**+1.1**
KSAR	**Wonju Array Be**	**68.86**	**31**	P	**P**	**10 27 20.1**	**+1.1**
CD2	**Chengdu**	**69.74**	**54**	eP	**P**	**10 27 23.3**	**-1.3**
CD2				pP	**pP**	**10 27 26.5**	**-1.3**
CD2				PcP	**PcP**	**10 27 46.4**	**-0.9**
CD2				S	**S**	**10 36 31.2**	**-2.1**
CD2				sS	**sS**	**10 36 36.8**	**-1.7**
CD2				SS	**SS**	**10 40 59.4**	**-1.3**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
FURI	**Furi**	**69.98**	**123**	PFAKE		10 27 40.0	+13
FURI				LR	LR		
	comp=Z,100nm,21.1s						
SDV	**Santo Domingo**	**70.84**	**240**	PFAKE		10 27 40.0	+8.3
SDV				LR	LR		
	comp=Z,200nm,21.0s						
MAJO	**Matsushiro**	**71.32**	**23**	eP	**P**	**10 27 33.3**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,49nm,2.1s						
MAJO				MLR	MLR		
	comp=Z,100nm,18.1s						
MAJO	**Matsushiro**	**71.32**	**23**	eP	**P**	**10 27 33.2**	**-0.8**
	comp=Z,49nm,2.1s						
MAJO				LR	LR		
	comp=Z,100nm,18.1s						
MJAR	**Matsushiro Arr**	**71.32**	**23**	P	**P**	**10 27 33.3**	**-0.9**
	comp=Z,6.4nm,0.9s,baz=341,slow=5.1,SNR=13						
SNET	**Serv Nac Est T**	**72.13**	**260**	PFAKE		10 27 50.0	+11
SNET				LR	LR		
	comp=Z,100nm,19.8s						
NJ2	**Nanjing**	**72.33**	**40**	eP	**P**	**10 27 40.6**	**+0.4**
NJ2				PMZ			
	comp=Z,10.0nm,0.6s						
WHN	**Wuhan**	**72.76**	**45**	P	**P**	**10 27 43.5**	**+0.7**
SSN	**San Juan del S**	**73.26**	**256**	PFAKE		10 28 00.0	+14
SSN				LR	LR		
	comp=Z,400nm,21.7s						
BCIP	**Isla Barro Col**	**73.35**	**250**	PFAKE		10 28 00.0	+14
BCIP				LR	LR		
	comp=Z,200nm,20.6s						
JTS	**JuntasAbangare**	**73.92**	**255**	PFAKE		10 28 00.0	+10
JTS				LR	LR		
	comp=Z,100nm,19.4s						
MSKU	**Masuku**	**74.52**	**151**	PFAKE		10 28 10.0	+17
MSKU				LR	LR		
	comp=Z,100nm,19.0s						
GYA	**Guiyang**	**74.74**	**53**	eP	**P**	**10 27 55.0**	**+0.4**
GYA				PMZ			
	comp=Z,10.0nm,1.0s						
JHJ2	**Mitsune**	**74.90**	**22**	PFAKE		10 28 10.0	+15
JHJ2				LR	LR		
	comp=Z,300nm,19.9s						
KMI	**Kunming**	**74.94**	**57**	P	**P**	**10 27 54.5**	**-1.5**
KMI				PMZ			
	comp=Z,7.0nm,1.2s						
MBAR	**Mbarara**	**77.00**	**133**	PFAKE		10 28 20.0	+12
MBAR				LR	LR		
	comp=Z,200nm,20.6s						
ASCN	**Ascension**	**78.40**	**180**	PFAKE		10 28 30.0	+15
ASCN				LR	LR		
	comp=Z,900nm,19.0s						
KMBO	**Kilima Mbogo**	**79.16**	**127**	PFAKE		10 28 30.0	+10
KMBO				LR	LR		
	comp=Z,100nm,18.5s						
JOW	**Kunigami**	**79.27**	**33**	PFAKE		10 28 30.0	+10
JOW				LR	LR		
	comp=Z,100nm,18.3s						
CHTO	**Chiang Mai**	**79.82**	**62**	eP	**P**	**10 28 22.2**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,24nm,1.7s						
CHTO				MLR	MLR		
	comp=Z,100nm,19.5s						
CHTO	**Chiang Mai**	**79.82**	**62**	eP	**P**	**10 28 22.2**	**-0.9**
	comp=Z,24nm,1.7s						
CHTO				LR	LR		
	comp=Z,100nm,19.5s						
CMAR	**Chiang Mai Arr**	**80.16**	**62**	P	**P**	**10 28 24.1**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=323,slow=5.8,SNR=11						
CMAR				LR	LR	11 10 12.2	
	comp=Z,34nm,18.9s,baz=318,slow=40						
CMAR	**Chiang Mai Arr**	**80.16**	**62**	iP	**P**	**10 28 27.0**	**+2.1**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**80.16**	**62**	iP	**P**	**10 28 27.0**	**+2.1**
	comp=Z,2.0nm,0.8s						
OTAV	**Otavalo**	**81.36**	**245**	eP	**P**	**10 28 34.0**	**+2.2**
	comp=Z,17nm,1.4s						
OTAV				LR	LR		
	comp=Z,200nm,19.2s						
QIZ	**Qiongzhong**	**82.66**	**52**	P	**P**	**10 28 36.1**	**-2.1**
QIZ				S	**S**	**10 38 54.0**	**-1.5**
QIZ				PMZ			
	comp=Z,13nm,1.5s						
SAML	**Samuel**	**85.89**	**228**	PFAKE		10 29 10.0	+16
SAML				LR	LR		
	comp=Z,100nm,18.0s						
WAKE	**Wake Island**	**90.31**	**359**	PFAKE		10 29 30.0	+14
WAKE				LR	LR		
	comp=Z,2μm,21.3s						
TSUM	**Tsumeb**	**92.36**	**150**	PFAKE		10 29 40.0	+15
TSUM				LR	LR		
	comp=Z,200nm,18.9s						
LPAZ	**La Paz**	**94.19**	**231**	PFAKE		10 29 50.0	+16
LPAZ				LR	LR		
	comp=Z,200nm,18.9s						
DAV	**Davao City (W)**	**97.96**	**40**	PFAKE		10 30 00.0	+9.2
DAV				LR	LR		
	comp=Z,200nm,20.6s						
PPT2	**Papeete2**	**120.56**	**309**	eLR	LR	11 12 08.0	
	comp=Z,188nm,26.8s						
RKT	**Rikitea**	**121.59**	**291**	eLR	LR	11 12 40.0	
	comp=Z,257nm,35.0s						
WRA	**Warramunga Arr**	**126.02**	**37**	PKP	**PKPdf**	**10 35 15.4**	**-1.1**
	comp=Z,1.8nm,1.0s,baz=341,slow=2.5,SNR=7.1						
TBI	**Tubuai**	**126.03**	**307**	eLR	LR	11 14 38.7	
	comp=Z,131nm,24.2s						
ASAR	**Alice Springs**	**129.54**	**39**	PKP	**PKPdf**	**10 35 22.1**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=343,slow=1.5,SNR=6.4						

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*KRNET **03** 10:36:12.0±0.1, 41°.88N×76°.84E, h15km, mb4.0*

*KNET **03** 10:36:16.1±0.8, 41°.88N×76°.55E, h12km±4km, ml3.3, Error ellipse: s-maj=4.8km s-min=3.2km az=134.0*

*NNC **03** 10:36:18.3±1.2, 42°.07N×76°.67E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=8.3km s-min=5.8km az=149.0*

ISC 03 10:36:16.9±1.2**, 41°.91N**±0°.03×**76°.52E**±0°.04**, h12**km±8km**, n38,** σ**1s.43**/54**, 42C-18D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.39**	**328**	⇓P	**Pg**	**10 36 24.3**	**-0.5**
	194nm,0.1s,SNR=1954						
ULHL				⇑S	**Sg**	**10 36 31.6**	**+1.5**
	462nm,0.1s						
ULHL	**Ulahol**	**0.39**	**328**	⇑iP	**Pg**	**10 36 24.3**	**-0.5**
	baz=308						
ULHL				⇑iS	**Sg**	**10 36 31.2**	**+1.0**
	baz=308						
KDJ	**Kajisay**	**0.54**	**66**	⇓iP	Pg	10 36 18.9	-8.6
	baz=47						
KDJ				⇓eS	Sg	10 36 24.3	-10
	baz=47						
NRN	**Naryn**	**0.62**	**219**	⇑iP	**Pg**	**10 36 28.1**	**-0.9**
	baz=235						
NRN				⇑iS	**Sb**	**10 36 37.6**	**-0.9**
	baz=235						
KZA	**Kyzart**	**0.96**	**280**	⇑P	**Pb**	**10 36 35.1**	**-0.7**
	154nm,0.2s,SNR=216						
KZA				⇓S	**Sn**	**10 36 50.0**	**-0.3**
	953nm,0.3s						
KZA	**Kyzart**	**0.96**	**280**	⇑iP	**Pb**	**10 36 35.4**	**-0.3**
	baz=280						
KZA				⇑iS	**Sn**	**10 36 50.8**	**+0.4**
	baz=280						
TKM2	**Tokmak 2**	**1.22**	**326**	⇓P	**Pn**	**10 36 39.2**	**-0.8**
	54nm,0.1s,SNR=103						
TKM2	**Tokmak 2**	**1.22**	**326**	⇓P	**Pn**	**10 36 39.1**	**-0.8**
	44nm,0.3s						
TKM2				⇑S	**Sg**	**10 36 57.2**	**+0.9**
	124nm,0.4s						
TKM2	**Tokmak 2**	**1.22**	**326**	⇑iP	**Pn**	**10 36 39.1**	**-0.8**
	baz=319						
TKM2				⇑iS	**Sg**	**10 36 57.1**	**+0.9**
	baz=319						
KNDC	**Almaty**	**1.34**	**14**	⇑P	**Pn**	**10 36 39.7**	**-1.9**
	421nm,0.6s						
KNDC				⇑S	**Sn**	**10 36 57.4**	**-1.9**
	150nm,0.3s						
KBK	**Karagaybulak**	**1.38**	**303**	⇓P	**Pb**	**10 36 42.8**	**+0.1**
	44nm,0.1s,SNR=93						
KBK	**Karagaybulak**	**1.38**	**303**	⇑iP	**Pb**	**10 36 42.9**	**+0.1**
	baz=300						
KBK				⇑iS	**Sg**	**10 37 03.6**	**+2.1**
	baz=300						
UCH	**Uchtor**	**1.53**	**283**	⇑P	**Pb**	**10 36 45.7**	**+0.3**
	110nm,0.3s,SNR=182						
UCH	**Uchtor**	**1.53**	**283**	⇑iP	**Pb**	**10 36 45.7**	**+0.3**
	baz=282						
UCH				⇑iS	**Sg**	**10 37 08.1**	**+1.9**
	baz=282						
AAK	**Ala-Archa**	**1.67**	**296**	⇓P	**Pb**	**10 36 47.7**	**0.0**
	96nm,0.3s,SNR=99						
AAK	**Ala-Archa**	**1.67**	**296**	⇑Pn	**Pb**	**10 36 47.6**	**0.0**
	73nm,0.5s						
AAK				⇑Sn	**Sg**	**10 37 11.6**	**+1.0**
	72nm,0.4s						
AAK	**Ala-Archa**	**1.67**	**296**	⇑iP	**Pb**	**10 36 47.7**	**0.0**
	baz=294						
AAK				⇑iS	**Sg**	**10 37 11.7**	**+1.1**
	baz=294						
FRU	**Bishkek**	**1.69**	**304**	eP	**Pb**	**10 36 47.5**	**-0.3**
	baz=301						
FRU				eS	**Sg**	**10 37 11.0**	**-0.1**
	baz=301						
CHMS	**Chumysh**	**1.70**	**310**	P	**Pb**	**10 36 48.0**	**-0.2**
	225nm,0.4s,SNR=112						
CHMS	**Chumysh**	**1.70**	**310**	⇑iP	**Pb**	**10 36 47.9**	**-0.2**
	baz=307						
CHMS				⇑iS	**Sg**	**10 37 12.5**	**+0.9**
	baz=307						
USP	**Ospenovka**	**2.02**	**313**	P	**Pb**	**10 36 53.4**	**-0.1**
	109nm,0.2s,SNR=149						
USP	**Ospenovka**	**2.02**	**313**	⇑iP	**Pb**	**10 36 53.4**	**-0.1**
	baz=310						
USP				⇑iS	**Sg**	**10 37 21.8**	**+0.1**
	baz=310						
AML	**Almayashu**	**2.12**	**277**	⇑iP	**Pb**	**10 36 55.9**	**+0.5**
	baz=277						
AML				⇑iS	**Sg**	**10 37 26.0**	**+1.0**
	baz=277						
EKS	**Erkin-Say**	**2.17**	**291**	⇓iP	**Pg**	**10 36 57.3**	**-1.1**
	baz=290						
EKS				⇓iS	**Sg**	**10 37 29.7**	**+3.2**
	baz=290						
EKS2	**Erkin-Say**	**2.17**	**291**	⇑iP	**Pg**	**10 36 57.5**	**-1.0**
	baz=290						
EKS2				⇑iS	**Sg**	**10 37 28.9**	**+2.3**
	baz=290						
KSH	**Kashi**	**2.43**	**190**	Pn	**Pg**	**10 37 04.4**	**+0.9**
KSH				Sn	Sg	10 37 40.5	+5.5
KSH				smax	smax		
	comp=N,280nm,0.8s						
KSH				smax	smax		
	comp=E,340nm,0.7s						
PDGK	**Podgornoye**	**2.60**	**56**	⇑Pn	**Pn**	**10 36 58.1**	**-0.6**
	comp=E,125nm,0.6s						
PDGK				⇑Sn	**Sn**	**10 37 30.7**	**+0.4**
	comp=E,137nm,0.6s						
SFK	**Sufi-Kurgan**	**2.97**	**231**	⇓Pn	**Pb**	**10 37 10.5**	**+0.7**
	comp=E,29nm,0.7s						
SFK				⇑Sn	**Sg**	**10 37 53.1**	**+0.8**
	comp=E,50nm,0.5s						
MNAS	**Manas**	**3.04**	**282**	⇑Pn	**Pb**	**10 37 10.0**	**-1.0**
	comp=E,21nm,0.5s						
MNAS				⇑Lg	Lg	10 37 54.4	
	comp=E,146nm,0.6s						
ARK	**Arkit**	**3.41**	**270**	⇓iP	**Pb**	**10 37 14.8**	**-2.4**
	baz=270						
ARK				⇓iS	**Sg**	**10 38 03.4**	**-2.9**
	baz=270						
KK31	**Karatay Array**	**4.60**	**287**	⇑Pg	**Pb**	**10 37 39.2**	**+1.7**
	comp=E,5.7nm,0.5s,baz=107,slow=14,SNR=53						
KK31				⇓Lg	Lg	10 38 41.4	
	comp=E,45nm,0.7s,baz=105,slow=25,SNR=13						
MK31	**Makanchi Array**	**6.39**	**38**	⇑Pn	**Pn**	**10 37 51.9**	**+1.1**
	comp=E,2.6nm,0.6s,baz=213,slow=15,SNR=12						
MK31				⇑Pg	Pb	10 38 12.1	+4.0
	comp=E,2.2nm,0.5s,baz=219,slow=15,SNR=5.7						
MK31				⇑Lg	Lg	10 39 31.4	
	comp=E,22nm,0.9s,baz=224,slow=28,SNR=5.2						
OTUK	**Ortayu**	**6.99**	**336**	⇑Lg	Lg	10 39 53.7	
	comp=E,51nm,1.0s						
KURBB	**Kurchatov Arra**	**8.82**	**8**	⇓Lg	Lg	10 40 49.2	
	comp=E,32nm,0.8s						
KURK	**Kurchatov**	**8.92**	**9**	⇑Lg	Lg	10 40 52.8	
	comp=E,12nm,0.8s						
BVA0	**Borovoye Array**	**11.86**	**342**	⇓Lg	Lg	10 42 30.3	
	comp=E,6.1nm,1.1s,baz=151,slow=28,SNR=4.1						
BRVK	**Borovoye**	**11.92**	**341**	⇑Lg	Lg	10 42 31.0	
	comp=E,12nm,0.9s						
AB31	**Akbulak array**	**13.72**	**308**	⇓Pn	**P**	**10 39 37.9**	**-1.8**
	comp=E,1.1nm,0.8s,baz=114,slow=18,SNR=6.1						
AB31				⇓Sn	**Sn**	**10 42 08.7**	**+5.4**
	comp=E,1.2nm,0.8s						

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*CSEM **03** 10:43:57.5±1.1, 50°.24N×12°.53E, h2km, ML2.7, Error ellipse: s-maj=22.4km s-min=9.7km az=106.0, Suspected Mining explosion.*

*VIE **03** 10:43:58.9±0.3, 50°.20N×12°.73E, h0km, mb2.0/1, ML2.7/2, Error ellipse: s-maj=3.4km s-min=0.9km az=42.0 19 km E of Klingenthal Suspected Mining explosion.*

ISC 03 10:43:59.0±3.7**, 50°.22N**±0°.08×**12°.6E**±0°.2**, h10**km**, n6,** σ**0s.71**/10**, 3C-1D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	2.43	74	ePg	Pg	10 44 45.1	-0.4
KSP				eSg	Sg	10 45 17.1	+0.1
KSP	Ksiaz	2.43	74	ePg	Pg	10 44 45.1	-0.4
KSP				eSg	Sg	10 45 17.1	+0.1
MOA	Molln	2.61	155	⇑iSg	Sg	10 45 23.3	+0.4
	20nm,0.5s						
MOA	Molln	2.61	155	Sg	Sg	10 45 23.3	+0.4
	20nm,0.5s						
CONA	Conrad Observa	3.13	136	⇓iPn	Pn	10 44 49.1	+0.6
CONA				⇑iPg	Pg	10 44 57.8	-1.3
CONA				⇑iSg	Sg	10 45 40.3	+0.7
	11nm,0.5s						
CONA	Conrad Observa	3.13	136	Pn	Pn	10 44 49.1	+0.6

*NEIC **03** 10:49:34.2±0.4, 56°.17S×27°.07W, h10km, mb5.0/3, Error ellipse: s-maj=18.7km s-min=14.7km az=219.0*
*IDC **03** 10:49:44.0±0.9, 56°.15S×27°.44W, h83km±8km, mb4.4/15, mb1 4.4/16, mb1mx4.3/22, mbtmp4.7/16, MS3.3/2, Ms1 3.3/2, ms1mx2.9/24, Error ellipse: s-maj=16.1km s-min=13.2km az=76.0*
*ISCJB **03** 10:49:45.5±0.4, 56°.11S±0°.07×27°.5W±0°.1, h112km, mb4.6/19, Error ellipse: s-maj=11.6km s-min=9.5km az=141.5*
ISC 03 10:49:46.8±0.4**, 56°.21S**±0°.09×**27°.60W**±0°.09**, h112km, n73, σ1s.13**/69**, mb4.7**/18**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	Hope Point	5.44	287	ePn	Pn	10 51 03.7	-1.8
	56nm,0.3s						
HOPE				eSn	Sn	10 52 03.9	-2.9
VNA1	Neumayer--Stat	16.73	157	P	P	10 53 34.5	+0.1
SNAA	Sanae	18.69	156	P	P	10 53 48.4	-7.5
SNAA	Sanae	18.69	156	P	P	10 53 55.4	-0.5
	4.0nm,0.3s,baz=308,slow=9.6,SNR=184						
SNAA				LR	LR	10 59 26.2	
	comp=Z,60nm,21.9s,baz=40,slow=31						
SNAA	Sanae	18.69	156	eP	P	10 53 48.4	-7.5
	67nm,0.6s						
SNAA				P	P	10 53 55.4	-0.5
USHA	Ushuaia	22.92	256	P	P	10 54 41.8	+0.9
	5.2nm,0.6s,baz=68,slow=6.6,SNR=6.6						
QSPA	South Pole Qui	34.04	180	P	P	10 56 21.2	+1.3
	4.4nm,0.4s,baz=32,slow=4.2,SNR=92						
QSPA				pP	pP	10 56 38.5	-6.1
	8.0nm,0.7s,baz=125,slow=2.1,SNR=4.0						
MAW	Mawson	40.15	144	P	P	10 57 11.6	+0.4
	5.9nm,0.4s,baz=228,slow=7.3,SNR=12						
BDFB	Brasilia	43.39	331	P	P	10 57 39.3	+1.0
	4.5nm,0.5s,baz=159,slow=7.1,SNR=10						
BDFB				LR	LR	11 13 33.4	
	comp=Z,66nm,21.2s,baz=140,slow=33						
BOSA	Boshof	46.23	76	P	P	10 57 59.6	-1.1
	2.1nm,0.9s,baz=208,slow=9.7,SNR=2.3						
BOSA				pP	pP	10 58 19.7	-6.9
	1.8nm,0.7s,baz=200,slow=5.6,SNR=2.4						
VNDA	Vanda	46.40	183	P	P	10 58 02.9	+1.7
	3.1nm,0.6s,baz=184,slow=7.8,SNR=36						
H10S2	ASCENSION HYDR	48.22	17	T	T	11 51 00.2	
	baz=189,slow=75,SNR=32						
H10S3	ASCENSION HYDR	48.23	17	T	T	11 51 00.4	
	baz=189,slow=75,SNR=34						
H10S1	ASCENSION HYDR	48.24	17	T	T	11 51 01.4	
	baz=189,slow=75,SNR=33						
H10N1	ASCENSION HYDR	49.34	17	T	T	11 51 57.4	
	baz=189,slow=76,SNR=7.8						
H10N3	ASCENSION HYDR	49.34	17	T	T	11 52 24.9	
	baz=189,slow=76,SNR=16						
H10N2	ASCENSION HYDR	49.36	17	T	T	11 52 22.2	
	baz=189,slow=76,SNR=13						
LPAZ	La Paz	50.29	306	P	P	10 58 33.4	+0.9
	17nm,0.4s,baz=105,slow=4.9,SNR=152						
SAML	Samuel	54.76	315	eP	P	10 59 04.4	-0.3
	10nm,1.0s						
LIC	Lamto	64.94	25	eP	P	11 00 14.0	-0.3
	22nm,0.6s						
KIC	Kosan Boka	65.14	25	eP	P	11 00 14.5	-1.1
	9.8nm,0.6s						
TIC	Toumodi	65.35	25	eP	P	11 00 16.6	-0.4
DBIC	Dimbokro	65.41	25	P	P	11 00 16.8	-0.5
	5.9nm,0.6s,baz=164,slow=7.5,SNR=9.8						
OPO	Ambohidratompo	66.32	88	P	P	11 00 23.7	+0.2
	1.3nm,0.5s,baz=281,slow=14						
TOA0	Torodi Ar. Sit	73.31	30	eP	P	11 01 05.4	-0.5
TOA0	Torodi Ar. Sit	73.31	30	eP	P	11 01 05.9	0.0
TORD	Torodi Ar. Bea	73.31	30	P	P	11 01 06.1	+0.2
	6.6nm,0.5s,baz=200,slow=6.4,SNR=61						
SDV	Santo Domingo	73.96	315	eP	P	11 01 09.9	-0.2
	15nm,1.1s						
MDT	Midelt	90.82	19	P	P	11 02 38.6	+1.6
	4.5nm,0.7s,baz=204,slow=3.3,SNR=15						
TEIG	Tepich	91.61	305	P	P	11 02 41.8	+0.9
	20nm,0.7s,baz=180,slow=3.0						
CMIG	Matias Romero	92.06	298	P	P	11 02 43.3	+0.2
	1.6nm,0.5s,baz=120,slow=9.3,SNR=4.4						
KEST	Kesra	96.83	30	P	P	11 03 04.6	+0.1
	0.7nm,0.6s,baz=204,slow=7.9,SNR=2.4						
ASAR	Alice Springs	98.90	163	P	Pdif	11 03 14.3	-0.1
	0.3nm,0.8s,baz=182,slow=4.1,SNR=4.4						
ASAR				pP	pP	11 03 36.2	-7.3
	0.5nm,0.7s,baz=180,slow=4.9,SNR=3.2						
ASAR				PP	PP	11 07 13.2	-3.1
	0.5nm,0.7s,baz=188,slow=6.6,SNR=6.7						
WRA	Warramunga Arr	102.62	163	P	Pdif	11 03 31.1	+0.2
	0.2nm,0.5s,baz=195,slow=4.2,SNR=3.4						
WRA				PP	PP	11 07 39.5	-4.9
	0.3nm,0.8s,baz=194,slow=6.5,SNR=3.4						
WRA				PKiKP	PKiKP	11 07 52.2	+0.9
	0.3nm,0.8s,baz=196,slow=3.5,SNR=4.4						
MSU	Marysvale	118.22	298	ePKPdf	PKPdf	11 08 21.2	+1.0
R11A	Troy Canyon, C	119.81	295	P	PKPdf	11 08 24.3	+1.1
	baz=120						
DUG	Dugway, Tooele	119.83	298	P	PKPdf	11 08 23.5	+0.3
	baz=120						
DUG	Dugway, Tooele	119.83	298	ePKPdf	PKPdf	11 08 22.7	-0.5
PDAR	Pinedale Array	120.24	302	PKP	PKPdf	11 08 22.9	-1.1
	0.4nm,0.5s,baz=108,slow=5.4,SNR=5.8						
HWUT	Hardware Ranch	120.31	300	ePKPdf	PKPdf	11 08 24.2	+0.1
NOA	NORSAR Array B	120.84	21	PKP	PKPdf	11 08 23.7	-0.6
	1.0nm,0.8s,baz=194,slow=1.9,SNR=3.3						
NVAR	Mina Array Bea	121.25	293	PKP	PKPdf	11 08 27.1	+1.0
	0.9nm,0.5s,baz=138,slow=2.9,SNR=11						
ELK	Elko	121.45	297	PKP	PKPdf	11 08 26.9	+0.5
	0.7nm,0.6s,baz=57,slow=1.8,SNR=4.3						
D22A	Cohagen	122.05	308	P	PKPdf	11 08 27.0	-0.1
	baz=122						
D20A	Manuel Ranch,	122.88	307	P	PKPdf	11 08 28.6	-0.1
	baz=123						
D19A	Cripps Ranch,	123.27	306	P	PKPdf	11 08 29.3	-0.1
	baz=124						
C20A	Veseth Ranch,	123.29	307	P	PKPdf	11 08 29.7	+0.2
	baz=124						
A22A	Carney Farms,	123.34	309	P	PKPdf	11 08 29.9	+0.3
	baz=124						
B21A	Ellsworth Farm	123.39	308	P	PKPdf	11 08 30.2	+0.6
	baz=124						
FRB	Frobisher Bay	123.72	339	PKP	PKPdf	11 08 28.8	-0.8
	4.2nm,0.8s,baz=241,slow=3.3,SNR=5.1						
C19A	Slack Wire Ran	123.77	307	P	PKPdf	11 08 30.9	+0.5
	baz=124						
A20A	Cobblestone Ra	124.13	308	P	PKPdf	11 08 31.8	+0.7
	baz=125						
B19A	Brinkman Farms	124.26	307	P	PKPdf	11 08 31.9	+0.6
	baz=125						
EGMT	Eagleton	124.30	306	P	PKPdf	11 08 31.9	+0.4
	baz=125						
WVOR	Wild Horse Val	124.41	296	ePKPdf	PKPdf	11 08 33.0	+1.2
FINES	FINESS Array B	124.63	28	PKP	PKPdf	11 08 31.3	-0.1
	3.7nm,0.5s,baz=166,slow=2.8,SNR=32						
MSO	Missoula	125.35	303	P	PKPdf	11 08 34.0	+0.5
	baz=126						
N02D	Trinity Center	125.41	292	P	PKPdf	11 08 35.0	+1.2
	baz=126						
M04C	Macdoel	125.55	294	P	PKPdf	11 08 35.2	+1.1
	baz=126						
M02C	Callahan	125.79	293	P	PKPdf	11 08 36.0	+1.5
	baz=126						
YBH	Yreka Blue Hor	125.97	293	PKP	PKPdf	11 08 34.6	-0.2
	1.3nm,0.6s,baz=124,slow=16,SNR=3.9						
J05D	Fort Rock, OR	126.33	295	P	PKPdf	11 08 36.8	+1.3
	baz=127						
I05D	Terrebonne, OR	127.14	296	P	PKPdf	11 08 38.5	+1.6
	baz=128						
ABKAR	Akbulak array	127.65	56	ePKPdf	PKPdf	11 08 37.7	0.0
AAK	Ala-Archa	130.24	71	PKP	PKPdf	11 08 42.6	-0.5
	1.3nm,0.4s,baz=180,slow=2.0,SNR=3.2						
ARCES	ARCESS Array B	131.18	22	PKP	PKPdf	11 08 44.1	+0.3
	2.1nm,0.6s,baz=186,slow=1.4,SNR=24						
BVAR	Borovoye Array	135.06	58	PKP	PKPdf	11 08 52.1	+0.5
	0.7nm,0.5s,baz=270,slow=4.2,SNR=4.1						
YKA	Yellowknife Ar	136.14	318	PKP	PKPdf	11 08 52.4	-0.8
	3.0nm,0.5s,baz=130,slow=2.1,SNR=33						
YKA				SKPbc	SKPbc	11 12 14.7	+0.1
	0.7nm,0.8s,baz=135,slow=3.4,SNR=4.4						
MKAR	Makanchi Array	137.15	72	PKP	PKPdf	11 08 53.4	-2.3
	0.2nm,0.3s,baz=241,slow=3.0,SNR=3.2						
INK	Inuvik	145.78	321	PKPbc	PKPdf	11 09 10.8	+0.4
	27nm,0.6s,baz=102,slow=2.9,SNR=27						
ILAR	Eielson Array	150.05	312	PKPbc	PKPbc	11 09 22.9	+0.2
	21nm,0.7s,baz=134,slow=3.0,SNR=210						
SONM	Songino Array	150.96	87	PKPbc	PKPbc	11 09 25.8	+0.2
	2.3nm,0.6s,baz=222,slow=2.0,SNR=7.8						
JNU	Nakatsue	152.52	138	PKPbc	PKPbc	11 09 28.3	-1.1
	4.3nm,0.9s,baz=271,slow=7.6,SNR=2.8						

*IDC **03** 10:55:33.4±1.1, 70°.66N×14°.16W, h0km, mb3.5/7, mb1 3.8/10, mb1mx3.6/30, mbtmp3.6/10, ML3.5/3, MS3.1/10, Ms1 3.2/10, ms1mx2.8/48, Error ellipse: s-maj=27.7km s-min=21.7km az=46.0*
*REY **03** 10:55:33.7, 70°.26N×12°.46W, h10km*
ISC 03 10:55:34.3±1.0**, 70°.38N**±0°.10×**12°.6W**±0°.1**, h10km, n36, σ0s.83**/32**, mb3.5**/7**, MS3.1**/7**, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMIC	Jan Mayen	1.50	64	LR	LR	10 56 17.0	
	comp=Z,18nm,18.4s,baz=257,slow=23						
JMIC				Sn	Sg	10 56 21.6	-0.8
	7.5nm,0.3s,baz=256,slow=22,SNR=3.3						
ILEI	Leirhofn	4.24	202	P	Pn	10 56 38.0	-0.9
	baz=203						
ILEI				S	Sn	10 57 28.3	0.0
	baz=203						
IGRI	Grimsey	4.34	210	P	Pn	10 56 39.3	-0.8
	baz=211						
IGRI				S	Sn	10 57 30.6	-0.1
	baz=211						
IGIL	Gilhagi	4.54	200	P	Pn	10 56 42.4	-0.6
	baz=201						
IGIL				S	Sn	10 57 36.0	+0.3
	baz=201						
IHED	Heoinshofoi	4.66	204	P	Pn	10 56 43.9	-0.7
	baz=206						
IHED				S	Sn	10 57 39.2	+0.6
	baz=206						
IFLA	Flatey	4.66	207	P	Pn	10 56 44.2	-0.4
	baz=208						
IFLA				S	Sn	10 57 39.0	+0.3
	baz=208						
IBRE	Brettingsstaoi	4.71	207	P	Pn	10 56 44.9	-0.4
	baz=209						
IBRE				S	Sn	10 57 40.6	+0.8
	baz=209						
IDIM	Dimmadalsˆ¡s	4.72	202	P	Pn	10 56 44.8	-0.7
	baz=203						
IDIM				S	Sn	10 57 41.2	+1.0
	baz=203						
IGHA	Grjothals	4.80	200	P	Pn	10 56 46.0	-0.6
	baz=202						
IGHA				S	Sn	10 57 42.8	+0.6
	baz=202						
IGRA	Granastaoir	4.85	205	P	Pn	10 56 46.5	-0.7
	baz=206						
IGRA				S	Sn	10 57 44.2	+0.9
	baz=206						
ISIG	Siglufjorour	4.87	212	P	Pn	10 56 47.3	-0.1
	baz=213						
IGRS	Grimsstaoir	4.95	197	P	Pn	10 56 48.4	-0.2
	baz=198						
IHLA	Hella	4.95	208	P	Pn	10 56 48.3	-0.2
	baz=210						
IHLA				S	Sn	10 57 46.0	+0.3
	baz=210						
IMEL	Melhnausar	5.07	199	P	Pn	10 56 49.9	-0.3
	baz=201						
IHRN	Hraun	5.12	217	P	Pn	10 56 51.5	+0.6
	baz=218						
IHRN				S	Sn	10 57 50.9	+1.0
	baz=218						
IADA	Aoalbol	5.50	193	P	Pn	10 56 56.5	+0.3
	baz=194						
IHVA	Hvannstoosfjol	5.59	194	P	Pn	10 56 57.9	+0.5
	baz=195						
IVSH	V-Sauoahnukur	5.72	193	P	Pn	10 56 59.9	+0.6
	baz=194						
BORG	Borgarnes	6.56	215	Pn	Pn	10 57 12.2	+1.6
	3.5nm,0.3s,baz=4.8,slow=5.9,SNR=17						
SPITS	Spitsbergen Ar	10.91	32	Pn	Pn	10 58 11.9	+1.7
	baz=227,slow=15,SNR=16						
NOA	NORSAR Array B	13.45	122	LR	LR	11 03 33.6	
	comp=Z,41nm,20.7s,baz=340,slow=34						
HFS	Hagfors	14.90	120	LR	LR	11 04 16.3	
	comp=Z,76nm,18.4s,baz=270,slow=34						
FINES	FINESS Array B	17.80	101	P	P	10 59 50.1	+7.6
	0.1nm,0.3s,baz=326,slow=7.2,SNR=5.9						
FINES				LR	LR	11 05 56.3	
	comp=Z,74nm,18.5s,baz=140,slow=34						
FRB	Frobisher Bay	22.00	280	P	P	11 00 23.1	-5.0
	3.1nm,0.9s,baz=41,slow=14,SNR=3.1						
RES	Resolute Bay	23.15	318	LR	LR	11 09 26.2	
	comp=Z,101nm,18.1s,baz=358,slow=37						
GERES	GERESS Array B	24.96	136	LR	LR	11 09 46.8	
	comp=Z,29nm,21.0s,baz=337,slow=33						
VRAC	Vranov	25.24	131	LR	LR	11 11 12.9	
	comp=Z,36nm,18.1s,baz=322,slow=36						
DAVOX	Davos/Dischmat	26.08	143	LR	LR	11 12 43.4	
	comp=Z,30nm,18.3s,baz=260,slow=39						
INK	Inuvik	35.97	327	LR	LR	11 19 31.9	
	comp=Z,41nm,18.4s,baz=82,slow=41						
YKA	Yellowknife Ar	36.77	311	P	P	11 02 37.3	-4.0
	0.2nm,0.5s,baz=28,slow=8.7,SNR=2.9						
SADO	Sadowa	40.84	267	LR	LR	11 20 57.7	
	comp=Z,27nm,20.3s,baz=222,slow=38						
ILAR	Eielson Array	41.46	332	P	P	11 03 17.0	-3.6
	0.9nm,1.2s,baz=6.1,slow=5.5,SNR=5.0						
ILAR				LR	LR	11 23 13.8	
	comp=Z,35nm,18.7s,baz=72,slow=40						
PDAR	Pinedale Array	52.64	293	P	P	11 04 44.3	-4.0
	0.3nm,0.6s,baz=32,slow=8.6,SNR=2.9						
TORD	Torodi Ar. Bea	57.89	163	P	P	11 05 28.8	+2.7
	1.6nm,1.1s,baz=315,slow=4.6,SNR=7.0						
NVAR	Mina Array Bea	59.27	298	P	P	11 05 31.3	-4.6
	0.2nm,0.5s,baz=14,slow=9.3,SNR=2.7						
TXAR	Lajitas Array	63.04	282	P	P	11 05 59.2	-2.1
	0.3nm,0.9s,baz=54,slow=4.6,SNR=3.6						

IDC 03 11:11:38.3±1.3**, 5°.05S**×**152°.17E, h0km, mb4.0**/4**, mb1 4.3**/4**, mb1mx3.6**/42**, mbtmp4.0**/4**, Error ellipse: s-maj=101.4km s-min=23.3km az=130.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.80	228	P	P	11 16 43.0	+0.1
	2.2nm,0.4s,baz=53,slow=9.7,SNR=38						
ASAR	Alice Springs	25.54	222	P	P	11 17 08.7	-0.3
	1.3nm,0.5s,baz=57,slow=9.1,SNR=34						
ILAR	Eielson Array	82.63	22	P	P	11 24 02.7	-0.6
	1.3nm,0.7s,baz=249,slow=5.6,SNR=18						
NVAR	Mina Array Bea	92.74	52	P	P	11 24 54.1	+1.0
	0.3nm,0.7s,baz=245,slow=7.5,SNR=2.9						
TORD	Torodi Ar. Bea	149.78	287	PKPbc	PKPbc	11 31 31.0	-0.4
	0.2nm,0.4s,baz=53,slow=2.8,SNR=2.7						

*IDC **03** 11:14:53.3±0.6, 4°.36S×153°.75E, h0km, mb4.2/19, mb1 4.4/19, mb1mx4.3/24, mbtmp4.2/19, MS3.0/4, Ms1 3.0/4, ms1mx2.7/33, Error ellipse: s-maj=22.1km s-min=14.3km az=85.0*
*ISCJB **03** 11:14:57.1±0.4, 4°.38S±0°.07×153°.69E±0°.08, h33km, mb4.1/20, MS3.0/3, Error ellipse: s-maj=12.3km s-min=8.8km az=157.0*
*NEIC **03** 11:15:04.2±1.4, 4°.45S×153°.79E, h87km±14km, mb4.1/2, Error ellipse: s-maj=11.1km s-min=10.8km az=92.0*
ISC 03 11:14:58.4±0.5**, 4°.43S**±0°.09×**153°.8E**±0°.1**, h35km, n43, σ0s.95**/39**, mb4.3**/25**, MS3.0**/3**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	7.86	130	P	Sn	11 18 15.0	-3.0
HNR				S	Sx	11 18 34.0	
HNR	Honiara	7.86	130	ePn	Pn	11 16 54.6	+4.3
	36nm,0.9s						
PMG	Port Moresby	8.25	233	ePn	Pn	11 17 02.5	+6.8
	28nm,0.6s						
GUMO	Guam	19.98	334	LR	LR	11 27 39.0	
	comp=Z,20nm,18.4s,baz=134,slow=38						
DZM	Mont Dzumac	21.39	146	P	P	11 19 44.2	+1.0
	5.6nm,1.0s,baz=90,slow=20,SNR=2.3						
SIJI	Sorong	22.80	278	P	P	11 19 58.1	-0.3
	5.0nm,0.5s,baz=47,slow=8.2,SNR=5.2						
SIJI				LR	LR	11 29 36.0	
	comp=Z,51nm,20.4s,baz=328,slow=39						
WRAB	Tennant Creek	24.44	229	eP	P	11 20 14.1	0.0
	18nm,0.9s						
WRA	Warramunga Arr	24.45	229	P	P	11 20 14.5	+0.2
	9.5nm,0.5s,baz=54,slow=10.0,SNR=51						
WRA				PcP	PcP	11 23 51.8	-0.9
	1.4nm,0.7s,baz=56,slow=2.2,SNR=7.6						
H11S3	WAKE ISLAND Hy	26.07	29	T	T	11 46 43.9	
	baz=205						
H11S2	WAKE ISLAND Hy	26.08	29	T	T	11 46 45.9	
	baz=205						
H11S1	WAKE ISLAND Hy	26.09	29	T	T	11 46 44.4	
	baz=205						
AS31	Alice Springs	27.11	223	eP	P	11 20 38.0	-0.3
ASAR	Alice Springs	27.11	223	P	P	11 20 38.1	-0.2
	1.9nm,0.7s,baz=55,slow=8.8,SNR=22						
ASAR				PcP	PcP	11 23 58.0	-0.8
	1.2nm,0.7s,baz=63,slow=2.5,SNR=9.0						
STKA	Stephens Creek	29.62	201	P	P	11 21 01.2	+0.7
	6.8nm,0.6s,baz=7.6,slow=9.0,SNR=16						
STKA	Stephens Creek	29.62	201	eP	P	11 21 00.9	+0.4
	0.9nm,0.6s						
KAPI	Kappang	33.95	268	LR	LR	11 37 30.9	
	comp=Z,41nm,18.1s,baz=108,slow=40						
RPZ	Rata Peaks	41.99	161	P	P	11 22 47.7	+1.5
	5.1nm,0.8s,baz=257,slow=3.7,SNR=3.9						
JNU	Nakatsue	43.21	331	P	P	11 22 56.6	+0.3
	4.7nm,0.7s,baz=78,slow=4.8,SNR=4.1						
KSRS	Korea Array	48.14	332	P	P	11 23 35.1	0.0
	1.4nm,0.9s,baz=149,slow=8.6,SNR=7.2						
KSAR	Wonju Array Be	48.15	332	P	P	11 23 35.1	-0.1
PETK	Petropavlovsk-	57.42	3	P	P	11 24 44.0	+0.5
	1.9nm,0.9s,baz=159,slow=12,SNR=2.5						
PETK				LR	LR	11 44 20.0	
	comp=Z,9.3nm,21.8s,baz=141,slow=31						
CMAR	Chiang Mai Arr	58.64	295	P	P	11 24 53.5	+0.8
	1.8nm,0.7s,baz=107,slow=5.4,SNR=9.6						
SONM	Songino Array	66.56	327	P	P	11 25 43.9	-1.2
	0.7nm,0.5s,baz=120,slow=8.5,SNR=3.3						
TAPN	Taplejung	71.09	301	eP	P	11 26 13.9	-0.1
ODAN	Odare	71.23	300	eP	P	11 26 14.7	-0.1
RAMN	Ramite	71.94	300	eP	P	11 26 18.4	-0.6
JIRN	Jiri	72.47	301	eP	P	11 26 21.5	-0.9
GUN	Gumba	72.80	301	eP	P	11 26 24.2	-0.1
	28nm,0.8s						
PKI	Pulchoki	73.12	300	eP	P	11 26 25.4	-0.8
	7.2nm,0.6s						
VNDA	Vanda	73.16	178	P	P	11 26 25.7	+0.6
	2.8nm,0.7s,baz=328,slow=6.6,SNR=22						
KKN	Kakani	73.28	301	eP	P	11 26 26.6	-0.4
	12nm,0.7s						
DMN	Daman	73.39	300	eP	P	11 26 27.5	-0.2
	35nm,1.1s						
GKN	Gorkha	73.89	301	eP	P	11 26 30.1	-0.4
	26nm,0.9s						
MK31	Makanchi Array	80.72	319	P	P	11 27 08.1	-0.1
MKAR	Makanchi Array	80.72	319	P	P	11 27 08.0	-0.2
	2.4nm,1.0s,baz=100,slow=7.9,SNR=6.4						
ZALV	Zalesovo Beam	81.41	326	P	P	11 27 10.6	-1.0
	1.9nm,0.3s,baz=140,slow=6.1,SNR=2.1						
ILAR	Eielson Array	81.44	22	P	P	11 27 11.6	0.0
	1.1nm,0.8s,baz=254,slow=5.6,SNR=9.1						
AAK	Ala-Archa	85.15	313	P	P	11 27 31.9	+0.4
	1.6nm,0.3s,baz=166,slow=6.0,SNR=7.4						
BVAR	Borovoye Array	89.55	323	P	P	11 27 50.7	-1.6
	2.2nm,0.8s,baz=104,slow=6.3,SNR=9.8						
NVAR	Mina Array Bea	91.06	52	P	P	11 28 02.2	+2.3
	0.2nm,0.6s,baz=258,slow=4.5,SNR=2.3						
YKA	Yellowknife Ar	94.63	28	P	P	11 28 16.2	+0.7
	0.4nm,0.8s,baz=274,slow=5.1,SNR=3.5						
GERES	GERESS Array B	124.26	329	PKP	PKPdf	11 33 53.3	-0.5
	0.6nm,0.6s,baz=64,slow=3.1,SNR=5.4						
TORD	Torodi Ar. Bea	151.15	289	PKPbc	PKPbc	11 34 47.5	-1.5
	5.5nm,0.7s,baz=69,slow=2.0,SNR=32						
TORD				PKPab	PKPab	11 34 56.0	-0.9
	1.4nm,0.6s,baz=81,slow=3.3,SNR=4.4						

*IDC **03** 11:23:35.5±2.6, 53°.52N×87°.90E, h0km, mb1 3.3/3, mb1mx3.1/47, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=22.6km s-min=14.2km az=67.0*
*NNC **03** 11:23:38.3±4.0, 53°.41N×87°.58E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=30.6km s-min=25.9km az=22.0*
ISC 03 11:23:38.9±3.7**, 53°.6N**±0°.1×**87°.9E**±0°.2**, h35km, n8, σ1s.03**/12**, 4C-5D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.85	282	i		11 35 47.2	
	baz=98,slow=324,SNR=15						
ZALV	Zalesovo Beam	1.85	282	Pg	Pn	11 24 08.1	-0.1
	4.0nm,0.3s,baz=99,slow=15,SNR=13						
ZALV				Lg	Lg	11 24 34.5	
	8.9nm,0.3s,baz=101,slow=25,SNR=14						
KURK	Kurchatov	6.40	247	⇓Pn	Pn	11 25 11.0	+0.4
	1.7nm,0.9s						
KURK				⇑Sn	Sn	11 26 21.6	-0.8
	1.3nm,0.7s						
KURK				⇓Lg	Lg	11 26 54.2	
	5.8nm,0.8s						
KURBB	Kurchatov Arra	6.50	246	⇑Pn	Pn	11 25 12.1	+0.1
	3.3nm,0.7s,baz=63,slow=14						
KURBB				⇓Sn	Sn	11 26 24.1	-0.7
	11nm,0.7s						
KURBB				⇓Lg	Lg	11 26 59.7	
	12nm,0.7s						
KURBB	Kurchatov Arra	6.50	246	Pn	Pn	11 25 12.4	+0.4
	0.1nm,0.3s,baz=62,slow=14,SNR=16						
KURBB				Sn	Sn	11 26 24.9	+0.1
	0.1nm,0.3s,baz=63,slow=25,SNR=5.2						
KURBB				Lg	Lg	11 26 59.1	
	0.1nm,0.3s,baz=62,slow=30,SNR=10.0						
MK31	Makanchi Array	7.71	210	⇑Pn	Pn	11 25 26.4	-2.3
	1.8nm,1.0s,baz=230,slow=13,SNR=3.2						
MK31				⇑Sn	Sn	11 26 56.1	+1.3
	0.6nm,0.5s,baz=28,slow=26,SNR=4.3						
MK31				⇓Lg	Lg	11 27 32.5	
	2.5nm,0.7s,baz=24,slow=34,SNR=3.7						
MKAR	Makanchi Array	7.71	210	Pn	Pn	11 25 28.4	-0.3
	0.1nm,0.3s,baz=25,slow=13,SNR=7.0						
MKAR				Sn	Sn	11 26 55.3	+0.5
	0.2nm,0.3s,baz=30,slow=26,SNR=5.2						
MKAR				Lg	Lg	11 27 36.6	
	0.2nm,0.3s,baz=33,slow=33,SNR=6.2						
BVAR	Borovoye Array	10.49	274	Pn	Pn	11 26 07.5	+0.8
	0.3nm,0.3s,baz=77,slow=15,SNR=3.7						

*ISCJB **03** 11:31:08.0±0.3, 1°.47N±0°.04×127°.60E±0°.04, h200km, mb4.2/19, Error ellipse: s-maj=6.3km s-min=5.4km az=6.1*
*NEIC **03** 11:31:08.8±0.7, 1°.45N×127°.70E, h196km±7km, mb4.5/3, Error ellipse: s-maj=11.7km s-min=6.6km az=81.0*
*IDC **03** 11:31:09.4±1.5, 1°.47N×127°.65E, h198km±14km, mb3.9/16, mb1 4.0/17, mb1mx3.7/46, mbtmp4.4/17, Error ellipse: s-maj=16.7km s-min=7.6km az=79.0*
*DJA **03** 11:31:11.0±0.6, 1°N±4°×12°7E±°, h173km±5km, M4.7/11, mb4.5/3, mB4.7/3, MLv4.8/11, Mw(mB)4.0/3*
ISC 03 11:31:09.3±0.5**, 1°.44N**±0°.05×**127°.56E**±0°.06**, h200km, n44, σ1s.21**/54**, mb4.5**/23**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	0.69	196	P	Pn	11 31 36.7	-0.6
TNTI				S	Sn	11 31 57.7	-1.3
TNTI	Ternate	0.69	196	ePn	Pn	11 31 36.6	-0.6
TNTI				eSn	Sn	11 31 58.3	-0.8
SGSI	Sangihe	3.02	318	P	Pn	11 31 57.8	-1.4
SGSI				S	Sn	11 32 36.1	-2.1
KMSI	Cibinong	3.68	257	P	Pn	11 32 07.0	-0.2
KMSI				S	Sn	11 32 51.7	-0.8

SANI	Sanana	3.80	204	P	Pn	11 32 07.7	-1.0
SANI				S	Sn	11 32 50.6	-4.8
SIJI	Sorong	4.36	122	P	Pn	11 32 16.2	+0.6
	7.3nm,0.3s,baz=319,slow=11,SNR=24						
NLAI	Namlea	4.67	186	P	Pn	11 32 19.7	+0.2
LUWI	Luwuk	5.39	243	P	Pn	11 32 28.8	+0.1
	94nm,1.0s,2μm2.0nm						
LUWI				S	Sn	11 33 27.3	-4.0
	94nm,1.0s,2μm2.0nm						
MRSI	Marisa	5.70	260	P	Pn	11 32 32.4	-0.3
	42nm,0.7s,763nm0.2nm						
APSI	Ampana	6.36	249	P	Pn	11 32 40.8	-0.4
SPSI	Sidrap Palu	9.46	235	P	Pn	11 33 25.2	+3.6
SPSI				S	Sn	11 35 06.0	-1.5
KAPI	Kappang	10.10	231	Pn	Pn	11 33 30.8	+0.9
WRAB	Tennant Creek	22.26	163	*e*P	P	11 35 49.8	-0.3
	27nm,0.4s						
WRA	Warramunga Arr	22.26	163	P	P	11 35 50.0	-0.2
	32nm,0.5s,baz=338,slow=10,SNR=372						
WRA				S	S	11 39 42.3	+2.1
	1.2nm,0.7s,baz=346,slow=18,SNR=5.8						
WRA				ScP	ScP	11 42 57.7	+0.2
	0.8nm,0.8s,baz=330,slow=2.6,SNR=5.9						
AS31	Alice Springs	25.70	166	*e*P	P	11 36 21.1	-0.2
ASAR	Alice Springs	25.70	166	P	P	11 36 21.1	-0.2
	4.1nm,0.3s,baz=344,slow=7.4,SNR=116						
ASAR				ScP	ScP	11 43 06.9	+0.1
	0.4nm,0.6s,baz=345,slow=2.8,SNR=6.7						
PSI	Prapat	28.65	273	P	P	11 36 48.3	+0.5
	6.0nm,0.7s,baz=187,slow=0.7,SNR=5.7						
CBIJ	Chichi jima	29.12	28	P	P	11 36 49.5	-2.1
JCJ	Chichijima	29.12	28	P	P	11 36 49.5	-2.1
	93nm,0.8s,baz=272,slow=17,SNR=3.2						
CMAR	Chiang Mai Arr	32.77	303	P	P	11 37 25.7	+1.9
	0.7nm,0.3s,baz=124,slow=10,SNR=6.1						
NWAO	Narrogin (SRO)	35.55	195	P	P	11 37 47.6	+0.2
	5.8nm,0.5s,baz=328,slow=6.3,SNR=9.6						
STKA	Stephens Creek	35.71	159	P	P	11 37 49.2	+0.4
	21nm,0.7s,baz=335,slow=8.0,SNR=61						
STKA				PcP	PcP	11 40 12.6	+0.1
	0.9nm,0.5s,baz=270,slow=2.0,SNR=2.8						
STKA	Stephens Creek	35.71	159	*e*P	P	11 37 48.4	-0.4
	3.4nm,0.6s						
STKA				PcP	PcP	11 40 12.6	+0.1
KSAR	Wonju Array Be	35.83	0	P	P	11 37 50.5	+0.7
KSRS	Korea Array	35.84	0	P	P	11 37 50.5	+0.7
	2.2nm,0.7s,baz=179,slow=9.9,SNR=18						
MJAR	Matsushiro Arr	36.29	15	P	P	11 37 52.4	-1.4
	1.4nm,0.4s,baz=195,slow=8.9,SNR=7.8						
USRK	Ussuriysk Ar.	42.76	5	P	P	11 38 46.9	-0.1
	1.2nm,0.6s,baz=184,slow=6.9,SNR=3.7						
TAPN	Taplejung	46.05	308	*e*P	P	11 39 15.0	+1.3
RAMN	Ramite	46.76	307	*e*P	P	11 39 20.9	+1.7
	36nm,0.7s						
JIRN	Jiri	47.40	307	*e*P	P	11 39 25.6	+1.4
	16nm,0.3s						
GUN	Gumba	47.75	307	*e*P	P	11 39 28.3	+1.4
	22nm,0.4s						
PKI	Pulchoki	47.98	307	*e*P	P	11 39 29.5	+0.8
KKN	Kakani	48.18	307	*e*P	P	11 39 31.0	+1.0
DMN	Daman	48.24	307	*e*P	P	11 39 31.5	+0.9
KOLN	Koldanda	49.52	306	*e*P	P	11 39 41.7	+1.5
	32nm,0.6s						
SONM	Songino Array	49.72	341	P	P	11 39 41.9	+0.6
	1.6nm,0.5s,baz=149,slow=8.8,SNR=5.8						
PETK	Petropavlovsk-	57.24	21	P	P	11 40 36.2	+0.5
	1.5nm,0.5s,baz=172,slow=5.4,SNR=3.5						
MK31	Makanchi Array	59.90	326	*e*P	P	11 40 54.8	+0.5
MKAR	Makanchi Array	59.90	326	P	P	11 40 54.8	+0.5
	3.4nm,0.3s,baz=110,slow=8.0,SNR=59						
SEY	Seymchan	64.07	12	P	P	11 41 22.3	+0.7
	1.2nm,0.5s,baz=218,slow=8.8,SNR=6.8						
KURK	Kurchatov	64.11	328	*e*P	P	11 41 22.3	+0.2
	11nm,0.9s						
BVAR	Borovoye Array	69.68	327	P	P	11 41 56.9	-0.3
	2.2nm,0.6s,baz=132,slow=8.2,SNR=13						
VNDA	Vanda	81.06	173	P	P	11 43 01.8	+0.3
	1.4nm,0.6s,baz=326,slow=7.0,SNR=14						
ARCES	ARCESS Array B	92.87	340	P	P	11 43 57.8	-1.2
	1.3nm,0.8s,baz=90,slow=5.9,SNR=4.2						

IDC 03 11:31:31.1±2.0, 15°.97S×177°.17W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.6/40, mbtmp3.6/4, Error ellipse: s-maj=122.9km s-min=27.6km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.18	258	P	P	11 39 57.9	-0.2
	1.6nm,1.1s,baz=91,slow=7.8,SNR=5.0						
ASAR	Alice Springs	46.48	252	P	P	11 40 00.4	-0.1
	1.9nm,0.5s,baz=87,slow=8.6,SNR=15						
ILAR	Eielson Array	83.75	13	P	P	11 44 01.8	+0.1
	0.2nm,0.5s,baz=216,slow=5.2,SNR=6.2						
TXAR	Lajitas Array	83.96	57	P	P	11 44 03.7	-0.1
	0.1nm,0.6s,baz=231,slow=5.6,SNR=3.0						

*IDC **03** 11:37:33.1±1.1, 14°.21N×146°.98E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.6/26, mbtmp3.6/8, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/26, Error ellipse: s-maj=30.6km s-min=20.2km az=119.0*
*ISCJB **03** 11:37:36.1±0.9, 14°.2N±0°.1×147°.0E±0°.1, h33km, mb3.5/7, MS3.0/1, Error ellipse: s-maj=20.2km s-min=11.0km az=149.1*
ISC 03 11:37:38.2±1.1, 14°.2N±0°.2×147°.0E±0°.1, h35km, n9, σ0s.86/9, mb3.6/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	2.13	255	Pn	Pn	11 38 10.4	-1.0
	20nm,0.3s,baz=82,slow=6.9,SNR=12						
GUMO				Sn	Sn	11 38 37.7	+1.1
	22nm,0.3s,baz=21,slow=23,SNR=8.1						
JNU	Nakatsue	23.90	325	LR	LR	11 50 48.0	
	comp=Z,51nm,19.3s,baz=22,slow=33						
KSRS	Korea Array	28.74	327	P	P	11 43 33.0	+0.6
	0.4nm,0.5s,baz=128,slow=7.9,SNR=3.5						
WRA	Warramunga Arr	36.10	200	P	P	11 44 38.0	+1.0
	0.9nm,0.9s,baz=23,slow=9.5,SNR=6.2						
ASAR	Alice Springs	39.71	199	P	P	11 45 06.8	-0.6
	0.2nm,0.6s,baz=16,slow=8.6,SNR=3.1						
MKAR	Makanchi Array	62.52	316	P	P	11 47 58.1	-0.4
	0.3nm,0.5s,baz=94,slow=8.2,SNR=4.8						
ILAR	Eielson Array	67.18	25	P	P	11 48 28.4	0.0
	0.4nm,0.7s,baz=265,slow=5.3,SNR=6.0						
BVAR	Borovoye Array	70.76	322	P	P	11 48 50.4	-0.5
	0.7nm,0.7s,baz=93,slow=6.5,SNR=5.2						
YKA	Yellowknife Ar	81.41	28	P	P	11 49 51.7	+0.4
	0.4nm,0.8s,baz=305,slow=4.3,SNR=3.3						

*SJA **03** 11:46:33.9±0.3, 40°.12S×72°.59W, h76km±999km, ML4.4*
*ISCJB **03** 11:46:40.9±0.8, 39°.85S±0°.04×71°.6W±0°.2, h150km, mb3.8/6, Error ellipse: s-maj=20.5km s-min=5.8km az=1.6*
*IDC **03** 11:46:43.2±1.0, 39°.91S×71°.18W, h162km±9km, mb3.7/5, mb1 3.8/8, mb1mx3.6/17, mbtmp4.2/8, Error ellipse: s-maj=34.3km s-min=15.6km az=100.0*
ISC 03 11:46:41.9±0.8, 39°.86S±0°.06×71°.5W±0°.2, h150km, n19, σ1s.40/25, mb3.7/6, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	1.11	142	P	Pn	11 47 09.2	+1.4
	50nm,0.3s,baz=322,slow=11,SNR=914						
PLCA				S	Sn	11 47 28.9	+1.4
	5.0nm,0.3s,baz=53,slow=20,SNR=2.9						
AAGR	Agrelo	7.08	18	*i* P	Pn	11 48 23.9	+0.6
ASAL	Salagasta	7.56	17	*i* P	Pn	11 48 30.3	+0.8
AUSP	Uspallata	7.80	13	*i* P	Pn	11 48 33.2	+0.2
AUSP				*i* P	Pn	11 48 33.2	+0.2
RTLS	Leoncito	8.23	13	*i* P	Pn	11 48 38.5	-0.2
RTLS				*i* S	Sn	11 50 11.5	+1.0
CFAA	Coronel Fontan	8.64	19	P	Pn	11 48 43.5	-0.5
	0.4nm,0.3s,baz=191,slow=15,SNR=21						
CFAA				S	Sn	11 50 17.0	-3.0
	0.2nm,0.3s,baz=82,slow=19,SNR=12						
AMOG	MOGNA	9.22	16	*i* P	Pn	11 48 51.1	-0.6
AMOG				*i* S	Sn	11 50 34.3	+0.2
AVFE	Valle Fertil	9.74	21	*i* P	Pn	11 48 59.1	+0.5
AVFE				*i* S	Sn	11 50 47.2	+0.6
AVFE				AML	AML	11 50 47.4	
	comp=Z,8.0nm,0.6s						
USHA	Ushuaia	15.12	173	P	P	11 50 08.5	-0.6
	comp=Z,0.5nm,0.3s,baz=5.7,slow=17,SNR=3.7						
LVC	Limon Verde	17.33	8	P	Pn	11 50 35.4	+0.3
	comp=Z,19nm,0.3s,baz=212,slow=8.0,SNR=7.8						
LPAZ	La Paz	23.67	8	P	P	11 51 44.5	+4.0
	comp=Z,0.5nm,0.4s,baz=100,slow=7.1,SNR=3.9						
SIV	San Ignacio	25.45	24	P	P	11 51 56.0	0.0
	comp=Z,1.1nm,0.5s,baz=197,slow=11,SNR=3.6						
BDFB	Brasilia	31.63	47	P	P	11 52 49.9	-1.1
	comp=Z,7.5nm,0.6s,baz=212,slow=9.5,SNR=8.0						
QSPA	South Pole Qui	50.39	180	P	P	11 55 23.3	-0.2
	comp=Z,1.6nm,0.9s,baz=194,slow=0.7,SNR=8.7						
TXAR	Lajitas Array	75.08	331	P	P	11 58 08.3	+1.1
	comp=Z,0.4nm,0.6s,baz=151,slow=8.9,SNR=7.1						
DBIC	Dimbokro	76.70	70	P	P	11 58 16.0	-0.7
	comp=Z,4.1nm,1.0s,baz=224,slow=4.9,SNR=2.6						
WRA	Warramunga Arr	115.82	207	PKP	PKPdf	12 05 04.5	-2.5
	comp=Z,0.3nm,0.8s,baz=159,slow=1.2,SNR=4.7						
PETK	Petropavlovsk-	144.37	308	PKP	PKPdf	12 05 58.7	-0.8
	comp=Z,2.1nm,0.6s,baz=108,slow=9.5,SNR=6.3						
SEY	Seymchan	145.25	326	PKPbc	PKPab	12 06 00.7	-0.3
	comp=Z,1.7nm,0.6s,baz=82,slow=9.1,SNR=7.5						

*ISCJB **03** 12:29:20.6±0.5, 23°.98S±0°.07×179°.82W±0°.09, h518km, mb3.8/13, Error ellipse: s-maj=11.5km s-min=9.4km az=178.4*
*IDC **03** 12:29:20.1±1.4, 23°.86S×179°.85W, h500km±17km, mb3.3/12, mb1 3.5/13, mb1mx3.4/20, mbtmp4.2/13, Error ellipse: s-maj=18.8km s-min=13.7km az=159.0*
ISC 03 12:29:21.3±0.6, 24°.03S±0°.09×179°.8W±0°.1, h518km, n28, σ1s.32/31, mb3.7/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	5.45	163	P	P	12 30 54.2	+1.0
	74nm,0.3s,baz=75,slow=20,SNR=3.6						
RAO				S	S	12 32 08.5	+0.1
	62nm,0.3s,baz=81,slow=19,SNR=2.7						
DZM	Mont Dzumac	12.85	276	P	P	12 32 09.9	+1.1
	0.7nm,0.3s,baz=270,slow=24,SNR=8.0						
URZ	Urewera	14.43	190	P	P	12 32 22.9	-2.1
	0.6nm,0.3s,baz=280,slow=11,SNR=5.0						
URZ				S	S	12 34 48.0	-8.7
	4.7nm,0.3s,baz=329,slow=8.3,SNR=21						
URZ	Urewera	14.43	190	*e*PN	P	12 32 23.0	-2.1
URZ				*e*SN	S	12 34 45.6	-11
QRZ	Quartz Range	17.95	199	PN	P	12 33 00.8	+0.7
RAR	Rarotonga	18.67	85	P	P	12 33 05.7	-1.2
	1.1nm,0.3s,baz=66,slow=12,SNR=2.8						
THZ	Tophouse	18.71	197	*e*PN	P	12 33 07.0	-0.1
MQZ	McQueen's Vall	20.59	196	*e*PN	P	12 33 20.7	-3.4
RPZ	Rata Peaks	21.03	199	P	P	12 33 29.6	+1.4
	5.6nm,0.4s,baz=13,slow=11,SNR=12						
STKA	Stephens Creek	34.87	248	P	P	12 35 28.5	-0.5
	1.1nm,0.5s,baz=112,slow=8.5,SNR=3.1						
ASAR	Alice Springs	42.23	261	P	P	12 36 28.2	-0.7
	4.5nm,0.7s,baz=97,slow=7.0,SNR=49						
ASAR				ScP	ScP	12 41 12.8	+0.5
	1.3nm,0.8s,baz=104,slow=4.2,SNR=7.4						
WRA	Warramunga Arr	42.61	266	P	P	12 36 31.1	-0.9
	6.9nm,0.3s,baz=96,slow=8.3,SNR=356						
WRA				ScP	ScP	12 41 14.8	+0.9
	1.1nm,0.8s,baz=97,slow=3.8,SNR=7.9						
VNDA	Vanda	54.26	185	P	P	12 37 59.7	+1.9
	0.5nm,0.8s,baz=0.4,slow=6.4,SNR=3.3						
MJAR	Matsushiro Arr	72.13	325	P	P	12 39 51.9	-1.2
	1.1nm,0.7s,baz=166,slow=7.5,SNR=7.1						
KSRS	Korea Array	78.49	320	P	P	12 40 28.0	-0.5
	1.2nm,0.7s,baz=139,slow=6.0,SNR=8.0						
NVAR	Mina Array Bea	84.70	44	P	P	12 41 01.0	+0.4
	0.6nm,0.6s,baz=223,slow=7.6,SNR=6.4						
ELK	Elko	87.97	43	P	P	12 41 16.7	+0.5
	0.6nm,0.5s,baz=229,slow=9.3,SNR=3.4						
CMAR	Chiang Mai Arr	89.78	290	P	P	12 41 25.6	+0.9
	0.5nm,0.6s,baz=155,slow=3.3,SNR=4.3						
TXAR	Lajitas Array	90.32	58	P	P	12 41 28.4	+1.2
	1.5nm,0.7s,baz=214,slow=6.5,SNR=25						
PDAR	Pinedale Array	92.64	44	P	P	12 41 37.1	-0.6
	0.6nm,0.8s,baz=181,slow=1.1,SNR=5.5						
INK	Inuvik	98.10	16	P	P	12 42 02.0	+0.5
	2.6nm,0.3s,baz=239,slow=13,SNR=3.3						
YKA	Yellowknife Ar	100.39	25	P	Pdif	12 42 10.7	-1.1
	0.3nm,0.6s,baz=247,slow=4.5,SNR=3.6						
KURBB	Kurchatov Arra	115.49	316	PKP	PKPdf	12 47 02.1	-1.7
	0.1nm,0.3s,baz=74,slow=1.4,SNR=4.1						
BVAR	Borovoye Array	120.68	319	PKP	PKPdf	12 47 12.7	-1.2
	0.3nm,0.3s,baz=168,slow=1.3,SNR=2.9						
ARCES	ARCESS Array B	132.06	348	PKP	PKPdf	12 47 33.4	-1.7
	1.0nm,0.8s,baz=0.0,slow=0.6,SNR=6.0						
FINES	FINESS Array B	138.64	342	PKP	PKPdf	12 47 48.1	+0.6
	2.1nm,0.9s,baz=103,slow=4.4,SNR=2.8						
AKASG	Malin Array Be	145.20	327	PKPbc	PKPab	12 48 01.0	-0.4
	0.4nm,0.3s,baz=40,slow=3.2,SNR=3.4						
BRTR	Keskin Array B	147.83	307	PKPbc	PKPbc	12 48 09.4	+1.2
	0.5nm,0.5s,baz=68,slow=1.9,SNR=2.8						

IDC 03 12:31:58.8±1.4, 33°.34N×96°.55E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/27, mbtmp3.5/5, ML3.6/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/31, Error ellipse: s-maj=137.7km s-min=23.3km az=58.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.98	171	Pn	Pn	12 35 31.8	0.0
	baz=346,slow=11,SNR=3.4						
MKAR	Makanchi Array	17.27	325	P	Pn	12 36 02.0	+0.7
	0.2nm,0.3s,baz=138,slow=13,SNR=5.7						
TLY	Talaya	19.04	14	LR	LR	12 43 13.3	
	comp=Z,27nm,19.6s,baz=180,slow=35						
KURBB	Kurchatov Arra	21.75	328	P	P	12 36 51.4	-0.3
	1.9nm,0.9s,baz=136,slow=11,SNR=15						
WRA	Warramunga Arr	64.10	140	P	P	12 42 34.9	+0.1
	0.2nm,0.6s,baz=331,slow=7.5,SNR=4.9						
ASAR	Alice Springs	66.94	143	P	P	12 42 53.2	0.0
	0.5nm,0.5s,baz=331,slow=6.4,SNR=6.2						

MEX 03 13:02:21.1±0.6, 16°.90N×95°.28W, h107km±5km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.42	63	*i* P	Pn	13 02 36.1	-1.1
CMIG				*i* S	Sn	13 02 47.3	-2.0
HUIG	Huatulco	1.37	216	*i* P	Pn	13 02 45.2	-1.1
HUIG				*e*S	Sn	13 03 03.4	-2.0
VHO	Vista Hermosa	1.40	277	*e*P	Pn	13 02 45.9	-0.9
VHO				*i* S	Sn	13 03 04.6	-1.7
TGIG		2.07	93	*e*P	Pn	13 02 54.4	-0.6
TGIG				*i* S	Sn	13 03 18.9	-2.0
PNIG	Pinotepa	2.78	260	*e*P	Pn	13 03 01.5	-2.6
PNIG				*i* S	Sn	13 03 34.4	-2.9

MAN 03 13:13:10, 9°.21N×125°.40E, h1km, mb4.5, ML3.4, MS3.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	0.33	138	*e*P	Pg	13 13 15.7	-0.5
MSLP	Maasin	1.06	330	*e*P	Pb	13 13 31.5	+0.3
MSLP				*e*S	Sb	13 13 45.7	+0.1
BUKP	Musuan	1.37	194	*e*P	Pb	13 13 36.9	+0.4
MATI	Mati	2.41	159	*e*P	Pn	13 13 51.0	+0.4
PAGZ	Pagadian	2.41	236	*e*P	Pb	13 13 53.3	-0.9
PVCP	Virac	4.53	344⇓	*e*P	Sb	13 15 26.6	+1.2

IDC 03 13:46:57.4±66.0, 19°.84S×178°.99W, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/26, mbtmp3.5/3, Error ellipse: s-maj=1191.0km s-min=165.4km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.24	243	P	P	13 54 10.3	-0.6
	2.1nm,0.9s,baz=90,slow=7.1,SNR=4.2						
ASAR	Alice Springs	43.77	256	P	P	13 55 05.0	-0.1
	0.2nm,0.5s,baz=90,slow=7.5,SNR=3.2						
WRA	Warramunga Arr	43.77	262	P	P	13 55 05.5	+0.3
	0.2nm,0.6s,baz=96,slow=7.7,SNR=5.4						

*ISCJB **03** 14:05:31.9±0.8, 70°.85N±0°.05×15°.5W±0°.3, h10km, mb3.5/2, MS3.0/4, Error ellipse: s-maj=13.9km s-min=7.1km az=1.0*
*IDC **03** 14:05:34.8±3.0, 70°.87N×14°.74W, h0km, mb3.5/2, mb1 3.8/6, mb1mx3.4/30, mbtmp3.8/6, ML3.5/4, MS3.0/8, Ms1 3.1/8, ms1mx2.8/35, Error ellipse: s-maj=55.5km s-min=30.8km az=128.0*
ISC 03 14:05:34.7±1.0, 70°.83N±0°.07×15°.06W±0°.10, h10km, n12, σ1s.40/10, MS2.9/4, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMIC	Jan Mayen	2.16	83	Pn	Pg	14 06 15.4	-0.6
	2.6nm,0.3s,baz=248,slow=3.3,SNR=1.9						
DAG	Danmarks Havn	6.06	352	*i* P	Pn	14 07 04.4	+0.3
DAG				*i* S	Sn	14 08 12.4	-0.9
BORG	Borgarnes	6.55	204	Pn	Pn	14 07 14.6	+3.8
	2.6nm,0.3s,baz=9.4,slow=6.8,SNR=12						
BORG				Sn	Sn	14 08 24.5	-1.0
	baz=242,slow=21,SNR=2.0						
BORG				LR	LR	14 09 10.4	
	comp=Z,144nm,20.1s,baz=24,slow=32						
SPITS	Spitsbergen Ar	10.98	34	Pn	Pn	14 08 12.4	+0.9
	baz=222,slow=14,SNR=49						
SPITS				LR	LR	14 11 26.4	
	comp=Z,80nm,19.1s,baz=260,slow=32						
NOA	NORSAR Array B	14.37	120	Pn	Pn	14 08 57.0	-0.9
	0.1nm,0.3s,baz=302,slow=8.4,SNR=2.7						
NOA				LR	LR	14 13 10.2	
	comp=Z,47nm,21.7s,baz=325,slow=32						
HFS	Hagfors	15.83	118	Pn	P	14 09 20.6	-0.4
	0.3nm,0.3s,baz=316,slow=8.1,SNR=8.1						
FINES	FINESS Array B	18.68	99	P	P	14 09 51.8	-0.8
	0.1nm,0.3s,baz=321,slow=11,SNR=6.1						
FINES				LR	LR	14 15 47.1	
	comp=Z,53nm,20.2s,baz=333,slow=33						
RES	Resolute Bay	22.27	316	LR	LR	14 19 07.1	
	comp=Z,37nm,19.0s,baz=108,slow=36						
GERES	GERESS Array B	25.85	133	P	P	14 11 09.1	+3.0
	0.6nm,0.8s,baz=329,slow=11,SNR=5.3						
GERES				LR	LR	14 22 00.3	
	comp=Z,34nm,19.6s,baz=304,slow=38						
BRTR	Keskin Array B	39.74	115	LR	LR	14 29 27.7	
	comp=Z,14nm,19.4s,baz=345,slow=36						
TORD	Torodi Ar. Bea	58.57	161	P	P	14 15 31.5	+0.3
	0.8nm,0.8s,baz=350,slow=7.7,SNR=5.4						
JTS	JuntasAbangare	73.78	254	LR	LR	14 53 30.4	
	comp=Z,25nm,18.0s,baz=216,slow=39						

KRSC 03 14:07:51.5±0.8, 55°.44N×164°.60E, h53km±19km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	Bering	0.82	106	*e*P	Pn	14 08 07.5	+0.6
BKI				*e*S	Sn	14 08 19.2	+1.1
KBTR	Krutoberegovo	1.27	308	*e*P	Pn	14 08 13.4	+0.5
KBTR				*e*S	Sn	14 08 29.8	+0.9
MKZ	Mys Kozlova	1.87	243	*e*P	Pn	14 08 23.4	+2.3
MKZ				*e*S	Sn	14 08 46.0	+2.4
KLY	Klyuchi	2.39	293	*e*P	Pn	14 08 30.8	+2.6
KLY				*e*S	Sn	14 08 57.5	+1.2
KZV	Kizimen	2.48	264	*e*P	Pn	14 08 33.0	+3.3
KMNR	Kamenistaya	2.50	279	*e*P	Pn	14 08 33.0	+3.2
TUMR	Tumrok	2.55	268	*e*P	Pn	14 08 34.3	+3.8
KOZ	Kozyrevsk	2.74	285	P	Pn	14 08 36.4	+3.3
SRDR	Sredinnyy	2.89	290	P	Pn	14 08 39.7	+4.6
SRDR				S	Sn	14 09 11.7	+3.0
ESO	Esso	3.38	281	P	Pn	14 08 46.3	+4.6
SPN	Mys Shipunski	3.56	231	*e*P	Pn	14 08 47.6	+3.4
SPN				S	Sn	14 09 26.9	+1.9
NLC	Nalytchevo	3.82	236	*e*S	Sn	14 09 33.8	+2.4
OSSR	Ossora	3.92	348	*e*P	Pn	14 08 52.2	+3.2
OSSR				*e*S	Sn	14 09 35.7	+2.1
SDLR	Sedlovina	3.98	239	*e*P	Pn	14 08 54.1	+3.9
SDLR				*e*S	Sn	14 09 38.8	+3.1
SMAR	Somma	4.03	240	*e*P	Pn	14 08 54.9	+3.9
SMAR				*e*S	Sn	14 09 39.7	+2.6
UGLR	Uglovaya	4.05	239	*e*P	Pn	14 08 55.3	+4.2
UGLR				*e*S	Sn	14 09 41.4	+4.1
KRX	Arik	4.05	242	*e*P	Pn	14 08 55.6	+4.4
KRX				*e*S	Sn	14 09 40.3	+2.9
AVH	Avacha	4.06	240	*e*P	Pn	14 08 55.7	+4.5
AVH				*e*S	Sn	14 09 40.7	+3.2
KOK	Koryaka	4.10	241	*e*P	Pn	14 08 56.1	+4.4
PET	Petropavlovsk	4.24	238	*e*P	Pn	14 08 58.3	+4.7
PET				*e*S	Sn	14 09 44.7	+2.9
GNL	Ganaly	4.25	249	*e*P	Pn	14 08 58.2	+4.4
RUS	Russkaya	4.69	233	*e*P	Pn	14 09 03.0	+3.3
MTVR	Mutnovka	4.81	235	*e*P	Pn	14 09 05.7	+4.2
MTVR				*e*S	Sn	14 09 59.7	+3.7
ASAK	Asacha	5.00	235	*e*P	Pn	14 09 09.2	+5.1

*IDC **03** 14:08:56.1±2.9, 70°.79N×14°.24W, h0km, mb3.5/1, mb1 3.6/6, mb1mx3.3/31, mbtmp3.6/6, ML3.4/5, MS3.5/1, Ms1 3.5/1, ms1mx2.5/32, Error ellipse: s-maj=54.7km s-min=26.9km az=127.0*
*REY **03** 14:08:57.5, 70°.17N×12°.57W, h10km*
ISC 03 14:09:02.4±2.2, 70°.1N±0°.2×13°.1W±0°.1, h10km, n26, σ1s.80/32, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMIC	Jan Mayen	1.77	59	Pn	Pg	14 09 37.5	+1.3
	5.5nm,0.3s,baz=185,slow=18,SNR=2.3						
JMIC				LR	LR	14 10 11.6	
	comp=Z,51nm,18.1s,baz=234,slow=40						
IGRI	Grimsey	4.04	209	P	Pn	14 10 01.7	-2.5
	baz=212						
IGRI				S	Sn	14 10 52.5	+1.0
	baz=212						
IGIL	Gilhagi	4.25	198	P	Pn	14 10 04.6	-2.6
	baz=201						
IHED	Heoinshofoi	4.36	203	P	Pn	14 10 06.1	-2.6
	baz=206						
IHED				S	Sn	14 10 59.8	+0.3
	baz=206						
IFLA	Flatey	4.37	206	P	Pn	14 10 06.8	-1.8
	baz=209						
IFLA				S	Sn	14 11 00.8	+1.3
	baz=209						
IBRE	Brettingsstaoi	4.41	206	P	Pn	14 10 07.1	-2.2
	baz=209						
IBRE				S	Sn	14 11 02.4	+1.8
	baz=209						
IDIM	Dimmadalsˆ¡s	4.43	201	P	Pn	14 10 07.0	-2.5
	baz=203						
IDIM				S	Sn	14 11 02.0	+0.9
	baz=203						
IGHA	Grjothals	4.51	199	P	Pn	14 10 08.3	-2.4
	baz=201						
IGRA	Granastaoir	4.55	204	P	Pn	14 10 09.1	-2.1
	baz=206						
IGRA				S	Sn	14 11 05.4	+1.2
	baz=206						
ISIG	Siglufjorour	4.57	211	P	Pn	14 10 09.7	-1.7
	baz=213						
ISIG				S	Sn	14 11 05.1	+0.6
	baz=213						
IHLA	Hella	4.65	208	P	Pn	14 10 10.8	-1.8
	baz=210						
IHLA				S	Sn	14 11 08.5	+2.0
	baz=210						
IGRS	Grimsstaoir	4.66	196	P	Pn	14 10 10.6	-2.1
	baz=198						
IGRS				S	Sn	14 11 07.7	+0.9
	baz=198						
IMEL	Melhnausar	4.78	198	P	Pn	14 10 12.1	-2.3
	baz=200						
IHRN	Hraun	4.81	216	S	Sn	14 11 10.8	+0.3
	baz=218						
IHRN				P	Pn	14 10 13.7	-1.2
	baz=218						
IADA	Aoalbol	5.22	192	P	Pn	14 10 18.8	-1.8
	baz=194						
IGLU	Glumsstadir	5.23	189	P	Pn	14 10 19.1	-1.4
	baz=192						
IHVA	Hvannstoosfjol	5.31	193	P	Pn	14 10 19.8	-1.9
	baz=195						
IMKO	Mokollar	5.33	195	P	Pn	14 10 20.5	-1.4
	baz=197						
BORG	Borgarnes	6.26	214	Pn	Pn	14 10 35.4	+0.7
	0.8nm,0.3s,baz=47,slow=12,SNR=4.8						
BORG				Sn	Sn	14 11 52.6	+6.5
	0.3nm,0.3s,baz=38,slow=19,SNR=2.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SPITS	**Spitsbergen Ar**	**11.21**	**31**	Pn	Pn	14 11 33.2	-9.3
	baz=229,slow=15,SNR=13						
NOA	**NORSAR Array B**	**13.46**	**120**	Pn	Pn	14 12 17.7	+4.5
	0.1nm,0.3s,baz=326,slow=13,SNR=2.4						
HFS	**Hagfors**	**14.92**	**119**	Pn	**P**	**14 12 41.6**	**+2.8**
	0.3nm,0.3s,baz=330,slow=8.6,SNR=9.3						
EKA	**Eskdalemuir Ar**	**15.50**	**158**	Pn	**P**	**14 12 45.4**	**+0.1**
	baz=351,slow=12,SNR=3.8						
FINES	**FINESS Array B**	**17.93**	**99**	P	**P**	**14 13 11.9**	**-0.1**
	0.1nm,0.3s,baz=319,slow=12,SNR=4.9						
TORD	**Torodi Ar. Bea**	**57.70**	**163**	P	**P**	**14 18 52.8**	**-0.1**
	0.6nm,0.9s,baz=349,slow=5.9,SNR=3.3						
MJAR	**Matsushiro Arr**	**71.60**	**24**	LR	LR	14 52 21.2	
	comp=Z,33nm,20.2s,baz=195,slow=37						

*SKO **03** 14:09:53.7, 42°.56N×21°.43E, h8km*
*CSEM **03** 14:09:54.7±0.2, 42°.52N×21°.39E, h2km, ML1.8, Error ellipse: s-maj=4.8km s-min=4.4km az=153.0*
BEO 03 14:09:56.1±0.3**, 42°.53N×21°.40E, h0km, ML1.5**/7**, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GJIK	**Gjilan**	**0.07**	**159**	P	Pg	14 09 56.3	-1.3
GJIK				S	Sg	14 09 59.2	+0.6
BARS	**Barje**	**0.42**	**47**	*e*Pg	Pg	14 10 02.5	-1.7
BARS				*e*Sg	Sg	14 10 08.9	-0.8
BARS	**Barje**	**0.42**	**47**	*e*Pg	Pg	14 10 02.5	-1.7
BARS				*e*Sg	Sg	14 10 08.9	-0.8
SMRK	**Smrekonice**	**0.48**	**315**	P	Pg	14 10 02.7	-2.8
SMRK				S	Sg	14 10 09.8	-2.0
SKO	**Skopje**	**0.56**	**177**	*e*Pg	Pg	14 10 05.0	-1.8
SKO				*e*Sg	Sg	14 10 13.8	-0.3
SKO	**Skopje**	**0.56**	**177**	*e*Pg	Pg	14 10 05.0	-1.8
SKO				*e*Sg	Sg	14 10 13.8	-0.3
PRZK	**Prizren**	**0.57**	**236**	P	Pg	14 10 05.4	-1.8
ZATK	**Zatriq**	**0.58**	**262**	P	Pg	14 10 05.0	-2.4
ZATK				S	Sg	14 10 13.1	-1.9
SELS	**Selova**	**0.72**	**343**	*e*Pg	Pg	14 10 08.7	-1.3
SELS				*e*Sg	Sg	14 10 18.9	-0.5
ZAPS	**Zavoj**	**1.17**	**50**	*e*Pg	Pg	14 10 18.2	-0.5
ZAPS				*e*Sg	Sg	14 10 33.6	-0.3
ZAPS	**Zavoj**	**1.17**	**50**	*e*Pg	Pg	14 10 18.2	-0.5
ZAPS				*e*Sg	Sg	14 10 33.6	-0.3
SJES	**Sjenica**	**1.28**	**305**	*e*Pg	Pg	14 10 19.3	-1.5
VTS	**Vitosha**	**1.34**	**87**	*e*Pg	Pg	14 10 20.4	-1.6
VTS				*e*Sg	Sg	14 10 39.8	+0.3
VTS	**Vitosha**	**1.34**	**87**	*e*Pg	Pg	14 10 20.4	-1.6
VTS				*e*Sg	Sg	14 10 39.8	+0.3
BOLS	**Boljevac**	**1.36**	**17**	*e*Pg	Pg	14 10 19.3	-2.9
BOLS				*e*Sg	Sg	14 10 38.6	-1.3
BOLS	**Boljevac**	**1.36**	**17**	*e*Pg	Pg	14 10 19.3	-2.9
BOLS				*e*Sg	Sg	14 10 38.6	-1.3
IVAS	**Ivanjica**	**1.39**	**319**	*e*Pn	Pn	14 10 22.4	-0.5
IVAS				*e*Sn	Sn	14 10 42.3	+0.3
IVAS	**Ivanjica**	**1.39**	**319**	*e*Pn	Pn	14 10 22.4	-0.5
IVAS				*e*Sn	Sn	14 10 42.3	+0.3
GRUS	**Gruza**	**1.45**	**340**	*e*Pn	Pn	14 10 23.4	-0.2
GRUS				*e*Sn	Sn	14 10 43.2	-0.1
GRUS	**Gruza**	**1.45**	**340**	*e*Pn	Pn	14 10 23.4	-0.2
GRUS				*e*Sn	Sn	14 10 43.2	-0.1
DIVS	**Divibare**	**1.87**	**327**	*e*Pn	Pn	14 10 28.9	-0.7
DIVS				*e*Sn	Sn	14 10 54.0	0.0
DIVS	**Divibare**	**1.87**	**327**	*e*Pn	Pn	14 10 28.9	-0.7
DIVS				*e*Sn	Sn	14 10 54.0	0.0

*IDC **03** 14:18:50.2±2.1, 24°.02S×174°.81W, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/20, mbtmp4.1/6, ML3.2/1, MS2.9/2, Ms1 2.9/2, ms1mx2.7/24, Error ellipse: s-maj=124.1km s-min=37.9km az=168.0*
*ISCJB **03** 14:18:52.7±1.0, 24°.4S±0°.7×174°.6W±0°.2, h35km, mb4.1/5, MS2.9/1, Error ellipse: s-maj=102.6km s-min=15.4km az=170.2*
ISC 03 14:18:54.6±1.1**, 24°.3S**±0°.7×**174°.7W**±0°.2**, h35km, n9, σ1s.12**/6**, mb3.9**/5**, South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.07**	**80**	Pn	**Pn**	**14 22 11.2**	**-0.2**
	1.1nm,0.3s,baz=258,slow=9.3,SNR=4.4						
RAR				LR	LR	14 26 00.4	
	comp=Z,43nm,21.8s,baz=274,slow=30						
TBI	**Tubuai**	**23.06**	**93**	*e*LR	LR	14 29 20.2	
	80nm,22.8s						
PPT2	**Papeete2**	**24.33**	**79**	*e*LR	LR	14 29 48.1	
	66nm,22.8s						
PPT	**Papeete**	**24.34**	**79**	LR	LR	14 31 31.3	
	comp=Z,38nm,20.5s,baz=270,slow=31						
CTA	**Charters Tower**	**36.35**	**269**	P	**P**	**14 25 55.0**	**-0.6**
	9.3nm,1.1s,baz=89,slow=14,SNR=4.7						
STKA	**Stephens Creek**	**39.13**	**249**	P	**P**	**14 26 19.1**	**+0.2**
	1.4nm,0.9s,baz=106,slow=7.4,SNR=2.9						
ASAR	**Alice Springs**	**46.78**	**260**	P	**P**	**14 27 21.6**	**+0.6**
	0.9nm,0.9s,baz=99,slow=7.9,SNR=7.2						
WRA	**Warramunga Arr**	**47.24**	**265**	P	**P**	**14 27 23.4**	**-1.3**
	0.6nm,0.5s,baz=102,slow=8.2,SNR=7.2						
CMAR	**Chiang Mai Arr**	**94.26**	**288**	P	**P**	**14 32 11.8**	**+1.1**
	0.8nm,0.3s,baz=116,slow=2.2,SNR=5.7						

MAN 03 14:30:58, 9°.30N×122°.49E, h25km, mb4.8, ML3.7, MS3.7, Negros

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**1.32**	**4**	*e*P	Pn	14 31 20.3	-0.6
GUIM				*e*S	Sb	14 31 38.4	-0.3
IPIL	**Ipil**	**1.50**	**177**	*e*P	Pn	14 31 23.2	-0.2
PAGZ	**Pagadian**	**1.69**	**148**	*e*P	Pn	14 31 26.8	+0.8
PAGZ				*e*S	Sn	14 31 47.4	+0.6
CUYO	**Cuyo Island**	**2.12**	**317**	*e*P	Pn	14 31 32.5	+0.7

IDC 03 14:34:14.3±6.3**, 3°.64S×128°.71E, h170**km±77km**, mb2.9**/2**, mb1 3.1**/4**, mb1mx2.9**/35**, mbtmp3.5**/4**, Error ellipse: s-maj=95.9km s-min=19.3km az=83.0, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.76**	**43**	P	Pn	14 35 11.8	-0.2
	3.0nm,0.3s,baz=204,slow=20,SNR=54						
SIJI				S	Sn	14 35 57.5	+0.4
	6.4nm,0.3s,baz=140,slow=23,SNR=17						
WRA	**Warramunga Arr**	**17.11**	**162**	P	P	14 38 02.6	+0.1
	0.3nm,0.3s,baz=341,slow=12,SNR=19						
ASAR	**Alice Springs**	**20.53**	**166**	P	P	14 38 39.5	-0.1
	0.6nm,0.4s,baz=345,slow=11,SNR=6.6						
MKAR	**Makanchi Array**	**64.73**	**327**	P	P	14 44 34.4	0.0
	0.2nm,0.3s,baz=111,slow=8.0,SNR=3.7						

*ISCJB **03** 14:36:43.4±0.8, 38°.65N±0°.05×38°.88E±0°.06, h10km, Error ellipse: s-maj=8.0km s-min=5.9km az=25.8*
*DDA **03** 14:36:43.8, 38°.61N×38°.87E, h7km, MD2.6*
*CSEM **03** 14:36:43.1±0.0, 38°.61N×38°.82E, h5km, MD2.6, Error ellipse: s-maj=1.3km s-min=1.0km az=19.0*
ISC 03 14:36:43.6±1.3**, 38°.61N**±0°.04×**38°.84E**±0°.04**, h10km, n10, σ0s.53**/15**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.16**	**134**	*i* P	**Pg**	**14 36 47.0**	**-0.3**
ELZG				*i* S	**Sg**	**14 36 49.7**	**-0.1**
ELZG	**Elazig**	**0.16**	**134**	*i* P	**Pg**	**14 36 47.0**	**-0.3**
ELZG				*i* S	**Sg**	**14 36 49.7**	**-0.1**
SVRC	**Sivrice-ELAZID**	**0.43**	**122**	*e*PG	**Pg**	**14 36 51.8**	**-0.4**
SVRC				*e*SG	**Sg**	**14 36 57.9**	**-0.1**
SVRC	**Sivrice-ELAZID**	**0.43**	**122**	*e*Pg	**Pg**	**14 36 51.8**	**-0.4**
SVRC				*e*Sg	**Sg**	**14 36 57.9**	**-0.1**
PTK	**Pertek**	**0.52**	**57**	*e*PG	**Pg**	**14 36 53.6**	**-0.2**
PTK	**Pertek**	**0.52**	**57**	*e*Pg	**Pg**	**14 36 53.6**	**-0.2**
AKCD	**Akcadag**	**0.78**	**247**	*i* P	**Pg**	**14 36 58.2**	**-0.6**
AKCD				*i* S	**Sb**	**14 37 11.5**	**+1.3**
AKCD	**Akcadag**	**0.78**	**247**	*i* P	**Pg**	**14 36 58.2**	**-0.6**
ILIC	**ilic-Erzincan**	**0.87**	**346**	*e*PG	**Pg**	**14 36 60.0**	**-0.4**
ILIC	**ilic-Erzincan**	**0.87**	**346**	*e*Pg	**Pg**	**14 37 00.0**	**-0.4**

*ISCJB **03** 14:38:49.0±1.3, 17°.98N±0°.05×146°.75E±0°.08, h49km±12km, mb4.3/27, MS3.4/14, Error ellipse: s-maj=12.7km s-min=7.5km az=8.3*
*IDC **03** 14:38:52.7±1.9, 17°.99N×146°.55E, h62km±16km, mb3.9/20, mb1 4.0/22, mb1mx3.9/31, mbtmp4.2/22, MS3.3/14, Ms1 3.4/14, ms1mx3.2/28, Error ellipse: s-maj=19.4km s-min=9.4km az=94.0*
*BJI **03** 14:38:52.2, 18°.04N×146°.79E, h71km, mb4.6/21, mB4.9/12, Ms4.7/7, Ms7 4.3/4*
*NEIC **03** 14:38:53.3±1.2, 17°.96N×146°.53E, h72km±10km, mb4.6/10, Error ellipse: s-maj=12.0km s-min=6.6km az=89.0*
ISC 03 14:38:54.1±0.6**, 17°.91N**±0°.05×**146°.74E**±0°.08**, h78**km±3km**, n71, σ1s.87**/86**, mb4.2**/27**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.65**	**203**	P	**Pn**	**14 40 01.0**	**-1.0**
	23nm,0.3s,baz=85,slow=1.0,SNR=18						
GUMO				S	**Sn**	**14 40 53.6**	**-1.2**
	18nm,0.3s,baz=41,slow=20,SNR=2.7						
GUMO	**Guam**	**4.65**	**203**	*e*Pn	**Pn**	**14 40 00.7**	**-1.3**
GUMO				*e*Sn	**Sn**	**14 40 53.0**	**-1.8**
GUMO				S	**Sn**	**14 40 53.6**	**-1.2**
H11S3	**WAKE ISLAND Hy**	**18.96**	**85**	T	T	15 02 37.0	
	baz=272,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**18.98**	**85**	T	T	15 02 36.5	
	baz=272,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**18.98**	**85**	T	T	15 02 34.3	
	baz=272,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**19.16**	**81**	T	T	15 02 46.5	
	baz=267,slow=74,SNR=26						
H11N2	**WAKE ISLAND Hy**	**19.17**	**81**	T	T	15 02 44.6	
	baz=267,slow=74,SNR=15						
H11N3	**WAKE ISLAND Hy**	**19.18**	**81**	T	T	15 02 55.4	
	baz=267,slow=74,SNR=20						
MJAR	**Matsushiro Arr**	**20.03**	**340**	P	**P**	**14 43 19.5**	**-1.3**
	0.5nm,0.3s,baz=167,slow=10,SNR=10						
MAJO	**Matsushiro**	**20.04**	**340**	*e*P	**P**	**14 43 18.1**	**-2.7**
	11nm,1.0s						
MAT	**Matsushiro**	**20.04**	**340**	P	**P**	**14 43 20.0**	**-0.8**
MAT				S	**S**	**14 46 55.0**	**-6.8**
JNU	**Nakatsue**	**20.80**	**320**	P	**P**	**14 43 27.9**	**-1.2**
	4.8nm,1.1s,baz=210,slow=8.1,SNR=2.3						
JNU				LR	LR	14 50 06.9	
	comp=Z,68nm,20.9s,baz=95,slow=33						
SIJI	**Sorong**	**24.08**	**221**	P	**P**	**14 44 02.6**	**+0.1**
	9.9nm,0.6s,baz=41,slow=10,SNR=10						
KSRS	**Korea Array**	**25.54**	**323**	P	**P**	**14 44 13.7**	**-1.8**
	2.4nm,0.8s,baz=146,slow=9.0,SNR=17						
KSRS				LR	LR	14 53 43.8	
	comp=Z,106nm,21.2s,baz=139,slow=35						
KSAR	**Wonju Array Be**	**25.55**	**323**	P	**P**	**14 44 13.7**	**-1.9**
ASAJ	**Asahikawa**	**26.36**	**353**	P	**P**	**14 44 23.6**	**+0.8**
	2.2nm,0.6s,baz=198,slow=13						
ASAJ				PcP	**PcP**	**14 47 47.0**	**+0.1**
	2.3nm,0.9s,baz=205,slow=8.2,SNR=4.3						
NJ2	**Nanjing**	**28.83**	**305**	*e*P	**P**	**14 44 46.1**	**+1.0**
NJ2				PMZ			
	20nm,0.7s						
USRK	**Ussuriysk Ar.**	**29.00**	**338**	P	**P**	**14 44 45.5**	**-1.0**
	1.9nm,0.6s,baz=140,slow=9.2,SNR=5.5						
USRK				LR	LR	14 57 04.8	
	comp=Z,35nm,18.6s,baz=122,slow=38						
LUWI	**Luwuk**	**30.18**	**234**	*e*P	**P**	**14 44 56.3**	**-0.9**
	19nm,0.6s						
CN2	**Changchun**	**31.44**	**330**	*e*P	**P**	**14 45 10.6**	**+2.6**
WHN	**Wuhan**	**31.98**	**299**	P	**P**	**14 45 15.0**	**+2.1**
BJI	**Beijing**	**34.39**	**316**	P	**P**	**14 45 33.8**	**+0.1**
BJI				S	**S**	**14 51 00.2**	**+4.2**
BJI				PMZ			
	8.0nm,0.5s						
QIZ	**Qiongzhong**	**34.97**	**278**	P	**P**	**14 45 39.4**	**+0.3**
QIZ				S	**S**	**14 51 09.0**	**+3.5**
QIZ				PMZ			
	23nm,1.9s						
PETK	**Petropavlovsk-**	**36.16**	**11**	P	**P**	**14 45 49.4**	**+0.5**
	2.2nm,0.3s,baz=186,slow=8.0,SNR=3.3						
PETK				LR	LR	15 00 02.7	
	comp=Z,18nm,19.0s,baz=186,slow=35						
HHC	**Hu-ho-hao-te**	**37.86**	**315**	*e*P	**P**	**14 46 03.6**	**+0.1**
HHC				pP	**pP**	**14 46 21.8**	**-0.4**
HHC				sP	**sP**	**14 46 32.5**	**+1.3**
HHC				PP	**PnPn**	**14 47 34.2**	**+0.8**
HHC				S	**S**	**14 51 51.9**	**+2.6**
HHC				SS	**SnSn**	**14 54 32.2**	**-5.4**
HHC				PMZ			
	15nm,0.9s						
HHC				PMZ			
	84nm,5.6s						
HHC				LN			
	100nm,13.2s						
HHC				LE			
	130nm,13.4s						
GYA	**Guiyang**	**37.95**	**290**	P	**P**	**14 46 05.2**	**+0.7**
GYA				pP	**pP**	**14 46 23.8**	**+0.7**
GYA				sP	**sP**	**14 46 33.2**	**+1.0**
GYA				PP	**PnPn**	**14 47 37.0**	**+2.3**
GYA				S	**S**	**14 51 52.4**	**+1.4**
GYA				ScP	**ScP**	**14 51 58.9**	**-0.9**
GYA				sS	**sS**	**14 52 25.0**	**+2.1**
GYA				SS	**SnSn**	**14 54 34.4**	**-5.7**
GYA				PMZ			
	10.0nm,0.8s						
GYA				PMZ			
	90nm,4.8s						
GYA				LN			
	520nm,17.3s						
GYA				LE			
	480nm,18.0s						
GYA				LZ			
	550nm,17.8s						
WRAB	**Tennant Creek**	**39.52**	**198**	*e*P	**P**	**14 46 16.1**	**-1.4**
	2.3nm,0.8s						
WRA	**Warramunga Arr**	**39.53**	**199**	P	**P**	**14 46 17.3**	**-0.3**
	3.4nm,1.0s,baz=31,slow=8.8,SNR=20						
WRA				PcP	**PcP**	**14 48 24.3**	**+0.5**
	0.8nm,0.6s,baz=22,slow=3.7,SNR=4.8						
WRA				ScP	**ScP**	**14 52 07.3**	**+1.6**
	0.9nm,1.0s,baz=19,slow=4.6,SNR=3.6						
CD2	**Chengdu**	**40.98**	**297**	*e*P	**P**	**14 46 28.2**	**-1.4**
CD2				pP	**pP**	**14 46 46.7**	**-1.7**
CD2				sP	**sP**	**14 46 55.8**	**-1.6**
CD2				PP	**PP**	**14 48 04.8**	**-0.7**
CD2				S	**S**	**14 52 36.9**	**+0.7**
CD2				sS	**sS**	**14 53 09.3**	**+0.8**
CD2				PMZ			
	20nm,0.5s						
CD2				PMZ			
	140nm,5.4s						
KMI	**Kunming**	**41.41**	**288**	P	**P**	**14 46 34.9**	**+1.5**
KMI				PMZ			
	4.0nm,1.4s						
ASAR	**Alice Springs**	**43.18**	**197**	P	**P**	**14 46 47.6**	**+0.2**
	0.8nm,0.7s,baz=20,slow=7.9,SNR=12						
ASAR				PcP	**PcP**	**14 48 36.8**	**+1.1**
	0.8nm,0.6s,baz=27,slow=3.6,SNR=5.3						
ASAR				ScP	**ScP**	**14 52 22.5**	**+2.3**
	0.4nm,0.7s,baz=23,slow=3.5,SNR=4.3						
DZM	**Mont Dzumac**	**44.17**	**153**	*e*LR	LR	14 59 53.8	
	231nm,24.1s						
SEY	**Seymchan**	**45.15**	**4**	P	**P**	**14 47 02.8**	**+0.1**
	2.2nm,0.9s,baz=158,slow=6.5,SNR=5.6						
CM01	**Chiang Mai Arr**	**45.30**	**278**	*e*P	**P**	**14 47 03.7**	**-0.8**
CM01				*e*PcP	**PcP**	**14 48 44.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**45.31**	**278**	P	**P**	**14 47 04.2**	**-0.4**
	0.9nm,0.7s,baz=67,slow=6.9,SNR=10						
CMAR				PcP	**PcP**	**14 48 43.2**	**0.0**
	1.7nm,1.0s,baz=168,slow=0.6,SNR=5.8						
CMAR				LR	LR	15 04 41.7	
	comp=Z,24nm,20.6s,baz=195,slow=34						
YAK	**Yakutsk**	**45.68**	**349**	P	**P**	**14 47 04.6**	**-2.2**
	23nm,0.7s						
TLY	**Talaya**	**47.78**	**325**	LR	LR	15 07 30.1	
	comp=Z,58nm,20.0s,baz=140,slow=36						
STKA	**Stephens Creek**	**49.74**	**186**	P	**P**	**14 47 39.2**	**+0.5**
	3.8nm,0.9s,baz=9.9,slow=8.1,SNR=13						
STKA	**Stephens Creek**	**49.74**	**186**	*e*P	**P**	**14 47 37.7**	**-1.0**
	28nm,3.0s						
GSI	**Gunungsitoli**	**50.99**	**257**	*e*P	**P**	**14 47 47.5**	**-0.9**
	12nm,0.6s						
BBOO	**Buckleboo**	**51.45**	**192**	*e*P	**P**	**14 47 52.0**	**+0.5**
	15nm,0.6s						
WMQ	**Urumqi**	**55.57**	**311**	P	**P**	**14 48 23.7**	**+2.0**
WMQ				pP	**pP**	**14 48 42.9**	**+1.5**
WMQ				sP	**sP**	**14 48 51.6**	**+1.4**
WMQ				PP	**PP**	**14 50 30.5**	**+4.1**
WMQ				PMZ			
	3.0nm,0.9s						
WMQ				PMZ			
	120nm,4.0s						
WMQ				LN			
	100nm,6.2s						
WMQ				LE			
	100nm,7.5s						
ZAA0	**Zalesovo Array**	**59.24**	**323**	*e*P	**P**	**14 48 45.5**	**-1.8**
ZALV	**Zalesovo Beam**	**59.24**	**323**	P	**P**	**14 48 45.5**	**-1.8**
	2.8nm,0.6s,baz=110,slow=7.9,SNR=14						
ZALV				LR	LR	15 14 54.4	
	comp=Z,22nm,20.0s,baz=70,slow=37						
MK01	**Makanchi Array**	**59.71**	**314**	*e*P	**P**	**14 48 48.8**	**-1.9**
MK31	**Makanchi Array**	**59.72**	**314**	*e*P	P	14 48 46.7	-4.0
MKAR	**Makanchi Array**	**59.72**	**314**	P	**P**	**14 48 49.4**	**-1.4**
	1.0nm,0.7s,baz=90,slow=8.9,SNR=13						
MKAR	**Makanchi Array**	**59.72**	**314**	*e*P	**P**	**14 48 49.9**	**-0.8**
KURK	**Kurchatov**	**62.52**	**318**	*e*P	**P**	**14 49 08.6**	**-0.9**
	2.9nm,0.8s						
BWN	**Browne**	**62.69**	**26**	*e*ScP	**ScP**	**14 53 44.5**	**+0.8**
ILAR	**Eielson Array**	**63.92**	**26**	P	**P**	**14 49 17.6**	**-1.0**
	1.6nm,1.0s,baz=261,slow=6.2,SNR=5.7						
KSH	**Kashi**	**64.13**	**306**	*e*P	P	14 49 25.8	+5.2
BVAR	**Borovoye Array**	**67.71**	**321**	P	**P**	**14 49 42.3**	**-0.9**
	4.8nm,0.7s,baz=101,slow=7.7,SNR=26						
BRVK	**Borovoye**	**67.78**	**321**	*e*P	**P**	**14 49 42.3**	**-1.2**
	4.6nm,0.7s						
PPT	**Papeete**	**71.88**	**116**	LR	LR	15 16 32.1	
	comp=Z,69nm,18.8s,baz=341,slow=31						
PPT2	**Papeete2**	**71.89**	**116**	*e*LR	LR	15 12 21.3	
	96nm,24.2s						
ABKAR	**Akbulak array**	**74.59**	**317**	*e*P	**P**	**14 50 22.9**	**-1.9**
	2.1nm,0.7s						
YKA	**Yellowknife Ar**	**78.22**	**28**	P	**P**	**14 50 45.3**	**+0.3**
	0.7nm,0.6s,baz=290,slow=5.8,SNR=5.1						
YBH	**Yreka Blue Hor**	**78.71**	**50**	P	**P**	**14 50 48.5**	**+0.2**
	0.5nm,0.3s,baz=349,slow=5.4,SNR=3.1						
NVAR	**Mina Array Bea**	**82.85**	**52**	P	**P**	**14 51 11.5**	**+0.9**
	0.7nm,0.6s,baz=270,slow=6.3,SNR=6.2						
ARA0	**ARCESS Array S**	**83.55**	**342**	*e*P	**P**	**14 51 13.1**	**-0.2**
ARCES	**ARCESS Array B**	**83.55**	**342**	P	**P**	**14 51 12.6**	**-0.7**
	9.2nm,0.8s,baz=56,slow=7.5,SNR=20						
ARCES				LR	LR	15 31 14.4	
	comp=Z,22nm,21.9s,baz=78,slow=38						
GNI	**Garni**	**87.44**	**311**	LR	LR	15 34 26.1	
	comp=Z,14nm,18.3s,baz=302,slow=38						
FINES	**FINESS Array B**	**88.01**	**336**	P	**P**	**14 51 33.8**	**-1.6**
	1.7nm,0.6s,baz=76,slow=4.4,SNR=15						
AKASG	**Malin Array Be**	**92.51**	**326**	LR	LR	15 36 00.9	
	comp=Z,18nm,20.5s,baz=315,slow=37						
NOA	**NORSAR Array B**	**93.65**	**340**	LR	LR	15 38 21.2	
	comp=Z,14nm,19.2s,baz=20,slow=38						
BRTR	**Keskin Array B**	**95.37**	**315**	LR	LR	15 37 20.7	
	comp=Z,16nm,21.6s,baz=236,slow=37						
H06S1	**SOCORRO T**	**95.44**	**68**	T	T	16 40 26.5	
	SNR=10.0						
TXAR	**Lajitas Array**	**97.46**	**56**	LR	LR	15 30 23.1	
	comp=Z,17nm,20.5s,baz=0.0,slow=32						
CFAA	**Coronel Fontan**	**145.60**	**120**	PKPbc	**PKPab**	**14 58 25.7**	**+1.0**
	0.2nm,0.5s,baz=240,slow=3.3,SNR=4.1						
LPAZ	**La Paz**	**146.66**	**93**	PKPbc	**PKPab**	**14 58 30.5**	**+0.6**
	1.0nm,0.6s,baz=258,slow=3.9,SNR=3.9						

NEIC 03 14:45:58.2, 58°.89N×152°.68W, h58km, ML2.6(AEIC)**, After AEIC., Kodiak Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AUI	**Augustine Isla**	**0.59**	**319**	P	Pn	14 46 10.6	-0.5
AUI				S	Sn	14 46 20.5	+0.1
AUP	**Augustine Pinn**	**0.61**	**321**	P	Pn	14 46 10.7	-0.6
OPT	**Oil Point**	**0.82**	**340**	P	Pn	14 46 13.2	-0.6
OPT				S	Sn	14 46 25.4	+0.1
MCNL	**McNeil River**	**0.91**	**290**	P	Pn	14 46 14.0	-0.9
ILS	**Iliamna Low So**	**1.09**	**350**	P	Pn	14 46 16.4	-1.1
KDAK	**Kodiak Island**	**1.11**	**177**	P	Pn	14 46 17.0	-0.5
IVE	**Iliamna Volcan**	**1.15**	**351**	P	Pn	14 46 17.0	-1.2
PDB	**Pedro Bay**	**1.19**	**320**	P	Pn	14 46 17.5	-1.1
ILW	**Iliamna West**	**1.20**	**349**	P	Pn	14 46 17.9	-1.1
BRLK	**Bradley Lake**	**1.27**	**46**	P	Pn	14 46 18.7	-1.1
BRLK				S	Sn	14 46 34.5	-1.4
KAKN	**Katmai Knife C**	**1.38**	**246**	P	Pn	14 46 20.5	-0.8
KAKN				S	Sn	14 46 38.5	-0.2
KABR	**Katmai Barrier**	**1.42**	**239**	P	Pn	14 46 21.0	-0.9
KBM	**Katmai Bkd Mtn**	**1.46**	**246**	P	Pn	14 46 21.6	-0.7
KVTA	**Katmai Vly 10**	**1.46**	**251**	P	Pn	14 46 21.7	-0.6
KCE	**Katmai Mt Cerb**	**1.47**	**245**	P	Pn	14 46 22.1	-0.3
RSO	**Redoubt South**	**1.58**	**359**	P	Pn	14 46 23.2	-0.9
REF	**Redoubt East F**	**1.61**	**360**	P	Pn	14 46 23.6	-0.8
NCT	**North Crescent**	**1.68**	**356**	P	Pn	14 46 24.7	-0.7
OHAK	**Old Harbor**	**1.70**	**191**	P	Pn	14 46 24.7	-0.8
DFR	**Drift River**	**1.71**	**360**	P	Pn	14 46 25.0	-0.8
SLKM	**Skilak Lake**	**2.05**	**36**	P	Pn	14 46 29.2	-1.1
SEW	**Seward**	**2.05**	**52**	P	Pn	14 46 28.5	-1.7
CKL	**Chakachamna La**	**2.32**	**4**	P	Pn	14 46 33.7	-0.4
CKN	**Chakachatna No**	**2.36**	**6**	P	Pn	14 46 34.7	+0.2
SPBG	**Spurr Blockage**	**2.38**	**4**	P	Pn	14 46 34.5	-0.4
BGL	**Barrier Glacie**	**2.39**	**3**	P	Pn	14 46 34.7	-0.2
STLK	**Strandline Lak**	**2.65**	**9**	P	Pn	14 46 38.4	-0.1
SVW2	**Sparrevohn**	**2.65**	**328**	P	Pn	14 46 37.2	-1.3
RC01	**Rabbit Creek A**	**2.66**	**33**	P	Pn	14 46 37.9	-0.6
PTE	**Portage**	**2.71**	**41**	P	Pn	14 46 37.8	-1.3
SUA	**Susitna One**	**2.76**	**20**	P	Pn	14 46 39.6	-0.4
SKT	**Skwentna**	**3.15**	**10**	P	Pn	14 46 44.7	-0.6
PMR	**Palmer**	**3.24**	**32**	P	Pn	14 46 45.1	-1.3
JPK	**Jack Peak**	**3.75**	**52**	P	Pn	14 46 52.8	-0.7
EYAK	**Cordova Ski Ar**	**3.88**	**62**	P	Pn	14 46 53.3	-1.9
VLZ	**Valdez**	**3.90**	**52**	P	Pn	14 46 54.5	-0.9
SCM	**Sheep Creek Mo**	**3.97**	**40**	P	Pn	14 46 55.7	-0.9
PPLA	**Purkeypile**	**4.03**	**3**	P	Pn	14 46 57.0	-0.4
SGAM	**Sherman Glacie**	**4.12**	**64**	P	Pn	14 46 57.2	-1.2
TT01	**Tatalina**	**4.35**	**339**	P	Pn	14 47 00.8	-0.8
CAST	**Castle Rocks**	**4.56**	**3**	P	Pn	14 47 03.9	-0.7
TRF	**Thorofare Moun**	**4.72**	**13**	P	Pn	14 47 06.6	-0.3
RND	**Reindeer**	**4.90**	**21**	P	Pn	14 47 08.3	-0.9
BPAW	**Bear Paw Mtn.**	**5.29**	**8**	P	Pn	14 47 13.8	-0.8
BARK	**Barkley Ridge**	**5.38**	**69**	P	Pn	14 47 14.9	-1.1
KIAG	**Kiagna River**	**5.58**	**64**	P	Pn	14 47 16.9	-1.8
RKAV	**Rock Avalanche**	**5.93**	**71**	P	Pn	14 47 22.7	-0.8
WRH	**Wood River Hil**	**6.01**	**19**	P	Pn	14 47 23.7	-0.7
TABL	**Table Mountain**	**6.05**	**70**	P	Pn	14 47 24.3	-0.9
CCB	**Clear Creek Bu**	**6.22**	**20**	P	Pn	14 47 26.0	-1.2
MLY	**Manley**	**6.23**	**8**	P	Pn	14 47 26.4	-1.0
MDM	**Murphy Dome**	**6.44**	**17**	P	Pn	14 47 29.0	-1.3
IL1	**Eielson Array**	**6.51**	**22**	P	Pn	14 47 29.4	-1.7
ILB	**Eielson Array**	**6.51**	**22**	P	Pn	14 47 29.6	-1.5
EGMT	**Eagleton**	**27.29**	**94**	*e*P	P	14 51 18.5	-18

KRSC 03 14:48:50.7±1.1**, 55°.07N×159°.51E, h2**km±7km**, ML3.5, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.42**	**59**	*e*P	Pb	14 49 00.8	-0.3
TUMR				*e*S	Sb	14 49 08.0	-0.1
KZV	**Kizimen**	**0.45**	**84**	*i* P	Pg	14 49 00.5	+0.9
KZV				*i* S	Sg	14 49 07.2	+1.6
KMNR	**Kamenistaya**	**0.81**	**31**	P	Pb	14 49 07.5	-0.1
KMNR				S	Sb	14 49 19.5	+0.4
ESO	**Esso**	**0.98**	**332**	*i* P	Pb	14 49 10.1	-0.4
ESO				*i* S	Sb	14 49 24.1	+0.2
KPT	**Kopyto**	**0.99**	**24**	P	Pb	14 49 10.8	+0.1
KOZ	**Kozyrevsk**	**1.01**	**11**	*i* P	Pb	14 49 11.1	0.0
KOZ				*e*S	Sn	14 49 26.8	-0.1
KII	**Karymskiy**	**1.03**	**182**	P	Pb	14 49 11.3	-0.1
KII				S	Sn	14 49 26.7	-0.8
SRDR	**Sredinnyy**	**1.26**	**5**	*e*P	Pg	14 49 14.1	-0.9
SRDR				*e*S	Sb	14 49 32.2	+0.1
MKZ	**Mys Kozlova**	**1.38**	**111**	*i* P	Pn	14 49 16.9	-0.1
MKZ				*i* S	Sn	14 49 36.1	+0.3
KLY	**Klyuchi**	**1.41**	**27**	*i* P	Pb	14 49 19.3	+1.6
GNL	**Ganaly**	**1.65**	**214**	*e*P	Pn	14 49 21.5	+0.6
GNL				*e*S	Sg	14 49 44.3	+0.2
KRX	**Arik**	**1.79**	**197**	*e*P	Pn	14 49 23.5	+0.7
KRX				*e*S	Sb	14 49 47.8	+0.5
SDLR	**Sedlovina**	**1.83**	**192**	P	Pb	14 49 24.7	-0.4
KOK	**Koryaka**	**1.85**	**197**	*e*P	Pb	14 49 24.9	-0.5
SMAR	**Somma**	**1.85**	**193**	*e*P	Pb	14 49 25.3	-0.3
AVH	**Avacha**	**1.86**	**195**	*e*P	Pb	14 49 25.2	-0.4
NLC	**Nalytchevo**	**1.90**	**183**	P	Pb	14 49 25.3	-0.8
NLC				S	Sg	14 49 51.1	-0.6

UGLR	Uglovaya	1.91	193	eP	Pb	14 49 26.6	+0.3
SPN	Mys Shipunski	2.00	171	eP	Pn	14 49 26.3	+0.8
SPN				eS	Sb	14 49 52.8	-0.2
KBTR	Krutoberegovo	2.19	57	P	Pb	14 49 31.3	+0.2
APC	Apacha	2.56	214	P	Pb	14 49 35.3	-2.0
APC				S	Sb	14 50 08.4	-0.8
RUS	Russkaya	2.71	193	P	Pn	14 49 37.0	+1.8

IDC 03 15:00:13.0±1.1, 33.°97N×80.°18E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.4/28, mbtmp3.5/7, Error ellipse: s-maj=50.6km s-min=22.2km az=54.0

ISC 03 15:00:18.5±1.1, 34.°4N±0.°1×80.°6E±0.°2, h35km, n8, σ1.s38/8, mb3.7/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	12.45	6	Pn	Pn	15 03 12.2	-0.9
	0.1nm,0.3s,baz=178,slow=11,SNR=4.4						
KURBB	Kurchatov Arra	16.28	355	Pn	P	15 04 06.3	-0.7
	baz=179,slow=10,SNR=4.9						
BVAR	Borovoye Array	19.98	342	P	Pn	15 04 49.8	+0.3
	0.4nm,0.4s,baz=158,slow=12,SNR=3.9						
CMAR	Chiang Mai Arr	22.81	129	P	P	15 05 18.6	+0.4
	0.5nm,0.8s,baz=309,slow=10,SNR=4.6						
TORD	Torodi Ar. Bea	73.59	275	P	P	15 11 47.9	-0.5
	0.3nm,0.5s,baz=44,slow=4.4,SNR=2.9						
WRA	Warramunga Arr	74.39	128	P	P	15 11 51.7	-1.3
	0.6nm,0.6s,baz=323,slow=5.5,SNR=5.5						
ASAR	Alice Springs	76.81	131	P	P	15 12 06.4	-0.3
	0.5nm,0.6s,baz=318,slow=5.2,SNR=9.5						
YKA	Yellowknife Ar	82.67	7	P	P	15 12 40.4	+2.5
	0.5nm,0.7s,baz=353,slow=4.7,SNR=4.0						

DDA 03 15:11:49.6, 37.°83N×38.°33E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKCD	Akcadag	0.56	325	i P	Pg	15 12 00.1	-0.6
AKCD				i S	Sb	15 12 09.6	-0.8

IDC 03 15:14:31.8±2.9, 5.°45S×154.°77E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/23, mbtmp3.7/3, Error ellipse: s-maj=102.6km s-min=46.6km az=115.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.55	232	P	P	15 19 54.2	+0.6
	1.2nm,0.5s,baz=58,slow=9.3,SNR=26						
ASAR	Alice Springs	27.05	226	P	P	15 20 15.8	-0.5
	0.3nm,0.4s,baz=58,slow=9.1,SNR=14						
STKA	Stephens Creek	29.04	204	P	P	15 20 33.6	-0.2
	0.6nm,0.5s,baz=10,slow=11,SNR=2.9						
TORD	Torodi Ar. Bea	152.38	288	PKPbc	PKPbc	15 34 30.8	-0.2
	0.3nm,0.9s,baz=102,slow=1.7,SNR=2.8						

IDC 03 15:28:31.2±7.2, 30.°30N×90.°08E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/28, mbtmp3.2/4, ML2.6/1, Error ellipse: s-maj=568.8km s-min=25.3km az=62.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	17.55	342	P	Pn	15 32 36.4	-0.8
	0.0nm,0.3s,baz=142,slow=13,SNR=3.9						
KURBB	Kurchatov Arra	22.07	340	P	P	15 33 28.0	+0.4
	0.3nm,0.7s,baz=136,slow=11,SNR=6.5						
WRA	Warramunga Arr	65.64	134	P	P	15 39 18.7	+1.4
	0.4nm,0.9s,baz=317,slow=8.8,SNR=3.0						
ASAR	Alice Springs	68.18	137	P	P	15 39 31.6	-1.9
	0.3nm,0.9s,baz=320,slow=6.2,SNR=3.7						

IDC 03 15:30:26.8±3.6, 70.°04N×15.°26W, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/28, mbtmp3.5/5, ML2.8/1, MS3.1/1, Ms1 3.0/1, ms1mx2.4/25, Error ellipse: s-maj=96.1km s-min=30.6km az=34.0

REY 03 15:30:30.7, 70.°14N×12.°55W, h10km

ISC 03 15:30:28.6±1.1, 70.°05N±0.°09×14.°6W±0.°1, h10km, n21, σ2.s51/20, mb3.4/4, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGRI	Grimsey	3.75	201	P	Pb	15 31 34.5	-0.2
	baz=212						
IGRI				S	Sg	15 32 25.5	-3.3
	baz=212						
IGIL	Gilhagi	4.05	190	P	Pb	15 31 37.5	-2.5
	baz=201						
IFLA	Flatey	4.09	199	P	Pb	15 31 39.5	-1.2
	baz=209						
IFLA				S	Sb	15 32 33.3	+3.2
	baz=209						
IHED	Heoinshofoi	4.12	195	P	Pb	15 31 39.0	-2.1
	baz=206						
IBRE	Brettingsstaoi	4.14	199	P	Pb	15 31 39.9	-1.5
	baz=209						
IBRE				S	Sb	15 32 34.2	+2.9
	baz=209						
IDIM	Dimmadalsˆ¡s	4.20	193	P	Pb	15 31 40.0	-2.5
	baz=204						
IGHA	Grjothals	4.30	191	P	Pb	15 31 41.1	-3.1
	baz=202						
IGRA	Granastaoir	4.30	196	P	Pb	15 31 42.3	-2.0
	baz=206						
IHLA	Hella	4.37	201	P	Pb	15 31 43.4	-1.9
	baz=210						
IHLA				S	Sb	15 32 40.7	+2.8
	baz=210						
IHRN	Hraun	4.47	210	P	Pb	15 31 46.6	-0.4
	baz=219						
IHRN				S	Sb	15 32 44.5	+3.7
	baz=219						
IGRS	Grimsstaoir	4.47	188	P	Pb	15 31 43.1	-4.1
	baz=198						
IREN	Reynihlio	4.51	192	P	Pb	15 31 45.1	-2.7
	baz=202						
IMEL	Melhnausar	4.57	191	P	Pb	15 31 44.8	-4.0
	baz=201						
IADA	Aoalbol	5.07	185	P	Pb	15 31 51.5	-5.9
	baz=194						
IHVA	Hvannstoosfjol	5.15	186	P	Pb	15 31 52.5	-6.2
	baz=195						
FINES	FINESS Array B	18.42	98	P	P	15 34 46.3	+2.7
	0.1nm,0.3s,baz=313,slow=17,SNR=5.3						
AKASG	Malin Array Be	28.08	111	P	P	15 36 21.1	+1.2
	0.8nm,0.4s,baz=333,slow=9.3,SNR=4.6						
KBZ	Khabaz	38.68	102	LR	LR	15 55 21.7	
	comp=Z,23nm,18.4s,baz=340,slow=38						
ILAR	Eielson Array	41.44	331	P	P	15 38 13.5	-1.2
	0.2nm,0.7s,baz=16,slow=6.9,SNR=3.3						
KURBB	Kurchatov Arra	44.59	65	P	P	15 38 39.9	-0.4
	0.7nm,1.0s,baz=327,slow=6.6,SNR=5.0						
MKAR	Makanchi Array	49.15	64	P	P	15 39 19.0	+3.0
	0.1nm,0.3s,baz=334,slow=8.3,SNR=2.8						

ISCJB 03 15:31:58.6±0.6, 38.°41N±0.°04×37.°91E±0.°05, h0km, Error ellipse: s-maj=5.5km s-min=5.2km az=24.4

CSEM 03 15:31:58.4±0.3, 38.°40N×37.°93E, h1km, MD2.6, Error ellipse: s-maj=9.8km s-min=8.1km az=168.0, Mining explosion.

ISK 03 15:31:58.5, 38.°38N×37.°91E, h8km, MD2.6

DDA 03 15:32:00.9, 38.°30N×37.°91E, h8km, MD2.7

ISC 03 15:31:59.1±0.9, 38.°41N±0.°03×37.°92E±0.°03, h0km, n16, σ0.s81/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKCD	Akcadag	0.11	178	i P	Pg	15 32 01.9	+0.8
AKCD				i S	Sg	15 32 04.1	+1.5
AKCD	Akcadag	0.11	178	i P	Pg	15 32 01.9	+0.8
AKCD				i S	Sg	15 32 04.1	+1.5
DARE	Darende-Malaty	0.38	296	ePG	Pg	15 32 06.2	-0.2
DARE				eSG	Sg	15 32 12.5	+1.2
DARE	Darende-Malaty	0.38	296	ePg	Pg	15 32 06.2	-0.2
DARE				eSg	Sg	15 32 12.5	+1.2
ELZG	Elazig	0.84	83	i P	Pb	15 32 16.3	-0.4
ELZG				i S	Sn	15 32 30.3	-1.3
ELZG	Elazig	0.84	83	i P	Pb	15 32 16.3	-0.4
ELZG				i S	Sn	15 32 30.3	-1.3
SVRC	Sivrice-ELAZID	1.09	91	ePN	Pg	15 32 19.8	-0.2
SVRC	Sivrice-ELAZID	1.09	91	ePn	Pg	15 32 19.8	-0.2
ILIC	ilic-Erzincan	1.16	26	ePN	Pg	15 32 21.4	+0.1
ILIC				eSN	Sb	15 32 38.6	+0.8
ILIC	ilic-Erzincan	1.16	26	ePn	Pg	15 32 21.5	+0.1
ILIC				eSn	Sb	15 32 38.6	+0.8
URFA	Urfa	1.20	143	ePN	Pg	15 32 21.6	-0.5
URFA	Urfa	1.20	143	ePn	Pg	15 32 21.6	-0.5
KMRS	Kahramanmaras	1.21	222	ePN	Pg	15 32 21.5	-0.7
KMRS				eSN	Sb	15 32 38.6	-0.4
KMRS	Kahramanmaras	1.21	222	ePn	Pg	15 32 21.5	-0.7
KMRS				eSn	Sb	15 32 38.6	-0.4
PTK	Pertek	1.25	67	ePN	Pg	15 32 23.1	0.0
PTK	Pertek	1.25	67	ePn	Pg	15 32 23.1	0.0

ISCJB 03 15:32:46.2±0.7, 25.°0S±0.°1×13.°5W±0.°1, h14km, mb3.9/8, MS3.4/6, Error ellipse: s-maj=19.9km s-min=13.9km az=178.5

IDC 03 15:32:46.4±1.1, 24.°91S×13.°53W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/20, mbtmp4.0/4, MS3.4/6, Ms1 3.4/6, ms1mx3.1/21, Error ellipse: s-maj=38.7km s-min=28.2km az=168.0

NEIC 03 15:32:47.5±0.6, 24.°97S×13.°46W, h10km, mb4.3/5, Error ellipse: s-maj=18.9km s-min=13.5km az=179.0

ISC 03 15:32:48.2±0.8, 25.°0S±0.°2×13.°5W±0.°1, h14km, n23, σ1.s04/13, mb4.2/8, MS3.4/6, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H09W1	TRISTAN DA CUN	12.11	176	T	T	15 47 57.8	
H10S2	ASCENSION HYDR	15.98	356	T	T	15 52 49.5	
	baz=176,slow=74,SNR=61						
H10S3	ASCENSION HYDR	15.99	356	T	T	15 52 48.4	
	baz=176,slow=74,SNR=48						
H10S1	ASCENSION HYDR	16.00	356	T	T	15 52 50.5	
	baz=176,slow=74,SNR=49						
H10N1	ASCENSION HYDR	17.08	357	T	T	15 54 15.1	
	baz=192						
H10N3	ASCENSION HYDR	17.09	357	T	T	15 54 11.3	
	baz=192,SNR=13						
H10N2	ASCENSION HYDR	17.10	357	T	T	15 54 14.5	
	baz=192						
RCBR	Riachuelo	28.73	308	P	P	15 38 45.6	+0.2
DBIC	Dimbokro	32.57	16	LR	LR	15 49 11.0	
	comp=Z,71nm,20.0s,baz=112,slow=30						
BDFB	Brasilia	33.62	279	LR	LR	15 50 53.5	
	comp=Z,93nm,19.4s,baz=156,slow=32						
BOSA	Boshof	34.66	105	P	P	15 39 37.4	-0.2
	2.3nm,0.8s,baz=240,slow=8.1,SNR=2.7						
BOSA				LR	LR	15 51 32.7	
	comp=Z,71nm,18.0s,baz=214,slow=32						
BOSA	Boshof	34.66	105	P	P	15 39 36.9	-0.6
	4.8nm,1.0s						
LBTB	Lobatse	35.33	99	eP	P	15 39 42.3	-1.1
	3.1nm,0.8s						
CPUP	Villa Florida	39.41	258	P	P	15 40 17.2	-0.6
	0.1nm,0.9s						
TOA0	Torodi Ar. Sit	40.70	23	eP	P	15 40 27.9	-0.6
TORD	Torodi Ar. Bea	40.70	23	P	P	15 40 28.0	-0.5
	2.9nm,0.8s,baz=197,slow=8.8,SNR=14						
TORD				LR	LR	15 53 52.7	
	comp=Z,56nm,21.6s,baz=130,slow=31						
SNAA	Sanae	47.10	175	LR	LR	15 54 50.9	
	comp=Z,13nm,21.1s,baz=188,slow=28						
SAML	Samuel	49.85	280	eP	P	15 41 42.1	+0.7
	2.0nm,0.7s						
LPAZ	La Paz	51.59	269	P	P	15 41 54.4	-0.7
	1.9nm,0.7s,baz=95,slow=5.8,SNR=9.4						
LPAZ				LR	LR	16 02 05.7	
	comp=Z,45nm,18.4s,baz=122,slow=34						
LPAZ	La Paz	51.59	269	eP	P	15 41 54.0	-1.2
	3.2nm,1.2s						
QSPA	South Pole Qui	65.22	180	eP	P	15 43 29.4	+0.3
	5.1nm,1.2s						
BRTR	Keskin Array B	77.95	35	P	P	15 44 46.9	+0.8
	0.3nm,0.5s,baz=177,slow=7.2,SNR=2.4						
ASAR	Alice Springs	122.21	144	PKP	PKPdf	15 51 45.6	+2.2
	0.4nm,1.0s,baz=204,slow=1.8,SNR=3.4						

SJA 03 15:42:15.8±0.4, 33.°30S×70.°53W, h75km±5km, ML3.0

ISCJB 03 15:42:17.0±0.8, 33.°24S±0.°05×70.°63W±0.°07, h87km±6km, Error ellipse: s-maj=11.1km s-min=6.0km az=31.0

GUC 03 15:42:17.1±0.5, 33.°22S×70.°65W, h82km±1km, ML4.1

ISC 03 15:42:17.9±1.6, 33.°24S±0.°05×70.°63W±0.°07, h81km±9km, n19, σ0.s76/37, 3C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PEL	Peldehue	0.11	335	⇓iP	Pn	15 42 29.4	-0.2
PEL				i S	Sn	15 42 37.9	-0.3
PEL				AML	AML	15 42 39.1	
	comp=N,15µm,0.4s						
CLCH	Cerro Calan	0.17	153	⇓iP	Pn	15 42 29.6	-0.1
CLCH				eS	Sn	15 42 38.9	+0.3
SAN	Santiago	0.21	188	i P	Pn	15 42 29.7	-0.2
SAN				i S	Sn	15 42 39.2	+0.5
LACH	Col Las Americ	0.22	158	⇑iP	Pn	15 42 29.5	-0.4
LACH				i S	Sn	15 42 39.3	+0.4
RCDM	Rinconada Maip	0.29	211	eP	Pn	15 42 29.5	-0.8
RCDM				i S	Sn	15 42 39.3	0.0
RCDM				AML	AML	15 42 40.8	
	comp=N,14µm,0.1s						
PCH	Pirque	0.39	166	⇑iP	Pn	15 42 30.8	-0.2
PCH				i S	Sn	15 42 41.0	+0.4
ROCH	El Roble	0.42	310	eP	Pn	15 42 30.8	-0.5
ROCH				i S	Sn	15 42 41.6	+0.4
SJCH	San Jose de Ma	0.46	150	⇓iP	Pn	15 42 30.5	-1.0
SJCH				i S	Sn	15 42 41.4	-0.1
TACH	Talagante	0.48	212	⇑iP	Pn	15 42 31.5	-0.1
TACH				i S	Sn	15 42 42.1	+0.4
CHCH	Chadas Angostu	0.69	182	eP	Pn	15 42 33.3	-0.3
CHCH				i S	Sn	15 42 45.7	+0.5
CACH	El Canelo	0.87	178	⇓iP	Pn	15 42 36.0	+0.4
CACH				i S	Sn	15 42 50.6	+1.8
LNV	Longovilo	0.96	222	eP	Pn	15 42 36.1	-0.5
LNV				i S	Sn	15 42 50.6	+0.1
AUSP	Uspallata	1.46	46	i P	Pn	15 42 43.4	+0.4
AUSP				i S	Sn	15 43 03.9	+2.0
AAGR	Agrelo	1.52	85	i P	Pn	15 42 42.9	-0.6
AAGR				i P	Pn	15 42 42.9	-0.6
RTLS	Leoncito	1.83	38	i P	Pn	15 42 48.5	+0.7
RTLS				i S	Sn	15 43 12.4	+1.9
CFAA	Coronel Fontan	2.60	52	eP	Pn	15 42 57.6	-0.3
CFAA				i S	Sn	15 43 28.2	-0.3
RTLL	Cerro Villicun	2.64	44	i P	Pn	15 42 58.0	-0.5
RTLL				i S	Sn	15 43 29.0	-0.5
AMOG	MOGNA	2.93	39	eP	Pn	15 43 02.1	-0.3
AVFE	Valle Fertil	3.73	47	i P	Pn	15 43 12.5	-0.7
AVFE				i S	Sn	15 43 54.7	-1.3
AVFE				AML	AML	15 43 59.6	
	comp=Z,22nm,0.5s						

IDC 03 15:49:42.2±5.8, 36.°89S×178.°07E, h57km±46km, mb3.1/2, mb1 3.4/2, mb1mx3.1/23, mbtmp3.4/2, Error ellipse: s-maj=46.7km s-min=34.5km az=67.0

WEL 03 15:49:45.5±0.3, 36.°95S×177.°91E, h58km±3km, ML4.2/12, Error ellipse: s-maj=2.8km s-min=1.9km az=0.0

NEIC 03 15:49:46.0, 36.°94S×177.°88E, h50km, ML4.2(WEL), After WEL.

ISC 03 15:49:45.1±1.0, 37.°18S±0.°06×177.°96E±0.°05, h92km±6km, n164, σ1.s76/166, 9C-10D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.47	145	P*	Pn	15 49 59.2	-0.7
MXZ				eS*	Sn	15 50 10.7	-0.2
MXZ				AML	AML	15 50 14.4	
MXZ				AML	AML	15 50 14.8	
MXZ				AML	AML	15 50 14.8	
MXZ	Matakaoa Point	0.47	145	P*	Pn	15 49 59.2	-0.7
HAZ	Te Kaha	0.59	194	⇑P*	Pn	15 50 00.5	-0.3
HAZ				S*	Sn	15 50 12.6	0.0
WIZ	White Island	0.71	241	P*	Pn	15 50 01.4	-0.5
WIZ				S*	Sn	15 50 13.2	-1.3
WIZ	White Island	0.71	241	P*	Pn	15 50 01.4	-0.5
WIZ				S*	Sn	15 50 13.2	-1.3
WMGZ	Waiomatatini S	0.73	151	⇑PN	Pn	15 50 03.8	+1.6
PUZ	Puketiti	0.92	165	PN	Pn	15 50 05.8	+1.6
PUZ				AML	AML	15 50 27.9	
PUZ				AML	AML	15 50 27.9	
PUZ	Puketiti	0.92	165	Pn	Pn	15 50 05.8	+1.6
TWGZ	Tauwhareparae	0.99	179	PN	Pn	15 50 07.4	+2.4
MWZ	Matawai	1.20	197	P*	Pn	15 50 08.8	+1.4
MWZ				S*	Sn	15 50 26.0	+1.8
MWZ				AML	AML	15 50 28.6	
MWZ				AML	AML	15 50 32.5	
MWZ				AML	AML	15 50 39.0	
MWZ	Matawai	1.20	197	P*	Pn	15 50 08.8	+1.4
TKGZ	Te Karaka	1.26	184	PN	Pn	15 50 10.2	+2.1
URZ	Urewera	1.27	212	⇓P*	Pn	15 50 09.4	+1.2
URZ				eS*	Sn	15 50 27.0	+1.5
URZ				AML	AML	15 50 27.3	
URZ	Urewera	1.27	212	P	Pn	15 50 09.3	+1.1
	86nm,0.3s,baz=272,slow=1.7,SNR=666						
URZ				S	Sn	15 50 26.7	+1.1
	344nm,0.3s,baz=140,slow=23,SNR=35						
URZ	Urewera	1.27	212	P*	Pn	15 50 09.4	+1.2
OPRZ	Ohinepanea	1.30	239	⇓P*	Pn	15 50 08.7	+0.2
OPRZ	Ohinepanea	1.30	239	P*	Pn	15 50 08.7	+0.2
CNGZ	Carnagh Statio	1.32	172	PN	Pn	15 50 10.7	+2.0
CNGZ	Carnagh Statio	1.32	172	Pn	Pn	15 50 10.7	+2.0
RAGZ	Rawiri	1.38	198	P*	Pn	15 50 11.9	+2.3
RIGZ	Rimuhau	1.53	186	PN	Pn	15 50 13.4	+1.9
TARZ	Mount Tarawera	1.56	227	P*	Pn	15 50 14.1	+2.2
TARZ	Mount Tarawera	1.56	227	P*	Pn	15 50 14.1	+2.2
KARZ	Kaharoa	1.60	238	P*	Pn	15 50 12.5	+0.2
KARZ	Kaharoa	1.60	238	P*	Pn	15 50 12.5	+0.2
RRRZ	Republican Roa	1.63	224	⇑P*	Pn	15 50 14.1	+1.4
RRRZ	Republican Roa	1.63	224	P*	Pn	15 50 14.1	+1.4
SNGZ	Shannon Statio	1.67	197	⇑PN	Pn	15 50 15.6	+2.4
HSRZ	Hossack Road	1.77	230	P*	Pn	15 50 16.8	+2.3
PRRZ	Plateau Road	1.81	223	⇓P*	Pn	15 50 16.5	+1.5
PRRZ	Plateau Road	1.81	223	P*	Pn	15 50 16.5	+1.5
KUZ	Kuaotunu	1.85	283	PN	Pn	15 50 14.4	-1.0
KUZ	Kuaotunu	1.85	283	Pn	Pn	15 50 14.4	-1.0
KNZ	Kokohu	1.85	187	PN	Pn	15 50 16.9	+1.5
KNZ	Kokohu	1.85	187	Pn	Pn	15 50 16.9	+1.5
RAHZ	Arahi	1.87	202	⇓PN	Pn	15 50 17.8	+2.1
RAHZ	Arahi	1.87	202	Pn	Pn	15 50 17.8	+2.1
ALRZ	Allen Road	1.88	222	P*	Pn	15 50 17.4	+1.5
ALRZ	Allen Road	1.88	222	P*	Pn	15 50 17.4	+1.5
WHHZ	Waihua	1.98	197	PN	Pn	15 50 19.2	+2.1
TOZ	Tahuroa Road	2.04	254	P*	Pn	15 50 18.3	+0.5
TOZ	Tahuroa Road	2.04	254	P*	Pn	15 50 18.3	+0.5
MRHZ	Matea Rd	2.05	216	P*	Pn	15 50 19.9	+1.7
NMHZ	Naumai	2.12	205	PN	Pn	15 50 21.3	+2.2
NMHZ	Naumai	2.12	205	Pn	Pn	15 50 21.3	+2.2
ARHZ	Aropaoanui	2.21	200	PN	Pn	15 50 22.0	+1.7
MKAZ	Moumakai	2.24	271	⇓PN	Pn	15 50 20.6	+0.1
MKAZ	Moumakai	2.24	271	Pn	Pn	15 50 20.6	+0.1
HATZ	Hinemaiaia	2.26	220	P*	Pn	15 50 22.6	+1.7
HATZ	Hinemaiaia	2.26	220	P*	Pn	15 50 22.6	+1.7
BKZ	Black Stump Fm	2.30	210	P*	Pn	15 50 23.0	+1.6
BKZ				AML	AML	15 51 04.2	
BKZ				AML	AML	15 51 05.7	
RATZ	Rangitukua	2.42	225	P*	Pn	15 50 25.3	+2.3
RATZ	Rangitukua	2.42	225	P*	Pn	15 50 25.3	+2.3
RITZ	Rihia Road	2.45	222	P*	Pn	15 50 26.0	+2.6
RITZ	Rihia Road	2.45	222	P*	Pn	15 50 26.0	+2.6
MCHZ	McNeill Hill	2.47	203	PN	Pn	15 50 25.0	+1.4
MCHZ	McNeill Hill	2.47	203	Pn	Pn	15 50 25.0	+1.4
KATZ	Kakaramea	2.53	224	P*	Pn	15 50 27.0	+2.4
KATZ	Kakaramea	2.53	224	P*	Pn	15 50 27.0	+2.4
KWHZ	Kaweka Forest	2.55	208	⇓P*	Pn	15 50 26.0	+1.3
KRVZ	Karewarewa	2.65	223	P*	Pn	15 50 28.6	+2.5
KRVZ	Karewarewa	2.65	223	P*	Pn	15 50 28.6	+2.5
OTVZ	Oturere	2.68	222	P*	Pn	15 50 28.8	+2.2
OTVZ	Oturere	2.68	222	P*	Pn	15 50 28.8	+2.2
WTVZ	West Tongariro	2.69	223	P*	Pn	15 50 28.9	+2.2
WTVZ	West Tongariro	2.69	223	P*	Pn	15 50 28.9	+2.2
TWVZ	Taurewa	2.75	226	P*	Pn	15 50 29.7	+2.3
TWVZ	Taurewa	2.75	226	P*	Pn	15 50 29.7	+2.3
KAHZ	Kahuranaki	2.75	198	PN	Pn	15 50 28.2	+0.9
KAHZ	Kahuranaki	2.75	198	Pn	Pn	15 50 28.2	+0.9
BHHZ	Black Hill Sta	2.75	212	P*	Pn	15 50 28.5	+1.1
BHHZ	Black Hill Sta	2.75	212	P*	Pn	15 50 28.5	+1.1
KRHZ	Kereru	2.76	206	⇓PN	Pn	15 50 28.1	+0.6
TUVZ	Tukino	2.77	220	P*	Pn	15 50 29.7	+2.0
TUVZ	Tukino	2.77	220	P*	Pn	15 50 29.7	+2.0
COVZ	Chateau Observ	2.77	223	P*	Pn	15 50 30.1	+2.3
WPVZ	Whakapapa	2.78	223	⇑P*	Pn	15 50 30.2	+2.4
WPVZ	Whakapapa	2.78	223	P*	Pn	15 50 30.2	+2.4
HIZ	Hauiti	2.80	241	PN	Pn	15 50 29.7	+1.8
HIZ	Hauiti	2.80	241	Pn	Pn	15 50 29.7	+1.8
MOVZ	Moawhango	2.82	217	P*	Pn	15 50 29.6	+1.2
MOVZ	Moawhango	2.82	217	P*	Pn	15 50 29.6	+1.2
WNVZ	Wahianoa	2.84	220	P*	Pn	15 50 30.6	+1.9
TRVZ	Turoa	2.84	221	P*	Pn	15 50 30.7	+1.8
PKVZ	Pokaka	2.95	224	P*	Pn	15 50 32.3	+2.3
PKVZ	Pokaka	2.95	224	P*	Pn	15 50 32.3	+2.3
MTVZ	Mangateitei	2.95	221	P*	Pn	15 50 32.3	+2.2
MTVZ	Mangateitei	2.95	221	P*	Pn	15 50 32.3	+2.2
PXZ	Pawanui	2.98	197	⇑PN	Pn	15 50 30.2	-0.1
PXZ				AML	AML	15 51 07.5	
PXZ				AML	AML	15 51 07.5	
PXZ				AML	AML	15 51 12.0	
PXZ				AML	AML	15 51 12.0	
PXZ	Pawanui	2.98	197	Pn	Pn	15 50 30.2	-0.1
PNHZ	Pukenui	3.06	206	⇓PN	Pn	15 50 31.5	0.0
PNHZ	Pukenui	3.06	206	Pn	Pn	15 50 31.6	0.0
WPHZ	Waipukurau	3.12	202	PN	Pn	15 50 32.1	-0.2
WPHZ	Waipukurau	3.12	202	Pn	Pn	15 50 32.1	-0.2
VRZ	Vera Road	3.19	231	P*	Pn	15 50 36.1	+2.9
VRZ	Vera Road	3.19	231	P*	Pn	15 50 36.1	+2.9
PRHZ	Porangahau	3.25	198	⇑PN	Pn	15 50 33.8	-0.3
PRHZ	Porangahau	3.25	198	Pn	Pn	15 50 33.8	-0.3
TSZ	Takapari Road	3.27	208	⇓PN	Pn	15 50 34.1	-0.3
TSZ				AML	AML	15 51 27.7	
TSZ				AML	AML	15 51 28.8	
TSZ	Takapari Road	3.27	208	Pn	Pn	15 50 34.1	-0.3
DVHZ	Dannevirke	3.42	204	PN	Pn	15 50 35.3	-1.0
DVHZ	Dannevirke	3.42	204	Pn	Pn	15 50 35.4	-1.0
ANWZ	Angora Road	3.48	199	PN	Pn	15 50 36.6	-0.5
WAZ	Wanganui	3.48	221	⇑PN	Pn	15 50 38.7	+1.6
WAZ	Wanganui	3.48	221	Pn	Pn	15 50 38.7	+1.6
POWZ	Post Office Ro	3.64	207	Pn	Pn	15 50 38.6	-0.7
PRWZ	Pori Road	3.71	204	PN	Pn	15 50 39.5	-0.8
BFZ	Birch Farm	3.74	200	PN	Pn	15 50 39.2	-1.5
BFZ	Birch Farm	3.74	200	Pn	Pn	15 50 39.2	-1.5
TIWZ	Tintock	3.94	204	PN	Pn	15 50 40.1	-3.3
TIWZ				AML	AML	15 51 32.2	
TIWZ				AML	AML	15 51 36.5	
TIWZ	Tintock	3.94	204	Pn	Pn	15 50 40.1	-3.3
MRZ	Mangatainoka R	3.94	207	⇓PN	Pn	15 50 42.0	-1.4
MRZ				SN	Sn	15 51 27.2	-1.4
MRZ				AML	AML	15 51 34.5	
MRZ	Mangatainoka R	3.94	207	Pn	Pn	15 50 42.0	-1.4
OUZ	Omahuta	4.04	298	ePn	Pn	15 50 44.5	-0.2
HOWZ	Holdsworth Sta	4.17	206	PN	Pn	15 50 44.6	-1.9
HOWZ	Holdsworth Sta	4.17	206	Pn	Pn	15 50 44.6	-1.9
OGWZ	Otaki Gorge	4.23	210	PN	Pn	15 50 46.1	-1.2
OGWZ	Otaki Gorge	4.23	210	Pn	Pn	15 50 46.1	-1.2
TMWZ	Te Maipa	4.24	202	PN	Pn	15 50 45.7	-1.8
TMWZ	Te Maipa	4.24	202	Pn	Pn	15 50 45.7	-1.8
KIW	Kapiti Island	4.38	212	⇑PN	Pn	15 50 48.1	-1.2
KIW	Kapiti Island	4.38	212	Pn	Pn	15 50 48.1	-1.2
MTW	Mount Morrison	4.41	205	PN	Pn	15 50 47.5	-2.2
MTW				AML	AML	15 51 42.0	
MTW	Mount Morrison	4.41	205	Pn	Pn	15 50 47.5	-2.2
CAW	Cannon Point	4.52	209	PN	Pn	15 50 49.9	-1.3
CAW				AML	AML	15 52 03.9	
CAW				AML	AML	15 52 05.2	
CAW	Cannon Point	4.52	209	Pn	Pn	15 50 49.9	-1.3
PAWZ	Paruwai Farm	4.63	204	PN	Pn	15 50 50.6	-2.2
PAWZ	Paruwai Farm	4.63	204	Pn	Pn	15 50 50.6	-2.2
MSWZ	Moikau Station	4.72	206	PN	Pn	15 50 51.5	-2.5
MSWZ	Moikau Station	4.72	206	Pn	Pn	15 50 51.5	-2.5
WEL	Wellington	4.79	210	PN	Pn	15 50 53.4	-1.5
WEL	Wellington	4.79	210	Pn	Pn	15 50 53.4	-1.5
DUWZ	D'Urville Isla	4.80	220	PN	Pn	15 50 53.6	-1.4
DUWZ	D'Urville Isla	4.80	220	Pn	Pn	15 50 53.6	-1.4
SNZO	South Karori	4.84	211	ePn	Pn	15 50 53.8	-1.7
SNZO				eSn	Sn	15 51 48.0	-2.2
BHW	Baring Head	4.86	209	PN	Pn	15 50 53.5	-2.2
BHW	Baring Head	4.86	209	Pn	Pn	15 50 53.5	-2.2
PLWZ	Palliser	4.86	205	PN	Pn	15 50 53.2	-2.7
PLWZ	Palliser	4.86	205	Pn	Pn	15 50 53.2	-2.7
TCW	Tory Channel	4.94	214	PN	Pn	15 50 54.9	-2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TCW				AML	AML	15 51 52.1	
TCW	**Tory Channel**	**4.94**	**214**	Pn	**Pn**	**15 50 54.9**	**-2.0**
TUWZ	**Tuamarina**	**5.27**	**215**	PN	**Pn**	**15 50 59.0**	**-2.3**
TUWZ	**Tuamarina**	**5.27**	**215**	Pn	**Pn**	**15 50 59.0**	**-2.3**
BSWZ	**Blackbirch Sta**	**5.52**	**214**	Pn	**Pn**	**15 51 03.4**	**-1.5**
QRZ	**Quartz Range**	**5.58**	**228**	PN	**Pn**	**15 51 04.4**	**-1.3**
QRZ	**Quartz Range**	**5.58**	**228**	Pn	**Pn**	**15 51 04.4**	**-1.3**
THZ	**Tophouse**	**6.02**	**219**	PN	**Pn**	**15 51 09.6**	**-2.1**
THZ	**Tophouse**	**6.02**	**219**	Pn	**Pn**	**15 51 09.6**	**-2.1**
KHZ	**Kahutara**	**6.24**	**212**	PN	**Pn**	**15 51 11.7**	**-2.8**
KHZ	**Kahutara**	**6.24**	**212**	Pn	**Pn**	**15 51 11.7**	**-2.8**
DSZ	**Denniston Nort**	**6.59**	**224**	Pn	**Pn**	**15 51 17.2**	**-2.3**
LTZ	**Lake Taylor**	**7.10**	**216**	Pn	Pn	15 51 22.7	-3.7
CRLZ	**Canterbury Las**	**7.58**	**211**	Pn	Pn	15 51 29.3	-3.4
MQZ	**McQueen's Vall**	**7.67**	**210**	PN	Pn	15 51 29.5	-4.6
MQZ	**McQueen's Vall**	**7.67**	**210**	Pn	Pn	15 51 29.5	-4.6
CTZ	**Chatham Island**	**7.74**	**149**	PN	**Pn**	**15 51 37.6**	**+2.6**
CTZ	**Chatham Island**	**7.74**	**149**	Pn	**Pn**	**15 51 37.6**	**+2.6**
RPZ	**Rata Peaks**	**8.38**	**217**	P	**Pn**	**15 51 40.6**	**-3.2**
	1.0nm,0.3s,baz=284,slow=1.1,SNR=6.1						
RPZ				S	Sn	15 53 10.3	-6.5
	1.1nm,0.3s,baz=330,slow=20,SNR=7.9						
RPZ	**Rata Peaks**	**8.38**	**217**	*e*Pn	Pn	15 51 40.3	-3.5
RPZ				*e*Sn	Sn	15 53 09.4	-7.3
ASAR	**Alice Springs**	**39.97**	**277**	P	**P**	**15 57 11.9**	**+1.2**
	0.3nm,0.7s,baz=121,slow=8.0,SNR=5.8						
WRA	**Warramunga Arr**	**41.59**	**282**	P	**P**	**15 57 24.9**	**+0.8**
	0.3nm,0.5s,baz=120,slow=7.7,SNR=8.9						
ARCES	**ARCESS Array B**	**144.33**	**344**	PKP	**PKPab**	**16 09 08.6**	**+1.0**
	2.1nm,1.0s,baz=35,slow=3.3,SNR=3.8						
FINES	**FINESS Array B**	**150.02**	**333**	PKPbc	**PKPbc**	**16 09 23.1**	**-0.8**
	1.9nm,1.0s,baz=114,slow=3.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**155.83**	**189**	PKPab	**PKPab**	**16 09 58.9**	**+3.1**
	0.2nm,0.6s,baz=145,slow=4.1,SNR=2.3						

*ISCJB **03** 16:15:38.9±1.0, 35°.91N±0°.09×84°.8E±0°.2, h10km, mb3.3/2, MS3.0/5, Error ellipse: s-maj=19.7km s-min=10.1km az=150.2*
*IDC **03** 16:15:38.6±1.7, 35°.89N×84°.96E, h0km, mb3.3/2, mb1 3.5/7, mb1mx3.3/29, mbtmp3.5/7, ML3.0/5, MS2.9/8, Ms1 2.9/8, ms1mx2.7/30, Error ellipse: s-maj=48.0km s-min=21.3km az=56.0*
*BJI **03** 16:15:42.0, 35°.99N×84°.77E, h5km, mb4.2/3, mB4.3/1, ML3.8/5, Ms3.6/2, Ms7 3.5/1*
ISC 03 16:15:40.0±1.1**, 35°.9N**±0°.1×**85°.0E**±0°.1**, h10km, n13, σ2s.06**/10**, MS2.9**/5**, Xizang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**10.59**	**313**	Pn	**Pn**	**16 18 12.2**	**+0.3**
	0.4nm,0.3s,baz=78,slow=8.2,SNR=6.1						
AAK				Pg		16 18 55.8	
	0.3nm,0.3s,baz=204,slow=20,SNR=6.1						
AAK				Lg	Lg	16 21 12.8	
	0.2nm,0.3s,baz=279,slow=18,SNR=2.1						
AAK				LR	LR	16 23 28.7	
	comp=Z,18nm,21.8s,baz=125,slow=45						
MKAR	**Makanchi Array**	**11.10**	**350**	Pn	**Pn**	**16 18 17.7**	**-1.1**
	0.1nm,0.3s,baz=169,slow=14,SNR=8.3						
MKAR				Sn	**Sn**	**16 20 25.2**	**+2.2**
	0.0nm,0.3s,baz=169,slow=24,SNR=2.3						
MKAR				LR	LR	16 23 11.0	
	comp=Z,33nm,19.2s,baz=158,slow=41						
KURBB	**Kurchatov Arra**	**15.47**	**344**	Pn	**Pn**	**16 19 17.4**	**-0.8**
	0.0nm,0.3s,baz=158,slow=10,SNR=6.3						
CD2	**Chengdu**	**16.41**	**102**	*e*P	**P**	**16 19 36.2**	**+2.9**
CD2				pP	pP	16 19 40.5	+4.4
CD2				sP	sP	16 19 41.9	+4.5
CD2				S	**S**	**16 22 42.3**	**-2.7**
CD2				PMZ			
	10.0nm,0.5s						
ZALV	**Zalesovo Beam**	**18.08**	**360**	P	**Pn**	**16 19 49.0**	**-2.1**
	0.1nm,0.3s,baz=183,slow=13,SNR=2.4						
ZALV				LR	LR	16 28 15.3	
	comp=Z,28nm,18.4s,baz=252,slow=42						
BVAR	**Borovoye Array**	**20.01**	**334**	P	**Pn**	**16 20 13.3**	**-1.1**
	0.2nm,0.3s,baz=155,slow=11,SNR=5.2						
CMAR	**Chiang Mai Arr**	**21.27**	**141**	P	**P**	**16 20 27.2**	**+0.6**
	1.1nm,0.7s,baz=320,slow=9.7,SNR=11						
AKTO	**Aktyubinsk**	**24.32**	**315**	LR	LR	16 31 26.1	
	comp=Z,37nm,19.1s,baz=126,slow=39						
GNI	**Garni**	**31.83**	**290**	LR	LR	16 37 10.3	
	comp=Z,28nm,20.2s,baz=102,slow=41						
KSRS	**Korea Array**	**34.24**	**74**	LR	LR	16 36 04.8	
	comp=Z,13nm,20.9s,baz=270,slow=36						
BRTR	**Keskin Array B**	**40.33**	**291**	P	**P**	**16 23 17.0**	**-0.8**
	0.4nm,0.6s,baz=90,slow=9.2,SNR=2.7						
AKASG	**Malin Array Be**	**42.22**	**308**	LR	LR	16 44 05.0	
	comp=Z,26nm,19.2s,baz=265,slow=40						
JCJ	**Chichijima**	**48.94**	**83**	LR	LR	16 46 44.9	
	comp=Z,68nm,18.1s,slow=38						

*IDC **03** 16:16:57.7±0.7, 24°.87S×13°.42W, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.1/25, mbtmp4.2/11, MS3.7/15, Ms1 3.7/15, ms1mx3.6/23, Error ellipse: s-maj=30.7km s-min=15.0km az=173.0*
*ISCJB **03** 16:16:58.5±0.5, 24°.8S±0°.1×13°.43W±0°.08, h14km, mb4.2/18, MS3.7/15, Error ellipse: s-maj=17.3km s-min=9.7km az=166.5*
*NEIC **03** 16:16:59.8±0.5, 24°.79S×13°.43W, h10km, mb4.4/9, Error ellipse: s-maj=18.7km s-min=10.7km az=167.0*
ISC 03 16:17:00.2±0.6**, 24°.8S**±0°.1×**13°.46W**±0°.10**, h14km, n43, σ1s.12**/25**, mb4.4**/18**, MS3.7**/15**, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H09W1	**TRISTAN DA CUN**	**12.32**	**176**	T	T	16 32 19.5	
H10S2	**ASCENSION HYDR**	**15.77**	**356**	T	T	16 36 59.0	
	baz=176,slow=75,SNR=255						
H10S3	**ASCENSION HYDR**	**15.77**	**356**	T	T	16 36 59.6	
	baz=176,slow=75,SNR=252						
H10S1	**ASCENSION HYDR**	**15.78**	**356**	T	T	16 37 00.3	
	baz=176,slow=75,SNR=252						
H10N1	**ASCENSION HYDR**	**16.86**	**356**	T	T	16 38 21.2	
	baz=169,slow=76,SNR=9.3						
H10N3	**ASCENSION HYDR**	**16.86**	**356**	T	T	16 38 22.0	
	baz=169,slow=76,SNR=47						
H10N2	**ASCENSION HYDR**	**16.88**	**356**	T	T	16 38 20.4	
	baz=169,slow=76,SNR=10						
RCBR	**Riachuelo**	**28.61**	**307**	LR	LR	16 32 06.4	
	comp=Z,112nm,18.1s,baz=140,slow=32						
TSUM	**Tsumeb**	**29.27**	**85**	P	**P**	**16 23 02.7**	**+0.4**
	1.8nm,0.8s,baz=281,slow=11,SNR=3.7						
TSUM				LR	LR	16 32 17.8	
	comp=Z,145nm,19.3s,baz=212,slow=32						
TSUM	**Tsumeb**	**29.27**	**85**	*e*P	**P**	**16 23 02.5**	**+0.2**
	4.2nm,0.9s						
DBIC	**Dimbokro**	**32.35**	**16**	LR	LR	16 33 21.7	
	comp=Z,175nm,20.9s,baz=151,slow=30						
BDFB	**Brasilia**	**33.60**	**279**	P	**P**	**16 23 40.0**	**-0.5**
	4.6nm,0.7s,baz=63,slow=10.0,SNR=6.3						
BDFB				LR	LR	16 35 06.9	
	comp=Z,310nm,19.8s,baz=58,slow=32						
BOSA	**Boshof**	**34.70**	**105**	P	**P**	**16 23 49.0**	**-0.8**
	7.4nm,1.1s,baz=250,slow=12,SNR=4.6						
BOSA				LR	LR	16 35 43.5	
	comp=Z,166nm,18.2s,baz=256,slow=32						
MSKU	**Masuku**	**34.80**	**53**	P	**P**	**16 23 51.1**	**+0.4**
	5.6nm,0.6s,baz=210,slow=3.1,SNR=6.0						
LBTB	**Lobatse**	**35.34**	**99**	P	**P**	**16 23 53.1**	**-2.3**
	1.9nm,0.6s,baz=285,slow=10,SNR=3.7						
MATP	**Matopo**	**38.87**	**92**	P	**P**	**16 24 24.7**	**-0.8**
	1.4nm,0.8s,baz=243,slow=8.5,SNR=3.0						
CPUP	**Villa Florida**	**39.47**	**258**	*e*P	**P**	**16 24 30.3**	**0.0**
	0.2nm,1.0s						
LSZ	**Lusaka**	**40.12**	**84**	*e*P	P	16 24 43.4	+7.5
	5.7nm,0.9s						
TOA0	**Torodi Ar. Sit**	**40.48**	**23**	*e*P	**P**	**16 24 39.3**	**+0.5**
TORD	**Torodi Ar. Bea**	**40.48**	**23**	P	**P**	**16 24 39.3**	**+0.5**
	7.6nm,0.9s,baz=197,slow=9.1,SNR=38						
TORD				LR	LR	16 38 06.5	
	comp=Z,174nm,20.9s,baz=185,slow=31						
TRQA	**Tornquist**	**43.02**	**240**	*e*P	**P**	**16 24 58.4**	**-1.0**
	6.7nm,0.9s						
SIV	**San Ignacio**	**45.30**	**272**	P	**P**	**16 25 18.7**	**+0.8**
	4.1nm,0.8s,baz=112,slow=7.1,SNR=13						
SIV				LR	LR	16 42 21.7	
	comp=Z,69nm,18.4s,baz=262,slow=34						
SNAA	**Sanae**	**47.32**	**175**	P	P	16 25 25.3	-7.7
	4.0nm,1.1s						
PLCA	**Paso Flores**	**49.75**	**237**	P	**P**	**16 25 53.4**	**+1.0**
	2.4nm,0.9s,baz=31,slow=5.3,SNR=2.3						
PLCA	**Paso Flores**	**49.75**	**237**	P	**P**	**16 25 52.8**	**+0.5**
	9.5nm,1.2s						
SAML	**Samuel**	**49.84**	**279**	*e*P	**P**	**16 25 53.9**	**+0.7**
	2.0nm,0.5s						
LPAZ	**La Paz**	**51.62**	**268**	P	**P**	**16 26 06.0**	**-1.3**
	4.8nm,0.7s,baz=104,slow=5.9,SNR=23						
LPAZ				LR	LR	16 46 28.6	
	comp=Z,72nm,20.0s,baz=122,slow=34						
LPAZ	**La Paz**	**51.62**	**268**	*e*P	**P**	**16 26 05.7**	**-1.7**
	5.6nm,0.8s						
ESDC	**Sonseca Array**	**64.72**	**8**	LR	LR	16 52 30.3	
	comp=Z,44nm,19.8s,baz=45,slow=33						
QSPA	**South Pole Qui**	**65.44**	**180**	*e*P	**P**	**16 27 43.1**	**+0.6**
	7.4nm,1.0s						
GERES	**GERESS Array B**	**77.20**	**18**	LR	LR	17 02 43.1	
	comp=Z,52nm,18.0s,baz=207,slow=36						
SBA	**Scott Base**	**77.60**	**180**	P	P	16 28 58.8	+3.4
	2.5nm,0.9s						
BRTR	**Keskin Array B**	**77.76**	**35**	P	**P**	**16 28 58.1**	**+1.2**
	0.5nm,0.9s,baz=204,slow=3.2,SNR=2.7						
VNDA	**Vanda**	**77.90**	**179**	P	**P**	**16 28 58.5**	**+1.5**
NOA	**NORSAR Array B**	**87.82**	**12**	LR	LR	17 08 19.9	
	comp=Z,24nm,19.1s,baz=120,slow=35						
SCHQ	**Schefferville**	**91.50**	**332**	LR	LR	17 04 26.4	
	comp=Z,67nm,20.7s,baz=261,slow=31						
FINES	**FINESS Array B**	**91.64**	**18**	LR	LR	17 10 58.2	
	comp=Z,21nm,18.1s,baz=200,slow=35						
AKTO	**Aktyubinsk**	**97.79**	**38**	LR	LR	17 19 17.7	
	comp=Z,19nm,18.3s,baz=231,slow=38						
ARCES	**ARCESS Array B**	**98.13**	**13**	LR	LR	17 14 28.5	
	comp=Z,23nm,19.2s,baz=248,slow=35						
ASAR	**Alice Springs**	**122.38**	**144**	PKP	**PKPdf**	**16 35 56.2**	**+0.5**
	0.1nm,0.7s,baz=232,slow=1.1,SNR=2.7						
KSAR	**Wonju Array Be**	**144.81**	**60**	PKP	**PKPab**	**16 36 35.3**	**-0.5**
KSRS	**Korea Array**	**144.84**	**60**	PKP	**PKPab**	**16 36 35.3**	**-0.6**
	1.4nm,1.0s,baz=281,slow=3.0,SNR=7.6						
PETK	**Petropavlovsk-**	**150.92**	**11**	PKPbc	**PKPbc**	**16 36 49.5**	**-2.6**
	1.4nm,0.7s,baz=339,slow=6.2,SNR=2.5						
PETK				PKPab	**PKPab**	**16 36 59.5**	**0.0**
	1.9nm,0.9s,baz=355,slow=4.7,SNR=2.7						

*IDC **03** 16:17:09.5±1.9, 1°.36S×127°.23E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.4/31, mbtmp3.5/4, ML2.8/1, Error ellipse: s-maj=193.7km s-min=22.4km az=67.0*
*ISCJB **03** 16:17:12.9±0.9, 1°.58S±0°.06×126°.53E±0°.06, h29km, mb3.6/3, Error ellipse: s-maj=10.4km s-min=5.9km az=41.3*
*DJA **03** 16:17:17.8±0.4, 2°S±5°×12°6E±°, h53km±6km, M3.6/7, MLv3.6/7*
ISC 03 16:17:14.6±0.9**, 1°.75S**±0°.05×**126°.52E**±0°.06**, h29km, n10, σ0s.97**/15**, mb4.0**/3**, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**0.61**	**241**	P	**Pb**	**16 17 27.2**	**+0.4**
SANI				S	**Sn**	**16 17 37.0**	**+0.8**
NLAI	**Namlea**	**1.59**	**159**	P	**Pb**	**16 17 42.9**	**-0.4**
NLAI				S	**Sb**	**16 18 02.7**	**-0.3**
TNTI	**Ternate**	**2.64**	**19**	P	**Pb**	**16 18 01.4**	**+0.2**
LUWI	**Luwuk**	**3.81**	**281**	P	**Pn**	**16 18 11.8**	**+0.4**
LUWI				S	**Sn**	**16 18 53.0**	**-2.3**
APSI	**Ampana**	**4.94**	**280**	P	**Pn**	**16 18 27.5**	**+0.6**
APSI				S	**Sn**	**16 19 21.3**	**-1.9**
MRSI	**Marisa**	**5.09**	**296**	P	**Pn**	**16 18 29.6**	**+0.7**
MRSI				S	**Sn**	**16 19 26.9**	**+0.2**
WRA	**Warramunga Arr**	**19.63**	**158**	P	**P**	**16 21 41.5**	**+0.4**
	0.0nm,0.3s,baz=339,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**22.93**	**162**	P	**P**	**16 22 16.9**	**+0.3**
	0.6nm,0.8s,baz=341,slow=10,SNR=6.5						
MKAR	**Makanchi Array**	**61.96**	**327**	P	**P**	**16 27 31.9**	**0.0**
	1.0nm,0.8s,baz=130,slow=7.7,SNR=7.4						
KURBB	**Kurchatov Arra**	**66.25**	**329**	P	**P**	**16 27 59.6**	**-0.3**
	0.7nm,0.6s,baz=124,slow=5.8,SNR=10						

*ISCJB **03** 16:24:28.0±0.6, 6°.85N±0°.06×73°.03W±0°.07, h166km, mb3.5/2, Error ellipse: s-maj=11.8km s-min=6.4km az=41.0*
*FUNV **03** 16:24:28.7, 6°.76N×73°.13W, h169km, MW3.6*
*IDC **03** 16:24:30.6±4.2, 6°.67N×73°.23W, h170km±27km, mb3.2/2, mb1 3.6/3, mb1mx3.2/21, mbtmp3.7/3, Error ellipse: s-maj=79.4km s-min=26.8km az=83.0*
ISC 03 16:24:28.9±1.0**, 6°.82N**±0°.07×**73°.01W**±0°.08**, h166km, n21, σ1s.14**/26**, 10D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.25**	**34**	⇓*i*P	**Pn**	**16 24 57.9**	**+0.4**
CAPV				*e*S	**Sn**	**16 25 19.1**	**-0.5**
ROSC	**El Rosal**	**2.35**	**214**	P	**Pn**	**16 25 10.0**	**+0.5**
	22nm,0.3s,baz=317,slow=3.5,SNR=31						
ROSC				S	**Sn**	**16 25 38.0**	**-3.0**
	18nm,0.3s,baz=80,slow=16,SNR=4.2						
SOCV	**Socops**	**2.58**	**56**	⇓*e*P	**Pn**	**16 25 12.6**	**+0.7**
SOCV				*e*S	**Sn**	**16 25 44.8**	**-0.4**
VIGV	**El Vigia**	**2.58**	**39**	⇓*i*P	**Pn**	**16 25 12.5**	**+0.6**
VIGV				*e*S	**Sn**	**16 25 44.3**	**-1.0**
ELOV	**Elorza**	**3.51**	**87**	*e*P	**Pn**	**16 25 23.6**	**+0.2**
VIRV	**Villa del Rosa**	**3.70**	**9**	⇓*i*P	**Pn**	**16 25 24.8**	**-1.0**
VIRV				*e*S	**Sn**	**16 26 07.3**	**-2.9**
QARV	**Quebrada Arrib**	**4.17**	**36**	⇓*i*P	**Pn**	**16 25 32.2**	**+0.3**
SANV	**Sanarito**	**4.35**	**52**	*e*P	**Pn**	**16 25 34.2**	**-0.1**
CURV	**Curarigua**	**4.38**	**43**	⇓*e*P	**Pn**	**16 25 34.5**	**0.0**
DABV	**Dabajuro**	**4.70**	**30**	⇓*e*P	**Pn**	**16 25 39.0**	**+0.2**
SIQV	**Siquisique**	**4.95**	**40**	⇓*e*P	**Pn**	**16 25 41.9**	**-0.1**
BAUV	**El Baul**	**5.36**	**67**	⇓*e*P	**Pn**	**16 25 46.2**	**-1.1**
MAPV	**Macapo**	**5.41**	**56**	⇓*e*P	**Pn**	**16 25 48.0**	**-0.1**
MONV	**Montecano**	**5.92**	**30**	*e*P	**Pn**	**16 25 54.0**	**-0.7**
TURV	**Turiamo**	**6.26**	**54**	*e*P	**Pn**	**16 25 57.9**	**-1.3**
BIRV	**Birongo**	**7.59**	**61**	*e*P	**Pn**	**16 26 15.7**	**-1.2**
CUPV	**Cœpira**	**7.84**	**65**	*e*P	**Pn**	**16 26 19.2**	**-1.0**
TXAR	**Lajitas Array**	**36.54**	**312**	P	**P**	**16 31 20.1**	**+1.3**
	0.3nm,0.4s,baz=124,slow=8.8,SNR=6.5						
YKA	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**16 34 40.8**	**+1.1**
	0.8nm,0.5s,baz=132,slow=6.5,SNR=8.5						
ASAR	**Alice Springs**	**149.20**	**234**	PKPbc	**PKPbc**	**16 43 58.9**	**+0.1**
	0.4nm,0.5s,baz=115,slow=3.7,SNR=15						
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc	**PKPbc**	**16 44 02.0**	**+0.3**
	0.4nm,0.4s,baz=108,slow=2.7,SNR=19						

*ISK **03** 16:25:42.5, 38°.39N×37°.73E, h2km, MD2.6*
*ISCJB **03** 16:25:43.1±0.7, 38°.33N±0°.06×37°.68E±0°.05, h0km, Error ellipse: s-maj=8.6km s-min=4.6km az=23.9*
*CSEM **03** 16:25:43.1±0.2, 38°.34N×37°.71E, h1km, MD2.6, Error ellipse: s-maj=8.7km s-min=5.5km az=23.0, Mining explosion.*
*DDA **03** 16:25:45.7, 38°.19N×37°.93E, h7km, MD2.7*
ISC 03 16:25:43.9±1.1**, 38°.38N**±0°.04×**37°.72E**±0°.03**, h0km, n16, σ0s.87**/22**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.18**	**119**	*i* P	**Pg**	**16 25 47.3**	**0.0**
AKCD				*i* S	**Sg**	**16 25 51.1**	**+1.5**
AKCD	**Akcadag**	**0.18**	**119**	*i* P	**Pg**	**16 25 47.3**	**0.0**
AKCD				*i* S	**Sg**	**16 25 51.1**	**+1.5**
DARE	**Darende-Malaty**	**0.27**	**315**	*e*PG	**Pg**	**16 25 48.9**	**-0.1**
DARE				*e*SG	**Sg**	**16 25 53.4**	**+1.0**
DARE	**Darende-Malaty**	**0.27**	**315**	*e*Pg	**Pg**	**16 25 48.9**	**-0.1**
DARE				*e*Sg	**Sg**	**16 25 53.4**	**+1.0**
MALT	**Malatya**	**0.56**	**97**	*e*PG	**Pg**	**16 25 53.8**	**-0.8**
MALT				*e*SG	**Sg**	**16 26 03.0**	**+1.3**
MALT	**Malatya**	**0.56**	**97**	*e*Pg	**Pg**	**16 25 53.8**	**-0.8**
MALT				*e*Sg	**Sg**	**16 26 03.1**	**+1.3**
KMRS	**Kahramanmaras**	**1.09**	**217**	*e*PN	**Pg**	**16 26 04.5**	**-0.3**
KMRS	**Kahramanmaras**	**1.09**	**217**	*e*Pn	**Pg**	**16 26 04.5**	**-0.3**
SVRC	**Sivrice-ELAZID**	**1.24**	**90**	*e*PN	**Pg**	**16 26 07.0**	**-0.7**
SVRC	**Sivrice-ELAZID**	**1.24**	**90**	*e*Pn	**Pg**	**16 26 07.0**	**-0.7**
URFA	**Urfa**	**1.28**	**137**	*e*PN	**Pg**	**16 26 07.7**	**-0.7**
URFA	**Urfa**	**1.28**	**137**	*e*Pn	**Pg**	**16 26 07.7**	**-0.7**
SVSK	**Karacayir**	**1.63**	**340**	*e*PN	**Pn**	**16 26 13.3**	**-0.5**
SVSK	**Karacayir**	**1.63**	**340**	*e*Pn	**Pn**	**16 26 13.3**	**-0.5**
KOZT	**Kozan**	**1.75**	**240**	*e*PN	**Pn**	**16 26 14.9**	**-0.6**
KOZT	**Kozan**	**1.75**	**240**	*e*Pn	**Pn**	**16 26 14.9**	**-0.6**

WEL 03 16:32:27.9±0.4**, 38°.11S**×**176°.19E, h137km**±3km**, ML3.5**/8**, 4C-3D, Error ellipse: s-maj=1.7km s-min=1.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.39**	**47**	⇓PN	Pn	16 32 47.5	+0.2
OPRZ				SN	Sn	16 33 03.8	+2.0
TOZ	**Tahuroa Road**	**0.67**	**305**	⇑PN	Pn	16 32 49.1	+0.3
URZ	**Urewera**	**0.74**	**102**	⇓PN	Pn	16 32 48.9	-0.4
URZ				SN	Sn	16 33 05.0	-0.5
URZ				AML	AML	16 33 06.4	
MRHZ	**Matea Rd**	**0.74**	**166**	PN	Pn	16 32 49.6	+0.1
RAHZ	**Arahi**	**1.07**	**139**	PN	Pn	16 32 52.6	+0.5
MWZ	**Matawai**	**1.07**	**102**	⇓PN	Pn	16 32 51.9	-0.2
MWZ				SN	Sn	16 33 10.4	-0.3
MWZ				AML	AML	16 33 11.8	
MWZ				AML	AML	16 33 18.3	
MWZ				AML	AML	16 33 18.4	
BKZ	**Black Stump Fm**	**1.08**	**168**	⇑PN	Pn	16 32 52.0	-0.3
BKZ				AML	AML	16 33 14.1	
BKZ				AML	AML	16 33 18.8	
NMHZ	**Naumai**	**1.10**	**154**	PN	Pn	16 32 53.5	+1.0
SNGZ	**Shannon Statio**	**1.12**	**127**	PN	Pn	16 32 53.0	+0.4
TWVZ	**Taurewa**	**1.13**	**211**	PN	Pn	16 32 52.7	-0.1
TUVZ	**Tukino**	**1.23**	**200**	PN	Pn	16 32 54.0	+0.1
HAZ	**Te Kaha**	**1.31**	**75**	PN	Pn	16 32 53.6	-0.8
HAZ				SN	Sn	16 33 13.8	-0.8
ARHZ	**Aropaoanui**	**1.31**	**152**	PN	Pn	16 32 54.8	+0.4
ARHZ				SN	Sn	16 33 15.2	+0.4
KWHZ	**Kaweka Forest**	**1.32**	**172**	PN	Pn	16 32 54.5	-0.2
MOVZ	**Moawhango**	**1.34**	**195**	PN	Pn	16 32 54.3	-0.6
TKGZ	**Te Karaka**	**1.34**	**105**	⇑PN	Pn	16 32 55.0	+0.2
RIGZ	**Rimuhau**	**1.37**	**116**	PN	Pn	16 32 55.2	+0.1
BHHZ	**Black Hill Sta**	**1.38**	**184**	PN	Pn	16 32 54.6	-0.7
MCHZ	**McNeill Hill**	**1.39**	**164**	PN	Pn	16 32 55.6	+0.3
MTVZ	**Mangateitei**	**1.39**	**204**	PN	Pn	16 32 55.3	-0.1
TWGZ	**Tauwhareparae**	**1.41**	**93**	PN	Pn	16 32 55.8	+0.2
KNZ	**Kokohu**	**1.47**	**129**	PN	Pn	16 32 56.1	0.0
VRZ	**Vera Road**	**1.51**	**228**	⇑PN	Pn	16 32 56.8	+0.2
KRHZ	**Kereru**	**1.54**	**175**	PN	Pn	16 32 56.3	-0.6
PRGZ	**Paritu Road**	**1.55**	**122**	PN	Pn	16 32 57.0	-0.1
CNGZ	**Carnagh Statio**	**1.63**	**104**	PN	Pn	16 32 58.2	+0.3
PUZ	**Puketiti**	**1.63**	**89**	PN	Pn	16 32 57.3	-0.6
PUZ				AML	AML	16 33 22.9	
PUZ				AML	AML	16 33 24.1	
CKHZ	**Cape Kidnapper**	**1.69**	**156**	PN	Pn	16 32 58.4	-0.2
MXZ	**Matakaoa Point**	**1.76**	**73**	PN	Pn	16 32 59.3	-0.1
KAHZ	**Kahuranaki**	**1.76**	**163**	PN	Pn	16 32 59.1	-0.4
WMGZ	**Waiomatatini S**	**1.78**	**81**	PN	Pn	16 32 59.3	-0.3
PNHZ	**Pukenui**	**1.80**	**180**	PN	Pn	16 32 59.0	-1.0
WAZ	**Wanganui**	**1.89**	**209**	PN	Pn	16 33 00.8	-0.2
TSZ	**Takapari Road**	**1.95**	**185**	PN	Pn	16 33 00.4	-1.3
WPHZ	**Waipukurau**	**1.96**	**174**	PN	Pn	16 33 00.6	-1.2
PXZ	**Pawanui**	**1.99**	**165**	PN	Pn	16 33 01.0	-1.0
PXZ				AML	AML	16 33 34.2	
PXZ				AML	AML	16 33 34.2	
PRHZ	**Porangahau**	**2.18**	**171**	PN	Pn	16 33 03.1	-1.3
DVHZ	**Dannevirke**	**2.19**	**181**	PN	Pn	16 33 02.6	-1.9
ANWZ	**Angora Road**	**2.36**	**175**	PN	Pn	16 33 05.0	-1.5
PRWZ	**Pori Road**	**2.45**	**184**	PN	Pn	16 33 06.3	-1.4
BFZ	**Birch Farm**	**2.57**	**179**	PN	Pn	16 33 06.9	-2.3
MRZ	**Mangatainoka R**	**2.59**	**190**	PN	Pn	16 33 07.0	-2.6
MRZ				AML	AML	16 33 39.5	
MRZ				AML	AML	16 33 40.9	
TIWZ	**Tintock**	**2.67**	**185**	PN	Pn	16 33 08.2	-2.4
TIWZ				AML	AML	16 33 42.9	
TIWZ				AML	AML	16 33 43.3	
OGWZ	**Otaki Gorge**	**2.82**	**196**	PN	Pn	16 33 09.9	-2.5
HOWZ	**Holdsworth Sta**	**2.83**	**190**	PN	Pn	16 33 09.6	-3.0
KIW	**Kapiti Island**	**2.92**	**199**	PN	Pn	16 33 10.9	-2.8
TMWZ	**Te Maipa**	**3.00**	**184**	PN	Pn	16 33 12.1	-2.6
MTW	**Mount Morrison**	**3.09**	**190**	PN	Pn	16 33 12.6	-3.3
CAW	**Cannon Point**	**3.12**	**196**	PN	Pn	16 33 13.1	-3.1
CAW				AML	AML	16 33 53.3	
DUWZ	**D'Urville Isla**	**3.21**	**212**	PN	Pn	16 33 14.7	-2.8
TRWZ	**Traveller**	**3.31**	**187**	PN	Pn	16 33 15.5	-3.2
PAWZ	**Paruwai Farm**	**3.32**	**190**	PN	Pn	16 33 15.7	-3.2
WEL	**Wellington**	**3.35**	**199**	PN	Pn	16 33 16.3	-3.0
MSWZ	**Moikau Station**	**3.38**	**192**	PN	Pn	16 33 16.0	-3.6
TCW	**Tory Channel**	**3.43**	**205**	PN	Pn	16 33 17.2	-3.1
BHW	**Baring Head**	**3.45**	**197**	PN	Pn	16 33 16.9	-3.6
PLWZ	**Palliser**	**3.53**	**192**	PN	Pn	16 33 17.7	-4.0
TUWZ	**Tuamarina**	**3.74**	**207**	PN	Pn	16 33 20.8	-3.6
QRZ	**Quartz Range**	**3.92**	**225**	PN	Pn	16 33 22.7	-4.0
THZ	**Tophouse**	**4.44**	**214**	PN	Pn	16 33 29.8	-3.8
KHZ	**Kahutara**	**4.76**	**204**	PN	Pn	16 33 33.3	-4.5
MQZ	**McQueen's Vall**	**6.20**	**205**	PN	Pn	16 33 50.3	-6.7

*IDC **03** 16:37:41.9±0.9, 15°.40S×173°.19W, h0km, mb4.0/9, mb1 4.3/9, mb1mx3.9/39, mbtmp4.0/9, Error ellipse: s-maj=39.8km s-min=19.7km az=135.0*
*ISCJB **03** 16:37:44.8±0.8, 15°.3S±0°.2×173°.3W±0°.2, h29km, mb4.0/9, Error ellipse: s-maj=34.5km s-min=16.8km az=41.2*
ISC 03 16:37:46.3±1.0**, 15°.4S**±0°.2×**173°.2W**±0°.2**, h29km, n13, σ0s.76**/10**, mb3.9**/9**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.31**	**199**	P	**P**	**16 43 02.0**	**+0.6**
	4.7nm,0.3s,baz=355,slow=18,SNR=14						
H11S2	**WAKE ISLAND Hy**	**39.06**	**329**	T	T	17 25 36.1	
	baz=147,slow=76,SNR=5.3						
H11S3	**WAKE ISLAND Hy**	**39.08**	**329**	T	T	17 25 37.1	
	baz=147,slow=76,SNR=5.8						
H11S1	**WAKE ISLAND Hy**	**39.08**	**329**	T	T	17 25 36.5	
	baz=147,slow=76,SNR=4.4						
WRA	**Warramunga Arr**	**50.01**	**257**	P	**P**	**16 46 38.1**	**-0.4**
	0.4nm,0.6s,baz=91,slow=7.0,SNR=3.6						
ASAR	**Alice Springs**	**50.27**	**252**	P	**P**	**16 46 40.1**	**-0.4**
	0.8nm,0.5s,baz=88,slow=7.7,SNR=19						
PETK	**Petropavlovsk-**	**72.69**	**342**	P	**P**	**16 49 12.6**	**+1.3**
	1.6nm,0.7s,baz=95,slow=10,SNR=2.7						
NVAR	**Mina Array Bea**	**74.22**	**42**	P	**P**	**16 49 21.0**	**0.0**
	1.2nm,0.9s,baz=225,slow=8.7,SNR=4.8						
TXAR	**Lajitas Array**	**80.47**	**56**	P	**P**	**16 49 56.3**	**+0.2**
	1.4nm,1.1s,baz=210,slow=7.2,SNR=7.0						
PDAR	**Pinedale Array**	**82.16**	**42**	P	**P**	**16 50 04.5**	**-0.4**
	0.8nm,0.7s,baz=240,slow=2.9,SNR=5.0						
ILAR	**Eielson Array**	**82.42**	**11**	P	**P**	**16 50 05.0**	**-0.4**
	0.3nm,0.6s,baz=234,slow=6.3,SNR=5.3						
INK	**Inuvik**	**88.24**	**14**	P	**P**	**16 50 33.1**	**-1.2**
	4.1nm,0.6s,baz=235,slow=6.2,SNR=4.3						
BRTR	**Keskin Array B**	**146.27**	**321**	PKPbc	**PKPab**	**16 57 25.4**	**0.0**
	1.4nm,0.6s,baz=102,slow=2.4,SNR=8.7						

DDA 03 16:43:06.8, 37°.54N×28°.61E, h7km, MD2.4, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.59**	**282**	*i* P	Pg	16 43 18.7	+0.4
AYDN				*i* S	Sg	16 43 26.9	+0.8
GOLH	**Golhisar**	**0.81**	**111**	*i* P	Pg	16 43 22.5	-0.1
GOLH				*i* S	Sn	16 43 36.4	-0.9

*DDA **03** 16:45:01.5, 36°.39N×40°.99E, h7km, MD2.9*
*CSEM **03** 16:45:06.5±1.0, 36°.64N×41°.01E, h2km, MD2.9, Error ellipse: s-maj=24.6km s-min=10.5km az=3.0*
*ISK **03** 16:45:06.0, 36°.71N×40°.99E, h5km, MD2.9*
ISC 03 16:45:05.6±2.0**, 36°.60N**±0°.10×**40°.99E**±0°.04**, h2km**±12km**, n17, σ1s.33**/27**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MARD	**Mardin**	**0.73**	**347**	*i* P	**Pg**	**16 45 19.5**	**-0.2**
MARD				*i* S	**Sn**	**16 45 33.0**	**-1.9**
MAZI	**Mazidag**	**0.96**	**333**	*e*PG	**Pg**	**16 45 22.8**	**-1.2**
MAZI				*e*SG	**Sb**	**16 45 37.0**	**-1.3**
MAZI	**Mazidag**	**0.96**	**333**	*e*Pg	**Pg**	**16 45 22.8**	**-1.2**
MAZI				*e*Sg	**Sb**	**16 45 37.0**	**-1.3**
BEST	**Besiri**	**1.31**	**10**	*i* P	**Pg**	**16 45 30.2**	**-0.5**
BEST				*i* S	**Sn**	**16 45 51.8**	**+2.7**
DIY	**Diyarbakir**	**1.43**	**335**	*e*Pn	**Pg**	**16 45 33.9**	**+0.9**
DIY				*e*Sn	**Sn**	**16 45 54.3**	**+2.2**
SIRN	**S˜–rnak**	**1.45**	**52**	*i* P	**Pn**	**16 45 31.5**	**-1.5**
SIRN				*i* S	**Sg**	**16 45 53.8**	**+1.6**
SIRN	**S˜–rnak**	**1.45**	**52**	*i* P	**Pn**	**16 45 31.5**	**-1.5**
SIRN				*i* S	**Sg**	**16 45 53.8**	**+1.6**
SIRT	**Sirnak**	**1.47**	**52**	*e*PN	**Pg**	**16 45 34.0**	**+0.2**
SIRT				*e*SN	**Sg**	**16 45 54.0**	**+1.1**
SIRT	**Sirnak**	**1.47**	**52**	*e*Pn	**Pg**	**16 45 34.0**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SIRT				eSn	Sg	16 45 54.0	+1.1
DYBB	**Diyarbakir**	**1.51**	**334**	ePN	**Pb**	**16 45 33.9**	**-0.5**
DYBB				eSN	**Sg**	**16 45 54.3**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.56**	**6**	ePN	**Pb**	**16 45 34.5**	**-0.7**
URFA	**Urfa**	**1.92**	**296**	ePN	**Pb**	**16 45 40.8**	**-0.7**
URFA	**Urfa**	**1.92**	**296**	ePn	**Pb**	**16 45 40.8**	**-0.7**
SVRC	**Sivrice-ELAZID**	**2.22**	**324**	ePN	**Pn**	**16 45 44.2**	**+0.5**
SVRC	**Sivrice-ELAZID**	**2.22**	**324**	ePn	**Pn**	**16 45 44.2**	**+0.5**
MALT	**Malatya**	**2.66**	**311**	ePN	**Pn**	**16 45 50.9**	**+1.3**
MALT	**Malatya**	**2.66**	**311**	ePn	**Pn**	**16 45 50.9**	**+1.3**

*NIED **03** 16:51:00, 30.40N×139.70E, h280km, Mw4.1 Best double couple: $M_0$1.34000×10^{15} NP1:ϕ_s4.00000°, δ24.00000°, λ-175.00000°. NP2:ϕ_s269.00000°, δ88.00000°, λ-66.00000°.*
*BJI **03** 16:51:02.8, 30.13N×138.89E, h287km, mb4.3/10, mB4.3/6*
*MOS **03** 16:51:03.7±0.9, 30.20N×139.19E, h312km, mb4.0/20, Error ellipse: s-maj=14.2km s-min=6.4km az=96.6*
*NEIC **03** 16:51:04.5±0.7, 30.19N×139.19E, h305km±7km, mb4.1/13, Error ellipse: s-maj=9.7km s-min=8.5km az=97.0*
*JMA **03** 16:51:04.3±0.2, 30.37N×139.68E, h334km±4km, M3.5*
*ISCJB **03** 16:51:04.1±0.3, 30.24N±0.03×139.42E±0.05, h314km±2km, mb3.8/33, Error ellipse: s-maj=6.7km s-min=4.4km az=156.6*
*IDC **03** 16:51:06.1±0.8, 30.29N×139.18E, h318km±7km, mb3.4/22, mb1 3.5/26, mb1mx3.5/32, mbtmp4.1/26, Error ellipse: s-maj=13.5km s-min=8.7km az=87.0*
ISC 03 16:51:05.5±0.5**, 30.30N**±0.05×**139.37E**±0.06**, h314**km±4km**, h314km:pP-P, n130, σ1^{s}57**/159**, mb3.9**/33**, 7C-3D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.79**	**7**	P	**Pn**	**16 52 00.4**	**+0.2**
JHCJ				S	**S**	**16 52 43.2**	**-0.7**
JHJ2	**Mitsune**	**2.83**	**8**	P	**Pn**	**16 52 00.8**	**+0.3**
JHJ2				S	**S**	**16 52 43.4**	**-1.2**
JHJ2	**Mitsune**	**2.83**	**8**	ePn	**Pn**	**16 52 00.9**	**+0.4**
JHJ2				eS	S	16 52 38.1	-6.5
TK01	**Tokai 1**	**3.77**	**337**	P	**Pn**	**16 52 09.1**	**-0.5**
JKO	**Kozu shima**	**3.88**	**357**	P	**Pn**	**16 52 11.3**	**+0.2**
TK02	**Tokai 2**	**3.89**	**340**	P	**Pn**	**16 52 12.7**	**+1.8**
TTO1	**TONANKAI O.B.S**	**3.98**	**327**	P	**Pn**	**16 52 13.6**	**+1.8**
CBIJ	**Chichi jima**	**4.04**	**142**	P	**Pn**	**16 52 10.8**	**-2.1**
CBIJ	**Chichi jima**	**4.04**	**142**	ePn	**Pn**	**16 52 10.8**	**-2.1**
CBIJ				eS	**S**	**16 53 03.0**	**-4.0**
JCJ	**Chichijima**	**4.04**	**142**	P	**Pn**	**16 52 10.9**	**-2.1**
	75nm,0.3s,baz=3.3,slow=22,SNR=127						
JCJ				S	**S**	**16 53 02.9**	**-4.2**
	247nm,0.3s,baz=108,slow=22,SNR=14						
JWZ	**Kozaga**	**4.48**	**317**	P	**Pn**	**16 52 18.6**	**+1.0**
BSO1	**Boso 1**	**4.55**	**17**	P	**Pn**	**16 52 17.0**	**-0.8**
BSO1				S	**S**	**16 53 12.2**	**-3.9**
BSO3	**Boso 3**	**4.59**	**12**	P	**Pn**	**16 52 17.2**	**-1.4**
BSO3				S	**S**	**16 53 14.1**	**-3.3**
JIE	**Ise**	**4.66**	**332**	P	**Pn**	**16 52 20.9**	**+1.2**
JIE				S	**S**	**16 53 19.0**	**-0.3**
JHMK	**Hamakita**	**4.71**	**344**	P	**Pn**	**16 52 20.7**	**+0.7**
JKN2	**Miekihoku**	**4.72**	**327**	P	**Pn**	**16 52 21.3**	**+0.9**
BSO4	**Boso 4**	**4.75**	**10**	P	**Pn**	**16 52 19.5**	**-1.0**
BSO4				S	**S**	**16 53 17.8**	**-3.1**
HMMJ	**Hamamatsu 2**	**4.75**	**343**	P	**Pn**	**16 52 21.2**	**+0.5**
HMMJ				S	**S**	**16 53 19.6**	**-1.6**
JOD2	**Odawara 2**	**4.96**	**357**	P	**Pn**	**16 52 22.6**	**-0.4**
JOD2				S	**S**	**16 53 23.4**	**-2.0**
JNY	**Yasuok**	**5.20**	**346**	P	**Pn**	**16 52 26.5**	**+0.6**
JNY				S	**S**	**16 53 29.3**	**-1.3**
JAO	**Obara**	**5.26**	**341**	P	**Pn**	**16 52 27.7**	**+1.1**
JAO				S	**S**	**16 53 31.7**	**-0.2**
JHU	**Hanno**	**5.54**	**359**	P	**Pn**	**16 52 28.3**	**-1.4**
JHU				S	S	16 53 30.3	-7.3
JRY	**Ryogami san**	**5.71**	**356**	P	**Pn**	**16 52 31.1**	**-0.7**
JRY				S	**S**	**16 53 37.6**	**-3.8**
MJAR	**Matsushiro Arr**	**6.30**	**351**	P	**Pn**	**16 52 37.8**	**-0.9**
	1.1nm,0.3s,baz=166,slow=8.5,SNR=9.9						
MJAR				S	**S**	**16 53 49.6**	**-4.4**
	2.4nm,0.3s,baz=176,slow=18,SNR=11						
MJAR	**Matsushiro Arr**	**6.30**	**351**	P	**Pn**	**16 52 37.8**	**-0.9**
MJAR				S	**S**	**16 53 49.6**	**-4.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				smax	smax		
	comp=N,2.0nm,0.3s						
MAJO	**Matsushiro**	**6.30**	**351** ⇓	iP	**Pn**	**16 52 41.3**	**+2.6**
MAJO	**Matsushiro**	**6.30**	**351**	ePn	**Pn**	**16 52 35.8**	**-2.9**
MAJO				eS	**S**	**16 53 49.0**	**-5.1**
MAT	**Matsushiro**	**6.30**	**351**	P	**Pn**	**16 52 37.5**	**-1.2**
MAT				S	**S**	**16 53 51.2**	**-2.8**
KSULL	**Ulleungdo**	**10.04**	**318**	P	**P**	**16 53 27.1**	**+0.3**
	SNR=9.7						
KSTBA	**Taebaek**	**11.02**	**311**	P	**P**	**16 53 37.2**	**-0.6**
	SNR=9.7						
KSDGY	**Daegwallycong**	**11.53**	**313**	P	**P**	**16 53 43.9**	**+0.4**
	SNR=12						
KSCHJ	**Chungju**	**11.54**	**308**	P	**P**	**16 53 44.0**	**+0.5**
	SNR=6.2						
KSJMJ	**Jumunjin**	**11.60**	**314**	P	**P**	**16 53 44.2**	**+0.1**
	SNR=11						
TJN	**Taejon**	**11.72**	**304**	deP	**P**	**16 53 46.1**	**+0.5**
KSRS	**Korea Array**	**11.89**	**310**	P	**P**	**16 53 47.1**	**-0.2**
	comp=N,0.7nm,0.3s,baz=123,slow=13,SNR=112						
KSRS	**Korea Array**	**11.89**	**310**	P	**P**	**16 53 47.1**	**-0.2**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KS01	**Wonju Array Si**	**11.92**	**310**	ePn	**P**	**16 53 47.3**	**-0.4**
KSIJA	**INJE**	**12.07**	**312**	P	**P**	**16 53 50.0**	**+0.7**
	SNR=18						
ERM	**Erimo**	**12.08**	**14** ⇓	iP	**P**	**16 53 51.4**	**+2.0**
ERM				pmax	pmax		
	comp=Z,56nm,1.0s						
ERM	**Erimo**	**12.08**	**14**	ePn	**P**	**16 53 49.7**	**+0.2**
ERM				eS	S	16 55 54.6	-8.3
KSCHC	**Chuncheon**	**12.14**	**311**	P	**P**	**16 53 51.2**	**+1.0**
	SNR=5.4						
KSICN	**Icheon**	**12.14**	**308**	P	**P**	**16 53 51.5**	**+1.4**
	SNR=6.4						
SEHB	**SEOHWA**	**12.15**	**314**	P	**P**	**16 53 51.6**	**+1.3**
	SNR=12						
KSCWO	**Cheorwon**	**12.51**	**312**	P	**P**	**16 53 56.6**	**+2.3**
	SNR=6.6						
INCN	**Inchon**	**12.77**	**307**	ePn	**P**	**16 53 58.0**	**+0.8**
KSMUS	**Musan**	**12.90**	**309**	P	**P**	**16 54 00.4**	**+1.9**
	SNR=8.7						
ASAJ	**Asahikawa**	**14.03**	**10**	P	**Pn**	**16 54 12.6**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=224,slow=12,SNR=25						
ASAJ				S	**S**	**16 56 42.5**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=339,slow=27,SNR=4.1						
ASAJ	**Asahikawa**	**14.03**	**10**	P	**Pn**	**16 54 12.6**	**+0.8**
ASAJ				S	**S**	**16 56 42.6**	**-2.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**14.03**	**10**	eP	**Pn**	**16 54 12.2**	**+0.4**
USRK	**Ussuriysk Ar.**	**15.06**	**339**	P	**P**	**16 54 21.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=104,slow=12,SNR=10						
MDJ	**Mudanjiang**	**16.25**	**334**	P	**P**	**16 54 34.9**	**-0.3**
YSS	**Yuzh-Sakhalins**	**16.84**	**8** ⇑	iP	**P**	**16 54 43.0**	**+1.4**
YSS				pmax	pmax		
	comp=Z,40nm,0.5s						
YSS	**Yuzh-Sakhalins**	**16.84**	**8**	eP	**P**	**16 54 43.0**	**+1.4**
	comp=Z,27nm,0.5s						
YHNB	**Yeheng**	**16.92**	**255**	eP	**P**	**16 54 39.7**	**-3.1**
NACB	**Ninganchiao**	**16.94**	**253**	eP	**P**	**16 54 40.8**	**-2.2**
CN2	**Changchun**	**17.43**	**324**	eP	**P**	**16 54 48.9**	**+0.8**
HABR	**Khabarovsk**	**18.45**	**351**	eP	**P**	**16 54 58.7**	**-0.2**
HABR				S	**S**	**16 58 11.1**	**-1.5**
HABR				pmax	pmax		
	comp=E,7.0nm,0.7s						
HABR				pmax	pmax		
	comp=N,8.0nm,0.9s						
HABR				pmax	pmax		
	comp=Z,20nm,0.9s						
HABR				MLR	MLR		
	comp=Z,25nm,16.0s						
UGL	**Uglegorsk**	**18.87**	**5**	eP	**P**	**16 55 04.3**	**+1.0**
UGL				S	**S**	**16 58 20.7**	**0.0**
KLR	**Kul'dur**	**19.77**	**345**	eP	P	16 55 07.8	-5.2
TYV	**Tymovskoe**	**20.69**	**6**	eP	**P**	**16 55 22.5**	**+0.4**
TYV				pmax	pmax		
	comp=Z,22nm,1.0s						
NKL	**Nikolayevsk**	**22.85**	**2**	eP	**P**	**16 55 43.0**	**+1.2**
NKL				pmax	pmax		
	comp=Z,30nm,0.9s						
HHC	**Hu-ho-hao-te**	**24.85**	**303**	eP	**P**	**16 55 57.4**	**-2.8**
HHC				S	**S**	**16 59 58.7**	**-0.7**
HHC				PMZ			
	comp=Z,25nm,0.7s						
HHC				PMZ			
	comp=Z,76nm,4.3s						
PETK	**Petropavlovsk-**	**26.43**	**25**	P	**P**	**16 56 15.6**	**+1.6**
	comp=Z,2.2nm,1.0s,baz=183,slow=7.2,SNR=4.1						
PETK	**Petropavlovsk-**	**26.43**	**25**	P	**P**	**16 56 15.6**	**+1.6**
PETK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CD2	**Chengdu**	**30.58**	**280**	eP	P	16 56 47.5	-3.5
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
SONM	**Songino Array**	**30.71**	**314**	P	**P**	**16 56 51.6**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=109,slow=8.4,SNR=3.2						
YAK	**Yakutsk**	**32.37**	**351**	P	**P**	**16 57 04.8**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=135,slow=4.3,SNR=2.3						
YAK	**Yakutsk**	**32.37**	**351** ⇑	iP	**P**	**16 57 05.6**	**-0.4**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YAK	**Yakutsk**	**32.37**	**351**	eP	**P**	**16 57 05.3**	**-0.7**
	comp=Z,7.6nm,1.0s						
SEY	**Seymchan**	**33.71**	**11**	P	**P**	**16 57 18.7**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=217,slow=15,SNR=5.5						
CMAR	**Chiang Mai Arr**	**38.48**	**262**	P	**P**	**16 57 57.6**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=49,slow=7.9,SNR=5.8						
PMG	**Port Moresby**	**40.18**	**168**	eP	P	16 58 06.8	-5.3
PMG				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PMG	**Port Moresby**	**40.18**	**168**	eP	P	16 58 06.8	-5.3
	comp=Z,8.8nm,0.6s						
WMQ	**Urumqi**	**42.73**	**303**	eP	**P**	**16 58 33.8**	**+1.2**
WMQ				pP	**pP**	**16 59 32.9**	**-3.1**
WMQ				sP	sP	17 00 05.0	-6.7
WMQ				PP	**PP**	**17 00 20.0**	**+1.0**
WMQ				PMZ			
	comp=Z,2.0nm,0.3s						
WMQ				PMZ			
	comp=Z,54nm,4.2s						
WMQ				LN			
	comp=Z,21nm,6.5s						
WMQ				LE			
	comp=Z,28nm,7.0s						
WMQ				LZ			
	comp=Z,11nm,10.2s						
ZAA0	**Zalesovo Array**	**45.46**	**318**	eP	**P**	**16 58 52.7**	**-1.1**
ZALV	**Zalesovo Beam**	**45.46**	**318**	P	**P**	**16 58 53.0**	**-0.8**
	comp=Z,2.6nm,0.4s,baz=96,slow=7.7,SNR=15						
ZALV				ScP	**ScP**	**17 03 47.8**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=123,slow=5.3,SNR=3.9						
ZALV	**Zalesovo Beam**	**45.46**	**318**	iP	**P**	**16 58 53.4**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MK01	**Makanchi Array**	**46.55**	**307**	eP	**P**	**16 59 01.3**	**-1.1**
MK31	**Makanchi Array**	**46.55**	**307**	eP	**P**	**16 59 01.7**	**-0.7**
MK31	**Makanchi Array**	**46.55**	**307**	eP	**P**	**16 59 01.7**	**-0.7**
MKAR	**Makanchi Array**	**46.55**	**307**	P	**P**	**16 59 02.1**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=94,slow=9.0,SNR=11						
MKAR				ScP	**ScP**	**17 03 52.9**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=79,slow=6.1,SNR=6.4						
MKAR	**Makanchi Array**	**46.55**	**307**	ceP	**P**	**16 59 01.9**	**-0.5**
MKAR	**Makanchi Array**	**46.55**	**307**	eP	**P**	**16 59 01.4**	**-1.0**
KURK	**Kurchatov**	**48.99**	**313**	eP	**P**	**16 59 19.6**	**-1.3**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KURK	**Kurchatov**	**48.99**	**313**	eP	**P**	**16 59 19.6**	**-1.3**
	comp=Z,6.6nm,1.1s						
WRAB	**Tennant Creek**	**50.18**	**186**	eP	**P**	**16 59 29.4**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WRAB	**Tennant Creek**	**50.18**	**186**	eP	**P**	**16 59 29.4**	**-0.6**
	comp=Z,9.3nm,1.0s						
WRA	**Warramunga Arr**	**50.19**	**186**	P	**P**	**16 59 29.5**	**-0.6**
	comp=Z,2.0nm,0.4s,baz=3.9,slow=7.9,SNR=84						
WRA				pP	**pP**	**17 00 37.3**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=4.6,slow=8.2,SNR=3.5						
WRA				ScP	**ScP**	**17 04 09.4**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=360,slow=5.1,SNR=4.4						
KDAK	**Kodiak Island**	**53.34**	**38**	ceP	**P**	**16 59 54.2**	**+1.4**
CAST	**Castle Rocks**	**53.80**	**31**	eP	**P**	**16 59 58.4**	**+2.3**
	comp=Z,11nm,1.6s						
AS31	**Alice Springs**	**53.91**	**186**	eP	**P**	**16 59 56.3**	**-1.1**
ASAR	**Alice Springs**	**53.91**	**186**	P	**P**	**16 59 57.0**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=5.3,slow=7.5,SNR=31						
ASAR	**Alice Springs**	**53.91**	**186**	P	**P**	**16 59 57.1**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**54.03**	**316**	P	**P**	**16 59 57.3**	**-0.6**
	comp=Z,4.5nm,0.6s,baz=99,slow=7.9,SNR=32						
BVAR	**Borovoye Array**	**54.03**	**316**	P	**P**	**16 59 57.3**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK	**Borovoye**	**54.09**	**316** ⇑	iP	**P**	**16 59 58.0**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BRVK	**Borovoye**	**54.09**	**316**	eP	**P**	**16 59 57.5**	**-0.8**
	comp=Z,4.1nm,0.7s						
MLY	**Manley**	**54.50**	**29**	eP	**P**	**17 00 03.4**	**+2.3**
	comp=Z,7.9nm,1.3s						
MCK	**McKinley**	**55.22**	**31**	eP	**P**	**17 00 07.2**	**+1.0**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MCK	**McKinley**	**55.22**	**31**	eP	**P**	**17 00 07.2**	**+1.0**
	comp=Z,8.3nm,1.0s						
MDM	**Murphy Dome**	**55.56**	**29**	eP	**P**	**17 00 11.1**	**+2.5**
	comp=Z,6.1nm,1.0s						
ILAR	**Eielson Array**	**56.13**	**30**	P	**P**	**17 00 12.7**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=248,slow=6.1,SNR=12						
ILAR				pP	**pP**	**17 01 21.3**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=270,slow=6.3,SNR=2.1						
ILAR	**Eielson Array**	**56.13**	**30**	P	**P**	**17 00 12.7**	**+0.1**
ILAR				*PP	**pP**	**17 01 21.3**	**+1.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
IL1	**Eielson Array**	**56.13**	**30**	eP	**P**	**17 00 12.7**	**+0.2**
BMRM	**Bremner River**	**57.31**	**34**	P	**P**	**17 00 22.2**	**+1.3**
	comp=Z,8.0nm,0.6s						
ARU	**Arti**	**60.39**	**321** c	iP	**P**	**17 00 41.1**	**-0.9**
ARU						17 01 20.5	
ARU				*PP	**pP**	**17 01 53.3**	**+2.9**
ARU						17 02 58.0	
ARU				S	**S**	**17 08 28.6**	**-2.6**
ARU				pmax	pmax		
	comp=Z,19nm,2.5s						
ARU	**Arti**	**60.39**	**321**	eP	**P**	**17 00 41.4**	**-0.5**
	comp=Z,5.5nm,0.8s						
ABKAR	**Akbulak array**	**61.11**	**313**	eP	**P**	**17 00 46.4**	**-0.5**
STKA	**Stephens Creek**	**61.87**	**178**	P	**P**	**17 00 52.8**	**+0.7**
	comp=Z,2.1nm,0.4s,baz=7.8,slow=6.4,SNR=12						
STKA	**Stephens Creek**	**61.87**	**178**	eP	**P**	**17 00 52.5**	**+0.4**
STKA	**Stephens Creek**	**61.87**	**178**	eP	**P**	**17 00 52.5**	**+0.4**
	comp=Z,0.5nm,0.5s						
AKTO	**Aktyubinsk**	**62.03**	**314**	P	**P**	**17 00 52.2**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=77,slow=11,SNR=5.8						
AKTO	**Aktyubinsk**	**62.03**	**314**	P	**P**	**17 00 52.3**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**69.70**	**340**	P	**P**	**17 01 41.6**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=69,slow=8.7,SNR=17						
ARCES	**ARCESS Array B**	**69.70**	**340**	P	**P**	**17 01 41.6**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARE0	**ARCESS Array S**	**69.70**	**340**	eP	**P**	**17 01 41.4**	**+0.1**
YKA	**Yellowknife Ar**	**70.50**	**28**	P	**P**	**17 01 46.9**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=295,slow=6.3,SNR=8.4						
YKA	**Yellowknife Ar**	**70.50**	**28**	P	**P**	**17 01 46.9**	**+0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**73.98**	**333**	P	**P**	**17 02 06.4**	**-0.3**
	comp=Z,1.9nm,0.4s,baz=80,slow=4.9,SNR=29						
FINES	**FINESS Array B**	**73.98**	**333**	P	**P**	**17 02 06.4**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**78.58**	**322**	P	**P**	**17 02 31.8**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=50,slow=5.5,SNR=7.2						
AKASG	**Malin Array Be**	**78.58**	**322**	ceP	**P**	**17 02 31.7**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NV01	**Mina Array Sit**	**80.46**	**51**	eP	**P**	**17 02 44.5**	**+1.3**
NVAR	**Mina Array Bea**	**80.46**	**51**	P	**P**	**17 02 44.9**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=308,slow=5.7,SNR=7.0						
BRTR	**Keskin Array B**	**82.03**	**311**	P	**P**	**17 02 50.9**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=109,slow=4.4,SNR=3.3						
BRTR	**Keskin Array B**	**82.03**	**311**	P	**P**	**17 02 50.9**	**-0.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**83.65**	**44**	P	**P**	**17 03 01.3**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=270,slow=0.8,SNR=3.3						
FRB	**Frobisher Bay**	**83.70**	**12**	P	**P**	**17 02 59.5**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=359,slow=5.3,SNR=3.6						
FRB	**Frobisher Bay**	**83.70**	**12**	P	**P**	**17 02 59.5**	**+0.5**
FRB				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**95.61**	**51**	P	**P**	**17 03 57.7**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=294,slow=4.4,SNR=3.1						
TXAR				pP	**pP**	**17 05 11.6**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=278,slow=6.3,SNR=4.2						

*LJU **03** 17:20:11.1, 46.39N×15.07E, h0km Rockburst*
CSEM 03 17:20:11.1±99.0**, 46.39N**×**15.07E, h0km, Suspected Mining induced., Northwestern Balkan Peninsula**

*ISCJB **03** 17:33:28.6±0.5, 39.53N±0.03×19.45E±0.05, h44km±10km, Error ellipse: s-maj=7.8km s-min=4.2km az=145.4*
*ATH **03** 17:33:29.7, 39.45N×19.63E, h34km±1km, MD3.5/21*
*CSEM **03** 17:33:29.1±0.2, 39.48N×19.51E, h20km, MD3.5, Error ellipse: s-maj=4.8km s-min=3.4km az=72.0*
*THE **03** 17:33:31.2, 39.43N×19.65E, h21km±2km, ML2.8/8, Error ellipse: s-maj=2.6km s-min=0.9km az=324.0*
ISC 03 17:33:29.5±1.7**, 39.50N**±0.03×**19.47E**±0.04**, h35**km±3km**, n110, σ0^{s}96**/141**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.33**	**50**	P	**Pn**	**17 33 37.6**	**-0.2**
KEK				S	**Sn**	**17 33 43.4**	**-0.6**
KEK	**Kerkira**	**0.33**	**50**	ePB	**Pn**	**17 33 37.8**	**0.0**
KEK				eSB	**Sn**	**17 33 43.3**	**-0.7**
KEK	**Kerkira**	**0.33**	**50**	P	**Pn**	**17 33 37.6**	**-0.2**
KEK				S	**Sn**	**17 33 43.4**	**-0.6**
SRN	**Sarande**	**0.56**	**47**	P	**Pn**	**17 33 40.7**	**-0.3**
SRN				S	**Sn**	**17 33 48.9**	**-0.1**
SRN	**Sarande**	**0.56**	**47**	P	**Pn**	**17 33 40.7**	**-0.3**
SRN				S	**Sn**	**17 33 48.9**	**-0.1**
SGD	**Sagiada**	**0.60**	**79**	P	**Pn**	**17 33 40.8**	**-0.8**
SGD				S	**Sn**	**17 33 48.9**	**-1.2**
SGD	**Sagiada**	**0.60**	**79**	P	**Pn**	**17 33 40.8**	**-0.8**
SGD				S	**Sn**	**17 33 48.9**	**-1.2**
IGT	**Igoumenitsa**	**0.67**	**87**	P	**Pn**	**17 33 41.4**	**-1.1**
IGT				S	**Sn**	**17 33 49.2**	**-2.5**
IGT	**Igoumenitsa**	**0.67**	**87**	ePN	**Pn**	**17 33 41.7**	**-0.8**
IGT				eSN	**Sn**	**17 33 49.7**	**-2.0**
IGT	**Igoumenitsa**	**0.67**	**87**	P	**Pn**	**17 33 41.4**	**-1.1**
IGT	**Igoumenitsa**	**0.67**	**87**	ePn	**Pn**	**17 33 41.7**	**-0.8**
IGT				S	**Sn**	**17 33 49.2**	**-2.5**
JAN	**Janina**	**1.08**	**81**	P	**Pn**	**17 33 48.5**	**+0.4**
JAN				S	**Sn**	**17 34 01.8**	**-0.1**
JAN	**Janina**	**1.08**	**81**	ePN	**Pn**	**17 33 48.5**	**+0.4**
JAN				eSN	**Sn**	**17 34 01.7**	**-0.1**
JAN	**Janina**	**1.08**	**81**	P	**Pn**	**17 33 48.5**	**+0.4**
JAN				S	**Sn**	**17 34 01.8**	**-0.1**
LKD2	**Lefkada island**	**1.16**	**127**	P	**Pn**	**17 33 49.6**	**+0.3**
LKD2				S	**Sn**	**17 34 02.7**	**-1.3**
LKD2	**Lefkada island**	**1.16**	**127**	ePN	**Pn**	**17 33 49.4**	**+0.1**
LKD2				eSN	**Sn**	**17 34 02.9**	**-1.1**
LKD2	**Lefkada island**	**1.16**	**127**	P	**Pn**	**17 33 49.6**	**+0.3**
LKD2				S	**Sn**	**17 34 02.7**	**-1.3**
DSL	**Palaion Diasel**	**1.31**	**106**	P	**Pn**	**17 33 51.4**	**0.0**
DSL	**Palaion Diasel**	**1.31**	**106**	P	**Pn**	**17 33 51.4**	**0.0**
NEST	**Nestorio**	**1.52**	**52**	P	**Pn**	**17 33 56.3**	**+2.0**
NEST	**Nestorio**	**1.52**	**52**	ePN	**Pn**	**17 33 56.2**	**+2.0**
NEST	**Nestorio**	**1.52**	**52**	ePn	**Pn**	**17 33 56.2**	**+2.0**
VLS	**Valsamata**	**1.58**	**146**	P	**Pn**	**17 33 54.6**	**-0.5**
VLS	**Valsamata**	**1.58**	**146**	ePB	**Pn**	**17 33 54.7**	**-0.4**
VLS	**Valsamata**	**1.58**	**146**	ePn	**Pn**	**17 33 54.7**	**-0.4**
PDO	**Prodromos**	**1.61**	**124**	P	**Pn**	**17 33 56.0**	**+0.6**
PDO	**Prodromos**	**1.61**	**124**	ePN	**Pn**	**17 33 56.0**	**+0.6**
PDO	**Prodromos**	**1.61**	**124**	P	**Pn**	**17 33 56.0**	**+0.6**
KFL	**Anninata**	**1.73**	**143**	P	**Pn**	**17 33 56.9**	**-0.1**
KFL				S	**Sn**	**17 34 17.9**	**+0.1**
KFL	**Anninata**	**1.73**	**143**	P	**Pn**	**17 33 56.9**	**-0.1**
KFL				S	**Sn**	**17 34 17.9**	**+0.1**
EVR	**Evrytania**	**1.91**	**107**	P	**Pn**	**17 34 00.7**	**+1.1**
EVR	**Evrytania**	**1.91**	**107**	ePB	**Pn**	**17 34 00.6**	**+1.0**
EVR	**Evrytania**	**1.91**	**107**	P	**Pn**	**17 34 00.7**	**+1.1**
FNA	**Florina**	**1.94**	**48**	P	**Pn**	**17 34 01.6**	**+1.5**
FNA	**Florina**	**1.94**	**48**	ePN	**Pn**	**17 34 01.6**	**+1.5**
FNA	**Florina**	**1.94**	**48**	P	**Pn**	**17 34 01.6**	**+1.5**
KZN	**Kozani**	**1.94**	**65**	P	**Pn**	**17 34 01.1**	**+1.0**
KZN	**Kozani**	**1.94**	**65**	ePN	**Pn**	**17 34 01.4**	**+1.3**
KZN	**Kozani**	**1.94**	**65**	P	**Pn**	**17 34 01.1**	**+1.0**
KZN	**Kozani**	**1.94**	**65**	ePb	**Pn**	**17 34 01.4**	**+1.3**
THL	**Klokotos Trika**	**1.97**	**87**	P	**Pn**	**17 34 01.5**	**+1.2**
THL				S	**Sn**	**17 34 23.9**	**+0.2**
THL	**Klokotos Trika**	**1.97**	**87**	ePB	**Pn**	**17 34 01.5**	**+1.2**
THL				eSN	**Sn**	**17 34 23.8**	**+0.1**
THL	**Klokotos Trika**	**1.97**	**87**	P	**Pn**	**17 34 01.5**	**+1.2**
THL				S	**Sn**	**17 34 23.9**	**+0.2**
MAKR	**Makrakomi, Fth**	**2.12**	**102**	P	**Pn**	**17 34 03.7**	**+1.2**
MAKR				S	**Sn**	**17 34 27.5**	**-0.1**
MAKR	**Makrakomi, Fth**	**2.12**	**102**	ePB	**Pn**	**17 34 03.8**	**+1.2**
MAKR	**Makrakomi, Fth**	**2.12**	**102**	P	**Pn**	**17 34 03.7**	**+1.2**
MAKR				S	**Sn**	**17 34 27.5**	**-0.1**
RLS	**Riolos of Patr**	**2.12**	**132**	ePN	**Pn**	**17 34 03.1**	**+0.6**
RLS	**Riolos of Patr**	**2.12**	**132**	ePn	**Pn**	**17 34 03.1**	**+0.6**
EFP	**Efpalio**	**2.18**	**119**	ePB	**Pn**	**17 34 04.5**	**+1.3**
EFP	**Efpalio**	**2.18**	**119**	ePb	**Pn**	**17 34 04.5**	**+1.3**
AGG	**Agios Georgios**	**2.27**	**101**	P	**Pn**	**17 34 05.9**	**+1.4**
AGG				S	**Sn**	**17 34 31.3**	**0.0**
AGG	**Agios Georgios**	**2.27**	**101**	ePN	**Pn**	**17 34 05.6**	**+1.1**
AGG	**Agios Georgios**	**2.27**	**101**	ePn	**Pn**	**17 34 05.6**	**+1.1**
AGG	**Agios Georgios**	**2.27**	**101**	P	**Pn**	**17 34 05.9**	**+1.4**
AGG				S	**Sn**	**17 34 31.3**	**0.0**
DRO	**Drossia**	**2.33**	**131**	ePN	**Pn**	**17 34 06.0**	**+0.6**
DRO	**Drossia**	**2.33**	**131**	ePn	**Pn**	**17 34 06.0**	**+0.6**
KALE	**Kalithea**	**2.35**	**117**	P	**Pn**	**17 34 06.9**	**+1.1**
KALE	**Kalithea**	**2.35**	**117**	ePN	**Pn**	**17 34 06.7**	**+0.9**
KALE	**Kalithea**	**2.35**	**117**	ePn	**Pn**	**17 34 06.7**	**+0.9**
LIT	**Litokhoron**	**2.40**	**75**	P	**Pn**	**17 34 07.1**	**+0.8**
LIT	**Litokhoron**	**2.40**	**75**	ePN	**Pn**	**17 34 06.8**	**+0.5**
LIT	**Litokhoron**	**2.40**	**75**	ePn	**Pn**	**17 34 06.8**	**+0.5**
LIT	**Litokhoron**	**2.40**	**75**	P	**Pn**	**17 34 07.1**	**+0.8**
KLV	**Kalavryta, Ach**	**2.55**	**124**	P	**Pn**	**17 34 09.4**	**+1.0**
KLV				S	**Sn**	**17 34 38.7**	**+0.5**
KLV	**Kalavryta, Ach**	**2.55**	**124**	ePN	**Pn**	**17 34 09.2**	**+0.8**
KLV	**Kalavryta, Ach**	**2.55**	**124**	ePn	**Pn**	**17 34 09.2**	**+0.8**
KLV				S	**Sn**	**17 34 38.7**	**+0.5**
AXAR	**Agios Charalam**	**2.58**	**105**	ePN	**Pn**	**17 34 09.9**	**+1.1**
AXAR	**Agios Charalam**	**2.58**	**105**	ePn	**Pn**	**17 34 09.9**	**+1.1**
DSF	**Desfina**	**2.62**	**114**	ePN	**Pn**	**17 34 09.5**	**+0.2**
DSF	**Desfina**	**2.62**	**114**	ePn	**Pn**	**17 34 09.5**	**+0.2**
AMT	**Artemida-Makis**	**2.63**	**138**	ePN	**Pn**	**17 34 10.8**	**+1.3**
AMT	**Artemida-Makis**	**2.63**	**138**	ePn	**Pn**	**17 34 10.8**	**+1.3**
GRG	**Griva**	**2.67**	**56**	ePN	**Pn**	**17 34 10.8**	**+0.7**
GRG	**Griva**	**2.67**	**56**	ePn	**Pn**	**17 34 10.8**	**+0.7**
GUR	**Goura**	**2.73**	**124**	ePN	**Pn**	**17 34 12.4**	**+1.4**
GUR	**Goura**	**2.73**	**124**	ePn	**Pn**	**17 34 12.4**	**+1.4**
LKR	**Lokris**	**2.87**	**106**	ePN	**Pn**	**17 34 13.4**	**+0.6**
LKR	**Lokris**	**2.87**	**106**	ePn	**Pn**	**17 34 13.4**	**+0.6**
XOR	**Xorichti**	**2.88**	**91**	ePN	**Pn**	**17 34 14.4**	**+1.4**
XOR	**Xorichti**	**2.88**	**91**	ePn	**Pn**	**17 34 14.4**	**+1.4**
HORT	**Hortiatis**	**2.99**	**67**	ePN	**Pn**	**17 34 14.7**	**+0.2**
HORT	**Hortiatis**	**2.99**	**67**	ePn	**Pn**	**17 34 14.7**	**+0.2**
ITM	**Ithomi**	**3.01**	**139**	ePN	**Pn**	**17 34 15.8**	**+1.0**
ITM	**Ithomi**	**3.01**	**139**	ePn	**Pn**	**17 34 15.8**	**+1.0**
KNT	**Kendrikon**	**3.10**	**57**	ePN	**Pn**	**17 34 16.6**	**+0.7**
KNT	**Kendrikon**	**3.10**	**57**	ePn	**Pn**	**17 34 16.6**	**+0.7**
PYL	**PYLOS**	**3.15**	**145**	ePN	**Pn**	**17 34 18.1**	**+1.4**
PYL	**PYLOS**	**3.15**	**145**	ePn	**Pn**	**17 34 18.1**	**+1.4**
PLG	**Polygyros**	**3.18**	**73**	ePN	**Pn**	**17 34 17.1**	**+0.1**
PLG	**Polygyros**	**3.18**	**73**	ePn	**Pn**	**17 34 17.1**	**+0.1**
SOH	**Sokhos**	**3.25**	**65**	ePN	**Pn**	**17 34 18.8**	**+0.7**
SOH	**Sokhos**	**3.25**	**65**	ePn	**Pn**	**17 34 18.8**	**+0.7**
PAIG	**Paliouri**	**3.27**	**81**	ePN	**Pn**	**17 34 18.3**	**0.0**
PAIG	**Paliouri**	**3.27**	**81**	ePn	**Pn**	**17 34 18.3**	**0.0**
MRKA	**Markates**	**3.30**	**103**	ePN	**Pn**	**17 34 18.8**	**+0.1**
MRKA	**Markates**	**3.30**	**103**	ePn	**Pn**	**17 34 18.8**	**+0.1**
AOS	**Alonnisos**	**3.43**	**94**	P	**Pn**	**17 34 20.3**	**-0.2**
AOS	**Alonnisos**	**3.43**	**94**	ePN	**Pn**	**17 34 20.7**	**+0.2**
AOS	**Alonnisos**	**3.43**	**94**	P	**Pn**	**17 34 20.3**	**-0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**3.43**	**94**	ePn	**Pn**	**17 34 20.7**	**+0.2**
DID	**Didima**	**3.56**	**123**	ePN	**Pn**	**17 34 23.1**	**+0.8**
DID	**Didima**	**3.56**	**123**	ePn	**Pn**	**17 34 23.1**	**+0.8**
OUR	**Ouranopolis**	**3.56**	**75**	ePN	**Pn**	**17 34 22.7**	**+0.4**
OUR	**Ouranopolis**	**3.56**	**75**	ePn	**Pn**	**17 34 22.7**	**+0.4**
STON	**Ston**	**3.62**	**339**	ePn	**Pn**	**17 34 24.1**	**+1.0**
STON				Sn	**Sn**	**17 35 03.2**	**-1.4**
STON	**Ston**	**3.62**	**339**	ePn	**Pn**	**17 34 24.1**	**+1.0**
STON				Sn	**Sn**	**17 35 03.2**	**-1.4**
UDBI	**Udbina**	**5.73**	**332**	ePn	**Pn**	**17 34 53.3**	**+1.1**
UDBI				Sn	**Sn**	**17 35 55.4**	**-1.3**
UDBI	**Udbina**	**5.73**	**332**	ePn	**Pn**	**17 34 53.2**	**+1.1**
NVLJ	**Novalja**	**6.11**	**327**	ePn	**Pn**	**17 34 57.8**	**+0.5**
NVLJ				Sn	**Sn**	**17 36 04.3**	**-1.6**
NVLJ	**Novalja**	**6.11**	**327**	ePn	**Pn**	**17 34 57.7**	**+0.5**

NNC 03 17:51:01.8±7.3**, 36°.86N**×**70°.62E, h0km, mb3.8, mpv3.4, 5C-7D, Error ellipse: s-maj=58.7km s-min=26.9km az=178.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.41**	**324**	⇓P	Pn	17 51 42.5	-0.1
	6.6nm,0.3s						
DZET				⇓S	Sb	17 52 15.4	-1.1
	41nm,0.4s						
SFK	**Sufi-Kurgan**	**3.88**	**35**	⇑P	Pn	17 52 03.7	+0.8
	3.6nm,0.3s						
SFK				⇑S	Sn	17 52 51.0	+1.6
	12nm,0.2s						
MNAS	**Manas**	**5.80**	**14**	⇑P	Pn	17 52 29.2	-0.1
	3.3nm,1.0s						
MNAS				⇓S	Sn	17 53 36.3	-0.4
	2.9nm,0.6s						
KK31	**Karatay Array**	**6.24**	**359**	⇓P	Pn	17 52 34.7	-0.4
	1.1nm,0.5s,baz=185,slow=14						
KK31				⇑S	Sn	17 53 46.6	-0.5
	2.4nm,0.4s,baz=194,slow=26						
AAK	**Ala-Archa**	**6.49**	**26**	⇓P	Pn	17 52 38.1	-0.7
	2.9nm,0.5s						
AAK				⇓S	Sn	17 53 51.8	-1.9
	5.0nm,1.0s						
AB31	**Akbulak array**	**14.62**	**331**	⇑P	Pn	17 54 25.8	-4.0
	0.4nm,0.5s,baz=145,slow=13,SNR=11						
AKTO	**Aktyubinsk**	**16.32**	**330**	⇓P	Pn	17 54 47.6	-4.6
	3.4nm,1.4s						

*IDC **03** 17:55:15.3±0.9, 23°.36S×175°.23W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.1/19, mbtmp4.1/10, MS3.6/7, Ms1 3.6/7, ms1mx3.4/21, Error ellipse: s-maj=35.6km s-min=22.3km az=152.0*

*ISCJB **03** 17:55:17.6±0.9, 23°.6S±0°.2×175°.1W±0°.1, h29km, mb4.1/13, MS3.7/6, Error ellipse: s-maj=25.7km s-min=15.7km az=163.9*

*NEIC **03** 17:55:20.3±0.8, 23°.56S×175°.10W, h35km, mb4.7/2, Error ellipse: s-maj=25.6km s-min=21.0km az=181.0*

ISC 03 17:55:18.8±0.8**, 23°.6S**±0°.2×**175°.0W**±0°.1**, h29km, n26, σ1s.59**/20**, mb4.1**/13**, MS3.6**/6**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.71**	**310**	eP	**Pn**	**17 57 24.8**	**+1.9**
	76nm,1.0s						
RAR	**Rarotonga**	**14.27**	**84**	Pn	Pn	17 58 33.9	-5.2
	2.9nm,0.3s,baz=244,slow=11,SNR=5.9						
RAR				LR	LR	18 03 32.5	
	comp=Z,263nm,21.0s,baz=266,slow=34						
DZM	**Mont Dzumac**	**17.18**	**271**	eP	**Pn**	**17 59 17.1**	**+0.2**
	45nm,1.6s						
DZM				eLR	LR	18 03 16.5	
	183nm,22.6s						
TBI	**Tubuai**	**23.42**	**95**	eLR	LR	18 05 58.5	
	301nm,22.8s						
PPT2	**Papeete2**	**24.51**	**81**	eLR	LR	18 06 21.6	
	261nm,21.8s						
PPT	**Papeete**	**24.52**	**81**	LR	LR	18 08 04.4	
	comp=Z,211nm,20.6s,baz=282,slow=31						
RKT	**Rikitea**	**36.67**	**98**	eLR	LR	18 12 06.4	
	391nm,29.2s						
STKA	**Stephens Creek**	**39.11**	**248**	P	**P**	**18 02 43.1**	**-0.6**
	1.3nm,0.7s,baz=66,slow=7.0,SNR=3.9						
STKA				LR	LR	18 17 01.2	
	comp=Z,175nm,18.9s,baz=36,slow=34						
ASAR	**Alice Springs**	**46.61**	**259**	P	**P**	**18 03 43.9**	**-0.9**
	1.6nm,0.8s,baz=104,slow=6.9,SNR=19						
WRA	**Warramunga Arr**	**47.01**	**264**	P	**P**	**18 03 45.9**	**-1.9**
	2.5nm,0.6s,baz=102,slow=8.3,SNR=36						
VNDA	**Vanda**	**55.16**	**186**	LR	LR	18 25 19.9	
	comp=Z,44nm,19.9s,baz=178,slow=33						
MJAR	**Matsushiro Arr**	**74.31**	**322**	P	**P**	**18 06 52.0**	**-1.5**
	0.7nm,0.5s,baz=161,slow=7.0,SNR=4.4						
JNU	**Nakatsue**	**76.39**	**316**	LR	LR	18 35 17.2	
	comp=Z,30nm,19.3s,baz=44,slow=32						
ASAJ	**Asahikawa**	**77.73**	**330**	P	**P**	**18 07 12.9**	**+0.1**
	4.7nm,0.8s,baz=173,slow=9.0						
PETK	**Petropavlovsk-**	**79.94**	**344**	P	**P**	**18 07 24.9**	**+0.1**
	1.5nm,0.8s,baz=138,slow=8.8,SNR=3.8						
KSRS	**Korea Array**	**81.01**	**317**	LR	LR	18 38 05.0	
	comp=Z,30nm,20.1s,baz=142,slow=32						
NVAR	**Mina Array Bea**	**81.38**	**42**	P	**P**	**18 07 33.5**	**+0.3**
	0.3nm,0.3s,baz=215,slow=7.7,SNR=2.9						
USRK	**Ussuriysk Ar.**	**83.05**	**325**	P	**P**	**18 07 42.8**	**+1.3**
	3.6nm,0.8s,baz=135,slow=4.1,SNR=9.5						
TXAR	**Lajitas Array**	**86.39**	**56**	P	**P**	**18 07 60.0**	**+1.1**
	0.2nm,0.8s,baz=230,slow=6.8,SNR=2.7						
TXAR				LR	LR	18 38 47.3	
	comp=Z,32nm,21.5s,baz=0.0,slow=30						
ILAR	**Eielson Array**	**90.69**	**12**	P	**P**	**18 08 15.3**	**-2.9**
	0.4nm,0.8s,baz=206,slow=6.0,SNR=3.7						
CM31	**Chiang Mai Arr**	**93.74**	**288**	eP	**P**	**18 08 35.4**	**+2.0**
	2.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**93.74**	**288**	P	**P**	**18 08 35.3**	**+1.9**
	2.9nm,0.8s,baz=134,slow=3.3,SNR=25						
CHTO	**Chiang Mai**	**93.88**	**289**	eP	**P**	**18 08 35.0**	**+0.9**
	3.2nm,0.9s						
AKASG	**Malin Array Be**	**147.01**	**331**	PKPbc	**PKPbc**	**18 14 58.7**	**+0.1**
	0.6nm,0.5s,baz=38,slow=4.2,SNR=4.7						
BRTR	**Keskin Array B**	**150.94**	**310**	PKP	**PKPdf**	**18 15 02.3**	**-1.0**
	0.4nm,0.7s,baz=20,slow=4.6,SNR=2.9						
BRTR				PKPbc	**PKiKP**	**18 15 09.3**	**-0.3**
	0.9nm,0.8s,baz=116,slow=2.9,SNR=5.0						
BRTR				PKPab	**PKPab**	**18 15 15.0**	**-1.5**
	0.3nm,0.6s,baz=85,slow=1.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**169.19**	**163**	PKPab	**PKPab**	**18 16 38.8**	**+3.0**
	0.3nm,0.8s,baz=207,slow=2.9,SNR=3.0						

*ISCJB **03** 18:10:02.9±0.2, 32°.72N±0°.02×115°.88W±0°.02, h12km, Error ellipse: s-maj=2.4km s-min=2.0km az=171.3*

*ECX **03** 18:10:04.3±0.6, 32°.71N×115°.92W, h3km, MD3.9, ML4.1, Fault plane solution: NP1:φs206.57000°, δ75.52000°, λ-26.57000°.*

*NEIC **03** 18:10:04.0, 32°.70N×115°.91W, h5km, MD4.0(ECX), ML4.1(PAS), After PAS.*

NEIC Felt [IV] at Ocotillo, [III] at Boulevard and [II] at Chula Vista, Coronado, El Cajon, El Centro, San Diego and Santee. Also felt at Bonita, Bonsall, Calexico, Campo, Escondido, Fallbrook, Indio, Irvine, Jamul, La Jolla, La Mesa, Lemon Grove, Oceanside, Palm Springs, Pleasanton, Poway, Ramona, Spring Valley and Valley Center. Felt at Mexicali, Baja California.

*MEX **03** 18:10:06.2±0.8, 32°.36N×115°.80W, h16km±16km, MD3.5*

ISC 03 18:10:03.0±0.7**, 32°.69N**±0°.02×**115°.89W**±0°.02**, h12km, n76, σ1s.03**/96**, 10C-8D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.05**	**210**	⇓iP	**Pg**	**18 10 05.4**	**+0.1**
WESC	**Westside Schoo**	**0.15**	**64**	⇑iP	**Pg**	**18 10 07.3**	**+0.8**
WESC				eS	**Sg**	**18 10 10.5**	**+1.4**
IBP	**Imperial Bould**	**0.17**	**260**	P	**Pg**	**18 10 07.0**	**0.0**
	baz=0.2						
RMX	**La Rumorosa**	**0.18**	**240**	⇑eP	**Pg**	**18 10 07.4**	**+0.3**
RMX				eS	**Sg**	**18 10 10.0**	**0.0**
RMX	**La Rumorosa**	**0.18**	**240**	⇑eP	**Pg**	**18 10 07.4**	**+0.3**
RMX				eS	**Sg**	**18 10 10.2**	**+0.1**
ERPC	**Ernies Place**	**0.20**	**75**	⇑iP	**Pb**	**18 10 08.5**	**-0.2**
CRR	**Carrizo Plain**	**0.20**	**342**	⇓iP	**Pg**	**18 10 07.6**	**+0.1**
COK	**Cook Ranch**	**0.21**	**42**	⇑iP	**Pg**	**18 10 08.3**	**+0.7**
SWSC	**Sam W. Stewart**	**0.26**	**18**	P	**Pg**	**18 10 08.7**	**+0.3**
	baz=0.3						
SWSC				S	**Sg**	**18 10 12.5**	**+0.4**
	baz=0.3						
SWSC	**Sam W. Stewart**	**0.26**	**18**	ePn	**Pg**	**18 10 08.8**	**+0.3**
DREC	**Desert Rsrch C**	**0.39**	**73**	⇑eP	**Pb**	**18 10 12.2**	**+0.3**
MONP	**Monument Peak,**	**0.49**	**294**	P	**Pg**	**18 10 12.6**	**0.0**
	baz=0.5						
MONP				S	**Sg**	**18 10 19.1**	**0.0**
	baz=0.5						
CPBX	**Cerro Prieto**	**0.57**	**119**	eP	**Pb**	**18 10 15.0**	**+0.1**
CPBX				iS	**Sg**	**18 10 20.8**	**-0.9**
CPBX	**Cerro Prieto**	**0.57**	**119**	⇓eP	**Pb**	**18 10 14.9**	**+0.1**
CPBX				eS	**Sb**	**18 10 23.6**	**+0.7**
CPBX				IAML		18 10 25.1	
	comp=E,48µm,0.3s						
CPBX				⇓e		18 10 25.1	
CPBX				IAML		18 10 27.8	
	comp=N,32µm,0.5s						
CPBX				⇓e		18 10 27.8	
MBIG	**Mexicali**	**0.65**	**116**	eP	**Pg**	**18 10 15.3**	**-0.4**
MBIG				eS	**Sg**	**18 10 20.9**	**-3.4**
BAR	**Barrett**	**0.66**	**269**	ePg	**Pg**	**18 10 15.6**	**-0.2**
BAR				eSg	**Sg**	**18 10 23.9**	**-0.5**
BAR	**Barrett**	**0.66**	**269**	⇑eP	**Pg**	**18 10 15.8**	**0.0**
CBX	**Cerro Bola**	**0.75**	**240**	eP	**Pg**	**18 10 17.5**	**-0.2**
CBX				iS	**Sg**	**18 10 26.9**	**-0.6**
CBX	**Cerro Bola**	**0.75**	**240**	eP	**Pg**	**18 10 17.5**	**-0.2**
CBX				iS	**Sg**	**18 10 26.9**	**-0.6**
CBX	**Cerro Bola**	**0.75**	**240**	⇑eP	**Pg**	**18 10 17.8**	**+0.1**
CBX				eS	**Sg**	**18 10 27.7**	**+0.2**
CBX				IAML		18 10 37.1	
	comp=E,7µm,0.8s						
CBX				⇑e		18 10 37.1	
RDX	**Rancho Dawling**	**0.76**	**183**	⇓eP	**Pg**	**18 10 17.8**	**-0.1**
RDX				IAML		18 10 29.0	
	comp=N,4µm,0.2s						
SDRC	**San Diego Road**	**0.89**	**273**	eP	**Pg**	**18 10 19.6**	**-0.6**
GLA	**Glamis**	**0.97**	**68**	P	**Pg**	**18 10 20.9**	**-0.8**
	baz=1.0						
GLA				S	**Sg**	**18 10 33.6**	**-0.7**
	baz=1.0						
GLA	**Glamis**	**0.97**	**68**	ePg	**Pg**	**18 10 20.9**	**-0.8**
GLA				eSg	**Sg**	**18 10 33.3**	**-1.0**
BC3	**Big Chuckawall**	**1.03**	**21**	P	**Pb**	**18 10 21.8**	**-1.1**
	baz=1.0						
BC3				S	**Sb**	**18 10 35.0**	**-1.4**
	baz=1.0						
PFO	**Pinyon Flats O**	**1.03**	**333**	P	**Pb**	**18 10 21.7**	**-1.2**
	baz=1.0						
PFO				S	**Sb**	**18 10 35.2**	**-1.2**
	baz=1.0						
PFO	**Pinyon Flats O**	**1.03**	**333**	ePg	**Pb**	**18 10 21.5**	**-1.4**
PFO				eSg	**Sb**	**18 10 34.2**	**-2.2**
109C	**Camp Elliot, M**	**1.04**	**281**	P	**Pb**	**18 10 22.2**	**-0.7**
	baz=1.0						
109C				S	**Sb**	**18 10 35.3**	**-1.2**
	baz=1.0						
PBX	**Punta Banda**	**1.18**	**217**	⇑eP	**Pb**	**18 10 25.3**	**-0.1**
PBX				eS	**Sb**	**18 10 40.9**	**+0.2**
ECNX	**Esteban Cantu**	**1.19**	**210**	eP	**Pn**	**18 10 25.6**	**-0.1**
ECNX				eS	**Sg**	**18 10 41.4**	**-0.1**
ZAX	**El Zacaton**	**1.22**	**195**	⇓eP	**Pn**	**18 10 26.1**	**+0.1**
ZAX				eS	**Sg**	**18 10 42.1**	**-0.2**
BELC	**Belle Mtn. Jos**	**1.31**	**356**	P	**Pn**	**18 10 25.8**	**-1.5**
	baz=1.3						
MURC	**Murrieta**	**1.42**	**310**	P	**Pn**	**18 10 27.9**	**-0.8**
	baz=1.4						
MURC				S	**Sn**	**18 10 47.9**	**+0.5**
	baz=1.4						
Y12C	**Blythe**	**1.56**	**47**	P	**Pn**	**18 10 29.5**	**-1.0**
	baz=1.6						
IRM	**Iron Mountain**	**1.59**	**23**	P	**Pn**	**18 10 30.2**	**-0.9**
	baz=1.6						
SPX	**San Pedro Mart**	**1.68**	**167**	⇓eP	**Pb**	**18 10 33.5**	**-0.6**
SPX				eS	**Sg**	**18 10 56.7**	**-0.5**
GMRC	**Granite Mounta**	**2.09**	**5**	P	**Pn**	**18 10 37.2**	**-0.8**
	baz=2.1						
BFSC	**Mount Baldy Ra**	**2.13**	**317**	Pb	**Pb**	**18 10 41.5**	**-0.2**
	baz=2.1						
BFSC				Sb	**Sb**	**18 11 08.6**	**+0.4**
	baz=2.1						
HEC	**Hector,Ludlow**	**2.16**	**350**	P	**Pn**	**18 10 38.2**	**-0.8**
	baz=2.2						
CIS	**Catalina Islan**	**2.23**	**289**	S	**Sn**	**18 11 08.7**	**+1.5**
	baz=2.2						
SCI	**San Clemente I**	**2.25**	**278**	P	**Pn**	**18 10 40.7**	**+0.6**
	baz=2.2						
SCI				S	**Sn**	**18 11 08.6**	**+0.8**
	baz=2.2						
FMP	**Fort Macarthur**	**2.25**	**297**	Sb	**Sb**	**18 11 12.4**	**+0.9**
	baz=2.2						
MWC	**Mount Wilson**	**2.37**	**311**	ePn	**Pb**	**18 10 45.1**	**-0.6**
MWC				eSn	**Sb**	**18 11 14.2**	**-0.8**
PASC	**Pasadena Art C**	**2.42**	**308**	ePn	**Pb**	**18 10 46.1**	**-0.4**
DECC	**Green Verdugo**	**2.56**	**308**	Sb	**Sb**	**18 11 22.0**	**+1.6**
	baz=2.5						
214A	**Organ Pipe Nat**	**2.71**	**105**	P	**Pn**	**18 10 45.8**	**-0.7**
	baz=2.7						
214A	**Organ Pipe Nat**	**2.71**	**105**	ePn	**Pn**	**18 10 45.6**	**-0.8**
GSC	**Goldstone, Bar**	**2.71**	**344**	ePn	**Pn**	**18 10 46.0**	**-0.5**
GSC				ePg	**Pb**	**18 10 53.7**	**+2.1**
EDW2	**Edwards Air Fo**	**2.79**	**322**	Sb	**Sb**	**18 11 29.4**	**+2.2**
	baz=2.8						
BLG	**Laguna Peak, P**	**3.00**	**299**	Sb	**Sb**	**18 11 34.5**	**+1.3**
	baz=3.0						
OSI	**Osito Audit: C**	**3.04**	**310**	eP	**Pb**	**18 10 55.9**	**-1.3**
MPMC	**Manual Prospec**	**3.61**	**339**	P	**Pn**	**18 10 58.4**	**-0.6**
	baz=3.6						
ISA	**Isabella, Lake**	**3.66**	**325**	ePn	**Pn**	**18 10 59.2**	**-0.3**
DAC	**Darwin (Calif)**	**3.84**	**339**	ePn	**Pn**	**18 10 59.9**	**-2.3**
SHPR	**Sheep Range**	**3.85**	**9**	ePn	**Pn**	**18 11 02.6**	**+0.3**
TUC	**Tucson**	**4.33**	**94**	ePn	**Pn**	**18 11 09.2**	**+0.4**
WUAZ	**Wupatki**	**4.69**	**52**	P	**Pn**	**18 11 14.3**	**+0.5**
	baz=4.7						
WUAZ	**Wupatki**	**4.69**	**52**	ePn	**Pn**	**18 11 11.2**	**-2.6**
CCUT	**Cedar City**	**5.27**	**22**	ePn	**Pn**	**18 11 22.7**	**+0.9**
TPH	**Tonopah**	**5.48**	**349**	ePg	Pb	18 11 43.6	+4.8
R11A	**Troy Canyon, C**	**5.65**	**2**	ePg	**Pg**	**18 11 50.6**	**-0.6**
W18A	**Petrified Fore**	**5.66**	**63**	P	**Pn**	**18 11 28.0**	**+0.9**
	baz=5.7						
W18A	**Petrified Fore**	**5.66**	**63**	ePn	**Pn**	**18 11 28.7**	**+1.6**
CMB	**Columbia Colle**	**6.47**	**327**	ePg	Pb	18 12 00.7	+5.1
WAKR	**Walker**	**6.48**	**335**	ePg	Pg	18 12 02.0	-5.1
MVU	**Marysvale**	**6.53**	**26**	ePn	Pn	18 11 42.5	+3.4
121A	**Cookes Peak, D**	**6.84**	**89**	P	**Pn**	**18 11 43.8**	**+0.4**
	baz=6.8						
121A	**Cookes Peak, D**	**6.84**	**89**	eP	**Pn**	**18 11 43.9**	**+0.5**
MVCO	**Mesa Verde**	**7.56**	**51**	ePn	**Pn**	**18 11 56.2**	**+2.9**
SRU	**San Rafael Swe**	**7.74**	**33**	ePn	**Pn**	**18 11 56.4**	**+0.7**
DUG	**Dugway, Tooele**	**7.89**	**17**	ePg	**Pg**	**18 12 34.7**	**+0.7**
PV04	**Paradox Valley**	**8.05**	**43**	ePn	Pn	18 12 03.5	+3.6
PV01	**Paradox Valley**	**8.07**	**46**	ePn	Pn	18 12 03.7	+3.4
ANMO	**Albuquerque**	**8.17**	**71**	ePn	**Pn**	**18 12 03.8**	**+2.2**
MNTX	**Cornudas Mount**	**8.96**	**94**	P	**Pn**	**18 12 13.6**	**+1.2**
	baz=9.0						
MSTX	**Muleshoe**	**11.05**	**80**	ePn	Pn	18 12 44.7	+3.7

NNC 03 18:16:55.5±2.5**, 41°.93N**×**80°.81E, h0km, mb3.6, mpv3.3, 10C-5D, Error ellipse: s-maj=17.7km s-min=12.2km az=145.0, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**1.71**	**326**	⇑P	Pn	18 17 25.3	-1.2
	27nm,0.3s						
PDGK				⇑S	Sb	18 17 49.7	-0.1
	190nm,0.6s						
KNDC	**Almaty**	**3.12**	**296**	⇓Pn	Pb	18 17 49.3	-2.7
	16nm,0.7s						
KNDC				⇓Sn	Sn	18 18 26.0	+2.0
	55nm,0.6s						
TKM2	**Tokmak 2**	**3.98**	**286**	⇑Pn	Pn	18 17 56.7	-1.4
	0.7nm,0.3s						
TKM2				⇓Sn	Sn	18 18 45.6	-0.1
	4.2nm,0.5s						
TKM2				⇓Lg	Lg	18 18 59.5	
	7.7nm,0.5s						
AAK	**Ala-Archa**	**4.74**	**281**	⇓Pg	Pb	18 18 17.9	-1.7
	3.1nm,0.7s						
AAK				⇑Lg	Lg	18 19 26.8	
	18nm,0.8s						
MK31	**Makanchi Array**	**4.98**	**12**	Pn	Pn	18 18 11.7	0.0
	1.2nm,0.3s,baz=200,slow=14,SNR=132						
MK31				Sn	Sn	18 19 11.7	+1.8
	6.3nm,0.7s,baz=196,slow=20,SNR=5.2						
MK31				⇑Lg	Lg	18 19 32.6	
	3.4nm,0.6s,baz=195,slow=28,SNR=4.4						
MNAS	**Manas**	**6.19**	**278**	⇑Pg	Pb	18 18 49.1	+4.7
	4.4nm,1.8s						
MNAS				⇑Lg	Lg	18 20 13.9	
	3.0nm,0.8s						
KK31	**Karatay Array**	**7.70**	**282**	⇑Pg	Pg	18 19 18.9	-4.1
	1.0nm,0.8s						
KK31				⇑Lg	Lg	18 20 59.3	
	3.7nm,0.8s						
KURBB	**Kurchatov Arra**	**8.84**	**351**	⇑Lg	Lg	18 21 37.6	
	6.4nm,0.6s						

IDC 03 18:22:55.3±64.0**, 29°.80S**×**177°.15W, h0km, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.5**/17**, mbtmp3.5**/3**, Error ellipse: s-maj=1180.0km s-min=200.5km az=98.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.33**	**256**	P	P	18 29 52.7	+0.3
	1.3nm,0.8s,baz=101,slow=16,SNR=3.4						
ASAR	**Alice Springs**	**43.88**	**266**	P	P	18 31 03.1	-0.7
	0.2nm,0.7s,baz=105,slow=7.0,SNR=5.9						
WRA	**Warramunga Arr**	**44.82**	**271**	P	P	18 31 11.5	+0.1
	0.3nm,0.3s,baz=112,slow=7.9,SNR=11						

*IDC **03** 18:32:09.5±2.4, 42°.10N×80°.88E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.4/29, mbtmp3.5/5, ML3.2/3, MS3.1/1, Ms1 3.1/1, ms1mx2.2/28, Error ellipse: s-maj=68.0km s-min=18.1km az=91.0*

*ISCJB **03** 18:32:10.9±0.7, 42°.03N±0°.06×81°.16E±0°.07, h10km, mb3.4/2, MS3.1/1, Error ellipse: s-maj=8.9km s-min=7.0km az=16.4*

*NNC **03** 18:32:13.4±3.5, 42°.17N×81°.04E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=25.8km s-min=16.4km az=145.0*

ISC 03 18:32:13.2±0.9**, 42°.13N**±0°.06×**81°.14E**±0°.05**, h10km, n19, σ2s.11**/21**, 15C-6D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**1.71**	**315**	⇑Pn	**Pn**	**18 32 41.1**	**-1.9**
	27nm,0.3s						
PDGK				⇑Sn	**Sg**	**18 33 05.2**	**-2.8**
	60nm,0.4s						
KNDC	**Almaty**	**3.26**	**291**	⇓Pn	**Pn**	**18 33 06.7**	**+2.2**
	53nm,0.8s						
KNDC				⇓Sn	**Sb**	**18 33 49.1**	**-1.9**
	83nm,0.6s						
TKM2	**Tokmak 2**	**4.17**	**283**	⇑Pg	**Pb**	**18 33 27.2**	**+0.4**
	9.7nm,0.5s						
TKM2				⇓Lg	Lg	18 34 18.8	
	42nm,0.7s						
KSH	**Kashi**	**4.71**	**238**	Pn	**Pg**	**18 33 42.3**	**-1.0**
KSH				Sn	**Sb**	**18 34 33.6**	**+1.0**
KSH				smax	smax		
	comp=N,20nm,0.7s						
KSH				smax	smax		
	comp=E,17nm,0.7s						
MK31	**Makanchi Array**	**4.74**	**10**	⇑Pn	**Pn**	**18 33 26.4**	**+1.8**
	comp=E,6.1nm,0.6s,baz=196,slow=13,SNR=346						
MK31				⇑Sn	**Sn**	**18 34 25.1**	**+5.5**
	comp=E,11nm,0.7s,baz=188,slow=25,SNR=5.6						
MK31				⇑Lg	Lg	18 34 40.7	
	comp=E,12nm,0.7s,baz=187,slow=27,SNR=5.8						
MKAR	**Makanchi Array**	**4.74**	**10**	Pn	**Pn**	**18 33 26.2**	**+1.6**
	comp=E,2.8nm,0.3s,baz=188,slow=14,SNR=80						
MKAR				Sn	**Sn**	**18 34 20.0**	**+0.4**
	comp=E,1.7nm,0.3s,baz=194,slow=15,SNR=4.0						
MKAR				Lg	Lg	18 34 41.4	
	comp=E,3.5nm,0.3s,baz=192,slow=32,SNR=6.6						
AAK	**Ala-Archa**	**4.95**	**278**	⇑Pn	**Pn**	**18 33 27.9**	**+0.2**
	comp=E,1.6nm,0.7s						
AAK				⇑Sn	**Sn**	**18 34 25.4**	**+0.4**
	comp=E,7.9nm,0.7s						
AAK				⇓Lg	Lg	18 34 44.0	
	comp=E,28nm,1.1s						
SFK	**Sufi-Kurgan**	**6.14**	**252**	⇑Pg	**Pb**	**18 34 02.7**	**+2.3**
	comp=E,5.7nm,0.7s						
MNAS	**Manas**	**6.41**	**276**	⇓Pg	**Pb**	**18 34 06.8**	**+1.9**
	comp=E,6.2nm,1.6s						
MNAS				⇓Lg	Lg	18 35 31.8	
	comp=E,14nm,1.2s						
KK31	**Karatay Array**	**7.90**	**281**	⇑Pg	Pb	18 34 35.1	+5.0
	comp=E,1.9nm,0.7s						
KK31				⇑Lg	Lg	18 36 17.8	
	comp=E,6.8nm,0.8s,baz=84,slow=27,SNR=4.0						
KURBB	**Kurchatov Arra**	**8.68**	**349**	⇑Lg	Lg	18 36 45.4	
	comp=E,42nm,1.6s						
OTUK	**Ortayu**	**8.71**	**318**	⇑Pn	**Pn**	**18 34 20.4**	**+1.1**
	comp=E,1.4nm,0.5s						
OTUK				⇑Lg	Lg	18 36 48.8	
	comp=E,6.0nm,0.7s						
KURK	**Kurchatov**	**8.76**	**349**	⇑Lg	Lg	18 36 49.0	
	comp=E,9.6nm,1.3s						
ZALV	**Zalesovo Beam**	**12.08**	**10**	Pn	**Pn**	**18 35 03.0**	**-2.3**
	comp=E,0.1nm,0.3s,baz=195,slow=14,SNR=3.1						
ZALV				Lg	Lg	18 38 29.8	
	comp=E,0.1nm,0.3s,baz=183,slow=24,SNR=2.2						
SONM	**Songino Array**	**18.71**	**64**	P	**P**	**18 36 32.4**	**+0.6**
	comp=E,0.2nm,0.3s,baz=262,slow=11,SNR=3.8						
CD2	**Chengdu**	**21.29**	**114**	eP	**P**	**18 36 58.4**	**-1.5**
MJAR	**Matsushiro Arr**	**43.79**	**78**	LR	LR	19 00 06.7	
	comp=E,21nm,18.7s,baz=110,slow=38						
WRA	**Warramunga Arr**	**78.90**	**130**	P	**P**	**18 44 15.4**	**-1.4**
	comp=E,0.4nm,0.9s,baz=331,slow=4.9,SNR=3.3						
ASAR	**Alice Springs**	**81.61**	**132**	P	**P**	**18 44 29.9**	**-1.4**
	comp=E,0.4nm,0.9s,baz=322,slow=5.2,SNR=3.4						

*ISCJB **03** 18:39:42.7±1.0, 24°.0S±0°.2×180°.0W±0°.2, h518km, mb3.9/7, Error ellipse: s-maj=31.4km s-min=18.5km az=153.5*

*IDC **03** 18:39:42.6±3.1, 23°.90S×179°.89W, h511km±33km, mb3.4/7, mb1 3.6/7, mb1mx3.2/19, mbtmp4.3/7, Error ellipse: s-maj=35.2km s-min=20.6km az=163.0*

ISC 03 18:39:43.2±0.9**, 24°.0S**±0°.3×**179°.9W**±0°.2**, h518km, n10, σ1s.08**/11**, mb3.9**/7**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**21.08**	**199**	P	**P**	**18 43 50.2**	**-0.2**
	2.7nm,0.6s,baz=3.3,slow=12,SNR=3.1						
CTA	**Charters Tower**	**31.58**	**270**	P	**P**	**18 45 24.1**	**+0.8**
	12nm,0.4s,baz=93,slow=11,SNR=29						
STKA	**Stephens Creek**	**34.80**	**248**	P	**P**	**18 45 50.4**	**+0.1**
	0.5nm,0.4s,baz=86,slow=7.7,SNR=5.3						
ASAR	**Alice Springs**	**42.13**	**261**	P	**P**	**18 46 49.9**	**-0.1**
	1.9nm,0.5s,baz=100,slow=7.0,SNR=69						
ASAR				ScP	**ScP**	**18 51 35.6**	**+1.8**
	0.6nm,0.9s,baz=130,slow=4.8,SNR=4.1						
WRA	**Warramunga Arr**	**42.51**	**266**	P	**P**	**18 46 52.5**	**-0.5**
	6.8nm,0.6s,baz=97,slow=8.3,SNR=91						
NVAR	**Mina Array Bea**	**84.72**	**44**	P	**P**	**18 51 22.5**	**-0.2**
	0.7nm,0.7s,baz=234,slow=7.7,SNR=4.5						
TXAR	**Lajitas Array**	**90.37**	**58**	P	**P**	**18 51 50.5**	**+1.2**
	1.1nm,0.7s,baz=218,slow=6.9,SNR=12						
ARCES	**ARCESS Array B**	**131.95**	**348**	PKP	**PKPdf**	**18 57 56.0**	**-0.7**
	1.0nm,0.8s,baz=18,slow=1.5,SNR=3.8						
AKASG	**Malin Array Be**	**145.06**	**327**	PKPbc	**PKPdf**	**18 58 19.7**	**-1.4**
	0.4nm,0.3s,baz=44,slow=4.1,SNR=3.3						
BRTR	**Keskin Array B**	**147.69**	**307**	PKPbc	**PKPbc**	**18 58 28.6**	**-1.1**
	0.3nm,0.6s,baz=132,slow=2.1,SNR=2.7						

*IDC **03** 18:56:26.9±1.7, 8°.62N×126°.85E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/23, mbtmp3.5/4, Error ellipse: s-maj=176.8km s-min=21.0km az=70.0*

*ISCJB **03** 18:56:28.8±1.0, 8°.9N±0°.1×127°.47E±0°.08, h33km, mb3.6/5, Error ellipse: s-maj=14.7km s-min=10.7km az=0.0*

*MAN **03** 18:56:32, 8°.92N×127°.24E, h32km, mb4.7, ML3.5, MS3.5*

ISC 03 18:56:31.5±1.2**, 8°.9N**±0°.1×**127°.4E**±0°.1**, h35km, n8, σ1s.73**/10**, mb3.3**/5**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.74**	**271**	eP	**Pn**	**18 56 57.7**	**-1.5**
BUTP				eS	**Sn**	**18 57 18.6**	**-1.7**
BUKP	**Musuan**	**2.53**	**246**	eP	**Pn**	**18 57 10.0**	**-0.1**
BUKP				eS	**Sn**	**18 57 42.6**	**+2.8**
MSLP	**Maasin**	**2.76**	**296**	eP	**Pn**	**18 57 12.6**	**-0.7**
WRA	**Warramunga Arr**	**29.50**	**167**	P	**P**	**19 02 31.9**	**-0.7**
	0.6nm,1.0s,baz=347,slow=9.4,SNR=2.7						

ASAR	**Alice Springs**	**33.02**	**169**	P	**P**	**19 03 02.1**	**-1.5**
	0.2nm,0.8s,baz=357,slow=10,SNR=7.5						
SONM	**Songino Array**	**42.65**	**339**	P	**P**	**19 04 26.8**	**+2.0**
	0.3nm,0.5s,baz=155,slow=8.5,SNR=3.0						
MKAR	**Makanchi Array**	**53.75**	**323**	P	**P**	**19 05 50.5**	**+0.2**
	3.4nm,0.4s,baz=119,slow=9.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**56.32**	**331**	P	**P**	**19 06 08.8**	**0.0**
	0.6nm,0.5s,baz=120,slow=7.1,SNR=4.6						

IDC 03 19:17:09.4±5.6,**7.77S**×**124.78E,h199**km±55km,**mb2.9**/1, **mb1 3.1**/3,**mb1mx2.8**/26,**mbtmp3.6**/3,**Error ellipse: s-maj=181.5km s-min=15.3km az=61.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.24**	**144**	P	Pn	19 20 33.5	-1.2
	0.4nm,0.3s,baz=318,slow=12,SNR=14						
WRA				S	S	19 23 14.2	-10
	0.2nm,0.3s,baz=328,slow=22,SNR=3.5						
ASAR	**Alice Springs**	**18.07**	**152**	P	P	19 21 07.3	+1.1
	0.2nm,0.3s,baz=327,slow=12,SNR=19						
ASAR				S	S	19 24 23.5	+0.4
	0.1nm,0.3s,baz=321,slow=20,SNR=6.2						
MKAR	**Makanchi Array**	**66.14**	**330**	P	P	19 27 35.4	-0.1
	0.2nm,0.5s,baz=131,slow=8.2,SNR=5.3						

ISCJB ***03*** *19:25:30.2±0.6, 13.04N±0.03×120.19E±0.06, h10km, mb3.3/6, MS2.7/1, Error ellipse: s-maj=8.0km s-min=4.6km az=177.3*
MAN ***03*** *19:25:31, 13.04N×120.17E, h32km, mb4.5, ML3.3, MS3.2*
IDC ***03*** *19:25:38.9±2.4, 13.50N×120.29E, h60km±26km, mb3.1/6, mb1 3.3/6, mb1mx3.1/25, mbtmp3.4/6, MS2.8/1, Ms1 2.8/1, ms1mx2.4/12, Error ellipse: s-maj=37.4km s-min=20.3km az=65.0*
ISC 03 19:25:30.5±0.7,**13.04N**±0.04×**120.23E**±0.06,**h10**km,**n15,** σ**1.16**/16,**mb3.2**/6,**Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.69**	**1**	*e*P	**Pb**	**19 25 45.4**	**+0.7**
LUBP				*e*S	**Sb**	**19 25 55.4**	**+1.0**
BUSP	**Coron**	**1.03**	**182**	*e*P	**Pg**	**19 25 50.4**	**0.0**
BUSP				*e*S	**Sg**	**19 26 03.9**	**+0.1**
SJMP	**San Jose**	**1.04**	**123**	*e*P	**Pg**	**19 25 50.8**	**+0.3**
SJMP				*e*S	**Sb**	**19 26 05.3**	**+1.0**
TGY	**Tagaytay City**	**1.26**	**33**	P	**Pg**	**19 25 55.1**	**+0.4**
	499nm,0.3s,baz=220,slow=8.1,SNR=45						
TGY				S	**Sb**	**19 26 08.6**	**-2.2**
	177nm,0.3s,baz=302,slow=22,SNR=7.2						
OTRP	**Odiongan**	**1.87**	**111**	*e*P	**Pn**	**19 26 02.4**	**-0.2**
ENPP	**El Nido**	**1.98**	**204**	*e*P	**Pn**	**19 26 03.6**	**-0.6**
CUYO	**Cuyo Island**	**2.31**	**160**	*e*P	**Pn**	**19 26 07.6**	**-1.0**
GUIM	**Jordan**	**3.33**	**136**	*e*P	**Pn**	**19 26 22.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**21.18**	**287**	P	**P**	**19 30 18.5**	**+2.2**
	0.6nm,0.9s,baz=90,slow=8.8,SNR=5.4						
KSRS	**Korea Array**	**25.27**	**14**	LR	LR	19 41 13.5	
	comp=Z,25nm,20.4s,baz=35,slow=38						
WRA	**Warramunga Arr**	**35.59**	**157**	P	P	19 32 33.5	+5.0
	0.2nm,0.6s,baz=332,slow=10,SNR=3.0						
SONM	**Songino Array**	**36.56**	**344**	P	**P**	**19 32 36.1**	**-0.6**
	0.5nm,0.7s,baz=160,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**38.85**	**160**	P	P	19 33 02.8	+6.6
	0.3nm,0.5s,baz=339,slow=7.0,SNR=3.7						
MKAR	**Makanchi Array**	**46.30**	**324**	P	**P**	**19 33 56.8**	**+0.3**
	0.1nm,0.5s,baz=117,slow=8.8,SNR=2.8						
ARCES	**ARCESS Array B**	**79.54**	**339**	P	**P**	**19 37 35.6**	**-1.7**
	1.4nm,0.8s,baz=61,slow=6.3,SNR=5.5						

MAN 03 19:50:20, 11.75N×**124.32E, h21**km**, mb4.4, ML3.3, MS3.2, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.75**	**158**	*e*P	Pb	19 50 34.4	0.0
OCLP				*e*S	Sn	19 50 47.6	+1.6
CNP	**Catarman**	**0.83**	**24**	*e*P	Pb	19 50 35.8	0.0
CNP				*e*S	Sn	19 50 50.5	+2.4
MSLP	**Maasin**	**1.69**	**162**	*e*P	Pb	19 50 49.5	-0.9
MSLP				*e*S	Sb	19 51 10.9	-0.2
PVCP	**Virac**	**1.85**	**355**	*e*P	Pn	19 50 50.9	+0.4
GUIM	**Jordan**	**2.03**	**237**	*e*P	Pn	19 50 53.6	+0.6

IDC ***03*** *19:51:14.6±1.7, 8.50N×103.53W, h0km, mb3.6/4, mb1 4.1/5, mb1mx3.7/40, mbtmp3.7/5, ML3.5/1, MS3.4/8, Ms1 3.4/8, ms1mx3.2/29, Error ellipse: s-maj=52.5km s-min=28.1km az=61.0*
ISCJB ***03*** *19:51:18.6±1.6, 8.7N±0.2×103.3W±0.2, h33km, mb3.8/3, MS3.4/5, Error ellipse: s-maj=31.5km s-min=21.5km az=150.9*
ISC 03 19:51:19.9±1.5,**8.6N**±0.2×**103.4W**±0.2,**h35**km,**n12,** σ**0.69**/5,**mb3.8**/3,**MS3.3**/5,**Northern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**11.82**	**44**	Pn	**Pn**	**19 54 05.8**	**-0.2**
	0.3nm,0.3s,baz=232,slow=19,SNR=2.5						
CMIG				LR	LR	19 57 01.9	
	comp=Z,55nm,20.4s,baz=188,slow=29						
LPIG	**La Paz**	**16.75**	**338**	LR	LR	20 00 08.4	
	comp=Z,135nm,20.6s,baz=196,slow=32						
TEIG	**Tepich**	**18.62**	**50**	LR	LR	20 02 14.1	
	comp=Z,149nm,18.5s,baz=282,slow=35						
TXAR	**Lajitas Array**	**20.61**	**359**	P	Pn	19 55 58.2	-0.5
	1.1nm,0.8s,baz=182,slow=13,SNR=12						
TXAR				LR	LR	20 03 30.2	
	comp=Z,208nm,18.6s,baz=0.0,slow=36						
ANMO	**Albuquerque**	**26.35**	**354**	LR	LR	20 07 29.6	
	comp=Z,76nm,18.1s,baz=175,slow=37						
PFO	**Pinyon Flats O**	**27.63**	**336**	LR	LR	20 06 10.5	
	comp=Z,74nm,20.2s,baz=160,slow=32						
ROSC	**El Rosal**	**29.10**	**95**	LR	LR	20 06 18.9	
	comp=Z,74nm,18.6s,baz=182,slow=31						
PDAR	**Pinedale Array**	**34.44**	**352**	P	**P**	**19 58 05.1**	**+0.7**
	1.2nm,0.9s,baz=147,slow=8.3,SNR=7.2						
LPAZ	**La Paz**	**42.79**	**125**	P	**P**	**19 59 15.4**	**+0.2**
	2.0nm,0.9s,baz=314,slow=4.5,SNR=4.5						
ILAR	**Eielson Array**	**63.77**	**341**	P	**P**	**20 01 47.6**	**-0.5**
	0.6nm,0.7s,baz=156,slow=4.5,SNR=5.3						
RES	**Resolute Bay**	**66.20**	**2**	LR	LR	20 30 09.3	
	comp=Z,32nm,19.8s,baz=202,slow=35						
CMAR	**Chiang Mai Arr**	**145.22**	**321**	PKPbc	**PKPdf**	**20 10 54.4**	**-0.4**
	0.3nm,0.9s,baz=35,slow=3.3,SNR=2.6						

ISCJB ***03*** *19:56:00.4±0.3, 70.53N±0.03×15.0W±0.1, h10km, mb4.0/38, MS3.5/23, Error ellipse: s-maj=6.0km s-min=3.2km az=25.2*
IDC ***03*** *19:56:00.7±0.6, 70.66N×14.55W, h0km, mb3.7/17, mb1 4.0/22, mb1mx3.9/33, mbtmp3.8/22, ML3.6/4, MS3.5/28, Ms1 3.5/28, ms1mx3.4/48, Error ellipse: s-maj=18.6km s-min=12.9km az=31.0*
CSEM ***03*** *19:56:00.0±0.4, 70.57N×14.72W, h2km, mb4.3/6, Error ellipse: s-maj=11.5km s-min=6.3km az=132.0*
MOS ***03*** *19:56:00.5±1.1, 70.61N×14.70W, h10km, mb4.2/16, Error ellipse: s-maj=26.2km s-min=9.3km az=110.9*
REY ***03*** *19:56:02.1, 70.17N×12.66W, h10km, ML3.7, ML3.8*
SZGRF ***03*** *19:56:14.5, 69.64N×13.93W, h15km, mb4.3, Jan Mayen Island region*
BER ***03*** *19:56:16.6±1.8, 71.27N×11.07W, h10km, ML4.8(NAO)*
ISC 03 19:56:02.3±0.4,**70.57N**±0.05×**14.53W**±0.06,**h10**km,**n169,** σ**1.54**/169,**mb4.1**/38,**MS3.3**/25,**3C-6D, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**2.04**	**75**	Pg	Pn	19 56 31.6	-4.9
JMIC				Lg	Lg	19 56 52.5	
JMIC	**Jan Mayen**	**2.04**	**75**	Pg	Pn	19 56 31.6	-4.9
JMIC				Lg	Lg	19 56 52.5	
JMIC	**Jan Mayen**	**2.04**	**75**	*e*P	Pn	19 56 31.6	-4.9
JMIC				*e*S	Sn	19 56 43.9	-18
JMIC	**Jan Mayen**	**2.04**	**75**	Pn	Pn	19 56 31.4	-5.1
	11nm,0.3s,baz=148,slow=17,SNR=6.3						
JMIC				Sn	Sn	19 56 53.1	-8.9
	29nm,0.3s,baz=311,slow=19,SNR=9.4						
JMIC	**Jan Mayen**	**2.04**	**75**	*e*P	Pn	19 56 31.6	-4.9
	SNR=70						
JMIC				Lg	Lg	19 56 52.5	
IGRI	**Grimsey**	**4.25**	**199**	P	**Pn**	**19 57 06.3**	**-0.6**
IGRI	**Grimsey**	**4.25**	**199**	P	**Pn**	**19 57 06.3**	**-0.6**
	baz=211						
IGRI				S	**Sn**	**19 57 57.0**	**+0.6**
	baz=211						
ILEI	**Leirhofn**	**4.25**	**191**	P	**Pn**	**19 57 04.8**	**-2.0**
ILEI				S	**Sn**	**19 57 54.5**	**-1.9**
ILEI	**Leirhofn**	**4.25**	**191**	P	**Pn**	**19 57 04.8**	**-2.0**
	baz=202						
ILEI				S	**Sn**	**19 57 54.5**	**-1.9**
	baz=202						
IGIL	**Gilhagi**	**4.57**	**189**	P	**Pn**	**19 57 09.0**	**-2.3**
IGIL				S	**Sn**	**19 58 02.5**	**-1.8**
IGIL	**Gilhagi**	**4.57**	**189**	P	**Pn**	**19 57 09.0**	**-2.3**
	baz=200						
IGIL				S	**Sn**	**19 58 02.5**	**-1.8**
	baz=200						
IFLA	**Flatey**	**4.60**	**197**	P	**Pn**	**19 57 11.2**	**-0.5**
IFLA				S	**Sn**	**19 58 04.9**	**-0.1**
IFLA	**Flatey**	**4.60**	**197**	P	**Pn**	**19 57 11.2**	**-0.5**
	baz=208						
IFLA				S	**Sn**	**19 58 04.9**	**-0.1**
	baz=208						
IHED	**Heoinshofoi**	**4.63**	**194**	P	**Pn**	**19 57 10.6**	**-1.5**
IHED				S	**Sn**	**19 58 04.2**	**-1.6**
IHED	**Heoinshofoi**	**4.63**	**194**	P	**Pn**	**19 57 10.6**	**-1.5**
	baz=205						
IHED				S	**Sn**	**19 58 04.2**	**-1.6**
	baz=205						
IDIM	**Dimmadals^¡s**	**4.72**	**192**	P	**Pn**	**19 57 11.5**	**-1.9**
IDIM				S	**Sn**	**19 58 05.6**	**-2.5**
IDIM	**Dimmadals^¡s**	**4.72**	**192**	P	**Pn**	**19 57 11.5**	**-1.9**
	baz=203						
IDIM				S	**Sn**	**19 58 05.5**	**-2.5**
	baz=203						
ISIG	**Siglufjorour**	**4.75**	**202**	P	**Pn**	**19 57 14.1**	**+0.4**
ISIG	**Siglufjorour**	**4.75**	**202**	P	**Pn**	**19 57 14.1**	**+0.4**
	baz=213						
IGRA	**Granastaoir**	**4.81**	**195**	P	**Pn**	**19 57 13.6**	**-1.0**
IGRA				S	**Sn**	**19 58 10.1**	**-0.2**
IGRA	**Granastaoir**	**4.81**	**195**	P	**Pn**	**19 57 13.6**	**-1.0**
	baz=206						
IGRA				S	**Sn**	**19 58 10.1**	**-0.2**
	baz=206						
ISKI	**Skildingah^‡ls**	**4.81**	**192**	P	**Pn**	**19 57 13.8**	**-0.9**
ISKI	**Skildingah^‡ls**	**4.81**	**192**	P	**Pn**	**19 57 13.8**	**-0.9**
	baz=203						
IGHA	**Grjothals**	**4.82**	**191**	P	**Pn**	**19 57 12.7**	**-2.0**
IGHA				S	**Sn**	**19 58 09.1**	**-1.4**
IGHA	**Grjothals**	**4.82**	**191**	P	**Pn**	**19 57 12.7**	**-2.0**
	baz=201						
IGHA				S	**Sn**	**19 58 09.1**	**-1.4**
	baz=201						
IHLA	**Hella**	**4.87**	**199**	P	**Pn**	**19 57 15.2**	**-0.2**
IHLA				S	**Sn**	**19 58 11.6**	**0.0**
IHLA	**Hella**	**4.87**	**199**	P	**Pn**	**19 57 15.2**	**-0.2**
	baz=210						
IHLA				S	**Sn**	**19 58 11.6**	**0.0**
	baz=210						
IHRN	**Hraun**	**4.94**	**207**	P	**Pn**	**19 57 18.1**	**+1.8**
	baz=218						
IHRN				S	**Sn**	**19 58 16.5**	**+3.1**
	baz=218						
IKVO	**Krokottuvotn**	**4.96**	**191**	P	**Pn**	**19 57 14.9**	**-1.8**
IKVO	**Krokottuvotn**	**4.96**	**191**	P	**Pn**	**19 57 14.9**	**-1.8**
	baz=202						
IGRS	**Grimsstaoir**	**4.99**	**188**	P	**Pn**	**19 57 15.3**	**-1.9**
IGRS	**Grimsstaoir**	**4.99**	**188**	P	**Pn**	**19 57 15.3**	**-1.9**
	baz=198						
IREN	**Reynihlio**	**5.03**	**191**	P	**Pn**	**19 57 15.9**	**-1.7**
IREN	**Reynihlio**	**5.03**	**191**	P	**Pn**	**19 57 15.9**	**-1.7**
	baz=201						
IMEL	**Melhnausar**	**5.09**	**190**	P	**Pn**	**19 57 16.8**	**-1.7**
IMEL	**Melhnausar**	**5.09**	**190**	P	**Pn**	**19 57 16.8**	**-1.7**
	baz=200						
ISVA	**Svartarkot**	**5.36**	**192**	P	**Pn**	**19 57 21.6**	**-0.6**
ISVA	**Svartarkot**	**5.36**	**192**	P	**Pn**	**19 57 21.6**	**-0.6**
	baz=202						
IADA	**Aoalbol**	**5.59**	**185**	P	**Pn**	**19 57 23.3**	**-2.1**
IADA	**Aoalbol**	**5.59**	**185**	P	**Pn**	**19 57 23.3**	**-2.1**
	baz=194						
IGLU	**Glumsstadir**	**5.62**	**182**	P	**Pn**	**19 57 23.9**	**-1.8**
IGLU	**Glumsstadir**	**5.62**	**182**	P	**Pn**	**19 57 23.9**	**-1.8**
	baz=191						
IHVA	**Hvannstoosfjol**	**5.67**	**186**	P	**Pn**	**19 57 24.5**	**-1.9**
IHVA	**Hvannstoosfjol**	**5.67**	**186**	P	**Pn**	**19 57 24.5**	**-1.9**
	baz=195						
IBRU	**Bruarjokull**	**5.80**	**187**	P	**Pn**	**19 57 26.4**	**-1.9**
IBRU	**Bruarjokull**	**5.80**	**187**	P	**Pn**	**19 57 26.4**	**-1.9**
	baz=195						
IVSH	**V-Sauoahnukur**	**5.81**	**185**	P	**Pn**	**19 57 26.6**	**-1.8**
IVSH	**V-Sauoahnukur**	**5.81**	**185**	P	**Pn**	**19 57 26.6**	**-1.8**
	baz=194						
DAG	**Danmarks Havn**	**6.34**	**351**	*i* P	Pn	19 57 28.8	-6.7
DAG				*i* S	Sn	19 58 35.8	-12
DAG	**Danmarks Havn**	**6.34**	**351**	*i* P	Pn	19 57 28.8	-6.7
SUMG	**Summit**	**7.81**	**296**	*i* P	**Pn**	**19 57 54.2**	**-1.9**
SUMG	**Summit**	**7.81**	**296**	*e*P	**Pn**	**19 57 54.2**	**-1.9**
SUMG	**Summit**	**7.81**	**296**	*e*P	**Pn**	**19 57 54.2**	**-1.9**
SPA0	**Spitsbergen Ar**	**11.10**	**33**	Pn	Pn	19 58 37.5	-3.2
	baz=248,slow=10						
SPA0	**Spitsbergen Ar**	**11.10**	**33**	Pn	Pn	19 58 37.5	-3.2
	baz=248,slow=10						
SPA0	**Spitsbergen Ar**	**11.10**	**33**	Pn	Pn	19 58 37.5	-3.2
	baz=248,slow=10						
SPITS	**Spitsbergen Ar**	**11.10**	**33**	Pn	**Pn**	**19 58 38.0**	**-2.6**
	baz=228,slow=14,SNR=146						
SPITS				Sn	Sn	20 00 36.2	-8.4
	baz=225,slow=18,SNR=3.2						
SPITS				LR	LR	20 01 52.3	
	comp=Z,184nm,20.4s,baz=255,slow=32						
SFJD	**Kangerlussuaq**	**13.40**	**272**	LR	LR	20 03 59.3	
	comp=Z,129nm,19.1s,baz=52,slow=36						
ARCES	**ARCESS Array B**	**13.53**	**75**	LR	LR	20 03 22.9	
	comp=Z,124nm,20.6s,baz=347,slow=33						
NB2	**NORSAR Subarra**	**14.09**	**120**	Pn	**Pn**	**19 59 21.5**	**-0.2**
	comp=Z,11nm,1.2s,baz=325,slow=14						
NOA	**NORSAR Array B**	**14.09**	**120**	Pn	**Pn**	**19 59 21.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=325,slow=13,SNR=4.6						
NOA				LR	LR	20 04 12.6	
	comp=Z,104nm,18.8s,baz=320,slow=35						
HFS	**Hagfors**	**15.55**	**118**	P	**Pn**	**19 59 40.3**	**-0.9**
	baz=342,slow=10						
HFS	**Hagfors**	**15.55**	**118**	P	**Pn**	**19 59 40.3**	**-0.9**
	baz=342,slow=10						
HFS	**Hagfors**	**15.55**	**118**	P	**Pn**	**19 59 40.3**	**-0.9**
	baz=342,slow=10						
HFS	**Hagfors**	**15.55**	**118**	Pn	**Pn**	**19 59 40.8**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=354,slow=12,SNR=7.9						
HFS				LR	LR	20 05 09.0	
	comp=Z,117nm,18.8s,baz=300,slow=35						
HFS	**Hagfors**	**15.55**	**118**	P	**Pn**	**19 59 40.8**	**-0.4**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HFS				MLR	MLR		
	comp=Z,117nm,18.8s						
EKA	**Eskdalemuir Ar**	**16.09**	**156**	Pn	**Pn**	**19 59 48.5**	**+0.3**
	baz=353,slow=12,SNR=10						
FIA0	**FINESS Array S**	**18.47**	**99**	P	**P**	**20 00 15.5**	**-2.3**
	baz=322,slow=11						
FIA0	**FINESS Array S**	**18.47**	**99**	P	**P**	**20 00 15.5**	**-2.3**
	baz=322,slow=11						
FIA0	**FINESS Array S**	**18.47**	**99**	P	**P**	**20 00 15.5**	**-2.3**
	baz=322,slow=11						
FIA0	**FINESS Array S**	**18.47**	**99**	P	**P**	**20 00 15.5**	**-2.3**
	SNR=47						
FINES	**FINESS Array B**	**18.47**	**99**	P	**P**	**20 00 16.5**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=324,slow=9.4,SNR=16						
FINES				LR	LR	20 06 26.6	
	comp=Z,112nm,21.3s,baz=336,slow=34						
VSU	**Vasula**	**20.95**	**104**	*de*P	**P**	**20 00 45.6**	**+0.8**
VSU	**Vasula**	**20.95**	**104**	*e*P	**P**	**20 00 45.6**	**+0.8**
WTSB	**Winterswijk**	**21.06**	**141**	*e*P	**P**	**20 00 47.3**	**+1.2**
	comp=Z,18nm,1.1s						
WTSB	**Winterswijk**	**21.06**	**141**	*e*P	**P**	**20 00 47.3**	**+1.2**
	comp=Z,18nm,1.1s						
NRDL	**Niedersach Rie**	**21.30**	**135**	*e*P	**P**	**20 00 49.8**	**+1.2**
	comp=Z,32nm,1.5s						
NRDL	**Niedersach Rie**	**21.30**	**135**	*e*P	**P**	**20 00 49.8**	**+1.2**
	comp=Z,32nm,1.5s						
FRB	**Frobisher Bay**	**21.34**	**278**	LR	LR	20 08 38.5	
	comp=Z,100nm,18.9s,baz=190,slow=36						
BUG	**Bochum--Univer**	**21.66**	**141**	*e*P	**P**	**20 00 53.7**	**+1.3**
	comp=Z,22nm,1.1s						
BUG	**Bochum--Univer**	**21.66**	**141**	*e*P	**P**	**20 00 53.7**	**+1.3**
	comp=Z,22nm,1.1s						
HGN	**Heimansgroeve**	**22.02**	**144**	*e*P	**P**	**20 00 57.1**	**+0.7**
	comp=Z,42nm,1.3s						
HGN				*e*L	L	20 10 09.2	
	comp=Z,115nm,18.6s						
HGN	**Heimansgroeve**	**22.02**	**144**	*e*P	**P**	**20 00 57.1**	**+0.7**
	comp=Z,42nm,1.3s						
RES	**Resolute Bay**	**22.58**	**317**	LR	LR	20 09 42.0	
	comp=Z,204nm,18.6s,baz=64,slow=36						
UBBA	**Unterbreizbach**	**22.84**	**137**	*e*P	**P**	**20 01 07.4**	**+2.4**
	comp=Z,12nm,1.7s						
UBBA				*e*pP	**pP**	**20 01 11.1**	**+3.3**
CLL	**Collm**	**23.10**	**132**	*e*P	**P**	**20 01 08.0**	**+0.2**
	comp=Z,9.0nm,1.1s						
CLL				*e*pP	**pP**	**20 01 12.0**	**+1.3**
CLL				*e*		20 01 28.0	
CLL				*e*PPP	PPP	20 01 40.0	
CLL				*e*S	**S**	**20 05 17.0**	**-1.6**
CLL				Lm	MLR	20 09 00.0	
	comp=Z,100nm,21.6s						
CLL	**Collm**	**23.10**	**132**	*e*P	**P**	**20 01 08.0**	**+0.2**
CLL				*e*		20 01 12.0	
CLL				*e*S	**S**	**20 05 17.0**	**-1.6**
CLL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CLL	**Collm**	**23.10**	**132**	*e*P	**P**	**20 01 08.0**	**+0.2**
	comp=Z,9.0nm,1.1s						
KLMR	**Klimovskoe**	**23.38**	**87**	*e*P	**P**	**20 01 15.3**	**+4.7**
KLMR				pmax	pmax		
	comp=Z,14nm,1.0s						
SUW	**Suwalki**	**23.51**	**115**	*e*P	**P**	**20 01 11.7**	**-0.2**
SUW	**Suwalki**	**23.51**	**115**	*e*P	**P**	**20 01 11.7**	**-0.2**
SUW	**Suwalki**	**23.51**	**115**	*e*P	**P**	**20 01 11.7**	**-0.2**
BRG	**Berggiesshubel**	**23.73**	**131**	*e*P	**P**	**20 01 13.2**	**-0.9**
	comp=Z,11nm,1.6s						
	comp=N,115nm,17.1s						
	comp=E,73nm,16.1s						
	comp=Z,132nm,21.7s						
BRG	**Berggiesshubel**	**23.73**	**131**	*e*P	**P**	**20 01 13.2**	**-0.9**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.6s						
BRG				MLR	MLR		
	comp=E,115nm,16.1s						
BRG				MLR	MLR		
	comp=Z,73nm,21.7s						
NKC	**Novy Kostel**	**23.96**	**134**	*e*P	**P**	**20 01 16.1**	**-0.2**
NKC				*e*x	x	20 01 20.4	
NKC	**Novy Kostel**	**23.96**	**134**	*e*P	**P**	**20 01 16.1**	**-0.2**
NKC				*e*		20 01 20.4	
NKC	**Novy Kostel**	**23.96**	**134**	*e*P	**P**	**20 01 16.1**	**-0.2**
KSP	**Ksiaz**	**24.36**	**128**	*e*P	**P**	**20 01 21.1**	**+1.1**
KSP	**Ksiaz**	**24.36**	**128**	*e*P	**P**	**20 01 21.2**	**+1.2**
GRB4	**Grafenberg Arr**	**24.46**	**136**	*e*P	**P**	**20 01 22.5**	**+1.6**
	comp=Z,10.0nm,1.3s						
GRB3	**Grafenberg Arr**	**24.63**	**136**	*e*P	**P**	**20 01 24.4**	**+1.9**
	comp=Z,8.0nm,1.1s						
PRU	**Pruhonice**	**24.70**	**131**	*e*P	**P**	**20 01 24.5**	**+1.4**
PRU				*e*x	x	20 01 27.2	
PRU	**Pruhonice**	**24.70**	**131**	*e*P	**P**	**20 01 24.5**	**+1.4**
PRU				*e*		20 01 25.6	
PRU				*e*		20 01 27.2	
PRU	**Pruhonice**	**24.70**	**131**	P	**P**	**20 01 24.5**	**+1.4**
GRC4	**Grafenberg Arr**	**24.81**	**137**	*e*P	**P**	**20 01 26.0**	**+1.9**
	comp=Z,12nm,1.1s						
DPC	**Dobruska-Polom**	**24.82**	**129**	*e*P	**P**	**20 01 24.8**	**+0.6**
DPC				*e*pP	**pP**	**20 01 31.4**	**+4.1**
DPC	**Dobruska-Polom**	**24.82**	**129**	*e*P	**P**	**20 01 24.8**	**+0.6**
DPC				*e*		20 01 31.4	
DPC	**Dobruska-Polom**	**24.82**	**129**	P	**P**	**20 01 24.8**	**+0.6**
GRB5	**Grafenberg Arr**	**24.82**	**136**	*e*P	**P**	**20 01 26.0**	**+1.8**
	comp=Z,14nm,1.3s						
BFO	**Black Forest**	**24.82**	**142**	*e*P	**P**	**20 01 24.6**	**+0.3**
GOPC	**GO Pecny, Ondr**	**24.83**	**131**	*e*P	**P**	**20 01 24.7**	**+0.4**
GOPC				*e*x	x	20 01 28.6	
GOPC	**GO Pecny, Ondr**	**24.83**	**131**	P	**P**	**20 01 24.7**	**+0.4**
GRC2	**Grafenberg Arr**	**24.98**	**137**	*e*P	**P**	**20 01 27.9**	**+2.3**
	comp=Z,11nm,1.2s						
KHC	**Kasperske Hory**	**25.25**	**134**	*e*P	**P**	**20 01 27.3**	**-0.8**
KHC				*e*x	x	20 01 30.4	
KHC	**Kasperske Hory**	**25.25**	**134**	*e*P	**P**	**20 01 27.3**	**-0.8**
KHC				*e*		20 01 30.4	
KHC	**Kasperske Hory**	**25.25**	**134**	P	**P**	**20 01 27.3**	**-0.8**
GERES	**GERESS Array B**	**25.55**	**134**	P	**P**	**20 01 32.6**	**+1.7**
	comp=Z,1.5nm,0.8s,baz=334,slow=8.9,SNR=9.2						
GERES				LR	LR	20 10 51.2	
	comp=Z,75nm,21.9s,baz=320,slow=35						
GERES	**GERESS Array B**	**25.55**	**134**	P	**P**	**20 01 32.6**	**+1.7**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES				MLR	MLR		
	comp=Z,75nm,21.9s						
VRAC	**Vranov**	**25.85**	**129**	LR	LR	20 11 10.5	
	comp=Z,97nm,19.8s,baz=321,slow=35						
OJC	**Ojcow**	**25.88**	**124**	*e*P	**P**	**20 01 35.1**	**+1.3**
OJC	**Ojcow**	**25.88**	**124**	*e*P	**P**	**20 01 35.1**	**+1.3**
DAVOX	**Davos/Dischmat**	**26.62**	**141**	LR	LR	20 12 13.7	
	comp=Z,85nm,20.4s,baz=335,slow=36						
OBN	**Obninsk**	**26.87**	**98**	⇓*i*P	**P**	**20 01 43.3**	**+0.7**
OBN				*i*		20 01 47.2	
OBN				pmax	pmax		
	comp=Z,20nm,1.7s						
OBN				MLR	MLR		
	comp=Z,55nm,17.0s						
KECS	**Kecovo**	**27.64**	**125**	*e*P	**P**	**20 01 50.1**	**+0.4**
KECS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KECS	**Kecovo**	**27.64**	**125**	*e*P	**P**	**20 01 50.1**	**+0.4**
KOLS	**Kolonicke sedl**	**27.73**	**122**	*e*P	**P**	**20 01 54.0**	**+3.5**
KOLS	**Kolonicke sedl**	**27.73**	**122**	*e*P	**P**	**20 01 54.0**	**+3.5**
AKASG	**Malin Array Be**	**28.24**	**112**	P	**P**	**20 01 54.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=332,slow=9.1,SNR=3.0						
AKASG				LR	LR	20 12 33.3	
	comp=Z,79nm,19.6s,baz=295,slow=35						
VSR	**Storozhevoye**	**30.99**	**100**	⇓*e*P	**P**	**20 02 20.9**	**+1.6**
VSR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ESDC	**Sonseca Array**	**31.45**	**164**	P	**P**	**20 02 24.8**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=353,slow=9.6,SNR=2.3						
ESDC				LR	LR	20 14 48.3	
	comp=Z,60nm,18.2s,baz=295,slow=36						
ARU	**Arti**	**33.11**	**77**	*d i*P	**P**	**20 02 38.3**	**+0.5**
ARU						20 03 48.3	
ARU				S	**S**	**20 07 55.1**	**-1.4**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YKA	**Yellowknife Ar**	**36.15**	**309**	P	**P**	**20 03 05.1**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=32,slow=8.2,SNR=5.6						
YKA	**Yellowknife Ar**	**36.15**	**309**	P	**P**	**20 03 05.1**	**+1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KEST	**Kesra**	**37.17**	**147**	LR	LR	20 18 27.3	
	comp=Z,30nm,18.1s,baz=274,slow=36						
AKTO	**Aktyubinsk**	**37.94**	**83**	P	**P**	**20 03 19.7**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=314,slow=10,SNR=2.2						
AKTO	**Aktyubinsk**	**37.94**	**83**	P	**P**	**20 03 19.7**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KIV	**Kislovodsk**	**38.49**	**103**	*e*P	**P**	**20 03 24.6**	**+0.4**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRTR	**Keskin Array B**	**39.47**	**115**	P	**P**	**20 03 34.2**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=321,slow=11,SNR=2.5						
BRTR				LR	LR	20 19 53.5	
	comp=Z,45nm,21.5s,baz=320,slow=36						
BRVK	**Borovoye**	**39.68**	**70**	⇑P	**P**	**20 03 36.3**	**+2.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,2.5s						
BVAR	**Borovoye Array**	**39.74**	**70**	P	**P**	**20 03 35.0**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=312,slow=9.7,SNR=7.7						
BVAR	**Borovoye Array**	**39.74**	**70**	P	**P**	**20 03 35.0**	**+0.5**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**40.99**	**331**	P	**P**	**20 03 44.9**	**+0.2**
	comp=Z,2.3nm,1.0s,baz=15,slow=7.7,SNR=8.1						
ILAR				LR	LR	20 24 17.7	
	comp=Z,53nm,19.4s,baz=50,slow=42						
ILAR	**Eielson Array**	**40.99**	**331**	P	**P**	**20 03 44.9**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ILAR				MLR	MLR		
	comp=Z,53nm,19.4s						
GNI	**Garni**	**42.58**	**103**	LR	LR	20 21 52.6	
	comp=Z,57nm,21.1s,baz=303,slow=36						
ZALV	**Zalesovo Beam**	**43.28**	**58**	P	**P**	**20 04 01.6**	**-1.9**
	comp=Z,1.8nm,0.9s,baz=334,slow=9.9,SNR=6.3						
ZALV				LR	LR	20 24 11.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,33nm,20.4s,baz=250,slow=39						
ZALV	**Zalesovo Beam**	**43.28**	**58**	*i*P	**P**	**20 04 03.4**	**0.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YAK	**Yakutsk**	**45.32**	**23**⇓	*e*P	**P**	**20 04 22.4**	**+2.8**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MKAR	**Makanchi Array**	**48.90**	**65**	P	**P**	**20 04 47.4**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=338,slow=5.8,SNR=4.7						
MKAR				LR	LR	20 28 36.3	
	comp=Z,41nm,18.2s,baz=297,slow=40						
MKAR	**Makanchi Array**	**48.90**	**65**	*ce*P	**P**	**20 04 50.7**	**+2.9**
NEW	**Newport**	**49.28**	**301**	LR	LR	20 25 12.6	
	comp=Z,64nm,19.2s,baz=29,slow=36						
AAK	**Ala-Archa**	**50.20**	**74**⇓	*i*P	**P**	**20 04 58.7**	**+0.8**
AAK				pmax	pmax		
	comp=Z,13nm,1.7s						
PDAR	**Pinedale Array**	**51.98**	**291**	P	**P**	**20 05 10.6**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=46,slow=9.2,SNR=4.2						
PDAR				LR	LR	20 26 40.1	
	comp=Z,72nm,20.0s,baz=36,slow=35						
ELK	**Elko**	**55.57**	**295**	LR	LR	20 29 40.8	
	comp=Z,63nm,20.5s,baz=29,slow=36						
YBH	**Yreka Blue Hor**	**56.85**	**302**	LR	LR	20 29 24.3	
	comp=Z,80nm,18.9s,baz=25,slow=35						
TORD	**Torodi Ar. Bea**	**58.27**	**161**	P	**P**	**20 05 56.7**	**0.0**
	comp=Z,1.8nm,0.9s,baz=344,slow=6.8,SNR=12						
TORD				LR	LR	20 31 49.1	
	comp=Z,67nm,18.4s,baz=215,slow=37						
NVAR	**Mina Array Bea**	**58.62**	**297**	P	**P**	**20 05 58.4**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=46,slow=7.7,SNR=3.6						
CN2	**Changchun**	**62.33**	**32**	*e*P	**P**	**20 06 21.8**	**-2.4**
TXAR	**Lajitas Array**	**62.38**	**280**	P	**P**	**20 06 24.1**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=55,slow=4.7,SNR=3.6						
TXAR				PcP	**PcP**	**20 07 04.0**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=46,slow=3.9,SNR=3.6						
TXAR				LR	LR	20 33 21.5	
	comp=Z,59nm,18.0s,baz=0.0,slow=36						
PFO	**Pinyon Flats O**	**62.52**	**293**	LR	LR	20 35 07.9	
	comp=Z,72nm,18.8s,baz=335,slow=38						
USRK	**Ussuriysk Ar.**	**63.00**	**26**	P	**P**	**20 06 30.0**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=334,slow=6.1,SNR=4.6						
DBIC	**Dimbokro**	**64.13**	**169**	LR	LR	20 33 19.2	
	comp=Z,52nm,20.7s,baz=34,slow=35						
ERM	**Erimo**	**66.56**	**18**	*ce*P	P	20 06 56.6	+4.7
CMIG	**Matias Romero**	**70.80**	**267**	LR	LR	20 37 47.3	
	comp=Z,19nm,21.7s,baz=164,slow=35						
MJAR	**Matsushiro Arr**	**71.39**	**23**	P	**P**	**20 07 21.0**	**-1.1**
	comp=Z,1.5nm,0.9s,baz=352,slow=3.8,SNR=5.0						
MJAR	**Matsushiro Arr**	**71.39**	**23**	P	**P**	**20 07 21.0**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**80.21**	**62**	P	**P**	**20 08 11.4**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=310,slow=5.1,SNR=5.5						
CMAR	**Chiang Mai Arr**	**80.21**	**62**	P	**P**	**20 08 11.5**	**-1.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**126.08**	**37**	PKP	**PKPdf**	**20 15 02.8**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=301,slow=5.8,SNR=3.4						
ASAR	**Alice Springs**	**129.61**	**39**	PKP	**PKPdf**	**20 15 09.6**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=32,slow=1.6,SNR=6.3						

MAN 03 20:00:39, 6°.87N×123°.88E, h4km, mb4.2, ML3.0, MS2.8, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
PAGZ	**Pagadian**	**1.09**	**333**	*e*P	Pb	20 01 00.5	+0.1
PAGZ				*e*S	Sg	20 01 14.4	+0.4
BUKP	**Musuan**	**1.54**	**49**	*e*P	Pn	20 01 07.3	0.0
BUKP				*e*S	Sn	20 01 24.4	-3.4
BUTP	**Butuan**	**2.70**	**39**	*e*P	Pn	20 01 22.2	-1.1

*IDC **03** 20:00:55.6±0.9, 10°.90S×80°.18W, h0km, mb3.9/7, mb1 4.2/10, mb1mx4.1/19, mbtmp4.0/10, ML3.9/3, MS3.3/4, Ms1 3.3/4, ms1mx3.0/33, Error ellipse: s-maj=41.0km s-min=17.8km az=45.0*

*ISCJB **03** 20:00:58.7±0.7, 11°.03S±0°.06×80°.10W±0°.07, h33km, mb3.9/8, MS3.3/1, Error ellipse: s-maj=11.2km s-min=6.5km az=142.9*

*NEIC **03** 20:01:03.6±1.9, 10°.90S×80°.04W, h58km±16km, mb4.2/2, Error ellipse: s-maj=27.3km s-min=8.4km az=64.0*

ISC 03 20:01:00.8±0.7, **11°.02S**±0°.08×**80°.11W**±0°.10, **h35km, n24, σ1s.45**/26, **mb4.0**/8, **Off coast of Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
NNA	**Nana**	**3.35**	**107**	Pn	**Pn**	**20 01 50.9**	**+0.2**
	29nm,0.3s,baz=303,slow=12,SNR=48						
NNA				Sn	**Sn**	**20 02 27.8**	**-1.5**
	74nm,0.3s,baz=156,slow=12,SNR=18						
NNA				LR	LR	20 02 33.9	
	comp=Z,100nm,18.9s,baz=259,slow=28						
ATAH	**Atahualpa**	**4.21**	**24**	Pn	**Pn**	**20 02 06.1**	**+3.1**
	19nm,0.3s,baz=211,slow=4.3,SNR=66						
ATAH				Sn	**Sn**	**20 02 51.5**	**+0.3**
	52nm,0.3s,baz=95,slow=22,SNR=18						
OTAV	**Otavalo**	**11.30**	**9**	*e*Pn	**Pn**	**20 03 41.5**	**+1.1**
	4.1nm,0.5s						
LPAZ	**La Paz**	**12.77**	**116**	Pn	**Pn**	**20 04 01.6**	**+1.1**
	0.3nm,0.3s,baz=294,slow=11,SNR=11						
LPAZ				LR	LR	20 09 34.1	
	comp=Z,163nm,20.9s,baz=316,slow=40						
LPAZ	**La Paz**	**12.77**	**116**	*e*Pn	**Pn**	**20 04 02.8**	**+2.3**
LVC	**Limon Verde**	**15.73**	**139**	Pn	**P**	**20 04 44.4**	**+0.6**
	67nm,0.3s,baz=302,slow=9.5,SNR=15						
LVC				Sn	**Sn**	**20 07 31.6**	**-2.0**
	7.9nm,0.3s,baz=245,slow=12,SNR=2.3						
LVC				LR	LR	20 09 19.9	
	comp=Z,250nm,18.1s,baz=238,slow=32						
SAML	**Samuel**	**16.80**	**84**	*e*Pn	**Pn**	**20 04 49.8**	**-3.7**
	17nm,0.8s						
SIV	**San Ignacio**	**19.16**	**107**	P	**Pn**	**20 05 22.2**	**-0.3**
	0.3nm,0.3s,baz=299,slow=14,SNR=10						
PLCA	**Paso Flores**	**30.78**	**166**	P	**P**	**20 07 14.7**	**+1.6**
	1.6nm,0.8s,baz=349,slow=12,SNR=4.8						
BDFB	**Brasilia**	**31.55**	**102**	LR	LR	20 21 03.8	
	comp=Z,77nm,21.4s,baz=320,slow=38						
TXAR	**Lajitas Array**	**46.10**	**331**	P	**P**	**20 09 20.9**	**-1.0**
	0.3nm,0.8s,baz=139,slow=6.6,SNR=3.5						
ANMO	**Albuquerque**	**52.08**	**332**	*e*P	**P**	**20 10 08.1**	**+0.4**
	2.4nm,1.0s						
PDAR	**Pinedale Array**	**59.92**	**335**	P	**P**	**20 11 03.7**	**0.0**
	1.2nm,0.9s,baz=133,slow=6.5,SNR=7.2						
PDAR				PcP	**PcP**	**20 11 48.7**	**-1.1**
	0.5nm,0.8s,baz=119,slow=3.2,SNR=2.2						
NVAR	**Mina Array Bea**	**60.76**	**326**	P	**P**	**20 11 10.2**	**+0.7**
	1.3nm,0.9s,baz=149,slow=7.2,SNR=5.8						
YKA	**Yellowknife Ar**	**78.02**	**344**	P	**P**	**20 12 54.2**	**-1.2**
	1.2nm,0.6s,baz=137,slow=6.4,SNR=11						
TORD	**Torodi Ar. Bea**	**84.64**	**76**	P	**P**	**20 13 32.0**	**+0.4**
	2.2nm,1.0s,baz=242,slow=5.1,SNR=8.1						
TORD	**Torodi Ar. Bea**	**84.64**	**76**	P	**P**	**20 13 32.0**	**+0.4**
ILAR	**Eielson Array**	**90.32**	**337**	P	**P**	**20 13 56.9**	**-0.9**
	0.6nm,0.8s,baz=172,slow=3.3,SNR=8.8						
ASAR	**Alice Springs**	**132.09**	**224**	PKP	**PKPdf**	**20 20 10.9**	**-0.9**
	1.0nm,1.1s,baz=153,slow=2.1,SNR=4.4						
WRA	**Warramunga Arr**	**134.21**	**228**	PKP	**PKPdf**	**20 20 15.3**	**-0.5**
	0.8nm,0.8s,baz=132,slow=2.2,SNR=5.4						
ZALV	**Zalesovo Beam**	**135.52**	**13**	PKP	**PKPdf**	**20 20 17.6**	**+0.4**
	0.2nm,0.4s,baz=302,slow=2.7,SNR=2.8						
MKAR	**Makanchi Array**	**141.35**	**19**	PKP	**PKPdf**	**20 20 27.7**	**-0.5**
	0.3nm,0.8s,baz=321,slow=1.8,SNR=2.7						
SONM	**Songino Array**	**142.90**	**353**	PKhKP	PKPpre	20 20 24.6	
	0.6nm,0.7s,baz=5.7,slow=2.9,SNR=2.8						
CMAR	**Chiang Mai Arr**	**172.55**	**7**	PKPab	**PKPab**	**20 22 30.8**	**-1.1**
	0.4nm,0.6s,baz=327,slow=4.8,SNR=4.8						

*IDC **03** 20:08:33.8±0.8, 20°.19N×121°.64E, h0km, mb3.6/9, mb1 3.8/10, mb1mx3.6/25, mbtmp3.6/10, ML3.2/1, MS3.0/5, Ms1 3.0/5, ms1mx2.7/33, Error ellipse: s-maj=33.1km s-min=17.1km az=70.0*

*ISCJB **03** 20:08:37.8±0.6, 20°.16N±0°.04×121°.5E±0°.1, h40km, mb3.5/9, MS2.8/4, Error ellipse: s-maj=17.8km s-min=6.2km az=2.9*

*MAN **03** 20:08:40, 19°.90N×121°.24E, h12km, mb4.8, ML3.7, MS3.7*

ISC 03 20:08:39.4±0.7, **20°.15N**±0°.07×**121°.5E**±0°.1, **h40km, n21, σ1s.37**/16, **mb3.4**/9, **MS2.8**/4, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
SGCP	**Mt. Cagua**	**1.98**	**164**	*e*P	**Pn**	**20 09 10.8**	**+0.4**
APYP	**Conner**	**2.29**	**185**	*e*P	**Pn**	**20 09 14.9**	**+0.2**
APYP				*e*S	**Sn**	**20 09 40.5**	**-1.1**
ABRA	**Dolores**	**2.59**	**196**	*e*P	**Pn**	**20 09 18.2**	**-0.6**
ABRA				*e*S	**Sn**	**20 09 47.3**	**-1.7**
BALP	**Baler**	**4.39**	**179**	*e*P	**Pn**	**20 09 45.1**	**+1.6**
JNU	**Nakatsue**	**15.41**	**31**	Pn	Pn	20 12 06.5	-7.5
	0.2nm,0.3s,baz=230,slow=17,SNR=4.3						
JNU				LR	LR	20 17 24.6	
	comp=Z,54nm,20.3s,baz=220,slow=35						
KSRS	**Korea Array**	**18.14**	**17**	P	**P**	**20 12 47.2**	**-1.0**
	0.1nm,0.3s,baz=197,slow=12,SNR=4.6						
CMAR	**Chiang Mai Arr**	**21.32**	**269**	P	**P**	**20 13 25.7**	**+2.6**
	0.5nm,0.7s,baz=77,slow=8.4,SNR=6.5						
CMAR				LR	LR	20 21 33.4	
	comp=Z,23nm,19.2s,baz=260,slow=36						
GUMO	**Guam**	**23.31**	**103**	LR	LR	20 22 33.3	
	comp=Z,13nm,19.0s,baz=262,slow=36						
KAPI	**Kappang**	**25.06**	**184**	LR	LR	20 23 51.7	
	comp=Z,39nm,18.9s,baz=297,slow=36						
PSI	**Prapat**	**27.95**	**235**	LR	LR	20 24 25.1	
	comp=Z,69nm,20.6s,baz=98,slow=34						
SONM	**Songino Array**	**30.20**	**340**	P	**P**	**20 14 44.6**	**-1.5**
	0.3nm,0.5s,baz=145,slow=5.3,SNR=3.4						
MKAR	**Makanchi Array**	**41.47**	**319**	P	**P**	**20 16 23.2**	**+0.7**
	0.4nm,0.5s,baz=118,slow=8.3,SNR=7.6						
WRA	**Warramunga Arr**	**41.79**	**162**	P	**P**	**20 16 23.7**	**-1.6**
	0.9nm,0.7s,baz=352,slow=8.4,SNR=11						
H11S3	**WAKE ISLAND Hy**	**42.61**	**84**	T	T	21 01 46.7	
	baz=279						
H11S1	**WAKE ISLAND Hy**	**42.62**	**84**	T	T	21 01 48.9	
	baz=279						
H11S2	**WAKE ISLAND Hy**	**42.63**	**84**	T	T	21 01 48.1	
	baz=279						
ZALV	**Zalesovo Beam**	**43.80**	**329**	P	**P**	**20 16 40.3**	**-0.9**
	0.3nm,0.4s,baz=118,slow=8.3,SNR=2.5						
ASAR	**Alice Springs**	**45.21**	**164**	P	**P**	**20 16 52.4**	**-0.4**
	0.5nm,0.4s,baz=347,slow=7.0,SNR=12						
STKA	**Stephens Creek**	**55.21**	**159**	P	**P**	**20 18 09.9**	**+1.5**
	1.0nm,0.9s,baz=329,slow=5.9,SNR=3.3						
ILAR	**Eielson Array**	**72.67**	**27**	P	**P**	**20 20 02.9**	**0.0**
	0.3nm,0.9s,baz=267,slow=6.3,SNR=3.0						
YKA	**Yellowknife Ar**	**86.57**	**23**	P	**P**	**20 21 19.0**	**+0.8**
	0.5nm,0.6s,baz=305,slow=5.3,SNR=3.0						

IDC 03 20:26:55.6±9.5, **0°.95S**×**12°.30W, h0km, mb3.6**/2, **mb1 3.9**/3, **mb1mx3.4**/45, **mbtmp3.7**/3, **ML3.6**/1, **Error ellipse: s-maj=225.5km s-min=117.2km az=168.0, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
H10N2	**ASCENSION HYDR**	**7.17**	**198**	T	T	20 34 02.6	
	baz=24,slow=74,SNR=65						
H10N1	**ASCENSION HYDR**	**7.18**	**198**	T	T	20 34 03.6	
	baz=24,slow=74,SNR=90						
H10N3	**ASCENSION HYDR**	**7.18**	**198**	T	T	20 34 07.3	
	baz=24,slow=74,SNR=61						
H10S1	**ASCENSION HYDR**	**8.27**	**196**	T	T	20 35 25.9	
	baz=22,slow=75,SNR=14						
H10S3	**ASCENSION HYDR**	**8.29**	**196**	T	T	20 35 27.3	
	baz=22,slow=75,SNR=14						
H10S2	**ASCENSION HYDR**	**8.29**	**196**	T	T	20 35 25.5	
	baz=22,slow=75,SNR=21						
TORD	**Torodi Ar. Bea**	**19.72**	**44**	P	P	20 31 27.0	0.0
	0.2nm,0.3s,baz=224,slow=11,SNR=16						
GERES	**GERESS Array B**	**54.46**	**21**	P	P	20 36 24.8	-0.1
	1.2nm,1.0s,baz=201,slow=7.9,SNR=4.9						
BRTR	**Keskin Array B**	**58.28**	**41**	P	P	20 36 52.5	0.0
	0.3nm,0.5s,baz=232,slow=7.2,SNR=2.9						

*IDC **03** 20:28:45.6±1.1, 31°.86S×178°.05W, h0km, mb4.2/3, mb1 4.3/5, mb1mx3.9/30, mbtmp4.2/5, ML3.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/27, Error ellipse: s-maj=37.7km s-min=23.4km az=123.0*

*ISCJB **03** 20:28:51.0±1.1, 31°.72S±0°.06×178°.4W±0°.2, h35km, mb4.3/5, Error ellipse: s-maj=27.3km s-min=5.1km az=14.1*

*NEIC **03** 20:28:51.1±1.3, 31°.87S×178°.03W, h38km±10km, mb4.6/2, Error ellipse: s-maj=19.9km s-min=11.0km az=113.0*

ISC 03 20:28:51.6±1.1, **31°.71S**±0°.08×**178°.1W**±0°.2, **h35km, n23, σ1s.16**/25, **mb4.5**/5, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
RAO	**Raoul Island**	**2.46**	**4**	Pn	**Pn**	**20 29 30.8**	**+1.6**
	37nm,0.3s,baz=252,slow=20,SNR=3.0						
RAO				Sn	**Sn**	**20 29 57.8**	**-0.1**
	105nm,0.3s,baz=270,slow=20,SNR=4.6						
WMGZ	**Waiomatatini S**	**6.73**	**204**	*e*PN	**Pn**	**20 30 29.0**	**+1.1**
HAZ	**Te Kaha**	**6.91**	**208**	*e*PN	**Pn**	**20 30 31.5**	**+1.2**
HAZ				*e*SN	**Sn**	**20 31 49.7**	**+1.9**
PUZ	**Puketiti**	**7.01**	**204**	*e*PN	Pn	20 30 34.4	+2.6
PUZ				*e*SN	**Sn**	**20 31 50.5**	**+0.2**
CNGZ	**Carnagh Statio**	**7.40**	**203**	PN	**Pn**	**20 30 38.8**	**+1.8**
MWZ	**Matawai**	**7.51**	**207**	*e*PN	**Pn**	**20 30 39.2**	**+0.6**
MWZ				*e*SN	**Sn**	**20 32 02.4**	**-0.3**
WCZ	**Waipu Caves**	**7.56**	**234**	PN	Pn	20 30 46.7	+7.4
URZ	**Urewera**	**7.62**	**210**	Pn	**Pn**	**20 30 37.9**	**-2.1**
	0.2nm,0.3s,baz=11,slow=18,SNR=3.4						
URZ				Sn	**Sn**	**20 32 04.3**	**-0.8**
	2.3nm,0.3s,baz=76,slow=22,SNR=9.1						
URZ	**Urewera**	**7.62**	**210**	*e*PN	**Pn**	**20 30 39.4**	**-0.6**
URZ				*e*SN	**Sn**	**20 32 05.6**	**+0.5**
OUZ	**Omahuta**	**7.76**	**241**	*e*P	Pn	20 30 47.1	+5.1
	10nm,0.5s						
DZM	**Mont Dzumac**	**16.78**	**301**	LR	LR	20 37 28.4	
	comp=Z,54nm,20.8s,baz=359,slow=31						
CTAO	**Charters Tower**	**33.94**	**281**	*e*P	**P**	**20 35 33.1**	**+1.5**
	8.5nm,0.8s						
STKA	**Stephens Creek**	**34.11**	**259**	P	**P**	**20 35 32.8**	**-0.2**
	1.4nm,0.9s,baz=78,slow=9.8,SNR=3.2						
ASAR	**Alice Springs**	**42.96**	**268**	P	**P**	**20 36 46.9**	**-0.6**
	1.6nm,0.4s,baz=107,slow=7.4,SNR=37						
WRAB	**Tennant Creek**	**44.06**	**274**	*e*P	**P**	**20 36 55.7**	**-0.7**
	4.7nm,0.6s						
WRA	**Warramunga Arr**	**44.07**	**274**	P	**P**	**20 36 55.7**	**-0.7**
	4.2nm,0.4s,baz=111,slow=8.1,SNR=137						
MKAR	**Makanchi Array**	**118.54**	**310**	PKP	**PKPdf**	**20 47 34.0**	**-1.4**
	0.1nm,0.4s,baz=97,slow=0.7,SNR=3.2						
KURK	**Kurchatov**	**121.88**	**313**	PKP	**PKPdf**	**20 47 40.2**	**-1.4**
KURBB	**Kurchatov Arra**	**121.92**	**313**	PKP	**PKPdf**	**20 47 40.2**	**-1.4**
	0.2nm,0.5s,baz=116,slow=2.2,SNR=3.5						
FINES	**FINESS Array B**	**146.34**	**339**	PKPbc	**PKPab**	**20 48 27.6**	**-1.1**
	1.3nm,0.4s,baz=65,slow=3.1,SNR=14						
NOA	**NORSAR Array B**	**150.03**	**351**	PKPbc	**PKPbc**	**20 48 37.7**	**0.0**
	0.4nm,0.4s,baz=15,slow=4.0,SNR=2.7						
BRTR	**Keskin Array B**	**153.12**	**296**	PKPbc	**PKPbc**	**20 48 45.3**	**-0.4**
	0.3nm,0.6s,baz=116,slow=3.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**161.52**	**179**	PKPab	**PKPab**	**20 49 33.1**	**-0.6**
	0.4nm,0.5s,baz=180,slow=3.4,SNR=5.5						

*ISCJB **03** 20:47:03.7±0.9, 33°.33N±0°.02×96°.07E±0°.02, h13km±5km, mb4.9/110, MS4.5/82, Error ellipse: s-maj=3.4km s-min=2.9km az=28.3*

*IDC **03** 20:47:03.1±0.4, 33°.28N×96°.08E, h0km, mb4.5/26, mb1 4.6/30, mb1mx4.6/36, mbtmp4.5/30, ML4.2/4, MS4.4/31, Ms1 4.4/31, ms1mx4.3/36, Error ellipse: s-maj=14.5km s-min=9.6km az=44.0*

*SZGRF **03** 20:47:03.4, 32°.30N×96°.57E, h33km, mb5.2, Qinghai, China*

*BJI **03** 20:47:04.2, 33°.31N×96°.20E, h7km, mb4.7/51, mB4.8/32, ML4.5/9, Ms5.0/69, Ms7 4.8/64*

*GCMT **03** 20:47:05.0±0.2, 33°.24N×96°.25E, h24km, MW5.1/100, Moment Tensor Solution. s43,c58; s100,c175; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.17±.17; $M_{\theta\theta}$-2.61±.14; $M_{\phi\phi}$1.44±.14; $M_{r\theta}$-1.29±.30; $M_{\theta\phi}$5.91±.13; $M_{\phi r}$0.83±.29; Best double couple: $M_0$6.39000×10^{16} NP1: ϕ_s80.00000°, δ83.00000°, λ-8.00000°. NP2: ϕ_s171.00000°, δ82.00000°, λ-173.00000°. Principal axes: T 5.6630, Plg1.0000°, Azm126.0000°; N 1.4530, Plg79.0000°, Azm221.0000°; P -7.1170, Plg10.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **03** 20:47:05.0±0.2, 33°.30N×96°.09E, h10km, mb5.0/35 Error ellipse: s-maj=5.8km s-min=4.0km az=215.0*

*MOS **03** 20:47:06.5±0.8, 33°.28N×96°.10E, h33km, mb5.1/35, MS4.6/32, Error ellipse: s-maj=7.7km s-min=4.1km az=124.9*

ISC 03 20:47:05.7±0.4, **33°.34N**±0°.03×**96°.07E**±0°.03, **h13km**±2km, **h13km:pP-P, n482, σ1s.34**/507, **mb5.0**/123, **MS4.5**/83, **54C-33D, Qinghai**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
LSA	**Lhasa**	**5.55**	**230**	Pn	Pn	20 48 32.6	+4.2
LSA				LN			
	8μm,12.3s						
LSA				LE			
	5μm,7.6s						
LSA				LZ			
	3μm,7.6s						
LSA	**Lhasa**	**5.55**	**230**	*e*P	Pn	20 48 31.7	+3.3
LSA	**Lhasa**	**5.55**	**230**	*e*Pn	Pn	20 48 31.7	+3.3
GTA	**Gaotai**	**6.77**	**25**	Pn	**Pn**	**20 48 46.2**	**+1.4**
GTA				Sn	**Sn**	**20 50 06.5**	**+4.7**
GTA				LN			
	4μm,10.0s						
GTA				LE			
	10μm,10.2s						
GTA				LZ			
	4μm,14.7s						
CD2	**Chengdu**	**6.96**	**108**	Pn	Pn	20 48 51.0	+3.6
CD2				Pg	Pb	20 49 11.5	+5.0
CD2				Sn	**Sn**	**20 50 01.5**	**-4.9**
CD2				Sg	Sg	20 50 40.2	-8.9
CD2				smax	smax		
	comp=N,550nm,1.6s						
CD2				smax	smax		
	comp=E,460nm,1.2s						
CD2				LR	LR		
	comp=N,15μm,5.9s						
CD2				LR	LR		
	comp=E,15μm,5.6s						
CD2				LR	LR		
	comp=Z,14μm,5.3s						
LZH	**Lanzhou**	**6.97**	**65**	*e*Pn	**Pn**	**20 48 48.7**	**+1.1**
LZH				*e*Sn	**Sn**	**20 50 04.3**	**-2.4**
LZH				SMN			
	comp=Z,200nm,1.0s						
LZH				SME			
	comp=Z,280nm,1.0s						
LZH				LN			
	comp=Z,13μm,5.6s						
LZH				LE			
	comp=Z,7μm,6.7s						
LZH				LZ			
	comp=Z,6μm,8.2s						
SHL	**Shillong**	**8.56**	**206**	*e*P	**Pn**	**20 49 09.5**	**0.0**
SHL				*e*x	**Sn**	**20 50 47.0**	**+1.0**
IMP	**Imphal**	**8.73**	**193**	*e*P	**Pn**	**20 49 10.0**	**-1.7**
IMP				*e*S	Sn	20 50 43.0	-7.0
TAPN	**Taplejung**	**9.37**	**233**	*e*P	**Pn**	**20 49 21.2**	**+0.6**
	comp=Z,58nm,0.5s						
ODAN	**Odare**	**9.90**	**232**	*e*P	**Pn**	**20 49 28.4**	**+0.4**
KMI	**Kunming**	**10.05**	**143**	P	**Pn**	**20 49 30.0**	**+0.1**
KMI				pP		20 49 32.1	
KMI				sP		20 49 33.8	
KMI				PP	**PnPn**	**20 49 38.8**	**+1.2**
KMI				S	**Sn**	**20 51 23.0**	**+0.4**
KMI				sS		20 51 27.2	
KMI				SS	**SnSn**	**20 51 37.3**	**+2.8**
KMI				PMZ			
	comp=Z,42nm,0.7s						
KMI				PMZ			
	comp=Z,180nm,3.1s						
KMI				LN			
	comp=Z,10μm,6.2s						
KMI				LE			
	comp=Z,9μm,9.7s						
KMI				LZ			
	comp=Z,5μm,10.8s						
JIRN	**Jiri**	**10.22**	**239**	*e*P	**Pn**	**20 49 32.4**	**-0.1**
GUN	**Gumba**	**10.31**	**241**	*e*P	**Pn**	**20 49 33.7**	**+0.1**
GUN				*e*S	**Sn**	**20 51 26.4**	**-2.7**
RAMN	**Ramite**	**10.37**	**235**	*e*P	**Pn**	**20 49 34.2**	**-0.2**
XAN	**Xi'an**	**10.73**	**83**	P	**Pn**	**20 49 38.3**	**-0.8**
XAN				pP		20 49 43.3	
XAN				S	**Sn**	**20 51 38.0**	**-1.2**
XAN				PMZ			
	comp=Z,31nm,4.5s						
XAN				LN			
	comp=Z,7μm,14.3s						
XAN				LZ			
	comp=Z,1μm,10.2s						
KKN	**Kakani**	**10.81**	**242**	*e*P	**Pn**	**20 49 40.3**	**-0.1**
KKN				*e*S	**Sn**	**20 51 39.9**	**-1.5**
PKI	**Pulchoki**	**10.84**	**241**	*e*P	**Pn**	**20 49 41.0**	**+0.1**
DMN	**Daman**	**11.04**	**242**	*e*P	**Pn**	**20 49 43.4**	**-0.2**
GKN	**Gorkha**	**11.18**	**245**	*e*P	**Pn**	**20 49 45.0**	**-0.4**
GYA	**Guiyang**	**11.47**	**124**⇑	*i*P	**Pn**	**20 49 47.4**	**-1.8**
GYA				PP	**PnPn**	**20 50 00.2**	**+3.2**
GYA				S	**Sn**	**20 52 00.6**	**+3.4**
GYA				SS	**SnSn**	**20 52 13.4**	**+4.2**
GYA				PMZ			
	comp=Z,50nm,0.9s						
GYA				PMZ			
	comp=Z,130nm,4.8s						
GYA				LN			
	comp=Z,4μm,8.7s						
GYA				LE			
	comp=Z,2μm,8.1s						
GYA				LZ			
	comp=Z,3μm,9.3s						
ENH	**Enshi**	**11.82**	**101**	*e*Pn	**Pn**	**20 49 53.9**	**0.0**
KOLN	**Koldanda**	**12.09**	**246**	*e*P	**Pn**	**20 49 57.0**	**-0.8**
WMQ	**Urumqi**	**12.34**	**330**	P	**Pn**	**20 50 01.1**	**+0.1**
WMQ				pP	P	20 50 06.5	-6.7
WMQ				sP		20 50 07.8	
WMQ				PP	**PnPn**	**20 50 09.6**	**+0.7**
WMQ				S	**Sn**	**20 52 19.2**	**+0.9**
WMQ				PcP	**PcP**	**20 55 41.0**	**-1.3**
WMQ				ScS	**ScS**	**21 02 48.5**	**-2.5**
WMQ				PMZ			
	comp=Z,56nm,1.0s						
WMQ				LN			
	comp=Z,6μm,10.0s						
WMQ				LE			
	comp=Z,4μm,18.2s						
WMQ				LZ			
	comp=Z,2μm,17.5s						
BOK	**Bokaro**	**13.05**	**226**	*e*P	**Pn**	**20 50 08.9**	**-1.8**
BTO	**Baotou**	**13.30**	**53**	*e*P	**Pn**	**20 50 12.2**	**-2.0**
CRAI	**Chiangrai**	**13.61**	**163**	P	Pn	20 50 15.2	-3.3
	comp=Z,26nm,1.6s						
CMAI	**Chiengmai2**	**13.62**	**168**	P	**Pn**	**20 50 20.8**	**+2.1**
	comp=Z,81nm,1.2s,comp=Z,6μm						
HHC	**Hu-ho-hao-te**	**14.45**	**54**	*e*P	Pn	20 50 25.8	-4.2
HHC				PP	**PnPn**	**20 50 38.9**	**+1.0**
HHC				S	**Sn**	**20 53 05.3**	**-4.7**
HHC				SS	**SnSn**	**20 53 23.9**	**+1.4**
HHC				PMZ			
	comp=Z,21nm,0.6s						
HHC				PMZ			
	comp=Z,170nm,4.7s						
HHC				LN			
	comp=Z,3μm,8.5s						
HHC				LE			
	comp=Z,2μm,8.5s						
HHC				LZ			
	comp=Z,1μm,8.6s						
CHTO	**Chiang Mai**	**14.70**	**169**	P	**Pn**	**20 50 33.2**	**-0.1**
	comp=Z,154nm,1.0s,comp=Z,2μm						
CHTO	**Chiang Mai**	**14.70**	**169**	*e*P	**Pn**	**20 50 32.9**	**-0.4**
CHTO	**Chiang Mai**	**14.70**	**169**	*e*Pn	**Pn**	**20 50 32.9**	**-0.4**
CMMT	**Chiang Mai**	**14.70**	**169**	P	**Pn**	**20 50 33.1**	**-0.2**
	comp=Z,44nm,1.0s,comp=Z,658nm						
CMAR	**Chiang Mai Arr**	**15.04**	**169**	Pn	**Pn**	**20 50 37.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=344,slow=9.1,SNR=32						
CMAR				Lg	Lg	20 55 01.5	
	comp=Z,0.0nm,0.3s,baz=2.0,slow=28,SNR=3.1						
CMAR				LR	LR	20 55 48.0	
	comp=Z,381nm,19.4s,baz=348,slow=35						
CMAR	**Chiang Mai Arr**	**15.04**	**169**	*ce*P	**Pn**	**20 50 37.7**	**-0.3**
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LAMP	**Lampang**	**15.10**	**167**	P	**Pn**	**20 50 40.4**	**+1.7**
	comp=Z,10nm,0.9s,comp=Z,81nm						
MHMT	**Maesarieng**	**15.19**	**173**	P	**P**	**20 50 44.3**	**-0.7**
	comp=Z,14nm,1.0s						
WHN	**Wuhan**	**15.77**	**95**	P	**Pn**	**20 50 45.7**	**-1.8**
WHN				S	**Sn**	**20 53 37.7**	**-4.4**
WHN				LZ			
	comp=Z,8μm,18.6s						

UTTA Uttaradit 16.05 164 P **Pn** **20 50 51.8 +0.7**
comp=Z,8.3nm,1.0s,comp=Z,76nm
SMLA Simla 16.14 267 *eP* **Pn** **20 50 52.2 0.0**
LOEI Loei 16.44 162 P **Pn** **20 50 57.2 +1.0**
comp=Z,30nm,0.7s
SONM Songino Array 16.44 25 Pn **Pn** **20 50 55.1 -1.0**
comp=Z,4.8nm,0.3s,baz=207,slow=15,SNR=121
SONM Lg Lg 20 55 49.3
comp=Z,0.1nm,0.3s,baz=238,slow=32,SNR=2.4
SONM LR LR 20 57 44.3
comp=Z,2μm,19.8s,baz=208,slow=39
DHRM DHARAMSHALA 16.66 272 *eP* **Pn** **20 50 58.6 -0.5**
ULN Ulaanbaatar 16.71 27 *eP* **P** **20 51 03.5 +1.7**
ULN pmax pmax
comp=Z,70nm,1.7s
ULN Ulaanbaatar 16.71 27 *eP* **P** **20 51 03.5 +1.7**
comp=Z,70nm,1.7s
MKAR Makanchi Array 17.04 326 P **Pn** **20 51 01.9 -1.7**
comp=Z,3.2nm,0.3s,baz=131,slow=12,SNR=109
MKAR LR LR 20 58 13.9
comp=Z,1μm,19.6s,baz=140,slow=39
MKAR Makanchi Array 17.04 326 P **Pn** **20 51 01.9 -1.7**
MKAR pmax pmax
comp=Z,3.0nm,0.3s
MKAR MLR MLR
comp=Z,1μm,19.6s
MKAR Makanchi Array 17.04 326 *e*Pn **Pn** **20 51 02.2 -1.4**
PBKT Sadao Pong 17.27 164 P **Pn** **20 51 06.4 -0.2**
comp=Z,34nm,1.0s
KSH Kashi 17.29 297 P **P** **20 51 10.2 +1.9**
KSH pP **pP** **20 51 16.0 +3.9**
KSH PP PnPn 20 51 27.8 +11
KSH S **S** **20 54 25.5 -2.5**
KSH sS **sS** **20 54 32.0 -2.0**
KSH SS SnSn 20 54 48.5 +16
KSH PcP **PcP** **20 55 52.6 +3.2**
KSH PMZ
comp=Z,83nm,1.8s
KSH PMZ
comp=Z,170nm,2.6s
KSH LN
comp=Z,2μm,8.8s
KSH LE
comp=Z,2μm,10.1s
KSH LZ
comp=Z,2μm,7.7s
BJI Beijing 17.44 62 P **P** **20 51 09.4 -0.4**
BJI PMZ
comp=Z,18nm,1.9s
BJI PMZ
comp=Z,180nm,3.1s
BJI LN
comp=Z,7μm,15.7s
BJI LE
comp=Z,3μm,13.5s
BJI LZ
comp=Z,1μm,24.2s
TIA Tai'an 17.53 75 *eP* **P** **20 51 10.7 -0.2**
TIA S **Sn** **20 54 25.8 +0.9**
TIA LN
comp=Z,4μm,13.7s
TIA LE
comp=Z,3μm,12.5s
TIA LZ
comp=Z,4μm,15.5s
SKNT Sakolnakorn 17.79 154 P **P** **20 51 13.8 0.0**
comp=Z,73nm,1.2s,comp=Z,2μm
ZAK Zakamensk 17.84 15 *eP* **P** **20 51 14.9 +0.6**
ZAK pmax pmax
comp=Z,13nm,1.7s
AAA Alma-Ata 17.95 309 *i* P **P** **20 51 17.8 +2.3**
AAA pmax pmax
comp=Z,1μm,3.7s
ULHL Ulahol 17.98 305 P **P** **20 51 17.3 +1.3**
SNR=6.1
CHLP Challavanipeta 18.28 219 *eP* **P** **20 51 19.4 +0.3**
CHLP IAmb IAmb 20 51 24.1
comp=Z,263nm,2.2s
CHLP *e*Sn **Sn** **20 54 42.9 -0.1**
CHLP IVMs_BB IVMs_BB 20 58 17.7
comp=Z,553nm,13.8s
KZA Kyzart 18.60 304 P **Pn** **20 51 26.4 +3.1**
SNR=43
KHLT Khaolaem Dam 18.60 172 P **Pn** **20 51 25.5 +2.5**
comp=Z,14nm,1.2s
MOY Mondy 18.66 10 *eP* **Pn** **20 51 25.5 +1.8**
MOY pmax pmax
comp=Z,61nm,3.7s
TKM2 Tokmak 2 18.69 307 P **Pn** **20 51 26.4 +2.2**
SNR=27
QIZ Qiongzhong 18.84 136 P **P** **20 51 24.4 -0.9**
QIZ pP **pP** **20 51 27.7 -1.4**
QIZ sP **sP** **20 51 29.4 -1.4**
QIZ S **Sn** **20 54 56.8 +0.2**
QIZ sS **sS** **20 55 05.3 -0.1**
QIZ PMZ
comp=Z,40nm,1.7s
QIZ PMZ
comp=Z,160nm,9.3s
QIZ LN
comp=Z,2μm,10.6s
QIZ LE
comp=Z,2μm,12.1s
QIZ LZ
comp=Z,5μm,11.4s
QIZ Qiongzhong 18.84 136 *eP* **P** **20 51 25.0 -0.3**
comp=Z,81nm,1.4s
KBK Karagaybulak 19.02 305 P **Pn** **20 51 30.4 +2.2**
SNR=29
SRDT SRDT 19.11 171 P **Pn** **20 51 30.1 +1.0**
comp=Z,97nm,1.1s,comp=Z,7μm
TLY Talaya 19.14 15 P **Pn** **20 51 30.1 +0.8**
comp=Z,0.0nm,0.3s,baz=207,slow=5.7,SNR=3.4
TLY Lg Lg 20 57 14.8
comp=Z,0.0nm,0.3s,baz=241,slow=19,SNR=2.0
TLY Talaya 19.14 15 *eP* **Pn** **20 51 31.1 +1.8**
TLY *eS* **S** **20 55 05.2 +0.1**
TLY pmax pmax
comp=Z,21nm,2.0s
TLY MLR MLR
comp=Z,1μm,11.0s
UCH Uchtor 19.17 304 P **Pn** **20 51 32.1 +2.0**
SNR=33
NJ2 Nanjing 19.22 88 *eP* **P** **20 51 29.4 0.0**
NJ2 pP **Pn** **20 51 31.7 +1.3**
NJ2 sP **sP** **20 51 33.4 -1.6**
NJ2 S **Sn** **20 55 05.0 -0.7**
NJ2 sS **sS** **20 55 12.5 -0.4**
NJ2 PMZ
comp=Z,30nm,0.6s
NJ2 PMZ
comp=Z,230nm,6.7s
NJ2 LN
comp=Z,3μm,12.6s
NJ2 LZ
comp=Z,7μm,11.8s
BHPL Bhopal 19.23 243 *eP* **P** **20 51 28.4 -1.2**
CHMS Chumysh 19.29 306 P **Pn** **20 51 32.4 +1.1**
SNR=28
FRU Bishkek 19.32 306 *eP* **Pn** **20 51 31.5 -0.1**
FRU pmax pmax
comp=Z,90nm,1.6s
AAK Ala-Archa 19.33 305 Pn **Pn** **20 51 33.0 +1.2**
comp=Z,275nm,1.0s,SNR=23
AAK Ala-Archa 19.33 305 P **Pn** **20 51 33.9 +2.1**
SNR=34
AAK Ala-Archa 19.33 305 P **Pn** **20 51 33.9 +2.1**
comp=Z,0.9nm,0.3s,baz=99,slow=7.8,SNR=50
AAK Ala-Archa 19.33 305 *c i*P **Pn** **20 51 33.7 +1.9**
AAK pmax pmax
comp=Z,158nm,1.2s
AAK Ala-Archa 19.33 305 *e*Pn **Pn** **20 51 33.0 +1.2**
comp=Z,47nm,1.0s
NGP Nagpur 19.37 235 *e*P **P** **20 51 31.1 0.0**
NGP *ex* x 20 51 36.2
comp=Z,82nm,1.6s
NGP *ex* x 20 55 18.2
NAYO Nakonayok 19.53 165 P **Pn** **20 51 34.8 +0.6**
comp=Z,211nm,0.7s
USP Ospenovka 19.56 307 P **Pn** **20 51 35.2 +0.7**
SNR=33
AML Almayashu 19.71 303 P **Pn** **20 51 38.4 +1.8**
SNR=20
IRK Irkutsk 19.80 15⇑ *i*P **Pn** **20 51 37.9 +0.7**
IRK pmax pmax
comp=Z,60nm,2.0s

EKS2 Erkin-Say 19.83 304 P **Pn** **20 51 39.0 +1.3**
SNR=46
DGPR DIGLIPUR 20.27 189 *e*P **P** **20 51 41.3 +0.3**
DGPR AMB AMB 20 51 49.0
comp=Z,56nm,1.0s
PVM Polavaram 20.63 223 *e*P **P** **20 51 44.4 -0.5**
PVM IAmb IAmb 20 51 47.7
comp=Z,28nm,0.8s
PVM *e* 20 55 29.5
PVM *e*S **S** **20 55 36.4 +1.2**
PVM IVMs_BB IVMs_BB 20 59 40.4
comp=Z,930nm,13.7s
RPR Rampur 20.81 230 *e*P **P** **20 51 47.1 +0.2**
RPR IAmb IAmb 20 51 50.2
comp=Z,42nm,1.0s
RPR *e*S **S** **20 55 37.3 -1.5**
RPR IVMsBB 21 00 13.6
comp=Z,959nm,6.8s
CHBT CHBT 21.28 163 P **P** **20 51 55.2 +3.3**
comp=Z,62nm,1.4s,comp=Z,848nm
DL2 Dalian 21.35 68 P **P** **20 51 55.6 +3.1**
DL2 S **S** **20 55 49.4 +0.1**
DL2 PMZ
comp=Z,39nm,0.9s
DL2 PMZ
comp=Z,68nm,8.8s
DL2 LN
comp=Z,2μm,16.7s
DL2 LZ
comp=Z,2μm,12.8s
QZH Quanzhou 21.35 107⇓ *i*P **P** **20 51 55.7 +3.1**
QZH S **S** **20 55 48.0 -1.4**
QZH LE
comp=Z,4μm,7.8s
QZH LZ
comp=Z,9μm,8.4s
SSE Sheshan 21.36 89 *e*P **P** **20 51 53.0 +0.3**
SSE S **S** **20 55 43.2 -6.3**
SSE sS **sS** **20 55 56.4 +0.8**
SSE PMZ
comp=Z,34nm,0.8s
SSE PMZ
comp=Z,72nm,3.9s
SSE LN
comp=Z,3μm,10.2s
SSE LE
comp=Z,2μm,10.2s
SSE LZ
comp=Z,2μm,13.9s
SRSP Sriramsagar 21.38 232 *e*P **P** **20 51 54.3 +1.3**
SRSP IAmb IAmb 20 51 58.4
comp=Z,213nm,1.8s
SRSP *e*S **S** **20 55 49.5 -0.6**
SRSP IVMsBB 21 00 13.1
comp=Z,966nm,7.1s
KURBB Kurchatov Arra 21.54 328 P **P** **20 51 54.9 +0.4**
comp=Z,36nm,0.9s,baz=137,slow=10,SNR=168
KURK Kurchatov 21.57 329 P **P** **20 51 55.7 +0.9**
comp=Z,160nm,0.8s,SNR=49
KURK Kurchatov 21.57 329 P **P** **20 51 54.9 +0.1**
KURK pmax pmax
comp=Z,36nm,0.9s
KURK Kurchatov 21.57 329 *e*P **P** **20 51 55.2 +0.5**
KURK LR LR
comp=Z,1μm,18.0s
PBA Port Blair 21.80 189 *e*P P 20 51 57.5 +0.1
PBA AMB AMB 20 52 12.7
comp=Z,53nm,1.4s
ZALV Zalesovo Beam 22.10 342 P **P** **20 52 00.7 +0.3**
comp=Z,19nm,0.8s,baz=157,slow=9.8,SNR=60
ZALV LR LR 21 00 55.1
comp=Z,676nm,18.2s,baz=246,slow=38
KKAR Karatay Array 22.24 303 *e*P **P** **20 52 03.2 +1.1**
KKAR Karatay Array 22.24 303 *e*P **P** **20 52 03.2 +1.1**
HYBB Hyderabad (bro 22.34 229 *e*P **P** **20 52 04.0 +0.6**
HYBB IAmb IAmb 20 52 07.7
comp=Z,35nm,1.0s
HYBB *e*S **S** **20 56 10.3 +1.4**
HYBB IVMs_BB IVMs_BB 20 59 22.2
comp=Z,973nm,4.9s
HYB Hyderabad 22.35 229 *i* P **P** **20 52 06.0 +2.6**
HYB *e*S Sn 20 56 16.0 -5.1
HYB Hyderabad 22.35 229 *e*P **P** **20 52 02.3 -1.1**
HYB AMB AMB 20 52 08.2
comp=Z,33nm,0.9s
KBL Kabul 22.43 281 *e*P **P** **20 52 05.2 +0.8**
KBL pmax pmax
comp=Z,131nm,0.9s
KBL MLR MLR
comp=Z,2μm,21.9s
KBL Kabul 22.43 281 *e*P **P** **20 52 05.2 +0.8**
comp=Z,131nm,0.9s
KBL LR LR
comp=Z,2μm,21.9s
NJS Nagarjunasagar 22.54 226 *e*P **P** **20 52 05.3 0.0**
NJS IAmb IAmb 20 52 09.6
comp=Z,34nm,0.9s
NJS *e*S **S** **20 56 11.3 -1.0**
NJS IVMs_BB IVMs_BB 21 00 47.1
comp=Z,971nm,23.0s
ADKI Addanki 22.70 224 *e*P **P** **20 52 06.8 -0.3**
ADKI IAmb IAmb 20 52 11.6
comp=Z,67nm,1.0s
SRLM Srisailam 23.14 226 *e*P **P** **20 52 11.2 -0.5**
SRLM IAmb IAmb 20 52 15.2
comp=Z,215nm,1.1s
SRLM *e*S **S** **20 56 22.2 -0.8**
SRLM IVMs_BB IVMs_BB 21 01 04.5
comp=Z,905nm,19.4s
KLRI Killari 23.15 234 *e*P **P** **20 52 10.7 -1.3**
KLRI IAmb IAmb 20 52 14.9
comp=Z,128nm,1.2s
KLRI *e*S **S** **20 56 24.2 +0.9**
KLRI IVMs_BB IVMs_BB 21 01 04.3
comp=Z,2μm,11.8s
NVS Novosibirsk 23.31 341⇑ *i*P **P** **20 52 12.6 -0.5**
NVS *i* 20 56 27.4
NVS pmax pmax
comp=Z,33nm,1.6s
NVS pmax pmax
comp=N,24nm,1.7s
NVS pmax pmax
comp=E,17nm,1.4s
SNY Shenyang 23.32 61⇓ P **P** **20 52 15.1 +1.8**
SNY S **S** **20 56 26.9 +1.4**
SNY PMZ
comp=E,28nm,1.6s
SNY PMZ
comp=E,130nm,6.4s
SNY LN
comp=E,2μm,12.9s
SNY LE
comp=E,1μm,18.8s
SNY LZ
comp=E,2μm,20.4s
RCLA Racherla 23.60 225 *e*P **P** **20 52 16.3 0.0**
RCLA IAmb IAmb 20 52 20.1
comp=Z,36nm,1.0s
RCLA *e* 20 55 45.3
RCLA *e*S **S** **20 56 29.3 -1.1**
RCLA IVMs_BB IVMs_BB 21 01 27.1
comp=Z,748nm,7.0s
HIA Hailar 23.72 41 *e*P **P** **20 52 19.3 +2.0**
HIA pmax pmax
comp=Z,98nm,1.7s
HIA Hailar 23.72 41 *e*P **P** **20 52 19.3 +2.0**
comp=Z,98nm,1.7s
SSLB Suanglung 23.79 107 PFAKE 20 52 30.0 +12
SSLB LR LR
comp=Z,600nm,21.6s
NACB Ninganchiao 24.12 106 PFAKE 20 52 30.0 +8.7
NACB LR LR
comp=Z,2μm,18.0s
YULB Yu-li 24.26 108 PFAKE 20 52 30.0 +7.4
YULB LR LR
comp=Z,900nm,19.0s
SURT Suratani 24.40 173 P **P** **20 52 27.7 +3.9**
comp=Z,18nm,0.9s
SKHT Srikalahasti 24.54 221 *e*P **P** **20 52 25.5 +0.4**
SKHT IAmb IAmb 20 52 29.1
comp=Z,25nm,0.9s
SKHT *e*S **S** **20 56 48.5 +3.0**
SKHT IVMsBB 21 02 08.3
comp=Z,636nm,6.7s
POO Poona 24.76 239 *e*P **P** **20 52 26.0 -1.1**
POO *e*P **pP** **20 52 27.2 -4.0**

URV Uravakonda 25.02 227 *e*P **P** **20 52 30.9 +1.4**
URV IAmb IAmb 20 52 33.9
comp=Z,52nm,0.9s
URV *e*S **S** **20 56 57.4 +4.0**
YOJ Yonaguni jima 25.14 104 PFAKE 20 52 40.0 +10
YOJ LR LR
comp=Z,300nm,22.0s
INCN Inchon 25.20 72 PFAKE 20 52 40.0 +9.0
INCN LR LR
comp=Z,1μm,18.3s
BHJ Bhuj 25.27 253 *e*P **P** **20 52 30.4 -1.3**
BHJ AMB AMB 20 52 34.7
comp=Z,72nm,1.4s
TRTT Trang 25.60 172 P **P** **20 52 38.0 +3.3**
comp=Z,36nm,1.3s,comp=Z,542nm
KSAR Wonju Array Be 26.19 72 P **P** **20 52 40.0 0.0**
KSAR Wonju Array Be 26.19 72 P **P** **20 52 40.0 0.0**
KSRS Korea Array 26.22 72 P **P** **20 52 40.0 -0.2**
comp=Z,3.8nm,0.6s,baz=274,slow=9.7,SNR=28
KSRS LR LR 21 03 02.9
comp=Z,1μm,18.5s,baz=268,slow=37
KSRS Korea Array 26.22 72 P **P** **20 52 40.0 -0.2**
KSRS pmax pmax
comp=Z,4.0nm,0.6s
KSRS MLR MLR
comp=Z,1μm,18.5s
SKLT Songkhla 26.38 170 P P 20 52 46.9 +5.1
comp=Z,22nm,1.0s
BVAR Borovoye Array 26.91 325 P **P** **20 52 47.2 +0.9**
comp=Z,2.3nm,0.7s,baz=123,slow=11,SNR=16
BVAR LR LR 21 03 38.9
comp=Z,2μm,20.5s,baz=118,slow=37
SZP Santa 26.96 120 PFAKE 20 53 00.0 +13
SZP LR LR
comp=Z,900nm,20.6s
BRVK Borovoye 26.99 325 *c i*P **P** **20 52 48.0 +1.0**
BRVK pmax pmax
comp=Z,13nm,1.7s
BRVK Borovoye 26.99 325 *e*P **P** **20 52 47.8 +0.8**
comp=Z,23nm,1.5s
BRVK LR LR
comp=Z,2μm,18.1s
BOD Bodaibo 27.34 21 *e*P **P** **20 52 51.3 +1.3**
BOD pmax pmax
comp=Z,6.0nm,1.8s
LHMI Lhok Sumawe 27.98 178 PFAKE 20 53 10.0 +14
LHMI LR LR
comp=Z,900nm,22.0s
JOW Kunigami 28.54 95 PFAKE 20 53 10.0 +8.9
JOW LR LR
comp=Z,400nm,19.8s
JNU Nakatsue 29.04 81 P **P** **20 53 04.9 -0.7**
comp=Z,3.3nm,0.9s,baz=355,slow=12,SNR=3.5
JNU Nakatsue 29.04 81 P **P** **20 53 04.9 -0.7**
JNU LR LR
comp=Z,400nm,18.4s
VLA Vladivostok 29.59 60⇓ *i*P **P** **20 53 09.5 -0.8**
VLA *e* 20 54 04.8
VLA *i* 20 56 12.5
VLA *e*S **S** **20 58 03.7 -1.3**
VLA pmax pmax
comp=Z,18nm,0.7s
PALK Pallekele 29.59 212 PFAKE 20 53 20.0 +9.5
PALK LR LR
comp=Z,900nm,22.0s
USRK Ussuriysk Ar. 29.82 58 LR LR 21 06 39.8
comp=Z,1μm,18.1s,baz=251,slow=39
PSI Prapat 30.50 174 PFAKE 20 53 30.0 +11
PSI LR LR
comp=Z,1μm,20.1s
KLR Kul'dur 30.82 48 *e*P **P** **20 53 18.0 -3.1**
KLR *e* 20 54 18.2
KLR MLR MLR
comp=E,1μm,11.0s
KLR MLR MLR
comp=Z,7μm,11.0s
ABKAR Akbulak array 31.10 312 *e*P **P** **20 53 24.8 +1.2**
GSI Gunungsitoli 31.90 177 PFAKE 20 53 40.0 +9.1
GSI LR LR
comp=Z,2μm,19.3s
HABR Khabarovsk 32.72 51 P **P** **20 53 37.0 -0.8**
HABR *e**PP **pP** **20 53 46.3 +4.4**
HABR *e**SP sP 20 53 50.5 +7.0
HABR *e* 20 54 45.7
HABR *e*S **S** **20 58 52.7 -1.1**
HABR *e**SS sS 20 59 08.6 +8.0
HABR *e*SS **SnSn** **21 00 50.9 +1.8**
HABR *e*SSS SSS 21 01 07.0
HABR *e* 21 04 02.8
HABR pmax pmax
comp=Z,11nm,1.6s
HABR MLR MLR
comp=Z,2μm,17.0s
BKNI Bangkinang 33.17 171 PFAKE 20 53 50.0 +8.0
BKNI LR LR
comp=Z,1μm,18.9s
SVE Sverdlovsk 33.70 325⇓ *e*P **P** **20 53 47.4 +1.1**
SVE *e* 20 55 13.6
SVE *e* 20 56 22.8
SVE *e*S **S** **20 59 05.0 -3.9**
SVE *e* 21 01 40.0
SVE pmax pmax
comp=Z,15nm,1.1s
SVE MLR MLR
comp=Z,737nm,18.0s
IBAF Bafgh 34.07 278 *e*P **P** **20 53 50.7 +0.8**
MAJO Matsushiro 34.49 73 PFAKE 20 54 10.0 +17
MAJO LR LR
comp=Z,600nm,18.5s
MJAR Matsushiro Arr 34.50 73 P **P** **20 53 53.2 -0.3**
comp=Z,1.1nm,0.7s,baz=277,slow=11,SNR=3.5
MJAR PcP **PcP** **20 56 26.6 -1.9**
comp=Z,1.5nm,0.7s,baz=234,slow=2.8,SNR=7.0
MJAR LR LR 21 07 44.6
comp=Z,724nm,18.5s,baz=265,slow=36
ARU Arti 34.53 323 P **P** **20 53 54.2 +0.7**
comp=Z,86nm,0.8s,SNR=7.0
ARU Arti 34.53 323 *d i*P **P** **20 53 54.0 +0.5**
ARU 20 55 06.1
ARU PPP PPP 20 55 22.6
ARU 20 56 24.9
ARU S **S** **20 59 22.7 +0.9**
ARU SS **SnSn** **21 01 26.0 -7.0**
ARU SSS SSS 21 01 55.8
ARU pmax pmax
comp=Z,25nm,1.7s
ARU MLR MLR
comp=Z,956nm,19.0s
ARU Arti 34.53 323 *e*P **P** **20 53 53.5 0.0**
comp=Z,12nm,0.9s
ARU LR LR
comp=Z,1μm,19.4s
IMEH Mehriz 34.91 278 *e*P **P** **20 53 57.5 +0.1**
ISAD Sadrabad 35.55 280 *e*P **P** **20 54 03.1 +0.3**
UOSS Wadi Hilu 35.63 267 PFAKE 20 54 20.0 +17
UOSS LR LR
comp=Z,700nm,21.6s
YAK Yakutsk 35.80 27 *e*P **P** **20 54 04.8 +0.5**
YAK *e**PP pP 20 54 14.7 +6.3
YAK *e* 20 56 32.0
YAK *e*S **S** **20 59 38.3 -2.7**
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK pmax pmax
comp=N,5.0nm,1.4s
YAK smax smax
comp=E,31nm,3.2s
YAK smax smax
comp=N,44nm,3.6s
YAK MLR MLR
comp=Z,992nm,17.0s
YAK MLR MLR
comp=E,896nm,18.0s
YAK MLR MLR
comp=N,475nm,20.0s
YAK Yakutsk 35.80 27 *e*P **P** **20 54 04.6 +0.3**
comp=N,53nm,1.4s
YAK LR LR
comp=Z,1μm,20.3s
IDMV Damavand 36.15 286 *e*P **P** **20 54 08.5 +0.5**
JHJ2 Mitsune 36.40 78 PFAKE 20 54 20.0 +10
JHJ2 LR LR
comp=Z,400nm,19.4s

IVRN Varamin 36.50 285 *e*P **P** **20 54 11.9 +1.2**
ASAJ Asahikawa 37.41 59 *e*P **P** **20 54 18.2 -0.1**
comp=Z,7.2nm,1.0s
ASAJ LR LR
comp=Z,200nm,21.6s
IGZV Ghazvin 37.47 288 *e*P **P** **20 54 21.1 +1.8**
YSS Yuzh-Sakhalins 37.64 55 *e*P **P** **20 54 20.0 -0.2**
YSS *e*S **S** **21 00 06.0 -3.5**
YSS MLR MLR
comp=Z,900nm,14.0s
YSS MLR MLR
comp=E,900nm,12.0s
YSS Yuzh-Sakhalins 37.64 55 PFAKE 20 54 30.0 +10
YSS LR LR
comp=Z,500nm,20.3s
DAV Davao City (W) 37.82 127 PFAKE 20 54 30.0 +7.9
DAV LR LR
comp=Z,800nm,19.6s
ERM Erimo 37.86 63 PFAKE 20 54 30.0 +7.9
ERM LR LR
comp=Z,700nm,18.9s
MNAI Manna 38.06 169 PFAKE 20 54 40.0 +16
MNAI LR LR
comp=Z,900nm,19.9s
TOLI Toli-Toli 39.57 139 PFAKE 20 54 50.0 +13
TOLI LR LR
comp=Z,300nm,20.9s
YUK Yuzh-Kuril'sk 39.77 59 *e*P **P** **20 54 39.8 +1.7**
YUK *i* 20 56 08.8
YUK *i*S **S** **21 00 39.3 -2.3**
YUK MLR MLR
comp=N,451nm,22.0s
YUK MLR MLR
comp=E,501nm,22.0s
YUK MLR MLR
comp=Z,755nm,22.0s
ITBZ Tabriz 40.40 292 *e*P **P** **20 54 45.3 +1.7**
IAZR Azarshahr 40.61 291 *e*P **P** **20 54 47.1 +1.6**
IMRD Marand 40.67 292 *e*P **P** **20 54 47.0 +1.1**
GNI Garni 41.21 295*c i*P **P** **20 54 52.4 +2.1**
GNI pmax pmax
comp=Z,37nm,1.7s
GNI Garni 41.21 295⇓*e*P **P** **20 54 52.5 +2.1**
SNR=7.2
GNI Garni 41.21 295 *e*P **P** **20 54 51.0 +0.7**
comp=Z,38nm,1.4s
ZEI Tsey 41.56 299 *e*P **P** **20 54 53.9 +0.7**
ZEI pmax pmax
comp=Z,9.0nm,0.5s
KMSI Cibinong 41.83 135 P P 20 55 00.0 +4.6
GOF Gofitskoye 42.03 302 *e*P **P** **20 54 57.1 +0.3**
KBZ Khabaz 42.22 300 P **P** **20 54 58.9 +0.7**
comp=Z,6.2nm,0.8s,baz=146,slow=24,SNR=14
KBZ LR LR 21 15 46.5
comp=Z,893nm,19.0s,baz=54,slow=41
KIV Kislovodsk 42.35 301 *e*P **P** **20 55 00.4 +0.9**
KIV pmax pmax
comp=Z,27nm,1.0s
KIV MLR MLR
comp=Z,469nm,16.0s
KIV Kislovodsk 42.35 301 ⇑P **P** **20 55 00.4 +0.9**
SNR=7.9
KIV Kislovodsk 42.35 301 *e*P **P** **20 55 00.2 +0.7**
comp=Z,23nm,0.9s
TTSI Tana Toraja 42.59 144 P **P** **20 55 01.9 +0.4**
comp=Z,41nm,0.9s,comp=Z,620nm
PRGR Permogore 42.67 327 *e*P **P** **20 55 00.5 -1.2**
PRGR pmax pmax
comp=Z,9.0nm,0.9s
SPSI Sidrap Palu 43.35 144 P **P** **20 55 10.2 +2.5**
comp=Z,27nm,1.3s
KAPI Kappang 44.26 145 P **P** **20 55 15.9 +0.9**
comp=Z,3.3nm,0.6s,baz=261,slow=12,SNR=3.3
VSR Storozhevoye 44.53 311⇑*e*P **P** **20 55 18.6 +1.7**
RAYN Ar Rayn 45.16 271 PFAKE 20 55 30.0 +7.7
RAYN LR LR
comp=Z,800nm,21.8s
KLMR Klimovskoe 45.34 325 *e*P **P** **20 55 23.4 +0.3**
KLMR *e* 20 57 15.4
KLMR pmax pmax
comp=Z,27nm,0.9s
KLMR MLR MLR
comp=Z,476nm,18.0s
MOS Moscow 45.66 318 *e*P P 20 55 22.3 -3.4
MOS pmax pmax
comp=Z,46nm,0.7s
MOS MLR MLR
comp=Z,1μm,19.0s
MOS MLR MLR
comp=E,900nm,18.0s
SEY Seymchan 45.67 32 LR LR 21 14 52.0
comp=E,624nm,18.6s,baz=248,slow=36
ANN Anapa 46.02 302 *e*P **P** **20 55 29.0 +0.2**
ANN pmax pmax
comp=Z,109nm,1.9s
ANN MLR MLR
comp=E,605nm,15.0s
ANN MLR MLR
comp=Z,517nm,15.0s
ANN MLR MLR
comp=N,404nm,15.0s
OBN Obninsk 46.22 317⇓*i*P **P** **20 55 30.7 +0.5**
OBN *e* 20 57 20.7
OBN pmax pmax
comp=Z,37nm,1.7s
OBN MLR MLR
comp=Z,1μm,22.0s
PETK Petropavlovsk- 47.45 46 P **P** **20 55 41.4 +1.5**
comp=Z,1.7nm,0.6s,baz=231,slow=7.1,SNR=4.2
PETK LR LR 21 16 08.5
comp=Z,253nm,20.5s,baz=268,slow=37
SIJI Sorong 47.49 129 P **P** **20 55 40.4 -0.2**
comp=Z,5.7nm,0.5s,baz=332,slow=12,SNR=7.0
PET Petropavlovsk 48.03 46 *e*P **P** **20 55 44.3 0.0**
PET *e*S **S** **21 02 44.6 +2.7**
PET MLR MLR
comp=Z,400nm,21.0s
PET MLR MLR
comp=Z,600nm,19.0s
SIM Simferopol' 48.34 303 *e*P **P** **20 55 47.8 +0.9**
SIM S **S** **21 02 46.0 -0.6**
SIM pmax pmax
comp=Z,18nm,0.9s
SIM MLR MLR
comp=N,340nm,17.6s
LVZ Lovozero 48.86 334⇑*i*P P 20 55 53.8 +3.2
LVZ pmax pmax
comp=Z,18nm,1.0s
BRTR Keskin Array B 49.68 296 P **P** **20 55 57.2 -0.2**
comp=Z,9.3nm,0.8s,baz=96,slow=7.6,SNR=59
BRTR LR LR 21 22 05.7
comp=Z,165nm,18.1s,baz=72,slow=42
AKASG Malin Array Be 50.84 311 P **P** **20 56 05.8 0.0**
comp=Z,12nm,0.8s,baz=73,slow=6.6,SNR=34
AKASG LR LR 21 18 48.1
comp=Z,404nm,18.8s,baz=80,slow=37
KIEV Kiev 50.85 311 *e*P **P** **20 56 05.5 -0.4**
KIEV pmax pmax
comp=Z,19nm,1.0s
KIEV Kiev 50.85 311 *e*P **P** **20 56 05.5 -0.4**
comp=Z,19nm,1.0s
CSS Prodhromos 51.17 290 *e*P **P** **20 56 08.2 -0.3**
comp=Z,2.7nm,0.7s
VSU Vasula 51.63 321⇑*e*P **P** **20 56 11.9 +0.3**
KIS Kishinev 51.65 306 *e*P **P** **20 56 11.0 -1.0**
comp=Z,70nm,1.4s
KIS *e*LR LR 21 17 40.0
comp=Z,600nm,18.0s
KIS Kishinev 51.65 306 *e*P **P** **20 56 11.0 -1.0**
KIS pmax pmax
comp=Z,70nm,1.4s
KIS MLR MLR
comp=Z,600nm,18.0s
KIS MLR MLR
comp=Z,600nm,19.0s
IDID Didziasalis 51.85 317 *e*P **P** **20 56 13.8 +0.6**
IDID IAmb IAmb 20 56 15.4
comp=Z,9.8nm,0.9s
NACGM Naroch 51.86 317 *e* **P** **20 56 12.0 -1.4**
FINES FINESS Array B 51.87 325 P **P** **20 56 13.6 +0.2**
comp=Z,5.9nm,0.7s,baz=94,slow=7.7,SNR=29
FINES PcP **PcP** **20 57 24.3 -1.8**
comp=Z,2.3nm,0.7s,baz=121,slow=5.4,SNR=2.7
FINES LR LR 21 17 36.1
comp=Z,414nm,19.0s,baz=92,slow=35
TLCR 52.00 304⇑*i*P **P** **20 56 14.4 -0.2**
TLCR 52.00 304⇑*i*P **P** **20 56 14.4 -0.2**
IIGN Ignalina 52.14 317 *e*P **P** **20 56 16.1 +0.6**
IIGN IAmb IAmb 20 56 17.6
comp=Z,14nm,0.8s
LEOM Leova 52.14 306⇑*i*P **P** **20 56 15.3 -0.3**
LEOM Leova 52.14 306⇑*i*P **P** **20 56 15.3 -0.3**
ISAL Salakas 52.17 318 *e*P **P** **20 56 16.3 +0.6**
ISAL IAmb IAmb 20 56 17.8
comp=Z,15nm,0.8s
ARCES ARCESS Array B 52.41 335 P **P** **20 56 17.7 +0.4**
comp=Z,6.8nm,0.7s,baz=84,slow=7.7,SNR=62
ARCES PcP **PcP** **20 57 27.0 -0.9**
comp=Z,2.3nm,0.6s,baz=98,slow=5.0,SNR=4.8
ARCES LR LR 21 20 27.9
comp=Z,716nm,19.3s,baz=96,slow=38
TIRR Tirgusor 52.43 303 *e*P **P** **20 56 18.4 +0.6**
TIRR pmax pmax
comp=Z,8.0nm,1.0s
TIRR Tirgusor 52.43 303⇑*i*P **P** **20 56 18.1 +0.3**
TIRR Tirgusor 52.43 303 *e*P **P** **20 56 18.4 +0.6**
comp=Z,8.3nm,1.0s
CFR Carcaliu 52.47 304⇑P **P** **20 56 18.0 -0.1**
CFR Carcaliu 52.47 304⇑*i*P **P** **20 56 18.0 -0.1**
TLB Topalu 52.66 304⇑P **P** **20 56 19.7 +0.2**
TLB Topalu 52.66 304⇑*i*P **P** **20 56 19.7 +0.2**
HARR Harsova 52.72 304⇓P **P** **20 56 19.8 -0.1**
HARR Harsova 52.72 304⇓*i*P **P** **20 56 19.8 -0.1**
PSN Preselentsi 52.76 302⇓P **P** **20 56 20.5 +0.2**
PSN Preselentsi 52.76 302⇓*i*P **P** **20 56 20.5 +0.2**
MSAB Monastry St. A 52.92 303⇑*i*P **P** **20 56 22.1 +0.7**
TESR Tescani 53.21 306⇑*i*P **P** **20 56 23.4 -0.2**
VRI Vrincioaia 53.29 305⇓P **P** **20 56 25.2 +1.0**
VRI Vrincioaia 53.29 305⇓*i*P **P** **20 56 25.2 +1.0**
PRAR RASCA 53.32 307⇓*i*P **P** **20 56 24.5 +0.1**
PLOR Plostina 53.35 305⇑P **P** **20 56 25.6 +1.0**
PLOR Plostina 53.35 305⇑*i*P **P** **20 56 25.6 +1.0**
SMPI Sarmi 53.38 122 P P 20 56 34.3 +9.2
ISR Istrita 53.58 304⇓P **P** **20 56 28.9 +2.5**
ISR Istrita 53.58 304⇓*i*P **P** **20 56 28.9 +2.5**
MLR Muntele Rosu 53.91 305⇑P **P** **20 56 29.5 +0.6**
MLR Muntele Rosu 53.91 305⇑*i*P **P** **20 56 29.5 +0.6**
BURAR Bucovina Array 53.94 308⇓P **P** **20 56 29.2 +0.2**
BURAR Bucovina Array 53.94 308⇓*i*P **P** **20 56 29.2 +0.2**
SUW Suwalki 54.06 316 *e*P **P** **20 56 29.3 -0.3**
SUW LMZ LR 21 20 10.0
SUW Suwalki 54.06 316 *e*P **P** **20 56 29.4 -0.2**
SUW MLR MLR
comp=Z,800nm,19.9s
DOPR Dopca 54.18 306⇑*i*P **P** **20 56 31.8 +1.1**
JMB Yambol 54.19 301⇓P **P** **20 56 31.5 +0.7**
JMB Yambol 54.19 301⇓*i*P **P** **20 56 31.5 +0.7**
JMB Yambol 54.19 301 *e*P **P** **20 56 31.6 +0.7**
LVV L'vov 54.27 311 *e*P **P** **20 56 30.9 -0.3**
VOIR 54.54 305⇑P **P** **20 56 32.7 -0.7**
VOIR 54.54 305⇑*i*P **P** **20 56 32.7 -0.7**
ALN Alexandroupoli 55.00 300 *e*P **P** **20 56 36.1 -0.6**
BMR Baia Mare 55.06 308⇑P **P** **20 56 36.5 -0.6**
BMR Baia Mare 55.06 308⇑*i*P **P** **20 56 36.5 -0.6**
KWP Kalwaria Pacla 55.15 311 *e*P **P** **20 56 38.4 +0.8**
KWP LMZ LR 21 20 19.4
KWP Kalwaria Pacla 55.15 311 *e*P **P** **20 56 38.5 +0.8**
KWP MLR MLR
comp=Z,300nm,24.0s
CJR Cluj-Napoca 55.22 307⇓P **P** **20 56 39.3 +1.1**
CJR Cluj-Napoca 55.22 307⇓*i*P **P** **20 56 39.3 +1.1**
KDZ Kurdzhali 55.25 301⇑P **P** **20 56 39.1 +0.6**
KDZ Kurdzhali 55.25 301⇑*i*P **P** **20 56 39.1 +0.6**
SMG Samos 55.34 296 *e*P **P** **20 56 36.2 -3.1**
LOT Lotru 55.41 305⇑*i*P **P** **20 56 40.3 +0.6**
SMTH Samothraki Isl 55.49 299 *e*P **P** **20 56 39.7 -0.6**
SPITS Spitsbergen Ar 55.52 346 LR LR 21 24 21.5
comp=Z,333nm,18.1s,baz=110,slow=40
KOLS Kolonicke sedl 55.58 310 *e*P **P** **20 56 41.1 +0.3**
KOLS pmax pmax
comp=Z,7.0nm,0.9s
KOLS MLR MLR
comp=Z,200nm,25.2s
KOLS Kolonicke sedl 55.58 310 *e*P **P** **20 56 41.0 +0.3**
KOLS *e* 21 09 03.3
TRPA Tarpa 55.59 309⇓*i*P **P** **20 56 41.2 +0.4**
CHOS Chios island 55.73 297 *e*P **P** **20 56 41.2 -0.9**
KARP Karpathos 55.78 293 *e*P **P** **20 56 41.9 -0.6**
DRGR 55.79 307⇓P **P** **20 56 42.9 +0.5**
DRGR 55.79 307⇓*i*P **P** **20 56 42.9 +0.5**
BEL Belsk 55.87 314 *e*P **P** **20 56 43.3 +0.5**
BEL LMZ LR 21 21 24.7
BEL Belsk 55.87 314 *e*P **P** **20 56 43.3 +0.5**
BEL MLR MLR
comp=Z,700nm,22.3s
LIA Limnos Island 55.92 299 *e*P **P** **20 56 43.0 -0.3**
MPEP Malo Peshtene 55.97 303 *e*P **P** **20 56 44.0 +0.3**
GZR Gura Zlata 56.10 306⇑P **P** **20 56 43.4 -1.2**
GZR Gura Zlata 56.10 306⇑*i*P **P** **20 56 43.4 -1.2**
STHS Stebnicka Huta 56.12 311 *e*P **P** **20 56 45.0 +0.3**
STHS pmax pmax
comp=Z,7.0nm,0.8s
STHS Stebnicka Huta 56.12 311 *e*P **P** **20 56 45.0 +0.3**
NVR Nevrokopi 56.45 301 *e*P **P** **20 56 46.8 -0.4**
MMB Musomiste 56.48 301⇑P **P** **20 56 47.1 -0.2**
MMB Musomiste 56.48 301⇑*i*P **P** **20 56 47.1 -0.2**
MMB Musomiste 56.48 301 *e*P **P** **20 56 48.0 +0.7**
VTS Vitosha 56.56 302⇓P **P** **20 56 48.8 +0.7**
VTS Vitosha 56.56 302⇓*i*P **P** **20 56 48.8 +0.7**
VTS Vitosha 56.56 302 *e*P **P** **20 56 48.1 0.0**
NIE Niedzica 56.71 311 *e*P **P** **20 56 50.2 +1.3**
NIE LMZ LR 21 22 28.1
NIE Niedzica 56.71 311 *e*P **P** **20 56 50.3 +1.3**
NIE MLR MLR
comp=Z,400nm,20.0s
BZS Buzias 56.83 306⇑P **P** **20 56 50.0 +0.3**
BZS Buzias 56.83 306⇑*i*P **P** **20 56 50.0 +0.3**
KECS Kecovo 56.83 310 *e*P **P** **20 56 50.3 +0.6**
KECS pmax pmax
comp=Z,5.0nm,0.7s
KECS Kecovo 56.83 310 *e*P **P** **20 56 50.3 +0.6**
OJC Ojcow 56.85 312 *e*P **P** **20 56 50.2 +0.4**
OJC LMZ LR 21 22 13.6
OJC Ojcow 56.85 312 *e*P **P** **20 56 49.5 -0.3**
OJC pmax pmax
comp=Z,23nm,0.9s
OJC Ojcow 56.85 312 *e*P **P** **20 56 49.5 -0.3**
comp=Z,22nm,0.9s
KKB Krupnik 56.86 301 *e*P **P** **20 56 49.8 -0.2**
PLG Polygyros 57.04 300 *e*P **P** **20 56 50.1 -1.3**
NPS Neapolis 57.07 293 *e*P **P** **20 56 50.8 -0.8**
KNT Kendrikon 57.20 301 *e*P **P** **20 56 51.7 -0.8**
LAST Lasithi 57.21 293 *e*P **P** **20 56 52.1 -0.6**
HORT Hortiatis 57.23 300 *e*P **P** **20 56 51.2 -1.5**
PSZ Piszkesteto 57.36 309 *e*P **P** **20 56 54.5 +1.0**
PSZ pmax pmax
comp=Z,14nm,1.3s
PSZ Piszkesteto 57.36 309 *e*P **P** **20 56 54.5 +1.0**
comp=Z,14nm,1.3s
XOR Xorichti 57.54 299 *e*P **P** **20 56 53.5 -1.4**
GRG Griva 57.62 301 *e*P **P** **20 56 54.9 -0.5**
GKP Gorka Klasztor 57.67 316 *e*P **P** **20 56 56.0 +0.5**
GKP LMZ LR 21 22 35.0
GKP Gorka Klasztor 57.67 316 *e*P **P** **20 56 56.0 +0.5**
GKP pmax pmax
comp=Z,200nm,2.1s
SIVA Sivas 57.77 293 *e*P **P** **20 56 54.6 -1.9**
OKC Ostrava-Krasne 57.97 312 *e*P **P** **20 56 58.3 +0.6**
OKC AMS AMS 21 23 00.0
comp=Z,600nm,18.1s
OKC Ostrava-Krasne 57.97 312 *e*P **P** **20 56 58.3 +0.6**
OKC MLR MLR
comp=Z,600nm,18.1s
VAM Vamos 58.10 294 *e*P **P** **20 56 57.3 -1.6**
AXAR Agios Charalam 58.13 298 *e*P **P** **20 56 57.6 -1.4**
AGG Agios Georgios 58.29 298 *e*P **P** **20 56 58.8 -1.4**
KARN Karanos 58.32 294 *e*P **P** **20 56 59.8 -0.6**
THL Klokotos Trika 58.34 299 *e*P **P** **20 56 58.8 -1.7**
DIVS Divibare 58.37 305⇑*i*P **P** **20 57 00.6 -0.1**
MAKR Makrakomi, Fth 58.44 299 *e*P **P** **20 56 59.7 -1.5**
GUR Goura 58.64 297 *e*P **P** **20 56 59.9 -2.8**
EVR Evrytania 58.71 299 *e*P **P** **20 57 01.7 -1.5**
KRLC Kraliky 58.76 312 *e*P **P** **20 57 04.0 +0.7**
KRLC *e*pP **pP** **20 57 07.1 -0.5**
KRLC Kraliky 58.76 312 *e*P **P** **20 57 04.0 +0.7**
NEST Nestorio 58.77 300 *e*P **P** **20 57 02.4 -1.2**
KSP Ksiaz 58.85 313 *e*P **P** **20 57 04.4 +0.6**
KSP LMZ LR 21 23 28.3
KSP Ksiaz 58.85 313 *e*P **P** **20 57 04.4 +0.6**
KSP MLR MLR
comp=Z,600nm,21.8s
DPC Dobruska-Polom 58.97 313 *e*P **P** **20 57 05.8 +1.1**
DPC *e*pP **pP** **20 57 08.7 -0.3**
DPC AMS AMS 21 23 40.0
comp=Z,700nm,17.7s
DPC Dobruska-Polom 58.97 313 *e*P **P** **20 57 05.8 +1.1**
DPC MLR MLR
comp=Z,700nm,17.7s
NB2 NORSAR Subarra 59.04 326 P **P** **20 57 04.4 -0.6**
comp=Z,9.8nm,0.6s,baz=77,slow=7.4
NOA NORSAR Array B 59.04 326 P **P** **20 57 04.6 -0.4**
comp=Z,1.7nm,0.4s,baz=76,slow=8.8,SNR=53
NOA LR LR 21 24 10.2
comp=Z,482nm,19.8s,baz=80,slow=38
VRAC Vranov 59.09 311⇓P **P** **20 57 05.4 -0.2**
VRAC Vranov 59.09 311⇓*i*P **P** **20 57 05.4 -0.2**
UPC Upice 59.12 313 *e*P **P** **20 57 06.2 +0.5**
UPC *e*pP **pP** **20 57 09.5 -0.5**
UPC Upice 59.12 313 *e*P **P** **20 57 06.2 +0.5**
ITM Ithomi 59.21 297 *e*P **P** **20 57 04.6 -2.0**
PDO Prodromos 59.27 298 *e*P **P** **20 57 05.3 -1.7**
PYL PYLOS 59.45 296 *e*P **P** **20 57 05.6 -2.6**
IGT Igoumenitsa 59.58 300 *e*P **P** **20 57 07.0 -2.1**
LKD2 Lefkada island 59.59 299 *e*P **P** **20 57 07.3 -1.9**
SGD Sagiada 59.62 300 *e*P **P** **20 57 07.5 -1.9**
TREC Trest 59.79 312 *e*P **P** **20 57 11.1 +0.7**
TREC AMS AMS 21 24 10.0
comp=Z,500nm,11.5s
TREC Trest 59.79 312 *e*P **P** **20 57 11.1 +0.7**
TREC MLR MLR
comp=Z,500nm,11.5s
VLS Valsamata 59.86 298 *e*P **P** **20 57 08.7 -2.3**
CONA Conrad Observa 59.96 310⇑*i*pP **P** **20 57 12.3 +0.6**
comp=Z,15nm,0.8s,SNR=10
PVCC Panska Ves 59.99 313 *e*P **P** **20 57 12.1 +0.4**
PVCC *e*pP **pP** **20 57 14.5 -1.5**
PVCC AMS AMS 21 24 30.0
comp=Z,500nm,14.6s
PVCC Panska Ves 59.99 313 *e*P **P** **20 57 12.1 +0.4**
PVCC MLR MLR
comp=Z,500nm,14.6s
GOPC GO Pecny, Ondr 60.04 312 *e*P **P** **20 57 12.7 +0.6**
GOPC *e*pP **pP** **20 57 15.9 -0.5**
GOPC AMS AMS 21 24 30.0
comp=Z,900nm,19.1s
PRU Pruhonice 60.17 313 *e*P **P** **20 57 13.6 +0.7**
PRU AMS AMS 21 24 40.0
comp=Z,800nm,15.7s
PRU Pruhonice 60.17 313 *e*P **P** **20 57 13.6 +0.7**
PRU MLR MLR
comp=Z,800nm,15.7s
PRA Prague 60.21 313 *e*P **P** **20 57 13.4 +0.2**
PRA Prague 60.21 313 *e*P **P** **20 57 13.4 +0.2**
BRG Berggiesshubel 60.27 314 *e*P **P** **20 57 14.3 +0.7**
comp=Z,16nm,0.7s
comp=N,702nm,19.5s
comp=E,603nm,15.8s
comp=Z,603nm,15.8s
BRG Berggiesshubel 60.27 314 *e*P **P** **20 57 14.0 +0.4**
comp=Z,16nm,0.7s
BRG Berggiesshubel 60.27 314 *e*P **P** **20 57 14.3 +0.7**
BRG MLR MLR
comp=N,16μm,19.5s
BRG MLR MLR
comp=E,702nm,15.8s
BRG MLR MLR
comp=Z,603nm,15.8s
CLL Collm 60.70 314 *e*P **P** **20 57 16.7 +0.1**
comp=Z,14nm,0.8s
CLL Collm 60.70 314⇑*i*P **P** **20 57 16.4 -0.2**
comp=Z,15nm,0.8s
CLL *i*pP **pP** **20 57 20.1 -0.8**
CLL *e*SS SS 21 09 36.0 +5.0
CLL LmH 21 21 00.0
comp=N,1μm,20.0s
CLL LmH 21 21 00.0
comp=E,600nm,20.1s
CLL Collm 60.70 314⇑*i*P **P** **20 57 16.4 -0.2**
CLL pmax pmax
comp=Z,15nm,0.8s
CLL Collm 60.70 314 *e*P **P** **20 57 16.4 -0.2**
comp=Z,16nm,0.8s
GOLS Golise 60.71 308 *i*P **P** **20 57 17.2 +0.4**
PERS Pernice 60.84 309 *i*P **P** **20 57 17.8 +0.1**
CRES Cresnjev 60.88 308 *i*P **P** **20 57 18.3 +0.3**
SOKA Soboth 60.89 309⇑*i*P **P** **20 57 18.1 +0.1**
comp=Z,9.8nm,0.8s,SNR=9.7
MOA Molln 61.00 310⇑*i*P **P** **20 57 19.1 +0.4**
comp=Z,4.9nm,0.7s
KHC Kasperske Hory 61.03 312 *e*P **P** **20 57 19.4 +0.5**
KHC AMS AMS 21 25 00.0
comp=Z,800nm,15.8s
KHC Kasperske Hory 61.03 312 *e*P **P** **20 57 19.4 +0.5**
KHC MLR MLR
comp=Z,800nm,15.8s
GEC2 GERESS Array S 61.04 312 *e*P **P** **20 57 19.7 +0.6**
comp=Z,14nm,1.2s
GEC2 GERESS Array S 61.04 312 *e*P **P** **20 57 20.1 +1.0**
GEC2 GERESS Array S 61.04 312 *e*P **P** **20 57 20.1 +1.0**
GERES GERESS Array B 61.04 312 P **P** **20 57 19.7 +0.6**
comp=Z,5.9nm,0.7s,baz=70,slow=5.8,SNR=41
GERES LR LR 21 25 10.7
comp=Z,562nm,20.3s,baz=70,slow=37
TANN Tannenbergstha 61.31 314 *e*P **P** **20 57 21.2 +0.4**
comp=Z,11nm,0.9s
NKC Novy Kostel 61.38 313 *e*P **P** **20 57 21.5 +0.3**
NKC *e*pP **pP** **20 57 25.2 -0.3**
NKC AMS AMS 21 24 50.0
comp=Z,300nm,17.0s
NKC Novy Kostel 61.38 313 *e*P **P** **20 57 21.5 +0.3**
NKC MLR MLR
comp=Z,300nm,17.0s
LJU Ljubljana 61.42 308 *i*P **P** **20 57 21.9 +0.3**
BSEG Bad Segeberg 61.45 318 *e*P **P** **20 57 22.6 +1.0**
comp=Z,22nm,0.8s
WET Wettzell 61.46 312 *e*P **P** **20 57 22.4 +0.6**
comp=Z,10.0nm,0.9s
CEY Cerknica 61.59 308 *i*P **P** **20 57 22.9 +0.2**
ROTZ Rotzenmuhle 61.67 313 *e*P **P** **20 57 24.3 +1.1**
comp=Z,22nm,1.0s
MOX Moxa 61.75 314 *e*P **P** **20 57 24.1 +0.4**
comp=Z,13nm,1.3s
KBA Koelnbreinsper 61.85 310⇑*i*P **P** **20 57 24.5 -0.2**
comp=Z,13nm,1.2s
CADS Cadrg 61.88 309 *i*P **P** **20 57 24.1 -0.6**
RJOB Jochberg 61.98 311 *e*P **P** **20 57 25.6 +0.2**
comp=Z,15nm,1.3s
NRDL Niedersach Rie 62.03 316 *e*P **P** **20 57 26.4 +0.9**
comp=Z,28nm,0.9s
TRI Trieste 62.04 308 *e*P **P** **20 57 25.4 -0.3**
TRI pmax pmax
comp=Z,15nm,0.8s
TRI Trieste 62.04 308 *e*P **P** **20 57 25.4 -0.3**
comp=Z,15nm,0.8s
CLZ Clausthal 62.09 316 *e*P **P** **20 57 26.7 +0.7**
comp=Z,28nm,1.1s
GRF Grafenberg Arr 62.30 313 *e*P **P** **20 57 28.3 +0.9**
comp=Z,21nm,0.9s
GRFO Grafenberg 62.30 313 *e*P **P** **20 57 27.0 -0.4**
GRFO pmax pmax
comp=Z,17nm,0.9s
GRFO Grafenberg 62.30 313 *e*P **P** **20 57 27.0 -0.4**
comp=Z,17nm,0.9s
ABTA Abfaltersbach 62.50 310⇑*i*P **P** **20 57 27.9 -1.0**
comp=Z,6.7nm,0.8s
UBBA Unterbreizbach 62.66 315 *e*P **P** **20 57 29.8 +0.2**
comp=Z,14nm,1.7s
FUR Furstenfeldbru 62.79 311 *e*P **P** **20 57 31.6 +0.9**
comp=Z,45nm,1.0s
WTTA Wattenberg 62.88 310⇑*i*P **P** **20 57 31.4 -0.1**
comp=Z,12nm,0.9s,SNR=7.7
WATA Walderalm 62.89 310⇓*i*P **P** **20 57 31.2 -0.3**
comp=Z,5.2nm,0.6s,SNR=6.6
MOTA Moosalm 63.19 311⇓*i*P **P** **20 57 33.2 -0.4**
comp=Z,11nm,0.7s,SNR=12
CEL Celeste 63.27 300 *e*P **P** **20 57 33.5 -0.6**
comp=Z,37nm,0.9s
RETA Reutte 63.35 311⇑*i*P **P** **20 57 34.5 -0.1**
comp=Z,10nm,0.8s
JMIC Jan Mayen 63.40 339 LR LR 21 26 44.2
comp=Z,113nm,21.6s,baz=78,slow=38
IBBN Ibbenburen 63.45 317 *e*P **P** **20 57 35.4 +0.4**
comp=Z,14nm,0.8s
AQU L'Aquila 63.49 305 *e*P **P** **20 57 35.6 +0.1**

AQU				pmax	pmax		
	comp=Z,12nm,0.8s						
AQU	**L'Aquila**	**63.49**	**305**	*e*P	**P**	**20 57 35.6**	**+0.1**
	comp=Z,12nm,0.8s						
FETA	**Feichten**	**63.54**	**310**	⇓*i*P	**P**	**20 57 35.6**	**-0.3**
	comp=Z,15nm,0.9s,SNR=11						
TNS	**Taunus Mts**	**63.79**	**314**	*e*P	**P**	**20 57 37.7**	**+0.3**
	comp=Z,12nm,1.0s						
STU	**Stuttgart**	**63.87**	**313**	*e*P	**P**	**20 57 38.2**	**+0.4**
	comp=Z,16nm,1.0s						
STU	**Stuttgart**	**63.87**	**313**	*e*P	**P**	**20 57 38.2**	**+0.4**
STU				pmax	pmax		
	comp=Z,16nm,1.0s						
STU	**Stuttgart**	**63.87**	**313**	*e*P	**P**	**20 57 38.2**	**+0.4**
	comp=Z,16nm,1.0s						
DAVA	**Damuels**	**63.98**	**311**	⇑*i*P	**P**	**20 57 38.4**	**-0.4**
	comp=Z,10nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**63.99**	**310**	*e*P	**P**	**20 57 39.1**	**+0.2**
	comp=Z,9.9nm,0.6s						
BUG	**Bochum--Univer**	**64.05**	**316**	*e*P	**P**	**20 57 39.3**	**+0.4**
	comp=Z,11nm,0.9s						
WRAB	**Tennant Creek**	**64.35**	**140**	⇓*i*P	**P**	**20 57 42.3**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,30nm,1.0s						
WRAB	**Tennant Creek**	**64.35**	**140**	*e*P	**P**	**20 57 40.3**	**-1.0**
	comp=Z,15nm,1.0s						
WRA	**Warramunga Arr**	**64.36**	**140**	P	**P**	**20 57 40.0**	**-1.3**
	comp=Z,6.4nm,0.9s,baz=316,slow=11,SNR=55						
WRA				LR	LR	21 27 44.3	
	comp=Z,181nm,21.9s,baz=325,slow=38						
PMG	**Port Moresby**	**64.53**	**122**	⇑*i*P	**P**	**20 57 42.9**	**+0.3**
PMG				pmax	pmax		
	comp=Z,73nm,1.0s						
BFO	**Black Forest**	**64.57**	**312**	P	**P**	**20 57 42.3**	**-0.2**
	comp=Z,72nm,1.0s,SNR=8.0						
BFO	**Black Forest**	**64.57**	**312**	*e*P	**P**	**20 57 42.5**	**0.0**
	comp=Z,13nm,1.1s						
BFO	**Black Forest**	**64.57**	**312**	*e*P	**P**	**20 57 42.1**	**-0.4**
BFO				pmax	pmax		
	comp=Z,13nm,1.0s						
BFO	**Black Forest**	**64.57**	**312**	*e*P	**P**	**20 57 42.1**	**-0.4**
	comp=Z,13nm,1.0s						
TUE	**Stuetta**	**64.63**	**310**	*e*P	**P**	**20 57 42.7**	**-0.4**
	comp=Z,439nm,0.5s						
KMBO	**Kilima Mbogo**	**64.99**	**251**	P	**P**	**20 57 46.0**	**0.0**
	comp=Z,15nm,0.8s,baz=44,slow=9.4,SNR=33						
KMBO				LR	LR	21 25 53.1	
	comp=Z,143nm,18.3s,baz=72,slow=36						
KMBO	**Kilima Mbogo**	**64.99**	**251**	*e*P	**P**	**20 57 46.0**	**0.0**
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KMBO	**Kilima Mbogo**	**64.99**	**251**	*e*P	**P**	**20 57 46.0**	**0.0**
	comp=Z,3.6nm,0.8s						
MEM	**Membach**	**65.10**	**315**	P	**P**	**20 57 46.4**	**+0.5**
WLF	**Walferdange**	**65.38**	**314**	P	**P**	**20 57 49.0**	**+1.4**
WLF	**Walferdange**	**65.38**	**314**	*e*P	**P**	**20 57 48.7**	**+1.0**
	comp=Z,38nm,0.9s						
WLF	**Walferdange**	**65.38**	**314**	*e*P	**P**	**20 57 49.0**	**+1.4**
WLF				pmax	pmax		
	comp=Z,34nm,0.9s						
WLF	**Walferdange**	**65.38**	**314**	*e*P	**P**	**20 57 49.0**	**+1.4**
	comp=Z,34nm,0.9s						
BCLA	**Clavier**	**65.59**	**315**	P	**P**	**20 57 49.0**	**0.0**
SENIN	**Lac Senin/Sane**	**65.98**	**311**	*e*P	**P**	**20 57 51.8**	**-0.1**
DOU	**Dourbes**	**66.13**	**315**	P	**P**	**20 57 52.5**	**0.0**
BNI	**Bardonecchia**	**66.91**	**310**	*e*P	**P**	**20 57 57.7**	**-0.1**
BNI				pmax	pmax		
	comp=Z,12nm,0.9s						
BNI	**Bardonecchia**	**66.91**	**310**	*e*P	**P**	**20 57 57.7**	**-0.1**
	comp=Z,12nm,0.9s						
ASAR	**Alice Springs**	**67.18**	**142**	P	**P**	**20 57 58.5**	**-1.1**
	comp=Z,4.6nm,0.4s,baz=326,slow=6.4,SNR=73						
ASAR				LR	LR	21 30 13.9	
	comp=Z,145nm,18.0s,baz=295,slow=39						
COLD	**Coldfoot**	**68.12**	**23**	*e*P	P	20 58 09.7	+4.9
	comp=Z,5.9nm,0.8s						
ESK	**Eskdalemuir**	**68.18**	**323**	*i* P	**P**	**20 58 06.4**	**+1.0**
KEST	**Kesra**	**69.08**	**300**	P	**P**	**20 58 11.2**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=314,slow=3.8,SNR=11						
KEST				LR	LR	21 34 30.3	
	comp=Z,82nm,18.3s,baz=312,slow=41						
KEST	**Kesra**	**69.08**	**300**	*e*P	**P**	**20 58 11.8**	**+0.2**
SVW2	**Sparrevohn**	**69.51**	**29**	*e*P	**P**	**20 58 13.9**	**+0.3**
	comp=Z,14nm,1.2s						
CAST	**Castle Rocks**	**69.61**	**26**	*e*P	**P**	**20 58 14.5**	**+0.3**
	comp=Z,60nm,2.7s						
SUMG	**Summit**	**69.83**	**347**	*i* P	**P**	**20 58 15.1**	**-0.8**
	comp=Z,5.5nm,0.6s						
SUMG	**Summit**	**69.83**	**347**	*i* P	**P**	**20 58 15.1**	**-0.8**
SUMG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SUMG	**Summit**	**69.83**	**347**	*e*P	**P**	**20 58 15.2**	**-0.8**
	comp=Z,5.4nm,0.6s						
PPLA	**Purkeypile**	**69.87**	**27**	*e*P	**P**	**20 58 16.4**	**+0.4**
	comp=Z,82nm,1.8s						
KTH	**Kantishna Hill**	**69.97**	**26**	*e*P	**P**	**20 58 17.7**	**+1.3**
	comp=Z,15nm,1.2s						
COLA	**College**	**70.27**	**24**	⇑*e*P	**P**	**20 58 19.5**	**+1.3**
ILAR	**Eielson Array**	**70.66**	**24**	P	**P**	**20 58 19.3**	**-1.3**
	comp=Z,2.5nm,1.0s,baz=292,slow=5.8,SNR=10						
ILAR				LR	LR	21 32 14.6	
	comp=Z,440nm,18.3s,baz=337,slow=38						
SPU	**Mount Spurr**	**70.89**	**28**	*e*P	**P**	**20 58 21.1**	**-1.0**
CTA	**Charters Tower**	**71.52**	**130**	P	**P**	**20 58 26.0**	**-0.4**
	comp=Z,10nm,1.1s,baz=280,slow=9.5,SNR=5.3						
CTA	**Charters Tower**	**71.52**	**130**	P	**P**	**20 58 26.0**	**-0.4**
KDAK	**Kodiak Island**	**72.62**	**32**	*i* P	**P**	**20 58 31.5**	**-1.0**
DAWY	**Dawson**	**73.58**	**22**	*e*P	**P**	**20 58 37.4**	**-0.8**
ESDC	**Sonseca Array**	**76.39**	**309**	P	**P**	**20 58 54.9**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=47,slow=5.9,SNR=19						
ESDC				LR	LR	21 35 27.0	
	comp=Z,122nm,19.0s,baz=50,slow=38						
PBRG	**Braganca**	**77.02**	**312**	*e*P	**P**	**20 58 58.6**	**+0.2**
PBRG	**Braganca**	**77.02**	**312**	*e*P	**P**	**20 58 58.6**	**+0.2**
MVO	**Moncorvo**	**77.56**	**311**	*e*P	**P**	**20 59 01.9**	**+0.5**
MVO	**Moncorvo**	**77.56**	**311**	*e*P	**P**	**20 59 01.9**	**+0.5**
STKA	**Stephens Creek**	**77.79**	**142**	P	**P**	**20 59 01.2**	**-1.4**
	comp=Z,3.6nm,0.7s,baz=329,slow=6.6,SNR=12						
STKA				LR	LR	21 38 49.3	
	comp=Z,123nm,18.3s,baz=304,slow=40						
STKA	**Stephens Creek**	**77.79**	**142**	P	**P**	**20 59 01.2**	**-1.4**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
STKA				MLR	MLR		
	comp=Z,123nm,18.3s						
STKA	**Stephens Creek**	**77.79**	**142**	*e*P	P	20 58 59.1	-3.5
	comp=Z,7.1nm,2.0s						
PGAV	**Gavieira, Arco**	**77.89**	**312**	*e*P	**P**	**20 59 04.0**	**+0.7**
PGAV	**Gavieira, Arco**	**77.89**	**312**	*e*P	**P**	**20 59 04.0**	**+0.7**
MTE	**Manteigas**	**78.30**	**311**	*e*P	**P**	**20 59 06.6**	**+1.0**
MTE	**Manteigas**	**78.30**	**311**	*e*P	**P**	**20 59 06.6**	**+1.0**
PESTR	**Estremoz**	**79.19**	**309**	*e*P	**P**	**20 59 10.1**	**-0.3**
PESTR	**Estremoz**	**79.19**	**309**	*e*P	**P**	**20 59 10.1**	**-0.3**
PBAR	**Barrancos**	**79.22**	**309**	*e*P	**P**	**20 59 11.5**	**+1.0**
PBAR	**Barrancos**	**79.22**	**309**	*e*P	**P**	**20 59 11.5**	**+1.0**
MESJ	**Messejana**	**80.17**	**309**	*e*P	**P**	**20 59 16.1**	**+0.3**
MESJ	**Messejana**	**80.17**	**309**	*e*P	**P**	**20 59 16.1**	**+0.3**
DLBC	**Dease Lake**	**80.80**	**23**	LR	LR	21 38 25.1	
	comp=Z,330nm,18.6s,baz=306,slow=38						
YKA	**Yellowknife Ar**	**81.36**	**14**	P	**P**	**20 59 20.7**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=335,slow=5.4,SNR=15						
TORD	**Torodi Ar. Bea**	**86.47**	**283**	P	**P**	**20 59 48.0**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=49,slow=4.3,SNR=20						
TORD				PP	**PP**	**21 03 08.8**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=49,slow=7.3,SNR=4.5						
TORD				LR	LR	21 42 31.4	
	comp=Z,250nm,18.1s,baz=35,slow=38						
DZM	**Mont Dzumac**	**86.77**	**119**	*e*SS	SS	21 16 06.7	-3.1
	comp=Z,190nm,26.1s						
DZM	**Mont Dzumac**	**86.77**	**119**	*e*LR	LR	21 27 10.7	
	comp=Z,425nm,26.9s						
PMOZ	**Porto Moniz, M**	**89.04**	**309**	A	A	21 39 19.7	
	comp=Z,102nm,22.0s						
PMOZ	**Porto Moniz, M**	**89.04**	**309**	A	A	21 39 19.7	
	comp=Z,102nm,22.0s						
SCHQ	**Schefferville**	**90.96**	**350**	LR	LR	21 43 17.7	
	comp=Z,176nm,21.2s,baz=333,slow=37						
BOSA	**Boshof**	**91.07**	**236**	LR	LR	21 38 29.8	
	comp=Z,327nm,20.2s,baz=30,slow=34						
DBIC	**Dimbokro**	**95.42**	**282**	LR	LR	21 48 17.9	
	comp=Z,277nm,18.0s,baz=36,slow=38						
TXAR	**Lajitas Array**	**114.92**	**19**	PKP	PKPdf	21 05 45.2	-1.5
	comp=Z,0.3nm,0.7s,baz=232,slow=1.4,SNR=5.3						
PPT2	**Papeete2**	**119.58**	**92**	*e*LR	LR	21 42 28.5	
	comp=Z,267nm,27.2s						
TBI	**Tubuai**	**122.30**	**98**	*e*LR	LR	21 43 36.9	
	comp=Z,184nm,31.5s						
RKT	**Rikitea**	**134.28**	**91**	*e*LR	LR	21 49 36.2	
	comp=Z,354nm,34.0s						
BDFB	**Brasilia**	**143.10**	**290**	PKP	**PKPdf**	**21 06 39.1**	**-1.0**
	comp=Z,3.8nm,0.9s,baz=49,slow=5.0,SNR=4.9						
LPAZ	**La Paz**	**157.82**	**316**	PKPab	**PKPab**	**21 07 33.9**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=34,slow=0.8,SNR=4.0						
CFAA	**Coronel Fontan**	**166.63**	**273**	PKP	**PKPdf**	**21 07 10.9**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=7.1,slow=8.1,SNR=3.1						
CFAA				PKPab	**PKPab**	**21 08 12.1**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=24,slow=10.0,SNR=3.6						

AZER ***03*** *20:47:41.8±0.1, 38.88N×44.62E, h2km, Error ellipse: s-maj=6.5km s-min=5.4km az=350.0*
DDA ***03*** *20:47:41.1, 39.11N×44.98E, h3km, MD3.2*
NSSP ***03*** *20:47:43.9, 39.10N×44.68E, h10km, Ms3.1*
CSEM ***03*** *20:47:46.2±0.2, 39.10N×44.58E, h2km, ML3.1, Error ellipse: s-maj=6.1km s-min=3.6km az=164.0*
ISK ***03*** *20:47:46.2, 39.12N×44.50E, h5km, ML3.1*
ISC 03 20:47:46.3±1.1**, 39.11N**±0.02×**44.54E**±0.02**, h6**km±9km**, n82, σ1.79**/131**, 16C-29D, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.49**	**274**	*e*PG	**Pg**	**20 47 55.7**	**-0.1**
CLDR				*e*SG	**Sb**	**20 48 03.6**	**-1.4**
CLDR	**Caldiran**	**0.49**	**274**	*e*Pg	**Pg**	**20 47 55.7**	**-0.1**
CLDR				*e*Sg	**Sb**	**20 48 03.6**	**-1.4**
NAX	**Nakhchivan**	**0.74**	**85**	⇓P	Pg	20 47 57.8	-2.9
	SNR=111						
NAX				⇓S	**Sg**	**20 48 10.0**	**-0.3**
NAX	**Nakhchivan**	**0.74**	**85**	P	Pg	20 47 57.8	-2.9
	SNR=111						
NAX				S	**Sg**	**20 48 10.0**	**-0.3**
DYDN	**Diyadin**	**0.79**	**304**	*i* P	**Pg**	**20 48 01.4**	**-0.1**
DYDN				*i* S	**Sn**	**20 48 15.1**	**-1.5**
DYDN	**Diyadin**	**0.79**	**304**	*i* P	**Pg**	**20 48 01.4**	**-0.1**
DYDN				*i* S	**Sn**	**20 48 15.1**	**-1.5**
VANB	**Van**	**1.04**	**241**	*e*PG	**Pn**	**20 48 06.5**	**-1.1**
VANB				*e*SG	**Sn**	**20 48 22.0**	**-0.5**
VANB	**Van**	**1.04**	**241**	*e*Pg	**Pn**	**20 48 06.5**	**-1.1**
VANB				*e*Sg	**Sn**	**20 48 22.0**	**-0.5**
GNI	**Garni**	**1.05**	**8**	⇓*i*P	**Pg**	**20 48 04.9**	**-1.6**
GNI				⇓*i*S	**Sn**	**20 48 21.4**	**-1.5**
GNI	**Garni**	**1.05**	**8**	⇓P	**Pg**	**20 48 04.9**	**-1.6**
GNI				S	**Sn**	**20 48 21.4**	**-1.5**
TVAN	**Van**	**1.06**	**237**	*i* P	**Pg**	**20 48 06.3**	**-0.4**
TVAN				*i* S	**Sn**	**20 48 27.3**	**+4.1**
TVAN	**Van**	**1.06**	**237**	*i* P	**Pg**	**20 48 06.3**	**-0.4**
ERE	**Yerevan**	**1.06**	**357**	*e*P	Pg	20 48 02.0	-4.7
ERE				⇓S	**Sg**	**20 48 17.4**	**-3.1**
AGRB	**Hanur-Agry**	**1.29**	**292**	*e*PN	**Pg**	**20 48 10.6**	**-0.5**
AGRB				*e*SN	**Sn**	**20 48 30.0**	**+1.2**
AGRB	**Hanur-Agry**	**1.29**	**292**	*e*Pn	**Pg**	**20 48 10.6**	**-0.5**
AGRB				*e*Sn	**Sn**	**20 48 30.0**	**+1.2**
TUTA	**Tutak**	**1.37**	**283**	*i* P	Pg	20 48 17.9	+5.2
TUTA				*i* S	Sg	20 48 39.2	+8.7
GEVA	**Gevas**	**1.41**	**236**	*i* P	**Pb**	**20 48 12.4**	**-0.8**
GEVA				*i* S	Sg	20 48 36.9	+5.3
GEVA	**Gevas**	**1.41**	**236**	*i* P	**Pb**	**20 48 12.4**	**-0.8**
VADZ	**Vardenis**	**1.41**	**41**	⇓*i*P	**Pn**	**20 48 10.0**	**-2.8**
VADZ				⇓*i*S	**Sn**	**20 48 29.0**	**-2.9**
VADZ	**Vardenis**	**1.41**	**41**	⇓P	**Pn**	**20 48 10.0**	**-2.8**
VADZ				S	**Sn**	**20 48 29.0**	**-2.9**
GRS	**Goris**	**1.44**	**74**	⇑*i*P	**Pg**	**20 48 15.0**	**+1.0**
GRS				⇓*i*S	**Sg**	**20 48 34.0**	**+1.3**
GRS	**Goris**	**1.44**	**74**	⇑P	**Pg**	**20 48 15.0**	**+1.0**
GRS				S	**Sg**	**20 48 34.0**	**+1.3**
DIGO	**Kars**	**1.58**	**326**	*i* P	**Pb**	**20 48 15.0**	**-1.2**
DIGO				*i* S	Sg	20 48 45.4	+8.1
DIGO	**Kars**	**1.58**	**326**	*i* P	**Pb**	**20 48 15.0**	**-1.2**
HKR	**Hakkari**	**1.65**	**203**	*e*PN	**Pb**	**20 48 17.5**	**+0.1**
HKR	**Hakkari**	**1.65**	**203**	*e*Pn	**Pb**	**20 48 17.5**	**+0.1**
HAKT	**HAKKARI**	**1.68**	**203**	*i* P	**Pb**	**20 48 17.1**	**-0.8**
HAKT				*i* S	**Sg**	**20 48 42.7**	**+2.3**
HAKT	**HAKKARI**	**1.68**	**203**	*i* P	**Pb**	**20 48 17.1**	**-0.8**
EAK	**Akyaka**	**1.73**	**336**	*i* P	**Pb**	**20 48 18.3**	**-0.4**
EAK				*i* S	**Sg**	**20 48 44.7**	**+2.7**
EAK	**Akyaka**	**1.73**	**336**	*i* P	**Pb**	**20 48 18.3**	**-0.4**
EAK				*i* S	**Sg**	**20 48 44.7**	**+2.7**
EATA	**Eleskirt**	**1.76**	**296**	*i* P	**Pb**	**20 48 18.8**	**-0.4**
EATA				*i* S	**Sg**	**20 48 45.3**	**+2.5**
EATA	**Eleskirt**	**1.76**	**296**	*i* P	**Pb**	**20 48 18.8**	**-0.4**
EATA				*i* S	**Sg**	**20 48 45.3**	**+2.5**
KARS	**Kars**	**1.89**	**324**	*e*PN	**Pb**	**20 48 20.3**	**-1.0**
KARS	**Kars**	**1.89**	**324**	*e*Pn	**Pb**	**20 48 20.3**	**-1.0**
STEZ	**Stepenevan**	**1.89**	**357**	*e*P	**Pb**	**20 48 20.0**	**-1.4**
STEZ				*e*S	**Sn**	**20 48 43.0**	**-0.7**
STE	**Stepanavan**	**1.89**	**356**	P	**Pb**	**20 48 20.0**	**-1.4**
STE				S	**Sn**	**20 48 43.0**	**-0.7**
EKAR	**Karacoban**	**1.93**	**275**	*i* P	**Pg**	**20 48 23.3**	**0.0**
EKAR				*i* S	**Sg**	**20 48 52.8**	**+4.4**
EKAR	**Karacoban**	**1.93**	**275**	*i* P	**Pg**	**20 48 23.3**	**0.0**
CUKT	**Cukurca**	**2.00**	**202**	*e*PN	**Pb**	**20 48 22.3**	**-0.9**
CUKT	**Cukurca**	**2.00**	**202**	*e*Pn	**Pb**	**20 48 22.3**	**-0.9**
QZX	**Qazax, Azerbai**	**2.05**	**18**	⇓P	**Pb**	**20 48 22.8**	**-1.2**
	SNR=55						
QZX				⇓S	**Sg**	**20 48 51.4**	**-0.8**
QZX	**Qazax, Azerbai**	**2.05**	**18**	P	**Pb**	**20 48 22.8**	**-1.2**
	SNR=55						
QZX				S	**Sg**	**20 48 51.4**	**-0.8**
GANJ	**Ganja**	**2.06**	**41**	⇓P	**Pn**	**20 48 21.6**	**+0.1**
	SNR=12						
GANJ	**Ganja**	**2.06**	**41**	P	**Pn**	**20 48 21.6**	**+0.1**
	SNR=12						
SIRT	**Sirnak**	**2.31**	**227**	*e*PN	**Pb**	**20 48 26.1**	**-2.3**
SIRT	**Sirnak**	**2.31**	**227**	*e*Pn	**Pb**	**20 48 26.1**	**-2.3**
BRDA	**Brd**	**2.34**	**60**	⇓P	**Pn**	**20 48 26.3**	**+0.9**
	SNR=7.3						
BRDA				⇑S	**Sg**	**20 49 00.6**	**-0.8**
BRDA	**Brd**	**2.34**	**60**	P	**Pn**	**20 48 26.3**	**+0.9**
	SNR=7.3						
DGRG	**David-gareji**	**2.42**	**15**	P	**Pb**	**20 48 30.6**	**+0.2**
DGRG	**David-gareji**	**2.42**	**15**	P	**Pb**	**20 48 30.6**	**+0.2**
MNGR	**Mingechevir, A**	**2.57**	**49**	⇑P	**Pn**	**20 48 29.8**	**+1.3**
	SNR=5.2						
MNGR				⇑S	**Sb**	**20 49 06.0**	**+1.4**
MNGR	**Mingechevir, A**	**2.57**	**49**	P	**Pn**	**20 48 29.8**	**+1.3**
	SNR=5.2						
EZM	**Erzurum**	**2.58**	**289**	*e*PN	**Pb**	**20 48 30.8**	**-2.5**
SEAG	**Tbilisi Sea**	**2.66**	**4**	P	**Sg**	**20 49 17.2**	**+5.4**
DAGI	**Agillar**	**2.82**	**315**	*i* P	**Pb**	**20 48 37.8**	**+0.7**
DAGI				*i* S	**Sb**	**20 49 12.0**	**0.0**
SEKA	**Sheki**	**2.92**	**43**	⇑P	**Pn**	**20 48 34.0**	**+0.5**
	SNR=5.1						
SEKA				⇓S	**Sb**	**20 49 13.4**	**-1.6**
SEKA	**Sheki**	**2.92**	**43**	P	**Pn**	**20 48 34.0**	**+0.5**
	SNR=5.1						
SEKA				S	**Sb**	**20 49 13.4**	**-1.6**
ZKTA	**Zakatala**	**2.98**	**32**	⇓P	**Pn**	**20 48 36.1**	**+1.9**
	SNR=6.5						
ZKTA				⇓S	**Sb**	**20 49 15.5**	**-1.2**
GLBA	**Clilabad**	**3.00**	**86**	⇑P	**Pn**	**20 48 33.2**	**-1.2**
	SNR=10						
GLBA				⇑S	**Sn**	**20 49 11.1**	**+0.5**
GLBA	**Clilabad**	**3.00**	**86**	P	**Pn**	**20 48 33.2**	**-1.2**
	SNR=10						
GLBA				S	**Sn**	**20 49 11.1**	**+0.5**
LRK	**Lerik**	**3.00**	**98**	⇑P	**Pn**	**20 48 32.3**	**-2.3**
	SNR=20						
LRK				⇓S	**Sn**	**20 49 09.9**	**-1.1**
LRK	**Lerik**	**3.00**	**98**	P	**Pn**	**20 48 32.3**	**-2.3**
	SNR=20						
LRK				S	**Sn**	**20 49 09.9**	**-1.1**
KDMR	**Kurdemir**	**3.08**	**65**	⇑S	**Sn**	**20 49 15.2**	**+2.5**
KDMR	**Kurdemir**	**3.08**	**65**	S	**Sn**	**20 49 15.2**	**+2.5**
IML	**Ismayilli**	**3.26**	**58**	⇓P	**Pn**	**20 48 38.8**	**+0.7**
	SNR=4.1						
IML	**Ismayilli**	**3.26**	**58**	P	**Pn**	**20 48 38.8**	**+0.7**
	SNR=4.1						
LKRN	**Lenkeran, Azer**	**3.33**	**96**	⇑P	**Pn**	**20 48 37.0**	**-2.0**
	SNR=5.6						
LKRN				⇑S	**Sn**	**20 49 18.3**	**-0.6**
LKRN	**Lenkeran, Azer**	**3.33**	**96**	P	**Pn**	**20 48 37.0**	**-2.0**
	SNR=5.6						
LKRN				S	**Sn**	**20 49 18.3**	**-0.6**
PQL	**Pirkuli**	**3.54**	**60**	⇓P	**Pn**	**20 48 42.4**	**+0.4**
PQL				⇑S	**Sn**	**20 49 27.7**	**+3.5**
PQL	**Pirkuli**	**3.54**	**60**	P	**Pn**	**20 48 42.4**	**+0.4**
PQL				S	**Sn**	**20 49 27.7**	**+3.5**
ALIB	**Äli-Bayra**	**3.55**	**75**	⇓P	**Pn**	**20 48 41.8**	**-0.3**
ALIB				⇓S	**Sn**	**20 49 25.8**	**+1.4**
ALIB	**Äli-Bayra**	**3.55**	**75**	P	**Pn**	**20 48 41.8**	**-0.3**
ALIB				S	**Sn**	**20 49 25.8**	**+1.4**
QUBA	**Quba, Azerbaij**	**3.77**	**52**	⇓P	**Pn**	**20 48 45.9**	**+0.9**
QUBA				⇑S	**Sn**	**20 49 34.2**	**+4.5**
QUBA				⇓S	**Sn**	**20 49 34.2**	**+4.5**
QUBA	**Quba, Azerbaij**	**3.77**	**52**	P	**Pn**	**20 48 45.9**	**+0.9**
QUBA				S	**Sn**	**20 49 34.2**	**+4.5**
ATGJ	**Altiaghaj**	**3.80**	**61**	⇓P	**Pn**	**20 48 46.0**	**+0.4**
ATGJ				⇓S	**Sn**	**20 49 34.3**	**+3.6**
ATGJ	**Altiaghaj**	**3.80**	**61**	P	**Pn**	**20 48 46.0**	**+0.4**
ATGJ				S	**Sn**	**20 49 34.3**	**+3.6**
GOBA	**Gobu**	**4.20**	**70**	⇓P	**Pn**	**20 48 51.0**	**0.0**
GOBA				⇑S	**Sn**	**20 49 43.1**	**+2.6**
GOBA	**Gobu**	**4.20**	**70**	P	**Pn**	**20 48 51.0**	**0.0**
GOBA				S	**Sn**	**20 49 43.1**	**+2.6**
NDR	**Nardaran**	**4.44**	**69**	⇑P	**Pn**	**20 48 54.2**	**-0.1**
NDR				⇓S	**Sn**	**20 49 49.0**	**+2.7**
NDR	**Nardaran**	**4.44**	**69**	P	**Pn**	**20 48 54.2**	**-0.1**
NDR				S	**Sn**	**20 49 49.0**	**+2.7**
GALA	**Gala**	**4.52**	**72**	⇓P	**Pn**	**20 48 55.1**	**-0.2**
GALA	**Gala**	**4.52**	**72**	P	**Pn**	**20 48 55.1**	**-0.2**

DDA ***03*** *20:48:42.0, 36.66N×36.61E, h7km, MD3.2*
CSEM ***03*** *20:48:42.9±0.2, 36.67N×36.57E, h2km, MD3.2, Error ellipse: s-maj=5.5km s-min=3.7km az=149.0*
ISK ***03*** *20:48:42.9, 36.71N×36.52E, h3km, MD3.0*
ISC 03 20:48:42.4±1.2**, 36.67N**±0.03×**36.59E**±0.02**, h1**km±11km**, n34, σ0.80**/48**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.40**	**75**	*i* P	**Pg**	**20 48 49.7**	**-0.4**
KUZU				*i* S	**Sg**	**20 48 54.8**	**-0.5**
KUZU	**Kuzuini**	**0.40**	**75**	*i* P	**Pg**	**20 48 49.7**	**-0.4**
KUZU				*i* S	**Sg**	**20 48 54.8**	**-0.5**
TAHT	**Tahtakopru-Hat**	**0.44**	**228**	*e*PG	**Pg**	**20 48 51.5**	**+0.7**
TAHT				*e*SG	**Sb**	**20 48 59.0**	**-1.0**
TAHT	**Tahtakopru-Hat**	**0.44**	**228**	*e*Pg	**Pg**	**20 48 51.5**	**+0.7**
TAHT				*e*Sg	**Sb**	**20 48 59.0**	**-1.0**
KAMA	**Osmaniye**	**0.52**	**7**	*i* P	**Pg**	**20 48 52.1**	**-0.3**
KAMA				*i* S	**Sg**	**20 48 58.8**	**-0.3**
HCB	**Kahramanmara¯**	**0.72**	**20**	*i* P	**Pg**	**20 48 57.1**	**+0.9**
HCB				*i* S	**Sg**	**20 49 04.3**	**-1.3**
YAYL	**Yayladag**	**0.74**	**212**	*i* P	**Pg**	**20 48 56.0**	**-0.6**
YAYL				*i* S	**Sg**	**20 49 07.3**	**+1.1**
YAYL	**Yayladag**	**0.74**	**212**	*i* P	**Pg**	**20 48 56.0**	**-0.6**
YAYL				*i* S	**Sg**	**20 49 07.3**	**+1.1**
CEYT	**Ceyhan**	**0.76**	**297**	*e*PG	**Pg**	**20 48 56.9**	**0.0**
CEYT				*e*SG	**Sg**	**20 49 07.0**	**+0.2**
CEYT	**Ceyhan**	**0.76**	**297**	*e*Pg	**Pg**	**20 48 56.9**	**0.0**
CEYT				*e*Sg	**Sg**	**20 49 07.0**	**+0.2**
KMRS	**Kahramanmaras**	**0.87**	**16**	*e*PG	**Pg**	**20 48 59.9**	**+0.8**
KMRS	**Kahramanmaras**	**0.87**	**16**	*e*Pg	**Pg**	**20 48 59.9**	**+0.8**
ANDN	**Andirin**	**0.93**	**348**	*i* P	**Pg**	**20 49 00.8**	**+0.5**
ANDN				*i* S	**Sg**	**20 49 11.7**	**-0.7**
ANDN	**Andirin**	**0.93**	**348**	*i* P	**Pg**	**20 49 00.8**	**+0.5**
ANDN				*i* S	**Sg**	**20 49 11.7**	**-0.7**
KRTS	**Karatas**	**0.98**	**265**	*e*PG	**Pg**	**20 49 01.6**	**+0.3**
KRTS	**Karatas**	**0.98**	**265**	*e*Pg	**Pg**	**20 49 01.6**	**+0.3**
KOZT	**Kozan**	**1.02**	**323**	*e*PG	**Pg**	**20 49 01.8**	**-0.1**
KOZT	**Kozan**	**1.02**	**323**	*e*Pg	**Pg**	**20 49 01.8**	**-0.1**
KARA	**Karaisali**	**1.37**	**296**	*e*PN	**Pn**	**20 49 08.4**	**-0.2**
KARA	**Karaisali**	**1.37**	**296**	*e*Pn	**Pn**	**20 49 08.4**	**-0.2**
ATAB	**Bozova**	**1.58**	**59**	*i* P	**Pn**	**20 49 11.5**	**-0.1**
ATAB				*i* S	**Sn**	**20 49 32.4**	**-0.2**
ATAB	**Bozova**	**1.58**	**59**	*i* P	**Pn**	**20 49 11.5**	**-0.1**
ATAB				*i* S	**Sn**	**20 49 32.4**	**-0.2**
MERS	**Mersin**	**1.67**	**277**	*e*PN	**Pn**	**20 49 13.0**	**+0.1**
MERS	**Mersin**	**1.67**	**277**	*e*Pn	**Pn**	**20 49 13.0**	**+0.1**
URFA	**Urfa**	**1.94**	**66**	*e*PN	**Pb**	**20 49 18.3**	**-0.3**
URFA	**Urfa**	**1.94**	**66**	*e*Pn	**Pb**	**20 49 18.3**	**-0.3**
DARE	**Darende-Malaty**	**2.03**	**20**	*e*PN	**Pn**	**20 49 18.9**	**+1.1**
DARE	**Darende-Malaty**	**2.03**	**20**	*e*Pn	**Pn**	**20 49 18.9**	**+1.1**
NIG	**Nigde**	**2.14**	**313**	*e*PN	**Pn**	**20 49 19.6**	**+0.3**
NIG	**Nigde**	**2.14**	**313**	*e*Pn	**Pn**	**20 49 19.7**	**+0.3**
MALT	**Malatya**	**2.20**	**41**	*e*PN	**Pn**	**20 49 21.8**	**+1.7**
MALT	**Malatya**	**2.20**	**41**	*e*Pn	**Pn**	**20 49 21.8**	**+1.7**
SVRC	**Sivrice-ELAZID**	**2.75**	**51**	*e*PN	**Pn**	**20 49 29.7**	**+1.9**
SVRC	**Sivrice-ELAZID**	**2.75**	**51**	*e*Pn	**Pn**	**20 49 29.7**	**+1.9**

CSEM ***03*** *20:55:18.1, 43.14N×13.02E, h13km, MD1.5/4*
ROM 03 20:55:18.1±0.1**, 43.14N×13.02E, h13**km±2km**, Md1.5**/4**, Ml0.8**/3**, Error ellipse: s-maj=1.5km s-min=0.5km az=72.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.12**	**157**	Pg	Pg	20 55 21.7	+0.3
FDMO				Sg	Sg	20 55 24.3	+0.6
	17nm,0.1s						
FDMO	**Fiordimonte**	**0.12**	**157**	Pg	Pg	20 55 21.7	+0.3
FDMO				Sg	Sg	20 55 24.3	+0.6
	17nm,0.1s						
SNTG	**Esanatoglia**	**0.13**	**331**	Pg	Pg	20 55 21.9	+0.4
SNTG				Sg	Sg	20 55 24.5	+0.6
	41nm,0.1s						
SNTG	**Esanatoglia**	**0.13**	**331**	Pg	Pg	20 55 21.9	+0.4
SNTG				Sg	Sg	20 55 24.5	+0.6
	41nm,0.1s						
CESI	**CESI - Serrava**	**0.16**	**212**	Pg	Pg	20 55 22.5	+0.4
CESI				Sg	Sg	20 55 25.5	+0.6
	12nm,0.1s						
CESI	**CESI - Serrava**	**0.16**	**212**	Pg	Pg	20 55 22.5	+0.4
CESI				Sg	Sg	20 55 25.5	+0.6
	12nm,0.1s						
NRCA	**Norcia**	**0.32**	**168**	Pg	Pg	20 55 24.9	+0.2
	9.0nm,0.2s						
NRCA	**Norcia**	**0.32**	**168**	Pg	Pg	20 55 24.9	+0.2
	9.0nm,0.2s						

ISCJB ***03*** *20:57:03.4±0.7, 7.39S±0.05×128.6E±0.1, h151km, mb3.6/5, Error ellipse: s-maj=18.0km s-min=7.2km az=179.2*
IDC ***03*** *20:57:05.2±3.5, 7.36S×128.63E, h151km±45km, mb3.4/5, mb1 3.6/8, mb1mx3.3/34, mbtmp3.9/8, MS3.9/1, Ms1 3.9/1, ms1mx2.9/15, Error ellipse: s-maj=58.3km s-min=15.0km az=88.0*
ISC 03 20:57:05.2±0.9**, 7.37S**±0.09×**128.6E**±0.2**, h151**km**, n9, σ0.59**/9**, mb3.6**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.97**	**22**	P	**Pn**	**20 58 45.2**	**+0.3**
	4.3nm,0.3s,baz=233,slow=22,SNR=23						
SIJI				S	**Sn**	**21 00 02.8**	**-0.4**
	1.2nm,0.3s,baz=163,slow=19,SNR=5.8						
WRA	**Warramunga Arr**	**13.68**	**157**	P	**Pn**	**21 00 12.9**	**-0.1**
	0.5nm,0.3s,baz=340,slow=12,SNR=13						
WRA				S	Sn	21 02 33.5	-11
	1.4nm,0.3s,baz=330,slow=21,SNR=10						
ASAR	**Alice Springs**	**16.98**	**163**	P	**Pn**	**21 00 54.3**	**+0.4**
	0.4nm,0.3s,baz=343,slow=11,SNR=26						
ASAR				S	S	21 03 54.1	-8.6
	0.4nm,0.3s,baz=330,slow=16,SNR=5.1						
LEM	**Lembang**	**20.85**	**270**	LR	LR	21 10 58.7	
	comp=Z,288nm,19.4s,baz=316,slow=40						
NWAO	**Narrogin (SRO)**	**27.55**	**201**	P	**P**	**21 02 37.7**	**-0.2**
	2.5nm,0.3s,baz=333,slow=2.7,SNR=3.4						
CMAR	**Chiang Mai Arr**	**38.94**	**312**	P	**P**	**21 04 16.6**	**-0.1**
	0.3nm,0.7s,baz=133,slow=6.4,SNR=3.6						
SONM	**Songino Array**	**58.37**	**343**	P	**P**	**21 06 45.2**	**+0.5**
	0.5nm,0.6s,baz=161,slow=7.4,SNR=3.9						
MKAR	**Makanchi Array**	**67.79**	**328**	P	**P**	**21 07 47.1**	**+0.4**
	0.7nm,0.6s,baz=129,slow=8.1,SNR=9.7						
ZALV	**Zalesovo Beam**	**71.31**	**334**	P	**P**	**21 08 07.0**	**-1.1**
	0.5nm,0.4s,baz=143,slow=7.1,SNR=3.5						

IDC ***03*** *21:05:06.2±0.7, 56.54S×26.33W, h0km, mb4.2/6, mb1 4.2/7, mb1mx3.9/24, mbtmp4.1/7, ML3.6/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/24, Error ellipse: s-maj=29.7km s-min=22.6km az=89.0*
ISCJB ***03*** *21:05:09.8±0.6, 56.58S±0.10×26.3W±0.2, h35km, mb4.5/8, Error ellipse: s-maj=17.3km s-min=11.1km az=141.1*
NEIC ***03*** *21:05:11.5±1.9, 56.58S×26.28W, h36km±17km, mb4.5/6,*

Error ellipse: s-maj=15.8km s-min=10.8km az=64.0

ISC 03 21:05:11.3±0.6**, 56°.6S**±0°.1×**26°.39W**±0°.09**, h35km, n31, σ0^{s}80**/24**, mb4.5**/8**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	Hope Point	6.19	288	*e*Pn	Pn	21 06 41.0	+0.9
HOPE				*e*Sn	Sn	21 07 47.5	-2.0
VNA1	Neumayer--Stat	16.14	158	P	Pn	21 08 54.6	-0.4
SNAA	Sanae	18.08	156	P	Pn	21 09 12.8	-6.5
SNAA	Sanae	18.08	156	Pn	P	21 09 19.6	+0.1
	0.2nm,0.3s,baz=329,slow=16,SNR=13						
SNAA				LR	LR	21 15 40.8	
	comp=Z,24nm,19.5s,baz=38,slow=35						
SNAA	Sanae	18.08	156	*e*Pn	Pn	21 09 12.9	-6.5
	6.6nm,0.8s						
QSPA	South Pole Qui	33.67	180	*e*P	P	21 11 48.2	-0.3
	11nm,0.6s						
MAW	Mawson	39.46	143	*e*P	P	21 12 37.7	+0.1
LVC	Limon Verde	45.95	300	*e*P	P	21 13 32.7	+1.8
	42nm,0.8s						
VNDA	Vanda	46.07	182	P	P	21 13 31.0	+0.1
	1.1nm,0.8s,baz=192,slow=6.1,SNR=9.6						
VNDA	Vanda	46.07	182	*e*P	P	21 13 30.7	-0.3
	1.3nm,0.6s						
H10S2	ASCENSION HYDR	48.38	16	T	T	22 06 27.6	
	baz=189,slow=75,SNR=36						
H10S3	ASCENSION HYDR	48.38	16	T	T	22 06 49.8	
	baz=189,slow=75,SNR=26						
H10S1	ASCENSION HYDR	48.40	16	T	T	22 06 31.9	
	baz=189,slow=75,SNR=26						
LBTB	Lobatse	48.74	72	P	P	21 13 52.0	-0.5
	2.8nm,0.7s,baz=226,slow=7.7,SNR=6.7						
LBTB	Lobatse	48.74	72	*e*P	P	21 13 51.9	-0.6
	2.4nm,0.6s						
H10N1	ASCENSION HYDR	49.50	16	T	T	22 07 54.9	
	baz=188,slow=75,SNR=4.4						
H10N3	ASCENSION HYDR	49.50	16	T	T	22 08 16.2	
	baz=188,slow=75,SNR=15						
H10N2	ASCENSION HYDR	49.52	16	T	T	22 07 54.2	
	baz=188,slow=75,SNR=14						
LPAZ	La Paz	51.04	305	P	P	21 14 11.0	+0.4
	2.6nm,0.6s,baz=120,slow=5.5,SNR=13						
LPAZ	La Paz	51.04	305	*e*P	P	21 14 10.6	0.0
	3.9nm,0.5s						
DBIC	Dimbokro	65.47	24	P	P	21 15 50.6	+0.1
	2.0nm,0.7s,baz=195,slow=5.8,SNR=5.6						
TORD	Torodi Ar. Bea	73.30	29	P	P	21 16 39.5	+0.5
	6.1nm,0.8s,baz=195,slow=6.6,SNR=31						
STKA	Stephens Creek	91.31	170	P	P	21 18 14.4	+1.4
	0.3nm,0.4s,baz=141,slow=13,SNR=2.2						
CMAR	Chiang Mai Arr	124.47	110	PKP	PKPdf	21 24 06.5	0.0
	0.9nm,0.8s,baz=216,slow=3.9,SNR=6.4						
FINES	FINESS Array B	124.64	28	PKP	PKPdf	21 24 05.3	-0.1
	1.1nm,0.6s,baz=174,slow=1.9,SNR=5.9						
ARCES	ARCESS Array B	131.27	22	PKP	PKPdf	21 24 17.9	0.0
	1.5nm,0.9s,baz=250,slow=2.6,SNR=3.2						
MKAR	Makanchi Array	136.63	71	PKP	PKPdf	21 24 27.6	-1.1
	0.4nm,0.5s,baz=230,slow=1.7,SNR=6.5						
YKA	Yellowknife Ar	136.86	317	PKP	PKPdf	21 24 28.2	-0.3
	0.6nm,0.6s,baz=127,slow=2.4,SNR=5.5						
ZALV	Zalesovo Beam	142.20	64	PKhKP	PKPpre	21 24 31.3	
	0.5nm,0.3s,baz=217,slow=3.6,SNR=3.3						
ZALV				PKP	PKiKP	21 24 40.6	-0.9
	0.4nm,0.4s,baz=303,slow=1.9,SNR=3.7						
SONM	Songino Array	150.31	87	PKPbc	PKPbc	21 24 57.6	-0.2
	7.1nm,0.6s,baz=221,slow=3.4,SNR=43						
ILAR	Eielson Array	150.80	311	PKPbc	PKPbc	21 24 58.0	-0.3
	3.5nm,1.1s,baz=136,slow=1.6,SNR=14						

*ISCJB **03** 21:05:31.2±4.2, 23°.20S±0°.10×170°.55E±0°.07, h15km±29km, mb4.3/20, MS3.5/3, Error ellipse: s-maj=16.9km s-min=10.3km az=21.7*

*NOU **03** 21:05:31.9±1.9, 19°.95S×170°.29E, h10km, MD3.4, ML3.7*

*IDC **03** 21:05:35.4±0.7, 23°.21S×170°.70E, h33km±4km, mb4.1/16, mb1 4.2/17, mb1mx4.1/36, mbtmp4.3/17, ML4.6/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/25, Error ellipse: s-maj=22.4km s-min=17.0km az=132.0*

*NEIC **03** 21:05:35.1±0.9, 23°.19S×170°.72E, h33km±6km, mb4.5/5, Error ellipse: s-maj=14.2km s-min=9.3km az=157.0*

ISC 03 21:05:36.1±0.6**, 23°.2S**±0°.1×**170°.54E**±0°.09**, h34km**±2km**, h34km:pP-P, n125, σ1^{s}50**/127**, mb4.3**/20**, MS3.5**/3**, 15C-13D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BAYA	Yate Dam	3.53	286	*e*S	Sn	21 07 09.2	0.0
DZM	Mont Dzumac	3.95	286	*e*Pn	Pn	21 06 33.9	-0.5
	123nm,0.3s						
DZM				*e*Sn	Sn	21 07 15.1	-4.5
	67nm,0.3s						
DZM	Mont Dzumac	3.95	286	Pn	Pn	21 06 33.9	-0.5
	37nm,0.3s,baz=89,slow=24,SNR=261						
DZM				Sn	Sn	21 07 19.7	+0.2
	13nm,0.3s,baz=270,slow=20,SNR=4.7						
DZM	Mont Dzumac	3.95	286	*e*P	Pn	21 06 33.5	-0.9
DZM				*e*S	Sn	21 07 18.4	-1.2
DZM				AMP		21 07 23.6	
	comp=Z,1µm,0.6s						
NOUC	Port Laguerre	4.06	285	*e*P	Pn	21 06 34.1	-1.8
NOUC				*e*S	Sn	21 07 21.3	-1.0
NOUC				AMP		21 07 28.5	
	comp=Z,110nm,3.8s						
MSVF	Nonsavu	8.89	54	*e*Pn	Pn	21 07 37.5	-4.8
RAO	Raoul Island	11.98	123	LR	LR	21 12 03.9	
	comp=Z,269nm,20.4s,baz=248,slow=33						
URZ	Urewera	16.04	161	LR	LR	21 14 06.5	
	comp=Z,106nm,18.7s,baz=349,slow=32						
RPZ	Rata Peaks	20.47	179	LR	LR	21 16 38.9	
	comp=Z,208nm,20.0s,baz=12,slow=32						
CTA	Charters Tower	22.78	273	P	P	21 10 38.1	+2.2
	comp=Z,4.0nm,0.6s,baz=94,slow=12,SNR=7.1						
STKA	Stephens Creek	27.02	245	P	P	21 11 16.2	+1.1
	comp=Z,4.5nm,0.6s,baz=93,slow=12,SNR=13						
STKA	Stephens Creek	27.02	245	*e*P	P	21 11 15.7	+0.6
	comp=Z,3.1nm,1.1s						
RAR	Rarotonga	27.54	92	LR	LR	21 21 59.5	
	comp=Z,36nm,18.5s,baz=292,slow=36						
AS31	Alice Springs	33.56	262	*e*P	P	21 12 13.3	+0.1
ASAR	Alice Springs	33.56	262	P	P	21 12 13.2	+0.1
	comp=Z,13nm,0.8s,baz=96,slow=9.9,SNR=97						
WRAB	Tennant Creek	33.76	269	*e*P	P	21 12 13.7	-1.2
	comp=Z,2.9nm,0.5s						
WRA	Warramunga Arr	33.77	268	P	P	21 12 14.0	-0.9
	comp=Z,1.4nm,0.4s,baz=99,slow=8.4,SNR=55						
PPT2	Papeete2	37.71	89	*e*LR	LR	21 23 14.9	
	comp=Z,92nm,24.5s						
NWAO	Narrogin (SRO)	47.60	246	P	P	21 14 08.7	-0.2
	comp=Z,12nm,0.6s,baz=328,slow=13,SNR=3.2						
VNDA	Vanda	54.54	182	P	P	21 14 59.8	-0.6
	comp=Z,0.7nm,0.7s,baz=358,slow=8.9,SNR=2.3						
JCJ	Chichijima	57.02	330	LR	LR	21 35 01.1	
	comp=Z,103nm,20.2s,baz=140,slow=31						
KSM	Kuching	63.47	284	*e*P	P	21 16 03.2	0.0
	comp=Z,11nm,0.8s						
MJAR	Matsushiro Arr	66.80	332	P	P	21 16 23.4	-0.9
	comp=Z,0.9nm,0.5s,baz=169,slow=8.2,SNR=4.6						
QSPA	South Pole Qui	66.88	180	*e*P	P	21 16 24.0	-0.7
	comp=Z,7.4nm,0.9s						
ASAJ	Asahikawa	71.71	339	P	P	21 16 54.5	-0.1
	comp=Z,2.9nm,0.8s,baz=135,slow=5.7,SNR=2.8						
KSRS	Korea Array	72.44	326	P	P	21 16 59.6	+0.6
	comp=Z,1.0nm,0.7s,baz=144,slow=6.4,SNR=5.9						
KSAR	Wonju Array Be	72.45	326	P	P	21 16 59.6	+0.5
PETK	Petropavlovsk-	76.80	352	P	P	21 17 23.9	-0.1
	comp=Z,3.6nm,0.7s,baz=159,slow=12,SNR=2.4						
PETK				pP	pP	21 17 34.1	-0.5
	comp=Z,16nm,0.8s,baz=157,slow=8.7,SNR=16						
CMAR	Chiang Mai Arr	81.23	294	P	P	21 17 50.3	+1.2
	comp=Z,2.4nm,0.8s,baz=138,slow=4.3,SNR=19						
CHTO	Chiang Mai	81.39	295	*e*P	P	21 17 51.1	+1.2
	comp=Z,1.5nm,0.6s						
SNAA	Sanae	85.28	182	P	P	21 18 07.7	-1.4
	comp=Z,0.9nm,0.9s,baz=207,slow=5.1,SNR=4.3						
SEY	Seymchan	87.04	352	P	P	21 18 16.4	-1.1
	comp=Z,2.3nm,0.8s,baz=176,slow=9.4,SNR=3.3						
SEY				pP	pP	21 18 27.3	-1.1
	comp=Z,9.0nm,0.9s,baz=12,slow=21,SNR=6.8						
YBH	Yreka Blue Hor	89.31	43	P	P	21 18 27.8	-1.2
	comp=Z,0.6nm,0.3s,baz=267,slow=3.5,SNR=3.3						
YBH				pP	pP	21 18 39.1	-0.8
	comp=Z,1.7nm,0.5s,baz=308,slow=1.5,SNR=3.9						
NVAR	Mina Array Bea	90.52	48	pP	pP	21 18 44.8	-1.0
	comp=Z,3.3nm,0.7s,baz=225,slow=8.5,SNR=18						
ULN	Ulaanbaatar	90.74	323	*e*P	P	21 18 35.8	+0.2
SONM	Songino Array	91.09	323	P	P	21 18 37.9	+0.7
	comp=Z,1.7nm,0.9s,baz=134,slow=4.3,SNR=6.8						
SONM				pP	pP	21 18 48.3	+0.2
	comp=Z,2.1nm,1.0s,baz=76,slow=6.3,SNR=6.2						
ILAR	Eielson Array	93.64	17	P	P	21 18 46.4	-2.0
	comp=Z,0.5nm,0.8s,baz=241,slow=4.7,SNR=6.1						
ILAR				pP	pP	21 18 56.4	-2.9
	comp=Z,1.9nm,0.9s,baz=233,slow=5.9,SNR=9.7						
ARCES	ARCESS Array B	129.18	345	pPKP	pPKPdf	21 24 49.2	-1.9
	comp=Z,1.2nm,0.6s,baz=35,slow=4.4,SNR=2.2						
VRI	Vrincioaia	143.04	317	⇑*i*P	Pdif	21 22 35.4	+6.3
PLOR	Plostina	143.10	317	⇓*i*P	Pdif	21 22 34.6	+5.2
BURAR	Bucovina Array	143.16	320	⇓*i*P	PKPbc	21 25 04.6	+1.0
MLR	Muntele Rosu	143.70	317	⇓*i*P	Pdif	21 22 36.4	+4.2
MLR	Muntele Rosu	143.70	317	⇓*i*P	PKPbc	21 25 06.2	+0.9
DOPR	Dopca	143.84	318	⇑*i*P	PKPbc	21 25 06.7	+1.2
KOLS	Kolonicke sedl	144.14	324	*e*PKP	PKPdf	21 25 08.4	+0.2
VOIR		144.29	317	⇑*i*P	PKPbc	21 25 07.6	+0.6
MDB	Medias	144.38	318	⇓*i*P	PKPdf	21 25 09.4	+0.7
JMB	Yambol	144.48	311	⇓*i*P	PKPbc	21 25 08.5	+0.9
CJR	Cluj-Napoca	144.57	320	⇑*i*P	PKPdf	21 25 09.4	+0.3
ARR	Arges	144.58	317	⇓*i*P	PKPdf	21 25 09.1	-0.1
SZH	Strazhica	144.62	313	*e*P	PKPbc	21 25 08.7	+0.7
HUMR	Humele	144.73	316	⇑*i*P	PKPab	21 25 06.6	-1.6
DRGR		145.05	320	⇑*i*P	PKPab	21 25 09.9	+0.5
KECS	Kecovo	145.37	324	*e*PKP	PKPab	21 25 11.2	+0.8
ALN	Alexandroupoli	145.41	309	*e*P	PKPbc	21 25 10.3	-0.3
KDZ	Kurdzhali	145.59	311	⇓*i*P	PKPbc	21 25 11.7	+0.5
KDZ	Kurdzhali	145.59	311	*e*P	PKPdf	21 25 11.3	+0.4
GZR	Gura Zlata	145.72	318	⇑*i*P	PKPbc	21 25 11.8	+0.3
OKC	Ostrava-Krasne	145.73	328	*e*pPKP	pPKPdf	21 25 24.1	+2.0
SRE	Strehaia	145.80	317	⇑*i*P	PKPab	21 25 13.2	+1.0
SMTH	Samothraki Isl	145.92	309	*e*P	PKPdf	21 25 11.8	+0.3
MPEP	Malo Peshtene	146.05	314	*e*P	PKPab	21 25 13.5	+0.4
KRLC	Kraliky	146.23	329	*e*pPKP	pPKPdf	21 25 23.2	+0.2
DPC	Dobruska-Polom	146.25	330	*e*PKP	PKPdf	21 25 11.5	-0.3
DPC				*e*x	x	21 25 16.1	
DPC				*e*pPKP	pPKPdf	21 25 24.3	+1.3
DPC				*e*x	x	21 25 47.4	
UPC	Upice	146.28	330	*e*PKP	PKPbc	21 25 13.5	+0.5
UPC				*e*pPKP	pPKPdf	21 25 25.0	+2.0
BZS	Buzias	146.31	319	⇑*i*P	PKPbc	21 25 13.5	+0.3
KAVA	Kavala	146.46	310	*e*P	PKPbc	21 25 13.8	0.0
VTS	Vitosha	146.73	313	⇓*i*P	PKPbc	21 25 15.4	+0.6
VTS	Vitosha	146.73	313	*e*P	PKPbc	21 25 14.8	0.0
MMB	Musomiste	146.78	311	⇑*i*P	PKPbc	21 25 15.2	+0.4
MMB	Musomiste	146.78	311	*e*P	PKPbc	21 25 14.5	-0.3
NVR	Nevrokopi	146.78	311	*e*P	PKPbc	21 25 14.7	-0.1
PVCC	Panska Ves	146.91	332	*e*PKP	PKPbc	21 25 15.7	+0.9
PVCC				*e*pPKP	pPKPdf	21 25 26.4	+2.3
BRG	Berggiesshubel	146.93	333	*e*PKP	PKPbc	21 25 15.8	+1.0
	comp=Z,4.7nm,1.1s						
BRG				*i*		21 25 27.3	
	comp=Z,10nm,0.8s						
CLL	Collm	146.99	334	*e*PKiKP	PKPbc	21 25 16.0	+1.0
	comp=Z,6.0nm,0.8s						
CLL				*i* pPKiKP	pPKiKP	21 25 27.1	-1.6
	comp=Z,13nm,0.7s						
OUR	Ouranopolis	147.08	309	*e*P	PKPdf	21 25 14.7	+1.2
KKB	Krupnik	147.11	312	*e*P	PKPdf	21 25 14.7	+1.2
GOPC	GO Pecny, Ondr	147.26	331	*e*PKP	PKPbc	21 25 16.6	+0.7
GOPC				*e*pPKP	pPKPdf	21 25 25.9	+1.2
GOPC				*e*sPKP		21 25 29.1	
NPS	Neapolis	147.28	300	*e*P	PKPbc	21 25 16.7	+0.3
PRA	Prague	147.31	331	*e*PKP	PKPbc	21 25 16.4	+0.5
PRA				*e*pPKP	pPKPdf	21 25 26.0	+1.3
PRA				*e*x	x	21 25 29.3	
PRU	Pruhonice	147.32	331	*e*PKP	PKPbc	21 25 15.5	-0.5
PRU				*e*x	x	21 25 18.5	
PRU				*e*pPKP	pPKPdf	21 25 26.4	+1.6
TREC	Trest	147.38	329	*e*PKP	PKPbc	21 25 16.7	+0.5
TREC				*e*pPKP	pPKPdf	21 25 27.3	+2.4
PAIG	Paliouri	147.44	309	*e*P	PKPdf	21 25 12.9	-1.2
KNT	Kendrikon	147.53	311	*e*P	PKPdf	21 25 15.8	+1.6
HORT	Hortiatis	147.60	310	*e*P	PKPdf	21 25 15.8	+1.3
GRG	Griva	147.95	311	*e*P	PKPdf	21 25 16.7	+1.7
NEO	Neokhori	147.99	308	*e*P	PKPdf	21 25 16.9	+1.8
XOR	Xorichti	147.99	308	*e*P	PKPbc	21 25 17.2	-1.0
NKC	Novy Kostel	148.04	333	*e*PKP	PKPbc	21 25 19.3	+1.3
NKC				*e*pPKP	pPKPdf	21 25 31.0	+5.0
NKC				*e*x	x	21 25 35.5	
DIVS	Divibare	148.09	318	⇑*i*P	PKPbc	21 25 18.9	+0.5
CONA	Conrad Observa	148.12	327	⇑*i*PKiKP	PKPbc	21 25 19.1	+0.7
	comp=Z,4.6nm,1.0s						
LIT	Litokhoron	148.22	310	*e*P	PKPbc	21 25 17.9	-0.9
NAIG	Nisos Aigina	148.30	305	*e*P	PKPdf	21 25 13.9	-1.7
KHC	Kasperske Hory	148.37	331	*e*PKP	PKPbc	21 25 18.9	0.0
KHC				*e*x	x	21 25 22.1	
KHC				*e*pPKP	pPKPdf	21 25 28.9	+2.3
KHC	Kasperske Hory	148.37	331	*e*PKPbc	PKPbc	21 25 18.7	-0.2
LKR	Lokris	148.38	307	*e*P	PKPbc	21 25 17.9	-1.3
VAM	Vamos	148.38	300	*e*P	PKPbc	21 25 19.8	+0.5
GERES	GERESS Array B	148.52	330	PKPbc	PKPbc	21 25 19.6	+0.2
	comp=Z,1.7nm,0.8s,baz=48,slow=2.0,SNR=11						
GERES				pPKPbc	pPKPbc	21 25 29.9	-0.6
	comp=Z,3.3nm,0.7s,baz=74,slow=4.9,SNR=12						
DID	Didima	148.56	305	*e*P	PKPdf	21 25 18.0	+1.9
AXAR	Agios Charalam	148.59	307	*e*P	PKPbc	21 25 19.1	-0.7
FNA	Florina	148.73	311	*e*P	PKPbc	21 25 20.1	0.0
KALE	Kalithea	149.10	307	*e*P	PKPbc	21 25 20.8	-0.3
GUR	Goura	149.10	306	*e*P	PKPbc	21 25 20.1	-1.1
NEST	Nestorio	149.11	311	*e*P	PKPbc	21 25 20.7	-0.4
EVR	Evrytania	149.16	308	*e*P	PKPbc	21 25 21.6	+0.3
KLV	Kalavryta, Ach	149.21	306	*e*P	PKPbc	21 25 20.5	-0.9
EFP	Efpalio	149.26	307	*e*P	PKPbc	21 25 21.8	+0.4
SOKA	Soboth	149.38	326	⇑*i*PKiKP	PKPbc	21 25 21.1	-0.5
	comp=Z,8.6nm,1.4s,SNR=6.4						
ITM	Ithomi	149.66	305	*e*P	PKPbc	21 25 22.0	-0.5
PDO	Prodromos	149.73	308	*e*P	PKPbc	21 25 22.9	+0.3
KBA	Koelnbreinsper	149.95	328	⇑*i*PKPbc	PKPbc	21 25 22.0	-1.0
	comp=Z,8.2nm,1.0s,SNR=5.3						
IGT	Igoumenitsa	149.98	310	*e*P	PKPbc	21 25 23.0	-0.2
SGD	Sagiada	150.01	310	*e*P	PKPbc	21 25 22.4	-0.8
LKD2	Lefkada island	150.04	308	*e*P	PKPbc	21 25 22.8	-0.6
MEM	Membach	150.10	340	P	PKPab	21 25 35.5	+6.5
MYKA	Terra Mystica	150.12	327	⇓*i*PKPbc	PKPbc	21 25 22.6	-0.8
	comp=Z,4.9nm,0.9s						
VOJS	Vojsko	150.40	326	*e*PKP	PKPbc	21 25 22.6	-1.5
ABTA	Abfaltersbach	150.59	328	⇓*i*PKPbc	PKPbc	21 25 23.6	-0.9
	comp=Z,7.7nm,0.7s,SNR=5.2						
WATA	Walderalm	150.60	330	⇓*i*PKiKP	PKPbc	21 25 24.2	-0.4
	comp=Z,8.0nm,1.1s						
WTTA	Wattenberg	150.63	330	*i* PKiKP	PKPbc	21 25 24.4	-0.4
	comp=Z,9.6nm,0.9s,SNR=5.7						
MOTA	Moosalm	150.81	331	⇓*i*PKiKP	PKPbc	21 25 24.6	-0.5
	comp=Z,9.8nm,0.9s,SNR=7.5						
DOU	Dourbes	150.98	341	P	PKPab	21 25 37.7	+5.1
BFO	Black Forest	151.20	335	*e*PKPbc	PKPbc	21 25 24.4	-1.5
FETA	Feichten	151.22	331	⇑*i*PKiKP	PKPbc	21 25 25.9	-0.1
	comp=Z,11nm,1.1s						
ECH	Echery	151.74	336	*e*PKPbc	PKPbc	21 25 26.4	-0.7

*ISCJB **03** 21:09:43.4±0.3, 41°.87N±0°.02×108°.60W±0°.03, h0km, Error ellipse: s-maj=3.2km s-min=2.7km az=152.3*

*NEIC **03** 21:09:44.1±0.6, 41°.87N×108°.63W, h0km, ML2.6, Error ellipse: s-maj=9.3km s-min=6.3km az=61.0, Suspected Mining explosion.*

NEIC 55 km [35 miles] NE of Rock Springs.

ISC 03 21:09:43.8±0.8**, 41°.84N**±0°.03×**108°.59W**±0°.03**, h0km, n29, σ1^{s}24**/48**, 4C-1D, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BW06	Boulder Array	1.17	323	*e*Pg	Pg	21 10 05.9	-0.4
BW06				*e*Sg	Sb	21 10 23.2	+0.3
O20A	White River Ci	1.72	171	*e*Pn	Pn	21 10 12.4	-2.9
O20A				*e*Sn	Sn	21 10 38.4	+0.4
J21A	Lysite	1.73	29	⇑P	Pn	21 10 14.8	-0.5
	baz=1.7,SNR=13						
J21A				⇑S	Sn	21 10 37.6	-0.6
	baz=1.7						
K22A	Casper	1.74	61	⇑Pb	Pn	21 10 16.0	+0.6
	baz=1.7,SNR=10						
K22A				⇓S	Sn	21 10 38.2	-0.1
	baz=1.7						
K22A	Casper	1.74	61	*e*Pn	Pn	21 10 15.5	+0.1
K22A				*e*Sn	Sn	21 10 38.2	-0.1
AHID	Auburn Hatcher	2.08	297	*e*Pn	Pn	21 10 20.4	+0.2
AHID				*e*Sn	Sb	21 10 49.0	0.0
I20A	Worland	2.14	9	⇑Pb	Pn	21 10 20.4	-0.4
	baz=2.0,SNR=20						
TCUT	Toone Canyon	2.24	252	*e*Pn	Pn	21 10 22.3	-0.1
TCUT				*e*Sn	Sb	21 10 52.7	-0.8
HWUT	Hardware Ranch	2.24	265	*e*Pn	Pn	21 10 20.4	-1.9
HWUT				*e*Sn	Sn	21 10 50.0	-0.8
REDW	Red Top Meadow	2.26	313	*e*Pb	Pn	21 10 23.7	+1.0
REDW				*e*Sg	Sg	21 10 55.5	-0.9
LOHW	Long Hollow	2.31	321	*e*Pn	Pn	21 10 23.6	+0.3
LOHW				*e*Sg	Sg	21 10 58.3	+0.3
TPAW	Teton Pass	2.40	314	*e*Pn	Pn	21 10 24.7	+0.1
TPAW				*e*Sg	Sg	21 11 02.0	+1.2
MOOW	Moose Ponds	2.48	321	*e*Pn	Pn	21 10 26.0	+0.3
MOOW				*e*Sg	Sb	21 11 01.8	+1.2
JLU	Jordanelle	2.48	241	*e*Pn	Pn	21 10 23.9	-1.8
CTU	Camp Tracy	2.64	245	*e*Pn	Pn	21 10 29.0	+1.1
CTU				*e*Sn	Sb	21 11 03.2	-1.9
IMW	Indian Meadow	2.68	321	*e*Pg	Pb	21 10 32.8	-0.1
IMW				*e*Sg	Sg	21 11 08.6	-1.4
SMCO	Snowmass	2.93	155	*e*Pn	Pn	21 10 33.3	+1.2
SMCO				*e*Sn	Sn	21 11 10.2	+2.1
MPU	Maple Canyon	2.94	233	*e*Pn	Pn	21 10 33.1	+1.1
ISCO	Idaho Springs	3.04	131	*e*Pn	Pn	21 10 36.3	+2.8
ISCO				*e*Sb	Sb	21 11 15.8	-1.0
SRU	San Rafael Swe	3.10	209	*e*Pn	Pn	21 10 33.6	-0.5
SRU				*e*Sn	Sn	21 11 13.7	+1.8
HVU	Hansel Valley	3.13	270	*e*Pn	Pn	21 10 35.4	+0.9
HVU				*e*Sn	Sb	21 11 18.9	-0.2
TMUT	Trail Mountain	3.23	219	*e*Pn	Pn	21 10 35.8	-0.3
TMUT				*e*Sn	Sn	21 11 17.6	+2.2
NLU	North Lily Min	3.24	236	*e*Pn	Pn	21 10 38.2	+2.0
PV04	Paradox Valley	3.45	184	*e*Pn	Pn	21 10 38.0	-0.9
PV04				*e*Sn	Sn	21 11 21.1	+0.5
BGU	Big Grassy Mou	3.46	256	*e*Pn	Pn	21 10 41.8	+2.7
MSU	Marysvale	4.31	221	*e*Pn	Pn	21 10 49.9	-0.9
MVU	Marysvale	4.33	221	*e*Pn	Pn	21 10 51.8	+0.6
BOZ	Bozeman (W)	4.40	331	*e*Pn	Pn	21 10 55.9	+4.0
SDCO	Great Sand Dun	4.73	149	*e*Pb	Pb	21 11 07.4	-0.4

CASC 03 21:13:18.7±3.5**, 10°.65N×87°.05W, h35km**±26km**, MD3.9, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COPN	Copaltepe	1.59	16	*e*P	Pn	21 13 45.4	+1.0
COPN				*e*S	Sn	21 14 04.8	+1.1
GB1A	Borinquen Arri	1.63	84	*i* P	Pn	21 13 44.6	-0.5
GB1A				*i* S	Sn	21 14 04.8	-0.2
GPS2	Hotel Rincˆ‡n	1.67	86	*i* S	Sn	21 14 07.6	+1.7
LIM1	Limonal	1.77	88	*i* P	Pn	21 13 46.3	-0.6
HUEN		1.89	27	*e*P	Pn	21 13 48.9	+0.4
JCR	Jicaral	2.07	112	*e*P	Pn	21 13 50.5	-0.5
JCR				*e*S	Sn	21 14 11.5	-4.1
CGA2	Cerro Gallo 2	2.62	104	*e*P	Pn	21 14 01.3	+2.5
CGA2				*e*S	Sn	21 14 29.5	0.0
CNCH	Conchagua	2.72	344	*e*P	Pn	21 14 01.4	+1.3
CNCH				*e*S	Sn	21 14 31.5	-0.5
VSM	San Miguel	3.01	337	*e*P	Pn	21 14 05.7	+1.4
URSC	Urasca	3.32	104	*e*P	Pn	21 14 10.3	+1.9
URSC				*e*S	Sn	21 14 50.1	+3.2
LFRS	El Faro	3.55	327	*e*P	Pn	21 14 12.0	+0.5
LFRS				*e*S	Sn	21 14 52.2	-0.2
SBLS	San Blas	4.05	322	*e*P	Pn	21 14 20.2	+1.7
SBLS				*e*S	Sn	21 15 05.1	+0.1
RBDL	Robledal	4.30	324	*e*P	Pn	21 14 22.9	+1.0
RBDL				*e*S	Sn	21 15 10.9	-0.1

PDA 03 21:25:14.0±1.1**, 38°.73N×29°.03W, h9km**±6km**, MD3.5, ML3.6, Error ellipse: s-maj=7.4km s-min=5.2km az=53.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCED	Cedros	0.28	112	*i* P	Pg	21 25 19.0	-0.6
PCED				*e*S	Sg	21 25 23.0	-0.4
PCED				A	A	21 25 25.7	
	4µm,0.2s						
CALA	Caldeira	0.30	120	*e*P	Pg	21 25 19.8	-0.3
HOR	Horta	0.38	123	*e*P	Pg	21 25 20.6	-0.8
HOR				*e*S	Sg	21 25 25.4	-1.0
PCAN	Candelaria	0.51	122	*i* P	Pg	21 25 22.3	-1.6
PCAN				*e*S	Sg	21 25 28.8	-1.8
PCAN				A	A	21 25 33.3	
	2µm,0.4s						
PICO	Pico	0.53	116	*i* P	Pg	21 25 23.3	-1.1
PICO				*e*S	Sg	21 25 29.6	-1.9
ROSA	Rosais	0.62	91	*e*P	Pg	21 25 24.4	-1.6
ROSA				*e*S	Sg	21 25 31.5	-2.7
ROSA				A	A	21 25 33.1	
	3µm,0.4s						
PPNO	Prainha do Nor	0.66	113	*e*P	Pg	21 25 25.0	-1.8
PPNO				*e*S	Sg	21 25 33.0	-2.5
PPNO				A	A	21 25 35.6	
	2µm,0.2s						
PMAN	Manadas	0.75	97	*e*P	Pg	21 25 25.8	-2.6
PMAN				*e*S	Sg	21 25 35.4	-2.8
PMAN				A	A	21 25 37.5	
	733nm,0.2s						
PGRA	Graciosa	0.87	70	*e*P	Pg	21 25 27.4	-3.4
PGRA				*e*S	Sg	21 25 37.9	-4.3
PGRA				A	A	21 25 50.2	
	391nm,0.3s						
ADH	Angra Heroismo	1.41	93	*e*P	Pn	21 25 36.3	-3.5
ADH				*e*S	Sn	21 25 51.2	-7.3
ADH				A	A	21 25 53.0	
	322nm,0.3s						
PSET	Sete Cidades	2.76	108	*e*P	Pn	21 25 54.0	-4.5
PSET				*e*S	Sn	21 26 23.8	-8.1
PSET				A	A	21 26 28.0	
	43nm,0.5s						
BART	Pico Bartolome	3.19	106	*e*P	Pn	21 25 59.3	-5.1
BART				*e*S	Sn	21 26 33.9	-8.7
BART				A	A	21 26 42.4	
	25nm,0.5s						
PSMA	Santa Maria	3.54	118	*e*P	Pn	21 26 04.5	-4.7
PSMN	Pico do Norte,	3.58	118	*e*P	Pn	21 26 05.7	-4.0

*ISCJB **03** 21:31:05.9±0.9, 23°.8S±0°.1×67°.1W±0°.1, h181km, mb3.1/1, Error ellipse: s-maj=15.9km s-min=12.1km az=24.9*

*IDC **03** 21:31:06.9±2.2, 23°.84S×67°.00W, h174km±25km, mb3.0/1, mb1 3.4/6, mb1mx3.2/24, mbtmp3.9/6, Error ellipse: s-maj=39.5km s-min=25.9km az=137.0*

ISC 03 21:31:06.6±1.1**, 23°.9S**±0°.1×**67°.1W**±0°.1**, h181km, n7, σ1^{s}30**/8**, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.06	307	P	Pn	21 31 44.4	-0.4
	480nm,0.3s,baz=100,slow=9.3,SNR=268						
LVC				S	Sn	21 32 13.3	-1.0
	638nm,0.3s,baz=103,slow=6.5,SNR=7.1						
LPAZ	La Paz	7.59	353	P	Pn	21 32 57.5	+2.2
	1.4nm,0.3s,baz=156,slow=6.7,SNR=36						
SIV	San Ignacio	9.67	37	P	Pn	21 33 21.7	-0.3
	0.4nm,0.3s,baz=240,slow=13,SNR=7.7						
PLCA	Paso Flores	17.07	189	P	Pn	21 34 56.0	+1.4
	0.1nm,0.3s,baz=27,slow=11,SNR=3.1						
BDFB	Brasilia	19.74	69	P	P	21 35 22.7	0.0
	0.3nm,0.3s,baz=249,slow=11,SNR=10.0						
TORD	Torodi Ar. Bea	76.62	69	P	P	21 42 37.4	-0.4
	0.3nm,0.6s,baz=259,slow=6.0,SNR=6.0						
MKAR	Makanchi Array	146.49	39	PKPbc	PKPbc	21 50 27.0	+0.5
	0.2nm,0.6s,baz=300,slow=3.2,SNR=3.5						

*SJA **03** 21:32:58.0±1.0, 24°.09S×67°.27W, h179km±24km, ML2.6*

*ISCJB **03** 21:32:59.4±0.7, 24°.17S±0°.07×67°.19W±0°.08, h181km, mb3.0/1, Error ellipse: s-maj=13.4km s-min=6.5km az=135.5*

*IDC **03** 21:33:00.7±3.4, 24°.03S×67°.18W, h180km±30km, mb3.0/1, mb1 3.4/3, mb1mx3.1/23, mbtmp3.9/3, Error ellipse: s-maj=58.5km s-min=29.7km az=168.0*

ISC 03 21:33:00.1±1.0**, 24°.15S**±0°.09×**67°.17W**±0°.08**, h181km, n12, σ0^{s}55**/17**, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.62	111	*i* P	Pn	21 33 33.7	+0.2
SLA				*i* S	Sn	21 33 59.1	-0.3
SLA				AML	AML	21 34 01.7	
	comp=Z,39nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HJA	Humahuaca	1.87	60	*i* P	Pn	21 33 36.1	-0.2
AZAP	Zapla	1.92	93	*i* P	Pn	21 33 36.1	-0.6
AZAP				*i* S	Sn	21 34 04.5	-0.5
AZAP				AML	AML	21 34 07.2	
	comp=Z,32nm,0.7s						
FSA	Cafayete	2.20	152	*i* P	Pn	21 33 39.2	-0.5
FSA				*i* P	Pn	21 33 39.2	-0.5
LVC	Limon Verde	2.21	313	P	Pn	21 33 39.9	+0.1
	comp=Z,1µm,0.3s,baz=126,slow=8.0,SNR=27						
LVC				S	Sn	21 34 09.6	-1.1
	comp=Z,776nm,0.3s,baz=136,slow=8.0,SNR=13						
ASTB	Santa Barbara	2.46	86	*i* P	Pn	21 33 42.7	+0.1
AHML	Horco Molle	3.11	148	*i* P	Pn	21 33 49.8	-0.4
AHML				*i* S	Sn	21 34 28.7	-0.6
AHML				AML	AML	21 34 30.8	
	comp=Z,6.3nm,0.7s						
LPAZ	La Paz	7.87	353	P	Pn	21 34 52.1	-0.2
	comp=Z,1.3nm,0.3s,baz=162,slow=7.0,SNR=25						
BDFB	Brasilia	19.89	68	P	P	21 37 18.3	+0.5
	comp=Z,0.7nm,0.3s,baz=227,slow=9.2,SNR=7.6						
TORD	Torodi Ar. Bea	76.77	69	P	P	21 44 32.3	+0.3
	comp=Z,0.2nm,0.5s,baz=254,slow=6.2,SNR=7.5						
WRA	Warramunga Arr	131.42	207	PKP	PKPdf	21 51 52.7	+1.0
	comp=Z,0.6nm,1.0s,baz=163,slow=1.7,SNR=5.6						
MKAR	Makanchi Array	146.74	40	PKPbc	PKPbc	21 52 20.4	-0.3
	comp=Z,0.2nm,0.3s,baz=302,slow=3.2,SNR=7.9						

ISCJB ***03*** *21:38:33.3±0.9, 22°.10N±0°.09×144°.4E±0°.3, h69km, mb3.7/7, Error ellipse: s-maj=37.1km s-min=9.5km az=167.8*
IDC ***03*** *21:38:37.3±3.7, 22°.11N×144°.35E, h89km±33km, mb3.4/8, mb1 3.6/10, mb1mx3.4/39, mbtmp3.8/10, Error ellipse: s-maj=41.1km s-min=14.8km az=86.0*
ISC 03 21:38:35.1±1.0**, 22°.1N**±0°.1×**144°.3E**±0°.3**, h69km, n11, σ0s.86**/12**, mb3.8**/7**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	5.34	339	P	Pn	21 39 53.8	+1.5
	baz=242,slow=15						
JCJ				S	Sn	21 40 51.5	-1.1
	25nm,0.3s,baz=124,slow=20,SNR=5.1						
MJAR	Matsushiro Arr	15.34	341	P	Pn	21 42 07.7	+0.1
	0.5nm,0.3s,baz=162,slow=10,SNR=9.2						
KSRS	Korea Array	20.84	321	P	Pn	21 43 14.1	-0.2
	0.4nm,0.3s,baz=140,slow=9.6,SNR=3.7						
USRK	Ussuriysk Ar.	24.29	338	P	P	21 43 46.3	+0.4
	1.2nm,0.7s,baz=155,slow=6.6,SNR=5.9						
WRA	Warramunga Arr	42.89	194	P	P	21 46 27.1	+0.1
	1.0nm,0.6s,baz=15,slow=8.4,SNR=23						
WRA				PcP	PcP	21 48 17.1	+0.3
	0.4nm,0.8s,baz=11,slow=3.5,SNR=3.9						
ASAR	Alice Springs	46.59	193	P	P	21 46 56.1	-0.3
	0.3nm,0.5s,baz=13,slow=7.2,SNR=8.1						
STKA	Stephens Creek	53.72	183	P	P	21 47 50.6	+0.5
	2.4nm,0.6s,baz=5.7,slow=7.1,SNR=14						
MKAR	Makanchi Array	55.20	312	P	P	21 48 00.9	0.0
	0.2nm,0.5s,baz=91,slow=9.6,SNR=3.3						
MKAR				pP	pP	21 48 26.9	+8.2
	0.4nm,0.5s,baz=88,slow=10,SNR=5.4						
ILAR	Eielson Array	61.22	27	P	P	21 48 42.6	+0.1
	0.7nm,0.6s,baz=259,slow=5.0,SNR=6.9						
FINES	FINESS Array B	83.27	335	P	P	21 50 52.7	-1.3
	0.7nm,0.6s,baz=60,slow=5.5,SNR=3.4						
TORD	Torodi Ar. Bea	129.29	310	PKP	PKPdf	21 57 35.5	-1.0
	0.4nm,1.1s,baz=351,slow=3.3,SNR=4.8						

IDC 03 21:46:02.6±877.0**, 44°.76N**×**65°.04E, h0km, Error ellipse: s-maj=362.7km s-min=183.1km az=142.0, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	7.37	323	*i*		22 32 20.0	
	baz=137,slow=318,SNR=11						
I46RU	ZALESOVO INFRA	15.78	47	*i*		23 48 40.0	
	baz=242,slow=305,SNR=1.3						
I43RU	DUBNA INFRASON	21.12	314	*i*		23 55 00.0	
	baz=113,slow=319,SNR=2.4						

IDC ***03*** *21:49:18.8±3.0, 33°.51S×179°.10E, h0km, mb4.1/2, mb1 4.4/3, mb1mx3.8/26, mbtmp4.2/3, ML4.2/1, MS3.4/1, Ms1 3.5/1, ms1mx2.7/24, Error ellipse: s-maj=62.7km s-min=44.3km az=91.0*
WEL ***03*** *21:49:43.5±0.6, 35°.37S×178°.52E, h214km±9km, ML4.2/7, Error ellipse: s-maj=10.9km s-min=10.7km az=90.0*
ISC 03 21:49:44.0±1.7**, 35°.3S**±0°.1×**178°.2E**±0°.2**, h200km, n40, σ1s.11**/40**, 2C-2D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.25	178	PN	Pn	21 50 24.8	-0.3
MXZ				*e*SN	Sn	21 50 56.9	-0.5
MXZ				AML	AML	21 51 00.1	
MXZ				AML	AML	21 51 01.3	
MXZ				AML	AML	21 51 01.4	
HAZ	Te Kaha	2.47	188	PN	Pn	21 50 27.8	+0.3
WMGZ	Waiomatatini S	2.51	177	PN	Pn	21 50 28.0	+0.1
PUZ	Puketiti	2.76	180	⇓PN	Pn	21 50 30.4	-0.4
PUZ				AML	AML	21 51 10.0	
PUZ				AML	AML	21 51 10.8	
TWGZ	Tauwhareparae	2.87	184	PN	Pn	21 50 32.7	+0.5
MWZ	Matawai	3.08	190	⇑PN	Pn	21 50 35.2	+0.7
MWZ				AML	AML	21 51 26.3	
MWZ				AML	AML	21 51 32.2	
URZ	Urewera	3.08	197	⇓PN	Pn	21 50 35.1	+0.7
URZ				SN	Sn	21 51 15.9	+1.6
URZ				AML	AML	21 51 19.9	
URZ	Urewera	3.08	197	Pn	Pn	21 50 35.2	+0.7
	8.8nm,0.3s,baz=281,slow=3.7,SNR=50						
URZ				Sn	Sn	21 51 16.3	+2.0
	20nm,0.3s,baz=271,slow=23,SNR=23						
TKGZ	Te Karaka	3.14	186	PN	Pn	21 50 35.3	0.0
CNGZ	Carnagh Statio	3.17	180	PN	Pn	21 50 35.5	-0.1
RIGZ	Rimuhau	3.41	186	PN	Pn	21 50 38.3	-0.3
SNGZ	Shannon Statio	3.54	191	⇑PN	Pn	21 50 40.6	+0.5
PRGZ	Paritu Road	3.62	184	PN	Pn	21 50 40.4	-0.6
RAHZ	Arahi	3.72	194	PN	Pn	21 50 42.7	+0.4
KNZ	Kokohu	3.73	187	PN	Pn	21 50 41.5	-0.9
NMHZ	Naumai	3.95	196	PN	Pn	21 50 45.7	+0.5
ARHZ	Aropaoanui	4.07	194	PN	Pn	21 50 46.9	+0.3
BKZ	Black Stump Fm	4.10	199	PN	Pn	21 50 47.4	+0.4
BKZ				AML	AML	21 51 42.9	
MCHZ	McNeill Hill	4.31	196	PN	Pn	21 50 49.7	+0.2
KWHZ	Kaweka Forest	4.36	199	PN	Pn	21 50 50.5	+0.3
BHHZ	Black Hill Sta	4.52	202	PN	Pn	21 50 52.1	-0.2
KRHZ	Kereru	4.58	198	PN	Pn	21 50 52.5	-0.5
KAHZ	Kahuranaki	4.61	193	PN	Pn	21 50 52.8	-0.6
PXZ	Pawanui	4.84	193	AML	AML	21 51 54.7	
PNHZ	Pukenui	4.88	199	PN	Pn	21 50 55.8	-1.0
ANWZ	Angora Road	5.33	195	PN	Pn	21 51 01.5	-1.0
BFZ	Birch Farm	5.59	196	PN	Pn	21 51 03.9	-2.0
TIWZ	Tintock	5.77	198	PN	Pn	21 51 06.8	-1.4
TIWZ				AML	AML	21 52 16.3	
TIWZ				AML	AML	21 52 18.8	
HOWZ	Holdsworth Sta	5.98	200	PN	Pn	21 51 08.7	-2.2
OGWZ	Otaki Gorge	6.01	203	PN	Pn	21 51 09.7	-1.5
TMWZ	Te Maipa	6.08	197	PN	Pn	21 51 10.4	-1.8
KIW	Kapiti Island	6.13	204	PN	Pn	21 51 11.2	-1.7
PLWZ	Palliser	6.68	200	PN	Pn	21 51 17.1	-2.8
TUWZ	Tuamarina	6.98	208	PN	Pn	21 51 22.0	-1.8
THZ	Tophouse	7.68	211	PN	Pn	21 51 32.2	-0.8
MQZ	McQueen's Vall	9.43	205	PN	Pn	21 51 52.1	-3.6
ASAR	Alice Springs	39.99	275	P	P	21 57 00.0	+0.6
	1.2nm,0.4s,baz=114,slow=8.1,SNR=5.8						
WRA	Warramunga Arr	41.45	280	P	P	21 57 11.2	-0.1
	1.2nm,0.3s,baz=118,slow=7.7,SNR=39						
VNDA	Vanda	42.92	185	LR	LR	22 11 50.6	
	comp=Z,46nm,18.4s,baz=232,slow=30						
FINES	FINESS Array B	148.44	335	PKPbc	PKPdf	22 09 02.1	-0.1
	0.4nm,0.6s,baz=336,slow=3.0,SNR=4.2						

IDC 03 21:51:25.4±2.0**, 31°.41S**×**178°.97W, h0km, mb3.7**/2**, mb1 3.9**/2**, mb1mx3.5**/28**, mbtmp3.7**/2**, Error ellipse: s-maj=73.7km s-min=45.4km az=20.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.23	268	P	P	21 59 20.1	-0.4
	0.5nm,0.6s,baz=106,slow=8.0,SNR=4.4						
WRA	Warramunga Arr	43.31	274	P	P	21 59 29.4	0.0
	0.4nm,0.3s,baz=111,slow=8.1,SNR=18						
FINES	FINESS Array B	145.79	339	PKPbc	PKPdf	22 11 05.1	-0.1
	1.7nm,1.0s,baz=64,slow=4.4,SNR=4.8						
TORD	Torodi Ar. Bea	161.81	182	PKPab	PKPab	22 12 13.9	-0.6
	0.5nm,1.0s,baz=158,slow=2.3,SNR=2.4						

DJA ***03*** *22:02:58.1±1.7, 1°N±7°×9°6E±°, h10km, M3.6/3, MLv3.6/3*
IDC ***03*** *22:03:07.5±7.0, 1°.97N×96°.16E, h0km, mb3.5/3, mb1 3.5/5, mb1mx3.3/38, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=133.8km s-min=41.9km az=15.0*
ISC 03 22:03:07.5±2.1**, 1°.4N**±0°.2×**95°.8E**±0°.1**, h35km, n10, σ2s.42**/6**, mb3.8**/3**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	1.14	27	P	Pn	22 03 23.1	-3.9
SNSI				S	Sn	22 03 42.8	+1.4
GSI	Gunungsitoli	1.76	93	P	Pn	22 03 31.2	-4.4
GSI				S	Sn	22 03 57.3	+0.4
PSI	Prapat	3.41	66	Pn	Pn	22 03 54.9	-3.5
	0.9nm,0.3s,baz=228,slow=16,SNR=4.7						
CMAR	Chiang Mai Arr	17.24	10	Pn	Pn	22 07 02.5	-3.2
	0.1nm,0.3s,baz=199,slow=11,SNR=10						
H08S2	Diego Garcia H	24.93	249	T	T	22 35 29.9	
	baz=69,slow=76,SNR=62						
H08S3	Diego Garcia H	24.93	249	T	T	22 35 28.6	
	baz=69,slow=76,SNR=54						
H08S1	Diego Carcia H	24.95	249	T	T	22 35 27.3	
	baz=69,slow=76,SNR=54						
MKAR	Makanchi Array	46.74	347	P	P	22 11 35.1	+1.8
	0.6nm,0.6s,baz=153,slow=7.3,SNR=7.5						
SONM	Songino Array	47.17	10	P	P	22 11 36.1	-0.6
	0.2nm,0.6s,baz=200,slow=7.2,SNR=2.5						
ZALV	Zalesovo Beam	53.17	352	P	P	22 12 23.1	+1.2
	0.5nm,0.5s,baz=174,slow=2.9,SNR=4.7						

IDC 03 22:26:46.1±1.1**, 18°.24S**×**175°.71W, h0km, mb3.9**/6**, mb1 4.2**/6**, mb1mx3.8**/38**, mbtmp4.0**/6**, Error ellipse: s-maj=48.9km s-min=21.8km az=144.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.91	196	P	P	22 31 30.1	-0.1
	8.3nm,0.3s,baz=23,slow=2.1,SNR=17						
STKA	Stephens Creek	40.74	242	P	P	22 34 28.3	-0.6
	0.4nm,0.4s,baz=63,slow=6.8,SNR=2.8						
WRA	Warramunga Arr	47.10	259	P	P	22 35 20.6	+0.4
	1.8nm,0.4s,baz=97,slow=8.5,SNR=46						
ASAR	Alice Springs	47.18	254	P	P	22 35 21.1	+0.2
	1.1nm,0.5s,baz=90,slow=8.4,SNR=17						
NVAR	Mina Array Bea	77.91	43	P	P	22 38 46.4	+0.1
	0.2nm,0.3s,baz=235,slow=6.3,SNR=2.4						
TXAR	Lajitas Array	84.02	57	P	P	22 39 19.4	+0.5
	0.4nm,1.0s,baz=204,slow=2.0,SNR=3.5						
BRTR	Keskin Array B	146.82	316	PKPbc	PKPdf	22 46 28.9	0.0
	0.4nm,0.5s,baz=112,slow=1.6,SNR=3.5						

IDC 03 22:27:02.3±53.0**, 16°.32S**×**175°.20W, h0km, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.6**/38**, mbtmp4.0**/3**, Error ellipse: s-maj=1005.0km s-min=182.0km az=79.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.08	240	P	P	22 34 56.2	0.0
	0.5nm,0.3s,baz=96,slow=9.2,SNR=4.4						
WRA	Warramunga Arr	47.95	258	P	P	22 35 43.1	-0.1
	0.4nm,0.4s,baz=93,slow=7.6,SNR=3.4						
ASAR	Alice Springs	48.18	253	P	P	22 35 44.6	-0.3
	4.2nm,0.6s,baz=88,slow=8.2,SNR=21						

IDC ***03*** *22:30:55.4±0.5, 36°.45N×76°.92E, h0km, mb4.3/21, mb1 4.5/27, mb1mx4.4/36, mbtmp4.4/27, ML4.7/5, MS2.9/4, Ms1 2.9/4, ms1mx2.6/34, Error ellipse: s-maj=15.1km s-min=11.4km az=23.0*
MOS ***03*** *22:31:05.9±1.0, 36°.70N×76°.99E, h90km, mb4.5/27, Error ellipse: s-maj=9.0km s-min=4.8km az=119.4*
ISCJB ***03*** *22:31:05.7±0.3, 36°.68N±0°.02×77°.07E±0°.03, h93km±3km, mb4.4/58, Error ellipse: s-maj=4.6km s-min=2.8km az=161.8*
NEIC ***03*** *22:31:06.2±2.5, 36°.64N×76°.95E, h86km±5km, mb4.6/17, Error ellipse: s-maj=19.3km s-min=11.7km az=217.0*
BJI ***03*** *22:31:09.7, 36°.88N×77°.14E, h113km, mb4.6/15, mB4.4/10*
NNC ***03*** *22:31:10.9±2.5, 36°.90N×76°.92E, h150km±14km, mb3.9, mpv4.8, Error ellipse: s-maj=20.6km s-min=13.6km az=166.0*
ISC 03 22:31:08.2±0.4**, 36°.69N**±0°.03×**77°.02E**±0°.04**, h106km**±4km**, h106km:pP-P, n259, σ1s.52**/293**, mb4.5**/61**, 49C-19D, Kashmir-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	Kashi	2.94	344	P	Pn	22 31 50.6	-2.8
KSH				S	Sn	22 32 17.1	-11
KSH				SMN			
	3µm,0.5s						
KSH				SME			
	4µm,0.6s						
CHCP	Chirah Chowk	4.32	227	P	Pn	22 32 12.6	+0.8
SFK	Sufi-Kurgan	4.32	321	⇑P	Pn	22 32 12.5	+0.5
	44nm,0.4s						
SFK				⇑S	Sn	22 33 03.5	+2.1
	555nm,0.4s						
DHRM	DHARAMSHALA	4.47	188	*e*P	Pn	22 32 15.6	+1.5
DHRM				*e*S	Sn	22 33 03.4	-1.8
DHRM				AML	AML	22 33 08.2	
	comp=N,1µm,0.2s						
DHRM				AML	AML	22 33 08.3	
	comp=E,1µm,0.2s						
CEP	Cherat	5.07	237	⇑P	Pn	22 32 21.2	-0.9
KZA	Kyzart	5.55	346	P	Pn	22 32 28.9	+0.1
	SNR=99						
SMLA	Simla	5.55	179	*i* P	Pn	22 32 28.9	+0.5
SMLA				*i* S	Sn	22 33 26.6	-4.4
SMLA				*i* S	Sn	22 33 26.9	-4.0
SMLA				AML	AML	22 33 32.5	
	comp=N,1µm,0.2s						
SMLA				AML	AML	22 33 33.4	
	comp=E,962nm,0.2s						
ULHL	Ulahol	5.58	354	P	Pn	22 32 29.6	+0.6
	SNR=64						
THW	Thamme Wali	5.83	230	⇑P	Pn	22 32 31.2	-1.1
UCH	Uchtor	5.86	341	P	Pn	22 32 33.7	+0.7
	SNR=145						
SARP	Sargodha	5.97	218	P	Pn	22 32 33.0	-1.1
AML	Almayashu	6.01	336	P	Pn	22 32 35.9	+0.9
	SNR=33						
KBK	Karagaybulak	6.17	346	P	Pn	22 32 37.2	+0.3
	SNR=82						
AAK	Ala-Archa	6.25	343	P	Pn	22 32 38.8	+0.8
	SNR=46						
AAK	Ala-Archa	6.25	343	⇑P	Pn	22 32 38.5	+0.5
	comp=E,23nm,0.5s						
AAK				⇑S	Sn	22 33 46.1	-1.9
	comp=E,169nm,1.0s						
AAK	Ala-Archa	6.25	343	Pn	Pn	22 32 38.8	+0.8
	comp=E,17nm,0.3s,baz=146,slow=7.6,SNR=84						
AAK				Sn	Sn	22 33 46.0	-1.9
	comp=E,13nm,0.3s,baz=10,slow=16,SNR=12						
AAK				LR	LR	22 34 49.7	
	comp=E,52nm,18.6s,baz=210,slow=36						
AAK	Ala-Archa	6.25	343	P	Pn	22 32 38.8	+0.8
AAK						22 33 46.0	
AAK				pmax	pmax		
	comp=Z,17nm,0.3s						
AAK				smax	smax		
	comp=N,13nm,0.3s						
AAK	Ala-Archa	6.25	343	*e*Pn	Pn	22 32 38.5	+0.5
AAK				*e*Sn	Sn	22 33 46.2	-1.7
TKM2	Tokmak 2	6.32	350	P	Pn	22 32 39.5	+0.5
	SNR=51						
TKM2	Tokmak 2	6.32	350	⇓P	Pn	22 32 39.2	+0.2
	comp=N,24nm,0.6s						
TKM2	Tokmak 2	6.32	350	*e*P	Pn	22 32 38.9	-0.1
TKM2	Tokmak 2	6.32	350	*e*Pn	Pn	22 32 38.9	-0.1
EKS2	Erkin-Say	6.46	338	P	Pn	22 32 42.0	+1.1
	SNR=20						
EKS2	Erkin-Say	6.46	338	*e*P	Pn	22 32 41.1	+0.2
EKS2	Erkin-Say	6.46	338	*e*Pn	Pn	22 32 41.1	+0.2
JOSI	Joshimath	6.47	160	*e*P	Pn	22 32 41.8	+0.6
JOSI				*e*S	Sn	22 33 45.9	-7.9
JOSI				AML	AML	22 34 08.3	
	comp=N,634nm,0.6s						
JOSI				AML	AML	22 34 10.9	
	comp=E,492nm,0.7s						
KNDC	Almaty	6.52	360	⇑P	Pn	22 32 42.5	+1.0
	comp=E,84nm,0.7s						
KNDC				⇑S	Sn	22 33 55.4	+1.0
	comp=E,253nm,0.9s						
CHMS	Chumysh	6.54	345	P	Pn	22 32 42.3	+0.6
	SNR=49						
KKR	Kurukshetra	6.71	181	*e*P	Pn	22 32 44.8	+0.6
MNAS	Manas	6.76	330	⇑P	Pn	22 32 45.7	+0.9
	comp=E,57nm,0.5s						
MNAS				⇑S	Sn	22 33 59.2	-1.1
	comp=E,86nm,0.5s						
DZET	Dzherino	6.83	290	⇑P	Pn	22 32 46.5	+0.7
	comp=E,16nm,0.4s						
DZET				⇓S	Sn	22 33 57.5	-4.5
	comp=E,94nm,0.4s						
KBL	Kabul	6.84	254	*e*P	Pn	22 32 43.9	-2.3
KBL	Kabul	6.84	254	*e*Pn	Pn	22 32 43.9	-2.3
USP	Ospenovka	6.85	344	P	Pn	22 32 46.9	+0.9
	SNR=15						
PDGK	Podgornoye	6.89	15	⇑P	Pn	22 32 46.9	+0.3
	comp=E,126nm,0.7s						
PDGK				⇑S	Sn	22 34 00.9	-2.5
	comp=E,93nm,1.1s						
KALG	Kalgarh	7.31	168	*e*P	Pn	22 32 53.9	+1.6
KALG				*e*x	x	22 34 10.4	
KK31	Karatay Array	8.12	324	⇑P	Pn	22 33 02.3	-1.0
	comp=E,28nm,0.3s						
KK31				⇑S	Sn	22 34 30.2	-3.2
	comp=E,208nm,0.9s						
KKAR	Karatay Array	8.12	324	*e*P	Pn	22 33 02.0	-1.3
KKAR				*e*		22 34 30.2	
KKAR	Karatay Array	8.12	324	*e*Pn	Pn	22 33 02.0	-1.3
KKAR				*e*Sn	Sn	22 34 30.2	-3.2
KUDL	Kundal	8.54	183	*e*P	Pn	22 33 08.0	-1.0
KUDL				*e*S	Sn	22 34 36.0	-7.6
KUDL				AML	AML	22 34 41.0	
	comp=N,144nm,0.1s						
KUDL				AML	AML	22 34 41.1	
	comp=E,118nm,0.4s						
KHET	Khetri	8.65	187	*e*P	Pn	22 33 08.8	-1.8
KHET				*e*S	Sn	22 34 34.9	-12
KHET				AML	AML	22 34 43.9	
	comp=N,724nm,0.2s						
KHET				AML	AML	22 34 44.1	
	comp=E,871nm,0.1s						
KOLN	Koldanda	10.49	146	*e*P	Pn	22 33 32.7	-3.0
	comp=E,276nm,0.6s						
KOLN				*e*S	Sn	22 35 23.5	-7.9
GKN	Gorkha	10.79	141	*e*P	Pn	22 33 36.1	-3.6
MK01	Makanchi Array	10.81	20	*e*Pn	Pn	22 33 37.5	-2.2
MK01				*e*Sn	Sn	22 35 34.3	-4.4
MK31	Makanchi Array	10.83	20	P	Pn	22 33 38.7	-1.3
	comp=E,5.9nm,0.3s,baz=200,slow=12,SNR=483						
MK31				⇑S	Sn	22 35 33.9	-5.2
	comp=E,21nm,0.6s,baz=201,slow=24,SNR=8.0						
MK32	Makanchi Array	10.83	20	*e*Pn	Pn	22 33 38.6	-1.4
MK32				*e*Sn	Sn	22 35 33.1	-6.0
MKAR	Makanchi Array	10.83	20	Pn	Pn	22 33 38.6	-1.3
	comp=E,8.9nm,0.3s,baz=203,slow=12,SNR=243						
MKAR				Sn	Sn	22 35 33.1	-6.0
	comp=E,4.4nm,0.3s,baz=200,slow=21,SNR=6.6						
MKAR				LR	LR	22 37 48.3	
	comp=E,32nm,20.0s,baz=194,slow=37						
MKAR	Makanchi Array	10.83	20	P	Pn	22 33 38.7	-1.3
MKAR						22 35 33.1	
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
MKAR				smax	smax		
	comp=N,4.0nm,0.3s						
MKAR	Makanchi Array	10.83	20	*e*Pn	Pn	22 33 38.3	-1.7
MKAR				*e*Sn	Sn	22 35 33.8	-5.3
KKN	Kakani	11.29	139	*e*P	Pn	22 33 42.1	-4.5
	comp=N,82nm,0.5s						
DMN	Daman	11.35	141	*e*P	Pn	22 33 43.3	-4.1
	comp=N,81nm,0.4s						
GUN	Gumba	11.52	137	*e*P	Pn	22 33 46.0	-3.7
PKI	Pulchoki	11.54	140	*e*P	Pn	22 33 46.2	-3.7
JIRN	Jiri	11.88	137	*e*P	Pn	22 33 51.3	-3.3
	comp=N,247nm,0.4s						
OTUK	Ortayu	12.05	345	⇑P	Pn	22 33 54.5	-1.7
	comp=N,5.9nm,0.8s						
RAMN	Ramite	12.67	137	*e*P	Pn	22 34 00.5	-4.3
	comp=N,73nm,0.4s						
TAPN	Taplejung	12.99	133	*e*P	Pn	22 34 05.2	-3.9
	comp=N,50nm,0.4s						
ODAN	Odare	13.18	135	*e*P	Pn	22 34 07.3	-4.1
	comp=N,47nm,0.4s						
BHPL	Bhopal	13.41	178	*e*x	Pn	22 34 11.0	-3.4
BHPL				*e*S	Sn	22 36 29.2	-13
LSA	Lhasa	13.72	116	*e*P	Pn	22 34 17.7	-1.1
LSA	Lhasa	13.72	116	*e*Pn	Pn	22 34 17.7	-1.1
KURBB	Kurchatov Arra	13.97	4	⇑P	Pn	22 34 18.3	-3.0
	comp=N,9.3nm,0.8s						
KURBB	Kurchatov Arra	13.97	4	Pn	Pn	22 34 18.6	-2.6
	comp=N,0.2nm,0.3s,baz=191,slow=12,SNR=30						
KURK	Kurchatov	14.07	4	⇓P	Pn	22 34 19.7	-2.8
	comp=N,6.9nm,0.9s						
KURK	Kurchatov	14.07	4	*e*P	Pn	22 34 20.0	-2.5
KURK	Kurchatov	14.07	4	*e*Pn	Pn	22 34 20.0	-2.5
BVA0	Borovoye Array	16.98	346	P	Pn	22 34 57.6	-1.4
	comp=N,4.6nm,0.5s,baz=154,slow=12,SNR=78						
BVAR	Borovoye Array	16.98	346	P	Pn	22 34 57.9	-1.1
	comp=N,2.0nm,0.3s,baz=155,slow=12,SNR=32						
BVAR	Borovoye Array	16.98	346	P	Pn	22 34 57.9	-1.1
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BRVK	Borovoye	17.03	346	⇑P	Pn	22 34 58.4	-1.2
	comp=Z,11nm,0.6s						
BRVK	Borovoye	17.03	346	*c i*P	Pn	22 34 59.5	-0.1
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BRVK	Borovoye	17.03	346	*e*Pn	Pn	22 34 58.5	-1.2
	comp=Z,25nm,1.1s						
AB31	Akbulak array	17.66	321	⇑P	P	22 35 06.6	-0.1
	comp=Z,14nm,0.6s,baz=117,slow=15,SNR=172						
AB31				⇑S	Sn	22 38 15.5	-8.6
	comp=Z,5.0nm,0.8s,baz=126,slow=27,SNR=7.7						
ABKAR	Akbulak array	17.66	321	*e*P	P	22 35 06.0	-0.7
ABKAR				*e*Sn	Sn	22 38 09.9	-14
SRSP	Sriramsagar	17.74	176	*e*P	P	22 35 05.8	-2.0
SRSP				IAmb	IAmb	22 35 12.7	
	comp=Z,22nm,1.4s						
SRSP				*e*S	Sn	22 38 24.1	-2.1
RPR	Rampur	17.88	173	*e*Pn	P	22 35 08.4	-0.9
RPR				IAmb	IAmb	22 35 13.4	
	comp=Z,17nm,0.8s						
RPR				*e*S	S	22 38 28.1	-1.3
ZAA0	Zalesovo Array	18.09	15	*e*P	P	22 35 10.2	-1.1
ZALV	Zalesovo Beam	18.09	15	P	P	22 35 10.6	-0.7
	comp=Z,2.3nm,0.3s,baz=203,slow=12,SNR=34						
ZALV				LR	LR	22 42 40.0	
	comp=Z,26nm,18.8s,baz=70,slow=38						
ZALV	Zalesovo Beam	18.09	15	P	P	22 35 10.6	-0.7
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZALV				MLR	MLR		
	comp=Z,26nm,18.8s						
ZAA1	Zalesovo Array	18.09	15	*e*P	P	22 35 10.6	-0.8
GTA	Gaotai	18.15	74	⇑P	Pn	22 35 15.6	+2.2
GTA				S	S	22 38 33.3	-1.5
GTA				SS	SS	22 38 56.8	
GTA				PMZ			
	comp=Z,7.0nm,1.1s						
GTA				PMZ			
	comp=Z,48nm,5.2s						
GTA				LN			
	comp=Z,76nm,14.7s						
GTA				LE			
	comp=Z,78nm,12.8s						
GTA				LZ			
	comp=Z,45nm,15.2s						
KLRI	Killari	18.56	181	*e*Pn	P	22 35 17.5	+0.7
KLRI				IAmb	IAmb	22 35 21.3	
	comp=Z,17nm,0.6s						
KLRI				*e*S	S	22 38 42.8	-0.2
NVS	Novosibirsk	18.65	11	⇑*i*P	P	22 35 17.5	+0.1
NVS				*e*		22 38 34.4	

NVS pmax pmax
comp=N,19nm,1.1s
NVS pmax pmax
comp=Z,27nm,1.1s
NVS pmax pmax
comp=E,7.0nm,0.9s
CHLP Challavanipeta 19.15 159 *e*Pn **Pn** **22 35 24.9 -0.3**
CHLP IAmb IAmb 22 35 26.0
comp=Z,17nm,1.1s
CHLP *e*S **S** **22 38 55.2 +0.6**
HYBB Hyderabad (bro 19.25 176 *e*Pn **P** **22 35 25.4 +1.1**
HYBB IAmb IAmb 22 35 28.1
comp=Z,12nm,0.9s
HYBB *e*S **S** **22 38 57.8 +1.1**
HYB Hyderabad 19.25 176 *i* P **P** **22 35 25.0 +0.7**
AKTO Aktyubinsk 19.37 321 ⇓P **P** **22 35 25.5 +0.1**
comp=Z,17nm,0.6s
AKTO ⇓S **S** **22 38 53.0 -5.7**
comp=Z,6.5nm,0.9s
AKTO Aktyubinsk 19.37 321 P **P** **22 35 25.7 +0.2**
comp=Z,5.3nm,0.3s,baz=113,slow=11,SNR=61
PVM Polavaram 19.79 167 *e*Pn **P** **22 35 31.4 +1.2**
PVM IAmb IAmb 22 35 39.5
comp=Z,13nm,0.7s
PVM *e*S **S** **22 39 09.1 +1.7**
NJS Nagarjunasagar 20.16 174 *e*Pn **P** **22 35 35.2 +1.0**
NJS IAmb IAmb 22 35 37.7
comp=Z,17nm,0.6s
NJS *e*S **S** **22 39 15.7 +0.9**
SRLM Srisailam 20.58 175 *e*P **P** **22 35 38.8 +0.1**
SRLM IAmb IAmb 22 35 44.7
comp=Z,11nm,0.6s
SRLM *e*S **S** **22 39 23.2 +0.3**
RCLA Racherla 21.22 175 *e*P **P** **22 35 45.5 0.0**
RCLA IAmb IAmb 22 35 47.0
comp=Z,11nm,0.6s
RCLA *e*S **S** **22 39 36.6 +1.1**
LZH Lanzhou 21.58 84 *e*P P 22 35 57.1 +7.6
LZH pP pP 22 36 05.6 -4.1
LZH sP sP 22 36 09.2 -14
LZH pmax pmax
comp=Z,48nm,1.5s
LZH pmax pmax
comp=Z,240nm,5.0s
URV Uravakonda 21.66 179 *e*P **P** **22 35 50.4 +0.1**
URV IAmb IAmb 22 35 55.2
comp=Z,15nm,0.7s
CD2 Chengdu 22.91 97 *e*P **P** **22 36 02.3 -0.9**
CD2 pP **pP** **22 36 24.5 +0.5**
CD2 sP **sP** **22 36 38.9 +1.7**
CD2 PcP **PcP** **22 39 49.9 -0.1**
CD2 S **S** **22 40 03.9 -1.0**
CD2 sS **sS** **22 40 43.5 +0.8**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
SVE Sverdlovsk 22.94 337 *e*P **P** **22 36 03.9 +0.8**
SVE pmax pmax
comp=Z,11nm,0.5s
SKHT Srikalahasti 22.98 173 *e*P **P** **22 36 04.7 +0.9**
SKHT IAmb IAmb 22 36 11.6
comp=Z,18nm,1.3s
SKHT *e*S **S** **22 40 07.9 +1.9**
ZAK Zakamensk 23.29 46 *e*P **P** **22 36 08.0 +1.4**
ZAK pmax pmax
comp=Z,6.0nm,0.6s
ARU Arti 23.33 334*d* *i*P **P** **22 36 07.1 +0.4**
ARU **PP* **pP** **22 36 29.7 +1.5**
ARU 22 36 45.5
ARU PPP PPP 22 36 57.8
ARU S **S** **22 40 11.9 +0.9**
ARU SS **SnSn** **22 40 50.5 -7.7**
ARU pmax pmax
comp=Z,12nm,0.7s
ARU Arti 23.33 334 *e*P **P** **22 36 06.8 +0.1**
comp=Z,15nm,0.5s
SONA0 Songino Array 24.28 53 *e*P **P** **22 36 18.1 +2.6**
SONA0 *e*PcP **PcP** **22 39 54.1 +1.4**
SONM Songino Array 24.28 53 P **P** **22 36 18.1 +2.6**
comp=Z,11nm,0.8s,baz=253,slow=8.8,SNR=47
SONM PcP **PcP** **22 39 54.1 +1.4**
comp=Z,0.9nm,0.6s,baz=214,slow=3.0,SNR=3.8
SONM Songino Array 24.28 53 P **P** **22 36 18.1 +2.6**
SONM 22 39 54.1
SONM pmax pmax
comp=Z,11nm,0.8s
SONA1 Songino Array 24.29 53 *e*P **P** **22 36 17.5 +1.9**
GNI Garni 25.45 288 P **P** **22 36 27.9 +1.6**
comp=Z,1.8nm,0.5s,baz=186,slow=7.5,SNR=3.6
GNI Garni 25.45 288 *i* P **P** **22 36 28.3 +2.0**
GNI *i *PP* **pP** **22 36 51.7 +2.1**
GNI pmax pmax
comp=Z,12nm,1.5s
CM31 Chiang Mai Arr 26.49 127 *e*P **P** **22 36 34.6 -1.1**
CM31 *e*PcP **PcP** **22 40 00.2 +2.2**
CMAR Chiang Mai Arr 26.49 127 P **P** **22 36 34.6 -1.1**
comp=Z,2.5nm,0.3s,baz=308,slow=9.4,SNR=5.3
CMAR PcP **PcP** **22 40 00.2 +2.2**
comp=Z,0.8nm,0.4s,baz=303,slow=4.1,SNR=4.1
CMAR Chiang Mai Arr 26.49 127*ce*P **P** **22 36 36.4 +0.7**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
KIV Kislovodsk 27.02 296 *e*P **P** **22 36 40.3 0.0**
KIV pmax pmax
comp=Z,4.0nm,1.1s
HHC Hu-ho-hao-te 27.14 71 *e*P **P** **22 36 40.9 -0.6**
HHC S **S** **22 41 05.7 -6.4**
HHC PMZ
comp=Z,31nm,0.7s
HHC PMZ
comp=Z,82nm,3.9s
VSR Storozhevoye 30.50 310*c* *i*P **P** **22 37 10.7 -0.2**
VSR *i *PP* **pP** **22 37 36.1 +1.6**
VSR pmax pmax
comp=Z,11nm,0.8s
PRGR Permogore 31.75 332 P **P** **22 37 21.4 -0.4**
PRGR pmax pmax
comp=Z,6.0nm,0.5s
OBN Obninsk 33.03 317*c* *i*P **P** **22 37 33.3 +0.2**
OBN pmax pmax
comp=Z,17nm,1.0s
KLMR Klimovskoe 33.81 328 *e*P P 22 37 36.5 -3.2
KLMR *e* 22 38 55.1
KLMR pmax pmax
comp=Z,14nm,1.4s
BR101 Keskin Array S 33.98 289 *e*P **P** **22 37 42.5 +0.8**
BR101 *e*PcP **PcP** **22 40 17.7 +0.3**
BRTR Keskin Array B 33.98 289 P **P** **22 37 42.5 +0.8**
comp=Z,1.3nm,0.7s,baz=104,slow=9.0,SNR=9.3
BRTR PcP **PcP** **22 40 17.7 +0.3**
comp=Z,0.6nm,0.6s,baz=113,slow=5.8,SNR=3.6
BRTR Keskin Array B 33.98 289 P **P** **22 37 42.5 +0.8**
BRTR 22 40 17.7
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BR231 Keskin MP Arra 34.62 289 *e*P P 22 37 43.0 -4.1
AKASG Malin Array Be 36.63 308 P **P** **22 38 04.0 0.0**
comp=Z,3.7nm,0.5s,baz=75,slow=8.4,SNR=18
AKASG Malin Array Be 36.63 308 *i* P **P** **22 38 04.1 0.0**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKBB Malin Array Si 36.63 308 *e*P **P** **22 38 04.0 -0.1**
AKBB Malin Array Si 36.63 308 *e*P **P** **22 38 04.0 -0.1**
KIEV Kiev 36.64 308 *e*P **P** **22 38 04.0 -0.2**
KIEV pmax pmax
comp=Z,9.0nm,1.1s
KIEV Kiev 36.64 308 *e*P **P** **22 38 04.0 -0.2**
comp=Z,8.6nm,1.1s
CFR Carcaliu 37.40 299 ⇑P **P** **22 38 10.2 -0.5**
CFR Carcaliu 37.40 299 ⇑*i*P **P** **22 38 10.2 -0.5**
VRI Vrincioaia 38.34 300 ⇑P **P** **22 38 17.9 -0.7**
VRI Vrincioaia 38.34 300 ⇑*i*P **P** **22 38 17.9 -0.7**
TESR Tescani 38.34 301 ⇑*i*P **P** **22 38 18.9 +0.3**
PLOR Plostina 38.39 300 ⇓P **P** **22 38 20.3 +1.2**
PLOR Plostina 38.39 300 ⇓*i*P **P** **22 38 20.3 +1.2**
NACGM Naroch 38.50 315 *e* **P** **22 38 18.0 -1.8**
JMB Yambol 38.83 295 ⇓P **P** **22 38 24.5 +1.8**
JMB Yambol 38.83 295 ⇓*i*P **P** **22 38 24.5 +1.8**
MLR Muntele Rosu 38.91 299 ⇑P **P** **22 38 25.2 +1.6**
MLR Muntele Rosu 38.91 299 ⇑*i*P **P** **22 38 25.2 +1.6**
VSU Vasula 39.10 320*d* *i*P **P** **22 38 25.0 +0.3**
VSU *i *PP* **pP** **22 38 50.2 +1.3**
VSU pmax pmax
comp=Z,24nm,1.0s
LVZ Lovozero 39.16 336 *e*P **P** **22 38 25.1 -0.1**
LVZ pmax pmax
comp=Z,12nm,0.8s
LVZ Lovozero 39.16 336 *e*P **P** **22 38 25.1 -0.1**
comp=Z,12nm,0.8s
BUR04 Bucovina Ar. S 39.26 303 *e*P **P** **22 38 26.3 0.0**
DOPR Dopca 39.26 300 ⇑*i*P **P** **22 38 27.3 +1.0**
VOIR 39.55 299 ⇑P **P** **22 38 29.3 +0.5**
VOIR 39.55 299 ⇑*i*P **P** **22 38 29.3 +0.5**
ARR Arges 39.85 299 ⇓*i*P **P** **22 38 32.5 +1.3**
FIA0 FINESS Array S 40.08 325 *e*P **P** **22 38 33.4 +0.6**
FIA0 FINESS Array S 40.08 325 *e*P **P** **22 38 33.4 +0.6**
FINES FINESS Array B 40.08 325 P **P** **22 38 33.4 +0.6**
comp=Z,11nm,0.4s,baz=119,slow=9.8,SNR=231
FINES LR LR 22 55 32.9
comp=Z,52nm,18.8s,baz=248,slow=37
FINES FINESS Array B 40.08 325 P **P** **22 38 33.4 +0.6**
FINES pmax pmax
comp=Z,11nm,0.4s
FINES MLR MLR
comp=Z,52nm,18.8s
KS15 Wonju Array Si 40.19 73 *e*P **P** **22 38 35.2 +1.2**
KS15 *e*PcP **PcP** **22 40 37.2 +1.0**
KSRS Korea Array 40.21 73 P **P** **22 38 35.2 +1.1**
comp=Z,1.0nm,0.4s,baz=283,slow=7.5,SNR=7.4
KSRS PcP **PcP** **22 40 37.2 +1.0**
comp=Z,0.4nm,0.3s,baz=305,slow=4.5,SNR=4.3
KSRS Korea Array 40.21 73 P **P** **22 38 35.3 +1.1**
KSRS 22 40 37.2
KSRS pmax pmax
comp=Z,1.0nm,0.4s
LOT Lotru 40.44 300 ⇓*i*P **P** **22 38 37.7 +1.5**
KWP Kalwaria Pacla 40.81 306 *e*P **P** **22 38 40.0 +1.0**
KWP Kalwaria Pacla 40.81 306 *e*P **P** **22 38 40.0 +1.0**
DRGR 41.02 302 ⇑P **P** **22 38 41.8 +0.9**
DRGR 41.02 302 ⇑*i*P **P** **22 38 41.8 +0.9**
MMB Musomiste 41.08 294 ⇑P **P** **22 38 42.6 +1.2**
MMB Musomiste 41.08 294 ⇑*i*P **P** **22 38 42.6 +1.2**
KOLS Kolonicke sedl 41.13 305 *e*P **P** **22 38 42.0 +0.3**
KOLS Kolonicke sedl 41.13 305 *e*P **P** **22 38 42.0 +0.3**
GZR Gura Zlata 41.14 300 ⇑*i*P **P** **22 38 42.8 +0.9**
VTS Vitosha 41.27 295 ⇓P **P** **22 38 44.5 +1.4**
VTS Vitosha 41.27 295 ⇓*i*P **P** **22 38 44.5 +1.4**
STHS Stebnicka Huta 41.78 306 *e*P **P** **22 38 47.4 +0.5**
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 41.78 306 *e*P **P** **22 38 47.4 +0.5**
NIE Niedzica 42.38 306 *e*P **P** **22 38 53.6 +1.7**
NIE Niedzica 42.38 306 *e*P **P** **22 38 53.7 +1.8**
OJC Ojcow 42.65 307 *e*P **P** **22 38 55.0 +1.0**
OJC Ojcow 42.65 307 *e*P **P** **22 38 55.0 +1.0**
OJC Ojcow 42.65 307 *e*P **P** **22 38 54.2 +0.2**
comp=Z,6.3nm,0.6s
ARA0 ARCESS Array S 42.88 336 *e*P **P** **22 38 56.5 +0.9**
ARCES ARCESS Array B 42.88 336 P **P** **22 38 56.5 +0.9**
comp=Z,7.6nm,0.4s,baz=103,slow=8.3,SNR=82
ARCES ARCESS Array B 42.88 336 P **P** **22 38 56.5 +0.9**
ARCES pmax pmax
comp=Z,8.0nm,0.4s
DIVS Divibare 43.30 298 ⇓*i*P **P** **22 39 00.3 +0.8**
JNU Nakatsue 43.83 78 P **P** **22 39 04.6 +0.9**
comp=Z,5.5nm,0.8s,baz=295,slow=5.0,SNR=4.3
JNU Nakatsue 43.83 78 *e*P **P** **22 39 04.3 +0.5**
comp=Z,6.9nm,0.9s
GKP Gorka Klasztor 44.06 312 *e*P **P** **22 39 06.0 +0.8**
GKP Gorka Klasztor 44.06 312 *e*P **P** **22 39 06.0 +0.8**
KRLC Kraliky 44.60 307 *e*P **P** **22 39 10.0 +0.3**
KRLC Kraliky 44.60 307 *e*P **P** **22 39 10.0 +0.3**
KSP Ksiaz 44.83 308 *e*P **P** **22 39 12.1 +0.7**
KSP Ksiaz 44.83 308 *e*P **P** **22 39 12.1 +0.7**
DPC Dobruska-Polom 44.86 308 *e*P **P** **22 39 12.2 +0.4**
DPC *ex* x 22 39 17.9
DPC Dobruska-Polom 44.86 308 *e*P **P** **22 39 12.2 +0.4**
UPC Upice 45.04 308 *e*P **P** **22 39 14.1 +1.0**
UPC Upice 45.04 308 *e*P **P** **22 39 14.1 +1.0**
CONA Conrad Observa 45.49 304 ⇑*i*P **P** **22 39 17.9 +1.1**
comp=Z,7.0nm,0.9s
PRU Pruhonice 46.04 307 *e*P **P** **22 39 21.9 +0.9**
PRU Pruhonice 46.04 307 *e*P **P** **22 39 21.9 +0.9**
PERS Pernice 46.21 303 *i* P **P** **22 39 23.3 +0.8**
SOKA Soboth 46.26 303 ⇓*i*P **P** **22 39 23.9 +1.0**
comp=Z,8.4nm,1.0s
BRG Berggiesshubel 46.30 309 *i* P **P** **22 39 24.0 +0.9**
comp=Z,5.2nm,0.6s
VNDS Vrh nad Dolski 46.60 302 *i* P **P** **22 39 26.4 +0.9**
GEC2 GERESS Array S 46.76 306 *e*P **P** **22 39 27.9 +1.1**
GEC2 GERESS Array S 46.76 306 *e*P **P** **22 39 27.9 +1.1**
GERES GERESS Array B 46.76 306 P **P** **22 39 27.9 +1.1**
comp=Z,2.5nm,0.8s,baz=66,slow=6.4,SNR=16
GERES GERESS Array B 46.76 306 P **P** **22 39 27.9 +1.1**
GERES pmax pmax
comp=Z,3.0nm,0.8s
KHC Kasperske Hory 46.79 306 *e*P **P** **22 39 27.6 +0.7**
KHC Kasperske Hory 46.79 306 *e*P **P** **22 39 27.2 +0.3**
KHC pmax pmax
comp=Z,1.0nm,0.7s
KHC Kasperske Hory 46.79 306 *e*P **P** **22 39 27.2 +0.3**
comp=Z,1.2nm,0.7s
CLL Collm 46.83 309 ⇓*i*P **P** **22 39 27.6 +0.5**
comp=Z,5.0nm,0.7s
CLL Collm 46.83 309 ⇓*i*P **P** **22 39 27.6 +0.5**
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 46.83 309 *e*P **P** **22 39 27.3 +0.1**
comp=Z,6.0nm,0.7s
NB2 NORSAR Subarra 47.15 323 P **P** **22 39 29.5 0.0**
comp=Z,6.6nm,0.6s,baz=90,slow=7.9
NB200 NORSAR Array S 47.15 323 *e*P **P** **22 39 29.6 0.0**
NOA NORSAR Array B 47.15 323 P **P** **22 39 29.6 0.0**
comp=Z,6.3nm,0.6s,baz=91,slow=7.6,SNR=37
NOA NORSAR Array B 47.15 323 P **P** **22 39 29.6 0.0**
NOA pmax pmax
comp=Z,6.0nm,0.6s
CUC Castrocucco 47.29 294 *e*P **P** **22 39 31.6 +0.7**
comp=Z,8.1nm,0.7s
GRB3 Grafenberg Arr 47.90 307 *e*P **P** **22 39 37.4 +1.9**
comp=Z,5.0nm,0.9s
ABTA Abfaltersbach 47.95 303 ⇑*i*P **P** **22 39 36.4 +0.4**
comp=Z,2.9nm,0.7s
GRB5 Grafenberg Arr 48.02 307 *e*P **P** **22 39 38.0 +1.5**
comp=Z,8.0nm,0.9s
GRB4 Grafenberg Arr 48.03 307 *e*P **P** **22 39 38.3 +1.8**
comp=Z,8.0nm,0.9s
GRC3 Grafenberg Arr 48.13 306 *e*P **P** **22 39 38.5 +1.3**
comp=Z,3.0nm,0.9s
GRC4 Grafenberg Arr 48.13 307 *e*P **P** **22 39 38.6 +1.4**
comp=Z,7.0nm,0.9s
GRA2 Grafenberg Arr 48.13 307 *e*P **P** **22 39 39.0 +1.7**
comp=Z,5.0nm,0.8s
GRA3 Grafenberg Arr 48.14 307 *e*P **P** **22 39 39.1 +1.8**
comp=Z,7.0nm,0.8s
GRF Grafenberg Arr 48.21 307 *e*P **P** **22 39 39.7 +1.8**
comp=Z,12nm,1.4s
GRC2 Grafenberg Arr 48.27 306 *e*P **P** **22 39 39.5 +1.2**
comp=Z,6.0nm,1.0s
MAJO Matsushiro 48.34 71 *e*P **P** **22 39 40.5 +1.4**
MAJO pmax pmax
comp=Z,5.0nm,0.7s
MAJO Matsushiro 48.34 71 *e*P **P** **22 39 40.5 +1.4**
comp=Z,4.8nm,0.7s
MJAR Matsushiro Arr 48.34 71 P **P** **22 39 40.5 +1.4**
comp=Z,2.6nm,0.8s,baz=284,slow=10.0,SNR=10
MJAR Matsushiro Arr 48.34 71 P **P** **22 39 40.5 +1.4**
MJAR pmax pmax
comp=Z,3.0nm,0.8s
MOTA Moosalm 48.76 304 ⇑*i*P **P** **22 39 42.1 -0.2**
comp=Z,3.7nm,0.8s
DAVA Damuels 49.58 305 ⇑*i*P **P** **22 39 48.7 +0.1**
comp=Z,10nm,0.7s
BFO Black Forest 50.36 306*ce*P **P** **22 39 55.6 +1.4**
SENIN Lac Senin/Sane 51.53 304 *e*P **P** **22 40 02.9 -0.4**
KMBO Kilima Mbogo 52.70 234 P **P** **22 40 11.4 -0.9**
comp=Z,0.8nm,0.3s,baz=129,slow=14,SNR=2.8
KMBO Kilima Mbogo 52.70 234*ce*P P 22 40 15.6 +3.3
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 52.70 234 *e*P **P** **22 40 11.4 -0.9**
comp=Z,252nm,2.6s
KEST Kesra 53.54 291 P **P** **22 40 18.3 +0.3**
comp=Z,0.9nm,0.6s,baz=304,slow=4.3,SNR=5.6
KEST Kesra 53.54 291 *e*P **P** **22 40 18.2 +0.1**
ESDC Sonseca Array 61.61 300 P **P** **22 41 14.5 -0.1**
comp=Z,1.0nm,0.6s,baz=60,slow=6.6,SNR=11
SUMG Summit 62.41 342 *i* P **P** **22 41 20.6 +0.8**
comp=Z,9.1nm,0.9s
SUMG Summit 62.41 342 *i* P **P** **22 41 20.6 +0.8**
SUMG pmax pmax
comp=Z,9.0nm,0.9s
SUMG Summit 62.41 342 *e*P **P** **22 41 21.1 +1.3**
comp=Z,9.1nm,0.9s
COLD Coldfoot 70.40 18 *e*P **P** **22 42 10.7 +0.4**
comp=Z,6.0nm,0.8s
TOA0 Torodi Ar. Sit 70.56 272 *e*P **P** **22 42 11.7 -0.4**
TORD Torodi Ar. Bea 70.56 272 P **P** **22 42 11.7 -0.4**
comp=Z,5.6nm,0.6s,baz=47,slow=5.7,SNR=64
CAST Castle Rocks 72.87 21 *e*P **P** **22 42 26.5 +1.3**
comp=Z,6.5nm,0.9s
IL1 Eielson Array 73.18 18 *e*P **P** **22 42 27.2 +0.2**
ILAR Eielson Array 73.18 18 P **P** **22 42 27.2 +0.2**
comp=Z,2.1nm,0.8s,baz=315,slow=5.0,SNR=20
ILAR Eielson Array 73.18 18 P **P** **22 42 27.2 +0.2**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILB Eielson Array 73.18 18 *e*P **P** **22 42 27.2 +0.2**
DAWY Dawson 75.53 16 *e*P **P** **22 42 41.1 +0.5**
KDAK Kodiak Island 77.09 25*ce*P **P** **22 42 51.9 +2.4**
WRA Warramunga Arr 78.08 126 P **P** **22 42 54.8 -0.7**
comp=Z,2.3nm,0.9s,baz=324,slow=5.0,SNR=13
DBIC Dimbokro 79.55 271 P **P** **22 43 04.0 +0.3**
comp=Z,1.5nm,0.6s,baz=42,slow=7.5,SNR=5.6
DBIC Dimbokro 79.55 271 *e*P **P** **22 43 03.2 -0.5**
DBIC pmax pmax
comp=Z,39nm,1.5s
DBIC Dimbokro 79.55 271 *e*P **P** **22 43 03.1 -0.5**
comp=Z,39nm,1.5s
AS12 Alice Springs 80.49 129 *e*P **P** **22 43 09.8 +1.2**
ASAR Alice Springs 80.49 129 P **P** **22 43 09.8 +1.2**
comp=Z,1.9nm,0.9s,baz=322,slow=6.0,SNR=15
ASAR Alice Springs 80.49 129 P **P** **22 43 09.8 +1.2**
ASAR pmax pmax
comp=Z,2.0nm,0.9s
AS01 Alice Springs 80.52 129 *e*P **P** **22 43 09.0 +0.3**
YKA Yellowknife Ar 80.71 5 P **P** **22 43 09.8 +0.6**
comp=Z,4.7nm,0.6s,baz=344,slow=5.3,SNR=37
YKA Yellowknife Ar 80.71 5 P **P** **22 43 09.8 +0.6**
YKA pmax pmax
comp=Z,5.0nm,0.6s
SCHQ Schefferville 83.70 340 P **P** **22 43 25.4 +0.5**
comp=Z,0.8nm,0.4s,baz=352,slow=7.1,SNR=3.9
SCHQ Schefferville 83.70 340 *e*P **P** **22 43 24.9 0.0**
comp=Z,140nm,2.6s
LVC Limon Verde 147.43 286 PKPbc **PKPab** **22 50 42.1 -0.4**
comp=Z,23nm,0.7s,baz=337,slow=4.7,SNR=5.3

MEX 03 22:37:30.6±0.3, 17.92N×100.16W, h55km±4km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
ARIG	**Puente Sto Nin**	**0.40**	**334**	*e*P			Pn	22 37 39.7	-1.5
ARIG				*i* S			Sn	22 37 47.0	-1.8
MEIG	**Mezcala**	**0.52**	**89**	*e*P			Pn	22 37 41.0	-1.4
MEIG				*i* S			Sn	22 37 49.2	-1.8
PLIG	**Platanillo**	**0.79**	**53**	*i* P			Pn	22 37 44.4	-1.4
PLIG				*e*S			Sn	22 37 54.9	-2.0
ZIIG	**Zihuatanejo**	**1.28**	**256**	*i* P			Pn	22 37 51.4	-0.8
ZIIG				*i* S			Sn	22 38 05.8	-2.6
YAIG	**Yautepec**	**1.40**	**48**	*i* P			Pn	22 37 52.1	-1.9
YAIG				*e*S			Sn	22 38 09.3	-2.3

IDC 03 22:58:38.0±25.0, 19.29S×171.88W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/38, mbtmp4.0/4, Error ellipse: s-maj=477.6km s-min=155.4km az=74.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
CTA	**Charters Tower**	**39.35**	**262**	P			P	23 06 09.4	-0.1
	1.6nm,0.4s,baz=82,slow=7.1,SNR=3.2								
STKA	**Stephens Creek**	**43.49**	**244**	P			P	23 06 43.0	-0.4
	1.9nm,1.1s,baz=86,slow=14,SNR=2.2								
ASAR	**Alice Springs**	**50.40**	**255**	P			P	23 07 37.3	-0.3
	1.0nm,0.6s,baz=94,slow=8.2,SNR=11								
WRA	**Warramunga Arr**	**50.48**	**260**	P			P	23 07 38.5	+0.3
	0.7nm,0.3s,baz=97,slow=6.9,SNR=14								

*ISK **03** 23:04:53.6, 39.42N×28.85E, h10km, MD2.6*
*CSEM **03** 23:04:55.1±0.2, 39.52N×28.89E, h10km, MD2.6, Error ellipse: s-maj=4.6km s-min=3.1km az=27.0*
*DDA **03** 23:04:56, 39.44N×28.83E, h7km, MD2.8*
ISC 03 23:04:54.8±1.0, 39.45N±0.03×28.87E±0.02, h9km±10km, n20, σ0963/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
DST	**Dursunbey**	**0.25**	**308**	*e*PG			**Pg**	**23 04 59.1**	**-0.7**
DST				*e*SG			**Sg**	**23 05 03.4**	**+0.2**
DST	**Dursunbey**	**0.25**	**308**	*e*Pg			**Pg**	**23 04 59.2**	**-0.7**
DST				*e*Sg			**Sg**	**23 05 03.4**	**+0.2**
DURS	**Dursunbey**	**0.34**	**296**	*i* P			**Pg**	**23 05 01.7**	**+0.1**
DURS				*i* S			**Sg**	**23 05 06.8**	**+0.7**
DURS	**Dursunbey**	**0.34**	**296**	*i* P			**Pg**	**23 05 01.7**	**+0.1**
DURS				*i* S			**Sg**	**23 05 06.8**	**+0.7**
DEMI	**Demirci**	**0.42**	**196**	*i* P			**Pb**	**23 05 05.1**	**+0.6**
DEMI				*i* S			**Sb**	**23 05 11.6**	**+0.5**
DEMI	**Demirci**	**0.42**	**196**	*i* P			**Pb**	**23 05 05.1**	**+0.6**
DEMI				*i* S			**Sb**	**23 05 11.6**	**+0.5**
TVSB	**Tavsanli**	**0.46**	**90**	*e*PG			**Pg**	**23 05 03.3**	**-0.5**
TVSB				*e*SG			**Sg**	**23 05 10.7**	**+0.8**
TVSB	**Tavsanli**	**0.46**	**90**	*e*Pg			**Pg**	**23 05 03.3**	**-0.5**
TVSB				*e*Sg			**Sg**	**23 05 10.7**	**+0.8**
GDZ	**Gediz**	**0.60**	**127**	*i* P			**Pb**	**23 05 07.7**	**+0.2**
GDZ				*i* S			**Sb**	**23 05 16.1**	**0.0**
GDZ	**Gediz**	**0.60**	**127**	*i* P			**Pb**	**23 05 07.7**	**+0.2**
GDZ				*i* S			**Sb**	**23 05 16.1**	**0.0**
KULA	**Kula-Manisa**	**0.95**	**190**	*e*PG			**Pg**	**23 05 11.6**	**-1.5**
AKS	**Akhisar**	**1.00**	**235**	*e*PG			**Pg**	**23 05 12.7**	**-1.3**
BALY	**Balya**	**1.01**	**287**	*i* P			**Pn**	**23 05 15.7**	**+0.5**
BALY				*i* S			**Sb**	**23 05 28.1**	**+0.3**
BALY	**Balya**	**1.01**	**287**	*i* P			**Pn**	**23 05 15.7**	**+0.5**
BALY				*i* S			**Sb**	**23 05 28.1**	**+0.3**
GEMT	**Gemlik**	**1.01**	**14**	*e*PG			**Pg**	**23 05 14.0**	**-0.3**
GEMT	**Gemlik**	**1.01**	**14**	*e*Pg			**Pg**	**23 05 14.0**	**-0.3**
ARMT	**Armutlu**	**1.11**	**360**	*e*PN			**Pb**	**23 05 15.8**	**-0.5**
ARMT	**Armutlu**	**1.11**	**360**	*e*Pn			**Pb**	**23 05 15.8**	**-0.5**
KRBG	**Karabiga-Canak**	**1.53**	**308**	*e*PN			**Pn**	**23 05 21.7**	**-0.6**
KRBG	**Karabiga-Canak**	**1.53**	**308**	*e*Pn			**Pn**	**23 05 21.7**	**-0.6**

*ISCJB **03** 23:14:04.3±0.9, 37.85N±0.05×35.34E±0.04, h1km±9km, Error ellipse: s-maj=8.0km s-min=5.8km az=173.9*
*CSEM **03** 23:14:04.8±0.1, 37.85N×35.36E, h10km, MD2.7, Error ellipse: s-maj=2.6km s-min=2.4km az=17.0*
*ISK **03** 23:14:04.2, 37.84N×35.38E, h10km, MD2.7*
*DDA **03** 23:14:05.6, 37.83N×35.46E, h7km, MD2.8*
ISC 03 23:14:05.0±1.1, 37.84N±0.04×35.37E±0.03, h12km±11km, n16, σ0965/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
KOZT	**Kozan**	**0.51**	**134**	*e*PG			**Pg**	**23 14 14.5**	**-0.6**
KOZT				*e*SG			**Sg**	**23 14 21.9**	**0.0**
KOZT	**Kozan**	**0.51**	**134**	*e*Pg			**Pg**	**23 14 14.5**	**-0.6**
KOZT				*e*Sg			**Sg**	**23 14 21.9**	**0.0**
KARA	**Karaisali**	**0.63**	**203**	*e*PG			**Pg**	**23 14 17.1**	**-0.2**
KARA				*e*SG			**Sg**	**23 14 26.1**	**+0.4**
KARA	**Karaisali**	**0.63**	**203**	*e*Pg			**Pg**	**23 14 17.1**	**-0.2**
KARA				*e*Sg			**Sg**	**23 14 26.1**	**+0.4**
NIG	**Nigde**	**0.65**	**294**	*e*PG			**Pg**	**23 14 17.4**	**-0.4**
NIG	**Nigde**	**0.65**	**294**	*e*Pg			**Pg**	**23 14 17.4**	**-0.4**
ANDN	**Andirin**	**0.82**	**108**	*i* P			**Pg**	**23 14 20.2**	**-0.7**
ANDN				*i* S			**Sb**	**23 14 32.3**	**0.0**
PINB	**Pinarbasi**	**1.17**	**44**	*i* P			**Pb**	**23 14 27.4**	**+0.1**
PINB				*i* S			**Sn**	**23 14 43.2**	**-0.2**
PINB	**Pinarbasi**	**1.17**	**44**	*i* P			**Pb**	**23 14 27.4**	**+0.1**
PINB				*i* S			**Sn**	**23 14 43.2**	**-0.2**
MERS	**Mersin**	**1.18**	**215**	*e*PN			**Pb**	**23 14 27.4**	**0.0**
MERS	**Mersin**	**1.18**	**215**	*e*Pn			**Pb**	**23 14 27.4**	**0.0**
HCB	**Kahramanmara~**	**1.32**	**112**	*i* P			**Pn**	**23 14 29.3**	**-0.1**
HCB				*i* S			**Sg**	**23 14 50.1**	**+2.5**
SULT	**Sultanhani-AKS**	**1.50**	**284**	*e*PN			**Pn**	**23 14 32.0**	**+0.1**
SULT	**Sultanhani-AKS**	**1.50**	**284**	*e*Pn			**Pn**	**23 14 32.0**	**+0.1**
TAHT	**Tahtakopru-Hat**	**1.60**	**156**	*e*PN			**Pn**	**23 14 33.2**	**0.0**
TAHT	**Tahtakopru-Hat**	**1.60**	**156**	*e*Pn			**Pn**	**23 14 33.2**	**0.0**

LJU 03 23:20:40.1, 46.12N×13.50E, h0km, ML0.3, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROBS	Robic	0.12	3	i Pg	Pg	23 20 43.2	+0.7
ROBS				i Sg	Sg	23 20 44.1	0.0
	comp=Z,3.0nm,0.1s						
CADS	Cadrg	0.20	57	i Pg	Pg	23 20 43.7	-0.3

*NIED **03** 23:25:00, 38.40N×139.90E, h140km, Mw4.5 Best double couple: $M_0$6.17000×10^{15} NP1:ϕ_s57.00000°, δ16.00000°, λ154.00000°. NP2:ϕ_s172.00000°, δ83.00000°, λ76.00000°.*

*BJI **03** 23:25:12.8, 38.28N×140.15E, h134km, mb4.9/57, mB4.8/30*

*MOS **03** 23:25:16.3±1.0, 38.52N×139.90E, h141km, mb4.5/55, Error ellipse: s-maj=7.3km s-min=4.7km az=91.1*

*ISCJB **03** 23:25:17.4±0.2, 38.47N±0.03×139.93E±0.03, h153km±1km, mb4.4/120, Error ellipse: s-maj=4.9km s-min=2.6km az=146.8*

*NEIC **03** 23:25:17.8±0.4, 38.43N×139.89E, h145km±3km, mb4.5/71, MW4.5(NIED), Error ellipse: s-maj=4.3km s-min=2.7km az=148.0*

NEIC Recorded [1 JMA] in Iwate and Miyagi.

*JMA **03** 23:25:18.5±0.1, 38.44N×139.91E, h149km±1km, M4.4 Broadband fault plane solution: P waves. NP1: ϕ_s173.00000°, δ86.00000°, λ71.00000°. NP2:ϕ_s71.00000°, δ20.00000°, λ167.00000°. Principal axes: T Plg46.0000°, Azm63.0000°; N Plg19.0000°, Azm174.0000°; P Plg38.0000°, Azm280.0000°;*

JMA Felt I J1.

*IDC **03** 23:25:19.0±1.0, 38.44N×139.82E, h152km±9km, mb4.0/29, mb1 4.2/34, mb1mx4.1/44, mbtmp4.5/34, MS3.0/6, Ms1 3.0/6, ms1mx2.7/28 Error ellipse: s-maj=11.5km s-min=9.2km az=104.0*

ISC 03 23:25:17.8±0.4, **38.53N**±0.04×**139.88E**±0.04, **h142**km±2km, **h141km:pP-P, n406,** σ**1.32**/464, **mb4.5**/131, **31C-16D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYA	Atsumi	0.14	297	⇑P	Pn	23 25 38.8	+1.9
JYA				S	Sn	23 25 54.1	+2.7
JYS	Shirataka	0.34	154	P	Pn	23 25 38.9	+1.4
JYS				S	Sn	23 25 54.6	+2.2
JAW	Awa shima	0.50	262	⇑P	Pn	23 25 39.8	+1.7
JYK	Kaneyama	0.54	44	⇓P	Pn	23 25 40.2	+1.8
JYK				eS	Sn	23 25 56.5	+2.4
JOU	Okura	0.64	104	⇓P	Pn	23 25 40.3	+1.3
JOU				eS	Sn	23 25 57.1	+2.0
JNS	Sasagawa	0.83	212	⇑P	Pn	23 25 41.5	+1.1
JNS				eS	Sn	23 25 58.2	+0.7
JMM	Marumori	0.98	132	⇓P	Pn	23 25 42.1	+0.6
JMM				eS	Sn	23 25 59.9	+0.3
JRG	Rokugo	1.05	34	⇓P	Pn	23 25 44.2	+2.1
JRG				eS	Sn	23 26 04.0	+3.2
JFT	Otama	1.07	160	⇓P	Pn	23 25 43.0	+0.6
JFT				eS	Sn	23 26 01.8	+0.6
JFY	Yanaizu	1.13	187	⇑P	Pn	23 25 43.7	+0.7
JMK	Ichinoseki	1.13	68	⇓P	Pn	23 25 44.1	+1.2
JSD	Sado	1.36	249	⇑P	Pn	23 25 46.3	+1.1
JSD				eS	Sn	23 26 07.0	+0.8
JOM	Ohasama	1.45	49	⇓P	Pn	23 25 47.9	+1.8
JOM				eS	Sn	23 26 10.0	+2.1
JAG	Ashikaga	2.13	189	⇑P	Pn	23 25 54.3	+0.4
JANG	Nango	2.24	34	⇓P	Pn	23 25 57.0	+1.8
JANG				eS	Sn	23 26 26.3	+2.3
JSZ	Suzu	2.26	242	⇑P	Pn	23 25 56.5	+1.0
JSZ				eS	Sn	23 26 25.5	+1.1
MAJO	Matsushiro	2.38	214	c iP	Pn	23 25 57.9	+0.8
MAJO	Matsushiro	2.38	214	ePn	Pn	23 25 57.8	+0.7
MAJO				eSn	Sn	23 26 27.8	+0.4
MAT	Matsushiro	2.38	214	P	Pn	23 25 57.8	+0.7
MAT				eS	Sn	23 26 28.8	+1.5
MJAR	Matsushiro Arr	2.38	214	P	Pn	23 25 58.0	+0.9
	66nm,0.3s,baz=25,slow=11,SNR=1101						
MJAR				S	Sn	23 26 27.8	+0.5
	5.0nm,0.3s,baz=23,slow=23,SNR=4.9						
MJAR	Matsushiro Arr	2.38	214	P	Pn	23 25 58.0	+0.9
MJAR				S	Sn	23 26 27.8	+0.5
MJAR				pmax	pmax		
	comp=Z,66nm,0.3s						
MJAR				smax	smax		
	comp=N,5.0nm,0.3s						
ERM	Erimo	4.29	35	⇓iP	Pn	23 26 21.3	-0.3
ERM				pmax	pmax		
	comp=Z,46nm,0.6s						
ERM	Erimo	4.29	35	ePn	Pn	23 26 22.1	+0.6
ERM				eSn	Sn	23 27 08.5	-2.7
JHJ2	Mitsune	5.41	181	ePn	Pn	23 26 33.9	-2.5
JHJ2				eSn	Sn	23 27 33.2	-4.6
ASAJ	Asahikawa	5.95	19	P	Pn	23 26 43.4	-0.2
	comp=Z,19nm,0.3s,baz=237,slow=10,SNR=46						
ASAJ				S	Sn	23 27 47.2	-3.5
	comp=Z,6.0nm,0.3s,baz=347,slow=25,SNR=6.9						
ASAJ				LR	LR	23 29 45.2	
	comp=Z,309nm,20.7s,baz=178,slow=44						
ASAJ	Asahikawa	5.95	19	P	Pn	23 26 43.4	-0.2
ASAJ				S	Sn	23 27 47.2	-3.5
ASAJ				pmax	pmax		
	comp=Z,19nm,0.3s						
ASAJ				smax	smax		
	comp=N,6.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,309nm,20.7s						
ASAJ	Asahikawa	5.95	19	ePn	Pn	23 26 43.0	-0.5
ASAJ				eSn	Sn	23 27 46.6	-4.1
YUK	Yuzh-Kuril'sk	7.11	37	d iP	Pn	23 26 58.2	-0.9
YUK				i S	Sn	23 28 13.6	-5.0
YUK				pmax	pmax		
	comp=Z,116nm,0.5s						
YUK				pmax	pmax		
	comp=N,77nm,0.2s						
YUK				pmax	pmax		
	comp=E,40nm,0.2s						
YUK				MLR	MLR		
	comp=N,66nm,12.0s						
YUK				MLR	MLR		
	comp=E,54nm,12.0s						
KSULL	Ulleungdo	7.17	264	P	Pn	23 27 01.5	+1.5
	SNR=12						
USRK	Ussuriysk Ar.	8.20	316	P	Pn	23 27 15.4	+1.6
	comp=E,2.1nm,0.3s,baz=135,slow=13,SNR=52						
KSULJ	Uljin	8.51	261	P	Pn	23 27 20.2	+2.4
	SNR=7.7						
YSS	Yuzh-Sakhalins	8.68	13	eP	Pn	23 27 19.0	-1.2
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS	Yuzh-Sakhalins	8.68	13	ePn	Pn	23 27 19.5	-0.6
KSTBA	Taebaek	8.76	264	P	Pn	23 27 24.4	+3.1
	SNR=12						
KSJMJ	Jumunjin	8.78	269	P	Pn	23 27 23.6	+2.0
	SNR=8.0						
KSDGY	Daegwallycong	8.87	268	P	Pn	23 27 25.5	+2.6
	SNR=8.3						
KSSKC	Sokcho	8.92	272	P	Pn	23 27 25.0	+1.6
	SNR=7.3						
KUR	Kuril'sk	8.96	39	⇑iP	Pn	23 27 23.0	-0.9
KUR				i S	Sn	23 28 58.8	-4.4
KUR				pmax	pmax		
	comp=E,49nm,0.5s						
KUR				pmax	pmax		
	comp=Z,36nm,0.5s						
KUR				pmax	pmax		
	comp=N,53nm,0.2s						
KUR				smax	smax		
	comp=E,119nm,1.3s						
KUR				smax	smax		
	comp=N,337nm,2.6s						
JNU	Nakatsue	9.08	236	P	Pn	23 27 26.2	+0.5
	comp=N,1.2nm,0.3s,baz=51,slow=5.6,SNR=20						
JNU				LR	LR	23 31 04.6	
	comp=N,37nm,19.3s,baz=50,slow=38						
JNU	Nakatsue	9.08	236	ePn	Pn	23 27 26.7	+1.0
SEHB	SEOHWA	9.13	272	P	Pn	23 27 28.0	+1.7
	SNR=28						
SEHB	SEOHWA	9.13	272	P	Pn	23 27 28.0	+1.7
	SNR=28						
KSYOW	Yeongwol	9.13	265	P	Pn	23 27 29.8	+3.5
	SNR=5.3						
KSYOW	Yeongwol	9.13	265	P	Pn	23 27 29.8	+3.5
	SNR=5.3						
KSBUS	Busan	9.22	253	P	Pn	23 27 29.5	+2.0
	SNR=6.0						
KSBUS	Busan	9.22	253	P	Pn	23 27 29.5	+2.0
	SNR=6.0						
KSRS	Korea Array	9.50	267	P	Pn	23 27 33.4	+2.3
	comp=N,0.8nm,0.3s,baz=88,slow=13,SNR=46						
KSRS				LR	LR	23 30 44.3	
	comp=N,91nm,18.7s,baz=59,slow=34						
KSRS	Korea Array	9.50	267	P	Pn	23 27 33.4	+2.3
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,91nm,18.7s						
KS01	Wonju Array Si	9.52	267	ePn	Pn	23 27 31.7	+0.3
KS15	Wonju Array Si	9.53	267	ePn	Pn	23 27 33.4	+1.8
KSCHC	Chuncheon	9.53	269	P	Pn	23 27 34.0	+2.4
	SNR=9.5						
KSCHC	Chuncheon	9.53	269	P	Pn	23 27 34.0	+2.4
	SNR=9.5						
KSCHJ	Chungju	9.58	264	P	Pn	23 27 34.7	+2.5
	SNR=12						
KSCHJ	Chungju	9.58	264	P	Pn	23 27 34.7	+2.5
	SNR=12						
KSCWO	Cheorwon	9.73	271	P	Pn	23 27 36.4	+2.2
	SNR=7.9						
KSCWO	Cheorwon	9.73	271	P	Pn	23 27 36.4	+2.2
	SNR=7.9						
KSCPR	CHUPUNGNYEONG	9.75	260	P	Pn	23 27 37.2	+2.6
	SNR=6.9						
KSCPR	CHUPUNGNYEONG	9.75	260	P	Pn	23 27 37.1	+2.6
	SNR=5.8						
KSBON	Boeun	9.81	262	P	Pn	23 27 37.6	+2.3
	SNR=11						
KSBON	Boeun	9.81	262	P	Pn	23 27 37.6	+2.3
	SNR=11						
MDJ	Mudanjiang	9.81	312	P	Pn	23 27 41.2	+5.9
MDJ				PMZ			
	comp=Z,31nm,0.5s						
MDJ				PMZ			
	comp=Z,38nm,5.1s						
MDJ	Mudanjiang	9.81	312	ePn	Pn	23 27 37.3	+2.0
KSICN	Icheon	9.93	267	P	Pn	23 27 40.2	+3.4
	SNR=7.8						
KSICN	Icheon	9.93	267	P	Pn	23 27 40.2	+3.4
	SNR=7.8						
TJN	Taejon	10.18	262	⇑iP	Pn	23 27 42.7	+2.5
YNCB	YEONCHEON	10.20	271	P	Pn	23 27 42.5	+2.1
	SNR=10						
YNCB	YEONCHEON	10.20	271	P	Pn	23 27 42.5	+2.1
	SNR=10						
KSSWO	Suwon	10.28	267	P	Pn	23 27 44.5	+3.0
	SNR=8.6						
KSSWO	Suwon	10.28	267	P	Pn	23 27 44.5	+3.0
	SNR=8.6						
KSMUS	Musan	10.35	271	P	Pn	23 27 44.7	+2.3
	SNR=8.1						
KSMUS	Musan	10.35	271	P	Pn	23 27 44.7	+2.3
	SNR=8.1						
UGL	Uglegorsk	10.66	8	eP	Pn	23 27 45.4	-1.1
UGL				eS	Sn	23 29 42.2	-2.0
KSKWJ	Gwangju	10.86	256	P	Pn	23 27 51.4	+2.1
	SNR=8.7						
TYV	Tymovskoe	12.49	8	eP	Pn	23 28 10.0	-0.4
TYV				pmax	pmax		
	comp=E,22nm,1.0s						
TYV				pmax	pmax		
	comp=Z,26nm,1.0s						
JOW	Kunigami	15.20	223	P	P	23 28 46.0	-0.7
	comp=Z,0.2nm,0.3s,baz=9.5,slow=6.1,SNR=3.9						
JOW	Kunigami	15.20	223	ePn	Pn	23 28 43.6	-1.4
	comp=Z,102nm,1.5s						
SSE	Sheshan	17.03	250	P	Pn	23 29 07.8	+0.4
SSE				PMZ			
	comp=Z,130nm,1.0s						
SSE				PMZ			
	comp=Z,140nm,3.5s						
TIA	Tai'an	18.23	270	⇑P	P	23 29 19.9	-0.1
TIA				PMZ			
	comp=Z,100nm,0.9s						
NJ2	Nanjing	18.32	256	eP	Pn	23 29 22.6	-0.1
NJ2				PMZ			
	comp=Z,20nm,0.6s						
BJI	Beijing	18.40	282	P	P	23 29 21.0	-0.9
BJI				PMZ			
	comp=Z,87nm,0.8s						
BJT	Baijiatuau	18.41	282	eP	P	23 29 21.5	-0.5
BJT				pmax	pmax		
	comp=Z,74nm,0.5s						
BJT	Baijiatuau	18.41	282	eP	P	23 29 21.5	-0.5
	comp=Z,74nm,0.5s						
PEA0	Petropavlovsk-	19.07	34	eP	P	23 29 29.1	0.0
PETK	Petropavlovsk-	19.07	34	P	P	23 29 30.0	+0.9
	comp=Z,1.2nm,0.3s,baz=206,slow=9.9,SNR=14						
PETK	Petropavlovsk-	19.07	34	P	P	23 29 30.0	+0.9
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PEA2	Petropavlovsk-	19.08	34	eP	P	23 29 30.0	+0.9
HHC	Hu-ho-hao-te	21.87	285	eP	P	23 29 57.2	-2.1
HHC				pP	pP	23 30 23.9	-1.0
HHC				PP	PP	23 30 26.5	
HHC				sP	sP	23 30 41.3	-1.3
HHC				S	S	23 33 42.2	-9.4
HHC				PMZ			
	comp=Z,37nm,0.6s						
HHC				PMZ			
	comp=Z,73nm,4.2s						
YULB	Yu-li	21.88	232	eP	P	23 29 58.8	-0.6
	comp=Z,13nm,0.7s						
TPUB	Ta-pu	22.36	233	eP	P	23 30 02.4	-1.9
	comp=Z,506nm,2.4s						
TWG	Pinlang	22.44	231	eP	P	23 30 03.7	-1.3
	comp=Z,122nm,0.6s						
YAK	Yakutsk	24.36	348	eP	P	23 30 21.0	-1.2
YAK				pmax	pmax		
	comp=Z,16nm,0.8s						
XAN	Xi'an	25.29	269	P	P	23 30 30.7	-0.3
XAN				pP	pP	23 30 56.0	-4.9
XAN				PMZ			
	comp=Z,9.0nm,0.7s						
ULN	Ulaanbaatar	25.52	302	eP	P	23 30 33.4	+0.3
ULN				pmax	pmax		
	comp=Z,15nm,0.8s						
ULN	Ulaanbaatar	25.52	302	eP	P	23 30 33.4	+0.3
	comp=Z,15nm,0.8s						
SEY	Seymchan	25.59	13	P	P	23 30 35.2	+1.8
	comp=Z,4.0nm,0.4s,baz=204,slow=7.0,SNR=8.8						
SEY	Seymchan	25.59	13	⇑iP	P	23 30 35.6	+2.2
BOD	Bodaibo	25.62	327	eP	P	23 30 32.8	-0.9
BOD				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SONA1	Songino Array	25.95	302	eP	P	23 30 37.3	+0.3
SONA0	Songino Array	25.95	302	eP	P	23 30 36.6	-0.4
SONA0				eScP	ScP	23 37 27.2	-0.7
SONM	Songino Array	25.95	302	P	P	23 30 36.6	-0.4
	comp=Z,12nm,0.7s,baz=104,slow=9.9,SNR=24						
SONM				ScP	ScP	23 37 27.2	-0.7
	comp=Z,1.3nm,1.1s,baz=123,slow=5.5,SNR=5.8						
SONM				LR	LR	23 41 46.5	
	comp=Z,27nm,18.9s,baz=190,slow=38						
ENH	Enshi	26.30	261	eP	P	23 30 40.1	-0.1
	comp=Z,26nm,0.8s						
TLY	Talaya	28.44	309	P	P	23 30 58.5	-0.5
	comp=Z,3.2nm,0.6s,baz=204,slow=1.7,SNR=5.5						
TLY	Talaya	28.44	309	eP	P	23 30 58.7	-0.3
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LZH	Lanzhou	28.65	276	eP	P	23 31 03.1	+1.9
LZH				pP	pP	23 31 31.3	0.0
LZH				sP	sP	23 31 45.3	-2.4
LZH				PMZ			
	comp=Z,47nm,1.2s						
LZH				PMZ			
	comp=Z,170nm,4.8s						
GYA	Guiyang	30.33	257	eP	P	23 31 18.0	+1.9
GYA				pP	pP	23 31 48.8	+2.5
GYA				sP	sP	23 32 05.6	+3.0
GYA				PP	PnPn	23 32 22.0	+1.3
GYA				S	S	23 36 04.5	-1.5
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
CD2	Chengdu	30.50	267	eP	P	23 31 16.2	-1.3
CD2				pP	pP	23 31 46.7	-1.0
CD2				sP	sP	23 32 03.5	-0.5
CD2				PP	PP	23 32 27.5	-1.5
CD2				S	S	23 36 06.7	-1.7
CD2				sS	sS	23 37 01.0	-0.5
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
GTA	Gaotai	30.98	284	eP	P	23 31 21.6	-0.2
GTA				pP	pP	23 31 52.1	+0.1
GTA				sP	sP	23 32 07.7	-0.6
GTA				S	S	23 36 12.7	-3.4
GTA				sS	sS	23 37 05.7	-3.4
GTA				PMZ			
	comp=Z,6.0nm,1.2s						
GTA				PMZ			
	comp=Z,38nm,5.7s						
GTA				LN			
	comp=Z,64nm,18.5s						
GTA				LE			
	comp=Z,70nm,17.1s						
GTA				LZ			
	comp=Z,69nm,16.2s						
QIZ	Qiongzhong	32.50	242	P	P	23 31 34.2	-0.8
QIZ				S	S	23 36 40.8	+1.2
QIZ				PMZ			
	comp=Z,20nm,2.2s						
KMI	Kunming	34.03	258	⇓P	P	23 31 47.8	-0.8
KMI				pP	pP	23 32 20.3	+1.2
KMI				PMZ			
	comp=Z,23nm,0.9s						
CRAI	Chiangrai	38.60	253	P	P	23 32 24.4	-2.7
	comp=Z,23nm,0.7s						
WMQ	Urumqi	39.09	295	P	P	23 32 33.2	+2.1
WMQ				pP	pP	23 33 04.3	+2.1
WMQ				sP	sP	23 33 20.6	+2.3
WMQ				PP	PnPn	23 34 09.9	+2.4
WMQ				PcP	PcP	23 34 41.9	+4.0
WMQ				PMZ			
	comp=Z,27nm,1.0s						
WMQ				PMZ			
	comp=Z,45nm,4.8s						
WMQ				LN			
	comp=Z,120nm,8.3s						
WMQ				LE			
	comp=Z,71nm,7.2s						
WMQ				LZ			
	comp=Z,27nm,16.0s						
LOEI	Loei	39.62	249	P	P	23 32 33.9	-1.7
	comp=Z,58nm,0.8s						
CMAI	Chiengmai2	39.77	254	P	P	23 32 37.4	+0.3
	comp=Z,58nm,1.0s						
UTTA	Uttaradit	39.99	250	P	P	23 32 43.0	+4.4
	comp=Z,2.8nm,0.9s						
ZAA0	Zalesovo Array	40.01	311	eP	P	23 32 38.2	-0.2
ZAA0				eScP	ScP	23 38 14.7	-1.5
ZAA1	Zalesovo Array	40.01	311	eP	P	23 32 38.6	+0.2
ZAA1				eScP	ScP	23 38 14.8	-1.5
ZALV	Zalesovo Beam	40.01	311	P	P	23 32 38.6	+0.2
	comp=Z,9.3nm,0.6s,baz=88,slow=7.2,SNR=44						
ZALV				ScP	ScP	23 38 14.8	-1.5
	comp=Z,1.3nm,0.6s,baz=101,slow=3.3,SNR=6.2						
ZALV	Zalesovo Beam	40.01	311	i P	P	23 32 38.5	+0.1
ZALV				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CHAI	Chaiyaphum	40.14	246	P	P	23 32 40.4	+0.5
	comp=Z,4.8nm,0.8s						
LAMP	Lampang	40.19	252	P	P	23 32 41.8	+1.5
	comp=Z,5.0nm,0.7s,comp=Z,56nm						
CMMT	Chiang Mai	40.52	253	P	P	23 32 43.2	+0.1
	comp=Z,24nm,0.6s,comp=Z,374nm						
CHTO	Chiang Mai	40.52	253	P	P	23 32 43.3	+0.2
	comp=Z,81nm,0.6s,comp=Z,1µm						
CHTO	Chiang Mai	40.52	253	eP	P	23 32 42.3	-0.8
CHTO				pmax	pmax		
	comp=Z,14nm,0.6s						
CHTO	Chiang Mai	40.52	253	eP	P	23 32 42.3	-0.8
	comp=Z,14nm,0.6s						
CM31	Chiang Mai Arr	40.74	252	eP	P	23 32 45.2	+0.4
CMAR	Chiang Mai Arr	40.74	252	P	P	23 32 45.2	+0.4
	comp=Z,4.8nm,0.7s,baz=46,slow=5.7,SNR=29						
CMAR				LR	LR	23 50 33.8	
	comp=Z,14nm,19.9s,baz=185,slow=37						
CM01	Chiang Mai Arr	40.75	252	eP	P	23 32 44.7	-0.3
LSA	Lhasa	40.89	273	eP	P	23 32 47.2	+0.6
LSA				pmax	pmax		
	comp=Z,15nm,0.6s						
LSA	Lhasa	40.89	273	eP	P	23 32 47.2	+0.6
	comp=Z,15nm,0.6s						
NVS	Novosibirsk	40.93	312	⇑iP	P	23 32 45.9	-0.1
NVS				pmax	pmax		
	comp=N,3.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,17nm,1.0s						
NVS				pmax	pmax		
	comp=E,14nm,0.9s						
MHMT	Maesarieng	41.67	253	P	P	23 32 59.6	+7.2
MK01	Makanchi Array	42.30	300	eP	P	23 32 57.3	0.0
MK01				eScP	ScP	23 38 24.4	-1.1
MK32	Makanchi Array	42.30	300	eP	P	23 32 57.5	+0.2
MK32				eScP	ScP	23 38 24.6	-1.0
MKAR	Makanchi Array	42.30	300	P	P	23 32 57.5	+0.2
	comp=E,11nm,0.8s,baz=89,slow=9.5,SNR=44						
MKAR				ScP	ScP	23 38 24.6	-1.0
	comp=E,1.4nm,0.8s,baz=77,slow=5.2,SNR=9.2						
KURK	Kurchatov	44.06	307	eP	P	23 33 11.4	+0.1
KURK				pmax	pmax		
	comp=Z,110nm,1.0s						
KURK	Kurchatov	44.06	307	eP	P	23 33 11.4	+0.1
	comp=Z,110nm,1.0s						
TAPN	Taplejung	44.65	272	eP	P	23 33 17.1	+0.4
	comp=Z,24nm,0.5s						
ODAN	Odare	45.13	271	eP	P	23 33 20.9	+0.5
	comp=Z,54nm,0.6s						
JIRN	Jiri	45.70	273	eP	P	23 33 25.6	+0.6
	comp=Z,49nm,0.7s						
RAMN	Ramite	45.71	272	eP	P	23 33 25.4	+0.4
	comp=Z,95nm,0.8s						
GUN	Gumba	45.82	273	eP	P	23 33 26.4	+0.4
	comp=Z,67nm,0.4s						
IM04	Indian Mountai	45.99	31	eP	P	23 33 26.9	+0.6
KKN	Kakani	46.35	274	eP	P	23 33 30.3	+0.4
	comp=Z,64nm,0.6s						
PKI	Pulchoki	46.35	273	eP	P	23 33 30.1	0.0
	comp=Z,21nm,0.5s						
DMN	Daman	46.57	273	eP	P	23 33 31.9	+0.2
CAST	Castle Rocks	46.69	35	eP	P	23 33 32.7	+0.8
	comp=Z,5.9nm,0.7s						
GKN	Gorkha	46.75	274	eP	P	23 33 33.1	+0.1
	comp=Z,60nm,0.7s						
KDAK	Kodiak Island	46.82	43	eP	P	23 33 33.5	+0.7
KDAK				pmax	pmax		
	comp=Z,35nm,0.9s						
KDAK	Kodiak Island	46.82	43	eP	P	23 33 33.5	+0.7
	comp=Z,35nm,0.9s						
KTH	Kantishna Hill	47.20	35	eP	P	23 33 37.1	+1.2
	comp=Z,20nm,0.9s						
MLY	Manley	47.24	33	eP	P	23 33 37.6	+1.5
	comp=Z,9.8nm,0.8s						
COLD	Coldfoot	47.45	30	eP	P	23 33 39.1	+1.4
	comp=Z,5.3nm,0.7s						
TRF	Thorofare Moun	47.49	35	eP	P	23 33 39.3	+1.0
	comp=Z,6.8nm,0.7s						
KOLN	Koldanda	47.67	275	eP	P	23 33 40.7	+0.5
	comp=Z,35nm,0.5s						
BWN	Browne	47.82	34	eP	P	23 33 41.7	+1.2
	comp=Z,35nm,0.9s						
TKM2	Tokmak 2	47.86	297	P	P	23 33 42.6	+1.2
	SNR=6.1						
TKM2	Tokmak 2	47.86	297	eP	P	23 33 42.1	+0.6
TKM2				pmax	pmax		
	comp=Z,44nm,1.3s						
TKM2	Tokmak 2	47.86	297	eP	P	23 33 42.1	+0.6
	comp=Z,44nm,1.3s						
MCK	McKinley	48.08	34	eP	P	23 33 43.1	+0.5
MCK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MCK	McKinley	48.08	34	eP	P	23 33 43.1	+0.5
	comp=Z,9.2nm,0.9s						
RND	Reindeer	48.14	35	eP	P	23 33 42.4	-0.7
RND				pmax	pmax		
	comp=Z,10.0nm,0.8s						
RND	Reindeer	48.14	35	eP	P	23 33 42.4	-0.7
	comp=Z,10nm,0.8s						
MDM	Murphy Dome	48.31	33	eP	P	23 33 45.7	+1.4
	comp=Z,22nm,1.1s						
KZA	Kyzart	48.37	296	P	P	23 33 47.2	+1.6

SNR=9.4
KBK Karagaybulak 48.40 297 P P 23 33 46.4 +0.9
SNR=7.9
WRH Wood River Hil 48.40 33 eP P 23 33 45.8 +0.8
comp=Z,4.7nm,0.7s
CHMS Chumysh 48.43 297 P P 23 33 46.0 +0.4
SNR=5.8
CCB Clear Creek Bu 48.51 33 eP P 23 33 46.6 +0.8
comp=Z,3.3nm,0.8s
USP Ospenovka 48.52 298 P P 23 33 46.9 +0.6
SNR=6.6
KSH Kashi 48.70 292 P P 23 33 52.6 +4.8
KSH pP pP 23 34 23.1 +3.0
KSH PcP **PcP 23 35 15.1 +4.3**
KSH PP PP 23 35 47.3 +5.3
KSH PcS **PcS 23 39 10.7 +3.4**
KSH S **S 23 40 43.4 +3.9**
KSH sS sS 23 41 39.9 +4.5
KSH ScS **ScS 23 43 25.3 -0.5**
KSH PMZ
comp=Z,8.0nm,0.8s
KSH PMZ
comp=Z,100nm,4.9s
KSH LN
comp=Z,72nm,7.2s
KSH LE
comp=Z,110nm,5.7s
KSH LZ
comp=Z,92nm,5.0s
AAK Ala-Archa 48.72 297 P P 23 33 48.6 +0.5
SNR=9.4
AAK Ala-Archa 48.72 297 P P 23 33 48.5 +0.5
comp=Z,5.5nm,0.4s,baz=103,slow=4.9,SNR=23
AAK LR LR 23 54 31.6
comp=Z,25nm,18.0s,baz=100,slow=36
AAK Ala-Archa 48.72 297 P P 23 33 48.5 +0.5
AAK pmax pmax
comp=Z,6.0nm,0.4s
AAK MLR MLR
comp=Z,25nm,18.0s
AAK Ala-Archa 48.72 297 eP P 23 33 47.9 -0.1
comp=Z,6.6nm,0.8s
BRVK Borovoye 48.73 311 *d iP* **P 23 33 48.2 +0.6**
BRVK pmax pmax
comp=Z,16nm,0.9s
BRVK Borovoye 48.73 311 eP P 23 33 47.9 +0.3
comp=Z,20nm,1.0s
IL1 Eielson Array 48.90 33 eP P 23 33 49.3 +0.5
ILAR Eielson Array 48.90 33 P P 23 33 49.4 +0.6
comp=Z,6.8nm,0.7s,baz=275,slow=6.6,SNR=74
ILAR Eielson Array 48.90 33 P P 23 33 49.4 +0.6
ILAR pmax pmax
comp=Z,7.0nm,0.7s
ILB Eielson Array 48.90 33 eP P 23 33 49.4 +0.6
EKS2 Erkin-Say 49.21 297 P P 23 33 52.0 +0.2
SNR=14
EKS2 Erkin-Say 49.21 297 eP P 23 33 51.9 +0.2
EKS2 pmax pmax
comp=Z,9.0nm,0.6s
EKS2 Erkin-Say 49.21 297 eP P 23 33 51.9 +0.2
comp=Z,8.6nm,0.6s
AML Almayashu 49.44 296 P P 23 33 55.0 +1.2
SNR=19
BMRM Bremner River 50.42 38 eP P 23 34 01.1 +0.7
comp=Z,14nm,0.9s
EGAK Eagle 51.33 33 eP P 23 34 07.1 0.0
comp=Z,4.8nm,0.9s
KKAR Karatay Array 51.33 299 eP P 23 34 07.4 -0.1
KKAR Karatay Array 51.33 299 eP P 23 34 07.4 -0.1
PSI Prapat 51.55 237 P P 23 34 08.7 -0.9
comp=Z,3.1nm,0.4s,baz=112,slow=15,SNR=4.5
CHLP Challavanipeta 52.13 264 eP P 23 34 14.4 +0.7
CHLP IAmb IAmb 23 34 15.1
comp=Z,15nm,0.8s
SVE Sverdlovsk 53.22 318⇑ *eP* **P 23 34 22.2 +1.0**
SVE pmax pmax
comp=Z,40nm,1.0s
INK Inuvik 53.62 27 eP P 23 34 24.4 +0.6
INK Inuvik 53.62 27 eP P 23 34 24.4 +0.6
HYT Haines Junctio 53.83 37 eP P 23 34 26.9 +1.1
MDSI Maura Dua 54.07 226 P P 23 34 28.6 +0.8
comp=Z,25nm,0.7s
ARU Arti 54.44 318 *d iP* **P 23 34 30.3 +0.3**
ARU *PP **pP 23 35 03.2 +0.3**
ARU *SP **sP 23 35 15.3 -3.3**
ARU *e* 23 35 30.0
ARU 23 36 33.5
ARU S **S 23 41 58.9 +1.6**
ARU SS **SS 23 45 35.9 -5.2**
ARU pmax pmax
comp=Z,32nm,1.0s
ARU Arti 54.44 318 *eP* **P 23 34 30.1 +0.2**
comp=Z,37nm,1.1s
PVM Polavaram 54.75 264 eP P 23 34 32.9 +0.2
PVM IAmb IAmb 23 34 33.5
comp=Z,16nm,0.9s
RPR Rampur 55.66 267 eP P 23 34 39.0 -0.3
RPR IAmb IAmb 23 34 40.2
comp=Z,26nm,0.8s
KBL Kabul 55.76 289 eP P 23 34 39.6 -0.5
KBL pmax pmax
comp=Z,17nm,0.8s
KBL Kabul 55.76 289 eP P 23 34 39.6 -0.5
comp=Z,17nm,0.8s
ABKAR Akbulak array 56.05 309 eP P 23 34 41.8 +0.1
SRSP Sriramsagar 56.37 268 eP P 23 34 43.1 -1.2
SRSP IAmb IAmb 23 34 45.1
comp=Z,29nm,0.8s
NJS Nagarjunasagar 56.96 265 eP P 23 34 48.0 -0.5
NJS IAmb IAmb 23 34 49.7
comp=Z,34nm,1.6s
HYB Hyderabad 57.05 267⇑ *iP* **P 23 34 48.0 -1.2**
HYBB Hyderabad (bro 57.05 267 eP P 23 34 48.9 -0.3
HYBB IAmb IAmb 23 34 49.8
comp=Z,25nm,1.0s
SRLM Srisailam 57.54 265 eP P 23 34 51.9 -0.8
SRLM IAmb IAmb 23 34 58.5
comp=Z,44nm,1.6s
RCLA Racherla 57.87 264 eP P 23 34 54.5 -0.4
RCLA IAmb IAmb 23 34 55.7
comp=Z,15nm,0.7s
KLRI Killari 58.22 268 eP P 23 34 56.5 -0.9
KLRI IAmb IAmb 23 34 58.0
comp=Z,34nm,0.6s
SKHT Srikalahasti 58.29 262 eP P 23 34 58.1 +0.3
SKHT IAmb IAmb 23 34 59.2
comp=Z,11nm,0.8s
WRAB Tennant Creek 58.38 186 eP P 23 34 57.0 -1.3
WRAB pmax pmax
comp=Z,45nm,1.3s
WRAB Tennant Creek 58.38 186 eP P 23 34 57.0 -1.3
comp=Z,45nm,1.3s
WRA Warramunga Arr 58.39 186 P P 23 34 57.3 -1.0
comp=Z,2.6nm,0.5s,baz=3.8,slow=7.2,SNR=17
SPA0 Spitsbergen Ar 58.82 348 eP P 23 35 01.4 +0.7
SPITS Spitsbergen Ar 58.82 348 P P 23 35 01.4 +0.7
comp=Z,5.4nm,0.8s,baz=111,slow=7.9,SNR=3.2
SPITS Spitsbergen Ar 58.82 348 P P 23 35 01.4 +0.7
SPITS pmax pmax
comp=Z,5.0nm,0.8s
PRGR Permogore 58.85 326 P P 23 35 00.1 -0.9
PRGR pmax pmax
comp=Z,7.0nm,0.9s
URV Uravakonda 59.49 265 eP P 23 35 04.9 -1.3
RES Resolute Bay 61.46 14 eP P 23 35 18.7 +0.1
RES pmax pmax
comp=Z,9.0nm,0.9s
RES Resolute Bay 61.46 14 eP P 23 35 18.7 +0.1
comp=Z,8.7nm,0.9s
KLMR Klimovskoe 61.84 327 eP P 23 35 20.5 -0.9
KLMR pmax pmax
comp=Z,10.0nm,1.2s
AS01 Alice Springs 62.11 186 eP P 23 35 22.8 -0.9
AS01 *epP **pP 23 35 57.7 +0.3**
AS12 Alice Springs 62.12 186 eP P 23 35 22.9 -0.8
ASAR Alice Springs 62.12 186 P P 23 35 22.9 -0.8
comp=Z,1.9nm,0.8s,baz=14,slow=10,SNR=12
ASAR Alice Springs 62.12 186 P P 23 35 22.9 -0.8
ASAR pmax pmax
comp=Z,2.0nm,0.8s
ARA0 ARCESS Array S 62.17 339 eP P 23 35 24.1 +0.6
ARCES ARCESS Array B 62.17 339 P P 23 35 24.1 +0.6
comp=Z,1.4nm,0.5s,baz=63,slow=8.4,SNR=16
ARCES ARCESS Array B 62.17 339 P P 23 35 24.1 +0.6
ARCES pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 63.13 30 P P 23 35 30.3 +0.4
comp=Z,3.5nm,0.6s,baz=305,slow=6.7,SNR=24
YKA Yellowknife Ar 63.13 30 P P 23 35 30.3 +0.4
YKA pmax pmax
comp=Z,4.0nm,0.6s
YKB5 Yellowknife Ar 63.13 30 eP P 23 35 29.1 -0.8
OBN Obninsk 66.17 322⇑ *eP* **P 23 35 49.8 +0.1**
OBN pmax pmax
comp=Z,15nm,1.3s
FIA0 FINESS Array S 66.92 331 eP P 23 35 54.6 +0.2
FIA0 FINESS Array S 66.92 331 eP P 23 35 54.6 +0.2
FINES FINESS Array B 66.92 331 P P 23 35 54.6 +0.2
comp=Z,4.9nm,0.6s,baz=46,slow=7.8,SNR=23
FINES FINESS Array B 66.92 331 *i P* **P 23 35 54.5 +0.2**
FINES pmax pmax
comp=Z,5.0nm,0.6s
VSR Storozhevoye 67.01 318 *c iP* **P 23 35 55.1 0.0**
VSR pmax pmax
comp=Z,19nm,0.7s
VSU Vasula 68.55 329⇑ *iP* **P 23 36 05.2 +0.6**
VSU pmax pmax
comp=Z,32nm,1.3s
B08A Colville Reser 68.64 45 eP P 23 36 05.5 +0.1
comp=Z,4.9nm,0.7s
KBZ Khabaz 69.01 310 P P 23 36 08.4 +0.7
comp=Z,9.0nm,0.9s,baz=326,slow=24,SNR=15
KIV Kislovodsk 69.01 310 eP P 23 36 08.9 +1.0
KIV pmax pmax
comp=Z,31nm,1.1s
KIV Kislovodsk 69.01 310 eP P 23 36 08.2 +0.2
comp=Z,24nm,0.9s
SUMG Summit 69.19 359 eP P 23 36 08.3 -0.6
SUMG pmax pmax
comp=Z,74nm,2.8s
SUMG Summit 69.19 359 eP P 23 36 08.3 -0.6
comp=Z,74nm,2.8s
C09A Chrisman Ranch 69.54 45 eP P 23 36 11.1 +0.1
comp=Z,12nm,0.8s
GNI Garni 69.84 306⇑ *iP* **P 23 36 14.7 +1.5**
GNI pmax pmax
comp=Z,7.0nm,1.3s
STKA Stephens Creek 70.06 178 P P 23 36 13.4 -0.8
comp=Z,0.9nm,0.6s,baz=27,slow=4.9,SNR=4.2
STKA Stephens Creek 70.06 178 P P 23 36 13.4 -0.8
STKA pmax pmax
comp=Z,1.0nm,0.6s
STKA Stephens Creek 70.06 178 eP P 23 36 13.1 -1.1
comp=Z,7.6nm,2.1s
PINOR Pine Mountain 70.33 49 eP P 23 36 16.9 +1.1
comp=Z,8.3nm,0.8s
YBH Yreka Blue Hor 70.39 52 eP P 23 36 17.2 +0.8
YBH pmax pmax
comp=Z,7.0nm,1.0s
YBH Yreka Blue Hor 70.39 52 eP P 23 36 17.2 +0.8
comp=Z,6.9nm,1.0s
JTMT Jette 71.74 43 eP P 23 36 24.5 0.0
BMO Blue Mountains 71.80 47 eP P 23 36 25.4 +0.5
comp=Z,3.2nm,0.9s
HFS Hagfors 72.22 335 P P 23 36 26.8 -0.2
comp=Z,2.2nm,0.7s,baz=46,slow=6.4,SNR=15
HFS Hagfors 72.22 335 P P 23 36 26.8 -0.2
HFS pmax pmax
comp=Z,2.0nm,0.7s
NB2 NORSAR Subarra 72.34 336 P P 23 36 27.8 +0.1
comp=Z,1.7nm,0.7s,baz=40,slow=6.2
NB200 NORSAR Array S 72.34 336 eP P 23 36 28.1 +0.4
NOA NORSAR Array B 72.34 336 P P 23 36 28.1 +0.4
comp=Z,2.3nm,0.7s,baz=40,slow=5.9,SNR=13
NOA NORSAR Array B 72.34 336 P P 23 36 28.1 +0.4
NOA pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 72.37 321 P P 23 36 27.9 -0.1
comp=Z,4.0nm,0.4s,baz=46,slow=6.0,SNR=32
AKASG Malin Array Be 72.37 321 *i P* **P 23 36 27.8 -0.1**
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKBB Malin Array Si 72.37 321 eP P 23 36 27.9 -0.1
AKBB Malin Array Si 72.37 321 eP P 23 36 27.9 -0.1
WVOR Wild Horse Val 72.46 50 eP P 23 36 28.4 -0.5
WVOR pmax pmax
comp=Z,4.0nm,0.8s
WVOR Wild Horse Val 72.46 50 eP P 23 36 28.4 -0.5
comp=Z,3.7nm,0.8s
SLMT Seeley Lake 72.48 43 eP P 23 36 28.6 -0.4
FFC Flin Flon 73.10 32 eP P 23 36 32.5 +0.3
FFC pmax pmax
comp=Z,6.0nm,0.8s
FFC Flin Flon 73.10 32 eP P 23 36 32.5 +0.3
comp=Z,5.8nm,0.8s
FCC Fort Churchill 73.20 26 eP P 23 36 32.3 -0.4
FCC pmax pmax
comp=Z,5.0nm,0.5s
FCC Fort Churchill 73.20 26 eP P 23 36 32.3 -0.4
comp=Z,4.8nm,0.5s
MFID Camas Ranch 73.52 47 eP P 23 36 35.2 +0.1
comp=Z,3.9nm,0.8s
LRM Limekiln Ridge 73.92 44 eP P 23 36 37.3 -0.3
CMB Columbia Colle 73.99 54 eP P 23 36 37.4 -0.4
CMB pmax pmax
comp=Z,7.0nm,1.3s
CMB Columbia Colle 73.99 54 eP P 23 36 37.4 -0.4
comp=Z,7.5nm,1.3s
DLMT Dillon 74.13 44 eP P 23 36 39.1 +0.5
comp=Z,10.0nm,0.9s
HLID Hailey 74.24 47 eP P 23 36 39.6 +0.3
comp=Z,2.9nm,0.9s
BOZ Bozeman (W) 74.48 44 eP P 23 36 41.8 +1.1
BOZ pmax pmax
comp=Z,6.0nm,0.8s
BOZ Bozeman (W) 74.48 44 eP P 23 36 41.8 +1.1
comp=Z,5.9nm,0.8s
NV01 Mina Array Sit 75.06 53 eP P 23 36 44.0 -0.2
NVAR Mina Array Bea 75.06 53 P P 23 36 45.6 +1.5
comp=Z,4.9nm,0.7s,baz=295,slow=5.9,SNR=30
TPH Tonopah 75.95 52 eP P 23 36 49.7 +0.4
TPH pmax pmax
comp=Z,9.0nm,0.8s
TPH Tonopah 75.95 52 eP P 23 36 49.7 +0.4
comp=Z,8.7nm,0.8s
TLCR 76.16 317⇓ **P 23 36 50.5 +0.5**
KWP Kalwaria Pacla 76.21 323 eP P 23 36 51.6 +1.4
KWP Kalwaria Pacla 76.21 323 eP P 23 36 51.7 +1.5
HVU Hansel Valley 76.30 47 eP P 23 36 51.1 0.0
HVU pmax pmax
comp=Z,4.0nm,0.9s
HVU Hansel Valley 76.30 47 eP P 23 36 51.1 0.0
comp=Z,4.1nm,0.9s
BUR04 Bucovina Ar. S 76.39 321 eP P 23 36 51.3 -0.1
BURAR Bucovina Array 76.39 321⇑ **P 23 36 52.2 +0.8**
R11A Troy Canyon, C 76.79 51 eP P 23 36 54.5 +0.5
comp=Z,12nm,1.4s
VRI Vrincioaia 76.80 319⇑ **P 23 36 54.8 +1.1**
DAC Darwin (Calif) 76.82 54 eP P 23 36 53.9 -0.3
DAC pmax pmax
comp=Z,6.0nm,1.1s
DAC Darwin (Calif) 76.82 54 eP P 23 36 53.9 -0.3
comp=Z,5.7nm,1.1s
PLOR Plostina 76.85 319⇑ **P 23 36 54.3 +0.3**
KOLS Kolonicke sedl 76.90 323 eP P 23 36 53.0 -1.1
KOLS pmax pmax
comp=Z,2.0nm,0.8s
KOLS Kolonicke sedl 76.90 323 eP P 23 36 53.0 -1.1
BR101 Keskin Array S 76.95 311 eP P 23 36 55.1 +0.3
BRTR Keskin Array B 76.95 311 P P 23 36 55.1 +0.3
comp=Z,2.6nm,0.6s,baz=99,slow=3.6,SNR=23
BRTR Keskin Array B 76.95 311 *i P* **P 23 36 55.0 +0.3**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
TLB Topalu 76.97 317⇑ **P 23 36 55.3 +0.8**
STHS Stebnicka Huta 77.04 324 eP P 23 36 56.5 +1.6
STHS Stebnicka Huta 77.04 324 *e* **P 23 36 56.5 +1.6**
OJC Ojcow 77.12 325 eP P 23 36 56.1 +0.8
OJC Ojcow 77.12 325 eP P 23 36 55.8 +0.4
OJC pmax pmax
comp=Z,10.0nm,1.0s
OJC Ojcow 77.12 325 eP P 23 36 55.8 +0.4
comp=Z,10nm,1.0s
TPNV Topopah Spring 77.25 53 eP P 23 36 57.2 +0.6
TPNV pmax pmax
comp=Z,9.0nm,0.9s
TPNV Topopah Spring 77.25 53 eP P 23 36 57.2 +0.6
comp=Z,9.3nm,0.9s
DUG Dugway, Tooele 77.29 49 eP P 23 36 57.3 +0.6
DUG pmax pmax
comp=Z,8.0nm,1.1s
DUG Dugway, Tooele 77.29 49 *eP* **P 23 36 57.3 +0.6**
comp=Z,7.8nm,1.1s
BR231 Keskin MP Arra 77.39 311 eP P 23 36 55.6 -1.6
MLR Muntele Rosu 77.46 319 P P 23 36 57.7 +0.2
comp=Z,0.5nm,0.4s,baz=345,slow=13
MLR Muntele Rosu 77.46 319⇓ **P 23 36 58.1 +0.6**
NIE Niedzica 77.46 324 eP P 23 36 58.7 +1.4
NIE Niedzica 77.46 324 eP P 23 36 58.8 +1.4
NLU North Lily Min 77.88 48 eP P 23 36 59.8 -0.2
comp=Z,4.8nm,1.0s
GSC Goldstone, Bar 77.93 54 eP P 23 36 59.4 -0.8
GSC Goldstone, Bar 77.93 54 eP P 23 36 59.4 -0.8
DRGR 78.19 321⇑ **P 23 37 02.3 +0.9**
KSP Ksiaz 78.19 327 eP P 23 37 02.2 +0.9
KSP Ksiaz 78.19 327 eP P 23 37 02.2 +0.9
SHPR Sheep Range 78.21 53 eP P 23 37 01.8 -0.1
DPC Dobruska-Polom 78.55 327 eP P 23 37 04.7 +1.4
DPC *e**PCP **PcP 23 37 11.2 -0.7**
DPC Dobruska-Polom 78.55 327 eP P 23 37 04.7 +1.4
DPC *e* 23 37 11.2
KRLC Kraliky 78.55 327 eP P 23 37 04.1 +0.8
KRLC *e**PCP **PcP 23 37 10.9 -1.0**
KRLC Kraliky 78.55 327 eP P 23 37 04.1 +0.8
KRLC *e* 23 37 10.9
UPC Upice 78.56 327 eP P 23 37 04.2 +0.9
UPC Upice 78.56 327 eP P 23 37 04.2 +0.9
MVU Marysvale 78.73 50 eP P 23 37 03.5 -1.3
comp=Z,13nm,1.4s
MSU Marysvale 78.75 50 eP P 23 37 03.2 -1.7
MSU Marysvale 78.75 50 eP P 23 37 03.2 -1.7
RAYN Ar Rayn 78.97 291 eP P 23 37 05.6 -0.5
comp=Z,4.2nm,0.8s
GZR Gura Zlata 79.14 320⇑ **P 23 37 07.1 +0.5**
PVCC Panska Ves 79.15 328 eP P 23 37 06.9 +0.4
PVCC Panska Ves 79.15 328 eP P 23 37 06.9 +0.4
CLL Collm 79.19 329 eP P 23 37 07.0 +0.3
comp=Z,5.0nm,0.7s
CLL *e**PcP **PcP 23 37 14.0 -0.6**
CLL Collm 79.19 329 eP P 23 37 07.0 +0.3
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 79.19 329 eP P 23 37 06.3 -0.4
comp=Z,5.5nm,0.7s
VRAC Vranov 79.20 326 P P 23 37 08.0 +1.1
comp=Z,2.9nm,0.8s,baz=43,slow=7.1,SNR=4.9
VRAC Vranov 79.20 326 eP P 23 37 08.0 +1.1
PFO Pinyon Flats O 79.22 56 eP P 23 37 05.7 -1.7
PFO pmax pmax
comp=Z,118nm,2.8s
PFO Pinyon Flats O 79.22 56 eP P 23 37 05.7 -1.7
comp=Z,118nm,2.8s
KNB Kanab 79.33 51 eP P 23 37 07.8 -0.2
KNB pmax pmax
comp=Z,14nm,1.7s
KNB Kanab 79.33 51 eP P 23 37 07.8 -0.2
comp=Z,14nm,1.7s
SRU San Rafael Swe 79.34 48 eP P 23 37 07.3 -0.7
SRU pmax pmax
comp=Z,17nm,0.9s
SRU San Rafael Swe 79.34 48 eP P 23 37 07.2 -0.7
comp=Z,17nm,0.9s
GOPC GO Pecny, Ondr 79.53 327 eP P 23 37 08.4 -0.2
BZS Buzias 79.56 321⇑ **P 23 37 09.4 +0.6**
PRU Pruhonice 79.57 328 eP P 23 37 09.8 +1.0
PRU Pruhonice 79.57 328 eP P 23 37 09.8 +1.0
TREC Trest 79.69 327 eP P 23 37 10.5 +1.0
TREC Trest 79.69 327 eP P 23 37 10.5 +1.0
MPEP Malo Peshtene 80.08 318 eP P 23 37 12.3 +0.6
CONA Conrad Observa 80.56 326⇑ *iP* **P 23 37 15.8 +1.5**
comp=Z,6.9nm,1.2s
KHC Kasperske Hory 80.63 328 eP P 23 37 15.6 +1.0
KHC *e**PCP **PcP 23 37 19.6 -1.4**
KHC Kasperske Hory 80.63 328 eP P 23 37 15.0 +0.4
KHC pmax pmax
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 80.63 328 eP P 23 37 15.0 +0.4
comp=Z,1.7nm,0.8s
PV10 Paradox Valley 80.69 48 eP P 23 37 15.8 +0.4
GEC2 GERESS Array S 80.80 327 eP P 23 37 15.7 +0.2
GEC2 GERESS Array S 80.80 327 eP P 23 37 15.7 +0.2
GERES GERESS Array B 80.80 327 P P 23 37 15.7 +0.2
comp=Z,1.4nm,0.6s,baz=32,slow=5.3,SNR=11
GERES GERESS Array B 80.80 327 P P 23 37 15.7 +0.2
GERES pmax pmax
comp=Z,1.0nm,0.6s
PV05 Paradox Valley 80.86 48 eP P 23 37 16.1 -0.2
VTS Vitosha 80.89 318⇓ **P 23 37 17.3 +1.1**
VTS Vitosha 80.89 318 eP P 23 37 17.0 +0.8
GRA2 Grafenberg Arr 81.14 329 eP P 23 37 22.0 +4.8
comp=Z,14nm,1.5s
GRF Grafenberg Arr 81.17 329 eP P 23 37 21.4 +4.0
comp=Z,6.0nm,0.7s
WUAZ Wupatki 81.19 51 eP P 23 37 18.0 0.0
comp=Z,7.1nm,0.8s
EKA Eskdalemuir Ar 81.31 340 P P 23 37 18.6 +0.6
comp=Z,0.2nm,0.4s,baz=21,slow=6.1,SNR=3.0
MMB Musomiste 81.32 317 eP P 23 37 19.0 +0.6
SMCO Snowmass 81.34 46 eP P 23 37 18.8 -0.2
comp=Z,7.4nm,1.0s
KKB Krupnik 81.47 318 eP P 23 37 19.8 +0.7
GRC4 Grafenberg Arr 81.52 329 eP P 23 37 20.0 +0.8
comp=Z,5.0nm,1.0s
GRC3 Grafenberg Arr 81.65 328 eP P 23 37 20.7 +0.8
comp=Z,6.0nm,1.1s
SOKA Soboth 81.88 325⇑ *iP* **P 23 37 21.9 +0.7**
comp=Z,6.6nm,0.9s
GRG Griva 82.47 317 eP P 23 37 24.2 -0.2
EYMN Ely 82.53 32 eP P 23 37 24.0 -0.5
comp=Z,4.3nm,0.8s
ABTA Abfaltersbach 82.93 327⇑ *iP* **P 23 37 26.7 -0.1**
comp=Z,3.7nm,1.4s
BFO Black Forest 83.40 330 eP P 23 37 28.4 -0.6
BFO pmax pmax
comp=Z,5.0nm,1.0s
BFO Black Forest 83.40 330 eP P 23 37 28.4 -0.6
comp=Z,4.7nm,1.0s
FETA Feichten 83.47 328⇑ *iPcP* **P 23 37 30.3 +0.7**
comp=Z,3.1nm,0.8s
THL Klokotos Trika 83.67 317 eP P 23 37 29.1 -1.4
TUC Tucson 83.68 54 eP P 23 37 30.7 -0.1
TUC Tucson 83.68 54 eP P 23 37 30.7 -0.1
comp=Z,112nm,1.8s
FUORN Ofenpass-Fuorn 83.99 328 eP P 23 37 31.6 -0.7
comp=Z,6.5nm,0.9s
MAKR Makrakomi, Fth 84.00 316 eP P 23 37 30.9 -1.4
DAVOX Davos/Dischmat 84.02 328 P P 23 37 32.3 -0.1
comp=Z,2.6nm,0.7s,baz=151,slow=10,SNR=4.0
SCHQ Schefferville 84.23 15 P P 23 37 33.2 +0.2
comp=Z,3.1nm,0.8s,baz=285,slow=12,SNR=4.0
SCHQ Schefferville 84.23 15 eP P 23 37 32.9 -0.2
comp=Z,102nm,2.5s
JAN Janina 84.23 317 eP P 23 37 33.3 -0.1
EVR Evrytania 84.25 316 eP P 23 37 28.5 -5.1
ANMO Albuquerque 84.54 49⇑ *iP* **P 23 37 36.7 +1.4**
ANMO pmax pmax
comp=Z,21nm,1.3s
ANMO Albuquerque 84.54 49 eP P 23 37 35.1 -0.2
comp=Z,4.2nm,0.9s
IGT Igoumenitsa 84.60 317 eP P 23 37 35.1 -0.1
GUR Goura 84.66 315 eP P 23 37 35.1 -0.6
KLV Kalavryta, Ach 84.69 315 eP P 23 37 34.2 -1.6
PDO Prodromos 84.82 316 eP P 23 37 36.1 -0.2
LKD2 Lefkada island 84.96 317 eP P 23 37 36.8 -0.3
DRO Drossia 85.00 316 eP P 23 37 37.3 0.0
LTX Lajitas 90.16 51 eP P 23 38 03.2 +0.9
LTX Lajitas 90.16 51 eP P 23 38 03.1 +0.9
TX31 Lajitas Ar. Si 90.16 51 eP P 23 38 02.4 +0.2
TXAR Lajitas Array 90.16 51 P P 23 38 03.1 +0.9
comp=Z,2.2nm,0.8s,baz=291,slow=3.2,SNR=24
TXAR Lajitas Array 90.16 51 P P 23 38 03.2 +0.9
TXAR pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 146.92 56 PKPbc PKPbc 23 44 44.1 -0.6
comp=Z,3.2nm,0.7s,baz=325,slow=3.8,SNR=16
LPAZ La Paz 146.92 56 PKP2 PKPbc 23 44 44.1 -0.6
LPAZ pmax pmax
comp=Z,3.0nm,0.7s

IGQ 03 23:25:54±1.6, 1°48S×81°38W, h7^{km}±1^{km}, Mb4.1, 5C-1D,
Error ellipse: s-maj=8.9km s-min=6.5km az=21.5, Off
coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	Cerro-Chispas-	0.79	57	S	Sg	23 26 18.5	-0.9
CHIS	Cerro-Chispas-	0.79	57	P	Pg	23 26 08.2	-1.0
PECV	Mancha de Ca P	1.51	62	⇑P	Pn	23 26 17.1	-4.5
PECV	Mancha de Ca P	1.51	62	⇑S	Sn	23 26 33.2	-8.3
JAMA	Jama	1.69	44	P	Pb	23 26 24.9	-0.7
JAMA	Jama	1.69	44	S	Sn	23 26 43.3	-2.9
MAG1	Magdalena	2.13	49	P	Pn	23 26 31.0	+0.8
IGUA	Igualata	2.74	90	P	Pn	23 26 39.0	-0.3
PAST	Pastocalle	2.85	74	P	Pn	23 26 41.1	+0.6
CAMI	Rancho Maria	2.99	74	P	Pn	23 26 44.5	+2.0
BNAS	Cotopaxi Volca	3.01	75	⇓P	Pn	23 26 44.8	+1.9
BMOR	Cotopaxi Volca	3.02	76	P	Pn	23 26 44.3	+1.3
PISA	Pisayambo	3.03	82	P	Pn	23 26 43.6	+0.6
JUA2	San Juan 2	3.05	66	P	Pn	23 26 43.8	+0.4
BREF	Cotopaxi Volca	3.05	75	⇑P	Pn	23 26 45.9	+2.4
PINO	Pino	3.07	65	P	Pn	23 26 43.6	-0.2
GGP	Refugio Guagua	3.08	65	P	Pn	23 26 43.1	-0.8
BVC2	Cotopaxi Volca	3.08	75	⇑P	Pn	23 26 45.4	+1.5
PITA	Cotopaxi Volc	3.09	73	P	Pn	23 26 45.5	+1.7
BTAM	Cotopaxi Volca	3.09	75	P	Pn	23 26 45.7	+1.6
VC1	Cotopaxi 1	3.09	74	P	Pn	23 26 45.5	+1.5
TAMB	Tambo	3.12	75	P	Pn	23 26 46.6	+2.3
YANA	Yana	3.12	64	P	Pn	23 26 44.8	+0.5
COV1	Cotopaxi Volc	3.15	75	P	Pn	23 26 45.3	+0.4
MACE	Macas	3.27	104	P	Pn	23 26 46.7	+0.6
ANTI	Antisana	3.38	72	P	Pn	23 26 49.1	+1.1
OTAV	Otavalo	3.39	60	⇑P	Pn	23 26 48.2	+0.2
COTA	Cotacachi	3.54	59	P	Pn	23 26 52.0	+1.8
CAYR	Refugio Cayamb	3.69	66	P	Pn	23 26 55.5	+3.2
CAYA	Cayambe	3.73	66	P	Pn	23 26 55.2	+2.4

*IDC **03** 23:37:24.1±1.1, 66°.85N×13°.31E, h0km, mb1 3.2/5, mb1mx3.0/35, mbtmp3.2/5, ML2.4/5, Error ellipse: s-maj=15.9km s-min=7.6km az=112.0*
*CSEM **03** 23:37:25.6±0.2, 66°.71N×13°.48E, h5km, ML2.3, Error ellipse: s-maj=5.7km s-min=3.1km az=110.0*
*HEL **03** 23:37:26.0±0.1, 66°.72N×13°.48E, h5km, ML2.8, ML2.3(BER), ML2.1(UPP)*
*UPP **03** 23:37:26.1, 66°.67N×13°.53E, h0km, ML2.0*
*BER **03** 23:37:27.5±3.3, 66°.68N×13°.49E, h5km, MD2.2, ML2.3, ML2.5(NAO)*
*NAO **03** 23:37:27.1±1.6, 66°.70N×13°.84E, ML2.5*
ISC 03 23:37:25.1±1.1**, 66°.72N**±0°.02×**13°.62E**±0°.03**, h2**km±10km**, n118, σ1s.48**/166**, 12C, Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONS	Konsvik	0.30	222	⇑iP	Pg	23 37 31.0	+0.2
KONS				eS	Sg	23 37 34.2	-0.3
KONS	Konsvik	0.30	222	⇑iP	Pg	23 37 31.0	+0.2
KONS				i S	Sg	23 37 34.2	-0.3
KONS	Konsvik	0.30	222	⇑iP	Pg	23 37 31.0	+0.2
	SNR=101						
KONS				eS	Sg	23 37 34.2	-0.3
	SNR=101						
FLOS	Flostrand	0.40	195	⇑iP	Pg	23 37 32.9	+0.3
FLOS				eS	Sg	23 37 37.9	+0.1
FLOS				IAML		23 37 38.4	
	comp=Z,410nm,0.3s						
FLOS	Flostrand	0.40	195	⇑iP	Pg	23 37 32.9	+0.3
FLOS				i S	Sg	23 37 37.9	+0.1
FLOS				IAML		23 37 38.4	
	comp=Z,410nm,0.3s						
FLOS	Flostrand	0.40	195	⇑iP	Pg	23 37 32.9	+0.3
	SNR=97						
FLOS				eS	Sg	23 37 37.9	+0.1
	SNR=97						
STOK	Stokkvaagen	0.46	212	⇑iP	Pg	23 37 33.8	+0.1
STOK				eS	Sg	23 37 39.4	-0.3
STOK				IAML		23 37 40.1	
	comp=Z,303nm,0.2s						
STOK	Stokkvaagen	0.46	212	⇑iP	Pg	23 37 33.8	+0.1
STOK				i S	Sg	23 37 39.4	-0.3
STOK				IAML		23 37 40.1	
	comp=Z,303nm,0.2s						
STOK	Stokkvaagen	0.46	212	⇑iP	Pg	23 37 33.8	+0.1
	SNR=96						
STOK				S	Sg	23 37 39.3	-0.3
MOR8	Moi Rana	0.64	149	⇑iP	Pg	23 37 37.3	0.0
MOR8				IAML		23 37 46.9	
	comp=Z,229nm,0.1s						
MOR8				eS	Sg	23 37 46.9	+1.3
MOR8	Moi Rana	0.64	149	⇑iP	Pg	23 37 37.3	0.0
MOR8				IAML		23 37 46.9	
	comp=Z,229nm,0.1s						
MOR8				i S	Sg	23 37 46.9	+1.3
MOR8	Moi Rana	0.64	149	⇑iP	Pg	23 37 37.3	0.0
	SNR=94						
MOR8				eS	Sg	23 37 46.9	+1.3
	SNR=94						
STEI	Steigen	1.37	27	eP	Pb	23 37 51.9	+0.6
STEI				eS	Sn	23 38 12.0	+2.2
STEI				IAML		23 38 14.8	
	comp=Z,79nm,0.4s						
STEI	Steigen	1.37	27	eP	Pb	23 37 51.9	+0.6
STEI				eS	Sn	23 38 12.0	+2.2
STEI				IAML		23 38 14.8	
	comp=Z,79nm,0.4s						
STEI	Steigen	1.37	27	eP	Pb	23 37 51.9	+0.6
	SNR=50						
STEI				S	Sn	23 38 11.9	+2.2
LOF	Lofoten	1.42	359	eP	Pn	23 37 50.5	-1.2
LOF				eS	Sg	23 38 08.8	-1.7
LOF				IAML		23 38 16.3	
	comp=Z,36nm,0.3s						
LOF	Lofoten	1.42	359	eP	Pn	23 37 50.5	-1.2
LOF				eS	Sg	23 38 08.8	-1.7
LOF				IAML		23 38 16.3	
	comp=Z,36nm,0.3s						
LOF	Lofoten	1.42	359	eP	Pn	23 37 50.5	-1.2
	SNR=50						
LOF				S	Sg	23 38 08.8	-1.7
SALU	Saltoluokta	2.03	69	eP	Pb	23 38 02.2	-0.3
SALU	Saltoluokta	2.03	69	P	Pb	23 38 02.2	-0.3
SALU	Saltoluokta	2.03	69	P	Pb	23 38 02.2	-0.3
SALU	Saltoluokta	2.03	69	P	Pb	23 38 02.4	-0.2
NIKU	Nikkaluokta	2.40	59	eP	Pn	23 38 07.1	+1.8
NIKU	Nikkaluokta	2.40	59	P	Pn	23 38 07.0	+1.8
NIKU	Nikkaluokta	2.40	59	P	Pn	23 38 07.1	+1.8
NIKU	Nikkaluokta	2.40	59	P	Pb	23 38 07.7	-1.1
DUNU	Dundret	2.77	78	eP	Pn	23 38 12.2	+1.9
DUNU	Dundret	2.77	78	P	Pn	23 38 12.2	+1.9
DUNU	Dundret	2.77	78	P	Pn	23 38 12.2	+1.9
DUNU	Dundret	2.77	78	P	Pn	23 38 12.8	+2.5
KUA	Kurravaara	2.88	61	eP	Pn	23 38 13.3	+1.4
KUA	Kurravaara	2.88	61	P	Pn	23 38 13.2	+1.4
KUA	Kurravaara	2.88	61	P	Pn	23 38 13.3	+1.4
KUA	Kurravaara	2.88	61	P	Pn	23 38 13.2	+1.4
LILU	Lilltraesk	2.93	117	eP	Pn	23 38 14.1	+1.6
LILU	Lilltraesk	2.93	117	P	Pn	23 38 14.0	+1.6
LILU	Lilltraesk	2.93	117	P	Pn	23 38 14.1	+1.6
LILU	Lilltraesk	2.93	117	P	Pn	23 38 14.1	+1.6
HARU	Harads	3.01	97	eP	Pn	23 38 15.1	+1.5
HARU	Harads	3.01	97	P	Pn	23 38 15.0	+1.5
HARU	Harads	3.01	97	P	Pn	23 38 15.1	+1.5
HARU	Harads	3.01	97	P	Pn	23 38 15.2	+1.6
SVAU	Svanoeiden	3.33	129	eP	Pn	23 38 18.9	+0.8
SVAU	Svanoeiden	3.33	129	P	Pn	23 38 18.8	+0.8
SVAU	Svanoeiden	3.33	129	P	Pn	23 38 18.9	+0.8
MASU	Masugnsbyn	3.36	73	eP	Pn	23 38 21.1	+2.6
MASU	Masugnsbyn	3.36	73	P	Pn	23 38 21.0	+2.6
MASU	Masugnsbyn	3.36	73	P	Pn	23 38 21.1	+2.6
MASU	Masugnsbyn	3.36	73	P	Pn	23 38 21.1	+2.6
ERTU	Ertsjaerv	3.42	89	eP	Pn	23 38 20.8	+1.6
ERTU				eS	Sn	23 39 02.3	+2.0
ERTU	Ertsjaerv	3.42	89	P	Pn	23 38 20.8	+1.6
ERTU				S	Sn	23 39 02.3	+2.0
ERTU	Ertsjaerv	3.42	89	P	Pn	23 38 20.9	+1.6
ERTU				S	Sn	23 39 02.5	+2.1
ERTU	Ertsjaerv	3.42	89	P	Pn	23 38 20.6	+1.3
SJUU	Sjulsmark	3.47	107	P	Pn	23 38 21.2	+1.3
SJUU	Sjulsmark	3.47	107	P	Pn	23 38 21.2	+1.3
LANU	Lannavaara	3.50	64	eP	Pn	23 38 22.3	+1.9
LANU				eS	Sn	23 39 05.6	+3.3
LANU	Lannavaara	3.50	64	P	Pn	23 38 22.2	+1.9
LANU				S	Sn	23 39 05.6	+3.3
LANU	Lannavaara	3.50	64	P	Pn	23 38 22.6	+2.2
LANU	Lannavaara	3.50	64	P	Pn	23 38 22.6	+2.2
TRO	Tromso	3.54	32	eP	Pn	23 38 20.7	-0.1
TRO				eS	Sn	23 39 02.5	-0.5
TRO	Tromso	3.54	32	P	Pn	23 38 20.7	-0.1
TRO				S	Sn	23 39 02.5	-0.5
KIF	Kilpisjarvi	3.56	47	eP	Pn	23 38 23.6	+2.4
KIF				eS	Sn	23 39 06.2	+2.5
KIF	Kilpisjarvi	3.56	47	P	Pn	23 38 23.5	+2.4
KIF				S	Sn	23 39 06.1	+2.5
BURU	Burvik	3.86	120	eP	Pn	23 38 26.8	+1.5
BURU				eS	Sn	23 39 11.7	+0.5
BURU	Burvik	3.86	120	P	Pn	23 38 26.8	+1.5
BURU				S	Sn	23 39 11.7	+0.5
BURU	Burvik	3.86	120	P	Pn	23 38 26.8	+1.5
KALU	Kalix	4.03	98	eP	Pn	23 38 28.2	+0.7
KALU	Kalix	4.03	98	P	Pn	23 38 28.5	+1.0
KALU	Kalix	4.03	98	P	Pn	23 38 28.6	+1.0
UMAU	Umeaa	4.11	131	P	Pn	23 38 29.6	+0.9
UMAU				S	Sn	23 39 18.0	+0.8
UMAU	Umeaa	4.11	131	P	Pn	23 38 29.6	+0.9
UMAU				S	Sn	23 39 18.0	+0.8
KTK1	Kautokeino	4.30	53	eP	Pn	23 38 33.3	+1.8
KTK1				eS	Sn	23 39 22.6	+0.5
KTK1	Kautokeino	4.30	53	eP	Pn	23 38 33.3	+1.8
KTK1				eS	Sn	23 39 22.6	+0.5
KTK1	Kautokeino	4.30	53	P	Pn	23 38 33.2	+1.8
KTK1				eS	Sn	23 39 22.6	+0.5
	SNR=49						
SGF	Sodankyl	5.10	76	eP	Pn	23 38 43.6	+1.3
SGF	Sodankyl	5.10	76	P	Pn	23 38 43.6	+1.3
ARA0	ARCESS Array S	5.26	52	Pn	Pn	23 38 44.7	+0.1
	baz=235,slow=14						
ARA0				Sn	Sn	23 39 43.4	-2.3
	baz=238,slow=22						
ARA0				Lg	Lg	23 40 10.0	
	baz=238,slow=28						
ARA0	ARCESS Array S	5.26	52	Pn	Pn	23 38 44.7	+0.1
	baz=235,slow=14						
ARA0				Sn	Sn	23 39 43.4	-2.3
	baz=238,slow=22						
ARA0				Lg	Lg	23 40 10.0	
	baz=238,slow=28						
ARA0	ARCESS Array S	5.26	52	Pn	Pn	23 38 44.7	+0.1
	baz=235,slow=14						
ARA0				Sn	Sn	23 39 43.4	-2.3
	baz=238,slow=22						
ARA0				Lg	Lg	23 40 10.0	
	baz=238,slow=28						
ARA0	ARCESS Array S	5.26	52	eP	Pn	23 38 44.7	+0.1
ARA0				eS	Sn	23 39 43.4	-2.3
ARA0				eSG	Sg	23 40 10.0	-3.9
ARA0	ARCESS Array S	5.26	52	P	Pn	23 38 44.7	+0.1
ARA0				Sn	Sn	23 39 43.4	-2.3
	SNR=3.0						
ARA0				Lg	Lg	23 40 10.0	
	SNR=6.2						
ARCES	ARCESS Array B	5.26	52	Pn	Pn	23 38 44.8	+0.2
	comp=Z,0.1nm,0.3s,baz=241,slow=13,SNR=5.3						
ARCES				Sn	Sn	23 39 43.4	-2.3
	comp=Z,1.1nm,0.3s,baz=238,slow=21,SNR=8.8						
ARCES				Lg	Lg	23 40 10.1	
	comp=Z,1.4nm,0.3s,baz=238,slow=27,SNR=10						
ARE0	ARCESS Array S	5.26	52	eP	Pn	23 38 45.9	+1.3
ARE0	ARCESS Array S	5.26	52	P	Pn	23 38 45.8	+1.3
VAF	Ylistaro	5.34	130	eS	Sn	23 39 46.2	-1.3
VAF	Ylistaro	5.34	130	S	Sn	23 39 46.1	-1.3
NB2	NORSAR Subarra	5.80	192	Pn	Pn	23 38 52.6	+0.6
	baz=6.9,slow=14						
NB2	NORSAR Subarra	5.80	192	Pn	Pn	23 38 52.6	+0.6
	baz=6.9,slow=14						
NB2	NORSAR Subarra	5.80	192	Pn	Pn	23 38 52.6	+0.6
	baz=6.9,slow=14						
NB2	NORSAR Subarra	5.80	192	eP	Pn	23 38 52.6	+0.6
NB2	NORSAR Subarra	5.80	192	P	Pn	23 38 52.6	+0.6
NOA	NORSAR Array B	5.80	192	Pn	Pn	23 38 52.3	+0.3
	comp=Z,0.1nm,0.3s,baz=0.6,slow=13,SNR=3.6						
NOA				Sn	Sn	23 39 59.7	+0.7
	comp=Z,0.3nm,0.3s,baz=108,slow=4.3,SNR=2.7						
NOA				Lg	Lg	23 40 20.8	
	comp=Z,0.9nm,0.3s,baz=191,slow=18,SNR=5.8						
KEV	Kevo	5.83	52	eP	Pn	23 38 53.2	+0.9
KEV				MSN		23 40 00.5	
	comp=Z,1.6nm,0.3s						
KEV	Kevo	5.83	52	P	Pn	23 38 53.2	+0.9
MSF	Maaselka	6.27	90	eP	Pn	23 38 58.4	+0.1
MSF	Maaselka	6.27	90	P	Pn	23 38 58.4	+0.1
VRF	Varrio	6.29	73	eP	Pn	23 38 59.0	+0.3
VRF				MSN		23 40 14.0	
	comp=Z,2.7nm,0.2s						
VRF	Varrio	6.29	73	P	Pn	23 38 58.9	+0.3
KJN	Kajaani	6.45	108	eP	Pn	23 39 00.9	+0.1
KJN	Kajaani	6.45	108	P	Pn	23 39 00.9	+0.1
KU6	Riekki	6.58	89	eP	Pn	23 39 03.0	+0.3
KU6				MSN		23 40 16.1	
	comp=Z,2.7nm,0.4s						
KU6	Riekki	6.58	89	P	Pn	23 39 02.9	+0.3
HFS	Hagfors	6.61	180	Pn	Pn	23 39 04.5	+1.4
	baz=10.0,slow=12						
HFS				Sn	Sn	23 40 17.5	-1.4
	baz=14,slow=28						
HFS				Lg	Lg	23 40 51.0	
	baz=357,slow=28						
HFS	Hagfors	6.61	180	Pn	Pn	23 39 04.5	+1.4
	baz=10.0,slow=12						
HFS				Sn	Sn	23 40 17.5	-1.4
	baz=14,slow=28						
HFS				Lg	Lg	23 40 51.0	
	baz=357,slow=28						
HFS	Hagfors	6.61	180	Pn	Pn	23 39 04.5	+1.4
	baz=10.0,slow=12						
HFS				Sn	Sn	23 40 17.5	-1.4
	baz=14,slow=28						
HFS				Lg	Lg	23 40 51.0	
	baz=357,slow=28						
HFS	Hagfors	6.61	180	Pn	Pn	23 39 03.1	0.0
	comp=Z,0.1nm,0.3s,baz=16,slow=13,SNR=4.6						
HFS				Sn	Sn	23 40 17.6	-1.4
	comp=Z,0.2nm,0.3s,baz=359,slow=23,SNR=3.5						
HFS				Lg	Lg	23 40 50.8	
	comp=Z,0.6nm,0.3s,baz=359,slow=30,SNR=6.5						
HFS	Hagfors	6.61	180	eP	Pn	23 39 04.5	+1.4
HFS				eS	Sn	23 40 17.5	-1.4
HFS				eSG	Sg	23 40 51.0	-6.1
HFS	Hagfors	6.61	180	P	Pn	23 39 04.4	+1.4
HFS				S	Sn	23 40 17.5	-1.4
SUF	Sumiainen	6.70	121	MSN		23 40 21.0	
	comp=Z,3.7nm,0.2s						
KAF	Kangasniemi	7.17	124	MSN		23 40 34.1	
	comp=Z,1.6nm,0.3s						
FIA0	FINESS Array S	7.59	128	Pn	Pn	23 39 16.6	+0.1
	baz=308,slow=11						
FIA0				Sn	Sn	23 40 39.9	-3.1
	baz=319,slow=22						
FIA0				Lg	Lg	23 41 21.9	
	baz=322,slow=28						
FIA0	FINESS Array S	7.59	128	Pn	Pn	23 39 16.6	+0.1
	baz=308,slow=11						
FIA0				Sn	Sn	23 40 39.9	-3.1
	baz=319,slow=22						
FIA0				Lg	Lg	23 41 21.9	
	baz=322,slow=28						
FIA0	FINESS Array S	7.59	128	Pn	Pn	23 39 16.6	+0.1
	baz=308,slow=11						
FIA0				Sn	Sn	23 40 39.9	-3.1
	baz=319,slow=22						
FIA0				Lg	Lg	23 41 21.9	
	baz=322,slow=28						
FIA0	FINESS Array S	7.59	128	MSN		23 40 47.3	
	comp=Z,1.2nm,0.4s						
FIA0	FINESS Array S	7.59	128	Pn	Pn	23 39 16.6	+0.1
	SNR=50						
FINES	FINESS Array B	7.59	128	Pn	Pn	23 39 16.4	-0.1
	comp=Z,0.1nm,0.3s,baz=313,slow=11,SNR=6.4						
FINES				Sn	Sn	23 40 39.6	-3.4
	comp=Z,0.2nm,0.3s,baz=332,slow=20,SNR=4.2						
FINES				Lg	Lg	23 41 22.2	
	comp=Z,0.7nm,0.3s,baz=322,slow=24,SNR=6.1						
JOF	Joensuu	8.44	109	eP	Pn	23 39 26.6	-1.5
SPITS	Spitsbergen Ar	11.55	3	Pn	Pn	23 40 03.4	-7.2
	baz=154,slow=14,SNR=3.0						

*ATH **04** 00:18:01.1, 36°.02N×21°.47E, h11km±2km, MD3.7/23, ML3.2*
*CSEM **04** 00:18:04.0±0.4, 36°.16N×21°.63E, h2km, ML3.1, Error ellipse: s-maj=8.3km s-min=5.0km az=39.0*
*THE **04** 00:18:08.0, 36°.34N×21°.85E, h0km±1km, ML3.1/9, Error ellipse: s-maj=2.5km s-min=1.0km az=206.0*
ISC 04 00:18:02.5±1.8**, 36°.14N**±0°.06×**21°.56E**±0°.05**, h0**km±10km**, n113, σ1s.30**/138**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.77	11	P	Pg	00 18 18.2	+1.0
PYL				S	Sg	00 18 27.3	+0.1
PYL	PYLOS	0.77	11	ePB	Pg	00 18 18.2	+1.0
PYL				eSB	Sn	00 18 31.3	-1.6
PYL	PYLOS	0.77	11	ePb	Pg	00 18 18.2	+1.0
PYL				eSb	Sn	00 18 31.3	-1.6
ITM	Ithomi	1.08	16	P	Pg	00 18 24.0	+0.8
ITM				S	Sg	00 18 35.7	-1.5
ITM	Ithomi	1.08	16	ePN	Pg	00 18 23.5	+0.3
ITM				eSG	Sn	00 18 39.8	-0.7
ITM	Ithomi	1.08	16	ePg	Pg	00 18 23.5	+0.3
ITM	Ithomi	1.08	16	P	Pg	00 18 24.0	+0.8
ITM				eSg	Sn	00 18 39.8	-0.7
SFD	Strofades	1.20	339	ePB	Pg	00 18 26.0	+0.6
SFD	Strofades	1.20	339	ePb	Pg	00 18 26.0	+0.6
KYTH	Kithira	1.20	83	P	Pg	00 18 26.0	+0.5
KYTH	Kithira	1.20	83	ePB	Pg	00 18 26.0	+0.5
KYTH	Kithira	1.20	83	P	Pg	00 18 26.0	+0.5
VLI	Veliai	1.25	62	P	Pg	00 18 26.5	+0.1
VLI				S	Sg	00 18 39.5	-3.1
VLI	Veliai	1.25	62	ePN	Pg	00 18 26.2	-0.2
VLI				eSB	Sn	00 18 46.3	+1.6
VLI	Veliai	1.25	62	ePn	Pg	00 18 26.2	-0.2
VLI	Veliai	1.25	62	P	Pg	00 18 26.5	+0.1
VLI				eSb	Sn	00 18 46.3	+1.6
VLX	Vlachokerasia	1.39	28	P	Pg	00 18 29.0	-0.2
VLX				S	Sg	00 18 46.1	-1.2
VLX	Vlachokerasia	1.39	28	ePG	Pg	00 18 29.1	-0.2
VLX	Vlachokerasia	1.39	28	P	Pg	00 18 29.0	-0.2
VLX				S	Sg	00 18 46.1	-1.2
AMT	Artemida-Makis	1.40	5	P	Pb	00 18 30.1	+0.7
AMT	Artemida-Makis	1.40	5	ePB	Pg	00 18 29.5	+0.3
AMT	Artemida-Makis	1.40	5	ePb	Pg	00 18 29.5	+0.3
AMT	Artemida-Makis	1.40	5	P	Pb	00 18 30.1	+0.7
DRO	Drossia	1.81	4	P	Pb	00 18 36.7	+0.1
DRO				S	Sg	00 19 00.3	-0.5
DRO	Drossia	1.81	4	ePN	Pn	00 18 36.4	+1.4
DRO	Drossia	1.81	4	ePn	Pn	00 18 36.4	+1.4
DRO	Drossia	1.81	4	P	Pb	00 18 36.7	+0.1
DRO				S	Sg	00 19 00.3	-0.5
GUR	Goura	1.90	19	P	Pn	00 18 37.6	+1.4
GUR				S	Sn	00 18 59.9	-1.0
GUR	Goura	1.90	19	ePG	Pb	00 18 38.1	0.0
GUR	Goura	1.90	19	P	Pn	00 18 37.6	+1.4
GUR	Goura	1.90	19	ePg	Pb	00 18 38.1	0.0
GUR				S	Sn	00 18 59.9	-1.0
DID	Didima	1.92	44	P	Pn	00 18 37.3	+1.0
DID				S	Sn	00 18 59.8	-1.4
DID	Didima	1.92	44	ePN	Pn	00 18 37.3	+1.0
DID	Didima	1.92	44	P	Pn	00 18 37.3	+1.0
DID				S	Sn	00 18 59.8	-1.4
RLS	Riolos of Patr	1.92	358	P	Pb	00 18 38.4	+0.1
RLS				S	Sb	00 19 02.7	-0.1
RLS	Riolos of Patr	1.92	358	ePN	Pn	00 18 37.8	+1.5
RLS	Riolos of Patr	1.92	358	ePn	Pn	00 18 37.8	+1.5
RLS	Riolos of Patr	1.92	358	P	Pb	00 18 38.4	+0.1
RLS				S	Sb	00 19 02.7	-0.1
KLV	Kalavryta, Ach	1.96	14	P	Pn	00 18 38.5	+1.5
KLV				S	Sn	00 19 02.3	0.0
KLV	Kalavryta, Ach	1.96	14	ePN	Pn	00 18 38.6	+1.5
KLV	Kalavryta, Ach	1.96	14	P	Pn	00 18 38.5	+1.5
KLV				S	Sn	00 19 02.3	0.0
VLS	Valsamata	2.18	339	ePB	Pn	00 18 40.0	0.0
VLS	Valsamata	2.18	339	ePb	Pn	00 18 40.0	0.0
LTK	Loutraki	2.19	30	ePN	Pn	00 18 41.2	+1.1
LTK	Loutraki	2.19	30	ePn	Pn	00 18 41.2	+1.1
VAM	Vamos	2.26	108	ePN	Pn	00 18 41.5	+0.4
VAM	Vamos	2.26	108	ePn	Pn	00 18 41.5	+0.4
KALE	Kalithea	2.30	11	P	Pn	00 18 43.6	+1.9
KALE				S	Sn	00 19 10.7	+0.1
KALE	Kalithea	2.30	11	ePN	Pn	00 18 43.5	+1.9
KALE	Kalithea	2.30	11	ePn	Pn	00 18 43.5	+1.9
KALE				S	Sn	00 19 10.7	+0.1
EFP	Efpalio	2.30	7	P	Pn	00 18 43.8	+2.2
EFP				S	Sn	00 19 11.1	+0.5
EFP	Efpalio	2.30	7	ePN	Pn	00 18 43.5	+1.9
EFP	Efpalio	2.30	7	ePn	Pn	00 18 43.5	+1.9
EFP	Efpalio	2.30	7	P	Pn	00 18 43.8	+2.2
EFP				S	Sn	00 19 11.1	+0.5
DSF	Desfina	2.40	18	ePB	Pn	00 18 43.9	+0.9
DSF	Desfina	2.40	18	ePb	Pn	00 18 43.9	+0.9
VILL	Villia	2.46	34	ePn	Pn	00 18 45.9	+2.1
PDO	Prodromos	2.48	353	ePN	Pn	00 18 45.3	+1.3
PDO	Prodromos	2.48	353	ePn	Pn	00 18 45.3	+1.3
VIL2	Platees	2.48	33	ePN	Pn	00 18 45.9	+1.8
ATH	Athens Observa	2.51	43	ePN	Pn	00 18 46.0	+1.5
ATH	Athens Observa	2.51	43	ePn	Pn	00 18 46.0	+1.5
LKD2	Lefkada island	2.74	345	ePB	Pn	00 18 49.0	+1.3
LKD2	Lefkada island	2.74	345	ePb	Pn	00 18 49.0	+1.3
LKR	Lokris	2.76	24	ePN	Pn	00 18 48.1	+0.2
LKR	Lokris	2.76	24	ePn	Pn	00 18 48.1	+0.2
AXAR	Agios Charalam	2.77	18	ePB	Pn	00 18 49.8	+1.8
AXAR	Agios Charalam	2.77	18	ePb	Pn	00 18 49.8	+1.8
EVR	Evrytania	2.78	4	ePB	Pn	00 18 50.0	+1.7
EVR	Evrytania	2.78	4	ePb	Pn	00 18 50.0	+1.7
MAKR	Makrakomi, Fth	2.91	9	ePB	Pn	00 18 52.2	+2.2
MAKR	Makrakomi, Fth	2.91	9	ePb	Pn	00 18 52.2	+2.2
AGG	Agios Georgios	2.94	12	ePN	Pn	00 18 51.9	+1.4
AGG	Agios Georgios	2.94	12	ePn	Pn	00 18 51.9	+1.4
MRKA	Markates	3.03	32	ePN	Pn	00 18 52.7	+1.1
MRKA	Markates	3.03	32	ePn	Pn	00 18 52.7	+1.1
NPS	Neapolis	3.41	104	ePN	Pn	00 18 56.9	0.0
NPS	Neapolis	3.41	104	ePn	Pn	00 18 56.9	0.0
THL	Klokotos Trika	3.44	6	ePN	Pn	00 18 58.9	+1.6
THL	Klokotos Trika	3.44	6	ePn	Pn	00 18 58.9	+1.6
IGT	Igoumenitsa	3.53	344	ePN	Pn	00 18 59.1	+0.6
IGT	Igoumenitsa	3.53	344	ePn	Pn	00 18 59.1	+0.6
SGD	Sagiada	3.62	344	ePN	Pn	00 19 00.3	+0.5
SGD	Sagiada	3.62	344	ePn	Pn	00 19 00.3	+0.5
KEK	Kerkira	3.83	339	ePN	Pn	00 19 03.8	+1.1
KEK	Kerkira	3.83	339	ePn	Pn	00 19 03.8	+1.1
KZN	Kozani	4.17	2	ePN	Pn	00 19 09.2	+1.9
KZN	Kozani	4.17	2	ePn	Pn	00 19 09.2	+1.9
NEST	Nestorio	4.29	355	ePN	Pn	00 19 11.2	+2.2
NEST	Nestorio	4.29	355	ePn	Pn	00 19 11.2	+2.2
PLG	Polygyros	4.48	19	ePN	Pn	00 19 13.7	+2.1
PLG	Polygyros	4.48	19	ePn	Pn	00 19 13.7	+2.1
HORT	Hortiatis	4.61	15	ePN	Pn	00 19 14.8	+1.3
HORT	Hortiatis	4.61	15	ePn	Pn	00 19 14.8	+1.3
FNA	Florina	4.64	358	ePN	Pn	00 19 14.6	+0.8
FNA	Florina	4.64	358	ePn	Pn	00 19 14.6	+0.8
GRG	Griva	4.86	8	ePN	Pn	00 19 18.0	+1.2
GRG	Griva	4.86	8	ePn	Pn	00 19 18.0	+1.2
SOH	Sokhos	4.88	16	ePN	Pn	00 19 18.9	+1.7
SOH	Sokhos	4.88	16	ePn	Pn	00 19 18.9	+1.7
OHR	Ohrid	5.00	353	ePn	Pn	00 19 18.9	+0.1
OHR				eSg	Sn	00 20 13.9	-3.4
OHR	Ohrid	5.00	353	ePn	Pn	00 19 18.9	+0.1
OHR				eSg	Sn	00 20 13.9	-3.4
KNT	Kendrikon	5.12	11	ePN	Pn	00 19 21.4	+1.0
KNT	Kendrikon	5.12	11	ePn	Pn	00 19 21.4	+1.0
VAY	Valandovo	5.24	8	ePn	Pn	00 19 11.1	-11
NVR	Nevrokopi	5.50	18	ePN	Pn	00 19 27.2	+1.5
NVR	Nevrokopi	5.50	18	ePn	Pn	00 19 27.2	+1.5
BARS	Barje	6.67	2	i Pn	Pn	00 19 41.8	+0.1
SJES	Sjenica	7.22	351	i Pn	Pn	00 19 48.9	-0.4
STON	Ston	7.36	337	Sn	Sn	00 21 07.7	-7.5
UDBI	Udbina	9.47	334	ePn	Pn	00 20 19.5	-0.7
UDBI				Sn	Sn	00 22 00.5	-6.9
NVLJ	Novalja	9.84	331	ePn	Pn	00 20 27.0	+1.9
NVLJ				Sn	Sn	00 22 07.6	-8.6
NVLJ	Novalja	9.84	331	ePn	Pn	00 20 27.0	+1.9

MEX 04 00:34:01.3±0.5**, 17°.75N**×**101°.27W, h10**km±5km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.24	232	eP	Pg	00 34 05.4	-0.8
ZIIG				eS	Sg	00 34 09.9	+0.3
CAIG	El Cayaco	1.18	126	i P	Pb	00 34 20.3	-3.6

CAIG				*i* S	Sb	00 34 34.8	-4.5
MEIG	**Mezcala**	**1.58**	**84**	*e*P	Pn	00 34 26.6	-2.8
MEIG				*i* S	Sn	00 34 44.7	-5.4
ACX	**Acapulco**	**1.61**	**123**	*e*P	Pn	00 34 22.4	-7.4
ACX				*e*S	Sn	00 34 41.5	-9.1
TLIG	**Tlapa**	**2.58**	**94**	*i* P	Pn	00 34 40.5	-2.8
TLIG				*i* S	Sn	00 35 10.5	-4.4
EZ5V		**2.80**	**308**	*e*P	Pn	00 34 44.0	-2.5
R15V		**2.94**	**299**	*e*P	Pn	00 34 46.3	-1.8

WEL 04 00:45:09.4±0.2**,36°.66S×177°.18E,h12km,ML4.1**/7**,4C, Error ellipse: s-maj=2.2km s-min=1.8km az=0.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.87**	**179**	P*	Pg	00 45 24.5	-1.6
WIZ				S*	Sg	00 45 34.7	-2.8
MYRZ	**Mayor Island**	**0.97**	**230**	P*	Pg	00 45 27.1	-1.1
MYRZ				S*	Sg	00 45 39.6	-1.5
KUZ	**Kuaotunu**	**1.18**	**265**	P*	Pb	00 45 30.0	-1.7
KUZ				AML	AML	00 45 45.4	
KUZ				AML	AML	00 45 52.2	
KUZ				AML	AML	00 45 52.2	
KUZ				AML	AML	00 45 58.6	
HAZ	**Te Kaha**	**1.20**	**156**	⇑P*	Pn	00 45 29.0	-2.9
HAZ				S*	Sb	00 45 43.2	-4.2
MXZ	**Matakaoa Point**	**1.27**	**135**	⇑P*	Pn	00 45 30.4	-2.7
MXZ				AML	AML	00 45 50.9	
MXZ				AML	AML	00 45 52.3	
OPRZ	**Ohinepanea**	**1.28**	**203**	P*	Pn	00 45 31.1	-2.1
TGRZ	**Tauranga**	**1.30**	**214**	AML	AML	00 45 59.6	
TGRZ				AML	AML	00 45 59.7	
GRZ	**Great Barrier**	**1.45**	**286**	PN	Pn	00 45 34.6	-0.8
GRZ				SN	Sn	00 45 53.1	-1.3
WMGZ	**Waiomatatini S**	**1.52**	**140**	⇑PN	Pn	00 45 35.9	-0.5
WMGZ				SN	Sn	00 45 56.3	+0.2
URZ	**Urewera**	**1.60**	**182**	P*	Pn	00 45 35.5	-2.0
URZ				AML	AML	00 46 07.0	
URZ				AML	AML	00 46 10.0	
TWGZ	**Tauwhareparae**	**1.64**	**157**	PN	Pn	00 45 38.0	-0.2
PUZ	**Puketiti**	**1.65**	**149**	PN	Pn	00 45 37.7	-0.6
PUZ				AML	AML	00 46 01.3	
PUZ				AML	AML	00 46 06.8	
MKAZ	**Moumakai**	**1.68**	**254**	⇑PN	Pn	00 45 37.5	-1.1
MKAZ				AML	AML	00 46 05.9	
MKAZ				AML	AML	00 46 08.7	
MWZ	**Matawai**	**1.69**	**171**	P*	Pn	00 45 36.6	-2.4
MWZ				AML	AML	00 46 07.9	
MWZ				AML	AML	00 46 15.2	
TOZ	**Tahuroa Road**	**1.71**	**231**	P*	Pn	00 45 37.9	-1.1
MTAZ	**Motutapu**	**1.83**	**265**	PN	Pn	00 45 40.2	-0.4
ETAZ	**East Tamaki Re**	**1.83**	**260**	PN	Pn	00 45 40.2	-0.5
RAGZ	**Rawiri**	**1.84**	**174**	P*	Pn	00 45 39.5	-1.5
TKGZ	**Te Karaka**	**1.85**	**164**	PN	Pn	00 45 40.3	-0.7
ABAZ	**Army Bay**	**1.89**	**271**	PN	Pn	00 45 41.3	-0.2
CNGZ	**Carnagh Statio**	**2.00**	**156**	PN	Pn	00 45 43.5	+0.5
RIGZ	**Rimuhau**	**2.09**	**167**	PN	Pn	00 45 44.7	+0.3
TLZ	**Tolley Road**	**2.12**	**218**	P*	Pn	00 45 43.3	-1.4
SNGZ	**Shannon Statio**	**2.12**	**177**	PN	Pn	00 45 44.7	0.0
WCZ	**Waipu Caves**	**2.40**	**287**	PN	Pn	00 45 48.8	+0.3
NMHZ	**Naumai**	**2.45**	**187**	PN	Pn	00 45 50.5	+1.1
BKZ	**Black Stump Fm**	**2.56**	**192**	P*	Pn	00 45 51.7	+0.8
HIZ	**Hauiti**	**2.61**	**224**	PN	Pn	00 45 51.0	-0.5
KWHZ	**Kaweka Forest**	**2.82**	**192**	P*	Pn	00 45 55.9	+1.4
COVZ	**Chateau Observ**	**2.85**	**207**	P*	Pb	00 46 00.1	-0.2
OUZ	**Omahuta**	**3.24**	**295**	PN	Pn	00 46 00.9	+0.8

WEL 04 00:52:43.7±0.3**,36°.66S×177°.20E,h5km,ML3.6**/6**,1C, Error ellipse: s-maj=3.1km s-min=2.9km az=0.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.87**	**180**	P*	Pg	00 52 59.4	-1.0
MYRZ	**Mayor Island**	**0.98**	**231**	P*	Pg	00 53 02.1	-0.6
MYRZ				S*	Sg	00 53 15.6	+0.1
HAZ	**Te Kaha**	**1.19**	**157**	⇑P*	Pg	00 53 03.9	-2.7
HAZ				S*	Sg	00 53 18.1	-3.9
KUZ	**Kuaotunu**	**1.19**	**265**	P*	Pg	00 53 05.0	-1.6
KUZ				AML	AML	00 53 20.2	
KUZ				AML	AML	00 53 22.4	
KUZ				AML	AML	00 53 22.4	
KUZ				AML	AML	00 53 27.0	
MXZ	**Matakaoa Point**	**1.27**	**136**	P*	Pg	00 53 05.4	-2.6
MXZ				AML	AML	00 53 25.7	
GRZ	**Great Barrier**	**1.46**	**286**	PN	Pn	00 53 10.3	-0.4
GRZ				SN	Sn	00 53 27.7	-2.5
WMGZ	**Waiomatatini S**	**1.51**	**140**	PN	Pn	00 53 10.8	-0.6
WMGZ				SN	Sn	00 53 31.3	-0.3
URZ	**Urewera**	**1.60**	**182**	P*	Pn	00 53 11.3	-1.3
URZ				S*	Sn	00 53 28.8	-4.8
URZ				AML	AML	00 53 44.8	
TWGZ	**Tauwhareparae**	**1.64**	**158**	PN	Pn	00 53 13.3	+0.1
PUZ	**Puketiti**	**1.64**	**149**	PN	Pn	00 53 12.8	-0.5
PUZ				AML	AML	00 53 39.6	
PUZ				AML	AML	00 53 41.6	
MKAZ	**Moumakai**	**1.69**	**254**	PN	Pn	00 53 12.5	-1.4
MKAZ				AML	AML	00 53 40.7	
MWZ	**Matawai**	**1.69**	**171**	P*	Pn	00 53 11.4	-2.6
MWZ				AML	AML	00 53 39.5	
MWZ				AML	AML	00 53 42.7	
TOZ	**Tahuroa Road**	**1.72**	**231**	P*	Pn	00 53 12.9	-1.4
RIGZ	**Rimuhau**	**2.09**	**168**	PN	Pn	00 53 19.7	+0.3
TLZ	**Tolley Road**	**2.12**	**218**	P*	Pn	00 53 18.6	-1.4
WCZ	**Waipu Caves**	**2.41**	**286**	PN	Pn	00 53 23.6	-0.3
HIZ	**Hauiti**	**2.62**	**224**	PN	Pn	00 53 25.8	-0.9

*JMA **04** 00:57:20.3±0.6,43°.71N×149°.75E,h30km,M4.1*
*SKHL **04** 00:57:23.0±0.0,43°.46N×149°.51E,h38km±3km,mb4.5/2*
ISC 04 00:57:18.2±3.0**,43°.28N**±0°.09×**149°.8E**±0°.2**,h51km,n18,** σ**2s.27**/25**,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**2.26**	**286**	*e*P	**Pn**	**00 57 54.3**	**+1.3**
SHO				AMB	AMB	00 57 59.5	
	111nm,0.3s						
SHO				*e*S	**Sn**	**00 58 17.8**	**-1.9**
SHO				A	A	00 58 20.6	
	140nm,0.2s						
KUR	**Kuril'sk**	**2.41**	**325**	*e*P	**Pn**	**00 57 55.0**	**-0.1**
KUR				*e*S	**Sn**	**00 58 19.0**	**-4.3**
YUK	**Yuzh-Kuril'sk**	**2.98**	**286**	*e*P	**Pn**	**00 58 04.7**	**+1.8**
YUK				AMB	AMB	00 58 13.3	
	19nm,0.1s						
YUK				AMB	AMB	00 58 13.3	
	11nm,0.1s						
YUK				AMB	AMB	00 58 13.3	
	24nm,0.1s						
YUK				*e*S	**Sn**	**00 58 36.1**	**-1.2**
YUK				A	A	00 58 40.5	
	60nm,0.2s						
YUK				A	A	00 58 40.5	
	90nm,0.2s						
NEM2	**Nemuro 2**	**2.98**	**273**	P	**Pn**	**00 58 04.4**	**+1.4**
NEM2				*e*S	**Sn**	**00 58 36.8**	**-0.7**
JRA	**Rausu**	**3.48**	**282**	P	**Pn**	**00 58 11.9**	**+2.1**
JRA				*e*S	**Sn**	**00 58 49.9**	**+0.2**
JNK	**Nakash**	**3.74**	**276**	P	**Pn**	**00 58 14.8**	**+1.5**
JNK				*e*S	**Sn**	**00 58 55.9**	**-0.1**
JAK	**Akkeshi**	**3.77**	**267**	P	**Pn**	**00 58 15.6**	**+1.9**
JAK				*e*S	**Sn**	**00 58 56.0**	**-0.8**
JTKR	**Abashiri--Toko**	**4.36**	**281**	P	**Pn**	**00 58 24.5**	**+2.8**
JOB	**Onbets**	**4.41**	**267**	*e*S	**Sn**	**00 59 11.6**	**-0.9**
JAR	**Ashorobuto**	**4.43**	**272**	P	**Pn**	**00 58 25.1**	**+2.4**
JAR				*e*S	**Sn**	**00 59 12.8**	**-0.1**
JCH	**Churui**	**4.80**	**264**	P	**Pn**	**00 58 30.2**	**+2.4**
JCH				*e*S	**Sn**	**00 59 21.2**	**-0.8**
HRK	**Horoka**	**4.89**	**274**	*e*P	Pn	00 58 32.3	+3.1
MYR	**Moyori**	**4.92**	**261**	*e*P	Pn	00 58 32.4	+2.9
MYR				*e*S	**Sn**	**00 59 24.3**	**-0.8**
YSS	**Yuzh-Sakhalins**	**6.21**	**309**	*e*P	Pn	00 58 50.6	+3.5
JANG	**Nango**	**6.86**	**248**	*e*S	**Sn**	**01 00 08.8**	**-3.9**
JTM	**Tenmabayashi**	**6.98**	**252**	*e*S	**Sn**	**01 00 13.4**	**-2.4**
JRG	**Rokugo**	**7.93**	**244**	*e*S	**Sn**	**01 00 37.7**	**-1.5**
JIO	**Ouri**	**8.03**	**236**	*e*S	**Sn**	**01 00 36.5**	**-5.1**

*ATH **04** 00:59:01.8,37°.89N×23°.49E,h10km±4km,MD3.0/13, ML1.3*
*THE **04** 00:59:01.9,37°.88N×23°.52E,h4km±1km,ML1.3/2,Error ellipse: s-maj=1.7km s-min=0.4km az=43.0*
CSEM 04 00:59:01.5±0.1**,37°.90N×23°.50E,h10km,MD3.0,Error ellipse: s-maj=2.9km s-min=2.5km az=153.0,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAIG	**Nisos Aigina**	**0.14**	**185**	*e*PG	Pg	00 59 05.0	+0.3
NAIG	**Nisos Aigina**	**0.14**	**185**	*e*Pg	Pg	00 59 05.0	+0.3
ATH	**Athens Observa**	**0.18**	**66**	P	Pg	00 59 05.8	+0.4
ATH				S	Sg	00 59 08.2	+0.1
ATH	**Athens Observa**	**0.18**	**66**	*e*PG	Pg	00 59 05.8	+0.4
ATH				*e*SG	Sg	00 59 08.9	+0.8
ATH	**Athens Observa**	**0.18**	**66**	*e*Pg	Pg	00 59 05.8	+0.4
ATH				S	Sg	00 59 08.2	+0.1
ATHU	**Athens Univers**	**0.23**	**73**	P	Pg	00 59 06.5	+0.2
ATHU				S	Sg	00 59 09.4	-0.2
ATHU	**Athens Univers**	**0.23**	**73**	P	Pg	00 59 06.5	+0.2
ATHU				S	Sg	00 59 09.4	-0.2
VILL	**Villia**	**0.30**	**330**	P	Pg	00 59 08.1	+0.4
VILL				S	Sb	00 59 13.8	-0.5
VILL	**Villia**	**0.30**	**330**	*e*Pb	Pg	00 59 08.1	+0.4
VILL				S	Sb	00 59 13.8	-0.5
PTL	**Penteli**	**0.32**	**62**	P	Pg	00 59 07.9	-0.1
PTL				S	Sg	00 59 13.3	+0.9
PTL	**Penteli**	**0.32**	**62**	*e*PB	Pg	00 59 08.0	0.0
PTL				*e*SB	Sg	00 59 13.5	+1.1
PTL	**Penteli**	**0.32**	**62**	P	Pg	00 59 07.9	-0.1
PTL				S	Sg	00 59 13.3	+0.9
VIL2	**Platees**	**0.36**	**329**	*e*PB	Pg	00 59 08.1	-0.7
LTK	**Loutraki**	**0.44**	**286**	P	Pg	00 59 10.4	+0.2
LTK				S	Sb	00 59 17.4	-0.8
LTK	**Loutraki**	**0.44**	**286**	*e*PB	Pg	00 59 10.4	+0.2
LTK	**Loutraki**	**0.44**	**286**	*e*Pb	Pg	00 59 10.4	+0.2
LTK				S	Sb	00 59 17.4	-0.8
DID	**Didima**	**0.45**	**208**	P	Pg	00 59 10.4	+0.1
DID				S	Sg	00 59 16.6	+0.4
DID	**Didima**	**0.45**	**208**	*e*PB	Pg	00 59 10.4	+0.1
DID	**Didima**	**0.45**	**208**	*e*Pb	Pg	00 59 10.4	+0.1
DID				S	Sg	00 59 16.6	+0.4
MRKA	**Markates**	**0.81**	**5**	P	Pb	00 59 17.9	+0.2
MRKA	**Markates**	**0.81**	**5**	*e*PB	Pb	00 59 18.0	+0.3
MRKA	**Markates**	**0.81**	**5**	*e*Pb	Pb	00 59 18.0	+0.3
LKR	**Lokris**	**0.85**	**332**	*e*PG	Pg	00 59 17.6	-0.3
LKR	**Lokris**	**0.85**	**332**	*e*Pg	Pg	00 59 17.6	-0.3
GUR	**Goura**	**0.92**	**273**	P	Pg	00 59 19.3	-0.1
GUR	**Goura**	**0.92**	**273**	*e*PB	Pg	00 59 19.1	-0.3
GUR	**Goura**	**0.92**	**273**	P	Pg	00 59 19.3	-0.1
DSF	**Desfina**	**0.92**	**304**	P	Pb	00 59 19.7	0.0
DSF	**Desfina**	**0.92**	**304**	*e*PB	Pg	00 59 19.3	-0.1
DSF	**Desfina**	**0.92**	**304**	*e*Pb	Pg	00 59 19.3	-0.1
DSF	**Desfina**	**0.92**	**304**	P	Pb	00 59 19.7	0.0
SMIA	**Simia**	**1.01**	**347**	P	Pb	00 59 21.4	+0.3
SMIA	**Simia**	**1.01**	**347**	*e*PB	Pg	00 59 20.8	-0.1
SMIA	**Simia**	**1.01**	**347**	*e*Pb	Pg	00 59 20.8	-0.1
SMIA	**Simia**	**1.01**	**347**	P	Pb	00 59 21.4	+0.3
KLV	**Kalavryta, Ach**	**1.08**	**278**	P	Pg	00 59 22.0	-0.4
KLV	**Kalavryta, Ach**	**1.08**	**278**	*e*PG	Pg	00 59 21.6	-0.8
KLV	**Kalavryta, Ach**	**1.08**	**278**	*e*Pg	Pg	00 59 21.6	-0.8
KLV	**Kalavryta, Ach**	**1.08**	**278**	P	Pg	00 59 22.0	-0.4
KALE	**Kalithea**	**1.18**	**295**	P	Pg	00 59 24.5	+0.2
KALE	**Kalithea**	**1.18**	**295**	*e*PB	Pb	00 59 24.0	-0.1
KALE	**Kalithea**	**1.18**	**295**	*e*Pb	Pb	00 59 24.0	-0.1
KALE	**Kalithea**	**1.18**	**295**	P	Pg	00 59 24.5	+0.2
VLI	**Veliai**	**1.26**	**201**	P	Pb	00 59 25.3	-0.1
VLI	**Veliai**	**1.26**	**201**	P	Pb	00 59 25.3	-0.1
AOS	**Alonnisos**	**1.30**	**13**	P	Pn	00 59 25.6	-0.2
AOS	**Alonnisos**	**1.30**	**13**	*e*PN	Pn	00 59 25.7	-0.1
AOS	**Alonnisos**	**1.30**	**13**	P	Pn	00 59 25.6	-0.2
NEO	**Neokhori**	**1.42**	**351**	P	Pb	00 59 28.0	-0.2
NEO	**Neokhori**	**1.42**	**351**	P	Pb	00 59 28.0	-0.2

THE 04 00:59:17.2,38°.68N×22°.86E,h9km±1km**,ML1.8**/3**,Error ellipse: s-maj=1.9km s-min=0.3km az=195.0,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.12**	**105**	P	Pg	00 59 19.8	-0.2
LKR				S	Sg	00 59 22.1	+0.2
ATAL	**Atalanti**	**0.13**	**85**	P	Pg	00 59 20.2	0.0
ATAL				S	Sg	00 59 22.5	+0.2
AXAR	**Agios Charalam**	**0.17**	**299**	P	Pg	00 59 20.9	-0.1
AXAR				S	Sg	00 59 23.8	+0.2
AXAR	**Agios Charalam**	**0.17**	**299**	*e*PB	Pg	00 59 21.0	0.0
AXAR	**Agios Charalam**	**0.17**	**299**	*e*Pb	Pg	00 59 21.0	0.0

IDC 04 01:00:54.5±2.4**,3°.47S×135°.08E,h0km,mb3.9**/2**, mb1 4.1**/4**,mb1mx3.7**/23**,mbtmp3.9**/4**,ML3.9**/2**,Error ellipse: s-maj=72.8km s-min=25.3km az=66.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.60**	**304**	Pn	Pn	01 02 05.8	+0.4
	3.7nm,0.3s,baz=119,slow=19,SNR=12						
SIJI				Sn	Sn	01 02 58.1	-1.6
	2.3nm,0.3s,baz=277,slow=23,SNR=2.8						
WRA	**Warramunga Arr**	**16.39**	**182**	Pn	Pn	01 04 46.6	+0.5
	0.5nm,0.3s,baz=3.6,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**20.11**	**183**	P	P	01 05 29.7	-0.4
	8.8nm,0.7s,baz=7.9,slow=11,SNR=72						
MKAR	**Makanchi Array**	**68.22**	**324**	P	P	01 11 57.2	+0.2
	0.3nm,0.5s,baz=130,slow=4.5,SNR=6.8						

MEX 04 01:21:46.7±0.2**,17°.50N×98°.11W,h51km**±3km**,MD3.5, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**0.44**	**278**	*i* P	Pn	01 21 56.0	-1.5
TLIG				*i* S	Sn	01 22 03.4	-1.9
HMTT	**Tlapaneco**	**0.52**	**304**	*e*P	Pn	01 21 56.7	-1.7
HMTT				*e*S	Sn	01 22 04.8	-2.1
PNIG	**Pinotepa**	**1.10**	**181**	*e*P	Pn	01 22 04.7	-1.3
PNIG				*e*S	Sn	01 22 18.3	-1.8
TPIG	**Tehuac#an**	**1.16**	**38**	*e*P	Pn	01 22 05.0	-1.8
TPIG				*e*S	Sn	01 22 19.8	-2.0
VHO	**Vista Hermosa**	**1.38**	**108**	*i* P	Pn	01 22 08.2	-1.6
VHO				*i* S	Sn	01 22 24.9	-2.4
PLIG	**Platanillo**	**1.60**	**304**	*i* P	Pn	01 22 10.9	-1.8
PLIG				*e*S	Sn	01 22 30.4	-1.8

*ISCJB **04** 01:46:36.5±0.8,5°.40S±0°.10×147°.2E±0°.1,h195km, mb3.6/7,Error ellipse: s-maj=20.1km s-min=12.4km az=22.3*
*IDC **04** 01:46:36.4±3.0,5°.41S×147°.20E,h180km±27km,mb3.3/6, mb1 3.5/8,mb1mx3.3/25,mbtmp3.8/8,MS3.4/3,Ms1 3.4/3, ms1mx2.9/14,Error ellipse: s-maj=23.3km s-min=14.0km az=103.0*
ISC 04 01:46:37.9±0.9**,5°.5S**±0°.1×**147°.1E**±0°.2**,h195km,n13,** σ**1s.53**/11**,mb3.7**/7**,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.57**	**183**	P	**P**	**01 49 56.2**	**-0.3**
	0.1nm,0.3s,baz=0.6,slow=13,SNR=2.1						
WRA	**Warramunga Arr**	**19.03**	**220**	P	**P**	**01 50 45.4**	**-0.1**
	1.0nm,0.3s,baz=38,slow=11,SNR=15						
WRA				S	**S**	**01 54 08.6**	**-2.6**
	0.1nm,0.3s,baz=41,slow=20,SNR=7.3						
ASAR	**Alice Springs**	**22.14**	**214**	P	**P**	**01 51 18.2**	**+0.2**
	2.1nm,0.6s,baz=47,slow=8.7,SNR=19						
ASAR				S	**S**	**01 55 10.9**	**+3.2**
	4.2nm,0.9s,baz=30,slow=22,SNR=18						
DZM	**Mont Dzumac**	**24.93**	**133**	P	**P**	**01 51 43.3**	**-0.2**
	5.1nm,0.8s,baz=270,slow=24,SNR=3.7						
STKA	**Stephens Creek**	**26.79**	**191**	P	P	01 52 09.8	+10
	1.2nm,0.4s,baz=0.3,slow=8.0,SNR=7.1						
JNU	**Nakatsue**	**41.36**	**339**	LR	LR	02 08 54.1	
	comp=Z,72nm,21.4s,baz=316,slow=32						
MJAR	**Matsushiro Arr**	**42.61**	**349**	LR	LR	02 11 12.4	
	comp=Z,50nm,19.3s,baz=125,slow=35						
KSRS	**Korea Array**	**46.30**	**339**	LR	LR	02 11 09.0	
	comp=Z,25nm,22.0s,baz=145,slow=32						
SONM	**Songino Array**	**64.00**	**331**	P	**P**	**01 56 51.3**	**+0.5**
	0.4nm,0.6s,baz=153,slow=7.3,SNR=3.5						
VNDA	**Vanda**	**72.44**	**177**	P	**P**	**01 57 43.1**	**+0.6**
	1.0nm,0.6s,baz=331,slow=5.7,SNR=8.1						
MKAR	**Makanchi Array**	**77.17**	**320**	P	**P**	**01 58 10.5**	**+0.2**
	0.2nm,0.6s,baz=90,slow=8.2,SNR=3.1						
ILAR	**Eielson Array**	**84.93**	**23**	P	**P**	**01 58 50.0**	**-0.8**
	0.3nm,0.5s,baz=260,slow=5.3,SNR=5.1						
TORD	**Torodi Ar. Bea**	**145.09**	**285**	PKPbc	**PKPbc**	**02 05 52.3**	**-0.7**
	0.4nm,0.5s,baz=66,slow=3.2,SNR=6.7						

IDC 04 01:47:13.6±2.4**,22°.89S×68°.96W,h0km,mb3.7**/4**, mb1 4.0**/5**,mb1mx3.8**/19**,mbtmp3.8**/5**,ML4.1**/1**,MS3.4**/1**, Ms1 3.4**/1**,ms1mx2.8**/19**,Error ellipse: s-maj=66.1km s-min=32.7km az=20.0,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.61**	**7**	Pn	Pn	01 48 53.1	+0.4
	1.8nm,0.3s,baz=192,slow=5.7,SNR=60						
BDFB	**Brasilia**	**21.03**	**74**	P	P	01 51 58.5	-0.7
	2.2nm,0.8s,baz=240,slow=11,SNR=3.2						
PCRV	**Puerto La Cruz**	**33.13**	**8**	LR	LR	02 08 32.3	
	comp=Z,64nm,19.7s,slow=39						
TXAR	**Lajitas Array**	**61.74**	**326**	P	P	01 57 33.4	-0.7
	0.3nm,0.9s,baz=164,slow=4.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**77.86**	**70**	P	P	01 59 13.8	+0.2
	0.4nm,0.4s,baz=255,slow=5.5,SNR=9.3						
YKA	**Yellowknife Ar**	**92.47**	**341**	P	P	02 00 26.8	+0.9
	0.4nm,0.5s,baz=138,slow=4.4,SNR=6.4						

*ISCJB **04** 02:00:26.4±0.7,35°.73S±0°.04×72°.64W±0°.09,h56km±8km, mb4.0/6,Error ellipse: s-maj=12.8km s-min=5.4km az=24.6*
*NEIC **04** 02:00:26.0,35°.79S×72°.55W,h64km,mb4.3/5,After GUC.*
NEIC Felt [IV] at Cauquenes and Chanco; [II] at Empedrado, Parral and Pencahue.
*GUC **04** 02:00:26.5±0.6,35°.79S×72°.55W,h64km±10km,ML4.5*
*IDC **04** 02:00:28.9±2.9,35°.69S×72°.39W,h47km±25km,mb3.8/5, mb1 3.8/8,mb1mx3.6/26,mbtmp3.9/8,ML4.0/2,MS2.9/2, Ms1 2.9/2,ms1mx2.7/18,Error ellipse: s-maj=40.1km s-min=20.4km az=82.0*
ISC 04 02:00:26.9±1.3**,35°.71S**±0°.05×**72°.66W**±0°.08**,h45km**±12km**, n31,**σ**1s.21**/35**,mb4.0**/6**,3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.87**	**99**	⇓*i*P	**Pn**	**02 00 42.9**	**+0.2**
LNCH				*e*S	**Sn**	**02 00 54.9**	**+0.6**
TALC	**Talca**	**0.90**	**70**	*e*P	**Pn**	**02 00 43.3**	**+0.2**
TALC				*i* S	**Sn**	**02 00 55.3**	**+0.5**
CCSP	**San Pedro de C**	**1.19**	**198**	*e*P	**Pn**	**02 00 46.7**	**-0.3**
CCSP				*i* S	**Sn**	**02 01 02.1**	**+0.1**
NICH	**Los Niches**	**1.37**	**59**	⇓*i*P	**Pn**	**02 00 49.2**	**-0.4**
NICH				*i* S	**Sn**	**02 01 06.8**	**+0.4**
LNV	**Longovilo**	**2.03**	**31**	*e*P	**Pn**	**02 00 59.4**	**+0.8**
LNV				*i* S	**Sn**	**02 01 24.3**	**+1.6**
CHCH	**Chadas Angostu**	**2.42**	**44**	*e*P	**Pn**	**02 01 04.4**	**+0.3**
CHCH				*i* S	**Sn**	**02 01 32.9**	**+0.3**
TACH	**Talagante**	**2.50**	**35**	*i* P	**Pn**	**02 01 05.9**	**+0.8**
TACH				*i* S	**Sn**	**02 01 35.0**	**+0.7**
PCH	**Pirque**	**2.74**	**41**	*e*P	**Pn**	**02 01 08.9**	**+0.6**
PCH				*e*S	**Sn**	**02 01 40.7**	**+0.4**
SAN	**Santiago**	**2.79**	**37**	⇓*i*P	**Pn**	**02 01 09.7**	**+0.6**
CLCH	**Cerro Calan**	**2.90**	**38**	AML	AML	02 02 06.6	
	comp=E,1μm,0.7s						
PEL	**Peldehue**	**3.04**	**33**	*e*P	**Pn**	**02 01 13.2**	**+0.7**
PEL				AML	AML	02 02 05.1	
	comp=N,1μm,0.7s						
ROCH	**El Roble**	**3.06**	**27**	AML	AML	02 02 09.0	
	comp=N,928nm,0.5s						
PLCA	**Paso Flores**	**5.28**	**162**	P	**Pn**	**02 01 44.8**	**+1.4**
	comp=N,1.3nm,0.3s,baz=334,slow=11,SNR=26						
PLCA				S	Sn	02 02 57.1	+14
	comp=N,1.1nm,0.3s,baz=3.6,slow=16,SNR=1.6						
PLCA	**Paso Flores**	**5.28**	**162**	*e*Pn	**Pn**	**02 01 44.7**	**+1.4**
	comp=N,13nm,0.5s						
PLCA				S	Sn	02 02 57.1	+14
CFAA	**Coronel Fontan**	**5.51**	**43**	P	**Pn**	**02 01 45.8**	**-0.6**
	comp=N,0.2nm,0.3s,baz=215,slow=11,SNR=11						
CFAA				S	Sn	02 02 59.9	+11
	comp=N,0.7nm,0.3s,baz=84,slow=13,SNR=9.1						
CFAA				LR	LR	02 03 59.8	
	comp=N,31nm,18.6s,baz=236,slow=39						
TRQA	**Tornquist**	**8.87**	**108**	*e*Pn	**Pn**	**02 02 33.0**	**+0.4**
	comp=N,6.9nm,0.6s						
LVC	**Limon Verde**	**13.46**	**15**	LR	LR	02 08 21.5	
	comp=N,234nm,21.9s,baz=196,slow=35						
CPUP	**Villa Florida**	**16.11**	**59**	*e*Pn	**Pn**	**02 04 07.5**	**-2.8**
LPAZ	**La Paz**	**19.76**	**13**	P	**Pn**	**02 04 55.8**	**+0.2**
	comp=N,0.2nm,0.3s,baz=210,slow=9.4,SNR=5.9						
LPAZ	**La Paz**	**19.76**	**13**	*e*P	**P**	**02 04 52.5**	**-1.3**
	comp=N,2.0nm,0.8s						
SNAA	**Sanae**	**50.20**	**157**	P	**P**	**02 09 19.1**	**+1.2**
	comp=N,0.8nm,0.8s,baz=328,slow=11,SNR=7.9						
SNAA	**Sanae**	**50.20**	**157**	*e*P	P	02 09 10.9	-7.0
	comp=N,4.4nm,1.0s						
TXAR	**Lajitas Array**	**70.98**	**332**	P	**P**	**02 11 41.9**	**+2.0**
	comp=N,0.3nm,0.8s,baz=145,slow=9.9,SNR=3.0						
MNTX	**Cornudas Mount**	**73.75**	**331**	*e*P	**P**	**02 11 53.7**	**-2.5**
	comp=N,1.8nm,1.0s						
DBIC	**Dimbokro**	**76.21**	**71**	P	**P**	**02 12 10.9**	**+0.1**
	comp=N,6.9nm,0.9s,baz=225,slow=6.8,SNR=5.1						
DBIC	**Dimbokro**	**76.21**	**71**	*e*P	**P**	**02 12 08.0**	**-2.8**
	comp=N,15nm,1.1s						
BOSA	**Boshof**	**79.73**	**118**	P	**P**	**02 12 31.2**	**+0.7**
	comp=N,3.9nm,0.6s,baz=269,slow=3.8,SNR=8.2						
BOSA	**Boshof**	**79.73**	**118**	*e*P	**P**	**02 12 29.8**	**-0.7**
	comp=N,7.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**85.27**	**70**	P	**P**	**02 12 60.0**	**+0.7**
	comp=N,0.5nm,0.7s,baz=255,slow=5.9,SNR=7.0						
BVAR	**Borovoye Array**	**148.87**	**45**	PKPbc	**PKPbc**	**02 20 10.7**	**+1.6**
	comp=N,0.2nm,0.3s,baz=349,slow=1.5,SNR=3.9						
MKAR	**Makanchi Array**	**158.25**	**52**	PKPab	**PKPab**	**02 20 53.5**	**+0.4**
	comp=N,0.2nm,0.6s,baz=267,slow=2.9,SNR=4.0						

*ISCJB **04** 02:00:46.9±0.6,33°.27N±0°.05×96°.14E±0°.08,h10km, mb3.9/12,MS3.1/5,Error ellipse: s-maj=9.3km s-min=6.5km az=18.8*
*IDC **04** 02:00:46.6±0.9,33°.53N×96°.66E,h0km,mb3.8/9, mb1 3.9/12,mb1mx3.7/56,mbtmp3.8/12,ML4.1/3,MS3.2/9, Ms1 3.2/9,ms1mx3.0/33,Error ellipse: s-maj=35.2km s-min=17.6km az=43.0*
*NEIC **04** 02:00:47.9±0.5,33°.44N×96°.55E,h10km,mb4.0/6,Error ellipse: s-maj=11.4km s-min=7.7km az=62.0*
*BJI **04** 02:00:48.5,33°.29N×96°.10E,h4km,mb4.2/2,ML3.7/11, Ms3.8/7,Ms7 3.5/6*
ISC 04 02:00:49.5±0.7**,33°.24N**±0°.07×**96°.08E**±0°.09**,h10km,n42,** σ**1s.39**/34**,mb3.9**/12**,MS3.1**/5**,Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.49**	**231**	Pn	Pn	02 02 15.9	+4.1
LSA	**Lhasa**	**5.49**	**231**	*e*Pn	Pn	02 02 15.8	+3.9
	49nm,0.6s						
GTA	**Gaotai**	**6.86**	**25**	*e*Pn	**Pn**	**02 02 31.7**	**+1.4**
GTA				Sn	**Sn**	**02 03 51.8**	**+3.4**
GTA				LN			
	290nm,9.3s						
GTA				LE			
	740nm,10.2s						
GTA				LZ			
	160nm,13.1s						
CD2	**Chengdu**	**6.92**	**108**	Pg	Pb	02 02 53.2	+3.3
CD2				Sg	Sg	02 04 21.7	-10
CD2				SMN			
	50nm,1.0s						
CD2				SME			
	40nm,0.9s						
TAPN	**Taplejung**	**9.31**	**233**	*e*P	**Pn**	**02 03 05.5**	**+1.4**
	19nm,0.7s						
ODAN	**Odare**	**9.85**	**232**	*e*P	**Pn**	**02 03 13.5**	**+2.0**
	27nm,0.5s						
KMI	**Kunming**	**9.96**	**143**	P	**Pn**	**02 03 13.8**	**+0.8**
KMI				PMZ			
	10.0nm,1.1s						
KMI				LN			
	150nm,16.9s						
KMI				LE			
	280nm,10.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KMI				LZ			
	280nm,12.1s						
JIRN	Jiri	10.18	240	*e*P	Pn	02 03 16.7	+0.6
	9.9nm,0.3s						
GUN	Gumba	10.27	242	*e*P	Pn	02 03 17.4	+0.1
	13nm,0.4s						
RAMN	Ramite	10.32	235	*e*P	Pn	02 03 18.8	+0.8
	18nm,0.5s						
KKN	Kakani	10.78	243	*e*P	Pn	02 03 24.4	+0.3
	12nm,0.4s						
PKI	Pulchoki	10.80	241	*e*P	Pn	02 03 24.2	-0.4
	16nm,0.4s						
DMN	Daman	11.01	242	*e*P	Pn	02 03 27.2	-0.1
	28nm,1.0s						
GKN	Gorkha	11.15	245	*e*P	Pn	02 03 30.6	+1.4
KOLN	Koldanda	12.06	246	*e*P	Pn	02 03 43.6	+1.9
	18nm,0.8s						
CMAR	Chiang Mai Arr	14.94	169	Pn	Pn	02 04 20.5	-0.4
	0.7nm,0.3s,baz=334,slow=12,SNR=5.7						
CMAR				LR	LR	02 10 26.7	
	comp=Z,129nm,18.8s,baz=312,slow=38						
SONM	Songino Array	16.53	25	Pn	Pn	02 04 39.5	-2.0
	0.5nm,0.3s,baz=208,slow=14,SNR=15						
MK31	Makanchi Array	17.13	326	*e*Pn	Pn	02 04 48.9	-0.2
MKAR	Makanchi Array	17.13	326	P	Pn	02 04 46.7	-2.3
	0.3nm,0.3s,baz=134,slow=14,SNR=16						
MKAR				LR	LR	02 12 24.7	
	comp=Z,63nm,18.8s,baz=140,slow=41						
TKM2	Tokmak 2	18.76	307	*e*P	Pn	02 05 09.1	-0.2
	12nm,1.6s						
TLY	Talaya	19.24	14	LR	LR	02 12 57.5	
	comp=Z,25nm,19.5s,baz=199,slow=39						
AAK	Ala-Archa	19.39	305	P	Pn	02 05 16.9	0.0
	0.3nm,0.3s,baz=98,slow=5.5,SNR=3.0						
AAK				LR	LR	02 13 44.4	
	comp=Z,99nm,20.0s,baz=98,slow=40						
AAK	Ala-Archa	19.39	305	*e*P	Pn	02 05 17.5	+0.6
	10nm,1.4s						
EKS2	Erkin-Say	19.90	305	*e*P	P	02 05 21.3	+0.1
	7.6nm,1.2s						
KURBB	Kurchatov Arra	21.64	329	P	P	02 05 38.6	-1.2
	2.4nm,0.8s,baz=135,slow=11,SNR=17						
KURK	Kurchatov	21.66	329	*e*P	P	02 05 38.8	-1.3
	8.2nm,1.2s						
ZALV	Zalesovo Beam	22.20	342	P	P	02 05 43.1	-2.7
	1.4nm,0.3s,baz=148,slow=12,SNR=2.7						
ZALV				LR	LR	02 14 58.6	
	comp=Z,43nm,18.4s,baz=250,slow=39						
KBL	Kabul	22.46	281	*e*P	P	02 05 51.0	+1.9
	15nm,0.9s						
KSAR	Wonju Array Be	26.21	72	P	P	02 06 18.1	-6.4
KSRS	Korea Array	26.24	72	P	P	02 06 18.1	-6.7
	0.6nm,0.4s,baz=274,slow=10,SNR=4.1						
AKTO	Aktyubinsk	32.71	313	LR	LR	02 21 40.5	
	comp=Z,32nm,19.0s,baz=107,slow=38						
MJAR	Matsushiro Arr	34.52	72	LR	LR	02 22 08.7	
	comp=Z,35nm,18.7s,baz=40,slow=38						
YAK	Yakutsk	35.88	26	LR	LR	02 23 25.5	
	comp=Z,59nm,21.5s,baz=252,slow=38						
BRTR	Keskin Array B	49.73	296	P	P	02 09 43.6	+1.4
	0.7nm,0.8s,baz=96,slow=5.8,SNR=4.6						
HFS	Hagfors	58.14	324	P	P	02 10 42.5	-0.5
	0.8nm,0.5s,baz=104,slow=6.3,SNR=6.6						
NB2	NORSAR Subarra	59.13	326	P	P	02 10 49.8	-0.2
	comp=Z,0.7nm,0.6s,baz=78,slow=6.9						
NOA	NORSAR Array B	59.13	326	P	P	02 10 48.4	-1.7
	comp=Z,0.3nm,0.8s,baz=76,slow=6.9,SNR=4.6						
NOA				LR	LR	02 37 52.3	
	comp=Z,26nm,18.7s,baz=200,slow=38						
KHC	Kasperske Hory	61.10	312	*e*P	P	02 11 03.3	-0.5
	comp=Z,4.0nm,1.6s						
GERES	GERESS Array B	61.12	312	P	P	02 11 04.1	+0.1
	comp=Z,0.4nm,0.5s,baz=86,slow=5.5,SNR=3.6						
DAVOX	Davos/Dischmat	64.25	310	P	P	02 11 24.2	-0.8
	comp=Z,2.3nm,0.6s,baz=98,slow=2.5,SNR=6.4						
ASAR	Alice Springs	67.09	142	P	P	02 11 41.9	-1.4
	comp=Z,0.5nm,0.4s,baz=326,slow=6.5,SNR=10						
OTAV	Otavalo	146.31	350	*e*PKPbc	PKPbc	02 20 31.0	-0.7

NIED ***04*** *02:03:00, 26°.20N×141°.30E, h360km, Mw4.6 Best double couple: $M_0$8.09000×10^{15} NP1:ϕ_s210.00000°, δ38.00000°, λ-137.00000°. NP2:ϕ_s84.00000°, δ66.00000°, λ-60.00000°.*

BJI ***04*** *02:03:29.7, 25°.73N×141°.13E, h383km, mb4.6/41, mB4.4/26*

MOS ***04*** *02:03:32.4±0.8, 25°.86N×140°.66E, h384km, mb4.8/66, Error ellipse: s-maj=8.3km s-min=4.6km az=103.8*

ISCJB ***04*** *02:03:32.7±0.3, 25°.88N±0°.02×140°.68E±0°.02, h381km±2km, mb4.7/190, Error ellipse: s-maj=3.8km s-min=3.3km az=173.6*

IDC ***04*** *02:03:32.7±0.5, 25°.82N×140°.81E, h376km±4km, mb4.2/38, mb1 4.3/41, mb1mx4.3/49, mbtmp4.9/41, Error ellipse: s-maj=10.0km s-min=6.5km az=86.0*

NEIC ***04*** *02:03:34.2±0.4, 25°.84N×140°.70E, h388km±4km, mb4.8/125, MW4.5(NIED), Error ellipse: s-maj=4.1km s-min=3.1km az=124.0*

JMA ***04*** *02:03:35.3±0.1, 26°.20N×141°.28E, h395km, M5.2*

ISC 04 02:03:33.4±0.3, **25°.88N**±0°.04×**140°.82E**±0°.04, **h381**km±2km, **h381**km**:pP-P, n699, σ1§13**/767, **mb4.7**/199, **129C-140D, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	1.43	58	P	Pn	02 04 25.9	+1.6
JHHJ				S	S	02 05 05.2	-0.1
CBIJ	Chichi jima	1.72	45	P	Pn	02 04 26.6	+0.7
CBIJ				S	S	02 05 07.8	-0.4
CBIJ	Chichi jima	1.72	45	*e*Pn	Pn	02 04 26.5	+0.6
CBIJ				P	Pn	02 04 26.7	+0.8
CBIJ				S	S	02 05 06.4	-1.8
CBIJ				*e*S	S	02 05 08.6	+0.4
JCJ	Chichijima	1.72	45	P	Pn	02 04 26.7	+0.8
	282nm,0.3s,baz=35,slow=6.8,SNR=403						
JCJ				S	S	02 05 06.4	-1.8
	1µm,0.3s,baz=56,slow=21,SNR=28						
JHCJ	Hachijojimakas	7.23	353	P	Pn	02 05 19.6	+0.5
JHCJ				S	S	02 06 41.4	-4.0
JHJ2	Mitsune	7.26	353	P	Pn	02 05 19.5	0.0
JHJ2				S	S	02 06 41.0	-5.1
JHJ2	Mitsune	7.26	353	*e*Pn	Pn	02 05 19.4	-0.1
JHJ2				*e*S	S	02 06 34.9	-11
BSO1	Boso 1	8.75	1	P	Pn	02 05 36.3	+0.2
BSO1				S	S	02 07 13.4	-3.5
JWZ	Kozaga	8.82	331	P	P	02 05 40.4	+2.0
JIM2	Oshima 3	8.89	353	P	Pn	02 05 37.8	-0.6
JIE	Ise	9.20	338	P	P	02 05 44.1	+1.5
SHZ3	Shizuoka 3	9.43	347	P	Pn	02 05 45.1	+0.4
MRT2	Murotomisaki 2	9.47	324	P	P	02 05 48.4	+2.8
JOD2	Odawara 2	9.48	351	P	Pn	02 05 45.4	+0.2
JOD2				S	S	02 07 27.4	-5.9
TSUJ	Tsu 2	9.59	338	P	P	02 05 48.8	+1.9
JNY	Yasuok	9.79	346	P	P	02 05 49.5	+0.3
JYN	Shimob	9.79	349	P	Pn	02 05 48.8	-0.1
JTO	Tosashimizu	9.86	317	P	P	02 05 52.8	+2.8
JMN	Monobe	9.88	324	P	P	02 05 53.3	+3.2
JKU	Kubokawa	10.02	319	P	P	02 05 54.7	+3.0
JGF	Kuroka	10.14	344	P	P	02 05 53.9	+0.8
UWA2	Uwa jima 2	10.21	318	P	P	02 05 57.0	+3.1
JRY	Ryogami san	10.24	351	P	P	02 05 53.1	-1.1
JRY				S	S	02 07 43.7	-5.8
JFM	Mihama	10.48	338	P	Pn	02 05 59.0	+2.1
JAG	Ashikaga	10.58	354	P	P	02 05 55.9	-2.0
JGN	Niukaw	10.74	345	P	Pn	02 06 00.3	+0.2
MJAR	Matsushiro Arr	10.87	349	P	P	02 05 59.8	-1.2
	7.5nm,0.3s,baz=172,slow=11,SNR=49						
MJAR				S	S	02 07 58.6	-3.9
	3.8nm,0.3s,baz=305,slow=29,SNR=7.9						
MAJO	Matsushiro	10.87	349	*d i*P	P	02 06 01.0	-0.1
MAJO	Matsushiro	10.87	349	*e*P	P	02 06 01.1	-0.1
MAJO				*e*S	S	02 07 58.8	-3.7
MAT	Matsushiro	10.87	349	P	P	02 06 00.8	-0.3
MAT				S	S	02 07 59.1	-3.4
MAT	Matsushiro	10.87	349	P	P	02 06 01.0	-0.1
JHS	Saijyo	11.26	326	P	Pn	02 06 08.4	+2.3
JNU	Nakatsue	11.27	312	P	Pn	02 06 09.7	+3.4
JNU	Nakatsue	11.27	312	P	Pn	02 06 08.5	+2.3
	2.4nm,0.3s,baz=125,slow=4.7,SNR=32						
JNU				S	S	02 08 14.1	+3.0
	0.1nm,0.3s,baz=18,slow=20,SNR=3.1						
JNU	Nakatsue	11.27	312	P	Pn	02 06 08.5	+2.3
JNU				*e*P	P	02 06 08.7	+3.1
JNU				S	S	02 08 14.1	+3.0
JOW	Kunigami	11.29	278	P	Pn	02 06 08.3	+1.8
	0.3nm,0.3s,baz=105,slow=14,SNR=4.7						
JSJ	Shimokoshiki	11.32	303	P	Pn	02 06 09.0	+2.1
JHK	Hiroka	11.44	353	P	P	02 06 06.8	-0.6
JAW	Awa shima	12.62	354	P	Pn	02 06 21.4	-0.4
GUMO	Guam	12.80	162	P	Pn	02 06 24.5	+0.2
	19nm,0.3s,baz=178,slow=8.8,SNR=15						
GUMO	Guam	12.80	162	P	Pn	02 06 24.5	+0.2
GUMO				pmax	pmax		
	comp=Z,19nm,0.3s						
GUMO	Guam	12.80	162	*e*P	P	02 06 21.9	-0.8
GUMO				P	Pn	02 06 24.5	+0.2
JMK	Ichinoseki	13.04	1	P	Pn	02 06 26.5	-0.3
JMK				S	S	02 08 45.6	-1.6
JTU	Tsushima	13.10	314	P	Pn	02 06 30.9	+3.4
KSULJ	Uljin	14.54	321	P	P	02 06 42.9	+1.4
	SNR=8.0						
JIW	Iwasaki	14.69	358	P	Pn	02 06 45.1	-0.6
KSTBA	Taebaek	15.09	321	P	P	02 06 48.4	+0.9
	SNR=7.6						
KSBON	Boeun	15.36	317	P	Pn	02 06 58.4	+5.0
	SNR=18						
JOT	Ohata	15.47	1	P	Pn	02 06 53.5	-1.0
KSRS	Korea Array	15.91	320	P	P	02 06 56.5	+0.1
	comp=Z,0.4nm,0.3s,baz=132,slow=11,SNR=22						
KSRS				S	S	02 09 53.4	+8.9
	comp=Z,0.2nm,0.3s,baz=148,slow=16,SNR=5.8						
KSAR	Wonju Array Be	15.93	320	P	P	02 06 56.5	0.0
KSAR	Wonju Array Be	15.93	320	P	P	02 06 56.5	0.0
KSAR				S	S	02 09 53.4	+8.6
JKB	Kayabe	15.97	1	P	P	02 06 58.5	+1.6
KSICN	Icheon	16.10	318	P	Pn	02 07 04.7	+2.7
	SNR=9.5						
JOSM	Okushiri--Mats	16.20	356	P	P	02 07 00.4	+0.9
ERM	Erimo	16.21	6	*c i*P	Pn	02 07 01.9	-1.3
ERM				pmax	pmax		
	comp=Z,45nm,1.0s						
ERM	Erimo	16.21	6	*e*P	P	02 07 01.5	+1.9
	comp=Z,35nm,0.8s						
ERM				*e*S	S	02 09 58.1	+7.8
SEHB	SEOHWA	16.29	322	P	P	02 07 00.8	+0.3
	SNR=9.1						
KSCWO	Cheorwon	16.58	320	P	Pn	02 07 08.5	+1.1
	SNR=6.3						
INCN	Inchon	16.70	317	*e*P	Pn	02 07 10.0	+1.0
	comp=Z,42nm,0.6s						
JCH	Churui	16.83	6	P	P	02 07 08.0	+1.9
NEM2	Nemuro 2	17.91	12	P	P	02 07 18.5	+0.9
SSLB	Suanglung	18.15	268	*e*P	P	02 07 20.1	-0.5
	comp=Z,18nm,0.7s						
ASAJ	Asahikawa	18.26	4	P	P	02 07 22.8	+1.5
	baz=216,slow=8.2						
ASAJ	Asahikawa	18.26	4	*e*P	P	02 07 22.5	+1.2
	comp=Z,10nm,0.7s						
ASAJ				P	P	02 07 22.8	+1.5
ASAJ				*e*S	S	02 10 33.5	+3.5
USRK	Ussuriysk Ar.	19.64	341	P	P	02 07 36.0	+0.5
	comp=Z,1.5nm,0.3s,baz=161,slow=9.4,SNR=42						
USRK				S	S	02 10 55.9	+2.0
	comp=Z,0.2nm,0.3s,baz=153,slow=19,SNR=4.5						
KUR	Kuril'sk	20.13	15	*e*P	P	02 07 39.9	-0.3
KUR				pmax	pmax		
	comp=E,17nm,0.4s						
KUR				pmax	pmax		
	comp=Z,38nm,0.8s						
NJ2	Nanjing	20.16	293	*e*P	P	02 07 41.6	+0.9
NJ2				PMZ			
	comp=Z,20nm,0.7s						
MDJ	Mudanjiang	20.79	337	P	P	02 07 46.5	+0.3
MDJ				sP	sP	02 09 29.5	-2.7
MDJ				S	S	02 11 13.8	+1.3
MDJ				ScP	ScP	02 14 40.3	+1.9
MDJ				PMZ			
	comp=Z,6.0nm,0.6s						
YSS	Yuzh-Sakhalins	21.09	4	⇓*i*P	P	02 07 49.8	+0.9
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	Yuzh-Sakhalins	21.09	4	*e*P	P	02 07 49.6	+0.8
	comp=Z,40nm,0.5s						
SNY	Shenyang	21.34	323	⇑P	P	02 07 51.3	+0.1
SNY				PMZ			
	comp=Z,28nm,0.8s						
HABR	Khabarovsk	23.01	350	*e*P	P	02 08 05.7	-0.5
HABR				*e**SP	sP	02 09 55.6	-0.7
HABR				*e*		02 11 41.6	
HABR				*e*S	S	02 11 49.0	+1.1
HABR				*e*		02 18 28.9	
HABR				pmax	pmax		
	comp=Z,23nm,1.5s						
HABR				MLR	MLR		
	comp=Z,83nm,17.0s						
KLR	Kul'dur	24.36	345	*e*P	P	02 08 14.2	-4.3
TYV	Tymovskoe	24.99	3	*e*P	P	02 08 22.5	-1.5
TYV				pmax	pmax		
	comp=Z,20nm,0.8s						
TYV				pmax	pmax		
	comp=E,26nm,1.0s						
HHC	Hu-ho-hao-te	28.47	309	*e*P	P	02 08 54.3	-0.9
HHC				pP	PP	02 10 07.9	-1.2
HHC				sP	sP	02 10 50.6	+1.0
HHC				PcP	PcP	02 11 56.6	+0.6
HHC				S	S	02 13 12.0	-2.3
HHC				PMZ			
	comp=E,22nm,0.8s						
HHC				PMZ			
	comp=E,110nm,3.8s						
XAN	Xi'an	28.72	294	P	P	02 08 58.1	+0.7
XAN				PMZ			
	comp=E,3.0nm,0.7s						
QIZ	Qiongzhong	29.38	263	P	P	02 09 03.6	+0.3
QIZ				PP	PP	02 10 18.7	-0.5
QIZ				sP	sP	02 10 55.2	-2.5
QIZ				S	S	02 13 28.5	-0.3
QIZ				PMZ			
	comp=E,15nm,2.0s						
FAKI	Fak Fak	29.80	197	*e*P	P	02 09 06.1	-0.9
	comp=E,34nm,0.7s						
PETK	Petropavlovsk-	30.00	20	P	P	02 09 09.8	+1.6
	comp=E,6.0nm,0.6s,baz=156,slow=4.0,SNR=7.0						
GYA	Guiyang	30.61	279	*e*P	P	02 09 14.8	+0.7
GYA				pP	pP	02 10 25.2	+0.7
GYA				sP	sP	02 11 08.4	-0.4
GYA				PcP	PcP	02 12 02.0	+0.2
GYA				S	S	02 13 47.0	-1.0
GYA				ScP	ScP	02 15 07.2	-0.3
GYA				ScS	ScS	02 19 03.8	-1.3
GYA				PMZ			
	comp=E,10.0nm,0.8s						
GYA				PMZ			
	comp=E,90nm,4.9s						
KKM	Kota Kinabalu	30.68	234	*e*P	P	02 09 15.2	+0.4
LUWI	Luwuk	31.94	216	*e*P	P	02 09 24.3	-1.3
	comp=E,65nm,0.4s						
CD2	Chengdu	32.89	287	*e*P	P	02 09 32.0	-1.6
CD2				pP	pP	02 10 42.8	-1.8
CD2				sP	sP	02 11 27.0	-1.8
CD2				S	S	02 14 21.1	-1.8
CD2				sS	sS	02 16 31.3	-1.5
CD2				SS	SS	02 17 03.1	-1.3
CD2				PMZ			
	comp=E,10.0nm,0.5s						
CD2				PMZ			
	comp=E,120nm,5.4s						
LZH	Lanzhou	33.12	297	P	P	02 09 36.1	+0.4
LZH				pP	pP	02 10 51.3	+4.5
LZH				sP	sP	02 11 31.3	+0.3
LZH				*e*S	S	02 14 28.0	+1.4
LZH				SS	SS	02 17 05.3	-3.9
LZH				PMZ			
	comp=E,52nm,1.4s						
LZH				PMZ			
	comp=E,200nm,4.5s						
KMI	Kunming	34.30	277	P	P	02 09 48.0	+2.0
KMI				pP	pP	02 10 58.3	+0.9
KMI				PMZ			
	comp=E,9.0nm,1.0s						
ULN	Ulaanbaatar	34.39	319	*e*P	P	02 09 51.4	+5.0
ULN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ULN	Ulaanbaatar	34.39	319	*e*P	P	02 09 51.4	+5.0
	comp=Z,8.5nm,0.7s						
SONM	Songino Array	34.77	318	P	P	02 09 49.6	0.0
	comp=Z,9.0nm,0.8s,baz=124,slow=7.4,SNR=35						
SONM				PcP	PcP	02 12 12.3	-0.9
	comp=Z,1.5nm,0.4s,baz=116,slow=2.1,SNR=5.7						
PMG	Port Moresby	35.61	169	*e*P	P	02 09 56.9	+0.1
PMG				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PMG	Port Moresby	35.61	169	*e*P	P	02 09 56.9	+0.1
	comp=Z,9.4nm,0.7s						
SBUM	Sibu	36.03	234	*e*P	P	02 10 00.9	+0.4
GTA	Gaotai	36.76	302	*e*P	P	02 10 06.4	0.0
GTA				pP	pP	02 11 19.8	+1.1
GTA				sP	sP	02 12 03.1	+0.5
GTA				S	S	02 15 22.7	+1.1
GTA				sS	sS	02 17 32.9	-0.4
GTA				SS	SS	02 18 16.8	-4.8
GTA				PMZ			
	comp=Z,10.0nm,1.5s						
GTA				PMZ			
	comp=Z,95nm,6.2s						
GTA				LN			
	comp=Z,91nm,15.2s						
GTA				LE			
	comp=Z,110nm,15.4s						
GTA				LZ			
	comp=Z,64nm,14.7s						
KAPI	Kappang	36.89	217	P	P	02 10 07.6	+0.1
	comp=Z,5.9nm,0.6s,baz=54,slow=15,SNR=3.9						
YAK	Yakutsk	36.92	351	*e*P	P	02 10 05.8	-1.3
YAK				*e*S	S	02 15 21.5	-1.5
YAK				pmax	pmax		
	comp=N,12nm,1.2s						
YAK				pmax	pmax		
	comp=Z,25nm,0.8s						
YAK				smax	smax		
	comp=N,45nm,1.4s						
YAK	Yakutsk	36.92	351	*e*P	P	02 10 07.3	+0.2
BOD	Bodaibo	37.16	336	*e*P	P	02 10 09.3	0.0
BOD				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CHAI	Chaiyaphum	37.49	262	P	P	02 10 14.4	+1.8
	comp=Z,6.5nm,0.5s,comp=Z,1µm						
LOEI	Loei	37.57	265	P	P	02 10 11.0	-2.2
	comp=Z,59nm,1.5s,comp=Z,4µm						
ZAK	Zakamensk	37.74	320	*e*P	P	02 10 13.5	-0.8
ZAK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SEY	Seymchan	37.84	9	P	P	02 10 15.9	+1.1
	comp=Z,24nm,0.6s,baz=192,slow=7.5,SNR=64						
SEY	Seymchan	37.84	9	*d i*P	P	02 10 15.8	+1.0
TLY	Talaya	38.13	322	P	P	02 10 18.2	+0.7
	comp=Z,9.0nm,0.7s,baz=336,slow=0.2,SNR=15						
TLY	Talaya	38.13	322	*e*P	P	02 10 17.9	+0.4
TLY				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TLY	Talaya	38.13	322	*e*P	P	02 10 18.1	+0.7
	comp=Z,7.7nm,0.7s						
PBKT	Sadao Pong	38.16	264	P	P	02 10 19.3	+1.2
	comp=Z,14nm,0.9s,comp=Z,950nm						
MMRI	Maumere	38.77	210	*e*P	P	02 10 22.1	-1.1
SOEI	Soe	38.91	207	*e*P	P	02 10 23.9	-0.4
CMAR	Chiang Mai Arr	39.35	268	P	P	02 10 28.1	+0.2
	comp=Z,1.4nm,0.4s,baz=53,slow=6.9,SNR=8.1						
CMAR				PcP	PcP	02 12 28.4	+0.7
	comp=Z,1.7nm,0.3s,baz=63,slow=1.3,SNR=4.7						
COEN	Coen	39.66	176	*e*P	P	02 10 31.1	+0.8
	comp=Z,37nm,0.8s						
UTHA	Uthaitani	39.89	263	P	P	02 10 34.0	+1.7
	comp=Z,4.3nm,0.7s						
ADK	Adak	41.21	39	*e*P	P	02 10 43.0	+0.6
ADK				pmax	pmax		
	comp=Z,22nm,0.8s						
ADK	Adak	41.21	39	*e*P	P	02 10 43.0	+0.6
	comp=Z,22nm,0.8s						
JAGI	Jajag, Banyuwa	42.87	221	*e*P	P	02 10 55.2	-1.0
	comp=Z,39nm,0.8s						
IPM	Ipoh	43.63	248	*e*P	P	02 11 02.2	0.0
	comp=Z,12nm,0.7s						
SHL	Shillong	43.88	281	*e*P	P	02 11 04.5	+0.2
LEM	Lembang	45.79	229	P	P	02 11 19.4	+0.2
	comp=Z,58nm,0.8s,baz=39,slow=14,SNR=3.4						
WRAB	Tennant Creek	45.97	188	*e*P	P	02 11 19.9	-0.4
WRAB				*e*S	S	02 17 33.9	-1.9
WRAB				pmax	pmax		
	comp=Z,78nm,0.5s						
WRAB	Tennant Creek	45.97	188	*e*P	P	02 11 19.9	-0.4
	comp=Z,78nm,0.5s						
WRAB				*e*S	S	02 17 33.9	-1.9
WRA	Warramunga Arr	45.98	188	P	P	02 11 20.1	-0.2
	comp=Z,29nm,0.4s,baz=9.9,slow=8.3,SNR=126						
WRA				S	S	02 17 32.9	-3.1
	comp=Z,9.0nm,1.0s,baz=7.9,slow=14,SNR=12						
CTAO	Charters Tower	45.99	173	*e*P	P	02 11 20.4	0.0
CTAO				pmax	pmax		
	comp=Z,28nm,0.9s						
CTAO	Charters Tower	45.99	173	*e*P	P	02 11 20.4	0.0
	comp=Z,28nm,0.9s						
PSI	Prapat	46.30	247	*e*P	P	02 11 23.3	+0.2
PSI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PSI	Prapat	46.30	247	*e*P	P	02 11 23.3	+0.2
	comp=Z,10nm,0.6s						
WMQ	Urumqi	46.31	307	P	P	02 11 24.7	+1.9
WMQ				pP	pP	02 12 41.0	+2.2
WMQ				PP	PP	02 13 19.4	+2.9
WMQ				sP	sP	02 13 23.0	+1.4
WMQ				PMZ			
	comp=Z,28nm,0.3s						
WMQ				PMZ			
	comp=Z,95nm,4.2s						
WMQ				LN			
	comp=Z,88nm,6.5s						
WMQ				LE			
	comp=Z,94nm,7.0s						
WMQ				LZ			
	comp=Z,46nm,10.2s						
TAPN	Taplejung	47.21	284	*e*P	P	02 11 31.5	+1.3
	comp=Z,14nm,0.7s						
ODAN	Odare	47.58	284	*e*P	P	02 11 33.7	+0.8
	comp=Z,21nm,0.6s						
RAMN	Ramite	48.25	284	*e*P	P	02 11 38.7	+0.7
	comp=Z,20nm,0.8s						
JIRN	Jiri	48.47	285	*e*P	P	02 11 41.1	+1.3
GUN	Gumba	48.69	285	*e*P	P	02 11 42.4	+0.9
GAMB	Gambell	48.75	26	*e*P	P	02 11 42.5	+1.7
	comp=Z,38nm,0.8s						
PKI	Pulchoki	49.17	285	*e*P	P	02 11 45.4	+0.4
	comp=Z,6.1nm,0.4s						
KKN	Kakani	49.24	285	*e*P	P	02 11 45.8	+0.4
DMN	Daman	49.42	285	*e*P	P	02 11 47.6	+0.8
	comp=Z,23nm,0.6s						
ZALV	Zalesovo Beam	49.62	320	P	P	02 11 47.1	-0.4
	comp=Z,7.1nm,0.5s,baz=106,slow=7.3,SNR=12						
ZALV				PcP	PcP	02 13 01.7	-0.8
	comp=Z,4.7nm,0.5s,baz=121,slow=3.8,SNR=6.9						
AS31	Alice Springs	49.70	188	*e*P	P	02 11 48.2	-0.3
ASAR	Alice Springs	49.70	188	P	P	02 11 48.2	-0.3
	comp=Z,5.7nm,0.8s,baz=17,slow=11,SNR=42						
ASAR				S	S	02 18 25.4	-2.4
	comp=Z,1.2nm,0.9s,baz=15,slow=15,SNR=5.3						
GKN	Gorkha	49.76	286	*e*P	P	02 11 49.8	+0.6
	comp=Z,41nm,1.0s						
MK31	Makanchi Array	50.32	310	*i* P	P	02 11 53.1	+0.2
MK31				pmax	pmax		
	comp=Z,11nm,0.5s						
MK31	Makanchi Array	50.32	310	*e*P	P	02 11 53.2	+0.2
MK31				*e*PcP	PcP	02 13 05.1	-0.3
MKAR	Makanchi Array	50.32	310	P	P	02 11 53.3	+0.4
	comp=Z,12nm,0.5s,baz=92,slow=9.2,SNR=175						
MKAR				PcP	PcP	02 13 05.0	-0.4
	comp=Z,2.5nm,0.5s,baz=71,slow=7.8,SNR=4.6						
MKAR				ScP	ScP	02 16 22.4	-1.6
	comp=Z,1.0nm,0.8s,baz=79,slow=6.3,SNR=4.0						
NVS	Novosibirsk	50.70	321	*i* P	P	02 11 55.1	-0.4
NVS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.9s						
KOLN	Koldanda	50.70	286	*e*P	P	02 11 56.9	+0.6
	comp=E,25nm,0.8s						
MBWA	Marble Bar	51.04	206	*e*P	P	02 11 57.8	-0.6
	comp=E,8.9nm,0.5s						
SDPT	Sand Point	51.42	39	*e*P	P	02 12 01.0	+0.2
	comp=E,118nm,0.6s						
EIDS	Eidsvold	51.90	168	*e*P	P	02 12 05.3	+0.6
	comp=E,19nm,0.7s						

KURK **Kurchatov** 52.98 315 P **P** 02 12 11.6 -0.6
KURK pmax pmax
comp=Z,11nm,0.6s
KURK **Kurchatov** 52.98 315 *e*P **P** 02 12 12.0 -0.2
comp=Z,28nm,0.6s
KURK P P 02 12 12.6 +0.4
KURBB **Kurchatov Arra** 53.03 315 P **P** 02 12 12.6 0.0
comp=Z,45nm,0.7s,baz=93,slow=7.9,SNR=336
ULHL **Ulahol** 54.70 305 P **P** 02 12 26.0 +1.0
SNR=14
SVW2 **Sparrevohn** 54.97 32 *e*P **P** 02 12 28.1 +1.8
comp=Z,31nm,0.9s
TKM2 **Tokmak 2** 55.12 306 P **P** 02 12 28.9 +0.9
SNR=25
TKM2 **Tokmak 2** 55.12 306 *e*P **P** 02 12 28.6 +0.7
TKM2 pmax pmax
comp=Z,17nm,0.6s
TKM2 **Tokmak 2** 55.12 306 *e*P **P** 02 12 28.6 +0.7
comp=Z,17nm,0.6s
KSH **Kashi** 55.16 301 P P 02 12 32.0 +3.8
KSH PcP **PcP** 02 13 27.5 +3.5
KSH sP sP 02 14 33.9 +4.5
KSH PP PP 02 14 45.4 +9.2
KSH PcS **PcS** 02 17 26.3 +1.6
KSH S S 02 19 48.4 +7.2
KSH ScS **ScS** 02 21 38.7 +1.2
KSH sS sS 02 22 07.3 +4.6
KSH PMZ
comp=Z,26nm,0.6s
KSH PMZ
comp=Z,120nm,4.9s
KSH LN
comp=Z,100nm,5.0s
KSH LE
comp=Z,110nm,8.9s
KSH LZ
comp=Z,120nm,5.3s
KZA **Kyzart** 55.45 305 P **P** 02 12 32.2 +1.7
SNR=28
KBK **Karagaybulak** 55.62 305 P **P** 02 12 32.5 +1.1
SNR=18
USP **Ospenovka** 55.89 306 P **P** 02 12 33.9 +0.7
SNR=11
AAK **Ala-Archa** 55.95 305 P **P** 02 12 34.5 +0.7
SNR=11
AAK **Ala-Archa** 55.95 305 P **P** 02 12 34.4 +0.7
comp=Z,9.9nm,0.4s,baz=107,slow=5.7,SNR=24
AAK **Ala-Archa** 55.95 305 *d i*P **P** 02 12 34.5 +0.7
AAK pmax pmax
comp=Z,13nm,0.7s
AAK **Ala-Archa** 55.95 305 *e*P **P** 02 12 34.4 +0.7
comp=Z,12nm,0.6s
UCH **Uchtor** 55.98 305 P **P** 02 12 35.8 +1.5
SNR=26
KDAK **Kodiak Island** 56.07 36 *e*P **P** 02 12 34.8 +0.8
KDAK pmax pmax
comp=Z,32nm,0.7s
KDAK **Kodiak Island** 56.07 36 *e*P **P** 02 12 34.8 +0.8
comp=Z,32nm,0.7s
EKS2 **Erkin-Say** 56.48 305 P **P** 02 12 38.2 +0.8
SNR=13
EKS2 **Erkin-Say** 56.48 305 *e*P **P** 02 12 38.1 +0.8
EKS2 **Erkin-Say** 56.48 305 *e*P **P** 02 12 37.5 +0.2
comp=Z,11nm,0.8s
EKS2 *e*PcP **PcP** 02 13 29.1 0.0
AML **Almayashu** 56.59 305 P **P** 02 12 39.8 +1.3
SNR=10
IM04 **Indian Mountai** 56.66 26 *e*P **P** 02 12 39.3 +1.2
IM04 *e*PcP **PcP** 02 13 29.6 +0.4
BRLK **Bradley Lake** 57.11 34 *e*P **P** 02 12 41.5 +0.2
STKA **Stephens Creek** 57.43 179 P **P** 02 12 43.7 -0.1
comp=Z,14nm,0.6s,baz=352,slow=6.7,SNR=64
STKA **Stephens Creek** 57.43 179 P **P** 02 12 43.7 -0.1
STKA pmax pmax
comp=Z,14nm,0.6s
STKA **Stephens Creek** 57.43 179 *e*P **P** 02 12 43.1 -0.7
comp=Z,3.5nm,0.7s
STKA P P 02 12 43.7 -0.1
FORT **Forrest** 57.64 193 *e*P **P** 02 12 45.1 -0.2
comp=Z,42nm,0.6s
BVAR **Borovoye Array** 58.12 318 P **P** 02 12 48.6 +0.2
comp=Z,46nm,0.4s,baz=89,slow=7.0,SNR=302
BVAR PcP **PcP** 02 13 35.0 -0.2
comp=Z,3.2nm,0.4s,baz=94,slow=3.2,SNR=3.7
BRVK **Borovoye** 58.18 318 *d i*P **P** 02 12 48.9 +0.1
BRVK pmax pmax
comp=Z,32nm,0.7s
BRVK **Borovoye** 58.18 318 *e*P **P** 02 12 49.1 +0.3
comp=Z,36nm,0.8s
BRVK *e*PcP **PcP** 02 13 34.8 -0.7
BWN **Browne** 58.20 29 *e*P **P** 02 12 50.3 +1.7
comp=Z,70nm,0.8s
COLD **Coldfoot** 58.29 25 *e*P **P** 02 12 50.8 +1.6
comp=Z,27nm,1.0s
COLD *e*PcP **PcP** 02 13 36.9 +1.2
MCK **McKinley** 58.39 29 *e*P **P** 02 12 50.3 +0.3
MCK pmax pmax
comp=Z,75nm,0.9s
MCK **McKinley** 58.39 29 *e*P **P** 02 12 50.3 +0.3
comp=Z,75nm,0.9s
BBOO **Buckleboo** 58.53 185 *e*P **P** 02 12 51.3 -0.1
comp=Z,17nm,0.8s
KK31 **Karatay Array** 58.81 306 *i* P **P** 02 12 53.6 +0.3
KK31 pmax pmax
comp=Z,13nm,0.4s
KKAR **Karatay Array** 58.81 306 *e*P **P** 02 12 53.2 -0.1
KKAR pmax pmax
comp=Z,44nm,0.8s
KKAR **Karatay Array** 58.81 306 *e*P **P** 02 12 53.2 -0.1
comp=Z,44nm,0.8s
COLA **College** 58.96 28 *e*P **P** 02 12 54.2 +0.4
COLA pmax pmax
comp=Z,25nm,0.6s
COLA **College** 58.96 28 *e*P **P** 02 12 54.2 +0.4
comp=Z,25nm,0.6s
ILAR **Eielson Array** 59.36 28 P **P** 02 12 56.2 -0.4
comp=Z,18nm,0.9s,baz=262,slow=5.6,SNR=39
PAX **Paxson** 59.90 30 *e*P **P** 02 13 00.7 +0.3
PAX **Paxson** 59.90 30 *e*P **P** 02 13 00.7 +0.3
FYU **Fort Yukon** 60.17 26 *e*P **P** 02 13 04.0 +2.0
comp=Z,34nm,1.0s
BMRM **Bremner River** 60.28 33 *e*P **P** 02 13 04.3 +1.4
comp=Z,98nm,1.2s
DZET **Dzherino** 60.76 302 P **P** 02 13 06.8 +0.2
DZET pmax pmax
comp=Z,19nm,0.5s
KBL **Kabul** 61.48 297 *e*P **P** 02 13 11.4 -0.1
KBL pmax pmax
comp=Z,30nm,0.9s
KBL **Kabul** 61.48 297 *e*P **P** 02 13 11.4 -0.1
comp=Z,30nm,0.9s
EGAK **Eagle** 61.82 28 *e*P **P** 02 13 13.1 +0.1
comp=Z,13nm,0.6s
DAWY **Dawson** 62.61 29 *e*P **P** 02 13 18.9 +0.6
SVE **Sverdlovsk** 63.45 323 ⇑ *e*P **P** 02 13 23.6 -0.2
SVE pmax pmax
comp=Z,16nm,0.6s
HYT **Haines Junctio** 63.75 33 *e*P **P** 02 13 27.4 +1.6
ARU **Arti** 64.64 322 *d i*P **P** 02 13 31.0 -0.4
ARU 02 14 00.1
ARU 02 15 54.2
ARU S **S** 02 21 40.4 +0.3
ARU pmax pmax
comp=Z,24nm,0.7s
INK **Inuvik** 64.64 24 P **P** 02 13 31.4 +0.2
comp=Z,10nm,0.4s,baz=290,slow=5.6,SNR=23
INK **Inuvik** 64.64 24 P **P** 02 13 31.4 +0.2
INK pmax pmax
comp=Z,10.0nm,0.4s
INK **Inuvik** 64.64 24 *e*P **P** 02 13 30.6 -0.6
comp=Z,14nm,0.6s
INK P P 02 13 31.4 +0.2
AB31 **Akbulak array** 65.07 314 *e*P **P** 02 13 33.8 -0.5
AB31 pmax pmax
comp=Z,10.0nm,0.5s
ABKAR **Akbulak array** 65.07 314 *e*P **P** 02 13 34.0 -0.4
BESE **Bessie Mountai** 65.39 35 *e*P **P** 02 13 38.1 +1.8
AKTO **Aktyubinsk** 66.06 316 P **P** 02 13 40.0 -0.5
comp=Z,8.6nm,0.6s,baz=93,slow=7.7,SNR=32
AKTO **Aktyubinsk** 66.06 316 P **P** 02 13 39.6 -0.9
AKTO pmax pmax
comp=Z,8.0nm,0.7s
DLBC **Dease Lake** 67.91 35 *e*P **P** 02 13 53.2 +1.2
PRGR **Permogore** 69.98 330 ⇓ *i*P **P** 02 14 02.5 -1.9
PRGR pmax pmax
comp=Z,17nm,0.6s

SPA0 **Spitsbergen Ar** 71.36 350 *e*P **P** 02 14 12.5 +0.1
SPITS **Spitsbergen Ar** 71.36 350 P **P** 02 14 12.7 +0.2
comp=Z,4.9nm,0.4s,baz=123,slow=6.1,SNR=66
KBS **Kingsbay** 71.55 351 *e*P **P**
KBS IAmb IAmb 02 14 14.1 +0.6
comp=Z,8.5nm,0.6s 02 14 14.5
HSPB **Hornsund (broa** 72.24 349 *e*P **P** 02 14 18.1 +0.5
HSPB IAmb IAmb 02 14 18.6
comp=Z,32nm,0.9s
TMCR **Tamitsa** 72.37 333 *e*P **P** 02 14 18.6 0.0
TMCR pmax pmax
comp=Z,30nm,1.1s
KLMR **Klimovskoe** 73.02 330 *e*P **P** 02 14 19.6 -2.8
KLMR pmax pmax
comp=Z,5.0nm,0.4s
RES **Resolute Bay** 73.53 13 *e*P **P** 02 14 24.8 -0.3
RES pmax pmax
comp=Z,17nm,0.9s
RES **Resolute Bay** 73.53 13 *e*P **P** 02 14 24.8 -0.3
comp=Z,16nm,0.9s
KEV **Kevo** 73.72 341 *e*P **P** 02 14 26.3 0.0
KEV pmax pmax
comp=Z,15nm,0.8s
KEV **Kevo** 73.72 341 *e*P **P** 02 14 26.3 0.0
comp=Z,15nm,0.8s
YKA **Yellowknife Ar** 73.79 28 P **P** 02 14 26.8 0.0
comp=Z,16nm,0.7s,baz=294,slow=5.7,SNR=68
ARCES **ARCESS Array B** 74.29 341 P **P** 02 14 29.7 +0.1
comp=Z,16nm,0.7s,baz=59,slow=7.6,SNR=36
ARE0 **ARCESS Array S** 74.29 341 *e*P **P** 02 14 29.8 +0.2
BMW **Boistfort Moun** 75.57 45 P **P** 02 14 39.0 +1.6
BMW **Boistfort Moun** 75.57 45 P **P** 02 14 39.0 +1.6
G03D **McMinnville, O** 76.03 46 ⇑P **P** 02 14 40.8 +0.9
baz=76
D05A **Enumclaw** 76.08 44 *e*P **P** 02 14 42.4 +2.3
comp=Z,40nm,1.4s
TRO **Tromso** 76.12 342 *e*P **P** 02 14 37.4 -2.5
KEBM **Edson Butte** 76.21 49 *e*P **P** 02 14 42.7 +1.7
comp=Z,77nm,1.0s
LVP **Lakeview Peak** 76.25 45 P **P** 02 14 42.8 +1.5
TDL **Tradedollar La** 76.27 45 P **P** 02 14 43.0 +1.6
I03D **Drain, OR** 76.56 48 ⇓P **P** 02 14 44.5 +1.7
baz=76,SNR=5.5
LPSR **Galich'ya Gora** 76.66 322 *e*P **P** 02 14 42.9 -0.3
LPSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR pmax pmax
comp=N,6.0nm,1.0s
LPSR pmax pmax
comp=E,6.0nm,0.8s
OBN **Obninsk** 76.83 325 *c i*P **P** 02 14 44.2 +0.1
OBN pmax pmax
comp=Z,43nm,2.5s
ETW **Entiat** 76.95 43 P **P** 02 14 46.1 +0.9
VLL **Laurance Lake** 76.96 46 P **P** 02 14 46.8 +1.6
L02D **Cave Junction,** 76.99 49 ⇑P **P** 02 14 46.7 +1.4
baz=77
NAC **Naches** 77.00 44 P **P** 02 14 46.8 +1.5
VSR **Storozhevoye** 77.11 321 *e*P **P** 02 14 45.3 -0.4
VSR pmax pmax
comp=Z,20nm,0.5s
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,10.0nm,0.6s
WTV **Waterville** 77.15 43 P **P** 02 14 46.9 +0.7
I04A **Tendick Farm,** 77.15 48 ⇓P **P** 02 14 47.2 +1.0
baz=77,SNR=7.0
HUMO **Hull Mountain** 77.25 49 *e*P **P** 02 14 48.0 +1.3
comp=E,87nm,2.5s
B08A **Colville Reser** 77.25 42 *e*P **P** 02 14 47.6 +1.0
comp=E,27nm,0.8s
G05D **Wamic, OR** 77.28 46 ⇑P **P** 02 14 48.3 +1.4
baz=77
GOF **Gofitskoye** 77.30 314 *e*P **P** 02 14 46.7 -0.2
KHMM **Horse Mountain** 77.40 51 *e*P **P** 02 14 49.7 +1.9
comp=E,34nm,1.1s
SAW **Saint Andrews** 77.48 43 P **P** 02 14 48.8 +0.9
J04D **Umpqua Nationa** 77.57 48 ⇓P **P** 02 14 50.0 +1.3
baz=78
I05D **Terrebonne, OR** 77.64 47 ⇑P **P** 02 14 50.0 +1.1
baz=78
ZEI **Tsey** 77.65 312 *e*P **P** 02 14 47.0 -2.2
ZEI pmax pmax
comp=Z,20nm,0.5s
YBH **Yreka Blue Hor** 77.77 50 *e*P **P** 02 14 50.8 +1.1
YBH pmax pmax
comp=Z,14nm,0.9s
YBH **Yreka Blue Hor** 77.77 50 *e*P **P** 02 14 50.8 +1.1
comp=Z,14nm,0.9s
M02C **Callahan** 77.81 50 ⇑P **P** 02 14 51.5 +1.6
baz=78
KBZ **Ikabaz** 77.94 313 P **P** 02 14 50.9 +0.5
comp=Z,32nm,0.8s,baz=111,slow=6.5
HAWA **Hanford** 77.95 44 *e*P **P** 02 14 51.7 +1.2
comp=Z,12nm,1.1s
KCPM **Cahto Peak** 77.98 52 *e*P **P** 02 14 52.3 +1.4
comp=Z,28nm,1.1s
KIV **Kislovodsk** 77.98 313 *d i*P **P** 02 14 51.1 +0.3
KIV pmax pmax
comp=Z,40nm,1.7s
D08A **Wollman Farm,** 78.05 43 *e*P **P** 02 14 52.1 +1.1
comp=Z,29nm,1.0s
N02D **Trinity Center** 78.08 50 ⇑P **P** 02 14 52.8 +1.4
baz=78
GNI **Garni** 78.13 309 P **P** 02 14 52.3 +0.6
comp=Z,4.0nm,0.5s,baz=194,slow=12,SNR=4.7
GNI **Garni** 78.13 309 *e*P **P** 02 14 52.4 +0.6
GNI pmax pmax
comp=Z,8.0nm,0.6s
GNI **Garni** 78.13 309 *e*P **P** 02 14 52.4 +0.6
comp=Z,7.8nm,0.6s
J05D **Fort Rock, OR** 78.14 48 ⇑P **P** 02 14 53.3 +1.5
baz=78,SNR=19
M04C **Macdoel** 78.34 49 ⇓P **P** 02 14 54.2 +1.4
baz=78
WDC **Whiskeytown Da** 78.35 51 *e*P **P** 02 14 52.9 +0.1
WDC pmax pmax
comp=Z,21nm,1.4s
WDC **Whiskeytown Da** 78.35 51 *e*P **P** 02 14 52.9 +0.1
comp=Z,21nm,1.4s
FIA1 **FINESS Array S** 78.49 334 *e*P **P** 02 14 52.0 -1.1
FINES **FINESS Array B** 78.49 334 P **P** 02 14 52.4 -0.7
comp=Z,9.7nm,0.4s,baz=87,slow=4.8,SNR=168
K05A **Summer Lake** 78.59 48 *e*P **P** 02 14 55.7 +1.4
comp=Z,43nm,1.0s
NEW **Newport** 78.63 42 *e*P **P** 02 14 55.3 +1.1
NEW pmax pmax
comp=Z,26nm,0.8s
NEW **Newport** 78.63 42 ⇓P **P** 02 14 55.3 +1.1
baz=78
NEW **Newport** 78.63 42 *e*P **P** 02 14 55.3 +1.1
comp=Z,26nm,0.8s
I07A **Izee** 78.94 46 *e*P **P** 02 14 56.4 +0.3
BMO **Blue Mountains** 80.02 45 *e*P **P** 02 15 02.2 +0.4
comp=Z,23nm,0.8s
WALA **Waterton Lakes** 80.16 40 *e*P **P** 02 15 03.3 +0.9
comp=Z,41nm,1.0s
BSMT **Bassoo Peak** 80.21 41 *e*P **P** 02 15 03.7 +0.9
comp=Z,27nm,1.2s
WVOR **Wild Horse Val** 80.23 48 *e*P **P** 02 15 04.0 +1.1
WVOR pmax pmax
comp=Z,21nm,1.0s
WVOR **Wild Horse Val** 80.23 48 *e*P **P** 02 15 04.0 +1.1
comp=Z,21nm,1.0s
BLMT **Blacktail Moun** 80.39 41 *e*P **P** 02 15 04.7 +0.9
JTMT **Jette** 80.56 41 *e*P **P** 02 15 05.6 +1.1
YBMT **Yellow Bay** 80.67 41 *e*P **P** 02 15 06.0 +0.8
comp=Z,17nm,1.1s
SWMT **Swartz Lake** 80.84 42 *e*P **P** 02 15 06.4 +0.4
comp=Z,21nm,0.9s
CMB **Columbia Colle** 80.94 52 *e*P **P** 02 15 07.4 +0.8
CMB pmax pmax
comp=Z,13nm,1.0s
CMB **Columbia Colle** 80.94 52 *e*P **P** 02 15 07.4 +0.8
comp=Z,13nm,1.0s
ANN **Anapa** 81.01 315 *e*P **P** 02 15 06.1 -0.6
ANN pmax pmax
comp=Z,60nm,1.3s
MSO **Missoula** 81.20 42 ⇑P **P** 02 15 08.6 +0.7
baz=81
MSO **Missoula** 81.20 42 *e*P **P** 02 15 08.4 +0.5
SLMT **Seeley Lake** 81.27 42 *e*P **P** 02 15 08.5 +0.2
comp=Z,24nm,0.9s
WAKR **Walker** 81.40 51 *e*P **P** 02 15 09.7 +0.4
comp=Z,3.3nm,0.7s

NSS **Namsos** 81.55 340 *e*P **P** 02 15 08.3 -0.8
CHMT **Chamberlain Mo** 81.58 42 *e*P **P** 02 15 09.9 -0.1
comp=Z,2.6nm,0.5s
MFID **Camas Ranch** 81.63 46 *e*P **P** 02 15 11.0 +0.8
comp=Z,31nm,0.8s
SUMG **Summit** 81.81 360 ⇓ *i*P **P** 02 15 11.2 +0.3
comp=Z,9.5nm,0.7s
SUMG **Summit** 81.81 360 ⇓ *i*P **P** 02 15 11.2 +0.3
SUMG pmax pmax
comp=Z,10.0nm,0.7s
SUMG **Summit** 81.81 360 *e*P **P** 02 15 10.9 0.0
comp=Z,9.9nm,0.9s
BMN **Battle Mountai** 82.07 49 *e*P **P** 02 15 11.0 -1.6
BMN **Battle Mountai** 82.07 49 *e*P **P** 02 15 11.0 -1.6
NVAR **Mina Array Bea** 82.23 51 P **P** 02 15 14.8 +1.2
comp=Z,8.2nm,0.8s,baz=277,slow=5.3,SNR=43
HLID **Hailey** 82.46 45 ⇑P **P** 02 15 15.7 +1.1
baz=82,SNR=18
HLID **Hailey** 82.46 45 *e*P **P** 02 15 15.7 +1.1
comp=Z,12nm,0.8s
HRY **Holter Researc** 82.53 41 *e*P **P** 02 15 15.6 +0.8
comp=Z,20nm,0.5s
LRM **Limekiln Ridge** 82.59 42 *e*P **P** 02 15 15.9 +0.6
comp=Z,440nm,1.1s
PKM **Mcpherson Peak** 82.72 55 ⇓P **P** 02 15 17.2 +1.1
baz=83
DLMT **Dillon** 82.73 43 *e*P **P** 02 15 16.7 +0.9
VES **Vestal, Richgr** 82.84 54 ⇑P **P** 02 15 16.5 +0.2
baz=83,SNR=5.3
MCMT **McKenzie Canyo** 82.84 43 *e*P **P** 02 15 16.9 +0.4
AKASG **Malin Array Be** 82.87 323 P **P** 02 15 15.4 -0.8
comp=Z,12nm,0.6s,baz=51,slow=5.2,SNR=51
AKBB **Malin Array Si** 82.87 323 *e*P **P** 02 15 15.0 -1.2
AKBB **Malin Array Si** 82.87 323 *e*P **P** 02 15 15.0 -1.2
AK01 **Malin Array Si** 82.88 323 *e*P **P** 02 15 15.2 -1.1
KIEV **Kiev** 82.88 323 *e*P **P** 02 15 15.2 -1.1
KIEV pmax pmax
comp=Z,12nm,0.5s
KIEV **Kiev** 82.88 323 *e*P **P** 02 15 15.2 -1.1
comp=Z,12nm,0.5s
AK02 **Malin Array Si** 82.90 323 *e*P **P** 02 15 15.2 -1.1
SIM **Simferopol'** 83.01 317 *c i*P **P** 02 15 17.1 0.0
SIM pmax pmax
comp=Z,15nm,0.7s
EGMT **Eagleton** 83.08 40 ⇑P **P** 02 15 18.0 +0.6
baz=83,SNR=10
EGMT **Eagleton** 83.08 40 *e*P **P** 02 15 17.7 +0.2
comp=Z,46nm,1.0s
TPH **Tonopah** 83.15 51 *e*P **P** 02 15 18.6 +0.4
TPH pmax pmax
comp=Z,28nm,1.2s
TPH **Tonopah** 83.15 51 *e*P **P** 02 15 18.6 +0.4
comp=Z,28nm,1.2s
A19A **Klindworth Far** 83.18 38 ⇑P **P** 02 15 18.8 +0.8
baz=83,SNR=14
BOZ **Bozeman (W)** 83.18 42 *e*P **P** 02 15 18.8 +0.7
BOZ pmax pmax
comp=Z,11nm,0.7s
BOZ **Bozeman (W)** 83.18 42 *e*P **P** 02 15 18.8 +0.7
comp=Z,11nm,0.7s
ELK **Elko** 83.26 48 *e*P **P** 02 15 19.4 +0.6
ELK pmax pmax
comp=Z,19nm,1.0s
ELK **Elko** 83.26 48 *e*P **P** 02 15 19.4 +0.6
comp=Z,19nm,1.0s
CWC **Cottonwood Cre** 83.29 53 ⇓P **P** 02 15 19.5 +0.6
baz=83
B19A **Brinkman Farms** 83.31 39 ⇑P **P** 02 15 19.2 +0.6
baz=83,SNR=6.7
ARVC **Arvin** 83.34 54 ⇑P **P** 02 15 19.6 +0.7
baz=83
ISA **Isabella, Lake** 83.36 54 *e*P **P** 02 15 19.5 +0.4
ISA **Isabella, Lake** 83.36 54 ⇓P **P** 02 15 19.2 0.0
baz=83,SNR=5.6
ISA **Isabella, Lake** 83.36 54 *e*P **P** 02 15 19.5 +0.4
FFC **Flin Flon** 83.42 31 *e*P **P** 02 15 18.7 -0.2
FFC pmax pmax
comp=Z,36nm,0.9s
FFC **Flin Flon** 83.42 31 *e*P **P** 02 15 18.7 -0.2
comp=Z,36nm,0.9s
GRAC **Grapevine Rang** 83.54 52 ⇑P **P** 02 15 21.0 +1.0
baz=84
BLG **Laguna Peak, P** 83.63 55 ⇑P **P** 02 15 21.7 +1.3
baz=84
C19A **Slack Wire Ran** 83.63 40 ⇓P **P** 02 15 21.4 +1.2
baz=84,SNR=23
OSI **Osito Audit: C** 83.65 55 ⇓P **P** 02 15 21.3 +0.7
baz=84
A20A **Cobblestone Ra** 83.66 38 ⇑P **P** 02 15 20.8 +0.4
baz=84,SNR=6.5
QLMT **Earthquake Lak** 83.71 43 *e*P **P** 02 15 22.2 +1.3
comp=Z,3.9nm,0.8s
DAC **Darwin (Calif)** 83.71 53 *e*P **P** 02 15 21.0 -0.1
DAC pmax pmax
comp=Z,11nm,1.1s
DAC **Darwin (Calif)** 83.71 53 *e*P **P** 02 15 21.0 -0.1
comp=Z,11nm,1.1s
B20A **Solberg Farm,** 83.84 39 ⇓P **P** 02 15 21.8 +0.5
baz=84,SNR=9.0
MPMC **Manual Prospec** 83.89 53 ⇑P **P** 02 15 22.7 +0.7
baz=84,SNR=20
LRMC **Laurel Mtn Rad** 84.01 54 ⇓P **P** 02 15 23.3 +0.8
baz=84
D19A **Cripps Ranch,** 84.03 40 ⇑P **P** 02 15 23.2 +0.9
baz=84,SNR=34
SUW **Suwalki** 84.05 328 *e*P **P** 02 15 21.0 -1.1
SUW **Suwalki** 84.05 328 *e*P **P** 02 15 21.0 -1.1
HFS **Hagfors** 84.05 336 P **P** 02 15 20.4 -1.6
comp=Z,2.4nm,0.3s,baz=95,slow=3.3,SNR=28
EDW2 **Edwards Air Fo** 84.07 54 ⇑P **P** 02 15 23.8 +1.1
baz=84,SNR=13
YMR **Madison River** 84.08 43 *e*P **P** 02 15 24.3 +1.5
comp=Z,46nm,0.8s
DECC **Green Verdugo** 84.11 55 ⇓P **P** 02 15 23.5 +0.7
baz=84
FURC **Furnace Creek,** 84.15 52 ⇑P **P** 02 15 23.9 +0.9
baz=84,SNR=22
A21A **Bergtoll Ranch** 84.16 38 ⇓P **P** 02 15 23.4 +0.6
baz=84,SNR=6.0
R11A **Troy Canyon, C** 84.16 50 ⇑P **P** 02 15 24.1 +0.9
baz=84
R11A **Troy Canyon, C** 84.16 50 *e*P **P** 02 15 23.8 +0.5
comp=Z,14nm,0.9s
YNR **Norris Junctio** 84.23 43 *e*P **P** 02 15 25.7 +2.2
comp=Z,33nm,1.1s
FCC **Fort Churchill** 84.23 25 *e*P **P** 02 15 22.2 -0.7
FCC **Fort Churchill** 84.23 25 *e*P **P** 02 15 22.2 -0.7
C20A **Veseth Ranch,** 84.24 39 ⇑P **P** 02 15 24.4 +1.1
baz=84,SNR=14
YFT **Old Faithful** 84.27 43 *e*P **P** 02 15 26.5 +2.7
comp=Z,30nm,0.8s
NB2 **NORSAR Subarra** 84.28 338 P **P** 02 15 21.7 -1.5
comp=Z,9.1nm,0.8s,baz=55,slow=5.1
NB2 **NORSAR Subarra** 84.28 338 P **P** 02 15 21.7 -1.5
baz=55,slow=5.1
NOA **NORSAR Array B** 84.28 338 P **P** 02 15 21.8 -1.5
comp=Z,7.2nm,0.8s,baz=46,slow=4.8,SNR=26
GCMT **Greycliff** 84.29 42 *e*P **P** 02 15 25.0 +1.3
MWC **Mount Wilson** 84.32 55 *e*P **P** 02 15 24.2 +0.1
MWC pmax pmax
comp=Z,23nm,1.2s
MWC **Mount Wilson** 84.32 55 *e*P **P** 02 15 24.2 +0.1
comp=Z,23nm,1.2s
TPNV **Topopah Spring** 84.36 52 ⇓P **P** 02 15 25.1 +0.8
baz=84,SNR=24
HVU **Hansel Valley** 84.39 46 *e*P **P** 02 15 25.5 +1.2
HVU pmax pmax
comp=Z,19nm,0.8s
HVU **Hansel Valley** 84.39 46 *e*P **P** 02 15 25.5 +1.2
comp=Z,19nm,0.8s
B21A **Ellsworth Farm** 84.41 38 ⇓P **P** 02 15 24.3 +0.2
baz=84
CIS **Catalina Islan** 84.44 56 ⇓P **P** 02 15 25.2 +0.7
baz=84
E19A **Rath Farm, Rou** 84.46 41 ⇓P **P** 02 15 25.2 +0.8
baz=84,SNR=24
H17A **Grant Village** 84.46 43 ⇑P **P** 02 15 27.5 +2.8
baz=84,SNR=9.3
H17A **Grant Village** 84.46 43 *e*P **P** 02 15 25.5 +0.8
comp=Z,36nm,1.3s
LKWY **Lake** 84.48 43 *e*P **P** 02 15 27.4 +2.6
LKWY pmax pmax
comp=Z,14nm,0.7s
LKWY **Lake** 84.48 43 *e*P **P** 02 15 27.4 +2.6
comp=Z,14nm,0.7s
IMW **Indian Meadow** 84.49 44 *e*P **P** 02 15 26.1 +1.2
comp=Z,46nm,1.2s

D20A **Manuel Ranch,** 84.50 40 ⇓P P 02 15 25.6 +1.1
baz=84,SNR=22
RAYN **Ar Rayn** 84.51 293 eP P 02 15 25.1 0.0
comp=Z,20nm,0.5s
NAO01 **NORSAR Array S** 84.53 338 eP P 02 15 22.8 -1.6
comp=Z,5.8nm,0.8s
FLWY **Flagg Ranch** 84.54 43 eP P 02 15 26.9 +1.9
comp=Z,40nm,1.1s
BFSC **Mount Baldy Ra** 84.61 55 ⇑P P 02 15 26.4 +0.9
baz=84
BGU **Big Grassy Mou** 84.64 47 eP P 02 15 26.2 +0.6
comp=Z,4.5nm,0.7s
F19A **Roth Farm, Mol** 84.68 41 ⇑P P 02 15 26.2 +0.6
baz=85,SNR=9.3
TPAW **Teton Pass** 84.69 44 eP P 02 15 26.8 +0.9
comp=Z,23nm,1.1s
A22A **Carney Farms,** 84.71 37 ⇓P P 02 15 25.8 +0.2
baz=85,SNR=18
GSC **Goldstone, Bar** 84.73 53 eP P 02 15 26.7 +0.7
GSC pmax pmax
comp=Z,38nm,1.0s
GSC **Goldstone, Bar** 84.73 53 ⇓P P 02 15 26.7 +0.7
baz=85,SNR=24
GSC **Goldstone, Bar** 84.73 53 eP P 02 15 26.7 +0.7
comp=Z,38nm,1.0s
ILULI **Ilulissat** 84.79 4 iP P 02 15 24.9 -0.6
comp=Z,14nm,0.6s
REDW **Red Top Meadow** 84.82 44 eP P 02 15 27.3 +0.9
comp=Z,19nm,1.3s
SHOC **Shoshone, Teco** 84.83 53 ⇑P P 02 15 26.9 +0.5
baz=85,SNR=11
LOHW **Long Hollow** 84.84 44 eP P 02 15 27.6 +1.0
comp=Z,15nm,1.1s
H18A **Shoshone NF, C** 84.87 42 ⇓P P 02 15 27.8 +1.1
baz=85,SNR=6.3
B22A **Reddig Ranch S** 85.05 38 ⇓P P 02 15 27.7 +0.4
baz=85,SNR=9.6
BBRC **Big Bear Solar** 85.14 54 ⇑P P 02 15 29.1 +0.9
baz=85
DUG **Dugway, Tooele** 85.15 48 eP P 02 15 28.9 +0.8
DUG pmax pmax
comp=Z,26nm,0.8s
DUG **Dugway, Tooele** 85.15 48 ⇓P P 02 15 29.0 +1.0
baz=85,SNR=40
DUG **Dugway, Tooele** 85.15 48 eP P 02 15 28.9 +0.8
comp=Z,26nm,0.8s
D21A **La Casta Ranch** 85.17 39 ⇓P P 02 15 28.5 +0.6
baz=85
F20A **Billings** 85.18 41 ⇑P P 02 15 28.5 +0.5
baz=85
MURC **Murrieta** 85.24 55 ⇑P P 02 15 28.9 +0.4
baz=85,SNR=6.1
HWUT **Hardware Ranch** 85.26 46 eP P 02 15 29.2 +0.6
comp=Z,27nm,1.0s
H19A **Powell** 85.28 42 ⇑P P 02 15 29.9 +1.3
baz=85,SNR=8.6
A23A **Redstone** 85.29 37 ⇑P P 02 15 29.1 +0.7
baz=85
HEC **Hector,Ludlow** 85.30 54 ⇓P P 02 15 29.6 +0.8
baz=85,SNR=9.9
TUQ **Turquoise Moun** 85.31 53 ⇓P P 02 15 29.8 +0.9
baz=85,SNR=14
SHPR **Sheep Range** 85.34 52 eP P 02 15 29.6 +0.5
comp=Z,17nm,1.0s
E21A **Keefer Ranch,** 85.41 40 ⇓P P 02 15 29.8 +0.7
baz=85
G20A **Bridger** 85.46 41 ⇓P P 02 15 29.8 +0.3
baz=85,SNR=6.2
B23A **Brockton** 85.51 38 ⇓P P 02 15 30.0 +0.5
baz=85,SNR=20
D22A **Cohagen** 85.59 39 ⇓P P 02 15 30.6 +0.6
baz=86,SNR=9.8
CTU **Camp Tracy** 85.60 47 eP P 02 15 31.1 +0.8
comp=Z,21nm,1.1s
TCUT **Toone Canyon** 85.61 46 eP P 02 15 31.0 +0.6
comp=Z,6.8nm,0.6s
I19A **Meeteetse** 85.61 43 ⇓P P 02 15 31.6 +1.3
baz=86,SNR=5.5
109C **Camp Elliot, M** 85.64 56 ⇓P P 02 15 31.2 +0.8
baz=86
NLU **North Lily Min** 85.76 47 eP P 02 15 31.6 +0.4
comp=Z,9.2nm,0.9s
F21A **Absaloka Mine,** 85.77 41 ⇓P P 02 15 31.2 +0.3
baz=86
C23A **Lambert** 85.78 38 ⇑P P 02 15 31.4 +0.6
baz=86,SNR=9.7
PFO **Pinyon Flats O** 85.78 55 eP P 02 15 31.7 +0.4
PFO pmax pmax
comp=Z,24nm,1.0s
PFO **Pinyon Flats O** 85.78 55 ⇓P P 02 15 31.9 +0.6
baz=86,SNR=7.9
PFO **Pinyon Flats O** 85.78 55 eP P 02 15 31.7 +0.4
comp=Z,24nm,1.0s
A24A **Westby** 85.79 37 ⇑P P 02 15 31.1 +0.3
baz=86
GMRC **Granite Mounta** 85.81 53 ⇑P P 02 15 32.2 +0.8
baz=86,SNR=27
LAO **LASA Array** 85.82 39 eP P 02 15 31.6 +0.6
comp=Z,20nm,0.9s
JLU **Jordanelle** 85.84 47 eP P 02 15 32.5 +0.9
comp=Z,15nm,1.1s
BR131 **Keskin Array S** 85.92 312 eP P 02 15 30.5 -1.3
comp=Z,4.1nm,0.6s
BRTR **Keskin Array B** 85.92 312 P P 02 15 30.7 -1.1
comp=Z,4.0nm,0.6s,baz=98,slow=3.3,SNR=34
BELC **Belle Mtn. Jos** 85.93 54 ⇓P P 02 15 32.4 +0.5
baz=86,SNR=18
BW06 **Boulder Array** 85.94 44 eP P 02 15 32.4 +0.4
comp=Z,7.4nm,0.8s
PDAR **Pinedale Array** 85.94 44 P P 02 15 32.5 +0.6
comp=Z,7.2nm,0.8s,baz=311,slow=2.9,SNR=43
DGMT **Dagmar** 85.94 37 ⇓P P 02 15 31.9 +0.3
baz=86
DGMT **Dagmar** 85.94 37 eP P 02 15 31.4 -0.2
comp=Z,12nm,0.3s
H20A **Greybull** 85.98 42 ⇑P P 02 15 32.8 +0.8
baz=86,SNR=5.0
J19A **Crowheart** 85.99 43 ⇑P P 02 15 33.0 +0.9
baz=86,SNR=7.5
MPU **Maple Canyon** 86.02 47 eP P 02 15 32.8 +0.4
comp=Z,31nm,1.1s
G21A **Lodge Grass** 86.05 41 ⇓P P 02 15 32.9 +0.6
baz=86
BAR **Barrett** 86.06 56 eP P 02 15 32.5 0.0
comp=Z,24nm,1.1s
CCUT **Cedar City** 86.09 50 eP P 02 15 33.9 +1.1
comp=Z,7.4nm,1.0s
D23A **Lindsay** 86.12 39 ⇑P P 02 15 33.4 +0.8
baz=86,SNR=10
MONP **Monument Peak,** 86.15 55 ⇑P P 02 15 33.7 +0.6
baz=86,SNR=15
I20A **Worland** 86.19 42 ⇑P P 02 15 34.0 +1.0
baz=86,SNR=13
A25A **Svangstu Ranch** 86.26 36 ⇓P P 02 15 33.5 +0.4
baz=86
F22A **Rosebud** 86.30 40 ⇑P P 02 15 33.7 +0.2
baz=86,SNR=6.1
C24A **Savage** 86.36 38 ⇑P P 02 15 34.2 +0.6
baz=86
MSU **Marysvale** 86.42 49 eP P 02 15 35.0 +0.7
MSU pmax pmax
comp=Z,11nm,1.1s
MSU **Marysvale** 86.42 49 eP P 02 15 35.0 +0.7
comp=Z,11nm,1.1s
E23A **Ismay** 86.45 39 ⇓P P 02 15 34.7 +0.6
baz=86
IRM **Iron Mountain** 86.47 54 ⇑P P 02 15 35.3 +0.8
baz=86,SNR=9.7
H21A **Big Horn, Sher** 86.48 42 ⇑P P 02 15 35.0 +0.7
baz=86
BC3 **Big Chuckawall** 86.50 54 ⇓P P 02 15 35.4 +0.7
baz=86,SNR=16
CFR **Carcaliu** 86.50 319 ⇑P P 02 15 31.9 -2.3
CFR **Carcaliu** 86.50 319 ⇑iP P 02 15 31.9 -2.3
IBP **Imperial Bould** 86.50 55 ⇑P P 02 15 35.5 +0.9
baz=86
J20A **Shoshoni** 86.54 43 ⇑P P 02 15 35.5 +0.8
baz=86
G22A **Birney** 86.59 41 ⇑P P 02 15 35.3 +0.4
baz=86,SNR=5.6
TESR **Tescani** 86.61 321 ⇓iP P 02 15 33.7 -1.1
B25A **Knox Farm, Ray** 86.62 37 ⇓P P 02 15 35.6 +0.7
baz=86,SNR=7.9
D24A **Glendive** 86.65 38 ⇓P P 02 15 35.7 +0.7
baz=86,SNR=8.1
BUR08 **Bucovina Ar. S** 86.77 322 eP P 02 15 34.8 -0.9
I21A **Big Trails, Te** 86.77 42 ⇓P P 02 15 36.3 +0.4
baz=87,SNR=11

BURAR **Bucovina Array** 86.78 322 ⇓P P 02 15 34.9 -0.8
BURAR **Bucovina Array** 86.78 322 ⇓iP P 02 15 34.9 -0.8
F23A **Volborg** 86.83 40 ⇓P P 02 15 36.4 +0.5
baz=87
A26A **Wade Farm, Ken** 86.85 36 ⇑P P 02 15 36.4 +0.4
baz=87
TLB **Topalu** 86.88 319 ⇑P P 02 15 35.2 -0.9
TLB **Topalu** 86.88 319 ⇑iP P 02 15 35.2 -0.9
C25A **Freed Ranch, W** 86.90 37 ⇓P P 02 15 37.0 +0.8
baz=87
H22A **Clearmont** 86.91 41 ⇑P P 02 15 36.9 +0.5
baz=87
KWP **Kalwaria Pacla** 86.92 325 eP P 02 15 35.6 -0.6
KWP **Kalwaria Pacla** 86.92 325 eP P 02 15 35.7 -0.5
VRI **Vrincioaia** 86.93 320 ⇑P P 02 15 36.5 +0.2
VRI **Vrincioaia** 86.93 320 ⇑iP P 02 15 36.5 +0.2
J21A **Lysite** 86.93 43 ⇑P P 02 15 37.1 +0.4
baz=87,SNR=7.7
E24A **Baker** 86.98 39 ⇓P P 02 15 37.2 +0.6
baz=87
SFJD **Kangerlussuaq** 87.02 4 iP P 02 15 36.0 -0.3
comp=Z,20nm,0.6s
SFJD **Kangerlussuaq** 87.02 4 P P 02 15 36.0 -0.3
comp=Z,21nm,0.6s,baz=337,slow=3.0,SNR=12
SFJD **Kangerlussuaq** 87.02 4 iP P 02 15 36.0 -0.3
SFJD pmax pmax
comp=Z,20nm,0.6s
B26A **Jensen Ranch,** 87.06 37 ⇓P P 02 15 37.9 +1.0
baz=87
Y12C **Blythe** 87.13 54 ⇓P P 02 15 38.4 +0.9
baz=87,SNR=6.5
PDMCI **Parker Dam,Lak** 87.14 53 ⇓P P 02 15 38.3 +0.8
baz=87
D25A **Fairfield** 87.19 38 ⇓P P 02 15 38.3 +0.7
baz=87
I22A **9 Mile Ranch,** 87.22 42 ⇓P P 02 15 38.5 +0.6
baz=87,SNR=5.5
SRU **San Rafael Swe** 87.22 48 eP P 02 15 38.2 +0.1
SRU pmax pmax
comp=Z,7.0nm,0.6s
SRU **San Rafael Swe** 87.22 48 eP P 02 15 38.2 +0.1
comp=Z,6.9nm,0.6s
GLA **Glamis** 87.25 55 ⇑P P 02 15 39.2 +1.1
baz=87,SNR=6.8
MSAB **Monastry St. A** 87.28 318 ⇓iP P 02 15 35.8 -2.2
F24A **Ekalaka** 87.31 39 ⇑P P 02 15 38.8 +0.6
baz=87
C26A **Wahner Farm, P** 87.46 37 ⇑P P 02 15 39.4 +0.6
baz=87,SNR=6.5
ISR **Istrita** 87.46 320 ⇓P P 02 15 30.6 -8.3
ISR **Istrita** 87.46 320 ⇓iP P 02 15 30.6 -8.3
J22A **Midwest** 87.49 42 ⇓P P 02 15 39.6 +0.4
baz=87,SNR=9.3
KOLS **Kolonicke sedl** 87.57 325 eP P 02 15 38.7 -0.6
KOLS pmax pmax
comp=Z,3.0nm,1.1s
KOLS **Kolonicke sedl** 87.57 325 eP P 02 15 38.7 -0.6
MLR **Muntele Rosu** 87.60 320 P P 02 15 38.8 -0.8
comp=Z,0.6nm,0.5s,baz=336,slow=8.5,SNR=18
MLR **Muntele Rosu** 87.60 320 ⇑iP P 02 15 38.3 -1.3
G24A **Alzada** 87.62 40 ⇑P P 02 15 39.9 +0.2
baz=88
DOPR **Dopca** 87.64 321 ⇑iP P 02 15 39.0 -0.7
A28A **Rude Farm, Bot** 87.78 35 ⇑P P 02 15 41.1 +0.8
baz=88
N20A **Spence Gulch,** 87.78 45 ⇑P P 02 15 41.6 +0.8
baz=88,SNR=8.3
STHS **Stebnicka Huta** 87.81 325 eP P 02 15 40.1 -0.3
STHS **Stebnicka Huta** 87.81 325 eP P 02 15 40.1 -0.3
F25A **Bowman** 87.83 39 ⇑P P 02 15 41.5 +0.8
baz=88
C27A **Sayler Ranch,** 87.85 37 ⇑P P 02 15 41.1 +0.5
baz=88
H24A **Dirks Ranch, A** 87.88 40 ⇓P P 02 15 40.9 -0.1
baz=88,SNR=5.9
K22A **Casper** 87.88 43 ⇑P P 02 15 41.5 +0.4
baz=88
B28A **Dugan Ranch, T** 88.01 36 ⇑P P 02 15 42.2 +0.9
baz=88
VOIR 88.14 321 ⇓P P 02 15 41.2 -0.9
VOIR 88.14 321 ⇓iP P 02 15 41.2 -0.9
O20A **White River Ci** 88.17 46 ⇑P P 02 15 43.0 +0.5
baz=88,SNR=5.4
O20A **White River Ci** 88.17 46 eP P 02 15 43.1 +0.5
comp=Z,6.8nm,0.9s
G25A **Newell** 88.28 40 ⇑P P 02 15 43.2 +0.4
baz=88
A29A **Manning Farm,** 88.30 35 ⇑P P 02 15 43.3 +0.5
baz=88,SNR=12
F26A **Lodgepole** 88.32 39 ⇓P P 02 15 43.5 +0.5
baz=88
I24A **Kummerle Ranc** 88.34 41 ⇑P P 02 15 42.2 -1.0
baz=88
K23A **Bowen Ranch, D** 88.37 42 ⇓P P 02 15 43.6 +0.2
baz=88
ARR **Arges** 88.42 321 ⇑iP P 02 15 42.9 -0.5
C28A **Hausauer Farms** 88.45 36 ⇑P P 02 15 44.2 +0.8
baz=88
WUAZ **Wupatki** 88.49 51 ⇓P P 02 15 44.9 +0.8
baz=88
H25A **Fruitdale** 88.51 40 ⇓P P 02 15 44.4 +0.5
baz=88,SNR=6.6
B29A **Wagenman Farm,** 88.53 35 ⇑P P 02 15 44.3 +0.5
baz=88
RSSD **Black Hills** 88.54 41 eP P 02 15 44.6 +0.4
RSSD pmax pmax
comp=Z,6.0nm,0.6s
RSSD **Black Hills** 88.54 41 eP P 02 15 44.6 +0.4
comp=Z,5.6nm,0.6s
E27A **Carson** 88.59 38 ⇓P P 02 15 45.1 +0.9
baz=88
J24A **Dixon Ranch, L** 88.63 42 ⇓P P 02 15 44.4 -0.1
baz=88
F27A **Lemmon** 88.67 38 ⇑P P 02 15 45.3 +0.8
baz=88,SNR=17
PV04 **Paradox Valley** 88.67 48 eP P 02 15 45.2 +0.3
G26A **Maurine** 88.69 39 ⇑P P 02 15 45.1 +0.5
baz=89,SNR=9.5
A30A **Hoffart Farm,** 88.77 34 ⇑P P 02 15 45.4 +0.5
baz=89,SNR=5.3
KECS **Kecovo** 88.78 325 eP P 02 15 43.7 -1.2
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS **Kecovo** 88.78 325 eP P 02 15 43.7 -1.2
I25A **Rochford** 88.78 41 ⇓P P 02 15 45.5 +0.2
baz=89,SNR=9.3
N22A **Wattenberg Ran** 88.95 44 ⇓P P 02 15 46.9 +0.6
baz=89
E28A **Huff** 88.98 37 ⇑P P 02 15 46.4 +0.5
baz=89
H26A **Fairpoint** 88.99 40 ⇓P P 02 15 46.6 +0.5
baz=89,SNR=9.0
G27A **Dupree** 89.02 39 ⇓P P 02 15 46.8 +0.6
baz=89,SNR=17
PV01 **Paradox Valley** 89.03 48 eP P 02 15 47.1 +0.4
B30A **Myrvik Farm, E** 89.07 35 ⇑P P 02 15 46.8 +0.4
baz=89,SNR=6.2
OKC **Ostrava-Krasne** 89.09 327 iP P 02 15 45.9 -0.5
OKC **Ostrava-Krasne** 89.09 327 iP P 02 15 45.9 -0.5
J25A **Sunshine Ranch** 89.10 41 ⇑P P 02 15 46.7 0.0
baz=89
N23A **Red Feather La** 89.22 44 ⇑P P 02 15 48.7 +1.2
baz=89,SNR=11
O22A **Kremmling** 89.25 45 ⇓P P 02 15 48.4 +0.7
baz=89,SNR=10
214A **Organ Pipe Nat** 89.27 55 ⇑P P 02 15 49.0 +1.3
baz=89
214A **Organ Pipe Nat** 89.27 55 eP P 02 15 48.2 +0.6
comp=Z,18nm,1.2s
D29A **Pettibone, Tap** 89.27 36 ⇓P P 02 15 48.2 +0.9
baz=89
I26A **New Underwood** 89.28 40 ⇑P P 02 15 48.1 +0.6
baz=89
PHWY **Pilot Hill** 89.29 44 eP P 02 15 48.7 +0.8
comp=Z,11nm,0.9s
KSP **Ksiaz** 89.32 329 eP P 02 15 46.8 -0.6
KSP **Ksiaz** 89.32 329 eP P 02 15 46.8 -0.6
F28A **McLaughlin** 89.36 38 ⇑P P 02 15 48.4 +0.6
baz=89,SNR=6.0
H27A **Howes** 89.38 39 ⇑P P 02 15 48.4 +0.6
baz=89,SNR=10
P22A **Eagle** 89.42 46 ⇓P P 02 15 49.5 +1.0
baz=89,SNR=16
PSZ **Piszkesteto** 89.44 325 eP P 02 15 46.6 -1.5
PSZ pmax pmax
comp=Z,4.0nm,0.8s
PSZ **Piszkesteto** 89.44 325 eP P 02 15 46.6 -1.5
comp=Z,3.9nm,0.8s
C30A **Mose, Pekin** 89.46 36 ⇓P P 02 15 48.4 +0.2
baz=89
K25A **Mack Ranch, Ha** 89.52 42 ⇑P P 02 15 49.6 +1.0
baz=89
SMCO **Snowmass** 89.52 46 eP P 02 15 49.5 +0.4
comp=Z,4.4nm,0.7s
MVCO **Mesa Verde** 89.58 48 ⇓P P 02 15 49.6 +0.3
baz=90
J26A **Sides Ranch, S** 89.58 41 ⇓P P 02 15 49.5 +0.6
baz=90,SNR=7.0
KRLC **Kraliky** 89.60 328 iP P 02 15 47.9 -0.9
KRLC **Kraliky** 89.60 328 iP P 02 15 47.9 -0.9
O23A **Lake Granby, G** 89.62 45 ⇑P P 02 15 50.7 +1.2
baz=90,SNR=23
DPC **Dobruska-Polom** 89.63 328 iP P 02 15 48.0 -1.0
DPC **Dobruska-Polom** 89.63 328 iP P 02 15 48.0 -1.0
UPC **Upice** 89.67 328 eP P 02 15 48.4 -0.7
UPC **Upice** 89.67 328 eP P 02 15 48.4 -0.7
D30A **Buchanan** 89.69 36 ⇓P P 02 15 49.6 +0.4
baz=90,SNR=6.7
L25A **Engebretsen Ra** 89.72 42 ⇓P P 02 15 50.6 +1.0
baz=90,SNR=6.8
I27A **Quinn** 89.73 40 ⇓P P 02 15 50.2 +0.6
baz=90,SNR=10
G28A **Parade** 89.77 39 ⇓P P 02 15 50.1 +0.4
baz=90
W18A **Petrified Fore** 89.84 51 ⇓P P 02 15 50.9 +0.5
baz=90
K26A **Motz Farm, Whi** 89.88 41 ⇓P P 02 15 50.7 +0.4
baz=90,SNR=6.8
H28A **Mission Ridge** 89.95 39 ⇓P P 02 15 51.0 +0.5
baz=90
E30A **Jud** 89.99 37 ⇓P P 02 15 50.9 +0.3
baz=90
EIL **Elat** 90.04 303 P P 02 15 51.4 +0.2
comp=Z,2.8nm,0.8s,baz=52,slow=12,SNR=3.3
ISCO **Idaho Springs** 90.04 45 eP P 02 15 52.3 +0.8
ISCO pmax pmax
comp=Z,7.0nm,0.9s
ISCO **Idaho Springs** 90.04 45 ⇑P P 02 15 52.4 +1.0
baz=90,SNR=13
ISCO **Idaho Springs** 90.04 45 eP P 02 15 52.2 +0.8
comp=Z,6.7nm,0.9s
M25A **Palm-Egli Farm** 90.08 43 ⇑P P 02 15 51.9 +0.5
baz=90
P23A **Jefferson** 90.14 45 ⇓P P 02 15 53.4 +1.5
baz=90,SNR=15
VRAC **Vranov** 90.20 327 P P 02 15 51.1 -0.4
comp=Z,4.4nm,0.7s,baz=65,slow=5.8,SNR=7.7
VRAC **Vranov** 90.20 327 ⇑P P 02 15 51.3 -0.3
VRAC **Vranov** 90.20 327 ⇑iP P 02 15 51.3 -0.3
J27A **Elkhorn Farm,** 90.24 41 ⇓P P 02 15 52.6 +0.6
baz=90
G29A **Hoven** 90.25 38 ⇑P P 02 15 52.0 +0.1
baz=90
L26A **Underwood Farm** 90.33 42 ⇓P P 02 15 53.2 +0.8
baz=90
BRG **Berggiesshubel** 90.39 330 eP P 02 15 51.3 -1.0
comp=Z,4.0nm,0.8s
BRG **Berggiesshubel** 90.39 330 eP P 02 15 51.3 -1.0
BRG pmax pmax
comp=Z,5.0nm,0.8s
S22A **4UR Ranch, Cre** 90.40 47 ⇑P P 02 15 54.1 +1.0
baz=90,SNR=13
Q23A **Hartsel** 90.41 46 ⇑P P 02 15 54.0 +0.9
baz=90
AGMN **Agassiz Nation** 90.42 34 ⇓P P 02 15 52.9 +0.3
baz=90
AGMN **Agassiz Nation** 90.42 34 eP P 02 15 52.4 -0.2
comp=Z,17nm,1.0s
K27A **Flueckinger Fa** 90.44 41 ⇓P P 02 15 52.9 0.0
baz=90
CLL **Collm** 90.51 330 ⇓iP P 02 15 51.3 -1.6
comp=Z,8.0nm,1.4s
CLL LmV 02 50 00.0
comp=Z,100nm,18.4s
CLL **Collm** 90.51 330 ⇓iP P 02 15 51.3 -1.6
CLL pmax pmax
comp=Z,8.0nm,1.4s
TUC **Tucson** 90.56 53 eP P 02 15 54.6 +0.9
TUC pmax pmax
comp=Z,6.0nm,1.0s
TUC **Tucson** 90.56 53 eP P 02 15 54.6 +0.9
comp=Z,6.2nm,1.0s
J28A **Allard Ranch,** 90.59 40 ⇓P P 02 15 53.9 +0.3
baz=90,SNR=5.3
GOPC **GO Pecny, Ondr** 90.66 328 eP P 02 15 53.0 -0.7
PRU **Pruhonice** 90.72 329 iP P 02 15 53.0 -0.9
PRU **Pruhonice** 90.72 329 iP P 02 15 53.0 -0.9
TREC **Trest** 90.75 328 iP P 02 15 53.4 -0.7
TREC **Trest** 90.75 328 iP P 02 15 53.4 -0.7
I29A **Vivian Onida** 90.76 39 ⇓P P 02 15 54.9 +0.6
baz=91
R23A **Moffat** 90.81 46 ⇓P P 02 15 56.4 +1.4
baz=91
Q24A **Divide** 90.81 45 ⇓P P 02 15 55.5 +0.5
baz=91
M27A **Reverse DX Ran** 91.05 42 ⇓P P 02 15 56.5 +0.7
baz=91
J29A **Okreek** 91.13 40 ⇓P P 02 15 56.6 +0.6
baz=91
MMB **Musomiste** 91.19 318 ⇑P P 02 15 54.1 -2.2
MMB **Musomiste** 91.19 318 ⇑iP P 02 15 54.1 -2.2
O26A **Horse Wrangler** 91.24 44 ⇓P P 02 15 57.3 +0.6
baz=91
SDCO **Great Sand Dun** 91.27 47 ⇑P P 02 15 58.1 +0.9
baz=91,SNR=30
SDCO **Great Sand Dun** 91.27 47 eP P 02 15 57.6 +0.5
comp=Z,11nm,0.8s
I30A **Oacoma** 91.33 39 ⇑P P 02 15 57.0 +0.1
baz=91
N27A **Anderson Farm,** 91.38 43 ⇑P P 02 15 57.7 +0.3
baz=91
CONA **Conrad Observa** 91.49 327 ⇑iPcP P 02 15 56.7 -1.0
comp=Z,5.6nm,1.2s
NKC **Novy Kostel** 91.52 330 eP P 02 15 57.1 -0.5
NKC **Novy Kostel** 91.52 330 eP P 02 15 57.1 -0.5
K29A **Lazy Trails An** 91.53 40 ⇓P P 02 15 58.4 +0.5
baz=91
J30A **Dallas** 91.65 39 ⇑P P 02 15 58.4 0.0
baz=92
M28A **Bar X Bar Ranc** 91.73 42 ⇓P P 02 15 59.1 +0.2
baz=92
KHC **Kasperske Hory** 91.77 328 iP P 02 15 57.7 -1.1
KHC **Kasperske Hory** 91.77 328 iP P 02 15 57.7 -1.1
Q26A **Hugo** 91.88 45 ⇓P P 02 16 00.5 +0.8
baz=92
GERES **GERESS Array B** 91.91 328 P P 02 15 58.4 -1.2
comp=Z,1.7nm,0.5s,baz=39,slow=5.1,SNR=17
K30A **Basset** 91.99 40 ⇑P P 02 16 00.8 +0.8
baz=92
N28A **Pribbeno Ranch** 92.06 42 ⇑P P 02 16 00.6 +0.1
baz=92
ANMO **Albuquerque** 92.20 49 eP P 02 16 02.0 +0.7
ANMO pmax pmax
comp=Z,13nm,1.0s
ANMO **Albuquerque** 92.20 49 eP P 02 16 02.0 +0.7
comp=Z,13nm,1.0s
O28A **Krutsinger Ran** 92.25 43 ⇑P P 02 16 01.4 0.0
baz=92
R26A **Arlington** 92.28 45 ⇑P P 02 16 02.1 +0.5
baz=92
T25A **Trinidad** 92.33 47 ⇓P P 02 16 02.8 +0.9
baz=92
121A **Cookes Peak, D** 92.60 52 ⇓P P 02 16 04.6 +1.4
baz=92
S26A **Kim** 92.66 46 ⇓P P 02 16 03.3 -0.1
baz=93
R27A **Eads** 92.71 45 ⇓P P 02 16 03.7 +0.2
baz=93
L31A **Butterfield Fa** 92.75 40 ⇑P P 02 16 04.1 +0.6
baz=93
SOKA **Soboth** 92.75 326 ⇑iP P 02 16 01.7 -1.7
comp=Z,5.2nm,1.4s
EYMN **Ely** 92.81 32 eP P 02 16 03.2 -0.4
comp=Z,12nm,1.1s
T26A **Comanche Natio** 92.84 46 ⇑P P 02 16 04.8 +0.6
baz=93
ECSD **EROS Data Cent** 93.01 38 ⇓P P 02 16 05.1 +0.4
baz=93
ECSD **EROS Data Cent** 93.01 38 eP P 02 16 04.5 -0.1
comp=Z,5.6nm,1.0s
R28A **Tribune** 93.30 44 ⇓P P 02 16 06.6 +0.4
baz=93
EKA **Eskdalemuir Ar** 93.45 340 P P 02 16 05.0 -1.3
comp=Z,1.1nm,0.8s,baz=67,slow=3.9,SNR=3.9

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
T27A	Campo	93.48	46	⇑P	P	02 16 07.6	+0.5
	baz=93						
Q29A	Oakley	93.49	44	⇓P	P	02 16 06.5	-0.5
	baz=93						
P30A	Selden	93.54	43	⇑P	P	02 16 07.0	-0.2
	baz=93						
S28A	Manter	93.69	45	⇓P	P	02 16 08.0	0.0
	baz=94						
U27A	Thompson Grove	93.78	46	⇓P	P	02 16 09.4	+0.9
	baz=94						
Q30A	Quinter	93.91	43	⇑P	P	02 16 08.9	0.0
	baz=94						
ABTA	Abfaltersbach	93.95	327	⇓*i*P	P	02 16 07.2	-1.7
	comp=Z,1.8nm,0.7s						
SPMN	Marine on St.	94.04	35	⇑P	P	02 16 09.2	-0.1
	baz=94						
SPMN	Marine on St.	94.04	35	*e*P	P	02 16 08.9	-0.4
	comp=Z,12nm,0.7s						
P31A	Stockton	94.08	42	⇓P	P	02 16 09.2	-0.5
	baz=94						
IDI	Anoyia	94.17	312	P	P	02 16 07.1	-3.0
	comp=Z,1.4nm,0.4s,baz=51,slow=8.6,SNR=10						
U28A	Mallet	94.20	46	⇓P	P	02 16 10.9	+0.5
	baz=94						
R30A	Dighton	94.29	44	⇓P	P	02 16 11.1	+0.4
	baz=94						
T29A	Hugoton	94.34	45	⇑P	P	02 16 11.2	+0.3
	baz=94						
MNTX	Cornudas Mount	94.76	52	⇓P	P	02 16 13.5	+0.6
	baz=95						
MNTX	Cornudas Mount	94.76	52	*e*P	P	02 16 13.4	+0.5
	comp=Z,2.2nm,0.6s						
N34A	Lincoln	94.95	40	⇓P	P	02 16 13.1	-0.5
	baz=95						
DAVOX	Davos/Dischmat	95.19	329	P	P	02 16 13.5	-1.2
	comp=Z,2.0nm,0.7s,baz=197,slow=3.5,SNR=5.9						
S31A	Mullinville	95.20	44	⇑P	P	02 16 15.2	+0.4
	baz=95						
P34A	Walnut Farm, R	95.60	41	⇓P	P	02 16 16.0	-0.5
	baz=96						
Y28A	McKinney Farm,	95.64	48	⇓P	P	02 16 17.4	+0.4
	baz=96						
R33A	Olander Ranch,	95.69	43	⇑P	P	02 16 17.1	+0.1
	baz=96						
X29A	Tulia	95.69	47	⇓P	P	02 16 17.8	+0.6
	baz=96						
Z28A	Tucker Farm, M	95.92	49	⇓P	P	02 16 18.3	+0.1
	baz=96						
Y29A	Porterfield Fa	96.06	48	⇓P	P	02 16 19.5	+0.6
	baz=96						
228A	UT Block 9, Go	96.46	50	⇑P	P	02 16 20.8	+0.2
	baz=96						
Q35A	Mercer Eighty,	96.51	41	⇑P	P	02 16 20.6	-0.1
	baz=96						
AQU	L'Aquila	96.57	324	*e*P	P	02 16 20.1	-0.8
AQU	L'Aquila	96.57	324	*e*P	P	02 16 20.1	-0.8
Z30A	Sanderson Ranc	96.76	48	⇑P	P	02 16 22.1	+0.1
	baz=97						
329A	Wagon Wheel Ra	97.25	50	⇑Pdiff	Pdif	02 16 24.3	+0.1
	baz=97						
TXAR	Lajitas Array	97.31	53	P	Pdif	02 16 25.3	+0.7
	comp=Z,3.7nm,0.8s,baz=307,slow=2.8,SNR=36						
S36A	Lake Cedric, C	97.51	42	⇓Pdiff	P	02 16 25.1	-0.1
	baz=97						
T36A	Boggs Farm, Ca	97.77	42	⇑Pdiff	P	02 16 26.2	-0.1
	baz=98						
429A	Davenport Ranc	97.82	51	⇓Pdiff	P	02 16 26.6	-0.1
	baz=98						
Z32A	Haskell	97.85	47	⇓Pdiff	Pdif	02 16 27.1	+0.3
	baz=98						
529A	Stev Forest Ra	97.88	51	⇑Pdiff	Pdif	02 16 27.2	+0.1
	baz=98						
Y33A	Hilltop Ranch,	97.98	46	⇑Pdiff	Pdif	02 16 27.4	0.0
	baz=98						
530A	J-C Ranch, Com	98.48	51	⇓Pdiff	P	02 16 30.1	+0.3
	baz=98						
431A	Sonora	98.67	50	⇓Pdiff	Pdif	02 16 29.9	-0.7
	baz=99						
X35A	Drake	98.80	45	⇓Pdiff	Pdif	02 16 30.7	-0.3
	baz=99						
332A	Millersview	98.84	49	⇑Pdiff	Pdif	02 16 31.1	-0.1
	baz=99						
532A	Rocksprings	99.49	50	⇓Pdiff	Pdif	02 16 34.0	-0.2
	baz=99						
TORD	Torodi Ar. Bea	124.44	309	PKP	PKPdf	02 21 48.0	-0.7
	comp=Z,1.9nm,0.7s,baz=47,slow=1.1,SNR=16						
TORD				PP	PP	02 23 37.3	-2.2
	comp=Z,0.6nm,0.8s,baz=18,slow=3.9,SNR=3.6						
BCIP	Isla Barro Col	127.31	54	*e*PKPdf	PKPdf	02 21 53.6	-0.5
DBIC	Dimbokro	133.55	309	PKP	PKPdf	02 22 06.7	+0.8
	comp=Z,4.5nm,0.8s,baz=258,slow=21,SNR=3.0						
DBIC	Dimbokro	133.55	309	PKIKP	PKPdf	02 22 06.7	+0.8
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DBIC	Dimbokro	133.55	309	*e*PKPdf	PKPdf	02 22 06.4	+0.4
DBIC				PKP	PKPdf	02 22 06.7	+0.8
PLCA	Paso Flores	150.07	128	PKPbc	PKPbc	02 22 40.0	+0.2
	comp=Z,6.9nm,0.8s,baz=247,slow=4.1,SNR=10						
PLCA	Paso Flores	150.07	128	*e*PKIKP	PKPbc	02 22 40.0	+0.2
PLCA	Paso Flores	150.07	128	*e*PKPbc	PKPbc	02 22 40.0	+0.2
LPAZ	La Paz	151.41	76	PKP	PKPdf	02 22 37.9	+0.1
	comp=Z,8.3nm,0.6s,baz=230,slow=0.8,SNR=5.2						
LPAZ				PKPbc	PKiKP	02 22 44.5	-0.1
	comp=Z,16nm,0.7s,baz=351,slow=3.1,SNR=78						
LPAZ	La Paz	151.41	76	PKP	PKPdf	02 22 37.9	+0.1
LPAZ				*e*PKPbc	PKPbc	02 22 44.2	0.0
LPAZ				PKPbc	PKiKP	02 22 44.5	-0.1
SAML	Samuel	151.66	58	*e*PKPbc	PKPbc	02 22 43.4	-0.7
SAML				*e*PKPab	PKPab	02 22 52.7	-1.7
LCO	Las Campanas	151.90	104	*e*PKPbc	PKPbc	02 22 44.4	-0.2
LVC	Limon Verde	152.72	90	*e*PKPbc	PKPbc	02 22 46.8	+0.3
LVC				*e*PKPab	PKPab	02 23 00.7	+1.6

*ISCJB **04** 02:11:55.9±1.2, 31°.93S±0°.04×69°.80W±0°.05, h116km±13km, Error ellipse: s-maj=8.5km s-min=5.9km az=44.4*
*GUC **04** 02:11:56.4±0.5, 32°.00S×70°.12W, h137km±6km, ML3.5*
*SJA **04** 02:11:56.0±0.8, 31°.92S×69°.76W, h113km±9km, ML3.8, MW3.5*
ISC 04 02:11:56.1±2.0**, 31°.94S**±0°.05×**69°.81W**±0°.05**, h116**km±18km**, n16,** σ0s.85/28**, 4C-1D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AUSP	Uspallata	0.46	128	*i* P	Pn	02 12 13.9	+0.2
RTLS	Leoncito	0.46	72	*i* P	Pn	02 12 13.8	+0.1
ASAL	Salagasta	1.05	128	*i* P	Pn	02 12 18.5	+0.1
ASAL				*i* S	Sn	02 12 35.3	0.0
RTCV	Cerro Valdivia	1.08	86	*i* P	Pn	02 12 19.0	+0.2
RTCV				*i* S	Sn	02 12 35.0	-0.9
SJA	San Juan	1.15	69	*i* P	Pn	02 12 19.4	0.0
ARCO	CERRO ARCO	1.17	141	*i* P	Pn	02 12 20.1	+0.4
ARCO				*i* S	Sn	02 12 38.2	+0.6
ARCO				AML	AML	02 12 39.7	
	comp=Z,1μm,0.6s						
RTLL	Cerro Villicun	1.29	62	*i* P	Pn	02 12 20.9	-0.1
RTLL				*i* S	Sn	02 12 39.9	0.0
CFAA	Coronel Fontan	1.38	76	*i* P	Pn	02 12 21.7	-0.3
CFAA				*i* S	Sn	02 12 40.9	-0.8
PEL	Peldehue	1.41	211	⇑*i*P	Pn	02 12 22.6	+0.3
PEL				*i* S	Sn	02 12 42.6	+0.4
PEL				AML	AML	02 12 43.8	
	comp=E,1μm,0.4s						
AAGR	Agrelo	1.41	144	*i* P	Pn	02 12 22.7	+0.3
AAGR				*i* P	Pn	02 12 22.7	+0.3
ROCH	El Roble	1.44	224	*e*P	Pn	02 12 22.8	0.0
ROCH				*i* S	Sn	02 12 43.1	-0.1
ROCH				AML	AML	02 12 46.2	
	comp=N,1μm,0.3s						
CLCH	Cerro Calan	1.57	203	⇑*i*P	Pn	02 12 24.9	+0.7
CLCH				*i* S	Sn	02 12 46.4	+0.7
CLCH				AML	AML	02 12 47.5	
	comp=E,297nm,0.4s						
IHA	Instituto Hidr	1.89	235	*i* S	Sn	02 12 50.3	-2.0
CACH	El Canelo	2.27	197	⇑*i*P	Pn	02 12 33.7	+0.8
CACH				*i* S	Sn	02 13 02.5	+1.4
LSCH	La Serena	2.37	328	⇓*i*P	Pn	02 12 34.9	+0.8
LSCH				*i* S	Sn	02 13 03.8	+0.5
LNV	Longovilo	2.42	213	⇑*i*P	Pn	02 12 33.8	-0.8
LNV				*i* S	Sn	02 13 01.8	-2.4

*JMA **04** 02:33:02.7±0.1, 43°.81N×147°.80E, h82km±4km, M2.8*
*SKHL **04** 02:33:02.7±0.6, 43°.95N×148°.05E, h54km±2km, mb4.4/4*
ISC 04 02:32:59.2±3.0**, 43°.8N**±0°.1×**148°.2E**±0°.2**, h62**km±29km**, n9,** σ1s.67/17**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHO	Shikotan	0.98	274	*e*P	Pn	02 33 18.7	+1.7
SHO				AMB	AMB	02 33 22.5	
	800nm,0.7s						
SHO				*e*S	Sn	02 33 30.4	+0.2
SHO				A	A	02 33 33.8	
	450nm,0.2s						
KUR	Kuril'sk	1.44	351	*e*P	Pn	02 33 23.2	+0.1
KUR				AMB	AMB	02 33 23.9	
	90nm,0.3s						
KUR				*e*S	Sn	02 33 39.1	-1.9
KUR				A	A	02 33 40.4	
	60nm,0.2s						
KUR				A	A	02 33 40.4	
	92nm,0.2s						
YUK	Yuzh-Kuril'sk	1.69	278	*e*P	Pn	02 33 27.0	+0.6
YUK				AMB	AMB	02 33 27.9	
	8.0nm,0.1s						
YUK				AMB	AMB	02 33 27.9	
	10.0nm,0.1s						
YUK				AMB	AMB	02 33 27.9	
	14nm,0.1s						
YUK				*e*S	Sn	02 33 44.9	-2.1
YUK				A	A	02 33 46.8	
	66nm,0.2s						
YUK				A	A	02 33 46.8	
	116nm,0.2s						
NEM2	Nemuro 2	1.82	257	P	Pn	02 33 29.2	+0.9
NEM2				*e*S	Sn	02 33 49.1	-1.2
JNK	Nakash	2.52	266	*e*S	Sn	02 34 05.7	-1.6
JAK	Akkeshi	2.67	253	P	Pn	02 33 40.7	+1.0
JAK				*e*S	Sn	02 34 09.1	-1.7
JAR	Ashorobuto	3.25	262	P	Pn	02 33 48.6	+1.0
JAR				*e*S	Sn	02 34 23.9	-1.2
JCH	Churui	3.72	253	P	Pn	02 33 55.1	+1.0
JCH				*e*S	Sn	02 34 34.4	-2.2
YSS	Yuzh-Sakhalins	4.95	311	*e*P	Pn	02 34 13.5	+2.6
YSS				AMB	AMB	02 34 20.1	
	25nm,0.2s						
YSS				*e*S	Sn	02 35 05.9	-0.8
YSS				A	A	02 35 07.1	
	19nm,0.4s						

*THR **04** 02:37:28.8±1.3, 29°.19N×58°.40E, h15km, ML3.7*
*ISCJB **04** 02:37:30.5±1.3, 29°.19N±0°.09×58°.4E±0°.1, h15km, Error ellipse: s-maj=18.3km s-min=9.0km az=32.1*
*CSEM **04** 02:37:30.5±0.5, 29°.28N×58°.12E, h2km, ML3.7, Error ellipse: s-maj=13.7km s-min=7.6km az=116.0*
*TEH **04** 02:37:32.0, 29°.28N×58°.06E, h10km, ML3.7*
ISC 04 02:37:30.1±1.2**, 29°.23N**±0°.04×**58°.25E**±0°.06**, h15**km**, n28,** σ1s.76/32**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHMN	Cheshme madani	0.88	316	*e*Pn	Pn	02 37 48.2	-0.1
CHMN	Cheshme madani	0.88	316	*e*Pn	Pn	02 37 48.2	-0.1
NGRK	Negar Kerman	1.39	288	*e*Pn	Pb	02 37 56.1	+0.2
NGRK	Negar Kerman	1.39	288	*e*Pn	Pb	02 37 56.1	+0.2
KRBR	Kerman	1.50	301	*e*Pg	Pg	02 37 58.5	-0.5
KRBR				AML	AML	02 38 23.6	
	comp=E,1μm,0.2s						
KRBR				AML	AML	02 38 24.5	
	comp=N,1μm,0.4s						
KRBR	Kerman	1.50	301	*e*Pg	Pg	02 37 58.5	-0.5
	comp=N,1μm,0.4s						
TVBK	TV Kerman	1.50	301	*e*Pn	Pg	02 37 58.8	-0.1
KHGB	Koh Gabri	1.92	307	*e*Pn	Pg	02 38 06.0	-0.9
ZHSF	Zahedan	2.24	79	*e*Pg	Pn	02 38 06.8	0.0
ZHSF	Zahedan	2.24	79	*e*Pg	Pn	02 38 06.8	0.0
IBND	Bandar-abas	2.32	221	*e*Sg	Sg	02 38 42.6	-2.1
IBND				*e*Pn	Pn	02 38 09.1	+1.3
IBND	Bandar-abas	2.32	221	*e*Pn	Pn	02 38 09.1	+1.3
IBND				*e*Sg	Sg	02 38 42.7	-2.1
BNDS	Bandar-Abbas	2.58	226	*e*Pn	Pn	02 38 13.5	+2.0
BNDS				AML	AML	02 38 56.2	
	comp=E,146nm,0.6s						
BNDS	Bandar-Abbas	2.58	226	*e*Pn	Pn	02 38 13.5	+2.0
	comp=E,146nm,0.6s						
IKOO	Kooshah	3.25	11	*e*Pn	Pn	02 38 22.6	+1.8
IKOO				*e*Sg	Sg	02 39 13.0	-1.7
IKOO				*e*		02 39 21.0	
	comp=Z,3μm,0.1s						
IKOO	Kooshah	3.25	11	*e*Pn	Pn	02 38 22.6	+1.8
IKOO				*e*Sg	Sg	02 39 13.0	-1.7
IBAF	Bafgh	3.30	316	*e*Pn	Pg	02 38 32.2	-1.2
IBAF				*e*		02 39 24.8	
	comp=Z,2μm,0.1s						
IBAF	Bafgh	3.30	316	*e*Pn	Pg	02 38 32.2	-1.2
ITEG	Tejag	3.69	7	*e*Pn	Pn	02 38 29.0	+2.3
ITEG				*e*		02 39 38.8	
	comp=Z,2μm,0.3s						
ITEG	Tejag	3.69	7	*e*Pn	Pn	02 38 29.0	+2.3
IMEH	Mehriz	3.81	305	*e*Pn	Pb	02 38 38.5	+1.3
IMEH				*e*		02 39 37.4	
	comp=Z,834nm,0.4s						
IMEH	Mehriz	3.81	305	*e*Pn	Pb	02 38 38.5	+1.3
ICHK	Chekchek	4.47	313	*e*Pg	Pg	02 38 52.7	-3.0
ICHK				*e*		02 39 56.7	
	comp=Z,599nm,0.3s						
ICHK	Chekchek	4.47	313	*e*Pg	Pg	02 38 52.7	-3.0
SHRT	Shahrakht	4.74	21	*e*Pn	Pn	02 38 42.6	+1.5
SHRT	Shahrakht	4.74	21	*e*Pn	Pn	02 38 42.6	+1.5
ISAD	Sadrabad	4.76	305	*e*Pn	Pb	02 38 56.2	+2.8
ISAD				*e*		02 40 11.4	
	comp=Z,511nm,0.3s						
ISAD	Sadrabad	4.76	305	*e*Pn	Pb	02 38 56.2	+2.8

WEL 04 02:48:55.0±1.1**, 35°.24S**×**178°.88E, h33**km**, ML3.6**/4**, 1C-1D, Error ellipse: s-maj=18.8km s-min=10.0km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	2.60	188	PN	Pn	02 49 34.8	0.0
HAZ	Te Kaha	2.66	199	⇑P*	Pn	02 49 36.7	+1.1
PUZ	Puketiti	2.87	190	⇓PN	Pn	02 49 37.4	-1.2
PUZ				SN	Sn	02 50 09.4	-2.6
TWGZ	Tauwhareparae	3.02	194	PN	Pn	02 49 40.1	-0.5
MWZ	Matawai	3.27	199	P*	Pn	02 49 43.6	-0.5
URZ	Urewera	3.33	205	P*	Pn	02 49 44.3	-0.5
URZ				S*	Sn	02 50 24.2	+1.0
RIGZ	Rimuhau	3.57	194	PN	Pn	02 49 46.4	-1.8
SNGZ	Shannon Statio	3.74	199	PN	Pn	02 49 49.7	-0.9
BKZ	Black Stump Fm	4.36	205	P*	Pn	02 49 57.1	-2.0
KWHZ	Kaweka Forest	4.61	204	P*	Pn	02 49 59.9	-2.6
KAHZ	Kahuranaki	4.82	199	PN	Pn	02 50 02.3	-3.0
PXZ	Pawanui	5.04	198	PN	Pn	02 50 04.2	-4.2

IDC 04 02:49:34.6±15.0**, 4°.81N**×**123°.70E, h676**km±307km**, mb2.6**/6**, mb1 2.7**/6**, mb1mx2.5**/30**, mbtmp3.8**/6**, Error ellipse: s-maj=136.0km s-min=17.6km az=91.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.73	157	P	P	02 54 24.6	-0.2
	0.5nm,0.3s,baz=336,slow=9.7,SNR=5.2						
ASAR	Alice Springs	30.00	161	P	P	02 54 53.2	+0.3
	0.2nm,0.4s,baz=339,slow=6.9,SNR=3.4						
KSRS	Korea Array	32.72	6	P	P	02 55 15.6	0.0
	0.6nm,0.4s,baz=189,slow=9.4,SNR=3.5						
MJAR	Matsushiro Arr	34.28	21	P	P	02 55 28.6	0.0
	1.2nm,0.7s,baz=192,slow=10.0,SNR=4.1						
SONM	Songino Array	45.37	344	P	P	02 56 56.0	-0.1
	0.6nm,0.5s,baz=157,slow=9.6,SNR=3.5						
MKAR	Makanchi Array	54.97	326	P	P	02 58 05.3	+0.1
	1.0nm,0.3s,baz=121,slow=8.1,SNR=29						

WEL 04 03:01:08.3±0.4**, 44°.47S**×**167°.34E, h5**km**, ML3.9**/13**, 2C-3D, Error ellipse: s-maj=3.7km s-min=2.2km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.46	116	⇓PG	Pg	03 01 17.8	+0.6
MSZ				SG	Sg	03 01 23.3	0.0
MSZ				AML	AML	03 01 23.7	
MSZ				AML	AML	03 01 23.8	
MSZ				AML	AML	03 01 23.8	
DCZ	Deep Cove	1.01	187	P*	Pg	03 01 26.6	-1.1
DCZ				AML	AML	03 01 27.9	
DCZ				S*	Sg	03 01 39.5	-1.3
DCZ				AML	AML	03 01 40.4	
MLZ	Mavora Lakes	1.05	146	⇑P*	Pg	03 01 28.2	-0.5
MLZ				AML	AML	03 01 43.8	
MLZ				AML	AML	03 01 45.8	
JCZ	Jackson Bay	1.09	69	⇑P*	Pg	03 01 28.8	-0.6
JCZ				S*	Sg	03 01 43.6	-0.1
JCZ				AML	AML	03 01 45.6	
WKZ	Wanaka	1.25	107	P*	Pg	03 01 31.7	-0.6
WKZ				AML	AML	03 01 50.1	
WKZ				AML	AML	03 01 50.1	
WKZ				AML	AML	03 01 50.5	
WKZ				AML	AML	03 01 50.6	
WHZ	Wether Hill Ro	1.48	163	PN	Pn	03 01 35.2	-0.4
WHZ				SN	Sn	03 01 54.5	-0.9
WHZ				AML	AML	03 01 55.6	
EAZ	Earnscleugh	1.59	119	⇓PN	Pn	03 01 37.4	+0.2
EAZ				AML	AML	03 01 57.8	
EAZ				AML	AML	03 01 58.0	
EAZ				AML	AML	03 01 58.0	
EAZ				AML	AML	03 01 58.2	
PYZ	Puysegur Point	1.76	195	PN	Pn	03 01 38.1	-1.3
FOZ	Fox Glacier	1.92	63	*e*PN	Pb	03 01 43.3	-0.4
FOZ				AML	AML	03 02 12.8	
FOZ				AML	AML	03 02 12.8	
FOZ				AML	AML	03 02 16.1	
FOZ				AML	AML	03 02 16.2	
LBZ	Lake Benmore	2.04	89	*e*PN	Pn	03 01 43.8	+0.5
LBZ				SN	Sb	03 02 11.0	-0.5
LBZ				AML	AML	03 02 11.9	
TUZ	Tuapeka	2.19	133	PN	Pn	03 01 45.0	-0.4
APZ	The Paps	2.40	169	PN	Pn	03 01 47.8	-0.6
APZ				AML	AML	03 02 25.9	
ODZ	Otahua Downs	2.42	105	⇓PN	Pn	03 01 48.2	-0.3
SYZ	Scrubby Hill	2.42	149	PN	Pn	03 01 47.6	-0.8
SYZ				AML	AML	03 02 21.7	
SYZ				AML	AML	03 02 28.5	
HHSZ	Highcliff Hill	2.70	123	PN	Pn	03 01 52.4	0.0
RPZ	Rata Peaks	2.78	75	PN	Pn	03 01 52.1	-1.3
RPZ				AML	AML	03 02 40.0	
RPZ				AML	AML	03 02 41.0	
WVZ	Waitaha Valley	2.83	62	PN	Pn	03 01 52.0	-2.1
WVZ				AML	AML	03 02 39.4	
LTZ	Lake Taylor	3.96	66	PN	Pn	03 02 08.8	-0.8

*ATH **04** 03:14:19.3, 37°.84N×21°.50E, h24km±1km, MD2.8/9*
*CSEM **04** 03:14:19.1±0.1, 37°.86N×21°.45E, h17km±1km, ML1.8, Error ellipse: s-maj=3.1km s-min=2.9km az=35.0*
THE 04 03:14:19.1, 37°.85N×**21°.46E, h26**km±1km**, ML1.8**/5**, Error ellipse: s-maj=1.4km s-min=0.6km az=273.0, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.20	3	P	Pb	03 14 24.5	-0.4
RLS				S	Sb	03 14 28.9	+0.1
RLS	Riolos of Patr	0.20	3	*e*PB	Pb	03 14 24.5	-0.4
RLS				*e*SB	Sb	03 14 29.0	+0.2
RLS	Riolos of Patr	0.20	3	P	Pb	03 14 24.5	-0.4
RLS				S	Sb	03 14 28.9	+0.1
VTN	Vitineika	0.22	287	P	Pb	03 14 24.9	-0.2
VTN				S	Sb	03 14 29.7	+0.5
VTN	Vitineika	0.22	287	P	Pb	03 14 24.9	-0.2
VTN				S	Sb	03 14 29.7	+0.5
DRO	Drossia	0.23	64	P	Pb	03 14 24.9	-0.3
DRO				S	Sb	03 14 29.9	+0.6
DRO	Drossia	0.23	64	*e*PB	Pb	03 14 24.9	-0.3
DRO				*e*SB	Sb	03 14 29.2	-0.1
DRO	Drossia	0.23	64	P	Pb	03 14 24.9	-0.3
DRO				*e*Sb	Sb	03 14 29.2	-0.1
AMT	Artemida-Makis	0.38	148	P	Pb	03 14 26.9	-0.5
AMT				S	Sb	03 14 33.3	+0.2
AMT	Artemida-Makis	0.38	148	*e*PB	Pb	03 14 27.0	-0.4
AMT				*e*SB	Sb	03 14 32.8	-0.3
AMT	Artemida-Makis	0.38	148	*e*Pb	Pb	03 14 27.0	-0.4
AMT				*e*Sb	Sb	03 14 32.8	-0.3
AMT				S	Sn	03 14 33.3	-2.2
KLV	Kalavryta, Ach	0.58	71	P	Pb	03 14 30.4	-0.4
KLV				S	Sb	03 14 38.8	0.0
KLV	Kalavryta, Ach	0.58	71	*e*PN	Pb	03 14 30.6	-0.2
KLV				*e*SN	Sb	03 14 38.8	0.0
KLV	Kalavryta, Ach	0.58	71	P	Pb	03 14 30.4	-0.4
KLV				S	Sb	03 14 38.8	0.0
KFL	Anninata	0.59	296	P	Pb	03 14 30.1	-0.7
KFL	Anninata	0.59	296	P	Pb	03 14 30.1	-0.7
EFP	Efpalio	0.67	32	P	Pb	03 14 32.2	-0.1
EFP				S	Sb	03 14 41.6	+0.4
EFP	Efpalio	0.67	32	*e*PN	Pb	03 14 32.2	-0.1
EFP				*e*SN	Sn	03 14 42.1	-0.7
EFP	Efpalio	0.67	32	P	Pb	03 14 32.2	-0.1
EFP				S	Sb	03 14 41.6	+0.4
EFP				*e*Sn	Sn	03 14 42.1	-0.7
GUR	Goura	0.71	83	P	Pb	03 14 32.5	-0.5
GUR				S	Sb	03 14 43.1	+0.7
GUR	Goura	0.71	83	*e*PN	Pb	03 14 32.6	-0.4
GUR				*e*SN	Sb	03 14 42.7	+0.3
GUR	Goura	0.71	83	P	Pb	03 14 32.5	-0.5
GUR				*e*Sn	Sb	03 14 42.7	+0.3
GUR				S	Sn	03 14 43.1	-0.7
KALE	Kalithea	0.76	45	P	Pb	03 14 33.7	-0.1
KALE	Kalithea	0.76	45	*e*PN	Pb	03 14 33.7	-0.1
KALE				*e*SN	Sb	03 14 44.2	+0.3
KALE	Kalithea	0.76	45	P	Pb	03 14 33.7	-0.1
KALE				*e*Sn	Sb	03 14 44.2	+0.3
PDO	Prodromos	0.78	344	*e*PB	Pb	03 14 34.1	+0.1
PDO				*e*SN	Sn	03 14 46.9	+1.6
PDO	Prodromos	0.78	344	*e*Pb	Pb	03 14 34.1	+0.1
PDO				*e*Sn	Sn	03 14 46.9	+1.6
PYL	PYLOS	0.98	166	*e*PN	Pb	03 14 38.0	+0.5
PYL	PYLOS	0.98	166	*e*Pn	Pb	03 14 38.0	+0.5
DSF	Desfina	1.01	56	*e*PB	Pn	03 14 37.6	-0.2
DSF	Desfina	1.01	56	*e*Pb	Pn	03 14 37.6	-0.2
DID	Didima	1.46	103	*e*PN	Pb	03 14 45.9	+0.3
DID	Didima	1.46	103	*e*Pn	Pb	03 14 45.9	+0.3

*IDC **04** 03:27:12.3±2.6, 53°.39N×166°.16W, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.5/40, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=48.9km s-min=33.4km az=66.0*
*ISCJB **04** 03:27:21.2±0.6, 53°.60N±0°.05×164°.83W±0°.05, h32km, mb3.7/3, Error ellipse: s-maj=7.2km s-min=3.9km az=173.9*
*NEIC **04** 03:27:22.2, 53°.84N×165°.04W, h75km, MG3.1(AEIC), After AEIC.*
ISC 04 03:27:22.2±1.0**, 53°.65N**±0°.07×**164°.91W**±0°.04**, h32**km**, n33,** σ0s.72/33**, mb3.8**/3**, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKSA	Akutan Strait	0.67	316	P	Pb	03 27 35.1	-0.4
AKSA				S	Sn	03 27 45.5	+0.6
AKUT	Akutan	0.70	314	P	Pb	03 27 35.9	-0.2
AKUT				S	Sn	03 27 46.6	+0.9
ZRO	Akutan Zero	0.77	305	P	Pb	03 27 36.9	-0.3
AKRB	Akutan Reef Bi	0.84	305	P	Pb	03 27 37.9	-0.5
AKRB				S	Sb	03 27 50.2	+0.9
AKGG	Akutan Green G	0.84	311	P	Pb	03 27 38.0	-0.5
AKGG				S	Sb	03 27 50.1	+0.7
WESE	West Dahl East	0.84	13	P	Pn	03 27 37.3	-0.6
WESP	Westdahl Peak	0.85	7	P	Pb	03 27 38.0	-0.6
WESP				S	Sb	03 27 50.2	+0.5
WESN	West Dahl Nort	0.94	12	P	Pb	03 27 39.2	-0.8
UNV	Unalaska Valle	0.97	282	P	Pn	03 27 38.9	-0.6
UNV				S	Sb	03 27 52.0	-0.9
MREP	Makushin Rep't	1.10	279	P	Pb	03 27 41.8	-1.1
MSW	Makushin Switc	1.14	284	P	Pb	03 27 42.0	-1.4
MSW				S	Sb	03 27 57.4	-0.6
SSLW	Shishaldin Wes	1.21	22	P	Pn	03 27 42.8	-0.2
MCIR	Makushin Cirqu	1.22	285	P	Pb	03 27 43.2	-1.5
SSLN	Shishaldin Nor	1.28	24	P	Pn	03 27 43.5	-0.4
ISNN	Isanotski Nort	1.35	29	P	Pn	03 27 44.8	-0.2
FALS	False Pass	1.49	35	P	Pn	03 27 45.9	-0.8

FALS				S	**Sn**	**03 28 05.0**	**0.0**
DRIA	**Deer Island**	**2.03**	**49**	P	**Pn**	**03 27 53.5**	**-0.8**
OKSP	**Okmok Steeple**	**2.06**	**260**	P	**Pn**	**03 27 55.2**	**+0.5**
DT1	**Dutton Round H**	**2.12**	**45**	P	**Pn**	**03 27 55.1**	**-0.3**
DTNA	**Dutton South F**	**2.16**	**45**	P	**Pn**	**03 27 56.3**	**+0.3**
NIKH	**Nikolski High**	**2.46**	**256**	P	**Pn**	**03 28 00.7**	**+0.6**
SDPT	**Sand Point**	**3.09**	**55**	P	**Pn**	**03 28 08.8**	**0.0**
ILAR	**Eielson Array**	**14.40**	**32**	Pn	**Pn**	**03 30 43.2**	**-0.3**
	0.0nm,0.3s,baz=222,slow=12,SNR=3.1						
INK	**Inuvik**	**20.80**	**33**	P	Pn	03 32 03.0	+0.1
	2.5nm,0.3s,baz=237,slow=12,SNR=3.0						
NVAR	**Mina Array Bea**	**35.06**	**97**	P	**P**	**03 34 13.3**	**+1.1**
	0.5nm,0.7s,baz=297,slow=7.9,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**40.19**	**224**	T	T	04 17 49.4	
	baz=26,slow=76,SNR=6.1						
H11N3	**WAKE ISLAND Hy**	**40.20**	**224**	T	T	04 17 45.8	
	baz=26,slow=76,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**40.21**	**224**	T	T	04 17 48.2	
	baz=26,slow=76,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**41.37**	**223**	T	T	04 19 16.1	
	baz=25,slow=75,SNR=7.5						
H11S2	**WAKE ISLAND Hy**	**41.38**	**223**	T	T	04 19 09.1	
	baz=25,slow=75,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**41.39**	**223**	T	T	04 19 21.6	
	baz=25,slow=75,SNR=7.2						
TXAR	**Lajitas Array**	**50.08**	**94**	P	**P**	**03 36 14.1**	**0.0**
	0.7nm,0.7s,baz=304,slow=5.9,SNR=12						
AKASG	**Malin Array Be**	**75.34**	**351**	P	P	03 38 57.7	-4.2
	0.4nm,0.3s,baz=358,slow=5.7,SNR=4.1						

*IDC **04** 03:50:04.2±1.1, 6°.51S×152°.85E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.9/22, mbtmp3.8/9, MS3.1/2, Ms1 3.1/2, ms1mx2.7/22, Error ellipse: s-maj=44.6km s-min=19.1km az=114.0*

*ISCJB **04** 03:50:07.2±0.7, 6°.59S±0°.10×152°.8E±0°.1, h31km, mb3.9/13, MS3.0/2, Error ellipse: s-maj=19.6km s-min=7.8km az=40.0*

*NEIC **04** 03:50:09.4±0.6, 6°.60S×152°.78E, h35km, mb4.3/4, Error ellipse: s-maj=22.8km s-min=8.6km az=122.0*

ISC 04 03:50:08.6±0.8**, 6°.6S**±0°.1×**152°.8E**±0°.1**, h31**km**, n20, σ1^{s}00**/21**, mb3.9**/13**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.27**	**243**	*e*Pn	**Pn**	**03 51 37.9**	**-1.1**
PMG				*e*Sn	**Sn**	**03 52 50.6**	**+1.0**
COEN	**Coen**	**11.97**	**232**	*e*Pn	**Pn**	**03 52 58.0**	**+0.7**
CTAO	**Charters Tower**	**14.83**	**205**	*e*Pn	**Pn**	**03 53 35.2**	**-1.1**
WRAB	**Tennant Creek**	**22.30**	**232**	*e*P	**P**	**03 55 04.0**	**+0.3**
	3.6nm,0.8s						
WRA	**Warramunga Arr**	**22.31**	**232**	P	**P**	**03 55 03.9**	**+0.1**
	1.6nm,0.9s,baz=55,slow=10,SNR=6.7						
ASAR	**Alice Springs**	**24.86**	**225**	P	**P**	**03 55 31.0**	**+2.3**
	1.4nm,0.6s,baz=58,slow=9.3,SNR=12						
STKA	**Stephens Creek**	**27.23**	**201**	P	**P**	**03 55 50.1**	**+0.2**
	1.3nm,0.6s,baz=39,slow=13,SNR=4.0						
STKA				LR	LR	04 07 13.0	
	comp=Z,56nm,18.2s,baz=22,slow=38						
MJAR	**Matsushiro Arr**	**45.08**	**343**	LR	LR	04 16 48.8	
	comp=Z,14nm,19.1s,baz=300,slow=36						
KSRS	**Korea Array**	**49.64**	**334**	P	**P**	**03 58 56.8**	**-0.6**
	0.5nm,0.4s,baz=151,slow=10,SNR=3.4						
KSAR	**Wonju Array Be**	**49.65**	**334**	P	**P**	**03 58 56.8**	**-0.7**
PETK	**Petropavlovsk-**	**59.65**	**3**	P	**P**	**04 00 08.3**	**-1.4**
	1.0nm,0.5s,baz=198,slow=8.7,SNR=2.6						
SONM	**Songino Array**	**67.89**	**328**	P	**P**	**04 01 05.3**	**+1.0**
	0.7nm,0.6s,baz=137,slow=5.6,SNR=5.2						
MK31	**Makanchi Array**	**81.72**	**319**	*e*P	**P**	**04 02 24.4**	**+0.1**
MKAR	**Makanchi Array**	**81.72**	**319**	P	**P**	**04 02 24.5**	**+0.2**
	0.3nm,0.6s,baz=119,slow=4.4,SNR=4.4						
MCK	**McKinley**	**82.53**	**22**	*e*P	**P**	**04 02 27.6**	**-0.5**
	2.3nm,0.4s						
COLA	**College**	**83.52**	**22**	*e*P	**P**	**04 02 33.6**	**+0.5**
	3.2nm,0.8s						
ILAR	**Eielson Array**	**83.83**	**22**	P	**P**	**04 02 34.5**	**-0.3**
	0.6nm,0.7s,baz=251,slow=5.0,SNR=8.1						
KURK	**Kurchatov**	**85.22**	**322**	*e*P	**P**	**04 02 41.9**	**-0.2**
	3.0nm,1.1s						
NVAR	**Mina Array Bea**	**93.18**	**52**	P	**P**	**04 03 22.4**	**+1.9**
	0.7nm,0.8s,baz=255,slow=9.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**150.86**	**285**	PKPbc	**PKPbc**	**04 09 58.6**	**-0.6**
	1.3nm,0.8s,baz=72,slow=2.1,SNR=8.8						
TORD				PKPab	**PKPab**	**04 10 06.2**	**-0.3**
	0.4nm,0.7s,baz=96,slow=1.4,SNR=4.0						

CASC 04 04:03:04.2±2.3**, 14°.90N**×**90°.38W, h16**km±12km**, MD3.7, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.64**	**225**	*e*P	Pn	04 03 21.3	+2.6
RBDL	**Robledal**	**1.03**	**139**	*e*P	Pg	04 03 27.2	+2.8
RTR	**El Retiro**	**1.22**	**144**	*e*P	Pn	04 03 26.4	-0.4
SNJE	**San Jose**	**1.27**	**144**	*e*P	Pn	04 03 26.7	-0.8
SBLS	**San Blas**	**1.28**	**145**	*e*P	Pn	04 03 26.4	-1.4
JAT	**Jato**	**1.35**	**245**	*e*P	Pn	04 03 21.7	-6.7
BOQS	**Boqueron**	**1.57**	**137**	*e*P	Pn	04 03 31.0	-0.7
BOQS				*e*S	Sb	04 03 52.8	-0.3
LFRS	**El Faro**	**1.80**	**135**	*e*P	Pn	04 03 34.2	-0.5
LFRS				*e*S	Sn	04 03 57.1	-0.2
SNVI	**San Vicente**	**1.97**	**130**	*e*P	Pn	04 03 37.1	+0.1
SNVI				*e*S	Sb	04 04 03.2	-1.0
VSM	**San Miguel**	**2.51**	**125**	*e*P	Pn	04 03 45.7	+1.0
VSM				*e*S	Sn	04 04 17.1	+1.8

WEL 04 04:11:39.1±0.2**, 41°.16S**×**173°.45E, h110**km±2km**, ML3.6**/15**, 4C-2D, Error ellipse: s-maj=1.3km s-min=1.0km az=0.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUWZ	**Tuamarina**	**0.47**	**127**	⇓PN	Pn	04 11 55.7	0.0
TUWZ				SN	Sn	04 12 06.8	-1.4
TUWZ				AML	AML	04 12 08.2	
DUWZ	**D'Urville Isla**	**0.50**	**46**	PN	Pn	04 11 56.1	+0.1
DUWZ				SN	Sn	04 12 07.8	-0.9
TCW	**Tory Channel**	**0.63**	**96**	PN	Pn	04 11 57.1	+0.3
TCW				SN	Sn	04 12 09.2	-1.1
TCW				AML	AML	04 12 09.9	
BSWZ	**Blackbirch Sta**	**0.65**	**150**	PN	Pn	04 11 57.1	+0.1
BSWZ				SN	Sn	04 12 09.7	-0.9
BSWZ				AML	AML	04 12 11.0	
THZ	**Tophouse**	**0.73**	**214**	PN	Pn	04 11 57.5	-0.3
QRZ	**Quartz Range**	**0.77**	**295**	⇑PN	Pn	04 11 57.7	-0.3
CMWZ	**Cape Campbell**	**0.83**	**136**	PN	Pn	04 11 59.9	+1.3
CMWZ				AML	AML	04 12 15.7	
CMWZ				AML	AML	04 12 16.9	
WEL	**Wellington**	**1.01**	**98**	PN	Pn	04 12 00.2	-0.1
WEL				AML	AML	04 12 17.2	
WEL				AML	AML	04 12 17.5	
BHW	**Baring Head**	**1.10**	**104**	⇑PN	Pn	04 12 01.2	-0.1
BHW				AML	AML	04 12 18.0	
BHW				AML	AML	04 12 18.1	
KIW	**Kapiti Island**	**1.15**	**76**	⇑PN	Pn	04 12 02.0	+0.2
KIW				AML	AML	04 12 19.7	
KIW				AML	AML	04 12 19.9	
CAW	**Cannon Point**	**1.23**	**88**	PN	Pn	04 12 02.5	-0.2
CAW				AML	AML	04 12 20.8	
CAW				AML	AML	04 12 21.4	
KHZ	**Kahutara**	**1.26**	**177**	PN	Pn	04 12 03.2	+0.1
KHZ				AML	AML	04 12 20.7	
KHZ				AML	AML	04 12 21.3	
OGWZ	**Otaki Gorge**	**1.35**	**76**	PN	Pn	04 12 04.2	+0.1
DSZ	**Denniston Nort**	**1.37**	**244**	⇓PN	Pn	04 12 04.0	-0.4
MSWZ	**Moikau Station**	**1.38**	**101**	PN	Pn	04 12 04.2	-0.3
MSWZ				AML	AML	04 12 23.7	
MSWZ				AML	AML	04 12 23.9	
PLWZ	**Palliser**	**1.42**	**108**	⇑PN	Pn	04 12 04.8	-0.2
PAWZ	**Paruwai Farm**	**1.51**	**99**	PN	Pn	04 12 05.6	-0.4
PAWZ				AML	AML	04 12 26.0	
PAWZ				AML	AML	04 12 26.3	
MTW	**Mount Morrison**	**1.55**	**91**	PN	Pn	04 12 06.1	-0.4
MTW				AML	AML	04 12 27.4	
MTW				AML	AML	04 12 27.6	
HOWZ	**Holdsworth Sta**	**1.59**	**81**	PN	Pn	04 12 06.6	-0.3
MRZ	**Mangatainoka R**	**1.69**	**74**	PN	Pn	04 12 07.8	-0.4
MRZ				AML	AML	04 12 30.9	
MRZ				AML	AML	04 12 30.9	
TRWZ	**Traveller**	**1.71**	**99**	PN	Pn	04 12 08.1	-0.3
TRWZ				AML	AML	04 12 30.9	
NMEZ	**Namu Road**	**1.77**	**11**	PN	Pn	04 12 10.6	+1.5
WAZ	**Wanganui**	**1.82**	**41**	PN	Pn	04 12 11.6	+1.7
LREZ	**Lake Rotokare**	**1.84**	**24**	PN	Pn	04 12 12.5	+2.4
TMWZ	**Te Maipa**	**1.85**	**89**	PN	Pn	04 12 09.7	-0.5
LTZ	**Lake Taylor**	**1.85**	**208**	PN	Pn	04 12 09.8	-0.4
TIWZ	**Tintock**	**1.89**	**79**	PN	Pn	04 12 10.2	-0.5
TIWZ				AML	AML	04 12 35.1	
TIWZ				AML	AML	04 12 35.2	
PREZ	**Palmer Road**	**1.89**	**17**	PN	Pn	04 12 12.5	+1.7
NWEZ	**Newall Road**	**1.91**	**10**	PN	Pn	04 12 12.7	+1.8
KHEZ	**Kahui Hut**	**1.91**	**13**	PN	Pn	04 12 12.5	+1.5
PKE	**Pukeiti**	**2.00**	**12**	PN	Pn	04 12 13.4	+1.3
PRWZ	**Pori Road**	**2.01**	**73**	PN	Pn	04 12 11.8	-0.3
BFZ	**Birch Farm**	**2.17**	**78**	PN	Pn	04 12 13.5	-0.8
MHEZ	**Mangahewa**	**2.18**	**18**	PN	Pn	04 12 16.3	+2.0
VRZ	**Vera Road**	**2.26**	**27**	PN	Pn	04 12 17.4	+2.0
ANWZ	**Angora Road**	**2.40**	**74**	PN	Pn	04 12 17.1	-0.1
OXZ	**Oxford**	**2.41**	**205**	PN	Pn	04 12 15.8	-1.5
FWVZ	**Far West T-bar**	**2.49**	**41**	PN	Pn	04 12 23.1	+4.5
HIZ	**Hauiti**	**2.85**	**23**	PN	Pn	04 12 23.9	+0.8

*IDC **04** 04:19:16.6±0.8, 3°.78S×142°.26E, h0km, mb4.3/10, mb1 4.5/12, mb1mx4.1/34, mbtmp4.4/12, ML4.6/2, MS3.1/4, Ms1 3.1/4, ms1mx2.8/27, Error ellipse: s-maj=24.7km s-min=17.8km az=79.0*

*ISCJB **04** 04:19:20.2±0.5, 3°.89S±0°.05×142°.19E±0°.05, h33km, mb4.4/20, MS3.1/3, Error ellipse: s-maj=8.3km s-min=6.0km az=145.7*

*DJA **04** 04:19:24.0±0.6, 3°S±5°×14°2E±°, h48km±6km, M4.8/15, mb4.9/15, mB5.2/7, MLv5.0/5, Mw(mB)4.6/7*

*NEIC **04** 04:19:29.1±1.8, 4°.04S×142°.05E, h96km±17km, mb4.2/8, Error ellipse: s-maj=11.6km s-min=11.1km az=207.0*

ISC 04 04:19:22.1±0.7**, 3°.87S**±0°.07×**142°.19E**±0°.08**, h35**km**, n53, σ1^{s}27**/45**, mb4.3**/20**, MS3.0**/3**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.00**	**312**	P	**Pn**	**04 19 51.4**	**-2.0**
GENI	**Genyem**	**2.38**	**302**	P	**Pn**	**04 19 57.0**	**-1.6**
GENI				S	**Sn**	**04 20 25.5**	**-1.1**
WAMI	**Wamena**	**3.47**	**270**	P	**Pn**	**04 20 12.4**	**-1.2**
WAMI				S	**Sn**	**04 20 55.8**	**+2.3**
SMPI	**Sarmi**	**3.94**	**298**	P	**Pn**	**04 20 19.5**	**-0.6**
SRPI	**Serui, Papua**	**6.26**	**288**	P	Pn	04 20 56.7	+4.6
PMG	**Port Moresby**	**7.40**	**138**	*e*Pn	Pn	04 21 15.0	+7.3
	51nm,0.7s						
RKPI	**Ransiki, Papua**	**8.33**	**286**	P	Pn	04 21 29.9	+9.4
SIJI	**Sorong**	**11.31**	**285**	Pn	**Pn**	**04 22 00.2**	**-1.1**
	2.6nm,0.3s,baz=123,slow=18,SNR=4.0						
SWI	**Sorong**	**11.31**	**285**	P	**Pn**	**04 22 02.1**	**+0.7**
	41nm,0.8s						
LBMI	**Labuha**	**15.02**	**282**	P	**Pn**	**04 22 52.5**	**+0.6**
	64nm,1.0s						
GUMO	**Guam**	**17.54**	**9**	LR	LR	04 29 45.2	
	comp=Z,26nm,18.8s,baz=174,slow=36						
WRAB	**Tennant Creek**	**17.70**	**205**	*e*P	**Pn**	**04 23 24.8**	**-1.3**
	23nm,0.6s						
WRA	**Warramunga Arr**	**17.72**	**205**	P	**Pn**	**04 23 25.1**	**-1.1**
	2.3nm,0.3s,baz=30,slow=12,SNR=42						
WRA				S	**Sn**	**04 26 39.1**	**-3.6**
	0.4nm,0.3s,baz=14,slow=22,SNR=3.8						
SOEI	**Soe**	**18.72**	**251**	P	**Pn**	**04 23 41.3**	**+2.6**
	85nm,0.8s						
SOEI	**Soe**	**18.72**	**251**	*e*P	**Pn**	**04 23 38.7**	**0.0**
	56nm,0.8s						
MRSI	**Marisa**	**20.69**	**282**	P	**P**	**04 23 58.9**	**-0.5**
	29nm,0.5s,950nm						
APSI	**Ampana**	**20.73**	**278**	P	**P**	**04 23 59.2**	**-0.6**
	74nm,1.2s,706nm						
AS31	**Alice Springs**	**21.25**	**201**	*e*P	**P**	**04 24 05.4**	**0.0**
ASAR	**Alice Springs**	**21.25**	**201**	P	**P**	**04 24 05.1**	**-0.3**
	5.3nm,0.5s,baz=28,slow=11,SNR=46						
ASAR				S	**S**	**04 28 01.9**	**+2.0**
	1.2nm,0.6s,baz=13,slow=29,SNR=3.5						
ASAR				LR	LR	04 33 17.2	
	comp=Z,27nm,21.2s,baz=24,slow=39						
BKSI	**Bulukumba**	**22.04**	**265**	P	**P**	**04 24 15.6**	**+1.7**
	31nm,0.8s,467nm						
TTSI	**Tana Toraja**	**22.34**	**271**	P	P	04 24 22.3	+5.1
SPSI	**Sidrap Palu**	**22.36**	**269**	P	**P**	**04 24 18.9**	**+1.5**
	18nm,0.7s,2μm						
KAPI	**Kappang**	**22.39**	**266**	P	**P**	**04 24 19.8**	**+2.0**
	4.7nm,0.3s,baz=80,slow=6.1,SNR=5.2						
KAPI	**Kappang**	**22.39**	**266**	*e*P	**P**	**04 24 19.5**	**+1.7**
WSI	**Waingapu**	**22.48**	**254**	P	**P**	**04 24 17.6**	**-1.1**
	3μm,0.4s,55μm						
PCI	**Palu**	**22.52**	**277**	P	**P**	**04 24 20.0**	**+0.9**
	54nm,1.4s,1μm						
MPSI	**Mapaga**	**22.66**	**280**	P	**P**	**04 24 22.5**	**+1.9**
	9.2nm,0.8s,480nm						
KKM	**Kota Kinabalu**	**27.74**	**291**	*e*P	**P**	**04 25 08.3**	**+0.5**
MBWA	**Marble Bar**	**27.78**	**230**	*e*P	**P**	**04 25 07.0**	**-1.0**
	7.2nm,0.6s						
STKA	**Stephens Creek**	**27.87**	**181**	P	**P**	**04 25 09.0**	**+0.3**
	1.4nm,0.5s,baz=3.4,slow=5.9,SNR=4.8						
STKA				LR	LR	04 37 56.8	
	comp=Z,131nm,19.7s,baz=15,slow=40						
DZM	**Mont Dzumac**	**29.68**	**130**	P	**P**	**04 25 25.6**	**+0.6**
	8.8nm,0.7s,baz=270,slow=20,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**32.81**	**47**	T	T	04 59 51.6	
	baz=229,slow=74,SNR=11						
H11S2	**WAKE ISLAND Hy**	**32.82**	**47**	T	T	04 59 52.0	
	baz=229,slow=74,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**32.83**	**47**	T	T	04 59 55.1	
	baz=229,slow=74,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**33.75**	**45**	T	T	05 01 18.9	
	baz=230,slow=76,SNR=13						
H11N2	**WAKE ISLAND Hy**	**33.76**	**45**	T	T	05 01 18.8	
	baz=230,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**33.76**	**45**	T	T	05 01 20.1	
	baz=230,slow=76,SNR=7.5						
NWAO	**Narrogin (SRO)**	**37.15**	**216**	P	**P**	**04 26 29.6**	**-0.2**
	9.1nm,0.9s,baz=330,slow=4.4,SNR=3.4						
MJAR	**Matsushiro Arr**	**40.37**	**355**	LR	LR	04 43 06.2	
	comp=Z,22nm,18.6s,baz=160,slow=36						
MK31	**Makanchi Array**	**72.83**	**322**	*e*P	**P**	**04 30 47.4**	**0.0**
MKAR	**Makanchi Array**	**72.83**	**322**	P	**P**	**04 30 47.4**	**0.0**
	2.4nm,0.7s,baz=102,slow=7.5,SNR=25						
VNDA	**Vanda**	**74.35**	**176**	P	**P**	**04 30 56.4**	**+0.7**
	0.9nm,0.8s,baz=318,slow=7.5,SNR=4.2						
VNDA	**Vanda**	**74.35**	**176**	*e*P	**P**	**04 30 55.8**	**+0.1**
	1.3nm,0.7s						
TKM2	**Tokmak 2**	**75.77**	**316**	*e*P	**P**	**04 31 05.9**	**+1.1**
	1.9nm,0.6s						
KURK	**Kurchatov**	**76.66**	**324**	*e*P	**P**	**04 31 09.8**	**+0.4**
	1.7nm,0.5s						
KURBB	**Kurchatov Arra**	**76.68**	**324**	P	**P**	**04 31 09.3**	**-0.2**
	0.8nm,0.7s,baz=107,slow=4.2,SNR=5.6						
EKS2	**Erkin-Say**	**76.96**	**315**	*e*P	**P**	**04 31 11.4**	**0.0**
	1.4nm,0.6s						
MAW	**Mawson**	**82.37**	**202**	P	**P**	**04 31 40.4**	**+0.3**
	2.1nm,0.8s,baz=58,slow=9.5,SNR=3.6						
TRF	**Thorofare Moun**	**83.59**	**25**	*e*P	**P**	**04 31 47.7**	**+0.9**
	3.2nm,0.8s						
ILAR	**Eielson Array**	**85.45**	**24**	P	**P**	**04 31 54.8**	**-1.1**
	1.8nm,0.6s,baz=255,slow=4.8,SNR=22						
ABKAR	**Akbulak array**	**87.84**	**319**	*e*P	**P**	**04 32 07.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**139.91**	**286**	PKP	**PKPdf**	**04 38 47.5**	**-0.2**
	0.2nm,0.7s,baz=91,slow=3.5,SNR=2.3						
LPAZ	**La Paz**	**143.95**	**125**	*e*PKPdf	**PKPdf**	**04 38 55.6**	**-0.1**

WEL 04 04:27:56.9±0.9**, 44°.68S**×**166°.82E, h5**km**, ML3.8**/12**, 1C, Error ellipse: s-maj=9.2km s-min=3.7km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.79**	**90**	⇑P*	Pg	04 28 11.8	-0.2
MSZ				S*	Sg	04 28 22.9	+0.6
MSZ				AML	AML	04 28 23.5	
MSZ				AML	AML	04 28 23.5	
MSZ				AML	AML	04 28 23.6	
DCZ	**Deep Cove**	**0.83**	**164**	P*	Pg	04 28 12.6	-0.2
DCZ				S*	Sn	04 28 27.2	-0.6
DCZ				AML	AML	04 28 31.2	
DCZ				AML	AML	04 28 37.6	
DCZ				AML	AML	04 28 37.6	
MLZ	**Mavora Lakes**	**1.17**	**125**	P*	Pg	04 28 18.1	-1.2
MLZ				AML	AML	04 28 39.2	
MLZ				AML	AML	04 28 43.2	
WHZ	**Wether Hill Ro**	**1.45**	**147**	PN	Pn	04 28 23.2	-0.6
WHZ				SN	Sb	04 28 41.6	-1.5
WHZ				AML	AML	04 28 50.7	
JCZ	**Jackson Bay**	**1.52**	**67**	PN	Pn	04 28 23.7	-1.1
JCZ				AML	AML	04 28 54.4	
JCZ				AML	AML	04 29 08.5	
WKZ	**Wanaka**	**1.57**	**96**	PN	Pb	04 28 26.0	-0.5
WKZ				AML	AML	04 28 58.9	
WKZ				AML	AML	04 28 59.0	
WKZ				AML	AML	04 28 59.3	
WKZ				AML	AML	04 28 59.4	
EAZ	**Earnscleugh**	**1.85**	**108**	PN	Pb	04 28 30.4	-0.8
EAZ				AML	AML	04 29 01.2	
EAZ				AML	AML	04 29 01.2	
EAZ				AML	AML	04 29 01.9	
APZ	**The Paps**	**2.30**	**160**	PN	Pb	04 28 37.3	-1.6
APZ				AML	AML	04 29 12.5	
FOZ	**Fox Glacier**	**2.35**	**63**	PN	Pn	04 28 35.5	-0.5
FOZ				AML	AML	04 29 15.0	
FOZ				AML	AML	04 29 32.5	
TUZ	**Tuapeka**	**2.36**	**124**	PN	Pn	04 28 37.2	+1.0
LBZ	**Lake Benmore**	**2.42**	**84**	PN	Pn	04 28 37.4	+0.2
LBZ				AML	AML	04 29 18.6	
LBZ				AML	AML	04 29 22.9	
SYZ	**Scrubby Hill**	**2.47**	**140**	PN	Pn	04 28 38.5	+0.8
SYZ				AML	AML	04 29 18.5	
SYZ				AML	AML	04 29 22.4	
ODZ	**Otahua Downs**	**2.74**	**99**	PN	Pn	04 28 41.3	-0.3
WVZ	**Waitaha Valley**	**3.25**	**62**	PN	Pn	04 28 47.2	-1.3
WVZ				AML	AML	04 29 53.6	
DSZ	**Denniston Nort**	**4.68**	**53**	PN	Pn	04 29 06.6	-1.5
THZ	**Tophouse**	**5.32**	**59**	PN	Pn	04 29 16.8	-0.2

*ISCJB **04** 04:32:19.9±0.5, 36°.47N±0°.03×70°.66E±0°.08, h100km, mb3.5/5, Error ellipse: s-maj=8.9km s-min=4.7km az=178.0*

*IDC **04** 04:32:22.2±5.3, 36°.53N×70°.83E, h119km±42km, mb3.2/5, mb1 3.4/9, mb1mx3.1/45, mbtmp3.8/9, Error ellipse: s-maj=53.2km s-min=31.8km az=141.0*

*NNC **04** 04:32:25.5±4.5, 36°.80N×70°.42E, h88km±120km, mb3.6, mpv3.9, Error ellipse: s-maj=39.7km s-min=33.7km az=122.0*

ISC 04 04:32:20.5±0.7**, 36°.46N**±0°.05×**70°.65E**±0°.10**, h100**km**, n24, σ1^{s}50**/31**, mb3.4**/5**, 8C-8D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.82**	**158**	⇑P	**Pn**	**04 33 04.9**	**+0.9**
CEP				S	**Sn**	**04 33 38.0**	**+0.6**
CHCP	**Chirah Chowk**	**3.52**	**142**	P	**Pn**	**04 33 13.2**	**0.0**
THW	**Thamme Wali**	**3.76**	**166**	⇓P	**Pn**	**04 33 17.1**	**+0.6**
SFK	**Sufi-Kurgan**	**4.20**	**31**	⇑P	**Pn**	**04 33 24.7**	**+2.1**
	6.6nm,0.3s						
SFK				⇑S	**Sn**	**04 34 12.1**	**+1.5**
	28nm,0.3s						
AML	**Almayashu**	**6.14**	**22**	P	**Pn**	**04 33 49.9**	**+0.9**
	SNR=38						
MNAS	**Manas**	**6.19**	**13**	⇑P	**Pn**	**04 33 50.8**	**+1.4**
	4.2nm,0.7s						
MNAS				⇑S	**Sn**	**04 34 58.1**	**-0.8**
	9.4nm,0.4s						
UCH	**Uchtor**	**6.49**	**26**	P	**Pn**	**04 33 55.2**	**+1.4**
	SNR=14						
KK31	**Karatay Array**	**6.64**	**359**	⇑P	**Pn**	**04 33 56.9**	**+1.4**
	7.3nm,0.3s,baz=178,slow=12,SNR=182						
KK31				⇓S	**Sn**	**04 35 08.7**	**-0.9**
	3.2nm,0.3s,baz=188,slow=25,SNR=7.8						
KZA	**Kyzart**	**6.65**	**31**	P	**Pn**	**04 33 57.9**	**+2.0**
	SNR=8.9						
AAK	**Ala-Archa**	**6.85**	**25**	⇑P	**Pn**	**04 33 59.6**	**+1.2**
	5.4nm,0.7s						
AAK				⇓S	**Sn**	**04 35 12.7**	**-2.1**
	7.8nm,0.6s						
AAK	**Ala-Archa**	**6.85**	**25**	P	**Pn**	**04 33 59.8**	**+1.4**
	2.4nm,0.3s,baz=196,slow=4.9,SNR=12						
AAK				S	**Sn**	**04 35 13.0**	**-1.8**
	0.7nm,0.3s,baz=317,slow=22,SNR=9.8						
KBK	**Karagaybulak**	**7.03**	**27**	P	Pn	04 34 04.4	+3.6
	SNR=6.2						
TKM2	**Tokmak 2**	**7.50**	**29**	P	**Pn**	**04 34 10.0**	**+2.8**
	SNR=13						
TKM2	**Tokmak 2**	**7.50**	**29**	⇑P	**Pn**	**04 34 09.7**	**+2.5**
	9.9nm,0.8s						
TKM2				⇓S	**Sn**	**04 35 29.7**	**-1.0**
	3.7nm,0.8s						
MKAR	**Makanchi Array**	**13.49**	**36**	P	**Pn**	**04 35 27.1**	**-0.6**
	0.1nm,0.3s,baz=220,slow=14,SNR=13						
AB31	**Akbulak array**	**14.99**	**332**	⇓P	**Pn**	**04 35 48.4**	**+1.5**
	1.2nm,0.3s,baz=76,slow=35,SNR=45						
AB31				⇓S	Sn	04 38 24.9	-7.2
	1.0nm,0.6s,baz=138,slow=27,SNR=4.2						
KURBB	**Kurchatov Arra**	**15.26**	**19**	P	**Pn**	**04 35 48.0**	**-2.2**
	0.1nm,0.3s,baz=206,slow=11,SNR=3.4						
AKTO	**Aktyubinsk**	**16.68**	**331**	⇓P	**Pn**	**04 36 10.0**	**+2.0**
	3.2nm,0.6s						
AKTO				⇓S	**Sn**	**04 39 11.2**	**-1.8**
	1.5nm,0.7s						
ZALV	**Zalesovo Beam**	**20.07**	**25**	P	**P**	**04 36 44.5**	**-1.1**
	1.6nm,0.3s,baz=221,slow=11,SNR=2.7						
FINES	**FINESS Array B**	**37.37**	**326**	P	**P**	**04 39 23.4**	**+0.4**
	1.2nm,0.8s,baz=123,slow=10,SNR=3.6						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**04 39 53.8**	**0.0**
	1.5nm,0.9s,baz=115,slow=8.4,SNR=4.1						
NOA	**NORSAR Array B**	**44.25**	**323**	P	**P**	**04 40 19.2**	**-0.4**
	0.3nm,0.5s,baz=99,slow=7.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**65.44**	**268**	P	**P**	**04 42 53.2**	**+0.2**
	0.5nm,1.0s,baz=53,slow=6.0,SNR=2.8						
YKA	**Yellowknife Ar**	**81.30**	**2**	P	**P**	**04 44 24.6**	**-0.7**
	0.2nm,0.5s,baz=347,slow=5.7,SNR=3.3						

IDC 04 04:35:35.7±1.6**, 3°.22S**×**142°.53E, h0**km**, mb3.4**/3**, mb1 3.8**/4**, mb1mx3.5**/29**, mbtmp3.5**/4**, ML3.6**/1**, Error ellipse: s-maj=74.0km s-min=27.0km az=105.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.45**	**205**	P	P	04 39 53.2	+0.1
	0.2nm,0.3s,baz=28,slow=12,SNR=7.8						
ASAR	**Alice Springs**	**21.97**	**202**	P	P	04 40 31.3	-0.2
	0.5nm,0.6s,baz=31,slow=11,SNR=5.8						
H11S3	**WAKE ISLAND Hy**	**32.12**	**47**	T	T	05 16 05.4	
	baz=230,slow=75,SNR=7.9						
H11S2	**WAKE ISLAND Hy**	**32.13**	**47**	T	T	05 16 03.8	
	baz=230,slow=75,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**32.14**	**47**	T	T	05 16 04.7	
	baz=230,slow=75,SNR=3.5						
H11N1	**WAKE ISLAND Hy**	**33.05**	**45**	T	T	05 17 17.1	
	baz=229,slow=74						
H11N2	**WAKE ISLAND Hy**	**33.07**	**45**	T	T	05 17 18.4	
	baz=229,slow=74						
H11N3	**WAKE ISLAND Hy**	**33.07**	**45**	T	T	05 17 17.0	
	baz=229						
MKAR	**Makanchi Array**	**72.54**	**321**	P	P	04 47 04.7	0.0
	0.2nm,0.6s,baz=110,slow=7.8,SNR=3.0						
ILAR	**Eielson Array**	**84.73**	**24**	P	P	04 48 11.5	0.0
	0.5nm,0.6s,baz=250,slow=4.6,SNR=10						

*IDC **04** 04:53:47.1±2.1, 9°.29S×123°.02E, h0km, mb3.8/1, mb1 3.5/3, mb1mx3.4/32, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=241.1km s-min=31.4km az=54.0*

*ISCJB **04** 04:53:56.4±0.7, 9°.4S±0°.1×123°.15E±0°.09, h100km, mb3.6/1, Error ellipse: s-maj=18.7km s-min=7.5km az=34.4*

*DJA **04** 04:53:58.9±1.0, 9°S±6°×12°3E±°, h11km±9km, M4.1/7, mb4.8/1, MLv3.8/7*

ISC 04 04:53:57.4±1.0**, 9°.34S**±0°.09×**123°.19E**±0°.07**, h100**km**, n8, σ2^{s}11**/9**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.14**	**111**	P	**Pn**	**04 54 19.3**	**-0.2**
SOEI				S	**Sn**	**04 54 36.4**	**+0.2**
MMRI	**Maumere**	**1.17**	**307**	P	**Pn**	**04 54 18.3**	**-1.5**
MMRI				S	**Sn**	**04 54 33.9**	**-2.8**
BASI	**Baing, Sumba**	**2.72**	**251**	P	**Pn**	**04 54 41.3**	**+1.9**
WSI	**Waingapu**	**2.87**	**263**	P	Pn	04 54 45.1	+3.7
BBSI	**Bau Bau**	**3.88**	**351**	P	**Pn**	**04 54 56.9**	**+1.9**
WRA	**Warramunga Arr**	**15.07**	**136**	Pn	**Pn**	**04 57 22.5**	**-2.6**
	0.1nm,0.3s,baz=309,slow=13,SNR=6.4						
WRA				Sn	Sn	04 59 58.7	-13

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.2nm,0.3s,baz=316,slow=25,SNR=5.4						
ASAR	**Alice Springs**	**17.55**	**146**	P	**P**	**04 57 56.0**	**+0.6**
	0.1nm,0.3s,baz=319,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**66.71**	**331**	P	**P**	**05 04 39.2**	**+1.5**
	0.6nm,0.6s,baz=133,slow=7.5,SNR=9.6						

MEX 04 04:58:46.3±0.7**, 17°.20N×99°.70W, h55**km±6km**, MD3.5, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.37**	**205**	*e*P	Pn	04 58 55.2	-1.3
ACX				*e*S	Sn	04 59 02.5	-1.4
ACP2	**Acapulco**	**0.38**	**209**	*e*P	Pn	04 58 55.0	-1.6
ACP2				*i* S	Sn	04 59 02.3	-1.6
CAIG	**El Cayaco**	**0.57**	**254**	*i* P	Pn	04 58 57.1	-1.6
CAIG				*e*S	Sn	04 59 05.9	-1.7
MEIG	**Mezcala**	**0.72**	**6**	*e*P	Pn	04 58 58.9	-1.8
MEIG				*e*S	Sn	04 59 08.7	-2.5
TLIG	**Tlapa**	**1.14**	**72**	*e*P	Pn	04 59 04.8	-1.4
TLIG				*e*S	Sn	04 59 18.6	-2.3
PLIG	**Platanillo**	**1.20**	**9**	*e*P	Pn	04 59 05.8	-1.1
PLIG				*e*S	Sn	04 59 19.8	-2.5
ARIG	**Puente Sto Nin**	**1.24**	**330**	*e*P	Pn	04 59 06.5	-0.9
ARIG				*e*S	Sn	04 59 21.4	-1.8
PNIG	**Pinotepa**	**1.71**	**118**	*e*P	Pn	04 59 12.5	-1.3
PNIG				*i* S	Sn	04 59 31.9	-2.6
ZIIG	**Zihuatanejo**	**1.73**	**284**	*e*P	Pn	04 59 12.8	-1.2
ZIIG				*i* S	Sn	04 59 32.6	-2.5
ZIIG				*e*S	Sn	04 59 32.9	-2.2
YAIG	**Yautepec**	**1.75**	**20**	*e*P	Pn	04 59 13.0	-1.6
YAIG				*e*S	Sn	04 59 34.2	-1.7

IDC 04 04:59:37.8±6.2**, 38°.10S×75°.45W, h0**km**, mb3.5**/2**, mb1 3.6**/3**, mb1mx3.5**/19**, mbtmp3.5**/3**, ML3.4**/1**, MS3.8**/3**, Ms1 3.7**/3**, ms1mx3.2**/13**, Error ellipse: s-maj=143.8km s-min=31.6km az=63.0, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.62**	**126**	Pn	Pn	05 00 49.8	+0.7
	0.4nm,0.3s,baz=304,slow=11,SNR=12						
PLCA				Sn	Sn	05 01 43.2	-0.3
	2.9nm,0.3s,baz=178,slow=23,SNR=4.7						
LPAZ	**La Paz**	**22.66**	**19**	P	P	05 04 41.5	0.0
	0.8nm,0.7s,baz=210,slow=10,SNR=4.2						
BDFB	**Brasilia**	**32.94**	**55**	LR	LR	05 20 54.2	
	comp=Z,81nm,19.3s,baz=191,slow=39						
CMIG	**Matias Romero**	**57.85**	**338**	LR	LR	05 29 33.0	
	comp=Z,114nm,18.7s,baz=8.0,slow=31						
TEIG	**Tepich**	**59.25**	**346**	LR	LR	05 30 53.0	
	comp=Z,76nm,19.6s,baz=84,slow=32						
TORD	**Torodi Ar. Bea**	**88.16**	**72**	P	P	05 12 30.7	-0.2
	0.5nm,1.0s,baz=223,slow=4.1,SNR=3.4						

*ISCJB **04** 05:00:50.9±0.4, 59°.85N±0°.02×24°.90E±0°.06, h0km, Error ellipse: s-maj=4.2km s-min=3.3km az=21.6*
*CSEM **04** 05:00:51.9±0.2, 59°.83N×24°.92E, h2km, ML2.2, Error ellipse: s-maj=4.3km s-min=3.4km az=114.0, Mining explosion.*
*HEL **04** 05:00:52.9±0.1, 59°.85N×24°.84E, h0km, ML2.2, Explosion*
*NAO **04** 05:00:53.6±1.0, 59°.82N×24°.97E, ML2.1*
*BER **04** 05:00:54.0±2.3, 59°.82N×24°.93E, h3km±17km, ML2.1(NAO)*
*IDC **04** 05:00:54.5±2.2, 59°.94N×24°.79E, h0km, mb1 3.1/3, mb1mx2.8/37, mbtmp3.0/3, ML3.0/3, Error ellipse: s-maj=24.4km s-min=6.5km az=142.0*
ISC 04 05:00:50.9±0.7**, 59°.85N**±0°.02×**24°.87E**±0°.02**, h0**km**, n38, σ1s28**/60**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.44**	**327**	*e*P	**Pg**	**05 01 00.4**	**+1.0**
MEF				*e*S	**Sg**	**05 01 05.8**	**+0.8**
MEF	**Metsahovi**	**0.44**	**327**	P	**Pg**	**05 01 00.3**	**+1.0**
MEF				S	**Sg**	**05 01 05.7**	**+0.8**
SRPE	**Suurupi**	**0.47**	**213**	*e*P	**Pg**	**05 01 01.0**	**+1.2**
SRPE				*e*S	**Sg**	**05 01 06.2**	**+0.3**
SRPE	**Suurupi**	**0.47**	**213**	P	**Pg**	**05 01 01.0**	**+1.2**
SRPE				S	**Sg**	**05 01 06.1**	**+0.3**
PVF	**Pernaja**	**0.85**	**35**	*e*P	**Pb**	**05 01 08.3**	**-0.3**
PVF				*e*S	**Sg**	**05 01 19.6**	**+1.2**
PVF	**Pernaja**	**0.85**	**35**	P	**Pb**	**05 01 08.3**	**-0.3**
PVF				S	**Sg**	**05 01 19.5**	**+1.2**
MTSE	**Matsula**	**1.27**	**206**	*e*P	**Pg**	**05 01 15.2**	**+0.1**
MTSE				*e*S	**Sg**	**05 01 31.4**	**-0.1**
MTSE	**Matsula**	**1.27**	**206**	P	**Pg**	**05 01 15.2**	**+0.1**
MTSE				S	**Sg**	**05 01 31.4**	**-0.1**
VJF	**Virojoki**	**1.51**	**62**	*e*P	**Pb**	**05 01 19.9**	**+0.2**
VJF				*e*S	**Sg**	**05 01 39.5**	**+0.2**
VJF	**Virojoki**	**1.51**	**62**	P	**Pb**	**05 01 19.9**	**+0.2**
VJF				S	**Sg**	**05 01 39.4**	**+0.2**
VSU	**Vasula**	**1.69**	**145**	Pg	**Pg**	**05 01 23.8**	**+0.5**
VSU				Lg	Lg	05 01 45.3	
VSU	**Vasula**	**1.69**	**145**	Pg	**Pg**	**05 01 23.8**	**+0.5**
VSU				Lg	Lg	05 01 45.3	
VSU	**Vasula**	**1.69**	**145**	*e*PN	**Pg**	**05 01 23.9**	**+0.5**
VSU				*e*S	**Sn**	**05 01 43.3**	**-0.8**
VSU	**Vasula**	**1.69**	**145**	Pg	**Pg**	**05 01 23.8**	**+0.5**
	SNR=91						
VSU				S	**Sn**	**05 01 43.3**	**-0.8**
VSU				Lg	Lg	05 01 45.3	
FIA0	**FINESS Array S**	**1.70**	**20**	Pg	**Pg**	**05 01 23.6**	**+0.1**
	baz=193,slow=18						
FIA0				Lg	Lg	05 01 48.2	
	baz=198,slow=28						
FIA0	**FINESS Array S**	**1.70**	**20**	Pg	**Pg**	**05 01 23.6**	**+0.1**
	baz=193,slow=18						
FIA0				Lg	Lg	05 01 48.2	
	baz=198,slow=28						
FIA0	**FINESS Array S**	**1.70**	**20**	*e*P	**Pg**	**05 01 23.6**	**+0.1**
FIA0				*e*S	**Sn**	**05 01 44.0**	**-0.4**
FIA0				MSG		05 01 49.5	
	comp=Z,11nm,0.2s						
FIA0	**FINESS Array S**	**1.70**	**20**	P	**Pg**	**05 01 23.6**	**+0.1**
FIA0				S	**Sn**	**05 01 43.9**	**-0.4**
FIA0				Lg	Lg	05 01 48.2	
	SNR=1.0						
FINES	**FINESS Array B**	**1.70**	**20**	Pg	**Pg**	**05 01 23.6**	**+0.1**
	comp=Z,6.3nm,0.3s,baz=201,slow=15,SNR=170						
FINES				Lg	Lg	05 01 45.4	
	comp=Z,5.2nm,0.3s,baz=206,slow=25,SNR=22						
RAF	**Rauma**	**1.94**	**309**	*e*P	**Pb**	**05 01 26.9**	**-0.1**
RAF				*e*S	**Sb**	**05 01 51.6**	**-0.1**
RAF				MSG		05 01 52.5	
	comp=Z,15nm,0.2s						
RAF	**Rauma**	**1.94**	**309**	P	**Pb**	**05 01 26.9**	**-0.1**
RAF				S	**Sb**	**05 01 51.6**	**-0.1**
KEF	**Keuruu**	**2.32**	**360**	MSG		05 02 06.2	
	comp=Z,14nm,0.2s						
KAF	**Kangasniemi**	**2.37**	**17**	MSG		05 02 05.9	
	comp=Z,13nm,0.2s						
AAL	**Aland**	**2.47**	**280**	*e*P	**Pb**	**05 01 34.9**	**-1.3**
AAL				*e*S	**Sn**	**05 02 05.1**	**+1.9**
AAL	**Aland**	**2.47**	**280**	P	**Pb**	**05 01 34.8**	**-1.3**
AAL				S	**Sn**	**05 02 05.1**	**+1.9**
HFS	**Hagfors**	**5.62**	**278**	Pn	**Pn**	**05 02 17.9**	**+2.2**
	baz=84,slow=14						
HFS				Sn	**Sn**	**05 03 19.0**	**-1.8**
	baz=86,slow=28						
HFS	**Hagfors**	**5.62**	**278**	Pn	**Pn**	**05 02 17.9**	**+2.2**
	baz=84,slow=14						
HFS				Sn	**Sn**	**05 03 19.0**	**-1.8**
	baz=86,slow=28						
HFS	**Hagfors**	**5.62**	**278**	Pn	**Pn**	**05 02 15.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=83,slow=13,SNR=11						
HFS				Sn	**Sn**	**05 03 19.5**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=90,slow=26,SNR=6.8						
HFS				Lg	Lg	05 03 40.7	
	comp=Z,0.6nm,0.3s,baz=92,slow=29,SNR=7.4						
HFS	**Hagfors**	**5.62**	**278**	Pn	**Pn**	**05 02 17.9**	**+2.2**
	SNR=50						
NB2	**NORSAR Subarra**	**6.86**	**286**	Pn	**Pn**	**05 02 32.7**	**0.0**
	baz=98,slow=12						
NB2	**NORSAR Subarra**	**6.86**	**286**	Pn	**Pn**	**05 02 32.7**	**0.0**
	baz=98,slow=12						
NB2	**NORSAR Subarra**	**6.86**	**286**	Pn	**Pn**	**05 02 32.7**	**0.0**
	SNR=50						
NOA	**NORSAR Array B**	**6.86**	**286**	Pn	**Pn**	**05 02 32.8**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=107,slow=14,SNR=8.9						
NOA				Sn	**Sn**	**05 03 48.9**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=118,slow=13,SNR=3.9						
NOA				Lg	Lg	05 04 22.0	
	comp=Z,0.4nm,0.3s,baz=69,slow=20,SNR=3.8						
ARA0	**ARCESS Array S**	**9.73**	**1**	Pn	**Pn**	**05 03 12.8**	**+0.9**
	baz=180,slow=14						
ARA0				Sn	**Sn**	**05 04 57.4**	**-4.3**
	baz=186,slow=28						
ARA0	**ARCESS Array S**	**9.73**	**1**	Pn	**Pn**	**05 03 12.8**	**+0.9**
	baz=180,slow=14						
ARA0				Sn	**Sn**	**05 04 57.4**	**-4.3**
	baz=186,slow=28						
ARA0	**ARCESS Array S**	**9.73**	**1**	Pn	**Pn**	**05 03 12.8**	**+0.9**
	SNR=50						
ARCES	**ARCESS Array B**	**9.73**	**1**	Pn	**Pn**	**05 03 12.9**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=180,slow=13,SNR=11						
BZS	**Buzias**	**14.39**	**189**	S	**S**	**05 07 15.7**	**-0.7**

IDC 04 05:03:58.8±6.9**, 10°.95S×164°.21E, h0**km**, mb3.5**/3**, mb1 3.6**/3**, mb1mx3.4**/27**, mbtmp3.4**/3**, MS3.0**/3**, Ms1 3.0**/3**, ms1mx2.7**/18**, Error ellipse: s-maj=203.0km s-min=50.4km az=122.0, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**29.36**	**5**	T	T	05 40 30.3	
	baz=184,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**29.36**	**5**	T	T	05 40 30.0	
	baz=184,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**29.38**	**5**	T	T	05 40 31.5	
	baz=184,slow=76,SNR=10						
STKA	**Stephens Creek**	**29.49**	**222**	LR	LR	05 21 44.1	
	comp=Z,54nm,19.3s,baz=24,slow=36						
WRA	**Warramunga Arr**	**30.11**	**249**	P	P	05 10 11.0	+0.6
	0.2nm,0.5s,baz=79,slow=9.3,SNR=6.2						
H11N1	**WAKE ISLAND Hy**	**30.59**	**5**	T	T	05 42 04.2	
	baz=184,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**30.59**	**5**	T	T	05 42 06.6	
	baz=184,slow=76,SNR=9.7						
H11N2	**WAKE ISLAND Hy**	**30.61**	**5**	T	T	05 42 01.9	
	baz=184,slow=76,SNR=9.8						
GUMO	**Guam**	**31.03**	**321**	LR	LR	05 23 27.4	
	comp=Z,11nm,19.2s,baz=101,slow=38						
ASAR	**Alice Springs**	**31.49**	**242**	P	P	05 10 22.1	-0.6
	0.2nm,0.4s,baz=70,slow=9.3,SNR=3.0						
ASAJ	**Asahikawa**	**58.22**	**342**	LR	LR	05 35 22.7	
	comp=Z,15nm,20.4s,slow=32						
MKAR	**Makanchi Array**	**92.43**	**317**	P	P	05 17 11.6	-0.1
	0.3nm,0.8s,baz=96,slow=6.4,SNR=3.2						

*ISCJB **04** 05:22:10.1±0.5, 32°.51N±0°.03×115°.41W±0°.03, h14km, Error ellipse: s-maj=4.3km s-min=3.7km az=30.3*
*MEX **04** 05:22:10.9±0.6, 32°.42N×115°.24W, h20km±8km, MD3.6*
*ECX **04** 05:22:11.7±0.6, 32°.49N×115°.46W, h6km, MD2.3, ML2.6*
ISC 04 05:22:09.8±0.9**, 32°.49N**±0°.03×**115°.42W**±0°.03**, h14**km**, n19, σ0s41**/30**, 8C-2D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.12**	**126**	*e*Pn	**Pb**	**05 22 14.1**	**+0.2**
CPBX				*e*S	**Sb**	**05 22 16.5**	**+0.1**
CPBX				IAML		05 22 22.9	
	comp=N,5μm,0.2s						
MBIG	**Mexicali**	**0.20**	**113**	*e*P	**Pg**	**05 22 13.4**	**-0.9**
MBIG				*i* S	**Sg**	**05 22 16.2**	**-1.2**
SGL	**Mount Signal**	**0.31**	**302**	⇑*i*P	**Pg**	**05 22 16.4**	**+0.3**
ERPC	**Ernies Place**	**0.33**	**321**	⇑*i*P	**Pb**	**05 22 17.5**	**0.0**
WESC	**Westside Schoo**	**0.38**	**316**	*e*P	**Pb**	**05 22 18.2**	**-0.1**
EMSC	**East Mesa**	**0.44**	**55**	⇑*i*P	**Pb**	**05 22 20.2**	**+0.8**
COK	**Cook Ranch**	**0.45**	**324**	⇑*i*P	**Pb**	**05 22 19.3**	**-0.2**
COA	**Coachella**	**0.45**	**33**	⇑*i*P	**Pb**	**05 22 20.1**	**+0.6**
YUH	**Yuha Desert**	**0.46**	**291**	⇑*i*P	**Pg**	**05 22 18.9**	**+0.1**
RMX	**La Rumorosa**	**0.57**	**282**	*e*P	**Pg**	**05 22 21.2**	**+0.2**
RMX				*e*S	**Sg**	**05 22 28.7**	**0.0**
RDX	**Rancho Dawling**	**0.71**	**219**	⇓*i*P	**Pg**	**05 22 23.9**	**+0.2**
RDX				*e*S	**Sg**	**05 22 33.2**	**+0.1**
RDX				IAML		05 22 35.6	
	comp=N,171nm,0.5s						
RDX				⇑*e*		05 22 35.6	
ECBX	**El Chinero**	**1.06**	**163**	⇓*e*P	**Pg**	**05 22 30.6**	**+0.4**
ECBX				*e*S	**Sn**	**05 22 44.8**	**+0.1**
CBX	**Cerro Bola**	**1.07**	**261**	*e*P	**Pb**	**05 22 30.1**	**-0.1**
CBX				*i* S	**Sb**	**05 22 43.8**	**-0.2**
CBX	**Cerro Bola**	**1.07**	**261**	*e*P	**Pb**	**05 22 30.2**	**+0.1**
CBX				*e*S	**Sb**	**05 22 43.8**	**-0.2**
CBX				IAML		05 22 44.6	
	comp=E,236nm,0.3s						
BAR	**Barrett**	**1.08**	**281**	⇑*e*P	**Pb**	**05 22 29.8**	**-0.5**
ZAX	**El Zacaton**	**1.21**	**217**	*e*P	**Pn**	**05 22 32.5**	**+0.1**
ZAX				*e*S	**Sg**	**05 22 49.0**	**0.0**
ECNX	**Esteban Cantu**	**1.30**	**231**	*e*P	**Pb**	**05 22 34.3**	**+0.3**
ECNX				*e*S	**Sn**	**05 22 51.1**	**+0.3**
PBX	**Punta Banda**	**1.34**	**237**	*e*P	**Pb**	**05 22 34.6**	**0.0**
PBX				*e*S	**Sg**	**05 22 52.4**	**-0.5**
SPX	**San Pedro Mart**	**1.44**	**182**	*e*Pn	**Pn**	**05 22 35.8**	**0.0**
SPX				*e*S	**Sg**	**05 22 56.1**	**-0.1**

*IDC **04** 05:25:54.3±2.0, 13°.40N×91°.27W, h0km, mb3.4/3, mb1 3.9/7, mb1mx3.6/35, mbtmp3.6/7, ML3.7/4, Error ellipse: s-maj=57.0km s-min=28.2km az=36.0*
*ISCJB **04** 05:25:56.7±1.0, 13°.4N±0°.1×91°.25W±0°.05, h29km, mb3.5/3, Error ellipse: s-maj=15.4km s-min=5.1km az=22.3*
*CASC **04** 05:26:00.4±1.9, 13°.53N×91°.08W, h37km±999km, MD3.8, ML3.7*
ISC 04 05:25:57.6±1.1**, 13°.38N**±0°.09×**91°.19W**±0°.06**, h29**km**, n24, σ1s25**/27**, mb3.4**/3**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	**Jato**	**1.02**	**335**	*e*P	**Pn**	**05 26 16.4**	**+0.3**
FUG	**Fuego 3**	**1.11**	**18**	*e*P	**Pn**	**05 26 17.6**	**+0.1**
PCG	**Pacaya**	**1.16**	**29**	*e*P	**Pb**	**05 26 19.5**	**+0.4**
RTR	**El Retiro**	**1.59**	**71**	*e*P	**Pn**	**05 26 24.5**	**+0.5**
SBLS	**San Blas**	**1.59**	**73**	*e*P	**Pn**	**05 26 24.2**	**+0.1**
SNJE	**San Jose**	**1.62**	**72**	*e*P	**Pn**	**05 26 24.7**	**+0.3**
RBDL	**Robledal**	**1.63**	**63**	*e*P	**Pn**	**05 26 25.1**	**+0.5**
BOQS	**Boqueron**	**1.89**	**79**	*e*P	**Pn**	**05 26 29.1**	**+0.9**
SNET	**Serv Nac Est T**	**1.93**	**81**	*e*S	**Sn**	**05 26 50.9**	**-1.1**
SNET				AML	AML	05 26 59.6	
	comp=Z,879nm,0.4s						
LFRS	**El Faro**	**2.09**	**83**	*e*P	**Pn**	**05 26 32.1**	**+1.3**
LFRS				*e*S	**Sn**	**05 26 55.4**	**-0.5**
LBRS	**Las Brisas**	**2.12**	**80**	*e*P	**Pn**	**05 26 32.1**	**+0.9**
MRL	**Marmol**	**2.22**	**41**	*e*P	**Pn**	**05 26 33.8**	**+1.2**
MRL				*e*P	**Pb**	**05 26 35.3**	**-1.9**
SNVI	**San Vicente**	**2.30**	**84**	*e*P	**Pn**	**05 26 34.7**	**+0.9**
VSM	**San Miguel**	**2.84**	**89**	*e*P	**Pn**	**05 26 42.1**	**+0.8**
CNCH	**Conchagua**	**3.27**	**91**	*e*P	**Pn**	**05 26 47.8**	**+0.7**
CMIG	**Matias Romero**	**5.13**	**316**	Pn	**Pn**	**05 27 12.4**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=135,slow=12,SNR=8.6						
CMIG				Sn	**Sn**	**05 28 10.6**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=116,slow=23,SNR=5.0						
JTS	**JuntasAbangare**	**6.84**	**116**	Pn	**Pn**	**05 27 38.8**	**+2.8**
	comp=Z,0.5nm,0.3s,baz=294,slow=19,SNR=2.7						
JTS				Sn	**Sn**	**05 28 50.2**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=306,slow=19,SNR=1.4						
JTS				Lg	Lg	05 29 26.9	
	comp=Z,0.3nm,0.3s,baz=252,slow=20,SNR=3.4						
TEIG	**Tepich**	**7.36**	**22**	Pn	**Pn**	**05 27 44.8**	**+1.6**
	comp=Z,7.3nm,0.3s,baz=196,slow=1.2,SNR=55						
TXAR	**Lajitas Array**	**19.64**	**326**	P	**Pn**	**05 30 25.8**	**0.0**
	comp=Z,0.1nm,0.3s,baz=155,slow=13,SNR=16						
H06E1	**SOCORRO T-PHAS**	**19.70**	**288**	T	T	05 50 39.8	
	SNR=7.3						
NVAR	**Mina Array Bea**	**34.64**	**321**	P	**P**	**05 32 47.1**	**+2.3**
	comp=Z,1.0nm,0.7s,baz=126,slow=8.8,SNR=6.6						
YKA	**Yellowknife Ar**	**51.80**	**346**	P	**P**	**05 35 01.4**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=150,slow=7.8,SNR=3.7						
ILAR	**Eielson Array**	**63.71**	**337**	P	**P**	**05 36 26.0**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=148,slow=7.1,SNR=3.5						
CMAR	**Chiang Mai Arr**	**146.82**	**342**	PKPbc	**PKPbc**	**05 45 38.3**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=57,slow=3.3,SNR=5.4						

*NIED **04** 05:31:00, 44°.10N×142°.50E, h250km, Mw4.2 Best double couple: M0 2.28000×10^15 NP1: φs156.00000°, δ56.00000°, λ5.00000°. NP2: φs63.00000°, δ86.00000°, λ146.00000°.*
*ISCJB **04** 05:31:29.9±0.2, 44°.17N±0°.03×142°.46E±0°.03, h236km±1km, mb4.0/40, Error ellipse: s-maj=4.4km s-min=3.8km az=154.1*
*MOS **04** 05:31:29.6±0.9, 44°.24N×142°.35E, h229km, mb4.1/21, Error ellipse: s-maj=10.6km s-min=6.1km az=92.6*
*BJI **04** 05:31:29.2, 44°.19N×142°.50E, h232km, mb4.6/13, mB4.5/10*
*JMA **04** 05:31:30.9±0.1, 44°.12N×142°.46E, h234km±2km, M3.7*
*IDC **04** 05:31:31.1±0.6, 44°.20N×142°.50E, h233km±5km, mb3.6/18, mb1 3.8/23, mb1mx3.6/38, mbtmp4.2/23, Error ellipse: s-maj=12.0km s-min=10.1km az=142.0*
*NEIC **04** 05:31:31.1±0.4, 44°.17N×142°.47E, h231km±5km, mb4.2/15, Error ellipse: s-maj=10.9km s-min=6.9km az=148.0*
ISC 04 05:31:31.1±0.4**, 44°.19N**±0°.04×**142°.44E**±0°.04**, h235**km±3km**, h234**km**: pP-P, n129, σ1s35**/173**, mb4.0**/40**, 18C-6D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**0.14**	**124**	⇑P	**Pn**	**05 32 01.5**	**-0.1**
ASAJ				*e*S	**S**	**05 32 24.7**	**-0.6**
ASAJ	**Asahikawa**	**0.14**	**124**	P	**Pn**	**05 32 01.4**	**-0.1**
	baz=255,slow=4.1						
ASAJ				S	**S**	**05 32 24.9**	**-0.5**
	baz=90,slow=20						
ASAJ	**Asahikawa**	**0.14**	**124**	*e*P	**Pn**	**05 32 01.3**	**-0.3**
ASAJ				*e*S	**S**	**05 32 24.5**	**-0.8**
JKK2	**Kamakawa 2**	**0.39**	**145**	⇑P	**Pn**	**05 32 02.0**	**0.0**
JKK2				*e*S	**S**	**05 32 25.7**	**-0.5**
JSS	**Shosan**	**0.47**	**296**	⇓P	**Pn**	**05 32 02.2**	**+0.1**
JSS				*e*S	**S**	**05 32 26.1**	**-0.3**
JHR	**Hokuryu**	**0.68**	**229**	P	**Pn**	**05 32 03.1**	**+0.1**
JHR				*e*S	**S**	**05 32 27.9**	**+0.1**
JMP	**Maruseppu**	**0.69**	**105**	⇑P	**Pn**	**05 32 02.8**	**-0.2**
JMP				*e*S	**S**	**05 32 27.0**	**-0.9**
JYG	**Yagishiri**	**0.76**	**288**	⇓P	**Pn**	**05 32 03.1**	**-0.1**
JYG				*e*S	**S**	**05 32 27.6**	**-0.8**
JSE	**Soyaes**	**0.77**	**8**	⇓P	**Pn**	**05 32 03.2**	**0.0**
JSE				*e*S	**S**	**05 32 27.7**	**-0.9**
JFR	**Furan**	**1.03**	**174**	⇑P	**Pn**	**05 32 04.3**	**-0.5**
JFR				*e*S	**S**	**05 32 30.1**	**-1.1**
JTKR	**Abashiri--Toko**	**1.08**	**101**	⇑P	**Pn**	**05 32 05.0**	**0.0**
JTKR				*e*S	**S**	**05 32 31.1**	**-0.4**
JWK2	**Keihoku**	**1.19**	**341**	⇓P	**Pn**	**05 32 05.7**	**+0.1**
JWK2				*e*S	**S**	**05 32 32.3**	**-0.5**
JAR	**Ashorobuto**	**1.32**	**132**	⇑P	**Pn**	**05 32 06.3**	**-0.3**
JAR				*e*S	**S**	**05 32 33.6**	**-0.8**
JEW	**Eniwo**	**1.53**	**208**	⇑P	**Pn**	**05 32 08.3**	**0.0**
JEW				*e*S	**S**	**05 32 36.5**	**-0.8**
JSK	**Shakotan**	**1.65**	**240**	⇑P	**Pn**	**05 32 09.0**	**-0.2**
JSK				*e*S	**S**	**05 32 37.9**	**-1.1**
JCH	**Churui**	**1.71**	**157**	⇑P	**Pn**	**05 32 08.1**	**-1.7**
JCH				*e*S	**S**	**05 32 36.3**	**-3.8**
JNBK	**Urakawa-nobuka**	**1.93**	**173**	⇑P	**Pn**	**05 32 10.6**	**-1.1**
JRA	**Rausu**	**1.95**	**97**	P	**Pn**	**05 32 11.8**	**0.0**
JRA				*e*S	**S**	**05 32 43.6**	**-0.1**
JAK	**Akkeshi**	**2.03**	**125**	P	**Pn**	**05 32 11.1**	**-1.5**
JAK				*e*S	**S**	**05 32 41.3**	**-3.8**
ERM	**Erimo**	**2.24**	**166**	*e*PN	**Pn**	**05 32 13.8**	**-0.9**
ERM				*e*S	**S**	**05 32 47.4**	**-1.4**
ERM	**Erimo**	**2.24**	**166**	*e*Pn	**Pn**	**05 32 13.8**	**-0.9**
ERM				*e*S	**S**	**05 32 47.4**	**-1.4**
YUK	**Yuzh-Kuril'sk**	**2.47**	**92**	⇑*i*PN	**Pn**	**05 32 15.9**	**-1.0**
YUK				*i* S	**S**	**05 32 52.0**	**-0.9**
YUK				pmax	pmax		
	comp=N,84nm,0.2s						
YUK				pmax	pmax		
	comp=E,76nm,0.2s						
YUK				pmax	pmax		
	comp=Z,121nm,0.2s						
YUK				smax	smax		
	comp=N,82nm,0.7s						
YUK				smax	smax		
	comp=E,144nm,0.7s						
YUK				smax	smax		
	comp=E,602nm,2.6s						
YUK				smax	smax		
	comp=N,509nm,1.9s						
JKB	**Kayabe**	**2.52**	**205**	⇑P	**Pn**	**05 32 16.5**	**-1.1**
JKB				*e*S	**S**	**05 32 50.3**	**-3.7**
NEM2	**Nemuro 2**	**2.53**	**108**	P	**Pn**	**05 32 15.7**	**-1.9**
NEM2				*e*S	**S**	**05 32 49.7**	**-4.3**
YSS	**Yuzh-Sakhalins**	**2.77**	**4**	⇑*i*PN	**Pn**	**05 32 19.2**	**-0.9**
YSS				*e*S	**S**	**05 32 56.5**	**-2.1**
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS				smax	smax		
	comp=N,320nm,1.2s						
YSS				smax	smax		
	comp=E,220nm,1.0s						
YSS				smax	smax		
	comp=E,1μm,4.0s						
YSS	**Yuzh-Sakhalins**	**2.77**	**4**	*e*Pn	**Pn**	**05 32 20.2**	**+0.2**
JOT	**Ohata**	**2.99**	**200**	⇑P	**Pn**	**05 32 21.3**	**-1.3**
JOT				*e*S	**S**	**05 32 59.1**	**-3.9**
JOSM	**Okushiri--Mats**	**3.02**	**227**	⇑P	**Pn**	**05 32 22.3**	**-0.7**
JOSM				*e*S	**S**	**05 33 01.0**	**-2.7**
KUR	**Kuril'sk**	**4.01**	**73**	⇓*i*PN	**Pn**	**05 32 34.3**	**+0.1**
KUR				*i* S	**S**	**05 33 22.9**	**-1.2**
KUR				pmax	pmax		
	comp=Z,14nm,0.7s						
UGL	**Uglegorsk**	**4.89**	**357**	PN	**Pn**	**05 32 43.3**	**-1.7**
UGL				*e*S	**S**	**05 33 42.4**	**-1.3**
HABR	**Khabarovsk**	**6.67**	**313**	*e*PN	**Pn**	**05 33 05.8**	**-1.5**
HABR				*e*S	**S**	**05 34 23.3**	**-0.8**
HABR				pmax	pmax		
	comp=N,4.0nm,0.6s						
HABR				pmax	pmax		
	comp=E,7.0nm,0.6s						
HABR				pmax	pmax		
	comp=Z,13nm,0.6s						
HABR				MLR	MLR		
	comp=Z,74nm,17.0s						
TYV	**Tymovskoe**	**6.68**	**1**	*e*PN	**Pn**	**05 33 06.0**	**-1.3**
TYV				pmax	pmax		
	comp=Z,12nm,0.6s						
TYV				pmax	pmax		
	comp=E,15nm,0.8s						
USRK	**Ussuriysk Ar.**	**7.51**	**274**	P	**Pn**	**05 33 18.1**	**0.0**
	comp=E,3.8nm,0.3s,baz=88,slow=13,SNR=66						
USRK				S	**S**	**05 34 42.2**	**-1.6**
	baz=89,slow=18,SNR=2.4						
MJA0	**Matsu Arr-Jizo**	**8.28**	**204**	*e*PN	**Pn**	**05 33 26.9**	**-1.2**
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MAJO	**Matsushiro**	**8.29**	**204**	*e*PN	**Pn**	**05 33 26.8**	**-1.4**
MAJO	**Matsushiro**	**8.29**	**204**	*e*Pn	**Pn**	**05 33 26.8**	**-1.4**
MAT	**Matsushiro**	**8.29**	**204**	P	**Pn**	**05 33 26.9**	**-1.3**
MJAR	**Matsushiro Arr**	**8.29**	**204**	P	**Pn**	**05 33 26.9**	**-1.3**
	comp=Z,3.1nm,0.3s,baz=12,slow=13,SNR=28						
MJAR				S	**S**	**05 35 06.0**	**+3.7**
	comp=Z,0.3nm,0.3s,baz=348,slow=28,SNR=2.6						
MJAR	**Matsushiro Arr**	**8.29**	**204**	PN	**Pn**	**05 33 26.9**	**-1.3**
MJAR				S	**S**	**05 35 06.0**	**+3.7**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KLR	**Kul'dur**	**8.90**	**308**	*e*PN	Pn	05 33 32.0	-3.8
KLR				pmax	pmax		
	comp=Z,40nm,1.6s						
MDJ	**Mudanjiang**	**9.21**	**277**	P	**Pn**	**05 33 39.3**	**-0.4**
MDJ				S	**S**	**05 35 22.4**	**-1.1**
MDJ				PMZ			
	comp=Z,19nm,0.9s						
MDJ				PMZ			
	comp=Z,44nm,3.5s						
MDJ	**Mudanjiang**	**9.21**	**277**	*e*P	**Pn**	**05 33 39.9**	**+0.2**
	comp=Z,16nm,0.6s						
PETK	**Petropavlovsk-**	**13.44**	**43**	P	**Pn**	**05 34 32.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=235,slow=5.2,SNR=8.0						
PET	**Petropavlovsk**	**13.87**	**45**	⇑*e*P	**Pn**	**05 34 37.3**	**-0.6**
PET				pmax	pmax		
	comp=Z,137nm,1.7s						
JNU	**Nakatsue**	**14.26**	**223**	P	**P**	**05 34 44.9**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=55,slow=6.7,SNR=8.7						
JNU	**Nakatsue**	**14.26**	**223**	*e*Pn	**P**	**05 34 44.5**	**+0.9**
YAK	**Yakutsk**	**19.37**	**342**	*e*P	**P**	**05 35 35.8**	**-3.3**
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,20nm,0.9s						

SEY	Seymchan	19.64	14	P	P	05 35 40.9	-1.0
	comp=Z,3.1nm,0.3s,baz=196,slow=8.9,SNR=43						
SEY	Seymchan	19.64	14	P	P	05 35 40.9	-1.0
SEY				pmax	pmax		
	comp=Z,3.0nm,0.3s						
HHC	Hu-ho-hao-te	22.93	272	eP	P	05 36 15.2	+0.3
HHC				S	S	05 40 01.4	-5.6
HHC				SS	SS	05 41 22.9	-29
HHC				PMZ			
	comp=Z,14nm,0.8s						
HHC				PMZ			
	comp=Z,49nm,3.5s						
SONM	Songino Array	25.15	291	P	P	05 36 36.4	+1.5
	comp=Z,2.5nm,0.4s,baz=90,slow=9.2,SNR=17						
SONM				pP	pP	05 37 21.7	+1.8
	comp=Z,1.4nm,0.8s,baz=68,slow=11,SNR=2.5						
SONM	Songino Array	25.15	291	P	P	05 36 36.4	+1.5
SONM				*PP	pP	05 37 21.7	+1.8
SONM				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZAK	Zakamensk	27.03	297	eP	P	05 36 51.2	-0.5
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s						
LZH	Lanzhou	30.37	268	eP	P	05 37 22.8	+1.4
LZH				pP	pP	05 38 06.4	-1.9
LZH				PMZ			
	comp=Z,19nm,1.0s						
CD2	Chengdu	33.10	260	eP	P	05 37 44.7	-0.4
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
ZAA0	Zalesovo Array	38.00	306	eP	P	05 38 26.7	+0.4
ZALV	Zalesovo Beam	38.00	306	P	P	05 38 26.9	+0.6
	comp=Z,3.1nm,0.4s,baz=90,slow=8.1,SNR=11						
ZALV	Zalesovo Beam	38.00	306	eP	P	05 38 27.2	+0.9
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.4s						
WMQ	Urumqi	38.75	289	eP	P	05 38 35.6	+2.8
WMQ				pP	pP	05 39 22.5	+1.3
WMQ				sP	sP	05 39 47.7	-0.3
WMQ				PP	PnPn	05 40 13.4	+1.7
WMQ				PMZ			
	comp=Z,5.0nm,0.4s						
WMQ				PMZ			
	comp=Z,410nm,4.0s						
WMQ				LN			
	comp=Z,66nm,6.0s						
WMQ				LE			
	comp=Z,54nm,6.7s						
WMQ				LZ			
	comp=Z,12nm,14.0s						
IM04	Indian Mountai	40.19	35	eP	P	05 38 43.8	-0.5
MK31	Makanchi Array	41.34	296	eP	P	05 38 54.8	+0.8
MK31	Makanchi Array	41.34	296	eP	P	05 38 54.8	+0.8
MKAR	Makanchi Array	41.34	296	P	P	05 38 54.5	+0.6
	comp=Z,1.6nm,0.6s,baz=83,slow=9.3,SNR=23						
MKAR	Makanchi Array	41.34	296	eP	P	05 38 54.7	+0.7
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	Makanchi Array	41.34	296	eP	P	05 38 55.1	+1.1
KDAK	Kodiak Island	41.45	47	ceP	P	05 38 56.8	+2.2
COLD	Coldfoot	41.61	33	eP	P	05 38 56.2	+0.4
	comp=Z,35nm,2.5s						
MCK	McKinley	42.38	38	eP	P	05 39 03.4	+1.4
MCK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MCK	McKinley	42.38	38	eP	P	05 39 03.4	+1.4
	comp=Z,4.0nm,0.8s						
KURK	Kurchatov	42.44	302	eP	P	05 39 02.3	-0.4
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURK	Kurchatov	42.44	302	eP	P	05 39 02.3	-0.4
	comp=Z,4.3nm,0.7s						
PMR	Palmer	42.56	41	eP	P	05 39 04.1	+0.6
PMR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PMR	Palmer	42.56	41	eP	P	05 39 04.1	+0.6
	comp=Z,10.0nm,0.9s						
SEW	Seward	42.65	43	eP	P	05 39 04.6	+0.5
	comp=Z,15nm,0.9s						
COLA	College	42.72	36	eP	P	05 39 05.2	+0.5
COLA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
COLA	College	42.72	36	eP	P	05 39 05.2	+0.5
	comp=Z,5.7nm,0.9s						
ILAR	Eielson Array	43.14	36	P	P	05 39 08.0	-0.2
	comp=Z,2.8nm,0.8s,baz=275,slow=7.0,SNR=35						
ILAR				pP	pP	05 39 57.5	0.0
	comp=Z,0.1nm,0.4s,baz=283,slow=8.2,SNR=1.5						
EGAK	Eagle	45.56	36	eP	P	05 39 27.3	+0.1
	comp=Z,5.7nm,0.7s						
BRVK	Borovoye	46.62	308	ceP	P	05 39 37.0	+1.4
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRVK	Borovoye	46.62	308	eP	P	05 39 36.8	+1.2
	comp=Z,5.0nm,0.9s						
TKM2	Tokmak 2	47.22	293	eP	P	05 39 42.3	+1.6
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TKM2	Tokmak 2	47.22	293	eP	P	05 39 42.3	+1.6
	comp=Z,2.0nm,0.8s						
HYT	Haines Junctio	48.21	40	eP	P	05 39 50.3	+2.4
KKAR	Karatay Array	50.48	295	eP	P	05 40 05.7	+0.6
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKAR	Karatay Array	50.48	295	eP	P	05 40 05.7	+0.6
	comp=Z,1.2nm,0.5s						
ARU	Arti	51.67	315d	iP	P	05 40 14.2	+0.5
ARU						05 41 20.1	
ARU						05 42 09.1	
ARU				S	S	05 47 17.7	+1.5
ARU				SS	SS	05 50 53.5	-1.6
ARU				pmax	pmax		
	comp=Z,17nm,1.7s						
ABKAR	Akbulak array	54.10	307	eP	P	05 40 32.3	+0.7
	comp=Z,11nm,0.8s						
PRGR	Permogore	55.28	325	P	P	05 40 39.2	-0.6
PRGR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
RES	Resolute Bay	55.49	16	eP	P	05 40 40.7	-0.4
RES				pmax	pmax		
	comp=Z,13nm,0.7s						
RES	Resolute Bay	55.49	16	eP	P	05 40 40.7	-0.4
	comp=Z,13nm,0.7s						
YKA	Yellowknife Ar	57.29	33	P	P	05 40 54.1	+0.2
	comp=Z,2.4nm,0.5s,baz=306,slow=7.1,SNR=28						
YKA	Yellowknife Ar	57.29	33	P	P	05 40 54.1	+0.2
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	ARCESS Array B	57.61	338	P	P	05 40 56.0	-0.1
	comp=Z,2.3nm,0.8s,baz=46,slow=8.7,SNR=7.7						
ARCES	ARCESS Array B	57.61	338	eP	P	05 40 56.3	+0.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KLMR	Klimovskoe	58.20	326	eP	P	05 40 58.7	-1.5
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
FINES	FINESS Array B	62.89	331	P	P	05 41 31.5	-0.3
	comp=Z,4.4nm,0.5s,baz=55,slow=6.5,SNR=35						
FINES	FINESS Array B	62.89	331	P	P	05 41 31.5	-0.3
FINES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
SUMG	Summit	63.53	0	iP	P	05 41 36.8	+0.4
	comp=Z,13nm,0.7s						
SUMG	Summit	63.53	0	eP	P	05 41 37.1	+0.7
SUMG				pmax	pmax		
	comp=Z,14nm,0.8s						
SUMG	Summit	63.53	0	eP	P	05 41 37.1	+0.7
	comp=Z,14nm,0.8s						
WRA	Warramunga Arr	64.25	188	P	P	05 41 40.9	-0.4
	comp=Z,0.7nm,0.5s,baz=7.6,slow=6.9,SNR=17						
WRA				pP	pP	05 42 34.3	-0.5
	comp=Z,0.4nm,0.7s,baz=6.7,slow=7.4,SNR=1.8						
WRA	Warramunga Arr	64.25	188	eP	P	05 41 39.5	-1.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KBZ	Khabaz	66.92	309	P	P	05 41 58.8	+0.8
	comp=Z,2.9nm,0.8s,baz=322,slow=19						
KBZ	Khabaz	66.92	309	P	P	05 41 58.8	+0.8
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FCC	Fort Churchill	67.29	28	eP	P	05 41 59.9	-0.2
FCC				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FCC	Fort Churchill	67.29	28	eP	P	05 41 59.9	-0.2
	comp=Z,2.2nm,0.4s						
NB2	NORSAR Subarra	67.91	337	P	P	05 42 03.7	-0.3
	comp=Z,1.7nm,0.5s,baz=34,slow=6.5						
NOA	NORSAR Array B	67.91	337	P	P	05 42 03.4	-0.7
	comp=Z,1.4nm,0.5s,baz=40,slow=5.9,SNR=12						
NOA	NORSAR Array B	67.91	337	eP	P	05 42 03.9	-0.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	Alice Springs	67.98	188	P	P	05 42 05.7	+0.8
	comp=Z,0.4nm,0.6s,baz=357,slow=5.4,SNR=4.2						
AKASG	Malin Array Be	69.16	321	P	P	05 42 11.5	-0.3
	comp=Z,2.4nm,0.6s,baz=41,slow=6.3,SNR=16						
AKASG	Malin Array Be	69.16	321	P	P	05 42 11.5	-0.3
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AK01	Malin Array Si	69.17	321	eP	P	05 42 11.7	-0.2
KIEV	Kiev	69.17	321	eP	P	05 42 11.9	0.0
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KIEV	Kiev	69.17	321	eP	P	05 42 11.8	0.0
	comp=Z,4.0nm,0.6s						
AK02	Malin Array Si	69.20	321	eP	P	05 42 11.6	-0.5
NVAR	Mina Array Bea	70.18	55	P	P	05 42 19.1	+0.5
	comp=Z,0.4nm,0.7s,baz=287,slow=8.3,SNR=3.6						
PDAR	Pinedale Array	72.17	47	P	P	05 42 31.0	+0.5
	comp=Z,1.4nm,0.6s,baz=322,slow=3.6,SNR=12						
KECS	Kecovo	74.61	324	eP	P	05 42 45.7	+1.4
KECS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KECS	Kecovo	74.61	324	eP	P	05 42 45.7	+1.4
KECS				ePP	PP	05 45 31.1	-2.7
BRTR	Keskin Array B	74.73	311	P	P	05 42 46.1	+0.8
	comp=Z,0.4nm,0.5s,baz=36,slow=5.4,SNR=2.6						
CLL	Collm	75.29	330	eP	P	05 42 48.0	-0.1
	comp=Z,6.0nm,0.7s						
CLL	Collm	75.29	330	eP	P	05 42 48.0	-0.1
CLL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BRG	Berggiesshubel	75.30	329	eP	P	05 42 47.5	-0.6
	comp=Z,2.1nm,0.7s						
BRG	Berggiesshubel	75.30	329	eP	P	05 42 47.5	-0.6
BRG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	GERESS Array B	77.05	328	P	P	05 42 58.6	+0.5
	comp=Z,0.6nm,0.5s,baz=53,slow=5.0,SNR=5.0						
GERES	GERESS Array B	77.05	328	P	P	05 42 58.6	+0.5
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SCHQ	Schefferville	78.25	17	P	P	05 43 04.6	0.0
	comp=Z,1.1nm,0.3s,baz=309,slow=5.6,SNR=6.3						
TXAR	Lajitas Array	85.17	53	P	P	05 43 42.4	+1.2
	comp=Z,0.4nm,0.8s,baz=294,slow=4.5,SNR=5.4						

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*ISCJB **04** 05:54:52.6±0.5, 29.°9S±0.°1×75.°4E±0.°1, h10km, mb4.1/15, MS3.9/20, Error ellipse: s-maj=18.0km s-min=13.1km az=8.3*

*IDC **04** 05:54:52.9±0.7, 29.°81S×75.°33E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/41, mbtmp4.0/11, MS3.8/20, Ms1 3.8/20, ms1mx3.7/32, Error ellipse: s-maj=25.7km s-min=18.4km az=7.0*

*NEIC **04** 05:54:54.4±0.3, 29.°84S×75.°35E, h10km, mb4.4/5, Error ellipse: s-maj=12.7km s-min=9.4km az=188.0*

ISC 04 05:54:54.4±0.6, **29.°8S**±0.°1×**75.°4E**±0.°1, **h10km**, **n38**, σ**0.s55**/19, **mb4.0**/15, **MS3.9**/20, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	22.23	353	T	T	06 22 45.4	
	baz=174,slow=76,SNR=128						
H08S1	Diego Carcia H	22.23	352	T	T	06 22 45.7	
	baz=174,slow=76,SNR=90						
H08S3	Diego Garcia H	22.25	352	T	T	06 22 46.0	
	baz=174,slow=76,SNR=91						
H01W2	Cape Leeuwin H	33.01	109	T	T	06 36 12.5	
	baz=267,slow=74,SNR=7.6						
H01W3	Cape Leeuwin H	33.01	109	T	T	06 36 13.1	
	baz=267,slow=74,SNR=7.1						
H01W1	Cape Leeuwin H	33.02	109	T	T	06 36 12.9	
	baz=267,slow=74,SNR=7.6						
MAW	Mawson	38.53	188	LR	LR	06 14 48.3	
	comp=Z,95nm,20.0s,baz=50,slow=31						
MATP	Matopo	43.19	271	P	P	06 02 55.4	-0.5
	2.0nm,0.6s,baz=98,slow=9.1,SNR=5.9						
BOSA	Boshof	43.45	259	P	P	06 02 57.8	-0.1
	2.5nm,0.8s,baz=99,slow=8.4,SNR=5.1						
BOSA				LR	LR	06 17 35.0	
	comp=Z,271nm,19.2s,baz=112,slow=31						
BOSA	Boshof	43.45	259	eP	P	06 02 57.5	-0.4
	3.6nm,0.8s						
LSZ	Lusaka	45.59	278	eP	P	06 03 16.1	+1.0
	5.4nm,0.6s						
ASAR	Alice Springs	52.18	98	P	P	06 04 05.5	-0.1
	1.2nm,0.6s,baz=251,slow=6.5,SNR=12						
CMAR	Chiang Mai Arr	53.12	28	LR	LR	06 24 00.2	
	comp=Z,34nm,20.8s,baz=204,slow=33						
WRA	Warramunga Arr	53.92	94	P	P	06 04 18.4	0.0
	6.6nm,1.1s,baz=250,slow=7.4,SNR=11						
WRA				LR	LR	06 24 28.5	
	comp=Z,385nm,21.1s,baz=225,slow=33						
WRAB	Tennant Creek	53.93	94	eP	P	06 04 18.5	0.0
	18nm,1.4s						
STKA	Stephens Creek	56.09	110	P	P	06 04 33.8	-0.2
	2.3nm,0.8s,baz=284,slow=7.9,SNR=6.1						
STKA				LR	LR	06 25 27.6	
	comp=Z,134nm,19.7s,baz=210,slow=33						
STKA	Stephens Creek	56.09	110	eP	P	06 04 33.8	-0.2
	0.5nm,0.7s						
SNAA	Sanae	58.28	201	P	P	06 04 49.6	+0.7
	0.5nm,0.8s,baz=114,slow=13,SNR=8.3						
QSPA	South Pole Qui	60.31	180	eP	P	06 05 02.8	-0.3
	128nm,2.6s						
SIJI	Sorong	60.38	72	LR	LR	06 28 05.1	
	comp=Z,72nm,21.8s,slow=33						
AAK	Ala-Archa	72.11	359	LR	LR	06 34 52.2	
	comp=Z,76nm,21.8s,baz=178,slow=33						
KKAR	Karatay Array	72.71	356	eP	P	06 06 22.6	+0.2
	2.1nm,0.6s						
GNI	Garni	75.20	336	LR	LR	06 37 52.5	
	comp=Z,40nm,18.6s,baz=110,slow=34						
MKAR	Makanchi Array	76.52	5	P	P	06 06 43.5	-0.9
	0.7nm,0.8s,baz=188,slow=7.4,SNR=4.5						
MKAR				LR	LR	06 38 37.6	
	comp=Z,53nm,20.9s,baz=184,slow=34						
BRTR	Keskin Array B	79.32	329	P	P	06 07 00.4	+0.1
	1.2nm,0.9s,baz=116,slow=6.6,SNR=6.4						
BRTR				LR	LR	06 40 28.9	
	comp=Z,59nm,18.1s,baz=142,slow=34						
GUMO	Guam	79.63	68	LR	LR	06 38 41.3	
	comp=Z,16nm,21.5s,baz=136,slow=33						
BVAR	Borovoye Array	82.62	357	P	P	06 07 18.0	+0.7
	0.4nm,0.5s,baz=202,slow=7.3,SNR=3.1						
TORD	Torodi Ar. Bea	82.74	290	P	P	06 07 18.1	-0.7
	0.4nm,0.7s,baz=126,slow=5.9,SNR=3.3						
TORD				LR	LR	06 42 24.1	
	comp=Z,92nm,18.3s,baz=160,slow=34						
KSRS	Korea Array	83.08	40	LR	LR	06 41 29.8	
	comp=Z,72nm,20.9s,baz=224,slow=34						
ZALV	Zalesovo Beam	83.83	6	P	P	06 07 24.4	+0.8
	0.5nm,0.4s,baz=176,slow=6.6,SNR=2.7						
ZALV				LR	LR	06 43 38.0	
	comp=Z,44nm,18.8s,baz=68,slow=35						
DBIC	Dimbokro	84.85	281	LR	LR	06 41 34.7	
	comp=Z,94nm,21.9s,baz=100,slow=33						
MJAR	Matsushiro Arr	88.52	46	LR	LR	06 48 07.6	
	comp=Z,17nm,18.1s,baz=240,slow=36						
KEST	Kesra	90.01	312	LR	LR	06 45 47.2	
	comp=Z,32nm,20.6s,baz=268,slow=34						
USRK	Ussuriysk Ar.	90.01	37	LR	LR	06 45 52.7	
	comp=Z,58nm,20.5s,baz=218,slow=34						
GERES	GERESS Array B	95.68	324	LR	LR	06 52 04.6	
	comp=Z,20nm,18.7s,baz=222,slow=36						
FINES	FINESS Array B	99.30	338	LR	LR	06 50 52.6	
	comp=Z,50nm,21.4s,baz=164,slow=34						
YKA	Yellowknife Ar	146.69	8	PKPbc	PKPbc	06 14 36.0	+0.3
	1.3nm,0.8s,baz=331,slow=3.2,SNR=6.1						
YKA	Yellowknife Ar	146.69	8	PKPbc	PKPbc	06 14 36.0	+0.3

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*IDC **04** 05:57:14.6±0.8, 18.°55N×121.°57E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.7/48, mbtmp3.8/10, ML3.6/2, MS2.9/5, Ms1 3.0/5, ms1mx2.6/34, Error ellipse: s-maj=28.8km s-min=17.6km az=73.0*

*ISCJB **04** 05:57:16.4±2.5, 18.°85N±0.°04×121.°27E±0.°05, h10km±18km, mb3.6/8, MS2.7/3, Error ellipse: s-maj=7.5km s-min=6.0km az=1.2*

*MAN **04** 05:57:19, 18.°60N×121.°29E, h1km, mb4.6, ML3.5, MS3.4*

ISC 04 05:57:17.9±1.7, **18.°70N**±0.°06×**121.°30E**±0.°05, **h16km**±11km, **n23**, σ**1.s64**/23, **mb3.9**/8, **MS2.6**/3, **3C**, **Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.75	240⇑	iP	Pg	05 57 32.2	-0.4
PIP				eS	Sb	05 57 43.2	+0.6
APYP	Conner	0.84	184	eP	Pb	05 57 34.7	+0.5
APYP				eS	Sn	05 57 47.0	-0.1
SGCP	Mt. Cagua	0.84	123	eP	Pn	05 57 35.2	0.0
SGCP				eS	Sn	05 57 47.9	+0.7
CVP	Callao Caves	1.11	153⇑	iP	Pn	05 57 39.6	+0.8
CVP				iS	Sn	05 57 55.8	+2.0
SIPP	Brgy, Tapao	1.11	226⇑	iP	Pb	05 57 35.2	-3.6
SIPP				eS	Sb	05 57 48.2	-4.9
ABRA	Dolores	1.19	208	eP	Pg	05 57 40.9	+0.1
ABRA				eS	Sn	05 57 57.2	+1.4
CAUP	Cauayan	1.82	164	eP	Pg	05 57 53.2	+0.3
BALP	Baler	2.96	175	eP	Pn	05 58 06.0	+1.8
JNU	Nakatsue	16.73	29	Pn	Pn	06 01 10.5	-1.2
	0.2nm,0.3s,baz=218,slow=15,SNR=3.0						
JNU				LR	LR	06 07 45.5	
	comp=Z,71nm,20.5s,baz=356,slow=38						
KSRS	Korea Array	19.56	16	P	P	06 01 44.5	-0.6
	0.3nm,0.3s,baz=194,slow=9.8,SNR=8.1						
KSRS				LR	LR	06 09 28.4	
	comp=Z,36nm,19.2s,baz=210,slow=37						
CMAR	Chiang Mai Arr	21.20	273	P	P	06 02 04.8	+1.8
	1.1nm,0.6s,baz=77,slow=9.4,SNR=4.3						
CMAR				LR	LR	06 09 48.1	
	comp=Z,16nm,20.6s,baz=205,slow=35						
SIJI	Sorong	21.78	152	LR	LR	06 10 16.6	
	comp=Z,25nm,20.6s,baz=162,slow=36						
ASAJ	Asahikawa	31.00	31	LR	LR	06 15 33.7	
	comp=Z,41nm,20.0s,baz=106,slow=36						
SONM	Songino Array	31.50	341	P	P	06 03 39.8	+0.6
	1.7nm,0.8s,baz=161,slow=9.4,SNR=7.2						
WRA	Warramunga Arr	40.48	161	P	P	06 04 52.5	-3.7
	1.4nm,0.7s,baz=342,slow=8.9,SNR=8.9						
WRA				PcP	PcP	06 06 58.1	-0.8
	0.3nm,0.7s,baz=348,slow=3.4,SNR=4.6						
MKAR	Makanchi Array	42.47	320	P	P	06 05 13.7	+1.3
	1.9nm,0.7s,baz=113,slow=9.5,SNR=24						
H11S3	WAKE ISLAND Hy	42.93	83	T	T	06 51 24.2	
	baz=281,slow=74						
H11S1	WAKE ISLAND Hy	42.94	83	T	T	06 51 20.3	
	baz=281						
H11S2	WAKE ISLAND Hy	42.94	83	T	T	06 51 22.0	
	baz=281,slow=74						
ASAR	Alice Springs	43.87	163	P	P	06 05 21.3	-2.5
	0.5nm,0.7s,baz=15,slow=10,SNR=6.3						
BVAR	Borovoye Array	52.05	324	P	P	06 06 27.8	+1.0
	1.0nm,0.6s,baz=113,slow=11,SNR=5.5						
ILAR	Eielson Array	74.03	26	P	P	06 08 52.3	-0.4
	0.2nm,0.6s,baz=265,slow=4.5,SNR=3.5						
YKA	Yellowknife Ar	87.96	23	P	P	06 10 06.4	-0.6
	0.4nm,0.6s,baz=308,slow=4.7,SNR=6.5						

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*CSEM **04** 06:02:28.7±2.0, 86.°54N×5.°73W, h10km, ML3.6, Error ellipse: s-maj=60.3km s-min=36.7km az=115.0*

*ISCJB **04** 06:02:56.2±0.9, 84.°47N±0.°09×°±°, h10km, mb3.4/7, MS3.1/9, Error ellipse: s-maj=21.3km s-min=8.4km az=149.5*

*IDC **04** 06:02:57.6±1.2, 84.°47N×0.°71W, h0km, mb3.5/7, mb1 3.8/10, mb1mx3.6/38, mbtmp3.7/10, ML4.0/3, MS3.2/12, Ms1 3.2/12, ms1mx3.0/32, Error ellipse: s-maj=66.4km s-min=15.7km az=52.0*

ISC 04 06:02:58.7±1.2, **84.°5N**±0.°1×**5.°2E**±0.°1, **h10km**, **n32**, σ**1.s50**/28, **mb3.6**/7, **MS3.0**/9, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	5.66	167	Pn	Pn	06 04 23.5	+0.8
KBS				Sn	Sn	06 05 26.5	-1.1
KBS	Kingsbay	5.66	167	Pn	Pn	06 04 23.5	+0.8
KBS				eS	Sn	06 05 26.5	-1.1
KBS	Kingsbay	5.66	167	Pn	Pn	06 04 23.5	+0.8
	SNR=50						
SPA0	Spitsbergen Ar	6.53	159	Pn	Pn	06 04 35.3	+0.6
	baz=4.6,slow=12						
SPA0	Spitsbergen Ar	6.53	159	Pn	Pn	06 04 35.3	+0.6
	baz=4.6,slow=12						
SPA0	Spitsbergen Ar	6.53	159	Pn	Pn	06 04 35.3	+0.6
	SNR=50						
SPITS	Spitsbergen Ar	6.53	159	Pn	Pn	06 04 35.4	+0.8
	baz=5.3,slow=11,SNR=112						
SPITS				Sn	Sn	06 05 49.2	+0.1
	baz=22,slow=19,SNR=2.4						
SPITS				LR	LR	06 07 01.8	
	comp=Z,208nm,20.7s,baz=0.0,slow=36						
HSP	Hornsund	7.67	162	Pn	Pn	06 04 51.6	+1.4
HSP	Hornsund	7.67	162	Pn	Pn	06 04 51.6	+1.4
HSPB	Hornsund (broa	7.67	162	eP	Pn	06 04 51.5	+1.2
HSPB	Hornsund (broa	7.67	162	eP	Pn	06 04 51.5	+1.2
	SNR=47						
HOPEN	Hopen	8.55	148	Pn	Pn	06 05 02.5	+0.2
HOPEN	Hopen	8.55	148	eP	Pn	06 05 02.4	0.0
HOPEN	Hopen	8.55	148	Pn	Pn	06 05 02.5	+0.2
SUMG	Summit	14.02	239	iP	Pn	06 06 16.4	-1.0
ARA0	ARCESS Array S	15.49	153	P	Pn	06 06 36.3	-0.5
	baz=352,slow=11						
ARA0	ARCESS Array S	15.49	153	P	Pn	06 06 36.3	-0.5
	baz=352,slow=11						
ARA0	ARCESS Array S	15.49	153	P	Pn	06 06 36.3	-0.5
	SNR=47						
ARCES	ARCESS Array B	15.49	153	Pn	Pn	06 06 36.7	-0.1
	0.8nm,0.3s,baz=8.5,slow=11,SNR=13						
ARCES				Sn	Sn	06 09 23.3	-4.9
	0.3nm,0.3s,baz=5.7,slow=19,SNR=3.0						
ARCES				LR	LR	06 12 12.3	
	comp=Z,60nm,18.1s,baz=82,slow=35						
RES	Resolute Bay	17.25	298	Pn	Pn	06 06 51.3	-7.9
	0.5nm,0.3s,baz=29,slow=16,SNR=12						
RES				LR	LR	06 13 43.0	
	comp=Z,86nm,18.1s,baz=76,slow=39						
FINES	FINESS Array B	23.60	155	P	P	06 08 11.7	+2.5
	2.0nm,0.8s,baz=351,slow=17,SNR=3.6						
FINES				LR	LR	06 17 34.7	
	comp=Z,27nm,20.8s,baz=37,slow=37						
NOA	NORSAR Array B	23.60	173	P	P	06 08 11.8	+2.5
	0.9nm,0.7s,baz=359,slow=9.7,SNR=3.3						
NOA				LR	LR	06 16 05.7	
	comp=Z,39nm,18.5s,baz=355,slow=33						
HFS	Hagfors	24.54	170	LR	LR	06 16 56.6	
	comp=Z,59nm,18.5s,baz=332,slow=34						
INK	Inuvik	26.25	326	LR	LR	06 18 51.5	
	comp=Z,33nm,20.9s,baz=28,slow=37						
ILAR	Eielson Array	30.40	337	P	P	06 09 08.7	-1.7
	0.4nm,0.8s,baz=5.7,slow=10.0,SNR=7.1						
ILAR				LR	LR	06 20 51.0	
	comp=Z,35nm,20.1s,baz=38,slow=36						
YKA	Yellowknife Ar	30.78	308	P	P	06 09 09.8	-3.9
	0.6nm,0.7s,baz=4.1,slow=9.5,SNR=4.3						
AKASG	Malin Array Be	34.47	153	P	P	06 09 47.2	+1.1
	0.2nm,0.4s,baz=352,slow=8.8,SNR=2.6						
AKASG				LR	LR	06 23 43.9	
	comp=Z,56nm,19.4s,baz=220,slow=36						
GERES	GERESS Array B	35.85	170	LR	LR	06 23 42.6	
	comp=Z,25nm,21.3s,baz=8.0,slow=35						
BRTR	Keskin Array B	45.63	149	P	P	06 11 23.7	+4.8
	0.5nm,0.5s,baz=0.8,slow=9.1,SNR=2.8						
PDAR	Pinedale Array	49.95	299	LR	LR	06 31 23.4	
	comp=Z,38nm,21.8s,baz=8.0,slow=34						
JCJ	Chichijima	67.19	41	LR	LR	06 43 11.5	
	comp=Z,28nm,21.3s,slow=36						
TORD	Torodi Ar. Bea	71.38	184	P	P	06 14 19.1	+0.6
	0.4nm,0.8s,baz=356,slow=5.6,SNR=5.7						

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*MAN **04** 06:28:18, 5.°64N×127.°44E, h137km, mb5.2, ML4.2, MS4.4*

*ISCJB **04** 06:28:19.2±0.4, 5.°44N±0.°03×127.°26E±0.°06, h150km, mb4.1/20, Error ellipse: s-maj=8.8km s-min=4.8km az=172.6*

*IDC **04** 06:28:20.1±3.1, 5.°39N×127.°31E, h143km±29km, mb3.8/12, mb1 4.0/14, mb1mx3.7/39, mbtmp4.3/14, MS3.1/1, Ms1 3.1/1, ms1mx2.4/34, Error ellipse: s-maj=28.5km s-min=12.5km az=68.0*

*NEIC **04** 06:28:20.2±1.3, 5.°37N×127.°32E, h144km±12km, mb4.4/10, Error ellipse: s-maj=14.0km s-min=7.0km az=61.0*

*DJA **04** 06:28:27.7±1.6, 5°N±11°×12°7E±°, h83km±25km, M5.0/13, mb5.0/13, mB5.4/6, MLv5.2/8, Mw(mB)4.8/6*

ISC 04 06:28:20.6±0.6, **5.°41N**±0.°05×**127.°24E**±0.°08, **h150km**, **n47**,

σ1^{s}56/49, mb4.2/20, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	1.81	327	eP	Pn	06 28 51.1	-2.4
GSPH	General Santos	2.38	287⇑	eP	Pn	06 28 56.9	-3.4
GSPH				eS	Sn	06 29 26.8	-4.2
SGSI	Sangihe	2.42	225	P	Pn	06 28 58.8	-2.0
BIPH	Bislig	2.89	342⇓	iP	Pn	06 29 04.7	-1.9
BIPH				iS	Sn	06 29 38.9	-3.3
CTBH	Cotabato--PC H	3.48	301⇑	iP	Pn	06 29 13.7	-0.4
PAGZ	Pagadian	4.53	302	eP	Pn	06 29 27.1	-0.7
TNTI	Ternate	4.61	178	P	Pn	06 29 27.9	-1.0
TNTI				S	Sn	06 30 17.4	-4.8
TNTI	Ternate	4.61	178	ePn	Pn	06 29 27.7	-1.2
TNTI				eSn	Sn	06 30 22.4	+0.2
KMSI	Cibinong	5.80	214	P	Pn	06 29 44.0	-0.7
	912nm,1.0s,8µm2.9nm						
LBMI	Labuha	6.01	178	P	Pn	06 29 47.8	+0.2
	93nm,0.8s,0.5nm						
MRSI	Marisa	7.21	227	P	Pn	06 30 03.4	-0.1
	1µm,0.6s,9µm3.7nm						
SIJI	Sorong	7.42	147	P	Pn	06 30 05.9	-0.5
	8.8nm,0.3s,baz=173,slow=21,SNR=17						
SIJI				S	Sn	06 31 24.9	-4.5
	9.8nm,0.3s,baz=189,slow=22,SNR=11						
LUWI	Luwuk	7.81	215	P	Pn	06 30 11.8	+0.3
	355nm,1.0s,3µm1.2nm						
LUWI	Luwuk	7.81	215	ePn	Pn	06 30 12.2	+0.7
	280nm,0.8s						
APSI	Ampana	8.40	222	P	Pn	06 30 20.2	+0.7
	110nm,0.9s,1µm0.5nm						
MPSI	Mapaga	8.90	236	P	Pn	06 30 27.2	+1.2
	32nm,0.9s,557nm						
KDI	Kendari	10.39	206	P	Pn	06 30 46.5	+0.7
	53nm,0.6s						
TTSI	Tana Toraja	11.20	222	P	Pn	06 30 56.2	-0.4
	23nm,1.1s						
BKB	Balikpapan	12.28	238	P	Pn	06 31 11.9	+1.4
	218nm,1.0s,2µm						
KAPI	Kappang	12.77	216	P	Pn	06 31 15.6	-1.4
	0.3nm,0.3s,baz=25,slow=8.3,SNR=8.2						
KAPI				LR	LR	06 36 29.5	
	comp=Z,79nm,20.1s,baz=36,slow=38						
KSM	Kuching	17.35	258	eP	Pn	06 32 14.1	+0.3
	14nm,0.8s						
WRAB	Tennant Creek	26.14	165	eP	P	06 33 40.9	0.0
	7.9nm,0.8s						
WRA	Warramunga Arr	26.14	165	P	P	06 33 40.2	-0.8
	2.2nm,0.6s,baz=341,slow=10,SNR=26						
ASAR	Alice Springs	29.62	168	P	P	06 34 11.6	-0.4
	1.0nm,0.5s,baz=343,slow=7.3,SNR=8.9						
ASAR				PcP	PcP	06 37 13.4	+0.4
	0.5nm,0.3s,baz=353,slow=2.5,SNR=5.9						
CMAR	Chiang Mai Arr	30.51	298	P	P	06 34 19.7	-0.1
	1.3nm,0.6s,baz=112,slow=7.3,SNR=7.9						
NWAO	Narrogin (SRO)	39.29	193	P	P	06 35 35.9	+1.0
	17nm,0.8s,baz=327,slow=6.3,SNR=9.7						
STKA	Stephens Creek	39.52	161	P	P	06 35 36.9	0.0
	2.3nm,0.5s,baz=338,slow=8.2,SNR=6.7						
STKA	Stephens Creek	39.52	161	eP	P	06 35 36.8	0.0
	1.0nm,0.9s						
H11S3	WAKE ISLAND Hy	40.61	68	T	T	07 19 53.3	
	baz=253,slow=74						
H11S1	WAKE ISLAND Hy	40.63	68	T	T	07 19 53.3	
	baz=253						
H11S2	WAKE ISLAND Hy	40.63	68	T	T	07 19 51.6	
	baz=253,slow=74						
SONM	Songino Array	45.88	340	P	P	06 36 29.6	+1.5
	0.8nm,0.5s,baz=123,slow=7.3,SNR=4.1						
MK31	Makanchi Array	56.48	324	eP	P	06 37 48.4	+1.4
MKAR	Makanchi Array	56.48	324	P	P	06 37 48.4	+1.4
	4.4nm,0.6s,baz=120,slow=8.4,SNR=57						
TKM2	Tokmak 2	58.84	318	eP	P	06 38 05.0	+1.2
	3.5nm,0.8s						
ZALV	Zalesovo Beam	59.34	332	P	P	06 38 07.0	+0.3
	0.9nm,0.3s,baz=120,slow=10,SNR=4.0						
KURK	Kurchatov	60.61	327	eP	P	06 38 16.9	+1.5
	12nm,0.9s						
KKAR	Karatay Array	62.37	316	eP	P	06 38 28.6	+1.1
	7.8nm,1.0s						
BRVK	Borovoye	66.28	326	eP	P	06 38 53.9	+1.3
	8.7nm,1.0s						
ABKAR	Akbulak array	71.18	320	eP	P	06 39 23.9	+0.8
	3.4nm,0.7s						
RAYN	Ar Rayn	80.30	293	eP	P	06 40 16.3	+0.8
	10.0nm,0.9s						
MCK	McKinley	82.44	27	eP	P	06 40 26.6	+0.6
	8.4nm,1.3s						
ILAR	Eielson Array	83.38	25	P	P	06 40 30.3	-0.4
	1.2nm,0.6s,baz=249,slow=5.2,SNR=23						
VNDA	Vanda	85.02	173	P	P	06 40 39.0	+0.3
	0.7nm,0.8s,baz=306,slow=5.9,SNR=3.9						
ARCES	ARCESS Array B	89.06	340	P	P	06 40 58.2	-0.2
	2.4nm,0.9s,baz=46,slow=7.0,SNR=4.1						
BRTR	Keskin Array B	89.35	310	P	P	06 41 00.8	+0.2
	0.6nm,0.6s,baz=73,slow=5.0,SNR=3.8						
TORD	Torodi Ar. Bea	122.86	289	PKP	PKPdf	06 47 00.2	+0.2
	1.0nm,0.8s,baz=120,slow=2.6,SNR=5.3						

IDC 04 07:04:08.9±1.1, 16°.69S×174°.00W, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.9/30, mbtmp4.0/6, Error ellipse: s-maj=49.5km s-min=21.5km az=134.0
ISCJB 04 07:04:09.2±1.0, 16°.6S±0°.2×174°.1W±0°.2, h10km, mb4.1/7, Error ellipse: s-maj=40.1km s-min=19.9km az=39.6
ISC 04 07:04:10.3±1.2, 16°.7S±0°.3×174°.0W±0°.3, h10km, n8, σ0^{s}54/9, mb4.1/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	22.87	198	P	P	07 09 14.2	+0.2
	7.3nm,0.3s,baz=292,slow=2.6,SNR=15						
URZ				S	S	07 13 13.6	-10
	5.3nm,0.9s,baz=3.5,slow=19,SNR=1.9						
RPZ	Rata Peaks	29.78	202	P	P	07 10 22.2	+4.9
	7.4nm,0.9s,baz=23,slow=7.7,SNR=5.0						
STKA	Stephens Creek	42.89	241	P	P	07 12 09.7	+0.4
	3.2nm,0.9s,baz=72,slow=7.0,SNR=5.0						
WRA	Warramunga Arr	48.98	258	P	P	07 12 57.4	-0.2
	0.6nm,0.4s,baz=95,slow=7.1,SNR=24						
WRA				PcP	PcP	07 14 20.9	-0.7
	0.3nm,0.5s,baz=94,slow=3.2,SNR=2.9						
ASAR	Alice Springs	49.16	253	P	P	07 12 58.9	0.0
	8.1nm,0.5s,baz=88,slow=8.6,SNR=129						
ASAR				PcP	PcP	07 14 21.4	-0.9
	0.4nm,0.5s,baz=109,slow=3.7,SNR=3.6						
NVAR	Mina Array Bea	75.67	42	P	P	07 15 56.1	-0.1
	0.3nm,0.5s,baz=241,slow=9.2,SNR=3.1						
ILAR	Eielson Array	83.80	11	P	P	07 16 39.9	+0.4
	0.1nm,0.5s,baz=230,slow=6.1,SNR=3.2						
BRTR	Keskin Array B	146.75	319	PKPbc	PKPab	07 23 54.6	+0.3
	0.5nm,0.5s,baz=86,slow=5.1,SNR=4.3						

IDC 04 07:06:18.8±0.9, 29°.90S×75°.32E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/37, mbtmp3.8/8, MS3.6/13, Ms1 3.6/13, ms1mx3.4/37, Error ellipse: s-maj=27.1km s-min=25.8km az=15.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	22.29	353	T	T	07 34 03.8	
	baz=174,slow=76,SNR=450						
H08S1	Diego Carcia H	22.30	353	T	T	07 34 10.4	
	baz=174,slow=76,SNR=166						
H08S3	Diego Garcia H	22.31	353	T	T	07 34 13.1	
	baz=174,slow=76,SNR=280						
H01W2	Cape Leeuwin H	33.01	109	T	T	07 47 42.3	
	baz=264,slow=76						
H01W3	Cape Leeuwin H	33.01	109	T	T	07 47 43.2	
	baz=264,slow=76						
H01W1	Cape Leeuwin H	33.02	109	T	T	07 47 46.4	
	baz=264,slow=76						
MAW	Mawson	38.47	188	LR	LR	07 25 36.1	
	comp=Z,130nm,18.6s,baz=65,slow=30						
BOSA	Boshof	43.42	259	LR	LR	07 28 18.3	
	comp=Z,148nm,20.5s,baz=148,slow=30						
KAPI	Kappang	48.64	68	LR	LR	07 32 04.8	
	comp=Z,81nm,21.9s,baz=245,slow=32						
ASAR	Alice Springs	52.20	98	P	P	07 15 31.5	-0.2
	0.6nm,0.5s,baz=249,slow=6.7,SNR=13						
ASAR				LR	LR	07 37 05.3	
	comp=Z,66nm,18.1s,baz=269,slow=35						
CMAR	Chiang Mai Arr	53.19	28	P	P	07 15 40.0	+1.1
	0.8nm,0.3s,baz=209,slow=7.2,SNR=5.0						
CMAR				LR	LR	07 37 12.5	
	comp=Z,34nm,18.3s,baz=215,slow=35						
WRA	Warramunga Arr	53.94	94	P	P	07 15 44.3	-0.3
	2.1nm,0.9s,baz=249,slow=7.4,SNR=8.5						
SNAA	Sanae	58.21	201	P	P	07 16 14.5	+0.1
	0.3nm,0.8s,baz=125,slow=12,SNR=4.0						
VNDA	Vanda	60.30	166	LR	LR	07 38 51.0	
	comp=Z,104nm,19.2s,baz=240,slow=32						
SIJI	Sorong	60.42	72	LR	LR	07 41 07.3	
	comp=Z,35nm,20.7s,baz=177,slow=35						
AAK	Ala-Archa	72.17	359	LR	LR	07 46 18.7	
	comp=Z,24nm,21.5s,baz=188,slow=33						
GNI	Garni	75.25	336	LR	LR	07 46 38.5	
	comp=Z,31nm,21.8s,baz=112,slow=32						
MKAR	Makanchi Array	76.59	5	P	P	07 18 09.8	-1.0
	1.5nm,0.9s,baz=185,slow=6.1,SNR=11						
MKAR				LR	LR	07 49 52.8	
	comp=Z,27nm,21.4s,baz=185,slow=34						
BRTR	Keskin Array B	79.37	329	P	P	07 18 26.9	+0.2
	0.8nm,0.7s,baz=140,slow=6.5,SNR=5.0						
BRTR				LR	LR	07 51 44.6	
	comp=Z,23nm,18.0s,baz=142,slow=34						
URZ	Urewera	80.44	129	LR	LR	07 47 42.6	
	comp=Z,68nm,19.0s,baz=3.0,slow=31						
AKTO	Aktyubinsk	81.43	349	LR	LR	07 51 21.2	
	comp=Z,23nm,19.4s,slow=33						
SONM	Songino Array	82.26	21	P	P	07 18 42.3	+0.4
	0.6nm,0.6s,baz=206,slow=6.3,SNR=3.9						
TORD	Torodi Ar. Bea	82.74	290	P	P	07 18 45.1	+0.1
	0.2nm,0.5s,baz=126,slow=7.3,SNR=2.6						

GUC 04 07:11:05.3±0.5, 35°.33S×72°.65W, h10km±3km, ML3.8, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TALC	Talca	0.83	95⇑	iP	Pg	07 11 20.8	-0.6
TALC				iS	Sg	07 11 31.6	-0.5
LNCH	Linares	1.00	122⇑	iP	Pg	07 11 23.6	-0.9
LNCH				iS	Sg	07 11 37.2	-0.3
NICH	Los Niches	1.21	75	eP	Pn	07 11 27.1	-1.2
NICH				iS	Sb	07 11 43.1	-0.8
CCSP	San Pedro de C	1.56	194	iS	Sn	07 11 52.9	-0.5
LNV	Longovilo	1.71	37	eP	Pn	07 11 34.6	-0.5
LNV				iS	Sn	07 11 57.5	+0.5
CACH	El Canelo	2.07	55	eP	Pn	07 11 41.0	+0.6
CACH				eS	Sb	07 12 08.1	-1.2
CHCH	Chadas Angostu	2.15	50⇑	iP	Pn	07 11 42.4	+1.0
CLCH	Cerro Calan	2.60	43	eP	Pn	07 11 48.3	+0.8
CLCH				eS	Sn	07 12 21.5	+2.2
CLCH				AML	AML	07 12 32.5	
	comp=N,697nm,0.6s						
ROCH	El Roble	2.71	30⇑	iP	Pn	07 11 48.9	-0.4
ROCH				AML	AML	07 12 33.4	
	comp=N,286nm,0.5s						
PEL	Peldehue	2.72	37	eP	Pn	07 11 49.9	+0.8
PEL				AML	AML	07 12 36.6	
	comp=E,474nm,0.5s						

ISCJB 04 07:12:37.5±1.5, 33°.02S±0°.07×178°.2W±0°.2, h35km, mb4.1/3, Error ellipse: s-maj=27.6km s-min=9.1km az=9.6
IDC 04 07:12:38.0±1.8, 33°.11S×178°.84W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.8/26, mbtmp4.1/4, ML3.7/1, Error ellipse: s-maj=40.3km s-min=34.4km az=92.0
ISC 04 07:12:40.5±1.6, 33°.04S±0°.09×178°.3W±0°.2, h35km, n23, σ1^{s}43/27, mb4.1/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.30	211	PN	Pn	07 13 58.2	+1.0
MXZ				SN	Sn	07 14 57.2	+0.2
WMGZ	Waiomatatini S	5.47	208	PN	Pn	07 14 01.6	+2.0
HAZ	Te Kaha	5.69	213	PN	Pn	07 14 03.5	+1.0
HAZ				SN	Sn	07 15 09.0	+2.3
PUZ	Puketiti	5.76	208	PN	Pn	07 14 03.6	+0.2
PUZ				SN	Sn	07 15 09.6	+1.3
TWGZ	Tauwhareparae	5.96	210	PN	Pn	07 14 07.2	+0.9
TWGZ				SN	Sn	07 15 13.8	+0.6
CNGZ	Carnagh Statio	6.13	207	PN	Pn	07 14 09.2	+0.6
MWZ	Matawai	6.28	212	PN	Pn	07 14 11.3	+0.6
URZ	Urewera	6.41	214	Pn	Pn	07 14 10.9	-1.6
	1.9nm,0.3s,baz=90,slow=13,SNR=20						
URZ				Sn	Sn	07 15 21.4	-3.0
	1.4nm,0.3s,baz=273,slow=18,SNR=4.3						
URZ	Urewera	6.41	214	PN	Pn	07 14 13.4	+0.9
RIGZ	Rimuhau	6.50	208	PN	Pn	07 14 14.3	+0.6
SNGZ	Shannon Statio	6.74	210	PN	Pn	07 14 17.7	+0.8
OUZ	Omahuta	7.07	250	PN	Pn	07 14 23.0	+1.6
BKZ	Black Stump Fm	7.43	213	PN	Pn	07 14 25.1	-1.3
MCHZ	McNeill Hill	7.56	211	PN	Pn	07 14 28.8	+0.5
KWHZ	Kaweka Forest	7.67	212	PN	Pn	07 14 29.4	-0.4
KAHZ	Kahuranaki	7.79	209	PN	Pn	07 14 29.4	-1.9
BFZ	Birch Farm	8.79	208	PN	Pn	07 14 43.4	-1.7
THZ	Tophouse	11.17	216	ePN	Pn	07 15 12.9	-4.8
CTA	Charters Tower	34.06	283	P	P	07 19 21.8	+0.1
	2.3nm,0.4s,baz=118,slow=7.2,SNR=3.6						
ASAR	Alice Springs	42.78	270	P	P	07 20 33.0	-2.0
	1.1nm,0.7s,baz=110,slow=7.5,SNR=9.9						
WRA	Warramunga Arr	44.01	275	P	P	07 20 43.3	-1.6
	1.2nm,0.3s,baz=116,slow=7.9,SNR=14						
FINES	FINESS Array B	147.51	338	PKPbc	PKPab	07 32 23.0	+0.7
	0.6nm,0.5s,baz=47,slow=2.7,SNR=6.2						
TORD	Torodi Ar. Bea	160.20	180	PKPab	PKPab	07 33 18.5	+1.6
	0.2nm,0.5s,baz=166,slow=4.3,SNR=2.6						

IDC 04 07:16:08.9±6.4, 5°.51S×147°.83E, h227km±60km, mb3.4/6, mb1 3.6/7, mb1mx3.3/22, mbtmp4.0/7, Error ellipse: s-maj=40.8km s-min=19.3km az=97.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.44	221	P	P	07 20 18.1	-0.5
	0.7nm,0.3s,baz=48,slow=9.0,SNR=26						
ASAR	Alice Springs	22.49	215	P	P	07 20 50.0	+0.5
	0.9nm,0.3s,baz=52,slow=7.9,SNR=18						
ASAR				S	S	07 24 44.5	+5.3
	0.4nm,0.6s,baz=26,slow=24,SNR=2.7						
PETK	Petropavlovsk-	58.99	7	P	P	07 25 45.7	+1.0
	1.8nm,0.7s,baz=202,slow=10,SNR=2.8						
VNDA	Vanda	72.35	177	P	P	07 27 09.7	+0.1
	0.4nm,0.6s,baz=334,slow=6.1,SNR=4.6						
MKAR	Makanchi Array	77.65	320	P	P	07 27 40.5	+0.1
	0.3nm,0.4s,baz=97,slow=6.4,SNR=6.5						
ZALV	Zalesovo Beam	79.04	328	P	P	07 27 47.1	-0.7
	1.3nm,0.3s,baz=120,slow=5.2,SNR=2.0						
ILAR	Eielson Array	84.71	23	P	P	07 28 15.4	-1.6
	0.5nm,0.7s,baz=255,slow=5.1,SNR=6.8						
TORD	Torodi Ar. Bea	145.76	285	PKPbc	PKPdf	07 35 21.9	+0.4
	0.5nm,0.5s,baz=69,slow=4.2,SNR=7.1						

NEIC 04 07:26:32.5±0.6, 6°.14S×149°.51E, h35km, mb4.0/2, Error ellipse: s-maj=19.8km s-min=11.9km az=114.0
ISCJB 04 07:26:33.7±0.6, 6°.20S±0°.08×149°.4E±0°.1, h58km, mb4.0/9, MS3.2/4, Error ellipse: s-maj=18.9km s-min=8.5km az=24.4
IDC 04 07:26:33.3±1.4, 6°.11S×149°.46E, h44km±12km, mb3.9/9, mb1 4.1/9, mb1mx3.8/28, mbtmp4.2/9, MS3.3/4, Ms1 3.3/4, ms1mx2.9/27, Error ellipse: s-maj=26.9km s-min=18.9km az=95.0
ISC 04 07:26:34.9±0.7, 6°.23S±0°.10×149°.5E±0°.1, h58km, n22, σ1^{s}29/25, mb3.9/9, MS3.3/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.91	216	ePn	Pn	07 27 33.0	+0.5
PMG				eSn	Sn	07 28 17.7	+0.6
WRAB	Tennant Creek	20.04	226	eP	P	07 31 03.3	-0.1
	18nm,0.4s						
WRA	Warramunga Arr	20.06	226	P	P	07 31 03.2	-0.3
	5.0nm,0.4s,baz=49,slow=10,SNR=52						
WRA				pP	pP	07 31 14.4	-1.9
	12nm,0.4s,baz=51,slow=11,SNR=26						
WRA				PcP	PcP	07 35 17.2	-0.3
	1.6nm,0.6s,baz=40,slow=1.9,SNR=8.7						
GUMO	Guam	20.22	347	LR	LR	07 37 50.9	
	comp=Z,18nm,18.7s,baz=108,slow=34						
DZM	Mont Dzumac	22.73	136	P	P	07 31 33.1	+0.8
	11nm,0.8s,baz=270,slow=20,SNR=11						
AS31	Alice Springs	22.91	219	eP	P	07 31 34.1	-0.2
ASAR	Alice Springs	22.92	219	P	P	07 31 33.8	-0.5
	3.8nm,0.6s,baz=52,slow=8.8,SNR=39						
ASAR				pP	pP	07 31 45.0	-2.3
	6.3nm,0.6s,baz=50,slow=9.9,SNR=17						
ASAR				S	S	07 35 40.4	+0.4
	1.3nm,0.8s,baz=32,slow=22,SNR=5.9						
ASAR				pScP		07 39 07.0	
	0.2nm,0.5s,baz=50,slow=3.4,SNR=4.5						
STKA	Stephens Creek	26.56	195	P	P	07 32 09.3	+1.8
	2.6nm,0.7s,baz=9.0,slow=12,SNR=9.1						
STKA				pP	pP	07 32 20.4	-1.5
	2.2nm,0.7s,baz=12,slow=11,SNR=3.5						
STKA	Stephens Creek	26.56	195	eP	P	07 32 09.4	+1.8
	0.5nm,0.6s						
STKA				pP	pP	07 32 20.4	-1.5
KAPI	Kappang	29.61	271	LR	LR	07 46 30.4	
	comp=Z,50nm,18.0s,baz=81,slow=40						
RPZ	Rata Peaks	41.87	156	LR	LR	07 52 30.4	
	comp=Z,63nm,18.1s,baz=257,slow=37						
JNU	Nakatsue	42.94	337	LR	LR	07 49 06.5	
	comp=Z,60nm,19.5s,baz=112,slow=32						
KSRS	Korea Array	47.89	337	P	P	07 35 09.3	+2.0
	1.0nm,0.5s,baz=160,slow=7.2,SNR=5.3						
KSAR	Wonju Array Be	47.90	337	P	P	07 35 09.3	+1.9
PETK	Petropavlovsk-	59.52	6	P	P	07 36 31.9	-0.2
	2.9nm,0.5s,baz=163,slow=8.6,SNR=5.0						
VNDA	Vanda	71.55	177	P	P	07 37 50.3	+0.9
	1.3nm,0.8s,baz=338,slow=6.5,SNR=8.2						
MKAR	Makanchi Array	79.26	320	P	P	07 38 34.6	+0.5
	0.2nm,0.5s,baz=95,slow=7.0,SNR=3.4						
MAW	Mawson	82.99	203	P	P	07 38 53.3	-0.2
	1.0nm,0.7s,baz=153,slow=3.4,SNR=4.2						
ILAR	Eielson Array	84.73	23	P	P	07 39 00.4	-2.0
	0.8nm,0.8s,baz=255,slow=5.5,SNR=9.5						
LPAZ	La Paz	136.57	121	PKP	PKPdf	07 45 52.8	+0.5
	1.1nm,0.9s,baz=323,slow=3.5,SNR=5.0						
TORD	Torodi Ar. Bea	147.54	285	PKPbc	PKPbc	07 46 12.4	-1.4
	1.1nm,0.5s,baz=68,slow=3.0,SNR=19						
BDFB	Brasilia	152.20	142	PKPbc	PKPbc	07 46 25.2	-0.1
	5.6nm,0.5s,baz=134,slow=0.3,SNR=14						

IDC 04 07:37:30.8±1.7, 3°.34S×145°.51E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/31, mbtmp3.3/3, ML3.6/1, Error ellipse: s-maj=124.6km s-min=28.6km az=118.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.77	213	P	P	07 42 02.0	-0.7
	0.2nm,0.3s,baz=34,slow=10,SNR=13						
ASAR	Alice Springs	23.11	208	P	P	07 42 39.1	+0.5
	0.3nm,0.5s,baz=30,slow=12,SNR=6.0						
ILAR	Eielson Array	83.65	23	P	P	07 50 01.0	0.0
	0.2nm,0.6s,baz=262,slow=4.5,SNR=4.2						

ISCJB 04 07:45:58.0±0.5, 8°.30S±0°.06×123°.64E±0°.05, h200km, mb3.6/9, Error ellipse: s-maj=7.8km s-min=7.3km az=17.4
IDC 04 07:45:59.0±2.5, 8°.15S×123°.76E, h180km±25km, mb3.5/9, mb1 3.5/11, mb1mx3.4/39, mbtmp3.9/11, Error ellipse: s-maj=29.8km s-min=12.5km az=67.0
DJA 04 07:45:59.6±0.6, 8°S±4°×12°4E±°, h151km±9km, M4.2/10, mb4.0/1, MLv4.2/10
ISC 04 07:45:59.2±0.6, 8°.37S±0°.06×123°.70E±0°.07, h200km, n20, σ2^{s}39/24, mb3.6/9, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMRI	Maumere	1.47	259	P	Pn	07 46 30.6	-2.1
MMRI				S	Sn	07 46 53.6	-5.0
SOEI	Soe	1.49	158	P	Pn	07 46 29.9	-3.1
SOEI				S	Sn	07 46 54.0	-5.3
BBSI	Bau Bau	3.07	338	P	Pn	07 46 46.7	-3.1
BASI	Baing, Sumba	3.59	239	P	Pn	07 46 55.4	-0.6
BASI				S	Sn	07 47 39.6	-0.9
WSI	Waingapu	3.60	249	P	Pn	07 46 55.3	-0.8
WSI				S	Sn	07 47 38.8	-1.9
BSSI	Bau Bau, Buton	3.88	305	P	Pn	07 46 58.4	-1.2
BKSI	Bulukumba	4.67	310	P	Pn	07 47 07.3	-2.2
KAPI	Kappang	5.15	310	P	Pn	07 47 14.7	-0.9
	0.3nm,0.3s,baz=118,slow=17,SNR=2.6						
WRA	Warramunga Arr	15.44	139	P	P	07 49 26.1	-1.0
	1.9nm,0.3s,baz=318,slow=12,SNR=81						
WRA				S	S	07 52 06.1	-12
	1.0nm,0.3s,baz=318,slow=25,SNR=7.3						
ASAR	Alice Springs	18.08	148	P	Pn	07 49 58.2	-0.1
	0.7nm,0.3s,baz=331,slow=12,SNR=47						
ASAR				S	S	07 53 13.5	+0.5
	0.3nm,0.3s,baz=319,slow=20,SNR=8.5						
CTA	Charters Tower	24.73	121	P	P	07 51 05.2	+2.7
	3.3nm,0.7s,baz=215,slow=4.8,SNR=4.0						
STKA	Stephens Creek	28.71	147	P	P	07 51 39.8	+1.9
	1.3nm,0.6s,baz=328,slow=12,SNR=4.0						
MJAR	Matsushiro Arr	46.70	16	P	P	07 54 07.2	-0.9
	1.2nm,0.6s,baz=197,slow=9.1,SNR=4.1						
USRK	Ussuriysk Ar.	52.85	7	P	P	07 54 54.1	-0.2
	2.0nm,0.7s,baz=208,slow=8.1,SNR=6.8						
SONM	Songino Array	58.02	346	P	P	07 55 31.6	+0.4
	0.7nm,0.6s,baz=179,slow=5.8,SNR=3.0						
MKAR	Makanchi Array	66.12	330	P	P	07 56 25.7	+0.7
	0.5nm,0.5s,baz=137,slow=6.7,SNR=8.9						
PETK	Petropavlovsk-	67.71	21	P	P	07 56 36.6	+1.7
	2.1nm,0.7s,baz=213,slow=10,SNR=3.3						
KURBB	Kurchatov Arra	70.56	331	P	P	07 56 52.6	+0.2
	0.2nm,0.4s,baz=146,slow=4.3,SNR=5.7						
VNDA	Vanda	71.92	172	P	P	07 57 03.5	+3.3
	0.4nm,0.6s,baz=314,slow=8.3,SNR=4.7						
LPAZ	La Paz	152.85	154	PKPbc	PKPbc	08 05 38.0	+3.7
	0.4nm,0.3s,baz=162,slow=6.4,SNR=5.4						

IDC 04 08:11:37.2±999.0, 3°.32S×77°.65W, h0km, Error ellipse: s-maj=1309.0km s-min=257.8km az=138.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I08BO	LAS PENAS INFR	15.68	145	i		09 46 10.0	
	baz=325,slow=327,SNR=3.0						
I41PY	VILLA FLORIDA	30.07	142	i		11 16 30.0	
	baz=314,slow=312,SNR=0.8						
I09BR	BRASILIA INFRA	31.63	115	i		11 25 20.0	
	baz=290,slow=329,SNR=2.0						

IDC 04 08:12:33.4±0.5, 0°.21N×126°.03E, h0km, mb4.6/23, mb1 4.7/24, mb1mx4.6/36, mbtmp4.6/24, ML3.9/1, MS3.5/7, Ms1 3.5/7, ms1mx3.1/36, Error ellipse: s-maj=22.0km s-min=11.4km az=72.0
BJI 04 08:12:37.5, 0°.02S×126°.80E, h69km, mb4.8/33, mB5.0/27, Ms4.5/15, Ms7 4.3/10
DJA 04 08:12:39.3±0.9, 0°N±3°×12°6E±°, h13km±8km, M4.5/18, mb4.9/13, mB4.9/9, MLv4.5/18, Mw(mB)4.2/9
MOS 04 08:12:39.1±1.0, 0°.27N×126°.31E, h57km, mb5.0/26, Error ellipse: s-maj=15.4km s-min=6.6km az=113.1
ISCJB 04 08:12:39.5±0.4, 0°.23N±0°.03×126°.25E±0°.03, h59km±4km, mb4.7/64, MS3.5/9, Error ellipse: s-maj=5.2km s-min=4.8km az=8.1
NEIC 04 08:12:42.6±0.8, 0°.29N×126°.40E, h72km±7km, mb4.7/28, Error ellipse: s-maj=7.8km s-min=6.1km az=56.0
ISC 04 08:12:41.7±0.3, 0°.16N±0°.04×126°.31E±0°.04, h63km±2km, h63km:pP-P, n140, σ1^{s}45/177, mb4.8/64, 8C-4D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	1.22	60	P	Pn	08 13 02.0	-0.8
TNTI				S	Sn	08 13 18.9	+0.4
TNTI	Ternate	1.22	60	ePn	Pn	08 12 59.4	-3.4
LBMI	Labuha	1.44	124	P	Pn	08 13 03.7	-1.9
LBMI				S	Sn	08 13 24.5	+0.9
SANI	Sanana	2.22	188	P	Pn	08 13 14.1	-2.1
SANI				S	Sn	08 13 44.2	+1.6
KMSI	Cibinong	2.36	280	P	Pn	08 13 14.4	-3.7
KMSI				S	Sn	08 13 46.2	+0.2
NLAI	Namlea	3.47	167	P	Pn	08 13 33.7	+0.4
LUWI	Luwuk	3.73	251	P	Pn	08 13 36.5	-0.3
LUWI	Luwuk	3.73	251	ePn	Pn	08 13 39.6	+2.8
AAI	Ambon	4.26	154	P	Pn	08 13 44.9	+0.7
MSAI	Masohi	4.36	143	P	Pn	08 13 46.4	+0.9
MRSI	Marisa	4.38	274	P	Pn	08 13 45.0	-0.7
APSI	Ampana	4.78	257	P	Pn	08 13 50.6	-0.6
SWI	Sorong	5.06	102	P	Pn	08 13 55.5	+0.5
	66nm,0.7s,856nm0.2nm						

SIJI **Sorong** 5.07 102 Pn **Pn** 08 13 56.0 +0.8
3.8nm,0.3s,baz=285,slow=6.3,SNR=6.3
SIJI LR LR 08 16 18.7
comp=Z,570nm,20.2s,baz=256,slow=42
KDI **Kendari** 5.51 222 P **Pn** 08 14 00.0 -1.2
162nm,0.9s,1μm0.5nm
TOLI **Toli-Toli** 5.59 280 *e*Pn Pn 08 14 05.9 +3.6
MPSI **Mapaga** 6.41 272 P **Pn** 08 14 13.0 -0.5
48nm,1.1s,541nm0.2nm
FAKI **Fak Fak** 6.68 117 *e*Pn **Pn** 08 14 17.6 +0.2
TTSI **Tana Toraja** 7.22 244 P **Pn** 08 14 23.0 -1.7
108nm,0.9s,0.3nm
SPSI **Sidrap Palu** 7.71 238 P **Pn** 08 14 30.0 -1.4
108nm,0.7s,993nm0.4nm
BKSI **Bulukumba** 8.23 228 P **Pn** 08 14 37.1 -1.4
61nm,0.8s,633nm
KAPI **Kappang** 8.32 232 Pn **Pn** 08 14 38.4 -1.3
2.3nm,0.3s,baz=94,slow=4.5,SNR=11
KAPI Sn **Sn** 08 16 09.7 -2.6
0.5nm,0.3s,baz=251,slow=18,SNR=1.6
KAPI **Kappang** 8.32 232 *e*Pn **Pn** 08 14 38.9 -0.9
KAPI Sn **Sn** 08 16 09.7 -2.6
SOEI **Soe** 10.06 192 *e*Pn Pn 08 15 07.7 +4.1
29nm,0.6s
SBUM **Sibu** 14.26 279 *e*Pn **P** 08 16 04.3 -1.7
JAGI **Jajag, Banyuwa** 14.84 234 P **P** 08 16 13.4 +0.9
JAGI **Jajag, Banyuwa** 14.84 234 *e*P **P** 08 16 12.3 -0.2
76nm,1.1s
KSM **Kuching** 16.05 275 *e*P **Pn** 08 16 23.8 +0.3
46nm,0.8s
PWJI **Pagerwojo** 16.59 240 P **P** 08 16 32.7 +0.9
50nm,2.2s
WRAB **Tennant Creek** 21.47 159 *c i*P **P** 08 17 24.9 -0.3
WRAB pmax pmax
comp=Z,135nm,1.0s
WRAB **Tennant Creek** 21.47 159 *e*P **P** 08 17 25.1 -0.1
comp=Z,42nm,0.6s
WRA **Warramunga Arr** 21.48 159 P **P** 08 17 24.8 -0.4
comp=Z,36nm,0.7s,baz=332,slow=11,SNR=181
WRA **Warramunga Arr** 21.48 159 *i*P **P** 08 17 24.7 -0.5
WRA pmax pmax
comp=Z,28nm,0.6s
COEN **Coen** 21.81 131 *e*P **P** 08 17 30.4 +1.5
comp=Z,22nm,0.8s
MBWA **Marble Bar** 22.14 196 *e*P **P** 08 17 33.1 +0.8
comp=Z,204nm,2.2s
MYKOM **Kota Tinggi** 22.51 274 *e*P **P** 08 17 40.7 +4.3
comp=Z,24nm,0.3s
PMG **Port Moresby** 22.83 115⇑ *e*P **P** 08 17 39.2 -0.6
PMG pmax pmax
comp=Z,50nm,1.2s
PMG **Port Moresby** 22.83 115 *e*P **P** 08 17 39.3 -0.6
comp=Z,15nm,1.0s
AS31 **Alice Springs** 24.81 163 *e*P **P** 08 17 59.7 +1.6
ASAR **Alice Springs** 24.81 163 P **P** 08 17 58.3 +0.2
comp=Z,27nm,0.7s,baz=342,slow=8.3,SNR=145
ASAR S S 08 22 26.6 +10
comp=Z,3.0nm,0.9s,baz=337,slow=16,SNR=12
IPM **Ipoh** 25.61 280 *e*P **P** 08 18 04.5 -1.0
comp=Z,8.8nm,0.6s
JOW **Kunigami** 26.58 4 *e*P **P** 08 18 14.7 +0.6
comp=Z,17nm,0.8s
CTA **Charters Tower** 28.05 137 P **P** 08 18 28.8 +1.4
comp=Z,5.7nm,1.1s,baz=325,slow=13,SNR=3.9
FORT **Forrest** 30.82 177 *e*P **P** 08 18 51.0 -0.7
comp=Z,2μm,0.8s
GYA **Guiyang** 32.27 326 *e*P **P** 08 19 07.8 +3.1
GYA pP **pP** 08 19 22.4 +2.2
GYA sP **sP** 08 19 29.4 +1.8
GYA PP **PP** 08 20 16.2 -2.5
GYA S **S** 08 24 16.7 +2.7
GYA sS **sS** 08 24 43.8 +3.5
GYA ScP **ScP** 08 25 30.0 -0.4
GYA ScS **ScS** 08 29 28.7 -1.0
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,110nm,4.9s
GYA LN
comp=Z,480nm,17.0s
GYA LE
comp=Z,390nm,17.8s
GYA LZ
comp=Z,460nm,17.2s
CMAR **Chiang Mai Arr** 32.45 306 P **P** 08 19 04.3 -1.9
comp=Z,0.8nm,0.3s,baz=133,slow=6.4,SNR=4.4
CMAR PcP **PcP** 08 21 53.9 +1.5
comp=Z,1.3nm,0.4s,baz=147,slow=0.7,SNR=5.6
CMAR **Chiang Mai Arr** 32.45 306 *i*P **P** 08 19 06.3 +0.1
CMAR pmax pmax
comp=Z,1.0nm,0.3s
NJ2 **Nanjing** 32.49 348 *e*P **P** 08 19 05.8 -0.6
NJ2 PMZ
comp=Z,30nm,0.8s
JNU **Nakatsue** 33.07 7 P **P** 08 19 10.2 -1.3
comp=Z,13nm,1.0s,baz=156,slow=4.1,SNR=8.6
JNU **Nakatsue** 33.07 7 *e*P **P** 08 19 10.9 -0.6
comp=Z,3.1nm,0.8s
KMI **Kunming** 33.69 319 P P 08 19 21.7 +4.5
KMI S **S** 08 24 40.0 +3.8
KMI PMZ
comp=Z,7.0nm,1.4s
KMI LN
comp=Z,130nm,20.6s
KMI LE
comp=Z,110nm,22.8s
BBOO **Buckleboo** 34.06 165 *e*P **P** 08 19 22.7 +2.6
comp=Z,10.0nm,0.8s
EIDS **Eidsvold** 34.90 138 *e*P **P** 08 19 28.0 +0.6
comp=Z,14nm,1.0s
STKA **Stephens Creek** 35.00 157 P **P** 08 19 28.9 +0.7
comp=Z,15nm,0.8s,baz=330,slow=7.9,SNR=33
STKA **Stephens Creek** 35.00 157 *e*P **P** 08 19 28.7 +0.5
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA **Stephens Creek** 35.00 157 *e*P **P** 08 19 28.7 +0.5
comp=Z,2.6nm,0.8s
KSAR **Wonju Array Be** 37.12 2 P **P** 08 19 46.6 +0.3
KSAR 08 22 06.1
KSAR **Wonju Array Be** 37.12 2 P **P** 08 19 46.6 +0.3
KSAR PcP **PcP** 08 22 06.1 +0.6
KSRS **Korea Array** 37.14 2 P **P** 08 19 46.6 +0.3
comp=Z,7.2nm,0.8s,baz=178,slow=10.0,SNR=40
KSRS PcP **PcP** 08 22 06.1 +0.6
comp=Z,1.2nm,0.7s,baz=200,slow=3.6,SNR=4.9
KSRS LR LR 08 36 02.7
comp=Z,15nm,20.3s,baz=180,slow=38
CD2 **Chengdu** 37.32 327 *e*P **P** 08 19 49.4 +1.3
CD2 pP **pP** 08 20 04.6 +0.8
CD2 sP **sP** 08 20 11.9 +0.7
CD2 PP **PnPn** 08 21 15.9 +0.3
CD2 S **S** 08 25 34.3 +2.8
CD2 sS **sS** 08 26 00.7 +2.6
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.4s
CD2 LE
comp=Z,200nm,19.6s
CD2 LZ
comp=Z,240nm,16.6s
XAN **Xi'an** 37.44 336 P **P** 08 19 46.7 -2.3
XAN PMZ
comp=Z,2.0nm,0.7s
MAJO **Matsushiro** 37.84 16 *e*P **P** 08 19 51.1 -1.3
MAJO pmax pmax
comp=Z,11nm,0.6s
MAJO **Matsushiro** 37.84 16 *e*P **P** 08 19 51.0 -1.3
comp=Z,11nm,0.6s
MAT **Matsushiro** 37.84 16 P **P** 08 19 50.9 -1.5
MJAR **Matsushiro Arr** 37.84 16 P **P** 08 19 50.7 -1.7
comp=Z,12nm,0.9s,baz=189,slow=10,SNR=27
MJAR LR LR 08 35 13.4
comp=Z,65nm,21.8s,baz=120,slow=36
LZH **Lanzhou** 41.39 332 *e*P P 08 20 25.6 +3.5
LZH pP pP 08 20 37.4 -0.6
LZH sP sP 08 20 43.6 -1.7
LZH PMZ
comp=Z,21nm,1.0s
LZH PMZ
comp=Z,89nm,4.3s
HHC **Hu-ho-hao-te** 42.65 343 *e*P **P** 08 20 33.2 +1.0
HHC pP **pP** 08 20 51.1 +2.9
HHC sP **sP** 08 20 54.9 -0.6
HHC PP **PP** 08 22 15.9 +3.6
HHC S **S** 08 26 51.9 +0.9
HHC sS **sS** 08 27 19.8 +1.8
HHC PMZ
comp=Z,21nm,1.0s
HHC PMZ
comp=Z,58nm,5.7s
HHC LN
comp=Z,160nm,12.8s
HHC LE
comp=Z,180nm,12.9s
HHC LZ
comp=Z,170nm,12.9s
USRK **Ussuriysk Ar.** 44.14 6 P **P** 08 20 44.0 +0.1
comp=Z,15nm,0.9s,baz=188,slow=7.2,SNR=31
ERM **Erimo** 44.35 18⇑ *e*P **P** 08 20 45.8 +0.1
ERM pmax pmax
comp=Z,34nm,2.5s
MDJ **Mudanjiang** 44.36 3 P **P** 08 20 45.8 0.0
MDJ pP **pP** 08 21 01.1 -0.7
MDJ sP **sP** 08 21 08.4 -0.6
MDJ ScP **ScP** 08 26 15.7 +0.1
MDJ PcS **PcS** 08 26 21.9 -0.1
MDJ S **S** 08 27 16.8 +1.2
MDJ sS **sS** 08 27 44.5 +1.8
MDJ PMZ
comp=Z,20nm,1.0s
MDJ **Mudanjiang** 44.36 3 *e*P **P** 08 20 46.1 +0.3
comp=Z,25nm,1.0s
ASAJ **Asahikawa** 46.11 16 *e*P **P** 08 21 00.1 +0.4
comp=Z,9.4nm,1.1s
HABR **Khabarovsk** 48.71 8 *e*P **P** 08 21 17.1 -2.7
HABR *e**PP **pP** 08 21 32.8 -3.2
HABR *e**SP **sP** 08 21 39.7 -3.5
HABR 08 22 41.4
HABR 08 23 10.7
HABR *e*S **S** 08 28 15.7 -2.0
HABR *e**SS **sS** 08 28 42.5 -2.6
HABR *e* 08 31 03.7
HABR *e*SS **SS** 08 31 48.5 -0.4
HABR *e*SSS SSS 08 33 05.1
HABR pmax pmax
comp=Z,10.0nm,0.9s
HABR MLR MLR
comp=Z,46nm,17.0s
YSS **Yuzh-Sakhalins** 48.77 15 *e*P **P** 08 21 19.0 -1.2
KLR **Kul'dur** 49.10 5 *e*P P 08 21 17.8 -5.0
ULN **Ulaanbaatar** 50.37 343 *e*P P 08 21 38.3 +5.6
ULN pmax pmax
comp=Z,9.0nm,0.8s
ULN **Ulaanbaatar** 50.37 343 *e*P P 08 21 38.3 +5.6
comp=Z,9.1nm,0.8s
SONM **Songino Array** 50.54 343 P **P** 08 21 33.0 -0.9
comp=Z,6.6nm,0.8s,baz=166,slow=9.4,SNR=23
SONM PcP **PcP** 08 22 51.3 +0.3
comp=Z,1.6nm,0.8s,baz=147,slow=3.4,SNR=2.9
SONM LR LR 08 44 40.5
comp=Z,75nm,20.2s,baz=99,slow=38
ZAK **Zakamensk** 53.75 342 *e*P **P** 08 21 56.2 -1.4
ZAK pmax pmax
comp=Z,2.0nm,1.0s
TLY **Talaya** 54.78 343 *e*P **P** 08 22 06.4 +1.4
TLY pmax pmax
comp=Z,5.0nm,0.8s
TLY MLR MLR
comp=Z,55nm,20.0s
WMQ **Urumqi** 55.42 327 P **P** 08 22 12.4 +2.6
WMQ pP **pP** 08 22 27.0 +0.7
WMQ sP **sP** 08 22 32.7 -0.8
WMQ PP **PP** 08 24 16.2 +1.9
WMQ PMZ
comp=Z,17nm,0.7s
WMQ PMZ
comp=Z,55nm,4.0s
WMQ LN
comp=Z,97nm,9.4s
WMQ LE
comp=Z,79nm,7.2s
WMQ LZ
comp=Z,71nm,22.5s
HVS **Khovu-Aksy** 57.80 336⇑ *i*P **P** 08 22 26.2 -0.4
BOD **Bodaibo** 58.31 352 *e*P **P** 08 22 29.2 -0.7
BOD pmax pmax
comp=Z,11nm,1.0s
PEA0B **Petropavlovsk-** 58.88 22 *e*P **P** 08 22 34.1 +0.1
PETK **Petropavlovsk-** 58.88 22 P **P** 08 22 34.9 +0.9
comp=Z,7.6nm,0.6s,baz=181,slow=6.3,SNR=18
MKAR **Makanchi Array** 60.25 327 P **P** 08 22 42.1 -1.5
comp=Z,8.7nm,0.7s,baz=120,slow=8.9,SNR=56
MKAR PcP **PcP** 08 23 27.9 -0.5
comp=Z,3.7nm,0.6s,baz=120,slow=4.7,SNR=6.4
MKAR LR LR 08 49 41.4
comp=Z,59nm,20.8s,baz=124,slow=37
YAK **Yakutsk** 61.76 2 *e*P **P** 08 22 52.4 -1.0
YAK pmax pmax
comp=Z,21nm,1.0s
TKM2 **Tokmak 2** 62.16 320 *e*P **P** 08 22 55.8 -1.0
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
TKM2 **Tokmak 2** 62.16 320 *e*P **P** 08 22 55.8 -1.0
comp=Z,6.4nm,0.6s
AAK **Ala-Archa** 62.73 319 ⇓ *i*P **P** 08 23 01.5 +0.9
AAK pmax pmax
comp=Z,12nm,1.0s
AAK **Ala-Archa** 62.73 319 *e*P **P** 08 23 01.7 +1.1
comp=Z,4.2nm,0.8s
EKS2 **Erkin-Say** 63.21 319 *e*P **P** 08 23 05.1 +1.4
EKS2 pmax pmax
comp=Z,7.0nm,0.8s
EKS2 **Erkin-Say** 63.21 319 *e*P **P** 08 23 05.1 +1.4
comp=Z,7.0nm,0.8s
KBL **Kabul** 63.38 309 *e*P **P** 08 23 04.6 -0.5
KBL pmax pmax
comp=Z,5.0nm,0.5s
KBL **Kabul** 63.38 309 *e*P **P** 08 23 04.6 -0.5
comp=Z,4.6nm,0.5s
ZALV **Zalesovo Beam** 63.57 334 P **P** 08 23 04.6 -1.0
comp=Z,4.6nm,0.8s,baz=131,slow=8.1,SNR=5.1
ZALV LR LR 08 52 57.4
comp=Z,36nm,21.1s,baz=66,slow=38
KURK **Kurchatov** 64.52 329 *e*P **P** 08 23 10.7 -1.3
KURK pmax pmax
comp=Z,25nm,0.6s
KURK **Kurchatov** 64.52 329 *e*P **P** 08 23 10.7 -1.3
comp=Z,25nm,0.6s
KKAR **Karatay Array** 65.56 318 *e*P **P** 08 23 18.9 -0.1
KKAR pmax pmax
comp=Z,6.0nm,0.8s
KKAR **Karatay Array** 65.56 318 *e*P **P** 08 23 18.9 -0.1
comp=Z,6.1nm,0.8s
SEY **Seymchan** 65.58 13 *de*P **P** 08 23 20.0 +1.4
BVAR **Borovoye Array** 70.08 328 P **P** 08 23 46.2 -0.9
comp=Z,4.6nm,0.7s,baz=120,slow=8.5,SNR=21
BRVK **Borovoye** 70.15 328⇑ *e*P **P** 08 23 47.2 -0.3
BRVK pmax pmax
comp=Z,13nm,1.2s
BRVK **Borovoye** 70.15 328 *e*P **P** 08 23 47.8 +0.3
comp=Z,12nm,0.9s
ABKAR **Akbulak array** 74.64 322 *e*P **P** 08 24 13.4 -0.9
comp=Z,3.8nm,0.8s
AKTO **Aktyubinsk** 76.19 322 P **P** 08 24 22.3 -0.9
comp=Z,6.8nm,0.6s,baz=116,slow=6.8,SNR=38
SVE **Sverdlovsk** 76.77 329 *e*P **P** 08 24 25.9 -0.4
SVE pmax pmax
comp=Z,22nm,1.1s
ARU **Arti** 77.72 328 *d i*P **P** 08 24 30.3 -1.3
ARU *PP **pP** 08 24 46.2 -2.8
ARU S **S** 08 34 18.0 -0.9
ARU SS **SS** 08 39 20.9 +0.9
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU **Arti** 77.72 328 *e*P **P** 08 24 29.9 -1.8
comp=Z,7.5nm,0.8s
VNDA **Vanda** 79.97 173 P **P** 08 24 44.0 +0.5
comp=Z,1.6nm,0.9s,baz=301,slow=6.6,SNR=6.1
VNDA **Vanda** 79.97 173 *e*P **P** 08 24 44.4 +0.8
VNDA pmax pmax
comp=Z,3.0nm,1.0s
VNDA **Vanda** 79.97 173 *e*P **P** 08 24 44.4 +0.8
comp=Z,3.4nm,1.0s
MAW **Mawson** 80.28 200 P **P** 08 24 46.1 +0.7
comp=Z,3.5nm,0.9s,baz=66,slow=7.1,SNR=3.8
RAYN **Ar Rayn** 81.50 294 *e*P **P** 08 24 52.0 -0.9
comp=Z,6.0nm,0.7s
GNI **Garni** 83.44 310⇑ *e*P **P** 08 25 02.4 -0.5
GNI pmax pmax
comp=Z,10.0nm,1.7s
KBZ **Khabaz** 85.11 314 P **P** 08 25 10.3 -0.7
comp=Z,4.2nm,0.9s,baz=143,slow=20,SNR=6.1
GOF **Gofitskoye** 85.12 315 *e*P P 08 25 27.1 +16
KIV **Kislovodsk** 85.28 314⇓ *e*P **P** 08 25 12.0 0.0
KIV *e* 08 28 28.3
KIV pmax pmax
comp=Z,4.0nm,0.7s
PRGR **Permogore** 85.42 332 *e*P **P** 08 25 11.0 -1.2
PRGR pmax pmax
comp=Z,8.0nm,0.4s
VORD **Divnogorie** 87.99 321 *e*P **P** 08 25 23.8 -1.1
VORD pmax pmax
comp=Z,10.0nm,1.3s
VORD pmax pmax
comp=N,9.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,1.4s
VSR **Storozhevoye** 88.08 321 *e*P **P** 08 25 24.1 -1.2
VSR pmax pmax
comp=N,6.0nm,1.1s
VSR pmax pmax
comp=E,9.0nm,1.1s
VSR pmax pmax
comp=Z,9.0nm,1.1s
LPSR **Galich'ya Gora** 88.27 322 *e*P **P** 08 25 24.3 -1.9
LPSR pmax pmax
comp=Z,7.0nm,1.0s
LPSR pmax pmax
comp=N,2.0nm,0.9s
LPSR pmax pmax
comp=E,10.0nm,1.4s
KLMR **Klimovskoe** 88.29 331 *e*P **P** 08 25 23.4 -2.7
KLMR pmax pmax
comp=Z,13nm,1.4s
ILAR **Eielson Array** 88.49 25 P **P** 08 25 25.5 -1.5
comp=Z,0.3nm,0.6s,baz=274,slow=3.8,SNR=4.8
KMBO **Kilima Mbogo** 89.06 269 P **P** 08 25 31.2 +0.1
comp=Z,1.5nm,0.4s,baz=18,slow=20,SNR=4.5
ASF **Jabal al Asfar** 89.41 302 P **P** 08 25 32.2 0.0
comp=Z,3.2nm,0.8s,baz=192,slow=2.1,SNR=5.9
OBN **Obninsk** 89.72 325⇑ *e*P **P** 08 25 32.0 -0.9
OBN *e* 08 29 03.9
OBN pmax pmax
comp=Z,9.0nm,0.6s
OBN MLR MLR
comp=Z,43nm,20.0s
QSPA **South Pole Qui** 90.09 180 *e*P **P** 08 25 35.4 +0.8
comp=Z,3.0nm,0.8s
BRTR **Keskin Array B** 91.95 310 P **P** 08 25 41.8 -2.2
comp=Z,1.0nm,0.9s,baz=113,slow=6.0,SNR=4.8
BRTR **Keskin Array B** 91.95 310 *e*P **P** 08 25 42.5 -1.4
BRTR pmax pmax
comp=Z,1.0nm,0.9s
ARCES **ARCESS Array B** 93.63 340 P **P** 08 25 47.9 -2.9
comp=Z,4.4nm,0.9s,baz=61,slow=8.5,SNR=4.7
FINES **FINESS Array B** 94.75 332 P **P** 08 25 54.9 -1.2
comp=Z,2.7nm,1.0s,baz=104,slow=2.9,SNR=3.5
FINES LR LR 09 11 13.0
comp=Z,40nm,21.6s,baz=42,slow=37
MLR **Muntele Rosu** 97.15 316 P **P** 08 26 06.1 -1.4
comp=Z,0.3nm,0.6s,baz=96,slow=19,SNR=2.9
KOLS **Kolonicke sedl** 99.08 320 *e*P **Pdif** 08 26 17.0 +1.0
KOLS **Kolonicke sedl** 99.08 320 PDIF **Pdif** 08 26 17.0 +1.0
TORD **Torodi Ar. Bea** 123.55 286 PKP **PKPdf** 08 31 33.0 -0.1
comp=Z,2.0nm,0.9s,baz=72,slow=1.8,SNR=10
TORD PKKPbc **PKKPab** 08 41 22.8 +1.2
comp=Z,1.0nm,0.9s,baz=261,slow=3.9,SNR=4.7
TXAR **Lajitas Array** 124.07 54 PKP **PKPdf** 08 31 34.4 +0.5
comp=Z,0.3nm,0.8s,baz=60,slow=0.3,SNR=3.7
JCT **Junction City** 126.66 51 *e*PKIKP **PKPdf** 08 31 39.8 +1.1
JCT **Junction City** 126.66 51 *e*PKPdf **PKPdf** 08 31 39.8 +1.1
CFAA **Coronel Fontan** 145.83 158 PKPbc **PKPab** 08 32 15.8 +0.8
comp=Z,0.3nm,0.5s,baz=216,slow=4.7,SNR=7.0

MAN 04 08:18:21, 9.39N×125.47E, h0km, mb4.6, ML3.5, MS3.4, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.39**	**3**	⇑*iP*		Pb	08 18 29.8	-1.0
SCPH				*i* S		Sb	08 18 36.8	-0.5
BUTP	**Butuan**	**0.45**	**160**	*e*P		Pg	08 18 30.4	+0.8
BUTP				*e*S		Sb	08 18 39.6	+0.6
MSLP	**Maasin**	**0.95**	**321**	*e*P		Pg	08 18 39.2	-0.1
CGP	**Cagayan de Oro**	**1.21**	**219**	⇑*iP*		Pg	08 18 43.9	-0.2
CGP				*i* S		Sn	08 19 02.6	+0.3
BIPH	**Bislig**	**1.49**	**144**	⇑*iP*		Pg	08 18 52.9	+3.3
BIPH				*i* S		Sn	08 19 11.3	+2.1
BUKP	**Musuan**	**1.56**	**195**	*e*P		Pn	08 18 50.0	0.0
BUKP				*e*S		Sg	08 19 12.7	+1.4
PLP	**Palo**	**1.83**	**345**	⇓*e*P		Pn	08 18 53.9	+0.2
PLP				*e*S		Sb	08 19 18.7	-0.1
MATI	**Mati**	**2.55**	**162**	*e*P		Pn	08 19 03.1	-0.6
PAGZ	**Pagadian**	**2.57**	**234**	*e*P		Pb	08 19 07.0	-1.1

IDC ***04*** *08:27:29.2±1.1, 34.32N×80.53E, h0km, mb3.8/3, mb1 3.7/6, mb1mx3.4/48, mbtmp3.6/6, ML3.1/3, MS3.4/1, Ms1 3.4/1, ms1mx2.3/41, Error ellipse: s-maj=45.0km s-min=22.9km az=59.0*

ISCJB ***04*** *08:27:32.5±1.0, 34.5N±0.1×80.8E±0.3, h33km, mb3.6/3, MS3.4/1, Error ellipse: s-maj=33.0km s-min=15.3km az=159.9*

ISC 04 08:27:34.6±1.3, 34.5N±0.2×80.9E±0.2, h35km, n7, σ1s33/6, mb3.8/3, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**9.55**	**330**	Pn	**Pn**	**Pn**	**08 29 50.9**	**+1.3**
	0.2nm,0.3s,baz=152,slow=17,SNR=1.9							
AAK				Lg		Lg	08 32 26.9	
	0.1nm,0.3s,baz=164,slow=19,SNR=2.1							
MKAR	**Makanchi Array**	**12.35**	**5**	Pn	**Pn**	**Pn**	**08 30 27.6**	**-0.2**
	0.2nm,0.3s,baz=193,slow=14,SNR=3.5							
KURBB	**Kurchatov Arra**	**16.23**	**355**	Pn	**Pn**	**Pn**	**08 31 19.4**	**-0.3**
	0.1nm,0.3s,baz=179,slow=10,SNR=6.4							
DAVOX	**Davos/Dischmat**	**53.54**	**306**	LR	LR	LR	09 03 14.7	
	comp=Z,32nm,18.6s,baz=316,slow=40							
TORD	**Torodi Ar. Bea**	**73.83**	**275**	P	**P**	**P**	**08 39 04.5**	**-1.5**
	0.6nm,0.8s,baz=56,slow=4.5,SNR=4.6							
WRA	**Warramunga Arr**	**74.25**	**128**	P	**P**	**P**	**08 39 08.8**	**+0.5**
	0.9nm,0.9s,baz=328,slow=5.9,SNR=5.0							
ASAR	**Alice Springs**	**76.67**	**131**	P	**P**	**P**	**08 39 23.1**	**+0.9**
	0.5nm,0.6s,baz=314,slow=5.3,SNR=13							

NNC ***04*** *08:30:29.6±11.0, 53.23N×88.04E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=87.2km s-min=66.5km az=23.0*

IDC ***04*** *08:30:30.4±2.8, 53.41N×87.69E, h0km, mb1 3.1/2, mb1mx2.9/29, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=26.1km s-min=17.5km az=86.0*

ISC 04 08:30:31.5±3.8, 53.6N±0.1×88.0E±0.2, h35km, n7, σ1s59/12, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.95**	**283**	*i*			08 41 00.0	
	baz=108,slow=318,SNR=3.9							
ZALV	**Zalesovo Beam**	**1.95**	**283**	Pn	**Pn**	**Pn**	**08 31 00.9**	**-1.1**
	3.1nm,0.3s,baz=106,slow=12,SNR=12							
ZALV				Sn		**Sn**	**08 31 26.6**	**+1.4**
	5.3nm,0.3s,baz=105,slow=27,SNR=13							
KURK	**Kurchatov**	**6.45**	**248**	⇓Pn	**Pn**	**Pn**	**08 32 03.7**	**-0.1**
	1.6nm,1.4s							
KURK				⇑Sn		**Sn**	**08 33 18.2**	**+2.1**
	1.3nm,1.5s							
KURK				⇑Lg		Lg	08 33 48.3	
	2.1nm,0.7s							
KURBB	**Kurchatov Arra**	**6.55**	**247**	⇑Pn	**Pn**	**Pn**	**08 32 05.3**	**+0.1**
	1.7nm,0.5s							
KURBB				⇓Sn		**Sn**	**08 33 18.8**	**+0.3**
	6.5nm,0.6s							
KURBB				⇑Lg		Lg	08 33 51.5	
	5.3nm,0.7s							
KURBB	**Kurchatov Arra**	**6.55**	**247**	Pn	**Pn**	**Pn**	**08 32 05.4**	**+0.3**
	0.2nm,0.3s,baz=62,slow=14,SNR=7.1							
KURBB				Sn		**Sn**	**08 33 16.3**	**-2.2**
	0.1nm,0.3s,baz=62,slow=23,SNR=3.3							
KURBB				Lg		Lg	08 33 53.1	
	0.1nm,0.3s,baz=63,slow=32,SNR=9.8							
MK31	**Makanchi Array**	**7.70**	**211**	⇑Pn	**Pn**	**Pn**	**08 32 21.5**	**+0.5**
	0.5nm,0.6s,baz=27,slow=13,SNR=10							
MK31				⇓Sn		**Sn**	**08 33 47.2**	**+0.2**
	0.4nm,0.7s,baz=40,slow=25							
MK31				⇓Lg		Lg	08 34 27.0	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	3.1nm,1.0s						
MKAR	Makanchi Array	7.70	211	Pn	Pn	08 32 22.4	+1.4
	0.2nm,0.3s,baz=27,slow=13,SNR=7.4						
MKAR				Sn	Sn	08 33 44.1	-2.8
	baz=33,slow=25,SNR=2.6						
MKAR				Lg	Lg	08 34 28.9	
	0.1nm,0.3s,baz=27,slow=35,SNR=2.9						

*IDC **04** 08:44:11.4±5.1,20°.38S×176°.27W,h278km±45km,mb3.5/4, mb1 3.7/5,mb1mx3.2/32,mbtmp4.3/5,Error ellipse: s-maj=40.7km s-min=16.9km az=86.0*

ISC 04 08:44:08.3±2.5,**20°.4S**±0°.2×**176°.4W**±0°.4,**h234**km,**n6**, σ**1s.00**/8,**mb3.8**/4,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	18.68	196	P	P	08 48 09.8	+0.6
	3.6nm,0.3s,baz=28,slow=5.1,SNR=18						
URZ				S	S	08 51 28.5	-0.8
	0.3nm,0.3s,baz=2.7,slow=19,SNR=4.7						
RPZ	Rata Peaks	25.52	201	P	P	08 49 15.4	-0.1
	5.1nm,0.9s,baz=28,slow=17,SNR=2.1						
STKA	Stephens Creek	39.20	244	P	P	08 51 15.0	+1.0
	0.5nm,0.5s,baz=80,slow=9.5,SNR=3.7						
ASAR	Alice Springs	46.01	256	P	P	08 52 09.1	+0.2
	5.0nm,0.6s,baz=89,slow=8.2,SNR=61						
ASAR				PcP	PcP	08 53 40.2	-1.1
	0.3nm,0.6s,baz=101,slow=3.8,SNR=3.7						
WRA	Warramunga Arr	46.11	262	P	P	08 52 08.5	-1.1
	0.8nm,0.3s,baz=96,slow=7.8,SNR=77						
BRTR	Keskin Array B	147.87	313	PKPbc	PKPdf	09 03 23.3	+0.5
	1.2nm,0.5s,baz=139,slow=4.0,SNR=7.6						

IDC 04 08:50:17.6±999.0,**4°.32S**×**77°.00W**,**h0**km,**Error ellipse: s-maj=1232.0km s-min=244.1km az=138.0**,**Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I08BO	LAS PENAS INFR	14.50	145	*i*		10 17 01.2	
	baz=325,slow=326,SNR=2.7						
I41PY	VILLA FLORIDA	28.89	141	*i*		11 46 20.0	
	baz=315,slow=310,SNR=1.0						
I09BR	BRASILIA INFRA	30.63	114	*i*		11 59 20.0	
	baz=290,slow=324,SNR=0.6						

*DDA **04** 09:02:40.5,37°.62N×34°.69E,h7km,MD2.6*
*CSEM **04** 09:02:44.8±0.6,37°.07N×35°.23E,h5km,MD2.6,Error ellipse: s-maj=25.5km s-min=11.4km az=148.0*

ISC 04 09:02:40.4±2.3,**37°.7N**±0°.1×**34°.70E**±0°.08,**h11**km,**n8**, σ**1s.11**/12,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARA	Karaisali	0.49	145	*e*PG	Pg	09 02 49.5	-0.5
KARA				*e*SG	Sb	09 02 57.2	-1.1
KARA	Karaisali	0.49	145	*e*Pg	Pg	09 02 49.5	-0.5
KOZT	Kozan	0.92	101	*e*PG	Pg	09 02 57.0	-1.0
KOZT	Kozan	0.92	101	*e*Pg	Pg	09 02 57.0	-1.0
KIZK	Mersin	1.26	201	*i* P	Pg	09 03 04.2	-0.4
KIZK				*i* S	Sn	09 03 21.3	+0.4
KIZK	Mersin	1.26	201	*i* P	Pg	09 03 04.2	-0.4
KIZK				*i* S	Sn	09 03 21.3	+0.4
ANDN	Andirin	1.31	93	*e*P	Pn	09 03 04.7	-0.1
ANDN				*i* S	Sg	09 03 25.2	+2.6
ANDN	Andirin	1.31	93	*e*P	Pn	09 03 04.7	-0.1

*IDC **04** 09:06:49.4±0.8,34°.56N×80°.71E,h0km,mb3.8/6, mb1 3.8/10,mb1mx3.6/28,mbtmp3.6/10,ML3.1/4,Error ellipse: s-maj=29.6km s-min=19.0km az=56.0*
*ISCJB **04** 09:06:52.9±0.6,34°.70N±0°.08×80°.7E±0°.1,h33km, mb3.8/10,Error ellipse: s-maj=18.1km s-min=6.9km az=147.2*
*NEIC **04** 09:06:54.8±0.5,34°.64N×80°.66E,h35km,mb4.2/3,Error ellipse: s-maj=14.4km s-min=7.3km az=56.0*

ISC 04 09:06:54.8±0.8,**34°.6N**±0°.1×**80°.7E**±0°.1,**h35**km,**n19**, σ**0s.99**/20,**mb3.8**/10,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TKM2	Tokmak 2	9.19	336	Pn	Pn	09 09 04.3	-0.7
TKM2				*e*Sn	Sn	09 10 48.9	+1.6
AAK	Ala-Archa	9.35	331	Pn	Pn	09 09 14.2	+7.1
	0.3nm,0.3s,baz=167,slow=14,SNR=2.8						
AAK				Sn	Sn	09 10 52.8	+1.7
	0.2nm,0.3s,baz=188,slow=14,SNR=1.8						
AAK				Lg	Lg	09 11 52.0	
	0.3nm,0.3s,baz=217,slow=15,SNR=2.3						
AAK	Ala-Archa	9.35	331	*e*Pn	Pn	09 09 05.2	-2.0
	2.2nm,0.6s						
AAK				Lg	Lg	09 11 52.0	
MKAR	Makanchi Array	12.22	5	Pn	Pn	09 09 45.9	-0.3
	0.1nm,0.3s,baz=183,slow=12,SNR=7.4						
KURBB	Kurchatov Arra	16.07	355	Pn	Pn	09 10 36.1	-1.8
	0.0nm,0.3s,baz=180,slow=12,SNR=3.2						
KURK	Kurchatov	16.16	355	*e*P	P	09 10 40.8	-1.0
ZALV	Zalesovo Beam	19.54	7	P	P	09 11 18.7	-0.4
	0.2nm,0.3s,baz=187,slow=10.0,SNR=2.5						
BVAR	Borovoye Array	19.80	341	P	P	09 11 21.7	-0.3
	0.2nm,0.3s,baz=140,slow=11,SNR=3.0						
ABKAR	Akbulak array	21.16	320	*e*P	P	09 11 37.0	+0.2
	3.0nm,0.9s						
CMAR	Chiang Mai Arr	22.87	130	P	P	09 11 56.5	+1.2
	1.0nm,0.3s,baz=308,slow=13,SNR=4.4						
ENH	Enshi	24.64	92	*e*P	P	09 12 11.8	-0.4
	4.7nm,0.3s						
BRTR	Keskin Array B	37.50	292	P	P	09 14 05.8	+0.4
	0.7nm,0.7s,baz=101,slow=6.4,SNR=4.2						
NOA	NORSAR Array B	50.60	324	P	P	09 15 50.0	+0.2
	0.6nm,0.6s,baz=91,slow=7.5,SNR=2.3						
TORD	Torodi Ar. Bea	73.67	275	P	P	09 18 25.1	-0.1
	1.0nm,0.8s,baz=43,slow=4.9,SNR=8.1						
ILAR	Eielson Array	74.19	19	P	P	09 18 27.6	+0.2
	0.2nm,0.7s,baz=326,slow=6.0,SNR=3.5						
WRA	Warramunga Arr	74.45	128	P	P	09 18 29.5	-0.1
	1.8nm,0.8s,baz=324,slow=5.6,SNR=22						
WRAB	Tennant Creek	74.45	128	*e*P	P	09 18 29.7	+0.1
	2.3nm,0.6s						
ASAR	Alice Springs	76.88	131	P	P	09 18 43.3	-0.1
	1.5nm,0.6s,baz=316,slow=5.6,SNR=38						
LPAZ	La Paz	146.64	295	PKPbc	PKPbc	09 26 33.6	-0.3
	0.3nm,0.5s,baz=14,slow=4.2,SNR=3.2						

*ATH **04** 09:22:42.8,40°.78N×22°.89E,h35km±1km,MD3.0/4*
*TIR **04** 09:22:44.7,41°.58N×20°.51E,h38km,ML3.5*
*SKO **04** 09:22:45.8,41°.51N×20°.49E,h15km,M1.6,ML2.1*
*BEO **04** 09:22:47.5±0.4,41°.53N×20°.53E,h0km±3km,ML1.9/7*
*CSEM **04** 09:22:47.0±0.2,41°.47N×20°.59E,h8km,MD3.0,Error ellipse: s-maj=5.7km s-min=4.2km az=57.0*

ISC 04 09:22:46.0±1.1,**41°.50N**±0°.03×**20°.52E**±0°.03,**h4**km±11km, **n27**,σ**1s.10**/43,**Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PHP	Peshkopia	0.19	342	*i* SG	Sg	09 22 48.7	-3.7
PHP				*i* PG	Pg	09 22 51.3	+1.5
OHR	Ohrid	0.44	152	*e*Pg	Pg	09 22 54.4	-0.2
OHR				*e*Sg	Sb	09 23 02.4	-1.0
OHR				*e*Lg	Lg	09 23 02.6	
	comp=N,125nm,0.3s						
OHR				*e*Lg	Lg	09 23 02.8	
	comp=E,71nm,0.3s						
OHR	Ohrid	0.44	152	*e*Pg	Pg	09 22 54.3	-0.2
OHR				*e*Sg	Sb	09 23 02.4	-1.0
OHR				*e*Lg	Lg	09 23 02.5	
	comp=E,125nm,0.3s						
TIR	Tirane	0.52	253	*i* SG	Sg	09 22 55.8	-6.8
TIR				*i* PG	Pn	09 23 04.3	+4.1
TIR	Tirane	0.52	253	*e*Pg	Pb	09 22 57.9	+0.2
TIR	Tirane	0.52	253	*e*Pg	Pb	09 22 57.9	+0.2
PUK	Puka	0.72	319	*i* SG	Pg	09 22 58.2	-1.6
PUK				*i* PG	Pn	09 23 08.7	+5.7
SKO	Skopje	0.83	55	*e*Pg	Pg	09 23 02.5	+0.5
SKO				*i* Sg	Sb	09 23 14.2	-0.5
SKO	Skopje	0.83	55	*e*Pg	Pg	09 23 02.5	+0.5
SKO				*e*Sg	Sg	09 23 13.7	+0.9
FNA	Florina	0.97	138	*e*PN	Pg	09 23 04.6	+0.1
FNA				*e*SN	Sn	09 23 19.7	-0.9
FNA	Florina	0.97	138	*e*Pn	Pg	09 23 04.6	+0.1
FNA				*e*Sn	Sn	09 23 19.7	-0.9
NEST	Nestorio	1.16	160	*e*PN	Pb	09 23 08.5	-0.1
NEST				*e*SN	Sn	09 23 26.8	+1.4
NEST	Nestorio	1.16	160	*e*Pn	Pb	09 23 08.5	-0.1
NEST				*e*Sn	Sn	09 23 26.8	+1.4
PDG	Podgorica	1.32	315	*e*Pn	Pg	09 23 13.4	+2.0
PDG				*e*Sn	Sg	09 23 29.8	+1.2
PDG	Podgorica	1.32	315	*e*Pn	Pg	09 23 13.4	+2.0
PDG				*e*Sn	Sg	09 23 29.8	+1.2
VAY	Valandovo	1.55	96	*e*Pg	Pb	09 23 15.4	+0.1
VAY				*e*Sg	Sg	09 23 37.2	+1.3
VAY				*e*Lg	Lg	09 23 37.4	
	comp=N,14nm,0.7s						
VAY				*e*Lg	Lg	09 23 37.6	
	comp=Z,11nm,0.8s						
VAY	Valandovo	1.55	96	*e*Pn	Pb	09 23 15.0	-0.3
VAY				*e*Sg	Sg	09 23 36.8	+0.9
VAY	Valandovo	1.55	96	*e*Pn	Pb	09 23 15.0	-0.3
VAY	Valandovo	1.55	96	*e*Pg	Pb	09 23 15.4	+0.1
VAY				*e*Sg	Sg	09 23 37.2	+1.3
VAY				*e*Lg	Lg	09 23 37.3	
	comp=Z,14nm,0.7s						
BARS	Barje	1.63	36	*e*Sg	Sg	09 23 38.7	+0.3
BARS	Barje	1.63	36	*e*Sg	Sg	09 23 38.7	+0.3
SELS	Selova	1.77	14	*e*Pn	Pn	09 23 17.3	-0.2
SJES	Sjenica	1.80	347	*e*Pn	Pb	09 23 19.0	-0.7
SJES				*e*Sn	Sg	09 23 43.9	-0.1
IVAS	Ivanjica	2.09	353	*e*Pn	Pb	09 23 24.3	-0.3
IVAS				*e*Sn	Sb	09 23 50.7	-0.2
IVAS	Ivanjica	2.09	353	*e*Pn	Pb	09 23 24.3	-0.3
IVAS				*e*Sn	Sb	09 23 50.7	-0.2
BBLS	Lazići	2.50	341	*e*Sg	Sg	09 24 05.1	-1.3
BBLS	Lazići	2.50	341	*e*Sg	Sg	09 24 05.1	-1.3

IDC 04 09:27:23.4±1.2,**56°.06S**×**25°.30W**,**h0**km,**mb4.0**/4, **mb1 4.1**/4,**mb1mx3.9**/16,**mbtmp4.0**/4,**Error ellipse: s-maj=41.2km s-min=33.0km az=75.0**,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	46.23	298	P	P	09 35 50.5	0.0
	17nm,0.9s,baz=225,slow=8.6,SNR=4.1						
VNDA	Vanda	46.61	182	P	P	09 35 52.5	0.0
	0.6nm,0.7s,baz=192,slow=5.2,SNR=4.7						
LPAZ	La Paz	51.26	303	P	P	09 36 29.5	-0.1
	1.4nm,0.8s,baz=176,slow=4.9,SNR=6.4						
TORD	Torodi Ar. Bea	72.56	28	P	P	09 38 52.2	+0.2
	0.4nm,0.5s,baz=197,slow=5.0,SNR=7.7						
ILAR	Eielson Array	150.92	311	PKPbc	PKPbc	09 47 15.7	-0.7
	0.3nm,0.6s,baz=135,slow=2.3,SNR=7.3						

IDC 04 09:35:48.9±2.4,**37°.63S**×**74°.73W**,**h0**km,**mb3.3**/3, **mb1 3.5**/5,**mb1mx3.4**/16,**mbtmp3.3**/5,**ML3.4**/2,**Error ellipse: s-maj=49.0km s-min=28.0km az=61.0**,**Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.49	135	Pn	Pn	09 36 58.4	+0.1
	1.0nm,0.3s,baz=316,slow=14,SNR=10						
PLCA				Sn	Sn	09 37 52.6	+1.4
	2.0nm,0.3s,baz=223,slow=19,SNR=3.7						
CFAA	Coronel Fontan	8.04	44	Pn	Pn	09 37 45.1	-2.0
	0.1nm,0.3s,baz=215,slow=15,SNR=6.9						
CFAA				Sn	Sn	09 39 11.0	-7.8
	0.1nm,0.3s,baz=290,slow=12,SNR=6.2						
LPAZ	La Paz	22.04	17	P	P	09 40 47.1	+1.2
	1.0nm,1.1s,baz=207,slow=11,SNR=2.1						
SIV	San Ignacio	24.70	33	P	P	09 41 12.2	+0.3
	0.6nm,0.6s,baz=207,slow=6.7,SNR=2.1						
TXAR	Lajitas Array	71.92	334	P	P	09 47 13.6	-0.4
	0.3nm,0.7s,baz=161,slow=8.6,SNR=3.5						

IDC 04 09:56:10.5±8.2,**17°.55S**×**178°.78W**,**h604**km±98km, **mb2.9**/5,**mb1 3.2**/5,**mb1mx2.9**/18,**mbtmp3.9**/5,**Error ellipse: s-maj=85.2km s-min=37.5km az=149.0**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.49	241	P	P	10 02 42.3	-0.3
	1.6nm,0.7s,baz=102,slow=8.9,SNR=6.8						
WRA	Warramunga Arr	44.35	259	P	P	10 03 28.7	-0.2
	1.2nm,0.5s,baz=95,slow=7.2,SNR=47						
WRA				PcP	PcP	10 04 59.0	-0.5
	0.1nm,0.3s,baz=90,slow=3.5,SNR=3.1						
ASAR	Alice Springs	44.55	254	P	P	10 03 30.6	+0.2
	7.5nm,0.6s,baz=88,slow=8.6,SNR=67						
ILAR	Eielson Array	85.62	13	P	P	10 07 45.5	-0.2
	0.1nm,0.4s,baz=223,slow=4.8,SNR=4.7						
TXAR	Lajitas Array	86.10	58	P	P	10 07 49.1	+0.1
	0.2nm,0.7s,baz=226,slow=6.5,SNR=4.3						

*HEL **04** 09:56:16.8±0.4,67°.59N×34°.02E,h0km,ML2.5,Explosion*
*IDC **04** 09:56:19.8±1.8,67°.72N×33°.60E,h0km,mb1 3.5/5, mb1mx3.2/29,mbtmp3.5/5,ML3.1/5,Error ellipse: s-maj=20.4km s-min=9.7km az=80.0*

ISC 04 09:56:18.4±2.0,**67°.60N**±0°.04×**33°.6E**±0°.1,**h0**km,**n16**, σ**1s.17**/27,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRF	Varrio	1.54	277	PG	Pn	09 56 47.1	+0.1
VRF				MSG		09 57 07.3	
	comp=Z,41nm,0.2s						
VRF				SN	Sg	09 57 08.4	+0.8
KU6	Riekki	2.16	225	PG	Pn	09 56 56.8	+1.2
	baz=43						
KU6				MSG		09 57 23.9	
	comp=Z,25nm,0.2s						
KU6				SG	Sb	09 57 26.8	+1.2
MSF	Maaselka	2.48	229	PG	Pb	09 57 03.6	-0.2
MSF				SG	Sb	09 57 37.0	+2.1
SGF	Sodankyl	2.73	270	PN	Pn	09 57 03.9	+0.5
SGF				SB	Sb	09 57 42.5	+0.6
RNF	Rovaniemi	3.13	255	PN	Pn	09 57 09.7	+0.7
KEV	Kevo	3.24	315	PN	Pn	09 57 10.8	+0.4
	baz=131						
KEV				SG	Sb	09 57 57.9	+1.4
ARCES	ARCESS Array B	3.55	307	Pn	Pn	09 57 14.8	+0.1
	comp=Z,7.7nm,0.3s,baz=120,slow=15,SNR=204						
ARCES				Pg	Pb	09 57 22.8	+0.8
	comp=Z,1.5nm,0.3s,baz=118,slow=14,SNR=7.0						
ARCES				Sn	Sn	09 57 57.2	-0.1
	comp=Z,3.4nm,0.3s,baz=122,slow=25,SNR=11						
ARCES				Lg	Lg	09 58 06.5	
	comp=Z,7.6nm,0.3s,baz=122,slow=31,SNR=13						
ARE0	ARCESS Array S	3.55	307	PN	Pn	09 57 14.5	-0.2
ARE0				SN	Sn	09 57 57.3	0.0
HEF	Hetta	3.83	287	PN	Pn	09 57 18.9	+0.4
	baz=98						
HEF				SN	Sn	09 58 05.0	+0.9
KALU	Kalix	4.43	251	PB	Pb	09 57 35.7	-1.2
	baz=61						
LANU	Lannavaara	4.43	281	PN	Pn	09 57 26.1	-0.6
LANU				SG	Sg	09 58 37.7	-2.7
ERTU	Ertsjaerv	4.59	262	PN	Pn	09 57 28.8	-0.1
ERTU				SN	Sn	09 58 24.2	+1.4
FINES	FINESS Array B	6.98	211	Pn	Pn	09 58 01.6	-0.1
	comp=Z,0.2nm,0.3s,baz=24,slow=14,SNR=4.0						
FINES				Sn	Sn	09 59 21.1	-0.6
	comp=Z,0.4nm,0.3s,baz=27,slow=22,SNR=4.1						
FINES				Lg	Lg	09 59 52.7	
	comp=Z,0.6nm,0.3s,baz=26,slow=24,SNR=3.5						
HFS	Hagfors	11.49	239	Pn	Pn	09 59 01.7	-1.7
	comp=Z,0.1nm,0.3s,baz=39,slow=10.0,SNR=2.9						
NOA	NORSAR Array B	11.67	246	Pn	Pn	09 59 03.5	-2.5
	comp=Z,0.1nm,0.3s,baz=40,slow=10,SNR=2.8						
SPITS	Spitsbergen Ar	11.68	342	Pn	Pn	09 59 01.7	-4.4
	baz=140,slow=16,SNR=11						

*IDC **04** 09:59:40.8±2.8,36°.36N×69°.36E,h0km,mb3.7/2, mb1 3.7/7,mb1mx3.4/31,mbtmp3.7/7,ML3.4/5,MS2.6/1, Ms1 2.6/1,ms1mx2.2/40,Error ellipse: s-maj=54.8km s-min=21.0km az=140.0*
*NNC **04** 09:59:47.7±2.2,36°.51N×68°.97E,h158km±17km,mb3.0, mpv3.9,Error ellipse: s-maj=19.7km s-min=13.8km az=167.0*

ISC 04 09:59:47.3±2.6,**36°.5N**±0°.2×**68°.97E**±0°.09,**h150**km,**n23**, σ**1s.43**/33,**10C-8D**,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZET	Dzherino	2.31	357	⇓P	Pn	10 00 28.0	+1.7
	29nm,0.5s						
DZET				⇓S	Sn	10 00 57.2	+0.9
	128nm,0.3s						
SFK	Sufi-Kurgan	5.01	44	⇑P	Pn	10 00 59.9	-1.1
	7.6nm,0.3s						
SFK				⇑S	Sn	10 02 00.8	+2.3
	6.4nm,0.4s						
MNAS	Manas	6.58	23	⇑P	Pn	10 01 21.3	-0.5
	2.0nm,0.5s						
MNAS				⇑P	Pn	10 01 21.4	-0.5
	3.5nm,0.3s						
MNAS				⇓S	Sn	10 02 35.7	-0.2
	4.0nm,0.4s						
MNAS				⇑S	Sn	10 02 36.4	+0.5
	5.5nm,0.4s						
KK31	Karatay Array	6.71	10	P	Pn	10 01 23.7	+0.3
	1.8nm,0.3s,baz=203,slow=12,SNR=20						
KK31				⇓S	Sn	10 02 40.1	+1.3
	2.5nm,0.3s,baz=201,slow=26,SNR=5.0						
AML	Almayashu	6.72	32	P	Pn	10 01 23.0	-0.9
	SNR=32						
UCH	Uchtor	7.16	35	P	Pn	10 01 29.0	-0.8
	SNR=14						
KZA	Kyzart	7.40	39	P	Pn	10 01 32.1	-1.0
	SNR=9.7						
AAK	Ala-Archa	7.47	33	P	Pn	10 01 32.8	-0.9
	SNR=9.0						
AAK	Ala-Archa	7.47	33	⇑P	Pn	10 01 32.9	-0.8
	8.0nm,0.5s						
AAK				⇑S	Sn	10 03 00.3	+3.0
	6.7nm,0.7s						
AAK	Ala-Archa	7.47	33	Pn	Pn	10 01 32.8	-0.9
	4.0nm,0.3s,baz=214,slow=7.5,SNR=17						
AAK				Sn	Sn	10 02 58.0	+0.8
	0.7nm,0.3s,baz=307,slow=20,SNR=4.0						
AAK				LR	LR	10 04 59.4	
	comp=Z,46nm,19.8s,baz=228,slow=43						
CHMS	Chumysh	7.88	33	P	Pn	10 01 38.6	-0.4
	SNR=17						
USP	Ospenovka	7.99	30	P	Pn	10 01 39.5	-1.0
	SNR=12						
TKM2	Tokmak 2	8.20	36	P	Pn	10 01 42.6	-0.9
	SNR=7.9						
TKM2	Tokmak 2	8.20	36	⇓P	Pn	10 01 41.8	-1.8
	3.4nm,0.5s						
TKM2				⇓S	Sn	10 03 15.2	+0.3
	3.8nm,1.0s						
MK31	Makanchi Array	14.30	40	⇓P	Pn	10 03 02.1	-0.8
	1.4nm,0.8s,baz=213,slow=9.4,SNR=4.3						
MKAR	Makanchi Array	14.30	40	Pn	Pn	10 03 02.3	-0.6
	0.1nm,0.3s,baz=228,slow=16,SNR=5.5						
AB31	Akbulak array	14.36	336	⇑P	P	10 03 05.8	-0.4
	0.9nm,0.4s						
AB31				⇑S	Sn	10 05 41.7	-0.9
	1.2nm,0.6s						
KURBB	Kurchatov Arra	15.71	23	Pn	Pn	10 03 19.9	-0.4
	0.0nm,0.3s,baz=213,slow=10,SNR=4.4						
AKTO	Aktyubinsk	16.02	334	⇑P	P	10 03 25.1	+0.4
	2.0nm,0.9s						
AKTO				⇓S	Sn	10 06 22.6	+0.1
	1.4nm,0.6s						
AKTO	Aktyubinsk	16.02	334	Pn	P	10 03 27.6	+3.0
	0.2nm,0.3s,baz=135,slow=11,SNR=3.3						
AKTO				Sn	S	10 06 18.3	-4.0
	0.1nm,0.3s,baz=156,slow=20,SNR=2.4						
BVAR	Borovoye Array	16.56	3	Pn	Pn	10 03 31.6	+0.9
	0.1nm,0.3s,baz=187,slow=9.7,SNR=2.1						
ZALV	Zalesovo Beam	20.64	27	P	Pn	10 04 20.6	+1.7
	2.3nm,0.3s,baz=221,slow=10,SNR=5.8						
TORD	Torodi Ar. Bea	64.08	267	P	P	10 10 19.4	+14
	0.3nm,0.7s,baz=46,slow=6.8,SNR=3.2						

*ISCJB **04** 10:05:29.2±0.6,0°.27N±0°.06×127°.31E±0°.05,h162km, mb3.8/5,Error ellipse: s-maj=9.2km s-min=6.6km az=12.4*
*IDC **04** 10:05:31.3±2.4,0°.27N×127°.43E,h166km±25km,mb3.5/5, mb1 3.6/7,mb1mx3.3/24,mbtmp3.9/7,Error ellipse: s-maj=30.1km s-min=17.2km az=63.0*
*DJA **04** 10:05:32.7±0.4,0°N±4°×12°7E±°,h94km±8km,M4.6/14, mb4.6/4,mB5.0/3,MLv4.6/14,Mw(mB)4.3/3*

ISC 04 10:05:30.4±1.1,**0°.21N**±0°.08×**127°.30E**±0°.08,**h162**km,**n18**, σ**1s.47**/21,**mb3.7**/5,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	0.57	7	P	Pn	10 05 49.4	-4.1
TNTI				S	Sn	10 06 03.0	-8.2
SANI	Sanana	2.60	210	P	Pn	10 06 11.9	-1.4
SANI				S	Sn	10 06 42.5	-4.1
KMSI	Cibinong	3.34	276	P	Pn	10 06 21.8	-0.7
KMSI				S	Sn	10 07 00.9	-2.1
NLAI	Namlea	3.43	183	P	Pn	10 06 23.4	-0.3
SGSI	Sangihe	3.88	333	P	Pn	10 06 28.9	-0.6
AAI	Ambon	3.97	167	P	Pn	10 06 31.7	+1.1
SIJI	Sorong	4.11	105	P	Pn	10 06 32.2	-0.3
	2.7nm,0.3s,baz=318,slow=15,SNR=7.7						
LUWI	Luwuk	4.69	255	P	Pn	10 06 40.0	-0.1
LUWI				S	Sn	10 07 34.6	+0.2
MRSI	Marisa	5.37	273	P	Pn	10 06 49.3	+0.4
	43nm,0.6s,694nm0.2nm						
APSI	Ampana	5.76	259	P	Pn	10 06 54.3	+0.2
	486nm,0.5s,10µm2.4nm						
MPSI	Mapaga	7.40	271	P	Pn	10 07 16.8	+0.9
	8.6nm,0.9s,558nm0.1nm						
TTSI	Tana Toraja	8.14	247	P	Pn	10 07 27.0	+1.2
KAPI	Kappang	9.15	235	P	Pn	10 07 41.8	+2.7
	0.2nm,0.3s,baz=50,slow=17,SNR=1.9						
KAPI				S	Sn	10 09 20.3	-0.6
	1.4nm,0.3s,baz=180,slow=20,SNR=5.4						
WRA	Warramunga Arr	21.18	161	P	P	10 10 03.1	-0.1
	4.9nm,0.4s,baz=340,slow=12,SNR=90						
ASAR	Alice Springs	24.58	165	P	P	10 10 37.2	+1.6
	3.2nm,0.6s,baz=348,slow=13,SNR=31						
STKA	Stephens Creek	34.66	158	P	P	10 12 04.7	+0.1
	0.8nm,0.4s,baz=345,slow=9.5,SNR=4.1						
MKAR	Makanchi Array	60.77	326	P	P	10 15 25.7	+0.5
	0.2nm,0.3s,baz=111,slow=7.7,SNR=8.0						
KURBB	Kurchatov Arra	65.00	328	P	P	10 15 53.6	+0.6
	0.3nm,0.4s,baz=125,slow=6.0,SNR=2.6						

*ISCJB **04** 10:12:10.6±0.7,34°.66N±0°.05×139°.94E±0°.06,h96km±5km, mb3.2/2,Error ellipse: s-maj=10.4km s-min=7.0km az=39.9*
*JMA **04** 10:12:11.1±0.2,34°.67N×139°.93E,h89km±2km,M2.6*
*IDC **04** 10:12:12.2±4.1,34°.35N×139°.29E,h77km±58km,mb2.9/2, mb1 3.1/3,mb1mx2.9/25,mbtmp3.2/3,ML3.0/1,Error ellipse: s-maj=123.3km s-min=33.3km az=63.0*

ISC 04 10:12:11.7±1.0,**34°.65N**±0°.06×**139°.91E**±0°.06,**h89**km±7km, **n17**,σ**0s.90**/23,**Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TATJ	Tateyama 2	0.38	358	P	Pn	10 12 25.4	0.0
TATJ				S	Sn	10 12 35.6	-0.1
JIM2	Oshima 3	0.40	279	P	Pn	10 12 25.0	-0.6
JIM2				S	Sn	10 12 35.5	-0.5
BSO4	Boso 4	0.49	47	P	Pn	10 12 26.2	+0.1
BSO4				S	Sn	10 12 38.8	+1.9
BSO3	Boso 3	0.52	73	P	Pn	10 12 25.8	-0.3
BSO3				S	Sn	10 12 37.7	+0.7
JIZS	Izushimoda	0.85	275	P	Pn	10 12 29.6	0.0
JIZS				S	Sn	10 12 44.2	+1.2
BSO1	Boso 1	0.88	90	P	Pn	10 12 29.0	-0.4
JOD2	Odawara 2	0.91	312	P	Pn	10 12 29.6	-0.7
JOD2				S	Sn	10 12 43.4	-0.8
JYN	Shimob	1.40	307	P	Pn	10 12 36.7	+0.6
JYN				S	Sn	10 12 55.7	+1.1
JHJ2	Mitsune	1.54	183	S	Sn	10 12 59.7	+2.0
JRY	Ryogami san	1.59	329	P	Pn	10 12 38.6	+0.1
MJAR	Matsushiro Arr	2.34	324	P	Pn	10 12 48.7	+0.4
	3.4nm,0.3s,baz=155,slow=11,SNR=43						
MJAR				S	Sn	10 13 16.9	+0.5
	4.1nm,0.3s,baz=100,slow=15,SNR=11						
MAT	Matsushiro	2.34	324	P	Pn	10 12 49.0	+0.7
MAT				S	Sn	10 13 17.2	+0.8
H11N2	WAKE ISLAND Hy	28.12	115	T	T	10 47 41.1	
	baz=308,slow=75,SNR=4.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H11N1	WAKE ISLAND Hy	28.13	115	T	T	10 47 39.5	
	baz=308,slow=75,SNR=3.0						
H11N3	WAKE ISLAND Hy	28.14	115	T	T	10 47 39.7	
	baz=308,slow=75,SNR=3.0						
MKAR	Makanchi Array	44.39	304	P	P	10 20 12.9	-0.2
	0.2nm,0.4s,baz=75,slow=7.6,SNR=2.7						
WRA	Warramunga Arr	54.55	186	P	P	10 21 29.8	-0.8
	0.1nm,0.3s,baz=1.6,slow=7.7,SNR=5.0						

*IDC **04** 10:34:47.5±0.7, 34°.43N×80°.86E, h0km, mb4.0/15, mb1 4.2/19, mb1mx4.0/31, mbtmp4.0/19, ML3.7/3, MS3.3/12, Ms1 3.3/12, ms1mx3.0/36, Error ellipse: s-maj=23.6km s-min=13.4km az=46.0*

*ISCJB **04** 10:34:51.0±0.4, 34°.52N±0°.05×80°.94E±0°.06, h33km, mb3.9/18, MS3.3/8, Error ellipse: s-maj=9.3km s-min=4.7km az=138.7*

*NEIC **04** 10:34:53.1±0.3, 34°.50N×80°.87E, h35km, mb4.2/4, Error ellipse: s-maj=8.8km s-min=5.3km az=45.0*

ISC 04 10:34:53.5±0.5**, 34°.48N**±0°.07×**80°.91E**±0°.06**, h35km, n42, σ1s69**/41**, mb4.1**/18**, MS3.3**/9**, Xizang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NDI	New Delhi	6.58	210	eP	Pn	10 36 29.0	+1.2
ULHL	Ulahol	8.58	336	P	Pn	10 37 00.0	+4.6
	SNR=16						
KZA	Kyzart	8.80	331	P	Pn	10 37 02.3	+3.8
	SNR=10.0						
UCH	Uchtor	9.22	329	P	Pn	10 37 07.7	+3.3
	SNR=15						
TKM2	Tokmak 2	9.40	335	P	Pn	10 37 10.6	+4.0
	SNR=8.6						
TKM2	Tokmak 2	9.40	335	ePn	Pn	10 37 07.0	+0.4
	7.0nm,0.6s						
TKM2				Sn	Sn	10 38 51.0	-0.1
AML	Almayashu	9.51	326	P	Pn	10 37 11.0	+2.7
	SNR=13						
AAK	Ala-Archa	9.57	330	Pn	Pn	10 37 10.5	+1.6
	1.3nm,0.3s,baz=148,slow=15,SNR=5.1						
AAK				Sn	Sn	10 39 01.0	+5.8
	0.0nm,0.3s,baz=280,slow=17,SNR=1.3						
AAK				LR	LR	10 41 23.2	
	comp=Z,162nm,18.7s,baz=128,slow=41						
AAK	Ala-Archa	9.57	330	ePn	Pn	10 37 08.3	-0.6
	10.0nm,0.8s						
AAK				eSn	Sn	10 38 57.8	+2.6
KBL	Kabul	9.80	274	ePn	Pn	10 37 11.1	-1.0
	5.3nm,0.6s						
KBL				eSn	Sn	10 38 57.3	-3.6
LSA	Lhasa	9.90	116	ePn	Pn	10 37 13.3	-0.5
LSA				eSn	Sn	10 39 04.4	+0.5
KKAR	Karatay Array	11.83	320	ePn	Pn	10 37 40.1	+0.4
	5.5nm,0.8s						
KKAR				eSn	Sn	10 39 52.2	+1.9
MK31	Makanchi Array	12.35	4	ePn	Pn	10 37 45.7	-1.0
MK31				eSn	Sn	10 39 58.8	-4.3
MKAR	Makanchi Array	12.35	4	Pn	Pn	10 37 45.4	-1.4
	0.3nm,0.3s,baz=185,slow=12,SNR=14						
MKAR				Lg	Lg	10 41 21.6	
	0.1nm,0.3s,baz=169,slow=30,SNR=2.8						
MKAR				LR	LR	10 43 20.9	
	comp=Z,94nm,19.2s,baz=185,slow=41						
KURBB	Kurchatov Arra	16.23	355	Pn	Pn	10 38 34.4	-4.3
	baz=179,slow=11,SNR=6.2						
KURK	Kurchatov	16.32	355	ePn	Pn	10 38 39.0	-0.8
KURK				eSn	Sn	10 41 41.6	+2.1
ZALV	Zalesovo Beam	19.66	7	P	P	10 39 18.1	-1.1
	0.7nm,0.3s,baz=187,slow=10,SNR=3.4						
ZALV				LR	LR	10 46 56.1	
	comp=Z,22nm,20.8s,baz=66,slow=37						
BVAR	Borovoye Array	20.00	341	P	P	10 39 21.5	-1.4
	4.6nm,0.7s,baz=150,slow=12,SNR=21						
BVAR				LR	LR	10 47 42.3	
	comp=Z,124nm,20.5s,baz=88,slow=39						
ABKAR	Akbulak array	21.39	320	eP	P	10 39 37.9	0.0
	9.2nm,0.8s						
CHTO	Chiang Mai	22.37	130	eP	P	10 39 50.4	+1.7
	13nm,1.3s						
CMAR	Chiang Mai Arr	22.64	130	P	P	10 39 51.4	-0.2
	1.3nm,0.3s,baz=304,slow=12,SNR=12						
CMAR				LR	LR	10 49 45.8	
	comp=Z,55nm,20.1s,baz=324,slow=40						
AKTO	Aktyubinsk	23.09	321	P	P	10 39 54.6	-1.4
	2.9nm,0.8s,baz=125,slow=9.2,SNR=13						
AKTO				LR	LR	10 49 49.7	
	comp=Z,84nm,20.1s,baz=138,slow=39						
SONM	Songino Array	23.24	47	P	P	10 39 57.8	+0.1
	0.2nm,0.4s,baz=243,slow=9.4,SNR=2.9						
GNI	Garni	29.18	292	LR	LR	10 54 18.5	
	comp=Z,41nm,18.4s,baz=80,slow=40						
OBN	Obninsk	36.81	318	LR	LR	10 58 15.4	
	comp=Z,53nm,18.3s,baz=92,slow=38						
BR131	Keskin Array S	37.72	292	P	P	10 42 04.4	-1.6
	1.6nm,0.8s						
BRTR	Keskin Array B	37.72	292	P	P	10 42 05.1	-0.9
	1.8nm,0.8s,baz=87,slow=8.8,SNR=13						
USRK	Ussuriysk Ar.	40.11	60	LR	LR	11 00 40.0	
	comp=Z,52nm,19.5s,baz=299,slow=39						
AKASG	Malin Array Be	40.49	310	P	P	10 42 27.5	-1.2
	0.5nm,0.4s,baz=76,slow=7.6,SNR=5.2						
MLR	Muntele Rosu	42.77	302	P	P	10 42 46.9	-0.7
	0.9nm,0.6s,baz=135,slow=8.6,SNR=2.8						
FINES	FINESS Array B	43.72	325	P	P	10 42 52.9	-1.9
	2.8nm,0.7s,baz=99,slow=8.7,SNR=3.1						
FINES				LR	LR	11 02 10.0	
	comp=Z,49nm,18.1s,baz=180,slow=38						
ARCES	ARCESS Array B	46.18	336	P	P	10 43 14.5	+0.1
	2.8nm,0.7s,baz=117,slow=7.2,SNR=5.7						
ARCES				LR	LR	11 03 57.9	
	comp=Z,57nm,20.4s,baz=72,slow=38						
GERES	GERESS Array B	50.62	308	P	P	10 43 49.5	+0.5
	0.5nm,0.6s,baz=66,slow=7.6,SNR=4.8						
NB2	NORSAR Subarra	50.82	324	P	P	10 43 51.9	+1.6
	comp=Z,5.3nm,1.0s,baz=88,slow=7.9						
NOA	NORSAR Array B	50.82	324	P	P	10 43 48.7	-1.5
	comp=Z,2.5nm,0.8s,baz=90,slow=7.5,SNR=8.0						
NOA				LR	LR	11 06 51.5	
	comp=Z,30nm,19.0s,baz=260,slow=38						
TORD	Torodi Ar. Bea	73.86	275	P	P	10 46 23.4	-1.8
	comp=Z,2.3nm,0.8s,baz=50,slow=6.2,SNR=6.8						
WRA	Warramunga Arr	74.21	128	P	P	10 46 25.9	-1.1
	comp=Z,3.1nm,1.1s,baz=322,slow=5.2,SNR=15						
WRAB	Tennant Creek	74.22	128	eP	P	10 46 27.3	+0.3
	comp=Z,2.1nm,0.6s						
ILAR	Eielson Array	74.26	19	P	P	10 46 25.9	-0.7
	comp=Z,0.5nm,0.6s,baz=313,slow=5.3,SNR=3.0						
ASAR	Alice Springs	76.64	131	P	P	10 46 40.3	-0.6
	comp=Z,1.5nm,0.8s,baz=319,slow=5.6,SNR=21						
YKA	Yellowknife Ar	82.56	7	P	P	10 47 12.1	-0.3
	comp=Z,1.9nm,0.8s,baz=346,slow=5.1,SNR=4.4						
LPAZ	La Paz	146.87	295	PKPbc	PKPab	10 54 33.8	-0.9
	comp=Z,1.2nm,0.8s,baz=53,slow=4.4,SNR=2.6						

*IDC **04** 10:46:11.4±1.0, 1°.41S×122°.34E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.7/22, mbtmp3.6/6, ML4.1/1, Error ellipse: s-maj=38.3km s-min=20.6km az=73.0*

*DJA **04** 10:46:11.9±0.2, 1°S±3°×12°2E±°, h10km, M4.1/18, mb4.4/2, MLv4.0/18*

*ISCJB **04** 10:46:12.1±0.4, 1°.18S±0°.04×122°.38E±0°.04, h26km, mb3.4/6, Error ellipse: s-maj=7.0km s-min=4.5km az=144.1*

ISC 04 10:46:13.8±0.8**, 1°.16S**±0°.05×**122°.40E**±0°.05**, h26km, n23, σ1s13**/23**, mb3.5**/6**, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.39	73	P	Pb	10 46 20.5	-1.8
LUWI				S	Sb	10 46 27.2	-0.9
APSI	Ampana	0.79	288	P	Pb	10 46 24.6	-4.3
MRSI	Marisa	1.69	344	P	Pn	10 46 40.6	-1.0
KMSI	Cibinong	2.34	43	P	Pn	10 46 50.8	+0.2
PCI	Palu	2.57	276	P	Pn	10 46 53.6	-0.2
KDI	Kendari	2.79	175	P	Pn	10 46 56.2	-0.6
MPSI	Mapaga	2.91	301	P	Pn	10 46 57.4	-1.0
TTSI	Tana Toraja	3.19	234	P	Pn	10 47 01.9	-0.3
TTSI				S	Sn	10 47 40.4	+1.0
SANI	Sanana	3.70	104	P	Pn	10 47 09.8	+0.5
SPSI	Sidrap Palu	3.83	223	P	Pn	10 47 10.7	-0.4
KAPI	Kappang	4.65	215	Pn	Pn	10 47 21.7	-0.8
	10nm,0.3s,baz=38,slow=5.7,SNR=12						
KAPI				Sn	Sn	10 48 13.2	-2.4
	2.4nm,0.3s,baz=78,slow=19,SNR=4.1						
BKSI	Bulukumba	4.72	209	P	Pn	10 47 23.0	-0.3
BKSI				S	Sn	10 48 18.4	+1.2
SGKI	Sangatta, Kali	4.83	277	P	Pn	10 47 24.1	-0.8
BSSI	Bau Bau, Buton	5.30	201	P	Pn	10 47 31.0	-0.4
	76nm,1.4s,0.3nm						
TNTI	Ternate	5.33	69	P	Pn	10 47 31.8	+0.1
WRA	Warramunga Arr	22.02	149	P	P	10 51 05.6	-0.9
	1.2nm,0.8s,baz=326,slow=9.6,SNR=5.9						
ASAR	Alice Springs	25.00	154	P	P	10 51 35.2	-0.6
	0.4nm,0.6s,baz=340,slow=11,SNR=9.6						
CMAR	Chiang Mai Arr	30.20	311	P	P	10 52 24.1	+1.7
	0.4nm,0.4s,baz=129,slow=8.7,SNR=4.1						
MJAR	Matsushiro Arr	40.29	20	P	P	10 53 53.3	+4.4
	0.8nm,0.7s,baz=187,slow=6.1,SNR=2.9						
SONM	Songino Array	50.75	346	P	P	10 55 15.5	+3.8
	1.0nm,0.9s,baz=151,slow=6.6,SNR=3.5						
MKAR	Makanchi Array	59.28	329	P	P	10 56 21.3	+8.0
	0.1nm,0.5s,baz=104,slow=6.1,SNR=2.3						
TORD	Torodi Ar. Bea	120.12	284	PKP	PKPdf	11 05 04.5	+1.1
	0.3nm,0.8s,baz=70,slow=0.9,SNR=2.8						
TXAR	Lajitas Array	127.99	53	PKP	PKPdf	11 05 20.2	+2.0
	0.3nm,0.7s,baz=304,slow=4.5,SNR=4.5						

*ISCJB **04** 10:53:04.0±1.2, 44°.10N±0°.08×147°.4E±0°.1, h57km±12km, Error ellipse: s-maj=18.3km s-min=6.5km az=43.7*

*SKHL **04** 10:53:05.8±0.1, 44°.15N×147°.43E, h49km±4km, mb4.6/3*

*JMA **04** 10:53:05.2±0.2, 43°.94N×147°.42E, h45km, M3.6*

ISC 04 10:53:03.8±2.2**, 44°.06N**±0°.09×**147°.6E**±0°.1**, h52km**±20km**, n14, σ0s90**/24**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.55	250	eP	Pn	10 53 16.5	+0.7
SHO				AMB	AMB	10 53 20.9	
	90nm,0.1s						
SHO				eS	Sn	10 53 24.5	+0.1
SHO				A	A	10 53 24.8	
	2μm,0.3s						
KUR	Kuril'sk	1.20	11	eP	Pn	10 53 24.5	+0.3
KUR				AMB	AMB	10 53 26.6	
	70nm,0.1s						
KUR				AMB	AMB	10 53 26.6	
	28nm,0.1s						
KUR				eS	Sn	10 53 38.6	-0.8
KUR				A	A	10 53 39.9	
	630nm,0.3s						
KUR				A	A	10 53 39.9	
	580nm,0.3s						
YUK	Yuzh-Kuril'sk	1.22	269	eP	Pn	10 53 24.3	-0.2
YUK				AMB	AMB	10 53 25.6	
	92nm,0.2s						
YUK				AMB	AMB	10 53 25.6	
	134nm,0.2s						
YUK				AMB	AMB	10 53 25.6	
	417nm,0.2s						
YUK				eS	Sn	10 53 38.2	-1.7
YUK				A	A	10 53 40.6	
	164nm,0.2s						
YUK				A	A	10 53 40.6	
	506nm,0.2s						
NEM2	Nemuro 2	1.48	243	P	Pn	10 53 28.1	0.0
NEM2				eS	Sn	10 53 44.7	-1.6
JRA	Rausu	1.76	267	P	Pn	10 53 32.7	+0.9
JRA				eS	Sn	10 53 53.0	0.0
JNK	Nakash	2.10	258	P	Pn	10 53 37.3	+0.7
JNK				eS	Sn	10 54 00.6	-0.9
JAK	Akkeshi	2.33	244	P	Pn	10 53 39.8	+0.1
JAK				eS	Sn	10 54 06.1	-1.0
JTKR	Abashiri--Toko	2.63	269	P	Pn	10 53 44.4	+0.7
JAR	Ashorobuto	2.85	256	P	Pn	10 53 48.0	+1.3
JAR				eS	Sn	10 54 20.2	+0.4
JOB	Onbets	2.94	248	P	Pn	10 53 49.2	+1.2
JOB				eS	Sn	10 54 21.6	-0.5
JMP	Maruseppu	3.02	270	P	Pn	10 53 50.0	+0.8
JCH	Churui	3.38	246	P	Pn	10 53 54.4	+0.4
JCH				eS	Sn	10 54 31.9	-1.0
JNBK	Urakawa-nobuka	3.93	245	P	Pn	10 54 02.4	+0.8
YSS	Yuzh-Sakhalins	4.44	312	eP	Pn	10 54 09.2	+0.6

IDC 04 11:02:03.3±2.1**, 2°.05N**×**96°.31E, h0km, mb3.6**/3**, mb1 3.8**/5**, mb1mx3.5**/27**, mbtmp3.6**/5**, ML3.8**/2**, 1C, Error ellipse: s-maj=44.6km s-min=26.0km az=42.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.72	74	Pn	Pn	11 02 49.0	+0.6
	1.8nm,0.3s,baz=258,slow=9.3,SNR=7.3						
PSI				Sn	Sn	11 03 20.7	-1.4
	2.4nm,0.3s,baz=153,slow=18,SNR=5.9						
CMAR	Chiang Mai Arr	16.51	9	Pn	Pn	11 05 57.0	+0.6
	0.5nm,0.3s,baz=198,slow=11,SNR=3.6						
H08S2	Diego Garcia H	25.64	248	T	T	11 34 04.7	
	baz=68,slow=76,SNR=41						
H08S3	Diego Garcia H	25.64	248	T	T	11 34 04.1	
	baz=68,slow=76,SNR=45						
H08S1	Diego Carcia H	25.65	248	T	T	11 34 03.6	
	baz=68,slow=76,SNR=44						
H01W3	Cape Leeuwin H	40.37	157	T	T	11 52 39.6	
	baz=333,slow=76,SNR=5.9						
H01W2	Cape Leeuwin H	40.38	157	T	T	11 52 40.7	
	baz=333,slow=76,SNR=5.3						
H01W1	Cape Leeuwin H	40.39	157	T	T	11 52 45.4	
	baz=333,slow=76,SNR=4.8						
WRA	Warramunga Arr	43.24	122	P	P	11 10 06.5	-0.3
	1.0nm,1.1s,baz=302,slow=9.1,SNR=3.5						
MKAR	Makanchi Array	46.21	347	P	P	11 10 29.8	-0.2
	1.3nm,0.8s,baz=169,slow=8.0,SNR=9.7						
SONM	Songino Array	46.43	9	P	P	11 10 31.7	-0.2
	0.3nm,0.5s,baz=209,slow=8.8,SNR=2.8						
SYO	Syowa Base	80.54	198	⇑eP	P	11 14 24.6	+7.6

TIF 04 11:22:24.7, 41°.43N×**44°.45E, h0km**±1km**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZR	Kazreti	0.06	204	P	Pg	11 22 26.2	+0.3
KZR				S	Sg	11 22 27.3	+0.6
TBLG	Delisi	0.37	36	P	Pb	11 22 33.9	-0.3
TBLG				S	Sb	11 22 40.2	-0.4
DGRG	David-gareji	0.70	88	P	Pb	11 22 40.4	+0.6
DGRG				S	Sn	11 22 52.0	-1.4

MAN 04 11:23:21, 9°.23N×**125°.36E, h1km, mb4.4, ML3.3, MS3.1, 3C, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.36	135	eP	Pg	11 23 26.9	-1.1
SCPH	Surigao	0.56	13	⇑eP	Pg	11 23 32.7	+0.9
SCPH				eS	Sg	11 23 40.0	+0.8
CGP	Cagayan de Oro	1.01	221	⇑iP	Pb	11 23 41.8	+0.4
CGP				i S	Sn	11 23 58.4	+1.1
MSLP	Maasin	1.03	331	eP	Pg	11 23 41.1	+0.4
MSLP				eS	Sn	11 23 58.0	+0.4
BUKP	Musuan	1.37	193	eP	Pb	11 23 47.9	+0.3
BUKP				eS	Sn	11 24 08.2	+1.9
BIPH	Bislig	1.43	136	⇑eP	Pn	11 23 47.5	-0.6
BIPH				eS	Sg	11 24 04.1	-2.9
PAGZ	Pagadian	2.39	235	eP	Pb	11 24 04.0	-0.9

*ATH **04** 11:24:27.4, 40°.42N×21°.86E, h5km, MD3.2/10*

*CSEM **04** 11:24:27.5±0.2, 40°.42N×21°.88E, h1km±1km, ML1.8, Error ellipse: s-maj=4.0km s-min=3.3km az=156.0*

THE 04 11:24:27.8, 40°.42N×**21°.84E, h3km**±7km**, ML1.8**/6**, Error ellipse: s-maj=7.8km s-min=0.4km az=209.0, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.12	207	P	Pg	11 24 30.4	0.0
KZN				S	Sg	11 24 32.1	-0.1
KZN	Kozani	0.12	207	ePG	Pg	11 24 30.4	0.0
KZN	Kozani	0.12	207	P	Pg	11 24 30.4	0.0
KZN				S	Sg	11 24 32.1	-0.1
FNA	Florina	0.51	316	P	Pg	11 24 37.7	0.0
FNA	Florina	0.51	316	ePB	Pg	11 24 37.6	-0.1
FNA				eSB	Sg	11 24 45.2	+0.8
FNA	Florina	0.51	316	ePb	Pg	11 24 37.6	-0.1
FNA				eSb	Sg	11 24 45.2	+0.8
LIT	Litokhoron	0.59	122	P	Pg	11 24 38.8	-0.3
LIT				S	Sg	11 24 47.6	+0.8
LIT	Litokhoron	0.59	122	ePB	Pg	11 24 38.8	-0.3
LIT	Litokhoron	0.59	122	P	Pg	11 24 38.8	-0.3
LIT				S	Sg	11 24 47.6	+0.8
NEST	Nestorio	0.61	270	P	Pg	11 24 39.6	0.0
NEST				S	Sg	11 24 47.7	+0.1
NEST	Nestorio	0.61	270	ePB	Pg	11 24 39.8	+0.2
NEST				eSB	Sg	11 24 48.3	+0.7
NEST	Nestorio	0.61	270	P	Pg	11 24 39.6	0.0
NEST				S	Sg	11 24 47.7	+0.1
NEST				eSb	Sb	11 24 48.3	-1.9
GRG	Griva	0.69	38	P	Pg	11 24 40.4	-0.6
GRG				S	Sg	11 24 50.6	+0.6
GRG	Griva	0.69	38	ePB	Pg	11 24 40.3	-0.7
GRG				eSB	Sg	11 24 50.4	+0.4
GRG	Griva	0.69	38	P	Pg	11 24 40.4	-0.6
GRG				eSb	Sg	11 24 50.4	+0.4
THL	Klokotos Trika	0.86	171	P	Pg	11 24 43.8	-0.5
THL				S	Sb	11 24 56.6	-0.7
THL	Klokotos Trika	0.86	171	ePB	Pg	11 24 44.5	+0.2
THL				eSB	Sg	11 24 56.4	+0.9
THL	Klokotos Trika	0.86	171	P	Pg	11 24 43.8	-0.5
THL	Klokotos Trika	0.86	171	ePb	Pg	11 24 44.5	+0.2
THL				eSb	Sg	11 24 56.4	+0.9
HORT	Hortiatis	0.97	79	ePB	Pg	11 24 46.0	-0.6
HORT				eSB	Sg	11 24 59.1	-0.3
KNT	Kendrikon	1.09	47	P	Pg	11 24 47.9	-0.9
KNT				S	Sb	11 25 04.4	+0.4
KNT	Kendrikon	1.09	47	ePN	Pg	11 24 47.7	-1.1
KNT				eSB	Sg	11 25 02.7	-0.3
KNT	Kendrikon	1.09	47	P	Pg	11 24 47.9	-0.9
KNT				eSb	Sg	11 25 02.7	-0.3
KNT				S	Sb	11 25 04.4	+0.4
SOH	Sokhos	1.22	70	ePB	Pg	11 24 50.6	-0.7
SOH				eSB	Sg	11 25 07.2	+0.1
SOH	Sokhos	1.22	70	ePb	Pg	11 24 50.6	-0.7
SOH				eSb	Sg	11 25 07.2	+0.1
PLG	Polygyros	1.22	92	ePB	Pg	11 24 50.0	-1.4
PLG	Polygyros	1.22	92	ePb	Pg	11 24 50.0	-1.4
MAKR	Makrakomi, Fth	1.42	171	ePB	Pn	11 24 54.4	-0.1
MAKR	Makrakomi, Fth	1.42	171	ePb	Pn	11 24 54.4	-0.1
AGG	Agios Georgios	1.44	165	ePB	Pb	11 24 55.4	0.0
XOR	Xorichti	1.48	135	ePG	Pn	11 24 54.7	-0.6
XOR				eSB	Sg	11 25 15.7	+0.3
XOR	Xorichti	1.48	135	ePg	Pn	11 24 54.7	-0.6
XOR				eSb	Sg	11 25 15.7	+0.3
PAIG	Paliouri	1.49	109	ePG	Pn	11 24 54.9	-0.5
PAIG				eSB	Sg	11 25 15.7	0.0
PAIG	Paliouri	1.49	109	ePg	Pn	11 24 54.9	-0.5
PAIG				eSb	Sg	11 25 15.7	0.0
OUR	Ouranopolis	1.64	92	ePB	Pb	11 24 58.0	-0.6
OUR				eSB	Sg	11 25 20.7	+0.3
OUR	Ouranopolis	1.64	92	ePb	Pb	11 24 58.0	-0.6
OUR				eSb	Sg	11 25 20.7	+0.3
PDO	Prodromos	1.89	196	ePN	Pb	11 25 03.3	+0.4
PDO	Prodromos	1.89	196	ePn	Pb	11 25 03.3	+0.4

*NIED **04** 11:31:00, 23°.20N×121°.50E, h44km, Mw3.9 Best double couple: M0 9.42000×10^14 NP1: φs324.00000°, δ35.00000°, λ31.00000°. NP2: φs208.00000°, δ73.00000°, λ121.00000°.*

*IDC **04** 11:31:32.0±1.2, 22°.98N×121°.40E, h0km, mb3.8/6, mb1 3.8/7, mb1mx3.6/26, mbtmp3.8/7, ML3.4/1, MS3.2/5, Ms1 3.2/5, ms1mx2.8/50, Error ellipse: s-maj=74.3km s-min=18.9km az=66.0*

*NEIC **04** 11:31:33.7±0.7, 23°.07N×121°.77E, h10km, mb4.2/2, Error ellipse: s-maj=10.4km s-min=9.8km az=76.0*

*JMA **04** 11:31:37.3±0.1, 23°.19N×121°.53E, h42km±2km, M3.9*

*ISCJB **04** 11:31:37.6±0.2, 23°.16N±0°.02×121°.60E±0°.02, h48km±3km, mb3.8/8, MS3.4/5, Error ellipse: s-maj=3.0km s-min=2.1km az=139.3*

*TAP **04** 11:31:38.3, 23°.21N×121°.53E, h36km, ML4.3, B*

ISC 04 11:31:37.8±0.8**, 23°.17N**±0°.02×**121°.59E**±0°.02**, h37km**±1km**, n106, σ1s32**/163**, mb3.8**/8**, MS3.2**/5**, 17C-5D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHKT	Chengkung	0.22	252	⇓P	Pn	11 31 45.0	-1.7
	baz=228						
CHKT				S	Sn	11 31 49.9	-5.3
	baz=228						
TWF1	Yuli	0.33	304	⇓iP	Pn	11 31 46.0	-0.2
	baz=292						
YULB	Yu-li	0.35	309	ePg	Pn	11 31 46.0	-0.4
YULB				eSg	Sn	11 31 53.8	+0.7
EHY	Hungye	0.42	323	⇓iP	Pn	11 31 46.8	-0.3
	baz=316						
EHY				eS	Sn	11 31 54.7	+0.7
	baz=316						
ELDTW	Lidau	0.53	272	⇑iP	Pn	11 31 48.1	-0.9
	baz=260						
TEGC	Jichi Village	0.54	355	eP	Pn	11 31 49.6	+0.5
	baz=9.0						
TEGC				eS	Sn	11 31 57.8	+0.9
	baz=9.0						
TTN	Taitung	0.58	225	P	Pn	11 31 49.9	+0.2
	baz=227						
TTN				S	Sn	11 31 59.7	+1.6
	baz=227						
TWG	Pinlang	0.59	234	⇑iP	Pn	11 31 49.1	-0.8
	baz=235						
TWG				eS	Sn	11 31 57.0	-1.3
	baz=235						
TWG	Pinlang	0.59	234	ePg	Pn	11 31 48.9	-1.0
TWG				eSg	Sn	11 31 57.3	-1.0
ESL	Shilin	0.66	347	eP	Pn	11 31 49.8	-1.0
	baz=342						
YUS	Yu-Shan	0.67	298	⇑iP	Pn	11 31 51.0	-0.4
	baz=298						
YUS				S	Sn	11 31 59.5	-1.2
	baz=298						
ESF	Shoufeng Towns	0.70	354	eP	Pn	11 31 51.8	+0.5
	baz=347						
WDT	Danda	0.72	324	⇓iP	Pn	11 31 51.3	-0.5
	baz=328						
STYT	Tauyuan	0.77	270	⇑iP	Pn	11 31 52.1	-0.1
	baz=264						
STYT				eS	Sn	11 32 01.4	-1.2
	baz=264						
ALS	Alishan	0.80	295	⇑iP	Pn	11 31 53.1	+0.3
	baz=294						
ALS				S	Sn	11 32 03.3	-0.4
	baz=294						
HWA	Hwalien	0.80	1	P	Pn	11 31 52.4	-0.2
	baz=18						
HWA				eS	Sn	11 32 04.9	+1.5
	baz=18						
ECL	Taimali	0.82	226	eP	Pn	11 31 51.8	-1.1
	baz=227						
SSLB	Suanglung	0.85	316	ePg	Pn	11 31 52.9	-0.4
SSLB				eSg	Sn	11 32 03.3	-1.3
TPUB	Ta-pu	0.90	279	ePg	Pn	11 31 54.2	+0.3
TPUB				eSg	Sn	11 32 06.3	+0.6
TWD	Chiawan	0.91	0	P	Pn	11 31 53.9	-0.2
	baz=353						
SGST	Jiashian	0.93	265	⇑iP	Pn	11 31 55.5	+1.0
	baz=260						
SGST				S	Sn	11 32 07.4	+0.8
	baz=260						
CHN4	Tsaushan	0.94	281	⇑iP	Pn	11 31 55.4	+0.9
	baz=278						
CHN4				S	Sn	11 32 08.0	+1.3
	baz=278						
CHN5	Tsauling	0.94	297	⇑iP	Pn	11 31 55.4	+0.8
	baz=296						
CHN5				S	Sn	11 32 07.5	+0.6
	baz=296						
SMLT	Sun Moon Lake	0.95	318	⇑iP	Pn	11 31 55.2	+0.4
	baz=325						
SMLT				S	Sn	11 32 06.3	-1.0
	baz=325						
CHN1	Nanshi	0.98	271	⇑iP	Pn	11 31 56.1	+1.1
	baz=267						
CHN1				S	Sn	11 32 09.2	+1.5
	baz=267						
SSD	Sandimen	0.98	245	eP	Pn	11 31 55.1	+0.1
	baz=238						
SSD				eS	Sn	11 32 08.7	+1.0
	baz=238						
TYC	Yuchr	1.00	317	⇑iP	Pn	11 31 55.9	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=329						
TYC				eS	Sn	11 32 08.0	0.0
	baz=329						
NACB	Ninganchiao	1.00	0	ePg	Pn	11 31 54.7	-0.7
NACB				eSg	Sn	11 32 06.6	-1.6
WHF	Hehuan Shan	1.02	343	P	Pn	11 31 55.4	-0.6
	baz=356						
TWK	Hsinying	1.02	276	⇑P	Pn	11 31 56.4	+0.8
	baz=271						
TWK				eS	Sn	11 32 09.9	+1.1
	baz=271						
TAW	Tawu	1.03	219	eP	Pn	11 31 55.2	-0.6
	baz=213						
EAST	Anshuo	1.04	221	eP	Pn	11 31 55.5	-0.4
	baz=209						
WGK	Gukeng	1.08	299	eP	Pn	11 31 57.6	+1.2
	baz=310						
WGK				eS	Sn	11 32 11.9	+1.9
	baz=310						
CHN2	Minshiung	1.09	290	eP	Pn	11 31 57.4	+0.9
	baz=272						
CHN2				eS	Sn	11 32 11.6	+1.3
	baz=272						
WNT	Mingjian	1.09	310	⇑eP	Pn	11 31 57.7	+1.1
	baz=311						
WNT				eS	Sn	11 32 11.6	+1.1
	baz=311						
SGLT	Jiouru	1.11	247	eP	Pn	11 31 57.8	+1.0
	baz=242						
CHY	Chiayi	1.12	287	eP	Pn	11 31 57.8	+0.8
	baz=284						
CHY				eS	Sn	11 32 12.6	+1.4
	baz=284						
TWM1	Shoushan	1.13	253	eP	Pn	11 31 59.6	+2.4
	baz=248						
CHN3	Shinhua	1.14	266	eP	Pn	11 31 58.9	+1.8
	baz=261						
CHN3				eS	Sn	11 32 16.4	+5.0
	baz=261						
TWT	Tachien	1.15	341	⇑iP	Pn	11 31 57.9	+0.5
	baz=345						
TWT				S	Sn	11 32 10.8	-1.2
	baz=345						
SCZT	Fangliau	1.20	229	eP	Pn	11 31 59.1	+1.1
	baz=214						
SCZT				eS	Sn	11 32 15.3	+2.2
	baz=214						
ENA	Nanau	1.26	6	eP	Pn	11 31 58.9	0.0
	baz=360						
TAI1	Yung-k'ang	1.26	264	eP	Pn	11 32 00.3	+1.4
	baz=260						
NNS	Nan Shan	1.28	351	eP	Pn	11 31 59.4	+0.1
	baz=7.0						
CHN8	Yiju	1.28	278	eP	Pn	11 32 00.3	+1.1
	baz=274						
CHN8				eS	Sn	11 32 16.6	+1.4
	baz=274						
TCU	Taichung	1.29	319	eP	Pn	11 32 01.0	+1.7
	baz=308						
TCU				eS	Sn	11 32 16.2	+1.0
	baz=308						
SCLT	Jiali	1.29	271	eP	Pn	11 32 00.3	+1.1
	baz=266						
SCLT				eS	Sn	11 32 16.8	+1.6
	baz=266						
WSF	Szhu	1.34	291	eP	Pn	11 32 00.6	+0.6
	baz=288						
WSF				eS	Sn	11 32 17.3	+0.7
	baz=288						
WTCT	Ta-ch'eng	1.39	300	P	Pn	11 32 01.6	+0.9
	baz=298						
WTCT				eS	Sn	11 32 18.7	+0.9
	baz=298						
TWQ1	Liyutan	1.39	328	⇑iP	Pn	11 32 02.4	+1.6
	baz=332						
TWQ1				eS	Sn	11 32 19.1	+1.2
	baz=332						
TWP	Hsiaoliuchiu	1.40	234	eP	Pn	11 32 03.1	+2.3
	baz=230						
HEN	Hengchun	1.40	214	eP	Pn	11 32 02.3	+1.4
	baz=198						
HEN				eS	Sn	11 32 20.2	+2.2
	baz=198						
TSEB	Hengchuen, Pin	1.42	207	eP	Pn	11 32 01.7	+0.7
	baz=194						
TSEB				eS	Sn	11 32 19.3	+0.8
	baz=194						
TWK1	Hengchun	1.42	211	eP	Pn	11 32 01.4	+0.3
	baz=195						
TWK1				eS	Sn	11 32 18.7	+0.2
	baz=195						
TWC	Suao	1.45	9	P	Pn	11 32 02.3	+0.8
	baz=29						
TWC				eS	Sn	11 32 20.6	+1.2
	baz=29						
NSY	Sanyi	1.46	329	eP	Pn	11 32 03.3	+1.6
	baz=333						
NSY				eS	Sn	11 32 20.4	+0.9
	baz=333						
ENTT	Nioudou	1.46	359	eP	Pn	11 32 02.0	+0.3
	baz=6.0						
ENTT				eS	Sn	11 32 19.9	+0.2
	baz=6.0						
YHNB	Yeheng	1.51	352	ePn	Pn	11 32 03.1	+0.7
YHNB				eSn	Sn	11 32 22.1	+1.3
NSK	Sanguang	1.52	352	P	Pn	11 32 03.3	+0.8
	baz=359						
NSK				S	Sn	11 32 20.9	0.0
	baz=359						
TWE	Neicheng	1.55	2	eP	Pn	11 32 03.3	+0.4
	baz=9.0						
NSTT	Nanjuang	1.55	340	P	Pn	11 32 04.3	+1.3
	baz=345						
NSTT				eS	Sn	11 32 22.2	+0.3
	baz=345						
EGS		1.70	10	P	Pn	11 32 06.2	+1.3
	baz=27						
EGS				eS	Sn	11 32 29.8	+4.5
	baz=27						
HSN	Hsinchu	1.72	341	eP	Pn	11 32 06.9	+1.6
	baz=348						
HSN				eS	Sn	11 32 27.9	+1.9
	baz=348						
JYNG	Yonagunijimaku	1.78	44	P	Pn	11 32 07.3	+1.3
JYNG				S	Sn	11 32 28.4	+1.1
WDGT	Dungji	1.78	273	⇑iP	Pn	11 32 06.2	+0.2
	baz=269						
WDGT				eS	Sn	11 32 26.4	-1.0
	baz=269						
TATO	Taipei	1.80	357	ePn	Pn	11 32 07.0	+0.7
TWA	Mucha	1.80	360	eP	Pn	11 32 08.3	+2.0
	baz=7.0						
TWA				eS	Sn	11 32 29.1	+1.1
	baz=7.0						
YOJ	Yonaguni jima	1.83	45	P	Pn	11 32 08.2	+1.5
YOJ				S	Sn	11 32 29.7	+1.1
YOJ	Yonaguni jima	1.83	45	eP	Pn	11 32 08.0	+1.4
	baz=61						
YOJ				eS	Sn	11 32 29.3	+0.8
	baz=61						
YOJ	Yonaguni jima	1.83	45	ePn	Pn	11 32 06.3	-0.4
YOJ				eSn	Sn	11 32 30.4	+1.8
NCU	National Centr	1.83	348	eP	Pn	11 32 08.0	+1.2
	baz=355						
NCU				eS	Sn	11 32 29.8	+1.2
	baz=355						
TWB1	Santiao Chiao	1.87	11	eP	Pn	11 32 08.6	+1.4
	baz=32						
TWB1				eS	Sn	11 32 31.1	+1.6
	baz=32						
NWF	Wu-fen Shan	1.90	5	eP	Pn	11 32 09.2	+1.4
	baz=359						
NWF				eS	Sn	11 32 31.3	+0.8
	baz=359						
PNG	Penghu	1.92	282	⇑iP	Pn	11 32 08.2	+0.3
	baz=265						
PNG				eS	Sn	11 32 30.4	-0.4
	baz=265						
TWS1	Kuangyinshan	1.93	355	eP	Pn	11 32 09.4	+1.3
	baz=14						
TWS1				eS	Sn	11 32 32.4	+1.3
	baz=14						
HATJ	Hateruma jima	2.21	66	P	Pn	11 32 13.3	+1.3
HATJ				eS	Sn	11 32 38.9	+0.8
IRIF	Iriomote-Funau	2.27	59	P	Pn	11 32 14.3	+1.5
IRIF				eS	Sn	11 32 41.9	+2.3
JKRS	Kuro-shima	2.46	64	P	Pn	11 32 16.9	+1.6
JKRS				eS	Sn	11 32 45.3	+1.2
JIJ	Ishigaki jima	2.62	63	P	Pn	11 32 18.4	+0.8
JIJ				S	Sn	11 32 48.2	0.0
JISG	Ishigakijimahi	2.86	60	P	Pn	11 32 21.5	+0.6
JISG				S	Sn	11 32 53.8	-0.2
KNM	Kinmen	3.15	294	eP	Pn	11 32 24.7	-0.2
	baz=290						
JTJ	Tarama	3.20	62	P	Pn	11 32 26.7	+1.1
JTJ				S	Sn	11 33 02.4	0.0
QZH	Quanzhou	3.26	303	⇓iPn	Pn	11 32 25.7	-0.7
QZH				Sn	Sn	11 33 01.5	-2.5
QZH				smax	smax		
	comp=N,320nm,1.0s						
QZH				smax	smax		
	comp=E,170nm,0.6s						
JIRB	Irabujima	3.67	63	P	Pn	11 32 32.6	+0.6
JIRB				eS	Sn	11 33 14.0	+0.1
JOGS	Gusukube	3.83	65	P	Pn	11 32 35.5	+1.3
JOGS				eS	Sn	11 33 19.1	+1.1
KSAR	Wonju Array Be	15.22	19	Pn	P	11 35 12.2	-2.3
KSRS	Korea Array	15.24	19	Pn	P	11 35 12.2	-2.5
	comp=E,0.1nm,0.3s,baz=196,slow=12,SNR=3.1						
KSRS				LR	LR	11 42 09.5	
	comp=E,30nm,18.6s,baz=194,slow=41						
CD2	Chengdu	17.65	300	eP	P	11 35 41.1	-0.4
CMAR	Chiang Mai Arr	21.68	262	LR	LR	11 45 07.2	
	comp=E,42nm,18.3s,baz=175,slow=38						
GUMO	Guam	24.02	109	LR	LR	11 45 21.4	
	comp=E,24nm,21.1s,baz=351,slow=34						
SONM	Songino Array	27.44	337	P	P	11 37 20.5	+0.2
	comp=E,0.5nm,0.7s,baz=152,slow=9.4,SNR=3.0						
SONM				LR	LR	11 49 26.3	
	comp=E,59nm,19.6s,baz=92,slow=39						
MK31	Makanchi Array	39.33	317	eP	P	11 39 03.9	+0.5
MKAR	Makanchi Array	39.33	317	P	P	11 39 03.5	+0.1
	comp=E,1.1nm,0.7s,baz=114,slow=11,SNR=11						
MKAR				LR	LR	11 55 34.8	
	comp=E,532nm,18.2s,baz=200,slow=37						
ZALV	Zalesovo Beam	41.30	328	P	P	11 39 18.6	-1.0
	comp=E,1.3nm,0.3s,baz=108,slow=9.3,SNR=4.2						
H11N1	WAKE ISLAND Hy	42.18	86	T	T	12 24 45.2	
	baz=283,slow=75,SNR=38						
H11N2	WAKE ISLAND Hy	42.18	86	T	T	12 24 46.0	
	baz=283,slow=75,SNR=57						
H11N3	WAKE ISLAND Hy	42.19	86	T	T	12 24 47.0	
	baz=283,slow=75,SNR=49						
H11S3	WAKE ISLAND Hy	42.28	88	T	T	12 24 55.2	
	baz=284,slow=74,SNR=60						
H11S1	WAKE ISLAND Hy	42.29	88	T	T	12 24 54.6	
	baz=284,slow=74,SNR=25						
H11S2	WAKE ISLAND Hy	42.30	88	T	T	12 24 54.6	
	baz=284,slow=74,SNR=28						
WRAB	Tennant Creek	44.61	163	eP	P	11 39 46.0	-0.7
	comp=E,3.9nm,0.9s						
WRA	Warramunga Arr	44.62	163	P	P	11 39 44.6	-2.2
	comp=E,0.8nm,0.7s,baz=346,slow=8.6,SNR=7.9						
ASAR	Alice Springs	48.07	165	P	P	11 40 12.9	-0.9
	comp=E,0.2nm,0.4s,baz=336,slow=6.9,SNR=7.2						
BVAR	Borovoye Array	48.69	321	P	P	11 40 18.1	-0.3
	comp=E,0.4nm,0.3s,baz=104,slow=12,SNR=3.2						
PPLA	Purkeypile	67.94	30	eP	P	11 42 30.8	-2.0
	comp=E,0.9nm,0.5s						
HFS	Hagfors	78.63	331	LR	LR	12 19 34.6	
	comp=E,66nm,18.2s,baz=93,slow=37						

ISCJB ***04*** *11:41:10.1±0.7, 32°.40N±0°.05×115°.48W±0°.04, h14km±7km, Error ellipse: s-maj=8.1km s-min=5.6km az=9.0*
MEX ***04*** *11:41:11.0±0.7, 32°.28N×115°.33W, h22km, MD3.5*
ECX ***04*** *11:41:11.3±0.6, 32°.41N×115°.48W, h4km, MD2.3, ML2.5*
ISC 04 11:41:10.1±1.0**, 32°.40N**±0°.04×**115°.50W**±0°.04**, h15**km±11km**, n18,** σ0s**47**/23**, 3C-7D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.16	83	eP	Pg	11 41 14.4	+0.2
CPBX				eS	Sg	11 41 16.6	-0.3
CPBX				IAML		11 41 17.6	
	comp=N,5μm,0.2s						
CPBX				e		11 41 17.6	
MBIG	Mexicali	0.25	88	eP	Pg	11 41 15.6	0.0
MBIG				iS	Sg	11 41 18.8	-0.4
SGL	Mount Signal	0.32	322	⇓iP	Pg	11 41 16.9	+0.2
ERPC	Ernies Place	0.37	338	⇓iP	Pb	11 41 18.5	+0.1
WESC	Westside Schoo	0.41	331	⇓iP	Pb	11 41 19.0	-0.2
YUH	Yuha Desert	0.44	305	⇓iP	Pg	11 41 18.9	0.0
COK	Cook Ranch	0.49	337	⇓iP	Pb	11 41 20.5	0.0
RMX	La Rumorosa	0.53	293	ePn	Pg	11 41 20.7	0.0
RMX				eS	Sg	11 41 28.0	+0.1
RMX				IAML		11 41 28.5	
	comp=N,254nm,0.1s						
RDX	Rancho Dawling	0.60	219	⇑iP	Pb	11 41 22.1	-0.4
CRR	Carrizo Plain	0.63	321	⇓iP	Pg	11 41 22.6	+0.1
CBX	Cerro Bola	0.99	265	eP	Pb	11 41 28.9	-0.2
CBX				iS	Sb	11 41 41.7	-0.4
CBX	Cerro Bola	0.99	265	⇑eP	Pb	11 41 29.2	+0.1
CBX				eS	Sb	11 41 42.3	+0.2
CBX				IAML		11 41 42.5	
	comp=E,221nm,0.2s						
CBX				⇓e		11 41 42.5	
ECBX	El Chinero	1.00	158	eP	Pb	11 41 28.8	-0.3
BAR	Barrett	1.03	286	eP	Pb	11 41 29.6	-0.2
ECNX	Esteban Cantu	1.19	232	ePn	Pb	11 41 32.3	-0.2
PBX	Punta Banda	1.23	238	eP	Pg	11 41 33.4	-0.5
SDRC	San Diego Road	1.27	286	eP	Pb	11 41 33.5	-0.2
SPX	San Pedro Mart	1.35	179	⇑e	Sg	11 41 55.4	+1.7
SPX				IAML		11 41 55.4	
	comp=N,56nm,0.1s						

BJI ***04*** *11:49:36.2, 36°.54N×69°.74E, h206km, mb5.1/58, mB4.8/33*
MOS ***04*** *11:49:39.7±0.9, 36°.51N×70°.18E, h215km, mb5.2/49, Error ellipse: s-maj=5.1km s-min=3.5km az=104.6*
ISCJB ***04*** *11:49:39.4±0.2, 36°.52N±0°.01×70°.16E±0°.01, h210km±2km, mb5.0/264, Error ellipse: s-maj=2.3km s-min=1.8km az=25.3*
NEIC ***04*** *11:49:41.6±0.1, 36°.50N×70°.17E, mb5.0/94, MW5.1, Error ellipse: s-maj=3.8km s-min=3.1km az=201.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^{16}Nm; M_{rr}2.29; $M_{\theta\theta}$-2.96; $M_{\phi\phi}$0.67; $M_{r\theta}$4.17; $M_{\theta\phi}$-2.25; $M_{\phi r}$-1.12; Best double couple: $M_0$5.60000×10^{16} NP1:ϕ_s97.00000°, δ76.00000°, λ119.00000°. NP2:ϕ_s211.00000°, δ32.00000°, λ27.00000°. Principal axes: T 5.5100, Plg50.0000°, Azm39.0000°; N 0.1000, Plg28.0000°, Azm269.0000°; P -5.6100, Plg25.0000°, Azm164.0000°;*
NEIC Felt at Lahore, Pakistan.
GCMT ***04*** *11:49:41.6±0.3, 36°.55N×69°.97E, h214km±2km, MW5.1/99, Moment Tensor Solution. s46,c55; s99,c150; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.85±.15; $M_{\theta\theta}$-2.02±.19; $M_{\phi\phi}$0.16±.17; $M_{r\theta}$5.28±.13; $M_{\theta\phi}$-0.75±.18; $M_{\phi r}$-0.82±.13; Best double couple: $M_0$5.73400×10^{16} NP1:ϕ_s97.00000°, δ81.00000°, λ100.00000°. NP2: ϕ_s230.00000°, δ14.00000°, λ43.00000°. Principal axes: T 5.7570, Plg53.0000°, Azm19.0000°; N -0.0500, Plg10.0000°, Azm275.0000°; P -5.7120, Plg35.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***04*** *11:49:41.9±0.6, 36°.48N×70°.21E, h226km±5km, mb4.7/38, mb1 4.8/43, mb1mx4.8/43, mbtmp5.3/43 Error ellipse: s-maj=7.4km s-min=5.4km az=7.0*
SZGRF ***04*** *11:49:42.4, 36°.84N×70°.55E, h224km, mb4.9, Hindu Kush, Afghanistan, region*
NNC ***04*** *11:49:44.4±0.9, 36°.92N×70°.05E, h211km±6km, mb4.7, mpv5.6, Error ellipse: s-maj=10.4km s-min=5.3km az=161.0*
ISC 04 11:49:40.8±0.2**, 36°.52N**±0°.03×**70°.19E**±0°.02**, h215**km±1km**, h214**km**:pP-P, n846,** σ**1s38**/1049**, mb5.1**/275**, 103C-77D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	Kabul	2.19	206	ePN	Pn	11 50 22.0	-0.6
KBL				eS	S	11 50 52.7	-2.2
KBL	Kabul	2.19	206	ePn	Pn	11 50 22.0	-0.6
KBL				eS	S	11 50 52.7	-2.2
DZET	Dzherino	2.53	335	⇓P	Pn	11 50 25.1	-0.9
	3μm,0.4s						
DZET				⇑S	S	11 50 57.1	-4.0
	5μm,0.9s						
DZET	Dzherino	2.53	335	PN	Pn	11 50 25.1	-0.9
DZET				pmax	pmax		
	comp=Z,3μm,0.4s						
CEP	Cherat	3.04	152	⇑P	Pn	11 50 32.6	+0.7
CEP				S	S	11 51 11.0	-0.4
CHCP	Chirah Chowk	3.81	138	⇑P	Pn	11 50 42.0	+1.1
THW	Thamme Wali	3.93	161	⇑P	Pn	11 50 42.4	0.0
SFK	Sufi-Kurgan	4.35	36	⇓P	Pn	11 50 47.8	+0.1
	comp=Z,912nm,0.5s						
SFK				⇑S	S	11 51 39.7	-0.4
	comp=Z,6μm,0.6s						
SFK	Sufi-Kurgan	4.35	36	PN	Pn	11 50 47.8	+0.1
SFK				S	S	11 51 39.7	-0.4
SFK				pmax	pmax		
	comp=Z,912nm,0.5s						
SARP	Sargodha	5.03	155	⇓P	Pn	11 50 55.6	-0.4
KSH	Kashi	5.46	55	P	Pn	11 50 57.2	-4.3
KSH				S	S	11 51 51.5	-14
KSH				SMN			
	comp=Z,4μm,0.6s						
KSH				SME			
	comp=Z,4μm,0.5s						
MNAS	Manas	6.22	16	⇓P	Pn	11 51 10.2	-1.1
	comp=Z,672nm,1.2s						
MNAS				⇑S	S	11 52 19.1	-3.7
	comp=Z,3μm,1.3s						
MNAS	Manas	6.22	16	PN	Pn	11 51 10.1	-1.1
MNAS				pmax	pmax		
	comp=Z,672nm,1.2s						
AML	Almayashu	6.23	25	P	Pn	11 51 11.0	-0.5
	SNR=1482						
KK31	Karatay Array	6.58	2	⇑P	Pn	11 51 14.8	-0.9
	comp=Z,53nm,0.3s,baz=195,slow=14,SNR=1499						
KK31				⇓S	S	11 52 26.2	-4.9
	comp=Z,2μm,1.5s,baz=192,slow=21,SNR=8.9						
KK31	Karatay Array	6.58	2	ePN	Pn	11 51 14.8	-0.9
KK31				pmax	pmax		
	comp=Z,103nm,0.2s						
KKAR	Karatay Array	6.58	2	ePN	Pn	11 51 14.9	-0.8
KKAR				eS	S	11 52 27.9	-3.1
KKAR	Karatay Array	6.58	2	ePn	Pn	11 51 14.9	-0.8
KKAR				eS	S	11 52 27.9	-3.1
DHRM	DHARAMSHALA	6.61	128	eP	Pn	11 51 15.8	-0.6
DHRM				eS	S	11 52 28.1	-4.0
UCH	Uchtor	6.61	29	P	Pn	11 51 16.2	-0.3
	SNR=806						
EKS2	Erkin-Say	6.73	23	P	Pn	11 51 17.8	0.0
	SNR=178						
EKS2	Erkin-Say	6.73	23	ePN	Pn	11 51 17.7	0.0
EKS2				eS	S	11 52 32.7	-2.0
EKS2				pmax	pmax		
	comp=Z,482nm,0.7s						
EKS2	Erkin-Say	6.73	23	ePn	Pn	11 51 17.7	0.0
	comp=Z,482nm,0.7s						
EKS2				eS	S	11 52 32.7	-2.0
KZA	Kyzart	6.79	34	P	Pn	11 51 18.4	-0.4
	SNR=384						
AAK	Ala-Archa	6.95	27	Pn	Pn	11 51 20.0	-0.6
	comp=Z,4μm,0.4s						
AAK	Ala-Archa	6.95	27	P	Pn	11 51 20.8	+0.1
	SNR=327						
AAK	Ala-Archa	6.95	27	⇓P	Pn	11 51 20.5	-0.1
	comp=Z,344nm,0.7s						
AAK				⇓S	S	11 52 36.4	-3.5
	comp=Z,3μm,1.1s						
AAK	Ala-Archa	6.95	27	P	Pn	11 51 20.7	+0.1
	comp=Z,99nm,0.3s,baz=185,slow=5.9,SNR=232						
AAK				S	S	11 52 37.2	-2.7
	comp=Z,85nm,0.3s,baz=324,slow=23,SNR=23						
AAK	Ala-Archa	6.95	27	PN	Pn	11 51 20.5	-0.1
AAK				pmax	pmax		
	comp=Z,250nm,0.6s						
AAK	Ala-Archa	6.95	27	ePn	Pn	11 51 20.7	+0.1
AAK				S	S	11 52 37.2	-2.7
AAK				eS	S	11 52 39.9	-0.2
KBK	Karagaybulak	7.14	29	P	Pn	11 51 23.4	+0.3
	SNR=186						
FRU	Bishkek	7.17	27	⇓iPN	Pn	11 51 23.0	-0.3
FRU				iS	S	11 52 42.0	-2.9
FRU				pmax	pmax		
	comp=Z,860nm,1.9s						
FRU				smax	smax		
	comp=E,12μm,2.0s						
FRU				smax	smax		
	comp=E,2μm,2.0s						
CHMS	Chumysh	7.36	27	P	Pn	11 51 25.4	-0.3
	SNR=141						
ULHL	Ulahol	7.39	37	P	Pn	11 51 26.0	-0.3
	SNR=159						
USP	Ospenovka	7.51	25	P	Pn	11 51 27.2	-0.5
	SNR=102						
TKM2	Tokmak 2	7.63	31	P	Pn	11 51 29.1	-0.3
	SNR=73						
TKM2	Tokmak 2	7.63	31	⇓P	Pn	11 51 28.8	-0.6
	comp=E,464nm,1.0s						
TKM2				⇑S	S	11 52 52.7	-3.3
	comp=E,1μm,1.1s						
TKM2	Tokmak 2	7.63	31	PN	Pn	11 51 28.7	-0.6
TKM2				pmax	pmax		
	comp=Z,464nm,1.0s						
TKM2	Tokmak 2	7.63	31	ePn	Pn	11 51 29.1	-0.3
	comp=Z,226nm,0.4s						
TKM2				eS	S	11 52 57.6	+1.6
SMLA	Simla	7.91	131	iP	Pn	11 51 32.7	-0.2
SMLA				iS	S	11 52 56.9	-5.6
IMYA	Miami	8.13	272	eP	Pn	11 51 32.5	-3.5
KNDC	Almaty	8.47	36	P	Pn	11 51 41.5	+1.3
KNDC				S	S	11 53 13.2	-2.6
AAA	Alma-Ata	8.51	36	iPN	Pn	11 51 40.6	0.0
AAA				pmax	pmax		
	comp=Z,1μm,0.8s						
AAA				MLR	MLR		
	comp=Z,3μm,2.0s						
ISRO	Mashad	8.65	272	eP	Pn	11 51 38.7	-3.8
IMOG	Moghan	8.77	271	eP	Pn	11 51 41.5	-2.8
IPAY	Payeh	9.02	273	eP	Pn	11 51 44.7	-2.8
DDI	Dehra Dun	9.02	131	eP	Pn	11 51 47.3	-0.1
DDI				AMB	AMB	11 51 47.8	
	comp=Z,488nm,0.9s						
IAKL	Akhelmad	9.20	274	eP	Pn	11 51 47.1	-2.8
IDAH	Dahanechah	9.30	249	eP	Pn	11 51 50.6	-0.6
KHET	Khetri	9.67	149	eP	Pn	11 51 53.5	-2.1
KHET				eS	S	11 53 34.9	-9.3
PDGK	Podgornoye	9.85	44	⇑P	Pn	11 51 57.5	-0.3
	comp=Z,246nm,1.1s						
AYAN	Aya Nagar	9.92	142	ex	Pn	11 51 58.2	-0.6
AYAN				eS	S	11 53 41.6	-8.6
KALG	Kalgarh	10.03	132	eP	Pn	11 52 01.0	+0.8
KALG				ex	S	11 53 45.1	-7.7
ISHV	Shirvan	10.04	280	eP	Pn	11 51 58.4	-2.1
SONA	Sohna	10.09	143	ex	Pn	11 51 59.6	-1.4
SONA				eS	S	11 53 44.8	-10
IKOO	Kooshah	10.10	249	eP	Pn	11 51 59.7	-1.6
AGRA	Agra	11.36	142	ex	Pn	11 52 15.6	-1.7
AGRA				eS	S	11 54 14.3	-8.6
OTUK	Ortayu	11.82	7	⇑P	Pn	11 52 22.3	-0.6
	comp=Z,275nm,1.0s						
IBAF	Bafgh	13.08	252	eP	Pn	11 52 39.2	+0.2
IGLO	Ghaloghah	13.17	275	eP	Pn	11 52 41.2	+1.1
IANJ	Anjilo	13.23	270	eP	Pn	11 52 41.7	+0.8
BHJ	Bhuj	13.23	182	ex	Pn	11 52 40.1	-0.6
BHJ				AMB	AMB	11 52 45.7	
	comp=Z,448nm,0.1s						
IKIA	Kiasar	13.31	274	eP	P	11 52 43.4	-0.9
MK31	Makanchi Array	13.66	38	P	Pn	11 52 45.8	-0.1
	comp=Z,142nm,0.5s,baz=219,slow=8.5,SNR=2488						
MK31	Makanchi Array	13.66	38	eP	Pn	11 52 45.6	-0.4
MK31				eS	S	11 55 20.3	+3.1
MK31	Makanchi Array	13.66	38	ePn	Pn	11 52 45.6	-0.4
MK31				eS	S	11 55 20.3	+3.1
MKAR	Makanchi Array	13.66	38	P	Pn	11 52 45.6	-0.3
	comp=Z,12nm,0.3s,baz=221,slow=11,SNR=313						
MKAR				S	S	11 55 15.4	-1.8
	baz=225,slow=16,SNR=2.3						
MKAR				ScP	ScP	12 01 05.2	-1.3
	comp=Z,0.3nm,0.3s,baz=236,slow=2.4,SNR=3.6						
MKAR				PKiKP	PKiKP	12 05 47.5	-2.1
	comp=Z,0.1nm,0.3s,baz=238,slow=1.9,SNR=3.6						
MKAR	Makanchi Array	13.66	38	iP	Pn	11 52 45.5	-0.5
MKAR				pmax	pmax		
	comp=Z,200nm,0.7s						
IMEH	Mehriz	13.90	253	eP	Pn	11 52 49.0	-0.3
IFIR	Firoozkooh	14.13	272	eP	P	11 52 55.1	+1.7
KOLN	Koldanda	14.31	124	eP	Pn	11 52 53.5	-0.8
	comp=Z,285nm,0.4s						

IPRN Peran 14.39 274 eP P 11 52 56.6 +0.4
BHPL Bhopal 14.64 153 eP Pn 11 52 57.4 -0.7
IBND Bandar-abas 14.68 236 eP P 11 52 59.1 -0.2
AB31 Akbulak array 14.76 333 ⇑P Pn 11 52 57.8 -1.5
comp=Z,51nm,0.6s
AB31 Akbulak array 14.76 333 P Pn 11 52 57.8 -1.5
AB31 pmax pmax
comp=Z,28nm,0.3s
ABKAR Akbulak array 14.76 333 ePn Pn 11 52 57.9 -1.5
ABKAR eS S 11 55 44.1 +1.6
GKN Gorkha 14.87 121 eP Pn 11 53 00.7 -0.3
comp=Z,843nm,0.4s
IVRN Varamin 15.07 270 eP Pn 11 53 02.8 -0.6
WMQ Urumqi 15.22 56 P P 11 53 05.5 +0.3
WMQ S S 11 55 48.3 -5.2
WMQ PMZ
comp=Z,340nm,0.7s
WMQ PMZ
comp=Z,1μm,4.0s
WMQ LN
comp=Z,120nm,5.4s
WMQ LE
comp=Z,120nm,5.8s
WMQ LZ
comp=Z,31nm,14.5s
KURBB Kurchatov Arra 15.32 20 ⇑P Pn 11 53 05.0 -1.2
comp=Z,296nm,0.8s
KURBB Kurchatov Arra 15.32 20 P Pn 11 53 04.9 -1.2
comp=Z,7.0nm,0.3s,baz=210,slow=10,SNR=233
KURBB S S 11 55 46.8 -8.7
baz=212,slow=25,SNR=3.0
KURBB ScP ScP 12 01 06.9 -2.2
comp=Z,0.1nm,0.3s,baz=224,slow=2.3,SNR=3.8
KURBB PKiKP PKiKP 12 05 48.5 -1.5
comp=Z,0.1nm,0.3s,baz=237,slow=0.6,SNR=4.6
KURK Kurchatov 15.43 20 Pn P 11 53 06.4 -0.9
comp=Z,568nm,0.9s,SNR=54
KURK Kurchatov 15.43 20 ⇑P P 11 53 06.0 -1.2
comp=Z,157nm,1.5s
KURK Kurchatov 15.43 20 eP P 11 53 06.1 -1.2
KURK pmax pmax
comp=Z,146nm,0.8s
KURK Kurchatov 15.43 20 ePn P 11 53 06.1 -1.2
comp=Z,146nm,0.8s
KURK eS S 11 56 04.9 +7.0
KURK PKiKP PKiKP 12 05 48.5 -1.5
DMN Daman 15.44 121 eP P 11 53 07.8 -0.1
comp=Z,339nm,0.3s
KKN Kakani 15.45 120 eP P 11 53 07.6 -0.4
comp=Z,380nm,0.6s
PKI Pulchoki 15.67 120 eP P 11 53 10.5 -0.1
comp=Z,236nm,0.5s
ISRV Sarvestan 15.99 248 eP Pn 11 53 14.7 -0.1
JIRN Jiri 16.16 119 eP Pn 11 53 17.2 +0.3
comp=Z,347nm,0.4s
IPIR Pirpir 16.34 262 eP P 11 53 18.1 +0.2
AKTO Aktyubinsk 16.45 332 ⇓P P 11 53 18.8 +0.3
comp=Z,453nm,1.1s
AKTO Aktyubinsk 16.45 332 P P 11 53 18.9 +0.3
comp=Z,18nm,0.3s,baz=143,slow=10,SNR=737
AKTO S S 11 56 11.0 -8.6
comp=Z,1.0nm,0.3s,baz=162,slow=20,SNR=1.8
AKTO Aktyubinsk 16.45 332 P P 11 53 18.8 +0.3
AKTO pmax pmax
comp=Z,506nm,1.0s
IRAZ Razeghan 16.45 272 eP Pn 11 53 20.7 +0.7
BVA0 Borovoye Array 16.50 0 ⇑P P 11 53 19.5 +0.4
comp=Z,254nm,1.1s,baz=175,slow=13,SNR=975
BVA0 Borovoye Array 16.50 0 iP P 11 53 19.7 +0.6
BVA0 pmax pmax
comp=Z,254nm,1.1s
BVAR Borovoye Array 16.50 0 P P 11 53 19.5 +0.4
comp=Z,31nm,0.3s,baz=170,slow=9.0,SNR=225
BVAR S S 11 56 22.8 +2.1
baz=167,slow=21,SNR=8.9
BVAR ScP ScP 12 01 09.7 -1.7
comp=Z,0.4nm,0.3s,baz=130,slow=2.3,SNR=4.5
BRVK Borovoye 16.54 0 Pn P 11 53 20.0 +0.5
comp=Z,2μm,0.5s
BRVK Borovoye 16.54 0 ⇑P P 11 53 19.8 +0.3
comp=Z,755nm,1.2s
BRVK Borovoye 16.54 0c iP Pn 11 53 20.2 -0.4
BRVK pmax pmax
comp=Z,484nm,1.2s
BRVK Borovoye 16.54 0 ePn Pn 11 53 20.3 -0.4
comp=Z,394nm,1.1s
BRVK eS S 11 56 18.6 -2.7
UOSS Wadi Hilu 16.64 230 P P 11 53 20.5 -0.4
comp=Z,1μm,1.0s,SNR=8.7
UOSS Wadi Hilu 16.64 230 eP P 11 53 20.4 -0.6
comp=Z,229nm,1.0s
IKAZ Kazeroun 16.76 252 eP P 11 53 23.1 +0.5
HATD Hatta, Dubai 16.77 230⇑eP P 11 53 23.0 +0.6
SNR=22
RAMN Ramite 16.89 120 eP Pn 11 53 25.0 -0.3
comp=Z,1μm,0.6s
NAZ Nazwa, Dubai 16.95 231⇑eP Pn 11 53 25.6 -0.2
SNR=49
NGP Nagpur 17.15 151 eP Pn 11 53 27.5 -0.8
NGP ex x 11 56 31.4
FAQ Al Faqa, Dubai 17.17 231⇓eP P 11 53 26.4 -0.2
SNR=7.9
ASUD Al Ashush, Dub 17.42 231⇓eP P 11 53 30.2 +0.8
SNR=25
TAPN Taplejung 17.43 117 eP Pn 11 53 31.9 +0.1
comp=Z,444nm,0.6s
ODAN Odare 17.50 119 eP Pn 11 53 32.5 0.0
comp=Z,275nm,0.6s
POO Poona 18.21 169 eP P 11 53 37.6 -0.5
POO AMB AMB 11 53 40.4
comp=Z,242nm,0.6s
BOK Bokaro 18.54 129 eP P 11 53 42.6 +1.0
BOK AMB AMB 11 53 43.7
comp=Z,316nm,0.7s
MAK Makhachkala 18.57 297 eP P 11 53 40.6 -1.1
MAK eS S 11 57 04.2 +2.4
MAK pmax pmax
comp=Z,40nm,0.4s
MAK MLR MLR
comp=Z,174nm,6.0s
LSA Lhasa 18.81 105 P Pn 11 53 48.1 0.0
LSA PMZ
comp=Z,120nm,0.9s
LSA Lhasa 18.81 105 eP Pn 11 53 46.7 -1.4
LSA pmax pmax
comp=Z,159nm,0.7s
LSA Lhasa 18.81 105 eP Pn 11 53 46.7 -1.4
comp=Z,159nm,0.7s
SRSP Sriramsagar 18.94 156 eP P 11 53 45.3 -0.6
SRSP IAmb IAmb 11 53 50.8
comp=Z,640nm,0.9s
SRSP epP pP 11 54 20.7 +0.1
SRSP esPn sPn 11 54 50.3 +3.1
SRSP eS S 11 57 07.6 -1.9
KLRI Killari 19.23 161 eP P 11 53 49.1 0.0
KLRI IAmb IAmb 11 53 50.6
comp=Z,432nm,0.9s
KLRI esP sP 11 54 53.2 +2.0
KLRI eS S 11 57 16.7 +1.3
RPR Rampur 19.33 153 eP P 11 53 50.3 +0.2
RPR IAmb IAmb 11 53 54.5
comp=Z,309nm,0.5s
RPR esP sP 11 54 54.7 +2.4
RPR eS S 11 57 17.7 +0.3
IMRD Marand 19.51 284 eP Pn 11 53 54.1 -1.9
DGRG David-gareji 19.88 292 P P 11 53 57.4 +1.5
DGRG S S 11 57 40.6 +13
DGRG David-gareji 19.88 292 P P 11 53 57.4 +1.5
ZAA0 Zalesovo Array 20.17 26 eP P 11 53 59.1 +0.4
ZAA0 eS S 11 57 32.6 -0.5
ZALV Zalesovo Beam 20.17 26 P P 11 53 58.9 +0.1
comp=Z,480nm,0.5s,baz=219,slow=12,SNR=557
ZALV S S 11 57 31.4 -1.6
comp=Z,37nm,0.9s,baz=216,slow=20,SNR=4.0
GNI Garni 20.27 288 P P 11 54 01.5 +1.3
comp=Z,50nm,0.8s,baz=55,slow=1.1,SNR=40
GNI S S 11 57 42.3 +6.8
comp=Z,3.9nm,0.3s,baz=166,slow=19,SNR=2.4
GNI Garni 20.27 288c iP P 11 54 01.6 +1.4
GNI pmax pmax
comp=Z,211nm,1.6s
GNI Garni 20.27 288⇑eP P 11 54 02.1 +1.9
SNR=18
GNI Garni 20.27 288 eP P 11 54 02.7 +2.6
comp=Z,106nm,1.0s
GNI S S 11 57 42.2 +6.8

SEAG Tbilisi Sea 20.34 293 P P 11 54 02.2 +1.4
TBLG Delisi 20.39 293 P P 11 54 03.1 +1.8
TBLG S sS 11 58 39.6 +1.8
TBLG Delisi 20.39 293 P P 11 54 03.1 +1.8
NVS Novosibirsk 20.40 22⇑iP P 11 54 01.5 +0.3
NVS eS S 11 57 37.0 -0.3
NVS pmax pmax
comp=N,243nm,0.8s
NVS pmax pmax
comp=E,103nm,0.8s
NVS pmax pmax
comp=Z,337nm,0.8s
NVS smax smax
comp=N,127nm,1.3s
NVS smax smax
comp=E,81nm,1.4s
HYBB Hyderabad (bro 20.41 157 eP P 11 54 02.0 +0.2
HYBB IAmb IAmb 11 54 04.7
comp=Z,316nm,0.7s
HYBB epP pP 11 54 37.6 +0.5
HYBB esP sP 11 55 05.9 +1.7
HYBB eS S 11 57 38.6 +0.3
HYB Hyderabad 20.42 157 iP P 11 54 02.0 +0.2
comp=Z,110nm,1.0s
HYB eS S 11 57 42.0 +3.7
HYB Hyderabad 20.42 157 eP P 11 54 02.1 +0.3
HYB AMB AMB 11 54 04.8
comp=Z,294nm,0.6s
ZEI Tsey 21.14 295 eP P 11 54 09.8 +0.4
ZEI pmax pmax
comp=Z,61nm,1.0s
GOA Goa 21.19 170 eP P 11 54 10.6 +0.7
GOA AMB AMB 11 54 12.9
comp=Z,354nm,1.2s
SVE Sverdlovsk 21.31 345d iP P 11 54 11.1 +0.4
SVE eS S 11 57 53.5 +0.3
SVE pmax pmax
comp=Z,349nm,1.2s
ARU Arti 21.41 342 P P 11 54 11.3 -0.4
comp=Z,3μm,1.3s,SNR=61
ARU Arti 21.41 342c iP P 11 54 11.7 0.0
ARU 11 54 45.8
ARU S S 11 57 57.1 +2.2
ARU pmax pmax
comp=Z,603nm,1.2s
ARU Arti 21.41 342 eP P 11 54 11.7 0.0
comp=Z,762nm,1.3s
ONI Oni 21.44 295 P P 11 54 14.0 +1.6
ONI S S 11 58 03.7 +7.7
ONI Oni 21.44 295 P P 11 54 13.9 +1.6
ONI S S 11 58 03.6 +7.7
NJS Nagarjunasagar 21.47 155 eP P 11 54 12.9 +0.2
NJS IAmb IAmb 11 54 14.1
comp=Z,110nm,0.7s
NJS epP pP 11 54 50.0 +1.3
NJS esPn sPn 11 55 18.8 +1.0
NJS eS S 11 57 55.1 -1.5
SHL Shillong 21.51 114⇓iP P 11 54 14.0 +0.7
SHL AMB AMB 11 54 16.5
comp=Z,131nm,1.0s
SHL ex S 11 57 57.5 0.0
PVM Polavaram 21.70 149 eP P 11 54 15.1 +0.2
PVM IAmb IAmb 11 54 18.1
comp=Z,285nm,1.0s
PVM esP sP 11 55 21.2 +3.1
PVM eS S 11 58 00.2 0.0
CHLP Challavanipeta 21.71 142 eP P 11 54 15.1 0.0
CHLP IAmb IAmb 11 54 17.6
comp=Z,105nm,0.8s
CHLP epP pP 11 54 53.3 +2.0
CHLP esP sP 11 55 19.6 +1.3
CHLP eS S 11 57 60.0 -0.4
SRLM Srisailam 21.76 157 eP P 11 54 15.7 0.0
SRLM IAmb IAmb 11 54 17.0
comp=Z,244nm,0.7s
SRLM esP sP 11 55 19.4 +0.6
SRLM eS S 11 58 00.5 -0.7
KBZ Khabaz 22.01 298 P P 11 54 17.4 -0.3
comp=Z,31nm,0.9s,baz=146,slow=24,SNR=54
VIS Vishakhapatnam 22.03 145 eP P 11 54 18.8 +0.7
VIS AMB AMB 11 54 20.3
comp=Z,159nm,1.2s
GOF Gofitskoye 22.18 301⇑iP P 11 54 20.0 +0.7
GOF eS S 11 58 13.9 +6.5
GOF pmax pmax
comp=Z,100nm,1.3s
KIV Kislovodsk 22.20 298c iP P 11 54 19.6 -0.1
KIV *PP pP 11 54 54.4 -2.1
KIV iS S 11 58 05.7 -2.4
KIV pmax pmax
comp=Z,44nm,0.9s
KIV Kislovodsk 22.20 298⇓eP P 11 54 19.8 +0.1
SNR=8.2
KIV Kislovodsk 22.20 298 eP P 11 54 20.1 +0.4
comp=Z,35nm,0.8s
KIV eS S 11 58 09.1 +1.0
HVS Khovu-Aksy 22.25 42c iP P 11 54 21.5 +1.4
ADKI Addanki 22.35 155 eP P 11 54 21.4 +0.2
ADKI IAmb IAmb 11 54 22.4
comp=Z,130nm,0.8s
ADKI epP pP 11 54 58.4 +0.1
ADKI esP sP 11 55 28.1 +2.9
ADKI eS S 11 58 11.7 +1.0
RCLA Racherla 22.38 157 eP P 11 54 20.8 -0.7
RCLA IAmb IAmb 11 54 22.8
comp=Z,282nm,0.7s
RCLA e 11 55 04.2
RCLA esP sP 11 55 27.8 +2.2
RCLA eS S 11 58 11.7 +0.4
URV Uravakonda 22.39 162 eP P 11 54 21.4 -0.1
URV IAmb IAmb 11 54 22.6
comp=Z,107nm,0.7s
URV esP sP 11 55 30.3 +4.6
URV eS S 11 58 12.5 +1.1
SKHT Srikalahasti 24.23 157 eP P 11 54 38.4 +0.2
SKHT IAmb IAmb 11 54 39.9
comp=Z,98nm,0.9s
SKHT epP pP 11 55 19.8 +1.1
SKHT esP sP 11 55 48.3 +3.1
SKHT eS S 11 58 40.9 +0.1
SOC Sochi 24.28 296 eP P 11 54 40.8 +2.4
SOC e*SS 11 59 55.0
SOC pmax pmax
comp=Z,35nm,0.8s
SOKR Solikamsk 24.67 344c iP P 11 54 42.0 +0.3
SOKR *PP pP 11 55 24.4 +1.6
SOKR pmax pmax
comp=Z,190nm,1.0s
SOKR MLR MLR
comp=Z,160nm,17.0s
KRAR Krasnoyarsk 24.82 31⇑eP P 11 54 44.8 +1.7
KRAR pmax pmax
comp=Z,401nm,1.2s
RAYN Ar Rayn 24.91 246 P P 11 54 44.6 +0.2
comp=Z,682nm,0.4s,SNR=62
RAYN Ar Rayn 24.91 246 eP P 11 54 44.1 -0.3
comp=Z,65nm,1.1s
RAYN eS S 11 58 50.1 -1.5
MALT Malatya 25.23 284⇑iP P 11 54 48.8 +1.6
ANN Anapa 26.05 299 eP P 11 54 54.1 -0.2
ANN e 11 55 39.7
ANN eS S 11 59 11.5 +2.4
ANN e*SS sS 12 00 32.6 +6.7
ANN pmax pmax
comp=Z,58nm,0.6s
VORD Divnogorie 26.35 313 eP P 11 54 56.6 -0.3
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=Z,20nm,0.6s
VORD pmax pmax
comp=E,60nm,0.8s
VSR Storozhevoye 26.52 313 eP P 11 54 58.5 +0.1
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,70nm,0.8s
VSR pmax pmax
comp=Z,70nm,0.8s
MOY Mondy 26.55 46 eP P 11 55 01.2 +2.3
MOY pmax pmax
comp=Z,123nm,1.9s
VOR Voronezh 26.69 315 P P 11 54 59.0 -0.9
VOR pmax pmax
comp=Z,300nm,1.0s
LZH Lanzhou 27.05 81 ⇑P P 11 55 06.0 +2.4
LZH pP pP 11 55 47.0 +0.6
LZH sP sP 11 56 08.1 -3.3
LZH S S 11 59 27.2 +1.8
LZH sS sS 12 00 46.0 +3.5
LZH SS SS 12 01 03.5 -25
LZH PMZ
comp=Z,56nm,1.3s
LZH PMZ
comp=Z,190nm,4.6s
LZH LN
comp=Z,200nm,12.8s
LZH LE
comp=Z,270nm,11.6s
LZH LZ
comp=Z,280nm,13.8s
LPSR Galich'ya Gora 27.19 316 eP P 11 55 04.5 +0.2
LPSR pmax pmax
comp=Z,130nm,0.8s
LPSR pmax pmax
comp=N,10.0nm,0.9s
LPSR pmax pmax
comp=E,110nm,1.6s
ZAK Zakamensk 27.47 49⇓iP P 11 55 08.7 +1.7
ZAK pmax pmax
comp=Z,50nm,1.0s
ASF Jabal al Asfar 27.75 271 P P 11 55 09.1 -0.6
comp=Z,1.5nm,0.6s,baz=66,slow=12,SNR=4.2
TLY Talaya 28.10 47 P P 11 55 15.9 +3.4
comp=Z,435nm,0.7s,SNR=17
TLY Talaya 28.10 47 P P 11 55 15.0 +2.5
comp=Z,32nm,0.6s,baz=238,slow=9.0,SNR=58
TLY S S 11 59 41.7 +0.4
comp=Z,1.4nm,0.4s,baz=221,slow=20,SNR=1.6
TLY Talaya 28.10 47 eP P 11 55 15.3 +2.7
TLY eS S 11 59 38.0 -3.3
TLY eSS sS 12 00 56.4 -2.1
TLY Talaya 28.10 47 eP P 11 55 15.2 +2.7
comp=Z,45nm,0.7s
TLY S S 11 59 41.7 +0.4
CD2 Chengdu 28.38 92 eP P 11 55 16.0 +0.7
CD2 pP pP 11 55 57.6 -0.8
CD2 sP sP 11 56 21.7 -1.6
CD2 PP PP 11 56 24.2 +0.4
CD2 S S 11 59 47.8 +1.6
CD2 sS sS 12 01 02.9 -0.6
CD2 PMZ
comp=Z,70nm,0.9s
CD2 PMZ
comp=Z,260nm,4.5s
CD2 LE
comp=Z,300nm,16.1s
CD2 LZ
comp=Z,170nm,16.0s
SIM Simferopol' 28.41 299 P P 11 55 16.4 +1.0
SIM e*PP pP 11 56 03.0 +4.5
SIM pmax pmax
comp=Z,9.0nm,0.8s
IRK Irkutsk 28.66 46 eP P 11 55 18.7 +1.3
IRK e 11 56 04.4
IRK pmax pmax
comp=Z,174nm,1.4s
MMAI Mount Meron Ar 28.70 273 P P 11 55 18.5 +0.4
comp=Z,1.9nm,0.5s,baz=58,slow=8.7,SNR=3.4
MMAI PcP PcP 11 58 23.5 +0.6
comp=Z,1.1nm,0.3s,baz=86,slow=7.4,SNR=4.5
MMAI ScP ScP 12 01 42.6 -1.0
comp=Z,9.9nm,0.8s,baz=70,slow=5.4,SNR=11
BR131 Keskin Array S 28.81 288 eP P 11 55 20.1 +1.0
comp=Z,2.0nm,0.4s
BRTR Keskin Array B 28.81 288 P P 11 55 19.8 +0.7
comp=Z,3.1nm,0.6s,baz=96,slow=8.8,SNR=20
BRTR PcP PcP 11 58 23.6 +0.5
comp=Z,1.9nm,0.5s,baz=124,slow=2.8,SNR=4.2
BRTR ScP ScP 12 01 41.9 -2.0
comp=Z,1.8nm,0.8s,baz=120,slow=4.3,SNR=4.9
SONM Songino Array 28.86 56 P P 11 55 21.2 +1.7
comp=Z,52nm,0.6s,baz=259,slow=9.6,SNR=322
SONM sP sP 11 56 31.3 +3.8
comp=Z,22nm,0.9s,baz=268,slow=10,SNR=2.4
MOS Moscow 29.24 321 eP P 11 55 21.8 -0.7
MOS e*PP pP 11 56 04.9 -0.8
MOS eS S 11 59 57.8 -1.1
MOS pmax pmax
comp=Z,300nm,1.3s
MOS pmax pmax
comp=Z,200nm,1.2s
ULN Ulaanbaatar 29.30 56 eP P 11 55 30.3 +6.9
ULN pmax pmax
comp=Z,55nm,0.7s
ULN Ulaanbaatar 29.30 56 eP P 11 55 30.3 +6.9
comp=Z,55nm,0.7s
PRGR Permogore 29.49 336⇑iP P 11 55 25.2 +0.6
PRGR pmax pmax
comp=Z,199nm,0.6s
OBN Obninsk 29.50 320 P P 11 55 25.3 +0.5
comp=Z,2μm,0.5s,SNR=7.1
OBN Obninsk 29.50 320 P P 11 55 25.3 +0.5
comp=Z,195nm,0.5s,baz=33,slow=1.7,SNR=39
OBN Obninsk 29.50 320c iP P 11 55 25.2 +0.5
OBN *PP pP 11 56 04.7 -3.3
OBN e 11 56 29.0
OBN eS S 11 59 59.8 -3.2
OBN eSS SS 12 01 59.2 -14
OBN pmax pmax
comp=Z,330nm,1.3s
KMI Kunming 30.04 103 P P 11 55 31.4 +1.3
KMI sP sP 11 56 38.2 0.0
KMI S S 12 00 12.5 0.0
KMI ScP ScP 12 01 47.6 -0.6
KMI SS SS 12 02 08.3 -19
KMI PMZ
comp=Z,33nm,0.7s
KMI PMZ
comp=Z,75nm,4.1s
KMI LN
comp=Z,98nm,15.4s
KMI LE
comp=Z,110nm,13.2s
KMI LZ
comp=Z,130nm,17.3s
CMAI Chiengmai2 30.16 115 P P 11 55 31.0 -0.2
comp=Z,28nm,0.8s,comp=Z,2μm
MHMT Maesarieng 30.51 119 P P 11 55 35.2 +1.1
comp=Z,32nm,0.7s,comp=Z,399nm
PALK Pallekele 30.65 159 iP P 11 55 37.1 +1.7
CHTO Chiang Mai 30.81 117 P P 11 55 37.7 +1.0
comp=Z,124nm,1.0s,comp=Z,2μm
CHTO Chiang Mai 30.81 117 eP P 11 55 36.9 +0.2
CHTO pmax pmax
comp=Z,21nm,0.8s
CHTO Chiang Mai 30.81 117 eP P 11 55 36.9 +0.2
comp=Z,21nm,0.8s
DGPR DIGLIPUR 30.92 133 eP P 11 55 39.4 +1.7
DGPR AMB AMB 11 55 40.2
comp=Z,76nm,0.7s
CRAI Chiangrai 30.95 113 P P 11 55 35.6 -2.4
comp=Z,46nm,0.8s
CM31 Chiang Mai Arr 31.04 118 eP P 11 55 39.7 +1.0
comp=Z,41nm,0.8s
CM31 eS S 12 00 33.8 +6.0
CMAR Chiang Mai Arr 31.04 118 P P 11 55 39.2 +0.5
comp=Z,32nm,0.8s,baz=303,slow=10,SNR=123
CMAR PcP PcP 11 58 30.1 +1.1
comp=Z,9.9nm,0.7s,baz=299,slow=4.3,SNR=9.8
CMAR ScP ScP 12 01 49.4 -1.9
comp=Z,18nm,0.9s,baz=297,slow=4.7,SNR=24
KLMR Klimovskoe 31.15 331c iP P 11 55 39.4 +0.2
KLMR e 11 58 25.9
KLMR pmax pmax
comp=Z,164nm,0.8s
LAMP Lampang 31.49 117 P P 11 55 43.1 +0.4
comp=Z,20nm,0.9s,comp=Z,183nm
XAN Xi'an 31.57 83 P P 11 55 44.0 +0.7
XAN S S 12 00 34.1 -1.9
XAN PMZ
comp=Z,17nm,0.8s
XAN PMZ
comp=Z,23nm,7.1s
XAN LN
comp=Z,120nm,13.3s
XAN LZ
comp=Z,49nm,13.3s
DAMY Dhamar 31.75 233 eP P 11 55 46.5 +1.2
comp=Z,26nm,1.1s

PBA	Port Blair	32.03	135	eP	P	11 55 48.5	+1.1
PBA				AMB	AMB	11 55 49.8	
	comp=Z,47nm,1.0s						
KIS	Kishinev	32.25	302	⇓iP	P	11 55 49.0	0.0
KIS				XM		11 55 49.5	
	comp=Z,200nm,0.7s						
KIS	Kishinev	32.25	302	⇑iP	P	11 55 49.0	0.0
KIS				e		11 56 30.0	
KIS				pmax	pmax		
	comp=Z,200nm,0.7s						
HHC	Hu-ho-hao-te	32.37	69	eP	P	11 55 51.6	+1.3
HHC				pP	pP	11 56 36.9	+3.0
HHC				sP	sP	11 56 59.4	+0.8
HHC				PP	PP	11 57 10.5	+2.6
HHC				S	S	12 00 51.4	+3.1
HHC				sS	sS	12 02 02.8	-3.2
HHC				SS	SS	12 03 02.0	-12
HHC				PMZ			
	comp=Z,20nm,0.9s						
HHC				PMZ			
	comp=Z,100nm,4.3s						
AKASG	Malin Array Be	32.43	309	P	P	11 55 50.4	-0.1
	comp=Z,27nm,0.5s,baz=82,slow=7.1,SNR=154						
AKASG				PcP	PcP	11 58 31.5	-0.8
	comp=Z,6.0nm,0.6s,baz=77,slow=2.9,SNR=8.6						
AKASG				ScP	ScP	12 01 53.5	-1.9
	comp=Z,1.1nm,0.4s,baz=76,slow=3.5,SNR=11						
AKBB	Malin Array Si	32.43	309	eP	P	11 55 50.5	0.0
AKBB				e		11 58 31.7	
AKBB	Malin Array Si	32.43	309	eP	P	11 55 50.5	0.0
AKBB				ePcP	PcP	11 58 31.7	-0.6
AK02	Malin Array Si	32.43	309	eP	P	11 55 50.7	+0.2
AK02				ePcP	PcP	11 58 31.8	-0.5
AK01	Malin Array Si	32.43	309	eP	P	11 55 50.7	+0.2
AK01				ePcP	PcP	11 58 31.8	-0.5
KIEV	Kiev	32.44	309	eP	P	11 55 50.3	-0.3
KIEV				e		11 58 31.7	
KIEV				pmax	pmax		
	comp=Z,53nm,0.6s						
KIEV	Kiev	32.44	309	eP	P	11 55 50.2	-0.3
	comp=Z,53nm,0.6s						
KIEV				ePcP	PcP	11 58 31.7	-0.6
GYA	Guiyang	32.51	97	⇑iP	P	11 55 52.5	+0.8
GYA				pP	pP	11 56 35.2	-0.1
GYA				sP	sP	11 56 59.0	-1.0
GYA				PP	PnPn	11 57 08.7	+0.4
GYA				PcP	PcP	11 58 33.4	+0.2
GYA				S	S	12 00 50.6	-0.2
GYA				sS	sS	12 02 05.4	-3.2
GYA				ScS	ScS	12 05 55.0	-1.6
GYA				PMZ			
	comp=Z,30nm,0.8s						
GYA				PMZ			
	comp=Z,130nm,4.9s						
CFR	Carcaliu	32.66	299	⇑iP	P	11 55 53.8	+1.2
UTTA	Uttaradit	32.66	117	P	P	11 55 53.6	+0.7
	comp=Z,73nm,0.6s,comp=Z,579nm						
ENH	Enshi	33.23	89	eP	P	11 55 59.2	+1.4
	comp=Z,33nm,1.0s						
ENH				ePcP	PcP	11 58 34.6	-0.4
KHLT	Khaolaem Dam	33.30	123	P	P	11 55 59.8	+1.4
	comp=Z,35nm,0.9s,comp=Z,419nm						
LOEI	Loei	33.32	116	P	P	11 56 00.9	+2.3
	comp=Z,161nm,0.8s,comp=Z,2µm						
PLOR	Plostina	33.71	300	⇑iP	P	11 56 03.2	+1.5
TESR	Tescani	33.72	301	⇓iP	P	11 56 03.1	+1.4
PBKT	Sadao Pong	33.73	118	P	P	11 56 03.1	+1.0
	comp=Z,108nm,0.9s,comp=Z,1µm						
TMCR	Tamitsa	33.75	335	eP	P	11 56 02.3	+0.5
TMCR				e		11 57 23.4	
TMCR				pmax	pmax		
	comp=Z,414nm,1.1s						
ISR	Istrita	33.78	298	⇓iP	P	11 56 04.2	+1.8
JMB	Yambol	33.88	294	⇓iP	P	11 56 04.7	+1.5
SRDT	SRDT	33.98	123	P	P	11 56 05.5	+1.2
	comp=Z,235nm,0.8s						
PRAR	RASCA	34.03	303	⇑iP	P	11 56 05.6	+1.1
MNK	Minsk	34.06	315	eP	P	11 56 04.0	-0.5
CIT	Chita	34.13	49	eP	P	11 56 06.9	+1.6
CIT				e		11 56 51.7	
CIT				e		11 57 15.8	
CIT				pmax	pmax		
	comp=Z,274nm,1.5s						
MLR	Muntele Rosu	34.20	299	P	P	11 56 07.8	+1.7
	comp=Z,13nm,0.9s,baz=92,slow=4.7,SNR=62						
MLR				PcP	PcP	11 58 37.1	-0.5
	comp=Z,2.1nm,0.7s,baz=101,slow=5.2,SNR=3.9						
MLR	Muntele Rosu	34.20	299	⇓iP	P	11 56 08.0	+1.9
SMG	Samos	34.37	285	eP	P	11 56 08.1	+0.7
SMG	Samos	34.37	285	eP	P	11 56 08.1	+0.7
PUL	Pulkovo	34.52	325c	iP	P	11 56 09.1	+0.7
PUL				pmax	pmax		
	comp=Z,210nm,0.5s						
DOPR	Dopca	34.59	300	⇑iP	P	11 56 10.5	+1.3
KARP	Karpathos	34.60	281	eP	P	11 56 10.0	+0.5
KARP	Karpathos	34.60	281	eP	P	11 56 10.0	+0.5
BURAR	Bucovina Array	34.73	303	⇑iP	P	11 56 11.2	+0.7
BUR08	Bucovina Ar. S	34.74	303	eP	P	11 56 11.1	+0.5
BUR08				ePcP	PcP	11 58 40.8	+1.6
NACGM	Naroch	34.74	316	eP	P	11 56 08.0	-2.4
KDZ	Kurdzhali	34.83	292	⇓iP	P	11 56 13.6	+2.2
VOIR		34.83	299	⇓iP	P	11 56 12.8	+1.4
CHAI	Chaiyaphum	34.90	118	P	P	11 56 13.1	+0.9
	comp=Z,34nm,0.8s,comp=Z,421nm						
ARR	Arges	35.13	299	⇓iP	P	11 56 15.1	+1.2
NAYO	Nakonayok	35.51	120	P	P	11 56 18.5	+1.1
	comp=Z,64nm,0.8s						
APE	Apeiranthos	35.52	285	⇑iP	P	11 56 17.7	+0.4
LVV	L'vov	35.63	307	eP	P	11 56 18.1	+0.1
LVV				e		11 57 45.7	
LVV				eS	S	12 01 33.0	-4.9
SKNT	Sakolnakorn	35.65	114	P	P	11 56 18.8	+0.2
	comp=Z,195nm,0.9s,comp=Z,2µm						
LOT	Lotru	35.73	299	⇓iP	P	11 56 20.8	+1.7
BOD	Bodaibo	35.75	39	eP	P	11 56 19.8	+0.9
BOD				pmax	pmax		
	comp=Z,105nm,1.1s						
VSU	Vasula	35.77	322c	iP	P	11 56 19.0	0.0
CJR	Cluj-Napoca	35.82	301	⇓iP	P	11 56 22.0	+2.2
MPEP	Malo Peshtene	35.89	296	eP	P	11 56 21.4	+1.1
BMR	Baia Mare	35.89	303	⇑iP	P	11 56 22.5	+2.2
BJT	Baijiatuau	35.96	70	eP	P	11 56 22.7	+1.7
BJT				pmax	pmax		
	comp=Z,25nm,0.6s						
BJT	Baijiatuau	35.96	70	eP	P	11 56 22.7	+1.7
	comp=Z,25nm,0.6s						
BJI	Beijing	35.96	70	P	P	11 56 22.6	+1.6
BJI				PcP	PcP	11 58 43.4	+0.7
BJI				S	S	12 01 44.7	+1.5
BJI				ScP	ScP	12 02 07.7	-0.6
BJI				PMZ			
	comp=Z,33nm,0.9s						
BJI				PMZ			
	comp=Z,100nm,5.6s						
BJI				LN			
	comp=Z,170nm,11.2s						
BJI				LE			
	comp=Z,95nm,9.7s						
BJI				LZ			
	comp=Z,50nm,20.1s						
NVR	Nevrokopi	36.03	292	eP	P	11 56 22.6	+1.0
NVR	Nevrokopi	36.03	292	eP	P	11 56 22.6	+1.0
LAST	Lasithi	36.03	281	eP	P	11 56 22.0	+0.3
LAST	Lasithi	36.03	281	eP	P	11 56 22.0	+0.3
MMB	Musomiste	36.09	293	eP	P	11 56 22.8	+0.7
PATY	Pattaya	36.18	123	P	P	11 56 24.8	+1.8
	comp=Z,12nm,0.8s						
VTS	Vitosha	36.35	294	⇑iP	P	11 56 26.4	+1.9
VTS	Vitosha	36.35	294	eP	P	11 56 25.3	+0.8
GZR	Gura Zlata	36.44	299	⇑iP	P	11 56 26.0	+1.0
IDI	Anoyia	36.46	282	P	P	11 56 24.9	-0.5
	comp=Z,5.4nm,0.6s,baz=60,slow=8.1,SNR=6.6						
KWP	Kalwaria Pacla	36.47	306	eP	P	11 56 26.0	+0.8
KWP	Kalwaria Pacla	36.47	306	eP	P	11 56 26.0	+0.8
PLG	Polygyros	36.48	291	eP	P	11 56 26.4	+0.9
PLG	Polygyros	36.48	291	eP	P	11 56 26.4	+0.9
KKB	Krupnik	36.53	293	eP	P	11 56 26.3	+0.4
TRPA	Tarpa	36.54	304	⇑iP	P	11 56 27.7	+1.9
SUW	Suwalki	36.63	314	eP	P	11 56 26.4	0.0
SUW	Suwalki	36.63	314	eP	P	11 56 26.4	0.0
MRKA	Markates	36.68	288	eP	P	11 56 27.4	+0.4
MRKA	Markates	36.68	288	eP	P	11 56 27.4	+0.4
KOLS	Kolonicke sedl	36.73	305	eP	P	11 56 28.3	+0.9
KOLS				pmax	pmax		
	comp=Z,17nm,0.8s						
KOLS	Kolonicke sedl	36.73	305	eP	P	11 56 28.3	+0.9
KNT	Kendrikon	36.77	292	eP	P	11 56 27.9	0.0
KNT	Kendrikon	36.77	292	eP	P	11 56 27.9	0.0
XOR	Xorichti	36.85	289	eP	P	11 56 27.4	-1.1
XOR	Xorichti	36.85	289	eP	P	11 56 27.4	-1.1
VAM	Vamos	36.97	282	eP	P	11 56 29.9	+0.4
VAM	Vamos	36.97	282	eP	P	11 56 29.9	+0.4
WHN	Wuhan	37.04	86	⇓iP	P	11 56 31.6	+1.4
FIA1	FINESS Array S	37.10	326	eP	P	11 56 30.7	+0.4
FINES	FINESS Array B	37.10	326	P	P	11 56 30.5	+0.1
	comp=Z,100nm,0.7s,baz=111,slow=11,SNR=266						
FINES				PcP	PcP	11 58 45.9	+0.2
	comp=Z,12nm,0.7s,baz=129,slow=3.8,SNR=3.7						
FINES	FINESS Array B	37.10	326	i P	P	11 56 30.7	+0.4
FINES				pmax	pmax		
	comp=Z,100nm,0.6s						
GRG	Griva	37.17	292	eP	P	11 56 32.4	+1.1
GRG	Griva	37.17	292	eP	P	11 56 32.4	+1.1
KARN	Karanos	37.19	282	eP	P	11 56 31.4	-0.1
KARN	Karanos	37.19	282	eP	P	11 56 31.4	-0.1
LVZ	Lovozero	37.20	339	P	P	11 56 31.3	+0.2
	comp=Z,2µm,0.7s,SNR=55						
LVZ	Lovozero	37.20	339c	iP	P	11 56 31.4	+0.3
LVZ				pmax	pmax		
	comp=Z,183nm,0.7s						
LVZ	Lovozero	37.20	339	eP	P	11 56 30.5	-0.6
	comp=Z,177nm,0.7s						
BZS	Buzias	37.24	300	⇓iP	P	11 56 32.6	+0.9
CHBT	CHBT	37.30	121	P	P	11 56 33.5	+1.0
	comp=Z,59nm,0.9s						
APA	Apatity	37.37	338	⇓iP	P	11 56 33.2	+0.7
APA				i *PP	pP	11 57 17.5	+0.6
APA				eS	S	12 02 08.0	+4.2
APA				pmax	pmax		
	comp=Z,76nm,0.6s						
APA				MLR	MLR		
	comp=Z,400nm,19.0s						
STHS	Stebnicka Huta	37.42	306	eP	P	11 56 34.2	+1.0
STHS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
STHS	Stebnicka Huta	37.42	306	eP	P	11 56 34.2	+1.0
TIA	Tai'an	37.50	76	⇑P	P	11 56 35.4	+1.4
TIA				PMZ			
	comp=Z,90nm,0.8s						
KYTH	Kithira	37.65	284	eP	P	11 56 34.5	-0.9
KYTH	Kithira	37.65	284	eP	P	11 56 34.5	-0.9
THL	Klokotos Trika	37.71	290	eP	P	11 56 35.5	-0.2
THL	Klokotos Trika	37.71	290	eP	P	11 56 35.5	-0.2
MAKR	Makrakomi, Fth	37.73	289	eP	P	11 56 36.0	+0.1
MAKR	Makrakomi, Fth	37.73	289	eP	P	11 56 36.0	+0.1
HIA	Hailar	37.81	54	eP	P	11 56 38.4	+1.9
HIA				pmax	pmax		
	comp=Z,31nm,0.8s						
HIA	Hailar	37.81	54	eP	P	11 56 38.4	+1.9
	comp=Z,31nm,0.8s						
BEL	Belsk	37.82	310	eP	P	11 56 37.1	+0.7
BEL	Belsk	37.82	310	eP	P	11 56 37.2	+0.8
KALE	Kalithea	37.85	288	eP	P	11 56 36.3	-0.7
KALE	Kalithea	37.85	288	eP	P	11 56 36.3	-0.7
KECS	Kecovo	37.91	304	eP	P	11 56 38.0	+0.7
KECS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KECS	Kecovo	37.91	304	eP	P	11 56 38.0	+0.7
FNA	Florina	37.97	292	eP	P	11 56 37.7	-0.3
FNA	Florina	37.97	292	eP	P	11 56 37.7	-0.3
EVR	Evrytania	37.99	289	eP	P	11 56 37.9	-0.3
EVR	Evrytania	37.99	289	eP	P	11 56 37.9	-0.3
NIE	Niedzica	38.03	306	eP	P	11 56 39.8	+1.5
NIE	Niedzica	38.03	306	eP	P	11 56 39.8	+1.5
NEST	Nestorio	38.28	291	eP	P	11 56 40.6	0.0
NEST	Nestorio	38.28	291	eP	P	11 56 40.6	0.0
PSZ	Piszkesteto	38.32	303	eP	P	11 56 41.4	+0.6
PSZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PSZ	Piszkesteto	38.32	303	⇓iP	P	11 56 42.6	+1.8
PSZ	Piszkesteto	38.32	303	eP	P	11 56 41.4	+0.6
	comp=Z,8.7nm,0.7s						
PSZ	Piszkesteto	38.32	303	⇑eP	P	11 56 41.9	+1.1
OJC	Ojcow	38.37	307	eP	P	11 56 41.3	+0.2
OJC	Ojcow	38.37	307	eP	P	11 56 42.0	+0.9
OJC				pmax	pmax		
	comp=Z,43nm,1.1s						
OJC	Ojcow	38.37	307	eP	P	11 56 42.0	+0.9
	comp=Z,43nm,1.1s						
DSL	Palaion Diasel	38.49	289	eP	P	11 56 42.1	-0.2
DSL	Palaion Diasel	38.49	289	eP	P	11 56 42.1	-0.2
DIVS	Divibare	38.52	297	⇑iP	P	11 56 42.9	+0.4
PDO	Prodromos	38.54	288	eP	P	11 56 42.1	-0.6
PDO	Prodromos	38.54	288	eP	P	11 56 42.1	-0.6
QIZ	Qiongzhong	38.85	106	P	P	11 56 45.4	0.0
QIZ				pP	pP	11 57 27.6	-2.6
QIZ				PP	PP	11 58 18.8	-0.4
QIZ				S	S	12 02 28.5	+1.3
QIZ				sS	sS	12 03 43.6	-2.9
QIZ				PMZ			
	comp=Z,22nm,1.4s						
QIZ	Qiongzhong	38.85	106	eP	P	11 56 46.1	+0.7
	comp=Z,17nm,0.7s						
LKD2	Lefkada island	38.90	289	eP	P	11 56 44.6	-1.0
LKD2	Lefkada island	38.90	289	eP	P	11 56 44.6	-1.0
SGD	Sagiada	39.05	290	eP	P	11 56 46.1	-0.8
SGD	Sagiada	39.05	290	eP	P	11 56 46.1	-0.8
VLS	Valsamata	39.09	288	eP	P	11 56 45.7	-1.6
VLS	Valsamata	39.09	288	eP	P	11 56 45.7	-1.6
TRTT	Trang	39.20	129	P	P	11 56 49.0	+0.6
	comp=Z,78nm,1.1s,comp=Z,927nm						
PKSM	Moragy	39.27	301	⇑eP	P	11 56 49.1	+0.5
OKC	Ostrava-Krasne	39.44	307	eP	P	11 56 51.0	+1.1
OKC	Ostrava-Krasne	39.44	307	eP	P	11 56 51.0	+1.1
PKS9	Tamasi	39.49	301	⇓eP	P	11 56 51.5	+1.1
GKP	Gorka Klasztor	40.07	312	eP	P	11 56 55.5	+0.4
GKP	Gorka Klasztor	40.07	312	eP	P	11 56 55.5	+0.4
NJ2	Nanjing	40.12	82	eP	P	11 56 56.3	+0.6
NJ2				PMZ			
	comp=Z,20nm,0.8s						
SKLT	Songkhla	40.30	129	P	P	11 56 57.7	+0.3
	comp=Z,80nm,0.7s						
KRLC	Kraliky	40.31	307	eP	P	11 56 58.5	+1.3
KRLC	Kraliky	40.31	307	eP	P	11 56 58.5	+1.3
VRAC	Vranov	40.46	306	P	P	11 56 58.5	+0.2
	comp=Z,14nm,0.8s,baz=82,slow=9.3,SNR=21						
VRAC	Vranov	40.46	306	⇑iP	P	11 57 00.3	+1.9
KEV	Kevo	40.54	339	e	P	11 56 59.5	+0.8
KEV	Kevo	40.54	339	eP	P	11 56 59.6	+0.9
KEV				pmax	pmax		
	comp=Z,133nm,0.9s						
KEV	Kevo	40.54	339	eP	P	11 56 59.5	+0.9
	comp=Z,133nm,0.9s						
DPC	Dobruska-Polom	40.60	307	eP	P	11 57 00.5	+1.0
DPC				ex	x	11 57 19.3	
DPC				epP	pP	11 57 48.1	+3.4
DPC				eSS	SS	12 05 58.6	-3.0
DPC	Dobruska-Polom	40.60	307	eP	P	11 57 00.5	+1.0
DPC				e*PP	pP	11 57 48.1	+3.4
DPC				e		12 05 58.6	
KSP	Ksiaz	40.61	308	eP	P	11 57 00.0	+0.4
KSP	Ksiaz	40.61	308	eP	P	11 57 00.0	+0.4
UPC	Upice	40.80	308	eP	P	11 57 02.5	+1.4
UPC	Upice	40.80	308	eP	P	11 57 02.5	+1.4
ARCES	ARCESS Array B	40.88	338	P	P	11 57 01.8	+0.3
	comp=Z,204nm,0.8s,baz=111,slow=7.8,SNR=494						
ARE0	ARCESS Array S	40.88	338	⇑iP	P	11 57 02.4	+0.9
ARE0				IAmb	IAmb	11 57 03.0	
	comp=Z,219nm,0.9s						
ARE0	ARCESS Array S	40.88	338	eP	P	11 57 02.4	+0.9
CONA	Conrad Observa	41.03	304	i P	P	11 57 03.5	+0.4
	comp=Z,32nm,1.1s,SNR=22						
CLNS	Chul'man	41.34	43	eP	P	11 57 07.0	+1.6
CLNS				e		11 58 45.6	
CLNS				e		11 58 59.9	
CLNS				ePPP	PPP	11 59 24.0	
CLNS				eS	S	12 03 07.6	+4.3
CLNS				eSS	SS	12 06 05.6	-10
CLNS				pmax	pmax		
	comp=Z,48nm,0.8s						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,34nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,11nm,1.1s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,6.0nm,1.0s						
CLNS				smax	smax		
	comp=N,39nm,12.0s						
KTK1	Kautokeino	41.34	337	⇑iP	P	11 57 05.7	+0.5
KTK1				IAmb	IAmb	11 57 06.2	
	comp=N,62nm,0.5s						
CRES	Cresnjev	41.51	301	i P	P	11 57 07.3	+0.3
BSD	Bornholm Skovb	41.53	315	⇑iP	P	11 57 05.9	-1.0
	comp=N,35nm,0.8s						
BSD	Bornholm Skovb	41.53	315	⇑iP	P	11 57 05.9	-1.0
BSD				pmax	pmax		
	comp=Z,35nm,0.8s						
GOPC	GO Pecny, Ondr	41.60	307	eP	P	11 57 08.9	+1.2
GOPC				eS	S	12 03 09.4	+2.0
GOPC				eXS	sS	12 04 26.3	-1.1
SNSI	Sinabang, Aceh	41.64	139	P	P	11 57 10.0	+1.7
	comp=Z,398nm,0.7s						
BOJS	Bojanci	41.70	300	i P	P	11 57 09.1	+0.6
SOKA	Soboth	41.71	302	⇓iP	P	11 57 09.2	+0.6
	comp=Z,33nm,1.4s,SNR=17						
PRU	Pruhonice	41.76	307	eP	P	11 57 09.6	+0.7
PRU				ex	x	12 04 23.4	
PRU				eSS	SS	12 06 24.8	+0.7
PRU	Pruhonice	41.76	307	eP	P	11 57 09.6	+0.7
PRU				e		12 06 24.8	
KULM	Kulim	41.78	131	⇑P	P	11 57 10.3	+0.8
KULM	Kulim	41.78	131	eP	P	11 57 10.0	+0.5
	comp=Z,15nm,0.6s						
PDKS	Podkum	41.80	301	i P	P	11 57 09.9	+0.6
PRA	Prague	41.83	307	eP	P	11 57 10.9	+1.5
PRA	Prague	41.83	307	eP	P	11 57 10.9	+1.5
VISS	Visnje	41.95	301	i P	P	11 57 11.1	+0.6
OBKA	Obir	42.06	302	⇑iP	P	11 57 12.3	+0.8
	comp=Z,16nm,1.6s						
BRG	Berggiesshubel	42.10	308	i P	P	11 57 12.4	+0.8
	comp=Z,30nm,0.9s						
BRG				epP	pP	11 57 53.3	-3.7
	comp=Z,5.4nm,0.7s						
BRG				i SCP	ScP	12 02 24.4	-7.4
	comp=Z,12nm,0.9s						
BRG				S	S	12 03 14.0	-0.5
BRG	Berggiesshubel	42.10	308	eP	P	11 57 12.1	+0.5
	comp=Z,30nm,0.9s						
BRG	Berggiesshubel	42.10	308	i P	P	11 57 12.4	+0.8
BRG				e*PP	pP	11 57 53.3	-3.7
BRG				S	S	12 03 14.0	-0.5
MOA	Molln	42.10	304	⇑iP	P	11 57 12.0	+0.3
	comp=Z,27nm,1.3s,SNR=7.9						
LJU	Ljubljana	42.13	301	i P	P	11 57 12.9	+0.9
RUE	Ruedersdorf	42.15	311	eP	P	11 57 11.9	-0.1
	comp=Z,46nm,0.9s						
CN2	Changchun	42.18	62	eP	P	11 57 13.6	+1.3
CN2				PcP	PcP	11 59 02.7	+0.3
CN2				eS	S	12 03 16.8	+1.0
CN2				PMZ			
	comp=Z,20nm,0.9s						
CN2				PMZ			
	comp=Z,200nm,4.0s						
CUC	Castrocucco	42.29	292	eP	P	11 57 15.0	+1.6
	comp=Z,9.2nm,0.6s						
GEC2	GERESS Array S	42.39	305	eP	P	11 57 14.4	+0.3
	comp=Z,16nm,1.5s						
GERES	GERESS Array B	42.39	305	P	P	11 57 14.2	+0.1
	comp=Z,2.7nm,0.7s,baz=81,slow=8.2,SNR=24						
GERES				pP	pP	11 58 01.6	+2.0
	comp=Z,0.5nm,0.4s,baz=134,slow=11,SNR=1.6						
GERES				PP	PP	11 58 47.6	-9.2
	comp=Z,1.9nm,0.8s,baz=84,slow=9.0,SNR=2.7						
GERES				PcP	PcP	11 59 02.5	-0.6
	comp=Z,5.3nm,0.8s,baz=76,slow=4.1,SNR=9.2						
GERES				ScP	ScP	12 02 31.7	-1.5
	comp=Z,1.7nm,0.7s,baz=102,slow=4.5,SNR=6.8						
RGN	Rugen	42.43	314	eP	P	11 57 14.8	+0.6
	comp=Z,102nm,1.0s						
RGN				epP	pP	11 58 01.4	+1.7
KHC	Kasperske Hory	42.44	306	eP	P	11 57 15.3	+0.8
KHC				ex	x	11 57 30.5	
KHC				epP	pP	11 58 02.8	+2.8
KHC				eS	S	12 03 18.7	-1.0
KHC				eXS	sS	12 04 41.4	+1.4
KHC				eSS	SS	12 06 43.5	+5.9
KHC	Kasperske Hory	42.44	306	eP	P	11 57 15.3	+0.8
KHC				e*PP	pP	11 58 02.8	+2.8
KHC				eS	S	12 03 18.7	-1.0
KHC				e		12 04 41.4	
KHC				e		12 06 43.5	
KHC	Kasperske Hory	42.44	306	eP	P	11 57 15.2	+0.8
	comp=Z,0.9nm,0.5s						
FBE	Freiberg	42.47	308	eP	P	11 57 15.3	+0.7
	comp=Z,33nm,0.9s						
JAVS	Javornik	42.47	301	eP	P	11 57 14.9	+0.1
IPM	Ipoh	42.64	131	eP	P	11 57 16.4	0.0
	comp=Z,84nm,0.8s						
IPM				ePcP	PcP	11 59 05.7	+1.3
HFS	Hagfors	42.65	322	P	P	11 57 15.9	0.0
	comp=Z,113nm,0.5s,baz=98,slow=11,SNR=445						
CLL	Collm	42.67	309	eP	P	11 57 16.2	0.0
	comp=Z,17nm,0.8s						
CLL	Collm	42.67	309	i P	P	11 57 16.5	+0.3
	comp=Z,17nm,0.8s						
CLL				ePP	PcP	11 59 02.0	-1.9
CLL				e(SS)		12 06 56.0	
CLL	Collm	42.67	309	i P	P	11 57 16.5	+0.3
CLL				pmax	pmax		
	comp=Z,17nm,0.8s						
PSI	Prapat	42.75	135	P	P	11 57 16.7	-0.7
	comp=Z,36nm,0.6s,baz=326,slow=8.4,SNR=23						
PSI				PcP	PcP	11 59 05.8	+1.0
	comp=Z,20nm,0.8s,baz=320,slow=5.0,SNR=4.3						
PSI				ScP	ScP	12 02 32.9	-2.2
	comp=Z,10nm,0.8s,baz=301,slow=5.9,SNR=6.4						
KBA	Koelnbreinsper	42.81	303	⇑iP	P	11 57 17.8	+0.2
	comp=Z,5.6nm,0.6s						
KSBAR	Backryungdo	42.90	71	P	P	11 57 18.9	+0.7
	SNR=27						
KSBAR	Backryungdo	42.90	71	P	P	11 57 18.9	+0.7
	SNR=27						
WET	Wettzell	42.90	306	eP	P	11 57 18.6	+0.5
	comp=Z,18nm,1.8s						
COP	Copenhagen	42.97	315	i P	P	11 57 18.2	-0.3
	comp=Z,30nm,0.8s						
COP	Copenhagen	42.97	315	i P	P	11 57 18.2	-0.3
COP				pmax	pmax		
	comp=Z,30nm,0.8s						
TRO	Tromso	42.99	336	⇑iP	P	11 57 16.9	-1.6
TANN	Tannenbergstha	43.07	308	eP	P	11 57 20.0	+0.5
	comp=Z,16nm,1.1s						
LLD	Lille Linde	43.09	315	i P	P	11 57 20.7	+1.3
LLD	Lille Linde	43.09	315	i P	P	11 57 20.7	+1.3
NKC	Novy Kostel	43.09	307	eP	P	11 57 21.0	+1.4
NKC				epP	pP	11 58 08.4	+3.2
NKC	Novy Kostel	43.09	307	eP	P	11 57 21.0	+1.4
NKC				e*PP	pP	11 58 08.4	+3.2
RJOB	Jochberg	43.10	304	eP	P	11 57 20.2	+0.4
	comp=Z,12nm,1.0s						
WERN	Wernitzgruen	43.13	307	eP	P	11 57 20.7	+0.7
	comp=Z,34nm,2.0s						
GUNZ	Gunzen	43.15	308	eP	P	11 57 20.7	+0.5
	comp=Z,24nm,1.3s						
WERD	Werda	43.16	308	eP	P	11 57 20.6	+0.4
	comp=Z,20nm,1.2s						
MSEY	Mahe Island	43.23	202	i P	P	11 57 21.9	+0.8
GSI	Gunungsitoli	43.24	138	P	P	11 57 22.5	+1.3
	comp=Z,216nm,0.7s						
GSI	Gunungsitoli	43.24	138	eP	P	11 57 22.4	+1.2
	comp=Z,121nm,0.7s						
GSI				ePcP	PP	11 59 08.2	+1.8
PLN	Plauen	43.26	308	eP	P	11 57 21.4	+0.5
	comp=Z,22nm,1.3s						
PLN				epP	pP	11 58 08.1	+1.5
ROTZ	Rotzenmuhle	43.28	307	eP	P	11 57 22.3	+1.1
	comp=Z,32nm,1.3s						
KTGM	Kuala Trenggan	43.30	128	⇑P	P	11 57 22.1	+0.5
MANZ	Manzenberg	43.33	307	eP	P	11 57 22.4	+0.9
	comp=Z,20nm,1.1s						
NEUB	Neuenburg	43.45	309	eP	P	11 57 22.7	+0.3
	comp=Z,39nm,1.0s						
MOR8	Moi Rana	43.48	331	eP	P	11 57 22.2	-0.3
MOR8				IAmb	IAmb	11 57 22.9	
	comp=Z,217nm,0.7s						
MOX	Moxa	43.59	308	eP	P	11 57 24.1	+0.5
	comp=Z,24nm,1.3s						

MOX ep P pP 11 58 10.7 +1.4
STEI Steigen 43.66 333 eP P 11 57 24.6 +0.7
STEI lAmb lAmb 11 57 25.0
comp=Z,85nm,0.8s
NC602 NORSAR Array S 43.78 323⇑ iP P 11 57 24.4 -0.5
GRF Grafenberg Arr 43.92 307 eP P 11 57 27.5 +1.2
comp=Z,36nm,1.2s
GRFO Grafenberg 43.93 307 eP P 11 57 28.1 +1.8
GRFO pmax pmax
comp=Z,50nm,1.5s
GRFO Grafenberg 43.93 307 eP P 11 57 28.1 +1.8
comp=Z,50nm,1.5s
WTTA Wattenberg 43.94 303⇑ iP P 11 57 26.1 -0.5
comp=Z,26nm,1.2s,SNR=6.9
FLOS Flostrand 43.94 331 eP P 11 57 26.6 +0.5
NB2 NORSAR Subarra 43.97 323 P P 11 57 26.2 -0.3
comp=Z,66nm,0.6s,baz=97,slow=7.9
NB2 NORSAR Subarra 43.97 323 P P 11 57 26.2 -0.3
baz=97,slow=7.9
NOA NORSAR Array B 43.97 323 P P 11 57 26.2 -0.3
comp=Z,61nm,0.5s,baz=98,slow=7.8,SNR=292
NOA PP PcP 11 59 07.7 -0.5
comp=Z,5.6nm,0.6s,baz=99,slow=10,SNR=4.0
FRIM Kepong 43.99 131⇑⇑ P P 11 57 27.8 +0.7
FUR Furstenfeldbru 44.06 304 eP P 11 57 27.9 +0.5
comp=Z,36nm,1.2s
KONS Konsvik 44.08 331 eP P 11 57 27.8 +0.6
KONS lAmb lAmb 11 57 28.1
comp=Z,52nm,0.5s
STOK Stokkvaagen 44.08 331 eP P 11 57 27.6 +0.4
NAO01 NORSAR Array S 44.11 323 eP P 11 57 27.3 -0.2
comp=Z,24nm,0.6s
OSL Oslo 44.11 321 eP P 11 57 26.4 -1.1
CLZ Clausthal 44.28 310 eP P 11 57 29.4 +0.3
comp=Z,47nm,1.4s
CLZ ep P pP 11 58 17.8 +2.9
MOTA Moosalm 44.29 303⇓⇓ iP P 11 57 29.2 -0.2
comp=Z,12nm,0.9s,SNR=5.1
KSGAH Ganghwa 44.29 71 P P 11 57 30.1 +0.8
SNR=26
KSGAH Ganghwa 44.29 71 P P 11 57 30.1 +0.8
SNR=26
YAK Yakutsk 44.33 36 P P 11 57 26.9 -2.3
comp=Z,8.9nm,0.2s,baz=256,slow=12,SNR=19
YAK Yakutsk 44.33 36 iP P 11 57 29.7 +0.5
YAK e*PP pP 11 58 14.9 -0.2
YAK e 11 59 09.8
YAK e 11 59 15.7
YAK ePPP PPP 12 00 01.5
YAK eS S 12 03 46.5 0.0
YAK e*SS sS 12 05 07.1 -0.2
YAK e 12 07 05.0
YAK pmax pmax
comp=Z,168nm,0.9s
YAK pmax pmax
comp=E,63nm,1.5s
YAK pmax pmax
comp=N,30nm,1.4s
YAK pmax pmax
comp=E,109nm,2.1s
YAK pmax pmax
comp=N,45nm,1.6s
YAK pmax pmax
comp=Z,81nm,2.2s
YAK smax smax
comp=E,252nm,1.7s
YAK smax smax
comp=N,188nm,1.5s
YAK Yakutsk 44.33 36 eP P 11 57 29.9 +0.6
comp=N,193nm,0.8s
LOF Lofoten 44.33 333 eP P 11 57 28.9 -0.3
NRDL Niedersach Rie 44.40 311 eP P 11 57 30.4 +0.5
comp=Z,29nm,1.1s
NRDL ep P pP 11 58 19.3 +3.6
KSHUK Heuksando 44.44 75 P P 11 57 31.3 +0.7
SNR=9.1
KSHUK Heuksando 44.44 75 P P 11 57 31.3 +0.7
SNR=9.1
KSMUS Musan 44.48 70 P P 11 57 31.7 +0.9
SNR=11
KSMUS Musan 44.48 70 P P 11 57 31.7 +0.9
SNR=11
INCN Inchon 44.50 71 eP P 11 57 31.9 +0.9
comp=Z,30nm,0.6s
KSSES Seosan 44.56 72 P P 11 57 31.8 +0.3
SNR=15
KSSES Seosan 44.56 72 P P 11 57 31.8 +0.3
SNR=15
YNCB YEONCHEON 44.56 70 P P 11 57 32.3 +0.8
SNR=9.5
YNCB YEONCHEON 44.56 70 P P 11 57 32.3 +0.8
SNR=9.5
FETA Feichten 44.59 303⇓⇓ iP P 11 57 31.5 -0.3
comp=Z,6.6nm,0.7s,SNR=6.0
UBBA Unterbreizbach 44.60 308 eP P 11 57 31.7 +0.3
comp=Z,14nm,1.2s
KONO Kongsberg 44.66 321⇑ iP P 11 57 31.7 -0.1
KONO lAmb lAmb 11 57 32.5
comp=Z,40nm,0.8s
KONO Kongsberg 44.66 321 eP P 11 57 31.8 -0.1
KONO pmax pmax
comp=Z,38nm,0.6s
KONO Kongsberg 44.66 321 eP P 11 57 31.8 -0.1
comp=Z,38nm,0.6s
MNSI Mandailing Nat 44.77 136 P P 11 57 33.5 +0.2
comp=Z,78nm,0.9s
MUD Monsted U'grnd 44.80 316 iP P 11 57 33.7 +0.6
MUD Monsted U'grnd 44.80 316 eP P 11 57 33.7 +0.6
KSSWO Suwon 44.81 71 P P 11 57 34.5 +1.1
SNR=7.8
HOPEN Hopen 44.83 346 eP P 11 57 34.9 +1.9
MDJ Mudanjiang 44.96 60 P P 11 57 34.0 -0.5
MDJ pP pP 11 58 17.2 -3.3
MDJ sP sP 11 58 40.0 -4.6
MDJ S S 12 03 55.2 -1.0
MDJ SS SS 12 07 20.6 -1.0
MDJ PMZ
comp=Z,46nm,3.0s
MDJ LN
comp=Z,38nm,24.8s
MDJ LE
comp=Z,43nm,27.9s
MDJ LZ
comp=Z,78nm,26.5s
MDJ Mudanjiang 44.96 60 eP P 11 57 35.7 +1.2
comp=Z,7.9nm,0.4s
FUORN Ofenpass-Fuorn 44.97 302 eP P 11 57 34.8 -0.1
comp=Z,93nm,2.5s
KSCWO Cheorwon 45.00 70 P P 11 57 36.3 +1.4
SNR=16
KSCWO Cheorwon 45.00 70 P P 11 57 36.3 +1.4
SNR=16
BJO Bjornoya 45.01 343⇑ iP P 11 57 35.7 +1.2
BJO lAmb lAmb 11 57 36.3
comp=Z,326nm,0.7s
DAVA Damuels 45.12 303 iP P 11 57 35.6 -0.4
comp=Z,25nm,0.6s,SNR=14
KSICN Icheon 45.15 71 P P 11 57 36.9 +0.8
SNR=17
KSCEA Cheonan 45.17 72 P P 11 57 36.6 +0.4
SNR=14
KSCEA Cheonan 45.17 72 P P 11 57 36.6 +0.4
SNR=14
HOMB Homborsund 45.18 319 eP P 11 57 35.7 -0.3
KSJDO Jindo 45.19 75 P P 11 57 37.1 +0.6
SNR=9.6
KSJDO Jindo 45.19 75 P P 11 57 37.1 +0.6
SNR=9.6
KSCHC Chuncheon 45.31 70 P P 11 57 38.4 +1.1
SNR=69
KSJEU Jeongeup 45.33 74 P P 11 57 37.6 +0.1
SNR=13
KSJEU Jeongeup 45.33 74 P P 11 57 37.6 +0.1
SNR=13
STU Stuttgart 45.35 306 eP P 11 57 37.8 +0.2
comp=Z,18nm,0.9s
KSAR Wonju Array Be 45.46 71 P P 11 57 38.9 +0.4
KSAR 11 59 12.9
KSAR Wonju Array Be 45.46 71 P P 11 57 38.9 +0.4
KSAR PcP PcP 11 59 12.9 -0.8
KSJEO Jeonju 45.47 73 P P 11 57 38.8 +0.1
SNR=6.4
KSJEO Jeonju 45.47 73 P P 11 57 38.8 +0.1
SNR=6.4
KSIJA INJE 45.48 70 P P 11 57 39.6 +1.0
SNR=46
KSKWJ Gwangju 45.48 74 P P 11 57 38.9 +0.2
SNR=8.1
KSRS Korea Array 45.49 71 P P 11 57 38.9 +0.2
comp=Z,42nm,0.7s,baz=277,slow=6.8,SNR=216
KSRS PcP PcP 11 59 12.9 -0.9
comp=Z,7.5nm,0.8s,baz=288,slow=3.0,SNR=6.5
KSRS ScP ScP 12 02 44.4 -1.5
comp=Z,1.9nm,0.7s,baz=288,slow=4.2,SNR=7.3
SEHB SEOHWA 45.50 69 P P 11 57 40.2 +1.3
SNR=27
SEHB SEOHWA 45.50 69 P P 11 57 40.1 +1.2
SNR=58
KSWAN Wando 45.52 75 P P 11 57 39.6 +0.6
SNR=6.1
KSWJU Wonju 45.60 71 P P 11 57 40.8 +1.1
SNR=14
TUE Stuetta 45.62 302 eP P 11 57 38.7 -1.2
comp=Z,439nm,0.5s
TNS Taunus Mts 45.65 308 eP P 11 57 40.3 +0.4
comp=Z,16nm,1.2s
KLR Kul'dur 45.66 54⇓⇓ iP P 11 57 37.0 -2.9
KLR pmax pmax
comp=Z,110nm,1.4s
KSBON Boeun 45.68 72 P P 11 57 40.4 +0.1
SNR=19
YULB Yu-li 45.68 92 eP P 11 57 42.7 +2.2
comp=Z,27nm,0.8s
KSSKC Sokcho 45.70 69 P P 11 57 41.9 +1.5
SNR=25
KSCHJ Chungju 45.70 71 P P 11 57 41.0 +0.6
SNR=7.6
TWG Pinlang 45.78 93 eP P 11 57 43.6 +2.4
comp=Z,216nm,0.8s
IBBN Ibbenburen 45.85 311 eP P 11 57 41.6 +0.3
comp=Z,45nm,0.9s
IBBN epP pP 11 58 29.3 +1.8
SNART Snartemo 45.86 319 eP P 11 57 42.2 +0.9
KSKOH Goheung 45.89 75 P P 11 57 42.3 +0.5
SNR=7.4
KSCPR CHUPUNGNYEONG 45.90 72 P P 11 57 42.1 +0.1
SNR=8.7
BKNI Bangkinang 45.98 135 P P 11 57 42.6 -0.2
comp=Z,162nm,0.8s,comp=Z,1μm
BKNI Bangkinang 45.98 135 eP P 11 57 42.5 -0.2
comp=Z,119nm,0.8s
KSSAJ Sanju 45.99 72 P P 11 57 43.0 +0.4
SNR=16
KSDGY Daegwallycong 45.99 70 P P 11 57 43.7 +0.9
SNR=70
BFO Black Forest 45.99 305 eP P 11 57 42.2 -0.4
comp=Z,16nm,1.2s
BFO Black Forest 45.99 305 eP P 11 57 42.8 +0.2
BFO pmax pmax
comp=Z,15nm,1.2s
BFO Black Forest 45.99 305 eP P 11 57 42.8 +0.2
comp=Z,15nm,1.2s
KSJMJ Jumunjin 45.99 70 P P 11 57 43.9 +1.2
SNR=12
KSJES JEONGSEON 46.06 70 P P 11 57 44.2 +0.9
SNR=11
AKN Aaknes 46.08 324 eP P 11 57 43.9 +0.9
ODD1 Odda 46.17 321 eP P 11 57 45.8 +2.0
LANF Langenberg 46.23 306⇓⇓ eP P 11 57 45.6 +1.2
BUG Bochum-Univer 46.24 310 eP P 11 57 44.7 +0.3
comp=Z,32nm,1.1s
BUG epP pP 11 58 32.8 +2.2
BLS5 Blasjo 46.25 321⇑⇑ iP P 11 57 45.0 +0.6
KSTBA Taebaek 46.37 71 P P 11 57 46.6 +0.9
SNR=26
KSEUS ULSEONG 46.41 72 P P 11 57 46.7 +0.8
SNR=11
HYA Hoyanger 46.42 323 eP P 11 57 46.2 +0.6
HYA lAmb lAmb 11 57 46.9
comp=Z,53nm,1.2s
MYKOM Kota Tinggi 46.48 130 eP P 11 57 47.1 +0.4
comp=Z,55nm,0.8s
USRK Ussuriysk Ar. 46.73 61 P P 11 57 48.1 -0.1
comp=Z,19nm,0.8s,baz=278,slow=7.3,SNR=34
USRK PcP PcP 11 59 16.8 -1.3
comp=Z,2.6nm,0.5s,baz=316,slow=4.0,SNR=3.7
KSDAG Daegu 46.76 73 P P 11 57 48.8 +0.1
SNR=8.5
ECH Echery 46.78 305⇓⇓ eP P 11 57 50.8 +2.1
ECH Echery 46.78 305 eP P 11 57 49.0 +0.3
ECH Echery 46.78 305 eP P 11 57 49.0 +0.3
comp=Z,2.8nm,0.4s
BER Bergen 46.82 322 eP P 11 57 49.5 +0.8
KSULJ Uljin 46.85 71 P P 11 57 50.1 +0.7
SNR=19
MOF Molkenrain 46.86 305⇓⇓ eP P 11 57 49.7 +0.3
KMY Karmoy 46.87 320 eP P 11 57 49.8 +0.7
ASK Askoy 46.89 322 eP P 11 57 49.9 +0.6
VLA Vladivostok 46.90 62⇓⇓ iP P 11 57 50.0 +0.3
VLA e 11 59 17.6
VLA e 11 59 41.3
VLA eS S 12 04 26.5 +2.7
VLA pmax pmax
comp=Z,144nm,1.0s
HSPB Hornsund (broa 46.95 345 eP P 11 57 51.1 +1.5
HSPB eSS SS 12 08 11.3 +19
KSPHA Pohang 46.98 72 P P 11 57 51.2 +0.8
SNR=9.2
SENIN Lac Senin/Sane 47.03 303 eP P 11 57 50.9 0.0
KSBUS Busan 47.09 73 P P 11 57 51.7 +0.4
SNR=7.0
SUE Sulen 47.11 323 eP P 11 57 51.4 +0.5
MEM Membach 47.14 309 eP P 11 57 52.5 +1.1
MEM pmax pmax
comp=Z,14nm,0.9s
MEM Membach 47.14 309 eP P 11 57 52.5 +1.1
comp=Z,14nm,0.9s
LOMF Lomont 47.15 304⇓⇓ eP P 11 57 51.9 +0.2
WLF Walferdange 47.19 307 eP P 11 57 52.5 +0.7
comp=Z,46nm,1.2s
SDSI Sungai Dareh 47.23 135 P P 11 57 54.8 +2.3
comp=Z,102nm,0.8s,comp=Z,18μm
SPA0 Spitsbergen Ar 47.33 347⇑⇑ iP P 11 57 54.0 +1.5
SPA0 lAmb lAmb 11 57 54.8
comp=Z,134nm,0.8s
SAOF Saorge 47.37 299⇓⇓ eP P 11 57 53.7 +0.4
AUTN L'Aution 47.45 299⇓⇓ eP P 11 57 54.7 +0.5
THEF They Montfort 47.55 305⇓⇓ eP P 11 57 55.3 +0.7
REVF Revere 47.55 299 eP P 11 57 54.4 -0.4
TOUF Mont Tournerai 47.57 299⇓⇓ eP P 11 57 55.8 +0.7
TPRI Tanjung Pinang 47.58 130 P P 11 57 56.0 +0.8
comp=Z,101nm,0.7s,comp=Z,33μm
MVIF Mont Vial 47.67 299 eP P 11 57 56.0 +0.2
BNI Bardonecchia 47.73 301 eP P 11 57 55.7 -0.5
BNI Bardonecchia 47.73 301 eP P 11 57 55.7 -0.5
comp=Z,9.4nm,0.9s
HABR Khabarovsk 47.93 54⇓⇓ de P 11 57 56.7 -0.8
HABR e 11 59 21.1
HABR eS S 12 04 39.6 +1.4
HABR e 12 07 28.1
HABR eSS SS 12 08 12.3 +2.8
HABR pmax pmax
comp=E,44nm,1.2s
HABR pmax pmax
comp=Z,100nm,1.2s
HABR pmax pmax
comp=N,5.0nm,0.6s
HABR MLR MLR
comp=Z,48nm,16.0s
KMBO Kilima Mbogo 48.37 227 P P 11 58 01.9 +0.4
comp=Z,54nm,0.6s,baz=29,slow=6.9,SNR=112
KMBO Kilima Mbogo 48.37 227 iP P 11 58 02.2 +0.7
KMBO pmax pmax
comp=Z,54nm,0.6s
KMBO Kilima Mbogo 48.37 227 eP P 11 58 02.2 +0.7
comp=Z,13nm,0.6s
KEST Kesra 48.41 288 P P 11 58 02.0 +0.5
comp=Z,1.9nm,0.5s,baz=32,slow=4.8,SNR=11
KEST Kesra 48.41 288 eP P 11 58 02.3 +0.8
KBS Kingsbay 48.45 347⇑⇑ iP P 11 58 02.4 +1.4
KBS lAmb lAmb 11 58 03.2
comp=Z,216nm,0.8s
KBS Kingsbay 48.45 347 eP P 11 58 02.2 +1.2
KBS pmax pmax
comp=Z,45nm,0.7s
KBS Kingsbay 48.45 347 eP P 11 58 02.2 +1.2
comp=Z,45nm,0.7s
JMBI JAMBI 49.07 133 P P 11 58 10.2 +3.6
comp=Z,286nm,0.8s
SSB Saint Sauveur 49.15 302 eP P 11 58 06.9 0.0
SSB pmax pmax
comp=Z,8.0nm,0.6s
SSB Saint Sauveur 49.15 302 eP P 11 58 06.9 0.0
comp=Z,7.6nm,0.6s
JNU Nakatsue 49.22 75 P P 11 58 08.4 +0.8
comp=Z,73nm,0.8s,baz=291,slow=3.9,SNR=77
JNU PcP PcP 11 59 26.9 -0.4
comp=Z,11nm,0.9s,baz=210,slow=5.2,SNR=3.2
JNU Nakatsue 49.22 75 eP P 11 58 08.4 +0.8
comp=Z,30nm,0.8s
JNU PcP PcP 11 59 26.9 -0.4
MASI Maura Aman, Be 49.49 136 P P 11 58 09.9 +0.1
comp=Z,311nm,1.0s,comp=Z,6μm
JOW Kunigami 49.72 84 P P 11 58 11.2 -0.2
comp=Z,0.9nm,0.3s,baz=324,slow=9.5,SNR=14
YEL1 Yell 49.99 322 eP P 11 58 12.8 -0.1
LBL Lubilhac 50.05 302⇓⇓ eP P 11 58 14.5 +0.8
LRW Lerwick 50.08 322 eP P 11 58 13.6 0.0
LRW AMB AMB 11 58 14.0
comp=Z,42nm,1.0s
SAN1 Sandwick 50.12 322 eP P 11 58 13.4 -0.5
NKL Nikolayevsk 50.58 47 iP P 11 58 18.0 +0.6
NKL pmax pmax
comp=N,22nm,0.8s
NKL pmax pmax
comp=E,77nm,0.8s
NKL pmax pmax
comp=Z,130nm,0.8s
LHSI Lahat 50.78 135 P P 11 58 17.3 -2.1
comp=Z,53nm,0.8s
KSM Kuching 50.88 124 eP P 11 58 20.9 +0.7
comp=Z,34nm,1.0s
KSM epPcP PcP 11 59 35.2 +1.7
PPBI Pangkal Pinang 50.99 131 P P 11 58 20.8 -0.1
comp=Z,100nm,0.8s,comp=Z,12μm
DRUM Mains of Drumt 51.17 318 eP P 11 58 21.7 -0.1
HPK Haverah Park 51.20 314 eP P 11 58 21.7 -0.3
HPK AMB AMB 11 58 22.3
comp=Z,42nm,1.2s
MME1 Meikle Cairn 51.37 318 eP P 11 58 23.1 -0.2
ESY Stoneypath 51.41 317 eP P 11 58 23.5 0.0
SBUM Sibu 51.47 121 eP P 11 58 25.6 +1.1
comp=Z,16nm,0.9s
MCD Coleburn Disti 51.48 319 eP P 11 58 23.7 -0.3
EBL Broad Law 51.67 316 eP P 11 58 25.4 -0.1
MDSI Maura Dua 51.69 135 P P 11 58 23.2 -3.0
comp=Z,23nm,0.9s
KKM Kota Kinabalu 51.81 114 eP P 11 58 28.5 +1.3
comp=Z,43nm,0.6s
KKM epP pP 11 59 20.7 +6.2
ECK Cauldkaine Hil 51.83 316 eP P 11 58 26.4 -0.3
ESK Eskdalemuir 51.85 316 eP P 11 58 26.6 -0.2
ESK AMB AMB 11 58 28.1
comp=Z,44nm,1.3s
ESK Eskdalemuir 51.85 316 iP P 11 58 27.2 +0.4
MVH1 Achvaich 51.91 319 eP P 11 58 26.6 -0.6
KESW Keswick, Cumbr 51.93 315 eP P 11 58 27.7 +0.2
MBAR Mbarara 51.99 234 P P 11 58 27.8 -0.8
comp=Z,81nm,0.6s,SNR=7.4
LWLI Liwa 52.06 135 P P 11 58 28.1 -0.9
comp=Z,70nm,0.6s,comp=Z,7μm
HLM1 Long Mynd 52.24 312 eP P 11 58 29.8 0.0
TYV Tymovskoe 52.25 50 eP P 11 58 32.0 +2.1
TYV pmax pmax
comp=Z,35nm,0.8s
TYV pmax pmax
comp=N,40nm,1.0s
JMIC Jan Mayen 52.30 336 P P 11 58 30.2 +0.3
comp=N,36nm,0.6s,baz=135,slow=5.7,SNR=4.4
EAB Aberfoyle 52.31 317 eP P 11 58 29.9 -0.3
MONM Monmouth 52.35 311 eP P 11 58 30.0 -0.5
MONM AMB AMB 11 58 31.2
comp=Z,44nm,1.4s
MCH1 Michaelchurch 52.43 312 eP P 11 58 30.6 -0.6
MCH1 AMB AMB 11 58 31.8
comp=Z,48nm,0.9s
KAC Achnashellach 52.58 319 eP P 11 58 31.6 -0.6
KSB Sheil Bridge 52.70 319 eP P 11 58 32.5 -0.5
STKI Sintang 52.70 124 P P 11 58 34.8 +1.2
comp=Z,44nm,0.8s,comp=Z,9μm
KASI Kota Agung 52.72 135 P P 11 58 31.9 -1.8
comp=Z,108nm,0.8s
KPL Plockton 52.80 319 eP P 11 58 33.9 +0.2
KPL AMB AMB 11 58 36.4
comp=Z,49nm,1.6s
LPW Lampeter 53.04 312 eP P 11 58 35.7 +0.1
LPW AMB AMB 11 58 36.0
comp=Z,41nm,1.1s
HEX Exmoor 53.14 311 eP P 11 58 35.8 -0.6
YSS Yuzh-Sakhalins 53.34 55⇑⇑ iP P 11 58 38.2 +0.3
YSS e 11 59 49.0
YSS pmax pmax
comp=Z,160nm,0.9s
YSS Yuzh-Sakhalins 53.34 55 eP P 11 58 38.5 +0.7
comp=Z,130nm,0.7s
MAJO Matsushiro 53.55 68*c* iP P 11 58 39.1 -0.5
MAJO pmax pmax
comp=Z,328nm,0.8s
MAJO Matsushiro 53.55 68 eP P 11 58 39.5 -0.2
comp=Z,50nm,0.7s
MAT Matsushiro 53.55 68 P P 11 58 39.2 -0.4
MAT S S 12 05 51.6 -4.2
MJAR Matsushiro Arr 53.55 68 P P 11 58 39.5 -0.1
comp=Z,33nm,0.8s,baz=287,slow=10,SNR=81
MJAR ScP ScP 12 03 18.4 -2.1
comp=Z,1.8nm,0.7s,baz=274,slow=4.5,SNR=5.6
HTL Hartland 53.58 311 eP P 11 58 39.5 0.0
ASAJ Asahikawa 54.10 58 eP P 11 58 43.5 +0.1
comp=Z,3.1nm,0.5s
CGJI Cibinong 54.29 135 P P 11 58 44.8 -0.3
comp=Z,162nm,0.5s,comp=Z,5μm
DAG Danmarks Havn 54.53 344⇑⇑ iP P 11 58 46.8 +0.8
comp=Z,97nm,0.8s
DAG Danmarks Havn 54.53 344⇑⇑ iP P 11 58 46.8 +0.8
DAG pmax pmax
comp=Z,73nm,0.8s
SEY Seymchan 54.76 34 P P 11 58 48.8 +0.9
comp=Z,34nm,0.8s,baz=267,slow=6.5,SNR=51
SEY Seymchan 54.76 34*c* iP P 11 58 49.0 +1.1
ERM Erimo 55.18 60 P P 11 58 51.8 +0.6
comp=Z,132nm,0.7s,SNR=12
ERM Erimo 55.18 60*d* iP P 11 58 51.3 +0.1
ERM pmax pmax
comp=Z,42nm,1.8s
ERM Erimo 55.18 60 eP P 11 58 51.6 +0.4
comp=Z,14nm,0.6s
MTKI Muara Teweh, K 55.75 122 P P 11 58 58.6 +3.0
comp=Z,15nm,0.6s
ESDC Sonseca Array 56.87 298 P P 11 59 03.0 -0.3
comp=Z,2.9nm,0.6s,baz=55,slow=7.8,SNR=22
ESDC pP PcP 11 59 54.6 -1.6
comp=Z,1.6nm,0.6s,baz=44,slow=6.6,SNR=2.1
ESDC ScP ScP 12 03 33.3 -1.7
comp=Z,1.0nm,0.7s,baz=47,slow=4.1,SNR=4.8
TAM Tamanrasset 56.89 275 eP P 11 59 03.7 -0.1
TAM pmax pmax
comp=Z,5.0nm,0.6s
TAM Tamanrasset 56.89 275 eP P 11 59 03.7 -0.1
comp=Z,5.1nm,0.6s
UWJI Ujung Watu 57.27 130 P P 11 59 08.8 +2.5
comp=Z,228nm,0.8s,comp=Z,4μm
BBKI Banjar Baru 57.55 124 P P 11 59 08.8 +0.5
comp=Z,171nm,0.8s,comp=Z,3μm
KBKI Kotabaru 58.33 122 P P 11 59 14.9 +1.3
comp=Z,102nm,0.9s,comp=Z,931nm
MPSI Mapaga 58.37 116 P P 11 59 14.9 +0.9
comp=Z,55nm,0.9s,comp=Z,597nm
MVO Moncorvo 58.46 300 eP P 11 59 14.3 -0.1
MVO Moncorvo 58.46 300 eP P 11 59 14.3 -0.1
ALE Alert 58.95 354 P P 11 59 18.3 +1.3
comp=Z,156nm,0.7s,SNR=20
OPO Ambohidratompo 58.95 206 P P 11 59 19.2 +1.3
comp=Z,47nm,0.8s,baz=18,slow=6.1,SNR=37
MTE Manteigas 59.12 300 eP P 11 59 19.0 0.0
comp=Z,27nm,1.3s
MTE Manteigas 59.12 300 eP P 11 59 19.3 +0.4
comp=Z,27nm,2.0s
MTE Manteigas 59.12 300 eP P 11 59 19.3 +0.4
comp=Z,27nm,2.0s
PCI Palu 59.19 117 P P 11 59 20.9 +1.3
comp=Z,58nm,1.1s
ABPO Ambohimpanom 59.35 205 eP P 11 59 21.4 +0.7
ABPO pmax pmax
comp=Z,56nm,0.7s
ABPO Ambohimpanom 59.35 205 eP P 11 59 21.4 +0.7
comp=Z,56nm,0.7s

PMRV	**Marv??o**	**59.41**	**299**	*e*P	**P**	**11 59 21.1**	**+0.3**
	comp=Z,24nm,1.8s						
PMRV	**Marv??o**	**59.41**	**299**	*e*P	**P**	**11 59 21.1**	**+0.3**
	comp=Z,24nm,1.8s						
PBAR	**Barrancos**	**59.67**	**297**	*e*P	**P**	**11 59 23.1**	**+0.5**
	comp=Z,34nm,1.7s						
PBAR	**Barrancos**	**59.67**	**297**	*e*P	**P**	**11 59 23.1**	**+0.5**
	comp=Z,34nm,1.7s						
MRSI	**Marisa**	**59.76**	**115**	P	**P**	**11 59 24.2**	**+0.7**
	comp=Z,121nm,0.9s,comp=Z,1μm						
PEA0B	**Petropavlovsk-**	**60.41**	**44**	*e*P	**P**	**11 59 27.4**	**+0.1**
PETK	**Petropavlovsk-**	**60.41**	**44**	P	**P**	**11 59 27.2**	**-0.2**
	comp=Z,13nm,0.6s,baz=256,slow=3.5,SNR=30						
APSI	**Ampana**	**60.49**	**116**	P	**P**	**11 59 29.8**	**+1.3**
	comp=Z,88nm,0.7s,comp=Z,758nm						
CBIJ	**Chichi jima**	**60.63**	**77**	P	**P**	**11 59 26.4**	**-2.9**
JCJ	**Chichijima**	**60.63**	**77**	P	**P**	**11 59 26.4**	**-2.9**
	comp=Z,48nm,0.8s,baz=273,slow=19,SNR=4.4						
TTSI	**Tana Toraja**	**60.67**	**119**	P	**P**	**11 59 30.1**	**+0.5**
	comp=Z,37nm,0.9s						
SUMG	**Summit**	**60.83**	**341**	⇑*i*P	**P**	**11 59 31.5**	**+1.1**
	comp=Z,75nm,1.0s						
SUMG	**Summit**	**60.83**	**341**	*e*P	**P**	**11 59 31.4**	**+1.1**
SUMG				*e*		12 00 13.1	
SUMG				*e*		12 01 48.2	
SUMG				pmax	pmax		
	comp=Z,65nm,0.9s						
SUMG	**Summit**	**60.83**	**341**	*e*P	**P**	**11 59 31.4**	**+1.0**
	comp=Z,65nm,0.9s						
SUMG				*e*PcP	**PcP**	**12 00 13.1**	**+1.2**
SUMG				*e*PP	**PP**	**12 01 48.2**	**+1.6**
JAGI	**Jajag, Banyuwa**	**60.86**	**128**	P	**P**	**11 59 31.7**	**+0.8**
	comp=Z,54nm,0.7s						
JAGI	**Jajag, Banyuwa**	**60.86**	**128**	*e*P	**P**	**11 59 29.2**	**-1.7**
	comp=Z,35nm,0.7s						
PET	**Petropavlovsk**	**60.97**	**44**	*i* P	**P**	**11 59 30.3**	**-0.8**
PET				pmax	pmax		
	comp=Z,107nm,1.5s						
SPSI	**Sidrap Palu**	**61.29**	**120**	P	**P**	**11 59 34.7**	**+0.9**
	comp=Z,22nm,0.7s						
KAPI	**Kappang**	**62.02**	**121**	*e*P	**P**	**11 59 38.8**	**+0.1**
	comp=Z,6.0nm,1.1s						
BKSI	**Bulukumba**	**62.50**	**121**	P	**P**	**11 59 42.5**	**+0.7**
	comp=Z,28nm,0.8s						
TNTI	**Ternate**	**63.60**	**110**	P	**P**	**11 59 49.6**	**+0.4**
	comp=Z,81nm,1.0s,comp=Z,3μm						
TNTI	**Ternate**	**63.60**	**110**	*e*P	**P**	**11 59 49.1**	**0.0**
	comp=Z,59nm,0.8s						
SANI	**Sanana**	**64.44**	**114**	P	**P**	**11 59 56.3**	**+1.7**
	comp=Z,56nm,0.7s						
LSZ	**Lusaka**	**65.00**	**225**	*e*P	**P**	**11 59 58.3**	**+0.1**
LSZ				pmax	pmax		
	comp=Z,12nm,0.6s						
LSZ	**Lusaka**	**65.00**	**225**	*e*P	**P**	**11 59 58.3**	**+0.1**
	comp=Z,12nm,0.6s						
TOA0	**Torodi Ar. Sit**	**65.07**	**268**	*e*P	**P**	**11 59 57.2**	**-1.5**
TOA0	**Torodi Ar. Sit**	**65.07**	**268**	*e*P	**P**	**11 59 57.0**	**-1.6**
TOA0				*e*pP	**pP**	**12 00 47.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**65.07**	**268**	P	**P**	**11 59 57.4**	**-1.3**
	comp=Z,13nm,0.6s,baz=48,slow=5.5,SNR=92						
ILULI	**Ilulissat**	**66.17**	**341**	⇑*i*P	**P**	**12 00 05.3**	**+0.5**
	comp=Z,63nm,0.8s						
SOEI	**Soe**	**68.52**	**121**	P	P	12 00 29.9	+9.4
SOEI	**Soe**	**68.52**	**121**	*e*P	**P**	**12 00 20.4**	**-0.1**
	comp=Z,55nm,0.8s						
RES	**Resolute Bay**	**68.63**	**356**	P	**P**	**12 00 20.9**	**+0.7**
	comp=Z,8.0nm,0.8s,baz=31,slow=7.3,SNR=4.0						
INK	**Inuvik**	**73.99**	**9**	P	**P**	**12 00 53.0**	**+0.7**
	comp=Z,45nm,0.6s,baz=353,slow=6.5,SNR=94						
INK	**Inuvik**	**73.99**	**9**	P	**P**	**12 00 53.0**	**+0.7**
DBIC	**Dimbokro**	**74.05**	**266**	P	**P**	**12 00 52.9**	**-0.7**
	comp=Z,5.7nm,0.5s,baz=32,slow=6.4,SNR=16						
SMPI	**Sarmi**	**74.08**	**105**	P	**P**	**12 00 54.9**	**+1.2**
	comp=Z,32nm,0.6s						
KIC	**Kosan Boka**	**74.14**	**266**	*e*P	**P**	**12 00 53.5**	**-0.6**
	comp=Z,22nm,0.6s						
TIC	**Toumodi**	**74.19**	**267**	*e*P	**P**	**12 00 53.6**	**-0.8**
LBTB	**Lobatse**	**74.26**	**221**	*e*P	**P**	**12 00 54.8**	**+0.2**
LBTB				pmax	pmax		
	comp=Z,40nm,0.7s						
LBTB	**Lobatse**	**74.26**	**221**	*e*P	**P**	**12 00 54.8**	**+0.2**
	comp=Z,40nm,0.7s						
TSUM	**Tsumeb**	**74.42**	**231**	*e*P	**P**	**12 00 55.2**	**-0.4**
	comp=Z,14nm,0.8s						
TSUM				*e*pP	**pP**	**12 01 46.2**	**-0.3**
LIC	**Lamto**	**74.45**	**266**	*e*P	**P**	**12 00 54.6**	**-1.2**
	comp=Z,23nm,0.6s						
COLA	**College**	**74.64**	**16***c*	*i*P	**P**	**12 00 56.1**	**0.0**
COLA	**College**	**74.64**	**16**	*e*P	**P**	**12 00 56.7**	**+0.6**
	comp=Z,71nm,0.9s						
COLA				*e*pP	**pP**	**12 01 48.4**	**+1.6**
COLA				*e*PP	**PP**	**12 03 48.1**	**+2.8**
BWN	**Browne**	**74.87**	**17**	*e*P	**P**	**12 00 58.5**	**+1.0**
	comp=Z,109nm,1.1s						
ILAR	**Eielson Array**	**74.94**	**16**	P	**P**	**12 00 57.5**	**-0.4**
	comp=Z,22nm,0.9s,baz=319,slow=4.4,SNR=162						
ILAR				PP	PP	12 03 39.6	-8.2
	comp=Z,3.1nm,0.8s,baz=319,slow=5.4,SNR=4.4						
KTH	**Kantishna Hill**	**75.05**	**18**	*e*P	**P**	**12 00 58.4**	**-0.2**
	comp=Z,64nm,1.0s						
KTH				*e*pP	**pP**	**12 01 51.0**	**+1.6**
HDA	**Harding Lake**	**75.24**	**16**	*e*P	**P**	**12 00 59.2**	**-0.4**
	comp=Z,25nm,1.1s						
PPLA	**Purkeypile**	**75.28**	**19**	*e*P	**P**	**12 01 00.6**	**+0.6**
	comp=Z,11nm,0.5s						
PPLA				*e*pP	**pP**	**12 01 53.7**	**+2.9**
MCK	**McKinley**	**75.37**	**17**	*e*P	**P**	**12 01 00.3**	**0.0**
MCK				pmax	pmax		
	comp=Z,12nm,0.5s						
MCK	**McKinley**	**75.37**	**17**	*e*P	**P**	**12 01 00.3**	**0.0**
	comp=Z,12nm,0.5s						
EGAK	**Eagle**	**76.08**	**13**	*e*P	**P**	**12 01 05.1**	**+0.8**
	comp=Z,35nm,1.1s						
PAX	**Paxson**	**76.82**	**16**	*e*P	**P**	**12 01 09.2**	**+0.6**
PAX	**Paxson**	**76.82**	**16**	*e*P	**P**	**12 01 09.2**	**+0.6**
DAWY	**Dawson**	**77.05**	**13**	*e*P	**P**	**12 01 09.9**	**+0.1**
	comp=Z,55nm,1.1s						
DAWY				*e*pP	**pP**	**12 02 02.0**	**+1.1**
RSO	**Redoubt South**	**77.15**	**20**	*e*P	**P**	**12 01 11.4**	**+0.8**
	comp=Z,47nm,0.9s						
PMR	**Palmer**	**77.15**	**18**	*e*P	**P**	**12 01 10.4**	**+0.1**
PMR				pmax	pmax		
	comp=Z,15nm,0.8s						
PMR	**Palmer**	**77.15**	**18**	*e*P	**P**	**12 01 10.4**	**+0.1**
	comp=Z,14nm,0.8s						
BOSA	**Boshof**	**77.34**	**220**	P	**P**	**12 01 10.9**	**-1.0**
	comp=Z,18nm,0.7s,baz=26,slow=4.8,SNR=27						
BOSA	**Boshof**	**77.34**	**220**	*e*P	**P**	**12 01 11.6**	**-0.4**
BOSA				pmax	pmax		
	comp=Z,21nm,0.8s						
BOSA	**Boshof**	**77.34**	**220**	*e*P	**P**	**12 01 11.6**	**-0.4**
	comp=Z,21nm,0.8s						
HARP	**HAARP**	**77.38**	**16**	*e*P	**P**	**12 01 13.4**	**+1.7**
RC01	**Rabbit Creek A**	**77.43**	**19**	*e*P	**P**	**12 01 12.2**	**+0.3**
	comp=Z,12nm,0.5s						
BRLK	**Bradley Lake**	**78.25**	**20**	*e*P	**P**	**12 01 16.2**	**-0.3**
SEW	**Seward**	**78.34**	**19**	*e*P	**P**	**12 01 16.9**	**0.0**
	comp=Z,8.1nm,0.4s						
DIV	**Divide**	**78.37**	**17**	*e*P	**P**	**12 01 17.6**	**+0.4**
	comp=Z,32nm,0.7s						
BMRM	**Bremner River**	**78.78**	**16**	*e*P	**P**	**12 01 20.3**	**+0.9**
	comp=Z,63nm,1.2s						
KDAK	**Kodiak Island**	**79.42**	**22**	P	**P**	**12 01 23.3**	**+0.5**
	comp=Z,378nm,0.6s,SNR=14						
KDAK	**Kodiak Island**	**79.42**	**22**	*i* P	P	12 01 19.1	-3.7
OHAK	**Old Harbor**	**79.67**	**22**	*e*P	P	12 01 17.2	-7.0
HYT	**Haines Junctio**	**80.39**	**13**	*e*P	**P**	**12 01 29.5**	**+1.3**
	comp=Z,27nm,0.9s						
YKA	**Yellowknife Ar**	**81.25**	**2**	P	**P**	**12 01 32.4**	**0.0**
	comp=Z,25nm,0.7s,baz=349,slow=5.4,SNR=139						
YKA				PP	**PP**	**12 04 39.1**	**-1.1**
	comp=Z,4.8nm,0.7s,baz=352,slow=7.9,SNR=7.3						
SCHQ	**Schefferville**	**81.82**	**337**	P	**P**	**12 01 35.4**	**-0.3**
	comp=Z,12nm,0.8s,baz=37,slow=4.9,SNR=23						
SCHQ				PP	**PP**	**12 04 41.6**	**-3.5**
	comp=Z,5.9nm,0.7s,baz=38,slow=8.1,SNR=7.0						
SCHQ	**Schefferville**	**81.82**	**337**	*e*P	**P**	**12 01 35.4**	**-0.3**
	comp=Z,13nm,0.7s						
SCHQ				*e*PP	**PP**	**12 04 41.4**	**-3.8**
SCHQ				PP	PP	12 04 41.6	-3.6
NWAO	**Narrogin (SRO)**	**81.89**	**142**	P	**P**	**12 01 35.1**	**-1.0**
	comp=Z,25nm,0.6s,baz=328,slow=4.6,SNR=19						
WRA	**Warramunga Arr**	**82.56**	**121**	P	**P**	**12 01 38.3**	**-1.6**
	comp=Z,16nm,0.5s,baz=322,slow=5.0,SNR=177						
WRA				PKKPbc	**PKKPbc**	**12 20 03.5**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=126,slow=2.3,SNR=27						
WRAB	**Tennant Creek**	**82.56**	**121**	P	**P**	**12 01 38.3**	**-1.6**
	comp=Z,262nm,0.5s,SNR=68						
WRAB	**Tennant Creek**	**82.56**	**121***d*	*i*P	**P**	**12 01 39.2**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,53nm,0.6s						
WRAB	**Tennant Creek**	**82.56**	**121**	*e*P	**P**	**12 01 37.5**	**-2.5**
SUR	**Sutherland**	**82.65**	**220**	P	**P**	**12 01 40.1**	**-0.2**
	comp=Z,104nm,1.3s,SNR=6.8						
DLBC	**Dease Lake**	**83.90**	**11**	P	**P**	**12 01 46.9**	**+0.6**
	comp=Z,18nm,0.9s,baz=333,slow=4.8,SNR=28						
DLBC	**Dease Lake**	**83.90**	**11**	*e*P	**P**	**12 01 47.2**	**+0.9**
	comp=Z,22nm,1.0s						
FCC	**Fort Churchill**	**84.17**	**352**	*e*P	**P**	**12 01 48.0**	**+0.5**
FCC	**Fort Churchill**	**84.17**	**352**	*e*P	**P**	**12 01 48.0**	**+0.5**
AS31	**Alice Springs**	**84.80**	**124**	*e*P	**P**	**12 01 50.0**	**-1.3**
ASAR	**Alice Springs**	**84.80**	**124**	P	**P**	**12 01 50.0**	**-1.3**
	comp=Z,21nm,0.5s,baz=312,slow=4.8,SNR=216						
ASAR				PKiKP	**PKiKP**	**12 07 01.9**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=326,slow=0.5,SNR=4.9						
ASAR				PKKPbc	**PKKPbc**	**12 19 57.9**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=124,slow=2.5,SNR=11						
COEN	**Coen**	**85.02**	**111**	*e*P	**P**	**12 01 51.4**	**-1.1**
FFC	**Flin Flon**	**88.87**	**355**	P	**P**	**12 02 10.6**	**+0.2**
	comp=Z,129nm,1.1s,SNR=5.8						
FFC	**Flin Flon**	**88.87**	**355**	*e*P	**P**	**12 02 10.7**	**+0.3**
FFC				pmax	pmax		
	comp=Z,29nm,1.1s						
FFC	**Flin Flon**	**88.87**	**355**	*e*P	**P**	**12 02 10.7**	**+0.3**
	comp=Z,29nm,1.1s						
EDM	**Edmonton**	**90.57**	**2**	*e*P	**P**	**12 02 19.1**	**+0.6**
EDM				pmax	pmax		
	comp=Z,33nm,0.6s						
EDM	**Edmonton**	**90.57**	**2**	*e*P	**P**	**12 02 19.1**	**+0.6**
	comp=Z,33nm,0.6s						
A30A	**Hoffart Farm,**	**94.30**	**352**	⇓P	**P**	**12 02 34.7**	**-1.0**
	baz=94,SNR=11						
A29A	**Manning Farm,**	**94.41**	**353**	⇑P	**P**	**12 02 35.6**	**-0.6**
	baz=94,SNR=7.6						
AGMN	**Agassiz Nation**	**94.65**	**351**	⇓P	**P**	**12 02 37.2**	**-0.1**
	baz=94,SNR=5.9						
AGMN	**Agassiz Nation**	**94.65**	**351**	*e*P	**P**	**12 02 37.2**	**-0.1**
	comp=Z,16nm,1.0s						
A26A	**Wade Farm, Ken**	**94.68**	**355**	⇓P	**P**	**12 02 37.8**	**+0.4**
	baz=94						
A24A	**Westby**	**94.77**	**356**	⇑P	**P**	**12 02 38.4**	**+0.5**
	baz=94						
B30A	**Myrvik Farm, E**	**94.79**	**352**	⇓P	**P**	**12 02 37.4**	**-0.5**
	baz=94,SNR=9.7						
A22A	**Carney Farms,**	**94.79**	**357**	⇑P	**P**	**12 02 38.1**	**+0.1**
	baz=94						
B29A	**Wagenman Farm,**	**94.88**	**353**	⇓P	**P**	**12 02 37.8**	**-0.5**
	baz=94						
A19A	**Klindworth Far**	**94.92**	**359**	⇓P	**P**	**12 02 39.0**	**+0.4**
	baz=95						
A20A	**Cobblestone Ra**	**94.96**	**359**	⇑P	**P**	**12 02 39.2**	**+0.4**
	baz=95,SNR=12						
B28A	**Dugan Ranch, T**	**94.99**	**354**	⇓P	**P**	**12 02 38.8**	**0.0**
	baz=95						
B26A	**Jensen Ranch,**	**95.21**	**355**	⇓P	**P**	**12 02 40.4**	**+0.6**
	baz=95						
B23A	**Brockton**	**95.28**	**357**	⇓P	**P**	**12 02 40.6**	**+0.4**
	baz=95						
STKA	**Stephens Creek**	**95.33**	**126**	P	**P**	**12 02 39.3**	**-1.2**
	comp=Z,2.3nm,0.5s,baz=319,slow=5.3,SNR=12						
NEW	**Newport**	**95.34**	**5**	P	**P**	**12 02 40.2**	**-0.3**
	comp=Z,4.9nm,0.7s,baz=346,slow=4.5,SNR=8.4						
NEW				PP	**PP**	**12 06 30.9**	**-1.6**
	comp=Z,6.1nm,0.8s,baz=341,slow=9.9,SNR=8.7						
NEW	**Newport**	**95.34**	**5**	P	**P**	**12 02 40.2**	**-0.3**
NEW						12 06 31.0	
NEW				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NEW				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NEW	**Newport**	**95.34**	**5**	⇑P	**P**	**12 02 41.1**	**+0.7**
	baz=95,SNR=5.4						
NEW	**Newport**	**95.34**	**5**	*e*P	**P**	**12 02 41.0**	**+0.6**
	comp=Z,2.3nm,0.6s						
NEW				PP	**PP**	**12 06 30.9**	**-1.6**
B21A	**Ellsworth Farm**	**95.39**	**358**	⇓P	**P**	**12 02 41.3**	**+0.7**
	baz=95						
B19A	**Brinkman Farms**	**95.40**	**359**	⇓P	**P**	**12 02 41.3**	**+0.5**
	baz=95,SNR=5.3						
B20A	**Solberg Farm,**	**95.40**	**359**	⇑P	**P**	**12 02 41.3**	**+0.5**
	baz=95,SNR=13						
MDND	**Maddock**	**95.51**	**353**	⇓P	**P**	**12 02 41.1**	**-0.2**
	baz=95						
C26A	**Wahner Farm, P**	**95.75**	**355**	⇓P	**P**	**12 02 42.3**	**0.0**
	baz=95						
EGMT	**Eagleton**	**95.83**	**360**	⇑P	**P**	**12 02 43.3**	**+0.6**
	baz=96,SNR=5.6						
EGMT	**Eagleton**	**95.83**	**360**	*e*P	**P**	**12 02 43.8**	**+1.0**
	comp=Z,8.1nm,1.0s						
BSMT	**Bassoo Peak**	**95.89**	**3**	*e*P	**P**	**12 02 43.9**	**+0.7**
	comp=Z,5.1nm,0.8s						
JTMT	**Jette**	**96.01**	**3**	*e*P	**P**	**12 02 44.1**	**+0.4**
	comp=Z,3.6nm,0.8s						
C19A	**Slack Wire Ran**	**96.12**	**359**	⇑P	**P**	**12 02 44.3**	**+0.3**
	baz=96,SNR=5.5						
C20A	**Veseth Ranch,**	**96.13**	**359**	⇓P	**P**	**12 02 44.2**	**+0.2**
	baz=96,SNR=6.6						
D30A	**Buchanan**	**96.16**	**352**	⇓P	**P**	**12 02 44.2**	**0.0**
	baz=96,SNR=7.8						
D27A	**Center**	**96.42**	**354**	⇑P	**P**	**12 02 46.0**	**+0.6**
	baz=96						
SLMT	**Seeley Lake**	**96.55**	**3**	*e*P	**P**	**12 02 46.4**	**+0.3**
	comp=Z,9.6nm,0.8s						
D26A	**Manning**	**96.56**	**355**	⇓P	**P**	**12 02 46.9**	**+0.8**
	baz=96						
D23A	**Lindsay**	**96.58**	**357**	⇑P	**P**	**12 02 47.2**	**+1.0**
	baz=96						
D22A	**Cohagen**	**96.64**	**358**	⇑P	**P**	**12 02 47.5**	**+1.1**
	baz=96,SNR=5.5						
D19A	**Cripps Ranch,**	**96.69**	**359**	⇑P	**P**	**12 02 47.3**	**+0.7**
	baz=96						
D20A	**Manuel Ranch,**	**96.75**	**359**	⇑P	**P**	**12 02 47.0**	**+0.1**
	baz=96						
E30A	**Jud**	**96.78**	**352**	⇓P	**P**	**12 02 47.3**	**+0.3**
	baz=96						
E28A	**Huff**	**96.88**	**354**	⇑P	**P**	**12 02 48.2**	**+0.8**
	baz=96						
MSO	**Missoula**	**96.94**	**3**	⇓P	**P**	**12 02 48.5**	**+0.7**
	baz=97						
LAO	**LASA Array**	**97.11**	**358**	*e*P	Pdif	12 02 49.9	+1.3
	comp=Z,4.1nm,0.8s						
HRY	**Holter Researc**	**97.12**	**1**	*e*P	Pdif	12 02 49.6	+0.8
	comp=Z,4.4nm,0.6s						
E19A	**Rath Farm, Rou**	**97.39**	**359**	⇓P	Pdif	12 02 50.2	+0.4
	baz=97						
F25A	**Bowman**	**97.73**	**356**	⇑P	Pdif	12 02 52.0	+0.7
	baz=97						
F24A	**Ekalaka**	**97.87**	**356**	⇑P	Pdif	12 02 52.5	+0.4
	baz=98						
F19A	**Roth Farm, Mol**	**98.00**	**359**	⇓P	**P**	**12 02 52.4**	**-0.2**
	baz=98						
GCMT	**Greycliff**	**98.07**	**360**	*e*P	Pdif	12 02 54.3	+1.4
	comp=Z,2.1nm,0.9s						
G30A	**Faulkton**	**98.16**	**352**	⇓Pdiff	Pdif	12 02 53.3	0.0
	baz=98						
G27A	**Dupree**	**98.17**	**354**	⇓Pdiff	**P**	**12 02 53.3**	**0.0**
	baz=98						
H28A	**Mission Ridge**	**98.79**	**354**	⇓Pdiff	**P**	**12 02 55.7**	**-0.4**
	baz=98						
H24A	**Dirks Ranch, A**	**98.97**	**356**	⇑Pdiff	Pdif	12 02 56.8	-0.1
	baz=99						
ECSD	**EROS Data Cent**	**99.23**	**350**	⇑Pdiff	**Pdif**	**12 02 57.9**	**-0.1**
	baz=99						
ECSD	**EROS Data Cent**	**99.23**	**350**	*e*Pdif	**Pdif**	**12 02 58.3**	**+0.3**
	comp=Z,2.5nm,0.7s						
I19A	**Meeteetse**	**99.82**	**359**	⇑Pdiff	**Pdif**	**12 03 01.2**	**+0.4**
	baz=100						
J29A	**Okreek**	**99.98**	**353**	⇑Pdiff	**Pdif**	**12 03 02.4**	**+1.0**
	baz=100						
I21A	**Big Trails, Te**	**100.01**	**358**	⇑Pdiff	**Pdif**	**12 03 02.3**	**+0.7**
	baz=100						
HLID	**Hailey**	**100.18**	**3**	⇓Pdiff	**Pdif**	**12 03 02.7**	**+0.2**
	baz=100						
J19A	**Crowheart**	**100.59**	**359**	⇓Pdiff	**Pdif**	**12 03 04.9**	**+0.6**
	baz=100						
PDAR	**Pinedale Array**	**101.09**	**360**	P	**Pdif**	**12 03 06.5**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=71,slow=6.4,SNR=3.9						
PDAR				PP	PP	12 07 10.9	-5.7
	comp=Z,0.8nm,0.8s,baz=7.1,slow=8.6,SNR=6.8						
MAW	**Mawson**	**103.95**	**183**	Pdiff	**Pdif**	**12 03 20.0**	**+1.9**
	comp=Z,2.1nm,1.0s,baz=331,slow=9.9,SNR=3.0						
MAW	**Mawson**	**103.95**	**183**	P	**Pdif**	**12 03 20.0**	**+1.9**
NVAR	**Mina Array Bea**	**105.01**	**7**	Pdiff	**Pdif**	**12 03 25.0**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=356,slow=3.0,SNR=2.3						
NVAR				PP	**PP**	**12 07 44.1**	**-1.7**
	comp=Z,1.1nm,0.9s,baz=298,slow=5.7,SNR=4.7						
NVAR				PKKPbc	**PKKPbc**	**12 19 03.0**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=187,slow=5.4,SNR=3.0						
330A	**Mertzon**	**111.95**	**352**	⇑PKiKP	**PKiKP**	**12 07 49.6**	**-1.1**
	baz=112						
436A	**Wall Ranch, Ga**	**111.96**	**348**	⇓PKiKP	**PKiKP**	**12 07 50.0**	**-0.6**
	baz=112						
532A	**Rocksprings**	**113.05**	**351**	⇓PKiKP	**PKiKP**	**12 07 52.2**	**-0.6**
	baz=113						
529A	**Stev Forest Ra**	**113.33**	**353**	⇓PKiKP	**PKiKP**	**12 07 52.5**	**-0.8**
	baz=113						
TXAR	**Lajitas Array**	**114.24**	**354**	Pdiff	**Pdif**	**12 04 06.7**	**+1.6**
	comp=Z,0.1nm,0.8s,baz=20,slow=5.8,SNR=2.4						
TXAR				PKiKP	PKPdf	12 07 55.8	+0.6
	comp=Z,0.2nm,0.6s,baz=209,slow=0.9,SNR=3.6						
TXAR				PKKPbc	**PKKPbc**	**12 18 33.2**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=181,slow=6.2,SNR=7.0						
733A	**Divot King Ran**	**114.36**	**350**	⇓PKiKP	**PKiKP**	**12 07 54.6**	**-0.6**
	baz=114						
732A	**Laxson Ranch,**	**114.44**	**351**	⇑PKiKP	**PKiKP**	**12 07 54.5**	**-0.9**
	baz=114						
834A	**Tilden**	**114.83**	**349**	⇑PKiKP	**PKiKP**	**12 07 55.5**	**-0.7**
	baz=114						
SNAA	**Sanae**	**119.19**	**200**	P	PKPpre	12 07 55.4	
SNAA	**Sanae**	**119.19**	**200**	PKP	**PKPdf**	**12 08 02.0**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=184,slow=1.9,SNR=14						
SNAA	**Sanae**	**119.19**	**200**	PKIKP	**PKPdf**	**12 08 02.0**	**-1.1**
VNA1	**Neumayer--Stat**	**120.32**	**202**	P	**PKPdf**	**12 08 05.9**	**+0.7**
RPZ	**Rata Peaks**	**121.21**	**124**	PKP	**PKPdf**	**12 08 06.8**	**-1.0**
	comp=Z,8.4nm,0.5s,baz=285,slow=3.2,SNR=11						
URZ	**Urewera**	**123.36**	**116**	PKP	**PKPdf**	**12 08 09.7**	**-2.3**
	comp=Z,19nm,0.6s,baz=244,slow=2.3,SNR=24						
VNDA	**Vanda**	**125.69**	**164**	PKP	**PKPdf**	**12 08 14.3**	**-1.1**
	comp=Z,3.5nm,0.8s,baz=285,slow=5.3,SNR=17						
QSPA	**South Pole Qui**	**126.32**	**180**	*e*PKPdf	**PKPdf**	**12 08 16.4**	**-0.5**
ROSC	**El Rosal**	**127.15**	**313**	PKP	**PKPdf**	**12 08 20.8**	**+0.1**
	comp=Z,17nm,0.8s,baz=95,slow=12,SNR=7.3						
SAML	**Samuel**	**129.65**	**291**	*e*PKPdf	**PKPdf**	**12 08 24.5**	**-0.3**
SIV	**San Ignacio**	**132.31**	**282**	PKP	**PKPdf**	**12 08 29.1**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=154,slow=2.7,SNR=6.4						
SIV				SKPbc	**SKPbc**	**12 11 33.9**	**-2.2**
	comp=Z,1.8nm,0.8s,baz=79,slow=3.4,SNR=4.2						
LPAZ	**La Paz**	**137.99**	**287**	PKP	**PKPdf**	**12 08 40.0**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=220,slow=1.6,SNR=5.6						
LPAZ				SKPbc	**SKPbc**	**12 11 52.5**	**-2.3**
	comp=Z,1.0nm,0.7s,baz=269,slow=2.8,SNR=3.5						
LPAZ	**La Paz**	**137.99**	**287**	PKP	**PKPdf**	**12 08 40.0**	**-1.1**
LPAZ				*e*PKPdf	**PKiKP**	**12 08 40.7**	**-2.5**
LPAZ				SKPbc	**SKPbc**	**12 11 52.5**	**-2.3**
LVC	**Limon Verde**	**142.11**	**280**	PKhKP	PKPpre	12 08 40.6	
	comp=Z,13nm,0.6s,baz=88,slow=0.4,SNR=5.2						
USHA	**Ushuaia**	**146.41**	**224**	PKPbc	**PKPdf**	**12 08 54.9**	**+0.8**
	comp=Z,10nm,0.6s,baz=117,slow=2.3,SNR=13						
PLCA	**Paso Flores**	**149.22**	**250**	PKPbc	**PKPbc**	**12 09 04.2**	**+0.4**
	comp=Z,18nm,0.9s,baz=145,slow=2.3,SNR=21						
PLCA	**Paso Flores**	**149.22**	**250**	*e*PKPbc	**PKPbc**	**12 09 04.2**	**+0.4**
PLCA				*e*PKPab	**PKPab**	**12 09 09.1**	**0.0**

CSEM ***04*** *11:53:47.6, 36°.40N×25°.40E, h15km*

THE 04 11:53:47.6, 36°.40N×25°.40E, h15km±10km, Error ellipse: s-maj=10.3km s-min=1.8km az=282.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR3	**Thira Island,**	**0.01**	**344**	P	Pg	11 53 50.4	+0.2
THR3	**Thira Island,**	**0.01**	**344**	P	Pg	11 53 50.4	+0.2
THR7	**Fira-Santorini**	**0.03**	**40**	P	Pg	11 53 50.4	+0.1
THR7	**Fira-Santorini**	**0.03**	**40**	P	Pg	11 53 50.4	+0.1
THR6	**Thira Island,**	**0.04**	**187**	P	Pg	11 53 50.4	0.0
THR6	**Thira Island,**	**0.04**	**187**	P	Pg	11 53 50.4	0.0
THR5	**Thira Island,**	**0.05**	**292**	P	Pg	11 53 50.4	0.0
THR5	**Thira Island,**	**0.05**	**292**	P	Pg	11 53 50.4	0.0
THR1	**Thera Island**	**0.05**	**123**	P	Pg	11 53 50.4	-0.1
THR1	**Thera Island**	**0.05**	**123**	P	Pg	11 53 50.4	-0.1
THR2	**Thira island,**	**0.05**	**28**	P	Pg	11 53 50.4	-0.1
THR2	**Thira island,**	**0.05**	**28**	P	Pg	11 53 50.4	-0.1

JMA 04 11:55:33.6, 34°.71N×138°.60E, h15km±1km, M0.4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTJJ	**Kamata 2**	**0.44**	**61**	P	Pg	11 55 42.3	-0.1
KTJJ				S	Sg	11 55 48.6	+0.2
SHZ3	**Shizuoka 3**	**0.48**	**318**	S	Sg	11 55 50.1	+0.3

IDC ***04*** *11:58:04.5±0.7, 33°.16N×76°.31E, h0km, mb3.9/16, mb1 4.0/18, mb1mx3.9/29, mbtmp3.9/18, ML2.7/2, Error ellipse: s-maj=23.6km s-min=14.7km az=48.0*

NDI ***04*** *11:58:05.7±2.3, 33°.34N×75°.32E, h33km, ML3.5*

NEIC ***04*** *11:58:10.1±0.5, 33°.24N×76°.30E, h35km, mb4.5/6, Error ellipse: s-maj=12.0km s-min=8.2km az=55.0*

NNC ***04*** *11:58:14.6±5.3, 33°.20N×74°.09E, h0km, mb4.3, mpv4.3, Error ellipse: s-maj=97.3km s-min=31.0km az=99.0*

ISC 04 11:58:09.9±1.3**, 33°.25N**±0°.05**×76°.27E**±0°.06**, h30km**±10km**, n50, σ1§91**/50**, mb3.9**/21**, 3C-2D, Kashmir-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**0.75**	**200**	*e*P	**Pb**	**11 58 23.0**	**-1.6**
DLH				*e*S	**Sb**	**11 58 34.0**	**-0.6**
BHK	**Bhakra**	**1.83**	**176**	*e*P	Pb	11 58 46.6	+3.9
BHK				*e*S	Sb	11 59 13.0	+7.8
SDNR	**Sundarnagar**	**1.84**	**161**	*e*PN	**Pb**	**11 58 42.0**	**-0.9**
SDNR				*e*SN	**Sb**	**11 59 07.6**	**+2.1**
SMLA	**Simla**	**2.24**	**160**	*e*P	**Pb**	**11 58 48.2**	**-1.5**
SMLA				*e*S	**Sb**	**11 59 17.4**	**+0.4**
CHCP	**Chirah Chowk**	**2.55**	**280**	P	**Pb**	**11 58 53.6**	**-1.4**
CHCP				S	Sb	11 59 32.0	+6.0
DDI	**Dehra Dun**	**3.29**	**152**	*e*P	Pn	11 59 03.0	+3.6
CEP	**Cherat**	**3.69**	**280**	P	Pn	11 59 09.3	+4.3
THW	**Thamme Wali**	**3.83**	**264**	P	**Pn**	**11 59 09.9**	**+3.0**
KALG	**Kalgarh**	**4.29**	**150**	*e*S	**Sn**	**12 00 07.7**	**+5.6**
SONA	**Sohna**	**5.03**	**172**	*e*S	**Sn**	**12 00 18.0**	**-2.4**
SONA				AML	AML	12 00 51.2	
	comp=E,57nm,0.9s						
SONA				AML	AML	12 00 54.2	
	comp=N,37nm,0.7s						
KHET	**Khetri**	**5.17**	**185**	*e*x	Sn	12 00 18.1	-5.8
KHET				AML	AML	12 00 50.6	
	comp=E,137nm,0.1s						
KHET				AML	AML	12 00 51.1	
	comp=N,100nm,0.1s						
AGRA	**Agra**	**6.17**	**166**	*e*S	**Sn**	**12 00 46.8**	**-1.6**
AGRA				AML	AML	12 00 50.6	
	comp=E,120nm,0.7s						
AGRA				AML	AML	12 00 57.9	
	comp=N,70nm,0.3s						
SFK	**Sufi-Kurgan**	**7.11**	**343**	⇑Pn	Pn	11 59 56.6	+4.5
	comp=N,18nm,0.7s						
SFK				⇓Sn	**Sn**	**12 01 17.5**	**+5.5**
	comp=N,13nm,0.5s						
AAK	**Ala-Archa**	**9.48**	**352**	Pn	Pn	12 00 28.4	+4.0
	comp=N,0.3nm,0.3s,baz=165,slow=16,SNR=2.7						
AAK				Sn	**Sn**	**12 02 10.9**	**+0.9**
	comp=N,0.3nm,0.3s,baz=180,slow=20,SNR=1.8						
AAK	**Ala-Archa**	**9.48**	**352**	*e*Pn	**Pn**	**12 00 24.0**	**-0.5**
AAK				*e*Sn	Sn	12 02 17.3	+7.3
MNAS	**Manas**	**9.69**	**343**	Pn	**Pn**	**12 00 29.2**	**+1.7**
	comp=N,8.7nm,1.0s						
MNAS				Sn	**Sn**	**12 02 16.1**	**+0.8**
	comp=N,7.9nm,0.7s						
KK31	**Karatay Array**	**10.83**	**337**	⇑Pn	**Pn**	**12 00 43.7**	**+0.8**
	comp=N,5.3nm,0.7s,baz=138,slow=12,SNR=16						
KK31				⇓Sn	**Sn**	**12 02 39.8**	**-3.3**
	comp=N,1.7nm,0.5s,baz=154,slow=23,SNR=5.3						
KKAR	**Karatay Array**	**10.83**	**337**	*e*Pn	**Pn**	**12 00 42.4**	**-0.5**
	comp=N,3.2nm,0.4s						
KKAR				*e*Sn	**Sn**	**12 02 41.4**	**-1.7**
LSA	**Lhasa**	**13.18**	**102**	*e*Pn	**Pn**	**12 01 17.1**	**+1.7**
MK31	**Makanchi Array**	**14.29**	**17**	*e*Pn	Pn	12 01 24.3	-5.8
MK31				*e*Sn	**Sn**	**12 04 04.6**	**-2.8**
MKAR	**Makanchi Array**	**14.29**	**17**	Pn	**Pn**	**12 01 29.2**	**-0.9**
	comp=N,0.0nm,0.3s,baz=207,slow=13,SNR=2.5						
MKAR				Sn	Sn	12 03 59.7	-7.7
	comp=N,0.2nm,0.3s,baz=203,slow=20,SNR=4.6						
KURBB	**Kurchatov Arra**	**17.44**	**5**	P	**Pn**	**12 02 09.1**	**-1.7**
	comp=N,0.1nm,0.3s,baz=193,slow=12,SNR=3.4						

KURK	**Kurchatov**	**17.54**	**5**	P	**Pn**	**12 02 09.1**	**-2.9**
AB31	**Akbulak array**	**20.09**	**328**	⇑Pn	Pn	12 02 42.1	-0.8
	comp=N,2.9nm,0.7s,baz=122,slow=14,SNR=11						
ABKAR	**Akbulak array**	**20.09**	**328**	*e*P	Pn	12 02 42.3	-0.6
	comp=N,7.1nm,0.9s						
BVAR	**Borovoye Array**	**20.22**	**350**	P	**P**	**12 02 43.3**	**+1.1**
	comp=N,0.8nm,0.4s,baz=156,slow=11,SNR=5.4						
ZALV	**Zalesovo Beam**	**21.57**	**14**	P	**P**	**12 02 55.7**	**-1.0**
	comp=N,1.4nm,0.5s,baz=214,slow=12,SNR=2.6						
AKTO	**Aktyubinsk**	**21.81**	**327**	Pn	**P**	**12 03 00.3**	**+0.9**
	comp=N,17nm,0.8s						
AKTO	**Aktyubinsk**	**21.81**	**327**	P	**P**	**12 02 59.1**	**-0.3**
	comp=N,14nm,0.7s,baz=115,slow=10,SNR=14						
CMAR	**Chiang Mai Arr**	**25.08**	**120**	P	**P**	**12 03 30.4**	**-1.5**
	comp=N,0.8nm,0.6s,baz=306,slow=8.4,SNR=2.7						
ARU	**Arti**	**26.21**	**337**	*e*P	**P**	**12 03 40.4**	**-1.4**
	comp=N,13nm,1.0s						
SONM	**Songino Array**	**26.93**	**48**	P	**P**	**12 03 48.8**	**+0.2**
	comp=N,1.0nm,0.7s,baz=251,slow=10,SNR=2.3						
BRTR	**Keskin Array B**	**34.63**	**293**	P	**P**	**12 04 56.8**	**+0.2**
	comp=N,0.6nm,0.6s,baz=111,slow=6.9,SNR=3.0						
AKASG	**Malin Array Be**	**38.35**	**311**	P	**P**	**12 05 26.4**	**-1.6**
	comp=N,0.6nm,0.3s,baz=80,slow=7.4,SNR=5.6						
MLR	**Muntele Rosu**	**40.17**	**303**	P	**P**	**12 05 46.4**	**+3.0**
	comp=N,1.8nm,0.9s,baz=127,slow=15,SNR=5.0						
FINES	**FINESS Array B**	**42.58**	**327**	P	**P**	**12 06 02.8**	**0.0**
	comp=N,1.4nm,0.7s,baz=105,slow=10,SNR=3.1						
ARCES	**ARCESS Array B**	**45.80**	**338**	P	**P**	**12 06 30.8**	**+2.3**
	comp=N,0.8nm,0.7s,baz=121,slow=11,SNR=3.2						
NB2	**NORSAR Subarra**	**49.56**	**325**	P	**P**	**12 06 58.8**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**49.56**	**325**	P	**P**	**12 06 57.9**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=97,slow=7.2,SNR=4.8						
ESDC	**Sonseca Array**	**62.83**	**301**	P	**P**	**12 08 32.6**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=54,slow=6.9,SNR=4.8						
TORD	**Torodi Ar. Bea**	**70.10**	**273**	P	**P**	**12 09 19.7**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=52,slow=4.9,SNR=4.2						
LBTB	**Lobatse**	**75.38**	**226**	*e*P	**P**	**12 09 50.2**	**-0.7**
	comp=Z,66nm,1.6s						
WRA	**Warramunga Arr**	**76.58**	**125**	P	**P**	**12 09 57.2**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=322,slow=6.2,SNR=12						
WRAB	**Tennant Creek**	**76.59**	**125**	*e*P	**P**	**12 09 56.5**	**-1.2**
	comp=Z,9.5nm,1.3s						
ILAR	**Eielson Array**	**76.64**	**18**	P	**P**	**12 09 57.3**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=315,slow=4.2,SNR=6.4						
BOSA	**Boshof**	**78.26**	**224**	*e*P	**P**	**12 10 05.9**	**-1.1**
	comp=Z,8.1nm,0.8s						
ASAR	**Alice Springs**	**78.84**	**128**	P	**P**	**12 10 08.1**	**-2.2**
	comp=Z,1.1nm,0.7s,baz=321,slow=5.7,SNR=8.9						
YKA	**Yellowknife Ar**	**84.19**	**5**	P	**P**	**12 10 37.4**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=347,slow=5.0,SNR=4.2						
STKA	**Stephens Creek**	**89.37**	**129**	P	**P**	**12 11 03.4**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=319,slow=7.2,SNR=3.9						
STKA	**Stephens Creek**	**89.37**	**129**	*e*P	**P**	**12 11 02.9**	**-0.7**
	comp=Z,0.8nm,1.1s						

*ISCJB **04** 11:59:58.8±0.7, 20°.2S±0°.1×178°.2W±0°.2, h534km, mb3.6/12, Error ellipse: s-maj=23.6km s-min=14.5km az=41.6*
*IDC **04** 12:00:01.1±4.2, 20°.30S×178°.12W, h555km±47km, mb3.2/12, mb1 3.4/13, mb1mx3.3/21, mbtmp4.1/13, Error ellipse: s-maj=27.8km s-min=20.7km az=149.0*
ISC 04 11:59:59.2±0.8**, 20°.3S**±0°.2**×178°.1W**±0°.2**, h534**km**, n22, σ0ˢ.91**/22**, mb3.7**/12**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.51**	**260**	P	P	12 03 09.7	+5.6
	0.5nm,0.3s,baz=90,slow=20,SNR=5.4						
URZ	**Urewera**	**18.41**	**192**	P	**P**	**12 03 40.9**	**-0.6**
	1.0nm,0.3s,baz=344,slow=7.4,SNR=7.2						
STKA	**Stephens Creek**	**37.79**	**244**	P	**P**	**12 06 31.2**	**+1.2**
	1.6nm,0.8s,baz=23,slow=7.7,SNR=3.0						
ASAR	**Alice Springs**	**44.46**	**256**	P	**P**	**12 07 23.7**	**+0.5**
	2.8nm,0.5s,baz=89,slow=7.9,SNR=30						
ASAR				PcP	**PcP**	**12 08 54.7**	**-0.5**
	0.5nm,0.5s,baz=104,slow=3.5,SNR=7.2						
WRA	**Warramunga Arr**	**44.52**	**262**	P	**P**	**12 07 23.6**	**-0.1**
	2.0nm,0.3s,baz=96,slow=7.6,SNR=78						
WRA				PcP	**PcP**	**12 08 55.2**	**-0.3**
	0.3nm,0.8s,baz=84,slow=3.7,SNR=3.4						
MJAR	**Matsushiro Arr**	**69.94**	**324**	P	**P**	**12 10 16.2**	**-0.7**
	0.6nm,0.6s,baz=44,slow=0.5,SNR=4.4						
ASAJ	**Asahikawa**	**73.46**	**332**	P	**P**	**12 10 38.6**	**+1.4**
	1.4nm,0.7s,baz=196,slow=6.3,SNR=4.5						
PETK	**Petropavlovsk-**	**76.00**	**345**	P	**P**	**12 10 51.3**	**0.0**
	2.4nm,0.8s,baz=134,slow=8.3,SNR=2.9						
NVAR	**Mina Array Bea**	**80.93**	**43**	P	**P**	**12 11 19.1**	**+0.8**
	0.6nm,0.8s,baz=229,slow=8.2,SNR=3.7						
SEY	**Seymchan**	**86.11**	**347**	P	**P**	**12 11 42.8**	**-0.3**
	2.1nm,0.7s,baz=133,slow=5.0,SNR=5.8						
TXAR	**Lajitas Array**	**87.02**	**57**	P	**P**	**12 11 50.3**	**+1.9**
	0.5nm,0.8s,baz=222,slow=8.5,SNR=4.0						
ILAR	**Eielson Array**	**88.10**	**13**	P	**P**	**12 11 51.7**	**-0.7**
	0.9nm,0.5s,baz=217,slow=5.1,SNR=17						
PDAR	**Pinedale Array**	**88.86**	**43**	P	**P**	**12 11 56.5**	**-0.3**
	0.4nm,0.6s,baz=205,slow=4.0,SNR=3.1						
CMAR	**Chiang Mai Arr**	**89.92**	**290**	P	**P**	**12 12 02.8**	**+0.8**
	0.7nm,0.5s,baz=144,slow=2.6,SNR=4.2						
MKAR	**Makanchi Array**	**110.94**	**313**	PKiKP	**PKiKP**	**12 17 30.4**	**-1.4**
	0.2nm,0.6s,baz=258,slow=1.3,SNR=3.6						
BVAR	**Borovoye Array**	**118.82**	**320**	PKP	**PKPdf**	**12 17 45.7**	**-1.0**
	0.6nm,0.4s,baz=207,slow=0.6,SNR=3.8						
AKASG	**Malin Array Be**	**142.74**	**331**	PKhKP	PKPpre	12 18 27.6	
	2.6nm,0.6s,baz=43,slow=4.4,SNR=9.4						
EKA	**Eskdalemuir Ar**	**144.77**	**5**	PKP	**PKPdf**	**12 18 34.0**	**-1.0**
	0.6nm,0.5s,baz=346,slow=2.6,SNR=3.1						
ASF	**Jabal al Asfar**	**146.56**	**298**	PKPbc	**PKPbc**	**12 18 41.0**	**-0.4**
	1.5nm,0.6s,baz=90,slow=2.0,SNR=4.1						
BRTR	**Keskin Array B**	**146.59**	**313**	PKPbc	**PKPbc**	**12 18 40.7**	**-0.6**
	1.1nm,0.5s,baz=129,slow=3.8,SNR=8.0						
BRG	**Berggiesshubel**	**147.99**	**346**	*e*P	**PKPdf**	**12 18 40.7**	**+0.1**
	1.4nm,0.6s						
BRG				*i*		12 18 44.7	
	2.8nm,0.7s						
GERES	**GERESS Array B**	**149.93**	**344**	PKPbc	**PKPbc**	**12 18 48.4**	**-1.0**
	0.7nm,0.5s,baz=28,slow=3.2,SNR=6.1						

SJA 04 12:00:07.1±0.6**, 34°.87S×69°.10W, h40**km±768km**, ML3.5, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAGR	**Agrelo**	**1.79**	**7**	*i* P	Pn	12 00 37.1	+1.4
AAGR				*i* S	Sn	12 00 59.7	+2.3
ARCO	**CERRO ARCO**	**2.03**	**4**	*i* P	Pn	12 00 40.5	+1.5
ARCO				*i* S	Sn	12 01 05.7	+2.4
ARCO				AML	AML	12 01 07.6	
	comp=Z,357nm,0.3s						
ASAL	**Salagasta**	**2.28**	**6**	*i* P	Pn	12 00 44.7	+2.3
ASAL				*i* S	Sn	12 01 11.9	+2.5
AUSP	**Uspallata**	**2.65**	**355**	*i* P	Pn	12 00 49.9	+2.2
AUSP				*i* P	Pn	12 00 49.9	+2.2
AUSP				*i* S	Sn	12 01 21.9	+3.0
RTLS	**Leoncito**	**3.07**	**357**	*i* P	Pn	12 00 56.3	+2.8

*ISCJB **04** 12:05:21.1±1.1, 51°.3N±0°.2×73°.6E±0°.2, h10km, mb3.4/1, Error ellipse: s-maj=26.6km s-min=7.0km az=34.8*
*NNC **04** 12:05:24.0±1.3, 51°.41N×74°.00E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=43.1km s-min=4.2km az=26.0*
*IDC **04** 12:05:25.9±1.0, 51°.46N×74°.07E, h0km, mb3.3/1, mb1 3.2/5, mb1mx3.0/47, mbtmp3.0/5, ML2.5/4, Error ellipse: s-maj=30.4km s-min=8.3km az=32.0*
ISC 04 12:05:24.7±1.8**, 51°.2N**±0°.2**×73°.7E**±0°.2**, h10**km**, n11, σ1ˢ.33**/10**, 5C-4D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**2.76**	**313**	⇑Pg	**Pb**	**12 06 14.1**	**0.0**
	3.7nm,0.6s,baz=147,slow=15,SNR=31						
BVA0				⇑Lg	Lg	12 06 52.6	
	18nm,0.8s,baz=128,slow=31,SNR=15						
BVAR	**Borovoye Array**	**2.76**	**313**	Pn	**Pn**	**12 06 11.3**	**+2.3**
	2.6nm,0.3s,baz=125,slow=16,SNR=19						
BVAR				Lg	Lg	12 06 53.6	
	3.8nm,0.3s,baz=126,slow=26,SNR=10						
BRVK	**Borovoye**	**2.83**	**313**	⇓Pg	**Pb**	**12 06 15.0**	**-0.2**
	8.3nm,0.5s						
BRVK				⇑Lg	Lg	12 06 53.0	
	62nm,0.9s						
KURBB	**Kurchatov Arra**	**3.09**	**99**	⇑Pn	**Pn**	**12 06 13.0**	**-0.6**
	10nm,0.5s						
KURBB				⇓Lg	Lg	12 06 57.2	
	40nm,0.6s						
KURBB	**Kurchatov Arra**	**3.09**	**99**	Pn	**Pn**	**12 06 13.0**	**-0.6**
	0.2nm,0.3s,baz=280,slow=13,SNR=21						
KURBB				Lg	Lg	12 06 59.9	
	1.0nm,0.3s,baz=300,slow=30,SNR=10						
KURK	**Kurchatov**	**3.13**	**97**	⇓Pn	**Pn**	**12 06 12.9**	**-1.2**
	2.7nm,0.5s						
KURK				⇑Lg	Lg	12 06 57.8	
	14nm,0.7s						
MK31	**Makanchi Array**	**7.15**	**125**	⇓Lg	Lg	12 09 08.7	
	3.5nm,0.6s,baz=314,slow=26,SNR=6.1						
MKAR	**Makanchi Array**	**7.15**	**125**	Pn	**Pn**	**12 07 11.1**	**+1.8**
	0.1nm,0.3s,baz=308,slow=13,SNR=2.7						
MKAR				Sn	**Sn**	**12 08 30.9**	**+0.4**
	0.2nm,0.3s,baz=318,slow=19,SNR=3.1						
MKAR				Lg	Lg	12 09 04.8	
	0.7nm,0.3s,baz=312,slow=28,SNR=8.8						
ZALV	**Zalesovo Beam**	**7.29**	**64**	Pn	**Pn**	**12 07 10.0**	**-1.2**
	0.5nm,0.3s,baz=248,slow=15,SNR=2.9						
AKTO	**Aktyubinsk**	**9.98**	**272**	Lg	Lg	12 10 38.7	
	0.1nm,0.3s,baz=247,slow=23,SNR=4.5						
ILAR	**Eielson Array**	**60.16**	**19**	P	**P**	**12 15 32.0**	**0.0**
	0.2nm,0.5s,baz=320,slow=4.6,SNR=5.7						

*ISCJB **04** 12:10:30.3±0.4, 37°.18N±0°.03×3°.13E±0°.04, h10km, Error ellipse: s-maj=4.1km s-min=3.7km az=164.7*
*CRAAG **04** 12:10:31.3, 36°.90N×2°.97E, Ml3.9*
*CSEM **04** 12:10:31.8±0.3, 37°.11N×3°.14E, h10km, ML3.9, Error ellipse: s-maj=8.0km s-min=6.4km az=108.0*
*MDD **04** 12:10:32.8±0.4, 36°.98N×2°.99E, h0km, mb4.2/13, Error ellipse: s-maj=6.5km s-min=3.8km az=56.0, PRXIMO*
*NEIC **04** 12:10:33.0, 36°.99N×2°.95E, h15km, ML3.9(ALG), After CSEM.*
NEIC Felt [II] at Algiers.
*LDG **04** 12:10:33.1±0.2, 37°.01N×2°.91E, h30km, Ml3.1/13, Error ellipse: s-maj=5.3km s-min=4.1km az=163.0*
ISC 04 12:10:31.1±0.8**, 37°.02N**±0°.03**×3°.07E**±0°.03**, h10**km**, n98, σ1ˢ.82**/125**, 1D, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.21**	**187**	P	**Pg**	**12 10 34.7**	**-0.9**
ABA	**Alger-Bouzarea**	**0.21**	**187**	P	**Pg**	**12 10 34.7**	**-0.9**
ABA	**Alger-Bouzarea**	**0.21**	**187**	P	**Pg**	**12 10 34.8**	**-0.9**
ABA	**Alger-Bouzarea**	**0.21**	**187**	P	**Pg**	**12 10 34.8**	**-0.9**
ABMS	**Boumerdes**	**0.42**	**128**	P	**Pg**	**12 10 40.5**	**+1.0**
ABMS	**Boumerdes**	**0.42**	**128**	P	**Pg**	**12 10 40.5**	**+1.0**
ABMS	**Boumerdes**	**0.42**	**128**	P	**Pn**	**12 10 44.9**	**+1.6**
ABMS	**Boumerdes**	**0.42**	**128**	P	**Pn**	**12 10 44.9**	**+1.6**
AKET	**Djebel Ketaf**	**1.17**	**146**	P	**Pb**	**12 10 53.0**	**-0.5**
AKET	**Djebel Ketaf**	**1.17**	**146**	P	**Pb**	**12 10 53.0**	**-0.5**
AKET	**Djebel Ketaf**	**1.17**	**146**	P	**Pb**	**12 10 53.0**	**-0.5**
AKET	**Djebel Ketaf**	**1.17**	**146**	P	**Pb**	**12 10 53.0**	**-0.5**
EBNR	**Beni Rached**	**1.43**	**240**	P	**Pn**	**12 10 58.5**	**+1.3**
EBNR	**Beni Rached**	**1.43**	**240**	P	**Pn**	**12 10 58.5**	**+1.3**
EBNR	**Beni Rached**	**1.43**	**240**	P	**Pn**	**12 10 58.5**	**+1.3**
ECHA	**Ech Chlef**	**1.62**	**238**	P	**Pb**	**12 11 02.9**	**+1.9**
ECHA	**Ech Chlef**	**1.62**	**238**	P	**Pb**	**12 11 02.9**	**+1.9**
ECHF	**Ech Chlef**	**1.63**	**239**	P	**Pb**	**12 11 02.9**	**+1.6**
ECHF	**Ech Chlef**	**1.63**	**239**	P	**Pb**	**12 11 02.9**	**+1.6**
ECHF	**Ech Chlef**	**1.63**	**239**	P	**Pb**	**12 11 02.9**	**+1.6**
EANR	**'Ain N'Sour**	**1.91**	**237**	P	**Pn**	**12 11 06.5**	**+2.7**
EANR	**'Ain N'Sour**	**1.91**	**237**	P	**Pn**	**12 11 06.5**	**+2.7**
EANR	**'Ain N'Sour**	**1.91**	**237**	P	**Pn**	**12 11 06.5**	**+2.7**
EANR	**'Ain N'Sour**	**1.91**	**237**	P	**Pb**	**12 11 08.5**	**+2.4**
SET	**Setif**	**2.05**	**113**	P	Pg	12 11 15.0	+4.6
SET	**Setif**	**2.05**	**113**	P	Pg	12 11 15.0	+4.6
ETRT	**Tiaret**	**2.16**	**222**	P	**Pn**	**12 11 08.5**	**+1.2**
ETRT	**Tiaret**	**2.16**	**222**	P	**Pn**	**12 11 08.5**	**+1.2**
ETRT	**Tiaret**	**2.16**	**222**	P	**Pn**	**12 11 08.5**	**+1.2**
EIBI	**Ibiza**	**2.43**	**326**	⇓P	**Pn**	**12 11 12.0**	**+1.2**
	9.0nm,0.1s,SNR=18						
EIBI				S	**Sn**	**12 11 39.6**	**-1.0**
	26nm,0.1s						
EIBI	**Ibiza**	**2.43**	**326**	P	**Pn**	**12 11 12.0**	**+1.2**
	9.0nm,0.1s,SNR=18						
EIBI				S	**Sn**	**12 11 39.8**	**-0.8**
EIBI	**Ibiza**	**2.43**	**326**	P	**Pn**	**12 11 12.0**	**+1.2**
EIBI				S	**Sn**	**12 11 39.8**	**-0.8**
ETOS	**Mallorca**	**2.76**	**356**	P	**Pn**	**12 11 16.7**	**+1.3**
	6.1nm,0.1s,SNR=44						
ETOS				S	**Sn**	**12 11 48.4**	**-0.3**
	9.2nm,0.1s						
ETOS	**Mallorca**	**2.76**	**356**	P	**Pn**	**12 11 16.8**	**+1.4**
ETOS				S	**Sn**	**12 11 48.2**	**-0.6**
	9.2nm,0.1s						
ETOS	**Mallorca**	**2.76**	**356**	P	**Pn**	**12 11 16.8**	**+1.4**
ETOS				S	**Sn**	**12 11 48.2**	**-0.6**
EBEN	**Beniarda**	**3.10**	**304**	P	**Pn**	**12 11 20.8**	**+0.6**
	0.7nm,0.1s,SNR=7.0						
EBEN				S	**Sn**	**12 11 55.2**	**-2.2**
	17nm,0.3s						
EBEN	**Beniarda**	**3.10**	**304**	P	**Pn**	**12 11 21.3**	**+1.1**
EBEN				S	**Sn**	**12 11 55.2**	**-2.2**
	18nm,0.3s						
EBEN	**Beniarda**	**3.10**	**304**	P	**Pn**	**12 11 21.3**	**+1.1**
EBEN				S	**Sn**	**12 11 55.2**	**-2.2**
EMUR	**La Murta**	**3.53**	**285**	P	**Pn**	**12 11 26.8**	**+0.8**
	1.5nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**12 12 05.5**	**-2.2**
	4.4nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.53**	**285**	P	**Pn**	**12 11 27.3**	**+1.3**
EMUR				S	**Sn**	**12 12 05.2**	**-2.6**
	13nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**3.53**	**285**	P	**Pn**	**12 11 27.3**	**+1.3**
EMUR				S	**Sn**	**12 12 05.2**	**-2.6**
ETOB	**Tobarra**	**4.00**	**295**	P	**Pn**	**12 11 34.1**	**+1.5**
	4.4nm,0.2s,SNR=6.8						
ETOB				S	**Sn**	**12 12 17.1**	**-2.4**
	11nm,0.4s,SNR=5.5						
ETOB	**Tobarra**	**4.00**	**295**	P	**Pn**	**12 11 33.6**	**+1.1**
	4.4nm,0.2s,SNR=6.8						
ETOB				S	**Sn**	**12 12 15.8**	**-3.7**
ETOB	**Tobarra**	**4.00**	**295**	P	**Pn**	**12 11 34.0**	**+1.5**
ETOB				S	**Sn**	**12 12 15.8**	**-3.7**
EMOS	**Mosqueruela**	**4.34**	**321**	P	**Pn**	**12 11 38.6**	**+1.3**
	1.4nm,0.1s,SNR=6.7						
EMOS				S	**Sn**	**12 12 26.3**	**-1.7**
	22nm,0.6s						
EMOS	**Mosqueruela**	**4.34**	**321**	P	**Pn**	**12 11 38.6**	**+1.3**
	1.4nm,0.1s,SNR=6.7						
EMOS				S	**Sn**	**12 12 27.0**	**-1.1**
	7.4nm,0.3s						
ERTA	**Horta de San J**	**4.47**	**332**	P	**Pn**	**12 11 41.1**	**+2.1**
	0.7nm,0.1s,SNR=7.9						
ERTA				S	**Sn**	**12 12 29.2**	**-2.0**
	3.9nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**4.47**	**332**	P	**Pn**	**12 11 40.8**	**+1.8**
	0.7nm,0.1s,SNR=7.9						
ERTA				S	**Sn**	**12 12 28.6**	**-2.6**
	8.3nm,0.4s,SNR=7.9						
EHUE	**Huescar**	**4.58**	**282**	P	**Pn**	**12 11 42.3**	**+1.9**
	0.5nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**12 12 33.7**	**0.0**
	2.2nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**4.59**	**286**	P	**Pn**	**12 11 42.2**	**+1.4**
	0.9nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**12 12 32.7**	**-1.6**
	12nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**4.59**	**286**	P	**Pn**	**12 11 41.6**	**+0.8**
	0.9nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**4.60**	**341**	P	**Pn**	**12 11 42.6**	**+1.8**
	0.8nm,0.1s,SNR=6.6						
EPOB				S	**Sn**	**12 12 31.9**	**-2.4**
	1.1nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**4.60**	**341**	P	**Pn**	**12 11 41.9**	**+1.1**
	0.8nm,0.1s,SNR=6.6						
EPOB				S	**Sn**	**12 12 31.4**	**-2.9**
	1.1nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**4.70**	**292**	P	**Pn**	**12 11 42.7**	**+0.5**
	2.4nm,0.2s,SNR=5.1						
EVIA				S	**Sn**	**12 12 32.9**	**-3.9**
	4.8nm,0.3s						
EVIA	**Vianos**	**4.70**	**292**	P	**Pn**	**12 11 42.7**	**+0.5**
	2.4nm,0.2s,SNR=5.1						
EVIA				S	**Sn**	**12 12 32.9**	**-3.9**
	4.8nm,0.3s						
CFON	**Fontmartina**	**4.77**	**354**	P	**Pn**	**12 11 44.7**	**+1.6**
	3.6nm,0.1s,SNR=9.7						
CFON				S	**Sn**	**12 12 35.5**	**-2.9**
	16nm,0.3s						
CFON	**Fontmartina**	**4.77**	**354**	P	**Pn**	**12 11 44.7**	**+1.6**
	3.6nm,0.1s,SNR=9.7						
CFON				S	**Sn**	**12 12 35.4**	**-3.0**
	16nm,0.3s						
EBER	**Berja**	**4.77**	**270**	P	**Pn**	**12 11 41.9**	**-1.4**
	0.4nm,0.1s,SNR=8.8						
EBER				S	**Sn**	**12 12 35.4**	**-3.3**
	3.7nm,0.3s,SNR=7.9						
EBER	**Berja**	**4.77**	**270**	P	Pn	12 11 41.4	-1.9
	0.4nm,0.1s,SNR=8.8						
EQES	**Quesada**	**4.95**	**281**	P	**Pn**	**12 11 47.0**	**+1.3**
	5.2nm,0.3s,SNR=25						
EQES				S	**Sn**	**12 12 41.5**	**-1.4**
	18nm,0.4s,SNR=5.2						
EQES	**Quesada**	**4.95**	**281**	P	**Pn**	**12 11 46.9**	**+1.3**
	5.2nm,0.3s,SNR=25						
EMIR	**Miracle**	**5.04**	**347**	P	**Pn**	**12 11 49.3**	**+2.5**
	20nm,0.3s,SNR=24						
EMIR				S	**Sn**	**12 12 43.9**	**-1.1**
	10nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**5.04**	**347**	P	**Pn**	**12 11 49.3**	**+2.5**
	20nm,0.3s,SNR=24						
EMIR				S	**Sn**	**12 12 43.9**	**-1.1**
	1.9nm,0.1s,SNR=7.9						
KEST	**Kesra**	**5.23**	**102**	*e*Pn	**Pn**	**12 11 51.2**	**+1.8**
KEST				*e*Sn	**Sn**	**12 12 50.3**	**+0.5**
KEST	**Kesra**	**5.23**	**102**	*e*Pn	**Pn**	**12 11 51.2**	**+1.8**
KEST				*e*Sn	**Sn**	**12 12 50.3**	**+0.5**
EJON	**La Jonquera**	**5.43**	**359**	P	**Pn**	**12 11 54.8**	**+2.7**
	2.8nm,0.2s,SNR=7.9						
EJON				S	**Sn**	**12 12 53.2**	**-1.5**
	0.6nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**5.43**	**359**	P	**Pn**	**12 11 54.2**	**+2.1**
	2.8nm,0.2s,SNR=7.9						
EJON				S	**Sn**	**12 12 52.1**	**-2.6**
	0.6nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**5.46**	**359**	P	**Pn**	**12 11 55.0**	**+2.4**
	0.4nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**5.52**	**352**	P	**Pn**	**12 11 56.6**	**+3.1**
	1.8nm,0.5s,SNR=7.9						
CLLI				S	**Sn**	**12 12 55.6**	**-1.5**
	SNR=7.9						
CSOR	**Sort**	**5.56**	**345**	P	**Pn**	**12 11 56.6**	**+2.7**
	3.1nm,0.2s,SNR=27						
CSOR				S	**Sn**	**12 12 56.0**	**-2.0**
	6.7nm,0.4s,SNR=7.9						
CSOR	**Sort**	**5.56**	**345**	S	**Sn**	**12 12 57.9**	**-0.1**
	SNR=7.9						
ESDC	**Sonseca Array**	**6.13**	**298**	P	**Pn**	**12 12 02.9**	**+1.2**
	1.5nm,0.2s,baz=111,slow=13,SNR=5.5						
MTLF	**Montolieu**	**6.35**	**354**	*e*Pn	**Pn**	**12 12 02.8**	**-2.0**
MTLF				*e*Sn	Sn	12 13 09.7	-7.7
	2.5nm,0.4s						
MTLF	**Montolieu**	**6.35**	**354**	*e*Pn	**Pn**	**12 12 02.8**	**-2.0**
EPF	**Esparros**	**6.36**	**342**	*e*Pn	Pn	12 12 02.5	-2.5
EPF				*e*Sn	Sn	12 13 09.5	-8.2
	4.7nm,0.6s						
EPF	**Esparros**	**6.36**	**342**	*e*Pn	Pn	12 12 02.5	-2.5
ETSF	**Etsaut**	**6.50**	**336**	*e*Pn	Pn	12 12 04.2	-2.7
ETSF				*e*Sn	Sn	12 13 12.6	-8.7
	2.3nm,0.5s						
ETSF	**Etsaut**	**6.50**	**336**	*e*Pn	Pn	12 12 04.2	-2.7
GUD	**Guadarrama**	**6.70**	**305**	Pn	**Pn**	**12 12 11.5**	**+1.8**
	1.0nm,0.3s,SNR=7.9						
LMR	**La Mourre**	**6.84**	**22**	*e*Pn	**Pn**	**12 12 10.2**	**-1.3**
LMR	**La Mourre**	**6.84**	**22**	*e*P	Pn	12 12 15.0	+3.5
LMR				*e*Sn	Sn	12 13 23.0	-6.3
	9.5nm,0.7s						
LMR	**La Mourre**	**6.84**	**22**	*e*Pn	**Pn**	**12 12 10.2**	**-1.3**
SJPF	**Ste Jean**	**6.92**	**333**	*e*Pn	Pn	12 12 09.9	-2.7
SJPF				*e*Sn	Sn	12 13 22.4	-9.1
	3.7nm,0.5s						
SJPF	**Ste Jean**	**6.92**	**333**	*e*Pn	Pn	12 12 09.9	-2.7
LASF	**Ste Croix**	**7.08**	**5**	*e*Pn	**Pn**	**12 12 12.9**	**-1.9**
LASF	**Ste Croix**	**7.08**	**5**	*e*P	**Pn**	**12 12 17.1**	**+2.3**
LASF				*e*Sn	Sn	12 13 27.9	-7.4
	2.5nm,0.5s						
LASF	**Ste Croix**	**7.08**	**5**	*e*Pn	**Pn**	**12 12 12.9**	**-1.9**
FRF	**La Foret Royal**	**7.09**	**22**	*e*Pn	**Pn**	**12 12 13.7**	**-1.2**
FRF				*e*Sn	Sn	12 13 29.1	-6.4
	3.7nm,0.4s						
FRF	**La Foret Royal**	**7.09**	**22**	*e*Pn	**Pn**	**12 12 13.7**	**-1.2**
PGF	**Pioggiola**	**7.17**	**38**	*e*Pn	**Pn**	**12 12 15.3**	**-0.8**
PGF				*e*Sn	Sn	12 13 31.8	-5.8
	4.2nm,0.4s						
PGF	**Pioggiola**	**7.17**	**38**	*e*Pn	**Pn**	**12 12 15.3**	**-0.8**
PGF				*e*Sn	Sn	12 13 31.8	-5.8
	2.1nm,0.4s						
SMRF	**Simiane la Rot**	**7.21**	**15**	*e*Pn	**Pn**	**12 12 15.3**	**-1.3**
SMRF				*e*Sn	Sn	12 13 31.6	-7.0
	2.9nm,0.6s						
SMRF	**Simiane la Rot**	**7.21**	**15**	*e*Pn	**Pn**	**12 12 15.3**	**-1.3**
SBF	**Sospel**	**7.61**	**25**	*e*Pn	**Pn**	**12 12 20.9**	**-1.2**
SBF				*e*Sn	Sn	12 13 41.6	-6.8
	1.6nm,0.2s						
SBF	**Sospel**	**7.61**	**25**	*e*Pn	**Pn**	**12 12 20.9**	**-1.2**
VIVF	**Saint-Julien-l**	**7.93**	**8**	*e*Pn	**Pn**	**12 12 24.6**	**-1.8**
VIVF	**Saint-Julien-l**	**7.93**	**8**	*e*P	**Pn**	**12 12 29.5**	**+3.1**
VIVF				*e*Sn	Sn	12 13 48.3	-7.9
	1.5nm,0.3s						
VIVF	**Saint-Julien-l**	**7.93**	**8**	*e*Pn	**Pn**	**12 12 24.6**	**-1.8**

*ISCJB **04** 12:28:52.1±0.2, 51°.51N±0°.01×16°.10E±0°.02, h0km, mb3.6/8, Error ellipse: s-maj=2.1km s-min=1.7km az=179.8*
*NEIC **04** 12:28:54.2±0.6, 51°.55N×15°.98E, h5km, ML4.0(CSEM), Error ellipse: s-maj=9.9km s-min=5.2km az=179.0*
*CSEM **04** 12:28:54.0±0.1, 51°.54N×16°.10E, h1km, ML4.1/12, Error ellipse: s-maj=3.4km s-min=2.8km az=14.0*
*IDC **04** 12:28:54.8±0.6, 51°.51N×16°.01E, h0km, mb3.6/8, mb1 3.8/15, mb1mx3.6/44, mbtmp3.7/15, ML3.3/7, Error ellipse: s-maj=10.9km s-min=6.3km az=115.0*
*LDG **04** 12:28:55.8±0.2, 51°.42N×16°.01E, h1km, Ml4.1/23, Error ellipse: s-maj=3.8km s-min=1.8km az=11.0, Suspected Mining induced.*
*PRU **04** 12:28:56.1, 51°.47N×16°.09E, h0km*
*BGR **04** 12:28:56.1±0.4, 51°.47N×16°.13E, h1km, ML3.8/16, Error ellipse: s-maj=5.6km s-min=2.2km az=18.0*
*VIE **04** 12:28:57.4±0.5, 51°.30N×16°.07E, h0km, mb3.2/6, ML3.3/8, Error ellipse: s-maj=3.3km s-min=2.2km az=4.0 69 km WNW of Wroclaw Suspected Mining induced.*
*UPP **04** 12:29:00.5, 51°.93N×15°.71E, h0km, ML2.6, Suspected Mining explosion.*
*BNS **04** 12:29:00.0±0.8, 51°.31N×15°.86E, h10km, ML3.7*
ISC 04 12:28:53.3±0.4**, 51°.51N**±0°.02**×16°.08E**±0°.02**, h0**km**, n251, σ1ˢ.83**/339**, mb3.6**/8**, 11C-8D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg	**Pb**	**12 29 08.4**	**+0.2**
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg	**Pb**	**12 29 08.4**	**+0.2**
KSP				*e*Sg	**Sb**	**12 29 17.8**	**-0.3**
KSP	**Ksiaz**	**0.68**	**169**	*e*P	**Pb**	**12 29 08.3**	**+0.2**
KSP				*e*Sg	**Sb**	**12 29 17.8**	**-0.3**
KSP	**Ksiaz**	**0.68**	**169**	*e*P	**Pb**	**12 29 08.3**	**+0.2**
UPC	**Upice**	**1.01**	**183**	*e*PG	**Pn**	**12 29 14.5**	**-0.2**
UPC				*e*SG	**Sb**	**12 29 27.7**	**+0.3**
	comp=Z,224nm,0.4s						
UPC	**Upice**	**1.01**	**183**	Pg	**Pn**	**12 29 14.5**	**-0.2**
UPC				Sg	**Sb**	**12 29 27.7**	**+0.3**
	224nm,0.4s						
UPC	**Upice**	**1.01**	**183**	*e*P	**Pn**	**12 29 14.5**	**-0.2**
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*Pg	**Pn**	**12 29 17.3**	**+0.3**
DPC				*e*Sg	**Sb**	**12 29 32.5**	**+0.2**
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*PG	**Pn**	**12 29 17.3**	**+0.3**
DPC				*e*SG	**Sb**	**12 29 32.6**	**+0.4**
	comp=Z,234nm,0.4s						
DPC	**Dobruska-Polom**	**1.17**	**173**	Pg	**Pn**	**12 29 17.3**	**+0.3**
DPC				Sg	**Sb**	**12 29 32.6**	**+0.4**
	234nm,0.4s						
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG	**Pb**	**12 29 21.5**	**+1.6**
PVCC				*e*SG	**Sn**	**12 29 40.1**	**+1.5**
	comp=Z,932nm,0.5s						
PVCC	**Panska Ves**	**1.37**	**225**	Pg	**Pb**	**12 29 21.5**	**+1.6**
PVCC				Sg	**Sn**	**12 29 40.1**	**+1.5**
	932nm,0.5s						
PVCC	**Panska Ves**	**1.37**	**225**	*e*P	**Pb**	**12 29 21.5**	**+1.6**
BRG	**Berggiesshubel**	**1.49**	**245**	PN	**Pb**	**12 29 22.4**	**+0.6**
BRG				PG	**Pg**	**12 29 23.5**	**+1.6**
BRG				SG	**Sn**	**12 29 43.9**	**+2.4**
	424nm,0.5s						
BRG	**Berggiesshubel**	**1.49**	**245**	*e*Pn	**Pb**	**12 29 22.5**	**+0.6**
BRG				*e*Pg	**Pg**	**12 29 24.1**	**+2.2**

BRG eSg Sn 12 29 44.1 +2.6
BRG Berggiesshubel 1.49 245 Pn Pb 12 29 22.5 +0.6
BRG Berggiesshubel 1.49 245 eP Pb 12 29 22.4 +0.6
KRLC Kraliky 1.51 163 ePG Pg 12 29 22.7 +0.6
KRLC eSG Sb 12 29 42.3 +0.5
KRLC Kraliky 1.51 163 Pg Pg 12 29 22.7 +0.6
KRLC Sg Sb 12 29 42.3 +0.5
RUE Ruedersdorf 1.72 305 ePn Pb 12 29 25.6 -0.2
RUE eSn Sg 12 29 52.3 +3.7
RUE Ruedersdorf 1.72 305 ePn Pb 12 29 25.6 -0.2
RUE eSn Sg 12 29 52.3 +3.7
PRA Prague 1.78 217 ePG Pb 12 29 27.1 +0.3
PRA eSG Sg 12 29 51.3 +0.7
comp=Z,260nm,0.8s
PRA Prague 1.78 217 Pg Pb 12 29 27.1 +0.3
PRA Sg Sg 12 29 51.3 +0.7
260nm,0.8s
GOPC GO Pecny, Ondr 1.80 208 ePN Pb 12 29 26.9 -0.2
GOPC ePG Pg 12 29 29.0 +1.2
GOPC GO Pecny, Ondr 1.80 208 Pn Pb 12 29 26.9 -0.2
GOPC GO Pecny, Ondr 1.80 208 Pg Pg 12 29 29.0 +1.2
PRU Pruhonice 1.81 213 ePN Pb 12 29 27.3 -0.1
PRU ePG Pg 12 29 29.1 +1.1
PRU eSG Sg 12 29 52.9 +1.4
comp=Z,207nm,0.4s
PRU Pruhonice 1.81 213 Pn Pb 12 29 27.3 -0.1
PRU Pruhonice 1.81 213 eP Pb 12 29 27.3 -0.1
FBE Freiberg 1.82 252 ePg Pg 12 29 29.7 +1.6
FBE Freiberg 1.82 252 Pg Pg 12 29 29.7 +1.6
GKP Gorka Klasztor 1.90 21 ePn Pg 12 29 36.0 +6.4
GKP eSn Sg 12 29 57.1 +2.9
CLL Collm 1.94 265 ePn Pb 12 29 28.7 -0.9
CLL ePg Pg 12 29 32.2 +1.7
CLL eSg Sg 12 29 58.1 +2.5
CLL Collm 1.94 265 ePn Pb 12 29 29.0 -0.5
CLL ePg Pg 12 29 32.0 +1.5
CLL i 12 29 34.8
CLL eSn Sn 12 29 53.0 +0.4
CLL i Sg Sg 12 29 58.1 +2.5
comp=Z,469nm,0.8s
CLL Collm 1.94 265 eP Pb 12 29 28.6 -0.9
CLL Collm 1.94 265 eP Pb 12 29 28.6 -0.9
RAC Raciborz 1.96 136 ePg Pg 12 29 32.4 +1.6
RAC eSg Sg 12 29 57.1 +0.9
OKC Ostrava-Krasne 2.13 141 ePn Pn 12 29 30.6 +0.5
OKC ePg Pg 12 29 34.9 +0.8
OKC eSg Sg 12 30 01.5 -0.2
OKC Ostrava-Krasne 2.13 141 ePN Pn 12 29 30.2 +0.1
OKC ePG Pg 12 29 34.6 +0.5
OKC eSG Sg 12 30 01.4 -0.3
OKC Ostrava-Krasne 2.13 141 Pn Pn 12 29 30.2 +0.1
CHZP Chorzow 2.21 122 Pn Pn 12 29 31.5 +0.3
VRAC Vranov 2.23 171 Pn Pn 12 29 32.5 +1.0
comp=Z,7.0nm,0.3s,baz=350,slow=13,SNR=31
VRAC Lg Lg 12 30 06.2
comp=Z,21nm,0.3s,baz=49,slow=17,SNR=10
VRAC Vranov 2.23 171 ⇓iP Pb 12 29 33.9 -0.6
VRAC Vranov 2.23 171 S Sg 12 30 08.9 +4.0
VRAC Vranov 2.23 171 ePn Pn 12 29 32.9 +1.4
VRAC Vranov 2.23 171 ⇓iP Pb 12 29 33.9 -0.6
VRAC eSg Sg 12 30 05.1 +0.2
TANN Tannenbergstha 2.54 246 ePn Pn 12 29 37.8 +2.0
TANN ePg Pg 12 29 44.5 +2.5
TANN eSg Sg 12 30 16.0 +1.1
TANN Tannenbergstha 2.54 246 Pn Pn 12 29 37.8 +2.0
TANN Tannenbergstha 2.54 246 Pg Pg 12 29 44.5 +2.5
TANN Sg Sg 12 30 16.0 +1.1
WERD Werda 2.62 247 ePn Pn 12 29 38.8 +2.0
WERD ePg Pg 12 29 46.2 +2.8
WERD Werda 2.62 247 Pn Pn 12 29 38.8 +2.0
NKC Novy Kostel 2.64 242 ePN Pn 12 29 39.0 +1.9
NKC ePG Pg 12 29 45.6 +1.8
NKC eSG Sg 12 30 20.3 +2.4
comp=Z,182nm,0.4s
NKC Novy Kostel 2.64 242 Pn Pn 12 29 39.0 +1.9
OJC Ojcow 2.69 117 ePn Pn 12 29 38.9 +1.1
OJC Ojcow 2.69 117 ePn Pn 12 29 38.8 +1.1
OJC ePg Pg 12 29 45.3 +0.5
OJC eSg Sg 12 30 21.0 +1.4
OJC Ojcow 2.69 117 Pn Pn 12 29 38.9 +1.1
KHC Kasperske Hory 2.88 215 ePN Pn 12 29 41.8 +1.4
KHC ePG Pg 12 29 48.1 -0.3
KHC eSN Sn 12 30 17.2 +1.5
KHC eSG Sg 12 30 26.3 +0.7
comp=Z,91nm,0.4s
KHC Kasperske Hory 2.88 215 ePn Pn 12 29 41.4 +1.0
KHC Kasperske Hory 2.88 215 ePn Pn 12 29 41.4 +1.0
KHC ePg Pg 12 29 48.4 0.0
KHC eSn Sn 12 30 10.6 -0.1
MOX Moxa 2.95 255 ePn Pn 12 29 43.2 +1.8
MOX ePg Pg 12 29 51.7 +1.9
MOX eSg Sg 12 30 30.9 +2.9
MOX Moxa 2.95 255 Pn Pn 12 29 43.2 +1.8
MANZ Manzenberg 2.95 240 ePn Pn 12 29 43.6 +2.1
MANZ ePg Pg 12 29 52.0 +2.2
MANZ Manzenberg 2.95 240 Pn Pn 12 29 43.6 +2.1
MANZ Manzenberg 2.95 240 Pg Pg 12 29 52.0 +2.2
ROTZ Rotzenmuhle 3.02 236 ePn Pn 12 29 44.5 +2.1
ROTZ eSg Sg 12 30 31.0 +0.6
ROTZ Rotzenmuhle 3.02 236 Pn Pn 12 29 44.5 +2.1
ROTZ Sg Sg 12 30 31.0 +0.6
GEC2 GERESS Array S 3.08 211 ePn Pn 12 29 45.3 +2.0
GEC2 GERESS Array S 3.08 211 Pn Pn 12 29 45.3 +2.0
GERES GERESS Array B 3.08 211 Pn Pn 12 29 43.6 +0.4
comp=Z,6.2nm,0.3s,baz=33,slow=13,SNR=94
GERES Pg Pg 12 29 51.6 -0.7
comp=Z,11nm,0.3s,baz=31,slow=16,SNR=54
GERES Lg Lg 12 30 33.0
comp=Z,20nm,0.3s,baz=33,slow=27,SNR=8.5
SMOL Smolenice 3.12 163 ePg Pg 12 29 54.8 +1.6
SMOL eSg Sg 12 30 34.1 +0.5
SMOL Smolenice 3.12 163 ePG Pg 12 29 54.8 +1.6
SMOL eSB Sg 12 30 34.1 +0.5
WET Wettzell 3.14 222 ePn Pn 12 29 45.8 +1.8
WET Wettzell 3.14 222 Pn Pn 12 29 45.8 +1.8
NIE Niedzica 3.42 126 eP Pg 12 29 59.7 +0.9
NIE eS Sg 12 30 45.3 +2.2
RGN Rugen 3.47 332 Pn Pb 12 29 55.6 +0.1
RGN eSn Sb 12 30 38.9 +0.8
CLZ Clausthal 3.57 278 ePn Pn 12 29 52.3 +2.4
CLZ eSg Sg 12 30 51.0 +3.1
CLZ Clausthal 3.57 278 Pn Pn 12 29 52.3 +2.4
CLZ Sg Sg 12 30 51.0 +3.1
CONA Conrad Observa 3.59 182 i Pn Pn 12 29 52.1 +1.8
SNR=15
CONA ⇑iSg Sg 12 30 49.0 +0.4
comp=Z,85nm,0.5s
CONA Conrad Observa 3.59 182 Pn Pn 12 29 52.1 +1.8
SNR=15
CONA Sg Sg 12 30 49.0 +0.4
comp=Z,85nm,0.5s
GRA1 Grafenberg Arr 3.59 241 Pn Pn 12 29 52.5 +2.2
GRA1 Sg Sg 12 30 51.4 +2.7
GRF Grafenberg Arr 3.59 241 ePn Pn 12 29 52.5 +2.2
GRF eSg Sg 12 30 51.4 +2.7
GRFO Grafenberg 3.59 241 ePn Pn 12 29 52.5 +2.2
GRFO eSn Sn 12 30 29.4 -4.0
GRFO Grafenberg 3.59 241 ePn Pn 12 29 52.5 +2.2
GRFO eSn Sn 12 30 29.4 -4.0
BSD Bornholm Skovb 3.67 349 i P Pn 12 29 51.3 0.0
BSD i S Sn 12 30 32.8 -2.5
BSD Bornholm Skovb 3.67 349 i P Pn 12 29 51.3 0.0
BSD i S Sn 12 30 32.8 -2.5
SOP Sopron 3.85 175 eP Pn 12 29 54.5 +0.8
SOP Sopron 3.85 175 ePKKPdf Pn 12 29 54.5 +0.8
MOA Molln 3.85 199 ⇑iPn Pn 12 29 55.8 +2.0
SNR=25
MOA ⇑iSg Sg 12 30 58.8 +1.8
comp=Z,100nm,0.6s
MOA Molln 3.85 199 Pn Pn 12 29 55.8 +2.0
SNR=25
MOA Sg Sg 12 30 58.8 +1.8
comp=Z,100nm,0.6s
STHS Stebnicka Huta 3.91 120 ePg Pg 12 30 09.9 +1.7
STHS eSg Sg 12 31 01.0 +2.2
STHS Stebnicka Huta 3.91 120 ePG Pg 12 30 09.9 +1.7
STHS e 12 31 01.0
KECS Kecovo 4.15 135 ePn Pn 12 29 58.0 +0.1
KECS Kecovo 4.15 135 ePg Pg 12 30 14.7 +1.8
KECS eSg Sg 12 31 06.4 -0.3
KECS Kecovo 4.15 135 ePN Pn 12 29 58.0 +0.1
KECS ePG Pg 12 30 14.7 +1.8
KECS e 12 31 06.4
PSZ Piszkesteto 4.37 144 ⇓iP Pn 12 29 51.1 -10
PSZ Piszkesteto 4.37 144 S Sn 12 30 41.0 -12
PSZ Piszkesteto 4.37 144 ePn Pn 12 30 02.6 +1.7
PSZ Piszkesteto 4.37 144 ⇓eP Pn 12 30 02.9 +2.0
PSZ eSn Sn 12 30 46.5 -6.0
PSZ Piszkesteto 4.37 144 ePn Pn 12 30 02.6 +1.7
PSZ eSn Sn 12 30 46.5 -6.0
PSZ Piszkesteto 4.37 144 ⇓ePKKPdf Pn 12 30 02.9 +2.0
LLD Lille Linde 4.47 330 i Pn Pn 12 30 01.4 -0.8
LLD i 12 30 25.8
LLD Lille Linde 4.47 330 eP Pn 12 30 01.4 -0.8
KWP Kalwaria Pacla 4.62 111 ePn Pb 12 30 13.3 -1.9
KWP ePg Pg 12 30 19.9 -1.9
KOLS Kolonicke sedl 4.74 121 ePn Pn 12 30 05.8 -0.2
KOLS Kolonicke sedl 4.74 121 ePg Pg 12 30 25.4 +1.3
KOLS eSg Sg 12 31 26.7 +1.3
KOLS Kolonicke sedl 4.74 121 ePN Pn 12 30 05.8 -0.2
KOLS ePG Pg 12 30 25.4 +1.3
KOLS e 12 31 26.7
KBA Koelnbreinsper 4.79 203 ⇓iPn Pn 12 30 09.2 +2.4
SNR=18
KBA ⇑iSg Sg 12 31 27.9 +0.9
comp=Z,37nm,0.5s
KBA Koelnbreinsper 4.79 203 Pn Pn 12 30 09.2 +2.4
SNR=18
KBA Sg Sg 12 31 27.9 +0.9
comp=Z,37nm,0.5s
BLEU Blekinge 4.80 358 P Pn 12 30 07.1 +0.3
BLEU S Sn 12 30 59.2 -3.9
BLEU Blekinge 4.80 358 P Pn 12 30 07.1 +0.3
BLEU S Sn 12 30 59.2 -3.9
PERS Pernice 4.92 188 i Pn Pn 12 30 07.2 -1.4
PERS Pernice 4.92 188 Pn Pn 12 30 07.2 -1.4
WATA Walderalm 5.11 217 ⇑iPn Pn 12 30 14.0 +2.8
SNR=6.5
WATA Walderalm 5.11 217 Pn Pn 12 30 14.0 +2.8
SNR=6.5
DEL Delary 5.13 346 P Pn 12 30 11.3 -0.1
DEL Delary 5.13 346 P Pn 12 30 11.3 -0.1
WTTA Wattenberg 5.15 216 ⇓iPn Pn 12 30 14.7 +2.9
SNR=7.0
WTTA ⇓iSg Sg 12 31 42.1 +3.5
comp=Z,35nm,0.5s
WTTA Wattenberg 5.15 216 Pn Pn 12 30 14.7 +2.9
SNR=7.0
WTTA Sg Sg 12 31 42.1 +3.5
comp=Z,35nm,0.5s
MOTA Moosalm 5.29 220 ⇑iPn Pn 12 30 15.5 +1.8
MOTA ⇑iSg Sg 12 31 46.6 +3.5
comp=Z,47nm,0.8s
MOTA Moosalm 5.29 220 Pn Pn 12 30 15.5 +1.8
MOTA Sg Sg 12 31 46.6 +3.5
comp=Z,47nm,0.8s
RETA Reutte 5.32 223 i Pn Pn 12 30 16.0 +2.1
SNR=5.5
RETA Reutte 5.32 223 Pn Pn 12 30 16.0 +2.1
SNR=5.5
TRPA Tarpa 5.38 127 ⇑iP Pn 12 30 15.2 +0.5
TRPA Tarpa 5.38 127 ⇑iP Pn 12 30 15.2 +0.5
GORS Gorjuse 5.38 196 i Pn Pn 12 30 16.6 +1.7
GORS Gorjuse 5.38 196 i Pn Pn 12 30 16.6 +1.7
KOE Koeppel 5.39 262 ePn Pn 12 30 16.3 +1.4
KOE Koeppel 5.39 262 Pn Pn 12 30 16.3 +1.4
VXJU Vaexsjoe 5.46 353 P Pn 12 30 16.3 +0.4
VXJU Vaexsjoe 5.46 353 P Pn 12 30 16.3 +0.4
PDKS Podkum 5.50 188 i Pn Pn 12 30 19.3 +2.8
PDKS Podkum 5.50 188 i Pn Pn 12 30 19.3 +2.8
HOBG Hohbusch 5.52 268 ePn Pn 12 30 20.1 +3.4
HOBG Hohbusch 5.52 268 Pn Pn 12 30 20.1 +3.4
BGG Burgeitz 5.69 260 ePn Pn 12 30 21.4 +2.4
BGG eSn Sn 12 31 22.8 -2.2
comp=Z,21nm,0.5s
BGG Burgeitz 5.69 260 Pn Pn 12 30 21.4 +2.4
OSKU Oskarshamn 5.69 0 P Pn 12 30 19.5 +0.5
OSKU Oskarshamn 5.69 0 P Pn 12 30 19.5 +0.5
LAUG Laupendahl 5.72 272 ePn Pn 12 30 19.5 +0.1
LAUG Laupendahl 5.72 272 Pn Pn 12 30 19.5 +0.1
JAVS Javornik 5.78 194 i Pn Pn 12 30 22.1 +1.7
JAVS Javornik 5.78 194 i Pn Pn 12 30 22.1 +1.7
BYXU Byxelkrok 5.81 5 P Pn 12 30 21.4 +0.7
BYXU Byxelkrok 5.81 5 P Pn 12 30 21.4 +0.7
FABU Falkenberg 5.84 342 P Pn 12 30 20.8 -0.2
FABU Falkenberg 5.84 342 P Pn 12 30 20.8 -0.2
STB Steinbach 5.90 265 ePn Pn 12 30 23.5 +1.6
STB Steinbach 5.90 265 Pn Pn 12 30 23.5 +1.6
ASPU Aespoe 5.93 3 P Pn 12 30 23.2 +1.0
ASPU Aespoe 5.93 3 P Pn 12 30 23.2 +1.0
BFO Black Forest 5.93 241 ePn Pn 12 30 22.7 +0.3
comp=Z,17nm,0.7s
BFO eSn Sn 12 31 30.0 -1.1
BFO Black Forest 5.93 241 ePn Pn 12 30 22.7 +0.3
comp=Z,17nm,0.7s
BFO eSn Sn 12 31 29.9 -1.1
GNOU Gnosjoe 5.95 348 P Pn 12 30 23.0 +0.5
GNOU Gnosjoe 5.95 348 P Pn 12 30 23.0 +0.5
BOJS Bojanci 6.04 186 ePn Pn 12 30 25.9 +2.1
BOJS Bojanci 6.04 186 ePn Pn 12 30 25.9 +2.1
VSTU Vaestervik 6.17 2 P Pn 12 30 26.4 +0.9
VSTU Vaestervik 6.17 2 P Pn 12 30 26.4 +0.9
KLL Kalltalsperre 6.22 266 ePn Pn 12 30 28.2 +1.9
KLL Kalltalsperre 6.22 266 Pn Pn 12 30 28.2 +1.9
DAVOX Davos/Dischmat 6.24 223 Pn Pn 12 30 26.3 -0.5
comp=Z,0.3nm,0.3s,baz=80,slow=12,SNR=3.9
DAVOX Lg Lg 12 32 13.5
comp=Z,1.5nm,0.3s,baz=291,slow=8.7,SNR=4.2
DREG Dreilaegerbach 6.27 266 ePn Pn 12 30 27.3 +0.4
DREG Dreilaegerbach 6.27 266 Pn Pn 12 30 27.3 +0.4
MEM Membach 6.42 266 PN Pn 12 30 31.0 +1.9
MEM Membach 6.42 266 Pn Pn 12 30 30.9 +1.9
CDF Champ du Feu 6.47 245 ePn Pn 12 30 28.9 -1.0
CDF eSg Sg 12 32 16.0 -5.1
comp=Z,150nm,1.1s
CDF Champ du Feu 6.47 245 ePn Pn 12 30 28.9 -1.0
CDF Champ du Feu 6.47 245 ePn Pn 12 30 28.9 -1.0
CDF eSg Sg 12 32 16.0 -5.1
ECH Echery 6.65 244 ePn Pn 12 30 33.7 +1.5
comp=Z,3.1nm,0.6s
ECH Echery 6.65 244 ePn Pn 12 30 33.7 +1.5
comp=Z,3.1nm,0.6s
BCLA Clavier 6.90 265 PN Pn 12 30 38.0 +2.3
BCLA Clavier 6.90 265 Pn Pn 12 30 37.9 +2.3
HINF Hinteralfeld 7.04 242 ePn Pn 12 30 36.5 -1.1
HINF eSg Sg 12 32 33.2 -6.1
comp=Z,53nm,0.7s
HINF Hinteralfeld 7.04 242 ePn Pn 12 30 36.5 -1.1
HINF Hinteralfeld 7.04 242 ePn Pn 12 30 36.5 -1.1
HINF eSg Sg 12 32 33.2 -6.1
BUR08 Bucovina Ar. S 7.08 120 ePn Pn 12 30 40.9 +2.7
BUR08 eSn Sn 12 31 56.5 -2.8
BUR08 Bucovina Ar. S 7.08 120 ePn Pn 12 30 40.9 +2.7
BUR08 eSn Sn 12 31 56.5 -2.8
BURAR Bucovina Array 7.11 120 ⇑iP Pn 12 30 40.3 +1.8
BURAR Bucovina Array 7.11 120 ⇑iP Pn 12 30 40.3 +1.8
HAU Haudompre 7.22 245 ePn Pn 12 30 38.8 -1.2
HAU Haudompre 7.22 245 ePg Pg 12 31 07.7 -3.8
HAU eSg Sg 12 32 39.2 -5.7
comp=Z,71nm,1.0s
HAU Haudompre 7.22 245 ePn Pn 12 30 38.8 -1.2
HAU Haudompre 7.22 245 ePn Pn 12 30 38.8 -1.2
HAU ePg Pg 12 31 07.7 -3.8
HAU eSg Sg 12 32 39.2 -5.7
GIVF Givet 7.28 263 ePn Pn 12 30 40.2 -0.6
GIVF eSg Sg 12 32 41.9 -4.9
comp=Z,90nm,1.1s
GIVF Givet 7.28 263 ePn Pn 12 30 40.2 -0.6
GIVF Givet 7.28 263 ePn Pn 12 30 40.2 -0.6
GIVF eSg Sg 12 32 41.9 -4.9
PAGF Fort de Pagny 7.30 250 ePn Pn 12 30 40.2 -0.9
baz=73
PAGF eSg Sg 12 32 41.7 -5.8
comp=Z,31nm,1.1s
PAGF Fort de Pagny 7.30 250 ePn Pn 12 30 40.2 -0.9
PAGF Fort de Pagny 7.30 250 ePn Pn 12 30 40.2 -0.9
PAGF eSg Sg 12 32 41.7 -5.8
DOU Dourbes 7.42 263 PN Pn 12 30 46.1 +3.4
DOU Dourbes 7.42 263 Pn Pn 12 30 46.1 +3.4
BAIF Baives 7.67 264 ePn Pn 12 30 45.5 -0.7
BAIF eSg Sg 12 32 54.2 -5.2
comp=Z,76nm,1.2s
BAIF Baives 7.67 264 ePn Pn 12 30 45.5 -0.7
BAIF Baives 7.67 264 ePn Pn 12 30 45.5 -0.7
BAIF eSg Sg 12 32 54.2 -5.2
MEZF Maizieres J'vi 7.72 251 ePn Pn 12 30 46.0 -0.9
baz=77
MEZF eSg Sg 12 32 55.1 -6.0
comp=Z,21nm,0.5s
MEZF Maizieres J'vi 7.72 251 ePn Pn 12 30 46.0 -0.9
MEZF Maizieres J'vi 7.72 251 ePn Pn 12 30 46.0 -0.9
MEZF eSg Sg 12 32 55.1 -6.0
SFTF Sexfontaines 7.87 249 ePn Pn 12 30 47.9 -1.0
SFTF eSg Sg 12 32 59.6 -6.2
comp=Z,81nm,1.0s
SFTF Sexfontaines 7.87 249 ePn Pn 12 30 47.9 -1.0
SFTF Sexfontaines 7.87 249 ePn Pn 12 30 47.9 -1.0
SFTF eSg Sg 12 32 59.6 -6.2
CABF La Chapelle 8.19 237 ePn Pn 12 30 52.2 -1.2
CABF eSg Sg 12 33 09.3 -6.9
comp=Z,71nm,1.0s
CABF La Chapelle 8.19 237 ePn Pn 12 30 52.2 -1.2
CABF La Chapelle 8.19 237 ePn Pn 12 30 52.2 -1.2
CABF eSg Sg 12 33 09.3 -6.9
KIEV Kiev 8.30 91 ePn Pn 12 30 54.4 -0.5
comp=Z,11nm,0.7s
KIEV Kiev 8.30 91 ePn Pn 12 30 54.4 -0.5
comp=Z,11nm,0.7s
KIEV eSn Sn 12 32 32.4 +3.1
AK01 Malin Array Si 8.31 91 ePn Pn 12 30 56.5 +1.6
AK01 Malin Array Si 8.31 91 ePn Pn 12 30 56.5 +1.6
AK02 Malin Array Si 8.31 91 ePn Pn 12 30 56.4 +1.5
AK02 Malin Array Si 8.31 91 ePn Pn 12 30 56.4 +1.5
AKASG Malin Array Be 8.31 90 Pn Pn 12 30 53.8 -1.2
comp=Z,2.2nm,0.3s,baz=278,slow=12,SNR=11
AKASG Sn Sn 12 32 25.6 -3.8
comp=Z,1.4nm,0.3s,baz=278,slow=23,SNR=5.2
AKASG Lg Lg 12 33 27.2
comp=Z,1.1nm,0.3s,baz=269,slow=27,SNR=4.3
AKBB Malin Array Si 8.31 90 ePn Pn 12 30 54.4 -0.6
AKBB Malin Array Si 8.31 90 ePn Pn 12 30 54.4 -0.6
AKBB eSn Sn 12 32 32.5 +3.0
LPL La Plagne 8.63 230 ePn Pn 12 30 58.1 -1.5
LPL eSg Sg 12 33 22.7 -7.5
comp=Z,5.2nm,0.3s
LPL La Plagne 8.63 230 ePn Pn 12 30 58.1 -1.5
LPL La Plagne 8.63 230 ePn Pn 12 30 58.1 -1.5
LPL eSg Sg 12 33 22.7 -7.5
LPG La Plagne 8.63 229 ePn Pn 12 30 58.2 -1.5
LPG eSg Sg 12 33 23.0 -7.4
comp=Z,61nm,1.2s
LPG La Plagne 8.63 229 ePn Pn 12 30 58.2 -1.5
LPG La Plagne 8.63 229 ePn Pn 12 30 58.2 -1.5
LPG eSg Sg 12 33 23.0 -7.4
HFS Hagfors 8.74 352 Pn Pn 12 30 58.5 -2.4
comp=Z,0.2nm,0.3s,baz=168,slow=15,SNR=5.1
HFS Lg Lg 12 33 33.4
comp=Z,0.4nm,0.3s,baz=159,slow=26,SNR=2.9
LOR Lormes 9.03 247 ePn Pn 12 31 03.6 -1.3
baz=70
LOR Lormes 9.03 247 ePg Pn 12 31 41.2 +36
LOR eSg Sn 12 33 35.8 +49
comp=Z,32nm,0.9s
LOR Lormes 9.03 247 ePn Pn 12 31 03.6 -1.3
LOR Lormes 9.03 247 ePn Pn 12 31 03.6 -1.3
LOR ePg 12 31 41.2
LOR eSg Sn 12 33 35.8 +49
MBDF Montbardon 9.21 226 ePn Pn 12 31 05.9 -1.5
MBDF eSg Sn 12 33 40.4 +48
comp=Z,20nm,0.9s
MBDF Montbardon 9.21 226 ePn Pn 12 31 05.9 -1.5
MBDF Montbardon 9.21 226 ePn Pn 12 31 05.9 -1.5
MBDF eSg Sn 12 33 40.4 +48
SSF Saint Saulge 9.35 246 ePn Pn 12 31 08.0 -1.2
SSF Saint Saulge 9.35 246 ePg Pn 12 31 46.9 +38
SSF eSg Sn 12 33 45.4 +50
comp=Z,31nm,1.0s
SSF Saint Saulge 9.35 246 ePn Pn 12 31 08.0 -1.2
SSF Saint Saulge 9.35 246 ePn Pn 12 31 08.0 -1.2
SSF ePg 12 31 46.9
SSF eSg Sn 12 33 45.4 +50
SMF Signal de Mont 9.39 244 ePn Pn 12 31 08.7 -1.1
SMF eSg Sn 12 33 46.6 +50
comp=Z,27nm,0.7s
SMF Signal de Mont 9.39 244 ePn Pn 12 31 08.7 -1.1
SMF Signal de Mont 9.39 244 ePn Pn 12 31 08.7 -1.1
SMF eSg Sn 12 33 46.6 +50
ORIF Oris-en-Rattie 9.48 230 ePn Pn 12 31 09.5 -1.6
ORIF eSg Sn 12 33 49.2 +51
comp=Z,32nm,1.1s
ORIF Oris-en-Rattie 9.48 230 ePn Pn 12 31 09.5 -1.6
ORIF Oris-en-Rattie 9.48 230 ePn Pn 12 31 09.5 -1.6
ORIF eSg Sn 12 33 49.2 +51
AVF Avril sur Loir 9.58 245 ePn Pn 12 31 11.2 -1.2
AVF eSg Sn 12 33 52.7 +52
comp=Z,25nm,0.9s
AVF Avril sur Loir 9.58 245 ePn Pn 12 31 11.2 -1.2
AVF Avril sur Loir 9.58 245 ePn Pn 12 31 11.2 -1.2
AVF eSg Sn 12 33 52.7 +52
TCF Toulx Ste Croi 10.52 246 eSg Sn 12 34 22.2 +58
comp=Z,7.4nm,0.7s
FINES FINESS Array B 11.37 25 Pn Pn 12 31 34.5 -2.2
comp=Z,0.4nm,0.3s,baz=201,slow=12,SNR=8.5
FINES Sn Sn 12 33 36.7 -7.6
comp=Z,0.5nm,0.3s,baz=204,slow=22,SNR=5.1
EKA Eskdalemuir Ar 12.09 296 Pn Pn 12 31 44.7 -2.0
baz=95,slow=14,SNR=6.9
ARCES ARCESS Array B 18.62 10 Pn P 12 33 09.8 -2.2
comp=Z,0.3nm,0.3s,baz=191,slow=11,SNR=5.8
AKTO Aktyubinsk 26.17 76 P P 12 34 30.2 +1.1
comp=Z,1.4nm,0.8s,baz=293,slow=10,SNR=5.7
BVAR Borovoye Array 32.60 66 P P 12 35 27.4 +1.2
comp=Z,0.7nm,0.6s,baz=317,slow=10,SNR=4.5
KURBB Kurchatov Arra 38.19 66 P P 12 36 15.8 +1.5
comp=Z,0.9nm,0.8s,baz=301,slow=8.3,SNR=5.8
TORD Torodi Ar. Bea 40.00 202 P P 12 36 30.5 +0.8
comp=Z,1.0nm,0.9s,baz=14,slow=9.0,SNR=5.1
MKAR Makanchi Array 42.23 69 P P 12 36 49.0 +1.1
comp=Z,0.4nm,0.7s,baz=302,slow=7.0,SNR=4.7
SONM Songino Array 54.93 55 P P 12 38 27.5 +1.8
comp=Z,0.5nm,0.6s,baz=273,slow=8.6,SNR=5.5
YKA Yellowknife Ar 59.85 336 P P 12 39 02.0 +2.0
comp=Z,0.7nm,0.6s,baz=24,slow=7.4,SNR=5.6
PDAR Pinedale Array 74.93 322 P P 12 40 38.0 +1.9
comp=Z,0.3nm,0.6s,baz=16,slow=6.8,SNR=2.8

IDC 04 12:29:54.6±9.9, 22.73S×67.88W, h154km±69km, mb3.7/2, mb1 3.4/3, mb1mx3.1/19, mbtmp4.0/3, Error ellipse: s-maj=101.4km s-min=54.4km az=43.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**6.41**	**358**	P	Pn	12 31 27.5	-0.2
	0.4nm,0.3s,baz=195,slow=6.8,SNR=12						
LPAZ				S	Sn	12 32 40.7	+0.1
	0.2nm,0.3s,baz=203,slow=7.7,SNR=2.4						
BDFB	**Brasilia**	**20.03**	**73**	P	P	12 34 15.8	0.0
	2.4nm,0.4s,baz=243,slow=9.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**76.88**	**70**	P	P	12 41 30.2	+0.1
	1.4nm,0.5s,baz=254,slow=5.8,SNR=20						

*ISCJB **04** 12:34:35.1±0.2, 51.56N±0.01×16.11E±0.02, h0km, mb3.5/5, Error ellipse: s-maj=2.1km s-min=1.8km az=4.7*
*NEIC **04** 12:34:37.6±0.4, 51.56N×16.04E, h5km, ML4.1(CSEM), Error ellipse: s-maj=6.0km s-min=3.3km az=178.0*
*IDC **04** 12:34:37.4±0.6, 51.57N×15.97E, h0km, mb3.6/5, mb1 3.7/12, mb1mx3.6/45, mbtmp3.7/12, ML3.6/6, MS1.9/1, Ms1 1.9/1, ms1mx1.7/44, Error ellipse: s-maj=11.6km s-min=6.4km az=118.0*
*CSEM **04** 12:34:37.3±0.1, 51.54N×16.09E, h2km, ML4.3/14, Ms4.2, Error ellipse: s-maj=2.3km s-min=2.1km az=16.0*
*BGR **04** 12:34:38.3±0.4, 51.51N×16.16E, h1km, ML3.9/16, Error ellipse: s-maj=5.6km s-min=2.2km az=14.0*
*LDG **04** 12:34:39.6±0.2, 51.39N×16.06E, h1km, Ml4.3/23, Error ellipse: s-maj=5.7km s-min=3.2km az=5.0, Suspected Mining induced.*
*PRU **04** 12:34:39.3, 51.45N×16.07E, h0km*
*VIE **04** 12:34:41.2±0.5, 51.28N×15.88E, h0km, mb3.3/8, ML3.4/9, Ms4.2/1, Error ellipse: s-maj=3.7km s-min=2.8km az=86.0*
77 km NE of Liberec Suspected Mining induced.
*BNS **04** 12:34:41.8±0.6, 51.39N×15.89E, h10km, ML3.8*

*UPP **04** 12:34:42.9, 51.°88N×15.°54E, h0km, ML2.6, Suspected Mining explosion.*

ISC 04 12:34:36.7±0.5**, 51.°52N**±0.°02×**16.°08E**±0.°02**, h0km, n261, σ1.s43**/345**, mb3.5**/5**, 16C-9D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	169	ePg	Pb	12 34 51.4	-0.4
KSP	Ksiaz	0.69	169	i Pg	Pb	12 34 51.3	-0.4
KSP				i Sg	Sg	12 35 00.3	+1.3
KSP	Ksiaz	0.69	169	Pg	Pb	12 34 51.4	-0.4
KSP				i Sg	Sg	12 35 00.3	+1.3
KSP	Ksiaz	0.69	169	eP	Pb	12 34 51.5	-0.2
UPC	Upice	1.02	182	ePG	Pb	12 34 57.3	+0.1
UPC				eSG	Sg	12 35 10.4	+1.0
	comp=Z,563nm,0.8s						
UPC	Upice	1.02	182	Pg	Pb	12 34 57.3	+0.1
UPC				Sg	Sg	12 35 10.4	+1.0
	563nm,0.8s						
UPC	Upice	1.02	182	eP	Pb	12 34 57.4	+0.2
DPC	Dobruska-Polom	1.18	172	ePg	Pb	12 35 00.1	0.0
DPC				eSg	Sg	12 35 15.4	+0.7
DPC	Dobruska-Polom	1.18	172	ePG	Pb	12 35 00.0	0.0
DPC				eSG	Sg	12 35 15.2	+0.5
	comp=Z,466nm,0.6s						
DPC	Dobruska-Polom	1.18	172	Pg	Pb	12 35 00.1	0.0
DPC				Sg	Sg	12 35 15.4	+0.7
PVCC	Panska Ves	1.38	224	ePG	Pb	12 35 04.1	+0.7
PVCC				eSG	Sn	12 35 22.8	+0.6
	comp=Z,1μm,0.3s						
PVCC	Panska Ves	1.38	224	eP	Pb	12 35 03.6	+0.2
PVCC	Panska Ves	1.38	224	Pg	Pb	12 35 04.1	+0.7
PVCC				Sg	Sn	12 35 22.8	+0.6
	1μm,0.3s						
PVCC	Panska Ves	1.38	224	eP	Pb	12 35 03.6	+0.2
BRG	Berggiesshubel	1.49	245	PN	Pb	12 35 05.2	-0.1
BRG				PG	Pg	12 35 07.0	+1.7
BRG				SG	Sn	12 35 26.6	+1.6
	583nm,0.4s						
BRG	Berggiesshubel	1.49	245	ePn	Pb	12 35 05.1	-0.2
BRG				ePg	Pg	12 35 06.6	+1.2
BRG				eSg	Sn	12 35 26.7	+1.8
BRG	Berggiesshubel	1.49	245	Pn	Pb	12 35 05.1	-0.2
BRG	Berggiesshubel	1.49	245	eP	Pg	12 35 06.0	+0.7
BRG	Berggiesshubel	1.49	245	eP	Pg	12 35 06.0	+0.7
KRLC	Kraliky	1.52	163	ePG	Pn	12 35 05.6	+0.4
KRLC	Kraliky	1.52	163	Pg	Pn	12 35 05.6	+0.4
RUE	Ruedersdorf	1.71	305	ePn	Pn	12 35 08.1	+0.3
RUE				eSn	Sn	12 35 28.9	-1.5
RUE	Ruedersdorf	1.71	305	ePn	Pn	12 35 08.1	+0.3
RUE				eSn	Sn	12 35 28.9	-1.5
PRA	Prague	1.79	216	ePG	Pb	12 35 10.4	0.0
PRA				eSG	Sg	12 35 34.0	-0.2
	comp=Z,369nm,0.7s						
PRA	Prague	1.79	216	Pg	Pb	12 35 10.4	0.0
PRA				Sg	Sg	12 35 34.0	-0.2
	369nm,0.7s						
GOPC	GO Pecny, Ondr	1.81	208	ePN	Pn	12 35 09.4	+0.2
GOPC				ePG	Pg	12 35 11.3	-0.1
GOPC				eSG	Sg	12 35 35.1	+0.3
	comp=Z,320nm,0.7s						
GOPC	GO Pecny, Ondr	1.81	208	Pn	Pn	12 35 09.4	+0.2
FBE	Freiberg	1.82	252	ePn	Pn	12 35 09.8	+0.6
FBE				ePg	Pg	12 35 12.4	+0.8
FBE				eSg	Sg	12 35 37.2	+2.2
FBE	Freiberg	1.82	252	Pn	Pn	12 35 09.8	+0.6
PRU	Pruhonice	1.82	213	ePN	Pn	12 35 09.7	+0.4
PRU				ePG	Pg	12 35 11.7	+0.1
PRU				eSG	Sg	12 35 36.0	+0.8
	comp=Z,548nm,0.4s						
PRU	Pruhonice	1.82	213	Pn	Pn	12 35 09.7	+0.4
PRU	Pruhonice	1.82	213	eP	Pb	12 35 10.9	0.0
PRU	Pruhonice	1.82	213	Pg	Pg	12 35 11.7	+0.1
PRU				Sg	Sg	12 35 36.0	+0.8
	548nm,0.4s						
PRU	Pruhonice	1.82	213	eP	Pb	12 35 10.9	0.0
GKP	Gorka Klasztor	1.89	22	ePn	Pg	12 35 19.2	+6.3
GKP				eSn	Sg	12 35 40.1	+2.8
CLL	Collm	1.94	265	ePn	Pn	12 35 11.0	+0.1
CLL	Collm	1.94	265	ePn	Pn	12 35 11.0	+0.1
CLL				i Pg	Pg	12 35 14.9	+1.0
CLL				i		12 35 17.4	
CLL				eSg	Sg	12 35 41.0	+2.0
	comp=Z,454nm,0.5s						
CLL	Collm	1.94	265	Pn	Pn	12 35 11.0	+0.1
CLL	Collm	1.94	265	ePn	Pn	12 35 10.2	-0.7
RAC	Raciborz	1.97	136	ePg	Pg	12 35 15.9	+1.5
RAC				eSg	Sg	12 35 40.9	+1.0
OKC	Ostrava-Krasne	2.14	141	ePn	Pn	12 35 13.6	-0.1
OKC				ePg	Pg	12 35 17.9	+0.2
OKC				eSg	Sb	12 35 44.0	+0.6
OKC	Ostrava-Krasne	2.14	141	Pn	Pn	12 35 13.6	-0.1
OKC	Ostrava-Krasne	2.14	141	Pg	Pg	12 35 17.9	+0.2
OKC				Sg	Sb	12 35 44.1	+0.7
	comp=Z,472nm,0.6s						
CHZP	Chorzow	2.22	123	Pn	Pg	12 35 19.4	+0.2
VRAC	Vranov	2.24	171	Pn	Pn	12 35 16.5	+1.4
	comp=Z,5.6nm,0.3s,baz=342,slow=11,SNR=36						
VRAC				Lg	Lg	12 35 48.8	
	comp=Z,24nm,0.3s,baz=54,slow=19,SNR=13						
VRAC				LR	LR	12 36 00.5	
	comp=Z,25nm,19.4s,baz=245,slow=36						
VRAC	Vranov	2.24	171	⇓iP	Pn	12 35 16.5	+1.4
VRAC	Vranov	2.24	171	S	Sg	12 35 49.7	+1.0
VRAC	Vranov	2.24	171	ePn	Pn	12 35 15.7	+0.6
VRAC	Vranov	2.24	171	⇓iP	Pn	12 35 16.5	+1.4
VRAC				eSg	Sb	12 35 47.0	+0.6
TREC	Trest	2.26	190	ePG	Pg	12 35 20.1	0.0
TREC	Trest	2.26	190	Pg	Pg	12 35 20.1	0.0
TANN	Tannenbergstha	2.54	246	ePn	Pn	12 35 20.0	+0.7
TANN				ePg	Pg	12 35 26.8	+1.4
TANN				eSg	Sg	12 35 59.7	+1.4
TANN	Tannenbergstha	2.54	246	Pn	Pn	12 35 20.0	+0.7
WERD	Werda	2.62	247	ePn	Pn	12 35 21.1	+0.8
WERD				eSg	Sg	12 36 03.7	+2.9
WERD	Werda	2.62	247	Pn	Pn	12 35 21.1	+0.8
WERD				Sg	Sg	12 36 03.7	+2.9
NKC	Novy Kostel	2.64	242	ePN	Pn	12 35 21.8	+1.2
NKC				ePG	Pg	12 35 27.7	+0.4
NKC				eSG	Sg	12 36 03.6	+2.1
	comp=Z,237nm,0.4s						
NKC	Novy Kostel	2.64	242	Pn	Pn	12 35 21.8	+1.2
NKC	Novy Kostel	2.64	242	Pg	Pg	12 35 27.7	+0.4
NKC				Sg	Sg	12 36 03.6	+2.1
	comp=Z,237nm,0.4s						
OJC	Ojcow	2.69	118	ePg	Pg	12 35 27.6	-0.7
OJC				eSg	Sg	12 36 03.4	+0.2
OJC	Ojcow	2.69	118	ePn	Pn	12 35 19.7	-1.6
OJC				ePg	Pg	12 35 28.8	+0.5
OJC				eSn	Sn	12 35 52.1	-2.5
OJC				eSg	Sg	12 36 03.9	+0.7
OJC	Ojcow	2.69	118	ePn	Pn	12 35 19.7	-1.6
OJC	Ojcow	2.69	118	Pg	Pg	12 35 27.6	-0.7
OJC				eSn	Sn	12 35 52.1	-2.5
OJC				Sg	Sg	12 36 03.4	+0.2
KHC	Kasperske Hory	2.88	215	ePN	Pn	12 35 24.4	+0.5
KHC				ePG	Pg	12 35 31.0	-0.9
KHC				eSN	Sn	12 35 57.1	-2.2
KHC				eSG	Sg	12 36 08.5	-0.8
	comp=Z,167nm,0.6s						
KHC	Kasperske Hory	2.88	215	Pn	Pn	12 35 24.4	+0.5
KHC	Kasperske Hory	2.88	215	ePg	Pg	12 35 33.0	+1.1
KHC				Sn	Sn	12 35 57.1	-2.2
KHC				Sg	Sg	12 36 08.5	-0.8
	comp=Z,167nm,0.6s						
KHC	Kasperske Hory	2.88	215	ePn	Pn	12 35 24.2	+0.3
KHC				ePg	Pg	12 35 33.0	+1.1
KHC				eSn	Sn	12 35 59.4	+0.1
MOX	Moxa	2.95	254	ePn	Pn	12 35 25.4	+0.6
MOX				ePg	Pg	12 35 33.8	+0.6
MOX				eSg	Sg	12 36 14.0	+2.6
MOX	Moxa	2.95	254	Pn	Pn	12 35 25.4	+0.6
MANZ	Manzenberg	2.96	240	ePn	Pn	12 35 26.2	+1.3
MANZ	Manzenberg	2.96	240	Pn	Pn	12 35 26.2	+1.3
ROTZ	Rotzenmuhle	3.03	236	ePn	Pn	12 35 26.9	+1.0
ROTZ	Rotzenmuhle	3.03	236	Pn	Pn	12 35 26.9	+1.0
GEC2	GERESS Array S	3.09	211	ePn	Pn	12 35 27.5	+0.7
GEC2	GERESS Array S	3.09	211	Pn	Pn	12 35 27.5	+0.7
GEC2	GERESS Array S	3.09	211	ePn	Pn	12 35 28.1	+1.3
GERES	GERESS Array B	3.09	211	Pn	Pn	12 35 27.6	+0.8
	comp=Z,5.9nm,0.3s,baz=31,slow=12,SNR=50						
GERES				Pg	Pg	12 35 34.7	-1.1
	comp=Z,14nm,0.3s,baz=31,slow=16,SNR=66						
GERES				Lg	Lg	12 36 13.2	
	comp=Z,19nm,0.3s,baz=32,slow=24,SNR=5.3						
SMOL	Smolenice	3.14	163	ePg	Pg	12 35 37.1	+0.3
SMOL				eSg	Sg	12 36 17.0	-0.4
SMOL	Smolenice	3.14	163	ePG	Pg	12 35 37.1	+0.3
SMOL				eSB	Sg	12 36 17.0	-0.4
WET	Wettzell	3.14	222	ePn	Pn	12 35 28.4	+0.9
WET	Wettzell	3.14	222	Pn	Pn	12 35 28.4	+0.9
NIE	Niedzica	3.43	126	eP	Pg	12 35 43.2	+0.8
NIE				eS	Sg	12 36 26.9	+0.1
CLZ	Clausthal	3.57	277	ePn	Pn	12 35 35.2	+1.8
CLZ	Clausthal	3.57	277	Pn	Pn	12 35 35.2	+1.8
GRA1	Grafenberg Arr	3.60	241	Pn	Pn	12 35 35.0	+1.3
GRA1	Grafenberg Arr	3.60	241	Pg	Pg	12 35 47.7	+2.1
GRF	Grafenberg Arr	3.60	241	ePn	Pn	12 35 35.0	+1.3
GRF				ePg	Pg	12 35 47.7	+2.1
GRFO	Grafenberg	3.60	241	ePn	Pn	12 35 35.0	+1.3
GRFO	Grafenberg	3.60	241	ePn	Pn	12 35 35.0	+1.3
CONA	Conrad Observa	3.60	182	⇑iPn	Pn	12 35 35.1	+1.2
	SNR=10						
CONA				⇑iSg	Sg	12 36 31.5	-0.9
	comp=Z,209nm,0.6s						
CONA	Conrad Observa	3.60	182	Pn	Pn	12 35 35.1	+1.2
	SNR=10						
CONA				Sg	Sg	12 36 31.5	-0.9
	comp=Z,209nm,0.6s						
BSD	Bornholm Skovb	3.67	349	i P	Pn	12 35 34.4	-0.2
BSD				i S	Sn	12 36 15.1	-3.4
BSD	Bornholm Skovb	3.67	349	i P	Pn	12 35 34.4	-0.2
BSD				i S	Sn	12 36 15.1	-3.4
MOA	Molln	3.86	198	⇑iPn	Pn	12 35 38.5	+1.1
	SNR=14						
MOA				⇑iSg	Sg	12 36 40.8	+0.1
	comp=Z,218nm,0.7s						
MOA	Molln	3.86	198	Pn	Pn	12 35 38.5	+1.1
	SNR=14						
MOA				Sg	Sg	12 36 40.8	+0.1
	comp=Z,218nm,0.7s						
STHS	Stebnicka Huta	3.92	121	ePn	Pn	12 35 40.4	+2.3
STHS	Stebnicka Huta	3.92	121	ePg	Pg	12 35 55.0	+3.3
STHS				eSg	Sg	12 36 45.3	+2.9
STHS	Stebnicka Huta	3.92	121	ePN	Pn	12 35 40.4	+2.3
STHS				ePG	Pg	12 35 55.0	+3.3
STHS				e		12 36 45.3	
KECS	Kecovo	4.16	135	ePn	Pn	12 35 41.6	+0.1
KECS	Kecovo	4.16	135	ePg	Pg	12 35 58.6	+2.1
KECS				eSg	Sg	12 36 49.0	-1.4
KECS	Kecovo	4.16	135	ePN	Pn	12 35 41.5	+0.1
KECS				ePG	Pg	12 35 58.6	+2.1
KECS				e		12 36 49.0	
PSZ	Piszkesteto	4.38	144	⇓iP	Pn	12 35 45.8	+1.3
PSZ	Piszkesteto	4.38	144	⇓iP	Pn	12 35 45.8	+1.3
PSZ	Piszkesteto	4.38	144	ePn	Pn	12 35 45.9	+1.3
LUNU	Lund	4.41	340	P	Pn	12 35 44.2	-0.6
LUNU	Lund	4.41	340	P	Pn	12 35 44.1	-0.6
LLD	Lille Linde	4.46	330	i P	Pn	12 35 44.6	-0.9
LLD				i S	Sn	12 36 36.4	-1.7
LLD	Lille Linde	4.46	330	i P	Pn	12 35 44.6	-0.9
LLD				i S	Sn	12 36 36.4	-1.7
KWP	Kalwaria Pacla	4.63	112	ePn	Pg	12 36 02.5	-2.9
KWP				eSn	Sb	12 36 54.2	-0.8
KOLS	Kolonicke sedl	4.75	121	ePn	Pn	12 35 50.1	+0.5
KOLS	Kolonicke sedl	4.75	121	ePg	Pg	12 36 09.5	+1.9
KOLS				eSg	Sg	12 37 09.1	0.0
KOLS	Kolonicke sedl	4.75	121	ePN	Pn	12 35 50.0	+0.5
KOLS				ePG	Pg	12 36 09.5	+1.9
KOLS				e		12 37 09.1	
BLEU	Blekinge	4.79	358	P	Pn	12 35 50.0	-0.1
BLEU				S	Sn	12 36 42.5	-3.8
BLEU	Blekinge	4.79	358	P	Pn	12 35 50.0	-0.1
BLEU				S	Sn	12 36 42.5	-3.8
KBA	Koelnbreinsper	4.79	203	⇑iPn	Pn	12 35 51.9	+1.6
	SNR=16						
KBA				⇓iSg	Sg	12 37 11.0	+0.3
	comp=Z,109nm,0.7s						
KBA	Koelnbreinsper	4.79	203	Pn	Pn	12 35 51.9	+1.6
	SNR=16						
KBA				Sg	Sg	12 37 11.0	+0.3
	comp=Z,109nm,0.7s						
PERS	Pernice	4.93	188	i Pn	Pn	12 35 55.0	+2.9
PERS	Pernice	4.93	188	i Pn	Pn	12 35 55.0	+2.9
WATA	Walderalm	5.12	217	⇓iPn	Pn	12 35 56.3	+1.6
	SNR=12						
WATA	Walderalm	5.12	217	Pn	Pn	12 35 56.3	+1.6
	SNR=12						
DEL	Delary	5.12	346	P	Pn	12 35 54.0	-0.7
DEL	Delary	5.12	346	P	Pn	12 35 54.0	-0.7
WTTA	Wattenberg	5.16	216	⇓iPn	Pn	12 35 56.3	+1.0
	SNR=7.6						
WTTA				⇓iSg	Sg	12 37 23.5	+1.2
	comp=Z,70nm,0.7s						
WTTA	Wattenberg	5.16	216	Pn	Pn	12 35 56.3	+1.0
	SNR=7.6						
WTTA				Sg	Sg	12 37 23.5	+1.2
	comp=Z,70nm,0.7s						
STU	Stuttgart	5.21	241	ePn	Pn	12 35 56.5	+0.6
STU	Stuttgart	5.21	241	ePn	Pn	12 35 56.5	+0.6
STU				ePg	Pg	12 36 17.6	+1.1
MOTA	Moosalm	5.29	220	⇓iPn	Pn	12 35 57.5	+0.3
	SNR=9.1						
MOTA	Moosalm	5.29	220	Pn	Pn	12 35 57.5	+0.3
	SNR=9.1						
RETA	Reutte	5.32	223	⇑iPn	Pn	12 35 58.0	+0.5
	SNR=7.2						
RETA				⇑iSg	Sg	12 37 27.2	-0.3
	comp=Z,47nm,0.4s						
RETA	Reutte	5.32	223	Pn	Pn	12 35 58.0	+0.5
	SNR=7.2						
RETA				Sg	Sg	12 37 27.2	-0.3
	comp=Z,47nm,0.4s						
ABTA	Abfaltersbach	5.32	207	⇑iSg	Sg	12 37 28.3	+0.7
	comp=Z,107nm,0.8s						
ABTA	Abfaltersbach	5.32	207	Sg	Sg	12 37 28.3	+0.7
	comp=Z,107nm,0.8s						
TRPA	Tarpa	5.38	127	⇑iP	Pn	12 36 00.8	+2.6
TRPA	Tarpa	5.38	127	⇑iP	Pn	12 36 00.8	+2.6
GORS	Gorjuse	5.39	196	i Pn	Pn	12 35 59.8	+1.4
GORS	Gorjuse	5.39	196	i Pn	Pn	12 35 59.8	+1.4
VXJU	Vaexsjoe	5.45	353	P	Pn	12 35 59.3	+0.2
VXJU	Vaexsjoe	5.45	353	P	Pn	12 35 59.3	+0.2
PDKS	Podkum	5.51	188	i Pn	Pn	12 36 01.9	+1.8
PDKS	Podkum	5.51	188	i Pn	Pn	12 36 01.9	+1.8
HOBG	Hohbusch	5.52	268	ePn	Pn	12 36 02.8	+2.7
HOBG	Hohbusch	5.52	268	Pn	Pn	12 36 02.8	+2.7
OSKU	Oskarshamn	5.68	0	P	Pn	12 36 02.3	0.0
OSKU	Oskarshamn	5.68	0	P	Pn	12 36 02.3	0.0
BGG	Burgeitz	5.69	260	ePn	Pn	12 36 02.2	-0.3
BGG				eSn	Sn	12 37 03.3	-5.1
	comp=Z,23nm,0.9s						
BGG	Burgeitz	5.69	260	Pn	Pn	12 36 02.2	-0.3
LAUG	Laupendahl	5.72	272	ePn	Pn	12 36 03.5	+0.7
LAUG	Laupendahl	5.72	272	Pn	Pn	12 36 03.5	+0.7
JAVS	Javornik	5.79	194	i Pn	Pn	12 36 04.8	+0.9
JAVS	Javornik	5.79	194	i Pn	Pn	12 36 04.8	+0.9
BYXU	Byxelkrok	5.80	5	P	Pn	12 36 04.2	+0.2
BYXU	Byxelkrok	5.80	5	P	Pn	12 36 04.2	+0.2
FABU	Falkenberg	5.83	342	P	Pn	12 36 03.6	-0.7
FABU	Falkenberg	5.83	342	P	Pn	12 36 03.6	-0.7
STB	Steinbach	5.90	265	ePn	Pn	12 36 07.6	+2.3
STB	Steinbach	5.90	265	Pn	Pn	12 36 07.6	+2.3
ASPU	Aespoe	5.92	3	P	Pn	12 36 06.2	+0.7
ASPU	Aespoe	5.92	3	P	Pn	12 36 06.2	+0.7
GNOU	Gnosjoe	5.94	348	P	Pn	12 36 05.4	-0.4
GNOU	Gnosjoe	5.94	348	P	Pn	12 36 05.5	-0.4
BOJS	Bojanci	6.05	186	i Pn	Pn	12 36 09.0	+1.6
BOJS	Bojanci	6.05	186	i Pn	Pn	12 36 09.0	+1.6
EKSU	Eksjoe	6.08	356	P	Pn	12 36 08.1	+0.3
EKSU	Eksjoe	6.08	356	P	Pn	12 36 08.1	+0.3
VSTU	Vaestervik	6.16	2	P	Pn	12 36 09.0	+0.2
VSTU	Vaestervik	6.16	2	P	Pn	12 36 09.0	+0.2
FUORN	Ofenpass-Fuorn	6.22	220	ePn	Pn	12 36 11.8	+1.8
	comp=Z,12nm,0.6s						
FUORN	Ofenpass-Fuorn	6.22	220	ePn	Pn	12 36 11.8	+1.8
	comp=Z,12nm,0.6s						
KLL	Kalltalsperre	6.22	266	ePn	Pn	12 36 10.3	+0.6
KLL	Kalltalsperre	6.22	266	Pn	Pn	12 36 10.3	+0.6
DAVOX	Davos/Dischmat	6.25	223	Pn	Pn	12 36 10.9	+0.6
	comp=Z,1.4nm,0.3s,baz=18,slow=10,SNR=6.6						
DAVOX				Lg	Lg	12 37 52.2	
	comp=Z,1.1nm,0.3s,baz=346,slow=23,SNR=4.2						
DREG	Dreilaegerbach	6.26	266	ePn	Pn	12 36 11.5	+1.2
DREG	Dreilaegerbach	6.26	266	Pn	Pn	12 36 11.5	+1.2
MEM	Membach	6.42	266	PN	Pn	12 36 13.9	+1.4
MEM	Membach	6.42	266	Pn	Pn	12 36 13.8	+1.4
DRGR		6.43	135	⇑iP	Pn	12 36 14.2	+1.5
DRGR		6.43	135	⇑iP	Pn	12 36 14.2	+1.5
CDF	Champ du Feu	6.48	245	ePn	Pn	12 36 13.4	+0.1
CDF				eSg	Sg	12 38 00.4	-4.2
	comp=Z,191nm,1.0s						
CDF	Champ du Feu	6.48	245	ePn	Pn	12 36 13.4	+0.1
CDF	Champ du Feu	6.48	245	ePn	Pn	12 36 13.4	+0.1
LNKU	Linkoeping	6.72	357	P	Pn	12 36 16.5	-0.1
LNKU	Linkoeping	6.72	357	P	Pn	12 36 16.6	-0.1
BCLA	Clavier	6.90	265	PN	Pn	12 36 20.8	+1.7
BCLA	Clavier	6.90	265	Pn	Pn	12 36 20.7	+1.7
VIKU	Vikbolandet	7.00	3	P	Pn	12 36 20.7	+0.3
VIKU	Vikbolandet	7.00	3	P	Pn	12 36 20.7	+0.3
HINF	Hinteralfeld	7.04	242	ePn	Pn	12 36 20.9	-0.2
HINF				eSg	Sg	12 38 17.7	-5.1
	comp=Z,85nm,0.8s						
HINF	Hinteralfeld	7.04	242	ePn	Pn	12 36 20.9	-0.2
BUR08	Bucovina Ar. S	7.08	120	ePn	Pn	12 36 22.9	+1.2
BUR08	Bucovina Ar. S	7.08	120	ePn	Pn	12 36 22.9	+1.2
BURAR	Bucovina Array	7.11	120	⇑iP	Pn	12 36 23.3	+1.2
BURAR	Bucovina Array	7.11	120	⇑iP	Pn	12 36 23.3	+1.2
HAU	Haudompre	7.22	245	ePn	Pn	12 36 23.3	-0.2
HAU	Haudompre	7.22	245	ePg	Pg	12 36 52.3	-2.7
HAU				eSg	Sg	12 38 23.4	-5.0
	comp=Z,105nm,0.9s						
HAU	Haudompre	7.22	245	ePn	Pn	12 36 23.3	-0.2
HAU	Haudompre	7.22	245	ePn	Pn	12 36 23.3	-0.2
HAU				ePg	Pg	12 36 52.3	-2.7
NACGM	Naroch	7.26	58	e	Sn	12 37 47.0	-0.1
GIVF	Givet	7.27	263	ePn	Pn	12 36 24.5	+0.3
GIVF				eSg	Sg	12 38 26.4	-3.8
	comp=Z,88nm,0.9s						
GIVF	Givet	7.27	263	ePn	Pn	12 36 24.5	+0.3
GIVF	Givet	7.27	263	ePn	Pn	12 36 24.5	+0.3
PAGF	Fort de Pagny	7.30	250	ePn	Pn	12 36 24.6	0.0
	baz=66						
PAGF				eSg	Sg	12 38 26.0	-5.0
	comp=Z,48nm,1.2s						
PAGF	Fort de Pagny	7.30	250	ePn	Pn	12 36 24.6	0.0
PAGF	Fort de Pagny	7.30	250	ePn	Pn	12 36 24.6	0.0
DOU	Dourbes	7.42	263	PN	Pn	12 36 28.1	+2.0
DOU	Dourbes	7.42	263	Pn	Pn	12 36 28.1	+2.0
BAIF	Baives	7.67	264	ePn	Pn	12 36 29.7	+0.1
BAIF				eSg	Sg	12 38 38.7	-4.1
	comp=Z,118nm,1.2s						
BAIF	Baives	7.67	264	ePn	Pn	12 36 29.7	+0.1
BAIF	Baives	7.67	264	ePn	Pn	12 36 29.7	+0.1
MEZF	Maizieres J'vi	7.72	251	eSg	Sg	12 38 39.5	-5.0
	comp=Z,58nm,0.9s						
SFTF	Sexfontaines	7.87	249	ePn	Pn	12 36 32.4	0.0
SFTF				eSg	Sg	12 38 44.2	-5.1
	comp=Z,158nm,1.2s						
SFTF	Sexfontaines	7.87	249	ePn	Pn	12 36 32.4	0.0
SFTF	Sexfontaines	7.87	249	ePn	Pn	12 36 32.4	0.0
DIVS	Divibare	7.88	159	⇑iP	Pn	12 36 31.6	-1.0
DIVS	Divibare	7.88	159	⇑iP	Pn	12 36 31.6	-1.0
CABF	La Chapelle	8.20	237	ePn	Pn	12 36 36.6	-0.3
CABF				eSg	Sg	12 38 53.8	-6.0
	comp=Z,146nm,1.2s						
CABF	La Chapelle	8.20	237	ePn	Pn	12 36 36.6	-0.3
CABF	La Chapelle	8.20	237	ePn	Pn	12 36 36.6	-0.3
KIEV	Kiev	8.31	91	ePn	Pn	12 36 38.3	0.0
KIEV	Kiev	8.31	91	ePn	Pn	12 36 38.3	0.0
AK01	Malin Array Si	8.31	91	ePn	Pn	12 36 38.3	-0.1
AK01	Malin Array Si	8.31	91	ePn	Pn	12 36 38.3	-0.1
AK02	Malin Array Si	8.31	91	ePn	Pn	12 36 39.1	+0.7
AK02	Malin Array Si	8.31	91	ePn	Pn	12 36 39.1	+0.7
AKASG	Malin Array Be	8.31	91	Pn	Pn	12 36 37.0	-1.4
	comp=Z,4.1nm,0.3s,baz=281,slow=12,SNR=11						
AKASG				Sn	Sn	12 38 06.7	-6.3
	comp=Z,3.2nm,0.3s,baz=270,slow=23,SNR=6.0						
AKASG				Lg	Lg	12 39 03.7	
	baz=332,slow=25,SNR=3.9						
AKBB	Malin Array Si	8.31	91	ePn	Pn	12 36 39.3	+0.9
AKBB	Malin Array Si	8.31	91	ePn	Pn	12 36 39.3	+0.9
LPL	La Plagne	8.63	230	ePn	Pn	12 36 42.5	-0.6
LPL				eSg	Sg	12 39 07.2	-6.6
	comp=Z,34nm,1.1s						
LPL	La Plagne	8.63	230	ePn	Pn	12 36 42.5	-0.6
LPL	La Plagne	8.63	230	ePn	Pn	12 36 42.5	-0.6
LPG	La Plagne	8.64	229	ePn	Pn	12 36 42.7	-0.5
LPG				eSg	Sg	12 39 07.5	-6.5
	comp=Z,82nm,1.2s						
LPG	La Plagne	8.64	229	ePn	Pn	12 36 42.7	-0.5
LPG	La Plagne	8.64	229	ePn	Pn	12 36 42.7	-0.5
HFS	Hagfors	8.73	352	Pn	Pn	12 36 40.5	-3.6
	comp=Z,0.1nm,0.3s,baz=163,slow=12,SNR=3.9						
LOR	Lormes	9.03	247	ePn	Pn	12 36 48.0	-0.3
	baz=69						
LOR	Lormes	9.03	247	ePg	Pn	12 37 25.6	+37
LOR				eSg	Sn	12 39 20.2	+49
	comp=Z,45nm,1.0s						
LOR	Lormes	9.03	247	ePn	Pn	12 36 48.0	-0.3
LOR	Lormes	9.03	247	ePn	Pn	12 36 48.0	-0.3
LOR				ePg		12 37 25.6	
MBDF	Montbardon	9.21	226	ePn	Pn	12 36 50.3	-0.6
MBDF				eSg	Sn	12 39 25.0	+50
	comp=Z,23nm,0.9s						
MBDF	Montbardon	9.21	226	ePn	Pn	12 36 50.3	-0.6
MBDF	Montbardon	9.21	226	ePn	Pn	12 36 50.3	-0.6
SSF	Saint Saulge	9.35	246	ePn	Pn	12 36 52.4	-0.2
SSF	Saint Saulge	9.35	246	ePg	Pn	12 37 31.4	+39
SSF				eSg	Sn	12 39 29.8	+51
	comp=Z,19nm,0.8s						
SSF	Saint Saulge	9.35	246	ePn	Pn	12 36 52.4	-0.2
SSF	Saint Saulge	9.35	246	ePn	Pn	12 36 52.4	-0.2
SSF				ePg		12 37 31.4	
SMF	Signal de Mont	9.39	243	ePn	Pn	12 36 53.2	-0.1
SMF				eSg	Sn	12 39 31.2	+52
	comp=Z,34nm,0.7s						
SMF	Signal de Mont	9.39	243	ePn	Pn	12 36 53.2	-0.1
SMF	Signal de Mont	9.39	243	ePn	Pn	12 36 53.2	-0.1
ORIF	Oris-en-Rattie	9.48	230	ePn	Pn	12 36 53.9	-0.7
ORIF				eSg	Sn	12 39 33.7	+52
	comp=Z,72nm,1.3s						
ORIF	Oris-en-Rattie	9.48	230	ePn	Pn	12 36 53.9	-0.7
ORIF	Oris-en-Rattie	9.48	230	ePn	Pn	12 36 53.9	-0.7
AVF	Avril sur Loir	9.59	245	ePn	Pn	12 36 55.7	-0.2
AVF				eSg	Sn	12 39 37.1	+53
	comp=Z,45nm,1.1s						
AVF	Avril sur Loir	9.59	245	ePn	Pn	12 36 55.7	-0.2
AVF	Avril sur Loir	9.59	245	ePn	Pn	12 36 55.7	-0.2
TCF	Toulx Ste Croi	10.52	246	eSg	Sn	12 40 06.6	+59
	comp=Z,64nm,1.3s						
FINES	FINESS Array B	11.36	25	Pn	Pn	12 37 16.6	-3.5
	comp=Z,0.5nm,0.3s,baz=213,slow=12,SNR=13						
FINES				Sn	Sn	12 39 17.7	-10
	comp=Z,0.5nm,0.3s,baz=219,slow=19,SNR=3.3						
EKA	Eskdalemuir Ar	12.08	296	Pn	Pn	12 37 26.6	-3.4
	baz=107,slow=15,SNR=6.0						
ARCES	ARCESS Array B	18.61	10	Pn	P	12 38 51.4	-3.9
	comp=Z,0.7nm,0.3s,baz=190,slow=13,SNR=11						
AKTO	Aktyubinsk	26.17	76	P	P	12 40 12.5	0.0
	comp=Z,0.5nm,0.3s,baz=300,slow=16,SNR=4.3						
KURBB	Kurchatov Arra	38.19	66	P	P	12 41 58.3	+0.7
	comp=Z,0.6nm,0.6s,baz=300,slow=9.1,SNR=4.8						
TORD	Torodi Ar. Bea	40.01	202	P	P	12 42 13.2	0.0
	comp=Z,1.3nm,1.0s,baz=5.8,slow=9.4,SNR=5.3						
MKAR	Makanchi Array	42.23	69	P	P	12 42 31.9	+0.6
	comp=Z,0.5nm,0.8s,baz=324,slow=7.1,SNR=3.0						
SONM	Songino Array	54.92	55	P	P	12 44 09.7	+0.6
	comp=Z,0.5nm,0.7s,baz=316,slow=6.0,SNR=3.8						

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*ISCJB **04** 12:42:33.7±1.7, 14.°2N±0.°1×92.°5W±0.°1, h74km±16km, Error ellipse: s-maj=23.4km s-min=7.3km az=43.4*

*CASC **04** 12:42:35.8±0.5, 14.°19N×92.°29W, h77km±9km, MD3.7*

*MEX **04** 12:42:35.8±0.5, 14.°17N×92.°51W, h67km±16km, MD3.6*

ISC 04 12:42:34.0±2.5**, 14.°2N**±0.°2×**92.°5W**±0.°1**, h68km**±21km**, n9, σ0.s70**/14**, 1D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.77	14	eP	Pn	12 42 49.8	+0.1
THIG				i S	Sn	12 43 01.1	-0.1
JAT	Jato	0.81	78	⇓eP	Pn	12 42 50.8	+0.7
FUG	Fuego 3	1.59	79	eP	Pn	12 43 00.5	+0.1
PCIG		1.71	335	eP	Pn	12 43 02.4	+0.6
PCIG				eS	Sn	12 43 21.1	-1.6
CCIG	Comitan	2.14	8	i P	Pn	12 43 08.3	+0.6
CCIG				eS	Sn	12 43 33.0	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TGIG		**2.69**	**346**	*i* P	**Pn**	**12 43 15.7**	**+0.7**
TGIG				*i* S	**Sn**	**12 43 46.1**	**-0.4**
RBDL	**Robledal**	**2.69**	**91**	*e*P	**Pn**	**12 43 15.4**	**+0.3**
SBLS	**San Blas**	**2.77**	**96**	*e*P	**Pn**	**12 43 16.2**	**-0.1**
SBLS				*e*S	**Sn**	**12 43 48.6**	**-0.2**
MRL	**Marmol**	**2.83**	**71**	*e*P	**Pn**	**12 43 17.4**	**+0.3**

IDC 04 12:43:04.4±1.9**,15°96N×92°99E,h0km,mb3.2**/3**, mb1 3.4**/4**,mb1mx3.1**/45**,mbtmp3.2**/4**,ML3.6**/1**,MS3.0**/1**, Ms1 3.0**/1**,ms1mx2.4**/26**,Error ellipse: s-maj=59.9km s-min=28.7km az=61.0,Bay of Bengal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.21**	**66**	Pn	Pn	12 44 37.4	0.0
	0.4nm,0.3s,baz=250,slow=15,SNR=5.6						
KURBB	**Kurchatov Arra**	**36.49**	**344**	P	P	12 50 11.1	-0.1
	0.4nm,0.6s,baz=163,slow=8.2,SNR=4.4						
GNI	**Garni**	**48.21**	**310**	LR	LR	13 15 48.0	
	comp=Z,16nm,18.3s,baz=274,slow=41						
WRA	**Warramunga Arr**	**54.07**	**130**	P	P	12 52 30.9	-0.3
	0.2nm,0.7s,baz=312,slow=7.8,SNR=3.2						
ASAR	**Alice Springs**	**56.12**	**134**	P	P	12 52 46.1	+0.1
	0.1nm,0.5s,baz=312,slow=7.0,SNR=4.4						

*IDC **04** 12:51:49.4±2.8,54°26N×87°31E,h0km,mb1 3.1/2, mb1mx2.9/37,mbtmp3.1/2,ML2.8/2,Error ellipse: s-maj=22.7km s-min=16.4km az=59.0*
*NNC **04** 12:51:56.1±2.5,53°93N×86°89E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=20.2km s-min=16.2km az=0.0*
ISC 04 12:51:53.2±4.4**,54°3N**±0°2×**87°3E**±0°2**,h35km,n7, σ1s10**/11**,7C-2D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**256**	*i*		13 00 50.0	
	baz=79,slow=328,SNR=1.5						
ZALV	**Zalesovo Beam**	**1.50**	**256**	Pg	**Pn**	**12 52 16.5**	**-1.0**
	2.8nm,0.3s,baz=78,slow=16,SNR=24						
ZALV				Lg	Lg	12 52 36.3	
	2.3nm,0.3s,baz=76,slow=26,SNR=12						
KURK	**Kurchatov**	**6.41**	**239**	⇑Pn	**Pn**	**12 53 25.8**	**+0.8**
	0.7nm,0.7s						
KURK				⇑Sn	**Sn**	**12 54 36.3**	**-0.5**
	0.7nm,0.6s						
KURK				⇓Lg	Lg	12 55 08.2	
	3.3nm,1.0s						
KURBB	**Kurchatov Arra**	**6.51**	**239**	⇑Pn	**Pn**	**12 53 27.4**	**+1.0**
	1.2nm,0.3s						
KURBB				⇑Sn	**Sn**	**12 54 39.3**	**-0.1**
	4.9nm,0.7s						
KURBB				⇑Lg	Lg	12 55 11.1	
	5.7nm,0.6s						
KURBB	**Kurchatov Arra**	**6.51**	**239**	Pn	**Pn**	**12 53 26.6**	**+0.2**
	0.2nm,0.3s,baz=55,slow=14,SNR=13						
KURBB				Sn	**Sn**	**12 54 40.7**	**+1.4**
	0.1nm,0.3s,baz=52,slow=28,SNR=6.0						
KURBB				Lg	Lg	12 55 13.4	
	0.0nm,0.3s,baz=147,slow=29,SNR=6.4						
MK31	**Makanchi Array**	**8.19**	**205**	⇓Pn	**Pn**	**12 53 50.6**	**+1.1**
	0.1nm,0.3s,baz=30,slow=15,SNR=4.3						
MK31				⇑Sn	**Sn**	**12 55 18.9**	**-1.9**
	0.4nm,0.5s,baz=189,slow=13,SNR=4.2						
MK31				⇑Lg	Lg	12 56 01.5	
	3.7nm,1.1s,baz=29,slow=30,SNR=2.9						
MKAR	**Makanchi Array**	**8.19**	**205**	Pn	**Pn**	**12 53 49.5**	**0.0**
	0.1nm,0.3s,baz=26,slow=14,SNR=6.4						
MKAR				Sn	**Sn**	**12 55 20.4**	**-0.3**
	0.1nm,0.3s,baz=23,slow=26,SNR=4.0						
MKAR				Lg	Lg	12 56 10.8	
	0.1nm,0.3s,baz=28,slow=31,SNR=4.5						

WEL 04 13:00:48.8±0.8**,34°65S×178°22E,h33km,ML3.8**/3**,Error ellipse: s-maj=15.5km s-min=5.5km az=90.0,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**3.12**	**186**	PN	Pn	13 01 36.4	+0.6
WMGZ	**Waiomatatini S**	**3.17**	**177**	PN	Pn	13 01 35.7	-0.6
PUZ	**Puketiti**	**3.42**	**180**	PN	Pn	13 01 38.3	-1.6
PUZ				SN	Sn	13 02 16.5	-2.8
URZ	**Urewera**	**3.72**	**194**	PN	Pn	13 01 43.1	-0.8
MWZ	**Matawai**	**3.72**	**188**	PN	Pn	13 01 43.8	-0.3
RIGZ	**Rimuhau**	**4.07**	**185**	PN	Pn	13 01 46.5	-2.3
RIGZ				SN	Sn	13 02 33.0	-2.4

*IDC **04** 13:03:33.0±2.8,54°30N×87°32E,h0km,mb1 3.1/2, mb1mx2.9/41,mbtmp3.1/2,ML2.8/2,Error ellipse: s-maj=22.5km s-min=16.3km az=55.0*
*NNC **04** 13:03:40.5±3.7,53°96N×86°55E,h0km,mb3.4,mpv3.0, Error ellipse: s-maj=29.7km s-min=23.7km az=178.0*
ISC 04 13:03:38.7±4.4**,54°3N**±0°2×**86°9E**±0°2**,h35km,n7, σ1s75**/11**,6C-2D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**254**	*i*		13 12 40.0	
	baz=77,slow=314,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.29**	**254**	Pg	**Pn**	**13 03 59.3**	**-1.0**
	2.2nm,0.3s,baz=75,slow=17,SNR=25						
ZALV				Lg	Lg	13 04 21.8	
	1.5nm,0.3s,baz=72,slow=27,SNR=8.6						
KURK	**Kurchatov**	**6.22**	**238**	⇓Pn	**Pn**	**13 05 07.5**	**-0.5**
	2.6nm,1.5s						
KURK				⇑Sn	**Sn**	**13 06 16.6**	**-1.2**
	1.7nm,1.1s						
KURK				⇑Lg	Lg	13 06 50.9	
	1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**6.33**	**238**	⇑Pn	**Pn**	**13 05 10.7**	**+1.3**
	2.1nm,0.8s						
KURBB				⇑Sn	**Sn**	**13 06 19.1**	**-1.3**
	2.5nm,0.5s						
KURBB				⇑Lg	Lg	13 06 53.4	
	6.8nm,0.9s						
KURBB	**Kurchatov Arra**	**6.33**	**238**	Pn	**Pn**	**13 05 10.6**	**+1.2**
	0.1nm,0.3s,baz=55,slow=14,SNR=13						
KURBB				Sn	**Sn**	**13 06 23.7**	**+3.3**
	0.0nm,0.3s,baz=43,slow=21,SNR=5.4						
KURBB				Lg	Lg	13 07 01.6	
	0.0nm,0.3s,baz=58,slow=33,SNR=4.8						
MK31	**Makanchi Array**	**8.10**	**203**	Pn	**Pn**	**13 05 34.5**	**+0.7**
	0.3nm,0.6s,baz=29,slow=14,SNR=10.0						
MK31				⇓Sn	**Sn**	**13 07 01.7**	**-2.3**
	0.4nm,0.6s,baz=27,slow=27,SNR=3.8						
MK31				⇑Lg	Lg	13 07 45.5	
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**8.10**	**203**	Pn	**Pn**	**13 05 34.0**	**+0.3**
	0.3nm,0.3s,baz=26,slow=13,SNR=9.8						
MKAR				Sn	**Sn**	**13 07 04.2**	**+0.2**
	0.1nm,0.3s,baz=20,slow=22,SNR=5.1						
MKAR				Lg	Lg	13 07 52.2	
	0.1nm,0.3s,baz=16,slow=30,SNR=4.8						

IDC 04 13:09:50.7±7.3**,33°86N×79°37E,h0km,mb3.5**/3**, mb1 3.6**/5**,mb1mx3.3**/48**,mbtmp3.4**/5**,ML2.4**/2**,Error ellipse: s-maj=285.7km s-min=25.0km az=78.0, Kashmir-Xizang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.11**	**9**	Pn	Pn	13 12 57.1	-1.2
	0.1nm,0.3s,baz=196,slow=14,SNR=3.5						
KURBB	**Kurchatov Arra**	**16.77**	**358**	Pn	Pn	13 13 46.9	0.0
	0.0nm,0.3s,baz=181,slow=9.8,SNR=7.8						
ZALV	**Zalesovo Beam**	**20.45**	**9**	P	P	13 14 29.2	-0.5
	0.3nm,0.3s,baz=206,slow=9.6,SNR=2.5						
WRA	**Warramunga Arr**	**74.85**	**127**	P	P	13 21 32.8	-0.5
	0.5nm,0.7s,baz=308,slow=5.1,SNR=5.9						
ASAR	**Alice Springs**	**77.21**	**130**	P	P	13 21 47.4	+0.6
	0.5nm,0.7s,baz=318,slow=5.7,SNR=9.7						

*DDA **04** 13:17:41.4,40°68N×40°23E,h7km,MD2.6*
CSEM 04 13:17:37.7±0.9**,40°78N×40°52E,h2km,MD2.6,Error ellipse: s-maj=16.4km s-min=8.4km az=76.0,Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BAYT	**Ayd˜–ntepe-Bay**	**0.48**	**217**	*e*PG	Pg	13 17 47.4	+0.1
BAYT				*e*SG	Sg	13 17 54.2	+0.5
BAYT	**Ayd˜–ntepe-Bay**	**0.48**	**217**	*e*Pg	Pg	13 17 47.4	+0.1
BAYT				*e*Sg	Sg	13 17 54.3	+0.6
MACK	**Trabzon**	**0.59**	**286**	*i* P	Pg	13 17 48.8	-0.3
MACK				*i* S	Sg	13 17 57.7	+0.8
MACK	**Trabzon**	**0.59**	**286**	*i* P	Pg	13 17 48.8	-0.3
MACK				*i* S	Sg	13 17 57.7	+0.8
DBAD	**Bademkaya**	**0.92**	**75**	*i* P	Pg	13 17 55.2	-0.4
DBAD				*i* S	Sg	13 18 06.0	-1.6
DDEM	**Demirkent**	**0.94**	**83**	*i* P	Pg	13 17 55.4	-0.5
BCA	**Borcka**	**1.06**	**51**	*e*PN	Pg	13 17 56.6	-1.6
BCA	**Borcka**	**1.06**	**51**	*e*Pn	Pg	13 17 56.6	-1.6
DAGI	**Agillar**	**1.10**	**74**	*i* P	Pg	13 17 58.6	-0.4
DAGI				*i* S	Sg	13 18 13.3	0.0
ARTV	**Artvin**	**1.14**	**69**	*i* P	Pg	13 17 59.2	-0.7
ARTV				*i* S	Sg	13 18 14.4	-0.5
KELT	**Kelkit**	**1.15**	**237**	*i* P	Pg	13 17 59.4	-0.8
KELT				*i* S	Sg	13 18 14.8	-0.5
KELT	**Kelkit**	**1.15**	**237**	*i* P	Pg	13 17 59.4	-0.7
KELT				*i* S	Sg	13 18 14.8	-0.5
ESPY	**Espiye-Giresun**	**1.37**	**276**	*e*PG	Pn	13 17 56.2	-7.6
SUSE	**Susehri**	**1.86**	**253**	*i* P	Pn	13 18 11.4	+0.6
SUSE				*i* S	Sn	13 18 34.9	-0.1
SUSE	**Susehri**	**1.86**	**253**	*i* P	Pn	13 18 11.4	+0.6
SUSE				*i* S	Sn	13 18 34.9	-0.1

*NIED **04** 13:22:00,41°60N×142°10E,h50km,Mw4.0 Best double couple: Mo1.14000×10^{15} NP1:φs212.00000°,δ27.00000°, λ103.00000°. NP2:φs17.00000°,δ64.00000°,λ83.00000°.*
*MOS **04** 13:22:15.9±2.1,41°76N×141°82E,h48km,mb4.3/17,Error ellipse: s-maj=10.0km s-min=6.3km az=85.9*
*JMA **04** 13:22:17.5±0.1,41°55N×142°10E,h64km±3km,M3.9 Broadband fault plane solution: P waves. NP1: φs17.00000°,δ76.00000°,λ95.00000°. NP2:φs179.00000°, δ15.00000°,λ72.00000°. Principal axes: T Plg59.0000°, Azm293.0000°; N Plg4.0000°, Azm196.0000°; P Plg31.0000°, Azm103.0000°;*
JMA Felt I J1.
*ISCJB **04** 13:22:17.0±0.3,41°57N±0°03×142°10E±0°04,h70km±3km, mb3.9/25 Error ellipse: s-maj=6.3km s-min=3.8km az=39.4*
*BJI **04** 13:22:18.2,41°90N×141°80E,h30km,mb4.4/8,mB4.8/3, Ms4.6/1,Ms7 4.4/1*
*IDC **04** 13:22:19.4±0.7,41°62N×142°06E,h75km±5km,mb3.6/18, mb1 3.8/23,mb1mx3.7/45,mbtmp3.9/23,MS2.8/5, Ms1 2.9/5,ms1mx2.6/36,Error ellipse: s-maj=13.4km s-min=8.6km az=109.0*
ISC 04 13:22:18.4±0.6**,41°56N**±0°04×**142°10E**±0°04**,h68**km±5km**, n75,σ1s16**/84**,mb4.0**/25**,7C-16D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.81**	**258**	⇓P	**Pn**	**13 22 33.4**	**-1.0**
JKB	**Kayabe**	**0.86**	**293**	⇓P	**Pn**	**13 22 33.8**	**-1.3**
JNBK	**Urakawa-nobuka**	**0.87**	**34**	⇑P	**Pn**	**13 22 33.8**	**-1.4**
ERM	**Erimo**	**0.91**	**60**	*d i*P	**Pn**	**13 22 34.6**	**-1.1**
ERM				pmax	pmax		
	comp=Z,803nm,1.0s						
JEM	**Erimo**	**0.91**	**60**	⇑P	**Pn**	**13 22 34.7**	**-1.0**
JEM				*e*S	**Sn**	**13 22 47.6**	**-0.9**
JTM	**Tenmabayashi**	**1.10**	**225**	⇓P	**Pn**	**13 22 37.4**	**-0.6**
JTM				*e*S	**Sn**	**13 22 51.8**	**-0.8**
JNB	**Noboribetsu**	**1.20**	**319**	⇓P	**Pn**	**13 22 38.3**	**-1.1**
JNB				*e*S	**Sn**	**13 22 53.6**	**-1.5**
JBT2	**Biratori 2**	**1.23**	**9**	⇓P	**Pn**	**13 22 39.4**	**-0.4**
JBT2				*e*S	**Sn**	**13 22 55.3**	**-0.5**
JSR	**Shiriuchi**	**1.26**	**269**	P	**Pn**	**13 22 38.9**	**-1.2**
JANG	**Nango**	**1.27**	**201**	⇓P	**Pn**	**13 22 39.1**	**-1.1**
JANG				*e*S	**Sn**	**13 22 54.9**	**-1.7**
JEW	**Eniwo**	**1.36**	**340**	⇓P	**Pn**	**13 22 41.2**	**-0.3**
JEW				*e*S	**Sn**	**13 22 59.1**	**+0.2**
JYM2	**Yakumo 2**	**1.41**	**294**	⇓P	**Pn**	**13 22 41.8**	**-0.2**
JCH	**Churui**	**1.41**	**41**	⇑P	**Pn**	**13 22 42.0**	**-0.1**
JFR	**Furan**	**1.64**	**13**	P	**Pn**	**13 22 44.8**	**-0.4**
ASAJ	**Asahikawa**	**2.58**	**8**	P	**Pn**	**13 22 58.7**	**+0.8**
	comp=Z,26nm,0.3s,baz=207,slow=14,SNR=148						
ASAJ				S	**Sn**	**13 23 28.3**	**+0.2**
	comp=Z,24nm,0.3s,baz=29,slow=23,SNR=14						
ASAJ	**Asahikawa**	**2.58**	**8**	P	**Pn**	**13 22 58.7**	**+0.8**
ASAJ				S	**Sn**	**13 23 28.3**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,27nm,0.3s						
ASAJ				smax	smax		
	comp=N,24nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.71**	**47**	*d i*P	**Pn**	**13 23 12.3**	**-0.9**
YUK				*i* S	**Sn**	**13 23 53.0**	**-2.7**
YUK				pmax	pmax		
	comp=Z,266nm,0.3s						
YUK				pmax	pmax		
	comp=N,99nm,0.1s						
YUK				pmax	pmax		
	comp=E,70nm,0.1s						
YUK				smax	smax		
	comp=E,657nm,0.6s						
YUK				smax	smax		
	comp=N,137nm,0.3s						
YSS	**Yuzh-Sakhalins**	**5.41**	**5**	*e*P	**Pn**	**13 23 36.0**	**-0.5**
YSS				*e*S	**Sn**	**13 24 35.0**	**-2.3**
YSS				smax	smax		
	comp=N,20nm,1.0s						
KUR	**Kuril'sk**	**5.58**	**47**	⇑*i*P	**Pn**	**13 23 38.7**	**0.0**
KUR				*i* S	**Sn**	**13 24 40.3**	**-1.1**
KUR				pmax	pmax		
	comp=Z,15nm,0.3s						
KUR				pmax	pmax		
	comp=N,15nm,0.2s						
KUR				pmax	pmax		
	comp=E,10.0nm,0.2s						
KUR				smax	smax		
	comp=N,43nm,0.4s						
KUR				smax	smax		
	comp=E,52nm,0.4s						
MAJO	**Matsushiro**	**5.85**	**212**	*c i*P	**Pn**	**13 23 43.7**	**+1.1**
MAT	**Matsushiro**	**5.85**	**212**	P	**Pn**	**13 23 43.8**	**+1.2**
MJAR	**Matsushiro Arr**	**5.85**	**212**	P	**Pn**	**13 23 44.0**	**+1.4**
	comp=E,1.0nm,0.3s,baz=26,slow=13,SNR=20						
MJAR				LR	LR	13 26 11.4	
	comp=E,64nm,21.3s,baz=65,slow=39						
UGL	**Uglegorsk**	**7.52**	**360**	*e*P	Pn	13 23 59.0	-6.2
UGL				*e*		13 25 20.5	
VLA	**Vladivostok**	**7.72**	**285**	⇑*e*P	Pn	13 24 02.0	-6.1
USRK	**Ussuriysk Ar.**	**7.88**	**293**	P	**Pn**	**13 24 11.1**	**+0.9**
	comp=E,1.1nm,0.3s,baz=93,slow=14,SNR=14						
HABR	**Khabarovsk**	**8.52**	**327**	*e*P	Pn	13 24 11.3	-7.6
HABR				*e*		13 25 42.6	
HABR				pmax	pmax		
	comp=E,8.0nm,1.0s						
HABR				pmax	pmax		
	comp=N,9.0nm,1.4s						
HABR				pmax	pmax		
	comp=Z,4.0nm,1.4s						
HABR				MLR	MLR		
	comp=Z,62nm,18.0s						
KLR	**Kul'dur**	**10.56**	**320**	*e*P	**Pn**	**13 24 45.7**	**-1.1**
KSRS	**Korea Array**	**11.69**	**254**	P	**Pn**	**13 25 04.5**	**+2.3**
	comp=Z,0.8nm,0.3s,baz=63,slow=14,SNR=21						
KSRS				S	**Sn**	**13 27 10.2**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=68,slow=24,SNR=11						
KSRS				LR	LR	13 29 18.5	
	comp=Z,40nm,18.8s,baz=46,slow=36						
KSRS	**Korea Array**	**11.69**	**254**	P	**Pn**	**13 25 04.6**	**+2.3**
KSRS				S	**Sn**	**13 27 10.2**	**-0.7**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,40nm,18.8s						
PETK	**Petropavlovsk-**	**15.62**	**37**	P	**P**	**13 25 55.8**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=200,slow=13,SNR=2.5						
YAK	**Yakutsk**	**21.81**	**344**	LR	LR	13 36 08.4	
	comp=Z,21nm,18.0s,baz=260,slow=38						
YAK	**Yakutsk**	**21.81**	**344**	*e*P	**P**	**13 27 02.0**	**-2.6**
YAK				pmax	pmax		
	comp=Z,11nm,1.1s						
SEY	**Seymchan**	**22.26**	**12**	P	**P**	**13 27 07.4**	**-1.9**
	comp=Z,0.8nm,0.4s,baz=22,slow=23,SNR=4.9						
SEY	**Seymchan**	**22.26**	**12**	P	**P**	**13 27 07.4**	**-1.9**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**25.97**	**296**	P	**P**	**13 27 43.6**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=79,slow=9.1,SNR=14						
SONM	**Songino Array**	**25.97**	**296**	P	**P**	**13 27 43.6**	**-1.0**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAK	**Zakamensk**	**28.11**	**302**	*e*P	**P**	**13 28 00.8**	**-2.9**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**30.28**	**128**	T	T	14 00 56.5	
	baz=321,slow=75,SNR=227						
H11N1	**WAKE ISLAND Hy**	**30.29**	**128**	T	T	14 00 57.4	
	baz=321,slow=75,SNR=207						
H11N3	**WAKE ISLAND Hy**	**30.30**	**128**	T	T	14 00 58.0	
	baz=321,slow=75,SNR=192						
H11S1	**WAKE ISLAND Hy**	**31.13**	**130**	T	T	14 02 01.7	
	baz=323,slow=76,SNR=110						
H11S3	**WAKE ISLAND Hy**	**31.13**	**130**	T	T	14 01 54.7	
	baz=323,slow=76,SNR=81						
H11S2	**WAKE ISLAND Hy**	**31.15**	**130**	T	T	14 02 00.7	
	baz=323,slow=76,SNR=81						
ZALV	**Zalesovo Beam**	**39.39**	**308**	P	**P**	**13 29 40.6**	**-0.5**
	comp=Z,2.1nm,0.4s,baz=92,slow=7.0,SNR=15						
ZALV				PcP	**PcP**	**13 31 48.5**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=98,slow=2.4,SNR=5.2						
ZALV	**Zalesovo Beam**	**39.39**	**308**	*i* P	**P**	**13 29 41.5**	**+0.4**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**42.31**	**298**	P	**P**	**13 30 05.7**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=85,slow=10,SNR=13						
MKAR				PcP	**PcP**	**13 31 58.5**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=69,slow=2.1,SNR=4.0						
CMAR	**Chiang Mai Arr**	**43.31**	**251**	P	**P**	**13 30 14.2**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=42,slow=7.3,SNR=7.1						
CMAR				LR	LR	13 47 33.4	
	comp=Z,13nm,21.6s,baz=210,slow=35						
CMAR	**Chiang Mai Arr**	**43.31**	**251**	P	**P**	**13 30 14.2**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR				MLR	MLR		
	comp=Z,13nm,21.6s						
COLA	**College**	**45.01**	**35**	⇓*i*P	**P**	**13 30 27.9**	**+1.3**
COLA				pmax	pmax		
	comp=Z,17nm,0.8s						
ILAR	**Eielson Array**	**45.43**	**35**	P	**P**	**13 30 31.0**	**+1.0**
	comp=Z,2.1nm,0.9s,baz=266,slow=6.5,SNR=24						
ILAR	**Eielson Array**	**45.43**	**35**	P	**P**	**13 30 31.0**	**+1.0**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRVK	**Borovoye**	**48.06**	**310**	⇓*e*P	**P**	**13 30 50.5**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
AAK	**Ala-Archa**	**48.93**	**295**	⇓*e*P	**P**	**13 30 57.8**	**+0.1**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
YKA	**Yellowknife Ar**	**59.65**	**32**	P	**P**	**13 32 14.7**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=307,slow=7.0,SNR=2.8						
ARCES	**ARCESS Array B**	**59.96**	**339**	P	**P**	**13 32 17.0**	**-0.1**
	comp=Z,3.4nm,0.9s,baz=12,slow=14,SNR=2.8						
ARCES	**ARCESS Array B**	**59.96**	**339**	P	**P**	**13 32 17.0**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**61.61**	**188**	P	**P**	**13 32 28.4**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=7.8,slow=7.7,SNR=50						
WRA	**Warramunga Arr**	**61.61**	**188**	P	**P**	**13 32 28.4**	**-0.4**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**65.07**	**332**	P	**P**	**13 32 51.3**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=52,slow=7.2,SNR=14						
FINES				pP	**pP**	**13 33 10.1**	**+0.9**
	comp=Z,1.6nm,0.5s,baz=48,slow=8.5,SNR=2.5						
ASAR	**Alice Springs**	**65.34**	**188**	P	**P**	**13 32 53.6**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=1.0,slow=5.2,SNR=22						
ASAR	**Alice Springs**	**65.34**	**188**	P	**P**	**13 32 53.6**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VSR	**Storozhevoye**	**65.91**	**318**	⇓*e*P	**P**	**13 32 57.1**	**+0.3**
VSR				pmax	pmax		
	comp=Z,17nm,1.2s						
KIV	**Kislovodsk**	**68.38**	**310**	⇓*e*P	**P**	**13 33 14.4**	**+1.7**
KIV				*e*		13 33 39.5	
KIV				*e*		13 35 39.8	
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBZ	**Khabaz**	**68.39**	**310**	P	**P**	**13 33 13.8**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=326,slow=24,SNR=3.7						
KBZ	**Khabaz**	**68.39**	**310**	P	**P**	**13 33 13.9**	**+1.3**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**70.23**	**337**	P	**P**	**13 33 23.8**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=35,slow=6.5						
NOA	**NORSAR Array B**	**70.23**	**337**	P	**P**	**13 33 23.6**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=29,slow=5.1,SNR=5.7						
NOA				LR	LR	14 10 52.8	
	comp=Z,13nm,18.5s,baz=215,slow=42						
AKASG	**Malin Array Be**	**71.06**	**322**	P	**P**	**13 33 28.3**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=43,slow=6.2,SNR=4.4						
AKASG	**Malin Array Be**	**71.06**	**322**	*i* P	**P**	**13 33 29.7**	**+0.8**
KIEV	**Kiev**	**71.07**	**322**	⇓*i*P	**P**	**13 33 29.2**	**+0.2**
NVAR	**Mina Array Bea**	**71.89**	**55**	P	**P**	**13 33 34.1**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=298,slow=5.0,SNR=4.3						
NVAR				pP	**PcP**	**13 33 55.2**	**+2.4**
	comp=Z,1.3nm,0.7s,baz=298,slow=5.9,SNR=8.6						
PDAR	**Pinedale Array**	**74.14**	**47**	P	**P**	**13 33 47.6**	**0.0**
	comp=Z,0.3nm,0.4s,baz=316,slow=8.2,SNR=4.0						
PDAR				pP	**pP**	**13 34 07.7**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=336,slow=3.3,SNR=4.9						
BRTR	**Keskin Array B**	**76.26**	**311**	P	**P**	**13 33 59.5**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=63,slow=5.7,SNR=3.9						
BRTR	**Keskin Array B**	**76.26**	**311**	*ce*P	**P**	**13 34 00.9**	**+1.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**86.95**	**53**	P	**P**	**13 34 56.8**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=309,slow=5.7,SNR=3.3						
TXAR				pP	**pP**	**13 35 17.0**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=338,slow=6.8,SNR=3.1						

*ISCJB **04** 13:22:32.5±0.8,40°75N±0°03×34°95E±0°08,h6km±8km, Error ellipse: s-maj=10.5km s-min=5.2km az=6.0*
*DDA **04** 13:22:32.6,40°74N×34°89E,h5km,MD2.8*
*CSEM **04** 13:22:32.6,40°74N×34°89E,h5km,MD2.8*
ISC 04 13:22:33.4±1.1**,40°74N**±0°03×**34°92E**±0°05**,h14**km±6km**, n13,σ1s29**/24**,Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.15**	**220**	*i* P	**Pg**	**13 22 35.6**	**-1.8**
CTKT				*i* S	**Sg**	**13 22 42.2**	**+2.1**
CTKT	**Corum**	**0.15**	**220**	*i* P	**Pg**	**13 22 35.6**	**-1.8**
CTKT				*i* S	**Sg**	**13 22 42.2**	**+2.1**
CORM	**Corum**	**0.60**	**201**	*e*PG	**Pg**	**13 22 44.0**	**-1.3**
CORM				*e*SG	**Sb**	**13 22 53.6**	**-0.6**
BOYT	**Boyabat**	**0.68**	**359**	*i* P	**Pg**	**13 22 45.8**	**-0.9**
BOYT				*i* S	**Sb**	**13 22 56.2**	**-0.2**
BOYT	**Boyabat**	**0.68**	**359**	*i* P	**Pg**	**13 22 45.8**	**-0.9**
BOYT				*i* S	**Sb**	**13 22 56.2**	**-0.2**
DIKM	**Dikmen**	**0.94**	**16**	*e*PG	**Pg**	**13 22 50.3**	**-1.4**
ILGA	**Ilgaz**	**0.96**	**289**	*i* P	**Pg**	**13 22 50.3**	**-1.8**
ILGA				*i* S	**Sb**	**13 23 05.0**	**+0.3**
ILGA	**Ilgaz**	**0.96**	**289**	*i* P	**Pg**	**13 22 50.3**	**-1.8**
ILGA				*i* S	**Sb**	**13 23 05.0**	**+0.3**
YOZ	**Yozgat**	**1.14**	**164**	*e*PN	**Pn**	**13 22 55.6**	**+0.5**
ELDT	**Eldivan**	**1.16**	**258**	*i* P	**Pg**	**13 22 54.8**	**-1.0**
ELDT				*i* S	**Sb**	**13 23 10.3**	**-0.1**
ELDT	**Eldivan**	**1.16**	**258**	*i* P	**Pg**	**13 22 54.8**	**-1.0**
ELDT				*i* S	**Sb**	**13 23 10.3**	**-0.1**
CDAG	**Cicekdag**	**1.19**	**201**	*i* P	**Pg**	**13 22 55.1**	**-1.3**
CDAG				*i* S	**Sn**	**13 23 12.0**	**+0.2**
CDAG	**Cicekdag**	**1.19**	**201**	*i* P	**Pg**	**13 22 55.1**	**-1.3**
CDAG				*i* S	**Sn**	**13 23 12.0**	**+0.2**

*ISCJB **04** 13:23:46.3±0.9,37°15N±0°07×28°10E±0°08,h17km±13km, Error ellipse: s-maj=13.8km s-min=7.9km az=44.2*
*DDA **04** 13:23:46.5,37°17N×27°99E,h7km,MD2.7*
ISC 04 13:23:45.9±1.1**,37°13N**±0°06×**28°05E**±0°05**,h11**km±11km**, n6,σ0s57**/9**,Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.19**	**87**	*e*PG	**Pg**	**13 23 50.3**	**+0.3**
YER				*e*SG	**Sg**	**13 23 52.6**	**-0.2**
BDRM	**Kayabasi**	**0.48**	**263**	*i* P	**Pg**	**13 23 55.1**	**-0.3**
TURN	**Turunc**	**0.51**	**119**	*i* P	**Pg**	**13 23 55.7**	**-0.2**
TURN				*i* S	**Sb**	**13 24 03.7**	**-0.6**
AYDN	**Tasoluk**	**0.55**	**346**	*i* P	**Pb**	**13 23 57.5**	**0.0**
AYDN				*i* S	**Sb**	**13 24 04.8**	**-0.7**
BODT	**Bodrum**	**0.59**	**264**	*e*PG	**Pn**	**13 24 01.0**	**+0.7**

AYDB	**Zeytinkoy-Aydi**	**0.83**	**352**	*e*PN	**Pg**	**13 24 01.9**	**0.0**

MEX 04 13:38:01.2±0.4**, 13°.90N**×**92°.23W, h20km, MD3.8, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.00**	**358**	*i* P	Pb	13 38 16.0	-3.9
THIG				*i* S	Sb	13 38 29.5	-3.2
PCIG		**2.03**	**332**	*e*P	Pn	13 38 31.6	-2.7
PCIG				*i* S	Sn	13 38 55.4	-3.8
CCIG	**Comitan**	**2.37**	**2**	*e*P	Pn	13 38 36.8	-2.5

*ISCJB **04** 13:50:07.6±0.9, 39°.28N±0°.05×29°.34E±0°.09, h20km±10km, Error ellipse: s-maj=12.1km s-min=6.1km az=26.0*
*CSEM **04** 13:50:07.8±0.3, 39°.29N×29°.31E, h10km, MD2.6, Error ellipse: s-maj=8.8km s-min=5.8km az=124.0*
*DDA **04** 13:50:08.8, 39°.20N×29°.27E, h7km, MD2.6*
ISC 04 13:50:07.5±1.3**, 39°.27N**±0°.03×**29°.31E**±0°.04**, h18km**±2km**, n13,** σ**0^{s}30**/24**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.21**	**33**	*e*PG	**Pb**	**13 50 12.8**	**+0.2**
TVSB				*e*SG	**Sb**	**13 50 15.9**	**+0.1**
TVSB	**Tavsanli**	**0.21**	**33**	*e*Pg	**Pb**	**13 50 12.8**	**+0.2**
TVSB				*e*Sg	**Sb**	**13 50 15.9**	**+0.1**
GDZ	**Gediz**	**0.23**	**144**	*i* P	**Pg**	**13 50 13.3**	**+0.3**
GDZ				*i* S	**Sb**	**13 50 16.2**	**-0.1**
GDZ	**Gediz**	**0.23**	**144**	*i* P	**Pg**	**13 50 13.3**	**+0.3**
GDZ				*i* S	**Sb**	**13 50 16.2**	**-0.1**
DEMI	**Demirci**	**0.52**	**244**	*i* P	**Pb**	**13 50 18.2**	**+0.2**
DEMI				*i* S	**Sg**	**13 50 24.6**	**-0.3**
DEMI	**Demirci**	**0.52**	**244**	*i* P	**Pb**	**13 50 18.2**	**+0.2**
DEMI				*i* S	**Sg**	**13 50 24.6**	**-0.3**
DURS	**Dursunbey**	**0.73**	**297**	*i* P	**Pn**	**13 50 22.8**	**-0.1**
DURS	**Dursunbey**	**0.73**	**297**	*i* P	**Pn**	**13 50 22.8**	**-0.1**
MANT	**Manisa**	**0.98**	**217**	*i* P	**Pg**	**13 50 27.1**	**+0.5**
MANT				*i* S	**Sb**	**13 50 38.9**	**+0.3**
MANT	**Manisa**	**0.98**	**217**	*i* P	**Pg**	**13 50 26.8**	**+0.2**
MANT				*i* S	**Sb**	**13 50 38.3**	**-0.3**
MANT	**Manisa**	**0.98**	**217**	*i* P	**Pg**	**13 50 27.1**	**+0.5**
MANT				*i* S	**Sb**	**13 50 38.9**	**+0.3**
ARMT	**Armutlu**	**1.34**	**345**	*e*PN	**Pn**	**13 50 31.0**	**-0.3**
ARMT				*e*SN	**Sn**	**13 50 48.3**	**-0.3**
ARMT	**Armutlu**	**1.34**	**345**	*e*Pn	**Pn**	**13 50 31.0**	**-0.3**
ARMT				*e*Sn	**Sn**	**13 50 48.3**	**-0.3**

*IDC **04** 14:07:58.3±1.4, 9°.09N×145°.13E, h0km, mb3.5/9, mb1 3.7/9, mb1mx3.6/36, mbtmp3.5/9, ML4.5/1, MS2.7/2, Ms1 2.7/2, ms1mx2.4/21, Error ellipse: s-maj=45.0km s-min=20.4km az=92.0*
*ISCJB **04** 14:08:01.1±1.1, 9°.17N±0°.09×145°.2E±0°.3, h33km, mb3.5/9, MS2.6/1, Error ellipse: s-maj=37.2km s-min=12.1km az=4.1*
ISC 04 14:08:03.5±1.4**, 9°.2N**±0°.1×**145°.1E**±0°.3**, h35km, n17,** σ**1^{s}40**/11**, mb3.5**/9**, Eastern Caroline Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.36**	**357**	Pn	**Pn**	**14 09 05.6**	**-1.6**
	24nm,0.3s,baz=145,slow=3.0,SNR=14						
GUMO				Sn	**Sn**	**14 09 55.4**	**-1.3**
	34nm,0.3s,baz=317,slow=22,SNR=12						
GUMO				LR	LR	14 10 32.2	
	comp=Z,83nm,19.8s,baz=273,slow=34						
H11S3	**WAKE ISLAND Hy**	**22.84**	**64**	T	T	14 36 26.5	
	baz=248,slow=75,SNR=27						
H11S2	**WAKE ISLAND Hy**	**22.86**	**64**	T	T	14 36 27.4	
	baz=248,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**22.86**	**64**	T	T	14 36 27.8	
	baz=248,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**23.48**	**61**	T	T	14 37 14.4	
	baz=246,slow=75,SNR=76						
H11N2	**WAKE ISLAND Hy**	**23.49**	**61**	T	T	14 37 15.3	
	baz=246,slow=75,SNR=53						
H11N3	**WAKE ISLAND Hy**	**23.49**	**61**	T	T	14 37 19.9	
	baz=246,slow=75,SNR=81						
MJAR	**Matsushiro Arr**	**27.92**	**348**	LR	LR	14 23 23.4	
	comp=Z,18nm,21.6s,baz=225,slow=33						
WRA	**Warramunga Arr**	**30.86**	**200**	P	**P**	**14 14 15.4**	**-1.3**
	0.7nm,0.8s,baz=6.3,slow=9.1,SNR=5.6						
ASAR	**Alice Springs**	**34.48**	**198**	P	**P**	**14 14 46.9**	**-1.4**
	0.1nm,0.6s,baz=29,slow=8.6,SNR=5.2						
CMAR	**Chiang Mai Arr**	**45.68**	**287**	P	**P**	**14 16 21.0**	**-0.3**
	0.2nm,0.4s,baz=93,slow=7.7,SNR=2.6						
SONM	**Songino Array**	**50.48**	**327**	P	**P**	**14 17 00.0**	**+1.9**
	0.3nm,0.3s,baz=142,slow=7.2,SNR=2.9						
MKAR	**Makanchi Array**	**64.84**	**318**	P	**P**	**14 18 40.4**	**+1.4**
	0.2nm,0.6s,baz=111,slow=6.3,SNR=2.9						
ZALV	**Zalesovo Beam**	**65.34**	**326**	P	**P**	**14 18 42.6**	**+0.5**
	0.6nm,0.3s,baz=116,slow=6.6,SNR=3.6						
KURBB	**Kurchatov Arra**	**68.14**	**321**	P	**P**	**14 19 00.3**	**+0.3**
	0.5nm,0.6s,baz=111,slow=5.7,SNR=6.7						
ILAR	**Eielson Array**	**72.40**	**25**	P	**P**	**14 19 27.0**	**+1.2**
	0.3nm,0.6s,baz=262,slow=6.1,SNR=4.1						
BVAR	**Borovoye Array**	**73.52**	**323**	P	**P**	**14 19 33.6**	**+0.9**
	0.3nm,0.3s,baz=102,slow=4.9,SNR=3.6						

*NNC **04** 14:17:58.9±1.9, 38°.78N×70°.26E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=26.2km s-min=7.7km az=158.0*
ISC 04 14:18:04.1±1.6**, 39°.2N**±0°.1×**70°.10E**±0°.07**, h17km, n17,** σ**2^{s}18**/21**, 10C-3D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.05**	**251**	⇓Pn	Pb	14 18 20.9	-3.0
	182nm,0.4s						
DZET				⇑Sn	**Sn**	**14 18 39.9**	**+1.5**
	342nm,0.3s						
SFK	**Sufi-Kurgan**	**2.77**	**71**	⇑Pn	Pn	14 18 43.9	-4.0
	15nm,0.4s						
SFK				⇓Sn	**Sn**	**14 19 21.2**	**+0.1**
	114nm,0.5s						
MNAS	**Manas**	**3.80**	**28**	⇓Pn	**Pn**	**14 19 03.5**	**+1.5**
	6.1nm,0.4s						
MNAS				⇑Sn	**Sb**	**14 19 53.8**	**-2.7**
	14nm,0.5s						
KK31	**Karatay Array**	**3.96**	**4**	Pn	**Pn**	**14 19 06.2**	**+2.2**
	2.2nm,0.3s,baz=179,slow=12,SNR=92						
KK31				⇑Sn	**Sb**	**14 19 56.5**	**-4.5**
	3.3nm,0.3s,baz=196,slow=24						
KK31				⇑Lg	Lg	14 20 13.2	
	12nm,0.3s,baz=174,slow=29						
AML	**Almayashu**	**4.04**	**41**	P	**Pn**	**14 19 05.9**	**+0.4**
	SNR=27						
EKS2	**Erkin-Say**	**4.48**	**37**	P	**Pn**	**14 19 12.7**	**+1.5**
	SNR=14						
UCH	**Uchtor**	**4.55**	**46**	P	**Pn**	**14 19 13.0**	**+0.4**
	SNR=17						
AAK	**Ala-Archa**	**4.82**	**42**	P	**Pn**	**14 19 16.7**	**+0.8**
	SNR=11						
AAK	**Ala-Archa**	**4.82**	**42**	⇑Pn	**Pn**	**14 19 16.6**	**+0.6**
	12nm,0.6s						
AAK				⇑Sn	**Sn**	**14 20 16.3**	**+4.8**
	14nm,0.6s						
KZA	**Kyzart**	**4.89**	**52**	P	**Pn**	**14 19 14.8**	**-2.4**
	SNR=10						
KBK	**Karagaybulak**	**5.08**	**45**	P	**Pn**	**14 19 20.7**	**+1.2**
	SNR=20						
CHMS	**Chumysh**	**5.21**	**41**	P	**Pn**	**14 19 21.9**	**+0.7**
	SNR=12						
USP	**Ospenovka**	**5.28**	**38**	P	**Pn**	**14 19 23.0**	**+0.7**
	SNR=12						
TKM2	**Tokmak 2**	**5.61**	**46**	P	**Pn**	**14 19 27.1**	**+0.2**
	SNR=25						
TKM2	**Tokmak 2**	**5.61**	**46**	⇑Pn	**Pn**	**14 19 26.7**	**-0.2**
	18nm,0.5s						
TKM2				⇑Sn	**Sn**	**14 20 34.5**	**+3.4**
	8.7nm,0.8s						
AB31	**Akbulak array**	**12.44**	**328**	Pn	**Pn**	**14 20 59.6**	**-0.7**
	2.2nm,0.4s,baz=127,slow=18,SNR=51						
AKTO	**Aktyubinsk**	**14.15**	**327**	⇑Pn	**Pn**	**14 21 22.6**	**-1.0**
	2.5nm,0.7s						

*IDC **04** 14:19:53.8±1.3, 38°.53N×70°.83E, h0km, mb3.6/4, mb1 3.8/10, mb1mx3.5/59, mbtmp3.7/10, ML3.6/6, Error ellipse: s-maj=24.4km s-min=12.7km az=138.0*
*NNC **04** 14:19:56.9±1.3, 38°.79N×70°.24E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=18.6km s-min=5.1km az=159.0*
*ISCJB **04** 14:19:57.6±0.9, 38°.87N±0°.08×70°.16E±0°.07, h10km, mb3.6/4, Error ellipse: s-maj=12.8km s-min=6.4km az=154.6*
ISC 04 14:19:57.1±1.3**, 38°.78N**±0°.09×**70°.23E**±0°.05**, h10km, n28,** σ**2^{s}24**/33**, mb3.7**/4**, 11C-7D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.09**	**272**	⇑Pn	**Pn**	**14 20 18.8**	**+0.2**
	388nm,0.5s						
DZET				⇑Sn	**Sn**	**14 20 37.2**	**+3.3**
	793nm,0.3s						
SFK	**Sufi-Kurgan**	**2.82**	**63**	⇓Pn	**Pn**	**14 20 41.8**	**-0.7**
	25nm,0.3s						
SFK				⇑Sn	**Sb**	**14 21 20.9**	**-1.5**
	325nm,0.8s						
MNAS	**Manas**	**4.09**	**24**	⇓Pn	**Pn**	**14 21 01.3**	**+1.5**
	13nm,0.5s						
MNAS				⇓Sn	**Sn**	**14 21 52.3**	**+4.5**
KK31	**Karatay Array**	**4.33**	**3**	⇑Pn	**Pn**	**14 21 05.1**	**+2.1**
	3.3nm,0.3s,baz=169,slow=11,SNR=9.8						
KK31				⇓Pg	**Pb**	**14 21 14.3**	**+1.1**
	11nm,0.5s						
KK31				⇑Sn	**Sn**	**14 21 54.8**	**+1.3**
	17nm,0.6s						
KK31				⇓Lg	Lg	14 22 10.1	
	14nm,0.4s,baz=161,slow=28,SNR=5.0						
EKS2	**Erkin-Say**	**4.73**	**34**	P	**Pn**	**14 21 10.6**	**+2.1**
	SNR=8.2						
UCH	**Uchtor**	**4.75**	**42**	P	**Pn**	**14 21 10.8**	**+1.7**
	SNR=7.0						
AAK	**Ala-Archa**	**5.04**	**39**	P	**Pn**	**14 21 14.7**	**+1.8**
	SNR=8.9						
AAK	**Ala-Archa**	**5.04**	**39**	⇑Pn	**Pn**	**14 21 14.3**	**+1.5**
	24nm,0.5s						
AAK				⇑Sn	**Sn**	**14 22 14.0**	**+2.8**
	25nm,0.6s						
AAK	**Ala-Archa**	**5.04**	**39**	Pn	**Pn**	**14 21 12.4**	**-0.4**
	10nm,0.3s,baz=200,slow=5.0,SNR=11						
AAK				Sn	**Sn**	**14 22 13.5**	**+2.3**
	3.8nm,0.3s,baz=330,slow=20,SNR=3.6						
AAK				Lg	Lg	14 22 32.0	
	3.1nm,0.3s,baz=88,slow=0.5,SNR=3.9						
KZA	**Kyzart**	**5.05**	**48**	P	**Pn**	**14 21 15.6**	**+2.3**
	SNR=11						
KBK	**Karagaybulak**	**5.28**	**41**	P	**Pn**	**14 21 18.7**	**+2.5**
	SNR=13						
CHMS	**Chumysh**	**5.43**	**38**	P	**Pn**	**14 21 19.5**	**+1.3**
	SNR=9.8						
USP	**Ospenovka**	**5.53**	**34**	P	**Pn**	**14 21 20.9**	**+1.4**
	SNR=5.2						
TKM2	**Tokmak 2**	**5.80**	**43**	P	**Pn**	**14 21 25.1**	**+1.7**
	SNR=15						
TKM2	**Tokmak 2**	**5.80**	**43**	⇑Pn	**Pn**	**14 21 24.0**	**+0.6**
	40nm,0.5s						
TKM2				⇑Sn	**Sn**	**14 22 31.0**	**+0.8**
	19nm,0.8s						
MK31	**Makanchi Array**	**11.94**	**44**	Pn	**Pn**	**14 22 45.1**	**-2.2**
	1.9nm,0.8s,baz=229,slow=13,SNR=7.7						
MKAR	**Makanchi Array**	**11.94**	**44**	Pn	**Pn**	**14 22 44.5**	**-2.8**
	0.1nm,0.3s,baz=231,slow=13,SNR=8.3						
AB31	**Akbulak array**	**12.81**	**328**	Pn	**Pn**	**14 22 57.4**	**-1.8**
	3.4nm,0.4s,baz=127,slow=16,SNR=41						
AB31				⇑Sn	Sn	14 25 15.2	-6.6
	4.9nm,0.7s,baz=138,slow=26,SNR=9.6						
KURBB	**Kurchatov Arra**	**13.22**	**24**	⇑Pn	Pn	14 23 01.2	-3.6
	1.5nm,0.6s						
KURBB	**Kurchatov Arra**	**13.22**	**24**	Pn	Pn	14 23 00.3	-4.4
	0.1nm,0.3s,baz=214,slow=12,SNR=6.9						
BVAR	**Borovoye Array**	**14.25**	**0**	Pn	**Pn**	**14 23 17.1**	**-1.7**
	0.3nm,0.3s,baz=158,slow=9.7,SNR=4.2						
AKTO	**Aktyubinsk**	**14.52**	**327**	⇓Pn	**Pn**	**14 23 22.1**	**-0.4**
	4.1nm,0.7s						
AKTO				⇓Sn	**Sn**	**14 26 00.1**	**-3.3**
	8.8nm,1.2s						
AKTO	**Aktyubinsk**	**14.52**	**327**	Pn	**Pn**	**14 23 21.6**	**-0.9**
	0.7nm,0.3s,baz=152,slow=11,SNR=4.6						
AKTO				Sn	**Sn**	**14 25 60.0**	**-3.4**
	0.2nm,0.3s,baz=109,slow=18,SNR=4.9						
ZALV	**Zalesovo Beam**	**18.15**	**29**	P	**Pn**	**14 24 05.2**	**-3.9**
	0.7nm,0.3s,baz=224,slow=11,SNR=3.7						
NOA	**NORSAR Array B**	**42.21**	**322**	P	P	14 27 52.9	+3.0
	0.6nm,0.7s,baz=94,slow=8.5,SNR=3.5						
ESDC	**Sonseca Array**	**55.88**	**296**	P	P	14 29 38.2	+3.3
	0.3nm,0.4s,baz=68,slow=8.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**65.19**	**267**	P	**P**	**14 30 40.5**	**+1.8**
	0.6nm,0.5s,baz=54,slow=5.5,SNR=6.5						
WRA	**Warramunga Arr**	**83.71**	**122**	P	P	14 32 21.4	-4.9
	0.3nm,0.6s,baz=329,slow=5.0,SNR=4.7						

*ISCJB **04** 14:23:14.6±0.5, 51°.49N±0°.03×16°.12E±0°.03, h0km, Error ellipse: s-maj=3.9km s-min=2.6km az=13.8*
*CSEM **04** 14:23:16.1±0.3, 51°.50N×16°.12E, h2km, ML3.5/11, Error ellipse: s-maj=4.7km s-min=3.2km az=16.0*
*BGR **04** 14:23:17.4±0.5, 51°.48N×16°.13E, h1km, ML3.0/13, Error ellipse: s-maj=8.9km s-min=3.3km az=18.0*
*IDC **04** 14:23:18.1±1.1, 51°.44N×15°.93E, h0km, mb1 3.3/5, mb1mx3.1/45, mbtmp3.2/5, ML2.9/4, Error ellipse: s-maj=16.3km s-min=9.1km az=126.0*
*VIE **04** 14:23:19.6±0.3, 51°.30N×15°.89E, h0km, mb2.6/4, ML3.0/4, Error ellipse: s-maj=2.6km s-min=1.9km az=93.0 79 km NE of Liberec Suspected Mining induced.*
ISC 04 14:23:15.7±0.8**, 51°.57N**±0°.03×**16°.14E**±0°.02**, h0km, n69,** σ**0^{s}78**/117**, 4C-2D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**172**	*e*Pg	**Pg**	**14 23 29.9**	**+0.3**
KSP	**Ksiaz**	**0.73**	**172**	*i* Pg	**Pg**	**14 23 30.0**	**+0.3**
KSP				*e*Sg	**Sg**	**14 23 39.0**	**-0.1**
KSP	**Ksiaz**	**0.73**	**172**	Pg	**Pg**	**14 23 29.9**	**+0.3**
UPC	**Upice**	**1.06**	**184**	*e*PG	**Pg**	**14 23 36.0**	**0.0**
UPC				*e*SG	**Sg**	**14 23 49.2**	**-0.6**
	comp=Z,52nm,0.3s						
UPC	**Upice**	**1.06**	**184**	Pg	**Pg**	**14 23 36.0**	**0.0**
UPC				Sg	**Sg**	**14 23 49.2**	**-0.6**
	52nm,0.3s						
DPC	**Dobruska-Polom**	**1.22**	**175**	*e*Pg	**Pg**	**14 23 38.8**	**-0.3**
DPC				*e*Sg	**Sg**	**14 23 54.6**	**-0.3**
DPC	**Dobruska-Polom**	**1.22**	**175**	*e*PG	**Pg**	**14 23 38.8**	**-0.3**
DPC				*e*SG	**Sg**	**14 23 53.8**	**-1.1**
	comp=Z,72nm,0.3s						
DPC	**Dobruska-Polom**	**1.22**	**175**	Pg	**Pg**	**14 23 38.8**	**-0.3**
DPC				Sg	**Sg**	**14 23 53.8**	**-1.1**
	72nm,0.3s						
PVCC	**Panska Ves**	**1.44**	**224**	*e*PG	**Pn**	**14 23 42.9**	**-0.1**
PVCC				*e*SG	**Sg**	**14 24 01.5**	**-0.3**
	comp=Z,168nm,0.3s						
PVCC	**Panska Ves**	**1.44**	**224**	Pg	**Pn**	**14 23 42.9**	**-0.1**
PVCC				Sg	**Sg**	**14 24 01.5**	**-0.3**
	168nm,0.3s						
BRG	**Berggiesshubel**	**1.55**	**244**	PN	**Pn**	**14 23 43.9**	**-0.6**
BRG				PG	**Pb**	**14 23 45.5**	**+0.3**
BRG				SG	**Sg**	**14 24 05.8**	**+0.5**
	115nm,0.4s						
BRG	**Berggiesshubel**	**1.55**	**244**	*e*Pg	**Pn**	**14 23 44.2**	**-0.3**
BRG				*e*Sg	**Sn**	**14 24 05.4**	**+0.2**
BRG	**Berggiesshubel**	**1.55**	**244**	Pg	**Pn**	**14 23 44.2**	**-0.3**
BRG				Sg	**Sn**	**14 24 05.4**	**+0.2**
KRLC	**Kraliky**	**1.55**	**164**	*e*PG	**Pn**	**14 23 44.1**	**-0.4**
KRLC	**Kraliky**	**1.55**	**164**	Pg	**Pn**	**14 23 44.1**	**-0.4**
PRA	**Prague**	**1.85**	**217**	*e*PN	**Pn**	**14 23 48.2**	**-0.4**
PRA				*e*SG	**Sn**	**14 24 12.7**	**+0.1**
	comp=Z,62nm,0.6s						
PRA	**Prague**	**1.85**	**217**	Pn	**Pn**	**14 23 48.2**	**-0.4**
PRA				Sg	**Sn**	**14 24 12.7**	**+0.1**
	62nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.86**	**208**	*e*PN	**Pn**	**14 23 48.6**	**-0.3**
GOPC				*e*PG	**Pb**	**14 23 50.3**	**-0.3**
GOPC				*e*SG	**Sn**	**14 24 13.7**	**+0.6**
	comp=Z,20nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.86**	**208**	Pn	**Pn**	**14 23 48.6**	**-0.3**
GOPC	**GO Pecny, Ondr**	**1.86**	**208**	Pg	**Pb**	**14 23 50.3**	**-0.3**
GOPC				Sg	**Sn**	**14 24 13.7**	**+0.6**
	20nm,0.4s						
FBE	**Freiberg**	**1.87**	**251**	*e*Sg	**Sb**	**14 24 15.2**	**+0.7**
FBE	**Freiberg**	**1.87**	**251**	Sg	**Sb**	**14 24 15.2**	**+0.7**
PRU	**Pruhonice**	**1.88**	**213**	*e*PG	**Pn**	**14 23 50.0**	**+1.0**
PRU				*e*SG	**Sb**	**14 24 14.5**	**-0.3**
	comp=Z,55nm,0.6s						
PRU	**Pruhonice**	**1.88**	**213**	Pg	**Pn**	**14 23 50.0**	**+1.0**
PRU				Sg	**Sb**	**14 24 14.5**	**-0.3**
	55nm,0.6s						
CLL	**Collm**	**1.98**	**264**	*e*Pn	**Pn**	**14 23 50.0**	**-0.4**
CLL				*e*Sg	**Sg**	**14 24 19.1**	**-0.2**
CLL	**Collm**	**1.98**	**264**	*i* Pn	**Pn**	**14 23 49.9**	**-0.5**
CLL				*e*Pg	**Pb**	**14 23 53.0**	**+0.4**
CLL				*i*		14 23 56.3	
CLL				*i* Sg	**Sg**	**14 24 19.4**	**+0.1**
	comp=Z,81nm,0.7s						
CLL	**Collm**	**1.98**	**264**	Pn	**Pn**	**14 23 50.0**	**-0.4**
CLL				Sg	**Sg**	**14 24 19.1**	**-0.2**
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*PN	**Pn**	**14 23 51.5**	**-1.3**
OKC				*e*PG	**Pb**	**14 23 56.1**	**+0.6**
OKC				*e*SG	**Sb**	**14 24 22.2**	**-0.5**
OKC	**Ostrava-Krasne**	**2.15**	**143**	Pn	**Pn**	**14 23 51.5**	**-1.3**
VRAC	**Vranov**	**2.28**	**173**	Pn	**Pn**	**14 23 55.2**	**+0.7**
	comp=Z,2.8nm,0.3s,baz=348,slow=16,SNR=7.6						
VRAC				Lg	Lg	14 24 26.9	
	comp=Z,7.2nm,0.3s,baz=74,slow=23,SNR=6.8						
VRAC	**Vranov**	**2.28**	**173**	*e*Pn	**Pn**	**14 23 52.5**	**-2.1**
VRAC				*e*Sg	**Sb**	**14 24 26.8**	**+0.4**
TREC	**Trest**	**2.31**	**191**	*e*PG	**Pb**	**14 23 58.5**	**+0.3**
TREC	**Trest**	**2.31**	**191**	Pg	**Pb**	**14 23 58.5**	**+0.3**
TANN	**Tannenbergstha**	**2.59**	**245**	*e*Sg	**Sg**	**14 24 38.5**	**-0.5**
TANN	**Tannenbergstha**	**2.59**	**245**	Sg	**Sg**	**14 24 38.5**	**-0.5**
OJC	**Ojcow**	**2.68**	**119**	*e*Pg	**Pg**	**14 24 06.8**	**-0.2**
OJC	**Ojcow**	**2.68**	**119**	*e*Pg	**Pg**	**14 24 06.9**	**-0.1**
OJC				*e*Sg	**Sg**	**14 24 42.3**	**+0.6**
OJC	**Ojcow**	**2.68**	**119**	Pg	**Pg**	**14 24 06.8**	**-0.2**
OJC				*e*Sg	**Sg**	**14 24 42.3**	**+0.6**
NKC	**Novy Kostel**	**2.69**	**242**	*e*PN	**Pn**	**14 24 00.6**	**+0.4**
NKC				*e*PG	**Pg**	**14 24 06.5**	**-0.7**
NKC				*e*SG	**Sg**	**14 24 40.9**	**-1.2**
	comp=Z,42nm,0.4s						
NKC	**Novy Kostel**	**2.69**	**242**	Pn	**Pn**	**14 24 00.6**	**+0.4**
KHC	**Kasperske Hory**	**2.94**	**215**	*e*PN	**Pn**	**14 24 03.4**	**-0.2**
KHC				*e*PG	**Pb**	**14 24 09.7**	**+0.8**
KHC				*e*SG	**Sb**	**14 24 46.8**	**+1.4**
	comp=Z,21nm,0.4s						
KHC	**Kasperske Hory**	**2.94**	**215**	Pn	**Pn**	**14 24 03.4**	**-0.2**
KHC	**Kasperske Hory**	**2.94**	**215**	Pg	**Pb**	**14 24 09.7**	**+0.8**
KHC				Sg	**Sb**	**14 24 46.8**	**+1.4**
	comp=Z,21nm,0.4s						
MOX	**Moxa**	**3.00**	**254**	*e*Pn	**Pn**	**14 24 05.0**	**+0.6**
MOX				*e*Sg	**Sg**	**14 24 52.5**	**+0.6**
MOX	**Moxa**	**3.00**	**254**	Pn	**Pn**	**14 24 05.0**	**+0.6**
MOX				Sg	**Sg**	**14 24 52.5**	**+0.6**
MANZ	**Manzenberg**	**3.01**	**240**	*e*Pn	**Pn**	**14 24 05.0**	**+0.4**
MANZ				*e*Pg	**Pg**	**14 24 13.3**	**0.0**
MANZ	**Manzenberg**	**3.01**	**240**	Pn	**Pn**	**14 24 05.0**	**+0.4**
ROTZ	**Rotzenmuhle**	**3.08**	**236**	*e*Pn	**Pn**	**14 24 06.1**	**+0.5**
ROTZ				*e*Pg	**Pb**	**14 24 12.7**	**+1.3**
ROTZ	**Rotzenmuhle**	**3.08**	**236**	Pn	**Pn**	**14 24 06.1**	**+0.5**
GEC2	**GERESS Array S**	**3.14**	**211**	*e*Pn	**Pn**	**14 24 07.4**	**+0.9**
GEC2				*e*Pg	**Pb**	**14 24 13.5**	**+1.1**
GEC2	**GERESS Array S**	**3.14**	**211**	Pn	**Pn**	**14 24 07.4**	**+0.9**
GERES	**GERESS Array B**	**3.14**	**211**	Pn	**Pn**	**14 24 06.2**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=30,slow=13,SNR=34						
GERES				Pg	**Pb**	**14 24 12.8**	**+0.4**
	comp=Z,3.1nm,0.3s,baz=31,slow=16,SNR=44						
GERES				Lg	Lg	14 24 51.7	
	comp=Z,4.7nm,0.3s,baz=31,slow=26,SNR=5.2						
WET	**Wettzell**	**3.20**	**222**	*e*Pn	**Pn**	**14 24 07.2**	**0.0**
WET	**Wettzell**	**3.20**	**222**	Pn	**Pn**	**14 24 07.2**	**0.0**
CLZ	**Clausthal**	**3.60**	**277**	*e*Pn	**Pn**	**14 24 14.0**	**+1.3**
CLZ	**Clausthal**	**3.60**	**277**	Pn	**Pn**	**14 24 14.0**	**+1.3**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**14 24 12.9**	**-0.2**
BSD				*i* S	**Sn**	**14 24 53.5**	**-3.1**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**14 24 12.9**	**-0.2**
CONA	**Conrad Observa**	**3.65**	**183**	⇓*i*Pn	**Pn**	**14 24 13.7**	**+0.3**
CONA				⇓*i*Sg	**Sg**	**14 25 11.4**	**-1.3**
	comp=Z,29nm,0.5s						
CONA	**Conrad Observa**	**3.65**	**183**	Pn	**Pn**	**14 24 13.7**	**+0.3**
CONA				Sg	**Sg**	**14 25 11.4**	**-1.3**
	comp=Z,29nm,0.5s						
MOA	**Molln**	**3.91**	**199**	⇑*i*Pn	**Pn**	**14 24 17.1**	**+0.1**
MOA				⇑*i*Sg	**Sg**	**14 25 19.6**	**-1.7**
	comp=Z,11nm,0.4s						
MOA	**Molln**	**3.91**	**199**	Pn	**Pn**	**14 24 17.1**	**+0.1**
MOA				Sg	**Sg**	**14 25 19.6**	**-1.7**
	comp=Z,11nm,0.4s						
KECS	**Kecovo**	**4.17**	**136**	*e*Pg	**Pg**	**14 24 36.1**	**+0.6**
KECS				*e*Sg	**Sg**	**14 25 30.9**	**+1.4**
KECS	**Kecovo**	**4.17**	**136**	*e*PG	**Pg**	**14 24 36.1**	**+0.6**
KECS				*e*SG	**Sg**	**14 25 30.9**	**+1.4**
KBA	**Koelnbreinsper**	**4.85**	**203**	⇑*i*Pn	**Pn**	**14 24 29.9**	**-0.1**
KBA				⇑*i*Sg	**Sg**	**14 25 49.9**	**-1.5**
	comp=Z,9.9nm,0.5s						
KBA	**Koelnbreinsper**	**4.85**	**203**	Pn	**Pn**	**14 24 29.9**	**-0.1**
KBA				Sg	**Sg**	**14 25 49.9**	**-1.5**
	comp=Z,9.9nm,0.5s						
DAVOX	**Davos/Dischmat**	**6.31**	**223**	Pn	**Pn**	**14 24 49.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=12,slow=19,SNR=2.3						
AKASG	**Malin Array Be**	**8.28**	**91**	Pn	**Pn**	**14 25 17.9**	**+1.0**
	baz=281,slow=12,SNR=3.7						
FINES	**FINESS Array B**	**11.30**	**25**	Pn	**Pn**	**14 25 57.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=207,slow=12,SNR=4.1						

*IDC **04** 14:27:46.9±0.9, 34°.36N×80°.57E, h0km, mb3.9/6, mb1 3.9/10, mb1mx3.6/52, mbtmp3.7/10, ML2.8/3, MS2.8/3, Ms1 2.8/3, ms1mx2.5/32, Error ellipse: s-maj=37.5km s-min=17.0km az=60.0*
ISC 04 14:27:52.0±1.0**, 34°.5N**±0°.1×**80°.7E**±0°.2**, h35km, n12,** σ**0^{s}63**/9**, mb4.2**/5**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDI	**New Delhi**	**6.50**	**208**	*e*P	Pn	14 29 32.0	+6.8
AAK	**Ala-Archa**	**9.46**	**331**	Pn	Pn	14 30 10.2	+4.3
	baz=112,slow=16,SNR=2.6						
AAK				LR	LR	14 34 33.9	
	comp=Z,44nm,18.8s,baz=160,slow=43						
MKAR	**Makanchi Array**	**12.35**	**5**	Pn	**Pn**	**14 30 45.0**	**-0.2**
	0.1nm,0.3s,baz=190,slow=14,SNR=5.4						
KURBB	**Kurchatov Arra**	**16.20**	**355**	Pn	**Pn**	**14 31 36.9**	**+0.1**
	0.0nm,0.3s,baz=180,slow=10,SNR=4.4						
ZALV	**Zalesovo Beam**	**19.67**	**7**	P	**P**	**14 32 17.5**	**-0.2**
	0.1nm,0.3s,baz=198,slow=14,SNR=5.6						
ZALV				LR	LR	14 40 12.0	
	comp=Z,20nm,19.6s,baz=70,slow=38						
BVAR	**Borovoye Array**	**19.92**	**342**	P	**P**	**14 32 21.3**	**+0.7**
	1.1nm,0.5s,baz=146,slow=11,SNR=7.7						
CMAR	**Chiang Mai Arr**	**22.80**	**130**	P	**P**	**14 32 51.3**	**-0.4**
	1.1nm,0.7s,baz=310,slow=10,SNR=8.2						
AKTO	**Aktyubinsk**	**22.95**	**321**	LR	LR	14 42 59.7	
	comp=Z,38nm,18.4s,baz=136,slow=40						
TORD	**Torodi Ar. Bea**	**73.67**	**275**	P	**P**	**14 39 21.9**	**-0.5**
	1.2nm,0.6s,baz=49,slow=4.4,SNR=6.9						
WRA	**Warramunga Arr**	**74.38**	**128**	P	**P**	**14 39 26.4**	**0.0**
	2.6nm,0.8s,baz=322,slow=6.0,SNR=10						
ASAR	**Alice Springs**	**76.80**	**131**	P	**P**	**14 39 41.4**	**+1.1**
	1.5nm,0.6s,baz=317,slow=5.8,SNR=11						
STKA	**Stephens Creek**	**87.40**	**132**	P	**P**	**14 40 35.5**	**-0.1**
	1.3nm,0.7s,baz=317,slow=3.5,SNR=3.0						

*BJI **04** 14:28:53.2, 4°.82S×102°.44E, h64km, mb4.8/14, mB4.8/7, Ms4.4/2, Ms7 4.2/2*
*MOS **04** 14:28:55.4±1.1, 4°.16S×102°.48E, h43km, mb5.0/25, Error ellipse: s-maj=12.9km s-min=6.6km az=111.3*
*NEIC **04** 14:28:58.4±0.6, 4°.29S×102°.35E, h59km±5km, mb4.9/11, Error ellipse: s-maj=8.9km s-min=5.3km az=52.0*
NEIC Felt [III] at Bengkulu.
*ISCJB **04** 14:28:59.1±0.5, 4°.32S±0°.04×102°.42E±0°.05, h80km±4km, mb4.5/58, Error ellipse: s-maj=9.7km s-min=4.2km az=138.8*
*DJA **04** 14:28:59.6±0.6, 4°S±3°×10°2E±°, h22km±5km, M4.7/30, mb4.7/24, mB5.2/9, MLv4.8/30, Mw(mB)4.5/9*
*IDC **04** 14:29:01.4±2.3, 4°.22S×102°.50E, h80km±19km, mb4.2/29, mb1 4.2/30, mb1mx4.1/42, mbtmp4.5/30, MS3.1/3, Ms1 3.1/3, ms1mx2.8/30, Error ellipse: s-maj=19.6km s-min=8.8km az=49.0*
*KLM **04** 14:29:04.4, 4°.13S×102°.53E, h75km, mb4.7, ML4.4, MS5.7*
ISC 04 14:28:59.1±0.8**, 4°.38S**±0°.06×**102°.34E**±0°.06**, h64km**±6km**, n176,** σ**1^{s}25**/177**, mb4.7**/58**, 11C-7D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.62**	**89**	P	**Pn**	**14 29 11.7**	**-0.9**
MNAI	**Manna**	**0.62**	**89**	*e*Pn	**Pn**	**14 29 12.1**	**-0.6**

MNAI eSn **Sn** **14 29 22.1 -0.5**
MASI Maura Aman, Be 1.23 356 P **Pn** **14 29 20.4 +0.1**
LHSI Lahat 1.30 65 P **Pn** **14 29 21.0 -0.2**
LWLI Liwa 1.83 110 P **Pn** **14 29 29.8 +1.4**
MDSI Maura Dua 1.84 93 P **Pn** **14 29 28.7 +0.3**
KLSI 2.41 98 P **Pn** **14 29 37.1 +1.0**
KASI Kota Agung 2.44 118 P **Pn** **14 29 37.2 +0.7**
KLI Kotabumi 2.56 101 P **Pn** **14 29 39.2 +1.0**
PMBI Palembang 2.83 59 P **Pn** **14 29 41.3 -0.5**
JMBI JAMBI 3.02 26 P **Pn** **14 29 45.2 +0.7**
SDSI Sungai Dareh 3.54 345 P **Pn** **14 29 53.6 +2.0**
CGJI Cibinong 4.01 124 P **Pn** **14 29 58.5 +0.4**
SBJI Serang 4.16 115 P **Pn** **14 30 01.3 +1.3**
PPBI Pangkal Pinang 4.39 60 P **Pn** **14 30 02.9 -0.3**
DSRI Dabo 4.47 30 P **Pn** **14 30 04.7 +0.3**
BKNI Bangkinang 4.85 344 P **Pn** **14 30 10.9 +1.4**
BKNI Bangkinang 4.85 344 *e*Pn **Pn** **14 30 06.8 -2.8**
SKJI Sukabumi 4.95 122 P **Pn** **14 30 12.0 +1.1**
TPI Tanjungpandan 5.55 73 P **Pn** **14 30 19.1 0.0**
24nm,0.7s,417nm0.2nm
CNJI Cibinong 5.59 122 P **Pn** **14 30 20.4 +0.7**
86nm,0.7s,3μm0.6nm
TPRI Tanjung Pinang 5.70 23 P **Pn** **14 30 21.5 +0.4**
109nm,0.5s,9μm2.0nm
LEM Lembang 5.79 115 P **Pn** **14 30 23.4 +0.8**
76nm,1.0s,0.3nm
LEM Lembang 5.79 115 P **Pn** **14 30 24.2 +1.6**
2.2nm,0.3s,baz=71,slow=18,SNR=2.0
LEM LR LR 14 32 44.6
comp=Z,148nm,18.9s,baz=359,slow=39
MNSI Mandailing Nat 5.83 332 P **Pn** **14 30 24.8 +1.8**
45nm,0.5s,0.4nm
CISI Cisompet, Garu 6.30 120 P **Pn** **14 30 29.9 +0.4**
108nm,0.6s,3μm0.6nm
CISI Cisompet, Garu 6.30 120 *e*Pn **Pn** **14 30 29.5 +0.1**
76nm,0.6s
MYKOM Kota Tinggi 6.31 14 ⇓P **Pn** **14 30 31.2 +1.6**
KGM Kluang 6.42 9 ⇑P **Pn** **14 30 33.1 +1.9**
CMJI Cimerak 6.96 119 P **Pn** **14 30 39.3 +0.9**
104nm,1.6s,0.4nm
GSI Gunungsitoli 7.38 320 P **Pn** **14 30 44.1 -0.1**
74nm,0.7s,0.3nm
GSI Gunungsitoli 7.38 320 *e*Pn **Pn** **14 30 42.6 -1.6**
52nm,0.3s
GSI eSn **Sn** **14 32 07.4 +0.9**
FRIM Kepong 7.59 355 ⇓P Pn 14 30 50.6 +3.4
PSI Prapat 7.90 334 LR LR 14 34 05.6
comp=Z,175nm,19.9s,baz=116,slow=39
IPM Ipoh 8.89 352 ⇑P **Pn** **14 31 07.3 +2.4**
IPM Ipoh 8.89 352 *e*Pn **Pn** **14 31 05.1 +0.2**
10nm,0.4s
COCO West Island 9.48 215 P **Pn** **14 31 11.6 -1.3**
COCO pmax pmax
comp=Z,155nm,0.6s
COCO West Island 9.48 215 Pn **Pn** **14 31 11.6 -1.3**
comp=Z,154nm,0.6s
KTGM Kuala Trenggan 9.67 5 ⇑P **Pn** **14 31 18.0 +2.4**
KULM Kulim 9.75 350 ⇑P Pn 14 31 24.3 +7.7
KSM Kuching 9.86 54 *e*Pn **Pn** **14 31 16.8 -1.4**
comp=Z,5.7nm,0.6s
STKI Sintang 10.14 64 P Pn 14 31 17.6 -4.4
comp=Z,29nm,0.5s
BBKI Banjar Baru 12.51 86 P **P** **14 32 06.9 +3.1**
CHBT CHBT 17.02 360 P **P** **14 32 55.1 +1.3**
comp=Z,23nm,0.7s,comp=Z,6μm
KAPI Kappang 17.37 93 LR LR 14 40 15.9
comp=Z,68nm,18.0s,baz=271,slow=39
SPSI Sidrap Palu 17.39 89 P **P** **14 33 00.1 +2.1**
comp=Z,16nm,1.1s,comp=Z,689nm
TTSI Tana Toraja 17.50 86 P P 14 33 04.9 +5.7
BKSI Bulukumba 17.75 94 P **P** **14 33 04.1 +2.1**
comp=Z,18nm,1.0s
PCI Palu 17.82 79 P pP 14 33 20.0 +3.8
MPSI Mapaga 18.16 75 P **Pn** **14 33 09.0 +2.0**
comp=Z,18nm,0.8s
NAYO Nakonayok 18.60 357 P **Pn** **14 33 12.3 +0.1**
comp=Z,54nm,0.8s,comp=Z,12μm
APSI Ampana 19.59 80 P **Pn** **14 33 28.3 +4.2**
comp=Z,69nm,1.0s
MRSI Marisa 20.17 77 P **P** **14 33 29.5 +1.0**
comp=Z,69nm,0.7s,comp=Z,662nm
LUWI Luwuk 20.68 81 P pP 14 33 49.2 +1.5
PBKT Sadao Pong 20.86 356 P **P** **14 33 35.8 0.0**
comp=Z,17nm,0.8s
UTTA Uttaradit 22.05 355 P **P** **14 33 50.4 +1.8**
comp=Z,6.6nm,0.9s
CM31 Chiang Mai Arr 22.93 352 *e*P **P** **14 33 55.0 -3.0**
comp=Z,7.1nm,0.6s
CMAR Chiang Mai Arr 22.93 352 P **P** **14 33 57.4 -0.7**
comp=Z,7.9nm,0.7s,baz=185,slow=8.8,SNR=53
CMAR PcP **PcP** **14 37 47.5 +1.1**
comp=Z,0.3nm,0.4s,baz=210,slow=2.8,SNR=5.8
CHTO Chiang Mai 23.28 352 P **P** **14 34 00.9 -0.5**
comp=Z,46nm,1.2s
CHTO Chiang Mai 23.28 352 *e*P **P** **14 33 59.2 -2.2**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 23.28 352 *e*P **P** **14 33 59.2 -2.2**
comp=Z,6.8nm,0.8s
CMAI Chiengmai2 24.37 352 P **P** **14 34 13.5 +2.0**
comp=Z,16nm,1.2s
CRAI Chiangrai 24.53 356 P **P** **14 34 09.3 -3.4**
KMI Kunming 29.32 1 P **P** **14 34 56.9 +0.8**
KMI PMZ
comp=Z,8.0nm,0.8s
H08S2 Diego Garcia H 29.85 262 T T 15 05 13.3
baz=86,slow=75,SNR=30
H08S3 Diego Garcia H 29.86 262 T T 15 05 13.3
baz=86,slow=75,SNR=30
H08S1 Diego Carcia H 29.87 262 T T 15 05 13.3
baz=86,slow=75,SNR=8.8
DGAR Diego Garcia 29.87 263 ⇑*e*P **P** **14 35 02.9 +2.1**
H01W3 Cape Leeuwin H 32.27 162 T T 15 09 11.3
baz=339,slow=76,SNR=126
H01W2 Cape Leeuwin H 32.28 162 T T 15 09 10.4
baz=339,slow=76,SNR=129
H01W1 Cape Leeuwin H 32.28 162 T T 15 09 10.6
baz=339,slow=76,SNR=103
ODAN Odare 34.25 336 *e*P **P** **14 35 40.2 +0.9**
comp=Z,31nm,0.5s
TAPN Taplejung 34.56 337 *e*P **P** **14 35 43.0 +1.0**
comp=Z,24nm,0.3s
RAMN Ramite 34.66 335 *e*P **P** **14 35 44.2 +1.3**
comp=Z,26nm,0.3s
WRA Warramunga Arr 34.80 119 P **P** **14 35 43.8 -0.1**
comp=Z,2.4nm,0.3s,baz=309,slow=8.8,SNR=82
WRA PcP **PcP** **14 38 16.9 +0.6**
comp=Z,1.4nm,0.4s,baz=308,slow=2.1,SNR=6.8
WRAB Tennant Creek 34.80 119 ⇑*i*P **P** **14 35 43.4 -0.5**
WRAB pmax pmax
comp=Z,18nm,0.8s
WRAB Tennant Creek 34.80 119 *e*P **P** **14 35 43.1 -0.8**
comp=Z,6.3nm,0.6s
JIRN Jiri 35.46 335 *e*P **P** **14 35 50.9 +1.1**
comp=Z,48nm,0.3s
PKI Pulchoki 35.72 334 *e*P **P** **14 35 52.4 +0.4**
comp=Z,12nm,0.3s
GUN Gumba 35.81 335 *e*P **P** **14 35 53.7 +0.9**
comp=Z,110nm,0.3s
DMN Daman 35.88 333 *e*P **P** **14 35 54.0 +0.6**
comp=Z,14nm,0.3s
KKN Kakani 35.96 334 *e*P **P** **14 35 54.6 +0.6**
comp=Z,37nm,0.3s
AS31 Alice Springs 35.98 125 *e*P **P** **14 35 53.2 -0.9**
ASAR Alice Springs 35.98 125 P **P** **14 35 54.6 +0.6**
comp=Z,2.0nm,0.3s,baz=299,slow=7.7,SNR=154
ASAR PcP **PcP** **14 38 20.9 +1.2**
comp=Z,1.8nm,0.4s,baz=298,slow=2.4,SNR=11
ASAR S **S** **14 41 26.4 -2.0**
comp=Z,1.1nm,0.9s,baz=297,slow=15,SNR=7.2
ASAR ScP **ScP** **14 42 00.5 -0.1**
comp=Z,0.8nm,0.9s,baz=290,slow=4.7,SNR=4.5
GKN Gorkha 36.43 333 *e*P **P** **14 35 58.7 +0.8**
comp=Z,60nm,0.3s
KOLN Koldanda 36.72 332 *e*P **P** **14 36 01.4 +1.0**
comp=Z,20nm,0.3s
XAN Xi'an 38.71 9 P **P** **14 36 16.1 -0.9**
XAN pP **pP** **14 36 31.5 -1.5**
XAN PMZ
comp=Z,3.0nm,0.6s
NDI New Delhi 40.79 325 *e*P **P** **14 36 36.0 +1.7**
GTA Gaotai 43.63 357 *e*P **P** **14 36 57.3 -0.1**
GTA PMZ
comp=Z,7.0nm,1.8s
PMG Port Moresby 44.75 99 ⇓*e*P **P** **14 37 06.9 +0.3**
PMG pmax pmax
comp=Z,40nm,1.2s
CTA Charters Tower 45.49 114 P **P** **14 37 11.3 -1.2**
comp=Z,7.8nm,0.8s,baz=283,slow=12,SNR=12
STKA Stephens Creek 45.84 131 P **P** **14 37 16.4 +1.4**
comp=Z,5.4nm,0.6s,baz=310,slow=7.2,SNR=28
STKA Stephens Creek 45.84 131 *e*P **P** **14 37 15.4 +0.4**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 45.84 131 *e*P **P** **14 37 15.3 +0.4**
comp=Z,2.0nm,0.8s
JNU Nakatsue 46.06 34 P **P** **14 37 15.6 -1.1**
comp=Z,3.6nm,0.8s,baz=155,slow=5.5,SNR=4.1
KSAR Wonju Array Be 47.92 28 P **P** **14 37 31.1 0.0**
KSAR 14 38 58.4
KSAR Wonju Array Be 47.92 28 P **P** **14 37 31.1 0.0**
KSAR PcP **PcP** **14 38 58.4 -0.3**
KSRS Korea Array 47.95 28 P **P** **14 37 31.1 -0.2**
KSRS PcP **PcP** **14 38 58.4 -0.4**
comp=Z,0.9nm,0.8s,baz=230,slow=2.9,SNR=5.9
SFK Sufi-Kurgan 51.51 332 P **P** **14 37 59.3 +0.7**
SFK pmax pmax
comp=Z,5.0nm,0.5s
SONM Songino Array 52.11 3 P **P** **14 38 03.6 +0.8**
comp=Z,16nm,0.8s,baz=182,slow=9.1,SNR=102
SONM PcP **PcP** **14 39 14.0 0.0**
comp=Z,1.3nm,0.4s,baz=191,slow=4.2,SNR=6.8
ULN Ulaanbaatar 52.19 4 P **P** **14 38 02.4 -1.0**
ULN pmax pmax
comp=Z,11nm,0.8s
ULN Ulaanbaatar 52.19 4 P **P** **14 38 02.4 -1.0**
comp=Z,11nm,0.8s
MAJO Matsushiro 52.72 36 ⇑*e*P **P** **14 38 05.5 -1.9**
MAJO pmax pmax
comp=Z,35nm,1.4s
MJAR Matsushiro Arr 52.72 36 P **P** **14 38 05.6 -1.7**
comp=Z,2.0nm,0.6s,baz=216,slow=8.1,SNR=7.6
UCH Uchtor 52.83 334 P **P** **14 38 09.0 +0.4**
SNR=7.6
TKM2 Tokmak 2 52.94 336 P **P** **14 38 10.1 +1.0**
SNR=6.5
TKM2 Tokmak 2 52.94 336 *e*P **P** **14 38 09.4 +0.3**
TKM2 pmax pmax
comp=Z,12nm,0.4s
TKM2 Tokmak 2 52.94 336 *e*P **P** **14 38 09.4 +0.3**
comp=Z,12nm,0.4s
KBK Karagaybulak 52.99 335 P **P** **14 38 10.5 +1.0**
SNR=9.7
AML Almayashu 53.11 334 P **P** **14 38 11.4 +0.8**
SNR=6.9
AAK Ala-Archa 53.16 334 P **P** **14 38 10.3 -0.5**
comp=Z,1.8nm,0.5s,baz=212,slow=6.3,SNR=5.3
AAK Ala-Archa 53.16 334 ⇓*e*P **P** **14 38 11.5 +0.7**
AAK pmax pmax
comp=Z,6.0nm,0.9s
EKS2 Erkin-Say 53.50 334 P **P** **14 38 14.3 +1.2**
SNR=5.3
EKS2 Erkin-Say 53.50 334 *e*P **P** **14 38 11.8 -1.3**
EKS2 pmax pmax
comp=Z,10.0nm,0.7s
EKS2 Erkin-Say 53.50 334 *e*P **P** **14 38 11.8 -1.3**
comp=Z,9.7nm,0.7s
MNAS Manas 53.93 333 P **P** **14 38 16.9 +0.6**
MNAS pmax pmax
comp=Z,7.0nm,0.6s
MK31 Makanchi Array 53.95 343 *e*P **P** **14 38 15.9 -0.3**
MK31 pmax pmax
comp=Z,6.0nm,0.5s
MK31 Makanchi Array 53.95 343 *e*P **P** **14 38 15.3 -0.9**
MKAR Makanchi Array 53.95 343 P **P** **14 38 16.1 -0.2**
comp=Z,7.7nm,0.4s,baz=149,slow=8.1,SNR=123
ZAK Zakamensk 54.55 1 *e*P **P** **14 38 19.2 -1.4**
ZAK pmax pmax
comp=Z,2.0nm,0.9s
USRK Ussuriysk Ar. 55.21 26 P **P** **14 38 25.1 -0.3**
comp=Z,12nm,0.7s,baz=217,slow=6.0,SNR=23
KK31 Karatay Array 55.33 332 *e*P **P** **14 38 25.8 -0.5**
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 55.33 332 *e*P **P** **14 38 24.3 -2.0**
KKAR pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 55.33 332 *e*P **P** **14 38 24.3 -2.0**
comp=Z,1.8nm,0.4s
TLY Talaya 55.85 1 P **P** **14 38 31.0 +1.2**
comp=Z,2.9nm,0.6s,baz=180,slow=8.1,SNR=3.8
TLY Talaya 55.85 1 *e*P **P** **14 38 30.8 +0.9**
TLY pmax pmax
comp=Z,5.0nm,1.0s
KURBB Kurchatov Arra 58.49 342 P **P** **14 38 48.2 -0.3**
comp=Z,6.8nm,0.8s,baz=160,slow=6.5,SNR=57
KURK Kurchatov 58.54 343 *e*P **P** **14 38 47.2 -1.6**
KURK pmax pmax
comp=Z,13nm,0.9s
KURK Kurchatov 58.54 343 *e*P **P** **14 38 47.1 -1.6**
comp=Z,13nm,0.9s
ZALV Zalesovo Beam 59.94 348 P **P** **14 38 57.9 -0.5**
comp=Z,15nm,0.5s,baz=168,slow=5.1,SNR=77
ASAJ Asahikawa 60.30 32 *e*P **P** **14 38 59.6 -1.5**
comp=Z,1.2nm,0.5s
NVS Novosibirsk 61.11 348 *e*P **P** **14 39 04.4 -1.9**
YSS Yuzh-Sakhalins 62.30 30 *e*P **P** **14 39 13.3 -1.2**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 62.30 30 *e*P **P** **14 39 13.6 -0.9**
comp=Z,22nm,1.1s
BOD Bodaibo 62.70 7 *e*P **P** **14 39 16.8 -0.2**
BOD pmax pmax
comp=Z,7.0nm,0.9s
BVA0 Borovoye Array 63.21 339 *i*P **P** **14 39 19.4 -1.1**
BVA0 pmax pmax
comp=Z,4.0nm,0.5s
BVAR Borovoye Array 63.21 339 P **P** **14 39 19.9 -0.7**
comp=Z,4.3nm,0.4s,baz=146,slow=9.5,SNR=24
BRVK Borovoye 63.28 339 *ce*P **P** **14 39 20.1 -0.8**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
AB31 Akbulak array 64.83 331 P **P** **14 39 30.7 -0.5**
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 64.83 331 *e*P **P** **14 39 30.5 -0.7**
comp=Z,14nm,0.6s
AKTO Aktyubinsk 66.55 331 P **P** **14 39 41.5 -0.7**
comp=Z,1.5nm,0.3s,baz=120,slow=6.6,SNR=10
AKTO Aktyubinsk 66.55 331 P **P** **14 39 41.0 -1.3**
AKTO pmax pmax
comp=Z,2.0nm,0.5s
YAK Yakutsk 69.47 13 P **P** **14 39 59.0 -1.3**
comp=Z,2.0nm,0.4s,baz=280,slow=6.1,SNR=2.6
YAK Yakutsk 69.47 13 *e*P **P** **14 39 58.0 -2.3**
YAK pmax pmax
comp=Z,20nm,1.0s
YAK Yakutsk 69.47 13 *e*P **P** **14 39 58.9 -1.4**
comp=Z,24nm,0.8s
SVE Sverdlovsk 69.76 337 ⇑*e*P **P** **14 40 02.8 +0.6**
SVE pmax pmax
comp=Z,12nm,1.1s
ARU Arti 70.31 336 *d i*P **P** **14 40 05.2 -0.4**
ARU 14 42 37.6
ARU S **S** **14 49 16.2 +3.5**
ARU SS **SS** **14 53 44.6 +0.2**
ARU pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 71.62 319 P **P** **14 40 13.7 0.0**
comp=Z,5.3nm,0.9s,baz=326,slow=24,SNR=10
KIV Kislovodsk 71.85 319 ⇑*i*P **P** **14 40 17.1 +1.8**
KIV *e* 14 42 54.3
KIV *e*S **S** **14 49 29.6 -1.7**
KIV pmax pmax
comp=Z,6.0nm,1.1s
ASF Jabal al Asfar 71.86 306 P **P** **14 40 17.1 +1.5**
comp=Z,2.0nm,0.6s,baz=107,slow=5.5,SNR=4.7
EIL Elat 72.76 303 P **P** **14 40 22.5 +1.5**
comp=Z,3.4nm,0.6s,baz=65,slow=3.2,SNR=3.6
PETK Petropavlovsk- 73.67 31 P **P** **14 40 25.0 -0.8**
comp=Z,2.8nm,0.8s,baz=251,slow=7.5,SNR=4.5
PETK Petropavlovsk- 73.67 31 P **P** **14 40 25.0 -0.8**
BR131 Keskin Array S 76.64 312 *e*P **P** **14 40 42.6 -0.7**
comp=Z,0.8nm,0.4s
BRTR Keskin Array B 76.64 312 P **P** **14 40 43.8 +0.4**
comp=Z,1.7nm,0.5s,baz=142,slow=6.9,SNR=12
BRTR Keskin Array B 76.64 312 *ce*P **P** **14 40 43.7 +0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.5s
SEY Seymchan 76.97 21 ⇓*i*P **P** **14 40 44.1 -0.4**
VSR Storozhevoye 77.05 325 *d i*P **P** **14 40 45.0 -0.2**
VSR pmax pmax
comp=Z,19nm,0.8s
PRGR Permogore 78.77 336 *e*P **P** **14 40 51.8 -2.7**
PRGR *e**PP **PcP** **14 41 02.6 -0.5**
PRGR pmax pmax
comp=Z,17nm,0.3s
VNDA Vanda 79.40 169 P **P** **14 40 59.2 +1.4**
comp=Z,0.4nm,0.4s,baz=43,slow=4.8,SNR=5.8
KLMR Klimovskoe 80.97 334 *e*P **P** **14 41 05.6 -0.8**
KLMR pmax pmax
comp=Z,8.0nm,0.9s
AKASG Malin Array Be 82.78 322 P **P** **14 41 16.2 +0.1**
comp=Z,0.6nm,0.4s,baz=82,slow=4.7,SNR=5.0
BUR08 Bucovina Ar. S 84.59 319 *e*P **P** **14 41 25.9 +0.2**
FINES FINESS Array B 87.29 332 P **P** **14 41 39.1 +0.6**
comp=Z,2.4nm,0.4s,baz=121,slow=5.6,SNR=21
FINES FINESS Array B 87.29 332 *i*P **P** **14 41 39.0 +0.5**
FINES pmax pmax
comp=Z,2.0nm,0.4s
ARCES ARCESS Array B 89.49 340 P **P** **14 41 48.7 -0.1**
comp=Z,4.3nm,0.9s,baz=90,slow=7.3,SNR=6.9
SPITS Spitsbergen Ar 93.42 348 P **P** **14 42 05.9 -1.0**
comp=Z,3.9nm,0.8s,baz=104,slow=12,SNR=9.7
NOA NORSAR Array B 94.34 331 P **P** **14 42 11.1 -0.4**
comp=Z,0.5nm,0.7s,baz=92,slow=4.8,SNR=3.5
WMOK Wichita Mounta 144.00 30 *e*PKIKP **PKPab** **14 48 25.6 +0.3**
WMOK Wichita Mounta 144.00 30 *e*PKPdf **PKPab** **14 48 25.6 +0.3**
BDFB Brasilia 144.54 235 PKP **PKPdf** **14 48 30.2 +0.8**
comp=Z,2.9nm,0.4s,baz=36,slow=4.0,SNR=3.9
TXAR Lajitas Array 145.03 42 PKP **PKPdf** **14 48 29.9 -0.1**
comp=Z,5.7nm,0.8s,baz=269,slow=1.2,SNR=40
WCI Wyandotte Cave 145.40 12 *e*PKIKP **PKPbc** **14 48 29.6 -0.6**
WCI Wyandotte Cave 145.40 12 *e*PKPdf **PKPbc** **14 48 29.6 -0.6**
JCT Junction City 146.68 36 *e*PKP2 **PKPbc** **14 48 34.4 +0.1**
JCT Junction City 146.68 36 *e*PKPbc **PKPbc** **14 48 34.4 +0.1**

CSEM ***04*** *14:30:39.1±0.2, 60.69°N×5.58°E, h1km, ML1.5, Error ellipse: s-maj=5.5km s-min=3.5km az=103.0, Suspected Mining explosion.*

NAO ***04*** *14:30:44.2±4.4, 60.81°N×6.10°E, ML1.7*

BER 04 14:30:40.4±3.1, 60.68°N×5.57°E, h0km, MD1.6, ML1.5, ML1.7(NAO)**, Suspected explosion, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASK	**Askoy**	**0.27**	**223**	*e*P		Pg	14 30 45.0	-0.6
ASK				*e*S		Sg	14 30 49.0	-0.2
ASK				IAML			14 30 50.6	
	comp=Z,26nm,0.3s						
RUND	**Rundenannen**	**0.29**	**201**	*e*P		Pg	14 30 44.3	-1.7
RUND				*e*S		Sg	14 30 49.0	-0.8
RUND				IAML			14 30 51.2	
	comp=Z,35nm,0.4s						
RUND	**Rundenannen**	**0.29**	**201**	*e*P		Pg	14 30 44.3	-1.7
	SNR=91						
RUND				*e*S		Sg	14 30 49.0	-0.8
	SNR=91						
SUE	**Sulen**	**0.55**	**314**	*e*P		Pg	14 30 49.0	-1.8
SUE				*e*S		Sg	14 30 56.8	-1.1
SUE	**Sulen**	**0.55**	**314**	*e*P		Pg	14 30 49.0	-1.9
	SNR=90						
SUE				*e*S		Sg	14 30 56.8	-1.1
	SNR=90						
HYA	**Hoyanger**	**0.57**	**32**	*e*P		Pg	14 30 50.2	-1.1
HYA				*e*S		Sg	14 30 58.4	-0.3
HYA				IAML			14 31 06.5	
	comp=Z,24nm,0.7s						
HYA	**Hoyanger**	**0.57**	**32**	*e*P		Pg	14 30 50.2	-1.1
	SNR=90						
HYA				*e*S		Sg	14 30 58.4	-0.3
	SNR=90						
BLS5	**Blasjo**	**1.34**	**160**	*e*P		Pg	14 31 04.8	-1.3
BLS5				*e*S		Sg	14 31 23.4	-0.1
BLS5	**Blasjo**	**1.34**	**160**	*e*P		Pg	14 31 04.8	-1.3
	SNR=70						
BLS5				*e*S		Sg	14 31 23.4	-0.1
	SNR=70						
KMY	**Karmoy**	**1.48**	**186**	*e*S		Sg	14 31 25.5	-2.5
KMY	**Karmoy**	**1.48**	**186**	*e*S		Sg	14 31 25.5	-2.5
	SNR=50						
AKN	**Aaknes**	**1.65**	**24**	Pg		Pn	14 31 09.4	-1.2
AKN				Lg		Lg	14 31 31.0	
AKN	**Aaknes**	**1.65**	**24**	*e*P		Pn	14 31 09.3	-1.3
AKN				*e*S		Sn	14 31 30.6	-1.9
AKN				IAML			14 31 32.9	
	comp=Z,34nm,0.5s						
AKN	**Aaknes**	**1.65**	**24**	*e*P		Pn	14 31 09.4	-1.3
	SNR=50						
AKN				*e*S		Sn	14 31 30.6	-2.0
	SNR=50						
AKN				Lg		Lg	14 31 31.0	
NB2	**NORSAR Subarra**	**2.78**	**80**	Pn		Pn	14 31 28.0	+1.7
	baz=267,slow=16						
NB2				Lg		Lg	14 32 04.6	
	baz=264,slow=37						
NB2	**NORSAR Subarra**	**2.78**	**80**	Pn		Pn	14 31 28.0	+1.7
	baz=267,slow=16						
NB2				Lg		Lg	14 32 04.6	
	baz=264,slow=37						
NB2	**NORSAR Subarra**	**2.78**	**80**	Pn		Pn	14 31 28.0	+1.7
	SNR=6.4						
NB2				Lg		Lg	14 32 04.6	
	SNR=4.8						
HFS	**Hagfors**	**4.07**	**94**	Sn		Sn	14 32 28.2	-3.9
	baz=285,slow=22						
HFS				Lg		Lg	14 32 42.7	
	baz=286,slow=37						
HFS	**Hagfors**	**4.07**	**94**	Sn		Sn	14 32 28.2	-3.9
	baz=285,slow=22						
HFS				Lg		Lg	14 32 42.7	
	baz=286,slow=37						
HFS	**Hagfors**	**4.07**	**94**	Sn		Sn	14 32 28.2	-3.9
	SNR=50						
HFS				Lg		Lg	14 32 42.7	
	SNR=3.9						

IDC ***04*** *15:12:37.9±0.4, 9.60S×108.19E, h0km, mb4.7/23, mb1 4.8/26, mb1mx4.7/37, mbtmp4.7/26, ML4.4/3, MS4.4/28, Ms1 4.4/28, ms1mx4.2/38, Error ellipse: s-maj=16.4km s-min=10.7km az=68.0*

ISCJB ***04*** *15:12:41.9±0.5, 9.75S±0.03×108.20E±0.03, h42km±4km, mb4.9/84, MS4.5/31, Error ellipse: s-maj=5.8km s-min=3.8km az=27.2*

KLM ***04*** *15:12:42.1, 9.42S×107.08E, h109km, mb4.9, ML4.5, MS5.5*

NEIC ***04*** *15:12:43.0±0.3, 9.56S×108.28E, h35km, mb5.0/31, Error ellipse: s-maj=7.8km s-min=5.7km az=50.0*

GCMT ***04*** *15:12:43.0±0.3, 10.12S×108.11E, h14km, MW5.1/72, Moment Tensor Solution. s49,c69; s72,c115; Duration: 0 Moment tensor: Scale 10^16 Nm; Mr=3.21±.14; Mθθ=2.61±.10; Mφφ=0.59±.10; Mrθ=3.45±.30; Mrφ=1.14±.07; Mθφ=1.78±.29; Best double couple: Mo=5.01000×10^16 NP1:φs117.00000°, δ70.00000°, λ91.00000°. NP2: φs292.00000°, δ20.00000°, λ86.00000°. Principal axes: T 5.0550, Plg65.0000°, Azm29.0000°; N -0.0890, Plg1.0000°, Azm296.0000°; P -4.9650, Plg25.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

DJA ***04*** *15:12:44.0±0.8, 10°S±2°×10°8E±°, h19km±7km, M5.1/64, mb5.1/64, mB5.5/39, MLv5.3/29, Mw(mB)5.0/39, Mwp6.8/1*

MOS ***04*** *15:12:45.0±1.4, 9.42S×108.46E, h60km, mb5.3/38, MS4.6/5, Error ellipse: s-maj=12.3km s-min=5.6km az=112.5*

ISC 04 15:12:43.1±0.3, 9.72S±0.04×108.27E±0.04, h39km±3km, h39km:pP-P, n397, σ1§66/432, mb4.9/92, MS4.5/33, 57C-58D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**1.93**	**5**	P	**Pn**	**15 13 11.5**	**-2.0**
CMJI				S	**Sn**	**15 13 39.2**	**+2.7**
CISI	**Cisompet, Garu**	**2.19**	**348**	P	**Pn**	**15 13 14.8**	**-2.4**
CISI	**Cisompet, Garu**	**2.19**	**348**	*e*Pn	**Pn**	**15 13 15.1**	**-2.1**
CISI				*e*Sn	**Sn**	**15 13 38.6**	**-4.5**
CNJI	**Cibinong**	**2.64**	**335**	P	**Pn**	**15 13 20.3**	**-3.0**
CNJI				S	**Sn**	**15 13 56.8**	**+2.7**
UGM	**Wanagama**	**2.86**	**51**	P	**Pn**	**15 13 27.3**	**+1.0**
LEM	**Lembang**	**2.94**	**347**	Pn	**Pn**	**15 13 25.2**	**-2.3**
	77nm,0.3s,baz=250,slow=17,SNR=38						

LEM Sn **Sn** **15 14 03.5 +1.8**
234nm,0.3s,baz=139,slow=21,SNR=5.8
SKJI Sukabumi 3.18 328 P **Pn** **15 13 29.1 -1.6**
PCJI Pacitan 3.25 62 P **Pn** **15 13 33.8 +2.2**
PWJI Pagerwojo 3.88 65 P **Pn** **15 13 41.6 +1.3**
PWJI S **Sn** **15 14 24.7 0.0**
CGJI Cibinong 4.00 320 P **Pn** **15 13 41.1 -0.8**
SBJI Serang 4.15 329 P **Pn** **15 13 44.0 0.0**
UWJI Ujung Watu 4.22 39 P Pn 15 13 50.3 +5.4
TBJI Tambak Boyo 4.57 51 P Pn 15 13 54.5 +4.7
GRJI Gresik 5.01 57 P Pn 15 14 00.8 +4.9
245nm,1.0s,4μm1.9nm
KASI Kota Agung 5.60 318 P **Pn** **15 14 05.3 +1.4**
176nm,1.1s,4μm1.2nm
BLJI Banyuglugur 5.62 70 P Pn 15 14 08.0 +3.8
613nm,0.7s,3.2nm
KLI Kotabumi 5.89 325 P **Pn** **15 14 10.0 +2.1**
276nm,1.1s,4μm1.7nm
ABJI Asem Bagus 6.20 73 P Pn 15 14 15.8 +3.6
714nm,0.7s,8μm2.9nm
LWLI Liwa 6.26 318 P **Pn** **15 14 14.1 +1.0**
220nm,0.7s,7μm1.2nm
MDSI Maura Dua 6.59 322 P **Pn** **15 14 15.6 -2.0**
103nm,0.8s,2μm0.4nm
IGBI Denpasar 6.85 83 P **Pn** **15 14 23.4 +2.3**
531nm,0.7s,6μm2.6nm
DNP Denpasar 6.94 82 P Pn 15 14 25.9 +3.6
1μm,0.6s,23μm7.6nm
SRBI Singaraja 7.05 77 P **Pn** **15 14 26.4 +2.5**
537nm,0.8s,5μm2.3nm
LHSI Lahat 7.51 321 P Pn 15 14 34.6 +4.4
106nm,1.1s,0.6nm
PMBI Palembang 7.59 333 P Pn 15 14 48.7 +17
PBKI Pangkalan Bun 7.75 26 P Pn 15 14 39.3 +5.9
282nm,1.0s,0.9nm
PPBI Pangkal Pinang 7.80 344 P **Pn** **15 14 36.1 +1.9**
61nm,1.2s,0.3nm
MASI Maura Aman, Be 8.86 317 P **Pn** **15 14 50.5 +1.8**
380nm,1.4s,6μm
BBKI Banjar Baru 9.02 47 P Pn 15 15 01.1 +10
KBKI Kotabaru 10.11 51 P Pn 15 15 12.9 +7.0
STKI Sintang 10.23 18 P **Pn** **15 15 09.8 +2.3**
43nm,1.0s,8μm
TPRI Tanjung Pinang 11.20 340 P Pn 15 15 24.6 +3.8
33nm,0.9s,20μm
KSM Kuching 11.30 10 ⇑P **Pn** **15 15 24.1 +2.0**
KSM Kuching 11.30 10 *e*Pn **Pn** **15 15 20.2 -1.9**
25nm,1.1s
KSM *e*Sn **Sn** **15 17 24.0 -3.3**
WSI Waingapu 11.86 91 P **Pn** **15 15 29.2 -0.6**
421nm,0.6s
BKNI Bangkinang 12.30 324 P **Pn** **15 15 37.3 +1.5**
114nm,1.2s
KAPI Kappang 12.31 69 Pn **Pn** **15 15 38.6 +2.6**
358nm,1.4s,SNR=6.2
KAPI Kappang 12.31 69 Pn **Pn** **15 15 37.2 +1.2**
2.7nm,0.3s,baz=257,slow=8.6,SNR=16
KAPI LR LR 15 21 19.0
comp=Z,2μm,18.8s,baz=246,slow=42
KAPI Kappang 12.31 69 *e*Pn **Pn** **15 15 37.0 +1.0**
BKSI Bulukumba 12.54 70 P **Pn** **15 15 40.9 +1.8**
93nm,0.9s,1μm
BSSI Bau Bau, Buton 12.62 75 P **Pn** **15 15 41.1 +0.9**
216nm,1.1s,2μm
SBUM Sibu 12.71 18 ⇑P **Pn** **15 15 44.3 +2.9**
SBUM Sibu 12.71 18 *e*Pn **Pn** **15 15 42.0 +0.5**
SPSI Sidrap Palu 12.77 64 P **Pn** **15 15 43.6 +1.4**
64nm,1.1s,1μm
TTSI Tana Toraja 13.25 61 P Pn 15 15 52.6 +3.7
82nm,1.1s,1μm
MNSI Mandailing Nat 13.56 320 P **P** **15 16 01.8 +0.4**
BTM Bintulu 13.70 21 ⇑P P 15 15 59.4 -3.5
MMRI Maumere 13.84 87 Pn **Pn** **15 15 54.9 -1.9**
PCI Palu 14.46 53 P **P** **15 16 08.8 -2.6**
103nm,1.1s,2μm
GSI Gunungsitoli 15.27 315 P **P** **15 16 23.2 +2.8**
MPSI Mapaga 15.29 50 P **P** **15 16 19.2 -1.4**
57nm,1.0s,862nm
KDI Kendari 15.35 69 P sP 15 16 34.1 -2.0
PSI Prapat 15.53 323 Pn **Pn** **15 16 15.6 -4.0**
1.2nm,0.3s,baz=152,slow=5.9,SNR=4.0
PSI LR LR 15 23 44.0
comp=Z,4μm,20.1s,baz=146,slow=44
PSI Prapat 15.53 323 P **Pn** **15 16 15.6 -4.0**
PSI pmax pmax
comp=Z,15nm,0.7s
PSI Prapat 15.53 323 Pn **Pn** **15 16 15.6 -4.0**
comp=Z,15nm,0.7s
SOEI Soe 15.77 91 P **Pn** **15 16 23.8 +1.1**
comp=Z,114nm,0.8s,comp=Z,2μm
SOEI Soe 15.77 91 *e*Pn **Pn** **15 16 21.7 -1.0**
comp=Z,251nm,1.2s
IPM Ipoh 15.84 333 *e*Pn **Pn** **15 16 20.3 -3.1**
comp=Z,18nm,0.8s
MBWA Marble Bar 15.85 137 *e*Pn **Pn** **15 16 19.0 -4.5**
APSI Ampana 15.93 57 P P 15 16 35.0 +7.3
LUWI Luwuk 16.81 60 P sP 15 16 52.2 0.0
LUWI Luwuk 16.81 60 *e*Pn **Pn** **15 16 33.6 -2.1**
comp=Z,69nm,0.9s
TSM Tawau 16.89 35 ⇑P **P** **15 16 38.2 -0.2**
MRSI Marisa 16.97 54 P **P** **15 16 41.2 +2.0**
comp=Z,118nm,0.9s,comp=Z,1μm
KKM Kota Kinabalu 17.55 27 ⇑P **Pn** **15 16 43.9 -1.1**
KKM Kota Kinabalu 17.55 27 *e*Pn **Pn** **15 16 41.0 -4.0**
comp=Z,30nm,1.0s
KDM Kudat 18.60 28 ⇑P **P** **15 16 56.0 -1.2**
SANI Sanana 19.19 68 P **Pn** **15 17 09.1 +4.1**
comp=Z,142nm,0.9s,comp=Z,1μm
NLAI Namlea 19.78 72 P **Pn** **15 17 14.2 +2.2**
comp=Z,75nm,1.0s,comp=Z,1μm
SURT Suratani 20.81 333 P Pn 15 17 28.5 +4.5
TNTI Ternate 21.68 62 P **P** **15 17 33.0 +2.2**
comp=Z,183nm,1.3s,comp=Z,4μm
TNTI Ternate 21.68 62 *e*P **P** **15 17 30.4 -0.3**
comp=Z,356nm,1.3s
CTBH Cotabato--PC H 23.16 44 ⇓*i*P **P** **15 17 47.6 +1.2**
SIJI Sorong 24.51 70 P **P** **15 17 59.7 +0.5**
comp=Z,29nm,0.9s,baz=317,slow=6.5,SNR=4.7
NWAO Narrogin (SRO) 24.54 162 P **P** **15 17 59.6 +0.5**
comp=Z,26nm,0.9s,baz=329,slow=11,SNR=6.3
FAKI Fak Fak 24.76 76 *e*P **P** **15 17 58.7 -2.7**
comp=Z,39nm,1.0s
SRDT SRDT 25.57 339 P **P** **15 18 10.9 +2.2**
comp=Z,55nm,1.4s,comp=Z,13μm
KHLT Khaolaem Dam 26.18 338 P **P** **15 18 16.9 +2.8**
comp=Z,24nm,0.9s,comp=Z,367nm
CHAI Chaiyaphum 26.20 346 P **P** **15 18 14.6 +0.2**
comp=Z,32nm,0.8s,comp=Z,259nm
SKNT Sakolnakorn 26.86 351 P **P** **15 18 23.5 +3.2**
comp=Z,39nm,1.7s
RKPI Ransiki, Papua 27.02 74 P **P** **15 18 26.2 +4.3**
comp=Z,82nm,1.0s,comp=Z,1μm
PBKT Sadao Pong 27.10 344 P **P** **15 18 22.3 -0.1**
comp=Z,49nm,0.8s,comp=Z,650nm
WRA Warramunga Arr 27.14 115 P **P** **15 18 23.4 +0.6**
comp=Z,16nm,0.9s,baz=286,slow=11,SNR=38
WRA PcP **PcP** **15 21 45.1 +2.1**
comp=Z,1.8nm,0.6s,baz=298,slow=2.0,SNR=6.1
WRAB Tennant Creek 27.14 115 P **P** **15 18 24.2 +1.3**
comp=Z,112nm,0.9s,SNR=7.3
WRAB Tennant Creek 27.14 115 ⇑*e*P **P** **15 18 24.4 +1.5**
WRAB pmax pmax
comp=Z,55nm,1.2s
WRAB Tennant Creek 27.14 115 *e*P **P** **15 18 22.8 -0.1**
comp=Z,16nm,0.9s
ASAR Alice Springs 28.14 123 P **P** **15 18 33.7 +1.9**
comp=Z,7.9nm,0.8s,baz=304,slow=9.0,SNR=29
ASAR PcP **PcP** **15 21 47.5 +2.0**
comp=Z,1.9nm,0.4s,baz=298,slow=2.0,SNR=16
ASAR LR LR 15 29 34.9
comp=Z,795nm,21.2s,baz=296,slow=36
AS31 Alice Springs 28.14 123 *e*P **P** **15 18 32.0 +0.2**
QIZ Qiongzhong 28.61 3 P **P** **15 18 37.6 +1.7**
QIZ S **S** **15 23 26.8 +4.9**
QIZ PMZ
comp=Z,11nm,1.6s
QIZ LN
comp=Z,2μm,15.8s
QIZ LZ
comp=Z,2μm,16.1s
CM31 Chiang Mai Arr 29.47 342 *e*P **P** **15 18 43.1 -0.4**
comp=Z,14nm,0.6s
CMAR Chiang Mai Arr 29.47 342 P **P** **15 18 43.4 -0.2**
comp=Z,16nm,0.6s,baz=175,slow=8.2,SNR=75
CMAR LR LR 15 32 48.2
comp=Z,3μm,18.4s,baz=174,slow=41

CHTO Chiang Mai 29.80 342 P **P** **15 18 46.3 -0.2**
comp=Z,203nm,0.9s,comp=Z,2μm
CHTO Chiang Mai 29.80 342 *e*P **P** **15 18 44.7 -1.9**
CHTO pmax pmax
comp=Z,35nm,0.9s
CHTO Chiang Mai 29.80 342 *e*P **P** **15 18 44.7 -1.9**
comp=Z,35nm,0.9s
CRAI Chiangrai 30.75 345 P **P** **15 18 52.3 -2.6**
comp=Z,18nm,1.1s
GZH Guangzhou 32.98 9 P P 15 19 18.3 +3.9
GZH S S 15 24 40.5 +10
GZH LN
comp=Z,1μm,12.7s
GZH LE
comp=Z,2μm,13.0s
COEN Coen 34.41 100 *e*P **P** **15 19 26.3 -0.8**
comp=Z,42nm,1.6s
BBOO Buckleboo 34.43 136 *e*P **P** **15 19 26.5 -0.5**
comp=Z,112nm,2.0s
KMI Kunming 35.05 351 P **P** **15 19 32.6 0.0**
KMI pP **pP** **15 19 44.2 +0.6**
KMI sP **sP** **15 19 49.7 +1.4**
KMI PP **PP** **15 20 57.2 +4.5**
KMI S **S** **15 25 07.5 +4.9**
KMI PMZ
comp=Z,13nm,1.4s
KMI PMZ
comp=Z,320nm,7.0s
KMI LN
comp=Z,4μm,14.1s
KMI LE
comp=Z,2μm,14.7s
KMI LZ
comp=Z,4μm,14.1s
YULB Yu-li 35.29 21 *e*P **P** **15 19 34.7 +0.2**
comp=Z,21nm,0.8s
H08S2 Diego Garcia H 35.41 270 T T 15 56 58.1
baz=96,slow=75,SNR=19
H08S3 Diego Garcia H 35.42 270 T T 15 57 01.2
baz=96,slow=75,SNR=16
H08S1 Diego Carcia H 35.43 270 T T 15 56 55.5
baz=96,slow=75,SNR=16
SSLB Suanglung 35.54 20 P P 15 19 33.5 -3.1
comp=Z,54nm,0.8s
QZH Quanzhou 35.89 16 P **P** **15 19 40.0 +0.4**
QZH S **S** **15 25 16.4 +1.3**
QZH LN
comp=Z,2μm,12.6s
QZH LE
comp=Z,2μm,11.8s
QZH LZ
comp=Z,2μm,12.7s
GYA Guiyang 35.99 358 P **P** **15 19 42.8 +2.2**
GYA pP **pP** **15 19 52.6 +1.0**
GYA PP **PP** **15 21 07.0 +4.0**
GYA PcP **PcP** **15 22 06.2 -0.6**
GYA S **S** **15 25 21.4 +4.5**
GYA sS **sS** **15 25 38.6 +3.4**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.9s
GYA LN
comp=Z,520nm,17.6s
GYA LE
comp=Z,490nm,18.2s
GYA LZ
comp=Z,540nm,17.4s
CHLP Challavanipeta 36.84 320 *e*P **P** **15 19 47.2 -0.6**
CHLP IAmb IAmb 15 19 52.6
comp=Z,12nm,0.9s
PVM Polavaram 37.57 315 *e*P **P** **15 19 53.7 -0.3**
PVM IAmb IAmb 15 19 58.8
comp=Z,13nm,0.8s
PVM *e*S **S** **15 25 39.9 -1.0**
ADKI Addanki 37.82 312 *e*P **P** **15 19 56.1 0.0**
ADKI IAmb IAmb 15 20 01.3
comp=Z,17nm,0.9s
STKA Stephens Creek 37.92 130 P **P** **15 19 59.0 +2.1**
comp=Z,31nm,0.8s,baz=302,slow=8.2,SNR=66
STKA LR LR 15 38 44.6
comp=Z,1μm,18.0s,baz=298,slow=41
STKA Stephens Creek 37.92 130 P **P** **15 19 59.0 +2.1**
CTA Charters Tower 38.05 110 P **P** **15 19 59.6 +1.5**
comp=Z,6.4nm,0.7s,baz=280,slow=12,SNR=9.5
RCLA Racherla 38.32 310 *e*P **P** **15 20 00.4 -0.1**
RCLA IAmb IAmb 15 20 07.7
comp=Z,128nm,2.0s
PMG Port Moresby 38.34 93 ⇓*e*P **P** **15 20 01.7 +1.1**
PMG pmax pmax
comp=Z,154nm,2.5s
SHL Shillong 38.53 336 *e*P **P** **15 20 03.0 +0.8**
NJS Nagarjunasagar 38.76 312 *e*P **P** **15 20 04.9 +0.8**
SRLM Srisailam 38.77 311 *e*P **P** **15 20 04.7 +0.5**
SRLM IAmb IAmb 15 20 16.1
comp=Z,30nm,1.3s
HYB Hyderabad 39.86 312 *i* P **P** **15 20 14.0 +0.7**
HYBB Hyderabad (bro 39.87 312 *e*P **P** **15 20 13.0 -0.4**
RPR Rampur 40.28 315 *e*P **P** **15 20 16.8 +0.1**
RPR IAmb IAmb 15 20 29.2
comp=Z,31nm,1.4s
CD2 Chengdu 40.63 354 *e*P **P** **15 20 19.4 -0.1**
CD2 pP **pP** **15 20 29.5 -1.1**
CD2 sP **sP** **15 20 33.9 -1.3**
CD2 S **S** **15 26 29.6 +2.9**
CD2 sS **sS** **15 26 46.8 +1.7**
CD2 PMZ
comp=Z,50nm,0.6s
CD2 PMZ
comp=Z,290nm,5.1s
CD2 LN
comp=Z,1μm,15.2s
CD2 LE
comp=Z,3μm,17.6s
CD2 LZ
comp=Z,2μm,16.6s
SRSP Sriramsagar 41.00 314 *e*P **P** **15 20 22.4 -0.2**
SRSP IAmb IAmb 15 20 28.7
comp=Z,14nm,0.9s
JOW Kunigami 41.20 28 LR LR 15 39 02.0
comp=Z,57nm,21.0s,slow=38
ODAN Odare 41.62 331 *e*P **P** **15 20 28.0 0.0**
comp=Z,90nm,0.7s
KLRI Killari 41.71 311 *e*P **P** **15 20 26.3 -2.3**
KLRI IAmb IAmb 15 20 30.5
comp=Z,46nm,1.5s
TAPN Taplejung 41.89 332 *e*P **P** **15 20 30.6 +0.4**
comp=Z,126nm,0.9s
RAMN Ramite 42.08 331 *e*P **P** **15 20 32.0 +0.3**
comp=Z,31nm,0.6s
SSE Sheshan 42.43 17 P **P** **15 20 35.2 +1.0**
SSE pP **pP** **15 20 45.8 +0.5**
SSE sP **sP** **15 20 51.7 +1.7**
SSE S **S** **15 26 57.9 +4.6**
SSE sS sS 15 27 17.7 +5.9
SSE PMZ
comp=Z,27nm,1.2s
SSE PMZ
comp=Z,190nm,6.5s
SSE LN
comp=Z,740nm,16.3s
SSE LE
comp=Z,580nm,16.3s
SSE LZ
comp=Z,690nm,15.9s
LSA Lhasa 42.52 338 P **P** **15 20 35.7 +0.2**
LSA Lhasa 42.52 338 *e*P **P** **15 20 35.0 -0.5**
LSA pmax pmax
comp=Z,35nm,0.8s
LSA Lhasa 42.52 338 *e*P **P** **15 20 35.0 -0.5**
comp=Z,35nm,0.8s
NJ2 Nanjing 42.75 13 *e*P **P** **15 20 38.4 +1.7**
NJ2 pP **pP** **15 20 46.7 -1.2**
NJ2 sP **sP** **15 20 49.1 -3.5**
NJ2 S **S** **15 27 01.0 +3.0**
NJ2 PMZ
comp=Z,40nm,1.0s
NJ2 PMZ
comp=Z,740nm,4.8s
NJ2 LN
comp=Z,850nm,10.9s
NJ2 LE
comp=Z,3μm,13.6s
NJ2 LZ
comp=Z,3μm,13.9s
JIRN Jiri 42.87 331 *e*P **P** **15 20 38.5 +0.2**
comp=Z,114nm,0.7s
GUMO Guam 43.08 58 LR LR 15 40 50.3
comp=Z,84nm,18.4s,baz=224,slow=39
PKI Pulchoki 43.18 330 *e*P **P** **15 20 40.4 -0.3**
comp=Z,14nm,0.6s
GUN Gumba 43.23 331 *e*P **P** **15 20 41.3 +0.2**
comp=Z,71nm,0.6s
DMN Daman 43.36 329 *e*P **P** **15 20 41.6 -0.5**
comp=Z,80nm,0.9s
KKN Kakani 43.42 330 *e*P **P** **15 20 42.3 -0.3**
comp=Z,66nm,0.9s
XAN Xi'an 43.52 1 P **P** **15 20 42.8 -0.2**
XAN pP **pP** **15 20 52.4 -1.8**
XAN sP **sP** **15 20 57.2 -1.6**
XAN S **S** **15 27 10.3 +1.0**
XAN ScS SS 15 30 32.8 +7.7
XAN PMZ
comp=Z,13nm,0.9s
XAN PMZ
comp=Z,80nm,6.8s
XAN LN
comp=Z,1μm,16.4s
XAN LE
comp=Z,490nm,18.4s
XAN LZ
comp=Z,830nm,16.4s
GKN Gorkha 43.92 329 *e*P **P** **15 20 46.4 -0.1**
KOLN Koldanda 44.26 328 *e*P **P** **15 20 49.1 -0.2**
comp=Z,32nm,0.6s
LZH Lanzhou 45.75 355 ⇑P **P** **15 21 01.8 +0.9**
LZH pP **pP** **15 21 09.5 -2.7**
LZH sP **sP** **15 21 14.8 -2.0**
LZH PP **PP** **15 22 51.1 +2.4**
LZH S **S** **15 27 44.4 +2.5**
LZH sS **sS** **15 28 01.0 +0.5**
LZH PMZ
comp=Z,47nm,1.2s
LZH PMZ
comp=Z,270nm,4.5s
LZH LN
comp=Z,2μm,14.8s
LZH LE
comp=Z,2μm,13.8s
LZH LZ
comp=Z,3μm,15.4s
TIA Tai'an 46.44 10 ⇓P **P** **15 21 06.0 -0.1**
TIA pP **pP** **15 21 13.6 -3.8**
TIA PMZ
comp=Z,30nm,0.8s
TIA PMZ
comp=Z,300nm,4.9s
TIA LN
comp=Z,820nm,17.2s
TIA LE
comp=Z,2μm,16.1s
TIA LZ
comp=Z,820nm,18.4s
TIY Taiyuan 47.34 4 *e*P **P** **15 21 13.4 +0.1**
TIY S **S** **15 28 06.8 +2.3**
TIY PMZ
comp=Z,280nm,8.0s
TIY LN
comp=Z,600nm,13.3s
TIY LE
comp=Z,1μm,13.1s
TIY LZ
comp=Z,920nm,16.1s
JNU Nakatsue 47.74 26 P **P** **15 21 15.3 -1.1**
comp=Z,4.7nm,0.6s,baz=212,slow=1.9,SNR=8.5
JNU LR LR 15 44 34.0
comp=Z,280nm,18.1s,baz=220,slow=40
JNU Nakatsue 47.74 26 P **P** **15 21 15.3 -1.1**
comp=Z,1.4nm,1.0s
GTA Gaotai 49.50 351 ⇑P **P** **15 21 31.0 +1.0**
GTA pP **pP** **15 21 40.9 -0.4**
GTA sP **sP** **15 21 44.9 -1.0**
GTA S **S** **15 28 37.8 +2.8**
GTA sS **sS** **15 28 53.7 -0.1**
GTA SS **SS** **15 32 06.6 -1.1**
GTA PMZ
comp=Z,15nm,2.4s
GTA PMZ
comp=Z,410nm,7.1s
GTA LN
comp=Z,1μm,17.6s
GTA LE
comp=Z,2μm,19.5s
GTA LZ
comp=Z,1μm,17.6s
DL2 Dalian 49.95 14 P **P** **15 21 30.9 -2.3**
DL2 S **S** **15 28 39.8 -1.2**
DL2 PMZ
comp=Z,170nm,8.4s
DL2 LN
comp=Z,560nm,13.9s
DL2 LZ
comp=Z,580nm,17.8s
BJI Beijing 50.05 8 P **P** **15 21 34.4 +0.5**
BJI PP **PP** **15 23 30.9 +1.6**
BJI S **S** **15 28 43.6 +1.4**
BJI PMZ
comp=Z,14nm,1.0s
BJI PMZ
comp=Z,300nm,5.7s
BJI LN
comp=Z,1μm,15.9s
BJI LE
comp=Z,2μm,15.6s
BJI LZ
comp=Z,710nm,17.2s
BTO Baotou 50.10 2 *e*P **P** **15 21 34.7 +0.3**
KSAR Wonju Array Be 50.39 20 P **P** **15 21 35.9 -0.7**
KSAR Wonju Array Be 50.39 20 P **P** **15 21 35.9 -0.7**
HHC Hu-ho-hao-te 50.41 3 *e*P **P** **15 21 37.3 +0.5**
HHC pP **pP** **15 21 46.1 -2.0**
HHC sP **sP** **15 21 52.2 -0.5**
HHC PP **PP** **15 23 34.6 +1.8**
HHC S S 15 28 53.8 +6.3
HHC sS **sS** **15 29 06.4 +0.1**
HHC SS **SS** **15 32 23.7 +1.7**
HHC PMZ
comp=Z,28nm,1.1s
HHC PMZ
comp=Z,300nm,7.3s
HHC LN
comp=Z,840nm,14.4s
HHC LE
comp=Z,1μm,14.4s
HHC LZ
comp=Z,880nm,14.7s
KSRS Korea Array 50.41 20 P **P** **15 21 35.9 -0.8**
comp=Z,2.9nm,0.8s,baz=205,slow=7.0,SNR=18
KSRS LR LR 15 45 41.7
comp=Z,183nm,18.2s,baz=240,slow=39
MAJO Matsushiro 53.95 30*c* *i*P **P** **15 22 01.1 -2.0**
MAJO pmax pmax
comp=Z,127nm,2.5s
MAJO Matsushiro 53.95 30 *e*P **P** **15 22 00.8 -2.2**
comp=Z,13nm,1.0s
MAT Matsushiro 53.95 30 P **P** **15 22 01.0 -2.1**
MAT S **S** **15 29 32.2 -3.9**
MJAR Matsushiro Arr 53.95 30 P **P** **15 22 01.2 -1.9**
comp=Z,8.1nm,0.9s,baz=212,slow=8.3,SNR=22
MJAR LR LR 15 44 40.4
comp=Z,140nm,21.4s,baz=215,slow=36
WMQ Urumqi 56.47 342 P **P** **15 22 22.2 +1.0**
WMQ pP **pP** **15 22 31.2 -1.5**
WMQ sP **sP** **15 22 36.2 -1.1**
WMQ PcP **PcP** **15 23 16.7 -1.0**
WMQ PP **PP** **15 24 28.7 +1.4**
WMQ PcS **PcS** **15 27 17.0 -1.3**
WMQ S **S** **15 30 09.5 -0.2**
WMQ ScS **ScS** **15 32 03.6 -3.8**
WMQ PMZ
comp=Z,6.0nm,0.9s
WMQ PMZ
comp=Z,380nm,6.1s
WMQ LN
comp=Z,760nm,17.0s
WMQ LE
comp=Z,810nm,15.7s
WMQ LZ
comp=Z,370nm,20.5s
DZM Mont Dzumac 56.99 110 *e*S **S** **15 30 16.3 -1.1**
comp=Z,454nm,27.6s
DZM *e*LR LR 15 39 12.4

comp=Z,819nm,23.4s
SONM Songino Array 57.32 359 P **P** **15 22 27.7 +0.5**
comp=Z,5.0nm,0.6s,baz=176,slow=7.3,SNR=30
SONM LR LR 15 48 47.5
comp=Z,1μm,21.9s,baz=184,slow=38
MDJ Mudanjiang 57.42 18 P **P** **15 22 28.3 +0.5**
MDJ pP **pP** **15 22 37.9 -1.4**
MDJ S **S** **15 30 25.2 +3.2**
MDJ PMZ
comp=Z,6.0nm,1.3s
MDJ PMZ
comp=Z,160nm,5.2s
MDJ LN
comp=Z,280nm,17.0s
MDJ LE
comp=Z,130nm,14.7s
MDJ LZ
comp=Z,330nm,19.4s
KSH Kashi 57.43 331 P **P** **15 22 27.6 -0.5**
KSH pP **pP** **15 22 38.2 -1.5**
KSH S **S** **15 30 21.8 -0.8**
KSH sS **sS** **15 30 41.6 -0.1**
KSH PMZ
comp=Z,11nm,0.7s
KSH PMZ
comp=Z,160nm,4.7s
KSH LN
comp=Z,170nm,6.7s
KSH LE
comp=Z,140nm,9.5s
KSH LZ
comp=Z,170nm,5.4s
KBL Kabul 57.60 322 *e*P **P** **15 22 28.3 -1.3**
KBL pmax pmax
comp=Z,11nm,0.9s
KBL Kabul 57.60 322 *e*P **P** **15 22 28.3 -1.3**
comp=Z,11nm,0.9s
USRK Ussuriysk Ar. 57.82 20 P **P** **15 22 30.4 -0.2**
comp=Z,4.7nm,0.9s,baz=232,slow=9.4,SNR=7.6
USRK LR LR 15 50 12.5
comp=Z,352nm,18.1s,baz=215,slow=39
SFK Sufi-Kurgan 59.03 329 P **P** **15 22 38.8 -0.6**
SFK pmax pmax
comp=Z,26nm,0.7s
OPO Ambohidratompo 59.65 254 LR LR 15 45 13.3
comp=Z,204nm,18.1s,baz=84,slow=33
ZAK Zakamensk 60.01 356 *e*P P 15 22 42.2 -3.6
ZAK pmax pmax
comp=Z,5.0nm,1.2s
TKM2 Tokmak 2 60.28 333 P **P** **15 22 46.8 -1.2**
TKM2 pmax pmax
comp=Z,14nm,0.7s
TKM2 Tokmak 2 60.28 333 P **P** **15 22 45.5 -2.5**
comp=Z,16nm,0.6s
AAK Ala-Archa 60.55 332 LR LR 15 54 36.7
comp=Z,397nm,18.2s,baz=136,slow=42
AAK Ala-Archa 60.55 332⇑ *e*P **P** **15 22 51.1 +1.3**
AAK pmax pmax
comp=Z,8.0nm,1.0s
AAK Ala-Archa 60.55 332 *e*P **P** **15 22 47.3 -2.6**
comp=Z,9.4nm,1.0s
ERM Erimo 60.61 29⇑ *e*P **P** **15 22 51.0 +1.1**
ERM pmax pmax
comp=Z,26nm,1.7s
FRU Bishkek 60.65 332 *e*P P 15 22 40.0 -10
MK31 Makanchi Array 60.85 340 *i* P **P** **15 22 51.1 -0.5**
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MK31 Makanchi Array 60.85 340 *e*P **P** **15 22 50.7 -0.9**
MKAR Makanchi Array 60.85 340 P **P** **15 22 51.5 0.0**
comp=Z,11nm,0.6s,baz=147,slow=7.3,SNR=67
MKAR LR LR 15 52 32.9
comp=Z,435nm,18.4s,baz=150,slow=39
MKAR Makanchi Array 60.85 340 *e*P **P** **15 22 51.1 -0.5**
MKAR Makanchi Array 60.85 340 *e*P **P** **15 22 51.1 -0.5**
EKS2 Erkin-Say 60.91 331 *e*P **P** **15 22 50.7 -1.5**
EKS2 pmax pmax
comp=Z,7.0nm,0.7s
EKS2 Erkin-Say 60.91 331 *e*P **P** **15 22 50.7 -1.5**
comp=Z,6.6nm,0.7s
TLY Talaya 61.28 357 *e*P **P** **15 22 55.1 +0.8**
TLY *e* 15 23 43.8
TLY *e*S **S** **15 31 13.4 +1.7**
TLY pmax pmax
comp=Z,7.0nm,1.1s
MNAS Manas 61.39 331 P **P** **15 22 55.0 -0.5**
MNAS pmax pmax
comp=Z,20nm,1.7s
MOY Mondy 61.46 355 *e*P **P** **15 22 56.7 +1.0**
MOY pmax pmax
comp=Z,38nm,2.7s
IRK Irkutsk 61.81 357 *e*P **P** **15 22 56.8 -1.1**
IRK pmax pmax
comp=Z,29nm,2.7s
HVS Khovu-Aksy 61.91 350⇓ *e*P P 15 22 55.6 -3.1
HVS pmax pmax
comp=Z,57nm,1.7s
ASAJ Asahikawa 61.97 27 *e*P **P** **15 22 58.4 -0.7**
comp=Z,3.4nm,0.9s
KLR Kul'dur 62.22 17 *e*P P 15 22 55.0 -5.7
HABR Khabarovsk 62.58 20 *e*P **P** **15 23 01.3 -1.8**
HABR *e**SP **sP** **15 23 15.0 -4.3**
HABR *e* 15 23 39.9
HABR *e* 15 25 18.4
HABR *e*PPP PPP 15 26 45.8
HABR *e*S **S** **15 31 26.4 -1.8**
HABR *e**SS **sS** **15 31 43.5 -4.0**
HABR *e* 15 32 50.2
HABR pmax pmax
comp=Z,24nm,1.8s
HABR pmax pmax
comp=N,14nm,1.8s
HABR pmax pmax
comp=E,14nm,1.8s
YSS Yuzh-Sakhalins 64.25 26⇑ *e*P **P** **15 23 13.2 -1.0**
YSS *e**SP **sP** **15 23 30.0 -0.4**
YSS *e*S **S** **15 31 46.0 -3.0**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS MLR MLR
comp=Z,400nm,15.0s
YSS Yuzh-Sakhalins 64.25 26 *e*P **P** **15 23 13.8 -0.4**
comp=Z,43nm,1.1s
IMYA Miami 64.41 318 *e*P **P** **15 23 16.0 +0.3**
IBAF Bafgh 65.01 312 *e*P **P** **15 23 20.2 +0.5**
MAW Mawson 65.15 197 P **P** **15 23 19.8 0.0**
comp=Z,5.7nm,0.5s,baz=57,slow=4.5,SNR=24
MAW LR LR 15 46 58.0
comp=Z,188nm,20.6s,baz=50,slow=32
IPAY Payeh 65.20 318 *e*P **P** **15 23 21.7 +0.7**
IAKL Akhelmad 65.44 318 *e*P **P** **15 23 22.8 +0.2**
KURK Kurchatov 65.47 340 P **P** **15 23 22.5 +0.5**
comp=Z,50nm,1.2s,SNR=11
KURK Kurchatov 65.47 340 *e*P **P** **15 23 21.1 -0.9**
KURK pmax pmax
comp=Z,31nm,1.1s
KURK Kurchatov 65.47 340 *e*P **P** **15 23 21.1 -0.9**
comp=Z,31nm,1.1s
IMEH Mehriz 65.62 311 *e*P **P** **15 23 23.3 -0.5**
IKRD Kardeh 65.70 318 *e*P P 15 23 19.6 -4.6
ISRV Sarvestan 65.81 308 *e*P P 15 23 33.0 +7.8
OTUK Ortayu 65.86 335 P **P** **15 23 24.9 +0.2**
OTUK pmax pmax
comp=Z,8.0nm,0.7s
IPAR Pars 66.07 309 *e*P **P** **15 23 27.5 +0.7**
ICHK Chekchek 66.19 312 *e*P **P** **15 23 27.6 +0.2**
ZALV Zalesovo Beam 66.46 345 P **P** **15 23 27.8 -0.6**
comp=Z,4.0nm,0.5s,baz=151,slow=3.4,SNR=29
ZALV LR LR 15 55 56.3
comp=Z,505nm,19.4s,baz=248,slow=39
ISHV Shirvan 66.67 318 *e*P **P** **15 23 31.7 +1.4**
KRAR Krasnoyarsk 66.73 351⇑ *e*P **P** **15 23 30.2 +0.2**
KRAR pmax pmax
comp=Z,83nm,1.2s
IKAZ Kazeroun 66.98 308 *e*P **P** **15 23 32.7 +0.1**
BOD Bodaibo 67.46 3 *e*P **P** **15 23 34.8 +0.2**
BOD pmax pmax
comp=Z,12nm,1.4s
NVS Novosibirsk 67.67 345 *e*P **P** **15 23 35.5 -0.5**
NVS pmax pmax
comp=N,7.0nm,1.5s
NVS pmax pmax
comp=E,8.0nm,1.5s
NVS pmax pmax
comp=Z,14nm,1.5s

CLNS Chul'man 67.72 10 *e*P **P** **15 23 35.7 -0.7**
CLNS *e**PP **pP** **15 23 48.9 +0.8**
CLNS *e* 15 24 00.4
CLNS *e* 15 26 07.2
CLNS *e*PPP PPP 15 27 42.4
CLNS *e*S **S** **15 32 31.3 +0.2**
CLNS *e*SSS SSS 15 39 45.4
CLNS pmax pmax
comp=Z,21nm,1.1s
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,13nm,1.0s
CLNS pmax pmax
comp=Z,8.0nm,0.8s
CLNS pmax pmax
comp=N,9.0nm,1.2s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS smax smax
comp=N,196nm,12.5s
CLNS smax smax
comp=E,129nm,12.0s
CLNS MLR MLR
comp=E,297nm,11.0s
IANJ Anjilo 68.15 314 *e*P **P** **15 23 39.8 0.0**
NKL Nikolayevsk 68.45 20 *e*P **P** **15 23 40.0 -0.9**
NKL *e* 15 32 42.0
NKL pmax pmax
comp=Z,400nm,6.0s
NKL pmax pmax
comp=Z,22nm,1.0s
ISHM Shahmirzad 68.76 314 *e*P **P** **15 23 43.7 +0.1**
ILAS Lasjerd 68.79 314 *e*P **P** **15 23 45.4 +1.6**
IPIR Pirpir 69.02 310 *e*P **P** **15 23 44.2 -1.1**
IDMV Damavand 69.54 314 *e*P **P** **15 23 49.3 +0.8**
IPRN Peran 69.65 314 *e*P **P** **15 23 49.5 +0.5**
RAYN Ar Rayn 69.66 299 P **P** **15 23 48.1 -1.1**
comp=Z,9.5nm,1.2s
IR3 Iran Long-Peri 70.21 313 *e*P **P** **15 23 53.6 +1.2**
BVA0 Borovoye Array 70.34 337 P **P** **15 23 53.0 +0.3**
BVA0 pmax pmax
comp=Z,15nm,1.1s
BVAR Borovoye Array 70.34 337 P **P** **15 23 51.1 -1.5**
comp=Z,5.9nm,0.6s,baz=140,slow=7.6,SNR=29
BVAR LR LR 15 59 44.4
comp=Z,493nm,18.6s,baz=150,slow=40
BRVK Borovoye 70.41 337*c**e*P **P** **15 23 52.8 -0.3**
BRVK pmax pmax
comp=Z,12nm,1.2s
BRVK Borovoye 70.41 337 *e*P **P** **15 23 52.2 -0.9**
comp=Z,11nm,0.9s
IMHD Mahdasht 70.57 313 *e*P **P** **15 23 56.5 +2.0**
IRAZ Razeghan 70.97 313 *e*P **P** **15 23 57.8 +0.6**
KMBO Kilima Mbogo 71.10 272 LR LR 15 51 45.0
comp=Z,254nm,19.1s,baz=100,slow=33
AB31 Akbulak array 72.37 329 P **P** **15 24 04.7 -0.3**
AB31 pmax pmax
comp=Z,13nm,0.8s
ABKAR Akbulak array 72.37 329 *e*P **P** **15 24 04.8 -0.2**
VNDA Vanda 73.08 169 P **P** **15 24 10.1 +1.2**
comp=Z,3.0nm,1.0s,baz=334,slow=6.2,SNR=11
VNDA LR LR 15 50 34.3
comp=Z,158nm,20.6s,baz=293,slow=31
SYO Syowa Base 73.40 201⇑ *e*P **P** **15 24 09.0 -1.8**
SYO Syowa Base 73.40 201⇑ *e*pP pP 15 24 19.8 -2.9
YAK Yakutsk 73.45 10 *e*P **P** **15 24 10.8 -0.3**
YAK *e* 15 24 26.4
YAK *e* 15 26 49.3
YAK *e*PPP PPP 15 28 38.0
YAK *e*S **S** **15 33 36.3 -1.2**
YAK *e* 15 34 14.8
YAK *e*SS SS 15 38 11.2 -10
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=Z,106nm,4.2s
YAK pmax pmax
comp=N,65nm,3.5s
YAK pmax pmax
comp=E,23nm,2.2s
YAK smax smax
comp=E,60nm,3.3s
YAK smax smax
comp=N,171nm,4.6s
YAK MLR MLR
comp=N,601nm,14.0s
YAK MLR MLR
comp=Z,503nm,14.0s
YAK Yakutsk 73.45 10 *e*P **P** **15 24 10.9 -0.3**
comp=Z,41nm,0.7s
PETK Petropavlovsk- 75.36 28 P **P** **15 24 22.8 +0.4**
comp=Z,4.5nm,0.5s,baz=188,slow=4.2,SNR=20
PETK LR LR 15 56 30.6
comp=Z,118nm,21.8s,baz=245,slow=35
PET Petropavlovsk 75.76 29*c* *i*P **P** **15 24 25.3 +0.6**
PET *e*S **S** **15 34 05.2 +1.6**
PET pmax pmax
comp=Z,200nm,10.7s
PET MLR MLR
comp=Z,200nm,17.0s
MAK Makhachkala 76.14 319 *e*P P 15 24 23.9 -3.1
MAK *e* 15 24 39.1
MAK *e* 15 27 18.1
MAK *e*S **S** **15 34 07.7 -0.5**
MAK pmax pmax
comp=Z,22nm,0.3s
GNI Garni 76.75 315 LR LR 16 01 36.6
comp=Z,60nm,18.8s,baz=105,slow=38
DGRG David-gareji 76.87 317 P **P** **15 24 34.5 +3.1**
DGRG David-gareji 76.87 317 P **P** **15 24 34.5 +3.1**
SVE Sverdlovsk 76.99 335⇑ *e*P **P** **15 24 32.8 +1.2**
SVE *e*S **S** **15 34 18.1 +1.1**
SVE *e* 15 34 49.8
SVE pmax pmax
comp=Z,31nm,1.4s
TBLG Delisi 77.42 317 P **P** **15 24 36.9 +2.4**
TBLG Delisi 77.42 317 P **P** **15 24 36.8 +2.4**
ARU Arti 77.60 334*c* *i*P **P** **15 24 35.3 +0.3**
ARU PPP PPP 15 29 16.6
ARU S **S** **15 34 24.3 +0.7**
ARU pmax pmax
comp=Z,34nm,2.5s
ARU MLR MLR
comp=Z,368nm,18.0s
ARU Arti 77.60 334 *e*P **P** **15 24 34.1 -0.9**
comp=Z,20nm,1.1s
DUS Dusheti 77.60 317 P P 15 24 38.9 +3.4
DUS Dusheti 77.60 317 P P 15 24 38.9 +3.4
LSZ Lusaka 78.00 256 *e*P **P** **15 24 38.0 -0.3**
LSZ pmax pmax
comp=Z,3.0nm,0.6s
LSZ Lusaka 78.00 256 *e*P **P** **15 24 38.0 -0.3**
comp=Z,3.1nm,0.6s
ZEI Tsey 78.44 317 *e*P **P** **15 24 41.5 +1.2**
ZEI pmax pmax
comp=Z,35nm,1.2s
ONI Oni 78.65 317 P **P** **15 24 42.5 +1.1**
ONI Oni 78.65 317 P **P** **15 24 42.4 +1.1**
BOSA Boshof 79.32 243 P **P** **15 24 47.0 +1.7**
comp=Z,6.5nm,1.1s,baz=79,slow=4.3,SNR=3.8
BOSA LR LR 15 56 49.9
comp=Z,343nm,18.0s,baz=121,slow=33
KBZ Khabaz 79.49 318 P **P** **15 24 46.1 +0.4**
comp=Z,9.8nm,0.9s,baz=146,slow=24,SNR=18
KIV Kislovodsk 79.72 318*c**e*P **P** **15 24 50.3 +3.2**
KIV *e* 15 24 55.9
KIV *e* 15 27 45.7
KIV *i*S S 15 34 35.6 -12
KIV pmax pmax
comp=Z,11nm,1.0s
SEY Seymchan 79.94 19*de*P **P** **15 24 47.5 -0.2**
GOF Gofitskoye 79.95 319 *e*P P 15 24 51.6 +3.4
GOF pmax pmax
comp=Z,30nm,1.1s
QSPA South Pole Qui 80.29 180 P **P** **15 24 50.3 +0.5**
comp=Z,13nm,1.1s
SOC Sochi 81.56 317 *e*P P 15 24 48.5 -8.3
SOC *e* 15 28 02.4
SOC *e*S S 15 34 53.1 -13
SOC *e*SS **SS** **15 40 25.8 +1.9**

SOC MLR MLR
comp=Z,215nm,22.0s
ANN Anapa 83.53 317 *e*P **P** **15 25 06.7 -0.4**
ANN *e*S **S** **15 35 25.7 -0.4**
ANN pmax pmax
comp=Z,17nm,0.8s
BR131 Keskin Array S 84.56 312 *e*P **P** **15 25 12.9 +0.3**
comp=Z,16nm,1.2s
BRTR Keskin Array B 84.56 312 P **P** **15 25 13.0 +0.3**
comp=Z,2.4nm,0.6s,baz=140,slow=6.8,SNR=16
BRTR LR LR 16 06 25.9
comp=Z,160nm,19.5s,baz=102,slow=38
VORD Divnogorie 84.62 324 *e*P **P** **15 25 12.9 +0.4**
VORD pmax pmax
comp=Z,10.0nm,1.5s
VORD pmax pmax
comp=N,6.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.9s
VSR Storozhevoye 84.79 324 *e*P **P** **15 25 13.8 +0.5**
VSR pmax pmax
comp=N,6.0nm,0.7s
VSR pmax pmax
comp=E,6.0nm,0.7s
VSR pmax pmax
comp=Z,20nm,0.7s
LPSR Galich'ya Gora 85.45 325 *e*P **P** **15 25 17.3 +0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR pmax pmax
comp=N,5.0nm,0.6s
LPSR pmax pmax
comp=E,10.0nm,1.5s
SIM Simferopol' 85.81 317 P **P** **15 25 19.5 +0.9**
SIM *e* 15 35 52.0
SIM pmax pmax
comp=Z,40nm,8.5s
PRGR Permogore 86.04 335 *e*P **P** **15 25 18.0 -1.3**
PRGR pmax pmax
comp=Z,26nm,0.9s
SNAA Sanae 87.32 197 P P 15 25 19.5 -6.1
OBN Obninsk 87.67 327*d* *i*P **P** **15 25 28.5 +1.1**
OBN *e* 15 28 51.6
OBN *i*S **SKSac** **15 35 48.5 -3.7**
OBN *e*SS **SS** **15 41 48.6 -4.8**
OBN pmax pmax
comp=Z,50nm,1.7s
KLMR Klimovskoe 88.36 333 *e*P **P** **15 25 30.3 -0.2**
KLMR pmax pmax
comp=Z,45nm,1.3s
VNA1 Neumayer--Stat 89.35 197 P **P** **15 25 37.7 +2.5**
TMCR Tamitsa 90.27 336 *e*P P 15 25 45.8 +6.4
AKASG Malin Array Be 90.59 321 LR LR 16 13 33.9
comp=Z,124nm,18.1s,baz=20,slow=40
KOLS Kolonicke sedl 94.62 319 *e*pP **pP** **15 26 09.7 -2.4**
KOLS *e* 15 26 17.3
FINES FINESS Array B 94.74 331 P **P** **15 26 00.3 +0.1**
comp=Z,1.5nm,0.8s,baz=123,slow=7.0,SNR=5.0
FINES LR LR 16 15 26.5
comp=Z,211nm,18.5s,baz=86,slow=40
FINES FINESS Array B 94.74 331 *i* P **P** **15 26 02.2 +2.0**
FINES pmax pmax
comp=Z,2.0nm,0.8s
STHS Stebnicka Huta 95.37 319 *e*pP pP 15 26 13.8 -1.7
KECS Kecovo 95.73 318 *e*pP **pP** **15 26 16.6 -0.6**
KECS *e*sP sP 15 26 21.3 -0.3
ARCES ARCESS Array B 96.50 339 P **P** **15 26 08.2 +0.1**
comp=Z,3.0nm,0.8s,baz=77,slow=5.4,SNR=7.2
ARCES LR LR 16 15 23.0
comp=Z,415nm,18.2s,baz=98,slow=39
TBI Tubuai 97.27 115 *e*LR LR 15 57 50.6
comp=Z,182nm,28.2s
PPT2 Papeete2 98.49 109 *e*S **S** **15 37 42.9 -1.9**
comp=Z,248nm,25.0s
PPT2 Papeete2 98.49 109 *e*LR LR 15 58 25.9
comp=Z,304nm,25.2s
PPT Papeete 98.50 109 LR LR 16 09 51.1
comp=Z,110nm,20.1s,baz=256,slow=35
CLL Collm 100.80 320 *e*PP PP 15 30 39.0 +3.3
CLL *e*PPP PPP 15 32 51.0
CLL *e*SS SS 15 44 58.0 -2.7
CLL Lm MLR 16 19 00.0
comp=N,200nm,19.9s
CLL Lm MLR 16 19 00.0
comp=E,200nm,21.7s
CLL Lm MLR 16 19 00.0
comp=Z,200nm,20.4s
HDA Harding Lake 105.09 26 *e*Pdif **Pdif** **15 26 44.8 -1.7**
YKA Yellowknife Ar 118.95 21 PKP **PKPdf** **15 31 28.7 +1.5**
comp=Z,1.1nm,0.7s,baz=322,slow=1.4,SNR=8.2
NVAR Mina Array Bea 129.50 48 PKP **PKPdf** **15 31 51.3 +2.8**
comp=Z,0.6nm,0.7s,baz=215,slow=4.5,SNR=4.2
C28A Hausauer Farms 135.06 27⇓ P **PKPdf** **15 31 58.0 -0.4**
baz=135
G28A Parade 136.74 30⇑ P **PKPdf** **15 32 01.6 0.0**
baz=136
W31A Holland Ranch, 143.88 41⇑ P **PKPdf** **15 32 15.1 +0.2**
baz=144
Y30A Stafford Cattl 144.02 44⇓ P **PKPdf** **15 32 16.5 +1.4**
baz=144
R35A Emporia Munici 144.03 34⇓ P **PKPdf** **15 32 15.6 +0.6**
baz=144
X31A McDonald Ranch 144.19 42⇓ P **PKPdf** **15 32 16.1 +0.7**
baz=144
Z30A Sanderson Ranc 144.20 45⇑ P **PKPdf** **15 32 16.2 +0.7**
baz=144
TXAR Lajitas Array 144.32 52 PKP **PKPdf** **15 32 16.2 +0.3**
comp=Z,1.6nm,0.6s,baz=277,slow=1.6,SNR=28
W32A Sentinel 144.37 41⇓ P **PKPdf** **15 32 15.8 +0.2**
baz=144
Y31A Rekieta Farm, 144.41 43⇓ P **PKPdf** **15 32 17.3 +1.6**
baz=144
R36A Gordon, Harris 144.41 33⇓ P **PKPdf** **15 32 16.7 +1.0**
baz=144
S35A Otter Creek Ra 144.42 35⇑ P **PKPdf** **15 32 16.2 +0.6**
baz=144
U34A Anderson Ranch 144.58 37⇑ P **PKPdf** **15 32 17.4 +1.4**
baz=144
U34A Anderson Ranch 144.58 37 *e*PKPdf **PKPdf** **15 32 16.8 +0.8**
R37A Teagarden Farm 144.78 32⇓ P **PKPdf** **15 32 16.8 +0.6**
baz=144,SNR=7.5
X32A Elmer 144.78 42⇓ P **PKPdf** **15 32 18.0 +1.6**
baz=145
S36A Lake Cedric, C 144.80 34⇓ P **PKPdf** **15 32 17.0 +0.7**
baz=145,SNR=8.2
W33A Caddo, Fort Co 144.85 40⇑ P **PKPdf** **15 32 18.0 +1.6**
baz=145,SNR=5.8
T35A Sooner Cattle 144.85 36⇓ P **PKPdf** **15 32 17.9 +1.4**
baz=145,SNR=6.4
Z31A Sharp Cattle R 144.86 44⇓ P **PKPdf** **15 32 17.8 +1.2**
baz=145,SNR=8.8
WMOK Wichita Mounta 144.91 41 *e*PKIKP **PKPdf** **15 32 17.5 +0.9**
WMOK Wichita Mounta 144.91 41 *e*PKPdf **PKPdf** **15 32 17.5 +0.9**
Y32A R-V Farms, Ver 144.93 42⇑ P **PKPdf** **15 32 18.1 +1.4**
baz=145
V34A Guthrie 144.99 38⇓ P **PKPdf** **15 32 18.0 +1.3**
baz=145
V34A Guthrie 144.99 38 *e*PKPdf **PKPdf** **15 32 18.0 +1.3**
131A Roby 145.06 45⇓ P **PKPdf** **15 32 18.7 +1.7**
baz=145
429A Davenport Ranc 145.06 49⇑ P **PKPdf** **15 32 18.5 +1.4**
baz=145,SNR=22
529A Stev Forest Ra 145.06 50⇑ P **PKPdf** **15 32 18.7 +1.7**
baz=145
T36A Boggs Farm, Ca 145.11 35⇑ P **PKPdf** **15 32 17.8 +1.0**
baz=145,SNR=8.9
LONY Lake Ozonia 145.14 4 *e*PKPdf **PKPdf** **15 32 17.4 +0.7**
330A Mertzon 145.19 47⇑ P **PKPdf** **15 32 19.5 +2.2**
baz=145
X33A Lawton 145.21 41⇑ P **PKPdf** **15 32 19.0 +1.9**
baz=145
WVL Waterville 145.24 357 *e*PKPdf **PKPdf** **15 32 17.6 +0.8**
Z32A Haskell 145.32 43⇑ P **PKPdf** **15 32 19.3 +2.0**
baz=145,SNR=9.0
V35A Meyer Ranch, C 145.45 37⇓ P **PKPab** **15 32 19.7 +2.0**
baz=145
Y33A Hilltop Ranch, 145.46 42⇓ P **PKPab** **15 32 19.8 +2.0**
baz=145
430A Baggett Ranch, 145.47 48⇓ P **PKPab** **15 32 19.7 +1.7**
baz=145,SNR=14
231A Bronte 145.52 46⇑ P **PKPab** **15 32 19.7 +1.6**
baz=145,SNR=17
BDFB Brasilia 145.55 223 PKPbc **PKPab** **15 32 19.4 +0.7**
comp=Z,4.3nm,0.7s,baz=122,slow=4.0,SNR=5.4
X34A Smith Ranch, M 145.60 40⇓ P **PKPab** **15 32 19.8 +1.5**
baz=145
T37A Cheneyville 18 145.60 34⇓ P **PKPab** **15 32 20.4 +2.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=145						
ABTX	Abilene, Hawle	145.60	44	⇓P	PKPab	15 32 20.2	+1.8
	baz=145,SNR=7.3						
ABTX	Abilene, Hawle	145.60	44	ePKPdf	PKPab	15 32 20.4	+1.9
530A	J-C Ranch, Com	145.72	49	⇑P	PKPab	15 32 21.2	+2.2
	baz=146,SNR=52						
331A	San Angelo	145.78	47	⇓P	PKPab	15 32 20.6	+1.4
	baz=146,SNR=8.5						
Z33A	Whitaker Ranch	145.81	43	⇓P	PKPab	15 32 20.9	+1.8
	baz=146,SNR=7.2						
W35A	Tecumseh	145.84	38	⇑P	PKPab	15 32 20.8	+1.6
	baz=146						
TUL1	Leonard	145.97	36	⇓P	PKPab	15 32 21.7	+2.1
	baz=146						
431A	Sonora	145.98	48	⇓P	PKPab	15 32 21.3	+1.4
	baz=146,SNR=13						
232A	Coleman	146.02	45	⇓P	PKPab	15 32 21.8	+1.8
	baz=146,SNR=12						
Y34A	Reagan Ranch,	146.06	41	⇓P	PKPab	15 32 21.2	+1.2
	baz=146,SNR=13						
133A	Hamilton Ranch	146.11	44	⇑P	PKPab	15 32 21.7	+1.4
	baz=146,SNR=5.2						
332A	Millersview	146.23	46	⇑P	PKPab	15 32 22.2	+1.3
	baz=146,SNR=26						
W36A	Wetumka	146.24	38	⇓P	PKPab	15 32 22.5	+1.8
	baz=146						
X35A	Drake	146.27	39	⇓P	PKPab	15 32 23.3	+2.5
	baz=146						
531A	Rocksprings	146.30	49	⇓P	PKPab	15 32 22.7	+1.5
	baz=146,SNR=17						
Z34A	Collier Ranch,	146.32	42	⇓P	PKPab	15 32 22.7	+1.6
	baz=146						
233A	Rising Star	146.47	45	⇑P	PKPab	15 32 23.0	+1.3
	baz=146,SNR=7.0						
432A	Menard	146.47	47	⇑P	PKPab	15 32 22.9	+1.1
	baz=146						
X36A	Centrahoma	146.54	39	⇓P	PKPab	15 32 22.6	+0.8
	baz=146						
SFIN	Lafayette	146.56	22	⇑P	PKPab	15 32 22.5	+0.9
	baz=146						
631A	Perdido Creek	146.66	50	⇓P	PKPab	15 32 23.7	+1.2
	baz=146,SNR=6.5						
JCT	Junction City	146.68	48	ePKP2	PKPab	15 32 23.4	+0.8
JCT	Junction City	146.68	48	⇓P	PKPab	15 32 23.4	+0.8
	baz=146,SNR=9.7						
JCT	Junction City	146.68	48	ePKPab	PKPab	15 32 23.4	+0.8
134A	White-Moore Ra	146.70	43	⇓P	PKPab	15 32 24.0	+1.4
	baz=146						
W37A	Quinton	146.72	37	⇑P	PKPab	15 32 23.3	+0.8
	baz=146						
Z35A	Perchaven, San	146.78	41	⇑P	PKPab	15 32 23.9	+1.1
	baz=147						
532A	Rocksprings	146.79	48	⇑P	PKPab	15 32 23.8	+0.8
	baz=147,SNR=6.6						
333A	Richland Sprin	146.80	46	⇓P	PKPab	15 32 24.2	+1.1
	baz=147,SNR=19						
234A	Clairette	147.00	44	⇓P	PKPab	15 32 24.3	+0.5
	baz=147						
433A	Art	147.04	47	⇓P	PKPab	15 32 24.5	+0.6
	baz=147,SNR=18						
135A	Vickery Place,	147.16	42	⇓P	PKPab	15 32 25.4	+1.1
	baz=147						
632A	Uvalde	147.20	49	⇓P	PKPab	15 32 25.9	+1.2
	baz=147,SNR=7.7						
W38A	Poteau	147.30	36	⇑P	PKPab	15 32 24.7	0.0
	baz=147						
334A	Lometa	147.32	45	⇓P	PKPab	15 32 25.6	+0.6
	baz=147						
BINY	Binghamton	147.43	6	ePKPbc	PKPbc	15 32 24.2	+1.0
732A	Laxson Ranch,	147.46	51	⇓P	PKPab	15 32 26.5	+0.8
	baz=147,SNR=5.1						
533A	Kerrville	147.46	48	⇑P	PKPab	15 32 25.9	+0.3
	baz=147						
434A	Burnet	147.60	46	⇓P	PKPab	15 32 26.0	-0.2
	baz=147						
832A	Faith Ranch, C	147.67	51	⇓P	PKPab	15 32 26.8	+0.3
	baz=148						
633A	Saathoff Ranch	147.68	49	⇓P	PKPab	15 32 27.1	+0.5
	baz=148						
534A	Blanco	147.89	47	⇓P	PKPab	15 32 27.2	-0.1
	baz=148						
335A	Moody	147.91	44	⇓P	PKPab	15 32 27.3	0.0
	baz=148						
733A	Divot King Ran	147.98	50	⇑P	PKPbc	15 32 26.4	+1.4
	baz=148						
ACSO	Alum Creek Sta	148.01	16	ePKPbc	PKPbc	15 32 25.1	+0.4
833A	Chaparral WMA,	148.10	51	⇓P	PKPab	15 32 28.5	+0.3
	baz=148						
MIAR	Mount Ida	148.22	36	ePKP2	PKPab	15 32 28.7	+0.2
MIAR	Mount Ida	148.22	36	ePKPab	PKPab	15 32 28.7	+0.2
336A	Riesel	148.25	44	⇑P	PKPab	15 32 28.6	-0.1
	baz=148						
535A	Dale	148.54	46	⇑P	PKPab	15 32 28.6	-1.3
	baz=148						
933A	Laredo	148.54	52	⇑P	PKPab	15 32 29.5	-0.5
	baz=148						
237A	Washetta, Mont	148.56	42	⇑P	PKPab	15 32 28.8	-1.1
	baz=148						
138A	Matatall Enter	148.60	40	⇑P	PKPab	15 32 29.9	-0.2
	baz=148						
SSPA	Standing Stone	148.73	9	ePKPbc	PKPbc	15 32 27.7	+1.2
635A	Leesville	148.75	48	⇓P	PKPab	15 32 30.8	0.0
	baz=149						
337A	Centerville	148.94	43	⇓P	PKPab	15 32 30.3	-1.2
	baz=149						
735A	Kenedy	149.01	48	⇑P	PKPab	15 32 31.3	-0.6
	baz=149						
934A	Benavides	149.13	51	⇓P	PKPab	15 32 31.0	-1.3
	baz=149						
636A	Smothers Creek	149.22	47	⇓P	PKPab	15 32 31.5	-1.1
	baz=149						
034A	Hebbronville	149.26	52	⇑P	PKPab	15 32 31.7	-1.2
	baz=149						
338A	Crockett	149.30	42	⇑P	PKPab	15 32 31.5	-1.4
	baz=149						
835A	Beeville	149.30	49	⇑P	PKPab	15 32 31.5	-1.5
	baz=149						
438A	Sam Houston St	149.57	43	⇓P	PKPab	15 32 31.9	-2.1
	baz=149						
OXF	Oxford	150.49	31	ePKIKP	PKPbc	15 32 32.4	+1.3
OXF	Oxford	150.49	31	ePKPbc	PKPbc	15 32 32.4	+1.3
LPAZ	La Paz	153.92	188	PKPbc	PKPbc	15 32 41.4	+1.3
	comp=Z,1.0nm,0.4s,baz=205,slow=7.1,SNR=3.3						
LPAZ				PKPab	PKPab	15 32 54.1	+1.0
	comp=Z,2.4nm,0.3s,baz=270,slow=5.3,SNR=3.8						

IDC 04 15:17:45.9±25.0**, 18°.44S**×**174°.08W, h0**km**, mb4.2**/4**, mb1 4.3**/4**, mb1mx3.8**/33**, mbtmp4.2**/4**, Error ellipse: s-maj=471.8km s-min=154.0km az=73.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.42	261	P	P	15 25 02.0	+0.9
	2.6nm,0.4s,baz=93,slow=11,SNR=11						
STKA	Stephens Creek	42.01	243	P	P	15 25 38.7	-0.5
	1.8nm,0.8s,baz=84,slow=10,SNR=3.8						
WRA	Warramunga Arr	48.58	259	P	P	15 26 31.0	-0.6
	0.8nm,0.3s,baz=97,slow=7.7,SNR=26						
ASAR	Alice Springs	48.61	254	P	P	15 26 31.5	-0.3
	2.3nm,0.7s,baz=83,slow=7.8,SNR=9.3						

IDC 04 15:29:17.8±3.6**, 6°.64S**×**148°.66E, h0**km**, mb3.0**/1**, mb1 3.3**/2**, mb1mx3.1**/32**, mbtmp3.0**/2**, ML3.1**/1**, Error ellipse: s-maj=119.9km s-min=47.2km az=115.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.19	225	P	P	15 33 43.5	+0.2
	0.1nm,0.3s,baz=52,slow=11,SNR=4.6						
ASAR	Alice Springs	22.09	218	P	P	15 34 14.8	0.0
	0.4nm,0.6s,baz=48,slow=9.5,SNR=16						
TORD	Torodi Ar. Bea	146.84	284	PKPbc	PKPdf	15 49 02.2	+0.9
	0.3nm,0.5s,baz=66,slow=2.3,SNR=5.0						

*ISCJB **04** 15:30:26.1±0.5, 3°.15N±0°.04×128°.73E±0°.07, h200km, mb3.9/10, Error ellipse: s-maj=9.4km s-min=5.8km az=177.2*
*IDC **04** 15:30:30.6±1.8, 3°.06N×128°.69E, h232km±18km, mb3.6/10, mb1 3.8/12, mb1mx3.5/36, mbtmp4.3/12, Error ellipse: s-maj=23.7km s-min=8.7km az=78.0*
*DJA **04** 15:30:30.7±0.6, 3°N±7°×12°8E±°, h185km±6km, M4.8/13, mb4.8/13, mB5.1/7, MLv5.0/10, Mw(mB)4.5/7*
ISC 04 15:30:27.6±0.6**, 3°.13N**±0°.05×**128°.64E**±0°.08**, h200**km**, n35, σ1s.32**/36**, mb4.1**/10**, 3C, North of Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.66	209	P	Pn	15 31 14.0	+0.6
SGSI	Sangihe	3.16	280	P	Pn	15 31 18.8	-0.4
MATI	Mati	4.48	328	eP	Pn	15 31 35.1	-0.3
GSPH	General Santos	4.71	309	⇑eP	Pn	15 31 37.0	-1.6
SIJI	Sorong	4.75	147	P	Pn	15 31 41.0	+2.0
	4.0nm,0.3s,baz=328,slow=15,SNR=15						
KMSI	Cibinong	5.30	242	P	Sn	15 32 49.4	+1.6
KMSI	Cibinong	5.30	242	P	Pn	15 31 45.8	-0.2
	429nm,0.7s,5µm4.5nm						
BIPH	Bislig	5.51	336	⇑eP	Pn	15 31 51.1	+2.4
BIPH				eS	Sn	15 32 52.0	-0.7
SANI	Sanana	5.79	207	P	Pn	15 31 50.1	-2.1
	662nm,0.6s,13µm3.0nm						
CTBH	Cotabato--PC H	5.98	313	⇑iP	Pn	15 31 53.5	-1.1
NLAI	Namlea	6.51	194	P	Pn	15 32 01.9	+0.4
	229nm,0.6s,3µm0.9nm						
LUWI	Luwuk	7.18	235	P	Pn	15 32 11.2	+0.9
	355nm,0.8s,3µm1.5nm						
MRSI	Marisa	7.20	249	P	Pn	15 32 11.2	+0.7
	71nm,0.9s,0.4nm						
APSI	Ampana	8.06	240	P	Pn	15 32 24.2	+2.5
MPSI	Mapaga	9.17	253	P	Pn	15 32 36.9	+0.7
MPSI	Mapaga	9.17	253	P	Pn	15 32 36.9	+0.7
	19nm,0.9s						
TTSI	Tana Toraja	10.74	235	P	Pn	15 32 55.7	-0.8
	75nm,0.8s						
BKSI	Bulukumba	11.95	225	P	P	15 33 15.2	-1.6
	58nm,0.5s,1µm						
KAPI	Kappang	12.01	228	P	Pn	15 33 13.7	+1.0
	6.5nm,0.3s,baz=44,slow=6.2,SNR=13						
GENI	Genyem	12.84	116	P	P	15 33 27.0	+0.3
	118nm,1.1s,1µm						
KBKI	Kotabaru	14.01	243	P	Pn	15 33 37.9	+0.1
	22nm,1.0s						
WRA	Warramunga Arr	23.60	167	P	P	15 35 19.8	-0.8
	2.0nm,0.3s,baz=345,slow=10.0,SNR=73						
ASAR	Alice Springs	27.12	169	P	P	15 35 52.0	-0.3
	6.2nm,0.5s,baz=352,slow=7.7,SNR=212						
ASAR				S	S	15 40 11.5	-4.3
	2.2nm,0.8s,baz=349,slow=17,SNR=5.5						
CMAR	Chiang Mai Arr	32.83	300	P	P	15 36 43.6	+1.0
	0.7nm,0.7s,baz=104,slow=7.1,SNR=7.9						
KSRS	Korea Array	34.17	359	P	P	15 36 55.0	+1.1
	0.8nm,0.4s,baz=174,slow=9.8,SNR=7.8						
MJAR	Matsushiro Arr	34.40	14	P	P	15 36 55.9	-0.1
	3.5nm,0.7s,baz=186,slow=10,SNR=16						
MAT	Matsushiro	34.41	14	P	P	15 36 55.8	-0.2
STKA	Stephens Creek	36.92	161	P	P	15 37 17.6	+0.1
	12nm,0.5s,baz=338,slow=8.0,SNR=80						
NWAO	Narrogin (SRO)	37.45	196	P	P	15 37 21.3	-0.6
	6.8nm,0.9s,baz=0.0,slow=0.0,SNR=3.9						
H11S3	WAKE ISLAND Hy	40.24	65	T	T	16 21 55.4	
	baz=253,slow=75,SNR=12						
H11S2	WAKE ISLAND Hy	40.26	65	T	T	16 21 29.6	
	baz=253,slow=75,SNR=6.7						
H11S1	WAKE ISLAND Hy	40.26	65	T	T	16 21 29.3	
	baz=253,slow=75,SNR=4.1						
SONM	Songino Array	48.49	340	P	P	15 38 50.0	-0.3
	0.3nm,0.3s,baz=146,slow=8.3,SNR=2.6						
SONM				pP	pP	15 39 35.5	+1.2
	0.3nm,0.6s,baz=140,slow=7.0,SNR=3.3						
MKAR	Makanchi Array	59.15	325	P	P	15 40 07.5	+0.1
	0.6nm,0.6s,baz=115,slow=8.8,SNR=8.1						
MKAR				pP	pP	15 40 53.4	+0.3
	0.5nm,0.4s,baz=120,slow=8.2,SNR=5.1						
VNDA	Vanda	82.59	173	P	P	15 42 27.7	-0.1
	1.7nm,0.4s,baz=324,slow=7.7,SNR=18						

*IDC **04** 15:32:05.5±0.6, 9°.45S×108°.39E, h0km, mb4.6/20, mb1 4.7/23, mb1mx4.5/36, mbtmp4.6/23, ML4.1/3, MS4.1/6, Ms1 4.2/6, ms1mx3.6/34, Error ellipse: s-maj=19.3km s-min=12.0km az=55.0*
*ISCJB **04** 15:32:09.8±0.7, 9°.59S±0°.05×108°.18E±0°.03, h49km±4km, mb4.8/66, MS4.2/7, Error ellipse: s-maj=8.9km s-min=4.7km az=22.2*
*NEIC **04** 15:32:09.9±0.4, 9°.46S×108°.37E, h35km, mb4.9/21, Error ellipse: s-maj=11.2km s-min=7.4km az=50.0*
*DJA **04** 15:32:10.3±0.8, 10°S±2°×10°8E±°, h11km±6km, M5.1/43, mb5.1/43, mB5.6/13, MLv5.2/28, Mw(mB)5.1/13*
*MOS **04** 15:32:10.0±1.1, 9°.39S×108°.36E, h46km, mb5.1/34, Error ellipse: s-maj=13.0km s-min=6.0km az=114.2*
ISC 04 15:32:10.0±0.5**, 9°.56S**±0°.05×**108°.19E**±0°.04**, h33**km±1km**, h33**km**:pP-P, n295, σ1s.43**/301**, mb4.9**/74**, MS4.3**/7**, 49C-53D, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	1.79	8	P	Pn	15 32 38.6	+0.1
CMJI				S	Sb	15 33 05.2	+1.0
CISI	Cisompet, Garu	2.03	349	P	Pn	15 32 41.0	-0.9
CISI	Cisompet, Garu	2.03	349	ePn	Pn	15 32 41.6	-0.3
CISI				eSn	Sn	15 33 03.0	-3.2
CNJI	Cibinong	2.47	335	P	Pn	15 32 47.6	-0.4
LEM	Lembang	2.78	348	P	Pn	15 32 53.7	+1.4
LEM	Lembang	2.78	348	Pn	Pn	15 32 52.5	+0.1
	63nm,0.3s,baz=156,slow=8.8,SNR=35						
LEM				Sn	Sn	15 33 21.0	-3.8
	72nm,0.3s,baz=141,slow=12,SNR=14						
UGM	Wanagama	2.83	55	P	Pn	15 32 53.6	+0.7
SKJI	Sukabumi	3.01	327	P	Pn	15 32 55.7	+0.3
PCJI	Pacitan	3.25	66	P	Pn	15 32 59.2	+0.5
CGJI	Cibinong	3.83	320	P	Pn	15 33 07.9	+1.2
PWJI	Pagerwojo	3.89	67	P	Pn	15 33 08.2	+0.8
PWJI				S	Sn	15 33 53.3	+1.3
SBJI	Serang	3.98	329	P	Pn	15 33 11.0	+2.3
UWJI	Ujung Watu	4.15	41	P	Pb	15 33 27.7	+5.4
GRJI	Gresik	5.00	59	P	Pb	15 33 33.9	-2.8
KASI	Kota Agung	5.43	317	P	Pn	15 33 29.7	+1.0
	119nm,0.8s,0.9nm						
BLJI	Banyuglugur	5.64	72	P	Pn	15 33 33.1	+1.5
	391nm,0.7s,7µm2.0nm						
KLI	Kotabumi	5.72	324	P	Pn	15 33 35.9	+3.3
	151nm,0.8s,7µm1.2nm						
LWLI	Liwa	6.10	318	P	Pn	15 33 39.8	+1.9
	171nm,0.6s,5µm1.0nm						
ABJI	Asem Bagus	6.23	74	P	Pn	15 33 41.7	+2.1
	359nm,0.9s,2.3nm						
MDSI	Maura Dua	6.42	321	P	Pn	15 33 43.0	+0.7
	56nm,0.7s,0.3nm						
TPI	Tanjungpandan	6.78	355	P	Pn	15 33 53.1	+5.8
	38nm,1.4s,0.3nm						
IGBI	Denpasar	6.91	84	P	Pn	15 33 52.5	+3.5
	268nm,0.8s,1.5nm						
DNP	Denpasar	6.99	83	P	Pn	15 33 54.2	+4.1
	868nm,0.7s,20µm7.2nm						
SRBI	Singaraja	7.10	79	P	Pn	15 33 53.2	+1.7
	306nm,0.7s,4µm2.2nm						
LHSI	Lahat	7.34	321	P	Pn	15 34 04.2	+9.2
PPBI	Pangkal Pinang	7.63	344	P	Pn	15 34 01.6	+2.7
	70nm,1.0s,5µm0.4nm						
PBKI	Pangkalan Bun	7.64	27	P	Pn	15 34 04.5	+5.4
	102nm,1.2s,0.7nm						
KBKI	Kotabaru	10.08	52	P	Pn	15 34 45.9	+13
STKI	Sintang	10.11	19	P	Pn	15 34 36.7	+3.8
	42nm,1.5s						
KAPI	Kappang	12.33	69	Pn	Pn	15 35 01.3	-1.9
	1.0nm,0.3s,baz=260,slow=8.8,SNR=9.9						
KAPI				LR	LR	15 40 53.6	
	comp=Z,422nm,18.4s,baz=229,slow=44						
KAPI	Kappang	12.33	69	ePn	Pn	15 34 59.4	-3.9
BKSI	Bulukumba	12.56	71	P	P	15 35 20.3	+2.7
SBUM	Sibu	12.59	19	ePn	Pn	15 35 06.3	-0.6
BSSI	Bau Bau, Buton	12.65	75	P	P	15 35 19.0	+0.4
SPSI	Sidrap Palu	12.77	65	P	Pn	15 35 12.0	+2.7
	49nm,1.3s						
TTSI	Tana Toraja	13.25	61	P	P	15 35 22.7	-2.5
PCI	Palu	14.43	54	P	Pn	15 35 35.5	+3.5
	75nm,1.2s						
GSI	Gunungsitoli	15.11	315	P	P	15 35 55.6	+10
GSI	Gunungsitoli	15.11	315	ePn	Pn	15 35 35.7	-5.5
	49nm,0.8s						
PSI	Prapat	15.37	323	Pn	Pn	15 35 45.2	+0.6
	0.5nm,0.3s,baz=108,slow=9.7,SNR=3.9						
PSI	Prapat	15.37	323	eP	Pn	15 35 43.3	-1.3
PSI				pmax	pmax		
	comp=Z,20nm,1.1s						
PSI	Prapat	15.37	323	ePn	Pn	15 35 43.3	-1.3
	comp=Z,20nm,1.1s						
SOEI	Soe	15.85	92	P	P	15 35 56.1	+1.7
MRSI	Marisa	16.94	55	P	P	15 36 07.6	+1.3
	comp=Z,99nm,0.9s						
BSI	Banda Aceh	19.72	319	P	Pn	15 36 39.6	+1.1
	comp=Z,113nm,1.0s						
TNTI	Ternate	21.68	63	P	P	15 37 01.1	+3.0
	comp=Z,197nm,1.1s,comp=Z,3µm						
TNTI	Ternate	21.68	63	ePn	P	15 36 54.6	-3.6
	comp=Z,215nm,1.1s						
SIJI	Sorong	24.53	71	P	P	15 37 24.5	-2.3
	comp=Z,12nm,0.7s,baz=318,slow=10,SNR=3.5						
NWAO	Narrogin (SRO)	24.70	162	P	P	15 37 29.1	+0.9
	comp=Z,15nm,0.9s,baz=331,slow=10,SNR=4.5						
SRDT	SRDT	25.40	339	P	P	15 37 45.9	+11
KHLT	Khaolaem Dam	26.01	338	P	P	15 37 41.6	+1.5
	comp=Z,13nm,1.1s						
CHAI	Chaiyaphum	26.04	346	P	P	15 37 41.3	+1.0
	comp=Z,31nm,0.8s,comp=Z,223nm						
SKNT	Sakolnakorn	26.69	351	P	P	15 37 48.3	+2.0
	comp=Z,75nm,1.2s						
PBKT	Sadao Pong	26.93	345	P	P	15 37 49.0	+0.6
	comp=Z,55nm,0.7s						
RKPI	Ransiki, Papua	27.05	74	P	P	15 37 51.7	+2.1
	comp=Z,81nm,1.1s,comp=Z,817nm						
WRA	Warramunga Arr	27.27	115	P	P	15 37 49.9	-1.6
	comp=Z,9.3nm,0.9s,baz=287,slow=11,SNR=15						
WRA				PcP	PcP	15 41 12.1	+1.1
	comp=Z,1.4nm,0.6s,baz=295,slow=2.1,SNR=7.0						
WRAB	Tennant Creek	27.28	115	⇑eP	P	15 37 51.9	+0.3
WRAB	Tennant Creek	27.28	115	eP	P	15 37 47.7	-3.9
	comp=Z,13nm,1.2s						
ASAR	Alice Springs	28.28	123	P	P	15 38 00.1	-0.5
	comp=Z,4.5nm,0.8s,baz=295,slow=8.4,SNR=14						
ASAR				PcP	PcP	15 41 14.3	+0.9
	comp=Z,2.1nm,0.5s,baz=300,slow=2.1,SNR=14						
ASAR				LR	LR	15 49 10.5	
	comp=Z,235nm,20.0s,baz=290,slow=36						
AS31	Alice Springs	28.28	123	eP	P	15 37 57.8	-2.8
QIZ	Qiongzhong	28.46	3	P	P	15 38 04.3	+2.2
QIZ				pP	pP	15 38 12.6	+0.9
QIZ				sP	sP	15 38 16.7	+1.0
QIZ				S	S	15 42 51.9	+4.4
QIZ				PMZ			
	comp=Z,7.0nm,2.2s						
QIZ				PMZ			
	comp=Z,1µm,13.3s						
CM31	Chiang Mai Arr	29.30	342	eP	P	15 38 08.3	-1.3
	comp=Z,35nm,1.0s						
CMAR	Chiang Mai Arr	29.30	342	P	P	15 38 08.9	-0.6
	comp=Z,21nm,0.9s,baz=177,slow=8.6,SNR=148						
CMAR				LR	LR	15 52 14.6	
	comp=Z,627nm,18.4s,baz=164,slow=41						
CMAR	Chiang Mai Arr	29.30	342	ceP	P	15 38 10.0	+0.4
CMAR				pmax	pmax		
	comp=Z,25nm,0.9s						
CHTO	Chiang Mai	29.64	342	P	P	15 38 13.0	+0.5
	comp=Z,220nm,1.0s						
CHTO	Chiang Mai	29.64	342	eP	P	15 38 10.5	-2.0
CHTO				pmax	pmax		
	comp=Z,36nm,0.9s						
CHTO	Chiang Mai	29.64	342	eP	P	15 38 10.5	-2.0
	comp=Z,36nm,0.9s						
KMI	Kunming	34.88	351	P	P	15 38 59.1	+0.4
KMI				pP	pP	15 39 09.2	+0.8
KMI				sP	sP	15 39 14.3	+1.9
KMI				PMZ			
	comp=Z,17nm,1.4s						
KMI				LN			
	comp=Z,940nm,13.7s						
KMI				LE			
	comp=Z,600nm,16.4s						
KMI				LZ			
	comp=Z,1µm,12.8s						
H08S2	Diego Garcia H	35.34	270	T	T	16 16 27.2	
	baz=94,slow=74,SNR=26						
H08S3	Diego Garcia H	35.35	270	T	T	16 16 55.6	
	baz=94,slow=74,SNR=22						
H08S1	Diego Carcia H	35.35	270	T	T	16 16 41.4	
	baz=94,slow=74,SNR=22						
SSLB	Suanglung	35.42	20	P	P	15 39 00.7	-2.4
	comp=Z,52nm,0.8s						
GYA	Guiyang	35.84	358	⇑iP	P	15 39 07.9	+1.1
GYA				pP	pP	15 39 20.4	+3.9
GYA				S	S	15 44 45.0	+2.5
GYA				PMZ			
	comp=Z,30nm,0.8s						
GYA				PMZ			
	comp=Z,110nm,4.9s						
GYA				LN			
	comp=Z,490nm,17.5s						
GYA				LE			
	comp=Z,460nm,18.0s						
GYA				LZ			
	comp=Z,500nm,17.8s						
IMP	Imphal	36.86	338	eP	P	15 39 16.0	+0.5
IMP				eS	x	15 39 31.0	
STKA	Stephens Creek	38.07	131	P	P	15 39 25.2	-0.4
	comp=Z,21nm,0.8s,baz=304,slow=8.5,SNR=27						
CTA	Charters Tower	38.17	110	P	P	15 39 25.8	-0.8
	comp=Z,4.8nm,0.7s,baz=251,slow=11,SNR=8.5						
PMG	Port Moresby	38.42	93	⇑eP	P	15 39 29.0	+0.2
PMG				pmax	pmax		
	comp=Z,60nm,1.7s						
WHN	Wuhan	40.31	8	P	P	15 39 45.6	+1.3
CD2	Chengdu	40.47	354	eP	P	15 39 46.4	+0.8
CD2				pP	pP	15 39 56.5	+1.1
CD2				sP	sP	15 40 01.0	+1.6
CD2				S	S	15 45 55.3	+3.0
CD2				sS	sS	15 46 12.5	+4.1
CD2				PMZ			
	comp=Z,40nm,0.5s						
CD2				PMZ			
	comp=Z,200nm,5.0s						
CD2				LN			
	comp=Z,790nm,10.8s						
CD2				LE			
	comp=Z,1µm,12.2s						
CD2				LZ			
	comp=Z,1µm,13.2s						
ODAN	Odare	41.45	331	eP	P	15 39 54.6	+0.5
	comp=Z,56nm,0.7s						
TAPN	Taplejung	41.72	332	eP	P	15 39 57.1	+0.8
	comp=Z,68nm,0.8s						
RAMN	Ramite	41.91	331	eP	P	15 39 58.6	+0.8
LSA	Lhasa	42.35	338	P	P	15 40 02.5	+0.9
LSA	Lhasa	42.35	338	eP	P	15 40 00.5	-1.1
LSA				pmax	pmax		
	comp=Z,20nm,0.8s						
LSA	Lhasa	42.35	338	eP	P	15 40 00.5	-1.1
	comp=Z,20nm,0.8s						
NJ2	Nanjing	42.62	13	eP	P	15 40 03.4	+0.2
NJ2				pP	pP	15 40 12.7	-0.3
NJ2				sP	sP	15 40 16.1	-0.9
NJ2				S	S	15 46 25.0	+1.0
NJ2				PMZ			
	comp=Z,60nm,0.8s						
NJ2				PMZ			
	comp=Z,640nm,6.8s						
NJ2				LN			
	comp=Z,750nm,10.0s						
NJ2				LE			
	comp=Z,3µm,12.2s						
NJ2				LZ			
	comp=Z,4µm,11.6s						
JIRN	Jiri	42.70	331	eP	P	15 40 05.0	+0.6
	comp=Z,82nm,0.8s						
PKI	Pulchoki	43.01	330	eP	P	15 40 06.9	0.0
GUN	Gumba	43.06	331	eP	P	15 40 08.0	+0.7
	comp=Z,89nm,0.9s						
DMN	Daman	43.19	329	eP	P	15 40 08.5	+0.3
	comp=Z,48nm,0.8s						
KKN	Kakani	43.25	330	eP	P	15 40 09.1	+0.4
	comp=Z,43nm,0.9s						
XAN	Xi'an	43.37	1	P	P	15 40 09.6	+0.3
XAN				pP	pP	15 40 18.2	-1.0
XAN				sP	sP	15 40 22.5	-0.6
XAN				PMZ			
	comp=Z,11nm,0.9s						
GKN	Gorkha	43.75	329	eP	P	15 40 13.0	+0.4
	comp=Z,32nm,0.7s						
KOLN	Koldanda	44.09	328	eP	P	15 40 15.8	+0.3
	comp=Z,31nm,0.6s						
LZH	Lanzhou	45.59	355	⇑P	P	15 40 28.5	+1.3
LZH				pP	pP	15 40 37.0	-0.1
LZH				sP	sP	15 40 40.1	-0.9
LZH				PP	PP	15 42 17.3	+2.9
LZH				S	S	15 47 08.0	+0.4

LZH PMZ
comp=Z,33nm,1.0s
LZH PMZ
comp=Z,230nm,4.7s
LZH LN
comp=Z,1µm,14.2s
LZH LE
comp=Z,900nm,13.0s
LZH LZ
comp=Z,1µm,14.7s
TIA Tai'an 46.30 10 ⇓P **P 15 40 32.6 0.0**
TIA PMZ
comp=Z,20nm,0.7s
JNU Nakatsue 47.63 26 P **P 15 40 41.3 -1.8**
comp=Z,5.8nm,0.9s,baz=203,slow=9.9,SNR=5.3
GTA Gaotai 49.34 351 ⇑P **P 15 40 57.4 +1.2**
GTA pP **pP 15 41 07.1 +0.9**
GTA sP **sP 15 41 11.2 +1.0**
GTA S **S 15 48 03.7 +2.9**
GTA SS **SS 15 51 33.2 +0.2**
GTA PMZ
comp=Z,11nm,1.6s
GTA PMZ
comp=Z,140nm,5.7s
GTA LN
comp=Z,330nm,15.0s
GTA LE
comp=Z,520nm,16.6s
GTA LZ
comp=Z,350nm,16.2s
BJI Beijing 49.90 8 P **P 15 41 01.1 +0.8**
BJI PMZ
comp=Z,22nm,0.9s
HHC Hu-ho-hao-te 50.26 3 *e*P **P 15 41 03.7 +0.5**
HHC S **S 15 48 16.2 +2.7**
HHC PMZ
comp=Z,21nm,1.0s
HHC PMZ
comp=Z,130nm,7.0s
KSAR Wonju Array Be 50.27 20 P **P 15 41 02.3 -0.9**
KSAR Wonju Array Be 50.27 20 P **P 15 41 02.2 -0.9**
KSRS Korea Array 50.30 20 P **P 15 41 02.2 -1.1**
comp=Z,2.5nm,0.8s,baz=200,slow=9.1,SNR=17
MAJO Matsushiro 53.85 30*c i*P **P 15 41 27.3 -2.6**
MAJO Matsushiro 53.85 30 *e*P P 15 41 26.6 -3.3
comp=Z,17nm,1.2s
MAT Matsushiro 53.85 30 P **P 15 41 27.5 -2.4**
MJAR Matsushiro Arr 53.85 30 P **P 15 41 28.2 -1.7**
comp=Z,10.0nm,1.0s,baz=209,slow=8.4,SNR=25
WMQ Urumqi 56.30 342 P **P 15 41 48.7 +1.2**
WMQ sP **sP 15 42 02.7 +1.1**
WMQ PcP **PcP 15 42 45.4 +0.8**
WMQ PP **PP 15 43 55.8 +2.5**
WMQ PcS **PcS 15 46 43.1 -2.0**
WMQ S **S 15 49 31.2 -4.3**
WMQ sS **sS 15 49 54.7 +2.5**
WMQ ScS **ScS 15 51 33.9 -0.4**
WMQ PMZ
comp=Z,15nm,1.2s
WMQ PMZ
comp=Z,170nm,4.0s
WMQ LN
comp=Z,240nm,14.5s
WMQ LE
comp=Z,250nm,11.4s
WMQ LZ
comp=Z,100nm,13.7s
SONM Songino Array 57.17 359 P **P 15 41 54.7 +1.0**
comp=Z,2.8nm,0.6s,baz=172,slow=7.8,SNR=19
ULN Ulaanbaatar 57.18 359 *e*P **P 15 41 53.5 -0.3**
ULN pmax pmax
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 57.18 359 *e*P **P 15 41 53.5 -0.3**
comp=Z,8.9nm,0.9s
KSH Kashi 57.26 331 P **P 15 41 53.3 -1.2**
KSH *ep*P pP 15 42 09.6 +5.0
KSH PP **PP 15 44 05.1 +3.1**
KSH PcS **PcS 15 46 46.3 -3.4**
KSH S **S 15 49 44.0 -4.4**
KSH sS sS 15 50 09.6 +4.5
KSH ScS **ScS 15 51 35.7 -5.9**
KSH PMZ
comp=Z,11nm,0.8s
KSH LN
comp=Z,180nm,9.6s
KSH LE
comp=Z,280nm,10.5s
MDJ Mudanjiang 57.30 18 P **P 15 41 56.2 +1.7**
MDJ PMZ
comp=Z,2.0nm,0.4s
MDJ PMZ
comp=Z,28nm,3.1s
KBL Kabul 57.43 322 *e*P **P 15 41 54.7 -1.2**
KBL pmax pmax
comp=Z,6.0nm,0.8s
KBL Kabul 57.43 322 *e*P **P 15 41 54.7 -1.2**
comp=Z,6.4nm,0.8s
USRK Ussuriysk Ar. 57.70 20 P **P 15 41 57.1 -0.2**
comp=Z,5.7nm,0.8s,baz=246,slow=3.4,SNR=19
SFK Sufi-Kurgan 58.86 329 P **P 15 42 05.7 -0.1**
SFK pmax pmax
comp=Z,32nm,0.8s
ZAK Zakamensk 59.85 356 *e*P **P 15 42 12.2 -0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
TKM2 Tokmak 2 60.10 333 P **P 15 42 14.0 -0.3**
TKM2 pmax pmax
comp=Z,13nm,0.8s
TKM2 Tokmak 2 60.10 333 *e*P **P 15 42 13.0 -1.4**
comp=Z,14nm,0.8s
AAK Ala-Archa 60.38 332⇑ *e*P **P 15 42 16.2 0.0**
AAK pmax pmax
comp=Z,16nm,1.2s
MK31 Makanchi Array 60.68 340 *i* P **P 15 42 17.9 -0.1**
MK31 pmax pmax
comp=Z,11nm,0.7s
MK31 Makanchi Array 60.68 340 P **P 15 42 17.2 -0.8**
MKAR Makanchi Array 60.68 340 P **P 15 42 18.6 +0.6**
comp=Z,11nm,0.7s,baz=141,slow=7.8,SNR=38
MKAR Makanchi Array 60.68 340 *e*P **P 15 42 18.3 +0.3**
MKAR Makanchi Array 60.68 340 *e*P **P 15 42 18.2 +0.3**
EKS2 Erkin-Say 60.74 331 *e*P **P 15 42 17.0 -1.6**
EKS2 pmax pmax
comp=Z,7.0nm,0.9s
EKS2 Erkin-Say 60.74 331 *e*P **P 15 42 17.0 -1.6**
comp=Z,7.1nm,0.9s
TLY Talaya 61.12 357 *e*P **P 15 42 22.8 +2.0**
TLY pmax pmax
comp=Z,10.0nm,1.4s
MNAS Manas 61.22 331 P **P 15 42 21.8 0.0**
MNAS pmax pmax
comp=Z,16nm,1.2s
IRK Irkutsk 61.65 357 *e*P **P 15 42 24.0 -0.4**
IRK pmax pmax
comp=Z,16nm,1.8s
ASAJ Asahikawa 61.86 27 P **P 15 42 24.4 -1.6**
comp=Z,3.6nm,0.8s,baz=220,slow=11,SNR=7.2
ASAJ Asahikawa 61.86 27 *e*P **P 15 42 24.2 -1.8**
comp=Z,1.9nm,0.8s
KLR Kul'dur 62.10 17 *e*P P 15 42 22.7 -4.7
HABR Khabarovsk 62.46 20 *e*P **P 15 42 27.8 -2.1**
HABR *e**SP **sP 15 42 42.1 -1.9**
HABR *e* 15 43 06.8
HABR *SS **sS 15 51 09.2 -2.4**
HABR *e* 15 52 16.3
HABR *e*SS **SS 15 54 58.7 -0.7**
HABR pmax pmax
comp=Z,8.0nm,1.0s
HABR MLR MLR
comp=Z,150nm,16.0s
RPZ Rata Peaks 63.91 134 LR LR 16 09 37.9
comp=Z,183nm,19.5s,slow=35
YSS Yuzh-Sakhalins 64.14 26⇑ *e*P **P 15 42 40.1 -0.9**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS Yuzh-Sakhalins 64.14 26 *e*P **P 15 42 38.6 -2.4**
comp=Z,29nm,1.1s
IPAY Payeh 65.04 318 *e*P **P 15 42 46.7 -0.7**
IAKL Akhelmad 65.28 318 *e*P **P 15 42 48.7 -0.4**
KURK Kurchatov 65.30 340 P **P 15 42 48.3 -0.2**
KURK pmax pmax
comp=Z,9.0nm,1.2s
KURK Kurchatov 65.30 340 *e*P **P 15 42 47.4 -1.1**
comp=Z,16nm,1.0s
IMEH Mehriz 65.46 311 *e*P **P 15 42 49.2 -1.1**

IKRD Kardeh 65.54 318 *e*P P 15 42 46.8 -3.9
ISRV Sarvestan 65.66 308 *e*P **P 15 42 52.2 +0.5**
ZALV Zalesovo Beam 66.30 345 P **P 15 42 54.8 0.0**
comp=Z,6.5nm,0.8s,baz=132,slow=4.0,SNR=16
ISHV Shirvan 66.50 318 *e*P P 15 43 00.7 +3.8
KRAR Krasnoyarsk 66.57 351⇑ *e*P **P 15 42 57.2 +0.7**
KRAR pmax pmax
comp=Z,45nm,1.2s
IKAZ Kazeroun 66.82 308 *e*P **P 15 42 59.6 +0.4**
BOD Bodaibo 67.31 3 *e*P **P 15 43 01.2 -0.1**
BOD pmax pmax
comp=Z,11nm,1.1s
NVS Novosibirsk 67.50 345 *e*P **P 15 43 00.8 -1.7**
NVS pmax pmax
comp=N,6.0nm,1.6s
NVS pmax pmax
comp=E,7.0nm,1.6s
NVS pmax pmax
comp=Z,11nm,1.6s
ILAS Lasjerd 68.63 314 *e*P **P 15 43 10.5 +0.2**
IPIR Pirpir 68.86 310 *e*P **P 15 43 11.5 -0.4**
IFIR Firoozkooh 68.90 314 *e*P **P 15 43 14.3 +2.2**
IVRN Varamin 69.32 313 *e*P **P 15 43 15.3 +0.8**
IDMV Damavand 69.38 314 *e*P **P 15 43 15.5 +0.4**
IPRN Peran 69.49 314 *e*P **P 15 43 15.9 +0.4**
RAYN Ar Rayn 69.52 299 P **P 15 43 13.4 -2.5**
comp=Z,32nm,2.5s
BVA0 Borovoye Array 70.17 337 *i* P **P 15 43 19.1 -0.1**
BVA0 pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 70.24 337*c i*P **P 15 43 19.6 0.0**
BRVK pmax pmax
comp=Z,20nm,2.5s
BRVK Borovoye 70.24 337 *e*P **P 15 43 17.4 -2.2**
comp=Z,5.5nm,0.7s
IRAZ Razeghan 70.81 313 *e*P **P 15 43 24.7 +0.9**
KMBO Kilima Mbogo 71.02 272 P **P 15 43 28.1 +2.6**
comp=Z,1.0nm,0.3s,baz=113,slow=9.3,SNR=3.3
AB31 Akbulak array 72.20 329 P **P 15 43 31.4 -0.2**
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 72.20 329 *e*P **P 15 43 31.1 -0.5**
IDHR Dehrash 73.11 311 *e*P **P 15 43 37.6 0.0**
YAK Yakutsk 73.32 10*c i*P **P 15 43 37.2 -0.7**
YAK *e**PP **pP 15 43 45.8 -2.5**
YAK *e* 15 43 53.6
YAK *e* 15 46 20.0
YAK *e*PPP PPP 15 48 02.4
YAK *e*S **S 15 53 04.2 +0.2**
YAK *e* 15 53 40.5
YAK *e*SS **SS 15 57 47.9 +1.2**
YAK pmax pmax
comp=Z,27nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=E,71nm,5.7s
YAK pmax pmax
comp=Z,26nm,2.7s
YAK pmax pmax
comp=N,80nm,5.5s
YAK smax smax
comp=E,76nm,4.3s
YAK smax smax
comp=N,83nm,3.7s
YAK Yakutsk 73.32 10 *e*P P 15 43 34.8 -3.1
comp=N,31nm,0.8s
AKTO Aktyubinsk 73.92 329 P **P 15 43 40.9 -0.8**
AKTO pmax pmax
comp=Z,15nm,2.2s
PETK Petropavlovsk- 75.26 28 P **P 15 43 49.4 -0.1**
comp=Z,5.7nm,0.7s,baz=192,slow=5.1,SNR=4.9
GNI Garni 76.59 315⇑ *e*P **P 15 43 56.6 -0.9**
GNI pmax pmax
comp=Z,13nm,2.5s
SVE Sverdlovsk 76.82 335⇓ *e*P **P 15 43 58.8 +0.6**
SVE pmax pmax
comp=Z,16nm,0.9s
ARU Arti 77.43 334*c i*P **P 15 44 01.8 +0.2**
ARU 15 46 50.8
ARU PPP PPP 15 48 41.9
ARU S **S 15 53 51.1 +1.2**
ARU SSS SSS 16 02 09.2
ARU pmax pmax
comp=Z,23nm,1.7s
ARU Arti 77.43 334 *e*P **P 15 43 59.5 -2.2**
LSZ Lusaka 77.97 256 *e*P **P 15 44 04.7 -1.0**
LSZ pmax pmax
comp=Z,18nm,1.4s
LSZ Lusaka 77.97 256 *e*P **P 15 44 04.7 -1.0**
comp=Z,18nm,1.4s
ZEI Tsey 78.27 317 *e*P **P 15 44 06.8 -0.1**
ZEI pmax pmax
comp=Z,12nm,0.5s
BOSA Boshof 79.32 243 LR LR 16 12 33.8
comp=Z,157nm,18.9s,baz=126,slow=30
KBZ Khabaz 79.33 318 P **P 15 44 13.5 +1.1**
comp=Z,8.8nm,0.9s,baz=323,slow=20,SNR=11
KIV Kislovodsk 79.56 318⇓ *e*P **P 15 44 14.0 +0.2**
KIV *e* 15 44 23.8
KIV *e* 15 47 16.0
KIV *i* SS SS 15 59 21.1 -1.1
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,98nm,16.0s
GOF Gofitskoye 79.78 319 *e*P P 15 44 11.6 -3.3
SEY Seymchan 79.82 19⇑ *e*P **P 15 44 15.0 +0.3**
QSPA South Pole Qui 80.44 180 LR LR 16 15 03.0
comp=Z,158nm,20.2s,slow=32
BR131 Keskin Array S 84.40 312 P **P 15 44 37.7 -1.8**
comp=Z,4.3nm,0.9s
BRTR Keskin Array B 84.40 312 P **P 15 44 39.5 0.0**
comp=Z,12nm,1.3s,baz=130,slow=5.2,SNR=20
VORD Divnogorie 84.45 324 *e*P **P 15 44 39.1 -0.1**
VORD pmax pmax
comp=Z,9.0nm,1.1s
VORD pmax pmax
comp=N,5.0nm,0.7s
VORD pmax pmax
comp=E,8.0nm,0.5s
VSR Storozhevoye 84.62 324 *e*P **P 15 44 39.8 -0.3**
VSR pmax pmax
comp=E,9.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,3.0nm,0.6s
LPSR Galich'ya Gora 85.28 325 *e*P **P 15 44 42.4 -0.9**
LPSR pmax pmax
comp=E,9.0nm,0.8s
LPSR pmax pmax
comp=Z,9.0nm,0.8s
LPSR pmax pmax
comp=N,3.0nm,0.4s
PRGR Permogore 85.87 335 *e*P **P 15 44 45.3 -0.8**
PRGR pmax pmax
comp=Z,15nm,0.8s
MOS Moscow 87.16 328 *e*P P 15 44 58.7 +6.2
SNAA Sanae 87.44 197 P P 15 44 47.1 -6.8
OBN Obninsk 87.50 327*c i*P **P 15 44 54.7 +0.5**
OBN *e* 15 48 17.7
OBN *e*S **S 15 55 32.0 -0.9**
OBN pmax pmax
comp=Z,40nm,1.7s
KLMR Klimovskoe 88.18 333 *e*P **P 15 44 57.0 -0.3**
KLMR pmax pmax
comp=Z,43nm,1.3s
VNA1 Neumayer--Stat 89.47 197 P **P 15 45 04.4 +1.1**
AKASG Malin Array Be 90.42 321 P **P 15 45 07.7 -0.4**
comp=Z,0.2nm,0.3s,baz=76,slow=3.9,SNR=4.4
YKA Yellowknife Ar 118.83 21 PKP **PKPdf 15 50 54.3 -0.3**
comp=Z,0.8nm,0.8s,baz=324,slow=1.9,SNR=3.9
NVAR Mina Array Bea 129.46 48 PKP **PKPdf 15 51 18.0 +2.0**
comp=Z,0.7nm,0.8s,baz=235,slow=3.0,SNR=2.8
P34A Walnut Farm, R 142.72 33 ⇓P **PKPdf 15 51 37.1 -3.2**
baz=142
P35A Duane Minner, 143.16 32 ⇓P PKPbc 15 51 38.2 +0.2
baz=143
R34A Isabella, Hill 143.38 35 ⇑P PKPbc 15 51 39.3 +0.7
baz=143
P36A Good Intent, A 143.51 31 ⇓P PKPbc 15 51 40.1 +1.2
baz=143

Q35A Mercer Eighty, 143.65 33 ⇓P PKPbc 15 51 40.7 +1.3
baz=143
W31A Holland Ranch, 143.81 41 ⇑P PKPbc 15 51 40.3 +0.3
baz=144
R35A Emporia Munici 143.95 33 ⇓P PKPbc 15 51 41.1 +0.9
baz=144
Z30A Sanderson Ranc 144.14 44 ⇓P PKPbc 15 51 41.3 +0.2
baz=144
TXAR Lajitas Array 144.29 52 PKP **PKPdf 15 51 43.2 -0.2**
comp=Z,1.3nm,0.6s,baz=265,slow=1.8,SNR=17
T34A McClaskey Farm 144.31 36 ⇑P PKPbc 15 51 41.9 +0.5
baz=144
R36A Gordon, Harris 144.32 33 ⇑P PKPbc 15 51 42.0 +0.5
baz=144
S35A Otter Creek Ra 144.34 34 ⇓P PKPbc 15 51 42.2 +0.7
baz=144,SNR=5.0
U34A Anderson Ranch 144.50 37 ⇓P **PKPdf 15 51 43.6 +0.1**
baz=144
329A Wagon Wheel Ra 144.51 48 ⇓P **PKPdf 15 51 43.7 -0.1**
baz=144
R37A Teagarden Farm 144.69 32 ⇓P PKPbc 15 51 42.9 +0.3
baz=144
S36A Lake Cedric, C 144.71 34 ⇓P PKPbc 15 51 43.2 +0.6
baz=144,SNR=7.4
X32A Elmer 144.71 41 ⇓P PKPbc 15 51 43.4 +0.6
baz=144
T35A Sooner Cattle 144.77 35 ⇓P **PKPdf 15 51 44.0 0.0**
baz=144,SNR=7.4
W33A Caddo, Fort Co 144.78 40 ⇓P PKPbc 15 51 43.6 +0.7
baz=144
Z31A Sharp Cattle R 144.80 44 ⇓P **PKPdf 15 51 44.3 +0.1**
baz=144
WMOK Wichita Mounta 144.84 40 *e*PKIKP **PKPdf 15 51 44.2 +0.1**
WMOK Wichita Mounta 144.84 40 *e*PKPdf **PKPdf 15 51 44.2 +0.1**
Y32A R-V Farms, Ver 144.86 42 ⇑P **PKPdf 15 51 44.7 +0.5**
baz=145
V34A Guthrie 144.92 38 ⇑P **PKPdf 15 51 44.3 +0.1**
baz=145
V34A Guthrie 144.92 38 *e*PKPdf **PKPdf 15 51 44.8 +0.6**
230A Sterling City 144.93 46 ⇓P **PKPdf 15 51 45.2 +0.7**
baz=145
LONY Lake Ozonia 144.99 3 *e*PKPdf **PKPab 15 51 43.8 +0.4**
131A Roby 145.00 45 ⇓P **PKPdf 15 51 45.2 +0.7**
baz=145
429A Davenport Ranc 145.02 49 ⇑P **PKPdf 15 51 45.1 +0.4**
baz=145,SNR=15
529A Stev Forest Ra 145.02 50 ⇑P **PKPdf 15 51 45.0 +0.3**
baz=145
T36A Boggs Farm, Ca 145.03 35 ⇓P **PKPab 15 51 44.0 +0.3**
baz=145,SNR=7.5
330A Mertzon 145.14 47 ⇑P **PKPbc 15 51 43.7 -0.6**
baz=145
W34A Bridge Creek, 145.16 39 ⇓P **PKPdf 15 51 45.2 +0.6**
baz=145
Z32A Haskell 145.26 43 ⇑P **PKPdf 15 51 46.2 +1.3**
baz=145,SNR=7.1
V35A Meyer Ranch, C 145.37 37 ⇑P **PKPab 15 51 45.8 +0.8**
baz=145
Y33A Hilltop Ranch, 145.40 41 ⇓P **PKPdf 15 51 45.4 +0.3**
baz=145
430A Baggett Ranch, 145.42 48 ⇓P **PKPab 15 51 46.8 +1.3**
baz=145,SNR=6.1
231A Bronte 145.47 46 ⇑P **PKPab 15 51 46.3 +0.7**
baz=145,SNR=9.0
T37A Cheneyville 18 145.51 34 ⇑P **PKPab 15 51 45.8 +0.3**
baz=145
ABTX Abilene, Hawle 145.55 44 ⇑P **PKPab 15 51 46.7 +0.9**
baz=145
BDFB Brasilia 145.61 223 PKPbc **PKPab 15 51 47.3 +0.7**
comp=Z,2.2nm,0.5s,baz=254,slow=1.8,SNR=3.4
530A J-C Ranch, Com 145.67 49 ⇑P **PKPab 15 51 48.1 +1.7**
baz=145,SNR=29
331A San Angelo 145.73 47 ⇑P **PKPab 15 51 47.7 +1.1**
baz=146
Z33A Whitaker Ranch 145.75 42 ⇑P **PKPab 15 51 47.9 +1.4**
baz=146
W35A Tecumseh 145.76 38 ⇓P **PKPab 15 51 46.8 +0.4**
baz=146
TUL1 Leonard 145.89 36 ⇓P **PKPbc 15 51 46.9 +0.4**
baz=146
431A Sonora 145.94 48 ⇑P **PKPab 15 51 47.5 +0.2**
baz=146,SNR=6.0
232A Coleman 145.97 45 ⇓P **PKPab 15 51 48.4 +0.9**
baz=146,SNR=8.2
Y34A Reagan Ranch, 145.99 41 ⇓P **PKPab 15 51 48.0 +0.6**
baz=146,SNR=7.5
133A Hamilton Ranch 146.05 44 ⇑P **PKPab 15 51 48.5 +0.8**
baz=146
W36A Wetumka 146.16 37 ⇓P **PKPab 15 51 49.4 +1.4**
baz=146
332A Millersview 146.18 46 ⇓P **PKPab 15 51 49.1 +0.9**
baz=146,SNR=11
X35A Drake 146.20 39 ⇑P **PKPab 15 51 49.1 +1.0**
baz=146
531A Rocksprings 146.25 49 ⇑P **PKPab 15 51 49.5 +0.9**
baz=146,SNR=10
Z34A Collier Ranch, 146.25 42 ⇓P **PKPab 15 51 49.2 +0.8**
baz=146
233A Rising Star 146.41 44 ⇑P **PKPab 15 51 50.0 +0.9**
baz=146
432A Menard 146.42 47 ⇓P **PKPab 15 51 50.1 +0.9**
baz=146
SFIN Lafayette 146.44 21 ⇓P **PKPab 15 51 49.4 +0.6**
baz=146
X36A Centrahoma 146.47 38 ⇑P **PKPab 15 51 50.4 +1.2**
baz=146
631A Perdido Creek 146.62 50 ⇓P **PKPab 15 51 49.9 0.0**
baz=146
JCT Junction City 146.63 47 *e*PKP2 **PKPab 15 51 50.4 +0.4**
JCT Junction City 146.63 47 ⇓P **PKPab 15 51 50.0 0.0**
baz=146,SNR=10
JCT Junction City 146.63 47 *e*PKPab **PKPab 15 51 50.4 +0.4**
134A White-Moore Ra 146.64 43 ⇓P **PKPab 15 51 50.7 +0.7**
baz=146
W37A Quinton 146.64 37 ⇑P **PKPab 15 51 50.0 +0.2**
baz=146
Z35A Perchaven, San 146.71 41 ⇓P **PKPab 15 51 50.2 +0.1**
baz=146
532A Rocksprings 146.75 48 ⇓P **PKPbc 15 51 50.0 +0.7**
baz=146
333A Richland Sprin 146.75 45 ⇓P **PKPbc 15 51 50.0 +0.8**
baz=146,SNR=13
234A Clairette 146.94 44 ⇑P **PKPab 15 51 51.9 +0.7**
baz=147
433A Art 147.00 46 ⇑P **PKPbc 15 51 50.4 +0.5**
baz=147,SNR=8.7
X37A Clayton 147.05 37 ⇓P **PKPab 15 51 51.3 -0.1**
baz=147
135A Vickery Place, 147.09 42 ⇓P **PKPab 15 51 51.5 -0.2**
baz=147
632A Uvalde 147.16 49 ⇑P **PKPab 15 51 53.0 +0.9**
baz=147
W38A Poteau 147.22 36 ⇓P **PKPab 15 51 52.1 0.0**
baz=147
334A Lometa 147.27 45 ⇓P **PKPbc 15 51 51.5 +0.9**
baz=147
BINY Binghamton 147.29 6 *e*PKPab **PKPbc 15 51 51.5 +1.1**
WHTX Lake Whitney, 147.41 43 ⇓P **PKPab 15 51 52.3 -0.6**
baz=147
732A Laxson Ranch, 147.42 50 ⇑P **PKPab 15 51 52.4 -0.7**
baz=147
434A Burnet 147.54 46 ⇓P **PKPab 15 51 52.9 -0.7**
baz=147
832A Faith Ranch, C 147.64 51 ⇓P **PKPab 15 51 53.6 -0.4**
baz=147
534A Blanco 147.84 47 ⇓P **PKPbc 15 51 53.6 +1.4**
baz=148
335A Moody 147.86 44 ⇓P **PKPbc 15 51 53.0 +0.7**
baz=148
MIAR Mount Ida 148.13 35 *e*PKP2 **PKPbc 15 51 51.7 -1.2**
MIAR Mount Ida 148.13 35 *e*PKPbc **PKPbc 15 51 51.7 -1.2**
336A Riesel 148.19 43 ⇓P **PKPab 15 51 55.2 -0.9**
baz=148
Z38A Mt. Pleasant 148.20 39 ⇑P **PKPbc 15 51 54.2 +1.1**
baz=148
734A La Parita Cree 148.42 49 ⇓P **PKPbc 15 51 55.5 +1.7**
baz=148
933A Laredo 148.50 52 ⇓P **PKPab 15 51 56.3 -1.1**
baz=148
138A Matatall Enter 148.53 40 ⇑P **PKPab 15 51 56.2 -1.1**
baz=148
SSPA Standing Stone 148.59 9 *e*PKPbc **PKPbc 15 51 54.6 +0.7**
834A Tilden 148.80 50 ⇓P **PKPbc 15 51 56.4 +1.6**
baz=149
636A Smothers Creek 149.17 47 ⇓P **PKPab 15 51 58.4 -1.6**
baz=149
034A Hebbronville 149.23 52 ⇑P **PKPab 15 51 59.1 -1.3**
baz=149

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
338A	**Crockett**	**149.23**	**42**	⇑P	**PKPbc**	**15 51 58.3**	**+2.5**
	baz=149						
035A	**Encino**	**149.74**	**52**	⇑P	**PKPab**	**15 52 00.1**	**-2.3**
	baz=150						
OXF	**Oxford**	**150.39**	**30**	*e*PKIKP	**PKPbc**	**15 51 59.6**	**+1.1**
OXF	**Oxford**	**150.39**	**30**	*e*PKPbc	**PKPbc**	**15 51 59.6**	**+1.1**
LPAZ	**La Paz**	**154.06**	**188**	PKPbc	**PKPbc**	**15 52 09.1**	**+1.0**
	comp=Z,2.4nm,0.4s,baz=214,slow=15,SNR=5.4						

WEL 04 15:36:19.9±0.2**, 39°.26S×173°.79E, h12km, ML3.6**/28**, 1C-6D, Error ellipse: s-maj=1.6km s-min=0.9km az=90.0, Off west coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWEZ	**Newall Road**	**0.06**	**103**	⇑PG	Pg	15 36 22.4	+0.1
NWEZ				SG	Sg	15 36 24.7	+0.5
NMEZ	**Namu Road**	**0.17**	**156**	PG	Pg	15 36 23.8	0.0
NMEZ				SG	Sg	15 36 26.9	+0.5
PKE	**Pukeiti**	**0.17**	**67**	⇓PG	Pg	15 36 24.1	+0.3
PKE				SG	Sg	15 36 27.3	+0.7
PKE				AML	AML	15 36 27.4	
KHEZ	**Kahui Hut**	**0.18**	**101**	⇓P*	Pg	15 36 23.8	-0.3
KHEZ				SG	Sg	15 36 26.8	-0.2
PREZ	**Palmer Road**	**0.30**	**106**	⇓P*	Pg	15 36 25.9	-0.3
PREZ				S*	Sg	15 36 30.6	+0.3
DREZ	**Durham Road**	**0.33**	**78**	⇓P*	Pg	15 36 26.6	0.0
DREZ				S*	Sg	15 36 31.8	+0.7
MHEZ	**Mangahewa**	**0.45**	**66**	P*	Pg	15 36 28.9	0.0
LREZ	**Lake Rotokare**	**0.52**	**113**	⇓P*	Pg	15 36 29.9	-0.2
VRZ	**Vera Road**	**0.77**	**80**	⇓P*	Pg	15 36 34.0	-0.8
VRZ				AML	AML	15 36 47.6	
VRZ				AML	AML	15 36 48.7	
WAZ	**Wanganui**	**1.05**	**119**	P*	Pb	15 36 38.9	-1.2
WAZ				AML	AML	15 36 56.4	
WAZ				AML	AML	15 36 57.4	
HIZ	**Hauiti**	**1.12**	**49**	P*	Pb	15 36 40.1	-1.1
HIZ				AML	AML	15 36 58.5	
HIZ				AML	AML	15 36 59.5	
PKVZ	**Pokaka**	**1.21**	**92**	P*	Pn	15 36 41.5	-1.3
PKVZ				AML	AML	15 36 58.7	
PKVZ				AML	AML	15 36 58.8	
TWVZ	**Taurewa**	**1.30**	**82**	PN	Pn	15 36 42.7	-1.3
TWVZ				AML	AML	15 37 02.3	
TWVZ				AML	AML	15 37 04.6	
MTVZ	**Mangateitei**	**1.31**	**96**	PN	Pn	15 36 43.2	-1.0
MTVZ				AML	AML	15 37 01.7	
MTVZ				AML	AML	15 37 04.2	
COVZ	**Chateau Observ**	**1.36**	**88**	PN	Pn	15 36 43.7	-1.3
WPVZ	**Whakapapa**	**1.37**	**88**	PN	Pn	15 36 44.1	-0.9
WPVZ				AML	AML	15 37 04.2	
WPVZ				AML	AML	15 37 08.0	
TRVZ	**Turoa**	**1.37**	**92**	PN	Pn	15 36 43.6	-1.6
TRVZ				AML	AML	15 37 03.3	
TRVZ				AML	AML	15 37 05.0	
FWVZ	**Far West T-bar**	**1.37**	**90**	PN	Pn	15 36 44.1	-1.1
FWVZ				AML	AML	15 37 04.4	
FWVZ				AML	AML	15 37 05.0	
DRZ	**Dome Shelter**	**1.38**	**91**	AML	AML	15 37 04.8	
DRZ				AML	AML	15 37 06.4	
WTVZ	**West Tongariro**	**1.41**	**85**	PN	Pn	15 36 44.6	-1.0
WTVZ				AML	AML	15 37 06.4	
WTVZ				AML	AML	15 37 06.7	
NGZ	**Ngauruhoe**	**1.41**	**87**	PN	Pn	15 36 44.8	-0.9
NGZ				AML	AML	15 37 06.1	
NGZ				AML	AML	15 37 07.9	
KRVZ	**Karewarewa**	**1.45**	**84**	PN	Pn	15 36 45.4	-0.8
KRVZ				AML	AML	15 37 05.9	
KRVZ				AML	AML	15 37 06.5	
KATZ	**Kakaramea**	**1.51**	**80**	PN	Pn	15 36 46.4	-0.6
KATZ				AML	AML	15 37 07.0	
KATZ				AML	AML	15 37 08.0	
DUWZ	**D'Urville Isla**	**1.54**	**176**	PN	Pn	15 36 46.9	-0.5
DUWZ				AML	AML	15 37 10.8	
RATZ	**Rangitukua**	**1.59**	**76**	PN	Pn	15 36 47.4	-0.6
RATZ				AML	AML	15 37 11.4	
RATZ				AML	AML	15 37 12.8	
WATZ	**Wairara**	**1.61**	**71**	PN	Pn	15 36 48.4	+0.2
WATZ				AML	AML	15 37 10.2	
WATZ				AML	AML	15 37 14.6	
RITZ	**Rihia Road**	**1.64**	**81**	PN	Pn	15 36 49.0	+0.4
TLZ	**Tolley Road**	**1.65**	**56**	PN	Pn	15 36 47.6	-1.2
KIW	**Kapiti Island**	**1.82**	**152**	PN	Pn	15 36 51.2	+0.2
KIW				AML	AML	15 37 15.8	
KIW				AML	AML	15 37 15.8	
HATZ	**Hinemaiaia**	**1.83**	**79**	PN	Pn	15 36 52.3	+1.0
QRZ	**Quartz Range**	**1.84**	**211**	PN	Pn	15 36 50.2	-1.1
TSZ	**Takapari Road**	**1.86**	**116**	PN	Pn	15 36 52.0	+0.3
TSZ				AML	AML	15 37 18.1	
OGWZ	**Otaki Gorge**	**1.88**	**146**	PN	Pn	15 36 52.8	+0.8
POWZ	**Post Office Ro**	**1.90**	**127**	PN	Pn	15 36 53.2	+1.0
MRZ	**Mangatainoka R**	**1.96**	**136**	AML	AML	15 37 20.8	
MRZ				AML	AML	15 37 21.0	
TCW	**Tory Channel**	**1.99**	**169**	PN	Pn	15 36 53.5	+0.1
TCW				AML	AML	15 37 23.0	
TCW				AML	AML	15 37 23.6	
KRHZ	**Kereru**	**2.04**	**102**	PN	Pb	15 36 55.9	-1.0
CAW	**Cannon Point**	**2.09**	**152**	PN	Pn	15 36 55.4	+0.5
CAW				AML	AML	15 37 25.9	
CAW				AML	AML	15 37 27.6	
BKZ	**Black Stump Fm**	**2.10**	**88**	PN	Pn	15 36 55.4	+0.4
HOWZ	**Holdsworth Sta**	**2.11**	**142**	PN	Pb	15 36 56.8	-1.3
DVHZ	**Dannevirke**	**2.11**	**120**	PN	Pb	15 36 56.8	-1.3
PRWZ	**Pori Road**	**2.12**	**128**	PN	Pb	15 36 57.3	-1.0
WEL	**Wellington**	**2.16**	**160**	PN	Pb	15 36 57.4	-1.5
TUWZ	**Tuamarina**	**2.17**	**177**	PN	Pn	15 36 55.9	+0.1
TUWZ				AML	AML	15 37 29.6	
TUWZ				AML	AML	15 37 32.1	
TIWZ	**Tintock**	**2.21**	**134**	PN	Pn	15 36 58.2	+1.7
TIWZ				AML	AML	15 37 28.7	
TIWZ				AML	AML	15 37 31.1	
MCHZ	**McNeill Hill**	**2.26**	**96**	PN	Pb	15 37 00.5	-0.2
BHW	**Baring Head**	**2.30**	**159**	PN	Pn	15 36 59.4	+1.7
BHW				AML	AML	15 37 33.4	
MTW	**Mount Morrison**	**2.31**	**146**	PN	Pn	15 36 59.5	+1.7
MTW				AML	AML	15 37 31.5	
MTW				AML	AML	15 37 38.8	
BFZ	**Birch Farm**	**2.36**	**128**	PN	Pn	15 37 00.0	+1.5
ANWZ	**Angora Road**	**2.39**	**121**	PN	Pb	15 37 03.6	+0.7
WTAZ	**Waiatarua**	**2.40**	**15**	PN	Pn	15 36 59.9	+0.7
MKAZ	**Moumakai**	**2.41**	**27**	PN	Pn	15 36 59.4	+0.3
MSWZ	**Moikau Station**	**2.42**	**153**	PN	Pn	15 37 00.8	+1.3
TMWZ	**Te Maipa**	**2.45**	**140**	PN	Pb	15 37 01.9	-2.1
BSWZ	**Blackbirch Sta**	**2.45**	**178**	PN	Pn	15 37 00.7	+0.9
PAWZ	**Paruwai Farm**	**2.46**	**150**	PN	Pb	15 37 02.2	-1.9
ETAZ	**East Tamaki Re**	**2.47**	**22**	PN	Pn	15 37 00.0	0.0
RVAZ	**Riverhead Bore**	**2.56**	**14**	PN	Pn	15 37 01.5	+0.3
PLWZ	**Palliser**	**2.56**	**155**	PN	Pb	15 37 04.5	-1.4
THZ	**Tophouse**	**2.59**	**195**	PN	Pn	15 37 01.9	+0.1
THZ				AML	AML	15 37 42.1	
THZ				AML	AML	15 37 47.8	
DSZ	**Denniston Nort**	**2.91**	**211**	PN	Pn	15 37 06.1	0.0
KUZ	**Kuaotunu**	**2.94**	**32**	PN	Pn	15 37 06.0	-0.4
KHZ	**Kahutara**	**3.16**	**183**	PN	Pn	15 37 10.7	+1.3
WCZ	**Waipu Caves**	**3.34**	**8**	PN	Pn	15 37 12.7	+0.7
LTZ	**Lake Taylor**	**3.70**	**198**	PN	Pn	15 37 17.8	+0.8
OUZ	**Omahuta**	**4.04**	**358**	PN	Pn	15 37 22.1	+0.6
OXZ	**Oxford**	**4.27**	**197**	PN	Pn	15 37 24.3	-0.5
WVZ	**Waitaha Valley**	**4.45**	**210**	PN	Pn	15 37 27.3	0.0
MQZ	**McQueen's Vall**	**4.52**	**191**	PN	Pn	15 37 27.0	-1.2
FOZ	**Fox Glacier**	**5.29**	**214**	PN	Pn	15 37 37.9	-0.8
JCZ	**Jackson Bay**	**6.11**	**216**	PN	Pn	15 37 50.0	-0.1

*IDC **04** 15:49:34.9±1.9, 38°.66N×70°.97E, h0km, mb3.5/2, mb1 3.4/5, mb1mx3.3/36, mbtmp3.4/5, ML3.0/3, Error ellipse: s-maj=43.1km s-min=20.1km az=143.0*

*NNC **04** 15:49:36.7±1.2, 38°.72N×70°.32E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=15.6km s-min=4.3km az=159.0*

ISC 04 15:49:37.4±1.2**, 38°.74N**±0°.09×**70°.30E**±0°.05**, h10km, n22, σ2.22**/30**, 7C-9D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.16**	**274**	⇑Pn	**Pb**	**15 49 59.3**	**-0.3**
	98nm,0.3s						
DZET				⇑Sn	**Sn**	**15 50 18.8**	**+3.2**
	672nm,0.4s						
SFK	**Sufi-Kurgan**	**2.79**	**62**	⇑Pn	**Pn**	**15 50 22.6**	**+0.3**
	13nm,0.5s						
SFK				⇓Sn	**Sb**	**15 50 59.8**	**-1.9**
	152nm,0.8s						
MNAS	**Manas**	**4.11**	**23**	⇓Pn	**Pn**	**15 50 41.1**	**+0.8**
	6.1nm,0.4s						
MNAS				⇑Sn	**Sn**	**15 51 32.1**	**+3.6**
	14nm,0.6s						
AML	**Almayashu**	**4.27**	**36**	P	**Pn**	**15 50 44.1**	**+1.4**
	SNR=6.7						
KK31	**Karatay Array**	**4.37**	**2**	Pn	**Pn**	**15 50 44.3**	**+0.5**
	1.6nm,0.3s,baz=174,slow=11,SNR=65						
KK31				⇓Pg	**Pb**	**15 50 55.5**	**+1.3**
	1.9nm,0.3s,baz=188,slow=14,SNR=8.1						
KK31				⇓Sn	**Sn**	**15 51 37.4**	**+2.7**
	2.3nm,0.3s						
KK31				⇑Lg	Lg	15 51 51.7	
	4.3nm,0.4s,baz=192,slow=30,SNR=3.6						
EKS2	**Erkin-Say**	**4.73**	**33**	P	**Pn**	**15 50 50.8**	**+2.0**
	SNR=8.1						
UCH	**Uchtor**	**4.74**	**41**	P	**Pn**	**15 50 48.8**	**-0.5**
	SNR=13						
AAK	**Ala-Archa**	**5.03**	**38**	P	**Pn**	**15 50 55.3**	**+2.3**
	SNR=8.3						
AAK	**Ala-Archa**	**5.03**	**38**	⇓Pn	**Pn**	**15 50 54.8**	**+1.8**
	6.0nm,0.5s						
AAK				⇑Sn	**Sn**	**15 51 52.2**	**+0.9**
	9.1nm,0.5s						
AAK	**Ala-Archa**	**5.03**	**38**	Pn	**Pn**	**15 50 50.6**	**-2.5**
	0.7nm,0.3s,baz=198,slow=12,SNR=3.9						
AAK				Sn	**Sn**	**15 51 53.1**	**+1.8**
	2.9nm,0.3s,baz=320,slow=17,SNR=4.4						
KZA	**Kyzart**	**5.04**	**47**	P	**Pn**	**15 50 56.0**	**+2.6**
	SNR=11						
KBK	**Karagaybulak**	**5.27**	**41**	P	**Pn**	**15 50 58.9**	**+2.6**
	SNR=16						
CHMS	**Chumysh**	**5.43**	**37**	P	**Pn**	**15 51 00.1**	**+1.7**
	SNR=10						
USP	**Ospenovka**	**5.53**	**34**	P	**Pn**	**15 51 01.2**	**+1.5**
	SNR=10						
TKM2	**Tokmak 2**	**5.80**	**42**	P	**Pn**	**15 51 06.0**	**+2.4**
	SNR=17						
TKM2	**Tokmak 2**	**5.80**	**42**	⇑Pn	**Pn**	**15 51 04.5**	**+0.9**
	9.7nm,0.5s						
TKM2				⇓Sn	**Sn**	**15 52 12.3**	**+2.1**
	8.5nm,0.8s						
MKAR	**Makanchi Array**	**11.93**	**44**	Pn	Pn	15 52 23.3	-4.2
	0.0nm,0.3s,baz=227,slow=13,SNR=5.7						
AB31	**Akbulak array**	**12.88**	**328**	Pn	**Pn**	**15 52 37.8**	**-2.6**
	0.9nm,0.3s,baz=124,slow=17,SNR=27						
AB31				⇓Sn	Sn	15 54 56.7	-7.0
	1.2nm,0.6s,baz=136,slow=27,SNR=4.7						
BVAR	**Borovoye Array**	**14.29**	**0**	Pn	**Pn**	**15 52 57.3**	**-2.4**
	0.2nm,0.3s,baz=161,slow=9.2,SNR=2.8						
AKTO	**Aktyubinsk**	**14.59**	**327**	⇓Pn	**Pn**	**15 53 03.6**	**-0.1**
	2.7nm,0.7s						
AKTO				⇓Sn	**Sn**	**15 55 41.6**	**-3.8**
	3.3nm,1.1s						
SONM	**Songino Array**	**27.59**	**59**	P	**P**	**15 55 21.3**	**-3.4**
	0.3nm,0.4s,baz=254,slow=5.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**65.25**	**267**	P	**P**	**16 00 21.6**	**+2.2**
	0.2nm,0.5s,baz=56,slow=7.2,SNR=2.5						

JMA 04 15:53:13.2±0.1**, 25°.81N×130°.17E, h40km, M3.6, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**0.95**	**89**	P	Pn	15 53 30.4	+0.4
JMZ				S	Sn	15 53 42.1	-0.3
JOW	**Kunigami**	**1.98**	**301**	P	Pn	15 53 45.5	+1.2
JOW				S	Sn	15 54 08.3	+0.4
JNTH	**Nagotoyohara**	**2.06**	**291**	P	Pn	15 53 46.0	+0.8
JNTH				S	Sn	15 54 09.9	+0.2
JOKE	**Okinoerabujima**	**2.11**	**318**	P	Pn	15 53 47.5	+1.5
JOKE				S	Sn	15 54 11.3	+0.3
JJT2	**Tamagusuku 2**	**2.20**	**279**	P	Pn	15 53 48.8	+1.5
JJT2				S	Sn	15 54 14.8	+1.5
JTK	**Tokunoshima**	**2.25**	**331**	P	Pn	15 53 49.8	+1.9
JTK				*e*S	Sn	15 54 14.5	0.0
JIH	**Iheya**	**2.32**	**302**	P	Pn	15 53 50.4	+1.5
JIH				S	Sn	15 54 17.1	+0.9
JAMN	**Amaminishikomi**	**2.58**	**340**	P	Pn	15 53 54.1	+1.6
JAMN				S	Sn	15 54 21.6	-1.0
JAM	**Amami Oshima**	**2.64**	**349**	P	Pn	15 53 55.1	+1.8
JAM				*e*S	Sn	15 54 23.1	-1.0
JAGN	**Aguni-jima**	**2.74**	**287**	P	Pn	15 53 56.1	+1.4
JAGN				S	Sn	15 54 27.0	+0.4
JKE	**Kume jima 2**	**3.09**	**280**	P	Pn	15 53 59.9	+0.5
JKE				S	Sn	15 54 34.3	-0.8

IDC 04 15:57:56.1±1.6**, 9°.11S×127°.41E, h0km, mb3.4**/2**, mb1 3.5**/4**, mb1mx3.3**/29**, mbtmp3.4**/4**, ML3.6**/2**, MS3.8**/1**, Ms1 3.8**/1**, ms1mx2.8**/16**, Error ellipse: s-maj=246.0km s-min=25.5km az=61.0, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.69**	**149**	Pn	Pn	16 00 56.0	-1.9
	0.4nm,0.3s,baz=327,slow=14,SNR=22						
WRA				Sn	Sn	16 03 11.7	-8.4
	0.9nm,0.3s,baz=330,slow=22,SNR=9.9						
ASAR	**Alice Springs**	**15.75**	**158**	Pn	Pn	16 01 39.3	-0.3
	0.2nm,0.3s,baz=332,slow=9.6,SNR=17						
ASAR				Sn	Sn	16 04 32.2	-2.8
	0.3nm,0.3s,baz=319,slow=22,SNR=5.7						
STKA	**Stephens Creek**	**26.21**	**152**	P	P	16 03 33.5	+0.8
	0.9nm,0.7s,baz=333,slow=10.0,SNR=4.1						
RAO	**Raoul Island**	**54.87**	**119**	LR	LR	16 28 37.5	
	comp=Z,88nm,20.9s,baz=162,slow=34						
MKAR	**Makanchi Array**	**68.62**	**328**	P	P	16 09 01.0	-0.1
	0.1nm,0.4s,baz=126,slow=7.3,SNR=2.6						

*BJI **04** 16:08:34.0, 24°.60S×179°.80E, h494km, mb4.5/23, mB5.0/13*

*ISCJB **04** 16:08:35.9±0.6, 24°.66S±0°.04×179°.85E±0°.06, h503km±7km, mb4.5/41, Error ellipse: s-maj=8.7km s-min=6.4km az=0.6*

*MOS **04** 16:08:35.4±1.0, 24°.62S×179°.91E, h498km, mb5.1/9, Error ellipse: s-maj=13.1km s-min=11.1km az=32.4*

*NEIC **04** 16:08:36.1±0.7, 24°.64S×179°.91E, h502km±8km, mb4.8/17, Error ellipse: s-maj=9.0km s-min=8.3km az=197.0*

*IDC **04** 16:08:36.7±0.9, 24°.65S×179°.95E, h504km±9km, mb3.9/21, mb1 4.0/25, mb1mx3.9/35, mbtmp4.8/25, Error ellipse: s-maj=10.8km s-min=10.0km az=54.0*

ISC 04 16:08:35.5±0.4**, 24°.58S**±0°.05×**179°.91E**±0°.07**, h494km**±3km**, h494km:pP-P, n164, σ1.34**/211**, mb4.6**/41**, 10C-8D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.04**	**158**	P	**P**	**16 10 05.0**	**+2.7**
	81nm,0.3s,baz=80,slow=9.4,SNR=8.7						
RAO				S	**S**	**16 11 13.3**	**-0.1**
	171nm,0.3s,baz=54,slow=22,SNR=5.8						
RAO	**Raoul Island**	**5.04**	**158**	*e*P	**P**	**16 10 04.3**	**+1.9**
RAO				*e*S	**S**	**16 11 14.2**	**+0.8**
RAO	**Raoul Island**	**5.04**	**158**	*e*P	**P**	**16 10 04.3**	**+1.9**
RAO				*e*S	**S**	**16 11 14.2**	**+0.8**
MSVF	**Nonsavu**	**7.03**	**345**	*e*P	**P**	**16 10 22.5**	**+0.5**
MSVF	**Nonsavu**	**7.03**	**345**	*e*P	**P**	**16 10 22.5**	**+0.5**
DZM	**Mont Dzumac**	**12.62**	**279**	P	**P**	**16 11 23.6**	**+2.8**
	1.3nm,0.3s,baz=91,slow=23,SNR=15						
HAZ	**Te Kaha**	**13.26**	**187**	PN	**P**	**16 11 28.9**	**+1.7**
HAZ				SN	**S**	**16 13 49.3**	**+0.5**
URZ	**Urewera**	**13.84**	**189**	P	**P**	**16 11 33.3**	**-0.1**
	2.0nm,0.3s,baz=9.1,slow=1.4,SNR=14						
URZ				S	**S**	**16 13 58.0**	**-2.2**
	1.5nm,0.3s,baz=199,slow=22,SNR=12						
URZ	**Urewera**	**13.84**	**189**	PN	**P**	**16 11 34.5**	**+1.1**
URZ				SN	**S**	**16 14 00.5**	**+0.4**
URZ	**Urewera**	**13.84**	**189**	*e*P	**P**	**16 11 32.1**	**-1.2**
URZ				*e*S	**S**	**16 14 02.9**	**+2.7**
BKZ	**Black Stump Fm**	**14.82**	**190**	PN	**P**	**16 11 43.7**	**-0.1**
BKZ				SN	**S**	**16 14 14.4**	**-4.7**
BKZ	**Black Stump Fm**	**14.82**	**190**	*e*P	**P**	**16 11 43.8**	**0.0**
MRZ	**Mangatainoka R**	**16.44**	**192**	PN	**P**	**16 11 57.9**	**-2.8**
MRZ				SN	**S**	**16 14 44.5**	**-5.1**
CAW	**Cannon Point**	**16.97**	**193**	PN	**P**	**16 12 05.1**	**-1.1**
QRZ	**Quartz Range**	**17.34**	**199**	PN	**P**	**16 12 09.4**	**-0.3**
TUWZ	**Tuamarina**	**17.52**	**195**	PN	**P**	**16 12 10.6**	**-0.9**
THZ	**Tophouse**	**18.10**	**197**	PN	**P**	**16 12 15.9**	**-1.1**
DSZ	**Denniston Nort**	**18.40**	**200**	PN	**P**	**16 12 19.6**	**0.0**
KHZ	**Kahutara**	**18.55**	**195**	*e*P	**P**	**16 12 18.2**	**-2.8**
	98nm,1.9s						
RAR	**Rarotonga**	**19.02**	**84**	P	**P**	**16 12 24.0**	**-1.5**
	0.5nm,0.3s,baz=254,slow=7.9,SNR=3.6						
OXZ	**Oxford**	**19.78**	**197**	PN	**P**	**16 12 31.0**	**-1.3**
WVZ	**Waitaha Valley**	**19.93**	**200**	PN	**P**	**16 12 33.0**	**-0.6**
RPZ	**Rata Peaks**	**20.42**	**199**	P	**P**	**16 12 38.2**	**+0.1**
	8.2nm,0.5s,baz=21,slow=2.4,SNR=13						
RPZ	**Rata Peaks**	**20.42**	**199**	*e*P	**P**	**16 12 37.8**	**-0.2**
	195nm,2.3s						
JCZ	**Jackson Bay**	**21.48**	**202**	PN	**P**	**16 12 47.1**	**-0.6**
HNR	**Honiara**	**24.27**	**305**	*e*P	**P**	**16 13 10.7**	**-2.3**
HNR				pmax	pmax		
	comp=Z,36nm,0.4s						
HNR	**Honiara**	**24.27**	**305**	*e*P	**P**	**16 13 10.7**	**-2.3**
	comp=Z,36nm,0.4s						
EIDS	**Eidsvold**	**26.12**	**262**	*e*P	**P**	**16 13 30.0**	**+0.6**
	comp=Z,18nm,0.8s						
CTA	**Charters Tower**	**31.40**	**271**	P	**P**	**16 14 17.3**	**+1.8**
	comp=Z,23nm,0.3s,baz=96,slow=11,SNR=100						
CTAO	**Charters Tower**	**31.40**	**271**	*e*P	**P**	**16 14 15.4**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,53nm,0.6s						
CTAO	**Charters Tower**	**31.40**	**271**	*e*P	**P**	**16 14 15.4**	**-0.1**
	comp=Z,53nm,0.6s						
STKA	**Stephens Creek**	**34.40**	**249**	P	**P**	**16 14 42.2**	**+1.5**
	comp=Z,14nm,0.5s,baz=88,slow=7.1,SNR=78						
STKA				PcP	**PcP**	**16 17 03.0**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=188,slow=3.4,SNR=3.2						
PMG	**Port Moresby**	**34.64**	**290**	*d i*P	**P**	**16 14 43.9**	**+0.9**
PMG				pmax	pmax		
	comp=Z,155nm,0.9s						
PMG	**Port Moresby**	**34.64**	**290**	*e*P	**P**	**16 14 43.4**	**+0.4**
	comp=Z,127nm,0.8s						
COEN	**Coen**	**36.15**	**280**	*e*P	**P**	**16 14 55.8**	**+0.2**
	comp=Z,15nm,0.8s						
BBOO	**Buckleboo**	**39.10**	**248**	*e*P	**P**	**16 15 19.9**	**+0.3**
	comp=Z,30nm,0.9s						
AS01	**Alice Springs**	**41.80**	**261**	*e*P	**P**	**16 15 41.8**	**+0.4**
AS31	**Alice Springs**	**41.85**	**261**	*e*P	**P**	**16 15 41.7**	**0.0**
ASAR	**Alice Springs**	**41.85**	**261**	P	**P**	**16 15 42.5**	**+0.7**
	comp=Z,17nm,0.8s,baz=88,slow=6.2,SNR=104						
ASAR				PcP	**PcP**	**16 17 26.7**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=96,slow=5.0,SNR=4.8						
ASAR				ScP	**ScP**	**16 20 28.5**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=109,slow=4.8,SNR=4.2						
ASAR				S	**S**	**16 21 21.8**	**-1.7**
	comp=Z,0.9nm,0.9s,baz=88,slow=17,SNR=5.0						
WRAB	**Tennant Creek**	**42.27**	**267**	*d i*P	**P**	**16 15 45.2**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,75nm,0.8s						
WRAB	**Tennant Creek**	**42.27**	**267**	*e*P	**P**	**16 15 44.6**	**-0.6**
	comp=Z,33nm,0.9s						
WRAB				*e*ScP	**ScP**	**16 20 33.0**	**+1.8**
WRA	**Warramunga Arr**	**42.28**	**267**	P	**P**	**16 15 45.3**	**+0.1**
	comp=Z,28nm,0.6s,baz=99,slow=6.8,SNR=316						
WRA				PcP	**PcP**	**16 17 27.9**	**0.0**
	comp=Z,0.8nm,0.3s,baz=102,slow=3.3,SNR=4.4						
WRA				ScP	**ScP**	**16 20 31.7**	**+0.5**
	comp=Z,7.5nm,0.9s,baz=101,slow=4.1,SNR=22						
FORT	**Forrest**	**46.00**	**250**	*e*P	**P**	**16 16 13.8**	**0.0**
	comp=Z,70nm,0.8s						
SIJI	**Sorong**	**52.58**	**289**	P	**P**	**16 17 03.3**	**+0.5**
	comp=Z,53nm,0.7s,baz=151,slow=2.0,SNR=15						
SBA	**Scott Base**	**53.69**	**183**	*e*P	**P**	**16 17 10.0**	**+0.2**
SBA				pmax	pmax		
	comp=Z,143nm,2.8s						
SBA	**Scott Base**	**53.69**	**183**	*e*P	**P**	**16 17 09.9**	**+0.2**
	comp=Z,143nm,2.8s						
VNDA	**Vanda**	**53.69**	**185**	P	**P**	**16 17 09.9**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=6.0,slow=6.0,SNR=6.3						
VNDA	**Vanda**	**53.69**	**185**	P	**P**	**16 17 10.0**	**+0.2**
SOEI	**Soe**	**54.82**	**275**	*e*P	**P**	**16 17 16.4**	**-2.5**
	comp=Z,74nm,1.1s						
TNTI	**Ternate**	**56.76**	**288**	*e*P	**P**	**16 17 32.4**	**+0.2**
	comp=Z,48nm,1.1s						
QSPA	**South Pole Qui**	**65.50**	**180**	P	**P**	**16 18 29.6**	**+0.5**
	comp=Z,7.0nm,0.8s,baz=2.2,slow=0.9,SNR=41						
QSPA	**South Pole Qui**	**65.50**	**180**	*e*P	**P**	**16 18 28.9**	**-0.2**
	comp=Z,6.1nm,0.8s						
KKM	**Kota Kinabalu**	**69.03**	**287**	*e*P	**P**	**16 18 50.5**	**-1.1**
	comp=Z,17nm,0.7s						
SBUM	**Sibu**	**70.87**	**282**	*e*P	**P**	**16 19 03.2**	**+0.6**
	comp=Z,7.8nm,1.0s						
LEM	**Lembang**	**71.11**	**271**	P	**P**	**16 19 05.3**	**+1.1**
	comp=Z,31nm,0.7s,baz=120,slow=6.6,SNR=9.3						
KSM	**Kuching**	**72.14**	**280**	*e*P	**P**	**16 19 10.3**	**+0.3**
MJAR	**Matsushiro Arr**	**72.41**	**326**	P	**P**	**16 19 11.4**	**+0.4**
	comp=Z,6.7nm,0.8s,baz=164,slow=5.9,SNR=24						
MAJO	**Matsushiro**	**72.42**	**326**	*d i*P	**P**	**16 19 11.2**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,92nm,1.2s						
MAJO	**Matsushiro**	**72.42**	**326**	*e*P	**P**	**16 19 09.0**	**-2.1**
	comp=Z,10nm,0.9s						
MAT	**Matsushiro**	**72.42**	**326**	P	**P**	**16 19 11.4**	**+0.3**
JNU	**Nakatsue**	**73.98**	**319**	P	**P**	**16 19 20.1**	**-0.1**
	comp=Z,4.8nm,0.8s,baz=77,slow=5.1,SNR=5.3						
ERM	**Erimo**	**74.47**	**332**	⇑*e*P	**P**	**16 19 24.3**	**+1.7**
ERM				pmax	pmax		
	comp=Z,18nm,1.7s						
ASAJ	**Asahikawa**	**76.44**	**333**	P	**P**	**16 19 35.6**	**+2.1**
	comp=Z,8.5nm,0.9s,baz=147,slow=2.9						
ASAJ	**Asahikawa**	**76.44**	**333**	*e*P	**P**	**16 19 34.6**	**+1.0**
MAW	**Mawson**	**77.08**	**200**	P	**P**	**16 19 37.1**	**+0.3**
	comp=Z,5.4nm,0.7s,baz=134,slow=8.5,SNR=16						
KSRS	**Korea Array**	**78.72**	**320**	P	**P**	**16 19 47.5**	**+1.4**
	comp=Z,3.6nm,0.7s,baz=130,slow=5.8,SNR=34						
YSS	**Yuzh-Sakhalins**	**78.72**	**335**	*e*P	**P**	**16 19 47.6**	**+1.7**
YSS	**Yuzh-Sakhalins**	**78.72**	**335**	*e*P	**P**	**16 19 47.6**	**+1.7**
KSAR	**Wonju Array Be**	**78.73**	**320**	P	**P**	**16 19 47.5**	**+1.3**
KSAR	**Wonju Array Be**	**78.73**	**320**	P	**P**	**16 19 47.5**	**+1.3**
KS01	**Wonju Array Si**	**78.75**	**320**	*e*P	**P**	**16 19 46.4**	**+0.1**
PETK	**Petropavlovsk-**	**79.74**	**347**	P	**P**	**16 19 51.7**	**+0.5**
	comp=Z,8.2nm,0.8s,baz=143,slow=6.4,SNR=14						
USRK	**Ussuriysk Ar.**	**81.29**	**327**	P	**P**	**16 20 00.1**	**+0.6**
	comp=Z,3.7nm,0.6s,baz=116,slow=5.6,SNR=11						
SYO	**Syowa Base**	**82.33**	**193**	⇓*e*P	**P**	**16 20 02.8**	**-1.7**
MDJ	**Mudanjiang**	**82.79**	**326**	P	**P**	**16 20 08.4**	**+1.3**
MDJ				pP	**pP**	**16 21 50.6**	**-4.8**
MDJ				sP	**sP**	**16 22 41.7**	**-4.3**
MDJ				S	**SKKSac**	**16 29 45.9**	**-0.3**
MDJ				PMZ			
	comp=Z,10.0nm,1.0s						
MDJ				PMZ			
	comp=Z,42nm,4.1s						
PSI	**Prapat**	**82.97**	**276**	P	**P**	**16 20 07.4**	**-1.5**
	comp=Z,3.3nm,0.4s,baz=39,slow=2.0,SNR=6.0						
PSI	**Prapat**	**82.97**	**276**	*e*P	**P**	**16 20 07.2**	**-1.7**
PSI	**Prapat**	**82.97**	**276**	*e*P	**P**	**16 20 07.2**	**-1.7**
HABR	**Khabarovsk**	**83.07**	**332**	*de*P	**P**	**16 20 08.0**	**-0.4**
HABR				*e**PP	**pP**	**16 21 55.5**	**-1.3**
HABR				*e**SP	**sP**	**16 22 46.2**	**-1.2**
HABR				*e*		16 23 27.6	
HABR				*e*S	**SKSac**	**16 29 41.6**	**-0.9**
HABR				*e*SS	**SS**	**16 35 26.8**	**+1.7**
HABR				*e*SSS	SSS	16 39 01.7	
HABR				pmax	pmax		
	comp=N,7.0nm,0.9s						
HABR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HABR				pmax	pmax		
	comp=E,7.0nm,0.9s						
WHN	**Wuhan**	**83.35**	**308**	P	**P**	**16 20 11.7**	**+1.5**
PFO	**Pinyon Flats O**	**83.72**	**49**	*e*P	**P**	**16 20 11.0**	**-1.2**
PFO	**Pinyon Flats O**	**83.72**	**49**	*e*P	**P**	**16 20 11.0**	**-1.2**
SKNT	**Sakolnakorn**	**84.73**	**291**	P	**P**	**16 20 18.6**	**+1.2**
	comp=E,50nm,0.8s						
KLR	**Kul'dur**	**85.08**	**331**	*e*P	**P**	**16 20 16.0**	**-2.4**
NVAR	**Mina Array Bea**	**85.30**	**44**	P	**P**	**16 20 20.4**	**+0.5**
	comp=E,1.2nm,0.8s,baz=231,slow=7.4,SNR=6.9						
TPNV	**Topopah Spring**	**85.76**	**46**	*e*P	**P**	**16 20 23.4**	**+1.2**
TPNV	**Topopah Spring**	**85.76**	**46**	*e*P	**P**	**16 20 23.4**	**+1.2**
TUC	**Tucson**	**87.00**	**52**	*e*P	**P**	**16 20 30.2**	**+2.2**
TUC	**Tucson**	**87.00**	**52**	*e*P	**P**	**16 20 30.2**	**+2.2**
GYA	**Guiyang**	**87.02**	**301**	*e*P	**P**	**16 20 30.0**	**+1.7**
GYA				pP	**pP**	**16 22 21.4**	**+3.4**
GYA				sP	**sP**	**16 23 10.0**	**+1.7**
GYA				PP	**PP**	**16 24 03.2**	**+2.3**
GYA				SKS	**SKSac**	**16 30 07.8**	**-0.6**
GYA				S	**S**	**16 30 25.6**	**-0.2**
GYA				sS	**sS**	**16 33 41.9**	**+0.8**
GYA				PMZ			
	comp=E,10.0nm,1.0s						
PBKT	**Sadao Pong**	**87.12**	**290**	P	**P**	**16 20 30.9**	**+2.1**
	comp=E,20nm,1.6s						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PLCA	Paso Flores	87.85	134	P	P	16 20 31.7	-0.3
	comp=E,1.7nm,0.8s,baz=272,slow=3.8,SNR=3.1						
XAN	Xi'an	89.10	308	P	P	16 20 39.2	+1.4
XAN				PMZ			
	comp=E,2.0nm,0.8s						
CRAI	Chiangrai	89.25	293	P	P	16 20 37.7	-1.1
	comp=E,43nm,1.2s						
KMI	Kunming	89.51	298	P	P	16 20 42.0	+1.9
KMI				PMZ			
	comp=E,8.0nm,0.9s						
CMAR	Chiang Mai Arr	89.69	290	P	P	16 20 43.1	+2.3
	comp=E,5.2nm,0.9s,baz=137,slow=3.4,SNR=35						
CMAR				PP	PP	16 24 22.0	+0.2
	comp=E,0.3nm,0.3s,baz=127,slow=5.6,SNR=4.3						
CHTO	Chiang Mai	89.84	291	*e*P	P	16 20 42.3	+0.8
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CHTO	Chiang Mai	89.84	291	*e*P	P	16 20 42.3	+0.8
	comp=Z,9.4nm,1.0s						
SEY	Seymchan	89.92	348⇑	*e*P	P	16 20 41.3	+0.5
CMAI	Chiengmai2	90.24	292	P	P	16 20 45.4	+1.9
	comp=Z,47nm,1.1s						
MHMT	Maesarieng	90.43	290	P	P	16 20 50.8	+6.6
	comp=Z,12nm,0.4s,comp=Z,381nm						
MNTX	Cornudas Mount	90.67	55	*e*P	P	16 20 46.4	+1.3
HHC	Hu-ho-hao-te	90.84	315	*e*P	P	16 20 46.0	+0.2
HHC				pP	pP	16 22 35.6	-0.6
HHC				PP	PP	16 24 26.5	-4.1
HHC				S	S	16 30 59.5	-0.6
HHC				sS	sS	16 34 15.2	-2.4
HHC				PMZ			
	comp=Z,23nm,1.3s						
HHC				PMZ			
	comp=Z,93nm,5.1s						
TX31	Lajitas Ar. Si	90.86	58	*e*P	P	16 20 47.0	+0.9
TXAR	Lajitas Array	90.86	58	P	P	16 20 47.4	+1.2
	comp=Z,1.7nm,0.8s,baz=212,slow=7.1,SNR=21						
CD2	Chengdu	91.39	303	*e*P	P	16 20 48.9	+0.5
CD2				pP	pP	16 22 39.4	+0.5
CD2				sP	sP	16 23 29.8	+0.8
CD2				PP	PP	16 24 35.1	+0.1
CD2				S	S	16 31 05.6	+0.4
CD2				sS	sS	16 34 24.3	+1.4
CD2				SS	SS	16 37 27.5	+1.4
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
ANMO	Albuquerque	91.44	52⇓	*i*P	P	16 20 49.5	+0.7
ANMO				*i* *PP	pP	16 22 38.3	-1.0
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.2s						
SONM	Songino Array	97.57	319	PP	PP	16 25 18.8	-3.4
	comp=Z,0.3nm,0.8s,baz=111,slow=7.9,SNR=5.1						
ZALV	Zalesovo Beam	112.42	320	PKiKP	PKiKP	16 26 12.7	-1.9
	comp=Z,0.3nm,0.3s,baz=62,slow=3.5,SNR=3.9						
ZALV				PP	PP	16 27 09.6	-0.6
	comp=Z,0.5nm,0.4s,baz=134,slow=10,SNR=3.7						
MKAR	Makanchi Array	112.55	312	PKiKP	PKiKP	16 26 14.0	-1.1
	comp=Z,0.8nm,0.8s,baz=66,slow=3.0,SNR=7.7						
MKAR	Makanchi Array	112.55	312	PKIKP	PKiKP	16 26 14.0	-1.1
KURBB	Kurchatov Arra	115.68	316	PP	PP	16 27 22.1	-11
	comp=Z,0.3nm,0.9s,baz=103,slow=5.3,SNR=2.8						
KKAR	Karatay Array	120.21	307	*e*PKIKP	PKPdf	16 26 29.3	-0.6
KKAR	Karatay Array	120.21	307	*e*PKPdf	PKPdf	16 26 29.3	-0.6
ARU	Arti	127.38	323	*i* PKIKP	PKPdf	16 26 43.1	-0.1
ARU						16 28 50.0	
ARU						16 29 30.0	
AKTO	Aktyubinsk	128.73	316	PKP	PKPdf	16 26 45.7	-0.3
	comp=Z,1.8nm,0.7s,baz=135,slow=2.8						
ARCES	ARCESS Array B	132.54	348	PKP	PKPdf	16 26 51.7	-0.9
	comp=Z,2.6nm,0.8s,baz=17,slow=1.5,SNR=7.8						
ARCES				SKPbc	SKPbc	16 29 31.0	-2.2
	comp=Z,5.2nm,0.9s,baz=347,slow=8.7,SNR=4.8						
FINES	FINESS Array B	139.06	341	PKhKP	PKPpre	16 26 55.2	
	comp=Z,1.4nm,0.7s,baz=76,slow=2.0,SNR=12						
FINES				PKP	PKPdf	16 27 05.5	+0.6
	comp=Z,1.8nm,0.6s,baz=119,slow=6.7,SNR=5.7						
FINES				SKPbc	SKPbc	16 29 52.6	-0.5
	comp=Z,4.2nm,0.8s,baz=62,slow=4.9,SNR=8.4						
NB2	NORSAR Subarra	142.74	351	PKP	PKPpre	16 27 08.0	
	comp=Z,1.6nm,0.7s,baz=11,slow=3.4						
NOA	NORSAR Array B	142.74	351	PKhKP	PKPpre	16 27 08.3	
	comp=Z,3.1nm,0.8s,baz=15,slow=4.9,SNR=9.8						
ANN	Anapa	143.57	313	*i* PKIKP	PKPab	16 27 11.6	-0.3
ANN				pmax	pmax		
	comp=Z,36nm,1.0s						
NACGM	Naroch	143.78	334	*e*	PKPab	16 27 10.0	-2.4
AKASG	Malin Array Be	145.50	327	PKPbc	PKPbc	16 27 17.2	-0.6
	comp=Z,3.7nm,0.5s,baz=44,slow=4.2,SNR=32						
AKASG				SKPbc	SKPbc	16 30 09.3	0.0
	comp=Z,0.2nm,0.3s,baz=43,slow=2.4,SNR=4.2						
AKBB	Malin Array Si	145.50	327	*e*PKIKP	PKPbc	16 27 17.3	-0.5
AKBB	Malin Array Si	145.50	327	*e*PKPdf	PKPbc	16 27 17.3	-0.5
KIEV	Kiev	145.51	327	*e*PKIKP	PKPdf	16 27 17.1	+0.5
KIEV	Kiev	145.51	327	*e*PKPdf	PKPdf	16 27 17.1	+0.5
SUW	Suwalki	145.85	335	*e*PKP	PKPab	16 27 20.8	+0.5
SUW	Suwalki	145.85	335	*e*PKP2	PKPab	16 27 20.8	+0.5
BR131	Keskin Array S	147.92	306	*e*PKPbc	PKPbc	16 27 24.8	-0.2
BRTR	Keskin Array B	147.92	306	PKPbc	PKPbc	16 27 24.7	-0.2
	comp=Z,4.7nm,0.7s,baz=134,slow=3.3,SNR=27						
BRTR				PKPab	PKPab	16 27 29.8	+0.4
	comp=Z,6.1nm,0.6s,baz=108,slow=4.1,SNR=24						
LVV	L'vov	148.58	329	*i* PKP2	PKPbc	16 27 28.1	+2.0
KWP	Kalwaria Pacla	149.32	330	*e*PKP	PKPdf	16 27 23.3	+0.3
CSS	Prodhromos	149.33	298	*e*PKPbc	PKPbc	16 27 28.4	-0.1
BUR08	Bucovina Ar. S	149.47	325	*e*PKPbc	PKPbc	16 27 29.1	+0.6
OJC	Ojcow	150.11	334	*e*PKP	PKPbc	16 27 30.0	+0.2
OJC	Ojcow	150.11	334	*e*PKIKP	PKPbc	16 27 30.0	+0.2
NIE	Niedzica	150.52	332	*e*PKP	PKPbc	16 27 31.7	+0.9
NIE	Niedzica	150.52	332	*e*PKIKP	PKPbc	16 27 31.7	+0.9
KSP	Ksiaz	150.89	338	*e*PKP	PKPbc	16 27 32.0	+0.5
KSP	Ksiaz	150.89	338	*e*PKIKP	PKPbc	16 27 32.1	+0.5
UPC	Upice	151.27	338⇑	*e*PKP	PKPbc	16 27 32.7	+0.3
UPC				*e*PKPAB	PKPab	16 27 43.7	+1.0
UPC	Upice	151.27	338	*e*PKIKP	PKPbc	16 27 32.7	+0.3
UPC				*e*		16 27 43.7	
DPC	Dobruska-Polom	151.30	338⇑	*e*PKP	PKPbc	16 27 33.1	+0.5
DPC				*e*PKPAB	PKPab	16 27 43.4	+0.5
DPC	Dobruska-Polom	151.30	338	*e*PKIKP	PKPbc	16 27 33.1	+0.5
DPC				*e*		16 27 43.4	
KRLC	Kraliky	151.37	337⇑	*e*PKP	PKPbc	16 27 33.0	+0.3
KRLC				*e*PKPAB	PKPab	16 27 44.0	+0.8
KRLC	Kraliky	151.37	337	*e*PKIKP	PKPbc	16 27 33.0	+0.3
KRLC				*e*		16 27 44.0	
CLL	Collm	151.48	343⇓	*i*PKPbc	PKPbc	16 27 32.8	-0.1
	comp=Z,12nm,0.8s						
CLL			⇑	*i*PKPab	PKPab	16 27 43.6	+0.1
	comp=Z,5.0nm,0.7s						
CLL	Collm	151.48	343⇓	*i*PKIKP	PKPbc	16 27 32.8	-0.1
CLL				*i*		16 27 43.6	
CLL				pmax	pmax		
	comp=Z,12nm,0.8s						
CLL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRG	Berggiesshubel	151.60	341	*i* PKP	PKPbc	16 27 33.3	+0.2
	comp=Z,6.7nm,0.7s						
BRG				*e*		16 27 44.4	
	comp=Z,6.2nm,0.9s						
BRG	Berggiesshubel	151.60	341	*i* PKIKP	PKPbc	16 27 33.3	+0.2
BRG				*e*		16 27 44.4	
BRG				pmax	pmax		
	comp=Z,115nm,0.7s						
PVCC	Panska Ves	151.72	340⇑	*e*PKP	PKPbc	16 27 34.1	+0.7
PVCC	Panska Ves	151.72	340	*e*PKIKP	PKPbc	16 27 34.1	+0.7
GOPC	GO Pecny, Ondr	152.19	339⇑	*e*PKP	PKPbc	16 27 34.7	+0.2
PRU	Pruhonice	152.20	340⇑	*e*PKP	PKPbc	16 27 34.6	+0.1
PRU				*e*PKPAB	PKPab	16 27 47.2	+0.6
PRU	Pruhonice	152.20	340	*e*PKIKP	PKPbc	16 27 34.6	+0.1
PRU				*e*		16 27 47.2	
KHC	Kasperske Hory	153.25	340⇑	*e*PKP	PKPbc	16 27 37.0	+0.1
KHC				*e*PKPAB	PKPab	16 27 52.3	+1.1
KHC	Kasperske Hory	153.25	340	*e*PKIKP	PKPbc	16 27 37.0	+0.1
KHC				*e*		16 27 52.3	
GERES	GERESS Array B	153.47	339	PKPbc	PKPbc	16 27 36.2	-1.2
	comp=Z,0.2nm,0.4s,baz=354,slow=2.7,SNR=5.7						
GERES				PKPab	PKPab	16 27 52.6	+0.4
	comp=Z,1.0nm,0.6s,baz=36,slow=5.0,SNR=6.6						
VISS	Visnje	155.64	334	*e*PKPbc	PKPab	16 28 01.6	+0.1
BOJS	Bojanci	155.72	333	*i* PKPbc	PKPab	16 28 02.6	+0.8
JAVS	Javornik	155.87	335	*i* PKPbc	PKPab	16 28 01.9	-0.7
ESDC	Sonseca Array	164.60	11	PKPab	PKPab	16 28 41.0	+0.2
	comp=Z,0.3nm,0.4s,baz=347,slow=6.1,SNR=4.2						
TORD	Torodi Ar. Bea	168.50	189	PKP	PKPdf	16 27 44.6	-1.3
	comp=Z,0.6nm,0.8s,baz=226,slow=0.4,SNR=4.0						
TORD				PKPab	PKPab	16 28 58.3	-0.2
	comp=Z,1.4nm,0.7s,baz=178,slow=3.8,SNR=6.7						

IDC 04 16:11:07.5±1.7**, 9°.21S**×**31°.01E, h0km, mb3.6**/3**, mb1 3.7**/4**, mb1mx3.4**/30**, mbtmp3.7**/4**, ML3.6**/1**, Error ellipse: s-maj=81.8km s-min=24.2km az=117.0, Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	10.15	38	Pn	Pn	16 13 36.6	+1.7
	0.5nm,0.3s,baz=221,slow=17,SNR=4.2						
KMBO				Sn	Sn	16 15 28.8	-1.0
	0.5nm,0.3s,baz=131,slow=20,SNR=2.4						
KMBO				Lg	Lg	16 16 34.1	
	0.6nm,0.3s,baz=255,slow=12,SNR=3.6						
BOSA	Boshof	20.05	195	P	Pn	16 15 43.5	-0.7
	1.2nm,0.4s,baz=22,slow=14,SNR=4.9						
BRTR	Keskin Array B	48.74	3	P	P	16 19 54.8	+0.6
	0.7nm,0.7s,baz=171,slow=12,SNR=4.4						
MKAR	Makanchi Array	72.01	34	P	P	16 22 31.7	-1.5
	0.4nm,0.7s,baz=235,slow=8.1,SNR=4.6						

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*IDC **04** 16:24:01.9±1.5, 14°.47N×93°.93E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/38, mbtmp3.5/5, Error ellipse: s-maj=56.9km s-min=19.9km az=62.0*

ISC 04 16:24:05.1±5.3**, 14°.0N**±1°.0×**9°3E**±°**, h41km, n6, σ0^{s}46**/5**, mb3.5**/5**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.21	51	Pg	Pn	16 25 54.9	+6.8
	0.1nm,0.3s,baz=235,slow=19,SNR=3.3						
CMAR				Lg	Lg	16 27 06.5	
	0.1nm,0.3s,baz=240,slow=30,SNR=4.9						
MKAR	Makanchi Array	33.91	347	P	P	16 30 44.1	-0.2
	0.5nm,0.7s,baz=165,slow=8.1,SNR=5.3						
KURBB	Kurchatov Arra	38.38	345	P	P	16 31 22.2	-0.1
	0.6nm,0.7s,baz=167,slow=7.9,SNR=7.4						
ZALV	Zalesovo Beam	40.38	353	P	P	16 31 39.2	+0.3
	0.6nm,0.6s,baz=184,slow=9.7,SNR=3.3						
WRA	Warramunga Arr	52.81	129	P	P	16 33 16.4	-0.4
	0.3nm,0.7s,baz=309,slow=9.9,SNR=5.6						
ASAR	Alice Springs	54.76	133	P	P	16 33 31.4	+0.4
	0.4nm,0.4s,baz=308,slow=6.9,SNR=27						

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*NEIC **04** 16:47:27.8±5.3, 9°.00S×112°.43E, h34km±46km, mb4.8/1, Error ellipse: s-maj=24.0km s-min=13.9km az=62.0*

NEIC Felt [III] at Karangkates.

*ISCJB **04** 16:47:29.8±0.4, 8°.84S±0°.05×112°.51E±0°.03, h71km, mb4.1/13, Error ellipse: s-maj=7.2km s-min=3.7km az=17.2*

*DJA **04** 16:47:29.7±0.9, 9°S±4°×11°3E±°, h18km±9km, M4.8/31, mb4.9/25, mB5.4/10, MLv4.8/31, Mw(mB)4.8/10*

*IDC **04** 16:47:30.1±0.8, 8°.62S×112°.46E, h72km±7km, mb3.7/12, mb1 3.9/14, mb1mx3.8/33, mbtmp4.1/14, MS3.0/5, Ms1 3.1/5, ms1mx2.9/29, Error ellipse: s-maj=21.4km s-min=12.7km az=53.0*

ISC 04 16:47:30.4±0.6**, 8°.80S**±0°.07×**112°.50E**±0°.04**, h71km, n58, σ1^{s}53**/49**, mb4.0**/13**, Jawa**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PWJI	Pagerwojo	1.03	318	P	Pn	16 47 48.9	-0.5
PCJI	Pacitan	1.44	295	P	Pn	16 47 54.7	+0.1
BLJI	Banyuglugur	1.51	46	P	Pn	16 47 56.2	+0.7
GRJI	Gresik	1.87	359	P	Pn	16 48 02.3	+1.9
ABJI	Asem Bagus	1.98	60	P	Pn	16 48 03.3	+1.4
TBJI	Tambak Boyo	2.07	342	P	Pn	16 48 04.7	+1.6
UGM	Wanagama	2.15	294	P	Pn	16 48 05.3	+1.2
IGBI	Denpasar	2.61	91	P	Pn	16 48 11.5	+1.1
IGBI				S	Sn	16 48 41.9	+0.8
DNP	Denpasar	2.68	88	P	Pn	16 48 14.0	+2.7
SRBI	Singaraja	2.77	75	P	Pn	16 48 13.8	+1.2
UWJI	Ujung Watu	2.82	327	P	Pn	16 48 14.1	+0.8
CMJI	Cimerak	4.13	284	P	Pn	16 48 31.0	-0.2
CISI	Cisompet, Garu	4.80	285	P	Pn	16 48 41.1	+0.8
LEM	Lembang	5.22	292	P	Pn	16 48 49.2	+3.0
	195nm,1.0s,2μm0.6nm						
LEM	Lembang	5.22	292	P	Pn	16 48 46.3	+0.1
	baz=336,slow=20,SNR=4.0						
LEM				LR	LR	16 51 22.4	
	comp=Z,84nm,18.6s,baz=167,slow=45						
CNJI	Cibinong	5.52	285	P	Pn	16 48 50.9	+0.8
	222nm,0.9s,3μm1.2nm						
BBKI	Banjar Baru	5.79	24	P	Pn	16 48 56.2	+2.4
	90nm,0.8s,2μm0.5nm						
CBJI	Citeko	6.08	292	P	Pn	16 48 59.7	+1.9
	170nm,0.9s,0.9nm						
PBKI	Pangkalan Bun	6.11	352	P	Pn	16 49 01.2	+3.0
	79nm,0.9s,0.3nm						
SKJI	Sukabumi	6.15	286	P	Pn	16 49 02.6	+3.8
	168nm,0.7s,2μm1.2nm						
KBKI	Kotabaru	6.57	34	P	Pn	16 49 06.5	+2.1
	21nm,0.9s,0.1nm						
CGJI	Cibinong	7.09	287	P	Pn	16 49 14.2	+2.7
	381nm,0.5s,6μm1.7nm						
TPI	Tanjungpandan	7.70	321	P	Pn	16 49 22.9	+3.0
	17nm,1.0s,0.1nm						
WSI	Waingapu	7.75	97	P	Pn	16 49 22.0	+1.4
	444nm,0.7s,5μm2.4nm						
BASI	Baing, Sumba	8.09	101	P	Pn	16 49 26.7	+1.4
	313nm,1.3s						
KAPI	Kappang	8.12	63	P	Pn	16 49 25.7	+0.1
	2.0nm,0.3s,baz=254,slow=5.3,SNR=6.4						
KAPI	Kappang	8.12	63	*e*Pn	Pn	16 49 25.1	-0.6
BKSI	Bulukumba	8.31	66	P	Pn	16 49 35.2	+6.9
SPSI	Sidrap Palu	8.67	57	P	Pn	16 49 36.9	+3.7
	30nm,1.0s,468nm0.1nm						
STKI	Sintang	8.86	353	P	Pn	16 49 43.2	+7.3
	28nm,0.7s,18μm						
LWLI	Liwa	9.18	294	P	Pn	16 49 49.0	+8.7
MDSI	Maura Dua	9.31	297	P	Pn	16 49 47.2	+5.3
	60nm,1.2s						
MMRI	Maumere	9.63	90	*e*Pn	Pn	16 49 43.9	-2.4
	44nm,0.6s						
MMRI				*e*Sn	Sn	16 51 32.0	-0.9
KSM	Kuching	10.44	348	*e*Pn	Pn	16 49 57.7	+0.4
	5.8nm,0.9s						
KSM				*e*Sn	Sn	16 51 53.7	+1.0
PCI	Palu	10.72	43	P	Pn	16 50 08.1	+6.9
	33nm,0.9s						
SOEI	Soe	11.65	96	P	Pn	16 50 21.7	+7.6
SOEI	Soe	11.65	96	*e*Pn	Pn	16 50 14.3	+0.3
	52nm,0.6s						
SOEI				*e*Sn	Sn	16 52 21.9	-0.7
MBWA	Marble Bar	14.13	151	*e*Pn	Pn	16 50 43.4	-3.8
	16nm,0.5s						
TNTI	Ternate	17.60	58	P	P	16 51 35.2	+4.0
	33nm,0.8s						
SIJI	Sorong	20.28	68	P	P	16 52 00.6	+0.1
	15nm,0.6s,baz=157,slow=8.2,SNR=4.2						
WRA	Warramunga Arr	23.85	120	P	P	16 52 37.5	+0.1
	10.0nm,0.8s,baz=297,slow=11,SNR=295						
WRAB	Tennant Creek	23.85	120	*e*P	P	16 52 37.8	+0.4
	25nm,0.7s						
AS31	Alice Springs	25.26	128	*e*P	P	16 52 50.5	+0.2
ASAR	Alice Springs	25.26	128	P	P	16 52 50.8	+0.5
	14nm,0.8s,baz=302,slow=9.8,SNR=194						
ASAR				ScP	ScP	16 59 54.5	-0.7
	0.9nm,0.8s,baz=311,slow=2.7,SNR=4.1						
ASAR				LR	LR	17 01 31.4	
	comp=Z,74nm,21.9s,baz=262,slow=33						
CMAR	Chiang Mai Arr	30.21	334	P	P	16 53 33.2	-1.2
	0.5nm,0.6s,baz=167,slow=7.2,SNR=6.0						
CMAR				LR	LR	17 06 06.9	
	comp=Z,22nm,21.3s,baz=140,slow=37						
STKA	Stephens Creek	35.45	134	P	P	16 54 21.5	+1.4
	43nm,0.6s,baz=312,slow=8.8,SNR=251						
STKA				LR	LR	17 08 24.9	
	comp=Z,96nm,21.8s,baz=210,slow=35						
GUMO	Guam	39.08	56	LR	LR	17 09 43.8	
	comp=Z,12nm,20.1s,baz=305,slow=34						
H08S2	Diego Garcia H	39.60	269	T	T	17 37 09.6	
	baz=95,slow=75,SNR=12						
H08S3	Diego Garcia H	39.61	269	T	T	17 37 09.7	
	baz=95,slow=75,SNR=9.4						
H08S1	Diego Carcia H	39.62	269	T	T	17 37 14.1	
	baz=95,slow=75,SNR=8.5						
KSRS	Korea Array	48.22	16	P	P	16 56 03.6	-0.5
	0.4nm,0.6s,baz=203,slow=6.5,SNR=3.4						
MJAR	Matsushiro Arr	51.16	27	P	P	16 56 23.7	-2.7
	0.9nm,0.6s,baz=208,slow=9.2,SNR=6.2						
MJAR				pP	pP	16 56 42.7	-1.8
	1.9nm,0.9s,baz=204,slow=7.9,SNR=4.0						
USRK	Ussuriysk Ar.	55.63	17	P	P	16 56 58.0	-0.9
	1.1nm,0.6s,baz=86,slow=2.9,SNR=4.0						
SONM	Songino Array	56.64	355	P	P	16 57 05.3	-1.1
	0.8nm,0.6s,baz=175,slow=7.9,SNR=5.9						
MKAR	Makanchi Array	61.55	337	P	P	16 57 38.5	-1.7
	1.2nm,0.5s,baz=148,slow=7.3,SNR=18						
MKAR				pP	pP	16 57 56.8	-1.9
	1.2nm,0.5s,baz=152,slow=7.1,SNR=6.9						
ZALV	Zalesovo Beam	66.75	343	P	P	16 58 10.8	-3.2
	1.3nm,0.6s,baz=158,slow=6.0,SNR=6.4						
VNDA	Vanda	73.24	170	P	P	16 58 54.7	+1.2
	0.6nm,0.8s,baz=301,slow=9.8,SNR=5.0						
BRTR	Keskin Array B	87.10	311	P	P	17 00 07.2	-1.6
	1.0nm,0.8s,baz=124,slow=6.4,SNR=6.1						
BRTR				pP	pP	17 00 27.6	-0.7
	1.1nm,0.7s,baz=125,slow=7.7,SNR=5.8						

IDC 04 17:17:37.5±14.0**, 4°.69S**×**150°.19E, h0km, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.3**/26**, mbtmp3.6**/3**, MS2.6**/1**, Ms1 2.6**/1**, ms1mx2.5**/24**, Error ellipse: s-maj=229.0km s-min=84.8km az=24.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GUMO	Guam	18.91	344	LR	LR	17 29 05.9	
	comp=Z,21nm,20.1s,baz=218,slow=36						
WRA	Warramunga Arr	21.64	224	P	P	17 22 29.5	-0.2
	0.8nm,0.5s,baz=49,slow=10,SNR=17						
ASAR	Alice Springs	24.55	218	P	P	17 22 59.5	+0.3
	0.4nm,0.4s,baz=53,slow=8.8,SNR=31						
STKA	Stephens Creek	28.23	196	P	P	17 23 32.0	-0.2
	1.3nm,0.9s,baz=34,slow=15,SNR=2.5						

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*ISCJB **04** 17:29:08.6±0.7, 8°.09S±0°.08×107°.97E±0°.05, h62km, mb3.7/7, Error ellipse: s-maj=13.4km s-min=4.7km az=27.1*

*DJA **04** 17:29:08.8±0.5, 8°S±4°×10°8E±°, h27km±5km, M4.3/21, mb4.2/3, MLv4.3/7, MLv4.3/21*

*IDC **04** 17:29:09.8±4.5, 8°.19S×107°.51E, h86km±31km, mb3.4/8, mb1 3.5/8, mb1mx3.3/40, mbtmp3.7/8, MS3.7/3, Ms1 3.8/3, ms1mx3.1/19, Error ellipse: s-maj=75.7km s-min=14.4km az=56.0*

ISC 04 17:29:08.9±0.8**, 8°.07S**±0°.09×**107°.95E**±0°.06**, h62km, n32, σ1^{s}80**/31**, mb3.6**/7**, Jawa**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CISI	Cisompet, Garu	0.53	345	P	Pn	17 29 20.9	-0.5
CISI				S	Sn	17 29 30.7	+0.2
CMJI	Cimerak	0.57	60	P	Pn	17 29 21.8	+0.1
CNJI	Cibinong	1.11	313	P	Pn	17 29 28.1	-0.3
CNJI				S	Sn	17 29 43.8	+0.8
LEM	Lembang	1.28	345	P	Pn	17 29 31.7	+0.9
LEM	Lembang	1.28	345	P	Pn	17 29 31.9	+1.0
	230nm,0.3s,baz=334,slow=5.5,SNR=132						
LEM				S	Sn	17 29 51.9	+4.7
	172nm,0.3s,baz=94,slow=21,SNR=7.4						
LEM				LR	LR	17 30 15.8	
	comp=Z,161nm,21.6s,baz=218,slow=49						
SKJI	Sukabumi	1.74	307	P	Pn	17 29 38.0	+1.1
SKJI				S	Sn	17 29 59.4	+1.3
UGM	Wanagama	2.55	87	P	Pn	17 29 47.9	0.0
SBJI	Serang	2.65	317	P	Pn	17 29 51.0	+1.8
CGJI	Cibinong	2.67	303	P	Pn	17 29 49.6	+0.1
PCJI	Pacitan	3.20	92	P	Pn	17 29 57.7	+1.0
UWJI	Ujung Watu	3.40	61	P	Pn	17 29 57.9	-1.5
PWJI	Pagerwojo	3.82	90	P	Pn	17 30 08.0	+2.8
TBJI	Tambak Boyo	4.06	72	P	Pn	17 30 09.4	+0.9
KASI	Kota Agung	4.26	306	P	Pn	17 30 13.1	+1.8
LWLI	Liwa	4.91	308	P	Pn	17 30 22.7	+2.4
MDSI	Maura Dua	5.17	313	P	Pn	17 30 25.7	+2.0
	14nm,0.6s,0.1nm0.1nm						
TPI	Tanjungpandan	5.29	357	P	Pn	17 30 26.9	+1.6
	16nm,0.8s,0.1nm						
BLJI	Banyuglugur	5.60	87	P	Pn	17 30 32.4	+2.8
CMAR	Chiang Mai Arr	27.82	341	LR	LR	17 47 41.5	
	comp=Z,35nm,18.3s,baz=225,slow=40						
WRA	Warramunga Arr	28.14	118	P	P	17 34 55.5	0.0
	0.4nm,0.5s,baz=289,slow=12,SNR=5.0						
ASAR	Alice Springs	29.31	125	P	P	17 35 07.2	+1.4
	0.7nm,1.1s,baz=302,slow=11,SNR=4.0						
H08S2	Diego Garcia H	35.12	268	T	T	18 13 08.7	
	baz=93,slow=76,SNR=117						
H08S3	Diego Garcia H	35.13	268	T	T	18 13 09.6	
	baz=93,slow=76,SNR=130						
H08S1	Diego Carcia H	35.14	268	T	T	18 13 10.2	
	baz=93,slow=76,SNR=112						
STKA	Stephens Creek	39.23	132	P	P	17 36 33.2	+1.8
	1.8nm,0.6s,baz=308,slow=6.2,SNR=8.6						
MJAR	Matsushiro Arr	52.69	31	LR	LR	18 02 33.5	
	comp=Z,220nm,20.2s,baz=55,slow=38						
SONM	Songino Array	55.67	359	P	P	17 38 36.8	-2.1
	0.3nm,0.4s,baz=156,slow=7.3,SNR=3.4						
SONM				PcP	PcP	17 39 35.6	-2.0
	0.5nm,0.5s,baz=169,slow=3.8,SNR=4.1						
MKAR	Makanchi Array	59.21	340	P	P	17 39 01.1	-2.5
	0.9nm,0.4s,baz=149,slow=8.2,SNR=19						
OPO	Ambohidratompo	59.81	253	LR	LR	18 00 47.0	
	comp=Z,88nm,18.0s,baz=172,slow=32						
KURBB	Kurchatov Arra	63.77	340	P	P	17 39 32.5	-1.7
	0.4nm,0.5s,baz=159,slow=5.4,SNR=6.4						
KURBB				PcP	PcP	17 40 08.7	-1.1
	0.1nm,0.4s,baz=134,slow=2.7,SNR=5.6						
ZALV	Zalesovo Beam	64.80	345	P	P	17 39 38.7	-2.2
	baz=131,slow=6.5,SNR=3.1						
BVAR	Borovoye Array	68.71	337	P	P	17 40 04.5	-1.4
	0.9nm,0.5s,baz=144,slow=8.2,SNR=3.4						

IDC 04 17:33:57.1±4.9**, 4°.10N**×**97°.62E, h115km**±19km**, mb3.0**/3**, mb1 3.2**/3**, mb1mx2.8**/42**, mbtmp3.4**/3**, Error ellipse: s-maj=222.7km s-min=22.0km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PSI	Prapat	1.83	135	P	Pn	17 34 30.2	+1.9
	2.0nm,0.3s,baz=280,slow=6.1,SNR=6.2						
PSI				S	Sn	17 34 54.0	+1.7
	1.8nm,0.3s,baz=142,slow=17,SNR=6.5						
WRA	Warramunga Arr	43.27	125	P	P	17 41 47.8	+0.1
	0.9nm,0.5s,baz=303,slow=9.2,SNR=12						
MKAR	Makanchi Array	44.56	345	P	P	17 41 57.2	-0.4
	0.1nm,0.4s,baz=163,slow=8.9,SNR=3.0						
ASAR	Alice Springs	44.86	130	P	P	17 42 00.1	-0.2
	0.2nm,0.5s,baz=299,slow=7.5,SNR=6.4						

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*NIED **04** 17:50:00, 44°.60N×150°.60E, h11km, Mw4.3 Best double couple: Mo2.97000×10^15 NP1:φs174.00000°, δ52.00000°, λ48.00000°. NP2:φs50.00000°, δ54.00000°, λ131.00000°.*

*IDC **04** 17:50:31.9±0.6, 44°.50N×150°.45E, h0km, mb4.1/19, mb1 4.1/25, mb1mx4.0/39, mbtmp4.1/25, ML3.0/5, MS3.8/10, Ms1 3.9/10, ms1mx3.4/52, Error ellipse: s-maj=16.5km s-min=13.4km az=149.0*

*SKHL **04** 17:50:33.9±0.6, 44°.24N×150°.75E, h37km±5km, mb4.8/6, Ms4.3/8, msh4.8/2*

*BJI **04** 17:50:33.1, 44°.42N×150°.55E, h20km, mb4.6/51, mB4.8/33, Ms4.5/38, Ms7 4.2/35*

*JMA **04** 17:50:34.5±0.7, 44°.64N×150°.59E, h30km, M4.2*

*NEIC **04** 17:50:34.2±2.8, 44°.47N×150°.54E, h16km±17km, mb4.7/28, Error ellipse: s-maj=9.0km s-min=5.2km az=154.0*

*ISCJB **04** 17:50:34.5±0.3, 44°.28N±0°.04×150°.55E±0°.03, h35km, mb4.5/53, MS3.9/11, Error ellipse: s-maj=5.8km s-min=2.7km az=156.5*

*MOS **04** 17:50:39.1±1.7, 44°.60N×150°.23E, h63km, mb5.0/22, Error ellipse: s-maj=8.4km s-min=6.1km az=122.4*

ISC 04 17:50:36.7±0.4**, 44°.37N**±0°.05×**150°.53E**±0°.04**, h35km, n234, σ1^{s}54**/265**, mb4.6**/53**, MS4.0**/11**, 7C-5D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.08	295⇓	*i*PN	Pn	17 51 08.5	-0.5
KUR				*e*S	Sn	17 51 33.5	-0.2
KUR				pmax	pmax		

	comp=Z,24nm,0.9s						
KUR				pmax	pmax		
	comp=N,22nm,0.2s						
KUR				pmax	pmax		
	comp=E,22nm,0.2s						
KUR				smax	smax		
	comp=N,118nm,0.8s						
KUR				smax	smax		
	comp=E,104nm,0.8s						
KUR	Kuril'sk	2.08	295	eP	Pn	17 51 08.5	-0.5
KUR				AMB	AMB	17 51 12.5	
	comp=E,220nm,0.8s						
KUR				eS	Sn	17 51 34.9	+1.2
KUR				A	A	17 51 40.7	
	comp=E,1μm,0.8s						
KUR				A	A	17 51 40.7	
	comp=E,360nm,0.8s						
SHO	Shikotan	2.71	261	eP	Pn	17 51 17.2	-0.5
SHO				AMB	AMB	17 51 19.3	
	comp=E,770nm,0.3s						
SHO				eS	Sn	17 51 49.3	+0.1
SHO				A	A	17 51 50.4	
	comp=E,295nm,0.3s						
YUK	Yuzh-Kuril'sk	3.37	266c	iPN	Pn	17 51 26.6	-0.2
YUK				iS	Sn	17 52 06.1	+0.6
YUK				pmax	pmax		
	comp=N,14nm,0.3s						
YUK				pmax	pmax		
	comp=E,21nm,0.3s						
YUK				pmax	pmax		
	comp=Z,91nm,0.3s						
YUK				smax	smax		
	comp=N,124nm,0.4s						
YUK				smax	smax		
	comp=E,68nm,0.4s						
YUK				smax	smax		
	comp=E,585nm,2.3s						
YUK				smax	smax		
	comp=N,786nm,2.6s						
YUK				MLR	MLR		
	comp=N,719nm,14.0s						
YUK				MLR	MLR		
	comp=E,1μm,14.0s						
YUK				MLR	MLR		
	comp=Z,1μm,14.0s						
YUK	Yuzh-Kuril'sk	3.37	266	eP	Pn	17 51 26.6	-0.2
YUK				AMB	AMB	17 51 28.8	
	comp=Z,14nm,0.3s						
YUK				AMB	AMB	17 51 28.8	
	comp=Z,22nm,0.3s						
YUK				AMB	AMB	17 51 28.8	
	comp=Z,92nm,0.3s						
YUK				eS	Sn	17 52 06.1	+0.6
YUK				A	A	17 52 09.0	
	comp=Z,124nm,0.4s						
YUK				A	A	17 52 09.0	
	comp=Z,68nm,0.4s						
YUK				A	A	17 52 21.1	
	comp=Z,786nm,3.0s						
YUK				A	A	17 52 21.1	
	comp=Z,585nm,3.0s						
YUK				AMS	AMS	17 53 39.8	
	comp=Z,720nm,14.0s						
YUK				AMS	AMS	17 53 39.8	
	comp=Z,1μm,14.0s						
YUK				AMS	AMS	17 53 39.8	
	comp=Z,1μm,14.0s						
NEM2	Nemuro 2	3.60	255	P	Pn	17 51 28.9	-1.1
NEM2				eS	Sn	17 52 09.0	-2.2
JRA	Rausu	3.91	265	P	Pn	17 51 35.4	+1.2
JNK	Nakash	4.26	261	P	Pn	17 51 38.9	-0.2
JAK	Akkeshi	4.45	254	P	Pn	17 51 40.7	-0.9
JAK				eS	Sn	17 52 30.2	-1.9
JTKR	Abashiri--Toko	4.78	267	P	Pn	17 51 47.2	+1.1
JAR	Ashorobuto	5.00	260	P	Pn	17 51 49.6	+0.3
JOB	Onbets	5.07	255	P	Pn	17 51 50.4	+0.2
JMP	Maruseppu	5.17	268	P	Pn	17 51 52.9	+1.4
HRK	Horoka	5.42	263	eP	Pn	17 51 56.1	+1.1
JCH	Churui	5.50	254	P	Pn	17 51 55.8	-0.2
JKK2	Kamakawa 2	5.62	268	P	Pn	17 51 59.3	+1.6
MYR	Moyori	5.68	251	eP	Pn	17 51 58.6	+0.1
JSE	Soyaes	5.70	279	P	Pn	17 52 00.1	+1.4
ASAJ	Asahikawa	5.70	270	P	Pn	17 52 00.8	+2.0
ASAJ	Asahikawa	5.70	270	Pn	Pn	17 51 57.9	-0.9
	baz=94,slow=6.3						
ASAJ	Asahikawa	5.70	270	eP	Pn	17 52 00.4	+1.6
ASAJ	Asahikawa	5.70	270	ePn	Pn	17 52 00.4	+1.6
JFR	Furan	5.87	261	P	Pn	17 52 02.3	+1.1
ERM	Erimo	5.88	249d	ePN	Pn	17 52 02.3	+1.1
ERM				pmax	pmax		
	comp=Z,20nm,1.2s						
ERM	Erimo	5.88	249	eP	Pn	17 52 02.3	+1.1
ERM	Erimo	5.88	249	ePn	Pn	17 52 02.4	+1.2
JEM	Erimo	5.88	249	P	Pn	17 52 02.3	+1.1
YSS	Yuzh-Sakhalins	6.03	298	ePN	Pn	17 52 06.0	+2.8
YSS				eS	Sn	17 53 14.0	+3.1
YSS				smax	smax		
	comp=N,30nm,1.0s						
YSS				MLR	MLR		
	comp=E,2μm,15.0s						
YSS				MLR	MLR		
	comp=Z,2μm,15.0s						
YSS	Yuzh-Sakhalins	6.03	298	eP	Pn	17 52 06.0	+2.8
YSS				eS	Sn	17 53 13.0	+2.1
YSS				AMS	AMS	17 55 06.0	
	comp=Z,2μm,15.0s						
YSS				AMS	AMS	17 55 06.0	
	comp=Z,2μm,15.0s						
YSS	Yuzh-Sakhalins	6.03	298	ePn	Pn	17 52 03.9	+0.7
JNBK	Urakawa-nobuka	6.04	252	P	Pn	17 52 02.8	-0.7
JAB	Ashibetsu	6.06	265	P	Pn	17 52 05.3	+1.6
JBT2	Biratori 2	6.14	258	P	Pn	17 52 04.3	-0.5
JSS	Shosan	6.22	273	P	Pn	17 52 09.1	+3.2
JEW	Eniwo	6.76	260	P	Pn	17 52 13.2	-0.2
JNB	Noboribetsu	7.17	258	P	Pn	17 52 18.9	0.0
SKR	Severo-Kuril's	7.36	29	ePN	Pn	17 52 09.5	-12
SKR				MLR	MLR		
	comp=E,2μm,14.0s						
SKR				MLR	MLR		
	comp=Z,2μm,14.0s						
SKR				MLR	MLR		
	comp=N,1μm,16.0s						
SKR	Severo-Kuril's	7.36	29	eP	Pn	17 52 21.1	-0.4
SKR				AMB	AMB	17 52 24.7	
	comp=N,110nm,0.8s						
SKR				eS	Sn	17 53 42.0	-1.7
SKR				A	A	17 53 50.0	
	comp=N,70nm,0.7s						
SKR				A	A	17 53 50.0	
	comp=N,800nm,8.0s						
SKR				A	A	17 53 50.0	
	comp=N,1μm,8.0s						
SKR				AMS	AMS	17 55 46.0	
	comp=N,1μm,15.0s						
SKR				AMS	AMS	17 55 46.0	
	comp=N,2μm,15.0s						
SKR				AMS	AMS	17 55 46.0	
	comp=N,2μm,15.0s						
JKB	Kayabe	7.38	254	P	Pn	17 52 21.5	-0.3
JKB				eS	Sn	17 53 39.7	-4.5
UGL	Uglegorsk	7.48	312	ePN	Pn	17 52 21.4	-1.7
UGL				e		17 53 46.2	
UGL	Uglegorsk	7.48	312	AMS	AMS	17 56 22.0	
	comp=N,1μm,14.0s						
UGL				AMS	AMS	17 56 22.0	
	comp=N,850nm,14.0s						
UGL				AMS	AMS	17 56 22.0	
	comp=N,1μm,14.0s						
JYM2	Yakumo 2	7.75	257	P	Pn	17 52 25.8	-1.1
JANG	Nango	7.78	242	P	Pn	17 52 25.3	-2.0
JANG				eS	Sn	17 53 48.2	-5.9
JTH	Tanohata	7.81	238	P	Pn	17 52 26.9	-0.9
JTH				eS	Sn	17 53 48.3	-6.7
JTM	Tenmabayashi	7.84	246	P	Pn	17 52 26.2	-2.0
JSR	Shiriuchi	7.94	253	P	Pn	17 52 29.3	-0.2
TYV	Tymovskoe	8.39	323	erx	rx	17 52 44.0	
TYV				AMS	AMS	17 54 34.0	
	comp=N,2μm,16.0s						
JOSM	Okushiri--Mats	8.39	258	P	Pn	17 52 35.6	-0.1
OFUJ	Ofunato	8.47	234	P	Pn	17 52 35.4	-1.5
JRG	Rokugo	8.89	239	P	Pn	17 52 41.9	-0.7
JIO	Ouri	9.08	233	P	Pn	17 52 43.8	-1.4
JIO				eS	Sn	17 54 18.4	-7.7
PETK	Petropavlovsk-	9.94	26	Pn	Pn	17 52 53.2	-3.6
	comp=N,0.4nm,0.3s,baz=188,slow=14,SNR=7.9						
TEY	Ternei	9.94	279	eP	Pn	17 52 59.0	+2.1
JYA	Atsumi	9.95	238	P	Pn	17 52 56.3	-0.9
PET	Petropavlovsk	10.18	29⇑	ePN	Pn	17 53 00.0	-0.2
PET	Petropavlovsk	10.18	29	eP	Pn	17 52 59.9	-0.2
OKH	Okha	10.45	334	AMS	AMS	18 00 22.0	
	comp=N,1μm,12.0s						
OKH				AMS	AMS	18 00 22.0	
	comp=N,1μm,12.0s						
OKH				AMS	AMS	18 00 22.0	
	comp=N,2μm,12.0s						
NKL	Nikolayevsk	10.91	327	AMS	AMS	17 59 36.0	
	comp=N,400nm,13.0s						
NKL				AMS	AMS	17 59 36.0	
	comp=N,1μm,13.0s						
NKL				AMS	AMS	17 59 36.0	
	comp=N,500nm,13.0s						
HABR	Khabarovsk	11.44	296	ePN	Pn	17 53 15.9	-1.5
HABR				eS	Sn	17 55 23.9	+0.1
HABR				MLR	MLR		
	comp=Z,676nm,16.0s						
HABR	Khabarovsk	11.44	296	eP	Pn	17 53 15.9	-1.5
GRNR	Gornyy	11.47	309	eP	Pn	17 53 19.5	+1.7
GRNR				AMB	AMB	17 53 23.0	
	comp=Z,13nm,1.0s						
MAJO	Matsushiro	12.21	234⇓	ePN	Pn	17 53 29.7	+1.7
MAJO				pmax	pmax		
	comp=Z,25nm,1.0s						
MAJO	Matsushiro	12.21	234	Pn	Pn	17 53 27.5	-0.5
	comp=Z,5.8nm,0.8s						
MJAR	Matsushiro Arr	12.21	234	Pn	Pn	17 53 27.0	-0.9
	comp=Z,0.1nm,0.3s,baz=23,slow=9.9,SNR=4.2						
USRK	Ussuriysk Ar.	13.29	276	Pn	Pn	17 53 41.5	-1.1
	comp=Z,0.3nm,0.3s,baz=87,slow=12,SNR=20						
KLR	Kul'dur	13.74	297	ePN	Pn	17 53 51.8	+3.0
KLR				MLR	MLR		
	comp=Z,1μm,12.0s						
KLR	Kul'dur	13.74	297	erx	rx	17 53 51.8	
KLR				AMS	AMS	18 11 18.0	
	comp=Z,1μm,12.0s						
EKMR	Ekimchan	14.47	313	eP	Pn	17 53 58.5	-0.3
EKMR				AMB	AMB	17 54 19.0	
	comp=Z,5.0nm,0.8s						
MDJ	Mudanjiang	14.94	278	P	Pn	17 54 05.2	0.0
MDJ				S	Sn	17 56 51.7	+2.3
MDJ				PMZ			
	comp=Z,7.0nm,1.1s						
MDJ				PMZ			
	comp=Z,22nm,4.6s						
MDJ				LN			
	comp=Z,250nm,18.1s						
MDJ				LE			
	comp=Z,310nm,18.1s						
MDJ				LZ			
	comp=Z,450nm,16.6s						
MDJ	Mudanjiang	14.94	278	eP	Pn	17 54 04.7	-0.5
MDJ	Mudanjiang	14.94	278	ePn	Pn	17 54 04.7	-0.5
	comp=Z,13nm,0.9s						
ZEA	Zeya	17.83	310	eP	Pn	17 54 41.0	-0.8
ZEA				AMB	AMB	17 54 44.5	
	comp=Z,10.0nm,0.8s						
ZEA				AMS	AMS	18 02 42.0	
	comp=Z,300nm,15.0s						
ZEA				AMS	AMS	18 02 42.0	
	comp=Z,400nm,15.0s						
ZEA				AMS	AMS	18 02 42.0	
	comp=Z,500nm,15.0s						
CN2	Changchun	18.01	277	eP	Pn	17 54 43.3	-0.8
CN2				PMZ			
	comp=Z,10.0nm,0.7s						
KROS	Kirovskiy	18.25	312	eP	Pn	17 54 49.0	+2.0
KSRS	Korea Array	18.40	256	P	P	17 54 48.4	-0.2
	comp=Z,0.1nm,0.3s,baz=58,slow=13,SNR=9.8						
KSAR	Wonju Array Be	18.43	256	P	P	17 54 48.4	-0.6
KSAR	Wonju Array Be	18.43	256	P	P	17 54 48.4	-0.6
SEY	Seymchan	18.63	3	P	P	17 54 47.7	-3.2
	comp=Z,0.2nm,0.3s,baz=180,slow=9.4,SNR=8.2						
YAK	Yakutsk	21.47	333	P	P	17 55 19.9	-2.0
	comp=Z,2.4nm,0.3s,baz=297,slow=23,SNR=8.5						
YAK				LR	LR	18 04 06.8	
	comp=Z,169nm,19.3s,baz=140,slow=38						
YAK	Yakutsk	21.47	333	eP	P	17 55 19.8	-2.0
YAK				e		17 55 41.0	
YAK				eS	S	17 59 12.8	-5.0
YAK				e		17 59 25.3	
YAK				eSS	SnSn	17 59 35.0	-7.0
YAK				eSSS	SSS	17 59 48.3	
YAK				e		18 06 42.8	
YAK				pmax	pmax		
	comp=Z,20nm,0.8s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,31nm,1.3s						
YAK				pmax	pmax		
	comp=Z,38nm,0.9s						
YAK				pmax	pmax		
	comp=E,30nm,1.5s						
YAK				smax	smax		
	comp=E,37nm,3.2s						
YAK				smax	smax		
	comp=N,34nm,3.3s						
YAK				MLR	MLR		
	comp=N,222nm,12.0s						
YAK				MLR	MLR		
	comp=Z,405nm,15.0s						
YAK				MLR	MLR		
	comp=E,219nm,13.0s						
YAK	Yakutsk	21.47	333	eP	P	17 55 19.3	-2.5
	comp=E,34nm,0.8s						
YAK				e		17 55 30.6	
HIA	Hailar	21.54	294	P	P	17 55 20.4	-2.3
HIA				pmax	pmax		
	comp=Z,14nm,0.8s						
HIA	Hailar	21.54	294	P	P	17 55 20.4	-2.3
	comp=Z,14nm,0.8s						
BJI	Beijing	25.69	272	P	P	17 56 04.5	+1.2
BJI				S	S	18 00 29.0	-0.5
BJI				PMZ			
	comp=Z,11nm,1.0s						
BJI				LN			
	comp=Z,150nm,16.6s						
BJI				LE			
	comp=Z,330nm,18.4s						
BJI				LZ			
	comp=Z,180nm,17.5s						
BOD	Bodaibo	26.21	314	eP	P	17 56 05.3	-2.6
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NJ2	Nanjing	27.58	254	eP	P	17 56 20.4	0.0
NJ2				PMZ			
	comp=Z,10.0nm,0.6s						
HHC	Hu-ho-hao-te	28.70	277	eP	P	17 56 31.6	+1.1
HHC				pP	pP	17 56 44.4	+3.8
HHC				S	S	18 01 15.1	-2.2
HHC				SS	SnSn	18 02 42.1	+2.8
HHC				PMZ			
	comp=Z,15nm,0.8s						
HHC				PMZ			
	comp=Z,86nm,4.8s						
HHC				LN			
	comp=Z,180nm,11.4s						
HHC				LE			
	comp=Z,300nm,11.6s						
HHC				LZ			
	comp=Z,310nm,12.2s						
ULN	Ulaanbaatar	30.04	292	eP	P	17 56 47.6	+5.3
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ULN	Ulaanbaatar	30.04	292	eP	P	17 56 47.6	+5.3
	comp=Z,6.3nm,1.0s						
SONM	Songino Array	30.48	292	P	P	17 56 45.6	-0.6
	comp=Z,3.6nm,1.0s,baz=83,slow=8.8,SNR=16						
SONM				LR	LR	18 10 30.4	
	comp=Z,189nm,18.3s,baz=96,slow=39						
GUMO	Guam	31.06	191	LR	LR	18 08 06.8	
	comp=Z,125nm,20.9s,baz=26,slow=34						
WHN	Wuhan	31.59	256	P	P	17 56 55.0	-0.9
WHN				LZ			
	comp=Z,940nm,14.1s						
TLY	Talaya	31.73	300	P	P	17 56 55.8	-1.2
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TLY	Talaya	31.73	300	eP	P	17 56 55.8	-1.2
TLY	Talaya	31.73	300	P	P	17 56 55.8	-1.2
	comp=Z,2.1nm,0.7s						
LZH	Lanzhou	36.18	273	P	P	17 57 37.7	+1.8
LZH				pP	pP	17 57 47.6	+1.5
LZH				sP	sP	17 57 50.9	+0.6
LZH				PP	PP	17 58 59.8	+1.4
LZH				S	S	18 03 13.1	-0.5
LZH				sS	sS	18 03 24.8	-5.5
LZH				SS	SnSn	18 05 36.4	-4.5
LZH				PMZ			
	comp=Z,16nm,1.0s						
LZH				PMZ			
	comp=Z,100nm,5.0s						
LZH				LN			
	comp=Z,620nm,13.8s						
LZH				LE			
	comp=Z,570nm,13.1s						
LZH				LZ			
	comp=Z,780nm,14.5s						
IM04	Indian Mountai	36.74	34	eP	P	17 57 40.5	+0.3
IM04				e		17 57 53.8	
PPLA	Purkeypile	37.15	40	eP	P	17 57 42.6	-1.3
	comp=Z,22nm,1.2s						
PPLA				e		17 57 58.1	
GTA	Gaotai	37.58	281	⇑P	P	17 57 49.4	+1.6
GTA				S	S	18 03 36.8	+1.9
GTA				SS	SnSn	18 06 14.1	-0.6
GTA				PMZ			
	comp=Z,9.0nm,1.3s						
GTA				PMZ			
	comp=Z,60nm,4.7s						
GTA				LN			
	comp=Z,170nm,15.2s						
GTA				LE			
	comp=Z,260nm,15.2s						
GTA				LZ			
	comp=Z,240nm,15.2s						
BPAW	Bear Paw Mtn.	37.75	38	eP	P	17 57 48.8	0.0
BPAW				e		17 58 02.7	
KTH	Kantishna Hill	37.75	39	eP	P	17 57 49.4	+0.5
	comp=Z,59nm,1.4s						
KTH				e		17 58 03.0	
MLY	Manley	37.91	36	eP	P	17 57 49.4	-0.7
BWN	Browne	38.41	38	eP	P	17 57 55.0	+0.7
	comp=Z,41nm,0.9s						
MCK	McKinley	38.64	38	eP	P	17 57 55.6	-0.7
MCK	McKinley	38.64	38	eP	P	17 57 55.6	-0.7
MCK	McKinley	38.64	38	eP	P	17 57 55.6	-0.7
RND	Reindeer	38.67	39	eP	P	17 57 55.0	-1.7
RND				pmax	pmax		
	comp=Z,12nm,1.1s						
RND	Reindeer	38.67	39	eP	P	17 57 55.0	-1.7
	comp=Z,12nm,1.1s						
CD2	Chengdu	38.88	266	eP	P	17 57 58.1	-0.7
CD2				pP	pP	17 58 04.8	-4.2
CD2				sP	sP	17 58 07.7	-5.5
CD2				PP	PP	17 59 27.3	-0.8
CD2				S	S	18 03 55.4	+0.8
CD2				sS	sS	18 04 06.9	-4.5
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,140nm,5.4s						
MDM	Murphy Dome	38.97	36	eP	P	17 57 59.4	+0.3
	comp=Z,7.4nm,1.0s						
WRH	Wood River Hil	39.02	37	eP	P	17 57 59.5	+0.1
COLA	College	39.13	37⇓	eP	P	17 58 01.6	+1.3
COLA				pmax	pmax		
	comp=Z,31nm,1.2s						
COLA	College	39.13	37	eP	P	17 58 01.6	+1.3
CCB	Clear Creek Bu	39.15	37	eP	P	17 58 02.1	+1.6
	comp=Z,7.7nm,1.2s						
GYA	Guiyang	39.43	258	eP	P	17 58 04.8	+1.3
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
IL1	Eielson Array	39.54	37	eP	P	17 58 02.7	-1.1
ILAR	Eielson Array	39.54	37	P	P	17 58 03.9	+0.1
	comp=Z,1.0nm,0.7s,baz=256,slow=6.7,SNR=12						
EGAK	Eagle	41.99	37	eP	P	17 58 23.8	-0.2
	comp=Z,12nm,1.0s						
EGAK				e		17 58 37.4	
QIZ	Qiongzhong	42.24	247	P	P	17 58 26.4	-0.1
QIZ				pP	pP	17 58 37.3	+0.5
QIZ				PP	PP	18 00 04.9	+0.2
QIZ				S	S	18 04 44.7	+0.1
QIZ				PMZ			
	comp=Z,5.0nm,1.7s						
QIZ	Qiongzhong	42.24	247	P	P	17 58 28.0	+1.5
ZALV	Zalesovo Beam	42.56	307	P	P	17 58 27.0	-1.8
	comp=Z,0.5nm,0.3s,baz=69,slow=8.3,SNR=3.8						
ZALV				PcP	PcP	18 00 21.6	+1.0
	comp=Z,1.2nm,0.5s,baz=85,slow=3.4,SNR=6.4						
ZALV				LR	LR	18 16 06.8	
	comp=Z,36nm,19.1s,baz=70,slow=36						
ZALV	Zalesovo Beam	42.56	307	iP	P	17 58 28.7	0.0
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KMI	Kunming	43.02	260	P	P	17 58 32.7	-0.4
KMI				sP	sP	17 58 48.1	+0.5
KMI				PP	PP	18 00 14.3	+1.0
KMI				PMZ			
	comp=Z,8.0nm,1.1s						
KMI				LN			
	comp=Z,200nm,16.6s						
KMI				LE			
	comp=Z,220nm,17.8s						
KMI				LZ			
	comp=Z,250nm,16.2s						
NVS	Novosibirsk	43.23	309	eP	P	17 58 32.0	-2.1
NVS	Novosibirsk	43.23	309	eP	P	17 58 32.0	-2.1
WMQ	Urumqi	44.12	292	P	P	17 58 43.4	+1.9
WMQ				pP	pP	17 58 55.7	+3.8
WMQ				PP	PcP	18 00 28.2	+2.0
WMQ				PcS	PcS	18 04 19.9	+0.6
WMQ				S	S	18 05 13.0	+1.1
WMQ				SS	SS	18 08 23.3	-6.5
WMQ				ScS	ScS	18 08 37.0	-0.2
WMQ				PMZ			
	comp=Z,14nm,1.1s						
WMQ				PMZ			
	comp=Z,110nm,5.2s						
WMQ				LN			
	comp=Z,300nm,15.9s						
WMQ				LE			
	comp=Z,230nm,15.8s						
WMQ				LZ			
	comp=Z,140nm,14.9s						
HYT	Haines Junctio	44.25	42	eP	P	17 58 40.9	-1.6
HYT				e		17 58 57.1	
MK31	Makanchi Array	46.44	298	eP	P	17 59 00.5	+0.6
MK31	Makanchi Array	46.44	298	eP	P	17 59 00.5	+0.6
MKAR	Makanchi Array	46.44	298	P	P	17 59 00.7	+0.8
	comp=Z,3.9nm,0.9s,baz=73,slow=8.2,SNR=28						
MKAR				LR	LR	18 20 05.9	
	comp=Z,204nm,18.5s,baz=70,slow=38						
MKAR	Makanchi Array	46.44	298	P	P	17 59 00.7	+0.8
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR				MLR	MLR		
	comp=Z,204nm,18.5s						
MKAR	Makanchi Array	46.44	298	eP	P	17 59 00.2	+0.3
MK01	Makanchi Array	46.45	298	eP	P	17 59 00.1	+0.2
KURK	Kurchatov	47.19	305	eP	P	17 59 05.0	-0.6
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KURK	Kurchatov	47.19	305	eP	P	17 59 05.6	0.0
KURK	Kurchatov	47.19	305	eP	P	17 59 05.0	-0.6
	comp=Z,8.2nm,0.8s						
LSA	Lhasa	48.59	273	eP	P	17 59 18.7	+1.4
LSA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LSA	Lhasa	48.59	273	eP	P	17 59 18.7	+1.4
LSA	Lhasa	48.59	273	eP	P	17 59 18.7	+1.4
	comp=Z,1.2nm,0.6s						
CMAR	Chiang Mai Arr	50.04	256	P	P	17 59 27.0	-0.9
	comp=Z,0.6nm,0.6s,baz=44,slow=7.0,SNR=7.0						
CMAR				LR	LR	18 23 24.5	
	comp=Z,146nm,18.5s,baz=57,slow=39						
CMAR	Chiang Mai Arr	50.04	256	iP	P	17 59 29.7	+1.8
CMAR	Chiang Mai Arr	50.04	256	eP	P	17 59 29.7	+1.8
BVAR	Borovoye Array	50.98	310	P	P	17 59 33.5	-1.0
	comp=Z,2.2nm,0.6s,baz=66,slow=7.0,SNR=17						
BRVK	Borovoye	51.02	310c	iP	P	17 59 35.3	+0.4
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK	Borovoye	51.02	310	eP	P	17 59 35.3	+0.4

BRVK	Borovoye	51.02	310	eP	P	17 59 34.3	-0.6
	comp=Z,5.3nm,1.0s						
TKM2	Tokmak 2	52.42	296	eP	P	17 59 44.5	-1.3
TKM2				pmax	pmax		
	comp=Z,34nm,1.8s						
TKM2	Tokmak 2	52.42	296	eP	P	17 59 44.5	-1.3
	comp=Z,34nm,1.8s						
AAK	Ala-Archa	53.27	297	P	P	17 59 50.9	-1.0
	comp=Z,6.3nm,0.9s,baz=8.0,slow=3.6,SNR=14						
AAK				LR	LR	18 25 18.7	
	comp=Z,120nm,18.6s,baz=47,slow=39						
AAK	Ala-Archa	53.27	297c	iP	P	17 59 52.6	+0.6
AAK				pmax	pmax		
	comp=Z,14nm,0.7s						
AAK	Ala-Archa	53.27	297	eP	P	17 59 52.6	+0.6
AAK	Ala-Archa	53.27	297	eP	P	17 59 51.9	-0.1
	comp=Z,6.3nm,0.8s						
RES	Resolute Bay	53.66	17	P	P	17 59 53.1	-1.0
	comp=Z,7.2nm,0.8s,baz=336,slow=8.4,SNR=5.2						
EKS2	Erkin-Say	53.71	297	eP	P	17 59 55.6	+0.4
EKS2				e		18 00 08.5	
EKS2				pmax	pmax		
	comp=Z,9.0nm,1.0s						
EKS2	Erkin-Say	53.71	297	eP	P	17 59 55.6	+0.4
	comp=Z,9.1nm,1.0s						
EKS2				e		18 00 08.5	
KSH	Kashi	53.88	293	P	P	18 00 01.8	+5.3
KSH				pP	pP	18 00 13.8	+6.8
KSH				PcP	PcP	18 01 04.2	+2.5
KSH				PP	PP	18 02 04.5	+6.9
KSH				PcS	PcS	18 05 02.5	+1.4
KSH				S	S	18 07 31.2	+2.0
KSH				PMZ			
	comp=Z,4.0nm,0.4s						
KSH				PMZ			
	comp=Z,67nm,5.2s						
KSH				LN			
	comp=Z,400nm,14.4s						
KSH				LE			
	comp=Z,150nm,5.9s						
YKA	Yellowknife Ar	53.91	35	P	P	17 59 56.3	+0.2
	comp=Z,1.0nm,0.6s,baz=295,slow=6.9,SNR=6.4						
YKA	Yellowknife Ar	53.91	35	P	P	17 59 56.3	+0.2
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SVE	Sverdlovsk	54.34	317	iP	P	17 59 59.6	+0.2
SVE				pmax	pmax		
	comp=Z,13nm,0.9s						
SVE	Sverdlovsk	54.34	317	eP	P	17 59 59.6	+0.2
ARU	Arti	55.54	318c	iP	P	18 00 07.1	-1.0
ARU						18 01 01.2	
ARU				S	S	18 07 51.6	+0.9
ARU				pmax	pmax		
	comp=Z,19nm,1.7s						
ARU	Arti	55.54	318	eP	P	18 00 07.0	-1.0
ARU	Arti	55.54	318	eP	P	18 00 07.0	-1.0
	comp=Z,10nm,1.0s						
KKAR	Karatay Array	55.56	299	eP	P	18 00 08.7	+0.3
KKAR				e		18 00 22.4	
KKAR	Karatay Array	55.56	299	eP	P	18 00 08.7	+0.3
KKAR				e		18 00 22.4	
PRGR	Permogore	58.38	327	eP	P	18 00 24.6	-3.4
PRGR				pmax	pmax		
	comp=Z,12nm,0.8s						
ABKAR	Akbulak array	58.55	310	eP	P	18 00 30.3	+0.8
ABKAR				e		18 00 43.7	
ARCES	ARCESS Array B	59.49	340	LR	LR	18 31 22.6	
	comp=Z,50nm,18.0s,baz=46,slow=41						
KLMR	Klimovskoe	61.19	329	eP	P	18 00 45.6	-1.8
KLMR				pmax	pmax		
	comp=Z,20nm,1.9s						
SUMG	Summit	63.18	3	eP	P	18 01 01.5	+0.4
SUMG				pmax	pmax		
	comp=Z,21nm,1.0s						
SUMG	Summit	63.18	3	eP	P	18 01 01.4	+0.4
	comp=Z,21nm,1.0s						
FFC	Flin Flon	63.73	38	eP	P	18 01 04.4	0.0
FFC				e		18 01 18.1	
FFC	Flin Flon	63.73	38	eP	P	18 01 05.4	+1.0
FFC	Flin Flon	63.73	38	eP	P	18 01 04.4	0.0
FFC				e		18 01 18.1	
FCC	Fort Churchill	64.24	32	P	P	18 01 06.3	-1.4
FCC	Fort Churchill	64.24	32	P	P	18 01 06.3	-1.4
NVAR	Mina Array Bea	65.17	60	P	P	18 01 14.9	+0.5
	comp=Z,0.7nm,0.6s,baz=312,slow=7.0,SNR=3.3						
FINES	FINESS Array B	65.40	334	P	P	18 01 14.8	-0.4
	comp=Z,1.4nm,0.6s,baz=28,slow=8.6,SNR=11						
FINES				LR	LR	18 33 30.0	
	comp=Z,138nm,18.3s,baz=28,slow=40						
WRA	Warramunga Arr	65.69	197	P	P	18 01 18.1	+0.5
	comp=Z,0.5nm,0.8s,baz=18,slow=6.6,SNR=3.8						
OBN	Obninsk	66.23	325	iP	P	18 01 21.2	+0.6
OBN				e		18 01 49.4	
OBN				pmax	pmax		
	comp=Z,20nm,1.7s						
OBN				MLR	MLR		
	comp=Z,127nm,17.0s						
OBN	Obninsk	66.23	325	eP	P	18 01 21.2	+0.6
AHID	Auburn Hatcher	66.76	52	eP	P	18 01 24.2	-0.3
	comp=Z,8.0nm,0.4s						
TJR	Tejon Ranch	67.00	63	eP	P	18 01 29.4	+3.5
ASAR	Alice Springs	69.40	196	P	P	18 01 42.3	+1.4
	comp=Z,0.4nm,0.9s,baz=15,slow=7.7,SNR=3.5						
NB2	NORSAR Subarra	69.87	340	P	P	18 01 42.9	-0.6
	comp=Z,7.7nm,0.9s,baz=30,slow=6.2						
NOA	NORSAR Array B	69.87	340	P	P	18 01 43.7	+0.2
	comp=Z,4.2nm,0.8s,baz=30,slow=6.2,SNR=17						
NBO02	NORSAR Array S	69.95	340	eP	P	18 01 44.3	+0.4
KIV	Kislovodsk	71.13	313d	iP	P	18 01 53.8	+2.3
KIV				e		18 04 28.9	
KIV				pmax	pmax		
	comp=Z,21nm,1.0s						
KIV	Kislovodsk	71.13	313	eP	P	18 01 53.5	+2.0
	comp=Z,15nm,0.7s						
KBZ	Khabaz	71.18	313	P	P	18 01 52.0	+0.3
	comp=Z,16nm,0.9s,baz=146,slow=24,SNR=38						
KBZ	Khabaz	71.18	313	P	P	18 01 52.0	+0.3
ZEI	Tsey	71.30	312	eP	P	18 01 53.0	+0.3
ZEI				pmax	pmax		
	comp=Z,15nm,0.5s						
ZEI	Tsey	71.30	312	eP	P	18 01 53.0	+0.3
MVCO	Mesa Verde	71.90	56	eP	P	18 01 55.7	-0.8
	comp=Z,25nm,1.9s						
AKASG	Malin Array Be	72.49	325	P	P	18 01 58.3	-1.1
	comp=Z,7.5nm,0.7s,baz=35,slow=6.1,SNR=38						
KIEV	Kiev	72.50	325	eP	P	18 01 59.3	-0.2
KIEV				e		18 02 12.7	
KIEV				pmax	pmax		
	comp=Z,14nm,0.9s						
KIEV	Kiev	72.50	325	eP	P	18 01 59.5	0.0
KIEV	Kiev	72.50	325	eP	P	18 01 59.3	-0.2
	comp=Z,14nm,0.9s						
KIEV				e		18 02 12.7	
GNI	Garni	72.66	309	P	P	18 02 01.3	+0.5
	comp=Z,2.5nm,0.4s,baz=198,slow=6.7,SNR=3.9						
GNI	Garni	72.66	309⇑	eP	P	18 02 03.3	+2.4
GNI				pmax	pmax		
	comp=Z,13nm,1.2s						
OJC	Ojcow	76.49	330	eP	P	18 02 23.7	+1.0
OJC				pmax	pmax		
	comp=Z,14nm,1.3s						
OJC	Ojcow	76.49	330	eP	P	18 02 23.7	+1.0
	comp=Z,14nm,1.3s						
BUR08	Bucovina Ar. S	76.52	325	eP	P	18 02 22.9	-0.1
BUR04	Bucovina Ar. S	76.54	325	eP	P	18 02 23.9	+0.8
OKC	Ostrava-Krasne	77.40	331	eP	P	18 02 29.4	+1.6
OKC				ex	x	18 02 43.2	
OKC	Ostrava-Krasne	77.40	331	eP	P	18 02 29.4	+1.6
OKC				e		18 02 43.2	
UPC	Upice	77.56	332	eP	P	18 02 30.0	+1.3
UPC	Upice	77.56	332	eP	P	18 02 30.0	+1.3
DPC	Dobruska-Polom	77.59	332	eP	P	18 02 30.5	+1.5
DPC				ex	x	18 02 43.9	
DPC	Dobruska-Polom	77.59	332	eP	P	18 02 30.5	+1.5
DPC				e		18 02 43.9	
CLL	Collm	77.85	334	iP	P	18 02 30.5	+0.2
	comp=Z,7.0nm,1.1s						
CLL				i		18 02 44.4	
CLL				LmV		18 41 00.0	
	comp=Z,100nm,18.1s						
CLL	Collm	77.85	334	iP	P	18 02 30.5	+0.2
CLL				i		18 02 44.4	
CLL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CLL	Collm	77.85	334	eP	P	18 02 30.7	+0.5
CLL	Collm	77.85	334	eP	P	18 02 30.8	+0.5
	comp=Z,7.6nm,1.1s						
BRG	Berggiesshubel	77.93	334	eP	P	18 02 32.0	+1.2
	comp=Z,2.6nm,1.0s						
BRG	Berggiesshubel	77.93	334	eP	P	18 02 32.0	+1.2
	comp=Z,2.6nm,1.0s						
BRG	Berggiesshubel	77.93	334	eP	P	18 02 32.0	+1.2
BRG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PRU	Pruhonice	78.50	333	eP	P	18 02 34.6	+0.7
PRU				ex	x	18 02 49.0	
PRU	Pruhonice	78.50	333	eP	P	18 02 34.6	+0.7
PRU				e		18 02 49.0	
PRU	Pruhonice	78.50	333	eP	P	18 02 34.6	+0.7
BR131	Keskin Array S	78.84	315	eP	P	18 02 37.7	+1.5
	comp=Z,2.8nm,0.9s						
BRTR	Keskin Array B	78.84	315	P	P	18 02 37.6	+1.5
	comp=Z,2.2nm,0.9s,baz=46,slow=5.3,SNR=11						
BR231	Keskin MP Arra	79.19	316	eP	P	18 02 37.9	-0.1
KHC	Kasperske Hory	79.56	333	eP	P	18 02 40.9	+1.1
KHC				ex	x	18 02 54.0	
KHC	Kasperske Hory	79.56	333	eP	P	18 02 39.8	0.0
KHC				e		18 02 54.1	
KHC				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KHC	Kasperske Hory	79.56	333	eP	P	18 02 39.8	0.0
KHC	Kasperske Hory	79.56	333	eP	P	18 02 39.8	0.0
	comp=Z,1.8nm,1.0s						
KHC				e		18 02 54.1	
TX31	Lajitas Ar. Si	80.26	58	eP	P	18 02 43.7	-0.3
TXAR	Lajitas Array	80.26	58	P	P	18 02 44.4	+0.4
	comp=Z,0.6nm,0.7s,baz=307,slow=4.4,SNR=8.9						
RDO	Rodhopi	81.59	321	eP	P	18 02 50.1	-0.6
	comp=Z,23nm,1.4s						
BFO	Black Forest	81.90	336	iP	P	18 02 55.8	+3.5
PPT	Papeete	82.30	124	LR	LR	18 38 07.4	
	comp=Z,77nm,18.1s,baz=354,slow=35						
PLCA	Paso Flores	149.75	98	PKP	PKPdf	18 10 17.6	-0.1
	comp=Z,9.8nm,1.0s,baz=261,slow=18,SNR=3.2						
PLCA				PKPbc	PKiKP	18 10 24.9	+1.5
	comp=Z,11nm,1.0s,baz=31,slow=15,SNR=3.9						
SNAA	Sanae	149.76	196	PKPbc	PKPbc	18 10 22.0	+0.5
	comp=Z,0.7nm,0.7s,baz=207,slow=9.0,SNR=4.2						

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*CSEM **04** 18:00:04.6, 42°.53N×13°.20E, h11km, MD1.7/5*
ROM 04 18:00:04.6±0.0**, 42°.53N**×**13°.20E, h11**km**, Md1.7**/5**, Ml1.0**/5**,**
Error ellipse: s-maj=0.5km s-min=0.5km az=119.0,
Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	SAN MARTINO	0.14	44	Pg	Pg	18 00 08.6	+0.5
SMA1				Sg	Sg	18 00 11.2	+0.7
	34nm,0.2s						
SMA1	SAN MARTINO	0.14	44	Pg	Pg	18 00 08.6	+0.5
SMA1				Sg	Sg	18 00 11.2	+0.7
	34nm,0.2s						
LNSS	Leonessa	0.14	301	Pg	Pg	18 00 08.6	+0.5
LNSS				Sg	Sg	18 00 11.1	+0.5
	46nm,0.4s						
LNSS	Leonessa	0.14	301	Pg	Pg	18 00 08.6	+0.5
LNSS				Sg	Sg	18 00 11.1	+0.5
	46nm,0.4s						
CAMP	Campotosto	0.15	88	Pg	Pg	18 00 08.7	+0.4
CAMP				Sg	Sg	18 00 11.4	+0.5
	13nm,0.4s						
CAMP	Campotosto	0.15	88	Pg	Pg	18 00 08.7	+0.4
CAMP				Sg	Sg	18 00 11.4	+0.5
	13nm,0.4s						
FIAM	Fiamignano	0.27	194	Pg	Pg	18 00 10.8	+0.5
FIAM				Sg	Sg	18 00 15.0	+0.9
	10.0nm,0.5s						
FIAM	Fiamignano	0.27	194	Pg	Pg	18 00 10.8	+0.5
FIAM				Sg	Sg	18 00 15.0	+0.9
	10.0nm,0.5s						
NRCA	Norcia	0.31	348	Pg	Pg	18 00 11.4	+0.4
NRCA				Sg	Sg	18 00 16.2	+0.9
	25nm,0.1s						
NRCA	Norcia	0.31	348	Pg	Pg	18 00 11.4	+0.4
NRCA				Sg	Sg	18 00 16.2	+0.9
	25nm,0.1s						

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*NEIC **04** 18:02:03.7±9.3, 47°.38N×160°.94E, h72km±63km, mb4.5/9,*
Error ellipse: s-maj=98.5km s-min=14.4km az=176.0
*KRSC **04** 18:02:36.1±0.5, 55°.87N×161°.20E, h114km±5km, ML4.5*
*MOS **04** 18:02:36.9±1.1, 55°.93N×160°.94E, h120km, mb4.0/12,*
Error ellipse: s-maj=11.3km s-min=5.7km az=77.9
*ISCJB **04** 18:02:37.0±0.2, 55°.91N±0°.02×161°.03E±0°.06,*
h120km±1km, mb4.0/28, Error ellipse: s-maj=5.6km
s-min=3.5km az=24.9
*IDC **04** 18:02:38.1±0.5, 55°.91N×160°.87E, h111km±4km, mb3.6/18,*
mb1 3.8/22, mb1mx3.7/31, mbtmp4.0/22, Error ellipse:
s-maj=14.6km s-min=9.6km az=148.0
*BJI **04** 18:02:38.1, 55°.90N×160°.80E, h140km, mb4.3/8, mB4.7/7*
ISC 04 18:02:37.9±0.4**, 55°.87N**±0°.03×**161°.10E**±0°.03**, h115**km±2km**,**
h114km:pP-P, n140, σ**1§27**/183**, mb3.9**/28**, 6C-5D, Near**
east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	Zelenaya	0.22	312	eP	Pn	18 02 54.0	0.0
ZLN	Zelenaya	0.22	312	PN	Pn	18 02 54.0	0.0
BZGR	Bezymyannyi-Gr	0.24	287	eP	Pn	18 02 53.8	-0.3
BZGR				eS	Sn	18 03 06.4	+0.1
LGNR	Loginova	0.31	313	eP	Pn	18 02 54.4	-0.2
CIRR	Tsirk	0.32	322	eP	Pn	18 02 54.2	-0.2
BZMR	Bezymyannaya	0.35	281	eP	Pn	18 02 54.1	-0.5
BZMR				eS	Sn	18 03 06.9	-0.2
BZWR	Bezymyannyi-We	0.35	286	eP	Pn	18 02 54.4	-0.2
BZWR				eS	Sn	18 03 07.4	+0.2
KIRR	Kirishev	0.43	281	eP	Pn	18 02 54.4	-0.6
KIRR				eS	Sn	18 03 07.2	-0.7
KRSR	Krestovskiy	0.46	320	eP	Pn	18 02 54.7	-0.4
KRSR				eS	Sn	18 03 07.9	-0.2
KMNR	Kamenistaya	0.50	257	eP	Pn	18 02 55.2	-0.1
KMNR				eS	Sn	18 03 09.1	+0.6
KPT	Kopyto	0.50	281	eP	Pn	18 02 54.8	-0.5
KPT				eS	Sn	18 03 08.3	-0.2
KPT	Kopyto	0.50	281	PN	Pn	18 02 54.8	-0.5
KPT				S	Sn	18 03 08.3	-0.2
KLY	Klyuchi	0.51	331	eP	Pn	18 02 54.5	-0.7
KLY				eS	Sn	18 03 07.5	-0.8
BDR	Baidarnaya	0.70	5	iP	Pn	18 02 56.6	-0.2
BDR				iS	Sn	18 03 11.0	-0.1
KOZ	Kozyrevsk	0.71	286	eP	Pn	18 02 56.6	-0.2
KOZ				eS	Sn	18 03 11.3	+0.2
KOZ	Kozyrevsk	0.71	286	PN	Pn	18 02 56.6	-0.2
KOZ				S	Sn	18 03 11.3	+0.2
SMKR	Semkarok	0.74	16	eP	Pn	18 02 56.8	-0.3
SRKR	Sorokina	0.79	3	eP	Pn	18 02 57.3	-0.2
TUMR	Tumrok	0.80	223	eP	Pn	18 02 58.0	+0.4
TUMR				eS	Sn	18 03 12.9	+0.4
KZV	Kizimen	0.89	211	eP	Pn	18 02 58.1	-0.4
SRDR	Sredinnyy	0.89	301	eP	Pn	18 02 58.2	-0.2
SRDR				eS	Sn	18 03 13.3	-0.7
KBTR	Krutoberegovo	1.02	70	eP	Pn	18 02 59.0	-0.6
ESO	Esso	1.35	273	eP	Pn	18 03 03.3	+0.1
ESO				eS	Sn	18 03 23.0	+0.5
ESO	Esso	1.35	273	PN	Pn	18 03 03.3	+0.1
ESO				S	Sn	18 03 23.0	+0.5
MKZ	Mys Kozlova	1.37	164	eP	Pn	18 03 02.8	-0.5
MKZ				eS	Sn	18 03 21.9	-0.7
MKZ	Mys Kozlova	1.37	164	PN	Pn	18 03 02.8	-0.5
MKZ				S	Sn	18 03 21.9	-0.7
KII	Karymskiy	2.07	208	eP	Pn	18 03 12.4	+0.4
GNL	Ganaly	2.84	221	eP	Pn	18 03 22.8	+0.8
GNL	Ganaly	2.84	221	PN	Pn	18 03 22.8	+0.8
SPN	Mys Shipunski	2.85	193	eP	Pn	18 03 21.0	-0.9
SPN				eS	Sn	18 03 54.2	-1.7
SPN	Mys Shipunski	2.85	193	PN	Pn	18 03 21.0	-0.9
SPN				S	Sn	18 03 54.2	-1.7
BKI	Bering	2.85	102	iP	Pn	18 03 21.5	-0.4
BKI				iS	Sn	18 03 54.1	-1.7
BKI	Bering	2.85	102	PN	Pn	18 03 21.5	-0.4
BKI				S	Sn	18 03 54.1	-1.7
KRX	Arik	2.89	211	eP	Pn	18 03 23.5	+0.8
SDLR	Sedlovina	2.90	207	eP	Pn	18 03 23.4	+0.7
SMAR	Somma	2.93	208	eP	Pn	18 03 24.1	+0.8
AVH	Avacha	2.95	209	iP	Pn	18 03 24.7	+1.3
AVH	Avacha	2.95	209	PN	Pn	18 03 24.7	+1.3
KOK	Koryaka	2.95	210	eP	Pn	18 03 24.7	+1.3
KOK	Koryaka	2.95	210	PN	Pn	18 03 24.7	+1.3
UGLR	Uglovaya	2.98	207	eP	Pn	18 03 24.8	+1.0
PET	Petropavlovsk	3.19	208κ	iPN	Pn	18 03 27.3	+0.9
PET				eS	Sn	18 04 05.2	+1.3
PET				pmax	pmax		
	comp=Z,1μm,1.7s						
PET				pmax	pmax		
	comp=Z,543nm,0.7s						
PET				smax	smax		
	comp=N,452nm,0.9s						
PET				smax	smax		
	comp=E,470nm,0.5s						
PET	Petropavlovsk	3.19	208	ePn	Pn	18 03 27.1	+0.7
PETK	Petropavlovsk-	3.40	217	P	Pn	18 03 29.9	+0.6
	comp=E,34nm,0.3s,baz=71,slow=14,SNR=404						
PETK				S	Sn	18 04 09.8	+0.8
	comp=E,9.7nm,0.3s,baz=73,slow=20,SNR=3.7						
PETK	Petropavlovsk-	3.40	217	PN	Pn	18 03 29.9	+0.6
PETK				S	Sn	18 04 09.8	+0.8
PETK				pmax	pmax		
	comp=Z,34nm,0.3s						
PETK				smax	smax		
	comp=N,10.0nm,0.3s						
OSSR	Ossora	3.55	17	eP	Pn	18 03 31.4	+0.2
OSSR				eS	Sn	18 04 11.2	-1.2
APC	Apacha	3.74	220	eP	Pn	18 03 35.1	+1.3
APC				eS	Sn	18 04 18.3	+1.2
APC	Apacha	3.74	220	PN	Pn	18 03 35.1	+1.3
APC				S	Sn	18 04 18.3	+1.2
RUS	Russkaya	3.76	205	eP	Pn	18 03 33.9	-0.2
RUS	Russkaya	3.76	205	PN	Pn	18 03 33.9	-0.2
GRL	Gorelyy	3.77	209	eP	Pn	18 03 36.1	+1.8
GRL	Gorelyy	3.77	209	PN	Pn	18 03 36.1	+1.8
MTVR	Mutnovka	3.80	208	eP	Pn	18 03 36.0	+1.3
ASAK	Asacha	3.97	210	eP	Pn	18 03 38.0	+1.1
MIPR	Malaya Ipel'ka	4.42	217	eP	Pn	18 03 43.9	+1.1
PAU	Pauzhetka	5.09	212	eP	Pn	18 03 53.0	+1.1
PAU	Pauzhetka	5.09	212	PN	Pn	18 03 53.0	+1.1
TILK	Tilichiki	5.31	28	eP	Pn	18 03 56.1	+1.4
SKR	Severo-Kuril's	5.99	212	eP	Pn	18 04 04.1	+0.1
SKR	Severo-Kuril's	5.99	212	ePN	Pn	18 03 53.0	-11
SKR				pmax	pmax		
	comp=Z,160nm,0.9s						
SKR				MLR	MLR		
	comp=N,1μm,12.0s						
SKR				MLR	MLR		
	comp=E,800nm,12.0s						
SKR				MLR	MLR		
	comp=Z,1μm,12.0s						
SEY	Seymchan	8.36	332	P	Pn	18 04 36.5	+0.6
	comp=Z,0.2nm,0.3s,baz=132,slow=16,SNR=4.8						
SEY	Seymchan	8.36	332⇑	iPN	Pn	18 04 37.2	+1.3
YSS	Yuzh-Sakhalins	14.47	240	eP	P	18 06 02.0	+1.5
YUK	Yuzh-Kuril'sk	15.33	226⇓	iP	Pn	18 06 06.1	-1.8
YUK				S	Sn	18 08 51.0	-6.4
YUK				pmax	pmax		
	comp=E,17nm,0.6s						
YUK				pmax	pmax		
	comp=Z,27nm,0.6s						
YUK				pmax	pmax		
	comp=N,8.0nm,0.3s						
ASAJ	Asahikawa	16.66	233	P	P	18 06 25.6	+0.9
	comp=N,2.0nm,0.3s,baz=73,slow=7.9,SNR=30						
ASAJ	Asahikawa	16.66	233	P	P	18 06 25.7	+0.9
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YAK	Yakutsk	17.21	304	P	P	18 06 30.6	+0.1
	comp=Z,0.0nm,0.3s,baz=304,slow=3.6,SNR=4.8						
YAK	Yakutsk	17.21	304	eP	P	18 06 29.5	-1.1
YAK				eS	Sn	18 09 38.4	-3.8
YAK				pmax	pmax		
	comp=Z,15nm,1.0s						
YAK				smax	smax		
	comp=N,58nm,4.6s						
YAK				smax	smax		
	comp=E,50nm,3.8s						
HABR	Khabarovsk	17.53	256	eP	P	18 06 32.2	-2.0
HABR				eS	Sn	18 09 45.7	-4.4
HABR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ERM	Erimo	18.12	228d	eP	P	18 06 39.7	-1.0
ERM				pmax	pmax		
	comp=Z,28nm,2.5s						
UNV	Unalaska Valle	18.67	83	eP	P	18 06 47.3	+0.7
	comp=Z,21nm,1.0s						
KLR	Kul'dur	18.94	262	eP	P	18 06 46.7	-3.0
BPAW	Bear Paw Mtn.	24.77	51	P	pP	18 08 10.9	-2.2
	comp=Z,3.9nm,1.4s						
MAJO	Matsushiro	24.79	228⇑	eP	P	18 07 48.7	-0.2
MAJO				pmax	pmax		
	comp=Z,24nm,0.8s						
MJAR	Matsushiro Arr	24.79	228	P	P	18 07 48.5	-0.4
	comp=Z,2.5nm,0.8s,baz=28,slow=7.7,SNR=7.9						
MJAR	Matsushiro Arr	24.79	228	P	P	18 07 48.5	-0.4
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KDAK	Kodiak Island	25.04	66	iP	P	18 07 53.2	+2.3
TRF	Thorofare Moun	25.13	53	eP	pP	18 08 16.6	0.0
	comp=Z,22nm,1.4s						
BOD	Bodaibo	25.43	294	eP	P	18 07 54.1	-0.3
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s						
MCK	McKinley	25.70	52	eP	pP	18 08 20.8	-0.9
	comp=Z,15nm,1.2s						
COLA	College	26.07	49c	eP	P	18 08 01.1	+0.9
COLA				pmax	pmax		
	comp=Z,23nm,1.2s						
CCB	Clear Creek Bu	26.11	50	eP	pP	18 08 26.0	+0.7
	comp=Z,6.5nm,1.1s						
ILAR	Eielson Array	26.50	49	P	P	18 08 04.6	+0.6
	comp=Z,1.5nm,0.5s,baz=269,slow=7.6,SNR=22						
ILAR				pP	pP	18 08 29.1	+0.4
	comp=Z,0.8nm,0.8s,baz=259,slow=7.7,SNR=5.9						
ILAR				sP	sP	18 08 41.5	-0.7
	comp=Z,3.1nm,1.0s,baz=275,slow=10,SNR=5.0						
ILAR	Eielson Array	26.50	49	P	P	18 08 04.6	+0.6
ILAR				*PP	pP	18 08 29.2	+0.4
ILAR				*SP	sP	18 08 41.5	-0.7
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KSRS	Korea Array	28.88	244	P	P	18 08 23.9	-1.6
	comp=Z,0.8nm,0.8s,baz=34,slow=8.8,SNR=8.3						
KSRS	Korea Array	28.88	244	P	P	18 08 23.9	-1.6
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	Inuvik	31.34	41	P	P	18 08 48.2	+1.4
	comp=Z,2.7nm,0.3s,baz=255,slow=10,SNR=3.3						
INK	Inuvik	31.34	41	P	P	18 08 48.2	+1.4
INK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
SONM	Songino Array	33.92	280	P	P	18 09 10.3	+0.5
	comp=Z,0.7nm,0.7s,baz=64,slow=8.4,SNR=6.8						
SONM				pP	pP	18 09 32.8	-2.3
	comp=Z,0.5nm,0.7s,baz=68,slow=8.4,SNR=2.7						
SONM				PcP	PcP	18 11 45.3	-0.1
	comp=Z,0.3nm,0.6s,baz=359,slow=1.1,SNR=2.9						
SONM				ScP	ScP	18 15 19.8	+0.5
	comp=Z,0.8nm,0.7s,baz=83,slow=3.3,SNR=6.2						
ZAK	Zakamensk	34.23	286	eP	P	18 09 08.3	-4.1
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
H11N2	WAKE ISLAND Hy	36.34	171	T	T	18 47 20.7	
	baz=355,slow=76,SNR=109						
H11N3	WAKE ISLAND Hy	36.36	171	T	T	18 47 15.8	
	baz=355,slow=76,SNR=162						
H11N1	WAKE ISLAND Hy	36.36	171	T	T	18 47 15.9	
	baz=355,slow=76,SNR=228						
YKA	Yellowknife Ar	40.75	45	P	P	18 10 07.7	+0.8
	comp=Z,1.1nm,0.5s,baz=301,slow=8.2,SNR=11						
YKA				pP	pP	18 10 33.9	+1.0
	comp=Z,0.8nm,0.7s,baz=297,slow=7.5,SNR=3.5						
YKA				sP	sP	18 10 45.9	-0.1
	comp=Z,1.3nm,0.7s,baz=297,slow=7.9,SNR=5.4						
YKA	Yellowknife Ar	40.75	45	P	P	18 10 07.7	+0.8
YKA				*PP	pP	18 10 33.9	+1.0
YKA				*SP	sP	18 10 45.9	-0.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	Zalesovo Beam	41.82	301	ScP	ScP	18 15 49.4	+0.6
	comp=Z,0.2nm,0.3s,baz=35,slow=5.4,SNR=3.6						
KURK	Kurchatov	46.80	300	eP	P	18 10 54.6	-0.9
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KURK	**Kurchatov**	**46.80**	**300**	*e*P	**P**	**18 10 54.6**	**-0.9**
	comp=Z,2.4nm,0.6s						
MK31	**Makanchi Array**	**47.52**	**294**	*e*P	**P**	**18 10 59.7**	**-1.5**
MK31	**Makanchi Array**	**47.52**	**294**	*e*P	**P**	**18 10 59.7**	**-1.5**
MKAR	**Makanchi Array**	**47.52**	**294**	P	**P**	**18 11 00.2**	**-0.9**
	comp=Z,1.9nm,1.0s,baz=52,slow=6.8,SNR=13						
MKAR	**Makanchi Array**	**47.52**	**294***c*	*e*P	**P**	**18 11 00.6**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	**Makanchi Array**	**47.52**	**294**	*e*P	**P**	**18 10 59.9**	**-1.2**
MK01	**Makanchi Array**	**47.53**	**294**	*e*P	**P**	**18 10 59.8**	**-1.4**
BRVK	**Borovoye**	**49.18**	**307**⇑	*e*P	**P**	**18 11 13.2**	**-0.5**
BRVK				*i* *PP	**pP**	**18 11 45.0**	**+4.5**
BRVK				pmax	pmax		
	comp=Z,6.0nm,2.5s						
BSMT	**Bassoo Peak**	**49.50**	**62**	*e*P	**P**	**18 11 18.4**	**+1.9**
ARCES	**ARCESS Array B**	**50.83**	**341**	P	**P**	**18 11 24.1**	**-1.9**
	comp=Z,3.0nm,0.8s,baz=36,slow=7.8,SNR=3.5						
ARCES	**ARCESS Array B**	**50.83**	**341**	P	**P**	**18 11 24.1**	**-1.9**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FCC	**Fort Churchill**	**50.96**	**40**	*e*P	pP	18 11 53.6	-0.4
	comp=Z,5.0nm,1.0s						
HRY	**Holter Researc**	**51.74**	**61**	*e*P	**P**	**18 11 34.8**	**+1.5**
	comp=Z,2.9nm,0.7s						
ARU	**Arti**	**51.77**	**316***c*	*i*P	**P**	**18 11 32.5**	**-0.6**
ARU						18 12 43.0	
ARU						18 13 28.1	
ARU				S	**S**	**18 18 44.2**	**-1.7**
ARU				SS	**SS**	**18 22 24.9**	**+1.9**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s						
TKM2	**Tokmak 2**	**53.63**	**295**	P	**P**	**18 11 47.0**	**-0.3**
TKM2				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TKM2	**Tokmak 2**	**53.63**	**295**	P	**P**	**18 11 47.0**	**-0.3**
	comp=Z,3.1nm,1.0s						
NVAR	**Mina Array Bea**	**54.30**	**73**	P	**P**	**18 11 54.0**	**+1.8**
	comp=Z,1.4nm,0.6s,baz=305,slow=6.9,SNR=7.7						
AAK	**Ala-Archa**	**54.40**	**295**	P	**P**	**18 11 52.8**	**0.0**
	comp=Z,3.0nm,0.9s,baz=45,slow=5.1,SNR=7.5						
AAK	**Ala-Archa**	**54.40**	**295***d*	*i*P	**P**	**18 11 52.9**	**0.0**
AAK				*i* *PP	**pP**	**18 12 23.5**	**+3.4**
AAK				pmax	pmax		
	comp=Z,27nm,1.7s						
AAK	**Ala-Archa**	**54.40**	**295**	*e*P	**P**	**18 11 52.3**	**-0.6**
EKS2	**Erkin-Say**	**54.75**	**296**	*e*P	**P**	**18 11 54.4**	**-0.9**
EKS2				pmax	pmax		
	comp=Z,7.0nm,1.2s						
EKS2	**Erkin-Say**	**54.75**	**296**	*e*P	**P**	**18 11 54.4**	**-0.9**
	comp=Z,7.5nm,1.2s						
PDAR	**Pinedale Array**	**55.70**	**63**	P	**P**	**18 12 04.2**	**+1.9**
	comp=Z,0.7nm,0.5s,baz=357,slow=3.3,SNR=4.6						
PDAR				pP	**pP**	**18 12 30.9**	**+1.3**
	comp=Z,1.0nm,0.9s,baz=0.8,slow=6.6,SNR=3.7						
KKAR	**Karatay Array**	**56.07**	**298**	*e*P	**P**	**18 12 02.4**	**-2.3**
KKAR	**Karatay Array**	**56.07**	**298**	*e*P	**P**	**18 12 02.4**	**-2.3**
FINES	**FINESS Array B**	**57.80**	**336**	P	**P**	**18 12 16.7**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=42,slow=7.3,SNR=17						
FINES	**FINESS Array B**	**57.80**	**336**	*i* P	**P**	**18 12 16.8**	**+0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**61.03**	**344**	P	**P**	**18 12 38.4**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=21,slow=6.8,SNR=4.1						
NOA				pP	**pP**	**18 13 06.8**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=20,slow=6.9,SNR=4.2						
LAZ	**Ladron**	**63.24**	**68**	*e*P	P	18 12 49.0	-5.2
AKASG	**Malin Array Be**	**66.53**	**329**	*i* P	**P**	**18 13 12.1**	**-2.8**
TXAR	**Lajitas Array**	**69.04**	**69**	P	**P**	**18 13 32.6**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=294,slow=4.6,SNR=13						
TXAR				pP	**pP**	**18 13 59.4**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=297,slow=4.6,SNR=3.4						
TXAR				sP	**sP**	**18 14 10.9**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=309,slow=5.7,SNR=3.5						
TXAR	**Lajitas Array**	**69.04**	**69**	P	**P**	**18 13 32.7**	**+1.6**
TXAR				*PP	**pP**	**18 13 59.4**	**-0.1**
TXAR				*SP	**sP**	**18 14 11.0**	**-1.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CLL	**Collm**	**69.96**	**339**	*e*P	**P**	**18 13 36.0**	**-0.3**
DPC	**Dobruska-Polom**	**70.17**	**337**	*e*P	**P**	**18 13 38.3**	**+0.7**
DPC	**Dobruska-Polom**	**70.17**	**337**	*e*P	**P**	**18 13 38.3**	**+0.7**
KHC	**Kasperske Hory**	**71.91**	**338**	*e*P	**P**	**18 13 48.8**	**+0.6**
KHC	**Kasperske Hory**	**71.91**	**338**	*e*P	**P**	**18 13 48.8**	**+0.6**
BRTR	**Keskin Array B**	**74.85**	**321**	P	**P**	**18 14 05.5**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=58,slow=3.8,SNR=3.1						
WRA	**Warramunga Arr**	**78.85**	**206**	P	**P**	**18 14 28.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=24,slow=6.1,SNR=11						
WRA	**Warramunga Arr**	**78.85**	**206**	*i* P	**P**	**18 14 29.7**	**+1.7**
ASAR	**Alice Springs**	**82.53**	**205**	P	**P**	**18 14 48.4**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=15,slow=4.7,SNR=20						
ASAR				pP	**pP**	**18 15 17.4**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=17,slow=5.0,SNR=3.8						
ASAR	**Alice Springs**	**82.53**	**205**	P	**P**	**18 14 48.4**	**+0.8**
ASAR				*PP	**pP**	**18 15 17.4**	**+0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ESDC	**Sonseca Array**	**83.98**	**348**	P	**P**	**18 14 54.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=5.3,slow=4.1,SNR=4.8						

SJA ***04*** *18:06:09.1±0.8, 32.°81S×74.°26W, h41km, ML3.9, MW3.9*
ISCJB ***04*** *18:06:19.8±0.8, 33.°88S±0.°06×72.°75W±0.°07, h17km, mb3.6/3, Error ellipse: s-maj=9.1km s-min=7.5km az=143.0*
IDC ***04*** *18:06:19.3±1.0, 33.°87S×72.°56W, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.7/17, mbtmp3.6/6, ML3.6/2, MS1.7/1, Ms1 1.7/1, ms1mx1.7/20, Error ellipse: s-maj=40.9km s-min=21.7km az=105.0*
GUC ***04*** *18:06:20.5±0.8, 33.°90S×72.°71W, h31km±4km, ML4.1*
ISC 04 18:06:21.9±0.9**, 33.°84S**±0.°06×**72.°56W**±0.°06**, h17km, n32, σ1.ˢ55**/41**, mb3.8**/3**, 3C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.96**	**97**⇑	*i*P	**Pb**	**18 06 39.5**	**-0.6**
LNV				*i* S	**Sn**	**18 06 53.9**	**-0.1**
IHA	**Instituto Hidr**	**1.12**	**44**⇑	*i*P	**Pb**	**18 06 42.2**	**-0.6**
IHA				*e*S	**Sg**	**18 06 58.3**	**+0.1**
TACH	**Talagante**	**1.36**	**83**	*i* S	**Sg**	**18 07 06.0**	**0.0**
ROCH	**El Roble**	**1.56**	**57**⇓	*i*P	**Pn**	**18 06 49.0**	**-0.1**
ROCH				AML	AML	18 07 24.1	
	comp=N,2μm,0.5s						
NICH	**Los Niches**	**1.60**	**137**	*e*P	**Pn**	**18 06 49.1**	**-0.3**
SAN	**Santiago**	**1.63**	**77**	*e*P	**Pb**	**18 06 51.9**	**+0.4**
SAN				*i* S	**Sg**	**18 07 13.2**	**-1.3**
CACH	**El Canelo**	**1.65**	**100**⇑	*i*P	**Pn**	**18 06 50.5**	**+0.2**
PEL	**Peldehue**	**1.71**	**67**⇓	*i*P	**Pn**	**18 06 51.5**	**+0.5**
PEL				AML	AML	18 07 25.5	
	comp=N,4μm,0.8s						
CLCH	**Cerro Calan**	**1.75**	**76**	*e*P	**Pn**	**18 06 51.5**	**0.0**
CLCH				*e*S	**Sb**	**18 07 15.2**	**0.0**
CLCH				AML	AML	18 07 22.4	
	comp=N,3μm,0.5s						
AUSP	**Uspallata**	**3.12**	**60**	*e*P	**Pn**	**18 07 13.8**	**+3.2**
AUSP				*e*S	**Sg**	**18 08 01.2**	**-0.9**
ARCO	**CERRO ARCO**	**3.20**	**73**	*e*P	**Pb**	**18 07 17.9**	**-0.4**
ARCO				AML	AML	18 08 08.5	
	comp=Z,120nm,0.6s						
AAGR	**Agrelo**	**3.21**	**77**	*e*P	**Pb**	**18 07 18.4**	**-0.1**
AAGR				*e*S	Sg	18 08 10.8	+5.7
ASAL	**Salagasta**	**3.36**	**69**	*e*P	**Pb**	**18 07 20.2**	**-0.9**
ASAL				*e*S	**Sg**	**18 08 12.4**	**+2.5**
RTLS	**Leoncito**	**3.42**	**54**	*e*P	**Pn**	**18 07 16.8**	**+2.1**
RTLS				*e*S	**Sb**	**18 08 05.7**	**+2.0**
RTCV	**Cerro Valdivia**	**3.92**	**61**	*e*P	**Pn**	**18 07 24.0**	**+2.6**
RTCV				*e*P	**Pn**	**18 07 24.0**	**+2.6**
RTLL	**Cerro Villicun**	**4.26**	**55**	*e*P	**Pn**	**18 07 26.1**	**0.0**
RTLL				*e*S	**Sb**	**18 08 22.7**	**-4.9**
CFAA	**Coronel Fontan**	**4.27**	**60**	Pn	**Pn**	**18 07 27.6**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=235,slow=12,SNR=10						
CFAA				Lg	Lg	18 08 30.3	
	comp=Z,0.5nm,0.3s,baz=297,slow=18,SNR=4.8						
CFAA				LR	LR	18 08 50.1	
	comp=Z,8.7nm,20.5s,baz=10,slow=35						
CFAA	**Coronel Fontan**	**4.27**	**60**	*e*P	**Pn**	**18 07 27.9**	**+1.6**
LCO	**Las Campanas**	**5.07**	**19**	*e*P	**Pn**	**18 07 37.0**	**-0.4**
AVFE	**Valle Fertil**	**5.36**	**55**	*e*P	**Pn**	**18 07 43.4**	**+2.1**
AVFE				IAML		18 08 03.5	
	comp=Z,36nm,0.5s						
ACHE	**Chepes**	**5.65**	**63**	*e*P	**Pn**	**18 07 47.2**	**+1.9**
ACLC	**CERRO LA CRUZ**	**6.50**	**49**	*e*P	**Pn**	**18 07 57.1**	**+0.1**
PLCA	**Paso Flores**	**7.06**	**167**	Pn	**Pn**	**18 08 04.0**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=337,slow=14,SNR=5.3						
PLCA				Lg	Lg	18 09 57.2	
	comp=Z,0.0nm,0.3s,baz=0.0,slow=20,SNR=1.6						
CYA	**Choya**	**7.91**	**49**	*e*P	**Pn**	**18 08 14.1**	**-2.0**
LPAZ	**La Paz**	**17.93**	**14**	P	**Pn**	**18 10 31.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=201,slow=8.2,SNR=5.3						
SIV	**San Ignacio**	**20.57**	**33**	P	**P**	**18 10 59.1**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=219,slow=13,SNR=8.2						
QSPA	**South Pole Qui**	**56.39**	**180**	P	**P**	**18 16 02.7**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=107,slow=5.2,SNR=3.1						
TXAR	**Lajitas Array**	**69.39**	**331**	P	**P**	**18 17 30.4**	**+1.5**
	comp=Z,0.2nm,0.7s,baz=154,slow=6.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**84.56**	**70**	P	**P**	**18 18 54.5**	**0.0**
	comp=Z,0.8nm,0.7s,baz=249,slow=4.5,SNR=5.3						
WRA	**Warramunga Arr**	**120.69**	**210**	PKP	**PKPdf**	**18 25 11.9**	**-1.6**
	comp=Z,0.3nm,0.8s,baz=176,slow=1.9,SNR=2.7						
ZALV	**Zalesovo Beam**	**154.32**	**32**	PKPbc	**PKPbc**	**18 26 21.2**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=348,slow=2.1,SNR=2.5						
MKAR	**Makanchi Array**	**156.99**	**48**	PKPab	**PKPab**	**18 26 46.4**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=297,slow=3.4,SNR=4.6						

ISCJB ***04*** *18:06:34.9±0.4, 32.°62N±0.°02×115.°70W±0.°02, h13km±2km, Error ellipse: s-maj=3.1km s-min=2.6km az=141.1*
MEX ***04*** *18:06:34.4±1.1, 32.°88N×115.°57W, h17km±43km, MD3.5*
ECX ***04*** *18:06:36.4±0.5, 32.°60N×115.°74W, h3km, MD3.4, ML3.6*
NEIC ***04*** *18:06:36.5, 32.°60N×115.°74W, h4km, MD3.5(MEX), ML3.4(PAS), ML3.7(ECX), After ECX.*
ISC 04 18:06:35.3±0.8**, 32.°60N**±0.°02×**115.°71W**±0.°02**, h16km**±5km**, n52, σ1.ˢ08**/82**, 7C-8D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.05**	**347**⇓	*i*P	**Pg**	**18 06 37.3**	**-0.9**
ERPC	**Ernies Place**	**0.15**	**16**⇓	*i*P	**Pg**	**18 06 39.5**	**+0.3**
WESC	**Westside Schoo**	**0.16**	**354**⇓	*i*P	**Pg**	**18 06 39.6**	**+0.2**
WESC				*e*S	**Sg**	**18 06 42.5**	**+0.4**
YUH	**Yuha Desert**	**0.18**	**285**⇑	*i*P	**Pg**	**18 06 39.4**	**-0.3**
COK	**Cook Ranch**	**0.25**	**357**⇓	*i*P	**Pg**	**18 06 41.4**	**+0.6**
DREC	**Desert Rsrch C**	**0.30**	**48**	*e*P	**Pb**	**18 06 42.6**	**+0.3**
RMX	**La Rumorosa**	**0.31**	**270**⇑	*e*P	**Pg**	**18 06 41.8**	**-0.1**
RMX				*e*S	**Sg**	**18 06 46.0**	**-0.3**
RMX				⇑*e*		18 06 46.6	
RMX				IAML		18 06 46.6	
	comp=N,10μm,0.1s						
IBP	**Imperial Bould**	**0.33**	**281**	P	**Pb**	**18 06 42.1**	**-0.7**
	baz=0.3						
IBP				S	**Sg**	**18 06 46.8**	**-0.1**
	baz=0.3						
SWSC	**Sam W. Stewart**	**0.35**	**348**	P	**Pb**	**18 06 42.7**	**-0.4**
	baz=0.4						
SWSC				S	**Sb**	**18 06 47.9**	**-0.5**
	baz=0.4						
SWSC	**Sam W. Stewart**	**0.35**	**348**⇓	*i*P	**Pb**	**18 06 42.8**	**-0.4**
CPBX	**Cerro Prieto**	**0.39**	**118**	*e*P	**Pb**	**18 06 43.5**	**-0.3**
CPBX				*i* S	**Sb**	**18 06 50.3**	**+0.7**
CPBX	**Cerro Prieto**	**0.39**	**118**	*e*Pn	**Pg**	**18 06 42.6**	**-0.6**
CPBX				*e*S	**Sg**	**18 06 48.5**	**-0.1**
CBKC	**Canebrake**	**0.54**	**303**⇓	*i*P	**Pb**	**18 06 46.5**	**0.0**
COA	**Coachella**	**0.56**	**62**⇑	*i*P	**Pb**	**18 06 46.8**	**0.0**
MONP	**Monument Peak,**	**0.66**	**296**	P	**Pb**	**18 06 48.3**	**-0.4**
	baz=0.7						
MONP				S	**Sg**	**18 06 56.9**	**-0.2**
	baz=0.7						
RDX	**Rancho Dawling**	**0.70**	**196**⇑	*e*P	**Pg**	**18 06 48.2**	**-0.7**
RDX				⇓*e*		18 07 01.4	
RDX				IAML		18 07 01.4	
	comp=N,2μm,0.2s						
BAR	**Barrett**	**0.81**	**276**	*e*Pg	**Pb**	**18 06 50.9**	**-0.3**
BAR				*e*Sg	**Sg**	**18 07 01.2**	**-0.6**
BAR	**Barrett**	**0.81**	**276**	*e*P	**Pb**	**18 06 50.8**	**-0.3**
CBX	**Cerro Bola**	**0.85**	**251**	*i* P	**Pb**	**18 06 51.6**	**-0.2**
CBX				*i* S	**Sb**	**18 07 03.4**	**+0.3**
CBX	**Cerro Bola**	**0.85**	**251**	*i* P	**Pb**	**18 06 51.6**	**-0.2**
CBX				*i* S	**Sb**	**18 07 03.4**	**+0.3**
CBX	**Cerro Bola**	**0.85**	**251**⇑	*e*P	**Pb**	**18 06 51.6**	**-0.2**
CBX				*e*S	**Sb**	**18 07 02.8**	**-0.3**
CBX				IAML		18 07 03.7	
	comp=E,2μm,0.3s						
CBX				⇓*e*		18 07 03.7	
GLA	**Glamis**	**0.87**	**59**	P	**Pg**	**18 06 51.3**	**-0.9**
	baz=0.9						
GLA				S	**Sg**	**18 07 02.9**	**-0.8**
	baz=0.9						
GLA	**Glamis**	**0.87**	**59**	*e*Pg	**Pg**	**18 06 51.0**	**-1.2**
GLA				*e*Sg	**Sg**	**18 07 02.9**	**-0.8**
BC3	**Big Chuckawall**	**1.07**	**12**	P	**Pg**	**18 06 54.7**	**-1.3**
	baz=1.1						
BC3				S	**Sg**	**18 07 08.2**	**-1.9**
	baz=1.1						
PFO	**Pinyon Flats O**	**1.18**	**328**	P	**Pb**	**18 06 56.2**	**-1.3**
	baz=1.2						
PFO				S	**Sb**	**18 07 11.5**	**-1.2**
	baz=1.2						
PFO	**Pinyon Flats O**	**1.18**	**328**	*e*Pg	**Pb**	**18 06 56.0**	**-1.5**
PFO				*e*Sg	**Sb**	**18 07 10.6**	**-2.0**
ZAX	**El Zacaton**	**1.18**	**204**	*e*P	**Pb**	**18 06 57.1**	**-0.4**
ZAX				*e*S	**Sb**	**18 07 12.5**	**0.0**
ECNX	**Esteban Cantu**	**1.20**	**219**	*e*P	**Pb**	**18 06 57.5**	**-0.3**
ECNX				*e*S	**Sb**	**18 07 13.3**	**+0.2**
109C	**Camp Elliot, M**	**1.21**	**284**	P	**Pb**	**18 06 57.4**	**-0.4**
	baz=1.2						
109C				S	**Sb**	**18 07 13.0**	**-0.2**
	baz=1.2						
PBX	**Punta Banda**	**1.21**	**225**	*e*P	**Pb**	**18 06 57.5**	**-0.4**
PBX				*e*S	**Sb**	**18 07 13.2**	**-0.1**
ECBX	**El Chinero**	**1.26**	**153**⇑	*e*P	**Pn**	**18 06 57.8**	**-0.4**
ECBX				*e*S	**Sb**	**18 07 15.0**	**+0.4**
BELC	**Belle Mtn. Jos**	**1.42**	**350**	P	**Pn**	**18 06 59.7**	**-0.9**
	baz=1.4						
Y12C	**Blythe**	**1.52**	**41**	P	**Pn**	**18 07 01.0**	**-0.9**
	baz=1.5						
Y12C				S	**Sn**	**18 07 20.6**	**-0.7**
	baz=1.5						
SPIG	**San Pedro Mart**	**1.56**	**172**	*e*S	**Sn**	**18 07 24.0**	**+1.1**
SPX	**San Pedro Mart**	**1.56**	**172**	*e*P	**Pn**	**18 07 02.5**	**-0.3**
SPX				*e*S	**Sn**	**18 07 23.6**	**+0.7**
SPX				*i* S	**Sb**	**18 07 24.0**	**+0.2**
SPX	**San Pedro Mart**	**1.56**	**172**	*e*P	**Pn**	**18 07 03.7**	**+0.9**
SPX				*e*S	**Sb**	**18 07 24.8**	**+1.0**
SPX				IAML		18 07 26.5	
	comp=E,370nm,0.3s						
MURC	**Murrieta**	**1.60**	**309**	P	**Pn**	**18 07 02.4**	**-0.6**
	baz=1.6						
IRM	**Iron Mountain**	**1.62**	**17**	P	**Pn**	**18 07 02.8**	**-0.6**
	baz=1.7						
IRM				S	**Sn**	**18 07 23.5**	**-0.5**
	baz=1.7						
BFSC	**Mount Baldy Ra**	**2.31**	**316**	Pb	**Pb**	**18 07 17.1**	**+0.4**
	baz=2.3						
SCI	**San Clemente I**	**2.42**	**280**	S	**Sn**	**18 07 45.4**	**+1.9**
	baz=2.4						
214A	**Organ Pipe Nat**	**2.54**	**104**	P	**Pn**	**18 07 14.5**	**-1.5**
	baz=2.5						
214A	**Organ Pipe Nat**	**2.54**	**104**	*e*Pn	**Pn**	**18 07 13.9**	**-2.0**
GSC	**Goldstone, Bar**	**2.84**	**342**	*e*Pn	**Pn**	**18 07 19.2**	**-1.0**
GSC				*e*Pg	**Pg**	**18 07 28.3**	**-1.5**
SHPR	**Sheep Range**	**3.92**	**7**	*e*Pn	**Pn**	**18 07 35.4**	**+0.3**
SHPR				*e*Pg	**Pg**	**18 07 52.5**	**+2.1**
SHPR				*e*Sg	**Sg**	**18 08 39.0**	**-2.2**
DAC	**Darwin (Calif)**	**3.98**	**338**	*e*Pn	**Pn**	**18 07 35.9**	**-0.1**
DAC				*e*Pg	**Pb**	**18 07 48.4**	**+3.1**
DAC				*e*Sg	**Sb**	**18 08 37.8**	**+4.5**
WUAZ	**Wupatki**	**4.63**	**50**	*e*Pn	**Pn**	**18 07 45.1**	**+0.4**
CCUT	**Cedar City**	**5.30**	**21**	*e*Pn	**Pn**	**18 07 55.7**	**+1.7**
	comp=E,4.2nm,0.8s						
W18A	**Petrified Fore**	**5.57**	**62**	P	**Pn**	**18 07 59.5**	**+1.7**
	baz=5.6						
W18A	**Petrified Fore**	**5.57**	**62**	*e*Pn	**Pn**	**18 07 58.8**	**+1.1**
	comp=E,11nm,0.4s						
MSU	**Marysvale**	**6.56**	**25**	*e*Pn	Pn	18 08 15.2	+3.8
	comp=E,2.2nm,0.5s						
121A	**Cookes Peak, D**	**6.69**	**88**	P	**Pn**	**18 08 13.7**	**+0.5**
	baz=6.7						
121A	**Cookes Peak, D**	**6.69**	**88**	*e*Pn	**Pn**	**18 08 13.7**	**+0.5**
	comp=E,7.7nm,0.6s						

IDC 04 18:28:38.0±1.7**, 4.°10S**×**144.°70E, h0km, mb3.2**/2**, mb1 3.5**/3**, mb1mx3.2**/17**, mbtmp3.2**/3**, ML3.2**/1**, Error ellipse: s-maj=130.3km s-min=28.5km az=117.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.71**	**212**	P	P	18 32 58.3	0.0
	0.1nm,0.3s,baz=34,slow=12,SNR=7.3						
ASAR	**Alice Springs**	**22.07**	**207**	P	P	18 33 35.2	+0.4
	0.2nm,0.4s,baz=27,slow=12,SNR=6.4						
ILAR	**Eielson Array**	**84.66**	**24**	P	P	18 41 13.1	-0.3
	0.3nm,0.6s,baz=258,slow=4.3,SNR=3.9						

IDC 04 18:33:36.8±1.6**, 4.°03N**×**126.°13E, h0km, mb3.4**/3**, mb1 3.7**/4**, mb1mx3.3**/24**, mbtmp3.5**/4**, ML3.8**/1**, MS3.0**/2**, Ms1 3.0**/2**, ms1mx2.6**/21**, Error ellipse: s-maj=95.8km s-min=25.0km az=60.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**7.07**	**133**	Pn	Pn	18 35 23.1	+1.4
	1.6nm,0.3s,baz=330,slow=20,SNR=6.9						
SIJI				Sn	Sn	18 36 38.9	-4.0
	0.7nm,0.3s,baz=180,slow=19,SNR=2.8						
GUMO	**Guam**	**20.80**	**62**	LR	LR	18 45 10.1	
	comp=Z,19nm,20.9s,baz=224,slow=33						
LEM	**Lembang**	**21.39**	**240**	LR	LR	18 48 08.5	
	comp=Z,96nm,18.2s,baz=202,slow=41						
WRA	**Warramunga Arr**	**25.15**	**162**	P	P	18 39 03.8	-0.1
	1.0nm,0.6s,baz=343,slow=10,SNR=8.3						
ASAR	**Alice Springs**	**28.55**	**165**	P	P	18 39 34.1	-0.4
	0.2nm,0.6s,baz=345,slow=7.6,SNR=7.4						
MKAR	**Makanchi Array**	**56.97**	**325**	P	P	18 43 24.2	0.0
	0.2nm,0.4s,baz=123,slow=7.8,SNR=5.2						

IDC ***04*** *18:34:49.8±11.0, 22.°78S×179.°39W, h458km±100km, mb2.8/4, mb1 3.0/5, mb1mx2.8/20, mbtmp3.8/5, Error ellipse: s-maj=102.4km s-min=24.1km az=44.0*
ISC 04 18:34:54.5±2.1**, 23.°2S**±0.°3×**179.°3W**±0.°3**, h526km, n7, σ0.ˢ99**/6**, mb3.1**/4**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.35**	**191**	P	**P**	**18 38 07.9**	**0.0**
	0.7nm,0.3s,baz=22,slow=5.4,SNR=6.1						
URZ				S	S	18 40 37.1	-10
	0.2nm,0.3s,baz=354,slow=16,SNR=2.3						
CTA	**Charters Tower**	**32.09**	**269**	P	**P**	**18 40 38.8**	**+0.3**
	1.5nm,0.3s,baz=88,slow=9.4,SNR=5.3						
ASAR	**Alice Springs**	**42.76**	**260**	P	**P**	**18 42 05.5**	**-0.3**
	0.2nm,0.4s,baz=95,slow=7.5,SNR=8.1						
WRA	**Warramunga Arr**	**43.07**	**265**	P	**P**	**18 42 07.7**	**-0.6**
	0.3nm,0.3s,baz=101,slow=8.5,SNR=20						
VNDA	**Vanda**	**55.16**	**185**	P	P	18 43 40.0	+3.4
	0.3nm,0.6s,baz=13,slow=6.3,SNR=4.5						
HFS	**Hagfors**	**141.94**	**349**	PKP	**PKPdf**	**18 53 25.0**	**-0.9**
	0.5nm,0.3s,baz=40,slow=2.5,SNR=6.5						
MMAI	**Mount Meron Ar**	**147.94**	**296**	PKPbc	**PKPbc**	**18 53 42.3**	**+1.3**
	1.5nm,0.7s,baz=64,slow=4.0,SNR=4.3						

STR ***04*** *18:44:48.7±0.4, 42.°21N×17.°32E, h10km, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
MOS ***04*** *18:44:51.6±1.2, 42.°37N×16.°53E, h13km, mb4.7/14, Error ellipse: s-maj=4.2km s-min=3.3km az=118.3*
ISCJB ***04*** *18:44:51.7±0.3, 42.°23N±0.°01×16.°47E±0.°01, h12km±2km, mb4.1/27, MS3.5/10, Error ellipse: s-maj=2.4km s-min=1.4km az=28.6*
BEO ***04*** *18:44:52.6±0.6, 42.°28N×16.°45E, h4km±3km, ML4.3/2*
IDC ***04*** *18:44:52.2±0.8, 42.°30N×16.°62E, h0km, mb3.9/13, mb1 3.9/27, mb1mx3.9/39, mbtmp3.8/27, ML3.8/12, MS3.3/18, Ms1 3.3/18, ms1mx3.2/43, Error ellipse: s-maj=15.6km s-min=10.8km az=31.0*
BJI ***04*** *18:44:52.4, 42.°39N×16.°31E, h23km, mb4.5/7, mB4.6/1, Ms4.3/1, Ms7 4.2/1*
NEIC ***04*** *18:44:53.1±1.4, 42.°37N×16.°60E, h7km±10km, mb4.3/14, ML4.2(THE), Error ellipse: s-maj=4.1km s-min=2.2km az=210.0*
CSEM ***04*** *18:44:53.7±0.1, 42.°24N×16.°56E, h10km, mb4.4/13, Ms4.3, Error ellipse: s-maj=2.2km s-min=1.9km az=22.0*
ROM ***04*** *18:44:53.1±0.2, 42.°32N×16.°77E, h10km, Ml3.9/41, Error ellipse: s-maj=3.1km s-min=2.0km az=42.0*
PDG ***04*** *18:44:54.3±0.7, 42.°28N×16.°68E, h13km±1km, MD4.2/11, ML4.1/12, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
SZGRF ***04*** *18:44:54.3, 42.°44N×17.°70E, h10km, Adriatic Sea*
LDG ***04*** *18:44:54.0±0.1, 42.°27N×16.°68E, h10km, Ml4.0/26, Error ellipse: s-maj=2.3km s-min=1.3km az=13.0*
VIE ***04*** *18:44:54.9±0.4, 42.°35N×16.°67E, h10km, mb3.5/11, ML3.8/5, Ms4.3/6, Error ellipse: s-maj=5.4km s-min=2.9km az=75.0*
GEN ***04*** *18:44:55.0, 42.°35N×16.°43E, h6km, ML4.3*
PRU ***04*** *18:44:56.8, 42.°29N×16.°64E, h25km, M4.3*
THE ***04*** *18:44:57.7, 42.°20N×16.°75E, h32km±58km, ML4.2/4, Error ellipse: s-maj=58.9km s-min=2.6km az=0.0*
ISC 04 18:44:53.6±0.9**, 42.°31N**±0.°02×**16.°61E**±0.°02**, h11km**±6km**, n814, σ1.ˢ50**/879**, mb4.2**/27**, MS3.6**/9**, 75C-41D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MS1	**Monte Sant'Ang**	**0.78**	**220**	*e*Pg	**Pb**	**18 45 09.5**	**+0.3**
MSAG	**Monte S. Angel**	**0.79**	**222**⇓	*e*Pg	**Pb**	**18 45 09.8**	**+0.4**
MSAG				Sg	**Sn**	**18 45 22.9**	**+0.3**
	5μm,0.8s						
MSAG	**Monte S. Angel**	**0.79**	**222**⇓	*e*Pg	**Pb**	**18 45 09.8**	**+0.4**
MSAG				Sg	**Sn**	**18 45 22.9**	**+0.3**
	5μm,0.8s						
SGRT	**San Giovanni R**	**0.85**	**230**⇓	*e*Pg	**Pb**	**18 45 10.9**	**+0.5**
SGRT				Sg	**Sn**	**18 45 24.4**	**+0.4**
	5μm,0.7s						
SGRT	**San Giovanni R**	**0.85**	**230**⇓	*e*Pg	**Pb**	**18 45 10.9**	**+0.5**
SGRT				Sg	**Sn**	**18 45 24.4**	**+0.4**
	5μm,0.7s						
STON	**Ston**	**0.98**	**54**	*i* Pg	**Pb**	**18 45 12.6**	**0.0**
STON				Sg	**Sn**	**18 45 27.2**	**0.0**
STON	**Ston**	**0.98**	**54**⇑	*i*Pg	**Pb**	**18 45 12.6**	**0.0**
STON	**Ston**	**0.98**	**54**⇑	*i*Pg	**Pb**	**18 45 12.6**	**0.0**
STON				Sg	**Sn**	**18 45 27.2**	**0.0**
BAI	**Bari**	**1.21**	**170**	*e*Pg	**Pn**	**18 45 16.3**	**-0.2**
CDT	**Castel del Mon**	**1.25**	**192**	*e*Pg	**Pg**	**18 45 17.6**	**+0.1**
MELA	**Melanico ??? S**	**1.26**	**242**	Pg	**Pb**	**18 45 17.8**	**+0.5**
	11μm,1.6s						
MELA	**Melanico ??? S**	**1.26**	**242**	Pg	**Pb**	**18 45 17.8**	**+0.5**
	11μm,1.6s						
MRVN	**Minervino Murg**	**1.28**	**194**⇓	*e*Pg	**Pb**	**18 45 18.0**	**+0.3**
	1μm,0.6s						
MRVN	**Minervino Murg**	**1.28**	**194**⇓	*e*Pg	**Pb**	**18 45 18.0**	**+0.3**
	1μm,0.6s						
AMUR	**Altamura**	**1.40**	**180**	Pg	**Pn**	**18 45 18.8**	**-0.2**
	2μm,0.6s						
AMUR	**Altamura**	**1.40**	**180**	Pg	**Pn**	**18 45 18.8**	**-0.2**
	2μm,0.6s						
HCY	**Herceg Novi**	**1.40**	**84**⇑	*i*Pg	**Pb**	**18 45 19.4**	**-0.4**
HCY				*e*Sg	**Sg**	**18 45 40.0**	**+1.3**
HCY	**Herceg Novi**	**1.40**	**84**⇑	*i*Pg	**Pb**	**18 45 19.4**	**-0.4**
HCY				*e*Sg	**Sg**	**18 45 40.0**	**+1.3**
CIGN	**Sant'Elia a Pi**	**1.43**	**243**	Pg	**Pb**	**18 45 20.4**	**+0.2**
	3μm,1.7s						
CIGN	**Sant'Elia a Pi**	**1.43**	**243**	Pg	**Pb**	**18 45 20.4**	**+0.2**
	3μm,1.7s						
MOCO	**Biccari - m.te**	**1.43**	**230**	Pg	**Pb**	**18 45 20.7**	**+0.4**
	1μm,0.9s						
PALZ	**Palazzo San Ge**	**1.45**	**200**	Pg	**Pg**	**18 45 21.3**	**0.0**
	8μm,1.2s						
PALZ	**Palazzo San Ge**	**1.45**	**200**	Pg	**Pg**	**18 45 21.3**	**0.0**
	8μm,1.2s						
SG1	**Sgolgore (BA)**	**1.47**	**178**	*e*Pg	**Pn**	**18 45 19.8**	**-0.2**
SG1				Sg	**Sg**	**18 45 41.1**	**+0.4**
GATE	**Gambatesa**	**1.50**	**239**	Pg	**Pg**	**18 45 23.5**	**+1.2**
	1μm,0.9s						
GATE	**Gambatesa**	**1.50**	**239**	Pg	**Pg**	**18 45 23.5**	**+1.2**
	1μm,0.9s						
VULT	**Monte Vulture**	**1.54**	**209**	Pg	**Pb**	**18 45 22.7**	**+0.5**
	3μm,0.6s						
VULT	**Monte Vulture**	**1.54**	**209**	Pg	**Pb**	**18 45 22.7**	**+0.5**
	3μm,0.6s						
BRY	**Bratogost**	**1.54**	**67**⇑	*i*Pg	**Pn**	**18 45 21.4**	**+0.3**
BRY	**Bratogost**	**1.54**	**67**⇑	*i*Pg	**Pn**	**18 45 21.4**	**+0.3**
BRY				*e*Sg	**Sg**	**18 45 44.2**	**+1.0**
NOCI	**Noci**	**1.55**	**167**	Pg	**Pn**	**18 45 21.0**	**-0.2**
NOCI				Sg	**Sn**	**18 45 40.9**	**-0.4**
	2μm,0.4s						
NOCI	**Noci**	**1.55**	**167**	Pg	**Pn**	**18 45 21.0**	**-0.2**

NOCI Sg Sn 18 45 40.9 -0.4
2µm,0.4s
ACER Acerenza 1.60 199 Pg Pb 18 45 23.9 +0.8
4µm,0.6s
ACER Acerenza 1.60 199 Pg Pb 18 45 23.9 +0.8
4µm,0.6s
PE1 Pezze di Greco 1.62 158 *e*Pg Pn 18 45 21.8 -0.2
TRIV Trivento 1.63 251 Pg Pb 18 45 23.7 +0.1
3µm,1.5s
TRIV Trivento 1.63 251 Pg Pb 18 45 23.7 +0.1
3µm,1.5s
CAFE Carife 1.64 219 Pg Pb 18 45 23.8 -0.1
CAFE Carife 1.64 219 Pg Pb 18 45 23.8 -0.1
MATE Matera 1.66 178 Pg Pn 18 45 22.6 +0.1
2µm,0.7s
MATE Matera 1.66 178 Pg Pn 18 45 22.6 +0.1
2µm,0.7s
CAFR Castel Frentan 1.68 268 Pg Pb 18 45 24.4 -0.1
9µm,1.4s
CAFR Castel Frentan 1.68 268 Pg Pb 18 45 24.4 -0.1
9µm,1.4s
BSSO Busso 1.69 244 Pg Pn 18 45 24.2 +1.1
2µm,1.6s
BSSO Busso 1.69 244 Pg Pn 18 45 24.2 +1.1
2µm,1.6s
BUM Brajici-Budva 1.69 89⇓*i*Pn Pn 18 45 23.8 +0.7
BUM *e*Sn Sg 18 45 47.2 -0.8
BUM Brajici-Budva 1.69 89⇓*i*Pn Pn 18 45 23.8 +0.7
BUM *e*Sn Sg 18 45 47.2 -0.8
MIGL Miglionico 1.70 184 Pg Pn 18 45 23.3 0.0
MIGL Miglionico 1.70 184 Pg Pn 18 45 23.3 0.0
LTRZ Laterza 1.71 175 Pg Pn 18 45 23.5 +0.2
2µm,1.1s
LTRZ Laterza 1.71 175 Pg Pn 18 45 23.5 +0.2
2µm,1.1s
SNAL S. Angelo Dei 1.73 218 Pg Pb 18 45 25.2 -0.3
2µm,0.7s
SNAL S. Angelo Dei 1.73 218 Pg Pb 18 45 25.2 -0.3
2µm,0.7s
MRLC Muro Lucano 1.76 209 Pg Pn 18 45 24.3 +0.2
MRLC Muro Lucano 1.76 209 Pg Pn 18 45 24.3 +0.2
NKME Niksic 1.79 74⇓*i*Pn Pn 18 45 25.3 +0.8
NKME Niksic 1.79 74⇓*i*Pn Pn 18 45 25.3 +0.8
NKME *e*Sn Sg 18 45 50.3 -0.8
PTRJ Pietraroja 1.82 240 Pg Pb 18 45 26.6 -0.3
4µm,1.6s
PTRJ Pietraroja 1.82 240 Pg Pb 18 45 26.6 -0.3
4µm,1.6s
NKY Niksic 1.83 73⇑*i*Pn Pn 18 45 26.1 +1.0
NKY Niksic 1.83 73⇑*i*Pn Pn 18 45 26.1 +1.0
NKY *e*Sn Sb 18 45 50.9 +0.8
MIDA Miranda 1.88 250 Pg Pn 18 45 26.9 +1.2
1µm,1.3s
MIDA Miranda 1.88 250 Pg Pn 18 45 26.9 +1.2
1µm,1.3s
UPM Unac-Piva 1.91 61⇑*i*Pn Pn 18 45 27.2 +0.9
UPM *e*Sn Sb 18 45 53.3 +0.8
UPM Unac-Piva 1.91 61⇑*i*Pn Pn 18 45 27.2 +0.9
UPM *e*Sn Sb 18 45 53.3 +0.8
DRME Dracevica, Mon 1.91 93⇑*i*Pn Pn 18 45 27.1 +1.0
DRME Dracevica, Mon 1.91 93⇑*i*Pn Pn 18 45 27.1 +1.0
DRME *e*Sn Sb 18 45 52.7 +0.3
RNI2 Rionero Sannit 1.93 253 Pg Pn 18 45 27.8 +1.4
1µm,1.1s
RNI2 Rionero Sannit 1.93 253 Pg Pn 18 45 27.8 +1.4
1µm,1.1s
CRAC Cŕaco 1.94 184 Pg Pn 18 45 27.3 +0.8
8µm,1.3s
CRAC Cŕaco 1.94 184 Pg Pn 18 45 27.3 +0.8
8µm,1.3s
MESG Mesagne 1.95 151 Pg Pn 18 45 26.5 -0.1
3µm,0.8s
MESG Mesagne 1.95 151 Pg Pn 18 45 26.5 -0.1
3µm,0.8s
PDG Podgorica 1.96 85 P Pn 18 45 27.7 +0.9
PDG Podgorica 1.96 85⇑*i*Pn Pn 18 45 27.7 +0.9
PDG *e*Sn Sb 18 45 54.5 +0.7
PDG Podgorica 1.96 85 Pg Pn 18 45 27.7 +0.9
2µm,0.7s
PDG Podgorica 1.96 85 P Pn 18 45 27.7 +0.9
PDG *e*Sn Sb 18 45 54.5 +0.7
TTG Podgorica 1.96 85 P Pn 18 45 27.7 +0.9
TTG Podgorica 1.96 85 P Pn 18 45 27.7 +0.9
TTG Podgorica 1.96 85⇓*i*Pn Pn 18 45 27.7 +0.9
TTG *e*Sn Sb 18 45 54.1 +0.3
VAGA Valle Agricola 1.99 244 Pg Pn 18 45 28.4 +1.2
718nm,0.7s
VAGA Valle Agricola 1.99 244 Pg Pn 18 45 28.4 +1.2
718nm,0.7s
ULC Ulcinj 1.99 99⇑*i*Pn Pn 18 45 27.8 +0.6
ULC Ulcinj 1.99 99⇑*i*Pn Pn 18 45 27.8 +0.6
ULC *e*Sn Sb 18 45 54.7 +0.2
INTR Introdacqua 2.03 263 Pg Pn 18 45 29.2 +1.4
2µm,1.4s
INTR Introdacqua 2.03 263 Pg Pn 18 45 29.2 +1.4
2µm,1.4s
CERA Filignano 2.06 251 Pg Pb 18 45 30.6 -0.4
974nm,0.8s
CERA Filignano 2.06 251 Pg Pb 18 45 30.6 -0.4
974nm,0.8s
CDRU Civita di Ruta 2.06 209 Pg Pn 18 45 28.8 +0.5
931nm,1.4s
CDRU Civita di Ruta 2.06 209 Pg Pn 18 45 28.8 +0.5
931nm,1.4s
SIRI Monte Sirino - 2.19 195 Pg Pn 18 45 30.9 +0.8
2µm,2.0s
SIRI Monte Sirino - 2.19 195 Pg Pn 18 45 30.9 +0.8
2µm,2.0s
CMPR Campora 2.22 207 Pg Pn 18 45 30.4 +0.1
403nm,0.6s
CMPR Campora 2.22 207 Pg Pn 18 45 30.4 +0.1
403nm,0.6s
POFI Posta Fibreno 2.24 256 Pg Pn 18 45 32.3 +1.6
367nm,0.7s
POFI Posta Fibreno 2.24 256 Pg Pn 18 45 32.3 +1.6
367nm,0.7s
TERO Teramo 2.25 279 Pg Pn 18 45 32.2 +1.4
1µm,1.7s
TERO Teramo 2.25 279 Pg Pn 18 45 32.2 +1.4
1µm,1.7s
PLE Pljevlja 2.29 62⇓*i*Pn Pn 18 45 33.1 +1.8
PLE *e*Sn Sb 18 46 02.4 -0.8
PLE Pljevlja 2.29 62⇓*i*Pn Pn 18 45 33.1 +1.8
PLE *e*Sn Sb 18 46 02.4 -0.8
UDBI Udbina 2.31 345 *i* Pn Pn 18 45 33.8 +2.2
UDBI Sn Sb 18 46 04.6 +0.9
UDBI Udbina 2.31 345 *i* Pn Pn 18 45 33.8 +2.2
UDBI Sn Sb 18 46 04.6 +0.9
AQU L'Aquila 2.38 272 *e*P Pn 18 45 33.8 +1.2
AQU L'Aquila 2.38 272 *e*P Pn 18 45 33.8 +1.2
AQU L'Aquila 2.38 272 *e*Pn Pn 18 45 33.8 +1.2
CAMP Campotosto 2.38 277 Pg Pn 18 45 34.2 +1.5
931nm,1.4s
CAMP Campotosto 2.38 277 Pg Pn 18 45 34.2 +1.5
931nm,1.4s
CUC Castrocucco 2.39 195 *e*Pn Pn 18 45 33.9 +1.2
CUC Castrocucco 2.39 195 *e*Pn Pn 18 45 33.9 +1.2
T0106 Roio Piano 2.39 271 Pg Pn 18 45 34.3 +1.5
728nm,0.9s
SMA1 SAN MARTINO 2.45 279 Pg Pn 18 45 35.0 +1.5
1µm,1.1s
SMA1 SAN MARTINO 2.45 279 Pg Pn 18 45 35.0 +1.5
1µm,1.1s
PUK Puka 2.45 95 *i* PN Pn 18 45 34.9 +1.3
PUK *i* SN Sn 18 46 04.3 +0.7
PUK Puka 2.45 95 *i* Pn Pn 18 45 34.9 +1.3
HAPS Han Pijesak,BI 2.47 43 *e*Pn Pb 18 45 36.3 -1.7
HAPS Han Pijesak,BI 2.47 43 *e*Pn Pb 18 45 36.3 -1.7
BLY Banja Luka 2.48 9 *e*Pn Pn 18 45 35.5 +1.6
BLY *e*Sn Sn 18 46 06.2 +2.1
BLY Banja Luka 2.48 9 Pg Pn 18 45 35.7 +1.8
4µm,1.4s
BLY Banja Luka 2.48 9 *e*Pn Pn 18 45 35.5 +1.6
BLY *e*Sn Sn 18 46 06.2 +2.1
BEY Berane 2.49 76⇓*i*Pn Pn 18 45 36.1 +2.0
BEY *e*Sn Sb 18 46 07.1 -1.9
IVA Berane 2.49 76⇓*i*Pn Pn 18 45 36.1 +2.0
IVA *e*Sn Sb 18 46 07.1 -1.9
PVY Plav 2.49 82⇑*i*Pn Pn 18 45 36.1 +1.9
PVY *e*Sn Sb 18 46 07.0 -2.2
AOI Ancona 2.54 300 Pg Pn 18 45 35.2 +0.5
1µm,1.3s
AOI Ancona 2.54 300 Pg Pn 18 45 35.2 +0.5
1µm,1.3s

BCI Bajram Curri 2.56 87 *i* PN Pn 18 45 33.1 -2.0
BCI *i* SN Sb 18 46 10.1 -1.0
BCI Bajram Curri 2.56 87 *i* Pn Pn 18 45 33.1 -2.0
BCI *i* Sn Sb 18 46 10.1 -1.0
BBLS Lazići 2.57 52⇑*i*Pn Pn 18 45 36.5 +1.3
BBLS *e*Sn Sb 18 46 09.6 -1.8
BBLS Lazići 2.57 52⇑*i*Pn Pn 18 45 36.5 +1.3
BBLS *e*Sn Sb 18 46 09.6 -1.8
NVLJ Novalja 2.59 331 *i* Pn Pn 18 45 36.7 +1.3
NVLJ Sn Sn 18 46 09.4 +2.6
NVLJ Novalja 2.59 331 *i* Pn Pn 18 45 36.6 +1.3
NVLJ Sn Sn 18 46 09.4 +2.6
TIR Tirane 2.61 110 *i* PN Pn 18 45 35.4 -0.3
TIR *i* SN Sn 18 46 00.0 -7.4
TIR Tirane 2.61 110⇑*i*Pn Pn 18 45 36.4 +0.7
TIR *e*Sn Sn 18 46 09.4 +2.0
TIR Tirane 2.61 110 *e*P Pn 18 45 36.1 +0.4
TIR Tirane 2.61 110 *e*P Pn 18 45 36.1 +0.4
TIR Tirane 2.61 110⇑*i*Pn Pn 18 45 36.4 +0.7
TIR *e*Sn Sn 18 46 09.4 +2.0
TIR Tirane 2.61 110 *e*Pn Pn 18 45 36.1 +0.4
SCTE Santa Cesarea 2.63 147 Pg Pn 18 45 35.8 -0.2
SCTE Santa Cesarea 2.63 147 Pg Pn 18 45 35.8 -0.2
NRCA Norcia 2.64 283 Pg Pn 18 45 37.8 +1.7
878nm,1.3s
NRCA Norcia 2.64 283 Pg Pn 18 45 37.8 +1.7
878nm,1.3s
SJES Sjenica 2.65 68⇑*i*Pn Pn 18 45 38.1 +1.7
SJES *e*Sn Sb 18 46 12.1 -1.7
LNSS Leonessa 2.66 278 Pg Pn 18 45 38.3 +1.8
918nm,1.2s
LNSS Leonessa 2.66 278 Pg Pn 18 45 38.3 +1.8
918nm,1.2s
FDMO Fiordimonte 2.70 287 Pg Pn 18 45 38.3 +1.3
262nm,0.7s
FDMO Fiordimonte 2.70 287 Pg Pn 18 45 38.3 +1.3
262nm,0.7s
IVAS Ivanjica 2.89 63 *i* Pn Pn 18 45 40.8 +1.2
IVAS Ivanjica 2.89 63 *i* Pn Pn 18 45 40.8 +1.2
PHP Peshkopia 2.92 101 *i* PN Pn 18 45 39.7 -0.3
PHP *i* SN Sb 18 46 18.9 -2.5
PHP Peshkopia 2.92 101 P Pn 18 45 41.1 +1.1
PHP Peshkopia 2.92 101 P Pn 18 45 41.1 +1.1
PHP Peshkopia 2.92 101 *i* Pn Pn 18 45 39.7 -0.3
PHP Peshkopia 2.92 101 P Pn 18 45 41.1 +1.1
PHP *i* Sn Sb 18 46 18.9 -2.5
PHP Peshkopia 2.92 101 P Pn 18 45 41.1 +1.1
ARVD Arcevia 2.95 295 Pg Pn 18 45 41.1 +0.7
496nm,1.5s
ARVD Arcevia 2.95 295 Pg Pn 18 45 41.1 +0.7
496nm,1.5s
DIVS Divibare 3.05 53 P Pn 18 45 42.4 +0.5
DIVS Divibare 3.05 53⇑*i*Pn Pn 18 45 42.3 +0.4
DIVS *e*Sn Sn 18 46 20.0 +1.5
DIVS Divibare 3.05 53⇓*i*P Pn 18 45 43.8 +1.9
DIVS Divibare 3.05 53 S Sn 18 46 19.9 +1.5
DIVS Divibare 3.05 53 P Pn 18 45 42.4 +0.5
DIVS *e*Sn Sn 18 46 20.0 +1.5
TEKS Tekeris 3.09 42 *i* Pn Pn 18 45 42.6 +0.3
TEKS Tekeris 3.09 42 *i* Pn Pn 18 45 42.6 +0.3
TIP Timpagrande 3.13 178 P Pn 18 45 44.1 +1.3
TIP Timpagrande 3.13 178 P Pn 18 45 44.1 +1.3
TIP Timpagrande 3.13 178 *e*Pn Pn 18 45 44.1 +1.3
TIP *e*Sg Sg 18 46 42.1 +8.2
SISC Sisak 3.17 357 *e*Pn Pn 18 45 46.4 +3.1
SISC Sisak 3.17 357 *e*Pn Pn 18 45 46.4 +3.1
BOJS Bojanci 3.34 343 *i* Pn Pn 18 45 47.7 +1.9
BOJS *i* Sn Sn 18 46 29.4 +3.9
BOJS Bojanci 3.34 343 *i* Pn Pn 18 45 47.4 +1.6
BOJS Bojanci 3.34 343 *i* Pn Pn 18 45 47.4 +1.6
BOJS *i* Sn Sn 18 46 29.4 +3.9
OHR Ohrid 3.35 109 *i* Pn Pn 18 45 46.4 +0.4
OHR Ohrid 3.35 109 *i* Pn Pn 18 45 46.3 +0.4
TRUS Trudelj 3.37 54⇑*i*Pn Pn 18 45 45.5 -0.6
TRUS *e*Sn Sn 18 46 28.0 +1.9
TRUS Trudelj 3.37 54⇑*i*Pn Pn 18 45 45.5 -0.6
TRUS *e*Sn Sn 18 46 28.0 +1.9
GRUS Gruza 3.40 61⇑*i*Pn Pn 18 45 46.9 +0.4
GRUS Gruza 3.40 61⇑*i*Pn Pn 18 45 46.9 +0.4
SELS Selova 3.44 73⇑*i*Pn Pn 18 45 47.8 +0.6
SELS Selova 3.44 73⇑*i*Pn Pn 18 45 47.8 +0.6
SRN Sarande 3.52 132 P Pn 18 45 48.7 +0.5
SRN Sarande 3.52 132 P Pn 18 45 48.7 +0.5
SRN Sarande 3.52 132 P Pn 18 45 48.7 +0.5
KEK Kerkira 3.54 136 P Pn 18 45 48.5 +0.1
KEK Kerkira 3.54 136 *e*P Pn 18 45 48.6 +0.1
KEK Kerkira 3.54 136 P Pn 18 45 48.5 +0.1
KEK Kerkira 3.54 136 P Pn 18 45 48.5 +0.1
SKO Skopje 3.61 94 *i* Pn Pn 18 45 52.0 +2.6
SKO Skopje 3.61 94 *e*Pn Pn 18 45 51.5 +2.1
SKO Skopje 3.61 94 *e*Pn Pn 18 45 51.5 +2.1
FGSL Fruska Gora 3.67 38 *e*Pn Pn 18 45 52.6 +2.3
FGSL *e*Sn Sn 18 46 36.4 +2.7
FRGS Fruska Gora 3.67 38 *e*Pn Pn 18 45 52.6 +2.3
FRGS *e*Sn Sn 18 46 36.4 +2.7
SKDS Skadanscina 3.74 331 *i* Pn Pn 18 45 51.8 +0.5
SKDS Skadanscina 3.74 331 *i* Pn Pn 18 45 51.8 +0.5
BEO Beograd 3.76 47 *e*Pn Pn 18 45 53.9 +2.4
BEO Beograd 3.76 47 *e*Pn Pn 18 45 53.9 +2.4
NEST Nestorio 3.84 118 P Pn 18 45 54.3 +1.7
NEST Nestorio 3.84 118 *e*P Pn 18 45 54.3 +1.7
NEST Nestorio 3.84 118 P Pn 18 45 54.3 +1.7
SGD Sagiada 3.84 133 P Pn 18 45 53.1 +0.5
SGD Sagiada 3.84 133 *e*P Pn 18 45 53.2 +0.6
SGD Sagiada 3.84 133 P Pn 18 45 53.1 +0.5
BARS Barje 3.88 81⇑*i*Pn Pn 18 45 54.2 +1.1
BARS Barje 3.88 81⇑*i*Pn Pn 18 45 54.2 +1.1
FNA Florina 3.89 111 *e*P Pn 18 45 53.5 +0.3
FNA Florina 3.89 111 P Pn 18 45 54.0 +0.7
FNA S Sn 18 46 38.8 -0.1
FNA Florina 3.89 111 *e*P Pn 18 45 54.3 +1.0
FNA Florina 3.89 111 P Pn 18 45 54.0 +0.7
FNA S Sn 18 46 38.8 -0.1
FNA Florina 3.89 111 P Pn 18 45 54.0 +0.7
FNA S Sn 18 46 38.8 -0.1
FNA Florina 3.89 111 P Pn 18 45 54.0 +0.7
FNA S Sn 18 46 38.8 -0.1
PDKS Podkum 3.93 343 *i* Pn Pn 18 45 55.4 +1.5
PDKS Podkum 3.93 343 *i* Pn Pn 18 45 55.4 +1.5
IGT Igoumenitsa 3.95 133 *e*P Pn 18 45 54.5 +0.4
IGT Igoumenitsa 3.95 133 P Pn 18 45 54.5 +0.4
IGT S Sn 18 46 38.3 -2.2
IGT Igoumenitsa 3.95 133 *e*P Pn 18 45 54.5 +0.5
IGT Igoumenitsa 3.95 133 P Pn 18 45 54.5 +0.4
IGT S Sn 18 46 38.3 -2.2
IGT Igoumenitsa 3.95 133 P Pn 18 45 54.5 +0.4
IGT S Sn 18 46 38.3 -2.2
IGT Igoumenitsa 3.95 133 P Pn 18 45 54.5 +0.4
IGT S Sn 18 46 38.3 -2.2
TRI Trieste 3.97 330 *e*P Pn 18 45 55.2 +0.8
TRI *e* 18 46 36.0
TRI Trieste 3.97 330 *e*P Pn 18 45 55.2 +0.8
TRI Trieste 3.97 330 *e*Pn Pn 18 45 55.2 +0.8
TRI *e*Pg Pg 18 46 08.0 -1.6
TRI *e*Sn Sn 18 46 36.0 -5.0
TRI *e*Sg Sg 18 46 57.4 -3.7
LJU Ljubljana 4.03 339 *i* Pn Pn 18 45 56.7 +1.5
LJU *i* Sn Sn 18 46 44.9 +2.6
LJU Ljubljana 4.03 339 *i* Pn Pn 18 45 56.7 +1.5
LJU *i* Sn Sn 18 46 44.9 +2.6
JAVS Javornik 4.03 334 *i* Pn Pn 18 45 56.5 +1.2
JAVS *i* 18 46 09.9
JAVS *i* Sn Sn 18 46 44.1 +1.6
JAVS Javornik 4.03 334 *i* Pn Pn 18 45 56.5 +1.2
JAVS *i* Sn Sn 18 46 44.1 +1.6
CEL Celeste 4.08 188 *e*Pn Pn 18 45 55.7 -0.2
CEL Celeste 4.08 188 *e*Pn Pn 18 45 55.7 -0.2
KOGS Kog 4.15 357 *i* Pn Pn 18 45 57.8 +1.0
KOGS Kog 4.15 357 *i* Pn Pn 18 45 57.8 +1.0
JAN Janina 4.16 128 *e*P Pn 18 45 58.7 +1.7
BEHE Becsehely 4.17 2⇓*e*P Pn 18 45 58.5 +1.4
BEHE Becsehely 4.17 2⇓*e*Pn Pn 18 45 58.5 +1.4
PKSM Moragy 4.17 20 *e*P Pn 18 45 57.8 +0.7
PKSM Moragy 4.17 20 *e*Pn Pn 18 45 57.8 +0.7
PKSM *e*SKKPdf Sb 18 46 54.3 -2.9
KZN Kozani 4.37 115 *e*P Pn 18 46 01.1 +1.2
GORS Gorjuse 4.43 336 *i* Pn Pn 18 46 01.8 +1.0
GORS Gorjuse 4.43 336 *i* Pn Pn 18 46 01.8 +1.0
PKS9 Tamasi 4.44 15 *e*P Pn 18 46 04.6 +3.7
PKS9 Tamasi 4.44 15 *e* Pn 18 46 04.6 +3.7

PKS9 *e* 18 47 18.3
OBKA Obir 4.46 341⇑*i*Pn Pn 18 46 02.8 +1.7
SNR=11
OBKA ⇑*i*Sn Sn 18 46 54.7 +1.7
OBKA Obir 4.46 341 Pn Pn 18 46 02.8 +1.7
SNR=11
OBKA Sn Sn 18 46 54.7 +1.7
PERS Pernice 4.46 347 *i* Pn Pn 18 46 03.0 +1.8
PERS *e* 18 46 16.4
PERS *e*Sn Sn 18 46 52.4 -0.7
PERS Pernice 4.46 347 *i* Pn Pn 18 46 03.0 +1.8
PERS *e*Sn Sn 18 46 52.3 -0.7
SOKA Soboth 4.51 346⇓*i*Pn Pn 18 46 02.9 +0.9
SNR=26
SOKA ⇑*i*Sn Sn 18 46 56.4 +1.9
SOKA Soboth 4.51 346 Pn Pn 18 46 02.9 +0.9
SNR=26
SOKA Sn Sn 18 46 56.4 +1.9
ZAPS Zavoj 4.54 76⇑*i*Pn Pn 18 46 03.9 +1.7
ZAPS Zavoj 4.54 76⇑*i*Pn Pn 18 46 03.9 +1.7
GRG Griva 4.54 105 *e*P Pn 18 46 02.3 0.0
GRG Griva 4.54 105 P Pn 18 46 03.0 +0.7
GRG Griva 4.54 105 *e*P Pn 18 46 02.9 +0.7
GRG Griva 4.54 105 P Pn 18 46 03.0 +0.7
GRG Griva 4.54 105 P Pn 18 46 03.0 +0.7
GRG Griva 4.54 105 P Pn 18 46 03.0 +0.7
VAY Valandovo 4.56 100 *i* Pn Pn 18 46 03.7 +1.2
VAY Valandovo 4.56 100 *e*Pn Pn 18 46 03.6 +1.1
VAY Valandovo 4.56 100 *e*Pn Pn 18 46 03.6 +1.1
PKS2 Kecel 4.58 23⇓*e*P Pn 18 46 06.8 +4.0
PKS2 Kecel 4.58 23⇓*e*Pn Pn 18 46 06.8 +4.0
PKS2 *e*SKKPdf Sb 18 47 08.2 -0.9
POPM Popiglio 4.62 294 P Pn 18 46 02.7 -0.6
DSL Palaion Diasel 4.65 131 P Pn 18 46 04.9 +1.1
DSL Palaion Diasel 4.65 131 *e*P Pn 18 46 04.9 +1.1
DSL Palaion Diasel 4.65 131 P Pn 18 46 04.9 +1.1
DSL Palaion Diasel 4.65 131 P Pn 18 46 04.9 +1.1
LKD2 Lefkada island 4.67 137 P Pn 18 46 04.3 +0.2
LKD2 Lefkada island 4.67 137 *e*P Pn 18 46 04.3 +0.2
LKD2 Lefkada island 4.67 137 P Pn 18 46 04.3 +0.2
LKD2 Lefkada island 4.67 137 P Pn 18 46 04.3 +0.2
MAIM Mastiano 4.76 292 P Pn 18 46 04.4 -0.8
MYKA Terra Mystica 4.82 335⇑*i*Pn Pn 18 46 07.8 +1.7
SNR=9.8
MYKA Terra Mystica 4.82 335 Pn Pn 18 46 07.8 +1.7
SNR=9.8
KKB Krupnik 4.84 93 P Pn 18 46 05.9 -0.4
KKB Krupnik 4.84 93 P Pn 18 46 05.9 -0.4
KNT Kendrikon 4.84 102 *e*P Pn 18 46 07.3 +0.9
KNT Kendrikon 4.84 102 P Pn 18 46 06.9 +0.5
KNT Kendrikon 4.84 102 *e*P Pn 18 46 07.1 +0.7
KNT Kendrikon 4.84 102 P Pn 18 46 06.9 +0.5
KNT Kendrikon 4.84 102 P Pn 18 46 06.9 +0.5
KNT Kendrikon 4.84 102 P Pn 18 46 06.9 +0.5
VTS Vitosha 4.89 84 P Pn 18 46 08.8 +1.6
VTS Vitosha 4.89 84⇑*i*Pn Pn 18 46 08.8 +1.6
VTS Vitosha 4.89 84 P Pn 18 46 08.8 +1.6
VTS Vitosha 4.89 84⇑*i*P Pn 18 46 09.4 +2.2
VTS Vitosha 4.89 84 S Sn 18 47 05.6 +1.8
VTS Vitosha 4.89 84 *i* P Pn 18 46 08.8 +1.6
VTS Vitosha 4.89 84⇑*i*Pn Pn 18 46 08.7 +1.6
VTS Vitosha 4.89 84 P Pn 18 46 08.8 +1.6
BZS Buzias 4.90 46 *e*P Pn 18 46 07.2 +0.1
BZS Buzias 4.90 46 *e*Pn Pn 18 46 07.5 +0.4
BZS *e*Sn Sn 18 47 05.6 +1.8
BZS Buzias 4.90 46⇑*i*P Pn 18 46 10.3 +3.2
BZS Buzias 4.90 46 S Sn 18 47 06.2 +2.4
BZS Buzias 4.90 46 *e*P Pn 18 46 07.2 +0.1
BZS Buzias 4.90 46 *e*Pn Pn 18 46 07.5 +0.4
BZS *e*Sn Sn 18 47 05.6 +1.8
VLC Villacollemand 4.91 294 *e*Pn Pn 18 46 08.6 +1.3
VLC Villacollemand 4.91 294 *e*Pn Pn 18 46 08.6 +1.3
THL Klokotos Trika 4.92 122 P Pn 18 46 07.9 +0.4
THL Klokotos Trika 4.92 122 *e*P Pn 18 46 08.5 +1.0
THL Klokotos Trika 4.92 122 P Pn 18 46 07.9 +0.4
LIT Litokhoron 4.95 114 P Pn 18 46 08.1 +0.2
LIT Litokhoron 4.95 114 *e*P Pn 18 46 07.8 -0.1
LIT Litokhoron 4.95 114 P Pn 18 46 08.1 +0.2
LIT Litokhoron 4.95 114 P Pn 18 46 08.1 +0.2
LIT Litokhoron 4.95 114 P Pn 18 46 08.1 +0.2
ARSA Arzberg 5.00 351 *i* Pn Pn 18 46 04.5 -4.1
PKST T˜'s 5.06 11 *e*P Pn 18 46 11.0 +1.7
PKST *e*S Sn 18 47 06.0 -1.7
PKST T˜'s 5.06 11 *e*pPn Pn 18 46 11.0 +1.7
PKST *e*SKKPdf Sn 18 47 06.0 -1.7
THE Thessaloniki 5.06 107 *e*P Pn 18 46 10.2 +0.9
VALM Valbona 5.07 296 P Pn 18 46 09.0 -0.6
PKS7 Kunszentmiklos 5.08 20⇓*e*P Pn 18 46 13.2 +3.6
PKS7 Kunszentmiklos 5.08 20⇓*e*pPn Pn 18 46 13.2 +3.6
PDO Prodromos 5.09 135 P Pn 18 46 09.9 +0.2
PDO Prodromos 5.09 135 *e*P Pn 18 46 10.0 +0.2
PDO Prodromos 5.09 135 P Pn 18 46 09.9 +0.2
VLS Valsamata 5.12 142 P Pn 18 46 09.6 -0.7
VLS Valsamata 5.12 142 *e*P Pn 18 46 10.0 -0.3
VLS Valsamata 5.12 142 P Pn 18 46 09.6 -0.7
VLS Valsamata 5.12 142 P Pn 18 46 09.6 -0.7
VLS Valsamata 5.12 142 P Pn 18 46 09.6 -0.7
BACM Baccana 5.16 295 P Pn 18 46 10.1 -0.7
HORT Hortiatis 5.17 107 *e*P Pn 18 46 11.0 +0.1
HORT Hortiatis 5.17 107 *e*P Pn 18 46 11.3 +0.4
HORT Hortiatis 5.17 107 *e*P Pn 18 46 11.0 +0.1
CSKK Cs˘‡kako 5.19 12 *e*pPn Pn 18 46 17.7 +6.6
EVR Evrytania 5.21 129 P Pn 18 46 13.1 +1.6
EVR S Sn 18 47 10.1 -1.4
EVR Evrytania 5.21 129 *e*P Pn 18 46 13.3 +1.8
EVR Evrytania 5.21 129 P Pn 18 46 13.1 +1.6
EVR S Sn 18 47 10.1 -1.4
EVR Evrytania 5.21 129 P Pn 18 46 13.1 +1.6
EVR S Sn 18 47 10.1 -1.4
PKSG 5.24 13 *e*P Pn 18 46 13.4 +1.6
PKSG 5.24 13 *e*pPn Pn 18 46 13.4 +1.6
KFL Anninata 5.27 141 P Pn 18 46 12.3 0.0
KFL Anninata 5.27 141 P Pn 18 46 12.3 0.0
SOH Sokhos 5.27 104 *e*P Pn 18 46 12.8 +0.5
KBA Koelnbreinsper 5.31 335⇓*i*Pn Pn 18 46 14.3 +1.4
SNR=14
KBA Koelnbreinsper 5.31 335 Pn Pn 18 46 14.3 +1.4
SNR=14
ABTA Abfaltersbach 5.32 328⇑*i*Pn Pn 18 46 13.7 +0.7
SNR=13
ABTA Abfaltersbach 5.32 328 Pn Pn 18 46 13.7 +0.7
SNR=13
MAKR Makrakomi, Fth 5.33 126 P Pn 18 46 14.8 +1.6
MAKR Makrakomi, Fth 5.33 126 *e*P Pn 18 46 14.7 +1.6
MAKR Makrakomi, Fth 5.33 126 P Pn 18 46 14.8 +1.6
MAKR Makrakomi, Fth 5.33 126 P Pn 18 46 14.8 +1.6
MPEP Malo Peshtene 5.35 76 P Pn 18 46 17.1 +3.8
MPEP Malo Peshtene 5.35 76 P Pn 18 46 17.1 +3.8
CODM Codolo 5.35 295 P Pn 18 46 12.9 -0.5
MMB Musomiste 5.36 95⇓*i*P Pn 18 46 15.4 +2.0
MMB Musomiste 5.36 95 S Sn 18 47 16.6 +1.5
MMB Musomiste 5.36 95 P Pn 18 46 15.6 +2.2
MMB Musomiste 5.36 95⇓*i*P Pn 18 46 15.4 +2.0
SRS Serrai 5.36 100 P Pn 18 46 14.3 +0.8
SRS Serrai 5.36 100 *e*P Pn 18 46 14.3 +0.8
SRS Serrai 5.36 100 P Pn 18 46 14.3 +0.8
SRS Serrai 5.36 100 P Pn 18 46 14.3 +0.8
SRS Serrai 5.36 100 P Pn 18 46 14.3 +0.8
SRS Serrai 5.36 100 P Pn 18 46 14.3 +0.8
SIRR Siria 5.37 41⇓*i*P Pn 18 46 17.4 +3.8
SIRR Siria 5.37 41⇓*i*P Pn 18 46 17.4 +3.8
SOP Sopron 5.38 360 *e*P Pn 18 46 14.8 +1.1
SOP Sopron 5.38 360 *e*pPn Pn 18 46 14.8 +1.1
SOP *e*SKKPdf Sn 18 47 15.3 -0.3
CLTB Caltabellotta 5.39 210 *e*Pn Pn 18 46 10.1 -3.9
CLTB Caltabellotta 5.39 210 *e*Pn Pn 18 46 10.1 -3.9
GZR Gura Zlata 5.42 53⇑*i*P Pn 18 46 16.7 +2.3
GZR Gura Zlata 5.42 53⇑*i*P Pn 18 46 16.7 +2.3
AGG Agios Georgios 5.45 125 *e*P Pn 18 46 15.9 +1.2
AGG Agios Georgios 5.45 125 P Pn 18 46 15.5 +0.8
AGG S Sn 18 47 15.0 -2.4
AGG Agios Georgios 5.45 125 *e*P Pn 18 46 15.6 +0.8
AGG Agios Georgios 5.45 125 *e*P Pn 18 46 16.1 +1.4
AGG *e* 18 47 16.6
AGG Agios Georgios 5.45 125 P Pn 18 46 15.5 +0.8
AGG Agios Georgios 5.45 125 *e*Pn Pn 18 46 16.1 +1.4
AGG *e*S Sn 18 47 16.6 -0.8
AGG Agios Georgios 5.45 125 *e*Pn Pn 18 46 16.1 +1.4
AGG *e*Sn Sn 18 47 16.6 -0.8
PLG Polygyros 5.49 108 P Pn 18 46 15.9 +0.6
PLG Polygyros 5.49 108 *e*P Pn 18 46 16.0 +0.6

PLG	Polygyros	5.49	108	P	Pn	18 46 15.9	+0.6
PLG	Polygyros	5.49	108	P	Pn	18 46 15.9	+0.6
PLG	Polygyros	5.49	108	P	Pn	18 46 15.9	+0.6
NVR	Nevrokopi	5.50	98	eP	Pn	18 46 16.6	+1.2
SC2M	Scurtabo	5.57	295	P	Pn	18 46 15.8	-0.6
PGB	Panagyurishte	5.60	85	iP	Pn	18 46 18.3	+1.5
PGB	Panagyurishte	5.60	85	iP	Pn	18 46 18.3	+1.5
EFP	Efpalio	5.60	132	eP	Pn	18 46 18.0	+1.2
PGF	Pioggiola	5.64	275	ePn	Pn	18 46 18.0	+0.6
PGF				eSn	Sn	18 47 18.7	-3.5
	7.9nm,0.7s						
PGF	Pioggiola	5.64	275	eP	Pn	18 46 18.0	+0.6
PGF				e		18 47 18.7	
PGF	Pioggiola	5.64	275	ePn	Pn	18 46 18.0	+0.6
PGF	Pioggiola	5.64	275	ePn	Pn	18 46 18.0	+0.6
PGF				eSn	Sn	18 47 18.7	-3.5
RLS	Riolos of Patr	5.64	137	eP	Pn	18 46 17.5	+0.2
CONA	Conrad Observa	5.65	355	⇑iPn	Pn	18 46 18.9	+1.4
	SNR=14						
CONA	Conrad Observa	5.65	355	Pn	Pn	18 46 18.9	+1.4
	SNR=14						
KALE	Kalithea	5.75	131	eP	Pn	18 46 20.9	+1.9
MOA	Molln	5.79	344	⇑iPn	Pn	18 46 20.9	+1.6
	SNR=30						
MOA				⇑iSn	Sn	18 47 27.1	+1.4
MOA	Molln	5.79	344	Pn	Pn	18 46 20.9	+1.6
	SNR=30						
MOA				Sn	Sn	18 47 27.1	+1.4
XOR	Xorichti	5.79	118	eP	Pn	18 46 19.5	+0.1
AXAR	Agios Charalam	5.81	126	eP	Pn	18 46 19.7	+0.1
PAIG	Paliouri	5.84	112	eP	Pn	18 46 19.7	-0.4
DRO	Drossia	5.84	136	P	Pn	18 46 21.5	+1.3
DRO	Drossia	5.84	136	eP	Pn	18 46 20.7	+0.5
DRO	Drossia	5.84	136	P	Pn	18 46 21.5	+1.3
OUR	Ouranopolis	5.89	107	eP	Pn	18 46 19.7	-1.0
OUR	Ouranopolis	5.89	107	eP	Pn	18 46 21.0	+0.3
OUR	Ouranopolis	5.89	107	eP	Pn	18 46 19.7	-1.0
DSF	Desfina	5.96	129	eP	Pn	18 46 22.0	+0.2
KLV	Kalavryta, Ach	6.01	133	P	Pn	18 46 23.8	+1.3
KLV	Kalavryta, Ach	6.01	133	eP	Pn	18 46 24.0	+1.5
KLV	Kalavryta, Ach	6.01	133	P	Pn	18 46 23.8	+1.3
KLV	Kalavryta, Ach	6.01	133	P	Pn	18 46 23.8	+1.3
PLD	Plovdiv	6.01	89	ePn	Pn	18 46 23.9	+1.5
PLD	Plovdiv	6.01	89	ePn	Pn	18 46 23.9	+1.5
LOT	Lotru	6.05	56	eP	Pn	18 46 20.3	-2.8
LOT	Lotru	6.05	56	⇓iP	Pn	18 46 25.5	+2.4
LOT	Lotru	6.05	56	⇓iP	Pn	18 46 25.5	+2.4
KAVA	Kavala	6.06	100	eP	Pn	18 46 24.4	+1.3
RJOB	Jochberg	6.07	335	ePn	Pn	18 46 25.0	+1.8
RJOB				eSn	Sn	18 47 32.8	+0.1
RJOB	Jochberg	6.07	335	ePn	Pn	18 46 25.0	+1.8
RJOB				eSn	Sn	18 47 32.8	+0.1
RZN	Rozhen	6.07	93	iP	Pn	18 46 25.8	+2.4
RZN	Rozhen	6.07	93	iP	Pn	18 46 25.8	+2.4
PSZ	Piszkesteto	6.07	21	eP	Pn	18 46 21.7	-1.6
PSZ	Piszkesteto	6.07	21	⇑iP	Pn	18 46 26.8	+3.5
PSZ	Piszkesteto	6.07	21	eP	Pn	18 46 25.3	+2.0
PSZ				eS	Sn	18 47 35.1	+2.2
PSZ	Piszkesteto	6.07	21	ePn	Pn	18 46 21.7	-1.6
PSZ	Piszkesteto	6.07	21	epPn	Pn	18 46 25.3	+2.0
PSZ				eSn	Sn	18 47 35.1	+2.2
SMIA	Simia	6.08	122	eP	Pn	18 46 27.5	+4.2
LKR	Lokris	6.09	125	eP	Pn	18 46 23.5	+0.1
WTTA	Wattenberg	6.09	326	⇓iPn	Pn	18 46 24.4	+0.7
	SNR=8.0						
WTTA	Wattenberg	6.09	326	Pn	Pn	18 46 24.4	+0.7
	SNR=8.0						
AMT	Artemida-Makis	6.17	139	eP	Pn	18 46 26.2	+1.6
WATA	Walderalm	6.17	326	⇑iPn	Pn	18 46 26.8	+2.1
WATA	Walderalm	6.17	326	Pn	Pn	18 46 26.8	+2.1
GUR	Goura	6.19	133	P	Pn	18 46 25.8	+0.8
GUR	Goura	6.19	133	eP	Pn	18 46 25.6	+0.6
GUR	Goura	6.19	133	P	Pn	18 46 25.8	+0.8
GUR	Goura	6.19	133	P	Pn	18 46 25.8	+0.8
SMOL	Smolenice	6.24	5	eP	Pn	18 46 21.7	-3.8
SMOL				e		18 47 31.3	
SMOL	Smolenice	6.24	5	e	Pn	18 46 21.7	-3.8
SMOL	Smolenice	6.24	5	eSN	Sn	18 47 31.3	-5.4
DRGR		6.25	42	ePn	Pn	18 46 27.3	+1.5
DRGR		6.25	42	⇑iP	Pn	18 46 30.1	+4.3
DRGR		6.25	42	ePn	Pn	18 46 27.3	+1.5
FUORN	Ofenpass-Fuorn	6.26	316	ePn	Pn	18 46 27.6	+1.5
FUORN				eSn	Sn	18 47 39.3	+1.5
FUORN	Ofenpass-Fuorn	6.26	316	ePn	Pn	18 46 27.6	+1.5
FUORN				eSn	Sn	18 47 39.3	+1.5
AOS	Alonnisos	6.35	117	eP	Pn	18 46 28.1	+1.1
MOTA	Moosalm	6.38	324	⇑iPn	Pn	18 46 29.5	+1.9
	SNR=6.2						
MOTA				⇓iSn	Sn	18 47 43.3	+2.8
MOTA	Moosalm	6.38	324	Pn	Pn	18 46 29.5	+1.9
	SNR=6.2						
MOTA				Sn	Sn	18 47 43.3	+2.8
MRKA	Markates	6.42	122	eP	Pn	18 46 29.0	+1.0
VIL2	Platees	6.53	127	eP	Pn	18 46 30.6	+1.0
ITM	Ithomi	6.55	140	eP	Pn	18 46 29.8	-0.1
ARR	Arges	6.56	59	⇑iP	Pn	18 46 33.5	+3.5
ARR	Arges	6.56	59	⇑iP	Pn	18 46 33.5	+3.5
DAVOX	Davos/Dischmat	6.57	315	Pn	Pn	18 46 31.7	+1.5
	2.0nm,0.3s,baz=146,slow=16,SNR=15						
DAVOX				Sn	Sn	18 47 44.1	-1.1
	1.3nm,0.3s,baz=154,slow=18,SNR=2.3						
KDZ	Kurdzhali	6.59	93	⇓iP	Pn	18 46 32.3	+1.8
KDZ	Kurdzhali	6.59	93	⇓iP	Pn	18 46 32.3	+1.8
VLX	Vlachokerasia	6.63	136	eP	Pn	18 46 32.1	+1.1
TUE	Stuetta	6.67	311	ePn	Pn	18 46 32.6	+1.0
	388nm,0.4s						
TUE	Stuetta	6.67	311	ePn	Pn	18 46 32.6	+1.0
	388nm,0.4s						
PYL	PYLOS	6.70	142	eP	Pn	18 46 31.2	-0.7
KECS	Kecovo	6.75	22	eP	Pn	18 46 29.3	-3.3
KECS				e		18 47 41.4	
KECS	Kecovo	6.75	22	ePN	Pn	18 46 29.3	-3.3
KECS				e		18 47 41.4	
RDO	Rodhopi	6.78	97	eP	Pn	18 46 32.8	-0.1
RDO	Rodhopi	6.78	97	ePn	Pn	18 46 33.1	+0.2
RDO	Rodhopi	6.78	97	ePn	Pn	18 46 33.1	+0.2
SAOF	Saorge	6.83	287	P	Pn	18 46 36.5	+2.8
SAOF				S	Sb	18 48 06.4	-7.5
SAOF	Saorge	6.83	287	P	Pn	18 46 36.5	+2.8
GEC2	GERESS Array S	6.85	344	ePn	Pn	18 46 35.0	+1.0
GEC2	GERESS Array S	6.85	344	ePn	Pn	18 46 35.0	+1.0
GERES	GERESS Array B	6.85	344	Pn	Pn	18 46 34.8	+0.8
	0.8nm,0.3s,baz=162,slow=14,SNR=33						
GERES				Sn	Sn	18 47 49.7	-2.3
	7.0nm,0.3s,baz=157,slow=23,SNR=14						
GERES				Lg	Lg	18 48 39.7	
	baz=175,slow=34,SNR=3.5						
GERES				LR	LR	18 49 57.4	
	comp=Z,416nm,18.6s,baz=171,slow=44						
VOIR		6.85	60	⇓iP	Pn	18 46 37.7	+3.6
SBF	Sospel	6.90	286	ePn	Pn	18 46 35.2	+0.6
SBF				eSn	Sn	18 47 48.8	-4.3
	16nm,0.3s						
SBF	Sospel	6.90	286	eP	Pn	18 46 35.2	+0.6
SBF				e		18 47 48.8	
SBF	Sospel	6.90	286	ePn	Pn	18 46 35.2	+0.6
SBF	Sospel	6.90	286	ePn	Pn	18 46 35.2	+0.6
SBF				eSn	Sn	18 47 48.8	-4.3
DAVA	Damuels	6.91	318	⇑iPn	Pn	18 46 36.7	+1.9
	SNR=6.5						
DAVA	Damuels	6.91	318	Pn	Pn	18 46 36.7	+1.9
	SNR=6.5						
REVF	Revere	6.92	285	P	Pn	18 46 37.3	+2.3
REVF	Revere	6.92	285	P	Pn	18 46 37.3	+2.3
AUTN	L'Aution	6.93	287	P	Pn	18 46 37.1	+1.9
AUTN				S	Sb	18 48 08.1	-8.7
AUTN	L'Aution	6.93	287	P	Pn	18 46 37.1	+1.9
ATH	Athens Observa	6.95	126	eP	Pb	18 46 45.6	-8.7
SMTH	Samothraki Isl	6.95	102	eP	Pn	18 46 36.6	+1.2
DID	Didima	6.99	131	eP	Pn	18 46 35.4	-0.5
PTL	Penteli	6.99	125	eP	Pn	18 46 38.9	+3.0
VRAC	Vranov	7.00	360	Pn	Pn	18 46 37.3	+1.2
	0.9nm,0.3s,baz=169,slow=16,SNR=3.9						
VRAC				Sn	Sn	18 47 52.7	-3.0
	2.2nm,0.3s,baz=281,slow=17,SNR=3.0						
VRAC	Vranov	7.00	360	⇑iP	Pn	18 46 42.3	+6.3
TREC	Trest	7.03	354	AMS	AMS	18 49 20.0	
	comp=Z,800nm,11.5s						
TOUF	Mont Tournerai	7.06	287	P	Pn	18 46 38.4	+1.4
TOUF				S	Sb	18 48 11.3	-9.5
TOUF	Mont Tournerai	7.06	287	P	Pn	18 46 38.4	+1.4
MVIF	Mont Vial	7.10	286	P	Pn	18 46 39.8	+2.2
MVIF	Mont Vial	7.10	286	P	Pn	18 46 39.8	+2.2
KHC	Kasperske Hory	7.15	344	ePN	Pn	18 46 39.3	+1.3
KHC				eSN	Sn	18 47 55.8	-3.4
KHC				AMS	AMS	18 49 30.0	
	comp=Z,1μm,15.0s						
KHC	Kasperske Hory	7.15	344	eP	Pn	18 46 39.3	+1.3
KHC				e		18 47 55.8	
KHC				MLR	MLR		
	comp=Z,1μm,15.0s						
KHC	Kasperske Hory	7.15	344	Pn	Pn	18 46 39.3	+1.3
KHC	Kasperske Hory	7.15	344	ePn	Pn	18 46 37.3	-0.7
KHC				eSn	Sn	18 47 54.0	-5.2
TRPA	Tarpa	7.17	34	⇑iP	Pn	18 46 41.9	+3.6
TRPA	Tarpa	7.17	34	⇑iP	Pn	18 46 41.9	+3.6
ALN	Alexandroupoli	7.21	98	eP	Pn	18 46 38.1	-0.7
ALN	Alexandroupoli	7.21	98	eP	Pn	18 46 40.3	+1.4
ALN	Alexandroupoli	7.21	98	eP	Pn	18 46 38.1	-0.7
CALN	Calern	7.27	285	P	Pn	18 46 42.0	+2.2
CALN	Calern	7.27	285	P	Pn	18 46 42.0	+2.2
DOPR	Dopca	7.30	57	⇑iP	Pn	18 46 45.7	+5.6
WET	Wettzell	7.32	340	ePn	Pn	18 46 41.1	+0.7
WET	Wettzell	7.32	340	ePn	Pn	18 46 41.1	+0.7
VLI	Veliai	7.42	137	eP	Pn	18 46 42.2	+0.5
FRF	La Foret Royal	7.42	283	ePn	Pn	18 46 42.6	+0.8
FRF				eSn	Sn	18 48 01.3	-4.6
	comp=Z,17nm,0.4s						
FRF	La Foret Royal	7.42	283	eP	Pn	18 46 42.6	+0.8
FRF				e		18 48 01.3	
FRF	La Foret Royal	7.42	283	ePn	Pn	18 46 42.6	+0.8
FRF	La Foret Royal	7.42	283	ePn	Pn	18 46 42.6	+0.8
FRF				eSn	Sn	18 48 01.3	-4.6
MLR	Muntele Rosu	7.46	62	Pn	Pn	18 46 43.6	+1.3
	comp=Z,0.1nm,0.3s,baz=270,slow=9.8,SNR=11						
MLR				Sn	Sn	18 48 12.2	+5.2
	comp=Z,0.1nm,0.3s,baz=254,slow=19,SNR=2.3						
MLR				LR	LR	18 49 58.2	
	comp=Z,86nm,20.0s,baz=263,slow=41						
MLR	Muntele Rosu	7.46	62	⇑iP	Pn	18 46 45.8	+3.5
LMR	La Mourre	7.50	281	ePn	Pn	18 46 43.4	+0.6
LMR				eSn	Sn	18 48 03.0	-4.8
	comp=Z,7.3nm,0.4s						
LMR	La Mourre	7.50	281	eP	Pn	18 46 43.4	+0.6
LMR				e		18 48 03.0	
LMR	La Mourre	7.50	281	ePn	Pn	18 46 43.4	+0.6
LMR	La Mourre	7.50	281	ePn	Pn	18 46 43.4	+0.6
LMR				eSn	Sn	18 48 03.0	-4.8
MBDF	Montbardon	7.55	292	ePn	Pn	18 46 42.7	-1.0
MBDF				eSn	Sn	18 48 04.5	-4.8
	comp=Z,19nm,0.4s						
MBDF	Montbardon	7.55	292	eP	Pn	18 46 42.7	-1.0
MBDF				e		18 48 04.5	
MBDF	Montbardon	7.55	292	ePn	Pn	18 46 42.7	-1.0
MBDF	Montbardon	7.55	292	ePn	Pn	18 46 42.7	-1.0
MBDF				eSn	Sn	18 48 04.5	-4.8
OKC	Ostrava-Krasne	7.61	8	ePN	Pn	18 46 46.3	+2.0
OKC				AMS	AMS	18 50 10.0	
	comp=Z,600nm,11.7s						
OKC	Ostrava-Krasne	7.61	8	eP	Pn	18 46 46.3	+2.0
OKC				MLR	MLR		
	comp=Z,600nm,11.7s						
OKC	Ostrava-Krasne	7.61	8	Pn	Pn	18 46 46.3	+2.0
ERIK	Erikli-Kesan	7.61	99	eP	Pn	18 46 45.4	+1.1
ERIK	Erikli-Kesan	7.61	99	eP	Pn	18 46 45.4	+1.1
GELI	Tayfur-Gelibol	7.66	101	eP	Pn	18 46 45.7	+0.7
GELI	Tayfur-Gelibol	7.66	101	eP	Pn	18 46 45.7	+0.7
BNI	Bardonecchia	7.71	294	eP	Pn	18 46 43.3	-2.5
BNI	Bardonecchia	7.71	294	ePn	Pn	18 46 43.3	-2.5
BNI				eSn	Sn	18 47 58.7	-15
GOPC	GO Pecny, Ondr	7.71	351	ePN	Pn	18 46 45.7	-0.1
GOPC				AMS	AMS	18 49 50.0	
	comp=Z,900nm,14.6s						
GOPC	GO Pecny, Ondr	7.71	351	Pn	Pn	18 46 45.7	-0.1
KOLS	Kolonicke sedl	7.72	29	eP	Pn	18 46 43.8	-2.1
KOLS	Kolonicke sedl	7.72	29	ePN	Pn	18 46 43.8	-2.1
KOLS				e		18 47 57.2	
LPG	La Plagne	7.80	297	ePn	Pn	18 46 45.6	-1.7
LPG				eSn	Sn	18 48 10.6	-5.1
	comp=Z,41nm,0.4s						
LPG	La Plagne	7.80	297	eP	Pn	18 46 45.6	-1.7
LPG				e		18 48 10.6	
LPG	La Plagne	7.80	297	ePn	Pn	18 46 45.6	-1.7
LPG				eSn	Sn	18 48 10.6	-5.1
KYTH	Kithira	7.81	138	P	Pn	18 46 47.8	+0.7
KYTH	Kithira	7.81	138	eP	Pn	18 46 47.4	+0.3
KYTH	Kithira	7.81	138	P	Pn	18 46 47.8	+0.7
KYTH	Kithira	7.81	138	P	Pn	18 46 47.8	+0.7
SENIN	Lac Senin/Sane	7.81	304	ePn	Pn	18 46 48.2	+0.9
SENIN	Lac Senin/Sane	7.81	304	ePn	Pn	18 46 48.2	+0.9
SENIN				eSn	Sn	18 48 11.3	-4.5
STHS	Stebnicka Huta	7.81	23	eP	Pn	18 46 46.2	-0.9
STHS	Stebnicka Huta	7.81	23	eP	Pn	18 46 46.2	-0.9
STHS	Stebnicka Huta	7.81	23	ePN	Pn	18 46 46.2	-0.9
STHS				e		18 48 00.1	
STHS	Stebnicka Huta	7.81	23	eSG	Sg	18 49 08.5	+4.4
PRU	Pruhonice	7.82	350	ePN	Pn	18 46 48.2	+1.0
PRU				eSN	Sn	18 48 12.5	-3.1
PRU				AMS	AMS	18 49 50.0	
	comp=Z,900nm,15.1s						
PRU	Pruhonice	7.82	350	eP	Pn	18 46 48.2	+1.0
PRU				e		18 48 12.5	
PRU				MLR	MLR		
	comp=Z,900nm,15.1s						
PRU	Pruhonice	7.82	350	Pn	Pn	18 46 48.2	+1.0
LPL	La Plagne	7.82	298	ePn	Pn	18 46 46.2	-1.3
LPL				eSn	Sn	18 48 11.1	-5.0
	comp=Z,46nm,0.4s						
LPL	La Plagne	7.82	298	eP	Pn	18 46 46.2	-1.3
LPL				e		18 48 11.1	
LPL	La Plagne	7.82	298	ePn	Pn	18 46 46.2	-1.3
LPL				eSn	Sn	18 48 11.1	-5.0
PRA	Prague	7.91	350	AMS	AMS	18 50 00.0	
	comp=Z,900nm,15.8s						
RSL	Roselend	7.95	299	P	Pn	18 46 51.6	+2.4
RSL	Roselend	7.95	299	P	Pn	18 46 51.6	+2.4
PLOR	Plostina	8.05	60	⇑iP	Pn	18 46 53.6	+3.2
PLOR	Plostina	8.05	60	⇑iP	Pn	18 46 53.6	+3.2
DPC	Dobruska-Polom	8.05	359	ePN	Pn	18 46 52.4	+2.0
DPC				AMS	AMS	18 50 20.0	
	comp=Z,400nm,11.1s						
DPC	Dobruska-Polom	8.05	359	eP	Pn	18 46 52.4	+2.0
DPC				MLR	MLR		
	comp=Z,400nm,11.1s						
DPC	Dobruska-Polom	8.05	359	Pn	Pn	18 46 52.4	+2.0
ROTZ	Rotzenmuhle	8.07	339	ePn	Pn	18 46 50.6	0.0
ROTZ				eSn	Sn	18 48 15.9	-5.8
ROTZ	Rotzenmuhle	8.07	339	ePn	Pn	18 46 50.6	0.0
BUR04	Bucovina Ar. S	8.09	46	ePn	Pn	18 46 50.4	-0.6
BUR04	Bucovina Ar. S	8.09	46	ePn	Pn	18 46 50.4	-0.6
BURAR	Bucovina Array	8.09	46	⇓iP	Pn	18 46 55.5	+4.5
BUR08	Bucovina Ar. S	8.09	46	ePn	Pn	18 46 54.5	+3.4
BUR08	Bucovina Ar. S	8.09	46	ePn	Pn	18 46 54.5	+3.4
VRI	Vrincioaia	8.11	61	⇑iP	Pn	18 46 53.6	+2.4
VRI	Vrincioaia	8.11	61	⇑iP	Pn	18 46 53.6	+2.4
CHOS	Chios island	8.20	115	eP	Pn	18 46 49.3	-3.3
ORIF	Oris-en-Rattie	8.21	292	ePn	Pn	18 46 52.9	+0.2
ORIF				eSn	Sn	18 48 20.4	-5.1
	comp=Z,18nm,0.5s						
ORIF	Oris-en-Rattie	8.21	292	eP	Pn	18 46 52.9	+0.2
ORIF				e		18 48 20.4	
ORIF	Oris-en-Rattie	8.21	292	ePn	Pn	18 46 52.9	+0.2
ORIF	Oris-en-Rattie	8.21	292	ePn	Pn	18 46 52.9	+0.2
ORIF				eSn	Sn	18 48 20.4	-5.1
UPC	Upice	8.21	357	ePN	Pn	18 46 54.9	+2.3
UPC	Upice	8.21	357	eP	Pn	18 46 54.9	+2.3
UPC	Upice	8.21	357	Pn	Pn	18 46 54.9	+2.3
OJC	Ojcow	8.22	14	eP	Pn	18 46 49.2	-3.5
OJC	Ojcow	8.22	14	ePn	Pn	18 46 49.2	-3.5
SMRF	Simiane la Rot	8.24	285	ePn	Pn	18 46 52.2	-0.9
SMRF				eSn	Sn	18 48 21.0	-5.2
	comp=Z,7.5nm,0.6s						
SMRF	Simiane la Rot	8.24	285	ePn	Pn	18 46 52.2	-0.9
SMRF	Simiane la Rot	8.24	285	ePn	Pn	18 46 52.2	-0.9
SMRF				eSn	Sn	18 48 21.0	-5.2
FELD	Feldberg im Sc	8.25	315	P	Pn	18 46 53.8	+0.5
ANKY	Antikythira Is	8.27	139	eP	Pn	18 46 54.0	+0.6
GRFO	Grafenberg	8.28	335	eP	Pn	18 46 48.4	-5.2
GRFO	Grafenberg	8.28	335	ePn	Pn	18 46 48.4	-5.2
MANZ	Manzenberg	8.29	339	ePn	Pn	18 46 54.5	+0.8
MANZ				eSn	Sn	18 48 21.7	-5.7
MANZ	Manzenberg	8.29	339	ePn	Pn	18 46 54.5	+0.8
STU	Stuttgart	8.30	324	eP	Pn	18 46 51.7	-2.1
STU	Stuttgart	8.30	324	ePn	Pn	18 46 51.7	-2.1
PVCC	Panska Ves	8.35	351	AMS	AMS	18 50 10.0	
	comp=Z,900nm,11.5s						
BFO	Black Forest	8.38	319	eP	Pn	18 46 54.8	-0.2
BFO	Black Forest	8.38	319	eP	Pn	18 46 54.8	-0.2
BFO	Black Forest	8.38	319	ePn	Pn	18 46 54.8	-0.2
MSAB	Monastry St. A	8.38	74	⇓iP	Pn	18 46 57.9	+2.9
MSAB	Monastry St. A	8.38	74	⇓iP	Pn	18 46 57.9	+2.9
NKC	Novy Kostel	8.44	341	AMS	AMS	18 50 20.0	
	comp=Z,600nm,11.3s						
GUNZ	Gunzen	8.59	341	ePn	Pn	18 46 59.3	+1.6
GUNZ	Gunzen	8.59	341	ePn	Pn	18 46 59.3	+1.6
LOMF	Lomont	8.59	309	P	Pn	18 46 58.9	+1.1
LOMF	Lomont	8.59	309	P	Pn	18 46 58.9	+1.1
PSN	Preselentsi	8.59	77	⇑iP	Pn	18 46 59.6	+1.8
PSN	Preselentsi	8.59	77	⇑iP	Pn	18 46 59.6	+1.8
TLB	Topalu	8.62	71	⇓iP	Pn	18 47 01.4	+3.2
TLB	Topalu	8.62	71	⇓iP	Pn	18 47 01.4	+3.2
APE	Apeiranthos	8.64	124	⇑eP	Pn	18 46 59.4	+0.9
APE	Apeiranthos	8.64	124	eP	Pn	18 46 59.4	+0.9
KEST	Kesra	8.66	223	Pn	Pn	18 47 01.8	+2.9
	comp=Z,0.1nm,0.3s,baz=37,slow=4.0,SNR=1.7						
KEST				LR	LR	18 50 30.6	
	comp=Z,75nm,20.0s,baz=316,slow=39						
CABF	La Chapelle	8.67	303	ePn	Pn	18 46 58.0	-1.0
CABF				eSn	Sn	18 48 31.2	-5.5
	comp=Z,23nm,0.7s						
CABF	La Chapelle	8.67	303	eP	Pn	18 46 58.0	-1.0
CABF				e		18 48 31.2	
CABF	La Chapelle	8.67	303	ePn	Pn	18 46 58.0	-1.0
CABF	La Chapelle	8.67	303	ePn	Pn	18 46 58.0	-1.0
CABF				eSn	Sn	18 48 31.2	-5.5
WERD	Werda	8.67	341	ePn	Pn	18 46 59.8	+0.9
WERD	Werda	8.67	341	ePn	Pn	18 46 59.8	+0.9
MOF	Molkenrain	8.70	313	P	Pn	18 47 00.3	+0.9
MOF	Molkenrain	8.70	313	P	Pn	18 47 00.3	+0.9
PLN	Plauen	8.74	341	ePn	Pn	18 46 59.9	+0.1
PLN	Plauen	8.74	341	ePn	Pn	18 46 59.9	+0.1
BRG	Berggiesshubel	8.77	349	PN	Pn	18 47 00.9	+0.7
BRG	Berggiesshubel	8.77	349	P	Pn	18 47 00.9	+0.7
BRG	Berggiesshubel	8.77	349	P	Pn	18 47 00.9	+0.7
CFR	Carcaliu	8.82	67	⇓iP	Pn	18 47 04.2	+3.2
CFR	Carcaliu	8.82	67	⇓iP	Pn	18 47 04.2	+3.2
HINF	Hinteralfeld	8.83	312	ePn	Pn	18 47 00.2	-0.9
HINF				eSn	Sn	18 48 35.1	-5.5
	comp=Z,17nm,0.5s						
HINF	Hinteralfeld	8.83	312	eP	Pn	18 47 00.2	-0.9
HINF				e		18 48 35.1	
HINF	Hinteralfeld	8.83	312	ePn	Pn	18 47 00.2	-0.9
HINF	Hinteralfeld	8.83	312	ePn	Pn	18 47 00.2	-0.9
HINF				eSn	Sn	18 48 35.1	-5.5
TIRR	Tirgusor	8.86	72	eP	Pn	18 46 51.7	-10
TIRR	Tirgusor	8.86	72	eP	Pn	18 47 00.1	-1.4
TIRR	Tirgusor	8.86	72	⇑iP	Pn	18 47 01.3	-0.2
TIRR	Tirgusor	8.86	72	eP	Pn	18 47 00.1	-1.4
TIRR	Tirgusor	8.86	72	ePn	Pn	18 47 00.1	-1.4
ECH	Echery	8.90	315	P	Pn	18 47 03.7	+1.6
ECH	Echery	8.90	315	eP	Pn	18 47 01.5	-0.6
ECH				e		18 48 39.6	
ECH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ECH	Echery	8.90	315	ePn	Pn	18 47 01.5	-0.6
	comp=Z,7.0nm,1.0s						
ECH	Echery	8.90	315	P	Pn	18 47 03.7	+1.6
ECH	Echery	8.90	315	ePn	Pn	18 47 01.5	-0.6
	comp=Z,7.0nm,1.0s						
ECH				eSn	Sn	18 48 39.6	-2.8
KARN	Karanos	8.94	138	eP	Pn	18 47 02.7	0.0
CDF	Champ du Feu	8.97	316	ePn	Pn	18 47 02.0	-1.0
CDF				eSg	Sg	18 49 35.2	-5.9
	comp=Z,104nm,1.6s						
CDF	Champ du Feu	8.97	316	eP	Pn	18 47 02.0	-1.0
CDF	Champ du Feu	8.97	316	ePn	Pn	18 47 02.0	-1.0
CDF	Champ du Feu	8.97	316	ePn	Pn	18 47 02.0	-1.0
CDF				eSg	Sg	18 49 35.2	-5.9
MOX	Moxa	9.02	339	ePn	Pn	18 47 03.6	-0.1
MOX				eSn	Sn	18 48 39.5	-5.8
MOX	Moxa	9.02	339	ePn	Pn	18 47 03.6	-0.1
VIVF	Saint-Julien-l	9.03	290	ePn	Pn	18 47 02.8	-1.1
VIVF				eSn	Sn	18 48 39.8	-5.8
	comp=Z,15nm,0.8s						
VIVF	Saint-Julien-l	9.03	290	eP	Pn	18 47 02.8	-1.1
VIVF				e		18 48 39.8	
VIVF	Saint-Julien-l	9.03	290	ePn	Pn	18 47 02.8	-1.1
VIVF	Saint-Julien-l	9.03	290	ePn	Pn	18 47 02.8	-1.1
VIVF				eSn	Sn	18 48 39.8	-5.8
VAM	Vamos	9.08	137	eP	Pn	18 47 03.4	-1.1
SMG	Samos	9.09	117	eP	Pn	18 47 05.0	+0.3
LVV	L'vov	9.11	32	eP	Pn	18 47 08.3	+3.4
LVV	L'vov	9.11	32	eP	Pn	18 47 08.3	+3.4
HAU	Haudompre	9.22	312	ePn	Pn	18 47 05.3	-1.1
HAU				eSn	Sn	18 48 44.2	-5.9
	comp=Z,18nm,0.6s						
HAU	Haudompre	9.22	312	eP	Pn	18 47 05.3	-1.1
HAU				e		18 48 44.2	
HAU	Haudompre	9.22	312	ePn	Pn	18 47 05.3	-1.1
HAU				eSn	Sn	18 48 44.2	-5.9
CLL	Collm	9.34	346	ePn	Pn	18 47 08.0	0.0
CLL				eSn	Sn	18 48 37.0	-16
CLL				e		18 49 04.0	
CLL				e		18 49 31.0	
CLL				eSg		18 49 51.0	
CLL				eLmax		18 50 09.0	
CLL	Collm	9.34	346	eP	Pn	18 47 07.6	-0.4
CLL	Collm	9.34	346	eP	Pn	18 47 07.6	-0.4
CLL	Collm	9.34	346	ePn	Pn	18 47 07.6	-0.4
CLL				eSn	Sn	18 48 38.8	-14
GVD	Gavdhos	9.47	139	ePn	Pn	18 47 09.6	-0.3
GVD	Gavdhos	9.47	139	ePn	Pn	18 47 09.7	-0.3
LASF	Ste Croix	9.48	285	ePn	Pn	18 47 08.9	-1.2
LASF	Ste Croix	9.48	285	ePn	Pn	18 47 08.9	-1.2
IDI	Anoyia	9.53	135	Pn	Pn	18 47 09.7	-1.1
	comp=Z,0.9nm,0.3s,baz=310,slow=16,SNR=7.5						
IDI				Sn	Sn	18 48 47.4	-11
	comp=Z,0.8nm,0.3s,baz=66,slow=20,SNR=4.5						
IDI				LR	LR	18 52 01.2	
	comp=Z,114nm,19.8s,baz=286,slow=45						
THEF	They Montfort	9.54	312	P	Pn	18 47 11.5	+0.6
THEF	They Montfort	9.54	312	P	Pn	18 47 11.5	+0.6
PAGF	Fort de Pagny	9.87	313	ePn	Pn	18 47 14.1	-1.3
	baz=127						
PAGF	Fort de Pagny	9.87	313	ePn	Pn	18 47 14.1	-1.3
KIS	Kishinev	9.88	58	eP	Pn	18 47 19.0	+3.6
KIS	Kishinev	9.88	58	eP	Pn	18 47 19.0	+3.6
LAST	Lasithi	9.94	133	eP	Pn	18 47 14.1	-2.3
SFTF	Sexfontaines	10.06	310	ePn	Pn	18 47 16.7	-1.3
	baz=124						
SFTF	Sexfontaines	10.06	310	ePn	Pn	18 47 16.7	-1.3
SMF	Signal de Mont	10.10	300	ePn	Pn	18 47 17.2	-1.3
SMF				eSn	Sn	18 49 05.4	-6.4
	comp=Z,19nm,0.5s						
SMF	Signal de Mont	10.10	300	eP	Pn	18 47 17.2	-1.3
SMF				e		18 49 05.4	
SMF	Signal de Mont	10.10	300	ePn	Pn	18 47 17.2	-1.3
SMF				eSn	Sn	18 49 05.4	-6.4
MEZF	Maizieres J'vi	10.21	311	ePn	Pn	18 47 18.8	-1.2
MEZF	Maizieres J'vi	10.21	311	ePn	Pn	18 47 18.8	-1.2
LOR	Lormes	10.33	303	ePn	Pn	18 47 20.4	-1.3
	baz=122						
LOR				eSn	Sn	18 49 10.5	-6.9
	comp=Z,26nm,0.6s						
LOR	Lormes	10.33	303	eP	Pn	18 47 20.4	-1.3
LOR				e		18 49 10.5	
LOR	Lormes	10.33	303	ePn	Pn	18 47 20.4	-1.3
LOR				eSn	Sn	18 49 10.5	-6.9
AVF	Avril sur Loir	10.47	300	ePn	Pn	18 47 22.2	-1.3
AVF				eSn	Sn	18 49 14.2	-6.6
	comp=Z,5.4nm,0.6s						
AVF	Avril sur Loir	10.47	300	eP	Pn	18 47 22.2	-1.3
AVF				e		18 49 14.2	
AVF	Avril sur Loir	10.47	300	ePn	Pn	18 47 22.2	-1.3
AVF				eSn	Sn	18 49 14.2	-6.6
SSF	Saint Saulge	10.47	301	ePn	Pn	18 47 22.4	-1.2
SSF				eSn	Sn	18 49 13.9	-6.9
	comp=Z,9.2nm,0.5s						
SSF	Saint Saulge	10.47	301	eP	Pn	18 47 22.4	-1.2
SSF				e		18 49 13.9	
SSF	Saint Saulge	10.47	301	ePn	Pn	18 47 22.4	-1.2
SSF				eSn	Sn	18 49 13.9	-6.9
MTLF	Montolieu	10.63	280	ePn	Pn	18 47 24.4	-1.3
MTLF	Montolieu	10.63	280	eP	Pn	18 47 24.4	-1.3
MTLF	Montolieu	10.63	280	ePn	Pn	18 47 24.4	-1.3

KARP	**Karpathos**	**10.63**	**126**	eP	**Pn**	**18 47 25.4**	**-0.4**
BGF	**Bois d'Agland**	**10.72**	**298**	ePn	**Pn**	**18 47 25.8**	**-1.2**
BGF				eSn	Sn	18 49 19.8	-7.1
	comp=Z,13nm,0.4s						
BGF	**Bois d'Agland**	**10.72**	**298**	eP	**Pn**	**18 47 25.8**	**-1.2**
BGF				e		18 49 19.8	
BGF	**Bois d'Agland**	**10.72**	**298**	ePn	**Pn**	**18 47 25.8**	**-1.2**
BGF				eSn	Sn	18 49 19.8	-7.1
CAF	**Calviac**	**10.87**	**289**	ePn	**Pn**	**18 47 27.8**	**-1.2**
CAF	**Calviac**	**10.87**	**289**	eP	**Pn**	**18 47 27.8**	**-1.2**
CAF	**Calviac**	**10.87**	**289**	ePn	**Pn**	**18 47 27.8**	**-1.2**
TCF	**Toulx Ste Croi**	**11.06**	**296**	ePn	**Pn**	**18 47 30.5**	**-1.2**
TCF				eSn	Sn	18 49 28.1	-7.2
	comp=Z,5.7nm,0.4s						
TCF	**Toulx Ste Croi**	**11.06**	**296**	eP	**Pn**	**18 47 30.5**	**-1.2**
TCF				e		18 49 28.1	
TCF	**Toulx Ste Croi**	**11.06**	**296**	ePn	**Pn**	**18 47 30.5**	**-1.2**
TCF				eSn	Sn	18 49 28.1	-7.2
GIVF	**Givet**	**11.28**	**318**	ePn	**Pn**	**18 47 33.3**	**-1.3**
GIVF	**Givet**	**11.28**	**318**	eP	**Pn**	**18 47 33.3**	**-1.3**
GIVF	**Givet**	**11.28**	**318**	ePn	**Pn**	**18 47 33.3**	**-1.3**
RJF	**Les Rejaudoux**	**11.31**	**290**	ePn	**Pn**	**18 47 33.8**	**-1.3**
RJF	**Les Rejaudoux**	**11.31**	**290**	eP	**Pn**	**18 47 33.8**	**-1.3**
RJF	**Les Rejaudoux**	**11.31**	**290**	ePn	**Pn**	**18 47 33.8**	**-1.3**
BAIF	**Baives**	**11.57**	**316**	ePn	**Pn**	**18 47 37.1**	**-1.4**
BAIF	**Baives**	**11.57**	**316**	eP	**Pn**	**18 47 37.1**	**-1.4**
BAIF	**Baives**	**11.57**	**316**	ePn	**Pn**	**18 47 37.1**	**-1.4**
LFF	**La Frestale**	**11.80**	**288**	ePn	**Pn**	**18 47 40.4**	**-1.4**
LFF	**La Frestale**	**11.80**	**288**	eP	**Pn**	**18 47 40.4**	**-1.4**
LFF	**La Frestale**	**11.80**	**288**	ePn	**Pn**	**18 47 40.4**	**-1.4**
AKASG	**Malin Array Be**	**12.07**	**42**	Pn	**Pn**	**18 47 45.7**	**+0.3**
	baz=231,slow=12,SNR=3.0						
BR231	**Keskin MP Arra**	**12.45**	**96**	ePn	Pn	18 47 54.1	+3.4
MFF	**Saint Martin d**	**12.72**	**295**	ePn	**Pn**	**18 47 52.9**	**-1.4**
MFF	**Saint Martin d**	**12.72**	**295**	eP	**Pn**	**18 47 52.9**	**-1.4**
MFF	**Saint Martin d**	**12.72**	**295**	ePn	**Pn**	**18 47 52.9**	**-1.4**
BR131	**Keskin Array S**	**13.12**	**96**	Pn	Pn	18 47 55.8	-4.1
	comp=Z,5.3nm,1.2s						
BRTR	**Keskin Array B**	**13.12**	**96**	Pn	**Pn**	**18 48 01.1**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=286,slow=10,SNR=8.2						
BRTR				LR	LR	18 54 09.0	
	comp=Z,62nm,20.6s,baz=265,slow=42						
BRTR	**Keskin Array B**	**13.12**	**96***c*	eP	**Pn**	**18 48 02.5**	**+2.6**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.2s						
BRTR	**Keskin Array B**	**13.12**	**96**	eP	**Pn**	**18 48 02.5**	**+2.6**
	comp=Z,2.0nm,1.2s						
LDF	**La Druitiere**	**13.31**	**304**	ePn	**Pn**	**18 48 00.8**	**-1.6**
LDF	**La Druitiere**	**13.31**	**304**	eP	**Pn**	**18 48 00.8**	**-1.6**
LDF	**La Druitiere**	**13.31**	**304**	ePn	**Pn**	**18 48 00.8**	**-1.6**
ESDC	**Sonseca Array**	**15.76**	**267**	Pn	**Pn**	**18 48 36.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=74,slow=13,SNR=4.0						
VSU	**Vasula**	**17.38**	**18**⇑	eP	**P**	**18 48 56.9**	**-0.2**
VSU				pmax	pmax		
	comp=Z,118nm,1.7s						
VSU	**Vasula**	**17.38**	**18**	eP	**P**	**18 48 56.9**	**-0.2**
	comp=Z,118nm,1.7s						
MMAI	**Mount Meron Ar**	**17.50**	**116**	Pn	**Pn**	**18 48 56.0**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=318,slow=12,SNR=2.7						
MMAI				LR	LR	18 56 24.8	
	comp=Z,62nm,21.6s,baz=200,slow=40						
MMAI	**Mount Meron Ar**	**17.50**	**116**	Pn	**Pn**	**18 48 56.0**	**-1.6**
VORD	**Divnogorie**	**17.77**	**53**	eP	**Pn**	**18 48 59.4**	**-1.3**
VORD				pmax	pmax		
	comp=Z,20nm,1.6s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,30nm,0.7s						
VSR	**Storozhevoye**	**17.78**	**52**	eP	**Pn**	**18 49 00.4**	**-0.5**
VSR				pmax	pmax		
	comp=N,10.0nm,1.0s						
VSR				pmax	pmax		
	comp=E,20nm,1.0s						
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VSR	**Storozhevoye**	**17.78**	**52**	eP	**Pn**	**18 49 00.4**	**-0.5**
HFS	**Hagfors**	**17.94**	**355**	Pn	**P**	**18 49 03.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=165,slow=12,SNR=12						
HFS				LR	LR	18 55 45.1	
	comp=Z,79nm,20.8s,baz=206,slow=36						
LPSR	**Galich'ya Gora**	**18.20**	**48**	eP	**Pn**	**18 49 04.3**	**-1.7**
LPSR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LPSR				pmax	pmax		
	comp=N,6.0nm,0.5s						
LPSR				pmax	pmax		
	comp=E,9.0nm,1.1s						
OBN	**Obninsk**	**18.29**	**39**	P	**Pn**	**18 49 05.3**	**-1.8**
	comp=E,1.3nm,0.3s,baz=254,slow=9.5,SNR=6.0						
OBN				LR	LR	18 56 39.1	
	comp=E,96nm,21.2s,baz=269,slow=39						
OBN	**Obninsk**	**18.29**	**39***c*	eP	**Pn**	**18 49 04.2**	**-2.9**
OBN				eS	**Sn**	**18 52 31.6**	**+0.5**
OBN				pmax	pmax		
	comp=Z,25nm,1.2s						
OBN				MLR	MLR		
	comp=Z,88nm,19.0s						
OBN	**Obninsk**	**18.29**	**39**	Pn	**Pn**	**18 49 05.1**	**-1.9**
	comp=Z,12nm,0.6s						
EKA	**Eskdalemuir Ar**	**18.34**	**322**	P	**Pn**	**18 49 07.7**	**0.0**
	baz=116,slow=9.4,SNR=5.4						
NB2	**NORSAR Subarra**	**19.05**	**352**	P	**P**	**18 49 15.1**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=165,slow=12						
NB2	**NORSAR Subarra**	**19.05**	**352**	P	**P**	**18 49 15.1**	**-0.4**
	comp=Z,1.2nm,0.6s,SNR=5.7						
NOA	**NORSAR Array B**	**19.05**	**352**	P	**P**	**18 49 14.3**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=166,slow=11,SNR=5.7						
KIV	**Kislovodsk**	**19.08**	**76**⇑	eP	**P**	**18 49 15.9**	**-0.2**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KIV	**Kislovodsk**	**19.08**	**76**	P	**P**	**18 49 16.4**	**+0.3**
	comp=Z,9.5nm,1.0s						
KIV	**Kislovodsk**	**19.08**	**76**	P	**P**	**18 49 16.4**	**+0.3**
	comp=Z,9.5nm,1.0s						
MOS	**Moscow**	**19.14**	**38**	eP	**P**	**18 49 14.7**	**-1.9**
KBZ	**Khabaz**	**19.25**	**77**	P	**Pn**	**18 49 18.8**	**0.0**
	comp=Z,0.1nm,0.3s,baz=323,slow=20,SNR=4.3						
KBZ				LR	LR	18 58 15.3	
	comp=Z,69nm,20.1s,baz=336,slow=42						
GOF	**Gofitskoye**	**19.29**	**73**	eP	Pn	18 49 30.1	+11
FINES	**FINESS Array B**	**20.00**	**13**	P	**P**	**18 49 24.8**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=190,slow=10,SNR=13						
FINES				LR	LR	18 57 42.4	
	comp=Z,92nm,21.8s,baz=195,slow=38						
FINES	**FINESS Array B**	**20.00**	**13**	*i* P	**P**	**18 49 25.1**	**-0.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	**FINESS Array B**	**20.00**	**13**	*i* P	**P**	**18 49 25.1**	**-0.7**
	comp=Z,3.0nm,0.6s						
FIA1	**FINESS Array S**	**20.00**	**13**	eP	**P**	**18 49 24.2**	**-1.6**
GNI	**Garni**	**21.23**	**86**	P	**P**	**18 49 41.4**	**+1.8**
	comp=Z,17nm,0.8s,baz=223,slow=1.8,SNR=21						
GNI	**Garni**	**21.23**	**86***c*	*i*P	**P**	**18 49 40.7**	**+1.1**
GNI				pmax	pmax		
	comp=Z,53nm,1.2s						
GNI	**Garni**	**21.23**	**86**	eP	**P**	**18 49 40.4**	**+0.8**
	comp=Z,37nm,1.0s						
GNI	**Garni**	**21.23**	**86**	eP	**P**	**18 49 40.4**	**+0.8**
	comp=Z,37nm,1.0s						
TAM	**Tamanrasset**	**21.55**	**209**	eP	**P**	**18 49 45.8**	**+2.7**
TAM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TAM	**Tamanrasset**	**21.55**	**209**	eP	**P**	**18 49 45.8**	**+2.7**
	comp=Z,1.2nm,0.3s						
KLMR	**Klimovskoe**	**23.18**	**29**	eP	**P**	**18 49 57.6**	**-2.3**
KLMR				pmax	pmax		
	comp=Z,48nm,1.6s						
KLMR				MLR	MLR		
	comp=Z,253nm,11.0s						
PRGR	**Permogore**	**25.98**	**32**	eP	**P**	**18 50 23.8**	**-2.1**
PRGR				pmax	pmax		
	comp=Z,31nm,1.5s						
ARCES	**ARCESS Array B**	**27.68**	**7**	LR	LR	19 02 20.4	
	comp=Z,121nm,19.0s,baz=246,slow=38						
AKTO	**Aktyubinsk**	**29.38**	**60**	LR	LR	19 04 24.0	
	comp=Z,44nm,19.9s,baz=290,slow=40						
ARU	**Arti**	**30.22**	**48***d*	*i*P	**P**	**18 51 03.0**	**-0.9**
ARU						18 51 57.5	
ARU				S	**S**	**18 56 03.5**	**+0.5**
ARU				SS	**SnSn**	**18 57 35.3**	**-1.1**
ARU				pmax	pmax		
	comp=Z,13nm,1.7s						
ARU	**Arti**	**30.22**	**48**	*i* P	**P**	**18 51 03.0**	**-0.9**
	comp=Z,13nm,1.7s						
ARU	**Arti**	**30.22**	**48**	eP	**P**	**18 51 02.3**	**-1.6**
	comp=Z,8.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**31.81**	**208**	P	**P**	**18 51 18.1**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=11,slow=8.0,SNR=4.6						
BRVK	**Borovoye**	**36.88**	**54***c*	*i*P	**P**	**18 52 02.7**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BRVK	**Borovoye**	**36.88**	**54**	*i* P	**P**	**18 52 02.7**	**+0.9**
	comp=Z,5.0nm,1.2s						
BRVK	**Borovoye**	**36.88**	**54**	eP	**P**	**18 52 00.9**	**-0.9**
	comp=Z,5.2nm,0.9s						
KKAR	**Karatay Array**	**39.04**	**70**	eP	**P**	**18 52 20.8**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KKAR	**Karatay Array**	**39.04**	**70**	eP	**P**	**18 52 20.8**	**+0.6**
	comp=Z,5.7nm,0.8s						
KKAR	**Karatay Array**	**39.04**	**70**	eP	**P**	**18 52 20.8**	**+0.6**
	comp=Z,5.7nm,0.8s						
DBIC	**Dimbokro**	**40.26**	**214**	LR	LR	19 10 04.0	
	comp=Z,91nm,19.6s,baz=96,slow=38						
EKS2	**Erkin-Say**	**41.45**	**69**	eP	**P**	**18 52 39.4**	**-1.0**
EKS2				pmax	pmax		
	comp=Z,13nm,1.0s						
EKS2	**Erkin-Say**	**41.45**	**69**	eP	**P**	**18 52 39.4**	**-1.0**
	comp=Z,13nm,1.0s						
EKS2	**Erkin-Say**	**41.45**	**69**	eP	**P**	**18 52 39.4**	**-1.0**
	comp=Z,13nm,1.0s						
AAK	**Ala-Archa**	**41.96**	**69**	P	**P**	**18 52 45.1**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=264,slow=6.8,SNR=5.9						
AAK	**Ala-Archa**	**41.96**	**69***c*	eP	**P**	**18 52 45.9**	**+1.3**
AAK				pmax	pmax		
	comp=Z,19nm,1.7s						
AAK	**Ala-Archa**	**41.96**	**69**	eP	**P**	**18 52 45.0**	**+0.4**
	comp=Z,8.2nm,1.3s						
AAK	**Ala-Archa**	**41.96**	**69**	eP	**P**	**18 52 45.0**	**+0.4**
	comp=Z,8.2nm,1.3s						
KURK	**Kurchatov**	**42.35**	**56**	eP	**P**	**18 52 45.9**	**-1.5**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
KURK	**Kurchatov**	**42.35**	**56**	eP	**P**	**18 52 45.9**	**-1.5**
	comp=Z,3.8nm,1.4s						
KURK	**Kurchatov**	**42.35**	**56**	eP	**P**	**18 52 45.9**	**-1.5**
	comp=Z,3.8nm,1.4s						
TKM2	**Tokmak 2**	**42.62**	**68**	P	**P**	**18 52 51.2**	**+1.1**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TKM2	**Tokmak 2**	**42.62**	**68**	P	**P**	**18 52 51.2**	**+1.1**
	comp=Z,1.9nm,0.8s						
TKM2	**Tokmak 2**	**42.62**	**68**	P	**P**	**18 52 51.2**	**+1.1**
	comp=Z,1.9nm,0.8s						
NVS	**Novosibirsk**	**44.17**	**50**	eP	**P**	**18 53 02.1**	**+0.1**
NVS				pmax	pmax		
	comp=N,3.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NVS	**Novosibirsk**	**44.17**	**50**	eP	**P**	**18 53 02.1**	**+0.1**
ZALV	**Zalesovo Beam**	**45.28**	**51**	P	**P**	**18 53 10.4**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=280,slow=8.7,SNR=5.4						
ZALV				LR	LR	19 14 04.1	
	comp=Z,39nm,18.6s,baz=248,slow=39						
MK31	**Makanchi Array**	**45.80**	**61**	eP	**P**	**18 53 14.0**	**-1.2**
MK31	**Makanchi Array**	**45.80**	**61**	eP	**P**	**18 53 14.0**	**-1.2**
MK31	**Makanchi Array**	**45.80**	**61**	eP	**P**	**18 53 14.0**	**-1.2**
MKAR	**Makanchi Array**	**45.80**	**61**	P	**P**	**18 53 15.0**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=286,slow=6.2,SNR=11						
MKAR				LR	LR	19 16 40.0	
	comp=Z,40nm,18.4s,baz=174,slow=42						
MK01	**Makanchi Array**	**45.81**	**61**	eP	**P**	**18 53 14.8**	**-0.5**
MK01	**Makanchi Array**	**45.81**	**61**	eP	**P**	**18 53 14.8**	**-0.5**
TLY	**Talaya**	**56.72**	**48**	eP	**P**	**18 54 38.6**	**+1.5**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TLY	**Talaya**	**56.72**	**48**	P	**P**	**18 54 38.0**	**+0.9**
	comp=Z,8.8nm,1.1s						
TLY	**Talaya**	**56.72**	**48**	P	**P**	**18 54 38.0**	**+0.9**
	comp=Z,8.8nm,1.1s						
ZAK	**Zakamensk**	**57.13**	**50**	eP	**P**	**18 54 39.8**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
ZAK	**Zakamensk**	**57.13**	**50**	eP	**P**	**18 54 39.8**	**-0.3**
	comp=Z,2.0nm,1.4s						
LSA	**Lhasa**	**59.83**	**76**	eP	**P**	**18 54 59.5**	**-0.1**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LSA	**Lhasa**	**59.83**	**76**	eP	**P**	**18 54 59.5**	**-0.1**
	comp=Z,3.0nm,0.8s						
LSA	**Lhasa**	**59.83**	**76**	eP	**P**	**18 54 59.5**	**-0.1**
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**60.17**	**51**	P	**P**	**18 55 01.5**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=289,slow=8.7,SNR=24						
YAK	**Yakutsk**	**62.98**	**29**	eP	**P**	**18 55 19.2**	**-0.6**
YAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
YAK	**Yakutsk**	**62.98**	**29**	eP	**P**	**18 55 19.2**	**-0.6**
	comp=Z,6.0nm,1.0s						
LBTB	**Lobatse**	**67.49**	**171**	P	**P**	**18 55 49.2**	**-0.4**
LBTB				pmax	pmax		
	comp=Z,8.0nm,1.3s						
LBTB	**Lobatse**	**67.49**	**171**	P	**P**	**18 55 49.2**	**-0.4**
	comp=Z,7.6nm,1.3s						
LBTB	**Lobatse**	**67.49**	**171**	P	**P**	**18 55 49.2**	**-0.4**
	comp=Z,7.6nm,1.3s						
YKA	**Yellowknife Ar**	**68.47**	**338**	P	**P**	**18 55 55.6**	**+0.4**
	comp=Z,1.1nm,1.0s,baz=36,slow=6.6,SNR=6.8						
XAN	**Xi'an**	**69.58**	**62**	P	**P**	**18 56 03.1**	**+0.4**
XAN				pP	pP	18 56 12.8	+6.5
XAN				PMZ			
	comp=Z,2.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**72.24**	**81**	P	**P**	**18 56 18.8**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=304,slow=7.1,SNR=8.9						
CM01	**Chiang Mai Arr**	**72.28**	**81**	eP	**P**	**18 56 18.9**	**-0.4**
CM01	**Chiang Mai Arr**	**72.28**	**81**	eP	**P**	**18 56 18.9**	**-0.4**
ILAR	**Eielson Array**	**72.48**	**353**	P	**P**	**18 56 21.0**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=2.6,slow=4.1,SNR=4.5						
ILAR	**Eielson Array**	**72.48**	**353**	P	**P**	**18 56 21.0**	**+1.3**
ILAR	**Eielson Array**	**72.48**	**353**	P	**P**	**18 56 21.0**	**+1.3**
KSAR	**Wonju Array Be**	**78.94**	**49**	P	**P**	**18 56 57.9**	**+0.7**
KSAR	**Wonju Array Be**	**78.94**	**49**	P	**P**	**18 56 57.9**	**+0.7**
KSAR	**Wonju Array Be**	**78.94**	**49**	P	**P**	**18 56 57.9**	**+0.7**
KSRS	**Korea Array**	**78.96**	**49**	P	**P**	**18 56 57.9**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=310,slow=4.0,SNR=5.4						
PETK	**Petropavlovsk-**	**79.22**	**23**	LR	LR	19 36 26.1	
	comp=Z,44nm,18.7s,baz=308,slow=39						
PDAR	**Pinedale Array**	**82.45**	**323**	P	**P**	**18 57 16.9**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=33,slow=6.8,SNR=3.2						
PDAR				LR	LR	19 36 22.5	
	comp=Z,38nm,21.5s,baz=157,slow=38						
MJAR	**Matsushiro Arr**	**85.15**	**44**	LR	LR	19 38 51.1	
	comp=Z,33nm,18.2s,baz=200,slow=38						
TXAR	**Lajitas Array**	**89.98**	**311**	P	**P**	**18 57 55.1**	**+1.8**
	comp=Z,0.9nm,0.9s,baz=58,slow=8.6,SNR=5.8						
TXAR	**Lajitas Array**	**89.98**	**311**	P	**P**	**18 57 55.1**	**+1.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						

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*GUC **04** 18:49:09.3±0.5, 36°.53S×73°.29W, h14km±18km, ML4.1*
*IDC **04** 18:49:14.3±1.3, 36°.64S×72°.33W, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.8/17, mbtmp3.6/6, ML3.3/2, MS3.3/1, Ms1 3.2/1, ms1mx2.8/19, Error ellipse: s-maj=38.6km s-min=18.6km az=85.0*
ISC 04 18:49:11.7±1.8**, 36°.61S**±0°.08×**73°.2W**±0°.2**, h25km, n11, σ1s.46**/11**, mb3.7**/3**, 1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.25**	**162**	eP	**Pb**	**18 49 17.1**	**-0.9**
CCSP				*i* S	**Sb**	**18 49 22.5**	**+0.2**
CCSP				AML	AML	18 49 23.1	
	comp=N,38µm,0.6s						
LNCH	**Linares**	**1.50**	**60**⇓	*i*P	**Pn**	**18 49 37.2**	**+0.1**
LNCH				*i* S	**Sb**	**18 49 58.2**	**+0.7**
LNCH				AML	AML	18 49 59.4	
	comp=E,4µm,0.6s						
TALC	**Talca**	**1.75**	**47**	eP	**Pn**	**18 49 40.8**	**+0.3**
TALC				*i* S	**Sb**	**18 50 04.8**	**0.0**
TALC				AML	AML	18 50 12.7	
	comp=E,5µm,0.3s						
PLCA	**Paso Flores**	**4.61**	**154**	Pn	**Pn**	**18 50 21.1**	**+1.2**
	comp=E,0.5nm,0.3s,baz=336,slow=11,SNR=8.6						
PLCA				Lg	Lg	18 51 31.4	
	comp=E,1.8nm,0.3s,baz=53,slow=20,SNR=2.2						
CFAA	**Coronel Fontan**	**6.47**	**41**	Pn	**Pn**	**18 50 43.5**	**-1.9**
	comp=E,0.5nm,0.3s,baz=212,slow=14,SNR=16						
CFAA				Sn	**Sn**	**18 51 57.4**	**-1.1**
	comp=E,0.1nm,0.3s,baz=148,slow=15,SNR=2.0						
CFAA				LR	LR	18 52 54.3	
	comp=E,7.2nm,20.5s,baz=228,slow=36						
LVC	**Limon Verde**	**14.44**	**16**	LR	LR	18 59 15.1	
	comp=E,572nm,19.2s,baz=215,slow=42						
LPAZ	**La Paz**	**20.74**	**14**	P	Pn	18 53 56.5	+2.7
	comp=E,1.5nm,0.9s,baz=209,slow=6.0,SNR=2.3						
SIV	**San Ignacio**	**23.19**	**31**	P	**P**	**18 54 19.8**	**+3.0**
	comp=E,2.4nm,0.9s,baz=224,slow=11,SNR=4.8						
TXAR	**Lajitas Array**	**71.57**	**332**	P	P	19 00 38.9	+8.1
	comp=E,0.5nm,0.8s,baz=164,slow=6.7,SNR=3.5						
TXAR				LR	LR	19 26 55.1	
	comp=E,18nm,20.7s,baz=0.0,slow=31						
NVAR	**Mina Array Bea**	**85.50**	**326**	P	P	19 01 56.7	+9.2
	comp=E,0.6nm,0.7s,baz=146,slow=5.8,SNR=3.7						
BVAR	**Borovoye Array**	**149.81**	**45**	PKPbc	**PKPab**	**19 09 04.0**	**-0.5**
	comp=E,0.3nm,0.6s,baz=243,slow=1.3,SNR=2.7						

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*ISCJB **04** 19:05:28.6±0.6, 33°.24N±0°.07×96°.3E±0°.1, h10km, mb3.6/10, MS3.3/2, Error ellipse: s-maj=13.4km s-min=10.0km az=155.2*
*IDC **04** 19:05:28.6±0.9, 33°.26N×96°.33E, h0km, mb3.5/9, mb1 3.8/13, mb1mx3.7/29, mbtmp3.6/13, ML3.8/3, MS3.2/6, Ms1 3.3/6, ms1mx2.9/32, Error ellipse: s-maj=33.3km s-min=16.9km az=48.0*
*BJI **04** 19:05:32.3, 33°.28N×96°.19E, h8km, mb4.1/4, ML3.8/7, Ms3.6/7*
ISC 04 19:05:31.2±0.7**, 33°.28N**±0°.08×**96°.28E**±0°.09**, h10km, n21, σ1s.86**/18**, mb3.6**/10**, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.65**	**232**	Pn	**Pn**	**19 06 58.4**	**+2.7**
GTA	**Gaotai**	**6.75**	**24**	ePn	**Pn**	**19 07 12.5**	**+2.1**
CD2	**Chengdu**	**6.77**	**108**	Pg	Pb	19 07 34.8	+5.8
CD2				Sg	Sb	19 09 02.4	+12
CD2				SMN			
	40nm,1.1s						
CD2				SME			
	50nm,1.2s						
LZH	**Lanzhou**	**6.83**	**64**	ePn	**Pn**	**19 07 14.4**	**+2.9**
LZH				LE			
	95nm,4.3s						
CMAR	**Chiang Mai Arr**	**14.96**	**170**	Pn	**Pn**	**19 09 02.4**	**-0.3**
	baz=336,slow=11,SNR=5.6						
CMAR				LR	LR	19 15 15.0	
	comp=Z,66nm,18.2s,baz=298,slow=39						
SONM	**Songino Array**	**16.42**	**25**	Pn	**Pn**	**19 09 22.3**	**+0.6**
	0.6nm,0.3s,baz=208,slow=15,SNR=61						
SONM				LR	LR	19 16 11.6	
	comp=Z,104nm,19.4s,baz=250,slow=39						
MKAR	**Makanchi Array**	**17.19**	**326**	P	**Pn**	**19 09 31.6**	**+0.2**
	0.2nm,0.3s,baz=142,slow=15,SNR=13						
TLY	**Talaya**	**19.15**	**14**	LR	LR	19 16 20.2	
	comp=Z,34nm,19.7s,baz=262,slow=34						
AAK	**Ala-Archa**	**19.51**	**305**	P	**P**	**19 09 59.7**	**+1.0**
	0.3nm,0.3s,baz=114,slow=7.9,SNR=4.4						
AAK				LR	LR	19 18 40.6	
	comp=Z,77nm,20.8s,baz=86,slow=40						
KURBB	**Kurchatov Arra**	**21.69**	**328**	P	**P**	**19 10 21.4**	**-0.6**
	3.9nm,0.8s,baz=136,slow=11,SNR=37						
ZALV	**Zalesovo Beam**	**22.21**	**342**	P	**P**	**19 10 26.2**	**-1.3**
	1.3nm,0.7s,baz=153,slow=9.7,SNR=7.3						
KSRS	**Korea Array**	**26.07**	**72**	P	**P**	**19 11 02.9**	**-1.9**
	0.4nm,0.6s,baz=275,slow=9.6,SNR=3.9						
KSRS				LR	LR	19 22 31.5	
	comp=Z,34nm,18.0s,baz=240,slow=39						
BVAR	**Borovoye Array**	**27.07**	**325**	P	**P**	**19 11 17.4**	**+3.7**
	0.6nm,0.7s,baz=123,slow=11,SNR=3.8						
BRTR	**Keskin Array B**	**49.87**	**296**	P	**P**	**19 14 23.2**	**-1.6**
	0.5nm,0.8s,baz=72,slow=6.2,SNR=2.9						
AKASG	**Malin Array Be**	**51.01**	**311**	P	**P**	**19 14 31.9**	**-1.2**
	0.9nm,0.6s,baz=69,slow=7.3,SNR=3.8						
NB2	**NORSAR Subarra**	**59.19**	**326**	P	**P**	**19 15 30.8**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=76,slow=6.9						
NOA	**NORSAR Array B**	**59.19**	**326**	P	**P**	**19 15 31.0**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=76,slow=6.9,SNR=3.7						
GERES	**GERESS Array B**	**61.22**	**312**	P	**P**	**19 15 45.5**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=44,slow=8.6,SNR=4.0						
WRA	**Warramunga Arr**	**64.19**	**140**	P	**P**	**19 16 04.7**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=334,slow=7.6,SNR=3.6						
ASAR	**Alice Springs**	**67.03**	**143**	P	**P**	**19 16 23.8**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=321,slow=6.8,SNR=4.4						
ILAR	**Eielson Array**	**70.64**	**24**	LR	LR	19 50 23.5	
	comp=Z,34nm,18.6s,baz=169,slow=38						

CASC 04 19:36:04.6±1.9**, 12°.31N×87°.44W, h39km**±290km**, MD3.9, 1C, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.84**	**99**⇑	*i*P	Pn	19 36 20.0	0.0
COPN				eS	Sn	19 36 31.4	+0.3
CNCH	**Conchagua**	**1.03**	**338**	eP	Pn	19 36 23.4	+0.6
CNCH				eS	Sn	19 36 36.4	+0.3
VSM	**San Miguel**	**1.38**	**324**	eP	Pn	19 36 28.4	+0.7
LFRS	**El Faro**	**2.05**	**310**	eP	Pn	19 36 37.5	+0.7
LFRS				eS	Sn	19 37 01.6	+0.4
VCR	**Vista de Mar**	**2.80**	**141**	eP	Pn	19 36 46.1	-1.0
VCR				eS	Sn	19 37 26.1	+6.4
JCR	**Jicaral**	**3.35**	**137**	eP	Pn	19 36 54.1	-0.4
JCR				eS	Sn	19 37 30.2	-2.9
IXG	**Ixpaco**	**3.47**	**303**	eP	Pn	19 36 57.0	+0.7
CGA2	**Cerro Gallo 2**	**3.70**	**128**	eP	Pn	19 37 01.2	+1.6
URSC	**Urasca**	**4.36**	**124**	eP	Pn	19 37 11.8	+3.3
URSC				eS	Sn	19 38 00.1	+1.9

IDC 04 19:38:53.7±1.2**, 32°.86N×96°.87E, h0km, mb3.3**/5**, mb1 3.4**/8**, mb1mx3.3**/28**, mbtmp3.3**/8**, ML2.9**/3**, Error ellipse: s-maj=43.6km s-min=19.7km az=63.0, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.46**	**172**	Pn	Pn	19 42 21.3	+1.5
	0.0nm,0.3s,baz=343,slow=13,SNR=4.5						
SONM	**Songino Array**	**16.61**	**23**	Pn	Pn	19 42 48.4	+0.4
	0.1nm,0.3s,baz=208,slow=14,SNR=3.2						
MKAR	**Makanchi Array**	**17.82**	**326**	P	Pn	19 43 02.8	-0.3
	0.1nm,0.3s,baz=129,slow=14,SNR=5.0						
KURBB	**Kurchatov Arra**	**22.31**	**328**	P	P	19 43 52.9	+0.3
	0.2nm,0.4s,baz=136,slow=11,SNR=3.8						
ZALV	**Zalesovo Beam**	**22.77**	**341**	P	P	19 43 57.3	-0.2
	0.4nm,0.5s,baz=153,slow=9.7,SNR=2.4						
KSRS	**Korea Array**	**25.74**	**71**	P	P	19 44 25.8	-0.1
	0.3nm,0.3s,baz=262,slow=8.5,SNR=3.4						
WRA	**Warramunga Arr**	**63.55**	**140**	P	P	19 49 25.9	-0.3
	0.3nm,0.6s,baz=321,slow=8.5,SNR=3.7						
ASAR	**Alice Springs**	**66.39**	**143**	P	P	19 49 44.6	-0.1
	0.3nm,0.6s,baz=323,slow=7.0,SNR=5.6						

IDC 04 19:55:15.4±18.0**, 19°.37S×177°.93W, h576km**±175km**, mb3.4**/4**, mb1 3.5**/4**, mb1mx3.0**/30**, mbtmp4.4**/4**, Error ellipse: s-maj=137.2km s-min=76.1km az=101.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.69**	**263**	P	P	20 01 10.0	+0.1
	5.3nm,0.4s,baz=95,slow=9.9,SNR=7.0						
STKA	**Stephens Creek**	**38.35**	**243**	P	P	20 01 48.1	-0.1
	1.5nm,0.7s,baz=79,slow=7.9,SNR=7.8						
WRA	**Warramunga Arr**	**44.84**	**261**	P	P	20 02 39.1	-0.3
	3.4nm,0.8s,baz=97,slow=7.5,SNR=84						
ASAR	**Alice Springs**	**44.85**	**256**	P	P	20 02 39.4	-0.2
	7.3nm,0.8s,baz=92,slow=8.1,SNR=84						
ASAR				PcP	PcP	20 04 08.2	-0.6
	0.6nm,0.7s,baz=110,slow=4.2,SNR=4.4						
BRTR	**Keskin Array B**	**146.12**	**314**	PKPbc	PKPbc	20 13 51.6	-0.5
	0.7nm,0.6s,baz=48,slow=3.9,SNR=5.2						
GERES	**GERESS Array B**	**149.13**	**345**	PKPbc	PKPbc	20 13 59.0	-0.5
	0.5nm,0.6s,baz=355,slow=3.2,SNR=5.7						

IDC 04 19:55:51.5±3.4**, 20°.35S×175°.27W, h0km, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.7**/20**, mbtmp4.0**/3**, Error ellipse: s-maj=223.5km s-min=65.9km az=165.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.05**	**264**	P	P	20 02 56.1	+1.1
	1.9nm,0.4s,baz=97,slow=9.1,SNR=3.1						
ASAR	**Alice Springs**	**47.05**	**256**	P	P	20 04 24.9	-0.2
	1.2nm,0.7s,baz=97,slow=7.9,SNR=8.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ASAR				PcP	PcP	20 05 56.8	-0.7
	0.4nm,0.7s,baz=93,slow=3.8,SNR=4.7						
WRA	Warramunga Arr	47.16	261	P	P	20 04 25.1	-1.0
	0.4nm,0.3s,baz=96,slow=8.1,SNR=13						
AKASG	Malin Array Be	144.08	333	PKP	PKPdf	20 15 29.3	+0.3
	0.2nm,0.3s,baz=41,slow=4.0,SNR=5.9						

MEX 04 20:05:18.4±0.5, 13°.90N×92°.74W, h95km±44km, MD3.6, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.10	24	iP	Pn	20 05 38.7	-1.0
THIG				iS	Sn	20 05 54.0	-1.6
PCIG		1.86	345	eP	Pn	20 05 48.0	-1.0
PCIG				iS	Sn	20 06 10.6	-1.6
TGIG		2.89	353	iP	Pn	20 06 01.1	-1.5
TGIG				iS	Sn	20 06 35.6	-1.1

CASC 04 20:07:47.0±1.6, 13°.83N×89°.41W, h4km±2km, MD3.6, ML3.5, 4C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOQS	Boqueron	0.16	125	⇑iP	Pg	20 07 51.3	+0.9
BOQS				eS	Sg	20 07 54.2	+1.4
SNJE	San Jose	0.19	283	⇑iP	Pg	20 07 51.8	+0.7
SBLS	San Blas	0.21	274	⇑iP	Pg	20 07 52.3	+0.9
SNET	Serv Nac Est T	0.22	128	⇓iP	Pg	20 07 52.2	+0.8
SNET				eS	Sg	20 07 56.4	+1.9
SNET				AML	AML	20 08 02.9	
	comp=Z,3μm,0.5s						
RTR	El Retiro	0.24	287	⇑iP	Pg	20 07 52.7	+0.8
RTR				eS	Sg	20 07 57.4	+2.1
LBRS	Las Brisas	0.37	104	eP	Pg	20 07 54.3	+0.1
RBDL	Robledal	0.39	317	⇓iP	Pg	20 07 54.2	-0.6
LFRS	El Faro	0.40	121	⇓iP	Pg	20 07 55.3	+0.5
CAHU	Cacacuatique	1.17	93	eP	Pg	20 08 07.9	-1.8
NBG	Las Nubes	1.18	310	eP	Pg	20 08 10.0	-0.1
NBG				eS	Sb	20 08 26.0	-0.2
MRL	Marmol	1.26	348	eP	Pg	20 08 10.5	-1.0
MRL				eS	Sn	20 08 29.7	+0.5

IDC 04 20:11:58.3±2.0, 1°.53N×96°.25E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.4/26, mbtmp3.3/6, ML2.6/1, Error ellipse: s-maj=55.9km s-min=23.8km az=57.0
ISCJB 04 20:12:01.3±1.3, 1°.6N±0°.2×96°.3E±0°.2, h33km, mb3.4/5, Error ellipse: s-maj=29.2km s-min=18.3km az=139.6
ISC 04 20:12:03.8±1.8, 1°.6N±0°.2×96°.4E±0°.2, h35km, n12, σ0s.58/6, mb3.4/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.81	65	Pn	Pn	20 12 46.4	0.0
	0.8nm,0.3s,baz=300,slow=20,SNR=3.1						
H08S2	Diego Garcia H	25.53	249	T	T	20 44 01.1	
	baz=68,slow=76,SNR=47						
H08S3	Diego Garcia H	25.54	249	T	T	20 44 06.3	
	baz=68,slow=76,SNR=48						
H08S1	Diego Carcia H	25.55	249	T	T	20 44 07.5	
	baz=68,slow=76,SNR=47						
H01W3	Cape Leeuwin H	39.92	157	T	T	21 02 53.6	
	baz=333,slow=76,SNR=37						
H01W2	Cape Leeuwin H	39.93	157	T	T	21 02 55.0	
	baz=333,slow=76,SNR=38						
H01W1	Cape Leeuwin H	39.93	157	T	T	21 02 56.4	
	baz=333,slow=76,SNR=32						
WRA	Warramunga Arr	42.94	122	P	P	20 19 59.0	-0.6
	0.6nm,1.0s,baz=302,slow=9.6,SNR=3.7						
ASAR	Alice Springs	44.28	127	P	P	20 20 11.0	+0.5
	0.2nm,0.3s,baz=301,slow=7.7,SNR=8.4						
MKAR	Makanchi Array	46.67	347	P	P	20 20 28.6	-0.5
	0.3nm,0.6s,baz=169,slow=9.5,SNR=3.6						
SONM	Songino Array	46.88	9	P	P	20 20 31.1	+0.4
	0.2nm,0.5s,baz=190,slow=7.3,SNR=3.8						
ZALV	Zalesovo Beam	53.05	351	P	P	20 21 17.3	0.0
	0.2nm,0.3s,baz=180,slow=8.6,SNR=2.2						

IDC 04 20:12:46.7±1.0, 33°.19N×96°.11E, h0km, mb3.5/6, mb1 3.7/9, mb1mx3.5/28, mbtmp3.6/9, ML3.7/3, MS3.2/3, Ms1 3.2/3, ms1mx2.7/28, Error ellipse: s-maj=48.3km s-min=17.9km az=53.0
ISCJB 04 20:12:50.2±0.7, 33°.26N±0°.06×96°.10E±0°.10, h35km, mb3.6/6, MS3.7/1, Error ellipse: s-maj=11.9km s-min=8.6km az=23.2
ISC 04 20:12:51.8±0.9, 33°.37N±0°.10×96°.2E±0°.1, h35km, n19, σ1s.27/17, mb3.6/6, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	Taplejung	9.45	233	eP	Pn	20 15 10.1	+4.4
	7.8nm,0.4s						
ODAN	Odare	9.99	232	eP	Pn	20 15 14.5	+1.4
	23nm,0.4s						
JIRN	Jiri	10.31	239	eP	Pn	20 15 19.2	+1.6
	6.2nm,0.4s						
GUN	Gumba	10.40	241	eP	Pn	20 15 19.6	+0.9
	12nm,0.6s						
KKN	Kakani	10.90	242	eP	Pn	20 15 24.3	-1.3
	3.7nm,0.3s						
PKI	Pulchoki	10.93	241	eP	Pn	20 15 25.3	-0.7
	6.3nm,0.4s						
DMN	Daman	11.13	242	eP	Pn	20 15 27.0	-1.7
	4.6nm,0.5s						
GKN	Gorkha	11.27	245	eP	Pn	20 15 27.9	-2.7
	4.0nm,0.4s						
CMAR	Chiang Mai Arr	15.06	170	Pn	Pn	20 16 21.9	-0.1
	0.3nm,0.3s,baz=347,slow=16,SNR=5.3						
CMAR				LR	LR	20 22 40.9	
	comp=Z,41nm,18.2s,baz=205,slow=40						
SONM	Songino Array	16.38	25	Pn	P	20 16 40.6	-0.9
	0.7nm,0.3s,baz=207,slow=15,SNR=34						
SONM				LR	LR	20 23 27.2	
	comp=Z,55nm,18.6s,baz=221,slow=39						
MKAR	Makanchi Array	17.07	326	P	P	20 16 48.6	-0.5
	0.1nm,0.3s,baz=141,slow=14,SNR=9.5						
AAK	Ala-Archa	19.38	305	P	Pn	20 17 16.9	+0.9
	0.2nm,0.3s,baz=87,slow=4.7,SNR=2.9						
KURBB	Kurchatov Arra	21.57	328	P	P	20 17 39.3	+1.2
	1.9nm,0.8s,baz=136,slow=11,SNR=27						
ZALV	Zalesovo Beam	22.10	342	P	P	20 17 44.5	+0.8
	0.3nm,0.4s,baz=178,slow=12,SNR=2.8						
BRTR	Keskin Array B	49.75	296	P	P	20 21 40.4	-0.4
	0.2nm,0.4s,baz=106,slow=11,SNR=2.9						
FINES	FINESS Array B	51.90	325	P	P	20 21 57.2	+0.6
	1.4nm,0.8s,baz=196,slow=26,SNR=3.1						
WRA	Warramunga Arr	64.32	140	P	P	20 23 24.1	+0.1
	0.7nm,1.0s,baz=338,slow=6.6,SNR=5.4						
ASAR	Alice Springs	67.15	142	P	P	20 23 41.5	-0.6
	0.3nm,0.5s,baz=325,slow=6.4,SNR=9.1						
STKA	Stephens Creek	77.76	142	LR	LR	21 04 20.3	
	comp=Z,33nm,18.1s,baz=205,slow=40						

IDC 04 20:15:42.9±1.7, 33°.14N×96°.22E, h0km, mb3.0/2, mb1 3.2/4, mb1mx3.0/27, mbtmp3.1/4, ML3.2/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/12, Error ellipse: s-maj=78.1km s-min=27.6km az=62.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	16.57	25	Pn	Pn	20 19 36.6	-0.1
	0.2nm,0.3s,baz=210,slow=15,SNR=6.9						
MKAR	Makanchi Array	17.28	326	Pn	Pn	20 19 44.7	-0.8
	0.1nm,0.3s,baz=137,slow=11,SNR=3.5						
KURBB	Kurchatov Arra	21.78	329	P	P	20 20 35.5	-0.6
	0.4nm,0.8s,baz=136,slow=10,SNR=4.5						
AKASG	Malin Array Be	51.06	311	LR	LR	20 49 37.3	
	comp=Z,16nm,19.1s,baz=220,slow=40						
ASAR	Alice Springs	66.95	142	P	P	20 26 37.4	0.0
	0.1nm,0.4s,baz=323,slow=6.1,SNR=3.7						

ISCJB 04 21:03:26.9±0.6, 80°.30N±0°.07×2°.1W±0°.2, h10km, mb3.4/7, MS3.1/14, Error ellipse: s-maj=10.5km s-min=5.4km az=10.8
BER 04 21:03:28.2±3.1, 80°.97N×0°.27W, h10km, MD2.8, ML2.6, ML3.7(NAO)
IDC 04 21:03:28.1±0.8, 80°.44N×2°.75W, h0km, mb3.5/8, mb1 3.8/11, mb1mx3.6/29, mbtmp3.7/11, ML4.2/3, MS3.2/19, Ms1 3.2/19, ms1mx3.0/35, Error ellipse: s-maj=25.6km s-min=15.6km az=41.0
CSEM 04 21:03:30.5±0.8, 80°.87N×1°.75E, h10km, ML3.7, Error ellipse: s-maj=35.3km s-min=15.7km az=35.0
ISC 04 21:03:28.2±0.7, 80°.35N±0°.09×1°.73W±0°.05, h10km, n44, σ2s.31/47, mb3.4/7, MS3.1/14, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	2.85	113	Pn	Pn	21 04 13.8	+0.2
KBS				Sn	Sn	21 04 45.0	-2.9
KBS	Kingsbay	2.85	113	eP	Pn	21 04 13.8	+0.2
KBS				eS	Sn	21 04 45.0	-2.9
KBS				IAML		21 04 50.7	
	comp=Z,61nm,0.2s						
KBS	Kingsbay	2.85	113	eP	Pn	21 04 13.8	+0.2
	SNR=50						
KBS				eS	Sn	21 04 45.0	-2.9
	SNR=50						
SPA0	Spitsbergen Ar	4.01	114	Pn	Pn	21 04 30.1	+0.5
	baz=316,slow=11						
SPA0				Sn	Sn	21 05 14.2	-2.3
	baz=331,slow=28						
SPA0	Spitsbergen Ar	4.01	114	Pn	Pn	21 04 30.1	+0.5
	baz=316,slow=11						
SPA0				Sn	Sn	21 05 14.2	-2.3
	baz=331,slow=28						
SPA0				IAML		21 05 19.5	
	comp=Z,24nm,0.4s						
SPA0	Spitsbergen Ar	4.01	114	Pn	Pn	21 04 30.1	+0.5
	SNR=50						
SPA0				Sn	Sn	21 05 14.2	-2.3
	SNR=50						
SPITS	Spitsbergen Ar	4.01	114	Pn	Pn	21 04 30.3	+0.7
	baz=309,slow=8.5,SNR=227						
SPITS				Sn	Sn	21 05 13.6	-2.9
	baz=325,slow=18,SNR=2.7						
SPITS				LR	LR	21 06 13.5	
	comp=Z,289nm,18.7s,baz=210,slow=39						
HSP	Hornsund	4.76	126	Pn	Pn	21 04 40.9	+1.1
HSP				Sn	Sn	21 05 35.8	+0.9
HSP	Hornsund	4.76	126	Pn	Pn	21 04 40.9	+1.1
HSP				Sn	Sn	21 05 35.8	+0.9
HSPB	Hornsund (broa	4.76	126	eP	Pn	21 04 41.5	+1.7
HSPB				eS	Sn	21 05 35.6	+0.7
HSPB				IAML		21 05 39.0	
	comp=Z,14nm,0.3s						
HSPB	Hornsund (broa	4.76	126	eP	Pn	21 04 41.5	+1.7
	SNR=49						
HSPB				eS	Sn	21 05 35.6	+0.7
	SNR=49						
DAG	Danmarks Havn	4.90	232	iP	Pn	21 04 42.7	+0.9
DAG				iS	Sn	21 05 36.5	-1.9
HOPEN	Hopen	6.54	112	Pn	Pn	21 05 02.0	-2.2
HOPEN				Sn	Sn	21 06 14.3	-4.4
HOPEN	Hopen	6.54	112	Pn	Pn	21 05 02.0	-2.2
HOPEN				eS	Sn	21 06 14.6	-4.1
HOPEN	Hopen	6.54	112	Pn	Pn	21 05 02.0	-2.2
	SNR=50						
HOPEN				Sn	Sn	21 06 14.3	-4.4
JMIC	Jan Mayen	9.55	193	e	Pn	21 05 48.6	+3.1
JMIC	Jan Mayen	9.55	193	Pn	Pn	21 05 48.5	+3.0
	comp=Z,4.4nm,0.3s,baz=38,slow=0.6,SNR=11						
SUMG	Summit	11.30	247	iP	Pn	21 06 08.8	-1.0
SUMG				eS	Sn	21 08 07.7	-8.4
ARA0	ARCESS Array S	12.72	133	Pn	Pn	21 06 30.7	+1.9
	baz=351,slow=14						
ARA0				Sn	Sn	21 08 46.5	-3.7
	baz=354,slow=22						
ARA0	ARCESS Array S	12.72	133	Pn	Pn	21 06 30.7	+1.9
	baz=351,slow=14						
ARA0				Sn	Sn	21 08 46.5	-3.7
	baz=354,slow=22						
ARA0	ARCESS Array S	12.72	133	Pn	Pn	21 06 30.7	+1.9
	SNR=50						
ARCES	ARCESS Array B	12.72	133	Pn	Pn	21 06 30.9	+2.1
	comp=Z,0.6nm,0.3s,baz=346,slow=13,SNR=18						
ARCES				Sn	Sn	21 08 46.1	-4.1
	comp=Z,0.2nm,0.3s,baz=337,slow=18,SNR=3.0						
ARCES				LR	LR	21 12 05.7	
	comp=Z,32nm,18.5s,baz=272,slow=40						
KULLO	Kullorsuaq	12.76	273	iP	Pn	21 06 23.4	-5.9
KULLO				eS	Sn	21 08 33.2	-18
SFJD	Kangerlussuaq	18.20	251	LR	LR	21 14 58.7	
	comp=Z,97nm,20.9s,baz=23,slow=38						
RES	Resolute Bay	18.61	304	LR	LR	21 14 39.0	
	comp=Z,97nm,18.2s,baz=24,slow=36						
NOA	NORSAR Array B	19.77	161	LR	LR	21 14 40.4	
	comp=Z,26nm,18.5s,baz=180,slow=34						
FINES	FINESS Array B	20.59	140	P	Pn	21 08 12.8	+3.8
	comp=Z,1.1nm,0.6s,baz=346,slow=12,SNR=4.9						
FINES				LR	LR	21 15 35.2	
	comp=Z,63nm,21.3s,baz=338,slow=35						
HFS	Hagfors	20.82	158	P	Pn	21 08 13.2	+1.5
	comp=Z,2.3nm,0.7s,baz=358,slow=10,SNR=5.5						
HFS				LR	LR	21 14 42.5	
	comp=Z,37nm,18.5s,baz=18,slow=32						
FRB	Frobisher Bay	24.17	267	LR	LR	21 18 11.4	
	comp=Z,60nm,20.0s,baz=69,slow=37						
OBN	Obninsk	28.02	131	LR	LR	21 20 25.8	
	comp=Z,52nm,21.2s,baz=271,slow=36						
INK	Inuvik	29.17	325	LR	LR	21 24 17.8	
	comp=Z,34nm,18.4s,baz=116,slow=43						
AKASG	Malin Array Be	31.49	141	LR	LR	21 22 27.3	
	comp=Z,15nm,20.4s,baz=15,slow=36						
GERES	GERESS Array B	32.07	161	P	P	21 09 57.5	+2.7
	comp=Z,0.1nm,0.3s,baz=11,slow=11,SNR=3.0						
SCHQ	Schefferville	32.32	259	LR	LR	21 22 40.4	
	comp=Z,41nm,18.3s,baz=48,slow=36						
YKA	Yellowknife Ar	32.59	307	P	P	21 09 58.0	-1.1
	comp=Z,0.5nm,0.9s,baz=12,slow=9.5,SNR=3.2						
ILAR	Eielson Array	33.78	334	P	P	21 10 09.8	+0.3
	comp=Z,0.1nm,0.4s,baz=7.6,slow=8.2,SNR=3.6						
ILAR				PcP	PcP	21 12 48.0	-0.1
	comp=Z,0.4nm,1.0s,baz=347,slow=3.1,SNR=4.2						
ZALV	Zalesovo Beam	36.77	80	P	P	21 10 39.6	+4.3
	comp=Z,0.3nm,0.5s,baz=345,slow=10,SNR=2.3						
ZALV				LR	LR	21 29 03.9	
	comp=Z,36nm,18.1s,baz=250,slow=42						
BRTR	Keskin Array B	42.81	139	LR	LR	21 30 33.3	
	comp=Z,16nm,20.3s,baz=51,slow=38						
MKAR	Makanchi Array	43.26	86	P	P	21 11 31.9	+2.6
	comp=Z,0.4nm,0.7s,baz=343,slow=6.5,SNR=5.3						
MKAR				LR	LR	21 34 37.5	
	comp=Z,24nm,18.2s,baz=269,slow=43						
GNI	Garni	43.77	127	LR	LR	21 30 45.8	
	comp=Z,19nm,18.7s,baz=176,slow=37						
SONM	Songino Array	46.13	63	LR	LR	21 32 53.9	
	comp=Z,45nm,20.0s,baz=274,slow=38						
PDAR	Pinedale Array	51.04	296	LR	LR	21 35 19.5	
	comp=Z,46nm,18.4s,baz=89,slow=38						
TXAR	Lajitas Array	63.26	287	P	P	21 13 57.1	+0.5
	comp=Z,0.6nm,0.6s,baz=35,slow=4.2,SNR=8.5						
TXAR				LR	LR	21 42 14.5	
	comp=Z,62nm,19.6s,baz=0.0,slow=37						
TORD	Torodi Ar. Bea	67.24	176	P	P	21 14 24.1	+1.7
	comp=Z,0.5nm,0.6s,baz=359,slow=5.3,SNR=5.9						

ISCJB 04 21:16:30.0±0.6, 1°.39N±0°.06×126°.84E±0°.05, h35km, mb3.9/8, MS2.3/1, Error ellipse: s-maj=8.7km s-min=6.3km az=20.3
DJA 04 21:16:31.5±0.9, 1°N±4°×12°7E±°, h14km±9km, M4.3/6, mb4.6/2, mB5.0/1, MLv4.2/6, Mw(mB)4.3/1
IDC 04 21:16:33.7±3.0, 1°.26N×126°.81E, h57km±30km, mb3.6/8, mb1 3.8/10, mb1mx3.6/24, mbtmp4.0/10, ML4.0/2, MS2.5/1, Ms1 2.5/1, ms1mx2.2/30, Error ellipse: s-maj=34.5km s-min=15.8km az=71.0
ISC 04 21:16:31.6±0.7, 1°.36N±0°.09×126°.86E±0°.07, h35km, n20, σ1s.15/22, mb3.9/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.77	139	P	Pn	21 16 46.4	+0.4
TNTI				S	Sn	21 16 55.8	-0.5
KMSI	Cibinong	2.98	255	P	Pn	21 17 16.6	+0.1
KMSI				S	Sn	21 17 50.5	-0.6
SANI	Sanana	3.50	194	P	Pn	21 17 23.2	-0.3
NLAI	Namlea	4.57	177	P	Pn	21 17 39.4	+1.1
LUWI	Luwuk	4.73	240	P	Pn	21 17 44.3	+3.7
SIJI	Sorong	4.93	117	P	Pn	21 17 45.7	+2.4
	4.2nm,0.3s,baz=244,slow=22,SNR=33						
SIJI				S	Sn	21 18 55.4	+16
	1.7nm,0.3s,baz=146,slow=23,SNR=6.6						
MRSI	Marisa	5.00	260	P	Pn	21 17 44.9	+0.7
APSI	Ampana	5.68	247	P	Pn	21 17 56.2	+2.6
	61nm,0.6s,1μm0.2nm						
TTSI	Tana Toraja	8.29	238	P	Pn	21 18 31.1	+1.7
SPSI	Sidrap Palu	8.84	233	P	Pn	21 18 38.0	+1.0
KAPI	Kappang	9.51	228	P	Pn	21 18 47.2	+0.9
	2.0nm,0.3s,baz=62,slow=12,SNR=5.4						
GUMO	Guam	21.57	55	LR	LR	21 28 45.1	
	comp=Z,14nm,20.9s,baz=134,slow=34						
WRA	Warramunga Arr	22.40	161	P	P	21 21 26.1	-1.2
	2.4nm,0.3s,baz=337,slow=10,SNR=65						
ASAR	Alice Springs	25.80	165	P	P	21 21 58.8	-0.9
	1.0nm,0.5s,baz=343,slow=7.5,SNR=24						
ASAR				PcP	PcP	21 25 28.3	-0.6
	0.4nm,0.4s,baz=343,slow=2.9,SNR=4.3						
KSRS	Korea Array	35.93	1	P	P	21 23 29.1	+0.3
	0.5nm,0.5s,baz=181,slow=8.1,SNR=4.1						
SONM	Songino Array	49.58	342	P	P	21 25 20.4	+1.0
	0.2nm,0.2s,baz=161,slow=9.2,SNR=2.5						
MKAR	Makanchi Array	59.58	326	P	P	21 26 31.7	-0.2
	0.6nm,0.5s,baz=119,slow=8.0,SNR=14						
MKAR				PcP	PcP	21 27 18.2	-0.8
	0.6nm,0.7s,baz=128,slow=4.1,SNR=4.2						
ZALV	Zalesovo Beam	62.75	334	P	P	21 26 52.4	-0.8
	0.8nm,0.6s,baz=121,slow=5.5,SNR=5.3						
BVAR	Borovoye Array	69.37	327	P	P	21 27 35.8	0.0
	2.7nm,0.6s,baz=139,slow=9.2,SNR=17						
VNDA	Vanda	81.07	173	P	P	21 28 42.3	-0.3
	0.4nm,0.4s,baz=348,slow=6.1,SNR=4.1						

IDC 04 21:29:31.4±4.5, 5°.26S×146°.94E, h0km, mb3.5/1, mb1 4.1/2, mb1mx3.5/20, mbtmp3.8/2, ML4.0/1, Error ellipse: s-maj=273.2km s-min=53.3km az=117.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.07	219	P	P	21 33 55.9	+0.3
	0.5nm,0.3s,baz=40,slow=12,SNR=32						
ASAR	Alice Springs	22.20	213	P	P	21 34 29.3	-0.3
	0.7nm,0.3s,baz=46,slow=9.4,SNR=15						
TORD	Torodi Ar. Bea	144.85	285	PKP	PKPbc	21 49 11.0	+0.4
	0.3nm,0.8s,baz=73,slow=3.2,SNR=3.0						

ISCJB 04 22:01:41.9±0.3, 6°.61N±0°.04×82°.36W±0°.03, h10km, mb4.5/42, MS3.6/15, Error ellipse: s-maj=5.8km s-min=4.0km az=17.3
IDC 04 22:01:42.3±1.1, 6°.79N×82°.18W, h0km, mb4.0/8, mb1 4.4/10, mb1mx4.2/21, mbtmp4.2/10, ML4.7/2, MS3.7/21, Ms1 3.7/21, ms1mx3.6/27, Error ellipse: s-maj=43.9km s-min=20.1km az=45.0
CASC 04 22:01:43.8±2.0, 6°.64N×82°.37W, h22km±32km, MD4.0
GCMT 04 22:01:45.1±0.3, 6°.46N×82°.23W, h30km±1km, MW5.0/79, Moment Tensor Solution. s28,c28; s79,c100; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.43±.17; Mθθ1.42±.14; Mφφ-1.85±.17; Mrθ-0.52±.16; Mθφ3.12±.11; Mφr-0.09±.18; Best double couple: Mo3.56700×10^16 NP1:φs284.00000°, δ85.00000°, λ9.00000°. NP2: φs194.00000°, δ81.00000°, λ175.00000°. Principal axes: T 3.3880, Plg9.0000°, Azm149.0000°; N 0.3550, Plg80.0000°, Azm313.0000°; P -3.7460, Plg3.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 04 22:01:45.1±2.3, 6°.51N×82°.46W, h21km±6km, mb4.7/41 Error ellipse: s-maj=17.4km s-min=12.5km az=219.0
BJI 04 22:01:46.8, 6°.50N×82°.10W, h22km, mB5.3/2, Ms5.2/3, Ms7 5.0/3
ISC 04 22:01:43.9±0.6, 6°.67N±0°.07×82°.34W±0°.05, h10km, n203, σ0s.91/197, mb4.5/42, MS3.6/15, 43C-49D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU	Baru	2.13	354	eP	Pn	22 02 19.3	-0.7
BRU				eS	Sn	22 02 48.3	+1.4
BRU2	Volcan	2.14	351	eP	Pn	22 02 18.9	-0.9
BRU2				eS	Sn	22 02 47.7	+1.1
CTCR	Cotoan	2.25	349	eP	Pn	22 02 19.9	-1.5
AZU	Azuero	2.33	61	⇓iP	Pn	22 02 21.3	-1.1
AZU				eS	Sn	22 02 49.9	-1.2
PNME	Penonome	2.69	48	eP	Pn	22 02 27.5	+0.2
PNME				eS	Sn	22 03 01.6	+1.7
ZANG	Zanguenga, Cho	3.34	47	eP	Pn	22 02 36.1	-0.1
PINA	Piqa, Costa Ab	3.42	41	eP	Pn	22 02 37.9	+0.6
BCIP	Isla Barro Col	3.51	45	iP	Pn	22 02 38.7	+0.1
BCIP				eS	Sb	22 03 28.0	-0.8
BCIP	Isla Barro Col	3.51	45	ePn	Pn	22 02 38.5	0.0
BCIP				eSn	Sb	22 03 25.9	-2.8
JTS	JuntasAbangare	4.43	324	Pn	Pn	22 02 49.7	-1.6
	126nm,0.3s,baz=268,slow=22,SNR=306						
JTS				LR	LR	22 03 33.3	
	comp=Z,477nm,20.9s,baz=138,slow=25						
JTS				Sn	Sn	22 03 41.8	-1.2
	28nm,0.3s,baz=342,slow=20,SNR=9.0						
JTS	JuntasAbangare	4.43	324	eP	Pn	22 02 49.9	-1.4
JTS				eS	Sn	22 03 42.4	-0.6
JTS	JuntasAbangare	4.43	324	ePn	Pn	22 02 49.7	-1.6
JTS				eSn	Sn	22 03 42.2	-0.6
JTS				eSg	Sn	22 03 42.8	-0.1
CHPA	Chiripa	4.53	326	iP	Pn	22 02 51.8	-0.9
AMAS	Alto Masis	4.71	326	iP	Pn	22 02 54.8	-0.4
CUI	Cuipilapa	4.85	325	iP	Pn	22 02 56.4	-0.7
CUI				iS	Sn	22 03 52.3	-1.0
COLC	Colonia	4.88	325	iP	Pn	22 02 56.9	-0.5
LIM1	Limonal	4.93	324	iP	Pn	22 02 57.5	-0.7
MESS	Mesas	4.93	325	iP	Pn	22 02 57.4	-0.8
GPS2	Hotel Rincˆ‡n	5.03	324	iP	Pn	22 02 58.6	-1.0
LAPC	Finca la Perla	5.09	323	iP	Pn	22 02 59.4	-0.9
GB1A	Borinquen Arri	5.11	324	iP	Pn	22 03 00.7	0.0
GBS2	Las Lilas	5.16	324	iP	Pn	22 03 01.1	-0.2
OTAV	Otavalo	7.48	149	ePn	Pn	22 03 30.8	-2.7
ROSC	El Rosal	8.17	102	LR	LR	22 06 27.0	
	comp=Z,347nm,21.0s,baz=337,slow=35						
ROSC	El Rosal	8.17	102	ePn	Pn	22 03 42.8	-0.2
SNET	Serv Nac Est T	9.72	316	ePn	Pn	22 04 06.4	+2.3
SDV	Santo Domingo	11.81	79	ePn	Pn	22 04 34.2	+1.5
ATAH	Atahualpa	14.27	164	LR	LR	22 09 54.0	
	comp=Z,1μm,18.8s,baz=343,slow=34						
CMIG	Matias Romero	16.05	311	Pn	Pn	22 05 31.1	+1.3
	0.9nm,0.3s,baz=120,slow=12,SNR=11						
CMIG				LR	LR	22 11 12.3	
	comp=Z,438nm,20.0s,baz=135,slow=35						
SDDR	Presa de Saban	16.29	40	ePn	Pn	22 05 34.2	+1.2
	152nm,2.0s						
PCRV	Puerto La Cruz	17.85	78	LR	LR	22 14 01.1	
	comp=Z,445nm,21.3s,baz=270,slow=42						
CELP	Cerrillos	19.10	52	eP	Pn	22 06 09.1	+1.3
NNA	Nana	19.32	164	LR	LR	22 12 47.5	
	comp=Z,173nm,20.9s,baz=326,slow=34						
SJG	San Juan	19.45	53	eP	P	22 06 12.5	+1.6
	479nm,1.9s						
SAML	Samuel	24.60	129	eP	P	22 07 02.2	-2.4
	47nm,2.1s						
035A	Encino	25.12	325	⇓P	P	22 07 10.2	+1.0
	baz=25						
738A	Farr-Stevens R	25.39	332	⇓P	P	22 07 13.2	+1.7
	baz=26						
034A	Hebbronville	25.55	324	⇓P	P	22 07 15.6	+2.5
	baz=26,SNR=22						
934A	Benavides	25.87	325	⇑P	P	22 07 17.1	+1.2
	baz=26,SNR=7.0						
736A	Circle Diamond	26.17	330	⇓P	P	22 07 19.8	+1.1
	baz=26						
834A	Tilden	26.29	326	⇑P	P	22 07 20.9	+1.1
	baz=26						
933A	Laredo	26.31	324	⇑P	P	22 07 21.5	+1.6
	baz=26						
636A	Smothers Creek	26.59	330	⇑P	P	22 07 23.4	+0.9
	baz=27						
LPAZ	La Paz	26.80	148	P	P	22 07 24.0	-1.2
	1.6nm,0.9s,baz=330,slow=8.1,SNR=3.9						
LPAZ				LR	LR	22 18 56.9	
	comp=Z,482nm,20.9s,baz=315,slow=39						
833A	Chaparral WMA,	26.91	325	⇓P	P	22 07 26.3	+0.9
	baz=27						
832A	Faith Ranch, C	27.22	324	⇑P	P	22 07 28.5	+0.3
	baz=27						
535A	Dale	27.30	330	⇓P	P	22 07 29.0	+0.2
	baz=28						
732A	Laxson Ranch,	27.55	325	⇑P	P	22 07 32.2	+1.0
	baz=28						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
337A	Centerville	27.60	334	⇓P	P	22 07 33.0	+1.4
	baz=28						
632A	Uvalde	28.04	326	⇓P	P	22 07 36.1	+0.5
	baz=28						
532A	Rocksprings	28.59	327	⇑P	P	22 07 41.1	+0.6
	baz=29						
433A	Art	28.65	329	⇓P	P	22 07 41.1	+0.2
	baz=29						
TKL	Tuckaleechee C	28.88	358	LR	LR	22 19 38.3	
	comp=Z,198nm,18.9s,baz=193,slow=37						
530A	J-C Ranch, Com	29.40	325	⇓P	P	22 07 48.6	+1.0
	baz=30						
332A	Millersview	29.49	329	⇓P	P	22 07 49.0	+0.6
	baz=30						
430A	Baggett Ranch,	29.83	326	⇑P	P	22 07 52.2	+0.8
	baz=30						
232A	Coleman	29.84	329	⇓P	P	22 07 51.6	+0.1
	baz=30						
529A	Stev Forest Ra	29.89	324	⇑P	P	22 07 52.3	+0.2
	baz=30						
429A	Davenport Ranc	30.08	325	⇓P	P	22 07 54.1	+0.5
	baz=30,SNR=12						
TXAR	Lajitas Array	30.21	321	LR	LR	22 21 14.8	
	comp=Z,96nm,21.0s,baz=0.0,slow=39						
TX31	Lajitas Ar. Si	30.21	321	eP	P	22 07 53.8	-1.1
W38A	Poteau	30.41	340	⇑P	P	22 07 55.8	-0.7
	baz=31						
Z32A	Haskell	30.91	331	⇑P	P	22 08 00.7	-0.3
	baz=31						
Z31A	Sharp Cattle R	31.24	330	⇓P	P	22 08 03.8	-0.1
	baz=31						
228A	UT Block 9, Go	31.59	326	⇓P	P	22 08 06.7	-0.4
	baz=32						
Z30A	Sanderson Ranc	31.71	329	⇑P	P	22 08 07.7	-0.3
	baz=32						
Y31A	Rekieta Farm,	31.82	331	⇑P	P	22 08 08.6	-0.4
	baz=32						
LPIG	La Paz	31.94	306	LR	LR	22 18 40.0	
	comp=Z,100nm,20.6s,baz=199,slow=32						
Y30A	Stafford Cattl	32.06	330	⇓P	P	22 08 10.9	-0.2
	baz=32						
T37A	Cheneyville 18	32.41	341	⇑P	P	22 08 13.1	-1.0
	baz=33						
MNTX	Cornudas Mount	32.91	322	⇑P	P	22 08 18.8	+0.2
	baz=33,SNR=8.6						
MNTX	Cornudas Mount	32.91	322	eP	P	22 08 18.7	+0.2
	21nm,1.6s						
MSTX	Muleshoe	33.10	328	⇓P	P	22 08 19.4	-0.9
	baz=33						
S36A	Lake Cedric, C	33.18	341	⇑P	P	22 08 19.8	-1.0
	baz=33						
U30A	WK&E Inc. Balk	34.11	333	⇓P	P	22 08 28.9	-0.1
	baz=34						
R34A	Isabella, Hill	34.26	339	⇓P	P	22 08 30.0	-0.2
	baz=34						
R33A	Olander Ranch,	34.54	338	⇑P	P	22 08 31.7	-1.0
	baz=35						
121A	Cookes Peak, D	34.97	321	⇑P	P	22 08 37.2	+0.6
	baz=35,SNR=5.9						
Q33A	Connelly Farm,	35.09	339	⇓P	P	22 08 36.5	-0.9
	baz=35						
R30A	Dighton	35.42	335	⇑P	P	22 08 39.9	-0.4
	baz=36						
ANMO	Albuquerque	35.85	325	eP	P	22 08 44.7	+0.5
	9.3nm,0.9s						
LAZ	Ladron	35.86	324	eP	P	22 08 43.7	-0.6
Q29A	Oakley	36.23	335	⇑P	P	22 08 47.3	+0.1
	baz=36						
S26A	Kim	36.31	331	⇑P	P	22 08 48.4	+0.4
	baz=36						
T25A	Trinidad	36.39	330	⇑P	P	22 08 50.1	+1.2
	baz=37						
R27A	Eads	36.53	332	⇓P	P	22 08 50.6	+0.8
	baz=37						
R26A	Arlington	36.84	332	⇓P	P	22 08 52.4	-0.1
	baz=37						
SDCO	Great Sand Dun	37.41	329	⇓P	P	22 08 58.1	+0.5
	baz=38,SNR=10						
SDCO	Great Sand Dun	37.41	329	eP	P	22 08 57.9	+0.3
	10nm,1.3s						
W18A	Petrified Fore	37.90	322	⇓P	P	22 09 03.1	+1.4
	baz=38,SNR=5.0						
W18A	Petrified Fore	37.90	322	eP	P	22 09 02.4	+0.7
	22nm,0.9s						
214A	Organ Pipe Nat	37.95	315	⇑P	P	22 09 02.7	+0.7
	baz=38						
S22A	4UR Ranch, Cre	38.10	328	⇑P	P	22 09 04.6	+1.1
	baz=38,SNR=6.4						
S22A	4UR Ranch, Cre	38.10	328	eP	P	22 09 03.9	+0.4
	6.0nm,1.0s						
Q24A	Divide	38.18	331	⇓P	P	22 09 05.0	+0.9
	baz=38						
MVCO	Mesa Verde	38.62	326	⇓P	P	22 09 09.0	+1.3
	baz=39,SNR=10						
MVCO	Mesa Verde	38.62	326	eP	P	22 09 08.8	+1.1
	19nm,0.9s						
P23A	Jefferson	38.83	330	⇑P	P	22 09 11.0	+1.4
	baz=39						
ISCO	Idaho Springs	39.05	331	⇓P	P	22 09 12.4	+1.0
	baz=39						
WUAZ	Wupatki	39.17	321	⇑P	P	22 09 14.0	+1.6
	baz=39,SNR=8.4						
WUAZ	Wupatki	39.17	321	eP	P	22 09 12.6	+0.2
	12nm,1.0s						
SMCO	Snowmass	39.25	329	eP	P	22 09 12.9	-0.3
	4.3nm,0.9s						
P22A	Eagle	39.46	330	⇑P	P	22 09 16.0	+1.3
	baz=40						
J30A	Dallas	39.51	340	⇓P	P	22 09 14.6	-0.3
	baz=40						
PV05	Paradox Valley	39.57	326	eP	P	22 09 16.2	+0.5
PV04	Paradox Valley	39.69	327	eP	P	22 09 17.2	+0.6
PV10	Paradox Valley	39.75	326	eP	P	22 09 17.7	+0.5
EMMW	East Machias	40.05	17	eP	P	22 09 18.9	-0.4
	45nm,1.4s						
BDFB	Brasilia	40.59	123	LR	LR	22 25 49.8	
	comp=Z,164nm,19.6s,baz=313,slow=36						
KNB	Kanab	41.03	322	eP	P	22 09 29.4	+1.6
	11nm,1.0s						
SRU	San Rafael Swe	41.09	326	eP	P	22 09 28.8	+0.6
	20nm,0.9s						
BELC	Belle Mtn. Jos	41.31	316	⇑P	P	22 09 30.1	0.0
	baz=41						
PFO	Pinyon Flats O	41.42	315	⇑P	P	22 09 32.2	+1.2
	baz=42						
GMRC	Granite Mounta	41.52	317	⇓P	P	22 09 31.8	0.0
	baz=42						
H27A	Howes	41.55	339	⇓P	P	22 09 31.6	-0.2
	baz=42						
MSU	Marysvale	41.62	324	eP	P	22 09 32.5	-0.2
MVU	Marysvale	41.64	324	eP	P	22 09 33.0	+0.2
	25nm,2.1s						
I25A	Rochford	41.66	337	⇓P	P	22 09 33.0	+0.1
	baz=42						
CCUT	Cedar City	41.70	322	eP	P	22 09 34.4	+1.1
	4.1nm,0.9s						
HEC	Hector,Ludlow	42.00	317	⇑P	P	22 09 36.6	+0.9
	baz=42						
E30A	Jud	42.18	343	⇑P	P	22 09 36.7	-0.1
	baz=42						
SHPR	Sheep Range	42.19	319	eP	P	22 09 37.8	+0.6
J22A	Midwest	42.30	334	⇓P	P	22 09 37.9	-0.1
	baz=42						
GSC	Goldstone, Bar	42.59	317	⇓P	P	22 09 40.7	+0.3
	baz=43						
H24A	Dirks Ranch, A	42.59	337	⇑P	P	22 09 40.2	0.0
	baz=43						
JLU	Jordanelle	42.64	327	eP	P	22 09 41.5	+0.5
	12nm,1.2s						
D30A	Buchanan	42.68	343	⇑P	P	22 09 40.7	-0.2
	baz=43						
CTU	Camp Tracy	42.87	327	eP	P	22 09 42.9	+0.1
	14nm,1.0s						
J20A	Shoshoni	42.98	332	⇓P	P	22 09 43.4	-0.1
	baz=43						
DUG	Dugway, Tooele	43.12	325	⇓P	P	22 09 45.6	+0.8
	baz=43						
TPNV	Topopah Spring	43.16	319	⇑P	P	22 09 46.5	+1.3
	baz=43						
TPNV	Topopah Spring	43.16	319	eP	P	22 09 44.5	-0.6
	89nm,2.8s						
EDW2	Edwards Air Fo	43.17	316	⇓P	P	22 09 45.9	+0.8
	baz=43						
BW06	Boulder Array	43.23	331	eP	P	22 09 45.5	-0.3
	11nm,1.5s						
BW06				eP	pP	22 09 45.7	-3.2
PD31	Pinedale Array	43.23	331	eP	P	22 09 45.5	-0.2
PD31				ePP	PcP	22 11 33.9	-1.0
PDAR	Pinedale Array	43.23	331	P	P	22 09 45.5	-0.2
	2.6nm,1.1s,baz=124,slow=7.7,SNR=12						
PDAR				PcP	PcP	22 11 33.9	-1.0
	0.6nm,0.9s,baz=145,slow=3.3,SNR=3.0						
PDAR				LR	LR	22 29 50.4	
	comp=Z,58nm,18.5s,baz=130,slow=39						
FURC	Furnace Creek,	43.28	318	⇑P	P	22 09 46.1	+0.2
	baz=43						
HWUT	Hardware Ranch	43.41	328	eP	P	22 09 47.5	+0.3
	17nm,0.9s						
MPMC	Manual Prospec	43.47	317	⇑P	P	22 09 47.8	+0.1
	baz=44						
R11A	Troy Canyon, C	43.57	321	⇓P	P	22 09 49.2	+0.7
	baz=44,SNR=7.8						
R11A	Troy Canyon, C	43.57	321	eP	P	22 09 47.7	-0.8
	5.5nm,1.1s						
BGU	Big Grassy Mou	43.73	326	eP	P	22 09 49.7	0.0
	32nm,1.3s						
F22A	Rosebud	44.12	336	⇓P	P	22 09 52.1	-0.5
	baz=44						
HVU	Hansel Valley	44.18	327	eP	P	22 09 52.7	-0.6
	37nm,2.1s						
LOHW	Long Hollow	44.38	331	eP	P	22 09 54.0	-0.9
	8.4nm,1.4s						
TPH	Tonopah	44.44	320	eP	P	22 09 55.5	0.0
	6.7nm,1.0s						
PKM	Mcpherson Peak	44.47	314	⇓P	P	22 09 56.1	+0.4
	baz=44						
G20A	Bridger	44.50	334	⇓P	P	22 09 54.9	-0.8
	baz=45						
E22A	Miles City	44.54	337	⇑P	P	22 09 55.8	-0.1
	baz=45						
FXWY	Fox Creek	44.60	330	eP	P	22 09 56.0	-0.7
	3.0nm,0.4s						
ELK	Elko	44.87	324	eP	P	22 09 59.1	+0.2
	4.7nm,0.9s						
D22A	Cohagen	45.21	337	⇓P	P	22 10 01.4	+0.1
	baz=45						
F19A	Roth Farm, Mol	45.31	334	⇓P	P	22 10 01.9	-0.3
	baz=46						
NV01	Mina Array Sit	45.34	320	eP	P	22 10 03.1	+0.4
NVAR	Mina Array Bea	45.34	320	P	P	22 10 03.8	+1.1
	4.3nm,0.7s,baz=129,slow=7.1,SNR=26						
C23A	Lambert	45.38	338	⇓P	P	22 10 02.8	+0.2
	baz=46						
E19A	Rath Farm, Rou	45.72	335	⇑P	P	22 10 04.8	-0.5
	baz=46						
BMN	Battle Mountai	45.85	323	eP	P	22 10 06.8	+0.2
	16nm,1.0s						
B23A	Brockton	45.87	339	⇓P	P	22 10 06.7	+0.2
	baz=46						
A24A	Westby	45.92	340	⇑P	P	22 10 07.3	+0.5
	baz=46						
D20A	Manuel Ranch,	45.95	336	⇑P	P	22 10 07.0	-0.1
	baz=46						
HLID	Hailey	46.28	328	⇑P	P	22 10 10.6	+0.6
	baz=46,SNR=7.3						
HLID	Hailey	46.28	328	eP	P	22 10 09.8	-0.2
	4.3nm,0.9s						
MCMT	McKenzie Canyo	46.37	330	eP	P	22 10 11.5	+0.8
C20A	Veseth Ranch,	46.39	336	⇓P	P	22 10 10.3	-0.3
	baz=47						
LRM	Limekiln Ridge	46.89	331	eP	P	22 10 14.5	-0.3
MFID	Camas Ranch	46.95	327	eP	P	22 10 15.3	+0.2
	10nm,1.4s						
B20A	Solberg Farm,	46.98	337	⇑P	P	22 10 14.9	-0.3
	baz=47						
MSO	Missoula	48.33	331	⇓P	P	22 10 26.0	+0.2
	baz=48,SNR=5.4						
MSO	Missoula	48.33	331	eP	P	22 10 25.4	-0.4
	12nm,1.2s						
BMO	Blue Mountains	48.69	327	eP	P	22 10 27.9	-0.7
	16nm,1.9s						
BSMT	Bassoo Peak	49.47	332	eP	P	22 10 34.2	-0.4
SCHQ	Schefferville	49.62	12	P	P	22 10 32.9	-2.5
	3.7nm,1.0s,baz=169,slow=10,SNR=3.9						
SCHQ				LR	LR	22 31 09.4	
	comp=Z,67nm,21.4s,baz=142,slow=36						
SCHQ	Schefferville	49.62	12	eP	P	22 10 35.5	+0.1
	52nm,2.3s						
NEW	Newport	50.88	331	⇓P	P	22 10 44.5	-0.6
	baz=51						
I04A	Tendick Farm,	50.95	323	⇓P	P	22 10 45.4	-0.4
	baz=51						
G05D	Wamic, OR	51.15	325	⇑P	P	22 10 47.3	+0.1
	baz=51						
YKA	Yellowknife Ar	60.52	343	P	P	22 11 52.8	-1.2
	2.5nm,0.9s,baz=135,slow=7.0,SNR=21						
YKB5	Yellowknife Ar	60.52	343	eP	P	22 11 53.8	-0.2
PPT	Papeete	70.61	249	LR	LR	22 35 10.7	
	comp=Z,41nm,19.3s,baz=353,slow=28						
PPT2	Papeete2	70.61	249	eLR	LR	22 34 48.4	
	124nm,25.5s						
EGAK	Eagle	71.06	337	eP	P	22 13 01.9	0.0
	5.3nm,0.9s						
TBI	Tubuai	71.97	243	eS	S	22 22 39.0	+8.9
	50nm,30.2s						
TBI	Tubuai	71.97	243	eLR	LR	22 35 26.6	
	171nm,28.2s						
ILAR	Eielson Array	73.31	336	P	P	22 13 15.2	-0.2
	3.0nm,0.8s,baz=114,slow=4.0,SNR=28						
ILAR				LR	LR	22 48 28.1	
	comp=Z,34nm,18.7s,baz=114,slow=38						
ILB	Eielson Array	73.31	336	eP	P	22 13 15.2	-0.2
RND	Reindeer	73.67	335	eP	P	22 13 17.5	-0.2
	10nm,0.9s						
MLY	Manley	74.95	336	eP	P	22 13 24.6	-0.5
	15nm,1.4s						
ESDC	Sonseca Array	76.83	51	P	P	22 13 37.0	+0.6
	0.5nm,0.7s,baz=262,slow=5.4,SNR=5.0						
TOA0	Torodi Ar. Sit	82.72	78	eP	P	22 14 08.1	-0.6
TORD	Torodi Ar. Bea	82.72	78	P	P	22 14 08.1	-0.6
	0.2nm,0.6s,baz=285,slow=5.7,SNR=2.8						
TORD				LR	LR	22 51 06.5	
	comp=Z,18nm,19.4s,baz=225,slow=36						
NOA	NORSAR Array B	85.94	29	LR	LR	22 51 03.5	
	comp=Z,21nm,19.0s,baz=255,slow=34						
GERES	GERESS Array B	88.99	41	LR	LR	22 49 00.4	
	comp=Z,33nm,20.5s,baz=262,slow=32						
ARCES	ARCESS Array B	89.94	20	LR	LR	22 50 50.8	
	comp=Z,24nm,19.8s,baz=256,slow=33						
FINES	FINESS Array B	92.84	27	LR	LR	22 55 14.3	
	comp=Z,21nm,18.5s,baz=268,slow=35						
AKASG	Malin Array Be	98.23	37	LR	LR	22 59 14.5	
	comp=Z,21nm,18.9s,baz=290,slow=35						
WMQ	Urumqi	128.94	9	ePKP	PKPdf	22 20 55.4	+3.0
HHC	Hu-ho-hao-te	131.02	346	ePKP	PKPdf	22 20 56.0	-0.5
HHC				sPKP		22 21 06.8	
HHC				PP	PP	22 23 18.0	+6.2
LZH	Lanzhou	137.07	353	ePKP	PKPdf	22 21 09.4	+1.3
LZH				sPKP		22 21 23.7	
LZH				LN			
	150nm,16.7s						
LZH				LE			
	150nm,18.0s						
LZH				LZ			
	180nm,19.8s						
WRA	Warramunga Arr	142.05	246	PKP	PKPdf	22 21 17.8	+0.5
	0.9nm,0.9s,baz=93,slow=2.3,SNR=3.9						
CD2	Chengdu	142.18	351	PKP	PKPdf	22 21 17.4	0.0
KMI	Kunming	148.01	351	PKPbc	PKPdf	22 21 27.7	-0.1
CMAR	Chiang Mai Arr	155.00	357	PKPbc	PKPbc	22 21 49.0	+2.1
	0.6nm,0.4s,baz=353,slow=2.3,SNR=6.1						
CMAR				PKPab	PKPab	22 21 60.0	-2.2
	0.3nm,0.2s,baz=346,slow=4.8,SNR=4.1						

*CRAAG **04** 22:10:41.0, 35°.84N×4°.08E, Ml3.6*
*MDD **04** 22:10:43.1±0.8, 35°.90N×4°.10E, h0km, mb3.9/7, Error ellipse: s-maj=15.6km s-min=3.9km az=19.0, PRXIMO*
*ISCJB **04** 22:10:44.1±0.8, 36°.13N±0°.07×4°.05E±0°.04, h12km±7km, Error ellipse: s-maj=11.5km s-min=4.6km az=6.9*
*CSEM **04** 22:10:44.5±0.3, 36°.11N×4°.08E, h2km, ML3.0/6, Error ellipse: s-maj=13.0km s-min=4.6km az=9.0*
ISC 04 22:10:42.9±1.4**, 35°.99N**±0°.05×**4°.14E**±0°.02**, h5**km±12km**, n56,** σ1**s**21/71**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAF	Djebel Tarf	0.16	137	P	Pg	22 10 45.0	-1.2
ATAF	Djebel Tarf	0.16	137	P	Pg	22 10 45.0	-1.2
AKET	Djebel Ketaf	0.22	284	P	Pg	22 10 46.7	-0.5
AKET	Djebel Ketaf	0.22	284	P	Pg	22 10 46.7	-0.5
AKET	Djebel Ketaf	0.22	284	P	Pg	22 10 46.7	-0.5
ADJB	Djebel Djouab	0.59	286	P	Pg	22 10 54.8	+0.5
ADJB	Djebel Djouab	0.59	286	P	Pg	22 10 54.8	+0.5
ADJB	Djebel Djouab	0.59	286	P	Pg	22 10 54.8	+0.5
SET	Setif	1.04	78	P	Pg	22 11 03.4	+0.5
SET	Setif	1.04	78	P	Pg	22 11 03.4	+0.5
SET	Setif	1.04	78	P	Pg	22 11 03.4	+0.5
CKHR	Kef el Ahmar	1.11	88	P	Pb	22 11 04.3	-0.4
CKHR	Kef el Ahmar	1.11	88	P	Pb	22 11 04.3	-0.4
DFRA	Djebel Bou Aff	1.51	68	P	Pg	22 11 12.6	+0.8
DFRA	Djebel Bou Aff	1.51	68	P	Pg	22 11 12.6	+0.8
DFRA	Djebel Bou Aff	1.51	68	P	Pg	22 11 12.6	+0.8
CTEI	Djebel Teioual	1.84	87	P	Pb	22 11 18.0	+0.9
CTEI	Djebel Teioual	1.84	87	P	Pb	22 11 18.0	+0.9
CTEI	Djebel Teioual	1.84	87	P	Pb	22 11 18.0	+0.9
CASM	Ain Smara	1.92	81	P	Pg	22 11 19.6	-0.1
CASM	Ain Smara	1.92	81	P	Pg	22 11 19.6	-0.1
CASM	Ain Smara	1.92	81	P	Pg	22 11 19.6	-0.1
CKFL	Kef-Lekhel	2.13	78	P	Pg	22 11 24.0	+0.3
CKFL	Kef-Lekhel	2.13	78	P	Pg	22 11 24.0	+0.3
CKFL	Kef-Lekhel	2.13	78	P	Pg	22 11 24.0	+0.3
CAEH	'Ain El Ouahch	2.32	69	P	Pg	22 11 28.0	+0.6
CAEH	'Ain El Ouahch	2.32	69	P	Pg	22 11 28.0	+0.6
ABSA	Djebel Ababsia	2.72	83	P	Pn	22 11 29.0	+1.7
ABSA	Djebel Ababsia	2.72	83	P	Pn	22 11 29.0	+1.7
CABS	Djebel Ababsia	2.72	83	P	Pn	22 11 29.0	+1.7
CMAH	Djebel Manchou	2.72	76	P	Pn	22 11 27.0	-0.4
CMAH	Djebel Manchou	2.72	76	P	Pn	22 11 27.0	-0.4
EIBI	Ibiza	3.76	325	Pn	Pn	22 11 41.8	+0.3
	2.1nm,0.2s,SNR=9.2						
EIBI				Sn	Sn	22 12 24.3	-1.8
	3.6nm,0.3s						
EIBI	Ibiza	3.76	325	Pn	Pn	22 11 41.8	+0.3
	2.1nm,0.2s,SNR=9.2						
EIBI				Sn	Sn	22 12 23.7	-2.4
	8.9nm,0.7s						
ETOS	Mallorca	3.91	345	Pn	Pn	22 11 43.4	-0.3
	1.4nm,0.2s,SNR=11						
ETOS				Sn	Sn	22 12 29.4	-0.6
	1.4nm,0.3s						
ETOS	Mallorca	3.91	345	Pn	Pn	22 11 43.3	-0.4
	1.4nm,0.2s,SNR=11						
ETOS				Sn	Sn	22 12 25.7	-4.3
	3.4nm,0.6s						
EBEN	Beniarda	4.41	309	Pn	Pn	22 11 53.3	+2.8
	0.2nm,0.6s,SNR=4.0						
EBEN	Beniarda	4.41	309	Pn	Pn	22 11 52.3	+1.8
	0.1nm,0.2s,SNR=7.9						
EMUR	La Murta	4.69	295	Pn	Pn	22 11 54.0	-0.4
	1.1nm,0.2s,SNR=7.9						
EMUR				Sn	Sn	22 12 48.9	-0.3
	1.8nm,0.5s						
EMUR	La Murta	4.69	295	Pn	Pn	22 11 54.0	-0.4
	2.4nm,0.2s,SNR=7.9						
EMUR				Sn	Sn	22 12 48.9	-0.3
	5.8nm,0.8s						
ETOB	Tobarra	5.25	302	Pn	Pn	22 12 03.0	+0.9
	0.6nm,0.2s,SNR=8.4						
ETOB				Sn	Sn	22 13 03.2	+0.2
	0.9nm,0.2s						
ETOB	Tobarra	5.25	302	Pn	Pn	22 12 03.0	+0.9
	1.1nm,0.3s,SNR=8.4						
ETOB				Sn	Sn	22 13 03.2	+0.2
	3.9nm,0.8s						
EMOS	Mosqueruela	5.68	322	Pn	Pn	22 12 08.7	+0.7
	0.1nm,0.4s,SNR=7.9						
EMOS				Sn	Sn	22 13 10.1	-3.6
	0.8nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	5.68	322	Pn	Pn	22 12 08.5	+0.4
	1.0nm,0.3s,SNR=7.9						
EHUE	Huescar	5.69	291	Pn	Pn	22 12 10.2	+1.9
	1.4nm,0.4s,SNR=7.9						
EHUE	Huescar	5.69	291	Pn	Pn	22 12 09.9	+1.7
	1.4nm,0.4s,SNR=7.9						
EBER	Berja	5.74	281	Pn	Pn	22 12 09.0	+0.1
	1.6nm,0.4s,SNR=5.5						
EBER				Sn	Sn	22 13 14.1	-1.2
	21nm,1.5s						
EBER	Berja	5.74	281	Pn	Pn	22 12 09.9	+1.0
	2.1nm,0.4s,SNR=5.5						
EBER				Sn	Sn	22 13 14.1	-1.2
	21nm,1.5s						
SESP	Santiago Espad	5.75	294	Pn	Pn	22 12 10.4	+1.4
	1.6nm,0.2s,SNR=7.9						
SESP				Sn	Sn	22 13 16.6	+1.0
	0.4nm,0.6s,SNR=7.9						
SESP	Santiago Espad	5.75	294	Pn	Pn	22 12 10.2	+1.1
	3.6nm,0.4s,SNR=7.9						
SESP				Sn	Sn	22 13 15.7	+0.1
	0.1nm,0.1s,SNR=7.9						
CFON	Fontmartina	5.91	348	Pn	Pn	22 12 12.0	+0.8
	0.5nm,0.2s,SNR=7.9						
CFON	Fontmartina	5.91	348	Pn	Pn	22 12 11.6	+0.4
	0.5nm,0.2s,SNR=7.9						
EQES	Quesada	6.05	289	Pn	Pn	22 12 14.1	+0.9
	1.0nm,0.2s,SNR=9.1						
EQES				Sn	Sn	22 13 23.1	+0.2
	1.7nm,0.4s						
EQES	Quesada	6.05	289	Pn	Pn	22 12 14.4	+1.2
	1.0nm,0.2s,SNR=9.1						
EQES				Sn	Sn	22 13 21.2	-1.7
	3.6nm,0.8s						
EMIR	Miracle	6.25	342	Pn	Pn	22 12 18.3	+2.4
	1.6nm,0.2s,SNR=7.9						
EMIR				Sn	Sn	22 13 25.3	-2.4
	1.2nm,0.4s,SNR=7.9						
EMIR	Miracle	6.25	342	Pn	Pn	22 12 15.7	-0.2
	2.3nm,0.4s,SNR=7.9						

IDC 04 22:11:10.1±5.1**, 22°.80S**×**178°.01W, h0**km**, mb4.2**/3**, mb1 4.3**/3**, mb1mx3.8**/18**, mbtmp4.2**/3**, Error ellipse: s-maj=191.9km s-min=51.2km az=141.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.83	247	P	P	22 18 21.4	+1.2
	1.4nm,0.4s,baz=86,slow=8.9,SNR=7.6						
ASAR	Alice Springs	44.03	259	P	P	22 19 19.4	-0.5
	1.7nm,0.5s,baz=97,slow=7.0,SNR=18						
WRA	Warramunga Arr	44.32	264	P	P	22 19 21.6	-0.7
	1.7nm,0.5s,baz=101,slow=8.3,SNR=75						
AKASG	Malin Array Be	145.00	330	PKPbc	PKPbc	22 30 47.4	-1.0
	0.6nm,0.4s,baz=48,slow=3.9,SNR=3.9						

*CSEM **04** 22:13:58.1, 35°.72N×26°.69E, h50km, MD2.8*
ATH 04 22:13:58.1, 35°.73N×**26°.69E, h49**km±16km**, MD2.8**/4**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.42	115	eP	Pn	22 14 09.4	+0.9
KARP				eS	Sn	22 14 16.9	+1.0
KARP	Karpathos	0.42	115	eP	Pn	22 14 09.4	+0.9
KARP				eS	Sn	22 14 16.9	+1.0
NPS	Neapolis	0.99	242	eP	Pn	22 14 16.2	+0.4
NPS				eS	Sn	22 14 29.2	+0.4
NPS	Neapolis	0.99	242	eP	Pn	22 14 16.2	+0.4
NPS				eS	Sn	22 14 29.2	+0.4
LAST	Lasithi	1.14	240	eP	Pn	22 14 18.2	+0.4
LAST				eS	Sn	22 14 33.7	+1.3
LAST	Lasithi	1.14	240	eP	Pn	22 14 18.2	+0.4
LAST				eS	Sn	22 14 33.7	+1.3
ARG	Arkhangelos	1.26	67	eP	Pn	22 14 19.8	+0.5
ARG				eS	Sn	22 14 37.0	+1.8
ARG	Arkhangelos	1.26	67	eP	Pn	22 14 19.8	+0.5
ARG				eS	Sn	22 14 37.0	+1.8
KARN	Karanos	2.28	263	eP	Pn	22 14 35.5	+2.1
KARN	Karanos	2.28	263	eP	Pn	22 14 35.5	+2.1

BUC 04 22:16:50.8±0.5**, 45°.48N**×**26°.29E, h4**km**, MD2.5**/3**, 7C-6D, Error ellipse: s-maj=4.8km s-min=4.4km az=335.0, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	Muntele Rosu	0.24	274	⇓iP	Pg	22 16 56.2	+0.5
MLR	Muntele Rosu	0.24	274	S	Sg	22 17 01.2	+2.1
MLR	Muntele Rosu	0.24	274	⇓iP	Pg	22 16 56.2	+0.5
MLR				iS	Sg	22 17 01.2	+2.1
PLOR	Plostina	0.45	34	S	Sb	22 17 07.6	-1.0
PLOR	Plostina	0.45	34	iS	Sb	22 17 07.6	-1.0
PLOR				⇑iP	Pb	22 17 00.8	-0.6
VRI	Vrincioaia	0.50	38	⇑iP	Pb	22 17 01.8	-0.4
VRI	Vrincioaia	0.50	38	S	Sb	22 17 09.8	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.50**	**38**	⇑iP	Pb	22 17 01.8	-0.4
VRI				iS	Sb	22 17 09.8	0.0
VOIR		**0.88**	**268**	⇑iP	Pn	22 17 09.4	-0.6
VOIR		**0.88**	**268**	⇑iP	Pn	22 17 09.4	-0.6
VOIR				iS	Sb	22 17 21.8	+1.0
TESR	**Tescani**	**1.07**	**13**	⇑iP	Pn	22 17 12.5	-0.1
TESR	**Tescani**	**1.07**	**13**	⇑iP	Pn	22 17 12.5	-0.1
TESR				iS	Sn	22 17 28.7	+0.8
CFR	**Carcaliu**	**1.33**	**102**	⇓iP	Pg	22 17 16.6	+0.2
CFR	**Carcaliu**	**1.33**	**102**	⇓iP	Pg	22 17 16.6	+0.2
CFR				iS	Sn	22 17 35.3	+0.9
TLB	**Topalu**	**1.53**	**125**	⇓iP	Pb	22 17 19.6	-0.1
TLB	**Topalu**	**1.53**	**125**	S	Sg	22 17 41.5	+1.6
TLB	**Topalu**	**1.53**	**125**	⇓iP	Pb	22 17 19.6	-0.1
TLB				iS	Sg	22 17 41.5	+1.6

PDA 04 22:40:54.3±1.0**, 39.11N×28.47W, h1km±9km, MD3.5, ML2.5, Error ellipse: s-maj=7.1km s-min=4.1km az=162.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**0.39**	**102**	eP	Pg	22 41 01.7	-0.1
PGRA				eS	Sg	22 41 06.9	+0.1
PGRA				A	A	22 41 07.7	
	283nm,0.3s						
ROSA	**Rosais**	**0.43**	**156**	eP	Pg	22 41 02.2	-0.4
ROSA				eS	Sg	22 41 08.2	0.0
ROSA				A	A	22 41 09.5	
	186nm,0.2s						
PCED	**Cedros**	**0.52**	**201**	eP	Pg	22 41 03.5	-0.7
PCED				eS	Sg	22 41 10.3	-0.7
PCED				A	A	22 41 11.6	
	251nm,0.4s						
CALA	**Caldeira**	**0.56**	**199**	eP	Pg	22 41 05.0	-0.2
CALA				eS	Sg	22 41 12.1	-0.5
PMAN	**Manadas**	**0.56**	**148**	eP	Pg	22 41 04.0	-1.1
PMAN				eS	Sg	22 41 11.4	-1.1
PMAN				A	A	22 41 12.4	
	87nm,0.1s						
HOR	**Horta**	**0.60**	**192**	eP	Pg	22 41 04.7	-1.1
HOR				eS	Sg	22 41 12.9	-0.7
PICO	**Pico**	**0.61**	**177**	eS	Sg	22 41 12.9	-1.3
PCAN	**Candelaria**	**0.65**	**181**	eP	Pg	22 41 05.5	-1.3
PCAN				eS	Sg	22 41 14.4	-0.9
PCAN				A	A	22 41 17.5	
	124nm,0.5s						

*SJA **04** 22:50:08.0±0.6, 35.44S×74.95W, h30km, ML4.3*
*GUC **04** 22:50:31.5±0.3, 35.61S×72.14W, h44km±1km, ML4.2*
*NEIC **04** 22:50:31.0, 35.61S×72.14W, h44km, MG4.2(GUC), After GUC.*
NEIC Felt [II] at Colbun, Linares, Pencahue and Talca.
*IDC **04** 22:50:33.0±3.2, 35.75S×71.92W, h66km±27km, mb3.2/3, mb1 3.4/6, mb1mx3.4/17, mbtmp3.5/6, ML3.4/3, Error ellipse: s-maj=52.6km s-min=24.8km az=95.0*
ISC 04 22:50:29.4±2.2**, 35.58S**±0.04×**72.30W**±0.09**, h13km**±12km**, n34, σ1.19**/40**, mb3.5**/3**, 3C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.57**	**72**	⇑iP	**Pb**	**22 50 42.0**	**+0.8**
TALC				iS	**Sb**	**22 50 50.0**	**+0.8**
LNCH	**Linares**	**0.63**	**116**	⇓iP	**Pb**	**22 50 42.4**	**+0.2**
LNCH				iS	**Sb**	**22 50 50.9**	**0.0**
NICH	**Los Niches**	**1.04**	**57**	⇑iP	**Pg**	**22 50 49.3**	**-0.2**
NICH				iS	**Sg**	**22 51 02.6**	**-0.6**
LNV	**Longovilo**	**1.77**	**25**	eP	**Pn**	**22 51 00.3**	**+0.5**
LNV				eS	**Sn**	**22 51 22.0**	**-0.2**
CACH	**El Canelo**	**2.02**	**44**	eP	**Pn**	**22 51 03.1**	**-0.2**
CHCH	**Chadas Angostu**	**2.13**	**40**	eP	**Pn**	**22 51 04.8**	**+0.1**
CHCH				eS	**Sn**	**22 51 29.8**	**-1.1**
TACH	**Talagante**	**2.22**	**31**	eP	**Pn**	**22 51 06.2**	**+0.2**
PCH	**Pirque**	**2.44**	**38**	eP	**Pn**	**22 51 09.2**	**+0.1**
CANA	**Caviahue**	**2.51**	**157**	eP	**Pn**	**22 51 10.2**	**+0.1**
CLCH	**Cerro Calan**	**2.62**	**34**	eP	**Pn**	**22 51 11.6**	**+0.1**
CLCH				iS	**Sn**	**22 51 42.1**	**-1.0**
CLCH				AML	AML	22 51 58.2	
	comp=E,982nm,0.5s						
PEL	**Peldehue**	**2.77**	**29**	eP	**Pn**	**22 51 13.6**	**+0.1**
PEL				AML	AML	22 52 03.8	
	comp=N,1μm,0.5s						
ROCH	**El Roble**	**2.81**	**23**	⇑iP	**Pn**	**22 51 14.7**	**+0.5**
ROCH				iS	**Sn**	**22 51 48.2**	**+0.2**
ROCH				AML	AML	22 52 01.2	
	comp=N,721nm,0.5s						
AAGR	**Agrelo**	**3.80**	**50**	iP	Pn	22 51 33.6	+5.9
AAGR				iP	Pn	22 51 33.6	+5.9
ARCO	**CERRO ARCO**	**3.90**	**47**	iP	Pn	22 51 33.6	+4.4
ARCO				iS	**Sg**	**22 52 36.6**	**+1.9**
ARCO				AML	AML	22 52 37.0	
	comp=Z,114nm,1.0s						
AUSP	**Uspallata**	**4.13**	**37**	iP	**Pn**	**22 51 33.9**	**+1.4**
ASAL	**Salagasta**	**4.14**	**45**	iP	**Pn**	**22 51 35.5**	**+3.1**
ASAL				iS	**Sg**	**22 52 40.3**	**-2.0**
RTLS	**Leoncito**	**4.52**	**34**	iP	**Pn**	**22 51 37.4**	**-0.4**
RTCV	**Cerro Valdivia**	**4.85**	**41**	iP	**Pn**	**22 51 42.2**	**+0.1**
CFAA	**Coronel Fontan**	**5.21**	**42**	P	**Pn**	**22 51 47.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=214,slow=12,SNR=17						
CFAA				S	**Sn**	**22 52 45.5**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=270,slow=20,SNR=1.9						
RTLL	**Cerro Villicun**	**5.31**	**38**	eP	**Pn**	**22 51 48.4**	**0.0**
PLCA	**Paso Flores**	**5.33**	**166**	P	**Pn**	**22 51 47.0**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=336,slow=14,SNR=9.3						
PLCA				Lg	Lg	22 53 06.0	
	comp=Z,0.3nm,0.3s,baz=58,slow=19,SNR=1.7						
PLCA	**Paso Flores**	**5.33**	**166**	ePn	**Pn**	**22 51 48.8**	**+0.1**
ACAN	**Cantantal**	**5.38**	**54**	eP	**Pn**	**22 51 51.2**	**+1.9**
AMOG	**MOGNA**	**5.62**	**36**	eP	**Pn**	**22 51 52.5**	**-0.2**
AVFE	**Valle Fertil**	**6.37**	**41**	eP	**Pn**	**22 52 01.8**	**-1.2**
LCO	**Las Campanas**	**6.69**	**12**	ePn	Pn	22 52 06.5	-1.0
LCO				eSn	**Sn**	**22 53 21.5**	**-2.2**
TRQA	**Tornquist**	**8.64**	**110**	ePn	**Pn**	**22 52 33.8**	**-0.3**
LPAZ	**La Paz**	**19.57**	**12**	P	**P**	**22 54 57.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=198,slow=9.5,SNR=11						
LPAZ	**La Paz**	**19.57**	**12**	eP	**P**	**22 54 57.0**	**-0.7**
SIV	**San Ignacio**	**21.93**	**30**	P	**P**	**22 55 21.1**	**-1.6**
	comp=Z,1.8nm,0.8s,baz=208,slow=9.1,SNR=4.4						
TXAR	**Lajitas Array**	**71.01**	**331**	P	P	23 01 45.7	-1.2
	comp=Z,0.1nm,0.4s,baz=147,slow=8.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**84.95**	**70**	P	P	23 03 00.2	-4.4
	comp=Z,0.4nm,0.8s,baz=230,slow=4.6,SNR=5.0						
BVAR	**Borovoye Array**	**148.56**	**45**	PKPbc	**PKPdf**	**23 10 11.7**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=294,slow=1.4,SNR=5.1						
KURBB	**Kurchatov Arra**	**154.14**	**45**	PKPbc	**PKPdf**	**23 10 23.3**	**+3.0**
	comp=Z,0.2nm,0.2s,baz=304,slow=2.1,SNR=3.3						

*ISCJB **04** 22:52:47.7±1.2, 10.49N±0.03×125.34E±0.05, h4km±7km, mb3.7/9, Error ellipse: s-maj=9.5km s-min=4.5km az=155.7*
*IDC **04** 22:52:47.6±0.9, 10.48N×124.97E, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.7/26, mbtmp3.7/9, MS2.6/1, Ms1 2.6/1, ms1mx2.3/34, Error ellipse: s-maj=70.9km s-min=16.0km az=70.0*
*MAN **04** 22:52:49, 10.43N×125.22E, h0km, mb4.5, ML3.4, MS3.3*
ISC 04 22:52:49.3±1.3**, 10.43N**±0.04×**125.25E**±0.05**, h11km**±10km**, n28, σ1.44**/30**, mb3.7**/9**, 2C-3D, Leyte**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.48**	**232**	eP	**Pg**	**22 52 58.4**	**-0.4**
MSLP				eS	**Sb**	**22 53 06.5**	**-0.6**
SCPH	**Surigao**	**0.69**	**160**	⇓iP	**Pb**	**22 53 03.0**	**-0.4**
SCPH				iS	**Sg**	**22 53 11.4**	**-0.4**
PLP	**Palo**	**0.77**	**340**	⇑eP	**Pb**	**22 53 04.5**	**-0.4**
PLP				eS	**Sb**	**22 53 16.2**	**+0.7**
OCLP	**Ormoc**	**0.88**	**314**	eP	**Pb**	**22 53 06.0**	**-0.6**
OCLP				eS	**Sb**	**22 53 17.8**	**-0.7**
BUTP	**Butuan**	**1.50**	**166**	eP	**Pn**	**22 53 14.3**	**-1.9**
BUTP				eS	**Sg**	**22 53 38.2**	**+0.5**
CGP	**Cagayan de Oro**	**2.04**	**196**	⇓eP	**Pn**	**22 53 24.6**	**+0.9**
CGP				eS	**Sg**	**22 53 53.6**	**-1.4**
CNP	**Catarman**	**2.14**	**345**	eP	**Pn**	**22 53 26.0**	**+0.9**
CNP				eS	**Sn**	**22 53 50.6**	**-1.2**
BIPH	**Bislig**	**2.49**	**154**	⇓eP	**Pg**	**22 53 37.0**	**-0.1**
BIPH				eS	**Sg**	**22 54 12.1**	**+2.7**
BUKP	**Musuan**	**2.54**	**184**	eP	**Pn**	**22 53 32.0**	**+1.3**
RCP	**Roxas**	**2.70**	**295**	⇑eP	**Pn**	**22 53 33.9**	**+1.2**
RCP				eS	**Sn**	**22 54 06.9**	**+1.4**
PAGZ	**Pagadian**	**3.16**	**216**	eP	**Pn**	**22 53 41.5**	**+2.4**
PVCP	**Virac**	**3.32**	**341**	eP	**Pn**	**22 53 43.6**	**+2.3**
GUMO	**Guam**	**19.45**	**79**	LR	LR	23 06 53.0	
	comp=Z,14nm,18.0s,baz=94,slow=43						
KSRS	**Korea Array**	**27.01**	**5**	P	**P**	**22 58 30.9**	**-0.6**
	0.5nm,0.3s,baz=183,slow=10,SNR=6.6						
WRA	**Warramunga Arr**	**31.48**	**163**	P	**P**	**22 59 11.8**	**+0.4**
	0.4nm,0.7s,baz=346,slow=9.5,SNR=2.7						
ASAR	**Alice Springs**	**34.93**	**166**	P	**P**	**22 59 41.4**	**-0.1**
	0.4nm,0.6s,baz=337,slow=7.2,SNR=5.8						
SONM	**Songino Array**	**40.52**	**340**	P	**P**	**23 00 27.9**	**-0.8**
	0.5nm,0.5s,baz=164,slow=9.1,SNR=3.8						
H11S3	**WAKE ISLAND Hy**	**40.84**	**74**	T	T	23 43 30.0	
	baz=261,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.85**	**74**	T	T	23 43 30.7	
	baz=261,slow=74						
H11S2	**WAKE ISLAND Hy**	**40.86**	**74**	T	T	23 43 31.8	
	baz=261						
H11N1	**WAKE ISLAND Hy**	**41.16**	**72**	T	T	23 43 59.9	
	baz=269,slow=74						
H11N2	**WAKE ISLAND Hy**	**41.17**	**72**	T	T	23 43 55.2	
	baz=269,slow=74						
H11N3	**WAKE ISLAND Hy**	**41.18**	**72**	T	T	23 43 57.0	
	baz=269,slow=74						
STKA	**Stephens Creek**	**44.89**	**160**	P	**P**	**23 01 06.7**	**+2.6**
	0.7nm,0.4s,baz=333,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**51.29**	**323**	P	**P**	**23 01 52.5**	**-1.0**
	1.6nm,0.8s,baz=126,slow=8.4,SNR=15						
ZALV	**Zalesovo Beam**	**54.01**	**332**	P	**P**	**23 02 11.3**	**-2.2**
	1.4nm,0.6s,baz=114,slow=6.5,SNR=8.0						
KURBB	**Kurchatov Arra**	**55.37**	**326**	P	**P**	**23 02 22.4**	**-1.0**
	0.9nm,0.6s,baz=128,slow=6.6,SNR=4.4						
BVAR	**Borovoye Array**	**60.96**	**326**	P	**P**	**23 03 00.5**	**-2.1**
	0.3nm,0.5s,baz=167,slow=7.0,SNR=4.3						

*IDC **04** 22:54:34.5±2.5, 6.81N×126.42E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/25, mbtmp3.8/7, Error ellipse: s-maj=304.8km s-min=17.9km az=66.0*
*ISCJB **04** 22:54:42.4±0.8, 6.60N±0.07×126.29E±0.08, h76km±6km, mb3.7/7, Error ellipse: s-maj=13.3km s-min=11.2km az=178.7*
*MAN **04** 22:54:45, 6.85N×126.23E, h61km, mb4.7, ML3.5, MS3.5*
ISC 04 22:54:43.3±1.0**, 6.62N**±0.07×**126.28E**±0.08**, h67km**±8km**, n17, σ1.71**/21**, mb3.9**/7**, 2C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.33**	**356**	eP	**Pn**	**22 54 54.2**	**-0.2**
MATI				eS	**Sn**	**22 55 03.4**	**+1.0**
GSPH	**General Santos**	**1.42**	**248**	eP	**Pn**	**22 55 06.3**	**-1.0**
GSPH				eS	**Sn**	**22 55 23.8**	**-1.5**
BIPH	**Bislig**	**1.56**	**3**	⇓eP	Pn	22 55 15.1	+6.1
BIPH				eS	Sn	22 55 35.4	+7.0
BUKP	**Musuan**	**1.74**	**316**	eP	**Pn**	**22 55 12.2**	**+0.7**
BUKP				eS	**Sn**	**22 55 28.2**	**-4.6**
CTBH	**Cotabato--PC H**	**2.10**	**287**	⇑iP	**Pn**	**22 55 18.3**	**+2.0**
CGP	**Cagayan de Oro**	**2.41**	**319**	⇑eP	**Pn**	**22 55 21.5**	**+1.0**
CGP				eS	**Sn**	**22 55 52.2**	**+3.3**
BUTP	**Butuan**	**2.43**	**344**	eP	**Pn**	**22 55 19.5**	**-1.2**
PAGZ	**Pagadian**	**3.12**	**293**	eP	**Pn**	**22 55 31.5**	**+1.3**
WRA	**Warramunga Arr**	**27.56**	**163**	P	**P**	**23 00 25.2**	**+1.0**
	0.5nm,0.4s,baz=345,slow=9.7,SNR=2.8						
ASAR	**Alice Springs**	**31.00**	**166**	P	**P**	**23 00 55.7**	**+0.9**
	0.4nm,0.5s,baz=347,slow=7.2,SNR=4.6						
STKA	**Stephens Creek**	**40.97**	**160**	P	**P**	**23 02 20.5**	**+0.7**
	0.8nm,0.4s,baz=336,slow=10.0,SNR=3.7						
SONM	**Songino Array**	**44.44**	**341**	PcP	**PcP**	**23 04 30.1**	**-0.4**
	0.6nm,0.7s,baz=160,slow=4.6,SNR=3.4						
MKAR	**Makanchi Array**	**54.95**	**324**	P	**P**	**23 04 07.1**	**-0.5**
	0.8nm,0.5s,baz=141,slow=7.1,SNR=14						
MKAR				PcP	**PcP**	**23 05 07.9**	**-0.9**
	0.3nm,0.7s,baz=114,slow=5.6,SNR=2.6						
ZALV	**Zalesovo Beam**	**57.83**	**332**	P	**P**	**23 04 27.1**	**-0.8**
	0.4nm,0.4s,baz=125,slow=8.2,SNR=3.5						
KURBB	**Kurchatov Arra**	**59.09**	**327**	P	**P**	**23 04 36.6**	**-0.1**
	0.5nm,0.3s,baz=127,slow=5.9,SNR=6.8						
BVAR	**Borovoye Array**	**64.68**	**326**	P	**P**	**23 05 14.1**	**-0.1**
	0.4nm,0.6s,baz=126,slow=7.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**121.56**	**290**	PKP	**PKPdf**	**23 13 29.8**	**-0.6**
	0.3nm,0.5s,baz=75,slow=1.5,SNR=8.1						

WEL 04 22:58:54.6±0.4**, 43.39S×176.31E, h33km, ML3.7**/23**, 2C-2D, Error ellipse: s-maj=4.3km s-min=3.1km az=90.0, Off east coast of South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRWZ	**Traveller**	**2.04**	**347**	PN	Pn	22 59 26.2	-0.4
KHZ	**Kahutara**	**2.25**	**295**	PN	Pn	22 59 28.3	-1.2
MTW	**Mount Morrison**	**2.31**	**345**	PN	Pn	22 59 29.5	-0.8
CAW	**Cannon Point**	**2.46**	**338**	PN	Pn	22 59 31.7	-0.6
HOWZ	**Holdsworth Sta**	**2.56**	**346**	PN	Pn	22 59 33.0	-0.8
TIWZ	**Tintock**	**2.63**	**353**	PN	Pn	22 59 33.9	-0.8
TCW	**Tory Channel**	**2.64**	**325**	PN	Pn	22 59 33.9	-1.0
MQZ	**McQueen's Vall**	**2.67**	**262**	⇑PN	Pn	22 59 34.2	-1.1
MQZ				SN	Sn	23 00 02.6	-4.0
OGWZ	**Otaki Gorge**	**2.70**	**341**	PN	Pn	22 59 35.2	-0.6
BFZ	**Birch Farm**	**2.71**	**359**	PN	Pn	22 59 35.0	-0.8
KIW	**Kapiti Island**	**2.73**	**337**	⇓PN	Pn	22 59 35.8	-0.3
MRZ	**Mangatainoka R**	**2.78**	**349**	⇑PN	Pn	22 59 36.1	-0.7
PRWZ	**Pori Road**	**2.84**	**355**	PN	Pn	22 59 37.3	-0.3
ANWZ	**Angora Road**	**2.93**	**3**	PN	Pn	22 59 38.0	-0.8
ANWZ				SN	Sn	23 00 09.7	-3.1
THZ	**Tophouse**	**2.99**	**302**	PN	Pn	22 59 39.0	-0.7
LTZ	**Lake Taylor**	**3.02**	**280**	PN	Pn	22 59 39.9	-0.2
POWZ	**Post Office Ro**	**3.02**	**352**	PN	Pn	22 59 39.9	-0.2
DVHZ	**Dannevirke**	**3.09**	**358**	PN	Pn	22 59 40.2	-0.9
PRHZ	**Porangahau**	**3.13**	**5**	PN	Pn	22 59 40.6	-0.9
WPHZ	**Waipukurau**	**3.32**	**2**	PN	Pn	22 59 43.5	-0.8
PNHZ	**Pukenui**	**3.47**	**359**	PN	Pn	22 59 45.8	-0.6
PNHZ				SN	Sn	23 00 21.8	-4.6
KAHZ	**Kahuranaki**	**3.62**	**7**	PN	Pn	22 59 47.2	-1.2
DSZ	**Denniston Nort**	**3.71**	**295**	PN	Pn	22 59 49.9	+0.3
KRHZ	**Kereru**	**3.74**	**1**	PN	Pn	22 59 49.4	-0.6
WAZ	**Wanganui**	**3.76**	**344**	PN	Pn	22 59 51.7	+1.4
BHHZ	**Black Hill Sta**	**3.90**	**357**	PN	Pn	22 59 52.1	-0.2
MCHZ	**McNeill Hill**	**3.95**	**4**	PN	Pn	22 59 52.3	-0.6
KWHZ	**Kaweka Forest**	**3.96**	**1**	PN	Pn	22 59 52.6	-0.6
MTVZ	**Mangateitei**	**4.05**	**351**	⇓PN	Pn	22 59 54.9	+0.6
TRVZ	**Turoa**	**4.12**	**352**	PN	Pn	22 59 56.0	+0.4
FWVZ	**Far West T-bar**	**4.17**	**352**	PN	Pn	22 59 56.6	+0.4
WPVZ	**Whakapapa**	**4.22**	**352**	PN	Pn	22 59 57.4	+0.7
BKZ	**Black Stump Fm**	**4.22**	**2**	PN	Pn	22 59 55.9	-0.8
COVZ	**Chateau Observ**	**4.22**	**352**	PN	Pn	22 59 57.3	+0.5
NGZ	**Ngauruhoe**	**4.24**	**353**	PN	Pn	22 59 57.4	+0.3
WTVZ	**West Tongariro**	**4.30**	**353**	PN	Pn	22 59 58.0	+0.2
KRVZ	**Karewarewa**	**4.32**	**353**	PN	Pn	22 59 58.5	+0.4
VRZ	**Vera Road**	**4.42**	**344**	PN	Pn	23 00 00.2	+1.0
KNZ	**Kokohu**	**4.48**	**14**	PN	Pn	22 59 58.3	-1.9
RIGZ	**Rimuhau**	**4.81**	**14**	PN	Pn	23 00 02.6	-2.1
HIZ	**Hauiti**	**4.99**	**347**	PN	Pn	23 00 07.1	-0.1
MWZ	**Matawai**	**5.13**	**11**	PN	Pn	23 00 07.0	-2.2
EAZ	**Earnscleugh**	**5.35**	**247**	PN	Pn	23 00 11.9	-0.2
TUZ	**Tuapeka**	**5.41**	**239**	PN	Pn	23 00 12.5	-0.4

*IDC **04** 22:59:58.2±1.5, 33.56S×72.19W, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.6/15, mbtmp3.5/4, ML3.7/2, Error ellipse: s-maj=64.1km s-min=32.9km az=78.0*
*SJA **04** 23:00:00.4±0.8, 33.55S×72.65W, h40km±422km, ML3.8*
*GUC **04** 23:00:03.3±0.6, 33.67S×72.01W, h15km±4km, ML3.6*
ISC 04 23:00:00.6±2.0**, 33.64S**±0.05×**72.09W**±0.06**, h15km**±11km**, n23, σ1.07**/38**, 7C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.64**	**119**	eP	**Pn**	**23 00 14.4**	**-0.8**
LNV				iS	**Sb**	**23 00 22.4**	**+0.1**
IHA	**Instituto Hidr**	**0.72**	**31**	eP	**Pn**	**23 00 16.2**	**-0.1**
TACH	**Talagante**	**0.96**	**91**	⇑iP	**Pb**	**23 00 19.3**	**+0.3**
TACH				iS	**Sb**	**23 00 31.2**	**-0.3**
RCDM	**Rinconada Maip**	**1.08**	**82**	⇑iP	**Pn**	**23 00 21.0**	**-0.2**
RCDM				iS	**Sb**	**23 00 34.6**	**-0.3**
ROCH	**El Roble**	**1.12**	**54**	⇑iP	**Pb**	**23 00 22.5**	**+0.7**
ROCH				iS	**Sn**	**23 00 37.6**	**+0.3**
ROCH				AML	AML	23 00 45.0	
	comp=N,2μm,0.4s						
SAN	**Santiago**	**1.20**	**81**	⇑iP	**Pb**	**23 00 23.4**	**+0.3**
SAN				iS	**Sb**	**23 00 38.5**	**-0.1**
CHCH	**Chadas Angostu**	**1.23**	**104**	⇑iP	**Pb**	**23 00 23.6**	**+0.1**
CHCH				iS	**Sb**	**23 00 39.3**	**0.0**
PEL	**Peldehue**	**1.27**	**67**	⇑iP	**Pb**	**23 00 25.1**	**+0.8**
PEL				iS	**Sb**	**23 00 41.6**	**+1.1**
PEL				AML	AML	23 00 44.1	
	comp=E,5μm,0.5s						
PCH	**Pirque**	**1.31**	**89**	⇑iP	**Pb**	**23 00 25.1**	**+0.1**
PCH				iS	**Sn**	**23 00 41.6**	**-0.2**
CLCH	**Cerro Calan**	**1.32**	**80**	eP	**Pb**	**23 00 25.6**	**+0.5**
CLCH				eS	**Sn**	**23 00 41.7**	**-0.3**
CLCH				AML	AML	23 00 48.1	
	comp=E,2μm,1.1s						
CACH	**El Canelo**	**1.32**	**111**	⇓iP	**Pg**	**23 00 26.2**	**+0.1**
CACH				iS	**Sb**	**23 00 42.8**	**+0.8**
SJCH	**San Jose de Ma**	**1.44**	**90**	eP	**Pn**	**23 00 26.4**	**+0.1**
SJCH				eS	**Sn**	**23 00 44.9**	**-0.2**
AUSP	**Uspallata**	**2.67**	**59**	iP	**Pb**	**23 00 49.2**	**+0.8**
AUSP				iS	**Sb**	**23 01 24.9**	**+3.8**
ARCO	**CERRO ARCO**	**2.76**	**74**	iP	**Pb**	**23 00 50.5**	**+0.7**
ARCO				iS	**Sg**	**23 01 28.4**	**-0.9**
ARCO				AML	AML	23 01 33.7	
	comp=Z,225nm,0.6s						
AAGR	**Agrelo**	**2.78**	**79**	iP	**Pb**	**23 00 51.0**	**+0.9**
ASAL	**Salagasta**	**2.92**	**70**	iP	**Pb**	**23 00 52.7**	**+0.2**
ASAL				iS	**Sb**	**23 01 31.0**	**+2.9**
RTLS	**Leoncito**	**2.98**	**53**	iP	**Pb**	**23 00 52.9**	**-0.8**
RTCV	**Cerro Valdivia**	**3.48**	**60**	iP	**Pb**	**23 01 00.4**	**-1.5**
RTCV				iP	**Pb**	**23 01 00.4**	**-1.5**
PLCA	**Paso Flores**	**7.18**	**171**	Pn	**Pn**	**23 01 46.9**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=352,slow=7.1,SNR=8.4						
PLCA				Lg	Lg	23 03 39.0	
	comp=Z,0.1nm,0.3s,baz=105,slow=20,SNR=2.9						
LPAZ	**La Paz**	**17.65**	**13**	P	**P**	**23 04 07.0**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=170,slow=6.7,SNR=2.9						
TXAR	**Lajitas Array**	**69.41**	**331**	P	**P**	**23 11 07.3**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=156,slow=8.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**84.13**	**70**	P	**P**	**23 12 31.4**	**0.0**
	comp=Z,0.6nm,0.7s,baz=245,slow=3.5,SNR=5.3						
ZALV	**Zalesovo Beam**	**153.95**	**32**	PKPbc	**PKPbc**	**23 19 58.5**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=296,slow=4.0,SNR=2.8						

GUC 04 23:26:01.4±0.6**, 33.70S×71.98W, h31km**±11km**, ML3.7, 6C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.54**	**119**	⇑iP	Pb	23 26 12.2	-0.3
LNV				iS	Sb	23 26 20.2	+0.1
TACH	**Talagante**	**0.87**	**88**	⇑iP	Pn	23 26 17.1	-0.4
TACH				iS	Sn	23 26 29.0	-0.2
RCDM	**Rinconada Maip**	**1.00**	**78**	eP	Pn	23 26 19.1	-0.3
RCDM				eS	Sn	23 26 32.5	+0.1
ROCH	**El Roble**	**1.08**	**49**	⇑iP	Pn	23 26 20.8	0.0
ROCH				iS	Sb	23 26 35.9	0.0
ROCH				AML	AML	23 26 42.9	
	comp=N,2μm,0.4s						
SAN	**Santiago**	**1.13**	**78**	eP	Pn	23 26 21.2	+0.2
SAN				iS	Sb	23 26 36.3	-0.4
CHCH	**Chadas Angostu**	**1.13**	**103**	eP	Pn	23 26 21.4	+0.3
PEL	**Peldehue**	**1.21**	**63**	⇑iP	Pn	23 26 23.0	+0.7
PEL				iS	Sb	23 26 39.3	0.0
PEL				AML	AML	23 26 42.0	
	comp=E,6μm,0.5s						
CACH	**El Canelo**	**1.22**	**111**	⇓iP	Pb	23 26 24.0	-0.1
CACH				iS	Sb	23 26 40.4	+0.7
PCH	**Pirque**	**1.22**	**87**	⇑iP	Pn	23 26 23.0	+0.5
PCH				eS	Sb	23 26 39.5	-0.2
CLCH	**Cerro Calan**	**1.24**	**76**	⇓iP	Pn	23 26 23.2	+0.5
CLCH				eS	Sb	23 26 39.8	-0.3
CLCH				AML	AML	23 26 46.0	
	comp=E,2μm,0.7s						
SJCH	**San Jose de Ma**	**1.36**	**88**	⇑iP	Pn	23 26 24.2	-0.1
SJCH				iS	Sb	23 26 42.7	-0.8

*ISCJB **04** 23:26:40.2±0.6, 6.23S±0.07×149.4E±0.1, h58km, mb4.1/11, MS3.2/4, Error ellipse: s-maj=18.2km s-min=7.8km az=20.6*
*IDC **04** 23:26:43.7±5.5, 6.30S×149.46E, h75km±49km, mb3.8/11, mb1 4.0/12, mb1mx3.9/18, mbtmp4.2/12, ML4.3/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/19, Error ellipse: s-maj=26.5km s-min=15.5km az=82.0*
*NEIC **04** 23:26:43.0±2.1, 6.31S×149.44E, h71km±19km, mb4.4/1, Error ellipse: s-maj=17.1km s-min=13.0km az=89.0*
ISC 04 23:26:41.7±0.7**, 6.26S**±0.09×**149.5E**±0.1**, h58km, n19, σ0.92**/21**, mb4.1**/11**, MS3.4**/4**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.89**	**216**	ePn	**Pn**	**23 27 39.3**	**+0.2**
PMG				eSn	**Sn**	**23 28 23.8**	**+0.3**
WRAB	**Tennant Creek**	**20.03**	**226**	eP	**P**	**23 31 09.0**	**-1.1**
	8.3nm,0.4s						
WRA	**Warramunga Arr**	**20.05**	**226**	P	**P**	**23 31 09.5**	**-0.7**
	1.0nm,0.3s,baz=49,slow=11,SNR=52						
WRA				PcP	**PcP**	**23 35 23.4**	**-0.9**
	baz=48,slow=1.9,SNR=2.6						
GUMO	**Guam**	**20.25**	**347**	LR	LR	23 39 21.8	
	comp=Z,21nm,19.7s,baz=122,slow=37						
DZM	**Mont Dzumac**	**22.69**	**136**	P	**P**	**23 31 39.1**	**+0.3**
	7.3nm,0.6s,baz=90,slow=24,SNR=5.6						
AS31	**Alice Springs**	**22.90**	**219**	eP	**P**	**23 31 40.3**	**-0.6**
ASAR	**Alice Springs**	**22.90**	**219**	P	**P**	**23 31 40.1**	**-0.8**
	6.7nm,0.5s,baz=55,slow=9.2,SNR=77						
ASAR				LR	LR	23 40 35.7	
	comp=Z,101nm,18.8s,baz=86,slow=36						
STKA	**Stephens Creek**	**26.53**	**195**	P	**P**	**23 32 15.2**	**+1.1**
	6.8nm,0.9s,baz=25,slow=8.5,SNR=9.8						
STKA				LR	LR	23 42 36.4	
	comp=Z,146nm,18.1s,baz=21,slow=36						
KSRS	**Korea Array**	**47.93**	**337**	P	**P**	**23 35 14.8**	**+0.3**
	0.8nm,0.4s,baz=154,slow=7.7,SNR=4.1						
KSAR	**Wonju Array Be**	**47.93**	**337**	P	**P**	**23 35 14.8**	**+0.3**
USRK	**Ussuriysk Ar.**	**52.66**	**344**	P	**P**	**23 35 50.2**	**+0.2**
	1.3nm,0.5s,baz=159,slow=6.2,SNR=4.1						
PETK	**Petropavlovsk-**	**59.55**	**6**	P	**P**	**23 36 40.0**	**+0.8**
	4.1nm,0.5s,baz=165,slow=8.6,SNR=10						
SONM	**Songino Array**	**65.86**	**330**	P	**P**	**23 37 22.9**	**+1.4**
	0.6nm,0.5s,baz=143,slow=5.9,SNR=8.7						
VNDA	**Vanda**	**71.52**	**177**	P	**P**	**23 37 56.4**	**+0.4**
	1.2nm,1.0s,baz=336,slow=7.3,SNR=4.5						
MKAR	**Makanchi Array**	**79.29**	**320**	P	**P**	**23 38 41.4**	**+0.3**
	0.2nm,0.5s,baz=106,slow=6.3,SNR=4.7						
ZALV	**Zalesovo Beam**	**80.57**	**327**	P	**P**	**23 38 47.3**	**-0.5**
	0.9nm,0.5s,baz=119,slow=6.4,SNR=5.1						
ZALV				LR	LR	00 16 34.5	
	comp=Z,16nm,18.2s,baz=248,slow=37						
ILAR	**Eielson Array**	**84.75**	**23**	P	**P**	**23 39 07.8**	**-1.5**
	0.9nm,0.7s,baz=256,slow=4.7,SNR=8.1						
TORD	**Torodi Ar. Bea**	**147.56**	**285**	PKPbc	**PKPbc**	**23 46 19.0**	**-1.6**
	0.8nm,0.5s,baz=82,slow=2.6,SNR=20						
BDFB	**Brasilia**	**152.17**	**142**	PKPbc	**PKPbc**	**23 46 30.9**	**-1.1**
	2.4nm,0.5s,baz=295,slow=1.3,SNR=4.3						
BDFB				PKPab	**PKPab**	**23 46 42.6**	**+0.9**
	3.8nm,0.6s,baz=139,slow=3.0,SNR=6.1						

*SJA **04** 23:51:07.1±0.5, 34.90S×72.72W, h40km, ML3.6*
*NEIC **04** 23:51:13.0, 34.41S×71.96W, h6km, ML3.6(GUC), After GUC.*
NEIC Felt [V] at Pichilemu and [II] at Navidad and Paredones.
*GUC **04** 23:51:13.8±0.5, 34.41S×71.96W, h6km±2km, ML3.6*
ISC 04 23:51:13.5±1.7**, 34.41S**±0.03×**71.95W**±0.08**, h2km**±12km**, n26, σ1.39**/37**, 5C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.63**	**45**	⇑iP	**Pg**	**23 51 26.7**	**+1.1**
LNV				iS	**Sg**	**23 51 34.7**	**+0.9**
NICH	**Los Niches**	**0.84**	**135**	⇑iP	**Pg**	**23 51 30.4**	**+0.8**
NICH				iS	**Sb**	**23 51 42.2**	**-0.3**
TALC	**Talca**	**1.02**	**165**	⇓iP	**Pg**	**23 51 33.0**	**-0.1**
TALC				iS	**Sg**	**23 51 47.1**	**+0.7**
TACH	**Talagante**	**1.13**	**49**	eP	**Pg**	**23 51 34.5**	**-0.6**
CHCH	**Chadas Angostu**	**1.17**	**67**	⇑iP	**Pg**	**23 51 35.5**	**-0.4**
IHA	**Instituto Hidr**	**1.40**	**11**	eP	**Pn**	**23 51 39.0**	**-1.0**
PCH	**Pirque**	**1.43**	**57**	eP	**Pn**	**23 51 39.6**	**-0.8**
PCH				iS	**Sb**	**23 51 58.9**	**-0.5**
SAN	**Santiago**	**1.43**	**49**	eS	**Sb**	**23 51 59.0**	**-0.6**
LNCH	**Linares**	**1.47**	**169**	⇑iP	**Pn**	**23 51 40.9**	**-0.1**
LNCH				iS	**Sb**	**23 52 00.5**	**0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CLCH	Cerro Calan	1.55	50	⇓iP	Pn	23 51 41.5	-0.6
CLCH				AML	AML	23 52 08.2	
	comp=E,1μm,0.7s						
ROCH	El Roble	1.63	29	⇑iP	Pn	23 51 41.8	-1.5
ROCH				iS	Sn	23 52 04.0	-1.0
ROCH				AML	AML	23 52 07.0	
	comp=N,1μm,0.4s						
PEL	Peldehue	1.64	40	eP	Pn	23 51 42.8	-0.5
PEL				iS	Sn	23 52 05.3	+0.3
PEL				AML	AML	23 52 10.0	
	comp=N,2μm,0.5s						
AAGR	Agrelo	2.91	64	iP	Pb	23 52 04.5	-1.7
AAGR				iP	Pb	23 52 04.5	-1.7
ARCO	CERRO ARCO	2.96	59	iP	Pb	23 52 05.8	-1.2
ARCO				iS	Sg	23 52 48.6	0.0
ARCO				AML	AML	23 52 51.7	
	comp=Z,88nm,0.5s						
AUSP	Uspallata	3.06	45	iP	Pb	23 52 07.3	-1.4
AUSP				iS	Sg	23 52 52.0	+0.3
ASAL	Salagasta	3.17	56	iP	Pb	23 52 08.4	-2.1
RTLS	Leoncito	3.42	41	iP	Pb	23 52 12.5	-2.4
RTLS				iS	Sb	23 53 00.5	+3.4
RTCV	Cerro Valdivia	3.82	49	eP	Pb	23 52 20.5	-1.1
CFAA	Coronel Fontan	4.18	49	eP	Pn	23 52 20.5	+2.2
RTLL	Cerro Villicun	4.24	45	eP	Pn	23 52 21.2	+2.1
ACAN	Cantantal	4.51	63	eP	Pn	23 52 26.6	+3.7
AMOG	MOGNA	4.52	41	eP	Pn	23 52 25.1	+2.1
LCO	Las Campanas	5.48	12	ePn	Pn	23 52 35.8	-0.5
LCO				eSb	Sb	23 53 58.3	+2.0
PLCA	Paso Flores	6.41	170	ePn	Pn	23 52 50.2	+1.2
TRQA	Tornquist	8.84	117	ePn	Pn	23 53 23.1	+0.9
LPAZ	La Paz	18.36	12	ePn	P	23 55 31.1	+1.1

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*UPP **04** 23:51:30.6, 67.°83N×20.°20E, h0km, ML1.1, Mining explosion.*

*CSEM **04** 23:51:30.2±0.2, 67.°83N×20.°23E, h2km, ML1.1, Error ellipse: s-maj=4.5km s-min=3.8km az=9.0, Mining explosion.*

HEL 04 23:51:31.1±0.1**, 67.°83N×20.°20E, h0km, ML1.6, ML1.1**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	22	iP	Pg	23 51 33.4	-0.4
KUA				iS	Sg	23 51 35.4	-0.1
KUA	Kurravaara	0.14	22	P	Pg	23 51 33.3	-0.5
KUA				S	Sg	23 51 35.4	-0.2
NIKU	Nikkaluokta	0.44	276	iP	Pg	23 51 39.0	-0.6
NIKU				iS	Sg	23 51 44.7	-0.7
NIKU	Nikkaluokta	0.44	276	P	Pg	23 51 39.0	-0.6
NIKU				S	Sg	23 51 44.7	-0.7
NIKU	Nikkaluokta	0.44	276	P	Pn	23 51 44.7	0.0
MASU	Masugnsbyn	0.78	118	iP	Pg	23 51 45.4	-0.8
MASU	Masugnsbyn	0.78	118	P	Pg	23 51 45.3	-0.8
SALU	Saltoluokta	0.79	236	iP	Pg	23 51 45.4	-0.9
SALU	Saltoluokta	0.79	236	P	Pg	23 51 45.4	-0.9
KIF	Kilpisjarvi	1.20	10	ePB	Pg	23 51 54.2	+0.1
KIF				eS	Sg	23 52 09.3	-0.3
KIF	Kilpisjarvi	1.20	10	Pb	Pg	23 51 54.1	0.0
KIF				S	Sg	23 52 09.3	-0.4
PAJU	Pajala	1.38	124	eP	Pg	23 51 55.5	-2.1
PAJU	Pajala	1.38	124	P	Pg	23 51 55.5	-2.2
PAJU	Pajala	1.38	124	P	Pb	23 52 01.0	+3.1
HEF	Hetta	1.42	64	ePG	Pn	23 51 56.7	-1.5
	baz=250						
HEF				MSG		23 52 13.2	
	comp=Z,4.9nm,0.2s						
HEF				eSN	Sn	23 52 19.8	+2.2
HEF	Hetta	1.42	64	Pg	Pn	23 51 56.6	-1.6
HEF				Sn	Sn	23 52 19.8	+2.2
ERTU	Ertsjaerv	1.50	148	ePG	Pn	23 51 58.1	-1.1
ERTU				eSN	Sn	23 52 20.0	+0.7
ERTU	Ertsjaerv	1.50	148	P	Pn	23 51 58.1	-1.1
ERTU				Sn	Sn	23 52 20.0	+0.6
SGF	Sodankyl	2.45	96	ePB	Pn	23 52 13.8	+1.5
SGF	Sodankyl	2.45	96	Pb	Pn	23 52 13.7	+1.4
RNF	Rovaniemi	2.57	116	ePB	Pn	23 52 15.4	+1.5
RNF				eSB	Sb	23 52 48.6	-1.6
RNF	Rovaniemi	2.57	116	Pb	Pn	23 52 15.4	+1.5
RNF				Sb	Sb	23 52 48.6	-1.6
	comp=Z,1.4nm,0.2s						
KEV	Kevo	3.14	49	MSG		23 53 02.9	
	comp=Z,1.4nm,0.2s						
KEV				eSG	Sb	23 53 06.7	+0.2

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*CSEM **04** 23:51:30.8±2.5, 68.°24N×20.°84E, h1km, ML1.2, Error ellipse: s-maj=68.7km s-min=20.3km az=173.0, Mining explosion.*

UPP 04 23:51:35.8, 67.°82N×20.°26E, h0km, ML1.2, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	12	P	Pg	23 51 38.6	+0.2
KUA				S	Sg	23 51 40.5	+0.3

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*IDC **04** 23:55:45.0±1.1, 38.°48N×21.°81E, h0km, mb3.4/7, mb1 3.4/11, mb1mx3.3/38, mbtmp3.3/11, ML2.7/4, Error ellipse: s-maj=19.7km s-min=19.1km az=172.0*

*ISCJB **04** 23:55:45.4±0.2, 38.°41N±0.°01×21.°82E±0.°01, h5km±2km, mb3.4/6, Error ellipse: s-maj=1.9km s-min=1.8km az=179.7*

*IASPEI **04** 23:55:45.9±0.8, 38.°42N±0.°01×21.°82E±0.°02, h9km±5km, mb3.4/6, Error ellipse: s-maj=2.3km s-min=2.0km az=128.4*

*ATH **04** 23:55:45.9, 38.°42N×21.°83E, h13km±1km, MD3.4/46, ML3.2*

*CSEM **04** 23:55:46.2±0.1, 38.°39N×21.°82E, h10km, MD3.4, Error ellipse: s-maj=2.7km s-min=2.7km az=176.0*

*THE **04** 23:55:46.0, 38.°39N×21.°84E, h0km±2km, ML3.3/21, Error ellipse: s-maj=2.6km s-min=0.7km az=86.0*

ISC 04 23:55:46.1±0.8**, 38.°42N**±0.°01×**21.°81E**±0.°01**, h8**km±5km**, n254, σ0.s99**/331**, mb3.4**/6**, 5C-7D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EFP	Efpalio	0.07	82	P	Pg	23 55 47.6	-0.5
EFP				S	Sg	23 55 49.2	-0.3
EFP	Efpalio	0.07	82	ePG	Pg	23 55 47.7	-0.4
EFP				eSG	Sg	23 55 49.3	-0.3
UPR	University Cam	0.13	189	P	Pg	23 55 49.1	+0.1
UPR				S	Sg	23 55 51.1	0.0
UPR	University Cam	0.13	189	P	Pg	23 55 49.1	+0.1
KALE	Kalithea	0.26	96	P	Pg	23 55 50.7	-0.5
KALE				S	Sg	23 55 55.0	+0.3
KALE	Kalithea	0.26	96	ePG	Pg	23 55 50.8	-0.5
KALE				eSG	Sg	23 55 55.3	+0.6
PVO	Paravola	0.30	312	P	Pg	23 55 51.9	-0.2
PVO				S	Sb	23 55 57.9	-0.9
RLS	Riolos of Patr	0.45	218	P	Pg	23 55 54.9	+0.1
RLS				S	Sb	23 56 02.5	-0.6
RLS	Riolos of Patr	0.45	218	ePB	Pg	23 55 55.0	+0.1
RLS				eSB	Sb	23 56 02.4	-0.6
RLS	Riolos of Patr	0.45	218	P	Pg	23 55 54.9	+0.1
RLS				eSb	Sb	23 56 02.4	-0.6
KLV	Kalavryta, Ach	0.46	144	P	Pg	23 55 54.4	-0.6
KLV				S	Sg	23 56 01.0	-0.1
KLV	Kalavryta, Ach	0.46	144	ePB	Pg	23 55 54.5	-0.6
KLV				eSB	Sg	23 56 00.9	-0.1
KLV	Kalavryta, Ach	0.46	144	P	Pg	23 55 54.4	-0.6
KLV				eSb	Sg	23 56 00.9	-0.1
DRO	Drossia	0.47	190	P	Pg	23 55 54.8	-0.4
DRO				S	Sg	23 56 02.3	+0.9
DRO	Drossia	0.47	190	ePG	Pg	23 55 55.0	-0.2
DRO				eSB	Sb	23 56 02.9	-0.8
DRO	Drossia	0.47	190	ePg	Pg	23 55 55.0	-0.2
DRO				S	Sg	23 56 02.3	+0.9
EVR	Evrytania	0.50	359	P	Pg	23 55 55.2	-0.6
EVR				S	Sb	23 56 04.0	-0.7
EVR	Evrytania	0.50	359	ePB	Pg	23 55 55.5	-0.3
EVR				eSB	Sg	23 56 02.8	+0.4
PDO	Prodromos	0.53	290	P	Pg	23 55 55.3	-1.0
PDO				S	Sb	23 56 04.9	-0.4
PDO	Prodromos	0.53	290	ePB	Pg	23 55 55.7	-0.6
PDO				eSB	Sb	23 56 04.8	-0.5
PDO	Prodromos	0.53	290	P	Pg	23 55 55.3	-1.0
PDO				S	Sb	23 56 04.9	-0.4
DSF	Desfina	0.56	90	P	Pg	23 55 55.7	-1.2
DSF				S	Sg	23 56 04.7	+0.4
DSF	Desfina	0.56	90	ePB	Pg	23 55 55.8	-1.2
DSF				eSB	Sg	23 56 04.2	-0.1
DSF	Desfina	0.56	90	P	Pg	23 55 55.7	-1.2
DSF				S	Sg	23 56 04.7	+0.4
GUR	Goura	0.64	139	P	Pg	23 55 57.3	-1.1
GUR	Goura	0.64	139	ePB	Pg	23 55 57.4	-1.0
GUR				eSB	Sg	23 56 07.2	+0.5
GUR	Goura	0.64	139	P	Pg	23 55 57.3	-1.1
GUR				eSb	Sg	23 56 07.2	+0.5
MAKR	Makrakomi, Fth	0.65	23	P	Pg	23 55 58.2	-0.3
MAKR				S	Sb	23 56 08.8	0.0
MAKR	Makrakomi, Fth	0.65	23	ePB	Pg	23 55 58.3	-0.3
MAKR				eSB	Sb	23 56 08.9	+0.1
MAKR	Makrakomi, Fth	0.65	23	P	Pg	23 55 58.2	-0.3
MAKR				S	Sb	23 56 08.8	0.0
VTN	Vitineika	0.70	225	P	Pg	23 55 59.3	-0.3
VTN	Vitineika	0.70	225	P	Pg	23 55 59.3	-0.3
AGG	Agios Georgios	0.73	34	ePG	Pg	23 55 59.5	-0.6
AGG				eSG	Sb	23 56 10.7	-0.5
AGG	Agios Georgios	0.73	34	P	Pg	23 55 59.2	-0.9
AGG				S	Sb	23 56 10.6	-0.5
AGG	Agios Georgios	0.73	34	ePG	Pg	23 55 59.4	-0.7
AGG				eSB	Sb	23 56 10.6	-0.5
AGG	Agios Georgios	0.73	34	P	Pg	23 55 59.2	-0.9
AGG	Agios Georgios	0.73	34	ePg	Pg	23 55 59.5	-0.6
AGG				S	Sb	23 56 10.6	-0.5
AXAR	Agios Charalam	0.75	62	P	Pg	23 55 59.3	-1.2
AXAR				S	Sb	23 56 11.5	-0.2
AXAR	Agios Charalam	0.75	62	ePG	Pg	23 55 59.7	-0.8
AXAR				eSB	Sb	23 56 11.5	-0.2
AXAR	Agios Charalam	0.75	62	P	Pg	23 55 59.3	-1.2
AXAR				S	Sb	23 56 11.5	-0.2
KFL	Anninata	0.86	250	P	Pg	23 56 01.9	-0.8
KFL				S	Sb	23 56 15.5	+0.5
KFL	Anninata	0.86	250	P	Pg	23 56 01.9	-0.8
KFL				S	Sb	23 56 15.5	+0.5
AMT	Artemida-Makis	0.89	185	P	Pg	23 56 03.0	-0.1
AMT				S	Sg	23 56 15.3	+0.6
AMT	Artemida-Makis	0.89	185	ePB	Pg	23 56 03.0	-0.1
AMT				eSB	Sb	23 56 16.9	+1.2
AMT	Artemida-Makis	0.89	185	P	Pg	23 56 03.0	-0.1
AMT				S	Sg	23 56 15.3	+0.6
DSL	Palaion Diasel	0.91	322	P	Pg	23 56 02.0	-1.6
DSL	Palaion Diasel	0.91	322	ePB	Pg	23 56 02.5	-1.1
DSL				eSB	Sg	23 56 15.7	+0.2
DSL	Palaion Diasel	0.91	322	P	Pg	23 56 02.0	-1.6
LKR	Lokris	0.96	76	P	Pg	23 56 02.9	-1.6
LKR				S	Sg	23 56 17.2	+0.2
LKR	Lokris	0.96	76	ePG	Pg	23 56 03.2	-1.3
LKR				eSB	Sg	23 56 17.4	+0.4
LKR	Lokris	0.96	76	P	Pg	23 56 02.9	-1.6
LKR				eSb	Sg	23 56 17.4	+0.4
LKD2	Lefkada island	0.98	293	P	Pg	23 56 03.8	-1.1
LKD2	Lefkada island	0.98	293	ePG	Pg	23 56 04.3	-0.6
LKD2	Lefkada island	0.98	293	P	Pg	23 56 03.8	-1.1
LKD2	Lefkada island	0.98	293	ePg	Pg	23 56 04.3	-0.6
ATAL	Atalanti	0.99	73	P	Pg	23 56 03.4	-1.6
ATAL				S	Sg	23 56 17.9	+0.1
ATAL	Atalanti	0.99	73	P	Pg	23 56 03.4	-1.6
ATAL				S	Sg	23 56 17.9	+0.1
LTK	Loutraki	0.99	113	P	Pg	23 56 04.4	-0.7
LTK	Loutraki	0.99	113	ePB	Pg	23 56 04.6	-0.5
LTK				eSB	Sg	23 56 18.0	+0.1
LTK	Loutraki	0.99	113	P	Pg	23 56 04.4	-0.7
LTK				eSb	Sg	23 56 18.0	+0.1
VLS	Valsamata	0.99	256	P	Pg	23 56 03.6	-1.6
VLS				S	Sb	23 56 18.7	0.0
VLS	Valsamata	0.99	256	ePB	Pg	23 56 03.8	-1.4
VLS				eSB	Sb	23 56 19.3	+0.6
VLS	Valsamata	0.99	256	P	Pg	23 56 03.6	-1.6
VLS				S	Sb	23 56 18.7	0.0
VLS				eSb	Sb	23 56 19.3	+0.6
ZKS	Zakynthos	1.08	229	P	Pg	23 56 05.8	-1.1
ZKS	Zakynthos	1.08	229	ePG	Pg	23 56 06.1	-0.8
ZKS	Zakynthos	1.08	229	P	Pg	23 56 05.8	-1.1
ZKS	Zakynthos	1.08	229	ePg	Pg	23 56 06.1	-0.8
VLX	Vlachokerasia	1.14	157	P	Pg	23 56 06.2	-1.7
VLX	Vlachokerasia	1.14	157	ePB	Pg	23 56 06.4	-1.5
VLX				eSB	Sn	23 56 24.4	+0.3
VLX	Vlachokerasia	1.14	157	ePb	Pg	23 56 06.4	-1.5
THL	Klokotos Trika	1.16	8	P	Pg	23 56 07.4	-0.9
THL	Klokotos Trika	1.16	8	ePN	Pg	23 56 07.5	-0.9
THL				eSB	Sg	23 56 23.3	-0.1
THL	Klokotos Trika	1.16	8	P	Pg	23 56 07.4	-0.9
VIL2	Platees	1.16	100	ePB	Pn	23 56 08.9	+0.3
VIL2				eSB	Sn	23 56 26.4	+1.8
SMIA	Simia	1.19	67	ePB	Pn	23 56 09.1	+0.1
SMIA				eSB	Sb	23 56 24.8	+0.5
SMIA	Simia	1.19	67	ePb	Pn	23 56 09.1	+0.1
SMIA				eSb	Sb	23 56 24.8	+0.5
VILL	Villia	1.21	102	P	Pb	23 56 08.5	-0.7
VILL	Villia	1.21	102	P	Pb	23 56 08.5	-0.7
VILL	Villia	1.21	102	ePb	Pb	23 56 08.9	-0.3
VILL				eSb	Sn	23 56 26.4	+0.6
ITM	Ithomi	1.24	176	P	Pn	23 56 08.4	-1.3
ITM	Ithomi	1.24	176	ePN	Pn	23 56 08.9	-0.8
ITM				eSB	Sn	23 56 27.8	+1.3
ITM	Ithomi	1.24	176	P	Pn	23 56 08.4	-1.3
ITM	Ithomi	1.24	176	ePn	Pn	23 56 08.9	-0.8
FYTO	Fytoko, Volos	1.32	41	P	Pb	23 56 11.1	0.0
FYTO	Fytoko, Volos	1.32	41	P	Pb	23 56 11.1	0.0
SFD	Strofades	1.32	209	ePB	Pg	23 56 11.9	+0.4
NEO	Neokhori	1.41	51	ePG	Pn	23 56 12.1	0.0
NEO				eSB	Sg	23 56 32.4	+0.8
NEO	Neokhori	1.41	51	ePg	Pn	23 56 12.1	0.0
NEO				eSb	Sg	23 56 32.4	+0.8
MRKA	Markates	1.42	78	P	Pn	23 56 12.0	-0.2
MRKA	Markates	1.42	78	ePB	Pg	23 56 13.2	-0.1
MRKA				eSB	Sg	23 56 32.5	+0.7
MRKA	Markates	1.42	78	P	Pn	23 56 12.0	-0.2
MRKA	Markates	1.42	78	ePb	Pg	23 56 13.2	-0.1
MRKA				eSb	Sg	23 56 32.5	+0.7
XOR	Xorichti	1.43	48	P	Pn	23 56 12.2	-0.2
XOR	Xorichti	1.43	48	ePG	Pn	23 56 12.5	+0.1
XOR				eSB	Sg	23 56 32.0	-0.2
XOR	Xorichti	1.43	48	P	Pn	23 56 12.2	-0.2
XOR	Xorichti	1.43	48	ePg	Pn	23 56 12.5	+0.1
XOR				eSb	Sg	23 56 32.0	-0.2
DID	Didima	1.45	129	P	Pn	23 56 12.2	-0.3
DID	Didima	1.45	129	ePG	Pn	23 56 12.7	+0.2
DID				eSB	Sg	23 56 33.1	+0.5
DID	Didima	1.45	129	P	Pn	23 56 12.2	-0.3
DID	Didima	1.45	129	ePg	Pn	23 56 12.7	+0.2
JAN	Janina	1.45	329	P	Pg	23 56 13.7	-0.2
JAN	Janina	1.45	329	ePB	Pg	23 56 13.7	-0.2
JAN	Janina	1.45	329	P	Pg	23 56 13.7	-0.2
NAIG	Nisos Aigina	1.48	116	ePG	Pn	23 56 12.9	0.0
NAIG	Nisos Aigina	1.48	116	ePg	Pn	23 56 12.9	0.0
PYL	PYLOS	1.52	182	P	Pn	23 56 13.7	+0.2
PYL	PYLOS	1.52	182	ePN	Pn	23 56 13.2	-0.3
PYL	PYLOS	1.52	182	ePn	Pn	23 56 13.2	-0.3
PYL	PYLOS	1.52	182	P	Pn	23 56 13.7	+0.2
ATH	Athens Observa	1.56	106	ePG	Pn	23 56 14.1	0.0
ATH				eSB	Sg	23 56 36.2	-0.1
ATH	Athens Observa	1.56	106	ePg	Pn	23 56 14.1	0.0
IGT	Igoumenitsa	1.60	314	P	Pb	23 56 15.6	-0.4
IGT	Igoumenitsa	1.60	314	ePB	Pb	23 56 16.4	+0.4
IGT	Igoumenitsa	1.60	314	P	Pb	23 56 15.6	-0.4
IGT	Igoumenitsa	1.60	314	ePb	Pb	23 56 16.4	+0.4
PTL	Penteli	1.66	102	ePB	Pn	23 56 15.4	0.0
PTL				eSB	Sb	23 56 37.8	0.0
PTL	Penteli	1.66	102	ePb	Pn	23 56 15.4	0.0
PTL				eSb	Sb	23 56 37.8	0.0
SGD	Sagiada	1.71	315	P	Pb	23 56 18.1	+0.3
SGD	Sagiada	1.71	315	ePG	Pb	23 56 18.4	+0.6
SGD	Sagiada	1.71	315	P	Pb	23 56 18.1	+0.3
SGD	Sagiada	1.71	315	ePg	Pb	23 56 18.4	+0.6
LIT	Litokhoron	1.76	17	P	Pb	23 56 18.1	-0.5
LIT	Litokhoron	1.76	17	ePN	Pb	23 56 18.3	-0.3
LIT	Litokhoron	1.76	17	P	Pb	23 56 18.1	-0.5
AOS	Alonnisos	1.78	64	ePN	Pn	23 56 14.8	-2.3
AOS	Alonnisos	1.78	64	ePN	Pn	23 56 17.6	+0.5
AOS	Alonnisos	1.78	64	ePn	Pn	23 56 17.6	+0.5
KZN	Kozani	1.89	359	P	Pb	23 56 20.2	-0.6
KZN	Kozani	1.89	359	ePN	Pb	23 56 20.1	-0.7
KZN	Kozani	1.89	359	ePn	Pb	23 56 20.1	-0.7
VLI	Veliai	1.92	152	P	Pn	23 56 19.1	+0.1
VLI	Veliai	1.92	152	ePN	Pn	23 56 19.7	+0.7
VLI	Veliai	1.92	152	P	Pn	23 56 19.1	+0.1
VLI	Veliai	1.92	152	ePn	Pn	23 56 19.7	+0.7
KEK	Kerkira	2.03	310	P	Pb	23 56 22.1	-1.2
KEK	Kerkira	2.03	310	ePN	Pb	23 56 22.4	-0.9
KEK	Kerkira	2.03	310	P	Pb	23 56 22.1	-1.2
KEK	Kerkira	2.03	310	ePn	Pb	23 56 22.4	-0.9
NEST	Nestorio	2.08	344	P	Pb	23 56 24.9	+0.8
NEST	Nestorio	2.08	344	ePG	Pb	23 56 24.5	+0.4
NEST	Nestorio	2.08	344	ePg	Pb	23 56 24.5	+0.4
NEST	Nestorio	2.08	344	P	Pb	23 56 24.9	+0.8
PAIG	Paliouri	2.09	43	ePB	Pn	23 56 21.3	-0.1
PAIG	Paliouri	2.09	43	ePb	Pn	23 56 21.3	-0.1
PLG	Polygyros	2.33	32	P	Pn	23 56 25.9	+1.2
PLG	Polygyros	2.33	32	ePN	Pn	23 56 25.8	+1.1
PLG	Polygyros	2.33	32	ePn	Pn	23 56 25.8	+1.1
KYTH	Kithira	2.34	155	P	Pn	23 56 21.2	-3.7
KYTH	Kithira	2.34	155	ePN	Pb	23 56 27.4	-1.2
KYTH	Kithira	2.34	155	P	Pn	23 56 21.2	-3.7
THE	Thessaloniki	2.38	22	ePN	Pn	23 56 26.8	+1.4
THE	Thessaloniki	2.38	22	ePn	Pn	23 56 26.8	+1.4
FNA	Florina	2.39	352	ePN	Pn	23 56 27.2	+1.6
FNA	Florina	2.39	352	P	Pn	23 56 27.1	+1.6
FNA	Florina	2.39	352	ePN	Pn	23 56 27.3	+1.8
FNA				eSN	Sb	23 56 57.9	-1.1
FNA	Florina	2.39	352	P	Pn	23 56 27.1	+1.6
FNA				eSn	Sb	23 56 57.9	-1.1
HORT	Hortiatis	2.40	24	ePN	Pn	23 56 26.0	+0.3
HORT	Hortiatis	2.40	24	ePB	Pn	23 56 26.1	+0.5
HORT	Hortiatis	2.40	24	ePn	Pn	23 56 26.0	+0.3
OUR	Ouranopolis	2.55	41	ePN	Pn	23 56 27.0	-0.6
OUR	Ouranopolis	2.55	41	ePB	Pn	23 56 28.3	+0.7
OUR				eSN	Sn	23 57 01.2	+2.4
OUR	Ouranopolis	2.55	41	ePn	Pn	23 56 27.0	-0.6
OUR	Ouranopolis	2.55	41	ePb	Pn	23 56 28.3	+0.7
OUR				eSn	Sn	23 57 01.2	+2.4
GRG	Griva	2.58	10	ePN	Pn	23 56 29.4	+1.3
GRG	Griva	2.58	10	P	Pn	23 56 30.0	+1.9
GRG	Griva	2.58	10	ePN	Pn	23 56 30.0	+1.9
GRG	Griva	2.58	10	P	Pn	23 56 30.0	+1.9
SOH	Sokhos	2.68	26	P	Pn	23 56 29.2	-0.3
SOH	Sokhos	2.68	26	ePB	Pn	23 56 30.3	+0.8
SOH				eSN	Sn	23 57 02.8	+0.6
SOH	Sokhos	2.68	26	P	Pn	23 56 29.2	-0.3
SOH	Sokhos	2.68	26	ePb	Pn	23 56 30.3	+0.8
SOH				eSn	Sn	23 57 02.8	+0.6
OHR	Ohrid	2.80	344	ePn	Pb	23 56 35.1	-1.3
OHR	Ohrid	2.80	344	ePn	Pb	23 56 35.1	-1.3
ANKY	Antikythira Is	2.81	155	ePN	Pn	23 56 32.7	+1.5
KNT	Kendrikon	2.87	17	ePN	Pn	23 56 32.8	+0.7
KNT	Kendrikon	2.87	17	P	Pn	23 56 32.5	+0.4
KNT	Kendrikon	2.87	17	ePB	Pn	23 56 34.0	+1.9
KNT	Kendrikon	2.87	17	P	Pn	23 56 32.5	+0.4
KNT	Kendrikon	2.87	17	ePn	Pn	23 56 32.8	+0.7
KNT	Kendrikon	2.87	17	ePb	Pn	23 56 34.0	+1.9
VAY	Valandovo	2.96	11	ePn	Pb	23 56 39.1	0.0
VAY	Valandovo	2.96	11	ePn	Pb	23 56 39.0	0.0
LIA	Limnos Island	3.01	59	ePN	Pn	23 56 34.8	+0.8
LIA	Limnos Island	3.01	59	ePn	Pn	23 56 34.8	+0.8
SRS	Serrai	3.02	26	P	Pn	23 56 34.9	+0.7
SRS	Serrai	3.02	26	ePN	Pn	23 56 34.9	+0.7
SRS	Serrai	3.02	26	P	Pn	23 56 34.9	+0.7
APE	Apeiranthos	3.24	113	ePN	Pn	23 56 37.2	0.0
APE	Apeiranthos	3.24	113	ePN	Pn	23 56 37.5	+0.3
APE	Apeiranthos	3.24	113	⇑iP	Pn	23 56 37.6	+0.3
APE	Apeiranthos	3.24	113	S	Sn	23 57 14.4	-1.5
APE	Apeiranthos	3.24	113	ePn	Pn	23 56 37.5	+0.3
NVR	Nevrokopi	3.33	28	P	Pn	23 56 40.3	+1.9
NVR	Nevrokopi	3.33	28	ePN	Pn	23 56 40.3	+1.9
NVR	Nevrokopi	3.33	28	P	Pn	23 56 40.3	+1.9
CHOS	Chios island	3.33	89	ePN	Pn	23 56 38.0	-0.5
CHOS	Chios island	3.33	89	ePN	Pn	23 56 39.0	+0.5
CHOS	Chios island	3.33	89	ePn	Pn	23 56 39.0	+0.5
KARN	Karanos	3.45	150	ePN	Pn	23 56 41.7	+1.6
MMB	Musomiste	3.49	24	⇑iP	Pn	23 56 42.1	+1.4
MMB	Musomiste	3.49	24	S	Sn	23 57 23.6	+1.4
MMB	Musomiste	3.49	24	⇑iP	Pn	23 56 42.1	+1.4
SMTH	Samothraki Isl	3.53	53	ePN	Pn	23 56 43.2	+2.0
SMTH	Samothraki Isl	3.53	53	ePn	Pn	23 56 43.2	+2.0
VAM	Vamos	3.56	147	ePN	Pn	23 56 43.1	+1.5
PRK	Paraskevi	3.58	75	ePN	Pn	23 56 44.6	+2.8
PRK	Paraskevi	3.58	75	ePn	Pn	23 56 44.6	+2.8
GADA	Gvkgeada	3.63	60	ePN	Pn	23 56 41.3	-1.2
GADA	Gvkgeada	3.63	60	ePn	Pn	23 56 41.3	-1.2
RDO	Rodhopi	3.96	45	ePN	Pn	23 56 48.3	+1.3
RDO	Rodhopi	3.96	45	ePn	Pn	23 56 48.3	+1.3
IDI	Anoyia	3.98	141	Pn	Pn	23 56 47.6	+0.2
	0.6nm,0.3s,baz=328,slow=17,SNR=9.0						
IDI				Sn	Sn	23 57 34.2	0.0
	1.0nm,0.3s,baz=38,slow=9.4,SNR=3.6						
GVD	Gavdhos	4.01	152	ePN	Pn	23 56 49.0	+1.2
SMG	Samos	4.03	99	ePN	Pn	23 56 48.7	+0.7
SMG	Samos	4.03	99	ePn	Pn	23 56 48.7	+0.7
GELI	Tayfur-Gelibol	4.12	60	ePN	Pn	23 56 48.8	-0.4
GELI	Tayfur-Gelibol	4.12	60	ePn	Pn	23 56 48.8	-0.4
KDZ	Kurdzhali	4.25	39	⇓iP	Pn	23 56 52.3	+1.2
KDZ	Kurdzhali	4.25	39	⇓iP	Pn	23 56 52.3	+1.2
VTS	Vitosha	4.30	14	⇓iP	Pn	23 56 55.0	+3.1
VTS	Vitosha	4.30	14	⇓iP	Pn	23 56 55.0	+3.1
NPS	Neapolis	4.38	135	ePN	Pn	23 56 53.5	+0.6
NPS	Neapolis	4.38	135	ePn	Pn	23 56 53.5	+0.6
LAST	Lasithi	4.38	137	ePN	Pn	23 56 53.7	+0.7
LAST	Lasithi	4.38	137	ePn	Pn	23 56 53.7	+0.7
BODT	Bodrum	4.56	106	ePN	Pn	23 56 55.6	+0.2
BODT	Bodrum	4.56	106	ePn	Pn	23 56 55.6	+0.2
AYDB	Zeytinkoy-Aydi	4.81	94	ePN	Pn	23 56 59.0	+0.2
AYDB	Zeytinkoy-Aydi	4.81	94	ePn	Pn	23 56 59.1	+0.2
KARP	Karpathos	5.15	122	ePN	Pn	23 57 05.2	+1.7
KARP	Karpathos	5.15	122	ePn	Pn	23 57 05.2	+1.7
STON	Ston	5.44	326	iPn	Pn	23 57 06.6	-0.8
STON				Sn	Sn	23 58 07.3	-2.7
STON	Ston	5.44	326	iPn	Pn	23 57 06.5	-0.8
DIVS	Divibare	5.84	347	⇓iP	Pn	23 57 14.6	+1.6
DIVS	Divibare	5.84	347	⇓iP	Pn	23 57 14.6	+1.6
VOIR		7.42	18	⇓iP	Pn	23 57 37.6	+3.0
UDBI	Udbina	7.61	325	iPn	Pn	23 57 36.6	-0.7
UDBI				Sn	Sn	23 59 00.8	-2.8
UDBI	Udbina	7.61	325	iPn	Pn	23 57 36.5	-0.7
MLR	Muntele Rosu	7.71	22	Pn	Pn	23 57 39.0	+0.4
	0.0nm,0.3s,baz=180,slow=15,SNR=1.9						
MLR	Muntele Rosu	7.71	22	⇑iP	Pn	23 57 41.7	+3.0
NVLJ	Novalja	8.05	322	ePn	Pn	23 57 43.7	+0.4
NVLJ				Sn	Sn	23 59 13.8	-0.6
NVLJ	Novalja	8.05	322	ePn	Pn	23 57 43.6	+0.4
NVLJ				Sn	Sn	23 59 13.7	-0.6
VRI	Vrincioaia	8.29	25	⇑iP	Pn	23 57 50.6	+4.1
BRTR	Keskin Array B	9.29	78	Pn	Pn	23 58 02.6	+2.2
	0.1nm,0.3s,baz=265,slow=13,SNR=3.4						
MMAI	Mount Meron Ar	12.28	112	Pn	Pn	23 58 42.3	+0.9
	0.2nm,0.3s,baz=302,slow=14,SNR=3.2						
ESDC	Sonseca Array	20.04	282	P	P	00 00 20.2	+0.6
	0.9nm,0.7s,baz=75,slow=11,SNR=8.3						
HFS	Hagfors	22.34	349	P	P	00 00 43.7	-0.3
	1.0nm,0.8s,baz=155,slow=10,SNR=3.0						
NB2	NORSAR Subarra	23.60	347	P	P	00 00 59.1	+2.0
	comp=Z,0.5nm,0.6s,baz=159,slow=9.3						
NB2	NORSAR Subarra	23.60	347	P	P	00 00 59.1	+2.0
	comp=Z,0.5nm,0.6s,SNR=3.6						
NOA	NORSAR Array B	23.60	347	P	P	00 00 56.8	-0.3
	comp=Z,0.9nm,0.8s,baz=159,slow=8.5,SNR=3.8						
EKA	Eskdalemuir Ar	23.83	323	P	P	00 00 58.5	-0.8
	comp=Z,1.1nm,0.8s,baz=118,slow=10,SNR=4.8						
TORD	Torodi Ar. Bea	30.86	221	P	P	00 02 03.3	+0.5
	comp=Z,0.2nm,0.5s,baz=32,slow=9.1,SNR=4.3						
MKAR	Makanchi Array	44.31	59	P	P	00 03 56.9	+0.6
	comp=Z,0.4nm,0.4s,baz=277,slow=7.1,SNR=11						
ZALV	Zalesovo Beam	44.77	48	P	P	00 03 59.2	-0.6
	comp=Z,0.5nm,0.4s,baz=270,slow=8.6,SNR=2.8						

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*ISCJB **05** 00:01:28.8±0.9, 8.°00S±0.°09×107.°11E±0.°05, h76km±7km, mb3.7/7, Error ellipse: s-maj=16.2km s-min=5.1km az=23.2*

*DJA **05** 00:01:28.7±0.8, 8.°S±4.°×10.°7E±.°, h37km±7km, M4.3/17, mb4.2/1, mB5.2/1, MLv4.3/17, Mw(mB)4.5/1*

*IDC **05** 00:01:31.3±3.6, 7.°97S×106.°97E, h84km±29km, mb3.5/7, mb1 3.7/7, mb1mx3.5/29, mbtmp3.9/7, MS3.4/3, Ms1 3.4/3, ms1mx2.8/28, Error ellipse: s-maj=46.6km s-min=15.6km*

az=57.0

ISC 05 00:01:28.8±1.4**, 8°.11S**±0°.09×**107°.05E**±0°.05**, h61**km±12km**,**
n31, σ1s38/34**, mb3.7**/7**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNJI	Cibinong	0.80	6	P	Pn	00 01 43.7	-0.7
CNJI				S	Sn	00 01 55.4	-0.4
CISI	Cisompet, Garu	0.94	54	P	Pn	00 01 45.5	-0.7
CISI				S	Sn	00 01 57.8	-1.2
SKJI	Sukabumi	1.20	336	P	Pn	00 01 49.6	0.0
SKJI				S	Sn	00 02 05.6	+0.5
LEM	Lembang	1.40	24	P	Pn	00 01 53.9	+1.6
LEM				S	Sn	00 02 13.2	+3.3
LEM	Lembang	1.40	24	P	Pn	00 01 54.3	+2.0
	106nm,0.3s,baz=336,slow=20,SNR=42						
LEM				S	Sn	00 02 12.0	+2.1
	194nm,0.3s,baz=317,slow=15,SNR=8.9						
CMJI	Cimerak	1.42	77	P	Pn	00 01 51.8	-0.7
CMJI				S	Sn	00 02 09.0	-1.3
CGJI	Cibinong	2.01	318	P	Pn	00 02 00.4	0.0
CGJI				S	Sn	00 02 23.6	-0.8
JCJI	Jatiwangi	2.02	37	P	Pn	00 01 59.8	-0.7
JCJI				S	Sn	00 02 23.9	-0.8
SBJI	Serang	2.18	335	P	Pn	00 02 04.1	+1.3
KASI	Kota Agung	3.61	315	P	Pn	00 02 23.1	+0.8
KASI				S	Sn	00 03 03.2	-0.5
KLI	Kotabumi	3.90	326	P	Pn	00 02 38.6	+12
PCJI	Pacitan	4.09	91	P	Pn	00 02 29.8	+1.0
PCJI				S	Sn	00 03 14.2	-1.2
LWLI	Liwa	4.28	316	P	Pn	00 02 33.5	+2.0
MDSI	Maura Dua	4.60	321	P	Pn	00 02 36.6	+0.8
PWJI	Pagerwojo	4.71	89	P	Pn	00 02 39.9	+2.6
LHSI	Lahat	5.52	320	P	Pn	00 02 57.5	+9.1
PPBI	Pangkal Pinang	5.98	351	P	Pn	00 02 55.3	+0.5
WRA	Warramunga Arr	28.91	117	P	P	00 07 23.2	+0.8
	1.1nm,0.8s,baz=285,slow=9.9,SNR=4.9						
ASAR	Alice Springs	30.02	124	P	P	00 07 33.5	+1.3
	1.8nm,0.8s,baz=307,slow=8.7,SNR=13						
ASAR				LR	LR	00 21 16.1	
	comp=Z,40nm,18.0s,baz=284,slow=39						
H08S2	Diego Garcia H	34.23	268	T	T	00 43 50.8	
	baz=91,slow=75,SNR=7.2						
H08S3	Diego Garcia H	34.24	268	T	T	00 43 50.6	
	baz=91,slow=75,SNR=8.3						
H08S1	Diego Carcia H	34.25	268	T	T	00 43 51.0	
	baz=91,slow=75,SNR=6.5						
STKA	Stephens Creek	39.87	131	P	P	00 08 58.8	+2.0
	2.7nm,0.4s,baz=322,slow=7.7,SNR=11						
SONM	Songino Array	55.70	359	P	P	00 10 57.6	-1.5
	0.3nm,0.5s,baz=154,slow=8.0,SNR=2.7						
SONM				PcP	PcP	00 11 57.3	-0.5
	0.7nm,0.7s,baz=177,slow=2.5,SNR=5.0						
AAK	Ala-Archa	58.58	332	LR	LR	00 42 07.6	
	comp=Z,23nm,18.0s,baz=192,slow=42						
MKAR	Makanchi Array	58.94	340	P	P	00 11 20.6	-1.3
	0.3nm,0.4s,baz=140,slow=8.2,SNR=5.3						
ZALV	Zalesovo Beam	64.62	346	P	P	00 11 59.3	-0.5
	0.5nm,0.3s,baz=169,slow=6.9,SNR=4.3						
BVAR	Borovoye Array	68.41	337	LR	LR	00 45 53.6	
	comp=Z,38nm,19.2s,baz=252,slow=39						
BRTR	Keskin Array B	82.60	312	P	P	00 13 45.0	-0.8
	0.4nm,0.5s,baz=141,slow=6.1,SNR=4.6						
TXAR	Lajitas Array	144.25	50	PKP	PKPbc	00 20 57.0	-0.1
	0.2nm,0.6s,baz=282,slow=1.7,SNR=6.2						
BDFB	Brasilia	145.84	226	PKPbc	PKPdf	00 21 00.8	-1.1
	2.0nm,0.5s,baz=214,slow=19,SNR=2.3						

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*NIED **05** 00:32:00, 24°.20N×125°.20E, h23km, Mw4.1 Best double couple: Mo1.44000×10^15 NP1:φs212.00000°, δ11.00000°, λ70.00000°. NP2:φs52.00000°, δ80.00000°, λ94.00000°.*
*ISCJB **05** 00:32:55.7±0.7, 24°.19N±0°.05×125°.24E±0°.04, h47km±5km, mb4.2/17, MS3.3/8, Error ellipse: s-maj=9.5km s-min=3.3km az=151.9*
*JMA **05** 00:32:56.3±0.2, 24°.18N×125°.21E, h28km, M4.2*
*IDC **05** 00:32:56.6±0.7, 24°.27N×125°.12E, h31km±5km, mb3.9/13, mb1 4.1/16, mb1mx3.9/41, mbtmp4.1/16, ML3.2/4, MS3.3/9, Ms1 3.4/9, ms1mx3.1/31, Error ellipse: s-maj=20.5km s-min=13.4km az=77.0*
*NEIC **05** 00:32:57.3±0.7, 24°.25N×125°.12E, h38km±6km, mb4.5/5, MW4.0(NIED), Error ellipse: s-maj=10.7km s-min=5.6km az=148.0*
ISC 05 00:32:56.8±0.7**, 24°.21N**±0°.06×**125°.24E**±0°.05**, h39**km±3km**,**
n54, σ1s09/76**, mb4.2**/17**, MS3.2**/8**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	Gusukube	0.57	16	P	Pn	00 33 08.4	-0.1
JOGS				S	Sn	00 33 16.5	-0.3
JMJ	Miyako jima 2	0.61	5	P	Pn	00 33 08.9	-0.1
JMJ				S	Sn	00 33 18.2	+0.6
JIRB	Irabujima	0.62	355	P	Pn	00 33 08.4	-0.8
JIRB				S	Sn	00 33 17.7	-0.2
JTJ	Tarama	0.65	312	P	Pn	00 33 08.7	-0.9
JTJ				S	Sn	00 33 18.3	-0.3
JIKM	Ikemajima	0.71	1	P	Pn	00 33 10.1	-0.3
JIKM				S	Sn	00 33 20.4	+0.2
JISG	Ishigakijimahi	0.93	294	P	Pn	00 33 12.6	-0.7
JISG				eS	Sn	00 33 25.8	+0.5
JIJ	Ishigaki jima	1.01	279	P	Pn	00 33 14.3	-0.1
JIJ				S	Sn	00 33 28.3	+0.9
JKRS	Kuro-shima	1.12	272	P	Pn	00 33 16.4	+0.5
JKRS				eS	Sn	00 33 31.5	+1.4
HATJ	Hateruma jima	1.32	264	P	Pn	00 33 18.8	+0.2
HATJ				eS	Sn	00 33 34.9	0.0
IRIF	Iriomote-Funau	1.38	276	P	Pn	00 33 19.8	+0.3
IRIF				eS	Sn	00 33 37.3	+0.8
YOJ	Yonaguni jima	2.04	278	P	Pn	00 33 28.9	+0.2
YOJ				eS	Sn	00 33 52.9	0.0
YOJ	Yonaguni jima	2.04	278	ePn	Pn	00 33 27.5	-1.1
JYNG	Yonagunijimaku	2.10	277	P	Pn	00 33 29.1	-0.4
JYNG				eS	Sn	00 33 55.7	+1.3
JKE	Kume jima 2	2.53	33	P	Pn	00 33 35.3	-0.1
JKE				S	Sn	00 34 04.0	-1.0
JAGN	Aguni-jima	2.99	37	P	Pn	00 33 43.4	+1.8
JAGN				eS	Sn	00 34 17.0	+0.8
NACB	Ninganchiao	3.33	270	ePn	Pn	00 33 45.2	-1.0
JNTH	Nagotoyohara	3.41	47	P	Pn	00 33 47.1	-0.4
TATO	Taipei	3.50	283	ePn	Pn	00 33 47.1	-1.5
TATO				eSn	Sn	00 34 30.1	+1.4
YHNB	Yeheng	3.55	278	ePn	Pn	00 33 50.5	+1.1
YULB	Yu-li	3.70	258	ePn	Pn	00 33 49.8	-1.7
YULB				eSn	Sn	00 34 29.4	-4.4
JOW	Kunigami	3.79	46	P	Pn	00 33 52.3	-0.4
JOW				eS	Sn	00 34 34.9	-1.1
JOW	Kunigami	3.79	46	Pn	Pn	00 33 53.1	+0.4
	0.6nm,0.3s,baz=134,slow=22,SNR=7.8						
JOW				Sn	Sn	00 34 37.6	+1.6
	1.6nm,0.3s,baz=120,slow=23,SNR=5.9						
SSLB	Suanglung	3.94	265	ePn	Pn	00 33 53.4	-1.4
SSLB				eSn	Sn	00 34 40.1	+0.4
TWG	Pinlang	4.06	251	ePn	Pn	00 33 54.6	-1.8
TPUB	Ta-pu	4.32	259	ePn	Pn	00 34 00.6	+0.7
TPUB				eSn	Sn	00 34 48.2	-0.8
JMZ	Minamidaito 2	5.66	72	P	Pn	00 34 15.3	-3.1
JMZ				eS	Sn	00 35 12.6	-10
JNU	Nakatsue	10.17	28	Pn	Pn	00 35 19.1	-1.1
	0.4nm,0.3s,baz=230,slow=7.9,SNR=3.3						
JNU	Nakatsue	10.17	28	ePn	Pn	00 35 19.4	-0.8
KSAR	Wonju Array Be	13.39	9	Pn	Pn	00 36 05.0	+0.9
KSRS	Korea Array	13.40	9	Pn	Pn	00 36 05.0	+0.7
	0.2nm,0.3s,baz=189,slow=13,SNR=5.1						
KSRS				LR	LR	00 41 33.4	
	comp=Z,86nm,18.5s,baz=182,slow=39						
MAJO	Matsushiro	16.61	39	ePn	P	00 36 48.6	-0.1
	4.0nm,0.4s						
MJAR	Matsushiro Arr	16.61	39	Pn	P	00 36 49.1	+0.4
	0.4nm,0.3s,baz=232,slow=12,SNR=12						
GUMO	Guam	21.34	116	LR	LR	00 44 09.6	
	comp=Z,38nm,20.4s,baz=178,slow=31						
CMAR	Chiang Mai Arr	25.13	262	P	P	00 38 18.3	0.0
	0.5nm,0.3s,baz=60,slow=5.3,SNR=3.3						
CMAR				LR	LR	00 49 26.7	
	comp=Z,56nm,18.5s,baz=121,slow=40						
SONM	Songino Array	27.93	332	P	P	00 38 42.2	-1.2
	0.5nm,0.3s,baz=148,slow=10,SNR=6.2						
SONM				LR	LR	00 51 20.0	
	comp=Z,115nm,19.1s,baz=115,slow=40						
PETK	Petropavlovsk-	37.84	32	LR	LR	00 56 18.3	
	comp=Z,26nm,19.3s,baz=35,slow=37						
MK31	Makanchi Array	40.93	314	eP	P	00 40 34.8	-0.7
MKAR	Makanchi Array	40.93	314	P	P	00 40 35.4	-0.1
	3.3nm,0.4s,baz=101,slow=10.0,SNR=73						
MKAR				LR	LR	00 57 06.2	
	comp=Z,26nm,20.7s,baz=118,slow=36						
ZAA0	Zalesovo Array	42.28	325	eP	P	00 40 45.4	-1.0
ZALV	Zalesovo Beam	42.28	325	P	P	00 40 45.3	-1.1
	2.3nm,0.5s,baz=107,slow=7.7,SNR=14						
ZALV				LR	LR	01 00 12.4	
	comp=Z,39nm,19.0s,baz=70,slow=39						
KURK	Kurchatov	44.48	319	eP	P	00 41 03.0	-1.1
	10nm,1.2s						
KURBB	Kurchatov Arra	44.51	319	P	P	00 41 03.9	-0.5
	3.2nm,0.7s,baz=108,slow=8.3,SNR=22						
TKM2	Tokmak 2	44.68	307	eP	P	00 41 06.8	+0.6
	5.9nm,0.5s						
WRA	Warramunga Arr	44.77	168	P	P	00 41 07.6	+0.8
	2.8nm,0.4s,baz=348,slow=8.8,SNR=11						
WRA				pP	pP	00 41 17.6	-0.3
	0.5nm,0.3s,baz=350,slow=8.7,SNR=2.8						
ASAR	Alice Springs	48.33	169	P	P	00 41 35.8	+1.2
	1.1nm,0.5s,baz=355,slow=10,SNR=18						
ASAR				pP	pP	00 41 45.6	-0.2
	0.7nm,0.6s,baz=354,slow=13,SNR=3.9						
BVAR	Borovoye Array	50.02	320	P	P	00 41 47.6	+0.3
	1.1nm,0.3s,baz=116,slow=10,SNR=9.7						
ABKAR	Akbulak array	56.08	314	eP	P	00 42 32.3	+0.4
	11nm,0.6s						
ARU	Arti	57.32	323	eP	P	00 42 40.4	-0.3
	3.0nm,0.6s						
FINES	FINESS Array B	73.28	330	P	P	00 44 24.4	+0.6
	4.1nm,0.6s,baz=73,slow=5.7,SNR=31						
FINES				pP	pP	00 44 33.7	-1.9
	0.9nm,0.5s,baz=57,slow=7.0,SNR=1.7						
FINES				LR	LR	01 20 04.6	
	comp=Z,54nm,18.8s,baz=102,slow=39						
BRTR	Keskin Array B	76.12	307	P	P	00 44 41.8	+0.8
	0.7nm,0.6s,baz=67,slow=4.4,SNR=4.7						
NB2	NORSAR Subarra	79.90	333	P	P	00 45 01.6	+0.2
	comp=Z,0.7nm,0.6s,baz=55,slow=5.6						
NOA	NORSAR Array B	79.90	333	P	P	00 45 00.4	-1.0
	comp=Z,1.0nm,0.6s,baz=56,slow=5.4,SNR=5.6						
NOA				pP	pP	00 45 11.7	-1.6
	comp=Z,2.5nm,0.9s,baz=57,slow=5.7,SNR=7.6						
NOA				LR	LR	01 25 05.7	
	comp=Z,26nm,18.0s,baz=30,slow=39						
YKA	Yellowknife Ar	81.48	24	P	P	00 45 11.0	+1.3
	comp=Z,0.7nm,0.7s,baz=305,slow=5.8,SNR=6.4						
GERES	GERESS Array B	85.14	322	P	P	00 45 29.4	+0.4
	comp=Z,0.2nm,0.3s,baz=350,slow=5.2,SNR=4.7						

IDC 05 00:49:24.7±5.7**, 30°.42S**×**178°.05W, h62**km±39km**, mb3.6**/3**,**
mb1 3.8/3**, mb1mx3.4**/30**, mbtmp3.9**/3**, Error ellipse:**
s-maj=78.1km s-min=33.4km az=132.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.17	6	P	Pn	00 49 44.8	-0.3
	93nm,0.3s,baz=65,slow=12,SNR=9.1						
RAO				S	Sn	00 50 00.4	+0.1
	255nm,0.3s,baz=131,slow=23,SNR=8.4						
STKA	Stephens Creek	34.43	257	P	P	00 56 06.5	+0.2
	2.3nm,0.9s,baz=115,slow=12,SNR=3.8						
ASAR	Alice Springs	43.06	267	P	P	00 57 18.8	0.0
	0.4nm,0.3s,baz=105,slow=7.5,SNR=5.5						
WRA	Warramunga Arr	44.05	272	P	P	00 57 26.3	-0.4
	0.8nm,0.3s,baz=112,slow=7.8,SNR=4.9						
H10S3	ASCENSION HYDR	37.72	155	T	T	03 42 59.5	
	baz=201						
H10S2	ASCENSION HYDR	37.72	155	T	T	03 43 01.8	
	baz=201						
H10S1	ASCENSION HYDR	37.74	155	T	T	03 43 18.2	
	baz=201						
H10N3	ASCENSION HYDR	38.81	155	T	T	03 44 19.9	
	baz=204,slow=75,SNR=7.5						
H10N1	ASCENSION HYDR	38.81	155	T	T	03 44 32.6	
	baz=204,slow=75,SNR=9.3						
H10N2	ASCENSION HYDR	38.82	155	T	T	03 44 30.9	
	baz=204,slow=75,SNR=7.5						
FINES	FINESS Array B	145.15	340	PKPbc	PKPbc	01 08 53.3	-0.8
	1.2nm,0.4s,baz=57,slow=5.1,SNR=17						

IDC 05 00:54:50.6±6.4**, 16°.80S**×**167°.68E, h189**km±73km**, mb3.5**/4**,**
mb1 3.6/5**, mb1mx3.3**/33**, mbtmp3.9**/5**, Error ellipse:**
s-maj=80.5km s-min=28.5km az=152.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	5.37	192	P	Pn	00 56 08.7	-0.9
	0.9nm,0.3s,baz=270,slow=24,SNR=15						
DZM				S	Sn	00 57 13.0	+1.0
	0.4nm,0.3s,baz=270,slow=24,SNR=17						
STKA	Stephens Creek	28.01	233	P	P	01 00 23.4	-0.6
	1.1nm,0.6s,baz=63,slow=9.0,SNR=3.8						
WRA	Warramunga Arr	31.77	259	P	P	01 00 57.4	+0.1
	0.3nm,0.3s,baz=90,slow=7.5,SNR=3.9						
ASAR	Alice Springs	32.36	252	P	P	01 01 02.5	0.0
	3.0nm,0.4s,baz=78,slow=9.1,SNR=52						
ILAR	Eielson Array	88.37	18	P	P	01 07 20.6	+0.1
	0.6nm,0.6s,baz=183,slow=6.8,SNR=8.9						

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*DDA **05** 00:57:31.4, 38°.40N×39°.23E, h7km, MD2.6*
*CSEM **05** 00:57:32.3±0.1, 38°.49N×39°.17E, h10km, MD2.6, Error ellipse: s-maj=1.9km s-min=1.7km az=174.0*
ISC 05 00:57:32.0±2.3**, 38°.48N**±0°.06×**39°.20E**±0°.04**, h16**km±14km**,**
n8, σ0s24/12**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.13	138	ePG	Pg	00 57 36.0	0.0
SVRC				eSG	Sg	00 57 38.6	0.0
SVRC	Sivrice-ELAZID	0.13	138	ePg	Pg	00 57 36.0	0.0
SVRC				eSg	Sg	00 57 38.6	0.0
ELZG	Elazig	0.17	277	i P	Pg	00 57 36.7	+0.3
ELZG				i S	Sg	00 57 39.0	-0.4
ELZG	Elazig	0.17	277	i P	Pg	00 57 36.7	+0.3
ELZG				i S	Sg	00 57 39.0	-0.4
PTK	Pertek	0.44	20	ePG	Pg	00 57 41.1	+0.1
PTK	Pertek	0.44	20	ePg	Pg	00 57 41.1	+0.1
MALT	Malatya	0.62	255	ePG	Pg	00 57 44.4	+0.1
MALT	Malatya	0.62	255	ePg	Pg	00 57 44.4	+0.1

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*BJI **05** 01:19:58.0, 5°.10N×72°.40W, h18km, mB5.2/7, Ms5.2/4, Ms7 4.9/4*
*ISCJB **05** 01:19:58.1±1.0, 5°.15N±0°.02×72°.42W±0°.02, h17km±7km, mb4.9/179, MS3.9/13, Error ellipse: s-maj=4.2km s-min=3.4km az=24.0*
*IDC **05** 01:20:00.3±2.6, 5°.02N×72°.48W, h26km±18km, mb4.5/21, mb1 4.7/24, mb1mx4.6/32, mbtmp4.6/24, ML4.0/3, MS3.9/15, Ms1 3.9/15, ms1mx3.8/26, Error ellipse: s-maj=14.6km s-min=9.9km az=56.0*
*NEIC **05** 01:20:00.1±0.9, 5°.09N×72°.38W, h23km±6km, mb4.9/134, ML4.7(RSNC), Error ellipse: s-maj=3.5km s-min=3.2km az=84.0*
NEIC Felt [II] at Bogota. Also felt at Aguazul, Mani, Manizales, Tauramena, Villanueva and Yopal.
*GCMT **05** 01:20:00.1±0.4, 5°.06N×72°.38W, h18km±1km, MW4.8/67, Moment Tensor Solution. s15,c17; s67,c89; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.17±.18; Mθθ-0.98±.10; Mφφ-1.19±.13; Mrθ0.08±.24; Mθφ-1.16±.07; Mφr0.33±.29; Best double couple: Mo2.23700×10^16 NP1:φs38.00000°, δ49.00000°, λ84.00000°. NP2: φs227.00000°, δ41.00000°, λ97.00000°. Principal axes: T 2.2030, Plg84.0000°, Azm264.0000°; N 0.0650, Plg4.0000°, Azm42.0000°; P -2.2720, Plg4.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **05** 01:20:07.9, 5°.97N×71°.86W, h33km, mb4.9, MS3.9, Colombia*
ISC 05 01:20:00.8±0.7**, 5°.07N**±0°.04×**72°.42W**±0°.04**, h29**km±4km**,**
n741, σ0s80/781**, mb4.9**/179**, MS3.9**/15**, 230C-205D, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHIC	Chingaza	1.38	252	eP	Pn	01 20 23.9	-0.6
CHIC				eS	Sb	01 20 43.5	-0.2
ROSC	El Rosal	1.92	264	Pg	Pb	01 20 34.6	-0.7
	692nm,0.3s,baz=107,slow=19,SNR=957						
ROSC				Lg	Lg	01 20 58.5	
	1μm,0.3s,baz=76,slow=19,SNR=8.8						
ROSC				LR	LR	01 21 02.5	
	comp=Z,2μm,19.1s,baz=2.0,slow=34						
ROSC	El Rosal	1.92	264	ePn	Pb	01 20 34.1	-1.2
ROSC				eSn	Sn	01 20 56.8	+1.4
ROSC				Lg	Lg	01 20 58.5	
GUVC	San Jose del G	2.51	185	eP	Pn	01 20 40.0	+0.1
GUVC				eS	Sn	01 21 11.1	+1.5
TOLC	Tolima	2.95	261	eP	Pn	01 20 46.8	+0.6
TOLC				eS	Sn	01 21 23.0	+2.2
HELC	Santa Helena	3.33	291	eP	Pn	01 20 51.5	+0.3
SDV	Santo Domingo	4.19	25	ePn	Pn	01 21 03.9	+0.9
SDV				eLg	Lg	01 22 10.2	
OTAV	Otavalo	7.70	232	ePn	Pn	01 21 55.4	+3.8
OTAV				eLg	Lg	01 24 13.2	
BCIP	Isla Barro Col	8.41	299	ePn	Pn	01 22 00.8	-0.1
	147nm,0.9s						
PCRV	Puerto La Cruz	9.23	56	Pn	Pn	01 22 12.8	+0.6
	2.8nm,0.3s,baz=24,slow=4.2,SNR=13						
JAKH	Jacmel	13.09	360	ePn	Pn	01 23 04.3	-0.6
LGNH	LØogne	13.36	359	ePn	Pn	01 23 09.9	+1.3
JTS	JuntasAbangare	13.46	293	Pn	Pn	01 23 10.3	+0.2
	0.3nm,0.3s,baz=82,slow=10,SNR=5.0						
JTS				LR	LR	01 28 56.5	
	comp=Z,813nm,19.1s,baz=112,slow=40						
JTS	JuntasAbangare	13.46	293	ePn	Pn	01 23 14.1	+4.0
ATAH	Atahualpa	13.51	206	Pn	Pn	01 23 11.2	+0.1
	1.1nm,0.3s,baz=352,slow=8.6,SNR=7.0						
HOJ	Hope	13.54	342	i P	Pn	01 23 12.5	+1.4
GWJ	Greenwich	13.60	342	i P	Pn	01 23 13.1	+1.1
STH	Stony Hill	13.62	342	i P	Pn	01 23 13.5	+1.2
WSYH	La Gonave Hosp	13.69	358	ePn	Pn	01 23 12.8	-0.3
SDDR	Presa de Saban	13.87	4	ePn	Pn	01 23 16.0	+0.3
PCDR	Punta Cana, DR	13.93	16	ePn	Pn	01 23 14.1	-2.3
CVJ	Coleyville	14.00	339	i P	Pn	01 23 18.8	+1.3
MTDJ	Mount Denham	14.00	339	ePn	Pn	01 23 19.1	+1.6
BBJ	Bamboo Saint A	14.06	341	i P	Pn	01 23 20.3	+2.1
OBIP	Obispado Ponce	14.09	23	ePn	Pn	01 23 16.7	-1.9
	101nm,1.3s						
CELP	Cerrillos	14.13	23	ePn	Pn	01 23 16.0	-3.2
SJG	San Juan	14.34	25	ePn	Pn	01 23 20.0	-2.0
	36nm,0.7s						
SMN1	Samana, DR	14.37	12	ePn	Pn	01 23 21.1	-1.3
GTBY	Guantanamo Bay	15.00	350	ePn	Pn	01 23 29.8	-1.2
	68nm,0.9s						
STVI	Saint Thomas	15.08	28	ePn	Pn	01 23 29.3	-2.7
	59nm,0.9s						
SABA	Saba	15.37	35	ePn	Pn	01 23 34.0	-1.8
	115nm,1.0s						
GRTK	Grand Turk	16.39	4	ePn	Pn	01 23 46.5	-2.5
	51nm,0.8s						
SAML	Samuel	16.69	147	ePn	Pn	01 23 47.8	-5.0
	28nm,0.9s						
SAML				eS	Sn	01 27 01.7	+4.3
NNA	Nana	17.50	195	LR	LR	01 31 52.0	
	comp=Z,391nm,19.3s,baz=16,slow=41						
NNA	Nana	17.50	195	ePn	P	01 24 04.6	+0.7
TEIG	Tepich	21.57	316	P	P	01 24 48.0	-0.2
	37nm,0.7s,baz=138,slow=10,SNR=16						
TEIG	Tepich	21.57	316	eP	P	01 24 49.0	+0.8
	34nm,0.8s						
LPAZ	La Paz	21.64	169	P	P	01 24 50.2	+0.6
	58nm,0.8s,baz=343,slow=9.8,SNR=159						
LPAZ				LR	LR	01 32 45.8	
	comp=Z,478nm,20.0s,baz=336,slow=35						
LPAZ	La Paz	21.64	169	eP	P	01 24 50.0	+0.3
	22nm,0.9s						
SIV	San Ignacio	23.75	152	P	P	01 25 10.8	-0.1
	21nm,0.9s,baz=330,slow=11,SNR=33						
SIV				LR	LR	01 34 52.5	
	comp=Z,1μm,20.4s,baz=350,slow=38						
CMIG	Matias Romero	25.04	300	P	P	01 25 21.5	-1.3
	1.5nm,0.6s,baz=111,slow=8.6,SNR=3.6						
CMIG				LR	LR	01 36 07.8	
	comp=Z,262nm,19.4s,baz=170,slow=39						
LVC	Limon Verde	27.72	173	P	P	01 25 47.0	-0.2
	16nm,0.7s,baz=50,slow=8.5,SNR=6.5						
LVC	Limon Verde	27.72	173	eP	P	01 25 46.5	-0.7
	33nm,1.4s						
TIGA	Tifton	28.25	340	⇓P	P	01 25 53.0	+1.4
	baz=28						
JSC	Jenkinsville	30.21	345	eP	P	01 26 10.5	+1.6
	12nm,0.9s						
LRAL	Lakeview Retre	30.97	336	eP	P	01 26 16.3	+0.6
	32nm,1.3s						
KMSC	Kings Mountain	31.04	346	⇑P	P	01 26 17.8	+1.6
	baz=31						
BDFB	Brasilia	31.73	131	P	P	01 26 22.9	+0.2
	4.1nm,0.5s,baz=272,slow=8.8,SNR=7.6						
BDFB				PcP	PcP	01 29 13.4	-0.7
	4.1nm,0.8s,baz=312,slow=9.4,SNR=3.2						
BDFB				LR	LR	01 39 49.8	
	comp=Z,1μm,20.8s,baz=306,slow=38						
738A	Farr-Stevens R	32.31	320	⇑P	P	01 26 27.9	+0.5
	baz=32						
035Z	Hargill	32.45	314	⇑P	P	01 26 29.0	+0.2
	baz=32						
035A	Encino	32.76	314	⇑P	P	01 26 31.7	+0.2
	baz=33						
340A	Bronson	33.07	325	⇓P	P	01 26 34.7	+0.6
	baz=33,SNR=5.4						
439A	Center Grove,	33.12	323	⇓P	P	01 26 35.3	+0.7
	baz=33						
HKT	Hockley	33.18	321	eP	P	01 26 35.2	+0.1
034A	Hebbronville	33.25	314	⇑P	P	01 26 35.8	0.0
	baz=33,SNR=11						
OXF	Oxford	33.26	334	eP	P	01 26 36.5	+0.8
	43nm,1.1s						
736A	Circle Diamond	33.31	318	⇑P	P	01 26 37.2	+0.9
	baz=33						
339A	Huntington	33.39	324	⇓P	P	01 26 37.7	+0.8
	baz=34						
835A	Beeville	33.40	317	⇓P	P	01 26 37.6	+0.5
	baz=34						
934A	Benavides	33.46	315	⇓P	P	01 26 37.7	+0.2
	baz=34						
438A	Sam Houston St	33.52	322	⇓P	P	01 26 38.8	+0.8
	baz=34						
537A	Green Hill Far	33.58	321	⇑P	P	01 26 39.1	+0.5
	baz=34						
636A	Smothers Creek	33.65	319	⇑P	P	01 26 39.8	+0.6
	baz=34						
735A	Kenedy	33.74	317	⇓P	P	01 26 40.3	+0.3
	baz=34						
NATX	Nacogdoches	33.76	325	⇓P	P	01 26 40.7	+0.6
	baz=34						
NATX	Nacogdoches	33.76	325	eP	P	01 26 40.9	+0.7
	87nm,1.2s						
834A	Tilden	33.80	316	⇑P	P	01 26 41.0	+0.5
	baz=34						
239A	Gary	33.84	325	⇑P	P	01 26 41.4	+0.6
	baz=34						
338A	Crockett	33.85	323	⇓P	P	01 26 41.6	+0.6
	baz=34						
437A	Phantom Ranch,	33.98	322	⇑P	P	01 26 42.7	+0.6
	baz=34						
933A	Laredo	34.00	314	⇑P	P	01 26 42.0	-0.3
	baz=34,SNR=14						
536A	Bastrop	34.05	320	⇑P	P	01 26 42.6	-0.1
	baz=34						
337A	Centerville	34.17	323	⇓P	P	01 26 44.5	+0.8
	baz=34						
238A	Jacksonville	34.21	324	⇓P	P	01 26 44.8	+0.8
	baz=34						
139A	Bunkhouse Ranc	34.29	326	⇑P	P	01 26 45.4	+0.7
	baz=34						
436A	Wall Ranch, Ga	34.35	321	⇑P	P	01 26 45.7	+0.4
	baz=34						
HALT	Halls	34.42	335	eP	P	01 26 46.5	+0.7
634A	China Grove, S	34.45	318	⇑P	P	01 26 46.1	0.0
	baz=34						
CPUP	Villa Florida	34.47	156	eP	P	01 26 42.8	-3.5
	0.2nm,0.8s						
833A	Chaparral WMA,	34.51	315	⇑P	P	01 26 46.4	-0.3
	baz=35						
Z39A	Irene McRaven,	34.60	327	⇑P	P	01 26 48.0	+0.6
	baz=35						
237A	Washetta, Mont	34.61	324	⇑P	P	01 26 48.3	+0.8
	baz=35,SNR=5.3						
138A	Matatall Enter	34.67	325	⇑P	P	01 26 48.8	+0.8
	baz=35,SNR=6.5						
336A	Riesel	34.80	322	⇑P	P	01 26 49.8	+0.6
	baz=35,SNR=6.6						
UALR	University of	34.84	331	eP	P	01 26 48.5	-1.0

16nm,1.0s
435B Jarrell 34.86 320 ⇓P P 01 26 49.8 +0.1
baz=35
832A Faith Ranch, C 34.90 314 ⇑P P 01 26 49.6 -0.4
baz=35,SNR=7.4
534A Blanco 34.94 318 ⇓P P 01 26 50.4 0.0
baz=35
137A Heron Place, G 35.01 324 ⇓P P 01 26 51.4 +0.4
baz=35,SNR=6.5
236A Katherine and 35.04 323 ⇓P P 01 26 51.6 +0.4
baz=35
Z38A Mt. Pleasant 35.05 326 ⇑P P 01 26 51.7 +0.4
baz=35
633A Saathoff Ranch 35.05 317 ⇓P P 01 26 51.3 -0.1
baz=35
335A Moody 35.09 321 ⇑P P 01 26 52.2 +0.4
baz=35,SNR=7.8
732A Laxson Ranch, 35.16 315 ⇓P P 01 26 51.5 -0.8
baz=35,SNR=6.7
MIAR Mount Ida 35.28 329 eP P 01 26 52.8 -0.5
15nm,0.8s
434A Burnet 35.32 320 ⇑P P 01 26 53.4 -0.2
baz=35,SNR=6.3
533A Kerrville 35.34 318 ⇑P P 01 26 53.5 -0.4
baz=35
WCI Wyandotte Cave 35.34 341 eP P 01 26 54.7 +0.9
25nm,0.8s
Z37A Pogue Cattle C 35.37 325 ⇓P P 01 26 53.9 -0.1
baz=36
LUPA Lehigh Univers 35.48 356 eP P 01 26 56.6 +1.8
632A Uvalde 35.50 316 ⇑P P 01 26 54.9 -0.4
baz=36,SNR=22
BRNJ Basking Ridge 35.51 357 eP P 01 26 56.1 +1.0
USIN University of 35.58 339 eP P 01 26 56.9 +1.1
40nm,0.9s
WHTX Lake Whitney, 35.60 322 ⇑P P 01 26 56.4 +0.4
baz=36,SNR=7.4
WHTX Lake Whitney, 35.60 322 eP P 01 26 56.2 +0.1
23nm,0.9s
PBMO Poplar Bluff 35.62 335 eP P 01 26 56.9 +0.7
87nm,0.9s
334A Lometa 35.64 320 ⇓P P 01 26 56.2 -0.2
baz=36,SNR=13
SSPA Standing Stone 35.75 353 eP P 01 26 58.2 +1.0
21nm,1.2s
433A Art 35.81 319 ⇑P P 01 26 57.5 -0.5
baz=36
SIUC Southern Illin 35.93 337 eP P 01 26 59.0 +0.2
20nm,0.6s
135A Vickery Place, 35.96 323 ⇑P P 01 26 59.3 +0.2
baz=36,SNR=5.9
532A Rocksprings 35.96 317 ⇑P P 01 26 58.9 -0.4
baz=36,SNR=21
631A Perdido Creek 35.99 316 ⇓P P 01 26 59.4 0.0
baz=36,SNR=8.5
234A Clairette 36.03 321 ⇓P P 01 26 59.7 0.0
baz=36
JCT Junction City 36.11 318 ⇓P P 01 27 00.1 -0.5
baz=36
JCT Junction City 36.11 318 eP P 01 26 59.8 -0.7
8.2nm,0.9s
333A Richland Sprin 36.11 320 ⇑P P 01 27 00.1 -0.4
baz=36,SNR=19
W38A Poteau 36.17 328 ⇓P P 01 27 01.1 +0.1
baz=36,SNR=7.2
X37A Clayton 36.26 327 ⇓P P 01 27 01.7 0.0
baz=36,SNR=20
BLO Bloomington 36.28 341 eP P 01 27 02.9 +1.2
49nm,0.8s
ACSO Alum Creek Sta 36.28 346 eP P 01 27 02.7 +0.9
13nm,0.8s
432A Menard 36.36 318 ⇑P P 01 27 02.2 -0.5
baz=36,SNR=6.9
134A White-Moore Ra 36.38 322 ⇑P P 01 27 02.7 0.0
baz=36
Z35A Perchaven, San 36.41 324 ⇑P P 01 27 03.4 +0.4
baz=36,SNR=8.1
OLIL Olney 36.41 339 eP P 01 27 03.5 +0.6
21nm,0.7s
531A Rocksprings 36.42 317 ⇑P P 01 27 03.0 -0.2
baz=36,SNR=16
233A Rising Star 36.52 320 ⇑P P 01 27 04.0 +0.1
baz=37,SNR=10
332A Millersview 36.65 319 ⇓P P 01 27 05.0 -0.1
baz=37,SNR=8.1
CFAA Coronel Fontan 36.68 174 P P 01 27 04.8 -0.5
0.5nm,0.7s,baz=0.5,slow=7.9,SNR=7.1
W37A Quinton 36.70 328 ⇑P P 01 27 05.3 -0.2
baz=37,SNR=8.9
431A Sonora 36.78 317 ⇓P P 01 27 05.6 -0.7
baz=37,SNR=10
X36A Centrahoma 36.79 326 ⇓P P 01 27 06.1 -0.1
baz=37,SNR=15
Z34A Collier Ranch, 36.83 323 ⇑P P 01 27 06.9 +0.4
baz=37,SNR=7.7
232A Coleman 36.91 320 ⇓P P 01 27 07.0 -0.3
baz=37,SNR=11
133A Hamilton Ranch 36.92 321 ⇓P P 01 27 07.5 +0.2
baz=37,SNR=14
530A J-C Ranch, Com 36.96 316 ⇑P P 01 27 07.5 -0.3
baz=37,SNR=21
X35A Drake 37.01 325 ⇓P P 01 27 07.8 -0.3
baz=37,SNR=7.8
331A San Angelo 37.05 318 ⇑P P 01 27 08.3 -0.2
baz=37,SNR=9.6
ALLY Alegheny Colle 37.07 350 eP P 01 27 10.1 +1.6
17nm,0.8s
BINY Binghamton 37.11 356 eP P 01 27 10.0 +1.2
13nm,0.8s
W36A Wetumka 37.14 327 ⇑P P 01 27 08.8 -0.4
baz=37,SNR=17
Y34A Reagan Ranch, 37.15 324 ⇑P P 01 27 09.3 +0.1
baz=37,SNR=20
430A Baggett Ranch, 37.27 317 ⇑P P 01 27 10.1 -0.3
baz=37
Z33A Whitaker Ranch 37.29 322 ⇓P P 01 27 10.8 +0.3
baz=37,SNR=6.6
231A Bronte 37.37 319 ⇓P P 01 27 11.0 -0.3
baz=38,SNR=6.3
ABTX Abilene, Hawle 37.39 321 ⇓P P 01 27 11.5 +0.2
baz=38,SNR=10
ABTX Abilene, Hawle 37.39 321 eP P 01 27 11.5 +0.2
32nm,0.9s
TUL1 Leonard 37.48 328 ⇑P P 01 27 12.0 -0.1
baz=38,SNR=17
TUL1 Leonard 37.48 328 eP P 01 27 11.6 -0.5
58nm,0.7s
W35A Tecumseh 37.50 326 ⇑P P 01 27 12.1 -0.2
baz=38,SNR=6.3
SFIN Lafayette 37.56 341 ⇓P P 01 27 13.0 +0.4
baz=38,SNR=6.5
SFIN Lafayette 37.56 341 eP P 01 27 12.9 +0.3
30nm,0.7s
529A Stev Forest Ra 37.56 315 ⇓P P 01 27 12.5 -0.4
baz=38,SNR=16
330A Mertzon 37.61 318 ⇑P P 01 27 12.8 -0.5
baz=38
429A Davenport Ranc 37.63 316 ⇓P P 01 27 13.3 -0.1
baz=38,SNR=11
X34A Smith Ranch, M 37.65 325 ⇑P P 01 27 13.6 +0.1
baz=38,SNR=9.3
Y33A Hilltop Ranch, 37.70 323 ⇓P P 01 27 14.0 +0.1
baz=38,SNR=8.2
Z32A Haskell 37.74 322 ⇓P P 01 27 14.5 +0.2
baz=38,SNR=12
MMNY Mt. Morris Dam 37.82 353 eP P 01 27 16.0 +1.2
230A Sterling City 37.87 318 ⇑P P 01 27 15.7 +0.3
baz=38
131A Roby 37.90 320 ⇓P P 01 27 15.6 -0.1
baz=38
V35A Meyer Ranch, C 37.93 327 ⇑P P 01 27 15.5 -0.4
baz=38,SNR=9.3
T37A Cheneyville 18 37.97 330 ⇑P P 01 27 15.8 -0.4
baz=38,SNR=22
X33A Lawton 37.99 324 ⇑P P 01 27 16.1 -0.4
baz=38,SNR=7.6
RCBR Riachuelo 38.03 106 P P 01 27 16.7 -0.3
15nm,1.0s,baz=276,slow=8.2
W34A Bridge Creek, 38.07 325 ⇑P P 01 27 17.1 +0.1
baz=38,SNR=11
W34A Bridge Creek, 38.07 325 eP P 01 27 16.8 -0.2
104nm,1.0s
TXAR Lajitas Array 38.15 313 P P 01 27 17.6 -0.4
6.2nm,0.8s,baz=130,slow=8.5,SNR=79
TXAR PcP PcP 01 29 33.6 +1.1
0.6nm,0.6s,baz=127,slow=3.8,SNR=3.7
TXAR LR LR 01 46 48.0
comp=Z,41nm,19.6s,baz=0.0,slow=42

Z31A Sharp Cattle R 38.16 321 ⇓P P 01 27 17.8 -0.1
baz=38
Y32A R-V Farms, Ver 38.19 322 ⇓P P 01 27 18.5 +0.4
baz=38,SNR=5.5
329A Wagon Wheel Ra 38.20 317 ⇓P P 01 27 17.9 -0.5
baz=38,SNR=13
130A Snyder 38.22 319 ⇓P P 01 27 18.3 -0.1
baz=38
WMOK Wichita Mounta 38.30 324 eP P 01 27 18.0 -1.0
27nm,0.8s
V34A Guthrie 38.36 326 ⇓P P 01 27 18.9 -0.6
baz=38,SNR=15
V34A Guthrie 38.36 326 eP P 01 27 18.4 -1.1
98nm,1.2s
X32A Elmer 38.38 323 ⇑P P 01 27 19.5 -0.2
baz=38,SNR=11
229A Bryant Ranch, 38.38 318 ⇓P P 01 27 19.6 -0.2
baz=38,SNR=12
W33A Caddo, Fort Co 38.41 325 ⇓P P 01 27 19.9 0.0
baz=38
T36A Boggs Farm, Ca 38.41 329 ⇓P P 01 27 19.5 -0.4
baz=38,SNR=14
HDIL Hopedale 38.45 339 eP P 01 27 20.1 0.0
21nm,0.6s
T35A Sooner Cattle 38.62 328 ⇓P P 01 27 21.4 -0.3
baz=39,SNR=19
Y31A Rekieta Farm, 38.66 322 ⇑P P 01 27 22.5 +0.4
baz=39,SNR=21
Z30A Sanderson Ranc 38.77 320 ⇓P P 01 27 22.9 -0.1
baz=39,SNR=13
S36A Lake Cedric, C 38.78 330 ⇑P P 01 27 22.2 -0.7
baz=39,SNR=9.2
V33A Lossen Ranch, 38.78 326 ⇑P P 01 27 22.6 -0.4
baz=39,SNR=17
U34A Anderson Ranch 38.81 327 ⇓P P 01 27 22.9 -0.4
baz=39,SNR=12
U34A Anderson Ranch 38.81 327 eP P 01 27 22.6 -0.7
66nm,0.8s
129A Stewart Farms, 38.83 319 ⇑P P 01 27 23.7 +0.1
baz=39,SNR=5.6
W32A Sentinel 38.84 324 ⇑P P 01 27 23.3 -0.3
baz=39,SNR=12
R37A Teagarden Farm 38.87 331 ⇑P P 01 27 23.3 -0.4
baz=39,SNR=7.8
X31A McDonald Ranch 38.94 323 ⇑P P 01 27 24.4 0.0
baz=39,SNR=6.0
228A UT Block 9, Go 39.00 317 ⇓P P 01 27 24.8 -0.2
baz=39
Y30A Stafford Cattl 39.00 321 ⇓P P 01 27 25.4 +0.4
baz=39,SNR=7.8
T34A McClaskey Farm 39.06 328 ⇑P P 01 27 25.3 0.0
baz=39,SNR=18
S35A Otter Creek Ra 39.11 329 ⇑P P 01 27 25.2 -0.6
baz=39,SNR=12
Z29A Hungry Hill Ra 39.12 319 ⇓P P 01 27 25.8 -0.2
baz=39,SNR=23
U33A Lingo Farm, Me 39.13 326 ⇑P P 01 27 25.3 -0.6
baz=39
V32A Arapaho 39.14 325 ⇓P P 01 27 26.1 0.0
baz=39
Q37A Longview Farm, 39.14 332 ⇑P P 01 27 25.8 -0.2
baz=39,SNR=8.9
R36A Gordon, Harris 39.20 331 ⇑P P 01 27 25.5 -1.0
baz=39,SNR=5.4
128A Castleberry Fa 39.23 318 ⇓P P 01 27 27.0 +0.1
baz=39,SNR=19
W31A Holland Ranch, 39.30 323 ⇑P P 01 27 26.9 -0.5
baz=39,SNR=15
X30A Coker Ranch, T 39.36 322 ⇑P P 01 27 28.4 +0.4
baz=40,SNR=14
PTN Potsdam (NY) 39.41 357 eP P 01 27 28.6 +0.5
33nm,0.8s
LONY Lazonia 39.44 358 eP P 01 27 28.7 +0.3
6.7nm,0.9s
Y29A Porterfield Fa 39.48 320 ⇓P P 01 27 29.2 +0.2
baz=40,SNR=15
S34A Willow Spring 39.53 329 ⇑P P 01 27 28.8 -0.5
baz=40,SNR=6.9
R35A Emporia Munici 39.54 330 ⇓P P 01 27 29.0 -0.3
baz=40
Z28A Tucker Farm, M 39.58 319 ⇑P P 01 27 29.6 -0.3
baz=40,SNR=5.5
U32A Winter Ranch, 39.58 325 ⇓P P 01 27 29.5 -0.3
baz=40,SNR=14
V31A Spring Creek L 39.64 324 ⇓P P 01 27 30.4 +0.1
baz=40,SNR=6.7
Q36A Arnold C. Orve 39.68 331 ⇑P P 01 27 29.9 -0.6
baz=40
X29A Tulia 39.88 321 ⇓P P 01 27 32.4 +0.1
baz=40,SNR=5.0
Q35A Mercer Eighty, 39.88 331 ⇓P P 01 27 31.6 -0.5
baz=40,SNR=14
Y28A McKinney Farm, 39.88 320 ⇑P P 01 27 32.1 -0.3
baz=40,SNR=10
S33A Kaszmaul Farm, 39.92 328 ⇓P P 01 27 32.1 -0.4
baz=40,SNR=8.7
R34A Isabella, Hill 40.05 329 ⇑P P 01 27 33.5 -0.2
baz=40,SNR=12
U31A Nine Bar Ranch 40.06 325 ⇓P P 01 27 34.0 +0.3
baz=40
P36A Good Intent, A 40.09 332 ⇓P P 01 27 33.5 -0.3
baz=40,SNR=14
T32A Huddler Ranch, 40.12 326 ⇓P P 01 27 34.2 0.0
baz=40,SNR=6.0
V30A Spur Ranch, Mi 40.13 323 ⇑P P 01 27 34.2 -0.2
baz=40
AMTX Amarillo 40.15 321 ⇑P P 01 27 34.6 +0.1
baz=40
AMTX Amarillo 40.15 321 eP P 01 27 34.5 -0.1
41nm,0.9s
X28A Dimmitt 40.24 321 ⇑P P 01 27 35.1 -0.2
baz=40
MSTX Muleshoe 40.26 319 ⇓P P 01 27 35.3 -0.2
baz=40,SNR=7.4
MSTX Muleshoe 40.26 319 eP P 01 27 34.8 -0.7
45nm,1.4s
W29A Amarillo 40.28 322 ⇓P P 01 27 36.5 +0.8
baz=40
KSU1 Kansas State U 40.35 330 ⇑P P 01 27 35.7 -0.4
baz=40,SNR=7.7
KSU1 Kansas State U 40.35 330 eP P 01 27 35.3 -0.8
57nm,0.7s
Q34A Chapman 40.37 330 ⇓P P 01 27 35.8 -0.4
baz=40,SNR=10
O36A Bolckow 40.39 333 ⇓P P 01 27 35.6 -0.7
baz=40,SNR=8.3
P35A Duane Minner, 40.40 331 ⇑P P 01 27 35.7 -0.7
baz=40,SNR=8.2
R33A Olander Ranch, 40.44 328 ⇓P P 01 27 36.8 -0.1
baz=41,SNR=8.5
S32A Newby Ranch, P 40.50 327 ⇑P P 01 27 37.6 +0.2
baz=41,SNR=7.6
U30A WK&E Inc. Balk 40.63 324 ⇑P P 01 27 38.8 +0.2
baz=41,SNR=6.4
MNTX Cornudas Mount 40.69 315 ⇓P P 01 27 39.0 +0.1
baz=41,SNR=48
MNTX Cornudas Mount 40.69 315 eP P 01 27 38.9 -0.1
32nm,1.0s
MNTX ePcP PcP 01 29 39.5 -0.9
V29A Stinnett 40.71 323 ⇓P P 01 27 40.1 +0.9
baz=41,SNR=8.7
S31A Mullinville 40.74 326 ⇑P P 01 27 39.4 0.0
baz=41,SNR=9.1
P34A Walnut Farm, R 40.80 331 ⇑P P 01 27 39.4 -0.4
baz=41,SNR=14
JFWS Jewell Farm 40.87 340 eP P 01 27 40.2 -0.1
23nm,0.6s
Q33A Connelly Farm, 40.88 329 ⇑P P 01 27 40.6 +0.1
baz=41,SNR=21
R32A Long Quarter, 40.91 328 ⇓P P 01 27 40.5 -0.2
baz=41,SNR=7.4
T30A Plains 40.93 325 ⇑P P 01 27 41.3 +0.4
baz=41
O35A Humboldt 40.93 332 ⇑P P 01 27 39.9 -0.9
baz=41
U29A Oasis Ranch, S 40.95 324 ⇓P P 01 27 41.9 +0.8
baz=41
V28A Channing 41.05 322 ⇑P P 01 27 42.5 +0.5
baz=41
SCIA State Center 41.11 336 eP P 01 27 42.5 +0.2
115nm,0.8s
P33A Williams Farm, 41.14 330 ⇑P P 01 27 42.7 0.0
baz=41
R31A Burdett 41.25 327 ⇑P P 01 27 43.2 -0.3
baz=41,SNR=13
Q32A Meitler Ranch, 41.25 329 ⇓P P 01 27 42.9 -0.6
baz=41,SNR=6.1
N35A Tabor 41.28 333 ⇑P P 01 27 43.5 -0.2
baz=41,SNR=7.1
S30A Montezuma 41.30 326 ⇑P P 01 27 44.2 +0.2
baz=41
V27A Dan Oppiter Fa 41.43 322 ⇓P P 01 27 45.6 +0.4
baz=42
T29A Hugoton 41.44 324 ⇑P P 01 27 45.7 +0.6
baz=42,SNR=7.3
U28A Mallet 41.47 323 ⇓P P 01 27 45.8 +0.4
baz=42
O33A Hebron 41.58 331 ⇓P P 01 27 45.6 -0.6
baz=42,SNR=7.9
R30A Dighton 41.65 326 ⇑P P 01 27 46.9 0.0
baz=42,SNR=11
N34A Lincoln 41.66 332 ⇑P P 01 27 46.1 -0.7
baz=42,SNR=6.3
S29A Ulysses 41.66 325 ⇓P P 01 27 47.6 +0.6
baz=42,SNR=15
Q31A Ellis 41.70 328 ⇓P P 01 27 46.9 -0.3
baz=42,SNR=6.2
P32A Huiting Farm, 41.74 329 ⇑P P 01 27 47.1 -0.5
baz=42,SNR=5.3
U27A Thompson Grove 41.86 322 ⇓P P 01 27 49.2 +0.5
baz=42,SNR=8.2
T28A Walsh 41.90 324 ⇑P P 01 27 49.0 0.0
baz=42,SNR=13
O32A Brookman Farm, 42.06 330 ⇓P P 01 27 49.8 -0.4
baz=42,SNR=6.5
P31A Stockton 42.07 328 ⇑P P 01 27 49.6 -0.6
baz=42,SNR=8.0
S28A Manter 42.09 324 ⇑P P 01 27 51.0 +0.5
baz=42,SNR=22
Q30A Quinter 42.12 327 ⇑P P 01 27 50.6 0.0
baz=42,SNR=9.0
T27A Campo 42.22 323 ⇓P P 01 27 51.7 +0.1
baz=42,SNR=15
M34A Aspy Farms, Fr 42.22 333 ⇓P P 01 27 50.9 -0.5
baz=42
R29A Marienthal 42.23 326 ⇓P P 01 27 51.8 +0.2
baz=42,SNR=8.3
N32A Stulken Farm, 42.45 331 ⇑P P 01 27 53.0 -0.3
baz=43
Q29A Oakley 42.47 326 ⇓P P 01 27 53.5 -0.1
baz=43,SNR=9.2
L34A Svendsen Farm, 42.50 333 ⇓P P 01 27 53.6 0.0
baz=43,SNR=18
O31A Woolen Ranch, 42.51 329 ⇓P P 01 27 53.3 -0.5
baz=43,SNR=8.3
P30A Selden 42.54 328 ⇓P P 01 27 53.6 -0.5
baz=43,SNR=11
R28A Tribune 42.55 325 ⇓P P 01 27 54.4 +0.1
baz=43,SNR=42
T26A Comanche Natio 42.82 323 ⇓P P 01 27 56.8 +0.2
baz=43,SNR=13
121A Cookes Peak, D 42.85 314 ⇑P P 01 27 58.0 +1.1
baz=43,SNR=9.9
121A Cookes Peak, D 42.85 314 eP P 01 27 57.5 +0.6
38nm,1.4s
BGNE Belgrade 42.88 331 ⇓P P 01 27 56.7 -0.1
baz=43
BGNE Belgrade 42.88 331 eP P 01 27 56.4 -0.4
129nm,1.1s
P29A Atwood 42.95 327 ⇑P P 01 27 57.5 0.0
baz=43,SNR=6.7
S26A Kim 43.03 323 ⇓P P 01 27 58.7 +0.4
baz=43
Q28A Sharon Springs 43.06 326 ⇑P P 01 27 58.4 0.0
baz=43,SNR=22
R27A Eads 43.08 324 ⇑P P 01 27 58.8 +0.2
baz=43,SNR=47
LENM Lemitar 43.17 317 eP P 01 28 00.0 +0.5
M31A Lambtecht Ranc 43.23 331 ⇓P P 01 27 59.3 -0.3
baz=43,SNR=5.3
O29A 4D Ranch, Culb 43.26 328 ⇓P P 01 27 59.7 -0.2
baz=43,SNR=6.8
ANMO Albuquerque 43.27 318 eP P 01 28 00.6 +0.3
9.8nm,1.2s
T25A Trinidad 43.29 322 ⇑P P 01 28 01.5 +1.1
baz=43,SNR=12
P28A Saint Francis 43.38 327 ⇑P P 01 28 01.2 +0.3
baz=44,SNR=13
N30A Hueftle Ranch, 43.38 329 ⇓P P 01 28 00.7 -0.2
baz=44
LAZ Ladron 43.42 317 eP P 01 28 01.8 +0.4
20nm,1.3s
R26A Arlington 43.47 324 ⇓P P 01 28 02.2 +0.5
baz=44,SNR=29
KSCO Kaye Shedlock' 43.48 325 ⇑P P 01 28 02.4 +0.6
baz=44,SNR=7.3
KSCO Kaye Shedlock' 43.48 325 eP P 01 28 01.8 0.0
102nm,1.1s
N29A Votaw Ranch, W 43.67 329 ⇑P P 01 28 03.0 -0.2
baz=44,SNR=5.4
O28A Krutsinger Ran 43.78 327 ⇓P P 01 28 04.3 +0.1
baz=44,SNR=8.0
SPMN Marine on St. 43.78 339 ⇓P P 01 28 04.0 0.0
baz=44
SPMN Marine on St. 43.78 339 eP P 01 28 03.3 -0.7
8.7nm,0.6s
L31A Butterfield Fa 43.80 331 ⇓P P 01 28 03.9 -0.3
baz=44,SNR=10
M30A Dale-Ortello V 43.82 330 ⇑P P 01 28 04.1 -0.3
baz=44
P27A Ficken Ranch, 43.82 326 ⇑P P 01 28 04.9 +0.3
baz=44,SNR=11
Q26A Hugo 43.93 324 ⇑P P 01 28 06.1 +0.7
baz=44,SNR=9.8
ECSD EROS Data Cent 44.02 335 ⇑P P 01 28 05.5 -0.5
baz=44,SNR=45
ECSD EROS Data Cent 44.02 335 eP P 01 28 05.0 -0.9
41nm,0.9s
L30A Spencer Herefo 44.05 331 ⇑P P 01 28 05.9 -0.4
baz=44
N28A Pribbeno Ranch 44.05 328 ⇑P P 01 28 06.2 -0.2
baz=44
M29A Burnside Ranch 44.16 329 ⇑P P 01 28 06.8 -0.3
baz=44,SNR=6.2
O27A Beecher Island 44.21 327 ⇓P P 01 28 08.0 +0.4
baz=44,SNR=16
P26A Davis Ranch, A 44.26 325 ⇓P P 01 28 08.6 +0.6
baz=44
SDCO Great Sand Dun 44.35 322 ⇑P P 01 28 09.7 +0.7
baz=44,SNR=31
SDCO Great Sand Dun 44.35 322 eP P 01 28 09.2 +0.2
10nm,0.8s
SDCO ePcP PcP 01 29 53.1 +0.3
M28A Bar X Bar Ranc 44.47 329 ⇑P P 01 28 09.5 -0.2
baz=45
OGNE Ogallala 44.50 328 ⇑P P 01 28 09.4 -0.5
baz=45
L29A Maesberg Ranch 44.51 330 ⇑P P 01 28 10.1 +0.1
baz=45
K30A Basset 44.55 331 ⇑P P 01 28 10.0 -0.2
baz=45,SNR=26
N27A Anderson Farm, 44.67 327 ⇓P P 01 28 11.4 +0.1
baz=45,SNR=6.3
O26A Horse Wrangler 44.70 326 ⇓P P 01 28 12.1 +0.5
baz=45,SNR=11
R23A Moffat 44.83 322 ⇓P P 01 28 13.7 +0.8
baz=45,SNR=13
Q24A Divide 44.91 323 ⇓P P 01 28 13.9 +0.4
baz=45,SNR=6.2
TUC Tucson 44.93 312 eP P 01 28 13.3 -0.1
15nm,0.9s
TUC ePcP PcP 01 29 54.6 0.0
K29A Lazy Trails An 44.95 331 ⇑P P 01 28 13.2 -0.2
baz=45,SNR=5.6
J30A Dallas 44.99 332 ⇓P P 01 28 13.3 -0.3
baz=45,SNR=10
N26A Koester Ranch, 45.06 327 ⇓P P 01 28 14.7 +0.3
baz=45
M27A Reverse DX Ran 45.10 328 ⇑P P 01 28 14.7 0.0
baz=45
S22A 4UR Ranch, Cre 45.18 321 ⇓P P 01 28 16.0 +0.4
baz=45,SNR=12
I30A Oacoma 45.41 333 ⇑P P 01 28 16.5 -0.5
baz=46,SNR=12
K28A Ten Mile Ranch 45.43 330 ⇓P P 01 28 17.2 -0.2
baz=46
J29A Okreek 45.44 331 ⇑P P 01 28 16.7 -0.6
baz=46,SNR=22
M26A McRoberts Ranc 45.46 327 ⇓P P 01 28 17.8 +0.2
baz=46,SNR=5.3
L27A T5 Ranch, Ells 45.46 329 ⇓P P 01 28 17.7 +0.1
baz=46
P23A Jefferson 45.58 323 ⇓P P 01 28 20.1 +1.3
baz=46,SNR=12
W18A Petrified Fore 45.60 316 ⇑P P 01 28 19.8 +0.9
baz=46,SNR=7.3

W18A	Petrified Fore	45.60	316	eP	P	01 28 19.8	+0.9
	27nm,1.0s						
BRSD	Miller	45.61	333	⇑P	P	01 28 18.3	-0.2
	baz=46,SNR=18						
BRSD	Miller	45.61	333	eP	P	01 28 17.7	-0.9
	250nm,0.8s						
PLCA	Paso Flores	45.61	178	P	P	01 28 17.7	-1.0
	4.7nm,0.7s,baz=7.5,slow=10,SNR=9.8						
PLCA				PcP	PcP	01 29 55.8	-1.0
	4.0nm,0.9s,baz=0.2,slow=4.6,SNR=4.2						
PLCA	Paso Flores	45.61	178	eP	P	01 28 18.0	-0.6
	21nm,1.4s						
PLCA				PcP	PcP	01 29 55.8	-1.0
ISCO	Idaho Springs	45.73	324	⇑P	P	01 28 20.4	+0.5
	baz=46,SNR=23						
ISCO	Idaho Springs	45.73	324	eP	P	01 28 20.5	+0.6
	27nm,1.2s						
ISCO				ePcP	PcP	01 29 56.9	-0.7
EYMN	Ely	45.74	342	eP	P	01 28 19.1	-0.4
	17nm,0.6s						
L26A	Underwood Farm	45.83	328	⇑P	P	01 28 20.3	-0.2
	baz=46						
J28A	Allard Ranch,	45.90	331	⇓P	P	01 28 20.4	-0.6
	baz=46,SNR=21						
I29A	Vivian Onida	45.90	332	⇑P	P	01 28 20.3	-0.6
	baz=46,SNR=7.2						
MVCO	Mesa Verde	45.93	319	⇓P	P	01 28 21.8	+0.3
	baz=46,SNR=9.7						
MVCO	Mesa Verde	45.93	319	eP	P	01 28 21.7	+0.2
	7.5nm,0.8s						
MVCO				ePcP	PcP	01 29 58.5	+0.2
M25A	Palm-Egli Farm	45.93	327	⇑P	P	01 28 21.0	-0.4
	baz=46						
SMCO	Snowmass	46.14	322	eP	P	01 28 23.6	+0.3
	11nm,1.0s						
SMCO				ePcP	PcP	01 29 59.9	+0.7
J27A	Elkhorn Farm,	46.15	330	⇓P	P	01 28 23.2	+0.3
	baz=46,SNR=7.5						
O23A	Lake Granby, G	46.17	324	⇓P	P	01 28 23.7	+0.3
	baz=46						
G30A	Faulkton	46.23	334	⇑P	P	01 28 23.2	-0.3
	baz=46,SNR=17						
P22A	Eagle	46.27	323	⇓P	P	01 28 24.1	0.0
	baz=46,SNR=5.4						
214A	Organ Pipe Nat	46.28	310	⇓P	P	01 28 24.5	+0.3
	baz=46,SNR=15						
214A	Organ Pipe Nat	46.28	310	eP	P	01 28 24.1	0.0
	35nm,1.3s						
I28A	Midland	46.29	331	⇑P	P	01 28 23.5	-0.5
	baz=46,SNR=11						
H29A	Onida	46.32	333	⇑P	P	01 28 23.3	-0.8
	baz=46,SNR=9.5						
K26A	Motz Farm, Whi	46.35	329	⇑P	P	01 28 24.4	-0.1
	baz=46,SNR=6.5						
L25A	Engebretsen Ra	46.38	327	⇓P	P	01 28 25.9	+1.1
	baz=46						
O22A	Kremmling	46.51	324	⇑P	P	01 28 26.4	+0.4
	baz=47,SNR=23						
PV01	Paradox Valley	46.51	320	eP	P	01 28 27.0	+0.9
G29A	Hoven	46.62	333	⇑P	P	01 28 26.0	-0.6
	baz=47,SNR=8.8						
N23A	Red Feather La	46.63	325	⇑P	P	01 28 27.7	+0.7
	baz=47,SNR=22						
K25A	Mack Ranch, Ha	46.65	328	⇓P	P	01 28 27.6	+0.7
	baz=47						
H28A	Mission Ridge	46.73	332	⇓P	P	01 28 26.8	-0.6
	baz=47,SNR=5.0						
F30A	Leola	46.73	335	⇓P	P	01 28 27.2	-0.2
	baz=47,SNR=6.9						
I27A	Quinn	46.77	331	⇑P	P	01 28 27.4	-0.4
	baz=47,SNR=7.4						
N22A	Wattenberg Ran	46.86	324	⇓P	P	01 28 29.9	+1.1
	baz=47						
WUAZ	Wupatki	46.95	315	⇓P	P	01 28 30.2	+0.7
	baz=47,SNR=9.3						
WUAZ	Wupatki	46.95	315	eP	P	01 28 29.7	+0.2
	23nm,1.1s						
WUAZ				ePcP	PcP	01 30 02.2	+0.4
G28A	Parade	46.98	332	⇓P	P	01 28 29.3	-0.1
	baz=47						
F29A	Eureka	47.08	334	⇑P	P	01 28 29.8	-0.3
	baz=47,SNR=5.5						
I26A	New Underwood	47.14	330	⇑P	P	01 28 30.3	-0.3
	baz=47						
J25A	Sunshine Ranch	47.16	329	⇑P	P	01 28 31.0	+0.1
	baz=47,SNR=9.4						
H27A	Howes	47.20	331	⇓P	P	01 28 30.6	-0.5
	baz=47,SNR=14						
E30A	Jud	47.21	335	⇓P	P	01 28 30.8	-0.3
	baz=47,SNR=5.8						
AGMN	Agassiz Nation	47.50	339	⇓P	P	01 28 33.4	+0.1
	baz=48,SNR=20						
AGMN	Agassiz Nation	47.50	339	eP	P	01 28 32.8	-0.6
	22nm,0.6s						
O20A	White River Ci	47.50	323	⇓P	P	01 28 34.4	+0.6
	baz=48,SNR=6.8						
O20A	White River Ci	47.50	323	eP	P	01 28 33.7	0.0
	6.7nm,0.8s						
O20A				ePcP	PcP	01 30 03.8	+0.1
F28A	McLaughlin	47.52	333	⇓P	P	01 28 33.6	0.0
	baz=48,SNR=12						
H26A	Fairpoint	47.52	331	⇓P	P	01 28 33.2	-0.5
	baz=48,SNR=7.0						
J24A	Dixon Ranch, L	47.56	328	⇓P	P	01 28 34.4	+0.3
	baz=48						
I25A	Rochford	47.57	329	⇓P	P	01 28 34.6	+0.5
	baz=48,SNR=31						
E29A	Napoleon	47.58	335	⇑P	P	01 28 33.9	-0.1
	baz=48,SNR=7.8						
D30A	Buchanan	47.63	336	⇓P	P	01 28 34.5	+0.1
	baz=48,SNR=14						
G27A	Dupree	47.69	332	⇓P	P	01 28 34.7	-0.2
	baz=48,SNR=5.7						
K23A	Bowen Ranch, D	47.69	327	⇑P	P	01 28 35.8	+0.7
	baz=48,SNR=22						
RSSD	Black Hills	47.80	329	eP	P	01 28 36.2	+0.2
	11nm,0.8s						
I24A	Kuemmerle Ranc	47.91	329	⇓P	P	01 28 37.5	+0.7
	baz=48,SNR=9.9						
H25A	Fruitdale	47.93	330	⇑P	P	01 28 36.4	-0.4
	baz=48						
G26A	Maurine	47.94	331	⇓P	P	01 28 36.2	-0.6
	baz=48,SNR=7.7						
D29A	Pettibone, Tap	47.94	335	⇓P	P	01 28 36.8	0.0
	baz=48,SNR=18						
N20A	Spence Gulch,	47.95	323	⇓P	P	01 28 37.5	+0.2
	baz=48						
C30A	Mose, Pekin	48.00	336	⇓P	P	01 28 37.4	+0.2
	baz=48,SNR=22						
E28A	Huff	48.03	334	⇑P	P	01 28 37.7	+0.2
	baz=48,SNR=14						
J23A	Dilts Ranch, B	48.09	328	⇑P	P	01 28 39.1	+1.0
	baz=48,SNR=6.4						
F27A	Lemmon	48.10	332	⇑P	P	01 28 38.1	+0.1
	baz=48,SNR=24						
K22A	Casper	48.11	326	⇑P	P	01 28 38.8	+0.5
	baz=48						
G25A	Newell	48.26	331	⇓P	P	01 28 39.2	-0.1
	baz=48,SNR=7.2						
GLA	Glamis	48.29	311	⇓P	P	01 28 40.4	+0.6
	baz=48,SNR=9.5						
GLA	Glamis	48.29	311	eP	P	01 28 40.0	+0.2
	15nm,0.7s						
E27A	Carson	48.31	333	⇓P	P	01 28 40.3	+0.6
	baz=48,SNR=12						
SRU	San Rafael Swe	48.32	320	eP	P	01 28 40.3	+0.2
	24nm,1.3s						
SRU				ePcP	PcP	01 30 06.8	+0.1
PDMCI	Parker Dam,Lak	48.34	312	⇓P	P	01 28 40.5	+0.4
	baz=48						
Y12C	Blythe	48.38	312	⇓P	P	01 28 41.1	+0.7
	baz=48						
F26A	Lodgepole	48.38	332	⇑P	P	01 28 40.2	-0.1
	baz=48,SNR=5.5						
I23A	Meade Ranch, G	48.42	328	⇑P	P	01 28 41.5	+0.8
	baz=48						
D28A	Regan	48.46	335	⇑P	P	01 28 41.2	+0.4
	baz=49,SNR=8.3						
H24A	Dirks Ranch, A	48.50	330	⇑P	P	01 28 41.0	-0.2
	baz=49,SNR=9.7						
B30A	Myrvik Farm, E	48.55	337	⇑P	P	01 28 41.3	-0.1
	baz=49,SNR=11						
MDND	Maddock	48.57	336	⇓P	P	01 28 42.0	+0.4
	baz=49,SNR=8.1						
MDND	Maddock	48.57	336	eP	P	01 28 41.6	0.0
	207nm,0.9s						
J22A	Midwest	48.59	327	⇓P	P	01 28 42.5	+0.5
	baz=49,SNR=27						
E26A	Carlson Angus	48.75	333	⇑P	P	01 28 43.3	+0.3
	baz=49						
C28A	Hausauer Farms	48.79	335	⇑P	P	01 28 43.7	+0.4
	baz=49,SNR=5.4						
H23A	Clabaugh Cattl	48.80	329	⇑P	P	01 28 43.8	+0.2
	baz=49						
D27A	Center	48.81	334	⇓P	P	01 28 44.3	+0.8
	baz=49,SNR=6.0						
F25A	Bowman	48.81	331	⇓P	P	01 28 43.4	-0.2
	baz=49						
G24A	Alzada	48.84	330	⇑P	P	01 28 43.9	0.0
	baz=49						
I22A	9 Mile Ranch,	48.91	327	⇑P	P	01 28 44.8	+0.3
	baz=49,SNR=26						
A30A	Hoffart Farm,	48.94	338	⇓P	P	01 28 44.3	-0.1
	baz=49						
B29A	Wagenman Farm,	48.96	336	⇑P	P	01 28 45.1	+0.5
	baz=49,SNR=28						
SWSC	Sam W. Stewart	48.98	310	⇓P	P	01 28 45.7	+0.7
	baz=49,SNR=9.0						
IRM	Iron Mountain	49.02	312	⇓P	P	01 28 46.0	+0.7
	baz=49,SNR=10						
BC3	Big Chuckawall	49.03	311	⇓P	P	01 28 46.0	+0.5
	baz=49,SNR=6.4						
MSU	Marysvale	49.07	318	eP	P	01 28 46.2	+0.3
	7.4nm,0.7s						
MSU				ePcP	PcP	01 30 09.8	+0.4
J21A	Lysite	49.08	326	⇓P	P	01 28 46.4	+0.6
	baz=49,SNR=8.2						
MVU	Marysvale	49.09	318	eP	P	01 28 46.0	0.0
	8.8nm,0.9s						
MVU				ePcP	PcP	01 30 10.4	+0.9
D26A	Manning	49.16	333	⇓P	P	01 28 46.6	+0.4
	baz=49						
E25A	Miller Ranch,	49.20	332	⇓P	P	01 28 46.8	+0.2
	baz=49,SNR=5.2						
F24A	Ekalaka	49.23	331	⇓P	P	01 28 46.7	-0.1
	baz=49,SNR=7.8						
C27A	Sayler Ranch,	49.27	334	⇓P	P	01 28 47.3	+0.3
	baz=49,SNR=14						
A29A	Manning Farm,	49.28	337	⇓P	P	01 28 47.0	-0.1
	baz=49,SNR=15						
I21A	Big Trails, Te	49.30	327	⇑P	P	01 28 47.4	0.0
	baz=49,SNR=23						
H22A	Clearmont	49.32	328	⇑P	P	01 28 47.8	+0.3
	baz=49						
B28A	Dugan Ranch, T	49.36	336	⇑P	P	01 28 48.3	+0.7
	baz=50,SNR=5.6						
CCUT	Cedar City	49.37	317	eP	P	01 28 48.4	+0.2
	1.8nm,0.7s						
CCUT				ePcP	PcP	01 30 11.3	+0.8
J20A	Shoshoni	49.43	326	⇓P	P	01 28 49.3	+0.8
	baz=50						
MONP	Monument Peak,	49.44	310	⇑P	P	01 28 49.4	+0.6
	baz=50,SNR=8.8						
MPU	Maple Canyon	49.54	320	eP	P	01 28 49.5	0.0
	46nm,1.1s						
MPU				ePcP	PcP	01 30 10.5	-0.6
BAR	Barrett	49.55	309	eP	P	01 28 49.3	-0.1
	13nm,1.1s						
BELC	Belle Mtn. Jos	49.59	311	⇑P	P	01 28 50.3	+0.5
	baz=50,SNR=10						
C26A	Wahner Farm, P	49.61	334	⇑P	P	01 28 50.2	+0.6
	baz=50,SNR=8.6						
F23A	Volborg	49.61	330	⇑P	P	01 28 49.6	-0.1
	baz=50,SNR=17						
D25A	Fairfield	49.65	333	⇓P	P	01 28 50.7	+0.7
	baz=50						
GMRC	Granite Mounta	49.68	312	⇓P	P	01 28 51.0	+0.5
	baz=50,SNR=5.1						
E24A	Baker	49.68	331	⇓P	P	01 28 50.3	+0.2
	baz=50						
A28A	Rude Farm, Bot	49.68	336	⇑P	P	01 28 50.6	+0.4
	baz=50,SNR=7.7						
B27A	Peters Farms,	49.70	335	⇓P	P	01 28 51.1	+0.8
	baz=50,SNR=18						
H21A	Big Horn, Sher	49.70	328	⇓P	P	01 28 50.3	-0.2
	baz=50						
G22A	Birney	49.71	329	⇑P	P	01 28 50.8	+0.2
	baz=50,SNR=28						
JLU	Jordanelle	49.76	321	eP	P	01 28 51.7	+0.6
	6.3nm,0.9s						
JLU				ePcP	PcP	01 30 12.6	+0.8
PFO	Pinyon Flats O	49.76	311	⇓P	P	01 28 52.3	+1.2
	baz=50,SNR=5.3						
PFO	Pinyon Flats O	49.76	311	eP	P	01 28 51.5	+0.4
	7.8nm,1.1s						
SCHQ	Schefferville	49.82	4	P	P	01 28 50.9	-0.1
	4.5nm,0.6s,baz=202,slow=6.6,SNR=11						
SCHQ				LR	LR	01 49 21.9	
	comp=Z,93nm,19.7s,baz=278,slow=35						
SCHQ	Schefferville	49.82	4	eP	P	01 28 51.1	0.0
	16nm,1.2s						
I20A	Worland	49.84	327	⇓P	P	01 28 51.8	+0.2
	baz=50,SNR=21						
BW06	Boulder Array	49.90	324	eP	P	01 28 51.7	-0.5
	13nm,1.0s						
BW06				ePcP	PcP	01 30 11.8	-0.6
PDAR	Pinedale Array	49.90	324	P	P	01 28 51.9	-0.3
	9.1nm,1.1s,baz=120,slow=8.7,SNR=37						
PDAR				PcP	PcP	01 30 11.9	-0.4
	7.2nm,0.6s,baz=112,slow=4.8,SNR=13						
J19A	Crowheart	49.92	325	⇓P	P	01 28 52.6	+0.3
	baz=50						
109C	Camp Elliot, M	49.96	309	⇑P	P	01 28 53.3	+0.8
	baz=50						
TCUT	Toone Canyon	50.03	322	eP	P	01 28 53.2	+0.1
	15nm,0.6s						
C25A	Freed Ranch, W	50.04	333	⇓P	P	01 28 53.6	+0.8
	baz=50,SNR=6.8						
F22A	Rosebud	50.08	329	⇑P	P	01 28 53.4	+0.2
	baz=50						
B26A	Jensen Ranch,	50.09	334	⇑P	P	01 28 53.8	+0.6
	baz=50						
D24A	Glendive	50.09	332	⇓P	P	01 28 54.0	+0.7
	baz=50						
SHPR	Sheep Range	50.10	315	eP	P	01 28 53.9	+0.2
	12nm,1.3s						
E23A	Ismay	50.11	331	⇓P	P	01 28 53.7	+0.2
	baz=50,SNR=8.8						
A27A	Ledoux Ranch,	50.12	336	⇓P	P	01 28 54.2	+0.8
	baz=50,SNR=5.8						
H20A	Greybull	50.12	327	⇑P	P	01 28 53.6	-0.1
	baz=50,SNR=12						
TUQ	Turquoise Moun	50.16	313	⇑P	P	01 28 54.7	+0.6
	baz=50,SNR=6.2						
G21A	Lodge Grass	50.19	328	⇑P	P	01 28 54.3	+0.1
	baz=50,SNR=15						
HEC	Hector,Ludlow	50.19	312	⇑P	P	01 28 55.1	+0.8
	baz=50,SNR=5.1						
MURC	Murrieta	50.33	310	⇓P	P	01 28 56.4	+1.1
	baz=50,SNR=5.2						
I19A	Meeteetse	50.38	326	⇓P	P	01 28 56.0	+0.2
	baz=50,SNR=6.0						
E22A	Miles City	50.39	330	⇓P	P	01 28 55.4	-0.2
	baz=50,SNR=6.6						
DUG	Dugway, Tooele	50.40	320	⇑P	P	01 28 56.6	+0.7
	baz=50,SNR=8.8						
DUG	Dugway, Tooele	50.40	320	eP	P	01 28 55.9	0.0
	4.3nm,0.7s						
A26A	Wade Farm, Ken	50.40	335	⇓P	P	01 28 56.3	+0.7
	baz=50,SNR=17						
HWUT	Hardware Ranch	50.41	322	eP	P	01 28 55.4	-0.6
	5.5nm,0.7s						
HWUT				ePcP	PcP	01 30 13.6	-0.6
B25A	Knox Farm, Ray	50.41	334	⇑P	P	01 28 56.5	+0.8
	baz=50,SNR=40						
C24A	Savage	50.44	332	⇑P	P	01 28 56.6	+0.7
	baz=50,SNR=7.6						
D23A	Lindsay	50.55	331	⇓P	P	01 28 57.8	+1.0
	baz=51,SNR=8.2						
F21A	Absaloka Mine,	50.55	329	⇑P	P	01 28 57.4	+0.5
	baz=51						
SHOC	Shoshone, Teco	50.63	313	⇑P	P	01 28 58.4	+0.8
	baz=51						
LAO	LASA Array	50.70	330	eP	P	01 28 57.6	-0.3
	27nm,1.1s						
LAO				ePcP	PcP	01 30 14.7	-0.3
G20A	Bridger	50.72	328	⇑P	P	01 28 58.1	-0.1
	baz=51,SNR=15						
GSC	Goldstone, Bar	50.75	312	⇑P	P	01 28 59.2	+0.7
	baz=51,SNR=9.0						
GSC	Goldstone, Bar	50.75	312	eP	P	01 28 58.7	+0.1
	6.4nm,0.7s						
H19A	Powell	50.78	327	⇓P	P	01 28 59.0	+0.4
	baz=51						
A25A	Svangstu Ranch	50.89	334	⇑P	P	01 29 00.1	+0.8
	baz=51,SNR=6.9						
BGU	Big Grassy Mou	50.93	321	eP	P	01 28 59.9	0.0
	8.6nm,0.6s						
BGU				ePcP	PcP	01 30 16.8	+0.7
C23A	Lambert	50.99	332	⇓P	P	01 29 00.7	+0.7
	baz=51,SNR=17						
D22A	Cohagen	51.00	331	⇓P	P	01 29 01.1	+0.9
	baz=51,SNR=59						
E21A	Keefer Ranch,	51.02	330	⇓P	P	01 29 00.5	+0.2
	baz=51,SNR=9.4						
SNOW	Snow King Moun	51.02	324	eP	P	01 29 00.8	+0.1
	25nm,1.1s						
DGMT	Dagmar	51.02	333	⇑P	P	01 29 01.1	+0.8
	baz=51,SNR=14						
DGMT	Dagmar	51.02	333	eP	P	01 29 00.7	+0.4
	81nm,0.7s						
LOHW	Long Hollow	51.02	325	eP	P	01 29 00.4	-0.2
	24nm,1.3s						
LOHW				ePcP	PcP	01 30 15.7	-0.8
F20A	Billings	51.07	328	⇑P	P	01 29 01.0	+0.2
	baz=51,SNR=10						
TPNV	Topopah Spring	51.09	315	⇑P	P	01 29 02.1	+0.9
	baz=51,SNR=9.4						
TPAW	Teton Pass	51.15	324	eP	P	01 29 01.9	+0.2
	11nm,0.8s						
MOOW	Moose Ponds	51.19	325	eP	P	01 29 01.5	-0.3
	6.6nm,0.9s						
RLMT	Red Lodge	51.22	327	⇑P	P	01 29 02.1	0.0
	baz=51						
HVU	Hansel Valley	51.25	322	eP	P	01 29 02.2	-0.1
	2.8nm,0.6s						
A24A	Westby	51.27	334	⇓P	P	01 29 03.4	+1.3
	baz=51,SNR=17						
R11A	Troy Canyon, C	51.28	316	⇑P	P	01 29 03.5	+0.9
	baz=51,SNR=8.2						
R11A	Troy Canyon, C	51.28	316	eP	P	01 29 03.0	+0.3
	2.8nm,0.7s						
FURC	Furnace Creek,	51.30	314	⇓P	P	01 29 04.0	+1.5
	baz=51,SNR=8.4						
D21A	La Casta Ranch	51.34	330	⇑P	P	01 29 03.7	+0.9
	baz=51,SNR=5.3						
B23A	Brockton	51.38	333	⇓P	P	01 29 04.4	+1.4
	baz=52,SNR=15						
IMW	Indian Meadow	51.39	325	eP	P	01 29 03.6	+0.2
	6.1nm,0.5s						
IMW				ePcP	PcP	01 30 18.1	+0.2
EDW2	Edwards Air Fo	51.45	311	⇑P	P	01 29 04.2	+0.5
	baz=52,SNR=8.5						
LRMC	Laurel Mtn Rad	51.48	312	⇑P	P	01 29 04.8	+0.7
	baz=52						
F19A	Roth Farm, Mol	51.52	328	⇑P	P	01 29 04.3	+0.1
	baz=52,SNR=5.1						
MPMC	Manual Prospec	51.58	313	⇑P	P	01 29 05.1	+0.2
	baz=52,SNR=7.3						
A23A	Redstone	51.69	333	⇑P	P	01 29 07.0	+1.7
	baz=52						
B22A	Reddig Ranch S	51.73	332	⇑P	P	01 29 06.8	+1.2
	baz=52,SNR=11						
E19A	Rath Farm, Rou	51.84	329	⇑P	P	01 29 07.2	+0.6
	baz=52,SNR=17						
GCMT	Greycliff	51.87	327	eP	P	01 29 06.7	-0.1
	12nm,0.8s						
C21A	Desert Coulee	51.92	331	⇑P	P	01 29 07.6	+0.6
	baz=52,SNR=7.4						
D20A	Manuel Ranch,	51.93	330	⇓P	P	01 29 07.6	+0.4
	baz=52,SNR=13						
ISA	Isabella, Lake	52.13	312	⇓P	P	01 29 09.7	+0.8
	baz=52,SNR=5.7						
ISA	Isabella, Lake	52.13	312	eP	P	01 29 08.5	-0.4
	8.8nm,1.1s						
CWC	Cottonwood Cre	52.17	313	⇑P	P	01 29 10.4	+1.1
	baz=52						
ARVC	Arvin	52.18	311	⇑P	P	01 29 10.1	+0.9
	baz=52,SNR=7.6						
A22A	Carney Farms,	52.18	333	⇑P	P	01 29 10.1	+1.1
	baz=52,SNR=45						
ELK	Elko	52.25	319	eP	P	01 29 09.6	-0.3
ELK				ePcP	PcP	01 30 21.2	0.0
C20A	Veseth Ranch,	52.28	330	⇓P	P	01 29 10.3	+0.6
	baz=52,SNR=15						
TPH	Tonopah	52.29	315	eP	P	01 29 10.2	+0.1
	13nm,1.2s						
B21A	Ellsworth Farm	52.30	331	⇑P	P	01 29 11.0	+1.2
	baz=52						
BSC	Santa Cruz Isl	52.34	310	⇓P	P	01 29 11.2	+0.8
	baz=52						
D19A	Cripps Ranch,	52.35	329	⇑P	P	01 29 10.7	+0.4
	baz=52,SNR=22						
A21A	Bergtoll Ranch	52.65	332	⇓P	P	01 29 13.7	+1.3
	baz=53,SNR=5.8						
VES	Vestal, Richgr	52.66	312	⇓P	P	01 29 13.8	+1.1
	baz=53,SNR=10						
B20A	Solberg Farm,	52.79	331	⇑P	P	01 29 14.5	+1.0
	baz=53,SNR=22						
PKM	Mcpherson Peak	52.83	311	⇓P	P	01 29 15.1	+0.9
	baz=53						
BOZ	Bozeman (W)	52.85	326	eP	P	01 29 13.8	-0.3
	14nm,1.3s						
RCTC	Rector, Farmer	52.97	312	⇑P	P	01 29 15.4	+0.5
	baz=53						
A20A	Cobblestone Ra	53.05	331	⇓P	P	01 29 16.3	+0.9
	baz=53,SNR=19						
MCMT	McKenzie Canyo	53.05	325	eP	P	01 29 16.2	+0.6
	9.8nm,1.3s						
NVAR	Mina Array Bea	53.21	315	P	P	01 29 17.4	+0.5
	4.5nm,0.7s,baz=124,slow=6.5,SNR=22						
NVAR				PcP	PcP	01 30 25.2	+0.5
	4.4nm,0.7s,baz=138,slow=4.6,SNR=8.8						
HLID	Hailey	53.24	323	⇑P	P	01 29 17.4	+0.2
	baz=53,SNR=10.0						
HLID	Hailey	53.24	323	eP	P	01 29 17.1	0.0
	5.9nm,0.9s						
B19A	Brinkman Farms	53.25	330	⇑P	P	01 29 17.5	+0.6
	baz=53						
EGMT	Eagleton	53.37	330	⇓P	P	01 29 18.3	+0.5
	baz=54,SNR=6.6						
EGMT	Eagleton	53.37	330	eP	P	01 29 17.9	+0.2
	23nm,1.1s						
LRM	Limekiln Ridge	53.41	326	eP	P	01 29 18.3	0.0
	86nm,1.1s						
A19A	Klindworth Far	53.47	331	⇓P	P	01 29 19.4	+0.8
	baz=54,SNR=5.6						
MFID	Camas Ranch	54.03	322	eP	P	01 29 22.9	+0.1
	8.5nm,0.8s						
CHMT	Chamberlain Mo	54.51	327	eP	P	01 29 25.6	-0.7
	1.0nm,0.6s						
SLMT	Seeley Lake	54.84	327	eP	P	01 29 28.4	-0.3
	5.7nm,1.0s						
MSO	Missoula	54.84	326	⇓P	P	01 29 29.4	+0.8
	baz=55						
FFC	Flin Flon	54.96	340	eP	P	01 29 28.6	-0.6
	8.4nm,0.6s						
SWMT	Swartz Lake	55.28	327	eP	P	01 29 32.5	+0.8
	2.3nm,0.7s						
WVOR	Wild Horse Val	55.30	319	eP	P	01 29 32.0	-0.1
	14nm,1.2s						
YBMT	Yellow Bay	55.49	327	eP	P	01 29 33.8	+0.5
	17nm,1.3s						
JTMT	Jette	55.57	327	eP	P	01 29 34.2	+0.3
	16nm,1.4s						
BLMT	Blacktail Moun	55.77	327	eP	P	01 29 35.7	+0.3
	9.7nm,0.8s						
BSMT	Bassoo Peak	55.91	327	eP	P	01 29 36.8	+0.4
	27nm,1.6s						
FCC	Fort Churchill	56.13	347	eP	P	01 29 36.8	-0.6
M04C	Macdoel	57.12	317	⇑P	P	01 29 45.3	+0.3
	baz=57						
J05D	Fort Rock, OR	57.39	319	⇓P	P	01 29 47.6	+0.7
	baz=58						
NEW	Newport	57.43	326	⇓P	P	01 29 46.8	-0.2
	baz=58,SNR=5.5						
J04D	Umpqua Nationa	57.94	319	⇓P	P	01 29 51.5	+0.6
	baz=58						
EDM	Edmonton	58.49	332	eP	P	01 29 53.5	-0.8
	53nm,1.1s						
USHA	Ushuaia	59.78	177	P	P	01 30 03.0	0.0
	9.4nm,0.9s,baz=0.0,slow=5.1,SNR=3.2						
YKA	Yellowknife Ar	65.14	340	P	P	01 30 38.7	-0.1
	22nm,0.6s,baz=134,slow=6.4,SNR=199						
ILULI	Ilulissat	65.59	8	iP	P	01 30 41.3	-0.3
	32nm,1.0s						
PTEO	Sao Teotonio	66.16	51	eP	P	01 30 48.4	+2.5
PTEO	Sao Teotonio	66.16	51	eP	P	01 30 48.4	+2.5
MORF	Marmelete	66.17	51	eP	P	01 30 47.9	+1.8
MORF	Marmelete	66.17	51	eP	P	01 30 47.9	+1.8
PNCL	Nicolau / Gran	66.44	51	eP	P	01 30 49.1	+1.4
PNCL	Nicolau / Gran	66.44	51	eP	P	01 30 49.1	+1.4
PCVE	Castro Verde	66.71	51	eP	P	01 30 51.2	+1.7
PCVE	Castro Verde	66.71	51	eP	P	01 30 51.2	+1.7

PBDV	Barranco-do-Ve	66.72	52	eP	P	01 30 51.5	+1.9
PBDV	Barranco-do-Ve	66.72	52	eP	P	01 30 51.5	+1.9
PCAS	Casmilo, Conde	66.89	49	eP	P	01 30 51.6	+1.0
	50nm,1.8s						
PCAS	Casmilo, Conde	66.89	49	eP	P	01 30 51.6	+1.0
	50nm,1.8s						
EVO	Evora	66.92	50	eP	P	01 30 51.3	+0.5
EVO	Evora	66.92	50	eP	P	01 30 51.3	+0.5
TIC	Toumodi	67.02	85	eP	P	01 30 51.5	-0.4
LIC	Lamto	67.03	85	eP	P	01 30 51.8	-0.1
PTO	Porto	67.08	47	eP	P	01 30 52.7	+1.0
PTO	Porto	67.08	47	eP	P	01 30 52.7	+1.0
DBIC	Dimbokro	67.18	85	P	P	01 30 52.9	0.0
	29nm,0.6s,baz=259,slow=6.5,SNR=55						
DBIC				LR	LR	01 57 14.7	
	comp=Z,96nm,19.6s,baz=224,slow=33						
DBIC	Dimbokro	67.18	85	eP	P	01 30 52.6	-0.2
	29nm,0.6s						
KIC	Kosan Boka	67.31	85	eP	P	01 30 53.6	-0.1
	43nm,0.0s						
PESTR	Estremoz	67.32	50	eP	P	01 30 54.4	+1.1
	29nm,1.5s						
PESTR	Estremoz	67.32	50	eP	P	01 30 54.4	+1.1
	29nm,1.5s						
PVIS	Viseu	67.50	48	eP	P	01 30 55.2	+0.7
PVIS	Viseu	67.50	48	eP	P	01 30 55.2	+0.7
PGAV	Gavieira, Arco	67.52	47	eP	P	01 30 55.3	+0.7
PGAV	Gavieira, Arco	67.52	47	eP	P	01 30 55.3	+0.7
PMRV	Marv??o	67.59	49	eP	P	01 30 55.3	+0.3
PMRV	Marv??o	67.59	49	eP	P	01 30 55.3	+0.3
PBAR	Barrancos	67.60	51	eP	P	01 30 56.1	+1.0
PBAR	Barrancos	67.60	51	eP	P	01 30 56.1	+1.0
PCAB	Cabril	67.63	47	eP	P	01 30 55.8	+0.5
PCAB	Cabril	67.63	47	eP	P	01 30 55.8	+0.5
MTE	Manteigas	67.69	48	eP	P	01 30 56.3	+0.6
	27nm,1.3s						
MTE	Manteigas	67.69	48	eP	P	01 30 56.3	+0.6
	27nm,1.3s						
POLO	Lamas de Olo	67.72	47	eP	P	01 30 56.8	+0.8
POLO	Lamas de Olo	67.72	47	eP	P	01 30 56.8	+0.8
PVRL	Vila Real	67.76	47	eP	P	01 30 56.8	+0.7
PVRL	Vila Real	67.76	47	eP	P	01 30 56.8	+0.7
MVO	Moncorvo	68.24	48	eP	P	01 30 59.6	+0.4
	24nm,1.1s						
MVO	Moncorvo	68.24	48	eP	P	01 30 59.6	+0.4
	24nm,1.1s						
PBRG	Braganca	68.59	47	eP	P	01 31 02.1	+0.8
PBRG	Braganca	68.59	47	eP	P	01 31 02.1	+0.8
DLBC	Dease Lake	69.19	332	eP	P	01 31 05.4	+0.6
	12nm,1.1s						
PAB	San Pablo	69.92	50	eP	P	01 31 10.0	+0.3
	15nm,1.1s						
ESDC	Sonseca Array	70.23	50	P	P	01 31 12.3	+0.7
	3.7nm,0.8s,baz=270,slow=5.9,SNR=30						
ESLA	Sonseca Array	70.23	50	eP	P	01 31 11.7	+0.1
	6.9nm,1.4s						
SUMG	Summit	70.58	10	⇑iP	P	01 31 13.6	+0.2
	32nm,0.9s						
SUMG	Summit	70.58	10	eP	P	01 31 13.4	0.0
	31nm,0.8s						
OSSF	Osses	72.84	46	⇑eP	P	01 31 27.7	+0.6
TOA1	Torodi Ar. Sit	73.41	78	eP	P	01 31 29.2	-1.8
TOA0	Torodi Ar. Sit	73.41	78	eP	P	01 31 29.5	-1.5
TOA0	Torodi Ar. Sit	73.41	78	eP	P	01 31 30.4	-0.6
TORD	Torodi Ar. Bea	73.41	78	P	P	01 31 30.6	-0.4
	3.7nm,0.7s,baz=281,slow=5.3,SNR=28						
TORD				LR	LR	02 03 01.6	
	comp=Z,75nm,18.9s,baz=245,slow=35						
SALF	Salau	74.55	47	⇑eP	P	01 31 38.7	+1.4
INK	Inuvik	74.91	340	eP	P	01 31 38.3	-0.4
	34nm,1.6s						
VALF	Valcebollere	75.11	48	⇑eP	P	01 31 41.8	+1.2
DAWY	Dawson	75.52	335	eP	P	01 31 41.9	-0.4
	20nm,1.7s						
PYM	Petit Puy Mans	76.22	44	eP	P	01 31 47.5	+0.7
MENF	Mencas	76.31	39	⇑eP	P	01 31 47.0	-0.1
LBL	Lubilhac	76.33	45	⇑eP	P	01 31 48.3	+0.9
AGO	Saint Agoulin	76.34	44	eP	P	01 31 47.3	-0.1
EGAK	Eagle	76.47	336	eP	P	01 31 47.8	+0.1
	32nm,1.4s						
COLF	Collangettes	76.67	45	⇑eP	P	01 31 50.1	+0.8
PLDF	La Plantade	76.67	44	eP	P	01 31 48.2	-1.2
TAM	Tamanrasset	76.94	68	eP	P	01 31 53.0	+1.5
	11nm,0.9s						
BMRM	Bremner River	76.98	332	eP	P	01 31 51.2	+0.4
	32nm,1.1s						
DAG	Danmarks Havn	77.23	11	iP	P	01 31 51.2	-0.6
	2.9nm,0.8s						
SSB	Saint Sauveur	77.24	45	eP	P	01 31 53.3	+0.8
	28nm,1.6s						
DOT	Dot Lake	77.38	334	eP	P	01 31 53.6	+0.6
	49nm,1.5s						
PAX	Paxson	77.84	333	eP	P	01 31 55.3	-0.2
	25nm,1.4s						
THEF	They Montfort	78.51	42	⇑eP	P	01 32 00.1	+0.6
BNI	Bardonecchia	78.73	45	eP	P	01 32 01.5	+0.6
	5.1nm,0.9s						
WLF	Walferdange	78.76	40	eP	P	01 32 02.1	+1.3
	comp=Z,28nm,1.1s						
WLF	Walferdange	78.76	40	eP	P	01 32 01.5	+0.7
	comp=Z,15nm,0.9s						
CALN	Calern	78.79	47	⇑eP	P	01 32 02.0	+0.7
ILAR	Eielson Array	78.84	335	P	P	01 32 00.8	-0.2
	comp=Z,2.0nm,0.7s,baz=113,slow=4.4,SNR=21						
ILAR				PP	PP	01 34 58.0	-1.5
	comp=Z,2.3nm,0.9s,baz=102,slow=6.9,SNR=8.7						
ILAR				PKiKP	PKiKP	01 37 36.6	+1.1
	comp=Z,0.7nm,0.3s,baz=150,slow=2.0,SNR=14						
ILAR				LR	LR	02 08 37.3	
	comp=Z,64nm,19.8s,baz=120,slow=37						
MVIF	Mont Vial	78.99	46	eP	P	01 32 03.1	+0.7
LOMF	Lomont	79.00	43	eP	P	01 32 02.9	+0.6
TOUF	Mont Tournerai	79.06	46	⇑eP	P	01 32 03.5	+0.6
REVF	Revere	79.13	47	⇑eP	P	01 32 03.8	+0.7
AUTN	L'Aution	79.19	46	⇑eP	P	01 32 05.5	+1.9
MOF	Molkenrain	79.25	42	⇑eP	P	01 32 03.5	-0.2
COLA	College	79.26	335	eP	P	01 32 03.3	+0.1
SAOF	Saorge	79.28	46	⇑eP	P	01 32 04.4	+0.5
ECH	Echery	79.29	42	⇑eP	P	01 32 04.2	+0.4
ECH	Echery	79.29	42	eP	P	01 32 03.6	-0.2
	comp=Z,35nm,1.4s						
MCK	McKinley	79.52	334	eP	P	01 32 04.8	0.0
	comp=Z,7.9nm,1.0s						
BUG	Bochum--Univer	79.63	39	eP	P	01 32 06.5	+1.0
	comp=Z,37nm,1.7s						
LANF	Langenberg	79.78	41	⇑eP	P	01 32 07.0	+0.6
IBBN	Ibbenburen	80.00	38	eP	P	01 32 08.5	+1.0
	comp=Z,26nm,1.3s						
TRF	Thorofare Moun	80.07	334	eP	P	01 32 08.0	+0.1
	comp=Z,24nm,1.3s						
BFO	Black Forest	80.08	42	eP	P	01 32 08.6	+0.5
	comp=Z,9.0nm,1.2s						
HLG	Helgoland	80.23	36	eP	P	01 32 09.1	+0.4
	comp=Z,84nm,1.1s						
TNS	Taunus Mts	80.28	40	eP	P	01 32 10.2	+1.0
	comp=Z,23nm,1.4s						
KTH	Kantishna Hill	80.37	334	eP	P	01 32 09.4	0.0
	comp=Z,9.4nm,1.1s						
KEST	Kesra	80.38	55	P	P	01 32 10.7	+0.7
	comp=Z,7.4nm,0.8s,baz=223,slow=1.9,SNR=18						
KEST				LR	LR	02 07 33.2	
	comp=Z,34nm,18.7s,baz=259,slow=36						
BPAW	Bear Paw Mtn.	80.47	334	eP	P	01 32 09.4	-0.4
	comp=Z,10nm,1.7s						
BPAW				ePP	PP	01 35 11.4	-1.7
COLD	Coldfoot	80.63	337	eP	P	01 32 11.4	+0.8
	comp=Z,7.0nm,1.1s						
STU	Stuttgart	80.68	42	eP	P	01 32 12.0	+0.7
	comp=Z,19nm,1.2s						
STU	Stuttgart	80.68	42	eP	P	01 32 11.4	+0.1
	comp=Z,17nm,1.1s						
RSO	Redoubt South	80.85	330	eP	P	01 32 11.9	-0.3
	comp=Z,21nm,0.7s						
PPLA	Purkeypile	80.85	333	eP	P	01 32 11.5	-0.5
	comp=Z,32nm,1.2s						
DAVA	Damuels	81.07	43	⇑iP	P	01 32 14.5	+0.9
	comp=Z,20nm,0.9s,SNR=12						
UBBA	Unterbreizbach	81.30	40	eP	P	01 32 15.4	+1.0
	comp=Z,18nm,1.8s						
NRDL	Niedersach Rie	81.45	38	eP	P	01 32 16.6	+1.4
	comp=Z,13nm,1.5s						
FETA	Feichten	81.64	43	⇑iP	P	01 32 17.3	+0.7
	comp=Z,16nm,1.0s,SNR=11						
IM04	Indian Mountai	81.88	336	eP	P	01 32 17.0	-0.3
FUR	Furstenfeldbru	82.04	42	eP	P	01 32 19.6	+1.1
	comp=Z,14nm,1.1s						
GRF	Grafenberg Arr	82.04	41	eP	P	01 32 19.6	+1.1
	comp=Z,35nm,1.9s						
GRF				eL	L	02 06 34.5	
	comp=Z,55nm,19.2s						
MOX	Moxa	82.32	40	eP	P	01 32 21.0	+1.1
	comp=Z,15nm,1.9s						
MOX				eL	L	02 03 17.8	
	comp=Z,54nm,21.2s						
NAO01	NORSAR Array S	82.33	29	eP	P	01 32 19.6	-0.2
	comp=Z,2.1nm,0.7s						
NEUB	Neuenburg	82.44	39	eP	P	01 32 21.5	+1.0
	comp=Z,17nm,1.4s						
NOA	NORSAR Array B	82.50	29	P	P	01 32 20.9	+0.2
	comp=Z,1.2nm,0.7s,baz=268,slow=5.2,SNR=6.5						
PLN	Plauen	82.66	40	eP	P	01 32 22.9	+1.2
	comp=Z,19nm,1.8s						
ROTZ	Rotzenmuhle	82.69	41	eP	P	01 32 23.0	+1.2
	comp=Z,17nm,1.8s						
WERD	Werda	82.76	40	eP	P	01 32 23.1	+0.9
	comp=Z,18nm,1.9s						
WERN	Wernitzgruen	82.80	40	eP	P	01 32 23.7	+1.2
	comp=Z,8.0nm,1.4s						
WET	Wettzell	83.12	41	eP	P	01 32 25.3	+1.2
	comp=Z,18nm,1.6s						
CLL	Collm	83.21	39	eP	P	01 32 25.4	+0.9
	comp=Z,18nm,2.0s						
CLL	Collm	83.21	39	eP	P	01 32 25.0	+0.5
	comp=Z,10.0nm,1.8s						
CLL				ePcP	PcP	01 32 29.0	0.0
CLL				LmV		02 14 00.0	
	comp=Z,100nm,19.2s						
KHC	Kasperske Hory	83.58	41	eP	P	01 32 27.2	+0.7
KHC				ex	x	01 32 42.8	
KHC				ex	x	01 32 52.9	
KHC	Kasperske Hory	83.58	41	eP	P	01 32 26.8	+0.3
	comp=Z,3.8nm,1.4s						
MYKA	Terra Mystica	83.64	44	⇑iP	P	01 32 27.3	+0.4
	comp=Z,18nm,1.5s,SNR=7.1						
GEC2	GERESS Array S	83.66	42	eP	P	01 32 27.8	+0.8
	comp=Z,12nm,1.6s						
GERES	GERESS Array B	83.66	42	P	P	01 32 27.4	+0.4
	comp=Z,1.1nm,0.8s,baz=270,slow=2.7,SNR=8.8						
GERES				LR	LR	02 05 13.2	
	comp=Z,30nm,21.6s,baz=295,slow=32						
CADS	Cadrg	83.71	44	eP	P	01 32 27.6	+0.4
BRG	Berggiesshubel	83.80	39	eP	P	01 32 28.4	+0.9
	comp=Z,19nm,1.9s						
BRG	Berggiesshubel	83.80	39	eP	P	01 32 28.6	+1.0
	comp=Z,19nm,1.9s						
MOA	Molln	84.05	43	⇑iP	P	01 32 29.3	+0.4
	comp=Z,13nm,1.3s,SNR=5.5						
PRU	Pruhonice	84.19	40	eP	P	01 32 30.4	+0.8
PRU				ex	x	01 32 47.0	
CEY	Cerknica	84.20	45	eP	P	01 32 30.3	+0.5
LJU	Ljubljana	84.26	44	iP	P	01 32 30.8	+0.8
GOPC	GO Pecny, Ondr	84.36	40	eP	P	01 32 33.2	+2.8
TREC	Trest	84.83	41	eP	P	01 32 33.5	+0.7
CONA	Conrad Observa	85.12	42	iP	P	01 32 34.9	+0.5
	comp=Z,12nm,1.4s,SNR=6.7						
UPC	Upice	85.12	40	eP	P	01 32 35.2	+0.9
DPC	Dobruska-Polom	85.33	40	eP	P	01 32 36.0	+0.6
DPC				ex	x	01 32 47.1	
TIP	Timpagrande	86.19	51	eP	P	01 32 38.8	-1.1
	comp=Z,4.6nm,0.9s						
VNA1	Neumayer--Stat	86.44	163	P	P	01 32 40.3	0.0
PSZ	Piszkesteto	87.83	42	eP	P	01 32 49.0	+1.3
	comp=Z,2.5nm,0.8s						
KECS	Kecovo	88.17	42	eP	P	01 32 48.9	-0.3
KECS				epP	pP	01 32 56.9	-1.5
KECS				esP	sP	01 33 01.3	-0.5
DIVS	Divibare	88.24	46	⇓iP	P	01 32 51.0	+1.3
SNAA	Sanae	88.47	163	P	P	01 32 41.4	-8.7
BZS	Buzias	89.24	44	⇓iP	P	01 32 55.1	+0.8
KOLS	Kolonicke sedl	89.30	41	eP	P	01 32 54.6	+0.1
FINES	FINESS Array B	89.64	28	LR	LR	02 10 07.7	
	comp=Z,30nm,19.3s,baz=223,slow=34						
DRGR		89.85	43	⇑iP	P	01 32 57.0	-0.2
VTS	Vitosha	90.74	47	⇑iP	P	01 33 00.4	-1.2
MMB	Musomiste	91.26	48	⇓iP	P	01 33 05.4	+1.5
ARR	Arges	91.37	44	⇓iP	P	01 33 05.4	+1.1
BUR08	Bucovina Ar. S	91.41	42	eP	P	01 33 05.8	+1.2
BURAR	Bucovina Array	91.43	42	⇑iP	P	01 33 06.3	+1.7
VOIR		91.65	44	⇑iP	P	01 33 09.2	+3.5
MLR	Muntele Rosu	92.27	44	⇑iP	P	01 33 09.4	+0.8
BOSA	Boshof	99.13	118	LR	LR	02 16 18.8	
	comp=Z,153nm,18.6s,baz=188,slow=34						
MK31	Makanchi Array	123.71	21	ePKPdf	PKPdf	01 38 54.7	-1.4
MKAR	Makanchi Array	123.71	21	PKP	PKPdf	01 38 55.5	-0.6
	comp=Z,0.2nm,0.5s,baz=315,slow=2.6,SNR=4.0						
SONM	Songino Array	127.31	1	PKP	PKPdf	01 39 02.9	-0.2
	comp=Z,0.3nm,0.5s,baz=326,slow=6.5,SNR=3.0						
WMQ	Urumqi	128.13	18	PKP	PKPdf	01 39 04.4	-0.3
WMQ				PP	PP	01 41 10.4	+3.3
WMQ				PPMZ			
	comp=Z,11nm,10.2s						
CN2	Changchun	128.75	343	ePKP	PKPdf	01 39 02.0	-3.8
HHC	Hu-ho-hao-te	134.16	356	ePKP	PKPdf	01 39 13.4	-2.9
HHC				sPKP		01 39 26.8	
HHC				PP	PP	01 41 49.0	+3.1
HHC				PKS	PKSdf	01 42 44.8	-7.9
HHC				SKS	SKSdf	01 46 20.7	-5.2
HHC				SS	SS	01 59 32.1	-0.2
HHC				PPMZ			
	comp=Z,38nm,9.1s						
HHC				LN			
	comp=Z,110nm,20.7s						
HHC				LE			
	comp=Z,100nm,20.8s						
HHC				LZ			
	comp=Z,61nm,20.1s						
LZH	Lanzhou	138.91	5	ePKP	PKPdf	01 39 22.2	-3.1
LZH				sPKP		01 39 36.7	
LZH				LN			
	comp=Z,130nm,17.2s						
LZH				LE			
	comp=Z,140nm,19.0s						
LZH				LZ			
	comp=Z,190nm,20.2s						
NJ2	Nanjing	141.56	345	ePKP	PKPdf	01 39 30.7	+0.7
CD2	Chengdu	144.04	6	PKP	PKPbc	01 39 32.4	0.0
CD2				pPKP	PKiKP	01 39 38.6	+0.6
CD2				sPKP		01 39 40.9	
CD2				PP	PP	01 42 46.0	-0.8
CD2				SKS	SKSdf	01 46 40.9	-1.5
CD2				SKKS	SKKSac	01 49 36.9	-2.5
CD2				SS	SS	02 01 29.6	+1.1
CD2				PPMZ			
	comp=Z,120nm,5.4s						
AS31	Alice Springs	148.62	231	ePKPdf	PKPdf	01 39 43.5	+1.1
AS31				ePKPbc	PKiKP	01 39 47.9	+0.3
ASAR	Alice Springs	148.62	231	PKPbc	PKPdf	01 39 43.9	+1.5
	comp=Z,4.9nm,0.9s,baz=121,slow=3.0,SNR=17						
GYA	Guiyang	148.65	2	ePKPbc	PKPdf	01 39 40.0	-2.5
GYA				PKS	PP	01 43 14.0	-0.1
GYA				PP	PP	01 43 16.4	+2.3
GYA				PPMZ			
	comp=Z,110nm,8.0s						
WRAB	Tennant Creek	150.06	238	ePKPdf	PKPdf	01 39 45.7	+0.9
WRAB				ePKPbc	PKPbc	01 39 49.6	-0.1
WRAB				ePKPab	PKPab	01 39 56.0	+0.4
WRA	Warramunga Arr	150.06	238	PKPbc	PKPbc	01 39 47.5	-2.2
	comp=Z,9.0nm,0.6s,baz=108,slow=2.6,SNR=36						

*SJA **05** 01:26:33.7±0.6, 24°.20S×67°.02W, h203km±9km, ML3.3*
*IDC **05** 01:26:34.5±1.0, 24°.24S×66°.84W, h174km±10km, mb3.6/9, mb1 3.8/12, mb1mx3.6/24, mbtmp4.1/12, Error ellipse: s-maj=16.7km s-min=11.5km az=77.0*
*ISCJB **05** 01:26:35.0±0.5, 24°.20S±0°.05×66°.96W±0°.07, h196km±4km, mb3.6/9, Error ellipse: s-maj=11.2km s-min=6.5km az=152.2*

ISC 05 01:26:35.5±0.8**, 24°.25S**±0°.06×**67°.02W**±0°.07**, h189**km±7km**, n24, σ1.45**/31**, mb3.9**/9**, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.46	109	iP	Pn	01 27 08.4	+0.4
SLA				iS	Sn	01 27 33.9	+0.6
SLA				AML	AML	01 27 36.1	
	comp=Z,256nm,0.7s						
AZAP	Zapla	1.78	90	iP	Pn	01 27 11.1	-0.1
AZAP				iS	Sn	01 27 39.2	+0.2
AZAP				AML	AML	01 27 41.0	
	comp=Z,106nm,0.8s						
HJA	Humahuaca	1.80	55	iP	Pn	01 27 11.5	-0.2
HJA				iP	Pn	01 27 11.5	-0.2
FSA	Cafayete	2.05	154	iP	Pn	01 27 14.8	+0.9
FSA				iS	Sn	01 27 44.6	+0.6
ASTB	Santa Barbara	2.34	83	iP	Pn	01 27 16.9	-0.2
LVC	Limon Verde	2.38	313	P	Pn	01 27 18.7	+1.0
	comp=Z,1μm,0.3s,baz=142,slow=7.9,SNR=506						
LVC				S	Sn	01 27 50.9	+0.4
	comp=Z,4μm,0.3s,baz=272,slow=21,SNR=49						
AHML	Horco Molle	2.95	149	iP	Pn	01 27 24.3	+0.2
AHML				iS	Sn	01 28 01.3	-0.7
CFAA	Coronel Fontan	7.41	188	P	Pn	01 28 20.9	-0.1
	comp=Z,0.2nm,0.3s,baz=43,slow=17,SNR=22						
CFAA				S	Sn	01 29 39.9	-4.8
	comp=Z,0.6nm,0.3s,baz=264,slow=20,SNR=14						
LPAZ	La Paz	7.99	352	P	Pn	01 28 27.1	-2.2
	comp=Z,2.1nm,0.3s,baz=172,slow=6.5,SNR=26						
LPAZ				S	Sn	01 29 56.2	-3.3
	comp=Z,0.7nm,0.3s,baz=352,slow=17,SNR=3.1						
SIV	San Ignacio	9.93	35	P	Pn	01 28 51.4	-2.7
	comp=Z,2.0nm,0.3s,baz=225,slow=12,SNR=7.3						
BDFB	Brasilia	19.79	68	P	P	01 30 51.4	-0.3
	comp=Z,0.8nm,0.3s,baz=246,slow=12,SNR=7.0						
TXAR	Lajitas Array	63.87	325	P	P	01 36 48.6	+0.4
	comp=Z,0.4nm,0.7s,baz=152,slow=8.3,SNR=4.1						
DBIC	Dimbokro	67.90	71	P	P	01 37 13.9	-0.1
	comp=Z,2.7nm,0.9s,baz=214,slow=3.6,SNR=2.5						
TORD	Torodi Ar. Bea	76.67	69	P	P	01 38 04.7	-1.3
	comp=Z,0.6nm,0.5s,baz=257,slow=5.4,SNR=22						
PDAR	Pinedale Array	77.35	329	P	P	01 38 10.2	+0.7
	comp=Z,0.4nm,0.5s,baz=142,slow=4.6,SNR=2.3						
SCHQ	Schefferville	78.75	0	P	P	01 38 16.8	+0.2
	comp=Z,2.5nm,0.9s,baz=180,slow=6.1,SNR=2.9						
BOSA	Boshof	80.64	117	P	P	01 38 27.6	-0.1
	comp=Z,1.6nm,0.5s,baz=252,slow=3.9,SNR=5.5						
MAW	Mawson	81.20	163	P	P	01 38 31.2	+1.4
	comp=Z,3.5nm,0.6s,baz=208,slow=6.3,SNR=9.3						
ESDC	Sonseca Array	86.59	44	P	P	01 38 58.2	+0.8
	comp=Z,0.2nm,0.5s,baz=241,slow=4.2,SNR=3.1						
YKA	Yellowknife Ar	94.35	340	P	P	01 39 33.6	+0.6
	comp=Z,0.5nm,0.6s,baz=133,slow=4.5,SNR=5.0						
ASAR	Alice Springs	128.22	205	PKP	PKPdf	01 45 20.4	+0.4
	comp=Z,0.6nm,0.7s,baz=136,slow=1.7,SNR=4.4						
WRA	Warramunga Arr	131.40	207	PKP	PKPdf	01 45 27.3	+1.2
	comp=Z,0.4nm,0.5s,baz=158,slow=1.8,SNR=3.1						
ZALV	Zalesovo Beam	143.62	28	PKP	PKPbc	01 45 46.2	+0.8
	comp=Z,1.7nm,0.7s,baz=305,slow=4.7,SNR=6.0						
MKAR	Makanchi Array	146.73	40	PKPbc	PKPbc	01 45 55.7	+0.7
	comp=Z,1.9nm,0.6s,baz=302,slow=3.3,SNR=19						

NNC 05 01:42:32.3±4.5**, 37°.06N**×**71°.16E, h0**km**, mb3.6, mpv3.4, 8C-3D, Error ellipse: s-maj=38.0km s-min=15.9km az=172.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZET	Dzherino	2.54	314	⇓Pn	Pn	01 43 14.8	-0.1
	1.7nm,0.2s						
DZET				⇓Sn	Sn	01 43 48.4	+1.8
	14nm,0.5s						
SFK	Sufi-Kurgan	3.48	31	⇑Pn	Pn	01 43 29.1	+1.1
	4.8nm,0.2s						
SFK				⇑Sn	Sn	01 44 13.7	+3.6
	15nm,0.4s						
MNAS	Manas	5.52	10	⇑Pn	Pn	01 43 54.4	-1.6
	2.0nm,0.5s						
MNAS				⇓Sn	Sn	01 44 60.0	-0.4
	8.7nm,0.5s						
KK31	Karatay Array	6.06	356	⇑Pn	Pn	01 44 01.3	-1.9
	0.3nm,0.2s,baz=341,slow=62,SNR=17						
KK31				Sn	Sn	01 45 10.8	-2.5
	1.8nm,0.4s,baz=187,slow=22,SNR=13						
AAK	Ala-Archa	6.13	24	⇑Pn	Pn	01 44 02.9	-1.5
	1.0nm,0.3s						
AAK				⇑Sn	Sn	01 45 16.0	+0.6
	2.7nm,0.4s						
TKM2	Tokmak 2	6.78	29	⇑Pn	Pn	01 44 10.7	-2.6
	5.4nm,0.6s						
AB31	Akbulak array	14.66	330	⇑P	Pn	01 45 51.2	-10
	0.6nm,0.7s,baz=125,slow=14,SNR=4.4						

IDC 05 01:58:22.2±45.0**, 18°.97S**×**177°.79W, h520**km±374km**, mb3.1**/4**, mb1 3.2**/4**, mb1mx2.8**/31**, mbtmp4.0**/4**, Error ellipse: s-maj=445.6km s-min=51.9km az=119.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	33.87	262	P	P	02 04 21.6	+0.1
	1.7nm,0.3s,baz=92,slow=8.1,SNR=3.3						
WRA	Warramunga Arr	45.03	260	P	P	02 05 51.2	-0.3
	0.4nm,0.3s,baz=94,slow=6.1,SNR=2.7						
ASAR	Alice Springs	45.08	255	P	P	02 05 51.7	-0.2
	0.6nm,0.4s,baz=89,slow=8.5,SNR=12						
PETK	Petropavlovsk-	74.86	345	P	P	02 09 09.1	0.0
	3.7nm,0.8s,baz=126,slow=7.7,SNR=4.5						
BRTR	Keskin Array B	145.95	314	PKPbc	PKPbc	02 17 03.2	-0.7
	0.7nm,0.9s,baz=89,slow=1.6,SNR=4.0						

ECX 05 02:09:50.6±0.5**, 31°.84N**×**115°.02W, h9**km**, MD3.3, ML3.5, 3C-1D, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ECBX	El Chinero	0.36	184	⇓eP	Pg	02 09 55.3	-2.4
ECBX				eS	Sg	02 10 00.4	-2.1
CPBX	Cerro Prieto	0.63	338	ePn	Pg	02 10 02.6	-0.2
CPBX				eS	Sg	02 10 11.7	+0.6
RDX	Rancho Dawling	0.79	277	⇑eP	Pg	02 10 04.7	-1.4
RDX				eS	Sg	02 10 15.4	-1.2
RDX				IAML		02 10 17.4	
	comp=N,1μm,0.3s						
YMD	Yuma Desert	0.82	29	⇑iP	Pg	02 10 04.6	-1.8
SPIG	San Pedro Mart	0.87	206	eP	Pg	02 10 06.3	-1.6
SPX	San Pedro Mart	0.87	206	eP	Pg	02 10 06.3	-1.6
SPX				eS	Sg	02 10 18.2	-1.4
WESC	Westside Schoo	1.10	327	eP	Pg	02 10 09.9	-1.9
ZAX	El Zacaton	1.11	254	eP	Pg	02 10 09.7	-2.5
ZAX				eS	Sg	02 10 24.8	-2.0
RMX	La Rumorosa	1.18	311	ePn	Pb	02 10 09.9	-3.5
RMX				eS	Sb	02 10 26.1	-2.9
CBX	Cerro Bola	1.48	289	ePn	Pn	02 10 15.0	-2.5
CBX				eS	Sn	02 10 35.9	-1.2
CBX				IAML		02 10 38.9	
	comp=E,1μm,0.3s						
CBX				⇑e		02 10 38.9	

*MOS **05** 02:13:26.6±0.7, 48°.92N×159°.04E, h41km, mb4.2/1, Error ellipse: s-maj=76.1km s-min=10.6km az=91.5*

KRSC 05 02:13:37.0±1.8**, 49°.66N**×**158°.80E, h44**km±25km**, ML4.1, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.01	302	eP	Pn	02 14 09.4	+1.1
SKR				eS	Sn	02 14 32.6	+0.4
PAU	Pauzhetka	2.21	326	eP	Pn	02 14 14.5	+3.3
PAU				eS	Sn	02 14 40.8	+3.5
PAU	Pauzhetka	2.21	326	P	Pn	02 14 14.5	+3.3
PAU				S	Sn	02 14 40.8	+3.5
RUS	Russkaya	2.79	356	eP	Pn	02 14 22.1	+3.1
RUS				eS	Sn	02 14 54.4	+3.0
RUS	Russkaya	2.79	356	P	Pn	02 14 22.1	+3.1
ASAK	Asacha	2.79	349	eP	Pn	02 14 22.6	+3.4
ASAK				eS	Sn	02 14 55.2	+3.5
MIPR	Malaya Ipel'ka	2.92	335	eS	Sn	02 14 59.4	+4.6
SPN	Mys Shipunski	3.53	12	eP	Pn	02 14 33.0	+3.8
SPN	Mys Shipunski	3.53	12	P	Pn	02 14 33.0	+3.8
NLC	Nalytchevo	3.54	5	eP	Pn	02 14 32.8	+3.5
NLC	Nalytchevo	3.54	5	P	Pn	02 14 32.8	+3.5
UGLR	Uglovaya	3.56	0	eP	Pn	02 14 33.9	+4.1
SMAR	Somma	3.61	0	eP	Pn	02 14 35.2	+4.5
AVH	Avacha	3.61	359	eP	Pn	02 14 34.6	+4.1
AVH	Avacha	3.61	359	P	Pn	02 14 34.6	+4.1
SDLR	Sedlovina	3.63	1	eP	Pn	02 14 34.3	+3.5
KOK	Koryaka	3.64	358	eP	Pn	02 14 35.1	+4.2
KOK	Koryaka	3.64	358	P	Pn	02 14 35.1	+4.2
KRER	Koryakskii	3.65	360	eP	Pn	02 14 35.1	+3.9
KRX	Arik	3.71	359	eP	Pn	02 14 35.9	+4.0
GNL	Ganaly	4.08	353	eP	Pn	02 14 42.1	+5.1
GNL	Ganaly	4.08	353	P	Pn	02 14 42.1	+5.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**5.23**	**19**	*e*P	Pn	02 14 56.0	+3.5
MKZ	**Mys Kozlova**	**5.23**	**19**	P	Pn	02 14 56.0	+3.5
TUMR	**Tumrok**	**5.69**	**8**	*e*P	Pn	02 15 04.3	+5.2
KBTR	**Krutoberegovo**	**7.00**	**19**	*e*P	Pn	02 15 21.3	+4.5

*ISCJB **05** 02:33:11.1±0.2, 60°.50N±0°.02×152°.07W±0°.04, h100km±2km, mb3.9/19, Error ellipse: s-maj=4.0km s-min=2.7km az=44.3*
*NEIC **05** 02:33:13.6, 60°.50N×152°.13W, h83km, mb3.9/2, MW4.2, Moment Tensor Solution. s12 Moment tensor: Scale 10^15Nm; Mrr1.68; Mθθ-1.78; Mϕϕ0.10; Mrθ0.73; Mθϕ1.06; Mϕr0.37; Best double couple: M0 2.20000×10^15 NP1: ϕs317.00000°, δ43.00000°, λ125.00000°. NP2: ϕs93.00000°, δ57.00000°, λ62.00000°. Principal axes: T 2.0200, Plg65.0000°, Azm309.0000°; N 0.3100, Plg23.0000°, Azm109.0000°; P -2.3300, Plg7.0000°, Azm202.0000°; After AEIC.*
NEIC Felt [II] at Homer and Soldotna. Also felt at Anchor Point, Anchorage, Eagle River, Kenai and Ninilchik.
*IDC **05** 02:33:14.7±2.5, 60°.75N×152°.21W, h104km±20km, mb3.8/16, mb1 4.0/20, mb1mx3.8/36, mbtmp4.2/20, MS2.5/1, Ms1 2.5/1, ms1mx2.2/36 Error ellipse: s-maj=21.7km s-min=14.6km az=171.0*
ISC 05 02:33:12.9±0.6**, 60°.51N**±0°.03×**152°.19W**±0°.03**, h97**km±5km**, n134, σ1s.32**/146**, mb4.0**/19**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DFR	**Drift River**	**0.26**	**290**	P	**Pn**	**02 33 25.5**	**-1.5**
RSO	**Redoubt South**	**0.28**	**262**	P	**Pn**	**02 33 26.0**	**-1.3**
RDN	**Redoubt North**	**0.28**	**272**	P	**Pn**	**02 33 25.8**	**-1.3**
RED	**Redoubt Volcan**	**0.30**	**254**	P	**Pn**	**02 33 25.9**	**-1.3**
RDJH	**Redoubt Jeurge**	**0.32**	**286**	P	**Pn**	**02 33 26.0**	**-1.4**
RDJH				S	**Sn**	**02 33 35.7**	**-2.4**
NCT	**North Crescent**	**0.37**	**279**	P	**Pn**	**02 33 26.1**	**-1.5**
NKA	**Nikishka**	**0.53**	**63**	P	**Pn**	**02 33 29.0**	**+0.6**
INE	**Iliamna NE**	**0.62**	**225**	P	**Pn**	**02 33 28.5**	**-1.0**
IVE	**Iliamna Volcan**	**0.64**	**220**	P	**Pn**	**02 33 28.3**	**-1.3**
IVE				S	**Sn**	**02 33 40.0**	**-2.0**
NNL	**Ninilchik**	**0.64**	**136**	P	**Pn**	**02 33 29.4**	**-0.1**
CKL	**Chakachamna La**	**0.70**	**354**	P	**Pn**	**02 33 29.1**	**-1.0**
ILS	**Iliamna Low So**	**0.70**	**219**	P	**Pn**	**02 33 29.0**	**-1.1**
CKN	**Chakachatna No**	**0.72**	**0**	P	**Pn**	**02 33 29.4**	**-0.8**
SPBG	**Spurr Blockage**	**0.76**	**353**	P	**Pn**	**02 33 29.7**	**-0.9**
SPBG				S	**Sn**	**02 33 42.1**	**-1.9**
BGL	**Barrier Glacie**	**0.77**	**353**	P	**Pn**	**02 33 29.9**	**-0.9**
SPCG	**Spurr Capps Gl**	**0.79**	**6**	P	**Pn**	**02 33 30.1**	**-0.9**
SPCG				S	**Sn**	**02 33 43.9**	**-0.7**
HOM	**Homer**	**0.89**	**162**	P	**Pn**	**02 33 31.6**	**-0.2**
SLKM	**Skilak Lake**	**0.97**	**89**	P	**Pn**	**02 33 31.6**	**-1.2**
BRLK	**Bradley Lake**	**0.99**	**138**	P	**Pn**	**02 33 31.9**	**-1.0**
BRLK				S	**Sn**	**02 33 47.0**	**-1.0**
OPT	**Oil Point**	**1.00**	**212**	P	**Pn**	**02 33 32.7**	**-0.4**
STLK	**Strandline Lak**	**1.01**	**10**	P	**Pn**	**02 33 32.5**	**-0.7**
FIB	**Fire Island**	**1.19**	**55**	P	**Pn**	**02 33 35.3**	**+0.2**
SUA	**Susitna One**	**1.19**	**36**	P	**Pn**	**02 33 34.9**	**-0.5**
SUA				S	**Sn**	**02 33 51.6**	**-0.7**
PDB	**Pedro Bay**	**1.23**	**235**	P	**Pn**	**02 33 34.9**	**-0.8**
AUL	**Augustine Lava**	**1.29**	**210**	P	**Pn**	**02 33 35.9**	**-0.4**
AUW	**Augustine West**	**1.31**	**210**	P	**Pn**	**02 33 36.2**	**-0.3**
AUI	**Augustine Isla**	**1.33**	**209**	P	**Pn**	**02 33 36.2**	**-0.6**
RC01	**Rabbit Creek A**	**1.34**	**63**	P	**Pn**	**02 33 36.2**	**-0.8**
RC01				S	**Sn**	**02 33 53.5**	**-1.6**
SEW	**Seward**	**1.42**	**105**	P	**Pn**	**02 33 36.4**	**-1.5**
SKT	**Skwentna**	**1.52**	**12**	P	**Pn**	**02 33 38.3**	**-0.8**
PTE	**Portage**	**1.60**	**76**	P	**Pn**	**02 33 39.1**	**-1.0**
MCNL	**McNeil River**	**1.71**	**220**	P	**Pn**	**02 33 41.2**	**-0.4**
SVW2	**Sparrevohn**	**1.77**	**291**	P	**Pn**	**02 33 41.1**	**-1.1**
SVW2				S	**Sn**	**02 34 02.7**	**-1.9**
PMR	**Palmer**	**1.85**	**52**	P	**Pn**	**02 33 42.2**	**-1.1**
PMR				S	**Sn**	**02 34 04.3**	**-2.1**
TRAP	**Trapper Creek**	**2.06**	**26**	P	**Pn**	**02 33 45.7**	**-0.3**
CUT	**Chulitna**	**2.12**	**25**	P	**Pn**	**02 33 46.5**	**-0.3**
PPLA	**Purkeypile**	**2.40**	**0**	P	**Pn**	**02 33 50.8**	**+0.1**
GLI	**Glacier Island**	**2.54**	**79**	P	**Pn**	**02 33 49.6**	**-2.7**
KVTA	**Katmai Vly 10**	**2.66**	**218**	P	**Pn**	**02 33 53.9**	**0.0**
KAKN	**Katmai Knife C**	**2.66**	**215**	P	**Pn**	**02 33 53.7**	**-0.3**
SCM	**Sheep Creek Mo**	**2.71**	**58**	P	**Pn**	**02 33 53.6**	**-1.1**
KBM	**Katmai Bkd Mtn**	**2.72**	**216**	P	**Pn**	**02 33 54.9**	**+0.1**
KCE	**Katmai Mt Cerb**	**2.74**	**215**	P	**Pn**	**02 33 55.4**	**+0.4**
KDAK	**Kodiak Island**	**2.74**	**184**	P	**Pn**	**02 33 53.6**	**-1.3**
KDAK				S	**Sn**	**02 34 25.3**	**-2.0**
KELA	**Mount Kelaz**	**2.75**	**223**	P	**Pn**	**02 33 55.2**	**-0.1**
KABR	**Katmai Barrier**	**2.77**	**212**	P	**Pn**	**02 33 55.5**	**0.0**
JPK	**Jack Peak**	**2.80**	**76**	P	**Pn**	**02 33 53.7**	**-2.1**
HIN	**Hinchinbrook I**	**2.82**	**90**	P	**Pn**	**02 33 53.4**	**-2.7**
VLZ	**Valdez**	**2.94**	**75**	P	**Pn**	**02 33 55.6**	**-2.0**
TT01	**Tatalina**	**3.02**	**325**	P	**Pn**	**02 33 58.5**	**-0.3**
TRF	**Thorofare Moun**	**3.09**	**16**	P	**Pn**	**02 33 59.2**	**-0.7**
KTH	**Kantishna Hill**	**3.12**	**10**	P	**Pn**	**02 33 59.6**	**-0.5**
MID	**Middleton Isla**	**3.13**	**108**	P	**Pn**	**02 33 58.4**	**-1.8**
EYAK	**Cordova Ski Ar**	**3.19**	**86**	P	**Pn**	**02 33 58.3**	**-2.6**
DIV	**Divide**	**3.21**	**76**	P	**Pn**	**02 33 59.2**	**-2.1**
KLU	**Klutina**	**3.21**	**69**	P	**Pn**	**02 33 59.8**	**-1.6**
RND	**Reindeer**	**3.31**	**27**	P	**Pn**	**02 34 02.0**	**-0.7**
OHAK	**Old Harbor**	**3.34**	**190**	P	**Pn**	**02 34 01.2**	**-1.9**
CHUM	**Lake Minchumin**	**3.39**	**359**	P	**Pn**	**02 34 03.4**	**-0.3**
DHY	**Denali Highway**	**3.45**	**39**	P	**Pn**	**02 34 04.0**	**-0.6**
PLK2	**Peulik 2**	**3.48**	**220**	P	**Pn**	**02 34 05.6**	**+0.7**
PLK1	**Peulik 1**	**3.54**	**222**	P	**Pn**	**02 34 06.1**	**+0.4**
MCK	**McKinley**	**3.58**	**24**	P	**Pn**	**02 34 06.0**	**-0.3**
PS11	**TAPS Pump St11**	**3.61**	**61**	P	**Pn**	**02 34 05.9**	**-0.7**
BPAW	**Bear Paw Mtn.**	**3.65**	**8**	P	**Pn**	**02 34 06.3**	**-0.9**
RAGM	**Ragged Mountai**	**3.73**	**89**	P	**Pn**	**02 34 05.2**	**-3.1**
BMRM	**Bremner River**	**3.75**	**80**	P	**Pn**	**02 34 06.2**	**-2.4**
HARP	**HAARP**	**3.88**	**57**	P	**Pn**	**02 34 09.6**	**-0.7**
BWN	**Browne**	**3.89**	**18**	P	**Pn**	**02 34 10.1**	**-0.4**
PAX	**Paxson**	**4.04**	**49**	P	**Pn**	**02 34 12.1**	**-0.4**
WASW	**Wrangell South**	**4.13**	**66**	P	**Pn**	**02 34 12.6**	**-1.3**
GLB	**Gilahina Butte**	**4.19**	**73**	P	**Pn**	**02 34 12.8**	**-1.8**
VRDI	**Verde Repeater**	**4.33**	**77**	P	**Pn**	**02 34 14.5**	**-2.1**
WRH	**Wood River Hil**	**4.41**	**24**	P	**Pn**	**02 34 16.2**	**-1.2**
KHIT	**Khitrov Hills**	**4.43**	**87**	P	**Pn**	**02 34 14.8**	**-2.9**
MCARA	**McCarthy VSAT**	**4.56**	**75**	P	**Pn**	**02 34 17.9**	**-1.5**
MLY	**Manley**	**4.59**	**8**	P	**Pn**	**02 34 18.7**	**-1.3**
CCB	**Clear Creek Bu**	**4.62**	**24**	P	**Pn**	**02 34 19.2**	**-1.1**
RIDG	**Independ'e Rid**	**4.74**	**44**	P	**Pn**	**02 34 21.7**	**-0.2**
PS08	**TAPS Pump Stn8**	**4.75**	**29**	P	**Pn**	**02 34 21.4**	**-0.7**
BARK	**Barkley Ridge**	**4.80**	**87**	P	**Pn**	**02 34 20.4**	**-2.5**
PTPK	**Patty Peak**	**4.81**	**78**	P	**Pn**	**02 34 21.6**	**-1.4**
COLA	**College**	**4.82**	**23**	P	**Pn**	**02 34 22.0**	**-0.9**
MDM	**Murphy Dome**	**4.83**	**20**	P	**Pn**	**02 34 22.2**	**-0.9**
KIAG	**Kiagna River**	**4.85**	**81**	P	**Pn**	**02 34 21.5**	**-2.1**
ISLE	**Juniper Island**	**4.86**	**85**	P	**Pn**	**02 34 21.0**	**-2.7**
IL1	**Eielson Array**	**4.93**	**27**	P	**Pn**	**02 34 23.6**	**-0.9**
ILAR	**Eielson Array**	**4.93**	**27**	P	**Pn**	**02 34 23.4**	**-1.0**
	20nm,0.3s,baz=216,slow=14,SNR=761						
ILAR				S	**Sn**	**02 35 17.3**	**-2.9**
	7.8nm,0.3s,baz=202,slow=16,SNR=2.3						
DOT	**Dot Lake**	**4.95**	**47**	P	**Pn**	**02 34 24.0**	**-0.8**
BAGL	**Bagley Icefiel**	**5.00**	**86**	P	**Pn**	**02 34 23.1**	**-2.3**
TABL	**Table Mountain**	**5.47**	**86**	P	**Pn**	**02 34 30.3**	**-1.7**
PS06	**TAPS Pump Stn6**	**5.49**	**11**	P	**Pn**	**02 34 31.8**	**-0.2**
IM04	**Indian Mountai**	**5.54**	**353**	*e*Pn	**Pn**	**02 34 31.6**	**-1.2**
IM3	**Indian Mountai**	**5.54**	**353**	P	**Pn**	**02 34 32.5**	**-0.4**
BCA3	**Beaver Creek A**	**5.56**	**58**	P	**Pn**	**02 34 32.2**	**-0.9**
VNHG	**Veniaminof 1**	**5.65**	**224**	P	**Pn**	**02 34 35.8**	**+1.5**
VNSG	**Veniaminof 6**	**5.70**	**223**	P	**Pn**	**02 34 35.9**	**+0.9**
EGAK	**Eagle**	**6.65**	**45**	P	**Pn**	**02 34 46.8**	**-0.9**
SDPT	**Sand Point**	**6.79**	**224**	P	**Pn**	**02 34 48.6**	**-1.2**
COLD	**Coldfoot**	**6.81**	**7**	P	**Pn**	**02 34 49.8**	**-0.2**
FYU	**Fort Yukon**	**6.83**	**24**	P	**Pn**	**02 34 49.7**	**-0.5**
DAWY	**Dawson**	**6.95**	**54**	P	**Pn**	**02 34 51.6**	**-0.3**
DHAK	**Deception Hill**	**7.19**	**95**	P	**Pn**	**02 34 54.0**	**-1.3**
HYT	**Haines Junctio**	**7.22**	**81**	P	**Pn**	**02 34 54.9**	**-0.9**
DTNA	**Dutton South F**	**7.59**	**229**	P	**Pn**	**02 35 00.9**	**+0.3**
INK	**Inuvik**	**11.19**	**38**	P	**Pn**	**02 35 48.6**	**-0.9**
	0.9nm,0.3s,baz=240,slow=15,SNR=9.4						
INK				LR	LR	02 40 30.4	
	comp=Z,26nm,19.3s,baz=154,slow=40						
INK	**Inuvik**	**11.19**	**38**	*e*Pn	**Pn**	**02 35 48.5**	**-1.0**
DLBC	**Dease Lake**	**11.45**	**91**	P	**Pn**	**02 35 55.0**	**+2.0**
	0.7nm,0.3s,baz=266,slow=6.3,SNR=9.4						
YKA	**Yellowknife Ar**	**17.88**	**67**	P	**Pn**	**02 37 14.7**	**-0.2**
	0.3nm,0.3s,baz=280,slow=11,SNR=27						
YKA				PcP	**PcP**	**02 41 45.7**	**+0.3**
	0.1nm,0.3s,baz=298,slow=1.5,SNR=5.3						
EDM	**Edmonton**	**22.16**	**92**	*e*P	**P**	**02 38 02.3**	**+1.7**
NEW	**Newport**	**23.49**	**106**	pP	pP	02 38 37.1	+3.4
	3.4nm,0.8s,baz=306,slow=5.7,SNR=5.9						
NEW	**Newport**	**23.49**	**106**	*e*P	**P**	**02 38 13.8**	**+0.1**
	3.2nm,0.8s						
NEW				pP	**pP**	**02 38 37.1**	**+3.4**
SEY	**Seymchan**	**25.69**	**300**	P	**P**	**02 38 34.0**	**+0.6**
	1.7nm,0.4s,baz=102,slow=8.6,SNR=5.2						
PETK	**Petropavlovsk-**	**27.80**	**277**	P	**P**	**02 38 53.5**	**+1.1**
	3.6nm,0.9s,baz=77,slow=16,SNR=7.1						
FCC	**Fort Churchill**	**28.61**	**68**	*e*P	**P**	**02 39 00.6**	**+1.1**
PDAR	**Pinedale Array**	**31.13**	**105**	pP	pP	02 39 46.1	+2.1
	1.2nm,0.8s,baz=319,slow=8.3,SNR=5.9						
TXAR	**Lajitas Array**	**44.79**	**112**	P	**P**	**02 41 18.7**	**+1.8**
	0.1nm,0.6s,baz=297,slow=5.0,SNR=2.4						
TXAR				pP	**pP**	**02 41 42.2**	**+2.6**
	0.6nm,0.6s,baz=328,slow=4.4,SNR=8.6						
MJAR	**Matsushiro Arr**	**49.15**	**274**	P	**P**	**02 41 50.1**	**-0.5**
	0.9nm,0.3s,baz=45,slow=6.7,SNR=1.7						
ARCES	**ARCESS Array B**	**50.24**	**1**	P	**P**	**02 41 57.3**	**-1.1**
	3.8nm,0.9s,baz=2.9,slow=7.3,SNR=8.0						
KSRS	**Korea Array**	**53.46**	**283**	P	**P**	**02 42 23.1**	**+0.4**
	0.9nm,0.5s,baz=31,slow=6.2,SNR=9.5						
KSAR	**Wonju Array Be**	**53.49**	**283**	P	**P**	**02 42 23.1**	**+0.2**
SONM	**Songino Array**	**54.82**	**306**	P	**P**	**02 42 33.2**	**+0.6**
	6.1nm,0.6s,baz=40,slow=7.0,SNR=44						
ZALV	**Zalesovo Beam**	**57.20**	**324**	P	**P**	**02 42 49.0**	**-0.3**
	2.8nm,0.4s,baz=43,slow=6.7,SNR=6.1						
NOA	**NORSAR Array B**	**58.11**	**9**	P	**P**	**02 42 54.5**	**-1.2**
	0.7nm,0.7s,baz=351,slow=7.1,SNR=3.8						
FINES	**FINESS Array B**	**58.37**	**1**	P	**P**	**02 42 56.0**	**-1.3**
	3.2nm,0.7s,baz=4.5,slow=8.3,SNR=16						
MKAR	**Makanchi Array**	**64.29**	**322**	P	**P**	**02 43 36.9**	**-0.6**
	1.1nm,0.6s,baz=42,slow=6.3,SNR=13						
ABKAR	**Akbulak array**	**67.55**	**338**	*e*P	**P**	**02 43 56.9**	**-1.4**
	1.2nm,0.6s						
AKASG	**Malin Array Be**	**69.14**	**359**	P	**P**	**02 44 07.2**	**-1.0**
	1.4nm,0.3s,baz=5.4,slow=6.2,SNR=5.5						
KBZ	**Khabaz**	**75.39**	**349**	P	**P**	**02 44 45.4**	**0.0**
	0.7nm,0.5s,baz=147,slow=24,SNR=3.5						
ESDC	**Sonseca Array**	**76.83**	**25**	P	**P**	**02 44 53.5**	**-0.3**
	0.5nm,0.6s,baz=337,slow=5.2,SNR=5.7						
BRTR	**Keskin Array B**	**80.01**	**355**	P	**P**	**02 45 11.2**	**-0.2**
	0.6nm,0.5s,baz=7.7,slow=3.7,SNR=7.4						
KEST	**Kesra**	**82.92**	**15**	P	**P**	**02 45 27.3**	**+0.6**
	0.4nm,0.7s,baz=294,slow=1.6,SNR=6.7						
CMAR	**Chiang Mai Arr**	**83.02**	**295**	P	**P**	**02 45 27.1**	**-0.3**
	2.0nm,0.5s,baz=15,slow=6.1,SNR=11						
BOSA	**Boshof**	**148.07**	**4**	PKPbc	**PKPbc**	**02 52 46.4**	**-0.4**
	5.8nm,0.6s,baz=346,slow=2.1,SNR=19						

*BYKL **05** 03:28:00.6±0.2, 52°.15N×106°.42E, h23km±3km*
*MOS **05** 03:28:00.4±1.4, 52°.16N×106°.48E, h12km, mb4.2/1, Error ellipse: s-maj=24.9km s-min=22.7km az=119.7*
ISC 05 03:28:01.6±1.1**, 52°.12N**±0°.03×**106°.46E**±0°.02**, h18**km±4km**, n23, σ1s.61**/47**, 5C-3D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAB	**Kabansk**	**0.14**	**122**	*e*Pg	**Pg**	**03 28 05.8**	**+0.1**
KAB				*e*Sg	**Sg**	**03 28 09.3**	**+0.8**
KAB				Pmax			
	227nm,0.1s						
KAB				Smax			
	9μm,0.2s						
KAB	**Kabansk**	**0.14**	**122**	⇑*i*PG	**Pg**	**03 28 05.8**	**+0.1**
KAB				*e*		03 28 09.3	
KAB				pmax	pmax		
	comp=Z,277nm,0.2s						
KAB				smax	smax		
	comp=N,11μm,0.6s						
HRMR	**Khuramsha**	**0.58**	**148**	⇓*i*Pg	**Pb**	**03 28 12.2**	**-1.0**
	comp=N,439nm,0.4s						
HRMR				⇑*i*Pg	**Pb**	**03 28 12.2**	**-1.0**
	comp=N,169nm,0.4s						
HRMR				⇑*i*Pg	**Pb**	**03 28 12.2**	**-1.0**
	comp=N,669nm,0.4s						
HRMR				*e*Sg	**Sb**	**03 28 20.4**	**-0.7**
HRMR				Pmax			
	comp=N,708nm,0.2s						
HRMR				Smax			
	comp=N,2μm,0.2s						
ZRHB	**Zarechye**	**0.60**	**44**	*e*Pg	**Pb**	**03 28 12.7**	**-0.8**
ZRHB				*e*Sg	**Sb**	**03 28 21.5**	**-0.2**
ZRHB				*e*Sb	**Sn**	**03 28 23.6**	**-1.0**
ZRHB				Pmax			
	comp=N,93nm,0.1s						
ZRHB				max			
	comp=N,2μm,0.4s						
TRG	**Tyrgan**	**0.64**	**354**	⇑*i*Pg	**Pb**	**03 28 12.8**	**-1.4**
TRG				*e*Sg	**Sb**	**03 28 21.7**	**-1.1**
TRG				Pmax			
	comp=N,85nm,0.1s						
TRG				Smax			
	comp=N,1μm,0.1s						
TRG	**Tyrgan**	**0.64**	**354**	⇑*i*PG	**Pb**	**03 28 12.8**	**-1.4**
TRG				*e*		03 28 21.8	
TRG				pmax	pmax		
	comp=Z,87nm,0.1s						
TRG				smax	smax		
	comp=N,1μm,0.1s						
LSTR	**Listvyanka**	**1.04**	**256**	⇓*i*Pg	**Pb**	**03 28 19.6**	**-1.4**
LSTR				*e*Sg	**Sb**	**03 28 33.2**	**-1.1**
LSTR				Pmax			
	comp=N,16nm,0.1s						
LSTR				Smax			
	comp=N,226nm,0.2s						
LSTR	**Listvyanka**	**1.04**	**256**	⇓*i*PG	**Pb**	**03 28 19.6**	**-1.4**
LSTR				*e*		03 28 33.0	
LSTR				pmax	pmax		
	comp=Z,21nm,0.1s						
LSTR				smax	smax		
	comp=N,255nm,0.2s						
IRK	**Irkutsk**	**1.35**	**276**	*e*Pg	**Pn**	**03 28 24.8**	**-0.8**
IRK				*e*Sg	**Sn**	**03 28 42.5**	**-0.6**
IRK				Pmax			
	comp=N,188nm,0.1s						
IRK				Smax			
	comp=N,1μm,0.3s						
IRK	**Irkutsk**	**1.35**	**276**	*e*PG	**Pn**	**03 28 25.5**	**-0.1**
IRK				*e*		03 28 42.7	
IRK				pmax	pmax		
	comp=Z,186nm,0.1s						
IRK				smax	smax		
	comp=N,1μm,0.3s						
OGRR	**Ongureny**	**1.67**	**24**	*e*Pn	**Pn**	**03 28 29.5**	**-0.4**
OGRR				*e*Pg	**Pb**	**03 28 30.0**	**-1.8**
OGRR				*e*		03 28 33.9	
OGRR				*e*Sg	**Sn**	**03 28 51.5**	**+0.6**
OGRR				max			
	comp=N,11nm,0.1s						
OGRR				Smax			
	comp=N,82nm,0.2s						
TLY	**Talaya**	**1.80**	**257**	*e*Pn	**Pn**	**03 28 31.3**	**-0.4**
TLY				*e*Pg	**Pb**	**03 28 32.5**	**-1.5**
TLY				*e*Sg	**Sb**	**03 28 55.4**	**-0.8**
TLY				Pmax			
	comp=N,11nm,0.1s						
TLY				Smax			
	comp=N,103nm,0.2s						
TLY	**Talaya**	**1.80**	**257**	*e*PN	**Pn**	**03 28 31.3**	**-0.4**
TLY				*e*		03 28 53.8	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.1s						
TLY				smax	smax		
	comp=E,103nm,0.3s						
ARS	**Arshan**	**2.50**	**267**	*e*Pn	**Pn**	**03 28 39.7**	**-1.7**
ARS				*e*Pg	**Pb**	**03 28 44.3**	**-1.7**
ARS				*e*Sg	**Sb**	**03 29 16.8**	**+0.3**
ARS				Pmax			
	comp=E,18nm,0.1s						
ARS				Smax			
	comp=E,180nm,0.5s						
ARS	**Arshan**	**2.50**	**267**	*e*PN	**Pb**	**03 28 44.5**	**-1.5**
ARS				*e*		03 29 16.7	
ARS				pmax	pmax		
	comp=Z,24nm,0.3s						
ARS				smax	smax		
	comp=E,218nm,0.4s						
SYVR	**Suvo**	**2.64**	**53**	*e*Pn	**Pn**	**03 28 42.8**	**-0.4**
SYVR				*e*Pg	**Pb**	**03 28 47.7**	**-0.5**
SYVR				*e*Sg	**Sb**	**03 29 22.8**	**+2.6**
SYVR				Pmax			
	comp=E,7.0nm,0.3s						
SYVR				Smax			
	comp=E,27nm,0.3s						
ZAK	**Zakamensk**	**2.65**	**230**	*e*Pg	**Pb**	**03 28 47.6**	**-1.0**
ZAK				*e*Sg	**Sb**	**03 29 22.9**	**+2.1**
ZAK				Pmax			
	comp=E,7.0nm,0.2s						
ZAK				Smax			
	comp=E,31nm,0.2s						
MOY	**Mondy**	**3.42**	**264**	*e*	**Pn**	**03 28 56.9**	**+2.9**
MOY				*e*Pg	**Pb**	**03 29 02.7**	**+1.1**
MOY				*e*		03 29 37.6	
MOY				*e*Sg	**Sb**	**03 29 46.8**	**+4.0**
MOY				Pmax			
	comp=E,9.0nm,0.3s						
MOY				Smax			
	comp=E,61nm,0.7s						
YLYR	**Ulyunkhan**	**3.93**	**44**	*e*Pn	**Pn**	**03 29 00.6**	**-0.4**
YLYR				*e*		03 29 17.0	
YLYR				*e*Sg	**Sb**	**03 30 01.9**	**+4.3**
YLYR				Smax			
	comp=E,12nm,0.7s						
NIZ	**Nizh Angarsk**	**4.09**	**25**	*e*Pn	**Pn**	**03 29 02.2**	**-0.9**
NIZ				*e*Sn	**Sn**	**03 29 48.4**	**-2.0**
NIZ				*e*Sg	Sb	03 30 07.3	+5.4
NIZ				Smax			
	comp=E,19nm,0.8s						
ORL	**Orlik**	**4.10**	**278**	*e*Pn	**Pn**	**03 29 03.6**	**+0.2**
ORL				*e*Pg	**Pb**	**03 29 13.2**	**-0.1**
ORL				*e*Sg	**Sb**	**03 30 06.3**	**+3.8**
ORL				Pmax			
	comp=E,5.0nm,0.3s						
ORL				Smax			
	comp=E,32nm,0.9s						
KMO	**Kumora**	**4.69**	**35**	*e*Pg	**Pb**	**03 29 24.4**	**+1.2**
KMO				*e*Sn	**Sn**	**03 30 03.7**	**-1.6**
KMO				*e*Sg	Sb	03 30 26.0	+6.6
KMO				Pmax			
	comp=E,1.0nm,0.2s						
KMO				Smax			
	comp=E,17nm,1.3s						
UKT	**Uakit**	**5.42**	**49**	*e*	Pg	03 29 42.3	-3.0
UKT				*e*Sg	Sg	03 30 49.0	-6.4
UKT				Smax			
	comp=E,12nm,1.3s						

*ISCJB **05** 03:38:26.0±0.9, 20°.9S±0°.1×114°.1W±0°.1, h10km, mb4.3/21, MS3.8/9, Error ellipse: s-maj=23.9km s-min=14.5km az=137.9*
*IDC **05** 03:38:26.1±1.3, 21°.10S×114°.24W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.8/21, mbtmp3.8/4, MS3.9/10, Ms1 3.9/10, ms1mx3.7/15, Error ellipse: s-maj=52.7km s-min=34.3km az=37.0*
*NEIC **05** 03:38:27.6±0.6, 20°.97S×114°.10W, h10km, mb4.4/17, Error ellipse: s-maj=18.0km s-min=13.8km az=47.0*
ISC 05 03:38:27.6±0.8**, 20°.9S**±0°.2×**114°.1W**±0°.1**, h10**km**, n49, σ1s.19**/36**, mb4.3**/21**, MS3.8**/9**, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**7.57**	**145**	LR	LR	03 42 29.6	
	comp=Z,3μm,18.1s,baz=330,slow=32						
RKT	**Rikitea**	**19.44**	**260**	*e*LQ	LQ	03 46 39.0	
	1μm,27.5s						
RKT				*e*LR	LR	03 47 29.1	
	334nm,35.0s						
RKT	**Rikitea**	**19.44**	**260**	*e*T	T	04 02 54.5	
	7.4nm,0.3s						
TBI	**Tubuai**	**32.76**	**259**	*e*LQ	LQ	03 52 14.5	
	186nm,38.2s						
TBI				*e*LR	LR	03 53 38.0	
	60nm,25.0s						
PPT2	**Papeete2**	**33.58**	**270**	*e*LQ	LQ	03 52 42.8	
	298nm,26.0s						
PPT2				*e*LR	LR	03 54 09.1	
	115nm,23.8s						
PPT	**Papeete**	**33.58**	**270**	LR	LR	03 55 17.8	
	comp=Z,87nm,19.1s,baz=106,slow=30						
NNA	**Nana**	**36.78**	**82**	*e*P	**P**	**03 45 36.9**	**+1.0**
	247nm,2.0s						
OTAV	**Otavalo**	**40.73**	**63**	*e*P	**P**	**03 46 08.3**	**-1.1**
	4.1nm,0.9s						
PLCA	**Paso Flores**	**41.80**	**128**	LR	LR	03 59 01.1	
	comp=Z,261nm,21.5s,baz=284,slow=30						
JTS	**JuntasAbangare**	**42.26**	**46**	*e*P	**P**	**03 46 23.1**	**+1.7**
	26nm,1.5s						
LPAZ	**La Paz**	**43.73**	**92**	P	**P**	**03 46 34.9**	**+0.8**
	0.7nm,0.6s,baz=276,slow=9.2,SNR=5.0						
LPAZ				LR	LR	04 00 44.3	
	comp=Z,90nm,19.4s,baz=246,slow=30						
LPAZ	**La Paz**	**43.73**	**92**	*e*P	**P**	**03 46 34.1**	**0.0**
	6.0nm,1.3s						
SAML	**Samuel**	**50.46**	**84**	*e*P	**P**	**03 47 24.0**	**-1.9**
	2.4nm,1.1s						
TXAR	**Lajitas Array**	**50.99**	**12**	LR	LR	04 05 25.4	
	comp=Z,43nm,18.5s,baz=0.0,slow=32						
CPUP	**Villa Florida**	**51.98**	**108**	*e*P	**P**	**03 47 36.4**	**-0.9**
	2.5nm,1.9s						
JCT	**Junction City**	**52.95**	**16**	*e*P	**P**	**03 47 44.6**	**+0.3**
	11nm,1.1s						
MNTX	**Cornudas Mount**	**53.00**	**9**	*e*P	**P**	**03 47 44.9**	**+0.3**
	5.5nm,1.4s						
SDCO	**Great Sand Dun**	**58.93**	**8**	*e*P	**P**	**03 48 26.7**	**-0.6**
	3.1nm,1.1s						
NVAR	**Mina Array Bea**	**59.18**	**356**	P	**P**	**03 48 29.3**	**+0.3**
	1.6nm,0.9s,baz=183,slow=10,SNR=6.2						
ELK	**Elko**	**61.37**	**359**	*e*P	**P**	**03 48 43.2**	**-0.7**
	2.3nm,1.1s						
BDFB	**Brasilia**	**62.63**	**97**	LR	LR	04 13 10.7	
	comp=Z,97nm,18.5s,baz=315,slow=33						
WVOR	**Wild Horse Val**	**63.19**	**356**	*e*P	**P**	**03 48 54.7**	**-1.3**
	11nm,1.6s						
PDAR	**Pinedale Array**	**63.52**	**4**	P	**P**	**03 49 00.3**	**+2.0**
	0.9nm,0.8s,baz=147,slow=3.0,SNR=5.6						
PDAR				LR	LR	04 11 37.8	
	comp=Z,74nm,20.9s,baz=193,slow=31						
HLID	**Hailey**	**64.18**	**360**	*e*P	**P**	**03 49 02.6**	**+0.1**
	4.4nm,1.1s						
RSSD	**Black Hills**	**65.40**	**8**	*e*P	**P**	**03 49 10.3**	**-0.2**
	1.6nm,0.7s						
NEW	**Newport**	**68.93**	**358**	*e*P	**P**	**03 49 35.5**	**+2.9**
	3.6nm,1.0s						
QSPA	**South Pole Qui**	**69.21**	**180**	LR	LR	04 16 28.1	
	comp=Z,80nm,18.0s,baz=118,slow=33						
QSPA	**South Pole Qui**	**69.21**	**180**	*e*P	**P**	**03 49 35.0**	**+0.6**
	12nm,1.3s						
SNAA	**Sanae**	**76.73**	**162**	*e*P	P	03 50 10.6	-8.2
	11nm,1.5s						
FCC	**Fort Churchill**	**81.11**	**10**	*e*P	**P**	**03 50 41.3**	**-1.4**
SCHQ	**Schefferville**	**85.58**	**25**	LR	LR	04 26 39.0	
	comp=Z,38nm,21.4s,baz=360,slow=34						
H11S2	**WAKE ISLAND Hy**	**86.85**	**291**	T	T	05 27 28.1	
	baz=115,slow=75,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**86.86**	**291**	T	T	05 27 29.3	
	baz=115,slow=75,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**86.87**	**291**	T	T	05 27 29.5	
	baz=115,slow=75,SNR=6.1						
MCK	**McKinley**	**88.66**	**345**	*e*P	**P**	**03 51 20.4**	**-0.2**
	8.9nm,1.1s						
ILAR	**Eielson Array**	**89.08**	**347**	P	**P**	**03 51 24.1**	**+1.6**
	0.5nm,0.8s,baz=187,slow=4.5,SNR=5.9						
ILAR				LR	LR	04 23 33.0	
	comp=Z,74nm,18.6s,baz=112,slow=30						
BPAW	**Bear Paw Mtn.**	**89.46**	**345**	*e*P	**P**	**03 51 23.4**	**-0.9**
	0.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**118.50**	**86**	PKP	**PKPdf**	**03 57 16.1**	**-0.3**
	0.4nm,0.8s,baz=324,slow=1.1,SNR=2.9						
SONM	**Songino Array**	**137.83**	**319**	PKP	**PKPdf**	**03 57 53.4**	**+1.0**
	0.9nm,0.9s,baz=113,slow=1.8,SNR=3.5						
ZALV	**Zalesovo Beam**	**144.01**	**341**	PKhKP	PKPpre	03 57 60.0	
	3.4nm,0.7s,baz=14,slow=3.1,SNR=6.6						
BR131	**Keskin Array S**	**146.72**	**49**	*e*PKPbc	**PKPab**	**03 58 10.4**	**-0.9**
BRTR	**Keskin Array B**	**146.72**	**49**	PKPbc	**PKPbc**	**03 58 10.2**	**0.0**
	1.9nm,1.0s,baz=219,slow=1.6,SNR=8.9						
BRVK	**Borovoye**	**147.75**	**355**	*e*PKPbc	**PKPbc**	**03 58 13.2**	**+0.8**
KURK	**Kurchatov**	**148.63**	**344**	*e*PKPbc	**PKPbc**	**03 58 13.8**	**-1.0**
KURK				*e*PKPab	**PKPab**	**03 58 18.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**148.79**	**271**	PKPbc	**PKPbc**	**03 58 16.4**	**+0.3**
	0.5nm,0.3s,baz=28,slow=1.9,SNR=4.2						
KBZ	**Khabaz**	**150.30**	**35**	PKPbc	**PKPbc**	**03 58 20.4**	**+1.3**
	4.3nm,1.0s,baz=146,slow=24,SNR=5.6						
MK31	**Makanchi Array**	**150.94**	**336**	*e*PKPbc	**PKPbc**	**03 58 19.7**	**-1.0**
MK31				*e*PKPab	**PKPab**	**03 58 25.5**	**-2.4**
MKAR	**Makanchi Array**	**150.94**	**336**	PKPbc	**PKPbc**	**03 58 19.5**	**-1.1**
	3.6nm,0.9s,baz=37,slow=2.9,SNR=21						
ABKAR	**Akbulak array**	**151.35**	**8**	*e*PKPbc	**PKPbc**	**03 58 21.2**	**-0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ABKAR				ePKPab	PKPab	03 58 30.9	+1.4

MAN 05 03:55:23, 7°.33N×123°.68E, h17km, mb4.2, ML3.0, MS2.7, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.57	101⇓	iP	Pg	03 55 34.2	-0.2
CTBH				i S	Sb	03 55 42.8	+0.2
PAGZ	Pagadian	0.59	331	eP	Pb	03 55 35.2	+0.2
PAGZ				eS	Sg	03 55 42.6	-0.2
DCPH	Dipolog City	1.29	346⇓	iP	Pn	03 55 46.4	+0.1
DCPH				i S	Sg	03 56 04.2	-0.6
BUKP	Musuan	1.48	68	eP	Pb	03 55 49.7	-0.4
BUKP				eS	Sn	03 56 07.4	-0.5
CGP	Cagayan de Oro	1.51	42⇑	iP	Pn	03 55 49.2	-0.1
CGP				i S	Sb	03 56 10.3	+0.9

SJA 05 03:58:00.3±0.8, 34°.83S×73°.45W, h33km, ML3.4
ISCJB 05 03:58:14.5±1.6, 34°.37S±0°.03×72°.0W±0°.1, h6km±12km, Error ellipse: s-maj=15.9km s-min=5.3km az=7.7
GUC 05 03:58:14.7±0.6, 34°.35S×72°.06W, h20km±2km, ML3.5
ISC 05 03:58:13.5±2.0, 34°.35S±0°.04×72°.09W±0°.10, h13km±11km, n24, σ1s.36/31, 7C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.69	55⇓	iP	Pg	03 58 27.3	+0.4
LNV				i S	Sg	03 58 36.2	+0.4
NICH	Los Niches	0.96	133⇑	iP	Pg	03 58 31.9	-0.1
NICH				i S	Sg	03 58 44.5	0.0
TALC	Talca	1.11	161⇓	iP	Pb	03 58 34.2	-0.3
TALC				i S	Sb	03 58 48.3	-0.6
TACH	Talagante	1.18	54	eP	Pb	03 58 34.7	-1.1
CACH	El Canelo	1.25	80⇑	iP	Pn	03 58 36.8	0.0
CACH				i S	Sb	03 58 53.5	+0.3
CHCH	Chadas Angostu	1.26	71⇑	iP	Pn	03 58 36.3	-0.6
RCDM	Rinconada Maip	1.37	51⇑	iP	Pn	03 58 37.5	-0.9
RCDM				eS	Sb	03 58 55.3	-1.1
IHA	Instituto Hidr	1.38	16	eP	Pn	03 58 38.3	-0.1
SAN	Santiago	1.49	53⇑	iP	Pb	03 58 41.0	0.0
SAN				eS	Sn	03 58 59.6	+0.4
CLCH	Cerro Calan	1.60	54⇑	iP	Pn	03 58 41.9	+0.2
CLCH				i S	Sn	03 59 02.5	+0.2
CLCH				AML	AML	03 59 17.9	
	comp=E,765nm,0.6s						
SJCH	San Jose de Ma	1.60	64⇓	iP	Pn	03 58 41.5	-0.2
ROCH	El Roble	1.64	33⇓	iP	Pn	03 58 41.7	-0.6
ROCH				i S	Sn	03 59 04.3	+0.8
ROCH				AML	AML	03 59 12.0	
	comp=N,743nm,0.5s						
PEL	Peldehue	1.68	44⇑	iP	Pn	03 58 42.8	+0.2
PEL				AML	AML	03 59 12.5	
	comp=N,1μm,0.5s						
AAGR	Agrelo	2.99	66	i P	Pb	03 59 04.8	-2.0
AAGR				i P	Pb	03 59 04.8	-2.0
ARCO	CERRO ARCO	3.03	61	i P	Pb	03 59 06.1	-1.4
ARCO				i S	Sg	03 59 53.9	+2.9
ARCO				AML	AML	03 59 54.9	
	comp=Z,44nm,0.6s						
AUSP	Uspallata	3.10	48	i P	Pb	03 59 06.9	-1.8
ASAL	Salagasta	3.23	58	i P	Pb	03 59 08.5	-2.3
RTLS	Leoncito	3.46	43	i P	Pb	03 59 11.5	-3.3
RTLS			⇓	iS	Sg	04 00 03.6	-1.1
RTCV	Cerro Valdivia	3.88	51	i P	Pn	03 59 16.8	+4.0
CFAA	Coronel Fontan	4.24	51	eP	Pn	03 59 20.2	+2.4
AMOG	MOGNA	4.56	43	eP	Pn	03 59 24.4	+2.1
ACAN	Cantantal	4.59	65	eP	Pn	03 59 27.6	+4.9
AVFE	Valle Fertil	5.37	48	eP	Pn	03 59 35.8	+2.3
ACLC	CERRO LA CRUZ	6.57	43	eP	Pn	03 59 56.7	+6.7

ISCJB 05 04:02:10.7±0.4, 27°.27S±0°.09×66°.77E±0°.09, h10km, mb4.3/25, MS3.8/6, Error ellipse: s-maj=12.8km s-min=11.4km az=3.7
IDC 05 04:02:11.0±0.5, 27°.26S×66°.70E, h0km, mb4.2/16, mb1 4.4/16, mb1mx4.1/32, mbtmp4.2/16, MS3.7/6, Ms1 3.7/6, ms1mx3.3/26, Error ellipse: s-maj=17.5km s-min=16.8km az=57.0
NEIC 05 04:02:12.6±0.2, 27°.24S×66°.74E, h10km, mb4.4/15, Error ellipse: s-maj=7.5km s-min=6.5km az=9.0
ISC 05 04:02:12.6±0.5, 27°.3S±0°.1×66°.7E±0°.1, h10km, n54, σ0s.59/47, mb4.4/25, MS3.8/6, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	20.25	17	T	T	04 27 42.2	
	baz=342,slow=74,SNR=4.2						
H08S2	Diego Garcia H	20.25	17	T	T	04 27 49.3	
	baz=198,slow=74,SNR=17						
H08S3	Diego Garcia H	20.27	17	T	T	04 27 42.0	
BOSA	Boshof	36.54	258	P	P	04 09 16.4	-2.3
	5.5nm,1.0s,baz=127,slow=11,SNR=3.0						
BOSA	Boshof	36.54	258	eP	P	04 09 18.3	-0.5
	12nm,1.2s						
LBTB	Lobatse	36.88	264	eP	P	04 09 21.3	-0.4
	9.7nm,1.2s						
LSZ	Lusaka	37.70	280	P	P	04 09 28.6	0.0
	2.2nm,0.7s,baz=97,slow=9.3,SNR=3.8						
LSZ	Lusaka	37.70	280	eP	P	04 09 28.6	0.0
	4.2nm,0.9s						
MAW	Mawson	40.44	182	LR	LR	04 22 09.8	
	comp=Z,164nm,21.9s,baz=50,slow=30						
TSUM	Tsumeb	45.64	269	eP	P	04 10 34.0	+0.3
	4.7nm,0.9s						
CMAR	Chiang Mai Arr	55.13	38	P	P	04 11 45.2	-0.2
	1.5nm,0.3s,baz=226,slow=7.2,SNR=10.0						
CMAR				LR	LR	04 33 58.6	
	comp=Z,24nm,18.3s,baz=210,slow=35						
SNAA	Sanae	57.97	200	P	P	04 12 05.5	+0.5
	0.7nm,0.8s,baz=42,slow=11,SNR=4.5						
SNAA	Sanae	57.97	200	eP	P	04 11 59.8	-5.2
	3.0nm,0.9s						
ASAR	Alice Springs	60.10	103	P	P	04 12 20.8	+0.3
	7.6nm,0.9s,baz=247,slow=6.5,SNR=48						
AS31	Alice Springs	60.10	103	eP	P	04 12 19.5	-1.0
WRA	Warramunga Arr	61.74	99	P	P	04 12 31.9	+0.3
	8.9nm,0.9s,baz=250,slow=6.5,SNR=24						
WRAB	Tennant Creek	61.75	99	eP	P	04 12 31.9	+0.2
	14nm,1.0s						
QSPA	South Pole Qui	62.89	180	P	P	04 12 39.0	+0.3
	3.5nm,0.7s,baz=242,slow=1.3,SNR=14						
QSPA	South Pole Qui	62.89	180	eP	P	04 12 39.0	+0.3
	8.4nm,0.9s						
STKA	Stephens Creek	64.08	114	P	P	04 12 46.9	-0.1
	6.2nm,1.0s,baz=186,slow=4.7,SNR=6.0						
VNDA	Vanda	64.70	166	P	P	04 12 49.9	-0.5
	0.9nm,0.8s,baz=292,slow=8.0,SNR=5.1						
VNDA	Vanda	64.70	166	eP	P	04 12 50.4	0.0
	4.1nm,1.3s						
EKS2	Erkin-Say	69.87	6	eP	P	04 13 23.8	+0.2
	3.4nm,0.5s						
AAK	Ala-Archa	69.90	6	eP	P	04 13 24.0	+0.2
	8.4nm,1.4s						
KKAR	Karatay Array	70.09	3	eP	P	04 13 24.7	-0.1
	1.6nm,0.7s						
GNI	Garni	70.11	342	LR	LR	04 43 23.8	
	comp=Z,52nm,18.0s,baz=100,slow=35						
TKM2	Tokmak 2	70.30	7	eP	P	04 13 26.4	+0.1
	2.5nm,0.8s						
BR131	Keskin Array S	73.42	334	eP	P	04 13 44.6	-0.5
	1.3nm,0.8s						
BRTR	Keskin Array B	73.42	334	P	P	04 13 45.0	0.0
	0.9nm,0.7s,baz=158,slow=5.5,SNR=6.8						
BRTR				LR	LR	04 43 41.7	
	comp=Z,31nm,19.7s,baz=169,slow=34						
KBZ	Khabaz	73.94	342	P	P	04 13 49.0	+1.2
	0.9nm,0.6s,baz=146,slow=24,SNR=3.6						
TORD	Torodi Ar. Bea	74.75	294	P	P	04 13 54.5	+1.3
	0.7nm,1.1s,baz=140,slow=2.7,SNR=4.8						
MK31	Makanchi Array	75.03	11	eP	P	04 13 53.3	-0.8
MKAR	Makanchi Array	75.03	11	P	P	04 13 53.9	-0.2
	1.1nm,0.7s,baz=203,slow=5.3,SNR=13						
ABKAR	Akbulak array	76.40	355	eP	P	04 14 01.4	-0.5
	1.7nm,0.6s						
KURK	Kurchatov	78.33	8	eP	P	04 14 12.6	-0.1
	2.7nm,0.9s						
ZAA0	Zalesovo Array	82.36	11	eP	P	04 14 34.0	-0.2
ZALV	Zalesovo Beam	82.36	11	P	P	04 14 34.2	-0.1
	4.6nm,0.6s,baz=206,slow=5.5,SNR=16						
SONM	Songino Array	82.81	26	P	P	04 14 37.0	+0.1
	1.9nm,0.8s,baz=211,slow=5.5,SNR=12						
SONM				LR	LR	04 49 50.8	
	comp=Z,92nm,21.8s,baz=75,slow=34						
KSAR	Wonju Array Be	86.21	44	P	P	04 14 54.1	-0.1
KSRS	Korea Array	86.24	44	P	P	04 14 54.1	-0.2
	2.8nm,0.7s,baz=231,slow=5.1,SNR=13						
ESDC	Sonseca Array	93.58	313	LR	LR	04 57 48.0	
	comp=Z,38nm,18.9s,baz=145,slow=36						
RES	Resolute Bay	131.58	354	ePKPdf	PKPdf	04 21 24.6	0.0
ILAR	Eielson Array	136.82	20	PKP	PKPdf	04 21 35.5	+0.8
	0.7nm,1.0s,baz=330,slow=3.2,SNR=5.8						
INK	Inuvik	137.17	11	ePKPdf	PKPdf	04 21 35.3	+0.1
YKA	Yellowknife Ar	144.75	1	PKP	PKPab	04 21 47.7	-0.1
	3.4nm,0.8s,baz=344,slow=3.3,SNR=19						
FCC	Fort Churchill	145.78	342	ePKPbc	PKPdf	04 21 50.7	-0.2
BLA	Blacksburg	150.62	298	ePKPbc	PKPbc	04 22 05.0	-0.1
FFC	Flin Flon	151.33	346	ePKPbc	PKPbc	04 22 05.3	-0.8
BW06	Boulder Array	164.23	350	ePKPdf	PKPdf	04 22 16.1	-0.5
PDAR	Pinedale Array	164.23	350	PKP	PKPdf	04 22 16.2	-0.4
	0.7nm,0.8s,baz=72,slow=4.8,SNR=4.9						
WVOR	Wild Horse Val	164.23	15	ePKPdf	PKPdf	04 22 17.5	+1.0
HKT	Hockley	164.45	284	ePKPdf	PKPdf	04 22 16.9	+0.1
ELK	Elko	166.44	6	ePKPdf	PKPdf	04 22 19.1	+0.5
TXAR	Lajitas Array	171.29	286	PKP	PKPdf	04 22 22.2	+0.3
	0.6nm,0.9s,baz=132,slow=1.9,SNR=5.2						

MEX 05 04:35:26.7±0.6, 17°.13N×100°.44W, h5km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.18	116	i P	Pg	04 35 29.8	-0.5
CAIG				i S	Sg	04 35 33.0	+0.2
ACX	Acapulco	0.61	115	i P	Pg	04 35 34.2	-4.3
ACX				i S	Sg	04 35 42.1	-4.5
ZIIG	Zihuatanejo	1.09	296	eP	Pg	04 35 45.1	-2.5
ZIIG				eS	Sg	04 35 59.1	-2.6
ARIG	Puente Sto Nin	1.15	4	eP	Pg	04 35 45.2	-3.6
ARIG				i S	Sg	04 36 00.1	-3.7
PLIG	Platanillo	1.54	35	eP	Pn	04 35 51.7	-3.3
PLIG				eS	Sn	04 36 11.2	-4.4
TLIG	Tlapa	1.84	76	eP	Pn	04 35 56.0	-3.2
TLIG				eS	Sn	04 36 18.8	-4.2

MOS 05 04:51:58.6±1.1, 49°.11N×155°.67E, h48km, mb4.5/21, Error ellipse: s-maj=11.6km s-min=4.9km az=71.8
ISCJB 05 04:51:59.3±0.3, 49°.18N±0°.04×155°.68E±0°.08, h51km, mb4.3/42, MS3.2/2, Error ellipse: s-maj=8.8km s-min=2.7km az=39.1
KRSC 05 04:52:00.4±2.2, 49°.19N×156°.73E, h38km±33km, ML4.7
BJI 05 04:52:01.2, 49°.37N×155°.79E, h70km, mb4.1/5, mB4.5/5, Ms3.7/2, Ms7 3.5/2
NEIC 05 04:52:02.6±0.8, 49°.27N×155°.52E, h63km±7km, mb4.4/23, Error ellipse: s-maj=11.4km s-min=5.4km az=144.0
IDC 05 04:52:02.8±2.5, 49°.25N×155°.53E, h69km±22km, mb3.7/17, mb1 3.9/22, mb1mx3.8/34, mbtmp4.0/22, MS3.2/5, Ms1 3.2/5, ms1mx3.0/33, Error ellipse: s-maj=18.6km s-min=11.6km az=141.0
ISC 05 04:52:00.6±0.5, 49°.18N±0°.06×155°.71E±0°.06, h51km, n156, σ1s.30/163, mb4.3/42, 22C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.53	10	eP	Pn	04 52 24.6	-0.9
SKR				eS	Sn	04 52 43.6	-0.6
SKR	Severo-Kuril's	1.53	10	ePN	Pn	04 52 24.8	-0.7
SKR				eS	Sn	04 52 43.4	-0.8
SKR				pmax	pmax		
	comp=Z,490nm,0.5s						
SKR				smax	smax		
	comp=E,1μm,0.2s						
PAU	Pauzhetka	2.40	17	eP	Pn	04 52 37.1	-0.2
PAU				eS	Sn	04 53 05.9	+0.5
PAU	Pauzhetka	2.40	17	ePN	Pn	04 52 37.7	+0.4
PAU				eS	Sn	04 53 06.0	+0.5
PAU				pmax	pmax		
	comp=Z,350nm,0.6s						
PAU				smax	smax		
	comp=N,1μm,0.2s						
MIPR	Malaya Ipel'ka	3.17	12	eP	Pn	04 52 49.0	+1.0
ASAK	Asacha	3.50	23	eP	Pn	04 52 53.7	+1.2
ASAK				eS	Sn	04 53 32.5	-0.1
MTVR	Mutnovka	3.66	24	eP	Pn	04 52 55.5	+0.7
MTVR				eS	Sn	04 53 36.7	0.0
RUS	Russkaya	3.71	27	eP	Pn	04 52 54.9	-0.4
RUS				eS	Sn	04 53 36.6	-1.1
RUS	Russkaya	3.71	27	PN	Pn	04 52 54.9	-0.4
RUS				S	Sn	04 53 36.6	-1.1
APC	Apacha	3.86	13	eP	Pn	04 53 00.1	+2.7
APC	Apacha	3.86	13	PN	Pn	04 53 00.1	+2.7
PEA0B	Petropavlovsk-	4.13	17	ePn	Pn	04 53 02.8	+1.8
PETK	Petropavlovsk-	4.13	17	P	Pn	04 53 03.0	+2.0
	comp=N,3.1nm,0.3s,baz=178,slow=13,SNR=44						
PETK				LR	LR	04 54 54.8	
	comp=N,276nm,18.5s,baz=203,slow=42						
PETK	Petropavlovsk-	4.13	17	PN	Pn	04 53 03.1	+2.0
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,276nm,18.5s						
PET	Petropavlovsk	4.28	25	eP	Pn	04 53 04.8	+1.8
PET	Petropavlovsk	4.28	25	ePN	Pn	04 53 04.1	+1.1
PET				eS	Sn	04 53 54.3	+2.8
PET				smax	smax		
	comp=E,202nm,1.0s						
PET				MLR	MLR		
	comp=Z,200nm,12.0s						
UGLR	Uglovaya	4.49	25	eP	Pn	04 53 07.6	+1.6
UGLR				S	Sn	04 53 56.3	-0.6
KOK	Koryaka	4.51	23	eP	Pn	04 53 08.5	+2.1
KOK	Koryaka	4.51	23	PN	Pn	04 53 08.5	+2.1
AVH	Avacha	4.51	24	eP	Pn	04 53 08.5	+2.1
AVH				eS	Sn	04 53 56.9	-0.7
AVH	Avacha	4.51	24	PN	Pn	04 53 08.5	+2.1
SMAR	Somma	4.53	24	eP	Pn	04 53 08.3	+1.6
KRER	Koryakskii	4.55	24	eP	Pn	04 53 08.6	+1.6
SDLR	Sedlovina	4.56	25	eP	Pn	04 53 07.6	+0.5
KRX	Arik	4.58	23	eP	Pn	04 53 09.2	+1.9
NLC	Nalytchevo	4.61	28	eP	Pn	04 53 06.3	-1.2
NLC	Nalytchevo	4.61	28	PN	Pn	04 53 06.3	-1.2
GNL	Ganaly	4.74	16	eP	Pn	04 53 11.8	+2.4
GNL	Ganaly	4.74	16	PN	Pn	04 53 11.8	+2.4
SPN	Mys Shipunski	4.77	33	eP	Pn	04 53 09.4	-0.4
SPN				S	Sn	04 54 02.2	-1.6
SPN	Mys Shipunski	4.77	33	PN	Pn	04 53 09.4	-0.4
MKZ	Mys Kozlova	6.55	32	eP	Pn	04 53 32.7	-1.4
MKZ				eS	Sn	04 54 43.1	-4.3
MKZ	Mys Kozlova	6.55	32	PN	Pn	04 53 32.7	-1.4
KZV	Kizimen	6.58	24	eP	Pn	04 53 34.8	+0.1
KUR	Kuril'sk	6.64	237	ePN	Pn	04 53 36.3	+0.8
KUR				i S	Sn	04 54 53.0	+3.2
KUR				pmax	pmax		
	comp=Z,26nm,0.6s						
KUR				smax	smax		
	comp=N,61nm,1.0s						
KUR				smax	smax		
	comp=E,24nm,1.0s						
KUR				smax	smax		
	comp=E,300nm,2.5s						
KUR				smax	smax		
	comp=N,180nm,1.3s						
TUMR	Tumrok	6.69	22	P	Pn	04 53 38.2	+1.9
SHO	Shikotan	8.10	232	ePN	Pn	04 53 52.9	-2.6
SHO				pmax	pmax		
	comp=Z,720nm,1.1s						
KBTR	Krutoberegovo	8.26	29	eP	Pn	04 53 56.9	-0.6
YUK	Yuzh-Kuril'sk	8.51	237	ePN	Pn	04 53 58.5	-2.5
YUK				pmax	pmax		
	comp=Z,80nm,0.5s						
YUK				pmax	pmax		
	comp=N,100nm,2.5s						
YUK				pmax	pmax		
	comp=E,140nm,2.5s						
TYV	Tymovskoe	8.58	286	ePN	Pn	04 54 11.0	+9.0
TYV				pmax	pmax		
	comp=Z,11nm,0.8s						
YSS	Yuzh-Sakhalins	8.96	261	ePN	Pn	04 54 08.0	+0.8
YSS	Yuzh-Sakhalins	8.96	261	ePn	Pn	04 54 08.2	+1.0
ASAJ	Asahikawa	10.34	246	P	Pn	04 54 28.2	+2.2
	baz=74,slow=13						
ASAJ	Asahikawa	10.34	246	ePn	Pn	04 54 28.4	+2.3
ERM	Erimo	11.33	236⇑	ePN	Pn	04 54 39.1	-0.6
ERM				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ERM	Erimo	11.33	236	ePn	Pn	04 54 38.6	-1.1
	comp=Z,15nm,0.6s						
ERM				eSn	Sn	04 56 43.9	-0.9
HABR	Khabarovsk	13.63	275	eP	Pn	04 55 07.0	-4.0
HABR				eS	Sn	04 57 37.0	-3.7
HABR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
HABR				MLR	MLR		
	comp=Z,179nm,17.0s						
SEY	Seymchan	13.91	354	P	Pn	04 55 15.1	+0.4
	comp=Z,0.1nm,0.3s,baz=195,slow=20,SNR=3.1						
SEY	Seymchan	13.91	354⇑	eP	Pn	04 55 17.6	+2.9
USRK	Ussuriysk Ar.	16.99	262	P	Pn	04 55 54.7	+0.2
	comp=Z,0.3nm,0.3s,baz=73,slow=15,SNR=3.3						
MAJO	Matsushiro	17.95	232⇑	eP	Pn	04 56 06.7	+0.4
MAJO				pmax	pmax		
	comp=Z,53nm,1.2s						
MAJO	Matsushiro	17.95	232	ePn	P	04 56 07.4	+1.0
MJAR	Matsushiro Arr	17.95	232	P	Pn	04 56 05.8	-0.5
	comp=Z,0.4nm,0.3s,baz=28,slow=7.5,SNR=7.3						
MJAR				LR	LR	05 03 22.7	
	comp=Z,50nm,19.5s,baz=25,slow=38						
YAK	Yakutsk	19.36	321	LR	LR	05 04 02.7	
	comp=Z,92nm,18.1s,baz=170,slow=37						
KSRS	Korea Array	23.23	250	P	P	04 57 02.1	-0.9
	comp=Z,3.7nm,0.8s,baz=52,slow=7.3,SNR=20						
KSRS				LR	LR	05 05 07.5	
	comp=Z,47nm,19.6s,baz=56,slow=34						
KSRS	Korea Array	23.23	250	P	P	04 57 02.2	-0.9
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSRS				MLR	MLR		
	comp=Z,47nm,19.6s						
TJN	Taejon	24.26	249⇓	eP	P	04 57 15.1	+2.4
JNU	Nakatsue	24.48	238	P	P	04 57 14.4	-0.3
	comp=Z,9.8nm,0.9s,baz=25,slow=21,SNR=5.1						
JNU	Nakatsue	24.48	238	eP	P	04 57 15.2	+0.5
	comp=Z,6.6nm,1.1s						
H11N2	WAKE ISLAND Hy	30.72	159	T	T	05 30 43.1	
	baz=346,slow=76,SNR=29						
H11N1	WAKE ISLAND Hy	30.73	159	T	T	05 30 42.2	
	baz=346,slow=76,SNR=24						
H11N3	WAKE ISLAND Hy	30.73	159	T	T	05 30 39.7	
	baz=346,slow=76,SNR=26						
H11S1	WAKE ISLAND Hy	31.85	160	T	T	05 32 01.7	
	baz=346,slow=76,SNR=432						
H11S3	WAKE ISLAND Hy	31.86	160	T	T	05 32 07.8	
	baz=346,slow=76,SNR=794						
H11S2	WAKE ISLAND Hy	31.87	160	T	T	05 31 50.4	
	baz=346,slow=76,SNR=5.3						
SONM	Songino Array	32.24	287	LR	LR	05 12 44.0	
	comp=Z,83nm,18.8s,baz=83,slow=39						
BWN	Browne	32.44	42	eP	P	04 58 19.8	-5.6
	comp=Z,39nm,1.0s						
TLY	Talaya	32.69	295⇓	eP	P	04 58 28.0	+0.3
TLY				pmax	pmax		
	comp=Z,5.0nm,1.0s						
COLA	College	33.15	41c	eP	P	04 58 32.1	+0.6
COLA				pmax	pmax		
	comp=Z,17nm,0.7s						
COLA	College	33.15	41	eP	P	04 58 32.4	+0.9
	comp=Z,4.5nm,0.7s						
CCB	Clear Creek Bu	33.17	41	eP	P	04 58 33.1	+1.3
	comp=Z,14nm,1.8s						
ILAR	Eielson Array	33.56	41	P	P	04 58 35.5	+0.3
	comp=Z,1.1nm,0.9s,baz=257,slow=8.0,SNR=15						
ILAR	Eielson Array	33.56	41	P	P	04 58 35.5	+0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
EGAK	Eagle	36.02	41	eP	P	04 58 57.0	+0.7
	comp=Z,6.4nm,1.1s						
INK	Inuvik	38.66	34	eP	P	04 59 19.6	+1.0
INK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
INK	Inuvik	38.66	34	eP	P	04 59 19.6	+1.0
	comp=Z,3.8nm,0.9s						
MK31	Makanchi Array	47.40	297	eP	P	05 00 28.7	-0.8
MK31	Makanchi Array	47.40	297	eP	P	05 00 28.7	-0.8
MKAR	Makanchi Array	47.40	297	P	P	05 00 28.8	-0.8
	comp=Z,0.7nm,0.6s,baz=64,slow=7.9,SNR=10.0						
MKAR	Makanchi Array	47.40	297c	eP	P	05 00 28.7	-0.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	47.40	297	eP	P	05 00 29.2	-0.3
KURK	Kurchatov	47.50	303	eP	P	05 00 29.2	-0.9
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURK	Kurchatov	47.50	303	eP	P	05 00 29.2	-0.9
	comp=Z,3.6nm,1.0s						
YKA	Yellowknife Ar	47.93	39	P	P	05 00 34.4	+1.1
	comp=Z,0.4nm,0.6s,baz=297,slow=6.6,SNR=3.8						
BRVK	Borovoye	50.72	309⇑	iP	P	05 00 53.8	-0.9
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.7s						
BRVK	Borovoye	50.72	309	eP	P	05 00 53.2	-1.5
	comp=Z,2.1nm,0.7s						
CHTO	Chiang Mai	54.37	257	eP	P	05 01 23.2	+1.0
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CHTO	Chiang Mai	54.37	257	eP	P	05 01 23.2	+1.0
	comp=Z,8.9nm,0.9s						
ARU	Arti	54.41	317d	iP	P	05 01 20.8	-1.2
ARU				S	S	05 08 56.3	0.0
ARU				SS	SS	05 12 33.8	-4.6
ARU				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ARU	Arti	54.41	317	eP	P	05 01 20.7	-1.3
	comp=Z,5.9nm,0.6s						
CMAR	Chiang Mai Arr	54.63	257	P	P	05 01 24.8	+0.7
	comp=Z,2.6nm,0.6s,baz=32,slow=7.5,SNR=20						
CMAR	Chiang Mai Arr	54.63	257c	eP	P	05 01 25.2	+1.1
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FFC	Flin Flon	57.76	42	eP	P	05 01 46.5	+0.6
FFC				pmax	pmax		
	comp=Z,3.0nm,1.1s						
FFC	Flin Flon	57.76	42	eP	P	05 01 46.5	+0.6
	comp=Z,3.0nm,1.1s						
ABKAR	Akbulak array	58.21	310	eP	P	05 01 48.3	-0.9
HLID	Hailey	58.72	58	eP	P	05 01 54.0	+1.0
NVAR	Mina Array Bea	59.79	65	P	P	05 02 01.1	+0.5
	comp=Z,0.5nm,0.6s,baz=302,slow=7.2,SNR=3.9						
BW06	Boulder Array	61.92	56	eP	P	05 02 15.6	+0.6
	comp=Z,3.9nm,1.2s						
PDAR	Pinedale Array	61.92	56	P	P	05 02 15.6	+0.6
	comp=Z,0.6nm,0.6s,baz=316,slow=8.3,SNR=4.8						
FINES	FINESS Array B	62.58	335	P	P	05 02 17.1	-1.6
	comp=Z,1.0nm,0.6s,baz=15,slow=7.9,SNR=9.2						
FINES	FINESS Array B	62.58	335	i P	P	05 02 16.0	-2.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
RSSD	Black Hills	63.94	52	eP	P	05 02 29.1	+0.8
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.7s						
RSSD	Black Hills	63.94	52	eP	P	05 02 29.1	+0.8
	comp=Z,2.5nm,0.7s						
KBZ	Khabaz	70.41	315	P	P	05 03 08.4	-0.5
	comp=Z,3.2nm,0.8s,baz=326,slow=24,SNR=8.2						
KBZ	Khabaz	70.41	315	P	P	05 03 08.5	-0.5
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG	Malin Array Be	70.48	327	P	P	05 03 08.1	-1.2
	comp=Z,1.4nm,0.6s,baz=32,slow=6.6,SNR=3.4						
AKASG	Malin Array Be	70.48	327	P	P	05 03 08.1	-1.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRAB	Tennant Creek	71.38	201	eP	P	05 03 16.6	+1.5
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.2s						
WRAB	Tennant Creek	71.38	201	eP	P	05 03 16.6	+1.5
	comp=Z,9.2nm,1.2s						
WRA	Warramunga Arr	71.39	201	P	P	05 03 14.6	-0.5
	comp=Z,0.6nm,0.7s,baz=18,slow=6.8,SNR=4.0						
WRA	Warramunga Arr	71.39	201	P	P	05 03 14.6	-0.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WMOK	Wichita Mounta	73.53	56	eP	P	05 03 28.9	+1.0
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WMOK	Wichita Mounta	73.53	56	eP	P	05 03 28.9	+1.0
	comp=Z,1.8nm,0.8s						
BUR08	Bucovina Ar. S	74.48	328	eP	P	05 03 33.6	+0.3

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TXAR	Lajitas Array	74.80	63	P	P	05 03 36.1	+0.7
	comp=Z,1.0nm,0.6s,baz=300,slow=4.2,SNR=21						
TXAR	Lajitas Array	74.80	63	P	P	05 03 36.2	+0.7
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CLL	Collm	74.95	337	eP	P	05 03 36.0	+0.2
CLL	Collm	74.95	337	eP	P	05 03 36.0	+0.2
ASAR	Alice Springs	75.08	201	P	P	05 03 37.2	+0.4
	comp=Z,0.4nm,0.6s,baz=14,slow=5.5,SNR=7.6						
VRAC	Vranov	75.78	334	⇑P	P	05 03 41.7	+1.1
VRAC	Vranov	75.78	334	⇑iP	P	05 03 41.7	+1.1
MLR	Muntele Rosu	76.05	326	⇑P	P	05 03 43.5	+1.1
MLR	Muntele Rosu	76.05	326	⇑iP	P	05 03 43.5	+1.1
ARR	Arges	76.63	327	⇓iP	P	05 03 46.8	+1.1
KHC	Kasperske Hory	76.78	336	eP	P	05 03 47.5	+1.1
KHC	Kasperske Hory	76.78	336	eP	P	05 03 46.9	+0.5
KHC				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KHC	Kasperske Hory	76.78	336	eP	P	05 03 46.9	+0.5
	comp=Z,1.7nm,0.8s						
GERES	GERESS Array B	77.01	335	P	P	05 03 47.8	+0.1
	comp=Z,1.4nm,0.6s,baz=34,slow=5.8,SNR=16						
GERES	GERESS Array B	77.01	335	P	P	05 03 47.8	+0.1
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CONA	Conrad Observa	77.23	334	⇑iP	P	05 03 49.6	+0.6
	comp=Z,4.6nm,0.7s						
BZS	Buzias	77.47	329	⇑P	P	05 03 50.4	+0.2
BZS	Buzias	77.47	329	⇑iP	P	05 03 50.4	+0.2
BR131	Keskin Array S	77.79	318	eP	P	05 03 52.6	+0.3
	comp=Z,1.0nm,0.7s						
BRTR	Keskin Array B	77.79	318	P	P	05 03 52.2	-0.1
	comp=Z,1.6nm,0.8s,baz=70,slow=4.1,SNR=11						
BRTR	Keskin Array B	77.79	318	ceP	P	05 03 52.2	-0.1
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SOKA	Soboth	78.60	334	⇑iP	P	05 03 56.4	-0.2
	comp=Z,5.0nm,0.7s						
KBA	Koelnbreinsper	78.72	335	⇑iP	P	05 03 58.0	+0.6
	comp=Z,17nm,0.7s						
ECH	Echery	79.25	339	eP	P	05 04 00.1	0.0
ECH				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ECH	Echery	79.25	339	eP	P	05 04 00.1	0.0
	comp=Z,6.7nm,1.3s						
DIVS	Divibare	79.35	329	⇑iP	P	05 03 59.7	-1.1
VTS	Vitosha	79.55	326	⇑P	P	05 04 02.2	+0.2
VTS	Vitosha	79.55	326	⇑iP	P	05 04 02.2	+0.2
COCO	West Island	80.02	238	iP	P	05 04 04.4	-0.1
MMB	Musomiste	80.23	326	⇑P	P	05 04 06.0	+0.5
MMB	Musomiste	80.23	326	⇑iP	P	05 04 06.0	+0.5
CSS	Prodhromos	81.85	316	eP	P	05 04 13.8	-0.4
	comp=Z,2.2nm,0.7s						
BNI	Bardonecchia	82.34	338	eP	P	05 04 17.3	+0.6
BNI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BNI	Bardonecchia	82.34	338	eP	P	05 04 17.3	+0.6
	comp=Z,4.0nm,0.7s						
SSB	Saint Sauveur	82.62	340	eP	P	05 04 18.5	+0.4
SSB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SSB	Saint Sauveur	82.62	340	eP	P	05 04 18.5	+0.4
	comp=Z,4.8nm,0.9s						
RAYN	Ar Rayn	84.76	300	eP	P	05 04 29.0	-0.4
	comp=Z,9.5nm,0.9s						
TIP	Timpagrande	84.83	329	eP	P	05 04 29.5	0.0
	comp=Z,3.4nm,0.8s						
ESDC	Sonseca Array	89.72	344	P	P	05 04 52.0	-1.1
	comp=Z,0.2nm,0.4s,baz=9.9,slow=4.5,SNR=4.1						
KEST	Kesra	90.34	333	eP	P	05 04 56.4	+0.3
PLCA	Paso Flores	146.64	93	PKPbc	PKPbc	05 11 36.6	+0.6
	comp=Z,2.2nm,0.9s,baz=342,slow=6.4,SNR=2.3						
PLCA	Paso Flores	146.64	93	PKP2	PKPbc	05 11 36.6	+0.6
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.9s						

*SJA **05** 04:54:40.2±0.8, 35°.74S×73°.21W, h30km, ML3.4*
*NEIC **05** 04:54:59.0, 35°.12S×71°.88W, h44km, mb4.2/4, After GUC.*
NEIC Felt [III] at Talca and [II] at Curico, Linares, Pencahue and San Clemente.
*GUC **05** 04:54:59.1±0.5, 35°.12S×71°.88W, h44km±1km, ML3.8*
ISC 05 04:54:58.0±2.0**, 35°.10S**±0°.04×**72°.0W**±0°.1**, h19**km±15km**, n31,** σ1§**04**/36**, mb4.2**/3**, 5C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TALC	Talca	0.45	132	⇓iP	Pb	04 55 08.6	+1.3
TALC				iS	Sb	04 55 15.2	+1.6
NICH	Los Niches	0.68	82	⇓iP	Pb	04 55 10.8	-0.3
NICH				iS	Sb	04 55 19.7	-0.3
LNCH	Linares	0.83	154	⇓iP	Pg	04 55 13.7	-0.5
LNCH				iS	Sb	04 55 25.1	+0.6
LNV	Longovilo	1.25	25	⇑iP	Pn	04 55 20.6	+0.2
LNV				iS	Sb	04 55 36.4	-0.4
CACH	El Canelo	1.54	51	⇓iP	Pn	04 55 23.2	-1.3
CHCH	Chadas Angostu	1.64	45	⇓iP	Pn	04 55 24.9	-0.9
CHCH				iS	Sn	04 55 45.2	-1.1
TACH	Talagante	1.71	33	⇑iP	Pn	04 55 26.4	-0.4
TACH				iS	Sn	04 55 47.2	-0.8
PCH	Pirque	1.94	41	⇑iP	Pn	04 55 29.6	-0.5
CLCH	Cerro Calan	2.11	37	⇑iP	Pn	04 55 32.1	-0.2
CLCH				eS	Sn	04 55 57.3	-0.7
CLCH				AML	AML	04 56 02.7	
	comp=E,843nm,0.3s						
PEL	Peldehue	2.25	30	⇑iP	Pn	04 55 34.4	+0.1
PEL				AML	AML	04 56 10.0	
	comp=N,808nm,0.4s						
ROCH	El Roble	2.29	22	⇓iP	Pn	04 55 34.9	0.0
ROCH				iS	Sn	04 56 02.6	-0.1
ROCH				AML	AML	04 56 10.2	
	comp=E,698nm,0.5s						
AAGR	Agrelo	3.34	54	iP	Pn	04 55 50.1	+0.8
AAGR				iP	Pn	04 55 50.1	+0.8
ARCO	CERRO ARCO	3.43	50	iP	Pn	04 55 51.9	+1.4
ARCO				iS	Sb	04 56 43.1	+3.6
ARCO				AML	AML	04 56 48.8	
	comp=Z,30nm,0.5s						
AUSP	Uspallata	3.62	38	iP	Pn	04 55 54.3	+1.0
ASAL	Salagasta	3.66	48	iP	Pn	04 55 54.3	+0.7
RTLS	Leoncito	4.01	36	iP	Pn	04 55 59.0	+0.4
RTLS				iS	Sb	04 56 57.5	+1.1
RTCV	Cerro Valdivia	4.36	43	iP	Pn	04 56 02.7	-0.5
CFAA	Coronel Fontan	4.72	43	eP	Pn	04 56 07.9	-0.2
RTLL	Cerro Villicun	4.80	39	eP	Pn	04 56 09.2	-0.2
ACAN	Cantantal	4.93	57	eP	Pn	04 56 11.2	+0.1
AMOG	MOGNA	5.11	37	eP	Pn	04 56 13.0	-0.6
PLCA	Paso Flores	5.75	169	ePn	Pn	04 56 21.1	-1.1
AVFE	Valle Fertil	5.87	42	eP	Pn	04 56 23.0	-1.1
ACLC	CERRO LA CRUZ	7.11	39	eP	Pn	04 56 39.2	-1.9
TRQA	Tornquist	8.62	113	ePn	Pn	04 57 00.2	-1.4
LPAZ	La Paz	19.06	12	eP	P	04 59 19.5	-0.3
	comp=Z,1.4nm,0.9s						
OTAV	Otavalo	35.66	349	eP	P	05 01 53.0	-2.4
	comp=Z,3.5nm,1.1s						
SNAA	Sanae	50.57	157	eP	P	05 03 52.0	-2.9
	comp=Z,2.4nm,0.9s						
DBIC	Dimbokro	75.54	71	eP	P	05 06 36.8	-4.7
	comp=Z,23nm,1.6s						
LAZ	Ladron	76.54	331	eP	P	05 06 45.2	-1.7
TOA0	Torodi Ar. Sit	84.59	70	eP	P	05 07 25.8	-4.5

*NIED **05** 05:00:00, 42°.60N×145°.20E, h26km, Mw3.6 Best double couple: M0 2.52000×10^14 NP1:φs326.00000°, δ29.00000°, λ-124.00000°. NP2:φs183.00000°, δ66.00000°, λ-73.00000°.*
*SKHL **05** 05:00:58.8±0.6, 42°.41N×145°.31E, h47km±2km, mb4.5/3*
*JMA **05** 05:00:58.9±0.1, 42°.56N×145°.24E, h50km±1km, M3.7*
*ISCJB **05** 05:00:59.3±0.8, 42°.56N±0°.06×145°.25E±0°.06, h47km±9km, mb3.8/3, Error ellipse: s-maj=10.0km s-min=5.9km az=152.6*
*IDC **05** 05:01:07.8±3.0, 44°.83N×144°.76E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/27, mbtmp3.8/3, Error ellipse: s-maj=101.6km s-min=24.7km az=147.0*
ISC 05 05:00:59.2±1.8**, 42°.54N**±0°.07×**145°.26E**±0°.05**, h30**km±12km**, n18,** σ1§**04**/29**, mb3.7**/3**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JAK	Akkeshi	0.62	318	P	Pb	05 01 11.4	-0.1
JAK				eS	Sn	05 01 20.6	-0.2
NEM2	Nemuro 2	0.90	23	P	Pn	05 01 15.5	-0.3
NEM2				eS	Sb	05 01 27.7	-0.1
JOB	Onbets	1.11	290	P	Pn	05 01 18.4	-0.3
JOB				eS	Sn	05 01 32.6	-0.4
JNK	Nakash	1.12	339	P	Pn	05 01 18.2	-0.6
JNK				eS	Sn	05 01 31.8	-1.4
JAR	Ashorobuto	1.33	305	P	Pn	05 01 21.0	-0.8
JAR				eS	Sn	05 01 37.5	-1.0
JRA	Rausu	1.40	356	P	Pn	05 01 22.3	-0.4
JRA				eS	Sn	05 01 39.5	-0.7
JCH	Churui	1.40	274	P	Pn	05 01 22.8	0.0
MYR	Moyori	1.48	261	eP	Pn	05 01 24.0	+0.1
YUK	Yuzh-Kuril'sk	1.56	16	eP	Pn	05 01 24.9	0.0
YUK				AMB	AMB	05 01 25.2	
	31nm,0.3s						
YUK				AMB	AMB	05 01 25.2	
	35nm,0.3s						
YUK				AMB	AMB	05 01 25.2	
	263nm,0.3s						
YUK				eS	Sn	05 01 44.5	+0.5
YUK				A	A	05 01 47.7	
	463nm,0.3s						
YUK				A	A	05 01 47.7	
	238nm,0.3s						
JEM	Erimo	1.65	252	P	Pn	05 01 26.5	+0.4
JTKR	Abashiri--Toko	1.74	326	P	Pn	05 01 27.3	0.0
JTKR				eS	Sn	05 01 48.6	+0.1
SHO	Shikotan	1.76	40	eP	Pn	05 01 27.3	-0.3
SHO				AMB	AMB	05 01 30.7	
	290nm,0.3s						
SHO				eS	Sn	05 01 48.7	-0.2
SHO				A	A	05 01 55.1	
	454nm,0.4s						
ASAJ	Asahikawa	2.50	310	Pn	Pn	05 01 38.9	+1.0
	4.3nm,0.3s,baz=119,slow=14,SNR=19						
ASAJ				Sn	Sn	05 02 10.4	+3.0
	3.6nm,0.3s,baz=229,slow=33,SNR=5.6						
KUR	Kuril'sk	3.29	34	eP	Pn	05 01 50.1	+1.5
KUR				AMB	AMB	05 01 58.4	
	17nm,0.4s						
KUR				A	A	05 02 41.0	
	110nm,0.3s						
YSS	Yuzh-Sakhalins	4.76	339	eP	Pn	05 02 10.8	+1.9
YSS				eS	Sn	05 03 04.3	+1.3
YSS				A	A	05 03 05.0	
	33nm,0.1s						
ILAR	Eielson Array	43.28	35	P	P	05 08 57.2	-0.5
	0.8nm,0.8s,baz=269,slow=6.7,SNR=11						
YKA	Yellowknife Ar	57.57	33	P	P	05 10 46.9	+1.2
	0.5nm,0.6s,baz=300,slow=7.1,SNR=3.8						
FINES	FINESS Array B	65.31	333	P	P	05 11 36.5	-1.4
	2.4nm,0.9s,baz=15,slow=7.9,SNR=3.9						

*ISCJB **05** 05:11:20.4±0.6, 6°.93N±0°.07×73°.06W±0°.08, h166km, mb3.7/2, Error ellipse: s-maj=12.9km s-min=6.2km az=36.5*
*FUNV **05** 05:11:21.6, 6°.78N×73°.11W, h159km, MW3.8*
*IDC **05** 05:11:23.6±2.6, 6°.94N×73°.70W, h171km±21km, mb3.4/2, mb1 3.6/3, mb1mx3.0/25, mbtmp3.9/3, Error ellipse: s-maj=134.4km s-min=28.8km az=101.0*
ISC 05 05:11:21.1±1.0**, 6°.86N**±0°.07×**73°.00W**±0°.08**, h166**km**, n17,** σ1§**35**/23**, 1C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CAPV	Capacho	1.21	34	⇓iP	Pn	05 11 49.8	+0.5
CAPV				eS	Sn	05 12 10.2	-1.0
ROSC	El Rosal	2.39	214	P	Pn	05 12 01.3	-0.8
	34nm,0.3s,baz=305,slow=3.4,SNR=79						
ROSC				S	Sn	05 12 33.1	-0.8
	37nm,0.3s,baz=85,slow=21,SNR=13						
VIGV	El Vigia	2.55	39	eP	Pn	05 12 04.3	+0.7
SOCV	Socops	2.55	56	⇓iP	Pn	05 12 04.7	+1.0
SOCV				eS	Sn	05 12 36.5	-0.2
ELOV	Elorza	3.49	88	eP	Pn	05 12 16.2	+0.9
VIRV	Villa del Rosa	3.67	9	eP	Pn	05 12 17.0	-0.5
VIRV				eS	Sn	05 12 59.6	-1.9
QARV	Quebrada Arrib	4.13	36	⇑iP	Pn	05 12 24.4	+0.9
SANV	Sanarito	4.32	52	eP	Pn	05 12 26.6	+0.6
CURV	Curarigua	4.34	44	eP	Pn	05 12 26.7	+0.4
SIQV	Siquisique	4.91	40	⇓iP	Pn	05 12 34.0	+0.4
SIQV				eS	Sn	05 13 27.5	-3.0
BAUV	El Baul	5.33	67	eP	Pn	05 12 38.6	-0.5
BAUV				eS	Sn	05 13 36.7	-3.5
MAPV	Macapo	5.38	56	eP	Pn	05 12 40.2	+0.4
TURV	Turiamo	6.22	55	eP	Pn	05 12 51.2	+0.3
SCHQ	Schefferville	48.09	5	P	P	05 19 45.8	+2.0
	2.2nm,0.8s,baz=213,slow=8.1,SNR=3.8						
YKA	Yellowknife Ar	63.27	340	P	P	05 21 31.6	-0.1
	0.5nm,0.6s,baz=132,slow=6.8,SNR=7.6						
ASAR	Alice Springs	149.23	234	PKPbc	PKPbc	05 30 51.0	0.0
	0.2nm,0.4s,baz=128,slow=3.4,SNR=1.5						
WRA	Warramunga Arr	150.46	241	PKPbc	PKPbc	05 30 54.0	0.0
	0.2nm,0.3s,baz=106,slow=3.1,SNR=4.9						

*ISCJB **05** 05:12:40.9±0.4, 38°.16N±0°.02×23°.24E±0°.02, h11km±3km, Error ellipse: s-maj=2.6km s-min=2.4km az=163.1*
*ATH **05** 05:12:40.8, 38°.13N×23°.18E, h18km, MD3.2/26, ML3.5*
*THE **05** 05:12:41.6, 38°.12N×23°.21E, h0km±2km, ML3.3/17, Error ellipse: s-maj=2.0km s-min=0.8km az=61.0*
*CSEM **05** 05:12:41.0±0.1, 38°.16N×23°.18E, h2km, ML3.3, Error ellipse: s-maj=2.8km s-min=2.6km az=66.0*
ISC 05 05:12:41.2±0.8**, 38°.14N**±0°.01×**23°.21E**±0°.01**, h11**km±4km**, n143,** σ0§**76**/212**, Greece**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
VILL	Villia	0.09	71	P	Pg	05 12 43.6	-0.2
VILL				S	Sg	05 12 45.4	-0.3
VILL	Villia	0.09	71	P	Pg	05 12 43.6	-0.2
VILL				S	Sg	05 12 45.4	-0.3
VILL				eSb	Sg	05 12 47.2	+1.5
VIL2	Platees	0.09	32	ePB	Pg	05 12 43.6	-0.2
VIL2				eSB	Sg	05 12 47.2	+1.5
LTK	Loutraki	0.22	239	P	Pg	05 12 45.3	-0.6
LTK				S	Sg	05 12 49.4	+0.4
LTK	Loutraki	0.22	239	ePB	Pg	05 12 45.3	-0.6
LTK				eSB	Sg	05 12 49.1	+0.1
LTK	Loutraki	0.22	239	P	Pg	05 12 45.3	-0.6
LTK				eSb	Sg	05 12 49.1	+0.1
ATH	Athens Observa	0.43	112	P	Pg	05 12 50.0	+0.2
ATH				S	Sb	05 12 57.1	-0.3
ATH	Athens Observa	0.43	112	ePB	Pg	05 12 50.0	+0.2
ATH				eSB	Sg	05 12 56.4	+0.9
ATH	Athens Observa	0.43	112	P	Pg	05 12 50.0	+0.2
ATH				eSb	Sg	05 12 56.4	+0.9
ATH				S	Sb	05 12 57.1	-0.3
NAIG	Nisos Aigina	0.44	149	ePB	Pg	05 12 49.9	+0.1
NAIG	Nisos Aigina	0.44	149	ePb	Pg	05 12 49.9	+0.1
ATHU	Athens Univers	0.48	110	P	Pg	05 12 50.8	+0.1
ATHU				S	Sb	05 12 58.6	-0.3
ATHU	Athens Univers	0.48	110	P	Pg	05 12 50.8	+0.1
ATHU				S	Sb	05 12 58.6	-0.3
PTL	Penteli	0.53	99	P	Pg	05 12 51.5	0.0
PTL				S	Sg	05 12 59.3	+0.9
PTL	Penteli	0.53	99	ePN	Pg	05 12 51.5	0.0
PTL				eSN	Sg	05 12 58.9	+0.5
PTL	Penteli	0.53	99	P	Pg	05 12 51.5	0.0
PTL				eSn	Sg	05 12 58.9	+0.5
PTL				S	Sg	05 12 59.3	+0.9
LKR	Lokris	0.54	342	P	Pg	05 12 51.3	-0.5
LKR				S	Sb	05 13 01.0	+0.5
LKR	Lokris	0.54	342	ePN	Pg	05 12 51.2	-0.5
LKR				eSN	Sg	05 12 58.6	-0.3
LKR	Lokris	0.54	342	ePn	Pg	05 12 51.2	-0.5
LKR				eSn	Sg	05 12 58.6	-0.3
ATAL	Atalanti	0.57	345	P	Pg	05 12 52.5	+0.1
ATAL				S	Sb	05 13 02.5	+0.9
ATAL	Atalanti	0.57	345	P	Pg	05 12 52.5	+0.1
DSF	Desfina	0.60	297	P	Pg	05 12 51.9	-1.0
DSF				S	Sb	05 13 02.3	-0.1
DSF	Desfina	0.60	297	ePN	Pg	05 12 52.0	-1.0
DSF				eSN	Sg	05 13 01.1	+0.2
DSF	Desfina	0.60	297	ePn	Pg	05 12 52.0	-1.0
DSF				eSn	Sg	05 13 01.1	+0.2
DID	Didima	0.63	178	P	Pg	05 12 53.3	-0.1
DID				S	Sb	05 13 03.0	-0.1
DID	Didima	0.63	178	ePN	Pg	05 12 53.0	-0.5
DID				eSN	Sg	05 13 02.2	+0.5
DID	Didima	0.63	178	ePn	Pg	05 12 53.0	-0.5
DID	Didima	0.63	178	P	Pg	05 12 53.3	-0.1
DID				eSn	Sg	05 13 02.2	+0.5
DID				S	Sb	05 13 03.0	-0.1
MRKA	Markates	0.64	27	ePN	Pg	05 12 53.3	-0.4
MRKA				eSN	Sb	05 13 03.2	-0.3
MRKA	Markates	0.64	27	ePn	Pg	05 12 53.3	-0.4
MRKA				eSn	Sb	05 13 03.2	-0.3
GUR	Goura	0.71	254	P	Pg	05 12 54.6	-0.4
GUR				S	Sg	05 13 04.4	0.0
GUR	Goura	0.71	254	ePN	Pg	05 12 54.1	-0.9
GUR				eSN	Sg	05 13 04.2	-0.2
GUR	Goura	0.71	254	ePn	Pg	05 12 54.1	-0.9
GUR	Goura	0.71	254	P	Pg	05 12 54.6	-0.4
GUR				eSn	Sg	05 13 04.2	-0.2
SMIA	Simia	0.74	0	ePN	Pg	05 12 55.4	-0.2
SMIA				eSN	Sb	05 13 06.3	-0.1
SMIA	Simia	0.74	0	ePn	Pg	05 12 55.4	-0.2
SMIA				eSn	Sb	05 13 06.3	-0.1
AXAR	Agios Charalam	0.76	326	ePN	Pg	05 12 55.5	-0.5
AXAR	Agios Charalam	0.76	326	ePn	Pg	05 12 55.5	-0.5
KLV	Kalavryta, Ach	0.84	264	P	Pb	05 12 58.5	+0.6
KLV				S	Sn	05 13 10.7	-0.8
KLV	Kalavryta, Ach	0.84	264	ePN	Pg	05 12 57.0	-0.5
KLV				eSN	Sg	05 13 08.7	+0.3
KLV	Kalavryta, Ach	0.84	264	ePn	Pg	05 12 57.0	-0.5
KLV	Kalavryta, Ach	0.84	264	P	Pb	05 12 58.5	+0.6
KLV				eSn	Sg	05 13 08.7	+0.3
KALE	Kalithea	0.88	287	P	Pg	05 12 57.5	-0.7
KALE				S	Sn	05 13 12.5	+0.1
KALE	Kalithea	0.88	287	ePN	Pg	05 12 57.7	-0.5
KALE	Kalithea	0.88	287	P	Pg	05 12 57.5	-0.7
VLX	Vlachokerasia	1.01	221	P	Pg	05 13 00.8	+0.1
VLX				S	Sn	05 13 15.8	+0.1
VLX	Vlachokerasia	1.01	221	ePN	Pg	05 12 59.7	-1.0
VLX	Vlachokerasia	1.01	221	ePn	Pg	05 12 59.7	-1.0
VLX	Vlachokerasia	1.01	221	P	Pg	05 13 00.8	+0.1
VLX				S	Sn	05 13 15.8	+0.1
EFP	Efpalio	1.07	286	P	Pg	05 13 00.7	-1.0
EFP				S	Sn	05 13 17.6	+0.7
EFP	Efpalio	1.07	286	ePN	Pg	05 13 00.8	-1.0
EFP				eSN	Sg	05 13 15.6	0.0
EFP	Efpalio	1.07	286	P	Pg	05 13 00.7	-1.0
EFP				eSn	Sg	05 13 15.6	0.0
AGG	Agios Georgios	1.12	322	ePN	Pb	05 12 59.2	-3.5
AGG	Agios Georgios	1.12	322	P	Pb	05 13 02.2	-0.5
AGG				S	Sn	05 13 20.1	+1.7
AGG	Agios Georgios	1.12	322	ePN	Pb	05 13 01.7	-1.0
AGG	Agios Georgios	1.12	322	ePn	Pb	05 13 01.7	-1.0
AGG	Agios Georgios	1.12	322	P	Pb	05 13 02.2	-0.5
AOS	Alonnisos	1.16	27	ePN	Pb	05 13 02.3	-1.0
AOS	Alonnisos	1.16	27	P	Pb	05 13 02.4	-0.9
AOS				S	Sn	05 13 19.6	+0.3
AOS	Alonnisos	1.16	27	ePN	Pb	05 13 02.5	-0.9
AOS	Alonnisos	1.16	27	P	Pb	05 13 02.4	-0.9
AOS				S	Sn	05 13 19.6	+0.3
NEO	Neokhori	1.17	1	ePN	Pb	05 13 03.7	+0.2
NEO	Neokhori	1.17	1	ePn	Pb	05 13 03.7	+0.2
DRO	Drossia	1.20	262	P	Pb	05 13 03.8	-0.2
DRO				S	Sn	05 13 21.2	+1.0
DRO	Drossia	1.20	262	ePN	Pb	05 13 03.8	-0.2
DRO	Drossia	1.20	262	P	Pb	05 13 03.8	-0.2
DRO				S	Sn	05 13 21.2	+1.0
MAKR	Makrakomi, Fth	1.22	316	P	Pn	05 13 04.0	-0.2
MAKR				S	Sn	05 13 21.8	+1.1
MAKR	Makrakomi, Fth	1.22	316	ePN	Pn	05 13 03.7	-0.5
MAKR				eSN	Sb	05 13 20.3	+0.3
MAKR	Makrakomi, Fth	1.22	316	ePn	Pn	05 13 03.7	-0.5
MAKR	Makrakomi, Fth	1.22	316	P	Pn	05 13 04.0	-0.2
MAKR				eSn	Sb	05 13 20.3	+0.3
XOR	Xorichti	1.23	359	P	Pn	05 13 04.2	-0.2
XOR				S	Sn	05 13 22.7	+1.7
XOR	Xorichti	1.23	359	ePN	Pn	05 13 04.5	+0.1
XOR				eSN	Sg	05 13 21.1	+0.3
XOR	Xorichti	1.23	359	P	Pn	05 13 04.2	-0.2
XOR	Xorichti	1.23	359	ePn	Pn	05 13 04.5	+0.1
XOR				eSn	Sg	05 13 21.1	+0.3
AMT	Artemida-Makis	1.33	244	P	Pg	05 13 06.7	-0.1
AMT				S	Sg	05 13 25.0	+0.9
AMT	Artemida-Makis	1.33	244	ePN	Pg	05 13 06.6	-0.2
AMT	Artemida-Makis	1.33	244	ePn	Pg	05 13 06.6	-0.2
AMT				S	Sg	05 13 25.0	+0.9
EVR	Evrytania	1.35	306	P	Pn	05 13 06.3	+0.2
EVR				S	Sg	05 13 27.3	+2.7
EVR	Evrytania	1.35	306	ePN	Pn	05 13 05.8	-0.3
EVR				eSN	Sn	05 13 24.4	+0.4
EVR	Evrytania	1.35	306	ePn	Pn	05 13 05.8	-0.3
EVR	Evrytania	1.35	306	P	Pn	05 13 06.3	+0.2
EVR				eSn	Sn	05 13 24.4	+0.4
RLS	Riolos of Patr	1.38	267	ePN	Pn	05 13 06.0	-0.4
RLS	Riolos of Patr	1.38	267	ePn	Pn	05 13 06.0	-0.4
ITM	Ithomi	1.40	227	P	Pb	05 13 07.6	+0.3
ITM				S	Sb	05 13 25.3	+0.2
ITM	Ithomi	1.40	227	ePN	Pn	05 13 06.8	+0.1
ITM	Ithomi	1.40	227	ePn	Pn	05 13 06.8	+0.1
ITM	Ithomi	1.40	227	P	Pb	05 13 07.6	+0.3
ITM				S	Sb	05 13 25.3	+0.2
VLI	Veliai	1.43	189	P	Pn	05 13 06.9	-0.3
VLI				S	Sg	05 13 28.1	+0.8
VLI	Veliai	1.43	189	ePN	Pn	05 13 06.8	-0.4
VLI	Veliai	1.43	189	P	Pn	05 13 06.9	-0.3
VLI				S	Sg	05 13 28.1	+0.8
PDO	Prodromos	1.66	287	P	Pg	05 13 12.8	-0.2
PDO	Prodromos	1.66	287	ePN	Pb	05 13 11.6	-0.2
PDO	Prodromos	1.66	287	ePn	Pb	05 13 11.6	-0.2
PDO	Prodromos	1.66	287	P	Pg	05 13 12.8	-0.2
PYL	PYLOS	1.70	224	P	Pb	05 13 12.7	+0.2
PYL				S	Sg	05 13 37.2	+1.3
PYL	PYLOS	1.70	224	ePN	Pb	05 13 12.1	-0.4
PYL	PYLOS	1.70	224	ePn	Pb	05 13 12.1	-0.4
PYL	PYLOS	1.70	224	P	Pb	05 13 12.7	+0.2
THL	Klokotos Trika	1.70	327	P	Pn	05 13 10.9	+0.1
THL				S	Sg	05 13 36.4	+0.3
THL	Klokotos Trika	1.70	327	ePN	Pn	05 13 11.0	+0.1
THL	Klokotos Trika	1.70	327	ePn	Pn	05 13 11.0	+0.1
KYTH	Kithira	1.86	184	ePN	Pn	05 13 13.8	+0.8
KYTH	Kithira	1.86	184	ePn	Pn	05 13 13.8	+0.8
DSL	Palaion Diasel	1.93	302	P	Pb	05 13 16.9	+0.4
DSL				S	Sg	05 13 43.1	-0.2
DSL	Palaion Diasel	1.93	302	ePB	Pn	05 13 14.2	+0.1
DSL	Palaion Diasel	1.93	302	ePb	Pn	05 13 14.2	+0.1
DSL	Palaion Diasel	1.93	302	P	Pb	05 13 16.9	+0.4
ZKS	Zakynthos	1.97	258	ePN	Pn	05 13 15.2	+0.7
ZKS	Zakynthos	1.97	258	ePn	Pn	05 13 15.2	+0.7
LIT	Litokhoron	2.04	344	ePB	Pn	05 13 15.4	-0.2
LIT	Litokhoron	2.04	344	ePb	Pn	05 13 15.4	-0.2
VLS	Valsamata	2.06	272	P	Pb	05 13 18.2	-0.6
VLS	Valsamata	2.06	272	ePN	Pn	05 13 16.8	+0.9
VLS	Valsamata	2.06	272	ePn	Pn	05 13 16.8	+0.9
VLS	Valsamata	2.06	272	P	Pb	05 13 18.2	-0.6
LKD2	Lefkada island	2.11	289	ePN	Pb	05 13 18.4	-1.1
LKD2	Lefkada island	2.11	289	ePn	Pb	05 13 18.4	-1.1
APE	Apeiranthos	2.13	119	ePN	Pn	05 13 15.0	-1.8
PLG	Polygyros	2.24	5	ePN	Pn	05 13 18.5	+0.1
PLG	Polygyros	2.24	5	ePn	Pn	05 13 18.5	+0.1
CHOS	Chios island	2.25	83	ePN	Pn	05 13 17.5	-1.0
CHOS	Chios island	2.25	83	P	Pn	05 13 18.6	0.0
CHOS	Chios island	2.25	83	P	Pn	05 13 18.6	0.0
ANKY	Antikythira Is	2.27	178	P	Pn	05 13 18.8	+0.2
ANKY				S	Sn	05 13 43.6	-2.9
ANKY	Antikythira Is	2.27	178	P	Pn	05 13 18.8	+0.2
OUR	Ouranopolis	2.28	15	ePN	Pn	05 13 17.0	-1.7
LIA	Limnos Island	2.34	41	ePB	Pn	05 13 20.3	+0.7
LIA	Limnos Island	2.34	41	ePb	Pn	05 13 20.3	+0.7
JAN	Janina	2.38	310	ePN	Pn	05 13 20.7	+0.4
JAN	Janina	2.38	310	ePn	Pn	05 13 20.7	+0.4
THR5	Thira Island,	2.42	135	ePN	Pn	05 13 19.5	-1.3
KZN	Kozani	2.44	333	ePN	Pn	05 13 22.1	+1.0
KZN	Kozani	2.44	333	ePn	Pn	05 13 22.1	+1.0
HORT	Hortiatis	2.46	358	ePN	Pn	05 13 20.2	-1.2
SGD	Sagiada	2.75	303	ePB	Pn	05 13 26.7	+1.4
SGD	Sagiada	2.75	303	ePb	Pn	05 13 26.7	+1.4
KARN	Karanos	2.79	168	P	Pn	05 13 28.1	+2.3
KARN				S	Sb	05 14 03.3	-1.9
KARN	Karanos	2.79	168	P	Pn	05 13 28.1	+2.3
KARN				S	Sb	05 14 03.3	-1.9
GRG	Griva	2.88	348	ePN	Pn	05 13 26.8	-0.4
GADA	Gvkgeada	2.93	45	ePN	Pn	05 13 27.5	-0.2

KNT	**Kendrikon**	**3.03**	**356**	*e*PN	**Pn**	**05 13 26.2**	**-3.0**
KNT	**Kendrikon**	**3.03**	**356**	*e*PN	**Pn**	**05 13 30.2**	**+1.0**
KNT	**Kendrikon**	**3.03**	**356**	*e*Pn	**Pn**	**05 13 30.2**	**+1.0**

CSEM ***05*** *05:17:15.4±0.1,42.72N×12.46E,h10km,ML3.1/14,Error ellipse: s-maj=2.4km s-min=1.8km az=55.0*

ROM 05 05:17:15.1±0.1,42.73N×12.47E,h7km±1km,Md2.8/27, Ml2.4/32,Error ellipse: s-maj=1.1km s-min=0.7km az=44.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESX	**Cesi**	**0.14**	**145**	Pg	Pg	05 17 18.9	+0.7
CESX				Sg	Sg	05 17 21.5	+1.3
	2µm,0.3s						
CESX	**Cesi**	**0.14**	**145**	Pg	Pg	05 17 18.9	+0.7
CESX				Sg	Sg	05 17 21.5	+1.3
	2µm,0.3s						
MGAB	**Montegabbione**	**0.32**	**305**	Pg	Pg	05 17 22.2	+0.7
MGAB				Sg	Sb	05 17 27.5	-1.2
	884nm,0.2s						
MGAB	**Montegabbione**	**0.32**	**305**	Pg	Pg	05 17 22.2	+0.7
MGAB				Sg	Sb	05 17 27.5	-1.2
	884nm,0.2s						
MNS	**Montasola**	**0.38**	**155**	Pg	Pg	05 17 23.1	+0.6
MNS				Sg	Sb	05 17 29.2	-1.1
	410nm,0.3s						
MNS	**Montasola**	**0.38**	**155**	Pg	Pg	05 17 23.1	+0.6
MNS				Sg	Sb	05 17 29.2	-1.1
	410nm,0.3s						
CESI	**CESI - Serrava**	**0.42**	**49**	Pg	Pg	05 17 23.9	+0.4
CESI				Sg	Sb	05 17 30.8	-0.9
	138nm,0.3s						
CESI	**CESI - Serrava**	**0.42**	**49**	Pg	Pg	05 17 23.9	+0.4
CESI				Sg	Sb	05 17 30.8	-0.9
	138nm,0.3s						
SACS	**San Casciano d**	**0.43**	**286**	Pg	Pg	05 17 24.2	+0.7
SACS				Sg	Sb	05 17 31.1	-0.8
	263nm,0.6s						
LNSS	**Leonessa**	**0.44**	**106**	Pg	Pg	05 17 24.2	+0.4
LNSS				Sg	Sb	05 17 31.3	-1.0
	352nm,0.4s						
LNSS	**Leonessa**	**0.44**	**106**	Pg	Pg	05 17 24.2	+0.4
LNSS				Sg	Sb	05 17 31.3	-1.0
	352nm,0.4s						
NRCA	**Norcia**	**0.49**	**77**	Pg	Pg	05 17 25.0	+0.3
NRCA				Sg	Sb	05 17 32.9	-0.7
NRCA	**Norcia**	**0.49**	**77**	Pg	Pg	05 17 25.0	+0.3
NRCA				Sg	Sb	05 17 32.9	-0.7
LATE	**Laterza**	**0.50**	**257**	Pg	Pb	05 17 25.7	-0.7
	603nm,0.7s						
LATE	**Laterza**	**0.50**	**257**	Pg	Pb	05 17 25.7	-0.7
	603nm,0.7s						
FDMO	**Fiordimonte**	**0.55**	**56**	Pg	Pg	05 17 26.1	+0.3
FDMO				Sg	Sb	05 17 34.3	-1.0
	315nm,0.4s						
FDMO	**Fiordimonte**	**0.55**	**56**	Pg	Pg	05 17 26.1	+0.3
FDMO				Sg	Sb	05 17 34.3	-1.0
	315nm,0.4s						
SNTG	**Esanatoglia**	**0.63**	**33**	Pg	Pg	05 17 27.5	+0.2
SNTG				Sg	Sb	05 17 37.4	-0.2
	167nm,0.7s						
SNTG	**Esanatoglia**	**0.63**	**33**	Pg	Pg	05 17 27.5	+0.2
SNTG				Sg	Sb	05 17 37.4	-0.2
	167nm,0.7s						
ATFO	**Monte Foce - G**	**0.64**	**7**	Pg	Pb	05 17 28.5	-0.3
ATFO	**Monte Foce - G**	**0.64**	**7**	Pg	Pb	05 17 28.5	-0.3
SMA1	**SAN MARTINO**	**0.65**	**98**	Pg	Pg	05 17 28.1	+0.4
SMA1				Sg	Sb	05 17 38.6	+0.3
	559nm,0.6s						
SMA1	**SAN MARTINO**	**0.65**	**98**	Pg	Pg	05 17 28.1	+0.4
SMA1				Sg	Sb	05 17 38.6	+0.3
	559nm,0.6s						
ATVO	**AVT- Monte Val**	**0.65**	**356**	Pg	Pg	05 17 28.2	+0.4
	166nm,0.6s						
ATVO	**AVT- Monte Val**	**0.65**	**356**	Pg	Pg	05 17 28.2	+0.4
	166nm,0.6s						
FIAM	**Fiamignano**	**0.67**	**134**	Pg	Pg	05 17 28.1	0.0
FIAM				Sg	Sb	05 17 38.6	-0.2
	214nm,0.6s						
FIAM	**Fiamignano**	**0.67**	**134**	Pg	Pg	05 17 28.1	0.0
FIAM				Sg	Sb	05 17 38.6	-0.2
	214nm,0.6s						
CAFI	**Castiglion Fio**	**0.70**	**329**	Pg	Pg	05 17 29.0	+0.3
CAFI	**Castiglion Fio**	**0.70**	**329**	Pg	Pg	05 17 29.0	+0.3
CAMP	**Campotosto**	**0.72**	**105**	Pg	Pg	05 17 29.1	-0.1
	88nm,0.5s						
CAMP	**Campotosto**	**0.72**	**105**	Pg	Pg	05 17 29.1	-0.1
	88nm,0.5s						
ATPI	**Pietralunga -**	**0.72**	**356**	Pg	Pg	05 17 29.5	+0.4
ATPI				Sg	Sb	05 17 40.1	-0.2
	125nm,0.5s						
ATPI	**Pietralunga -**	**0.72**	**356**	Pg	Pg	05 17 29.5	+0.4
ATPI				Sg	Sb	05 17 40.1	-0.2
	125nm,0.5s						
MTCE	**Montecelio**	**0.73**	**164**	Pg	Pg	05 17 29.9	-0.4
MTCE				Sg	Sb	05 17 40.8	+0.3
	111nm,0.4s						
MTCE	**Montecelio**	**0.73**	**164**	Pg	Pb	05 17 29.9	-0.4
MTCE				Sg	Sb	05 17 40.8	+0.3
	111nm,0.4s						
ARCI	**Arcidosso**	**0.74**	**280**	Pg	Pg	05 17 29.6	+0.1
	45nm,0.6s						
ARCI	**Arcidosso**	**0.74**	**280**	Pg	Pg	05 17 29.6	+0.1
	45nm,0.6s						
TOLF	**Tolfa**	**0.75**	**208**	Pg	Pg	05 17 29.9	+0.3
	139nm,0.6s						
TOLF	**Tolfa**	**0.75**	**208**	Pg	Pg	05 17 29.9	+0.3
	139nm,0.6s						
BADI	**Badiali**	**0.80**	**348**	Pg	Pb	05 17 31.3	-0.1
	33nm,0.6s						
BADI	**Badiali**	**0.80**	**348**	Pg	Pb	05 17 31.3	-0.1
	33nm,0.6s						
T0106	**Roio Piano**	**0.80**	**122**	Pg	Pg	05 17 30.3	-0.3
	96nm,0.4s						
PIEI	**Pieia**	**0.81**	**3**	Pg	Pb	05 17 31.2	-0.4
	92nm,0.3s						
PIEI	**Pieia**	**0.81**	**3**	Pg	Pb	05 17 31.2	-0.4
	92nm,0.3s						
CING	**Cingoli**	**0.84**	**39**	Pg	Pg	05 17 31.2	-0.1
CING				Sg	Sb	05 17 43.0	-0.6
	113nm,0.4s						
CING	**Cingoli**	**0.84**	**39**	Pg	Pg	05 17 31.2	-0.1
CING				Sg	Sb	05 17 43.0	-0.6
	113nm,0.4s						
ARVD	**Arcevia**	**0.84**	**24**	Pg	Pg	05 17 31.3	-0.1
	71nm,0.6s						
ARVD	**Arcevia**	**0.84**	**24**	Pg	Pg	05 17 31.3	-0.1
	71nm,0.6s						
TERO	**Teramo**	**0.84**	**97**	Pg	Pg	05 17 30.9	-0.5
TERO				Sg	Sb	05 17 43.8	0.0
	126nm,0.5s						
TERO	**Teramo**	**0.84**	**97**	Pg	Pg	05 17 30.9	-0.5
TERO				Sg	Sb	05 17 43.8	0.0
	126nm,0.5s						
CERT	**Cerreto**	**0.87**	**154**	Pg	Pg	05 17 31.6	-0.3
	99nm,0.4s						
CERT	**Cerreto**	**0.87**	**154**	Pg	Pg	05 17 31.6	-0.3
	99nm,0.4s						
PARC	**Parchiule**	**0.93**	**350**	Pg	Pb	05 17 33.7	0.0
	108nm,0.6s						
PARC	**Parchiule**	**0.93**	**350**	Pg	Pb	05 17 33.7	0.0
	108nm,0.6s						
CRE	**Caprese Michel**	**0.97**	**337**	Pg	Pb	05 17 34.5	+0.1
	52nm,0.9s						
CRE	**Caprese Michel**	**0.97**	**337**	Pg	Pb	05 17 34.5	+0.1
	52nm,0.9s						
FSSB	**Fossombrone**	**0.99**	**13**	Pg	Pb	05 17 34.9	+0.3
	28nm,0.4s						
FSSB	**Fossombrone**	**0.99**	**13**	Pg	Pb	05 17 34.9	+0.3
	28nm,0.4s						
GUMA	**Gualdo di Mace**	**1.13**	**72**	Pg	Pg	05 17 29.5	-7.3
GUMA				Sg	Sg	05 17 40.3	-11
	607nm,0.4s						
AOI	**Ancona**	**1.17**	**45**	Pg	Pg	05 17 37.3	-0.3
	63nm,0.6s						
AOI	**Ancona**	**1.17**	**45**	Pg	Pg	05 17 37.3	-0.3
	63nm,0.6s						
ASQU	**Asqua**	**1.18**	**335**	Pg	Pg	05 17 37.8	0.0
	27nm,0.4s						
ASQU	**Asqua**	**1.18**	**335**	Pg	Pg	05 17 37.8	0.0
	27nm,0.4s						
VVLD	**Villa Vallelon**	**1.21**	**135**	Pg	Pg	05 17 38.4	-0.1
	52nm,0.6s						
VVLD	**Villa Vallelon**	**1.21**	**135**	Pg	Pg	05 17 38.4	-0.1
	52nm,0.6s						
INTR	**Introdacqua**	**1.28**	**123**	Pg	Pn	05 17 39.6	0.0
	75nm,0.7s						
INTR	**Introdacqua**	**1.28**	**123**	Pg	Pn	05 17 39.6	0.0
	75nm,0.7s						
GIUL	**Giuliano Di Ro**	**1.31**	**153**	Pg	Pn	05 17 39.2	-0.7
	45nm,0.8s						
GIUL	**Giuliano Di Ro**	**1.31**	**153**	Pg	Pn	05 17 39.2	-0.7
	45nm,0.8s						
VMG	**Vicchio**	**1.41**	**332**	Pg	Pn	05 17 41.2	0.0
	33nm,0.6s						
VMG	**Vicchio**	**1.41**	**332**	Pg	Pn	05 17 41.2	0.0
	33nm,0.6s						
UDBI	**Udbina**	**2.99**	**52**	*e*Pn	Pn	05 18 04.9	+1.8
UDBI				Sn	Sn	05 18 40.8	+1.5
UDBI	**Udbina**	**2.99**	**52**	*e*Pn	Pn	05 18 04.9	+1.8
UDBI				Sn	Sn	05 18 40.7	+1.4

IDC 05 05:19:08.3±58.0,17.67S×168.71E,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.8/34,mbtmp4.2/3,MS3.7/1,Ms1 3.7/1, ms1mx3.0/19,Error ellipse: s-maj=989.0km s-min=108.2km az=71.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**16.82**	**136**	LR	LR	05 27 36.8	
	comp=Z,273nm,20.3s,baz=108,slow=30						
STKA	**Stephens Creek**	**28.29**	**235**	P	P	05 25 03.9	+0.2
	3.2nm,0.5s,baz=70,slow=10,SNR=14						
WRA	**Warramunga Arr**	**32.58**	**260**	P	P	05 25 41.3	-0.4
	0.7nm,0.6s,baz=91,slow=8.9,SNR=9.8						
ASAR	**Alice Springs**	**33.05**	**254**	P	P	05 25 45.9	0.0
	2.3nm,0.5s,baz=82,slow=9.0,SNR=33						

NIED ***05*** *05:22:00,43.30N×146.90E,h68km,Mw5.5 Best double couple: M0 1.73000×10^17 NP1:φs162.00000°,δ17.00000°, λ24.00000°. NP2:φs50.00000°,δ83.00000°,λ106.00000°.*

BJI ***05*** *05:22:01.1,43.46N×146.84E,h61km,mb5.5/81,mB5.5/53, Ms4.8/78,Ms7 4.6/74*

SZGRF ***05*** *05:22:01.5,43.92N×146.87E,h33km,mb6.0,MS4.7,Kuril Islands, Russia*

NEIC ***05*** *05:22:02.9±0.1,43.43N×146.77E,h58km,mb5.5/240, MW5.5,MW5.5,Error ellipse: s-maj=3.7km s-min=2.0km az=156.0,Moment Tensor Solution. s59 Moment tensor: Scale 10^17Nm; Mrr0.90; Mθθ0.04; Mφφ-0.94; Mrθ1.47; Mθφ-0.41; Mrφ0.91; Best double couple: M0 2.00000×10^17 NP1:φs177.00000°,δ22.00000°,λ38.00000°. NP2: φs51.00000°,δ77.00000°,λ107.00000°. Principal axes: T 2.0900, Plg54.0000°, Azm342.0000°; N -0.1800, Plg16.0000°, Azm227.0000°; P -1.9100, Plg29.0000°, Azm127.0000°;*

NEIC Felt [V] at Shakotan and [III] at Yuzhno-Kuril'sk. Recorded [3 JMA] in eastern Hokkaido, [2 JMA] in southeastern Hokkaido and [1 JMA] in central Hokkaido. Also recorded [1 JMA] in Aomori and Iwate, Honshu.

ISCJB ***05*** *05:22:02.6±0.2,43.36N±0.02×146.82E±0.01,h69km±2km, mb5.5/413 Error ellipse: s-maj=3.0km s-min=1.6km az=166.6*

GCMT ***05*** *05:22:02.9±0.1,43.43N×146.95E,h77km±1km, MW5.5/121,Moment Tensor Solution. s99,c204; s121,c237; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr0.76±.03; Mθθ0.20±.03; Mφφ-0.95±.03; Mrθ1.20±.02; Mθφ-0.38±.02; Mφr1.00±.02; Best double couple: M0 1.83100×10^17 NP1:φs45.00000°,δ77.00000°, λ109.00000°. NP2:φs168.00000°,δ23.00000°,λ35.00000°. Principal axes: T 1.8310, Plg54.0000°, Azm338.0000°; N -0.0010, Plg18.0000°, Azm221.0000°; P -1.8310, Plg30.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***05*** *05:22:02.8±0.8,43.36N×146.78E,h76km,mb6.0/88, MS4.8/30 Error ellipse: s-maj=6.6km s-min=4.9km az=108.4*

MOS Felt (V) at Malokuril'skoye; (III) at Yuzhno-Kuril'sk.

SKHL ***05*** *05:22:03.6±1.0,43.36N×146.91E,h77km±5km,mb5.5/15, mbh6.0/5,Ms4.9/8*

SKHL Felt (V) at Malokurilskoe; (III) at Yushno-Kukilsk.

JMA ***05*** *05:22:03.2±0.2,43.27N×146.87E,h62km±2km,M5.5*

JMA Felt III J1.

IDC ***05*** *05:22:04.4±1.4,43.39N×146.79E,h71km±12km,mb5.2/27, mb1 5.3/32,mb1mx5.2/39,mbtmp5.4/32,MS4.5/30, Ms1 4.5/30,ms1mx4.4/35,Error ellipse: s-maj=10.4km s-min=8.7km az=159.0*

NEIC ***05*** *05:22:13.0±0.0,43.78N×146.78E,h55km,Moment Tensor Solution. s77 Moment tensor: Scale 10^17Nm; Mrr-0.12; Mθθ0.56; Mφφ-0.44; Mrθ1.17; Mθφ-0.39; Mrr1.42; Best double couple: M0 1.90000×10^17 NP1:φs45.00000°, δ89.00000°,λ105.00000°. NP2:φs140.00000°,δ15.00000°, λ5.00000°. Principal axes: T 1.6500, Plg44.0000°, Azm330.0000°; N 0.5000, Plg15.0000°, Azm224.0000°; P -2.1500, Plg41.0000°, Azm120.0000°;*

ISC 05 05:22:03.3±0.3,43.42N±0.03×146.78E±0.03,h62km±1km, h62km:pP-P,n1770,σ1912/1990,mb5.6/439,443C-274D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.45**	**5**	*e*P	**Pn**	**05 22 16.2**	**+1.3**
SHO				AMB	AMB	05 22 16.9	
	2µm,0.5s						
SHO				*e*S	**Sn**	**05 22 25.5**	**+2.1**
SHO				A	A	05 22 26.1	
	18µm,0.4s						
NEM2	**Nemuro 2**	**0.76**	**266**	||P	**Pn**	**05 22 19.4**	**+1.1**
NEM2				*e*S	**Sn**	**05 22 31.1**	**+1.7**
YUK	**Yuzh-Kuril'sk**	**0.90**	**313**	*d*iPN	**Pn**	**05 22 21.7**	**+1.5**
YUK				*i* S	**Sn**	**05 22 34.5**	**+1.9**
YUK	**Yuzh-Kuril'sk**	**0.90**	**313**	*e*P	**Pn**	**05 22 21.7**	**+1.5**
YUK				*e*S	**Sn**	**05 22 34.5**	**+1.9**
JRA	**Rausu**	**1.31**	**294**	||P	**Pn**	**05 22 27.5**	**+2.1**
JRA				*e*S	**Sn**	**05 22 45.5**	**+3.5**
JNK	**Nakash**	**1.51**	**277**	||P	**Pn**	**05 22 29.3**	**+1.2**
JNK				*e*S	**Sn**	**05 22 49.2**	**+2.4**
JAK	**Akkeshi**	**1.58**	**255**	||P	**Pn**	**05 22 29.8**	**+0.7**
JAK				*e*S	**Sn**	**05 22 49.3**	**+0.7**
KUR	**Kuril'sk**	**1.97**	**23**	*c* iPN	**Pn**	**05 22 35.8**	**+1.5**
KUR				*i* S	**Sn**	**05 22 59.2**	**+1.2**
KUR				pmax	pmax		
	comp=E,464nm,0.4s						
KUR				pmax	pmax		
	comp=Z,713nm,0.4s						
KUR				pmax	pmax		
	comp=N,398nm,0.2s						
KUR				pmax	pmax		
	comp=Z,1µm,0.2s						
KUR				smax	smax		
	comp=N,26µm,2.3s						
KUR				smax	smax		
	comp=E,22µm,1.9s						
KUR				smax	smax		
	comp=E,2µm,0.4s						
KUR	**Kuril'sk**	**1.97**	**23**	*e*P	**Pn**	**05 22 35.8**	**+1.5**
KUR				AMB	AMB	05 22 41.2	
	comp=E,400nm,0.3s						
KUR				AMB	AMB	05 22 41.2	
	comp=E,464nm,0.3s						
KUR				AMB	AMB	05 22 41.2	
	comp=E,713nm,0.3s						
KUR				AMB	AMB	05 22 41.9	
	comp=E,1µm,0.2s						
KUR				*e*S	**Sn**	**05 22 59.2**	**+1.2**
KUR				A	A	05 23 00.7	
	comp=E,26µm,2.0s						
KUR				A	A	05 23 00.7	
	comp=E,22µm,2.0s						
KUR				A	A	05 23 01.2	
	comp=E,14µm,0.4s						
KUR				A	A	05 23 01.2	
	comp=E,18µm,0.4s						
JTKR	**Abashiri--Toko**	**2.15**	**286**	||P	**Pn**	**05 22 39.3**	**+2.5**
JTKR				*e*S	**Sn**	**05 23 06.4**	**+4.0**
JAR	**Ashorobuto**	**2.20**	**268**	||P	**Pn**	**05 22 39.0**	**+1.5**
JAR				*e*S	**Sn**	**05 23 06.0**	**+2.4**
JOB	**Onbets**	**2.22**	**257**	||P	**Pn**	**05 22 38.8**	**+1.1**
JOB				*e*S	**Sn**	**05 23 05.1**	**+1.1**
JMP	**Maruseppu**	**2.55**	**284**	||P	**Pn**	**05 22 44.9**	**+2.7**
JCH	**Churui**	**2.63**	**253**	||P	**Pn**	**05 22 43.9**	**+0.5**
JCH				*e*S	**Sn**	**05 23 14.9**	**+0.7**
HRK	**Horoka**	**2.66**	**272**	*e*P	**Pn**	**05 22 46.3**	**+2.5**
HRK				*e*S	**Sn**	**05 23 18.2**	**+3.3**
JKK2	**Kamakawa 2**	**2.96**	**280**	||P	**Pn**	**05 22 50.7**	**+2.8**
ERM	**Erimo**	**3.02**	**243**	*d* iPN	**Pn**	**05 22 50.2**	**+1.6**
ERM	**Erimo**	**3.02**	**243**	*e*P	**Pn**	**05 22 50.2**	**+1.6**
ERM	**Erimo**	**3.02**	**243**	*e*Pn	**Pn**	**05 22 50.8**	**+2.2**
ERM				*e*Sn	**Sn**	**05 23 26.7**	**+3.1**
JFR	**Furan**	**3.07**	**267**	||P	**Pn**	**05 22 51.4**	**+2.1**
JFR				*e*S	**Sn**	**05 23 26.7**	**+1.9**
ASAJ	**Asahikawa**	**3.11**	**284**	||P	**Pn**	**05 22 53.0**	**+3.2**
ASAJ	**Asahikawa**	**3.11**	**284**	P	**Pn**	**05 22 52.5**	**+2.7**
	baz=104,slow=11						
ASAJ	**Asahikawa**	**3.11**	**284**	*e*Pn	**Pn**	**05 22 53.0**	**+3.2**
ASAJ				*e*Sn	**Sn**	**05 23 28.7**	**+2.9**
JNBK	**Urakawa-nobuka**	**3.17**	**250**	||P	**Pn**	**05 22 51.4**	**+0.6**
JNBK				*e*S	**Sn**	**05 23 26.4**	**-1.0**
YSS	**Yuzh-Sakhalins**	**4.53**	**323**	*c* iPN	**Pn**	**05 23 12.0**	**+2.7**
YSS				*i* S	**Sn**	**05 24 03.0**	**+2.3**
YSS				pmax	pmax		
	comp=Z,1µm,0.8s						
YSS				smax	smax		
	comp=E,3µm,0.9s						
YSS				smax	smax		
	comp=N,8µm,4.0s						
YSS				MLR	MLR		
	comp=N,8µm,18.0s						
YSS				MLR	MLR		
	comp=E,5µm,18.0s						
YSS				MLR	MLR		
	comp=Z,10µm,18.0s						
YSS	**Yuzh-Sakhalins**	**4.53**	**323**	*e*P	**Pn**	**05 23 11.9**	**+2.7**
YSS				AMB	AMB	05 23 13.1	
	comp=Z,1µm,0.8s						
YSS				*e*S	**Sn**	**05 24 03.0**	**+2.3**
YSS				A	A	05 24 06.2	
	comp=Z,3µm,0.9s						
YSS				A	A	05 24 08.0	
	comp=Z,8µm,4.0s						
YSS				AMS	AMS	05 25 05.0	
	comp=Z,8µm,18.0s						
YSS				AMS	AMS	05 25 05.0	
	comp=Z,5µm,18.0s						
YSS				AMS	AMS	05 25 05.0	
	comp=Z,10µm,18.0s						
YSS	**Yuzh-Sakhalins**	**4.53**	**323**	*e*Pn	**Pn**	**05 23 12.1**	**+2.7**
YSS				*e*Sn	**Sn**	**05 24 03.0**	**+2.3**
UGL	**Uglegorsk**	**6.53**	**332**	⇑iPN	Pn	05 23 40.0	+3.4
UGL				*e*S	**Sn**	**05 24 54.0**	**+4.4**
UGL				pmax	pmax		
	comp=Z,3µm,3.0s						
UGL				pmax	pmax		
	comp=N,2µm,4.0s						
UGL				pmax	pmax		
	comp=E,1µm,4.0s						
UGL				pmax	pmax		
	comp=N,247nm,1.0s						
UGL				pmax	pmax		
	comp=E,314nm,1.0s						
UGL				pmax	pmax		
	comp=Z,672nm,1.0s						
UGL				smax	smax		
	comp=N,13µm,4.0s						
UGL				smax	smax		
	comp=E,8µm,4.0s						
UGL				smax	smax		
	comp=N,963nm,1.1s						
UGL				smax	smax		
	comp=E,1µm,1.1s						
UGL				MLR	MLR		
	comp=E,7µm,14.0s						
UGL				MLR	MLR		
	comp=Z,3µm,14.0s						
UGL				MLR	MLR		
	comp=N,4µm,16.0s						
UGL	**Uglegorsk**	**6.53**	**332**	*e*P	Pn	05 23 40.0	+3.4
UGL				AMB	AMB	05 23 42.0	
	comp=N,2µm,3.0s						
UGL				AMB	AMB	05 23 42.0	
	comp=N,1µm,3.0s						
UGL				AMB	AMB	05 23 42.0	
	comp=N,3µm,3.0s						
UGL				AMB	AMB	05 23 42.0	
	comp=N,247nm,1.0s						
UGL				AMB	AMB	05 23 42.0	
	comp=N,314nm,1.0s						
UGL				AMB	AMB	05 23 42.0	
	comp=N,672nm,1.0s						
UGL				*e*S	**Sn**	**05 24 50.0**	**+0.4**
UGL				A	A	05 25 04.0	
	comp=N,963nm,1.0s						
UGL				A	A	05 25 04.0	
	comp=N,1µm,1.0s						
UGL				A	A	05 25 04.0	
	comp=N,13µm,4.0s						
UGL				A	A	05 25 04.0	
	comp=N,8µm,4.0s						
UGL				A	A	05 25 04.0	
	comp=N,10µm,4.0s						
UGL				AMS	AMS	05 26 29.0	
	comp=N,4µm,15.0s						
UGL				AMS	AMS	05 26 29.0	
	comp=N,7µm,15.0s						
UGL				AMS	AMS	05 26 29.0	
	comp=N,3µm,15.0s						
TEY	**Ternei**	**7.49**	**286**	*e*P	**Pn**	**05 23 52.0**	**+2.3**
TEY				AMB	AMB	05 23 52.5	
	comp=N,21nm,0.4s						
TEY				AMB	AMB	05 23 52.5	
	comp=N,35nm,0.4s						
TEY				AMB	AMB	05 23 52.5	
	comp=N,26nm,0.4s						
TEY				AMB	AMB	05 23 52.5	
	comp=N,500nm,3.0s						
TEY				*e*S	**Sn**	**05 25 14.0**	**+0.9**
TEY				A	A	05 25 19.0	
	comp=N,220nm,1.3s						
TEY				AMS	AMS	05 25 19.7	
	comp=N,500nm,15.0s						
TEY				AMS	AMS	05 25 19.7	
	comp=N,2µm,15.0s						
TEY				AMS	AMS	05 25 19.7	
	comp=N,5µm,15.0s						
TYV	**Tymovskoe**	**7.96**	**341**	*e*PN	Pn	05 23 59.5	+3.4
TYV				pmax	pmax		
	comp=Z,2µm,5.0s						
TYV				pmax	pmax		
	comp=Z,760nm,1.4s						
TYV				pmax	pmax		
	comp=E,44nm,0.8s						
TYV				MLR	MLR		
	comp=Z,6µm,16.0s						
TYV				MLR	MLR		
	comp=E,6µm,9.0s						
TYV	**Tymovskoe**	**7.96**	**341**	*e*P	**Pn**	**05 23 59.0**	**+2.9**
TYV				AMB	AMB	05 24 04.0	
	comp=E,2µm,5.0s						
TYV				AMB	AMB	05 24 09.5	
	comp=E,44nm,1.0s						
TYV				AMB	AMB	05 24 09.5	
	comp=E,760nm,1.0s						
TYV				*e*S	**Sn**	**05 25 25.0**	**+0.5**
TYV				A	A	05 25 42.0	
	comp=E,4µm,9.0s						
TYV				AMS	AMS	05 27 08.0	
	comp=E,6µm,12.0s						
TYV				AMS	AMS	05 27 08.0	
	comp=E,6µm,12.0s						
JHO	**Hitachi**	**8.30**	**217**	P	**Pn**	**05 23 59.5**	**-1.5**
MJAR	**Matsushiro Arr**	**9.51**	**227**	P	**Pn**	**05 24 17.0**	**-0.4**
	comp=E,2.5nm,0.3s,baz=26,slow=13,SNR=48						
MAJO	**Matsushiro**	**9.51**	**227**	*d* iPN	**Pn**	**05 24 16.8**	**-0.7**
MAJO	**Matsushiro**	**9.51**	**227**	*e*Pn	**Pn**	**05 24 17.1**	**-0.3**
MAT	**Matsushiro**	**9.51**	**227**	P	**Pn**	**05 24 17.0**	**-0.5**
MAT				S	**Sn**	**05 25 59.0**	**-3.8**
MAT	**Matsushiro**	**9.51**	**227**	P	**Pn**	**05 24 17.2**	**-0.3**
HABR	**Khabarovsk**	**9.60**	**306**	*de*PN	**Pn**	**05 24 20.4**	**+1.8**
HABR				*e*S	**Sn**	**05 26 07.5**	**+2.7**
HABR				pmax	pmax		
	comp=N,73nm,1.1s						
HABR				pmax	pmax		
	comp=Z,151nm,1.5s						
HABR				pmax	pmax		
	comp=E,144nm,1.5s						
HABR				MLR	MLR		

comp=Z,4μm,17.0s
HABR Khabarovsk 9.60 306 *e*P Pn 05 24 20.4 +1.8
SKR Severo-Kuril's 9.65 38 *e*PN Pn 05 24 07.5 -12
SKR pmax pmax
comp=N,80nm,0.5s
SKR pmax pmax
comp=Z,150nm,0.5s
SKR MLR MLR
comp=E,3μm,14.0s
SKR MLR MLR
comp=Z,3μm,14.0s
SKR Severo-Kuril's 9.65 38 *e*P Pn 05 24 20.0 +0.7
SKR AMB AMB 05 24 20.5
comp=Z,1μm,2.0s
SKR AMB AMB 05 24 20.5
comp=Z,2μm,2.0s
SKR AMB AMB 05 24 20.5
comp=Z,150nm,0.5s
SKR *e*S **Sn 05 26 02.9 -3.2**
SKR A A 05 26 09.0
comp=Z,3μm,8.0s
SKR A A 05 26 09.0
comp=Z,1μm,8.0s
SKR A A 05 26 09.0
comp=Z,1μm,8.0s
SKR A A 05 26 09.0
comp=Z,3μm,8.0s
SKR AMS AMS 05 29 56.0
comp=Z,3μm,14.0s
SKR AMS AMS 05 29 56.0
comp=Z,3μm,14.0s
SKR AMS AMS 05 29 56.0
comp=Z,3μm,14.0s
JNG Nsakai 9.67 226 P Pn 05 24 19.7 0.0
GRNR Gornyy 10.18 320 *e*P Pn 05 24 29.6 +3.0
GRNR AMB AMB 05 24 32.1
comp=Z,160nm,1.0s
GRNR AMB AMB 05 24 32.1
comp=Z,240nm,1.0s
GRNR AMB AMB 05 24 32.1
comp=Z,170nm,1.0s
GRNR *e*S **Sn 05 26 18.4 -0.7**
OKH Okha 10.45 347 ⇑*i*PN Pn 05 24 32.4 +2.3
OKH *e*S Sn 05 26 35.8 +10
OKH pmax pmax
comp=Z,6μm,4.0s
OKH smax smax
comp=N,3μm,6.0s
OKH smax smax
comp=Z,5μm,12.0s
OKH Okha 10.45 347 *e*P Pn 05 24 33.0 +2.9
OKH AMB AMB 05 24 34.8
comp=Z,3μm,4.0s
OKH AMB AMB 05 24 34.8
comp=Z,3μm,4.0s
OKH AMB AMB 05 24 34.8
comp=Z,6μm,4.0s
OKH *e*S **Sn 05 26 26.7 +1.2**
OKH A A 05 26 33.0
comp=Z,420nm,1.0s
OKH A A 05 26 33.0
comp=Z,280nm,1.0s
OKH A A 05 26 38.0
comp=Z,3μm,6.0s
OKH AMS AMS 05 30 03.8
comp=Z,4μm,11.0s
OKH AMS AMS 05 30 03.8
comp=Z,3μm,11.0s
OKH AMS AMS 05 30 03.8
comp=Z,5μm,11.0s
PAU Pauzhetka 10.52 37 *e*P Pn 05 24 29.2 -2.0
PAU *e*S **Sn 05 26 22.4 -4.9**
NKL Nikolayevsk 10.54 340 *i* PN Pn 05 24 32.0 +0.6
NKL *e*S **Sn 05 26 33.0 +5.2**
NKL pmax pmax
comp=N,2μm,4.0s
NKL pmax pmax
comp=E,1μm,4.0s
NKL pmax pmax
comp=Z,3μm,4.0s
NKL pmax pmax
comp=Z,1μm,1.3s
NKL pmax pmax
comp=N,620μm,1.3s
NKL pmax pmax
comp=E,470μm,1.3s
NKL smax smax
comp=N,2μm,11.0s
NKL smax smax
comp=E,2μm,11.0s
NKL MLR MLR
comp=E,2μm,20.0s
NKL MLR MLR
comp=Z,4μm,20.0s
NKL MLR MLR
comp=N,3μm,17.0s
NKL Nikolayevsk 10.54 340 *e*P Pn 05 24 33.0 +1.6
NKL AMB AMB 05 24 34.0
comp=N,2μm,4.0s
NKL AMB AMB 05 24 34.0
comp=N,1μm,4.0s
NKL AMB AMB 05 24 34.0
comp=N,3μm,4.0s
NKL AMB AMB 05 24 34.3
comp=N,620nm,1.0s
NKL AMB AMB 05 24 34.3
comp=N,470nm,1.0s
NKL AMB AMB 05 24 34.3
comp=N,1μm,1.0s
NKL *e*S **Sn 05 26 26.0 -1.8**
NKL A A 05 26 30.0
comp=N,38nm,0.8s
NKL A A 05 26 30.0
comp=N,50nm,0.8s
NKL A A 05 26 47.0
comp=N,2μm,11.0s
NKL A A 05 26 47.0
comp=N,2μm,11.0s
NKL AMS AMS 05 28 52.0
comp=N,3μm,18.0s
NKL AMS AMS 05 28 52.0
comp=N,2μm,18.0s
NKL AMS AMS 05 28 52.0
comp=N,4μm,18.0s
JNY Yasuok 10.60 224 P Pn 05 24 31.7 -0.7
USRK Ussuriysk Ar. 10.72 279 P Pn 05 24 35.9 +1.9
comp=N,1.9nm,0.3s,baz=89,slow=13,SNR=47
USRK LR LR 05 28 47.1
comp=N,3μm,20.4s,baz=90,slow=38
VLA Vladivostok 10.87 274⇓*e*PN Pn 05 24 37.6 +1.6
VLA *i* S **Sn 05 26 39.0 +3.1**
VLA pmax pmax
comp=Z,129nm,1.2s
VLA Vladivostok 10.87 274 *e*P Pn 05 24 37.5 +1.6
JFM Mihama 11.47 230 P Pn 05 24 44.7 +0.5
JHJ2 Mitsune 11.65 210 *e*Pn Pn 05 24 45.9 -0.8
JHJ2 *e*Sn Sn 05 26 42.9 -12
KLR Kul'dur 11.90 304 *e*PN Pn 05 24 47.8 -2.1
KLR *e* 05 27 04.0
KLR pmax pmax
comp=E,120nm,1.6s
KLR pmax pmax
comp=Z,100nm,1.6s
KLR Kul'dur 11.90 304 *e*P Pn 05 24 47.8 -2.1
KLR AMB AMB 05 24 50.2
comp=Z,120nm,1.0s
KLR AMB AMB 05 24 50.2
comp=Z,100nm,1.0s
JWT Wachi 11.98 231 P Pn 05 24 50.9 -0.2
PEA0B Petropavlovsk- 12.10 33 *e*Pn Pn 05 24 50.5 -2.3
PETK Petropavlovsk- 12.10 33 P Pn 05 24 50.7 -2.1
comp=Z,4.0nm,0.3s,baz=194,slow=13,SNR=48
PETK LR LR 05 29 44.2
comp=Z,893nm,18.4s,baz=231,slow=38
PETK PcP **PcP 05 30 32.9 +0.5**
comp=Z,0.1nm,0.3s,baz=123,slow=5.5,SNR=4.3
PET Petropavlovsk 12.43 35 *e*PN Pn 05 24 55.7 -1.5
PET *e*S **Sn 05 27 19.1 +5.3**
PET pmax pmax
comp=Z,300nm,16.1s
PET pmax pmax
comp=Z,300nm,9.4s
PET MLR MLR
comp=Z,1μm,18.0s
PET Petropavlovsk 12.43 35 *e*P Pn 05 24 55.7 -1.5
PET AMB AMB 05 25 02.4
comp=Z,330nm,9.0s
PET AMB AMB 05 25 09.8
comp=Z,55nm,0.5s
PET AMS AMS 05 30 50.7
comp=Z,2μm,20.0s
PET Petropavlovsk 12.43 35 *e*Pn Pn 05 24 57.2 0.0
MDJ Mudanjiang 12.44 281 P Pn 05 24 58.2 +0.9
MDJ S **Sn 05 27 15.9 +1.8**
MDJ PcP **PcP 05 30 33.5 +0.6**
MDJ ScP **ScP 05 34 02.7 +2.3**
MDJ PcS **PcS 05 34 08.5 +1.5**
MDJ ScS **ScS 05 37 38.1 +1.7**
MDJ PMZ
comp=Z,57nm,0.9s
MDJ PMZ
comp=Z,940nm,6.3s
MDJ LN
comp=Z,620nm,7.7s
MDJ LE
comp=Z,3μm,21.7s
MDJ LZ
comp=Z,4μm,25.9s
MDJ Mudanjiang 12.44 281 *e*Pn Pn 05 24 58.3 +1.0
comp=Z,314nm,1.3s
EKMR Ekimchan 13.32 321 *e*P Pn 05 25 09.9 +0.6
EKMR AMB AMB 05 25 20.0
comp=Z,100nm,1.0s
EKMR AMB AMB 05 25 20.0
comp=Z,54nm,1.0s
EKMR AMB AMB 05 25 20.0
comp=Z,130nm,1.0s
KSULL Ulleungdo 13.47 249 P Pn 05 25 10.9 -0.5
SNR=16
KSULL Ulleungdo 13.47 249 P Pn 05 25 11.1 -0.3
SNR=7.2
KSSKC Sokcho 14.73 256 P Pn 05 25 27.6 -0.4
SNR=12
KSSKC Sokcho 14.73 256 P Pn 05 25 27.6 -0.4
SNR=12
KSJMJ Jumunjin 14.75 254 P Pn 05 25 28.0 -0.3
SNR=11
KSJMJ Jumunjin 14.75 254 P Pn 05 25 28.0 -0.3
SNR=11
KSULJ Ulljin 14.89 249 P Pn 05 25 31.0 +0.9
SNR=6.9
KSDGY Daegwallycong 14.90 254 P Pn 05 25 29.9 -0.4
SNR=12
KSDGY Daegwallycong 14.90 254 P Pn 05 25 29.9 -0.4
SNR=12
SEHB SEOHWA 14.93 256 P Pn 05 25 30.4 -0.3
SNR=21
SEHB SEOHWA 14.93 256 P Pn 05 25 30.4 -0.3
SNR=21
KSTBA Taebaek 14.98 251 P Pn 05 25 31.7 +0.3
SNR=13
KSTBA Taebaek 14.98 251 P Pn 05 25 31.7 +0.3
SNR=13
KSIJA INJE 15.16 255 P Pn 05 25 33.2 -0.3
SNR=17
KSIJA INJE 15.16 255 P Pn 05 25 33.2 -0.3
SNR=17
KSPHA Pohang 15.19 247 P Pn 05 25 34.2 +0.3
SNR=7.2
CN2 Changchun 15.46 279 ⇑P Pn 05 25 36.0 -1.3
CN2 *e*sP sP 05 25 54.0 -7.7
CN2 *e*S **Sn 05 28 25.1 -2.4**
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,3μm,15.0s
CN2 LE
comp=Z,2μm,15.0s
CN2 LZ
comp=Z,2μm,17.0s
KSCHC Chuncheon 15.46 255 P Pn 05 25 37.1 -0.3
SNR=11
KSCHC Chuncheon 15.46 255 P Pn 05 25 37.1 -0.3
SNR=11
KSCWO Cheorwon 15.53 256 P Pn 05 25 38.0 -0.4
SNR=8.6
KSCWO Cheorwon 15.53 256 P Pn 05 25 38.0 -0.4
SNR=8.6
KSRS Korea Array 15.54 254 P Pn 05 25 38.2 -0.2
comp=Z,0.4nm,0.3s,baz=61,slow=12,SNR=68
KSRS PcP **PcP 05 30 38.4 +1.3**
comp=Z,0.4nm,0.3s,baz=359,slow=0.5,SNR=14
KSRS LR LR 05 31 55.8
comp=Z,626nm,20.2s,baz=73,slow=38
KSEUS ULSEONG 15.56 249 P Pn 05 25 39.3 +0.5
SNR=10.0
KSAR Wonju Array Be 15.57 254 P Pn 05 25 38.2 -0.6
KSAR Wonju Array Be 15.57 254 P Pn 05 25 38.2 -0.6
KSAR PcP **PcP 05 30 38.4 +1.2**
KSCHJ Chungju 15.78 252 P Pn 05 25 41.5 -0.1
SNR=12
KSCHJ Chungju 15.78 252 P Pn 05 25 41.5 -0.1
SNR=12
KSSAJ Sangju 15.90 250 P Pn 05 25 43.3 +0.3
SNR=8.2
YNCB YEONCHEON 15.97 257 P Pn 05 25 43.6 -0.3
SNR=31
YNCB YEONCHEON 15.97 257 P Pn 05 25 44.0 +0.1
SNR=5.9
KSBON Boeun 16.09 251 P Pn 05 25 46.5 +1.0
SNR=9.4
KSCPR CHUPUNGNYEONG 16.12 250 P Pn 05 25 46.5 +0.7
SNR=7.2
JNU Nakatsue 16.15 236 P Pn 05 25 46.0 -0.3
comp=Z,0.2nm,0.3s,baz=50,slow=11,SNR=8.3
JNU LR LR 05 32 30.5
comp=Z,2μm,21.6s,baz=39,slow=39
JNU Nakatsue 16.15 236 *e*Pn Pn 05 25 46.2 -0.1
comp=Z,73nm,1.3s
JNU *e*S **S 05 28 54.3 -0.2**
BMKR Bomnak 16.25 320 *e*P Pn 05 25 47.5 +0.2
BMKR AMB AMB 05 25 55.9
comp=Z,80nm,0.9s
KSTEJ Daejeon 16.46 251 P Pn 05 25 50.4 +0.4
SNR=5.5
TJN Taejon 16.46 251 *d i*P Pn 05 25 50.5 +0.5
ZEA Zeya 16.48 316 *e*P Pn 05 25 49.0 -1.2
ZEA AMB AMB 05 25 53.0
comp=Z,800nm,4.0s
ZEA AMB AMB 05 25 53.0
comp=Z,1μm,4.0s
ZEA *e*S Sn 05 28 41.7 -11
ZEA A A 05 28 56.0
comp=Z,900nm,6.0s
ZEA A A 05 28 56.0
comp=Z,1μm,6.0s
ZEA AMB AMB 05 29 40.0
comp=Z,71nm,1.0s
ZEA AMB AMB 05 29 40.0
comp=Z,110nm,1.0s
ZEA AMB AMB 05 29 40.0
comp=Z,180nm,1.0s
ZEA AMS AMS 05 32 50.0
comp=Z,2μm,15.0s
ZEA AMS AMS 05 32 50.0
comp=Z,3μm,15.0s
ZEA AMS AMS 05 32 50.0
comp=Z,4μm,15.0s
CBIJ Chichi jima 16.71 194 P Pn 05 25 50.6 -2.7
JCJ Chichijima 16.71 194 P Pn 05 25 50.6 -2.7
comp=Z,7.3nm,0.3s,baz=85,slow=21,SNR=8.7
KSJEO Jeonju 16.74 250 P P 05 25 54.8 -0.1
SNR=6.2
KROS Kirovskiy 16.99 317 *e*P Pn 05 25 56.6 +0.1
KROS AMB AMB 05 26 22.0
comp=Z,38nm,0.9s
KROS AMB AMB 05 26 22.0
comp=Z,48nm,0.9s
SNY Shenyang 17.14 273 ⇓P Pn 05 25 58.3 -0.2
SNY pP **pP 05 26 10.2 -2.3**
SNY S **Sn 05 29 03.9 -4.4**
SNY SS **SnSn 05 29 30.0 +7.8**
SNY PMZ
comp=Z,100nm,1.3s
SNY PMZ
comp=Z,570nm,3.5s
SNY LE
comp=Z,1μm,26.1s
SNY LZ
comp=Z,3μm,29.9s
KSKWJ Gwangju 17.37 248 P P 05 26 03.4 +1.5
SNR=6.1
KSBAR Backryungdo 17.58 259 P P 05 26 06.5 +2.3
SNR=50
CLNS Chul'man 19.30 322 *e*P P 05 26 21.1 -1.9
CLNS *e*S **S 05 29 54.6 -3.4**
CLNS pmax pmax
comp=Z,60nm,1.1s
CLNS pmax pmax
comp=N,54nm,1.0s
CLNS pmax pmax
comp=E,58nm,1.1s
CLNS smax smax
comp=N,463nm,12.8s
CLNS smax smax
comp=E,929nm,15.2s
CLNS MLR MLR
comp=E,683nm,15.0s
CLNS MLR MLR
comp=Z,858nm,15.0s
CLNS MLR MLR
comp=N,756nm,14.0s
DL2 Dalian 19.44 265⇑*i*P P 05 26 25.2 +0.7
DL2 sP **sP 05 26 45.8 +0.1**
DL2 S **S 05 29 54.9 -6.0**
DL2 ScS **ScS 05 37 51.8 -3.9**
DL2 PMZ
comp=N,260nm,1.0s
DL2 PMZ
comp=N,640nm,3.2s
HIA Hailar 19.50 297 *e*P P 05 26 23.8 -1.4
HIA pmax pmax
comp=Z,93nm,0.8s
HIA Hailar 19.50 297 *e*P P 05 26 23.8 -1.4
comp=Z,93nm,0.8s
SEY Seymchan 19.82 8 P P 05 26 25.4 -3.1
comp=Z,1.9nm,0.3s,baz=184,slow=8.5,SNR=50
SEY Seymchan 19.82 8*c i*P P 05 26 25.9 -2.5
YAK Yakutsk 21.19 337 P P 05 26 40.6 -2.7
comp=Z,7.0nm,0.3s,baz=329,slow=22,SNR=13
YAK S **S 05 30 31.1 -4.1**
comp=Z,2.1nm,0.3s,baz=303,slow=24,SNR=7.3
YAK Yakutsk 21.19 337 *e*P P 05 26 39.2 -4.1
YAK *e*S **S 05 30 29.6 -5.6**
YAK *e* 05 30 41.6
YAK *e**SS **sS 05 31 00.8 +3.6**
YAK *e* 05 37 51.8
YAK pmax pmax
comp=Z,121nm,0.9s
YAK pmax pmax
comp=N,44nm,1.0s
YAK pmax pmax
comp=E,32nm,1.1s
YAK smax smax
comp=N,530nm,1.5s
YAK smax smax
comp=E,294nm,1.8s
YAK Yakutsk 21.19 337 *e*P P 05 26 40.4 -2.9
comp=E,164nm,0.7s
JOW Kunigami 22.35 228 P P 05 26 56.2 +0.2
comp=E,12nm,1.1s,baz=283,slow=28,SNR=4.6
JOW Kunigami 22.35 228 *e*P P 05 26 57.0 +1.0
comp=E,69nm,0.8s
BJI Beijing 23.02 272 P P 05 27 02.0 -0.9
BJI sP **sP 05 27 20.9 -3.5**
BJI S **S 05 31 05.4 -3.3**
BJI PMZ
comp=E,100nm,1.2s
BJI PMZ
comp=E,1μm,4.0s
BJI LN
comp=E,2μm,15.8s
BJI LE
comp=E,1μm,29.1s
BJI LZ
comp=E,3μm,31.6s
BJT Baijiatuau 23.04 272 *e*P P 05 27 01.7 -1.4
BJT pmax pmax
comp=Z,123nm,0.8s
BJT Baijiatuau 23.04 272 *e*P P 05 27 01.7 -1.4
comp=Z,123nm,0.8s
SSE Sheshan 23.70 247 P P 05 27 10.6 +1.3
SSE pP **pP 05 27 26.3 +2.4**
SSE S **S 05 31 21.4 +1.7**
SSE PMZ
comp=Z,130nm,0.8s
SSE PMZ
comp=Z,670nm,4.3s
SSE LN
comp=Z,830nm,28.1s
SSE LE
comp=Z,380nm,28.4s
SSE LZ
comp=Z,900nm,27.7s
CIT Chita 23.78 303 *e*P P 05 27 09.8 -0.2
CIT *e* 05 27 38.6
CIT *e* 05 28 02.3
CIT *e* 05 31 22.8
CIT pmax pmax
comp=Z,325nm,2.1s
CIT Chita 23.78 303 *e*P P 05 27 09.8 -0.2
TIA Tai'an 23.81 262 ⇑P P 05 27 10.3 0.0
TIA pP **pP 05 27 28.6 +3.5**
TIA S **S 05 31 21.4 -0.1**
TIA PMZ
comp=Z,210nm,1.0s
TIA PMZ
comp=Z,1μm,5.6s
TIA LN
comp=Z,630nm,15.5s
TIA LE
comp=Z,1μm,13.1s
TIA LZ
comp=Z,1μm,21.5s
NJ2 Nanjing 24.72 252 *e*P P 05 27 18.9 +0.3
NJ2 pP **pP 05 27 35.7 +2.0**
NJ2 sP **sP 05 27 41.1 0.0**
NJ2 S **S 05 31 41.0 +4.9**
NJ2 PMZ
comp=Z,130nm,0.7s
NJ2 PMZ
comp=Z,4μm,3.8s
NJ2 LN
comp=Z,2μm,18.8s
NJ2 LE
comp=Z,2μm,20.0s
NJ2 LZ
comp=Z,2μm,19.0s
BOD Bodaibo 24.98 317 *e*P P 05 27 17.7 -3.1
BOD pmax pmax
comp=Z,70nm,1.5s
ADK Adak 25.79 58 *e*P P 05 27 27.4 -0.8
ADK pmax pmax
comp=Z,111nm,1.1s
ADK Adak 25.79 58 *e*P P 05 27 27.4 -0.8
comp=Z,111nm,1.1s
HHC Hu-ho-hao-te 26.12 277 *e*P P 05 27 32.0 +0.5
HHC pP **pP 05 27 46.5 0.0**
HHC sP **sP 05 27 54.0 +0.1**
HHC PP **PnPn 05 28 13.4 +0.7**
HHC S **S 05 31 58.6 0.0**
HHC sS **sS 05 32 20.9 -3.6**
HHC SS **SnSn 05 33 07.1 +4.9**
HHC PMZ
comp=Z,160nm,0.9s
HHC PMZ
comp=Z,1μm,4.4s
HHC LN
comp=Z,690nm,11.1s
HHC LE
comp=Z,710nm,10.4s
HHC LZ
comp=Z,740nm,11.2s
GSTR Great Sitkin T 26.20 58 *e*P P 05 27 31.3 -0.6
comp=Z,98nm,0.8s
TIY Taiyuan 26.58 269 *e*P P 05 27 36.8 +1.3
TIY S **S 05 32 06.8 +1.1**
TIY PMZ
comp=Z,110nm,1.0s
TIY PMZ
comp=Z,600nm,4.9s
TIY LN
comp=Z,480nm,10.3s
TIY LE
comp=Z,220nm,5.8s
TIY LZ
comp=Z,2μm,32.2s
BTO Baotou 27.32 277 *e*P P 05 27 42.7 +0.5
ATKA Atka Island 27.35 58 *e*P P 05 27 42.1 -0.1
comp=Z,14nm,0.8s

ULN Ulaanbaatar 27.91 293 *e*P P 05 27 53.5 +6.1
ULN *e**PP sP 05 28 16.4 +6.4
ULN pmax pmax
comp=Z,345nm,1.2s
ULN Ulaanbaatar 27.91 293 *e*P P 05 27 53.5 +6.1
comp=Z,345nm,1.2s
ULN *e*pP sP 05 28 16.4 +6.4
SONM Songino Array 28.35 293 P **P 05 27 52.3 +0.9**
comp=Z,224nm,1.0s,baz=91,slow=8.2,SNR=835
SONM LR LR 05 40 12.2
comp=Z,3µm,19.2s,baz=87,slow=38
WHN Wuhan 28.73 254 ⇑P **P 05 27 55.0 +0.3**
WHN pP **pP 05 28 11.4 +1.5**
WHN S **S 05 32 38.4 -1.1**
WHN LZ
comp=Z,3µm,27.0s
H11N2 WAKE ISLAND Hy 29.03 138 T T 05 58 50.5
baz=329,slow=75,SNR=302
H11N1 WAKE ISLAND Hy 29.05 138 T T 05 58 55.8
baz=329,slow=75,SNR=428
H11N3 WAKE ISLAND Hy 29.05 138 T T 05 58 51.9
baz=329,slow=75,SNR=672
GUMO Guam 29.77 184 LR LR 05 38 09.2
comp=Z,474nm,21.9s,baz=22,slow=32
TLY Talaya 29.89 301 P **P 05 28 05.9 +1.1**
comp=Z,2.9nm,0.4s,baz=116,slow=6.6,SNR=6.3
TLY PcP **PcP 05 31 06.3 +0.1**
comp=Z,6.8nm,0.6s,baz=139,slow=10,SNR=3.6
TLY Talaya 29.89 301*c i*P **P 05 28 04.8 0.0**
TLY *e* 05 29 25.0
TLY *e* 05 31 06.2
TLY *e*S **S 05 32 57.2 -0.2**
TLY pmax pmax
comp=Z,34nm,1.8s
TLY MLR MLR
comp=Z,2µm,21.0s
TLY Talaya 29.89 301 *e*P **P 05 28 04.5 -0.3**
TLY Talaya 29.89 301 *e*P **P 05 28 05.0 +0.2**
comp=Z,25nm,1.2s
TLY PcP **PcP 05 31 06.3 +0.1**
H11S1 WAKE ISLAND Hy 29.99 140 T T 06 00 04.2
baz=330,slow=76,SNR=1154
H11S3 WAKE ISLAND Hy 29.99 140 T T 06 00 04.5
baz=330,slow=76,SNR=2594
H11S2 WAKE ISLAND Hy 30.01 140 T T 06 00 05.5
baz=330,slow=76,SNR=492
ZAK Zakamensk 30.17 299 *e*P **P 05 28 07.4 0.0**
ZAK *e* 05 31 06.3
ZAK pmax pmax
comp=Z,69nm,2.4s
ZAK Zakamensk 30.17 299 *e*P **P 05 28 07.4 0.0**
XAN Xi'an 30.76 265 P **P 05 28 12.8 +0.1**
XAN pP **pP 05 28 27.6 -0.4**
XAN sP **sP 05 28 35.0 -0.3**
XAN S **S 05 33 06.1 -5.3**
XAN PMZ
comp=Z,14nm,0.9s
XAN PMZ
comp=Z,55nm,6.8s
XAN LN
comp=Z,370nm,23.5s
XAN LE
comp=Z,310nm,28.6s
XAN LZ
comp=Z,310nm,29.7s
GAMB Gambell 31.13 35 *e*P **P 05 28 16.2 +0.7**
comp=Z,58nm,1.0s
MOY Mondy 31.54 301 *e*P **P 05 28 20.4 +1.0**
MOY pmax pmax
comp=Z,148nm,2.8s
ENH Enshi 32.33 259 *e*P **P 05 28 26.2 -0.3**
comp=Z,31nm,0.9s
TNA Tin City 33.27 33 *e*P **P 05 28 34.5 +0.2**
comp=Z,294nm,1.0s
LZH Lanzhou 33.52 272 ⇑P **P 05 28 38.2 +1.2**
LZH pP **pP 05 28 53.4 +1.1**
LZH sP **sP 05 29 00.5 +0.9**
LZH PP **PP 05 29 52.2 -1.4**
LZH PcP **PcP 05 31 17.2 +0.7**
LZH S **S 05 33 53.0 -1.5**
LZH PMZ
comp=Z,150nm,1.0s
LZH PMZ
comp=Z,720nm,4.5s
LZH LN
comp=Z,1µm,13.0s
LZH LE
comp=Z,2µm,12.6s
LZH LZ
comp=Z,2µm,13.4s
GTA Gaotai 35.09 280 ⇑P **P 05 28 51.5 +1.0**
GTA pP **pP 05 29 03.6 -2.3**
GTA PcP **PcP 05 31 22.3 +1.4**
GTA S **S 05 34 20.2 +1.6**
GTA SS **SnSn 05 36 36.0 -3.9**
GTA PMZ
comp=Z,56nm,1.6s
GTA PMZ
comp=Z,510nm,6.4s
GTA LN
comp=Z,800nm,22.8s
GTA LE
comp=Z,710nm,21.9s
GTA LZ
comp=Z,880nm,21.9s
CD2 Chengdu 36.11 264 ⇑P **P 05 28 59.4 +0.2**
CD2 pP **pP 05 29 16.0 +1.3**
CD2 sP **sP 05 29 24.2 +2.2**
CD2 PP **PP 05 30 22.5 +0.3**
CD2 S **S 05 34 32.0 -2.2**
CD2 sS **ScP 05 35 03.1 -1.6**
CD2 PMZ
comp=Z,320nm,0.5s
CD2 PMZ
comp=Z,460nm,4.3s
CD2 LN
comp=Z,970nm,13.2s
CD2 LE
comp=Z,830nm,19.6s
KRAR Krasnoyarsk 36.12 310*ce*P **P 05 28 59.0 +0.1**
KRAR pmax pmax
comp=Z,219nm,1.7s
HVS Khovu-Aksy 36.13 301*ce*P **P 05 28 59.8 +0.6**
HVS Khovu-Aksy 36.13 301 *e*P **P 05 28 59.8 +0.6**
GYA Guiyang 36.58 256⇑ *i*P **P 05 29 02.9 -0.5**
GYA pP **pP 05 29 19.0 +0.1**
GYA sP **sP 05 29 25.6 -0.5**
GYA PP **PnPn 05 30 30.3 +2.4**
GYA PcP **PcP 05 31 27.2 +1.7**
GYA S **S 05 34 38.9 -2.8**
GYA sS **sS 05 35 07.4 -0.6**
GYA SS **SnSn 05 37 10.8 -5.5**
GYA PMZ
comp=Z,60nm,1.1s
GYA PMZ
comp=Z,170nm,7.1s
GYA LN
comp=Z,770nm,22.2s
GYA LE
comp=Z,650nm,22.6s
GYA LZ
comp=Z,830nm,25.1s
SVW2 Sparrevohn 37.99 42 *e*P **P 05 29 14.7 -0.1**
comp=Z,56nm,0.6s
IM04 Indian Mountai 39.05 34 *e*P **P 05 29 24.0 +0.4**
OHAK Old Harbor 39.35 48 *e*P **P 05 29 25.4 -0.7**
comp=Z,200nm,1.2s
QIZ Qiongzhong 39.38 244 P **P 05 29 27.4 +0.5**
QIZ pP **pP 05 29 40.0 -2.5**
QIZ sP **sP 05 29 46.7 -3.0**
QIZ S **S 05 35 25.7 +1.8**
QIZ PMZ
comp=Z,19nm,1.2s
QIZ LN
comp=Z,590nm,23.0s
QIZ Qiongzhong 39.38 244 *e*P **P 05 29 28.1 +1.2**
comp=Z,12nm,0.8s
RSO Redoubt South 39.38 43 *e*P **P 05 29 27.0 +0.3**
comp=Z,172nm,0.8s
PPLA Purkeypile 39.60 39 *e*P **P 05 29 30.0 +1.6**
comp=Z,596nm,1.7s
KDAK Kodiak Island 39.67 47 *e*P **P 05 29 28.3 -0.5**
KDAK pmax pmax
comp=Z,135nm,0.8s
KDAK Kodiak Island 39.67 47 *e*P **P 05 29 28.1 -0.7**
comp=Z,135nm,0.8s
BPAW Bear Paw Mtn. 40.15 37 *e*P **P 05 29 33.6 +0.8**
comp=Z,11nm,0.6s
KTH Kantishna Hill 40.17 38 *e*P **P 05 29 34.0 +1.0**
comp=Z,179nm,0.9s
KMI Kunming 40.18 258 P **P 05 29 34.3 +0.6**
KMI pP **pP 05 29 50.5 +1.1**
KMI sP **sP 05 29 57.9 +1.3**
KMI PP **PnPn 05 31 10.5 -0.7**
KMI PcS **PcS 05 35 28.6 +0.9**
KMI S **S 05 35 34.4 -1.9**
KMI sS **sS 05 36 01.6 -1.2**
KMI PMZ
comp=Z,52nm,1.1s
KMI PMZ
comp=Z,420nm,4.2s
KMI LN
comp=Z,560nm,22.4s
KMI LE
comp=Z,350nm,26.4s
KMI LZ
comp=Z,830nm,26.1s
BRLK Bradley Lake 40.36 44 *e*P **P 05 29 33.8 -0.8**
TRF Thorofare Moun 40.46 38 *e*P **P 05 29 35.9 +0.4**
comp=Z,57nm,0.8s
COLD Coldfoot 40.57 32 *e*P **P 05 29 36.9 +0.7**
comp=Z,96nm,0.5s
BWN Browne 40.81 37 *e*P P 05 29 32.7 -5.5
comp=Z,594nm,1.2s
RC01 Rabbit Creek A 40.83 42 *e*P **P 05 29 38.1 -0.2**
comp=Z,157nm,1.0s
RC01 *e*PcP **PcP 05 31 38.2 +0.1**
ZAA0 Zalesovo Array 40.98 307 *e*P **P 05 29 40.1 +0.4**
ZALV Zalesovo Beam 40.98 307 P **P 05 29 40.1 +0.4**
comp=Z,9.5nm,0.3s,baz=77,slow=6.5,SNR=55
ZALV PcP **PcP 05 31 39.0 +0.3**
comp=Z,29nm,0.9s,baz=89,slow=2.8,SNR=6.5
ZALV Zalesovo Beam 40.98 307 *i* P **P 05 29 40.0 +0.3**
ZALV pmax pmax
comp=Z,10.0nm,0.3s
SEW Seward 41.05 43 *e*P **P 05 29 39.6 -0.5**
comp=Z,65nm,0.7s
SEW *e*PcP **PcP 05 31 39.0 +0.2**
MCK McKinley 41.06 38 *e*P **P 05 29 40.4 +0.1**
MCK *e* 05 31 38.6
MCK pmax pmax
comp=Z,86nm,0.8s
MCK McKinley 41.06 38 *e*P **P 05 29 40.4 +0.1**
MCK McKinley 41.06 38 *e*P **P 05 29 40.4 +0.1**
comp=Z,86nm,0.8s
MCK *e*PcP **PcP 05 31 38.6 -0.2**
PMR Palmer 41.08 41 *e*P **P 05 29 40.0 -0.4**
PMR pmax pmax
comp=Z,439nm,1.0s
PMR Palmer 41.08 41 *e*P **P 05 29 40.0 -0.4**
PMR Palmer 41.08 41 *e*P **P 05 29 40.0 -0.4**
comp=Z,438nm,1.0s
COLA College 41.49 36*c i*P **P 05 29 44.4 +0.7**
COLA pmax pmax
comp=Z,463nm,0.8s
COLA College 41.49 36 *e*P **P 05 29 44.4 +0.7**
COLA College 41.49 36 *e*P **P 05 29 44.6 +0.9**
comp=Z,117nm,0.9s
CCB Clear Creek Bu 41.52 36 *e*P **P 05 29 44.2 +0.2**
NVS Novosibirsk 41.71 309⇓ *i*P **P 05 29 46.2 +0.5**
NVS *e* 05 31 55.6
NVS pmax pmax
comp=E,123nm,1.3s
NVS pmax pmax
comp=Z,159nm,1.3s
NVS pmax pmax
comp=N,24nm,1.1s
NVS Novosibirsk 41.71 309 *e*P **P 05 29 46.2 +0.5**
DHY Denali Highway 41.79 39 *e*P **P 05 29 46.5 0.0**
ILAR Eielson Array 41.91 36 P **P 05 29 47.2 0.0**
comp=N,63nm,0.9s,baz=256,slow=5.7,SNR=515
ILAR PcP **PcP 05 31 40.5 -1.1**
comp=N,12nm,0.9s,baz=289,slow=3.3,SNR=4.1
ILAR S **S 05 36 01.5 +0.9**
comp=N,0.9nm,1.1s,baz=270,slow=9.0,SNR=3.5
ILAR LR LR 05 49 26.6
comp=N,298nm,18.4s,baz=272,slow=39
WMQ Urumqi 41.97 292 P **P 05 29 49.0 +1.0**
WMQ pP **pP 05 30 06.4 +2.6**
WMQ sP **sP 05 30 11.9 +0.9**
WMQ PP **PnPn 05 31 30.0 -1.5**
WMQ PcP **PcP 05 31 44.3 +2.1**
WMQ ScP **ScP 05 35 26.7 -0.4**
WMQ PcS **PcS 05 35 31.5 -2.4**
WMQ S **S 05 36 02.1 0.0**
WMQ sS **sS 05 36 28.8 0.0**
WMQ SS **SS 05 39 04.3 -6.2**
WMQ ScS **ScS 05 39 41.9 -2.6**
WMQ PMZ
comp=N,170nm,1.3s
WMQ PMZ
comp=N,910nm,4.0s
WMQ LN
comp=N,2µm,17.6s
WMQ LE
comp=N,1µm,19.6s
WMQ LZ
comp=N,2µm,19.6s
FYU Fort Yukon 42.52 33 *e*P **P 05 29 53.9 +1.7**
PAX Paxson 42.67 39 *e*P **P 05 29 54.3 +0.8**
PAX pmax pmax
comp=Z,49nm,1.0s
PAX Paxson 42.67 39 *e*P **P 05 29 54.3 +0.8**
comp=Z,49nm,1.0s
DIV Divide 42.74 41 *e*P **P 05 29 54.7 +0.7**
comp=Z,253nm,1.3s
EYAK Cordova Ski Ar 42.83 42 *e*P **P 05 29 55.5 +0.9**
HARP HAARP 42.87 39 *e*P **P 05 29 56.2 +1.1**
DOT Dot Lake 43.23 38 *e*P **P 05 29 57.7 -0.2**
comp=Z,64nm,0.7s
BMRM Bremner River 43.32 41 *e*P **P 05 29 59.5 +0.8**
comp=Z,138nm,0.8s
MENT Mentasta 43.46 39 *e*P **P 05 30 00.9 +1.1**
EGAK Eagle 44.35 36 *e*P **P 05 30 07.0 +0.1**
comp=Z,106nm,1.0s
MK31 Makanchi Array 44.50 298 *i* P **P 05 30 08.8 +0.5**
MK31 pmax pmax
comp=Z,269nm,0.8s
MK31 Makanchi Array 44.50 298 *e*P **P 05 30 09.0 +0.7**
MKAR Makanchi Array 44.50 298 P **P 05 30 09.1 +0.7**
comp=Z,135nm,0.7s,baz=81,slow=8.9,SNR=1021
MKAR S **S 05 36 39.6 +0.7**
comp=Z,9.7nm,1.1s,baz=73,slow=18,SNR=9.5
MKAR LR LR 05 49 43.5
comp=Z,1µm,20.5s,baz=66,slow=37
SKNT Sakolnakorn 44.74 247 P **P 05 30 11.0 +0.5**
comp=Z,94nm,1.3s,comp=Z,2µm
UBPT Khong Chiam 44.96 244 P **P 05 30 13.1 +0.8**
comp=Z,63nm,1.4s
CRAI Chiangrai 44.99 254 P **P 05 30 10.1 -2.4**
comp=Z,43nm,1.0s,comp=Z,17µm
KURK Kurchatov 45.49 304 *e*P **P 05 30 15.9 -0.2**
KURK pmax pmax
comp=Z,447nm,1.3s
KURK Kurchatov 45.49 304 *e*P **P 05 30 16.2 +0.1**
KURK Kurchatov 45.49 304 *e*P **P 05 30 15.9 -0.2**
comp=Z,447nm,1.3s
SMPI Sarmi 45.79 191 P **P 05 30 19.0 +0.3**
comp=Z,133nm,0.9s,comp=Z,6µm
TNTI Ternate 45.87 208 P pP 05 30 39.0 +3.6
LSA Lhasa 45.93 272 P **P 05 30 21.6 +1.2**
LSA Lhasa 45.93 272 *e*P **P 05 30 21.7 +1.3**
LSA pmax pmax
comp=Z,89nm,0.8s
LSA Lhasa 45.93 272 *e*P **P 05 30 21.7 +1.3**
comp=Z,89nm,0.8s
CMAI Chiengmai2 46.12 255 P **P 05 30 22.4 +0.8**
comp=Z,40nm,1.4s,comp=Z,572nm
RKPI Ransiki, Papua 46.14 198 P **P 05 30 22.5 +0.9**
comp=Z,67nm,1.1s,comp=Z,7µm
GENI Genyem 46.19 189 P **P 05 30 22.3 +0.4**
comp=Z,157nm,1.1s
LOEI Loei 46.21 251 P **P 05 30 20.1 -2.1**
comp=Z,42nm,1.1s,comp=Z,649nm
SWI Sorong 46.23 202 P pP 05 30 42.1 +3.9
UTTA Uttaradit 46.54 251 P **P 05 30 25.3 +0.6**
comp=Z,8.5nm,1.2s,comp=Z,162nm
LAMP Lampang 46.65 253 P **P 05 30 26.6 +1.0**
comp=Z,15nm,1.1s,comp=Z,173nm
INK Inuvik 46.82 30 P **P 05 30 27.1 +0.8**
comp=Z,248nm,0.6s,baz=289,slow=7.6,SNR=226
INK Inuvik 46.82 30 *e*P **P 05 30 27.1 +0.8**
INK pmax pmax
comp=Z,416nm,0.9s
INK Inuvik 46.82 30 *e*P **P 05 30 27.1 +0.8**
comp=Z,416nm,0.9s
CHAI Chaiyaphum 46.84 248 P **P 05 30 27.4 +0.3**
comp=Z,24nm,1.0s
CHTO Chiang Mai 46.94 254 P **P 05 30 28.4 +0.6**
comp=Z,232nm,1.4s,comp=Z,4µm
CHTO Chiang Mai 46.94 254 *e*P **P 05 30 28.2 +0.3**
CHTO pmax pmax
comp=Z,45nm,1.1s
CHTO Chiang Mai 46.94 254 *e*P **P 05 30 28.1 +0.3**
comp=Z,45nm,1.1s
PBKT Sadao Pong 47.07 250 P **P 05 30 29.4 +0.6**
comp=Z,34nm,1.4s
LBMI Labuha 47.15 207 P **P 05 30 30.4 +1.0**
comp=Z,101nm,0.9s,comp=Z,1µm
CMAR Chiang Mai Arr 47.18 254 P **P 05 30 30.6 +0.9**
comp=Z,8.2nm,0.7s,baz=39,slow=7.9,SNR=47
CMAR PcP **PcP 05 32 01.4 +1.0**
comp=Z,7.9nm,0.7s,baz=2.7,slow=4.1,SNR=7.0
CMAR LR LR 05 52 59.7
comp=Z,249nm,18.5s,baz=54,slow=39
SHL Shillong 47.75 267⇑ *i*P **P 05 30 34.0 -0.3**
SHL *i* S **S 05 37 28.5 +2.2**
MHMT Maesarieng 48.07 254 P **P 05 30 37.8 +1.2**
comp=Z,46nm,0.9s,comp=Z,560nm
MRSI Marisa 48.18 214 P **P 05 30 37.3 -0.1**
comp=Z,103nm,1.4s,comp=Z,2µm
CHBT CHBT 48.88 245 P **P 05 30 44.1 +1.3**
comp=Z,140nm,1.0s
SANI Sanana 48.98 208 P **P 05 30 43.2 -0.3**
comp=Z,139nm,1.1s,comp=Z,1µm
MPSI Mapaga 49.17 217 P **P 05 30 44.8 -0.2**
comp=Z,24nm,1.0s,comp=Z,434nm
AAA Alma-Ata 49.36 295 *e*P **P 05 30 48.0 +1.7**
AAA *e*S **S 05 37 48.0 -0.4**
AAA pmax pmax
comp=Z,1µm,2.5s
AAA smax smax
comp=E,900nm,4.0s
AAA MLR MLR
comp=Z,700nm,18.0s
BVA0 Borovoye Array 49.50 309 P **P 05 30 47.7 +0.5**
BVA0 pmax pmax
comp=Z,197nm,1.4s
BRVK Borovoye 49.55 310*c i*P **P 05 30 47.9 +0.4**
BRVK pmax pmax
comp=Z,413nm,1.7s
BRVK Borovoye 49.55 310 *e*P **P 05 30 47.9 +0.4**
BRVK Borovoye 49.55 310 *e*P **P 05 30 47.8 +0.2**
comp=Z,454nm,1.4s
APSI Ampana 49.55 214 P **P 05 30 47.2 -0.7**
comp=Z,124nm,1.0s,comp=Z,1µm
PATY Pattaya 49.73 247 P **P 05 30 51.0 +1.7**
comp=Z,27nm,1.1s
TAPN Taplejung 49.75 271 *e*P **P 05 30 50.7 +0.9**
comp=Z,259nm,0.9s
SRDT SRDT 49.89 250 P **P 05 30 52.7 +2.2**
comp=Z,114nm,1.9s
KHLT Khaolaem Dam 49.94 250 P **P 05 30 52.5 +1.6**
comp=Z,38nm,1.2s,comp=Z,534nm
OTUK Ortayu 50.20 303 P **P 05 30 52.7 +0.1**
OTUK pmax pmax
comp=Z,219nm,0.8s
ODAN Odare 50.27 271 *e*P **P 05 30 54.2 +0.6**
ULHL Ulahol 50.28 294 P **P 05 30 54.7 +1.2**
SNR=17
TKM2 Tokmak 2 50.40 296 P **P 05 30 55.5 +1.1**
SNR=111
TKM2 Tokmak 2 50.40 296 P **P 05 30 54.3 -0.1**
TKM2 pmax pmax
comp=Z,388nm,1.6s
TKM2 Tokmak 2 50.40 296 *e*P **P 05 30 55.3 +0.9**
comp=Z,334nm,1.3s
KIP Kipapa 50.50 97⇑ *e*P **P 05 30 55.9 +0.8**
KIP pmax pmax
comp=Z,85nm,2.5s
WRAK Wrangell Islan 50.68 45 *e*P **P 05 30 57.7 +1.7**
comp=Z,52nm,1.2s
JIRN Jiri 50.68 273 *e*P **P 05 30 57.6 +0.7**
GUN Gumba 50.77 273 *e*P **P 05 30 58.1 +0.6**
comp=Z,920nm,0.9s
RAMN Ramite 50.79 272 *e*P **P 05 30 58.1 +0.5**
comp=Z,669nm,0.8s
CHMS Chumysh 50.92 296 P **P 05 30 58.8 +0.6**
SNR=24
KBK Karagaybulak 50.95 296 P **P 05 30 59.4 +0.9**
SNR=6.9
USP Ospenovka 50.97 296 P **P 05 30 59.4 +0.9**
SNR=115
KZA Kyzart 51.01 295 P **P 05 31 01.0 +1.7**
SNR=45
FRU Bishkek 51.09 296⇑ *i*P **P 05 30 59.0 -0.4**
FRU *i* 05 31 14.0
FRU *e* 05 32 16.0
FRU *i* S **S 05 38 12.0 -0.3**
FRU pmax pmax
comp=Z,400nm,2.0s
DLBC Dease Lake 51.10 42 P **P 05 31 01.1 +1.8**
comp=Z,41nm,0.8s,baz=287,slow=6.2,SNR=71
DLBC Dease Lake 51.10 42 *e*P **P 05 31 00.7 +1.4**
AAK Ala-Archa 51.26 296 P **P 05 31 01.5 +0.7**
SNR=53
AAK Ala-Archa 51.26 296*c i*P **P 05 31 01.2 +0.4**
AAK pmax pmax
comp=Z,285nm,1.2s
AAK Ala-Archa 51.26 296 *e*P **P 05 31 01.2 +0.4**
AAK Ala-Archa 51.26 296 *e*P **P 05 31 01.4 +0.6**
comp=Z,116nm,1.3s
KKN Kakani 51.27 274 *e*P **P 05 31 01.6 +0.5**
comp=Z,493nm,1.0s
PKI Pulchoki 51.30 273 *e*P **P 05 31 01.9 +0.4**
comp=Z,600nm,1.2s
UCH Uchtor 51.43 295 P **P 05 31 03.3 +0.9**
SNR=20
DMN Daman 51.50 273 *e*P **P 05 31 03.6 +0.7**
comp=Z,466nm,0.9s
GKN Gorkha 51.62 274 *e*P **P 05 31 04.1 +0.5**
EKS2 Erkin-Say 51.72 296 P **P 05 31 05.0 +0.8**
SNR=64
EKS2 Erkin-Say 51.72 296 *e*P **P 05 31 04.7 +0.5**
EKS2 pmax pmax
comp=Z,59nm,0.9s
EKS2 Erkin-Say 51.72 296 *e*P **P 05 31 04.7 +0.5**
comp=Z,58nm,0.9s
KSH Kashi 51.73 291 P P 05 31 08.6 +4.3
KSH pP pP 05 31 23.1 +2.6
KSH PcP **PcP 05 32 20.8 +3.9**
KSH PP PP 05 33 07.8 +5.6
KSH PcS **PcS 05 36 16.6 +1.5**
KSH S **S 05 38 26.1 +4.7**
KSH sS sS 05 38 53.1 +4.3
KSH SS **SS 05 42 01.1 +3.0**
KSH PMZ
comp=Z,80nm,1.2s
KSH PMZ
comp=Z,590nm,2.9s
KSH LN
comp=Z,260nm,7.1s
KSH LE
comp=Z,420nm,7.6s
KSH LZ
comp=Z,460nm,10.4s
AML Almayashu 52.02 295 P **P 05 31 07.4 +0.7**
SNR=48
KOLN Koldanda 52.50 275 *e*P **P 05 31 11.0 +0.7**
comp=Z,210nm,0.7s
PMG Port Moresby 52.58 180⇓ *e*P **P 05 31 10.2 -0.3**
PMG pmax pmax
comp=Z,114nm,1.7s
MTKI Muara Teweh, K 52.60 222 P **P 05 31 11.2 +0.4**
comp=Z,74nm,0.9s,comp=Z,8µm
MNAS Manas 52.63 296 P **P 05 31 10.8 -0.2**
MNAS pmax pmax
comp=Z,297nm,1.5s
KSM Kuching 52.90 228 *e*P **P 05 31 13.7 +0.6**
comp=Z,32nm,0.9s
SFK Sufi-Kurgan 53.15 293 P **P 05 31 13.7 -1.3**
SFK pmax pmax
comp=Z,155nm,1.3s
SVE Sverdlovsk 53.20 317*d i*P **P 05 31 15.0 +0.3**
SVE *e*PPP PPP 05 34 29.0
SVE *e*S **S 05 38 39.8 -0.9**

SVE eSSS SSS 05 44 14.8
SVE pmax pmax
comp=Z,364nm,1.2s
SVE MLR MLR
comp=Z,928nm,18.0s
SVE Sverdlovsk 53.20 317 *eP* **P 05 31 15.0 +0.3**
KK31 Karatay Array 53.63 298 P **P 05 31 18.1 0.0**
KK31 pmax pmax
comp=Z,71nm,0.9s
KKAR Karatay Array 53.63 298 *eP* **P 05 31 18.4 +0.3**
KKAR pmax pmax
comp=Z,67nm,0.8s
KKAR Karatay Array 53.63 298 *eP* **P 05 31 18.4 +0.3**
comp=Z,67nm,0.8s
SOKR Solikamsk 53.86 321*c iP* **P 05 31 19.7 +0.2**
SOKR 05 33 17.3
SOKR S **S 05 38 48.2 -1.3**
SOKR pmax pmax
comp=Z,280nm,1.0s
SOKR MLR MLR
comp=Z,800nm,20.0s
HNR Honiara 53.95 164 P **P 05 31 22.0 +1.4**
SKLT Songkhla 54.15 242 P **P 05 31 23.9 +1.7**
comp=Z,110nm,1.1s,comp=Z,1µm
TRTT Trang 54.25 243 P **P 05 31 24.5 +1.6**
comp=Z,65nm,1.3s
ARU Arti 54.40 317*c iP* **P 05 31 22.7 -0.8**
ARU *PP **pP 05 31 39.7 -0.1**
ARU 05 32 24.7
ARU PPP PPP 05 34 37.5
ARU S **S 05 38 56.2 -0.8**
ARU *SS **sS 05 39 19.5 -5.1**
ARU 05 41 02.3
ARU pmax pmax
comp=Z,555nm,1.7s
ARU MLR MLR
comp=Z,1µm,19.0s
ARU Arti 54.40 317 *eP* **P 05 31 23.4 -0.1**
ARU Arti 54.40 317 *eP* **P 05 31 23.3 -0.3**
comp=Z,392nm,1.3s
BBKI Banjar Baru 54.82 220 P **P 05 31 26.6 -0.5**
comp=Z,61nm,0.6s
HOPEN Hopen 54.85 346 *eP* **P 05 31 24.9 -1.5**
KALG Kalgarh 55.02 279 *eP* **P 05 31 30.1 +1.7**
SPA0 Spitsbergen Ar 55.05 349 *eP* **P 05 31 26.5 -1.5**
KBS Kingsbay 55.06 350 *eP* **P 05 31 26.2 -1.7**
KBS IAmb IAmb 05 31 30.0
comp=Z,80nm,0.9s
KBS Kingsbay 55.06 350 *eP* **P 05 31 26.7 -1.3**
KBS pmax pmax
comp=Z,33nm,1.1s
KBS Kingsbay 55.06 350 *eP* **P 05 31 26.7 -1.3**
comp=Z,32nm,1.1s
SMLA Simla 55.25 282 *i* P **P 05 31 30.7 +0.7**
SMLA *i x x 05 39 04.6
DLH Dalhousie 55.33 284 *eP* **P 05 31 32.0 +1.2**
RES Resolute Bay 55.36 17 P **P 05 31 30.0 -0.1**
comp=Z,274nm,0.7s,baz=343,slow=7.6,SNR=121
RES Resolute Bay 55.36 17 P **P 05 31 30.0 -0.1**
RES pmax pmax
comp=Z,274nm,0.7s
RES Resolute Bay 55.36 17 *eP* **P 05 31 29.8 -0.4**
comp=Z,383nm,0.8s
KULM Kulim 55.56 241 *eP* **P 05 31 33.5 +1.1**
comp=Z,74nm,0.9s
HSPB Hornsund (broa 56.05 348 *eP* **P 05 31 33.0 -2.1**
HSPB IAmb IAmb 05 31 36.7
comp=Z,292nm,1.2s
KKR Kurukshetra 56.15 281 *eP* **P 05 31 35.8 -0.7**
KKR AMB AMB 05 31 36.8
comp=Z,140nm,0.7s
ASOR Ausora 56.15 279 *eP* **P 05 31 39.1 +2.6**
ASOR AMB AMB 05 31 41.4
comp=Z,98nm,1.3s
YKA Yellowknife Ar 56.22 34 P **P 05 31 36.7 +0.2**
comp=Z,38nm,0.6s,baz=298,slow=6.6,SNR=210
YKA PKP2bc 06 01 49.0
comp=Z,0.7nm,0.9s,baz=120,slow=2.4,SNR=3.9
NDI New Delhi 56.59 279 *eP* **P 05 31 39.0 -0.7**
NDI *eS* **S 05 39 26.0 -1.0**
BHGR Bahadurgarh 56.79 280 *eP* **P 05 31 41.2 +0.1**
DZET Dzherino 56.89 294 P **P 05 31 41.6 -0.2**
DZET pmax pmax
comp=Z,105nm,1.0s
AGRA Agra 56.91 278 *eP* **P 05 31 41.9 0.0**
SONA Sohna 56.94 279 *eP* **P 05 31 41.9 -0.2**
SONA AMB AMB 05 31 42.7
comp=Z,116nm,1.0s
AB31 Akbulak array 57.06 309 P **P 05 31 43.3 +0.6**
AB31 pmax pmax
comp=Z,46nm,0.4s
ABKAR Akbulak array 57.06 309 *eP* **P 05 31 43.0 +0.4**
comp=Z,94nm,0.6s
PRGR Permogore 57.69 326*d iP* **P 05 31 46.8 -0.1**
PRGR S **S 05 39 41.4 +1.0**
PRGR pmax pmax
comp=Z,392nm,1.2s
CHLP Challavanipeta 57.80 265 *eP* **P 05 31 48.7 +0.5**
CHLP IAmb IAmb 05 31 49.2
comp=Z,49nm,1.0s
CHLP *epP **pP 05 32 04.0 -0.7**
CHLP *esP **sP 05 32 10.5 -1.2**
CHLP *ePcP **PcP 05 32 39.9 -0.4**
CHLP *eS **S 05 39 43.0 +0.1**
CHLP *eSS **SS 05 43 34.5 +0.3**
KHET Khetri 57.96 280 *eP* **P 05 31 49.0 -0.3**
KHET AMB AMB 05 31 50.2
comp=Z,66nm,0.5s
LVZ Lovozero 57.98 336*c iP* **P 05 31 48.0 -0.9**
LVZ *i *PP **pP 05 32 07.6 +2.2**
LVZ pmax pmax
comp=Z,81nm,0.8s
LVZ Lovozero 57.98 336 *eP* **P 05 31 47.7 -1.3**
comp=Z,107nm,1.0s
APA Apatity 58.56 336 ⇓*iP* **P 05 31 51.8 -1.1**
APA *i* 05 32 38.5
APA *i* 05 34 13.5
APA *i S **S 05 39 47.0 -4.6**
APA pmax pmax
comp=Z,77nm,0.9s
APA MLR MLR
comp=Z,900nm,16.0s
KEV Kevo 58.92 339 *eP* **P 05 31 54.9 -0.5**
KEV pmax pmax
comp=Z,101nm,1.0s
KEV Kevo 58.92 339 *eP* **P 05 31 54.9 -0.5**
comp=Z,101nm,1.0s
KBL Kabul 59.05 290 *eP* **P 05 31 56.3 -0.8**
KBL pmax pmax
comp=Z,132nm,1.0s
KBL Kabul 59.05 290 *eP* **P 05 31 56.2 -0.8**
comp=Z,132nm,1.0s
TMCR Tamitsa 59.13 331 *eP* **P 05 31 57.3 +0.5**
TMCR pmax pmax
comp=Z,491nm,1.1s
BKNI Bangkinang 59.18 237 P **P 05 31 59.1 +1.2**
comp=Z,243nm,1.0s,comp=Z,2µm
BKNI Bangkinang 59.18 237 *eP* **P 05 31 58.9 +1.1**
comp=Z,216nm,1.2s
NLWA Neilton Lookou 59.46 52 *eP* **P 05 32 00.2 +0.8**
comp=Z,28nm,1.0s
ARCES ARCESS Array B 59.46 340 P **P 05 31 58.9 -0.2**
comp=Z,66nm,0.9s,baz=60,slow=7.1,SNR=100
ARCES PcP **PcP 05 32 46.2 +0.1**
comp=Z,10.0nm,0.7s,baz=20,slow=3.9,SNR=4.0
ARCES LR LR 06 01 09.4
comp=Z,465nm,21.4s,baz=43,slow=39
ARE0 ARCESS Array S 59.46 340 *eP* **P 05 31 57.3 -1.8**
ARE0 *eS **S 05 40 05.3 +2.1**
ARE0 ARCESS Array S 59.46 340 *eP* **P 05 31 58.9 -0.2**
MNSI Mandailing Nat 59.71 238 P **P 05 32 02.4 +0.9**
DAG Danmarks Havn 59.73 356 *i* P **P 05 31 59.0 -1.8**
comp=Z,337nm,1.3s
DAG Danmarks Havn 59.73 356 *i* P **P 05 31 59.0 -1.8**
DAG pmax pmax
comp=Z,650nm,1.3s
MBW Mount Baker 59.83 50 P **P 05 32 02.2 +0.1**
SDSI Sungai Dareh 59.94 235 P **P 05 32 03.8 +0.7**
PVM Polavaram 60.37 266 *eP* **P 05 32 05.6 -0.4**
PVM IAmb IAmb 05 32 06.7
comp=Z,46nm,0.9s
PVM *epP **pP 05 32 22.4 -0.2**
PVM *esP **sP 05 32 28.8 -0.8**
PVM *ePcP **PcP 05 32 50.4 -0.2**
PVM *eS **S 05 40 15.6 -0.6**
PVM *eSS **SS 05 44 15.4 +0.8**
KTK1 Kautokeino 60.40 340 *eP* **P 05 32 05.7 +0.1**
KLMR Klimovskoe 60.57 328*c iP* **P 05 32 06.7 -0.1**
KLMR pmax pmax
comp=Z,564nm,1.3s
KLMR MLR MLR
comp=Z,867nm,18.0s
PNT Penticton 60.79 48 P **P 05 32 08.6 0.0**
PNT Penticton 60.79 48 P **P 05 32 08.6 0.0**
TRO Tromso 60.98 342 *eP* **P 05 32 07.4 -2.1**
TRO IAmb IAmb 05 32 08.0
comp=Z,459nm,1.1s
TRO *eS **S 05 40 23.1 +0.5**
G03D McMinnville, O 60.99 54 ⇑*iP* **P 05 32 11.1 +1.1**
baz=61
RPR Rampur 61.04 269 *eP* **P 05 32 10.0 -0.6**
RPR IAmb IAmb 05 32 11.6
comp=Z,103nm,1.1s
RPR *epP **pP 05 32 26.3 -0.9**
RPR *ePcP **PcP 05 32 53.4 +0.1**
RPR *ePP **PP 05 34 25.7 +0.2**
RPR *eS **S 05 40 26.4 +1.7**
RPR *e 05 44 18.8
KULLO Kullorsuaq 61.19 7⇑*iP* **P 05 32 10.0 -0.8**
comp=Z,136nm,0.8s
TBM Table Mountain 61.44 51 P **P 05 32 13.6 +0.5**
WTV Waterville 61.51 50 P **P 05 32 13.5 0.0**
NAC Naches 61.56 51 P **P 05 32 14.5 +0.7**
EBG Ellensburg 61.61 51 P **P 05 32 15.0 +0.8**
SRSP Sriramsagar 61.69 270 *eP* **P 05 32 13.6 -1.4**
SRSP IAmb IAmb 05 32 15.6
comp=Z,226nm,0.8s
SRSP *epP **pP 05 32 30.6 -1.0**
SRSP *esP **sP 05 32 37.2 -1.4**
SRSP *ePcP **PcP 05 32 55.7 -0.2**
SRSP *eS **S 05 40 35.3 +2.3**
SRSP *eSS **SS 05 44 35.6 +0.4**
VLL Laurance Lake 61.78 53 P **P 05 32 16.4 +1.0**
I03D Drain, OR 61.79 55 ⇓*iP* **P 05 32 16.4 +1.0**
baz=62
EDM Edmonton 61.82 42 *eP* **P 05 32 15.5 0.0**
EDM Edmonton 61.82 42 *eP* **P 05 32 15.5 0.0**
EDM Edmonton 61.82 42 *eP* **P 05 32 15.4 0.0**
G05D Wamic, OR 62.12 53 ⇓*iP* **P 05 32 18.5 +1.0**
baz=62,SNR=7.0
JASL Jaisalmer 62.15 282 *eP* **P 05 32 17.7 -0.3**
I04A Tendick Farm, 62.29 55 ⇑*iP* **P 05 32 19.8 +0.9**
baz=62,SNR=9.4
C09A Chrisman Ranch 62.38 49 P **P 05 32 19.4 +0.2**
CROR Criterion Ridg 62.46 53 P **P 05 32 20.6 +0.7**
ADKI Addanki 62.49 266 *eP* **P 05 32 20.2 -0.1**
ADKI *epP **pP 05 32 35.1 -1.8**
ADKI *esP **sP 05 32 45.1 +1.1**
ADKI *ePP **PP 05 34 39.3 +1.0**
HAWA Hanford 62.49 51 *eP* **P 05 32 20.4 +0.5**
comp=Z,66nm,1.4s
HYB Hyderabad 62.50 268 *i* P **P 05 32 20.0 -0.5**
HYBB Hyderabad (bro 62.50 268 *eP* **P 05 32 20.2 -0.3**
HYBB IAmb IAmb 05 32 21.1
comp=Z,133nm,0.8s
HYBB *epP **pP 05 32 37.1 0.0**
HYBB *esP **sP 05 32 45.5 +1.4**
HYBB *ePcP **PcP 05 32 58.7 -0.5**
HYBB *eS **S 05 40 43.8 +0.4**
HYBB *eSS **SS 05 44 51.1 +3.1**
L02D Cave Junction, 62.51 57 ⇓*iP* **P 05 32 21.6 +1.4**
baz=62
NJS Nagarjunasagar 62.51 267 *eP* **P 05 32 20.2 -0.3**
NJS IAmb IAmb 05 32 21.3
comp=Z,95nm,1.1s
NJS *epP **pP 05 32 35.9 -1.2**
NJS *esP **sP 05 32 42.7 -1.5**
NJS *ePP **PP 05 34 36.8 -1.7**
NJS *eS **S 05 40 44.2 +0.9**
NJS *e 05 44 41.5
VTHM Trough 62.59 53 P **P 05 32 21.5 +0.7**
I05D Terrebonne, OR 62.62 54 ⇑*iP* **P 05 32 22.1 +1.1**
baz=62,SNR=7.5
HUMO Hull Mountain 62.64 56 *eP* **P 05 32 21.9 +0.8**
comp=Z,30nm,1.4s
NEW Newport 62.75 48 *eP* **P 05 32 21.7 -0.1**
NEW pmax pmax
comp=Z,52nm,1.0s
NEW Newport 62.75 48 *eP* **P 05 32 21.7 -0.1**
NEW Newport 62.75 48 ⇑*iP* **P 05 32 22.1 +0.4**
baz=62,SNR=48
NEW Newport 62.75 48 *eP* **P 05 32 21.7 -0.1**
comp=Z,52nm,1.0s
J04D Umpqua Nationa 62.79 55 ⇓*iP* **P 05 32 23.3 +1.0**
baz=63,SNR=11
SRLM Srisailam 63.10 267 *eP* **P 05 32 23.1 -1.4**
SRLM IAmb IAmb 05 32 25.1
comp=Z,128nm,1.0s
SRLM *epP **pP 05 32 40.9 -0.3**
SRLM *esP **sP 05 32 48.8 +0.7**
SRLM *ePcP **PcP 05 33 02.0 +0.3**
SRLM *eS **S 05 40 53.4 +2.5**
SRLM *eSKSac **ScS 05 42 09.0 -3.1**
STEI Steigen 63.16 342 *eP* **P 05 32 23.8 -0.3**
STEI IAmb IAmb 05 32 24.5
comp=Z,142nm,1.0s
KHMM Horse Mountain 63.16 58 *eP* **P 05 32 25.9 +1.2**
comp=Z,42nm,1.1s
CTAO Charters Tower 63.20 181 *eP* **P 05 32 24.2 -0.6**
CTAO pmax pmax
comp=Z,23nm,0.8s
CTAO Charters Tower 63.20 181 *eP* **P 05 32 24.2 -0.6**
comp=Z,23nm,0.8s
J05D Fort Rock, OR 63.29 55 ⇑*iP* **P 05 32 26.6 +1.1**
baz=63,SNR=17
YBH Yreka Blue Hor 63.30 57 P **P 05 32 26.5 +0.9**
comp=Z,22nm,1.0s,baz=343,slow=4.0,SNR=30
YBH Yreka Blue Hor 63.30 57 *eP* **P 05 32 26.4 +0.9**
YBH pmax pmax
comp=Z,49nm,1.4s
YBH Yreka Blue Hor 63.30 57 *eP* **P 05 32 26.4 +0.9**
comp=Z,49nm,1.4s
K04D Chiloquin, OR 63.36 56 ⇓*iP* **P 05 32 27.0 +1.0**
baz=63
LOF Lofoten 63.38 342 *eP* **P 05 32 25.1 -0.4**
LOF IAmb IAmb 05 32 26.2
comp=Z,379nm,1.4s
M02C Callahan 63.41 57 ⇓*iP* **P 05 32 27.5 +1.2**
baz=63,SNR=7.7
RCLA Racherla 63.48 266 *eP* **P 05 32 26.9 0.0**
RCLA IAmb IAmb 05 32 27.9
comp=Z,80nm,1.1s
RCLA *epP **pP 05 32 42.4 -1.3**
RCLA *esP **sP 05 32 48.7 -1.9**
RCLA *ePcP **PcP 05 33 02.6 -0.6**
RCLA *eS **S 05 40 56.8 +1.3**
RCLA *eSKSac **SKSac 05 42 12.1 -2.7**
KLRI Killari 63.50 270 *eP* **P 05 32 26.6 -0.6**
KLRI IAmb IAmb 05 32 27.5
comp=Z,184nm,0.8s
KLRI *epP **pP 05 32 43.0 -0.9**
KLRI *esP **sP 05 32 49.6 -1.2**
KLRI *eS **S 05 40 50.9 -5.0**
KLRI *eSKSac **ScS 05 42 16.7 +1.5**
N02D Trinity Center 63.74 58 ⇑*iP* **P 05 32 29.5 +1.1**
baz=64,SNR=10
M04C Macdoel 63.80 56 ⇑*iP* **P 05 32 29.8 +0.9**
baz=64,SNR=17
KIPM Iron Peak 63.94 59 *eP* **P 05 32 30.9 +1.0**
comp=Z,32nm,1.0s
KCPM Cahto Peak 63.95 59 *eP* **P 05 32 30.7 +0.8**
comp=Z,13nm,0.8s
WALA Waterton Lakes 64.00 46 *eP* **P 05 32 30.3 +0.2**
comp=Z,70nm,1.0s
IMYA Miami 64.01 296 *eP* **P 05 32 31.0 +0.5**
SKHT Srikalahasti 64.06 264 *eP* **P 05 32 30.9 +0.1**
SKHT IAmb IAmb 05 32 31.8
comp=Z,45nm,0.9s
SKHT *esP **sP 05 32 53.0 -1.5**
SKHT *ePcP **PcP 05 33 04.0 -1.6**
SKHT *ePP **PP 05 34 52.2 0.0**
SKHT *eS **S 05 41 05.2 +2.6**
SKHT *e 05 44 33.1
WDC Whiskeytown Da 64.07 58 *eP* **P 05 32 31.0 +0.5**
WDC pmax pmax
comp=Z,31nm,1.1s
WDC Whiskeytown Da 64.07 58 *eP* **P 05 32 31.0 +0.5**
comp=Z,31nm,1.1s
WRAB Tennant Creek 64.07 193 *eP* **P 05 32 29.9 -0.7**
WRAB pmax pmax
comp=Z,102nm,0.9s
WRAB Tennant Creek 64.07 193 *eP* **P 05 32 29.9 -0.7**
comp=Z,102nm,0.9s
WRA Warramunga Arr 64.08 193 P **P 05 32 29.8 -0.9**
comp=Z,13nm,0.8s,baz=15,slow=7.1,SNR=52
WRA PKPPKP P'P'df 06 01 24.1 +6.9
comp=Z,1.9nm,0.8s,baz=190,slow=2.1,SNR=4.8
SUMG Summit 64.24 2⇑*iP* **P 05 32 32.2 +0.6**
comp=Z,251nm,0.7s
SUMG Summit 64.24 2⇑*iP* **P 05 32 32.2 +0.6**
SUMG pmax pmax
comp=Z,250nm,0.7s
SUMG Summit 64.24 2 *eP* **P 05 32 32.3 +0.7**
comp=Z,428nm,0.9s
BSMT Bassoo Peak 64.26 48 *eP* **P 05 32 32.5 +0.5**
comp=Z,90nm,1.5s
BLMT Blacktail Moun 64.39 47 *eP* **P 05 32 33.4 +0.6**
comp=Z,40nm,0.9s
JMIC Jan Mayen 64.52 351 *eP* **P 05 32 33.6 +0.6**
MOS Moscow 64.55 324α*iP* **P 05 32 33.4 0.0**
MOS *e 05 32 51.2
MOS *e 05 33 06.2
MOS *eS **S 05 41 07.1 -0.6**
MOS pmax pmax
comp=Z,1µm,1.7s
MOS pmax pmax
comp=N,500nm,1.8s
MOS pmax pmax
comp=E,400nm,2.0s
MOS pmax pmax
comp=Z,630nm,1.6s
MOS pmax pmax
comp=N,246nm,1.4s
MOS pmax pmax
comp=E,124nm,0.9s
MOS smax smax
comp=N,700nm,2.7s
MOS Moscow 64.55 324 *eP* **P 05 32 33.1 -0.3**
JTMT Jette 64.59 48 *eP* **P 05 32 34.7 +0.7**
comp=N,27nm,0.7s
IMOG Moghan 64.65 296 *eP* **P 05 32 35.3 +0.6**
BMO Blue Mountains 64.66 52 *eP* **P 05 32 34.7 +0.2**
comp=N,25nm,1.2s
IPAY Payeh 64.67 297 *eP* **P 05 32 34.7 -0.1**
YBMT Yellow Bay 64.67 47 *eP* **P 05 32 34.9 +0.4**
comp=N,24nm,0.9s
IAKL Akhelmad 64.73 297 *eP* **P 05 32 36.1 +0.9**
MOR8 Moi Rana 64.75 341 *eP* **P 05 32 33.0 -1.6**
MOR8 IAmb IAmb 05 32 34.0
comp=Z,535nm,1.0s
PUL Pulkovo 64.76 330*d iP* **P 05 32 35.1 +0.5**
PUL pmax pmax
comp=Z,740nm,1.2s
PUL Pulkovo 64.76 330 *eP* **P 05 32 35.1 +0.5**
IKRD Kardeh 64.79 297 *eP* P 05 32 32.3 -3.3
KONS Konsvik 64.80 341 *eP* **P 05 32 34.4 -0.4**
ISHV Shirvan 64.86 299 *eP* **P 05 32 37.5 +1.5**
FLOS Flostrand 64.88 341 *eP* **P 05 32 35.2 -0.1**
FLOS IAmb IAmb 05 32 36.0
comp=Z,169nm,0.9s
SWMT Swartz Lake 64.89 48 *eP* **P 05 32 36.3 +0.4**
comp=Z,57nm,1.0s
STOK Stokkvaagen 64.96 341 *eP* **P 05 32 35.5 -0.3**
STOK IAmb IAmb 05 32 36.5
comp=Z,277nm,1.2s
FIA1 FINESS Array S 65.04 333 *eP* **P 05 32 35.9 -0.6**
URV Uravakonda 65.04 267 *eP* **P 05 32 36.3 -0.9**
URV IAmb IAmb 05 32 37.9
comp=Z,100nm,0.8s
URV *epP **pP 05 32 53.3 -0.7**
URV *esP **sP 05 33 01.2 +0.2**
URV *eS **S 05 41 13.7 -1.3**
FINES FINESS Array B 65.04 333 P **P 05 32 36.3 -0.2**
comp=Z,185nm,0.8s,baz=56,slow=7.1,SNR=338
FINES LR LR 06 03 15.9
comp=Z,359nm,19.1s,baz=36,slow=38
POO Poona 65.21 272⇑*iP* **P 05 32 39.0 +0.7**
comp=Z,22nm,1.0s
SLMT Seeley Lake 65.32 48 *eP* **P 05 32 39.0 +0.2**
comp=Z,66nm,0.9s
WVOR Wild Horse Val 65.33 54 *eP* **P 05 32 39.3 +0.4**
WVOR pmax pmax
comp=Z,65nm,1.5s
WVOR Wild Horse Val 65.33 54 *eP* **P 05 32 39.2 +0.4**
comp=Z,65nm,1.5s
MSO Missoula 65.33 48 ⇑*iP* **P 05 32 39.2 +0.4**
baz=65,SNR=56
OBN Obninsk 65.42 324*c iP* **P 05 32 38.8 -0.2**
OBN *i* 05 35 03.6
OBN *i S S 05 41 12.3 -6.0
OBN pmax pmax
comp=Z,718nm,1.7s
OBN MLR MLR
comp=Z,614nm,20.0s
OBN Obninsk 65.42 324 *eP* **P 05 32 38.8 -0.2**
OBN Obninsk 65.42 324 *eP* **P 05 32 38.7 -0.2**
comp=Z,933nm,1.5s
CHMT Chamberlain Mo 65.66 48 *eP* **P 05 32 40.7 -0.3**
comp=Z,11nm,0.7s
LPSR Galich'ya Gora 66.01 321 *eP* **P 05 32 42.9 0.0**
LPSR pmax pmax
comp=Z,180nm,0.7s
LPSR pmax pmax
comp=N,100nm,1.0s
LPSR pmax pmax
comp=E,220nm,1.3s
LPSR MLR MLR
comp=Z,300nm,14.0s
LPSR MLR MLR
comp=N,810nm,15.0s
LPSR MLR MLR
comp=E,700nm,15.0s
FFC Flin Flon 66.12 36 *eP* **P 05 32 43.7 +0.1**
FFC pmax pmax
comp=Z,111nm,1.0s
FFC Flin Flon 66.12 36 *eP* **P 05 32 43.6 0.0**
FFC Flin Flon 66.12 36 *eP* **P 05 32 43.7 +0.1**
comp=Z,110nm,1.0s
IDAH Dahanechah 66.31 293 *eP* **P 05 32 46.1 +0.6**
MFID Camas Ranch 66.37 52 *eP* **P 05 32 45.8 +0.2**
comp=Z,17nm,0.8s
FCC Fort Churchill 66.44 30 *eP* **P 05 32 45.2 -0.3**
FCC pmax pmax
comp=Z,241nm,1.1s
FCC Fort Churchill 66.44 30 *eP* **P 05 32 45.2 -0.3**
comp=Z,241nm,1.1s
HRY Holter Researc 66.55 47 *eP* **P 05 32 47.0 +0.4**
comp=Z,40nm,0.7s
NSS Namsos 66.70 340⇑*iP* **P 05 32 46.5 -0.6**
NSS IAmb IAmb 05 32 47.7
comp=Z,173nm,1.0s
A19A Klindworth Far 66.75 44 ⇑*iP* **P 05 32 48.3 +0.5**
baz=66,SNR=50
LRM Limekiln Ridge 66.77 48 *eP* **P 05 32 48.5 +0.3**
comp=Z,488nm,0.8s
VSR Storozhevoye 66.81 319 *eP* **P 05 32 48.2 +0.2**
VSR pmax pmax
comp=N,80nm,0.8s
VSR pmax pmax
comp=E,60nm,0.8s
VSR pmax pmax
comp=Z,240nm,0.8s
EGMT Eagleton 66.81 45 ⇓*iP* **P 05 32 48.5 +0.3**
baz=67,SNR=74
EGMT Eagleton 66.81 45 *eP* **P 05 32 48.3 +0.1**
comp=Z,130nm,1.0s
ILULI Ilulissat 66.90 7⇑*iP* **P 05 32 47.8 -0.5**
comp=Z,142nm,1.0s
VORD Divnogorie 66.91 319 *eP* **P 05 32 48.5 -0.1**
VORD pmax pmax
comp=N,180nm,1.0s
VORD pmax pmax
comp=Z,240nm,1.0s
VORD pmax pmax
comp=E,200nm,1.2s
VORD MLR MLR
comp=N,430nm,16.0s
VORD MLR MLR
comp=Z,620nm,16.0s
VORD MLR MLR
comp=E,750nm,23.0s
CMB Columbia Colle 66.93 59 *eP* **P 05 32 49.3 +0.2**
CMB pmax pmax
comp=Z,30nm,1.0s
CMB Columbia Colle 66.93 59 *eP* **P 05 32 49.3 +0.2**

comp=Z,30nm,1.0s
B19A Brinkman Farms 66.95 45 ⇑P P 05 32 49.5 +0.5
baz=67,SNR=21
DLMT Dillon 66.98 49 *e*P P 05 32 49.6 +0.1
comp=Z,40nm,0.8s
VSU Vasula 66.99 330 *c i*P P 05 32 48.9 -0.1
LCCM Lewis and Clar 67.07 48 P P 05 32 50.3 +0.3
IKOO Kooshah 67.08 293 *e*P P 05 32 51.0 +0.6
HLID Hailey 67.09 51 ⇑P P 05 32 50.4 +0.2
baz=67,SNR=33
HLID Hailey 67.09 51 *e*P P 05 32 50.6 +0.4
comp=Z,13nm,0.8s
MCMT McKenzie Canyo 67.18 49 *e*P P 05 32 50.5 -0.3
comp=Z,7.6nm,1.0s
A20A Cobblestone Ra 67.19 44 ⇑P P 05 32 50.9 +0.3
baz=67,SNR=56
WAKR Walker 67.23 58 *e*P P 05 32 52.0 +0.7
comp=Z,26nm,1.0s
BOZ Bozeman (W) 67.33 48 *e*P P 05 32 52.3 +0.7
BOZ pmax pmax
comp=Z,55nm,0.7s
BOZ Bozeman (W) 67.33 48 *e*P P 05 32 52.3 +0.7
BOZ Bozeman (W) 67.33 48 *e*P P 05 32 52.3 +0.7
comp=Z,55nm,0.7s
BMN Battle Mountai 67.39 55 *e*P P 05 32 52.6 +0.4
BMN pmax pmax
comp=Z,49nm,1.1s
BMN Battle Mountai 67.39 55 *e*P P 05 32 52.6 +0.4
comp=Z,49nm,1.1s
B20A Solberg Farm, 67.43 44 ⇓P P 05 32 52.5 +0.4
baz=67,SNR=24
A21A Bergtoll Ranch 67.62 43 ⇓P P 05 32 53.9 +0.6
baz=67,SNR=55
DZM Mont Dzumac 67.63 160 *e*LR LR 05 53 21.0
comp=Z,2µm,34.0s
PALK Pallekele 67.71 259 *i* P P 05 32 56.0 +1.7
AS31 Alice Springs 67.80 193 *e*P P 05 32 54.6 0.0
ASAR Alice Springs 67.80 193 P P 05 32 54.5 0.0
comp=Z,6.6nm,0.7s,baz=9.0,slow=6.1,SNR=62
ASAR LR LR 06 00 06.9
comp=Z,142nm,21.9s,baz=16,slow=34
ASAR PKP2bc 06 01 16.9
comp=Z,2.9nm,0.9s,baz=177,slow=2.7,SNR=16
D19A Cripps Ranch, 67.82 46 ⇓P P 05 32 55.1 +0.5
baz=68,SNR=36
C20A Veseth Ranch, 67.91 45 ⇓P P 05 32 55.9 +0.7
baz=68,SNR=80
B21A Ellsworth Farm 67.94 44 ⇓P P 05 32 55.6 +0.3
baz=68,SNR=38
IGLO Ghaloghah 67.95 300 *e*P P 05 32 56.2 +0.5
QLMT Earthquake Lak 67.95 49 *e*P P 05 32 56.0 +0.3
comp=Z,6.4nm,1.1s
NVAR Mina Array Bea 67.98 58 P P 05 32 56.6 +0.7
comp=Z,28nm,0.7s,baz=298,slow=7.2,SNR=177
A22A Carney Farms, 68.12 43 ⇑P P 05 32 56.7 +0.3
baz=68,SNR=72
MLAC Mammoth, Mammo 68.15 59 ⇓P P 05 32 58.6 +1.6
baz=68,SNR=7.4
TBLU Trondheim 68.19 340 ⇑*i*P P 05 32 54.9 -1.6
TBLU IAmb IAmb 05 32 56.3
comp=Z,383nm,1.1s
IKIA Kiasar 68.22 300 *e*P P 05 32 58.0 +0.5
D20A Manuel Ranch, 68.25 45 ⇓P P 05 32 58.0 +0.7
baz=68,SNR=75
GCMT Greycliff 68.29 47 *e*P P 05 32 58.4 +0.8
comp=Z,189nm,1.9s
C21A Desert Coulee 68.30 44 ⇓P P 05 32 58.1 +0.5
baz=68,SNR=50
YMR Madison River 68.31 49 *e*P P 05 32 58.4 +0.5
comp=Z,39nm,0.8s
E19A Rath Farm, Rou 68.32 46 ⇓P P 05 32 58.2 +0.4
baz=68,SNR=55
ELK Elko 68.38 54 *e*P P 05 32 58.8 +0.3
ELK pmax pmax
comp=Z,9.0nm,1.0s
ELK Elko 68.38 54 *e*P P 05 32 58.8 +0.3
comp=Z,9.4nm,1.0s
YNR Norris Junctio 68.44 48 *e*P P 05 33 00.1 +1.4
comp=Z,53nm,1.3s
YFT Old Faithful 68.52 49 *e*P P 05 33 01.1 +1.9
comp=Z,32nm,0.8s
IANJ Anjilo 68.54 299 *e*P P 05 33 00.7 +1.2
B22A Reddig Ranch S 68.54 43 ⇓P P 05 32 59.3 +0.2
baz=68,SNR=8.8
F19A Roth Farm, Mol 68.63 47 ⇓P P 05 33 00.4 +0.7
baz=68,SNR=60
A23A Redstone 68.65 42 ⇑P P 05 33 00.2 +0.4
baz=68,SNR=7.3
LKWY Lake 68.69 48 *e*P P 05 33 01.3 +1.0
LKWY pmax pmax
comp=Z,46nm,1.2s
LKWY Lake 68.69 48 *e*P P 05 33 01.2 +1.0
comp=Z,46nm,1.2s
H17A Grant Village 68.70 49 ⇓P P 05 33 02.3 +1.9
baz=68,SNR=36
H17A Grant Village 68.70 49 *e*P P 05 33 02.3 +1.9
comp=Z,57nm,1.0s
ISHM Shahmirzad 68.72 299 *e*P P 05 33 02.7 +2.0
IMW Indian Meadow 68.82 49 *e*P P 05 33 02.2 +1.0
comp=Z,41nm,0.9s
FLWY Flagg Ranch 68.84 49 *e*P P 05 33 02.4 +1.2
comp=Z,130nm,1.6s
D21A La Casta Ranch 68.85 45 ⇓P P 05 33 01.5 +0.5
baz=69,SNR=41
TPH Tonopah 68.86 57 *e*P P 05 33 01.8 +0.3
TPH pmax pmax
comp=Z,58nm,1.0s
TPH Tonopah 68.86 57 *e*P P 05 33 01.8 +0.3
comp=Z,58nm,1.0s
GOF Gofitskoye 68.87 312 ⇑*i*P P 05 33 02.0 +0.9
GOF *e*S S 05 42 01.7 +1.5
GOF pmax pmax
comp=Z,360nm,0.8s
GOF smax smax
comp=N,120nm,1.3s
GOF smax smax
comp=E,90nm,1.3s
B23A Brockton 68.93 43 ⇑P P 05 33 01.8 +0.3
baz=69,SNR=38
RLMT Red Lodge 68.94 47 ⇓P P 05 33 02.5 +0.7
baz=69,SNR=16
I17A Pilgrim Ck. 69.01 49 ⇓P P 05 33 03.5 +1.2
baz=69,SNR=8.4
H18A Shoshone NF, C 69.02 48 ⇑P P 05 33 03.0 +0.7
baz=69,SNR=15
MOOW Moose Ponds 69.03 49 *e*P P 05 33 03.4 +1.0
comp=E,53nm,1.1s
IPRN Peran 69.05 300 *e*P P 05 33 02.8 +0.3
TPAW Teton Pass 69.08 50 *e*P P 05 33 03.7 +0.9
comp=E,66nm,1.0s
F20A Billings 69.09 46 ⇓P P 05 33 02.7 +0.1
baz=69,SNR=13
A24A Westby 69.11 42 ⇓P P 05 33 02.8 +0.3
baz=69
VES Vestal, Richgr 69.11 60 ⇑P P 05 33 02.6 -0.1
baz=69,SNR=9.6
SFJD Kangerlussuaq 69.11 7 ⇑*i*P P 05 33 01.8 -0.4
comp=E,146nm,1.1s
SFJD Kangerlussuaq 69.11 7 ⇑*i*P P 05 33 01.8 -0.4
SFJD pmax pmax
comp=Z,150nm,1.1s
SFJD Kangerlussuaq 69.11 7 *e*P P 05 33 01.7 -0.4
comp=Z,166nm,1.3s
HVU Hansel Valley 69.15 52 *e*P P 05 33 03.5 +0.4
HVU pmax pmax
comp=Z,29nm,1.0s
HVU Hansel Valley 69.15 52 *e*P P 05 33 03.5 +0.4
comp=Z,29nm,1.0s
E21A Keefer Ranch, 69.16 45 ⇑P P 05 33 03.4 +0.4
baz=69,SNR=11
IFIR Firoozkooh 69.17 300 *e*P P 05 33 04.3 +0.9
LOHW Long Hollow 69.19 49 *e*P P 05 33 04.2 +0.8
comp=Z,60nm,1.3s
ILAS Lasjerd 69.20 299 *e*P P 05 33 04.2 +0.6
SNOW Snow King Moun 69.21 50 *e*P P 05 33 04.5 +1.0
comp=Z,57nm,1.1s
D22A Cohagen 69.21 44 ⇓P P 05 33 03.6 +0.3
baz=69,SNR=26
REDW Red Top Meadow 69.22 50 *e*P P 05 33 04.4 +0.8
comp=Z,66nm,1.2s
PKM Mcpherson Peak 69.23 61 ⇑P P 05 33 05.0 +1.2
baz=69
C23A Lambert 69.28 43 ⇓P P 05 33 04.0 +0.3
baz=69,SNR=25
DGMT Dagmar 69.32 42 ⇓P P 05 33 04.0 +0.1
baz=69,SNR=32
DGMT Dagmar 69.32 42 *e*P P 05 33 03.9 +0.1
comp=Z,113nm,0.8s
CWC Cottonwood Cre 69.36 59 ⇑P P 05 33 05.4 +0.9
baz=69
H19A Powell 69.39 48 ⇓P P 05 33 05.2 +0.7
baz=69,SNR=12
G20A Bridger 69.44 47 ⇓P P 05 33 04.9 +0.2
baz=69,SNR=11
GRAC Grapevine Rang 69.45 58 ⇑P P 05 33 05.6 +0.7
baz=69,SNR=51
MICGM Minsk 69.45 327 ⇑*e*P P 05 33 05.0 +0.5
AHID Auburn Hatcher 69.47 50 *e*P P 05 33 05.3 +0.2
comp=Z,36nm,1.2s
MNK Minsk 69.47 327 *e*P P 05 33 05.0 +0.4
MNK pmax pmax
comp=Z,420nm,1.5s
LAO LASA Array 69.50 45 *e*P P 05 33 05.3 +0.3
comp=Z,94nm,1.1s
DOMB Dombas 69.51 340 *e*P P 05 33 05.1 +0.3
A25A Svangstu Ranch 69.53 41 ⇓P P 05 33 06.0 +0.9
baz=69
BGU Big Grassy Mou 69.56 53 *e*P P 05 33 05.4 -0.2
comp=Z,19nm,1.2s
SBC Santa Barbara 69.59 62 ⇓P P 05 33 06.1 +0.4
baz=69
NACGM Naroch 69.59 328 *e*P P 05 33 03.0 -2.3
ISA Isabella, Lake 69.61 60 *e*P P 05 33 05.4 -0.5
ISA pmax pmax
comp=Z,36nm,1.2s
ISA Isabella, Lake 69.61 60 ⇓P P 05 33 05.5 -0.4
baz=69,SNR=12
ISA Isabella, Lake 69.61 60 *e*P P 05 33 05.4 -0.5
comp=Z,36nm,1.2s
F21A Absaloka Mine, 69.61 46 ⇓P P 05 33 06.0 +0.2
baz=69,SNR=14
IDMV Damavand 69.66 300 *e*P P 05 33 07.0 +0.4
R11A Troy Canyon, C 69.69 56 ⇑P P 05 33 06.6 0.0
baz=70,SNR=62
R11A Troy Canyon, C 69.69 56 *e*P P 05 33 06.7 +0.2
comp=Z,37nm,1.1s
D23A Lindsay 69.69 44 ⇑P P 05 33 06.7 +0.5
baz=69,SNR=43
ARVC Arvin 69.72 61 ⇓P P 05 33 06.6 +0.1
baz=70,SNR=6.0
DAC Darwin (Calif) 69.77 59 *e*P P 05 33 07.1 0.0
DAC pmax pmax
comp=Z,54nm,1.4s
DAC Darwin (Calif) 69.77 59 *e*P P 05 33 07.1 0.0
comp=Z,54nm,1.4s
KIV Kislovodsk 69.78 312 *e*P P 05 33 08.0 +1.1
KIV Kislovodsk 69.78 312 *c i*P P 05 33 07.9 +1.1
KIV *i* 05 33 25.1
KIV *i* S S 05 42 11.9 +0.7
KIV *i* SS SS 05 46 42.3 +2.5
KIV pmax pmax
comp=Z,517nm,1.0s
KIV MLR MLR
comp=Z,1µm,20.0s
KIV Kislovodsk 69.78 312 ⇓*i*P P 05 33 07.9 +1.1
SNR=65
KIV Kislovodsk 69.78 312 *e*P P 05 33 08.0 +1.1
comp=Z,681nm,1.1s
I19A Meeteetse 69.80 48 ⇓P P 05 33 07.8 +0.7
baz=70,SNR=14
E22A Miles City 69.81 45 ⇑P P 05 33 07.2 +0.2
baz=70,SNR=9.3
NB2 NORSAR Subarra 69.81 339 P P 05 33 06.8 +0.1
comp=Z,910nm,1.4s,baz=32,slow=6.5
NB2 NORSAR Subarra 69.81 339 P P 05 33 06.8 +0.1
baz=32,slow=6.5
NOA NORSAR Array B 69.81 339 P P 05 33 06.1 -0.6
comp=Z,139nm,0.8s,baz=56,slow=6.1,SNR=825
NOA LR LR 06 07 45.1
comp=Z,699nm,21.7s,baz=40,slow=39
KBZ Khabaz 69.81 311 P P 05 33 07.7 +0.8
comp=Z,182nm,0.9s,baz=326,slow=24,SNR=324
KBZ LR LR 06 08 31.5
comp=Z,1µm,19.5s,baz=59,slow=40
C24A Savage 69.84 43 ⇓P P 05 33 07.5 +0.4
baz=70,SNR=15
ZEI Tsey 69.88 310 *e*P P 05 33 04.5 -3.1
ZEI pmax pmax
comp=Z,170nm,1.0s
DUS Dusheti 69.88 309 P P 05 33 09.5 +1.9
DUS Dusheti 69.88 309 P P 05 33 09.4 +1.9
IBAF Bafgh 69.89 295 *e*P P 05 33 07.8 0.0
AKN Aaknes 69.89 341 ⇑*i*P P 05 33 07.4 +0.3
AKN IAmb IAmb 05 33 08.6
comp=Z,257nm,1.2s
DGRG David-gareji 69.92 308 P P 05 33 08.9 +1.1
DGRG David-gareji 69.92 308 P P 05 33 08.8 +1.1
BSC Santa Cruz Isl 69.92 62 ⇑P P 05 33 08.5 +0.7
baz=70
HWUT Hardware Ranch 69.96 51 *e*P P 05 33 08.4 +0.3
comp=Z,45nm,1.2s
B25A Knox Farm, Ray 69.96 42 ⇑P P 05 33 08.0 +0.1
baz=70
G21A Lodge Grass 69.97 46 ⇓P P 05 33 08.3 +0.3
baz=70
MPMC Manual Prospec 69.97 59 ⇑P P 05 33 08.4 +0.1
baz=70,SNR=48
H20A Greybull 70.04 47 ⇓P P 05 33 08.3 -0.1
baz=70,SNR=12
SEAG Tbilisi Sea 70.04 309 P P 05 33 09.4 +1.0
NAO01 NORSAR Array S 70.06 339 *e*P P 05 33 07.9 -0.3
comp=Z,494nm,1.3s
A26A Wade Farm, Ken 70.07 41 ⇓P P 05 33 08.8 +0.4
baz=70,SNR=25
F22A Rosebud 70.09 45 ⇑P P 05 33 08.8 0.0
baz=70,SNR=29
E23A Ismay 70.10 44 ⇓P P 05 33 09.1 +0.4
baz=70,SNR=40
TBLG Delisi 70.10 309 *e*P P 05 33 10.0 +1.2
TBLG Delisi 70.10 309 P P 05 33 10.2 +1.4
TBLG Delisi 70.10 309 P P 05 33 10.1 +1.4
FURC Furnace Creek, 70.10 58 ⇑P P 05 33 09.6 +0.8
baz=70,SNR=61
OSI Osito Audit: C 70.11 61 ⇓P P 05 33 09.6 +0.6
baz=70
OSI Osito Audit: C 70.11 61 *e*P P 05 33 09.6 +0.6
comp=Z,49nm,0.8s
DUG Dugway, Tooele 70.15 53 *e*P P 05 33 09.8 +0.5
DUG pmax pmax
comp=Z,41nm,1.0s
DUG Dugway, Tooele 70.15 53 *e*P P 05 33 09.8 +0.5
DUG Dugway, Tooele 70.15 53 ⇓P P 05 33 09.8 +0.5
baz=70,SNR=37
DUG Dugway, Tooele 70.15 53 *e*P P 05 33 09.8 +0.5
comp=Z,41nm,1.0s
D24A Glendive 70.17 43 ⇑P P 05 33 09.9 +0.8
baz=70,SNR=35
TPNV Topopah Spring 70.18 58 ⇑P P 05 33 09.9 +0.4
baz=70,SNR=49
BLG Laguna Peak, P 70.21 62 ⇓P P 05 33 10.0 +0.5
baz=70
LRMC Laurel Mtn Rad 70.22 60 ⇑P P 05 33 10.2 +0.5
baz=70,SNR=5.1
IVRN Varamin 70.22 300 *e*P P 05 33 10.3 +0.6
ICHK Chekchek 70.24 296 *e*P P 05 33 10.2 +0.1
ONI Oni 70.26 310 P P 05 33 11.3 +1.5
ONI Oni 70.26 310 P P 05 33 11.3 +1.5
J19A Crowheart 70.28 49 ⇑P P 05 33 10.8 +0.8
baz=70,SNR=31
IGZV Ghazvin 70.28 302 *e*P P 05 33 11.1 +0.8
C25A Freed Ranch, W 70.30 42 ⇑P P 05 33 10.6 +0.8
baz=70,SNR=7.6
I20A Worland 70.32 48 ⇓P P 05 33 10.7 +0.5
baz=70,SNR=43
BW06 Boulder Array 70.33 49 *e*P P 05 33 10.3 -0.1
comp=Z,44nm,1.1s
PDAR Pinedale Array 70.33 49 P P 05 33 10.4 0.0
comp=Z,28nm,1.0s,baz=329,slow=2.6,SNR=100
PDAR PKP2bc 06 01 08.0
comp=Z,0.6nm,0.9s,baz=132,slow=2.2,SNR=3.8
PDAR LR LR 06 01 20.4
comp=Z,98nm,21.4s,baz=326,slow=34
B26A Jensen Ranch, 70.33 41 ⇑P P 05 33 10.4 +0.3
baz=70,SNR=17
TCUT Toone Canyon 70.36 52 *e*P P 05 33 11.1 +0.4
comp=Z,99nm,1.4s
A27A Ledoux Ranch, 70.41 40 ⇓P P 05 33 11.3 +0.8
baz=70
EDW2 Edwards Air Fo 70.41 60 ⇑P P 05 33 11.7 +0.9
baz=70,SNR=24
CTU Camp Tracy 70.45 52 *e*P P 05 33 11.3 +0.2
comp=Z,25nm,1.1s
G22A Birney 70.45 46 ⇑P P 05 33 11.5 +0.5
baz=70,SNR=12
IMHD Mahdasht 70.45 301 *e*P P 05 33 11.9 +0.7
H21A Big Horn, Sher 70.45 47 ⇑P P 05 33 11.7 +0.7
baz=70,SNR=20
E24A Baker 70.56 44 ⇑P P 05 33 11.7 +0.1
baz=70,SNR=8.8
F23A Volborg 70.57 45 ⇓P P 05 33 11.8 +0.2
baz=70,SNR=35
DECC Green Verdugo 70.59 61 ⇑P P 05 33 12.6 +0.7
baz=70,SNR=6.0
IMEH Mehriz 70.64 295 *e*P P 05 33 12.0 -0.5
D25A Fairfield 70.65 43 ⇑P P 05 33 12.4 +0.3
baz=70,SNR=7.5
JLU Jordanelle 70.68 52 *e*P P 05 33 12.9 +0.3
comp=Z,52nm,1.4s
PASC Pasadena Art C 70.73 61 *e*P P 05 33 13.0 +0.2
comp=Z,28nm,1.2s
NLU North Lily Min 70.74 53 *e*P P 05 33 13.2 +0.3
comp=Z,22nm,1.0s
J20A Shoshoni 70.75 48 ⇑P P 05 33 13.3 +0.5
baz=70,SNR=22
B27A Peters Farms, 70.78 41 ⇑P P 05 33 13.1 +0.3
baz=70,SNR=12
C26A Wahner Farm, P 70.78 42 ⇑P P 05 33 13.2 +0.4
baz=70,SNR=13
MWC Mount Wilson 70.78 61 *e*P P 05 33 13.1 -0.2
MWC pmax pmax
comp=Z,53nm,1.3s
MWC Mount Wilson 70.78 61 *e*P P 05 33 13.1 -0.2
comp=Z,53nm,1.3s
SHOC Shoshone, Teco 70.83 59 ⇑P P 05 33 13.8 +0.5
baz=71,SNR=14
H22A Clearmont 70.84 46 ⇑P P 05 33 13.4 +0.1
baz=71
FOO Floro 70.85 342 ⇑*i*P P 05 33 12.9 0.0
I21A Big Trails, Te 70.87 47 ⇑P P 05 33 13.7 +0.1
baz=71,SNR=67
OSL Oslo 70.87 338 *e*P P 05 33 13.4 +0.3
GSC Goldstone, Bar 70.88 59 *e*P P 05 33 13.9 +0.1
GSC pmax pmax
comp=Z,27nm,0.9s
GSC Goldstone, Bar 70.88 59 ⇑P P 05 33 13.9 +0.1
baz=71,SNR=15
GSC Goldstone, Bar 70.88 59 *e*P P 05 33 13.8 +0.1
comp=Z,27nm,0.9s
A28A Rude Farm, Bot 70.90 40 ⇑P P 05 33 13.9 +0.4
baz=71,SNR=36
ISAD Sadrabad 70.92 296 *e*P P 05 33 14.3 0.0
MPU Maple Canyon 70.96 53 *e*P P 05 33 14.7 +0.4
comp=Z,123nm,1.1s
HYA Hoyanger 70.96 341 ⇑*i*P P 05 33 13.9 +0.3
F24A Ekalaka 70.98 44 ⇓P P 05 33 14.3 +0.1
baz=71,SNR=50
AKH Akhalkalaki 71.01 309 *e*P P 05 33 16.0 +1.5
AKH Akhalkalaki 71.01 309 P P 05 33 16.2 +1.7
AKH Akhalkalaki 71.01 309 P P 05 33 16.2 +1.7
BFSC Mount Baldy Ra 71.03 61 ⇓P P 05 33 15.1 +0.4
baz=71,SNR=24
E25A Miller Ranch, 71.06 43 ⇓P P 05 33 14.6 0.0
baz=71,SNR=24
CIS Catalina Islan 71.08 62 ⇑P P 05 33 15.2 +0.3
baz=71,SNR=6.6
IRAZ Razeghan 71.09 301 *e*P P 05 33 15.8 +0.7
J21A Lysite 71.10 48 ⇑P P 05 33 15.0 -0.1
baz=71,SNR=6.0
GNI Garni 71.13 308 LR LR 06 07 59.2
comp=Z,516nm,19.9s,baz=43,slow=39
GNI Garni 71.13 308 *c i*P P 05 33 16.9 +1.7
GNI pmax pmax
comp=Z,186nm,1.2s
GNI Garni 71.13 308 *i* P P 05 33 17.1 +1.9
SNR=19
GNI Garni 71.13 308 *e*P P 05 33 17.0 +1.7
comp=Z,281nm,1.3s
SHPR Sheep Range 71.13 57 *e*P P 05 33 15.9 +0.6
comp=Z,55nm,1.1s
C27A Sayler Ranch, 71.15 42 ⇓P P 05 33 15.1 +0.1
baz=71,SNR=17
D26A Manning 71.17 43 ⇑P P 05 33 15.5 +0.3
baz=71,SNR=9.7
IZEF Zefreh 71.18 298 *e*P P 05 33 16.2 +0.4
B28A Dugan Ranch, T 71.18 40 ⇓P P 05 33 15.7 +0.5
baz=71,SNR=16
I22A 9 Mile Ranch, 71.24 47 ⇓P P 05 33 16.2 +0.3
baz=71,SNR=28
G24A Alzada 71.35 45 ⇑P P 05 33 16.2 -0.2
baz=71,SNR=8.5
TUQ Turquoise Moun 71.35 59 ⇓P P 05 33 16.4 -0.2
baz=71,SNR=16
H23A Clabaugh Cattl 71.36 46 ⇑P P 05 33 16.3 -0.2
baz=71
A29A Manning Farm, 71.37 39 ⇓P P 05 33 16.6 +0.2
baz=71,SNR=93
IKLH Kolahrood 71.39 298 *e*P P 05 33 17.3 +0.3
SUE Sulen 71.39 342 ⇑*i*P P 05 33 16.1 -0.1
SUE IAmb IAmb 05 33 17.1
comp=Z,1µm,2.0s
KONO Kongsberg 71.42 339 ⇑*i*P P 05 33 16.4 -0.1
KONO Kongsberg 71.42 339 *e*P P 05 33 16.3 -0.1
KONO pmax pmax
comp=Z,216nm,1.4s
KONO Kongsberg 71.42 339 *e*P P 05 33 16.3 -0.1
comp=Z,216nm,1.4s
F25A Bowman 71.42 44 ⇑P P 05 33 16.9 +0.1
baz=71,SNR=10
EAK Akyaka 71.43 309 *i* P P 05 33 18.6 +1.6
BBRC Big Bear Solar 71.48 60 ⇓P P 05 33 17.9 +0.4
baz=71,SNR=8.5
HEC Hector,Ludlow 71.49 59 ⇓P P 05 33 17.4 0.0
baz=71,SNR=28
IMRD Marand 71.51 306 *e*P P 05 33 18.1 +0.5
CCUT Cedar City 71.55 56 *e*P P 05 33 18.4 +0.5
comp=Z,37nm,1.1s
E26A Carlson Angus 71.55 43 ⇓P P 05 33 17.4 -0.1
baz=71,SNR=16
ITBZ Tabriz 71.56 305 *e*P P 05 33 18.3 +0.4
J22A Midwest 71.57 47 ⇓P P 05 33 18.1 +0.3
baz=71,SNR=42
MVU Marysvale 71.61 54 *e*P P 05 33 19.0 +0.7
comp=Z,24nm,1.1s
MSU Marysvale 71.62 54 *e*P P 05 33 19.0 +0.7
MSU pmax pmax
comp=Z,40nm,1.2s
MSU Marysvale 71.62 54 *e*P P 05 33 19.0 +0.7
comp=Z,40nm,1.2s
SOC Sochi 71.63 313 *c i*P P 05 33 18.1 +0.1
SOC *e**PP pP 05 33 34.8 -0.1
SOC *e**SP sP 05 33 43.6 +1.7
SOC *e* 05 35 57.5
SOC *e*PPP PPP 05 37 45.0
SOC *e*S S 05 42 33.0 +0.5
SOC *e*SSS SSS 05 50 21.1
SOC pmax pmax
comp=Z,140nm,0.8s
SOC MLR MLR
comp=Z,861nm,18.0s
B29A Wagenman Farm, 71.64 40 ⇓P P 05 33 17.8 -0.1
baz=71,SNR=45
SUW Suwalki 71.64 329 *i* P P 05 33 17.5 -0.3
SUW *e*S S 05 42 33.1 +0.9
SUW LMZ LR 06 01 49.8
SUW Suwalki 71.64 329 ⇑*i*P P 05 33 17.6 -0.3
SUW *e*S S 05 42 33.1 +0.9
TMUT Trail Mountain 71.67 53 *e*P P 05 33 19.1 +0.4
comp=Z,27nm,1.0s
H24A Dirks Ranch, A 71.68 45 ⇓P P 05 33 18.0 -0.4
baz=71,SNR=33
AKASG Malin Array Be 71.68 324 P P 05 33 18.1 -0.1
comp=Z,108nm,0.7s,baz=38,slow=6.4,SNR=453
AKASG S S 05 42 33.2 +0.4
comp=Z,5.9nm,1.2s,baz=38,slow=12,SNR=20
AKASG LR LR 06 07 52.4
comp=Z,553nm,18.7s,baz=60,slow=38
AKBB Malin Array Si 71.68 324 *e*P P 05 33 18.0 -0.1
AKBB Malin Array Si 71.68 324 *e*P P 05 33 18.0 -0.1
C28A Hausauer Farms 71.68 41 ⇓P P 05 33 18.8 +0.5
baz=71,SNR=20
AK01 Malin Array Si 71.69 324 *e*P P 05 33 18.1 -0.2
KIEV Kiev 71.69 324 *e*P P 05 33 17.9 -0.3
KIEV pmax pmax
comp=Z,221nm,0.9s
KIEV Kiev 71.69 324 *e*P P 05 33 17.7 -0.5
KIEV Kiev 71.69 324 *e*P P 05 33 17.9 -0.3
comp=Z,220nm,0.9s
AK02 Malin Array Si 71.72 324 *e*P P 05 33 18.2 -0.1
MURC Murrieta 71.73 61 ⇑P P 05 33 19.1 +0.3
baz=72,SNR=12

DIGO Kars 71.74 309 *i* P P 05 33 20.3 +1.3
KARS Kars 71.77 309 *e* P P 05 33 21.0 +2.0
A30A Hoffart Farm, 71.79 39 ⇓P P 05 33 19.2 +0.3
baz=72,SNR=31
ASK Askoy 71.80 341⇑ *i* P P 05 33 20.0 +1.4
RUND Rundenannen 71.82 341 *e* P P 05 33 18.7 -0.1
BER Bergen 71.85 341 *e* P P 05 33 19.5 +0.5
BER IAmb IAmb 05 33 20.4
comp=Z,171nm,0.8s
BER *e*S S 05 42 35.6 +1.2
F26A Lodgepole 71.87 44 ⇓P P 05 33 19.4 -0.1
baz=72,SNR=12
GMRC Granite Mounta 71.94 59 ⇑P P 05 33 20.5 +0.3
baz=72,SNR=33
G25A Newell 71.95 44 ⇓P P 05 33 19.6 -0.3
baz=72,SNR=12
ODD1 Odda 71.95 340⇑ *i* P P 05 33 20.2 +0.5
MDND Maddock 71.96 40 ⇓P P 05 33 19.8 -0.1
baz=72,SNR=13
MDND Maddock 71.96 40 *e* P P 05 33 20.0 +0.1
comp=Z,114nm,1.0s
D28A Regan 71.97 41 ⇓P P 05 33 20.5 +0.5
baz=72
ANN Anapa 71.99 315 *c* *i* P P 05 33 20.2 +0.1
ANN *e**PP pP 05 33 36.6 -0.5
ANN *e*S S 05 42 37.4 +0.9
ANN pmax pmax
comp=Z,414nm,1.6s
E27A Carson 72.02 43 ⇓P P 05 33 20.6 +0.3
baz=72,SNR=24
IAZR Azarshahr 72.03 305 *e* P P 05 33 22.0 +1.2
ARTV Artvin 72.04 310 *i* P P 05 33 21.6 +0.8
K22A Casper 72.06 48 ⇑P P 05 33 20.8 -0.1
baz=72,SNR=35
K22A Casper 72.06 48 *e* P P 05 33 20.6 -0.2
comp=Z,37nm,0.7s
J23A Dilts Ranch, B 72.07 47 ⇑P P 05 33 20.5 -0.4
baz=72,SNR=5.4
DBOC Borcka 72.08 310 *i* P P 05 33 21.8 +1.1
DAGI Agillar 72.12 310 *i* P P 05 33 21.8 +0.7
B30A Myrvik Farm, E 72.13 39 ⇓P P 05 33 21.2 +0.4
baz=72,SNR=40
DYDN Diyadin 72.14 308 *i* P P 05 33 23.1 +1.7
F27A Lemmon 72.18 43 ⇑P P 05 33 21.7 +0.3
baz=72,SNR=17
SRU San Rafael Swe 72.20 53 *e* P P 05 33 21.8 +0.1
SRU pmax pmax
comp=Z,57nm,1.0s
SRU San Rafael Swe 72.20 53 *e* P P 05 33 21.8 +0.1
comp=Z,57nm,1.0s
PFO Pinyon Flats O 72.20 61 P P 05 33 21.7 -0.1
comp=Z,20nm,0.9s,baz=327,slow=6.5,SNR=30
PFO Pinyon Flats O 72.20 61 *e* P P 05 33 21.6 -0.1
PFO pmax pmax
comp=Z,54nm,1.3s
PFO Pinyon Flats O 72.20 61 ⇑P P 05 33 21.8 +0.1
baz=72,SNR=20
PFO Pinyon Flats O 72.20 61 *e* P P 05 33 21.6 -0.2
comp=Z,54nm,1.3s
BELC Belle Mtn. Jos 72.23 60 ⇑P P 05 33 21.8 -0.2
baz=72,SNR=19
IPIR Pirpir 72.24 298 *e* P P 05 33 20.7 -1.5
I24A Kuemmerle Ranc 72.25 46 ⇑P P 05 33 21.4 -0.5
baz=72,SNR=7.2
109C Camp Elliot, M 72.25 61 ⇑P P 05 33 22.3 +0.4
baz=72,SNR=10.0
H25A Fruitdale 72.26 45 ⇓P P 05 33 21.8 -0.1
baz=72,SNR=7.9
CLDR Caldiran 72.27 307 *e* P P 05 33 23.5 +1.3
DBAD Bademkaya 72.28 310 *i* P P 05 33 23.2 +1.1
G26A Maurine 72.30 44 ⇑P P 05 33 22.0 0.0
baz=72,SNR=37
N20A Spence Gulch, 72.33 50 ⇑P P 05 33 23.1 +0.5
baz=72,SNR=40
DDEM Demirkent 72.34 310 *i* P P 05 33 23.4 +1.0
E28A Huff 72.34 42 ⇓P P 05 33 22.0 -0.2
baz=72,SNR=13
RSSD Black Hills 72.38 46 *e* P P 05 33 22.3 -0.4
RSSD pmax pmax
comp=Z,34nm,0.8s
RSSD Black Hills 72.38 46 *e* P P 05 33 22.3 -0.4
comp=Z,34nm,0.8s
BLS5 Blasjo 72.42 340⇑ *i* P P 05 33 22.8 +0.4
BLS5 IAmb IAmb 05 33 23.9
comp=Z,375nm,1.6s
K23A Bowen Ranch, D 72.48 47 ⇑P P 05 33 23.0 -0.3
baz=72,SNR=9.8
AGRB Hanur-Agry 72.52 308 *e* P P 05 33 25.6 +2.0
D29A Pettibone, Tap 72.53 41 ⇓P P 05 33 23.2 -0.1
baz=72,SNR=18
G27A Dupree 72.57 43 ⇓P P 05 33 23.4 -0.3
baz=72,SNR=28
J24A Dixon Ranch, L 72.59 46 ⇑P P 05 33 23.7 -0.2
baz=72,SNR=6.4
C30A Mose, Pekin 72.59 40 ⇑P P 05 33 23.6 -0.1
baz=72,SNR=8.7
I25A Rochford 72.60 45 ⇑P P 05 33 23.6 -0.5
baz=72,SNR=25
EATA Eleskirt 72.61 309 *i* P P 05 33 25.9 +1.6
IRM Iron Mountain 72.66 59 ⇑P P 05 33 24.7 +0.4
baz=72,SNR=31
BAR Barrett 72.66 61 *e* P P 05 33 24.3 -0.1
comp=Z,25nm,0.9s
IPAR Pars 72.67 295 *e* P P 05 33 24.9 +0.1
H26A Fairpoint 72.68 45 ⇓P P 05 33 24.0 -0.3
baz=72,SNR=16
MONP Monument Peak, 72.69 61 ⇑P P 05 33 25.0 +0.3
baz=72,SNR=19
TUTA Tutak 72.74 308 *i* P P 05 33 32.5 +7.5
BC3 Big Chuckawall 72.80 60 ⇓P P 05 33 25.5 +0.2
baz=73,SNR=22
F28A McLaughlin 72.81 43 ⇑P P 05 33 24.9 -0.1
baz=72,SNR=10
O20A White River Ci 72.82 51 ⇓P P 05 33 25.7 +0.3
baz=73,SNR=22
O20A White River Ci 72.82 51 *e* P P 05 33 25.2 -0.2
comp=Z,38nm,1.0s
HOMI Horasan 72.82 309 *i* P P 05 33 26.5 +1.0
E29A Napoleon 72.86 41 ⇓P P 05 33 24.8 -0.5
baz=73,SNR=12
D30A Buchanan 72.89 41 ⇑P P 05 33 25.3 -0.1
baz=73,SNR=34
HOMB Homborsund 72.90 338⇑ *i* P P 05 33 25.2 -0.1
KMY Karmoy 72.91 340⇑ *i* P P 05 33 25.9 +0.6
ISRV Sarvestan 72.92 294 *e* P P 05 33 26.2 -0.1
K24A Anderson Ranch 72.93 47 ⇓P P 05 33 25.5 -0.5
baz=73
VANB Van 72.94 307 *e* P P 05 33 27.8 +1.7
TVAN Van 72.98 307 *i* P P 05 33 27.7 +1.3
IBZA Bozab 72.99 301 *e* P P 05 33 27.0 +0.4
J25A Sunshine Ranch 73.00 46 ⇑P P 05 33 25.8 -0.6
baz=73
H27A Howes 73.03 44 ⇑P P 05 33 26.2 -0.1
baz=73,SNR=11
STAV Stavanger 73.04 340 *e* P P 05 33 26.5 +0.4
STAV IAmb IAmb 05 33 27.2
comp=Z,65nm,0.7s
I26A New Underwood 73.05 45 ⇓P P 05 33 26.2 -0.3
baz=73,SNR=12
SWSC Sam W. Stewart 73.05 61 ⇑P P 05 33 26.4 -0.2
baz=73,SNR=12
YEL1 Yell 73.11 344⇑ *i* P P 05 33 26.8 +0.4
SNART Snartemo 73.18 339⇑ *i* P P 05 33 27.4 +0.4
SNART IAmb IAmb 05 33 28.2
comp=Z,122nm,0.7s
PDMCI Parker Dam,Lak 73.20 59 ⇑P P 05 33 27.5 +0.1
baz=73,SNR=18
ERZM Erzurum 73.22 309 *i* P P 05 33 29.1 +1.2
EZM Erzurum 73.22 309 *e* P P 05 33 29.3 +1.4
E30A Jud 73.26 41 ⇑P P 05 33 27.4 -0.2
baz=73,SNR=27
EKAR Karacoban 73.26 308 *i* P P 05 33 29.5 +1.4
F29A Eureka 73.29 42 ⇑P P 05 33 27.7 -0.2
baz=73,SNR=20
G28A Parade 73.30 43 ⇑P P 05 33 27.4 -0.5
baz=73,SNR=7.0
Y12C Blythe 73.32 59 ⇓P P 05 33 28.7 +0.5
baz=73,SNR=18
GEVA Gevas 73.33 307 *i* P P 05 33 29.6 +1.2
N22A Wattenberg Ran 73.36 49 ⇑P P 05 33 29.2 +0.5
baz=73,SNR=28
AGMN Agassiz Nation 73.36 38 ⇓P P 05 33 27.9 -0.3
baz=73,SNR=29
AGMN Agassiz Nation 73.36 38 *e* P P 05 33 27.3 -0.9
comp=Z,101nm,1.3s
IKOM Komasi 73.40 301 *e* P P 05 33 29.1 +0.2

I27A Quinn 73.44 45 ⇑P P 05 33 28.6 -0.2
baz=73,SNR=38
J26A Sides Ranch, S 73.44 46 ⇓P P 05 33 28.8 0.0
baz=73,SNR=28
HAKT HAKKARI 73.45 306 *i* P P 05 33 29.6 +0.4
WAL1 Walls 73.48 344⇑ *i* P P 05 33 28.7 0.0
IKAZ Kazeroun 73.51 295 *e* P P 05 33 29.4 -0.4
LRW Lerwick 73.51 344⇑ *e* P P 05 33 29.0 +0.2
K25A Mack Ranch, Ha 73.51 47 ⇓P P 05 33 28.8 -0.6
baz=73
H28A Mission Ridge 73.53 44 ⇓P P 05 33 29.5 +0.2
baz=73,SNR=30
PV10 Paradox Valley 73.55 53 *e* P P 05 33 30.5 +0.7
comp=Z,1µm,0.9s
SIM Simferopol' 73.57 317 *c* *e* P P 05 33 30.0 +0.5
SIM *e**PP pP 05 33 50.0 +3.5
SIM *e*S SKiKP 05 42 53.0 -0.6
SIM pmax pmax
comp=Z,118nm,0.8s
SIM MLR MLR
comp=Z,240nm,18.0s
BAYT Ayd¯–ntepe-Bay 73.57 310 *e* P P 05 33 31.3 +1.5
N23A Red Feather La 73.58 49 ⇑P P 05 33 30.1 +0.2
baz=73,SNR=29
GLA Glamis 73.59 60 *e* P P 05 33 30.2 +0.4
GLA pmax pmax
comp=Z,54nm,1.0s
GLA Glamis 73.59 60 ⇑P P 05 33 30.4 +0.6
baz=73,SNR=19
GLA Glamis 73.59 60 *e* P P 05 33 30.2 +0.4
comp=Z,54nm,1.0s
PV04 Paradox Valley 73.61 53 *e* P P 05 33 29.9 -0.2
SAN1 Sandwick 73.63 344⇑ *i* P P 05 33 29.7 +0.2
KOPT Kop Dagi 73.63 310 *i* P P 05 33 31.8 +1.5
BSD Bornholm Skovb 73.67 334⇑ *i* P P 05 33 29.7 -0.1
comp=Z,175nm,0.9s
comp=Z,570nm,17.0s
BSD Bornholm Skovb 73.67 334⇑ *i* P P 05 33 29.7 -0.1
BSD pmax pmax
comp=Z,180nm,0.9s
BSD MLR MLR
comp=Z,570nm,17.0s
F30A Leola 73.68 42 ⇑P P 05 33 29.4 -0.7
baz=73
G29A Hoven 73.70 43 ⇓P P 05 33 29.7 -0.6
baz=73,SNR=7.4
CUKT Cukurca 73.72 306 *e* P P 05 33 31.7 +1.0
IDHR Dehrash 73.75 302 *e* P P 05 33 30.7 -0.3
O22A Kremmling 73.75 50 ⇓P P 05 33 31.1 +0.1
baz=74,SNR=19
L25A Engebretsen Ra 73.78 47 ⇓P P 05 33 30.9 0.0
baz=74,SNR=5.5
K26A Motz Farm, Whi 73.81 46 ⇑P P 05 33 30.7 -0.4
baz=74,SNR=7.8
HATD Hatta, Dubai 73.83 289⇑ *i* P P 05 33 31.7 +0.4
SNR=11
GUMT Gumushane 73.89 311 *e* P P 05 33 33.4 +1.8
I28A Midland 73.93 44 ⇑P P 05 33 31.6 -0.1
baz=74,SNR=25
H29A Onida 73.97 43 ⇓P P 05 33 31.6 -0.2
baz=74,SNR=7.1
COP Copenhagen 73.97 335⇑ *i* P P 05 33 31.9 +0.3
comp=Z,130nm,1.0s
COP Copenhagen 73.97 335⇑ *i* P P 05 33 31.9 +0.3
COP pmax pmax
comp=Z,130nm,1.0s
PV01 Paradox Valley 73.98 53 *e* P P 05 33 32.4 0.0
comp=Z,5µm,1.3s
ESPY Espiye-Giresun 73.99 311 *e* P P 05 33 32.2 +0.2
P22A Eagle 74.02 50 ⇓P P 05 33 32.9 +0.4
baz=74,SNR=29
J27A Elkhorn Farm, 74.03 45 ⇓P P 05 33 32.8 +0.5
baz=74,SNR=23
NAZ Nazwa, Dubai 74.05 289 *i* P P 05 33 32.6 0.0
SNR=9.2
O23A Lake Granby, G 74.07 49 ⇓P P 05 33 33.7 +0.9
baz=74,SNR=46
WUAZ Wupatki 74.09 56 ⇓P P 05 33 33.6 +0.7
baz=74,SNR=20
WUAZ Wupatki 74.09 56 *e* P P 05 33 33.8 +0.9
comp=Z,36nm,1.0s
G30A Faulkton 74.13 42 ⇑P P 05 33 32.4 -0.4
baz=74,SNR=39
SMCO Snowmass 74.19 51 *e* P P 05 33 33.9 +0.2
comp=Z,12nm,0.7s
KELT Kelkit 74.23 311 *i* P P 05 33 34.7 +1.0
M25A Palm-Egli Farm 74.23 48 ⇓P P 05 33 34.2 +0.6
baz=74,SNR=12
GRSN GIRESUNGRSN 74.24 312 *i* P P 05 33 33.1 -0.4
BEL Belsk 74.25 329 *i* P P 05 33 34.1 +0.8
BEL *e*S S 05 43 04.3 +2.4
BEL LMZ LR 06 03 31.8
BEL Belsk 74.25 329⇑ *i* P P 05 33 34.1 +0.8
BEL *e*S S 05 43 04.4 +2.5
FAQ Al Faqa, Dubai 74.25 289 *i* P P 05 33 33.9 +0.1
SNR=8.9
MUD Monsted U'grnd 74.28 337⇑ *i* P P 05 33 33.7 +0.3
comp=Z,760nm,16.0s
MUD Monsted U'grnd 74.28 337⇑ *i* P P 05 33 33.7 +0.3
MUD MLR MLR
comp=Z,770nm,16.0s
K27A Flueckinger Fa 74.30 46 ⇑P P 05 33 33.5 -0.5
baz=74,SNR=8.7
J28A Allard Ranch, 74.31 45 ⇓P P 05 33 34.3 +0.4
baz=74,SNR=62
LLD Lille Linde 74.34 335 *i* P P 05 33 34.0 +0.3
LLD Lille Linde 74.34 335 *i* P P 05 33 34.0 +0.3
I29A Vivian Onida 74.36 44 ⇑P P 05 33 33.7 -0.4
baz=74,SNR=21
GKP Gorka Klasztor 74.39 331 *i* P P 05 33 34.3 +0.2
GKP *e*S S 05 43 04.6 +1.1
GKP LMZ LR 06 03 33.7
GKP Gorka Klasztor 74.39 331⇑ *i* P P 05 33 34.4 +0.3
GKP *e*S S 05 43 04.6 +1.1
SVAN Silvan-Diyarba 74.51 308 *e* P P 05 33 35.8 +0.6
ASUD Al Ashush, Dub 74.51 289⇑ *i* P P 05 33 35.8 +0.5
SNR=15
ISCO Idaho Springs 74.52 50 *e* P P 05 33 35.8 +0.3
ISCO pmax pmax
comp=Z,61nm,1.3s
ISCO Idaho Springs 74.52 50 ⇓P P 05 33 35.9 +0.3
baz=74,SNR=42
ISCO Idaho Springs 74.52 50 *e* P P 05 33 35.8 +0.3
comp=Z,61nm,1.3s
LVV L'vov 74.54 326⇓ *i* P P 05 33 35.3 +0.2
LVV *e* 05 33 52.5
LVV *e* 05 36 26.5
LVV *e* PPP PPP 05 38 09.5
LVV *e*S S 05 43 03.7 -1.6
LVV *e* 05 43 32.1
LVV MLR MLR
comp=Z,500nm,17.0s
LVV MLR MLR
comp=E,400nm,16.0s
LVV MLR MLR
comp=N,600nm,18.0s
KIS Kishinev 74.60 321 *i* P P 05 33 35.0 -0.4
comp=N,500nm,1.3s
KIS Kishinev 74.60 321 *i* PcP PcP 05 33 51.0 +1.5
KIS *e*pP pP 05 33 59.0 +6.5
KIS Kishinev 74.60 321 *e* PP PP 05 36 22.0 -0.2
KIS Kishinev 74.60 321 *e* PPP PPP 05 38 04.0
KIS *i* S S 05 43 05.0 -1.0
comp=N,300nm,2.0s
KIS Kishinev 74.60 321 *e* PS 05 44 06.0
KIS *e*L L 06 00 40.0
KIS LRM MLR 06 10 30.0
comp=N,800nm,17.0s
KIS Kishinev 74.60 321 *i* P P 05 33 35.0 -0.4
KIS *i* 05 33 51.0
KIS *e**PP pP 05 33 59.0 +6.5
KIS *e* 05 36 22.0
KIS *e* PPP PPP 05 38 04.0
KIS *i* S S 05 43 05.0 -1.0
KIS *e* 05 43 32.0
KIS *e* 05 43 56.0
KIS *e* PS PnS 05 44 06.0 +19
KIS pmax pmax
comp=Z,500nm,1.3s
KIS pmax pmax
comp=N,300nm,1.8s
KIS pmax pmax
comp=E,300nm,1.5s
KIS pmax pmax
comp=Z,900nm,5.0s

KIS smax smax
comp=N,300nm,2.0s
KIS smax smax
comp=E,200nm,1.5s
KIS MLR MLR
comp=N,400nm,17.0s
KIS MLR MLR
comp=E,500nm,17.0s
KIS MLR MLR
comp=Z,800nm,17.0s
RGN Rugen 74.65 334 *e* P P 05 33 36.5 +1.0
comp=Z,412nm,1.1s
RGN Rugen 74.65 334 *e* P P 05 33 36.1 +0.6
comp=Z,314nm,1.0s
MVCO Mesa Verde 74.65 53 ⇑P P 05 33 36.5 +0.2
baz=74,SNR=36
MVCO Mesa Verde 74.65 53 *e* P P 05 33 36.4 +0.1
comp=Z,55nm,1.1s
P23A Jefferson 74.69 50 ⇑P P 05 33 37.5 +1.0
baz=74,SNR=25
M26A McRoberts Ranc 74.70 47 ⇑P P 05 33 37.0 +0.7
baz=74,SNR=8.4
L27A T5 Ranch, Ells 74.70 46 ⇓P P 05 33 36.3 0.0
baz=74
BRSD Miller 74.72 43 ⇑P P 05 33 35.9 -0.3
baz=74,SNR=7.9
BRSD Miller 74.72 43 *e* P P 05 33 35.5 -0.7
comp=Z,52nm,0.9s
K28A Ten Mile Ranch 74.75 45 ⇓P P 05 33 36.8 +0.3
baz=74,SNR=19
SUSE Susehri 74.77 311 *i* P P 05 33 35.3 -1.5
J29A Okreek 74.79 44 ⇑P P 05 33 36.4 -0.2
baz=74,SNR=31
I30A Oacoma 74.87 43 ⇓P P 05 33 37.0 -0.1
baz=75,SNR=9.9
Q23A Hartsel 75.02 50 ⇓P P 05 33 38.8 +0.4
baz=75
IAS Iasi 75.03 322⇑ *i* P P 05 33 38.4 +0.5
M27A Reverse DX Ran 75.06 47 ⇑P P 05 33 38.6 +0.3
baz=75,SNR=6.2
STKA Stephens Creek 75.09 185 P P 05 33 38.5 +0.3
comp=Z,15nm,0.8s,baz=337,slow=7.7,SNR=22
STKA LR LR 06 05 18.7
comp=Z,101nm,21.5s,baz=11,slow=35
STKA Stephens Creek 75.09 185 *e* P P 05 33 38.4 +0.3
comp=Z,6.4nm,0.8s
N26A Koester Ranch, 75.11 48 ⇓P P 05 33 39.0 +0.4
baz=75,SNR=9.8
RSDY Resadiye-TOKAT 75.12 312 *e* P P 05 33 38.9 +0.3
L28A Connealy Angus 75.17 46 ⇓P P 05 33 39.4 +0.4
baz=75
ERBA Erbaa 75.23 312 *i* P P 05 33 39.9 +0.7
KWP Kalwaria Pacla 75.23 326 *i* P P 05 33 40.0 +1.0
KWP *e*S S 05 43 14.8 +1.8
KWP LMZ LR 06 03 27.2
KWP Kalwaria Pacla 75.23 326⇑ *i* P P 05 33 40.0 +1.0
KWP *e*S S 05 43 14.8 +1.8
S22A 4UR Ranch, Cre 75.25 52 ⇓P P 05 33 40.6 +0.9
baz=75,SNR=44
K29A Lazy Trails An 75.25 45 ⇑P P 05 33 39.7 +0.3
baz=75,SNR=8.1
LEOM Leova 75.26 321 *e* P P 05 33 39.2 0.0
LEOM Leova 75.26 321⇑ *i* P P 05 33 39.8 +0.6
J30A Dallas 75.27 44 ⇓P P 05 33 39.3 -0.1
baz=75,SNR=20
KVT Kavak 75.32 313 *e* P P 05 33 40.5 +0.8
MARD Mardin 75.33 308 *i* P P 05 33 40.3 +0.3
W18A Petrified Fore 75.35 55 ⇑P P 05 33 40.5 +0.3
baz=75
W18A Petrified Fore 75.35 55 *e* P P 05 33 40.9 +0.7
comp=Z,20nm,1.0s
Q24A Divide 75.36 50 ⇓P P 05 33 40.5 +0.1
baz=75,SNR=7.4
MAZI Mazidag 75.42 308 *e* P P 05 33 41.9 +1.4
SVRC Sivrice-ELAZID 75.43 309 *e* P P 05 33 42.3 +1.6
O26A Horse Wrangler 75.47 48 ⇓P P 05 33 40.3 -0.5
baz=75
N27A Anderson Farm, 75.49 47 ⇑P P 05 33 41.3 +0.5
baz=75,SNR=52
PRAR RASCA 75.49 323⇓ *i* P P 05 33 41.3 +0.7
HAVZ Havza 75.50 313 *i* P P 05 33 41.8 +1.0
R23A Moffat 75.52 51 ⇑P P 05 33 42.1 +0.8
baz=75,SNR=59
ELZG Elazig 75.53 310 *i* P P 05 33 42.9 +1.7
EYMN Ely 75.55 36 *e* P P 05 33 40.2 -0.7
comp=Z,136nm,1.5s
BIGH Upper Bighouse 75.57 345⇑ *e* P P 05 33 40.1 -0.6
BIGH AMB AMB 05 33 43.1
comp=Z,267nm,1.3s
214A Organ Pipe Nat 75.59 60 ⇓P P 05 33 41.9 +0.4
baz=75,SNR=18
214A Organ Pipe Nat 75.59 60 *e* P P 05 33 41.7 +0.2
comp=Z,32nm,1.2s
SCER sogukcermik 75.60 312 *i* P P 05 33 43.5 +2.0
TOKA Tokat 75.63 312 *i* P P 05 33 42.4 +0.9
SVSK Karacayir 75.63 312 *e* P P 05 33 43.1 +1.6
MLA1 Latheron 75.64 344⇑ *i* P P 05 33 41.4 +0.2
OGNE Ogallala 75.66 47 ⇑P P 05 33 41.9 +0.1
baz=75,SNR=14
OGNE Ogallala 75.66 47 *e* P P 05 33 41.5 -0.3
comp=Z,128nm,0.7s
L29A Maesberg Ranch 75.67 45 ⇓P P 05 33 41.4 -0.4
baz=75,SNR=11
K30A Basset 75.67 44 ⇓P P 05 33 41.7 0.0
baz=75,SNR=22
BOYT Boyabat 75.69 314 *i* P P 05 33 43.2 +1.3
M28A Bar X Bar Ranc 75.69 46 ⇑P P 05 33 41.7 -0.2
baz=75,SNR=6.1
BYBT Boyabat 75.72 314 *e* P P 05 33 43.9 +1.9
BUR08 Bucovina Ar. S 75.72 324 *e* P P 05 33 42.5 +0.5
BURAR Bucovina Array 75.74 324⇑ *i* P P 05 33 42.6 +0.5
S23A Nye Farm, Mont 75.75 51 ⇑P P 05 33 43.4 +0.8
baz=76,SNR=10
BZK Bozkurt 75.77 315 *e* P P 05 33 43.1 +0.9
OJC Ojcow 75.91 328 *i* P P 05 33 43.5 +0.6
OJC *e*S S 05 43 22.0 +1.5
OJC LMZ LR 06 04 32.4
OJC Ojcow 75.91 328⇑ *i* P P 05 33 43.6 +0.6
OJC *e*S S 05 43 22.0 +1.5
P26A Davis Ranch, A 75.94 49 ⇓P P 05 33 43.6 +0.1
baz=76,SNR=15
TESR Tescani 75.95 322⇑ *i* P P 05 33 43.6 +0.4
KOLS Kolonicke sedl 75.95 326 *e* P P 05 33 43.9 +0.7
KOLS pmax pmax
comp=Z,128nm,1.3s
KOLS Kolonicke sedl 75.95 326 *e* P P 05 33 43.9 +0.7
KOLS *e*PCP PcP 05 33 53.5 -1.9
KOLS *e*pP pP 05 34 00.4 +0.1
KOLS *e*sP sP 05 34 08.6 +1.4
KOLS *e*S S 05 43 18.8 -2.2
TLCR 75.96 320⇓ *i* P P 05 33 44.1 +0.9
O27A Beecher Island 75.96 48 ⇑P P 05 33 43.4 -0.2
baz=76,SNR=20
MALT Malatya 75.97 310 *e* P P 05 33 45.3 +1.7
MALT Malatya 75.97 310⇑ *i* P P 05 33 45.2 +1.6
STHS Stebnicka Huta 75.99 327 *e* P P 05 33 44.5 +1.1
STHS pmax pmax
comp=Z,190nm,1.4s
STHS Stebnicka Huta 75.99 327 *e* P P 05 33 44.5 +1.1
STHS *e*PCP PcP 05 33 54.0 -1.5
STHS *e*pP pP 05 34 01.6 +1.1
STHS *e* 05 34 10.1
M29A Burnside Ranch 76.01 46 ⇓P P 05 33 43.2 -0.6
baz=76
SDCO Great Sand Dun 76.01 51 ⇑P P 05 33 44.4 +0.3
baz=76,SNR=42
SDCO Great Sand Dun 76.01 51 *e* P P 05 33 44.2 +0.1
comp=Z,28nm,1.2s
GIUM Giurgiulesti 76.02 320⇑ *i* P P 05 33 44.6 +1.0
N28A Pribbeno Ranch 76.11 47 ⇑P P 05 33 43.9 -0.4
baz=76,SNR=16
L30A Spencer Herefo 76.15 45 ⇑P P 05 33 44.0 -0.5
baz=76,SNR=5.2
MVH1 Achvaich 76.15 345⇑ *i* P P 05 33 44.0 -0.1
RUE Ruedersdorf 76.23 333 *e* P P 05 33 45.4 +0.8
comp=Z,383nm,1.3s
RUE Ruedersdorf 76.23 333 *e* P P 05 33 45.0 +0.3
comp=Z,302nm,1.2s
AKCD Akcadag 76.27 310 *i* P P 05 33 46.6 +1.3
CFR Carcaliu 76.28 320⇓ *i* P P 05 33 45.4 +0.3
MCD Coleburn Disti 76.28 344⇑ *i* P P 05 33 44.8 -0.1
Q26A Hugo 76.29 49 ⇓P P 05 33 45.5 0.0
baz=76,SNR=29
CTKT Corum 76.32 313 *i* P P 05 33 46.5 +0.9
DARE Darende-Malaty 76.32 310 *e* P P 05 33 47.0 +1.4

NIE	**Niedzica**	**76.35**	**327**	iP	**P**	**05 33 46.5**	**+1.0**
NIE				eS	**S**	**05 43 28.6**	**+3.2**
NIE				LMZ	LR	06 05 37.0	
NIE	**Niedzica**	**76.35**	**327**	⇑iP	**P**	**05 33 46.5**	**+1.0**
NIE				eS	**S**	**05 43 28.7**	**+3.3**
P27A	**Ficken Ranch,**	**76.36**	**48**	⇓P	**P**	**05 33 45.5**	**-0.3**
	baz=76,SNR=10						
URFA	**Urfa**	**76.36**	**309**	eP	**P**	**05 33 47.8**	**+2.0**
M30A	**Dale-Ortello V**	**76.37**	**45**	⇓P	**P**	**05 33 45.0**	**-0.7**
	baz=76						
O28A	**Krutsinger Ran**	**76.38**	**47**	⇑P	**P**	**05 33 45.4**	**-0.5**
	baz=76,SNR=13						
ECSD	**EROS Data Cent**	**76.39**	**42**	⇓P	**P**	**05 33 45.4**	**-0.4**
	baz=76,SNR=70						
ECSD	**EROS Data Cent**	**76.39**	**42**	eP	**P**	**05 33 45.1**	**-0.7**
	comp=Z,80nm,1.1s						
VRI	**Vrincioaia**	**76.41**	**322**	eP	**P**	**05 33 45.9**	**0.0**
VRI	**Vrincioaia**	**76.41**	**322**	⇓iP	**P**	**05 33 46.6**	**+0.8**
BMR	**Baia Mare**	**76.43**	**324**	⇑iP	**P**	**05 33 46.8**	**+0.9**
L31A	**Butterfield Fa**	**76.43**	**44**	⇑P	**P**	**05 33 45.5**	**-0.6**
	baz=76,SNR=26						
PLOR	**Plostina**	**76.45**	**322**	⇑iP	**P**	**05 33 46.9**	**+0.8**
MME1	**Meikle Cairn**	**76.47**	**344**	⇑iP	**P**	**05 33 45.7**	**-0.3**
TRPA	**Tarpa**	**76.47**	**325**	⇑iP	**P**	**05 33 47.1**	**+1.0**
TRPA	**Tarpa**	**76.47**	**325**	⇑eP	**P**	**05 33 47.2**	**+1.1**
N29A	**Votaw Ranch, W**	**76.49**	**46**	⇓P	**P**	**05 33 46.0**	**-0.5**
	baz=76,SNR=10						
ILGA	**Ilgaz**	**76.57**	**314**	iP	**P**	**05 33 48.6**	**+1.4**
TUC	**Tucson**	**76.61**	**58**	eP	**P**	**05 33 47.8**	**+0.5**
TUC				pmax	pmax		
	comp=Z,17nm,1.0s						
TUC	**Tucson**	**76.61**	**58**	eP	**P**	**05 33 47.8**	**+0.5**
	comp=Z,17nm,1.0s						
HLG	**Helgoland**	**76.62**	**337**	eP	**P**	**05 33 47.5**	**+0.7**
	comp=Z,325nm,1.3s						
RAC	**Raciborz**	**76.64**	**329**	eP	**P**	**05 33 48.2**	**+1.2**
ATAB	**Bozova**	**76.64**	**309**	iP	**P**	**05 33 48.7**	**+1.4**
MDO	**Dochfour**	**76.64**	**344**	⇑iP	**P**	**05 33 46.5**	**-0.4**
TIRR	**Tirgusor**	**76.69**	**320**	eP	**P**	**05 33 46.3**	**-1.1**
TIRR	**Tirgusor**	**76.69**	**320**	eP	**P**	**05 33 47.8**	**+0.4**
TIRR				pmax	pmax		
	comp=Z,99nm,1.0s						
TIRR	**Tirgusor**	**76.69**	**320**	⇑iP	**P**	**05 33 48.0**	**+0.6**
TIRR	**Tirgusor**	**76.69**	**320**	eP	**P**	**05 33 47.8**	**+0.4**
	comp=Z,99nm,1.0s						
KSCO	**Kaye Shedlock'**	**76.72**	**49**	⇓P	**P**	**05 33 47.6**	**-0.3**
	baz=76,SNR=12						
KSCO	**Kaye Shedlock'**	**76.72**	**49**	eP	**P**	**05 33 47.4**	**-0.5**
	comp=Z,136nm,1.4s						
KSP	**Ksiaz**	**76.72**	**330**	iP	**P**	**05 33 48.0**	**+0.6**
KSP				eS	**S**	**05 43 31.1**	**+1.8**
KSP				LMZ	LR	06 04 39.5	
KSP	**Ksiaz**	**76.72**	**330**	⇑iP	**P**	**05 33 48.1**	**+0.6**
KSP				eS	**S**	**05 43 31.1**	**+1.8**
CORM	**Corum**	**76.72**	**313**	eP	**P**	**05 33 49.4**	**+1.6**
HARR	**Harsova**	**76.74**	**320**	⇑iP	**P**	**05 33 48.4**	**+0.7**
DRUM	**Mains of Drumt**	**76.75**	**343**	⇑eP	**P**	**05 33 46.7**	**-0.8**
DRUM				AMB	AMB	05 33 49.9	
	comp=Z,142nm,1.2s						
KAC	**Achnashellach**	**76.76**	**345**	⇑iP	**P**	**05 33 47.6**	**0.0**
R26A	**Arlington**	**76.77**	**50**	⇓P	**P**	**05 33 48.1**	**-0.1**
	baz=76,SNR=47						
N30A	**Hueftle Ranch,**	**76.78**	**46**	⇓P	**P**	**05 33 47.7**	**-0.4**
	baz=76						
P28A	**Saint Francis**	**76.79**	**48**	⇑P	**P**	**05 33 47.8**	**-0.4**
	baz=76,SNR=15						
PINB	**Pinarbasi**	**76.84**	**311**	iP	**P**	**05 33 50.0**	**+1.3**
OKC	**Ostrava-Krasne**	**76.85**	**329**	⇑iP	**P**	**05 33 48.9**	**+0.7**
OKC				epP	**pP**	**05 34 05.7**	**+0.3**
OKC				eS	**S**	**05 43 32.4**	**+1.6**
OKC				eSKS	**SKSac**	**05 43 54.9**	**+0.1**
OKC				AMS	AMS	06 08 40.0	
	comp=Z,800nm,23.2s						
OKC	**Ostrava-Krasne**	**76.85**	**329**	⇑iP	**P**	**05 33 48.9**	**+0.7**
OKC				e		05 34 05.7	
OKC				eS	**S**	**05 43 32.4**	**+1.6**
OKC				e		05 43 54.9	
OKC				MLR	MLR		
	comp=Z,800nm,23.2s						
EFOR	**EFORIE**	**76.87**	**319**	⇓iP	**P**	**05 33 49.8**	**+1.4**
O29A	**4D Ranch, Culb**	**76.90**	**47**	⇓P	**P**	**05 33 48.2**	**-0.6**
	baz=77,SNR=23						
DOPR	**Dopca**	**76.93**	**322**	⇑iP	**P**	**05 33 49.9**	**+1.1**
CANT	**Cankiri**	**76.94**	**314**	eP	**P**	**05 33 50.2**	**+1.2**
SAFT	**Safranbolu**	**76.97**	**315**	eP	**P**	**05 33 50.2**	**+1.1**
KPL	**Plockton**	**76.98**	**345**	⇑eP	**P**	**05 33 49.1**	**+0.3**
KPL				AMB	AMB	05 33 51.6	
	comp=Z,222nm,1.3s						
KECS	**Kecovo**	**77.03**	**327**	eP	**P**	**05 33 49.9**	**+0.6**
KECS				pmax	pmax		
	comp=Z,40nm,1.0s						
KECS	**Kecovo**	**77.03**	**327**	eP	**P**	**05 33 49.9**	**+0.6**
KECS				ePCP	**PcP**	**05 33 57.9**	**-2.1**
KECS				e		05 34 16.1	
MLR	**Muntele Rosu**	**77.05**	**322**	⇑iP	**P**	**05 33 50.0**	**+0.4**
T25A	**Trinidad**	**77.05**	**51**	⇓P	**P**	**05 33 50.2**	**+0.3**
	baz=77,SNR=40						
KSB	**Sheil Bridge**	**77.06**	**345**	⇑iP	**P**	**05 33 49.3**	**+0.1**
ISR	**Istrita**	**77.06**	**321**	⇑iP	**P**	**05 33 50.7**	**+1.1**
SPMN	**Marine on St.**	**77.06**	**39**	⇑P	**P**	**05 33 48.9**	**-0.6**
	baz=77,SNR=19						
SPMN	**Marine on St.**	**77.06**	**39**	eP	**P**	**05 33 48.7**	**-0.8**
	comp=Z,41nm,1.0s						
AMRR	**Amara**	**77.08**	**320**	⇑iP	**P**	**05 33 50.8**	**+1.2**
MANR	**Mangalia**	**77.09**	**319**	⇑iP	**P**	**05 33 50.9**	**+1.2**
UPC	**Upice**	**77.09**	**330**	⇑iP	**P**	**05 33 50.1**	**+0.5**
UPC				epP	**pP**	**05 34 03.9**	**-2.9**
UPC	**Upice**	**77.09**	**330**	⇑iP	**P**	**05 33 50.1**	**+0.5**
UPC				e		05 34 03.9	
DPC	**Dobruska-Polom**	**77.11**	**330**	⇑iP	**P**	**05 33 50.6**	**+0.8**
DPC				epP	**pP**	**05 34 06.1**	**-0.8**
DPC				eS	**S**	**05 43 35.6**	**+1.9**
DPC				eSKS	**SKSac**	**05 43 54.5**	**-2.3**
DPC				AMS	AMS	06 08 40.0	
	comp=Z,700nm,23.4s						
DPC	**Dobruska-Polom**	**77.11**	**330**	⇑iP	**P**	**05 33 50.6**	**+0.8**
DPC				e		05 34 06.1	
DPC				eS	**S**	**05 43 35.6**	**+1.9**
DPC				e		05 43 54.5	
DPC				MLR	MLR		
	comp=Z,700nm,23.4s						
Q28A	**Sharon Springs**	**77.11**	**48**	⇓P	**P**	**05 33 49.4**	**-0.6**
	baz=77,SNR=20						
ELDT	**Eldivan**	**77.13**	**314**	iP	**P**	**05 33 50.2**	**0.0**
GZT	**Gaziantep**	**77.13**	**309**	iP	**P**	**05 33 51.1**	**+0.9**
CJR	**Cluj-Napoca**	**77.14**	**324**	⇑iP	**P**	**05 33 51.0**	**+1.0**
R27A	**Eads**	**77.14**	**49**	⇓P	**P**	**05 33 50.0**	**-0.2**
	baz=77,SNR=31						
EDU	**Dundee**	**77.20**	**343**	⇑eP	**P**	**05 33 49.8**	**-0.3**
P29A	**Atwood**	**77.21**	**47**	⇑P	**P**	**05 33 49.8**	**-0.7**
	baz=77,SNR=8.3						
S26A	**Kim**	**77.24**	**50**	⇓P	**P**	**05 33 50.3**	**-0.6**
	baz=77						
MSAB	**Monastry St. A**	**77.25**	**320**	⇑iP	**P**	**05 33 51.6**	**+1.1**
O30A	**MW Ranch, Wils**	**77.25**	**46**	⇑P	**P**	**05 33 50.1**	**-0.7**
	baz=77,SNR=11						
CDAG	**Cicekdag**	**77.26**	**313**	iP	**P**	**05 33 51.6**	**+0.7**
BGNE	**Belgrade**	**77.34**	**44**	⇓P	**P**	**05 33 50.4**	**-0.8**
	baz=77,SNR=5.1						
BGNE	**Belgrade**	**77.34**	**44**	eP	**P**	**05 33 50.4**	**-0.8**
	comp=Z,82nm,0.9s						
N31A	**Bailey Ranch,**	**77.36**	**45**	⇓P	**P**	**05 33 50.4**	**-0.9**
	baz=77,SNR=6.3						
PSN	**Preselentsi**	**77.39**	**319**	⇑iP	**P**	**05 33 52.6**	**+1.2**
PSN	**Preselentsi**	**77.39**	**319**	iP	**P**	**05 33 52.5**	**+1.2**
KMRS	**Kahramanmaras**	**77.40**	**310**	eP	**P**	**05 33 53.2**	**+1.6**
ANMO	**Albuquerque**	**77.41**	**54**	eP	**P**	**05 33 52.4**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,27nm,1.0s						
ANMO	**Albuquerque**	**77.41**	**54**	eP	**P**	**05 33 52.4**	**+0.5**
	comp=Z,27nm,1.0s						
NRDL	**Niedersach Rie**	**77.41**	**335**	eP	**P**	**05 33 51.8**	**+0.6**
	comp=Z,100nm,1.0s						
DRGR		**77.45**	**324**	⇑iP	**P**	**05 33 52.2**	**+0.4**
CLL	**Collm**	**77.48**	**332**	eP	**P**	**05 33 51.8**	**0.0**
	comp=Z,304nm,1.2s						
CLL	**Collm**	**77.48**	**332**	⇑iP	**P**	**05 33 51.7**	**0.0**
	comp=Z,301nm,1.2s						
CLL				epP	**pP**	**05 34 09.0**	**+0.1**
CLL				esP	**sP**	**05 34 17.0**	**+1.2**
CLL				ePP	**PP**	**05 36 42.0**	**-4.3**
CLL				ePPP	PPP	05 38 48.0	
CLL				eS	**S**	**05 43 35.0**	**-2.5**
CLL				ePS	**PnS**	**05 44 27.0**	**+3.0**

CLL				eSS	**SS**	**05 48 36.0**	**-0.2**
CLL				e		05 49 42.0	
CLL				e		05 52 48.0	
CLL				eSSSS		05 54 18.0	
CLL				LmV		06 12 00.0	
	comp=Z,500nm,19.4s						
CLL	**Collm**	**77.48**	**332**	⇑iP	**P**	**05 33 51.7**	**0.0**
CLL				e*PP	**pP**	**05 34 09.0**	**+0.1**
CLL				eS	**S**	**05 43 35.0**	**-2.5**
CLL				pmax	pmax		
	comp=Z,301nm,1.2s						
CLL	**Collm**	**77.48**	**332**	eP	**P**	**05 33 51.7**	**0.0**
T26A	**Comanche Natio**	**77.49**	**50**	⇓P	**P**	**05 33 52.0**	**-0.3**
	baz=77,SNR=56						
VOIR		**77.49**	**322**	⇑iP	**P**	**05 33 52.9**	**+0.9**
HCB	**Kahramanmara¯**	**77.51**	**310**	iP	**P**	**05 33 52.3**	**+0.1**
S27A	**Las Animas**	**77.51**	**50**	⇓P	**P**	**05 33 51.8**	**-0.6**
	baz=77						
BRG	**Berggiesshubel**	**77.52**	**332**	iP	**P**	**05 33 52.1**	**+0.1**
	comp=Z,140nm,1.4s						
BRG				ePP	**PP**	**05 36 41.5**	**-5.1**
	comp=Z,17nm,1.3s						
BRG				S	**S**	**05 43 34.0**	**-4.0**
	comp=N,562nm,27.8s						
	comp=E,428nm,20.2s						
	comp=Z,602nm,28.5s						
BRG	**Berggiesshubel**	**77.52**	**332**	eP	**P**	**05 33 52.3**	**+0.3**
	comp=Z,140nm,1.4s						
BRG	**Berggiesshubel**	**77.52**	**332**	iP	**P**	**05 33 52.1**	**+0.1**
BRG				S	**S**	**05 43 34.0**	**-4.0**
BRG				pmax	pmax		
	comp=Z,31nm,1.4s						
SULR		**77.53**	**321**	⇑iP	**P**	**05 33 52.9**	**+0.8**
BR131	**Keskin Array S**	**77.57**	**313**	eP	**P**	**05 33 53.1**	**+0.4**
	comp=Z,34nm,0.8s						
BRTR	**Keskin Array B**	**77.57**	**313**	P	**P**	**05 33 53.2**	**+0.5**
	comp=Z,40nm,0.8s,baz=76,slow=3.6,SNR=261						
BRTR				LR	LR	06 14 23.5	
	comp=Z,430nm,19.0s,baz=38,slow=40						
PVCC	**Panska Ves**	**77.59**	**331**	⇑iP	**P**	**05 33 53.1**	**+0.7**
PVCC				epP	**pP**	**05 34 08.8**	**-0.7**
PVCC				AMS	AMS	06 08 50.0	
	comp=Z,900nm,24.4s						
PVCC	**Panska Ves**	**77.59**	**331**	⇑iP	**P**	**05 33 53.1**	**+0.7**
PVCC				e		05 34 08.8	
PVCC				MLR	MLR		
	comp=Z,900nm,24.4s						
BCAM	**Yenicaga**	**77.60**	**315**	iP	**P**	**05 33 53.9**	**+1.2**
AVNT	**Avonos**	**77.61**	**312**	iP	**P**	**05 33 53.1**	**+0.2**
P30A	**Selden**	**77.62**	**47**	⇓P	**P**	**05 33 52.1**	**-0.6**
	baz=77,SNR=9.3						
R28A	**Tribune**	**77.64**	**49**	⇑P	**P**	**05 33 52.4**	**-0.6**
	baz=77,SNR=13						
ANDN	**Andirin**	**77.65**	**310**	iP	**P**	**05 33 54.0**	**+0.9**
O31A	**Woolen Ranch,**	**77.66**	**46**	⇑P	**P**	**05 33 52.0**	**-1.0**
	baz=77,SNR=5.0						
FBE	**Freiberg**	**77.69**	**332**	eP	**P**	**05 33 53.5**	**+0.6**
	comp=Z,300nm,1.5s						
ESY	**Stoneypath**	**77.70**	**343**	⇑eP	**P**	**05 33 52.6**	**-0.3**
Q29A	**Oakley**	**77.70**	**48**	⇑P	**P**	**05 33 52.7**	**-0.6**
	baz=77,SNR=7.9						
PSZ	**Piszkesteto**	**77.72**	**327**	eP	**P**	**05 33 53.6**	**+0.4**
PSZ				pmax	pmax		
	comp=Z,150nm,1.1s						
PSZ	**Piszkesteto**	**77.72**	**327**	⇑iP	**P**	**05 33 54.1**	**+0.8**
PSZ	**Piszkesteto**	**77.72**	**327**	eP	**P**	**05 33 53.6**	**+0.4**
	comp=Z,150nm,1.1s						
PSZ	**Piszkesteto**	**77.72**	**327**	⇑eP	**P**	**05 33 54.2**	**+0.9**
ARR	**Arges**	**77.73**	**322**	⇑iP	**P**	**05 33 54.5**	**+1.2**
N32A	**Stulken Farm,**	**77.74**	**45**	⇓P	**P**	**05 33 52.4**	**-1.1**
	baz=78,SNR=7.3						
Y22D	**IRIS PASSCAL I**	**77.75**	**55**	⇓P	**P**	**05 33 54.4**	**+0.7**
	baz=78						
LPM	**Los Pinos Moun**	**77.75**	**54**	eP	**P**	**05 33 54.4**	**+0.6**
	comp=Z,20nm,1.3s						
KAMT	**Kaman**	**77.79**	**313**	eP	**P**	**05 33 53.8**	**0.0**
EAB	**Aberfoyle**	**77.81**	**344**	⇑iP	**P**	**05 33 53.4**	**0.0**
KUZU	**Kuzuini**	**77.82**	**309**	iP	**P**	**05 33 54.3**	**+0.4**
L34A	**Svendsen Farm,**	**77.82**	**43**	⇑P	**P**	**05 33 53.0**	**-0.8**
	baz=78						
VRAC	**Vranov**	**77.87**	**329**	⇑iP	**P**	**05 33 54.9**	**+0.9**
CLZ	**Clausthal**	**77.89**	**334**	eP	**P**	**05 33 54.9**	**+0.8**
	comp=Z,476nm,1.4s						
ANTO	**Ankara**	**77.91**	**314**	eP	**P**	**05 33 55.4**	**+1.0**
ANTO				pmax	pmax		
	comp=Z,174nm,0.8s						
ANTO	**Ankara**	**77.91**	**314**	eP	**P**	**05 33 55.4**	**+1.0**
	comp=Z,174nm,0.8s						
EBL	**Broad Law**	**77.92**	**343**	⇑iP	**P**	**05 33 54.2**	**+0.1**
R29A	**Marienthal**	**77.95**	**48**	⇓P	**P**	**05 33 54.2**	**-0.5**
	baz=78,SNR=8.0						
NEUB	**Neuenburg**	**77.97**	**333**	eP	**P**	**05 33 54.8**	**+0.3**
	comp=Z,287nm,1.2s						
BBAL	**Bala**	**77.98**	**314**	iP	**P**	**05 33 55.5**	**+0.6**
KOZT	**Kozan**	**78.01**	**311**	eP	**P**	**05 33 56.2**	**+1.2**
SCHQ	**Schefferville**	**78.02**	**19**	P	**P**	**05 33 54.6**	**-0.1**
	comp=Z,51nm,0.8s,baz=352,slow=6.0,SNR=78						
SCHQ				LR	LR	06 10 11.5	
	comp=Z,517nm,21.4s,baz=332,slow=37						
SCHQ	**Schefferville**	**78.02**	**19**	eP	**P**	**05 33 54.3**	**-0.3**
	comp=Z,69nm,0.9s						
PRA	**Prague**	**78.02**	**331**	⇑iP	**P**	**05 33 55.6**	**+0.8**
PRA				epP	**pP**	**05 34 12.7**	**+0.8**
PRA				eS	**S**	**05 43 44.1**	**+0.7**
PRA				ex	x	05 44 01.9	
PRA				AMS	AMS	06 13 00.0	
	comp=Z,900nm,22.9s						
PRA	**Prague**	**78.02**	**331**	⇑iP	**P**	**05 33 55.6**	**+0.8**
PRA				e		05 34 12.7	
PRA				eS	**S**	**05 43 44.1**	**+0.7**
PRA				e		05 44 01.9	
PRA				MLR	MLR		
	comp=Z,900nm,22.9s						
GOPC	**GO Pecny, Ondr**	**78.03**	**331**	⇑iP	**P**	**05 33 55.4**	**+0.6**
GOPC				epP	**pP**	**05 34 09.7**	**-2.3**
GOPC				eS	**S**	**05 43 44.8**	**+1.3**
GOPC				eSKS	**SKSac**	**05 44 02.0**	**-1.4**
GOPC				AMS	AMS	06 08 00.0	
	comp=Z,900nm,23.6s						
Q30A	**Quinter**	**78.04**	**47**	⇓P	**P**	**05 33 54.4**	**-0.8**
	baz=78,SNR=10						
LOT	**Lotru**	**78.05**	**323**	eP	**P**	**05 33 55.1**	**0.0**
LOT	**Lotru**	**78.05**	**323**	⇑iP	**P**	**05 33 55.4**	**+0.2**
PRU	**Pruhonice**	**78.05**	**331**	⇑iP	**P**	**05 33 55.6**	**+0.7**
PRU				epP	**pP**	**05 34 12.9**	**+0.8**
PRU				ePP	**PP**	**05 36 51.5**	**+0.4**
PRU				eS	**S**	**05 43 45.3**	**+1.6**
PRU				AMS	AMS	06 07 40.0	
	comp=Z,300nm,22.5s						
PRU	**Pruhonice**	**78.05**	**331**	⇑iP	**P**	**05 33 55.6**	**+0.7**
PRU				e		05 34 12.9	
PRU				e		05 36 51.5	
PRU				eS	**S**	**05 43 45.3**	**+1.6**
PRU				MLR	MLR		
	comp=Z,300nm,22.5s						
PRU	**Pruhonice**	**78.05**	**331**	eP	**P**	**05 33 55.6**	**+0.7**
T27A	**Campo**	**78.06**	**50**	⇓P	**P**	**05 33 55.1**	**-0.3**
	baz=78,SNR=13						
M34A	**Aspy Farms, Fr**	**78.06**	**43**	⇑P	**P**	**05 33 54.6**	**-0.6**
	baz=78						
AFSR	**Af¯ar-Bala (A**	**78.08**	**314**	eP	**P**	**05 33 56.5**	**+1.1**
P31A	**Stockton**	**78.09**	**46**	⇓P	**P**	**05 33 54.4**	**-1.0**
	baz=78,SNR=8.8						
PRD	**Provadia**	**78.12**	**319**	iP	**P**	**05 33 56.4**	**+1.0**
O32A	**Brockman Farm,**	**78.12**	**45**	⇓P	**P**	**05 33 54.8**	**-0.8**
	baz=78,SNR=5.8						
S28A	**Manter**	**78.13**	**49**	⇓P	**P**	**05 33 55.5**	**-0.3**
	baz=78,SNR=23						
PGBU	**Glenifferbraes**	**78.19**	**344**	⇑eP	**P**	**05 33 55.9**	**+0.3**
PGBU				AMB	AMB	05 33 56.7	
	comp=Z,245nm,1.1s						
SMOL	**Smolenice**	**78.21**	**328**	eP	**P**	**05 33 56.8**	**+1.0**
SMOL	**Smolenice**	**78.21**	**328**	eP	**P**	**05 33 56.8**	**+1.0**
NIG	**Nigde**	**78.22**	**312**	eP	**P**	**05 33 57.8**	**+1.4**
TREC	**Trest**	**78.29**	**330**	⇑iP	**P**	**05 33 56.8**	**+0.5**
TREC				AMS	AMS	06 08 10.0	
	comp=Z,1μm,26.7s						
TREC	**Trest**	**78.29**	**330**	⇑iP	**P**	**05 33 56.8**	**+0.5**
IBBN	**Ibbenburen**	**78.29**	**336**	eP	**P**	**05 33 56.7**	**+0.5**
	comp=Z,327nm,1.3s						
121A	**Cookes Peak, D**	**78.30**	**56**	⇓P	**P**	**05 33 57.3**	**+0.5**
	baz=78,SNR=57						
121A	**Cookes Peak, D**	**78.30**	**56**	eP	**P**	**05 33 57.6**	**+0.7**
	comp=Z,74nm,1.1s						
BTAS	**Taskesti**	**78.33**	**316**	iP	**P**	**05 33 56.9**	**+0.2**

T28A	**Walsh**	**78.35**	**50**	⇓P	**P**	**05 33 56.5**	**-0.5**
	baz=78,SNR=9.7						
ESK	**Eskdalemuir**	**78.38**	**343**	⇑eP	**P**	**05 33 56.6**	**0.0**
ESK	**Eskdalemuir**	**78.38**	**343**	eP	**P**	**05 33 56.7**	**0.0**
ESK				pmax	pmax		
	comp=Z,91nm,0.8s						
ESK	**Eskdalemuir**	**78.38**	**343**	eP	**P**	**05 33 56.7**	**0.0**
	comp=Z,91nm,0.8s						
CEYT	**Ceyhan**	**78.39**	**310**	eP	**P**	**05 33 58.8**	**+1.8**
TANN	**Tannenbergstha**	**78.42**	**332**	eP	**P**	**05 33 57.6**	**+0.6**
	comp=Z,44nm,1.1s						
BUD	**Budapest**	**78.42**	**327**	⇑eP	**P**	**05 33 57.8**	**+0.8**
P32A	**Huiting Farm,**	**78.42**	**46**	⇓P	**P**	**05 33 56.1**	**-1.2**
	baz=78,SNR=43						
WERD	**Werda**	**78.44**	**332**	eP	**P**	**05 33 57.6**	**+0.5**
	comp=Z,61nm,0.9s						
U27A	**Thompson Grove**	**78.46**	**50**	⇑P	**P**	**05 33 57.5**	**-0.1**
	baz=78,SNR=29						
Q31A	**Ellis**	**78.46**	**47**	⇓P	**P**	**05 33 56.4**	**-1.1**
	baz=78,SNR=7.9						
PLN	**Plauen**	**78.46**	**332**	eP	**P**	**05 33 57.9**	**+0.7**
	comp=Z,93nm,1.2s						
ECK	**Cauldkaine Hil**	**78.49**	**343**	⇑iP	**P**	**05 33 57.3**	**+0.1**
GUNZ	**Gunzen**	**78.51**	**332**	eP	**P**	**05 33 58.0**	**+0.5**
	comp=Z,77nm,0.8s						
MOX	**Moxa**	**78.51**	**333**	eP	**P**	**05 33 58.0**	**+0.5**
	comp=Z,84nm,1.0s						
MOX				eL	L	06 12 13.4	
	comp=Z,391nm,21.3s						
R30A	**Dighton**	**78.52**	**48**	⇑P	**P**	**05 33 56.9**	**-0.9**
	baz=78,SNR=8.4						
GZR	**Gura Zlata**	**78.53**	**323**	⇑iP	**P**	**05 33 58.1**	**+0.4**
LCP	**Cassop**	**78.54**	**342**	⇑eP	**P**	**05 33 57.5**	**0.0**
S29A	**Ulysses**	**78.54**	**49**	⇑P	**P**	**05 33 57.4**	**-0.6**
	baz=78,SNR=5.4						
WERN	**Wernitzgruen**	**78.56**	**332**	eP	**P**	**05 33 58.3**	**+0.5**
	comp=Z,80nm,0.8s						
SILT	**Sile**	**78.58**	**317**	eP	**P**	**05 33 58.9**	**+0.9**
NKC	**Novy Kostel**	**78.58**	**332**	⇑iP	**P**	**05 33 58.0**	**+0.1**
NKC	**Novy Kostel**	**78.58**	**332**	⇑iP	**P**	**05 33 58.0**	**+0.1**
KARA	**Karaisali**	**78.59**	**311**	eP	**P**	**05 33 58.6**	**+0.5**
N34A	**Lincoln**	**78.60**	**44**	⇓P	**P**	**05 33 57.1**	**-1.0**
	baz=78,SNR=5.8						
TAHT	**Tahtakopru-Hat**	**78.60**	**310**	eP	**P**	**05 33 59.7**	**+1.4**
O33A	**Hebron**	**78.62**	**45**	⇑P	**P**	**05 33 57.1**	**-1.2**
	baz=78,SNR=6.8						
GULT	**Gulveren**	**78.67**	**316**	eP	**P**	**05 33 59.5**	**+0.9**
PKS7	**Kunszentmiklos**	**78.72**	**326**	⇓eP	**P**	**05 33 59.8**	**+1.2**
PKSG		**78.75**	**327**	⇓eP	**P**	**05 34 00.0**	**+1.2**
SZH	**Strazhica**	**78.76**	**320**	iP	**P**	**05 33 59.3**	**+0.3**
T29A	**Hugoton**	**78.78**	**49**	⇓P	**P**	**05 33 58.7**	**-0.6**
	baz=78						
KLYT	**Kilyos**	**78.80**	**317**	eP	**P**	**05 33 59.9**	**+0.7**
HRT	**Hereke**	**78.81**	**316**	eP	**P**	**05 33 59.9**	**+0.5**
CSKK	**Csˆ‡kako**	**78.82**	**327**	⇓eP	**P**	**05 34 00.2**	**+1.0**
U28A	**Mallet**	**78.82**	**50**	⇑P	**P**	**05 33 59.2**	**-0.4**
	baz=79,SNR=11						
BZS	**Buzias**	**78.85**	**324**	eP	**P**	**05 33 59.2**	**-0.2**
BZS	**Buzias**	**78.85**	**324**	⇑iP	**P**	**05 33 59.4**	**0.0**
WTSB	**Winterswijk**	**78.88**	**336**	eP	**P**	**05 33 59.6**	**+0.2**
	comp=Z,202nm,1.0s						
S30A	**Montezuma**	**78.88**	**48**	⇓P	**P**	**05 33 59.4**	**-0.5**
	baz=79,SNR=7.7						
SVRH	**Sivrihisar-ESK**	**78.89**	**314**	eP	**P**	**05 34 00.4**	**+0.5**
UBBA	**Unterbreizbach**	**78.89**	**334**	eP	**P**	**05 34 00.0**	**+0.6**
	comp=Z,70nm,1.1s						
YAYL	**Yayladag**	**78.89**	**309**	iP	**P**	**05 33 58.9**	**-1.1**
MANZ	**Manzenberg**	**78.90**	**332**	eP	**P**	**05 34 00.1**	**+0.4**
	comp=Z,66nm,1.0s						
Q32A	**Meitler Ranch,**	**78.91**	**46**	⇑P	**P**	**05 33 59.0**	**-0.9**
	baz=79,SNR=16						
KRTS	**Karatas**	**78.91**	**310**	eP	**P**	**05 34 01.9**	**+2.0**
R31A	**Burdett**	**78.92**	**47**	⇓P	**P**	**05 33 59.1**	**-0.9**
	baz=79,SNR=15						
V27A	**Dan Oppiter Fa**	**78.93**	**51**	⇑P	**P**	**05 34 00.1**	**-0.1**
	baz=79						
ISK	**Istanbul-Kandi**	**78.93**	**317**	eP	**P**	**05 34 00.7**	**+0.8**
GCD	**Castle Douglas**	**78.96**	**343**	⇑iP	**P**	**05 33 59.8**	**0.0**
BGKT	**Bogazkoy**	**78.99**	**317**	eP	**P**	**05 34 00.3**	**0.0**
PKST	**T˜'s**	**79.00**	**327**	eP	**P**	**05 34 00.6**	**+0.4**
N35A	**Tabor**	**79.01**	**43**	⇓P	**P**	**05 34 00.1**	**-0.3**
	baz=79,SNR=12						
P33A	**Williams Farm,**	**79.03**	**45**	⇓P	**P**	**05 33 59.7**	**-0.9**
	baz=79						
KESW	**Keswick, Cumbr**	**79.04**	**343**	⇑iP	**P**	**05 34 00.8**	**+0.5**
KESW				AMB	AMB	05 34 02.2	
	comp=Z,250nm,1.2s						
ROTZ	**Rotzenmuhle**	**79.06**	**332**	eP	**P**	**05 34 01.5**	**+1.0**
	comp=Z,107nm,1.2s						
BUY	**Buyukada**	**79.06**	**317**	iP	**P**	**05 34 01.0**	**+0.4**
ADVT	**Abdulvahap**	**79.07**	**316**	eP	**P**	**05 34 01.4**	**+0.7**
JMB	**Yambol**	**79.07**	**319**	⇑iP	**P**	**05 34 01.5**	**+0.8**
JMB	**Yambol**	**79.07**	**319**	iP	**P**	**05 34 01.4**	**+0.8**
KHC	**Kasperske Hory**	**79.11**	**331**	⇑iP	**P**	**05 34 01.4**	**+0.5**
KHC				epP	**pP**	**05 34 18.4**	**+0.3**
KHC				ex	x	05 44 20.5	
KHC				AMS	AMS	06 09 40.0	
	comp=Z,1μm,22.6s						
KHC	**Kasperske Hory**	**79.11**	**331**	eP	**P**	**05 34 01.3**	**+0.4**
KHC				pmax	pmax		
	comp=Z,48nm,0.8s						
KHC	**Kasperske Hory**	**79.11**	**331**	eP	**P**	**05 34 01.3**	**+0.4**
KHC	**Kasperske Hory**	**79.11**	**331**	eP	**P**	**05 34 01.3**	**+0.4**
	comp=Z,48nm,0.8s						
BORA	**Eskisehir**	**79.12**	**315**	iP	**P**	**05 34 01.1**	**0.0**
GAL1	**Galloway**	**79.12**	**344**	⇑iP	**P**	**05 34 00.5**	**-0.2**
GAL1				AMB	AMB	05 34 02.8	
	comp=Z,110nm,1.0s						
KIZT	**Kizilcal**	**79.12**	**314**	eP	**P**	**05 34 01.9**	**+0.7**
PKS2	**Kecel**	**79.15**	**326**	⇓eP	**P**	**05 34 01.8**	**+0.8**
MERS	**Mersin**	**79.17**	**311**	eP	**P**	**05 34 02.2**	**+0.8**
ELBA	**Catalca**	**79.18**	**317**	iP	P	05 34 05.4	+4.1
SEYT	**Eskypehyr**	**79.18**	**315**	iP	**P**	**05 34 01.5**	**0.0**
CAVI	**Cavuskoy**	**79.19**	**316**	eP	**P**	**05 34 02.2**	**+0.8**
BUG	**Bochum--Univer**	**79.20**	**336**	eP	**P**	**05 34 01.5**	**+0.3**
	comp=Z,226nm,1.2s						
SOP	**Sopron**	**79.22**	**328**	⇑eP	**P**	**05 34 02.5**	**+1.1**
SLVT	**Silivri**	**79.23**	**318**	eP	**P**	**05 34 02.8**	**+1.2**
RAO	**Raoul Island**	**79.24**	**149**	LR	LR	06 01 16.6	
	comp=Z,376nm,21.1s,baz=68,slow=30						
R32A	**Long Quarter,**	**79.25**	**47**	⇓P	**P**	**05 34 00.6**	**-1.2**
	baz=79,SNR=8.1						
PHSR	**Pinarhisar**	**79.26**	**318**	eP	**P**	**05 34 02.4**	**+0.7**
KDHN	**Kadinhani**	**79.26**	**313**	iP	**P**	**05 34 01.3**	**-0.7**
IZI	**Iznik**	**79.27**	**316**	eP	**P**	**05 34 03.0**	**+1.0**
T30A	**Plains**	**79.28**	**49**	⇓P	**P**	**05 34 01.5**	**-0.5**
	baz=79						
V28A	**Channing**	**79.28**	**51**	⇑P	**P**	**05 34 01.9**	**-0.2**
	baz=79,SNR=7.4						
CONA	**Conrad Observa**	**79.28**	**329**	iP	**P**	**05 34 02.8**	**+0.9**
	comp=Z,102nm,1.2s,SNR=64						
Q33A	**Connelly Farm,**	**79.29**	**46**	⇓P	**P**	**05 34 00.9**	**-1.0**
	baz=79,SNR=43						
HPK	**Haverah Park**	**79.29**	**342**	⇑iP	**P**	**05 34 02.0**	**+0.4**
HPK				AMB	AMB	05 34 02.9	
	comp=Z,260nm,0.9s						
U29A	**Oasis Ranch, S**	**79.30**	**50**	⇓P	**P**	**05 34 02.0**	**-0.2**
	baz=79						
GEC2	**GERESS Array S**	**79.31**	**331**	eP	**P**	**05 34 02.4**	**+0.4**
	comp=Z,54nm,1.0s						
GERES	**GERESS Array B**	**79.31**	**331**	P	**P**	**05 34 02.0**	**0.0**
	comp=Z,26nm,0.8s,baz=33,slow=5.1,SNR=195						
GERES				LR	LR	06 13 49.3	
	comp=Z,512nm,18.6s,baz=32,slow=39						
O35A	**Humboldt**	**79.33**	**44**	⇑P	**P**	**05 34 01.0**	**-1.1**
	baz=79						
WET	**Wettzell**	**79.35**	**331**	eP	**P**	**05 34 03.0**	**+0.9**
	comp=Z,118nm,1.0s						
LADK	**Ladik-KONYA**	**79.37**	**313**	eP	**P**	**05 34 02.7**	**+0.1**
P34A	**Walnut Farm, R**	**79.40**	**45**	⇑P	**P**	**05 34 01.6**	**-0.9**
	baz=79,SNR=21						
ARMT	**Armutlu**	**79.41**	**317**	eP	**P**	**05 34 03.1**	**+0.5**
SCIA	**State Center**	**79.41**	**41**	eP	**P**	**05 34 02.4**	**-0.2**
	comp=Z,54nm,0.6s						
S31A	**Mullinville**	**79.43**	**48**	⇑P	**P**	**05 34 02.0**	**-0.7**
	baz=79,SNR=13						
PKS9	**Tamasi**	**79.45**	**327**	⇓eP	**P**	**05 34 03.0**	**+0.4**
GRF	**Grafenberg Arr**	**79.45**	**332**	eP	**P**	**05 34 03.5**	**+0.8**
	comp=Z,183nm,0.9s						
GRF				eL	L	06 10 51.2	
	comp=Z,420nm,22.0s						
GRFO	**Grafenberg**	**79.45**	**332**	eP	**P**	**05 34 02.9**	**+0.2**
GRFO				pmax	pmax		
	comp=Z,184nm,1.0s						
GRFO	**Grafenberg**	**79.45**	**332**	eP	**P**	**05 34 02.9**	**+0.2**

comp=Z,184nm,1.0s
EDRB Edirne 79.47 319 *e*P P 05 34 03.1 +0.2
KONT Konya--Tatoy 79.56 313 *e*P P 05 34 03.9 +0.4
V29A Stinnett 79.58 50 ⇑P P 05 34 03.5 -0.2
baz=79
U30A WK&E Inc. Balk 79.59 49 ⇓P P 05 34 03.3 -0.5
baz=79,SNR=5.6
PKSM Moragy 79.61 326⇑*e*P P 05 34 03.3 -0.2
W28A Vega 79.64 51 ⇑P P 05 34 04.5 +0.4
baz=79,SNR=8.8
KIZK Mersin 79.66 311 *i* P P 05 34 03.5 -0.5
S32A Newby Ranch, P 79.66 47 ⇑P P 05 34 03.1 -1.0
baz=79,SNR=19
MPEP Malo Peshtene 79.70 322 *i* P P 05 34 04.9 +0.8
T31A Randall Ranch, 79.71 48 ⇑P P 05 34 03.5 -0.8
baz=79,SNR=10
R33A Olander Ranch, 79.72 46 ⇓P P 05 34 03.4 -1.0
baz=80,SNR=15
BOLV Bolvadin 79.73 314 *i* P P 05 34 05.1 +0.6
LHO Holmfirth 79.73 342⇑*i*P P 05 34 04.2 +0.1
Q34A Chapman 79.81 45 ⇑P P 05 34 03.8 -1.0
baz=80,SNR=12
P35A Duane Minner, 79.83 44 ⇑P P 05 34 03.6 -1.3
baz=80,SNR=5.8
KSU1 Kansas State U 79.84 45 ⇑P P 05 34 04.1 -0.8
baz=80,SNR=9.4
KSU1 Kansas State U 79.84 45 *e*P P 05 34 03.8 -1.2
comp=Z,26nm,0.6s
DIM Dimitrovgrad 79.89 320 *i* P P 05 34 06.3 +1.2
TNS Taunus Mts 79.90 334 *e*P P 05 34 05.6 +0.5
comp=Z,187nm,1.5s
O36A Bolckow 79.90 43 ⇓P P 05 34 04.6 -0.6
baz=80,SNR=15
ALT Altintas 79.91 315 *e*P P 05 34 05.9 +0.4
MOA Molln 79.94 330 *i* P P 05 34 05.9 +0.5
comp=Z,37nm,0.8s,SNR=25
GMM Mts of Mourne 79.96 344⇑*i*P P 05 34 05.1 -0.1
JFWS Jewell Farm 80.01 39 *e*P P 05 34 04.4 -1.4
JFWS pmax pmax
comp=Z,7.0nm,0.5s
JFWS Jewell Farm 80.01 39 *e*P P 05 34 04.4 -1.4
comp=Z,7.2nm,0.5s
T32A Huddler Ranch, 80.05 48 ⇓P P 05 34 05.8 -0.4
baz=80,SNR=14
W29A Amarillo 80.06 51 ⇑P P 05 34 06.2 -0.1
baz=80,SNR=5.8
EDC Edincik 80.07 317 *e*P P 05 34 06.3 +0.1
R34A Isabella, Hill 80.11 46 ⇑P P 05 34 05.4 -1.0
baz=80,SNR=7.7
V30A Spur Ranch, Mi 80.13 50 ⇓P P 05 34 06.7 0.0
baz=80
PGB Panagyurishte 80.14 321 *i* P P 05 34 07.4 +0.9
BEHE Becsehely 80.14 327⇑*e*P P 05 34 06.7 +0.3
SART Tekirdag 80.14 318 *i* P P 05 34 06.3 -0.4
U31A Nine Bar Ranch 80.14 49 ⇑P P 05 34 07.1 +0.4
baz=80,SNR=15
RKY Sarkoy-Tekirda 80.15 318 *e*P P 05 34 07.5 +0.9
P36A Good Intent, A 80.17 44 ⇓P P 05 34 05.8 -0.9
baz=80,SNR=12
X28A Dimmitt 80.18 51 ⇓P P 05 34 07.0 0.0
baz=80,SNR=7.8
HGN Heimansgroeve 80.20 336 *e*P P 05 34 06.6 0.0
comp=Z,174nm,1.2s
HGN Heimansgroeve 80.20 336 *e*S S 05 44 08.3 +1.8
GDZ Gediz 80.21 315 *i* P P 05 34 07.5 +0.4
AMTX Amarillo 80.21 51 ⇑P P 05 34 07.0 -0.1
baz=80
AMTX Amarillo 80.21 51 *e*P P 05 34 07.3 +0.1
comp=Z,26nm,1.0s
HDMB Hadim 80.21 312 *e*P P 05 34 07.4 +0.2
ERMK Ermenek 80.22 312 *i* P P 05 34 05.9 -1.4
STNC Stoke 80.23 342⇑*e*P P 05 34 07.2 +0.4
STNC AMB AMB 05 34 08.0
comp=Z,142nm,1.4s
S33A Kaszmaul Farm, 80.24 47 ⇓P P 05 34 06.6 -0.6
baz=80,SNR=6.2
BEBN Eben Emael 80.24 336 P P 05 34 06.8 0.0
comp=Z,56nm,1.3s
HWQ Hawqa 80.25 308 *e*P P 05 34 07.6 +0.2
MSTX Muleshoe 80.25 52 ⇑P P 05 34 06.2 -1.1
baz=80,SNR=17
MSTX Muleshoe 80.25 52 *e*P P 05 34 06.8 -0.6
comp=Z,46nm,1.2s
KDZ Kurdzhali 80.25 320⇑*i*P P 05 34 08.4 +1.3
KDZ Kurdzhali 80.25 320 *i* P P 05 34 08.3 +1.2
CPRX Cap Rock 80.28 54 *e*P P 05 34 08.0 +0.4
comp=Z,1.8nm,0.6s
MEM Membach 80.31 336 P P 05 34 07.1 -0.1
comp=Z,80nm,1.5s
KRBG Karabiga-Canak 80.31 318 *e*P P 05 34 07.9 +0.5
Q35A Mercer Eighty, 80.32 45 ⇓P P 05 34 06.6 -0.9
baz=80,SNR=18
DURS Dursunbey 80.33 316 *i* P P 05 34 07.1 -0.5
MNTX Cornudas Mount 80.33 55 ⇓P P 05 34 08.3 +0.5
baz=80,SNR=110
MNTX Cornudas Mount 80.33 55 *e*P P 05 34 08.1 +0.4
comp=Z,63nm,0.9s
EREN Erenkoy 80.34 310 *e*P P 05 34 08.5 +0.8
KOGS Kog 80.36 328 *e*P P 05 34 07.4 -0.2
WME Myndd Eilian 80.41 343⇑*i*P P 05 34 07.6 -0.1
WPM1 Penmaenmawr 80.45 343⇑*i*P P 05 34 08.1 +0.2
ERIK Erikli-Kesan 80.48 318 *e*P P 05 34 09.2 +0.9
T33A Patterson Ranc 80.49 47 ⇓P P 05 34 07.8 -0.7
baz=80
X29A Tulia 80.52 51 ⇑P P 05 34 09.1 +0.3
baz=80,SNR=14
WLF1 Llynfaes 80.53 343⇑*i*P P 05 34 08.2 -0.1
WLF1 AMB AMB 05 34 11.1
comp=Z,79nm,1.3s
ALN Alexandroupoli 80.53 319 *e*P P 05 34 09.1 +0.5
Q36A Arnold C. Orve 80.54 44 ⇓P P 05 34 07.5 -1.1
baz=80,SNR=9.7
VTS Vitosha 80.54 321⇑*i*P P 05 34 09.4 +0.6
VTS Vitosha 80.54 321 *i* P P 05 34 09.6 +0.8
RZN Rozhen 80.55 320 *i* P P 05 34 09.9 +0.9
RJOB Jochberg 80.57 331 *e*P P 05 34 09.4 +0.6
comp=Z,85nm,1.1s
V31A Spring Creek L 80.59 49 ⇑P P 05 34 09.3 +0.3
baz=80,SNR=10
Y28A McKinney Farm, 80.59 52 ⇓P P 05 34 09.2 0.0
baz=80,SNR=11
LPK Lapseki 80.59 318 *e*P P 05 34 10.0 +1.1
U32A Winter Ranch, 80.60 48 ⇑P P 05 34 09.2 0.0
baz=80,SNR=6.7
ENEZ Enez 80.61 318 *e*P P 05 34 10.0 +1.0
ISP Isparta 80.62 314 *e*P P 05 34 09.0 -0.3
ISP pmax pmax
comp=Z,43nm,0.6s
ISP Isparta 80.62 314⇑*i*P P 05 34 09.1 -0.3
ISP Isparta 80.62 314 *e*P P 05 34 09.0 -0.3
comp=Z,43nm,0.6s
YLL Llanberis 80.62 343⇑*e*P P 05 34 08.9 0.0
S34A Willow Spring 80.63 46 ⇑P P 05 34 08.4 -0.8
baz=80,SNR=5.4
SOKA Soboth 80.64 329 *i* P P 05 34 09.4 +0.3
comp=Z,93nm,0.8s,SNR=95
PERS Pernice 80.64 329 *i* P P 05 34 09.3 +0.2
FOEL Foel Wylfa 80.64 342⇑*i*P P 05 34 09.4 +0.5
FOEL AMB AMB 05 34 10.3
comp=Z,236nm,1.0s
R35A Emporia Munici 80.64 45 ⇑P P 05 34 09.2 0.0
baz=80,SNR=6.9
BALY Balya 80.65 317 *i* P P 05 34 08.8 -0.5
BHL Bhannes 80.68 308 *e*P P 05 34 10.3 +0.6
BCLA Clavier 80.69 336 P P 05 34 09.1 -0.1
comp=Z,62nm,1.4s
GELI Tayfur-Gelibol 80.71 318 *e*P P 05 34 10.4 +0.8
FUR Furstenfeldbru 80.74 332 *e*P P 05 34 10.3 +0.7
DIVS Divibare 80.76 324⇑*i*P P 05 34 09.8 -0.1
YRE Yr Eifl 80.82 343⇑*i*P P 05 34 10.0 +0.1
GAZI Gazipasa 80.84 312 *i* P P 05 34 09.0 -1.4
RCY Rachaya 80.87 308 *e*P P 05 34 11.6 +0.8
DQRL Deir Qamar 80.88 308 *e*P P 05 34 11.6 +0.9
RAR Rarotonga 80.88 131 LR LR 06 09 08.1
comp=Z,153nm,18.7s,baz=268,slow=35
SNF Seneffe 80.90 337 P P 05 34 10.3 -0.1
HLM1 Long Mynd 80.91 342⇑*i*P P 05 34 10.6 +0.1
HLM1 AMB AMB 05 34 11.5
comp=Z,96nm,1.3s
STU Stuttgart 80.92 333 *e*P P 05 34 10.9 +0.3
comp=Z,153nm,1.1s
STU Stuttgart 80.92 333 *e*P P 05 34 10.6 0.0
STU pmax pmax
comp=Z,139nm,1.1s
STU Stuttgart 80.92 333 *e*P P 05 34 10.6 0.0
comp=Z,139nm,1.1s
GLMI Grayling 80.92 34 *e*P P 05 34 10.6 -0.1
comp=Z,222nm,1.3s
KBA Koelnbreinsper 80.93 330 *i* P P 05 34 11.1 +0.2
comp=Z,90nm,0.7s,SNR=78
Y29A Porterfield Fa 80.96 52 ⇓P P 05 34 11.5 +0.4
baz=81,SNR=7.6
Z28A Tucker Farm, M 80.96 52 ⇑P P 05 34 11.4 +0.2
baz=81,SNR=14
OBKA Obir 80.96 329 *i* P P 05 34 10.9 0.0
comp=Z,43nm,0.8s,SNR=20
W31A Holland Ranch, 80.96 50 ⇓P P 05 34 11.3 +0.2
baz=81,SNR=18
DSB Dublin 80.98 344 *e*P P 05 34 10.8 +0.1
comp=Z,71nm,1.1s
X30A Coker Ranch, T 80.98 51 ⇑P P 05 34 11.0 -0.2
baz=81,SNR=8.1
R36A Gordon, Harris 81.00 45 ⇓P P 05 34 10.6 -0.5
baz=81,SNR=46
U33A Lingo Farm, Me 81.04 48 ⇑P P 05 34 11.5 0.0
baz=81,SNR=19
S35A Otter Creek Ra 81.06 46 ⇓P P 05 34 11.5 0.0
baz=81,SNR=19
KULA Kula-Manisa 81.06 316 *e*P P 05 34 11.9 +0.4
V32A Arapaho 81.06 49 ⇓P P 05 34 12.8 +1.2
baz=81,SNR=6.5
MMB Musomiste 81.09 320⇑*i*P P 05 34 12.4 +0.8
MMB Musomiste 81.09 320 *i* P P 05 34 12.5 +0.8
T34A McClaskey Farm 81.10 47 ⇓P P 05 34 11.4 -0.3
baz=81,SNR=23
WLF Walferdange 81.10 335 P P 05 34 11.8 +0.4
comp=Z,74nm,1.9s
WLF Walferdange 81.10 335 *e*P P 05 34 12.6 +1.1
comp=Z,187nm,1.7s
WLF Walferdange 81.10 335 *e*P P 05 34 11.6 +0.1
WLF pmax pmax
comp=Z,263nm,1.8s
WLF Walferdange 81.10 335 *e*P P 05 34 11.6 +0.1
comp=Z,263nm,1.8s
Q37A Longview Farm, 81.11 44 ⇓P P 05 34 11.1 -0.6
baz=81,SNR=13
MANT Manisa 81.13 316 *i* P P 05 34 12.7 +0.6
GADA Gvkgeada 81.15 318 *e*P P 05 34 12.4 +0.5
KKB Krupnik 81.17 321 *i* P P 05 34 12.8 +0.8
DOU Dourbes 81.18 336 P P 05 34 11.7 -0.2
comp=Z,40nm,1.8s
ELSH Elham, Standar 81.19 339⇑*e*P P 05 34 11.6 -0.3
ELSH AMB AMB 05 34 12.9
comp=Z,240nm,1.0s
LANF Langenberg 81.19 334⇑*e*P P 05 34 12.3 +0.3
MYKA Terra Mystica 81.20 329 *i* P P 05 34 11.9 -0.3
baz=81,SNR=36,1.0s,SNR=36
AKHS Akhisar 81.21 316 *i* P P 05 34 12.0 -0.3
AKS Akhisar 81.21 316 *e*P P 05 34 12.8 +0.5
CSS Prodhromos 81.22 310 *e*P P 05 34 12.7 +0.3
CSS Prodhromos 81.22 310 *e*P P 05 34 12.8 +0.4
comp=Z,21nm,0.8s
EZN Ezine 81.23 318 *e*P P 05 34 12.3 0.0
KORT Korkueli 81.33 314 *i* P P 05 34 12.3 -0.7
BOZC Bozcaada 81.35 318 *i* P P 05 34 12.6 -0.4
WATA Waterdim 81.35 331⇑*i*P P 05 34 13.3 +0.3
comp=Z,180nm,1.2s,SNR=27
X31A McDonald Ranch 81.35 50 ⇓P P 05 34 13.6 +0.4
baz=81,SNR=19
U34A Anderson Ranch 81.35 47 ⇓P P 05 34 12.9 -0.2
baz=81,SNR=31
U34A Anderson Ranch 81.35 47 *e*P P 05 34 12.9 -0.2
comp=Z,106nm,1.0s
LEF Lefka 81.35 311 *e*P P 05 34 11.9 -1.1
R37A Teagarden Farm 81.35 44 ⇓P P 05 34 12.4 -0.7
baz=81,SNR=8.8
LJU Ljubljana 81.36 329 *i* P P 05 34 12.6 -0.3
Z29A Hungry Hill Ra 81.37 52 ⇓P P 05 34 13.6 +0.3
baz=81,SNR=40
128A Castleberry Fa 81.38 53 ⇑P P 05 34 13.8 +0.4
baz=81,SNR=56
Y30A Stafford Cattl 81.39 51 ⇓P P 05 34 13.4 0.0
baz=81,SNR=6.3
WTTA Wattenberg 81.39 331 *i* P P 05 34 13.7 +0.5
comp=Z,78nm,0.7s,SNR=36
W32A Sentinel 81.39 49 ⇑P P 05 34 13.9 +0.5
baz=81,SNR=20
V33A Lossen Ranch, 81.40 48 ⇓P P 05 34 13.3 0.0
baz=81,SNR=5.5
S36A Lake Cedric, C 81.41 45 ⇑P P 05 34 13.0 -0.3
baz=81,SNR=26
MCH1 Michaelchurch 81.42 342⇑*e*P P 05 34 13.3 +0.2
MCH1 AMB AMB 05 34 14.2
comp=Z,142nm,1.1s
STRD Stroud 81.44 341⇑*i*P P 05 34 13.5 +0.3
STRD AMB AMB 05 34 15.0
comp=Z,295nm,1.8s
MENF Mencas 81.45 338⇑*e*P P 05 34 13.3 0.0
CADS Cadrg 81.50 329 *i* P P 05 34 12.5 -1.2
RETA Reutte 81.50 332 *i* P P 05 34 14.1 +0.3
comp=Z,145nm,1.5s,SNR=58
MOTA Moosalm 81.51 331 *i* P P 05 34 14.0 +0.2
comp=Z,110nm,0.9s,SNR=70
ABTA Abfaltersbach 81.51 330 *i* P P 05 34 13.2 -0.7
comp=Z,44nm,1.1s,SNR=27
MONM Monmouth 81.53 341⇑*i*P P 05 34 13.9 +0.3
MONM AMB AMB 05 34 15.5
comp=Z,193nm,1.7s
T35A Sooner Cattle 81.53 46 ⇓P P 05 34 14.0 0.0
baz=81,SNR=31
LPW Lampeter 81.56 342⇑*i*P P 05 34 13.9 +0.1
LPW AMB AMB 05 34 14.9
comp=Z,144nm,1.4s
GOLH Golhisar 81.56 314 *i* P P 05 34 14.3 0.0
BFO Black Forest 81.59 333 *e*P P 05 34 14.5 +0.4
comp=Z,237nm,1.8s
BFO Black Forest 81.59 333 *e*P P 05 34 13.9 -0.2
BFO pmax pmax
comp=Z,88nm,1.1s
BFO Black Forest 81.59 333 *e*P P 05 34 13.9 -0.2
comp=Z,88nm,1.1s
SWN1 Swindon 81.59 341⇑*i*P P 05 34 14.4 +0.4
SWN1 AMB AMB 05 34 15.4
comp=Z,360nm,1.0s
OLDB Oldbury-Upon-S 81.63 341⇑*i*P P 05 34 14.4 +0.1
OLDB AMB AMB 05 34 15.0
comp=Z,101nm,1.7s
PLE Pljevlja 81.64 324⇑*i*P P 05 34 15.2 +0.6
WOL Wolverton 81.64 340⇑*i*P P 05 34 14.4 +0.1
WOL AMB AMB 05 34 15.1
comp=Z,207nm,0.9s
HMNX Herstmonceux 81.66 339⇑*i*P P 05 34 15.2 +0.9
HMNX AMB AMB 05 34 16.0
comp=Z,388nm,1.0s
Y31A Rekieta Farm, 81.68 51 ⇑P P 05 34 14.6 -0.3
baz=81,SNR=12
Z30A Sanderson Ranc 81.68 52 ⇓P P 05 34 14.8 -0.2
baz=81,SNR=17
228A UT Block 9, Go 81.69 53 ⇓P P 05 34 15.3 +0.2
baz=81,SNR=29
129A Stewart Farms, 81.74 53 ⇑P P 05 34 15.2 -0.1
baz=82,SNR=14
T36A Boggs Farm, Ca 81.76 46 ⇑P P 05 34 14.9 -0.3
baz=82,SNR=29
BATH Bath 81.78 341⇑*i*P P 05 34 14.5 -0.5
BATH AMB AMB 05 34 15.9
comp=Z,138nm,1.5s
IVA Berane 81.79 324⇑*i*P P 05 34 15.9 +0.5
W33A Caddo, Fort Co 81.80 49 ⇓P P 05 34 15.5 0.0
baz=82,SNR=14
V34A Guthrie 81.81 48 ⇓P P 05 34 15.4 -0.1
baz=82,SNR=8.6
V34A Guthrie 81.81 48 *e*P P 05 34 15.4 -0.1
comp=Z,106nm,1.4s
KNT Kendrikon 81.81 321 P P 05 34 15.3 -0.2
SKO Skopje 81.83 322⇑*e*P P 05 34 17.0 +1.5
VAY Valandovo 81.84 321⇑*e*P P 05 34 16.7 +1.2
IZM Izmir 81.86 316 *e*P P 05 34 16.3 +0.5
MMLI Mount Malkishu 81.88 307 P P 05 34 16.7 +0.7
AYDB Zeytinkoy-Aydi 81.89 316 *e*P P 05 34 16.9 +0.9
X32A Elmer 81.89 50 ⇓P P 05 34 16.0 0.0
baz=82,SNR=12
RAYN Ar Rayn 81.89 295 *e*P P 05 34 16.6 +0.4
comp=Z,63nm,1.0s
FETA Feichten 81.92 331 *i* P P 05 34 16.3 +0.3
comp=Z,74nm,1.2s,SNR=38
TRI Trieste 81.93 329 *e*P P 05 34 14.8 -1.1
TRI pmax pmax
comp=Z,17nm,0.7s
TRI Trieste 81.93 329 *e*P P 05 34 14.8 -1.1
comp=Z,17nm,0.7s
SIGR SIGRI 81.93 318 *e*P P 05 34 16.6 +0.6
WMOK Wichita Mounta 81.94 49 *e*P P 05 34 15.2 -1.0
WMOK pmax pmax
comp=Z,54nm,1.3s
WMOK Wichita Mounta 81.94 49 *e*P P 05 34 15.2 -1.0
comp=Z,54nm,1.3s
UPM Unac-Piva 81.94 324⇑*i*P P 05 34 15.9 -0.4
OUR Ouranopolis 81.96 320 *e*P P 05 34 16.4 +0.2
BLCB Balcova 81.98 316 *e*P P 05 34 15.5 -0.8
DAVA Damuels 81.98 332 *i* P P 05 34 16.5 +0.1
comp=Z,122nm,1.3s,SNR=54
PVY Plav 81.98 323⇑*i*P P 05 34 16.5 0.0
ECH Echery 82.07 334⇑*e*P P 05 34 16.4 -0.2
ECH Echery 82.07 334 *e*P P 05 34 16.4 -0.2
ECH pmax pmax
comp=Z,90nm,1.1s
ECH Echery 82.07 334 *e*P P 05 34 16.4 -0.2
comp=Z,90nm,1.1s
AYDN Tasoluk 82.11 315 *i* P P 05 34 17.9 +0.8
Y32A R-V Farms, Ver 82.11 50 ⇑P P 05 34 16.9 -0.2
baz=82
W34A Bridge Creek, 82.12 48 ⇑P P 05 34 17.5 +0.3
baz=82,SNR=7.4
W34A Bridge Creek, 82.12 48 *e*P P 05 34 17.1 -0.1
comp=Z,66nm,1.2s
UDBI Udbina 82.14 327 P P 05 34 16.7 -0.5
HORT Hortiatis 82.17 320 *e*P P 05 34 17.7 +0.3
GRG Griva 82.20 321 *e*P P 05 34 16.2 -1.3
T37A Cheneyville 18 82.21 45 ⇑P P 05 34 17.3 -0.3
baz=82,SNR=26
Z31A Sharp Cattle R 82.22 51 ⇑P P 05 34 17.5 -0.2
baz=82,SNR=12
V35A Meyer Ranch, C 82.23 47 ⇓P P 05 34 17.4 -0.3
baz=82,SNR=9.9
X33A Lawton 82.24 49 ⇑P P 05 34 17.4 -0.3
baz=82,SNR=7.1
229A Bryant Ranch, 82.25 53 ⇑P P 05 34 18.5 +0.5
baz=82,SNR=26
FETY Fethiye 82.27 314 *e*P P 05 34 17.9 0.0
NKME Niksic 82.28 324⇑*i*P P 05 34 17.4 -0.5
130A Snyder 82.28 52 ⇓P P 05 34 18.3 +0.2
baz=82,SNR=5.7
AKAS Kas 82.30 313 *i* P P 05 34 16.7 -1.5
YER Yerkesik 82.30 315 *e*P P 05 34 19.3 +1.1
HDIL Hopedale 82.31 40 *e*P P 05 34 17.5 -0.6
comp=Z,94nm,0.8s
TURN Turunc 82.34 315 *i* P P 05 34 20.5 +2.3
BRY Bratogost 82.34 324⇑*i*P P 05 34 17.7 -0.7
ZEY ˜zmir 82.36 317 *i* P P 05 34 17.9 -0.4
MOF Molkenrain 82.40 334⇑*e*P P 05 34 18.3 -0.2
GCAM G?zelcaml? 82.41 316 *i* P P 05 34 18.1 -0.4
TTG Podgorica 82.42 324⇑*i*P P 05 34 18.5 0.0
THEF They Montfort 82.43 335⇑*e*P P 05 34 18.3 -0.2
NVLJ Novalja 82.47 328 P P 05 34 17.7 -1.1
CHOS Chios island 82.47 317 *e*P P 05 34 18.9 -0.1
HEX Exmoor 82.48 342⇑*i*P P 05 34 18.9 +0.3
329A Wagon Wheel Ra 82.50 53 ⇓P P 05 34 19.5 +0.2
baz=82,SNR=60
131A Roby 82.55 52 ⇑P P 05 34 19.1 -0.4
baz=82
X34A Smith Ranch, M 82.56 49 ⇓P P 05 34 19.8 +0.3
baz=82,SNR=24
Y33A Hilltop Ranch, 82.56 50 ⇑P P 05 34 19.3 -0.1
baz=82,SNR=17
Z32A Haskell 82.61 51 ⇓P P 05 34 19.7 0.0
baz=82,SNR=15
DRME Dracevica, Mon 82.65 324⇑*i*P P 05 34 19.9 +0.1
W35A Tecumseh 82.67 48 ⇓P P 05 34 20.1 +0.1
baz=82,SNR=21
TUL1 Leonard 82.67 47 ⇓P P 05 34 19.9 -0.2
baz=82,SNR=22
TUL1 Leonard 82.67 47 *e*P P 05 34 19.8 -0.2
comp=Z,97nm,1.2s
BUM Brajici-Budva 82.68 324⇑*i*P P 05 34 19.7 -0.3
HTL Hartland 82.70 342⇑*i*P P 05 34 19.8 0.0
HTL AMB AMB 05 34 21.0
comp=Z,186nm,1.4s
230A Sterling City 82.71 53 ⇓P P 05 34 20.6 +0.3
baz=82,SNR=36
STON Ston 82.72 325 P P 05 34 19.1 -1.0
HCY Herceg Novi 82.73 324⇑*i*P P 05 34 19.5 -0.7
BDRM Kayabasi 82.79 315 *i* P P 05 34 20.1 -0.5
ULC Ulcinj 82.81 323⇑*i*P P 05 34 20.2 -0.4
OHR Ohrid 82.81 322⇑*e*P P 05 34 19.7 -1.0
FNA Florina 82.81 321 P P 05 34 20.1 -0.6
BODT Bodrum 82.86 315 *e*P P 05 34 21.1 +0.1
TUE Stuetta 82.87 332 *e*P P 05 34 21.2 +0.1
comp=Z,56nm,0.9s
AOS Alonnisos 82.92 319 *e*P P 05 34 20.3 -1.0
LOMF Lomont 82.94 334⇑*e*P P 05 34 21.1 -0.2
VAL Balentia 82.95 346⇑*i*P P 05 34 21.8 +0.7
DAT Datca 82.98 315 *e*P P 05 34 20.4 -1.3
ABTX Abilene, Hawle 83.02 51 ⇓P P 05 34 21.7 -0.2
baz=83,SNR=16
ABTX Abilene, Hawle 83.02 51 *e*P P 05 34 21.7 -0.2
comp=Z,124nm,1.5s
Z33A Whitaker Ranch 83.02 50 ⇑P P 05 34 21.6 -0.3
baz=83,SNR=9.2
W36A Wetumka 83.03 47 ⇓P P 05 34 21.7 -0.2
baz=83,SNR=24
330A Mertzon 83.03 53 ⇓P P 05 34 21.7 -0.3
baz=83,SNR=50
TIR Tirane 83.03 323 *e*P P 05 34 21.7 -0.1
TIR pmax pmax
comp=Z,415nm,1.2s
TIR Tirane 83.03 323 *e*P P 05 34 21.7 -0.1
comp=Z,415nm,1.2s
TXAR Lajitas Array 83.05 56 P P 05 34 22.5 +0.3
comp=Z,54nm,0.8s,baz=298,slow=4.0,SNR=671
TXAR PKKPbc **PKKPbc** 05 52 44.2 +2.7
comp=Z,1.1nm,0.9s,baz=148,slow=5.9,SNR=10
TXAR PKPPKP P'P'df 06 00 43.7 -8.2
comp=Z,0.8nm,1.2s,baz=130,slow=3.9,SNR=3.4
TXAR LR LR 06 07 15.1
comp=Z,114nm,21.7s,baz=0.0,slow=33
Y34A Reagan Ranch, 83.08 49 ⇓P P 05 34 22.1 -0.1
baz=83,SNR=11
DYA Yadsworthy 83.10 342⇑*i*P P 05 34 21.8 -0.1
DYA AMB AMB 05 34 23.4
comp=Z,233nm,1.4s
231A Bronte 83.14 52 ⇑P P 05 34 22.7 +0.1
baz=83,SNR=20
429A Davenport Ranc 83.18 54 ⇑P P 05 34 22.8 0.0
baz=83,SNR=38
X35A Drake 83.18 48 ⇑P P 05 34 22.2 -0.4
baz=83,SNR=29
PMOR Pomariorio Ree 83.24 118 *e*T T 07 06 14.6
comp=Z,138nm,0.2s
529A Stev Forest Ra 83.35 55 ⇓P P 05 34 23.9 +0.2
baz=83,SNR=98
SLM Saint Louis 83.38 41 *e*P P 05 34 22.9 -0.7
SLM pmax pmax
comp=Z,22nm,0.5s
SLM Saint Louis 83.38 41 *e*P P 05 34 22.9 -0.7
comp=Z,22nm,0.5s
X36A Centrahoma 83.39 48 ⇓P P 05 34 23.5 -0.2
baz=83,SNR=25
AAM Ann Arbor 83.39 35 *e*P P 05 34 23.1 -0.5
AAM pmax pmax
comp=Z,29nm,0.7s
AAM Ann Arbor 83.39 35 *e*P P 05 34 23.1 -0.5
comp=Z,29nm,0.7s
Z34A Collier Ranch, 83.43 50 ⇓P P 05 34 23.7 -0.2
baz=83
133A Hamilton Ranch 83.44 51 ⇑P P 05 34 24.0 0.0
baz=83,SNR=14
430A Baggett Ranch, 83.45 53 ⇑P P 05 34 24.3 +0.1
baz=83,SNR=65
W37A Quinton 83.45 47 ⇑P P 05 34 24.3 +0.2
baz=83,SNR=45
SFIN Lafayette 83.46 38 ⇑P P 05 34 23.5 -0.5
baz=83,SNR=16
SFIN Lafayette 83.46 38 *e*P P 05 34 23.2 -0.7
comp=Z,46nm,1.0s
331A San Angelo 83.53 53 ⇓P P 05 34 24.4 -0.1
baz=83,SNR=29
232A Coleman 83.56 52 ⇓P P 05 34 24.8 +0.1
baz=83,SNR=38
KZIT Kziot 83.59 307 P P 05 34 25.4 +0.6
CCA1 Carnmenellis 83.62 342⇑*e*P P 05 34 24.4 -0.2
CCA1 AMB AMB 05 34 26.2
comp=Z,174nm,1.8s
APE Apeiranthos 83.75 317⇑*i*P P 05 34 24.5 -1.1
AGG Agios Georgios 83.77 320 *e*P P 05 34 22.5 -3.1
Z35A Perchaven, San 83.83 49 ⇑P P 05 34 25.6 -0.4
baz=84,SNR=14

JSA **Saint Aubin** 83.84 340⇑ *i*P P 05 34 25.7 0.0
JSA AMB AMB 05 34 26.7
comp=Z,213nm,1.2s
530A **J-C Ranch, Com** 83.85 54 ⇓P P 05 34 26.4 +0.2
baz=84,SNR=84
HRFI **Mount Harif** 83.85 306 P P 05 34 26.6 +0.4
332A **Millersview** 83.88 52 ⇓P P 05 34 26.6 +0.3
baz=84,SNR=54
OG01 **Vacheresse** 83.88 333⇑ *e*P P 05 34 26.3 +0.1
233A **Rising Star** 83.89 51 ⇑P P 05 34 26.3 -0.1
baz=84,SNR=28
431A **Sonora** 83.89 53 ⇑P P 05 34 26.4 -0.1
baz=84,SNR=56
X37A **Clayton** 83.90 47 ⇓P P 05 34 26.0 -0.3
baz=84,SNR=17
134A **White-Moore Ra** 83.94 50 ⇑P P 05 34 26.6 +0.1
baz=84,SNR=6.4
TAOE **Nuku Hiva Isla** 83.98 108 *e*T T 07 07 11.5
comp=Z,120nm,0.3s
W38A **Poteau** 83.98 46 ⇑P P 05 34 26.7 -0.1
baz=84,SNR=39
PPT **Papeete** 84.08 121 LR LR 06 09 36.0
comp=Z,356nm,18.6s,baz=332,slow=34
PPT2 **Papeete2** 84.10 121 *e*S S 05 44 55.2 +7.9
comp=Z,218nm,26.2s
PPT2 **Papeete2** 84.10 121 *e*LR LR 06 00 43.8
comp=Z,4µm,32.0s,baz=316
PPT2 **Papeete2** 84.10 121 *e*T T 07 07 20.1
comp=Z,10nm,0.3s
PAE **Paea** 84.15 121 *e*T T 07 07 23.3
comp=Z,2.3nm,0.4s
EIL **Elat** 84.17 306 *e*P P 05 34 28.5 +0.7
EIL **Elat** 84.17 306 LR LR 06 15 20.8
comp=Z,165nm,20.6s,baz=62,slow=38
432A **Menard** 84.22 52 ⇑P P 05 34 28.0 -0.1
baz=84,SNR=73
TIAR **Tiarei** 84.22 121 *e*T T 07 07 28.5
comp=Z,7.9nm,0.3s
IGT **Igoumenitsa** 84.29 321 P P 05 34 27.9 -0.3
531A **Rocksprings** 84.31 53 ⇓P P 05 34 28.6 0.0
baz=84,SNR=61
OLIL **Olney** 84.32 40 *e*P P 05 34 27.8 -0.6
comp=Z,58nm,1.0s
135A **Vickery Place,** 84.32 50 ⇑P P 05 34 28.6 +0.1
baz=84,SNR=11
234A **Clairette** 84.33 51 ⇓P P 05 34 28.6 0.0
baz=84,SNR=27
SANT **Santorini** 84.33 316 *e*P P 05 34 26.6 -1.9
comp=Z,401nm,1.8s
333A **Richland Sprin** 84.35 52 ⇑P P 05 34 28.4 -0.3
baz=84,SNR=47
RSL **Roselend** 84.47 333⇑ *e*P P 05 34 29.3 +0.1
VLC **Villacollemand** 84.50 330 *e*P P 05 34 29.2 -0.1
comp=Z,141nm,1.3s
JCT **Junction City** 84.51 53 *e*P P 05 34 29.4 -0.2
JCT pmax pmax
comp=Z,87nm,0.9s
JCT **Junction City** 84.51 53 ⇑P P 05 34 29.5 0.0
baz=84,SNR=33
JCT **Junction City** 84.51 53 *e*P P 05 34 29.4 -0.2
comp=Z,87nm,0.9s
SIUC **Southern Illin** 84.60 41 *e*P P 05 34 29.5 -0.3
comp=Z,121nm,0.8s
BLO **Bloomington** 84.69 39 *e*P P 05 34 30.0 -0.3
BLO pmax pmax
comp=Z,16nm,0.6s
BLO **Bloomington** 84.69 39 *e*P P 05 34 30.0 -0.3
comp=Z,16nm,0.6s
532A **Rocksprings** 84.71 53 ⇓P P 05 34 30.4 -0.2
baz=84,SNR=104
433A **Art** 84.71 52 ⇑P P 05 34 30.4 -0.1
baz=84,SNR=27
WHTX **Lake Whitney,** 84.72 50 ⇑P P 05 34 30.4 -0.1
baz=84,SNR=30
WHTX **Lake Whitney,** 84.72 50 *e*P P 05 34 30.5 -0.1
comp=Z,183nm,1.4s
334A **Lometa** 84.77 51 ⇓P P 05 34 30.8 0.0
baz=84,SNR=69
Z37A **Pogue Cattle C** 84.82 48 ⇑P P 05 34 31.1 +0.1
baz=85,SNR=18
631A **Perdido Creek** 84.84 54 ⇓P P 05 34 31.4 +0.2
baz=85,SNR=165
MIAR **Mount Ida** 84.89 46 *e*P P 05 34 31.1 -0.2
MIAR pmax pmax
comp=Z,76nm,0.9s
MIAR **Mount Ida** 84.89 46 *e*P P 05 34 31.1 -0.2
comp=Z,76nm,0.9s
LONY **Lake Ozonia** 84.90 28 *e*P P 05 34 29.9 -1.3
comp=Z,56nm,1.8s
AQU **L'Aquila** 84.90 327 *e*P P 05 34 31.8 +0.4
AQU pmax pmax
comp=Z,82nm,0.8s
AQU **L'Aquila** 84.90 327 *e*P P 05 34 31.8 +0.4
comp=Z,82nm,0.8s
BNI **Bardonecchia** 85.01 333 *e*P P 05 34 32.0 +0.1
BNI pmax pmax
comp=Z,57nm,1.2s
BNI **Bardonecchia** 85.01 333 *e*P P 05 34 32.0 +0.1
comp=Z,57nm,1.2s
GDM **Grand'Maison** 85.06 333⇑ *e*P P 05 34 32.8 +0.6
OG22 **Abries** 85.13 333⇑ *e*P P 05 34 32.5 -0.1
Z38A **Mt. Pleasant** 85.13 48 ⇑P P 05 34 32.5 0.0
baz=85,SNR=9.7
434A **Burnet** 85.14 52 ⇑P P 05 34 32.4 -0.3
baz=85,SNR=35
PQI **Presque Isle** 85.14 23 *e*P P 05 34 31.3 -1.0
comp=Z,36nm,1.2s
GRN **Grenoble** 85.15 334⇑ *e*P P 05 34 33.3 +0.7
236A **Katherine and** 85.23 50 ⇓P P 05 34 32.9 -0.2
baz=85,SNR=7.7
632A **Uvalde** 85.23 53 ⇑P P 05 34 33.4 +0.2
baz=85,SNR=29
AGO **Saint Agoulin** 85.25 336⇑ *e*P P 05 34 33.7 +0.8
533A **Kerrville** 85.25 53 ⇑P P 05 34 33.4 +0.1
baz=85,SNR=22
MEH **Mehetia** 85.26 120 *e*T T 07 08 46.6
comp=Z,39nm,0.2s
335A **Moody** 85.27 51 ⇓P P 05 34 33.5 +0.2
baz=85,SNR=10
ALLY **Alegheny Colle** 85.38 33 *e*P P 05 34 33.3 -0.4
comp=Z,61nm,0.8s
ACSO **Alum Creek Sta** 85.39 36 *e*P P 05 34 33.4 -0.3
comp=Z,40nm,0.8s
SURF **Saint Ours** 85.47 332⇑ *e*P P 05 34 34.6 +0.3
SSB **Saint Sauveur** 85.50 334⇑ *e*P P 05 34 34.6 +0.3
SSB **Saint Sauveur** 85.50 334 *e*P P 05 34 34.5 +0.3
SSB pmax pmax
comp=Z,87nm,1.2s
SSB **Saint Sauveur** 85.50 334 *e*P P 05 34 34.5 +0.2
comp=Z,87nm,1.2s
336A **Riesel** 85.52 50 ⇑P P 05 34 35.0 +0.5
baz=85
138A **Matatall Enter** 85.52 48 ⇑P P 05 34 35.2 +0.7
baz=85,SNR=9.9
435B **Jarrell** 85.55 51 ⇓P P 05 34 34.8 0.0
baz=85
COLF **Collangettes** 85.56 335⇑ *e*P P 05 34 35.1 +0.6
PYM **Petit Puy Mans** 85.56 335⇑ *e*P P 05 34 35.3 +0.7
WCI **Wyandotte Cave** 85.56 39 *e*P P 05 34 34.3 -0.4
WCI pmax pmax
comp=Z,60nm,1.1s
WCI **Wyandotte Cave** 85.56 39 *e*P P 05 34 34.3 -0.4
comp=Z,60nm,1.1s
Z39A **Irene McRaven,** 85.56 47 ⇓P P 05 34 35.1 +0.4
baz=85
HBAR **Harrisburg** 85.60 44 *e*P P 05 34 35.4 +0.6
534A **Blanco** 85.61 52 ⇑P P 05 34 34.7 -0.3
baz=85,SNR=57
633A **Saathoff Ranch** 85.63 53 ⇓P P 05 34 35.4 +0.3
baz=85,SNR=29
237A **Washetta, Mont** 85.63 49 ⇓P P 05 34 35.2 +0.1
baz=85
SAOF **Saorge** 85.66 332⇑ *e*P P 05 34 34.5 -0.5
AUTN **L'Aution** 85.69 332⇑ *e*P P 05 34 35.4 -0.1
732A **Laxson Ranch,** 85.70 54 ⇑P P 05 34 35.9 +0.4
baz=86,SNR=32
TOUF **Mont Tournerai** 85.74 332⇑ *e*P P 05 34 35.2 -0.4
URZ **Urewera** 85.83 157 LR LR 06 05 01.6
comp=Z,254nm,21.2s,baz=5.0,slow=30
MVIF **Mont Vial** 85.87 332⇑ *e*P P 05 34 35.8 -0.5
139A **Bunkhouse Ranc** 85.88 48 ⇓P P 05 34 36.6 +0.3
baz=86
OG26 **St.-Nazaire-De** 85.89 333⇑ *e*P P 05 34 37.0 +0.8
CUC **Castrocucco** 85.90 324 *e*P P 05 34 34.0 -2.3
comp=Z,11nm,0.8s
MDV **Middlebury** 85.92 28 *e*P P 05 34 35.2 -1.0
comp=Z,47µm,0.6s

REVF **Revere** 85.94 332⇑ *e*P P 05 34 36.0 -0.5
LBL **Lubilhac** 85.95 335⇑ *e*P P 05 34 37.4 +0.9
HALT **Halls** 85.97 43 *e*P P 05 34 36.6 -0.1
238A **Jacksonville** 86.00 49 ⇓P P 05 34 37.8 +0.9
baz=86,SNR=9.9
436A **Wall Ranch, Ga** 86.01 51 ⇓P P 05 34 37.6 +0.7
baz=86,SNR=17
832A **Faith Ranch, C** 86.03 54 ⇑P P 05 34 37.6 +0.5
baz=86,SNR=23
PKME **Peaks-Kenny Pk** 86.04 25 *e*P P 05 34 36.6 -0.2
comp=Z,28nm,1.1s
CALN **Calern** 86.09 332⇑ *e*P P 05 34 37.1 -0.2
337A **Centerville** 86.11 50 ⇑P P 05 34 38.3 +0.9
baz=86,SNR=7.6
733A **Divot King Ran** 86.11 54 ⇓P P 05 34 37.9 +0.4
baz=86,SNR=7.6
535A **Dale** 86.13 52 ⇓P P 05 34 37.9 +0.3
baz=86,SNR=9.5
634A **China Grove, S** 86.16 53 ⇑P P 05 34 38.5 +0.8
baz=86
TIP **Timpagrande** 86.17 323 *e*P P 05 34 37.5 -0.3
comp=Z,94nm,1.4s
GVD **Gavdhos** 86.23 316 *e*P P 05 34 37.6 -0.3
comp=Z,304nm,1.1s
ACCN **Adirondack Com** 86.30 28 *e*P P 05 34 37.5 -0.7
comp=Z,25nm,1.0s
437A **Phantom Ranch,** 86.33 50 ⇑P P 05 34 39.5 +1.0
baz=86
833A **Chaparral WMA,** 86.34 54 ⇑P P 05 34 39.1 +0.5
baz=86
239A **Gary** 86.35 48 ⇓P P 05 34 39.1 +0.5
baz=86,SNR=8.0
536A **Bastrop** 86.38 51 ⇑P P 05 34 39.2 +0.4
baz=86,SNR=16
338A **Crockett** 86.39 49 ⇓P P 05 34 39.8 +1.0
baz=86,SNR=10
734A **La Parita Cree** 86.44 53 ⇑P P 05 34 40.0 +0.9
baz=86,SNR=0.0
NATX **Nacogdoches** 86.44 49 ⇓P P 05 34 40.0 +0.9
baz=86,SNR=11
NATX **Nacogdoches** 86.44 49 *e*P P 05 34 39.9 +0.8
comp=Z,206nm,1.2s
635A **Leesville** 86.49 52 ⇑P P 05 34 39.9 +0.5
baz=86,SNR=6.5
BINY **Binghamton** 86.51 30 *e*P P 05 34 38.1 -1.2
comp=Z,66nm,1.5s
WVL **Waterville** 86.56 25 *e*P P 05 34 39.1 -0.3
comp=Z,70nm,1.5s
438A **Sam Houston St** 86.76 50 ⇓P P 05 34 41.6 +0.9
baz=86,SNR=8.2
537A **Green Hill Far** 86.80 51 ⇓P P 05 34 41.7 +0.8
baz=87,SNR=5.4
339A **Huntington** 86.83 49 ⇑P P 05 34 41.4 +0.5
baz=87
636A **Smothers Creek** 86.83 52 ⇓P P 05 34 42.3 +1.3
baz=87,SNR=28
735A **Kenedy** 86.87 53 ⇑P P 05 34 42.5 +1.3
baz=87,SNR=12
TRY **Troy** 86.87 29 *e*P P 05 34 40.7 -0.3
comp=Z,14nm,1.0s
FFD **Franklin Falls** 86.90 27 *e*P P 05 34 41.6 +0.5
comp=Z,15nm,0.9s
933A **Laredo** 86.94 54 ⇑P P 05 34 42.5 +0.9
baz=87,SNR=8.2
834A **Tilden** 86.98 53 ⇓P P 05 34 43.3 +1.5
baz=87
OXF **Oxford** 87.05 43 *e*P P 05 34 41.5 -0.5
OXF pmax pmax
comp=Z,202nm,1.3s
OXF **Oxford** 87.05 43 *e*P P 05 34 41.5 -0.5
comp=Z,202nm,1.3s
EMMW **East Machias** 87.09 24 *e*P P 05 34 41.6 -0.4
comp=Z,99nm,1.6s
439A **Center Grove,** 87.12 49 ⇓P P 05 34 43.2 +0.8
baz=87
340A **Bronson** 87.12 48 ⇑P P 05 34 42.6 +0.2
baz=87
SSPA **Standing Stone** 87.13 32 *e*P P 05 34 42.0 -0.3
comp=Z,62nm,1.2s
538A **Harpers Horsep** 87.16 50 ⇑P P 05 34 43.4 +0.9
baz=87
HKT **Hockley** 87.17 50 *e*P P 05 34 42.6 0.0
HKT pmax pmax
comp=Z,43nm,1.5s
HKT **Hockley** 87.17 50 *e*P P 05 34 42.6 0.0
comp=Z,43nm,1.5s
736A **Circle Diamond** 87.22 52 ⇓P P 05 34 44.4 +1.5
baz=87,SNR=25
637A **Eagle Lake** 87.28 51 ⇓P P 05 34 44.7 +1.6
baz=87
835A **Beeville** 87.28 53 ⇑P P 05 34 44.2 +1.0
baz=87
CEL **Celeste** 87.31 323 *e*P P 05 34 42.2 -1.1
comp=Z,49nm,1.2s
934A **Benavides** 87.39 54 ⇓P P 05 34 44.5 +0.8
baz=87
440A **Kirbyville** 87.60 49 ⇑P P 05 34 44.7 0.0
baz=87
539A **Cross D Ranch,** 87.67 50 ⇑P P 05 34 46.0 +0.9
baz=87
034A **Hebbronville** 87.70 54 ⇓P P 05 34 46.7 +1.4
baz=88,SNR=12
737A **Port Lavaca** 87.72 52 ⇓P P 05 34 46.1 +0.7
baz=88
540A **Vidor** 88.00 49 ⇓P P 05 34 47.3 +0.7
baz=88
738A **Farr-Stevens R** 88.12 51 ⇑P P 05 34 46.6 -0.5
baz=88
035A **Encino** 88.13 54 ⇑P P 05 34 47.0 -0.3
baz=88
LRDF **Laroque-de-Fa** 88.24 335⇑ *e*P P 05 34 48.5 +0.9
CPNY **Central Park** 88.47 30 *e*P P 05 34 48.5 -0.2
comp=Z,64nm,1.4s
TBI **Tubuai** 88.50 124 *e*S S 05 45 33.0 +3.2
comp=Z,276nm,26.5s
TBI **Tubuai** 88.50 124 *e*LR LR 06 02 32.0
comp=Z,1µm,33.5s,baz=321
TBI **Tubuai** 88.50 124 *e*T T 07 12 49.3
comp=Z,15nm,0.3s
035Z **Hargill** 88.51 54 ⇓P P 05 34 49.4 +0.3
baz=88
FILF **Fillols** 88.58 334⇑ *e*P P 05 34 49.7 +0.5
CARF **Carcanieres** 88.58 335⇑ *e*P P 05 34 49.6 +0.3
SDMD **Soldier's Deli** 88.60 32 *e*P P 05 34 48.7 -0.6
comp=Z,322nm,1.8s
MLS **Moulis** 88.67 336⇑ *e*P P 05 34 50.2 +0.6
TKL **Tuckaleechee C** 88.82 39 *e*P P 05 34 50.1 -0.3
TKL **Tuckaleechee C** 88.82 39 *e*P P 05 34 50.1 -0.3
MELF **Melles** 88.84 336 *e*P P 05 34 50.3 -0.2
DAMY **Dhamar** 88.86 289 *e*P P 05 34 52.8 +1.6
comp=Z,65nm,1.4s
LABF **Labassere** 88.89 336⇑ *e*P P 05 34 50.3 -0.4
VALF **Valcebollere** 88.89 335⇑ *e*P P 05 34 51.5 +0.7
BLA **Blacksburg** 89.01 36 *e*P P 05 34 50.9 -0.4
BLA pmax pmax
comp=Z,33nm,0.8s
BLA **Blacksburg** 89.01 36 *e*P P 05 34 50.9 -0.4
comp=Z,33nm,0.8s
RESF **Ens** 89.03 336⇑ *e*P P 05 34 52.3 +0.9
VIEF **Viey** 89.05 336⇑ *e*P P 05 34 52.3 +0.8
ATE **Arette** 89.08 337⇑ *e*P P 05 34 51.8 +0.3
LARF **Larrau** 89.20 337⇑ *e*P P 05 34 52.7 +0.6
CBN **Corbin Frederi** 89.42 33 *e*P P 05 34 53.5 +0.3
comp=Z,19nm,0.6s
LRAL **Lakeview Retre** 89.43 43 *e*P P 05 34 52.4 -0.9
comp=Z,15nm,1.0s
RPZ **Rata Peaks** 89.43 163 LR LR 06 10 13.7
comp=Z,383nm,20.1s,baz=344,slow=32
KMSC **Kings Mountain** 90.35 38 ⇓P P 05 34 57.4 -0.2
baz=90,SNR=14
KMSC **Kings Mountain** 90.35 38 *e*P P 05 34 57.0 -0.6
comp=Z,60nm,1.4s
PBRG **Braganca** 91.88 341 *e*P P 05 35 03.5 -1.1
PBRG **Braganca** 91.88 341 *e*P P 05 35 03.5 -1.1
PGAV **Gavieira, Arco** 92.08 342 *e*LR LR 06 09 12.6
comp=Z,220nm,18.0s
PGAV **Gavieira, Arco** 92.08 342 *e*LR LR 06 09 12.6
comp=Z,220nm,18.0s
CMAH **Djebel Manchou** 92.17 328 P P 05 35 04.9 -1.2
KEST **Kesra** 92.20 327 P P 05 35 05.7 -0.5
comp=Z,7.5nm,0.8s,baz=310,slow=1.5,SNR=26
KEST LR LR 06 22 36.9
comp=Z,165nm,19.0s,baz=340,slow=39
TIGA **Tifton** 92.39 41 ⇑P P 05 35 06.4 -0.6
baz=92
ABSA **Djebel Ababsia** 92.46 328 P P 05 35 06.5 -1.0
POLO **Lamas de Olo** 92.53 341 *e*P P 05 35 06.8 -0.9
comp=Z,18nm,1.1s
POLO **Lamas de Olo** 92.53 341 *e*P P 05 35 06.8 -0.9
comp=Z,18nm,1.1s
MVO **Moncorvo** 92.55 341 *e*P P 05 35 06.7 -1.1
comp=Z,30nm,1.3s
MVO **Moncorvo** 92.55 341 *e*LR LR 06 09 45.5
comp=Z,381nm,22.0s
MVO **Moncorvo** 92.55 341 *e*P P 05 35 06.7 -1.1
comp=Z,30nm,1.3s
MVO **Moncorvo** 92.55 341 *e*LR LR 06 09 45.5
comp=Z,381nm,22.0s
PVRL **Vila Real** 92.61 341 *e*P P 05 35 07.1 -0.9
PVRL **Vila Real** 92.61 341 *e*P P 05 35 07.1 -0.9
CKFL **Kef-Lekhel** 92.64 329 P P 05 35 06.9 -1.4
CASM **Ain Smara** 92.85 329 P P 05 35 08.0 -1.2
CTEI **Djebel Teioual** 93.05 329 P P 05 35 11.0 +0.8
ESDC **Sonseca Array** 93.16 338 P P 05 35 10.0 -0.6
comp=Z,11nm,0.7s,baz=19,slow=3.8,SNR=74
ESDC LR LR 06 23 39.4
comp=Z,251nm,19.1s,baz=10.0,slow=40
ESLA **Sonseca Array** 93.16 338 *e*P P 05 35 10.0 -0.6
comp=Z,16nm,1.3s
PVIS **Viseu** 93.18 341 *e*P P 05 35 09.6 -1.1
PVIS **Viseu** 93.18 341 *e*P P 05 35 09.6 -1.1
SET **Setif** 93.31 330 P P 05 35 13.0 +1.6
PAB **San Pablo** 93.38 338 *e*P P 05 35 11.0 -0.6
PAB pmax pmax
comp=Z,39nm,1.4s
PAB **San Pablo** 93.38 338 *e*P P 05 35 11.0 -0.6
comp=Z,39nm,1.4s
MTE **Manteigas** 93.40 341 *e*P P 05 35 10.8 -0.9
comp=Z,28nm,1.3s
MTE **Manteigas** 93.40 341 *e*LR LR 06 10 38.6
comp=Z,346nm,20.0s
MTE **Manteigas** 93.40 341 *e*P P 05 35 10.8 -0.9
comp=Z,28nm,1.3s
MTE **Manteigas** 93.40 341 *e*LR LR 06 10 38.6
comp=Z,346nm,20.0s
CKHR **Kef el Ahmar** 93.43 329 P P 05 35 12.0 0.0
PMRV **Marv??o** 94.28 340 *e*P P 05 35 14.5 -1.2
comp=Z,21nm,1.3s
PMRV **Marv??o** 94.28 340 *e*LR LR 06 11 06.4
comp=Z,274nm,18.0s
PMRV **Marv??o** 94.28 340 *e*P P 05 35 14.5 -1.2
comp=Z,21nm,1.3s
PMRV **Marv??o** 94.28 340 *e*LR LR 06 11 06.4
comp=Z,274nm,18.0s
PESTR **Estremoz** 94.86 340 *e*P P 05 35 17.1 -1.2
comp=Z,26nm,1.5s
PESTR **Estremoz** 94.86 340 *e*P P 05 35 17.1 -1.2
comp=Z,26nm,1.5s
EVO **Evora** 95.28 340 *e*P P 05 35 19.4 -0.9
comp=Z,24nm,1.5s
EVO **Evora** 95.28 340 *e*P P 05 35 19.4 -0.9
comp=Z,24nm,1.5s
PBAR **Barrancos** 95.38 340 *e*P P 05 35 19.6 -1.1
comp=Z,49nm,1.6s
PBAR **Barrancos** 95.38 340 *e*P P 05 35 19.6 -1.1
comp=Z,49nm,1.6s
MESJ **Messejana** 95.99 340 *e*P P 05 35 22.8 -0.7
comp=Z,34nm,1.4s
MESJ **Messejana** 95.99 340 *e*P P 05 35 22.8 -0.7
comp=Z,34nm,1.4s
PVAQ **Vaqueiros** 96.28 340 *e*P P 05 35 23.1 -1.7
PVAQ **Vaqueiros** 96.28 340 *e*LR LR 06 11 59.2
comp=Z,437nm,20.0s
PVAQ **Vaqueiros** 96.28 340 *e*P P 05 35 23.1 -1.7
PVAQ **Vaqueiros** 96.28 340 *e*LR LR 06 11 59.2
comp=Z,437nm,20.0s
PTEO **Sao Teotonio** 96.39 341 *e*P P 05 35 24.6 -0.7
PTEO **Sao Teotonio** 96.39 341 *e*P P 05 35 24.6 -0.7
RKT **Rikitea** 97.51 115 *e*LR LR 06 06 48.2
comp=Z,2µm,35.2s,baz=308
TORD **Torodi Ar. Bea** 115.29 322 PKP **PKPdf** 05 40 37.0 -1.1
comp=Z,1.1nm,0.5s,baz=20,slow=2.1,SNR=16
TORD PP PP 05 41 31.2 -7.3
comp=Z,4.6nm,0.8s,baz=23,slow=8.3,SNR=8.8
SDV **Santo Domingo** 117.82 43 *e*PKPdf **PKPdf** 05 40 42.0 -1.3
ROSC **El Rosal** 119.30 49 PKP **PKPdf** 05 40 46.1 -0.3
comp=Z,5.7nm,0.8s,baz=280,slow=6.6,SNR=4.7
VNDA **Vanda** 121.03 176 PKP **PKPdf** 05 40 46.9 -0.3
comp=Z,2.7nm,0.8s,baz=322,slow=3.7,SNR=15
VNDA PKKPbc **PKKPbc** 05 50 51.5 +0.1
comp=Z,3.0nm,1.0s,baz=187,slow=2.4,SNR=9.0
DBIC **Dimbokro** 123.91 325 PKP **PKPdf** 05 40 53.4 -1.2
comp=Z,12nm,0.9s,baz=347,slow=0.3,SNR=9.2
TIC **Toumodi** 124.00 326 *e*PKP1 **PKPdf** 05 40 53.2 -1.7
KIC **Kosan Boka** 124.14 325 *e*PKP1 **PKPdf** 05 40 54.0 -1.1
comp=Z,35nm,1.0s
LIC **Lamto** 124.38 325 *e*PKP1 **PKPdf** 05 40 54.3 -1.3
comp=Z,41nm,1.3s
MAW **Mawson** 127.09 209 PKP **PKPdf** 05 40 58.9 -0.1
comp=Z,8.5nm,0.8s,baz=353,slow=3.0,SNR=14
MAW **Mawson** 127.09 209 PKP **PKPdf** 05 40 58.9 -0.1
MAW *e*PKPdf **PKiKP** 05 40 59.6 +0.1
TSUM **Tsumeb** 131.23 283 PKP **PKPdf** 05 41 08.2 -0.3
comp=Z,5.2nm,0.9s,baz=16,slow=2.9,SNR=7.0
BOSA **Boshof** 131.40 268 PKP **PKPdf** 05 41 08.4 -0.2
comp=Z,5.9nm,0.8s,baz=290,slow=1.6,SNR=6.0
BOSA PP **PP** 05 43 26.9 -1.3
comp=Z,14nm,1.0s,baz=50,slow=5.5,SNR=8.7
QSPA **South Pole Qui** 133.16 180 *e*PKPdf **PKPdf** 05 41 10.6 0.0
SAML **Samuel** 136.84 46 *e*PKPdf **PKPdf** 05 41 18.6 -0.5
LPAZ **La Paz** 139.88 59 PKhKP PKPpre 05 41 16.2
comp=Z,2.2nm,0.8s,baz=289,slow=3.6,SNR=11
LPAZ SKP 05 44 55.3
comp=Z,3.6nm,1.0s,baz=322,slow=6.0,SNR=4.3
LPAZ **La Paz** 139.88 59 PKPpre PKPpre 05 41 16.2
LPAZ *e*PKPpre PKPpre 05 41 16.8
LPAZ *e*PKPdf **PKPdf** 05 41 25.8 +0.5
LPAZ SKP 05 44 55.3
RCBR **Riachuelo** 142.48 4 PKhKP PKPpre 05 41 23.7
comp=Z,15nm,0.8s,baz=30,slow=2.4,SNR=5.2
LVC **Limon Verde** 143.96 66 PKP PKPbc 05 41 30.7 +0.6
comp=Z,50nm,0.8s,baz=277,slow=3.9,SNR=12
LVC **Limon Verde** 143.96 66 PKP PKPbc 05 41 30.7 +0.6
LVC *e*PKPdf **PKPdf** 05 41 30.9 -1.1
NVL **N'lazarevskaya** 144.77 204 *e*PKIKP **PKPab** 05 41 28.6 -2.1
NVL pmax pmax
comp=Z,32nm,0.9s
LCO **Las Campanas** 146.81 77 *e*PKPdf **PKPdf** 05 41 37.6 +0.9
SNAA **Sanae** 148.06 198 P PKPpre 05 41 33.1
SNAA **Sanae** 148.06 198 PKP **PKPdf** 05 41 36.8 -0.5
comp=Z,18nm,1.1s,baz=166,slow=2.1,SNR=6.7
SNAA PKPbc **PKPbc** 05 41 40.5 0.0
comp=Z,19nm,1.1s,baz=117,slow=3.0,SNR=40
SNAA **Sanae** 148.06 198 PKIKP **PKPdf** 05 41 36.8 -0.5
SNAA 05 41 40.5
SNAA pmax pmax
comp=Z,18nm,1.1s
SNAA pmax pmax
comp=Z,19nm,1.1s
SNAA **Sanae** 148.06 198 *e*PKPdf PKPpre 05 41 32.6
SNAA PKP **PKPdf** 05 41 36.8 -0.5
SNAA PKPbc **PKPbc** 05 41 40.5 0.0
BDFB **Brasilia** 149.56 29 PKP **PKPdf** 05 41 41.2 -0.2
comp=Z,64nm,0.9s,baz=4.4,slow=0.6,SNR=9.7
BDFB PKPbc **PKPbc** 05 41 46.1 +0.1
comp=Z,47nm,0.7s,baz=286,slow=1.8,SNR=64
VNA1 **Neumayer--Stat** 149.99 196 P **PKPbc** 05 41 45.5 +0.2
CFAA **Coronel Fontan** 150.03 79 PKPbc **PKPbc** 05 41 46.4 -0.3
comp=Z,2.6nm,0.8s,baz=307,slow=3.0,SNR=44
PLCA **Paso Flores** 152.31 97 PKPbc **PKPbc** 05 41 51.6 -0.1
comp=Z,5.0nm,0.7s,baz=238,slow=2.6,SNR=16
CPUP **Villa Florida** 154.03 57 *e*PKIKP **PKPdf** 05 41 47.2 -0.5
CPUP *e* 05 42 09.5
CPUP **Villa Florida** 154.03 57 *e*PKPdf **PKPdf** 05 41 47.2 -0.5
CPUP *e*PKPbc **PKPbc** 05 41 55.4 -0.4
CPUP *e*PKPab **PKPab** 05 42 09.4 0.0

*SOF **05** 05:37:56.6,41°.93N×23°.35E,h2km,MD2.6*
*CSEM **05** 05:37:57.0±0.2,41°.86N×23°.29E,h5km,MD2.8,Error ellipse: s-maj=3.4km s-min=2.9km az=68.0*
*BEO **05** 05:37:58.1±0.4,41°.91N×23°.26E,h3km±3km,ML1.8/6*
*ATH **05** 05:37:58.1,41°.83N×23°.29E,h5km±1km,MD2.8/11*
ISC 05 05:37:57.1±1.1,**41°.89N**±0°.02×**23°.29E**±0°.02,**h3km**±10km,
n44,s0°70'75,1C,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKB	**Krupnik**	**0.15**	**263**	*i* Pg	**Pg**	**05 38 00.3**	**+0.3**
KKB	**Krupnik**	**0.15**	**263**	*i* Pg	**Pg**	**05 38 00.3**	**+0.3**
MMB	**Musomiste**	**0.44**	**132**	*i* Pg	**Pg**	**05 38 06.4**	**+0.8**
MMB	**Musomiste**	**0.44**	**132**	*i* Pg	**Pg**	**05 38 06.4**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.69**	**141**	*e*PG	**Pg**	**05 38 10.1**	**-0.2**
NVR				*e*SB	**Sg**	**05 38 19.0**	**-0.2**
NVR	**Nevrokopi**	**0.69**	**141**	*e*Pg	**Pg**	**05 38 10.1**	**-0.2**
NVR				*e*Sb	**Sg**	**05 38 19.0**	**-0.2**
VTS	**Vitosha**	**0.71**	**355**	⇑*i*Pg	**Pg**	**05 38 10.3**	**-0.4**
VTS				*e*Sg	**Sg**	**05 38 19.4**	**-0.5**
VTS	**Vitosha**	**0.71**	**355**	*i* Pg	**Pg**	**05 38 10.4**	**-0.3**
VTS	**Vitosha**	**0.71**	**355**	*i* Pg	**Pg**	**05 38 10.4**	**-0.3**
VTS				*e*Sg	**Sg**	**05 38 19.4**	**-0.5**
VAY	**Valandovo**	**0.78**	**224**	*i* Pg	**Pg**	**05 38 12.3**	**+0.3**
VAY				*e*Sg	**Sg**	**05 38 22.7**	**+0.6**
VAY	**Valandovo**	**0.78**	**224**	*i* Pg	**Pg**	**05 38 12.3**	**+0.3**
VAY				*e*Sg	**Sg**	**05 38 22.7**	**+0.6**
KNT	**Kendrikon**	**0.78**	**202**	*e*PB	**Pg**	**05 38 11.9**	**-0.1**
KNT				*e*SB	**Sg**	**05 38 21.7**	**-0.4**
KNT	**Kendrikon**	**0.78**	**202**	*e*Pb	**Pg**	**05 38 11.9**	**-0.1**
KNT				*e*Sb	**Sg**	**05 38 21.7**	**-0.4**
SRS	**Serrai**	**0.80**	**163**	*e*PB	**Pg**	**05 38 12.3**	**-0.1**
SRS				*e*SB	**Sg**	**05 38 23.4**	**+0.6**
SRS	**Serrai**	**0.80**	**163**	*e*Pb	**Pg**	**05 38 12.3**	**-0.1**
SRS				*e*Sb	**Sg**	**05 38 23.4**	**+0.6**
SOH	**Sokhos**	**1.06**	**177**	*e*PG	**Pg**	**05 38 16.9**	**-0.6**
SOH				*e*SB	**Sg**	**05 38 31.5**	**+0.2**
SOH	**Sokhos**	**1.06**	**177**	*e*Pg	**Pg**	**05 38 16.9**	**-0.6**
SOH				*e*Sb	**Sg**	**05 38 31.5**	**+0.2**
PLD	**Plovdiv**	**1.08**	**78**	*e*Pg	**Pb**	**05 38 19.3**	**+0.9**
PLD				*e*Sg	**Sg**	**05 38 32.1**	**+0.3**
PLD	**Plovdiv**	**1.08**	**78**	*e*Pg	**Pb**	**05 38 19.3**	**+0.9**
PLD				*e*Sg	**Sg**	**05 38 32.1**	**+0.3**
RZN	**Rozhen**	**1.09**	**100**	*i* P	**Pg**	**05 38 17.7**	**-0.3**
RZN	**Rozhen**	**1.09**	**100**	*i* P	**Pg**	**05 38 17.7**	**-0.3**
GRG	**Griva**	**1.14**	**216**	*e*PG	**Pg**	**05 38 18.5**	**-0.5**
GRG				*e*SB	**Sg**	**05 38 34.0**	**+0.3**
GRG	**Griva**	**1.14**	**216**	*e*Pg	**Pg**	**05 38 18.5**	**-0.5**
GRG				*e*Sb	**Sg**	**05 38 34.0**	**+0.3**
THE	**Thessaloniki**	**1.27**	**191**	*e*PB	**Pn**	**05 38 21.6**	**-0.2**
THE				*e*SB	**Sg**	**05 38 37.1**	**-0.9**
THE	**Thessaloniki**	**1.27**	**191**	*e*Pb	**Pn**	**05 38 21.6**	**-0.2**
THE				*e*Sb	**Sg**	**05 38 37.1**	**-0.9**
KAVA	**Kavala**	**1.28**	**133**	*e*PB	**Pn**	**05 38 21.3**	**-0.6**
KAVA				*e*SB	**Sg**	**05 38 38.2**	**0.0**
KAVA	**Kavala**	**1.28**	**133**	*e*Pb	**Pn**	**05 38 21.3**	**-0.6**
KAVA				*e*Sb	**Sg**	**05 38 38.2**	**0.0**
HORT	**Hortiatis**	**1.29**	**186**	*e*PB	**Pn**	**05 38 21.5**	**-0.7**
HORT				*e*SB	**Sg**	**05 38 38.7**	**+0.1**
HORT	**Hortiatis**	**1.29**	**186**	*e*Pb	**Pn**	**05 38 21.5**	**-0.7**
HORT				*e*Sb	**Sg**	**05 38 38.7**	**+0.1**
BARS	**Barje**	**1.43**	**311**	*i* Pn	**Pn**	**05 38 23.5**	**-0.5**
BARS				*e*Sn	**Sb**	**05 38 42.2**	**-0.9**
BARS	**Barje**	**1.43**	**311**	*i* Pn	**Pn**	**05 38 23.5**	**-0.5**
BARS				*e*Sn	**Sb**	**05 38 42.2**	**-0.9**
ZAPS	**Zavoj**	**1.47**	**341**	*i* Pn	**Pn**	**05 38 24.1**	**-0.5**
MPEP	**Malo Peshtene**	**1.51**	**13**	*i* P	**Pn**	**05 38 25.1**	**0.0**
PLG	**Polygyros**	**1.52**	**175**	*e*PB	**Pn**	**05 38 24.5**	**-0.7**
PLG				*e*SN	**Sn**	**05 38 44.3**	**-1.1**
PLG	**Polygyros**	**1.52**	**175**	*e*Pb	**Pn**	**05 38 24.5**	**-0.7**
PLG				*e*Sn	**Sn**	**05 38 44.3**	**-1.1**
KDZ	**Kurdzhali**	**1.61**	**98**	P	**Pn**	**05 38 25.0**	**-1.5**
KDZ	**Kurdzhali**	**1.61**	**98**	P	**Pn**	**05 38 25.0**	**-1.5**
OUR	**Ouranopolis**	**1.64**	**161**	*e*PB	**Pn**	**05 38 27.9**	**+1.1**
OUR				*e*SB	**Sn**	**05 38 49.1**	**+0.8**
OUR	**Ouranopolis**	**1.64**	**161**	*e*Pb	**Pn**	**05 38 27.9**	**+1.1**
OUR				*e*Sb	**Sn**	**05 38 49.1**	**+0.8**
RDO	**Rodhopi**	**1.85**	**113**	*e*PG	**Pb**	**05 38 31.8**	**+0.3**
RDO	**Rodhopi**	**1.85**	**113**	*e*Pg	**Pb**	**05 38 31.8**	**+0.3**
SELS	**Selova**	**2.08**	**311**	*e*Pn	**Pn**	**05 38 34.3**	**+1.3**
SELS				*e*Sn	**Sn**	**05 39 00.9**	**+1.4**
SMTH	**Samothraki Isl**	**2.21**	**129**	*e*PN	**Pb**	**05 38 37.4**	**-0.2**
SMTH				*e*SN	**Sn**	**05 39 04.8**	**+2.3**
ALN	**Alexandroupoli**	**2.30**	**115**	*e*PN	**Pb**	**05 38 39.0**	**-0.2**
ALN				*e*SN	**Sb**	**05 39 08.1**	**+0.1**

WEL 05 05:57:16.3±0.2**, 45°.16S**×**167°.36E, h128^{km}**±1^{km}**, ML3.5**/10**, 5C-5D, Error ellipse: s-maj=2.1km s-min=1.1km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.35**	**204**	PN	Pn	05 57 33.9	-0.4
DCZ				SN	Sn	05 57 46.7	-1.3
DCZ				AML	AML	05 57 47.4	
DCZ				AML	AML	05 57 47.7	
DCZ				AML	AML	05 57 47.8	
MLZ	**Mavora Lakes**	**0.60**	**109**	⇑PN	Pn	05 57 35.6	-0.2
MLZ				SN	Sn	05 57 49.7	-0.9
MLZ				AML	AML	05 57 50.6	
MSZ	**Milford Sound**	**0.63**	**40**	PN	Pn	05 57 36.0	+0.1
MSZ				AML	AML	05 57 37.1	
MSZ				SN	Sn	05 57 50.1	-0.5
WHZ	**Wether Hill Ro**	**0.85**	**151**	⇓PN	Pn	05 57 37.5	-0.1
WHZ				SN	Sn	05 57 53.3	-0.5
WHZ				AML	AML	05 57 53.7	
PYZ	**Puysegur Point**	**1.12**	**205**	PN	Pn	05 57 40.1	-0.1
WKZ	**Wanaka**	**1.22**	**75**	⇑PN	Pn	05 57 41.3	+0.1
WKZ				AML	AML	05 57 59.7	
WKZ				AML	AML	05 58 00.4	
EAZ	**Earnscleugh**	**1.38**	**94**	⇑PN	Pn	05 57 42.7	-0.2
EAZ				AML	AML	05 58 02.0	
EAZ				AML	AML	05 58 02.7	
EAZ				AML	AML	05 58 02.8	
EAZ				AML	AML	05 58 03.1	
JCZ	**Jackson Bay**	**1.47**	**43**	⇑PN	Pn	05 57 43.6	-0.5
JCZ				AML	AML	05 58 06.6	
JCZ				AML	AML	05 58 08.3	
APZ	**The Paps**	**1.73**	**166**	⇓PN	Pn	05 57 46.7	-0.3
TUZ	**Tuapeka**	**1.79**	**117**	⇓PN	Pn	05 57 47.4	-0.1
SYZ	**Scrubby Hill**	**1.86**	**139**	⇓PN	Pn	05 57 48.3	-0.1
SYZ				AML	AML	05 58 12.8	
SYZ				AML	AML	05 58 13.1	
SYZ				AML	AML	05 58 13.4	
LBZ	**Lake Benmore**	**2.15**	**70**	⇑PN	Pn	05 57 50.5	-1.6
LBZ				AML	AML	05 58 16.7	
LBZ				AML	AML	05 58 17.0	
FOZ	**Fox Glacier**	**2.31**	**47**	PN	Pn	05 57 53.1	-0.8
ODZ	**Otahua Downs**	**2.33**	**88**	⇓PN	Pn	05 57 53.0	-1.2
RPZ	**Rata Peaks**	**3.01**	**63**	PN	Pn	05 58 00.9	-2.1
RPZ				AML	AML	05 58 36.1	

*IDC **05** 06:11:04.5±1.4, 8°.13S×117°.81E, h0^{km}, mb3.7/3, mb1 3.9/5, mb1mx3.7/23, mbtmp3.7/5, ML3.8/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/30, Error ellipse: s-maj=29.8km s-min=20.1km az=87.0*

*ISCJB **05** 06:11:07.9±0.5, 8°.04S±0°.04×117°.71E±0°.03, h33^{km}, mb3.8/3, MS3.8/1, Error ellipse: s-maj=5.9km s-min=4.5km az=165.7*

*DJA **05** 06:11:07.2±0.6, 8°S±3°×11°8E±°, h17^{km}±7^{km}, M4.4/6, mb4.2/1, MLv4.5/6*

ISC 05 06:11:09.6±0.9**, 8°.08S**±0°.05×**117°.73E**±0°.04**, h35^{km}, n17,** σ**1^{s}13**/22**, mb3.9**/3**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.25**	**133**	P	**Pn**	**06 11 43.0**	**-1.4**
WBSI				S	**Sn**	**06 12 13.3**	**+2.2**
SRBI	**Singaraja**	**2.49**	**270**	P	**Pn**	**06 11 47.0**	**-0.7**
DNP	**Denpasar**	**2.56**	**257**	P	**Pn**	**06 11 47.6**	**-1.0**
IGBI	**Denpasar**	**2.66**	**254**	P	**Pn**	**06 11 51.6**	**+1.7**
WSI	**Waingapu**	**2.98**	**122**	P	**Pn**	**06 11 54.2**	**-0.2**
WSI				S	**Sn**	**06 12 29.7**	**+0.7**
BSSI	**Bau Bau, Buton**	**3.35**	**55**	P	**Pn**	**06 11 59.4**	**0.0**
BSSI				S	**Sn**	**06 12 38.3**	**+0.3**
JAGI	**Jajag, Banyuwa**	**3.56**	**264**	P	**Pn**	**06 12 01.0**	**-1.4**
JAGI				S	**Sn**	**06 12 43.1**	**-0.2**
BKSI	**Bulukumba**	**3.63**	**41**	P	**Pn**	**06 12 02.4**	**-0.9**
BKSI				S	**Sn**	**06 12 45.0**	**+0.1**
KAPI	**Kappang**	**3.65**	**33**	Pn	**Pn**	**06 12 03.1**	**-0.5**
	8.0nm,0.3s,baz=232,slow=4.7,SNR=13						
KAPI				Sn	**Sn**	**06 12 45.9**	**+0.4**
	22nm,0.3s,baz=212,slow=22,SNR=23						
KAPI				Lg	Lg	06 13 00.4	
	22nm,0.3s,baz=67,slow=20,SNR=6.3						
KAPI				LR	LR	06 13 50.4	
	comp=Z,101nm,19.9s,baz=260,slow=45						
BLJI	**Banyuglugur**	**4.11**	**274**	P	**Pn**	**06 12 10.3**	**+0.4**
KBKI	**Kotabaru**	**5.00**	**342**	P	**Pn**	**06 12 21.2**	**-1.0**
TTSI	**Tana Toraja**	**5.42**	**23**	P	**Pn**	**06 12 28.3**	**+0.4**
WRA	**Warramunga Arr**	**19.94**	**128**	P	**P**	**06 15 36.3**	**-2.4**
	0.3nm,0.3s,baz=301,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**21.92**	**137**	P	**P**	**06 15 59.4**	**-0.6**
	2.9nm,0.9s,baz=314,slow=9.3,SNR=18						
CTA	**Charters Tower**	**30.07**	**116**	LR	LR	06 30 23.3	
	comp=Z,220nm,20.0s,baz=236,slow=39						
SONM	**Songino Array**	**56.57**	**351**	P	**P**	**06 20 50.1**	**+1.3**
	1.0nm,0.9s,baz=166,slow=9.4,SNR=5.7						
MKAR	**Makanchi Array**	**63.08**	**333**	P	**P**	**06 21 33.7**	**+0.3**
	1.0nm,0.9s,baz=133,slow=10,SNR=5.5						

*IDC **05** 06:17:21.8±2.0, 34°.56S×177°.37E, h0^{km}, mb3.5/2, mb1 3.9/4, mb1mx3.7/28, mbtmp3.8/4, ML4.3/2, Error ellipse: s-maj=46.9km s-min=28.6km az=78.0*

ISC 05 06:17:19.6±1.8**, 34°.7S**±0°.1×**178°.6E**±0°.2**, h35^{km}, n50,** σ**1^{s}43**/42**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.92**	**185**	PN	**Pn**	**06 18 03.7**	**+0.1**
MXZ				SN	Sn	06 18 48.5	+11
WMGZ	**Waiomatatini S**	**3.17**	**183**	PN	**Pn**	**06 18 07.2**	**+0.2**
HAZ	**Te Kaha**	**3.18**	**192**	PN	**Pn**	**06 18 10.2**	**+3.1**
PUZ	**Puketiti**	**3.44**	**185**	PN	Pn	06 18 10.2	-0.4
PUZ				SN	Sn	06 18 60.0	+10
TWGZ	**Tauwhareparae**	**3.56**	**188**	PN	**Pn**	**06 18 13.0**	**+0.6**
TWGZ				SN	Sn	06 19 06.6	+13
MWZ	**Matawai**	**3.79**	**193**	PN	**Pn**	**06 18 16.8**	**+1.3**
MWZ				SN	Sn	06 19 12.1	+13
URZ	**Urewera**	**3.81**	**198**	Pn	Pn	06 18 19.3	+3.6
	36nm,0.3s,baz=262,slow=3.6,SNR=198						
URZ	**Urewera**	**3.81**	**198**	PN	**Pn**	**06 18 18.2**	**+2.4**
TKGZ	**Te Karaka**	**3.84**	**189**	PN	**Pn**	**06 18 15.6**	**-0.5**
CNGZ	**Carnagh Statio**	**3.85**	**185**	PN	**Pn**	**06 18 16.1**	**-0.2**
RAGZ	**Rawiri**	**3.97**	**194**	*e*PN	**Pn**	**06 18 18.9**	**+1.0**
RIGZ	**Rimuhau**	**4.11**	**190**	PN	**Pn**	**06 18 19.4**	**-0.6**
SNGZ	**Shannon Statio**	**4.26**	**194**	PN	**Pn**	**06 18 23.7**	**+1.8**
PRGZ	**Paritu Road**	**4.31**	**188**	PN	Pn	06 18 21.6	-1.1
KNZ	**Kokohu**	**4.44**	**190**	PN	Pn	06 18 23.2	-1.2
RAHZ	**Arahi**	**4.44**	**196**	PN	**Pn**	**06 18 26.9**	**+2.4**
MRHZ	**Matea Rd**	**4.54**	**202**	PN	Pn	06 18 29.3	+3.4
WHHZ	**Waihua**	**4.56**	**194**	PN	**Pn**	**06 18 27.8**	**+1.7**
NMHZ	**Naumai**	**4.68**	**198**	PN	**Pn**	**06 18 30.0**	**+2.2**
ARHZ	**Aropaoanui**	**4.79**	**195**	PN	**Pn**	**06 18 30.8**	**+1.6**
BKZ	**Black Stump Fm**	**4.83**	**200**	*e*PN	**Pn**	**06 18 31.4**	**+1.6**
MCHZ	**McNeill Hill**	**5.04**	**197**	PN	**Pn**	**06 18 34.4**	**+1.8**
KWHZ	**Kaweka Forest**	**5.09**	**200**	PN	**Pn**	**06 18 34.8**	**+1.4**
BHHZ	**Black Hill Sta**	**5.26**	**202**	PN	**Pn**	**06 18 38.7**	**+3.0**
KAHZ	**Kahuranaki**	**5.33**	**195**	PN	**Pn**	**06 18 36.4**	**-0.3**
PXZ	**Pawanui**	**5.56**	**194**	PN	Pn	06 18 38.0	-1.7
PNHZ	**Pukenui**	**5.61**	**200**	PN	**Pn**	**06 18 41.4**	**+0.9**
PRHZ	**Porangahau**	**5.83**	**195**	PN	**Pn**	**06 18 43.5**	**0.0**
DVHZ	**Dannevirke**	**5.98**	**198**	PN	**Pn**	**06 18 45.5**	**-0.1**
POWZ	**Post Office Ro**	**6.17**	**201**	PN	**Pn**	**06 18 49.4**	**+1.2**
PRWZ	**Pori Road**	**6.27**	**199**	PN	**Pn**	**06 18 50.1**	**+0.6**
MRZ	**Mangatainoka R**	**6.48**	**201**	PN	**Pn**	**06 18 51.4**	**-1.0**
MRZ				SN	Sn	06 20 13.2	+8.1
TIWZ	**Tintock**	**6.50**	**199**	PN	**Pn**	**06 18 52.2**	**-0.5**
HOWZ	**Holdsworth Sta**	**6.71**	**201**	PN	**Pn**	**06 18 55.0**	**-0.7**
OGWZ	**Otaki Gorge**	**6.75**	**203**	PN	**Pn**	**06 18 55.8**	**-0.3**
KIW	**Kapiti Island**	**6.87**	**204**	PN	**Pn**	**06 18 57.4**	**-0.4**
MTW	**Mount Morrison**	**6.96**	**200**	PN	**Pn**	**06 18 58.0**	**-1.0**
CAW	**Cannon Point**	**7.04**	**203**	PN	**Pn**	**06 18 59.4**	**-0.8**
TCW	**Tory Channel**	**7.41**	**206**	*e*PN	**Pn**	**06 19 04.4**	**-0.7**
QRZ	**Quartz Range**	**7.84**	**216**	PN	**Pn**	**06 19 12.9**	**+1.8**
THZ	**Tophouse**	**8.42**	**211**	PN	**Pn**	**06 19 19.5**	**+0.4**
THZ				*e*SN	Sn	06 21 02.1	+9.3
KHZ	**Kahutara**	**8.73**	**206**	*e*PN	**Pn**	**06 19 21.7**	**-1.5**
LTZ	**Lake Taylor**	**9.53**	**210**	PN	Pn	06 19 31.9	-2.4
CTZ	**Chatham Island**	**9.79**	**159**	*e*PN	Pn	06 19 29.0	-8.8
CTZ				*e*SN	Sn	06 21 03.1	-23
MQZ	**McQueen's Vall**	**10.17**	**205**	PN	Pn	06 19 39.5	-3.5
MQZ				*e*SN	**Sn**	**06 21 35.9**	**+0.2**
RPZ	**Rata Peaks**	**10.80**	**211**	Pn	**Pn**	**06 19 50.0**	**-1.6**
	1.4nm,0.3s,baz=52,slow=2.8,SNR=7.0						
RPZ				Sn	**Sn**	**06 21 50.5**	**-0.7**
	0.8nm,0.3s,baz=360,slow=19,SNR=3.5						
ASAR	**Alice Springs**	**40.28**	**274**	P	**P**	**06 24 52.2**	**-1.3**
	0.5nm,0.6s,baz=114,slow=7.6,SNR=6.8						
WRA	**Warramunga Arr**	**41.67**	**279**	P	**P**	**06 25 03.4**	**-1.5**
	0.2nm,0.3s,baz=117,slow=7.5,SNR=2.7						
FINES	**FINESS Array B**	**147.99**	**335**	PKPbc	**PKPab**	**06 37 05.3**	**+2.2**
	1.8nm,0.7s,baz=76,slow=5.9,SNR=5.4						
TORD	**Torodi Ar. Bea**	**158.42**	**188**	PKPab	PKPab	06 37 56.4	+8.2
	0.3nm,0.7s,baz=174,slow=3.4,SNR=4.2						

NNC 05 06:20:07.7±5.7**, 37°.18N**×**71°.38E, h0^{km}, mb3.5, mpv3.1, 5C-2D, Error ellipse: s-maj=48.6km s-min=18.8km az=168.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.59**	**309**	⇑Pn	Pn	06 20 50.2	-0.9
	10nm,0.4s						
DZET				⇑Sn	Sn	06 21 25.4	+2.0
	27nm,0.5s						
SFK	**Sufi-Kurgan**	**3.28**	**30**	⇑Pn	Pn	06 21 01.5	+0.8
	3.1nm,0.3s						
SFK				⇑Sn	Sn	06 21 43.2	+2.6
	4.6nm,0.2s						
MNAS	**Manas**	**5.37**	**9**	⇓Pn	Pn	06 21 27.1	-2.2
	2.2nm,0.9s						
MNAS				⇑Sn	Sn	06 22 30.8	-1.1
	1.4nm,0.4s						
KK31	**Karatay Array**	**5.95**	**354**	⇓Pn	Pn	06 21 34.9	-2.2
	0.3nm,0.3s,baz=193,slow=16,SNR=9.9						
KK31				Sn	Sn	06 22 44.5	-1.5
	1.5nm,0.6s,baz=182,slow=26,SNR=7.6						

*IDC **05** 06:22:45.3±2.4, 6°.34S×155°.51E, h0^{km}, mb4.4/3, mb1 4.5/4, mb1mx3.9/19, mbtmp4.3/4, ML3.9/1, Error ellipse: s-maj=47.8km s-min=41.6km az=22.0*

ISC 05 06:22:51.0±2.5**, 6°.5S**±0°.4×**155°.5E**±0°.2**, h35^{km}, n9,** σ**0^{s}86**/6**, mb4.3**/3**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.32**	**124**	P	**Pn**	**06 24 08.0**	**+0.1**
DZM	**Mont Dzumac**	**18.79**	**147**	P	**P**	**06 27 07.8**	**+0.3**
	0.3nm,0.3s,baz=270,slow=20,SNR=5.3						
WRA	**Warramunga Arr**	**24.52**	**235**	P	**P**	**06 28 08.7**	**+1.2**
	7.9nm,0.6s,baz=61,slow=9.6,SNR=36						
ASAR	**Alice Springs**	**26.89**	**228**	P	**P**	**06 28 29.0**	**+0.1**
	3.8nm,0.5s,baz=59,slow=9.6,SNR=52						
H11S3	**WAKE ISLAND Hy**	**27.14**	**24**	T	T	06 56 53.2	
	baz=203,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**27.15**	**24**	T	T	06 57 14.3	
	baz=203,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**27.16**	**24**	T	T	06 57 01.5	
	baz=203,slow=75,SNR=17						
STKA	**Stephens Creek**	**28.43**	**205**	P	**P**	**06 28 41.8**	**-0.7**
	1.7nm,0.7s,baz=19,slow=11,SNR=4.9						
TORD	**Torodi Ar. Bea**	**153.35**	**286**	PKPbc	**PKPbc**	**06 42 46.2**	**-0.4**
	0.2nm,0.5s,baz=72,slow=2.7,SNR=2.7						

IDC 05 06:24:09.9±2.5**, 53°.67N**×**86°.75E, h0^{km}, mb1 2.9**/2**, mb1mx2.8**/29**, mbtmp2.9**/2**, ML2.7**/2**, Error ellipse: s-maj=22.9km s-min=13.4km az=68.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.18**	**284**	*i*		06 32 20.0	
	baz=101,slow=326,SNR=0.6						
ZALV	**Zalesovo Beam**	**1.18**	**284**	Pg	Pg	06 24 31.4	-1.1
	2.8nm,0.3s,baz=107,slow=12,SNR=7.7						
ZALV				Lg	Lg	06 24 48.8	
	1.4nm,0.3s,baz=107,slow=30,SNR=6.1						
KURBB	**Kurchatov Arra**	**5.91**	**242**	Pn	Pn	06 25 39.7	+1.2
	0.1nm,0.3s,baz=56,slow=13,SNR=5.8						
KURBB				Lg	Lg	06 27 16.9	
	0.0nm,0.3s,baz=65,slow=29,SNR=2.5						
MKAR	**Makanchi Array**	**7.45**	**204**	Pn	Pn	06 26 00.9	+1.1
	0.3nm,0.3s,baz=26,slow=14,SNR=15						
MKAR				Lg	Lg	06 28 06.1	
	baz=32,slow=28,SNR=3.7						

*IDC **05** 06:42:03.7±0.4, 50°.17N×29°.16W, h0^{km}, mb4.2/33, mb1 4.3/34, mb1mx4.3/41, mbtmp4.2/34, ML4.2/1, MS4.0/29, Ms1 4.0/29, ms1mx3.8/42, Error ellipse: s-maj=13.2km s-min=9.9km az=180.0*

*ISCJB **05** 06:42:04.5±0.1, 50°.24N±0°.04×29°.19W±0°.02, h10^{km}, mb4.7/169, MS4.0/42, Error ellipse: s-maj=5.7km s-min=1.9km az=179.4*

*MOS **05** 06:42:04.1±0.9, 50°.22N×29°.14W, h10^{km}, mb5.0/42, Error ellipse: s-maj=8.0km s-min=6.4km az=135.8*

*BJI **05** 06:42:04.9, 50°.66N×29°.23W, h10^{km}, mb5.0/29, mB5.1/18, Ms4.8/9, Ms7 4.4/9*

*GCMT **05** 06:42:06.1±0.3, 50°.36N×29°.16W, h18^{km}±1^{km}, MW4.8/63, Moment Tensor Solution. s19,c22; s63,c78; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.42±.21; $M_{\theta\theta}$0.87±.18; $M_{\phi\phi}$1.55±.14; $M_{r\theta}$0.73±.36; $M_{\theta\phi}$-0.19±.07; $M_{\phi r}$1.01±.31; Best double couple: $M_0$2.30400×10^{16} NP1:ϕ_s189.00000°, δ59.00000°, λ-77.00000°. NP2: ϕ_s344.00000°, δ33.00000°, λ-111.00000°. Principal axes: T 1.7920, Plg13.0000°, Azm269.0000°; N 1.0250, Plg11.0000°, Azm2.0000°; P -2.8160, Plg72.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **05** 06:42:06.1±0.1, 50°.23N×29°.10W, h10^{km}, mb4.8/110 Error ellipse: s-maj=5.5km s-min=2.7km az=182.0*

*CSEM **05** 06:42:06.3±0.1, 50°.33N×29°.15W, h10^{km}, mb4.8/99, Ms4.0, Error ellipse: s-maj=6.3km s-min=2.3km az=1.0*

ISC 05 06:42:07.0±0.4**, 50°.31N**±0°.06×**29°.11W**±0°.04**, h16^{km}**±2^{km}**, h15^{km}:pP-P, n916,** σ**0^{s}87**/936**, mb4.7**/169**, MS4.0**/44**, 188C-169D, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**10.71**	**188**	T	T	06 54 34.8	
DSB	**Dublin**	**14.36**	**69**	*e*Pn	**Pn**	**06 45 28.0**	**-1.5**
DSB	**Dublin**	**14.36**	**69**	*e*Pn	**Pn**	**06 45 28.0**	**-1.5**
ESK	**Eskdalemuir**	**16.39**	**62**	*e*P	**P**	**06 46 00.8**	**+1.8**
ESK				pmax	pmax		
	comp=Z,31nm,1.3s						
ESK	**Eskdalemuir**	**16.39**	**62**	*e*P	**P**	**06 46 00.8**	**+1.8**
	comp=Z,31nm,1.3s						
ESK	**Eskdalemuir**	**16.39**	**62**	*e*P	**P**	**06 46 00.8**	**+1.8**
	comp=Z,31nm,1.3s						
EKA	**Eskdalemuir Ar**	**16.42**	**62**	Pn	**Pn**	**06 45 55.3**	**-1.2**
	baz=270,slow=12,SNR=12						
EKA				Sn	Sn	06 48 45.5	-13
	baz=268,slow=24,SNR=5.4						
POLO	**Lamas de Olo**	**17.28**	**113**	*e*P	**P**	**06 46 09.9**	**+0.9**
POLO	**Lamas de Olo**	**17.28**	**113**	*e*P	**P**	**06 46 09.9**	**+0.9**
PBRG	**Braganca**	**17.64**	**110**	*e*P	**P**	**06 46 13.4**	**+0.4**
PBRG	**Braganca**	**17.64**	**110**	*e*P	**P**	**06 46 13.4**	**+0.4**
MVO	**Moncorvo**	**17.86**	**112**	*e*P	**Pn**	**06 46 14.8**	**0.0**
	comp=Z,40nm,2.4s						
MVO	**Moncorvo**	**17.86**	**112**	*e*P	**Pn**	**06 46 14.8**	**0.0**
	comp=Z,40nm,2.4s						
PMRV	**Marv??o**	**18.77**	**117**	*e*P	**Pn**	**06 46 27.9**	**+2.0**
PMRV	**Marv??o**	**18.77**	**117**	*e*P	**Pn**	**06 46 27.9**	**+2.0**
SFJD	**Kangerlussuaq**	**19.94**	**335**	P	**P**	**06 46 36.6**	**-1.2**
	comp=Z,7.9nm,0.8s,baz=220,slow=13,SNR=2.3						
SFJD				LR	LR	06 52 44.2	
	comp=Z,142nm,20.7s,baz=147,slow=32						
PAB	**San Pablo**	**20.47**	**112**	*e*P	**P**	**06 46 45.0**	**+1.0**
PAB				pmax	pmax		
	comp=Z,30nm,1.3s						
PAB	**San Pablo**	**20.47**	**112**	*e*P	**P**	**06 46 45.0**	**+1.0**
	comp=Z,30nm,1.3s						
PAB	**San Pablo**	**20.47**	**112**	*e*P	**P**	**06 46 45.0**	**+1.0**
	comp=Z,30nm,1.3s						
ESDC	**Sonseca Array**	**20.62**	**111**	P	**P**	**06 46 42.8**	**-2.8**
	comp=Z,1.8nm,0.7s,baz=308,slow=10.0,SNR=16						
ESDC				LR	LR	06 53 14.7	
	comp=Z,374nm,19.4s,baz=290,slow=33						
ESLA	**Sonseca Array**	**20.62**	**111**	*e*P	**P**	**06 46 44.7**	**-0.8**
	comp=Z,23nm,1.7s						
ESLA	**Sonseca Array**	**20.62**	**111**	*e*P	**P**	**06 46 44.7**	**-0.8**
	comp=Z,23nm,1.7s						
VIEF	**Viey**	**21.25**	**99**	*e*P	**P**	**06 46 53.8**	**+1.4**
VIEF	**Viey**	**21.25**	**99**	*e*P	**P**	**06 46 53.8**	**+1.4**
DOU	**Dourbes**	**21.47**	**77**	P	**P**	**06 46 54.5**	**-0.2**
	comp=Z,15nm,1.1s						
DOU	**Dourbes**	**21.47**	**77**	P	**P**	**06 46 54.4**	**-0.2**
	comp=Z,15nm,1.1s						
AGO	**Saint Agoulin**	**21.81**	**89**	*e*P	**P**	**06 47 00.0**	**+1.7**
AGO	**Saint Agoulin**	**21.81**	**89**	*e*P	**P**	**06 47 00.0**	**+1.7**
BCLA	**Clavier**	**21.84**	**76**	P	**P**	**06 47 01.3**	**+2.8**
BCLA	**Clavier**	**21.84**	**76**	P	**P**	**06 47 01.3**	**+2.8**
PYM	**Petit Puy Mans**	**21.85**	**90**	*e*P	**P**	**06 47 00.7**	**+1.9**
PYM	**Petit Puy Mans**	**21.85**	**90**	*e*P	**P**	**06 47 00.7**	**+1.9**
MLS	**Moulis**	**21.89**	**98**	*e*P	**P**	**06 47 00.7**	**+1.5**
MLS	**Moulis**	**21.89**	**98**	*e*P	**P**	**06 47 00.7**	**+1.5**
LBL	**Lubilhac**	**22.22**	**91**	*e*P	**P**	**06 47 04.2**	**+1.4**
LBL	**Lubilhac**	**22.22**	**91**	*e*P	**P**	**06 47 04.2**	**+1.4**
MEM	**Membach**	**22.23**	**76**	P	**P**	**06 47 04.1**	**+1.4**
	comp=Z,13nm,1.6s						
MEM	**Membach**	**22.23**	**76**	*e*P	**P**	**06 47 01.9**	**-0.9**
MEM				pmax	pmax		
	comp=Z,21nm,1.1s						
MEM	**Membach**	**22.23**	**76**	*e*P	**P**	**06 47 01.9**	**-0.9**
	comp=Z,21nm,1.1s						
MEM	**Membach**	**22.23**	**76**	*e*P	**P**	**06 47 01.9**	**-0.9**
	comp=Z,21nm,1.1s						
SUMG	**Summit**	**22.73**	**353**	*i* P	**P**	**06 47 08.6**	**+0.3**
	comp=Z,20nm,1.1s						
SUMG	**Summit**	**22.73**	**353**	*e*P	**P**	**06 47 08.6**	**+0.3**
SUMG				pmax	pmax		
	comp=Z,16nm,1.0s						
SUMG	**Summit**	**22.73**	**353**	*e*P	**P**	**06 47 08.6**	**+0.3**
	comp=Z,16nm,1.0s						
SUMG	**Summit**	**22.73**	**353**	*e*P	**P**	**06 47 08.6**	**+0.3**
	comp=Z,16nm,1.0s						
LRDF	**Laroque-de-Fa**	**22.82**	**97**	*e*P	**P**	**06 47 10.0**	**+0.9**
LRDF	**Laroque-de-Fa**	**22.82**	**97**	*e*P	**P**	**06 47 10.0**	**+0.9**
JMIC	**Jan Mayen**	**22.83**	**17**	LR	LR	06 53 53.5	
	comp=Z,224nm,18.2s,baz=214,slow=31						
BUG	**Bochum--Univer**	**22.84**	**73**	*e*P	**P**	**06 47 08.8**	**-0.4**
	comp=Z,27nm,1.3s						
BUG	**Bochum--Univer**	**22.84**	**73**	*e*P	**P**	**06 47 08.8**	**-0.4**
	comp=Z,27nm,1.3s						
THEF	**They Montfort**	**22.87**	**82**	*e*P	**P**	**06 47 11.2**	**+1.6**
THEF	**They Montfort**	**22.87**	**82**	*e*P	**P**	**06 47 11.2**	**+1.6**
IBBN	**Ibbenburen**	**22.97**	**71**	*e*P	**P**	**06 47 14.6**	**+4.0**
	comp=Z,47nm,1.4s						
SSB	**Saint Sauveur**	**23.03**	**90**	*e*P	**P**	**06 47 11.6**	**+0.3**
SSB				pmax	pmax		
	comp=Z,17nm,1.6s						
SSB	**Saint Sauveur**	**23.03**	**90**	*e*P	**P**	**06 47 11.6**	**+0.3**
	comp=Z,17nm,1.6s						
SSB	**Saint Sauveur**	**23.03**	**90**	*e*P	**P**	**06 47 11.6**	**+0.3**
	comp=Z,17nm,1.6s						
RUP	**Ruppelstein**	**23.11**	**77**	*e*P	**P**	**06 47 13.8**	**+1.7**
SCHQ	**Schefferville**	**23.18**	**296**	P	**P**	**06 47 10.3**	**-2.4**
	comp=Z,3.6nm,0.8s,baz=97,slow=6.3,SNR=5.8						
SCHQ				LR	LR	06 54 27.1	
	comp=Z,256nm,20.6s,baz=89,slow=32						
ECH	**Echery**	**23.61**	**81**	*e*P	**P**	**06 47 19.4**	**+2.3**
ECH	**Echery**	**23.61**	**81**	*e*P	**P**	**06 47 16.7**	**-0.4**
ECH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ECH	**Echery**	**23.61**	**81**	*e*P	**P**	**06 47 16.7**	**-0.4**
	comp=Z,8.0nm,1.0s						
ECH	**Echery**	**23.61**	**81**	*e*P	**P**	**06 47 16.7**	**-0.4**
	comp=Z,7.5nm,1.0s						
LOMF	**Lomont**	**23.70**	**83**	*e*P	**P**	**06 47 19.4**	**+1.4**
LOMF	**Lomont**	**23.70**	**83**	*e*P	**P**	**06 47 19.4**	**+1.4**
MOF	**Molkenrain**	**23.72**	**82**	*e*P	**P**	**06 47 19.8**	**+1.6**
MOF	**Molkenrain**	**23.72**	**82**	*e*P	**P**	**06 47 19.8**	**+1.6**
TNS	**Taunus Mts**	**23.84**	**76**	*e*P	**P**	**06 47 20.4**	**+1.1**
	comp=Z,66nm,2.1s						
TNS	**Taunus Mts**	**23.84**	**76**	*e*P	**P**	**06 47 20.4**	**+1.1**
	comp=Z,66nm,2.1s						
BBS	**Basel-Blauen**	**24.09**	**83**	*e*P	**P**	**06 47 23.2**	**+1.6**
FELD	**Feldberg im Sc**	**24.26**	**81**	*e*P	**P**	**06 47 25.2**	**+1.9**
BFO	**Black Forest**	**24.32**	**80**	*e*P	**P**	**06 47 23.4**	**-0.3**
	comp=Z,50nm,2.6s						
BFO	**Black Forest**	**24.32**	**80**	*i* P	**P**	**06 47 24.2**	**+0.5**
BFO	**Black Forest**	**24.32**	**80**	*i* P	**P**	**06 47 24.2**	**+0.5**
BFO	**Black Forest**	**24.32**	**80**	*e*P	**P**	**06 47 23.6**	**-0.2**
	comp=Z,14nm,1.3s						
NRDL	**Niedersach Rie**	**24.36**	**70**	*e*P	**P**	**06 47 24.6**	**+0.7**
	comp=Z,14nm,1.0s						
NRDL	**Niedersach Rie**	**24.36**	**70**	*e*P	**P**	**06 47 24.6**	**+0.7**
	comp=Z,14nm,1.0s						
SENIN	**Lac Senin/Sane**	**24.36**	**85**	*e*P	**P**	**06 47 26.6**	**+2.2**
SENIN	**Lac Senin/Sane**	**24.36**	**85**	*e*P	**P**	**06 47 26.6**	**+2.2**
BNI	**Bardonecchia**	**24.50**	**88**	*e*P	P	06 47 31.3	+5.8
BNI				pmax	pmax		

comp=Z,39nm,2.1s
BNI Bardonecchia 24.50 88 *e*P P 06 47 31.3 +5.8
comp=Z,39nm,2.1s
CLZ Clausthal 24.65 71 *e*P **P** **06 47 28.4 +1.7**
comp=Z,45nm,1.8s
CLZ Clausthal 24.65 71 *e*P **P** **06 47 28.4 +1.7**
comp=Z,45nm,1.8s
UBBA Unterbreizbach 24.65 74 *e*P **P** **06 47 26.6 0.0**
comp=Z,43nm,2.7s
UBBA Unterbreizbach 24.65 74 *e*P **P** **06 47 26.6 0.0**
comp=Z,43nm,2.7s
NB2 NORSAR Subarra 24.73 49 P **P** **06 47 27.1 -0.3**
comp=Z,10.0nm,1.2s,baz=265,slow=10
NB2 NORSAR Subarra 24.73 49 P **P** **06 47 27.1 -0.3**
comp=Z,10.0nm,1.2s,SNR=7.0
NOA NORSAR Array B 24.73 49 P **P** **06 47 27.3 -0.1**
comp=Z,1.8nm,0.8s,baz=265,slow=9.9,SNR=6.0
NOA LR LR 06 56 33.2
comp=Z,330nm,18.5s,baz=265,slow=35
FRB Frobisher Bay 24.84 318 P **P** **06 47 28.2 +0.1**
comp=Z,39nm,1.0s,baz=97,slow=10,SNR=33
FRB LR LR 06 54 57.9
comp=Z,219nm,18.9s,baz=78,slow=31
MDT Midelt 25.14 125 P **P** **06 47 28.8 -2.6**
comp=Z,9.1nm,1.3s,baz=324,slow=5.6,SNR=4.4
NEUB Neuenburg 25.65 72 *e*P **P** **06 47 37.5 +1.8**
comp=Z,26nm,1.1s
NEUB Neuenburg 25.65 72 *e*P **P** **06 47 37.5 +1.8**
comp=Z,26nm,1.1s
MOX Moxa 25.69 73 *e*P **P** **06 47 37.7 +1.6**
comp=Z,12nm,1.2s
MOX *e*L L 06 56 43.6
comp=Z,403nm,20.6s
MOX Moxa 25.69 73 *e*P **P** **06 47 37.7 +1.6**
comp=Z,12nm,1.2s
GRFO Grafenberg 25.71 76 *e*P **P** **06 47 38.1 +1.8**
GRFO pmax pmax
comp=Z,64nm,1.8s
GRFO Grafenberg 25.71 76 *e*P **P** **06 47 38.1 +1.8**
comp=Z,64nm,1.8s
GRFO Grafenberg 25.71 76 *e*P **P** **06 47 38.1 +1.8**
comp=Z,64nm,1.8s
GRA1 Grafenberg Arr 25.71 76 *e*P **P** **06 47 36.8 +0.5**
comp=Z,43nm,1.5s
GRF Grafenberg Arr 25.71 76 *e*P **P** **06 47 36.8 +0.5**
comp=Z,43nm,1.5s
GRF *e*L L 06 56 53.0
comp=Z,495nm,19.5s
PQI Presque Isle 25.84 277 *e*P **P** **06 47 38.0 +0.6**
comp=Z,19nm,1.0s
PQI Presque Isle 25.84 277 *e*P **P** **06 47 38.0 +0.6**
comp=Z,19nm,1.0s
DAVOX Davos/Dischmat 25.84 83 P **P** **06 47 38.5 +0.8**
comp=Z,1.7nm,0.3s,baz=293,slow=11,SNR=12
DAVOX LR LR 06 57 24.9
comp=Z,469nm,18.4s,baz=293,slow=36
HFS Hagfors 25.87 51 P **P** **06 47 37.3 -0.3**
comp=Z,1.7nm,0.6s,baz=228,slow=3.8,SNR=6.0
HFS LR LR 06 57 18.4
comp=Z,468nm,18.3s,baz=270,slow=35
FUORN Ofenpass-Fuorn 26.15 83 *e*P **P** **06 47 42.5 +1.9**
comp=Z,17nm,1.3s
FUORN Ofenpass-Fuorn 26.15 83 *e*P **P** **06 47 42.5 +1.9**
comp=Z,17nm,1.3s
WERD Werda 26.17 74 *e*P **P** **06 47 40.3 -0.2**
comp=Z,6.0nm,1.1s
WERD Werda 26.17 74 *e*P **P** **06 47 40.3 -0.2**
comp=Z,6.0nm,1.1s
MANZ Manzenberg 26.18 75 *e*P **P** **06 47 40.8 +0.3**
comp=Z,14nm,1.6s
MANZ Manzenberg 26.18 75 *e*P **P** **06 47 40.8 +0.3**
comp=Z,14nm,1.6s
GUNZ Gunzen 26.21 74 *e*P **P** **06 47 42.6 +1.8**
comp=Z,5.0nm,1.0s
GUNZ Gunzen 26.21 74 *e*P **P** **06 47 42.6 +1.8**
comp=Z,5.0nm,1.0s
ROTZ Rotzenmuhle 26.30 75 *e*P **P** **06 47 42.2 +0.6**
comp=Z,15nm,1.3s
ROTZ Rotzenmuhle 26.30 75 *e*P **P** **06 47 42.2 +0.6**
comp=Z,15nm,1.3s
CLL Collm 26.37 71 *e*P **P** **06 47 42.1 -0.2**
comp=Z,10.0nm,1.1s
CLL Collm 26.37 71 *e*P **P** **06 47 42.0 -0.2**
comp=Z,9.0nm,1.3s
CLL *i* sP **sP** **06 47 47.8 -1.2**
comp=Z,10.0nm,1.1s
CLL *e* 06 48 02.0
CLL *e*PcP **PcP** **06 51 10.0 +2.5**
CLL Lm MLR 06 56 00.0
comp=Z,200nm,21.0s
CLL Collm 26.37 71 *e*P **P** **06 47 42.0 -0.2**
CLL *i* 06 47 47.8
CLL *e* 06 51 10.0
CLL pmax pmax
comp=Z,9.0nm,1.3s
CLL MLR MLR
comp=Z,200nm,21.0s
CLL Collm 26.37 71 *e*P **P** **06 47 42.6 +0.4**
comp=Z,8.3nm,0.9s
CLL Collm 26.37 71 *e*P **P** **06 47 42.6 +0.4**
comp=Z,8.3nm,0.9s
FBE Freiberg 26.68 72 *e*P **P** **06 47 45.3 +0.3**
comp=Z,14nm,1.2s
FBE Freiberg 26.68 72 *e*P **P** **06 47 45.3 +0.3**
comp=Z,14nm,1.2s
DAG Danmarks Havn 26.88 5 *i* P **P** **06 47 47.5 +0.9**
comp=Z,8.8nm,0.8s
DAG Danmarks Havn 26.88 5 *i* P **P** **06 47 47.5 +0.9**
DAG pmax pmax
comp=Z,7.0nm,0.8s
DAG Danmarks Havn 26.88 5 *i* P **P** **06 47 47.5 +0.9**
comp=Z,7.0nm,0.8s
WET Wettzell 26.91 76 *e*P **P** **06 47 47.2 0.0**
comp=Z,31nm,2.7s
WET Wettzell 26.91 76 *e*P **P** **06 47 47.2 0.0**
comp=Z,31nm,2.7s
BRG Berggiesshubel 27.05 72 *e*P **P** **06 47 49.8 +1.4**
comp=Z,8.0nm,1.0s
comp=N,261nm,21.5s
comp=E,238nm,14.5s
comp=Z,321nm,18.3s
BRG Berggiesshubel 27.05 72 *e*P **P** **06 47 49.8 +1.4**
BRG pmax pmax
comp=Z,21nm,1.0s
BRG MLR MLR
comp=N,8μm,21.5s
BRG MLR MLR
comp=E,261nm,14.5s
BRG MLR MLR
comp=Z,238nm,18.3s
KHC Kasperske Hory 27.35 76 *e*P **P** **06 47 51.2 +0.1**
KHC *e*pP **pP** **06 47 56.9 +0.9**
KHC AMS AMS 06 58 40.0
comp=Z,500nm,16.1s
KHC Kasperske Hory 27.35 76 *e*P **P** **06 47 51.2 +0.1**
KHC *e* 06 47 56.9
KHC MLR MLR
comp=Z,500nm,16.1s
KHC Kasperske Hory 27.35 76 P **P** **06 47 51.2 +0.1**
GEC2 GERESS Array S 27.52 76 *e*P **P** **06 47 52.8 +0.1**
comp=Z,13nm,1.7s
GEC2 GERESS Array S 27.52 76 *e*P **P** **06 47 54.0 +1.3**
GEC2 GERESS Array S 27.52 76 *e*P **P** **06 47 54.0 +1.3**
GEC2 GERESS Array S 27.52 76 *e*P **P** **06 47 54.0 +1.3**
GERES GERESS Array B 27.52 76 P **P** **06 47 51.9 -0.8**
comp=Z,0.3nm,0.5s,baz=298,slow=5.9,SNR=6.1
GERES LR LR 06 57 58.3
comp=Z,378nm,20.1s,baz=308,slow=35
PVCC Panska Ves 27.53 72 AMS AMS 06 57 40.0
comp=Z,300nm,18.0s
PRA Prague 27.58 73 AMS AMS 06 58 10.0
comp=Z,600nm,16.6s
PRU Pruhonice 27.68 74 *e*P **P** **06 47 54.5 +0.5**
PRU AMS AMS 06 58 00.0
comp=Z,200nm,20.1s
PRU Pruhonice 27.68 74 *e*P **P** **06 47 54.5 +0.5**
PRU MLR MLR
comp=Z,200nm,20.1s
PRU Pruhonice 27.68 74 P **P** **06 47 54.5 +0.5**
GOPC GO Pecny, Ondr 27.85 74 *e*P **P** **06 47 55.4 -0.2**
GOPC AMS AMS 06 58 00.0
comp=Z,500nm,16.7s
GOPC GO Pecny, Ondr 27.85 74 P **P** **06 47 55.4 -0.2**
UPC Upice 28.42 72 *e*P **P** **06 48 00.6 0.0**
UPC *e*pP **pP** **06 48 05.2 -0.3**
UPC Upice 28.42 72 *e*P **P** **06 48 00.6 0.0**
UPC *e* 06 48 05.2

UPC Upice 28.42 72 P **P** **06 48 00.6 0.0**
TREC Trest 28.48 75 *e*P **P** **06 48 02.2 +1.0**
TREC AMS AMS 06 58 30.0
comp=Z,500nm,19.4s
TREC Trest 28.48 75 *e*P **P** **06 48 02.2 +1.0**
TREC MLR MLR
comp=Z,500nm,19.4s
TREC Trest 28.48 75 P **P** **06 48 02.2 +1.0**
DPC Dobruska-Polom 28.66 72 *e*P **P** **06 48 02.9 +0.1**
DPC *e*pP **pP** **06 48 07.9 +0.3**
DPC AMS AMS 06 58 20.0
comp=Z,200nm,17.0s
DPC Dobruska-Polom 28.66 72 *e*P **P** **06 48 02.9 +0.1**
DPC *e* 06 48 07.9
DPC MLR MLR
comp=Z,200nm,17.0s
DPC Dobruska-Polom 28.66 72 P **P** **06 48 02.9 +0.1**
KRLC Kraliky 29.02 72 *e*P **P** **06 48 07.1 +1.1**
KRLC Kraliky 29.02 72 *e*P **P** **06 48 07.1 +1.1**
KRLC Kraliky 29.02 72 P **P** **06 48 07.1 +1.1**
VRAC Vranov 29.16 74 LR LR 06 59 38.6
comp=Z,512nm,18.1s,baz=294,slow=36
OKC Ostrava-Krasne 29.93 72 AMS AMS 06 59 30.0
comp=Z,300nm,17.2s
LONY Lake Ozonia 30.88 277 *e*P **P** **06 48 22.1 -0.4**
comp=Z,15nm,1.6s
LONY Lake Ozonia 30.88 277 *e*P **P** **06 48 22.1 -0.4**
comp=Z,15nm,1.6s
KEST Kesra 31.27 103 P **P** **06 48 24.9 -1.2**
comp=Z,1.0nm,0.7s,baz=53,slow=5.1,SNR=3.3
KEST LR LR 07 00 09.9
comp=Z,111nm,19.8s,baz=254,slow=35
KEST Kesra 31.27 103 *e*P **P** **06 48 27.8 +1.7**
KEST Kesra 31.27 103 *e*P **P** **06 48 27.8 +1.7**
KECS Kecovo 31.85 74 *e*P **P** **06 48 30.3 -0.7**
KECS pmax pmax
comp=Z,1.0nm,0.8s
KECS Kecovo 31.85 74 *e*P **P** **06 48 30.3 -0.7**
ARCES ARCESS Array B 31.90 33 P **P** **06 48 31.4 +0.2**
comp=Z,8.5nm,0.6s,baz=251,slow=7.6,SNR=25
FINES FINESS Array B 31.91 48 P **P** **06 48 31.4 +0.1**
comp=Z,6.9nm,0.9s,baz=284,slow=7.7,SNR=8.5
FINES LR LR 07 00 37.5
comp=Z,467nm,19.6s,baz=250,slow=35
STHS Stebnicka Huta 31.97 72 *e*P **P** **06 48 32.6 +0.6**
STHS pmax pmax
comp=Z,2.0nm,0.6s
STHS Stebnicka Huta 31.97 72 *e*P **P** **06 48 32.6 +0.6**
VSU Vasula 32.64 54 *i*P **P** **06 48 37.4 -0.4**
VSU pmax pmax
comp=Z,54nm,0.7s
VSU MLR MLR
comp=Z,545nm,15.0s
KSPA Keystone Colle 33.13 273 *e*P **P** **06 48 43.7 +1.4**
comp=Z,17nm,1.2s
KSPA Keystone Colle 33.13 273 *e*P **P** **06 48 43.7 +1.4**
comp=Z,17nm,1.2s
SADO Sadowa 33.70 280 LR LR 07 01 14.9
comp=Z,253nm,19.7s,baz=90,slow=34
MMNY Mt. Morris Dam 33.90 276 *e*P **P** **06 48 50.0 +1.0**
comp=Z,40nm,1.1s
MMNY Mt. Morris Dam 33.90 276 *e*P **P** **06 48 50.0 +1.0**
comp=Z,40nm,1.1s
SSPA Standing Stone 34.98 273 *e*P **P** **06 48 58.6 +0.3**
comp=Z,91nm,2.7s
SSPA Standing Stone 34.98 273 *e*P **P** **06 48 58.6 +0.3**
comp=Z,91nm,2.7s
BUR08 Bucovina Ar. S 35.08 73 *e*P **P** **06 49 00.2 +0.9**
BUR08 Bucovina Ar. S 35.08 73 *e*P **P** **06 49 00.2 +0.9**
BURAR Bucovina Array 35.11 73 *i*P **P** **06 49 00.4 +0.9**
BURAR Bucovina Array 35.11 73 *i*P **P** **06 49 00.4 +0.9**
BURAR Bucovina Array 35.11 73 *i*P **P** **06 49 00.4 +0.9**
ARR Arges 35.75 77 *i*P **P** **06 49 03.6 -1.3**
ARR Arges 35.75 77 *i*P **P** **06 49 03.6 -1.3**
KIEV Kiev 36.26 66 *e*P **P** **06 49 08.9 -0.2**
AKASG Malin Array Be 36.26 66 P **P** **06 49 08.2 -0.9**
comp=Z,0.8nm,0.4s,baz=293,slow=8.5,SNR=8.4
AKASG LR LR 07 04 29.8
comp=Z,296nm,19.4s,baz=295,slow=37
MLR Muntele Rosu 36.51 76 *i*P **P** **06 49 12.9 +1.4**
MLR Muntele Rosu 36.51 76 *i*P **P** **06 49 12.9 +1.4**
MLR Muntele Rosu 36.51 76 *i*P **P** **06 49 12.9 +1.4**
VRI Vrincioaia 36.81 75 *i*P **P** **06 49 14.1 +0.1**
VRI Vrincioaia 36.81 75 *i*P **P** **06 49 14.1 +0.1**
VRI Vrincioaia 36.81 75 *i*P **P** **06 49 14.1 +0.1**
TMCR Tamitsa 36.97 42 *e*P **P** **06 49 14.9 -0.2**
TMCR pmax pmax
comp=Z,90nm,1.7s
FCC Fort Churchill 37.23 309 *e*P **P** **06 49 17.3 0.0**
FCC pmax pmax
comp=Z,10.0nm,1.3s
FCC Fort Churchill 37.23 309 *e*P **P** **06 49 17.3 0.0**
comp=Z,9.8nm,1.3s
FCC Fort Churchill 37.23 309 *e*P **P** **06 49 17.3 0.0**
comp=Z,9.8nm,1.3s
CFR Carcaliu 38.01 75 *i*P **P** **06 49 23.8 -0.3**
CFR Carcaliu 38.01 75 *i*P **P** **06 49 23.8 -0.3**
CFR Carcaliu 38.01 75 *i*P **P** **06 49 23.8 -0.3**
KLMR Klimovskoe 38.41 47 *e*P **P** **06 49 25.9 -1.4**
KLMR pmax pmax
comp=Z,41nm,1.6s
ACSO Alum Creek Sta 38.46 276 *e*P **P** **06 49 28.8 +0.8**
comp=Z,40nm,1.2s
ACSO Alum Creek Sta 38.46 276 *e*P **P** **06 49 28.8 +0.8**
comp=Z,40nm,1.2s
OBN Obninsk 38.76 57 *i* P **P** **06 49 29.7 -0.5**
OBN *i* 06 49 35.9
OBN *i* 06 51 47.2
OBN pmax pmax
comp=Z,53nm,1.7s
OBN MLR MLR
comp=Z,164nm,16.0s
OBN Obninsk 38.76 57 *e*P **P** **06 49 30.1 -0.1**
comp=Z,27nm,0.6s
OBN Obninsk 38.76 57 *e*P **P** **06 49 30.1 -0.1**
comp=Z,27nm,0.6s
SFIN Lafayette 40.99 279 *e*P **P** **06 49 49.1 +0.1**
SFIN Lafayette 40.99 279 *i*P **P** **06 49 49.2 +0.2**
baz=41,SNR=7.4
SFIN Lafayette 40.99 279 *e*P **P** **06 49 49.1 +0.1**
WCI Wyandotte Cave 41.71 276 *e*P **P** **06 49 55.5 +0.5**
WCI pmax pmax
comp=Z,13nm,0.9s
WCI Wyandotte Cave 41.71 276 *e*P **P** **06 49 55.5 +0.5**
comp=Z,14nm,0.9s
WCI Wyandotte Cave 41.71 276 *e*P **P** **06 49 55.5 +0.5**
comp=Z,14nm,0.9s
SPMN Marine on St. 41.95 289 *e*P **P** **06 49 57.0 +0.2**
comp=Z,6.7nm,0.8s
SPMN Marine on St. 41.95 289 P **P** **06 49 57.3 +0.5**
baz=42
SPMN Marine on St. 41.95 289 *e*P **P** **06 49 57.0 +0.2**
comp=Z,6.7nm,0.8s
CPCT Cooper Cave 42.25 271 *e*P **P** **06 50 00.0 +0.6**
CPCT Cooper Cave 42.25 271 *e*P **P** **06 50 00.0 +0.6**
AGMN Agassiz Nation 42.25 294 *e*P **P** **06 50 00.1 +0.9**
comp=Z,24nm,1.7s
AGMN Agassiz Nation 42.25 294 *i*P **P** **06 49 59.5 +0.3**
baz=42
AGMN Agassiz Nation 42.25 294 *e*P **P** **06 50 00.1 +0.9**
comp=Z,24nm,1.7s
FFC Flin Flon 42.73 305 *e*P **P** **06 50 03.2 +0.2**
FFC pmax pmax
comp=Z,8.0nm,1.3s
FFC Flin Flon 42.73 305 *e*P **P** **06 50 03.2 +0.2**
comp=Z,7.7nm,1.3s
FFC Flin Flon 42.73 305 *e*P **P** **06 50 03.2 +0.2**
comp=Z,7.7nm,1.3s
SWET Sewanee 43.30 272 *e*P **P** **06 50 07.7 -0.3**
comp=Z,41nm,1.7s
SWET Sewanee 43.30 272 *e*P **P** **06 50 07.7 -0.3**
comp=Z,41nm,1.7s
A30A Hoffart Farm, 43.36 296 *i*P **P** **06 50 08.4 +0.2**
baz=43
B30A Myrvik Farm, E 43.61 296 *i*P **P** **06 50 10.8 +0.5**
baz=44,SNR=12
SIUC Southern Illin 43.88 277 *e*P **P** **06 50 12.6 +0.1**
comp=Z,40nm,1.1s
SIUC Southern Illin 43.88 277 *e*P **P** **06 50 12.6 +0.1**
comp=Z,40nm,1.1s
ANN Anapa 43.89 70 *e*P **P** **06 50 09.5 -3.0**
ANN MLR MLR
comp=Z,294nm,17.0s
A29A Manning Farm, 43.90 297 *i*P **P** **06 50 12.9 +0.3**
baz=44
C30A Mose, Pekin 44.08 295 *i*P **P** **06 50 14.1 +0.1**
baz=44
B29A Wagenman Farm, 44.20 296 *i*P **P** **06 50 15.6 +0.6**
baz=44
TIGA Tifton 44.22 266 *i*P **P** **06 50 15.9 +0.6**
baz=44
BR131 Keskin Array S 44.36 79 *e*P **P** **06 50 17.4 +0.9**
comp=Z,2.2nm,0.8s
BR131 Keskin Array S 44.36 79 *e*P **P** **06 50 17.4 +0.9**
comp=Z,2.2nm,0.8s
BRTR Keskin Array B 44.36 79 P **P** **06 50 17.1 +0.6**
comp=Z,1.0nm,0.7s,baz=298,slow=5.5,SNR=11
BRTR PcP **PP** **06 51 58.5 -1.4**
comp=Z,1.5nm,1.0s,baz=306,slow=3.4,SNR=4.6
BRTR LR LR 07 10 06.4
comp=Z,120nm,18.5s,baz=291,slow=38
A28A Rude Farm, Bot 44.50 297 P **P** **06 50 17.4 0.0**
baz=44
D30A Buchanan 44.54 294 *i*P **P** **06 50 18.1 +0.3**
baz=44
MDND Maddock 44.66 295 P **P** **06 50 18.7 +0.1**
baz=44
TORD Torodi Ar. Bea 44.77 135 P **P** **06 50 18.3 -1.5**
comp=Z,4.2nm,0.7s,baz=337,slow=7.3,SNR=34
TORD LR LR 07 06 48.2
comp=Z,124nm,22.0s,baz=300,slow=33
B28A Dugan Ranch, T 44.79 296 *i*P **P** **06 50 20.3 +0.6**
baz=45
E30A Jud 44.95 293 *i*P **P** **06 50 21.5 +0.6**
baz=45
A27A Ledoux Ranch, 45.03 298 *i*P **P** **06 50 22.4 +0.7**
baz=45
ECSD EROS Data Cent 45.06 289 *e*P **P** **06 50 21.0 -0.9**
comp=Z,9.9nm,1.0s
ECSD EROS Data Cent 45.06 289 *i*P **P** **06 50 22.2 +0.3**
baz=45,SNR=11
ECSD EROS Data Cent 45.06 289 *e*P **P** **06 50 21.0 -0.9**
comp=Z,9.9nm,1.0s
D29A Pettibone, Tap 45.06 294 *i*P **P** **06 50 22.5 +0.7**
baz=45,SNR=5.2
C28A Hausauer Farms 45.18 296 *i*P **P** **06 50 23.6 +0.7**
baz=45
PBMO Poplar Bluff 45.21 277 *e*P **P** **06 50 23.0 -0.2**
comp=Z,28nm,1.1s
PBMO Poplar Bluff 45.21 277 *e*P **P** **06 50 23.0 -0.2**
comp=Z,28nm,1.1s
B27A Peters Farms, 45.32 297 *i*P **P** **06 50 24.8 +0.8**
baz=45
YKA Yellowknife Ar 45.33 319 P **P** **06 50 22.9 -0.8**
comp=Z,2.9nm,0.9s,baz=62,slow=8.2,SNR=17
YKA PcP **PcP** **06 52 02.0 -1.0**
comp=Z,0.9nm,0.8s,baz=67,slow=3.7,SNR=6.9
E29A Napoleon 45.34 294 *i*P **P** **06 50 25.0 +0.9**
baz=45,SNR=6.2
LRAL Lakeview Retre 45.36 270 *e*P **P** **06 50 24.8 +0.4**
comp=Z,13nm,1.3s
LRAL Lakeview Retre 45.36 270 *e*P **P** **06 50 24.8 +0.4**
comp=Z,13nm,1.3s
F30A Leola 45.37 293 *i*P **P** **06 50 25.2 +0.8**
baz=45
A26A Wade Farm, Ken 45.51 298 P **P** **06 50 26.4 +0.9**
baz=45
D28A Regan 45.55 295 *i*P **P** **06 50 26.6 +0.8**
baz=45
SDDR Presa de Saban 45.75 243 *e*P **P** **06 50 28.9 +1.2**
comp=Z,32nm,1.2s
SDDR Presa de Saban 45.75 243 *e*P **P** **06 50 28.9 +1.2**
comp=Z,32nm,1.2s
G30A Faulkton 45.82 292 *i*P **P** **06 50 28.6 +0.7**
baz=46,SNR=5.3
C27A Sayler Ranch, 45.82 296 *i*P **P** **06 50 28.9 +1.0**
baz=46
F29A Eureka 45.84 293 *i*P **P** **06 50 28.7 +0.6**
baz=46
B26A Jensen Ranch, 45.90 297 P **P** **06 50 29.1 +0.6**
baz=46
L34A Svendsen Farm, 45.90 287 P **P** **06 50 28.6 0.0**
baz=46
E28A Huff 45.95 294 *i*P **P** **06 50 29.2 +0.2**
baz=46
OXF Oxford 45.97 274 *e*P **P** **06 50 28.4 -0.7**
OXF pmax pmax
comp=Z,39nm,1.1s
OXF Oxford 45.97 274 *e*P **P** **06 50 28.4 -0.7**
comp=Z,39nm,1.1s
OXF Oxford 45.97 274 *e*P **P** **06 50 28.4 -0.7**
comp=Z,39nm,1.1s
N35A Tabor 46.07 285 *i*P **P** **06 50 29.5 -0.5**
baz=46
O36A Bolckow 46.08 284 *i*P **P** **06 50 29.7 -0.2**
baz=46
BRSD Miller 46.08 291 *i*P **P** **06 50 30.2 +0.3**
baz=46
C26A Wahner Farm, P 46.10 297 *i*P **P** **06 50 30.0 -0.1**
baz=46
D27A Center 46.15 295 P **P** **06 50 29.8 -0.7**
baz=46
G29A Hoven 46.24 292 P **P** **06 50 30.9 -0.4**
baz=46
F28A McLaughlin 46.41 294 *i*P **P** **06 50 33.5 +1.0**
baz=46
Q37A Longview Farm, 46.49 282 *i*P **P** **06 50 33.5 +0.2**
baz=46
P36A Good Intent, A 46.52 283 *i*P **P** **06 50 33.4 -0.1**
baz=46
E27A Carson 46.54 295 P **P** **06 50 33.5 -0.1**
baz=46
O35A Humboldt 46.59 284 *i*P **P** **06 50 33.9 -0.1**
baz=46
A24A Westby 46.61 299 *i*P **P** **06 50 34.2 +0.1**
baz=46
N34A Lincoln 46.62 285 *i*P **P** **06 50 34.4 +0.1**
baz=46
I30A Oacoma 46.65 291 *i*P **P** **06 50 34.4 -0.1**
baz=46
D26A Manning 46.72 296 *i*P **P** **06 50 35.2 +0.2**
baz=47
H29A Onida 46.73 292 *i*P **P** **06 50 35.5 +0.4**
baz=47
SOKR Solikamsk 46.84 44 *c i*P **P** **06 50 36.8 +1.1**
SOKR pmax pmax
comp=Z,40nm,1.6s
G28A Parade 46.90 293 *i*P **P** **06 50 37.5 +1.0**
baz=47
DGMT Dagmar 46.96 298 *i*P **P** **06 50 38.0 +1.1**
baz=47
J30A Dallas 47.02 290 *i*P **P** **06 50 37.7 +0.2**
baz=47,SNR=8.1
E26A Carlson Angus 47.04 295 *i*P **P** **06 50 38.0 +0.4**
baz=47
R37A Teagarden Farm 47.07 282 *i*P **P** **06 50 37.6 -0.2**
baz=47,SNR=8.1
Q36A Arnold C. Orve 47.08 283 *i*P **P** **06 50 37.9 +0.1**
baz=47
A23A Redstone 47.08 299 *i*P **P** **06 50 39.0 +1.1**
baz=47
P35A Duane Minner, 47.09 284 *i*P **P** **06 50 37.9 -0.1**
baz=47
GOF Gofitskoye 47.11 67 *e*P **P** **06 50 39.4 +1.4**
F27A Lemmon 47.11 294 *i*P **P** **06 50 38.4 +0.3**
baz=47,SNR=5.1
I29A Vivian Onida 47.12 291 *i*P **P** **06 50 38.7 +0.5**
baz=47
D25A Fairfield 47.17 296 *i*P **P** **06 50 39.7 +1.2**
baz=47
H28A Mission Ridge 47.18 292 *i*P **P** **06 50 39.2 +0.6**
baz=47
BGNE Belgrade 47.30 287 *i*P **P** **06 50 39.9 +0.2**
baz=47
G27A Dupree 47.33 294 *i*P **P** **06 50 41.0 +1.2**
baz=47,SNR=8.9
B23A Brockton 47.41 299 *i*P **P** **06 50 41.8 +1.4**
baz=47,SNR=11
K30A Basset 47.47 289 *i*P **P** **06 50 41.8 +0.9**
baz=47
J29A Okreek 47.48 291 *i*P **P** **06 50 41.7 +0.7**
baz=47,SNR=9.1
R36A Gordon, Harris 47.48 282 *i*P **P** **06 50 40.7 -0.3**
baz=47,SNR=11
Q35A Mercer Eighty, 47.50 283 *i*P **P** **06 50 41.0 -0.1**
baz=47,SNR=14
F26A Lodgepole 47.50 295 *i*P **P** **06 50 41.8 +0.6**
baz=47
KIV Kislovodsk 47.51 68 *c i*P **P** **06 50 42.7 +1.4**
KIV pmax pmax
comp=Z,5.0nm,1.4s
KIV MLR MLR
comp=Z,155nm,18.0s
E25A Miller Ranch, 47.57 296 *i*P **P** **06 50 41.5 -0.1**

P34A **Walnut Farm, R** 47.58 284 ⇓P P 06 50 41.6 -0.2
baz=47,SNR=9.3
C24A **Savage** 47.59 297 ⇓P P 06 50 41.4 -0.5
baz=47
A22A **Carney Farms,** 47.64 300 ⇓P P 06 50 42.5 +0.3
baz=48
I28A **Midland** 47.65 292 ⇓P P 06 50 42.4 +0.1
baz=48,SNR=5.1
UALR **University of** 47.67 276 *eP* P 06 50 42.0 -0.5
comp=Z,41nm,1.5s
UALR **University of** 47.67 276 *eP* P 06 50 42.0 -0.5
comp=Z,41nm,1.5s
KSU1 **Kansas State U** 47.71 284 *eP* P 06 50 42.5 -0.2
comp=Z,21nm,0.8s
KSU1 **Kansas State U** 47.71 284 ⇓P P 06 50 42.6 -0.2
baz=48
KSU1 **Kansas State U** 47.71 284 *eP* P 06 50 42.5 -0.2
comp=Z,21nm,0.8s
O33A **Hebron** 47.73 285 ⇑P P 06 50 42.8 -0.1
baz=48
D24A **Glendive** 47.76 297 ⇓P P 06 50 42.7 -0.4
baz=48
KBZ **Khabaz** 47.76 69 P P 06 50 44.2 +1.1
comp=Z,0.7nm,0.5s,baz=146,slow=24,SNR=5.0
KBZ PcP PcP 06 52 12.5 +0.6
comp=Z,2.3nm,0.8s,baz=326,slow=24,SNR=3.8
G26A **Maurine** 47.77 294 ⇑P P 06 50 43.2 0.0
baz=48
N32A **Stulken Farm,** 47.77 286 ⇑P P 06 50 43.0 -0.3
baz=48
H27A **Howes** 47.83 293 P P 06 50 44.0 +0.3
baz=48
K29A **Lazy Trails An** 47.84 290 ⇑P P 06 50 44.2 +0.4
baz=48
M31A **Lambtecht Ranc** 47.85 288 P P 06 50 43.9 0.0
baz=48
T37A **Cheneyville 18** 47.85 280 ⇑P P 06 50 43.4 -0.5
baz=48,SNR=9.8
C23A **Lambert** 47.88 298 P P 06 50 44.0 0.0
baz=48
S36A **Lake Cedric, C** 47.90 282 ⇓P P 06 50 43.5 -0.8
baz=48,SNR=12
DBIC **Dimbokro** 47.99 147 P P 06 50 43.4 -1.7
comp=Z,4.0nm,0.9s,baz=349,slow=12,SNR=3.1
DBIC LR LR 07 09 02.3
comp=Z,111nm,18.4s,baz=187,slow=34
J28A **Allard Ranch,** 48.01 291 ⇑P P 06 50 45.9 +0.8
baz=48,SNR=8.8
Q34A **Chapman** 48.02 284 ⇓P P 06 50 45.1 -0.1
baz=48,SNR=5.0
B22A **Reddig Ranch S** 48.06 299 ⇑P P 06 50 47.0 +1.6
baz=48
I27A **Quinn** 48.13 292 ⇑P P 06 50 46.6 +0.6
baz=48,SNR=8.8
P33A **Williams Farm,** 48.18 285 P P 06 50 46.9 +0.4
baz=48
A21A **Bergtoll Ranch** 48.20 300 ⇑P P 06 50 47.3 +0.8
baz=48
D23A **Lindsay** 48.23 297 ⇑P P 06 50 47.3 +0.5
baz=48
H26A **Fairpoint** 48.25 293 ⇑P P 06 50 47.4 +0.5
baz=48
G25A **Newell** 48.30 294 P P 06 50 47.6 +0.2
baz=48
L29A **Maesberg Ranch** 48.34 289 ⇓P P 06 50 47.7 0.0
baz=48
S35A **Otter Creek Ra** 48.38 282 ⇓P P 06 50 47.2 -0.8
baz=48
T36A **Boggs Farm, Ca** 48.49 281 ⇓P P 06 50 48.4 -0.4
baz=48,SNR=13
K28A **Ten Mile Ranch** 48.50 290 P P 06 50 48.8 -0.1
baz=48
Q33A **Connelly Farm,** 48.53 284 ⇑P P 06 50 49.2 +0.1
baz=48
F24A **Ekalaka** 48.53 296 ⇓P P 06 50 50.0 +0.9
baz=48
B21A **Ellsworth Farm** 48.56 300 P P 06 50 50.2 +0.9
baz=48
J27A **Elkhorn Farm,** 48.57 291 ⇓P P 06 50 49.8 +0.3
baz=48
R34A **Isabella, Hill** 48.59 283 ⇓P P 06 50 49.3 -0.2
baz=48
MIAR **Mount Ida** 48.60 277 *eP* P 06 50 49.5 -0.2
MIAR pmax pmax
comp=Z,14nm,0.9s
MIAR **Mount Ida** 48.60 277 *eP* P 06 50 49.5 -0.2
comp=Z,14nm,0.9s
MIAR **Mount Ida** 48.60 277 *eP* P 06 50 49.5 -0.2
comp=Z,14nm,0.9s
I26A **New Underwood** 48.63 293 ⇓P P 06 50 49.1 -0.8
baz=48
P32A **Huiting Farm,** 48.63 285 ⇓P P 06 50 49.5 -0.5
baz=48,SNR=8.2
E23A **Ismay** 48.66 297 ⇓P P 06 50 50.3 +0.2
baz=48
H25A **Fruitdale** 48.73 294 ⇓P P 06 50 50.5 -0.1
baz=49
D22A **Cohagen** 48.80 298 ⇑P P 06 50 52.2 +1.1
baz=49,SNR=7.6
G24A **Alzada** 48.81 295 P P 06 50 52.2 +0.9
baz=49
A20A **Cobblestone Ra** 48.82 301 ⇑P P 06 50 51.9 +0.7
baz=49,SNR=6.2
S34A **Willow Spring** 48.87 282 ⇑P P 06 50 51.4 -0.3
baz=49
W38A **Poteau** 48.87 278 ⇓P P 06 50 51.6 -0.1
baz=49,SNR=9.9
C21A **Desert Coulee** 48.94 299 ⇓P P 06 50 53.4 +1.2
baz=49,SNR=9.3
T35A **Sooner Cattle** 48.98 281 ⇓P P 06 50 52.3 -0.3
baz=49,SNR=13
Q32A **Meitler Ranch,** 48.99 285 ⇑P P 06 50 52.0 -0.6
baz=49
K27A **Flueckinger Fa** 49.03 291 ⇓P P 06 50 52.8 -0.2
baz=49
R33A **Olander Ranch,** 49.04 284 ⇓P P 06 50 52.8 -0.3
baz=49
B20A **Solberg Farm,** 49.11 300 ⇑P P 06 50 54.8 +1.3
baz=49,SNR=7.4
TUL1 **Leonard** 49.15 280 *eP* P 06 50 53.1 -0.8
comp=Z,12nm,0.7s
TUL1 **Leonard** 49.15 280 ⇑P P 06 50 53.3 -0.6
baz=49,SNR=8.7
TUL1 **Leonard** 49.15 280 *eP* P 06 50 53.1 -0.8
comp=Z,12nm,0.7s
I25A **Rochford** 49.16 293 ⇑P P 06 50 54.3 +0.2
baz=49
F23A **Volborg** 49.16 296 ⇑P P 06 50 54.6 +0.6
baz=49,SNR=5.5
N29A **Votaw Ranch, W** 49.16 288 ⇓P P 06 50 53.7 -0.3
baz=49
P31A **Stockton** 49.17 286 ⇑P P 06 50 53.8 -0.3
baz=49
J26A **Sides Ranch, S** 49.17 292 ⇓P P 06 50 54.7 +0.6
baz=49,SNR=6.5
O30A **MW Ranch, Wils** 49.20 287 ⇓P P 06 50 54.0 -0.3
baz=49
H24A **Dirks Ranch, A** 49.22 294 ⇑P P 06 50 54.4 -0.1
baz=49
INK **Inuvik** 49.23 332 *eP* P 06 50 54.0 0.0
INK pmax pmax
comp=Z,9.0nm,1.0s
INK **Inuvik** 49.23 332 *eP* P 06 50 54.0 0.0
comp=Z,8.8nm,1.0s
INK **Inuvik** 49.23 332 *eP* P 06 50 54.0 0.0
comp=Z,8.8nm,1.0s
A19A **Klindworth Far** 49.24 301 ⇓P P 06 50 54.4 -0.2
baz=49
ARU **Arti** 49.27 47 *eP* P 06 50 54.3 -0.2
ARU pmax pmax
comp=Z,12nm,0.9s
ARU **Arti** 49.27 47 *eP* P 06 50 54.3 -0.2
comp=Z,12nm,0.9s
ARU **Arti** 49.27 47 *eP* P 06 50 54.3 -0.2
comp=Z,12nm,0.9s
D21A **La Casta Ranch** 49.31 298 ⇑P P 06 50 55.3 +0.2
baz=49
Y39A **Lockesburg** 49.32 277 P P 06 50 54.9 -0.3
baz=49
EDM **Edmonton** 49.32 308 *eP* P 06 50 55.4 +0.3
EDM **Edmonton** 49.32 308 *eP* P 06 50 55.4 +0.3
EDM **Edmonton** 49.32 308 *eP* P 06 50 55.4 +0.3
T34A **McClaskey Farm** 49.34 282 ⇓P P 06 50 54.9 -0.4
baz=49
W37A **Quinton** 49.40 279 ⇓P P 06 50 55.2 -0.7
baz=49,SNR=9.1
R32A **Long Quarter,** 49.43 284 ⇓P P 06 50 55.6 -0.4
baz=49
L27A **T5 Ranch, Ells** 49.44 290 ⇓P P 06 50 56.0 -0.2
baz=49
S33A **Kaszmaul Farm,** 49.49 283 ⇑P P 06 50 56.3 -0.2
baz=49
Q31A **Ellis** 49.50 285 ⇑P P 06 50 55.8 -0.8
baz=49,SNR=6.0
C20A **Veseth Ranch,** 49.51 299 ⇑P P 06 50 57.0 +0.4
baz=49
J25A **Sunshine Ranch** 49.56 293 ⇓P P 06 50 57.4 +0.3
baz=49,SNR=7.0
PCRV **Puerto La Cruz** 49.58 229 PcP PcP 06 52 18.9 -0.1
comp=Z,12nm,1.0s,baz=329,slow=5.9,SNR=2.6
K26A **Motz Farm, Whi** 49.59 291 ⇑P P 06 50 57.9 +0.5
baz=49
B19A **Brinkman Farms** 49.62 301 ⇑P P 06 50 58.1 +0.8
baz=50
F22A **Rosebud** 49.62 296 ⇓P P 06 50 58.2 +0.8
baz=50
E21A **Keefer Ranch,** 49.65 298 ⇑P P 06 50 58.9 +1.2
baz=50
O29A **4D Ranch, Culb** 49.68 287 ⇑P P 06 50 58.2 +0.2
baz=50
P30A **Selden** 49.70 286 ⇓P P 06 50 57.9 -0.2
baz=50
X37A **Clayton** 49.72 278 ⇓P P 06 50 58.4 +0.1
baz=50
Y38A **Idabel** 49.73 277 P P 06 50 58.0 -0.4
baz=50
I24A **Kuemmerle Ranc** 49.77 293 ⇑P P 06 50 59.0 +0.3
baz=50
N28A **Pribbeno Ranch** 49.80 288 P P 06 50 58.8 -0.1
baz=50
M27A **Reverse DX Ran** 49.81 290 ⇑P P 06 50 58.9 -0.2
baz=50
H23A **Clabaugh Cattl** 49.82 295 P P 06 50 58.6 -0.4
baz=50
V35A **Meyer Ranch, C** 49.90 280 ⇑P P 06 50 59.2 -0.4
baz=50,SNR=7.9
W36A **Wetumka** 49.91 279 ⇑P P 06 50 58.9 -0.8
baz=50,SNR=6.2
U34A **Anderson Ranch** 49.92 281 *eP* P 06 50 59.1 -0.7
comp=Z,9.9nm,0.8s
U34A **Anderson Ranch** 49.92 281 ⇑P P 06 50 59.4 -0.4
baz=50
U34A **Anderson Ranch** 49.92 281 *eP* P 06 50 59.1 -0.7
comp=Z,9.9nm,0.8s
D20A **Manuel Ranch,** 49.94 299 ⇑P P 06 50 59.4 -0.5
baz=50,SNR=9.9
G22A **Birney** 49.96 296 ⇓P P 06 51 00.1 0.0
baz=50
T33A **Patterson Ranc** 49.96 283 ⇓P P 06 50 59.3 -0.8
baz=50
S32A **Newby Ranch, P** 50.01 284 ⇓P P 06 50 59.8 -0.7
baz=50
R31A **Burdett** 50.02 285 ⇓P P 06 50 59.7 -0.8
baz=50
P29A **Atwood** 50.08 287 ⇑P P 06 51 00.4 -0.7
baz=50
Y37A **Hugo** 50.27 278 P P 06 51 02.4 0.0
baz=50
O28A **Krutsinger Ran** 50.28 288 ⇑P P 06 51 02.4 -0.2
baz=50
U33A **Lingo Farm, Me** 50.28 282 ⇑P P 06 51 02.1 -0.4
baz=50,SNR=5.0
V34A **Guthrie** 50.29 281 ⇑P P 06 51 02.0 -0.6
baz=50,SNR=12
EGMT **Eagleton** 50.31 301 *eP* P 06 51 03.2 +0.6
comp=Z,25nm,1.3s
EGMT **Eagleton** 50.31 301 ⇓P P 06 51 03.3 +0.7
baz=50,SNR=9.5
EGMT **Eagleton** 50.31 301 *eP* P 06 51 03.2 +0.6
comp=Z,25nm,1.3s
D19A **Cripps Ranch,** 50.31 299 ⇓P P 06 51 03.2 +0.5
baz=50,SNR=6.0
W35A **Tecumseh** 50.31 280 ⇓P P 06 51 02.2 -0.6
baz=50,SNR=12
139A **Bunkhouse Ranc** 50.33 276 P P 06 51 02.8 -0.1
baz=50
T32A **Huddler Ranch,** 50.33 283 P P 06 51 02.6 -0.3
baz=50
N27A **Anderson Farm,** 50.33 289 ⇓P P 06 51 03.0 0.0
baz=50
Z38A **Mt. Pleasant** 50.33 277 ⇓P P 06 51 03.0 +0.1
baz=50
X36A **Centrahoma** 50.35 279 ⇓P P 06 51 02.4 -0.7
baz=50,SNR=5.8
H22A **Clearmont** 50.35 295 P P 06 51 02.6 -0.5
baz=50
L25A **Engebretsen Ra** 50.39 291 P P 06 51 03.0 -0.4
baz=50
G21A **Lodge Grass** 50.48 296 P P 06 51 03.8 -0.3
baz=50
R30A **Dighton** 50.48 285 ⇑P P 06 51 03.9 -0.2
baz=50,SNR=7.7
Q29A **Oakley** 50.54 286 ⇓P P 06 51 03.9 -0.7
baz=50
P28A **Saint Francis** 50.60 287 ⇓P P 06 51 04.6 -0.4
baz=50,SNR=5.3
E19A **Rath Farm, Rou** 50.66 298 ⇓P P 06 51 05.6 +0.2
baz=50
O27A **Beecher Island** 50.67 288 ⇓P P 06 51 05.4 -0.1
baz=50
F20A **Billings** 50.69 297 ⇓P P 06 51 06.2 +0.6
baz=50
Y36A **Durant** 50.74 278 P P 06 51 05.8 -0.2
baz=51
V33A **Lossen Ranch,** 50.78 281 ⇓P P 06 51 06.2 -0.1
baz=51,SNR=5.8
138A **Matatall Enter** 50.78 276 ⇑P P 06 51 06.8 +0.4
baz=51
239A **Gary** 50.81 275 ⇑P P 06 51 06.7 +0.2
baz=51
W34A **Bridge Creek,** 50.83 280 *eP* P 06 51 06.4 -0.3
comp=Z,34nm,1.3s
W34A **Bridge Creek,** 50.83 280 ⇓P P 06 51 06.5 -0.1
baz=51,SNR=6.0
W34A **Bridge Creek,** 50.83 280 *eP* P 06 51 06.4 -0.3
comp=Z,34nm,1.3s
340A **Bronson** 50.83 274 ⇑P P 06 51 06.7 0.0
baz=51,SNR=5.4
I22A **9 Mile Ranch,** 50.84 295 ⇑P P 06 51 07.2 +0.3
baz=51,SNR=8.8
T31A **Randall Ranch,** 50.85 284 ⇓P P 06 51 06.4 -0.4
baz=51
X35A **Drake** 50.85 279 ⇑P P 06 51 06.4 -0.5
baz=51,SNR=24
M25A **Palm-Egli Farm** 50.87 291 ⇓P P 06 51 06.9 -0.2
baz=51
U32A **Winter Ranch,** 50.87 282 ⇑P P 06 51 06.9 -0.1
baz=51
R29A **Marienthal** 50.93 286 P P 06 51 07.0 -0.5
baz=51
GNI **Garni** 50.98 71 *c iP* LR LR 07 15 02.8
comp=Z,82nm,18.0s,baz=286,slow=39
GNI **Garni** 50.98 71 *c iP* P 06 51 09.7 +1.7
GNI pmax pmax
comp=Z,13nm,1.2s
S30A **Montezuma** 51.00 285 ⇓P P 06 51 08.0 +0.1
baz=51
G20A **Bridger** 51.06 297 ⇓P P 06 51 08.8 +0.4
baz=51,SNR=5.1
NATX **Nacogdoches** 51.10 275 ⇑P P 06 51 08.6 -0.1
baz=51
F19A **Roth Farm, Mol** 51.11 298 ⇑P P 06 51 09.0 +0.2
baz=51,SNR=5.4
P27A **Ficken Ranch,** 51.12 288 ⇑P P 06 51 09.0 +0.1
baz=51
J22A **Midwest** 51.12 294 ⇓P P 06 51 08.8 -0.2
baz=51
O26A **Horse Wrangler** 51.14 289 ⇑P P 06 51 08.9 -0.2
baz=51
Y35A **Marietta** 51.21 279 P P 06 51 09.3 -0.3
baz=51
238A **Jacksonville** 51.23 275 ⇑P P 06 51 09.9 +0.2
baz=51
137A **Heron Place, G** 51.25 276 ⇑P P 06 51 10.2 +0.4
baz=51,SNR=5.0
X34A **Smith Ranch, M** 51.27 280 ⇓P P 06 51 10.0 0.0
baz=51,SNR=8.1
339A **Huntington** 51.31 274 ⇑P P 06 51 10.5 +0.2
baz=51
V32A **Arapaho** 51.32 282 ⇓P P 06 51 10.4 +0.1
baz=51
W33A **Caddo, Fort Co** 51.32 281 ⇓P P 06 51 10.5 +0.1
baz=51,SNR=5.7
440A **Kirbyville** 51.32 273 P P 06 51 10.7 +0.3
baz=51
I21A **Big Trails, Te** 51.36 295 ⇑P P 06 51 10.5 -0.3
baz=51,SNR=9.7
H20A **Greybull** 51.37 296 ⇑P P 06 51 10.9 +0.1
baz=51,SNR=12
R28A **Tribune** 51.39 286 ⇓P P 06 51 10.8 -0.2
baz=51
T30A **Plains** 51.40 284 P P 06 51 10.6 -0.5
baz=51
U31A **Nine Bar Ranch** 51.41 283 ⇓P P 06 51 11.2 +0.1
baz=51
S29A **Ulysses** 51.42 285 ⇑P P 06 51 11.0 -0.1
baz=51
KSCO **Kaye Shedlock'** 51.48 287 *eP* P 06 51 11.7 0.0
comp=Z,44nm,1.5s
KSCO **Kaye Shedlock'** 51.48 287 ⇓P P 06 51 11.6 0.0
baz=51
KSCO **Kaye Shedlock'** 51.48 287 *eP* P 06 51 11.7 0.0
comp=Z,44nm,1.5s
P26A **Davis Ranch, A** 51.58 288 ⇑P P 06 51 12.7 +0.2
baz=51,SNR=5.6
K22A **Casper** 51.61 293 *eP* P 06 51 12.6 0.0
comp=Z,19nm,1.0s
K22A **Casper** 51.61 293 ⇓P P 06 51 13.1 +0.5
baz=51,SNR=9.3
K22A **Casper** 51.61 293 *eP* P 06 51 12.7 0.0
comp=Z,19nm,1.0s
Y34A **Reagan Ranch,** 51.64 279 ⇑P P 06 51 12.9 +0.2
baz=52
237A **Washetta, Mont** 51.67 276 ⇑P P 06 51 13.6 +0.6
baz=52
540A **Vidor** 51.70 273 P P 06 51 13.7 +0.6
baz=52
RLMT **Red Lodge** 51.72 297 *eP* P 06 51 14.4 +0.9
comp=Z,14nm,1.3s
RLMT **Red Lodge** 51.72 297 ⇑P P 06 51 14.3 +0.8
baz=52
RLMT **Red Lodge** 51.72 297 *eP* P 06 51 14.4 +0.8
comp=Z,14nm,1.3s
Z35A **Perchaven, San** 51.72 278 P P 06 51 13.0 -0.4
baz=52
X33A **Lawton** 51.73 280 ⇓P P 06 51 12.8 -0.6
baz=52
J21A **Lysite** 51.73 294 ⇓P P 06 51 13.6 0.0
baz=52
I20A **Worland** 51.77 295 ⇑P P 06 51 14.0 +0.2
baz=52,SNR=12
WMOK **Wichita Mounta** 51.78 281 *eP* P 06 51 13.3 -0.5
WMOK pmax pmax
comp=Z,11nm,0.9s
WMOK **Wichita Mounta** 51.78 281 *eP* P 06 51 13.3 -0.5
comp=Z,11nm,0.9s
WMOK **Wichita Mounta** 51.78 281 *eP* P 06 51 13.3 -0.5
comp=Z,11nm,0.9s
338A **Crockett** 51.78 275 ⇑P P 06 51 14.1 +0.2
baz=52
V31A **Spring Creek L** 51.78 282 ⇓P P 06 51 14.2 +0.3
baz=52
439A **Center Grove,** 51.81 274 P P 06 51 14.0 0.0
baz=52
U30A **WK&E Inc. Balk** 51.81 284 ⇑P P 06 51 14.2 +0.1
baz=52
T29A **Hugoton** 51.82 285 ⇓P P 06 51 13.9 -0.2
baz=52
W32A **Sentinel** 51.83 281 ⇑P P 06 51 14.1 -0.1
baz=52,SNR=8.0
H19A **Powell** 51.83 297 ⇑P P 06 51 14.2 0.0
baz=52,SNR=6.1
S28A **Manter** 51.92 285 ⇑P P 06 51 14.7 -0.2
baz=52
WALA **Waterton Lakes** 51.97 304 *eP* P 06 51 14.9 -0.3
comp=Z,14nm,1.3s
WALA **Waterton Lakes** 51.97 304 *eP* P 06 51 14.9 -0.3
comp=Z,14nm,1.3s
R27A **Eads** 52.04 287 ⇓P P 06 51 15.7 -0.1
baz=52,SNR=9.8
Q26A **Hugo** 52.08 288 ⇑P P 06 51 16.9 +0.7
baz=52,SNR=9.7
J20A **Shoshoni** 52.10 295 ⇑P P 06 51 16.9 +0.7
baz=52,SNR=10
Z34A **Collier Ranch,** 52.12 279 ⇑P P 06 51 16.0 -0.3
baz=52
236A **Katherine and** 52.13 276 ⇑P P 06 51 16.1 -0.3
baz=52
Y33A **Hilltop Ranch,** 52.15 280 ⇓P P 06 51 16.5 -0.1
baz=52,SNR=13
337A **Centerville** 52.17 275 ⇓P P 06 51 17.2 +0.5
baz=52
H18A **Shoshone NF, C** 52.21 297 ⇑P P 06 51 17.6 +0.4
baz=52
I19A **Meeteetse** 52.21 296 ⇑P P 06 51 17.3 +0.1
baz=52
HRY **Holter Researc** 52.22 300 *eP* P 06 51 17.1 0.0
comp=Z,9.1nm,0.9s
HRY **Holter Researc** 52.22 300 *eP* P 06 51 17.1 0.0
comp=Z,9.1nm,0.9s
W31A **Holland Ranch,** 52.22 282 ⇓P P 06 51 17.2 +0.1
baz=52
438A **Sam Houston St** 52.29 274 ⇑P P 06 51 18.5 +0.9
baz=52
X32A **Elmer** 52.30 281 ⇓P P 06 51 17.9 +0.2
baz=52,SNR=5.5
V30A **Spur Ranch, Mi** 52.32 283 ⇓P P 06 51 18.4 +0.5
baz=52
135A **Vickery Place,** 52.33 278 ⇑P P 06 51 17.5 -0.4
baz=52,SNR=6.8
N23A **Red Feather La** 52.33 291 ⇓P P 06 51 19.1 +0.9
baz=52,SNR=21
T28A **Walsh** 52.35 285 ⇓P P 06 51 17.8 -0.3
baz=52
R26A **Arlington** 52.43 287 ⇑P P 06 51 19.3 +0.5
baz=52,SNR=12
X31A **McDonald Ranch** 52.60 281 ⇓P P 06 51 19.8 -0.2
baz=52,SNR=9.9
Y32A **R-V Farms, Ver** 52.67 280 ⇑P P 06 51 20.4 -0.1
baz=52
N22A **Wattenberg Ran** 52.69 291 ⇑P P 06 51 20.3 -0.5
baz=52
Z33A **Whitaker Ranch** 52.71 279 ⇓P P 06 51 20.5 -0.2
baz=53,SNR=8.1
J19A **Crowheart** 52.71 295 ⇓P P 06 51 20.8 0.0
baz=52,SNR=7.0
YBMT **Yellow Bay** 52.73 303 *eP* P 06 51 20.4 -0.4
comp=Z,5.0nm,1.0s
YBMT **Yellow Bay** 52.73 303 *eP* P 06 51 20.4 -0.4
comp=Z,5.0nm,1.0s
WHTX **Lake Whitney,** 52.73 277 *eP* P 06 51 20.1 -0.8
comp=Z,15nm,0.7s
WHTX **Lake Whitney,** 52.73 277 ⇓P P 06 51 20.5 -0.4
baz=53
WHTX **Lake Whitney,** 52.73 277 *eP* P 06 51 20.1 -0.8
comp=Z,15nm,0.7s
O23A **Lake Granby, G** 52.74 290 ⇓P P 06 51 20.8 -0.4
baz=53
336A **Riesel** 52.74 276 ⇓P P 06 51 20.7 -0.3
baz=53
134A **White-Moore Ra** 52.74 278 ⇑P P 06 51 20.8 -0.2
baz=53,SNR=11
BOZ **Bozeman (W)** 52.74 299 *eP* P 06 51 21.5 +0.5
BOZ pmax pmax
comp=Z,12nm,1.2s
BOZ **Bozeman (W)** 52.74 299 *eP* P 06 51 21.5 +0.5
comp=Z,12nm,1.2s
BOZ **Bozeman (W)** 52.74 299 *eP* P 06 51 21.5 +0.5
comp=Z,12nm,1.2s
T27A **Campo** 52.76 285 ⇓P P 06 51 21.4 +0.1
baz=53,SNR=9.7
V29A **Stinnett** 52.77 283 ⇓P P 06 51 21.3 +0.1
baz=53
ISCO **Idaho Springs** 52.81 290 *eP* P 06 51 22.1 +0.3
ISCO pmax pmax
comp=Z,1.0nm,0.7s
ISCO **Idaho Springs** 52.81 290 *eP* P 06 51 22.1 +0.3
comp=Z,1.1nm,0.7s
ISCO **Idaho Springs** 52.81 290 ⇑P P 06 51 22.3 +0.5
baz=53
ISCO **Idaho Springs** 52.81 290 *eP* P 06 51 22.1 +0.3
comp=Z,1.1nm,0.7s
S26A **Kim** 52.87 286 ⇓P P 06 51 22.4 +0.3
baz=53
CHMT **Chamberlain Mo** 52.88 301 *eP* P 06 51 21.8 -0.3
comp=Z,12nm,1.3s
CHMT **Chamberlain Mo** 52.88 301 *eP* P 06 51 21.8 -0.3
comp=Z,12nm,1.3s
U28A **Mallet** 52.88 284 ⇑P P 06 51 22.4 +0.3
baz=53
H17A **Grant Village** 52.90 297 *eP* P 06 51 25.8 +3.4
comp=Z,6.4nm,1.2s
SWMT **Swartz Lake** 52.93 302 *eP* P 06 51 22.6 +0.3

comp=Z,2.8nm,0.8s
SWMT Swartz Lake 52.93 302 *e*P P 06 51 22.6 +0.3
comp=Z,2.8nm,0.8s
JTMT Jette 52.94 303 *e*P P 06 51 22.8 +0.4
JTMT Jette 52.94 303 *e*P P 06 51 22.8 +0.4
Q24A Divide 53.05 289 P P 06 51 23.6 +0.1
baz=53
HKT Hockley 53.05 274 *e*P P 06 51 22.5 -0.7
HKT Hockley 53.05 274 *e*P P 06 51 22.5 -0.7
HKT Hockley 53.05 274 *e*P P 06 51 22.4 -0.7
LRM Limekiln Ridge 53.09 300 *e*P P 06 51 23.8 +0.1
comp=Z,66nm,1.6s
LRM Limekiln Ridge 53.09 300 *e*P P 06 51 23.8 +0.1
comp=Z,66nm,1.6s
436A Wall Ranch, Ga 53.12 275 P P 06 51 24.0 +0.2
baz=53
O22A Kremmling 53.14 291 ⇑P P 06 51 24.9 +0.6
baz=53,SNR=6.6
Z32A Haskell 53.15 280 ⇓P P 06 51 23.5 -0.5
baz=53,SNR=15
BSMT Bassoo Peak 53.15 303 *e*P P 06 51 24.0 -0.1
comp=Z,2.8nm,1.0s
BSMT Bassoo Peak 53.15 303 *e*P P 06 51 23.9 -0.1
comp=Z,2.8nm,1.0s
234A Clairette 53.15 278 ⇓P P 06 51 23.4 -0.7
baz=53,SNR=16
335A Moody 53.18 276 ⇓P P 06 51 23.8 -0.5
baz=53,SNR=8.1
P23A Jefferson 53.21 290 ⇓P P 06 51 25.9 +1.1
baz=53,SNR=7.2
Y31A Rekieta Farm, 53.21 281 ⇓P P 06 51 24.5 0.0
baz=53,SNR=12
T26A Comanche Natio 53.23 286 ⇑P P 06 51 25.3 +0.6
baz=53,SNR=17
U27A Thompson Grove 53.23 285 ⇓P P 06 51 24.6 -0.1
baz=53,SNR=14
133A Hamilton Ranch 53.25 279 ⇓P P 06 51 24.3 -0.4
baz=53,SNR=11
537A Green Hill Far 53.28 274 ⇑P P 06 51 25.4 +0.4
baz=53,SNR=6.9
X30A Coker Ranch, T 53.28 282 ⇓P P 06 51 25.2 +0.2
baz=53,SNR=8.0
V28A Channing 53.29 284 ⇓P P 06 51 25.4 +0.3
baz=53
MSO Missoula 53.31 301 *e*P P 06 51 25.0 -0.1
comp=Z,6.7nm,1.4s
MSO Missoula 53.31 301 ⇓P P 06 51 24.9 -0.2
baz=53
MSO Missoula 53.31 301 *e*P P 06 51 24.9 -0.1
comp=Z,6.7nm,1.4s
BW06 Boulder Array 53.31 295 *e*P P 06 51 24.3 -1.0
comp=Z,12nm,1.1s
BW06 Boulder Array 53.31 295 *e*P P 06 51 24.3 -1.0
comp=Z,12nm,1.1s
PDAR Pinedale Array 53.31 295 P P 06 51 24.6 -0.8
comp=Z,5.3nm,0.9s,baz=60,slow=8.8,SNR=32
PDAR LR LR 07 12 31.3
comp=Z,75nm,18.9s,baz=73,slow=34
W29A Amarillo 53.33 283 ⇑P P 06 51 26.2 +0.7
baz=53,SNR=6.8
MOOW Moose Ponds 53.39 297 *e*P P 06 51 26.8 +0.9
MOOW Moose Ponds 53.39 297 *e*P P 06 51 26.8 +0.9
LOHW Long Hollow 53.40 297 *e*P P 06 51 26.0 +0.1
comp=Z,7.3nm,1.3s
LOHW Long Hollow 53.40 297 *e*P P 06 51 26.0 +0.1
comp=Z,7.3nm,1.3s
DLMT Dillon 53.45 299 *e*P P 06 51 26.8 +0.5
comp=Z,12nm,1.3s
DLMT Dillon 53.45 299 *e*P P 06 51 26.8 +0.5
comp=Z,12nm,1.3s
AMTX Amarillo 53.51 283 *e*P P 06 51 26.9 +0.2
comp=Z,33nm,1.0s
AMTX Amarillo 53.51 283 ⇑P P 06 51 27.5 +0.8
baz=53
AMTX Amarillo 53.51 283 *e*P P 06 51 26.9 +0.2
comp=Z,33nm,1.0s
Z31A Sharp Cattle R 53.56 280 ⇑P P 06 51 26.6 -0.5
baz=53,SNR=7.8
SNOW Snow King Moun 53.58 296 *e*P P 06 51 27.8 +0.5
comp=Z,9.8nm,1.3s
SNOW Snow King Moun 53.58 296 *e*P P 06 51 27.8 +0.5
comp=Z,9.8nm,1.3s
FXWY Fox Creek 53.62 297 *e*P P 06 51 27.8 +0.2
FXWY Fox Creek 53.62 297 *e*P P 06 51 27.8 +0.2
233A Rising Star 53.63 278 ⇓P P 06 51 26.8 -0.7
baz=54,SNR=11
334A Lometa 53.66 277 ⇑P P 06 51 27.6 -0.2
baz=54,SNR=15
V27A Dan Oppiter Fa 53.66 284 ⇓P P 06 51 27.9 +0.1
baz=54
TPAW Teton Pass 53.67 297 *e*P P 06 51 28.5 +0.5
comp=Z,9.5nm,1.2s
TPAW Teton Pass 53.67 297 *e*P P 06 51 28.5 +0.5
comp=Z,9.5nm,1.2s
Y30A Stafford Cattl 53.67 281 ⇓P P 06 51 27.9 0.0
baz=54
REDW Red Top Meadow 53.69 296 *e*P P 06 51 28.5 +0.4
comp=Z,31nm,1.5s
REDW Red Top Meadow 53.69 296 *e*P P 06 51 28.4 +0.4
comp=Z,31nm,1.5s
SDV Santo Domingo 53.69 234 *e*P P 06 51 29.4 +1.1
comp=Z,8.2nm,1.3s
SDV Santo Domingo 53.69 234 *e*P P 06 51 29.4 +1.1
comp=Z,8.2nm,1.3s
ABTX Abilene, Hawle 53.70 279 *e*P P 06 51 27.1 -1.0
comp=Z,12nm,0.8s
ABTX Abilene, Hawle 53.70 279 ⇓P P 06 51 27.4 -0.7
baz=54
ABTX Abilene, Hawle 53.70 279 *e*P P 06 51 27.1 -1.0
comp=Z,12nm,0.8s
637A Eagle Lake 53.72 274 ⇓P P 06 51 28.8 +0.6
baz=54
N20A Spence Gulch, 53.75 292 ⇑P P 06 51 28.2 -0.4
baz=54,SNR=16
T25A Trinidad 53.75 287 ⇑P P 06 51 28.5 -0.2
baz=54,SNR=16
536A Bastrop 53.76 275 P P 06 51 29.0 +0.5
baz=54
X29A Tulia 53.80 282 ⇑P P 06 51 29.0 +0.1
baz=54,SNR=6.7
EGAK Eagle 53.83 331 *e*P P 06 51 29.0 +0.5
comp=Z,7.7nm,1.0s
EGAK Eagle 53.83 331 *e*P P 06 51 29.0 +0.5
comp=Z,7.7nm,1.0s
MCMT McKenzie Canyo 53.92 299 *e*P P 06 51 30.6 +0.8
MCMT McKenzie Canyo 53.92 299 *e*P P 06 51 30.6 +0.8
R23A Moffat 53.95 288 ⇓P P 06 51 30.2 +0.1
baz=54,SNR=8.5
434A Burnet 54.03 277 ⇑P P 06 51 30.6 +0.1
baz=54
SDCO Great Sand Dun 54.03 288 *e*P P 06 51 30.7 -0.1
comp=Z,46nm,2.7s
SDCO Great Sand Dun 54.03 288 ⇑P P 06 51 31.1 +0.4
baz=54
SDCO Great Sand Dun 54.03 288 *e*P P 06 51 30.7 -0.1
comp=Z,46nm,2.7s
X28A Dimmitt 54.07 283 ⇑P P 06 51 31.3 +0.5
baz=54
131A Roby 54.14 280 ⇑P P 06 51 31.2 -0.1
baz=54
333A Richland Sprin 54.14 278 ⇓P P 06 51 30.4 -1.0
baz=54,SNR=20
NEW Newport 54.15 305 *e*P P 06 51 30.8 -0.3
NEW pmax pmax
comp=Z,8.0nm,1.2s
NEW Newport 54.15 305 *e*P P 06 51 30.8 -0.3
comp=Z,7.6nm,1.2s
NEW Newport 54.15 305 ⇑P P 06 51 31.3 +0.1
baz=54
NEW Newport 54.15 305 *e*P P 06 51 30.8 -0.3
comp=Z,7.6nm,1.2s
636A Smothers Creek 54.16 274 ⇑P P 06 51 31.9 +0.5
baz=54
Y29A Porterfield Fa 54.17 282 ⇓P P 06 51 31.3 -0.3
baz=54
O20A White River Ci 54.17 292 *e*P P 06 51 32.9 +1.3
comp=Z,9.1nm,1.0s
O20A White River Ci 54.17 292 ⇑P P 06 51 31.6 -0.1
baz=54,SNR=5.3
O20A White River Ci 54.17 292 *e*P P 06 51 32.9 +1.3
comp=Z,9.1nm,1.0s
232A Coleman 54.19 278 ⇑P P 06 51 31.2 -0.5
baz=54,SNR=8.9
Z30A Sanderson Ranc 54.20 281 ⇓P P 06 51 31.1 -0.6
baz=54
Y28A McKinney Farm, 54.50 282 ⇑P P 06 51 33.6 -0.3
baz=54
736A Circle Diamond 54.52 274 ⇓P P 06 51 34.5 +0.5
baz=54
130A Snyder 54.55 280 ⇑P P 06 51 34.4 +0.1
baz=54
231A Bronte 54.58 279 ⇑P P 06 51 33.9 -0.7
baz=54
Z29A Hungry Hill Ra 54.58 281 ⇓P P 06 51 34.3 -0.3
baz=54,SNR=5.5
332A Millersview 54.59 278 ⇑P P 06 51 33.9 -0.7
baz=54,SNR=9.6
433A Art 54.59 277 ⇓P P 06 51 33.8 -0.8
baz=54,SNR=9.6
635A Leesville 54.68 275 ⇑P P 06 51 34.7 -0.4
baz=55,SNR=5.8
534A Blanco 54.69 276 ⇓P P 06 51 34.5 -0.9
baz=55,SNR=18
COLD Coldfoot 54.70 336 *e*P P 06 51 35.8 +1.0
comp=Z,5.3nm,1.1s
COLD Coldfoot 54.70 336 *e*P P 06 51 35.8 +1.0
comp=Z,5.3nm,1.1s
MSTX Muleshoe 54.79 283 *e*P P 06 51 35.9 -0.2
comp=Z,62nm,1.3s
MSTX Muleshoe 54.79 283 ⇓P P 06 51 35.9 -0.2
baz=55,SNR=19
MSTX Muleshoe 54.79 283 *e*P P 06 51 35.9 -0.2
comp=Z,62nm,1.3s
S22A 4UR Ranch, Cre 54.84 289 ⇓P P 06 51 36.4 -0.2
baz=55
432A Menard 54.96 278 ⇓P P 06 51 36.7 -0.6
baz=55,SNR=19
Z28A Tucker Farm, M 54.99 282 ⇓P P 06 51 37.6 0.0
baz=55,SNR=9.6
533A Kerrville 55.02 276 ⇓P P 06 51 36.5 -1.1
baz=55,SNR=9.8
634A China Grove, S 55.05 275 ⇓P P 06 51 38.0 +0.1
baz=55
735A Kenedy 55.06 274 ⇓P P 06 51 38.3 +0.3
baz=55,SNR=5.9
331A San Angelo 55.07 279 ⇑P P 06 51 37.6 -0.5
baz=55
129A Stewart Farms, 55.10 281 ⇓P P 06 51 37.8 -0.5
baz=55
230A Sterling City 55.12 280 ⇓P P 06 51 38.0 -0.4
baz=55,SNR=5.4
HWUT Hardware Ranch 55.20 295 *e*P P 06 51 38.9 -0.2
comp=Z,14nm,0.9s
HWUT Hardware Ranch 55.20 295 *e*P P 06 51 38.9 -0.2
comp=Z,14nm,0.9s
JCT Junction City 55.23 277 *e*P P 06 51 38.5 -0.7
JCT pmax pmax
comp=Z,14nm,0.9s
JCT Junction City 55.23 277 *e*P P 06 51 38.5 -0.7
comp=Z,14nm,0.9s
JCT Junction City 55.23 277 ⇑P P 06 51 38.3 -0.9
baz=55,SNR=9.6
JCT Junction City 55.23 277 *e*P P 06 51 38.5 -0.7
comp=Z,14nm,0.9s
B08A Colville Reser 55.25 306 *e*P P 06 51 38.9 -0.2
comp=Z,12nm,1.3s
B08A Colville Reser 55.25 306 *e*P P 06 51 38.9 -0.2
comp=Z,12nm,1.3s
HYT Haines Junctio 55.27 326 *e*P P 06 51 40.9 +1.7
HYT Haines Junctio 55.27 326 *e*P P 06 51 40.9 +1.7
835A Beeville 55.46 274 ⇓P P 06 51 41.8 +0.9
baz=55
330A Mertzon 55.48 279 ⇓P P 06 51 40.6 -0.5
baz=55,SNR=7.0
128A Castleberry Fa 55.50 281 ⇓P P 06 51 40.8 -0.4
baz=55
229A Bryant Ranch, 55.51 280 P P 06 51 41.2 -0.1
baz=55
633A Saathoff Ranch 55.52 276 ⇓P P 06 51 40.7 -0.6
baz=55,SNR=7.7
DOT Dot Lake 55.53 331 *e*P P 06 51 42.1 +1.2
DOT Dot Lake 55.53 331 *e*P P 06 51 42.1 +1.2
532A Rocksprings 55.53 277 ⇑P P 06 51 40.8 -0.6
baz=55,SNR=18
ILAR Eielson Array 55.58 333 P P 06 51 42.0 +0.8
comp=Z,4.5nm,1.0s,baz=39,slow=5.4,SNR=40
ILAR PcP PcP 06 52 40.2 -0.6
comp=Z,1.0nm,0.8s,baz=5.0,slow=3.9,SNR=6.5
ILAR LR LR 07 14 15.7
comp=Z,58nm,19.7s,baz=72,slow=35
HLID Hailey 55.59 299 *e*P P 06 51 42.9 +1.1
comp=Z,14nm,1.3s
HLID Hailey 55.59 299 ⇑P P 06 51 42.7 +0.8
baz=55,SNR=13
HLID Hailey 55.59 299 *e*P P 06 51 42.9 +1.1
comp=Z,14nm,1.3s
431A Sonora 55.61 278 ⇓P P 06 51 41.9 -0.1
baz=56,SNR=18
PV01 Paradox Valley 55.64 290 *e*P P 06 51 42.7 +0.3
comp=Z,829nm,1.6s
PV01 Paradox Valley 55.64 290 *e*P P 06 51 42.7 +0.3
comp=Z,829nm,1.6s
PV04 Paradox Valley 55.68 291 *e*P P 06 51 43.3 +0.8
PV04 Paradox Valley 55.68 291 *e*P P 06 51 43.3 +0.8
PV10 Paradox Valley 55.77 291 *e*P P 06 51 44.2 +0.9
comp=Z,627nm,1.1s
PV10 Paradox Valley 55.77 291 *e*P P 06 51 44.2 +0.9
comp=Z,627nm,1.1s
COLA College 55.79 333⇑*e*P P 06 51 42.5 -0.2
COLA College 55.79 333 *e*P P 06 51 43.3 +0.6
comp=Z,7.8nm,1.4s
COLA College 55.79 333 *e*P P 06 51 43.3 +0.6
comp=Z,7.8nm,1.4s
HVU Hansel Valley 55.79 296 *e*P P 06 51 43.6 +0.3
HVU Hansel Valley 55.79 296 *e*P P 06 51 43.6 +0.3
HVU Hansel Valley 55.79 296 *e*P P 06 51 43.6 +0.3
632A Uvalde 55.88 276 ⇓P P 06 51 43.5 -0.4
baz=56,SNR=18
228A UT Block 9, Go 55.90 281 ⇓P P 06 51 45.0 +1.0
baz=56
531A Rocksprings 55.92 278 ⇓P P 06 51 43.5 -0.7
baz=56,SNR=20
MENT Mentasta 55.93 330 *e*P P 06 51 44.8 +1.0
MENT Mentasta 55.93 330 *e*P P 06 51 44.8 +1.0
329A Wagon Wheel Ra 55.94 280 ⇑P P 06 51 44.2 -0.1
baz=56,SNR=5.5
430A Baggett Ranch, 55.94 279 ⇑P P 06 51 44.2 -0.1
baz=56,SNR=23
CCB Clear Creek Bu 55.94 333 *e*P P 06 51 44.4 +0.6
CCB Clear Creek Bu 55.94 333 *e*P P 06 51 44.4 +0.6
834A Tilden 56.04 274 ⇑P P 06 51 45.3 +0.3
baz=56,SNR=9.8
733A Divot King Ran 56.10 275 P P 06 51 45.8 +0.3
baz=56
SRU San Rafael Swe 56.18 292 *e*P P 06 51 46.3 +0.1
SRU pmax pmax
comp=Z,129nm,2.8s
SRU San Rafael Swe 56.18 292 *e*P P 06 51 46.3 +0.1
comp=Z,129nm,2.8s
SRU San Rafael Swe 56.18 292 *e*P P 06 51 46.3 +0.1
comp=Z,129nm,2.8s
MVCO Mesa Verde 56.20 289 *e*P P 06 51 47.6 +1.2
comp=Z,20nm,1.5s
MVCO Mesa Verde 56.20 289 ⇑P P 06 51 47.0 +0.7
baz=56,SNR=6.4
MVCO Mesa Verde 56.20 289 *e*P P 06 51 47.6 +1.2
comp=Z,20nm,1.5s
934A Benavides 56.38 274 ⇑P P 06 51 47.8 +0.4
baz=56,SNR=7.0
530A J-C Ranch, Com 56.43 278 ⇑P P 06 51 47.7 -0.2
baz=56,SNR=14
ANMO Albuquerque 56.43 286*d*iP P 06 51 48.4 +0.4
ANMO pmax pmax
comp=Z,46nm,1.7s
ANMO Albuquerque 56.43 286 *e*P P 06 51 48.7 +0.7
comp=Z,10nm,1.3s
ANMO Albuquerque 56.43 286 *e*P P 06 51 48.6 +0.7
comp=Z,10nm,1.3s
833A Chaparral WMA, 56.44 275 ⇑P P 06 51 47.5 -0.4
baz=56,SNR=14
429A Davenport Ranc 56.46 279 ⇓P P 06 51 47.8 -0.3
baz=56,SNR=18
PAX Paxson 56.46 331 *e*P P 06 51 48.8 +1.1
PAX pmax pmax
comp=Z,12nm,1.1s
PAX Paxson 56.46 331 *e*P P 06 51 48.8 +1.1
comp=Z,12nm,1.1s
PAX Paxson 56.46 331 *e*P P 06 51 48.8 +1.1
comp=Z,12nm,1.1s
MFID Camas Ranch 56.48 299 *e*P P 06 51 49.3 +1.2
comp=Z,9.4nm,1.2s
MFID Camas Ranch 56.48 299 *e*P P 06 51 49.4 +1.2
comp=Z,9.4nm,1.2s
732A Laxson Ranch, 56.53 276 ⇑P P 06 51 47.7 -0.7
baz=56
035A Encino 56.57 273 ⇑P P 06 51 49.2 +0.4
baz=56
IM04 Indian Mountai 56.58 336 *e*P P 06 51 48.9 +0.5
IM04 Indian Mountai 56.58 336 *e*P P 06 51 48.9 +0.5
BRVK Borovoye 56.72 45*d*iP P 06 51 49.9 +0.4
BRVK pmax pmax
comp=Z,22nm,2.5s
BRVK Borovoye 56.72 45 *e*P P 06 51 50.6 +1.0
comp=Z,15nm,1.3s
BRVK Borovoye 56.72 45 *e*P P 06 51 50.6 +1.0
comp=Z,15nm,1.3s
HARP HAARP 56.77 330 *e*P P 06 51 51.8 +2.0
comp=Z,30nm,1.2s
HARP HAARP 56.77 330 *e*P P 06 51 51.8 +2.0
comp=Z,30nm,1.2s
BVAR Borovoye Array 56.79 45 P P 06 51 50.8 +0.7
comp=Z,2.9nm,0.6s,baz=312,slow=5.1,SNR=18
BVAR LR LR 07 15 27.2
comp=Z,251nm,21.5s,baz=258,slow=35
DUG Dugway, Tooele 56.83 295 *e*P P 06 51 51.2 +0.5
DUG pmax pmax
comp=Z,11nm,0.9s
DUG Dugway, Tooele 56.83 295 *e*P P 06 51 51.2 +0.5
comp=Z,11nm,0.9s
DUG Dugway, Tooele 56.83 295 ⇓P P 06 51 51.4 +0.7
baz=57,SNR=13
DUG Dugway, Tooele 56.83 295 *e*P P 06 51 51.2 +0.5
comp=Z,11nm,0.9s
832A Faith Ranch, C 56.84 276 ⇓P P 06 51 50.4 -0.3
baz=57,SNR=11
933A Laredo 56.85 274 ⇑P P 06 51 50.8 0.0
baz=57,SNR=17
034A Hebbronville 56.85 274 ⇓P P 06 51 51.0 +0.2
baz=57,SNR=5.5
MCK McKinley 56.96 333 *e*P P 06 51 51.9 +0.8
MCK pmax pmax
comp=Z,40nm,1.4s
MCK McKinley 56.96 333 *e*P P 06 51 51.9 +0.8
comp=Z,40nm,1.4s
MCK McKinley 56.96 333 *e*P P 06 51 51.9 +0.8
comp=Z,40nm,1.4s
G08A Pilot Rock 57.00 303 *e*P P 06 51 51.5 -0.2
comp=Z,15nm,1.5s
G08A Pilot Rock 57.00 303 *e*P P 06 51 51.5 -0.2
comp=Z,15nm,1.5s
529A Stev Forest Ra 57.01 279 ⇓P P 06 51 51.7 -0.3
baz=57,SNR=14
LAZ Ladron 57.22 286 *e*P P 06 51 53.9 +0.4
comp=Z,4.7nm,1.4s
LAZ Ladron 57.22 286 *e*P P 06 51 53.9 +0.4
comp=Z,4.7nm,1.4s
BPAW Bear Paw Mtn. 57.27 334 *e*P P 06 51 53.9 +0.6
comp=Z,3.5nm,1.7s
BPAW Bear Paw Mtn. 57.27 334 *e*P P 06 51 53.9 +0.6
comp=Z,3.5nm,1.7s
MSU Marysvale 57.55 293 *e*P P 06 51 56.1 +0.2
MSU pmax pmax
comp=Z,15nm,1.4s
MSU Marysvale 57.55 293 *e*P P 06 51 56.1 +0.2
comp=Z,15nm,1.4s
MSU Marysvale 57.55 293 *e*P P 06 51 56.1 +0.2
comp=Z,15nm,1.4s
TRF Thorofare Moun 57.57 333 *e*P P 06 51 56.2 +0.6
comp=Z,16nm,1.2s
TRF Thorofare Moun 57.57 333 *e*P P 06 51 56.2 +0.6
comp=Z,16nm,1.2s
MVU Marysvale 57.58 293 *e*P P 06 51 56.8 +0.7
comp=Z,20nm,1.4s
MVU Marysvale 57.58 293 *e*P P 06 51 56.8 +0.7
comp=Z,20nm,1.4s
BMRM Bremner River 57.64 329 *e*P P 06 51 57.8 +1.8
comp=Z,25nm,1.3s
BMRM Bremner River 57.64 329 *e*P P 06 51 57.8 +1.8
comp=Z,25nm,1.3s
KTH Kantishna Hill 57.67 333 *e*P P 06 51 56.8 +0.6
comp=Z,35nm,1.2s
KTH Kantishna Hill 57.67 333 *e*P P 06 51 56.9 +0.6
comp=Z,35nm,1.2s
MNTX Cornudas Mount 57.93 282 *e*P P 06 51 57.9 -0.5
comp=Z,4.0nm,1.1s
MNTX Cornudas Mount 57.93 282 ⇑P P 06 51 58.4 0.0
baz=58
MNTX Cornudas Mount 57.93 282 *e*P P 06 51 57.9 -0.5
comp=Z,4.0nm,1.1s
G05D Wamic, OR 58.29 304 P P 06 52 01.0 +0.3
baz=58
W18A Petrified Fore 58.33 288 ⇓P P 06 52 01.7 +0.4
baz=58
TXAR Lajitas Array 58.46 279 P P 06 52 02.1 -0.1
comp=Z,2.9nm,0.7s,baz=62,slow=7.6,SNR=58
TXAR PcP PcP 06 52 52.7 0.0
comp=Z,1.4nm,1.0s,baz=54,slow=6.4,SNR=3.6
TXAR LR LR 07 16 47.2
comp=Z,215nm,19.3s,baz=0.0,slow=36
F04D Rainier, OR 58.63 306 P P 06 52 03.4 +0.4
baz=58
WVOR Wild Horse Val 58.69 300 *e*P P 06 52 04.2 +0.5
WVOR pmax pmax
comp=Z,20nm,1.3s
WVOR Wild Horse Val 58.69 300 *e*P P 06 52 04.2 +0.5
comp=Z,20nm,1.3s
WVOR Wild Horse Val 58.69 300 *e*P P 06 52 04.2 +0.5
comp=Z,20nm,1.3s
121A Cookes Peak, D 58.87 285 ⇑P P 06 52 05.7 +0.5
baz=59,SNR=7.6
I05D Terrebonne, OR 58.90 303 P P 06 52 05.5 +0.5
baz=59
ROSC El Rosal 59.03 236 P P 06 52 07.6 +1.0
comp=Z,7.7nm,1.0s,baz=69,slow=6.4,SNR=8.5
ROSC LR LR 07 13 49.8
comp=Z,106nm,21.8s,baz=30,slow=32
ROSC El Rosal 59.03 236 *e*P P 06 52 07.8 +1.1
ROSC El Rosal 59.03 236 *e*P P 06 52 07.8 +1.1
WUAZ Wupatki 59.06 290 *e*P P 06 52 07.3 +0.9
comp=Z,24nm,1.4s
WUAZ Wupatki 59.06 290 ⇑P P 06 52 06.8 +0.4
baz=59,SNR=5.7
WUAZ Wupatki 59.06 290 *e*P P 06 52 07.3 +0.9
comp=Z,24nm,1.4s
BMN Battle Mountai 59.22 297 *e*P P 06 52 08.3 +0.9
BMN pmax pmax
comp=Z,9.0nm,0.8s
BMN Battle Mountai 59.22 297 *e*P P 06 52 08.3 +0.9
comp=Z,8.9nm,0.8s
BMN Battle Mountai 59.22 297 *e*P P 06 52 08.3 +0.9
comp=Z,8.9nm,0.8s
H10N2 ASCENSION HYDR 59.27 163 T T 07 55 54.1
baz=348
H10N3 ASCENSION HYDR 59.28 163 T T 07 55 51.2
baz=348
H10N1 ASCENSION HYDR 59.29 163 T T 07 56 04.3
baz=348
J05D Fort Rock, OR 59.55 302 ⇓P P 06 52 10.3 +0.6
baz=59,SNR=11
R11A Troy Canyon, C 59.66 295 *e*P P 06 52 10.8 +0.2
comp=Z,6.4nm,1.1s
R11A Troy Canyon, C 59.66 295 ⇓P P 06 52 10.9 +0.4
baz=60,SNR=13
R11A Troy Canyon, C 59.66 295 *e*P P 06 52 10.8 +0.2
comp=Z,6.4nm,1.1s
K05A Summer Lake 59.73 301 *e*P P 06 52 11.4 +0.4
comp=Z,41nm,1.4s
K05A Summer Lake 59.73 301 *e*P P 06 52 11.4 +0.4
comp=Z,41nm,1.4s
I04A Tendick Farm, 59.84 303 P P 06 52 11.8 +0.2
baz=60
J04D Umpqua Nationa 60.05 303 P P 06 52 13.3 +0.1
baz=60
K04D Chiloquin, OR 60.27 302 P P 06 52 15.0 +0.4
baz=60
H10S1 ASCENSION HYDR 60.33 164 T T 07 57 03.2
baz=351,slow=75,SNR=6.8
H10S3 ASCENSION HYDR 60.34 164 T T 07 57 09.8
baz=351,slow=75,SNR=6.9
H10S2 ASCENSION HYDR 60.35 164 T T 07 57 09.9
baz=351,slow=75,SNR=8.2
I03D Drain, OR 60.41 304 P P 06 52 15.8 +0.5
baz=60
SHPR Sheep Range 60.66 293 *e*P P 06 52 17.2 -0.2
comp=Z,8.0nm,1.5s
SHPR Sheep Range 60.66 293 *e*P P 06 52 17.2 -0.2
comp=Z,8.0nm,1.5s
TPH Tonopah 60.80 295 *e*P P 06 52 18.4 0.0
TPH pmax pmax
comp=Z,13nm,1.4s
TPH Tonopah 60.80 295 *e*P P 06 52 18.4 0.0
comp=Z,13nm,1.4s
TPH Tonopah 60.80 295 *e*P P 06 52 18.4 0.0

comp=Z,13nm,1.4s
TUC Tucson 60.87 286 eP P 06 52 19.4 +0.6
TUC pmax pmax
comp=Z,9.0nm,1.3s
TUC Tucson 60.87 286 eP P 06 52 19.4 +0.6
comp=Z,9.4nm,1.3s
TUC Tucson 60.87 286 eP P 06 52 19.4 +0.6
comp=Z,9.4nm,1.3s
M04C Macdoel 60.89 301 ⇑P P 06 52 19.5 +0.7
baz=61,SNR=5.6
NVS Novosibirsk 60.99 38 eP P 06 52 19.1 0.0
NVS pmax pmax
comp=Z,4.0nm,1.0s
TPNV Topopah Spring 61.00 294 ⇓P P 06 52 20.4 +0.7
baz=61
NVAR Mina Array Bea 61.18 296 P P 06 52 20.7 -0.3
comp=Z,0.9nm,0.7s,baz=60,slow=6.0,SNR=8.7
PDMCI Parker Dam,Lak 61.55 290 ⇑P P 06 52 24.3 +1.0
baz=61,SNR=7.8
CMIG Matias Romero 61.59 263 P P 06 52 22.2 -1.5
comp=Z,1.7nm,0.8s,baz=0.0,slow=6.1,SNR=2.9
GRAC Grapevine Rang 61.62 295 ⇑P P 06 52 24.8 +1.1
baz=61
N02D Trinity Center 61.92 301 P P 06 52 25.9 +0.2
baz=62
KURK Kurchatov 62.08 43 eP P 06 52 26.6 +0.1
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 62.08 43 eP P 06 52 26.6 +0.1
comp=Z,5.2nm,0.9s
KURK Kurchatov 62.08 43 eP P 06 52 26.6 +0.1
comp=Z,5.2nm,0.9s
GMRC Granite Mounta 62.13 292 ⇑P P 06 52 28.1 +0.8
baz=62,SNR=10
Y12C Blythe 62.16 290 ⇓P P 06 52 28.6 +1.3
baz=62
DAC Darwin (Calif) 62.24 294 eP P 06 52 28.8 +0.7
DAC Darwin (Calif) 62.24 294 eP P 06 52 28.8 +0.7
DAC Darwin (Calif) 62.24 294 eP P 06 52 28.8 +0.7
IRM Iron Mountain 62.25 291 ⇑P P 06 52 28.8 +0.8
baz=62,SNR=8.5
ZALV Zalesovo Beam 62.27 38 LR LR 07 20 40.5
MPMC Manual Prospec 62.33 294 ⇓P P 06 52 29.3 +0.6
baz=62,SNR=9.4
214A Organ Pipe Nat 62.36 287 ⇓P P 06 52 29.4 +0.6
baz=62,SNR=5.7
GSC Goldstone, Bar 62.45 293 eP P 06 52 30.4 +1.0
GSC pmax pmax
comp=Z,47nm,1.6s
GSC Goldstone, Bar 62.45 293 eP P 06 52 30.4 +1.0
comp=Z,47nm,1.6s
GSC Goldstone, Bar 62.45 293 ⇑P P 06 52 30.8 +1.4
baz=62,SNR=11
GSC Goldstone, Bar 62.45 293 eP P 06 52 30.4 +1.0
comp=Z,47nm,1.6s
HEC Hector,Ludlow 62.49 292 ⇓P P 06 52 31.1 +1.4
baz=62
CMB Columbia Colle 62.65 297 eP P 06 52 31.1 +0.5
CMB Columbia Colle 62.65 297 eP P 06 52 31.1 +0.5
CMB Columbia Colle 62.65 297 eP P 06 52 31.1 +0.5
BC3 Big Chuckawall 62.78 291 ⇑P P 06 52 32.7 +1.0
baz=63
GLA Glamis 62.83 290 P P 06 52 32.7 +0.8
baz=63
LRMC Laurel Mtn Rad 62.85 294 ⇓P P 06 52 33.3 +1.2
baz=63,SNR=5.9
BELC Belle Mtn. Jos 62.87 291 ⇓P P 06 52 33.7 +1.4
baz=63,SNR=11
RCTC Rector, Farmer 63.18 295 P P 06 52 35.1 +1.0
baz=63
ISA Isabella, Lake 63.18 294 eP P 06 52 36.2 +1.9
ISA Isabella, Lake 63.18 294 eP P 06 52 36.2 +1.9
ISA Isabella, Lake 63.18 294 ⇑P P 06 52 35.6 +1.3
baz=63
ISA Isabella, Lake 63.18 294 eP P 06 52 36.2 +1.9
PFO Pinyon Flats O 63.42 291 ⇑P P 06 52 36.5 +0.6
baz=63
VES Vestal, Richgr 63.42 295 ⇓P P 06 52 36.3 +0.6
baz=63
SWSC Sam W. Stewart 63.49 290 ⇑P P 06 52 37.1 +0.9
baz=63
KRAR Krasnoyarsk 63.63 32 ⇓eP P 06 52 38.5 +1.8
KKAR Karatay Array 63.64 54 eP P 06 52 37.6 +0.5
KKAR pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 63.64 54 eP P 06 52 37.6 +0.5
comp=Z,1.8nm,0.8s
KKAR Karatay Array 63.64 54 eP P 06 52 37.6 +0.5
comp=Z,1.8nm,0.8s
MONP Monument Peak, 63.90 291 ⇓P P 06 52 40.2 +1.0
baz=64
FMP Fort Macarthur 64.44 292 P P 06 52 43.4 +1.0
baz=64
OTAV Otavalo 65.11 237 eP P 06 52 48.1 +0.6
comp=Z,12nm,1.2s
OTAV Otavalo 65.11 237 eP P 06 52 48.1 +0.6
comp=Z,12nm,1.2s
EKS2 Erkin-Say 65.63 52 eP P 06 52 51.8 +1.6
EKS2 pmax pmax
comp=Z,25nm,1.4s
EKS2 Erkin-Say 65.63 52 eP P 06 52 51.8 +1.6
comp=Z,25nm,1.4s
EKS2 Erkin-Say 65.63 52 eP P 06 52 51.8 +1.6
comp=Z,25nm,1.4s
AAK Ala-Archa 66.01 52 P P 06 52 52.6 -0.2
comp=Z,0.7nm,0.3s,baz=276,slow=5.4,SNR=9.8
AAK LR LR 07 21 49.5
comp=Z,255nm,18.6s,baz=317,slow=36
AAK Ala-Archa 66.01 52 ⇑eP P 06 52 53.9 +1.2
AAK pmax pmax
comp=Z,34nm,1.7s
AAK Ala-Archa 66.01 52 eP P 06 52 54.8 +2.0
comp=Z,26nm,1.7s
AAK Ala-Archa 66.01 52 eP P 06 52 54.8 +2.0
comp=Z,26nm,1.7s
TKM2 Tokmak 2 66.35 51 eP P 06 52 55.0 0.0
TKM2 pmax pmax
comp=Z,20nm,1.5s
TKM2 Tokmak 2 66.35 51 eP P 06 52 55.0 0.0
comp=Z,20nm,1.5s
TKM2 Tokmak 2 66.35 51 eP P 06 52 55.0 0.0
comp=Z,20nm,1.5s
SLBS Sierra La Lagu 66.42 279 eP P 06 52 56.4 +0.9
comp=Z,15nm,1.0s
SLBS Sierra La Lagu 66.42 279 eP P 06 52 56.4 +0.9
comp=Z,15nm,1.0s
MK31 Makanchi Array 66.62 44 eP P 06 52 56.5 +0.1
MK31 Makanchi Array 66.62 44 eP P 06 52 56.5 +0.1
MK31 Makanchi Array 66.62 44 eP P 06 52 56.5 +0.1
MKAR Makanchi Array 66.62 44 P P 06 52 56.4 0.0
comp=Z,2.5nm,0.7s,baz=335,slow=5.4,SNR=33
MKAR LR LR 07 21 20.3
comp=Z,130nm,21.8s,baz=314,slow=35
YAK Yakutsk 66.74 11 eP P 06 52 55.4 -1.4
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
SEY Seymchan 67.10 359 ⇑eP P 06 53 00.3 +1.2
BDFB Brasilia 67.74 200 P P 06 53 01.4 -2.4
comp=N,3.0nm,0.8s,baz=342,slow=11,SNR=3.8
BOD Bodaibo 68.05 20 eP P 06 53 02.5 -2.7
BOD pmax pmax
comp=Z,7.0nm,1.9s
KSH Kashi 69.07 53 P P 06 53 14.4 +2.4
KSH pP **pP 06 53 17.7 +0.5**
KSH PcP **PcP 06 53 38.5 +2.4**
KSH PP **PP 06 55 45.8 +1.7**
KSH PcS 06 57 41.7
KSH S **S 07 02 16.3 -0.2**
KSH sS **sS 07 02 23.7 -1.4**
KSH ScS **SKSac 07 03 10.4 -0.8**
KSH PMZ
comp=Z,26nm,1.4s
KSH LZ
comp=Z,130nm,6.2s
WMQ Urumqi 71.33 43 P P 06 53 27.9 +2.2
WMQ pP **pP 06 53 32.6 +1.7**
WMQ sP **sP 06 53 34.9 +2.0**
WMQ PMZ
comp=Z,6.0nm,1.7s
WMQ LN
comp=Z,34nm,5.8s
WMQ LE
comp=Z,98nm,10.8s

SIV San Ignacio 71.75 212 P P 06 53 27.5 -1.0
comp=Z,4.4nm,1.1s,baz=53,slow=7.3,SNR=7.0
LPAZ La Paz 74.66 219 P P 06 53 44.4 -2.0
comp=Z,4.3nm,1.1s,baz=355,slow=14,SNR=5.7
LPAZ La Paz 74.66 219 eP P 06 53 45.6 -0.7
LPAZ pmax pmax
comp=Z,4.0nm,1.0s
LPAZ La Paz 74.66 219 eP P 06 53 45.6 -0.7
comp=Z,4.2nm,1.0s
LPAZ La Paz 74.66 219 eP P 06 53 45.6 -0.7
comp=Z,4.2nm,1.0s
SONM Songino Array 75.00 29 P P 06 53 48.4 +0.9
comp=Z,3.2nm,0.9s,baz=323,slow=5.8,SNR=22
SONM LR LR 07 28 03.0
comp=Z,90nm,20.9s,baz=314,slow=37
KMBO Kilima Mbogo 75.99 109 LR LR 07 27 39.6
comp=Z,137nm,19.6s,baz=350,slow=36
GTA Gaotai 80.03 38 eP P 06 54 16.3 +0.6
GTA pP **pP 06 54 21.1 +0.1**
GTA sP **sP 06 54 23.4 +0.5**
GTA S **S 07 04 17.8 -1.4**
GTA sS **sS 07 04 25.4 -2.5**
GTA SKS **SKSac 07 04 28.1 -4.3**
GTA SS **SS 07 09 29.9 +2.0**
GTA PMZ
comp=Z,7.0nm,1.2s
GTA PMZ
comp=Z,70nm,5.7s
GTA LN
comp=Z,120nm,19.5s
GTA LE
comp=Z,130nm,20.9s
GTA LZ
comp=Z,140nm,17.6s
HHC Hu-ho-hao-te 82.89 29 eP P 06 54 30.2 -0.6
HHC sP **sP 06 54 36.8 -1.2**
HHC PP **PP 06 57 42.5 +2.1**
HHC S **S 07 04 47.2 -1.5**
HHC SS **SS 07 10 09.7 -0.6**
HHC PMZ
comp=Z,15nm,1.3s
HHC PMZ
comp=Z,77nm,7.1s
HHC LN
comp=Z,150nm,17.6s
HHC LE
comp=Z,140nm,17.6s
HHC LZ
comp=Z,95nm,17.4s
CN2 Changchun 83.68 18 eP P 06 54 33.8 -0.9
CN2 PMZ
comp=Z,10.0nm,0.8s
USRK Ussuriysk Ar. 84.44 14 P P 06 54 38.1 -0.4
comp=Z,4.1nm,0.7s,baz=326,slow=6.9,SNR=11
LZH Lanzhou 84.48 37 eP P 06 54 38.3 -0.8
LZH pP **PcP 06 54 43.2 +0.4**
LZH sP **sP 06 54 45.7 -0.6**
LZH PMZ
comp=Z,15nm,1.0s
BJI Beijing 85.00 26 P P 06 54 42.0 +0.6
BJI PMZ
comp=Z,16nm,1.3s
ASAJ Asahikawa 85.68 6 eP P 06 54 45.1 +0.3
comp=Z,5.5nm,1.0s
ASAJ Asahikawa 85.68 6 eP P 06 54 45.1 +0.3
comp=Z,5.5nm,1.0s
CFAA Coronel Fontan 88.61 213 P P 06 54 58.4 -0.5
comp=Z,0.2nm,0.7s,baz=359,slow=18,SNR=3.5
CD2 Chengdu 89.01 39 eP P 06 54 59.6 -1.5
CD2 pP **PcP 06 55 03.0 +0.4**
CD2 PP **PP 06 58 28.1 -2.0**
CD2 S **S 07 05 46.9 -1.9**
CD2 sS **ScS 07 05 52.6 -1.4**
CD2 SS **SS 07 11 39.5 -0.9**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
KSRS Korea Array 90.30 18 P P 06 55 05.5 -1.5
comp=Z,0.6nm,0.3s,baz=342,slow=5.5,SNR=7.1
KSAR Wonju Array Be 90.30 18 P P 06 55 05.5 -1.5
KSAR Wonju Array Be 90.30 18 P P 06 55 05.4 -1.5
KSAR Wonju Array Be 90.30 18 P P 06 55 05.5 -1.5
NJ2 Nanjing 93.23 27 eP P 06 55 21.7 +1.1
NJ2 PMZ
comp=Z,30nm,0.7s
KMI Kunming 93.66 43 P P 06 55 23.1 +0.1
KMI pP **pP 06 55 27.2 -1.1**
KMI PMZ
comp=Z,7.0nm,0.8s
GYA Guiyang 94.12 39 eP P 06 55 25.0 0.0
GYA PP **PP 06 59 12.3 +1.7**
GYA SKS **SKSac 07 05 58.7 -0.8**
GYA S **S 07 06 32.0 -3.3**
GYA SS **SS 07 12 55.8 +1.6**
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,90nm,5.2s
GYA LZ
comp=Z,450nm,22.0s
KIP Kipapa 95.54 313 ⇑eP P 06 55 31.4 0.0
CMAR Chiang Mai Arr 97.68 49 LR LR 07 42 29.1
comp=Z,51nm,18.9s,baz=345,slow=37
CISI Cisompet, Garu 124.37 55 ePKIKP PKPdf 07 01 06.4 +0.9
CISI Cisompet, Garu 124.37 55 ePKPdf PKPdf 07 01 06.4 +0.9
WRAB Tennant Creek 146.97 29 ePKP2 PKPdf 07 01 47.8 +1.0
WRAB Tennant Creek 146.97 29 ePKIKP PKPdf 07 01 47.8 +1.0
WRAB Tennant Creek 146.97 29 ePKPdf PKPdf 07 01 47.8 +1.0
WRA Warramunga Arr 146.97 29 PKPbc PKPbc 07 01 48.0 -0.8
comp=Z,5.8nm,0.8s,baz=346,slow=4.2,SNR=23
CTA Charters Tower 149.62 9 PKPbc PKPbc 07 01 54.3 -1.5
comp=Z,4.8nm,1.1s,baz=329,slow=7.9,SNR=3.6
AS31 Alice Springs 150.29 33 ePKIKP PKPbc 07 01 55.2 -2.2
AS31 Alice Springs 150.29 33 ePKPdf PKPbc 07 01 55.2 -2.2
ASAR Alice Springs 150.29 33 PKPbc PKPbc 07 01 56.6 -0.7
comp=Z,3.1nm,0.7s,baz=348,slow=2.0,SNR=32
VNDA Vanda 152.37 185 PKPbc PKPbc 07 02 00.2 -0.2
comp=Z,1.6nm,0.8s,baz=232,slow=1.3,SNR=11

IDC ***05*** *07:40:27.6±0.9, 9.62S×128.20E, h0km, mb4.2/12, mb1 4.4/14, mb1mx4.3/20, mbtmp4.2/14, ML3.8/2, MS3.7/5, Ms1 3.8/5, ms1mx3.3/23, Error ellipse: s-maj=30.6km s-min=17.4km az=118.0*
ISCJB ***05*** *07:40:29.5±0.4, 9.64S±0.08×158.28E±0.05, h27km, mb4.2/14, MS3.7/5, Error ellipse: s-maj=11.6km s-min=7.4km az=164.6*
NEIC ***05*** *07:40:33.1±2.5, 9.68S×158.17E, h40km±24km, mb4.4/4, Error ellipse: s-maj=17.5km s-min=12.8km az=160.0*

ISC 05 07:40:31.4±0.6, 9.6S±0.1×158.2E±0.0, h27km, n26, σ1° 07/21, mb4.3/13, MS3.5/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.66**	**83**	*i* P		Pn	07 40 56.0	-2.7
HNR				*i* S		**Sn**	**07 41 17.0**	**-2.2**
DZM	**Mont Dzumac**	**14.64**	**149**	Pn		**Pn**	**07 43 58.4**	**+1.5**
	0.1nm,0.3s,baz=270,slow=20,SNR=2.2							
CTA	**Charters Tower**	**15.58**	**227**	Pn		**Pn**	**07 44 08.0**	**-1.3**
	0.9nm,0.3s,baz=48,slow=14,SNR=10							
CTAO	**Charters Tower**	**15.58**	**227**	*e*P		**Pn**	**07 44 07.6**	**-1.7**
	15nm,0.8s							
WRAB	**Tennant Creek**	**25.26**	**243**	*e*P		**P**	**07 45 55.2**	**-0.4**
	9.8nm,0.6s							
WRA	**Warramunga Arr**	**25.27**	**243**	P		**P**	**07 45 55.6**	**-0.1**
	9.6nm,0.7s,baz=68,slow=9.6,SNR=54							
WRA					LR	LR	07 55 39.3	
	comp=Z,146nm,21.2s,baz=145,slow=36							
STKA	**Stephens Creek**	**27.00**	**213**	P		**P**	**07 46 11.5**	**+0.3**
	14nm,0.8s,baz=9.8,slow=6.6,SNR=16							
STKA					LR	LR	07 56 14.3	
	comp=Z,325nm,20.0s,baz=29,slow=35							
STKA	**Stephens Creek**	**27.00**	**213**	*e*P		**P**	**07 46 11.7**	**+0.5**
	4.3nm,0.9s							
AS31	**Alice Springs**	**27.13**	**236**	*e*P		**P**	**07 46 12.2**	**-0.4**
ASAR	**Alice Springs**	**27.14**	**236**	P		**P**	**07 46 11.8**	**-0.8**
	2.8nm,0.6s,baz=64,slow=9.3,SNR=19							
ASAR					LR	LR	07 55 51.6	
	comp=Z,145nm,20.9s,baz=69,slow=34							
MJAR	**Matsushiro Arr**	**49.66**	**339**	P		**P**	**07 49 20.5**	**-0.4**
	0.5nm,0.4s,baz=168,slow=10,SNR=4.3							
PPT	**Papeete**	**51.16**	**105**	LR		LR	08 07 44.6	
	comp=Z,39nm,19.7s,baz=233,slow=32							
KSRS	**Korea Array**	**54.80**	**331**	P		**P**	**07 49 59.1**	**+0.1**
	0.4nm,0.3s,baz=134,slow=7.0,SNR=4.2							
KSAR	**Wonju Array Be**	**54.81**	**330**	P		**P**	**07 49 59.1**	**0.0**
PETK	**Petropavlovsk-**	**62.50**	**360**	P		**P**	**07 50 54.0**	**+1.7**
	1.6nm,0.6s,baz=177,slow=8.6,SNR=4.5							
CMAR	**Chiang Mai Arr**	**64.85**	**296**	P		**P**	**07 51 08.9**	**+0.3**
	1.3nm,0.3s,baz=101,slow=4.7,SNR=4.1							
VNDA	**Vanda**	**67.89**	**179**	LR		LR	08 16 46.5	
	comp=Z,109nm,18.6s,baz=274,slow=32							
ULN	**Ulaanbaatar**	**72.97**	**327**	*e*P		P	07 52 04.1	+5.3
	14nm,1.4s							
SONM	**Songino Array**	**73.31**	**326**	P		**P**	**07 52 01.3**	**+0.6**
	5.7nm,1.0s,baz=139,slow=3.2,SNR=20							
ILAR	**Eielson Array**	**84.66**	**21**	P		**P**	**07 53 01.4**	**-0.9**
	0.9nm,0.9s,baz=257,slow=5.4,SNR=9.0							
MK31	**Makanchi Array**	**87.53**	**318**	*e*P		**P**	**07 53 16.5**	**-0.5**
MKAR	**Makanchi Array**	**87.53**	**318**	P		**P**	**07 53 15.6**	**-1.4**
	0.9nm,0.6s,baz=99,slow=5.6,SNR=10							
NVAR	**Mina Array Bea**	**90.81**	**51**	P		**P**	**07 53 34.1**	**+1.2**
	0.6nm,0.7s,baz=250,slow=5.3,SNR=6.0							
YKA	**Yellowknife Ar**	**97.14**	**28**	P		Pdif	07 54 02.7	+1.6
	0.3nm,0.9s,baz=263,slow=4.3,SNR=3.6							
BDFB	**Brasilia**	**143.82**	**134**	PKP		PKPbc	08 00 03.5	+0.6
	3.2nm,0.9s,baz=186,slow=9.2,SNR=3.3							
ESDC	**Sonseca Array**	**146.16**	**335**	PKPbc		**PKPdf**	**08 00 08.3**	**-0.4**
	0.1nm,0.3s,baz=56,slow=3.2,SNR=3.5							

NIED ***05*** *07:55:00.25±0.80N×129.90E, h5km, Mw4.6 Best double couple: M0 9.61000×1015 NP1:φ1=29.00000°, δ1=39.00000°, λ1=-129.00000°. NP2:φ2=255.00000°, δ2=61.00000°, λ2=-63.00000°.*
IDC ***05*** *07:55:05.1±0.5, 25.78N×130.01E, h0km, mb4.3/24, mb1 4.4/27, mb1mx4.4/33, mbtmp4.3/27, ML4.4/3, MS3.8/20, Ms1 3.8/20, ms1mx3.7/29, Error ellipse: s-maj=16.7km s-min=12.4km az=71.0*
JMA ***05*** *07:55:06.6±0.1, 25.79N×129.94E, h43km, M4.7*
NEIC ***05*** *07:55:06.6±2.4, 25.75N×129.95E, h6km±15km, mb4.7/24, MW4.6(NIED), Error ellipse: s-maj=7.7km s-min=5.8km az=148.0*
ISCJB ***05*** *07:55:07.3±1.0, 25.92N±0.03×129.84E±0.03, h14km±6km, mb4.5/56, MS4.0/26, Error ellipse: s-maj=5.0km s-min=4.5km az=158.1*
BJI ***05*** *07:55:07.2, 26.06N×129.92E, h10km, mb4.4/34, mB4.7/30, Ms4.3/32, Ms7 4.0/29*
MOS ***05*** *07:55:09.1±1.3, 25.82N×130.01E, h33km, mb4.8/28, Error ellipse: s-maj=11.3km s-min=6.0km az=103.9*

ISC 05 07:55:08.2±0.4, 25.89N±0.03×129.90E±0.03, h14km±2km, h14km:pP-P, n177, σ1° 82/214, mb4.6/63, MS4.0/26, 5D, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**1.20**	**93**	P		Pn	07 55 26.9	-3.6
JMZ					S	**Sb**	**07 55 40.2**	**-5.8**
JOW	**Kunigami**	**1.73**	**303**	P		**Pn**	**07 55 36.4**	**-1.5**
JOW					S	**Sn**	**07 55 56.9**	**-2.9**
JOW	**Kunigami**	**1.73**	**303**	Pn		**Pn**	**07 55 36.8**	**-1.2**
	49nm,0.3s,baz=129,slow=15,SNR=93							
JOW					Sn	**Sn**	**07 55 56.8**	**-3.0**
	24nm,0.3s,baz=28,slow=26,SNR=14							
JNTH	**Nagotoyohara**	**1.80**	**291**	P		**Pn**	**07 55 36.6**	**-2.2**
JNTH					S	**Sn**	**07 55 57.6**	**-3.8**
JOKE	**Okinoerabujima**	**1.89**	**321**	P		**Pn**	**07 55 39.3**	**-0.7**
JOKE					S	**Sn**	**07 56 01.0**	**-2.6**
JJT2	**Tamagusuku 2**	**1.95**	**278**	P		**Pn**	**07 55 38.9**	**-2.0**
JJT2					S	**Sn**	**07 56 02.2**	**-2.9**
JTK	**Tokunoshima**	**2.07**	**336**	P		**Pn**	**07 55 42.0**	**-0.5**
JTK					S	**Sn**	**07 56 06.5**	**-1.6**
JIH	**Iheya**	**2.07**	**304**	P		**Pn**	**07 55 41.3**	**-1.3**
JIH					S	**Sn**	**07 56 05.2**	**-3.0**
JZK	**Kikaishima**	**2.42**	**2**	S		**Sn**	**07 56 14.9**	**-1.8**
JAMN	**Amaminishikomi**	**2.43**	**345**	P		**Pn**	**07 55 47.1**	**-0.4**
JAMN					S	**Sn**	**07 56 14.8**	**-2.2**
JAGN	**Aguni-jima**	**2.48**	**287**	P		**Pn**	**07 55 46.9**	**-1.3**
JAGN					S	**Sn**	**07 56 15.3**	**-3.0**
JAM	**Amami Oshima**	**2.52**	**354**	P		**Pn**	**07 55 48.2**	**-0.6**
JAM					S	**Sn**	**07 56 16.8**	**-2.6**
JKE	**Kume jima 2**	**2.83**	**279**	P		**Pn**	**07 55 50.4**	**-2.6**
JKE					S	Sn	07 56 21.5	-5.4
JTAJ	**Takarajima**	**3.31**	**349**	P		**Pn**	**07 55 59.1**	**-0.5**
JTAJ					S	**Sn**	**07 56 35.4**	**-3.3**
JOGS	**Gusukube**	**4.22**	**255**	P		**Pn**	**07 56 09.9**	**-2.2**
JOGS					S	**Sn**	**07 56 55.7**	**-5.4**
JMJ	**Miyako jima 2**	**4.30**	**257**	S		Sn	07 56 56.8	-6.4
JIKM	**Ikemajima**	**4.31**	**258**	S		Sn	07 56 57.4	-6.1
JIRB	**Irabujima**	**4.40**	**257**	P		Pn	07 56 11.0	-3.6
JIRB					S	Sn	07 56 59.5	-6.2
JTJ	**Tarama**	**4.87**	**256**	S		Sn	07 57 09.9	-7.2
JISG	**Ishigakijimahi**	**5.22**	**257**	S		Sn	07 57 19.7	-6.2
JIJ	**Ishigaki jima**	**5.43**	**255**	P		Pn	07 56 24.8	-4.0
JIJ					S	Sn	07 57 23.6	-7.5
JKRS	**Kuro-shima**	**5.59**	**254**	P		**Pn**	**07 56 28.5**	**-2.4**
JNU	**Nakatsue**	**7.26**	**7**	Pn		**Pn**	**07 56 54.9**	**+1.0**
	6.4nm,0.3s,baz=208,slow=1.9,SNR=38							
JNU					Sn	Sn	07 58 11.3	-4.8
	3.0nm,0.3s,baz=113,slow=21,SNR=6.3							
JNU	**Nakatsue**	**7.26**	**7**	*e*Pn		**Pn**	**07 56 55.5**	**+1.6**
JNU					Sn	Sn	07 58 11.3	-4.8
NACB	**Ninganchiao**	**7.72**	**259**	*e*Pn		Pn	07 56 56.8	-3.5
YHNB	**Yeheng**	**7.81**	**263**	*e*Pn		**Pn**	**07 57 03.5**	**+2.0**
SSLB	**Suanglung**	**8.39**	**257**	*e*Pn		**Pn**	**07 57 09.9**	**+0.4**
KSNAH	**Namhae**	**9.06**	**350**	P		**Pn**	**07 57 21.7**	**+3.1**
	SNR=6.4							
KSJDO	**Jindo**	**9.09**	**341**	P		**Pn**	**07 57 21.6**	**+2.5**
	SNR=6.0							
KSJEU	**Jeongeup**	**9.91**	**346**	P		**Pn**	**07 57 33.0**	**+2.8**
	SNR=6.7							
KSPHA	**Pohang**	**10.28**	**358**	P		**Pn**	**07 57 37.4**	**+2.1**
	SNR=6.0							
KSBON	**Boeun**	**10.73**	**351**	P		**Pn**	**07 57 44.5**	**+3.1**
	SNR=11							
KSULJ	**Uljin**	**10.79**	**358**	P		**Pn**	**07 57 44.1**	**+1.8**
	SNR=6.0							
CBIJ	**Chichi jima**	**11.07**	**81**	Pn		**Pn**	**07 57 44.0**	**-2.2**
CBIJ					Sn	Sn	07 59 37.4	-13
JCJ	**Chichijima**	**11.07**	**81**	Pn		**Pn**	**07 57 44.0**	**-2.2**
	7.0nm,0.3s,baz=281,slow=23,SNR=6.2							
JCJ					Sn	Sn	07 59 37.4	-13
	1.6nm,0.3s,baz=4.6,slow=19,SNR=2.5							
NJ2	**Nanjing**	**11.45**	**305**	*e*P		**Pn**	**07 57 51.5**	**+0.2**
NJ2					S	**Sn**	**07 59 57.0**	**-2.0**
NJ2					PMZ			
	40nm,0.8s							
NJ2					LN			
	1μm,10.3s							
NJ2					LE			
	7μm,13.2s							
NJ2					LZ			
	2μm,12.9s							
KSAR	**Wonju Array Be**	**11.64**	**352**	P		**Pn**	**07 57 55.7**	**+1.8**
KSAR	**Wonju Array Be**	**11.64**	**352**	Pn		**Pn**	**07 57 55.7**	**+1.8**
KSRS	**Korea Array**	**11.65**	**352**	Pn		**Pn**	**07 57 55.7**	**+1.7**
	1.0nm,0.3s,baz=173,slow=14,SNR=8.9							
KSRS					LR	LR	08 02 38.9	
	comp=Z,219nm,19.5s,baz=177,slow=39							
MJAR	**Matsushiro Arr**	**12.77**	**32**	Pn		**Pn**	**07 58 11.6**	**+2.2**
	0.3nm,0.3s,baz=208,slow=14,SNR=3.2							
WHN	**Wuhan**	**14.47**	**292**	P		**Pn**	**07 58 34.1**	**+1.5**
WHN					LN			

1µm,11.2s
WHN LE
1µm,4.3s
WHN LZ
1µm,12.0s
BJT Baijiatuau 18.17 324 *e*P **P 07 59 21.5 +1.2**
BJT pmax pmax
comp=Z,42nm,0.8s
BJT Baijiatuau 18.17 324 *e*P **P 07 59 21.5 +1.2**
comp=Z,42nm,0.8s
BJI Beijing 18.18 324 P **Pn 07 59 20.6 +0.4**
BJI S **Sn 08 02 44.4 +1.6**
BJI PMZ
comp=Z,52nm,0.7s
BJI PMZ
comp=Z,200nm,3.5s
BJI LN
comp=Z,380nm,14.2s
BJI LE
comp=Z,440nm,12.6s
BJI LZ
comp=Z,180nm,15.1s
CN2 Changchun 18.23 350 *e*P **Pn 07 59 21.1 +0.3**
CN2 PMZ
comp=Z,10.0nm,0.7s
USRK Ussuriysk Ar. 18.35 5 P **Pn 07 59 24.6 +2.4**
comp=Z,0.3nm,0.3s,baz=189,slow=11,SNR=8.1
USRK LR LR 08 06 32.8
comp=Z,129nm,18.6s,baz=164,slow=37
GUMO Guam 18.64 128 LR LR 08 04 59.1
comp=Z,225nm,19.7s,baz=296,slow=32
ERM Erimo 19.45 31 ||P **P 07 59 33.2 -1.1**
ERM pmax pmax
comp=Z,8.0nm,1.0s
ERM Erimo 19.45 31 *e*P **P 07 59 33.4 -0.9**
comp=Z,12nm,1.0s
QIZ Qiongzhong 19.74 254 P **Pn 07 59 39.8 +0.6**
QIZ pP **pP 07 59 42.6 +0.9**
QIZ S **Sn 08 03 22.3 +1.4**
QIZ PMZ
comp=Z,4.0nm,1.1s
QIZ PMZ
comp=Z,98nm,5.2s
QIZ LZ
comp=Z,230nm,11.9s
GYA Guiyang 20.86 277 *e*P Pn 07 59 52.8 +0.3
GYA PP **PnPn 08 00 13.2 +4.9**
GYA S **S 08 03 39.5 -2.9**
GYA SS **SnSn 08 04 09.0 +6.3**
GYA ScP **ScP 08 07 37.8 +3.1**
GYA PMZ
comp=Z,10.0nm,0.7s
GYA PMZ
comp=Z,90nm,4.6s
GYA LN
comp=Z,450nm,15.8s
GYA LE
comp=Z,420nm,16.0s
GYA LZ
comp=Z,480nm,15.3s
ASAJ Asahikawa 20.90 26 P **P 07 59 50.5 +0.3**
comp=Z,1.4nm,0.4s,baz=228,slow=14
ASAJ Asahikawa 20.90 26 *e*P **P 07 59 51.3 +1.1**
comp=Z,4.5nm,0.6s
HHC Hu-ho-hao-te 21.31 319 *e*P **P 07 59 52.0 -2.7**
HHC S S 08 03 39.4 -12
HHC PMZ
comp=Z,11nm,0.7s
HHC PMZ
comp=Z,210nm,4.4s
HHC LN
comp=Z,490nm,11.5s
HHC LE
comp=Z,250nm,12.2s
HHC LZ
comp=Z,390nm,11.8s
HABR Khabarovsk 22.90 9 *e*P **P 08 00 07.9 -3.6**
HABR *e**SP **sP 08 00 14.3 -3.0**
HABR *e*PPP PPP 08 00 39.5
HABR *e* 08 04 00.5
HABR *e*S **S 08 04 16.0 -4.8**
HABR *e*SSS SSS 08 04 59.9
HABR *e* 08 11 23.2
HABR pmax pmax
comp=Z,82nm,1.6s
HABR MLR MLR
comp=Z,211nm,17.0s
KLR Kul'dur 23.34 3 *e*P **P 08 00 13.3 -2.7**
KLR pmax pmax
comp=Z,45nm,1.6s
CD2 Chengdu 23.51 288 P **P 08 00 16.6 -1.3**
CD2 PcP **PcP 08 04 03.8 +0.3**
CD2 S **S 08 04 29.7 -1.7**
CD2 sS **sS 08 04 34.8 -3.6**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,220nm,5.2s
CD2 LN
comp=Z,760nm,12.7s
CD2 LE
comp=Z,610nm,12.7s
CD2 LZ
comp=Z,440nm,13.7s
LZH Lanzhou 24.47 301 P **P 08 00 26.1 -1.0**
LZH pP **pP 08 00 30.0 -1.3**
LZH sP **sP 08 00 32.2 -0.9**
LZH S **S 08 04 46.1 -0.9**
LZH sS **sS 08 04 54.1 +0.1**
LZH SS **SnSn 08 05 36.4 +5.2**
LZH PMZ
comp=Z,22nm,1.0s
LZH PMZ
comp=Z,74nm,4.3s
LZH LN
comp=Z,590nm,12.8s
LZH LE
comp=Z,620nm,12.5s
LZH LZ
comp=Z,860nm,13.6s
KMI Kunming 24.51 274 P **P 08 00 29.1 +1.5**
KMI pP **pP 08 00 33.2 +1.4**
KMI sP **sP 08 00 34.7 +1.1**
KMI PP PnPn 08 01 06.4 +7.9
KMI S **S 08 04 47.6 -0.3**
KMI sS **sS 08 04 55.2 +0.3**
KMI PMZ
comp=Z,13nm,1.2s
KMI PMZ
comp=Z,160nm,5.5s
KMI LN
comp=Z,450nm,17.6s
KMI LE
comp=Z,84nm,12.4s
GTA Gaotai 28.54 306 *e*P **P 08 01 04.2 +0.5**
GTA pP **pP 08 01 08.5 +0.5**
GTA sP **sP 08 01 11.2 +1.5**
GTA S **S 08 05 49.9 -1.5**
GTA sS **sS 08 05 57.0 -1.4**
GTA SS **SnSn 08 07 13.7 +3.1**
GTA PMZ
comp=Z,6.0nm,0.9s
GTA PMZ
comp=Z,73nm,5.2s
GTA LN
comp=Z,320nm,16.4s
GTA LE
comp=Z,290nm,16.9s
GTA LZ
comp=Z,310nm,18.5s
SONM Songino Array 28.66 326 P **P 08 01 04.1 -0.5**
comp=Z,0.9nm,0.7s,baz=138,slow=9.6,SNR=7.6
CMAR Chiang Mai Arr 29.55 262 P **P 08 01 12.9 +0.2**
comp=Z,0.7nm,0.3s,baz=53,slow=8.0,SNR=2.5
CMAR LR LR 08 14 09.0
comp=Z,89nm,18.9s,baz=65,slow=39
KSM Kuching 30.74 221 *e*P **P 08 01 23.6 +0.4**
comp=Z,11nm,0.8s
TLY Talaya 32.56 329 *e*P P 08 01 42.5 +3.6
TLY *e*S **S 08 06 59.1 +5.3**
TLY pmax pmax
comp=Z,3.0nm,1.1s
TLY MLR MLR
comp=Z,191nm,15.0s
PETK Petropavlovsk- 34.22 30 P **P 08 01 53.9 +0.5**
comp=Z,9.9nm,1.1s,baz=236,slow=12,SNR=3.0

YAK Yakutsk 36.13 360 P **P 08 02 10.0 +0.4**
comp=Z,3.2nm,0.5s,baz=197,slow=19,SNR=2.7
YAK Yakutsk 36.13 360 *e*P **P 08 02 09.2 -0.4**
YAK *e* 08 03 32.3
YAK *e* 08 04 31.0
YAK *e*S S 08 07 40.0 -8.6
YAK *e*SS **SnSn 08 10 14.7 +0.6**
YAK *e* 08 12 16.8
YAK pmax pmax
comp=Z,11nm,0.8s
YAK pmax pmax
comp=Z,10.0nm,0.6s
YAK pmax pmax
comp=N,32nm,3.9s
YAK pmax pmax
comp=E,19nm,3.6s
YAK smax smax
comp=N,42nm,2.5s
YAK smax smax
comp=E,26nm,3.0s
TAPN Taplejung 37.62 282 *e*P **P 08 02 23.9 +0.8**
ODAN Odare 37.97 281 *e*P **P 08 02 26.9 +0.9**
comp=E,40nm,0.6s
WMQ Urumqi 38.50 309 P **P 08 02 31.7 +1.6**
WMQ pP **pP 08 02 36.2 +1.8**
WMQ sP **sP 08 02 38.7 +2.6**
WMQ PP **PnPn 08 04 02.4 +2.4**
WMQ PMZ
comp=E,13nm,0.5s
WMQ PMZ
comp=E,74nm,5.0s
WMQ LN
comp=E,250nm,18.0s
WMQ LE
comp=E,170nm,14.8s
WMQ LZ
comp=E,200nm,22.7s
RAMN Ramite 38.65 281 *e*P **P 08 02 32.9 +1.1**
comp=E,12nm,0.5s
JIRN Jiri 38.91 283 *e*P **P 08 02 35.5 +1.4**
comp=E,12nm,0.6s
GUN Gumba 39.15 283 *e*P **P 08 02 37.5 +1.4**
comp=E,23nm,0.5s
PKI Pulchoki 39.61 283 *e*P **P 08 02 40.3 +0.4**
comp=E,15nm,0.4s
KKN Kakani 39.69 283 *e*P **P 08 02 41.3 +0.8**
SEY Seymchan 39.92 16 P **P 08 02 41.4 -0.2**
comp=E,2.2nm,0.8s,baz=53,slow=20,SNR=3.0
GKN Gorkha 40.23 283 *e*P **P 08 02 45.4 +0.6**
comp=E,21nm,0.5s
KOLN Koldanda 41.17 283 *e*P **P 08 02 53.2 +0.5**
comp=E,16nm,0.8s
MK31 Makanchi Array 42.88 312 *e*P **P 08 03 06.5 +0.4**
MK31 pmax pmax
comp=Z,5.0nm,0.5s
MK31 Makanchi Array 42.88 312 *e*P **P 08 03 06.8 +0.6**
MKAR Makanchi Array 42.88 312 P **P 08 03 06.6 +0.5**
comp=Z,5.6nm,0.6s,baz=98,slow=10,SNR=56
MKAR PcP **PcP 08 04 56.6 -0.4**
comp=Z,0.9nm,0.6s,baz=69,slow=4.8,SNR=3.6
MKAR LR LR 08 21 56.8
comp=Z,100nm,18.6s,baz=105,slow=38
MKAR Makanchi Array 42.88 312 *i* P **P 08 03 06.9 +0.8**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 42.88 312 *e*P **P 08 03 07.0 +0.8**
MKAR PcP **PcP 08 04 56.6 -0.4**
ZAA0 Zalesovo Array 43.42 322 *e*P P 08 03 14.6 +4.2
ZALV Zalesovo Beam 43.42 322 P **P 08 03 11.0 +0.6**
comp=Z,5.4nm,0.6s,baz=113,slow=7.5,SNR=7.6
ZALV LR LR 08 22 38.6
comp=Z,112nm,18.5s,baz=70,slow=38
ZALV Zalesovo Beam 43.42 322 P **P 08 03 11.0 +0.6**
WRAB Tennant Creek 45.76 174 *e*P **P 08 03 27.6 -1.7**
WRAB pmax pmax
comp=Z,6.0nm,0.8s
WRAB Tennant Creek 45.76 174 *e*P **P 08 03 27.6 -1.7**
comp=Z,5.8nm,0.8s
WRA Warramunga Arr 45.76 174 P **P 08 03 27.8 -1.6**
comp=Z,3.9nm,0.7s,baz=354,slow=8.6,SNR=29
WRA PcP **PcP 08 05 05.2 -1.8**
comp=Z,1.0nm,0.7s,baz=353,slow=4.4,SNR=3.4
KURK Kurchatov 46.10 316 *e*P **P 08 03 32.4 +0.7**
KURK pmax pmax
comp=Z,24nm,1.2s
KURK Kurchatov 46.10 316 *e*P **P 08 03 32.4 +0.7**
comp=Z,24nm,1.2s
KURBB Kurchatov Arra 46.13 316 P **P 08 03 32.7 +0.7**
comp=Z,6.9nm,0.9s,baz=105,slow=7.7,SNR=16
KSH Kashi 46.72 301 *e*P P 08 03 42.0 +5.0
KSH pP pP 08 03 45.3 +3.9
KSH PP PP 08 05 32.6 +5.8
KSH PcS **PcS 08 09 08.1 +2.7**
KSH sS S 08 10 38.3 +12
KSH SS **SS 08 13 50.0 -2.8**
KSH PMZ
comp=Z,18nm,1.4s
KSH PMZ
comp=Z,120nm,4.7s
KSH LN
comp=Z,390nm,12.0s
KSH LE
comp=Z,130nm,7.7s
AAK Ala-Archa 47.89 305 P **P 08 03 47.5 +1.3**
comp=Z,1.1nm,0.4s,baz=99,slow=8.0,SNR=4.6
AAK LR LR 08 25 32.3
comp=Z,85nm,18.9s,baz=63,slow=38
AAK Ala-Archa 47.89 305||*e*P **P 08 03 47.9 +1.7**
AAK pmax pmax
comp=Z,7.0nm,1.2s
ASAR Alice Springs 49.42 175 P **P 08 03 56.5 -1.2**
comp=Z,1.8nm,0.8s,baz=5.9,slow=9.0,SNR=19
ASAR PcP **PcP 08 05 19.2 -0.8**
comp=Z,1.3nm,0.8s,baz=358,slow=3.6,SNR=5.2
ASAR LR LR 08 26 15.2
comp=Z,33nm,18.0s,baz=7.5,slow=38
KK31 Karatay Array 50.83 306 *i* P **P 08 04 10.1 +1.7**
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 50.83 306 *e*P **P 08 04 10.1 +1.7**
KKAR pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 50.83 306 *e*P **P 08 04 10.1 +1.7**
comp=Z,6.1nm,0.9s
BVAR Borovoye Array 51.52 318 P **P 08 04 14.4 +0.9**
comp=Z,3.7nm,0.5s,baz=74,slow=7.6,SNR=19
BVAR PcP **PcP 08 05 27.0 -0.5**
comp=Z,2.0nm,0.5s,baz=123,slow=3.0,SNR=3.3
BVAR LR LR 08 27 54.1
comp=Z,250nm,19.5s,baz=77,slow=38
BRVK Borovoye 51.59 318||*e*P **P 08 04 15.2 +1.3**
BRVK pmax pmax
comp=Z,16nm,1.2s
BRVK MLR MLR
comp=Z,341nm,22.0s
BRVK Borovoye 51.59 318 *e*P **P 08 04 15.1 +1.2**
comp=Z,13nm,1.1s
AB31 Akbulak array 57.97 313 P **P 08 05 00.3 +0.1**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 57.97 313 *e*P **P 08 05 00.9 +0.7**
comp=Z,11nm,0.9s
STKA Stephens Creek 58.52 168 P **P 08 05 01.9 -2.2**
comp=Z,2.2nm,0.5s,baz=343,slow=7.9,SNR=8.2
STKA LR LR 08 32 27.3
comp=Z,45nm,18.0s,baz=358,slow=38
ARU Arti 58.58 322*d* iP **P 08 05 05.9 +1.5**
ARU 08 07 09.9
ARU S **S 08 13 10.9 +3.1**
ARU SS **SS 08 17 01.0 +0.8**
ARU pmax pmax
comp=Z,6.0nm,1.2s
ARU MLR MLR
comp=Z,236nm,15.0s
AKTO Aktyubinsk 59.13 315 P **P 08 05 08.4 +0.1**
comp=Z,2.4nm,0.7s,baz=90,slow=5.9,SNR=5.6
DZM Mont Dzumac 59.40 140 LR LR 08 24 28.9
comp=Z,517nm,21.6s,baz=180,slow=30
MCK McKinley 63.23 30 *e*P **P 08 05 36.3 +0.4**
MCK pmax pmax
comp=Z,9.0nm,1.0s
MCK McKinley 63.23 30 *e*P **P 08 05 36.3 +0.4**
comp=Z,8.9nm,1.0s
COLA College 63.60 28 P **P 08 05 40.0 +1.7**
COLA pmax pmax
comp=Z,17nm,0.9s

COLA College 63.60 28 *e*P **P 08 05 39.7 +1.4**
comp=Z,3.3nm,0.7s
ILAR Eielson Array 64.03 28 P **P 08 05 40.1 -1.0**
comp=Z,1.0nm,0.8s,baz=264,slow=5.7,SNR=16
PAX Paxson 64.86 30 *e*P **P 08 05 47.6 +0.8**
PAX pmax pmax
comp=Z,3.0nm,0.8s
PAX Paxson 64.86 30 *e*P **P 08 05 47.5 +0.8**
comp=Z,3.1nm,0.8s
DOT Dot Lake 65.39 29 *e*P **P 08 05 50.5 +0.5**
comp=Z,7.2nm,0.9s
INK Inuvik 68.61 23 *e*P **P 08 06 10.7 +0.4**
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 68.61 23 *e*P **P 08 06 10.7 +0.4**
comp=Z,2.5nm,0.6s
GOF Gofitskoye 70.04 311 *e*P P 08 06 24.2 +4.5
ZEI Tsey 70.11 309 *e*P **P 08 06 19.3 -1.1**
ZEI pmax pmax
comp=Z,11nm,0.5s
GNI Garni 70.29 306 LR LR 08 41 36.1
comp=Z,40nm,18.2s,baz=95,slow=40
KBZ Khabaz 70.53 310 P **P 08 06 23.4 +0.7**
comp=Z,5.7nm,0.8s,baz=326,slow=24,SNR=13
KBZ LR LR 08 40 08.7
comp=Z,88nm,19.8s,baz=30,slow=38
KIV Kislovodsk 70.61 310 *i* P **P 08 06 25.1 +1.8**
KIV *i* 08 06 31.7
KIV *i* 08 06 40.8
KIV pmax pmax
comp=Z,19nm,1.5s
ARCES ARCESS Array B 70.86 339 LR LR 08 42 58.1
comp=Z,61nm,18.1s,baz=76,slow=40
FINES FINESS Array B 73.89 331 P **P 08 06 42.4 -0.1**
comp=Z,3.4nm,0.6s,baz=72,slow=5.5,SNR=20
FINES LR LR 08 43 02.6
comp=Z,90nm,19.4s,baz=52,slow=39
FINES FINESS Array B 73.89 331 *i* P **P 08 06 42.9 +0.5**
FINES pmax pmax
comp=Z,3.0nm,0.6s
ANN Anapa 73.89 312 *e*P **P 08 06 42.4 -0.4**
ANN pmax pmax
comp=Z,26nm,1.4s
RAYN Ar Rayn 75.34 289 *e*P **P 08 06 52.4 +0.7**
comp=Z,5.5nm,1.1s
AKASG Malin Array Be 76.76 320 P **P 08 06 58.9 -0.2**
comp=Z,0.7nm,0.5s,baz=223,slow=26,SNR=8.1
AKASG LR LR 08 43 26.3
comp=Z,181nm,18.9s,baz=75,slow=38
AKASG Malin Array Be 76.76 320 *i* P **P 08 06 58.0 -1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
KIEV Kiev 76.77 320*d* iP **P 08 06 59.3 +0.1**
YKA Yellowknife Ar 78.19 25 P **P 08 07 06.4 -0.6**
comp=Z,1.3nm,0.8s,baz=299,slow=5.5,SNR=12
BR131 Keskin Array S 78.42 309 *e*P **P 08 07 08.9 0.0**
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 78.42 309 P **P 08 07 08.6 -0.3**
comp=Z,2.9nm,0.8s,baz=93,slow=5.4,SNR=17
BRTR LR LR 08 47 30.7
comp=Z,28nm,18.3s,baz=40,slow=40
BRTR Keskin Array B 78.42 309 *i* P **P 08 07 09.6 +0.7**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
NB2 NORSAR Subarra 80.27 334 P **P 08 07 17.4 -1.1**
comp=Z,4.1nm,0.8s,baz=51,slow=5.3
NOA NORSAR Array B 80.27 334 P **P 08 07 17.4 -1.1**
comp=Z,3.0nm,0.8s,baz=51,slow=5.3,SNR=14
NOA LR LR 08 46 58.8
comp=Z,68nm,18.7s,baz=55,slow=39
BUR08 Bucovina Ar. S 80.48 318 *e*P **P 08 07 20.1 +0.2**
SUMG Summit 81.47 356 *i* P **P 08 07 25.8 +0.7**
comp=Z,9.7nm,0.8s
SUMG *i* 08 07 36.1
SUMG Summit 81.47 356 *e*P **P 08 07 25.9 +0.8**
SUMG pmax pmax
comp=Z,9.0nm,0.8s
SUMG Summit 81.47 356 *e*P **P 08 07 25.9 +0.8**
comp=Z,9.2nm,0.8s
OJC Ojcow 82.30 322 *e*P **P 08 07 30.2 +0.9**
OJC pmax pmax
comp=Z,7.0nm,0.9s
OJC Ojcow 82.30 322 *e*P **P 08 07 30.2 +0.9**
comp=Z,6.5nm,0.9s
OKC Ostrava-Krasne 83.41 323 *e*P **P 08 07 35.5 +0.4**
OKC AMS AMS 08 47 20.0
comp=Z,200nm,19.6s
OKC Ostrava-Krasne 83.41 323 *e*P **P 08 07 35.5 +0.4**
OKC MLR MLR
comp=Z,200nm,19.6s
KRLC Kraliky 84.01 323 *e*P **P 08 07 38.2 -0.1**
KRLC *ex* x 08 07 48.9
KRLC Kraliky 84.01 323 *e*P **P 08 07 38.2 -0.1**
KRLC *e* 08 07 48.9
DPC Dobruska-Polom 84.11 324 *e*P **P 08 07 40.2 +1.4**
DPC *ex* x 08 07 48.7
DPC AMS AMS 08 49 50.0
comp=Z,100nm,12.5s
DPC Dobruska-Polom 84.11 324 *e*P **P 08 07 40.2 +1.4**
DPC *e* 08 07 48.7
DPC MLR MLR
comp=Z,100nm,12.5s
UPC Upice 84.18 324 *e*P **P 08 07 40.8 +1.7**
UPC Upice 84.18 324 *e*P **P 08 07 40.8 +1.7**
BRG Berggiesshubel 85.05 325 *e*P **P 08 07 45.4 +1.9**
comp=Z,4.5nm,1.2s
BRG Berggiesshubel 85.05 325 *e*P **P 08 07 45.4 +1.9**
TREC Trest 85.15 323 *e*P **P 08 07 44.7 +0.7**
TREC *ex* x 08 07 55.1
TREC AMS AMS 08 49 40.0
comp=Z,200nm,15.2s
TREC Trest 85.15 323 *e*P **P 08 07 44.7 +0.7**
TREC *e* 08 07 55.1
TREC MLR MLR
comp=Z,200nm,15.2s
GOPC GO Pecny, Ondr 85.17 324 AMS AMS 08 49 00.0
comp=Z,200nm,20.0s
PRU Pruhonice 85.25 324 AMS AMS 08 49 40.0
comp=Z,100nm,9.3s
CLL Collm 85.28 326 *e*P **P 08 07 45.0 +0.4**
comp=Z,5.0nm,0.9s
CLL *e*PcP **PcP 08 07 48.0 +0.3**
CLL *i* 08 07 55.1
CLL *e*S **S 08 18 17.0 +2.5**
CLL *e*(SS) 08 24 36.0
CLL Collm 85.28 326 *e*P **P 08 07 45.0 +0.4**
CLL *i* 08 07 55.1
CLL *e*S **S 08 18 17.0 +2.5**
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 85.28 326 *e*P **P 08 07 44.9 +0.4**
KHC Kasperske Hory 86.27 324 *e*P **P 08 07 51.2 +1.6**
KHC AMS AMS 08 50 20.0
comp=Z,200nm,16.8s
KHC Kasperske Hory 86.27 324 *e*P **P 08 07 51.2 +1.6**
KHC MLR MLR
comp=Z,200nm,16.8s
GERES GERESS Array B 86.37 324 P **P 08 07 49.5 -0.6**
comp=Z,1.0nm,0.6s,baz=40,slow=5.2,SNR=11
GERES LR LR 08 49 45.9
comp=Z,100nm,18.3s,baz=60,slow=38
WVOR Wild Horse Val 87.25 44 *e*P **P 08 07 55.5 +0.8**
WVOR pmax pmax
comp=Z,3.0nm,0.7s
WVOR Wild Horse Val 87.25 44 *e*P **P 08 07 55.5 +0.8**
comp=Z,2.6nm,0.7s
SLMT Seeley Lake 87.54 38 *e*P **P 08 07 56.2 +0.2**
comp=Z,5.7nm,1.3s
FCC Fort Churchill 88.12 21 *e*P **P 08 07 58.5 +0.2**
FCC pmax pmax
comp=Z,3.0nm,1.0s
FCC Fort Churchill 88.12 21 *e*P **P 08 07 58.5 +0.2**
comp=Z,3.4nm,1.0s
FFC Flin Flon 88.22 27 *e*P **P 08 07 58.9 0.0**
FFC pmax pmax
comp=Z,4.0nm,1.0s
FFC Flin Flon 88.22 27 *e*P **P 08 07 58.9 0.0**
comp=Z,4.1nm,1.0s
CMB Columbia Colle 88.48 48 *e*P **P 08 08 01.1 +0.6**
CMB pmax pmax
comp=Z,2.0nm,0.6s
CMB Columbia Colle 88.48 48 *e*P **P 08 08 01.1 +0.6**
comp=Z,1.7nm,0.6s
DLMT Dillon 89.16 39 *e*P **P 08 08 05.0 +1.3**
comp=Z,3.4nm,0.8s
HLID Hailey 89.18 41 *e*P **P 08 08 05.2 +1.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.4nm,0.9s						
PPT	Papeete	89.36	110	LR	LR	08 40 55.0	
	comp=Z,41nm,19.6s,baz=290,slow=31						
NVAR	Mina Array Bea	89.65	47	P	P	08 08 04.0	-2.2
	comp=Z,0.9nm,0.8s,baz=271,slow=3.9,SNR=5.7						
TORD	Torodi Ar. Bea	116.39	301	PKP	PKPdf	08 13 51.1	-1.2
	comp=Z,0.4nm,0.7s,baz=22,slow=3.3,SNR=2.6						

IDC 05 07:57:09.1±3.7, 54°.23N×87°.55E, h0km, mb1 3.0/2, mb1mx2.9/29, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=37.3km s-min=19.3km az=77.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.63	261	*i*		08 06 10.0	
	baz=81,slow=313,SNR=1.7						
ZALV	Zalesovo Beam	1.63	261	Pn	Pn	07 57 37.3	-1.7
	5.5nm,0.3s,baz=82,slow=15,SNR=8.8						
ZALV				Sn	Sg	07 58 01.9	+0.3
	6.3nm,0.3s,baz=75,slow=27,SNR=8.7						
KURBB	Kurchatov Arra	6.59	240	Pn	Pn	07 58 47.8	+0.6
	0.2nm,0.3s,baz=54,slow=13,SNR=7.7						
KURBB				Lg	Lg	08 00 41.1	
	0.1nm,0.3s,baz=48,slow=31,SNR=5.3						
MKAR	Makanchi Array	8.17	206	Pn	Pn	07 59 10.7	+1.8
	0.1nm,0.3s,baz=26,slow=13,SNR=5.1						
MKAR				Sn	Sn	08 00 39.6	-2.1
	0.1nm,0.3s,baz=27,slow=28,SNR=4.0						
MKAR				Lg	Lg	08 01 31.0	
	0.1nm,0.3s,baz=34,slow=29,SNR=7.5						

IDC 05 08:10:17.3±8.8, 17°.82S×177°.92W, h348km±86km, mb3.4/7, mb1 3.7/7, mb1mx3.4/18, mbtmp4.0/7, Error ellipse: s-maj=90.7km s-min=23.0km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.08	241	P	P	08 17 12.0	-0.1
	1.7nm,0.5s,baz=64,slow=7.7,SNR=8.5						
WRA	Warramunga Arr	45.10	259	P	P	08 18 00.1	-0.5
	0.8nm,0.5s,baz=98,slow=6.6,SNR=24						
WRA				PcP	PcP	08 19 34.1	-0.4
	0.3nm,0.4s,baz=90,slow=3.9,SNR=6.1						
ASAR	Alice Springs	45.26	254	P	P	08 18 01.9	+0.1
	4.5nm,0.4s,baz=90,slow=8.3,SNR=128						
ASAR				PcP	PcP	08 19 34.5	-0.6
	0.6nm,0.5s,baz=100,slow=3.9,SNR=7.3						
NVAR	Mina Array Bea	79.04	44	P	P	08 21 43.9	0.0
	0.8nm,0.7s,baz=219,slow=7.0,SNR=6.5						
TXAR	Lajitas Array	85.56	57	P	P	08 22 17.4	-0.1
	0.8nm,0.8s,baz=213,slow=4.9,SNR=12						
PDAR	Pinedale Array	86.97	43	P	P	08 22 24.2	+0.1
	0.3nm,0.3s,baz=224,slow=6.2,SNR=2.5						
YKA	Yellowknife Ar	94.06	25	P	P	08 22 55.7	-0.6
	0.5nm,0.7s,baz=224,slow=4.4,SNR=5.6						
GERES	GERESS Array B	147.65	346	PKPbc	PKPbc	08 29 21.2	-0.1
	0.3nm,0.3s,baz=15,slow=4.1,SNR=3.5						

IDC 05 08:36:55.4±1.2, 0°.10S×122°.77E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/22, mbtmp3.6/5, Error ellipse: s-maj=137.8km s-min=20.2km az=64.0
ISCJB 05 08:37:10.7±0.5, 0°.12S±0°.06×123°.16E±0°.04, h162km, mb3.4/5, Error ellipse: s-maj=9.2km s-min=6.0km az=165.7
DJA 05 08:37:11.9±0.7, 0°S±4°×12°3E±°, h142km±7km, M4.0/8, MLv4.0/8
ISC 05 08:37:11.9±0.8, 0°.14S±0°.06×123°.19E±0°.05, h162km, n13, σ2s.18/21, mb3.4/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUWI	Luwuk	0.99	205	P	Pn	08 37 36.8	-1.0
LUWI				S	Sn	08 37 54.9	-2.8
KMSI	Cibinong	1.06	48	P	Pn	08 37 37.9	-0.5
KMSI				S	Sn	08 37 57.0	-1.6
MRSI	Marisa	1.39	296	P	Pn	08 37 39.2	-2.2
MRSI				S	Sn	08 37 59.0	-5.0
APSI	Ampana	1.72	244	P	Pn	08 37 44.3	-0.4
APSI				S	Sn	08 38 07.3	-2.7
MPSI	Mapaga	3.33	278	P	Pn	08 38 04.2	+0.3
MPSI				S	Sn	08 38 44.0	-0.3
SANI	Sanana	3.38	124	P	Pn	08 38 03.4	-1.2
SANI				S	Sn	08 38 41.6	-3.9
PCI	Palu	3.44	257	P	Pn	08 38 04.2	-1.1
PCI				S	Sn	08 38 45.3	-1.6
TTSI	Tana Toraja	4.44	229	P	Pn	08 38 16.1	-2.1
TTSI				S	Sn	08 39 10.6	+0.7
WRA	Warramunga Arr	22.51	152	P	P	08 42 00.1	+1.9
	1.7nm,0.5s,baz=330,slow=10,SNR=50						
ASAR	Alice Springs	25.59	157	P	P	08 42 28.7	+2.3
	0.3nm,0.5s,baz=342,slow=15,SNR=7.0						
STKA	Stephens Creek	36.05	153	P	P	08 43 59.2	+1.4
	1.4nm,0.8s,baz=331,slow=10,SNR=2.7						
SONM	Songino Array	49.97	345	P	P	08 45 50.6	+1.0
	0.3nm,0.5s,baz=161,slow=9.2,SNR=2.1						
MKAR	Makanchi Array	58.83	328	P	P	08 46 53.9	+0.5
	0.2nm,0.3s,baz=123,slow=7.4,SNR=6.5						

MEX 05 08:42:20.1±0.4, 18°.31N×100°.99W, h69km±6km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.61	92	*e*P	Pn	08 42 32.6	-1.4
ARIG				*i* S	Sn	08 42 42.3	-1.9
ZIIG	Zihuatanejo	0.83	213	*e*P	Pn	08 42 35.0	-1.5
ZIIG				*i* S	Sn	08 42 47.0	-1.6
PLIG	Platanillo	1.41	86	*e*P	Pn	08 42 43.6	-0.4
PLIG				*e*S	Sn	08 43 00.7	-1.3
CAIG	El Cayaco	1.43	151	*e*P	Pn	08 42 43.0	-1.1
CAIG				*e*S	Sn	08 43 00.1	-2.0
YAIG	Yautepec	1.90	73	*i* P	Pn	08 42 48.9	-1.7
YAIG				*e*S	Sn	08 43 12.6	-1.2
TLIG	Tlapa	2.42	107	*e*P	Pn	08 42 56.4	-1.2
TLIG				*e*S	Sn	08 43 24.6	-1.8

CSEM 05 08:43:03.1±0.2, 38°.11N×23°.19E, h10km, MD2.8, Error ellipse: s-maj=3.8km s-min=3.1km az=18.0
ATH 05 08:43:03.6, 38°.12N×23°.19E, h5km±2km, MD2.8/17, ML2.1, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VILL	Villia	0.11	65	*e*Pg	Pg	08 43 05.8	-0.1
VILL				*e*Sg	Sg	08 43 07.8	+0.3
VIL2	Platees	0.11	34	*e*PG	Pg	08 43 05.8	-0.2
VIL2				*e*SG	Sg	08 43 07.8	+0.2
LTK	Loutraki	0.20	241	*e*PG	Pg	08 43 07.4	-0.2
LTK				*e*SG	Sg	08 43 11.6	+1.3
LTK	Loutraki	0.20	241	*e*Pg	Pg	08 43 07.4	-0.2
LTK				*e*Sg	Sg	08 43 11.6	+1.3
NAIG	Nisos Aigina	0.43	147	*e*PB	Pg	08 43 12.2	+0.3
NAIG	Nisos Aigina	0.43	147	*e*Pb	Pg	08 43 12.2	+0.3
ATH	Athens Observa	0.44	109	*e*PG	Pg	08 43 11.8	-0.3
ATH				*e*SB	Sg	08 43 19.1	+1.2
ATH	Athens Observa	0.44	109	*e*Pg	Pg	08 43 11.8	-0.3
ATH				*e*Sb	Sg	08 43 19.1	+1.2
PTL	Penteli	0.54	97	*e*PB	Pg	08 43 13.7	-0.3
PTL				*e*SB	Sg	08 43 21.6	+0.5
PTL	Penteli	0.54	97	*e*Pb	Pg	08 43 13.7	-0.3
PTL				*e*Sb	Sg	08 43 21.6	+0.5
LKR	Lokris	0.55	344	*e*PB	Pg	08 43 13.8	-0.4
LKR				*e*SB	Sb	08 43 23.0	-1.0
LKR	Lokris	0.55	344	*e*Pb	Pg	08 43 13.8	-0.4
LKR				*e*Sb	Sb	08 43 23.0	-1.0
DSF	Desfina	0.60	299	*e*PB	Pg	08 43 14.4	-0.8
DSF				*e*SB	Sb	08 43 24.6	-0.9
DSF	Desfina	0.60	299	*e*Pb	Pg	08 43 14.4	-0.8
DSF				*e*Sb	Sb	08 43 24.6	-0.9
DID	Didima	0.61	177	*e*PB	Pg	08 43 14.6	-0.9
DID				*e*SB	Sb	08 43 25.1	-0.8
DID	Didima	0.61	177	*e*Pb	Pg	08 43 14.6	-0.9
DID				*e*Sb	Sb	08 43 25.1	-0.8
MRKA	Markates	0.66	28	*e*PG	Pg	08 43 16.3	-0.1
MRKA	Markates	0.66	28	*e*Pg	Pg	08 43 16.3	-0.1
AXAR	Agios Charalam	0.77	327	*e*PB	Pg	08 43 17.6	-0.8
AXAR				*e*SB	Sb	08 43 30.4	+0.1
AXAR	Agios Charalam	0.77	327	*e*Pb	Pg	08 43 17.6	-0.8
AXAR				*e*Sb	Sb	08 43 30.4	+0.1
KLV	Kalavryta, Ach	0.82	265	*e*PB	Pg	08 43 19.6	+0.1
KLV				*e*SB	Sb	08 43 31.2	-0.8
KLV	Kalavryta, Ach	0.82	265	*e*Pb	Pg	08 43 19.6	+0.1
KLV				*e*Sb	Sb	08 43 31.2	-0.8
KALE	Kalithea	0.87	288	*e*PG	Pg	08 43 19.6	-0.8
KALE				*e*SB	Sb	08 43 33.3	0.0
KALE	Kalithea	0.87	288	*e*Pg	Pg	08 43 19.6	-0.8
KALE				*e*Sb	Sb	08 43 33.3	0.0
VLX	Vlachokerasia	0.99	221	*e*PN	Pg	08 43 22.9	+0.2
VLX				*e*SB	Sg	08 43 35.9	+0.3
VLX	Vlachokerasia	0.99	221	*e*Pn	Pg	08 43 22.9	+0.2
VLX				*e*Sb	Sg	08 43 35.9	+0.3
EFP	Efpalio	1.06	287	*e*PB	Pb	08 43 24.6	+0.2
EFP	Efpalio	1.06	287	*e*Pb	Pb	08 43 24.6	+0.2
AGG	Agios Georgios	1.12	323	*e*PB	Pg	08 43 25.1	-0.2
AGG	Agios Georgios	1.12	323	*e*Pb	Pg	08 43 25.1	-0.2
AOS	Alonnisos	1.18	27	*e*PB	Pg	08 43 25.8	-0.5
AOS	Alonnisos	1.18	27	*e*Pb	Pg	08 43 25.8	-0.5
DRO	Drossia	1.18	262	*e*PN	Pg	08 43 25.5	-0.8
DRO	Drossia	1.18	262	*e*Pn	Pg	08 43 25.5	-0.8
MAKR	Makrakomi, Fth	1.22	317	*e*PB	Pn	08 43 28.2	+0.8
MAKR	Makrakomi, Fth	1.22	317	*e*Pb	Pn	08 43 28.2	+0.8
XOR	Xorichti	1.24	0	*e*PB	Pn	08 43 28.0	+0.3
XOR	Xorichti	1.24	0	*e*Pb	Pn	08 43 28.0	+0.3

ISCJB 05 08:44:25.9±0.5, 37°.24N±0°.03×28°.18E±0°.04, h0km, Error ellipse: s-maj=5.4km s-min=3.8km az=37.1
ISK 05 08:44:25.6, 37°.21N×28°.19E, h15km, MD2.7
CSEM 05 08:44:26.0±0.2, 37°.25N×28°.20E, h1km, MD2.7, Error ellipse: s-maj=5.8km s-min=4.8km az=42.0, Mining explosion.
DDA 05 08:44:26.2, 37°.22N×28°.18E, h7km, ML2.3
ISC 05 08:44:26.4±1.3, 37°.24N±0°.03×28°.18E±0°.03, h0km, n19, σ0s.98/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	Yerkesik	0.13	142	*e*PG	Pg	08 44 28.9	+0.1
YER				*e*SG	Sg	08 44 31.8	+1.4
YER	Yerkesik	0.13	142	*e*Pg	Pg	08 44 28.9	+0.1
YER				*e*Sg	Sg	08 44 31.8	+1.4
AYDN	Tasoluk	0.49	330	*i* P	Pg	08 44 36.1	+0.4
AYDN				*i* S	Sg	08 44 43.3	+1.2
AYDN	Tasoluk	0.49	330	*i* P	Pg	08 44 36.1	+0.4
AYDN	Tasoluk	0.49	330	*i* S	Sg	08 44 43.3	+1.2
TURN	Turunc	0.49	137	*i* P	Pg	08 44 34.9	-0.9
TURN				*i* S	Sg	08 44 42.3	+0.1
TURN	Turunc	0.49	137	*i* P	Pg	08 44 34.9	-0.9
TURN				*i* S	Sg	08 44 42.3	+0.1
BDRM	Kayabasi	0.61	254	*i* P	Pg	08 44 38.2	+0.1
BDRM				*i* S	Sg	08 44 44.6	-1.5
BDRM	Kayabasi	0.61	254	*i* P	Pg	08 44 38.2	+0.1
BDRM				*i* S	Sg	08 44 44.6	-1.5
BODT	Bodrum	0.72	256	*e*PG	Pg	08 44 40.2	0.0
BODT				*e*SG	Sg	08 44 50.6	+1.2
BODT	Bodrum	0.72	256	*e*Pg	Pg	08 44 40.2	0.0
BODT				*e*Sg	Sg	08 44 50.6	+1.2
AYDB	Zeytinkoy-Aydi	0.75	342	*e*PG	Pg	08 44 41.2	+0.5
AYDB	Zeytinkoy-Aydi	0.75	342	*e*Pg	Pg	08 44 41.2	+0.5
DENT	Denizli	0.85	52	*e*PG	Pg	08 44 42.6	-0.1
DENT	Denizli	0.85	52	*e*Pg	Pg	08 44 42.6	-0.1
KULA	Kula-Manisa	1.33	16	*e*PN	Pg	08 44 50.6	-1.3
KULA	Kula-Manisa	1.33	16	*e*Pn	Pg	08 44 50.6	-1.3
IZM	Izmir	1.37	328	*e*PN	Pg	08 44 51.2	-1.4
IZM	Izmir	1.37	328	*e*Pn	Pg	08 44 51.2	-1.4

IDC 05 08:53:08.4±2.5, 6°.23S×154°.61E, h67km±21km, mb4.0/13, mb1 4.1/15, mb1mx4.0/22, mbtmp4.3/15, MS3.3/5, Ms1 3.3/5, ms1mx2.8/31, Error ellipse: s-maj=20.0km s-min=15.2km az=77.0
ISCJB 05 08:53:10.0±0.5, 6°.26S±0°.07×154°.67E±0°.06, h100km, mb4.4/21, Error ellipse: s-maj=9.4km s-min=7.8km az=167.7
NEIC 05 08:53:11.6±1.6, 6°.27S×154°.60E, h98km±14km, mb4.6/10, Error ellipse: s-maj=11.1km s-min=8.3km az=54.0
ISC 05 08:53:11.6±0.5, 6°.31S±0°.08×154°.68E±0°.07, h100km, n37, σ1s.26/37, mb4.7/21, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	6.07	121	P	Pn	08 54 38.0	-0.9
PMG	Port Moresby	8.06	247	*e*Pn	Pn	08 55 04.8	-1.2
	239nm,0.6s						
PMG				*e*Sn	Sn	08 56 37.2	+1.7
COEN	Coen	13.63	235	*e*Pn	Pn	08 56 21.8	+0.8
COEN				*e*P	P	08 56 27.8	+1.4
CTA	Charters Tower	15.96	210	P	Pn	08 56 49.0	-1.5
	0.1nm,0.3s,baz=47,slow=18,SNR=2.1						
CTAO	Charters Tower	15.96	210	*e*P	P	08 56 51.7	-0.4
	6.1nm,0.7s						
DZM	Mont Dzumac	19.35	145	P	Pn	08 57 30.4	-1.2
	1.6nm,0.3s,baz=90,slow=24,SNR=19						
FAKI	Fak Fak	22.61	278	*e*P	P	08 58 03.7	-0.6
	32nm,0.8s						
WRAB	Tennant Creek	23.95	234	*e*P	P	08 58 17.0	+0.2
	40nm,0.8s						
WRA	Warramunga Arr	23.96	234	P	P	08 58 17.4	+0.4
	27nm,0.5s,baz=58,slow=9.7,SNR=333						
WRA				ScP	ScP	09 05 29.8	+3.4
	1.2nm,0.9s,baz=62,slow=2.9,SNR=5.5						
SIJI	Sorong	23.98	282	P	P	08 58 16.4	-0.7
	20nm,0.7s,baz=215,slow=16,SNR=4.0						
AS31	Alice Springs	26.40	227	*e*P	P	08 58 38.8	-0.2
ASAR	Alice Springs	26.40	227	P	P	08 58 39.0	0.0
	15nm,0.6s,baz=59,slow=8.8,SNR=299						
ASAR				ScP	ScP	09 05 37.0	+3.7
	0.5nm,0.6s,baz=43,slow=3.3,SNR=6.2						
ASAR				LR	LR	09 08 01.7	
	comp=Z,97nm,19.4s,baz=66,slow=34						
H11S3	WAKE ISLAND Hy	27.35	25	T	T	09 26 56.2	
	baz=205,slow=76,SNR=12						
H11S2	WAKE ISLAND Hy	27.35	25	T	T	09 27 03.5	
	baz=205,slow=76,SNR=6.9						
H11S1	WAKE ISLAND Hy	27.36	25	T	T	09 26 54.9	
	baz=205,slow=76,SNR=9.5						
STKA	Stephens Creek	28.22	204	P	P	08 58 54.5	-0.6
	5.7nm,0.6s,baz=15,slow=8.2,SNR=18						
STKA				LR	LR	09 08 31.5	
	comp=Z,106nm,19.1s,baz=28,slow=33						
STKA	Stephens Creek	28.22	204	*e*P	P	08 58 54.8	-0.4
	2.9nm,1.2s						
MMRI	Maumere	32.25	264	*e*P	P	08 59 30.3	-0.6
	64nm,0.6s						
FORT	Forrest	34.88	222	*e*P	P	08 59 53.1	-0.4
	22nm,0.9s						
MBWA	Marble Bar	36.90	243	*e*P	P	09 00 10.1	-0.8
	10nm,0.7s						
URZ	Urewera	37.75	151	P	P	09 00 19.1	+1.2
	8.0nm,0.8s,baz=192,slow=1.0,SNR=8.0						
RPZ	Rata Peaks	39.94	161	P	P	09 00 35.9	-0.2
	9.6nm,0.9s,baz=310,slow=7.9,SNR=2.2						
KSRS	Korea Array	50.19	332	P	P	09 01 55.6	-1.7
	0.6nm,0.7s,baz=155,slow=9.7,SNR=4.3						
KSAR	Wonju Array Be	50.20	332	P	P	09 01 55.6	-1.8
IPM	Ipoh	54.63	280	*e*P	P	09 02 30.2	-0.3
	4.0nm,0.5s						
PETK	Petropavlovsk-	59.25	2	LR	LR	09 24 24.3	
	comp=Z,11nm,21.6s,baz=172,slow=32						
CMAR	Chiang Mai Arr	60.21	295	P	P	09 03 10.2	+0.5
	2.9nm,0.6s,baz=122,slow=4.8,SNR=6.2						
CMAR				LR	LR	09 30 31.0	
	comp=Z,11nm,18.1s,baz=265,slow=37						
SONM	Songino Array	68.60	327	P	P	09 04 03.1	-0.9
	0.4nm,0.4s,baz=148,slow=4.8,SNR=4.2						
MK31	Makanchi Array	82.69	319	*e*P	P	09 05 24.4	+0.1
MKAR	Makanchi Array	82.69	319	P	P	09 05 24.4	+0.1
	0.3nm,0.5s,baz=89,slow=7.3,SNR=5.4						
ILAR	Eielson Array	82.86	22	P	P	09 05 24.4	-0.3
	0.2nm,0.6s,baz=228,slow=18,SNR=5.3						
ILAR				LR	LR	09 38 32.6	
	comp=Z,26nm,19.4s,baz=212,slow=33						
QSPA	South Pole Qui	83.66	180	*e*P	P	09 05 29.5	+0.4
	7.9nm,1.2s						
MAW	Mawson	84.90	203	P	P	09 05 35.9	+0.8
	4.4nm,0.5s,baz=89,slow=6.2,SNR=34						
MAW	Mawson	84.90	203	*e*P	P	09 05 35.7	+0.6
	1.4nm,0.7s						
NVAR	Mina Array Bea	91.54	52	P	P	09 06 08.9	+1.2
	1.2nm,0.8s,baz=251,slow=6.6,SNR=5.9						
YKA	Yellowknife Ar	95.88	28	P	P	09 06 28.4	+1.7
	0.3nm,0.6s,baz=264,slow=4.8,SNR=5.1						
TORD	Torodi Ar. Bea	152.54	286	PKPbc	PKPbc	09 12 57.4	-0.1
	1.4nm,0.8s,baz=66,slow=2.4,SNR=8.5						

IDC 05 09:03:23.6±1.1, 16°.84S×173°.48W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/19, mbtmp3.8/4, MS2.9/2, Ms1 3.0/2, ms1mx2.6/29, Error ellipse: s-maj=57.8km s-min=27.9km az=156.0
ISCJB 05 09:03:29.3±3.1, 17°S±1°×173°.6W±0°.7, h52km, mb3.8/4, MS3.5/1, Error ellipse: s-maj=173.3km s-min=25.2km az=147.5
ISC 05 09:03:30.7±1.3, 16°.8S±0°.4×173°.5W±0°.3, h52km, n10, σ0s.25/6, mb3.7/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	13.73	111	LR	LR	09 10 46.0	
	comp=Z,17nm,20.1s,baz=250,slow=32						
PPT2	Papeete2	22.90	95	*e*LR	LR	09 13 42.7	
	65nm,26.5s						
TBI	Tubuai	23.51	110	*e*LR	LR	09 13 58.3	
	62nm,26.2s						
WRA	Warramunga Arr	49.41	258	P	P	09 12 15.4	-0.3
	0.3nm,0.4s,baz=96,slow=7.1,SNR=16						
ASAR	Alice Springs	49.56	253	P	P	09 12 17.1	+0.3
	2.8nm,0.6s,baz=87,slow=8.7,SNR=60						
TXAR	Lajitas Array	81.51	56	LR	LR	09 43 39.7	
	comp=Z,23nm,21.8s,baz=0.0,slow=30						
PDAR	Pinedale Array	83.41	42	P	P	09 15 52.7	-0.1
	0.3nm,0.4s,baz=279,slow=7.8,SNR=3.4						
ILAR	Eielson Array	83.86	11	P	P	09 15 54.4	+0.1
	0.3nm,0.7s,baz=215,slow=5.4,SNR=4.7						
BRTR	Keskin Array B	147.16	319	PKPbc	PKPab	09 23 10.2	0.0
	0.4nm,0.4s,baz=108,slow=4.7,SNR=4.1						
TORD	Torodi Ar. Bea	174.12	128	PKPab	PKPab	09 25 07.0	0.0
	0.3nm,0.8s,baz=240,slow=4.6,SNR=2.8						

BJI 05 09:05:22.0, 40°.40N×125°.40W, h3km, mb4.5/2, mB4.6/2, Ms4.1/1
ISCJB 05 09:05:25.2±0.5, 40°.47N±0°.03×125°.32W±0°.05, h14km, mb4.0/11, MS3.0/4, Error ellipse: s-maj=5.7km s-min=3.4km az=158.0
IDC 05 09:05:25.7±1.2, 40°.62N×125°.24W, h0km, mb3.7/7, mb1 3.9/13, mb1mx3.8/33, mbtmp3.7/13, ML3.6/5, MS3.0/8, Ms1 3.0/8, ms1mx2.8/42, Error ellipse: s-maj=16.8km s-min=11.6km az=31.0
NEIC 05 09:05:26.1, 40°.40N×125°.46W, h26km, mb4.3/8, MW4.2(BRK), After NCEDC.
ISC 05 09:05:26.8±0.7, 40°.49N±0°.05×125°.31W±0°.06, h14km, n114, σ1s.61/107, mb4.0/11, MS2.9/4, 5C-5D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMRM	Mail Ridge	1.25	102	*e*Pg	Pn	09 05 48.5	-1.5
KHMM	Horse Mountain	1.26	71	*e*Pn	Pn	09 05 48.8	-1.4
KHMM				*e*Sn	Sb	09 06 07.4	+0.8
KCPM	Cahto Peak	1.54	121	*e*Pn	Pn	09 05 51.6	-2.4
KCPM				*e*Sn	Sn	09 06 11.2	-2.7
KSXB	Camp Six Broad	1.72	38	P	Pn	09 05 54.6	-1.9
KBO	Bosley Butte	1.91	25	*e*Pn	Pn	09 05 57.5	-1.5
N02D	Trinity Center	2.04	75	⇑P	Pn	09 05 59.4	-1.3
	baz=2.2,SNR=358						
M02C	Callahan	2.07	63	P	Pn	09 05 59.7	-1.5
	baz=2.2,SNR=916						
L02D	Cave Junction,	2.11	37	⇓P	Pn	09 06 00.2	-1.5
	baz=2.2,SNR=37						
L02D				S	Sn	09 06 25.9	-1.8
	baz=2.2						
WDC	Whiskeytown Da	2.11	87	*e*Pn	Pn	09 06 00.6	-1.0
WDC				*e*Sn	Sn	09 06 26.4	-1.2
HOPS	Hopland Field	2.28	130	*e*Pn	Pn	09 06 00.6	-3.3
HOPS				Sn	Sn	09 06 28.7	-3.1
LAMM	Antelope Mount	2.32	60	P	Pn	09 06 03.6	-1.2
YBH	Yreka Blue Hor	2.32	57	Pn	Pn	09 06 04.8	+0.1
	34nm,0.3s,baz=261,slow=10,SNR=408						
YBH				Sn	Sn	09 06 32.7	-0.5
	63nm,0.3s,baz=111,slow=5.8,SNR=13						
YBH				LR	LR	09 06 43.2	
	comp=Z,209nm,18.9s,baz=156,slow=35						
YBH	Yreka Blue Hor	2.32	57	Pn	Pn	09 06 04.8	+0.1
YBH				Sn	Sn	09 06 32.7	-0.5
YBH				*e*Sn	Sb	09 06 34.3	-2.9
KEBM	Edson Butte	2.49	17	*e*Pn	Pn	09 06 05.7	-1.3
HUMO	Hull Mountain	2.76	39	*e*Pn	Pn	09 06 09.7	-0.9
HUMO				*e*Sn	Sn	09 06 42.5	-1.2
M04C	Macdoel	2.92	63	⇑P	Pn	09 06 12.6	-0.4
	baz=3.1,SNR=140						
MCCM	Marconi Confer	3.00	140	*e*Pn	Pn	09 06 10.2	-3.7
LBCM	Butte Creek Ri	3.03	82	P	Pn	09 06 13.7	-0.7
HOG	Hogback Mounta	3.23	56	P	Pn	09 06 18.4	+1.1
K04D	Chiloquin, OR	3.42	50	⇓P	Pn	09 06 19.5	-0.2
	baz=3.6,SNR=160						
I03D	Drain, OR	3.52	24	⇑P	Pn	09 06 20.8	-0.3
	baz=3.7,SNR=52						
I03D				S	Sn	09 07 01.1	-1.5
	baz=3.7						
J04D	Umpqua Nationa	3.64	40	⇓P	Pn	09 06 24.0	+1.1
	baz=3.8,SNR=197						
SAC	San Andreas	3.67	141	*e*Pn	Pn	09 06 18.2	-4.9
I04A	Tendick Farm,	3.94	32	⇓P	Pn	09 06 27.8	+0.9
	baz=4.1,SNR=124						
I04A				S	Sn	09 07 12.9	-0.1
	baz=4.1						
K05A	Summer Lake	3.99	54	P	Pn	09 06 28.9	+1.1
J05D	Fort Rock, OR	4.13	46	⇓P	Pn	09 06 29.9	+0.3
	baz=4.3,SNR=253						
COR	Corvallis	4.36	19	*e*Pn	Pn	09 06 32.5	0.0
COR				*e*Sn	Sn	09 07 23.6	+0.5
CMB	Columbia Colle	4.53	121	*e*Pn	Pn	09 06 34.9	-0.2
CMB				*e*Sn	Sn	09 07 26.6	-1.0
I05D	Terrebonne, OR	4.84	36	⇑P	Pn	09 06 40.5	+1.2
	baz=5.0,SNR=55						
WAKR	Walker	4.95	112	*e*Pn	Pn	09 06 42.4	+1.5
WVOR	Wild Horse Val	5.38	67	*e*Pn	Pn	09 06 44.7	-2.0
G05D	Wamic, OR	5.58	30	⇑P	Pn	09 06 50.8	+1.3
	baz=5.7,SNR=19						
I07A	Izee	5.61	48	*e*Pn	Pn	09 06 48.0	-1.9
NVAR	Mina Array Bea	5.79	108	Pn	Pn	09 06 52.5	0.0
	2.4nm,0.3s,baz=284,slow=15,SNR=44						
NVAR				Sn	Sn	09 08 01.2	+2.3
	0.2nm,0.3s,baz=303,slow=15,SNR=2.6						
ISA	Isabella, Lake	7.22	130	*e*Pn	Pn	09 07 12.5	+0.5
	10nm,0.4s						
ISA				*e*Sn	Sn	09 08 33.1	-0.7
HAWA	Hanford	7.25	34	*e*Pn	Pn	09 07 13.6	+1.4
	26nm,0.4s						
BMO	Blue Mountains	7.33	51	*e*Pn	Pn	09 07 15.7	+2.2
	73nm,0.7s						
DAC	Darwin (Calif)	7.37	122	*e*Pn	Pn	09 07 14.7	+0.5
	5.1nm,0.6s						
MFID	Camas Ranch	7.65	64	*e*Pn	Pn	09 07 19.5	+1.6
	16nm,0.8s						
ELK	Elko	7.66	85	Pn	Pn	09 07 19.8	+1.6
	0.2nm,0.3s,baz=278,slow=12,SNR=17						
ELK				Lg	Lg	09 09 15.3	
	0.1nm,0.3s,baz=113,slow=7.7,SNR=2.4						
ELK	Elko	7.66	85	*e*Pn	Pn	09 07 19.0	+0.8
	3.1nm,0.8s						
ELK				Lg	Lg	09 09 15.3	
R11A	Troy Canyon, C	7.82	103	*e*Pn	Pn	09 07 20.3	0.0
	2.8nm,1.0s						
GSC	Goldstone, Bar	8.48	125	*e*Pn	Pn	09 07 27.3	-2.0
	3.6nm,0.4s						
HLID	Hailey	8.67	66	*e*Pn	Pn	09 07 34.3	+2.3
	34nm,1.1s						
SHPR	Sheep Range	8.89	113	*e*Pn	Pn	09 07 38.3	+3.3
	5.6nm,0.9s						
BGU	Big Grassy Mou	9.34	83	*e*Pn	Pn	09 07 43.0	+1.9
	20nm,0.9s						
HVU	Hansel Valley	9.54	78	*e*Pn	Pn	09 07 46.2	+2.3
	13nm,1.1s						
DUG	Dugway, Tooele	9.54	88	*e*Pn	Pn	09 07 44.2	+0.3
	5.4nm,0.8s						
NEW	Newport	9.73	34	Pn	Pn	09 07 47.1	+0.8
	0.5nm,0.3s,baz=205,slow=13,SNR=6.9						
NEW				LR	LR	09 11 46.6	
	comp=Z,128nm,18.2s,baz=234,slow=40						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PFO	Pinyon Flats O	9.85	131	LR	LR	09 11 34.5	
	comp=Z,85nm,18.9s,baz=251,slow=37						
MCMT	McKenzie Canyo	10.15	61	*e*Pn	Pn	09 07 54.3	+2.0
	9.1nm,0.9s						
MVU	Marysvale	10.31	97	*e*Pn	Pn	09 07 56.3	+1.8
	3.0nm,0.7s						
MSU	Marysvale	10.34	97	*e*Pn	Pn	09 07 56.7	+1.8
	2.8nm,0.5s						
HWUT	Hardware Ranch	10.44	79	*e*Pn	Pn	09 07 58.4	+2.2
	18nm,1.1s						
DLMT	Dillon	10.52	58	*e*Pn	Pn	09 07 58.6	+1.4
	26nm,1.0s						
BSMT	Bassoo Peak	10.54	42	*e*Pn	Pn	09 07 59.4	+1.8
	15nm,0.8s						
JLU	Jordanelle	10.55	85	*e*Pn	Pn	09 07 59.7	+1.9
	4.0nm,0.9s						
TCUT	Toone Canyon	10.56	82	*e*Pn	Pn	09 08 01.0	+3.1
	17nm,1.0s						
JTMT	Jette	10.74	44	*e*Pn	Pn	09 08 01.6	+1.4
	8.8nm,0.7s						
SWMT	Swartz Lake	10.75	45	*e*Pn	Pn	09 08 01.5	+1.2
	8.6nm,0.7s						
LRM	Limekiln Ridge	10.80	56	*e*Pn	Pn	09 08 02.1	+0.9
	27nm,0.4s						
CHMT	Chamberlain Mo	10.83	50	*e*Pn	Pn	09 08 03.3	+1.7
	14nm,1.0s						
BLMT	Blacktail Moun	10.86	43	*e*Pn	Pn	09 08 02.4	+0.4
	8.4nm,0.5s						
SLMT	Seeley Lake	10.87	48	*e*Pn	Pn	09 08 03.5	+1.4
	31nm,1.1s						
AHID	Auburn Hatcher	10.88	73	*e*Pn	Pn	09 08 04.4	+2.2
	7.6nm,1.0s						
TPAW	Teton Pass	11.10	70	*e*Pn	Pn	09 08 08.8	+3.5
	11nm,1.2s						
REDW	Red Top Meadow	11.15	70	*e*Pn	Pn	09 08 08.1	+2.1
	7.7nm,1.0s						
IMW	Indian Meadow	11.19	68	*e*Pn	Pn	09 08 08.5	+2.0
	5.8nm,0.8s						
SNOW	Snow King Moun	11.23	70	*e*Pn	Pn	09 08 09.8	+2.7
	4.6nm,0.8s						
BOZ	Bozeman (W)	11.25	58	*e*Pn	Pn	09 08 08.0	+0.7
	11nm,1.1s						
LOHW	Long Hollow	11.37	69	*e*Pn	Pn	09 08 12.3	+3.4
	3.3nm,0.8s						
FLWY	Flagg Ranch	11.40	67	*e*Pn	Pn	09 08 12.7	+3.3
	22nm,1.2s						
SRU	San Rafael Swe	11.46	92	*e*Pn	Pn	09 08 14.2	+4.1
	9.8nm,1.0s						
H17A	Grant Village	11.56	65	*e*Pn	Pn	09 08 15.5	+3.9
	13nm,1.2s						
HRY	Holter Researc	11.58	53	*e*Pn	Pn	09 08 12.8	+1.2
	11nm,0.5s						
WALA	Waterton Lakes	11.78	40	*e*Pn	Pn	09 08 16.7	+2.2
	6.1nm,0.9s						
BBB	Bella Bella	11.86	352	LR	LR	09 11 54.2	
	comp=Z,65nm,21.4s,baz=193,slow=33						
BW06	Boulder Array	12.01	74	*e*Pn	Pn	09 08 18.8	+1.2
	4.2nm,1.0s						
PDAR	Pinedale Array	12.01	74	Pn	Pn	09 08 19.5	+1.8
	0.1nm,0.3s,baz=263,slow=12,SNR=7.1						
PV04	Paradox Valley	12.85	94	*e*Pn	Pn	09 08 33.1	+3.9
O20A	White River Ci	13.03	86	*e*Pn	Pn	09 08 33.7	+2.1
	16nm,1.1s						
PV01	Paradox Valley	13.17	95	*e*Pn	Pn	09 08 36.8	+3.1
	359nm,1.0s						
EGMT	Eagleton	13.44	51	*e*Pn	Pn	09 08 37.2	+0.2
	16nm,0.9s						
K22A	Casper	14.23	75	*e*Pn	Pn	09 08 47.3	-0.7
	17nm,1.2s						
ISCO	Idaho Springs	15.08	86	*e*Pn	Pn	09 09 00.4	+0.7
	2.4nm,0.8s						
EDM	Edmonton	15.11	29	*e*Pn	Pn	09 08 58.6	-1.1
SDCO	Great Sand Dun	15.61	94	*e*Pn	Pn	09 09 08.7	+2.0
	18nm,1.2s						
ANMO	Albuquerque	15.90	104	Pn	Pn	09 09 11.6	+1.3
	0.0nm,0.3s,baz=318,slow=13,SNR=5.2						
KSCO	Kaye Shedlock'	17.50	87	*e*Pn	Pn	09 09 30.4	0.0
	21nm,0.9s						
LPIG	La Paz	20.63	138	LR	LR	09 17 36.0	
	comp=Z,60nm,19.6s,baz=282,slow=35						
TXAR	Lajitas Array	20.89	115	P	Pn	09 10 10.8	-0.5
	1.4nm,0.8s,baz=297,slow=9.3,SNR=20						
TXAR				LR	LR	09 18 47.7	
	comp=Z,46nm,18.1s,baz=0.0,slow=38						
FFC	Flin Flon	21.08	40	*e*P	P	09 10 10.5	0.0
	38nm,1.5s						
ECSD	EROS Data Cent	21.48	72	*e*P	P	09 10 13.3	-1.6
	7.3nm,0.9s						
KSU1	Kansas State U	22.06	84	P	P	09 10 25.0	+3.9
	10nm,0.5s						
AGMN	Agassiz Nation	22.34	60	*e*P	P	09 10 24.0	-0.1
	11nm,0.8s						
YKA	Yellowknife Ar	22.96	13	P	P	09 10 31.0	+0.5
	1.0nm,0.9s,baz=198,slow=10,SNR=6.2						
SPMN	Marine on St.	24.20	68	*e*P	P	09 10 43.5	+0.8
	6.2nm,0.7s						
ILAR	Eielson Array	27.34	340	P	P	09 11 12.3	+1.3
	0.6nm,1.0s,baz=147,slow=7.7,SNR=5.1						
INK	Inuvik	28.23	354	LR	LR	09 21 04.9	
	comp=Z,25nm,19.1s,baz=78,slow=33						
SCHQ	Schefferville	40.69	49	P	P	09 13 05.2	-1.4
	1.8nm,0.7s,baz=261,slow=7.1,SNR=3.4						
SEY	Seymchan	51.56	325	P	P	09 14 31.5	-0.4
	1.2nm,0.5s,baz=96,slow=12,SNR=3.5						
H11N3	WAKE ISLAND Hy	60.75	272	T	T	10 21 30.1	
	baz=58						
H11N2	WAKE ISLAND Hy	60.76	272	T	T	10 21 30.8	
	baz=58						
H11N1	WAKE ISLAND Hy	60.77	272	T	T	10 21 40.5	
	baz=58						
H11S1	WAKE ISLAND Hy	61.62	271	T	T	10 22 38.1	
	baz=51						
H11S2	WAKE ISLAND Hy	61.63	271	T	T	10 22 43.5	
	baz=51						
H11S3	WAKE ISLAND Hy	61.64	271	T	T	10 22 36.7	
	baz=51						
LPAZ	La Paz	77.48	124	P	P	09 17 25.8	+3.1
	1.0nm,0.8s,baz=24,slow=2.0,SNR=3.2						
GUMO	Guam	81.19	280	LR	LR	09 47 28.7	
	comp=Z,13nm,20.2s,baz=82,slow=31						
HHC	Hu-ho-hao-te	83.97	320	*e*P	P	09 17 53.5	-3.1
HHC				S	S	09 28 13.2	-7.0
HHC				PMZ			
	72nm,8.9s						
KURK	Kurchatov	86.79	345	P	P	09 18 11.4	+1.0
KURBB	Kurchatov Arra	86.90	345	P	P	09 18 11.4	+0.5
	0.3nm,0.5s,baz=24,slow=3.7,SNR=3.8						
WMQ	Urumqi	90.96	337	*e*P	P	09 18 32.3	+1.9
WMQ				PMZ			
	1.0nm,0.4s						
WMQ				PMZ			
	11nm,5.4s						
WMQ				LN			
	9.0nm,7.6s						
WMQ				LE			
	12nm,6.8s						
CD2	Chengdu	95.68	319	*e*P	P	09 18 49.8	-2.5

*IDC **05** 09:15:30.3±1.4, 17°.94N×122°.88E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/26, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=60.8km s-min=27.1km az=83.0*
*ISCJB **05** 09:15:34.1±0.6, 18°.12N±0°.05×120°.63E±0°.06, h74km±5km, mb3.2/4, Error ellipse: s-maj=9.6km s-min=8.3km az=23.4*
*MAN **05** 09:15:35, 18°.09N×120°.68E, h46km, mb4.4, ML3.3, MS3.1*
ISC 05 09:15:35.1±0.9**, 18°.13N**±0°.06×**120°.67E**±0°.06**, h69**km±6km**, n19,** σ1**s48**/22**, mb3.5**/3**, 2C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PIP	Pasuquin	0.20	347	⇓*i*P	Pn	09 15 45.4	-0.3
PIP				*e*S	Sn	09 15 53.0	-0.4
SIPP	Brgy, Tapao	0.28	225	⇑*i*P	Pn	09 15 45.5	-0.7
SIPP				*e*S	Sn	09 15 57.7	+3.5
ABRA	Dolores	0.48	175	*e*P	Pn	09 15 47.3	-0.4
ABRA				*e*S	Sn	09 15 56.5	-0.3
APYP	Conner	0.61	115	*e*P	Pn	09 15 48.7	-0.2
APYP				*e*S	Sn	09 15 59.0	-0.1
CVP	Callao Caves	1.18	111	*e*P	Pn	09 15 55.9	+0.1
CVP				*e*S	Sn	09 16 12.2	+0.9
SGCP	Mt. Cagua	1.32	85	*e*P	Pn	09 15 58.2	+0.6
SGCP				*e*S	Sn	09 16 15.6	+1.1
CAUP	Cauayan	1.61	137	*e*P	Pn	09 16 02.6	+1.1
BCPH	Baguio City Da	1.74	183	⇑*i*P	Pn	09 16 02.6	-0.8
BCPH				*i* S	Sn	09 16 22.8	-2.0
BOLP	Bolinao	1.88	203	*e*P	Pn	09 16 05.8	+0.7
BOLP				*e*S	Sn	09 16 31.2	+3.3
SCZP	Santa Cruz	2.45	197	*e*P	Pn	09 16 07.5	-5.3
BALP	Baler	2.52	160	*e*P	Pn	09 16 14.7	+0.8
KSRS	Korea Array	20.28	17	P	P	09 20 05.5	+0.3
	0.1nm,0.3s,baz=199,slow=11,SNR=7.8						
MKAR	Makanchi Array	42.53	321	P	pP	09 23 39.5	-1.5
	0.1nm,0.3s,baz=116,slow=6.6,SNR=2.8						
ASAR	Alice Springs	43.50	162	P	P	09 23 29.8	-2.1
	0.3nm,0.4s,baz=340,slow=6.8,SNR=6.5						
H11S3	WAKE ISLAND Hy	43.60	82	T	T	10 08 54.3	
	baz=284,slow=74						
H11S1	WAKE ISLAND Hy	43.61	82	T	T	10 08 56.2	
	baz=284						
H11S2	WAKE ISLAND Hy	43.62	82	T	T	10 08 56.3	
	baz=284,slow=74						
ILAR	Eielson Array	74.81	26	P	P	09 27 07.3	-0.4
	0.4nm,0.8s,baz=274,slow=5.6,SNR=5.8						
YKA	Yellowknife Ar	88.72	22	P	P	09 28 21.8	+1.0
	0.2nm,0.5s,baz=306,slow=4.5,SNR=5.7						

*ISCJB **05** 09:38:12.8±0.5, 33°.56N±0°.07×137°.29E±0°.08, h401km±4km, mb3.2/8, Error ellipse: s-maj=11.0km s-min=9.2km az=141.6*
*IDC **05** 09:38:12.8±0.9, 33°.48N×137°.08E, h379km±12km, mb3.0/8, mb1 3.1/12, mb1mx3.0/30, mbtmp3.8/12, Error ellipse: s-maj=25.2km s-min=12.1km az=71.0*
*JMA **05** 09:38:12.5±0.4, 33°.55N×137°.06E, h405km±4km, M3.3*
ISC 05 09:38:13.8±0.9**, 33°.63N**±0°.10×**137°.23E**±0°.08**, h394**km±7km**, n34,** σ1**s23**/43**, mb3.2**/8**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TTO2	TONANKAI O.B.S	0.20	302	P	P	09 39 03.2	+1.1
TTO3	TONANKAI O.B.S	0.27	30	P	P	09 39 03.8	+1.4
TTO4	TONANKAI O.B.S	0.46	34	P	P	09 39 04.0	+1.5
TK02	Tokai 2	0.54	54	P	P	09 39 04.4	+1.7
JIE	Ise	0.88	330	P	P	09 39 04.3	+0.5
JKN2	Miekihoku	1.01	308	P	P	09 39 04.2	0.0
JKN2				S	S	09 39 43.6	-1.4
JHMK	Hamakita	1.26	20	P	P	09 39 06.1	+1.0
JNY	Yasuok	1.80	17	P	P	09 39 09.1	+1.1
JOD2	Odawara 2	2.24	43	P	P	09 39 12.2	+1.5
JWT	Wachi	2.24	318	P	P	09 39 10.5	-0.2
JKG	Kaga	2.75	345	P	P	09 39 14.8	+0.4
JRY	Ryogami san	2.75	29	P	P	09 39 16.4	+1.9
JRY				S	S	09 40 04.9	+1.2
JHU	Hanno	2.79	37	P	P	09 39 16.0	+1.3
JHU				S	S	09 40 03.4	-0.7
BSO4	Boso 4	2.91	61	P	P	09 39 16.3	+0.7
BSO4				S	S	09 40 06.0	+0.4
BSO3	Boso 3	2.96	66	P	P	09 39 15.8	0.0
MJAR	Matsushiro Arr	3.02	15	P	P	09 39 17.7	+1.1
	3.6nm,0.3s,baz=197,slow=10.0,SNR=71						
MJAR				S	S	09 40 06.7	-0.8
	0.3nm,0.3s,baz=195,slow=14,SNR=6.1						
MAT	Matsushiro	3.02	15	P	P	09 39 17.6	+1.0
MAT				S	S	09 40 07.6	+0.1
MAT	Matsushiro	3.02	15	P	P	09 39 17.4	+0.8
MAT				S	S	09 40 07.4	-0.1
BSO1	Boso 1	3.27	71	P	P	09 39 18.0	-0.1
BSO1				S	S	09 40 08.7	-1.7
JAG	Ashikaga	3.33	32	P	P	09 39 19.5	+0.2
JYT	Yasato	3.56	42	P	P	09 39 21.2	-0.1
JYT				S	S	09 40 12.9	-3.1
JHO	Hitachi	4.04	42	P	P	09 39 26.3	+0.5
JHO				S	S	09 40 22.2	-2.1
JFK	Kawauchi	4.77	37	P	P	09 39 33.9	+0.8
JFK				S	S	09 40 35.0	-2.5
JCJ	Chichijima	7.79	145	P	P	09 40 03.0	-3.8
	3.6nm,0.3s,baz=280,slow=19,SNR=12						
JCJ				S	S	09 41 28.6	-10
	16nm,0.3s,baz=288,slow=22,SNR=14						
KSRS	Korea Array	8.49	299	P	P	09 40 13.7	-1.0
	0.2nm,0.3s,baz=120,slow=11,SNR=8.1						
ASAJ	Asahikawa	11.27	20	P	P	09 40 48.0	+2.6
	1.2nm,0.3s,baz=235,slow=12,SNR=14						
SONM	Songino Array	27.13	311	P	P	09 43 22.6	0.0
	0.4nm,0.4s,baz=125,slow=14,SNR=2.4						
MKAR	Makanchi Array	43.13	305	P	P	09 45 37.0	-0.2
	0.4nm,0.3s,baz=88,slow=9.8,SNR=9.4						
BVAR	Borovoye Array	50.40	314	P	P	09 46 32.6	0.0
	0.6nm,0.4s,baz=107,slow=5.0,SNR=5.1						
WRA	Warramunga Arr	53.34	183	P	P	09 46 53.6	-0.8
	1.1nm,0.3s,baz=0.1,slow=7.6,SNR=17						
ASAR	Alice Springs	57.06	184	P	P	09 47 20.1	-0.4
	0.3nm,0.3s,baz=22,slow=10,SNR=6.4						
YKA	Yellowknife Ar	68.44	28	P	P	09 48 36.1	+2.0
	0.1nm,0.6s,baz=301,slow=5.9,SNR=3.2						
FINES	FINESS Array B	70.20	332	P	P	09 48 45.0	+0.2
	0.9nm,0.5s,baz=80,slow=4.5,SNR=7.9						
BRTR	Keskin Array B	78.49	310	P	P	09 49 33.2	+0.5
	0.3nm,0.5s,baz=113,slow=2.6,SNR=2.6						

*ISCJB **05** 09:39:20.9±0.5, 5°.85N±0°.03×126°.66E±0°.07, h71km, mb3.9/14, Error ellipse: s-maj=10.1km s-min=4.4km az=168.9*
*MAN **05** 09:39:21, 5°.81N×126°.52E, h87km, mb5.0, ML3.9, MS4.0*
*IDC **05** 09:39:23.1±4.8, 5°.92N×126°.22E, h87km±44km, mb3.8/13, mb1 4.0/14, mb1mx3.9/24, mbtmp4.1/14, MS3.0/7, Ms1 3.0/7, ms1mx2.9/26, Error ellipse: s-maj=34.4km s-min=13.6km az=68.0*
*DJA **05** 09:39:25.8±0.6, 6°N±4°×12°6E±°, h50km±13km, M4.7/10, mb4.6/10, mB5.1/5, MLv4.8/7, Mw(mB)4.5/5*
ISC 05 09:39:22.1±0.6**, 5°.85N**±0°.05×**126°.49E**±0°.09**, h71**km**, n38,** σ1**s87**/33**, mb3.9**/14**, 4C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MATI	Mati	1.11	348	*e*P	Pn	09 39 44.4	+2.2
MATI				*e*S	Sn	09 40 00.1	+3.1
GSPH	General Santos	1.55	279	*e*P	Pn	09 39 46.4	-1.5
GSPH				*e*S	Sn	09 40 04.9	-2.4
SGSI	Sangihe	2.35	204	P	Pn	09 40 03.3	+4.7
SGSI				S	Sn	09 40 30.1	+3.6
BUKP	Musuan	2.46	325	*e*P	Pn	09 40 02.0	+1.9
BUKP				*e*S	Sn	09 40 31.5	+2.3
CTBH	Cotabato--PC H	2.61	302	⇑*i*P	Pn	09 40 02.4	+0.3
CGP	Cagayan de Oro	3.14	326	⇑*e*P	Pn	09 40 11.7	+2.5
CGP				*e*S	Sn	09 40 49.0	+3.3
BUTP	Butuan	3.21	345	*e*P	Pn	09 40 14.7	+4.4
PAGZ	Pagadian	3.67	303	*e*P	Pn	09 40 17.8	+1.3
SCPH	Surigao	4.03	346	⇑*e*P	Pn	09 40 29.1	+7.7
TNTI	Ternate	5.12	170	P	Pn	09 40 39.9	+3.5
	111nm,1.1s,0.9nm						
PLP	Palo	5.49	344	⇓*e*P	Pn	09 40 44.1	+2.7
PLP				*e*S	Sn	09 41 44.0	+0.8
RCP	Roxas	6.77	327	⇑*e*P	Pn	09 41 01.3	+2.4
MRSI	Marisa	7.01	221	P	Pn	09 41 04.2	+2.1
	62nm,0.8s,1μm0.3nm						
MRSI				S	Sn	09 42 20.4	0.0
	62nm,0.8s,1μm0.3nm						
LUWI	Luwuk	7.79	209	P	Pn	09 41 18.4	+5.6
	94nm,1.2s,3μm0.5nm						
SANI	Sanana	7.86	184	P	Pn	09 41 14.8	+0.9
	68nm,0.9s,1μm0.3nm						
APSI	Ampana	8.28	216	P	Pn	09 41 25.6	+6.1
	49nm,0.8s,610nm						
MPSI	Mapaga	8.56	230	P	Pn	09 41 25.9	+2.5
	8.1nm,1.0s						
RKPI	Ransiki, Papua	10.60	133	P	Pn	09 41 59.8	+8.5
TTSI	Tana Toraja	11.07	217	P	Pn	09 42 02.1	+4.5
	46nm,1.1s,726nm						
KAPI	Kappang	12.72	212	P	Pn	09 42 21.6	+1.4
	0.4nm,0.3s,baz=25,slow=10.0,SNR=9.6						
WRA	Warramunga Arr	26.77	163	P	P	09 44 55.3	-0.2
	3.8nm,1.0s,baz=341,slow=10,SNR=32						
JNU	Nakatsue	27.44	8	LR	LR	09 57 02.9	
	comp=Z,15nm,18.5s,baz=356,slow=39						
CMAR	Chiang Mai Arr	29.64	297	P	P	09 45 17.7	-3.5
	0.9nm,0.4s,baz=125,slow=7.8,SNR=5.1						
CMAR				LR	LR	09 56 44.3	
	comp=Z,23nm,19.9s,baz=151,slow=35						
ASAR	Alice Springs	30.22	166	P	P	09 45 26.4	+0.3
	1.7nm,0.6s,baz=343,slow=6.9,SNR=28						
ASAR				PcP	PcP	09 48 25.4	-0.4
	1.0nm,0.9s,baz=354,slow=2.8,SNR=6.2						
KSRS	Korea Array	31.48	2	P	P	09 45 35.6	-1.5
	0.3nm,0.3s,baz=191,slow=8.2,SNR=3.5						
KSRS				PcP	PcP	09 48 28.9	+0.2
	0.8nm,0.8s,baz=194,slow=3.8,SNR=5.7						
KSRS				LR	LR	09 57 33.8	
	comp=Z,15nm,21.8s,baz=214,slow=35						
MJAR	Matsushiro Arr	32.38	18	LR	LR	09 58 28.4	
	comp=Z,14nm,20.4s,baz=205,slow=35						
STKA	Stephens Creek	40.19	160	P	P	09 46 52.5	+0.8
	7.9nm,0.9s,baz=339,slow=7.4,SNR=11						
STKA				LR	LR	10 06 21.5	
	comp=Z,73nm,20.2s,baz=208,slow=40						
SONM	Songino Array	45.23	341	P	P	09 47 31.2	-1.2
	0.9nm,0.6s,baz=168,slow=7.4,SNR=2.9						
MKAR	Makanchi Array	55.69	325	P	P	09 48 49.6	-1.7
	0.7nm,0.6s,baz=131,slow=7.9,SNR=9.8						
ZALV	Zalesovo Beam	58.60	333	P	P	09 49 12.0	+0.4
	1.3nm,0.3s,baz=131,slow=8.4,SNR=2.8						
ZALV				LR	LR	10 18 08.7	
	comp=Z,20nm,18.2s,baz=70,slow=40						
GNI	Garni	79.95	310	P	P	09 51 21.8	-2.2
	3.9nm,0.4s,baz=302,slow=19,SNR=2.6						
ILAR	Eielson Array	83.30	26	P	P	09 51 39.6	-1.3
	0.7nm,0.8s,baz=230,slow=6.3,SNR=8.1						
ILAR				LR	LR	10 30 00.9	
	comp=Z,6.2nm,19.7s,baz=294,slow=36						
VNDA	Vanda	85.55	173	P	P	09 51 51.9	-0.1
	0.6nm,0.3s,baz=336,slow=4.2,SNR=12						
BRTR	Keskin Array B	88.49	310	P	P	09 52 03.6	-3.6
	0.8nm,0.8s,baz=134,slow=5.3,SNR=5.5						
NOA	NORSAR Array B	96.79	334	P	P	09 52 41.6	-3.3
	0.3nm,0.8s,baz=66,slow=4.6,SNR=2.7						
YKA	Yellowknife Ar	97.68	24	P	P	09 52 48.3	-0.5
	0.3nm,0.7s,baz=305,slow=5.5,SNR=3.9						
TXAR	Lajitas Array	120.48	51	PKP	PKPdf	09 58 06.7	+0.3
	0.1nm,0.4s,baz=325,slow=36,SNR=2.4						
TORD	Torodi Ar. Bea	122.01	289	PKP	PKPdf	09 58 07.8	-1.7
	0.9nm,0.9s,baz=14,slow=0.4,SNR=3.7						

*IDC **05** 10:16:32.7±1.0, 4°.80S×102°.44E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.0/29, mbtmp4.2/12, ML3.8/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/29, Error ellipse: s-maj=40.9km s-min=15.2km az=52.0*
*NEIC **05** 10:16:37.8±0.4, 4°.83S×102°.44E, h35km, mb4.5/2, Error ellipse: s-maj=13.8km s-min=5.7km az=224.0*
*DJA **05** 10:16:39.8±0.5, 5°S±3°×10°3E±°, h20km±4km, M4.7/22, mb4.8/5, mB5.3/2, MLv4.6/22, Mw(mB)4.7/2*
ISC 05 10:16:37.6±1.4**, 4°.86S**±0°.05×**102°.39E**±0°.09**, h34**km±5km**, n58,** σ1**s58**/57**, mb4.2**/14**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MNAI	Manna	0.75	49	P	Pn	10 16 51.8	0.0
MNAI				S	Sn	10 16 58.6	-3.4
MNAI	Manna	0.75	49	*e*Pg	Pn	10 16 51.9	+0.1
MNAI				*e*Sg	Sn	10 17 01.3	-0.7
LHSI	Lahat	1.52	48	P	Pn	10 17 03.4	+0.9
LHSI				S	Sn	10 17 20.4	-0.7
LWLI	Liwa	1.67	96	P	Pn	10 17 05.1	+0.5
MASI	Maura Aman, Be	1.71	355	P	Pb	10 17 07.3	-1.2
MASI				S	Sb	10 17 29.9	+0.2
MDSI	Maura Dua	1.82	78	P	Pn	10 17 07.1	+0.6
MDSI				S	Sn	10 17 27.7	-0.7
KASI	Kota Agung	2.20	108	P	Pn	10 17 13.0	+1.2
KASI				S	Sn	10 17 35.8	-2.1
KLSI		2.34	86	P	Pn	10 17 14.6	+0.9
KLSI				S	Sn	10 17 40.5	-0.8
KLI	Kotabumi	2.46	90	P	Pn	10 17 16.0	+0.7
KLI				S	Sn	10 17 45.6	+1.4
BLSI	Bandar Lampung	2.89	100	P	Pn	10 17 23.7	+2.4
BLSI				S	Sn	10 17 54.8	-0.1
PMBI	Palembang	3.05	51	P	Pn	10 17 26.4	+2.9
JMBI	JAMBI	3.44	21	P	Pn	10 17 30.7	+1.9
CGJI	Cibinong	3.72	118	P	Pn	10 17 33.4	+0.7
SDSI	Sungai Dareh	4.01	346	P	Pb	10 17 55.0	+7.3
PDSI	Padang	4.36	334	P	Pn	10 17 45.5	+3.9
SKJI	Sukabumi	4.66	117	P	Pb	10 17 54.4	-4.4
DSRI	Dabo	4.87	27	P	Pn	10 17 50.3	+1.9
CNJI	Cibinong	5.31	118	P	Pn	10 17 52.2	-2.3
	115nm,0.7s,2μm0.5nm						
CNJI				S	Sn	10 18 53.1	-1.4
	115nm,0.7s,2μm0.5nm						
LEM	Lembang	5.56	111	P	Pn	10 18 03.0	+4.9
	174nm,1.2s,0.6nm						
LEM	Lembang	5.56	111	Pn	Pn	10 17 57.8	-0.4
	2.8nm,0.3s,baz=294,slow=20,SNR=2.1						
LEM				Sn	Sn	10 19 06.1	+5.1
	5.3nm,0.3s,baz=311,slow=19,SNR=2.9						
LEM				LR	LR	10 20 32.4	
	comp=Z,269nm,20.1s,baz=241,slow=43						
CISI	Cisompet, Garu	6.03	117	P	Pn	10 18 04.6	+0.1
	110nm,0.6s,4μm0.7nm						
CISI	Cisompet, Garu	6.03	117	*e*Pn	Pn	10 18 04.5	+0.1
	83nm,0.6s						
CISI				*e*Sn	Sn	10 19 07.1	-5.3
MNSI	Mandailing Nat	6.28	333	P	Pn	10 18 08.5	+0.7
	25nm,0.9s,0.2nm						
KPJI	Karang Pucung	6.96	111	P	Pn	10 18 20.3	+3.1
JAGI	Jajag, Banyuwa	12.22	108	P	Pn	10 19 33.4	+4.0
JAGI	Jajag, Banyuwa	12.22	108	Pn	Pn	10 19 28.1	-1.3
	28nm,0.4s						
KAPI	Kappang	17.30	91	LR	LR	10 26 52.5	
	comp=Z,108nm,20.5s,baz=278,slow=36						
SPSI	Sidrap Palu	17.35	88	P	P	10 20 38.9	+0.5
MPSI	Mapaga	18.23	74	P	Pn	10 20 50.2	+2.0
CMAR	Chiang Mai Arr	23.41	352	P	P	10 21 42.5	-1.3
	1.1nm,0.3s,baz=182,slow=9.6,SNR=6.6						
H08S2	Diego Garcia H	29.84	263	T	T	10 53 53.5	
	baz=87,slow=76,SNR=14						
H08S3	Diego Garcia H	29.85	263	T	T	10 53 43.2	
	baz=87,slow=76,SNR=15						
H08S1	Diego Carcia H	29.86	263	T	T	10 53 45.2	
	baz=87,slow=76,SNR=13						
H01W3	Cape Leeuwin H	31.80	161	T	T	10 56 51.9	
	baz=340,slow=76,SNR=7.3						
H01W2	Cape Leeuwin H	31.81	161	T	T	10 56 42.8	
	baz=340,slow=76,SNR=8.9						
H01W1	Cape Leeuwin H	31.81	161	T	T	10 56 53.3	
	baz=340,slow=76,SNR=5.7						
WRA	Warramunga Arr	34.52	119	P	P	10 23 22.2	-0.8
	1.3nm,0.6s,baz=305,slow=8.8,SNR=39						
WRAB	Tennant Creek	34.53	119	*e*P	P	10 23 22.6	-0.5
	5.8nm,0.6s						
AS31	Alice Springs	35.67	125	*e*P	P	10 23 32.5	-0.4
ASAR	Alice Springs	35.67	125	P	P	10 23 32.8	-0.1
	3.3nm,0.8s,baz=293,slow=7.5,SNR=29						
ASAR				LR	LR	10 38 46.0	
	comp=Z,35nm,18.3s,baz=273,slow=37						
STKA	Stephens Creek	45.49	131	P	P	10 24 54.3	+0.4
	5.0nm,0.7s,baz=309,slow=9.4,SNR=7.7						
KSAR	Wonju Array Be	48.32	27	P	P	10 25 15.6	-0.3
KSRS	Korea Array	48.35	27	P	P	10 25 15.6	-0.5
	0.3nm,0.3s,baz=226,slow=5.1,SNR=4.2						
SONM	Songino Array	52.58	3	P	P	10 25 48.9	+0.8
	0.9nm,0.5s,baz=190,slow=7.5,SNR=4.4						
MJAR	Matsushiro Arr	53.07	36	P	P	10 25 48.1	-3.7
	0.9nm,0.7s,baz=216,slow=8.5,SNR=3.2						
MK31	Makanchi Array	54.42	343	P	P	10 26 01.1	-0.3
MKAR	Makanchi Array	54.42	343	P	P	10 26 01.3	-0.1
	1.8nm,0.5s,baz=149,slow=8.4,SNR=20						
USRK	Ussuriysk Ar.	55.61	25	P	P	10 26 09.6	-0.5
	1.3nm,0.6s,baz=215,slow=6.7,SNR=3.9						
ZAA0	Zalesovo Array	60.41	348	*e*P	P	10 26 43.4	-0.1
ZALV	Zalesovo Beam	60.41	348	P	P	10 26 42.9	-0.6
	3.5nm,0.4s,baz=160,slow=4.7,SNR=13						
ABKAR	Akbulak array	65.28	331	*e*P	P	10 27 15.9	0.0
	2.4nm,0.6s						
BRTR	Keskin Array B	77.00	312	P	P	10 28 28.4	+1.0
	0.6nm,0.5s,baz=121,slow=5.6,SNR=4.1						
FINES	FINESS Array B	87.73	332	P	P	10 29 23.1	+0.3
	4.9nm,1.0s,baz=104,slow=6.3,SNR=6.8						
YKA	Yellowknife Ar	116.36	18	PKP	PKPdf	10 35 16.3	-1.0
	0.1nm,0.5s,baz=302,slow=1.0,SNR=3.0						
NVAR	Mina Array Bea	130.20	42	PKP	PKPdf	10 35 45.5	+0.6
	0.2nm,0.3s,baz=312,slow=2.1,SNR=3.1						
PDAR	Pinedale Array	132.81	32	PKP	PKPdf	10 35 50.7	+1.0
	0.4nm,0.6s,baz=328,slow=1.7,SNR=3.0						
TXAR	Lajitas Array	145.35	42	PKPbc	PKPdf	10 36 12.7	-0.1
	1.2nm,0.6s,baz=276,slow=1.4,SNR=25						
JCT	Junction City	147.03	37	*e*PKPbc	PKPbc	10 36 17.4	-0.1

*ISCJB **05** 10:37:54.7±1.0, 32°.40N±0°.04×128°.81E±0°.04, h8km±6km, Error ellipse: s-maj=7.7km s-min=3.5km az=30.9*
*JMA **05** 10:37:55.7, 32°.44N×128°.83E, h16km±2km, M4.1*
JMA Felt II J1.
*NIED **05** 10:38:00, 32°.50N×128°.90E, h8km, Mw4.0 Best double*

couple: M0 1.08000×10^{15} NP1:φs2.00000°,δ56.00000°, λ-143.00000°. NP2:φs249.00000°,δ60.00000°, λ-40.00000°.

ISC 05 10:37:55.1±1.3**,32°.40N**±0°.05×**128°.85E**±0°.04**,h11**^{km}±9^{km}**, n27,**σ**0^s.42**/39**,13C-9D,Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFU	Fukue jima 2	0.27	342	⇑P	Pg	10 38 00.9	+0.2
JFU				S	Sg	10 38 04.0	-0.3
NGSJ	Nagasakinomoza	0.84	74	⇑P	Pg	10 38 11.5	+0.2
NGSJ				S	Sb	10 38 22.7	-0.2
JSJ	Shimokoshiki	1.03	134	P	Pb	10 38 14.6	-0.4
JSJ				*e*S	Sn	10 38 29.5	-0.5
JHD	Hondo	1.09	86	⇑P	Pb	10 38 16.2	+0.2
JHD				S	Sn	10 38 31.8	+0.3
JZO	Okuchi	1.51	99	⇑P	Pn	10 38 22.3	+0.2
JZO				*e*S	Sb	10 38 42.1	-0.2
JTA	Tamana	1.53	68	P	Pb	10 38 23.2	-0.3
JTA				S	Sb	10 38 43.5	+0.6
JII	Iki	1.58	28	P	Pn	10 38 22.7	-0.4
JSU	Suzuyama	1.63	123	⇑P	Pn	10 38 24.2	+0.4
KSSGP	Seogwipo	2.15	294	⇓P	Pn	10 38 30.9	-0.1
KSJJU	Jeju	2.19	299	P	Pn	10 38 31.2	-0.3
	SNR=25						
KSJJU	Jeju	2.19	299	P	Pn	10 38 31.2	-0.3
	SNR=25						
KSJJU	Jeju	2.19	299	P	Pn	10 38 31.2	-0.3
	SNR=25						
KSJJU				⇑Sb	Sb	10 39 02.8	+0.8
KOHB	KOHEUNG	2.57	330	⇓P	Pn	10 38 36.2	-0.5
KOHB				⇑Sb	Sb	10 39 13.0	0.0
KSWAN	Wando	2.67	318	⇑P	Pn	10 38 37.7	-0.4
KSWAN				⇓S	Sn	10 39 10.4	-0.2
KSWAN	Wando	2.67	318	⇑P	Pn	10 38 37.7	-0.4
KSBUS	Busan	2.85	4	⇑P	Pn	10 38 39.9	-0.6
KSBUS				⇑Sb	Sb	10 39 20.6	-0.3
KSJDO	Jindo	2.96	315	P	Pn	10 38 41.9	-0.2
	SNR=8.0						
KSJDO	Jindo	2.96	315	P	Pn	10 38 41.9	-0.2
	SNR=8.0						
KSJDO	Jindo	2.96	315	P	Pn	10 38 41.9	-0.2
	SNR=8.0						
KSJDO				⇑Sb	Sb	10 39 25.1	+1.1
KSKWJ	Gwangju	3.16	331	⇓P	Pn	10 38 44.6	-0.2
	SNR=10.0						
KSKWJ	Gwangju	3.16	331	⇓P	Pn	10 38 44.6	-0.2
	SNR=10.0						
KSKWJ	Gwangju	3.16	331	⇓P	Pn	10 38 44.6	-0.2
	SNR=10.0						
KSKWJ				⇑Sb	Sb	10 39 30.4	+0.7
KSDAG	Daegu	3.36	1	⇓P	Pn	10 38 48.0	+0.4
	SNR=6.4						
KSDAG	Daegu	3.36	1	⇓P	Pn	10 38 48.0	+0.4
	SNR=6.4						
KSDAG	Daegu	3.36	1	⇓P	Pn	10 38 48.0	+0.4
	SNR=6.4						
KSJEU	Jeongeup	3.47	333	P	Pn	10 38 49.0	-0.1
	SNR=22						
KSJEU	Jeongeup	3.47	333	P	Pn	10 38 49.0	-0.1
	SNR=22						

IDC 05 10:48:20.5±4.2**,3°.24S**×**100°.67E,h0**^{km}**,mb3.7**/5**, mb1 3.8**/5**,mb1mx3.6**/33**,mbtmp3.7**/5**,Error ellipse: s-maj=184.9km s-min=21.2km az=55.0,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	28.38	260	T	T	11 23 35.5	
	baz=83,slow=76,SNR=202						
H08S3	Diego Garcia H	28.39	260	T	T	11 23 35.6	
	baz=83,slow=76,SNR=188						
H08S1	Diego Carcia H	28.40	260	T	T	11 23 34.3	
	baz=83,slow=76,SNR=192						
H08N1	Diego Carcia H	29.71	263	T	T	11 25 51.0	
	baz=98						
H08N2	Diego Garcia H	29.72	263	T	T	11 25 51.6	
	baz=98						
H08N3	Diego Garcia H	29.73	263	T	T	11 25 53.0	
	baz=98						
WRA	Warramunga Arr	36.80	119	P	P	10 55 29.2	-1.3
	0.3nm,0.4s,baz=311,slow=8.7,SNR=6.6						
ASAR	Alice Springs	37.99	125	P	P	10 55 41.3	+0.7
	0.4nm,0.4s,baz=298,slow=7.7,SNR=20						
SONM	Songino Array	51.10	5	P	P	10 57 25.6	+0.5
	1.3nm,0.6s,baz=182,slow=10,SNR=4.4						
MKAR	Makanchi Array	52.39	344	P	P	10 57 34.9	+0.3
	0.6nm,0.7s,baz=141,slow=9.0,SNR=6.5						
ZALV	Zalesovo Beam	58.50	349	P	P	10 58 17.3	-1.1
	0.6nm,0.3s,baz=190,slow=5.9,SNR=3.2						
TXAR	Lajitas Array	145.25	39	PKPbc	PKPbc	11 08 00.3	-0.4
	0.8nm,0.8s,baz=268,slow=0.7,SNR=10.0						

IDC 05 10:56:55.1±6.5**,22°.91S**×**179°.96E,h559**^{km}±74^{km}**,mb3.5**/5**, mb1 3.6**/6**,mb1mx3.2**/26**,mbtmp4.4**/6**,Error ellipse: s-maj=85.4km s-min=33.6km az=155.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.52	271	P	P	10 59 38.7	-0.5
	0.2nm,0.3s,baz=90,slow=20,SNR=3.1						
CTA	Charters Tower	31.45	269	P	P	11 02 32.8	+1.2
	12nm,0.5s,baz=91,slow=10,SNR=32						
STKA	Stephens Creek	35.07	247	P	P	11 03 01.1	-0.8
	2.5nm,0.6s,baz=94,slow=9.4,SNR=10						
ASAR	Alice Springs	42.17	260	P	P	11 03 59.2	-0.4
	3.2nm,0.6s,baz=94,slow=7.4,SNR=68						
WRA	Warramunga Arr	42.45	265	P	P	11 04 01.3	-0.5
	2.0nm,0.3s,baz=94,slow=8.3,SNR=260						
TXAR	Lajitas Array	89.94	58	P	P	11 08 55.6	0.0
	0.6nm,0.7s,baz=215,slow=5.8,SNR=7.2						

*IDC **05** 11:14:21.0±11.0,23°.29S×179°.83W,h498^{km}±143^{km}, mb3.1/6,mb1 3.4/7,mb1mx3.1/32,mbtmp4.0/7,Error ellipse: s-maj=100.3km s-min=24.8km az=179.0*

*ISCJB **05** 11:14:22.8±0.9,23°.5S±0°.2×179°.9W±0°.2,h532^{km},mb3.6/6, Error ellipse: s-maj=29.6km s-min=18.2km az=141.0*

ISC 05 11:14:23.2±0.9**,23°.6S**±0°.2×**179°.8W**±0°.2**,h532**^{km}**,n8,** σ**1^s.22**/8**,mb3.7**/6**,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	14.89	190	P	P	11 17 31.1	-0.6
	1.0nm,0.3s,baz=76,slow=4.2,SNR=6.6						
STKA	Stephens Creek	35.02	248	P	P	11 20 32.3	+1.0
	3.7nm,0.7s,baz=93,slow=8.1,SNR=13						
ASAR	Alice Springs	42.27	260	P	P	11 21 30.4	+0.2
	1.9nm,0.4s,baz=94,slow=7.4,SNR=39						
WRA	Warramunga Arr	42.61	266	P	P	11 21 32.6	-0.4
	2.4nm,0.3s,baz=93,slow=8.5,SNR=199						
NVAR	Mina Array Bea	84.38	44	P	P	11 26 00.4	+0.6
	0.3nm,0.7s,baz=232,slow=10.0,SNR=2.8						
TXAR	Lajitas Array	90.10	58	P	P	11 26 28.1	+1.3
	0.3nm,0.6s,baz=205,slow=7.5,SNR=5.7						
ILAR	Eielson Array	91.66	13	P	P	11 26 31.8	-1.3
	0.2nm,0.8s,baz=216,slow=7.6,SNR=3.1						
EKA	Eskdalemuir Ar	148.17	4	PKPbc	PKPbc	11 33 07.3	-1.5
	0.2nm,0.4s,baz=356,slow=2.5,SNR=4.3						

*IDC **05** 12:11:51.1±3.5,6°.70S×130°.26E,h62^{km}±37^{km},mb3.8/5, mb1 4.2/7,mb1mx3.7/26,mbtmp4.3/7,ML4.8/3,Error ellipse: s-maj=56.7km s-min=16.6km az=68.0*

*DJA **05** 12:11:57.8±0.4,6°S±3°×13°1E±°,h59^{km}±13^{km},M4.6/9, mb4.9/5,mB6.5/1,MLv4.5/9,Mw(mB)6.3/1*

ISC 05 12:11:54.7±0.7**,6°.42S**±0°.05×**130°.65E**±0°.10**,h90**^{km}**,n17,** σ**2^s.26**/17**,mb4.0**/4**,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.68	158	P	Pn	12 12 24.6	+1.8
SAUI				S	Sn	12 12 44.4	+0.4
BNDI	Bandanaira	2.03	338	P	Pn	12 12 31.1	+3.8
FAKI	Fak Fak	3.83	25	P	Pn	12 12 53.6	+2.1
FAKI				S	Sn	12 13 35.9	+0.5
NLAI	Namlea	4.75	312	P	Pn	12 13 12.2	+8.3
SIJI	Sorong	5.55	6	P	Pn	12 13 15.9	+1.0
	69nm,0.3s,baz=208,slow=11,SNR=182						
SIJI				S	Sn	12 14 14.7	-2.7
	34nm,0.3s,baz=85,slow=23,SNR=10						
RKPI	Ransiki, Papua	6.01	36	P	Pn	12 13 23.9	+2.7
	177nm,0.7s,43µm2.2nm						
RKPI				S	Sn	12 14 30.3	+1.6
	177nm,0.7s,43µm2.2nm						
SANI	Sanana	6.36	313	P	Pn	12 13 30.1	+4.1
	27nm,0.7s,0.1nm						
SOEI	Soe	7.13	242	P	Pn	12 13 39.6	+3.0
	35nm,0.8s						
WRA	Warramunga Arr	13.91	165	P	Pn	12 15 01.2	-6.7
	3.5nm,0.3s,baz=338,slow=13,SNR=77						
WRA				S	Sn	12 17 27.8	-13
	5.8nm,0.3s,baz=344,slow=22,SNR=11						
BBKI	Banjar Baru	16.02	280	P	P	12 15 40.4	+3.7
ASAR	Alice Springs	17.43	170	P	Pn	12 15 48.5	-3.8
	3.4nm,0.3s,baz=343,slow=9.2,SNR=208						
ASAR				S	Sn	12 18 53.2	-13
	1.0nm,0.3s,baz=349,slow=24,SNR=8.0						
CTA	Charters Tower	20.35	133	P	P	12 16 23.9	-0.2
	2.7nm,0.7s,baz=335,slow=23,SNR=3.9						
STKA	Stephens Creek	27.31	159	P	P	12 17 29.4	-1.7
	0.8nm,0.3s,baz=333,slow=10,SNR=7.5						
CMAR	Chiang Mai Arr	39.87	309	P	P	12 19 18.3	-1.6
	1.0nm,0.7s,baz=135,slow=6.7,SNR=6.3						
SONM	Songino Array	58.11	341	P	P	12 21 38.9	0.0
	0.9nm,0.5s,baz=163,slow=6.2,SNR=4.8						
MKAR	Makanchi Array	68.10	326	P	P	12 22 44.5	-0.5
	7.6nm,0.4s,baz=114,slow=8.1,SNR=130						
TORD	Torodi Ar. Bea	129.33	282	PKP	PKPdf	12 30 52.2	-1.6
	0.5nm,0.6s,baz=67,slow=2.4,SNR=5.5						

IDC 05 12:27:22.2±49.0**,16°.67S**×**178°.27W,h0**^{km}**,mb4.3**/3**, mb1 4.5**/3**,mb1mx3.7**/31**,mbtmp4.3**/3**,Error ellipse: s-maj=893.7km s-min=143.6km az=77.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.35	240	P	P	12 34 53.8	+0.3
	2.5nm,0.6s,baz=94,slow=9.2,SNR=18						
WRA	Warramunga Arr	45.00	258	P	P	12 35 39.4	-0.4
	0.8nm,0.6s,baz=95,slow=7.7,SNR=29						
ASAR	Alice Springs	45.26	253	P	P	12 35 41.6	-0.3
	9.9nm,0.6s,baz=87,slow=8.3,SNR=78						

*ISCJB **05** 12:30:20.7±0.4,51°.57N±0°.03×16°.12E±0°.03,h0^{km},Error ellipse: s-maj=3.6km s-min=2.5km az=3.4*

*CSEM **05** 12:30:22.7±0.2,51°.55N×16°.10E,h2^{km},ML3.6/8,Error ellipse: s-maj=3.8km s-min=2.3km az=10.0*

*BGR **05** 12:30:24.1±0.6,51°.53N×16°.09E,h1^{km},ML3.1/9,Error ellipse: s-maj=6.7km s-min=3.3km az=14.0*

*IDC **05** 12:30:24.4±0.7,51°.53N×15°.90E,h0^{km},mb1 3.3/7, mb1mx3.1/42,mbtmp3.2/7,ML3.0/7,Error ellipse: s-maj=13.1km s-min=7.0km az=101.0*

ISC 05 12:30:22.5±0.8**,51°.59N**±0°.04×**16°.12E**±0°.02**,h0**^{km}**,n64,** σ**0^s.85**/110**,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.75	172	*e*Pg	Pg	12 30 37.5	+0.6
KSP	Ksiaz	0.75	172	*i* Pg	Pg	12 30 37.4	+0.6
KSP				*e*Sg	Sg	12 30 47.1	+0.5
KSP				*e*		12 30 50.7	
KSP	Ksiaz	0.75	172	Pg	Pg	12 30 37.5	+0.6
KSP				*e*Sg	Sg	12 30 47.1	+0.5
UPC	Upice	1.08	184	*e*PG	Pg	12 30 43.4	+0.2
UPC				*e*SG	Sg	12 30 57.5	+0.3
	comp=Z,57nm,0.3s						
UPC	Upice	1.08	184	Pg	Pg	12 30 43.4	+0.2
UPC				Sg	Sg	12 30 57.5	+0.3
	57nm,0.3s						
DPC	Dobruska-Polom	1.24	174	*e*Pg	Pg	12 30 46.2	-0.1
DPC				*e*Sg	Sg	12 31 01.7	-0.7
DPC	Dobruska-Polom	1.24	174	*e*PG	Pg	12 30 46.2	-0.1
DPC				*e*SG	Sg	12 31 01.4	-1.0
	comp=Z,72nm,0.5s						
DPC	Dobruska-Polom	1.24	174	Pg	Pg	12 30 46.2	-0.1
DPC				Sg	Sg	12 31 01.7	-0.7
PVCC	Panska Ves	1.44	223	*e*PG	Pn	12 30 50.0	+0.1
PVCC				*e*SG	Sn	12 31 09.5	0.0
	comp=Z,248nm,0.3s						
PVCC	Panska Ves	1.44	223	Pg	Pn	12 30 50.0	+0.1
PVCC				Sg	Sn	12 31 09.5	0.0
	248nm,0.3s						
BRG	Berggiesshubel	1.54	243	PN	Pn	12 30 50.9	-0.4
BRG				PG	Pg	12 30 52.6	+0.5
BRG				SG	Sg	12 31 12.5	+0.4
	119nm,0.5s						
BRG	Berggiesshubel	1.54	243	*e*Pn	Pn	12 30 50.8	-0.4
BRG				*e*Sg	Sg	12 31 12.4	+0.4
BRG	Berggiesshubel	1.54	243	Pn	Pn	12 30 50.8	-0.4
BRG				Sg	Sg	12 31 12.4	+0.4
KRLC	Kraliky	1.57	164	*e*PG	Pn	12 30 51.6	-0.1
KRLC	Kraliky	1.57	164	Pg	Pn	12 30 51.6	-0.1
PRA	Prague	1.86	216	*e*PN	Pn	12 30 55.2	-0.4
PRA				*e*PG	Pb	12 30 57.7	+0.4
PRA				*e*SG	Sg	12 31 21.7	-0.4
	comp=Z,78nm,0.5s						
PRA	Prague	1.86	216	Pn	Pn	12 30 55.2	-0.4
FBE	Freiberg	1.86	250	*e*Sg	Sb	12 31 21.8	+0.6
FBE	Freiberg	1.86	250	Sg	Sb	12 31 21.8	+0.6
GOPC	GO Pecny, Ondr	1.88	207	*e*PG	Pb	12 30 57.5	-0.1
GOPC				*e*SG	Sb	12 31 21.7	+0.1
	comp=Z,63nm,0.6s						
GOPC	GO Pecny, Ondr	1.88	207	Pg	Pb	12 30 57.5	-0.1
GOPC				Sg	Sb	12 31 21.7	+0.1
	63nm,0.6s						
PRU	Pruhonice	1.89	213	*e*PN	Pn	12 30 55.4	-0.6
PRU				*e*PG	Pb	12 30 57.9	+0.1
PRU				*e*SG	Sb	12 31 21.9	0.0
	comp=Z,24nm,0.4s						
PRU	Pruhonice	1.89	213	Pn	Pn	12 30 55.4	-0.6
CLL	Collm	1.97	263	*e*Pn	Pn	12 30 56.7	-0.4
CLL				*e*Sg	Sg	12 31 25.8	-0.1
CLL	Collm	1.97	263	*i* Pn	Pn	12 30 56.6	-0.5
	comp=Z,19nm,0.4s						
CLL				*i* Pg	Pb	12 30 59.8	+0.5
CLL				*i*		12 31 03.1	
CLL				*i* Sg	Sg	12 31 25.7	-0.1
	comp=Z,48nm,0.5s						
CLL	Collm	1.97	263	Pn	Pn	12 30 56.7	-0.4
CLL				Sg	Sg	12 31 25.8	-0.1
OKC	Ostrava-Krasne	2.17	143	*e*PN	Pn	12 30 59.8	-0.1
OKC				*e*PG	Pg	12 31 03.9	-0.2
OKC				*e*SG	Sb	12 31 30.6	+0.5
	comp=Z,74nm,0.7s						
OKC	Ostrava-Krasne	2.17	143	Pn	Pn	12 30 59.8	-0.1
OKC	Ostrava-Krasne	2.17	143	Pg	Pg	12 31 03.9	-0.2
OKC				Sg	Sb	12 31 30.6	+0.5
	comp=Z,74nm,0.7s						
VRAC	Vranov	2.30	172	Pn	Pn	12 31 02.2	+0.6
	comp=Z,3.8nm,0.3s,baz=348,slow=14,SNR=18						
VRAC				Lg	Lg	12 31 35.7	
	comp=Z,6.5nm,0.3s,baz=265,slow=22,SNR=9.3						
VRAC	Vranov	2.30	172	*e*Pn	Pn	12 31 02.0	+0.3
VRAC				*e*Sg	Sb	12 31 34.6	+0.8
TREC	Trest	2.33	190	*e*PN	Pn	12 31 02.5	+0.4
TREC				*e*PG	Pb	12 31 06.3	+0.9
TREC	Trest	2.33	190	Pn	Pn	12 31 02.5	+0.4
TREC	Trest	2.33	190	Pg	Pb	12 31 06.3	+0.9
TANN	Tannenbergstha	2.59	245	*e*Pn	Pn	12 31 05.8	+0.1
TANN				*e*Sg	Sg	12 31 45.3	-0.4
TANN	Tannenbergstha	2.59	245	Pn	Pn	12 31 05.8	+0.1
TANN				Sg	Sg	12 31 45.3	-0.4
WERD	Werda	2.67	246	*e*Pn	Pn	12 31 06.9	+0.2
WERD				*e*Sg	Sg	12 31 46.7	-1.4
WERD	Werda	2.67	246	Pn	Pn	12 31 06.9	+0.2
WERD				Sg	Sg	12 31 46.7	-1.4
NKC	Novy Kostel	2.69	241	*e*PN	Pn	12 31 07.3	+0.2
NKC				*e*PG	Pg	12 31 13.4	-0.7
NKC				*e*SG	Sg	12 31 49.2	+0.3
	comp=Z,67nm,0.4s						
NKC	Novy Kostel	2.69	241	Pn	Pn	12 31 07.3	+0.2
NKC	Novy Kostel	2.69	241	Pg	Pg	12 31 13.4	-0.7
NKC				Sg	Sg	12 31 49.2	+0.3
	comp=Z,67nm,0.4s						
OJC	Ojcow	2.70	119	*e*Pg	Pg	12 31 14.8	+0.6
OJC				*e*Sg	Sg	12 31 50.0	+0.8
OJC	Ojcow	2.70	119	*e*Pg	Pg	12 31 14.8	+0.6
OJC				Sg	Sg	12 31 49.3	+0.1
KHC	Kasperske Hory	2.95	215	*e*PN	Pn	12 31 10.1	-0.5
KHC				*e*PG	Pb	12 31 17.1	+1.2
KHC				*e*SG	Sg	12 31 55.6	-1.6
	comp=Z,21nm,0.5s						
KHC	Kasperske Hory	2.95	215	Pn	Pn	12 31 10.1	-0.5
KHC	Kasperske Hory	2.95	215	Pg	Pb	12 31 17.1	+1.2
KHC				Sg	Sg	12 31 55.6	-1.6
	comp=Z,21nm,0.5s						
MOX	Moxa	2.99	253	*e*Pn	Pn	12 31 11.2	0.0
MOX				*e*Pg	Pg	12 31 19.3	-0.6
MOX	Moxa	2.99	253	Pn	Pn	12 31 11.2	0.0
MANZ	Manzenberg	3.01	239	*e*Pn	Pn	12 31 11.8	+0.4
MANZ	Manzenberg	3.01	239	Pn	Pn	12 31 11.8	+0.4
GERES	GERESS Array B	3.15	210	Pn	Pn	12 31 13.5	0.0
	comp=Z,2.2nm,0.3s,baz=29,slow=13,SNR=40						
GERES				Sn	Sn	12 31 50.5	-1.4
	comp=Z,2.6nm,0.3s,baz=26,slow=25,SNR=6.2						
GERES				Lg	Lg	12 32 02.8	
	comp=Z,7.9nm,0.3s,baz=26,slow=32,SNR=17						
SMOL	Smolenice	3.19	164	*e*PN	Pn	12 31 08.4	-5.5
SMOL				*e*PG	Pb	12 31 21.4	+1.4
SMOL				*e*SG	Sb	12 32 00.9	+1.5
STHS	Stebnicka Huta	3.92	122	*e*Pn	Pn	12 31 23.0	-1.0
STHS	Stebnicka Huta	3.92	122	*e*PN	Pn	12 31 23.0	-1.0
STHS				*e*PG	Pg	12 31 39.0	+1.3
STHS				*e*SG	Sg	12 32 29.9	+1.4
KECS	Kecovo	4.19	136	*e*Pg	Pg	12 31 42.6	-0.2
KECS				*e*Sg	Sg	12 32 33.0	-4.0
KECS	Kecovo	4.19	136	*e*PG	Pg	12 31 42.6	-0.2
KECS				*e*SG	Sg	12 32 33.0	-4.0
KOLS	Kolonicke sedl	4.76	122	*e*Pg	Pg	12 31 57.0	+3.4
KOLS				*e*Sg	Sg	12 32 54.1	-1.1
KOLS	Kolonicke sedl	4.76	122	*e*PG	Pg	12 31 57.0	+3.4
KOLS				*e*SG	Sg	12 32 54.1	-1.1
DAVOX	Davos/Dischmat	6.31	223	Pn	Pn	12 31 58.0	+1.1
	comp=Z,0.3nm,0.3s,baz=37,slow=14,SNR=3.7						
DAVOX				Lg	Lg	12 33 44.8	
	comp=Z,0.7nm,0.3s,baz=52,slow=21,SNR=3.5						
AKASG	Malin Array Be	8.29	91	Pn	Pn	12 32 24.9	+1.1
	comp=Z,1.1nm,0.3s,baz=280,slow=12,SNR=3.5						
AKASG				Sn	Sn	12 33 52.2	-5.9
	comp=Z,1.5nm,0.3s,baz=266,slow=25,SNR=4.5						
HFS	Hagfors	8.68	352	Pn	Pn	12 32 29.2	0.0
	comp=Z,0.1nm,0.3s,baz=178,slow=14,SNR=2.8						
NOA	NORSAR Array B	9.86	346	Pn	Pn	12 32 45.0	-0.4
	comp=Z,0.1nm,0.3s,baz=168,slow=12,SNR=2.5						
FINES	FINESS Array B	11.29	25	Pn	Pn	12 33 03.9	-1.1
	comp=Z,0.2nm,0.3s,baz=209,slow=11,SNR=5.3						
FINES				Sn	Sn	12 35 03.4	-8.3
	comp=Z,0.3nm,0.3s,baz=210,slow=22,SNR=5.5						
EKA	Eskdalemuir Ar	12.08	296	Pn	Pn	12 33 11.7	-4.1
	baz=103,slow=14,SNR=3.0						

*AZER **05** 12:47:04.6±3.5,35°.13N×46°.01E,h15^{km},Error ellipse: s-maj=43.7km s-min=26.7km az=132.0*

*ISN **05** 12:47:06.4±1.3,35°.54N×45°.40E,h0^{km}±6^{km},ML3.8*

*ISCJB **05** 12:47:06.4±0.5,35°.57N±0°.04×45°.51E±0°.04,h10^{km},Error ellipse: s-maj=6.6km s-min=3.4km az=27.1*

*CSEM **05** 12:47:07.6±0.2,35°.68N×45°.59E,h10^{km},ML3.8,Error ellipse: s-maj=8.5km s-min=3.9km az=26.0*

*ISK **05** 12:47:07.1,35°.56N×45°.16E,h5^{km},ML3.7*

*TEH **05** 12:47:08.8,35°.73N×45°.45E,h34^{km},ML3.8*

*DDA **05** 12:47:16.4,35°.26N×44°.45E,h20^{km},MD3.2*

ISC 05 12:47:07.5±0.8**,35°.70N**±0°.04×**45°.49E**±0°.04**,h10**^{km}**,n61,** σ**1^s.78**/68**,4C-6D,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IKRK	Kirkuk	0.98	253	*e*Pg	x	12 47 25.8	
IKRK				*e*Sg	x	12 47 39.0	
IDHR	Dehrash	1.24	143	*e*Pn	Pn	12 47 29.9	-1.2
IDHR				*e*		12 47 35.4	
	comp=Z,32µm,0.1s						
IDHR				*e*Sg	Sn	12 47 50.1	+2.2
IDHR	Dehrash	1.24	143	*e*Pn	Pn	12 47 29.9	-1.2
IAZR	Azarshahr	2.02	11	*e*Pn	Pn	12 47 37.1	-4.7
IAZR				*e*		12 48 09.9	
	comp=Z,22µm,0.3s						
MSL	Mosul	2.05	291	*e*Pn	x	12 47 41.5	
MSL				*e*Sn	x	12 48 08.1	
CUKT	Cukurca	2.17	316	*e*PN	Pb	12 47 45.0	-2.0
CUKT				*e*SN	Sn	12 48 12.1	+1.3
CUKT	Cukurca	2.17	316	*e*Pn	Pb	12 47 45.0	-2.0
CUKT				*e*Sn	Sn	12 48 12.1	+1.3
IKOM	Komasi	2.25	132	*e*Pn	Pb	12 47 47.7	-0.7
IKOM				*e*		12 48 27.9	
	comp=N,9µm,0.2s						
IBZA	Bozab	2.30	122	*e*Pn	Pb	12 47 47.8	-1.5
IBZA				*e*Sg	Sg	12 48 22.0	+0.7
IBZA				*e*		12 48 28.3	
	comp=Z,3µm,0.2s						
HAKT	HAKKARI	2.35	323	*i* P	Pb	12 47 48.2	-1.9
HAKT				*i* S	Sb	12 48 20.3	+1.1
HAKT	HAKKARI	2.35	323	*i* P	Pb	12 47 48.2	-1.9
HAKT				*i* S	Sb	12 48 20.3	+1.1
HKR	Hakkari	2.35	324	*e*PN	Pn	12 47 47.7	+1.4
HKR				*e*SN	Sn	12 48 17.2	+1.9
HKR	Hakkari	2.35	324	*e*Pn	Pn	12 47 47.7	+1.4
HKR				*e*Sn	Sn	12 48 17.2	+1.9
ITBZ	Tabriz	2.59	12	*e*Pn	Pn	12 47 47.8	-1.8
ITBZ				*e*		12 48 23.9	
	comp=Z,2µm,0.2s						
ITBZ	Tabriz	2.59	12	*e*Pn	Pn	12 47 47.8	-1.8
IBDR	Badra	2.61	172	*e*PN	x	12 47 48.4	
IBDR				*e*SN	x	12 48 17.7	
IMRD	Marand	3.02	3	*e*Pn	Pn	12 47 53.5	-2.0
IMRD				*e*		12 47 59.1	
	comp=Z,2µm,0.1s						
SIRT	Sirnak	3.04	307	*e*PN	Pn	12 47 56.7	+0.9
SIRT	Sirnak	3.04	307	*e*Pn	Pn	12 47 56.7	+0.9
SIRN	S˜–rnak	3.06	307	*i* P	Pn	12 47 57.8	+1.8
SIRN				*i* S	Sb	12 48 38.1	-1.4
SIRN	S˜–rnak	3.06	307	*i* P	Pn	12 47 57.8	+1.8
SIRN				*i* S	Sb	12 48 38.1	-1.4
VANB	Van	3.34	330	*e*PN	Pn	12 48 02.1	+2.1
VANB	Van	3.34	330	*e*Pn	Pn	12 48 02.1	+2.1
NAX	Nakhchivan	3.47	0	⇑P	Pb	12 48 06.6	-2.6
NAX				⇑S	Sb	12 48 53.1	+1.7
NAX	Nakhchivan	3.47	0	P	Pb	12 48 06.6	-2.6
IRAZ	Razeghan	3.63	93	*e*		12 48 15.3	
	comp=Z,1µm,0.3s						
IRAZ				*e*Pn	Pn	12 48 04.6	+0.6
LRK	Lerik	3.72	37	⇑P	Pn	12 48 04.7	-0.5
LRK				⇓S	Sn	12 48 52.9	+3.8
LRK	Lerik	3.72	37	P	Pn	12 48 04.7	-0.5
LRK				S	Sn	12 48 52.9	+3.8
LKRN	Lenkeran, Azer	3.99	40	⇓P	Pn	12 48 08.5	-0.2
LKRN	Lenkeran, Azer	3.99	40	P	Pn	12 48 08.5	-0.2
BEST	Besiri	4.03	304	*i* P	Pn	12 48 11.0	+1.6
MARD	Mardin	4.12	294	*i* P	Pn	12 48 13.4	+2.7
MARD				*i* S	Sn	12 49 01.6	+2.5
IMHD	Mahdasht	4.21	89	*e*Pn	Pn	12 48 10.2	-1.7
IMHD				*e*		12 48 23.4	
	comp=N,362nm,0.1s						
IMHD	Mahdasht	4.21	89	*e*Pn	Pn	12 48 10.2	-1.7
SVAN	Silvan-Diyarba	4.22	307	*e*PN	Pn	12 48 12.2	+0.3
GLBA	Clilabad	4.22	32	⇓P	Pn	12 48 11.9	-0.1
GLBA				⇓S	Sn	12 49 05.3	+3.9
GLBA	Clilabad	4.22	32	P	Pn	12 48 11.9	-0.1
GLBA				S	Sn	12 49 05.3	+3.9
TUTA	Tutak	4.27	331	*i* P	Pg	12 48 29.2	-0.1
MAZI	Mazidag	4.42	295	*e*PN	Pn	12 48 15.8	+1.0
MAZI	Mazidag	4.42	295	*e*Pn	Pn	12 48 15.8	+1.0
NSR	Nassriya	4.71	173	*e*PN	x	12 48 17.1	
NSR				*e*SN	x	12 49 06.8	
GANJ	Ganja	4.98	7	⇑P	Pn	12 48 27.2	+4.8
GANJ	Ganja	4.98	7	P	Pn	12 48 27.2	+4.8
IDMV	Damavand	5.33	89	*e*Pn	Pn	12 48 26.3	-1.1
IDMV				*e*		12 48 49.5	
	comp=Z,178nm,0.3s						
IDMV	Damavand	5.33	89	*e*Pn	Pn	12 48 26.3	-1.1
QZX	Qazax, Azerbai	5.35	359	⇓P	Pn	12 48 32.7	+5.1
QZX				⇓S	Sb	12 49 40.6	-4.9
IPIR	Pirpir	5.39	122	*e*Pn	Pn	12 48 26.8	-1.5
IPIR				*e*		12 49 33.0	
	comp=Z,348nm,0.2s						
IPIR	Pirpir	5.39	122	*e*Pn	Pn	12 48 26.8	-1.5
IKLH	Kolahrood	5.56	114	*e*Pn	Pn	12 48 29.8	-0.8
IKLH				*e*		12 50 12.1	
	comp=N,485nm,0.4s						
IKLH	Kolahrood	5.56	114	*e*Pn	Pn	12 48 29.8	-0.8
SVRC	Sivrice-ELAZID	5.62	300	*e*PN	Pn	12 48 32.1	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SVRC	**Sivrice-ELAZID**	**5.62**	**300**	*e*Pn	**Pn**	**12 48 32.1**	**+0.7**
URFA	**Urfa**	**5.64**	**290**	*e*PN	**Pn**	**12 48 32.7**	**+1.1**
URFA	**Urfa**	**5.64**	**290**	*e*Pn	**Pn**	**12 48 32.7**	**+1.1**
PTK	**Pertek**	**5.81**	**305**	*e*PN	**Pn**	**12 48 34.7**	**+0.7**
PTK	**Pertek**	**5.81**	**305**	*e*Pn	**Pn**	**12 48 34.7**	**+0.7**
MALT	**Malatya**	**6.23**	**297**	*e*PN	**Pn**	**12 48 40.4**	**+0.8**
MALT	**Malatya**	**6.23**	**297**	*e*Pn	**Pn**	**12 48 40.4**	**+0.8**
IZEF	**Zefreh**	**6.31**	**114**	*e*Pn	**Pn**	**12 48 40.6**	**-0.3**
IZEF	**Zefreh**	**6.31**	**114**	*e*Pn	**Pn**	**12 48 40.6**	**-0.3**
PPT2	**Papeete2**	**157.54**	**40**	*e*LR	LR	13 06 19.5	
	comp=N,207nm,27.2s						

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*ISCJB **05** 12:57:32.2±0.5, 19.°97N±0.°06×121.°9E±0.°2, h27km, Error ellipse: s-maj=22.0km s-min=3.1km az=19.9*
*MAN **05** 12:57:32, 19.°95N×121.°88E, h65km, mb5.0, ML3.9, MS4.1*
*JMA **05** 12:57:32.4±0.6, 20.°24N×121.°72E, h0km, M4.2*
ISC 05 12:57:33.7±1.3**, 19.°95N**±0.°06×**121.°8E**±0.°1**, h27km, n14, σ0.s84**/22**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.72**	**171**	*e*P	**Pn**	**12 58 01.3**	**-0.6**
PIP	**Pasuquin**	**1.95**	**214**	⇑*i*P	**Pn**	**12 58 04.5**	**-0.6**
APYP	**Conner**	**2.14**	**194**	*e*P	**Pn**	**12 58 06.6**	**-1.0**
APYP				*e*S	**Sn**	**12 58 33.0**	**-0.3**
CVP	**Callao Caves**	**2.23**	**179**	*e*P	**Pn**	**12 58 08.7**	**-0.3**
CVP				*i* S	**Sn**	**12 58 36.3**	**+0.6**
ABRA	**Dolores**	**2.50**	**204**	*e*P	**Pn**	**12 58 12.9**	**+0.3**
ABRA				*e*S	**Sn**	**12 58 43.2**	**+0.9**
CAUP	**Cauayan**	**2.99**	**179**	*e*P	**Pn**	**12 58 20.5**	**+1.1**
BALP	**Baler**	**4.19**	**183**	*e*P	**Pn**	**12 58 35.8**	**-0.1**
HATJ	**Hateruma jima**	**4.50**	**24**	S	**Sn**	**12 59 31.0**	**-0.5**
IRIF	**Iriomote-Funau**	**4.72**	**22**	P	**Pn**	**12 58 44.0**	**+0.8**
IRIF				S	**Sn**	**12 59 37.3**	**+0.2**
JKRS	**Kuro-shima**	**4.74**	**25**	P	**Pn**	**12 58 44.6**	**+1.2**
JKRS				S	**Sn**	**12 59 37.2**	**-0.3**
JIJ	**Ishigaki jima**	**4.91**	**26**	P	**Pn**	**12 58 46.7**	**+1.0**
JIJ				S	**Sn**	**12 59 40.8**	**-0.9**
JISG	**Ishigakijimahi**	**5.18**	**26**	P	**Pn**	**12 58 49.7**	**+0.3**
JISG				S	**Sn**	**12 59 47.0**	**-1.3**
JTJ	**Tarama**	**5.40**	**30**	P	**Pn**	**12 58 52.9**	**+0.5**
JTJ				S	**Sn**	**12 59 52.8**	**-0.9**
JIRB	**Irabujima**	**5.78**	**32**	S	**Sn**	**13 00 01.7**	**-1.5**

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*BJI **05** 12:58:11.1, 38.°18N×112.°63E, h6km, mb4.5/37, mB4.7/25, ML4.9/24, Ms4.6/42, Ms7 4.3/41*
*ISCJB **05** 12:58:12.2±0.8, 38.°17N±0.°03×112.°64E±0.°03, h19km±6km, mb4.4/48, MS3.9/34, Error ellipse: s-maj=4.5km s-min=3.5km az=158.8*
*NEIC **05** 12:58:12.7±0.2, 38.°21N×112.°64E, h10km, mb4.7/23, Error ellipse: s-maj=6.4km s-min=5.2km az=166.0*
NEIC Felt [III] at Taiyuan. Also felt at Shijiazhuang, Xinzhou and Yangquan.
*MOS **05** 12:58:14.2±1.3, 38.°24N×112.°74E, h33km, mb4.9/18, MS4.1/13, Error ellipse: s-maj=7.8km s-min=6.2km az=96.8*
*IDC **05** 12:58:16.4±2.6, 38.°19N×112.°74E, h43km±25km, mb3.9/22, mb1 4.1/25, mb1mx3.9/45, mbtmp4.1/25, ML3.5/3, MS3.8/30, Ms1 3.8/30, ms1mx3.7/43, Error ellipse: s-maj=14.0km s-min=11.9km az=39.0*
ISC 05 12:58:13.9±0.4**, 38.°24N**±0.°03×**112.°67E**±0.°03**, h17km**±2km**, h16km:pP-P, n170, σ1.s91**/205**, mb4.5**/54**, MS3.9**/34**, 6C-6D, Northeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIY	**Taiyuan**	**0.56**	**199**	⇑*i*Pg	**Pg**	**12 58 22.6**	**-2.4**
TIY				Sg	**Sg**	**12 58 29.5**	**-2.9**
TIY				SMN			
	22µm,0.4s						
TIY				SME			
	48µm,0.7s						
HHC	**Hu-ho-hao-te**	**2.74**	**342**	*e*Pg	**Pb**	**12 59 02.4**	**-0.1**
HHC				Sg	**Sb**	**12 59 37.9**	**+2.0**
HHC				SMN			
	6µm,0.6s						
HHC				SME			
	3µm,0.5s						
BTO	**Baotou**	**3.13**	**320**	*e*Pg	**Pn**	**12 59 02.8**	**+0.3**
BTO				Sg	**Sb**	**12 59 46.5**	**-0.5**
BJT	**Baijiatuau**	**3.25**	**56**	*e*P	**Pn**	**12 59 04.2**	**+0.1**
BJT	**Baijiatuau**	**3.25**	**56**	*e*Pn	**Pn**	**12 59 04.2**	**+0.1**
BJT				*e*Sg	**Sb**	**12 59 53.3**	**+2.8**
BJI	**Beijing**	**3.27**	**56**	Pn	**Pn**	**12 59 04.7**	**+0.4**
BJI				Sn	**Sn**	**12 59 45.2**	**+2.4**
BJI				Sg	**Sg**	**12 59 58.4**	**-0.5**
BJI				SMN			
	7µm,0.6s						
BJI				SME			
	12µm,0.6s						
TIA	**Tai'an**	**4.09**	**118**	Pn	**Pn**	**12 59 15.4**	**-0.3**
TIA				Pg	**Pb**	**12 59 25.9**	**+0.4**
TIA				Sn	**Sn**	**13 00 01.9**	**-1.3**
TIA				Sg	**Sb**	**13 00 15.9**	**+1.2**
TIA				SMN			
	4µm,0.7s						
TIA				SME			
	4µm,0.7s						
XAN	**Xi'an**	**5.17**	**217**	Pn	**Pn**	**12 59 28.6**	**-2.0**
XAN				Sg	**Sb**	**13 00 51.4**	**+5.6**
XAN				SMN			
	610nm,1.2s						
XAN				SME			
	210nm,1.2s						
XAN				LN			
	2µm,13.3s						
XAN				LE			
	850nm,13.3s						
XAN				LZ			
	880nm,14.3s						
DL2	**Dalian**	**7.05**	**82**	*e*Pn	Pn	13 00 06.0	+10
DL2				Pg	**Pg**	**13 00 27.5**	**-1.4**
DL2				*e*Sg	**Sg**	**13 01 59.6**	**-0.6**
DL2				smax	smax		
	comp=N,610nm,1.1s						
DL2				smax	smax		
	comp=E,380nm,0.9s						
LZH	**Lanzhou**	**7.36**	**256**	*e*P	Pn	13 00 06.6	+5.8
LZH				pP	pP	13 00 10.4	
LZH				sP	sP	13 00 14.2	
LZH				*e*S	Sn	13 01 33.4	+9.4
LZH				sS	sS	13 01 37.4	
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,74nm,4.4s						
LZH				smax	smax		
	comp=N,610nm,1.0s						
LZH				smax	smax		
	comp=E,2µm,1.3s						
LZH				LR	LR		
	comp=N,4µm,8.5s						
LZH				LR	LR		
	comp=E,4µm,9.7s						
LZH				LR	LR		
	comp=Z,4µm,10.7s						
WHN	**Wuhan**	**7.80**	**169**	⇓Pn	**Pn**	**13 00 06.6**	**0.0**
WHN				Sn	**Sn**	**13 01 33.7**	**-0.9**
WHN				LN			
	comp=Z,4µm,7.3s						
WHN				LE			
	comp=Z,2µm,4.4s						
WHN				LZ			
	comp=Z,5µm,9.9s						
NJ2	**Nanjing**	**7.99**	**139**	*e*P	**Pn**	**13 00 09.3**	**+0.1**
NJ2				S	**Sn**	**13 01 44.2**	**+5.1**
NJ2				PMZ			
	comp=Z,40nm,0.5s						
NJ2				LN			
	comp=Z,1µm,8.9s						
NJ2				LE			
	comp=Z,4µm,10.8s						
NJ2				LZ			
	comp=Z,10µm,9.8s						
ENH	**Enshi**	**8.37**	**199**	*e*Pn	**Pn**	**13 00 13.4**	**-1.0**
ENH				*e*Sn	Sn	13 01 40.7	-7.9
ENH				*e*Lg	Lg	13 02 36.6	
GTA	**Gaotai**	**10.10**	**281**	⇑P	**Pn**	**13 00 37.5**	**-0.7**
GTA				pP		13 00 41.0	
GTA				sP		13 00 43.9	
GTA				S	**Sn**	**13 02 30.6**	**-0.5**
GTA				SS	**SnSn**	**13 02 44.1**	**+1.5**
GTA				PMZ			
	comp=Z,11nm,0.9s						
GTA				LN			
	comp=Z,2µm,10.9s						
GTA				LE			
	comp=Z,1µm,10.6s						
GTA				LZ			
	comp=Z,1µm,10.9s						
CD2	**Chengdu**	**10.36**	**228**	*e*P	**Pn**	**13 00 39.0**	**-2.7**
CD2				pP		13 00 46.4	
CD2				PP	**PnPn**	**13 00 51.5**	**+2.1**
CD2				S	**Sn**	**13 02 36.8**	**-0.7**
CD2				sS		13 02 44.9	
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
CD2				LN			
	comp=Z,2µm,5.1s						
CD2				LE			
	comp=Z,2µm,5.2s						
CD2				LZ			
	comp=Z,1µm,5.0s						
SONM	**Songino Array**	**10.63**	**336**	P	**Pn**	**13 00 45.5**	**0.0**
	comp=Z,0.5nm,0.3s,baz=156,slow=14,SNR=7.0						
SONM				S	**Sn**	**13 02 43.0**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=156,slow=23,SNR=3.5						
SONM				Lg	Lg	13 03 46.8	
	comp=Z,4.6nm,0.3s,baz=142,slow=30,SNR=9.3						
SONM				LR	LR	13 05 08.2	
	comp=Z,703nm,20.1s,baz=155,slow=38						
KSGAH	**Ganghwa**	**10.89**	**89**	P	**Pn**	**13 00 51.2**	**+2.2**
	SNR=6.6						
INCN	**Inchon**	**11.07**	**90**	*e*Pn	**Pn**	**13 00 53.2**	**+1.8**
KSMUS	**Musan**	**11.12**	**87**	P	**Pn**	**13 00 54.7**	**+2.6**
	SNR=6.4						
CN2	**Changchun**	**11.14**	**56**	*e*P	**Pn**	**13 00 53.5**	**+1.2**
CN2				*e*sP		13 01 00.5	
CN2				*e*S	**Sn**	**13 02 59.7**	**+3.3**
CN2				PMZ			
	comp=Z,10.0nm,0.9s						
CN2				PMZ			
	comp=Z,200nm,3.0s						
CN2				LN			
	comp=Z,1µm,10.0s						
CN2				LE			
	comp=Z,1µm,10.0s						
CN2				LZ			
	comp=Z,2µm,10.0s						
YNCB	**YEONCHEON**	**11.24**	**87**	P	**Pn**	**13 00 54.2**	**+0.5**
	SNR=6.0						
KSSEO	**Seoul**	**11.29**	**89**	P	**Pn**	**13 00 56.7**	**+2.2**
	SNR=6.5						
KSSWO	**Suwon**	**11.37**	**90**	P	**Pn**	**13 00 58.1**	**+2.7**
	SNR=5.3						
KSICN	**Icheon**	**11.72**	**90**	P	**Pn**	**13 01 02.8**	**+2.5**
	SNR=8.4						
TJN	**Taejon**	**11.85**	**95**	*i* P	**Pn**	**13 01 02.9**	**+0.8**
KSCHC	**Chuncheon**	**11.96**	**88**	P	**Pn**	**13 01 05.8**	**+2.2**
	SNR=26						
KSAR	**Wonju Array Be**	**12.06**	**89**	P	**Pn**	**13 01 05.2**	**+0.2**
KSAR				S	**Sn**	**13 03 16.5**	**-2.6**
KSAR	**Wonju Array Be**	**12.06**	**89**	P	**Pn**	**13 01 05.2**	**+0.2**
KSAR				S	**Sn**	**13 03 16.5**	**-2.6**
KSAR				Lg	Lg	13 04 34.1	
KSRS	**Korea Array**	**12.09**	**89**	P	**Pn**	**13 01 05.2**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=278,slow=12,SNR=92						
KSRS				S	**Sn**	**13 03 16.5**	**-3.3**
	comp=Z,0.7nm,0.3s,baz=270,slow=24,SNR=5.1						
KSRS				Lg	Lg	13 04 34.1	
	comp=Z,0.8nm,0.3s,baz=270,slow=31,SNR=4.7						
KSRS				LR	LR	13 06 03.3	
	comp=Z,249nm,20.7s,baz=270,slow=39						
HIA	**Hailar**	**12.14**	**23**	*e*P	**Pn**	**13 01 06.3**	**+0.2**
HIA				pmax	pmax		
	comp=Z,12nm,0.6s						
HIA	**Hailar**	**12.14**	**23**	*e*Pn	**Pn**	**13 01 06.3**	**+0.2**
	comp=Z,12nm,0.6s						
HIA				*e*Sn	Sn	13 03 01.3	-20
KSIJA	**INJE**	**12.17**	**86**	P	**Pn**	**13 01 07.2**	**+0.7**
	SNR=11						
SEHB	**SEOHWA**	**12.26**	**85**	P	**Pn**	**13 01 08.6**	**+1.0**
	SNR=9.9						
KSDGY	**Daegwallycong**	**12.65**	**88**	P	**Pn**	**13 01 14.9**	**+1.8**
	SNR=10						
KSJMJ	**Jumunjin**	**12.69**	**87**	P	**Pn**	**13 01 14.4**	**+0.9**
	SNR=7.8						
GYA	**Guiyang**	**12.79**	**205**	⇑*i*P	**Pn**	**13 01 12.6**	**-2.5**
GYA				PP	**P**	**13 01 27.2**	**+1.1**
GYA				S	Sn	13 03 45.1	+7.9
GYA				SS	**SnSn**	**13 03 55.4**	**+6.0**
GYA				PMZ			
	comp=Z,40nm,0.9s						
GYA				PMZ			
	comp=Z,110nm,4.5s						
GYA				LN			
	comp=Z,1µm,12.1s						
GYA				LE			
	comp=Z,920nm,10.3s						
GYA				LZ			
	comp=Z,2µm,12.8s						
CIT	**Chita**	**13.80**	**2**	*e*P	**P**	**13 01 36.6**	**-0.4**
CIT				pmax	pmax		
	comp=Z,82nm,1.5s						
ZAK	**Zakamensk**	**13.86**	**334**	*e*P	**Pn**	**13 01 31.4**	**+1.8**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MDJ	**Mudanjiang**	**14.20**	**58**	*e*Pn	**Pn**	**13 01 35.8**	**+1.7**
	comp=Z,16nm,1.0s						
TLY	**Talaya**	**14.86**	**338**	P	**P**	**13 01 49.3**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=215,slow=16,SNR=2.9						
TLY				Lg	Lg	13 06 01.7	
	comp=Z,0.0nm,0.3s,baz=230,slow=11,SNR=9.3						
TLY				LR	LR	13 07 45.1	
	comp=Z,448nm,19.4s,baz=145,slow=38						
TLY	**Talaya**	**14.86**	**338**	*e*P	**P**	**13 01 51.2**	**+2.3**
TLY				*e*S	**Sn**	**13 04 29.9**	**+2.6**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,401nm,10.0s						
IRK	**Irkutsk**	**15.18**	**340**	*e*P	**Pn**	**13 01 48.2**	**+0.8**
IRK				pmax	pmax		
	comp=Z,24nm,1.4s						
VLA	**Vladivostok**	**15.37**	**65**	⇓*e*P	**P**	**13 01 54.1**	**-0.4**
VLA				*e*S	**Sn**	**13 04 42.7**	**+3.0**
VLA				pmax	pmax		
	comp=Z,146nm,1.3s						
KMI	**Kunming**	**15.55**	**216**	⇑P	**Pn**	**13 01 54.0**	**+1.4**
KMI				pP	**P**	**13 01 59.3**	**+2.4**
KMI				sP	**sP**	**13 02 02.6**	**-1.2**
KMI				PP	pP	13 02 07.7	+6.1
KMI				S	**Sn**	**13 04 46.6**	**+1.9**
KMI				PMZ			
	comp=Z,16nm,1.2s						
KMI				PMZ			
	comp=Z,120nm,5.8s						
KMI				LN			
	comp=Z,1µm,14.4s						
KMI				LE			
	comp=Z,2µm,14.3s						
KMI				LZ			
	comp=Z,1µm,11.1s						
JNU	**Nakatsue**	**15.65**	**104**	P	**Pn**	**13 01 55.7**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=342,slow=6.8,SNR=8.4						
JNU				LR	LR	13 08 14.2	
	comp=Z,481nm,18.1s,baz=292,slow=38						
JNU	**Nakatsue**	**15.65**	**104**	*e*Pn	**Pn**	**13 01 54.6**	**+0.9**
	comp=Z,24nm,1.4s						
USRK	**Ussuriysk Ar.**	**15.70**	**62**	P	**Pn**	**13 01 55.9**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=255,slow=12,SNR=27						
USRK				Lg	Lg	13 06 37.0	
	comp=Z,0.6nm,0.3s,baz=258,slow=28,SNR=9.4						
USRK				LR	LR	13 08 06.2	
	comp=Z,339nm,18.1s,baz=244,slow=38						
MOY	**Mondy**	**15.73**	**332**	*e*P	**P**	**13 02 02.1**	**+3.4**
MOY				pmax	pmax		
	comp=Z,13nm,2.0s						
KLR	**Kul'dur**	**17.58**	**45**	*e*P	**Pn**	**13 02 14.2**	**-3.8**
KLR				pmax	pmax		
	comp=N,67nm,1.4s						
KLR				pmax	pmax		
	comp=E,72nm,1.4s						
KLR				pmax	pmax		
	comp=Z,72nm,1.4s						
KLR				MLR	MLR		
	comp=E,2µm,12.0s						
KLR				MLR	MLR		
	comp=Z,5µm,12.0s						
HVS	**Khovu-Aksy**	**18.58**	**320**	P	**Pn**	**13 02 32.0**	**+1.6**
HVS				pmax	pmax		
	comp=Z,29nm,1.2s						
HABR	**Khabarovsk**	**19.16**	**51**	*de*P	**P**	**13 02 35.5**	**-0.8**
HABR				*e*S	**Sn**	**13 06 10.9**	**-0.5**
HABR				pmax	pmax		
	comp=N,6.0nm,0.9s						
HABR				pmax	pmax		
	comp=E,51nm,1.3s						
HABR				pmax	pmax		
	comp=Z,91nm,1.8s						
HABR				MLR	MLR		
	comp=Z,412nm,15.0s						
QIZ	**Qiongzhong**	**19.30**	**188**	P	**P**	**13 02 38.0**	**0.0**
QIZ				pP	**pP**	**13 02 41.3**	**-1.5**
QIZ				sP	**sP**	**13 02 42.4**	**-2.6**
QIZ				S	**S**	**13 06 16.0**	**0.0**
QIZ				PMZ			
	comp=Z,11nm,1.7s						
QIZ				LN			
	comp=Z,1µm,14.8s						
QIZ				LZ			
	comp=Z,2µm,13.2s						
WMQ	**Urumqi**	**19.61**	**294**	P	Pn	13 02 51.4	+8.6
WMQ				pP	pP	13 02 54.8	+8.6
WMQ				sP	sP	13 02 58.4	+10
WMQ				PP	PnPn	13 03 09.6	+13
WMQ				S	**Sn**	**13 06 25.3**	**+2.7**
WMQ				pmax	pmax		
	comp=Z,18nm,0.3s						
WMQ				pmax	pmax		
	comp=Z,94nm,4.4s						
WMQ				smax	smax		
	comp=N,6.0nm,0.4s						
WMQ				smax	smax		
	comp=E,5.0nm,0.4s						
WMQ				LR	LR		
	comp=N,68nm,5.2s						
WMQ				LR	LR		
	comp=E,400nm,4.5s						
WMQ				LR	LR		
	comp=Z,200nm,20.0s						
BOD	**Bodaibo**	**19.61**	**2**	*e*P	**Pn**	**13 02 42.1**	**-0.5**
BOD				pmax	pmax		
	comp=Z,12nm,1.2s						
LSA	**Lhasa**	**19.74**	**251**	*e*P	**Pn**	**13 02 45.5**	**+0.7**
LSA				pmax	pmax		
	comp=Z,25nm,0.8s						
LSA	**Lhasa**	**19.74**	**251**	*e*P	**Pn**	**13 02 45.5**	**+0.7**
	comp=Z,26nm,0.8s						
CLNS	**Chul'man**	**20.30**	**20**	*e*P	Pn	13 02 49.9	-0.9
CLNS				*e*S	**S**	**13 06 28.8**	**-6.8**
CLNS				*e*		13 07 03.2	
CLNS				pmax	pmax		
	comp=N,20nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,16nm,0.9s						
CLNS				pmax	pmax		
	comp=E,17nm,1.0s						
CLNS				smax	smax		
	comp=E,144nm,12.1s						
CLNS				smax	smax		
	comp=N,59nm,10.8s						
CLNS				MLR	MLR		
	comp=N,1µm,12.0s						
CLNS				MLR	MLR		
	comp=Z,2µm,11.0s						
CLNS				MLR	MLR		
	comp=E,806nm,11.0s						
MAJO	**Matsushiro**	**20.35**	**87**	*di*P	**P**	**13 02 50.2**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,255nm,1.6s						
MAJO				MLR	MLR		
	comp=Z,2µm,17.0s						
MAJO	**Matsushiro**	**20.35**	**87**	*e*P	**P**	**13 02 49.5**	**+0.1**
	comp=Z,28nm,1.1s						
MAT	**Matsushiro**	**20.35**	**87**	P	**P**	**13 02 49.0**	**-0.5**
MAT				S	Sn	13 06 40.2	-0.2
MJAR	**Matsushiro Arr**	**20.35**	**87**	P	**P**	**13 02 49.7**	**+0.2**
	comp=Z,10.0nm,0.9s,baz=281,slow=12,SNR=31						
MJAR				LR	LR	13 10 56.1	
	comp=Z,224nm,19.3s,baz=270,slow=37						
CHTO	**Chiang Mai**	**22.75**	**216**	*e*P	**P**	**13 03 15.1**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,23nm,1.1s						
CHTO	**Chiang Mai**	**22.75**	**216**	*e*P	**P**	**13 03 15.1**	**-0.3**
	comp=Z,23nm,1.1s						
CM31	**Chiang Mai Arr**	**23.06**	**215**	*e*P	**P**	**13 03 18.2**	**-0.4**
	comp=Z,23nm,1.0s						
CMAR	**Chiang Mai Arr**	**23.06**	**215**	P	**P**	**13 03 18.4**	**-0.2**
	comp=Z,9.8nm,0.9s,baz=18,slow=9.2,SNR=35						
CMAR				LR	LR	13 13 25.6	
	comp=Z,448nm,20.0s,baz=32,slow=39						
ASAJ	**Asahikawa**	**23.20**	**66**	P	**P**	**13 03 17.9**	**-1.9**
	comp=Z,7.6nm,0.9s,baz=274,slow=10						
ASAJ				LR	LR	13 12 42.3	
	comp=Z,261nm,18.2s,baz=272,slow=37						
ASAJ	**Asahikawa**	**23.20**	**66**	P	**P**	**13 03 18.0**	**-1.9**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,261nm,18.2s						
ASAJ	**Asahikawa**	**23.20**	**66**	P	**P**	**13 03 17.9**	**-1.9**
	comp=Z,0.6nm,1.0s						
TAPN	**Taplejung**	**23.55**	**250**	*e*P	**P**	**13 03 28.0**	**+4.2**
YSS	**Yuzh-Sakhalins**	**23.68**	**59**	*e*P	**P**	**13 03 24.0**	**-0.5**
YSS				MLR	MLR		
	comp=Z,400nm,14.0s						
YSS				MLR	MLR		
	comp=N,300nm,13.0s						
YSS				MLR	MLR		
	comp=E,400nm,13.0s						
MK31	**Makanchi Array**	**23.85**	**301**	*e*P	**P**	**13 03 26.0**	**-0.2**
MK31	**Makanchi Array**	**23.85**	**301**	*e*P	**P**	**13 03 26.0**	**-0.2**
MKAR	**Makanchi Array**	**23.85**	**301**	P	**P**	**13 03 26.9**	**+0.7**
	comp=E,1.4nm,0.7s,baz=97,slow=11,SNR=11						
MKAR				LR	LR	13 12 51.8	
	comp=E,122nm,18.4s,baz=84,slow=37						
ODAN	**Odare**	**24.06**	**249**	*e*P	**P**	**13 03 32.3**	**+3.7**
	comp=E,52nm,0.9s						
JIRN	**Jiri**	**24.52**	**252**	*e*P	**P**	**13 03 37.4**	**+4.5**
	comp=E,32nm,0.7s						
RAMN	**Ramite**	**24.59**	**250**	*e*P	**P**	**13 03 37.7**	**+4.2**
GUN	**Gumba**	**24.62**	**253**	*e*P	**P**	**13 03 37.7**	**+3.9**
	comp=E,113nm,1.0s						
ZALV	**Zalesovo Beam**	**24.67**	**319**	LR	LR	13 14 46.7	
	comp=E,68nm,19.2s,baz=70,slow=40						
KKN	**Kakani**	**25.13**	**254**	*e*P	**P**	**13 03 42.4**	**+4.1**
PKI	**Pulchoki**	**25.15**	**253**	*e*P	**P**	**13 03 42.8**	**+4.2**
	comp=E,100nm,1.5s						
DMN	**Daman**	**25.36**	**253**	*e*P	P	13 03 45.4	+5.0
	comp=E,52nm,1.0s						
GKN	**Gorkha**	**25.51**	**255**	*e*P	P	13 03 46.5	+4.8
	comp=E,27nm,0.8s						
NVS	**Novosibirsk**	**25.91**	**319**	*e*P	**P**	**13 03 47.8**	**+3.0**
NVS				pmax	pmax		
	comp=Z,18nm,1.4s						
NVS				pmax	pmax		
	comp=N,10.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,15nm,1.3s						
YAK	**Yakutsk**	**26.03**	**18**	P	**P**	**13 03 45.8**	**0.0**
	comp=E,1.3nm,0.3s,baz=46,slow=23,SNR=11						
YAK				LR	LR	13 13 24.7	
	comp=E,121nm,21.4s,baz=227,slow=35						
YAK	**Yakutsk**	**26.03**	**18**	*e*P	**P**	**13 03 45.5**	**-0.3**
YAK				*e**PP	**pP**	**13 03 52.5**	**+1.6**
YAK				*e*		13 04 23.2	
YAK				*e*PPP	PPP	13 04 34.1	
YAK				*e*		13 07 12.4	
YAK				*e*S	**S**	**13 08 15.1**	**-0.6**
YAK				*e*SS	**SnSn**	**13 09 15.7**	**+2.3**
YAK				*e*SSS	SSS	13 09 31.2	
YAK				*e*		13 14 40.8	
YAK				pmax	pmax		
	comp=Z,19nm,0.8s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,16nm,1.1s						

YAK pmax pmax
comp=Z,38nm,2.0s
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=E,32nm,1.9s
YAK smax smax
comp=N,66nm,3.8s
YAK smax smax
comp=E,43nm,4.9s
YAK MLR MLR
comp=Z,1µm,12.0s
YAK MLR MLR
comp=N,683nm,12.0s
YAK MLR MLR
comp=E,662nm,13.0s
KOLN Koldanda 26.42 255 *e*P P 13 03 55.0 +5.0
KURK Kurchatov 27.05 309 *e*P **P 13 03 55.4 +0.2**
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 27.05 309 *e*P **P 13 03 55.4 +0.2**
comp=Z,8.6nm,1.0s
KURBB Kurchatov Arra 27.09 308 P **P 13 03 55.9 +0.4**
comp=Z,2.1nm,0.9s,baz=106,slow=11,SNR=14
JCJ Chichijima 27.11 105 LR LR 13 14 46.1
comp=Z,144nm,18.7s,baz=14,slow=37
KSH Kashi 28.47 284 *e*P P 13 04 16.9 +8.7
KSH sP sP 13 04 22.0 +6.6
KSH PP **PP 13 05 06.3 -6.1**
KSH PcP **PcP 13 07 22.7 +2.8**
KSH S S 13 09 04.7 +10
KSH sS sS 13 09 10.6 +7.1
KSH SS SnSn 13 10 31.2 +17
KSH PMZ
comp=Z,11nm,1.4s
KSH PMZ
comp=Z,47nm,3.7s
KSH LN
comp=Z,280nm,7.7s
KSH LE
comp=Z,330nm,4.6s
AAK Ala-Archa 29.21 291 LR LR 13 15 56.4
comp=Z,163nm,20.8s,baz=72,slow=36
BVAR Borovoye Array 32.52 311 P **P 13 04 43.6 0.0**
comp=Z,0.8nm,0.6s,baz=118,slow=12,SNR=5.6
BRVK Borovoye 32.59 311 P **P 13 04 45.0 +0.7**
BRVK pmax pmax
comp=Z,4.0nm,1.2s
BRVK MLR MLR
comp=Z,296nm,17.0s
BRVK Borovoye 32.59 311 *e*P P 13 04 48.5 +4.2
comp=Z,4.0nm,1.1s
PETK Petropavlovsk- 34.18 49 P **P 13 04 57.4 -0.7**
comp=Z,2.6nm,0.8s,baz=358,slow=5.7,SNR=3.5
PETK LR LR 13 19 56.5
comp=Z,141nm,18.9s,baz=261,slow=38
SEY Seymchan 34.39 31 P **P 13 04 59.2 -0.6**
comp=Z,4.5nm,1.0s,baz=214,slow=4.6,SNR=8.2
SEY LR LR 13 20 34.8
comp=Z,193nm,18.1s,baz=238,slow=39
SEY Seymchan 34.39 31⇓*e*P **P 13 04 59.7 -0.1**
PSI Prapat 37.45 203 LR LR 13 21 15.8
comp=Z,152nm,20.7s,baz=10.0,slow=37
GUMO Guam 37.65 122 LR LR 13 20 53.1
comp=Z,76nm,19.4s,baz=326,slow=36
SVE Sverdlovsk 38.63 316 *e*P **P 13 05 37.1 +1.1**
SVE pmax pmax
comp=Z,12nm,0.9s
ABKAR Akbulak array 38.91 304 *e*P **P 13 05 38.4 0.0**
comp=Z,1.0nm,0.6s
ARU Arti 39.73 315*d i*P **P 13 05 45.5 +0.2**
ARU S **S 13 11 50.3 +2.2**
ARU SS **SS 13 14 39.9 -3.7**
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU MLR MLR
comp=Z,289nm,16.0s
ARU Arti 39.73 315 *e*P **P 13 05 45.9 +0.6**
comp=Z,11nm,0.9s
SOKR Solikamsk 40.94 320 *e*P **P 13 05 56.0 +0.9**
SOKR pmax pmax
comp=Z,10.0nm,1.1s
LEM Lembang 45.08 187 LR LR 13 28 13.1
comp=Z,108nm,19.1s,baz=352,slow=40
ZEI Tsey 51.16 298 *e*P P 13 07 20.6 +4.4
ZEI pmax pmax
comp=Z,13nm,0.5s
KIV Kislovodsk 51.61 300 *i* P **P 13 07 19.7 +0.3**
KIV *i* 13 07 25.5
KIV *i* S **S 13 14 35.9 -3.7**
KIV pmax pmax
comp=Z,30nm,2.5s
KIV MLR MLR
comp=Z,114nm,17.0s
KIV Kislovodsk 51.61 300 *e*P **P 13 07 20.3 +0.9**
comp=Z,13nm,1.0s
ARCES ARCESS Array B 53.79 334 LR LR 13 31 29.5
comp=Z,61nm,19.4s,baz=22,slow=37
ANN Anapa 54.85 303 *e*P **P 13 07 41.6 -1.5**
ANN *e*S **S 13 15 19.9 -3.5**
ANN pmax pmax
comp=Z,13nm,0.9s
ANN MLR MLR
comp=N,251nm,20.0s
ANN MLR MLR
comp=Z,224nm,20.0s
FINES FINESS Array B 55.73 325 P **P 13 07 47.8 -1.4**
comp=Z,3.2nm,1.0s,baz=91,slow=5.6,SNR=4.3
FINES LR LR 13 33 45.9
comp=Z,147nm,18.6s,baz=74,slow=38
AKASG Malin Array Be 57.80 312 LR LR 13 34 10.3
comp=Z,108nm,18.7s,baz=75,slow=37
COLD Coldfoot 58.02 27 *e*P **P 13 08 05.2 -0.2**
comp=Z,6.5nm,1.1s
BR131 Keskin Array S 59.47 298 *e*P **P 13 08 16.4 +0.3**
comp=Z,6.7nm,1.0s
BR131 *e*pP **pP 13 08 21.4 -0.1**
BRTR Keskin Array B 59.47 298 P **P 13 08 16.1 0.0**
comp=Z,2.2nm,0.8s,baz=86,slow=6.3,SNR=15
BRTR LR LR 13 35 04.4
comp=Z,32nm,21.2s,baz=67,slow=37
COLA College 59.87 29⇑*i*P **P 13 08 18.1 -0.1**
COLA pmax pmax
comp=Z,99nm,2.7s
COLA MLR MLR
comp=Z,377nm,16.0s
COLA College 59.87 29 *e*P **P 13 08 18.3 +0.1**
comp=Z,8.8nm,1.0s
ILAR Eielson Array 60.28 29 P **P 13 08 19.9 -1.2**
comp=Z,1.3nm,1.0s,baz=278,slow=6.5,SNR=9.5
ILAR LR LR 13 34 08.1
comp=Z,119nm,21.4s,baz=293,slow=36
WRAB Tennant Creek 61.35 157*ce*P **P 13 08 30.9 +2.1**
WRAB pmax pmax
comp=Z,32nm,2.5s
WRA Warramunga Arr 61.35 157 P **P 13 08 26.8 -2.0**
comp=Z,1.3nm,0.6s,baz=345,slow=7.0,SNR=17
BUR08 Bucovina Ar. S 61.47 310 *e*P **P 13 08 30.2 +0.6**
NB2 NORSAR Subarra 62.46 327 P **P 13 08 35.1 -0.8**
comp=Z,4.3nm,1.1s,baz=59,slow=6.9
NOA NORSAR Array B 62.46 327 P **P 13 08 34.5 -1.4**
comp=Z,0.5nm,0.7s,baz=61,slow=7.1,SNR=3.9
NOA LR LR 13 37 26.2
comp=Z,70nm,18.9s,baz=70,slow=38
AS31 Alice Springs 64.73 158 *e*P **P 13 08 49.7 -1.5**
AS31 *e*pP **pP 13 08 55.0 -1.7**
ASAR Alice Springs 64.73 158 P **P 13 08 49.7 -1.5**
comp=Z,2.6nm,0.6s,baz=341,slow=6.4,SNR=53
ASAR LR LR 13 40 18.9
comp=Z,35nm,18.3s,baz=288,slow=39
KRLC Kraliky 65.20 315 *e*P **P 13 08 53.5 -0.7**
KRLC Kraliky 65.20 315 *e*P **P 13 08 53.5 -0.7**
DPC Dobruska-Polom 65.32 316 *e*P **P 13 08 53.6 -1.3**
DPC *e*pP **pP 13 08 59.6 -0.8**
DPC Dobruska-Polom 65.32 316 *e*P **P 13 08 53.6 -1.3**
DPC *e* 13 08 59.6
BRG Berggiesshubel 66.35 317 *e*P P 13 08 56.7 -4.7
comp=Z,1.4nm,0.5s
BRG *e* 13 09 09.2
comp=Z,4.7nm,1.0s
comp=N,128nm,12.1s
comp=E,118nm,13.7s
comp=Z,149nm,18.3s
BRG Berggiesshubel 66.35 317 *e*P P 13 08 56.7 -4.7
BRG *e* 13 09 09.2
BRG pmax pmax
comp=Z,119nm,0.5s
BRG MLR MLR
comp=N,1µm,12.1s
BRG MLR MLR
comp=E,128nm,13.7s
BRG MLR MLR
comp=Z,118nm,18.3s
CLL Collm 66.62 318 *e*P **P 13 09 02.0 -1.2**
comp=Z,3.0nm,0.9s
CLL *i* sP **pP 13 09 08.2 -0.4**
CLL *e*S **S 13 17 54.0 +0.4**
CLL Collm 66.62 318 *e*P **P 13 09 02.0 -1.2**
CLL *i* *PP **pP 13 09 08.2 -0.4**
CLL pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 67.47 315 *e*P **P 13 09 09.0 +0.3**
KHC Kasperske Hory 67.47 315 *e*P **P 13 09 09.0 +0.3**
GERES GERESS Array B 67.56 315 P **P 13 09 08.6 -0.8**
comp=Z,0.6nm,0.8s,baz=61,slow=6.3,SNR=6.3
GERES LR LR 13 40 41.1
comp=Z,113nm,19.4s,baz=69,slow=38
YKA Yellowknife Ar 72.67 21 P **P 13 09 38.6 -1.7**
comp=Z,2.9nm,0.8s,baz=324,slow=5.7,SNR=30
BNI Bardonecchia 73.68 315 *e*P **P 13 09 45.6 -1.2**
BNI pmax pmax
comp=Z,4.0nm,1.0s
BNI Bardonecchia 73.68 315 *e*P **P 13 09 45.6 -1.2**
comp=Z,4.2nm,1.0s
STKA Stephens Creek 74.79 155 P **P 13 09 51.5 -1.4**
comp=Z,1.0nm,0.6s,baz=333,slow=2.3,SNR=2.1
FCC Fort Churchill 80.82 14 *e*P **P 13 10 25.3 -1.0**
FCC pmax pmax
comp=Z,10.0nm,1.3s
FCC Fort Churchill 80.82 14 *e*P **P 13 10 25.3 -1.0**
comp=Z,10nm,1.3s
ESDC Sonseca Array 83.13 316 P **P 13 10 38.5 -0.5**
comp=Z,0.4nm,0.7s,baz=12,slow=6.7,SNR=4.2
ESDC LR LR 13 51 05.6
comp=Z,53nm,20.8s,baz=165,slow=38
SLMT Seeley Lake 85.44 30 *e*P **P 13 10 49.9 -0.8**
comp=Z,10nm,1.2s
I07A Izee 85.45 35 *e*P **P 13 10 52.1 +1.4**
MSO Missoula 85.60 30 *e*P **P 13 10 51.3 -0.1**
comp=Z,6.5nm,1.4s
YBH Yreka Blue Hor 85.76 38 *e*P **P 13 10 53.2 +0.9**
YBH Yreka Blue Hor 85.76 38 *e*P **P 13 10 53.2 +0.9**
K05A Summer Lake 85.87 36 *e*P **P 13 10 54.2 +1.2**
comp=Z,18nm,1.2s
K05A *e*pP **pP 13 11 01.9 +3.3**
WDC Whiskeytown Da 86.72 39 *e*P **P 13 10 57.6 +0.7**
WDC pmax pmax
comp=Z,7.0nm,1.0s
WDC Whiskeytown Da 86.72 39 *e*P **P 13 10 57.6 +0.7**
comp=Z,6.9nm,1.0s
WVOR Wild Horse Val 87.14 35 *e*P **P 13 10 59.9 +0.8**
WVOR pmax pmax
comp=Z,9.0nm,1.3s
WVOR Wild Horse Val 87.14 35 *e*P **P 13 10 59.9 +0.8**
comp=Z,8.7nm,1.3s
SCHQ Schefferville 87.30 360 P **P 13 10 58.0 -1.5**
comp=Z,2.4nm,0.8s,baz=14,slow=7.8,SNR=4.1
SCHQ LR LR 13 53 50.3
comp=Z,41nm,18.2s,baz=310,slow=38
MCMT McKenzie Canyo 87.68 31 *e*P **P 13 11 01.7 -0.1**
HLID Hailey 88.08 32 *e*P **P 13 11 04.3 +0.7**
comp=Z,3.7nm,1.0s
HLID *e*pP **pP 13 11 11.9 +2.6**
GCMT Greycliff 88.10 28 *e*P P 13 11 08.2 +4.5
CMB Columbia Colle 89.75 39 *e*P **P 13 11 12.5 +1.0**
CMB Columbia Colle 89.75 39 *e*P **P 13 11 12.5 +1.0**
NVAR Mina Array Bea 90.45 38 P **P 13 11 15.1 +0.1**
comp=Z,2.1nm,0.9s,baz=306,slow=3.9,SNR=14
PDAR Pinedale Array 90.71 30 P **P 13 11 15.6 -0.5**
comp=Z,0.2nm,0.4s,baz=28,slow=6.1,SNR=2.8
PDAR LR LR 13 55 42.8
comp=Z,74nm,18.7s,baz=342,slow=38
TPH Tonopah 91.25 37 *e*P **P 13 11 19.8 +1.1**
TPH pmax pmax
comp=Z,12nm,1.3s
TPH Tonopah 91.25 37 *e*P **P 13 11 19.8 +1.1**
comp=Z,12nm,1.3s
RSSD Black Hills 91.55 26 *e*P **P 13 11 19.5 -0.5**
RSSD *e**PP **pP 13 11 27.4 +1.8**
RSSD Black Hills 91.55 26 *e*P **P 13 11 19.4 -0.5**
RSSD *e*pP **pP 13 11 27.4 +1.8**
R11A Troy Canyon, C 91.80 36 *e*P **P 13 11 22.2 +1.1**
comp=Z,5.5nm,1.1s
DAC Darwin (Calif) 92.50 38 *e*P **P 13 11 25.6 +1.1**
DAC *e**PP **pP 13 11 33.1 +3.0**
DAC Darwin (Calif) 92.50 38 *e*P **P 13 11 25.6 +1.1**
DAC *e*pP **pP 13 11 33.1 +3.0**
MSKU Masuku 98.14 274 LR LR 13 59 49.3
comp=Z,60nm,19.3s,baz=342,slow=38

MAN 05 13:11:15, 12°.57N×121°.99E, h84km, mb4.2, ML3.1, MS2.8, 1C, Mindoro

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
OTRP Odiongan 0.21 170 *e*P Pn 13 11 28.9 +1.5
SJMP San Jose 0.85 263 *e*P Pn 13 11 40.6 +8.0
SJMP *e*S Sn 13 11 52.8 +7.1
RCP Roxas 1.25 143⇑*e*P Pn 13 11 37.8 +0.5
CUYO Cuyo Island 1.96 209 *e*P Pn 13 11 47.0 +0.6
GUIM Jordan 2.02 163 *e*P Pn 13 11 48.5 +1.2

IDC 05 13:16:13.8±33.0**, 3°.39N×122°.35E, h0km, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.4**/32**, mbtmp3.8**/3**, Error ellipse: s-maj=551.3km s-min=233.9km az=153.0, Celebes Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
WRA Warramunga Arr 26.00 154 P P 13 21 48.2 -0.5
0.8nm,0.5s,baz=329,slow=10,SNR=17
ASAR Alice Springs 29.15 158 P P 13 22 18.4 +1.5
0.3nm,0.4s,baz=335,slow=7.1,SNR=7.2
STKA Stephens Creek 39.55 154 P P 13 23 45.7 -1.1
3.2nm,1.1s,baz=341,slow=8.5,SNR=4.8

NNC 05 13:27:39.5±5.5**, 37°.06N×71°.11E, h0km, mb3.5, mpv3.2, 3C-5D, Error ellipse: s-maj=45.3km s-min=18.2km az=172.0, Afghanistan-Tajikistan border region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
DZET Dzherino 2.51 315 ⇓Pn Pn 13 28 21.5 -0.2
8.0nm,0.5s
DZET ⇓Sn Sn 13 28 55.1 +1.9
21nm,0.4s
SFK Sufi-Kurgan 3.50 32 ⇓Pn Pn 13 28 35.0 -0.5
2.1nm,0.3s
SFK ⇑Sn Sn 13 29 20.5 +2.8
5.5nm,0.3s
MNAS Manas 5.53 11 ⇓Pn Pn 13 29 02.4 -0.9
1.6nm,0.4s
MNAS ⇑Sn Sn 13 30 07.0 -0.6
11nm,0.8s
KK31 Karatay Array 6.06 356 ⇓Pn Pn 13 29 08.0 -2.4
0.5nm,0.3s,baz=182,slow=13,SNR=6.4
KK31 ⇑Sn Sn 13 30 18.2 -2.2
0.4nm,0.3s,baz=179,slow=24,SNR=4.8

IDC 05 13:30:06.1±2.4**, 21°.98N×143°.31E, h197km**±19km**, mb3.4**/9**, mb1 3.5**/11**, mb1mx3.3**/28**, mbtmp3.9**/11**, Error ellipse: s-maj=33.5km s-min=16.8km az=84.0, Mariana Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
JCJ Chichijima 5.19 349 P Pn 13 31 23.6 +0.7
10nm,0.3s,baz=35,slow=16,SNR=38
JCJ S Sn 13 32 22.6 -1.0
8.3nm,0.3s,baz=291,slow=23,SNR=6.3
MJAR Matsushiro Arr 15.17 344 P P 13 33 31.9 +0.8
0.3nm,0.3s,baz=159,slow=10,SNR=5.9
KSRS Korea Array 20.36 323 P P 13 34 28.3 +0.8
1.5nm,0.7s,baz=148,slow=8.8,SNR=16
SONM Songino Array 39.20 320 P P 13 37 15.2 -0.1
0.3nm,0.4s,baz=120,slow=10,SNR=4.1
WRA Warramunga Arr 42.58 193 P P 13 37 42.6 -0.3
0.1nm,0.3s,baz=16,slow=9.4,SNR=13
ZALV Zalesovo Beam 54.06 322 P P 13 39 09.4 -0.8
0.8nm,0.3s,baz=111,slow=6.3,SNR=2.7
MKAR Makanchi Array 54.59 312 P P 13 39 15.1 +0.9
0.2nm,0.4s,baz=87,slow=8.7,SNR=2.8
BVAR Borovoye Array 62.53 319 P P 13 40 09.4 +0.5
1.3nm,0.4s,baz=88,slow=7.7,SNR=9.3
YKA Yellowknife Ar 76.15 28 P P 13 41 32.9 +0.8
0.8nm,0.7s,baz=290,slow=5.9,SNR=7.5
ARCES ARCESS Array B 78.69 342 P P 13 41 44.5 -1.7
4.6nm,1.0s,baz=78,slow=8.4,SNR=2.5
FINES FINESS Array B 82.98 335 P P 13 42 07.8 -1.2
6.1nm,1.1s,baz=100,slow=4.6,SNR=5.2

MEX 05 14:11:59.3±0.7**, 16°.99N×95°.30W, h108km**±6km**, MD3.9, Oaxaca**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CMIG Matias Romero 0.41 76 *i* P Pn 14 12 14.1 -1.2
CMIG *i* S Sn 14 12 25.6 -1.8
OXBJ Oaxaca 1.36 273 *e*P Pn 14 12 23.6 -1.1
OXBJ *e*S Sn 14 12 42.6 -1.3
VHO Vista Hermosa 1.37 274 *e*P Pn 14 12 23.7 -1.0
VHO *e*S Sn 14 12 42.1 -1.9
HUIG Huatulco 1.44 213 *e*P Pn 14 12 23.4 -2.0
HUIG *e*S Sn 14 12 43.8 -1.2
TGIG 2.10 95 *e*P Pn 14 12 32.6 -0.9
TGIG *e*S Sn 14 12 58.0 -1.7
PCIG 2.37 122 *e*P Pn 14 12 35.7 -1.3
PCIG *e*S Sn 14 13 04.3 -1.6
PNIG Pinotepa 2.77 258 *e*P Pn 14 12 39.3 -3.0
PNIG *e*S Sn 14 13 11.1 -4.2
CCIG Comitan 3.12 103 *e*P Pn 14 12 46.2 -0.8
CCIG *e*S Sn 14 13 21.9 -1.9

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*IDC **05** 14:22:11.3±2.5, 8°.06N×127°.19E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/42, mbtmp3.7/7, Error ellipse: s-maj=277.3km s-min=17.6km az=67.0*
*ISCJB **05** 14:22:13.6±0.7, 8°.14N±0°.07×127°.52E±0°.06, h31km, mb3.7/7, Error ellipse: s-maj=10.2km s-min=8.0km az=19.9*
ISC 05 14:22:15.7±1.0**, 8°.13N**±0°.08×**127°.49E**±0°.08**, h31km, n15,** σ**0ˢ.98**/19**, mb3.8**/7**, 2C-2D, Philippine Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
BIPH Bislig 1.12 273⇓*i*P **Pb 14 22 38.2 +1.7**
BIPH *i* S **Sb 14 22 51.0 +0.3**
MATI Mati 1.69 226 *e*P **Pn 14 22 42.1 -1.1**
MATI *e*S **Sn 14 23 01.6 -2.3**
BUTP Butuan 2.03 295 *e*P **Pn 14 22 46.3 -1.5**
BUKP Musuan 2.42 264 *e*P **Pn 14 22 53.6 +0.4**
SCPH Surigao 2.57 310⇑*e*P **Pn 14 22 54.5 -0.8**
CGP Cagayan de Oro 2.78 277⇑*e*P **Pn 14 22 57.6 -0.6**
CGP *e*S **Sn 14 23 29.8 -1.0**
CTBH Cotabato--PC H 3.34 255⇓*i*P **Pn 14 23 05.8 0.0**
PAGZ Pagadian 4.08 266 *e*P **Pn 14 23 16.2 +0.2**
WRA Warramunga Arr 28.70 166 P **P 14 28 09.9 -0.3**
0.2nm,0.4s,baz=350,slow=9.7,SNR=6.4
ASAR Alice Springs 32.22 169 P **P 14 28 41.4 0.0**
0.1nm,0.3s,baz=357,slow=12,SNR=3.5
ASAR PcP **PcP 14 31 30.1 +0.4**
0.4nm,0.6s,baz=351,slow=2.3,SNR=6.6
STKA Stephens Creek 42.00 162 P **P 14 30 04.9 +0.6**
1.8nm,0.8s,baz=322,slow=8.2,SNR=5.1
MKAR Makanchi Array 54.45 323 P **P 14 31 40.0 -0.3**
0.7nm,0.7s,baz=122,slow=8.6,SNR=8.1
ZALV Zalesovo Beam 57.07 331 P **P 14 31 58.4 -0.5**
0.4nm,0.3s,baz=102,slow=6.7,SNR=3.7
KURBB Kurchatov Arra 58.51 326 P **P 14 32 08.3 -0.7**
1.0nm,0.7s,baz=128,slow=6.2,SNR=11
VNDA Vanda 87.67 173 P **P 14 35 01.2 +0.5**
0.6nm,0.6s,baz=344,slow=7.0,SNR=3.2

NNC 05 14:52:55.0±4.6**, 37°.03N×70°.03E, h0km, mb3.7, mpv3.3, 3C-7D, Error ellipse: s-maj=36.9km s-min=32.5km az=139.0, Afghanistan-Tajikistan border region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
SFK Sufi-Kurgan 4.04 41 ⇓Pn Pn 14 53 58.9 +0.5
2.0nm,0.3s
SFK ⇓Sn Sn 14 54 48.9 +2.2
19nm,0.4s
MNAS Manas 5.78 19 ⇓Pn Pn 14 54 22.4 +0.3
1.6nm,0.5s
MNAS ⇓Sn Sn 14 55 31.8 +2.5
6.7nm,0.4s
KK31 Karatay Array 6.08 3 ⇓Pn Pn 14 54 28.1 +1.9
0.3nm,0.3s,baz=177,slow=13,SNR=9.6
KK31 ⇑Sn Sn 14 55 36.5 +0.1
0.6nm,0.3s,baz=179,slow=14,SNR=4.9
AAK Ala-Archa 6.57 30 ⇓Pn Pn 14 54 31.6 -1.5
1.9nm,0.5s
AAK ⇓Sn Sn 14 55 49.7 +0.9
3.8nm,0.6s
TKM2 Tokmak 2 7.27 34 ⇑Pn Pn 14 54 40.1 -2.7
2.8nm,0.7s
TKM2 ⇑Sn Sn 14 56 03.2 -3.1
1.7nm,0.8s

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*IDC **05** 14:55:58.3±1.7, 2°.59N×97°.22E, h0km, mb3.4/6, mb1 3.5/7, mb1mx3.3/37, mbtmp3.4/7, Error ellipse: s-maj=47.9km s-min=19.3km az=51.0*
ISC 05 14:56:04.4±1.7**, 2°.8N**±0°.2×**97°.5E**±0°.2**, h33km, n14,** σ**1ˢ.00**/8**, mb3.4**/6**, Northern Sumatera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
PSI Prapat 1.38 88 Pn **Pb 14 56 29.1 -0.7**
0.3nm,0.3s,baz=237,slow=17,SNR=2.1
CMAR Chiang Mai Arr 15.67 5 Pn **Pn 14 59 42.8 -0.2**
baz=184,slow=11,SNR=2.4
H08S2 Diego Garcia H 27.04 247 T T 15 28 39.2
baz=69,slow=75,SNR=93
H08S3 Diego Garcia H 27.04 247 T T 15 28 39.4
baz=69,slow=75,SNR=82
H08S1 Diego Carcia H 27.06 247 T T 15 28 41.0
baz=69,slow=75,SNR=73
H08N1 Diego Carcia H 27.98 251 T T 15 30 00.4
baz=236,slow=76,SNR=4.8
H08N2 Diego Garcia H 27.99 251 T T 15 30 03.0
baz=236,slow=76,SNR=4.3
H08N3 Diego Garcia H 28.01 251 T T 15 29 59.2
baz=236,slow=76,SNR=4.2
WRA Warramunga Arr 42.58 124 P **P 15 03 57.8 +0.1**
0.1nm,0.3s,baz=304,slow=9.0,SNR=5.9
ASAR Alice Springs 44.07 129 P **P 15 04 09.8 +0.1**
0.5nm,1.1s,baz=302,slow=8.7,SNR=3.4
KSRS Korea Array 44.39 35 P **P 15 04 13.6 +1.7**
0.3nm,0.4s,baz=221,slow=10,SNR=4.1
MKAR Makanchi Array 45.84 345 P **P 15 04 22.7 -0.7**
0.3nm,0.5s,baz=156,slow=9.3,SNR=7.0
KURBB Kurchatov Arra 50.34 344 P **P 15 04 57.0 -1.0**
0.2nm,0.5s,baz=165,slow=8.6,SNR=2.9
ZALV Zalesovo Beam 52.10 351 P **P 15 05 10.7 -0.5**
1.2nm,0.5s,baz=181,slow=7.8,SNR=8.7

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*BJI **05** 15:18:09.9, 25°.00S×72°.10W, h35km, mB4.9/9, Ms5.2/8, Ms7 4.9/8*
*ISCJB **05** 15:18:15.7±0.6, 21°.53S±0°.03×70°.09W±0°.04, h31km±4km, mb4.6/39, MS3.7/7, Error ellipse: s-maj=7.1km s-min=4.3km az=166.1*
*GUC **05** 15:18:16.6±0.6, 21°.55S×70°.02W, h27km±2km, ML5.1*
*NEIC **05** 15:18:16.0, 21°.54S×70°.02W, h27km, mb4.8/25, ML5.1(GUC), After GUC.*
NEIC Felt [V] at Quillagua; [IV] at Pica and Tocopilla; [III] at Huara, Iquique and Maria Elena; [II] at Calama. Also felt at Antofagasta.
*IDC **05** 15:18:17.5±0.4, 21°.51S×69°.79W, h27km±2km, mb4.0/12, mb1 4.2/14, mb1mx4.1/29, mbtmp4.2/14, ML4.6/2, MS3.8/10, Ms1 3.8/10, ms1mx3.6/20, Error ellipse: s-maj=17.6km s-min=9.8km az=55.0*
*SJA **05** 15:18:18.8±0.5, 21°.79S×70°.03W, h40km±13km, ML4.1*
ISC 05 15:18:17.1±0.4**, 21°.53S**±0°.03×**69°.98W**±0°.05**, h29km**±2km**, h29km:pP-P, n124,** σ**1ˢ.31**/127**, mb4.7**/39**, MS3.7**/7**, 2C-7D, Northern Chile**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PB07	**IPOC Station P**	**0.21**	**156**⇓	*i*P	**Pb**	**15 18 23.0**	**-0.5**
PB07				*i* S	**Sb**	**15 18 27.0**	**-0.9**
PB01	**IPOC Station P**	**0.67**	**43**	*e*P	**Pb**	**15 18 29.8**	**-0.5**
PB01				*i* S	**Sb**	**15 18 39.2**	**-0.1**
PB09	**IPOC Station P**	**0.73**	**111**⇑	*i*P	**Pb**	**15 18 31.0**	**-0.5**
PB09				*i* S	**Sb**	**15 18 41.2**	**-0.1**
PB04	**IPOC Station P**	**0.86**	**148**⇓	*i*P	**Pn**	**15 18 31.3**	**-2.0**
PB04				*i* S	**Sb**	**15 18 42.0**	**-2.7**
PB04				AML	AML	15 18 42.3	
	comp=N,112μm,0.6s						
PB06	**IPOC Station P**	**1.23**	**162**⇓	*i*P	**Pn**	**15 18 37.6**	**-0.9**
PB06				*i* S	**Sn**	**15 18 53.7**	**-0.5**
PB06				AML	AML	15 18 55.6	
	comp=E,72μm,0.3s						
LVC	**Limon Verde**	**1.46**	**138**	Pn	**Pn**	**15 18 42.3**	**+0.5**
	baz=289,slow=12						
LVC				Lg	Lg	15 19 01.0	
	comp=E,231μm,0.3s,baz=29,slow=19,SNR=78						
LVC				LR	LR	15 19 35.2	
	comp=E,3μm,18.5s,baz=322,slow=57						
LVC	**Limon Verde**	**1.46**	**138**	*e*Pn	**Pn**	**15 18 42.4**	**+0.5**
LVC				*e*Sn	**Sn**	**15 19 00.9**	**+0.7**
LVC				Lg	Lg	15 19 01.0	
LVC	**Limon Verde**	**1.46**	**138**	*i* P	**Pn**	**15 18 42.5**	**+0.7**
LVC				*i* S	**Sn**	**15 19 00.3**	**+0.1**
PB11	**IPOC Station P**	**1.79**	**10**⇓	*i*P	**Pn**	**15 18 47.4**	**+1.2**
PB11				*i* S	**Sb**	**15 19 11.2**	**-0.1**
CEN1	**Los Morros**	**1.86**	**186**⇑	*i*P	**Pb**	**15 18 51.4**	**+0.8**
CEN1				*i* S	**Sb**	**15 19 17.4**	**+3.9**
PSGC	**Pisagua**	**1.93**	**356**⇓	*i*P	**Pn**	**15 18 48.9**	**+0.8**
PSGC				*i* S	**Sb**	**15 19 14.1**	**-1.3**
PB10	**IPOC Station P**	**2.04**	**195**⇓	*i*P	**Pn**	**15 18 49.0**	**-0.6**
PB10				AML	AML	15 19 24.6	
	comp=E,24μm,0.4s						
MNMC	**Minimini**	**2.42**	**9**⇓	*i*P	**Pn**	**15 18 56.8**	**+1.8**
MNMC				*i* S	**Sb**	**15 19 28.1**	**-1.4**
MNMC				AML	AML	15 19 41.6	
	comp=E,18μm,0.5s						
YJA	**Yavi**	**4.20**	**100**	*i* P	Pn	15 19 24.4	+4.8
HJA	**Humahuaca**	**4.55**	**112**	*i* P	Pn	15 19 28.9	+4.5
SLA	**San Lorenzo**	**5.20**	**128**	*i* P	Pn	15 19 36.2	+3.0
SLA				AML	AML	15 19 50.9	
	comp=Z,121nm,0.7s						
AZAP	**Zapla**	**5.26**	**122**	*i* P	**Pn**	**15 19 37.0**	**+2.9**
LPAZ	**La Paz**	**5.50**	**19**	Pn	Pn	15 19 43.0	+5.3
	comp=Z,6.2nm,0.3s,baz=187,slow=6.5,SNR=78						
LPAZ				LR	LR	15 22 04.0	
	comp=Z,992nm,18.2s,baz=218,slow=42						
LPAZ	**La Paz**	**5.50**	**19**	*e*Pn	Pn	15 19 42.9	+5.2
LPAZ				*e*Sn	**Sn**	**15 20 38.2**	**-2.2**
ASTB	**Santa Barbara**	**5.61**	**116**	*i* P	Pn	15 19 42.5	+3.7
FSA	**Cafayete**	**5.81**	**142**	*i* P	**Pn**	**15 19 44.3**	**+2.6**
LCO	**Las Campanas**	**7.48**	**185**	*e*Pn	Pn	15 20 01.1	-3.4
	comp=Z,99nm,0.6s						
LCO				*e*Sn	**Sn**	**15 21 26.7**	**-1.8**
SIV	**San Ignacio**	**10.07**	**58**	Pn	**Pn**	**15 20 39.8**	**-0.2**
	comp=Z,11nm,0.3s,baz=255,slow=12,SNR=98						
SIV				LR	LR	15 25 28.8	
	comp=Z,589nm,20.7s,baz=255,slow=44						
CFAA	**Coronel Fontan**	**10.15**	**172**	Pn	**Pn**	**15 20 38.6**	**-2.5**
	comp=Z,0.7nm,0.3s,baz=346,slow=13,SNR=35						
CFAA				LR	LR	15 25 10.6	
	comp=Z,30nm,21.7s,baz=341,slow=41						
NNA	**Nana**	**11.54**	**324**	Sn	**Sn**	**15 23 06.8**	**-1.4**
	comp=Z,1.6nm,0.3s,baz=250,slow=18,SNR=3.1						
SAML	**Samuel**	**14.12**	**29**	Pn	**Pn**	**15 21 37.5**	**+2.2**
	comp=Z,10nm,0.8s						
TRQA	**Tornquist**	**17.86**	**159**	*e*Pn	**Pn**	**15 22 21.4**	**-2.1**
	comp=Z,12nm,0.6s						
PLCA	**Paso Flores**	**19.15**	**181**	P	**P**	**15 22 37.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=7.1,slow=13,SNR=12						
PLCA				LR	LR	15 31 03.7	
	comp=Z,295nm,19.7s,baz=350,slow=40						
BDFB	**Brasilia**	**21.62**	**78**	P	**P**	**15 23 05.0**	**-0.2**
	comp=Z,20nm,0.5s,baz=263,slow=9.2,SNR=25						
BDFB				LR	LR	15 31 45.3	
	comp=Z,185nm,19.5s,baz=292,slow=38						
ROSC	**El Rosal**	**26.57**	**350**	LR	LR	15 34 56.9	
	comp=Z,133nm,20.0s,baz=202,slow=38						
TEIG	**Tepich**	**45.19**	**335**	pP	pP	15 26 42.9	+2.6
	comp=Z,22nm,0.6s,baz=131,slow=9.3,SNR=6.5						
TKL	**Tuckaleechee C**	**58.36**	**347**	*e*P	**P**	**15 28 07.0**	**-2.7**
432A	**Menard**	**59.45**	**330**	P	**P**	**15 28 18.0**	**+0.5**
	baz=60						
333A	**Richland Sprin**	**59.46**	**331**	P	**P**	**15 28 18.3**	**+0.8**
	baz=60						
530A	**J-C Ranch, Com**	**59.58**	**328**	P	**P**	**15 28 19.4**	**+1.0**
	baz=60						
529A	**Stev Forest Ra**	**59.99**	**328**	P	**P**	**15 28 22.2**	**+1.0**
	baz=60						
TXAR	**Lajitas Array**	**60.09**	**326**	P	**P**	**15 28 22.4**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=145,slow=7.6,SNR=3.5						
TXAR				sP	**sP**	**15 28 34.2**	**0.0**
	comp=Z,0.6nm,0.6s,baz=149,slow=6.4,SNR=7.9						
MIAR	**Mount Ida**	**60.11**	**338**	*e*P	**P**	**15 28 19.9**	**-2.0**
	comp=Z,20nm,1.0s						
429A	**Davenport Ranc**	**60.24**	**328**	P	**P**	**15 28 24.0**	**+1.0**
	baz=60						
VNA1	**Neumayer--Stat**	**60.59**	**160**	P	P	15 28 33.8	+9.1
X37A	**Clayton**	**60.81**	**336**	P	**P**	**15 28 27.8**	**+1.1**
	baz=61						
Y34A	**Reagan Ranch,**	**61.20**	**334**	P	**P**	**15 28 30.1**	**+0.8**
	baz=62						
W37A	**Quinton**	**61.32**	**336**	P	**P**	**15 28 30.7**	**+0.6**
	baz=62						
SIUC	**Southern Illin**	**61.65**	**343**	*e*P	**P**	**15 28 31.4**	**-0.8**
	comp=Z,34nm,0.9s						
W35A	**Tecumseh**	**61.88**	**335**	P	**P**	**15 28 33.4**	**-0.5**
	baz=62						
SSPA	**Standing Stone**	**62.28**	**353**	P	**P**	**15 28 37.8**	**+1.4**
	comp=Z,9.2nm,1.0s						
SNAA	**Sanae**	**62.58**	**161**	P	P	15 28 30.7	-7.5
MNTX	**Cornudas Mount**	**62.87**	**326**	P	**P**	**15 28 40.6**	**0.0**
	baz=63						
MNTX	**Cornudas Mount**	**62.87**	**326**	*e*P	**P**	**15 28 38.6**	**-1.9**
	comp=Z,1.8nm,1.0s						
T37A	**Cheneyville 18**	**62.90**	**338**	P	**P**	**15 28 41.0**	**+0.4**
	baz=63						
MSTX	**Muleshoe**	**63.42**	**330**	*e*P	P	15 28 40.5	-3.8
	comp=Z,14nm,1.1s						
SFIN	**Lafayette**	**63.62**	**345**	*e*P	**P**	**15 28 43.8**	**-1.5**
	comp=Z,5.9nm,0.4s						
S35A	**Otter Creek Ra**	**63.90**	**337**	P	**P**	**15 28 47.3**	**0.0**
	baz=64						
R37A	**Teagarden Farm**	**63.94**	**338**	P	**P**	**15 28 47.6**	**+0.1**
	baz=64						
HDIL	**Hopedale**	**64.33**	**344**	*e*P	**P**	**15 28 48.9**	**-1.1**
	comp=Z,19nm,0.8s						
ANMO	**Albuquerque**	**65.99**	**328**	*e*P	**P**	**15 28 60.0**	**-1.2**
	comp=Z,2.3nm,0.8s						
T26A	**Comanche Natio**	**66.44**	**331**	P	**P**	**15 29 04.8**	**+0.8**
	baz=67						
S26A	**Kim**	**66.75**	**332**	P	**P**	**15 29 07.3**	**+1.4**
	baz=67						
JFWS	**Jewell Farm**	**66.79**	**344**	*e*P	**P**	**15 29 04.6**	**-1.3**
	comp=Z,12nm,0.6s						
SDCO	**Great Sand Dun**	**67.77**	**330**	P	**P**	**15 29 14.0**	**+1.4**
	baz=68						
SDCO	**Great Sand Dun**	**67.77**	**330**	*e*P	**P**	**15 29 10.8**	**-1.8**
	comp=Z,7.1nm,1.0s						
QSPA	**South Pole Qui**	**68.66**	**180**	*e*P	**P**	**15 29 17.3**	**-0.4**
	comp=Z,5.0nm,0.8s						
MVCO	**Mesa Verde**	**68.79**	**328**	*e*P	**P**	**15 29 17.4**	**-1.5**
	comp=Z,8.4nm,0.7s						
WUAZ	**Wupatki**	**68.98**	**325**	*e*P	**P**	**15 29 19.5**	**-0.5**
	comp=Z,6.6nm,0.9s						
LIC	**Lamto**	**69.35**	**74**	*e*P	**P**	**15 29 24.4**	**+1.8**
	comp=Z,68nm,2.0s						
ECSD	**EROS Data Cent**	**69.39**	**340**	*e*P	**P**	**15 29 20.7**	**-1.5**
	comp=Z,16nm,1.4s						
ISCO	**Idaho Springs**	**69.49**	**331**	*e*P	**P**	**15 29 23.0**	**-0.3**
	comp=Z,2.5nm,0.6s						
TIC	**Toumodi**	**69.54**	**74**	*e*P	**P**	**15 29 22.2**	**-1.6**
PV01	**Paradox Valley**	**69.54**	**328**	P	P	15 29 20.1	-3.5
	comp=Z,493nm,0.7s						
KIC	**Kosan Boka**	**69.67**	**74**	*e*P	**P**	**15 29 23.5**	**-1.1**
	comp=Z,71nm,1.6s						
DBIC	**Dimbokro**	**69.70**	**74**	P	**P**	**15 29 23.1**	**-1.7**
	comp=Z,8.1nm,0.8s,baz=237,slow=6.5,SNR=11						
DBIC				LR	LR	15 58 36.1	
	comp=Z,75nm,20.6s,baz=132,slow=35						
J28A	**Allard Ranch,**	**70.73**	**336**	P	**P**	**15 29 30.9**	**+0.4**
	baz=71						
CCUT	**Cedar City**	**71.56**	**325**	P	**P**	**15 29 37.8**	**+1.9**
	comp=Z,9.6nm,0.8s						
MSU	**Marysvale**	**71.65**	**326**	P	**P**	**15 29 35.1**	**-1.3**
	comp=Z,9.5nm,0.8s						
MVU	**Marysvale**	**71.66**	**326**	*e*P	**P**	**15 29 36.5**	**0.0**
	comp=Z,8.6nm,0.8s						
EYMN	**Ely**	**71.81**	**345**	*e*P	**P**	**15 29 36.2**	**-0.7**
	comp=Z,8.4nm,0.8s						
J22A	**Midwest**	**72.81**	**333**	P	**P**	**15 29 44.0**	**+0.9**
	baz=73						
I21A	**Big Trails, Te**	**73.48**	**333**	P	**P**	**15 29 47.5**	**+0.4**
	baz=74						
PDAR	**Pinedale Array**	**73.64**	**331**	P	**P**	**15 29 49.2**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=64,slow=2.1,SNR=2.5						
PDAR				pP	**pP**	**15 29 58.0**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=129,slow=4.0,SNR=7.2						
PDAR				sP	**sP**	**15 30 01.4**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=128,slow=5.8,SNR=8.6						
HWUT	**Hardware Ranch**	**73.69**	**329**	*e*P	**P**	**15 29 45.8**	**-2.7**
	comp=Z,7.4nm,0.7s						
F24A	**Ekalaka**	**74.00**	**336**	P	**P**	**15 29 50.6**	**+0.6**
	baz=74						
PPT2	**Papeete2**	**74.34**	**257**	*e*LR	LR	15 52 39.2	
	comp=Z,86nm,28.2s						
PPT	**Papeete**	**74.34**	**257**	LR	LR	15 54 57.3	
	comp=Z,50nm,18.1s,baz=138,slow=30						
HVU	**Hansel Valley**	**74.41**	**328**	*e*P	**P**	**15 29 51.5**	**-1.1**
	comp=Z,7.9nm,0.9s						
B29A	**Wagenman Farm,**	**74.47**	**340**	P	**P**	**15 29 53.2**	**+0.6**
	baz=75						
REDW	**Red Top Meadow**	**74.70**	**330**	*e*P	**P**	**15 29 54.5**	**+0.1**
	comp=Z,6.3nm,0.7s						
NVAR	**Mina Array Bea**	**74.91**	**323**	P	**P**	**15 29 57.4**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=152,slow=5.3,SNR=5.8						
NVAR				pP	**pP**	**15 30 06.2**	**+1.5**
	comp=Z,1.9nm,0.7s,baz=147,slow=6.3,SNR=8.5						
F19A	**Roth Farm, Mol**	**75.82**	**333**	P	**P**	**15 30 01.8**	**+1.3**
	baz=76						
D21A	**La Casta Ranch**	**76.00**	**335**	P	**P**	**15 30 03.2**	**+1.7**
	baz=76						
SCHQ	**Schefferville**	**76.10**	**2**	P	**P**	**15 30 01.6**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=114,slow=20,SNR=2.7						
SCHQ				LR	LR	16 04 17.0	
	comp=Z,37nm,20.4s,baz=316,slow=36						
E19A	**Rath Farm, Rou**	**76.24**	**334**	P	**P**	**15 30 04.2**	**+1.3**
	baz=76						
HLID	**Hailey**	**76.54**	**328**	P	**P**	**15 30 06.8**	**+2.0**
	baz=77						
HLID	**Hailey**	**76.54**	**328**	*e*P	**P**	**15 30 06.8**	**+2.0**
	comp=Z,5.2nm,0.9s						
VNDA	**Vanda**	**76.64**	**190**	P	**P**	**15 30 06.1**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=0.0,slow=1.0,SNR=4.0						
VNDA				pP	**PcP**	**15 30 15.4**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=112,slow=4.9,SNR=5.1						
MCMT	**McKenzie Canyo**	**76.75**	**330**	*e*P	**P**	**15 30 04.8**	**-1.3**
	comp=Z,2.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**78.31**	**71**	P	**P**	**15 30 14.1**	**-1.0**
	comp=Z,5.1nm,0.7s,baz=253,slow=5.0,SNR=38						
TORD				pP	**pP**	**15 30 23.6**	**-0.5**
	comp=Z,7.8nm,0.5s,baz=253,slow=5.7,SNR=22						
TORD				LR	LR	16 05 24.4	
	comp=Z,102nm,18.2s,baz=180,slow=36						
BOSA	**Boshof**	**84.31**	**118**	P	**P**	**15 30 46.4**	**-0.6**
	comp=Z,4.1nm,0.9s,baz=237,slow=13,SNR=2.5						
MAW	**Mawson**	**84.58**	**164**	P	**P**	**15 30 48.2**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=198,slow=6.4,SNR=3.5						
ESDC	**Sonseca Array**	**86.56**	**45**	P	**P**	**15 30 58.6**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=238,slow=5.3,SNR=7.5						
ESDC				sP	**sP**	**15 31 09.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=236,slow=6.0,SNR=4.9						
ESDC				LR	LR	16 09 18.8	
	comp=Z,21nm,18.6s,baz=135,slow=35						
YKA	**Yellowknife Ar**	**90.89**	**341**	P	**P**	**15 31 17.7**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=140,slow=4.7,SNR=14						
YKA				pP	**pP**	**15 31 26.9**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=136,slow=4.5,SNR=14						
YKA				sP	**sP**	**15 31 29.6**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=140,slow=4.8,SNR=14						
H11S2	**WAKE ISLAND Hy**	**126.89**	**277**	T	T	17 56 42.8	
	baz=104,slow=74,SNR=711						
H11S1	**WAKE ISLAND Hy**	**126.90**	**277**	T	T	17 57 02.7	
	baz=104,slow=74,SNR=555						
H11S3	**WAKE ISLAND Hy**	**126.91**	**277**	T	T	17 57 02.3	
	baz=104,slow=74,SNR=795						
H11N3	**WAKE ISLAND Hy**	**126.98**	**279**	T	T	17 57 04.9	
	baz=104,slow=74,SNR=1661						
H11N2	**WAKE ISLAND Hy**	**126.99**	**279**	T	T	17 57 06.2	
	baz=104,slow=74,SNR=1253						
H11N1	**WAKE ISLAND Hy**	**127.00**	**279**	T	T	17 57 06.1	
	baz=104,slow=74,SNR=822						
ASAR	**Alice Springs**	**129.41**	**209**	PKP	**PKPdf**	**15 37 22.9**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=138,slow=1.6,SNR=5.4						
ASAR				pPKP	**pPKPdf**	**15 37 32.5**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=126,slow=1.8,SNR=8.5						
SEY	**Seymchan**	**129.73**	**336**	PKP	**PKPdf**	**15 37 22.3**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=307,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**132.41**	**212**	PKP	**PKPdf**	**15 37 29.4**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=170,slow=1.9,SNR=7.6						
WRA				pPKP	**pPKPdf**	**15 37 38.6**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=151,slow=1.7,SNR=6.8						
ZALV	**Zalesovo Beam**	**142.40**	**24**	PKhKP	PKPpre	15 37 43.7	
	comp=Z,0.8nm,0.5s,baz=312,slow=5.3,SNR=3.9						
ZALV				PKP	**PKPdf**	**15 37 46.6**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=309,slow=5.2,SNR=4.1						
KSH	**Kashi**	**145.89**	**51**	*e*PKPbc	**PKPab**	**15 37 55.5**	**+0.8**
KSH				pPKP	**pPKPdf**	**15 38 03.3**	**+0.2**
KSH				sPKP		15 38 07.3	
KSH				PKS	**PKSdf**	**15 41 28.5**	**-0.6**
KSH				PP	PP	15 41 33.6	+18
KSH				SKS	**SKSdf**	**15 44 58.3**	**-2.5**
KSH				SKKS	SKKSac	15 48 17.4	+11
KSH				SS	SS	16 00 41.6	+33
KSH				PPMZ			
	comp=Z,120nm,4.8s						
KSH				LN			
	comp=Z,89nm,5.2s						
KSH				LE			
	comp=Z,97nm,4.9s						
KSH				LZ			
	comp=Z,120nm,4.7s						
MK31	**Makanchi Array**	**146.24**	**35**	*e*PKPab	**PKPbc**	**15 37 54.5**	**-0.4**
MKAR	**Makanchi Array**	**146.24**	**35**	PKPbc	**PKPdf**	**15 37 53.9**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=317,slow=4.0,SNR=16						
MKAR				pPKPbc	pPKPbc	15 38 04.1	-0.2
	comp=Z,3.8nm,0.6s,baz=320,slow=2.9,SNR=14						
USRK	**Ussuriysk Ar.**	**150.99**	**326**	PKPbc	**PKPbc**	**15 38 07.3**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=46,slow=5.5,SNR=5.0						
USRK				PKPab	**PKPab**	**15 38 16.9**	**+2.1**
	comp=Z,3.0nm,0.7s,baz=31,slow=1.6,SNR=6.4						
WMQ	**Urumqi**	**151.06**	**35**	PKPbc	**PKPdf**	**15 37 58.1**	**-3.6**
WMQ				PP	PP	15 42 02.0	+17
WMQ				PPMZ			
	comp=Z,28nm,9.9s						
WMQ				LN			
	comp=Z,56nm,8.4s						
WMQ				LE			
	comp=Z,62nm,6.5s						
WMQ				LZ			
	comp=Z,21nm,12.0s						
MJAR	**Matsushiro Arr**	**151.31**	**308**	PKPbc	**PKPbc**	**15 38 09.1**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=87,slow=2.1,SNR=5.0						
MJAR				PKPab	**PKPab**	**15 38 17.6**	**+1.2**
	comp=Z,3.5nm,0.8s,baz=109,slow=1.2,SNR=11						
SONM	**Songino Array**	**153.59**	**5**	PKP	**PKPdf**	**15 38 06.3**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=349,slow=2.9,SNR=2.4						
SONM				PKPbc	**PKiKP**	**15 38 13.7**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=67,slow=0.2,SNR=3.7						
SONM				PKPab	**PKPab**	**15 38 25.7**	**0.0**
	comp=Z,1.6nm,0.9s,baz=304,slow=1.8,SNR=5.2						
CN2	**Changchun**	**154.36**	**334**	*e*PKP	PKPdf	15 38 00.0	-6.5
HHC	**Hu-ho-hao-te**	**160.70**	**356**	*e*PKP	PKPdf	15 38 04.8	-10
HHC				pPKP	pPKPdf	15 38 16.0	-8.2
HHC				sPKP		15 38 18.9	
HHC				PKS	PKSdf	15 41 37.0	-11
HHC				PP	PP	15 42 46.0	+8.0
HHC				SS	SS	16 03 09.4	+21
HHC				PPMZ			
	comp=Z,58nm,10.1s						
HHC				LN			
	comp=Z,130nm,21.6s						
HHC				LE			
	comp=Z,98nm,21.5s						
HHC				LZ			
	comp=Z,58nm,21.5s						
LZH	**Lanzhou**	**164.53**	**19**	*e*PKP	PKPdf	15 38 11.1	-7.5
LZH				pPKP	pPKPdf	15 38 22.3	-5.9
LZH				sPKP		15 38 26.4	
LZH				LN			
	comp=Z,160nm,17.0s						
LZH				LE			
	comp=Z,160nm,19.2s						
LZH				LZ			
	comp=Z,200nm,20.3s						
NJ2	**Nanjing**	**166.89**	**325**	*e*PKP	PKPdf	15 38 11.6	-8.8
CD2	**Chengdu**	**169.10**	**30**	PKP	PKPdf	15 38 13.0	-9.1
CD2				pPKP	pPKPdf	15 38 24.3	-7.3
CD2				sPKP		15 38 28.5	
CD2				PP	PP	15 43 32.3	+10
CD2				SKS	SKSdf	15 45 13.4	-11
CD2				SKKS	SKKSac	15 50 15.6	+7.2
CD2				SS	SS	16 04 44.7	+30
CD2				PPMZ			
	comp=Z,120nm,5.4s						
KMI	**Kunming**	**172.41**	**60**	PKP	PKPdf	15 38 10.5	-14
GYA	**Guiyang**	**174.21**	**31**	PKP	PKPdf	15 38 15.0	-10
GYA				sPKP		15 38 30.8	
GYA				PKPab	PKPab	15 40 05.4	+8.9
GYA				PKS	PKSdf	15 41 46.2	-11
GYA				PP	PP	15 44 00.8	+13
GYA				PPMZ			
	comp=Z,120nm,8.4s						

KRSC 05 15:22:53.9±2.8**, 50.°49N**×**157.°14E, h128**^{km}±33^{km}**, ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.68**	**287**	*e*P	Pn	15 23 15.2	+1.4
SKR				*e*S	Sn	15 23 29.5	+0.5
PAU	**Pauzhetka**	**1.00**	**348**	*e*P	Pn	15 23 18.2	+1.6
PAU				*e*S	Sn	15 23 34.9	+1.0
MIPR	**Malaya Ipel'ka**	**1.81**	**353**	*e*P	Pn	15 23 26.0	+0.6
ASAK	**Asacha**	**1.96**	**14**	*e*P	Pn	15 23 29.5	+2.2
MTVR	**Mutnovka**	**2.10**	**18**	*e*P	Pn	15 23 31.4	+2.3
MTVR				*e*S	Sn	15 23 57.7	+1.5
RUS	**Russkaya**	**2.13**	**23**	*e*P	Pn	15 23 31.7	+2.5
RUS				*e*S	Sn	15 23 58.2	+1.8
APC	**Apacha**	**2.44**	**0**	*e*P	Pn	15 23 33.1	0.0
PET	**Petropavlovsk**	**2.71**	**20**	*e*P	Pn	15 23 38.8	+2.3
UGLR	**Uglovaya**	**2.92**	**20**	*e*P	Pn	15 23 42.5	+3.1
AVH	**Avacha**	**2.95**	**19**	*e*P	Pn	15 23 42.1	+2.3
KOK	**Koryaka**	**2.96**	**18**	*e*P	Pn	15 23 43.0	+3.1
SMAR	**Somma**	**2.96**	**20**	*e*P	Pn	15 23 40.2	0.0
KRER	**Koryakskii**	**2.99**	**19**	*e*P	Pn	15 23 43.3	+2.8
SDLR	**Sedlovina**	**3.00**	**20**	*e*P	Pn	15 23 43.1	+2.6
KRX	**Arik**	**3.02**	**17**	*e*P	Pn	15 23 43.6	+2.8
SPN	**Mys Shipunski**	**3.17**	**33**	*e*P	Pn	15 23 45.3	+2.8
GNL	**Ganaly**	**3.25**	**8**	*e*P	Pn	15 23 45.0	+1.2
MKZ	**Mys Kozlova**	**4.95**	**33**	*e*P	Pn	15 24 07.7	+1.7
KZV	**Kizimen**	**5.01**	**21**	*e*P	Pn	15 24 06.0	-1.2
TUMR	**Tumrok**	**5.14**	**20**	*e*P	Pn	15 24 11.5	+2.7
KBTR	**Krutoberegovo**	**6.66**	**28**	*e*P	Pn	15 24 29.9	+0.8
BKI	**Bering**	**7.13**	**45**	*e*S	Sn	15 25 53.4	-1.5

*SJA **05** 15:42:37.8±0.8, 35.°14S×72.°98W, h38^{km}, ML3.1*
*ISCJB **05** 15:42:52.1±1.6, 34.°75S±0.°05×71.°8W±0.°1, h30^{km}±10^{km}, Error ellipse: s-maj=20.7km s-min=6.6km az=13.2*
*GUC **05** 15:42:52.2±0.6, 34.°77S×71.°72W, h45^{km}±1^{km}, ML3.5*
ISC 05 15:42:52.3±1.9**, 34.°76S**±0.°05×**71.°9W**±0.°1**, h30**^{km}±14^{km}**, n23,** σ1**§22**/31**, 1C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.57**	**115**⇓	*i*P	**Pb**	**15 43 03.1**	**-0.8**
NICH				*i* S	**Sb**	**15 43 11.2**	**-0.7**
TALC	**Talca**	**0.66**	**163**⇓	*i*P	**Pb**	**15 43 05.3**	**-0.1**
TALC				*i* S	**Sb**	**15 43 14.6**	**+0.3**
LNV	**Longovilo**	**0.89**	**25**	*e*P	Pn	15 43 08.3	-0.4
LNCH	**Linares**	**1.10**	**169**⇓	*i*P	**Pn**	**15 43 12.1**	**+0.3**
LNCH				*i* S	**Sn**	**15 43 26.0**	**-0.1**
CACH	**El Canelo**	**1.23**	**59**⇓	*i*P	Pn	15 43 12.2	-1.4
CACH				*i* S	**Sn**	**15 43 27.4**	**-1.8**
CHCH	**Chadas Angostu**	**1.30**	**51**	*e*P	Pn	15 43 13.6	-0.9
CHCH				*i* S	**Sn**	**15 43 29.5**	**-1.5**
TACH	**Talagante**	**1.35**	**35**⇓	*i*P	Pn	15 43 14.6	-0.5
TACH				*e*S	**Sn**	**15 43 31.1**	**-0.9**
RCDM	**Rinconada Maip**	**1.54**	**35**⇓	*i*P	**Pn**	**15 43 17.4**	**-0.4**
RCDM				*e*S	**Sn**	**15 43 36.1**	**-0.8**
PCH	**Pirque**	**1.60**	**45**⇑	*i*P	Pn	15 43 17.5	-1.2
PCH				*i* S	**Sn**	**15 43 37.3**	**-1.0**
SAN	**Santiago**	**1.64**	**38**	*e*P	Pn	15 43 18.3	-0.9
SAN				*e*S	**Sn**	**15 43 37.9**	**-1.5**
SJCH	**San Jose de Ma**	**1.68**	**49**	*e*P	Pn	15 43 18.6	-1.1
SJCH				*e*S	**Sn**	**15 43 38.7**	**-1.7**
CLCH	**Cerro Calan**	**1.75**	**39**	*e*P	**Pn**	**15 43 20.3**	**-0.5**
CLCH				*e*S	**Sn**	**15 43 41.1**	**-1.0**
CLCH				AML	AML	15 43 50.4	
	comp=N,902nm,0.5s						
PEL	**Peldehue**	**1.89**	**32**	*e*P	**Pn**	**15 43 23.1**	**+0.4**
PEL				*i* S	**Sn**	**15 43 45.6**	**+0.2**
PEL				AML	AML	15 43 51.3	
	comp=E,736nm,0.7s						
ROCH	**El Roble**	**1.92**	**22**⇓	*i*P	**Pn**	**15 43 23.3**	**+0.1**
ROCH				*e*S	**Sn**	**15 43 45.9**	**-0.7**
ROCH				AML	AML	15 43 53.8	
	comp=N,672nm,0.5s						
AAGR	**Agrelo**	**3.03**	**57**	*i* P	**Pn**	**15 43 40.3**	**+1.9**
AAGR				*i* P	**Pn**	**15 43 40.3**	**+1.9**
ARCO	**CERRO ARCO**	**3.10**	**53**	*i* P	**Pn**	**15 43 41.2**	**+1.8**
ARCO				*i* S	**Sb**	**15 44 27.1**	**+2.7**
ARCO				AML	AML	15 44 27.8	
	comp=Z,24nm,0.2s						
AUSP	**Uspallata**	**3.27**	**40**	*i* P	**Pn**	**15 43 43.2**	**+1.4**
ASAL	**Salagasta**	**3.33**	**50**	*i* P	**Pn**	**15 43 43.9**	**+1.4**
RTLS	**Leoncito**	**3.65**	**37**	*i* P	**Pn**	**15 43 48.1**	**+1.0**
RTCV	**Cerro Valdivia**	**4.01**	**45**	*e*P	**Pn**	**15 43 52.4**	**+0.6**
CFAA	**Coronel Fontan**	**4.38**	**45**	*e*P	**Pn**	**15 43 57.1**	**+0.3**
ACAN	**Cantantal**	**4.63**	**59**	*e*P	**Pn**	**15 44 01.1**	**+0.8**
AMOG	**MOGNA**	**4.75**	**38**	*e*P	**Pn**	**15 44 01.9**	**-0.1**

*NIED **05** 15:47:00, 26.°00N×129.°00E, h32^{km}, Mw3.8 Best double couple: $M_0$4.78000×10^{14} NP1:ϕ_s116.00000°, δ34.00000°, λ5.00000°. NP2:ϕ_s22.00000°, δ87.00000°, λ123.00000°.*
*IDC **05** 15:47:01.2±1.3, 25.°86N×128.°80E, h0^{km}, mb3.7/5, mb1 3.8/7, mb1mx3.5/37, mbtmp3.7/7, ML3.6/2, MS2.5/2, Ms1 2.6/2, ms1mx2.2/33, Error ellipse: s-maj=57.5km s-min=17.9km az=75.0*
*JMA **05** 15:47:04.5±0.2, 25.°97N×128.°97E, h49^{km}, M3.7*
ISC 05 15:47:00.6±1.5**, 25.°86N**±0.°04×**129.°03E**±0.°04**, h11**^{km}±10^{km}**, n32,** σ1**§76**/49**, mb3.5**/5**, 1C, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**1.12**	**306**	P	**Pg**	**15 47 22.4**	**+0.2**
JNTH				S	**Sg**	**15 47 35.3**	**-1.5**
JOW	**Kunigami**	**1.19**	**325**	P	**Pg**	**15 47 23.5**	**+0.1**
JOW				S	**Sg**	**15 47 37.5**	**-1.4**
JOW	**Kunigami**	**1.19**	**325**	Pn	**Pg**	**15 47 23.6**	**+0.1**
	16nm,0.3s,baz=146,slow=24,SNR=138						
JOW				Sn	**Sg**	**15 47 37.0**	**-1.8**
	10nm,0.3s,baz=309,slow=24,SNR=12						
JOW				LR	LR	15 47 39.9	
	comp=Z,12nm,18.8s,baz=122,slow=36						
JJT2	**Tamagusuku 2**	**1.19**	**284**	P	**Pb**	**15 47 24.2**	**+1.0**
JJT2				S	**Sg**	**15 47 38.3**	**-0.7**
JIH	**Iheya**	**1.51**	**321**	P	**Pn**	**15 47 28.5**	**+0.8**
JIH				S	**Sn**	**15 47 46.2**	**-1.2**
JOKE	**Okinoerabujima**	**1.56**	**345**	P	**Pn**	**15 47 29.0**	**+0.7**
JOKE				*e*S	**Sn**	**15 47 46.2**	**-2.3**
JAGN	**Aguni-jima**	**1.77**	**295**	P	**Pn**	**15 47 32.2**	**+1.0**
JAGN				S	**Sn**	**15 47 52.4**	**-1.2**
JTK	**Tokunoshima**	**1.92**	**358**	P	**Pn**	**15 47 33.7**	**+0.3**
JTK				S	**Sn**	**15 47 54.3**	**-3.3**
JMZ	**Minamidaito 2**	**1.97**	**91**	P	**Pn**	**15 47 34.1**	**+0.1**
JMZ				S	**Sn**	**15 47 54.8**	**-4.0**
JKE	**Kume jima 2**	**2.07**	**284**	P	**Pn**	**15 47 35.8**	**+0.4**
JKE				S	**Sn**	**15 47 58.2**	**-3.1**
JAMN	**Amaminishikomi**	**2.38**	**3**	P	**Pn**	**15 47 40.3**	**+0.7**
JAMN				S	**Sn**	**15 48 06.5**	**-2.3**
JZK	**Kikaishima**	**2.59**	**19**	P	**Pn**	**15 47 43.5**	**+1.0**
JZK				S	**Sn**	**15 48 13.3**	**-0.7**
JAM	**Amami Oshima**	**2.60**	**11**	P	**Pn**	**15 47 43.1**	**+0.5**
JAM				S	**Sn**	**15 48 11.7**	**-2.4**
JTAJ	**Takarajima**	**3.29**	**3**	P	**Pn**	**15 47 52.3**	**+0.2**
JTAJ				S	**Sn**	**15 48 27.9**	**-3.3**
JOGS	**Gusukube**	**3.46**	**252**	P	**Pn**	**15 47 55.5**	**+1.0**
JOGS				*e*S	**Sn**	**15 48 34.0**	**-1.4**
JMJ	**Miyako jima 2**	**3.54**	**254**	P	**Pn**	**15 47 56.5**	**+0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**3.55**	**256**	P	**Pn**	**15 47 56.4**	**+0.7**
JIKM				eS	**Sn**	**15 48 34.9**	**-2.7**
JIRB	**Irabujima**	**3.64**	**254**	P	**Pn**	**15 47 57.4**	**+0.5**
JIRB				eS	**Sn**	**15 48 37.8**	**-2.1**
JTJ	**Tarama**	**4.10**	**254**	P	**Pn**	**15 48 03.5**	**+0.2**
JTJ				S	**Sn**	**15 48 47.9**	**-3.5**
JISG	**Ishigakijimahi**	**4.46**	**255**	P	**Pn**	**15 48 07.8**	**-0.4**
JIJ	**Ishigaki jima**	**4.67**	**253**	P	**Pn**	**15 48 10.9**	**-0.3**
JIJ				S	**Sn**	**15 49 01.9**	**-3.6**
JKRS	**Kuro-shima**	**4.83**	**252**	P	**Pn**	**15 48 13.2**	**-0.1**
JKRS				eS	**Sn**	**15 49 08.6**	**-0.7**
IRIF	**Iriomote-Funau**	**5.04**	**254**	P	**Pn**	**15 48 15.7**	**-0.5**
JNU	**Nakatsue**	**7.42**	**12**	Pn	**Pn**	**15 48 51.0**	**+2.1**
	1.2nm,0.3s,baz=338,slow=7.0,SNR=40						
KSRS	**Korea Array**	**11.60**	**356**	Pn	**Pn**	**15 49 48.9**	**+2.7**
	0.2nm,0.3s,baz=172,slow=13,SNR=5.6						
KSRS				LR	LR	15 53 58.5	
	comp=Z,19nm,18.3s,baz=212,slow=36						
PGP	**Puerto Galera**	**14.45**	**213**	⇑iP	**Pn**	**15 50 24.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**28.78**	**261**	LR	LR	16 03 49.9	
	comp=Z,8.1nm,19.0s,baz=345,slow=35						
MKAR	**Makanchi Array**	**42.32**	**312**	P	**P**	**15 54 54.2**	**-0.3**
	0.4nm,0.7s,baz=101,slow=10.0,SNR=4.4						
WRA	**Warramunga Arr**	**45.82**	**173**	P	**P**	**15 55 24.2**	**+1.4**
	0.4nm,0.7s,baz=351,slow=8.4,SNR=4.8						
ASAR	**Alice Springs**	**49.46**	**174**	P	P	15 55 54.1	+3.1
	0.5nm,1.0s,baz=1.1,slow=14,SNR=4.7						
KBZ	**Khabaz**	**69.95**	**310**	P	P	15 58 15.0	+2.9
	2.0nm,0.8s,baz=323,slow=20,SNR=4.9						
FINES	**FINESS Array B**	**73.54**	**331**	P	**P**	**15 58 35.0**	**+1.6**
	1.9nm,0.9s,baz=73,slow=6.6,SNR=5.6						

*IDC **05** 15:59:10.5±3.2, 6°.25S×147°.86E, h52km±35km, mb3.7/4, mb1 4.0/5, mb1mx3.5/26, mbtmp4.1/5, ML4.3/1, MS3.0/4, Ms1 3.0/4, ms1mx2.8/25, Error ellipse: s-maj=66.2km s-min=14.9km az=108.0*

ISC 05 15:59:09.2±1.5**, 6°.3S**±0°.1×**148°.3E**±0°.3**, h60km, n10, σ1s21**/10**, mb4.0**/4**, MS3.1**/4**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.31**	**200**	P	**Pn**	**15 59 58.4**	**-0.3**
WRA	**Warramunga Arr**	**19.20**	**224**	P	**P**	**16 03 27.4**	**-1.0**
	1.0nm,0.3s,baz=49,slow=11,SNR=50						
WRA				S	**Sn**	**16 07 06.2**	**+1.7**
	0.0nm,0.3s,baz=43,slow=16,SNR=3.2						
GUMO	**Guam**	**20.02**	**350**	LR	LR	16 10 17.5	
	comp=Z,10nm,20.4s,baz=220,slow=34						
ASAR	**Alice Springs**	**22.15**	**217**	P	**P**	**16 03 59.9**	**-0.4**
	8.7nm,0.7s,baz=52,slow=9.3,SNR=268						
ASAR				S	**S**	**16 07 59.6**	**-1.4**
	1.8nm,0.7s,baz=32,slow=22,SNR=9.0						
ASAR				LR	LR	16 12 59.3	
	comp=Z,80nm,20.2s,baz=76,slow=38						
STKA	**Stephens Creek**	**26.24**	**193**	P	**P**	**16 04 39.8**	**+1.1**
	7.4nm,0.6s,baz=8.3,slow=7.3,SNR=21						
STKA				LR	LR	16 14 38.9	
	comp=Z,66nm,18.2s,baz=21,slow=36						
MJAR	**Matsushiro Arr**	**43.62**	**348**	P	**P**	**16 07 08.9**	**+1.1**
	1.2nm,0.9s,baz=180,slow=8.5,SNR=4.0						
MJAR				pP	**pP**	**16 07 21.9**	**-1.3**
	2.1nm,1.0s,baz=177,slow=9.1,SNR=5.4						
PETK	**Petropavlovsk-**	**59.68**	**7**	pP	pP	16 09 23.2	-0.1
	1.8nm,0.8s,baz=175,slow=8.2,SNR=5.1						
YAK	**Yakutsk**	**69.60**	**351**	LR	LR	16 41 40.9	
	comp=Z,12nm,18.6s,baz=12,slow=37						
MKAR	**Makanchi Array**	**78.52**	**320**	P	**P**	**16 11 04.0**	**-0.2**
	0.2nm,0.5s,baz=116,slow=5.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**146.40**	**284**	PKPbc	**PKPab**	**16 18 45.4**	**-0.1**
	1.0nm,0.7s,baz=66,slow=4.1,SNR=10						

*ISCJB **05** 16:08:51.9±0.6, 44°.05N±0°.08×143°.95E±0°.09, h203km±5km, mb3.2/4, Error ellipse: s-maj=12.7km s-min=11.0km az=177.1*
*JMA **05** 16:08:52.9±0.2, 44°.14N×143°.89E, h197km±2km, M2.8*
*IDC **05** 16:08:53.4±1.5, 44°.11N×143°.82E, h199km±11km, mb3.0/4, mb1 3.0/5, mb1mx2.8/31, mbtmp3.4/5, Error ellipse: s-maj=37.3km s-min=26.5km az=150.0*

ISC 05 16:08:52.7±0.9**, 44°.07N**±0°.08×**143°.94E**±0°.07**, h198**km±7km**, n20, σ0s59**/27**, mb3.2**/4**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTKR	**Abashiri--Toko**	**0.10**	**192**	P	**Pn**	**16 09 18.9**	**+0.1**
JTKR				eS	**Sn**	**16 09 38.5**	**-0.3**
JMP	**Maruseppu**	**0.42**	**262**	P	**Pn**	**16 09 19.4**	**0.0**
JNK	**Nakash**	**0.74**	**130**	P	**Pn**	**16 09 21.4**	**+0.6**
JAR	**Ashorobuto**	**0.78**	**189**	P	**Pn**	**16 09 21.7**	**+0.7**
JAR				eS	**Sn**	**16 09 43.5**	**+0.7**
JRA	**Rausu**	**0.87**	**98**	P	**Pn**	**16 09 21.9**	**+0.5**
JKK2	**Kamakawa 2**	**0.88**	**258**	P	**Pn**	**16 09 21.6**	**0.0**
JKK2				eS	**Sn**	**16 09 43.8**	**0.0**
ASAJ	**Asahikawa**	**0.97**	**273**	P	**Pn**	**16 09 22.2**	**+0.1**
ASAJ	**Asahikawa**	**0.97**	**273**	P	**Pn**	**16 09 22.3**	**+0.3**
JAK	**Akkeshi**	**1.20**	**152**	P	**Pn**	**16 09 24.0**	**+0.2**
JAK				eS	**Sn**	**16 09 48.0**	**+0.2**
JFR	**Furan**	**1.33**	**228**	P	**Pn**	**16 09 25.6**	**+0.8**
NEM2	**Nemuro 2**	**1.49**	**118**	P	**Pn**	**16 09 25.8**	**-0.3**
NEM2				eS	**Sn**	**16 09 51.2**	**-0.8**
JCH	**Churui**	**1.51**	**196**	P	**Pn**	**16 09 26.2**	**-0.2**
JCH				eS	**Sn**	**16 09 51.3**	**-1.2**
JWK2	**Keihoku**	**1.92**	**311**	P	**Pn**	**16 09 29.9**	**-0.3**
JNBK	**Urakawa-nobuka**	**1.98**	**206**	P	**Pn**	**16 09 31.0**	**0.0**
JNBK				eS	**Sn**	**16 09 59.5**	**-1.1**
JEW	**Eniwo**	**2.19**	**237**	P	**Pn**	**16 09 34.0**	**+0.9**
MJAR	**Matsushiro Arr**	**8.69**	**212**	P	**Pn**	**16 10 55.7**	**+0.7**
	0.4nm,0.3s,baz=26,slow=12,SNR=11						
SONM	**Songino Array**	**26.20**	**292**	P	**P**	**16 14 09.1**	**0.0**
	0.5nm,0.4s,baz=80,slow=8.2,SNR=4.8						
ZALV	**Zalesovo Beam**	**38.95**	**306**	P	**P**	**16 15 59.1**	**-0.1**
	0.4nm,0.5s,baz=108,slow=9.3,SNR=2.6						
MKAR	**Makanchi Array**	**42.37**	**296**	P	**P**	**16 16 26.5**	**-0.8**
	0.4nm,0.6s,baz=78,slow=9.1,SNR=6.2						
YKA	**Yellowknife Ar**	**56.81**	**33**	P	**P**	**16 18 16.5**	**+0.6**
	0.2nm,0.6s,baz=303,slow=6.7,SNR=4.1						

*IPEC **05** 16:12:39.0±0.3, 51°.52N×16°.21E, h0km, ML1.6/2, Error ellipse: s-maj=2.4km s-min=0.9km az=37.0*
*CSEM **05** 16:12:40.1±0.6, 51°.43N×16°.10E, h2km, ML2.6/9, Error ellipse: s-maj=9.1km s-min=4.6km az=26.0*

PRU 05 16:12:40.4, 51°.45N×16°.11E, h0km, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**169**	ePg	Pg	16 12 52.5	+0.2
KSP				eSg	Sg	16 13 01.3	+1.0
KSP	**Ksiaz**	**0.62**	**169**	ePg	Pg	16 12 52.5	+0.2
KSP				eSg	Sg	16 13 01.3	+1.0
UPC	**Upice**	**0.95**	**184**	ePG	Pg	16 12 58.5	-0.1
UPC				eSG	Sg	16 13 11.1	+0.2
	comp=Z,5.5nm,0.3s						
UPC	**Upice**	**0.95**	**184**	Pg	Pg	16 12 58.5	-0.1
UPC				Sg	Sg	16 13 11.1	+0.2
	5.5nm,0.3s						
DPC	**Dobruska-Polom**	**1.11**	**173**	ePG	Pg	16 13 01.3	-0.5
DPC				eSG	Sg	16 13 15.9	-0.3
	comp=Z,6.6nm,0.3s						
DPC	**Dobruska-Polom**	**1.11**	**173**	Pg	Pg	16 13 01.3	-0.5
DPC				Sg	Sg	16 13 15.9	-0.3
	6.6nm,0.3s						
PVCC	**Panska Ves**	**1.34**	**227**	ePG	Pg	16 13 05.8	-0.3
PVCC				eSG	Sg	16 13 23.6	+0.1
	comp=Z,36nm,0.4s						
PVCC	**Panska Ves**	**1.34**	**227**	Pg	Pg	16 13 05.8	-0.3
PVCC				Sg	Sg	16 13 23.6	+0.1
	36nm,0.4s						
KRLC	**Kraliky**	**1.44**	**163**	ePG	Pn	16 13 07.2	-0.6
KRLC				eSG	Sg	16 13 26.6	-0.3
KRLC	**Kraliky**	**1.44**	**163**	Pg	Pn	16 13 07.2	-0.6
KRLC				Sg	Sg	16 13 26.6	-0.3
BRG	**Berggiesshubel**	**1.48**	**248**	PG	Pn	16 13 07.9	-0.4
BRG				SG	Sg	16 13 28.0	0.0
	19nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.75**	**209**	ePG	Pb	16 13 13.6	+0.1
GOPC	**GO Pecny, Ondr**	**1.75**	**209**	Pg	Pb	16 13 13.6	+0.1
PRU	**Pruhonice**	**1.77**	**215**	ePG	Pb	16 13 13.2	-0.5
PRU				eSG	Sg	16 13 37.4	+0.1
	comp=Z,3.3nm,0.3s						
PRU	**Pruhonice**	**1.77**	**215**	Pg	Pb	16 13 13.2	-0.5
PRU				Sg	Sg	16 13 37.4	+0.1
	3.3nm,0.3s						
CLL	**Collm**	**1.95**	**267**	ePg	Pn	16 13 15.0	+0.2
CLL				eSg	Sb	16 13 42.0	+0.3
	comp=Z,6.0nm,0.5s						
OKC	**Ostrava-Krasne**	**2.07**	**140**	eSG	Sg	16 13 46.3	-0.7
	comp=Z,3.7nm,0.4s						
OKC	**Ostrava-Krasne**	**2.07**	**140**	Sg	Sg	16 13 46.3	-0.7
	comp=Z,3.7nm,0.4s						
VRAC	**Vranov**	**2.17**	**172**	ePn	Pn	16 13 17.3	-0.5
	baz=354						
VRAC				eSg	Sb	16 13 49.0	+1.1
	comp=Z,2.6nm,0.3s,baz=354						
KRUC	**Moravsky**	**2.40**	**176**	ePg	Pb	16 13 23.9	-0.5
	baz=357						
KRUC				eSg	Sg	16 13 56.1	-1.4
	comp=Z,2.8nm,0.3s,baz=357						
NKC	**Novy Kostel**	**2.62**	**244**	ePN	Pn	16 13 24.1	+0.1
NKC				ePG	Pg	16 13 30.2	-0.5
NKC				eSG	Sg	16 14 03.8	-0.9
	comp=Z,5.6nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**244**	Pn	Pn	16 13 24.1	+0.1
KHC	**Kasperske Hory**	**2.83**	**216**	ePN	Pn	16 13 26.5	-0.5
KHC				ePG	Pb	16 13 32.5	+0.6
KHC				eSG	Sg	16 14 09.7	-1.9
	comp=Z,2.8nm,0.5s						
KHC	**Kasperske Hory**	**2.83**	**216**	Pn	Pn	16 13 26.5	-0.5
KHC	**Kasperske Hory**	**2.83**	**216**	Pg	Pb	16 13 32.5	+0.6
KHC				Sg	Sg	16 14 09.7	-1.9
	comp=Z,2.8nm,0.5s						

*CSEM **05** 16:13:02.0±0.2, 44°.30N×18°.89E, h10km, ML2.2, Error ellipse: s-maj=4.5km s-min=3.8km az=7.0*

BEO 05 16:13:02.1±0.2**, 44°.31N×18°.84E, h12**km±2km**, ML2.2**/1**, 5C-7D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HAPS	**Han Pijesak,Bl**	**0.24**	**160**	ePg	Pg	16 13 06.7	-0.6
HAPS	**Han Pijesak,Bl**	**0.24**	**160**	ePg	Pg	16 13 06.7	-0.6
TEKS	**Tekeris**	**0.55**	**64**	i Pg	Pg	16 13 13.2	+0.3
TEKS				eSg	Sb	16 13 20.9	-0.6
TEKS	**Tekeris**	**0.55**	**64**	i Pg	Pg	16 13 13.2	+0.3
TEKS				eSg	Sb	16 13 20.9	-0.6
BBLS	**Lazići**	**0.60**	**137**	i Pg	Pg	16 13 12.6	-1.4
BBLS				eSg	Sg	16 13 21.0	-1.0
BBLS	**Lazići**	**0.60**	**137**	i Pg	Pg	16 13 12.6	-1.4
BBLS				eSg	Sg	16 13 21.0	-1.0
DIVS	**Divibare**	**0.85**	**104**	⇑iPg	Pg	16 13 17.2	-1.6
DIVS				eSg	Sg	16 13 28.6	-1.5
DIVS	**Divibare**	**0.85**	**104**	⇓iP	Pg	16 13 17.2	-1.6
DIVS	**Divibare**	**0.85**	**104**	⇓iP	Pg	16 13 17.2	-1.6
DIVS				eSg	Sg	16 13 28.6	-1.5
FGSL	**Fruska Gora**	**1.09**	**39**	⇓iPg	Pb	16 13 22.7	-0.3
FGSL				eSg	Sn	16 13 38.8	+0.5
FRGS	**Fruska Gora**	**1.09**	**39**	⇓iPg	Pb	16 13 22.7	-0.3
FRGS				eSg	Sn	16 13 38.8	+0.5
TRUS	**Trudelj**	**1.13**	**94**	⇑iPg	Pb	16 13 22.6	-0.9
TRUS				eSg	Sb	16 13 37.5	-0.7
TRUS	**Trudelj**	**1.13**	**94**	⇑iPg	Pb	16 13 22.6	-0.9
TRUS				eSg	Sb	16 13 37.5	-0.7
IVAS	**Ivanjica**	**1.20**	**127**	ePg	Pn	16 13 23.9	-0.8
IVAS				eSg	Sb	16 13 40.2	-0.1
IVAS	**Ivanjica**	**1.20**	**127**	ePg	Pn	16 13 23.9	-0.8
IVAS				eSg	Sb	16 13 40.2	-0.1
BLY	**Banja Luka**	**1.26**	**291**	ePg	Pg	16 13 26.3	-0.1
BLY				eSg	Sg	16 13 43.9	+1.0
BLY	**Banja Luka**	**1.26**	**291**	ePg	Pg	16 13 26.3	-0.1
BLY				eSg	Sg	16 13 43.9	+1.0
SJES	**Sjenica**	**1.33**	**142**	ePg	Pn	16 13 25.5	-1.1
SJES				eSg	Sg	16 13 45.9	+0.6
GRUS	**Gruza**	**1.42**	**107**	ePg	Pg	16 13 29.1	-0.2
GRUS				eSg	Sg	16 13 48.9	+1.2
GRUS	**Gruza**	**1.42**	**107**	ePg	Pg	16 13 29.1	-0.2
GRUS				eSg	Sg	16 13 48.9	+1.2
STON	**Ston**	**1.66**	**210**	ePn	Pb	16 13 31.9	-0.6
STON				Sn	Sb	16 13 53.5	+0.1
STON	**Ston**	**1.66**	**210**	ePn	Pb	16 13 32.2	-0.3
STON				eSg	Sg	16 13 56.2	+0.7
STON	**Ston**	**1.66**	**210**	ePn	Pb	16 13 32.2	-0.3
STON				Sn	Sb	16 13 53.4	0.0
STON				eSg	Sg	16 13 56.2	+0.7
SELS	**Selova**	**1.98**	**123**	i Pn	Pn	16 13 34.7	-0.7
SELS				eSg	Sg	16 14 05.3	-0.5
BZS	**Buzias**	**2.37**	**55**	ePn	Pn	16 13 39.7	-1.0
BZS				eSn	Sn	16 14 07.6	-2.0
BZS	**Buzias**	**2.37**	**55**	⇓iP	Pg	16 13 46.9	-0.6
BZS	**Buzias**	**2.37**	**55**	ePn	Pn	16 13 39.7	-1.0
BZS				eSn	Sn	16 14 07.6	-2.0
BARS	**Barje**	**2.63**	**124**	ePn	Pn	16 13 45.1	+0.8
BARS	**Barje**	**2.63**	**124**	ePn	Pn	16 13 45.1	+0.8
NVLJ	**Novalja**	**2.85**	**276**	ePn	Pn	16 13 49.0	+1.6
NVLJ	**Novalja**	**2.85**	**276**	ePn	Pn	16 13 48.9	+1.5
GZR	**Gura Zlata**	**3.00**	**67**	⇑iP	Pg	16 14 01.1	+1.4
PSZ	**Piszkesteto**	**3.68**	**11**	⇑iP	Pg	16 14 13.7	+0.9
ARSA	**Arzberg**	**3.75**	**323**	ePn	Pn	16 13 54.4	-5.3
ARSA	**Arzberg**	**3.75**	**323**	ePn	Pn	16 13 54.4	-5.3
TRPA	**Tarpa**	**4.60**	**33**	⇓iP	Pn	16 14 15.1	+3.7
TRPA	**Tarpa**	**4.60**	**33**	⇓iP	Pn	16 14 15.1	+3.7

IDC 05 16:16:35.4±2.9**, 6°.78S×128°.82E, h0**km**, mb3.6**/1**, mb1 3.8**/3**, mb1mx3.4**/29**, mbtmp3.6**/3**, ML3.9**/2**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.5**/25**, Error ellipse: s-maj=298.9km s-min=31.5km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.13**	**158**	Pn	Pn	16 19 56.0	-1.1
	0.6nm,0.3s,baz=335,slow=14,SNR=25						
WRA				Sn	Sn	16 22 21.1	-14
	0.9nm,0.3s,baz=330,slow=22,SNR=8.1						
ASAR	**Alice Springs**	**17.48**	**164**	P	P	16 20 41.5	-0.5
	0.3nm,0.3s,baz=347,slow=9.1,SNR=35						
ASAR				S	Sn	16 23 46.1	-10
	0.2nm,0.3s,baz=350,slow=26,SNR=7.1						
MJAR	**Matsushiro Arr**	**43.99**	**11**	LR	LR	16 39 16.7	
	comp=Z,34nm,21.4s,baz=280,slow=31						
MKAR	**Makanchi Array**	**67.41**	**327**	P	P	16 27 32.8	0.0
	0.2nm,0.3s,baz=111,slow=7.9,SNR=5.5						

IDC 05 16:22:46.1±1.3**, 24°.37S×67°.74W, h106**km±26km**, mb4.0**/2**, mb1 3.7**/6**, mb1mx3.4**/30**, mbtmp4.0**/6**, Error ellipse: s-maj=33.9km s-min=12.4km az=85.0, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.06**	**328**	P	Pn	16 23 21.4	+1.4
	500nm,0.3s,baz=121,slow=12,SNR=207						
LVC				S	Sn	16 23 45.9	+0.1
	2μm,0.3s,baz=327,slow=22,SNR=50						
CFAA	**Coronel Fontan**	**7.22**	**183**	P	Pn	16 24 30.9	+1.9
	0.1nm,0.3s,baz=2.4,slow=15,SNR=19						
CFAA				S	Sn	16 25 48.2	-1.3
	0.2nm,0.3s,baz=254,slow=16,SNR=14						
LPAZ	**La Paz**	**8.05**	**357**	P	Pn	16 24 41.4	+0.3
	0.3nm,0.3s,baz=154,slow=8.6,SNR=9.1						
SIV	**San Ignacio**	**10.42**	**38**	P	Pn	16 25 10.8	-1.7
	1.1nm,0.3s,baz=256,slow=9.5,SNR=12						
PLCA	**Paso Flores**	**16.49**	**188**	P	Pn	16 26 30.3	-0.8
	0.1nm,0.3s,baz=334,slow=16,SNR=3.3						
BDFB	**Brasilia**	**20.45**	**69**	P	P	16 27 16.1	+0.7
	5.7nm,0.4s,baz=238,slow=8.2,SNR=8.1						
TORD	**Torodi Ar. Bea**	**77.33**	**69**	P	P	16 34 29.4	-0.1
	1.7nm,0.6s,baz=256,slow=5.5,SNR=14						

GUC 05 16:31:33.2±0.5**, 35°.31S×72°.08W, h41**km±1km**, ML3.9, 2C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.37**	**104**	⇑iP	Pn	16 31 42.5	+0.1
TALC				i S	Sn	16 31 49.2	+0.4
LNCH	**Linares**	**0.66**	**144**	eP	Pn	16 31 46.1	-0.1
LNCH				i S	Sn	16 31 56.4	+0.9
NICH	**Los Niches**	**0.76**	**66**	⇓iP	Pn	16 31 48.0	+0.5
NICH				i S	Sn	16 31 58.7	+0.9
LNV	**Longovilo**	**1.46**	**22**	eP	Pn	16 31 58.0	+0.9
LNV				i S	Sn	16 32 17.1	+2.1
CACH	**El Canelo**	**1.70**	**46**	⇑iP	Pn	16 32 01.6	+1.0
CHCH	**Chadas Angostu**	**1.81**	**41**	eP	Pn	16 32 03.1	+1.2
CHCH				i S	Sn	16 32 25.6	+1.9
CLCH	**Cerro Calan**	**2.30**	**34**	⇓iP	Pn	16 32 09.8	+1.1
CLCH				i S	Sn	16 32 37.6	+1.9
CLCH				AML	AML	16 32 54.5	
	comp=E,993nm,0.6s						
PEL	**Peldehue**	**2.45**	**28**	eP	Pn	16 32 12.0	+1.3
PEL				AML	AML	16 32 55.4	
	comp=N,756nm,0.7s						
ROCH	**El Roble**	**2.49**	**21**	⇓iP	Pn	16 32 12.4	+0.8
ROCH				eS	Sn	16 32 43.1	+2.1
ROCH				AML	AML	16 32 51.5	
	comp=E,559nm,0.6s						

IDC 05 16:33:49.1±9.8**, 14°.95S×178°.93W, h273**km±89km**, mb3.6**/7**, mb1 3.7**/7**, mb1mx3.3**/32**, mbtmp4.2**/7**, Error ellipse: s-maj=43.7km s-min=21.9km az=62.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.48**	**188**	P	P	16 38 34.0	-0.6
	5.1nm,0.5s,baz=316,slow=4.1,SNR=6.5						
STKA	**Stephens Creek**	**39.69**	**238**	P	P	16 40 56.5	+1.0
	3.8nm,0.7s,baz=49,slow=7.7,SNR=8.8						
WRA	**Warramunga Arr**	**44.75**	**257**	P	P	16 41 35.4	-0.9
	0.3nm,0.5s,baz=92,slow=7.7,SNR=20						
WRA				PcP	PcP	16 43 12.2	-1.3
	0.2nm,0.3s,baz=88,slow=3.7,SNR=3.9						
ASAR	**Alice Springs**	**45.18**	**251**	P	P	16 41 39.5	-0.1
	3.2nm,0.3s,baz=85,slow=8.8,SNR=325						
VNDA	**Vanda**	**63.34**	**185**	P	P	16 43 49.1	+0.1
	0.7nm,0.8s,baz=356,slow=5.2,SNR=3.5						
MJAR	**Matsushiro Arr**	**65.25**	**323**	P	P	16 44 02.1	+0.1
	1.0nm,0.7s,baz=156,slow=6.6,SNR=4.5						
MAW	**Mawson**	**86.46**	**200**	P	P	16 46 01.4	+0.6
	3.4nm,0.6s,baz=140,slow=3.2,SNR=14						

*NIED **05** 16:36:00, 33°.10N×138°.30E, h300km, Mw4.6 Best double couple: Mo1.04000×10^16 NP1:φs34.00000°, δ22.00000°, λ142.00000°. NP2:φs159.00000°, δ77.00000°, λ72.00000°.*
*BJI **05** 16:36:35.0, 33°.00N×138°.43E, h306km, mb4.8/62, mB4.6/32*
*JMA **05** 16:36:37.6±0.4, 33°.09N×138°.34E, h340km±4km, M4.7 Broadband fault plane solution: P waves. NP1: φs142.00000°, δ74.00000°, λ65.00000°. NP2:φs21.00000°, δ29.00000°, λ146.00000°. Principal axes: T Plg54.0000°, Azm22.0000°; N Plg24.0000°, Azm149.0000°; P Plg25.0000°, Azm251.0000°;*
*ISCJB **05** 16:36:39.9±0.2, 32°.98N±0°.02×138°.06E±0°.02, h317km±1km, mb4.6/177 Error ellipse: s-maj=3.9km s-min=2.2km az=158.6*
*MOS **05** 16:36:39.2±1.0, 33°.07N×138°.07E, h314km, mb4.7/41, Error ellipse: s-maj=7.6km s-min=4.9km az=97.5*
*NEIC **05** 16:36:40.1±0.1, 33°.06N×138°.03E, mb4.8/109, MW4.6(NIED), Error ellipse: s-maj=4.6km s-min=3.0km az=149.0*
*IDC **05** 16:36:40.6±0.7, 33°.05N×138°.07E, h314km±6km, mb4.0/29, mb1 4.1/35, mb1mx4.1/40, mbtmp4.7/35, Error ellipse: s-maj=9.0km s-min=6.8km az=94.0*

ISC 05 16:36:40.3±0.3**, 33°.08N**±0°.04×**138°.04E**±0°.03**, h311**km±2km**, h311km:pP-P, n679, σ1s13**/794**, mb4.7**/197**, 123C-114D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.78**	**331**	eS	**S**	**16 37 55.0**	**+2.5**
TK02	**Tokai 2**	**0.89**	**345**	⇑P	**Pn**	**16 37 22.6**	**+1.6**
TTO3	**TONANKAI O.B.S**	**0.95**	**326**	⇑P	**Pn**	**16 37 23.3**	**+2.0**
TTO3				eS	**S**	**16 37 58.0**	**+3.9**
TTO2	**TONANKAI O.B.S**	**1.07**	**308**	⇑P	**Pn**	**16 37 23.9**	**+2.2**
TK03	**Tokai 3**	**1.08**	**357**	P	**Pn**	**16 37 23.8**	**+1.9**
TK03				eS	**S**	**16 37 58.5**	**+3.3**
TTO1	**TONANKAI O.B.S**	**1.18**	**297**	⇑P	**Pn**	**16 37 24.3**	**+2.0**
TTO5	**TONANKAI O.B.S**	**1.20**	**347**	⇑P	**Pn**	**16 37 24.1**	**+1.6**
JKO	**Kozu shima**	**1.43**	**39**	⇓P	**Pn**	**16 37 24.2**	**+0.2**
JHCJ	**Hachijojimakas**	**1.48**	**90**	⇓P	**Pn**	**16 37 23.5**	**-0.8**
JHJ2	**Mitsune**	**1.49**	**88**	P	**Pn**	**16 37 23.6**	**-0.8**
JHJ2	**Mitsune**	**1.49**	**88**	ePn	**Pn**	**16 37 23.4**	**-1.0**
JHJ2				eS	**S**	**16 37 59.5**	**-0.1**
JIE	**Ise**	**1.71**	**320**	⇑P	**Pn**	**16 37 27.1**	**+1.3**
JIE				eS	**S**	**16 38 03.7**	**+1.5**
JWZ	**Kozaga**	**2.00**	**284**	⇑P	**Pn**	**16 37 28.9**	**+0.9**
JWZ				eS	**S**	**16 38 07.2**	**+1.2**
JWY	**Kouya**	**2.33**	**300**	⇑P	**Pn**	**16 37 32.4**	**+1.7**
JWY				eS	**S**	**16 38 12.6**	**+1.5**
JOD2	**Odawara 2**	**2.34**	**21**	⇓P	**Pn**	**16 37 30.4**	**-0.3**
JOD2				eS	**S**	**16 38 11.4**	**+0.4**
JYN	**Shimob**	**2.44**	**10**	⇓P	**Pn**	**16 37 32.0**	**+0.4**
BSO1	**Boso 1**	**2.90**	**57**	⇓P	**Pn**	**16 37 32.5**	**-2.6**
BSO1				eS	**S**	**16 38 14.9**	**-4.2**
I30JP	**ISUMI INFRASON**	**2.91**	**40**	P	**Pn**	**16 37 34.5**	**-1.4**
I30JP				S	**S**	**16 38 20.5**	**+0.2**
JRY	**Ryogami san**	**3.01**	**13**	⇓P	**Pn**	**16 37 36.8**	**0.0**
JRY				eS	**S**	**16 38 20.6**	**-1.5**
JAI	**Aioi**	**3.08**	**284**	⇑P	**Pn**	**16 37 39.0**	**+1.5**
JAI				eS	**S**	**16 38 25.0**	**+1.6**
JWT	**Wachi**	**3.10**	**316**	⇑P	**Pn**	**16 37 39.0**	**+1.4**
JWT				eS	**S**	**16 38 24.9**	**+1.3**
MJAR	**Matsushiro Arr**	**3.45**	**2**	P	**Pn**	**16 37 41.0**	**-0.2**
	44nm,0.3s,baz=176,slow=12,SNR=1416						
MJAR				S	**S**	**16 38 27.7**	**-2.4**
	baz=278,slow=37,SNR=2.4						
MAJO	**Matsushiro**	**3.45**	**2**	eP	**Pn**	**16 37 41.2**	**0.0**
MAJO				eS	**S**	**16 38 30.2**	**+0.1**
MAJO	**Matsushiro**	**3.45**	**2**	ePn	**Pn**	**16 37 41.2**	**0.0**
MAJO				eS	**S**	**16 38 30.2**	**+0.1**
MAT	**Matsushiro**	**3.45**	**2**	P	**Pn**	**16 37 41.2**	**0.0**
MAT				S	**S**	**16 38 28.3**	**-1.8**
MAT	**Matsushiro**	**3.45**	**2**	P	**Pn**	**16 37 41.2**	**0.0**
MAT				eS	**S**	**16 38 28.8**	**-1.3**
JKG	**Kaga**	**3.48**	**337**	P	**Pn**	**16 37 42.5**	**+1.0**
JAG	**Ashikaga**	**3.53**	**19**	⇓P	**Pn**	**16 37 40.1**	**-1.9**
JMN	**Monobe**	**3.54**	**282**	⇑P	**Pn**	**16 37 44.0**	**+1.8**
JMN				eS	**S**	**16 38 33.6**	**+1.8**
JTO	**Tosashimizu**	**4.41**	**269**	P	**Pn**	**16 37 53.1**	**+1.6**
JHS	**Saijyo**	**4.51**	**296**	⇓P	**Pn**	**16 37 54.5**	**+1.8**
JHS				eS	**S**	**16 38 53.2**	**+2.4**
SAI	**Saigo**	**4.97**	**310**	P	**Pn**	**16 37 59.0**	**+1.2**
JNU	**Nakatsue**	**6.01**	**272**	P	**Pn**	**16 38 11.9**	**+1.8**
	6.5nm,0.3s,baz=82,slow=2.4,SNR=104						
JNU				S	**S**	**16 39 24.9**	**+2.5**
	0.6nm,0.3s,baz=174,slow=19,SNR=5.6						
JNU	**Nakatsue**	**6.01**	**272**	ePn	**Pn**	**16 38 11.8**	**+1.8**
JNU				eS	**S**	**16 39 23.2**	**+0.8**
JNU				S	S	16 39 24.9	+2.4
CBIJ	**Chichi jima**	**6.96**	**148**	P	Pn	16 38 16.2	-5.3
CBIJ				S	S	16 39 32.9	-10
JCJ	**Chichijima**	**6.96**	**148**	P	Pn	16 38 16.2	-5.3
	18nm,0.3s,baz=350,slow=22,SNR=90						
JCJ				S	S	16 39 32.9	-10
	262nm,0.3s,baz=315,slow=22,SNR=24						
KSBUS	**Busan**	**7.71**	**289**	P	**Pn**	**16 38 31.4**	**+1.1**
	SNR=12						
KSBUS	**Busan**	**7.71**	**289**	P	**Pn**	**16 38 31.4**	**+1.1**
	SNR=12						
KSPHA	**Pohang**	**7.79**	**296**	P	**Pn**	**16 38 32.7**	**+1.4**
	SNR=59						
KSPHA	**Pohang**	**7.79**	**296**	P	**Pn**	**16 38 32.7**	**+1.4**
	SNR=16						
KSULJ	**Uljin**	**7.96**	**299**	P	**Pn**	**16 38 34.7**	**+1.4**
	SNR=54						
KSULJ	**Uljin**	**7.96**	**299**	P	**Pn**	**16 38 34.9**	**+1.6**
	SNR=10						
KSDAG	**Daegu**	**8.02**	**292**	P	**Pn**	**16 38 35.4**	**+1.3**
	SNR=14						
KSDAG	**Daegu**	**8.02**	**292**	P	**Pn**	**16 38 35.3**	**+1.2**
	SNR=19						
KSYOC	**YEONGCHEON**	**8.03**	**294**	P	**Pn**	**16 38 35.9**	**+1.7**
	SNR=8.4						
KSYOC	**YEONGCHEON**	**8.03**	**294**	P	**Pn**	**16 38 35.9**	**+1.7**
	SNR=8.4						
KSEUS	**ULSEONG**	**8.36**	**296**	P	**Pn**	**16 38 40.0**	**+1.8**
	SNR=11						
KSEUS	**ULSEONG**	**8.36**	**296**	P	**Pn**	**16 38 40.0**	**+1.8**
	SNR=11						
KSTBA	**Taebaek**	**8.47**	**301**	P	**Pn**	**16 38 41.5**	**+1.9**
	SNR=128						
KSTBA	**Taebaek**	**8.47**	**301**	P	**Pn**	**16 38 41.6**	**+2.0**

SNR=5.8
KSJIN Jinju 8.55 287 P **Pn** 16 38 42.7 +2.1
SNR=8.9
KSJIN Jinju 8.55 287 P **Pn** 16 38 42.7 +2.1
SNR=8.9
KSNAH Namhae 8.58 284 P **P** 16 38 43.2 -2.4
SNR=26
KSNAH Namhae 8.58 284 P **P** 16 38 43.2 -2.4
SNR=26
KSSAJ Sangju 8.78 295 P **Pn** 16 38 45.4 +2.0
SNR=14
KSSAJ Sangju 8.78 295 P **Pn** 16 38 45.4 +2.0
SNR=14
KSJES JEONGSEON 8.81 302 P **Pn** 16 38 45.5 +1.8
SNR=8.6
KSJES JEONGSEON 8.81 302 P **Pn** 16 38 45.5 +1.8
SNR=8.6
KSYOW Yeongwol 8.85 300 P **P** 16 38 46.4 -2.1
SNR=9.7
KSCPR CHUPUNGNYEONG 8.87 293 P **P** 16 38 46.5 -2.2
SNR=19
KSDGY Daegwallycong 8.92 304 P **Pn** 16 38 46.8 +1.7
SNR=16
KSDGY Daegwallycong 8.92 304 P **Pn** 16 38 46.8 +1.7
SNR=16
KSJMJ Jumunjin 8.96 305 P **Pn** 16 38 47.2 +1.8
SNR=63
KSCHJ Chungju 9.08 297 P **Pn** 16 38 49.0 +1.9
SNR=7.2
KSKOH Goheung 9.09 283 P **P** 16 38 49.5 -1.7
SNR=26
KSBON Boeun 9.09 295 P **P** 16 38 49.5 -1.7
SNR=45
KSWJU Wonju 9.23 301 P **P** 16 38 51.0 -1.8
SNR=17
KSJEO Jeonju 9.31 291 P **P** 16 38 52.0 -1.8
SNR=7.8
KSSKC Sokcho 9.32 307 P **P** 16 38 51.8 -2.0
SNR=18
KSRS Korea Array 9.35 301 P **P** 16 38 52.5 -1.6
7.9nm,0.3s,baz=112,slow=13,SNR=487
KSRS S **S** 16 40 38.9 +2.6
baz=106,slow=22,SNR=2.2
KSRS ScP **ScP** 16 47 39.1 +0.1
0.1nm,0.3s,baz=132,slow=0.7,SNR=10
KSAR Wonju Array Be 9.37 300 P **P** 16 38 52.5 -1.9
KSAR S **S** 16 40 38.9 +2.0
KSAR Wonju Array Be 9.37 300 P **P** 16 38 52.5 -1.9
KSAR S **S** 16 40 38.9 +2.0
KSAR ScP **ScP** 16 47 39.1 +0.1
KSTEJ Daejeon 9.37 293 P **P** 16 38 53.0 -1.4
SNR=12
TJN Taejon 9.38 293*d i* P **Pn** 16 38 52.4 +1.7
KSKWJ Gwangju 9.39 286 P **P** 16 38 52.9 -1.7
SNR=9.3
KSIJA INJE 9.45 304 P **P** 16 38 53.4 -1.9
SNR=32
KSGWJ Gwangju-acc 9.47 286 P **P** 16 38 54.0 -1.5
SNR=7.7
SEHB SEOHWA 9.49 306 P **P** 16 38 54.1 -1.6
SNR=23
KSJEU Jeongeup 9.50 288 P **P** 16 38 54.7 -1.1
SNR=9.1
KSWAN Wando 9.53 281 P **P** 16 38 55.1 -1.1
SNR=14
KSCHC Chuncheon 9.57 302 P **P** 16 38 54.9 -1.6
SNR=30
KSCEA Cheonan 9.60 296 P **P** 16 38 55.8 -1.1
SNR=12
KSJJU Jeju 9.63 275 P **P** 16 38 56.3 -1.0
SNR=12
KSICN Icheon 9.65 299 P **P** 16 38 56.2 -1.2
SNR=6.3
KSGUS GUNSAN 9.74 291 P **P** 16 38 58.2 -0.3
SNR=10.0
ERM Erimo 9.79 23 ⇑*e*P **Pn** 16 38 53.4 -2.2
ERM pmax pmax
comp=Z,45nm,0.8s
ERM Erimo 9.79 23 *e*Pn **Pn** 16 38 53.6 -2.1
comp=Z,46nm,0.7s
KSJDO Jindo 9.86 281 P **P** 16 38 59.4 -0.4
SNR=7.7
KSCWO Cheorwon 9.91 303 P **P** 16 38 59.4 -1.0
SNR=11
KSSWO Suwon 9.98 298 P **P** 16 38 60.0 -1.1
SNR=71
KSSEO Seoul 10.10 299 P **P** 16 39 01.7 -0.6
SNR=7.5
KSDDC Dongducheon 10.16 301 P **P** 16 39 02.2 -0.9
SNR=7.0
INCN Inchon 10.30 298 Pn **Pn** 16 39 02.4 +0.4
YNCB YEONCHEON 10.31 302 P **P** 16 39 04.5 -0.3
SNR=8.6
JOW Kunigami 10.51 236 P **Pn** 16 39 05.8 +1.2
baz=73,slow=14
JOW Kunigami 10.51 236 *e*Pn **Pn** 16 39 04.8 +0.2
VLA Vladivostok 11.13 336 ⇑*e*P **P** 16 39 12.7 -1.1
VLA *e*S **S** 16 41 14.1 -2.2
VLA pmax pmax
comp=Z,119nm,1.0s
ASAJ Asahikawa 11.58 17 P **Pn** 16 39 17.0 -0.3
comp=Z,3.4nm,0.3s,baz=211,slow=12,SNR=30
ASAJ S S 16 41 17.7 -8.7
baz=18,slow=19
ASAJ Asahikawa 11.58 17 P **Pn** 16 39 17.0 -0.3
ASAJ S S 16 41 17.7 -8.7
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
USRK Ussuriysk Ar. 12.06 339 P **Pn** 16 39 23.2 +0.1
comp=Z,4.9nm,0.3s,baz=146,slow=9.2,SNR=61
USRK S **S** 16 41 39.3 +2.1
baz=132,slow=39,SNR=3.7
YUK Yuzh-Kuril'sk 12.52 27 ⇑*e*P **P** 16 39 30.7 +1.5
MDJ Mudanjiang 13.26 333 *e*P **P** 16 39 36.7 -0.7
comp=Z,75nm,1.0s
KUR Kuril'sk 14.31 29 P **P** 16 39 48.9 -0.1
KUR *e*S **S** 16 42 26.6 +0.8
KUR pmax pmax
comp=Z,8.0nm,1.0s
YSS Yuzh-Sakhalins 14.31 13 ⇑*i*P **Pn** 16 39 50.0 0.0
YSS *e*S S 16 42 19.0 -6.8
YSS pmax pmax
comp=Z,170nm,0.8s
YSS Yuzh-Sakhalins 14.31 13 *e*P **P** 16 39 48.5 -0.4
CN2 Changchun 14.54 321 ⇑P **P** 16 39 51.4 -0.1
CN2 *e*sP 16 41 02.4
CN2 *e*S S 16 42 24.0 -6.4
CN2 PMZ
comp=Z,40nm,0.7s
CN2 PMZ
comp=Z,200nm,4.0s
HABR Khabarovsk 15.54 353 *e*P **P** 16 40 02.0 -0.4
HABR *e*S **S** 16 42 51.0 +0.8
HABR pmax pmax
comp=N,7.0nm,0.7s
HABR pmax pmax
comp=Z,28nm,1.4s
HABR pmax pmax
comp=E,13nm,0.7s
NJ2 Nanjing 16.21 272 *e*P **P** 16 40 10.6 +0.6
NJ2 PMZ
comp=E,50nm,1.0s
UGL Uglegorsk 16.26 9 *e*P **P** 16 40 09.8 -0.5
UGL *e*S **S** 16 43 05.7 +1.1
KLR Kul'dur 16.80 346 *e*P **P** 16 40 11.8 -4.4
TIA Tai'an 17.49 286 ⇓P **P** 16 40 24.3 +0.5
TIA PMZ
comp=E,70nm,0.6s
TIA PMZ
comp=E,330nm,3.1s
SSLB Suanglung 17.63 243 *e*P **P** 16 40 24.5 -1.0
comp=E,44nm,1.2s
TYV Tymovskoe 18.09 9 *e*P **P** 16 40 31.2 +1.2
TYV pmax pmax
comp=E,31nm,0.8s
TYV pmax pmax
comp=Z,75nm,0.8s
BJT Baijiatuan 18.86 298 *e*P **P** 16 40 37.6 -0.8
BJT pmax pmax
comp=Z,72nm,0.5s
BJT Baijiatuan 18.86 298 *e*P **P** 16 40 37.6 -0.8
comp=Z,72nm,0.5s
BJI Beijing 18.86 298 P **P** 16 40 38.0 -0.4
BJI sP **sP** 16 42 02.0 -2.9
BJI S **S** 16 43 56.3 +0.3
BJI PMZ
comp=Z,140nm,0.7s

NKL Nikolayevsk 20.15 5 *e*P **P** 16 40 51.7 0.0
NKL pmax pmax
comp=N,20nm,0.7s
NKL pmax pmax
comp=Z,40nm,0.7s
WHN Wuhan 20.28 269 ⇑P **P** 16 40 53.0 -0.4
HIA Hailar 21.15 325 *e*P **P** 16 41 00.6 -0.9
HIA pmax pmax
comp=Z,55nm,0.9s
HIA Hailar 21.15 325 *e*P **P** 16 41 00.6 -0.9
comp=Z,55nm,0.9s
SKR Severo-Kuril's 22.04 32 *e*P P 16 40 58.8 -11
HHC Hu-ho-hao-te 22.47 298 *e*P **P** 16 41 13.7 0.0
HHC sP **sP** 16 42 47.8 +3.2
HHC S **S** 16 44 52.8 -4.2
HHC PcP **PcP** 16 45 00.6 +3.8
HHC ScS **ScS** 16 51 50.6 +0.6
HHC PMZ
comp=Z,40nm,0.7s
HHC PMZ
comp=Z,190nm,3.9s
XAN Xi'an 24.25 280 P **P** 16 41 29.7 -0.2
XAN PMZ
comp=Z,37nm,0.7s
ENH Enshi 24.43 271 *e*P **P** 16 41 31.1 -0.4
comp=Z,53nm,0.8s
PETK Petropavlovsk- 24.48 29 P **P** 16 41 32.4 +0.7
comp=Z,14nm,0.9s,baz=222,slow=8.1,SNR=19
PET Petropavlovsk 24.82 30 *i* P **P** 16 41 34.7 +0.1
PET pmax pmax
comp=Z,25nm,1.1s
CIT Chita 25.94 324 *e*P **P** 16 41 45.3 +0.6
CIT pmax pmax
comp=Z,25nm,1.7s
GYA Guiyang 27.96 265 ⇑*i*P **P** 16 42 02.1 -0.9
GYA pP **pP** 16 43 01.8 -0.2
GYA PP **PnPn** 16 43 10.0 +0.5
GYA sP **sP** 16 43 37.4 -0.8
GYA PcP **PcP** 16 45 11.2 +1.7
GYA S **S** 16 46 23.6 -0.2
GYA sS **sS** 16 48 07.0 -4.6
GYA ScP **ScP** 16 48 20.3 0.0
GYA ScS **ScS** 16 52 13.8 +0.3
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.9s
SONM Songino Array 27.99 311 P **P** 16 42 04.3 +1.2
comp=Z,29nm,0.7s,baz=125,slow=9.2,SNR=62
SONM PcP **PcP** 16 45 10.4 +1.1
comp=Z,0.4nm,0.4s,baz=126,slow=4.7,SNR=2.8
SONM ScP **ScP** 16 48 19.2 -0.8
comp=Z,1.1nm,0.8s,baz=144,slow=3.0,SNR=5.2
LZH Lanzhou 28.23 286 ⇑P **P** 16 42 05.7 +0.3
LZH pP **pP** 16 43 05.0 +0.6
LZH sP **sP** 16 43 39.3 -1.4
LZH S **S** 16 46 24.3 -3.7
LZH PMZ
comp=Z,46nm,1.0s
LZH PMZ
comp=Z,170nm,4.2s
QIZ Qiongzhong 28.83 248 P **P** 16 42 09.8 -0.9
QIZ pP **pP** 16 43 08.0 -1.8
QIZ sP **sP** 16 43 43.2 -2.8
QIZ S **S** 16 46 38.2 +0.8
QIZ PMZ
comp=Z,15nm,1.6s
CD2 Chengdu 29.08 275 P **P** 16 42 12.0 -0.8
CD2 pP **pP** 16 43 10.4 -1.7
CD2 PP **PP** 16 43 24.6 -1.1
CD2 sP **sP** 16 43 46.3 -2.0
CD2 S **S** 16 46 40.8 -0.5
CD2 sS **sS** 16 48 27.9 -1.3
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,120nm,5.6s
YAK Yakutsk 29.46 352 P **P** 16 42 15.7 +0.1
comp=Z,2.0nm,0.3s,baz=159,slow=23,SNR=10
YAK S **S** 16 46 43.3 -2.9
comp=Z,1.2nm,0.4s,baz=191,slow=24,SNR=8.2
YAK Yakutsk 29.46 352 *e*P **P** 16 42 15.2 -0.4
YAK *e* 16 45 11.6
YAK *e*S **S** 16 46 47.5 +1.3
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK smax smax
comp=N,106nm,1.7s
YAK smax smax
comp=E,30nm,1.4s
ZAK Zakamensk 30.80 315 *e*P P 16 42 22.6 -5.2
ZAK pmax pmax
comp=Z,7.0nm,1.5s
TLY Talaya 31.08 317 P **P** 16 42 32.0 +2.0
comp=Z,11nm,0.8s,baz=273,slow=7.0,SNR=5.7
TLY Talaya 31.08 317 *e*P **P** 16 42 31.7 +1.6
TLY pmax pmax
comp=Z,12nm,0.9s
TLY Talaya 31.08 317 P **P** 16 42 32.0 +2.0
comp=Z,1.5nm,0.9s
SEY Seymchan 31.22 13 P **P** 16 42 31.5 +0.5
comp=Z,3.1nm,0.6s,baz=196,slow=7.5,SNR=38
SEY PcP **PcP** 16 45 17.1 0.0
comp=Z,2.3nm,0.9s,baz=236,slow=3.6,SNR=2.8
SEY Seymchan 31.22 13 ⇓*e*P **P** 16 42 31.9 +0.9
GTA Gaotai 31.30 293 ⇓P **P** 16 42 32.2 -0.1
GTA pP **pP** 16 43 33.2 +1.3
GTA sP **sP** 16 44 09.6 +1.6
GTA S **S** 16 47 14.7 -1.1
GTA ScP **ScP** 16 48 30.7 -0.2
GTA sS **sS** 16 49 03.5 -0.6
GTA SS SS 16 49 32.0 -10
GTA PMZ
comp=Z,15nm,1.3s
GTA PMZ
comp=Z,46nm,6.2s
KMI Kunming 31.73 265 P **P** 16 42 35.9 -0.4
KMI pP **pP** 16 43 34.1 -2.0
KMI S **S** 16 47 22.8 -0.2
KMI PMZ
comp=Z,23nm,0.7s
KDM Kudat 32.64 222 ⇑P **P** 16 42 43.0 -1.0
KKM Kota Kinabalu 33.70 222 ⇑P **P** 16 42 52.3 -0.9
TSM Tawau 34.28 218 ⇑P **P** 16 42 57.6 -0.4
SIJI Sorong 34.37 192 P **P** 16 42 57.9 -0.9
comp=Z,8.1nm,0.6s,baz=2.4,slow=14,SNR=4.2
UBPT Khong Chiam 34.40 247 P **P** 16 42 59.9 +0.9
comp=Z,32nm,1.2s
SKNT Sakolnakorn 34.59 251 P **P** 16 43 01.8 +1.1
comp=Z,22nm,1.3s
KMSI Cibinong 34.94 205 P **P** 16 43 02.7 -0.9
comp=Z,98nm,0.7s
MRSI Marisa 35.80 208 P **P** 16 43 09.5 -1.4
comp=Z,38nm,1.3s
LOEI Loei 36.47 254 P P 16 43 13.3 -3.3
comp=Z,31nm,0.8s
SANI Sanana 36.75 200 P **P** 16 43 16.8 -2.1
comp=Z,51nm,0.6s
CHAI Chaiyaphum 36.77 251 P **P** 16 43 18.8 -0.3
comp=Z,9.5nm,0.5s,comp=Z,137nm
MPSI Mapaga 36.78 211 P **P** 16 43 18.0 -1.1
comp=Z,13nm,0.7s
HVS Khovu-Aksy 36.85 313*d i* P **P** 16 43 20.7 +1.3
LUWI Luwuk 36.87 206 P **P** 16 43 18.4 -1.5
comp=Z,44nm,1.1s
UTTA Uttaradit 36.92 255 P **P** 16 43 20.7 +0.4
comp=Z,6.6nm,0.7s,comp=Z,61nm
CMAI Chiengmai2 37.06 259 P **P** 16 43 23.7 +2.0
comp=Z,98nm,0.9s
APSI Ampana 37.18 208 P **P** 16 43 21.3 -1.2
comp=Z,78nm,1.0s,comp=Z,755nm
PBKT Sadao Pong 37.21 253 P **P** 16 43 23.2 +0.4
comp=Z,23nm,0.9s
LAMP Lampang 37.27 257 P **P** 16 43 24.8 +1.5
comp=Z,7.2nm,0.7s,comp=Z,71nm
CMMT Chiang Mai 37.69 258 P **P** 16 43 27.0 +0.2
comp=Z,16nm,1.0s
CHTO Chiang Mai 37.69 258 P **P** 16 43 27.4 +0.6
comp=Z,55nm,1.3s
CHTO Chiang Mai 37.69 258 *e*P **P** 16 43 25.6 -1.1
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 37.69 258 *e*P **P** 16 43 25.6 -1.1

comp=Z,8.3nm,0.8s
BTM Bintulu 37.80 223 ⇑P **P** 16 43 27.2 -0.5
CM31 Chiang Mai Arr 37.87 257 *e*P **P** 16 43 27.9 -0.4
comp=Z,6.0nm,0.6s
CMAR Chiang Mai Arr 37.87 257 P **P** 16 43 28.1 -0.2
comp=Z,4.7nm,0.7s,baz=49,slow=7.5,SNR=47
CMAR pP **pP** 16 44 30.0 +0.4
comp=Z,0.6nm,0.8s,baz=41,slow=8.4,SNR=1.1
CMAR ScP **ScP** 16 48 54.9 +0.1
comp=Z,0.8nm,0.7s,baz=39,slow=3.4,SNR=8.0
PCI Palu 37.92 211 P **P** 16 43 27.2 -1.4
comp=Z,43nm,1.3s
GSTR Great Sitkin T 38.00 46 *e*P **P** 16 43 29.1 +0.1
CHBT CHBT 38.35 247 P **P** 16 43 33.6 +1.4
comp=Z,25nm,1.0s
SBUM Sibu 38.91 224 *e*P **P** 16 43 36.7 -0.1
comp=Z,17nm,1.1s
ATKA Atka Island 39.15 46 *e*P **P** 16 43 38.2 -0.2
comp=Z,15nm,1.0s
LSA Lhasa 39.91 278 P **P** 16 43 44.8 -0.7
LSA Lhasa 39.91 278 *e*P **P** 16 43 45.2 -0.3
LSA pmax pmax
comp=Z,23nm,0.8s
LSA Lhasa 39.91 278 *e*P **P** 16 43 45.2 -0.3
comp=Z,23nm,0.8s
SRDT SRDT 39.93 252 P **P** 16 43 46.5 +1.3
comp=Z,53nm,1.0s,comp=Z,17µm
WMQ Urumqi 40.30 301 P **P** 16 43 48.4 +0.4
WMQ pP **pP** 16 44 52.4 +2.3
WMQ sP **sP** 16 45 28.0 +2.4
WMQ PMZ
comp=Z,12nm,0.4s
WMQ PMZ
comp=Z,44nm,4.3s
WMQ LN
comp=Z,51nm,9.8s
WMQ LE
comp=Z,34nm,10.2s
WMQ LZ
comp=Z,56nm,12.5s
SPSI Sidrap Palu 40.71 209 P **P** 16 43 50.4 -1.1
comp=Z,20nm,1.1s
KSM Kuching 40.82 225 *e*P **P** 16 43 52.5 0.0
comp=Z,13nm,0.4s
STKI Sintang 41.28 223 P **P** 16 43 55.8 -0.3
comp=Z,22nm,1.2s,comp=Z,3µm
KAPI Kappang 41.67 208 P **P** 16 43 59.1 -0.1
comp=Z,17nm,0.7s,baz=12,slow=2.5,SNR=11
KAPI Kappang 41.67 208 *e*P **P** 16 43 58.5 -0.8
comp=Z,38nm,1.1s
BKSI Bulukumba 41.81 207 P **P** 16 43 59.3 -1.1
comp=Z,18nm,1.1s
BBKI Banjar Baru 42.47 216 P **P** 16 44 04.5 -1.2
comp=Z,65nm,0.8s,comp=Z,3µm
NIKH Nikolski High 42.48 46 *e*P **P** 16 44 04.2 -1.1
comp=Z,70nm,0.7s
ZALV Zalesovo Beam 42.66 316 P **P** 16 44 06.9 +0.1
comp=Z,3.6nm,0.5s,baz=94,slow=7.6,SNR=11
ZALV PcP **PcP** 16 45 52.1 -0.2
comp=Z,3.1nm,0.3s,baz=101,slow=3.1,SNR=6.4
ZALV ScP **ScP** 16 49 11.9 -1.1
comp=Z,2.5nm,0.5s,baz=120,slow=3.7,SNR=6.8
SRIT Nakonsritamara 43.03 244 P **P** 16 44 11.8 +1.6
comp=Z,52nm,1.1s
SKLT Songkhla 43.20 242 P **P** 16 44 12.8 +1.2
comp=Z,54nm,0.8s
SURT Suratani 43.41 245 P **P** 16 44 14.5 +1.2
comp=Z,24nm,1.4s
TAPN Taplejung 43.53 276 *e*P **P** 16 44 14.6 +0.1
comp=Z,20nm,0.4s
NVS Novosibirsk 43.69 317 *e*P **P** 16 44 14.8 -0.1
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=Z,11nm,0.7s
NVS pmax pmax
comp=E,8.0nm,0.7s
ODAN Odare 43.97 276 *e*P **P** 16 44 18.0 +0.1
comp=E,84nm,0.7s
MK31 Makanchi Array 44.00 305 *e*P **P** 16 44 17.9 +0.4
MK31 pmax pmax
comp=Z,4.0nm,0.4s
MK31 Makanchi Array 44.00 305 *e*P **P** 16 44 17.4 -0.2
MKAR Makanchi Array 44.00 305 P **P** 16 44 17.9 +0.4
comp=Z,3.7nm,0.3s,baz=87,slow=9.3,SNR=106
MKAR ScP **ScP** 16 49 17.6 -1.0
comp=Z,2.3nm,0.6s,baz=82,slow=6.0,SNR=14
KULM Kulim 44.44 240 *e*P **P** 16 44 21.3 -0.1
comp=Z,5.6nm,0.8s
RAMN Ramite 44.60 276 *e*P **P** 16 44 22.9 +0.1
comp=Z,199nm,0.8s
JIRN Jiri 44.69 277 *e*P **P** 16 44 24.3 +0.6
comp=Z,152nm,0.6s
IPM Ipoh 44.73 239 *e*P **P** 16 44 22.9 -0.8
comp=Z,38nm,0.7s
GUN Gumba 44.87 278 *e*P **P** 16 44 25.4 +0.4
comp=Z,106nm,0.8s
PKI Pulchoki 45.38 278 *e*P **P** 16 44 28.8 -0.2
comp=Z,83nm,0.9s
KKN Kakani 45.41 278 *e*P **P** 16 44 29.2 +0.1
comp=Z,115nm,0.9s
DMN Daman 45.61 278 *e*P **P** 16 44 30.8 +0.1
TPI Tanjungpandan 45.78 225 P **P** 16 44 32.6 +0.8
comp=Z,44nm,0.8s
GKN Gorkha 45.87 278 *e*P **P** 16 44 32.6 0.0
comp=Z,122nm,1.0s
PPBI Pangkal Pinang 46.22 227 P **P** 16 44 35.8 +0.6
comp=Z,24nm,1.0s,comp=Z,3µmcomp=Z,15µm
KURK Kurchatov 46.30 311 *e*P **P** 16 44 35.3 -0.1
KURK pmax pmax
comp=Z,24nm,0.6s
KURK Kurchatov 46.30 311 *e*P **P** 16 44 35.3 -0.1
comp=Z,24nm,0.6s
KOLN Koldanda 46.81 279 *e*P **P** 16 44 40.1 +0.2
PSI Prapat 47.39 239 *e*P **P** 16 44 43.7 -0.7
PSI pmax pmax
comp=Z,21nm,0.8s
PSI Prapat 47.39 239 *e*P **P** 16 44 43.7 -0.7
comp=Z,21nm,0.8s
SDPT Sand Point 47.55 43 *e*P **P** 16 44 44.2 -0.7
comp=Z,61nm,0.8s
KPJI Karang Pucung 48.80 220 P **P** 16 44 55.4 +0.5
comp=Z,75nm,1.4s,comp=Z,1µm
LEM Lembang 49.10 222 P **P** 16 44 57.4 +0.1
comp=Z,90nm,0.8s
LHSI Lahat 49.14 228 P **P** 16 44 58.1 +0.6
comp=Z,79nm,0.9s
TKM2 Tokmak 2 49.16 301 P **P** 16 44 57.8 +0.2
TKM2 pmax pmax
comp=Z,4.0nm,0.7s
TKM2 Tokmak 2 49.16 301 *e*P **P** 16 44 55.5 -2.1
comp=Z,3.0nm,0.5s
MDSI Maura Dua 49.24 227 P **P** 16 44 57.7 -0.6
comp=Z,52nm,0.9s
GSI Gunungsitoli 49.40 239 P **P** 16 44 59.7 +0.3
GSI Gunungsitoli 49.40 239 *e*P **P** 16 44 58.2 -1.2
comp=Z,136nm,0.7s
KSH Kashi 49.57 296 P P 16 45 04.5 +3.9
KSH PcP **PcP** 16 46 19.6 +2.4
KSH PP PP 16 47 06.3 +8.1
KSH PcS **PcS** 16 50 15.1 +0.6
KSH S **S** 16 51 47.2 +2.8
KSH sS sS 16 53 47.2 +7.3
KSH ScS **ScS** 16 54 14.4 -4.5
KSH PMZ
comp=Z,14nm,0.6s
KSH PMZ
comp=Z,130nm,5.5s
KSH LN
comp=Z,110nm,5.4s
KSH LE
comp=Z,100nm,5.1s
KSH LZ
comp=Z,92nm,5.3s
AAK Ala-Archa 50.01 300 P **P** 16 45 03.9 0.0
comp=Z,3.0nm,0.6s,baz=102,slow=6.1,SNR=11
AAK Ala-Archa 50.01 300*d i* P **P** 16 45 04.2 +0.3
AAK pmax pmax
comp=Z,10.0nm,0.7s
AAK Ala-Archa 50.01 300 *e*P **P** 16 45 03.1 -0.9
comp=Z,4.3nm,0.8s
CHLP Challavanipeta 50.22 267 *e*P **P** 16 45 05.8 +0.2
CHLP IAmb IAmb 16 45 07.4
comp=Z,30nm,0.8s
CHLP *e*pP **pP** 16 46 10.2 -0.4
CHLP *e*PcP **PcP** 16 46 19.4 -0.3
CHLP *e*PP **PP** 16 47 04.4 +0.1

CHLP eS S 16 51 53.3 -0.1
CHLP eSS SS 16 55 28.3 -2.9
BVA0 Borovoye Array 51.26 314 *i* P P 16 45 12.7 -0.1
BVA0 pmax pmax
comp=Z,4.0nm,0.5s
BVAR Borovoye Array 51.26 314 P P 16 45 13.1 +0.3
comp=Z,6.3nm,0.5s,baz=103,slow=6.5,SNR=33
SFK Sufi-Kurgan 51.31 297 P P 16 45 13.8 +0.1
SFK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 51.32 314⇑ *i* P P 16 45 13.8 +0.6
BRVK pmax pmax
comp=Z,17nm,2.5s
BRVK Borovoye 51.32 314 eP P 16 45 11.5 -1.7
IM04 Indian Mountai 51.43 29 eP P 16 45 14.5 +0.6
MNAS Manas 51.48 301 P P 16 45 15.3 +0.5
RSO Redoubt South 51.71 36 eP P 16 45 15.9 -0.3
comp=Z,106nm,0.8s
KDAK Kodiak Island 51.89 40 eP P 16 45 17.1 -0.2
KDAK pmax pmax
comp=Z,66nm,0.7s
KDAK Kodiak Island 51.89 40 eP P 16 45 17.1 -0.2
comp=Z,66nm,0.7s
PPLA Purkeypile 51.98 33 eP P 16 45 19.4 +1.3
comp=Z,37nm,0.5s
BPAW Bear Paw Mtn. 52.53 32 eP P 16 45 22.8 +0.8
comp=Z,12nm,1.7s
KTH Kantishna Hill 52.56 32 eP P 16 45 22.5 +0.2
comp=Z,17nm,0.8s
BRLK Bradley Lake 52.67 37 eP P 16 45 22.5 -0.6
comp=Z,113nm,1.4s
KK31 Karatay Array 52.78 302 *i* P P 16 45 24.3 +0.2
KK31 pmax pmax
comp=Z,7.0nm,0.5s
KKAR Karatay Array 52.78 302 eP P 16 45 24.0 -0.1
KKAR Karatay Array 52.78 302 eP P 16 45 24.0 -0.1
WRAB Tennant Creek 52.84 184 *de*P P 16 45 23.8 -0.8
WRAB pmax pmax
comp=Z,31nm,0.9s
WRAB Tennant Creek 52.84 184 eP P 16 45 23.9 -0.8
comp=Z,15nm,1.0s
TRF Thorofare Moun 52.84 32 eP P 16 45 24.8 +0.3
WRA Warramunga Arr 52.84 184 P P 16 45 23.9 -0.8
comp=Z,10nm,0.4s,baz=0.2,slow=7.7,SNR=266
WRA pP pP 16 46 30.6 0.0
comp=Z,2.9nm,0.8s,baz=4.1,slow=7.6,SNR=1.3
WRA ScP ScP 16 49 56.0 -0.4
comp=Z,1.0nm,0.8s,baz=2.5,slow=4.4,SNR=4.5
PVM Polavaram 52.85 267 eP P 16 45 25.2 +0.3
PVM IAmb IAmb 16 45 26.5
comp=Z,21nm,0.8s
PVM epP PcP 16 46 30.0 +0.4
PVM eS S 16 52 29.7 +0.5
COLD Coldfoot 52.93 28 eP P 16 45 25.1 +0.3
comp=Z,5.6nm,0.7s
RC01 Rabbit Creek A 53.17 35 eP P 16 45 26.8 +0.2
comp=Z,10nm,0.4s
BWN Browne 53.20 31 eP P 16 45 27.4 +0.6
comp=Z,52nm,0.6s
SEW Seward 53.37 37 eP P 16 45 28.0 0.0
comp=Z,43nm,0.8s
PMR Palmer 53.44 35 eP P 16 45 28.5 0.0
PMR pmax pmax
comp=Z,46nm,1.0s
PMR Palmer 53.44 35 eP P 16 45 28.5 0.0
comp=Z,46nm,1.0s
MCK McKinley 53.44 32 eP P 16 45 28.7 +0.1
MCK pmax pmax
comp=Z,108nm,1.7s
MCK McKinley 53.44 32 eP P 16 45 28.6 +0.1
comp=Z,108nm,1.7s
CTA Charters Tower 53.45 170 P P 16 45 29.1 -0.1
comp=Z,1.4nm,0.4s,baz=339,slow=7.3,SNR=4.4
COLA College 53.88 31⇓ eP P 16 45 32.8 +1.2
COLA pmax pmax
comp=Z,78nm,0.8s
COLA College 53.88 31 P P 16 45 29.8 -1.8
comp=Z,19nm,0.7s
CCB Clear Creek Bu 53.91 31 eP P 16 45 31.8 -0.1
comp=Z,9.3nm,0.8s
RPR Rampur 54.05 270 eP P 16 45 33.6 0.0
RPR IAmb IAmb 16 45 34.8
comp=Z,28nm,0.5s
RPR eS S 16 52 44.1 -1.2
DHY Denali Highway 54.17 33 eP P 16 45 33.7 -0.3
comp=Z,12nm,0.9s
HDA Harding Lake 54.29 31 eP P 16 45 33.8 -0.8
comp=Z,53nm,1.1s
ILAR Eielson Array 54.30 31 P P 16 45 34.5 -0.2
comp=Z,15nm,0.7s,baz=279,slow=5.7,SNR=161
SRSP Sriramsagar 54.82 271 eP P 16 45 38.9 -0.2
SRSP IAmb IAmb 16 45 40.1
comp=Z,39nm,0.6s
SRSP eS S 16 52 51.0 -4.6
ADKI Addanki 54.92 267 eP P 16 45 40.0 +0.2
ADKI IAmb IAmb 16 45 41.4
comp=Z,12nm,0.9s
PAX Paxson 55.05 33 eP P 16 45 40.2 +0.1
PAX pmax pmax
comp=Z,20nm,1.0s
PAX Paxson 55.05 33 eP P 16 45 40.2 +0.1
comp=Z,20nm,1.0s
DIV Divide 55.09 35 eP P 16 45 39.3 -1.1
comp=Z,28nm,0.7s
DZET Dzherino 55.12 297 P P 16 45 41.2 +0.1
DZET pmax pmax
comp=Z,30nm,0.5s
NJS Nagarjunasagar 55.13 268 eP P 16 45 40.7 -0.6
NJS IAmb IAmb 16 45 42.5
comp=Z,20nm,0.6s
NJS ePcP PcP 16 46 37.6 -0.8
NJS esP sP 16 47 21.7 -0.3
NJS ePP PP 16 47 48.8 +0.5
NJS eS S 16 52 58.5 -1.2
EYAK Cordova Ski Ar 55.17 36 eP P 16 45 41.4 +0.6
comp=Z,59nm,1.4s
HARP HAARP 55.25 33 eP P 16 45 42.6 +1.1
comp=Z,68nm,0.6s
HYB Hyderabad 55.35 269 *i* P P 16 45 42.0 -0.9
HYBB Hyderabad (bro 55.35 269 eP P 16 45 42.9 0.0
HYBB IAmb IAmb 16 45 44.2
comp=Z,32nm,0.6s
HYBB ePcP PcP 16 46 38.4 -0.9
HYBB esP sP 16 47 21.5 -2.1
HYBB ePP PP 16 47 50.8 +0.5
HYBB eS S 16 53 02.1 -0.6
HYBB eSS SS 16 56 52.8 +0.5
DOT Dot Lake 55.62 32 eP P 16 45 44.2 +0.1
comp=Z,34nm,0.7s
BMRM Bremner River 55.67 35 eP P 16 45 44.7 +0.1
comp=Z,47nm,0.8s
SRLM Srisailam 55.70 267 eP P 16 45 45.0 -0.4
SRLM IAmb IAmb 16 45 46.3
comp=Z,12nm,0.8s
SRLM eS S 16 53 07.5 +0.2
RCLA Racherla 55.96 267 eP P 16 45 46.5 -0.7
RCLA IAmb IAmb 16 45 47.6
comp=Z,24nm,1.4s
RCLA ePcP PcP 16 46 40.5 -1.1
RCLA epP pP 16 46 52.5 -1.3
RCLA ePP PP 16 47 55.1 -0.6
RCLA eS S 16 53 09.9 -0.7
RCLA eSS SS 16 57 00.8 -1.0
SKHT Srikalahasti 56.18 265 eP P 16 45 48.5 -0.2
SKHT IAmb IAmb 16 45 49.9
comp=Z,27nm,1.4s
SKHT ePcP PcP 16 46 41.7 -0.8
SKHT esP sP 16 47 28.1 -1.5
KBL Kabul 56.29 292 eP P 16 45 49.0 -0.5
KBL pmax pmax
comp=Z,9.0nm,0.6s
KBL Kabul 56.29 292 eP P 16 45 49.0 -0.5
comp=Z,8.5nm,0.6s
AS31 Alice Springs 56.57 185 eP P 16 45 50.7 -0.6
ASAR Alice Springs 56.57 185 P P 16 45 50.8 -0.4
comp=Z,5.4nm,0.6s,baz=20,slow=10,SNR=114
ASAR pP pP 16 47 01.6 +3.5
comp=Z,1.3nm,0.9s,baz=9.9,slow=5.0,SNR=2.0
ASAR ScP ScP 16 50 12.2 -0.4
comp=Z,0.6nm,0.7s,baz=8.7,slow=4.4,SNR=4.7
KLRI Killari 56.68 271 eP P 16 45 52.1 -0.2
KLRI IAmb IAmb 16 45 53.0
comp=Z,37nm,0.7s
KLRI ePcP PcP 16 46 42.6 -1.9
KLRI epP pP 16 46 58.7 -0.5

KLRI esP sP 16 47 32.1 -1.1
KLRI eS S 16 53 18.7 -1.5
KLRI eSS SS 16 57 17.1 +3.9
MBWA Marble Bar 56.70 201 eP P 16 45 51.6 -0.6
EGAK Eagle 56.74 30 eP P 16 45 51.9 0.0
comp=Z,22nm,0.6s
ARU Arti 57.53 320 *d* *i* P P 16 45 57.2 -0.3
ARU 16 48 09.5
ARU S S 16 53 30.8 +0.9
ARU SS SS 16 57 22.3 -2.5
ARU pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 57.53 320 eP P 16 45 57.6 +0.1
URV Uravakonda 57.63 267 eP P 16 45 58.9 +0.1
URV IAmb IAmb 16 46 01.4
comp=Z,19nm,1.1s
URV epP pP 16 47 06.6 +0.6
URV esP sP 16 47 38.8 -1.2
URV eS S 16 53 31.4 -1.1
AB31 Akbulak array 58.41 311 P P 16 46 03.7 0.0
AB31 pmax pmax
comp=Z,3.0nm,0.4s
HYT Haines Junctio 59.11 35 eP P 16 46 09.4 +0.9
INK Inuvik 59.15 26 P P 16 46 09.0 +0.6
comp=Z,8.2nm,0.4s,baz=274,slow=5.4,SNR=43
INK Inuvik 59.15 26 P P 16 46 09.0 +0.6
INK pmax pmax
comp=Z,8.0nm,0.4s
INK Inuvik 59.15 26 eP P 16 46 08.4 0.0
comp=Z,11nm,0.5s
AKTO Aktyubinsk 59.29 313 P P 16 46 10.1 +0.4
BESE Bessie Mountai 60.99 37 eP P 16 46 21.8 +0.7
comp=Z,8.1nm,0.8s
PRGR Permogore 62.58 327 P P 16 46 31.9 +0.4
PRGR pmax pmax
comp=Z,7.0nm,0.3s
DLBC Dease Lake 63.44 36 P P 16 46 37.5 +0.3
comp=Z,4.0nm,0.6s
FORT Forrest 64.22 190 eP P 16 46 42.4 0.0
comp=Z,44nm,0.6s
STKA Stephens Creek 64.70 177 P P 16 46 46.3 +0.8
comp=Z,9.9nm,0.7s,baz=343,slow=6.9,SNR=30
STKA Stephens Creek 64.70 177 P P 16 46 46.3 +0.8
STKA pmax pmax
comp=Z,10.0nm,0.7s
STKA Stephens Creek 64.70 177 eP P 16 46 45.9 +0.3
comp=Z,1.9nm,0.6s
KLMR Klimovskoe 65.62 328 eP P 16 46 46.8 -4.3
KLMR pmax pmax
comp=Z,14nm,0.9s
ARCES ARCESS Array B 66.71 339 P P 16 46 58.5 +0.6
comp=Z,8.2nm,0.5s,baz=64,slow=8.5,SNR=34
YKA Yellowknife Ar 68.60 28 P P 16 47 09.8 +0.1
comp=Z,6.7nm,0.6s,baz=300,slow=6.3,SNR=69
YKA Yellowknife Ar 68.60 28 P P 16 47 09.8 +0.1
YKA pmax pmax
comp=Z,7.0nm,0.6s
FINES FINESS Array B 71.00 332 P P 16 47 24.4 +0.2
comp=Z,2.4nm,0.4s,baz=54,slow=6.0,SNR=27
KBZ Khabaz 71.36 310 P P 16 47 27.7 +1.0
comp=Z,3.7nm,0.8s,baz=146,slow=24,SNR=9.7
KIV Kislovodsk 71.39 311 *i* P P 16 47 27.2 +0.2
KIV *i* *PP pP 16 48 38.8 +1.5
KIV *i* S S 16 56 09.8 -9.4
KIV pmax pmax
comp=Z,3.0nm,0.6s
MBW Mount Baker 71.91 43 P P 16 47 31.1 +0.9
B06A Marblemount 72.28 43 eP P 16 47 32.9 +0.8
comp=Z,36nm,1.0s
G03D McMinnville, O 72.87 47 P P 16 47 37.4 +1.8
baz=73
TDL Tradedollar La 72.94 46 P P 16 47 37.4 +1.2
MPOR Mary's Peak 73.04 48 P P 16 47 38.5 +1.6
KEBM Edson Butte 73.36 50 eP P 16 47 38.3 -0.3
comp=Z,49nm,0.9s
I03D Drain, OR 73.57 48 ⇓P P 16 47 41.4 +1.7
baz=73,SNR=22
B08A Colville Reser 73.60 43 eP P 16 47 40.5 +0.7
VFP Flag Point 73.91 46 P P 16 47 42.9 +1.0
G05D Wamic, OR 74.04 46 ⇑P P 16 47 43.8 +1.4
baz=74,SNR=7.8
I04A Tendick Farm, 74.11 48 ⇑P P 16 47 43.9 +1.0
baz=74,SNR=18
EDM Edmonton 74.16 36 P P 16 47 41.8 -1.2
EDM Edmonton 74.16 36 P P 16 47 41.8 -1.2
L02D Cave Junction, 74.18 50 ⇓P P 16 47 44.7 +1.4
baz=74,SNR=7.9
HUMO Hull Mountain 74.37 49 eP P 16 47 44.1 -0.2
comp=Z,24nm,1.4s
I05D Terrebonne, OR 74.49 47 ⇑P P 16 47 46.1 +1.0
baz=74,SNR=14
VTHM Trough 74.53 46 P P 16 47 46.4 +1.1
J04D Umpqua Nationa 74.58 48 ⇑P P 16 47 47.1 +1.3
baz=74,SNR=22
SUMG Summit 74.60 359 eP P 16 47 47.0 +1.4
SUMG pmax pmax
comp=Z,22nm,0.8s
SUMG Summit 74.60 359 eP P 16 47 47.0 +1.4
comp=Z,22nm,0.8s
KHMM Horse Mountain 74.75 51 eP P 16 47 47.0 +0.3
comp=Z,19nm,0.8s
NEW Newport 74.90 42 eP P 16 47 46.5 -0.8
NEW pmax pmax
comp=Z,17nm,1.0s
NEW Newport 74.90 42 ⇓P P 16 47 47.9 +0.5
baz=75,SNR=11
NEW Newport 74.90 42 eP P 16 47 46.5 -0.8
comp=Z,17nm,1.0s
YBH Yreka Blue Hor 74.97 50 eP P 16 47 47.0 -0.9
YBH pmax pmax
comp=Z,18nm,0.9s
YBH Yreka Blue Hor 74.97 50 eP P 16 47 47.0 -0.9
comp=Z,18nm,0.9s
M02C Callahan 75.06 50 ⇑P P 16 47 49.9 +1.5
baz=75,SNR=14
J05D Fort Rock, OR 75.10 48 ⇑P P 16 47 50.2 +1.5
baz=75,SNR=41
K04D Chiloquin, OR 75.12 49 ⇓P P 16 47 50.0 +1.2
baz=75
N02D Trinity Center 75.37 51 ⇑P P 16 47 51.4 +1.3
baz=75,SNR=14
KCPM Cahto Peak 75.45 52 eP P 16 47 51.6 +0.9
comp=Z,29nm,1.3s
M04C Macdoel 75.50 50 ⇓P P 16 47 52.3 +1.3
baz=75,SNR=31
K05A Summer Lake 75.61 48 eP P 16 47 53.1 +1.4
comp=Z,52nm,1.0s
WDC Whiskeytown Da 75.68 51 P P 16 47 50.0 -1.8
WDC pmax pmax
comp=Z,17nm,1.1s
WDC Whiskeytown Da 75.68 51 P P 16 47 50.0 -1.8
comp=Z,17nm,1.1s
AKASG Malin Array Be 75.69 322 P P 16 47 51.4 -0.3
comp=Z,1.5nm,0.4s,baz=51,slow=5.7,SNR=8.7
KIEV Kiev 75.71 322 P P 16 47 52.0 +0.3
I07A Izee 75.75 47 eP P 16 47 53.4 +1.1
WALA Waterton Lakes 76.22 40 eP P 16 47 54.8 -0.1
comp=Z,13nm,0.6s
BSMT Bassoo Peak 76.43 41 P P 16 47 57.1 +1.0
BLMT Blacktail Moun 76.58 41 eP P 16 47 57.6 +0.6
BMO Blue Mountains 76.66 45 eP P 16 47 57.6 +0.3
comp=Z,24nm,0.9s
NB2 NORSAR Subarra 76.72 336 P P 16 47 56.8 -0.5
comp=Z,6.5nm,0.8s,baz=43,slow=5.6
NOA NORSAR Array B 76.72 336 P P 16 47 57.1 -0.2
comp=Z,5.0nm,0.7s,baz=43,slow=5.6,SNR=30
JTMT Jette 76.77 41 eP P 16 47 59.0 +1.0
SWMT Swartz Lake 77.06 41 eP P 16 47 59.0 -0.6
comp=Z,17nm,1.0s
WVOR Wild Horse Val 77.17 48 eP P 16 47 59.7 -0.6
WVOR pmax pmax
comp=Z,20nm,0.9s
WVOR Wild Horse Val 77.17 48 eP P 16 47 59.7 -0.6
comp=Z,20nm,0.9s
MSO Missoula 77.49 42 ⇓P P 16 48 02.3 +0.4
baz=77,SNR=7.8
MSO Missoula 77.49 42 eP P 16 48 01.8 -0.1
comp=Z,56nm,2.1s
SLMT Seeley Lake 77.50 41 eP P 16 48 02.4 +0.3
comp=Z,36nm,0.4s
CHMT Chamberlain Mo 77.82 42 eP P 16 48 03.8 -0.1
comp=Z,5.4nm,0.5s
MFID Camas Ranch 78.34 46 eP P 16 48 06.8 +0.2
comp=Z,18nm,0.9s
CMB Columbia Colle 78.44 52 P P 16 48 07.4 +0.1
CMB pmax pmax
comp=Z,46nm,1.6s
CMB Columbia Colle 78.44 52 P P 16 48 07.3 +0.1
comp=Z,46nm,1.6s
FFC Flin Flon 78.51 31 eP P 16 48 07.3 +0.1
FFC Flin Flon 78.51 31 eP P 16 48 07.3 +0.1
HRY Holter Researc 78.73 41 eP P 16 48 09.4 +0.7
comp=Z,11nm,0.4s
FCC Fort Churchill 78.75 25 eP P 16 48 06.3 -2.1
FCC pmax pmax
comp=Z,17nm,1.2s
FCC Fort Churchill 78.75 25 eP P 16 48 06.3 -2.1
comp=Z,17nm,1.2s
WAKR Walker 78.81 51 eP P 16 48 09.8 +0.3
LRM Limekiln Ridge 78.91 42 P P 16 48 09.1 -0.8
comp=Z,311nm,1.1s
A19A Klindworth Far 79.04 38 ⇑P P 16 48 10.8 +0.5
baz=79
HLID Hailey 79.10 45 ⇑P P 16 48 11.9 +1.1
baz=79
HLID Hailey 79.10 45 eP P 16 48 10.6 -0.2
comp=Z,11nm,0.8s
DLMT Dillon 79.10 43 eP P 16 48 11.3 +0.5
comp=Z,23nm,0.7s
BMN Battle Mountai 79.17 49 eP P 16 48 10.9 -0.4
BMN Battle Mountai 79.17 49 eP P 16 48 10.9 -0.4
LCCM Lewis and Clar 79.23 42 P P 16 48 12.1 +0.7
B19A Brinkman Farms 79.23 39 ⇑P P 16 48 11.8 +0.5
baz=79,SNR=5.4
MCMT McKenzie Canyo 79.27 43 eP P 16 48 12.0 +0.2
BR131 Keskin Array S 79.35 311 eP P 16 48 12.6 +0.4
comp=Z,2.2nm,0.8s
BRTR Keskin Array B 79.35 311 P P 16 48 12.6 +0.4
comp=Z,2.0nm,0.7s,baz=104,slow=4.6,SNR=12
BRTR pP pP 16 49 25.0 +0.9
comp=Z,1.1nm,0.9s,baz=88,slow=3.3,SNR=2.2
BRTR Keskin Array B 79.35 311 *i* P P 16 48 12.8 +0.6
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BOZ Bozeman (W) 79.48 42 P P 16 48 12.8 0.0
BOZ pmax pmax
comp=Z,11nm,0.7s
BOZ Bozeman (W) 79.48 42 P P 16 48 12.8 0.0
comp=Z,11nm,0.7s
RAYN Ar Rayn 79.54 291 eP P 16 48 13.7 +0.2
comp=Z,7.9nm,0.8s
NVAR Mina Array Bea 79.59 51 P P 16 48 14.5 +0.8
comp=Z,13nm,0.8s,baz=282,slow=5.5,SNR=78
B20A Solberg Farm, 79.72 38 ⇑P P 16 48 14.3 +0.4
baz=80
A21A Bergtoll Ranch 79.94 37 ⇑P P 16 48 16.0 +1.0
baz=80,SNR=5.6
D19A Cripps Ranch, 80.06 40 ⇓P P 16 48 16.7 +0.9
baz=80,SNR=18
ELK Elko 80.23 48 eP P 16 48 17.4 +0.4
ELK pmax pmax
comp=Z,12nm,1.1s
ELK Elko 80.23 48 eP P 16 48 17.4 +0.4
comp=Z,12nm,1.1s
B21A Ellsworth Farm 80.25 38 ⇓P P 16 48 17.3 +0.6
baz=80,SNR=15
A22A Carney Farms, 80.44 37 P P 16 48 17.8 0.0
baz=80
TPH Tonopah 80.50 51 eP P 16 48 18.1 -0.4
TPH pmax pmax
comp=Z,23nm,1.0s
TPH Tonopah 80.50 51 eP P 16 48 18.1 -0.4
comp=Z,23nm,1.0s
VES Vestal, Richgr 80.52 53 ⇑P P 16 48 19.1 +0.8
baz=80
E19A Rath Farm, Rou 80.55 40 ⇑P P 16 48 19.4 +1.0
baz=80,SNR=36
C21A Desert Coulee 80.59 38 ⇓P P 16 48 19.6 +1.1
baz=80
F19A Roth Farm, Mol 80.84 41 ⇑P P 16 48 20.6 +0.6
baz=81
B22A Reddig Ranch S 80.85 37 ⇑P P 16 48 20.3 +0.4
baz=81,SNR=7.1
IMW Indian Meadow 80.93 43 P P 16 48 20.5 -0.2
comp=Z,21nm,1.1s
A23A Redstone 80.99 36 P P 16 48 21.4 +0.8
baz=81
FXWY Fox Creek 81.03 43 eP P 16 48 22.4 +1.1
RLMT Red Lodge 81.12 41 ⇑P P 16 48 22.7 +1.1
baz=81,SNR=12
RLMT Red Lodge 81.12 41 eP P 16 48 21.2 -0.4
comp=Z,51nm,1.6s
I17A Pilgrim Ck. 81.12 43 ⇑P P 16 48 23.7 +2.0
baz=81,SNR=5.5
D21A La Casta Ranch 81.12 39 ⇓P P 16 48 22.5 +1.2
baz=81,SNR=6.2
HVU Hansel Valley 81.12 46 eP P 16 48 22.8 +1.2
HVU pmax pmax
comp=Z,25nm,0.6s
HVU Hansel Valley 81.12 46 eP P 16 48 22.8 +1.2
comp=Z,25nm,0.6s
MOOW Moose Ponds 81.13 43 eP P 16 48 23.1 +1.4
comp=Z,8.9nm,1.0s
H18A Shoshone NF, C 81.17 42 ⇑P P 16 48 23.3 +1.4
baz=81,SNR=10
B23A Brockton 81.25 37 ⇑P P 16 48 22.6 +0.6
baz=81,SNR=10
DAC Darwin (Calif) 81.27 52 eP P 16 48 20.8 -1.7
DAC pmax pmax
comp=Z,10.0nm,1.1s
DAC Darwin (Calif) 81.27 52 eP P 16 48 20.8 -1.7
comp=Z,10nm,1.1s
LOHW Long Hollow 81.29 43 eP P 16 48 22.1 -0.4
comp=Z,12nm,1.1s
REDW Red Top Meadow 81.30 43 eP P 16 48 23.4 +0.8
F20A Billings 81.31 40 ⇑P P 16 48 22.8 +0.4
baz=81
R11A Troy Canyon, C 81.40 50 ⇓P P 16 48 24.1 +1.0
baz=81,SNR=26
R11A Troy Canyon, C 81.40 50 eP P 16 48 23.8 +0.6
E21A Keefer Ranch, 81.42 39 ⇓P P 16 48 23.4 +0.5
baz=81
A24A Westby 81.44 36 P P 16 48 24.1 +1.1
baz=81
MPMC Manual Prospec 81.47 53 ⇑P P 16 48 24.2 +0.6
baz=81,SNR=12
BGU Big Grassy Mou 81.48 46 eP P 16 48 23.7 +0.2
comp=Z,7.3nm,0.7s
D22A Cohagen 81.50 38 ⇑P P 16 48 24.2 +0.8
baz=81,SNR=7.1
H19A Powell 81.56 42 ⇑P P 16 48 25.2 +1.4
baz=81
C23A Lambert 81.59 37 ⇑P P 16 48 24.5 +0.7
baz=81
G20A Bridger 81.64 41 ⇓P P 16 48 24.5 +0.3
baz=81,SNR=7.8
DGMT Dagmar 81.65 37 ⇑P P 16 48 24.6 +0.6
baz=81
FURC Furnace Creek, 81.65 52 ⇓P P 16 48 25.3 +1.1
baz=82,SNR=8.3
LRMC Laurel Mtn Rad 81.66 53 ⇓P P 16 48 24.9 +0.4
baz=82,SNR=6.6
TPNV Topopah Spring 81.78 51 ⇑P P 16 48 25.6 +0.5
baz=82,SNR=24
EDW2 Edwards Air Fo 81.80 54 ⇓P P 16 48 25.7 +0.6
baz=82,SNR=6.4
F21A Absaloka Mine, 81.85 40 ⇓P P 16 48 26.0 +0.8
baz=82
A25A Svangstu Ranch 81.87 36 ⇓P P 16 48 26.3 +1.1
baz=82
I19A Meeteetse 81.95 42 ⇑P P 16 48 27.0 +1.1
baz=82,SNR=8.4
HWUT Hardware Ranch 81.95 45 eP P 16 48 25.1 -0.9
comp=Z,25nm,0.9s
D23A Lindsay 81.99 38 ⇓P P 16 48 26.8 +0.9
baz=82
DUG Dugway, Tooele 82.05 47 eP P 16 48 27.3 +0.8
DUG Dugway, Tooele 82.05 47 ⇓P P 16 48 27.7 +1.3
baz=82,SNR=34
DUG Dugway, Tooele 82.05 47 eP P 16 48 27.3 +0.8
E22A Miles City 82.08 39 ⇑P P 16 48 27.1 +0.7
baz=82,SNR=6.9
G21A Lodge Grass 82.19 40 ⇑P P 16 48 27.5 +0.5
baz=82,SNR=7.2
H20A Greybull 82.22 41 ⇓P P 16 48 28.1 +0.9
baz=82,SNR=5.4
KRLC Kraliky 82.25 326 eP P 16 48 29.5 +2.3
KRLC Kraliky 82.25 326 eP P 16 48 29.5 +2.3
DPC Dobruska-Polom 82.28 327 eP P 16 48 27.8 +0.5
DPC Dobruska-Polom 82.28 327 eP P 16 48 27.8 +0.5
F22A Rosebud 82.34 40 ⇓P P 16 48 28.1 +0.3
baz=82
GSC Goldstone, Bar 82.36 53 eP P 16 48 28.5 +0.5

GSC pmax pmax
comp=Z,25nm,1.5s
GSC Goldstone, Bar 82.36 53 ⇑P P 16 48 28.8 +0.8
baz=82,SNR=8.0
GSC Goldstone, Bar 82.36 53 *e*P P 16 48 28.5 +0.5
comp=Z,25nm,1.5s
E23A Ismay 82.38 39 ⇓P P 16 48 28.7 +0.8
baz=82,SNR=11
BFSC Mount Baldy Ra 82.39 54 ⇑P P 16 48 29.1 +0.8
baz=82
CTU Camp Tracy 82.40 46 *e*P P 16 48 28.0 -0.3
comp=Z,14nm,0.9s
J19A Crowheart 82.40 43 ⇓P P 16 48 29.3 +1.1
baz=82,SNR=37
PDAR Pinedale Array 82.42 43 P P 16 48 28.6 +0.2
comp=Z,11nm,0.9s,baz=336,slow=3.3,SNR=52
A26A Wade Farm, Ken 82.42 35 ⇓P P 16 48 28.8 +0.8
baz=82
D24A Glendive 82.48 38 ⇓P P 16 48 29.1 +0.7
baz=82
I20A Worland 82.49 42 ⇑P P 16 48 29.7 +1.1
baz=82,SNR=12
SCI San Clemente I 82.49 56 P P 16 48 29.3 +0.6
baz=82
C25A Freed Ranch, W 82.62 37 P P 16 48 29.8 +0.7
baz=82
JLU Jordanelle 82.63 46 *e*P P 16 48 29.0 -0.6
comp=Z,21nm,1.3s
NLU North Lily Min 82.64 47 *e*P P 16 48 30.1 +0.5
comp=Z,15nm,0.9s
H21A Big Horn, Sher 82.66 41 ⇓P P 16 48 30.5 +1.1
baz=82
G22A Birney 82.69 40 ⇑P P 16 48 30.3 +0.8
baz=82,SNR=5.2
SHPR Sheep Range 82.74 51 *e*P P 16 48 30.9 +0.8
A27A Ledoux Ranch, 82.77 35 P P 16 48 30.6 +0.8
baz=82
F23A Volborg 82.83 39 ⇓P P 16 48 30.9 +0.7
baz=83,SNR=7.2
E24A Baker 82.86 38 ⇓P P 16 48 30.9 +0.6
baz=83
TUQ Turquoise Moun 82.86 52 ⇑P P 16 48 31.6 +0.9
baz=83,SNR=6.2
MPU Maple Canyon 82.88 47 *e*P P 16 48 30.0 -0.8
comp=Z,84nm,0.7s
J20A Shoshoni 82.89 42 ⇑P P 16 48 31.7 +1.0
baz=83,SNR=14
HEC Hector,Ludlow 82.94 53 ⇓P P 16 48 31.9 +0.9
baz=83,SNR=7.5
BRG Berggiesshubel 82.99 328 *e*P P 16 48 30.6 -0.2
comp=Z,2.3nm,0.7s
BRG Berggiesshubel 82.99 328 *e*P P 16 48 30.6 -0.2
BRG pmax pmax
comp=Z,2.0nm,0.7s
I21A Big Trails, Te 83.04 42 ⇓P P 16 48 31.9 +0.5
baz=83,SNR=11
H22A Clearmont 83.06 40 P P 16 48 32.0 +0.5
baz=83
MURC Murrieta 83.06 54 ⇓P P 16 48 31.9 +0.3
baz=83
CLL Collm 83.09 329 *i* P P 16 48 31.0 -0.3
comp=Z,6.0nm,1.2s
CLL *e* 16 48 39.0
CLL *e* 16 49 05.0
CLL Collm 83.09 329 *i* P P 16 48 31.0 -0.3
CLL pmax pmax
comp=Z,6.0nm,1.2s
CLL Collm 83.09 329 *e*P P 16 48 30.4 -0.9
comp=Z,3.8nm,0.7s
C26A Wahner Farm, P 83.12 36 P P 16 48 32.2 +0.5
baz=83
B27A Peters Farms, 83.14 35 P P 16 48 32.3 +0.6
baz=83
G23A Biddle 83.18 40 ⇓P P 16 48 32.6 +0.6
baz=83
J21A Lysite 83.25 42 ⇓P P 16 48 33.4 +0.8
baz=83,SNR=17
F24A Ekalaka 83.26 39 ⇑P P 16 48 33.5 +1.0
baz=83
A28A Rude Farm, Bot 83.27 34 ⇑P P 16 48 33.4 +1.0
baz=83,SNR=7.4
CCUT Cedar City 83.29 49 *e*P P 16 48 32.5 -0.4
comp=Z,2.5nm,0.7s
E25A Miller Ranch, 83.36 38 P P 16 48 33.8 +0.9
baz=83
GMRC Granite Mounta 83.42 53 ⇑P P 16 48 34.3 +0.8
baz=83,SNR=7.5
I22A 9 Mile Ranch, 83.44 41 ⇓P P 16 48 34.2 +0.8
baz=83,SNR=9.0
MVU Marysvale 83.44 48 P P 16 48 31.3 -2.4
comp=Z,15nm,0.9s
MSU Marysvale 83.45 48 *e*P P 16 48 34.9 +1.2
MSU pmax pmax
comp=Z,16nm,0.9s
MSU Marysvale 83.45 48 *e*P P 16 48 34.9 +1.2
comp=Z,16nm,0.9s
C27A Sayler Ranch, 83.49 36 ⇑P P 16 48 34.6 +1.1
baz=83
D26A Manning 83.50 37 P P 16 48 34.0 +0.4
baz=83
PFO Pinyon Flats O 83.57 54 *e*P P 16 48 33.4 -0.9
PFO pmax pmax
comp=Z,23nm,1.0s
PFO Pinyon Flats O 83.57 54 ⇓P P 16 48 35.0 +0.7
baz=83,SNR=12
PFO Pinyon Flats O 83.57 54 *e*P P 16 48 33.4 -0.9
comp=Z,23nm,1.0s
BELC Belle Mtn. Jos 83.65 53 ⇑P P 16 48 35.0 +0.3
baz=84,SNR=12
F25A Bowman 83.72 38 ⇑P P 16 48 35.4 +0.7
baz=84
A29A Manning Farm, 83.74 34 ⇑P P 16 48 35.2 +0.5
baz=84,SNR=6.3
J22A Midwest 83.75 41 ⇑P P 16 48 35.4 +0.3
baz=84,SNR=25
E26A Carlson Angus 83.86 37 ⇓P P 16 48 36.4 +1.0
baz=84
D27A Center 83.90 36 ⇑P P 16 48 36.4 +0.9
baz=84
H24A Dirks Ranch, A 83.93 40 ⇑P P 16 48 35.9 0.0
baz=84,SNR=6.6
BAR Barrett 83.96 55 *e*P P 16 48 35.2 -0.9
comp=Z,1.9nm,0.8s
MONP Monument Peak, 84.01 55 ⇑P P 16 48 37.1 +0.5
baz=84,SNR=6.3
B29A Wagenman Farm, 84.01 34 ⇓P P 16 48 36.6 +0.5
baz=84,SNR=7.1
C28A Hausauer Farms 84.04 35 ⇓P P 16 48 37.3 +1.0
baz=84
SRU San Rafael Swe 84.11 47 *e*P P 16 48 37.8 +0.8
SRU pmax pmax
comp=Z,39nm,0.7s
SRU San Rafael Swe 84.11 47 *e*P P 16 48 37.8 +0.8
comp=Z,39nm,0.7s
IRM Iron Mountain 84.13 53 ⇓P P 16 48 37.9 +1.0
baz=84,SNR=10
A30A Hoffart Farm, 84.17 33 ⇑P P 16 48 37.2 +0.4
baz=84,SNR=5.9
F26A Lodgepole 84.18 38 ⇓P P 16 48 37.7 +0.7
baz=84
BC3 Big Chuckawall 84.22 53 ⇑P P 16 48 38.2 +0.7
baz=84,SNR=10.0
K22A Casper 84.22 42 ⇑P P 16 48 37.8 +0.4
baz=84
G25A Newell 84.23 39 ⇓P P 16 48 37.8 +0.5
baz=84
MDND Maddock 84.32 35 ⇑P P 16 48 38.5 +0.8
baz=84
E27A Carson 84.34 37 P P 16 48 38.7 +0.8
baz=84
IBP Imperial Bould 84.36 55 ⇑P P 16 48 39.0 +0.7
baz=84
N20A Spence Gulch, 84.39 44 ⇑P P 16 48 39.7 +1.3
baz=84,SNR=23
KHC Kasperske Hory 84.40 327 *e*P P 16 48 38.1 +0.1
KHC Kasperske Hory 84.40 327 *e*P P 16 48 38.1 +0.1
SWSC Sam W. Stewart 84.41 54 ⇑P P 16 48 38.5 +0.2
baz=84
I24A Kuemmerle Ranc 84.48 40 ⇓P P 16 48 38.7 +0.1
baz=84
F27A Lemmon 84.49 37 ⇑P P 16 48 39.2 +0.6
baz=84
B30A Myrvik Farm, E 84.50 34 ⇓P P 16 48 38.9 +0.4
baz=84
H25A Fruitdale 84.52 39 ⇑P P 16 48 39.5 +0.7
baz=84
GERES GERESS Array B 84.55 327 P P 16 48 38.1 -0.7
comp=Z,0.6nm,0.6s,baz=44,slow=4.5,SNR=4.1

G26A Maurine 84.59 38 ⇓P P 16 48 39.4 +0.3
baz=84
RSSD Black Hills 84.62 40 *e*P P 16 48 39.6 +0.1
RSSD pmax pmax
comp=Z,7.0nm,0.6s
RSSD Black Hills 84.62 40 *e*P P 16 48 39.6 +0.1
comp=Z,6.8nm,0.6s
E28A Huff 84.68 36 ⇑P P 16 48 39.8 +0.4
baz=84
PDMCI Parker Dam,Lak 84.72 52 ⇓P P 16 48 40.2 +0.4
baz=84
Y12C Blythe 84.79 53 ⇓P P 16 48 41.0 +0.8
baz=85
J24A Dixon Ranch, L 84.81 41 ⇑P P 16 48 40.3 0.0
baz=85
O20A White River Ci 84.84 45 ⇑P P 16 48 41.5 +0.9
baz=85,SNR=9.2
I25A Rochford 84.85 40 ⇑P P 16 48 40.9 +0.3
baz=85,SNR=11
G27A Dupree 84.88 38 ⇑P P 16 48 41.3 +0.8
baz=85,SNR=6.0
H26A Fairpoint 84.96 39 ⇑P P 16 48 41.4 +0.5
baz=85,SNR=5.5
C30A Mose, Pekin 84.96 34 ⇓P P 16 48 41.0 +0.2
baz=85
GLA Glamis 85.00 54 ⇑P P 16 48 42.1 +0.8
baz=85,SNR=7.2
F28A McLaughlin 85.13 37 ⇑P P 16 48 42.5 +0.8
baz=85
E29A Napoleon 85.20 36 ⇓P P 16 48 42.5 +0.4
baz=85
J25A Sunshine Ranch 85.23 40 ⇓P P 16 48 42.7 +0.3
baz=85
D30A Buchanan 85.25 35 ⇓P P 16 48 42.7 +0.4
baz=85
I26A New Underwood 85.31 39 ⇑P P 16 48 43.5 +0.8
baz=86
H27A Howes 85.31 38 ⇑P P 16 48 43.5 +0.8
baz=85,SNR=8.5
PV04 Paradox Valley 85.55 46 *e*P P 16 48 44.6 +0.5
G28A Parade 85.61 38 ⇓P P 16 48 45.4 +1.3
baz=85
E30A Jud 85.61 36 ⇑P P 16 48 44.4 +0.3
baz=85,SNR=6.5
J26A Sides Ranch, S 85.68 40 ⇑P P 16 48 45.2 +0.7
baz=85,SNR=5.7
N23A Red Feather La 85.69 43 ⇓P P 16 48 46.1 +1.2
baz=86,SNR=9.6
I27A Quinn 85.71 39 ⇓P P 16 48 45.4 +0.7
baz=86
K25A Mack Ranch, Ha 85.72 41 ⇓P P 16 48 45.5 +0.6
baz=86
AGMN Agassiz Nation 85.75 33 ⇑P P 16 48 44.4 -0.3
baz=86
AGMN Agassiz Nation 85.75 33 *e*P P 16 48 44.2 -0.5
comp=Z,7.8nm,0.8s
WUAZ Wupatki 85.79 50 ⇑P P 16 48 46.2 +0.9
baz=86,SNR=8.3
WUAZ Wupatki 85.79 50 *e*P P 16 48 45.7 +0.3
comp=Z,10nm,0.8s
O22A Kremmling 85.82 44 ⇓P P 16 48 46.4 +0.8
baz=86,SNR=11
H28A Mission Ridge 85.83 38 ⇑P P 16 48 45.7 +0.5
baz=86
PV01 Paradox Valley 85.91 47 *e*P P 16 48 46.1 +0.2
L25A Engebretsen Ra 85.97 41 ⇓P P 16 48 47.0 +0.9
baz=86
F30A Leola 86.02 36 ⇓P P 16 48 46.4 +0.3
baz=86
G29A Hoven 86.03 37 ⇓P P 16 48 46.5 +0.4
baz=86
K26A Motz Farm, Whi 86.04 40 ⇑P P 16 48 46.7 +0.4
baz=86
P22A Eagle 86.06 44 ⇑P P 16 48 48.0 +1.4
baz=86,SNR=13
O23A Lake Granby, G 86.15 44 ⇑P P 16 48 48.2 +1.0
baz=86
I28A Midland 86.22 38 ⇓P P 16 48 47.8 +0.7
baz=86,SNR=5.6
H29A Onida 86.28 37 ⇑P P 16 48 48.0 +0.6
baz=86
J27A Elkhorn Farm, 86.29 39 ⇑P P 16 48 48.5 +0.9
baz=86,SNR=7.2
G30A Faulkton 86.47 37 ⇑P P 16 48 48.5 +0.3
baz=86,SNR=6.1
L26A Underwood Farm 86.54 41 P P 16 48 50.0 +1.2
baz=86
MVCO Mesa Verde 86.54 47 ⇓P P 16 48 49.8 +0.7
baz=86
K27A Flueckinger Fa 86.54 40 P P 16 48 49.3 +0.6
baz=86
J28A Allard Ranch, 86.58 39 ⇓P P 16 48 49.5 +0.6
baz=86
ISCO Idaho Springs 86.60 44 *e*P P 16 48 49.7 +0.4
ISCO pmax pmax
comp=Z,10.0nm,1.2s
ISCO Idaho Springs 86.60 44 ⇑P P 16 48 50.5 +1.2
baz=86,SNR=7.5
ISCO Idaho Springs 86.60 44 *e*P P 16 48 49.7 +0.4
comp=Z,10.0nm,1.2s
I29A Vivian Onida 86.65 38 ⇓P P 16 48 49.7 +0.5
baz=86
K28A Ten Mile Ranch 87.00 39 ⇓P P 16 48 51.1 +0.1
baz=87
214A Organ Pipe Nat 87.02 54 ⇑P P 16 48 52.6 +1.5
baz=87
BRSD Miller 87.05 37 ⇑P P 16 48 51.2 +0.2
baz=87
BRSD Miller 87.05 37 *e*P P 16 48 51.5 +0.5
comp=Z,28nm,0.9s
J29A Okreek 87.07 38 ⇓P P 16 48 51.6 +0.5
baz=87
I30A Oacoma 87.18 38 ⇓P P 16 48 52.1 +0.4
baz=87
S22A 4UR Ranch, Cre 87.22 46 ⇑P P 16 48 53.7 +1.4
baz=87,SNR=8.3
M27A Reverse DX Ran 87.26 41 ⇓P P 16 48 52.6 +0.4
baz=87
Q24A Divide 87.42 44 ⇓P P 16 48 54.2 +0.9
baz=87
R23A Moffat 87.53 45 ⇓P P 16 48 55.0 +1.3
baz=87,SNR=9.9
J30A Dallas 87.56 38 ⇓P P 16 48 53.9 +0.4
baz=87
O26A Horse Wrangler 87.62 42 ⇓P P 16 48 54.2 +0.2
baz=87
N27A Anderson Farm, 87.67 41 ⇓P P 16 48 54.7 +0.5
baz=87
FUORN Ofenpass-Fuorn 87.76 327 *e*P P 16 48 54.6 0.0
comp=Z,4.2nm,0.6s
L29A Maesberg Ranch 87.93 39 ⇑P P 16 48 55.8 +0.5
baz=88
K30A Basset 87.96 39 P P 16 48 56.0 +0.6
baz=88
SDCO Great Sand Dun 88.01 45 ⇑P P 16 48 57.1 +1.0
baz=88,SNR=7.0
SDCO Great Sand Dun 88.01 45 *e*P P 16 48 56.9 +0.8
comp=Z,9.0nm,1.3s
P26A Davis Ranch, A 88.06 43 ⇓P P 16 48 57.3 +1.2
baz=88
P27A Ficken Ranch, 88.50 42 P P 16 48 57.9 -0.2
baz=88
O28A Krutsinger Ran 88.56 42 ⇓P P 16 48 58.6 +0.3
baz=88
L31A Butterfield Fa 88.72 39 P P 16 48 59.3 +0.4
baz=88
N29A Votaw Ranch, W 88.72 40 P P 16 48 58.8 -0.3
baz=88
ECSD EROS Data Cent 88.73 36 P P 16 48 58.7 -0.2
baz=88
R26A Arlington 88.85 44 ⇑P P 16 49 00.5 +0.7
baz=89,SNR=6.1
P28A Saint Francis 88.95 42 P P 16 49 00.6 +0.4
baz=89
T25A Trinidad 89.06 45 ⇑P P 16 49 01.7 +0.8
baz=89
R27A Eads 89.24 43 ⇑P P 16 49 01.7 +0.2
baz=89
Q28A Sharon Springs 89.26 42 ⇓P P 16 49 02.0 +0.4
baz=89
ANMO Albuquerque 89.26 48 ⇓*i*P P 16 49 02.9 +1.0
ANMO pmax pmax
comp=Z,15nm,0.9s
ANMO Albuquerque 89.26 48 *e*P P 16 49 02.2 +0.4
T26A Comanche Natio 89.53 45 ⇓P P 16 49 02.9 -0.1
baz=89
BGNE Belgrade 89.62 39 ⇓P P 16 49 03.2 0.0
baz=89

P30A Selden 89.81 41 ⇑P P 16 49 04.2 +0.1
baz=90
Q29A Oakley 89.86 42 ⇓P P 16 49 04.6 +0.2
baz=90
SCHQ Schefferville 89.86 14 P P 16 49 03.5 -0.5
comp=Z,1.5nm,0.5s,baz=308,slow=9.7,SNR=4.1
L34A Svendsen Farm, 90.14 37 ⇓P P 16 49 05.6 +0.1
baz=90
Q30A Quinter 90.22 42 P P 16 49 06.1 +0.1
baz=90
P31A Stockton 90.31 41 ⇓P P 16 49 06.5 +0.1
baz=90
U27A Thompson Grove 90.49 45 ⇓P P 16 49 08.2 +0.7
baz=90
V27A Dan Oppiter Fa 90.93 45 P P 16 49 10.3 +0.8
baz=91
S30A Montezuma 91.02 43 P P 16 49 10.5 +0.7
baz=91
R31A Burdett 91.09 42 P P 16 49 10.9 +0.8
baz=91
P33A Williams Farm, 91.28 40 ⇑P P 16 49 11.1 +0.2
baz=91
Q33A Connelly Farm, 91.52 40 ⇓P P 16 49 12.0 0.0
baz=91
S31A Mullinville 91.59 42 ⇓P P 16 49 12.7 +0.3
baz=91
W28A Vega 91.65 45 ⇑P P 16 49 14.0 +1.2
baz=91
P34A Walnut Farm, R 91.66 39 ⇑P P 16 49 12.6 0.0
baz=91
U30A WK&E Inc. Balk 91.69 44 ⇓P P 16 49 14.6 +1.7
baz=92
S32A Newby Ranch, P 91.84 42 P P 16 49 14.0 +0.5
baz=92
R33A Olander Ranch, 91.93 41 P P 16 49 14.1 +0.2
baz=92
Q34A Chapman 92.06 40 P P 16 49 14.9 +0.4
baz=92
MNTX Cornudas Mount 92.07 50 ⇓P P 16 49 15.4 +0.8
baz=92
MNTX Cornudas Mount 92.07 50 *e*P P 16 49 15.3 +0.6
comp=Z,28nm,2.1s
AMTX Amarillo 92.22 45 P P 16 49 16.2 +0.8
baz=92
R34A Isabella, Hill 92.34 40 ⇓P P 16 49 16.2 +0.4
baz=92
S33A Kaszmaul Farm, 92.43 41 P P 16 49 16.9 +0.7
baz=92
P36A Good Intent, A 92.46 38 P P 16 49 16.2 -0.1
baz=92
X29A Tulia 92.51 46 ⇓P P 16 49 17.6 +0.8
baz=92
Y28A McKinney Farm, 92.54 46 ⇓P P 16 49 17.5 +0.6
baz=92
Q35A Mercer Eighty, 92.58 39 ⇑P P 16 49 17.3 +0.4
baz=92
R36A Gordon, Harris 93.26 39 ⇓P P 16 49 20.1 +0.1
baz=93
128A Castleberry Fa 93.27 47 ⇑P P 16 49 20.4 +0.1
baz=93
S35A Otter Creek Ra 93.29 40 ⇓P P 16 49 20.6 +0.4
baz=93
T34A McClaskey Farm 93.30 41 ⇑P P 16 49 20.5 +0.3
baz=93
Z29A Hungry Hill Ra 93.32 46 ⇓P P 16 49 20.8 +0.3
baz=93
X31A McDonald Ranch 93.40 44 ⇑P P 16 49 21.4 +0.6
baz=93
R37A Teagarden Farm 93.62 39 ⇑P P 16 49 21.5 -0.2
baz=93
Z30A Sanderson Ranc 93.65 46 ⇓P P 16 49 22.5 +0.6
baz=93
S36A Lake Cedric, C 93.65 40 P P 16 49 22.0 +0.2
baz=93
W33A Caddo, Fort Co 93.91 43 P P 16 49 24.3 +1.2
baz=94
T36A Boggs Farm, Ca 93.98 40 ⇑P P 16 49 23.9 +0.6
baz=94
Z31A Sharp Cattle R 94.22 46 ⇑P P 16 49 25.2 +0.7
baz=94
230A Sterling City 94.62 47 ⇓P P 16 49 26.4 -0.1
baz=94
Z32A Haskell 94.62 45 ⇑P P 16 49 26.9 +0.5
baz=94
TXAR Lajitas Array 94.74 50 P P 16 49 27.6 +0.6
comp=Z,6.1nm,0.7s,baz=298,slow=3.0,SNR=80
TXAR PP PP 16 53 24.3 +4.8
comp=Z,0.7nm,0.9s,baz=271,slow=6.0,SNR=4.7
W35A Tecumseh 94.82 42 ⇓P P 16 49 27.3 +0.1
baz=95
330A Mertzon 94.92 48 P P 16 49 27.8 0.0
baz=95
Z33A Whitaker Ranch 95.06 45 P P 16 49 28.3 -0.1
baz=95
529A Stev Forest Ra 95.14 49 ⇓P P 16 49 29.0 +0.1
baz=95
Y34A Reagan Ranch, 95.17 44 P P 16 49 28.4 -0.5
baz=95
Z34A Collier Ranch, 95.50 44 P P 16 49 30.4 +0.1
baz=95
X36A Centrahoma 95.54 42 P P 16 49 30.7 +0.3
baz=95
530A J-C Ranch, Com 95.68 49 P P 16 49 31.2 0.0
baz=96
332A Millersview 95.81 47 ⇓P P 16 49 32.1 +0.3
baz=96
SFIN Lafayette 95.84 33 ⇑P P 16 49 31.7 0.0
baz=96
SFIN Lafayette 95.84 33 *e*P P 16 49 30.0 -1.7
X37A Clayton 96.08 42 P P 16 49 32.2 -0.7
baz=96
531A Rocksprings 96.16 48 P P 16 49 33.2 -0.3
baz=96
TORD Torodi Ar. Bea 117.97 310 PKP PKPdf 16 54 49.9 -0.9
comp=Z,0.8nm,0.5s,baz=74,slow=1.6,SNR=14
DBIC Dimbokro 127.04 311 PKP PKPdf 16 55 07.7 -0.5
comp=Z,1.1nm,0.4s,baz=230,slow=0.8,SNR=3.8
SDV Santo Domingo 130.13 38 *e*PKPdf PKPdf 16 55 14.5 +0.2
VNA1 Neumayer--Stat 138.16 196 P SKPbc 16 58 32.3 +0.8
SAML Samuel 149.00 44 *e*PKPbc PKPbc 16 55 52.1 -0.2
LPAZ La Paz 151.05 61 PKPbc PKPbc 16 55 58.2 +0.3
comp=Z,5.7nm,0.5s,baz=297,slow=2.3,SNR=7.5
BDFB Brasilia 161.79 19 PKP PKPdf 16 56 04.7 -0.3
comp=Z,4.4nm,0.8s,baz=252,slow=3.2,SNR=3.9

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*ISCJB **05** 16:56:45.6±0.9, 23°.8S±0°.3×175°.67W±0°.09, h31km, mb3.8/5, MS3.0/1, Error ellipse: s-maj=41.8km s-min=9.8km az=172.5*
*IDC **05** 16:56:45.3±1.9, 23°.87S×176°.01W, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/21, mbtmp3.9/6, ML3.3/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/26, Error ellipse: s-maj=60.0km s-min=28.8km az=13.0*

ISC 05 16:56:48.3±0.9, 23°.8S±0°.3×175°.72W±0°.10, h31km, n18, σ1.28/9, mb3.9/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
RAR	**Rarotonga**	**14.96**	**83**	Pn	**P**	**17 00 22.9**	**+0.2**
	1.3nm,0.3s,baz=209,slow=13,SNR=4.2						
RAR				Sn	**Sn**	**17 03 01.2**	**-1.1**
	0.7nm,0.3s,baz=142,slow=19,SNR=2.2						
RAR				LR	LR	17 05 09.9	
	comp=Z,66nm,22.0s,baz=279,slow=33						
RAR				T		17 16 34.1	
	7.1nm,0.3s,baz=166,slow=4.4,SNR=7.0						
TBI	**Tubuai**	**24.07**	**94**	*e*LR	LR	17 07 50.9	
	90nm,26.2s						
TBI	**Tubuai**	**24.07**	**94**	*e*T	T	17 27 24.0	
	8.6nm,0.3s						
PAE	**Paea**	**25.17**	**81**	*e*T	T	17 28 59.9	
	7.1nm,0.3s						
PPT2	**Papeete2**	**25.20**	**81**	*e*LR	LR	17 08 39.5	
	96nm,24.5s						
PPT2	**Papeete2**	**25.20**	**81**	*e*T	T	17 29 03.1	
	5.3nm,0.4s						
PPT	**Papeete**	**25.20**	**81**	LR	LR	17 09 43.4	
	comp=Z,43nm,19.7s,baz=340,slow=30						
TVO	**Taravao**	**25.43**	**81**	*e*T	T	17 29 19.3	
	0.7nm,0.3s						
MEH	**Mehetia**	**26.48**	**82**	*e*T	T	17 30 36.6	
	18nm,0.3s						
VAH	**Vaihoa**	**27.77**	**77**	*e*T	T	17 32 17.3	
	5.5nm,0.3s						
CTA	**Charters Tower**	**35.40**	**268**	P	**P**	**17 03 41.4**	**-0.1**
	1.1nm,0.5s,baz=146,slow=11,SNR=2.9						
RKT	**Rikitea**	**37.30**	**97**	*e*T	T	17 43 51.8	

	1.9nm,0.3s						
STKA	Stephens Creek	38.41	248	P	P	17 04 07.0	0.0
	1.0nm,0.5s,baz=100,slow=12,SNR=3.9						
ASAR	Alice Springs	45.92	259	P	P	17 05 07.0	-1.5
	0.7nm,0.7s,baz=94,slow=7.5,SNR=11						
WRA	Warramunga Arr	46.32	265	P	P	17 05 11.3	-0.4
	0.6nm,0.4s,baz=99,slow=8.2,SNR=13						
VNDA	Vanda	54.87	186	P	P	17 06 14.9	-0.4
	0.5nm,0.9s,baz=19,slow=4.3,SNR=3.6						
HFS	Hagfors	143.07	352	PKP	PKPdf	17 16 20.1	+1.5
	1.5nm,0.8s,baz=2.8,slow=5.9,SNR=2.7						
TORD	Torodi Ar. Bea	169.15	166	PKPab	PKPab	17 18 06.7	+1.9
	1.1nm,0.8s,baz=188,slow=5.1,SNR=6.8						

*TEH **05** 16:59:02.0, 28.°19N×66.°01E, h10^{km}, ML5.0*

*ISCJB **05** 16:59:14.8±0.1, 28.°11N±0.°02×66.°11E±0.°02, h10^{km}, mb4.7/116, MS4.3/54, Error ellipse: s-maj=3.1km s-min=2.1km az=20.2*

*IDC **05** 16:59:14.5±0.5, 28.°09N×66.°00E, h0^{km}, mb4.4/28, mb1 4.5/29, mb1mx4.4/43, mbtmp4.4/29, ML4.5/1, MS4.3/29, Ms1 4.3/29, ms1mx4.2/42, Error ellipse: s-maj=13.5km s-min=11.5km az=11.0*

*NEIC **05** 16:59:15.9±0.3, 28.°17N×65.°97E, h10^{km}, mb4.9/31, Error ellipse: s-maj=6.1km s-min=5.3km az=171.0*

*BJI **05** 16:59:15.0, 28.°29N×66.°00E, h5^{km}, mb4.7/55, mB4.9/43, Ms4.9/59, Ms7 4.6/55*

*GCMT **05** 16:59:16.0±0.2, 27.°87N×66.°04E, h22^{km}±1^{km}, MW5.0/76, Moment Tensor Solution. s25,c30; s76,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.24±.13; $M_{\theta\theta}$-1.81±.12; $M_{\phi\phi}$2.05±.12; $M_{r\theta}$0.37±.17; $M_{\theta\phi}$-3.26±.09; $M_{\phi r}$-0.56±.17; Best double couple: $M_0$3.84100×10^{16} NP1:ϕ_s105.00000°, δ84.00000°, λ173.00000°. NP2: ϕ_s196.00000°, δ83.00000°, λ6.00000°. Principal axes: T 4.0140, Plg9.0000°, Azm60.0000°; N -0.3450, Plg81.0000°, Azm245.0000°; P -3.6690, Plg1.0000°, Azm150.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **05** 16:59:18.5±1.5, 28.°16N×66.°08E, h32^{km}, mb5.1/43, MS4.4/25 Error ellipse: s-maj=5.8km s-min=3.7km az=106.5*

*ISN **05** 16:59:19.2±1.0, 29.°20N×66.°23E, h0^{km}±16^{km}, ML4.1*

*SZGRF **05** 16:59:26.5, 28.°32N×65.°09E, h33^{km}, mb4.9, MS4.0, Pakistan*

ISC 05 16:59:17.4±0.4**, 28.°08N**±0.°03×**66.°10E**±0.°03**, h16**^{km}±1^{km}**, h16**^{km}**:pP-P, n412, σ1.80**/478**, mb4.8**/123**, MS4.3**/56**, 45C-29D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BHJ	Bhuj	5.78	145	eP	Pn	17 00 43.4	+0.9
BHJ				eS	Sn	17 01 47.0	-1.5
THW	Thamme Wali	6.77	45	⇑P	Pn	17 00 56.1	-0.1
SARP	Sargodha	6.87	55	P	Pn	17 00 56.7	-0.8
KBL	Kabul	6.92	21	eP	Pn	17 00 56.7	-1.7
KBL				e		17 02 16.1	
KBL				pmax	pmax		
	comp=Z,178nm,0.9s						
KBL	Kabul	6.92	21	ePn	Pn	17 00 56.7	-1.7
	comp=Z,178nm,0.9s						
KBL				eSn	Sn	17 02 16.1	-0.8
IDAH	Dahanechah	7.11	312	eP	Pn	17 01 03.9	+2.9
IKOO	Kooshah	7.51	307	eP	Pn	17 01 08.6	+2.0
CEP	Cherat	7.60	40	P	Pn	17 01 07.6	-0.1
AJM	Ajmer	7.77	100	eP	Pn	17 01 10.0	0.0
AJM				eS	Sn	17 02 35.0	-2.7
ITEG	Tejag	7.95	309	eP	Pn	17 01 09.8	-2.8
CHCP	Chirah Chowk	8.30	46	⇑P	Pn	17 01 16.4	-0.8
WBK	Wadi Bani Khal	8.43	231	⇓P	Pn	17 01 14.6	-4.4
IBND	Bandar-abas	8.49	268	eP	Pn	17 01 20.9	+1.1
SMDO	Samad	8.81	237	⇑P	Pn	17 01 20.9	-3.4
	SNR=16						
SMDO				ml		17 01 34.0	
	SNR=7.6						
BANOM	Banah	9.00	258	⇑P	Pn	17 01 25.8	-0.9
HOQ	Hoqain	9.09	242	⇑P	Pn	17 01 24.6	-3.4
	SNR=12						
HOQ				ml		17 01 37.4	
	SNR=9.7						
JMDO	Jabal Madar	9.20	234	⇑P	Pn	17 01 27.2	-2.3
UOSS	Wadi Hilu	9.39	253	Pn	Pn	17 01 28.0	-4.2
	comp=Z,829nm,0.4s,SNR=21						
UOSS	Wadi Hilu	9.39	253	ePn	Pn	17 01 28.5	-3.7
HATD	Hatta, Dubai	9.50	252	⇑P	Pn	17 01 31.4	-2.2
BHK	Bhakra	9.57	67	eP	Pn	17 01 34.0	-0.6
BHK				ex	Sn	17 03 25.8	+4.0
DLH	Dalhousie	9.62	60	ex	Pn	17 01 37.0	+1.5
DLH				ex	Sn	17 03 25.0	+1.6
BSY	Bisya	9.63	239	⇑P	Pn	17 01 33.8	-1.7
	SNR=26						
BSY				ml		17 01 41.5	
	SNR=6.3						
IMYA	Miami	9.68	330	eP	Pn	17 01 37.0	+0.8
DHRM	DHARAMSHALA	9.76	62	eP	Pn	17 01 37.2	-0.2
DHRM				ex	Sn	17 03 20.8	-6.1
DHRM				AML	AML	17 03 35.1	
	comp=E,693nm,0.9s						
DHRM				AML	AML	17 03 35.5	
	comp=N,706nm,0.8s						
IBAF	Bafgh	9.79	294	eP	Pn	17 01 41.3	+3.5
NDI	New Delhi	9.81	84	eP	Pn	17 01 37.0	-1.0
NDI				eS	Sn	17 03 24.0	-3.9
NAZ	Nazwa, Dubai	9.84	254	⇓P	Pn	17 01 37.3	-0.9
	SNR=13						
ARQ	Araqi	9.84	243	P	Pn	17 01 38.1	-0.2
	SNR=36						
ARQ				ml		17 01 40.0	
	SNR=9.2						
IMOG	Moghan	9.84	326	eP	Pn	17 01 39.8	+1.2
ISRO	Mashad	9.94	327	eP	Pn	17 01 41.7	+1.9
FAQ	Al Faqa, Dubai	9.98	253	⇓iP	Pn	17 01 39.4	-0.8
	SNR=24						
SDNR	Sundarnagar	10.04	68	eP	Pn	17 01 41.5	+0.4
SDNR				eS	Sn	17 03 26.0	-7.5
SMLA	Simla	10.11	70	i P	Pn	17 01 42.1	+0.2
SMLA				eS	Sn	17 03 27.4	-7.5
ASUD	Al Ashush, Dub	10.25	253	i P	Pn	17 01 43.3	-0.6
	SNR=8.6						
IPAY	Payeh	10.28	326	eP	Pn	17 01 46.4	+1.8
IMEH	Mehriz	10.51	291	eP	Pn	17 01 50.6	+2.9
IAKL	Akhelmad	10.52	326	eP	Pn	17 01 49.0	+1.1
DDI	Dehra Dun	10.69	75	eP	Pn	17 01 49.5	-0.4
DDI				ex	Sn	17 03 47.7	-1.7
DDI				AML	AML	17 08 59.3	
	comp=E,90nm,0.1s						
DDI				AML	AML	17 08 60.0	
	comp=N,92nm,0.1s						
IKRD	Kardeh	10.78	326	eP	Pn	17 01 46.1	-5.3
DZET	Dzherino	10.94	11	P	Pn	17 01 54.0	+0.6
DZET				pmax	pmax		
	comp=Z,88nm,1.4s						
IPAR	Pars	11.56	282	eP	Pn	17 02 01.6	-0.6
POO	Poona	11.87	142	eP	Pn	17 02 06.0	-0.2
LGTI	Lohaghat	12.49	80	eP	Pn	17 02 18.4	+3.8
LGTI				eS	Sn	17 04 29.5	-3.9
IKAZ	Kazeroun	12.60	281	eP	Pn	17 02 13.7	-2.7
IZEF	Zefreh	12.80	295	eP	Pn	17 02 20.4	+1.2
SFK	Sufi-Kurgan	13.39	25	P	Pn	17 02 26.9	-0.1
SFK				pmax	pmax		
	comp=Z,135nm,1.6s						
NGP	Nagpur	13.65	117	eP	Pn	17 02 29.7	-0.7
NGP				ex	Sn	17 04 56.8	-4.9
KLRI	Killari	13.87	134	ePn	Pn	17 02 33.7	+0.2
KLRI				epPn	pPn	17 02 36.2	-1.2
KLRI				eP	P	17 02 36.6	-5.2
KLRI				IAmb	IAmb	17 02 36.8	
	comp=Z,44nm,1.4s						
KLRI				IVMs_BB	IVMs_BB	17 09 38.2	
	comp=Z,3μm,8.7s						
IPIR	Pirpir	13.90	293	eP	P	17 02 40.7	-1.6
KSH	Kashi	14.05	33	P	Pn	17 02 28.9	-7.0
KSH				sP		17 02 38.6	
KSH				ePP	P	17 02 42.3	-1.4
KSH				S	Sn	17 04 58.0	-14
KSH				sS	S	17 05 04.3	-29
KSH				SS	SnSn	17 05 15.8	-8.4
KSH				PMZ			
	comp=Z,77nm,1.0s						
KSH				LN			
	comp=Z,3μm,10.2s						
KSH				LE			
	comp=Z,6μm,9.2s						
KSH				LZ			
	comp=Z,5μm,14.7s						
IVRN	Varamin	14.05	303	eP	P	17 02 45.4	+1.7
SRSP	Sriramsagar	14.45	126	ePn	Pn	17 02 39.8	-1.7
SRSP				eSn	Sn	17 05 25.1	+3.7
SRSP				IVMs_BB	IVMs_BB	17 09 45.9	
	comp=Z,2μm,7.1s						
RPR	Rampur	15.18	124	ePn	Pn	17 02 51.6	+0.3
RPR				IAmb	IAmb	17 02 52.6	
	comp=Z,26nm,0.8s						
RPR				e		17 05 37.7	
RPR				eSn	Sn	17 05 43.1	+3.9
MNAS	Manas	15.29	18	P	Pn	17 02 50.3	-2.5
MNAS				pmax	pmax		
	comp=Z,83nm,1.3s						
AML	Almayashu	15.33	22	P	Pn	17 02 54.6	+1.1
	SNR=6.6						
KK31	Karatay Array	15.41	12	i P	Pn	17 02 52.3	-2.0
KK31				pmax	pmax		
	comp=Z,65nm,1.6s						
KKAR	Karatay Array	15.41	12	eP	Pn	17 02 51.3	-2.9
KKAR	Karatay Array	15.41	12	ePn	Pn	17 02 51.3	-2.9
KOLN	Koldanda	15.48	87	eP	Pn	17 02 52.3	-3.1
KOLN				eS	Sn	17 05 36.4	-10
IRAZ	Razeghan	15.56	302	eP	P	17 02 58.9	-1.8
HYBB	Hyderabad (bro	15.62	130	ePn	Pn	17 02 58.1	+1.0
HYBB				e		17 05 42.8	
HYBB				eSn	Sn	17 05 53.6	+3.6
HYBB				IVMsBB		17 10 16.1	
	comp=Z,1μm,8.7s						
HYB	Hyderabad	15.62	130	i P	Pn	17 02 58.0	+0.9
HYB	Hyderabad	15.62	130	eP	Pn	17 02 57.0	-0.1
HYB	Hyderabad	15.62	130	eP	Pn	17 02 57.0	-0.1
UCH	Uchtor	15.70	24	P	Pn	17 02 56.2	-2.1
	SNR=64						
EKS2	Erkin-Say	15.83	21	P	Pn	17 02 57.5	-2.3
	SNR=54						
EKS2	Erkin-Say	15.83	21	eP	Pn	17 02 57.3	-2.5
EKS2				pmax	pmax		
	comp=Z,116nm,1.4s						
EKS2	Erkin-Say	15.83	21	ePn	Pn	17 02 57.3	-2.5
	comp=Z,116nm,1.4s						
KZA	Kyzart	15.84	26	P	P	17 03 03.2	-0.7
	SNR=14						
AAK	Ala-Archa	16.05	23	Pn	Pn	17 03 01.7	-0.9
	comp=Z,255nm,1.5s,SNR=11						
AAK	Ala-Archa	16.05	23	P	Pn	17 03 03.9	+1.4
	SNR=30						
AAK	Ala-Archa	16.05	23	Pn	Pn	17 03 00.5	-2.1
	comp=Z,1.8nm,0.3s,baz=198,slow=12,SNR=36						
AAK				Sn	Sn	17 05 56.6	-3.6
	comp=Z,0.1nm,0.3s,baz=348,slow=20,SNR=3.6						
AAK				LR	LR	17 10 15.5	
	comp=Z,2μm,18.3s,baz=206,slow=41						
AAK	Ala-Archa	16.05	23	⇓eP	Pn	17 03 00.4	-2.1
AAK				pmax	pmax		
	comp=Z,29nm,1.4s						
AAK	Ala-Archa	16.05	23	ePn	Pn	17 03 00.5	-2.1
	comp=Z,105nm,1.5s						
AAK				Sn	Sn	17 05 56.6	-3.6
KBK	Karagaybulak	16.23	24	P	Pn	17 03 03.5	-1.4
	SNR=15						
FRU	Bishkek	16.26	23	eP	Pn	17 03 02.0	-3.2
FRU				eS	Sn	17 06 04.0	-1.3
FRU				pmax	pmax		
	comp=Z,100nm,1.8s						
ULHL	Ulahol	16.37	28	P	Pn	17 03 07.0	+0.2
	SNR=8.8						
GKN	Gorkha	16.37	86	eP	Pn	17 03 02.8	-4.0
GKN				eS	Sn	17 05 56.2	-12
CHMS	Chumysh	16.46	23	P	Pn	17 03 03.0	-4.7
	SNR=21						
URV	Uravakonda	16.67	139	ePn	P	17 03 12.4	-0.5
URV				IAmb	IAmb	17 03 20.2	
	comp=Z,21nm,0.8s						
URV				eSn	S	17 06 21.7	-5.0
URV				IVMs_BB	IVMs_BB	17 11 12.1	
	comp=Z,1μm,9.0s						
TKM2	Tokmak 2	16.69	25	P	Pn	17 03 07.7	-3.1
	SNR=20						
TKM2	Tokmak 2	16.69	25	P	Pn	17 03 07.9	-2.9
TKM2				pmax	pmax		
	comp=Z,96nm,1.5s						
TKM2	Tokmak 2	16.69	25	ePn	Pn	17 03 08.0	-2.9
	comp=Z,92nm,1.4s						
NJS	Nagarjunasagar	16.74	130	eP	Pn	17 03 11.1	-0.4
NJS				IAmb	IAmb	17 03 19.8	
	comp=Z,20nm,1.0s						
NJS				eSn	Sn	17 06 21.7	+4.5
NJS				IVMs_BB	IVMs_BB	17 10 46.2	
	comp=Z,2μm,11.1s						
SRLM	Srisailam	16.80	133	ePn	Pn	17 03 12.0	-0.1
SRLM				eSn	Sn	17 06 18.2	-0.2
SRLM				IVMs_BB	IVMs_BB	17 11 45.3	
	comp=Z,1μm,7.8s						
DMN	Daman	16.82	87	eP	Pn	17 03 09.2	-3.5
	comp=Z,109nm,0.9s						
KKN	Kakani	16.96	86	eP	Pn	17 03 10.6	-3.7
	comp=Z,123nm,0.9s						
IKOM	Komasi	17.03	296	eP	Pn	17 03 14.2	-0.9
PKI	Pulchoki	17.10	87	eP	Pn	17 03 12.2	-3.9
	comp=Z,76nm,0.7s						
MNGI	Mangalore	17.12	150	ex	x	17 09 33.1	
RCLA	Racherla	17.31	134	ePn	Pn	17 03 19.2	+0.7
RCLA				eSn	Sn	17 06 32.3	+1.4
RCLA				IVMs_BB	IVMs_BB	17 11 00.5	
	comp=Z,2μm,16.0s						
GUN	Gumba	17.48	86	eP	Pn	17 03 18.0	-2.9
AAA	Alma-Ata	17.51	27	eP	P	17 03 22.8	+0.7
AAA				eS	Sn	17 06 36.6	+0.9
AAA				pmax	pmax		
	comp=Z,700nm,2.4s						
AAA				smax	smax		
	comp=E,600nm,6.3s						
AAA				MLR	MLR		
	comp=Z,4μm,13.0s						
NSR	Nassriya	17.61	284	ePn	x	17 03 23.1	
NSR				eSn	x	17 06 38.4	
ADKI	Addanki	17.69	131	eP	Pn	17 03 22.0	-1.2
ADKI				IAmb	IAmb	17 03 26.6	
	comp=Z,25nm,1.0s						
ADKI				eSn	Sn	17 06 43.7	+3.5
JIRN	Jiri	17.77	87	eP	Pn	17 03 21.9	-2.7
PVM	Polavaram	17.91	124	eP	P	17 03 26.4	-0.1
PVM				IAmb	IAmb	17 03 32.6	
	comp=Z,48nm,1.8s						
PVM				eSn	Sn	17 06 48.2	+2.8
PVM				IVMs_BB	IVMs_BB	17 11 20.5	
	comp=Z,1μm,10.5s						
IDHR	Dehrash	18.06	296	eP	Pn	17 03 27.4	-0.6
IBDR	Badra	18.07	291	eP	x	17 03 27.7	
IBDR				eS	x	17 06 49.1	
RAMN	Ramite	18.23	89	eP	Pn	17 03 27.5	-2.6
BOK	Bokaro	18.30	99	eP	Pn	17 03 30.0	-0.7
BOK				ex	x	17 06 43.7	
ODAN	Odare	18.94	89	eP	P	17 03 37.0	-1.0
	comp=Z,123nm,0.7s						
CHLP	Challavanipeta	19.03	116	eP	Pn	17 03 41.7	+2.1
CHLP				IAmb	IAmb	17 03 46.6	
	comp=Z,18nm,0.9s						
CHLP				eSn	S	17 07 16.8	+2.3
CHLP				IVMs_BB	IVMs_BB	17 11 46.2	
	comp=Z,2μm,10.8s						
RAYN	Ar Rayn	19.08	261	P	P	17 03 36.6	-2.8
	comp=Z,100nm,1.7s,SNR=7.8						
RAYN	Ar Rayn	19.08	261	eP	P	17 03 36.7	-2.8
	comp=Z,70nm,2.0s						
SKHT	Srikalahasti	19.08	136	eSn	S	17 07 15.7	+0.2
SKHT				IAmb	IAmb	17 07 19.1	
	comp=Z,43nm,1.7s						
SKHT				IVMs_BB	IVMs_BB	17 12 37.9	
	comp=Z,2μm,9.7s						
TAPN	Taplejung	19.15	87	eP	P	17 03 39.4	-1.1
	comp=Z,160nm,0.9s						
IKRK	Kirkuk	19.87	297	eP	x	17 03 47.9	
IKRK				eS	x	17 07 29.0	
IMRD	Marand	20.02	307	eP	P	17 03 49.4	-0.4
GNI	Garni	21.33	310	P	P	17 04 03.5	-0.4
	comp=Z,14nm,0.8s,baz=215,slow=2.1,SNR=8.6						
GNI				LR	LR	17 13 21.5	
	comp=Z,500nm,19.1s,baz=105,slow=40						
GNI	Garni	21.33	310	c iP	P	17 04 03.9	0.0
GNI				pmax	pmax		
	comp=Z,33nm,1.2s						
GNI				MLR	MLR		
	comp=Z,519nm,18.0s						
GNI	Garni	21.33	310	P	P	17 04 03.5	-0.4
	comp=Z,2.3nm,1.0s						
DGRG	David-gareji	21.56	314	P	P	17 04 06.6	+0.3
DGRG				S	Sn	17 08 14.7	+1.4
DGRG	David-gareji	21.56	314	P	P	17 04 06.5	+0.3
DGRG				S	Sn	17 08 14.7	+1.4
ABKAR	Akbulak array	21.67	349	eP	P	17 04 06.2	-1.1
LSA	Lhasa	21.99	80	P	P	17 04 14.0	+2.6
LSA	Lhasa	21.99	80	eP	P	17 04 13.0	+1.6
LSA				pmax	pmax		
	comp=Z,153nm,1.0s						
LSA	Lhasa	21.99	80	eP	P	17 04 13.0	+1.6
	comp=Z,153nm,1.0s						
TBLG	Delisi	22.11	314	P	P	17 04 15.2	+3.1
TBLG				S	S	17 08 20.5	+5.1
TBLG	Delisi	22.11	314	P	P	17 04 15.2	+3.1
MK31	Makanchi Array	22.60	30	i P	P	17 04 17.6	+0.3
MK31				pmax	pmax		
	comp=Z,17nm,0.8s						
MK31	Makanchi Array	22.60	30	eP	P	17 04 15.3	-2.1
MKAR	Makanchi Array	22.60	30	P	P	17 04 15.8	-1.5
	comp=Z,3.6nm,0.5s,baz=215,slow=10,SNR=44						
MKAR				LR	LR	17 15 09.7	
	comp=Z,2μm,20.8s,baz=224,slow=42						
MKAR	Makanchi Array	22.60	30	c eP	P	17 04 16.1	-1.2
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MKAR	Makanchi Array	22.60	30	eP	P	17 04 16.4	-0.9
RTB	Rutbah	22.73	289	eP	x	17 04 21.0	
RTB				eS	x	17 08 29.7	
SHL	Shillong	23.14	90	eP	P	17 04 24.0	+0.7
SHL				ex	S	17 08 34.0	-0.4
AKTO	Aktyubinsk	23.16	347	P	P	17 04 21.9	-1.2
	comp=Z,74nm,1.2s,baz=160,slow=10,SNR=58						
AKTO				LR	LR	17 14 45.9	
	comp=Z,1μm,18.0s,baz=157,slow=40						
ZEI	Tsey	23.20	315	eP	P	17 04 24.3	+0.5
ZEI				pmax	pmax		
	comp=Z,14nm,0.5s						
ONI	Oni	23.38	314	P	P	17 04 27.3	+1.9
ONI				S	S	17 08 37.3	-0.5
ONI	Oni	23.38	314	P	P	17 04 27.3	+1.9
ONI				S	S	17 08 37.3	-0.5
WMQ	Urumqi	23.41	42	P	P	17 04 25.2	-0.5
WMQ				pP	pP	17 04 29.2	-1.2
WMQ				sP	sP	17 04 32.8	+0.3
WMQ				PP	PnPn	17 04 59.8	+7.8
WMQ				PcP	PcP	17 08 13.2	+1.3
WMQ				S	S	17 08 37.8	-0.5
WMQ				PMZ			
	comp=Z,74nm,2.0s						
WMQ				PMZ			
	comp=Z,530nm,4.0s						
WMQ				LN			
	comp=Z,4μm,17.4s						
WMQ				LE			
	comp=Z,2μm,19.0s						
WMQ				LZ			
	comp=Z,1μm,17.0s						
DAMY	Dhamar	24.22	241	eP	P	17 04 32.5	-1.5
	comp=Z,83nm,1.1s						
KBZ	Khabaz	24.32	316	P	P	17 04 33.4	-0.9
	comp=Z,8.6nm,0.8s,baz=326,slow=24,SNR=16						
KURBB	Kurchatov Arra	24.42	19	P	P	17 04 34.7	-0.4
	comp=Z,15nm,1.0s,baz=211,slow=9.2,SNR=69						
KURK	Kurchatov	24.53	19	P	P	17 04 36.4	+0.3
	comp=Z,77nm,1.4s,SNR=7.2						
KURK	Kurchatov	24.53	19	P	P	17 04 34.7	-1.4
KURK				pmax	pmax		
	comp=Z,15nm,1.0s						
KURK	Kurchatov	24.53	19	eP	P	17 04 35.2	-0.9
KIV	Kislovodsk	24.57	316	P	P	17 04 38.4	+1.7
	comp=Z,217nm,0.8s,SNR=6.0						
KIV	Kislovodsk	24.57	316	d iP	P	17 04 37.8	+1.1
KIV				i		17 04 54.0	
KIV				i		17 05 15.1	
KIV				i S	S	17 08 55.6	-1.4
KIV				pmax	pmax		
	comp=Z,51nm,1.2s						
KIV	Kislovodsk	24.57	316	⇓P	P	17 04 34.2	-2.5
	SNR=12						
KIV	Kislovodsk	24.57	316	eP	P	17 04 34.0	-2.7
	comp=Z,28nm,0.8s						
GOF	Gofitskoye	24.97	319	eP	P	17 04 40.8	+0.6
GOF				pmax	pmax		
	comp=Z,30nm,1.2s						
BVA0	Borovoye Array	25.13	6	i P	P	17 04 41.7	+0.2
BVA0				pmax	pmax		
	comp=Z,71nm,1.4s						
BVAR	Borovoye Array	25.13	6	P	P	17 04 41.2	-0.3
	comp=Z,25nm,1.0s,baz=177,slow=9.8,SNR=52						
BRVK	Borovoye	25.15	6	P	P	17 04 42.1	+0.4
	comp=Z,278nm,1.2s,SNR=12						
BRVK	Borovoye	25.15	6	c eP	P	17 04 42.5	+0.8
BRVK				pmax	pmax		
	comp=Z,76nm,1.2s						
BRVK				MLR	MLR		
	comp=Z,787nm,24.0s						
BRVK	Borovoye	25.15	6	eP	P	17 04 41.5	-0.2
	comp=Z,74nm,1.2s						
ASF	Jabal al Asfar	25.55	286	P	P	17 04 48.0	+2.3
	comp=Z,5.2nm,0.9s,baz=50,slow=5.6,SNR=5.8						
ASF	Jabal al Asfar	25.55	286	P	P	17 04 48.0	+2.3
SOC	Sochi	26.25	313	eP	P	17 04 52.2	+0.4
SOC				e		17 05 27.4	
SOC				eS	S	17 09 22.8	-0.7
SOC				eSS	SnSn	17 10 24.2	+1.1
SOC				pmax	pmax		
	comp=Z,13nm,0.8s						
SOC				MLR	MLR		
	comp=Z,363nm,18.0s						
MMAI	Mount Meron Ar	26.83	288	P	P	17 05 01.0	+3.7
	comp=Z,2.7nm,0.8s,baz=105,slow=11,SNR=3.9						
MMAI				LR	LR	17 16 55.1	
	comp=Z,379nm,18.1s,baz=50,slow=40						
EIL	Elat	27.28	281	P	P	17 05 04.0	+2.7
	comp=Z,8.4nm,0.8s,baz=41,slow=6.5,SNR=9.5						
EIL				LR	LR	17 19 05.5	
	comp=Z,1μm,18.2s,baz=85,slow=44						
ANN	Anapa	28.26	314	eP	P	17 05 10.5	+0.7
ANN				eS	S	17 09 58.5	+3.3
ANN				pmax	pmax		
	comp=Z,40nm,1.5s						
ARU	Arti	28.84	351	P	P	17 05 17.2	+2.3
	comp=Z,85nm,1.3s,SNR=5.3						
ARU	Arti	28.84	351	d iP	P	17 05 16.8	+1.9
ARU						17 06 09.9	
ARU				S	S	17 10 08.0	+3.9
ARU				SS	SnSn	17 11 28.9	+2.8
ARU				pmax	pmax		
	comp=Z,25nm,1.2s						
ARU				MLR	MLR		
	comp=Z,823nm,16.0s						
ARU	Arti	28.84	351	eP	P	17 05 12.5	-2.4
	comp=Z,25nm,1.3s						
SVE	Sverdlovsk	29.00	354	eP	P	17 05 18.5	+2.3
SVE				pmax	pmax		
	comp=Z,30nm,1.6s						
SVE				MLR	MLR		
	comp=Z,774nm,13.0s						
BR131	Keskin Array S	29.18	302	eP	P	17 05 16.9	-1.4
	comp=Z,2.7nm,0.8s						
BRTR	Keskin Array B	29.18	302	P	P	17 05 16.6	-1.7
	comp=Z,2.2nm,0.9s,baz=112,slow=8.5,SNR=10.0						
BRTR	Keskin Array B	29.18	302	c eP	P	17 05 18.1	-0.2
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZAA0	Zalesovo Array	29.27	23	eP	P	17 05 16.6	-2.1
ZALV	Zalesovo Beam	29.27	23	P	P	17 05 18.8	+0.1
	comp=Z,2.7nm,0.5s,baz=232,slow=10,SNR=13						
ZALV				LR	LR	17 18 16.4	
	comp=Z,1μm,20.0s,baz=250,slow=39						
NVS	Novosibirsk	29.50	20	eP	P	17 05 20.8	+0.1
NVS				pmax	pmax		
	comp=Z,30nm,1.7s						
NVS				pmax	pmax		
	comp=N,19nm,1.8s						
GTA	Gaotai	30.07	59	eP	P	17 05 28.3	+2.2
GTA				pP	pP	17 05 32.6	+1.6
GTA				sP	sP	17 05 35.4	+2.3
GTA				S	S	17 10 29.1	+5.1
GTA				sS	sS	17 10 35.7	+3.6

GTA PMZ
comp=N,8.0nm,1.9s
GTA PMZ
comp=N,67nm,5.5s
GTA LN
comp=N,1μm,16.6s
GTA LE
comp=N,700nm,17.6s
GTA LZ
comp=N,830nm,16.2s
SIM Simferopol' 30.47 312 *e*P **P 17 05 29.7 +0.3**
SIM *e*S **S 17 10 31.0 +1.1**
SIM pmax pmax
comp=Z,11nm,0.8s
VORD Divnogorie 30.52 326 *e*P **P 17 05 30.2 +0.4**
VORD pmax pmax
comp=Z,8.0nm,0.9s
VORD pmax pmax
comp=N,30nm,0.8s
VORD pmax pmax
comp=E,20nm,0.6s
VSR Storozhevoye 30.74 326 *e*P **P 17 05 32.0 +0.3**
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,8.0nm,0.7s
HVS Khovu-Aksy 31.03 34 P P 17 05 38.0 +3.6
CHTO Chiang Mai 31.43 100 *e*P **P 17 05 38.2 0.0**
CHTO pmax pmax
comp=Z,28nm,1.8s
CHTO Chiang Mai 31.43 100 *e*P **P 17 05 38.1 0.0**
comp=Z,28nm,1.8s
CMAR Chiang Mai Arr 31.57 100 P **P 17 05 41.6 +2.1**
comp=Z,0.8nm,0.7s,baz=297,slow=7.2,SNR=8.3
CMAR LR LR 17 19 08.2
comp=Z,277nm,19.9s,baz=265,slow=38
LPSR Galich'ya Gora 31.73 328 *e*P **P 17 05 41.4 +1.0**
LPSR pmax pmax
comp=N,10.0nm,0.5s
LPSR pmax pmax
comp=Z,10.0nm,0.5s
LPSR pmax pmax
comp=E,50nm,1.6s
SOKR Solikamsk 32.15 351 *d i*P **P 17 05 46.4 +2.4**
SOKR 17 16 03.3
SOKR pmax pmax
comp=Z,80nm,1.8s
SOKR MLR MLR
comp=Z,650nm,15.0s
CD2 Chengdu 32.80 76 *e*P **P 17 05 50.3 +0.1**
CD2 pP **pP 17 05 53.4 -1.7**
CD2 sP **sP 17 05 54.7 -2.4**
CD2 PP **PP 17 07 04.4 0.0**
CD2 S **S 17 11 08.2 +1.4**
CD2 sS **sS 17 11 13.5 -1.4**
CD2 PMZ
comp=Z,20nm,0.7s
CD2 PMZ
comp=Z,170nm,4.5s
CD2 LN
comp=Z,3μm,18.1s
CD2 LE
comp=Z,990nm,10.4s
CD2 LZ
comp=Z,790nm,11.1s
LZH Lanzhou 32.81 66 P **P 17 05 50.1 -0.2**
LZH pP **pP 17 05 53.5 -1.8**
LZH sP **sP 17 05 56.1 -1.2**
LZH *e*PP **PnPn 17 06 59.2 +0.4**
LZH *e*S **S 17 11 04.0 -3.0**
LZH sS **sS 17 11 13.2 -1.9**
LZH SS **SnSn 17 13 03.0 -0.3**
LZH PMZ
comp=Z,38nm,1.2s
LZH PMZ
comp=Z,120nm,4.6s
LZH LN
comp=Z,1μm,14.1s
LZH LE
comp=Z,960nm,12.7s
LZH LZ
comp=Z,2μm,15.3s
KMI Kunming 32.82 87 P **P 17 05 52.6 +2.0**
KMI pP **pP 17 06 00.3 +4.8**
KMI sP sP 17 06 03.5 +5.9
KMI S **S 17 11 09.3 +1.8**
KMI PMZ
comp=Z,9.0nm,0.9s
KMI PMZ
comp=Z,130nm,5.2s
KMI LN
comp=Z,530nm,18.0s
KMI LE
comp=Z,520nm,19.7s
KMI LZ
comp=Z,720nm,17.7s
KRAR Krasnoyarsk 33.86 27⇓ *e*P **P 17 06 01.5 +2.5**
KRAR pmax pmax
comp=Z,49nm,1.6s
KRAR MLR MLR
comp=Z,1μm,24.0s
TIRR Tirgusor 34.15 309 *e*P **P 17 06 00.2 -1.5**
TIRR pmax pmax
comp=Z,9.0nm,0.8s
TIRR Tirgusor 34.15 309⇑ *i*P **P 17 06 00.5 -1.2**
TIRR Tirgusor 34.15 309 *e*P **P 17 06 00.2 -1.5**
comp=Z,9.4nm,0.8s
MOS Moscow 34.37 331 *e*P **P 17 06 03.9 +0.5**
MOS pmax pmax
comp=Z,200nm,1.6s
MOS pmax pmax
comp=Z,99nm,1.4s
MOS MLR MLR
comp=E,900nm,17.0s
MOS MLR MLR
comp=Z,700nm,17.0s
OBN Obninsk 34.42 330 LR LR 17 23 57.7
comp=Z,543nm,18.9s,baz=100,slow=43
OBN Obninsk 34.42 330 *d i*P **P 17 06 04.7 +0.9**
OBN *i* 17 06 15.1
OBN *i* 17 07 19.1
OBN *i* S **S 17 11 25.7 -5.4**
OBN pmax pmax
comp=Z,101nm,1.7s
OBN Obninsk 34.42 330 *e*P **P 17 06 02.4 -1.4**
comp=Z,96nm,1.4s
TLB Topalu 34.44 309⇓ P **P 17 06 03.3 -0.9**
TLB Topalu 34.44 309⇓ *i*P **P 17 06 03.3 -0.9**
MSAB Monastyr St. A 34.46 308⇑ *i*P **P 17 06 03.1 -1.3**
CFR Carcaliu 34.54 310⇑ P **P 17 06 03.7 -1.3**
CFR Carcaliu 34.54 310⇑ *i*P **P 17 06 03.7 -1.3**
IDI Anoyia 35.60 292 LR LR 17 25 40.8
comp=Z,282nm,21.4s,baz=112,slow=45
VRI Vrincioaia 35.68 311⇑ P **P 17 06 15.4 +0.4**
VRI Vrincioaia 35.68 311⇑ *i*P **P 17 06 15.4 +0.4**
PLOR Plostina 35.73 311⇑ P **P 17 06 15.8 +0.4**
PLOR Plostina 35.73 311⇑ *i*P **P 17 06 15.8 +0.4**
AK02 Malin Array Si 35.81 319 *e*P **P 17 06 14.5 -1.4**
AKASG Malin Array Be 35.82 319 P **P 17 06 13.9 -2.1**
comp=Z,6.1nm,0.7s,baz=114,slow=7.1,SNR=35
AKASG LR LR 17 23 58.9
comp=Z,267nm,18.1s,baz=110,slow=42
AKBB Malin Array Si 35.82 319 *e*P P 17 06 11.3 -4.7
AKBB Malin Array Si 35.82 319 *e*P P 17 06 11.3 -4.7
AK01 Malin Array Si 35.82 319 *e*P **P 17 06 12.9 -3.1**
KIEV Kiev 35.83 319 *e*P P 17 06 11.9 -4.2
KIEV pmax pmax
comp=Z,26nm,1.0s
KIEV Kiev 35.83 319 *e*P P 17 06 11.9 -4.2
comp=Z,26nm,1.0s
ZAK Zakamensk 35.87 41 *e*P **P 17 06 16.8 +0.2**
ZAK pmax pmax
comp=Z,8.0nm,1.9s
TESR Tescani 35.92 312⇓ *i*P **P 17 06 16.1 -0.9**
GYA Guiyang 35.98 83⇑ *i*P **P 17 06 19.7 +1.8**
GYA PP **PP 17 07 40.8 +1.1**
GYA PcP **PcP 17 08 44.5 0.0**
GYA S **S 17 11 56.0 -0.1**
GYA ScP **ScP 17 12 30.8 +0.7**
GYA SS **SnSn 17 14 18.4 -2.0**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,520nm,17.8s
GYA LE
comp=Z,460nm,18.0s
GYA LZ
comp=Z,480nm,17.6s
MLR Muntele Rosu 36.11 310 LR LR 17 24 36.3
comp=Z,98nm,20.6s,baz=134,slow=42
MLR Muntele Rosu 36.11 310⇓ P **P 17 06 19.3 +0.5**
MLR Muntele Rosu 36.11 310⇓ *i*P **P 17 06 19.3 +0.5**
RZN Rozhen 36.21 303 *e*P **P 17 06 18.0 -1.8**
PRGR Permogore 36.23 344 *e*P **P 17 06 18.5 -0.8**
PRGR pmax pmax
comp=Z,103nm,1.3s
DOPR Dopca 36.61 310⇓ *i*P **P 17 06 21.9 -1.0**
TLY Talaya 36.63 39 *e*P **P 17 06 25.1 +2.1**
TLY *e*S **S 17 11 59.5 -5.7**
TLY *e*SS **SnSn 17 14 30.1 -5.1**
TLY pmax pmax
comp=Z,19nm,1.3s
TLY MLR MLR
comp=Z,1μm,21.0s
VOIR 36.71 309⇓ P **P 17 06 23.4 -0.4**
VOIR 36.71 309⇓ *i*P **P 17 06 23.4 -0.4**
SONM Songino Array 36.87 47 P **P 17 06 26.4 +1.2**
comp=Z,4.1nm,0.9s,baz=218,slow=9.4,SNR=15
SONM PP **PnPn 17 07 54.1 +4.9**
comp=Z,4.3nm,1.0s,baz=262,slow=10,SNR=5.9
SONM LR LR 17 23 10.0
comp=Z,771nm,18.2s,baz=238,slow=39
MMB Musomiste 36.93 303⇑ P **P 17 06 25.0 -0.7**
MMB Musomiste 36.93 303⇑ *i*P **P 17 06 25.0 -0.7**
MMB Musomiste 36.93 303 *e*P **P 17 06 23.0 -2.7**
XAN Xi'an 36.96 70 P **P 17 06 26.8 +0.7**
XAN pP **pP 17 06 32.1 +1.0**
XAN PMZ
comp=Z,4.0nm,1.1s
XAN LN
comp=Z,760nm,27.6s
XAN LZ
comp=Z,240nm,20.5s
ARR Arges 36.98 309⇑ *i*P **P 17 06 25.6 -0.5**
BURAR Bucovina Array 37.18 313⇑ P **P 17 06 26.6 -1.2**
BURAR Bucovina Array 37.18 313⇑ *i*P **P 17 06 26.5 -1.2**
BUR08 Bucovina Ar. S 37.20 313 *e*P **P 17 06 26.1 -1.8**
MPEP Malo Peshtene 37.20 306 *e*P **P 17 06 28.9 +1.0**
KLMR Klimovskoe 37.34 339 *d i*P **P 17 06 29.2 +0.4**
KLMR pmax pmax
comp=Z,129nm,1.3s
KLMR MLR MLR
comp=Z,1μm,17.0s
VTS Vitosha 37.46 304⇓ P **P 17 06 29.8 -0.5**
VTS Vitosha 37.46 304⇓ *i*P **P 17 06 29.8 -0.5**
VTS Vitosha 37.46 304 *e*P **P 17 06 29.0 -1.3**
LOT Lotru 37.59 309⇑ *i*P **P 17 06 30.5 -0.8**
GZR Gura Zlata 38.26 309⇓ P **P 17 06 37.7 +0.8**
GZR Gura Zlata 38.26 309⇓ *i*P **P 17 06 37.7 +0.8**
LVV L'vov 38.59 316 *e*P **P 17 06 39.7 +0.1**
LVV *e* 17 08 30.5
DRGR 38.61 311⇑ P **P 17 06 39.9 0.0**
DRGR 38.61 311⇑ *i*P **P 17 06 39.9 0.0**
BZS Buzias 39.10 309⇑ P **P 17 06 42.8 -1.1**
BZS Buzias 39.10 309⇑ *i*P **P 17 06 42.8 -1.1**
HHC Hu-ho-hao-te 39.18 59 *e*P **P 17 06 46.2 +1.4**
HHC sP **sP 17 06 52.5 +0.7**
HHC PP **PnPn 17 08 20.3 +3.1**
HHC S **S 17 12 46.7 +2.3**
HHC sS **sS 17 12 53.0 +0.4**
HHC ScS **ScS 17 16 51.1 -2.4**
HHC PMZ
comp=Z,18nm,0.9s
HHC PMZ
comp=Z,53nm,5.6s
HHC LN
comp=Z,400nm,13.7s
HHC LE
comp=Z,930nm,14.5s
HHC LZ
comp=Z,830nm,14.3s
KWP Kalwaria Pacla 39.35 315 *e*P **P 17 06 46.7 +0.8**
KWP Kalwaria Pacla 39.35 315 *e*P **P 17 06 46.8 +0.8**
KOLS Kolonicke sedl 39.43 314 *e*P **P 17 06 47.1 +0.4**
KOLS pmax pmax
comp=Z,36nm,1.4s
KOLS Kolonicke sedl 39.43 314 *e*pP **P 17 06 47.0 +0.4**
DIVS Divibare 40.00 306⇑ *i*P **P 17 06 51.7 +0.2**
KMBO Kilima Mbogo 40.12 228 P **P 17 06 53.4 +0.4**
comp=Z,0.9nm,0.3s,baz=45,slow=10,SNR=5.3
KMBO LR LR 17 24 30.2
comp=Z,244nm,18.6s,baz=96,slow=38
PSI Prapat 40.15 123 P **P 17 06 54.9 +1.8**
comp=Z,6.8nm,0.8s,baz=324,slow=15,SNR=3.5
PSI LR LR 17 24 22.7
comp=Z,440nm,20.4s,baz=296,slow=37
STHS Stebnicka Huta 40.21 314 *e*P **P 17 06 54.5 +1.4**
STHS pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 40.21 314 *e*pP **P 17 06 54.5 +1.4**
TMCR Tamitsa 40.31 341 *e*P **P 17 06 55.8 +2.1**
TMCR pmax pmax
comp=Z,118nm,1.2s
KECS Kecovo 40.47 313 *e*P **P 17 06 55.4 +0.2**
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS Kecovo 40.47 313 *e*P **P 17 06 55.3 +0.1**
PSZ Piszkesteto 40.73 312 *e*P **P 17 06 55.8 -1.7**
PSZ pmax pmax
comp=Z,79nm,2.0s
PSZ Piszkesteto 40.73 312⇑ *i*P **P 17 06 57.1 -0.4**
PSZ Piszkesteto 40.73 312 *e*P **P 17 06 55.8 -1.7**
comp=Z,79nm,2.0s
PSZ Piszkesteto 40.73 312⇓ *e*P **P 17 06 58.5 +1.0**
VSU Vasula 40.77 329⇓ *e*P **P 17 06 59.3 +1.8**
VSU pmax pmax
comp=Z,50nm,0.8s
VSU MLR MLR
comp=Z,1μm,17.0s
NIE Niedzica 40.80 314 *e*P **P 17 06 59.6 +1.6**
NIE Niedzica 40.80 314 *e*P **P 17 06 59.7 +1.7**
QIZ Qiongzhong 40.92 93 P **P 17 06 58.8 -0.5**
QIZ S **S 17 13 11.6 +1.0**
QIZ PMZ
comp=Z,77nm,5.9s
QIZ LZ
comp=Z,330nm,16.8s
PKSM Moragy 41.25 309⇓ *e*P **P 17 07 01.3 -0.4**
OJC Ojcow 41.32 315 *e*P **P 17 07 02.3 0.0**
OJC Ojcow 41.32 315 *e*P **P 17 07 02.2 0.0**
OJC pmax pmax
comp=Z,41nm,1.9s
OJC Ojcow 41.32 315 *e*P **P 17 07 02.2 0.0**
comp=Z,40nm,1.9s
WHN Wuhan 41.90 75⇑ P **P 17 07 10.3 +3.1**
WHN S **S 17 13 19.8 -5.1**
WHN LN
comp=Z,6μm,21.3s
WHN LE
comp=Z,3μm,21.6s
WHN LZ
comp=Z,1μm,14.3s
OKC Ostrava-Krasne 42.27 314 *e*P **P 17 07 09.1 -0.9**
OKC *ex* x 17 07 24.9
OKC AMS AMS 17 31 20.0
comp=Z,200nm,14.0s
OKC Ostrava-Krasne 42.27 314 *e*P **P 17 07 09.1 -0.9**
OKC *e* 17 07 24.9
OKC MLR MLR
comp=Z,200nm,14.0s
FINES FINESS Array B 42.63 333 P **P 17 07 11.4 -1.3**
comp=Z,7.7nm,0.7s,baz=140,slow=9.3,SNR=28
FINES LR LR 17 27 29.9
comp=Z,301nm,18.7s,baz=126,slow=40
FINES FINESS Array B 42.63 333 *ce*P **P 17 07 12.0 -0.7**
FINES pmax pmax
comp=Z,8.0nm,0.7s
BJI Beijing 42.66 60 P **P 17 07 14.7 +1.4**
BJI S **S 17 13 36.7 +0.7**
BJI PMZ
comp=Z,14nm,0.5s
BJI LN
comp=Z,760nm,15.8s
BJI LE
comp=Z,270nm,13.4s
BJI LZ
comp=Z,350nm,22.4s
CUC Castrococco 42.82 300 *e*P **P 17 07 13.4 -1.3**
comp=Z,22nm,0.8s
SOP Sopron 42.90 311⇓ *e*P **P 17 07 15.5 +0.4**
VRAC Vranov 43.15 313⇑ P **P 17 07 17.9 +0.7**
VRAC Vranov 43.15 313⇑ *i*P **P 17 07 17.9 +0.7**
KRLC Kraliky 43.18 314 *e*P **P 17 07 17.7 +0.2**
KRLC Kraliky 43.18 314 *e*P **P 17 07 15.7 -1.8**
GCIS Gornji Cirnik 43.29 308 *e*P **P 17 07 18.6 +0.3**
GROS Grobnik 43.44 309 *e*P **P 17 07 19.9 +0.2**
DPC Dobruska-Polom 43.52 315 *e*P **P 17 07 20.3 +0.1**
DPC AMS AMS 17 28 40.0
comp=Z,200nm,15.3s
DPC Dobruska-Polom 43.52 315 *e*P **P 17 07 20.3 +0.1**
DPC MLR MLR
comp=Z,200nm,15.3s
KSP Ksiaz 43.64 315 *e*P **P 17 07 22.3 +1.2**
KSP Ksiaz 43.64 315 *e*P **P 17 07 22.3 +1.2**
UPC Upice 43.75 315 *e*P **P 17 07 22.4 +0.4**
UPC *ex* x 17 07 40.2
UPC Upice 43.75 315 *e*P **P 17 07 22.4 +0.4**
UPC *e* 17 07 40.2
SOKA Soboth 43.79 309⇓ *i*pP **P 17 07 22.1 -0.3**
comp=Z,17nm,1.2s,SNR=14
TREC Trest 43.86 313 *e*P **P 17 07 22.7 -0.2**
TREC *ex* x 17 07 39.7
TREC AMS AMS 17 33 00.0
comp=Z,200nm,15.7s
TREC Trest 43.86 313 *e*P **P 17 07 22.7 -0.2**
TREC *e* 17 07 39.7
TREC MLR MLR
comp=Z,200nm,15.7s
LVZ Lovozero 44.06 344 *e*P **P 17 07 24.4 +0.1**
LVZ pmax pmax
comp=Z,33nm,1.0s
LVZ MLR MLR
comp=Z,470nm,14.0s
OBKA Obir 44.10 309⇑ *i*pP **P 17 07 24.3 -0.7**
comp=Z,20nm,1.5s,SNR=7.4
APA Apatity 44.13 343⇑ *i*P **P 17 07 26.2 +1.4**
APA pmax pmax
comp=Z,58nm,1.2s
APA MLR MLR
comp=Z,2μm,22.0s
GOPC GO Pecny, Ondr 44.41 314 AMS AMS 17 32 10.0
comp=Z,300nm,15.5s
MOA Molln 44.45 311⇑ *i*pP **P 17 07 27.2 -0.5**
comp=Z,15nm,1.4s,SNR=5.9
MYKOM Kota Tinggi 44.53 119 *e*P **P 17 07 29.3 +0.7**
comp=Z,15nm,1.1s
BOD Bodaibo 44.56 34 *e*P **P 17 07 26.4 -2.0**
BOD pmax pmax
comp=Z,7.0nm,1.9s
PRU Pruhonice 44.58 314 *e*P **P 17 07 27.5 -1.2**
PRU *ex* x 17 07 45.0
PRU AMS AMS 17 32 10.0
comp=Z,100nm,15.3s
PRU Pruhonice 44.58 314 *e*P **P 17 07 27.5 -1.2**
PRU *e* 17 07 45.0
PRU MLR MLR
comp=Z,100nm,15.3s
PVCC Panska Ves 44.66 315 *e*P **P 17 07 30.7 +1.4**
PVCC AMS AMS 17 30 50.0
comp=Z,300nm,16.7s
PVCC Panska Ves 44.66 315 *e*P **P 17 07 30.7 +1.4**
PVCC MLR MLR
comp=Z,300nm,16.7s
GEC2 GERESS Array S 44.95 312 *e*P **P 17 07 31.5 -0.3**
comp=Z,36nm,1.6s
GERES GERESS Array B 44.95 312 P **P 17 07 30.9 -0.9**
comp=Z,3.1nm,0.8s,baz=96,slow=6.8,SNR=15
GERES LR LR 17 29 28.4
comp=Z,167nm,21.0s,baz=116,slow=40
KBA Koelnbreinsper 44.98 310⇑ *i*pP **P 17 07 31.9 -0.3**
comp=Z,20nm,1.1s,SNR=8.8
KHC Kasperske Hory 45.07 313 *e*P **P 17 07 31.3 -1.3**
KHC *ex* x 17 07 48.7
KHC AMS AMS 17 34 30.0
comp=Z,300nm,13.7s
KHC Kasperske Hory 45.07 313 P **P 17 07 29.6 -3.0**
KHC pmax pmax
comp=Z,4.0nm,1.4s
KHC Kasperske Hory 45.07 313 P **P 17 07 29.6 -3.0**
comp=Z,4.1nm,1.4s
BRG Berggiesshubel 45.11 315 *e*P **P 17 07 33.2 +0.4**
comp=Z,37nm,1.5s
comp=N,209nm,18.8s
comp=E,233nm,14.5s
comp=Z,372nm,14.7s
BRG Berggiesshubel 45.11 315 *e*P **P 17 07 33.3 +0.4**
comp=Z,38nm,1.5s
BRG Berggiesshubel 45.11 315 *e*P **P 17 07 33.2 +0.4**
BRG pmax pmax
comp=Z,19nm,1.5s
BRG MLR MLR
comp=E,209nm,14.5s
BRG MLR MLR
comp=Z,233nm,14.7s
RJOB Jochberg 45.42 311 *e*P **P 17 07 34.9 -0.6**
comp=Z,16nm,1.5s
NJ2 Nanjing 45.47 72 *e*P **P 17 07 34.2 -1.7**
NJ2 pP **pP 17 07 38.6 -2.4**
NJ2 sP **sP 17 07 40.4 -2.5**
NJ2 S **S 17 14 17.0 0.0**
NJ2 sS **sS 17 14 27.0 +1.7**
NJ2 PMZ
comp=Z,50nm,1.1s
NJ2 LN
comp=Z,720nm,9.0s
NJ2 LE
comp=Z,490nm,12.3s
NJ2 LZ
comp=Z,1μm,13.4s
FBE Freiberg 45.49 315 *e*P **P 17 07 36.7 +0.9**
comp=Z,40nm,1.5s
RUE Ruedersdorf 45.51 317 *e*P **P 17 07 35.7 -0.3**
comp=Z,36nm,1.6s
ABTA Abfaltersbach 45.52 309⇑ *i*pP **P 17 07 35.9 -0.4**
comp=Z,23nm,1.5s,SNR=8.0
WET Wettzell 45.53 313 *e*P **P 17 07 35.8 -0.5**
comp=Z,36nm,2.3s
CLL Collm 45.77 316 *e*P **P 17 07 38.0 -0.1**
comp=Z,10.0nm,1.6s
CLL *e*S **S 17 14 21.0 +0.1**
CLL *e*SS **SS 17 17 48.0 +2.9**
CLL Lm MLR 17 30 00.0
comp=N,300nm,19.2s
CLL Lm MLR 17 30 00.0
comp=E,200nm,19.6s
CLL LmV 17 33 00.0
comp=Z,200nm,18.9s
CLL Collm 45.77 316 *e*P **P 17 07 38.0 -0.1**
CLL *e*S **S 17 14 21.0 +0.1**
CLL pmax pmax
comp=Z,10.0nm,1.6s
CLL MLR MLR
comp=Z,200nm,18.9s
NKC Novy Kostel 45.95 314 *e*P **P 17 07 40.8 +1.2**
NKC AMS AMS 17 33 00.0
comp=Z,300nm,12.3s
NKC Novy Kostel 45.95 314 *e*P **P 17 07 40.8 +1.2**
NKC MLR MLR
comp=Z,300nm,12.3s
WERN Wernitzgruen 46.01 314 *e*P **P 17 07 40.4 +0.4**
comp=Z,13nm,1.5s
ROTZ Rotzenmuhle 46.04 313 *e*P **P 17 07 40.5 +0.2**
comp=Z,16nm,1.6s
GUNZ Gunzen 46.05 314 *e*P **P 17 07 40.5 +0.2**
comp=Z,20nm,1.7s
WERD Werda 46.07 314 *e*P **P 17 07 40.7 +0.2**
comp=Z,18nm,1.7s
MANZ Manzenberg 46.14 314 *e*P **P 17 07 41.5 +0.5**
comp=Z,19nm,1.6s
WTTA Wattenberg 46.16 310 *i*pP **P 17 07 40.6 -0.8**
comp=Z,21nm,1.5s,SNR=5.2
PLN Plauen 46.17 314 *e*P **P 17 07 41.5 +0.2**
comp=Z,13nm,1.5s
NEUB Neuenburg 46.52 315 *e*P **P 17 07 44.3 +0.4**
comp=Z,25nm,1.4s
MOX Moxa 46.54 314 *e*P **P 17 07 44.5 +0.3**
comp=Z,25nm,1.2s
MOX *e*L L 17 32 56.5
comp=Z,151nm,21.7s
GRF Grafenberg Arr 46.67 313 *e*P **P 17 07 45.6 +0.4**
comp=Z,27nm,1.4s

GRF				eL	L	17 32 13.8	
	comp=Z,216nm,18.2s						
FETA	Feichten	46.76	309	i pP	P	17 07 45.3	-0.8
	comp=Z,20nm,1.6s,SNR=8.9						
FUORN	Ofenpass-Fuorn	47.06	309	eP	P	17 07 47.3	-1.3
	comp=Z,7.1nm,1.0s						
DAVA	Damuels	47.35	310⇑	iP	P	17 07 49.2	-1.5
	comp=Z,15nm,0.9s,SNR=7.2						
CLZ	Clausthal	47.47	316	eP	P	17 07 52.0	+0.5
	comp=Z,18nm,1.3s						
UBBA	Unterbreizbach	47.58	315	eP	P	17 07 52.7	+0.6
	comp=Z,24nm,1.7s						
ARCES	ARCESS Array B	47.60	342	P	P	17 07 52.6	+0.5
	comp=Z,29nm,1.1s,baz=125,slow=6.1,SNR=16						
ARCES				LR	LR	17 29 51.6	
	comp=Z,712nm,18.6s,baz=98,slow=39						
NRDL	Niedersach Rie	47.73	317	eP	P	17 07 53.8	+0.5
	comp=Z,31nm,1.9s						
STU	Stuttgart	47.91	312	eP	P	17 07 54.0	-0.9
	comp=Z,15nm,1.3s						
KEST	Kesra	48.21	294	P	P	17 07 57.9	+0.4
	comp=Z,3.7nm,0.7s,baz=207,slow=10,SNR=9.1						
KEST				LR	LR	17 31 57.4	
	comp=Z,127nm,19.3s,baz=350,slow=41						
KEST	Kesra	48.21	294	eP	P	17 07 55.7	-1.8
TNS	Taunus Mts	48.51	314	eP	P	17 08 00.1	+0.6
	comp=Z,24nm,1.6s						
NB2	NORSAR Subarra	48.97	328	P	P	17 08 01.6	-1.3
	comp=Z,11nm,0.9s,baz=109,slow=7.9						
NOA	NORSAR Array B	48.97	328	P	P	17 08 01.7	-1.2
	comp=Z,4.0nm,0.7s,baz=110,slow=7.5,SNR=20						
NOA				LR	LR	17 31 48.5	
	comp=Z,242nm,18.2s,baz=100,slow=40						
SENIN	Lac Senin/Sane	49.10	308	eP	P	17 08 03.5	-0.9
ECH	Echery	49.23	311	eP	P	17 08 03.2	-1.9
ECH				pmax	pmax		
	comp=Z,15nm,1.3s						
ECH	Echery	49.23	311	eP	P	17 08 03.2	-1.9
	comp=Z,15nm,1.3s						
CN2	Changchun	49.53	55	eP	P	17 08 07.0	-0.4
CN2				eS	S	17 15 12.6	-1.9
CN2				PMZ			
	comp=Z,10.0nm,0.7s						
CN2				PMZ			
	comp=Z,200nm,4.0s						
CN2				LN			
	comp=Z,400nm,14.0s						
CN2				LE			
	comp=Z,600nm,14.0s						
CN2				LZ			
	comp=Z,700nm,17.0s						
WLF	Walferdange	49.95	313	eP	P	17 08 11.2	+0.7
	comp=Z,43nm,1.8s						
WLF	Walferdange	49.95	313	eP	P	17 08 08.2	-2.3
WLF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WLF	Walferdange	49.95	313	eP	P	17 08 08.2	-2.3
	comp=Z,10nm,1.0s						
DOU	Dourbes	50.97	313	P	P	17 08 18.9	+0.7
	comp=Z,4.3nm,1.7s						
SSB	Saint Sauveur	51.04	307	eP	P	17 08 16.2	-2.7
SSB				pmax	pmax		
	comp=Z,27nm,1.5s						
SSB	Saint Sauveur	51.04	307	eP	P	17 08 16.2	-2.7
	comp=Z,28nm,1.5s						
SNF	Seneffe	51.18	314	P	P	17 08 19.4	-0.4
TJN	Taejon	51.74	64⇑	iP	P	17 08 25.8	+1.6
KSAR	Wonju Array Be	51.98	63	P	P	17 08 26.3	+0.3
KSAR	Wonju Array Be	51.98	63	P	P	17 08 26.2	+0.3
KSRS	Korea Array	52.01	63	P	P	17 08 26.2	+0.1
	comp=Z,5.0nm,0.8s,baz=272,slow=7.2,SNR=31						
KSRS				LR	LR	17 32 53.1	
	comp=Z,347nm,20.2s,baz=281,slow=39						
KSRS	Korea Array	52.01	63	P	P	17 08 26.3	+0.1
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSRS				MLR	MLR		
	comp=Z,347nm,20.2s						
MDJ	Mudanjiang	52.46	54	P	P	17 08 27.8	-1.6
MDJ				PP	PP	17 10 26.6	-1.5
MDJ				ScP	ScP	17 13 35.2	-1.4
MDJ				PcS	PcS	17 13 36.6	-1.7
MDJ				S	S	17 15 54.6	-0.5
MDJ				PMZ			
	comp=Z,4.0nm,1.3s						
MDJ				PMZ			
	comp=Z,31nm,5.1s						
MDJ				LN			
	comp=Z,410nm,15.6s						
MDJ				LE			
	comp=Z,400nm,16.1s						
MDJ				LZ			
	comp=Z,590nm,16.1s						
LEM	Lembang	53.01	124	LR	LR	17 33 29.5	
	comp=Z,276nm,19.4s,baz=318,slow=39						
YAK	Yakutsk	53.26	32	eP	P	17 08 35.9	+0.9
YAK				e*PP	pP	17 08 47.5	+7.4
YAK				e		17 09 41.5	
YAK				e		17 10 44.3	
YAK				ePPP	PPP	17 11 41.2	
YAK				eS	S	17 16 04.8	-0.6
YAK				eSS	SS	17 19 46.0	+1.2
YAK				eSSS	SSS	17 21 38.4	
YAK				pmax	pmax		
	comp=Z,18nm,1.0s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,55nm,4.1s						
YAK				pmax	pmax		
	comp=N,43nm,3.5s						
YAK				pmax	pmax		
	comp=E,28nm,3.2s						
YAK				smax	smax		
	comp=N,60nm,4.1s						
YAK				smax	smax		
	comp=E,62nm,4.3s						
YAK				MLR	MLR		
	comp=Z,817nm,18.0s						
YAK				MLR	MLR		
	comp=N,248nm,16.0s						
YAK				MLR	MLR		
	comp=E,457nm,17.0s						
YAK	Yakutsk	53.26	32	eP	P	17 08 33.4	-1.6
	comp=E,17nm,0.9s						
KLR	Kul'dur	53.68	48	eP	P	17 08 34.2	-4.1
KLR				pmax	pmax		
	comp=Z,50nm,1.8s						
KLR				MLR	MLR		
	comp=E,700nm,12.0s						
KLR				MLR	MLR		
	comp=Z,1μm,12.0s						
USRK	Ussuriysk Ar.	54.21	54	LR	LR	17 35 16.9	
	comp=Z,899nm,18.2s,baz=271,slow=40						
HABR	Khabarovsk	55.90	49	eP	P	17 08 57.5	+3.1
HABR				e		17 09 53.0	
HABR				e		17 10 58.9	
HABR				ePPP	PPP	17 12 12.0	
HABR				eS	S	17 16 42.3	+0.9
HABR				e*SS	sS	17 16 47.7	-2.1
HABR				e		17 18 45.0	
HABR				eSS	SS	17 20 29.5	+2.6
HABR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HABR				MLR	MLR		
	comp=Z,646nm,21.0s						
ESDC	Sonseca Array	57.97	301	P	P	17 09 08.2	-1.2
	comp=Z,5.3nm,0.9s,baz=66,slow=7.5,SNR=26						
ESDC				LR	LR	17 37 58.3	
	comp=Z,158nm,18.8s,baz=10.0,slow=40						
ESLA	Sonseca Array	57.97	301	eP	P	17 09 08.2	-1.2
	comp=Z,3.9nm,1.2s						
PAB	San Pablo	58.29	301	eP	P	17 09 09.5	-2.1
PAB				pmax	pmax		
	comp=Z,16nm,1.0s						
PAB	San Pablo	58.29	301	eP	P	17 09 09.5	-2.1
	comp=Z,16nm,1.0s						
PBRG	Braganca	59.61	304	eP	P	17 09 22.4	+1.7
PBRG	Braganca	59.61	304	eP	P	17 09 22.4	+1.7
MVO	Moncorvo	59.96	303	eP	P	17 09 25.0	+1.9
MVO	Moncorvo	59.96	303	eP	P	17 09 25.0	+1.9
MJAR	Matsushiro Arr	60.26	62	P	P	17 09 24.4	-0.8
	comp=Z,0.5nm,0.8s,baz=273,slow=8.0,SNR=3.0						
MJAR				LR	LR	17 37 15.3	
	comp=Z,184nm,21.1s,baz=290,slow=38						
POLO	Lamas de Olo	60.47	304	eP	P	17 09 28.5	+1.8
POLO	Lamas de Olo	60.47	304	eP	P	17 09 28.5	+1.8
MTE	Manteigas	60.51	303	eP	P	17 09 28.8	+1.9
	comp=Z,43nm,1.5s						
MTE	Manteigas	60.51	303	eP	P	17 09 28.8	+1.9
	comp=Z,43nm,1.5s						
PMRV	Marv??o	60.62	302	eP	P	17 09 29.3	+1.7
	comp=Z,30nm,1.6s						
PMRV	Marv??o	60.62	302	eP	P	17 09 29.3	+1.7
	comp=Z,30nm,1.6s						
PBAR	Barrancos	60.65	300	eP	P	17 09 28.8	+1.0
PBAR	Barrancos	60.65	300	eP	P	17 09 28.8	+1.0
PVIS	Viseu	60.69	303	eP	P	17 09 29.4	+1.2
	comp=Z,30nm,1.5s						
PVIS	Viseu	60.69	303	eP	P	17 09 29.4	+1.2
	comp=Z,30nm,1.5s						
EVO	Evora	61.30	301	eP	P	17 09 34.3	+2.1
EVO	Evora	61.30	301	eP	P	17 09 34.3	+2.1
PTOM	Tomar	61.34	302	eP	P	17 09 34.1	+1.6
	comp=Z,69nm,1.5s						
PTOM	Tomar	61.34	302	eP	P	17 09 34.1	+1.6
	comp=Z,69nm,1.5s						
TOA0	Torodi Ar. Sit	61.46	270	eP	P	17 09 32.3	-1.4
TORD	Torodi Ar. Bea	61.46	270	P	P	17 09 32.0	-1.6
	comp=Z,2.5nm,0.8s,baz=62,slow=6.3,SNR=17						
TORD				LR	LR	17 39 09.9	
	comp=Z,311nm,19.7s,baz=65,slow=39						
PNCL	Nicolau / Gran	61.80	300	eP	P	17 09 37.8	+2.2
PNCL	Nicolau / Gran	61.80	300	eP	P	17 09 37.8	+2.2
ERM	Erimo	62.64	55	P	P	17 09 43.0	+1.9
ERM				pmax	pmax		
	comp=Z,16nm,1.2s						
SEY	Seymchan	63.74	31⇓	eP	P	17 09 48.4	+0.3
LBTB	Lobatse	65.62	220	eP	P	17 10 00.4	-0.6
LBTB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LBTB	Lobatse	65.62	220	eP	P	17 10 00.4	-0.6
	comp=Z,7.7nm,0.9s						
TSUM	Tsumeb	66.41	231	eP	P	17 10 06.9	+0.7
	comp=Z,27nm,1.8s						
BOSA	Boshof	68.61	218	P	P	17 10 18.2	-1.8
	comp=Z,1.7nm,0.4s,baz=83,slow=3.9,SNR=3.5						
PETK	Petropavlovsk-	68.98	40	LR	LR	17 44 27.4	
	comp=Z,305nm,18.6s,baz=291,slow=39						
PET	Petropavlovsk	69.56	40	eP	P	17 10 28.4	+3.0
PET				eS	S	17 19 32.2	-0.4
PET				MLR	MLR		
	comp=Z,500nm,17.0s						
DBIC	Dimbokro	70.09	267	P	P	17 10 29.0	-0.3
	comp=Z,1.8nm,0.5s,baz=28,slow=9.7,SNR=4.0						
DBIC				LR	LR	17 42 41.7	
	comp=Z,185nm,20.3s,baz=40,slow=37						
IM04	Indian Mountai	81.40	15	eP	P	17 11 32.6	-0.6
WRA	Warramunga Arr	81.41	118	P	P	17 11 33.2	-0.7
	comp=Z,3.4nm,0.9s,baz=314,slow=4.6,SNR=17						
WRAB	Tennant Creek	81.41	118	P	P	17 11 38.0	+4.0
WRAB				pmax	pmax		
	comp=Z,24nm,1.0s						
INK	Inuvik	82.81	7	eP	P	17 11 39.3	-1.2
INK				pmax	pmax		
	comp=Z,33nm,1.6s						
INK	Inuvik	82.81	7	eP	P	17 11 39.3	-1.2
	comp=Z,33nm,1.6s						
AS31	Alice Springs	83.16	121	eP	P	17 11 42.8	-0.3
ASAR	Alice Springs	83.16	121	P	P	17 11 42.2	-0.9
	comp=Z,2.6nm,0.7s,baz=305,slow=5.2,SNR=36						
BPAW	Bear Paw Mtn.	83.63	15	eP	P	17 11 47.4	+2.5
	comp=Z,12nm,2.3s						
COLA	College	83.66	14⇑	iP	P	17 11 46.8	+1.9
COLA				pmax	pmax		
	comp=Z,94nm,2.3s						
ILAR	Eielson Array	83.95	14	P	P	17 11 45.5	-1.0
	comp=Z,0.9nm,0.6s,baz=325,slow=3.6,SNR=14						
ILAR				LR	LR	17 54 34.6	
	comp=Z,193nm,20.7s,baz=316,slow=40						
EGAK	Eagle	85.04	11	eP	P	17 11 53.8	+1.8
	comp=Z,23nm,1.6s						
YKA	Yellowknife Ar	89.75	0	P	P	17 12 14.3	-0.4
	comp=Z,1.5nm,0.9s,baz=350,slow=4.8,SNR=15						
YKA	Yellowknife Ar	89.75	0	P	P	17 12 14.3	-0.4
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TXAR	Lajitas Array	122.08	349	PKP	PKPdf	17 18 12.7	+0.8
	comp=Z,0.1nm,0.5s,baz=105,slow=1.0,SNR=2.8						
PLCA	Paso Flores	142.43	239	PKP	PKPdf	17 18 49.4	-0.1
	comp=Z,13nm,1.2s,baz=104,slow=0.8,SNR=9.1						
ASAR	Alice Springs	135.10	228	PKP	PKPdf	17 36 17.4	+0.1
	0.4nm,0.8s,baz=115,slow=1.4,SNR=4.3						
WRA	Warramunga Arr	136.83	233	PKP	PKPdf	17 36 22.1	+1.4
	0.4nm,0.9s,baz=123,slow=1.4,SNR=4.8						

WEL 05 17:06:51.4±0.9, 34°.85S×177°.92E, h33km, ML4.0/3, Error ellipse: s-maj=17.1km s-min=6.5km az=90.0, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	2.91	182	PN	Pn	17 07 35.5	+0.2
HAZ				SN	Sn	17 08 10.7	+1.6
WMGZ	Waiomatatini S	3.00	172	PN	Pn	17 07 35.9	-0.6
PUZ	Puketiti	3.23	175	PN	Pn	17 07 38.1	-1.7
TWGZ	Tauwhareparae	3.33	179	PN	Pn	17 07 40.6	-0.6
TWGZ				SN	Sn	17 08 18.3	-1.3
URZ	Urewera	3.47	191	PN	Pn	17 07 42.7	-0.4
MWZ	Matawai	3.50	185	PN	Pn	17 07 42.0	-1.5
RIGZ	Rimuhau	3.85	182	PN	Pn	17 07 46.1	-2.4
RIGZ				SN	Sn	17 08 29.2	-3.4
KNZ	Kokohu	4.17	183	PN	Pn	17 07 49.6	-3.1

IDC 05 17:16:31.4±3.1, 7°.78N×93°.95E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.3/43, mbtmp3.7/4, Error ellipse: s-maj=181.2km s-min=24.5km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	Diego Garcia H	26.31	235	T	T	17 48 55.5	
	baz=54,slow=76,SNR=36						
H08S2	Diego Garcia H	26.32	235	T	T	17 48 55.7	
	baz=54,slow=76,SNR=41						
H08S1	Diego Carcia H	26.33	235	T	T	17 48 56.8	
	baz=54,slow=76,SNR=37						
ZALV	Zalesovo Beam	46.62	353	P	P	17 25 01.3	0.0
	0.4nm,0.4s,baz=178,slow=8.3,SNR=3.3						
WRA	Warramunga Arr	48.36	125	P	P	17 25 15.2	-0.1
	0.3nm,0.4s,baz=304,slow=8.6,SNR=6.1						
ASAR	Alice Springs	50.00	130	P	P	17 25 27.7	-0.2
	0.2nm,0.6s,baz=306,slow=8.0,SNR=6.4						
ARCES	ARCESS Array B	75.29	340	P	P	17 28 15.9	-0.2
	5.7nm,1.0s,baz=91,slow=7.2,SNR=2.9						
TXAR	Lajitas Array	139.39	24	PKP	PKPdf	17 36 02.6	+1.0
	0.1nm,0.4s,baz=270,slow=0.1,SNR=2.9						

IDC 05 17:17:08.1±2.9, 4°.93S×80°.47W, h97km±29km, mb3.6/5, mb1 3.8/7, mb1mx3.4/34, mbtmp4.0/7, MS3.3/4, Ms1 3.3/4, ms1mx3.1/15, Error ellipse: s-maj=62.0km s-min=22.4km az=47.0

ISC 05 17:17:01.6±1.2, 5°.4S±0°.4×81°.3W±0°.3, h42km, n12, σ2s.02/9, mb3.8/4, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	3.33	120	P	Pn	17 17 52.5	+0.9
	20nm,0.3s,baz=350,slow=6.7,SNR=57						
ATAH				S	Sn	17 18 31.1	+1.1
	30nm,0.3s,baz=103,slow=19,SNR=6.4						
ATAH				LR	LR	17 19 10.0	
	comp=Z,488nm,18.2s,baz=292,slow=40						
ROSC	El Rosal	12.37	34	LR	LR	17 24 49.1	
	comp=Z,91nm,19.8s,baz=218,slow=40						
LPAZ	La Paz	16.81	131	P	Pn	17 20 55.4	+0.8
	0.2nm,0.3s,baz=319,slow=9.1,SNR=7.2						
LPAZ				LR	LR	17 27 34.1	
	comp=Z,92nm,19.6s,baz=32,slow=38						
LVC	Limon Verde	20.84	146	P	Pn	17 21 43.1	+0.2
	9.9nm,0.7s,baz=342,slow=6.4,SNR=3.4						
SIV	San Ignacio	22.43	119	P	P	17 21 52.9	-4.2
	1.4nm,0.5s,baz=284,slow=12,SNR=3.2						
BDFB	Brasilia	34.19	110	LR	LR	17 39 42.3	
	comp=Z,92nm,19.0s,baz=144,slow=40						
TXAR	Lajitas Array	40.72	329	PcP	PcP	17 26 38.8	-0.7
	0.2nm,0.6s,baz=128,slow=5.8,SNR=3.3						
PDAR	Pinedale Array	54.41	335	P	P	17 26 26.1	+1.3
	0.5nm,0.3s,baz=206,slow=14,SNR=2.3						
NVAR	Mina Array Bea	55.53	325	P	P	17 26 32.5	-0.4
	0.5nm,0.7s,baz=136,slow=6.9,SNR=3.8						
TORD	Torodi Ar. Bea	84.42	76	P	P	17 29 26.0	-4.4
	0.6nm,0.6s,baz=283,slow=6.5,SNR=6.4						

BJI 05 17:39:00.4, 12°.75N×50°.13E, h10km, mb4.7/23, mB4.9/17, Ms4.6/7, Ms7 4.3/8
MOS 05 17:39:06.8±1.2, 13°.22N×50°.82E, h10km, mb4.7/18, Error ellipse: s-maj=10.9km s-min=6.2km az=93.8
IDC 05 17:39:06.7±0.6, 13°.22N×50°.75E, h0km, mb4.2/18, mb1 4.3/19, mb1mx4.2/44, mbtmp4.2/19, ML3.0/1, MS3.7/19, Ms1 3.7/19, ms1mx3.6/32, Error ellipse: s-maj=17.0km s-min=15.2km az=127.0
CSEM 05 17:39:07.5±0.3, 13°.28N×50°.69E, h2km, mb4.4/15, Error ellipse: s-maj=10.5km s-min=7.2km az=146.0
NEIC 05 17:39:08.1±0.4, 13°.20N×50°.78E, h10km, mb4.5/17, Error ellipse: s-maj=9.4km s-min=7.2km az=145.0
DHMR 05 17:39:09.9±1.2, 13°.44N×50°.24E, h2km±999km, ML4.5
ISN 05 17:39:10.5±2.2, 13°.22N×51°.62E, h44km±21km, ML4.1
ISC 05 17:39:10.7±0.7, 13°.20N±0°.06×50°.69E±0°.05, h25km±4km, h24km:pP-P, n233, σ1s.56/222, mb4.5/43, MS3.8/21, 18C-6D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	Al Mukalla	2.05	309⇑	iP	Pn	17 39 38.9	-4.6
MUKL				iS	Sn	17 40 00.9	-7.4
MUKL				AML	AML	17 40 02.3	
	comp=N,8μm,0.5s						
BDHA	Al Bayda'	5.04	279⇓	iP	Pn	17 40 23.0	-2.0
BDHA				AML	AML	17 40 36.0	
	comp=E,562nm,0.6s						
BDHA				iS	Sn	17 41 19.3	-3.3
BDHA	Al Bayda'	5.04	279⇓	iP	Pn	17 40 23.0	-2.0
	comp=E,281nm,0.6s						
BDHA				iS	Sn	17 41 19.3	-3.3
LBOS		5.33	278⇑	iP	Pn	17 40 26.9	-2.2
LBOS				iS	Sn	17 41 26.6	-3.3
DAMY	Dhamar	6.27	283	ePn	Pn	17 40 40.9	-1.0
DAMY	Dhamar	6.27	283	ePn	Pn	17 40 40.9	-1.0
TRBA	At Turbah	6.40	271	iP	Pn	17 40 40.3	-3.4
RAYN	Ar Rayn	11.38	335	ePn	Pn	17 41 45.2	-6.6
RAYN				eSn	Sn	17 43 37.7	-21
RAYN	Ar Rayn	11.38	335	ePn	Pn	17 41 45.2	-6.6
RAYN				eSn	Sn	17 43 37.7	-21
IKAZ	Kazeroun	16.53	4	eP	Pn	17 42 50.6	-11
NSR	Nassriya	18.21	347	eP	x	17 43 22.0	
NSR				eS	x	17 46 47.1	
IMEH	Mehriz	18.46	11	eP	P	17 43 22.0	-3.0
IMEH	Mehriz	18.46	11	eP	P	17 43 22.0	-3.0
IBAF	Bafgh	18.85	13	eP	P	17 43 24.5	-4.6
IPIR	Pirpir	19.40	1	eP	P	17 43 31.7	-3.5
IPIR	Pirpir	19.40	1	eP	P	17 43 31.7	-3.5
KMBO	Kilima Mbogo	19.50	224	P	P	17 43 35.5	-0.9
	comp=E,0.1nm,0.3s,baz=229,slow=19,SNR=3.6						
KMBO				LR	LR	17 51 12.1	
	comp=E,288nm,18.4s,baz=93,slow=37						
KMBO	Kilima Mbogo	19.50	224	iP	Pn	17 43 39.2	+1.4
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KMBO	Kilima Mbogo	19.50	224	iP	Pn	17 43 39.2	+1.4
	comp=Z,2.0nm,0.5s						
KMBO	Kilima Mbogo	19.50	224	eP	P	17 43 33.4	-3.1
	comp=Z,64nm,2.0s						
IZEF	Zefreh	19.66	4	eP	P	17 43 36.1	-2.1
IZEF	Zefreh	19.66	4	eP	P	17 43 36.1	-2.1
IKLH	Kolahrood	20.05	2	eP	P	17 43 41.0	-1.3
IKLH	Kolahrood	20.05	2	eP	P	17 43 41.0	-1.3
IBDR	Badra	20.29	348	eP	x	17 43 43.1	
IBDR				eS	x	17 47 33.7	
IKOO	Kooshah	20.60	20	eP	P	17 43 49.1	+0.8
IKOO	Kooshah	20.60	20	eP	P	17 43 49.1	+0.8
ITEG	Tejag	20.95	19	eP	P	17 43 52.8	+0.8
ITEG	Tejag	20.95	19	eP	P	17 43 52.8	+0.8
IKOM	Komasi	21.08	353	eP	P	17 43 51.5	-1.9
IKOM	Komasi	21.08	353	eP	P	17 43 51.5	-1.9
IVRN	Varamin	21.72	2	eP	P	17 43 59.8	-0.4
IVRN	Varamin	21.72	2	eP	P	17 43 59.8	-0.4
IDHR	Dehrash	21.76	350	eP	P	17 43 58.9	-1.8
IDHR	Dehrash	21.76	350	eP	P	17 43 58.9	-1.8
RTB	Rutbah	21.90	336	eP	x	17 44 04.7	
RTB				eS	x	17 48 07.1	
EIL	Elat	21.94	321	P	P	17 44 03.1	+0.6
	comp=Z,5.8nm,0.8s,baz=79,slow=3.8,SNR=4.1						
EIL				LR	LR	17 52 20.8	
	comp=Z,328nm,18.5s,baz=72,slow=36						
IRAZ	Razeghan	22.12	358	eP	P	17 44 04.1	-0.5
IRAZ	Razeghan	22.12	358	eP	P	17 44 04.1	-0.5
IDMV	Damavand	22.31	3	eP	P	17 44 06.0	-0.7
IDMV	Damavand	22.31	3	eP	P	17 44 06.1	-0.7
IANJ	Anjilo	22.36	7	eP	P	17 44 08.6	+1.3
IANJ	Anjilo	22.36	7	eP	P	17 44 08.6	+1.3
IFIR	Firoozkooh	22.42	4	eP	P	17 44 11.5	+3.6
ASF	Jabal al Asfar	22.73	328	P	P	17 44 13.2	+2.2
	comp=Z,5.6nm,0.8s,baz=67,slow=5.6,SNR=7.9						
IKRK	Kirkuk	22.84	347	eP	x	17 44 12.7	
IKRK				eS	x	17 48 20.0	
IALA	Alasht	22.86	4	eP	P	17 44 18.4	+5.8
IGZV	Ghazvin	23.09	359	eP	P	17 44 14.6	-0.3
IGZV	Ghazvin	23.09	359	eP	P	17 44 14.6	-0.3
IGLO	Ghaloghah	23.38	6	eP	P	17 44 17.4	-0.3
IMOG	Moghan	24.10	17	eP	P	17 44 25.2	+0.4
IMOG	Moghan	24.10	17	eP	P	17 44 25.2	+0.4
MMAI	Mount Meron Ar	24.16	327	P	P	17 44 29.6	+4.5
	comp=Z,5.2nm,0.8s,baz=140,slow=16,SNR=3.0						
MMAI				LR	LR	17 53 33.4	
	comp=Z,120nm,18.2s,baz=105,slow=36						
ISRO	Mashad	24.33	17	eP	P	17 44 26.8	+0.2
ISRO	Mashad	24.33	17	eP	P	17 44 26.8	+0.2
IMYA	Miami	24.55	19	eP	P	17 44 28.6	-0.1
IMYA	Miami	24.55	19	eP	P	17 44 28.6	-0.1
IAZR	Azarshahr	24.74	351	eP	P	17 44 34.2	+3.7
IMRD	Marand	25.79	351	eP	P	17 44 40.7	+0.7
IMRD	Marand	25.79	351	eP	P	17 44 40.7	+0.7
KBL	Kabul	26.98	35	P	P	17 44 49.1	-1.8
KBL				pmax	pmax		
	comp=Z,12nm,0.9s						
KBL	Kabul	26.98	35	P	P	17 44 49.1	-1.8
	comp=Z,12nm,0.9s						
KBL	Kabul	26.98	35	P	P	17 44 49.1	-1.8
	comp=Z,12nm,0.9s						
GNI	Garni	27.35	350	P	P	17 44 53.9	-0.1
	comp=Z,8.2nm,0.6s,baz=228,slow=1.6,SNR=9.4						
GNI				LR	LR	17 57 27.7	
	comp=Z,425nm,21.0s,baz=168,slow=40						
GNI	Garni	27.35	350	P	P	17 44 54.0	0.0
GNI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GNI	Garni	27.35	350	P	P	17 44 54.0	0.0
	comp=Z,4.0nm,0.8s						
GNI	Garni	27.35	350	eP	P	17 44 53.4	-0.6
	comp=Z,18nm,0.8s						
H08N2	Diego Garcia H	27.99	133	T	T	18 13 57.5	
	baz=314,slow=76,SNR=35						
H08N3	Diego Garcia H	28.00	133	T	T	18 13 59.5	
	baz=314,slow=76,SNR=43						
H08N1	Diego Carcia H	28.01	133	T	T	18 13 59.2	
	baz=314,slow=76,SNR=41						
BRTR	Keskin Array B	30.40	333	P	P	17 45 21.4	+0.3
	comp=Z,0.4nm,0.7s,baz=158,slow=12,SNR=3.9						
BRTR				PcP	PcP	17 48 20.3	-0.3
	comp=Z,0.9nm,0.8s,baz=140,slow=6.5,SNR=4.7						
BRTR				LR	LR	17 58 00.5	
	comp=Z,104nm,20.1s,baz=142,slow=37						
KBZ	Khabaz	31.15	349	P	P	17 45 27.7	+0.3
	comp=Z,7.9nm,0.9s,baz=146,slow=24,SNR=15						
KBZ				LR	LR	18 00 23.2	
	comp=Z,403nm,18.4s,baz=30,slow=41						
KIV	Kislovodsk	31.41	349	iP	P	17 45 31.4	+1.5
KIV				i		17 48 23.8	
KIV				iS	S	17 50 40.9	+4.7
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
KIV				MLR	MLR		
	comp=Z,407nm,23.0s						
KIV	Kislovodsk	31.41	349	iP	P	17 45 31.4	+1.5
	comp=Z,13nm,1.0s						
KIV	Kislovodsk	31.41	349	eP	P	17 45 31.6	+1.7
	comp=Z,18nm,1.2s						
GVD	Gavdhos	32.29	316	P	P	17 45 30.2	-7.5
	comp=Z,133nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KKAR	**Karatay Array**	**34.36**	**26**	*e*P	**P**	**17 45 56.7**	**+1.1**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**34.36**	**26**	*e*P	**P**	**17 45 56.7**	**+1.1**
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**34.36**	**26**	*e*P	**P**	**17 45 56.7**	**+1.1**
	comp=Z,3.0nm,0.8s						
EKS2	**Erkin-Say**	**35.51**	**30**	*e*P	**P**	**17 46 04.4**	**-1.3**
EKS2				pmax	pmax		
	comp=Z,3.0nm,1.3s						
EKS2	**Erkin-Say**	**35.51**	**30**	*e*P	**P**	**17 46 04.4**	**-1.3**
	comp=Z,3.4nm,1.3s						
EKS2	**Erkin-Say**	**35.51**	**30**	*e*P	**P**	**17 46 04.4**	**-1.3**
	comp=Z,3.4nm,1.3s						
AAK	**Ala-Archa**	**35.84**	**31**	P	**P**	**17 46 08.8**	**+0.3**
	comp=Z,3.8nm,0.9s,baz=218,slow=5.9,SNR=6.8						
AAK				PcP	**PcP**	**17 48 35.3**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=270,slow=7.1,SNR=3.7						
AAK	**Ala-Archa**	**35.84**	**31**	⇑*e*P	**P**	**17 46 10.0**	**+1.5**
AAK				pmax	pmax		
	comp=Z,13nm,1.0s						
AAK	**Ala-Archa**	**35.84**	**31**	*e*P	**P**	**17 46 09.2**	**+0.7**
	comp=Z,11nm,1.4s						
AAK	**Ala-Archa**	**35.84**	**31**	*e*P	**P**	**17 46 09.2**	**+0.7**
	comp=Z,11nm,1.4s						
AAK				PcP	**PcP**	**17 48 35.3**	**-0.4**
TKM2	**Tokmak 2**	**36.60**	**31**	*e*P	**P**	**17 46 13.0**	**-2.1**
TKM2	**Tokmak 2**	**36.60**	**31**	*e*P	**P**	**17 46 13.0**	**-2.1**
TKM2	**Tokmak 2**	**36.60**	**31**	*e*P	**P**	**17 46 13.0**	**-2.1**
ABKAR	**Akbulak array**	**36.75**	**10**	*e*P	**P**	**17 46 15.5**	**-0.6**
ABKAR	**Akbulak array**	**36.75**	**10**	*e*P	**P**	**17 46 15.5**	**-0.6**
VTS	**Vitosha**	**37.72**	**326**	⇓P	**P**	**17 46 25.4**	**+0.9**
VTS	**Vitosha**	**37.72**	**326**	⇓*i*P	**P**	**17 46 25.4**	**+0.9**
VTS	**Vitosha**	**37.72**	**326**	P	**P**	**17 46 25.4**	**+0.9**
VRI	**Vrincioaia**	**38.35**	**333**	⇑P	**P**	**17 46 31.8**	**+2.1**
VRI	**Vrincioaia**	**38.35**	**333**	⇑*i*P	**P**	**17 46 31.8**	**+2.1**
VRI	**Vrincioaia**	**38.35**	**333**	P	**P**	**17 46 31.8**	**+2.1**
PLOR	**Plostina**	**38.38**	**333**	⇑P	**P**	**17 46 31.6**	**+1.7**
PLOR	**Plostina**	**38.38**	**333**	⇑*i*P	**P**	**17 46 31.6**	**+1.7**
PLOR	**Plostina**	**38.38**	**333**	P	**P**	**17 46 31.6**	**+1.7**
MLR	**Muntele Rosu**	**38.42**	**332**	⇑P	P	17 46 38.7	+8.3
MLR	**Muntele Rosu**	**38.42**	**332**	⇑*i*P	P	17 46 38.7	+8.3
VOIR		**38.80**	**331**	⇑P	P	17 46 37.8	+4.3
VOIR		**38.80**	**331**	⇑*i*P	P	17 46 37.8	+4.3
ARR	**Arges**	**38.95**	**330**	⇓*i*P	**P**	**17 46 34.9**	**+0.1**
BURAR	**Bucovina Array**	**40.36**	**333**	⇑P	**P**	**17 46 47.3**	**+0.8**
BURAR	**Bucovina Array**	**40.36**	**333**	⇑*i*P	**P**	**17 46 47.3**	**+0.8**
BUR04	**Bucovina Ar. S**	**40.37**	**333**	*e*P	**P**	**17 46 47.1**	**+0.5**
BUR04	**Bucovina Ar. S**	**40.37**	**333**	*e*P	**P**	**17 46 47.1**	**+0.5**
DRGR		**40.90**	**331**	⇑P	**P**	**17 46 50.6**	**-0.4**
DRGR		**40.90**	**331**	⇑*i*P	**P**	**17 46 50.6**	**-0.4**
DRGR		**40.90**	**331**	P	**P**	**17 46 50.6**	**-0.4**
AK02	**Malin Array Si**	**41.25**	**339**	*e*P	**P**	**17 46 53.2**	**-0.5**
AK02	**Malin Array Si**	**41.25**	**339**	*e*P	**P**	**17 46 53.2**	**-0.5**
AK01	**Malin Array Si**	**41.28**	**339**	*e*P	**P**	**17 46 53.3**	**-0.6**
AK01	**Malin Array Si**	**41.28**	**339**	*e*P	**P**	**17 46 53.3**	**-0.6**
AKASG	**Malin Array Be**	**41.28**	**339**	P	**P**	**17 46 53.3**	**-0.6**
	comp=Z,4.2nm,0.8s,baz=152,slow=7.1,SNR=16						
AKASG				LR	LR	18 07 23.8	
	comp=Z,74nm,18.8s,baz=0.0,slow=41						
AKBB	**Malin Array Si**	**41.28**	**339**	*e*P	**P**	**17 46 53.9**	**0.0**
AKBB	**Malin Array Si**	**41.28**	**339**	*e*P	**P**	**17 46 53.9**	**0.0**
AKBB	**Malin Array Si**	**41.28**	**339**	*e*P	**P**	**17 46 53.9**	**0.0**
KIEV	**Kiev**	**41.28**	**339**	⇑*e*P	**P**	**17 46 54.4**	**+0.5**
KIEV	**Kiev**	**41.28**	**339**	*e*P	**P**	**17 46 54.4**	**+0.5**
KIEV	**Kiev**	**41.28**	**339**	*e*P	**P**	**17 46 52.2**	**-1.7**
	comp=Z,12nm,1.0s						
MK01	**Makanchi Array**	**42.70**	**32**	*e*P	**P**	**17 47 05.7**	**+0.1**
MK01	**Makanchi Array**	**42.70**	**32**	*e*P	**P**	**17 47 05.7**	**+0.1**
MK31	**Makanchi Array**	**42.71**	**32**	*e*P	**P**	**17 47 05.1**	**-0.6**
MK31	**Makanchi Array**	**42.71**	**32**	*e*P	**P**	**17 47 05.1**	**-0.6**
MK31	**Makanchi Array**	**42.71**	**32**	*e*P	**P**	**17 47 05.1**	**-0.6**
MKAR	**Makanchi Array**	**42.71**	**32**	P	**P**	**17 47 05.3**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=223,slow=8.6,SNR=22						
MKAR				PcP	**PcP**	**17 48 56.8**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=253,slow=3.9,SNR=3.7						
MKAR				LR	LR	18 07 40.4	
	comp=Z,65nm,18.3s,baz=208,slow=40						
MKAR	**Makanchi Array**	**42.71**	**32**	*e*P	**P**	**17 47 05.2**	**-0.5**
BRVK	**Borovoye**	**42.72**	**17**	⇓*e*P	**P**	**17 47 05.6**	**0.0**
BRVK	**Borovoye**	**42.72**	**17**	*e*P	**P**	**17 47 05.6**	**0.0**
BRVK	**Borovoye**	**42.72**	**17**	*e*P	**P**	**17 47 05.7**	**+0.1**
	comp=Z,4.0nm,0.8s						
OBN	**Obninsk**	**43.25**	**348**	*e*P	**P**	**17 47 08.8**	**-1.1**
OBN				*i*		17 48 54.8	
OBN				*i* S	**S**	**17 53 36.4**	**+1.0**
OBN				*i* SS	**ScS**	**17 57 12.1**	**+3.8**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,175nm,22.0s						
OBN	**Obninsk**	**43.25**	**348**	*e*P	**P**	**17 47 08.8**	**-1.1**
	comp=Z,6.0nm,1.0s						
KEST	**Kesra**	**43.38**	**309**	P	**P**	**17 47 12.3**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=341,slow=17,SNR=3.2						
KEST				LR	LR	18 05 08.0	
	comp=Z,29nm,22.0s,baz=200,slow=36						
KEST	**Kesra**	**43.38**	**309**	*e*P	**P**	**17 47 10.7**	**-0.7**
KEST	**Kesra**	**43.38**	**309**	*e*P	**P**	**17 47 10.7**	**-0.7**
ARU	**Arti**	**43.56**	**6**	P	**P**	**17 47 13.4**	**+1.0**
ARU						17 48 50.5	
ARU				S	**S**	**17 53 42.8**	**+2.8**
ARU				SS	**SS**	**17 56 53.8**	**-1.3**
ARU	**Arti**	**43.56**	**6**	P	**P**	**17 47 11.2**	**-1.2**
	comp=Z,3.3nm,0.9s						
ARU	**Arti**	**43.56**	**6**	P	**P**	**17 47 11.2**	**-1.2**
	comp=Z,3.3nm,0.9s						
KURK	**Kurchatov**	**43.77**	**25**	*e*P	**P**	**17 47 12.6**	**-1.5**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KURK	**Kurchatov**	**43.77**	**25**	*e*P	**P**	**17 47 12.6**	**-1.5**
	comp=Z,10.0nm,1.2s						
KURK	**Kurchatov**	**43.77**	**25**	*e*P	**P**	**17 47 12.6**	**-1.5**
	comp=Z,10.0nm,1.2s						
TAM	**Tamanrasset**	**43.86**	**289**	*e*P	**P**	**17 47 15.9**	**+0.4**
TAM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TAM	**Tamanrasset**	**43.86**	**289**	*e*P	**P**	**17 47 15.9**	**+0.4**
	comp=Z,3.2nm,0.8s						
TAM	**Tamanrasset**	**43.86**	**289**	*e*P	**P**	**17 47 15.9**	**+0.4**
	comp=Z,3.2nm,0.8s						
WMQ	**Urumqi**	**43.99**	**39**	P	**P**	**17 47 17.4**	**+1.3**
WMQ				PMZ			
	comp=Z,6.0nm,0.4s						
WMQ				PMZ			
	comp=Z,38nm,7.2s						
WMQ				LN			
	comp=Z,98nm,5.2s						
WMQ				LE			
	comp=Z,110nm,5.8s						
WMQ				LZ			
	comp=Z,74nm,20.0s						
LBTB	**Lobatse**	**45.19**	**213**	P	**P**	**17 47 26.2**	**+0.3**
	comp=Z,8.1nm,1.0s,baz=33,slow=7.4,SNR=8.6						
LBTB	**Lobatse**	**45.19**	**213**	*e*P	**P**	**17 47 26.8**	**+0.9**
LBTB	**Lobatse**	**45.19**	**213**	*e*P	**P**	**17 47 26.8**	**+0.9**
LBTB	**Lobatse**	**45.19**	**213**	*e*P	**P**	**17 47 26.8**	**+0.9**
TSUM	**Tsumeb**	**45.83**	**226**	P	**P**	**17 47 33.2**	**+2.0**
TSUM	**Tsumeb**	**45.83**	**226**	P	**P**	**17 47 33.2**	**+2.0**
KRLC	**Kraliky**	**46.03**	**330**	*e*P	P	17 47 37.3	+5.1
TREC	**Trest**	**46.17**	**328**	*e*P	P	17 47 38.3	+5.0
DPC	**Dobruska-Polom**	**46.43**	**330**	*e*P	**P**	**17 47 35.3**	**-0.1**
DPC	**Dobruska-Polom**	**46.43**	**330**	*e*P	**P**	**17 47 35.3**	**-0.1**
DPC	**Dobruska-Polom**	**46.43**	**330**	*e*P	**P**	**17 47 35.3**	**-0.1**
CM31	**Chiang Mai Arr**	**46.61**	**77**	*e*P	**P**	**17 47 35.7**	**-1.5**
	comp=Z,6.2nm,1.0s						
CM31	**Chiang Mai Arr**	**46.61**	**77**	*e*P	**P**	**17 47 35.7**	**-1.5**
	comp=Z,6.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**46.61**	**77**	P	**P**	**17 47 36.2**	**-1.0**
	comp=Z,3.8nm,0.9s,baz=275,slow=8.5,SNR=26						
CMAR				PcP	**PcP**	**17 49 11.2**	**0.0**
	comp=Z,1.2nm,0.9s,baz=278,slow=4.8,SNR=5.2						
CM01	**Chiang Mai Arr**	**46.63**	**77**	*e*P	**P**	**17 47 36.0**	**-1.4**
CM01	**Chiang Mai Arr**	**46.63**	**77**	*e*P	**P**	**17 47 36.0**	**-1.4**
GERES	**GERESS Array B**	**46.82**	**327**	P	**P**	**17 47 37.5**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=134,slow=7.6,SNR=6.0						
GERES				LR	LR	18 08 21.6	
	comp=Z,46nm,20.7s,baz=87,slow=38						
GOPC	**GO Pecny, Ondr**	**46.91**	**329**	*e*P	**P**	**17 47 40.1**	**+0.9**
KHC	**Kasperske Hory**	**47.06**	**327**	*e*P	P	17 47 44.6	+4.3
KHC	**Kasperske Hory**	**47.06**	**327**	*e*P	P	17 47 44.6	+4.3
PRU	**Pruhonice**	**47.08**	**329**	*e*P	**P**	**17 47 38.8**	**-1.7**
PRU				*e*pP	**pP**	**17 47 45.3**	**-2.7**
PRU	**Pruhonice**	**47.08**	**329**	*e*P	**P**	**17 47 38.8**	**-1.7**
PRU				*e*		17 47 45.3	
PRU	**Pruhonice**	**47.08**	**329**	*e*P	**P**	**17 47 38.8**	**-1.7**
PVCC	**Panska Ves**	**47.41**	**329**	*e*P	**P**	**17 47 41.3**	**-1.7**
PVCC	**Panska Ves**	**47.41**	**329**	*e*P	**P**	**17 47 41.3**	**-1.7**
PVCC	**Panska Ves**	**47.41**	**329**	*e*P	**P**	**17 47 41.3**	**-1.7**
TORD	**Torodi Ar. Bea**	**47.64**	**276**	P	**P**	**17 47 45.5**	**+0.2**
	comp=Z,3.9nm,0.7s,baz=88,slow=7.1,SNR=30						
TORD				PcP	**PcP**	**17 49 15.2**	**+0.4**
	comp=Z,1.5nm,1.1s,baz=85,slow=3.7,SNR=3.2						
DAVOX	**Davos/Dischmat**	**47.82**	**323**	LR	LR	18 09 30.8	
	comp=Z,59nm,18.5s,baz=81,slow=38						
BRG	**Berggiesshubel**	**47.93**	**329**	*e*P	**P**	**17 47 46.8**	**-0.3**
	comp=Z,3.5nm,0.9s						
BRG				*e*		17 47 51.3	
	comp=Z,9.3nm,1.4s						
BRG	**Berggiesshubel**	**47.93**	**329**	*e*P	**P**	**17 47 46.8**	**-0.3**
BRG				*e*		17 47 51.3	
KLMR	**Klimovskoe**	**48.27**	**353**	*e*P	**P**	**17 47 52.4**	**+2.9**
KLMR				pmax	pmax		
	comp=Z,32nm,1.5s						
BOSA	**Boshof**	**48.30**	**210**	LR	LR	18 07 08.4	
	comp=Z,128nm,19.8s,baz=16,slow=35						
BOSA	**Boshof**	**48.30**	**210**	*e*P	**P**	**17 47 51.9**	**+1.6**
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BOSA	**Boshof**	**48.30**	**210**	*e*P	**P**	**17 47 51.9**	**+1.6**
	comp=Z,4.2nm,0.9s						
BOSA	**Boshof**	**48.30**	**210**	*e*P	**P**	**17 47 51.9**	**+1.6**
	comp=Z,4.3nm,0.9s						
CLL	**Collm**	**48.67**	**329**	*i* P	**P**	**17 47 53.5**	**+0.8**
	comp=Z,8.0nm,1.5s						
CLL				Lm	MLR	18 09 00.0	
	comp=Z,100nm,19.9s						
CLL	**Collm**	**48.67**	**329**	*i* P	**P**	**17 47 53.5**	**+0.8**
CLL				*i* *PP	**pP**	**17 48 02.3**	**+2.0**
CLL				pmax	pmax		
	comp=Z,8.0nm,1.5s						
NVS	**Novosibirsk**	**48.70**	**24**	*e*P	**P**	**17 47 51.6**	**-1.3**
NVS				pmax	pmax		
	comp=Z,12nm,1.0s						
NVS				pmax	pmax		
	comp=N,4.0nm,1.0s						
ZAA0	**Zalesovo Array**	**48.73**	**26**	*e*P	**P**	**17 47 51.2**	**-1.9**
ZAA0	**Zalesovo Array**	**48.73**	**26**	*e*P	**P**	**17 47 51.2**	**-1.9**
ZALV	**Zalesovo Beam**	**48.73**	**26**	P	**P**	**17 47 51.5**	**-1.7**
	comp=N,4.4nm,0.6s,baz=233,slow=7.9,SNR=23						
ZALV				LR	LR	18 11 22.8	
	comp=N,51nm,19.6s,baz=250,slow=40						
SENIN	**Lac Senin/Sane**	**49.17**	**321**	*e*P	P	17 48 02.3	+5.4
SENIN	**Lac Senin/Sane**	**49.17**	**321**	*e*P	P	17 48 02.3	+5.4
BFO	**Black Forest**	**49.52**	**324**	*e*P	**P**	**17 48 00.6**	**+1.3**
BFO	**Black Forest**	**49.52**	**324**	*e*P	**P**	**17 48 00.6**	**+1.3**
BFO	**Black Forest**	**49.52**	**324**	*e*P	**P**	**17 48 00.6**	**+1.3**
FINES	**FINESS Array B**	**51.36**	**345**	P	**P**	**17 48 11.1**	**-1.9**
	comp=N,4.4nm,0.8s,baz=183,slow=22,SNR=5.6						
FINES				LR	LR	18 13 26.7	
	comp=N,76nm,18.8s,baz=174,slow=40						
FINES	**FINESS Array B**	**51.36**	**345**	*i* P	P	17 48 16.2	+3.3
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WLF	**Walferdange**	**51.42**	**324**	*e*P	**P**	**17 48 15.2**	**+1.6**
WLF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WLF	**Walferdange**	**51.42**	**324**	*e*P	**P**	**17 48 15.2**	**+1.6**
	comp=Z,10nm,0.9s						
WLF	**Walferdange**	**51.42**	**324**	*e*P	**P**	**17 48 15.2**	**+1.6**
	comp=Z,10nm,0.9s						
CD2	**Chengdu**	**51.76**	**61**	*e*P	**P**	**17 48 14.7**	**-1.9**
CD2				pP	**pP**	**17 48 24.7**	**+0.5**
CD2				sP	**sP**	**17 48 28.9**	**+1.7**
CD2				S	**S**	**17 55 33.7**	**-3.6**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.4s						
LZH	**Lanzhou**	**52.69**	**55**	*e*P	**P**	**17 48 24.4**	**+0.9**
LZH				pP	**pP**	**17 48 34.5**	**+3.3**
LZH				PMZ			
	comp=Z,13nm,1.0s						
SNF	**Seneffe**	**52.88**	**325**	P	**P**	**17 48 21.9**	**-2.6**
	comp=Z,4.5nm,1.1s						
UBPT	**Khong Chiam**	**53.02**	**81**	P	P	17 48 35.2	+9.1
	comp=Z,99nm,1.0s,comp=Z,1μm						
MDT	**Midelt**	**53.90**	**301**	LR	LR	18 14 28.4	
	comp=Z,87nm,18.2s,slow=39						
ES19	**SONSECA Array**	**54.57**	**309**	*e*P	**P**	**17 48 37.8**	**+0.7**
ES19	**SONSECA Array**	**54.57**	**309**	*e*P	**P**	**17 48 37.9**	**+0.7**
ESDC	**Sonseca Array**	**54.61**	**309**	P	**P**	**17 48 37.5**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=95,slow=6.3,SNR=10						
ESLA	**Sonseca Array**	**54.61**	**309**	*e*P	P	17 48 42.7	+5.3
	comp=Z,1.4nm,0.9s						
DBIC	**Dimbokro**	**55.01**	**269**	P	**P**	**17 48 41.0**	**+0.4**
DBIC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
DBIC	**Dimbokro**	**55.01**	**269**	P	**P**	**17 48 41.0**	**+0.4**
	comp=Z,8.8nm,1.1s						
DBIC	**Dimbokro**	**55.01**	**269**	P	**P**	**17 48 41.0**	**+0.4**
	comp=Z,8.8nm,1.1s						
NB2	**NORSAR Subarra**	**55.66**	**338**	P	**P**	**17 48 43.4**	**-1.2**
	comp=Z,2.3nm,0.9s,baz=124,slow=7.9						
NB2	**NORSAR Subarra**	**55.66**	**338**	P	**P**	**17 48 43.4**	**-1.2**
	comp=Z,2.3nm,0.9s,baz=124,slow=7.8,SNR=5.5						
NOA	**NORSAR Array B**	**55.66**	**338**	P	**P**	**17 48 43.6**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=130,slow=6.0,SNR=3.1						
NOA				LR	LR	18 16 07.0	
	comp=Z,68nm,18.7s,baz=125,slow=40						
XAN	**Xi'an**	**56.48**	**58**	P	**P**	**17 48 49.5**	**-1.5**
XAN				pP	**pP**	**17 48 55.0**	**-3.7**
XAN				PMZ			
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**57.49**	**41**	P	**P**	**17 48 58.0**	**0.0**
	comp=Z,3.3nm,1.0s,baz=248,slow=6.9,SNR=15						
SONM				LR	LR	18 15 18.0	
	comp=Z,102nm,21.3s,baz=228,slow=38						
SONM	**Songino Array**	**57.49**	**41**	P	**P**	**17 48 58.0**	**0.0**
SONM	**Songino Array**	**57.49**	**41**	P	**P**	**17 48 58.0**	**0.0**
SONA1	**Songino Array**	**57.50**	**41**	*e*P	**P**	**17 48 57.8**	**-0.3**
SONA1	**Songino Array**	**57.50**	**41**	*e*P	**P**	**17 48 57.8**	**-0.3**
ARCES	**ARCESS Array B**	**58.51**	**350**	LR	LR	18 17 00.9	
	comp=Z,197nm,20.5s,baz=89,slow=39						
HHC	**Hu-ho-hao-te**	**59.51**	**50**	*e*P	**P**	**17 49 10.8**	**-1.3**
HHC				S	**S**	**17 57 17.1**	**-3.4**
HHC				PMZ			
	comp=Z,21nm,1.3s						
HHC				PMZ			
	comp=Z,94nm,7.7s						
NJ2	**Nanjing**	**64.69**	**61**	*e*P	**P**	**17 49 47.5**	**+0.5**
NJ2				PMZ			
	comp=Z,30nm,0.8s						
HIA	**Hailar**	**66.45**	**42**	P	**P**	**17 49 58.0**	**-0.1**
HIA				pmax	pmax		
	comp=Z,13nm,1.3s						
CN2	**Changchun**	**70.01**	**48**	*e*P	**P**	**17 50 22.0**	**+1.6**
CN2				PMZ			
	comp=Z,10.0nm,0.8s						
YAK	**Yakutsk**	**73.28**	**29**	*e*P	**P**	**17 50 39.3**	**-0.4**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MAW	**Mawson**	**81.07**	**175**	P	**P**	**17 51 23.0**	**-0.1**
	comp=Z,3.2nm,0.9s,baz=329,slow=5.9,SNR=4.5						
SYO	**Syowa Base**	**82.37**	**184**	⇑*e*pP	P	17 51 34.0	+4.0
SEY	**Seymchan**	**83.60**	**27**	⇑*e*P	**P**	**17 51 36.7**	**0.0**
PETK	**Petropavlovsk-**	**89.47**	**35**	LR	LR	18 34 47.4	
	comp=Z,32nm,20.5s,baz=272,slow=37						
PDAR	**Pinedale Array**	**121.43**	**343**	PKP	**PKPdf**	**17 58 01.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=27,slow=6.8,SNR=4.2						
NVAR	**Mina Array Bea**	**127.62**	**349**	PKP	**PKPdf**	**17 58 15.7**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=74,slow=0.8,SNR=11						
TXAR	**Lajitas Array**	**131.00**	**330**	PKP	**PKPdf**	**17 58 20.8**	**-0.3**
	comp=Z,1.0nm,1.0s,baz=82,slow=2.7,SNR=6.3						

*BJI **05** 17:43:12.2, 1°.15N×127°.81E, h147km, mb5.1/63, mB5.0/38*
*ISCJB **05** 17:43:16.6±0.3, 1°.61N±0°.02×127°.41E±0°.02, h148km±2km, mb5.0/143, Error ellipse: s-maj=3.4km s-min=2.7km az=8.3*
*KLM **05** 17:43:16.1, 1°.60N×127°.48E, h118km, mb5.4, MS5.8*
*NEIC **05** 17:43:17.7±0.1, 1°.60N×127°.39E, mb5.2/60, Error ellipse: s-maj=4.0km s-min=3.3km az=72.0*
NEIC Felt [III] at Bitung and Manado.
*MOS **05** 17:43:17.2±1.0, 1°.64N×127°.35E, h155km, mb5.0/39, Error ellipse: s-maj=9.4km s-min=5.2km az=111.2*
*GCMT **05** 17:43:17.7±0.2, 1°.65N×127°.38E, h150km±2km, MW5.1/89, Moment Tensor Solution. s43,c56; s89,c128; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.25±.12; $M_{\theta\theta}$0.50±.13; $M_{\phi\phi}$-4.75±.16; $M_{r\theta}$-0.97±.10; $M_{\theta\phi}$0.48±.14; $M_{\phi r}$-2.22±.14; Best double couple: $M_0$5.14600×10^{16} NP1:ϕ_s189.00000°,δ59.00000°,λ106.00000°. NP2: ϕ_s340.00000°,δ34.00000°,λ66.00000°. Principal axes: T 5.0120, Plg71.0000°, Azm135.0000°; N 0.2650, Plg13.0000°, Azm1.0000°; P -5.2790, Plg13.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **05** 17:43:17.9±0.5, 1°.60N×127°.39E, h147km±4km, mb4.6/33, mb1 4.7/35, mb1mx4.7/37, mbtmp5.1/35, MS3.5/8, Ms1 3.6/8, ms1mx3.3/32 Error ellipse: s-maj=10.3km s-min=6.4km az=73.0*
*DJA **05** 17:43:19.5±0.2, 2°N±2°×12°7E±°, h135km±2km, M5.2/110, mb5.4/110, mB5.6/78, MLv5.9/19, Mw(mB)5.1/78*
ISC 05 17:43:17.7±0.2**, 1°.57N**±0°.03**×127°.39E**±0°.04**, h148**km±1km**, h148km:pP-P, n526, σ1s.29**/666**, mb5.1**/144**, 41C-22D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.80**	**181**	P	**Pn**	**17 43 41.4**	**+0.7**
TNTI	**Ternate**	**0.80**	**181**	*e*Pn	**Pn**	**17 43 41.7**	**+1.0**
TNTI				*e*Sn	**Sn**	**17 43 59.2**	**+1.0**
SGSI	**Sangihe**	**2.80**	**319**	P	**Pn**	**17 44 02.0**	**-0.5**
SGSI				S	**Sn**	**17 44 35.4**	**-1.7**
KMSI	**Cibinong**	**3.55**	**254**	P	**Pn**	**17 44 12.2**	**+0.2**
KMSI				S	**Sn**	**17 44 53.7**	**-0.4**
SANI	**Sanana**	**3.86**	**201**	P	**Pn**	**17 44 15.9**	**-0.2**
SANI				S	**Sn**	**17 44 57.0**	**-4.5**
GTOI	**Gorontalo**	**4.47**	**258**	P	**Pn**	**17 44 22.2**	**-2.0**
SIJI	**Sorong**	**4.58**	**122**	P	**Pn**	**17 44 27.8**	**+2.3**
	94nm,0.3s,baz=330,slow=19,SNR=181						
NLAI	**Namlea**	**4.79**	**183**	P	**Pn**	**17 44 29.0**	**+0.6**
NLAI				S	**Sn**	**17 45 20.8**	**-2.6**
GSPH	**General Santos**	**5.10**	**332**	*e*P	**Pn**	**17 44 31.4**	**-1.2**
GSPH				*e*S	**Sn**	**17 45 27.0**	**-4.0**
LUWI	**Luwuk**	**5.29**	**241**	P	**Pn**	**17 44 34.1**	**-1.0**
	3μm,1.0s,27μm33nm						
LUWI				S	**Sn**	**17 45 36.8**	**+1.4**
	3μm,1.0s,27μm33nm						
LUWI	**Luwuk**	**5.29**	**241**	*e*Pn	**Pn**	**17 44 34.3**	**-0.8**
LUWI				*e*Sn	**Sn**	**17 45 34.4**	**-1.0**
MATI	**Mati**	**5.45**	**348**	*e*P	**Pn**	**17 44 37.6**	**+0.4**
MRSI	**Marisa**	**5.55**	**259**	P	**Pn**	**17 44 38.1**	**-0.4**
	2μm,1.0s,20μm8.3nm						
MRSI				S	**Sn**	**17 45 41.2**	**-0.3**
	2μm,1.0s,20μm8.3nm						
DAV	**Davao City (W)**	**5.75**	**342**	Pn	**Pn**	**17 44 38.9**	**-2.2**
DAV				*e*Sn	**Sn**	**17 45 41.0**	**-5.3**
APSI	**Ampana**	**6.24**	**247**	P	**Pn**	**17 44 47.7**	**0.0**
	3μm,1.1s,38μm20nm						
APSI				S	**Sn**	**17 46 01.3**	**+3.2**
	3μm,1.1s,38μm20nm						
CTBH	**Cotabato--PC H**	**6.42**	**331**	⇓*i*P	**Pn**	**17 44 49.5**	**-0.7**
FAKI	**Fak Fak**	**6.60**	**133**	P	Pn	17 44 55.8	+3.3
	539nm,1.2s,5μm1.6nm						
FAKI				S	**Sn**	**17 46 09.0**	**+2.3**
	539nm,1.2s,5μm1.6nm						
FAKI	**Fak Fak**	**6.60**	**133**	*e*Pn	**Pn**	**17 44 54.8**	**+2.3**
TOLI	**Toli-Toli**	**6.60**	**266**	*e*Pn	**Pn**	**17 44 52.4**	**-0.2**
TOLI				*e*Sn	**Sn**	**17 46 05.3**	**-1.5**
BIPH	**Bislig**	**6.65**	**351**	⇑*e*P	Pn	17 45 00.6	+7.5
BIPH				*e*S	**Sn**	**17 46 13.5**	**+5.7**
BUKP	**Musuan**	**6.68**	**340**	*e*P	**Pn**	**17 44 53.3**	**-0.3**
KDI	**Kendari**	**7.27**	**221**	P	**Pn**	**17 45 01.7**	**+0.2**
	467nm,0.8s,9μm4.0nm						
CGP	**Cagayan de Oro**	**7.34**	**339**	⇓*e*P	**Pn**	**17 45 00.5**	**-1.9**
CGP				*e*S	**Sn**	**17 46 22.1**	**-2.5**
PAGZ	**Pagadian**	**7.40**	**328**	*e*P	**Pn**	**17 45 01.6**	**-1.5**
ZMPH	**Zamboanga City**	**7.53**	**315**	*i* S	**Sn**	**17 46 26.2**	**-2.8**
BUTP	**Butuan**	**7.55**	**347**	*e*P	**Pn**	**17 45 05.0**	**-0.2**
MPSI	**Mapaga**	**7.59**	**261**	P	**Pn**	**17 45 06.5**	**+0.8**
	564nm,1.1s,8μm1.8nm						
MPSI				S	**Sn**	**17 46 30.7**	**+0.3**
	564nm,1.1s,8μm1.8nm						
IPIL	**Ipil**	**7.82**	**322**	*e*P	**Pn**	**17 45 08.3**	**-0.4**
PCI	**Palu**	**7.94**	**252**	P	**Pn**	**17 45 10.1**	**-0.3**
	930nm,1.0s,8μm3.0nm						
TTSI	**Tana Toraja**	**8.85**	**239**	P	**Pn**	**17 45 22.2**	**-0.3**
	2μm,0.9s,14μm						
MSLP	**Maasin**	**8.87**	**344**	*e*P	**Pn**	**17 45 22.5**	**-0.3**
SPSI	**Sidrap Palu**	**9.39**	**234**	P	**Pn**	**17 45 30.0**	**+0.2**
	632nm,0.9s,7μm						
SRPI	**Serui, Papua**	**9.49**	**111**	P	Pn	17 45 35.5	+4.4
	122nm,0.9s,2μm						
OCLP	**Ormoc**	**9.81**	**344**	*e*P	**Pn**	**17 45 34.9**	**-0.4**
PLP	**Palo**	**9.82**	**346**	⇓*e*P	**Pn**	**17 45 35.7**	**+0.2**
TSM	**Tawau**	**9.88**	**286**	⇓P	**Pn**	**17 45 36.0**	**-0.2**
BKSI	**Bulukumba**	**9.98**	**227**	P	**Pn**	**17 45 38.3**	**+0.8**
	635nm,0.7s,4μm						
BKSI				S	**Sn**	**17 47 26.4**	**-1.7**
	635nm,0.7s,4μm						
KAPI	**Kappang**	**10.05**	**229**	Pn	**Pn**	**17 45 38.6**	**+0.1**
	3μm,0.7s,SNR=56						
KAPI	**Kappang**	**10.05**	**229**	P	**Pn**	**17 45 38.9**	**+0.4**
	25nm,0.3s,baz=39,slow=4.2,SNR=77						
KAPI				S	**Sn**	**17 47 27.6**	**-2.2**
	62nm,0.3s,baz=355,slow=23,SNR=15						
KAPI	**Kappang**	**10.05**	**229**	*e*Pn	**Pn**	**17 45 38.6**	**+0.1**
KAPI				*e*Sn	Sn	17 47 15.3	-15
KAPI				S	**Sn**	**17 47 27.6**	**-2.2**
GUIM	**Jordan**	**10.18**	**332**	*e*P	**Pn**	**17 45 38.5**	**-1.7**
BSSI	**Bau Bau, Buton**	**10.30**	**222**	P	**Pn**	**17 45 41.5**	**-0.4**
	274nm,0.6s,3μm						
BSSI				S	**Sn**	**17 47 35.0**	**-0.9**
	274nm,0.6s,3μm						
BKB	**Balikpapan**	**10.86**	**255**	P	**Pn**	**17 45 48.1**	**-1.1**
	402nm,1.0s,3μm						
CUYO	**Cuyo Island**	**11.18**	**326**	*e*P	**Pn**	**17 45 51.8**	**-1.7**
MMRI	**Maumere**	**11.37**	**207**	P	**Pn**	**17 45 55.6**	**-0.3**
	110nm,0.8s,1μm						
MMRI	**Maumere**	**11.37**	**207**	*e*Pn	Pn	17 45 59.6	+3.7
SOEI	**Soe**	**11.68**	**195**	P	**P**	**17 46 05.6**	**-1.8**
	202nm,0.8s,2μm						
SOEI	**Soe**	**11.68**	**195**	*e*Pn	P	17 46 03.9	-3.5
SOEI				*e*Sn	Sn	17 47 45.0	-24
SMPI	**Sarmi**	**11.86**	**107**	P	**P**	**17 46 07.2**	**-2.1**
	120nm,1.2s,2μm						
KKM	**Kota Kinabalu**	**12.00**	**292**	⇓P	**Pn**	**17 46 04.6**	**+0.4**
KKM	**Kota Kinabalu**	**12.00**	**292**	*e*Pn	**Pn**	**17 46 04.1**	**-0.1**
KBKI	**Kotabaru**	**12.21**	**247**	P	**Pn**	**17 46 06.6**	**-0.4**
	337nm,1.1s,3μm						
MTKI	**Muara Teweh, K**	**12.74**	**259**	P	**Pn**	**17 46 13.5**	**-0.2**
	168nm,1.6s,4μm						
WSI	**Waingapu**	**13.21**	**212**	P	**Pn**	**17 46 20.3**	**+0.5**
	475nm,0.8s,5μm						
GENI	**Genyem**	**13.43**	**108**	P	**P**	**17 46 28.3**	**+1.5**
	470nm,1.1s,5μm						
BBKI	**Banjar Baru**	**13.50**	**248**	P	**Pn**	**17 46 23.7**	**+0.2**
	374nm,1.0s,5μm						
WBSI	**Waikabubak, Su**	**13.69**	**215**	P	**Pn**	**17 46 26.8**	**+0.8**
	208nm,0.9s,2μm						
JAY	**Jayapura**	**13.92**	**107**	P	**P**	**17 46 34.0**	**+1.7**
	168nm,0.8s						
BTM	**Bintulu**	**14.38**	**277**	⇑P	**Pn**	**17 46 35.2**	**+0.6**
SBUM	**Sibu**	**15.18**	**274**	⇓P	**Pn**	**17 46 45.1**	**+0.5**
SBUM	**Sibu**	**15.18**	**274**	*e*Pn	**Pn**	**17 46 44.5**	**-0.1**
	179nm,0.9s						
SRBI	**Singaraja**	**15.47**	**232**	P	**P**	**17 46 50.6**	**+1.2**
	249nm,1.1s,3μm						
DNP	**Denpasar**	**15.84**	**230**	P	**P**	**17 46 56.2**	**+2.7**
	951nm,1.0s,14μm						
STKI	**Sintang**	**15.98**	**265**	P	**P**	**17 46 55.1**	**0.0**
	108nm,1.5s,4μm						
IGBI	**Denpasar**	**15.98**	**230**	P	**P**	**17 46 57.2**	**+2.1**
	324nm,1.1s,4μm						
ABJI	**Asem Bagus**	**16.08**	**234**	P	**P**	**17 46 59.1**	**+2.9**
	207nm,1.0s,3μm						
PBKI	**Pangkalan Bun**	**16.28**	**255**	P	**Pn**	**17 46 57.3**	**-0.8**
	376nm,1.0s,3μm						
BLJI	**Banyuglugur**	**16.58**	**236**	P	**Pn**	**17 47 03.9**	**+2.1**
	284nm,0.7s,3μm						
KSM	**Kuching**	**17.07**	**270**	⇓P	**Pn**	**17 47 08.9**	**+1.1**
KSM	**Kuching**	**17.07**	**270**	⇓*i*P	**Pn**	**17 47 07.8**	**0.0**
	221nm,0.9s						
KSM				*e*S	**S**	**17 50 15.9**	**-1.8**
GRJI	**Gresik**	**17.10**	**240**	P	**Pn**	**17 47 10.1**	**+2.0**
	298nm,0.9s,2μm						
PWJI	**Pagerwojo**	**18.23**	**238**	P	**Pn**	**17 47 22.1**	**+0.6**
	820nm,0.9s,9μm						
PCJI	**Pacitan**	**18.85**	**239**	P	**Pn**	**17 47 29.7**	**+0.9**

1µm,1.1s,11µm
UGM Wanagama 19.28 241 P **Pn** 17 47 35.4 +1.5
453nm,1.2s
UGM Wanagama 19.28 241 *e*P **Pn** 17 47 33.1 -0.8
538nm,1.2s
TPI Tanjungpandan 20.19 258 P **P** 17 47 41.7 +0.6
169nm,1.1s,2µm
KPJI Karang Pucung 20.43 244 P **P** 17 47 44.9 +1.3
514nm,0.9s,4µm
GUMO Guam 21.02 55 P **P** 17 47 48.7 -1.2
28nm,0.3s,baz=264,slow=1.9,SNR=10.0
GUMO Guam 21.02 55 *e*P **P** 17 47 48.9 -1.0
GUMO pmax pmax
comp=Z,6.0nm,0.7s
GUMO Guam 21.02 55 *e*P **P** 17 47 48.9 -1.0
comp=Z,6.1nm,0.7s
CMJI Cimerak 21.05 244 P **P** 17 47 52.6 +2.3
comp=Z,146nm,1.1s
LEM Lembang 21.42 247 P **P** 17 47 54.8 +0.3
comp=Z,182nm,1.1s,comp=Z,2µm
LEM Lembang 21.42 247 P **P** 17 47 54.7 +0.2
comp=Z,143nm,0.9s,baz=79,slow=11,SNR=12
CISI Cisompet, Garu 21.53 245 P **P** 17 47 55.8 +0.3
comp=Z,168nm,0.9s,comp=Z,2µm
CISI Cisompet, Garu 21.53 245 *e*P **P** 17 47 54.0 -1.4
comp=Z,110nm,0.8s
CISI *e*S S 17 51 37.9 -7.3
PPBI Pangkal Pinang 21.57 260 P **P** 17 47 55.7 -0.1
comp=Z,109nm,1.0s,comp=Z,1µm
COEN Coen 21.98 135 *e*P **P** 17 47 59.0 -1.0
comp=Z,39nm,0.8s
CBJI Citeko 21.98 249 P **P** 17 48 00.2 0.0
comp=Z,230nm,1.1s,comp=Z,4µm
TWG Pinlang 21.99 344 *e*P **P** 17 47 56.7 -3.4
comp=Z,452nm,1.7s
CNJI Cibinong 22.05 246 P **P** 17 48 01.8 +1.0
comp=Z,257nm,1.0s,comp=Z,2µm
WRAB Tennant Creek 22.44 163 P **P** 17 48 04.0 -0.6
comp=Z,2µm,1.1s
WRAB Tennant Creek 22.44 163⇑*i*P **P** 17 48 04.3 -0.3
WRAB *e*S **S** 17 52 01.7 +1.6
WRAB pmax pmax
comp=Z,250nm,1.0s
WRAB Tennant Creek 22.44 163⇑*i*P **P** 17 48 04.3 -0.3
comp=Z,250nm,1.0s
WRAB *e*S **S** 17 52 01.7 +1.6
WRA Warramunga Arr 22.44 163 P **P** 17 48 04.2 -0.4
comp=Z,167nm,0.8s,baz=339,slow=10,SNR=293
WRA S **S** 17 51 57.0 -3.2
comp=Z,22nm,1.0s,baz=348,slow=13,SNR=6.8
SKJI Sukabumi 22.46 247 P **P** 17 48 05.6 +0.7
comp=Z,182nm,1.4s,comp=Z,2µm
PMG Port Moresby 22.52 119*d i*P **P** 17 48 04.6 -0.8
PMG pmax pmax
comp=Z,454nm,1.8s
PMG Port Moresby 22.52 119 *e*P **P** 17 48 05.0 -0.3
comp=Z,38nm,0.6s
TPUB Ta-pu 22.57 344 *e*P **P** 17 48 05.1 -0.7
comp=Z,86nm,1.0s
TPRI Tanjung Pinang 22.86 269 P **P** 17 48 09.0 +0.4
comp=Z,193nm,1.1s,comp=Z,2µm
DSRI Dabo 22.90 265 P **P** 17 48 09.5 +0.5
comp=Z,672nm,1.2s,comp=Z,7µm
SSLB Suanglung 22.95 345 *e*P **P** 17 48 08.7 -0.6
comp=Z,34nm,0.9s
PMBI Palembang 23.04 259 P **P** 17 48 12.5 +2.2
comp=Z,436nm,1.1s,comp=Z,15µm
CGJI Cibinong 23.13 249 P **P** 17 48 11.1 0.0
comp=Z,394nm,1.0s,comp=Z,4µm
NACB Ninganchiao 23.16 346 *e*P **P** 17 48 11.1 -0.1
comp=Z,30nm,1.0s
BLSI Bandar Lampung 23.16 253 P **P** 17 48 13.1 +1.7
comp=Z,226nm,0.9s,comp=Z,2µm
KLI Kotabumi 23.40 254 P **P** 17 48 15.0 +1.4
comp=Z,224nm,0.9s,comp=Z,2µm
KLSI 23.48 255 P **P** 17 48 14.8 +0.5
comp=Z,229nm,1.0s,comp=Z,2µm
MYKOM Kota Tinggi 23.53 271 ⇓P **P** 17 48 15.8 +1.0
MYKOM Kota Tinggi 23.53 271 *e*P **P** 17 48 15.2 +0.5
comp=Z,233nm,1.3s
YHNB Yeheng 23.68 346 *e*P **P** 17 48 16.1 0.0
comp=Z,124nm,1.3s
MBWA Marble Bar 23.80 198⇑*e*P **P** 17 48 16.8 -0.3
comp=Z,79nm,1.1s
KASI Kota Agung 23.92 253 P **P** 17 48 19.3 +1.0
comp=Z,259nm,0.9s,comp=Z,2µm
JMBI JAMBI 23.95 262 P **P** 17 48 22.1 +3.5
comp=Z,1µm,1.0s,comp=Z,10µm
MDSI Maura Dua 23.96 255 P **P** 17 48 19.4 +0.8
comp=Z,101nm,1.3s,comp=Z,1µm
KGM Kluang 24.06 271 ⇓P **P** 17 48 21.1 +1.5
LWLI Liwa 24.20 254 P **P** 17 48 22.0 +1.0
comp=Z,208nm,0.8s,comp=Z,3µm
QIZ Qiongzhong 24.42 316 P **P** 17 48 23.9 +1.1
QIZ pP **pP** 17 48 52.4 -0.6
QIZ sP **sP** 17 49 10.0 -0.8
QIZ S **S** 17 52 34.5 +2.4
QIZ sS **sS** 17 53 26.8 +0.4
QIZ PMZ
comp=Z,14nm,0.9s
QIZ PMZ
comp=Z,82nm,5.3s
QIZ Qiongzhong 24.42 316 *e*P **P** 17 48 23.6 +0.8
comp=Z,41nm,1.1s
LHSI Lahat 24.45 257 P **P** 17 48 26.4 +3.3
comp=Z,189nm,1.0s,comp=Z,2µm
KTGM Kuala Trenggan 24.49 279 ⇓P **P** 17 48 25.2 +1.7
XMIS Christmas Isla 24.72 241 *e*P **P** 17 48 26.4 +0.8
comp=Z,341nm,0.9s
JOW Kunigami 25.13 2 P **P** 17 48 29.8 +0.7
comp=Z,2.8nm,0.6s,baz=158,slow=16,SNR=4.0
FRIM Kepong 25.79 274 ⇓P **P** 17 48 36.5 +1.2
AS31 Alice Springs 25.88 166 *e*P **P** 17 48 35.7 -0.2
AS31 *e*S **S** 17 52 52.4 -2.6
ASAR Alice Springs 25.88 166 P **P** 17 48 35.9 -0.1
comp=Z,30nm,0.5s,baz=347,slow=7.4,SNR=1323
ASAR pP **pP** 17 49 06.7 -0.2
comp=Z,16nm,0.7s,baz=358,slow=9.3,SNR=3.0
ASAR S **S** 17 52 52.0 -3.0
comp=Z,3.9nm,0.8s,baz=350,slow=20,SNR=4.4
ASAR LR LR 17 58 25.1
comp=Z,139nm,20.4s,baz=336,slow=35
AS01 Alice Springs 25.89 166 *e*P **P** 17 48 35.2 -0.8
SDSI Sungai Dareh 26.07 265 P P 17 48 43.9 +6.1
comp=Z,48nm,1.4s,comp=Z,34µm
IPM Ipoh 26.48 277 ⇓P **P** 17 48 42.3 +0.8
IPM Ipoh 26.48 277 *e*P **P** 17 48 41.3 -0.2
comp=Z,46nm,1.0s
IPM *e*pP **pP** 17 49 10.6 -1.8
IPM *e*PcP **PcP** 17 52 03.5 +0.6
KULM Kulim 26.94 279 ⇑P **P** 17 48 46.2 +0.6
KULM Kulim 26.94 279 *e*P **P** 17 48 45.6 0.0
comp=Z,29nm,0.9s
KULM *e*pP **pP** 17 49 17.6 +1.0
CHBT CHBT 27.19 295 P **P** 17 48 49.1 +1.3
comp=Z,39nm,1.0s,comp=Z,2µm
SKNT Sakolnakorn 27.65 305 P **P** 17 48 53.9 +2.1
comp=Z,40nm,1.3s
MNSI Mandailing Nat 27.81 269 P P 17 48 59.5 +6.1
comp=Z,30nm,1.0s
CTA Charters Tower 28.39 140 P **P** 17 48 59.8 +1.4
comp=Z,21nm,0.9s,baz=317,slow=13,SNR=8.4
CTAO Charters Tower 28.39 140 *e*P **P** 17 48 59.1 +0.7
CTAO pmax pmax
comp=Z,34nm,0.8s
CTAO Charters Tower 28.39 140 *e*P **P** 17 48 59.1 +0.7
comp=Z,34nm,0.8s
PSI Prapat 28.47 273 P **P** 17 48 59.4 0.0
comp=Z,10nm,0.6s,baz=116,slow=4.4,SNR=11
PSI Prapat 28.47 273 *e*P **P** 17 48 58.9 -0.4
PSI pmax pmax
comp=Z,22nm,0.9s
PSI Prapat 28.47 273 *e*P **P** 17 48 58.9 -0.4
comp=Z,22nm,0.9s
CHAI Chaiyaphum 28.80 301 P **P** 17 49 02.7 +0.6
comp=Z,15nm,0.8s,comp=Z,122nm
NONG Nongkai 28.89 306 P **P** 17 49 04.0 +1.1
comp=Z,62nm,0.8s
CBIJ Chichi jima 29.08 28 P **P** 17 49 03.0 -1.4
JCJ Chichijima 29.08 28 P **P** 17 49 03.0 -1.4
comp=Z,30nm,0.3s,baz=95,slow=23,SNR=16
JCJ LR LR 17 59 50.1
comp=Z,59nm,19.7s,baz=100,slow=34
PBKT Sadao Pong 29.97 301 P P 17 49 16.4 +4.0
comp=Z,15nm,0.8s
LOEI Loei 30.16 303 P **P** 17 49 12.5 -1.6
comp=Z,14nm,1.0s
UTHA Uthaitani 30.86 298 P **P** 17 49 21.6 +1.3
comp=Z,4.8nm,0.7s
UTTA Uttaradit 30.87 303 P **P** 17 49 22.1 +1.8
comp=Z,3.1nm,0.9s
WHN Wuhan 31.35 338 ⇓P **P** 17 49 26.9 +2.5
WHN PMZ
comp=Z,110nm,1.1s
NJ2 Nanjing 31.37 346 *e*P **P** 17 49 24.0 -0.5
NJ2 PMZ
comp=Z,50nm,0.8s
JNU Nakatsue 31.55 6 P **P** 17 49 26.0 -0.3
comp=Z,17nm,0.8s,baz=251,slow=2.3,SNR=30
JNU LR LR 18 05 51.0
comp=Z,36nm,18.7s,baz=222,slow=43
JNU Nakatsue 31.55 6 *e*P **P** 17 49 25.9 -0.3
comp=Z,49nm,1.2s
GYA Guiyang 31.76 323⇑*i*P **P** 17 49 30.0 +1.8
GYA pP **pP** 17 50 02.6 +2.9
GYA sP **sP** 17 50 20.2 +3.4
GYA PP **PP** 17 50 41.8 -1.2
GYA PcP **PcP** 17 52 18.0 +1.8
GYA S **S** 17 54 29.2 +1.6
GYA sS **sS** 17 55 25.4 +2.5
GYA ScP **ScP** 17 55 44.5 -1.5
GYA ScS **ScS** 17 59 42.0 -2.7
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,140nm,5.0s
GYA LN
comp=Z,560nm,17.6s
GYA LE
comp=Z,520nm,18.2s
GYA LZ
comp=Z,540nm,17.8s
FORT Forrest 32.18 179 *e*P **P** 17 49 30.6 -1.1
comp=Z,143nm,0.7s
CM01 Chiang Mai Arr 32.52 303 *e*P **P** 17 49 36.0 +1.1
CM31 Chiang Mai Arr 32.55 303 *e*P **P** 17 49 34.6 -0.5
comp=Z,1.7nm,0.7s
CMAR Chiang Mai Arr 32.55 303 P **P** 17 49 36.6 +1.5
comp=Z,3.4nm,1.0s,baz=125,slow=7.1,SNR=24
CMAR PcP **PcP** 17 52 19.1 +0.8
comp=Z,4.2nm,0.9s,baz=167,slow=1.6,SNR=9.0
CMAR ScP **ScP** 17 55 48.8 +0.1
comp=Z,1.9nm,0.9s,baz=153,slow=2.4,SNR=7.9
CMAR LR LR 18 04 17.8
comp=Z,88nm,18.4s,baz=130,slow=39
CMMT Chiang Mai 32.72 303 P **P** 17 49 38.0 +1.5
comp=Z,22nm,0.9s
CHTO Chiang Mai 32.72 303 P **P** 17 49 38.1 +1.5
comp=Z,56nm,2.0s
CHTO Chiang Mai 32.72 303 *e*P **P** 17 49 36.4 -0.2
CHTO *e* 17 52 19.5
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 32.72 303 *e*P **P** 17 49 36.4 -0.2
comp=Z,8.2nm,0.9s
CHTO *e*PcP **PcP** 17 52 19.5 +0.6
KSJDO Jindo 32.74 358 P **P** 17 49 37.2 +0.7
SNR=15
KSJDO Jindo 32.74 358 P **P** 17 49 37.2 +0.7
SNR=15
CMAI Chiengmai2 33.18 305 P **P** 17 49 42.3 +1.6
comp=Z,58nm,0.9s
ENH Enshi 33.22 331 *e*P **P** 17 49 40.9 +0.1
KMI Kunming 33.37 317 P **P** 17 49 44.6 +2.2
KMI pP **pP** 17 50 17.1 +3.0
KMI S **S** 17 54 58.5 +5.7
KMI PMZ
comp=Z,11nm,1.3s
KMI LN
comp=Z,190nm,10.9s
KMI LE
comp=Z,140nm,8.9s
KMI LZ
comp=Z,220nm,24.6s
KSBUS Busan 33.54 3 P **P** 17 49 43.9 +0.4
SNR=7.9
KSBUS Busan 33.54 3 P **P** 17 49 43.9 +0.4
SNR=7.9
KSJEU Jeongeup 33.75 359 P **P** 17 49 45.7 +0.4
SNR=15
KSJEU Jeongeup 33.75 359 P **P** 17 49 45.7 +0.4
SNR=15
KSDAG Daegu 34.05 2 P **P** 17 49 48.2 +0.3
SNR=8.1
KSDAG Daegu 34.05 2 P **P** 17 49 48.2 +0.3
SNR=8.1
KSPHA Pohang 34.50 3 P **P** 17 49 52.3 +0.6
SNR=8.6
KSPHA Pohang 34.50 3 P **P** 17 49 52.3 +0.6
SNR=8.6
TJN Taejon 34.63 360*c i*P **P** 17 49 52.9 +0.1
KSBON Boeun 34.76 1 P **P** 17 49 55.1 +1.1
SNR=28
KSBON Boeun 34.76 1 P **P** 17 49 55.1 +1.1
SNR=28
KSULJ Uljin 35.01 3 P **P** 17 49 56.6 +0.6
SNR=14
KSULJ Uljin 35.01 3 P **P** 17 49 56.6 +0.6
SNR=14
KSCEA Cheonan 35.08 360 P **P** 17 49 57.5 +0.9
SNR=18
KSCEA Cheonan 35.08 360 P **P** 17 49 57.5 +0.9
SNR=18
KSCHJ Chungju 35.13 1 P **P** 17 49 57.6 +0.5
SNR=14
KSCHJ Chungju 35.13 1 P **P** 17 49 57.6 +0.5
SNR=14
BBOO Buckleboo 35.17 167 *e*P **P** 17 49 57.4 -0.1
comp=Z,169nm,1.4s
EIDS Eidsvold 35.27 141 *e*P **P** 17 49 58.7 +0.2
comp=Z,89nm,1.0s
KSTBA Taebaek 35.40 2 P **P** 17 50 00.5 +1.0
SNR=10
KSTBA Taebaek 35.40 2 P **P** 17 50 00.5 +1.0
SNR=10
KSSWO Suwon 35.52 359 P **P** 17 50 01.8 +1.4
SNR=7.0
KSSWO Suwon 35.52 359 P **P** 17 50 01.8 +1.4
SNR=7.0
NWAO Narrogin (SRO) 35.63 195 P **P** 17 50 01.6 +0.2
comp=Z,24nm,0.5s,baz=330,slow=5.5,SNR=42
KSAR Wonju Array Be 35.70 1 P **P** 17 50 02.7 +0.8
KSAR 17 52 27.9
KSAR Wonju Array Be 35.70 1 P **P** 17 50 02.7 +0.8
KSAR PcP **PcP** 17 52 27.9 +0.9
KSRS Korea Array 35.71 1 P **P** 17 50 02.7 +0.7
comp=Z,19nm,0.6s,baz=177,slow=9.6,SNR=162
KSRS PcP **PcP** 17 52 27.9 +0.9
comp=Z,4.3nm,0.7s,baz=194,slow=2.6,SNR=11
KSRS LR LR 18 06 29.1
comp=Z,53nm,20.5s,baz=190,slow=39
KS01 Wonju Array Si 35.73 1 *e*P **P** 17 50 01.8 -0.4
STKA Stephens Creek 35.89 159 P **P** 17 50 04.3 +0.6
comp=Z,231nm,0.7s,baz=334,slow=8.1,SNR=318
STKA LR LR 18 05 52.5
comp=Z,245nm,18.7s,baz=6.2,slow=38
STKA Stephens Creek 35.89 159⇑*i*P **P** 17 50 04.0 +0.3
STKA *e* 17 51 26.2
STKA pmax pmax
comp=Z,51nm,0.8s
STKA Stephens Creek 35.89 159⇑*i*P **P** 17 50 04.0 +0.3
comp=Z,51nm,0.8s
STKA *e*PP **PP** 17 51 26.2 -2.3
KSDGY Daegwallycong 35.96 2 P **P** 17 50 05.2 +0.9
SNR=17
KSDGY Daegwallycong 35.96 2 P **P** 17 50 05.2 +0.9
SNR=17
KSGAH Ganghwa 35.97 359 P **P** 17 50 05.2 +1.0
SNR=5.7
KSCHC Chuncheon 36.03 1 P **P** 17 50 06.0 +1.2
SNR=18
KSCHC Chuncheon 36.03 1 P **P** 17 50 06.0 +1.2
SNR=18
KSMUS Musan 36.14 359 P **P** 17 50 07.1 +1.3
SNR=13
KSJMJ Jumunjin 36.15 2 P **P** 17 50 07.0 +1.1
SNR=15
MAJO Matsushiro 36.21 15*c i*P **P** 17 50 04.9 -1.5
MAJO pmax pmax
comp=Z,390nm,1.7s
MAJO Matsushiro 36.21 15 *e*P **P** 17 50 04.7 -1.7
comp=Z,38nm,1.0s
MAJO *e*PcP **PcP** 17 52 24.4 -4.1
MAT Matsushiro 36.21 15 P **P** 17 50 05.2 -1.2
MAT S S 17 55 41.8 +6.2
MJAR Matsushiro Arr 36.21 15 P **P** 17 50 05.1 -1.2
comp=Z,12nm,0.7s,baz=189,slow=9.7,SNR=70
MJAR PcP **PcP** 17 52 29.2 +0.6
comp=Z,5.9nm,0.9s,baz=178,slow=3.2,SNR=5.9
KSIJA INJE 36.24 1 P **P** 17 50 07.9 +1.3
SNR=19
YNCB YEONCHEON 36.29 359 P **P** 17 50 08.3 +1.3
SNR=28
KSBAR Backryungdo 36.31 356 P **P** 17 50 08.6 +1.5
SNR=10
SEHB SEOHWA 36.53 1 P **P** 17 50 10.4 +1.4
SNR=16
XAN Xi'an 36.63 334 P **P** 17 50 10.7 +0.7
XAN pP **pP** 17 50 44.2 +2.2
XAN S **S** 17 55 41.5 -0.6
XAN PMZ
comp=Z,15nm,1.2s
CD2 Chengdu 36.77 325 P **P** 17 50 12.3 +1.1
CD2 pP **pP** 17 50 44.2 +0.9
CD2 sP **sP** 17 51 01.3 +1.2
CD2 PP **PnPn** 17 51 39.3 -0.8
CD2 S **S** 17 55 46.4 +2.1
CD2 sS **sS** 17 56 42.9 +2.5
CD2 PMZ
comp=Z,30nm,0.6s
CD2 PMZ
comp=Z,220nm,5.0s
CD2 LE
comp=Z,230nm,13.7s
CD2 LZ
comp=Z,260nm,16.7s
BJT Baijiatuao 39.60 346 *e*P **P** 17 50 35.1 +0.4
BJT pmax pmax
comp=Z,35nm,0.7s
BJT Baijiatuao 39.60 346 *e*P **P** 17 50 35.1 +0.4
comp=Z,36nm,0.7s
BJI Beijing 39.62 346 P **P** 17 50 35.3 +0.4
BJI PMZ
comp=Z,74nm,1.2s
BJI PMZ
comp=Z,150nm,3.0s
SNY Shenyang 40.22 356 ⇑P **P** 17 50 40.0 +0.2
SNY S **S** 17 56 35.0 -0.7
SNY SS **SS** 17 59 41.6 +1.4
SNY PMZ
comp=Z,25nm,0.5s
LZH Lanzhou 40.69 330 ⇑P **P** 17 50 46.0 +2.0
LZH pP **pP** 17 51 16.9 +0.4
LZH sP **sP** 17 51 33.1 -0.1
LZH PP **PnPn** 17 52 27.0 +0.7
LZH S **S** 17 56 42.3 -0.9
LZH sS sS 17 57 47.0 +7.0
LZH SS **SS** 17 59 47.5 -2.4
LZH PMZ
comp=Z,120nm,1.3s
LZH PMZ
comp=Z,250nm,4.6s
LZH LN
comp=Z,760nm,14.0s
LZH LE
comp=Z,670nm,13.3s
LZH LZ
comp=Z,920nm,15.4s
VLA Vladivostok 41.56 5⇑*e*P **P** 17 50 51.4 +0.7
VLA *i* 17 52 30.1
VLA *e* 17 52 45.7
VLA *e*S **S** 17 56 55.0 -0.5
VLA pmax pmax
comp=Z,56nm,1.6s
HHC Hu-ho-hao-te 41.64 342 *e*P **P** 17 50 52.5 +0.9
HHC pP **pP** 17 51 25.1 +0.8
HHC sP **sP** 17 51 42.8 +1.8
HHC PP **PP** 17 52 33.1 +2.1
HHC S **S** 17 56 59.2 +2.1
HHC sS **sS** 17 57 55.0 +1.0
HHC PMZ
comp=Z,34nm,0.9s
HHC PMZ
comp=Z,80nm,5.8s
CAN Canberra 41.90 153⇑*i*P **P** 17 50 55.2 +1.5
CAN *e* 17 52 32.6
CAN pmax pmax
comp=Z,131nm,0.8s
CAN Canberra 41.90 153⇑*i*P **P** 17 50 55.2 +1.5
comp=Z,131nm,0.8s
CAN *e*PP **PP** 17 52 32.6 -1.2
CN2 Changchun 42.08 358 *e*P **P** 17 50 55.5 +0.5
CN2 PMZ
comp=Z,10.0nm,0.8s
USRK Ussuriysk Ar. 42.64 5 P **P** 17 51 00.0 +0.5
comp=Z,25nm,0.8s,baz=189,slow=7.2,SNR=49
ERM Erimo 42.69 17 P **P** 17 51 00.7 +0.9
comp=Z,116nm,0.9s,SNR=6.1
ERM Erimo 42.69 17*de*P **P** 17 51 00.8 +0.9
ERM pmax pmax
comp=Z,42nm,1.8s
MDJ Mudanjiang 42.91 2 P **P** 17 51 02.3 +0.7
MDJ sP **sP** 17 51 49.7 -1.4
MDJ PcP **PcP** 17 52 49.8 0.0
MDJ ScP **ScP** 17 56 28.0 +0.9
MDJ PcS **PcS** 17 56 40.9 -1.2
MDJ S **S** 17 57 15.2 -0.1
MDJ sS **sS** 17 58 11.4 -1.1
MDJ PMZ
comp=Z,47nm,1.0s
MDJ PMZ
comp=Z,64nm,6.0s
MDJ Mudanjiang 42.91 2⇑*i*P **P** 17 51 02.1 +0.4
comp=Z,58nm,1.1s
MDJ *e*pP **pP** 17 51 36.1 +1.7
MDJ *e*PcP **PcP** 17 52 49.8 0.0
LSA Lhasa 44.36 313 P **P** 17 51 15.5 +1.4
LSA Lhasa 44.36 313 *e*P **P** 17 51 15.8 +1.7
LSA *e* 17 52 56.0
LSA pmax pmax
comp=Z,9.0nm,0.6s
LSA Lhasa 44.36 313 *e*P **P** 17 51 15.8 +1.7
comp=Z,9.0nm,0.6s
LSA *e*PcP **PcP** 17 52 56.0 +0.3
ASAJ Asahikawa 44.47 16 P **P** 17 51 15.0 +0.9
baz=268,slow=8.6
ASAJ Asahikawa 44.47 16 *e*P **P** 17 51 14.4 +0.3
comp=Z,72nm,1.2s
DZM Mont Dzumac 44.78 124 P **P** 17 51 17.9 +0.8
comp=Z,25nm,0.8s,baz=90,slow=24,SNR=18
GTA Gaotai 45.27 330 ⇑P **P** 17 51 22.2 +1.4
GTA pP **pP** 17 51 53.9 0.0
GTA sP **sP** 17 52 10.2 -0.3
GTA PcP **PcP** 17 52 59.7 +1.5
GTA S **S** 17 57 51.8 +1.7
GTA ScS **ScS** 18 01 01.5 -0.8
GTA SS **SS** 18 01 11.1 -4.6
GTA PMZ
comp=Z,23nm,1.4s
GTA PMZ
comp=Z,120nm,6.7s
GTA LN
comp=Z,120nm,20.4s
GTA LE
comp=Z,87nm,19.0s
GTA LZ
comp=Z,110nm,20.0s
TAPN Taplejung 45.83 308 *e*P **P** 17 51 26.9 +1.4
ODAN Odare 45.86 307 *e*P **P** 17 51 26.9 +1.2
comp=Z,53nm,1.0s
RAMN Ramite 46.54 307 *e*P **P** 17 51 32.6 +1.6
comp=Z,80nm,1.0s
PALK Pallekele 46.86 278 P **P** 17 51 33.3 -0.2
PALK pmax pmax
comp=Z,35nm,1.3s
PALK Pallekele 46.86 278 P **P** 17 51 33.3 -0.2
comp=Z,35nm,1.3s
YSS Yuzh-Sakhalins 47.14 14 *e*P **P** 17 51 35.0 -0.1
YSS Yuzh-Sakhalins 47.14 14 *e*P **P** 17 51 34.7 -0.3
comp=Z,139nm,1.7s
YSS *e*PcP **PcP** 17 53 04.8 +0.4
JIRN Jiri 47.17 307 *e*P **P** 17 51 37.4 +1.3
comp=Z,31nm,0.5s
HABR Khabarovsk 47.19 7 *e*P **P** 17 51 34.2 -1.1
HABR *e**PP **pP** 17 52 07.7 -1.0
HABR *e**SP **sP** 17 52 24.8 -0.5
HABR *e* 17 53 02.9
HABR *e* 17 53 26.3
HABR *e*PPP PPP 17 54 16.3

HABR eS **S** **17 58 15.4 -1.3**
HABR e*SS **sS** **17 59 14.5 -0.2**
HABR pmax pmax
comp=E,38nm,2.0s
HABR pmax pmax
comp=Z,102nm,2.0s
HABR pmax pmax
comp=N,39nm,2.0s
HABR MLR MLR
comp=Z,173nm,20.0s
GUN Gumba 47.53 307 eP **P** **17 51 40.2 +1.4**
KLR Kul'dur 47.62 4 eP P 17 51 34.8 -3.9
KLR pmax pmax
comp=Z,62nm,1.4s
PKI Pulchoki 47.76 307 eP **P** **17 51 41.2 +0.6**
KKN Kakani 47.96 307 eP **P** **17 51 42.9 +0.9**
HIA Hailar 47.96 353c iP **P** **17 51 41.8 +0.4**
HIA pmax pmax
comp=Z,29nm,1.5s
HIA Hailar 47.96 353 eP **P** **17 51 41.2 -0.2**
comp=Z,28nm,1.2s
DMN Daman 48.02 307 eP **P** **17 51 43.5 +1.0**
comp=Z,66nm,1.1s
GKN Gorkha 48.56 307 eP **P** **17 51 47.5 +1.0**
KOLN Koldanda 49.30 306 eP **P** **17 51 53.7 +1.5**
SONM Songino Array 49.54 342 P **P** **17 51 54.3 +0.7**
comp=Z,9.4nm,0.7s,baz=158,slow=8.3,SNR=47
SONM pP **pP** **17 52 27.2 0.0**
comp=Z,10nm,1.0s,baz=154,slow=9.8,SNR=4.0
SONM PcP **PcP** **17 53 13.7 +0.5**
comp=Z,10.0nm,0.8s,baz=160,slow=3.3,SNR=7.1
SONA1 Songino Array 49.55 342 eP **P** **17 51 54.0 +0.3**
CIT Chita 51.59 349 eP **P** **17 52 09.6 +0.8**
CIT e 17 52 47.8
CIT e 17 53 01.4
CIT pmax pmax
comp=Z,60nm,1.7s
ZAK Zakamensk 52.76 341 eP **P** **17 52 17.5 -0.1**
ZAK pmax pmax
comp=Z,6.0nm,1.5s
MSVF Nonsavu 53.44 113 P **P** **17 52 25.3 +2.3**
comp=Z,355nm,1.2s,SNR=11
MSVF Nonsavu 53.44 113 eP **P** **17 52 24.7 +1.7**
MSVF pmax pmax
comp=Z,70nm,1.1s
MSVF Nonsavu 53.44 113 eP **P** **17 52 24.7 +1.7**
comp=Z,70nm,1.1s
TLY Talaya 53.77 342 eP **P** **17 52 26.3 +1.5**
TLY pmax pmax
comp=Z,11nm,0.9s
TLY MLR MLR
comp=Z,41nm,10.0s
MOY Mondy 54.62 340 eP **P** **17 52 32.0 +0.9**
MOY pmax pmax
comp=Z,39nm,1.7s
WMQ Urumqi 54.86 326 P **P** **17 52 34.2 +1.3**
WMQ pP **pP** **17 53 07.0 -0.2**
WMQ sP **sP** **17 53 22.8 -0.7**
WMQ S **S** **18 00 03.8 +1.1**
WMQ SS **SS** **18 03 49.3 +0.9**
WMQ PMZ
comp=Z,63nm,1.0s
WMQ PMZ
comp=Z,110nm,4.4s
WMQ LN
comp=Z,68nm,11.2s
WMQ LE
comp=Z,47nm,12.4s
WMQ LZ
comp=Z,73nm,18.4s
HVS Khovu-Aksy 56.96 335c iP **P** **17 52 48.5 +0.8**
BOD Bodaibo 57.08 352 eP **P** **17 52 47.8 -0.5**
BOD e 17 53 26.3
BOD pmax pmax
comp=Z,24nm,1.6s
PEA0 Petropavlovsk- 57.18 21 eP **P** **17 52 49.9 +0.8**
PETK Petropavlovsk- 57.18 21 P **P** **17 52 49.9 +0.8**
comp=Z,15nm,0.6s,baz=183,slow=3.0,SNR=96
PET Petropavlovsk 57.46 22 eP **P** **17 52 52.1 +1.1**
PET pmax pmax
comp=Z,66nm,1.4s
DCZ Deep Cove 58.59 148 eP **P** **17 52 59.3 +0.3**
comp=Z,38nm,0.8s
WHZ Wether Hill Ro 59.28 148 eP **P** **17 53 03.4 -0.5**
comp=Z,47nm,0.9s
RPZ Rata Peaks 59.63 145 P **P** **17 53 06.9 +0.6**
comp=Z,80nm,0.7s,baz=282,slow=2.0,SNR=53
RPZ Rata Peaks 59.63 145 eP **P** **17 53 06.3 0.0**
comp=Z,85nm,0.7s
MK01 Makanchi Array 59.67 326 eP **P** **17 53 06.7 +0.1**
MK31 Makanchi Array 59.69 326 eP **P** **17 53 06.9 +0.2**
MK31 pmax pmax
comp=Z,11nm,0.4s
MK31 Makanchi Array 59.69 326 eP **P** **17 53 07.2 +0.5**
MK31 epP **pP** **17 53 41.2 -0.3**
MKAR Makanchi Array 59.69 326 P **P** **17 53 07.4 +0.7**
comp=Z,33nm,0.7s,baz=121,slow=8.6,SNR=323
MKAR pP **pP** **17 53 41.9 +0.3**
comp=Z,11nm,0.6s,baz=126,slow=8.2,SNR=5.4
MKAR S **S** **18 01 05.8 0.0**
comp=Z,1.1nm,1.1s,baz=137,slow=13,SNR=6.3
MKAR PKPPKP P'P'df 18 22 20.9 -13
comp=Z,0.6nm,0.9s,baz=282,slow=2.8,SNR=5.2
KSH Kashi 60.03 316 P **P** **17 53 11.3 +2.0**
KSH pP **pP** **17 53 45.8 +1.6**
KSH PcP **PcP** **17 53 55.2 +1.4**
KSH pP **PP** **17 55 26.8 +3.4**
KSH PcS **PcS** **17 57 58.5 +2.2**
KSH S **S** **18 01 11.1 +0.5**
KSH sS **sS** **18 02 11.4 +0.5**
KSH ScS **ScS** **18 02 46.3 +0.6**
KSH PMZ
comp=Z,20nm,0.9s
KSH PMZ
comp=Z,150nm,4.6s
KSH LN
comp=Z,120nm,4.8s
KSH LE
comp=Z,92nm,5.4s
KSH LZ
comp=Z,170nm,5.3s
YAK Yakutsk 60.33 1⇑ iP **P** **17 53 10.7 0.0**
YAK e 17 53 43.7
YAK e 17 55 25.8
YAK eS **S** **18 01 09.9 -3.4**
YAK pmax pmax
comp=Z,66nm,0.9s
YAK pmax pmax
comp=N,24nm,1.1s
YAK Yakutsk 60.33 1 eP **P** **17 53 10.7 0.0**
comp=N,82nm,0.8s
YAK epP **pP** **17 53 41.9 -3.8**
KHZ Kahutara 60.37 142 eP **P** **17 53 10.9 -0.4**
comp=N,55nm,0.7s
URZ Urewera 60.53 136 P **P** **17 53 12.8 +0.3**
comp=N,20nm,0.9s,baz=34,slow=3.6,SNR=6.8
BKZ Black Stump Fm 60.56 138 eP **P** **17 53 12.3 -0.5**
comp=N,40nm,0.7s
KRAR Krasnoyarsk 60.98 339 P **P** **17 53 16.0 +0.8**
KRAR pmax pmax
comp=Z,24nm,1.6s
ULHL Ulahol 61.06 319 P **P** **17 53 17.5 +1.2**
SNR=6.1
KZA Kyzart 61.64 318 P **P** **17 53 22.1 +1.6**
SNR=15
TKM2 Tokmak 2 61.79 319 P **P** **17 53 22.2 +1.0**
SNR=26
TKM2 Tokmak 2 61.79 319 eP **P** **17 53 21.9 +0.7**
TKM2 pmax pmax
comp=Z,20nm,0.6s
TKM2 Tokmak 2 61.79 319 eP **P** **17 53 21.9 +0.7**
comp=Z,20nm,0.6s
KBK Karagaybulak 62.10 319 P **P** **17 53 24.4 +1.2**
SNR=11
UCH Uchtor 62.20 318 P **P** **17 53 25.5 +1.3**
SNR=37
CHMS Chumysh 62.38 319 P **P** **17 53 25.5 +0.6**
SNR=9.9
AAK Ala-Archa 62.39 318 P **P** **17 53 26.0 +0.9**
comp=Z,69nm,0.9s,SNR=5.6
AAK Ala-Archa 62.39 318 P **P** **17 53 26.4 +1.2**
SNR=8.8
AAK Ala-Archa 62.39 318 P **P** **17 53 25.6 +0.5**
comp=Z,3.9nm,0.4s,baz=121,slow=5.2,SNR=14
AAK pP **PcP** **17 54 02.3 -1.0**
comp=Z,7.4nm,0.8s,baz=144,slow=6.3,SNR=3.4
AAK Ala-Archa 62.39 318⇑ iP **P** **17 53 26.2 +1.1**
AAK pmax pmax
comp=Z,54nm,1.7s
AAK Ala-Archa 62.39 318⇑ eP **P** **17 53 26.0 +0.9**
comp=Z,14nm,1.1s
AAK epP **pP** **17 53 59.8 -0.5**
AAK ePcP **PcP** **17 54 03.6 +0.3**
USP Ospenovka 62.66 319 P **P** **17 53 27.7 +0.9**
SNR=31
AML Almayashu 62.71 318 P **P** **17 53 28.9 +1.3**
SNR=21
ZAA0 Zalesovo Array 62.80 333⇑ iP **P** **17 53 26.3 -1.1**
ZALV Zalesovo Beam 62.80 333 P **P** **17 53 26.6 -0.7**
comp=Z,6.6nm,0.8s,baz=120,slow=5.8,SNR=36
ZALV pP **pP** **17 54 03.1 +0.6**
comp=Z,6.2nm,0.8s,baz=134,slow=6.4,SNR=3.1
ZALV PKP2bc 18 22 33.6
comp=Z,2.4nm,1.1s,baz=290,slow=4.3,SNR=6.8
EKS2 Erkin-Say 62.88 318 P **P** **17 53 29.7 +1.4**
SNR=18
EKS2 Erkin-Say 62.88 318⇑ iP **P** **17 53 29.2 +0.9**
EKS2 e*PP **pP** **17 53 59.9 -3.6**
EKS2 pmax pmax
comp=Z,22nm,0.9s
EKS2 Erkin-Say 62.88 318⇑ iP **P** **17 53 29.2 +0.9**
comp=Z,22nm,0.9s
EKS2 epP **pP** **17 53 59.9 -3.6**
KBL Kabul 63.35 308 eP **P** **17 53 31.8 0.0**
KBL pmax pmax
comp=Z,28nm,0.5s
KBL Kabul 63.35 308 eP **P** **17 53 31.8 0.0**
comp=Z,28nm,0.5s
KURBB Kurchatov Arra 63.90 328 P **P** **17 53 34.9 +0.2**
comp=Z,37nm,0.8s,baz=125,slow=6.0,SNR=341
KURBB pP **PcP** **17 54 09.0 -0.1**
comp=Z,14nm,0.8s,baz=126,slow=6.1,SNR=5.3
KURK Kurchatov 63.90 328 P **P** **17 53 34.9 +0.2**
comp=Z,239nm,1.0s,SNR=67
KURK Kurchatov 63.90 328 eP **P** **17 53 34.8 +0.1**
KURK *PP **PcP** **17 54 09.0 -0.1**
KURK pmax pmax
comp=Z,68nm,0.9s
KURK Kurchatov 63.90 328 eP **P** **17 53 34.8 +0.1**
comp=Z,68nm,0.9s
KURK pP **PcP** **17 54 09.0 -0.1**
SEY Seymchan 63.98 12c iP **P** **17 53 36.5 +1.5**
NVS Novosibirsk 64.08 333 eP **P** **17 53 34.8 -1.0**
NVS e 17 54 09.1
NVS eS S 18 01 50.1 -10
NVS pmax pmax
comp=N,13nm,1.1s
NVS pmax pmax
comp=Z,32nm,1.1s
NVS pmax pmax
comp=E,18nm,1.3s
NVS smax smax
comp=E,12nm,1.7s
DZET Dzherino 64.89 313 P **P** **17 53 41.9 +0.4**
DZET pmax pmax
comp=Z,27nm,0.6s
KK31 Karatay Array 65.25 318 iP **P** **17 53 43.9 +0.2**
KK31 pmax pmax
comp=Z,8.0nm,0.5s
KKAR Karatay Array 65.25 318⇑ iP **P** **17 53 43.9 +0.2**
KKAR e*PP **pP** **17 54 18.2 -0.9**
KKAR Karatay Array 65.25 318⇑ iP **P** **17 53 43.9 +0.2**
KKAR epP **pP** **17 54 18.2 -0.9**
OTUK Ortayu 66.23 323 P **P** **17 53 49.2 -0.7**
OTUK pmax pmax
comp=Z,28nm,1.0s
CASY Casey 68.77 187 eP **P** **17 54 05.3 -0.1**
comp=Z,19nm,0.6s
BVA0 Borovoye Array 69.47 327 iP **P** **17 54 09.7 -0.3**
BVA0 pmax pmax
comp=Z,44nm,1.3s
BVAR Borovoye Array 69.47 327 P **P** **17 54 10.0 0.0**
comp=Z,24nm,0.9s,baz=131,slow=6.7,SNR=79
BVAR Borovoye Array 69.47 327 P **P** **17 54 10.0 0.0**
BRVK Borovoye 69.55 327 P **P** **17 54 10.4 -0.1**
comp=Z,221nm,1.2s,SNR=16
BRVK Borovoye 69.55 327ceP **P** **17 54 10.3 -0.2**
BRVK pmax pmax
comp=Z,49nm,1.2s
BRVK Borovoye 69.55 327⇑ iP **P** **17 54 10.2 -0.3**
comp=Z,47nm,1.1s
BRVK epP **pP** **17 54 41.9 -4.4**
ATKA Atka Island 69.90 34 eP **P** **17 54 13.1 +0.6**
IMYA Miami 70.87 308 eP **P** **17 54 19.2 +0.1**
IKOO Kooshah 70.97 304 eP **P** **17 54 20.8 +0.9**
ITEG Tejag 71.27 304 eP **P** **17 54 22.4 +0.8**
IMOG Moghan 71.42 308 eP **P** **17 54 22.9 +0.3**
NAZ Nazwa, Dubai 72.79 296⇓ eP **P** **17 54 30.6 +0.1**
SNR=5.2
NAZ Nazwa, Dubai 72.79 296⇓ eP **P** **17 54 30.6 +0.1**
SNR=5.2
ASUD Al Ashush, Dub 73.05 295⇑ eP **P** **17 54 32.7 +0.6**
SNR=12
ASUD Al Ashush, Dub 73.05 295⇑ eP **P** **17 54 32.7 +0.6**
SNR=12
AB31 Akbulak array 74.22 321 P **P** **17 54 38.0 -0.4**
AB31 pmax pmax
comp=Z,5.0nm,0.4s
ABKAR Akbulak array 74.22 321⇑ iP **P** **17 54 37.9 -0.5**
ABKAR epP pP 17 55 08.4 -6.3
UNV Unalaska Valle 74.82 34 eP **P** **17 54 41.9 +0.1**
AKUT Akutan 75.32 34 eP **P** **17 54 45.5 +0.9**
IPAR Pars 75.64 300 eP **P** **17 54 47.5 +0.2**
IGLO Ghaloghah 75.87 307 eP **P** **17 54 47.2 -1.2**
GAMB Gambell 76.09 24 eP **P** **17 54 49.8 +1.0**
SVE Sverdlovsk 76.13 329d iP **P** **17 54 49.0 -0.2**
SVE pmax pmax
comp=Z,46nm,1.1s
IKAZ Kazeroun 76.68 300 eP **P** **17 54 53.1 -0.2**
ARU Arti 77.10 328 P **P** **17 54 53.2 -1.4**
comp=Z,149nm,0.7s,SNR=8.7
ARU Arti 77.10 328c iP **P** **17 54 53.5 -1.1**
ARU *PP **pP** **17 55 28.0 -3.1**
ARU S **S** **18 04 30.8 -0.5**
ARU pmax pmax
comp=Z,27nm,1.0s
ARU Arti 77.10 328⇑ iP **P** **17 54 53.4 -1.3**
ARU epP **pP** **17 55 26.4 -4.7**
IVRN Varamin 77.36 305 eP **P** **17 54 56.7 0.0**
IPIR Pirpir 77.79 303 eP **P** **17 54 57.7 -1.7**
SDPT Sand Point 78.61 34 eP **P** **17 55 03.5 +0.5**
SOKR Solikamsk 78.91 331 eP **P** **17 55 03.4 -1.1**
SOKR pmax pmax
comp=Z,20nm,1.1s
IKOM Komasi 80.74 304 eP **P** **17 55 14.1 -1.1**
VNDA Vanda 81.22 173 P **P** **17 55 16.8 +0.2**
comp=Z,28nm,0.8s,baz=317,slow=6.1,SNR=113
VNDA Vanda 81.22 173 eP **P** **17 55 16.5 -0.1**
VNDA Vanda 81.22 173 eP **P** **17 55 16.5 -0.1**
IDHR Dehrash 81.70 305 eP **P** **17 55 18.9 -1.5**
RAYN Ol Rayn 81.93 293 P **P** **17 55 21.0 -0.5**
comp=Z,114nm,1.3s,SNR=11
RAYN Ar Rayn 81.93 293⇑ eP **P** **17 55 21.1 -0.4**
RAYN epP pP 17 55 52.1 -6.3
MAW Mawson 81.97 200 P **P** **17 55 21.4 +0.7**
comp=Z,16nm,0.5s,baz=75,slow=5.3,SNR=64
MAW pP **pP** **17 55 55.3 -2.3**
comp=Z,10nm,0.9s,baz=66,slow=8.1,SNR=3.8
SBA Scott Base 82.12 172 eP **P** **17 55 22.4 +1.1**
SBA Scott Base 82.12 172 eP **P** **17 55 22.4 +1.1**
IAZR Azarshahr 82.23 308 eP **P** **17 55 23.2 +0.1**
SVW2 Sparrevohn 82.37 29 eP **P** **17 55 24.0 +1.0**
IMRD Marand 82.52 309 eP **P** **17 55 24.6 +0.1**
OHAK Old Harbor 82.90 33 eP **P** **17 55 26.4 +0.6**
KDAK Kodiak Island 83.35 32 iP **P** **17 55 30.1 +2.0**
GNI Garni 83.36 310 P **P** **17 55 29.6 +0.8**
comp=Z,1.3nm,0.3s,baz=70,slow=12,SNR=4.9
GNI Garni 83.36 310⇓ eP **P** **17 55 29.7 +0.9**
GNI pmax pmax
comp=Z,20nm,1.9s
GNI Garni 83.36 310 eP **P** **17 55 29.2 +0.4**
comp=Z,15nm,1.1s
IM04 Indian Mountai 84.02 24 eP **P** **17 55 32.1 +0.8**
SPU Mount Spurr 84.07 29 eP **P** **17 55 32.0 +0.2**
ZEI Tsey 84.15 313 eP **P** **17 55 32.3 -0.5**
ZEI pmax pmax
comp=Z,51nm,1.4s
PPLA Purkeypile 84.24 27 eP **P** **17 55 33.6 +0.9**
BRLK Bradley Lake 84.47 30 eP **P** **17 55 34.2 +0.4**
PRGR Permogore 84.70 332 P **P** **17 55 32.0 -2.8**
PRGR e*PP **pP** **17 56 10.8 -1.1**
PRGR pmax pmax
comp=Z,6.0nm,0.5s
GOF Gofitskoye 84.89 315 eP **P** **17 55 36.3 +0.1**
GOF pmax pmax
comp=Z,20nm,1.3s
KTH Kantishna Hill 84.89 26 eP **P** **17 55 35.7 -0.1**
BPAW Bear Paw Mtn. 84.93 26 eP **P** **17 55 36.5 +0.5**
KBZ Khabaz 84.93 314 P **P** **17 55 36.3 0.0**
comp=Z,9.5nm,1.1s,baz=146,slow=24,SNR=14
KIV Kislovodsk 85.09 314 iP **P** **17 55 37.1 -0.2**
KIV i *PP **pP** **17 56 12.5 -2.0**
KIV pmax pmax
comp=Z,25nm,2.2s
TRF Thorofare Moun 85.16 27 eP **P** **17 55 36.8 -0.6**
RC01 Rabbit Creek A 85.18 29 eP **P** **17 55 37.0 -0.2**
SEW Seward 85.23 30 eP **P** **17 55 37.8 +0.3**
comp=Z,58nm,0.9s
PMR Palmer 85.52 28 eP **P** **17 55 39.2 +0.3**
PMR Palmer 85.52 28 eP **P** **17 55 39.2 +0.3**
COLD Coldfoot 85.61 23 eP **P** **17 55 40.1 +0.8**
MCK McKinley 85.79 26 eP **P** **17 55 37.9 -2.4**
MCK McKinley 85.79 26 eP **P** **17 55 37.9 -2.4**
RND Reindeer 85.80 27 eP **P** **17 55 40.0 -0.4**
RND Reindeer 85.80 27 eP **P** **17 55 40.0 -0.4**
SML Sawmill 85.91 28 P **P** **17 55 40.6 -0.3**
SML Sawmill 85.91 28 P **P** **17 55 40.6 -0.3**
MDM Murphy Dome 86.20 25 eP **P** **17 55 41.7 -0.5**
WRH Wood River Hil 86.22 26 eP **P** **17 55 41.9 -0.4**
COLA College 86.35 25 P **P** **17 55 42.1 -0.8**
COLA pmax pmax
comp=Z,17nm,0.7s
COLA College 86.35 25 P **P** **17 55 41.1 -1.8**
comp=Z,3.1nm,0.5s
CCB Clear Creek Bu 86.36 25 eP **P** **17 55 42.2 -0.8**
SCM Sheep Creek Mo 86.39 28 eP **P** **17 55 45.1 +1.8**
SCM Sheep Creek Mo 86.39 28 eP **P** **17 55 45.1 +1.8**
ILAR Eielson Array 86.76 25 P **P** **17 55 43.4 -1.5**
comp=Z,3.6nm,0.8s,baz=250,slow=4.8,SNR=25
ILAR PP PP 17 59 03.8 -5.5
comp=Z,1.2nm,1.0s,baz=265,slow=7.4,SNR=5.1
DIV Divide 87.10 29 eP **P** **17 55 48.4 +1.6**
PAX Paxson 87.31 27 eP **P** **17 55 47.5 -0.2**
PAX pmax pmax
comp=Z,11nm,1.1s
PAX Paxson 87.31 27 eP **P** **17 55 47.5 -0.2**
comp=Z,11nm,1.1s
VORD Divnogorie 87.58 321 eP **P** **17 55 47.7 -1.4**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,20nm,1.4s
KLMR Klimovskoe 87.59 331 eP **P** **17 55 46.2 -2.8**
KLMR pmax pmax
comp=Z,21nm,1.4s
VSR Storozhevoye 87.67 321 eP **P** **17 55 48.5 -1.0**
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,8.0nm,0.8s
VSR pmax pmax
comp=N,2.0nm,0.5s
LPSR Galich'ya Gora 87.82 322 eP **P** **17 55 49.3 -0.9**
LPSR pmax pmax
comp=N,8.0nm,0.9s
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR pmax pmax
comp=E,10.0nm,1.6s
DOT Dot Lake 87.96 27 eP **P** **17 55 49.9 -0.8**
comp=E,8.4nm,0.9s
ANN Anapa 88.87 315 eP **P** **17 55 53.8 -1.6**
ANN e*PP **pP** **17 56 35.2 +2.4**
ANN eS **SKSac** **18 06 08.2 -3.0**
ANN pmax pmax
comp=Z,18nm,0.9s
OBN Obninsk 89.19 325c iP **P** **17 55 55.4 -1.2**
OBN pmax pmax
comp=Z,40nm,1.8s
OBN Obninsk 89.19 325 eP **P** **17 55 54.6 -2.0**
EGAK Eagle 89.21 25 eP **P** **17 55 56.1 -0.5**
comp=Z,7.1nm,0.9s
ASF Jabal al Asfar 89.59 302 P **P** **17 55 58.8 -0.4**
baz=84,slow=10
DAWY Dawson 90.01 26 eP **P** **17 56 00.3 -0.1**
KMBO Kilima Mbogo 90.16 269 P **P** **17 56 03.0 +0.6**
comp=Z,1.6nm,0.4s,baz=61,slow=9.1,SNR=7.9
KMBO Kilima Mbogo 90.16 269ceP **P** **17 56 02.2 -0.2**
KMBO pmax pmax
comp=Z,2.0nm,0.4s
KMBO Kilima Mbogo 90.16 269 eP **P** **17 56 03.2 +0.8**
KMBO epP **pP** **17 56 38.0 -1.9**
SYO Syowa Base 90.66 201⇓ eP **P** **17 56 02.2 -1.0**
HYT Haines Junctio 91.14 29 eP **P** **17 56 06.1 +0.3**
QSPA South Pole Qui 91.49 180 eP **P** **17 56 07.1 -0.2**
comp=Z,14nm,0.9s
BR131 Keskin Array S 91.89 310 eP **P** **17 56 07.9 -1.8**
comp=Z,3.1nm,0.9s
BR131 epP **pP** **17 56 45.4 -1.9**
BRTR Keskin Array B 91.89 310 P **P** **17 56 08.3 -1.5**
comp=Z,3.0nm,0.9s,baz=116,slow=5.6,SNR=18
BRTR pP **pP** **17 56 47.0 -0.4**
comp=Z,2.1nm,0.9s,baz=123,slow=6.2,SNR=4.6
BRTR LR LR 18 42 44.6
comp=Z,18nm,21.0s,baz=132,slow=39
BRTR Keskin Array B 91.89 310ceP **P** **17 56 08.8 -1.0**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 91.92 22 eP **P** **17 56 08.1 -0.9**
INK pmax pmax
comp=Z,20nm,1.3s
INK Inuvik 91.92 22 eP **P** **17 56 08.1 -0.9**
comp=Z,20nm,1.3s
ARCES ARCESS Array B 92.69 340 P **P** **17 56 11.6 -1.0**
comp=Z,9.3nm,0.7s,baz=79,slow=6.3,SNR=13
AKASG Malin Array Be 93.97 321 P **P** **17 56 17.1 -1.8**
comp=Z,0.2nm,0.3s,baz=95,slow=2.1,SNR=6.5
AKASG pP **pP** **17 56 56.1 -0.3**
comp=Z,1.5nm,0.6s,baz=72,slow=3.3,SNR=2.3
KIEV Kiev 93.98 321⇓ eP **P** **17 56 17.3 -1.6**
FINES FINESS Array B 94.03 332 P **P** **17 56 17.4 -1.5**
comp=Z,1.4nm,0.6s,baz=61,slow=5.5,SNR=11
FINES LR LR 18 43 03.6
comp=Z,46nm,18.3s,baz=204,slow=38
BUR08 Bucovina Ar. S 97.04 318 eP **P** **17 56 30.8 -2.3**
BUR08 epP **pP** **17 57 10.2 -0.6**
NB2 NORSAR Subarra101.00 334 P **Pdif** **17 56 48.2 -2.2**
comp=Z,3.4nm,0.9s,baz=69,slow=4.4
NB2 NORSAR Subarra101.00 334 P **Pdif** **17 56 48.2 -2.2**
baz=69,slow=4.4
NOA NORSAR Array B101.00 334 P **Pdif** **17 56 48.2 -2.2**
comp=Z,1.9nm,0.8s,baz=68,slow=4.4,SNR=6.8
YKA Yellowknife Ar 101.17 25 P **Pdif** **17 56 51.0 0.0**
comp=Z,1.3nm,0.6s,baz=298,slow=4.8,SNR=22
YKA PKiKP **PKiKP** **18 01 14.9 -0.1**
comp=Z,0.4nm,0.7s,baz=305,slow=1.8,SNR=4.3
YKA PKKPbc **PKKPbc** **18 12 59.2 -4.4**
comp=Z,0.6nm,0.7s,baz=111,slow=5.5,SNR=8.2
BRG Berggiesshubel 103.35 323 ePDIF **Pdif** **17 57 00.9 -0.1**
comp=Z,1.9nm,0.7s
BRG ePP **PKiKP** **18 01 20.1 +0.7**
comp=Z,7.1nm,1.4s
BRG Berggiesshubel 103.35 323 eP **Pdif** **17 57 00.9 -0.1**
BRG e 18 01 20.1
BRG pmax pmax
comp=Z,2.0nm,0.7s
BRG pmax pmax
comp=Z,7.0nm,1.4s
CLL Collm 103.76 324 ePP PP 18 01 22.0 +1.0
CLL Collm 103.76 324 iP Pdif 17 57 15.9 +13
CLL e 18 01 22.0
CLL pmax pmax
comp=Z,135nm,3.9s
NVAR Mina Array Bea 107.84 49 PP PP 18 01 49.0 -2.9
comp=Z,0.3nm,0.5s,baz=302,slow=8.4,SNR=3.3
NVAR PKKPbc **PKKPbc** **18 12 43.2 +0.2**
comp=Z,0.6nm,0.7s,baz=111,slow=4.9,SNR=4.0
PDAR Pinedale Array 112.53 42 PKKPbc PKKPbc 18 12 26.6 -1.5
comp=Z,1.1nm,0.6s,baz=69,slow=4.9,SNR=4.2
PDAR PKKPab **PKKPab** **18 12 33.9 -2.2**
comp=Z,1.0nm,0.5s,baz=124,slow=4.3,SNR=4.6
MDND Maddock 116.05 33 P **PKPdf** **18 01 43.2 -0.2**
baz=116

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
G27A	**Dupree**	**116.10**	**37**	P	**PKPdf**	**18 01 43.3**	**-0.3**
	baz=116						
H27A	**Howes**	**116.41**	**37**	P	**PKPdf**	**18 01 43.9**	**-0.3**
	baz=116						
ANMO	**Albuquerque**	**117.97**	**49** ⇑	*i*PKIKP	**PKPdf**	**18 01 48.4**	**+0.7**
ANMO				pmax	pmax		
	comp=Z,22nm,2.5s						
T25A	**Trinidad**	**118.53**	**46**	P	**PKPdf**	**18 01 49.6**	**+0.8**
	baz=118						
R26A	**Arlington**	**118.68**	**44**	P	**PKPdf**	**18 01 49.1**	**+0.2**
	baz=119						
T26A	**Comanche Natio**	**119.10**	**45**	P	**PKPdf**	**18 01 50.0**	**+0.2**
	baz=119						
ESDC	**Sonseca Array**	**119.50**	**318**	PKP	**PKPdf**	**18 01 48.9**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=28,slow=1.6,SNR=4.0						
ESDC				PKKPab	**PKKPbc**	**18 12 02.2**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=258,slow=3.5,SNR=4.0						
U27A	**Thompson Grove**	**119.99**	**46**	P	**PKPdf**	**18 01 51.9**	**+0.4**
	baz=120						
MNTX	**Cornudas Mount**	**120.08**	**52**	P	**PKPdf**	**18 01 52.0**	**+0.4**
	baz=120						
ECSD	**EROS Data Cent**	**120.16**	**36**	P	**PKPdf**	**18 01 50.9**	**-0.6**
	baz=120						
ECSD	**EROS Data Cent**	**120.16**	**36**	*e*PKPdf	**PKPdf**	**18 01 50.6**	**-0.8**
MSTX	**Muleshoe**	**121.14**	**48**	P	**PKPdf**	**18 01 53.7**	**-0.1**
	baz=121						
SPMN	**Marine on St.**	**121.36**	**32**	P	**PKPdf**	**18 01 53.7**	**0.0**
	baz=121						
O33A	**Hebron**	**121.68**	**40**	P	**PKPdf**	**18 01 53.9**	**-0.6**
	baz=122						
X29A	**Tulia**	**121.72**	**47**	P	**PKPdf**	**18 01 55.2**	**+0.4**
	baz=122						
128A	**Castleberry Fa**	**121.94**	**49**	P	**PKPdf**	**18 01 55.2**	**-0.1**
	baz=122						
Y29A	**Porterfield Fa**	**122.00**	**48**	P	**PKPdf**	**18 01 55.6**	**+0.2**
	baz=122						
Z29A	**Hungry Hill Ra**	**122.25**	**48**	P	**PKPdf**	**18 01 55.7**	**-0.1**
	baz=122						
TXAR	**Lajitas Array**	**122.37**	**54**	PKP	**PKPdf**	**18 01 56.0**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=226,slow=1.3,SNR=16						
TXAR				PKKPab	**PKKPbc**	**18 11 51.8**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=120,slow=5.5,SNR=3.7						
TXAR	**Lajitas Array**	**122.37**	**54**	PKIKP	**PKPdf**	**18 01 56.0**	**-0.2**
129A	**Stewart Farms,**	**122.41**	**49**	P	**PKPdf**	**18 01 56.1**	**-0.1**
	baz=122						
P34A	**Walnut Farm, R**	**122.46**	**40**	P	**PKPdf**	**18 01 55.6**	**-0.4**
	baz=122						
Y30A	**Stafford Cattl**	**122.57**	**47**	P	**PKPdf**	**18 01 56.7**	**+0.2**
	baz=122						
SCHQ	**Schefferville**	**122.57**	**10**	PKP	**PKPdf**	**18 01 55.6**	**-0.1**
	comp=Z,2.7nm,0.5s,baz=27,slow=8.0,SNR=6.3						
Z30A	**Sanderson Ranc**	**122.67**	**48**	P	**PKPdf**	**18 01 56.6**	**0.0**
	baz=123						
T33A	**Patterson Ranc**	**122.86**	**43**	P	**PKPdf**	**18 01 57.0**	**+0.1**
	baz=123						
P35A	**Duane Minner,**	**122.98**	**39**	P	**PKPdf**	**18 01 56.7**	**-0.3**
	baz=123						
Y31A	**Rekieta Farm,**	**123.00**	**47**	P	**PKPdf**	**18 01 57.2**	**-0.1**
	baz=123						
529A	**Stev Forest Ra**	**123.20**	**52**	P	**PKPdf**	**18 01 57.8**	**0.0**
	baz=123						
429A	**Davenport Ranc**	**123.25**	**51**	P	**PKPdf**	**18 01 57.9**	**0.0**
	baz=123						
Q35A	**Mercer Eighty,**	**123.35**	**40**	P	**PKPdf**	**18 01 57.2**	**-0.5**
	baz=123						
430A	**Baggett Ranch,**	**123.69**	**51**	P	**PKPdf**	**18 01 58.7**	**0.0**
	baz=124						
S35A	**Otter Creek Ra**	**123.83**	**41**	P	**PKPdf**	**18 01 58.8**	**+0.1**
	baz=124						
530A	**J-C Ranch, Com**	**123.89**	**52**	P	**PKPdf**	**18 01 59.3**	**+0.3**
	baz=124						
231A	**Bronte**	**123.89**	**49**	P	**PKPdf**	**18 01 58.9**	**-0.1**
	baz=124						
R36A	**Gordon, Harris**	**124.00**	**40**	P	**PKPdf**	**18 01 58.5**	**-0.5**
	baz=124						
331A	**San Angelo**	**124.09**	**50**	P	**PKPdf**	**18 01 59.3**	**-0.1**
	baz=124						
TORD	**Torodi Ar. Bea**	**124.19**	**287**	PKP	**PKPdf**	**18 01 59.5**	**-0.4**
	comp=Z,7.6nm,0.8s,baz=62,slow=1.8,SNR=47						
TORD				PKKPab	**PKKPab**	**18 11 46.0**	**+1.1**
	comp=Z,2.8nm,0.6s,baz=254,slow=2.7,SNR=23						
TOA1	**Torodi Ar. Sit**	**124.19**	**287**	*e*PKIKP	**PKPdf**	**18 01 58.6**	**-1.3**
431A	**Sonora**	**124.23**	**51**	P	**PKPdf**	**18 01 59.3**	**-0.5**
	baz=124						
232A	**Coleman**	**124.42**	**49**	P	**PKPdf**	**18 01 60.0**	**0.0**
	baz=124						
R37A	**Teagarden Farm**	**124.44**	**40**	P	**PKPdf**	**18 01 59.6**	**-0.2**
	baz=124						
531A	**Rocksprings**	**124.50**	**51**	P	**PKPdf**	**18 02 00.3**	**0.0**
	baz=124						
432A	**Menard**	**124.77**	**50**	P	**PKPdf**	**18 02 01.1**	**+0.3**
	baz=125						
631A	**Perdido Creek**	**124.80**	**52**	P	**PKPdf**	**18 02 00.8**	**0.0**
	baz=125						
233A	**Rising Star**	**124.92**	**48**	P	**PKPdf**	**18 02 01.0**	**0.0**
	baz=125						
JCT	**Junction City**	**124.94**	**51**	*e*PKIKP	**PKPdf**	**18 02 01.0**	**0.0**
JCT	**Junction City**	**124.94**	**51**	P	**PKPdf**	**18 02 01.3**	**+0.3**
	baz=125						
JCT	**Junction City**	**124.94**	**51**	*e*PKPdf	**PKPdf**	**18 02 01.0**	**0.0**
532A	**Rocksprings**	**125.02**	**51**	P	**PKPdf**	**18 02 01.1**	**-0.1**
	baz=125						
333A	**Richland Sprin**	**125.18**	**49**	P	**PKPdf**	**18 02 01.4**	**0.0**
	baz=125						
W36A	**Wetumka**	**125.28**	**44**	P	**PKPdf**	**18 02 01.7**	**+0.2**
	baz=125						
433A	**Art**	**125.36**	**50**	P	**PKPdf**	**18 02 01.8**	**0.0**
	baz=125						
632A	**Uvalde**	**125.38**	**52**	P	**PKPdf**	**18 02 02.1**	**+0.2**
	baz=125						
X36A	**Centrahoma**	**125.49**	**44**	P	**PKPdf**	**18 02 01.9**	**0.0**
	baz=125						
234A	**Clairette**	**125.50**	**48**	P	**PKPdf**	**18 02 02.4**	**+0.3**
	baz=125						
732A	**Laxson Ranch,**	**125.57**	**53**	P	**PKPdf**	**18 02 02.2**	**0.0**
	baz=126						
533A	**Kerrville**	**125.72**	**51**	P	**PKPdf**	**18 02 02.8**	**+0.3**
	baz=126						
334A	**Lometa**	**125.74**	**49**	P	**PKPdf**	**18 02 02.3**	**-0.2**
	baz=126						
832A	**Faith Ranch, C**	**125.76**	**53**	P	**PKPdf**	**18 02 03.3**	**+0.7**
	baz=126						
Y36A	**Durant**	**125.89**	**45**	P	**PKPdf**	**18 02 03.2**	**+0.4**
	baz=126						
434A	**Burnet**	**125.96**	**49**	P	**PKPdf**	**18 02 03.0**	**+0.1**
	baz=126						
WHTX	**Lake Whitney,**	**126.01**	**48**	P	**PKPdf**	**18 02 03.2**	**+0.2**
	baz=126						
X37A	**Clayton**	**126.17**	**44**	P	**PKPdf**	**18 02 03.2**	**0.0**
	baz=126						
534A	**Blanco**	**126.17**	**50**	P	**PKPdf**	**18 02 03.3**	**-0.1**
	baz=126						
833A	**Chaparral WMA,**	**126.20**	**53**	P	**PKPdf**	**18 02 03.4**	**-0.1**
	baz=126						
335A	**Moody**	**126.37**	**49**	P	**PKPdf**	**18 02 04.3**	**+0.5**
	baz=126						
W38A	**Poteau**	**126.49**	**43**	P	**PKPdf**	**18 02 03.9**	**+0.1**
	baz=126						
034A	**Hebbronville**	**127.31**	**54**	P	**PKPdf**	**18 02 07.5**	**+1.9**
	baz=127						
MIAR	**Mount Ida**	**127.43**	**43**	*e*PKIKP	**PKPdf**	**18 02 05.3**	**-0.3**
MIAR	**Mount Ida**	**127.43**	**43**	*e*PKPdf	**PKPdf**	**18 02 05.3**	**-0.3**
636A	**Smothers Creek**	**127.51**	**50**	P	**PKPdf**	**18 02 06.5**	**+0.6**
	baz=127						
KIC	**Kosan Boka**	**131.56**	**280**	*e*PKIKP	**PKPdf**	**18 02 14.4**	**+0.4**
	comp=Z,109nm,1.9s						
DBIC	**Dimbokro**	**131.63**	**280**	PKP	**PKPdf**	**18 02 14.9**	**+0.7**
	comp=Z,5.1nm,0.7s,baz=93,slow=2.7,SNR=6.9						
DBIC	**Dimbokro**	**131.63**	**280**	*e*PKIKP	**PKPdf**	**18 02 14.4**	**+0.2**
DBIC	**Dimbokro**	**131.63**	**280**	*e*PKPdf	**PKPdf**	**18 02 14.4**	**+0.2**
TIC	**Toumodi**	**131.80**	**280**	*e*PKIKP	**PKPdf**	**18 02 14.8**	**+0.3**
LIC	**Lamto**	**131.86**	**280**	*e*PKIKP	**PKPdf**	**18 02 15.1**	**+0.5**
	comp=Z,51nm,1.6s						
PLCA	**Paso Flores**	**137.77**	**160**	PKP	**PKPdf**	**18 02 26.3**	**+1.3**
	comp=Z,5.2nm,0.8s,baz=197,slow=1.7,SNR=7.8						
LCO	**Las Campanas**	**147.72**	**149**	*e*PKPdf	**PKPdf**	**18 02 43.0**	**-0.2**
LCO				*e*PKPbc	**PKPbc**	**18 02 46.3**	**+0.1**
LCO				*e*PKPab	**PKPab**	**18 02 49.9**	**+1.2**
LVC	**Limon Verde**	**153.77**	**144**	*e*PKPdf	**PKPdf**	**18 02 51.6**	**-1.0**
LVC				*e*PKPbc	**PKiKP**	**18 03 01.3**	**+0.7**
LVC				*e*PKPab	**PKPab**	**18 03 15.6**	**+1.7**
LRS	**Lares**	**155.80**	**35**	*e*PKPdf	**PKPdf**	**18 02 55.4**	**+0.2**
LRS				*e*PKPab	**PKPab**	**18 03 22.1**	**-0.2**
LPAZ	**La Paz**	**158.85**	**135**	PKP	**PKPdf**	**18 03 00.9**	**+1.1**
	comp=Z,3.8nm,0.9s,baz=315,slow=1.5,SNR=13						
LPAZ				pPKP	**pPKPdf**	**18 03 37.9**	**-1.4**
	comp=Z,9.1nm,0.9s,baz=240,slow=2.6,SNR=11						
LPAZ	**La Paz**	**158.85**	**135**	*e*PKIKP	**PKPdf**	**18 02 59.9**	**+0.1**
LPAZ				*e*		18 03 37.2	
LPAZ	**La Paz**	**158.85**	**135**	*e*PKPdf	**PKPdf**	**18 02 59.9**	**+0.1**
LPAZ				*e*PKPab	**PKPab**	**18 03 37.2**	**+0.9**
SDV	**Santo Domingo**	**159.25**	**60**	*e*PKPdf	**PKPdf**	**18 02 59.2**	**-0.6**
SDV				*e*PKPab	**PKPab**	**18 03 37.8**	**+0.1**
BDFB	**Brasilia**	**165.30**	**198**	PKP	**PKPdf**	**18 03 04.7**	**-1.0**
	comp=Z,1.4nm,0.4s,baz=127,slow=5.1,SNR=3.0						
BDFB				PKPab	**PKPab**	**18 04 03.9**	**+0.1**
	comp=Z,5.6nm,0.8s,baz=72,slow=6.4,SNR=4.1						

PRE 05 17:47:01.9±2.0**, 32°.02S**×**14°.59E, h5**km**, ML4.4, South Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CER	**Ceres**	**4.18**	**110**	*e*P	Pn	17 48 07.6	+1.2
CER				*e*S	Sn	17 48 54.0	-1.8
CER				AML	AML	17 49 03.8	
	comp=Z,82nm,0.4s						
SUR	**Sutherland**	**5.29**	**96**	*e*P	Pn	17 48 24.7	+2.9
SUR				*e*S	Sn	17 49 21.4	-1.9
SUR				AML	AML	17 49 34.7	
	comp=Z,85nm,0.4s						
UPI	**Upington**	**6.82**	**59**	*e*P	Pn	17 48 44.9	+2.1
UPI				*e*S	Sn	17 49 57.5	-3.4
UPI				AML	AML	17 50 12.7	
	comp=Z,32nm,0.4s						
BUFB	**Buffelsbos**	**8.78**	**107**	*e*P	Pn	17 49 10.1	+0.6
BUFB				*e*S	Sn	17 50 43.9	-4.9
BUFB				AML	AML	17 50 54.2	
	comp=Z,7.7nm,0.2s						
BOSA	**Boshof**	**9.82**	**73**	*e*P	Pn	17 49 25.2	+1.2
BOSA				*e*S	Sn	17 51 10.5	-4.3
BOSA				AML	AML	17 52 15.6	
	comp=Z,8.2nm,0.5s						
GRM	**Grahamstown**	**10.13**	**101**	*e*P	Pn	17 49 29.4	+1.3
GRM				*e*S	Sn	17 51 18.4	-3.8
GRM				AML	AML	17 52 06.2	
	comp=Z,6.3nm,0.6s						
SEK	**Senekal**	**11.86**	**75**	*e*P	Pn	17 49 52.4	+0.4
SEK				*e*S	Sn	17 51 58.5	-6.4
SEK				AML	AML	17 52 11.8	
	comp=Z,5.0nm,0.2s						
LBTB	**Lobatse**	**11.93**	**57**	*e*P	Pn	17 49 52.6	-0.2
LBTB				*e*S	Sn	17 51 59.7	-6.6
LBTB				AML	AML	17 52 11.3	
	comp=Z,5.3nm,0.5s						
PRYS	**Parys**	**12.22**	**69**	*e*P	Pn	17 49 57.5	+0.6
PRYS				*e*S	Sn	17 52 07.4	-6.4
PRYS				AML	AML	17 52 19.3	
	comp=Z,7.7nm,0.6s						
CNG	**Changalane**	**16.39**	**74**	*e*P	P	17 50 54.7	-1.0
CNG				*e*S	Sn	17 53 43.2	-12
CNG				AML	AML	17 53 56.7	
	comp=Z,4.0nm,0.7s						

TAP 05 17:47:18.1, 21°.08N×**122°.58E, h189**km±2km**, ML3.7, D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**1.77**	**298**	*e*P	Pn	17 47 54.0	+0.6
	baz=293						
TWK1	**Hengchun**	**1.87**	**298**	*e*P	Pn	17 47 54.3	-0.1
	baz=293						
TWK1				*e*S	Sn	17 48 20.7	-1.9
	baz=293						
HEN	**Hengchun**	**1.95**	**299**	*e*P	Pn	17 47 55.1	-0.1
	baz=298						
EAST	**Anshuo**	**2.07**	**309**	P	Pn	17 47 57.0	+0.4
	baz=309						
EAST				*e*S	Sn	17 48 24.4	-2.2
	baz=309						
ECL	**Taimali**	**2.14**	**315**	*e*P	Pn	17 47 58.0	+0.7
	baz=311						
TWG	**Pinlang**	**2.23**	**321**	*e*P	Pn	17 47 58.2	-0.1
	baz=321						
SCZT	**Fangliau**	**2.23**	**306**	*e*P	Pn	17 47 58.4	+0.1
	baz=305						
SCZT				*e*S	Sn	17 48 27.9	-1.7
	baz=305						
CHKT	**Chengkung**	**2.31**	**331**	*e*P	Pn	17 47 58.7	-0.4
	baz=333						
SSD	**Sandimen**	**2.46**	**313**	P	Pn	17 48 01.1	+0.3
	baz=307						
SSD				*e*S	Sn	17 48 32.3	-1.9
	baz=307						
SGLT	**Jiouru**	**2.54**	**311**	*e*P	Pn	17 48 03.5	+1.7
	baz=315						
SGLT				*e*S	Sn	17 48 34.1	-1.8
	baz=315						
ELDTW	**Lidau**	**2.56**	**326**	*e*P	Pn	17 48 01.9	-0.1
	baz=323						
TWF1	**Yuli**	**2.56**	**332**	*e*P	Pn	17 48 04.0	+2.0
	baz=334						
TWM1	**Shoushan**	**2.65**	**311**	*e*P	Pn	17 48 02.8	-0.3
	baz=318						
STYT	**Tauyuan**	**2.68**	**321**	*e*P	Pn	17 48 03.9	+0.5
	baz=323						
SGST	**Jiashian**	**2.72**	**317**	*e*P	Pn	17 48 04.5	+0.6
	baz=317						
CHN1	**Nanshi**	**2.83**	**318**	*e*P	Pn	17 48 04.9	-0.3
	baz=318						
YUS	**Yu-Shan**	**2.84**	**328**	*e*P	Pn	17 48 06.7	+0.9
	baz=328						
CHN3	**Shinhua**	**2.86**	**314**	P	Pn	17 48 06.4	+0.9
	baz=314						
CHN4	**Tsaushan**	**2.92**	**321**	*e*P	Pn	17 48 05.9	-0.3
	baz=321						
CHN4				*e*S	Sn	17 48 40.3	-3.5
	baz=321						
TWK	**Hsinying**	**2.92**	**319**	P	Pn	17 48 05.8	-0.5
	baz=312						
ESL	**Shilin**	**2.92**	**339**	*e*P	Pn	17 48 05.0	-1.3
	baz=341						
ALS	**Alishan**	**2.93**	**326**	*e*P	Pn	17 48 07.0	+0.3
	baz=321						
WDT	**Danda**	**2.98**	**334**	*e*P	Pn	17 48 08.2	+0.8
	baz=338						
CHN5	**Tsauling**	**3.07**	**325**	*e*P	Pn	17 48 08.1	+0.1
	baz=325						
SMLT	**Sun Moon Lake**	**3.20**	**331**	*e*P	Pn	17 48 08.1	-1.6
	baz=322						
TYC	**Yuchr**	**3.23**	**331**	*e*P	Pn	17 48 10.7	+0.8
	baz=322						
WHF	**Hehuan Shan**	**3.29**	**339**	*e*P	Pn	17 48 11.3	+0.2
	baz=344						
ENA	**Nanau**	**3.42**	**347**	*e*P	Pn	17 48 12.2	-0.1
	baz=347						
NNS	**Nan Shan**	**3.53**	**342**	*e*P	Pn	17 48 13.4	-0.4
	baz=346						
ENTT	**Nioudou**	**3.67**	**345**	*e*P	Pn	17 48 14.6	-0.7
	baz=345						
TWE	**Neicheng**	**3.72**	**347**	*e*P	Pn	17 48 15.7	-0.3
	baz=352						
NSK	**Sanguang**	**3.76**	**343**	*e*P	Pn	17 48 15.4	-1.1
	baz=347						
NSTT	**Nanjuang**	**3.83**	**338**	*e*P	Pn	17 48 16.4	-0.9
	baz=330						

*ISCJB **05** 18:10:13.4±0.9, 57°.3S±0°.2×147°.5W±0°.3, h10km, mb4.1/6, MS4.1/8, Error ellipse: s-maj=31.7km s-min=18.0km az=18.9*

*IDC **05** 18:10:14.6±0.9, 57°.39S×147°.53W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/25, mbtmp3.9/4, MS4.1/8, Ms1 4.1/8, ms1mx3.9/16, Error ellipse: s-maj=39.4km s-min=26.0km az=6.0*

*NEIC **05** 18:10:15.9±0.5, 57°.40S×147°.53W, h10km, mb4.3/3, Error ellipse: s-maj=27.7km s-min=15.6km az=193.0*

ISC 05 18:10:15.9±0.8**, 57°.4S**±0°.2×**147°.5W**±0°.2**, h10**km**, n41, σ0s80**/13**, mb4.2**/6**, MS4.1**/8**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**26.48**	**202**	LR	LR	18 23 29.5	
	comp=Z,300nm,20.0s,baz=72,slow=30						
QSPA	**South Pole Qui**	**32.77**	**180**	P	**P**	**18 16 49.3**	**+0.5**
	2.0nm,0.7s,baz=78,slow=2.5,SNR=14						
QSPA	**South Pole Qui**	**32.77**	**180**	*e*P	**P**	**18 16 49.1**	**+0.3**
	2.9nm,0.8s						
TBI	**Tubuai**	**34.02**	**357**	*e*LR	LR	18 25 57.1	
	614nm,27.0s,baz=177						
TBI	**Tubuai**	**34.02**	**357**	*e*T	T	18 52 55.1	
	19nm,0.3s						
RKT	**Rikitea**	**35.41**	**20**	*e*LR	LR	18 26 42.6	
	425nm,31.2s						
RKT	**Rikitea**	**35.41**	**20**	*e*T	T	18 54 39.4	
	3.6nm,0.2s						
MEH	**Mehetia**	**39.44**	**359**	*e*T	T	18 59 41.3	
	23nm,0.4s						
TVO	**Taravao**	**39.55**	**357**	*e*T	T	18 59 49.4	
	2.7nm,0.4s						
PAE	**Paea**	**39.68**	**357**	*e*T	T	18 59 59.1	
	1.7nm,0.3s						
PPT2	**Papeete2**	**39.75**	**357**	*e*LR	LR	18 28 35.9	
	732nm,25.2s						
PPT	**Papeete**	**39.77**	**357**	LR	LR	18 29 40.3	
	comp=Z,286nm,19.1s,baz=182,slow=29						
TIAR	**Tiarei**	**39.77**	**357**	*e*T	T	19 00 06.2	
	2.5nm,0.3s						
VAH	**Vaihoa**	**42.06**	**360**	*e*T	T	19 02 57.7	
	36nm,0.3s						
SNAA	**Sanae**	**48.88**	**166**	P	P	18 18 53.1	-8.1
SNAA	**Sanae**	**48.88**	**166**	*e*P	P	18 18 52.4	-8.8
	2.2nm,0.8s						
VNA1	**Neumayer--Stat**	**49.02**	**163**	P	**P**	**18 19 01.9**	**-0.3**
MAW	**Mawson**	**53.33**	**194**	LR	LR	18 40 19.2	
	comp=Z,207nm,18.0s,baz=66,slow=34						
STKA	**Stephens Creek**	**53.67**	**266**	LR	LR	18 38 15.4	
	comp=Z,166nm,19.5s,baz=180,slow=31						
STKA	**Stephens Creek**	**53.67**	**266**	P	P	18 19 41.4	+3.9
TRQA	**Tornquist**	**56.67**	**110**	P	**P**	**18 19 58.9**	**-0.1**
	6.0nm,1.1s						
CTAO	**Charters Tower**	**60.53**	**279**	P	**P**	**18 20 25.8**	**-0.3**
ASAR	**Alice Springs**	**64.30**	**266**	P	**P**	**18 20 50.6**	**-0.7**
	0.8nm,0.8s,baz=143,slow=6.4,SNR=12						
ASAR				LR	LR	18 46 29.4	
	comp=Z,64nm,18.0s,baz=164,slow=34						
H01W1	**Cape Leeuwin H**	**65.55**	**243**	T	T	19 32 46.7	
	baz=143,slow=76,SNR=5.8						
H01W2	**Cape Leeuwin H**	**65.55**	**243**	T	T	19 32 49.2	
	baz=143,slow=76,SNR=3.0						
H01W3	**Cape Leeuwin H**	**65.56**	**243**	T	T	19 32 50.0	
	baz=143,slow=76,SNR=3.7						
WRA	**Warramunga Arr**	**67.08**	**269**	P	**P**	**18 21 09.1**	**-0.2**
	1.8nm,0.9s,baz=146,slow=5.5,SNR=4.6						
LPAZ	**La Paz**	**70.71**	**90**	P	**P**	**18 21 31.9**	**-0.8**
	0.4nm,0.5s,baz=180,slow=2.0,SNR=3.1						
LPAZ				LR	LR	18 44 55.8	
	comp=Z,88nm,21.4s,baz=182,slow=29						
ROSC	**El Rosal**	**85.08**	**73**	LR	LR	18 53 37.1	
	comp=Z,86nm,21.9s,baz=204,slow=31						
BOSA	**Boshof**	**94.13**	**174**	LR	LR	19 01 47.1	
	comp=Z,178nm,20.5s,baz=168,slow=33						
H10S3	**ASCENSION HYDR**	**103.53**	**132**	T	T	20 20 21.5	
	baz=205,slow=75,SNR=28						
H10S2	**ASCENSION HYDR**	**103.53**	**132**	T	T	20 20 28.8	
	baz=205,slow=75,SNR=27						
H10S1	**ASCENSION HYDR**	**103.54**	**132**	T	T	20 20 22.6	
	baz=205,slow=75,SNR=25						
H10N3	**ASCENSION HYDR**	**104.60**	**132**	T	T	20 21 52.8	
	baz=204,slow=75,SNR=48						
H10N1	**ASCENSION HYDR**	**104.60**	**132**	T	T	20 21 57.1	
	baz=204,slow=75,SNR=48						
H10N2	**ASCENSION HYDR**	**104.62**	**132**	T	T	20 22 02.5	
	baz=204,slow=75,SNR=43						
ILAR	**Eielson Array**	**121.82**	**0**	PKP	**PKPdf**	**18 29 10.2**	**+1.7**
	0.5nm,0.8s,baz=250,slow=2.6,SNR=5.7						
MK31	**Makanchi Array**	**148.33**	**272**	*e*PKPbc	**PKPbc**	**18 30 00.7**	**-0.7**
MKAR	**Makanchi Array**	**148.33**	**272**	PKPbc	**PKPbc**	**18 30 01.2**	**-0.2**
	1.0nm,0.7s,baz=104,slow=5.1,SNR=7.5						
ESDC	**Sonseca Array**	**150.54**	**111**	PKPbc	**PKPbc**	**18 30 07.8**	**+0.7**
	2.5nm,1.0s,baz=246,slow=1.3,SNR=12						
ZALV	**Zalesovo Beam**	**150.90**	**286**	PKPab	**PKPab**	**18 30 15.6**	**+0.8**
	0.3nm,0.4s,baz=98,slow=4.4,SNR=4.3						

*ISCJB **05** 18:26:32.9±0.3, 18°.75N±0°.05×67°.91W±0°.02, h76km±4km, mb3.9/12, Error ellipse: s-maj=9.2km s-min=3.0km az=11.1*

*NEIC **05** 18:26:33.0, 18°.64N×67°.98W, h78km, mb4.1/2, MD4.0(RSPR), After RSPR.*

*RSPR **05** 18:26:34.0, 18°.64N×67°.98W, h77km±2km, MD4.0/14*

*IDC **05** 18:26:35.8±2.7, 18°.57N×67°.95W, h92km±30km, mb3.6/10, mb1 3.7/11, mb1mx3.5/36, mbtmp3.9/11, Error ellipse: s-maj=36.7km s-min=16.2km az=20.0*

ISC 05 18:26:33.6±0.7**, 18°.82N**±0°.05×**67°.90W**±0°.03**, h67**km±7km**, n88, σ1s30**/112**, mb4.0**/12**, 20C-1D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.54**	**236** ⇑	*e*P	**Pn**	**18 26 46.0**	**-0.6**
PCDR	**Punta Cana, DR**	**0.54**	**236**	*e*S	**Sn**	**18 26 55.6**	**-0.4**
PCDR	**Punta Cana, DR**	**0.54**	**236**	*e*Pn	**Pn**	**18 26 45.9**	**-0.6**
PCDR				*e*Sn	**Sn**	**18 26 54.2**	**-1.8**
IDE	**Isla Desecheo**	**0.59**	**136** ⇑	*e*P	**Pn**	**18 26 46.6**	**-0.5**
IDE	**Isla Desecheo**	**0.59**	**136**	*e*S	**Sn**	**18 26 56.9**	**-0.1**
IMO	**Isla Mona**	**0.70**	**180** ⇑	*e*P	**Pn**	**18 26 47.1**	**-1.2**
IMO				*e*S	**Sn**	**18 26 58.9**	**-0.3**
AGPR	**Aguadilla, PR**	**0.83**	**115** ⇑	*e*P	**Pn**	**18 26 50.4**	**+0.6**
AGPR	**Aguadilla, PR**	**0.83**	**115**	*e*S	**Sn**	**18 27 03.2**	**+1.4**
AGPR	**Aguadilla, PR**	**0.83**	**115**	*e*Pn	**Pn**	**18 26 50.2**	**+0.5**
AGPR				*e*Sn	**Sn**	**18 27 02.9**	**+1.1**
AGP	**Aguadilla**	**0.83**	**119**	*e*Pn	**Pn**	**18 26 50.4**	**+0.5**
AGP				*e*Sn	**Sn**	**18 27 03.1**	**+1.3**
MPR	**Mayaguez**	**0.94**	**130** ⇑	*e*P	**Pn**	**18 26 51.6**	**+0.4**
MPR	**Mayaguez**	**0.94**	**130**	*e*S	**Sn**	**18 27 04.8**	**+0.6**
MPR	**Mayaguez**	**0.94**	**130**	*e*Pn	**Pn**	**18 26 51.4**	**+0.2**
MPR				*e*Sn	**Sn**	**18 27 04.4**	**+0.1**
LSP	**Las Mesas**	**1.00**	**129** ⇑	*e*P	**Pn**	**18 26 52.6**	**+0.5**
LSP				*e*S	**Sn**	**18 27 05.2**	**-0.5**
LSP	**Las Mesas**	**1.00**	**129**	*e*Pn	**Pn**	**18 26 52.5**	**+0.5**
LSP				*e*Sn	**Sn**	**18 27 05.7**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.10**	**137** ⇑	*e*P	**Pn**	**18 26 53.3**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.10**	**137**	*e*S	**Sn**	**18 27 06.9**	**-1.0**
CRPR	**Cabo Rojo, PR**	**1.10**	**137**	*e*Pn	**Pn**	**18 26 53.0**	**-0.2**
CRPR				*e*Sn	**Sn**	**18 27 06.4**	**-1.5**
LRS	**Lares**	**1.13**	**117** ⇑	*e*P	**Pn**	**18 26 54.0**	**+0.3**
LRS				*e*S	**Sn**	**18 27 09.5**	**+0.9**
LRS	**Lares**	**1.13**	**117**	*e*Pn	**Pn**	**18 26 53.8**	**+0.1**
LRS				*e*Sn	**Sn**	**18 27 08.9**	**+0.2**
AOPR	**Arecibo Observ**	**1.19**	**113** ⇑	*e*P	**Pn**	**18 26 54.7**	**+0.4**
AOPR	**Arecibo Observ**	**1.19**	**113**	*e*S	**Sn**	**18 27 11.2**	**+1.3**
AOPR	**Arecibo Observ**	**1.19**	**113**	*e*Pn	**Pn**	**18 26 54.4**	**+0.1**
AOPR				*e*Sn	**Sn**	**18 27 09.8**	**0.0**
GBPR	**Guanica, Bosqu**	**1.28**	**131** ⇑	*e*P	**Pn**	**18 26 56.4**	**+0.8**
GBPR	**Guanica, Bosqu**	**1.28**	**131**	*e*S	**Sn**	**18 27 11.5**	**-0.6**
SMN1	**Samana, DR**	**1.35**	**286** ⇑	*e*P	**Pn**	**18 26 58.0**	**+1.5**
SMN1	**Samana, DR**	**1.35**	**286**	*e*S	**Sn**	**18 27 15.5**	**+1.8**
SMN1	**Samana, DR**	**1.35**	**286**	*e*Pn	**Pn**	**18 26 56.2**	**-0.3**
SMN1				*e*Sn	**Sn**	**18 27 15.0**	**+1.3**
DR12	**Loma Pena Alta**	**1.40**	**269** ⇑	*i*P	**Pn**	**18 26 55.3**	**-1.9**
OBIP	**Obispado Ponce**	**1.45**	**122** ⇑	*e*P	**Pn**	**18 26 58.2**	**+0.4**
OBIP	**Obispado Ponce**	**1.45**	**122**	*e*S	**Sn**	**18 27 16.5**	**+0.4**
OBIP	**Obispado Ponce**	**1.45**	**122**	*e*Pn	**Pn**	**18 26 58.1**	**+0.2**
OBIP				*e*Sn	**Sn**	**18 27 15.4**	**-0.7**
CELP	**Cerrillos**	**1.46**	**120** ⇑	*e*P	**Pn**	**18 26 58.2**	**+0.3**
CELP				*e*S	**Sn**	**18 27 16.4**	**+0.2**
CELP	**Cerrillos**	**1.46**	**120**	*e*Pn	**Pn**	**18 26 57.6**	**-0.3**
CELP				*e*Sn	**Sn**	**18 27 15.7**	**-0.5**
ICM	**Isla Caja Muer**	**1.60**	**125** ⇑	*e*P	**Pn**	**18 27 00.2**	**+0.4**
ICM				*e*S	**Sn**	**18 27 18.6**	**-1.1**
ICMP	**Isla Caja de M**	**1.60**	**125**	*e*Pn	**Pn**	**18 27 00.2**	**+0.4**
ICMP				*e*Sn	**Sn**	**18 27 17.0**	**-2.7**
SJG	**San Juan**	**1.81**	**113** ⇑	*e*P	**Pn**	**18 27 02.3**	**-0.2**
SJG				*e*S	**Sn**	**18 27 25.4**	**+0.9**
SJG	**San Juan**	**1.81**	**113**	*e*Pn	**Pn**	**18 27 01.8**	**-0.7**
SJG				*e*Sn	**Sn**	**18 27 23.1**	**-1.4**
SDD	**Santo Domingo**	**1.94**	**260**	*e*Pn	**Pn**	**18 27 05.2**	**+0.9**
SDD				*e*Sn	**Sn**	**18 27 28.4**	**+0.7**
HUMP	**Col San Antoni**	**2.06**	**109**	*e*S	**Sn**	**18 27 30.8**	**+0.1**
HUMP	**Col San Antoni**	**2.06**	**109** ⇑	*e*P	**Pn**	**18 27 05.9**	**0.0**
HUMP	**Col San Antoni**	**2.06**	**109**	*e*Pn	**Pn**	**18 27 05.7**	**-0.2**
HUMP				*e*Sn	**Sn**	**18 27 29.7**	**-1.0**
STVI	**Saint Thomas**	**2.84**	**99** ⇑	*e*P	**Pn**	**18 27 17.3**	**+0.8**
STVI	**Saint Thomas**	**2.84**	**99**	*e*S	**Sn**	**18 27 47.9**	**-1.7**
STVI	**Saint Thomas**	**2.84**	**99**	*e*Pn	**Pn**	**18 27 16.6**	**+0.1**
STVI				*e*Sn	**Sn**	**18 27 48.8**	**-0.7**
TBVI	**Tortola**	**3.14**	**97** ⇑	*e*P	**Pn**	**18 27 21.5**	**+0.9**
TBVI				*e*S	**Sn**	**18 27 54.0**	**-3.1**
TBVI	**Tortola**	**3.14**	**97**	*e*Pn	**Pn**	**18 27 19.9**	**-0.8**
CDVI	**St. Croix**	**3.16**	**109** ⇓	*i*P	**Pn**	**18 27 21.3**	**+0.3**
CDVI	**St. Croix**	**3.16**	**109**	*e*S	**Sn**	**18 27 55.6**	**-1.9**
CDVI	**St. Croix**	**3.16**	**109**	*e*Pn	**Pn**	**18 27 20.2**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CDVI				eSn	Sn	18 27 55.4	-2.2
SDDR	Presa de Saban	3.21	273	⇑eP	Pn	18 27 22.4	+0.7
SDDR	Presa de Saban	3.21	273	ePn	Pn	18 27 22.6	+1.0
SDDR				eSn	Sn	18 28 08.3	+10
GRTK	Grand Turk	4.05	312	⇑eP	Pn	18 27 32.3	-0.8
GRTK				eS	Sn	18 28 15.1	-4.1
GRTK	Grand Turk	4.05	312	ePn	Pn	18 27 32.3	-0.8
GRTK				eSn	Sn	18 28 15.2	-4.0
PAPH	Port-au-Prince	4.18	267	ePn	Pn	18 27 35.1	+0.3
PAPH				eSn	Sn	18 28 24.2	+1.8
JAKH	Jacmel	4.42	263	ePn	Pn	18 27 37.9	-0.2
LGNH	LØogne	4.47	267	ePn	Pn	18 27 38.6	-0.2
SABA	Saba	4.59	104	ePn	Pn	18 27 37.3	-3.2
SMRT	St. Maarten	4.65	99	ePn	Pn	18 27 43.7	+2.4
SMRT				eSn	Sn	18 28 29.8	-4.2
WSYH	La Gonave Hosp	4.70	271	ePn	Pn	18 27 43.3	+1.4
SEUS	St. Eustatius	4.86	105	ePn	Pn	18 27 39.2	-5.0
ANWB	Willy Bob	5.92	100	ePn	Pn	18 27 57.7	-1.1
GTBY	Guantanamo Bay	6.89	280	ePn	Pn	18 28 10.6	-1.4
GTBY				eSn	Sn	18 29 22.1	-6.9
H05N1	Guadeloupe/Mar	6.99	110	P	Pn	18 28 15.7	+2.3
FDF	Fort de France	7.64	121	ePn	Pn	18 28 18.9	-3.3
H05S1	Guadeloupe/Mar	8.06	122	P	Pn	18 28 29.4	+1.5
PCRV	Puerto La Cruz	9.15	159	P	Pn	18 28 41.5	-1.5
	1.0nm,0.3s,baz=331,slow=3.6,SNR=7.0						
PCRV				S	Sn	18 30 13.7	-11
	0.5nm,0.3s,baz=222,slow=14,SNR=4.4						
SDV	Santo Domingo	10.22	195	ePn	Pn	18 28 55.0	-2.7
SDV				eSn	Sn	18 30 39.9	-11
BBSR	BB Station	13.80	11	ePn	Pn	18 29 45.8	-0.3
BBSR				eSn	Sn	18 31 58.4	-19
ROSC	El Rosal	15.23	205	P	P	18 30 08.4	-0.3
	2.5nm,0.3s,baz=92,slow=6.1,SNR=5.0						
ROSC	El Rosal	15.23	205	ePn	P	18 30 08.8	+0.1
JTS	JuntasAbangare	18.54	245	P	Pn	18 30 46.6	+0.8
OTAV	Otavalo	21.17	210	eP	P	18 31 14.2	+0.2
	9.5nm,0.9s						
SSPA	Standing Stone	23.38	341	eP	P	18 31 37.4	+1.1
	7.4nm,1.0s						
TXAR	Lajitas Array	34.17	295	P	P	18 33 13.5	+0.9
	0.7nm,0.6s,baz=109,slow=8.2,SNR=6.9						
SCHQ	Schefferville	35.96	1	P	P	18 33 29.0	+1.4
	2.0nm,0.6s,baz=192,slow=8.3,SNR=5.5						
NVAR	Mina Array Bea	47.73	305	P	P	18 35 05.3	+1.2
	0.3nm,0.4s,baz=86,slow=8.9,SNR=3.5						
YKA	Yellowknife Ar	54.16	335	P	P	18 35 51.6	0.0
	1.3nm,0.8s,baz=111,slow=7.0,SNR=9.9						
ESDC	Sonseca Array	58.33	55	P	P	18 36 23.1	+1.2
	1.1nm,0.7s,baz=273,slow=7.0,SNR=10						
DBIC	Dimbokro	62.39	92	P	P	18 36 49.7	-0.2
	0.9nm,0.5s,baz=342,slow=3.2,SNR=3.0						
TORD	Torodi Ar. Bea	66.79	83	P	P	18 37 18.1	-0.5
	1.0nm,0.6s,baz=293,slow=7.5,SNR=11						
NOA	NORSAR Array B	68.46	31	P	P	18 37 29.9	+1.5
	0.3nm,0.6s,baz=250,slow=11,SNR=2.7						
FINES	FINESS Array B	75.55	30	P	P	18 38 11.6	+0.9
	1.5nm,0.6s,baz=263,slow=7.7,SNR=9.2						
BRTR	Keskin Array B	86.68	49	P	P	18 39 11.1	+0.7
	0.6nm,0.7s,baz=273,slow=3.0,SNR=3.9						
HHC	Hu-ho-hao-te	120.64	0	ePKP	PKPdf	18 45 15.2	-3.0
HHC				ePKP	PKiKP	18 45 51.9	+34
HHC				PP	PP	18 46 45.7	+0.8
HHC				PP	PP	18 47 28.6	+44
HHC	Hu-ho-hao-te	120.64	0	SS	SS	19 03 03.6	-5.4
LZH	Lanzhou	124.84	8	ePKP	PKPdf	18 45 20.4	-6.1
LZH				sPKP		18 45 57.7	
LZH				ePKP	PKiKP	18 46 01.2	+34
LZH				sPKP		18 47 00.6	
CD2	Chengdu	129.91	9	PKP	PKPdf	18 45 33.6	-2.5
CD2				PKP	PKiKP	18 46 11.8	+35

*ISCJB **05** 18:27:06.6±0.8, 14°.03N±0°.07×91°.97W±0°.06, h59km±7km, mb4.0/6, MS4.0/1, Error ellipse: s-maj=14.9km s-min=3.8km az=34.3*
*MEX **05** 18:27:08.1±0.5, 14°.00N×92°.02W, h14km±123km, MD3.7*
*IDC **05** 18:27:09.4±2.7, 14°.59N×91°.56W, h45km±26km, mb3.7/4, mb1 4.0/7, mb1mx3.6/37, mbtmp3.9/7, ML3.9/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/21, Error ellipse: s-maj=99.1km s-min=19.2km az=37.0*
*CASC **05** 18:27:09.4±1.7, 13°.92N×91°.73W, h19km±10km, MD3.9, ML3.8, mb4.1(NEIC)*
*NEIC **05** 18:27:09.0±1.5, 14°.23N×91°.79W, h59km±11km, mb4.1/3, MD3.7(MEX), Error ellipse: s-maj=30.5km s-min=12.3km az=215.0*
ISC 05 18:27:07.5±1.1, **14°.10N**±0°.07×**91°.95W**±0°.05, **h69**km±8km, **n44**, σ1s.**70**/58, **mb4.0**/6, **5C, Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAT	Jato	0.37	54	⇑iP	Pn	18 27 19.6	+0.4
THIG		0.86	339	eP	Pn	18 27 23.2	-1.0
THIG				eS	Sn	18 27 35.3	-1.4
THIG		0.86	339	eP	Pn	18 27 23.2	-1.0
THIG				eS	Sn	18 27 35.3	-1.4
FUG	Fuego 3	1.13	72	⇑eP	Pn	18 27 27.7	-0.1
PCG	Pacaya	1.33	77	eP	Pn	18 27 30.8	+0.3
PCG				eS	Sn	18 27 48.0	+0.3
IXG	Ixpaco	1.45	87	⇑eP	Pn	18 27 31.2	-0.8
NBG	Las Nubes	1.63	72	⇑eP	Pn	18 27 36.1	+1.7
NBG				eS	Sn	18 27 57.8	+3.1
PCIG		2.02	323	eP	Pn	18 27 39.1	-0.3
PCIG				eS	Sn	18 28 02.5	-1.1
PCIG		2.02	323	eP	Pn	18 27 39.1	-0.3
PCIG				eS	Sn	18 28 02.5	-1.1
CCIG	Comitan	2.18	355	eP	Pn	18 27 43.1	+1.3
CCIG				iS	Sn	18 28 09.8	+1.9
CCIG	Comitan	2.18	355	eP	Pn	18 27 43.1	+1.3
CCIG				iS	Sn	18 28 09.8	+1.9
RBDL	Robledal	2.19	89	⇑eP	Pn	18 27 42.1	+0.2
RTR	El Retiro	2.24	95	eP	Pn	18 27 42.7	+0.1
RTR				eS	Sn	18 28 08.6	-0.8
SBLS	San Blas	2.27	96	eP	Pn	18 27 42.9	-0.2
SBLS				eS	Sn	18 28 09.5	-0.7
SNJE	San Jose	2.29	95	eP	Pn	18 27 43.5	+0.3
MRL	Marmol	2.39	66	eP	Pn	18 27 46.2	+1.6
BOQS	Boqueron	2.62	98	eP	Pn	18 27 48.0	+0.3
BOQS				eS	Sn	18 28 17.8	-0.7
SNET	Serv Nac Est T	2.67	98	AML	AML	18 28 27.8	
	comp=Z,731nm,0.3s						
SNET	Serv Nac Est T	2.67	98	ePn	Pn	18 27 47.6	-0.7
SNET				eSn	Sn	18 28 17.8	-1.8
LBRS	Las Brisas	2.84	97	eP	Pn	18 27 50.2	-0.4
LFRS	El Faro	2.84	99	eP	Pn	18 27 51.0	+0.3
LFRS				eS	Sn	18 28 22.9	-1.0
TGIG		2.90	337	eP	Pn	18 27 52.4	+1.0
TGIG				eS	Sn	18 28 26.6	+1.4
TGIG		2.90	337	eP	Pn	18 27 52.4	+1.0
TGIG				eS	Sn	18 28 26.6	+1.4
CNCH	Conchagua	4.08	101	eP	Pn	18 28 07.5	-0.1
CMIG	Matias Romero	4.11	317	P	Pn	18 28 08.8	+1.0
	comp=Z,5.0nm,0.3s,baz=121,slow=10.0,SNR=27						
CMIG				S	Sn	18 28 54.6	-0.1
	comp=Z,12nm,0.3s,baz=58,slow=17,SNR=6.9						
CMIG				LR	LR	18 29 52.7	
	comp=Z,165nm,21.1s,baz=9.5,slow=40						
COPN	Copaltepe	5.55	109	eP	Pn	18 28 28.1	+0.4
TEIG	Tepich	7.03	29	P	Pn	18 28 48.8	+0.9
	comp=Z,10nm,0.3s,baz=339,slow=1.8,SNR=32						
TEIG				S	Sn	18 30 01.9	-4.5
	baz=107,slow=19,SNR=1.9						
TEIG	Tepich	7.03	29	ePn	Pn	18 28 48.5	+0.6
TEIG				S	Sn	18 30 01.9	-4.5
JTS	JuntasAbangare	7.81	118	P	Pn	18 28 59.8	+1.2
	comp=Z,1.0nm,0.3s,baz=275,slow=19,SNR=3.8						
JTS	JuntasAbangare	7.81	118	ePn	Pn	18 28 59.9	+1.3
TXAR	Lajitas Array	18.64	326	P	Pn	18 31 23.4	+2.5
	comp=Z,0.2nm,0.3s,baz=155,slow=12,SNR=27						
TX31	Lajitas Ar. Si	18.65	326	eP	Pn	18 31 23.6	+2.6
LRAL	Lakeview Retre	19.39	13	eP	P	18 31 24.9	-2.9
	comp=Z,20nm,1.7s						
MNTX	Cornudas Mount	21.41	327	eP	P	18 31 52.0	+2.2
	comp=Z,4.2nm,0.8s						
BNM	Barren Site	23.99	329	eP	P	18 32 19.8	+3.7
ANMO	Albuquerque	24.54	330	P	P	18 32 24.4	+3.3
	comp=Z,1.6nm,0.6s,baz=144,slow=9.5,SNR=6.4						
NV01	Mina Array Sit	33.63	321	eP	P	18 33 45.6	+3.8
NVAR	Mina Array Bea	33.63	321	P	P	18 33 46.3	+4.5
	comp=Z,3.2nm,0.8s,baz=132,slow=8.7,SNR=21						
F10A	Beach Ranch, E	38.25	331	eP	P	18 34 19.6	-1.5
YKA	Yellowknife Ar	50.95	347	P	P	18 36 02.4	+0.7
	comp=Z,0.4nm,0.5s,baz=150,slow=7.5,SNR=7.7						
ILAR	Eielson Array	62.77	337	P	P	18 37 27.2	+1.9
	comp=Z,1.3nm,0.8s,baz=122,slow=5.6,SNR=11						
MLY	Manley	64.37	336	eP	P	18 37 36.8	+0.8
	comp=Z,3.5nm,0.7s						
TORD	Torodi Ar. Bea	90.31	76	LR	LR	19 16 51.7	
	comp=Z,56nm,20.5s,baz=165,slow=33						
CMAR	Chiang Mai Arr	145.92	341	PKPbc	PKPbc	18 46 42.0	+1.8
	comp=Z,2.2nm,0.9s,baz=347,slow=3.4,SNR=18						
CMAR				pPKPbc	pPKPbc	18 46 58.5	-1.2
	comp=Z,2.6nm,0.7s,baz=338,slow=3.6,SNR=15						

*MEX **05** 18:35:11.4±0.4, 13°.99N×92°.07W, h20km, MD3.5*
*CASC **05** 18:35:13.0±2.1, 13°.90N×91°.69W, h17km±13km, MD3.6*
ISC 05 18:35:08.7±2.8, **14°.0N**±0°.1×**92°.01W**±0°.09, **h27**km±18km, **n15**, σ1s.**09**/23, **1C-1D, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAT	Jato	0.48	48	⇓eP	Pn	18 35 22.8	+2.9
THIG		0.94	345	iP	Pn	18 35 26.0	-0.3
THIG				eS	Sn	18 35 38.2	-0.6
FUG	Fuego 3	1.22	68	⇑eP	Pn	18 35 30.9	+0.8
PCG	Pacaya	1.42	73	eP	Pn	18 35 34.3	+1.3
IXG	Ixpaco	1.52	83	eP	Pn	18 35 34.6	+0.3
IXG				eS	Sn	18 35 52.1	-1.2
NBG	Las Nubes	1.72	70	eP	Pb	18 35 39.4	-0.4
NBG				eS	Sb	18 36 02.4	+1.4
PCIG		2.07	326	eP	Pn	18 35 42.3	+0.7
PCIG				eS	Sn	18 36 05.6	-0.9
RBDL	Robledal	2.26	87	eP	Pn	18 35 45.3	+0.9
RBDL				eS	Sn	18 36 10.7	-0.8
CCIG	Comitan	2.28	357	iP	Pn	18 35 46.1	+1.3
CCIG				iS	Sn	18 36 11.9	-0.2
RTR	El Retiro	2.30	92	eP	Pn	18 35 46.1	+1.1
SBLS	San Blas	2.32	93	eP	Pn	18 35 46.3	+0.9
SBLS				eS	Sn	18 36 12.0	-1.2
SNJE	San Jose	2.34	93	eP	Pn	18 35 46.8	+1.2
MRL	Marmol	2.48	64	eP	Pb	18 35 51.2	-1.6
LFRS	El Faro	2.89	97	eP	Pn	18 35 54.6	+1.5
LFRS				eS	Sn	18 36 25.8	-1.2
TGIG		2.97	339	eP	Pn	18 35 54.9	+0.7
TGIG				iS	Sn	18 36 29.6	+0.6

IDC 05 19:14:28.0±1.3, **24°.26S**×**66°.74W**, **h168**km±17km, **mb3.3**/1, **mb1 3.5**/5, **mb1mx3.2**/29, **mbtmp3.9**/5, **Error ellipse: s-maj=23.7km s-min=15.2km az=87.0, Salta Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.58	309	P	Pn	19 15 12.9	+1.5
	168nm,0.3s,baz=131,slow=7.0,SNR=42						
LVC				S	Sn	19 15 44.9	0.0
	440nm,0.3s,baz=307,slow=19,SNR=37						
CFAA	Coronel Fontan	7.44	190	P	Pn	19 16 15.4	+1.5
	0.1nm,0.3s,baz=9.0,slow=17,SNR=3.1						
CFAA				S	Sn	19 17 35.8	-1.6
	0.2nm,0.3s,baz=296,slow=18,SNR=6.3						
LPAZ	La Paz	8.04	350	P	Pn	19 16 22.3	-0.4
	0.4nm,0.3s,baz=150,slow=8.7,SNR=10						
LPAZ				S	Sn	19 17 48.7	-4.4
	0.1nm,0.3s,baz=324,slow=17,SNR=4.0						
SIV	San Ignacio	9.79	34	P	Pn	19 16 43.4	-1.7
	0.4nm,0.3s,baz=237,slow=12,SNR=3.8						
BDFB	Brasilia	19.56	67	P	P	19 18 44.2	+1.1
	0.7nm,0.3s,baz=232,slow=13,SNR=11						
TORD	Torodi Ar. Bea	76.44	69	P	P	19 25 59.0	-0.5
	0.4nm,0.5s,baz=260,slow=5.7,SNR=13						
WRA	Warramunga Arr	131.51	207	PKP	PKPdf	19 33 21.0	-0.3
	0.2nm,0.9s,baz=162,slow=1.7,SNR=3.3						
MKAR	Makanchi Array	146.57	40	PKPbc	PKPbc	19 33 49.2	-0.4
	0.2nm,0.6s,baz=278,slow=4.2,SNR=3.1						

*JMA **05** 19:35:43.5±0.1, 22°.76N×121°.23E, h59km±1km, M4.3*
*ISCJB **05** 19:35:45.1±0.3, 22°.69N±0°.02×121°.45E±0°.02, h48km±4km, mb3.5/7, MS2.9/3, Error ellipse: s-maj=3.1km s-min=2.5km az=148.9*
*TAP **05** 19:35:46.0, 22°.75N×121°.32E, h43km, ML4.3, B*
*IDC **05** 19:35:48.0±4.1, 22°.68N×121°.65E, h75km±43km, mb3.3/7, mb1 3.4/9, mb1mx3.2/39, mbtmp3.6/9, ML3.1/2, MS3.0/3, Ms1 3.1/3, ms1mx2.5/20, Error ellipse: s-maj=33.0km s-min=16.2km az=66.0*
ISC 05 19:35:45.5±0.8, **22°.70N**±0°.03×**121°.41E**±0°.02, **h39**km±2km, **n101**, σ1s.**34**/151, **mb3.5**/7, **MS2.9**/3, **12C-22D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TTN	Taitung	0.25	282	⇑P	Pn	19 35 53.9	+0.4
	baz=282						
TWG	Pinlang	0.34	290	⇑iP	Pn	19 35 53.8	-0.2
	baz=286						
TWG				S	Sn	19 35 59.3	-1.2
	baz=286						
CHKT	Chengkung	0.40	354	⇓iP	Pn	19 35 55.2	+0.5
	baz=10.0						
CHKT				S	Sn	19 36 01.7	+0.3
	baz=10.0						
ECL	Taimali	0.44	256	⇑iP	Pn	19 35 54.8	-0.5
	baz=248						
TAW	Tawu	0.59	234	iP	Pn	19 35 57.2	-0.3
	baz=223						
TAW				S	Sn	19 36 04.9	-1.0
	baz=223						
ELDTW	Lidau	0.61	323	⇓iP	Pn	19 35 57.0	-0.9
	baz=331						
EAST	Anshuo	0.61	239	⇑eP	Pn	19 35 57.5	-0.4
	baz=226						
TWF1	Yuli	0.65	351	⇓iP	Pn	19 35 57.5	-0.8
	baz=351						
TWF1				eS	Sn	19 36 05.6	-1.9
	baz=351						
LAY	Lan-yu	0.67	169	⇓iP	Pn	19 35 59.4	+0.8
	baz=162						
LAY				eS	Sn	19 36 10.6	+2.6
	baz=162						
SSD	Sandimen	0.72	273	⇑iP	Pn	19 35 59.2	-0.1
	baz=271						
STYT	Tauyuan	0.76	307	⇓iP	Pn	19 35 59.9	+0.1
	baz=313						
STYT				S	Sn	19 36 09.5	-0.6
	baz=313						
EHY	Hungye	0.80	354	⇓iP	Pn	19 35 59.6	-0.8
	baz=354						
EHY				eS	Sn	19 36 08.8	-2.4
	baz=354						
SCZT	Fangliau	0.81	246	eP	Pn	19 36 00.8	+0.4
	baz=228						
SGLT	Jiouru	0.85	272	P	Pn	19 36 02.5	+1.5
	baz=268						
SGST	Jiashian	0.85	296	⇑iP	Pn	19 36 02.0	+1.0
	baz=296						
SGST				eS	Sn	19 36 13.5	+1.1
	baz=296						
YUS	Yu-Shan	0.89	332	⇓iP	Pn	19 36 02.0	+0.1
	baz=342						
YUS				eS	Sn	19 36 12.3	-1.6
	baz=342						
TWM1	Shoushan	0.92	278	⇑iP	Pn	19 36 04.1	+2.1
	baz=274						
TSEB	Hengchuen, Pin	0.93	211	⇓iP	Pn	19 36 02.8	+0.7
	baz=198						
TSEB				S	Sn	19 36 15.2	+1.0
	baz=198						
HEN	Hengchun	0.94	222	⇑P	Pn	19 36 02.4	+0.3
	baz=206						
HEN				eS	Sn	19 36 14.6	+0.3
	baz=206						
TWK1	Hengchun	0.94	217	⇓iP	Pn	19 36 02.5	+0.3
	baz=201						
TWK1				eS	Sn	19 36 14.4	-0.1
	baz=201						
CHN1	Nanshi	0.95	301	⇑iP	Pn	19 36 03.6	+1.3
	baz=300						
CHN1				S	Sn	19 36 16.1	+1.4
	baz=300						
ALS	Alishan	0.98	325	⇓iP	Pn	19 36 03.7	+0.7
	baz=329						
ALS				S	Sn	19 36 16.2	+0.4
	baz=329						
CHN4	Tsaushan	0.99	311	⇓iP	Pn	19 36 03.9	+1.0
	baz=312						
CHN4				iS	Sn	19 36 17.7	+1.9
	baz=312						
TEGC	Jichi Village	1.01	7	eP	Pn	19 36 04.4	+1.3
	baz=4.0						
TEGC				eS	Sn	19 36 18.1	+2.0
	baz=4.0						
TWK	Hsinying	1.02	303	⇑iP	Pn	19 36 04.4	+1.0
	baz=304						
TWK				S	Sn	19 36 17.7	+1.2
	baz=304						
KAU	Kaohsiung	1.03	263	eP	Pn	19 36 05.2	+1.7
	baz=258						
TWP	Hsiaoliuchiu	1.03	250	eP	Pn	19 36 06.0	+2.5
	baz=233						
CHN3	Shinhua	1.04	291	eP	Pn	19 36 05.2	+1.7
	baz=289						
CHN3				eS	Sn	19 36 19.8	+3.0
	baz=289						
ESL	Shilin	1.10	1	⇓P	Pn	19 36 03.6	-0.9
	baz=6.0						
CHN5	Tsauling	1.12	323	⇓iP	Pn	19 36 05.6	+0.9
	baz=311						
CHN5				eS	Sn	19 36 20.5	+1.5
	baz=311						
TAI1	Yung-k'ang	1.14	287	eP	Pn	19 36 05.8	+0.8
	baz=285						
ESF	Shoufeng Towns	1.17	4	eP	Pn	19 36 05.0	-0.3
	baz=9.0						
CHN2	Minshiung	1.19	314	eP	Pn	19 36 06.7	+1.0
	baz=314						
CHN2				S	Sn	19 36 21.9	+1.2
	baz=314						
CHY	Chiayi	1.21	311	⇑iP	Pn	19 36 06.8	+1.0
	baz=311						
CHY				eS	Sn	19 36 21.9	+0.9
	baz=311						
SCLT	Jiali	1.22	293	eP	Pn	19 36 06.5	+0.5
	baz=291						
SCLT				eS	Sn	19 36 22.6	+1.3
	baz=291						
WGK	Gukeng	1.25	321	⇓iP	Pn	19 36 07.7	+1.2
	baz=312						
WGK				eS	Sn	19 36 23.2	+1.0
	baz=312						
SMLT	Sun Moon Lake	1.27	338	⇓iP	Pn	19 36 08.0	+1.2
	baz=341						
SMLT				eS	Sn	19 36 23.8	+1.1
	baz=341						
CHN8	Yiju	1.28	300	eP	Pn	19 36 07.2	+0.3
	baz=299						
HWA	Hwalien	1.28	8	eP	Pn	19 36 06.7	-0.2
	baz=3.0						
TYC	Yuchr	1.30	337	⇓iP	Pn	19 36 08.4	+1.3
	baz=340						
TYC				S	Sn	19 36 24.9	+1.6
	baz=340						
WNT	Mingjian	1.35	330	⇓iP	Pn	19 36 09.5	+1.7
	baz=318						
WNT				S	Sn	19 36 26.3	+1.8
	baz=318						
TWD	Chiawan	1.38	7	eP	Pn	19 36 07.6	-0.6
	baz=13						
TWD				eS	Sn	19 36 26.2	+0.9
	baz=13						
WSF	Szhu	1.44	311	eP	Pn	19 36 09.5	+0.5
	baz=310						
WSF				eS	Sn	19 36 27.1	+0.4
	baz=310						
WHF	Hehuan Shan	1.44	355	⇓iP	Pn	19 36 09.3	-0.2
	baz=9.0						
WHF				eS	Sn	19 36 26.6	-0.8
	baz=9.0						
WTCT	Ta-ch'eng	1.56	318	eP	Pn	19 36 11.0	+0.3
	baz=306						
WTCT				eS	Sn	19 36 29.3	-0.2
	baz=306						
TWT	Tachien	1.56	352	⇓P	Pn	19 36 11.6	+0.7
	baz=3.0						
TWT				eS	Sn	19 36 29.4	-0.5
	baz=3.0						
TCU	Taichung	1.59	335	⇓iP	Pn	19 36 12.4	+1.3
	baz=336						
TCU				eS	Sn	19 36 32.1	+1.7
	baz=336						
WDGT	Dungji	1.71	289	P	Pn	19 36 12.3	-0.5
	baz=287						
WDGT				eS	Sn	19 36 30.6	-2.8
	baz=287						
NNS	Nan Shan	1.73	359	eP	Pn	19 36 13.3	+0.2
	baz=12						
TWQ1	Liyutan	1.74	340	eP	Pn	19 36 14.2	+1.0
	baz=342						
TWQ1				eS	Sn	19 36 36.2	+2.0
	baz=342						
ENA	Nanau	1.74	10	⇓eP	Pn	19 36 12.9	-0.3
	baz=5.0						
NSY	Sanyi	1.81	341	eP	Pn	19 36 15.6	+1.4
	baz=342						
NSY				eS	Sn	19 36 38.6	+2.8
	baz=342						
PNG	Penghu	1.92	297	⇑P	Pn	19 36 15.3	-0.2
	baz=295						
PNG				eS	Sn	19 36 36.2	-2.3
	baz=295						
ENTT	Nioudou	1.93	4	eP	Pn	19 36 15.8	-0.1
	baz=18						
TWC	Suao	1.94	12	eP	Pn	19 36 16.2	+0.3
	baz=9.0						
TWC				eS	Sn	19 36 40.0	+1.0
	baz=9.0						
NSTT	Nanjuang	1.96	349	eP	Pn	19 36 17.2	+1.0
	baz=352						
NSTT				eS	Sn	19 36 42.0	+2.5
	baz=352						
NSK	Sanguang	1.96	359	⇓iP	Pn	19 36 17.2	+0.8
	baz=15						
NSK				S	Sn	19 36 40.0	+0.2
	baz=15						
HSN	Hsinchu	2.13	349	eP	Pn	19 36 19.3	+0.8
	baz=351						
JYNG	Yonagunijimaku	2.24	39	P	Pn	19 36 19.8	-0.2
JYNG				S	Sn	19 36 48.0	+1.6
NCU	National Centr	2.27	355	eP	Pn	19 36 21.3	+0.8
	baz=341						
TWA	Mucha	2.27	4	eP	Pn	19 36 21.1	+0.6
	baz=16						
YOJ	Yonaguni jima	2.28	40	P	Pn	19 36 21.8	+1.2
YOJ				S	Sn	19 36 49.5	+2.0
YOJ	Yonaguni jima	2.28	40	eP	Pn	19 36 22.1	+1.5
	baz=53						
TAP	Taipei	2.33	2	eP	Pn	19 36 21.5	+0.2
	baz=16						
TAP1	Taipei	2.33	2	eP	Pn	19 36 22.9	+1.6
	baz=16						
TWB1	Santiao Chiao	2.35	13	eP	Pn	19 36 23.2	+1.6
	baz=8.0						
NWF	Wu-fen Shan	2.38	8	eP	Pn	19 36 22.5	+0.4
	baz=13						
NWF				eS	Sn	19 36 52.6	+2.6
	baz=13						
TWS1	Kuangyinshan	2.39	0	eP	Pn	19 36 22.8	+0.7
	baz=16						
HATJ	Hateruma jima	2.58	58	P	Pn	19 36 25.8	+1.1
HATJ				S	Sn	19 36 55.2	+0.4
IRIF	Iriomote-Funau	2.67	52	P	Pn	19 36 27.3	+1.3
IRIF				S	Sn	19 36 58.6	+1.4
JKRS	Kuro-shima	2.83	57	P	Pn	19 36 29.5	+1.3
JKRS				S	Sn	19 37 02.6	+1.6
JIJ	Ishigaki jima	3.00	56	P	Pn	19 36 31.4	+0.9
JIJ				S	Sn	19 37 05.8	+0.5
KNM	Kinmen	3.22	303	eP	Pn	19 36 33.5	0.0
	baz=298						
JISG	Ishigakijimahi	3.25	54	P	Pn	19 36 34.5	+0.5
JISG				S	Sn	19 37 11.5	+0.1
QZH	Quanzhou	3.41	311	Pn	Pn	19 36 35.5	-0.7
QZH				Sn	Sn	19 37 11.5	-3.9
QZH				smax	smax		
	comp=N,480nm,0.3s						
QZH				smax	smax		
	comp=E,450nm,0.6s						
JTJ	Tarama	3.58	57	P	Pn	19 36 39.5	+1.0
JTJ				S	Sn	19 37 20.6	+1.1
JIRB	Irabujima	4.04	58	P	Pn	19 36 45.7	+0.9
JIRB				S	Sn	19 37 30.9	0.0
JMJ	Miyako jima 2	4.13	59	P	Pn	19 36 47.4	+1.4
JMJ				S	Sn	19 37 34.2	+1.1
JMJ	Miyako jima 2	4.13	59	eP	Pn	19 36 47.1	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=62						
JIKM	Ikemajima	4.15	57	P	Pn	19 36 47.6	+1.3
JIKM				S	Sn	19 37 33.7	+0.1
JOGS	Gusukube	4.19	60	P	Pn	19 36 48.1	+1.2
JOGS				S	Sn	19 37 36.2	+1.6
JKE	Kume jima 2	6.08	53	P	Pn	19 37 12.8	0.0
JKE				eS	Sn	19 38 20.1	-1.0
JNTH	Nagotoyohara	7.11	56	P	Pn	19 37 27.6	+0.6
JNTH				eS	Sn	19 38 44.3	-2.3
JOW	Kunigami	7.47	55	P	Pn	19 37 31.6	-0.3
JOW	Kunigami	7.47	55	P	Pn	19 37 30.7	-1.2
	comp=E,0.5nm,0.3s,baz=150,slow=21,SNR=6.3						
JOW				S	Sn	19 38 50.5	-4.8
	comp=E,0.2nm,0.3s,baz=170,slow=18,SNR=2.2						
JOKE	Okinoerabujima	7.98	53	P	Pn	19 37 37.3	-1.6
JAMN	Amaminishikomi	8.92	50	P	Pn	19 37 50.9	-0.9
JAMN				eS	Sn	19 39 25.2	-5.8
KSRS	Korea Array	15.73	19	P	Pn	19 39 26.1	+1.8
	comp=E,0.2nm,0.3s,baz=200,slow=12,SNR=11						
CMAR	Chiang Mai Arr	21.45	263	P	P	19 40 32.6	+2.0
	comp=E,0.6nm,0.9s,baz=72,slow=9.4,SNR=5.0						
CMAR				LR	LR	19 50 05.5	
	comp=E,29nm,19.8s,baz=161,slow=40						
SONM	Songino Array	27.81	338	P	P	19 41 33.0	+1.9
	comp=E,0.6nm,0.6s,baz=160,slow=8.8,SNR=3.0						
SONM				LR	LR	19 53 58.7	
	comp=E,29nm,19.1s,baz=220,slow=39						
MKAR	Makanchi Array	39.55	317	P	P	19 43 13.1	+0.3
	comp=E,0.8nm,0.7s,baz=113,slow=10,SNR=9.4						
MKAR				LR	LR	20 00 51.9	
	comp=E,25nm,19.3s,baz=290,slow=38						
ZALV	Zalesovo Beam	41.60	328	P	P	19 43 28.1	-1.3
	comp=E,2.7nm,0.6s,baz=116,slow=8.2,SNR=15						
H11N1	WAKE ISLAND Hy	42.38	85	T	T	20 28 57.9	
	baz=282,slow=75,SNR=24						
H11N2	WAKE ISLAND Hy	42.38	85	T	T	20 29 02.8	
	baz=282,slow=75,SNR=30						
H11N3	WAKE ISLAND Hy	42.40	85	T	T	20 29 03.0	
	baz=282,slow=75,SNR=18						
H11S3	WAKE ISLAND Hy	42.46	87	T	T	20 29 06.7	
	baz=284,slow=75,SNR=38						
H11S1	WAKE ISLAND Hy	42.47	87	T	T	20 29 09.9	
	baz=284,slow=75,SNR=22						
H11S2	WAKE ISLAND Hy	42.48	87	T	T	20 29 07.1	
	baz=284,slow=75,SNR=17						
WRA	Warramunga Arr	44.23	162	P	P	19 43 48.6	-2.5
	comp=E,0.5nm,0.9s,baz=346,slow=8.2,SNR=3.6						
ASAR	Alice Springs	47.66	164	P	P	19 44 17.0	-1.2
	comp=E,0.1nm,0.4s,baz=340,slow=6.8,SNR=11						
FINES	FINESS Array B	72.83	330	P	P	19 47 08.5	-1.3
	comp=E,3.3nm,1.1s,baz=63,slow=6.4,SNR=3.3						

IDC 05 19:39:57.6±1.8**, 16°.68S×178°.17W, h0km, mb4.2**/4**, mb1 4.4**/4**, mb1mx3.8**/30**, mbtmp4.2**/4**, Error ellipse: s-maj=158.7km s-min=31.1km az=156.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.42	240	P	P	19 47 29.9	+0.3
	2.2nm,0.7s,baz=98,slow=9.8,SNR=4.6						
WRA	Warramunga Arr	45.09	258	P	P	19 48 15.8	-0.2
	1.4nm,0.4s,baz=94,slow=7.2,SNR=61						
ASAR	Alice Springs	45.35	253	P	P	19 48 17.6	-0.5
	8.0nm,0.5s,baz=87,slow=9.0,SNR=275						
TXAR	Lajitas Array	85.15	58	P	P	19 52 36.2	0.0
	0.4nm,0.7s,baz=232,slow=6.2,SNR=4.7						

GUC 05 20:01:41.5±0.7**, 22°.47S×70°.21W, h64km**±3km**, ML3.6, 2C-7D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MACH	Maria Elena	0.50	57	⇓iP	Pn	20 01 54.7	+0.6
MACH				i S	Sn	20 02 04.0	+0.7
PB06	IPOC Station P	0.63	112	⇓iP	Pn	20 01 56.0	+0.5
PB06				i S	Sn	20 02 06.3	+0.6
PB06				AML	AML	20 02 06.9	
	comp=N,4µm,0.2s						
PB04	IPOC Station P	0.70	73	⇓iP	Pn	20 01 51.9	-4.1
PB04				i S	Sn	20 01 59.3	-7.3
PB04				AML	AML	20 02 01.6	
	comp=N,5µm,0.1s						
PB07	IPOC Station P	0.80	22	⇓iP	Pn	20 01 57.5	0.0
PB07				i S	Sn	20 02 08.9	-0.3
CEN1	Los Morros	0.92	179	⇓iP	Pn	20 02 01.7	+2.8
CEN1				i S	Sn	20 02 15.8	+4.2
PB10	IPOC Station P	1.09	197	⇑iP	Pn	20 02 00.8	-0.1
PB09	IPOC Station P	1.12	53	⇓iP	Pn	20 02 02.4	+0.9
PB09				i S	Sn	20 02 17.4	+1.0
PB09				AML	AML	20 02 19.3	
	comp=N,3µm,0.4s						
ANCH	Antofagasta	1.22	189	⇑iP	Pn	20 02 01.9	-0.8
ANCH				i S	Sn	20 02 18.1	-0.2
PB01	IPOC Station P	1.57	25	⇓iP	Pn	20 02 07.8	+0.4
PB01				AML	AML	20 02 28.1	
	comp=E,1µm,0.2s						

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*IDC **05** 20:13:34.4±1.2, 1°.67S×123°.21E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.6/5, Error ellipse: s-maj=151.8km s-min=19.6km az=64.0*
*ISCJB **05** 20:13:39.9±0.8, 1°.82S±0°.05×122°.89E±0°.06, h33km, mb3.5/5, Error ellipse: s-maj=9.3km s-min=7.5km az=173.6*
*DJA **05** 20:13:41.2±0.4, 2°S±3°×12°3E±°, h10km, M3.9/10, MLv3.9/10*
ISC 05 20:13:39.3±1.0**, 1°.84S**±0°.06×**123°.00E**±0°.09**, h35km, n15, σ1s.41**/15**, mb3.5**/5**, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.82	344	P	Pn	20 13 53.9	-0.5
LUWI				S	Sn	20 14 04.6	-0.8
APSI	Ampana	1.64	304	P	Pn	20 14 06.2	+0.6
APSI				S	Sn	20 14 22.4	-3.1
KDI	Kendari	2.14	190	P	Pn	20 14 16.7	+4.1
MRSI	Marisa	2.53	335	P	Pn	20 14 19.1	+1.1
KMSI	Cibinong	2.59	22	P	Pn	20 14 23.2	+4.5
SANI	Sanana	2.99	94	P	Pn	20 14 34.7	+10
PCI	Palu	3.30	286	P	Pn	20 14 29.3	+0.8
PCI				S	Sn	20 15 07.0	+0.4
TTSI	Tana Toraja	3.40	249	P	Pn	20 14 29.1	-0.8
MPSI	Mapaga	3.78	305	P	Pn	20 14 37.9	+2.7
SPSI	Sidrap Palu	3.86	237	P	Pn	20 14 36.9	+0.6
WRA	Warramunga Arr	21.14	149	P	P	20 18 21.0	-0.4
	1.5nm,0.7s,baz=329,slow=9.9,SNR=9.8						
ASAR	Alice Springs	24.14	155	P	P	20 18 53.5	+1.2
	0.7nm,0.6s,baz=335,slow=7.7,SNR=10						
STKA	Stephens Creek	34.65	152	P	P	20 20 25.4	-0.1
	2.8nm,1.1s,baz=313,slow=11,SNR=2.6						
SONM	Songino Array	51.55	346	P	P	20 22 41.3	-0.8
	0.4nm,0.6s,baz=150,slow=6.7,SNR=3.9						
MKAR	Makanchi Array	60.17	329	P	P	20 23 44.2	+0.5
	0.2nm,0.7s,baz=115,slow=6.5,SNR=3.1						

KRSC 05 20:22:36.5±1.2**, 51°.03N×158°.52E, h50km**±21km**, ML3.9, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	1.16	293	eP	Pn	20 22 57.7	+1.3
PAU				eS	Sn	20 23 11.9	+0.8
RUS	Russkaya	1.40	360	eP	Pn	20 23 01.3	+1.6
RUS				eS	Sn	20 23 18.4	+1.4
ASAK	Asacha	1.41	344	eP	Pn	20 23 01.7	+1.8
ASAK				eS	Sn	20 23 19.1	+1.7
MTVR	Mutnovka	1.47	352	eP	Pn	20 23 02.8	+2.0
MTVR				eS	Sn	20 23 20.2	+1.2
GRL	Gorelyy	1.55	350	eP	Pn	20 23 04.5	+2.7
GRL				eS	Sn	20 23 23.6	+2.7
SKR	Severo-Kuril's	1.56	258	eP	Pn	20 23 03.0	+1.2
SKR				eS	Sn	20 23 22.0	+1.1
MIPR	Malaya Ipel'ka	1.66	319	eP	Pn	20 23 05.5	+2.3
MIPR				eS	Sn	20 23 25.9	+2.5
PET	Petropavlovsk	2.00	2	eP	Pn	20 23 10.3	+2.5
PET				eS	Sn	20 23 33.7	+2.2
APC	Apacha	2.08	337	eP	Pn	20 23 11.5	+2.7
UGLR	Uglovaya	2.19	5	eP	Pn	20 23 13.4	+2.8
UGLR				eS	Sn	20 23 39.3	+2.7
NLC	Nalytchevo	2.20	13	P	Pn	20 23 12.2	+1.6
AVH	Avacha	2.24	3	eP	Pn	20 23 14.6	+3.4
AVH				eS	Sn	20 23 41.5	+3.7
SMAR	Somma	2.24	4	eP	Pn	20 23 14.5	+3.1
SDLR	Sedlovina	2.26	5	eP	Pn	20 23 13.9	+2.3
SDLR				eS	Sn	20 23 40.0	+1.6
KOK	Koryaka	2.27	2	eP	Pn	20 23 15.0	+3.4
KOK				eS	Sn	20 23 41.9	+3.5
SPN	Mys Shipunski	2.27	23	eP	Pn	20 23 14.0	+2.5
SPN				eS	Sn	20 23 39.8	+1.6
KRER	Koryakskii	2.28	3	eP	Pn	20 23 15.0	+3.1
KRER				eS	Sn	20 23 42.4	+3.4
KRX	Arik	2.33	2	eP	Pn	20 23 15.3	+2.7
KRX				eS	Sn	20 23 42.8	+2.6
GNL	Ganaly	2.69	353	eP	Pn	20 23 20.7	+3.2
GNL				eS	Sn	20 23 52.0	+3.1
MKZ	Mys Kozlova	4.03	28	eP	Pn	20 23 37.7	+2.1
KZV	Kizimen	4.23	14	eP	Pn	20 23 42.2	+3.7
TUMR	Tumrok	4.37	12	eP	Pn	20 23 44.8	+4.4
KBTR	Krutoberegovo	5.78	25	eP	Pn	20 24 02.9	+3.3
BKI	Bering	6.13	44	eS	Sn	20 25 18.1	+5.1

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*IDC **05** 21:11:08.9±3.0, 14°.54S×171°.49W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.7/28, mbtmp3.8/5, MS2.8/1, Ms1 2.8/1, ms1mx2.5/24, Error ellipse: s-maj=167.8km s-min=24.9km az=145.0*
*ISCJB **05** 21:11:12.7±2.9, 14°.4S±0°.9×171°.7W±0°.7, h33km, mb3.7/5, Error ellipse: s-maj=161.5km s-min=22.8km az=145.0*
ISC 05 21:11:14.7±3.0**, 14°.3S**±0°.9×**171°.7W**±0°.6**, h35km, n14, σ0s.34**/7**, mb3.6**/5**, Samoa Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	13.23	123	LR	LR	21 18 05.6	
	comp=Z,47nm,20.6s,baz=281,slow=32						
H11S2	WAKE ISLAND Hy	38.97	326	T	T	21 58 56.3	
	baz=146,slow=76,SNR=51						
H11S3	WAKE ISLAND Hy	38.98	326	T	T	21 58 57.9	
	baz=146,slow=76,SNR=44						
H11S1	WAKE ISLAND Hy	38.99	326	T	T	21 58 59.0	
	baz=146,slow=76,SNR=39						
H11N3	WAKE ISLAND Hy	39.87	328	T	T	22 00 26.3	
	baz=145,slow=75,SNR=19						
H11N1	WAKE ISLAND Hy	39.88	328	T	T	22 00 29.9	
	baz=145,SNR=28						
H11N2	WAKE ISLAND Hy	39.89	328	T	T	22 00 28.2	
	baz=145,slow=75,SNR=18						
WRA	Warramunga Arr	51.72	256	P	P	21 20 18.8	-0.1
	0.7nm,0.7s,baz=90,slow=7.2,SNR=9.6						
ASAR	Alice Springs	52.03	251	P	P	21 20 21.4	+0.2
	3.3nm,0.9s,baz=89,slow=7.8,SNR=19						
PDAR	Pinedale Array	80.37	41	P	P	21 23 22.5	-0.3
	0.4nm,0.6s,baz=218,slow=5.7,SNR=2.5						
ILAR	Eielson Array	81.10	10	P	P	21 23 26.0	+0.1
	0.5nm,0.8s,baz=227,slow=5.5,SNR=5.8						
YKA	Yellowknife Ar	88.47	23	P	P	21 24 03.4	+0.4
	0.2nm,0.7s,baz=236,slow=4.3,SNR=4.4						
GERES	GERESS Array B	145.31	354	PKPbc	PKPab	21 30 49.0	+0.1
	0.4nm,0.5s,baz=8.1,slow=1.4,SNR=4.0						
BRTR	Keskin Array B	146.35	323	PKPbc	PKPab	21 30 52.8	-0.4
	2.1nm,0.8s,baz=100,slow=2.5,SNR=14						

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*ISCJB **05** 21:28:03.0±0.9, 40°.41N±0°.03×124°.73W±0°.09, h16km, Error ellipse: s-maj=10.1km s-min=3.5km az=167.9*
*NEIC **05** 21:28:04.1, 40°.37N×124°.78W, h12km, MW3.8(BRK), After NCEDC.*
*IDC **05** 21:28:12.2±3.8, 40°.09N×123°.94W, h0km, mb1 3.6/3, mb1mx3.3/35, mbtmp3.1/3, ML3.4/3, Error ellipse: s-maj=49.4km s-min=29.5km az=41.0*
ISC 05 21:28:03.0±1.6**, 40°.38N**±0°.04×**124°.76W**±0°.09**, h16km, n33, σ1s.36**/41**, 8C-4D, Near coast of northern California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHMM	Horse Mountain	0.92	57	ePg	Pg	21 28 21.4	+0.5
KIPM	Iron Peak	1.13	120	ePg	Pb	21 28 24.1	-0.2
KCPM	Cahto Peak	1.14	127	ePg	Pb	21 28 24.0	-0.3
KCPM				eS	Sn	21 28 41.0	+1.3
KSXB	Camp Six Broad	1.59	24	P	Pn	21 28 29.7	-0.9
N02D	Trinity Center	1.67	69	P	Pn	21 28 31.9	+0.4
	baz=1.7,SNR=426						
WDC	Whiskeytown Da	1.70	83	ePn	Pn	21 28 32.3	+0.4
WDC				eS	Sb	21 28 53.7	-1.3
M02C	Callahan	1.76	54	⇑P	Pn	21 28 32.9	0.0
	baz=1.8,SNR=368						
KBO	Bosley Butte	1.87	12	ePn	Pn	21 28 33.5	-0.9
KBO				eS	Sn	21 28 52.0	-5.7
HOPS	Hopland Field	1.90	136	ePn	Pn	21 28 34.2	-0.5
HOPS				eS	Sn	21 28 56.3	-2.0
L02D	Cave Junction,	1.98	26	⇑P	Pn	21 28 35.2	-0.6
	baz=2.0,SNR=89						
L02D				⇑S	Sn	21 28 59.0	-1.2
	baz=2.0						
LAMM	Antelope Mount	2.02	52	P	Pn	21 28 36.9	+0.2
YBH	Yreka Blue Hor	2.05	48	ePn	Pn	21 28 37.1	+0.2
YBH				eS	Sg	21 29 06.6	-2.4
KEBM	Edson Butte	2.51	7	ePn	Pn	21 28 44.7	+1.5
KEBM				eS	Sn	21 29 14.7	+1.3
HUMO	Hull Mountain	2.60	31	ePn	Pn	21 28 44.2	-0.2
HUMO				eS	Sn	21 29 14.9	-0.8
M04C	Macdoel	2.61	57	⇑P	Pn	21 28 45.6	+1.0
	baz=2.6,SNR=64						
MCCM	Marconi Confer	2.67	146	ePn	Pn	21 28 44.7	-0.6
K04D	Chiloquin, OR	3.18	44	⇑P	Pn	21 28 53.9	+1.5
	baz=3.2,SNR=13						
J04D	Umpqua Nationa	3.47	34	⇓P	Pn	21 28 58.2	+1.7
	baz=3.5,SNR=13						
J04D				⇑S	Sn	21 29 38.6	+1.2
	baz=3.5						
I03D	Drain, OR	3.47	17	⇓P	Pn	21 28 58.5	+2.2
	baz=3.5,SNR=6.5						
I03D				⇑S	Sn	21 29 35.7	-1.4
	baz=3.5						
I04A	Tendick Farm,	3.83	26	⇓P	Pn	21 29 03.0	+1.8
	baz=3.9,SNR=13						
I04A				⇓S	Sn	21 29 45.3	-0.7
	baz=3.9						
J05D	Fort Rock, OR	3.92	41	⇑P	Pn	21 29 04.2	+1.7
	baz=3.9,SNR=15						
J05D				S	Sn	21 29 47.2	-1.0
	baz=3.9						
CMB	Columbia Colle	4.12	123	ePn	Pn	21 29 07.1	+1.8
CMB				eS	Sn	21 29 54.4	+1.1
COR	Corvallis	4.34	14	ePn	Pn	21 29 09.6	+1.4
COR				eS	Sn	21 29 59.3	+1.0
WAKR	Walker	4.52	113	ePn	Pn	21 29 11.4	+0.4
WVOR	Wild Horse Val	5.04	64	ePn	Pn	21 29 18.4	+0.4
	4.5nm,0.6s						
NVAR	Mina Array Bea	5.36	109	Pn	Pn	21 29 25.1	+2.6
	0.5nm,0.3s,baz=290,slow=13,SNR=8.6						
NVAR				Lg	Lg	21 30 39.4	
	0.1nm,0.3s,baz=312,slow=37,SNR=3.3						
ISA	Isabella, Lake	6.84	132	ePn	Pn	21 29 44.3	+1.7
BMO	Blue Mountains	7.08	48	ePn	Pn	21 29 49.4	+3.4
MFID	Camas Ranch	7.32	63	ePn	Pn	21 29 51.8	+2.5
GSC	Goldstone, Bar	8.08	126	ePn	Pn	21 30 01.3	+1.6
HLID	Hailey	8.33	64	ePn	Pn	21 30 07.1	+3.9
PDAR	Pinedale Array	11.63	73	Pn	Pn	21 30 56.7	+8.2
	0.1nm,0.3s,baz=259,slow=7.1,SNR=5.9						
TXAR	Lajitas Array	20.47	116	P	Pn	21 32 43.6	+1.4
	0.0nm,0.3s,baz=300,slow=9.0,SNR=5.4						

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*JMA **05** 21:28:50.4±0.1, 28°.30N×140°.30E, h538km, M3.8*
*IDC **05** 21:28:53.0±0.6, 28°.34N×139°.67E, h471km±9km, mb3.2/13, mb1 3.3/17, mb1mx3.2/29, mbtmp4.0/17, Error ellipse: s-maj=21.3km s-min=11.0km az=75.0*
ISC 05 21:28:53.9±0.7**, 28°.52N**±0°.09×**140°.3E**±0°.2**, h500km, n33, σ1s.41**/37**, mb3.5**/13**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.17	130	P	P	21 29 59.9	0.0
JCJ	Chichijima	2.17	130	P	P	21 29 59.7	-0.2
	12nm,0.3s,baz=344,slow=22,SNR=16						
JCJ				S	S	21 30 51.9	-1.6
	46nm,0.3s,baz=126,slow=23,SNR=23						
JHHJ	Haha-jima-NKT	2.50	139	P	P	21 30 01.1	-0.6
JHHJ				S	S	21 30 55.9	-0.9
JHCJ	Hachijojimakas	4.56	354	P	P	21 30 18.7	+1.9
BSO3	Boso 3	6.26	1	P	P	21 30 34.5	+2.3
JIE	Ise	6.62	333	P	P	21 30 37.0	+0.9
JKN2	Miekihoku	6.67	330	P	P	21 30 37.3	+0.7
JNY	Yasuok	7.13	344	P	P	21 30 41.5	+0.2
JAO	Obara	7.21	340	P	P	21 30 43.1	+1.0
JHU	Hanno	7.36	353	P	P	21 30 43.1	-0.4
JRY	Ryogami san	7.57	351	P	P	21 30 46.0	+0.3
JRY				S	S	21 32 14.3	-3.2
JYT	Yasato	7.68	359	P	P	21 30 47.7	+0.9
JAG	Ashikaga	7.91	355	P	P	21 30 48.7	-0.5
JAG				S	S	21 32 19.2	-4.7
JHO	Hitachi	8.07	1	P	P	21 30 52.3	+1.5
JHO				S	S	21 32 26.8	0.0
MJAR	Matsushiro Arr	8.19	348	P	P	21 30 52.4	+0.3
	0.9nm,0.3s,baz=172,slow=11,SNR=27						
MAT	Matsushiro	8.19	348	P	P	21 30 52.6	+0.5
MAT				eS	S	21 32 30.5	+1.2
JMK	Ichinoseki	10.43	4	P	P	21 31 18.8	+3.3
KSRS	Korea Array	13.69	314	P	P	21 31 46.5	-3.7
	0.1nm,0.3s,baz=131,slow=10,SNR=5.7						
USRK	Ussuriysk Ar.	17.01	339	P	P	21 32 26.0	+1.3
	0.3nm,0.3s,baz=161,slow=9.3,SNR=9.0						
SONM	Songino Array	32.55	316	P	P	21 34 41.9	-1.1
	0.9nm,0.5s,baz=126,slow=8.7,SNR=8.5						
ZALV	Zalesovo Beam	47.34	319	P	P	21 36 40.1	-1.4
	0.5nm,0.5s,baz=104,slow=6.1,SNR=3.3						
MKAR	Makanchi Array	48.30	309	P	P	21 36 47.6	-1.3
	0.5nm,0.4s,baz=87,slow=10,SNR=9.8						
MKAR				PcP	PcP	21 38 06.8	+0.5
	0.4nm,0.7s,baz=72,slow=7.8,SNR=5.0						
MKAR				ScP	ScP	21 41 14.0	+1.0
	0.4nm,0.7s,baz=49,slow=2.4,SNR=4.3						
WRA	Warramunga Arr	48.53	188	P	P	21 36 50.4	-0.5
	3.8nm,0.5s,baz=2.9,slow=7.9,SNR=75						
ASAR	Alice Springs	52.26	187	P	P	21 37 17.9	-0.3
	1.1nm,0.5s,baz=2.0,slow=6.6,SNR=38						
BVAR	Borovoye Array	55.88	317	P	P	21 37 43.1	-0.3
	2.2nm,0.4s,baz=82,slow=6.6,SNR=9.6						
ILAR	Eielson Array	57.26	29	P	P	21 37 57.1	+4.4
	0.2nm,0.6s,baz=267,slow=5.4,SNR=4.2						
ARCES	ARCESS Array B	71.65	340	P	P	21 39 26.1	+2.1
	6.6nm,1.0s,baz=64,slow=6.9,SNR=6.2						
YKA	Yellowknife Ar	71.67	28	P	P	21 39 29.0	+4.9
	0.3nm,0.4s,baz=291,slow=5.9,SNR=3.7						
KBZ	Khabaz	75.84	312	P	P	21 39 49.0	+0.7
	2.0nm,0.8s,baz=323,slow=20,SNR=5.3						
FINES	FINESS Array B	75.94	333	P	P	21 39 49.5	+1.0
	1.6nm,0.4s,baz=84,slow=5.3,SNR=19						
NB2	NORSAR Subarra	81.67	338	P	P	21 40 19.8	+0.6
	comp=Z,0.8nm,0.6s,baz=46,slow=5.1						
NOA	NORSAR Array B	81.67	338	P	P	21 40 19.9	+0.8
	comp=Z,0.8nm,0.6s,baz=46,slow=5.0,SNR=4.7						
BRTR	Keskin Array B	83.83	312	P	P	21 40 30.4	-0.2
	comp=Z,0.4nm,0.7s,baz=64,slow=2.9,SNR=4.7						

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*ISCJB **05** 21:29:20.6±0.8, 37°.16S±0°.05×72°.70W±0°.08, h35km, mb3.7/4, Error ellipse: s-maj=8.8km s-min=7.2km az=12.2*
*GUC **05** 21:29:20.9±0.5, 37°.12S×72°.66W, h30km±2km, ML4.0*
*NEIC **05** 21:29:20.0, 37°.12S×72°.66W, h30km, mb3.8/2, ML4.0(GUC), After GUC.*
NEIC Felt [IV] at La Laja and [III] at Los Angeles.
*IDC **05** 21:29:28.6±3.0, 37°.19S×71°.23W, h65km±29km, mb3.3/2, mb1 3.4/4, mb1mx3.2/20, mbtmp3.3/4, ML2.9/2, Error ellipse: s-maj=49.2km s-min=29.9km az=90.0*
ISC 05 21:29:21.5±1.0**, 37°.08S**±0°.07×**72°.76W**±0°.06**, h35km, n13, σ1s.30**/16**, mb3.6**/4**, 2C-1D, Central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.36	309	⇓iP	Pn	21 29 30.6	+0.3
CCSP				i S	Sn	21 29 37.2	+1.0
CCSP				AML	AML	21 29 38.5	
	comp=E,15µm,0.5s						
LNCH	Linares	1.54	38	⇑iP	Pn	21 29 47.0	+0.5
LNCH				i S	Sn	21 30 07.2	+1.9
LNCH				AML	AML	21 30 08.4	
	comp=N,3µm,0.5s						
TALC	Talca	1.91	29	⇑iP	Pn	21 29 51.4	-0.1
TALC				i S	Sn	21 30 15.5	+1.2
TALC				AML	AML	21 30 19.9	
	comp=E,3µm,0.3s						
NICH	Los Niches	2.41	31	eP	Pn	21 29 59.7	+1.2
NICH				eS	Sn	21 30 28.9	+2.1
PLCA	Paso Flores	4.04	155	P	Pn	21 30 21.8	+0.8
	comp=E,0.5nm,0.3s,baz=325,slow=11,SNR=6.4						
PLCA	Paso Flores	4.04	155	ePn	Pn	21 30 21.3	+0.4
CFAA	Coronel Fontan	6.62	36	P	Pn	21 30 55.9	-0.4
	comp=E,0.1nm,0.3s,baz=198,slow=13,SNR=15						
CFAA				S	Sn	21 32 09.6	-0.9
	comp=E,0.1nm,0.3s,baz=68,slow=19,SNR=2.4						
TRQA	Tornquist	8.62	100	ePn	Pn	21 31 23.8	0.0
LVC	Limon Verde	14.79	14	eP	P	21 32 53.1	-0.8
	comp=E,6.2nm,0.3s						
LPAZ	La Paz	21.11	12	eP	P	21 33 58.4	-5.4
	comp=E,1.2nm,0.5s						
QSPA	South Pole Qui	53.17	180	eP	P	21 38 37.1	+1.3
	comp=E,1.4nm,0.6s						
TXAR	Lajitas Array	72.14	332	P	P	21 40 50.7	+8.1
	comp=E,0.3nm,0.6s,baz=144,slow=7.8,SNR=5.5						
TORD	Torodi Ar. Bea	85.81	70	P	P	21 41 55.3	-2.3
	comp=E,0.5nm,0.9s,baz=226,slow=3.8,SNR=3.2						

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*JMA **05** 21:43:51.4±0.3, 23°.89N×121°.75E, h21km±4km, M2.8*
*ISCJB **05** 21:43:53.1±0.3, 23°.93N±0°.02×121°.69E±0°.02, h25km±2km, Error ellipse: s-maj=3.4km s-min=2.1km az=136.6*
*TAP **05** 21:43:53.1, 23°.95N×121°.62E, h28km, ML3.8, B*
ISC 05 21:43:52.9±0.9**, 23°.92N**±0°.02×**121°.69E**±0°.02**, h29km**±5km**, n62, σ0s.93**/103**, 7C-10D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.10	306	⇓iP	Pb	21 43 58.1	0.0
	baz=346						
HWA				S	Sb	21 44 02.2	+0.7
	baz=346						
ESF	Shoufeng Towns	0.18	255	eP	Pn	21 43 59.3	-0.4
	baz=239						
ESF				S	Sb	21 44 03.2	+0.6
	baz=239						
TWD	Chiawan	0.18	331	⇓iP	Pb	21 43 58.5	-0.3
	baz=346						
TWD				i S	Sb	21 44 02.4	-0.4
	baz=346						
TEGC	Jichi Village	0.25	214	eP	Pn	21 44 01.3	+0.6
	baz=186						
ESL	Shilin	0.26	246	i P	Pb	21 43 59.2	-0.5
	baz=240						
ESL				eS	Sb	21 44 03.5	-0.9
	baz=240						
WHF	Hehuan Shan	0.45	300	⇑iP	Pb	21 44 01.7	-1.1
	baz=293						
WHF				S	Sb	21 44 07.6	-2.0
	baz=293						
ENA	Nanau	0.51	5	⇑iP	Pb	21 44 03.4	-0.1
	baz=7.0						
ENA				S	Sb	21 44 10.5	-0.2
	baz=7.0						
EHY	Hungye	0.53	220	eP	Pb	21 44 02.9	-1.0
	baz=211						
TWT	Tachien	0.58	305	⇑iP	Pb	21 44 04.2	-0.5
	baz=305						
TWT				i S	Sb	21 44 11.3	-1.4
	baz=305						
NNS	Nan Shan	0.60	331	⇑iP	Pb	21 44 04.2	-0.8
	baz=336						
NNS				S	Sb	21 44 11.6	-1.6
	baz=336						
TWF1	Yuli	0.67	213	eP	Pb	21 44 05.0	-1.1
	baz=216						
TWC	Suao	0.70	12	eP	Pb	21 44 06.5	-0.2
	baz=15						
TWC				eS	Sn	21 44 16.4	-0.4
	baz=15						
SMLT	Sun Moon Lake	0.73	267	eP	Pb	21 44 06.5	-0.7
	baz=264						
SMLT				S	Sb	21 44 15.6	-1.2
	baz=264						
ENTT	Nioudou	0.73	351	P	Pb	21 44 06.5	-0.6
	baz=352						
ENTT				S	Sb	21 44 16.1	-0.7
	baz=352						
TYC	Yuchr	0.76	269	⇑iP	Pb	21 44 06.9	-0.7
	baz=266						
TYC				eS	Sb	21 44 16.1	-1.7
	baz=266						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YUS	**Yu-Shan**	**0.80**	**238**	⇓iP	**Pb**	**21 44 08.3**	**-0.3**
	baz=232						
YUS				eS	**Sb**	**21 44 18.2**	**-1.2**
	baz=232						
NSK	**Sanguang**	**0.81**	**338**	⇑iP	**Pb**	**21 44 07.8**	**-0.8**
	baz=341						
NSK				iS	**Sb**	**21 44 17.6**	**-1.7**
	baz=341						
ILA	**Ilan**	**0.84**	**3**	eP	**Pn**	**21 44 09.0**	**0.0**
CHKT	**Chengkung**	**0.87**	**200**	eP	**Pb**	**21 44 09.3**	**-0.2**
	baz=207						
CHKT				eS	**Sn**	**21 44 22.7**	**+1.7**
	baz=207						
ALS	**Alishan**	**0.91**	**244**	⇓iP	**Pn**	**21 44 10.1**	**0.0**
	baz=239						
ALS				eS	**Sb**	**21 44 20.4**	**-1.8**
	baz=239						
WNT	**Mingjian**	**0.92**	**268**	eP	**Pn**	**21 44 09.9**	**-0.1**
	baz=265						
TWQ1	**Liyutan**	**0.94**	**297**	eP	**Pb**	**21 44 10.7**	**0.0**
	baz=303						
TWQ1				eS	**Sb**	**21 44 22.4**	**-0.5**
	baz=303						
NSTT	**Nanjuang**	**0.95**	**319**	⇑iP	**Pb**	**21 44 10.4**	**-0.4**
	baz=319						
NSTT				eS	**Sb**	**21 44 21.7**	**-1.3**
	baz=319						
ELDTW	**Lidau**	**0.95**	**221**	eP	**Pn**	**21 44 09.3**	**-1.3**
	baz=205						
TCU	**Taichung**	**0.96**	**284**	⇓eP	**Pb**	**21 44 11.0**	**+0.1**
	baz=282						
TCU				eS	**Sn**	**21 44 23.6**	**+0.5**
	baz=282						
CHN5	**Tsauling**	**0.98**	**251**	⇓iP	**Pb**	**21 44 11.5**	**+0.1**
	baz=248						
CHN5				iS	**Sn**	**21 44 24.8**	**+0.9**
	baz=248						
NSY	**Sanyi**	**0.98**	**300**	eP	**Pb**	**21 44 11.8**	**+0.4**
	baz=300						
NSY				eS	**Sn**	**21 44 24.4**	**+0.6**
	baz=300						
WGK	**Gukeng**	**1.06**	**258**	eP	**Pb**	**21 44 12.9**	**+0.3**
	baz=255						
TWA	**Mucha**	**1.06**	**355**	eP	**Pb**	**21 44 12.4**	**-0.4**
	baz=346						
TWA				eS	**Sn**	**21 44 24.8**	**-1.0**
	baz=346						
TWB1	**Santiao Chiao**	**1.12**	**14**	eP	**Pb**	**21 44 14.6**	**+1.0**
	baz=4.0						
TWB1				eS	**Sb**	**21 44 29.4**	**+1.5**
	baz=4.0						
TAP1	**Taipei**	**1.13**	**352**	eP	**Pb**	**21 44 13.3**	**-0.5**
	baz=354						
STYT	**Tauyuan**	**1.14**	**229**	⇓P	**Pn**	**21 44 13.4**	**+0.3**
	baz=218						
STYT				eS	**Sn**	**21 44 28.0**	**+0.2**
	baz=218						
NCU	**National Centr**	**1.14**	**336**	eP	**Pb**	**21 44 13.7**	**-0.4**
	baz=336						
NCU				eS	**Sb**	**21 44 29.3**	**+0.7**
	baz=336						
NWF	**Wu-fen Shan**	**1.15**	**4**	eP	**Pb**	**21 44 14.3**	**0.0**
	baz=9.0						
CHN4	**Tsaushan**	**1.16**	**241**	⇓iP	**Pb**	**21 44 14.2**	**-0.1**
	baz=228						
CHN4				eS	**Sb**	**21 44 30.1**	**+1.2**
	baz=228						
CHN2	**Minshiung**	**1.18**	**251**	eP	**Pb**	**21 44 14.6**	**-0.1**
	baz=248						
CHN2				eS	**Sb**	**21 44 30.5**	**+0.9**
	baz=248						
TWS1	**Kuangyinshan**	**1.20**	**348**	eP	**Pb**	**21 44 15.1**	**0.0**
	baz=350						
TWG	**Pinlang**	**1.23**	**208**	eP	**Pn**	**21 44 13.4**	**-0.9**
	baz=190						
CHY	**Chiayi**	**1.23**	**250**	eP	**Pb**	**21 44 15.8**	**+0.1**
	baz=247						
CHY				S	**Sb**	**21 44 30.6**	**-0.5**
	baz=247						
TTN	**Taitung**	**1.26**	**203**	eP	**Pn**	**21 44 14.2**	**-0.4**
	baz=198						
TWK	**Hsinying**	**1.28**	**240**	P	**Pb**	**21 44 16.3**	**-0.2**
	baz=236						
TWK				eS	**Sb**	**21 44 33.2**	**+0.6**
	baz=236						
CHN1	**Nanshi**	**1.29**	**236**	⇓iP	**Pb**	**21 44 16.4**	**-0.2**
	baz=232						
CHN1				S	**Sb**	**21 44 33.3**	**+0.4**
	baz=232						
SGST	**Jiashian**	**1.31**	**231**	⇓eP	**Pb**	**21 44 16.8**	**-0.3**
	baz=227						
SGST				eS	**Sb**	**21 44 34.5**	**+1.0**
	baz=227						
YOJ	**Yonaguni jima**	**1.32**	**66**	P	**Pn**	**21 44 13.2**	**-2.3**
YOJ				eS	**Sb**	**21 44 32.9**	**-0.7**
YOJ	**Yonaguni jima**	**1.32**	**66**	eP	**Pb**	**21 44 16.7**	**-0.4**
	baz=69						
WSF	**Szhu**	**1.38**	**259**	eP	**Pb**	**21 44 17.8**	**-0.3**
	baz=256						
WSF				eS	**Sb**	**21 44 35.5**	**+0.4**
	baz=256						
ECL	**Taimali**	**1.48**	**207**	eP	**Pn**	**21 44 16.7**	**-0.9**
	baz=192						
SSD	**Sandimen**	**1.52**	**220**	eP	**Pb**	**21 44 19.6**	**-0.9**
	baz=217						
SSD				eS	**Sb**	**21 44 39.3**	**0.0**
	baz=217						
TWM1	**Shoushan**	**1.60**	**227**	eP	**Pb**	**21 44 21.0**	**-0.8**
	baz=223						
EAST	**Anshuo**	**1.71**	**207**	eP	**Pn**	**21 44 22.0**	**+1.1**
	baz=194						
SCZT	**Fangliau**	**1.83**	**213**	eP	**Pb**	**21 44 24.7**	**-1.0**
	baz=194						
LAY	**Lan-yu**	**1.88**	**184**	eP	**Pn**	**21 44 22.4**	**-0.8**
	baz=180						
IRIF	**Iriomote-Funau**	**1.91**	**77**	P	**Pn**	**21 44 24.8**	**+1.3**
IRIF				S	**Sb**	**21 44 48.7**	**-1.8**
HATJ	**Hateruma jima**	**1.94**	**85**	P	**Pb**	**21 44 25.9**	**-1.7**
HATJ				eS	**Sn**	**21 44 48.9**	**+1.6**
WDGT	**Dungji**	**1.98**	**251**	eP	**Pn**	**21 44 24.5**	**0.0**
	baz=249						
PNG	**Penghu**	**1.99**	**260**	eP	**Pn**	**21 44 25.2**	**+0.5**
	baz=259						
PNG				eS	**Sn**	**21 44 49.4**	**+0.8**
	baz=259						
TWK1	**Hengchun**	**2.13**	**203**	eP	**Pn**	**21 44 26.7**	**+0.1**
	baz=191						
JKRS	**Kuro-shima**	**2.14**	**81**	P	**Pn**	**21 44 28.7**	**+1.9**
JKRS				eS	**Sb**	**21 44 55.6**	**-1.6**
JIJ	**Ishigaki jima**	**2.28**	**78**	P	**Pn**	**21 44 29.8**	**+1.1**
JIJ				S	**Sn**	**21 44 56.5**	**+0.6**
JISG	**Ishigakijimahi**	**2.48**	**74**	P	**Pn**	**21 44 32.5**	**+1.1**
JISG				S	**Sn**	**21 45 01.5**	**+0.7**
JTJ	**Tarama**	**2.84**	**75**	P	**Pn**	**21 44 37.9**	**+1.5**
JTJ				eS	**Sn**	**21 45 10.5**	**+0.9**
KNM	**Kinmen**	**3.02**	**280**	eP	**Pn**	**21 44 40.3**	**+1.5**
	baz=280						

*ISCJB **05** 21:46:57.1±0.3, 33°.43S±0°.05×136°.89E±0°.08, h10km, mb4.5/19, MS3.7/3, Error ellipse: s-maj=9.5km s-min=7.3km az=155.8*
*IDC **05** 21:46:57.1±0.5, 33°.54S×136°.65E, h0km, mb4.4/12, mb1 4.5/15, mb1mx4.4/28, mbtmp4.4/15, ML4.7/2, MS3.8/6, Ms1 3.8/6, ms1mx3.2/27, Error ellipse: s-maj=19.4km s-min=14.7km az=97.0*
*BJI **05** 21:46:57.6, 33°.55S×136°.65E, h13km, mb4.8/26, mB5.0/17, Ms4.8/5, Ms7 4.4/9*
*NEIC **05** 21:47:00.0, 33°.56S×136°.71E, h15km, mb4.7/10, ML4.8(AUST), After AUST.*
NEIC Felt [III] at Port Lincoln and Whyalla. Also felt at Adelaide, Crafers and Port Augusta.
ISC 05 21:46:58.8±0.4**, 33°.60S**±0°.06×**136°.80E**±0°.06**, h10**km**, n80, σ1§76**/94**, mb4.8**/27**, MS3.8**/3**, 1C, Near coast of South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**4.39**	**68**	Pn	**Pn**	**21 48 07.6**	**+2.0**
	17nm,0.3s,baz=245,slow=9.7,SNR=116						
STKA				Sn	**Sn**	**21 48 56.1**	**-0.7**
	172nm,0.3s,baz=225,slow=14,SNR=8.6						
STKA				Lg	Lg	21 49 19.2	
	122nm,0.3s,baz=145,slow=22,SNR=5.1						
STKA				LR	LR	21 50 11.0	
	comp=Z,763nm,18.7s,baz=259,slow=43						
STKA	**Stephens Creek**	**4.39**	**68**	ePn	**Pn**	**21 48 08.1**	**+2.5**
STKA				eSn	**Sn**	**21 48 58.3**	**+1.5**
ASAR	**Alice Springs**	**10.21**	**345**	Pn	**Pn**	**21 49 23.8**	**-1.8**
	14nm,0.3s,baz=176,slow=8.8,SNR=378						
ASAR				Sn	Sn	21 51 10.8	-9.4
	14nm,0.3s,baz=163,slow=12,SNR=4.1						
ASAR				Lg	Lg	21 52 19.1	
	12nm,0.3s,baz=157,slow=24,SNR=5.8						
ASAR				LR	LR	21 53 31.4	
	comp=Z,454nm,18.5s,baz=150,slow=39						
AS31	**Alice Springs**	**10.21**	**345**	ePn	**Pn**	**21 49 24.0**	**-1.5**
AS31				eSn	**Sn**	**21 51 15.4**	**-4.8**
CAN	**Canberra**	**10.22**	**103**	ePn	**Pn**	**21 49 25.3**	**-0.4**
	58nm,0.4s						
CAN				eSn	**Sn**	**21 51 15.9**	**-4.5**
TAU	**Tasmania Unive**	**12.44**	**141**	ePn	**Pn**	**21 49 56.5**	**+0.7**
WRA	**Warramunga Arr**	**13.77**	**350**	Pn	Pn	21 50 09.9	-4.3
	12nm,0.3s,baz=164,slow=14,SNR=654						
WRA				Sn	Sn	21 52 35.8	-12
	8.6nm,0.3s,baz=166,slow=24,SNR=6.5						
WRA				Lg	Lg	21 54 09.6	
	2.6nm,0.3s,baz=178,slow=27,SNR=5.9						
WRA				LR	LR	21 55 43.5	
	comp=Z,464nm,20.3s,baz=190,slow=38						
WRAB	**Tennant Creek**	**13.78**	**350**	ePn	Pn	21 50 10.3	-4.1
	48nm,0.5s						
WRAB				eSn	Sn	21 52 35.2	-12
CTA	**Charters Tower**	**15.87**	**34**	Pn	**Pn**	**21 50 38.8**	**-3.6**
	2.5nm,0.3s,baz=204,slow=14,SNR=16						
CTA				Sn	Sn	21 53 26.9	-11
	0.6nm,0.3s,baz=205,slow=18,SNR=2.8						
CTAO	**Charters Tower**	**15.87**	**34**	ePn	**Pn**	**21 50 39.0**	**-3.4**
	14nm,0.6s						
CTAO				eS	Sn	21 53 27.9	-10
NWAO	**Narrogin (SRO)**	**16.38**	**267**	Pn	**Pn**	**21 50 45.0**	**-3.8**
	1.7nm,0.3s,baz=148,slow=7.5,SNR=16						
MBWA	**Marble Bar**	**19.54**	**305**	eP	**P**	**21 51 23.5**	**-3.1**
	52nm,0.8s						
MBWA				eS	Sn	21 54 46.4	-21
RPZ	**Rata Peaks**	**28.42**	**121**	LR	LR	22 02 54.1	
	comp=Z,313nm,18.0s,baz=212,slow=34						
DZM	**Mont Dzumac**	**28.52**	**74**	LR	LR	22 04 09.0	
	comp=Z,202nm,18.9s,baz=180,slow=36						
CASY	**Casey**	**36.25**	**198**	P	P	21 53 58.4	-3.3
	115nm,1.6s						
KSM	**Kuching**	**42.88**	**319**	eP	**P**	**21 54 57.0**	**-0.6**
	5.6nm,0.5s						
VNDA	**Vanda**	**45.41**	**173**	P	**P**	**21 55 18.1**	**+1.0**
	3.1nm,0.7s,baz=328,slow=7.7,SNR=13						
VNDA	**Vanda**	**45.41**	**173**	eP	**P**	**21 55 17.9**	**+0.8**
	6.5nm,0.8s						
MAW	**Mawson**	**53.33**	**207**	P	**P**	**21 56 17.1**	**-0.6**
	2.5nm,0.9s,baz=91,slow=4.7,SNR=4.2						
QSPA	**South Pole Qui**	**56.51**	**180**	P	**P**	**21 56 41.1**	**+0.1**
	2.0nm,0.5s,baz=142,slow=0.9,SNR=40						
CM31	**Chiang Mai Arr**	**63.11**	**319**	eP	**P**	**21 57 26.0**	**-0.8**
	2.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**63.11**	**319**	P	**P**	**21 57 26.6**	**-0.1**
	4.6nm,0.7s,baz=156,slow=5.7,SNR=39						
CMAR				PcP	**PcP**	**21 58 05.1**	**+0.7**
	1.9nm,0.7s,baz=164,slow=5.0,SNR=5.1						
CMAR				LR	LR	22 26 02.4	
	comp=Z,28nm,18.1s,baz=162,slow=37						
CHTO	**Chiang Mai**	**63.40**	**319**	eP	**P**	**21 57 28.8**	**+0.1**
	5.6nm,0.9s						
KMI	**Kunming**	**66.78**	**326**	P	**P**	**21 57 52.0**	**+1.2**
KMI				PMZ			
	11nm,0.9s						
NJ2	**Nanjing**	**67.45**	**344**	eP	**P**	**21 57 55.6**	**+1.0**
NJ2				PMZ			
	20nm,0.5s						
MJAR	**Matsushiro Arr**	**69.79**	**1**	P	**P**	**21 58 08.6**	**-0.6**
	3.5nm,0.8s,baz=186,slow=6.9,SNR=17						
MAT	**Matsushiro**	**69.79**	**1**	P	**P**	**21 58 08.5**	**-0.7**
KSAR	**Wonju Array Be**	**71.16**	**353**	P	**P**	**21 58 17.0**	**-0.5**
KSRS	**Korea Array**	**71.17**	**353**	P	**P**	**21 58 17.0**	**-0.5**
	6.0nm,0.7s,baz=172,slow=7.0,SNR=48						
SNAA	**Sanae**	**71.26**	**192**	P	P	21 58 10.3	-7.6
SNAA	**Sanae**	**71.26**	**192**	eP	P	21 58 10.3	-7.6
	11nm,1.2s						
CD2	**Chengdu**	**71.34**	**330**	eP	**P**	**21 58 20.4**	**+1.6**
CD2				pP	**pP**	**21 58 25.3**	**+3.2**
CD2				sP	**sP**	**21 58 27.2**	**+3.9**
CD2				PP	**PP**	**22 00 59.2**	**+1.7**
CD2				S	**S**	**22 07 40.0**	**+3.2**
CD2				sS	sS	22 07 48.4	+6.2
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.2s						
XAN	**Xi'an**	**72.19**	**336**	P	**P**	**21 58 23.1**	**-0.8**
XAN				PMZ			
	3.0nm,0.7s						
SHL	**Shillong**	**72.69**	**318**	eP	P	21 58 23.0	-4.2
VNA1	**Neumayer--Stat**	**73.07**	**192**	P	**P**	**21 58 28.9**	**+0.3**
LZH	**Lanzhou**	**75.86**	**333**	eP	**P**	**21 58 46.1**	**+0.7**
LZH				pP	**pP**	**21 58 50.8**	**+2.1**
LZH				sP	**sP**	**21 58 53.0**	**+3.1**
LZH				PMZ			
	22nm,1.0s						
LZH				PMZ			
	87nm,4.3s						
ODAN	**Odare**	**76.25**	**316**	eP	**P**	**21 58 47.6**	**-0.4**
	13nm,0.6s						
LSA	**Lhasa**	**76.34**	**320**	eP	**P**	**21 58 48.9**	**+0.2**
	5.1nm,0.7s						
TAPN	**Taplejung**	**76.44**	**316**	eP	**P**	**21 58 49.0**	**-0.1**
	46nm,0.9s						
RAMN	**Ramite**	**76.78**	**315**	eP	**P**	**21 58 50.7**	**-0.3**
	33nm,0.6s						
USRK	**Ussuriysk Ar.**	**77.55**	**356**	P	**P**	**21 58 54.2**	**-0.3**
	2.5nm,0.6s,baz=204,slow=5.5,SNR=8.6						
JIRN	**Jiri**	**77.55**	**315**	eP	**P**	**21 58 55.3**	**-0.2**
	13nm,0.5s						
HHC	**Hu-ho-hao-te**	**77.65**	**341**	eP	**P**	**21 58 57.0**	**+1.7**
HHC				sP	**sP**	**21 59 04.0**	**+4.2**
HHC				PP	**PP**	**22 01 51.0**	**+0.1**
HHC				S	**S**	**22 08 46.1**	**-1.0**
HHC				sS	sS	22 09 00.2	+7.7
HHC				SKS	**SKSac**	**22 09 05.4**	**-3.3**
HHC				PMZ			
	16nm,1.3s						
HHC				PMZ			
	70nm,7.7s						
HHC				LN			
	120nm,16.9s						
HHC				LE			
	100nm,17.0s						
HHC				LZ			
	62nm,17.4s						
CN2	**Changchun**	**77.72**	**352**	eP	**P**	**21 58 55.8**	**+0.3**
CN2				PMZ			
	10.0nm,0.6s						
GUN	**Gumba**	**77.92**	**315**	eP	**P**	**21 58 57.2**	**-0.3**
	42nm,0.7s						
PKI	**Pulchoki**	**77.95**	**315**	eP	**P**	**21 58 57.0**	**-0.6**
	24nm,0.5s						
DMN	**Daman**	**78.15**	**315**	eP	**P**	**21 58 58.3**	**-0.4**
KKN	**Kakani**	**78.19**	**315**	eP	**P**	**21 58 58.4**	**-0.4**
GKN	**Gorkha**	**78.72**	**315**	eP	**P**	**21 59 01.1**	**-0.6**
	28nm,0.5s						
KOLN	**Koldanda**	**79.17**	**314**	eP	**P**	**21 59 03.4**	**-0.8**
	22nm,0.7s						
OPO	**Ambohidratompo**	**79.64**	**255**	P	**P**	**21 59 07.7**	**+0.6**
	0.5nm,0.3s,baz=111,slow=14,SNR=3.6						
GTA	**Gaotai**	**80.31**	**332**	⇑P	**P**	**21 59 10.5**	**+0.5**
GTA				pP	**PcP**	**21 59 15.3**	**-1.8**
GTA				sP	**sP**	**21 59 17.6**	**+3.1**
GTA				S	**S**	**22 09 16.2**	**+0.6**
GTA				sS	**sS**	**22 09 24.1**	**+3.0**
GTA				SS	**SS**	**22 14 31.2**	**+3.5**
GTA				PMZ			
	18nm,2.0s						
GTA				PMZ			
	69nm,6.4s						
GTA				LZ			
	68nm,16.2s						
SONM	**Songino Array**	**85.52**	**340**	P	**P**	**21 59 36.3**	**-0.5**
	3.8nm,0.6s,baz=161,slow=5.5,SNR=29						
WMQ	**Urumqi**	**89.11**	**327**	P	**P**	**21 59 55.0**	**+0.8**
WMQ				pP	**pP**	**21 59 59.5**	**+2.0**
WMQ				sP	**sP**	**22 00 01.8**	**+3.1**
WMQ				PMZ			
	21nm,0.4s						
WMQ				PMZ			
	38nm,4.8s						
WMQ				LN			
	44nm,6.8s						
WMQ				LE			
	56nm,7.4s						
WMQ				LZ			
	74nm,11.0s						
BOSA	**Boshof**	**90.40**	**235**	P	**P**	**22 00 00.2**	**-0.7**
	2.0nm,0.8s,baz=110,slow=6.2,SNR=3.9						
KSH	**Kashi**	**91.96**	**317**	eP	**P**	**22 00 07.1**	**-0.6**
MK31	**Makanchi Array**	**93.85**	**326**	eP	**P**	**22 00 15.0**	**-1.1**
MKAR	**Makanchi Array**	**93.85**	**326**	P	**P**	**22 00 14.8**	**-1.3**
	0.5nm,0.6s,baz=140,slow=5.4,SNR=7.8						
AAK	**Ala-Archa**	**94.90**	**319**	eP	**P**	**22 00 21.0**	**-0.2**
	4.0nm,1.0s						
ZALV	**Zalesovo Beam**	**98.07**	**332**	P	**P**	**22 00 33.8**	**-1.3**
	0.4nm,0.5s,baz=180,slow=1.0,SNR=2.8						
ILAR	**Eielson Array**	**114.39**	**27**	PKP	PKPdf	22 05 36.0	-2.0
	0.4nm,0.6s,baz=258,slow=3.3,SNR=4.6						
BRTR	**Keskin Array B**	**119.81**	**300**	PKP	**PKPdf**	**22 05 48.1**	**-1.2**
	0.5nm,0.6s,baz=134,slow=3.6,SNR=4.7						
NVAR	**Mina Array Bea**	**120.63**	**62**	PKP	**PKPdf**	**22 05 52.0**	**+0.9**
	0.5nm,0.5s,baz=216,slow=5.4,SNR=3.8						
AKASG	**Malin Array Be**	**125.82**	**312**	PKP	**PKPdf**	**22 05 59.1**	**-1.3**
	0.6nm,0.4s,baz=80,slow=1.8,SNR=4.4						
YKA	**Yellowknife Ar**	**127.69**	**34**	PKP	**PKPdf**	**22 06 03.1**	**-0.5**
	1.4nm,0.6s,baz=286,slow=1.8,SNR=16						
ARCES	**ARCESS Array B**	**128.47**	**335**	PKP	**PKPdf**	**22 06 04.7**	**-0.2**
	2.7nm,0.7s,baz=103,slow=2.7,SNR=4.6						
FINES	**FINESS Array B**	**128.67**	**325**	PKP	**PKPdf**	**22 06 04.8**	**-0.6**
	1.6nm,0.4s,baz=117,slow=3.4,SNR=31						
TXAR	**Lajitas Array**	**128.88**	**77**	PKP	**PKPdf**	**22 06 07.4**	**+0.4**
	0.7nm,0.8s,baz=249,slow=5.2,SNR=7.6						
TORD	**Torodi Ar. Bea**	**134.46**	**254**	PKhKP	PKPpre	22 06 02.0	
	0.5nm,0.9s,baz=125,slow=2.4,SNR=3.9						
TORD				PKP	**PKPdf**	**22 06 17.2**	**-0.6**
	1.2nm,0.6s,baz=67,slow=1.2,SNR=13						
DBIC	**Dimbokro**	**135.54**	**242**	PKP	**PKPdf**	**22 06 19.1**	**-0.8**
	1.5nm,0.7s,baz=124,slow=3.6,SNR=3.2						
GERES	**GERESS Array B**	**135.60**	**308**	PKP	**PKPdf**	**22 06 16.4**	**-2.7**
	0.3nm,0.5s,baz=101,slow=4.1,SNR=6.7						
NOA	**NORSAR Array B**	**135.85**	**325**	PKP	**PKPdf**	**22 06 19.6**	**+0.5**
	0.5nm,0.7s,baz=108,slow=3.6,SNR=3.3						
SFIN	**Lafayette**	**144.58**	**66**	ePKPdf	**PKPab**	**22 06 33.9**	**-0.1**
EKA	**Eskdalemuir Ar**	**144.79**	**320**	PKP	**PKPab**	**22 06 34.0**	**-0.3**
	17nm,0.7s,baz=96,slow=2.9,SNR=148						
ESK	**Eskdalemuir**	**144.82**	**320**	ePKPdf	**PKPab**	**22 06 34.0**	**-0.5**
ESDC	**Sonseca Array**	**148.12**	**292**	PKPbc	**PKPbc**	**22 06 44.2**	**-0.6**
	5.1nm,0.7s,baz=70,slow=2.3,SNR=43						
ESLA	**Sonseca Array**	**148.12**	**292**	ePKPbc	**PKPbc**	**22 06 43.6**	**-1.3**
KMSC	**Kings Mountain**	**148.61**	**76**	PKPbc	**PKPbc**	**22 06 44.8**	**-1.4**
SDDR	**Presa de Saban**	**151.03**	**113**	ePKPbc	**PKPbc**	**22 06 52.4**	**-0.2**
SDDR				ePKPab	**PKPab**	**22 07 00.2**	**+0.1**
SCHQ	**Schefferville**	**153.08**	**31**	PKPbc	**PKPbc**	**22 06 55.6**	**-0.5**
	2.2nm,0.6s,baz=36,slow=4.3,SNR=6.9						

*THE **05** 22:13:01.0, 35°.90N×22°.35E, h2km±1km, ML2.9/4, Error ellipse: s-maj=1.9km s-min=0.8km az=44.0*
*ATH **05** 22:13:01.6, 35°.90N×22°.39E, h6km±1km, MD3.6/28*
*CSEM **05** 22:13:02.0±0.6, 35°.97N×22°.50E, h0km±3km, MD3.6, Error ellipse: s-maj=16.4km s-min=6.1km az=44.0*
ISC 05 22:13:01.0±1.3**, 35°.90N**±0°.04×**22°.35E**±0°.04**, h0**km±11km**, n98, σ1§22**/123**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.68**	**55**	P	**Pg**	**22 13 14.1**	**+0.1**
KYTH	**Kithira**	**0.68**	**55**	ePG	**Pg**	**22 13 14.0**	**+0.1**
KYTH	**Kithira**	**0.68**	**55**	P	**Pg**	**22 13 14.1**	**+0.1**
ANKY	**Antikythira Is**	**0.78**	**92**	P	**Pg**	**22 13 15.6**	**-0.3**
ANKY				S	**Sg**	**22 13 26.6**	**+0.7**
ANKY	**Antikythira Is**	**0.78**	**92**	ePB	**Pg**	**22 13 15.9**	**0.0**
ANKY				eSB	**Sg**	**22 13 26.4**	**+0.5**
ANKY	**Antikythira Is**	**0.78**	**92**	P	**Pg**	**22 13 15.6**	**-0.3**
ANKY	**Antikythira Is**	**0.78**	**92**	ePb	**Pg**	**22 13 15.9**	**0.0**
ANKY				S	**Sg**	**22 13 26.6**	**+0.7**
VLI	**Veliai**	**0.95**	**30**	P	**Pg**	**22 13 18.6**	**-0.6**
VLI				S	**Sg**	**22 13 32.4**	**+1.0**
VLI	**Veliai**	**0.95**	**30**	ePG	**Pg**	**22 13 18.8**	**-0.4**
VLI				eSB	**Sg**	**22 13 32.5**	**+1.0**
VLI	**Veliai**	**0.95**	**30**	ePg	**Pg**	**22 13 18.8**	**-0.4**
VLI				eSb	**Sg**	**22 13 32.5**	**+1.0**
PYL	**PYLOS**	**1.11**	**334**	P	**Pg**	**22 13 20.9**	**-1.3**
PYL				S	**Sb**	**22 13 38.4**	**+0.4**
PYL	**PYLOS**	**1.11**	**334**	ePG	**Pg**	**22 13 22.4**	**+0.2**
PYL				eSB	**Sb**	**22 13 39.1**	**+1.1**
PYL	**PYLOS**	**1.11**	**334**	P	**Pg**	**22 13 20.9**	**-1.3**
PYL				S	**Sb**	**22 13 38.4**	**+0.4**
PYL				eSb	**Sb**	**22 13 39.1**	**+1.1**
ITM	**Ithomi**	**1.32**	**345**	P	**Pg**	**22 13 25.2**	**-1.2**
ITM				S	**Sg**	**22 13 44.2**	**+0.7**
ITM	**Ithomi**	**1.32**	**345**	ePN	**Pg**	**22 13 25.7**	**-0.7**
ITM				eSB	**Sb**	**22 13 44.9**	**+0.7**
ITM	**Ithomi**	**1.32**	**345**	P	**Pg**	**22 13 25.2**	**-1.2**
ITM	**Ithomi**	**1.32**	**345**	ePn	**Pg**	**22 13 25.7**	**-0.7**
ITM				S	**Sg**	**22 13 44.2**	**+0.7**
KARN	**Karanos**	**1.37**	**111**	P	**Pg**	**22 13 26.2**	**-1.1**
KARN				S	**Sb**	**22 13 45.6**	**0.0**
KARN	**Karanos**	**1.37**	**111**	ePB	**Pn**	**22 13 27.4**	**+0.1**
KARN				eSB	**Sg**	**22 13 45.1**	**0.0**
KARN	**Karanos**	**1.37**	**111**	P	**Pg**	**22 13 26.2**	**-1.1**
KARN	**Karanos**	**1.37**	**111**	ePb	**Pn**	**22 13 27.4**	**+0.1**
KARN				eSb	**Sg**	**22 13 45.1**	**0.0**
VLX	**Vlachokerasia**	**1.47**	**1**	P	**Pn**	**22 13 27.8**	**-1.0**
VLX				S	**Sg**	**22 13 48.1**	**-0.2**
VLX	**Vlachokerasia**	**1.47**	**1**	ePG	**Pn**	**22 13 28.7**	**-0.1**
VLX	**Vlachokerasia**	**1.47**	**1**	P	**Pn**	**22 13 27.8**	**-1.0**
VLX	**Vlachokerasia**	**1.47**	**1**	ePg	**Pn**	**22 13 28.7**	**-0.1**
VLX				S	**Sg**	**22 13 48.1**	**-0.2**
VAM	**Vamos**	**1.59**	**107**	ePB	**Pb**	**22 13 30.9**	**-0.2**
VAM				eSB	**Sg**	**22 13 52.6**	**+0.6**
VAM	**Vamos**	**1.59**	**107**	ePb	**Pb**	**22 13 30.9**	**-0.2**
AMT	**Artemida-Makis**	**1.71**	**343**	ePG	**Pn**	**22 13 32.9**	**+0.9**
AMT				eSN	**Sg**	**22 13 58.6**	**+2.6**
AMT	**Artemida-Makis**	**1.71**	**343**	ePg	**Pn**	**22 13 32.9**	**+0.9**
DID	**Didima**	**1.76**	**24**	P	**Pn**	**22 13 32.5**	**-0.2**
DID				S	**Sn**	**22 13 55.2**	**-0.6**
DID	**Didima**	**1.76**	**24**	ePG	**Pb**	**22 13 33.7**	**-0.4**
DID				eSN	**Sg**	**22 13 59.0**	**+1.5**
DID	**Didima**	**1.76**	**24**	P	**Pn**	**22 13 32.5**	**-0.2**
DID	**Didima**	**1.76**	**24**	ePg	**Pb**	**22 13 33.7**	**-0.4**
DID				S	**Sn**	**22 13 55.2**	**-0.6**
GUR	**Goura**	**2.04**	**360**	ePN	**Pb**	**22 13 38.1**	**-0.8**
GUR	**Goura**	**2.04**	**360**	ePn	**Pb**	**22 13 38.1**	**-0.8**
NAIG	**Nisos Aigina**	**2.07**	**26**	ePN	**Pb**	**22 13 38.8**	**-0.6**
NAIG	**Nisos Aigina**	**2.07**	**26**	ePn	**Pb**	**22 13 38.8**	**-0.6**
DRO	**Drossia**	**2.11**	**346**	ePG	**Pb**	**22 13 40.6**	**+0.4**
DRO	**Drossia**	**2.11**	**346**	ePg	**Pb**	**22 13 40.6**	**+0.4**
KLV	**Kalavryta, Ach**	**2.15**	**356**	ePN	**Pb**	**22 13 40.8**	**0.0**
KLV	**Kalavryta, Ach**	**2.15**	**356**	ePn	**Pb**	**22 13 40.8**	**0.0**
LTK	**Loutraki**	**2.18**	**13**	ePG	**Pb**	**22 13 41.4**	**+0.1**
LTK	**Loutraki**	**2.18**	**13**	ePg	**Pb**	**22 13 41.4**	**+0.1**
ZKS	**Zakynthos**	**2.19**	**326**	ePN	**Pb**	**22 13 41.5**	**+0.1**
ZKS	**Zakynthos**	**2.19**	**326**	ePn	**Pb**	**22 13 41.5**	**+0.1**
SIVA	**Sivas**	**2.19**	**113**	ePG	**Pb**	**22 13 41.1**	**-0.4**
SIVA	**Sivas**	**2.19**	**113**	ePg	**Pb**	**22 13 41.1**	**-0.4**
RLS	**Riolos of Patr**	**2.27**	**342**	ePN	**Pb**	**22 13 42.5**	**-0.3**
RLS	**Riolos of Patr**	**2.27**	**342**	ePn	**Pb**	**22 13 42.5**	**-0.3**
VILL	**Villia**	**2.39**	**19**	ePn	**Pn**	**22 13 43.0**	**+1.6**
VIL2	**Platees**	**2.43**	**17**	ePN	**Pn**	**22 13 43.0**	**+1.1**
PTL	**Penteli**	**2.47**	**29**	ePN	**Pn**	**22 13 44.0**	**+1.6**
PTL	**Penteli**	**2.47**	**29**	ePn	**Pn**	**22 13 44.0**	**+1.6**
KALE	**Kalithea**	**2.50**	**356**	ePN	**Pb**	**22 13 45.7**	**-1.0**
KALE	**Kalithea**	**2.50**	**356**	ePn	**Pb**	**22 13 45.7**	**-1.0**
DSF	**Desfina**	**2.52**	**3**	ePB	**Pn**	**22 13 44.3**	**+1.2**
DSF	**Desfina**	**2.52**	**3**	ePb	**Pn**	**22 13 44.3**	**+1.2**
EFP	**Efpalio**	**2.55**	**352**	ePB	**Pn**	**22 13 44.6**	**+1.1**
EFP	**Efpalio**	**2.55**	**352**	ePb	**Pn**	**22 13 44.6**	**+1.1**
LAST	**Lasithi**	**2.66**	**105**	ePB	**Pn**	**22 13 46.4**	**+1.3**
LAST	**Lasithi**	**2.66**	**105**	ePb	**Pn**	**22 13 46.4**	**+1.3**
VLS	**Valsamata**	**2.67**	**329**	ePN	**Pb**	**22 13 49.4**	**-0.3**
NPS	**Neapolis**	**2.74**	**102**	ePB	**Pn**	**22 13 47.2**	**+1.1**
NPS	**Neapolis**	**2.74**	**102**	ePb	**Pn**	**22 13 47.2**	**+1.1**
LKR	**Lokris**	**2.80**	**11**	ePB	**Pn**	**22 13 48.8**	**+1.9**
LKR				eSN	**Sb**	**22 14 24.2**	**-2.4**
LKR	**Lokris**	**2.80**	**11**	ePb	**Pn**	**22 13 48.8**	**+1.9**
APE	**Apeiranthos**	**2.82**	**65**	ePB	**Pn**	**22 13 48.4**	**+1.1**
APE	**Apeiranthos**	**2.82**	**65**	ePb	**Pn**	**22 13 48.4**	**+1.1**
PDO	**Prodromos**	**2.85**	**341**	ePN	**Pb**	**22 13 50.9**	**-1.8**
PDO				eSN	**Sb**	**22 14 26.2**	**-2.0**
PDO	**Prodromos**	**2.85**	**341**	ePn	**Pb**	**22 13 50.9**	**-1.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AXAR	**Agios Charalam**	**2.88**	**5**	*e*PB	**Pn**	**22 13 49.7**	**+1.7**
AXAR	**Agios Charalam**	**2.88**	**5**	*e*Pb	**Pn**	**22 13 49.7**	**+1.7**
MRKA	**Markates**	**2.98**	**19**	*e*PB	**Pn**	**22 13 51.0**	**+1.6**
MRKA	**Markates**	**2.98**	**19**	*e*Pb	**Pn**	**22 13 51.0**	**+1.6**
EVR	**Evrytania**	**3.04**	**352**	*e*PB	**Pb**	**22 13 53.6**	**-2.5**
EVR	**Evrytania**	**3.04**	**352**	*e*Pb	**Pb**	**22 13 53.6**	**-2.5**
SMIA	**Simia**	**3.06**	**13**	*e*PB	**Pn**	**22 13 53.2**	**+2.7**
SMIA	**Simia**	**3.06**	**13**	*e*Pb	**Pn**	**22 13 53.2**	**+2.7**
MAKR	**Makrakomi, Fth**	**3.12**	**357**	*e*PB	**Pb**	**22 13 54.6**	**-2.6**
MAKR	**Makrakomi, Fth**	**3.12**	**357**	*e*Pb	**Pb**	**22 13 54.6**	**-2.6**
AGG	**Agios Georgios**	**3.12**	**360**	*e*PN	**Pn**	**22 13 53.9**	**+2.5**
AGG	**Agios Georgios**	**3.12**	**360**	*e*Pb	**Pn**	**22 13 53.9**	**+2.5**
DSL	**Palaion Diasel**	**3.38**	**343**	*e*PN	**Pn**	**22 13 56.5**	**+1.5**
DSL	**Palaion Diasel**	**3.38**	**343**	*e*Pn	**Pn**	**22 13 56.5**	**+1.5**
THL	**Klokotos Trika**	**3.67**	**356**	*e*PN	**Pn**	**22 14 00.1**	**+1.2**
THL	**Klokotos Trika**	**3.67**	**356**	*e*Pn	**Pn**	**22 14 00.1**	**+1.2**
CHOS	**Chios island**	**3.87**	**49**	*e*PN	**Pn**	**22 14 01.7**	**0.0**
CHOS	**Chios island**	**3.87**	**49**	*e*Pn	**Pn**	**22 14 01.7**	**0.0**
IGT	**Igoumenitsa**	**3.96**	**337**	*e*PN	**Pn**	**22 14 04.1**	**+1.1**
IGT	**Igoumenitsa**	**3.96**	**337**	*e*Pn	**Pn**	**22 14 04.1**	**+1.1**
SGD	**Sagiada**	**4.07**	**336**	*e*PN	**Pn**	**22 14 05.4**	**+1.0**
SGD	**Sagiada**	**4.07**	**336**	*e*Pn	**Pn**	**22 14 05.4**	**+1.0**
NEST	**Nestorio**	**4.63**	**348**	*e*PN	**Pn**	**22 14 14.9**	**+2.8**
NEST	**Nestorio**	**4.63**	**348**	*e*Pn	**Pn**	**22 14 14.9**	**+2.8**
FNA	**Florina**	**4.94**	**351**	*e*PN	**Pn**	**22 14 17.6**	**+1.2**
FNA	**Florina**	**4.94**	**351**	*e*Pn	**Pn**	**22 14 17.6**	**+1.2**
GRG	**Griva**	**5.05**	**0**	*e*PN	**Pn**	**22 14 18.8**	**+0.8**
GRG	**Griva**	**5.05**	**0**	*e*Pn	**Pn**	**22 14 18.8**	**+0.8**

GUC 05 22:14:41.2±0.7**, 34°.73S×71°.83W, h42**km±2km**, ML3.6, 4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.56**	**119**	⇓*i*P	Pn	22 14 52.9	0.0
NICH				*i* S	Sn	22 15 01.9	+0.8
TALC	**Talca**	**0.69**	**167**	*e*P	Pn	22 14 55.0	+0.5
TALC				*i* S	Sn	22 15 04.9	+0.8
LNV	**Longovilo**	**0.84**	**24**	⇓*i*P	Pn	22 14 57.2	+0.6
LNCH	**Linares**	**1.13**	**171**	⇓*i*P	Pn	22 15 00.8	+0.2
LNCH				*i* S	Sn	22 15 17.2	+2.2
TACH	**Talagante**	**1.30**	**35**	*e*P	Pn	22 15 03.6	+0.6
RCDM	**Rinconada Maip**	**1.50**	**35**	⇓*i*P	Pn	22 15 06.6	+0.9
PCH	**Pirque**	**1.55**	**45**	*i* S	Sn	22 15 27.0	+1.6
SAN	**Santiago**	**1.60**	**38**	*e*P	Pn	22 15 08.0	+1.0
SAN				*i* S	Sn	22 15 28.3	+1.8
CLCH	**Cerro Calan**	**1.71**	**39**	*e*P	Pn	22 15 10.5	+2.0
CLCH				*e*S	Sn	22 15 31.6	+2.4
CLCH				AML	AML	22 15 36.1	
	comp=N,835nm,0.6s						
PEL	**Peldehue**	**1.84**	**31**	*i* S	Sn	22 15 34.4	+1.8
PEL				AML	AML	22 15 38.5	
	comp=N,847nm,0.4s						
ROCH	**El Roble**	**1.88**	**21**	AML	AML	22 15 42.6	
	comp=N,903nm,0.5s						

*NIED **05** 22:19:00, 35°.80N×140°.10E, h71km, Mw4.3 Best double couple: Mo3.18000×10¹⁵ NP1:φs167.00000°, δ18.00000°, λ77.00000°. NP2:φs1.00000°, δ72.00000°, λ94.00000°.*
*BJI **05** 22:19:23.0, 35°.47N×140°.24E, h29km, mb4.6/12, mB4.7/8, Ms4.5/3, Ms7 4.3/3*
*MOS **05** 22:19:28.8±1.2, 35°.81N×140°.19E, h64km, mb4.8/17, Error ellipse: s-maj=11.3km s-min=7.0km az=119.0*
*ISCJB **05** 22:19:29.2±0.4, 35°.72N±0°.03×140°.19E±0°.05, h73km±3km, mb4.2/40, Error ellipse: s-maj=7.0km s-min=4.3km az=172.2*
*NEIC **05** 22:19:30.0±0.5, 35°.70N×140°.17E, h63km±5km, mb4.6/9, MW4.3(NIED), Error ellipse: s-maj=6.6km s-min=5.4km az=89.0*
NEIC Felt at Narita and Yokosuka. Recorded [2 JMA] in Chiba, Ibaraki, Kanagawa, Saitama and Tokyo; [1 JMA] in Shizuoka, Tochigi and Yamanashi.
*JMA **05** 22:19:30.7±0.1, 35°.79N×140°.10E, h63km±1km, M4.3 Broadband fault plane solution: P waves. NP1: φs5.00000°, δ74.00000°, λ93.00000°. NP2:φs176.00000°, δ16.00000°, λ81.00000°. Principal axes: T Plg61.0000°, Azm279.0000°; N Plg3.0000°, Azm184.0000°; P Plg29.0000°, Azm93.0000°;*
JMA Felt II J1.
*IDC **05** 22:19:31.2±1.8, 35°.73N×140°.12E, h71km±15km, mb3.8/22, mb1 3.9/26, mb1mx3.8/47, mbtmp4.1/26, MS3.1/6, Ms1 3.2/6, ms1mx2.9/28 Error ellipse: s-maj=14.5km s-min=8.0km az=155.0*
ISC 05 22:19:30.6±0.6**, 35°.77N**±0°.04**×140°.17E**±0°.05**, h67**km±5km**, n106, σ1s.27**/114**, mb4.3**/40**, 5C-11D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.46**	**3**	⇑P	**Pn**	**22 19 42.4**	**-0.4**
JYT				S	**Sn**	**22 19 51.1**	**-0.6**
I30JP	**ISUMI INFRASON**	**0.47**	**165**	P	**Pn**	**22 19 44.0**	**+1.1**
I30JP				S	**Sn**	**22 19 55.0**	**+3.1**
I30JP				*i*		22 21 40.0	
	baz=342,slow=338,SNR=0.3						
JAG	**Ashikaga**	**0.88**	**319**	⇓P	**Pn**	**22 19 47.1**	**-0.3**
BSO3	**Boso 3**	**1.00**	**164**	⇑P	**Pn**	**22 19 48.7**	**0.0**
BSO3				*e*S	**Sn**	**22 20 03.0**	**+0.8**
JOD2	**Odawara 2**	**1.01**	**241**	⇓P	**Pn**	**22 19 48.4**	**-0.8**
JOD2				S	**Sn**	**22 20 01.3**	**-1.6**
JRY	**Ryogami san**	**1.06**	**284**	⇓P	**Pn**	**22 19 49.8**	**+0.1**
JIM2	**Oshima 3**	**1.21**	**210**	P	**Pn**	**22 19 50.2**	**-1.5**
JIM2				*e*S	**Sn**	**22 20 05.4**	**-2.0**
JKT	**Katashina**	**1.24**	**324**	⇓P	**Pn**	**22 19 51.8**	**-0.4**
MJAR	**Matsushiro Arr**	**1.76**	**297**	P	**Pn**	**22 19 58.9**	**-0.1**
	65nm,0.3s,baz=103,slow=14,SNR=1657						
MJAR				LR	LR	22 20 39.1	
	comp=Z,377nm,19.1s,baz=110,slow=40						
MAJO	**Matsushiro**	**1.77**	**297**	*d i*P	**Pn**	**22 19 59.1**	**0.0**
MAJO	**Matsushiro**	**1.77**	**297**	*e*Pn	**Pn**	**22 19 59.3**	**+0.3**
MAT	**Matsushiro**	**1.77**	**297**	P	**Pn**	**22 19 59.4**	**+0.3**
MAT				S	**Sn**	**22 20 21.2**	**+0.6**
JHJ2	**Mitsune**	**2.66**	**186**	*e*Pn	**Pn**	**22 20 09.9**	**-1.3**
JHJ2				*e*Sn	**Sn**	**22 20 41.8**	**-0.6**
ERM	**Erimo**	**6.66**	**20**	P	**Pn**	**22 21 05.0**	**-0.8**
ERM	**Erimo**	**6.66**	**20**	*e*Pn	**Pn**	**22 21 05.2**	**-0.6**
ERM				*e*Sn	**Sn**	**22 22 16.3**	**-3.8**
JNU	**Nakatsue**	**8.11**	**254**	P	**Pn**	**22 21 26.2**	**+0.5**
	0.4nm,0.3s,baz=176,slow=1.0,SNR=5.9						
JNU				LR	LR	22 24 55.5	
	comp=Z,139nm,20.2s,baz=61,slow=40						
JNU	**Nakatsue**	**8.11**	**254**	*e*Pn	**Pn**	**22 21 26.0**	**+0.3**
ASAJ	**Asahikawa**	**8.55**	**12**	P	**Pn**	**22 21 30.7**	**-0.8**
	0.8nm,0.3s,baz=197,slow=13,SNR=11						
ASAJ				S	**Sn**	**22 23 03.7**	**-2.6**
ASAJ	**Asahikawa**	**8.55**	**12**	P	**Pn**	**22 21 30.7**	**-0.8**
ASAJ				S	**Sn**	**22 23 03.7**	**-2.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**8.55**	**12**	*e*Pn	**Pn**	**22 21 30.9**	**-0.7**
ASAJ				*e*Sn	**Sn**	**22 23 07.0**	**+0.7**
CBIJ	**Chichi jima**	**8.81**	**168**	*e*Pn	Pn	22 21 31.8	-3.5
CBIJ				*e*Sn	**Sn**	**22 23 11.5**	**-1.6**
JCJ	**Chichijima**	**8.81**	**168**	P	**Pn**	**22 21 32.5**	**-2.8**
	comp=Z,18nm,0.3s,baz=84,slow=24,SNR=15						
JCJ				S	Sn	22 23 03.5	-10
	comp=Z,12nm,0.3s,baz=294,slow=21,SNR=3.5						
VLA	**Vladivostok**	**9.74**	**321**	⇑*i*P	Pn	22 21 52.3	+4.5
VLA				*e*S	Sn	22 23 45.3	+10
KSRS	**Korea Array**	**9.99**	**283**	P	**Pn**	**22 21 53.2**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=98,slow=14,SNR=28						
KSRS				LR	LR	22 25 36.1	
	comp=Z,100nm,20.6s,baz=114,slow=36						
KSAR	**Wonju Array Be**	**10.02**	**283**	P	**Pn**	**22 21 53.3**	**+1.6**
KSAR	**Wonju Array Be**	**10.02**	**283**	P	**Pn**	**22 21 53.2**	**+1.6**
USRK	**Ussuriysk Ar.**	**10.50**	**326**	P	**Pn**	**22 22 00.7**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=139,slow=12,SNR=11						
HABR	**Khabarovsk**	**13.25**	**345**	*e*P	**Pn**	**22 22 32.5**	**-3.1**
HABR				*e*S	**Sn**	**22 25 01.5**	**+0.5**
HABR				pmax	pmax		
	comp=Z,27nm,1.9s						
PETK	**Petropavlovsk-**	**21.29**	**30**	P	**P**	**22 24 12.2**	**+0.8**
	comp=Z,5.7nm,1.0s,baz=198,slow=8.9,SNR=3.4						
YAK	**Yakutsk**	**27.10**	**349**	⇓*e*P	**P**	**22 25 08.2**	**+1.4**
YAK				pmax	pmax		
	comp=Z,20nm,1.2s						
SONM	**Songino Array**	**27.69**	**306**	P	**P**	**22 25 10.8**	**-1.6**
	comp=Z,2.2nm,1.1s,baz=112,slow=8.3,SNR=6.9						
SONM				PcP	**PcP**	**22 28 27.8**	**0.0**
	comp=Z,0.3nm,0.5s,baz=94,slow=1.7,SNR=3.8						
SONM				LR	LR	22 36 27.3	
	comp=Z,50nm,18.9s,baz=150,slow=37						
BOD	**Bodaibo**	**28.09**	**330**	*e*P	P	22 25 10.3	-5.4
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**28.42**	**117**	T	T	22 55 12.3	
	baz=308,slow=75,SNR=59						
H11N1	**WAKE ISLAND Hy**	**28.42**	**117**	T	T	22 54 54.2	
	baz=308,slow=75,SNR=57						
H11N3	**WAKE ISLAND Hy**	**28.43**	**117**	T	T	22 55 19.3	
	baz=308,slow=75,SNR=62						
H11S1	**WAKE ISLAND Hy**	**29.07**	**119**	T	T	22 55 41.6	
	baz=311,slow=75,SNR=33						
H11S3	**WAKE ISLAND Hy**	**29.07**	**119**	T	T	22 55 39.5	
	baz=311,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	**29.08**	**119**	T	T	22 55 34.3	
	baz=311,slow=75,SNR=26						
TLY	**Talaya**	**30.43**	**313**	LR	LR	22 38 31.3	
	comp=Z,17nm,18.5s,baz=46,slow=38						
CMAR	**Chiang Mai Arr**	**40.21**	**256**	P	**P**	**22 27 00.3**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=52,slow=8.6,SNR=5.6						
CMAR				LR	LR	22 43 52.7	
	comp=Z,21nm,18.3s,baz=340,slow=36						
CMAR	**Chiang Mai Arr**	**40.21**	**256**	*i* P	**P**	**22 27 02.2**	**+1.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LSA	**Lhasa**	**41.33**	**276**	*e*P	**P**	**22 27 10.7**	**+0.3**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LSA	**Lhasa**	**41.33**	**276**	*e*P	**P**	**22 27 10.7**	**+0.3**
	comp=Z,2.7nm,0.8s						
ZAA0	**Zalesovo Array**	**42.04**	**313**	*e*P	**P**	**22 27 15.0**	**-0.3**
ZALV	**Zalesovo Beam**	**42.04**	**313**	P	**P**	**22 27 15.2**	**-0.1**
	comp=Z,4.6nm,0.7s,baz=103,slow=6.5,SNR=17						
ZALV				PcP	**PcP**	**22 29 08.9**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=110,slow=3.1,SNR=6.1						
NVS	**Novosibirsk**	**43.00**	**315**	*e*P	**P**	**22 27 22.8**	**-0.3**
NVS				pmax	pmax		
	comp=E,6.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,8.0nm,1.3s						
MK31	**Makanchi Array**	**43.95**	**303**	*e*P	**P**	**22 27 30.6**	**-0.3**
MK31	**Makanchi Array**	**43.95**	**303**	*e*P	**P**	**22 27 30.6**	**-0.3**
MKAR	**Makanchi Array**	**43.95**	**303**	P	**P**	**22 27 30.7**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=86,slow=10,SNR=31						
MKAR				PcP	**PcP**	**22 29 15.9**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=69,slow=6.6,SNR=3.3						
KURK	**Kurchatov**	**45.93**	**309**	*e*P	**P**	**22 27 46.0**	**-0.5**
KURK				pmax	pmax		
	comp=Z,17nm,0.8s						
KURK	**Kurchatov**	**45.93**	**309**	*e*P	**P**	**22 27 46.0**	**-0.5**
	comp=Z,17nm,0.8s						
RAMN	**Ramite**	**46.10**	**275**	*e*P	**P**	**22 27 47.9**	**-0.5**
	comp=Z,30nm,0.7s						
JIRN	**Jiri**	**46.14**	**276**	*e*P	**P**	**22 27 48.5**	**-0.4**
	comp=Z,13nm,0.7s						
GUN	**Gumba**	**46.28**	**276**	*e*P	**P**	**22 27 49.6**	**-0.4**
PKI	**Pulchoki**	**46.80**	**276**	*e*P	**P**	**22 27 53.4**	**-0.7**
KKN	**Kakani**	**46.82**	**276**	*e*P	**P**	**22 27 54.0**	**-0.1**
GKN	**Gorkha**	**47.25**	**277**	*e*P	**P**	**22 27 57.0**	**-0.4**
	comp=Z,17nm,0.9s						
TKM2	**Tokmak 2**	**49.36**	**299**	*e*P	**P**	**22 28 13.1**	**-0.3**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TKM2	**Tokmak 2**	**49.36**	**299**	*e*P	**P**	**22 28 13.1**	**-0.3**
	comp=Z,3.8nm,0.6s						
AAK	**Ala-Archa**	**50.21**	**299**	⇑*e*P	**P**	**22 28 19.6**	**-0.3**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
AAK	**Ala-Archa**	**50.21**	**299**	*e*P	**P**	**22 28 19.5**	**-0.4**
	comp=Z,3.5nm,0.9s						
BRVK	**Borovoye**	**50.75**	**313**	⇑*e*P	**P**	**22 28 25.8**	**+2.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ILAR	**Eielson Array**	**51.10**	**32**	P	**P**	**22 28 27.0**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=268,slow=6.0,SNR=7.9						
KKAR	**Karatay Array**	**52.90**	**301**	*e*P	**P**	**22 28 39.1**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KKAR	**Karatay Array**	**52.90**	**301**	*e*P	**P**	**22 28 39.1**	**-0.6**
	comp=Z,5.3nm,1.0s						
WRAB	**Tennant Creek**	**55.67**	**187**	⇓*e*P	**P**	**22 28 59.5**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,16nm,1.3s						
WRAB	**Tennant Creek**	**55.67**	**187**	*e*P	**P**	**22 28 59.2**	**-0.7**
WRA	**Warramunga Arr**	**55.68**	**187**	P	**P**	**22 28 59.0**	**-1.0**
	comp=Z,2.8nm,0.6s,baz=0.6,slow=7.7,SNR=62						
ARU	**Arti**	**56.65**	**319**	*d i*P	**P**	**22 29 05.9**	**-0.6**
ARU						22 31 10.9	
ARU				S	**S**	**22 36 58.1**	**+4.6**
ARU				SS	**SS**	**22 40 43.5**	**+2.1**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ARU	**Arti**	**56.65**	**319**	*e*P	**P**	**22 29 06.0**	**-0.6**
	comp=Z,4.8nm,0.6s						
ABKAR	**Akbulak array**	**57.99**	**310**	*e*P	**P**	**22 29 15.5**	**-0.6**
	comp=Z,1.2nm,0.4s						
AS31	**Alice Springs**	**59.40**	**187**	*e*P	**P**	**22 29 25.1**	**-1.0**
ASAR	**Alice Springs**	**59.41**	**187**	P	**P**	**22 29 25.9**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=1.2,slow=6.3,SNR=22						
MBWA	**Marble Bar**	**59.83**	**202**	*e*P	**P**	**22 29 28.4**	**-0.7**
	comp=Z,6.9nm,0.5s						
PRGR	**Permogore**	**61.28**	**327**	P	**P**	**22 29 36.2**	**-2.3**
PRGR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ARCES	**ARCESS Array B**	**64.83**	**339**	P	**P**	**22 30 02.9**	**+1.0**
	comp=Z,3.5nm,0.9s,baz=45,slow=9.1,SNR=3.1						
YKA	**Yellowknife Ar**	**65.41**	**30**	P	**P**	**22 30 06.2**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=303,slow=6.8,SNR=2.9						
OBN	**Obninsk**	**68.50**	**323**	*e*P	**P**	**22 30 23.8**	**-1.7**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES	**FINESS Array B**	**69.46**	**332**	P	**P**	**22 30 31.4**	**0.0**
	comp=Z,4.3nm,0.7s,baz=101,slow=6.8,SNR=14						
FINES				LR	LR	23 04 34.8	
	comp=Z,30nm,18.8s,baz=200,slow=39						
KBZ	**Khabaz**	**70.96**	**310**	P	**P**	**22 30 41.3**	**+0.5**
	comp=Z,2.9nm,0.9s,baz=326,slow=24,SNR=5.4						
KIV	**Kislovodsk**	**70.97**	**311**	*i* P	**P**	**22 30 38.1**	**-3.0**
KIV				*i*		22 30 53.4	
KIV				*i*		22 31 02.7	
KIV				pmax	pmax		
	comp=Z,13nm,1.2s						
KIV	**Kislovodsk**	**70.97**	**311**	*e*P	**P**	**22 30 41.3**	**+0.3**
	comp=Z,7.9nm,1.0s						
AKASG	**Malin Array Be**	**74.68**	**322**	P	**P**	**22 31 02.3**	**-0.4**
	comp=Z,2.4nm,0.4s,baz=45,slow=5.5,SNR=13						
KIEV	**Kiev**	**74.69**	**322**	⇓*e*P	**P**	**22 31 02.7**	**-0.1**
HFS	**Hagfors**	**74.82**	**335**	P	**P**	**22 31 03.0**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=56,slow=5.6,SNR=5.9						
NB2	**NORSAR Subarra**	**74.96**	**337**	P	**P**	**22 31 04.1**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**74.96**	**337**	P	**P**	**22 31 04.2**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=40,slow=5.7,SNR=10						
NVAR	**Mina Array Bea**	**76.56**	**52**	P	**P**	**22 31 16.1**	**+2.0**
	comp=Z,0.4nm,0.5s,baz=296,slow=6.7,SNR=2.9						
FRB	**Frobisher Bay**	**78.23**	**13**	P	**P**	**22 31 22.8**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=327,slow=6.2,SNR=3.8						
BRTR	**Keskin Array B**	**78.93**	**311**	P	**P**	**22 31 27.4**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=107,slow=4.1,SNR=7.5						
PDAR	**Pinedale Array**	**79.27**	**45**	P	**P**	**22 31 29.9**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=315,slow=0.8,SNR=4.9						
DPC	**Dobruska-Polom**	**80.99**	**327**	*e*P	**P**	**22 31 39.8**	**+1.9**
DPC	**Dobruska-Polom**	**80.99**	**327**	*e*P	**P**	**22 31 39.8**	**+1.9**
BRG	**Berggiesshubel**	**81.62**	**329**	*e*P	P	22 31 50.5	+9.4
BRG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CLL	**Collm**	**81.69**	**330**	⇓*i*P	**P**	**22 31 41.5**	**0.0**
	comp=Z,4.0nm,0.8s						
CLL	**Collm**	**81.69**	**330**	⇓*i*P	**P**	**22 31 41.5**	**0.0**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PRU	**Pruhonice**	**82.03**	**328**	*e*P	**P**	**22 31 43.7**	**+0.4**
PRU	**Pruhonice**	**82.03**	**328**	*e*P	**P**	**22 31 43.7**	**+0.4**
KHC	**Kasperske Hory**	**83.09**	**328**	*e*P	**P**	**22 31 47.4**	**-1.5**
KHC	**Kasperske Hory**	**83.09**	**328**	*e*P	**P**	**22 31 47.4**	**-1.5**
GERES	**GERESS Array B**	**83.25**	**328**	P	**P**	**22 31 50.2**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=58,slow=4.1,SNR=4.7						
EKA	**Eskdalemuir Ar**	**83.98**	**340**	P	**P**	**22 31 53.2**	**0.0**
	comp=Z,0.3nm,0.5s,baz=35,slow=4.7,SNR=6.2						
TXAR	**Lajitas Array**	**91.69**	**52**	P	**P**	**22 32 32.2**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=305,slow=3.3,SNR=7.2						
TXAR				pP	**pP**	**22 32 49.3**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=297,slow=2.9,SNR=7.5						
TORD	**Torodi Ar. Bea**	**117.49**	**313**	PKP	**PKPdf**	**22 38 08.4**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=30,slow=1.3,SNR=9.9						
DBIC	**Dimbokro**	**126.50**	**315**	PKP	**PKPdf**	**22 38 26.7**	**+0.1**
	comp=Z,2.5nm,0.9s,baz=133,slow=4.3,SNR=2.8						
LPAZ	**La Paz**	**148.20**	**60**	PKPbc	**PKPbc**	**22 39 10.9**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=239,slow=1.5,SNR=3.8						

*REY **05** 22:23:59.8, 70°.27N×12°.62W, h10km, ML3.4, ML3.3*
*CSEM **05** 22:23:59.7±0.1, 70°.54N×14°.61W, h2km, mb4.4/25, Error ellipse: s-maj=5.0km s-min=3.9km az=93.0*
*IDC **05** 22:23:60.0±0.7, 70°.66N×14°.47W, h0km, mb3.9/13, mb1 4.1/18, mb1mx3.9/45, mbtmp3.9/18, ML3.5/4, MS3.6/23, Ms1 3.6/23, ms1mx3.4/38, Error ellipse: s-maj=20.1km s-min=12.8km az=27.0*
*MOS **05** 22:24:00.3±0.8, 70°.66N×14°.81W, h10km, mb4.5/16, Error ellipse: s-maj=22.0km s-min=8.6km az=101.5*
*BJI **05** 22:24:00.0, 70°.70N×14°.50W, h10km, mb4.5/11, mB4.8/6, Ms4.5/4, Ms7 4.5/3*
*NEIC **05** 22:24:01.7±0.2, 70°.69N×14°.42W, h10km, mb4.3/19, Error ellipse: s-maj=7.5km s-min=4.0km az=30.0*
ISC 05 22:24:02.6±0.6**, 70°.58N**±0°.04**×14°.58W**±0°.04**, h17**km±3km**, h16**km**:pP-P, n194, σ1s.48**/204**, mb4.2**/43**, MS3.5**/26**, 2C-4D, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**2.05**	**76**	Pn	Pn	22 24 30.3	-6.0
	5.9nm,0.3s,baz=164,slow=2.9,SNR=12						
JMIC				Sn	Sn	22 24 52.5	-9.0
	36nm,0.3s,baz=198,slow=6.9,SNR=14						
JMIC				LR	LR	22 25 19.7	
	comp=Z,699nm,18.5s,baz=252,slow=40						
IGRI	**Grimsey**	**4.24**	**199**	P	**Pn**	**22 25 05.4**	**-0.9**
IGRI				S	**Sn**	**22 25 56.2**	**+0.8**
IGRI	**Grimsey**	**4.24**	**199**	P	**Pn**	**22 25 05.4**	**-0.9**
	baz=211						
IGRI				S	**Sn**	**22 25 56.2**	**+0.8**
	baz=211						
ILEI	**Leirhofn**	**4.25**	**190**	P	**Pn**	**22 25 03.9**	**-2.5**
ILEI				S	**Sn**	**22 25 53.7**	**-1.8**
ILEI	**Leirhofn**	**4.25**	**190**	P	**Pn**	**22 25 03.9**	**-2.5**
	baz=202						
ILEI				S	**Sn**	**22 25 53.7**	**-1.8**
	baz=202						
IGIL	**Gilhagi**	**4.57**	**189**	P	**Pn**	**22 25 08.2**	**-2.6**
IGIL				S	**Sn**	**22 26 01.4**	**-2.0**
IGIL	**Gilhagi**	**4.57**	**189**	P	**Pn**	**22 25 08.2**	**-2.6**
	baz=200						
IGIL				S	**Sn**	**22 26 01.4**	**-2.0**
	baz=200						
IFLA	**Flatey**	**4.60**	**197**	P	**Pn**	**22 25 10.4**	**-0.8**
IFLA	**Flatey**	**4.60**	**197**	P	**Pn**	**22 25 10.4**	**-0.8**
	baz=208						
IFLA				S	**Sn**	**22 26 05.2**	**+1.0**
	baz=208						
IHED	**Heoinshofoi**	**4.63**	**194**	P	**Pn**	**22 25 09.8**	**-1.8**
IHED	**Heoinshofoi**	**4.63**	**194**	P	**Pn**	**22 25 09.8**	**-1.8**
	baz=205						
IHED				S	**Sn**	**22 26 03.3**	**-1.6**
	baz=205						
IBRE	**Brettingsstaoi**	**4.64**	**197**	P	**Pn**	**22 25 10.9**	**-0.9**
IBRE	**Brettingsstaoi**	**4.64**	**197**	P	**Pn**	**22 25 10.9**	**-0.9**
	baz=208						
IBRE				S	**Sn**	**22 26 05.6**	**+0.4**
	baz=208						
IDIM	**Dimmadalsˆ¡s**	**4.72**	**192**	P	**Pn**	**22 25 10.8**	**-2.1**
IDIM				S	**Sn**	**22 26 06.6**	**-0.6**
IDIM	**Dimmadalsˆ¡s**	**4.72**	**192**	P	**Pn**	**22 25 10.8**	**-2.1**
	baz=202						
IDIM				S	**Sn**	**22 26 06.6**	**-0.6**
	baz=202						
ISIG	**Siglufjorour**	**4.74**	**202**	P	**Pn**	**22 25 13.2**	**0.0**
ISIG				S	**Sn**	**22 26 08.5**	**+0.8**
ISIG	**Siglufjorour**	**4.74**	**202**	P	**Pn**	**22 25 13.2**	**0.0**
	baz=212						
ISIG				S	**Sn**	**22 26 08.5**	**+0.8**
	baz=212						
IGRA	**Granastaoir**	**4.81**	**195**	P	**Pn**	**22 25 12.4**	**-1.7**
IGRA				S	**Sn**	**22 26 10.0**	**+0.6**
IGRA	**Granastaoir**	**4.81**	**195**	P	**Pn**	**22 25 12.4**	**-1.7**
	baz=205						
IGRA				S	**Sn**	**22 26 10.0**	**+0.6**
	baz=205						
IGHA	**Grjothals**	**4.82**	**190**	P	**Pn**	**22 25 11.9**	**-2.4**
IGHA	**Grjothals**	**4.82**	**190**	P	**Pn**	**22 25 11.9**	**-2.4**
	baz=201						
IHLA	**Hella**	**4.86**	**199**	P	**Pn**	**22 25 14.4**	**-0.5**
IHLA	**Hella**	**4.86**	**199**	P	**Pn**	**22 25 14.4**	**-0.5**
	baz=209						
IHLA				S	**Sn**	**22 26 10.2**	**-0.4**
	baz=209						
IHRN	**Hraun**	**4.93**	**207**	P	**Pn**	**22 25 16.8**	**+1.0**
IHRN				S	**Sn**	**22 26 14.7**	**+2.3**
IHRN	**Hraun**	**4.93**	**207**	P	**Pn**	**22 25 16.8**	**+1.0**
	baz=217						
IHRN				S	**Sn**	**22 26 14.7**	**+2.3**
	baz=217						
IKVO	**Krokottuvotn**	**4.96**	**191**	P	**Pn**	**22 25 14.4**	**-1.8**
IKVO	**Krokottuvotn**	**4.96**	**191**	P	**Pn**	**22 25 14.4**	**-1.8**
	baz=201						
IGRS	**Grimsstaoir**	**5.00**	**187**	P	**Pn**	**22 25 14.2**	**-2.5**
IGRS	**Grimsstaoir**	**5.00**	**187**	P	**Pn**	**22 25 14.2**	**-2.5**
	baz=198						
IREN	**Reynihlio**	**5.03**	**191**	P	**Pn**	**22 25 15.4**	**-1.8**
IREN	**Reynihlio**	**5.03**	**191**	P	**Pn**	**22 25 15.4**	**-1.8**
	baz=201						
IMEL	**Melhnausar**	**5.09**	**190**	P	**Pn**	**22 25 15.7**	**-2.3**
IMEL	**Melhnausar**	**5.09**	**190**	P	**Pn**	**22 25 15.7**	**-2.3**
	baz=200						
ISVA	**Svartarkot**	**5.36**	**192**	P	**Pn**	**22 25 20.0**	**-1.7**
ISVA	**Svartarkot**	**5.36**	**192**	P	**Pn**	**22 25 20.0**	**-1.7**
	baz=202						
IADA	**Aoalbol**	**5.60**	**184**	P	**Pn**	**22 25 22.3**	**-2.7**
IADA	**Aoalbol**	**5.60**	**184**	P	**Pn**	**22 25 22.3**	**-2.7**
	baz=194						
IMKO	**Mokollar**	**5.66**	**188**	P	**Pn**	**22 25 24.2**	**-1.7**
IMKO	**Mokollar**	**5.66**	**188**	P	**Pn**	**22 25 24.2**	**-1.7**
	baz=197						
IHVA	**Hvannstoosfjol**	**5.67**	**186**	P	**Pn**	**22 25 23.4**	**-2.6**
IHVA	**Hvannstoosfjol**	**5.67**	**186**	P	**Pn**	**22 25 23.4**	**-2.6**
	baz=195						
IBRU	**Bruarjokull**	**5.80**	**186**	P	**Pn**	**22 25 25.6**	**-2.2**
IBRU	**Bruarjokull**	**5.80**	**186**	P	**Pn**	**22 25 25.6**	**-2.2**
	baz=195						
IVSH	**V-Sauoahnukur**	**5.81**	**185**	P	**Pn**	**22 25 25.5**	**-2.5**
IVSH	**V-Sauoahnukur**	**5.81**	**185**	P	**Pn**	**22 25 25.4**	**-2.5**
	baz=194						
IKRE	**Kreppuhraun**	**5.86**	**188**	P	**Pn**	**22 25 27.1**	**-1.5**
IKRE	**Kreppuhraun**	**5.86**	**188**	P	**Pn**	**22 25 27.1**	**-1.5**
	baz=196						
DAG	**Danmarks Havn**	**6.33**	**351**	*i* P	Pn	22 25 29.6	-5.4
DAG				*i* S	Sn	22 26 35.3	-11
SUMG	**Summit**	**7.79**	**296**	*i* P	**Pn**	**22 25 55.6**	**+0.2**
SUMG				*i* S	**Sn**	**22 27 20.4**	**-2.9**
SUMG	**Summit**	**7.79**	**296**	*i* P	**Pn**	**22 25 55.6**	**+0.2**
SUMG				*i* S	**Sn**	**22 27 20.4**	**-2.9**
SUMG	**Summit**	**7.79**	**296**	*e*Pn	**Pn**	**22 25 55.3**	**-0.1**
SUMG	**Summit**	**7.79**	**296**	*i* P	**Pn**	**22 25 55.6**	**+0.2**
SUMG	**Summit**	**7.79**	**296**	*e*Pn	**Pn**	**22 25 55.3**	**-0.1**
SUMG				*e*S	Sn	22 27 16.9	-6.5
SPITS	**Spitsbergen Ar**	**11.10**	**33**	Pn	**Pn**	**22 26 37.5**	**-2.8**
	baz=227,slow=14,SNR=65						
SPITS				LR	LR	22 29 59.3	
	comp=Z,163nm,18.2s,baz=240,slow=33						
SFJD	**Kangerlussuaq**	**13.38**	**272**	*e*P	**Pn**	**22 27 10.2**	**-1.1**
SFJD	**Kangerlussuaq**	**13.38**	**272**	*e*P	**Pn**	**22 27 10.2**	**-1.1**
SFJD	**Kangerlussuaq**	**13.38**	**272**	*e*Pn	**Pn**	**22 27 10.2**	**-1.1**
ARCES	**ARCESS Array B**	**13.54**	**75**	Pn	**Pn**	**22 27 15.2**	**+1.6**
	0.2nm,0.3s,baz=299,slow=13,SNR=4.4						
ARCES				LR	LR	22 31 27.1	
	comp=Z,141nm,19.8s,baz=259,slow=33						
NB2	**NORSAR Subarra**	**14.11**	**120**	Pn	**Pn**	**22 27 20.4**	**-1.0**
	comp=Z,19nm,1.7s,baz=325,slow=14						
NB2	**NORSAR Subarra**	**14.11**	**120**	Pn	**Pn**	**22 27 20.4**	**-1.0**
	comp=Z,19nm,1.7s,SNR=7.0						
NOA	**NORSAR Array B**	**14.11**	**120**	Pn	**Pn**	**22 27 19.8**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=325,slow=13,SNR=7.8						
NOA				LR	LR	22 32 10.9	
	comp=Z,152nm,20.5s,baz=320,slow=35						
HFS	**Hagfors**	**15.57**	**118**	Pn	**Pn**	**22 27 39.6**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=308,slow=7.3,SNR=4.4						
HFS				LR	LR	22 32 55.8	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,227nm,21.1s,baz=291,slow=34						
EKA	Eskdalemuir Ar	16.10	156	Pn	Pn	22 27 48.7	+0.8
	baz=353,slow=12,SNR=13						
DSB	Dublin	17.79	164	ePn	P	22 28 11.3	+1.6
	comp=Z,3.7nm,0.8s						
FIA1	FINESS Array S	18.48	99	eP	P	22 28 16.8	-0.6
FIA1	FINESS Array S	18.48	99	eP	P	22 28 16.8	-0.6
FINES	FINESS Array B	18.48	99	P	P	22 28 15.1	-2.2
	comp=Z,0.3nm,0.3s,baz=321,slow=10,SNR=16						
FINES				LR	LR	22 34 33.6	
	comp=Z,254nm,18.9s,baz=345,slow=34						
VSU	Vasula	20.97	104	P	Pn	22 28 47.0	0.0
VSU				pmax	pmax		
	comp=Z,37nm,0.7s						
FRB	Frobisher Bay	21.32	278	P	P	22 28 47.9	-0.2
	comp=Z,3.6nm,0.7s,baz=39,slow=8.3,SNR=5.4						
FRB				LR	LR	22 36 40.5	
	comp=Z,151nm,20.8s,baz=19,slow=36						
MEM	Membach	22.20	144	P	P	22 29 01.2	+3.5
	comp=Z,5.4nm,1.1s						
MEM	Membach	22.20	144	eP	P	22 28 59.7	+2.0
MEM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MEM	Membach	22.20	144	eP	P	22 28 59.7	+2.0
	comp=Z,7.3nm,0.8s						
MEM	Membach	22.20	144	eP	P	22 28 59.7	+2.0
	comp=Z,7.3nm,0.8s						
BCLA	Clavier	22.24	145	P	P	22 29 01.6	+3.5
RES	Resolute Bay	22.57	317	LR	LR	22 37 43.0	
	comp=Z,354nm,19.0s,baz=88,slow=36						
CLL	Collm	23.11	132	eP	P	22 29 09.0	+1.7
	comp=Z,9.0nm,1.3s						
CLL				i sP	sP	22 29 12.8	-1.4
	comp=Z,7.0nm,0.9s						
CLL				i		22 29 16.0	
CLL				eS	S	22 33 18.0	+0.4
CLL				Lm	MLR	22 37 00.0	
	comp=Z,100nm,21.5s						
CLL	Collm	23.11	132	eP	P	22 29 09.0	+1.7
CLL				i		22 29 12.8	
CLL				pmax	pmax		
	comp=Z,9.0nm,1.3s						
CLL	Collm	23.11	132	eP	P	22 29 09.3	+2.0
	comp=Z,10nm,1.1s						
CLL	Collm	23.11	132	eP	P	22 29 09.3	+2.0
	comp=Z,10nm,1.1s						
KLMR	Klimovskoe	23.40	87	eP	P	22 29 17.9	+7.8
KLMR				pmax	pmax		
	comp=Z,32nm,1.5s						
BRG	Berggiesshubel	23.75	131	eP	P	22 29 14.9	+1.3
	comp=Z,6.9nm,1.5s						
BRG	Berggiesshubel	23.75	131	eP	P	22 29 14.9	+1.3
	comp=Z,17nm,1.5s						
BRG	Berggiesshubel	23.75	131	eP	P	22 29 14.9	+1.3
NKC	Novy Kostel	23.97	134	eP	P	22 29 20.2	+4.4
NKC	Novy Kostel	23.97	134	eP	P	22 29 20.2	+4.4
PVCC	Panska Ves	24.22	131	AMS	AMS	22 38 30.0	
	comp=Z,200nm,17.6s						
KSP	Ksiaz	24.38	128	eP	P	22 29 21.0	+1.5
KSP	Ksiaz	24.38	128	eP	P	22 29 21.1	+1.5
PRA	Prague	24.61	131	AMS	AMS	22 39 00.0	
	comp=Z,200nm,20.5s						
ECH	Echery	24.71	144	eP	P	22 29 23.8	+1.2
ECH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ECH	Echery	24.71	144	eP	P	22 29 23.8	+1.2
	comp=Z,6.2nm,1.0s						
ECH	Echery	24.71	144	eP	P	22 29 23.8	+1.2
	comp=Z,6.2nm,1.0s						
PRU	Pruhonice	24.71	131	eP	P	22 29 23.0	+0.5
PRU				AMS	AMS	22 39 20.0	
	comp=Z,100nm,19.9s						
PRU	Pruhonice	24.71	131	eP	P	22 29 23.0	+0.5
PRU				MLR	MLR		
	comp=Z,100nm,19.9s						
DPC	Dobruska-Polom	24.84	128	eP	P	22 29 26.6	+2.9
DPC				AMS	AMS	22 39 10.0	
	comp=Z,200nm,14.6s						
DPC	Dobruska-Polom	24.84	128	eP	P	22 29 26.6	+2.9
DPC				MLR	MLR		
	comp=Z,200nm,14.6s						
BFO	Black Forest	24.84	142	eP	P	22 29 24.9	+1.2
BFO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BFO	Black Forest	24.84	142	eP	P	22 29 24.9	+1.2
	comp=Z,5.6nm,1.1s						
BFO	Black Forest	24.84	142	eP	P	22 29 24.9	+1.2
	comp=Z,5.6nm,1.1s						
GOPC	GO Pecny, Ondr	24.84	131	AMS	AMS	22 39 40.0	
	comp=Z,200nm,17.7s						
KRLC	Kraliky	25.21	128	eP	P	22 29 28.1	+1.0
KRLC	Kraliky	25.21	128	eP	P	22 29 28.1	+1.0
KHC	Kasperske Hory	25.27	133	eP	P	22 29 28.8	+1.2
KHC				AMS	AMS	22 38 10.0	
	comp=Z,100nm,15.8s						
KHC	Kasperske Hory	25.27	133	eP	P	22 29 28.8	+1.2
KHC				MLR	MLR		
	comp=Z,100nm,15.8s						
GERES	GERESS Array B	25.57	134	P	P	22 29 31.6	+1.2
	comp=Z,1.4nm,0.8s,baz=337,slow=9.6,SNR=6.0						
GERES				LR	LR	22 38 49.5	
	comp=Z,108nm,21.7s,baz=344,slow=35						
TREC	Trest	25.59	131	AMS	AMS	22 39 30.0	
	comp=Z,200nm,22.0s						
VRAC	Vranov	25.86	129	LR	LR	22 39 58.6	
	comp=Z,162nm,18.5s,baz=328,slow=37						
DAVOX	Davos/Dischmat	26.64	141	LR	LR	22 39 50.8	
	comp=Z,115nm,20.9s,baz=309,slow=36						
OBN	Obninsk	26.89	98	LR	LR	22 39 36.5	
	comp=Z,144nm,19.4s,baz=271,slow=35						
OBN	Obninsk	26.89	98	i P	P	22 29 44.1	+2.0
OBN				pmax	pmax		
	comp=Z,11nm,0.6s						
OBN				MLR	MLR		
	comp=Z,115nm,16.0s						
OBN	Obninsk	26.89	98	i P	P	22 29 44.1	+2.0
	comp=Z,115nm,16.0s						
SCHQ	Schefferville	27.48	262	P	P	22 29 47.9	+0.3
	comp=Z,2.2nm,0.8s,baz=44,slow=5.5,SNR=3.5						
SCHQ				LR	LR	22 40 15.6	
	comp=Z,98nm,19.2s,baz=60,slow=35						
AKASG	Malin Array Be	28.26	112	P	P	22 29 53.8	-0.6
	comp=Z,0.5nm,0.3s,baz=332,slow=9.0,SNR=3.8						
AKASG				LR	LR	22 40 31.5	
	comp=Z,136nm,21.6s,baz=340,slow=35						
ESDC	Sonseca Array	31.46	164	P	P	22 30 27.0	+4.1
	comp=Z,0.1nm,0.3s,baz=334,slow=8.6,SNR=3.2						
ESDC				LR	LR	22 43 07.3	
	comp=Z,102nm,18.4s,baz=305,slow=36						
ARU	Arti	33.13	77	d iP	P	22 30 38.4	+1.1
ARU						22 31 45.0	
ARU				S	S	22 35 57.3	+1.9
ARU				SS	SnSn	22 37 53.3	-0.9
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARU	Arti	33.13	77	eP	P	22 30 38.0	+0.7
	comp=Z,8.1nm,1.1s						
ARU				S	S	22 35 57.3	+1.9
ARU	Arti	33.13	77	eP	P	22 30 38.0	+0.7
	comp=Z,8.1nm,1.1s						
INK	Inuvik	35.45	326	P	P	22 30 57.5	+0.3
	comp=Z,2.5nm,0.7s,baz=2.9,slow=5.2,SNR=4.9						
INK	Inuvik	35.45	326	eP	P	22 30 57.7	+0.5
INK				pmax	pmax		
	comp=Z,11nm,1.4s						
INK	Inuvik	35.45	326	eP	P	22 30 57.7	+0.5
	comp=Z,11nm,1.4s						
INK	Inuvik	35.45	326	eP	P	22 30 57.6	+0.5
	comp=Z,11nm,1.4s						
YKA	Yellowknife Ar	36.14	309	P	P	22 31 02.7	-0.5
	comp=Z,1.0nm,0.7s,baz=32,slow=9.2,SNR=7.7						
KEST	Kesra	37.18	147	LR	LR	22 46 14.7	
	comp=Z,38nm,19.4s,baz=232,slow=36						
KBZ	Khabaz	38.78	103	LR	LR	22 47 21.1	
	comp=Z,112nm,18.6s,baz=58,slow=36						
FFC	Flin Flon	39.06	293	eP	P	22 31 28.5	+0.4
FFC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FFC	Flin Flon	39.06	293	eP	P	22 31 28.5	+0.4
	comp=Z,5.0nm,1.0s						
FFC	Flin Flon	39.06	293	eP	P	22 31 28.5	+0.4
	comp=Z,4.6nm,1.0s						
BR131	Keskin Array S	39.48	115	eP	P	22 31 27.8	-4.1
	comp=Z,0.4nm,0.3s						
BRTR	Keskin Array B	39.48	115	LR	LR	22 49 27.5	
	comp=Z,56nm,18.1s,baz=328,slow=39						
ABKAR	Akbulak array	39.61	82	eP	P	22 31 32.4	-0.3
	comp=Z,0.8nm,0.7s						
ABKAR	Akbulak array	39.61	82	eP	P	22 31 32.4	-0.3
	comp=Z,0.8nm,0.7s						
BRVK	Borovoye	39.70	70	P	P	22 31 34.0	+0.6
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	Borovoye	39.70	70	P	P	22 31 34.0	+0.6
	comp=Z,1.0nm,0.6s						
EGAK	Eagle	40.00	328	eP	P	22 31 35.1	-0.6
	comp=Z,10nm,1.3s						
EGAK	Eagle	40.00	328	eP	P	22 31 35.1	-0.6
	comp=Z,10nm,1.3s						
IM04	Indian Mountai	40.88	336	eP	P	22 31 43.0	0.0
IM04	Indian Mountai	40.88	336	eP	P	22 31 43.0	0.0
ILAR	Eielson Array	40.98	331	P	P	22 31 43.8	-0.1
	comp=Z,1.0nm,0.8s,baz=14,slow=5.6,SNR=11						
COLA	College	41.04	332	P	P	22 31 45.0	+0.7
COLA				pmax	pmax		
	comp=Z,44nm,2.3s						
COLA	College	41.04	332	P	P	22 31 45.0	+0.7
	comp=Z,44nm,2.3s						
HDA	Harding Lake	41.33	331	eP	P	22 31 46.9	+0.1
	comp=Z,8.2nm,1.2s						
HDA	Harding Lake	41.33	331	eP	P	22 31 46.9	+0.1
	comp=Z,8.2nm,1.2s						
HYT	Haines Junctio	42.91	323	eP	P	22 32 00.8	+1.0
HYT	Haines Junctio	42.91	323	eP	P	22 32 00.8	+1.0
ZALV	Zalesovo Beam	43.30	58	P	P	22 32 02.5	-0.3
	comp=Z,1.9nm,0.9s,baz=333,slow=8.8,SNR=5.9						
ZALV				LR	LR	22 52 17.8	
	comp=Z,27nm,20.5s,baz=248,slow=39						
ZALV	Zalesovo Beam	43.30	58	i P	P	22 32 03.4	+0.6
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	Kurchatov	44.31	65⇓	iP	P	22 32 12.3	+1.3
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	Kurchatov	44.31	65	i P	P	22 32 12.3	+1.3
	comp=Z,1.0nm,0.7s						
YAK	Yakutsk	45.33	23	i P	P	22 32 19.1	+0.2
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
YAK	Yakutsk	45.33	23	i P	P	22 32 19.1	+0.2
	comp=Z,8.0nm,0.7s						
SEY	Seymchan	46.46	8⇑	eP	P	22 32 27.3	-0.6
SEY	Seymchan	46.46	8	eP	P	22 32 27.3	-0.6
ECSD	EROS Data Cent	46.94	281	eP	P	22 32 32.7	+0.8
	comp=Z,2.6nm,0.8s						
ECSD	EROS Data Cent	46.94	281	eP	P	22 32 32.7	+0.8
	comp=Z,2.6nm,0.8s						
HVS	Khovu-Aksy	48.26	53⇓	iP	P	22 32 42.8	+0.6
HVS				pmax	pmax		
	comp=Z,102nm,1.6s						
HVS	Khovu-Aksy	48.26	53	i P	P	22 32 42.8	+0.6
	comp=Z,102nm,1.6s						
MKAR	Makanchi Array	48.91	65	P	P	22 32 46.6	-0.6
	comp=Z,1.4nm,1.0s,baz=350,slow=6.2,SNR=7.6						
MKAR	Makanchi Array	48.91	65	c eP	P	22 32 46.5	-0.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SLMT	Seeley Lake	49.12	297	eP	P	22 32 48.9	0.0
	comp=Z,6.1nm,1.0s						
SLMT	Seeley Lake	49.12	297	eP	P	22 32 48.9	0.0
	comp=Z,6.1nm,1.0s						
GCMT	Greycliff	49.27	293	eP	P	22 32 50.8	+0.8
GCMT	Greycliff	49.27	293	eP	P	22 32 50.8	+0.8
CHMT	Chamberlain Mo	49.34	297	eP	P	22 32 50.8	+0.1
	comp=Z,2.0nm,1.1s						
CHMT	Chamberlain Mo	49.34	297	eP	P	22 32 50.8	+0.1
	comp=Z,2.0nm,1.1s						
MSO	Missoula	49.63	297	eP	P	22 32 53.5	+0.8
	comp=Z,5.2nm,1.0s						
MSO	Missoula	49.63	297	eP	P	22 32 53.5	+0.8
	comp=Z,5.2nm,1.0s						
AAK	Ala-Archa	50.21	74⇓	eP	P	22 32 58.7	+1.4
AAK				pmax	pmax		
	comp=Z,16nm,2.5s						
AAK	Ala-Archa	50.21	74	eP	P	22 32 58.7	+1.4
	comp=Z,16nm,2.5s						
TLY	Talaya	50.29	45	eP	P	22 32 57.6	0.0
TLY				pmax	pmax		
	comp=Z,7.0nm,1.5s						
TLY	Talaya	50.29	45	eP	P	22 32 57.6	0.0
	comp=Z,7.0nm,1.5s						
PDAR	Pinedale Array	51.96	291	P	P	22 33 10.1	-0.4
	comp=Z,1.1nm,0.8s,baz=52,slow=5.8,SNR=6.6						
PDAR				LR	LR	22 55 12.6	
	comp=Z,118nm,19.1s,baz=36,slow=36						
HLID	Hailey	52.73	296	P	P	22 33 15.0	-1.1
HLID	Hailey	52.73	296	P	P	22 33 15.0	-1.1
WMQ	Urumqi	53.22	62	eP	P	22 33 21.1	+1.5
WMQ				pP	pP	22 33 25.4	+0.6
WMQ				sP	sP	22 33 27.9	+1.0
WMQ				PMZ			
	comp=Z,5.0nm,0.4s						
WMQ				PMZ			
	comp=Z,12nm,4.8s						
WMQ				LN			
	comp=Z,11nm,6.8s						
WMQ				LE			
	comp=Z,13nm,7.4s						
SONM	Songino Array	54.52	45	LR	LR	22 59 12.7	
	comp=Z,37nm,20.4s,baz=346,slow=39						
DUG	Dugway, Tooele	55.31	293	P	P	22 33 35.7	+0.7
DUG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
DUG	Dugway, Tooele	55.31	293	P	P	22 33 35.7	+0.7
	comp=Z,5.0nm,1.0s						
DUG	Dugway, Tooele	55.31	293	P	P	22 33 35.7	+0.7
	comp=Z,5.3nm,1.0s						
PV01	Paradox Valley	55.86	288	eP	P	22 33 39.2	+0.1
	comp=Z,326nm,1.0s						
PV01	Paradox Valley	55.86	288	eP	P	22 33 39.2	+0.1
	comp=Z,326nm,1.0s						
PETK	Petropavlovsk-	56.50	6	LR	LR	22 59 43.9	
	comp=Z,12nm,18.6s,baz=341,slow=38						
R11A	Troy Canyon, C	57.85	294	eP	P	22 33 53.1	0.0
	comp=Z,3.1nm,0.9s						
R11A	Troy Canyon, C	57.85	294	eP	P	22 33 53.1	0.0
	comp=Z,3.1nm,0.9s						
RAYN	Ar Rayn	58.19	111	eP	P	22 33 55.5	0.0
	comp=Z,72nm,2.9s						
RAYN	Ar Rayn	58.19	111	eP	P	22 33 55.5	0.0
	comp=Z,72nm,2.9s						
TORD	Torodi Ar. Bea	58.28	161	P	P	22 33 56.4	+0.4
	comp=Z,3.8nm,0.9s,baz=351,slow=6.4,SNR=23						
HHC	Hu-ho-hao-te	62.33	44	eP	P	22 34 23.4	-0.3
HHC				S	S	22 42 46.1	-3.0
HHC				PMZ			
	comp=Z,20nm,1.2s						
HHC				PMZ			
	comp=Z,77nm,7.4s						
TXAR	Lajitas Array	62.36	280	P	P	22 34 23.6	-0.3
	comp=Z,0.5nm,0.9s,baz=54,slow=4.6,SNR=4.4						
TXAR				LR	LR	23 01 10.1	
	comp=Z,93nm,19.5s,baz=0.0,slow=36						
DBIC	Dimbokro	64.13	169	LR	LR	23 01 30.8	
	comp=Z,76nm,20.9s,baz=116,slow=35						
LZH	Lanzhou	64.94	52	eP	P	22 34 41.4	+0.4
LZH				pP	pP	22 34 46.2	-0.1
LZH				sP	sP	22 34 48.7	+0.4
LZH				PMZ			
	comp=Z,14nm,1.0s						
ERM	Erimo	66.57	18	P	P	22 34 52.0	+0.8
ERM				pmax	pmax		
	comp=Z,13nm,1.0s						
ERM	Erimo	66.57	18	P	P	22 34 52.0	+0.8
	comp=Z,13nm,1.0s						
CD2	Chengdu	69.81	54	eP	P	22 35 11.0	-0.7
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
MJAR	Matsushiro Arr	71.39	23	P	P	22 35 20.8	-0.5
	comp=Z,3.5nm,1.0s,baz=330,slow=5.1,SNR=9.6						

MEX 05 22:25:35.5±0.3, 18°.15N×103°.37W, h7km±5km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMIG	Aquila	0.14	10	i P	Pg	22 25 38.1	-0.5
MMIG				i S	Sg	22 25 40.3	-0.3
R15V		1.17	330	eP	Pg	22 25 54.6	-3.5
R15V				eS	Sg	22 26 09.2	-4.2
EZ5V		1.34	351	eP	Pn	22 25 57.2	-3.8
EZ5V				eS	Sb	22 26 13.9	-5.1

PDG **05** *22:26:46.7±0.3, 44°.10N×18°.42E, h6km, ML2.7/12, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
PRU **05** *22:26:46.8, 43°.97N×18°.23E, h0km*
CSEM **05** *22:26:47.5±0.1, 44°.03N×18°.21E, h2km, ML2.8, Error ellipse: s-maj=4.1km s-min=2.8km az=52.0*
BEO **05** *22:26:48.2±0.3, 44°.00N×18°.18E, h5km±2km, ML2.8/1*
ISC 05 22:26:47.6±1.1**, 44°.02N**±0°.01×**18°.22E**±0°.02**, h4**km±10km**, n108, σ1s.20**/168**, 24C-38D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAPS	Han Pijesak,Bl	0.53	83	ePg	Pg	22 26 58.3	+0.5
HAPS				eSg	Sb	22 27 06.8	-0.8
HAPS	Han Pijesak,Bl	0.53	83	ePg	Pg	22 26 58.3	+0.5
HAPS				eSg	Sb	22 27 06.8	-0.8
BBLS	Lazići	0.87	100	i Pg	Pg	22 27 03.4	-0.8
BBLS				eSg	Sb	22 27 17.2	-0.1
BBLS	Lazići	0.87	100	i Pg	Pg	22 27 03.4	-0.8
BBLS				eSg	Sb	22 27 17.2	-0.1
UPM	Unac-Piva	0.95	149⇑	iPg	Pg	22 27 04.5	-1.4
UPM				eSg	Sg	22 27 19.3	+1.0
UPM	Unac-Piva	0.95	149⇑	iPg	Pg	22 27 04.5	-1.4
UPM				eSg	Sg	22 27 19.3	+1.0
BLY	Banja Luka	1.04	315⇓	iPg	Pg	22 27 07.1	-0.5
BLY				eSg	Sn	22 27 23.3	-0.8
BLY	Banja Luka	1.04	315⇓	iPg	Pg	22 27 07.1	-0.5
TEKS	Tekeris	1.08	60⇓	iPg	Pb	22 27 08.9	0.0
TEKS				eSg	Sn	22 27 24.8	-0.2
TEKS	Tekeris	1.08	60⇓	iPg	Pb	22 27 08.9	0.0
PLE	Pljevlja	1.09	129⇓	iPg	Pg	22 27 06.8	-1.7
PLE				eSg	Sg	22 27 22.6	-0.1
PLE	Pljevlja	1.09	129⇓	iPg	Pg	22 27 06.8	-1.7
PLE				eSg	Sg	22 27 22.6	-0.1
BRY	Bratogost	1.14	168⇑	iPg	Pg	22 27 08.6	-0.9
BRY				eSg	Sn	22 27 27.5	+0.7
BRY	Bratogost	1.14	168⇑	iPg	Pg	22 27 08.6	-0.9
BRY				eSg	Sn	22 27 27.5	+0.7
STON	Ston	1.21	199	ePg	Pg	22 27 08.7	-2.1
STON				Sg	Sg	22 27 25.6	-0.9
STON	Ston	1.21	199	ePg	Pg	22 27 09.7	-1.1
STON	Ston	1.21	199	ePg	Pg	22 27 09.7	-1.1
STON				Sg	Sg	22 27 25.6	-0.9
DIVS	Divibare	1.28	86	ePg	Pg	22 27 11.9	-0.2
DIVS				eSg	Sn	22 27 30.4	+0.4
DIVS	Divibare	1.28	86⇑	iP	Pg	22 27 11.4	-0.7
DIVS				S	Sn	22 27 31.6	+1.6
DIVS	Divibare	1.28	86⇑	iP	Pg	22 27 11.4	-0.7
DIVS	Divibare	1.28	86	ePg	Pg	22 27 11.9	-0.2
DIVS				eSg	Sn	22 27 30.4	+0.4
NKY	Niksic	1.33	155⇓	iPg	Pn	22 27 12.0	-1.1
NKY				eSg	Sn	22 27 32.5	+1.1
NKY	Niksic	1.33	155⇓	iPg	Pn	22 27 12.0	-1.1
NKY				eSg	Sn	22 27 32.5	+1.1
NKME	Niksic	1.36	157⇑	iPg	Pn	22 27 11.9	-1.6
NKME				eSg	Sn	22 27 34.6	+2.6
NKME	Niksic	1.36	157⇑	iPg	Pn	22 27 11.9	-1.6
NKME				eSg	Sn	22 27 34.6	+2.6
IVAS	Ivanjica	1.47	107	ePn	Pn	22 27 14.0	-0.9
IVAS				eSn	Sg	22 27 36.2	+1.5
IVAS	Ivanjica	1.47	107	ePn	Pn	22 27 14.0	-0.9
IVAS				eSn	Sg	22 27 36.2	+1.5
SJES	Sjenica	1.48	120⇑	iPn	Pn	22 27 14.6	-0.6
SJES				eSn	Sg	22 27 36.4	+1.3
HCY	Herceg Novi	1.58	173⇓	iPn	Pb	22 27 17.3	-0.2
HCY				eSn	Sg	22 27 41.5	+3.0
HCY	Herceg Novi	1.58	173⇓	iPn	Pb	22 27 17.3	-0.2
HCY				eSn	Sg	22 27 41.5	+3.0
TRUS	Trudelj	1.58	82	ePn	Pn	22 27 15.7	-0.8
TRUS				eSn	Sg	22 27 40.1	+1.6
TRUS	Trudelj	1.58	82	ePn	Pn	22 27 15.7	-0.8
TRUS				eSn	Sg	22 27 40.1	+1.6
FGSL	Fruska Gora	1.60	44	i Pn	Pn	22 27 15.5	-1.3
FRGS	Fruska Gora	1.61	44	i Pn	Pn	22 27 15.5	-1.3
FRGS				eSn	Sg	22 27 40.6	+1.4
BEY	Berane	1.67	133⇓	iPn	Pn	22 27 16.6	-1.2
BEY				eSn	Sb	22 27 40.6	+0.1
IVA	Berane	1.67	133⇓	iPn	Pn	22 27 16.6	-1.2
IVA				eSn	Sb	22 27 40.6	+0.1
PDG	Podgorica	1.76	154	ePn	Pb	22 27 20.1	-0.4
PDG				eSn	Sb	22 27 43.3	+0.4
PDG	Podgorica	1.76	154	ePn	Pb	22 27 20.1	-0.4
PDG				eSn	Sg	22 27 44.2	+0.1
TTG	Podgorica	1.76	154⇓	iPn	Pn	22 27 19.5	+0.6
TTG				eSn	Sg	22 27 44.2	+0.1
BUM	Brajici-Budva	1.79	164	ePn	Pb	22 27 20.4	-0.6
BUM				eSn	Sg	22 27 45.9	+0.9
BUM	Brajici-Budva	1.79	164	ePn	Pb	22 27 20.4	-0.6
BUM				eSn	Sg	22 27 45.9	+0.9
BEO	Beograd	1.79	63	ePn	Pb	22 27 20.9	-0.2
BEO				eSn	Sg	22 27 44.5	-0.7
BEO	Beograd	1.79	63	ePn	Pb	22 27 20.9	-0.2
BEO				eSn	Sg	22 27 44.5	-0.7
GRUS	Gruza	1.80	93	ePn	Pn	22 27 19.7	+0.2
GRUS				eSn	Sg	22 27 45.2	-0.4
GRUS	Gruza	1.80	93	ePn	Pn	22 27 19.7	+0.2
GRUS				eSn	Sg	22 27 45.2	-0.4
UDBI	Udbina	1.84	287	ePn	Pn	22 27 19.7	-0.4
UDBI				Sn	Sb	22 27 45.4	+0.1
UDBI	Udbina	1.84	287	ePn	Pn	22 27 19.7	-0.4
UDBI				Sn	Sb	22 27 45.4	+0.1
PVY	Plav	1.91	138⇑	iPn	Pn	22 27 21.0	-0.1
PVY				eSn	Sb	22 27 47.4	+0.1
DRME	Dracevica, Mon	1.96	159⇓	iPn	Pn	22 27 22.8	+1.1
DRME				eSn	Sb	22 27 49.6	+0.8
DRME	Dracevica, Mon	1.96	159⇓	iPn	Pn	22 27 22.8	+1.1
DRME				eSn	Sb	22 27 49.6	+0.8
ULC	Ulcinj	2.19	160⇑	iPn	Pn	22 27 25.5	+0.7
ULC				eSn	Sb	22 27 55.1	-0.2
ULC	Ulcinj	2.19	160⇑	iPn	Pn	22 27 25.5	+0.7
ULC				eSn	Sb	22 27 55.1	-0.2
PKSM	Moragy	2.21	8⇓	ePn	Pn	22 27 24.2	-0.9
PKSM	Moragy	2.21	8⇓	epn	Pn	22 27 24.2	-0.9
PKSM				esn	Sg	22 27 58.7	+0.1
SELS	Selova	2.25	110	ePn	Pn	22 27 25.2	-0.5
SELS				eSn	Sn	22 27 55.1	+1.2
SELS	Selova	2.25	110	ePn	Pn	22 27 25.2	-0.5
SELS				eSn	Sn	22 27 55.1	+1.2
NVLJ	Novalja	2.47	284	ePn	Pn	22 27 29.2	+0.6
NVLJ				Sn	Sn	22 27 59.3	0.0
NVLJ	Novalja	2.47	284	ePn	Pn	22 27 29.2	+0.6
NVLJ				Sn	Sn	22 27 59.2	0.0
PKS9	Tamasi	2.57	1⇑	ePn	Pn	22 27 29.5	-0.5
PKS9	Tamasi	2.57	1⇑	e	Pn	22 27 29.5	-0.5
PKS9				e		22 28 13.5	
PKS2	Kecel	2.57	15	e	Sg	22 28 13.4	+3.3
BOJS	Bojanci	2.58	306	ePn	Pn	22 27 30.9	+0.6
BOJS	Bojanci	2.58	306	ePn	Pn	22 27 30.9	+0.6
BEHE	Becsehely	2.66	338⇓	ePn	Pn	22 27 31.9	+0.7
BEHE	Becsehely	2.66	338⇓	epn	Pn	22 27 31.9	+0.7
BEHE				esn	Sg	22 28 14.8	+1.9
BOLS	Boljevac	2.70	93	ePn	Pn	22 27 29.2	-2.7
PKS6	Bocsa	2.75	20⇓	e	Pg	22 27 40.4	+0.1
PKS6				e		22 28 17.2	
BARS	Barje	2.88	113	ePn	Pn	22 27 36.0	+1.6
BARS	Barje	2.88	113	ePn	Pn	22 27 36.0	+1.6
BZS	Buzias	2.89	55	ePn	Pn	22 27 34.0	-0.6
BZS	Buzias	2.89	55⇑	iP	Pn	22 27 33.9	-0.6
BZS	Buzias	2.89	55	ePn	Pn	22 27 34.0	-0.6
PKS7	Kunszentmiklos	3.10	12	e	Sg	22 28 31.3	+4.2
PKST	Tˆ's	3.24	358⇓	ePn	Pn	22 27 39.0	-0.3
PKST	Tˆ's	3.24	358⇓	e	Pn	22 27 39.0	-0.3
ZAPS	Zavoj	3.29	102	ePn	Pn	22 27 41.0	+1.0
SIRR	Siria	3.31	46⇓	iP	Pb	22 27 44.5	-2.4
SIRR	Siria	3.31	46⇓	iP	Pb	22 27 44.5	-2.4
CSKK	Csˆ‡kako	3.34	0⇓	ePn	Pn	22 27 40.3	-0.4
CSKK	Csˆ‡kako	3.34	0⇓	epn	Pn	22 27 40.3	-0.4
CSKK				esn	Sg	22 28 35.7	+0.7
PKSG		3.37	2⇓	ePn	Pn	22 27 40.7	-0.4
PKSG		3.37	2⇓	epn	Pn	22 27 40.7	-0.4
PKSG				esn	Sg	22 28 38.0	+2.0
SOKA	Soboth	3.48	321⇓	iPn	Pn	22 27 42.1	-0.6
SOKA			⇑	iSn	Sn	22 28 22.5	-1.9
SOKA	Soboth	3.48	321	Pn	Pn	22 27 42.1	-0.6
SOKA				Sn	Sn	22 28 22.5	-1.9
GZR	Gura Zlata	3.52	65⇑	iP	Pn	22 27 44.3	+1.0
GZR	Gura Zlata	3.52	65⇑	iP	Pn	22 27 44.3	+1.0
SOP	Sopron	3.84	343	eSn	Sn	22 28 33.0	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SOP	Sopron	3.84	343	e	Sn	22 28 33.0	-0.2
VTS	Vitosha	3.91	110	⇑iP	Pb	22 27 55.2	-2.0
PSZ	Piszkesteto	4.07	16	⇓ePn	Pn	22 27 49.4	-1.3
PSZ				eSn	Sn	22 28 36.5	-2.4
PSZ	Piszkesteto	4.07	16	⇓e	Pn	22 27 49.4	-1.3
PSZ				e		22 28 36.5	
LOT	Lotru	4.20	68	⇑iP	Pn	22 27 54.6	+2.0
LOT	Lotru	4.20	68	⇑iP	Pn	22 27 54.6	+2.0
DRGR		4.20	47	⇑iP	Pb	22 27 58.3	-3.9
CONA	Conrad Observa	4.24	338	⇓iPn	Pn	22 27 53.3	+0.2
CONA				⇑iSn	Sn	22 28 44.9	+1.7
CONA	Conrad Observa	4.24	338	Pn	Pn	22 27 53.3	+0.2
CONA				Sn	Sn	22 28 44.9	+1.7
CJR	Cluj-Napoca	4.65	53	⇓iP	Pn	22 28 03.7	+5.0
CJR	Cluj-Napoca	4.65	53	⇓iP	Pn	22 28 03.7	+5.0
ARR	Arges	4.76	71	⇓iP	Pn	22 28 01.5	+1.2
ARR	Arges	4.76	71	⇓iP	Pn	22 28 01.5	+1.2
ABTA	Abfaltersbach	4.86	306	⇓iPn	Pn	22 28 02.5	+0.9
ABTA	Abfaltersbach	4.86	306	Pn	Pn	22 28 02.5	+0.9
WTTA	Wattenberg	5.64	307	⇑iPn	Pn	22 28 14.1	+1.6
WTTA	Wattenberg	5.64	307	Pn	Pn	22 28 14.1	+1.6
MOTA	Moosalm	5.99	306	⇓iPn	Pn	22 28 18.2	+0.9
MOTA	Moosalm	5.99	306	Pn	Pn	22 28 18.2	+0.9
KHC	Kasperske Hory	6.03	330	ePN	Pn	22 28 17.7	0.0
KHC				ex	x	22 28 29.0	
KHC				ePB	Pb	22 28 34.0	+0.7
KHC				eSN	Sn	22 29 24.9	-2.3
KHC	Kasperske Hory	6.03	330	Pn	Pn	22 28 17.7	0.0
KHC				Sn	Sn	22 29 24.9	-2.3

*ISCJB **05** 22:34:53.9±1.2, 36°.64S±0°.04×73°.57W±0°.05, h2km±7km, mb4.2/15, MS3.8/4, Error ellipse: s-maj=7.1km s-min=6.7km az=22.6*
*IDC **05** 22:34:55.1±0.8, 36°.71S×73°.35W, h0km, mb3.9/8, mb1 4.1/11, mb1mx4.0/24, mbtmp3.9/11, ML4.0/3, MS3.6/5, Ms1 3.6/5, ms1mx3.2/22, Error ellipse: s-maj=25.1km s-min=15.1km az=83.0*
*NEIC **05** 22:34:57.0, 36°.77S×73°.42W, h17km, mb4.4/10, After GUC.*
NEIC Felt [III] at Concepcion and [II] at Angol and Renaico.
*GUC **05** 22:34:57.8±0.7, 36°.77S×73°.42W, h17km±5km, ML3.7*
*SJA **05** 22:35:21.9±0.6, 35°.46S×71°.86W, h80km, ML3.3*
ISC 05 22:34:57.1±2.2**, 36°.68S**±0°.05×**73°.43W**±0°.08**, h15**km±13km**, n48, σ1s.02**/48**, mb4.3**/15**, MS3.9**/4**, 1C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.30	123	iP	Pb	22 35 04.0	-0.3
CCSP				iS	Sg	22 35 07.8	-0.1
LNCH	Linares	1.69	61	eP	Pn	22 35 26.8	+0.7
LNCH				eS	Sb	22 35 49.6	+0.6
TALC	Talca	1.94	49	eP	Pn	22 35 30.9	+1.5
TALC				eS	Sb	22 35 56.4	+0.4
CANA	Caviahue	2.24	123	eP	Pn	22 35 35.1	+1.3
CANA				eS	Sb	22 36 05.0	0.0
NICH	Los Niches	2.45	48	eP	Pn	22 35 38.5	+2.1
NICH				iS	Sb	22 36 09.9	-0.8
PLCA	Paso Flores	4.63	152	Pn	Pn	22 36 06.6	0.0
	1.8nm,0.3s,baz=327,slow=11,SNR=22						
PLCA				Lg	Lg	22 37 19.5	
	9.2nm,0.3s,baz=69,slow=21,SNR=4.3						
PLCA	Paso Flores	4.63	152	ePn	Pn	22 36 06.2	-0.3
AAGR	Agrelo	5.21	48	iP	Pn	22 36 15.4	+0.9
AAGR				iP	Pn	22 36 15.4	+0.9
AAGR				⇑e		22 36 27.8	
ARCO	CERRO ARCO	5.32	45	iP	Pn	22 36 17.2	+1.0
ARCO				iS	Sn	22 36 57.2	-20
ARCO				AML	AML	22 37 02.9	
	comp=Z,54nm,0.7s						
AUSP	Uspallata	5.56	38	iP	Pn	22 36 21.1	+1.6
ASAL	Salagasta	5.56	44	iP	Pn	22 36 19.9	+0.4
RTLS	Leoncito	5.95	36	iP	Pn	22 36 26.4	+1.5
RTCV	Cerro Valdivia	6.28	41	eP	Pn	22 36 29.5	+0.3
CFAA	Coronel Fontan	6.64	42	Pn	Pn	22 36 34.1	-0.1
	comp=Z,0.4nm,0.3s,baz=216,slow=11,SNR=20						
CFAA				Sn	Sn	22 37 50.8	+1.1
	comp=Z,0.5nm,0.3s,baz=261,slow=19,SNR=3.5						
CFAA				Lg	Lg	22 38 26.7	
	comp=Z,0.2nm,0.3s,baz=291,slow=18,SNR=6.0						
CFAA				LR	LR	22 39 20.3	
	comp=Z,99nm,18.3s,baz=228,slow=40						
CFAA	Coronel Fontan	6.64	42	eP	Pn	22 36 34.1	-0.1
RTLL	Cerro Villicun	6.74	39	eP	Pn	22 36 35.6	+0.1
ACAN	Cantantal	6.77	51	eP	Pn	22 36 36.3	+0.4
AMOG	MOGNA	7.04	37	eP	Pn	22 36 39.8	+0.1
LCO	Las Campanas	7.98	17	ePn	Pn	22 36 52.3	-0.5
LCO				eSn	Sn	22 38 20.0	-3.0
TRQA	Tornquist	9.22	102	ePn	Pn	22 37 09.8	+0.3
LVC	Limon Verde	14.55	17	Pn	Pn	22 38 22.6	-0.2
	comp=Z,4.8nm,0.3s,baz=187,slow=17,SNR=2.5						
LPAZ	La Paz	20.85	14	P	P	22 39 38.5	-0.6
	comp=Z,0.8nm,0.6s,baz=182,slow=13,SNR=5.9						
LPAZ	La Paz	20.85	14	ePn	Pn	22 39 41.7	0.0
	comp=Z,5.5nm,0.9s						
PMSA	Palmer Station	28.68	172	LR	LR	22 51 25.9	
	comp=Z,136nm,18.6s,baz=68,slow=35						
BDFB	Brasilia	30.80	54	LR	LR	22 55 01.8	
	comp=Z,296nm,18.2s,baz=160,slow=39						
SNAA	Sanae	49.55	157	P	P	22 43 39.8	-7.2
SNAA	Sanae	49.55	157	P	P	22 43 46.9	-0.1
	comp=Z,0.5nm,0.7s,baz=12,slow=22,SNR=4.7						
SNAA	Sanae	49.55	157	eP	P	22 43 43.8	-3.1
	comp=Z,5.6nm,1.1s						
QSPA	South Pole Qui	53.56	180	eP	P	22 44 17.2	+0.1
	comp=Z,3.9nm,0.8s						
RKT	Rikitea	54.21	266	eT	T	23 42 40.8	
	comp=Z,1.8nm,0.2s						
TBI	Tubuai	65.62	258	eLR	LR	23 05 25.7	
	comp=Z,158nm,27.5s						
PPT2	Papeete2	68.77	263	eLR	LR	23 07 01.6	
	comp=Z,168nm,24.5s						
LPIG	La Paz	69.75	324	LR	LR	23 09 30.3	
	comp=Z,57nm,20.6s,baz=218,slow=30						
MAW	Mawson	70.94	164	P	P	22 46 13.7	+0.4
	comp=Z,2.6nm,0.8s,baz=191,slow=8.0,SNR=6.1						
TXAR	Lajitas Array	71.55	332	P	P	22 46 18.9	+1.4
	comp=Z,2.1nm,0.7s,baz=153,slow=8.6,SNR=28						
SWET	Sewanee	72.47	349	eP	P	22 46 23.0	+0.2
	comp=Z,6.1nm,0.7s						
MNTX	Cornudas Mount	74.31	332	eP	P	22 46 33.4	-0.3
	comp=Z,3.4nm,1.1s						
DBIC	Dimbokro	77.11	72	P	P	22 46 51.0	+0.8
	comp=Z,3.0nm,0.8s,baz=241,slow=8.7,SNR=3.5						
DBIC				LR	LR	23 16 41.9	
	comp=Z,62nm,21.3s,baz=98,slow=32						
ANMO	Albuquerque	77.61	333	eP	P	22 46 53.7	+0.9
	comp=Z,2.7nm,1.1s						
ECSD	EROS Data Cent	82.76	343	eP	P	22 47 19.9	-0.2
	comp=Z,10nm,1.2s						
HWUT	Hardware Ranch	85.37	332	eP	P	22 47 34.5	+0.9
	comp=Z,2.3nm,0.8s						
NVAR	Mina Array Bea	85.45	326	P	P	22 47 34.8	+0.6
	comp=Z,0.7nm,0.8s,baz=147,slow=6.3,SNR=4.0						
PDAR	Pinedale Array	85.66	334	P	P	22 47 35.3	+0.2
	comp=Z,1.1nm,0.9s,baz=130,slow=4.1,SNR=6.0						
HVU	Hansel Valley	85.97	332	eP	P	22 47 37.3	+0.7
	comp=Z,1.5nm,0.8s						
TORD	Torodi Ar. Bea	86.18	71	P	P	22 47 37.1	-1.0
	comp=Z,0.4nm,0.8s,baz=246,slow=4.1,SNR=5.4						
TPAW	Teton Pass	86.78	334	eP	P	22 47 41.2	+0.5
	comp=Z,3.4nm,1.2s						
ABKAR	Akbulak array	144.19	55	ePKPdf	PKPab	22 54 29.6	0.0
MKAR	Makanchi Array	159.33	53	PKPab	PKPab	22 55 32.9	+0.8
	comp=Z,0.5nm,0.8s,baz=290,slow=3.5,SNR=4.3						

IDC 05 22:53:02.8±1.4**, 29°.84N**×**129°.49E, h0**km**, mb3.7**/5**, mb1 3.7**/7**, mb1mx3.5**/32**, mbtmp3.6**/7**, ML3.0**/2**, Error ellipse: s-maj=41.9km s-min=22.3km az=85.0, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	Nakatsue	3.48	20	Pn	Pn	22 53 59.5	+1.2
	2.9nm,0.3s,baz=189,slow=15,SNR=33						
JNU				Sn	Sn	22 54 43.2	+2.9
	1.3nm,0.3s,baz=94,slow=16,SNR=2.8						
KSRS	Korea Array	7.71	351	Pn	Pn	22 54 54.9	-1.4
	0.1nm,0.3s,baz=158,slow=14,SNR=2.7						
SONM	Songino Array	25.27	322	P	P	22 58 31.8	+1.0
	0.2nm,0.4s,baz=137,slow=9.8,SNR=3.5						
MKAR	Makanchi Array	40.06	308	P	P	23 00 41.2	+1.4
	0.4nm,0.4s,baz=92,slow=10,SNR=13						
WRA	Warramunga Arr	49.71	174	P	P	23 01 57.2	+0.3
	0.5nm,0.8s,baz=352,slow=8.5,SNR=2.8						
FINES	FINESS Array B	70.28	330	P	P	23 04 16.3	-1.4
	4.5nm,1.1s,baz=76,slow=8.0,SNR=9.5						
BRTR	Keskin Array B	75.71	308	P	P	23 04 49.5	-1.0
	0.7nm,0.6s,baz=104,slow=4.7,SNR=5.9						

GUC 05 23:04:47.0±0.5**, 36°.47S**×**72°.01W, h24**km±3km**, ML4.1, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	1.11	16	⇑iP	Pn	23 05 06.5	-0.6
TALC				iS	Sb	23 05 21.4	-0.2
NICH	Los Niches	1.60	24	⇓iP	Pn	23 05 13.9	+0.2
NICH				iS	Sb	23 05 34.7	-0.8
CACH	El Canelo	2.62	27	eP	Pn	23 05 29.6	+1.6
CACH				eS	Sn	23 06 01.4	+2.3
CHCH	Chadas Angostu	2.77	24	eP	Pn	23 05 31.1	+1.2
CLCH	Cerro Calan	3.30	22	AML	AML	23 06 32.9	
	comp=N,285nm,0.5s						
PEL	Peldehue	3.49	19	AML	AML	23 06 30.7	
	comp=E,293nm,0.4s						
ROCH	El Roble	3.59	14	iS	Sn	23 06 25.0	+1.8
ROCH				AML	AML	23 06 33.5	
	comp=N,187nm,0.4s						

*CSEM **05** 23:21:47.0±0.2, 67°.86N×20°.21E, h1km, ML1.3, Error ellipse: s-maj=5.4km s-min=4.2km az=129.0, Mining explosion.*
*UPP **05** 23:21:47.3, 67°.85N×20°.20E, h0km, ML1.3, Mining explosion.*
*HEL **05** 23:21:47.2±0.1, 67°.82N×20°.32E, h0km, ML1.6, ML1.3(UPP), Explosion*
HEL 05 23:21:47.2, 67°.82N×**20°.18E, h0**km**, ML1.6, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.15	24	iP	Pg	23 21 49.7	-0.4
KUA				iS	Sg	23 21 51.4	-0.6
KUA	Kurravaara	0.15	24	P	Pg	23 21 49.7	-0.4
KUA				S	Sg	23 21 51.4	-0.6
NIKU	Nikkaluokta	0.44	277	iP	Pg	23 21 55.7	+0.1
NIKU	Nikkaluokta	0.44	277	P	Pg	23 21 55.7	+0.1
LANU	Lannavaara	0.72	70	P	Pg	23 22 00.5	-0.6
LANU				S	Sg	23 22 10.0	-0.5
LANU	Lannavaara	0.72	70	P	Pn	23 22 10.4	+5.7
SALU	Saltoluokta	0.78	236	iP	Pg	23 22 02.2	+0.1
SALU	Saltoluokta	0.78	236	P	Pg	23 22 02.2	0.0
KIF	Kilpisjarvi	1.21	11	ePB	Pg	23 22 10.0	-0.4
KIF				eS	Sg	23 22 25.4	-0.8
KIF	Kilpisjarvi	1.21	11	Pb	Pg	23 22 10.0	-0.4
KIF				S	Sg	23 22 25.3	-0.8
HEF	Hetta	1.43	64	ePN	Pn	23 22 13.2	-1.2
	baz=251						
HEF					MSG	23 22 30.2	
	comp=Z,5.9nm,0.2s						
HEF				eSN	Sn	23 22 36.6	+2.7
HEF	Hetta	1.43	64	Pn	Pn	23 22 13.2	-1.2
HEF				Sn	Sn	23 22 36.6	+2.6
ERTU	Ertsjaerv	1.49	147	ePN	Pn	23 22 14.8	-0.4
ERTU	Ertsjaerv	1.49	147	Pn	Pn	23 22 14.8	-0.4
ERTU	Ertsjaerv	1.49	147	P	Pn	23 22 14.8	-0.4
HARU	Harads	1.69	169	eP	Pn	23 22 18.5	+0.6
HARU	Harads	1.69	169	P	Pn	23 22 18.5	+0.6
ARE0	ARCESS Array S	2.60	46	eS	Sn	23 22 59.8	-2.9
KU6	Riekki	4.22	111	ePG	Pb	23 23 03.1	+0.8
	baz=297						
KU6	Riekki	4.22	111	Pg	Pb	23 23 03.1	+0.8

*UPP **05** 23:21:57.1, 67°.85N×20°.21E, h0km, ML1.6, Mining explosion.*
CSEM 05 23:21:50.3±0.6**, 67°.90N**×**21°.30E, h1**km**, ML1.6, Error ellipse: s-maj=22.1km s-min=11.0km az=3.0, Mining explosion., Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.37	279	P	Pb	23 21 59.6	-0.1
KUA				S	Sg	23 22 01.3	-0.9
KUA	Kurravaara	0.37	279	P	Pb	23 21 59.6	-0.1
KUA				S	Sg	23 22 01.3	-0.9
NIKU	Nikkaluokta	0.86	269	P	Pg	23 22 05.7	-1.1
NIKU	Nikkaluokta	0.86	269	P	Pg	23 22 05.7	-1.1
SALU	Saltoluokta	1.19	245	P	Pg	23 22 12.2	-0.9
SALU	Saltoluokta	1.19	245	P	Pg	23 22 12.2	-0.9
ERTU	Ertsjaerv	1.39	165	Sn	Sn	23 22 38.6	+2.7
ERTU	Ertsjaerv	1.39	165	eSN	Sn	23 22 38.6	+2.8
HARU	Harads	1.75	184	P	Pg	23 22 28.4	+4.7
SGF	Sodankyl	2.05	100	ePG	Pg	23 22 30.4	+0.8
SGF	Sodankyl	2.05	100	Pg	Pg	23 22 30.3	+0.8
KALU	Kalix	2.20	157	ePG	Pn	23 22 28.3	+0.3
KALU	Kalix	2.20	157	Pg	Pn	23 22 28.2	+0.3
KALU	Kalix	2.20	157	P	Pn	23 22 28.2	+0.3
RNF	Rovaniemi	2.24	123	ePG	Pb	23 22 32.2	+0.7
RNF	Rovaniemi	2.24	123	Pg	Pb	23 22 32.2	+0.7
ARE0	ARCESS Array S	2.25	41	Pb	Pb	23 22 31.4	-0.3
ARE0	ARCESS Array S	2.25	41	ePB	Pb	23 22 31.4	-0.3

*ISCJB **05** 23:49:04.5±0.4, 37°.91S±0°.02×72°.38W±0°.07, h62km±4km, mb4.6/41, Error ellipse: s-maj=8.7km s-min=3.9km az=7.9*
*NEIC **05** 23:49:04.0, 37°.96S×72°.35W, h62km, mb4.7/33, After GUC.*
NEIC Felt [V] at Angol and Renaico, [IV] at Collipulli and Temuco and [III] at Los Angeles and Puerto Saavedra. Also felt at Concepcion, La Laja, Traiguen, Valdivia, Victoria and Villarrica.
*GUC **05** 23:49:04.5±0.4, 37°.96S×72°.35W, h62km±23km, ML4.9*
*IDC **05** 23:49:06.0±0.7, 37°.85S×72°.28W, h61km±5km, mb4.0/10, mb1 4.3/14, mb1mx4.1/27, mbtmp4.4/14, MS3.6/11, Ms1 3.6/11, ms1mx3.4/23, Error ellipse: s-maj=22.8km s-min=13.3km az=74.0*
*BJI **05** 23:49:08.0, 38°.00S×72°.30W, h62km, Ms4.9/1, Ms7 4.5/2*
ISC 05 23:49:05.8±0.6**, 37°.86S**±0°.04×**72°.50W**±0°.07**, h60**km±4km**, h60**km**:pP-P, n248, σ1s.17**/271**, mb4.7**/41**, 28C-31D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	1.12	334	⇓iP	Pn	23 49 26.3	+0.8
CCSP				iS	Sn	23 49 43.0	+2.9
CCSP				AML	AML	23 49 47.4	
	comp=N,32µm,0.4s						
VLCH	Valdivia	2.03	196	⇑iP	Pn	23 49 36.2	-1.4
VLCH				iS	Sn	23 50 00.0	-1.8
LNCH	Linares	2.14	20	⇑iP	Pn	23 49 40.0	+0.8
LNCH				iS	Sn	23 50 06.2	+1.7
LNCH				AML	AML	23 50 14.7	
	comp=N,10µm,0.4s						
TALC	Talca	2.56	16	eP	Pn	23 49 44.8	0.0
TALC				iS	Sn	23 50 15.1	+0.3
OSCH	Osorno	2.75	190	iP	Pn	23 49 47.3	-0.2
OSCH				iS	Sn	23 50 18.5	-1.1
NICH	Los Niches	3.03	20	eP	Pn	23 49 51.3	-0.1
NICH				iS	Sn	23 50 26.8	+0.4
PLCA	Paso Flores	3.24	153	P	Pn	23 49 54.1	-0.2
	comp=N,18nm,0.3s,baz=326,slow=11,SNR=306						
PLCA				S	Sn	23 50 33.8	+2.0
	comp=N,20nm,0.3s,baz=289,slow=17,SNR=4.0						
PLCA				LR	LR	23 50 43.3	
	comp=N,153nm,21.0s,baz=310,slow=31						
PLCA	Paso Flores	3.24	153	ePn	Pn	23 49 53.9	-0.4
PLCA				eSn	Sn	23 50 41.6	+10
PMCH	Puerto Montt	3.64	185	iP	Pn	23 49 57.4	-2.1
CACH	El Canelo	4.04	23	eP	Pn	23 50 05.3	0.0
CACH				eS	Sn	23 50 51.5	+0.1
CHCH	Chadas Angostu	4.20	22	eP	Pn	23 50 07.3	-0.1
RCDM	Rinconada Maip	4.58	18	eP	Pn	23 50 11.3	-1.2
RCDM				eS	Sn	23 51 03.0	-1.4
CFAA	Coronel Fontan	7.16	31	P	Pn	23 50 47.5	-0.4
	comp=N,0.3nm,0.3s,baz=200,slow=16,SNR=32						
CFAA				S	Sn	23 52 10.8	+2.9
	comp=N,0.6nm,0.3s,baz=206,slow=5.5,SNR=3.7						
TRQA	Tornquist	8.32	95	ePn	Pn	23 51 04.9	+1.2
TRQA				eSn	Sn	23 52 50.1	+14
LCO	Las Campanas	8.95	10	ePn	Pn	23 51 10.8	-1.9
LCO				eSn	Sn	23 52 47.6	-4.6
LVC	Limon Verde	15.51	13	P	Pn	23 52 39.8	-1.3
	comp=N,11nm,0.3s,baz=212,slow=9.4,SNR=6.8						
LVC				LR	LR	23 59 11.5	
	comp=N,317nm,20.4s,baz=188,slow=39						
LVC	Limon Verde	15.51	13	ePn	Pn	23 52 40.2	-0.9
EFI	East Falkland	17.15	148	ePn	Pn	23 52 59.8	-1.4
USHA	Ushuaia	17.20	172	P	Pn	23 53 01.9	+0.1
	comp=N,1.3nm,0.3s,baz=326,slow=8.7,SNR=12						
USHA				LR	LR	23 59 45.1	
	comp=N,306nm,20.5s,baz=42,slow=37						
LPAZ	La Paz	21.83	11	P	P	23 53 53.1	-0.8
	comp=N,6.6nm,0.8s,baz=175,slow=9.3,SNR=12						
LPAZ	La Paz	21.83	11	ePn	P	23 53 52.8	-1.1
	comp=N,11nm,0.8s						
SIV	San Ignacio	24.01	28	P	P	23 54 14.1	-0.9
	comp=N,3.7nm,0.7s,baz=232,slow=12,SNR=12						
SIV				LR	LR	00 05 35.0	
	comp=N,124nm,18.2s,baz=193,slow=41						
NNA	Nana	26.06	350	LR	LR	00 02 31.6	
	comp=N,68nm,20.9s,baz=164,slow=31						
PMSA	Palmer Station	27.41	172	LR	LR	00 03 50.1	
	comp=N,104nm,21.4s,baz=40,slow=32						
SAML	Samuel	29.99	19	eP	P	23 55 07.7	-1.1
	comp=N,6.0nm,1.0s						
BDFB	Brasilia	30.94	51	LR	LR	00 10 03.1	
	comp=N,120nm,18.3s,baz=341,slow=41						
OTAV	Otavalo	38.31	350	eP	P	23 56 22.3	+1.1
	comp=N,11nm,1.4s						
VNA1	Neumayer--Stat	46.30	155	P	P	23 57 25.7	+0.7
SDV	Santo Domingo	46.54	3	eP	P	23 57 26.4	-1.3
	comp=N,6.1nm,0.8s						
SNAA	Sanae	48.18	157	P	P	23 57 31.6	-8.1
SNAA	Sanae	48.18	157	P	P	23 57 39.1	-0.6
	comp=N,2.7nm,0.9s,baz=290,slow=7.0,SNR=12						
QSPA	South Pole Qui	52.38	180	eP	P	23 58 11.7	+0.1
	comp=N,6.4nm,0.8s						
VNDA	Vanda	60.25	192	LR	LR	00 23 14.4	
	comp=N,72nm,18.0s,baz=292,slow=34						
MEH	Mehetia	68.01	264	eT	T	23 59 07.9	
	comp=N,27nm,0.2s						
035A	Encino	68.79	336	⇑P	P	00 00 04.9	+1.4
	baz=69						
034A	Hebbronville	69.10	335	P	P	00 00 06.9	+1.6
	baz=70						
TIAR	Tiarei	69.20	264	eT	T	00 00 37.1	
	comp=N,7.2nm,0.2s						
934A	Benavides	69.54	335	P	P	00 00 09.8	+1.7
	baz=70						
MAW	Mawson	69.59	163	P	P	00 00 08.2	+0.3
	comp=N,1.3nm,0.8s,baz=243,slow=11,SNR=2.9						
MAW				LR	LR	00 32 45.9	
	comp=N,100nm,18.1s,baz=61,slow=38						
933A	Laredo	69.80	335	⇓P	P	00 00 11.1	+1.3
	baz=70,SNR=6.6						
835A	Beeville	69.95	336	P	P	00 00 12.6	+2.0
	baz=70						
737A	Port Lavaca	69.97	338	P	P	00 00 12.8	+2.1
	baz=70						
834A	Tilden	70.03	336	P	P	00 00 12.9	+1.8
	baz=70						
736A	Circle Diamond	70.34	337	P	P	00 00 15.0	+2.1
	baz=71						
735A	Kenedy	70.47	337	P	P	00 00 15.6	+1.8
	baz=71						
833A	Chaparral WMA,	70.50	335	⇑P	P	00 00 15.1	+1.2
	baz=71						
832A	Faith Ranch, C	70.66	334	⇓P	P	00 00 16.2	+1.3
	baz=71,SNR=7.1						
636A	Smothers Creek	70.83	337	P	P	00 00 17.4	+1.5
	baz=71						
732A	Laxson Ranch,	71.06	335	⇓P	P	00 00 18.3	+0.9
	baz=72,SNR=18						
634A	China Grove, S	71.14	336	P	P	00 00 19.4	+1.6
	baz=72						
440A	Kirbyville	71.14	341	P	P	00 00 19.4	+1.6
	baz=72						
537A	Green Hill Far	71.17	338	P	P	00 00 19.4	+1.4
	baz=72						
439A	Center Grove,	71.40	340	P	P	00 00 20.8	+1.5
	baz=72						
633A	Saathoff Ranch	71.47	336	⇓P	P	00 00 20.7	+0.8
	baz=72,SNR=5.6						
535A	Dale	71.49	337	P	P	00 00 20.9	+1.0
	baz=72						
438A	Sam Houston St	71.55	339	P	P	00 00 21.7	+1.4
	baz=72						
632A	Uvalde	71.72	335	⇑P	P	00 00 22.2	+0.9
	baz=72,SNR=8.8						
340A	Bronson	71.76	341	P	P	00 00 22.9	+1.4
	baz=72						
534A	Blanco	71.77	336	P	P	00 00 22.7	+1.0
	baz=72						
339A	Huntington	71.85	340	P	P	00 00 22.9	+0.9
	baz=72						
631A	Perdido Creek	71.90	334	⇓P	P	00 00 23.2	+0.8
	baz=72,SNR=6.5						
533A	Kerrville	71.99	336	⇑P	P	00 00 23.7	+0.7
	baz=72,SNR=6.9						
338A	Crockett	72.08	340	P	P	00 00 24.8	+1.4
	baz=72						
532A	Rocksprings	72.33	335	⇑P	P	00 00 26.0	+1.0
	baz=73,SNR=15						
434A	Burnet	72.44	337	P	P	00 00 26.4	+0.7
	baz=73						
531A	Rocksprings	72.58	335	⇓P	P	00 00 27.6	+1.1
	baz=73,SNR=10						
335A	Moody	72.62	338	P	P	00 00 27.2	+0.6
	baz=73						
JCT	Junction City	72.62	335	⇑P	P	00 00 27.4	+0.6
	baz=73,SNR=7.2						
433A	Art	72.64	336	⇑P	P	00 00 27.2	+0.4
	baz=73,SNR=7.7						
237A	Washetta, Mont	72.83	339	P	P	00 00 28.8	+0.9
	baz=73						
530A	J-C Ranch, Com	72.83	334	⇓P	P	00 00 29.2	+1.1
	baz=73,SNR=24						
334A	Lometa	72.91	337	P	P	00 00 28.9	+0.5
	baz=73						
TXAR	Lajitas Array	72.93	332	P	P	00 00 29.3	+0.6
	comp=N,9.9nm,0.8s,baz=152,slow=8.8,SNR=119						
TXAR				pP	PcP	00 00 46.6	+1.2
	comp=N,4.2nm,1.0s,baz=144,slow=9.2,SNR=4.5						
432A	Menard	72.98	336	⇓P	P	00 00 29.1	+0.2
	baz=73						
431A	Sonora	73.07	335	⇓P	P	00 00 30.0	+0.5
	baz=74,SNR=8.3						
333A	Richland Sprin	73.14	336	P	P	00 00 30.2	+0.4
	baz=74						
WHTX	Lake Whitney,	73.29	338	P	P	00 00 31.0	+0.4
	baz=74						
430A	Baggett Ranch,	73.38	334	⇓P	P	00 00 31.9	+0.6
	baz=74,SNR=16						
332A	Millersview	73.43	336	⇓P	P	00 00 31.7	+0.2
	baz=74,SNR=6.5						
429A	Davenport Ranc	73.46	334	⇓P	P	00 00 32.6	+0.9
	baz=74,SNR=21						
234A	Clairette	73.51	337	P	P	00 00 32.1	+0.2
	baz=74						
331A	San Angelo	73.59	335	⇑P	P	00 00 32.7	+0.3
	baz=74,SNR=12						
232A	Coleman	73.87	336	⇑P	P	00 00 34.2	+0.1
	baz=74,SNR=5.1						
330A	Mertzon	73.93	335	⇑P	P	00 00 34.7	+0.2
	baz=74,SNR=6.6						
134A	White-Moore Ra	74.02	338	P	P	00 00 35.2	+0.3
	baz=74						
231A	Bronte	74.13	336	⇓P	P	00 00 35.7	+0.1
	baz=75,SNR=5.6						
329A	Wagon Wheel Ra	74.28	334	⇑P	P	00 00 37.2	+0.7
	baz=75,SNR=12						
133A	Hamilton Ranch	74.31	337	P	P	00 00 37.2	+0.6
	baz=75						
230A	Sterling City	74.35	335	P	P	00 00 37.4	+0.6
	baz=75						
Y38A	Idabel	74.36	341	P	P	00 00 37.2	+0.4
	baz=75						
Z35A	Perchaven, San	74.48	339	P	P	00 00 38.0	+0.4
	baz=75						
ABTX	Abilene, Hawle	74.55	336	P	P	00 00 38.3	+0.4
	baz=75						
ABTX	Abilene, Hawle	74.55	336	eP	P	00 00 38.4	+0.4
	comp=N,13nm,1.1s						
229A	Bryant Ranch,	74.66	334	⇓P	P	00 00 39.1	+0.4
	baz=75						

Z34A	Collier Ranch, baz=75	74.72	338	P	P	00 00 39.6	+0.6
Y36A	Durant baz=75	74.75	340	P	P	00 00 39.9	+0.9
Z33A	Whitaker Ranch baz=75	74.89	337	P	P	00 00 40.2	+0.3
130A	Snyder baz=75	74.95	335	P	P	00 00 40.5	+0.1
228A	UT Block 9, Go baz=76,SNR=8.2	75.06	334	⇑P	P	00 00 41.5	+0.4
Z32A	Haskell baz=76	75.13	337	P	P	00 00 41.7	+0.4
Y34A	Reagan Ranch, baz=76	75.22	338	P	P	00 00 41.9	+0.1
129A	Stewart Farms, baz=76	75.28	335	⇑P	P	00 00 42.7	+0.4
Z31A	Sharp Cattle R baz=76	75.35	336	P	P	00 00 42.9	+0.3
W38A	Poteau baz=76	75.39	341	P	P	00 00 43.1	+0.4
X36A	Centrahoma baz=76	75.39	340	P	P	00 00 42.8	0.0
128A	Castleberry Fa baz=76,SNR=5.8	75.48	334	⇓P	P	00 00 43.6	+0.2
Y33A	Hilltop Ranch, baz=76	75.52	338	P	P	00 00 43.5	0.0
Z30A	Sanderson Ranc baz=76,SNR=6.7	75.64	336	⇑P	P	00 00 44.3	0.0
MNTX	Cornudas Mount baz=76	75.70	331	P	P	00 00 44.4	-0.2
MNTX	Cornudas Mount comp=N,7.8nm,0.8s	75.70	331	*e*P	P	00 00 44.1	-0.6
Y32A	R-V Farms, Ver baz=76	75.76	337	P	P	00 00 45.1	+0.2
Z29A	Hungry Hill Ra baz=76,SNR=10	75.80	335	⇑P	P	00 00 45.2	0.0
X34A	Smith Ranch, M baz=76	75.84	339	P	P	00 00 45.5	+0.2
W36A	Wetumka baz=76	75.90	340	P	P	00 00 45.0	-0.7
Y31A	Rekieta Farm, baz=76	75.98	336	P	P	00 00 46.3	+0.1
W35A	Tecumseh baz=77	76.09	340	P	P	00 00 46.2	-0.5
PBMO	Poplar Bluff comp=N,11nm,0.8s	76.10	345	*e*P	P	00 00 46.4	-0.3
WMOK	Wichita Mounta comp=N,7.7nm,1.3s	76.25	338	*e*P	P	00 00 47.5	-0.2
Y29A	Porterfield Fa baz=77	76.34	335	⇑P	P	00 00 48.6	+0.3
X31A	McDonald Ranch baz=77	76.51	337	P	P	00 00 49.5	+0.3
TUL1	Leonard baz=77	76.51	341	P	P	00 00 48.9	-0.2
W33A	Caddo, Fort Co baz=77	76.54	338	P	P	00 00 50.0	+0.7
Y28A	McKinney Farm, baz=77	76.58	335	P	P	00 00 50.0	+0.3
V35A	Meyer Ranch, C baz=77	76.65	340	P	P	00 00 49.8	-0.1
USIN	University of comp=N,20nm,0.8s	76.74	348	*e*P	P	00 00 49.5	-0.8
DBIC	Dimbokro comp=N,6.3nm,1.0s,baz=191,slow=6.4,SNR=3.9	76.79	71	P	P	00 00 50.4	-0.8
DBIC	Dimbokro comp=N,17nm,1.4s	76.79	71	*e*P	P	00 00 51.0	-0.3
MSTX	Muleshoe baz=77,SNR=5.5	76.81	335	⇓P	P	00 00 51.4	+0.4
X29A	Tulia baz=77	76.89	336	P	P	00 00 52.0	+0.6
V34A	Guthrie baz=77	76.91	339	P	P	00 00 51.4	+0.1
W31A	Holland Ranch, baz=78	77.01	337	P	P	00 00 52.0	0.0
V33A	Lossen Ranch, baz=78	77.11	339	P	P	00 00 52.9	+0.4
X28A	Dimmitt baz=78	77.12	335	P	P	00 00 53.0	+0.2
AMTX	Amarillo baz=78	77.28	336	⇓P	P	00 00 54.1	+0.5
AMTX	Amarillo comp=N,26nm,1.2s	77.28	336	*e*P	P	00 00 54.3	+0.7
T37A	Cheneyville 18 baz=78	77.44	342	P	P	00 00 53.9	-0.3
W29A	Amarillo baz=78	77.49	336	⇓P	P	00 00 55.3	+0.6
V31A	Spring Creek L baz=78	77.53	338	P	P	00 00 56.3	+1.4
T36A	Boggs Farm, Ca baz=78	77.62	341	P	P	00 00 55.3	0.0
T35A	Sooner Cattle baz=78	77.65	340	P	P	00 00 55.9	+0.5
BLO	Bloomington	77.74	349	*e*P	P	00 00 55.1	-0.8
V30A	Spur Ranch, Mi baz=78	77.77	337	P	P	00 00 57.7	+1.4
T34A	McClaskey Farm baz=78	77.93	340	P	P	00 00 57.3	+0.2
V29A	Stinnett baz=79	78.14	336	P	P	00 00 58.3	0.0
T33A	Patterson Ranc baz=79	78.28	339	P	P	00 00 59.6	+0.6
S35A	Otter Creek Ra baz=79	78.32	341	P	P	00 00 59.1	0.0
TUC	Tucson comp=N,6.3nm,1.1s	78.41	328	*e*P	P	00 01 00.3	+0.4
BOSA	Boshof comp=N,2.6nm,0.6s,baz=234,slow=5.8,SNR=3.8	78.62	117	P	P	00 01 00.9	-0.6
BOSA	comp=N,4.3nm,0.8s,baz=210,slow=3.7,SNR=4.5			pP	pP	00 01 17.1	-1.2
BOSA	comp=N,28nm,20.0s,baz=178,slow=33			LR	LR	00 31 56.1	
R35A	Emporia Munici baz=79	78.89	341	P	P	00 01 02.6	+0.2
214A	Organ Pipe Nat baz=79	78.98	326	P	P	00 01 04.8	+1.8
ANMO	Albuquerque comp=N,9.8nm,1.0s	79.00	332	*e*P	P	00 01 04.2	+1.0
S32A	Newby Ranch, P baz=80	79.05	339	P	P	00 01 03.6	+0.4
U27A	Thompson Grove baz=80	79.06	335	⇑P	P	00 01 04.4	+0.9
R34A	Isabella, Hill baz=80	79.15	340	P	P	00 01 03.9	+0.2
T26A	Comanche Natio baz=80,SNR=8.2	80.00	335	⇑P	P	00 01 09.7	+1.0
T25A	Trinidad baz=81,SNR=10	80.24	335	⇓P	P	00 01 11.4	+1.5
R29A	Marienthal baz=81	80.36	338	P	P	00 01 10.9	+0.5
S26A	Kim baz=81	80.37	336	⇓P	P	00 01 11.6	+1.1
Q31A	Ellis baz=81	80.39	339	P	P	00 01 11.3	+0.8
R28A	Tribune baz=81	80.50	337	P	P	00 01 11.7	+0.6
Q30A	Quinter baz=81	80.60	338	P	P	00 01 12.3	+0.7
R27A	Eads baz=81,SNR=7.1	80.75	336	⇑P	P	00 01 13.3	+0.8
R26A	Arlington baz=82,SNR=6.7	80.98	336	⇓P	P	00 01 14.9	+1.2
P30A	Selden baz=82	81.14	339	P	P	00 01 15.1	+0.6
SDCO	Great Sand Dun baz=82,SNR=9.1	81.16	334	⇑P	P	00 01 15.9	+0.9
SDCO	Great Sand Dun comp=N,3.6nm,0.9s	81.16	334	*e*P	P	00 01 15.3	+0.4
Y12C	Blythe baz=82	81.26	326	P	P	00 01 16.6	+1.4
BAR	Barrett comp=N,6.1nm,0.9s	81.35	324	*e*P	P	00 01 13.8	-2.0
WUAZ	Wupatki baz=82	81.42	329	P	P	00 01 18.0	+1.8
WUAZ	Wupatki comp=N,8.2nm,1.0s	81.42	329	*e*P	P	00 01 17.9	+1.8
Q26A	Hugo baz=82	81.56	336	⇑P	P	00 01 17.8	+1.0
BC3	Big Chuckawall baz=82	81.60	325	P	P	00 01 18.8	+1.7
S22A	4UR Ranch, Cre baz=82	81.63	333	P	P	00 01 18.8	+1.3
R23A	Moffat baz=82	81.67	334	⇑P	P	00 01 19.1	+1.5
MVCO	Mesa Verde baz=82	81.77	332	P	P	00 01 19.2	+1.1
IRM	Iron Mountain baz=82	81.89	325	P	P	00 01 19.9	+1.4
Q24A	Divide baz=83	82.14	335	P	P	00 01 21.2	+1.1
O27A	Beecher Island baz=83	82.39	337	P	P	00 01 22.5	+1.3
SMCO	Snowmass comp=N,8.1nm,0.9s	82.96	334	*e*P	P	00 01 25.3	+0.9
ISCO	Idaho Springs baz=84	83.05	335	⇓P	P	00 01 26.1	+1.3
ISCO	Idaho Springs comp=N,3.2nm,0.9s	83.05	335	*e*P	P	00 01 25.1	+0.3
O23A	Lake Granby, G baz=84,SNR=5.3	83.52	335	⇓P	P	00 01 28.3	+1.1
O22A	Kremmling baz=84	83.69	334	⇓P	P	00 01 29.0	+0.9
SHPR	Sheep Range	83.86	327	*e*P	P	00 01 30.3	+1.5
N23A	Red Feather La baz=85,SNR=5.2	84.14	335	⇓P	P	00 01 31.4	+1.1
SRU	San Rafael Swe comp=N,7.9nm,0.8s	84.20	331	*e*P	P	00 01 31.4	+0.9
N22A	Wattenberg Ran baz=85,SNR=5.4	84.23	335	⇓P	P	00 01 32.5	+1.7
PHWY	Pilot Hill comp=N,7.5nm,0.6s	84.35	336	*e*P	P	00 01 32.1	+0.7
PHWY				*e*pP	pP	00 01 47.2	-1.1
DAC	Darwin (Calif) comp=N,7.0nm,1.1s	84.75	325	*e*P	P	00 01 34.7	+1.2
DAC				*e*pP	pP	00 01 53.0	+2.7
J28A	Allard Ranch, baz=86	85.01	339	P	P	00 01 34.9	+0.6
J27A	Elkhorn Farm, baz=86	85.07	339	P	P	00 01 35.9	+1.2
J26A	Sides Ranch, S baz=86,SNR=6.4	85.43	338	⇑P	P	00 01 37.3	+0.8
I28A	Midland baz=86	85.52	340	P	P	00 01 37.8	+0.9
R11A	Troy Canyon, C comp=N,4.5nm,0.8s	85.59	327	*e*P	P	00 01 38.9	+1.3
K23A	Bowen Ranch, D baz=86	85.71	336	⇑P	P	00 01 38.9	+0.9
J25A	Sunshine Ranch baz=86	85.72	338	P	P	00 01 38.7	+0.8
I27A	Quinn baz=86	85.83	339	P	P	00 01 38.8	+0.4
JLU	Jordanelle comp=N,6.7nm,0.9s	85.84	331	*e*P	P	00 01 39.2	+0.4
TORD	Torodi Ar. Bea comp=N,2.4nm,0.9s,baz=228,slow=3.9,SNR=12	85.88	70	P	P	00 01 38.6	-0.7
TORD	comp=N,4.2nm,1.1s,baz=240,slow=4.4,SNR=9.5			pP	pP	00 01 55.8	-0.5
TORD	comp=N,38nm,18.1s,baz=135,slow=35			LR	LR	00 39 06.5	
K22A	Casper baz=86	85.91	336	⇓P	P	00 01 39.8	+0.8
J24A	Dixon Ranch, L baz=86	85.93	337	P	P	00 01 39.9	+0.8
DUG	Dugway, Tooele comp=N,5.3nm,1.0s	86.02	330	*e*P	P	00 01 39.5	-0.1
H28A	Mission Ridge baz=87	86.11	340	P	P	00 01 40.5	+0.7
J23A	Dilts Ranch, B baz=87	86.27	337	P	P	00 01 41.4	+0.6
I25A	Rochford baz=87,SNR=6.7	86.27	338	⇑P	P	00 01 41.4	+0.6
H27A	Howes baz=87	86.36	339	P	P	00 01 41.2	+0.2
I24A	Kuemmerle Ranc baz=87	86.39	337	P	P	00 01 41.6	+0.3
RSSD	Black Hills comp=N,7.7nm,1.0s	86.45	338	*e*P	P	00 01 41.4	-0.4
HWUT	Hardware Ranch comp=N,16nm,0.8s	86.76	332	*e*P	P	00 01 43.2	0.0
H25A	Fruitdale baz=87	86.78	338	P	P	00 01 44.0	+0.8
NVAR	Mina Array Bea comp=N,1.9nm,0.8s,baz=136,slow=5.8,SNR=8.1	86.84	326	P	P	00 01 45.2	+1.4
PDAR	Pinedale Array comp=N,2.7nm,0.8s,baz=123,slow=5.5,SNR=16	87.04	334	P	P	00 01 44.7	+0.1
PDAR	comp=N,1.2nm,0.8s,baz=157,slow=8.0,SNR=3.4			pP	pP	00 02 02.3	+0.7
J20A	Shoshoni baz=88	87.05	335	P	P	00 01 45.5	+0.9
G26A	Maurine baz=88	87.11	339	⇓P	P	00 01 44.8	+0.1
H24A	Dirks Ranch, A baz=88	87.18	338	⇓P	P	00 01 44.8	-0.2
I21A	Big Trails, Te baz=88	87.20	336	P	P	00 01 44.9	-0.4
G25A	Newell baz=88,SNR=5.8	87.25	339	⇓P	P	00 01 45.6	+0.2
J19A	Crowheart baz=88	87.30	334	P	P	00 01 46.1	+0.2
HVU	Hansel Valley	87.36	331	*e*P	P	00 01 46.2	+0.1
F27A	Lemmon baz=88	87.48	340	⇑P	P	00 01 46.6	+0.1
REDW	Red Top Meadow comp=N,4.1nm,0.8s	88.02	333	*e*P	P	00 01 49.2	-0.1
AGMN	Agassiz Nation comp=N,5.0nm,0.8s	88.27	345	*e*P	P	00 01 49.8	-0.2
FXWY	Fox Creek comp=N,5.0nm,0.6s	88.32	333	*e*P	P	00 01 51.1	+0.4
HLID	Hailey comp=N,7.0nm,1.4s	89.52	331	*e*P	P	00 01 57.0	+0.7
D21A	La Casta Ranch baz=90	90.01	337	P	P	00 02 00.9	+2.6
MCMT	McKenzie Canyo	90.01	333	*e*P	P	00 01 59.7	+1.0
WVOR	Wild Horse Val comp=N,42nm,2.7s	90.28	328	*e*P	P	00 02 00.3	+0.5
DLMT	Dillon comp=N,4.1nm,1.1s	90.38	333	*e*P	P	00 02 01.4	+1.1
ILAR	Eielson Array comp=N,0.5nm,1.0s,baz=143,slow=1.1,SNR=4.4	117.44	332	PKP	PKPdf	00 07 42.3	-1.3
BRTR	Keskin Array B comp=N,0.6nm,0.7s,baz=224,slow=5.2,SNR=5.6	123.97	63	PKP	PKPdf	00 07 56.0	-1.1
ABKAR	Akbulak array	144.26	56	*e*PKPdf	PKPab	00 08 32.3	-0.1
BVAR	Borovoye Array comp=N,0.6nm,0.8s,baz=241,slow=3.0,SNR=4.5	150.27	47	PKP	PKPdf	00 08 44.5	+0.3
BVAR	comp=N,2.2nm,0.8s,baz=298,slow=3.2,SNR=16			PKPbc	PKPbc	00 08 49.7	+0.3
BVAR	comp=N,0.9nm,0.7s,baz=292,slow=4.7,SNR=5.1			PKPab	PKPab	00 08 53.9	-2.0
KSH	Kashi	155.40	76	*e*PKPbc	PKPdf	00 08 55.1	+2.8
KSH	Kashi	155.40	76	*e*PKPbc	PKPdf	00 08 55.1	+2.8
MJAR	Matsushiro Arr comp=N,1.2nm,0.8s,baz=137,slow=3.1,SNR=5.9	155.55	276	PKPab	PKPab	00 09 18.1	-0.6
ZALV	Zalesovo Beam comp=N,1.8nm,0.7s,baz=318,slow=2.0,SNR=10	157.62	37	PKP	PKPdf	00 08 54.1	-0.4
MKAR	Makanchi Array comp=N,1.0nm,0.8s,baz=329,slow=1.4,SNR=8.2	159.41	56	PKP	PKPdf	00 08 56.5	-0.4
MKAR	comp=N,1.3nm,0.6s,baz=274,slow=4.2,SNR=10			PKPab	PKPab	00 09 34.2	-0.8
MKAR	comp=N,0.8nm,0.6s,baz=268,slow=3.0,SNR=3.7			pPKPab	pPKPab	00 09 51.4	-0.8
KSRS	Korea Array comp=N,0.3nm,0.3s,baz=171,slow=2.3,SNR=4.3	163.82	275	PKP	PKPdf	00 09 00.8	-1.0
KSAR	Wonju Array Be	163.84	275	PKP	PKPdf	00 09 00.8	-1.0
WMQ	Urumqi	163.89	62	*e*PKP	PKPdf	00 09 03.4	+1.6
NJ2	Nanjing	169.03	241	*e*PKP	PKPdf	00 09 06.5	+0.5
SONM	Songino Array comp=N,0.6nm,0.9s,baz=236,slow=1.6,SNR=3.9	170.00	4	PKP	PKPdf	00 09 04.7	-1.6
SONM	comp=N,1.8nm,0.8s,baz=337,slow=4.9,SNR=12			PKPab	PKPab	00 10 22.0	+0.5
CD2	Chengdu	172.41	155	PKP	PKPdf	00 09 08.8	+0.9
CD2	Chengdu	172.41	155	PKP	PKPdf	00 09 08.8	+0.9
HHC	Hu-ho-hao-te	175.66	315	*e*PKP	PKPdf	00 09 08.5	-0.3
HHC				pPKP	pPKPdf	00 09 17.9	-8.8
HHC				sPKP		00 09 22.9	
HHC				PKS	PKSdf	00 12 37.9	-3.1
HHC				PP	PP	00 14 44.1	+4.3
HHC				SKS	SKSdf	00 16 06.1	-0.5
HHC	Hu-ho-hao-te	175.66	315	*e*PKP	PKPdf	00 09 08.5	-0.3
HHC				PKS	PKSdf	00 12 37.9	-3.1
HHC				PP	PP	00 14 44.1	+4.3
HHC				SKS	SKSdf	00 16 06.1	-0.5
HHC				SS	SS	00 36 00.0	-1.7
HHC	comp=N,150nm,22.1s			LN			
HHC	comp=N,110nm,22.3s			LE			
HHC	comp=N,53nm,22.2s			LZ			
LZH	Lanzhou	176.58	120	*e*PKP	PKPdf	00 09 10.7	+1.4
LZH				pPKP	pPKPdf	00 09 11.6	-15
LZH				sPKP		00 09 25.3	
LZH				PKP	PKPab	00 10 55.8	+4.4
LZH	Lanzhou	176.58	120	*e*PKP	PKPdf	00 09 10.7	+1.4

MEX 05 23:55:27.7±0.6, 15°.77N×97°.03W, h7km±7km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.89	90	*e*P	Pg	23 55 42.2	-2.6
HUIG				*e*S	Sg	23 55 54.5	-1.8
PNIG	Pinotepa	1.22	300	*e*P	Pb	23 55 47.4	-3.9
PNIG				*i* S	Sg	23 56 03.1	-4.1
VHO	Vista Hermosa	1.32	12	*e*P	Pn	23 55 49.3	-3.6
VHO				*e*S	Sb	23 56 05.5	-5.1
TLIG	Tlapa	2.31	321	*i* P	Pn	23 56 03.6	-2.8
TLIG				*i* S	Sn	23 56 30.0	-5.2

*NIED **06** 00:07:00, 28°.40N×129°.60E, h50km, Mw4.3 Best double couple: $M_0$3.40000×10^{15} NP1:ϕ_s283.00000°, δ17.00000°, λ144.00000°. NP2:ϕ_s47.00000°, δ80.00000°, λ76.00000°.*

*BJI **06** 00:07:28.3, 27°.97N×129°.91E, h53km, mb4.6/41, mB4.6/23, Ms4.2/21, Ms7 3.9/14*

*ISCJB **06** 00:07:31.9±0.3, 28°.27N±0°.03×129°.65E±0°.03, h61km±2km, mb4.5/68, Error ellipse: s-maj=6.0km s-min=2.8km az=35.7*

*MOS **06** 00:07:31.7±1.1, 28°.28N×129°.61E, h62km, mb4.8/27, Error ellipse: s-maj=10.4km s-min=6.0km az=115.3*

*IDC **06** 00:07:33.2±0.5, 28°.34N×129°.49E, h57km±5km, mb4.0/22, mb1 4.2/26, mb1mx4.1/32, mbtmp4.3/26, MS3.3/17, Ms1 3.3/17, ms1mx3.2/37, Error ellipse: s-maj=13.9km s-min=6.5km az=117.0*

*NEIC **06** 00:07:33.3±0.4, 28°.24N×129°.57E, mb4.7/22, MW4.3(NIED), Error ellipse: s-maj=8.9km s-min=5.3km az=140.0*

NEIC Recorded [3 JMA] on Amami-oshima, [2 JMA] on Kikaiga-shima and [1 JMA] on Tokuno-shima.

*JMA **06** 00:07:33.0±0.1, 28°.33N×129°.62E, h56km±2km, M4.3*

JMA Felt III J1.

ISC 06 00:07:33.4±0.4, 28°.26N±0°.03×129°.64E±0°.04, h60km±2km, h60km:pP-P, n232, σ1s.50/293, mb4.6/79, MS3.5/16, 28C-11D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAM	Amami Oshima	0.15	349	P	Pn	00 07 41.3	-1.3
JAM				S	Sn	00 07 47.4	-1.8
JZK	Kikaishima	0.30	79	P	Pn	00 07 42.7	-0.8
JZK				S	Sn	00 07 50.6	-0.2
JAMN	Amaminishikomi	0.41	268	P	Pn	00 07 43.8	-0.6
JAMN				S	Sn	00 07 51.8	-0.6
JTK	Tokunoshima	0.77	232	P	Pn	00 07 48.7	+0.2
JTK				S	Sn	00 08 00.2	+0.6
JTAJ	Takarajima	0.97	337	P	Pn	00 07 49.9	-1.1
JTAJ				S	Sn	00 08 02.6	-1.4
JOKE	Okinoerabujima	1.30	227	P	Pn	00 07 55.7	+0.3
JOKE				S	Sn	00 08 12.0	+0.1
JNN	Nakanoshima	1.59	7	P	Pn	00 07 58.3	-1.0
JNN				S	Sn	00 08 17.7	-1.1
JOW	Kunigami	1.87	221	P	Pn	00 08 02.8	-0.3
JOW				S	Sn	00 08 25.5	-0.1
JOW	Kunigami 8.7nm,0.3s,baz=138,slow=25,SNR=234	1.87	221	P	Pn	00 08 02.8	-0.3
JOW	48nm,0.3s,baz=90,slow=20,SNR=18			S	Sn	00 08 24.9	-0.6
JOW	comp=Z,34nm,20.5s,baz=268,slow=48			LR	LR	00 09 02.3	
JOW	Kunigami	1.87	221	*e*Pn	Pn	00 08 03.0	-0.1
JOW				*e*Sn	Sn	00 08 21.2	-4.3
JIH	Iheya	1.92	231	P	Pn	00 08 03.5	-0.2
JIH				S	Sn	00 08 25.8	-1.0
JYAK	Yakushimahirau	2.11	21	P	Pn	00 08 05.1	-1.3
JYAK				S	Sn	00 08 30.2	-1.3
JKC	Kuchinoerabu	2.25	12	P	Pn	00 08 07.3	-0.9
JKC				S	Sn	00 08 32.9	-1.9
JNTH	Nagotoyohara	2.25	220	P	Pn	00 08 08.2	-0.1
JNTH				S	Sn	00 08 34.1	-0.8
JTN	Tanegashima 3	2.66	26	P	Pn	00 08 12.9	-0.9
JTN				S	Sn	00 08 43.0	-1.9
JJT2	Tamagusuku 2	2.70	219	P	Pn	00 08 15.3	+0.9
JJT2				S	Sn	00 08 45.7	-0.2
JAGN	Aguni-jima	2.70	233	P	Pn	00 08 14.3	-0.1
JAGN				S	Sn	00 08 45.1	-0.8
JKE	Kume jima 2	3.19	233	P	Pn	00 08 20.7	-0.3
JKE				S	Sn	00 08 56.6	-1.2
JNU	Nakatsue 45nm,0.3s,baz=211,slow=2.4,SNR=345	4.96	12	P	Pn	00 08 45.8	+0.4
JNU	1.6nm,0.3s,baz=245,slow=19,SNR=2.2			S	Sn	00 09 41.8	+0.4
JNU	comp=Z,62nm,19.4s,baz=139,slow=34			LR	LR	00 10 19.5	
JNU	Nakatsue	4.96	12	*e*Pn	Pn	00 08 46.0	+0.6
JNU				*e*S	Sn	00 09 44.0	+2.5
YHNB	Yeheng	8.22	246	*e*Pn	Pn	00 09 30.5	+0.4
NACB	Ninganchiao	8.29	242	*e*Pn	Pn	00 09 27.6	-3.3
TJN	Taejon	8.32	347	⇑*e*P	Pn	00 09 34.4	+3.1
YULB	Yu-li	8.94	239	*e*Pn	Pn	00 09 36.2	-3.7
SSLB	Suanglung	8.99	242	*e*Pn	Pn	00 09 39.5	-1.0
SSLB				*e*S	Sn	00 11 13.2	-7.1
KSAR	Wonju Array Be	9.28	351	P	Pn	00 09 46.4	+2.1
KSAR	Wonju Array Be	9.28	351	P	Pn	00 09 46.4	+2.1
KSRS	Korea Array 0.4nm,0.3s,baz=171,slow=13,SNR=8.8	9.28	352	P	Pn	00 09 46.4	+2.0
KSRS	comp=Z,164nm,21.2s,baz=160,slow=38			LR	LR	00 13 19.7	
TPUB	Ta-pu	9.50	241	*e*Pn	Pn	00 09 45.4	-2.2
NJ2	Nanjing	10.07	295	*e*P	Pn	00 09 57.4	+2.2
NJ2	comp=Z,60nm,1.3s			pmax	pmax		
NJ2	comp=Z,30nm,0.9s			pmax	pmax		
NJ2	Nanjing	10.07	295	*e*P	Pn	00 09 57.4	+2.2
NJ2	comp=Z,30nm,0.9s			PMZ			
MAJO	Matsushiro	10.98	39	*e*P	Pn	00 10 06.6	-1.1
MAJO	comp=Z,2.0nm,0.6s			pmax	pmax		
MAJO	Matsushiro comp=Z,1.5nm,0.6s	10.98	39	*e*Pn	Pn	00 10 06.6	-1.1
MJAR	Matsushiro Arr comp=Z,0.2nm,0.3s,baz=225,slow=12,SNR=4.0	10.98	39	P	Pn	00 10 06.7	-0.9
CBIJ	Chichi jima	11.18	93	P	Pn	00 10 10.0	-0.4
JCJ	Chichijima comp=Z,16nm,0.3s,baz=256,slow=23,SNR=8.8	11.18	93	P	Pn	00 10 10.0	-0.4
JCJ	comp=Z,84nm,18.0s,baz=90,slow=38			LR	LR	00 14 47.8	
WHN	Wuhan	13.52	283	P	P	00 10 46.4	-3.2
CN2	Changchun	15.87	349	*e*P	P	00 11 17.0	+1.4
CN2	comp=Z,10.0nm,0.6s			PMZ			
USRK	Ussuriysk Ar. comp=Z,31nm,20.0s,baz=155,slow=39	16.02	6	LR	LR	00 17 51.4	
BJI	Beijing	16.17	320	P	P	00 11 18.9	0.0
BJI				pP	pP	00 11 30.4	-1.3
BJI				sP	sP	00 11 38.6	-0.7
BJI				S	S	00 14 22.1	-3.2
BJI	comp=Z,40nm,0.9s			PMZ			
BJI	comp=Z,110nm,3.5s			PMZ			
BJI	comp=Z,130nm,22.1s			LN			
BJI	comp=Z,130nm,18.0s			LE			
ENH	Enshi comp=Z,9.0nm,0.7s	17.70	281	*e*Pn	P	00 11 36.8	+0.9
XAN	Xi'an	18.63	293	P	P	00 11 46.4	+0.2
XAN				pP	pP	00 11 57.6	-1.5
XAN	comp=Z,17nm,0.7s			PMZ			
ASAJ	Asahikawa comp=Z,0.7nm,0.3s,baz=216,slow=13,SNR=5.6	18.93	30	P	P	00 11 49.6	+0.4
ASAJ	Asahikawa	18.93	30	P	P	00 11 49.7	+0.4
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
HHC	Hu-ho-hao-te	19.43	315	*e*P	P	00 11 54.7	-0.2
HHC				pP	pP	00 12 07.7	-0.2
HHC				sP	sP	00 12 15.6	+0.1
HHC				S	S	00 15 26.7	-4.8
HHC				sS	sS	00 15 46.5	-6.0
HHC				ScP	ScP	00 19 42.9	-2.2
HHC	comp=Z,16nm,0.6s			PMZ			
HHC				PMZ			

comp=Z,46nm,4.1s
HHC LN
comp=Z,90nm,12.8s
HHC LE
comp=Z,87nm,11.8s
QIZ Qiongzhong 20.30 247 P **P** **00 12 04.9 +0.4**
QIZ pP **pP** **00 12 16.4 -1.1**
QIZ sP **sP** **00 12 22.9 -2.1**
QIZ S **S** **00 15 49.4 +0.5**
QIZ PMZ
comp=Z,6.0nm,1.4s
GUMO Guam 20.35 133 LR LR 00 18 36.9
comp=Z,46nm,21.4s,baz=84,slow=32
GYA Guiyang 20.48 270⇑ *iP* **P** **00 12 07.2 +0.7**
GYA pP **pP** **00 12 21.3 +1.8**
GYA sP **sP** **00 12 30.0 +2.9**
GYA PP **PnPn** **00 12 31.4 +5.4**
GYA S **S** **00 15 49.6 -3.0**
GYA sS **sS** **00 16 11.0 -2.9**
GYA SS **SnSn** **00 16 21.8 +6.9**
GYA PMZ
comp=Z,40nm,0.7s
GYA PMZ
comp=Z,110nm,4.6s
GYA LN
comp=Z,520nm,11.8s
GYA LE
comp=Z,460nm,12.3s
GYA LZ
comp=Z,560nm,13.6s
HABR Khabarovsk 20.61 10 *eP* Pn 00 12 22.2 +12
HABR *e* 00 12 28.6
HABR *eS* **S** **00 15 55.8 +1.3**
HABR *e* 00 16 14.2
HABR *eSS* **SnSn** **00 16 22.0 +4.2**
HABR *e* 00 23 28.4
HABR pmax pmax
comp=Z,11nm,1.0s
HABR MLR MLR
comp=Z,385nm,21.0s
KLR Kul'dur 21.00 4 *eP* P 00 12 03.2 -8.6
CD2 Chengdu 22.65 283 P **P** **00 12 28.5 -1.1**
CD2 pP **pP** **00 12 42.0 -0.8**
CD2 sP **sP** **00 12 49.6 -0.7**
CD2 PcP **PcP** **00 16 19.1 -1.4**
CD2 S **S** **00 16 33.4 0.0**
CD2 sS **sS** **00 16 56.5 -0.2**
CD2 PMZ
comp=Z,80nm,0.5s
CD2 PMZ
comp=Z,150nm,4.7s
CD2 LE
comp=Z,250nm,9.3s
CD2 LZ
comp=Z,190nm,10.3s
LZH Lanzhou 23.14 296 *eP* **P** **00 12 35.5 +0.8**
LZH pP **pP** **00 12 49.1 +0.9**
LZH sP **sP** **00 12 55.7 +0.1**
LZH PP PnPn 00 13 09.7 +7.4
LZH S **S** **00 16 38.1 -3.6**
LZH PMZ
comp=Z,45nm,1.4s
LZH PMZ
comp=Z,130nm,4.7s
LZH LN
comp=Z,410nm,10.8s
LZH LE
comp=Z,580nm,10.1s
LZH LZ
comp=Z,730nm,12.5s
KMI Kunming 24.22 269 ⇓P **P** **00 12 45.3 +0.5**
KMI pP **pP** **00 13 00.0 +0.5**
KMI sP **sP** **00 13 06.5 -0.1**
KMI PP **PnPn** **00 13 23.1 +5.9**
KMI PMZ
comp=Z,59nm,0.8s
UBPT Khong Chiam 25.83 245 P P 00 13 04.4 +5.1
comp=Z,13nm,1.7s
SKNT Sakolnakorn 26.15 250 P **P** **00 13 03.5 +1.3**
comp=Z,18nm,0.6s,comp=Z,2µm
NONG Nongkai 26.33 253 P **P** **00 13 05.2 +1.4**
comp=Z,13nm,1.0s
SONM Songino Array 26.60 324 P **P** **00 13 04.7 -1.5**
comp=Z,2.9nm,0.7s,baz=136,slow=10,SNR=20
SONM pP **pP** **00 13 20.3 -0.5**
comp=Z,1.6nm,0.7s,baz=133,slow=9.7,SNR=4.4
GTA Gaotai 27.04 302 *eP* **P** **00 13 08.8 -1.4**
GTA pP **pP** **00 13 23.3 -1.5**
GTA sP **sP** **00 13 30.6 -1.3**
GTA S **S** **00 17 41.8 -2.0**
GTA sS **sS** **00 18 06.8 -2.1**
GTA SS **SnSn** **00 19 00.4 +5.4**
GTA PMZ
comp=Z,6.0nm,0.9s
GTA PMZ
comp=Z,86nm,5.8s
GTA LN
comp=Z,160nm,20.9s
GTA LE
comp=Z,280nm,20.4s
GTA LZ
comp=Z,120nm,20.4s
CRAI Chiangrai 27.80 260 P **P** **00 13 15.1 -1.9**
comp=Z,26nm,1.0s
LOEI Loei 28.18 254 P **P** **00 13 18.1 -2.3**
comp=Z,22nm,0.8s,comp=Z,663nm
CHAI Chaiyaphum 28.34 250 P **P** **00 13 22.9 +1.0**
comp=Z,11nm,0.7s,comp=Z,117nm
UTTA Uttaradit 28.68 255 P **P** **00 13 25.5 +0.7**
comp=Z,4.1nm,1.1s,comp=Z,46nm
PBKT Sadao Pong 28.87 252 P **P** **00 13 27.4 +0.9**
comp=Z,14nm,1.0s
LAMP Lampang 29.13 257 P **P** **00 13 31.2 +2.4**
comp=Z,3.8nm,0.8s
CMMT Chiang Mai 29.60 258 P **P** **00 13 33.6 +0.6**
comp=Z,13nm,1.1s
CHTO Chiang Mai 29.60 258 P **P** **00 13 33.7 +0.7**
comp=Z,47nm,1.1s
CHTO Chiang Mai 29.60 258 *eP* **P** **00 13 33.0 0.0**
CHTO pmax pmax
comp=Z,14nm,1.2s
CHTO Chiang Mai 29.60 258 *eP* **P** **00 13 33.0 0.0**
comp=Z,14nm,1.2s
CMAR Chiang Mai Arr 29.75 258 P **P** **00 13 35.0 +0.6**
comp=Z,1.9nm,0.6s,baz=56,slow=6.1,SNR=9.4
CMAR PcP **PcP** **00 16 38.4 +1.4**
comp=Z,1.3nm,0.6s,baz=50,slow=1.0,SNR=7.7
CMAR LR LR 00 27 35.5
comp=Z,40nm,18.6s,baz=176,slow=41
ZAK Zakamensk 29.79 325 *eP* P 00 13 44.3 +10
ZAK pmax pmax
comp=Z,2.0nm,1.1s
PETK Petropavlovsk- 32.32 32 LR LR 00 28 01.6
comp=Z,24nm,19.6s,baz=263,slow=38
LSA Lhasa 33.60 282 P **P** **00 14 08.3 -0.2**
LSA Lhasa 33.60 282 *eP* **P** **00 14 08.4 -0.2**
LSA pmax pmax
comp=Z,10.0nm,0.6s
LSA Lhasa 33.60 282 *eP* **P** **00 14 08.4 -0.2**
comp=Z,9.9nm,0.6s
H11N2 WAKE ISLAND Hy 34.97 96 T T 00 51 48.6
baz=290,slow=74,SNR=18
H11N1 WAKE ISLAND Hy 34.97 96 T T 00 51 52.2
baz=290,slow=74,SNR=14
H11N3 WAKE ISLAND Hy 34.99 96 T T 00 51 50.6
baz=290,slow=74,SNR=21
H11S3 WAKE ISLAND Hy 35.25 98 T T 00 52 18.5
baz=286
H11S1 WAKE ISLAND Hy 35.26 98 T T 00 52 14.1
baz=286
H11S2 WAKE ISLAND Hy 35.27 98 T T 00 52 17.6
baz=286
WMQ Urumqi 36.88 306 P **P** **00 14 38.5 +2.3**
WMQ pP **pP** **00 14 53.7 +2.5**
WMQ sP **sP** **00 15 00.9 +2.7**
WMQ PMZ
comp=Z,2.0nm,0.4s
WMQ PMZ
comp=Z,11nm,5.6s
TAPN Taplejung 36.97 279 *eP* **P** **00 14 37.1 -0.3**
comp=Z,13nm,0.4s
ODAN Odare 37.34 278 *eP* **P** **00 14 40.5 0.0**
comp=Z,124nm,0.6s
SEY Seymchan 37.72 17 P **P** **00 14 42.5 -0.4**
comp=Z,6.6nm,0.7s,baz=186,slow=6.4,SNR=19
RAMN Ramite 38.02 278 *eP* **P** **00 14 45.9 -0.3**
comp=Z,27nm,0.6s
JIRN Jiri 38.23 280 *eP* **P** **00 14 48.1 0.0**
comp=Z,14nm,0.4s
GUN Gumba 38.45 280 *eP* **P** **00 14 50.2 +0.3**
comp=Z,83nm,0.5s
PKI Pulchoki 38.92 280 *eP* **P** **00 14 53.7 -0.2**
comp=Z,73nm,0.6s
KKN Kakani 38.99 280 *eP* **P** **00 14 54.5 +0.1**
comp=Z,61nm,0.5s
DMN Daman 39.18 280 *eP* **P** **00 14 55.6 -0.4**
comp=Z,50nm,0.7s
GKN Gorkha 39.51 281 *eP* **P** **00 14 58.5 -0.1**
comp=Z,74nm,0.6s
DANN Dangsing 40.20 281 *eP* **P** **00 15 03.8 -0.7**
KOLN Koldanda 40.45 281 *eP* **P** **00 15 06.5 0.0**
comp=Z,24nm,0.4s
MK31 Makanchi Array 41.16 310 *i* P **P** **00 15 09.9 -1.9**
MK31 Makanchi Array 41.16 310 *eP* **P** **00 15 10.0 -1.9**
MK31 *eP* **P** **00 17 10.0 -0.1**
MKAR Makanchi Array 41.16 310 P **P** **00 15 10.3 -1.5**
comp=Z,1.6nm,0.6s,baz=94,slow=11,SNR=16
MKAR PcP **PcP** **00 17 09.9 -0.2**
comp=Z,1.4nm,0.6s,baz=76,slow=3.3,SNR=8.3
MKAR LR LR 00 33 40.7
comp=Z,27nm,19.1s,baz=70,slow=38
MKAR Makanchi Array 41.16 310 P **P** **00 15 10.3 -1.5**
MKAR 00 17 10.0
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR MLR MLR
comp=Z,27nm,19.1s
ZALV Zalesovo Beam 41.43 321 P **P** **00 15 11.8 -2.1**
comp=Z,1.8nm,0.4s,baz=104,slow=9.6,SNR=10
ZALV PcP **PcP** **00 17 09.3 -1.4**
comp=Z,0.7nm,0.4s,baz=125,slow=4.2,SNR=5.7
ZALV LR LR 00 34 04.8
comp=Z,32nm,22.0s,baz=70,slow=39
KURK Kurchatov 44.24 315 P **P** **00 15 34.7 -2.0**
KURK 00 17 19.8
KURK pmax pmax
comp=Z,2.0nm,0.5s
KURK Kurchatov 44.24 315 *eP* **P** **00 15 34.3 -2.4**
comp=Z,4.7nm,0.8s
KURK PcP **PcP** **00 17 19.8 -0.5**
KURBB Kurchatov Arra 44.28 315 P **P** **00 15 34.7 -2.3**
comp=Z,2.0nm,0.5s,baz=99,slow=8.8,SNR=32
KURBB PcP **PcP** **00 17 19.8 -0.6**
comp=Z,0.9nm,0.7s,baz=98,slow=3.6,SNR=6.2
KSH Kashi 45.35 299 *eP* **P** **00 15 48.9 +3.1**
KSH pP **pP** **00 16 04.8 +3.6**
KSH PcP **PcP** **00 17 27.2 +2.7**
KSH PP **PP** **00 17 37.4 +4.7**
KSH PcS **PcS** **00 21 19.5 +0.9**
KSH S **S** **00 22 25.4 +2.9**
KSH sS sS 00 22 54.4 +5.9
KSH PMZ
comp=Z,5.0nm,0.6s
KSH PMZ
comp=Z,33nm,3.1s
KSH LN
comp=Z,120nm,6.6s
KSH LE
comp=Z,100nm,4.6s
KSH LZ
comp=Z,120nm,4.4s
TKM2 Tokmak 2 45.57 304 P **P** **00 15 46.1 -1.5**
TKM2 pmax pmax
comp=Z,6.0nm,0.7s
TKM2 Tokmak 2 45.57 304 *eP* **P** **00 15 47.3 -0.3**
comp=Z,11nm,1.1s
AAK Ala-Archa 46.38 303 P **P** **00 15 52.9 -1.1**
comp=Z,1.7nm,0.3s,baz=125,slow=3.9,SNR=5.1
AAK LR LR 00 37 16.9
comp=Z,44nm,19.1s,baz=98,slow=39
AAK Ala-Archa 46.38 303⇑ *eP* **P** **00 15 53.4 -0.5**
AAK pmax pmax
comp=Z,16nm,2.5s
MNAS Manas 47.85 303 P **P** **00 16 04.7 -0.7**
MNAS pmax pmax
comp=Z,3.0nm,0.8s
OTUK Ortayu 48.02 311 P **P** **00 16 05.5 -1.0**
OTUK pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 48.13 174 P **P** **00 16 07.6 0.0**
comp=Z,0.7nm,0.6s,baz=354,slow=8.2,SNR=3.7
WRA pP **pP** **00 16 22.6 -0.5**
comp=Z,1.5nm,0.6s,baz=350,slow=8.4,SNR=3.8
KK31 Karatay Array 49.29 304 *i* P **P** **00 16 15.7 -0.6**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 49.29 304 *eP* **P** **00 16 15.7 -0.6**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 49.29 304 *eP* **P** **00 16 15.7 -0.6**
comp=Z,3.0nm,0.6s
KKAR *e*PcP PcP 00 17 27.3 -11
BVA0 Borovoye Array 49.62 317 *eP* **P** **00 16 16.9 -1.7**
BVA0 pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 49.62 317 P **P** **00 16 17.1 -1.6**
comp=Z,2.3nm,0.5s,baz=91,slow=8.9,SNR=21
BVAR PcP **PcP** **00 17 39.2 -0.1**
comp=Z,1.5nm,0.4s,baz=116,slow=3.4,SNR=7.0
BRVK Borovoye 49.69 317⇑ *eP* **P** **00 16 18.0 -1.1**
BRVK pmax pmax
comp=Z,8.0nm,1.2s
BRVK Borovoye 49.69 317 *eP* **P** **00 16 17.5 -1.6**
comp=Z,5.6nm,0.6s
BRVK *e*PcP PcP 00 17 34.0 -5.5
DZET Dzherino 50.94 299 P **P** **00 16 28.6 -0.4**
DZET pmax pmax
comp=Z,31nm,0.7s
KBL Kabul 51.44 293 *eP* **P** **00 16 33.1 +0.2**
KBL pmax pmax
comp=Z,5.0nm,0.5s
KBL Kabul 51.44 293 *eP* **P** **00 16 33.1 +0.2**
comp=Z,4.5nm,0.5s
ASAR Alice Springs 51.79 175 P **P** **00 16 35.6 +0.4**
comp=Z,0.4nm,0.7s,baz=7.0,slow=14,SNR=17
ASAR pP **pP** **00 16 52.5 +1.6**
comp=Z,0.9nm,0.5s,baz=8.6,slow=12,SNR=7.0
SVE Sverdlovsk 55.44 321 ⇓ *iP* **P** **00 17 01.9 +0.3**
SVE pmax pmax
comp=Z,9.0nm,0.8s
AB31 Akbulak array 56.19 312 P **P** **00 17 06.0 -1.1**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 56.19 312 *eP* **P** **00 17 06.3 -0.8**
comp=Z,2.9nm,0.7s
ARU Arti 56.59 321 *d iP* **P** **00 17 09.2 -0.6**
ARU S **S** **00 24 57.8 +0.7**
ARU SS **SS** **00 28 38.7 -6.2**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU Arti 56.59 321 *eP* **P** **00 17 08.6 -1.2**
comp=Z,11nm,1.0s
AKTO Aktyubinsk 57.32 314 P **P** **00 17 14.4 -0.7**
AKTO pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 62.06 29 P **P** **00 17 47.9 +0.4**
comp=Z,0.7nm,1.0s,baz=279,slow=6.3,SNR=5.5
ILAR pP **pP** **00 18 01.6 -1.9**
comp=Z,0.8nm,0.7s,baz=291,slow=8.6,SNR=6.7
PRGR Permogore 62.76 328 *eP* P 00 17 47.9 -4.1
PRGR *PP pP 00 18 05.1 -3.1
PRGR pmax pmax
comp=Z,24nm,1.1s
KLMR Klimovskoe 65.81 328 *eP* **P** **00 18 10.6 -1.4**
KLMR pmax pmax
comp=Z,31nm,1.3s
ZEI Tsey 68.47 308 *eP* **P** **00 18 28.7 -0.8**
ZEI pmax pmax
comp=Z,8.0nm,0.6s
ARCES ARCESS Array B 68.58 339 P **P** **00 18 28.5 -1.0**
comp=Z,2.1nm,0.7s,baz=73,slow=5.6,SNR=10.0
ARCES LR LR 00 52 18.6
comp=Z,30nm,20.7s,baz=71,slow=39
GNI Garni 68.74 305⇑ *iP* **P** **00 18 32.7 +1.5**
GNI pmax pmax
comp=Z,10.0nm,1.2s
GNI Garni 68.74 305 *eP* **P** **00 18 31.2 +0.1**
comp=Z,11nm,1.2s
KBZ Khabaz 68.85 309 P **P** **00 18 31.1 -0.4**
comp=Z,5.7nm,0.8s,baz=146,slow=24,SNR=8.9
KIV Kislovodsk 68.92 309 *eP* **P** **00 18 32.6 +0.4**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,22nm,17.0s
KIV Kislovodsk 68.92 309 *eP* **P** **00 18 32.4 +0.3**
comp=Z,7.7nm,0.8s
OBN Obninsk 69.00 322⇓ *eP* **P** **00 18 31.5 -0.8**
OBN *e* 00 21 04.5
OBN pmax pmax
comp=Z,4.0nm,0.6s
OBN MLR MLR
comp=Z,60nm,18.0s
FINES FINESS Array B 71.72 331 P **P** **00 18 47.9 -0.9**
comp=Z,5.0nm,0.4s,baz=75,slow=5.3,SNR=106
FINES LR LR 00 52 11.7
comp=Z,47nm,19.2s,baz=81,slow=37
VSU Vasula 72.71 328⇓ *eP* **P** **00 18 55.0 +0.3**
MALT Malatya 73.97 305⇑ *iP* **P** **00 19 04.4 +1.7**
RAYN Ar Rayn 74.36 289 *eP* **P** **00 19 05.2 +0.1**
comp=Z,6.6nm,1.0s
AKASG Malin Array Be 74.81 320 P **P** **00 19 06.6 -0.5**
comp=Z,7.1nm,0.5s,baz=53,slow=5.8,SNR=24
AKASG LR LR 00 54 55.4
comp=Z,30nm,19.6s,baz=15,slow=38
AKASG Malin Array Be 74.81 320 *ce*P **P** **00 19 06.8 -0.4**
AKASG pmax pmax
comp=Z,7.0nm,0.5s
KIEV Kiev 74.82 320⇓ *iP* **P** **00 19 06.8 -0.4**
YKA Yellowknife Ar 76.16 26 P **P** **00 19 14.8 +0.1**
comp=Z,0.8nm,0.6s,baz=302,slow=5.2,SNR=5.9
YKA pP **pP** **00 19 31.1 -0.2**
comp=Z,1.3nm,0.8s,baz=299,slow=5.9,SNR=5.7
YKA Yellowknife Ar 76.16 26 P **P** **00 19 14.8 +0.1**
YKA *PP **pP** **00 19 31.1 -0.2**
YKA pmax pmax
comp=Z,1.0nm,0.6s
BR131 Keskin Array S 76.78 308 *eP* **P** **00 19 18.5 -0.3**
comp=Z,4.9nm,0.7s
BRTR Keskin Array B 76.78 308 P **P** **00 19 18.4 -0.3**
comp=Z,6.3nm,0.7s,baz=99,slow=4.6,SNR=57
BRTR LR LR 00 58 41.3
comp=Z,26nm,18.8s,baz=186,slow=40
BRTR Keskin Array B 76.78 308 *ce*P **P** **00 19 18.6 -0.3**
BRTR pmax pmax
comp=Z,6.0nm,0.7s
CFR Carcaliu 77.96 315⇓ *iP* **P** **00 19 24.7 -0.4**
NB2 NORSAR Subarra 78.05 334 P **P** **00 19 24.0 -1.4**
comp=Z,2.8nm,0.5s,baz=51,slow=5.3
NOA NORSAR Array B 78.05 334 P **P** **00 19 24.2 -1.2**
comp=Z,3.1nm,0.5s,baz=51,slow=5.5,SNR=24
NOA LR LR 00 57 21.6
comp=Z,29nm,18.7s,baz=275,slow=38
TESR Tescani 78.25 317⇑ *iP* **P** **00 19 27.3 +0.6**
TLB Topalu 78.30 314⇓ *iP* **P** **00 19 27.0 0.0**
VRI Vrincioaia 78.51 316⇑ *iP* **P** **00 19 28.8 +0.6**
PLOR Plostina 78.56 316⇑ *iP* **P** **00 19 29.7 +1.2**
BUR08 Bucovina Ar. S 78.56 318 *eP* **P** **00 19 28.6 0.0**
BURAR Bucovina Array 78.57 318⇑ *iP* **P** **00 19 28.7 +0.1**
MSAB Monastry St. A 78.67 314⇑ *iP* **P** **00 19 29.2 +0.1**
SUMG Summit 79.10 356 *i* P **P** **00 19 31.7 +0.3**
comp=Z,12nm,0.9s
SUMG Summit 79.10 356 *i* P **P** **00 19 31.7 +0.3**
SUMG pmax pmax
comp=Z,12nm,0.9s
SUMG Summit 79.10 356 *eP* **P** **00 19 31.4 0.0**
comp=Z,12nm,0.9s
MLR Muntele Rosu 79.17 316⇑ *iP* **P** **00 19 32.3 +0.3**
DOPR Dopca 79.28 317⇑ *iP* **P** **00 19 33.4 +1.0**
SULR 79.38 315⇓ *iP* **P** **00 19 32.9 0.0**
TRPA Tarpa 79.87 319⇑ *iP* **P** **00 19 36.4 +0.9**
ARR Arges 80.03 316⇑ *iP* **P** **00 19 36.9 +0.3**
HUMR Humele 80.24 315⇑ *iP* **P** **00 19 37.5 -0.1**
OJC Ojcow 80.29 322 *eP* **P** **00 19 38.2 +0.4**
OJC pmax pmax
comp=Z,14nm,0.8s
OJC Ojcow 80.29 322 *eP* **P** **00 19 38.2 +0.4**
comp=Z,14nm,0.8s
DRGR 80.46 318⇑ *iP* **P** **00 19 38.6 -0.3**
LOT Lotru 80.52 317⇑ *iP* **P** **00 19 39.0 -0.3**
RPZ Rata Peaks 81.06 151 LR LR 00 58 23.1
comp=Z,33nm,18.3s,baz=360,slow=38
GZR Gura Zlata 81.15 317⇑ *iP* **P** **00 19 43.6 +1.1**
SIRR Siria 81.35 318⇓ *iP* **P** **00 19 43.9 +0.3**
KRLC Kraliky 81.98 323 *eP* **P** **00 19 48.0 +1.1**
KRLC *e*PCP **PcP** **00 19 54.0 +1.7**
KRLC Kraliky 81.98 323 *eP* **P** **00 19 48.0 +1.1**
DPC Dobruska-Polom 82.07 324 *eP* **P** **00 19 47.9 +0.6**
DPC *e*PCP **PcP** **00 19 53.2 +0.6**
DPC Dobruska-Polom 82.07 324 *eP* **P** **00 19 47.9 +0.6**
UPC Upice 82.14 324 *eP* **P** **00 19 48.8 +1.2**
UPC *e*PCP **PcP** **00 19 54.6 +1.7**
UPC Upice 82.14 324 *eP* **P** **00 19 48.8 +1.2**
VTS Vitosha 82.34 314⇑ *iP* **P** **00 19 49.8 +0.8**
VRAC Vranov 82.53 323⇓ *iP* **P** **00 19 50.3 +0.7**
PVCC Panska Ves 82.88 324 *eP* **P** **00 19 51.2 -0.2**
PVCC *ep*P **pP** **00 20 05.2 -3.0**
PVCC Panska Ves 82.88 324 *eP* **P** **00 19 51.2 -0.2**
PVCC *e* 00 20 05.2
BRG Berggiesshubel 82.99 325 *eP* **P** **00 19 52.7 +0.7**
comp=Z,2.5nm,0.7s
BRG Berggiesshubel 82.99 325 *e*PcP **P** **00 19 53.0 +1.0**
BRG Berggiesshubel 82.99 325 *eP* **P** **00 19 52.7 +0.7**
BRG pmax pmax
comp=Z,7.0nm,0.7s
GOPC GO Pecny, Ondr 83.13 324 *eP* **P** **00 19 53.1 +0.3**
CLL Collm 83.20 326 *e*PcP **P** **00 19 53.6 +0.5**
CLL Collm 83.20 326⇑ *iP* **P** **00 19 52.9 -0.1**
comp=Z,8.0nm,0.8s
CLL Collm 83.20 326 *eP* **P** **00 19 53.0 -0.1**
CLL pmax pmax
comp=Z,9.0nm,0.7s
CLL Collm 83.20 326 *eP* **P** **00 19 53.0 -0.1**
comp=Z,9.1nm,0.7s
PRU Pruhonice 83.21 324 *eP* **P** **00 19 54.1 +1.0**
PRU Pruhonice 83.21 324 *eP* **P** **00 19 54.1 +1.0**
FBE Freiberg 83.26 325 *e*PcP **P** **00 19 54.5 +1.1**
DIVS Divibare 83.52 317⇑ *iP* **P** **00 19 54.6 -0.4**
CONA Conrad Observa 83.72 322⇑ *i*PcP **P** **00 19 56.7 +0.7**
comp=Z,7.7nm,0.6s,SNR=7.8
NRDL Niedersach Rie 83.86 328 *e*PcP **P** **00 19 57.1 +0.8**
NEUB Neuenburg 83.87 326 *e*PcP **P** **00 19 57.3 +0.8**
TANN Tannenbergstha 84.02 325 *e*PcP **P** **00 19 58.1 +0.7**
WERD Werda 84.08 325 *e*PcP **P** **00 19 58.3 +0.7**
GUNZ Gunzen 84.11 325 *e*PcP **P** **00 19 58.6 +0.8**
PLN Plauen 84.13 325 *e*PcP **P** **00 19 58.6 +0.8**
NKC Novy Kostel 84.14 325 *eP* **P** **00 19 58.3 +0.4**
NKC Novy Kostel 84.14 325 *eP* **P** **00 19 58.3 +0.4**
WERN Wernitzgruen 84.14 325 *e*PcP **P** **00 19 58.8 +0.8**
CLZ Clausthal 84.15 327 *e*PcP **P** **00 19 59.1 +1.1**
KHC Kasperske Hory 84.23 324 *eP* **P** **00 19 58.3 -0.1**
KHC Kasperske Hory 84.23 324 *eP* **P** **00 19 58.1 -0.3**
KHC pmax pmax
comp=Z,1.0nm,0.8s
KHC Kasperske Hory 84.23 324 *eP* **P** **00 19 58.1 -0.3**
comp=Z,1.0nm,0.8s
MOX Moxa 84.30 326 *e*PcP **P** **00 19 59.4 +0.7**
GEC2 GERESS Array S 84.33 323 *e*PcP **P** **00 19 59.6 +0.5**
GERES GERESS Array B 84.33 323 P **P** **00 19 59.1 0.0**
comp=Z,1.5nm,0.6s,baz=46,slow=5.8,SNR=18
MANZ Manzenberg 84.46 325 *e*PcP **P** **00 20 00.4 +0.8**
ROTZ Rotzenmuhle 84.55 325 *e*PcP **P** **00 20 01.1 +1.1**
WET Wettzell 84.58 324 *e*PcP **P** **00 20 01.2 +1.0**
SOKA Soboth 84.91 321⇑ *i*PcP **P** **00 20 02.1 +0.1**
comp=Z,5.8nm,1.0s,SNR=6.0
IBBN Ibbenburen 85.08 328 *e*PcP **P** **00 20 03.1 +0.5**
GRFO Grafenberg 85.09 325 *eP* **P** **00 20 03.3 +0.6**
GRFO pmax pmax
comp=Z,10.0nm,1.0s
GRFO Grafenberg 85.09 325 *eP* **P** **00 20 03.3 +0.6**
comp=Z,10nm,1.0s
FFC Flin Flon 86.22 27 *eP* **P** **00 20 07.5 -0.7**
FFC pmax pmax
comp=Z,4.0nm,0.8s
FFC Flin Flon 86.22 27 *eP* **P** **00 20 07.5 -0.7**
comp=Z,3.6nm,0.8s
ABTA Abfaltersbach 86.25 322⇑ *iP* **P** **00 20 06.9 -1.7**
comp=Z,15nm,1.2s
DAVA Damuels 87.31 324⇑ *iP* **P** **00 20 12.3 -1.6**
comp=Z,5.6nm,0.5s,SNR=5.9
DLMT Dillon 87.46 39 *eP* **P** **00 20 15.9 +1.3**
comp=Z,4.1nm,0.8s
FUORN Ofenpass-Fuorn 87.53 323 *eP* **P** **00 20 15.2 +0.1**
comp=Z,17nm,0.7s
NVAR Mina Array Bea 88.20 47 P **P** **00 20 20.1 +1.6**
comp=Z,0.4nm,0.6s,baz=288,slow=4.3,SNR=3.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDAR	Pinedale Array	90.80	39	P	P	00 20 31.1	+0.6
	comp=Z,1.0nm,0.8s,baz=354,slow=6.0,SNR=5.3						
SCHQ	Schefferville	96.04	9	LR	LR	01 06 38.4	
	comp=Z,37nm,19.4s,baz=66,slow=37						
ESDC	Sonseca Array	99.79	325	P	Pdif	00 21 10.6	-0.6
	comp=Z,0.1nm,0.4s,baz=27,slow=4.2,SNR=3.1						
TORD	Torodi Ar. Bea	114.96	302	PKP	PKPdf	00 26 07.5	-0.7
	comp=Z,0.2nm,0.6s,baz=1.1,slow=2.7,SNR=2.9						
TORD				pPKP	pPKP	00 26 24.3	
	comp=Z,0.2nm,0.6s,baz=341,slow=3.1,SNR=1.9						

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*ECX **06** 00:18:41.8±0.6, 32°.17N×115°.23W, h9^{km}, MD3.3, ML3.5*
*NEIC **06** 00:18:41.8, 32°.17N×115°.23W, h9^{km}, ML3.4(PAS), ML3.5(ECX), After ECX.*
ISC 06 00:18:40.6±1.0, **32°.13N**±0°.02×**115°.28W**±0°.02, **h9**^{km}±10^{km}, **n25**, σ1^{s}**69**/52, **4C-1D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.29	355	⇓eP	Pg	00 18 46.7	+0.3
CPBX				eP	Pg	00 18 46.7	+0.3
CPBX				eS	Sg	00 18 50.9	+0.6
RDX	Rancho Dawling	0.60	251	⇑eP	Pb	00 18 53.9	+0.4
RDX				eS	Sb	00 19 02.6	+0.5
RDX				IAML		00 19 03.9	
	comp=N,2μm,0.4s						
ECBX	El Chinero	0.68	164	ePn	Pg	00 18 54.0	+0.1
ECBX				eS	Sg	00 19 03.6	+0.9
WESC	Westside Schoo	0.74	329	eP	Pg	00 18 54.9	+0.1
RMX	La Rumorosa	0.83	305	eP	Pg	00 18 56.6	0.0
RMX				eS	Sb	00 19 07.9	-0.7
RMX				⇑e		00 19 08.5	
RMX				IAML		00 19 08.5	
	comp=N,2μm,0.2s						
GLA	Glamis	0.99	22	ePg	Pg	00 18 57.4	-2.4
GLA				eS	Sg	00 19 09.5	-3.2
SPX	San Pedro Mart	1.09	188	eP	Pb	00 19 01.7	-0.2
SPX				eS	Sb	00 19 16.9	+0.5
SPX				e		00 19 19.5	
SPX				AML	AML	00 19 19.7	
	comp=N,555nm,0.1s						
SPX				⇑e		00 19 19.7	
CBX	Cerro Bola	1.19	279	eP	Pb	00 19 02.8	-0.6
CBX				eS	Sn	00 19 20.0	0.0
CBX				IAML		00 19 20.7	
	comp=E,1μm,0.5s						
CBX				⇑e		00 19 20.7	
ECNX	Esteban Cantu	1.22	248	eP	Pn	00 19 04.1	+0.1
ECNX				eS	Sg	00 19 21.0	+1.1
PBX	Punta Banda	1.29	253	eP	Pn	00 19 05.1	+0.2
PBX				eS	Sb	00 19 22.6	+0.8
BAR	Barrett	1.30	295	ePn	Pn	00 19 04.4	-0.7
BAR				eS	Sb	00 19 21.8	-0.4
BAR	Barrett	1.30	295	eP	Pn	00 19 04.1	-0.9
PFO	Pinyon Flats O	1.78	326	ePn	Pn	00 19 09.4	-2.3
PFO				eS	Sb	00 19 35.8	-0.2
214A	Organ Pipe Nat	2.10	94	ePn	Pn	00 19 13.3	-2.7
214A				eS	Sb	00 19 44.1	-1.0
GSC	Goldstone, Bar	3.41	338	ePn	Pn	00 19 34.5	+0.3
GSC				ePg	Pg	00 19 45.2	-0.8
TUC	Tucson	3.81	86	ePn	Pn	00 19 38.4	-1.2
TUC				ePg	Pb	00 19 49.9	+1.8
TUC				eSg	Sb	00 20 37.2	+2.8
SHPR	Sheep Range	4.37	1	ePn	Pn	00 19 46.9	-0.5
SHPR				ePg	Pg	00 20 03.7	-0.6
SHPR				eS	Sg	00 21 04.7	+3.8
ISA	Isabella, Lake	4.41	324	ePn	Pn	00 19 50.1	+2.2
ISA				eS	Sg	00 20 59.2	-3.2
DAC	Darwin (Calif)	4.56	336	ePn	Pn	00 19 50.4	+0.4
DAC				eS	Sb	00 20 58.8	+2.6
WUAZ	Wupatki	4.69	43	ePn	Pn	00 19 51.6	-0.1
WUAZ				eSg	Sg	00 21 12.9	+1.8
R11A	Troy Canyon, C	6.21	358	ePn	Pn	00 20 11.9	-0.7
	comp=E,4.2nm,0.4s						
R11A				ePg	Pg	00 20 39.3	-0.3
R11A				eS	Sg	00 22 01.4	+1.3
121A	Cookes Peak, D	6.35	84	ePn	Pn	00 20 11.9	-2.7
	comp=E,5.9nm,0.3s						
121A				eS	Sg	00 22 03.4	-1.2
MSU	Marysvale	6.85	21	ePn	Pn	00 20 24.2	+2.7
	comp=E,4.0nm,0.7s						
MSU				eS	Sg	00 22 15.5	-5.1
PV04	Paradox Valley	8.13	38	ePn	Pn	00 20 39.3	+0.2
PV04				ePg	Pg	00 21 18.0	+1.6
PV04				eS	Sg	00 23 00.9	-0.8
MNTX	Cornudas Mount	8.42	90	ePn	Pn	00 20 42.1	-0.8

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*ISCJB **06** 00:33:21.6±0.5, 18°.24N±0°.03×103°.07W±0°.03, h67^{km}±3^{km}, mb4.4/46, Error ellipse: s-maj=6.1km s-min=4.0km az=32.5*
*BJI **06** 00:33:22.0, 18°.40N×103°.10W, h55^{km}, mB4.8/1, Ms4.9/2, Ms7 4.5/2*
*NEIC **06** 00:33:23.0, 18°.39N×103°.07W, h55^{km}, mb4.5/46, MD4.5(MEX), After MEX.*
NEIC Felt at Uruapan.
*IDC **06** 00:33:23.3±1.0, 18°.65N×102°.86W, h46^{km}±7^{km}, mb4.0/16, mb1 4.2/17, mb1mx4.1/24, mbtmp4.2/17, ML3.8/1, MS3.7/8, Ms1 3.7/8, ms1mx3.4/19, Error ellipse: s-maj=25.0km s-min=19.5km az=37.0*
*MEX **06** 00:33:23.7±0.8, 18°.39N×103°.07W, h53^{km}±9^{km}, MD4.5*
ISC 06 00:33:22.8±0.6, **18°.40N**±0°.05×**103°.02W**±0°.04, **h53**^{km}±5^{km}, **n320**, σ1^{s}**25**/295, **mb4.5**/45, **MS3.8**/5, **93C-118D, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.32	250	i P	Pn	00 33 31.4	-1.0
MMIG				i S	Sn	00 33 38.3	-1.0
R15V		1.19	310	eP	Pn	00 33 41.8	-1.4
R15V				i S	Sn	00 33 56.2	-2.2
EZ5V		1.21	333	i P	Pn	00 33 43.2	-0.5
EZ5V				i S	Sn	00 33 58.3	-0.8
URUA	Uruapan	1.36	41	i P	Pn	00 33 44.9	-0.7
URUA				i S	Sn	00 34 01.4	-1.3
ZIIG	Zihuatanejo	1.68	118	eP	Pn	00 33 49.9	+0.1
ZIIG				eS	Sn	00 34 09.3	-0.9
SFJM	Santa Fe	2.08	360	eP	Pn	00 33 51.1	-4.3
SFJM				eS	Sn	00 34 19.4	-0.8
MOIG	Morelia	2.15	53	i P	Pn	00 33 56.8	+0.3
MOIG				eS	Sn	00 34 22.5	+0.3
CAIG	El Cayaco	2.95	117	eP	Pn	00 34 07.7	+0.5
CAIG				eS	Sn	00 34 41.7	+0.3
ANIG	Ahuacatlan	3.00	332	eP	Pn	00 34 07.9	0.0
ANIG				eS	Sn	00 34 41.9	-0.8
PUVA	Puert Vallarta	3.03	317	i P	Pn	00 34 09.6	+1.3
PUVA				i S	Sn	00 34 42.4	-1.0
ACX	Acapulco	3.38	116	eP	Pn	00 34 10.4	-2.7
CMIG	Matias Romero	7.87	98	P	Pn	00 35 16.9	+2.3
	5.5nm,0.3s,baz=286,slow=10,SNR=39						
CMIG				S	Sn	00 36 43.1	+0.8
	1.7nm,0.3s,baz=300,slow=16,SNR=3.5						
CMIG				Lg	Lg	00 37 23.1	
	2.5nm,0.3s,baz=148,slow=17,SNR=2.9						
CMIG				LR	LR	00 38 46.4	
	comp=Z,226nm,19.4s,baz=200,slow=42						
SLBS	Sierra La Lagu	8.33	310	ePn	Pn	00 35 24.2	+3.2
LPIG	La Paz	8.85	311	LR	LR	00 38 22.6	
	comp=Z,307nm,21.0s,baz=70,slow=34						
034A	Hebbronville	9.51	24	⇑P	Pn	00 35 41.9	+4.8
	baz=9.6						
034A				⇓S	Sn	00 37 23.4	+0.8
	baz=9.6						
035A	Encino	9.64	27	⇑P	Pn	00 35 43.7	+4.8
	baz=9.7						
933A	Laredo	9.80	20	⇓P	Pn	00 35 45.4	+4.4
	baz=9.9						
832A	Faith Ranch, C	10.23	15	⇑P	Pn	00 35 50.4	+3.4
	baz=10,SNR=12						
833A	Chaparral WMA,	10.43	18	⇑P	Pn	00 35 54.3	+4.7
	baz=10						
834A	Tilden	10.52	22	⇑P	Pn	00 35 54.9	+4.0
	baz=11						
732A	Laxson Ranch,	10.66	15	⇑P	Pn	00 35 56.5	+3.7
	baz=11						
733A	Divot King Ran	10.83	18	⇓P	Pn	00 35 58.9	+3.8
	baz=11						
TXAR	Lajitas Array	10.90	357	P	Pn	00 35 58.3	+2.1
	0.4nm,0.3s,baz=176,slow=14,SNR=74						
TXAR				Lg	Lg	00 39 05.2	
	0.2nm,0.3s,baz=187,slow=29,SNR=4.2						
TXAR				LR	LR	00 40 40.6	
	comp=Z,481nm,18.7s,baz=0.0,slow=41						
734A	La Parita Cree	11.18	21	⇑P	Pn	00 36 04.3	+4.4
	baz=11						
631A	Perdido Creek	11.19	11	⇑P	Pn	00 36 04.2	+4.1
	baz=11,SNR=7.4						
632A	Uvalde	11.45	14	⇓P	Pn	00 36 07.7	+4.0
	baz=12,SNR=26						
633A	Saathoff Ranch	11.56	17	⇓P	Pn	00 36 09.1	+4.0
	baz=12,SNR=12						
529A	Stev Forest Ra	11.70	3	⇑P	Pn	00 36 11.9	+4.9
	baz=12,SNR=6.8						
634A	China Grove, S	11.74	20	⇓P	Pn	00 36 11.3	+3.7
	baz=12						
530A	J-C Ranch, Com	11.80	7	⇓P	Pn	00 36 12.5	+4.1
	baz=12,SNR=16						
736A	Circle Diamond	11.84	26	⇓P	Pn	00 36 12.2	+3.3
	baz=12						
531A	Rocksprings	11.93	10	⇓P	Pn	00 36 14.0	+3.8
	baz=12,SNR=9.9						
532A	Rocksprings	12.02	13	⇑P	Pn	00 36 15.1	+3.6
	baz=12,SNR=32						
533A	Kerrville	12.18	17	⇑P	Pn	00 36 16.8	+3.2
	baz=12,SNR=22						
429A	Davenport Ranc	12.22	5	⇑P	Pn	00 36 18.5	+4.4
	baz=12,SNR=15						
534A	Blanco	12.30	19	⇓P	Pn	00 36 18.1	+2.9
	baz=12,SNR=18						
636A	Smothers Creek	12.30	25	⇓P	Pn	00 36 17.9	+2.6
	baz=12,SNR=11						
JCT	Junction City	12.38	13	⇓P	Pn	00 36 20.1	+3.7
	baz=12,SNR=11						
JCT	Junction City	12.38	13	ePn	Pn	00 36 19.5	+3.1
431A	Sonora	12.43	10	⇓P	Pn	00 36 20.8	+3.8
	baz=12,SNR=12						
430A	Baggett Ranch,	12.44	7	⇑P	Pn	00 36 22.1	+4.9
	baz=12,SNR=17						
535A	Dale	12.60	22	⇓P	Pn	00 36 22.6	+3.3
	baz=13						
432A	Menard	12.76	13	⇓P	Pn	00 36 25.4	+3.7
	baz=13,SNR=8.6						
433A	Art	12.81	15	⇓P	Pn	00 36 25.6	+3.4
	baz=13,SNR=8.2						
330A	Mertzon	13.06	7	⇓P	P	00 36 30.8	-3.6
	baz=13,SNR=24						
329A	Wagon Wheel Ra	13.07	4	⇓P	Pn	00 36 30.2	+4.5
	baz=13,SNR=7.2						
331A	San Angelo	13.07	10	⇓P	P	00 36 30.5	-4.0
	baz=13						
434A	Burnet	13.09	18	⇑P	Pn	00 36 29.4	+3.3
	baz=13,SNR=6.6						
HKT	Hockley	13.23	28	ePn	Pn	00 36 27.9	0.0
332A	Millersview	13.27	12	⇑P	Pn	00 36 32.6	+4.1
	baz=13,SNR=6.6						
435B	Jarrell	13.28	21	⇑P	Pn	00 36 31.8	+3.2
	baz=13,SNR=8.7						
333A	Richland Sprin	13.38	15	⇑P	Pn	00 36 32.1	+2.0
	baz=14,SNR=11						
MNTX	Cornudas Mount	13.41	351	⇑P	Pn	00 36 33.0	+2.5
	baz=14						
MNTX	Cornudas Mount	13.41	351	ePn	Pn	00 36 32.0	+1.6
230A	Sterling City	13.54	7	⇓P	P	00 36 36.6	-3.2
	baz=14,SNR=15						
334A	Lometa	13.59	18	⇓P	Pn	00 36 34.1	+1.3
	baz=14						
228A	UT Block 9, Go	13.67	2	⇑P	P	00 36 40.2	-1.0
	baz=14,SNR=7.3						
231A	Bronte	13.70	10	⇓P	P	00 36 39.2	-2.4
	baz=14,SNR=12						
232A	Coleman	13.78	12	⇓P	Pn	00 36 37.4	+2.0
	baz=14,SNR=32						
TEIG	Tepich	14.04	80	P	Pn	00 36 38.2	-0.8
	0.5nm,0.3s,baz=248,slow=18,SNR=2.7						
233A	Rising Star	14.06	15	⇓P	P	00 36 45.0	-0.6
	baz=14,SNR=19						
336A	Riesel	14.09	22	⇓P	P	00 36 44.4	-1.5
	baz=14						
128A	Castleberry Fa	14.17	2	⇓P	P	00 36 46.7	-0.1
	baz=14,SNR=40						
129A	Stewart Farms,	14.21	4	⇓P	P	00 36 46.4	-0.9
	baz=14,SNR=13						
234A	Clairette	14.25	17	⇓P	P	00 36 45.3	-2.3
	baz=14,SNR=29						
130A	Snyder	14.26	7	⇓P	P	00 36 47.1	-0.6
	baz=14,SNR=12						
337A	Centerville	14.39	25	⇓P	P	00 36 48.3	-0.9
	baz=14,SNR=8.3						
131A	Roby	14.41	9	⇑P	P	00 36 49.0	-0.4
	baz=14,SNR=6.6						
WHTX	Lake Whitney,	14.44	19	⇑P	P	00 36 49.0	-0.7
	baz=14						
WHTX	Lake Whitney,	14.44	19	ePn	P	00 36 47.3	-2.4
	44nm,0.8s						
ABTX	Abilene, Hawle	14.49	11	⇓P	P	00 36 48.6	-1.7
	baz=15,SNR=6.7						
ABTX	Abilene, Hawle	14.49	11	ePn	Pn	00 36 45.3	+0.4
133A	Hamilton Ranch	14.63	14	⇑P	P	00 36 51.4	-0.4
	baz=15,SNR=36						
338A	Crockett	14.67	27	⇑P	P	00 36 51.3	-1.0
	baz=15,SNR=5.3						
121A	Cookes Peak, D	14.71	344	⇑P	P	00 36 51.8	-1.2
	baz=15						
121A	Cookes Peak, D	14.71	344	ePn	Pn	00 36 48.6	+0.6
	16nm,1.1s						
236A	Katherine and	14.76	22	⇓P	P	00 36 53.1	-0.1
	baz=15,SNR=22						
440A	Kirbyville	14.79	32	⇑P	P	00 36 52.3	-1.4
	baz=15						
134A	White-Moore Ra	14.80	17	⇑P	P	00 36 53.3	-0.4
	baz=15,SNR=44						
Z28A	Tucker Farm, M	14.84	2	⇑P	P	00 36 53.1	-1.2
	baz=15						
Z29A	Hungry Hill Ra	14.85	4	⇓P	P	00 36 53.5	-0.9
	baz=15,SNR=28						
Z30A	Sanderson Ranc	14.92	6	⇓P	P	00 36 54.5	-0.7
	baz=15,SNR=73						
135A	Vickery Place,	14.98	19	⇓P	P	00 36 55.4	-0.3
	baz=15						
339A	Huntington	14.99	29	⇓P	Pn	00 36 53.7	+2.3
	baz=15,SNR=6.3						
237A	Washetta, Mont	15.03	24	⇑P	P	00 36 55.6	-0.7
	baz=15,SNR=10						
Z31A	Sharp Cattle R	15.08	9	⇓P	P	00 36 56.2	-0.7
	baz=15,SNR=25						
Z32A	Haskell	15.18	11	⇑P	P	00 36 57.6	-0.4
	baz=15,SNR=14						
NATX	Nacogdoches	15.30	28	⇑P	P	00 36 59.6	+0.3
	baz=15						
NATX	Nacogdoches	15.30	28	ePn	Pn	00 36 57.1	+1.7
	145nm,0.8s						
238A	Jacksonville	15.31	26	⇑P	P	00 36 59.4	+0.1
	baz=15,SNR=25						
Z33A	Whitaker Ranch	15.31	14	⇑P	P	00 36 59.0	-0.4
	baz=15,SNR=8.9						
340A	Bronson	15.37	31	⇓P	P	00 36 59.5	-0.6
	baz=15						
Y29A	Porterfield Fa	15.45	4	⇑P	P	00 37 00.6	-0.4
	baz=16,SNR=26						
Y28A	McKinney Farm,	15.46	2	⇑P	P	00 37 00.8	-0.4
	baz=16,SNR=13						
MSTX	Muleshoe	15.51	1	⇓P	P	00 37 01.9	+0.2
	baz=16,SNR=19						
MSTX	Muleshoe	15.51	1	ePn	Pn	00 36 58.0	-0.2
	51nm,1.0s						
TUC	Tucson	15.52	335	ePn	Pn	00 36 57.7	-0.6
	7.4nm,1.1s						
Y30A	Stafford Cattl	15.53	7	⇓P	P	00 37 01.9	0.0
	baz=16,SNR=12						
137A	Heron Place, G	15.58	23	⇓P	P	00 37 02.0	-0.4
	baz=16						
Z34A	Collier Ranch,	15.60	16	⇑P	P	00 37 02.4	-0.2
	baz=16,SNR=9.4						
239A	Gary	15.60	28	⇑P	P	00 37 02.7	+0.1
	baz=16						
Y31A	Rekieta Farm,	15.70	9	⇑P	P	00 37 03.4	-0.3
	baz=16,SNR=12						
Z35A	Perchaven, San	15.75	18	⇑P	P	00 37 03.9	-0.3
	baz=16						
Y32A	R-V Farms, Ver	15.87	11	⇑P	P	00 37 04.8	-0.8
	baz=16						
138A	Matatall Enter	15.90	25	⇓P	P	00 37 05.7	-0.1
	baz=16,SNR=9.3						
X29A	Tulia	16.03	4	⇓P	Pn	00 37 04.8	0.0
	baz=16,SNR=15						
Y33A	Hilltop Ranch,	16.04	13	⇓P	P	00 37 06.4	-1.1
	baz=16,SNR=7.0						
X28A	Dimmitt	16.07	2	⇓P	P	00 37 07.9	0.0
	baz=16						
LENM	Lemitar	16.09	348	ePn	P	00 37 07.3	-1.0
Z37A	Pogue Cattle C	16.17	23	⇓P	P	00 37 08.6	-0.3
	baz=16,SNR=5.4						
Y34A	Reagan Ranch,	16.20	16	⇑P	P	00 37 08.4	-0.8
	baz=16,SNR=9.9						
139A	Bunkhouse Ranc	16.20	27	⇓P	P	00 37 09.3	+0.1
	baz=16						
X32A	Elmer	16.30	11	⇓P	P	00 37 10.8	+0.4
	baz=16						
LAZ	Ladron	16.36	348	ePn	P	00 37 10.7	-0.5
	18nm,1.7s						
X31A	McDonald Ranch	16.39	9	⇓P	P	00 37 11.6	+0.1
	baz=16,SNR=13						
AMTX	Amarillo	16.46	4	⇓P	P	00 37 12.3	+0.1
	baz=16						
AMTX	Amarillo	16.46	4	ePn	Pn	00 37 11.4	+1.1
	21nm,0.9s						
W29A	Amarillo	16.70	4	⇑P	P	00 37 15.7	+0.8
	baz=17						
WMOK	Wichita Mounta	16.71	12	ePn	Pn	00 37 12.5	-0.8
	22nm,1.4s						
ANMO	Albuquerque	16.76	350	P	P	00 37 15.0	-0.7
	0.1nm,0.3s,baz=166,slow=13,SNR=7.6						
ANMO	Albuquerque	16.76	350	ePn	Pn	00 37 14.1	0.0
	13nm,1.3s						
Z39A	Irene McRaven,	16.77	27	⇓P	P	00 37 17.0	+1.4
	baz=17						
X34A	Smith Ranch, M	16.79	15	⇓P	P	00 37 16.5	+0.8
	baz=17,SNR=6.5						
W28A	Vega	16.81	2	⇓P	P	00 37 17.2	+1.1
	baz=17						
X35A	Drake	16.83	18	⇓P	Pn	00 37 15.4	+0.7
	baz=17,SNR=17						
W31A	Holland Ranch,	16.95	9	⇑P	P	00 37 17.2	-0.3
	baz=17						
W32A	Sentinel	17.00	11	⇑P	P	00 37 17.8	-0.3
	baz=17						
X36A	Centrahoma	17.17	19	⇓P	Pn	00 37 19.6	+0.6
	baz=17,SNR=11						
W33A	Caddo, Fort Co	17.17	13	⇓P	P	00 37 20.9	+0.9
	baz=17						
V27A	Dan Oppiter Fa	17.29	1	⇑P	P	00 37 23.3	+1.8
	baz=17						
V28A	Channing	17.30	2	⇓P	P	00 37 22.5	+0.9
	baz=17,SNR=5.5						
W34A	Bridge Creek,	17.41	15	ePn	Pn	00 37 20.7	-1.3
	17nm,0.6s						
V29A	Stinnett	17.46	4	⇓P	P	00 37 24.4	+1.1
	baz=18						
X37A	Clayton	17.51	21	⇑P	P	00 37 23.8	+0.1
	baz=18						
V31A	Spring Creek L	17.54	9	⇓P	Pn	00 37 23.8	+0.2
	baz=18,SNR=18						
W35A	Tecumseh	17.56	17	⇓P	Pn	00 37 23.7	-0.1
	baz=18,SNR=5.4						
V32A	Arapaho	17.61	11	⇓P	Pn	00 37 24.5	0.0
	baz=18						
W36A	Wetumka	17.73	19	⇑P	Pn	00 37 25.7	-0.3
	baz=18,SNR=10						
V33A	Lossen Ranch,	17.86	13	⇓P	P	00 37 27.9	+0.3
	baz=18						
U28A	Mallet	17.93	2	⇓P	Pn	00 37 30.1	+1.7
	baz=18						
U27A	Thompson Grove	17.96	1	⇑P	Pn	00 37 29.6	+0.8
	baz=18						
W37A	Quinton	17.99	21	⇓P	P	00 37 28.6	-0.4
	baz=18,SNR=21						
V34A	Guthrie	18.04	15	⇑P	P	00 37 29.1	-0.5
	baz=18,SNR=5.6						
V34A	Guthrie	18.04	15	ePn	P	00 37 28.8	-0.8
	10nm,0.6s						
V35A	Meyer Ranch, C	18.14	16	⇓P	P	00 37 30.5	-0.2
	baz=18,SNR=7.3						
MIAR	Mount Ida	18.15	26	eP	P	00 37 28.9	-2.0
	42nm,1.5s						
U30A	WK&E Inc. Balk	18.18	6	⇑P	Pn	00 37 32.5	+1.0
	baz=18						
W38A	Poteau	18.25	23	⇑P	P	00 37 31.5	-0.3
	baz=18,SNR=10						
U32A	Winter Ranch,	18.26	10	⇓P	Pn	00 37 33.2	+0.8
	baz=18						
U33A	Lingo Farm, Me	18.48	13	⇓P	P	00 37 33.9	-0.5
	baz=19						
TUL1	Leonard	18.58	19	⇓P	P	00 37 34.6	-0.9
	baz=19,SNR=39						
TUL1	Leonard	18.58	19	eP	P	00 37 34.3	-1.2
	74nm,0.6s						
WUAZ	Wupatki	18.59	338	⇓P	Pn	00 37 38.8	+2.2
	baz=19,SNR=8.6						
WUAZ	Wupatki	18.59	338	ePn	Pn	00 37 38.2	+1.6
	12nm,0.8s						
T27A	Campo	18.60	1	⇓P	Pn	00 37 36.6	+0.1
	baz=19						
U34A	Anderson Ranch	18.61	14	⇓P	P	00 37 35.6	-0.2
	baz=19						
U34A	Anderson Ranch	18.61	14	eP	P	00 37 34.9	-1.0
	19nm,0.6s						
T28A	Walsh	18.67	2	⇓P	Pn	00 37 37.4	0.0
	baz=19,SNR=5.3						
T25A	Trinidad	18.71	357	⇑P	Pn	00 37 39.3	+1.3
	baz=19,SNR=5.8						
T26A	Comanche Natio	18.71	359	⇓P	Pn	00 37 39.3	+1.3
	baz=19,SNR=12						
T30A	Plains	18.71	6	⇓P	Pn	00 37 37.8	-0.1
	baz=19						
UALR	University of	18.88	28	ePn	P	00 37 38.7	-0.1
	15nm,0.9s						
T32A	Huddler Ranch,	19.05	10	⇑P	P	00 37 41.4	+0.7
	baz=19						
IRM	Iron Mountain	19.07	328	⇓P	Pn	00 37 46.6	+4.4
	baz=19						
T33A	Patterson Ranc	19.08	12	⇑P	P	00 37 41.4	+0.4
	baz=19						
S26A	Kim	19.16	359	⇓P	Pn	00 37 44.5	+1.2
	baz=19						
S29A	Ulysses	19.22	5	⇑P	P	00 37 42.7	+0.1
	baz=19						
T34A	McClaskey Farm	19.25	14	⇑P	P	00 37 42.8	-0.1
	baz=19,SNR=16						
S30A	Montezuma	19.30	6	⇓P	P	00 37 43.6	+0.1
	baz=19						
T35A	Sooner Cattle	19.32	16	⇓P	P	00 37 42.7	-0.9
	baz=19,SNR=17						
MVCO	Mesa Verde	19.35	347	⇓P	Pn	00 37 46.0	+0.4
	baz=19,SNR=9.6						
MVCO	Mesa Verde	19.35	347	eP	Pn	00 37 45.3	-0.4
	20nm,1.0s						
BELC	Belle Mtn. Jos	19.39	326	⇓P	Pn	00 37 47.6	+1.5
	baz=19						
SDCO	Great Sand Dun	19.40	354	⇑P	Pn	00 37 47.3	+0.9
	baz=20,SNR=10						
SDCO	Great Sand Dun	19.40	354	eP	P	00 37 45.2	+0.4
	41nm,1.5s						
S31A	Mullinville	19.40	8	⇓P	Pn	00 37 45.9	-0.2
	baz=20,SNR=5.8						
S32A	Newby Ranch, P	19.56	10	⇓P	P	00 37 46.1	-0.2
	baz=20						
S22A	4UR Ranch, Cre	19.56	351	⇓P	Pn	00 37 48.9	+0.6
	baz=20						
T36A	Boggs Farm, Ca	19.62	17	⇑P	P	00 37 46.0	-1.0
	baz=20						
GMRC	Granite Mounta	19.82	328	⇑P	Pn	00 37 50.6	-0.5
	baz=20						
R27A	Eads	19.82	1	⇓P	Pn	00 37 50.6	-0.5
	baz=20,SNR=8.6						
R26A	Arlington	19.83	359	⇑P	P	00 37 50.1	+0.7
	baz=20						
R23A	Moffat	19.87	353	⇓P	Pn	00 37 53.7	+1.8
	baz=20						
R28A	Tribune	19.90	3	⇓P	P	00 37 50.2	+0.1
	baz=20,SNR=7.5						
S34A	Willow Spring	19.92	14	⇓P	P	00 37 48.9	-1.2
	baz=20,SNR=9.5						
R30A	Dighton	19.96	6	⇑P	P	00 37 50.5	-0.1
	baz=20,SNR=6.4						
T37A	Cheneyville 18	19.97	19	⇓P	P	00 37 49.6	-1.1
	baz=20,SNR=12						
R31A	Burdett	20.05	8	⇓P	P	00 37 51.2	-0.4
	baz=20,SNR=5.3						
S35A	Otter Creek Ra	20.09	16	⇑P	P	00 37 50.8	-1.2
	baz=20,SNR=22						
OXF	Oxford	20.12	34	eP	P	00 37 53.5	+1.2
	47nm,1.0s						
HEC	Hector,Ludlow	20.20	327	⇓P	Pn	00 37 55.9	+0.3
	baz=20						
PV01	Paradox Valley	20.25	347	eP	P	00 37 54.7	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	809nm,1.3s						
R32A	**Long Quarter,**	**20.30**	**10**	⇓P	**P**	**00 37 53.8**	**-0.6**
	baz=20						
R33A	**Olander Ranch,**	**20.32**	**11**	⇓P	**P**	**00 37 53.7**	**-0.8**
	baz=20						
S36A	**Lake Cedric, C**	**20.33**	**17**	⇓P	**P**	**00 37 52.9**	**-1.6**
	baz=20,SNR=12						
Q26A	**Hugo**	**20.46**	**359**	⇓P	**P**	**00 37 56.6**	**+0.5**
	baz=20						
R34A	**Isabella, Hill**	**20.46**	**13**	⇓P	**P**	**00 37 55.4**	**-0.6**
	baz=20,SNR=11						
LRAL	**Lakeview Retre**	**20.48**	**42**	*e*P	**P**	**00 37 54.7**	**-1.5**
	37nm,1.0s						
Q29A	**Oakley**	**20.50**	**5**	⇑P	**P**	**00 37 56.5**	**+0.1**
	baz=21						
KSCO	**Kaye Shedlock'**	**20.54**	**1**	⇑P	**P**	**00 37 57.9**	**+0.9**
	baz=21						
KSCO	**Kaye Shedlock'**	**20.54**	**1**	*e*P	**P**	**00 37 57.0**	**0.0**
	43nm,0.9s						
PV04	**Paradox Valley**	**20.57**	**347**	*e*P	**P**	**00 37 57.6**	**+0.2**
Q28A	**Sharon Springs**	**20.62**	**3**	⇑P	**P**	**00 37 57.8**	**0.0**
	baz=21,SNR=5.7						
Q30A	**Quinter**	**20.65**	**6**	⇑P	**P**	**00 37 57.8**	**-0.3**
	baz=21						
R35A	**Emporia Munici**	**20.73**	**15**	⇓P	**P**	**00 37 57.8**	**-1.1**
	baz=21,SNR=17						
GSC	**Goldstone, Bar**	**20.81**	**327**	⇑P	Pn	00 38 02.1	-0.8
	baz=21						
Q32A	**Meitler Ranch,**	**20.88**	**10**	⇓P	**P**	**00 38 00.2**	**-0.4**
	baz=21						
R36A	**Gordon, Harris**	**20.91**	**17**	⇓P	**P**	**00 37 59.5**	**-1.4**
	baz=21,SNR=7.7						
Q33A	**Connelly Farm,**	**21.02**	**11**	⇑P	**P**	**00 38 00.9**	**-1.1**
	baz=21,SNR=8.4						
P23A	**Jefferson**	**21.05**	**354**	⇓P	**P**	**00 38 05.3**	**+2.6**
	baz=21						
P27A	**Ficken Ranch,**	**21.09**	**1**	⇑P	**P**	**00 38 04.0**	**+1.1**
	baz=21						
R37A	**Teagarden Farm**	**21.09**	**18**	⇓P	**P**	**00 38 01.4**	**-1.4**
	baz=21,SNR=9.5						
Q34A	**Chapman**	**21.12**	**13**	⇓P	**P**	**00 38 02.6**	**-0.5**
	baz=21						
P28A	**Saint Francis**	**21.13**	**3**	⇓P	**P**	**00 38 05.2**	**+1.9**
	baz=21						
P29A	**Atwood**	**21.21**	**4**	⇓P	**P**	**00 38 04.1**	**0.0**
	baz=21						
BLG	**Laguna Peak, P**	**21.21**	**321**	⇑P	**P**	**00 38 08.4**	**+4.3**
	baz=21						
P30A	**Selden**	**21.21**	**6**	⇓P	**P**	**00 38 03.7**	**-0.4**
	baz=21						
Q35A	**Mercer Eighty,**	**21.27**	**15**	⇓P	**P**	**00 38 04.1**	**-0.7**
	baz=21,SNR=6.8						
P31A	**Stockton**	**21.29**	**8**	⇑P	**P**	**00 38 04.4**	**-0.5**
	baz=21						
ISCO	**Idaho Springs**	**21.45**	**355**	⇓P	**P**	**00 38 08.7**	**+1.8**
	baz=22						
ISCO	**Idaho Springs**	**21.45**	**355**	*e*P	**P**	**00 38 06.4**	**-0.5**
	5.3nm,0.9s						
P32A	**Huiting Farm,**	**21.50**	**9**	⇑P	**P**	**00 38 06.6**	**-0.5**
	baz=22						
MSU	**Marysvale**	**21.57**	**340**	*e*P	**P**	**00 38 08.5**	**+0.3**
	5.8nm,0.9s						
PARMO	**Parma**	**21.63**	**30**	*e*P	**P**	**00 38 08.6**	**+0.1**
SRU	**San Rafael Swe**	**21.64**	**344**	*e*P	**P**	**00 38 10.6**	**+1.7**
	52nm,2.6s						
O28A	**Krutsinger Ran**	**21.68**	**3**	⇑P	**P**	**00 38 10.6**	**+1.4**
	baz=22						
Q37A	**Longview Farm,**	**21.73**	**18**	⇓P	**P**	**00 38 09.5**	**0.0**
	baz=22						
O29A	**4D Ranch, Culb**	**21.74**	**5**	⇑P	**P**	**00 38 10.5**	**+0.8**
	baz=22						
P34A	**Walnut Farm, R**	**21.75**	**13**	⇑P	**P**	**00 38 09.9**	**0.0**
	baz=22						
ARVC	**Arvin**	**21.79**	**323**	⇑P	**P**	**00 38 13.8**	**+3.5**
	baz=22						
TPNV	**Topopah Spring**	**21.84**	**330**	⇓P	**P**	**00 38 12.5**	**+1.6**
	baz=22						
TIGA	**Tifton**	**21.85**	**50**	⇑P	**P**	**00 38 09.3**	**-1.6**
	baz=22,SNR=5.8						
TIGA	**Tifton**	**21.85**	**50**	*e*P	**P**	**00 38 08.4**	**-2.5**
	31nm,0.6s						
O23A	**Lake Granby, G**	**21.88**	**354**	⇑P	**P**	**00 38 13.2**	**+1.6**
	baz=22						
O22A	**Kremmling**	**21.90**	**353**	⇓P	**P**	**00 38 12.8**	**+1.0**
	baz=22						
O31A	**Woolen Ranch,**	**21.91**	**8**	⇑P	**P**	**00 38 11.5**	**-0.1**
	baz=22						
P35A	**Duane Minner,**	**21.91**	**15**	⇑P	**P**	**00 38 11.0**	**-0.6**
	baz=22						
O33A	**Hebron**	**22.11**	**11**	⇑P	**P**	**00 38 12.9**	**-0.8**
	baz=22						
O20A	**White River Ci**	**22.13**	**349**	⇓P	**P**	**00 38 16.4**	**+2.3**
	baz=22						
P36A	**Good Intent, A**	**22.21**	**16**	⇓P	**P**	**00 38 14.5**	**-0.3**
	baz=22						
VES	**Vestal, Richgr**	**22.44**	**324**	⇑P	**P**	**00 38 20.6**	**+3.3**
	baz=22						
N22A	**Wattenberg Ran**	**22.52**	**353**	⇑P	**P**	**00 38 19.8**	**+1.4**
	baz=23						
N23A	**Red Feather La**	**22.56**	**354**	⇓P	**P**	**00 38 20.1**	**+1.3**
	baz=23						
R11A	**Troy Canyon, C**	**22.70**	**334**	⇑P	**P**	**00 38 22.3**	**+2.1**
	baz=23						
O36A	**Bolckow**	**22.75**	**16**	⇑P	**P**	**00 38 20.8**	**+0.3**
	baz=23						
N20A	**Spence Gulch,**	**22.81**	**350**	⇑P	**P**	**00 38 22.7**	**+1.2**
	baz=23						
PHWY	**Pilot Hill**	**22.92**	**355**	*e*P	**P**	**00 38 23.2**	**+0.6**
	8.3nm,1.2s						
M26A	**McRoberts Ranc**	**22.99**	**360**	⇑P	**P**	**00 38 24.0**	**+0.8**
	baz=23						
N34A	**Lincoln**	**23.06**	**13**	⇑P	**P**	**00 38 22.7**	**-1.0**
	baz=23						
DUG	**Dugway, Tooele**	**23.31**	**341**	⇓P	**P**	**00 38 27.7**	**+1.4**
	baz=23,SNR=5.3						
DUG	**Dugway, Tooele**	**23.31**	**341**	*e*P	**P**	**00 38 26.9**	**+0.6**
	3.3nm,0.9s						
USIN	**University of**	**23.67**	**31**	*e*P	**P**	**00 38 28.3**	**-1.2**
	279nm,1.6s						
NVAR	**Mina Array Bea**	**24.00**	**329**	P	**P**	**00 38 33.2**	**+0.4**
	1.1nm,0.7s,baz=153,slow=9.3,SNR=7.8						
MTDJ	**Mount Denham**	**24.20**	**86**	*e*P	**P**	**00 38 35.2**	**+0.5**
	66nm,0.9s						
TKL	**Tuckaleechee C**	**24.21**	**41**	P	**P**	**00 38 32.2**	**-2.3**
	16nm,0.7s,baz=208,slow=9.5,SNR=23						
TKL	**Tuckaleechee C**	**24.21**	**41**	*e*P	**P**	**00 38 31.7**	**-2.8**
HWUT	**Hardware Ranch**	**24.26**	**344**	*e*P	**P**	**00 38 35.0**	**-0.1**
	35nm,2.5s						
K22A	**Casper**	**24.36**	**354**	⇓P	**P**	**00 38 36.7**	**+0.7**
	baz=24						
K22A	**Casper**	**24.36**	**354**	*e*P	**P**	**00 38 36.2**	**+0.2**
	7.3nm,0.9s						
WCI	**Wyandotte Cave**	**24.57**	**33**	*e*P	**P**	**00 38 35.9**	**-1.8**
	19nm,0.6s						
ELK	**Elko**	**24.62**	**337**	P	**P**	**00 38 38.5**	**0.0**
	0.5nm,0.5s,baz=154,slow=7.5,SNR=4.5						
HVU	**Hansel Valley**	**24.75**	**342**	*e*P	**P**	**00 38 39.9**	**+0.4**
	71μm,1.0s						
J26A	**Sides Ranch, S**	**24.84**	**360**	⇑P	**P**	**00 38 42.1**	**+1.9**
	baz=25						
PDAR	**Pinedale Array**	**24.92**	**349**	P	**P**	**00 38 40.2**	**-1.0**
	3.3nm,0.9s,baz=148,slow=8.7,SNR=15						
PDAR				PcP	**PcP**	**00 42 16.4**	**+0.6**
	0.7nm,0.6s,baz=116,slow=3.4,SNR=3.8						
PDAR				LR	LR	00 49 40.8	
	comp=Z,373nm,18.6s,baz=186,slow=40						
HDIL	**Hopedale**	**25.05**	**25**	*e*P	**P**	**00 38 40.1**	**-2.0**
	45nm,0.8s						
J22A	**Midwest**	**25.11**	**354**	⇓P	**P**	**00 38 42.5**	**-0.3**
	baz=25						
BLO	**Bloomington**	**25.17**	**31**	*e*P	**P**	**00 38 41.6**	**-1.6**
	35nm,0.5s						
KMSC	**Kings Mountain**	**25.47**	**45**	⇑P	**P**	**00 38 44.7**	**-1.2**
	baz=26,SNR=13						
I25A	**Rochford**	**25.55**	**359**	⇑P	**P**	**00 38 46.6**	**-0.3**
	baz=26						
I22A	**9 Mile Ranch,**	**25.58**	**354**	⇑P	**P**	**00 38 47.2**	**+0.2**
	baz=26						
I21A	**Big Trails, Te**	**25.59**	**353**	⇓P	**P**	**00 38 46.9**	**-0.3**
	baz=26						
REDW	**Red Top Meadow**	**25.75**	**347**	*e*P	**P**	**00 38 48.4**	**-0.3**
	5.0nm,1.1s						
I20A	**Worland**	**25.83**	**352**	⇑P	**P**	**00 38 49.2**	**-0.1**
	baz=26,SNR=7.6						
SFIN	**Lafayette**	**25.85**	**29**	⇑P	**P**	**00 38 47.8**	**-1.5**
	baz=26,SNR=11						
SFIN	**Lafayette**	**25.85**	**29**	*e*P	**P**	**00 38 47.3**	**-2.0**
	24nm,0.6s						
TPAW	**Teton Pass**	**25.89**	**347**	*e*P	**P**	**00 38 49.9**	**-0.2**
	7.8nm,1.1s						
LOHW	**Long Hollow**	**25.94**	**347**	*e*P	**P**	**00 38 51.0**	**+0.6**
	3.6nm,0.8s						
JFWS	**Jewell Farm**	**26.73**	**21**	*e*P	**P**	**00 38 54.5**	**-2.8**
	5.2nm,0.6s						
BLA	**Blacksburg**	**27.29**	**42**	*e*P	**P**	**00 39 00.2**	**-2.2**
	19nm,1.2s						
SPMN	**Marine on St.**	**28.07**	**15**	*e*P	**P**	**00 39 06.5**	**-2.8**
	8.4nm,0.4s						
AAM	**Ann Arbor**	**28.97**	**31**	*e*P	**P**	**00 39 15.2**	**-2.1**
	52nm,0.5s						
AGMN	**Agassiz Nation**	**30.39**	**9**	⇓P	**P**	**00 39 28.3**	**-1.5**
	baz=30,SNR=6.1						
AGMN	**Agassiz Nation**	**30.39**	**9**	*e*P	**P**	**00 39 28.1**	**-1.7**
	7.1nm,0.5s						
EYMN	**Ely**	**30.94**	**15**	*e*P	**P**	**00 39 32.0**	**-2.6**
	13nm,0.6s						
FFC	**Flin Flon**	**36.27**	**1**	*e*P	**P**	**00 40 19.2**	**-1.6**
	6.7nm,0.7s						
YKA	**Yellowknife Ar**	**44.79**	**352**	P	**P**	**00 41 29.3**	**-1.7**
	1.2nm,0.5s,baz=158,slow=7.6,SNR=9.4						
TAOE	**Nuku Hiva Isla**	**45.56**	**237**	*e*T	T	01 29 48.4	
	172nm,0.3s						
SCHQ	**Schefferville**	**45.63**	**29**	P	**P**	**00 41 36.0**	**-1.9**
	8.4nm,0.8s,baz=231,slow=6.1,SNR=12						
SCHQ				pP	**pP**	**00 41 49.4**	**-2.5**
	2.5nm,0.7s,baz=270,slow=7.0,SNR=2.3						
RKT	**Rikitea**	**51.74**	**218**	*e*T	T	01 37 41.4	
	6.6nm,0.3s						
EGAK	**Eagle**	**52.88**	**341**	*e*P	**P**	**00 42 33.4**	**+0.3**
	8.5nm,1.4s						
ILAR	**Eielson Array**	**54.77**	**339**	P	**P**	**00 42 46.9**	**+0.1**
	2.8nm,0.9s,baz=148,slow=6.0,SNR=28						
ILAR				PcP	**PcP**	**00 43 49.3**	**+0.6**
	0.8nm,0.6s,baz=153,slow=2.9,SNR=8.1						
ILAR				LR	LR	01 07 53.8	
	comp=Z,53nm,18.2s,baz=126,slow=38						
TRF	**Thorofare Moun**	**55.26**	**336**	*e*P	**P**	**00 42 50.7**	**+0.1**
	11nm,0.8s						
PMOR	**Pomariorio Ree**	**55.28**	**236**	*e*T	T	01 41 56.9	
	2.6nm,0.4s						
PPT2	**Papeete2**	**58.09**	**235**	*e*LR	LR	01 00 06.4	
	133nm,27.5s						
BDFB	**Brasilia**	**63.86**	**118**	P	**P**	**00 43 52.0**	**+1.5**
	1.8nm,0.7s,baz=275,slow=7.3,SNR=3.6						
SUMG	**Summit**	**65.04**	**17**	*i* P	**P**	**00 43 56.5**	**-1.2**
	10nm,1.2s						
SUMG	**Summit**	**65.04**	**17**	*e*P	**P**	**00 43 56.8**	**-0.9**
	8.5nm,1.1s						
DAG	**Danmarks Havn**	**70.93**	**14**	⇓*i*P	**P**	**00 44 32.5**	**-1.5**
	4.8nm,0.7s						
PETK	**Petropavlovsk-**	**80.91**	**323**	P	**P**	**00 45 32.6**	**+1.3**
	3.4nm,0.6s,baz=66,slow=9.6,SNR=5.4						
PETK				pP	**pP**	**00 45 47.0**	**+0.5**
	2.8nm,0.7s,baz=96,slow=9.1,SNR=2.2						
ARCES	**ARCESS Array B**	**85.09**	**16**	P	**P**	**00 45 52.8**	**+0.2**
	5.5nm,0.6s,baz=280,slow=4.9,SNR=17						
ARCES				LR	LR	01 23 48.7	
	comp=Z,59nm,20.3s,baz=287,slow=36						
NB2	**NORSAR Subarra**	**85.16**	**26**	P	**P**	**00 45 53.4**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=304,slow=5.3						
NOA	**NORSAR Array B**	**85.16**	**26**	P	**P**	**00 45 52.8**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=303,slow=4.9,SNR=11						
ESDC	**Sonseca Array**	**85.18**	**50**	P	**P**	**00 45 54.2**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=301,slow=4.3,SNR=11						
DOU	**Dourbes**	**86.85**	**38**	P	**P**	**00 46 02.7**	**+1.0**
BCLA	**Clavier**	**87.13**	**37**	P	**P**	**00 46 02.9**	**-0.2**
MEM	**Membach**	**87.45**	**37**	P	**P**	**00 46 05.6**	**+1.0**
	comp=Z,2.6nm,0.9s						
WLF	**Walferdange**	**87.95**	**38**	P	**P**	**00 46 08.4**	**+1.4**
FINES	**FINESS Array B**	**90.72**	**22**	P	**P**	**00 46 18.6**	**-1.1**
	comp=Z,3.2nm,0.9s,baz=318,slow=2.6,SNR=7.0						
FINES				LR	LR	01 26 53.4	
	comp=Z,36nm,19.5s,baz=328,slow=36						
GERES	**GERESS Array B**	**92.67**	**36**	P	**P**	**00 46 29.3**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=348,slow=5.6,SNR=6.4						
GERES				LR	LR	01 28 02.8	
	comp=Z,27nm,21.1s,baz=253,slow=36						
KEST	**Kesra**	**96.41**	**49**	P	**P**	**00 46 47.5**	**+0.9**
	comp=Z,1.6nm,1.0s,baz=277,slow=7.9,SNR=5.1						
KEST	**Kesra**	**96.41**	**49**	P	**P**	**00 46 47.2**	**+0.6**
TORD	**Torodi Ar. Bea**	**99.44**	**73**	P	**Pdif**	**00 47 00.9**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=293,slow=3.2,SNR=3.0						
HHC	**Hu-ho-hao-te**	**112.87**	**332**	*e*PKP	**PKiKP**	**00 51 50.3**	**-3.9**
HHC				PP	**PP**	**00 52 43.0**	**+1.1**
HHC				SKS	SKSdf	00 58 51.8	-10
HHC				PPMZ			
	comp=Z,31nm,6.0s						
HHC				LN			
	comp=Z,80nm,20.3s						
HHC				LE			
	comp=Z,78nm,20.3s						
HHC				LZ			
	comp=Z,59nm,20.3s						
MKAR	**Makanchi Array**	**114.94**	**356**	PKP	PKPdf	00 51 57.7	-0.2
	comp=Z,0.1nm,0.4s,baz=316,slow=2.0,SNR=3.6						
NJ2	**Nanjing**	**115.76**	**321**	*e*PKP	**PKPdf**	**00 52 00.6**	**+0.7**
WMQ	**Urumqi**	**117.31**	**351**	*e*PKP	**PKPdf**	**00 52 01.7**	**-1.0**
LZH	**Lanzhou**	**120.14**	**335**	*e*PKP	**PKPdf**	**00 52 06.3**	**-2.1**
CD2	**Chengdu**	**124.62**	**332**	PKP	**PKPdf**	**00 52 14.1**	**-2.9**
WRA	**Warramunga Arr**	**126.02**	**258**	PKP	**PKPdf**	**00 52 20.6**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=72,slow=2.9,SNR=2.3						
WRA				pPKP	**pPKPdf**	**00 52 34.3**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=74,slow=2.5,SNR=1.9						
ASAR	**Alice Springs**	**126.89**	**254**	PKP	**PKPdf**	**00 52 22.3**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=74,slow=2.7,SNR=3.7						
ASAR				pPKP	**pPKPdf**	**00 52 36.0**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=71,slow=2.2,SNR=2.9						
ASAR				PP	PP	00 54 30.9	+11
	comp=Z,0.3nm,0.7s,baz=64,slow=8.6,SNR=4.3						

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*ISCJB **06** 00:37:20.2±1.0, 14°.2N±0°.1×91°.55W±0°.06, h69km±10km, mb3.6/1, Error ellipse: s-maj=21.0km s-min=6.2km az=25.0*
*CASC **06** 00:37:20.8±1.7, 14°.04N×91°.52W, h54km±20km, MD3.9, ML3.7*
*IDC **06** 00:37:21.7±6.7, 14°.28N×91°.40W, h65km±44km, mb3.4/1, mb1 3.9/3, mb1mx3.2/31, mbtmp3.7/3, ML4.1/3, Error ellipse: s-maj=59.0km s-min=21.4km az=171.0*
ISC 06 00:37:21.7±1.1**, 14°.19N**±0°.08×**91°.50W**±0°.05**, h69**km±9km**,**
n17, σ1s.25/26**, 3C-1D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.18**	**315**	⇑*e*P	**Pn**	**00 37 30.9**	**-1.3**
FUG	**Fuego 3**	**0.69**	**68**	⇓*e*P	**Pn**	**00 37 35.9**	**-0.8**
PCG	**Pacaya**	**0.89**	**76**	*e*P	**Pn**	**00 37 38.5**	**-0.5**
PCG				*e*S	**Sn**	**00 37 51.4**	**-0.5**
NBG	**Las Nubes**	**1.19**	**70**	⇑*e*P	**Pn**	**00 37 43.6**	**+0.7**
NBG				*e*S	**Sn**	**00 38 01.6**	**+2.9**
RBDL	**Robledal**	**1.76**	**92**	*e*P	**Pn**	**00 37 49.6**	**-0.7**
RTR	**El Retiro**	**1.82**	**99**	*e*P	**Pn**	**00 37 50.5**	**-0.6**
RTR				*e*S	**Sn**	**00 38 13.7**	**+0.2**
SBLS	**San Blas**	**1.86**	**100**	*e*P	**Pn**	**00 37 50.6**	**-1.0**
SBLS				*e*S	**Sn**	**00 38 13.6**	**-0.7**
SNJE	**San Jose**	**1.87**	**99**	*e*P	**Pn**	**00 37 50.6**	**-1.2**
SNJE				*e*S	**Sn**	**00 38 14.2**	**-0.3**
MRL	**Marmol**	**1.96**	**63**	*e*P	**Pn**	**00 37 52.1**	**-0.9**
MRL				⇑*e*P	**Pn**	**00 37 53.2**	**+0.3**
BOQS	**Boqueron**	**2.20**	**101**	*e*P	**Pn**	**00 37 55.7**	**-0.7**
SNET	**Serv Nac Est T**	**2.26**	**102**	AML	AML	00 38 30.1	
	comp=Z,570nm,0.3s						
LFRS	**El Faro**	**2.44**	**103**	*e*P	**Pn**	**00 37 58.9**	**-0.5**
LFRS				*e*S	**Sn**	**00 38 28.1**	**-0.1**
CMIG	**Matias Romero**	**4.35**	**312**	P	**Pn**	**00 38 25.0**	**-0.5**
	comp=Z,6.5nm,0.3s,baz=133,slow=9.2,SNR=7.3						
CMIG				S	**Sn**	**00 39 15.1**	**+0.2**
	comp=Z,5.0nm,0.3s,baz=352,slow=23,SNR=2.7						
TEIG	**Tepich**	**6.75**	**27**	P	**Pn**	**00 38 57.7**	**-0.5**
	comp=Z,40nm,0.3s,baz=268,slow=1.4,SNR=109						
TEIG				S	**Sn**	**00 40 10.3**	**-3.4**
	baz=81,slow=8.5,SNR=0.8						
TXAR	**Lajitas Array**	**18.82**	**325**	P	**Pn**	**00 41 37.7**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=138,slow=9.6,SNR=3.4						
NVAR	**Mina Array Bea**	**33.83**	**321**	P	**P**	**00 43 59.0**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=141,slow=5.8,SNR=4.6						
NVAR				pP	**pP**	**00 44 15.6**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=130,slow=6.5,SNR=2.5						
CMAR	**Chiang Mai Arr**	**145.97**	**342**	PKPbc	**PKPdf**	**00 56 52.5**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=337,slow=4.1,SNR=4.6						
CMAR				pPKPbc	pPKPbc	00 57 11.1	-3.0
	comp=Z,0.4nm,0.4s,baz=347,slow=3.7,SNR=1.5						

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*IDC **06** 00:46:44.0±1.4, 36°.72S×72°.97W, h0km, mb3.6/4, mb1 3.9/7, mb1mx3.8/18, mbtmp3.7/7, ML4.5/2, MS3.5/2, Ms1 3.5/2, ms1mx3.0/18, Error ellipse: s-maj=36.9km s-min=25.0km az=88.0*
*ISCJB **06** 00:46:46.4±0.6, 36°.66S±0°.04×73°.09W±0°.09, h25km, mb4.0/5, MS3.9/1, Error ellipse: s-maj=11.5km s-min=4.3km az=24.9*
*GUC **06** 00:46:47.1±0.3, 36°.64S×73°.11W, h27km±1km, ML4.3*
*NEIC **06** 00:46:47.0, 36°.63S×73°.11W, h27km, mb3.9/2, ML4.3(GUC), After GUC.*
NEIC Felt [III] at Concepcion, San Pedro and Talcahuano.
ISC 06 00:46:47.8±0.7**, 36°.68S**±0°.06×**73°.02W**±0°.09**, h25**km**, n25,**
σ0s.88/36**, mb3.9**/5**, 1C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.18**	**203**	⇑*i*P	**Pb**	**00 46 53.0**	**-0.1**
CCSP				*i* S	**Sb**	**00 46 57.1**	**+0.3**
CCSP				AML	AML	00 46 58.0	
	comp=N,72μm,0.5s						
LNCH	**Linares**	**1.42**	**54**	*e*P	**Pn**	**00 47 11.9**	**-0.1**
LNCH				*i* S	**Sb**	**00 47 30.8**	**-0.4**
TALC	**Talca**	**1.70**	**42**	*i* P	**Pn**	**00 47 16.1**	**+0.2**
TALC				*i* S	**Sb**	**00 47 38.3**	**-1.1**
NICH	**Los Niches**	**2.22**	**42**	*i* P	**Pn**	**00 47 23.8**	**+0.9**
NICH				*i* S	**Sn**	**00 47 51.4**	**+1.8**
LNV	**Longovilo**	**3.02**	**26**	*i* P	**Pn**	**00 47 34.4**	**+0.3**
LNV				*i* S	**Sn**	**00 48 10.1**	**+0.7**
CACH	**El Canelo**	**3.23**	**38**	*i* P	**Pn**	**00 47 36.0**	**-1.1**
CACH				*i* S	**Sn**	**00 48 14.6**	**-0.3**
CHCH	**Chadas Angostu**	**3.36**	**36**	*i* P	**Pn**	**00 47 39.1**	**+0.5**
CHCH				*i* S	**Sn**	**00 48 18.9**	**+1.1**
RCDM	**Rinconada Maip**	**3.67**	**30**	*i* P	**Pn**	**00 47 43.1**	**+0.1**
RCDM				*i* S	**Sn**	**00 48 25.6**	**+0.2**
RCDM				AML	AML	00 48 48.5	
	comp=E,385nm,0.3s						
CLCH	**Cerro Calan**	**3.86**	**33**	*i* P	**Pn**	**00 47 46.1**	**+0.5**
CLCH				*i* S	**Sn**	**00 48 30.9**	**+0.7**
PEL	**Peldehue**	**4.02**	**29**	*e*P	**Pn**	**00 47 48.3**	**+0.5**
PEL				*i* S	**Sn**	**00 48 34.6**	**+0.6**
ROCH	**El Roble**	**4.05**	**25**	*e*P	**Pn**	**00 47 48.9**	**+0.5**
ROCH				*e*S	**Sn**	**00 48 36.0**	**+0.8**
PLCA	**Paso Flores**	**4.48**	**155**	Pn	**Pn**	**00 47 54.5**	**+0.3**
	comp=E,4.1nm,0.3s,baz=329,slow=14,SNR=25						
PLCA				Lg	Lg	00 48 59.0	
	comp=E,5.9nm,0.3s,baz=281,slow=20,SNR=3.4						
PLCA				LR	LR	00 49 43.6	
	comp=E,366nm,19.1s,baz=322,slow=40						
PLCA	**Paso Flores**	**4.48**	**155**	*e*Pn	**Pn**	**00 47 54.3**	**+0.1**
CFAA	**Coronel Fontan**	**6.43**	**39**	Pn	**Pn**	**00 48 20.9**	**0.0**
	comp=E,0.2nm,0.3s,baz=206,slow=15,SNR=9.0						
CFAA				Sn	**Sn**	**00 49 35.3**	**+1.7**
	comp=E,0.3nm,0.3s,baz=194,slow=19,SNR=2.4						
TRQA	**Tornquist**	**8.90**	**102**	*e*Pn	**Pn**	**00 48 55.9**	**+1.1**
LVC	**Limon Verde**	**14.46**	**15**	Pn	**Pn**	**00 50 12.1**	**+0.9**
	comp=E,6.1nm,0.3s,baz=245,slow=14,SNR=2.9						
LVC	**Limon Verde**	**14.46**	**15**	*e*Pn	**Pn**	**00 50 08.9**	**-2.3**
LPAZ	**La Paz**	**20.77**	**13**	P	**P**	**00 51 28.3**	**+0.7**
	comp=E,2.1nm,0.8s,baz=178,slow=9.4,SNR=10						
SIV	**San Ignacio**	**23.18**	**30**	P	**P**	**00 51 51.8**	**-0.9**
	comp=E,2.9nm,0.8s,baz=234,slow=11,SNR=8.6						
ATAH	**Atahualpa**	**29.82**	**349**	P	**P**	**00 52 54.5**	**+1.2**
	comp=E,16nm,0.5s,baz=198,slow=19,SNR=20						
QSPA	**South Pole Qui**	**53.56**	**180**	*e*P	**P**	**00 56 05.6**	**-0.7**
	comp=E,2.1nm,0.8s						
TXAR	**Lajitas Array**	**71.70**	**332**	P	**P**	**00 58 07.7**	**+0.1**
	comp=E,0.3nm,0.5s,baz=154,slow=7.9,SNR=5.9						
TORD	**Torodi Ar. Bea**	**85.87**	**70**	P	**P**	**00 59 24.8**	**-0.9**
	comp=E,0.4nm,1.0s,baz=236,slow=4.8,SNR=2.5						
MSKU	**Masuku**	**86.31**	**89**	LR	LR	01 32 09.2	
	comp=E,44nm,20.3s,baz=210,slow=32						
BVAR	**Borovoye Array**	**149.76**	**46**	PKPbc	**PKPbc**	**01 06 34.5**	**-0.3**
	comp=E,0.3nm,0.5s,baz=290,slow=4.2,SNR=3.1						

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*DDA **06** 01:29:50.6, 35°.29N×26°.52E, h17km, MD3.2*
*IDC **06** 01:29:55.3±1.1, 35°.79N×26°.95E, h0km, mb3.3/4, mb1 3.4/7, mb1mx3.3/26, mbtmp3.3/7, ML3.2/3, MS4.1/1, Ms1 4.1/1, ms1mx2.3/24, Error ellipse: s-maj=28.1km s-min=15.1km az=159.0*
*HLW **06** 01:29:56.4, 36°.27N×26°.84E, h29km±11km, Md3.6*
*ISCJB **06** 01:29:57.2±0.7, 35°.72N±0°.02×26°.98E±0°.02, h11km±5km, mb3.2/4, MS4.1/1, Error ellipse: s-maj=3.6km s-min=2.3km az=160.3*
*ATH **06** 01:29:57.1, 35°.72N×26°.96E, h24km±1km, MD3.4/12*
*CSEM **06** 01:29:58.4±0.1, 35°.73N×26°.94E, h10km, MD3.4, Error ellipse: s-maj=3.8km s-min=2.7km az=160.0*
*THE **06** 01:29:59.0, 35°.70N×27°.02E, h15km±2km, ML3.3/1, Error ellipse: s-maj=2.4km s-min=0.7km az=111.0*
*ISK **06** 01:29:59.6, 35°.90N×26°.97E, h19km, ML3.5*
ISC 06 01:29:58.7±1.0**, 35°.70N**±0°.02×**26°.99E**±0°.02**, h15**km±6km**,**
n150, σ1s.33/198**, mb3.4**/4**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.20**	**137**	*e*PB	**Pg**	**01 30 03.4**	**0.0**
KARP				*e*SB	**Sb**	**01 30 07.4**	**-0.4**
KARP	**Karpathos**	**0.20**	**137**	*e*Pb	**Pg**	**01 30 03.4**	**0.0**
KARP				*e*Sb	**Sb**	**01 30 07.4**	**-0.4**
ZKR	**Zakros**	**0.86**	**228**	P	**Pb**	**01 30 14.7**	**-0.6**
ZKR				S	**Sb**	**01 30 27.4**	**+0.8**
ZKR	**Zakros**	**0.86**	**228**	P	**Pb**	**01 30 14.7**	**-0.6**
ZKR				S	**Sb**	**01 30 27.4**	**+0.8**
ARG	**Arkhangelos**	**1.06**	**60**	P	**Pb**	**01 30 17.5**	**-1.1**
ARG				S	**Sb**	**01 30 31.6**	**-0.7**
ARG	**Arkhangelos**	**1.06**	**60**	*e*PN	**Pb**	**01 30 17.6**	**-1.1**
ARG				*e*SN	**Sg**	**01 30 32.7**	**-0.2**
ARG	**Arkhangelos**	**1.06**	**60**	P	**Pb**	**01 30 17.5**	**-1.1**
ARG				S	**Sb**	**01 30 31.6**	**-0.7**
ARG				*e*Sn	**Sg**	**01 30 32.7**	**-0.2**
DAT	**Datca**	**1.13**	**25**	*e*PG	**Pb**	**01 30 18.6**	**-1.4**
DAT				*e*SG	**Sb**	**01 30 32.6**	**-2.0**
DAT	**Datca**	**1.13**	**25**	*e*Pg	**Pb**	**01 30 18.6**	**-1.4**
DAT				*e*Sg	**Sb**	**01 30 32.6**	**-2.0**
NPS	**Neapolis**	**1.21**	**249**	P	**Pn**	**01 30 20.2**	**-0.7**
NPS				S	**Sb**	**01 30 36.5**	**-0.1**
NPS	**Neapolis**	**1.21**	**249**	*e*PN	**Pn**	**01 30 20.3**	**-0.7**
NPS				*e*SN	**Sb**	**01 30 36.2**	**-0.4**
NPS	**Neapolis**	**1.21**	**249**	*e*Pn	**Pn**	**01 30 20.3**	**-0.7**
NPS				*e*Sn	**Sb**	**01 30 36.2**	**-0.4**
LAST	**Lasithi**	**1.35**	**247**	P	**Pn**	**01 30 22.4**	**-0.6**
LAST				S	**Sn**	**01 30 39.9**	**-0.8**
LAST	**Lasithi**	**1.35**	**247**	*e*PN	**Pn**	**01 30 22.6**	**-0.4**
LAST				*e*SN	**Sn**	**01 30 40.4**	**-0.3**
LAST	**Lasithi**	**1.35**	**247**	*e*Pn	**Pn**	**01 30 22.6**	**-0.4**
LAST				S	**Sn**	**01 30 39.9**	**-0.8**
LAST				*e*Sn	**Sn**	**01 30 40.4**	**-0.3**
BODT	**Bodrum**	**1.39**	**11**	*e*PN	**Pn**	**01 30 21.8**	**-1.7**
BODT	**Bodrum**	**1.39**	**11**	*e*Pn	**Pn**	**01 30 21.8**	**-1.7**
SANT	**Santorini**	**1.41**	**299**	*e*PN	**Pn**	**01 30 22.8**	**-1.1**
SANT				*e*SN	**Sn**	**01 30 41.3**	**-0.9**
SANT	**Santorini**	**1.41**	**299**	*e*Pn	**Pn**	**01 30 22.8**	**-1.1**
SANT				*e*Sn	**Sn**	**01 30 41.3**	**-0.9**
BDRM	**Kayabasi**	**1.41**	**15**	*i* P	**Pn**	**01 30 24.4**	**+0.5**
BDRM				*i* S	**Sg**	**01 30 46.0**	**+1.8**
BDRM	**Kayabasi**	**1.41**	**15**	*i* P	**Pn**	**01 30 24.4**	**+0.5**
BDRM				*i* S	**Sg**	**01 30 46.0**	**+1.8**
THR5	**Thira Island,**	**1.51**	**299**	*e*PN	**Pn**	**01 30 25.8**	**+0.6**
THR5	**Thira Island,**	**1.51**	**299**	P	**Pn**	**01 30 24.7**	**-0.5**
THR5	**Thira Island,**	**1.51**	**299**	P	**Pn**	**01 30 24.7**	**-0.5**
THR5	**Thira Island,**	**1.51**	**299**	*e*Pn	**Pn**	**01 30 25.8**	**+0.6**
TURN	**Turunc**	**1.75**	**48**	*i* P	Pn	01 30 23.9	-4.6
TURN				*i* S	**Sn**	**01 30 44.6**	**-6.0**
TURN	**Turunc**	**1.75**	**48**	*i* P	Pn	01 30 23.9	-4.6
IDI	**Anoyia**	**1.76**	**257**	Pn	**Pn**	**01 30 27.6**	**-1.1**
	4.2nm,0.3s,baz=53,slow=10,SNR=155						
IDI				Sn	**Sn**	**01 30 49.7**	**-1.2**
	41nm,0.3s,baz=16,slow=14,SNR=19						
YER	**Yerkesik**	**1.77**	**36**	*e*PN	**Pn**	**01 30 28.0**	**-0.8**
YER	**Yerkesik**	**1.77**	**36**	*e*Pn	**Pn**	**01 30 28.0**	**-0.8**
APE	**Apeiranthos**	**1.81**	**320**	*e*PN	**Pn**	**01 30 27.8**	**-1.4**
APE	**Apeiranthos**	**1.81**	**320**	P	**Pn**	**01 30 27.9**	**-1.4**
APE	**Apeiranthos**	**1.81**	**320**	*e*PB	**Pn**	**01 30 27.8**	**-1.4**
APE	**Apeiranthos**	**1.81**	**320**	P	**Pn**	**01 30 27.9**	**-1.4**
SIVA	**Sivas**	**1.91**	**250**	P	**Pn**	**01 30 30.2**	**-0.4**
SIVA				S	**Sn**	**01 30 53.7**	**-0.7**
SIVA	**Sivas**	**1.91**	**250**	*e*PN	**Pn**	**01 30 31.2**	**+0.6**
SIVA	**Sivas**	**1.91**	**250**	P	**Pn**	**01 30 30.2**	**-0.4**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SIVA	Sivas	1.91	250	ePn	Pn	01 30 31.2	+0.6
SIVA				S	Sn	01 30 53.7	-0.7
GCAM	G?zelcaml?	2.01	5	i P	Pb	01 30 35.6	+0.7
GCAM	G?zelcaml?	2.01	5	i P	Pb	01 30 35.6	+0.7
SMG	Samos	2.01	357	P	Pn	01 30 30.4	-1.7
SMG	Samos	2.01	357	ePB	Pn	01 30 30.6	-1.5
SMG	Samos	2.01	357	P	Pn	01 30 30.4	-1.7
AYDN	Tasoluk	2.09	20	i P	Pn	01 30 34.5	+1.3
AYDN	Tasoluk	2.09	20	i P	Pn	01 30 34.5	+1.3
AKAS	Kas	2.19	75	i P	Pn	01 30 35.9	+1.3
AKAS				i S	Sb	01 31 04.7	-0.3
AKAS	Kas	2.19	75	i P	Pn	01 30 35.9	+1.3
AKAS				i S	Sb	01 31 04.7	-0.3
VAM	Vamos	2.29	264	ePN	Pn	01 30 35.5	-0.5
VAM	Vamos	2.29	264	ePn	Pn	01 30 35.5	-0.5
AYDB	Zeytinkoy-Aydi	2.36	18	ePN	Pn	01 30 36.1	-0.9
AYDB	Zeytinkoy-Aydi	2.36	18	ePn	Pn	01 30 36.1	-0.9
KARN	Karanos	2.52	264	P	Pn	01 30 38.2	-0.9
KARN				S	Sn	01 31 08.7	-1.0
KARN	Karanos	2.52	264	ePN	Pn	01 30 38.6	-0.5
KARN				eSN	Sn	01 31 08.7	-1.0
KARN	Karanos	2.52	264	P	Pn	01 30 38.2	-0.9
KARN	Karanos	2.52	264	ePn	Pn	01 30 38.6	-0.5
KARN				S	Sn	01 31 08.7	-1.0
ZEY	˜zmir	2.57	351	i P	Pn	01 30 38.0	-1.7
ZEY				i S	Sg	01 31 23.4	+2.2
GOLH	Golhisar	2.58	53	i P	Pn	01 30 41.6	+1.6
GOLH				i S	Sg	01 31 21.8	+0.2
GOLH	Golhisar	2.58	53	i P	Pn	01 30 41.6	+1.6
ELL	Elmali	2.58	65	ePN	Pn	01 30 40.5	+0.5
ELL	Elmali	2.58	65	ePn	Pn	01 30 40.5	+0.5
BLCB	Balcova	2.68	1	ePN	Pn	01 30 40.2	-1.1
BLCB	Balcova	2.68	1	ePn	Pn	01 30 40.2	-1.1
IZM	Izmir	2.70	5	ePN	Pn	01 30 40.4	-1.3
IZM	Izmir	2.70	5	ePn	Pn	01 30 40.4	-1.3
CHOS	Chios island	2.79	345	ePN	Pn	01 30 41.3	-1.5
CHOS	Chios island	2.79	345	ePN	Pn	01 30 41.6	-1.2
CHOS	Chios island	2.79	345	ePn	Pn	01 30 41.6	-1.2
ANKY	Antikythira Is	3.00	274	P	Pn	01 30 45.0	-0.7
ANKY				S	Sn	01 31 21.7	+0.2
ANKY	Antikythira Is	3.00	274	P	Pn	01 30 45.0	-0.7
ANKY				S	Sn	01 31 21.7	+0.2
KORT	Korkueli	3.01	63	i P	Pn	01 30 48.4	+2.5
KORT				i S	Sb	01 31 26.5	-2.1
KORT	Korkueli	3.01	63	i P	Pn	01 30 48.4	+2.5
KORT				i S	Sb	01 31 26.5	-2.1
KULA	Kula-Manisa	3.11	25	ePN	Pn	01 30 46.8	-0.5
KULA	Kula-Manisa	3.11	25	ePn	Pn	01 30 46.8	-0.5
ANTB	Antalya	3.19	67	ePN	Pn	01 30 49.5	+1.2
ANTB	Antalya	3.19	67	ePn	Pn	01 30 49.5	+1.2
AKS	Akhisar	3.24	11	ePN	Pn	01 30 49.0	0.0
AKS	Akhisar	3.24	11	ePn	Pn	01 30 49.0	0.0
KYTH	Kithira	3.26	281	ePN	Pn	01 30 48.9	-0.4
KYTH	Kithira	3.26	281	ePn	Pn	01 30 48.9	-0.4
KHL	Karahalli	3.31	37	ePN	Pn	01 30 50.8	+0.8
KHL	Karahalli	3.31	37	ePn	Pn	01 30 50.8	+0.8
BCK	Bucak	3.39	58	ePN	Pn	01 30 51.8	+0.7
BCK	Bucak	3.39	58	ePn	Pn	01 30 51.8	+0.7
VLI	Veliai	3.43	288	P	Pn	01 30 51.4	-0.2
VLI				S	Sn	01 31 32.0	-0.1
VLI	Veliai	3.43	288	ePN	Pn	01 30 51.6	0.0
VLI	Veliai	3.43	288	P	Pn	01 30 51.4	-0.2
VLI				S	Sn	01 31 32.0	-0.1
DID	Didima	3.52	302	P	Pn	01 30 51.9	-0.9
DID				S	Sn	01 31 33.6	-0.6
DID	Didima	3.52	302	ePN	Pn	01 30 52.8	0.0
DID	Didima	3.52	302	P	Pn	01 30 51.9	-0.9
DID	Didima	3.52	302	ePn	Pn	01 30 52.8	0.0
DID				S	Sn	01 31 33.6	-0.6
DEMI	Demirci	3.61	22	i P	Pn	01 30 55.3	+1.2
DEMI				i S	Sn	01 31 37.8	+1.2
DEMI	Demirci	3.61	22	i P	Pn	01 30 55.3	+1.2
DEMI				i S	Sn	01 31 37.8	+1.2
SIGR	SIGRI	3.62	346	ePN	Pn	01 30 53.1	-1.1
SIGR	SIGRI	3.62	346	ePN	Pn	01 30 53.2	-1.0
SIGR	SIGRI	3.62	346	ePn	Pn	01 30 53.2	-1.0
VILL	Villia	3.84	311	ePn	Pn	01 30 58.0	+0.7
VIL2	Platees	3.90	311	ePN	Pn	01 30 58.0	0.0
DURS	Dursunbey	4.07	16	i P	Pn	01 31 02.1	+1.6
DURS	Dursunbey	4.07	16	i P	Pn	01 31 02.1	+1.6
ALT	Altintas	4.17	36	ePN	Pn	01 31 02.1	+0.2
ALT	Altintas	4.17	36	ePn	Pn	01 31 02.1	+0.2
TVSB	Tavsanli	4.23	27	ePN	Pn	01 31 02.7	0.0
TVSB	Tavsanli	4.23	27	ePn	Pn	01 31 02.7	0.0
GUR	Goura	4.35	302	ePN	Pn	01 31 05.7	+1.4
GUR	Goura	4.35	302	ePn	Pn	01 31 05.7	+1.4
GAZI	Gazipasa	4.35	81	i P	Pn	01 31 04.6	+0.3
GAZI				i S	Sn	01 31 54.0	-0.8
GAZI	Gazipasa	4.35	81	i P	Pn	01 31 04.6	+0.3
GAZI				i S	Sn	01 31 54.0	-0.8
SMIA	Simia	4.38	318	ePN	Pn	01 31 05.5	+0.8
SMIA	Simia	4.38	318	ePn	Pn	01 31 05.5	+0.8
SLUM		4.45	200	P	Pn	01 31 07.3	+1.7
	baz=197						
SLUM		4.45	200	P	Pn	01 31 07.3	+1.7
DSF	Desfina	4.48	309	ePN	Pn	01 31 05.7	-0.4
DSF	Desfina	4.48	309	ePn	Pn	01 31 05.7	-0.4
KLV	Kalavryta, Ach	4.53	303	ePN	Pn	01 31 08.1	+1.3
KLV	Kalavryta, Ach	4.53	303	ePn	Pn	01 31 08.1	+1.3
HMAT	Matruh	4.59	179	S	Sn	01 32 01.9	+1.2
	baz=177						
HMAT	Matruh	4.59	179	S	Sn	01 32 01.9	+1.2
HDMB	Hadim	4.61	72	ePN	Pn	01 31 10.2	+2.2
HDMB	Hadim	4.61	72	ePn	Pn	01 31 10.2	+2.2
KONT	Konya--Tatoy	4.86	61	ePN	Pn	01 31 13.3	+2.1
KONT	Konya--Tatoy	4.86	61	ePn	Pn	01 31 13.3	+2.1
ERMK	Ermenek	4.88	77	i P	Pn	01 31 14.4	+2.7
ERMK				i S	Sn	01 32 11.5	+3.4
ERMK	Ermenek	4.88	77	i P	Pn	01 31 14.5	+2.7
ERMK				i S	Sn	01 32 11.5	+3.4
KDHN	Kadinhani	4.97	54	i P	Pn	01 31 14.5	+1.6
KDHN				i S	Sn	01 32 11.4	+1.3
KDHN	Kadinhani	4.97	54	i P	Pn	01 31 14.5	+1.6
KDHN				i S	Sn	01 32 11.4	+1.3
LADK	Ladik-KONYA	4.98	58	ePN	Pn	01 31 14.1	+1.2
LADK	Ladik-KONYA	4.98	58	ePn	Pn	01 31 14.1	+1.2
AGG	Agios Georgios	4.98	313	ePN	Pn	01 31 14.0	+1.1
AGG	Agios Georgios	4.98	313	ePn	Pn	01 31 14.0	+1.1
KIZT	Kizilcal	5.03	49	ePN	Pn	01 31 15.0	+1.3
KIZT	Kizilcal	5.03	49	ePn	Pn	01 31 15.0	+1.3
SWA2		6.56	192	P	Pn	01 31 35.5	+0.9
	baz=190						
SWA2				S	Sn	01 32 45.9	-3.4
	baz=190						
SWA2		6.56	192	P	Pn	01 31 35.5	+0.9
BRTR	Keskin Array B	6.63	51	Pn	Pn	01 31 35.7	+0.1
	0.1nm,0.3s,baz=215,slow=14,SNR=2.7						
BRTR				Sn	Sn	01 32 52.5	+1.5
	0.1nm,0.3s,baz=219,slow=26,SNR=1.8						
GLL	Jalalah	7.28	146	P	Pn	01 31 45.1	+0.5
	baz=147						
GLL				S	Sn	01 33 02.8	-4.3
	baz=147						
GLL	Jalalah	7.28	146	P	Pn	01 31 45.1	+0.5
MMAI	Mount Meron Ar	7.45	109	Pn	Pn	01 31 46.3	-0.6
	1.2nm,0.3s,baz=313,slow=14,SNR=4.8						
MMAI				Sn	Sn	01 33 09.1	-2.1
	1.6nm,0.3s,baz=303,slow=25,SNR=2.5						
SUZ		7.63	138	P	Pn	01 31 49.3	-0.1
	baz=140						
SUZ		7.63	138	P	Pn	01 31 49.3	-0.1
HNKL	Nakhl	8.22	132	P	Pn	01 31 56.8	-0.7
	baz=134						
HNKL	Nakhl	8.22	132	P	Pn	01 31 56.8	-0.7
EIL	Elat	9.00	130	Pn	Pn	01 32 07.1	-1.1
	0.6nm,0.3s,baz=333,slow=6.8,SNR=10						
EIL				Sn	Sn	01 33 43.6	-5.7
	1.1nm,0.3s,baz=31,slow=12,SNR=6.7						
NUB		9.28	134	P	Pn	01 32 11.2	-0.7
	baz=135						
HKAT	Jabal Katrina	9.29	138	P	Pn	01 32 11.8	-0.5
	baz=140						
HKAT				S	Sn	01 33 47.5	-9.2
	baz=140						
HKAT	Jabal Katrina	9.29	138	P	Pn	01 32 11.8	-0.5
ESDC	Sonseca Array	24.75	289	P	P	01 35 17.6	-2.1
	0.6nm,0.6s,baz=81,slow=10.0,SNR=7.6						
FINES	FINESS Array B	25.77	359	P	P	01 35 27.3	-1.3
	0.9nm,0.9s,baz=186,slow=13,SNR=2.6						
TORD	Torodi Ar. Bea	31.99	232	P	P	01 36 24.1	-0.3
	0.2nm,0.3s,baz=34,slow=8.9,SNR=16						
MKAR	Makanchi Array	42.23	57	P	P	01 37 49.4	-1.7
	0.1nm,0.5s,baz=262,slow=9.9,SNR=2.3						
SONM	Songino Array	57.99	51	LR	LR	02 08 26.9	
	comp=Z,139nm,18.0s,baz=141,slow=40						

IDC 06 01:35:43.1±6.0, 18.33N×145.54E, h424km±71km, mb2.8/8, mb1 2.9/9, mb1mx2.8/25, mbtmp3.5/9, Error ellipse: s-maj=36.2km s-min=16.2km az=86.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	19.26	342	P	P	01 39 38.4	-0.9
	0.2nm,0.3s,baz=166,slow=11,SNR=4.2						
KSRS	Korea Array	24.53	325	P	P	01 40 27.8	+0.9
	0.4nm,0.3s,baz=140,slow=9.6,SNR=3.1						
WRA	Warramunga Arr	39.59	197	P	P	01 42 36.1	-0.1
	0.5nm,0.3s,baz=16,slow=9.5,SNR=3.6						
ASAR	Alice Springs	43.26	196	P	P	01 43 05.2	-0.3
	0.1nm,0.4s,baz=11,slow=7.1,SNR=5.4						
SONM	Songino Array	43.34	322	P	P	01 43 07.2	+1.2
	0.2nm,0.4s,baz=133,slow=6.3,SNR=2.3						
MKAR	Makanchi Array	58.61	314	P	P	01 44 57.6	-0.2
	0.2nm,0.4s,baz=93,slow=6.9,SNR=5.4						
ILAR	Eielson Array	64.04	26	P	P	01 45 32.6	-0.8
	0.2nm,0.5s,baz=254,slow=6.5,SNR=3.0						
BVAR	Borovoye Array	66.66	321	P	P	01 45 49.4	-0.7
	0.5nm,0.3s,baz=107,slow=7.7,SNR=4.9						
NVAR	Mina Array Bea	83.49	52	P	P	01 47 26.7	+1.2
	0.4nm,0.3s,baz=263,slow=4.0,SNR=3.6						

*IDC **06** 01:37:30.1±0.8, 1.22N×97.05E, h0km, mb4.3/14, mb1 4.3/16, mb1mx4.1/29, mbtmp4.2/16, ML4.0/2, MS3.3/3, Ms1 3.4/3, ms1mx2.9/42, Error ellipse: s-maj=18.0km s-min=16.2km az=31.0*
*ISCJB **06** 01:37:32.8±0.5, 1.28N±0.06×97.12E±0.05, h28km, mb4.3/20, MS3.2/1, Error ellipse: s-maj=10.3km s-min=6.5km az=33.3*
*NEIC **06** 01:37:35.6±1.9, 1.33N×97.14E, h36km±15km, mb4.3/8, Error ellipse: s-maj=18.7km s-min=7.6km az=56.0*
*DJA **06** 01:37:42.6±2.5, 2°N±7°×9°8E±2°3, h10km, M4.4/8, mb4.6/2, mB4.9/1, MLv4.3/8, Mw(mB)4.2/1*
ISC 06 01:37:35.0±0.7, 1.33N±0.09×97.15E±0.09, h28km, n57, σ1.11/48, mb4.6/25, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.42	93	ePn	Pb	01 37 44.5	+0.3
PSI	Prapat	2.30	50	Pn	Pn	01 38 11.2	+0.1
	14nm,0.3s,baz=285,slow=7.0,SNR=53						
PSI				Lg	Lg	01 38 47.5	
	13nm,0.3s,baz=182,slow=18,SNR=3.1						
PSI				LR	LR	01 38 48.7	
	comp=Z,381nm,21.0s,baz=284,slow=33						
MNSI	Mandailing Nat	2.48	102	P	Pn	01 38 14.1	+0.5
TSI	Tuntungan	2.58	33	P	Pn	01 38 16.5	+1.6
BKNI	Bangkinang	4.01	104	P	Pb	01 38 50.4	+5.3
IPM	Ipoh	4.97	51	ePn	Pn	01 38 49.0	+1.1
KULM	Kulim	5.26	42	ePn	Pn	01 38 52.2	+0.4
MYKOM	Kota Tinggi	6.71	86	ePn	Pn	01 39 13.1	+1.3
CMAR	Chiang Mai Arr	17.11	6	P	Pn	01 41 31.4	-1.0
	0.3nm,0.3s,baz=197,slow=11,SNR=12						
CMAR				LR	LR	01 49 07.7	
	comp=Z,196nm,18.5s,baz=192,slow=40						
CHTO	Chiang Mai	17.46	6	ePn	Pn	01 41 33.8	-2.9
KKM	Kota Kinabalu	19.59	76	eP	P	01 42 01.7	+0.5
	17nm,1.0s						
H08S2	Diego Garcia H	26.16	250	T	T	02 10 04.2	
	baz=71,slow=76,SNR=1474						
H08S3	Diego Garcia H	26.16	250	T	T	02 10 07.8	
	baz=71,slow=76,SNR=1164						
H08S1	Diego Carcia H	26.18	250	T	T	02 10 08.9	
	baz=71,slow=76,SNR=1085						
ODAN	Odare	27.06	341	eP	P	01 43 15.4	-0.1
	25nm,0.6s						
H08N1	Diego Carcia H	27.18	253	T	T	02 12 14.4	
	baz=16,slow=77,SNR=35						
H08N2	Diego Garcia H	27.19	253	T	T	02 12 15.0	
	baz=16,slow=77,SNR=40						
H08N3	Diego Garcia H	27.21	253	T	T	02 12 14.2	
	baz=16,slow=77,SNR=42						
TAPN	Taplejung	27.41	342	eP	P	01 43 17.9	-0.9
	43nm,0.9s						
RAMN	Ramite	27.41	339	eP	P	01 43 20.2	+1.5
JIRN	Jiri	28.21	339	eP	P	01 43 27.1	+1.1
	23nm,0.7s						
PKI	Pulchoki	28.42	338	eP	P	01 43 29.5	+1.7
GUN	Gumba	28.55	339	eP	P	01 43 30.1	+1.1
	26nm,0.6s						
KKN	Kakani	28.66	338	eP	P	01 43 30.9	+1.1
GKN	Gorkha	29.10	337	eP	P	01 43 35.4	+1.7
KOLN	Koldanda	29.32	335	eP	P	01 43 37.0	+1.3
	18nm,0.6s						
ENH	Enshi	31.08	21	eP	P	01 43 50.2	-0.8
	10.0nm,0.9s						
H01W3	Cape Leeuwin H	39.38	158	T	T	02 26 41.6	
	baz=334,slow=76,SNR=5.3						
H01W2	Cape Leeuwin H	39.40	158	T	T	02 26 43.0	
	baz=334,slow=76,SNR=5.2						
H01W1	Cape Leeuwin H	39.40	158	T	T	02 26 43.5	
	baz=334,slow=76,SNR=3.4						
WRA	Warramunga Arr	42.14	122	P	P	01 45 24.0	-1.4
	1.8nm,0.5s,baz=300,slow=9.2,SNR=7.2						
WRAB	Tennant Creek	42.15	122	eP	P	01 45 24.2	-1.3
	3.3nm,0.7s						
ASAR	Alice Springs	43.51	127	P	P	01 45 35.8	-0.7
	1.1nm,0.8s,baz=299,slow=7.6,SNR=9.4						
AS31	Alice Springs	43.51	127	eP	P	01 45 35.8	-0.7
JNU	Nakatsue	44.74	41	P	P	01 45 45.8	-0.4
	8.3nm,0.9s,baz=229,slow=4.3,SNR=6.7						
KSAR	Wonju Array Be	45.74	35	P	P	01 45 53.5	-0.4
KSRS	Korea Array	45.77	35	P	P	01 45 53.5	-0.7
	6.8nm,0.8s,baz=222,slow=9.0,SNR=40						
EKS2	Erkin-Say	46.17	336	eP	P	01 45 54.6	-2.9
	8.0nm,0.9s						
SONM	Songino Array	47.01	9	P	P	01 46 04.2	+0.2
	4.3nm,0.7s,baz=190,slow=9.0,SNR=23						
SONM				PcP	PcP	01 47 35.9	-0.1
	0.9nm,0.5s,baz=205,slow=3.3,SNR=3.6						
MK31	Makanchi Array	47.10	346	eP	P	01 46 05.0	+0.4
MKAR	Makanchi Array	47.10	346	P	P	01 46 05.0	+0.4
	4.0nm,0.7s,baz=161,slow=8.4,SNR=43						
MKAR				LR	LR	02 09 31.0	
	comp=Z,27nm,19.8s,baz=162,slow=41						
MJAR	Matsushiro Arr	51.63	42	P	P	01 46 38.7	-0.6
	0.4nm,0.4s,baz=223,slow=6.4,SNR=5.3						
KURK	Kurchatov	51.66	345	eP	P	01 46 39.5	+0.3
	8.7nm,1.0s						
USRK	Ussuriysk Ar.	52.68	31	P	P	01 46 47.1	+0.2
	8.2nm,0.9s,baz=222,slow=4.5,SNR=14						
ZAA0	Zalesovo Array	53.42	351	eP	P	01 46 52.1	-0.1
ZALV	Zalesovo Beam	53.42	351	P	P	01 46 52.2	-0.1
	6.7nm,0.4s,baz=184,slow=7.0,SNR=36						
ZALV				PcP	PcP	01 48 01.8	+2.6
	2.9nm,0.6s,baz=206,slow=9.6,SNR=7.4						
STKA	Stephens Creek	53.48	132	P	P	01 46 53.6	+0.5
	2.7nm,0.8s,baz=3.5,slow=2.8,SNR=3.9						
BVAR	Borovoye Array	56.11	341	P	P	01 47 11.2	-0.6
	3.8nm,0.7s,baz=144,slow=8.7,SNR=25						
BRVK	Borovoye	56.17	341	eP	P	01 47 11.6	-0.6
	3.5nm,0.9s						
ABKAR	Akbulak array	57.38	332	eP	P	01 47 20.5	-0.3
KBZ	Khabaz	63.94	319	P	P	01 48 05.7	+0.1
	1.1nm,0.6s,baz=146,slow=24,SNR=3.5						
BR131	Keskin Array S	68.99	312	eP	P	01 48 38.0	-0.3
	3.1nm,1.1s						
BRTR	Keskin Array B	68.99	312	P	P	01 48 37.4	-0.9
	0.5nm,0.7s,baz=131,slow=6.5,SNR=4.9						
BUR08	Bucovina Ar. S	76.91	319	eP	P	01 49 26.4	+1.4
FINES	FINESS Array B	79.86	333	P	P	01 49 40.4	-0.4
	3.7nm,0.9s,baz=141,slow=7.3,SNR=4.4						
VNDA	Vanda	85.96	169	eP	P	01 50 11.8	-0.4
	1.3nm,0.8s						
TXAR	Lajitas Array	143.58	32	PKP	PKPbc	01 57 05.5	+0.1
	0.3nm,0.7s,baz=46,slow=0.7,SNR=6.3						

*NNC **06** 01:43:47.4±2.1, 36.88N×70.76E, h204km±19km, mb2.7, mpv3.8, Error ellipse: s-maj=22.0km s-min=10.8km az=159.0*
ISC 06 01:43:46.6±3.2, 36.8N±0.2×70.82E±0.09, h200km, n14, σ0.45/19, 7C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
DZET	Dzherino	2.56	322	⇓P	Pn	01 44 31.5	+0.3
	18nm,0.2s						
DZET				⇑S	Sn	01 45 05.9	-0.2
	92nm,0.2s						
SFK	Sufi-Kurgan	3.84	32	⇑P	Pn	01 44 46.6	0.0
	12nm,0.7s						
SFK				⇑S	Sn	01 45 34.3	+0.6
	34nm,0.5s						
AML	Almayashu	5.77	22	P	Pn	01 45 11.1	-0.1
	SNR=44						
MNAS	Manas	5.83	12	⇓P	Pn	01 45 11.8	+0.1
	3.0nm,0.5s						
MNAS				⇑S	Sn	01 46 19.4	+0.3
	8.4nm,0.5s						
UCH	Uchtor	6.13	27	P	Pn	01 45 15.8	-0.1
	SNR=23						
EKS2	Erkin-Say	6.29	20	P	Pn	01 45 17.9	+0.3
	SNR=5.7						
KZA	Kyzart	6.29	32	P	Pn	01 45 17.1	-0.9
	SNR=6.8						
KK31	Karatay Array	6.31	358	⇑P	Pn	01 45 17.6	-0.2
	1.4nm,0.3s,baz=178,slow=13,SNR=36						
KK31				⇓S	Sn	01 46 29.3	-0.8
	2.0nm,0.4s,baz=183,slow=23,SNR=4.3						
AAK	Ala-Archa	6.48	25	P	Pn	01 45 20.4	+0.3
	SNR=12						
AAK	Ala-Archa	6.48	25	⇓P	Pn	01 45 20.0	-0.2
	5.0nm,0.6s						
AAK				⇑S	Sn	01 46 34.9	+0.5
	4.8nm,0.6s						
KBK	Karagaybulak	6.66	27	P	Pn	01 45 22.9	+0.4
	SNR=7.0						
TKM2	Tokmak 2	7.13	29	P	Pn	01 45 28.0	-0.7
	SNR=11						
TKM2	Tokmak 2	7.13	29	⇓P	Pn	01 45 28.2	-0.5
	7.9nm,0.7s						
AKTO	Aktyubinsk	16.45	330	⇑P	Pn	01 47 26.2	+0.1
	4.3nm,1.1s						

IDC 06 01:48:45.6±1.1, 11.96N×156.30E, h0km, mb3.6/8, mb1 3.9/8, mb1mx3.7/21, mbtmp3.6/8, Error ellipse: s-maj=33.3km s-min=24.2km az=106.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy	11.94	56	T	T	02 03 35.3	
	baz=239,slow=75,SNR=134						
H11S2	WAKE ISLAND Hy	11.96	56	T	T	02 03 36.0	
	baz=239,slow=75,SNR=96						
H11S1	WAKE ISLAND Hy	11.96	56	T	T	02 03 35.9	
	baz=239,slow=75,SNR=98						
H11N1	WAKE ISLAND Hy	12.77	52	T	T	02 04 36.1	
	baz=235,slow=75,SNR=80						
H11N2	WAKE ISLAND Hy	12.79	52	T	T	02 04 37.3	
	baz=235,slow=75,SNR=91						
H11N3	WAKE ISLAND Hy	12.79	52	T	T	02 04 37.6	
	baz=235,slow=75,SNR=72						
MJAR	Matsushiro Arr	29.40	329	P	P	01 54 49.1	-1.6
	0.5nm,0.4s,baz=178,slow=11,SNR=6.5						
KSRS	Korea Array	35.92	320	P	P	01 55 49.0	+1.4
	0.5nm,0.5s,baz=128,slow=7.9,SNR=5.5						
WRA	Warramunga Arr	38.37	215	P	P	01 56 08.7	-0.1
	0.6nm,0.5s,baz=36,slow=8.6,SNR=3.1						
ASAR	Alice Springs	41.63	212	P	P	01 56 35.4	-0.5
	0.1nm,0.4s,baz=44,slow=7.3,SNR=3.2						
SONM	Songino Array	54.77	321	P	P	01 58 18.3	+0.9
	0.5nm,0.5s,baz=126,slow=7.3,SNR=3.6						
ILAR	Eielson Array	65.44	23	P	P	01 59 28.8	-1.3
	0.4nm,0.7s,baz=248,slow=4.8,SNR=4.8						
NVAR	Mina Array Bea	79.10	53	P	P	02 00 54.0	+1.5
	0.4nm,0.6s,baz=265,slow=8.8,SNR=2.5						
TXAR	Lajitas Array	92.78	59	P	P	02 02 00.9	+0.2
	0.1nm,0.6s,baz=284,slow=4.5,SNR=2.8						
TORD	Torodi Ar. Bea	144.55	314	PKP	PKPab	02 08 23.0	-0.5
	0.4nm,0.8s,baz=64,slow=2.8,SNR=3.7						

IDC 06 01:50:00.2±2.6, 5.39S×127.20E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.2/31, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=338.5km s-min=30.3km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.05	155	Pn	Pn	01 53 49.0	+1.6
	0.2nm,0.3s,baz=333,slow=13,SNR=2.5						
WRA				Sn	Sn	01 56 36.7	-9.5
	0.1nm,0.3s,baz=334,slow=22,SNR=3.0						
ASAR	Alice Springs	19.29	161	P	P	01 54 26.1	-0.7
	0.1nm,0.3s,baz=347,slow=11,SNR=3.5						
MKAR	Makanchi Array	65.37	328	P	P	02 00 44.6	0.0
	0.2nm,0.4s,baz=117,slow=7.3,SNR=4.3						

IDC 06 01:58:08.4±1.2, 32.50N×141.62E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/38, mbtmp3.6/5, ML3.5/2, MS2.7/1, Ms1 2.7/1, ms1mx2.0/46, Error ellipse: s-maj=42.8km s-min=20.2km az=79.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	4.92	326	Pn	Pn	01 59 23.1	-0.5
	0.7nm,0.3s,baz=157,slow=12,SNR=8.4						
MJAR				Sn	Sn	02 00 20.7	-0.6
	0.4nm,0.3s,baz=281,slow=25,SNR=4.1						
MAT	Matsushiro	4.92	326	P	Pn	01 59 24.2	+0.5
MAT				eS	Sn	02 00 17.0	-4.4
JCJ	Chichijima	5.41	175	Pn	Pn	01 59 30.9	+0.6
	3.5nm,0.3s,baz=108,slow=23,SNR=7.1						
JCJ				Sn	Sn	02 00 33.6	+0.3
	3.2nm,0.3s,baz=189,slow=18,SNR=2.6						
KSRS	Korea Array	12.27	298	LR	LR	02 05 37.2	
	comp=Z,36nm,21.1s,baz=214,slow=36						
MKAR	Makanchi Array	46.79	306	P	P	02 06 39.9	+0.2
	0.3nm,0.6s,baz=92,slow=8.7,SNR=3.7						
WRA	Warramunga Arr	52.61	189	P	P	02 07 23.8	-0.4
	0.5nm,0.7s,baz=6.6,slow=7.3,SNR=3.2						
YKA	Yellowknife Ar	67.66	29	P	P	02 09 06.9	0.0
	0.5nm,0.6s,baz=303,slow=7.8,SNR=3.3						

ROM 06 02:07:56.4±0.2, 42.61N×13.16E, h10km±1km, Md1.3/3, Ml0.6/2, Error ellipse: s-maj=3.0km s-min=0.5km az=176.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LNSS	Leonessa	0.09	267	Pg	Pg	02 07 59.3	+0.3
LNSS				Sg	Sg	02 08 01.3	+0.4
	39nm,0.2s						
SMA1	SAN MARTINO	0.13	80	Pg	Pg	02 08 00.1	+0.5
SMA1				Sg	Sg	02 08 02.6	+0.7
	12nm,0.2s						
NRCA	Norcia	0.23	352	Pg	Pg	02 08 01.8	+0.5
NRCA				Sg	Sg	02 08 06.0	+1.4
	9.0nm,0.1s						

ROM 06 02:08:34.3±0.2, 42.61N×13.16E, h10km±1km, Md1.3/3, Ml0.5/1, 1C, Error ellipse: s-maj=0.9km s-min=0.6km az=170.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LNSS	Leonessa	0.09	264	⇑iPg	Pg	02 08 37.2	+0.3
LNSS				Sg	Sg	02 08 39.1	+0.3
SMA1	SAN MARTINO	0.13	82	Pg	Pg	02 08 37.9	+0.4
SMA1				Sg	Sg	02 08 40.4	+0.6
NRCA	Norcia	0.22	351	Pg	Pg	02 08 39.6	+0.5
NRCA				Sg	Sg	02 08 43.7	+1.4
	7.0nm,0.1s						

IDC 06 02:16:59.6±4.8, 21.49S×175.35W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/37, mbtmp3.8/3, Error ellipse: s-maj=257.9km s-min=41.3km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CTA	Charters Tower	35.87	265	P	P	02 24 02.7	+1.2
	2.5nm,0.8s,baz=76,slow=8.3,SNR=3.5						
ASAR	Alice Springs	46.71	257	P	P	02 25 29.6	-1.1
	0.8nm,0.8s,baz=97,slow=9.3,SNR=7.2						

WRA Warramunga Arr 46.92 262 P P 02 25 31.6 -0.7
0.8nm,0.7s,baz=98,slow=7.7,SNR=4.5
AKASG Malin Array Be 145.05 333 PKPbc PKPbc 02 36 36.7 -1.4
0.9nm,0.4s,baz=41,slow=4.3,SNR=6.7
BRTR Keskin Array B 149.33 313 PKPbc PKPbc 02 36 49.4 -1.5
0.8nm,0.8s,baz=129,slow=3.3,SNR=6.1
MMAI Mount Meron Ar 150.46 299 PKPbc PKPbc 02 36 54.8 +1.1
0.9nm,0.6s,baz=108,slow=4.7,SNR=2.4

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*BJI **06** 02:19:59.4, 32°.86S×178°.78W, h54km, mb5.3/19, mB5.4/21, Ms5.3/15, Ms7 4.9/18*

*ISCJB **06** 02:19:59.9±0.1, 33°.09S±0°.03×179°.40W±0°.05, h46km, mb5.0/58, MS4.8/144, Error ellipse: s-maj=6.3km s-min=2.8km az=27.2*

*MOS **06** 02:19:59.4±1.0, 32°.93S×179°.34W, h41km, mb5.4/33, MS4.9/21, Error ellipse: s-maj=12.5km s-min=9.2km az=87.7*

*GCMT **06** 02:20:01.9±0.1, 33°.02S×179°.01W, h56km, MW5.4/105, Moment Tensor Solution. s97,c160; s105,c178; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.37±.03; $M_{\theta\theta}$-0.05±.02; $M_{\phi\phi}$-1.32±.02; $M_{r\theta}$0.05±.02; $M_{\theta\phi}$-0.59±.02; $M_{\phi r}$0.56±.02; Best double couple: $M_0$1.56700×10^{17} NP1:ϕ_s15.00000°, δ56.00000°, λ82.00000°. NP2:ϕ_s209.00000°, δ35.00000°, λ101.00000°. Principal axes: T 1.4860, Plg78.0000°, Azm257.0000°; N 0.1640, Plg7.0000°, Azm19.0000°; P -1.6480, Plg10.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **06** 02:20:01.9±0.8, 32°.93S×179°.35W, h56km±6km, mb5.3/41, MS4.9/120 Error ellipse: s-maj=7.4km s-min=6.0km az=133.0*

*IDC **06** 02:20:01.7±1.6, 32°.90S×179°.26W, h56km±13km, mb4.4/23, mb1 4.5/24, mb1mx4.5/25, mbtmp4.7/24, MS4.6/22, Ms1 4.6/22, ms1mx4.5/30, Error ellipse: s-maj=13.3km s-min=9.1km az=114.0*

ISC 06 02:20:01.3±0.3, **32°.98S**±0°.03×**179°.16W**±0°.04, **h53**km±2km, **h52**km**:pP-P, n544, σ1s53**/459, **mb5.1**/55, **MS4.9**/144, **31C-40D, South of Kermadec Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 3.87 16 P Pn 02 20 56.9 -1.3
137nm,0.3s,baz=150,slow=20,SNR=9.8
RAO S Sn 02 21 41.3 -1.1
459nm,0.3s,baz=297,slow=23,SNR=5.8
RAO LR LR 02 22 26.7
comp=Z,8µm,20.9s,baz=168,slow=38
RAO Raoul Island 3.87 16 eP Pn 02 20 56.5 -1.7
RAO e 02 21 39.1
RAO Raoul Island 3.87 16 ePn Pn 02 20 56.5 -1.7
RAO eSn Sn 02 21 39.1 -3.2
MXZ Matakaoa Point 5.02 204 PN Pn 02 21 14.9 +0.8
MXZ SN Sn 02 22 15.7 +4.9
WMGZ Waiomatatini S 5.22 202 PN Pn 02 21 17.4 +0.6
WMGZ SN Sn 02 22 20.4 +4.7
HAZ Te Kaha 5.38 207 PN Pn 02 21 19.0 0.0
HAZ SN Sn 02 22 24.3 +4.8
WIZ White Island 5.43 212 PN Pn 02 21 22.2 +2.5
PUZ Puketiti 5.50 202 PN Pn 02 21 20.6 0.0
PUZ SN Sn 02 22 25.1 +2.5
GRZ Great Barrier 5.51 232 PN Pn 02 21 24.7 +3.9
KUZ Kuaotunu 5.64 227 PN Pn 02 21 25.9 +3.3
TWGZ Tauwhareparae 5.69 203 PN Pn 02 21 22.3 -0.9
CNGZ Carnagh Statio 5.90 201 PN Pn 02 21 24.5 -1.5
TKGZ Te Karaka 5.97 203 PN Pn 02 21 24.9 -2.2
OPRZ Ohinepanea 5.99 215 PN Pn 02 21 29.3 +2.0
MWZ Matawai 5.99 206 PN Pn 02 21 25.2 -2.1
MWZ eSN Sn 02 22 34.6 +0.1
URZ Urewera 6.08 209 P Pn 02 21 28.2 -0.4
28nm,0.3s,baz=272,slow=3.3,SNR=92
URZ S Sn 02 22 38.1 +1.3
124nm,0.3s,baz=223,slow=20,SNR=7.9
URZ Urewera 6.08 209 PN Pn 02 21 27.2 -1.4
URZ Urewera 6.08 209 ePn Pn 02 21 29.2 +0.6
URZ S Sn 02 22 38.1 +1.3
WCZ Waipu Caves 6.12 239 PN Pn 02 21 33.7 +4.5
RAGZ Rawiri 6.17 206 PN Pn 02 21 29.5 -0.4
RIGZ Rimuhau 6.24 203 PN Pn 02 21 28.5 -2.3
TARZ Mount Tarawera 6.32 213 ePN Pn 02 21 33.1 +1.1
OUZ Omahuta 6.41 248 PN Pn 02 21 37.0 +3.9
OUZ Omahuta 6.41 248 ePn Pn 02 21 36.5 +3.4
TOZ Tahuroa Road 6.44 221 PN Pn 02 21 36.2 +2.7
SNGZ Shannon Statio 6.45 205 PN Pn 02 21 31.8 -1.9
KNZ Kokohu 6.55 202 PN Pn 02 21 31.9 -3.1
PRRZ Plateau Road 6.59 212 PN Pn 02 21 36.4 +0.9
RAHZ Arahi 6.66 206 PN Pn 02 21 35.7 -0.9
ALRZ Allen Road 6.66 212 PN Pn 02 21 36.6 0.0
WHHZ Waihua 6.75 205 PN Pn 02 21 36.9 -0.8
NMHZ Naumai 6.93 207 PN Pn 02 21 38.4 -1.8
ARHZ Aropaoanui 7.00 205 PN Pn 02 21 38.8 -2.4
BKZ Black Stump Fm 7.11 208 PN Pn 02 21 41.2 -1.5
BKZ Black Stump Fm 7.11 208 ePn Pn 02 21 41.8 -0.9
CKHZ Cape Kidnapper 7.33 203 PN Pn 02 21 43.0 -2.6
KWHZ Kaweka Forest 7.36 208 PN Pn 02 21 44.2 -1.9
HIZ Hauiti 7.36 220 PN Pn 02 21 48.9 +2.8
KRVZ Karewarewa 7.42 213 PN Pn 02 21 47.2 +0.2
BHHZ Black Hill Sta 7.56 209 PN Pn 02 21 46.6 -2.3
KRHZ Kereru 7.57 207 PN Pn 02 21 46.0 -3.0
FWVZ Far West T-bar 7.58 213 PN Pn 02 21 49.0 -0.4
PXZ Pawanui 7.73 203 PN Pn 02 21 48.8 -2.3
PNHZ Pukenui 7.87 207 PN Pn 02 21 49.5 -3.6
WPHZ Waipukurau 7.91 205 PN Pn 02 21 52.1 -1.6
PRHZ Porangahau 8.02 204 PN Pn 02 21 51.1 -4.1
TSZ Takapari Road 8.08 208 PN Pn 02 21 52.5 -3.6
WAZ Wanganui 8.25 213 PN Pn 02 21 56.9 -1.3
ANWZ Angora Road 8.25 204 PN Pn 02 21 55.1 -3.1
POWZ Post Office Ro 8.45 207 PN Pn 02 21 58.1 -2.8
PRWZ Pori Road 8.51 206 PN Pn 02 21 59.0 -2.8
BFZ Birch Farm 8.52 204 PN Pn 02 21 56.8 -5.2
BFZ Birch Farm 8.52 204 ePn Pn 02 22 01.5 -0.5
MRZ Mangatainoka R 8.75 207 ePN Pn 02 22 00.4 -4.7
MRZ eSN Sn 02 23 34.3 -8.0
HOWZ Holdsworth Sta 8.98 207 PN Pn 02 22 03.7 -4.6
TMWZ Te Maipa 9.03 205 PN Pn 02 22 04.3 -4.6
MTW Mount Morrison 9.21 206 PN Pn 02 22 07.8 -3.7
MSWZ Moikau Station 9.53 206 PN Pn 02 22 11.7 -4.1
DUWZ D'Urville Isla 9.57 213 PN Pn 02 22 12.6 -3.8
WEL Wellington 9.60 209 PN Pn 02 22 13.5 -3.3
SNZO South Karori 9.65 209 ePn Pn 02 22 13.3 -4.1
105nm,0.8s
SNZO eSn Sn 02 23 57.7 -6.5
KHZ Kahutara 11.05 209 ePn Pn 02 22 30.4 -6.1
KHZ eSn Sn 02 24 28.8 -10
RPZ Rata Peaks 13.18 213 P Pn 02 22 58.3 -7.3
4.7nm,0.3s,baz=71,slow=3.1,SNR=16
RPZ S Sn 02 25 19.6 -11
8.7nm,0.3s,baz=152,slow=21,SNR=11
RPZ Rata Peaks 13.18 213 ePn Pn 02 22 58.8 -6.8
RPZ eSn Sn 02 25 21.1 -9.4
MSVF Nonsavu 15.39 350 Pn Pn 02 23 36.1 +0.9
379nm,1.1s,SNR=6.7
MSVF Nonsavu 15.39 350 eP Pn 02 23 35.8 +0.6
MSVF pmax pmax
comp=Z,69nm,0.9s
MSVF Nonsavu 15.39 350 ePn Pn 02 23 35.8 +0.6
comp=Z,69nm,0.9s
WHZ Wether Hill Ro 16.27 214 ePn Pn 02 23 39.6 -6.6
comp=Z,446nm,2.4s
DZM Mont Dzumac 16.75 307 eP P 02 23 59.8 +5.8
comp=Z,231nm,1.2s
DZM eLR LR 02 27 29.8
comp=Z,14µm,25.5s
DZM Mont Dzumac 16.75 307 P P 02 23 56.0 +2.0
comp=Z,0.6nm,0.3s,baz=268,slow=23,SNR=11
DZM LR LR 02 29 06.3
comp=Z,7µm,20.2s,baz=180,slow=33
AFI Afiamalu 20.14 21 PFAKE 02 24 40.0 +6.5
AFI LR LR
comp=Z,1µm,22.0s
RAR Rarotonga 20.82 61 P Pn 02 24 40.7 -0.7
comp=Z,16nm,1.0s,baz=41,slow=20,SNR=3.0
RAR S S 02 28 17.0 -11
comp=Z,12nm,0.5s,baz=90,slow=19,SNR=2.6
RAR LR LR 02 30 43.3
comp=Z,986nm,21.9s,baz=253,slow=31
CAN Canberra 26.40 256 PFAKE 02 25 40.0 +7.1
CAN LR LR
comp=Z,4µm,20.0s
EIDS Eidsvold 27.00 279 eP P 02 25 40.9 +2.6
comp=Z,25nm,0.9s
TBI Tubuai 27.81 77 eS S 02 30 21.0 -3.9
comp=Z,749nm,30.4s
TBI eLR LR 02 32 42.2
comp=Z,4µm,27.5s,baz=239
TBI Tubuai 27.81 77 eT T 02 54 23.1
comp=Z,223nm,0.4s
TAU Tasmania Unive 28.07 240 PFAKE 02 26 00.0 +12
TAU LR LR
comp=Z,3µm,22.0s
HNR Honiara 30.35 316 P P 02 26 10.0 +1.9
PAE Paea 30.65 67 eT T 02 57 54.8
comp=Z,53nm,0.2s
PPT2 Papeete2 30.69 67 eS S 02 31 06.6 -3.9
comp=Z,737nm,27.0s
PPT2 eLR LR 02 33 57.7
comp=Z,4µm,26.2s,baz=233
PPT2 Papeete2 30.69 67 eT T 02 57 59.0
comp=Z,102nm,0.4s
PPT Papeete 30.70 67 LR LR 02 35 39.2
comp=Z,675nm,20.4s,baz=220,slow=30
TVO Taravao 30.83 68 eT T 02 58 09.0
comp=Z,10nm,0.4s
TIAR Tiarei 30.89 68 eT T 02 58 13.0
comp=Z,15nm,0.3s
MEH Mehetia 31.71 69 eT T 02 59 14.6
comp=Z,63nm,0.3s
STKA Stephens Creek 33.02 261 P P 02 26 31.6 0.0
comp=Z,2.6nm,0.5s,baz=95,slow=10,SNR=8.1
STKA LR LR 02 38 58.4
comp=Z,3µm,19.2s,baz=95,slow=34
STKA Stephens Creek 33.02 261 eP P 02 26 35.3 +3.8
STKA Stephens Creek 33.02 261 eP P 02 26 35.3 +3.8
comp=Z,6.3nm,1.6s
CTA Charters Tower 33.34 284 P P 02 26 35.5 +1.0
comp=Z,25nm,0.6s,baz=115,slow=11,SNR=55
CTAO Charters Tower 33.34 284 eP P 02 26 37.2 +2.7
CTAO pmax pmax
comp=Z,30nm,0.6s
CTAO MLR MLR
comp=Z,1µm,20.0s
CTAO Charters Tower 33.34 284 eP P 02 26 37.2 +2.7
comp=Z,30nm,0.6s
CTAO LR LR
comp=Z,1µm,20.0s
PMOR Pomariorio Ree 33.52 65 eT T 03 01 30.3
comp=Z,19nm,0.3s
VAH Vaihoa 33.59 66 eT T 03 01 34.7
comp=Z,222nm,0.3s
PMG Port Moresby 38.91 299 eP P 02 27 23.5 +1.4
PMG pmax pmax
comp=Z,34nm,0.7s
PMG MLR MLR
comp=Z,2µm,20.0s
PMG Port Moresby 38.91 299 eP P 02 27 23.5 +1.4
comp=Z,34nm,0.7s
PMG LR LR
comp=Z,2µm,20.0s
COEN Coen 39.12 290 eP P 02 27 26.4 +2.6
RKT Rikitea 39.97 87 eS S 02 33 30.7 -1.9
comp=Z,742nm,29.2s
RKT eLR LR 02 38 23.2
comp=Z,4µm,27.0s,baz=248
RKT Rikitea 39.97 87 eT T 03 09 36.2
comp=Z,10nm,0.2s
XMAS Kiritimati 40.43 35 PFAKE 02 27 50.0 +15
XMAS LR LR
comp=Z,1µm,21.0s
AS31 Alice Springs 42.06 270 eP P 02 27 48.5 +0.4
ASAR Alice Springs 42.06 270 P P 02 27 48.5 +0.5
comp=Z,11nm,0.5s,baz=111,slow=7.1,SNR=109
ASAR PKiKP PKiKP 02 36 46.4 -1.7
comp=Z,0.3nm,0.6s,baz=71,slow=1.7,SNR=4.9
WRAB Tennant Creek 43.28 276 P P 02 27 58.2 +0.2
comp=Z,223nm,0.6s,SNR=16
WRAB Tennant Creek 43.28 276⇓eP P 02 27 58.1 +0.1
WRAB pmax pmax
comp=Z,78nm,1.0s
WRAB MLR MLR
comp=Z,880nm,13.0s
WRAB Tennant Creek 43.28 276 eP P 02 27 57.8 -0.1
comp=Z,30nm,0.7s
WRAB LR LR
comp=Z,1µm,22.0s
WRA Warramunga Arr 43.28 276 P P 02 27 58.2 +0.3
comp=Z,12nm,0.3s,baz=117,slow=7.5,SNR=52
WRA PKiKP PKiKP 02 36 47.5 -1.7
comp=Z,0.9nm,1.0s,baz=352,slow=0.1,SNR=5.1
WRA LR LR 02 44 43.0
comp=Z,1µm,20.9s,baz=135,slow=34
FORT Forrest 44.49 258 eP P 02 28 07.8 +0.3
comp=Z,50nm,0.7s
SBA Scott Base 45.40 184 eP P 02 28 17.3 +3.2
SBA pmax pmax
comp=Z,27nm,1.0s
SBA Scott Base 45.40 184 eP P 02 28 17.3 +3.2
comp=Z,27nm,1.0s
VNDA Vanda 45.44 186 P P 02 28 15.4 +1.0
comp=Z,1.4nm,0.8s,baz=358,slow=6.8,SNR=6.3
VNDA LR LR 02 43 56.4
comp=Z,480nm,19.6s,baz=30,slow=32
VNDA Vanda 45.44 186 eP P 02 28 16.1 +1.7
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA Vanda 45.44 186 eP P 02 28 16.1 +1.7
comp=Z,6.4nm,0.9s
NWAO Narrogin (SRO) 52.60 251 P P 02 29 08.0 -1.9
comp=Z,11nm,0.7s,baz=146,slow=5.8,SNR=6.1
NWAO Narrogin (SRO) 52.60 251 P P 02 29 08.0 -1.9
FAKI Fak Fak 54.36 293 eP P 02 29 22.4 -0.6
comp=Z,130nm,1.5s
MBWA Marble Bar 55.01 266 eP P 02 29 26.5 -1.1
comp=Z,15nm,0.9s
MBWA LR LR
comp=Z,1µm,21.0s
SOEI Soe 56.80 281 eP P 02 29 39.8 -0.8
comp=Z,79nm,0.9s
POHA Pohakuloa 57.09 27 PFAKE 02 30 00.0 +17
POHA LR LR
comp=Z,782nm,21.0s
QSPA South Pole Qui 57.14 180 LR LR 02 50 48.9
comp=Z,466nm,20.3s,baz=26,slow=32
QSPA South Pole Qui 57.14 180 eP P 02 29 44.2 +1.9
comp=Z,88nm,1.1s
GUMO Guam 57.66 317 LR LR 02 50 54.3
comp=Z,375nm,21.7s,baz=156,slow=32
MMRI Maumere 59.08 280 eP P 02 29 55.1 -1.4
comp=Z,192nm,1.4s
MIDW Midway 60.88 2 PFAKE 02 30 20.0 +12
MIDW LR LR
comp=Z,881nm,20.0s
LUWI Luwuk 62.98 288 eP P 02 30 23.7 +0.8
comp=Z,54nm,0.9s
KAPI Kappang 63.14 282 eP P 02 30 23.9 0.0
comp=Z,33nm,1.1s
KAPI LR LR
comp=Z,437nm,20.0s
DAV Davao City (W) 65.85 297 PFAKE 02 30 50.0 +8.4
DAV LR LR
comp=Z,433nm,20.0s
MAW Mawson 69.55 201 P P 02 31 04.4 +0.3
comp=Z,8.2nm,0.8s,baz=140,slow=6.5,SNR=20
MAW LR LR 02 59 53.1
comp=Z,707nm,21.5s,baz=86,slow=34
MAW Mawson 69.55 201 eP P 02 31 04.2 +0.1
MAW pmax pmax
comp=Z,8.0nm,1.2s
MAW Mawson 69.55 201 eP P 02 31 04.2 +0.1
comp=Z,8.0nm,1.2s
JCJ Chichijima 70.14 324 LR LR 02 57 30.0
comp=Z,226nm,21.4s,slow=32
KKM Kota Kinabalu 72.45 290 eP P 02 31 21.8 -0.8
comp=Z,13nm,0.8s
USHA Ushuaia 74.35 146 P P 02 31 34.6 +1.5
comp=Z,13nm,0.9s,baz=195,slow=8.0,SNR=4.2
SYO Syowa Base 74.39 194⇓iP P 02 31 31.4 -1.6
SYO Syowa Base 74.39 194⇓iX pP 02 31 44.2 -3.7
KSM Kuching 74.56 282 PFAKE 02 31 50.0 +15
KSM LR LR
comp=Z,607nm,22.0s
SNAA Sanae 75.61 179 P P 02 31 33.6 -6.6
SNAA Sanae 75.61 179 P P 02 31 40.7 +0.5
comp=Z,2.3nm,0.4s,baz=213,slow=5.9,SNR=28
SNAA Sanae 75.61 179 eP P 02 31 33.4 -6.8
SNAA pmax pmax
comp=Z,28nm,0.9s
SNAA Sanae 75.61 179 eP P 02 31 33.4 -6.8
comp=Z,28nm,0.9s
NVL N'lazarevskaya 76.25 184 eP P 02 31 42.7 -1.0
NVL pmax pmax
comp=Z,22nm,0.8s
VNA1 Neumayer--Stat 76.46 177 P P 02 31 46.2 +1.3
PAF Port-aux-Franc 77.51 219 P P 02 31 38.0 -13
PAF S S 02 41 25.0 -13
PAF R 02 56 00.0
MJAR Matsushiro Arr 79.81 326 P P 02 32 01.7 -2.1
comp=Z,3.0nm,1.1s,baz=170,slow=6.4,SNR=6.2
MJAR LR LR 03 03 39.2
comp=Z,211nm,21.1s,baz=175,slow=33
MAJO Matsushiro 79.81 326⇓iP P 02 32 02.7 -1.2
MAJO pmax pmax
comp=Z,47nm,1.2s
MAJO Matsushiro 79.81 326 eP P 02 32 02.5 -1.4
comp=Z,12nm,1.2s
MAJO LR LR
comp=Z,367nm,21.0s
MAT Matsushiro 79.81 326 P P 02 32 02.3 -1.6
MAT S S 02 42 06.8 +3.9
YHNB Yeheng 80.58 307 PFAKE 02 32 20.0 +12
YHNB LR LR
comp=Z,553nm,20.0s
EFI East Falkland 81.17 147 P P 02 32 11.9 +0.8
PLCA Paso Flores 81.47 133 P P 02 32 13.7 +0.6
comp=Z,7.3nm,0.8s,baz=237,slow=6.4,SNR=14
PLCA Paso Flores 81.47 133 eP P 02 32 14.6 +1.5
PLCA pmax pmax
comp=Z,82nm,1.7s
PLCA Paso Flores 81.47 133 eP P 02 32 14.6 +1.5
comp=Z,82nm,1.7s
ERM Erimo 82.27 333 PFAKE 02 32 30.0 +13
ERM LR LR
comp=Z,759nm,22.0s
YUK Yuzh-Kuril'sk 83.02 335c iP P 02 32 20.9 +0.3
YUK i *PP pP 02 32 40.7 +5.0
YUK e 02 35 27.3
YUK S S 02 42 35.1 -0.5
YUK pmax pmax
comp=Z,176nm,1.4s
YUK pmax pmax
comp=N,95nm,1.6s
YUK pmax pmax
comp=E,79nm,1.6s
YUK pmax pmax
comp=Z,113nm,1.6s
ADK Adak 84.53 2 PFAKE 02 32 40.0 +12
ADK LR LR
comp=Z,395nm,21.0s
KULM Kulim 84.66 280 eP P 02 32 30.8 +1.0
comp=Z,21nm,1.1s
KULM LR LR
comp=Z,553nm,21.0s
PSI Prapat 84.73 277 LR LR 03 09 55.9
comp=Z,838nm,22.0s,baz=116,slow=35
QIZ Qiongzhong 85.22 296 P P 02 32 33.2 +0.8
QIZ pP pP 02 32 47.8 +0.2
QIZ S S 02 42 59.5 +0.8
QIZ PMZ
comp=Z,110nm,10.5s
QIZ Qiongzhong 85.22 296 PFAKE 02 32 40.0 +7.6
QIZ LR LR
comp=Z,291nm,22.0s
KSRS Korea Array 85.68 320 P P 02 32 33.9 -0.4
comp=Z,2.7nm,0.6s,baz=138,slow=5.7,SNR=13
KSRS LR LR 03 07 24.8
comp=Z,179nm,21.1s,baz=116,slow=33
KSAR Wonju Array Be 85.69 320 P P 02 32 33.9 -0.4
KSAR Wonju Array Be 85.69 320 P P 02 32 33.9 -0.4
INCN Inchon 86.40 320 PFAKE 02 32 50.0 +12
INCN LR LR
comp=Z,178nm,21.0s
YSS Yuzh-Sakhalins 86.64 335⇑eP P 02 32 40.0 +1.2
YSS e 02 32 52.8
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,500nm,19.0s
YSS Yuzh-Sakhalins 86.64 335 eP P 02 32 39.6 +0.9
comp=Z,23nm,0.7s
YSS LR LR
comp=Z,321nm,20.0s
NJ2 Nanjing 87.18 311 eP P 02 32 42.7 +0.9
NJ2 sP sP 02 33 01.5 -1.3
NJ2 PMZ
comp=Z,20nm,0.6s
PKM Mcpherson Peak 87.49 45 ⇓P P 02 32 45.2 +1.8
baz=88
SMMC Simmler 87.67 45 ⇓P P 02 32 46.6 +2.5
baz=88
PET Petropavlovsk 87.80 347 eP P 02 32 44.0 -0.2
PET e 02 36 15.4
PET eS S 02 43 21.0 -1.2
PET ePS PnS 02 44 20.1 -10
PET ePPS PPS 02 44 46.9
PET pmax pmax
comp=Z,300nm,4.1s
PET pmax pmax
comp=Z,200nm,16.1s
PET Petropavlovsk 87.80 347 PFAKE 02 33 00.0 +16
PET LR LR
comp=Z,448nm,20.0s
PETK Petropavlovsk- 88.07 346 P P 02 32 45.5 0.0
comp=Z,4.0nm,0.5s,baz=150,slow=9.6,SNR=5.5
PETK LR LR 03 07 27.9
comp=Z,195nm,20.0s,baz=171,slow=32
MURC Murrieta 88.20 47 ⇑P P 02 32 48.8 +2.1
baz=88
MONP Monument Peak, 88.22 48 ⇑P P 02 32 49.4 +2.4
baz=88,SNR=8.6
ARVC Arvin 88.24 45 ⇓P P 02 32 49.0 +2.2
baz=89
TRQA Tornquist 88.31 135 eP P 02 32 47.9 +0.6
comp=Z,36nm,1.7s
BFSC Mount Baldy Ra 88.35 47 ⇓P P 02 32 49.3 +1.9
baz=89,SNR=12
CFAA Coronel Fontan 88.49 127 P P 02 32 48.5 +0.1
comp=Z,0.6nm,0.8s,baz=239,slow=3.7,SNR=9.6
CRZF Crozet Islands 88.54 213 SS SS 02 49 08.0 -12
CRZF R 03 01 00.0
VES Vestal, Richgr 88.57 45 ⇓P P 02 32 49.9 +1.6
baz=89,SNR=9.3
EDW2 Edwards Air Fo 88.58 46 ⇓P P 02 32 50.6 +2.1
baz=89,SNR=7.2
SWSC Sam W. Stewart 88.64 49 ⇑P P 02 32 50.4 +1.7
baz=89
PFO Pinyon Flats O 88.67 48 P P 02 32 51.0 +2.0
comp=Z,72nm,0.8s,SNR=5.3
PFO Pinyon Flats O 88.67 48 P P 02 32 49.6 +0.6
comp=Z,8.1nm,0.7s,baz=216,slow=1.5,SNR=14
PFO Pinyon Flats O 88.67 48 eP P 02 32 50.6 +1.6
PFO pmax pmax
comp=Z,58nm,1.7s
PFO MLR MLR
comp=Z,524nm,19.0s
PFO Pinyon Flats O 88.67 48 ⇑P P 02 32 51.2 +2.2
baz=89,SNR=7.8
PFO Pinyon Flats O 88.67 48 eP P 02 32 50.6 +1.6
comp=Z,58nm,1.7s
PFO LR LR
comp=Z,524nm,19.0s
PAYG Puerto Ayora 88.69 90 PFAKE 02 33 00.0 +11
PAYG LR LR
comp=Z,947nm,19.0s
USRK Ussuriysk Ar. 88.77 327 P P 02 32 49.6 +0.6
comp=Z,0.8nm,0.3s,baz=57,slow=7.0,SNR=6.0
USRK LR LR 03 07 58.2
comp=Z,218nm,20.0s,baz=126,slow=32
ISA Isabella, Lake 88.82 45 ⇓P P 02 32 51.9 +2.3
baz=89,SNR=7.7
WHN Wuhan 89.12 308 P P 02 32 54.2 +3.2
LRMC Laurel Mtn Rad 89.16 46 ⇑P P 02 32 53.2 +1.9
baz=90
BELC Belle Mtn. Jos 89.22 48 ⇓P P 02 32 53.9 +2.3
baz=90,SNR=24
BC3 Big Chuckawall 89.33 48 ⇑P P 02 32 54.8 +2.7
baz=90,SNR=12
CMB Columbia Colle 89.33 42 eP P 02 32 53.0 +1.1
CMB pmax pmax
comp=Z,19nm,1.3s
CMB Columbia Colle 89.33 42 eP P 02 32 53.0 +1.1
comp=Z,19nm,1.3s
GLA Glamis 89.33 49 eP P 02 32 54.2 +2.2
GLA pmax pmax

comp=Z,32nm,1.1s
GLA Glamis 89.33 49 ⇓P P 02 32 54.9 +2.8
baz=90
GLA Glamis 89.33 49 *e*P **P 02 32 54.2 +2.2**
comp=Z,32nm,1.1s
HEC Hector,Ludlow 89.56 47 ⇓P **P 02 32 55.2 +2.1**
baz=90,SNR=14
CWC Cottonwood Cre 89.58 45 ⇓P **P 02 32 55.1 +1.8**
baz=90
GSC Goldstone, Bar 89.58 46 *e*P **P 02 32 54.8 +1.6**
GSC pmax pmax
comp=Z,15nm,1.0s
GSC Goldstone, Bar 89.58 46 ⇓P **P 02 32 55.1 +1.9**
baz=90,SNR=10
GSC Goldstone, Bar 89.58 46 *e*P **P 02 32 54.8 +1.6**
comp=Z,15nm,1.0s
MPMC Manual Prospec 89.67 45 ⇓P **P 02 32 55.6 +1.9**
baz=90,SNR=8.4
IRM Iron Mountain 89.85 48 ⇓P P 02 32 57.1 +2.7
baz=90,SNR=24
214A Organ Pipe Nat 89.93 51 ⇑P P 02 32 57.4 +2.6
baz=90,SNR=6.1
214A Organ Pipe Nat 89.93 51 *e*P **P 02 32 56.5 +1.7**
comp=Z,1.9nm,0.5s
214A *e*pP **pP 02 33 09.6 -0.4**
WDC Whiskeytown Da 89.93 39 *e*P **P 02 32 56.1 +1.5**
WDC pmax pmax
comp=Z,21nm,1.1s
WDC Whiskeytown Da 89.93 39 *e*P **P 02 32 56.1 +1.5**
comp=Z,21nm,1.1s
GMRC Granite Mounta 89.94 47 ⇑P **P 02 32 57.2 +2.3**
baz=90,SNR=6.1
Y12C Blythe 89.98 49 ⇓P P 02 32 57.7 +2.7
baz=90
TYV Tymovskoe 90.02 337 *e*P **P 02 32 54.0 -0.7**
TYV pmax pmax
comp=Z,48nm,1.2s
N02D Trinity Center 90.12 39 ⇓P P 02 32 58.5 +2.9
baz=90,SNR=6.3
WAKR Walker 90.19 43 *e*P **P 02 32 57.2 +1.1**
comp=Z,15nm,1.3s
WAKR *e*pP **pP 02 33 10.6 -0.8**
MDJ Mudanjiang 90.20 326 P **P 02 32 56.0 +0.3**
MDJ PP PP 02 36 36.8 +6.3
MDJ SS SS 02 49 49.8 +3.5
MDJ PMZ
comp=Z,7.0nm,0.4s
MDJ PMZ
comp=Z,110nm,8.1s
MDJ LN
comp=Z,290nm,21.8s
MDJ LE
comp=Z,160nm,22.6s
MDJ LZ
comp=Z,430nm,21.8s
MDJ Mudanjiang 90.20 326 PFAKE 02 33 10.0 +14
MDJ LR LR
comp=Z,501nm,22.0s
TUQ Turquoise Moun 90.21 47 ⇓P **P 02 32 58.5 +2.3**
baz=90,SNR=5.4
SHOC Shoshone, Teco 90.30 46 ⇓P **P 02 32 58.4 +1.9**
baz=91
FURC Furnace Creek, 90.33 46 ⇓P **P 02 32 57.9 +1.4**
baz=91
M02C Callahan 90.34 39 ⇑P **P 02 32 58.9 +2.3**
baz=91,SNR=7.4
L02D Cave Junction, 90.50 38 ⇓P **P 02 32 59.3 +2.1**
baz=91
PDMCI Parker Dam,Lak 90.58 49 ⇑P **P 02 33 00.1 +2.4**
baz=91
YBH Yreka Blue Hor 90.66 39 *e*P **P 02 32 59.1 +1.0**
YBH pmax pmax
comp=Z,15nm,1.3s
YBH Yreka Blue Hor 90.66 39 *e*P **P 02 32 59.1 +1.0**
comp=Z,15nm,1.3s
NVAR Mina Array Bea 90.79 43 P **P 02 32 59.9 +0.9**
comp=Z,6.1nm,0.8s,baz=217,slow=7.9,SNR=30
HABR Khabarovsk 90.82 332 *e*P **P 02 32 58.9 +0.4**
HABR *e**PP **pP 02 33 12.7 -1.0**
HABR *e**SP **sP 02 33 18.6 -0.9**
HABR *e* 02 36 34.3
HABR *e*PPP PPP 02 38 32.3
HABR *e*S **SKSac 02 43 24.9 -0.5**
HABR *e* 02 43 54.0
HABR *e*SS **SS 02 49 56.7 +1.6**
HABR *e*SSS SSS 02 53 33.8
HABR pmax pmax
comp=N,5.0nm,0.6s
HABR pmax pmax
comp=E,12nm,0.6s
HABR pmax pmax
comp=Z,4.0nm,0.6s
HABR MLR MLR
comp=Z,89nm,17.0s
TPNV Topopah Spring 91.01 46 ⇑P **P 02 33 02.1 +2.2**
baz=91,SNR=14
M04C Macdoel 91.16 39 ⇓P **P 02 33 02.6 +2.2**
baz=92
HUMO Hull Mountain 91.16 38 *e*P **P 02 33 01.6 +1.3**
comp=Z,21nm,1.3s
HUMO *e*pP **pP 02 33 11.7 -3.8**
TPH Tonopah 91.18 44 *e*P **P 02 33 02.0 +1.2**
TPH pmax pmax
comp=Z,15nm,1.1s
TPH Tonopah 91.18 44 *e*P **P 02 33 02.0 +1.2**
comp=Z,15nm,1.1s
SHPR Sheep Range 91.38 46 *e*P **P 02 33 03.3 +1.7**
comp=Z,8.8nm,1.1s
TUC Tucson 91.48 52 *e*P **P 02 33 03.6 +1.5**
TUC pmax pmax
comp=Z,17nm,1.3s
TUC MLR MLR
comp=Z,357nm,21.0s
TUC Tucson 91.48 52 *e*P **P 02 33 03.6 +1.5**
comp=Z,17nm,1.3s
TUC LR LR
comp=Z,357nm,21.0s
CN2 Changchun 91.61 323 *e*P **P 02 33 01.8 -0.5**
CN2 *e*pP **pP 02 33 15.4 -2.1**
CN2 *e*S **S 02 43 56.3 -1.8**
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,200nm,21.0s
CN2 LE
comp=Z,300nm,21.0s
CN2 LZ
comp=Z,300nm,23.0s
I03D Drain, OR 91.74 37 ⇓P **P 02 33 05.1 +2.3**
baz=92
K04D Chiloquin, OR 91.80 38 P **P 02 33 05.3 +1.9**
baz=92
GYA Guiyang 91.98 300 P **P 02 33 06.0 +1.4**
GYA pP **pP 02 33 20.5 +0.6**
GYA sP **sP 02 33 27.8 +2.1**
GYA PP **PP 02 36 48.5 +3.4**
GYA SKS **SKSac 02 43 33.0 -0.4**
GYA S **S 02 44 01.2 -1.4**
GYA SS **SS 02 50 14.4 +1.5**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,5.8s
GYA LN
comp=Z,580nm,19.6s
GYA LE
comp=Z,600nm,18.0s
GYA LZ
comp=Z,640nm,20.9s
J04D Umpqua Nationa 92.05 38 ⇑P **P 02 33 06.3 +1.7**
baz=92
ENH Enshi 92.25 305 PFAKE 02 33 20.0 +14
ENH LR LR
comp=Z,471nm,19.0s
I04A Tendick Farm, 92.28 37 ⇑P **P 02 33 06.8 +1.3**
baz=93
R11A Troy Canyon, C 92.33 45 ⇓P **P 02 33 07.7 +1.7**
baz=93
J05D Fort Rock, OR 92.53 38 ⇓P **P 02 33 09.0 +2.2**
baz=93
KLR Kul'dur 92.77 330 *e*P **P 02 33 05.7 -1.8**
WUAZ Wupatki 93.10 49 ⇑P **P 02 33 10.8 +1.1**
baz=93
WUAZ Wupatki 93.10 49 PFAKE 02 33 20.0 +10
WUAZ LR LR
comp=Z,460nm,20.0s
KDAK Kodiak Island 93.14 14 PFAKE 02 33 20.0 +11
KDAK LR LR
comp=Z,530nm,21.0s
I05D Terrebonne, OR 93.22 37 ⇑P **P 02 33 11.5 +1.7**
baz=94
WVOR Wild Horse Val 93.33 40 *e*P **P 02 33 11.1 +0.6**
WVOR pmax pmax
comp=Z,8.0nm,1.0s
WVOR MLR MLR
comp=Z,582nm,19.0s
WVOR Wild Horse Val 93.33 40 *e*P **P 02 33 11.1 +0.6**
comp=Z,7.6nm,1.0s
WVOR LR LR
comp=Z,582nm,19.0s
CMAR Chiang Mai Arr 93.33 290 P **P 02 33 10.8 0.0**
comp=Z,0.8nm,0.3s,baz=166,slow=3.5,SNR=5.4
CMAR PP **PP 02 36 54.6 -0.9**
comp=Z,1.3nm,0.3s,baz=148,slow=5.5,SNR=5.8
CMAR LR LR 03 16 32.7
comp=Z,209nm,20.3s,baz=162,slow=36
CHTO Chiang Mai 93.52 290 PFAKE 02 33 20.0 +8.3
CHTO LR LR
comp=Z,278nm,21.0s
LVC Limon Verde 93.54 120 P **P 02 33 12.1 -0.1**
comp=Z,10nm,0.8s,baz=188,slow=1.1,SNR=3.9
LVC Limon Verde 93.54 120 *e*P **P 02 33 14.0 +1.8**
comp=Z,27nm,1.6s
LVC LR LR
comp=Z,532nm,21.0s
NNA Nana 93.65 107 LR LR 03 05 48.5
comp=Z,609nm,19.6s,baz=242,slow=29
BJT Baijiatuau 94.06 316 PFAKE 02 33 20.0 +6.3
BJT LR LR
comp=Z,270nm,20.0s
BJI Beijing 94.07 316 P **P 02 33 15.4 +1.7**
BJI pP **pP 02 33 30.2 +1.2**
BJI sP **sP 02 33 35.7 +0.9**
BJI S **ScS 02 44 24.8 +3.4**
BJI PMZ
comp=Z,10.0nm,1.0s
BJI PMZ
comp=Z,71nm,4.5s
BJI LN
comp=Z,210nm,27.2s
BJI LE
comp=Z,240nm,24.5s
BJI LZ
comp=Z,410nm,27.2s
NLWA Neilton Lookou 94.15 34 PFAKE 02 33 30.0 +16
NLWA LR LR
comp=Z,356nm,21.0s
TXAR Lajitas Array 94.60 58 P **P 02 33 17.6 +1.0**
comp=Z,1.0nm,1.0s,baz=215,slow=6.1,SNR=6.9
TXAR LR LR 03 10 31.5
comp=Z,264nm,18.4s,baz=0.0,slow=32
MNTX Cornudas Mount 94.77 55 P **P 02 33 18.7 +1.5**
baz=95
MNTX Cornudas Mount 94.77 55 PFAKE 02 33 30.0 +13
MNTX LR LR
comp=Z,303nm,21.0s
ATAH Atahualpa 95.10 102 LR LR 03 07 36.5
comp=Z,279nm,21.8s,baz=251,slow=30
DUG Dugway, Tooele 95.16 45 PFAKE 02 33 30.0 +11
DUG LR LR
comp=Z,334nm,20.0s
MFID Camas Ranch 95.52 41 *e*P **P 02 33 21.0 +0.6**
comp=Z,8.8nm,1.0s
HAWA Hanford 95.56 37 PFAKE 02 33 30.0 +10
HAWA LR LR
comp=Z,491nm,20.0s
BMO Blue Mountains 95.67 39 PFAKE 02 33 30.0 +8.9
BMO LR LR
comp=Z,528nm,19.0s
ANMO Albuquerque 95.95 52⇓ *e*P **P 02 33 24.3 +1.6**
ANMO pmax pmax
comp=Z,14nm,2.5s
ANMO Albuquerque 95.95 52 PFAKE 02 33 30.0 +7.2
ANMO LR LR
comp=Z,427nm,20.0s
MVCO Mesa Verde 95.97 49 PFAKE 02 33 30.0 +7.1
MVCO LR LR
comp=Z,476nm,19.0s
HLID Hailey 96.39 41 ⇓P **P 02 33 26.1 +1.6**
baz=97
HLID Hailey 96.39 41 PFAKE 02 33 40.0 +15
HLID LR LR
comp=Z,292nm,21.0s
429A Davenport Ranc 96.60 58 P **P 02 33 26.8 +1.1**
baz=97
CD2 Chengdu 96.63 303 *e*P **P 02 33 25.6 -0.1**
CD2 pP **pP 02 33 40.5 -0.5**
CD2 sP **sP 02 33 46.4 -0.4**
CD2 PP **PP 02 37 20.5 -0.7**
CD2 SKS **SKSac 02 43 57.7 -0.5**
CD2 S **S 02 44 42.7 -0.2**
CD2 sS **sS 02 45 08.5 -0.3**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
530A J-C Ranch, Com 96.73 58 P **P 02 33 27.6 +1.4**
baz=97
HWUT Hardware Ranch 96.78 44 PFAKE 02 33 40.0 +14
HWUT LR LR
comp=Z,297nm,20.0s
329A Wagon Wheel Ra 97.02 57 P **P 02 33 28.7 +1.1**
baz=97
531A Rocksprings 97.30 59 P Pdif 02 33 30.1 +1.2
baz=98
HHC Hu-ho-hao-te 97.32 314 *e*P **P 02 33 28.2 -0.5**
HHC pP **pP 02 33 42.9 -1.1**
HHC sP **sP 02 33 48.4 -1.4**
HHC PP **PP 02 37 27.0 +0.6**
HHC SKS **SKSac 02 44 00.7 -0.7**
HHC S **S 02 44 46.3 -2.2**
HHC sS **sS 02 45 12.0 -2.4**
HHC PMZ
comp=Z,31nm,1.4s
HHC PMZ
comp=Z,130nm,8.5s
HHC LN
comp=Z,270nm,17.3s
HHC LE
comp=Z,510nm,17.2s
HHC LZ
comp=Z,230nm,17.1s
WRAK Wrangell Islan 97.51 24 PFAKE 02 33 40.0 +11
WRAK LR LR
comp=Z,399nm,19.0s
532A Rocksprings 97.75 59 P Pdif 02 33 32.5 +1.6
baz=98
AHID Auburn Hatcher 97.77 44 PFAKE 02 33 40.0 +9.1
AHID LR LR
comp=Z,262nm,19.0s
KVTX Kingsville 97.81 62 PFAKE 02 33 40.0 +8.9
KVTX LR LR
comp=Z,481nm,19.0s
LPAZ La Paz 97.97 115 P Pdif 02 33 33.7 +0.7
comp=Z,0.7nm,0.7s,baz=260,slow=3.0,SNR=4.3
LPAZ La Paz 97.97 115 *e*P Pdif 02 33 34.2 +1.2
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 97.97 115 *e*P Pdif 02 33 34.1 +1.2
comp=Z,1.1nm,0.7s
JCT Junction City 98.01 59 PFAKE 02 33 40.0 +8.0
JCT LR LR
comp=Z,413nm,19.0s
NEW Newport 98.03 37 PFAKE 02 33 40.0 +8.3
NEW LR LR
comp=Z,558nm,19.0s
SDCO Great Sand Dun 98.21 50 PFAKE 02 33 40.0 +6.9
SDCO LR LR
comp=Z,322nm,22.0s
HIA Hailar 98.23 325 PFAKE 02 33 40.0 +7.5
HIA LR LR
comp=Z,222nm,20.0s
SEY Seymchan 98.26 347 LR LR 03 14 00.7
comp=Z,244nm,20.5s,baz=158,slow=33
BW06 Boulder Array 98.67 44 PFAKE 02 33 50.0 +15
BW06 LR LR
comp=Z,446nm,22.0s
PDAR Pinedale Array 98.67 44 P Pdif 02 33 35.3 +0.4
comp=Z,0.8nm,0.8s,baz=150,slow=3.3,SNR=5.2
PDAR LR LR 03 13 44.3
comp=Z,192nm,18.6s,baz=232,slow=33
JTS JuntasAbangare 99.02 84 PFAKE 02 33 50.0 +13
JTS LR LR
comp=Z,251nm,19.0s
OTAV Otavalo 99.11 96 PFAKE 02 33 50.0 +12
OTAV LR LR
comp=Z,279nm,20.0s
BOZ Bozeman (W) 99.25 41 *e*P **Pdif 02 33 38.1 +0.8**
BOZ pmax pmax
comp=Z,7.0nm,1.6s
BOZ MLR MLR
comp=Z,278nm,22.0s
BOZ Bozeman (W) 99.25 41 *e*P **Pdif 02 33 38.1 +0.8**
comp=Z,6.6nm,1.6s
BOZ LR LR
comp=Z,278nm,22.0s
LKWY Lake 99.28 42 PFAKE 02 33 50.0 +12
LKWY LR LR
comp=Z,434nm,19.0s
ISCO Idaho Springs 99.32 48 PFAKE 02 33 50.0 +12
ISCO LR LR
comp=Z,359nm,20.0s
LZH Lanzhou 99.47 307 *e*P **Pdif 02 33 39.4 +0.9**
LZH pP **pP 02 33 53.5 -0.4**
LZH sP **sP 02 33 57.9 -1.7**
LZH PP **PP 02 37 46.4 +3.4**
LZH SKS **SKSac 02 44 07.0 -5.6**
LZH *e*S **ScS 02 45 02.2 -4.8**
LZH SS **SS 02 52 01.2 +2.3**
LZH PMZ
comp=Z,19nm,1.0s
LZH PMZ
comp=Z,130nm,4.6s
LZH LN
comp=Z,360nm,13.4s
LZH LE
comp=Z,380nm,15.5s
LZH LZ
comp=Z,430nm,16.2s
RLMT Red Lodge 100.25 43 PFAKE 02 33 50.0 +8.1
RLMT LR LR
comp=Z,413nm,21.0s
COLA College 100.56 13⇑ *i*P **Pdif 02 33 43.6 +1.2**
COLA pmax pmax
comp=Z,49nm,2.2s
COLA College 100.56 13 PFAKE 02 33 50.0 +7.6
COLA LR LR
comp=Z,374nm,20.0s
ILAR Eielson Array 100.66 13 P **Pdif 02 33 42.9 0.0**
comp=Z,0.6nm,0.6s,baz=220,slow=6.2,SNR=7.7
ILAR PKiKP **PKiKP 02 38 07.8 -0.8**
comp=Z,0.5nm,0.7s,baz=271,slow=2.8,SNR=4.2
ILAR PKKPbc **PKKPbc 02 49 58.1 -0.8**
comp=Z,0.4nm,0.6s,baz=31,slow=2.8,SNR=4.5
WMOK Wichita Mounta 101.05 56 PFAKE 02 34 00.0 +15
WMOK LR LR
comp=Z,319nm,20.0s
TEIG Tepich 101.44 73 PFAKE 02 34 00.0 +13
TEIG LR LR
comp=Z,339nm,19.0s
EGMT Eagleton 101.72 40 PFAKE 02 34 00.0 +12
EGMT LR LR
comp=Z,410nm,20.0s
EGAK Eagle 101.87 16 PFAKE 02 34 00.0 +12
EGAK LR LR
comp=Z,288nm,19.0s
OGNE Ogallala 102.23 49 PFAKE 02 34 00.0 +9.4
OGNE LR LR
comp=Z,409nm,21.0s
NATX Nacogdoches 102.42 60 PFAKE 02 34 00.0 +8.5
NATX LR LR
comp=Z,318nm,21.0s
BCIP Isla Barro Col 102.72 87 PFAKE 02 34 10.0 +17
BCIP LR LR
comp=Z,775nm,22.0s
YAK Yakutsk 103.25 338 PFAKE 02 34 10.0 +16
YAK LR LR
comp=Z,398nm,22.0s
SONM Songino Array 104.39 318 PKKPab PKKPab 02 50 04.7 +1.9
comp=Z,0.7nm,0.6s,baz=252,slow=3.1,SNR=5.2
MIAR Mount Ida 104.62 58 PFAKE 02 34 10.0 +8.7
MIAR LR LR
comp=Z,282nm,21.0s
KSU1 Kansas State U 104.80 53 PFAKE 02 34 10.0 +8.0
KSU1 LR LR
comp=Z,324nm,21.0s
DGMT Dagmar 105.03 42 PFAKE 02 38 30.0
DGMT LR LR
comp=Z,317nm,19.0s
LSA Lhasa 105.25 296 PFAKE 02 38 30.0
LSA LR LR
comp=Z,258nm,21.0s
SAML Samuel 106.26 112 PFAKE 02 38 30.0
SAML LR LR
comp=Z,459nm,22.0s
ECSD EROS Data Cent 107.11 49 PFAKE 02 38 30.0
ECSD LR LR
comp=Z,303nm,20.0s
BRAL Brewton 107.71 64 PFAKE 02 38 30.0
BRAL LR LR
comp=Z,329nm,21.0s
TLY Talaya 107.94 320 PFAKE 02 38 30.0
TLY LR LR
comp=Z,237nm,22.0s
YKA Yellowknife Ar 108.19 26 PKiKP **PKiKP 02 38 21.6 -1.0**
comp=Z,0.7nm,0.7s,baz=260,slow=1.6,SNR=4.5
SCIA State Center 108.43 52 PFAKE 02 38 40.0
SCIA LR LR
comp=Z,317nm,19.0s
MTDJ Mount Denham 109.23 80 PFAKE 02 38 40.0
MTDJ LR LR
comp=Z,512nm,20.0s
FFC Flin Flon 109.46 37 PFAKE 02 38 40.0
FFC LR LR
comp=Z,358nm,21.0s
AGMN Agassiz Nation 109.74 45 PFAKE 02 38 40.0
AGMN LR LR
comp=Z,313nm,21.0s
SDV Santo Domingo 110.31 93 PFAKE 02 38 40.0
SDV LR LR
comp=Z,352nm,20.0s
JFWS Jewell Farm 110.84 52 PFAKE 02 38 40.0
JFWS LR LR
comp=Z,322nm,19.0s
ABPO Ambohimpanom 111.90 228 PFAKE 02 38 40.0
ABPO LR LR
comp=Z,356nm,21.0s
GTBY Guantanamo Bay 112.06 80 PFAKE 02 38 40.0
GTBY LR LR
comp=Z,210nm,19.0s
EYMN Ely 112.21 47 PFAKE 02 38 40.0
EYMN LR LR
comp=Z,462nm,21.0s
NHSC New Hope 113.87 65 PFAKE 02 38 50.0
NHSC LR LR
comp=Z,186nm,21.0s
WMQ Urumqi 114.03 308 PKP PKPdf 02 38 35.0 +0.7
WMQ PP **PP 02 39 33.3 +3.6**
WMQ PPMZ
comp=Z,48nm,11.0s
WMQ LN
comp=Z,310nm,10.0s
WMQ LE
comp=Z,410nm,12.0s
WMQ LZ
comp=Z,120nm,25.0s
ACSO Alum Creek Sta 114.69 57 PFAKE 02 38 50.0 +14
ACSO LR LR
comp=Z,446nm,21.0s
SDDR Presa de Saban 114.79 83 PFAKE 02 38 50.0 +14
SDDR LR LR
comp=Z,209nm,19.0s
AAM Ann Arbor 115.03 55 PFAKE 02 38 50.0 +14
AAM LR LR
comp=Z,264nm,19.0s
GLMI Grayling 115.34 52 PFAKE 02 38 50.0 +13
GLMI LR LR
comp=Z,364nm,22.0s
BLA Blacksburg 115.35 61 PFAKE 02 38 50.0 +13
BLA LR LR
comp=Z,341nm,19.0s
GRTK Grand Turk 116.09 80 PFAKE 02 38 50.0 +11
GRTK LR LR
comp=Z,164nm,20.0s
MSEY Mahe Island 116.17 245 PFAKE 02 38 50.0 +11
MSEY LR LR

comp=Z,539nm,22.0s
CNNC Cliffs of the 116.47 64 PFAKE 02 38 50.0 +11
CNNC LR LR

comp=Z,334nm,20.0s
LBTB Lobatse 117.69 205 *e*PKIKP **PKPdf 02 38 42.2 0.0**
LBTB Lobatse 117.69 205 *e*PKPdf **PKPdf 02 38 42.1 0.0**
CBN Corbin Frederi 117.97 61 PFAKE 02 38 50.0 +8.0
CBN LR LR

comp=Z,266nm,19.0s
MK31 Makanchi Array 118.65 309 *i* PKIKP **PKPdf 02 38 41.8 -1.3**
MK31 pmax pmax

comp=Z,4.0nm,0.6s
MK31 Makanchi Array 118.65 309 *e*PKPdf **PKPdf 02 38 41.6 -1.5**
MKAR Makanchi Array 118.65 309 PKP **PKPdf 02 38 41.9 -1.2**
comp=Z,1.8nm,0.5s,baz=186,slow=1.0,SNR=28
MKAR PKKPbc **PKKPab 02 49 00.5 +0.2**

comp=Z,0.7nm,0.7s,baz=294,slow=2.7,SNR=6.6
SJG San Juan 118.68 86 PFAKE 02 39 00.0 +16
SJG LR LR

comp=Z,188nm,20.0s
ZALV Zalesovo Beam 119.28 318 PKP **PKPdf 02 38 42.6 -1.4**
comp=Z,2.3nm,0.4s,baz=169,slow=1.5,SNR=5.3
GRGR Grenville 119.52 95 PFAKE 02 39 00.0 +14
GRGR LR LR

comp=Z,272nm,21.0s
BINY Binghamton 120.33 57 PFAKE 02 39 00.0 +14
BINY LR LR

comp=Z,359nm,19.0s
NVS Novosibirsk 120.42 318 *e*PKIKP **PKPdf 02 38 44.5 -1.6**
NVS pmax pmax

comp=Z,16nm,1.6s
KSH Kashi 120.67 300 *e*PKP **PKPdf 02 38 49.9 +2.6**
KSH *es*PKP 02 39 05.8
KSH *e*PP **PP 02 40 16.9 +0.7**
FDF Fort de France 121.25 92 PFAKE 02 39 00.0 +11
FDF LR LR

comp=Z,288nm,21.0s
BBGH Gun Hill 121.79 95 PFAKE 02 39 00.0 +10
BBGH LR LR

comp=Z,853nm,20.0s
TKM2 Tokmak 2 122.00 303 PKIKP **PKPdf 02 38 48.8 -1.1**
TKM2 pmax pmax

comp=Z,3.0nm,0.6s
TKM2 Tokmak 2 122.00 303 *e*PKPdf **PKPdf 02 38 48.9 -1.0**
TKM2 LR LR

comp=Z,157nm,19.0s
LONY Lake Ozonia 122.03 55 PFAKE 02 39 00.0 +10
LONY LR LR

comp=Z,260nm,19.0s
NCB Newcomb 122.09 55 PFAKE 02 39 00.0 +10
NCB LR LR

comp=Z,643nm,22.0s
KURK Kurchatov 122.09 313 PKIKP **PKPdf 02 38 48.0 -1.5**
KURK MLR MLR

comp=Z,315nm,20.0s
KURK Kurchatov 122.09 313 PKP **PKPdf 02 38 48.0 -1.5**
KURK *e*PKPdf **PKPdf 02 38 48.1 -1.5**
KURK LR LR

comp=Z,315nm,20.0s
KURBB Kurchatov Arra 122.12 313 PKP **PKPdf 02 38 48.0 -1.6**
comp=Z,6.1nm,0.7s,baz=110,slow=1.8,SNR=74
ANWB Willy Bob 122.13 89 PFAKE 02 39 00.0 +9.4
ANWB LR LR

comp=Z,209nm,22.0s
AAK Ala-Archa 122.69 303 PKP **PKPdf 02 38 49.9 -1.3**
comp=Z,1.4nm,0.3s,baz=40,slow=4.1,SNR=7.0
AAK Ala-Archa 122.69 303 *i* PKIKP **PKPdf 02 38 50.5 -0.7**
AAK pmax pmax

comp=Z,4.0nm,0.6s
AAK Ala-Archa 122.69 303 PKP **PKPdf 02 38 49.9 -1.3**
AAK *e*PKPdf **PKPdf 02 38 50.5 -0.7**
AAK LR LR

comp=Z,203nm,21.0s
EKS2 Erkin-Say 123.21 303 *e*PKIKP **PKPdf 02 38 51.9 -0.2**
EKS2 MLR MLR

comp=Z,296nm,21.0s
EKS2 Erkin-Say 123.21 303 *e*PKPdf **PKPdf 02 38 51.9 -0.2**
EKS2 LR LR

comp=Z,296nm,21.0s
MNAS Manas 124.07 302 PKIKP **PKPdf 02 38 53.1 -0.7**
MNAS pmax pmax

comp=Z,3.0nm,0.8s
LSZ Lusaka 125.36 213 *e*PKIKP **PKPdf 02 38 56.8 -0.3**
LSZ MLR MLR

comp=Z,323nm,20.0s
LSZ Lusaka 125.36 213 *e*PKPdf **PKPdf 02 38 56.8 -0.3**
LSZ LR LR

comp=Z,323nm,20.0s
KK31 Karatay Array 125.64 302 *i* PKIKP **PKPdf 02 38 55.7 -0.9**
KK31 pmax pmax

comp=Z,4.0nm,0.6s
KKAR Karatay Array 125.64 302 *e*PKIKP **PKPdf 02 38 56.3 -0.3**
KKAR Karatay Array 125.64 302 *e*PKPdf **PKPdf 02 38 56.3 -0.3**
BBSR BB Station 125.68 71 PFAKE 02 39 10.0 +13
BBSR LR LR

comp=Z,313nm,20.0s
TSUM Tsumeb 125.70 200 *e*PKPdf **PKPdf 02 38 57.8 +0.1**
TSUM LR LR

comp=Z,238nm,19.0s
PKME Peaks-Kenny Pk 125.82 55 PFAKE 02 39 10.0 +13
PKME LR LR

comp=Z,137nm,20.0s
BVA0 Borovoye Array 127.53 314 *i* PKIKP **PKPdf 02 38 58.7 -1.2**
BVA0 pmax pmax

comp=Z,5.0nm,0.6s
BVAR Borovoye Array 127.53 314 PKP **PKPdf 02 38 59.0 -0.8**
comp=Z,5.1nm,0.6s,baz=107,slow=2.0,SNR=34
BRVK Borovoye 127.60 314 *i* PKIKP **PKPdf 02 38 58.5 -1.5**
BRVK pmax pmax

comp=Z,7.0nm,1.0s
BRVK Borovoye 127.60 314 *e*PKPdf **PKPdf 02 38 58.8 -1.2**
BRVK LR LR

comp=Z,224nm,21.0s
RCBR Riachuelo 127.99 131 PFAKE 02 39 10.0 +7.9
RCBR LR LR

comp=Z,734nm,21.0s
KMBO Kilima Mbogo 131.74 233 *e*PKIKP **PKPdf 02 39 11.6 +2.2**
KMBO MLR MLR

comp=Z,303nm,20.0s
KMBO Kilima Mbogo 131.74 233 *e*PKPdf **PKPdf 02 39 11.6 +2.2**
KMBO LR LR

comp=Z,303nm,20.0s
AB31 Akbulak array 133.79 309 PKIKP **PKPdf 02 39 10.9 -0.9**
ABKAR Akbulak array 133.79 309 *e*PKPdf **PKPdf 02 39 11.1 -0.8**
ARU Arti 134.41 319 *i* PKIKP **PKPdf 02 39 12.4 -0.4**
ARU Arti 134.41 319 *e*PKPdf **PKPdf 02 39 12.6 -0.2**
ARU LR LR

comp=Z,247nm,21.0s
SFJD Kangerlussuaq 134.75 26 PFAKE 02 39 30.0 +17
SFJD LR LR

comp=Z,363nm,21.0s
AKTO Aktyubinsk 135.06 310 PKP **PKPdf 02 39 13.7 -0.6**
comp=Z,4.6nm,0.7s,baz=95,slow=3.4,SNR=18
AKTO Aktyubinsk 135.06 310 PKIKP **PKPdf 02 39 13.6 -0.6**
AKTO pmax pmax

comp=Z,4.0nm,0.7s
DAG Danmarks Havn 135.21 6 *i* P **PKPdf 02 39 12.5 -1.2**
comp=Z,5.4nm,1.0s
DAG Danmarks Havn 135.21 6 *e*PKIKP **PKPdf 02 39 12.5 -1.2**
DAG pmax pmax

comp=Z,5.0nm,1.0s
SUMG Summit 135.44 16 *i* P **PKPdf 02 39 16.4 +1.6**
comp=Z,11nm,1.1s
SUMG Summit 135.44 16 *i* PKIKP **PKPdf 02 39 16.4 +1.6**
SUMG pmax pmax

comp=Z,11nm,1.1s
MBAR Mbarara 136.30 226 PFAKE 02 39 30.0 +12
MBAR LR LR

comp=Z,711nm,21.0s
ASCN Ascension 136.82 158 *e*PKPdf **PKPdf 02 39 20.1 +1.4**
ASCN LR LR

comp=Z,1µm,20.0s
PRGR Permogore 139.54 329 PKIKP PKPdf 02 39 29.3 +7.2
PRGR pmax pmax

comp=Z,8.0nm,0.3s
ARCES ARCESS Array B 140.88 347 PKhKP PKPpre 02 39 18.6
comp=Z,2.8nm,0.7s,baz=94,slow=1.7,SNR=8.2
ARCES PKP **PKPdf 02 39 24.6 +0.2**

comp=Z,7.3nm,0.7s,baz=43,slow=1.6,SNR=11
ARE0 ARCESS Array S 140.88 347 *e*PKPdf **PKPdf 02 39 25.8 +1.4**
KLMR Klimovskoe 142.53 330 *e*PKHKP PKPpre 02 39 22.7
KLMR pmax pmax

comp=Z,27nm,1.3s
DGRG David-gareji 143.87 297 P PKPab 02 39 27.8 0.0
DGRG David-gareji 143.87 297 PKIKP PKPab 02 39 27.8 0.0

GNI Garni 144.31 294 PKP **PKPab 02 39 29.2 -0.4**
comp=Z,2.3nm,0.3s,baz=0.0,slow=19,SNR=2.7
GNI Garni 144.31 294 PKIKP **PKPab 02 39 29.2 -0.4**
GNI MLR MLR

comp=Z,228nm,21.0s
GNI Garni 144.31 294 PKP **PKPab 02 39 29.2 -0.4**
GNI LR LR

comp=Z,228nm,21.0s
TBLG Delisi 144.35 297 P **PKPab 02 39 28.0 -1.6**
TBLG Delisi 144.35 297 PKIKP **PKPab 02 39 28.0 -1.6**
ZEI Tsey 144.96 299 *i* PKIKP PKPbc 02 39 31.9 -0.1
ZEI pmax pmax

comp=Z,10.0nm,0.5s
NCK Nalchik 145.16 300 ⇓ *i* PKIKP **PKPbc 02 39 32.2 -0.2**
ONI Oni 145.30 299 P **PKPbc 02 39 31.6 -1.3**
ONI Oni 145.30 299 PKP2 **PKPbc 02 39 31.6 -1.3**
GOF Gofitskoye 145.44 303 ⇓ *i* PKIKP **PKPdf 02 39 32.5 -0.6**
GOF pmax pmax

comp=Z,20nm,1.2s
KBZ Khabaz 145.65 301 PKPbc **PKPdf 02 39 32.4 -1.1**
KIV Kislovodsk 145.78 301 *i* PKIKP **PKPdf 02 39 32.3 -1.6**
KIV *es*SS SS 03 01 42.9 -3.8
KIV pmax pmax

comp=Z,11nm,0.9s
KIV MLR MLR

comp=Z,203nm,21.0s
KIV Kislovodsk 145.78 301 *e*PKPbc **PKPbc 02 39 34.3 -0.2**
NEY Neytrino 145.80 300 ⇑ *e*PKP2 **PKPab 02 39 35.0 -0.1**
MOS Moscow 145.84 323 *e*PKHKP PKPpre 02 39 30.8
MOS pmax pmax

comp=Z,114nm,2.0s
LPSR Galich'ya Gora 146.39 317 *e*PKP2 **PKPbc 02 39 35.5 -0.3**
LPSR pmax pmax

comp=Z,30nm,0.8s
LPSR pmax pmax

comp=N,4.0nm,0.7s
LPSR pmax pmax

comp=E,20nm,1.8s
OBN Obninsk 146.66 322 PKPbc **PKPdf 02 39 33.9 -0.9**
comp=E,11nm,0.6s,baz=0.3,slow=3.2,SNR=10
OBN Obninsk 146.66 322 ⇓ *i* PKIKP **PKPdf 02 39 34.5 -0.3**
OBN 02 39 49.8
OBN pmax pmax

comp=Z,102nm,2.7s
OBN Obninsk 146.66 322 *e*PKPbc **PKPbc 02 39 35.9 -0.6**
OBN LR LR

comp=Z,237nm,20.0s
VSR Storozhevoye 146.71 315 *e*PKP2 **PKPbc 02 39 36.5 -0.3**
VSR pmax pmax

comp=N,4.0nm,0.9s
VSR pmax pmax

comp=E,10.0nm,0.9s
VSR pmax pmax

comp=Z,20nm,0.9s
VORD Divnogorie 146.71 314 *e*PKP2 **PKPdf 02 39 35.9 +0.9**
VORD pmax pmax

comp=Z,30nm,1.8s
VORD pmax pmax

comp=N,10.0nm,0.4s
VORD pmax pmax

comp=E,20nm,0.6s
PUL Pulkovo 146.88 333 *i* PKP2 **PKPbc 02 39 36.5 -0.5**
PUL pmax pmax

comp=Z,66nm,0.6s
FIA1 FINESS Array S 147.19 338 *e*PKPbc **PKPbc 02 39 37.2 -0.6**
FINES FINESS Array B 147.19 338 PKPbc **PKPbc 02 39 36.9 -0.9**
comp=Z,25nm,0.7s,baz=78,slow=2.4,SNR=93
SOC Sochi 147.96 301 *e*PKHKP PKPpre 02 39 31.2
SOC *i* 02 39 38.6
SOC *es*SSS SSS 03 07 42.0
VSU Vasula 149.13 333 *c* *i* PKP2 **PKPbc 02 39 42.1 -0.9**
MALT Malatya 149.14 291 ⇑ PKP2 **PKPbc 02 39 44.6 +0.7**
MALT Malatya 149.14 291 ⇑ *i*P **PKPbc 02 39 44.6 +0.7**
ANN Anapa 149.42 303 *i* PKIKP **PKPdf 02 39 38.8 -0.9**
ANN pmax pmax

comp=Z,31nm,1.1s
ASF Jabal al Asfar 149.69 278 PKPbc **PKPbc 02 39 44.8 -0.7**
comp=Z,4.4nm,0.7s,baz=67,slow=1.0,SNR=12
EIL Elat 150.75 273 PKPbc **PKPbc 02 39 47.0 -0.9**
comp=Z,12nm,0.7s,baz=1.5,slow=1.7,SNR=15
MMAI Mount Meron Ar 151.09 280 PKPbc **PKPbc 02 39 48.5 -0.2**
comp=Z,20nm,0.6s,baz=79,slow=6.0,SNR=20
NB2 NORSAR Subarra 151.12 350 PKP **PKPbc 02 39 46.9 -0.9**
comp=Z,20nm,0.8s,baz=18,slow=2.6
NOA NORSAR Array B 151.12 350 PKPbc **PKPbc 02 39 46.9 -0.9**
comp=Z,8.8nm,0.8s,baz=20,slow=4.7,SNR=80
MICGM Minsk 151.25 327 *e* **PKPdf 02 39 45.0 +2.7**
MNK Minsk 151.27 327 *e*PKIKP **PKPdf 02 39 45.0 +2.7**
NAO01 NORSAR Array S 151.36 350 *e*PKPdf **PKPdf 02 39 42.3 0.0**
NAO01 *e*PKPbc **PKPbc 02 39 48.0 -0.4**
NAO01 *e*PKPab **PKPab 02 39 56.8 +0.1**
NACGM Naroch 151.50 328 *e* **PKPbc 02 39 46.0 -2.8**
HFS Hagfors 151.54 346 PKPbc **PKPbc 02 39 47.8 -0.9**
comp=Z,22nm,0.7s,baz=128,slow=2.4,SNR=53
SIM Simferopol' 151.70 305 *i* PKIKP **PKPbc 02 39 50.2 +0.6**
SIM *e* 02 39 58.0
SIM *e* 02 43 39.0
SIM pmax pmax

comp=Z,5.0nm,0.6s
AKASG Malin Array Be 152.67 319 PKPbc **PKPbc 02 39 51.0 -0.6**
comp=Z,4.3nm,0.6s,baz=63,slow=2.1,SNR=15
AKASG Malin Array Be 152.67 319 PKIKP **PKPbc 02 39 51.0 -0.6**
AKBB Malin Array Si 152.67 319 *e*PKIKP **PKPbc 02 39 50.8 -0.8**
AKBB Malin Array Si 152.67 319 *e*PKPbc **PKPbc 02 39 50.8 -0.8**
AK01 Malin Array Si 152.68 319 *e*PKPbc **PKPbc 02 39 51.3 -0.3**
KIEV Kiev 152.68 319 *e*PKIKP **PKPbc 02 39 50.9 -0.7**
KIEV MLR MLR

comp=Z,215nm,20.0s
KIEV Kiev 152.68 319 *e*PKPbc **PKPbc 02 39 50.9 -0.7**
KIEV LR LR

comp=Z,215nm,20.0s
KONO Kongsberg 152.69 350 PFAKE 02 40 00.0 -2.2
KONO LR LR

comp=Z,276nm,19.0s
AK02 Malin Array Si 152.70 319 *e*PKPbc **PKPbc 02 39 51.2 -0.5**
LIC Lamto 152.83 167 *e*P **PKPbc 02 39 53.3 +0.2**
comp=Z,69nm,1.1s
BR131 Keskin Array S 152.84 294 *e*PKPbc **PKPbc 02 39 51.7 -0.9**
BRTR Keskin Array B 152.84 294 PKPbc **PKPbc 02 39 51.0 -1.5**
comp=Z,2.8nm,0.5s,baz=126,slow=3.5,SNR=30
BRTR Keskin Array B 152.84 294 *c* *i* PKIKP **PKPdf 02 39 45.9 +0.5**
BRTR pmax pmax

comp=Z,1.0nm,1.1s
KIC Kosan Boka 153.01 168 *e*P **PKPbc 02 39 53.7 +0.2**
comp=Z,52nm,0.8s
CSS Prodhromos 153.04 283 *e*PKPbc **PKPbc 02 39 52.3 -0.7**
CSS *e*PKPab **PKPab 02 40 06.1 +1.5**
TIC Toumodi 153.24 167 *e*P **PKPbc 02 39 55.4 +1.4**
DBIC Dimbokro 153.29 167 PKP **PKPdf 02 39 47.0 +0.5**
comp=Z,5.0nm,0.9s,baz=182,slow=4.5,SNR=3.7
DBIC PKPbc **PKPbc 02 39 54.0 -0.1**

comp=Z,1.6nm,0.4s,baz=133,slow=6.7,SNR=4.7
DBIC Dimbokro 153.29 167 *e*PKIKP **PKPdf 02 39 46.7 +0.1**
DBIC *e* 02 39 58.0
DBIC *e* 02 40 05.8
DBIC Dimbokro 153.29 167 *e*PKPdf **PKPdf 02 39 46.7 +0.1**
DBIC *e*PKPbc **PKiKP 02 39 58.0 +3.8**
DBIC *e*PKPab **PKPab 02 40 05.8 -0.2**
ANTO Ankara 153.48 294 *e*PKIKP **PKPdf 02 39 45.7 -0.5**
ANTO *e* 02 39 55.0
ANTO MLR MLR

comp=Z,203nm,20.0s
ANTO Ankara 153.48 294 *e*PKPdf **PKPdf 02 39 45.7 -0.5**
ANTO *e*PKPbc **PKiKP 02 39 55.0 +1.1**
ANTO *e*PKPab **PKPab 02 40 07.8 +1.4**
ANTO LR LR

comp=Z,203nm,20.0s
SUW Suwalki 153.66 330 *e*PKP **PKPbc 02 39 53.2 -0.4**
SUW Suwalki 153.66 330 *e*PKIKP **PKPbc 02 39 53.2 -0.4**
TESR Tescani 156.12 312 ⇑ *i*P **PKPab 02 40 19.1 +1.8**
VRI Vrincioaia 156.34 311 ⇑ *i*P pPKPdf 02 40 04.5 -1.2
PLOR Plostina 156.40 311 ⇑ *i*P pPKPdf 02 40 10.7 +4.9
BUR08 Bucovina Ar. S 156.47 316 *e*PKPab **PKPab 02 40 19.9 +0.9**
BURAR Bucovina Array 156.48 316 ⇓ PKIKP pPKPdf 02 40 02.5 -3.4
BURAR Bucovina Array 156.48 316 ⇓ *i*P pPKPdf 02 40 02.5 -3.4
RGN Rugen 156.70 341 *e*PKPab **PKPab 02 40 20.1 +0.7**
MLR Muntele Rosu 156.99 310 ⇓ PKIKP **PKPdf 02 39 52.8 +2.0**
MLR Muntele Rosu 156.99 310 ⇓ *i*P **PKPdf 02 39 52.8 +2.0**
ESK Eskdalemuir 157.49 6 *e*PKIKP **PKPdf 02 39 53.1 +2.2**
ESK Eskdalemuir 157.49 6 *e*PKPdf **PKPdf 02 39 53.1 +2.2**
ESK *e*PKPab **PKPab 02 40 23.0 +0.2**
TRPA Tarpa 157.73 319 ⇑ *i*P **PKPab 02 40 26.2 +2.0**
OJC Ojcow 157.80 326 *e*PKP pPKPdf 02 40 12.2 +4.8
ARR Arges 157.88 311 ⇑ *i*P **PKPdf 02 39 51.8 -0.1**

DRGR 158.37 316 ⇑ PKP2 **PKPab 02 40 24.8 -2.3**
DRGR 158.37 316 ⇑ *i*P **PKPab 02 40 24.8 -2.3**
OKC Ostrava-Krasne 158.82 328 *e*PKPDF **PKPdf 02 39 52.5 -0.2**
OKC *ep*PKP **pPKPdf 02 40 10.3 +1.7**
OKC *e*PKPAB **PKPab 02 40 30.2 +1.4**
OKC *ex* x 02 40 40.9
OKC *e*PP **PP 02 44 05.2 -4.3**
OKC AMS AMS 03 53 20.0

comp=Z,300nm,22.0s
OKC Ostrava-Krasne 158.82 328 *e*PKIKP **PKPdf 02 39 52.5 -0.2**
OKC *e* 02 40 10.3
OKC *e* 02 44 05.2
OKC MLR MLR

comp=Z,300nm,22.0s
DPC Dobruska-Polom 159.22 331 *e*PKPDF **PKPdf 02 39 52.4 -0.9**
DPC *ep*PKP **pPKPdf 02 40 08.1 -1.0**
DPC *ex* x 02 40 11.3
DPC *e*PKPAB **PKPab 02 40 30.2 -0.4**
DPC *e*PP **PP 02 44 10.4 -1.2**
DPC AMS AMS 03 50 20.0

comp=Z,300nm,20.0s
DPC Dobruska-Polom 159.22 331 *e*PKIKP **PKPdf 02 39 52.4 -0.9**
DPC *e* 02 40 08.1
DPC *e* 02 40 30.2
DPC *e* 02 44 10.4
DPC MLR MLR

comp=Z,300nm,20.0s
UPC Upice 159.22 332 *e*PKPDF **PKPdf 02 39 51.1 -2.1**
UPC *ep*PKP **pPKPdf 02 40 12.6 +3.5**
UPC *ex* x 02 40 43.6
UPC Upice 159.22 332 *e*PKIKP **PKPdf 02 39 51.1 -2.1**
KRLC Kraliky 159.24 330 *e*PKPDF **PKPdf 02 39 52.5 -0.8**
KRLC *ex* x 02 40 07.2
KRLC *e*PKPAB **PKPab 02 40 34.5 +3.8**
KRLC Kraliky 159.24 330 *e*PKIKP **PKPdf 02 39 52.5 -0.8**
KRLC *e* 02 40 07.2
SIRR Siria 159.26 316 ⇑ *i*P **PKPab 02 40 31.0 +0.1**
CLL Collm 159.63 338 *e*PKPdf **PKPdf 02 39 53.0 -0.6**
CLL *i* PKPab **PKPab 02 40 32.2 -0.1**

comp=Z,9.0nm,0.9s
CLL *i* pPKPab **pPKPab 02 40 45.8 -1.8**
CLL *e*PP **PP 02 44 12.0 -1.6**
CLL *e*(PPP) 02 47 42.0
CLL *e*PPPP 02 50 14.0
CLL *e*PPS PPS 02 57 41.0
CLL *e*(SS) 03 04 00.0
CLL *e*SSS SSS 03 10 18.0
CLL *e*SSSS 03 14 36.0
CLL Collm 159.63 338 *e*PKIKP **PKPdf 02 39 53.0 -0.6**
CLL *i* 02 40 32.2
CLL pmax pmax

comp=Z,9.0nm,0.9s
BRG Berggiesshubel 159.69 336 *e*PKP **PKPab 02 40 30.8 -1.7**
comp=Z,4.4nm,1.1s
BRG *e* 02 40 46.3

comp=Z,39nm,2.0s
BRG Berggiesshubel 159.69 336 *e*PKPab **PKPab 02 40 32.7 +0.2**
BRG Berggiesshubel 159.69 336 *e*PKP2 **PKPab 02 40 30.8 -1.7**
BRG pmax pmax

comp=Z,3.0nm,1.1s
PVCC Panska Ves 159.75 334 *ep*PKP **pPKPdf 02 40 12.8 +3.1**
PVCC *e*PKPAB **PKPab 02 40 32.1 -0.7**
PVCC *ex* x 02 40 46.2
FBE Freiberg 159.85 337 *e*PKPab **PKPab 02 40 33.8 +0.6**
VRAC Vranov 159.90 329 PKP **PKPdf 02 39 52.6 -1.4**
comp=Z,1.4nm,0.5s,baz=82,slow=14,SNR=2.7
VRAC PKPab **PKPab 02 40 32.5 -1.1**

comp=Z,3.0nm,0.9s,baz=338,slow=4.9,SNR=3.5
IBBN Ibbenburen 160.04 347 *e*PKPab **PKPab 02 40 34.9 +0.9**
NEUB Neuenburg 160.10 339 *e*PKPab **PKPab 02 40 34.9 +0.6**
GOPC GO Pecny, Ondr 160.17 333 *e*PP PP 02 44 14.7 -2.0
GOPC AMS AMS 03 54 10.0

comp=Z,300nm,18.2s
PRU Pruhonice 160.20 333 *e*PKPAB **PKPab 02 40 34.6 -0.2**
PRU *ep*PKP pPKP 02 40 47.9
PRU *e*PP **PP 02 44 14.0 -2.8**
PRU AMS AMS 03 53 50.0

comp=Z,400nm,19.5s
PRU Pruhonice 160.20 333 *e*PKP2 **PKPab 02 40 34.6 -0.2**
PRU *e* 02 44 14.0
PRU MLR MLR

comp=Z,400nm,19.5s
TOA0 Torodi Ar. Sit 160.24 182 *e*P **PKPab 02 40 34.5 -1.3**
TOA0 Torodi Ar. Sit 160.24 182 *e*PKPdf **PKPdf 02 39 56.8 +1.3**
TOA0 *e*PKPab **PKPab 02 40 35.3 -0.4**
TORD Torodi Ar. Bea 160.24 182 PKP **PKPdf 02 39 56.0 +0.6**
comp=Z,1.7nm,0.8s,baz=72,slow=0.3,SNR=10
TORD PKPab **PKPab 02 40 35.3 -0.5**

comp=Z,16nm,0.9s,baz=170,slow=2.5,SNR=7.2
TREC Trest 160.38 330 *e*PKPDF **PKPdf 02 39 53.6 -1.0**
TREC *ep*PKP **pPKPdf 02 40 12.0 +1.5**
TREC *e*PP **PP 02 44 15.2 -2.7**
TREC AMS AMS 03 56 10.0

comp=Z,300nm,21.7s
TREC Trest 160.38 330 *e*PKIKP **PKPdf 02 39 53.6 -1.0**
TREC *e* 02 40 12.0
TREC *e* 02 44 15.2
TREC MLR MLR

comp=Z,300nm,21.7s
TANN Tannenbergstha 160.58 337 *e*PKPab **PKPab 02 40 36.9 +0.4**
WERD Werda 160.60 338 *e*PKP **PKPdf 02 39 55.0 +0.2**
WERD *e*PKPab **PKPab 02 40 37.0 +0.4**
PLN Plauen 160.62 338 *e*PKP **PKPdf 02 39 55.3 +0.5**
PLN *e*PKPab **PKPab 02 40 37.3 +0.7**
MOX Moxa 160.64 339 *e*PKP **PKPdf 02 39 54.7 -0.1**
MOX *e*PKPab **PKPab 02 40 37.1 +0.4**
GUNZ Gunzen 160.66 337 *e*PKP **PKPdf 02 39 55.3 +0.4**
GUNZ *e*PKPab **PKPab 02 40 37.5 +0.6**
WERN Wernitzgruen 160.72 337 *e*PKPab **PKPab 02 40 37.7 +0.6**
NKC Novy Kostel 160.74 337 *e*PKPAB **PKPab 02 40 37.2 0.0**
NKC *ep*PKP pPKP 02 40 50.3
NKC *e*PP **PP 02 44 16.3 -3.3**
NKC Novy Kostel 160.74 337 *e*PKP2 **PKPab 02 40 37.2 0.0**
NKC *e* 02 44 16.3
UBBA Unterbreizbach 160.94 342 *e*PKPab **PKPab 02 40 38.1 +0.3**
MANZ Manzenberg 161.06 337 *e*PKPab **PKPab 02 40 39.1 +0.5**
ROTZ Rotzenmuhle 161.22 337 *e*PKPab **PKPab 02 40 40.0 +0.7**
KHC Kasperske Hory 161.26 333 *e*PKPDF **PKPdf 02 39 54.4 -1.2**
KHC *ex* x 02 40 07.3
KHC *ep*PKP pPKP 02 40 53.0
KHC *e*PP **PP 02 44 20.6 -2.0**
KHC AMS AMS 03 54 30.0

comp=Z,400nm,18.2s
KHC Kasperske Hory 161.26 333 *e*PKIKP **PKPdf 02 39 54.4 -1.2**
KHC *e* 02 40 07.3
KHC *e* 02 44 20.6
KHC MLR MLR

comp=Z,400nm,18.2s
KHC Kasperske Hory 161.26 333 *e*PKPdf **PKPdf 02 39 54.2 -1.3**
DIVS Divibare 161.40 312 ⇓ *i*P **PKPdf 02 39 55.1 -0.8**
GERES GERESS Array B 161.45 332 PKP **PKPdf 02 39 54.7 -1.2**
comp=Z,0.9nm,0.9s,baz=108,slow=4.3,SNR=7.7
GERES PKPab **PKPab 02 40 38.5 -1.9**

comp=Z,0.9nm,0.7s,baz=29,slow=3.0,SNR=5.5
WET Wettzell 161.51 334 *e*PKP **PKPdf 02 39 55.9 +0.1**
TNS Taunus Mts 161.87 344 *e*PKPab **PKPab 02 40 45.2 +3.1**
MEM Membach 161.97 349 PKPab **PKPab 02 40 43.1 +0.6**
SNF Seneffe 162.30 353 PKPab **PKPab 02 40 42.8 -1.1**
PERS Pernice 162.54 326 *i* PKPdf **PKPdf 02 39 59.3 +2.4**
PERS *i* 02 40 12.6
RJOB Jochberg 162.70 332 *e*PKPab **PKPab 02 40 46.1 +0.2**
FUR Furstenfeldbru 162.91 336 *e*PKPab **PKPab 02 40 49.4 +2.7**
VISS Visnje 163.27 324 *i* PKPdf **PKPdf 02 39 56.3 -1.3**
VISS *e* 02 40 08.8
BOJS Bojanci 163.27 323 *i* PKPdf **PKPdf 02 39 56.1 -1.5**
BOJS *i* 02 40 08.9
JAVS Javornik 163.58 326 *i* PKPdf **PKPdf 02 39 56.4 -1.7**
JAVS *i* 02 40 08.1
BFO Black Forest 163.66 342 *e*PKPab **PKPab 02 40 50.4 +0.4**
BFO Black Forest 163.66 342 PFAKE 02 40 10.0 +12
BFO LR LR

comp=Z,228nm,19.0s
DAVOX Davos/Dischmat 164.58 336 PKP **PKPdf 02 39 57.8 -1.3**
comp=Z,0.8nm,0.6s,baz=298,slow=6.1,SNR=3.1
DAVOX PKPab **PKPab 02 40 54.6 +0.3**

comp=Z,2.3nm,0.6s,baz=3.6,slow=18,SNR=3.9
TUE Stuetta 165.03 337 PFAKE 02 40 10.0 +11
TUE LR LR

comp=Z,643nm,20.0s
AQU L'Aquila 166.35 317 *e*PKP2 **PKPab 02 41 02.4 +0.2**
AQU L'Aquila 166.35 317 *e*PKPab **PKPab 02 41 02.4 +0.2**
BNI Bardonecchia 167.12 341 *e*PKIKP **PKPdf 02 40 01.0 -0.1**

BNI	**Bardonecchia**	**167.12**	**341**	*e*PKPdf	**PKPdf**	**02 40 01.0**	**-0.1**
TAM	**Tamanrasset**	**169.04**	**203**	*e*PKIKP	**PKPdf**	**02 40 03.6**	**+0.5**
TAM	**Tamanrasset**	**169.04**	**203**	*e*PKPdf	**PKPdf**	**02 40 03.6**	**+0.5**
ESDC	**Sonseca Array**	**172.28**	**29**	PKP	**PKPdf**	**02 40 05.1**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=1.3,slow=2.8,SNR=6.7						
ESDC				PKPab	**PKPab**	**02 41 28.6**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=330,slow=3.6,SNR=5.0						
KEST	**Kesra**	**172.45**	**294**	PKP	**PKPdf**	**02 40 04.4**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=352,slow=3.7,SNR=6.1						

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*CSEM **06** 02:21:12.8, 41°.01N×1°.31E, h0km, ML0.8*

MDD 06 02:21:13.0±1.5**, 41°.01N×1°.30E, h0**km**, mbLg0.8**/4**, Error ellipse: s-maj=11.7km s-min=5.9km az=138.0, PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPOB	**Poblet**	**0.38**	**334**	Pg	Pg	02 21 19.2	-1.2
	0.1nm,0.1s,SNR=7.9						
EPOB				Lg	Lg	02 21 25.0	
	0.5nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**0.38**	**334**	Pg	Pg	02 21 19.4	-1.1
	0.1nm,0.1s,SNR=7.9						
EPOB				Lg	Lg	02 21 25.0	
	0.5nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**0.74**	**266**	Pg	Pg	02 21 26.3	-0.9
	0.3nm,0.1s,SNR=7.9						
ERTA				Lg	Lg	02 21 37.7	
	0.7nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**0.74**	**266**	Pg	Pg	02 21 26.3	-0.9
	0.3nm,0.1s,SNR=7.9						
ERTA				Lg	Lg	02 21 37.4	
	0.7nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**0.92**	**10**	Pg	Pg	02 21 30.4	-0.3
	0.4nm,0.2s,SNR=7.9						
EMIR				Lg	Lg	02 21 43.3	
	0.2nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**0.92**	**10**	Pg	Pg	02 21 30.1	-0.6
	0.4nm,0.2s,SNR=7.9						
EMIR				Lg	Lg	02 21 43.3	
	0.2nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**1.14**	**48**	Lg	Lg	02 21 48.5	
	0.7nm,0.1s,SNR=5.0						
CFON	**Fontmartina**	**1.14**	**48**	Lg	Lg	02 21 48.3	
	0.7nm,0.1s,SNR=5.0						
CSOR	**Sort**	**1.37**	**355**	Pg	Pg	02 21 38.6	-0.9
	0.2nm,0.2s,SNR=7.9						
CSOR				Lg	Lg	02 21 57.5	
	0.6nm,0.2s,SNR=7.9						
CSOR	**Sort**	**1.37**	**355**	Pg	Pg	02 21 38.2	-1.3
	0.2nm,0.2s,SNR=7.9						
CSOR				Lg	Lg	02 21 57.5	
	0.3nm,0.1s,SNR=7.9						

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*SZGRF **06** 02:33:15.7, 18°.68S×177°.65W, h33km, Fiji Islands region*

*IDC **06** 02:34:13.9±1.6, 17°.76S×178°.84W, h527km±18km, mb3.8/19, mb1 4.0/20, mb1mx3.8/31, mbtmp4.7/20, Error ellipse: s-maj=14.9km s-min=9.4km az=144.0*

*NEIC **06** 02:34:15.9±0.8, 17°.74S×178°.97W, h549km±8km, mb4.3/34, Error ellipse: s-maj=12.6km s-min=7.3km az=148.0*

*BJI **06** 02:34:16.1, 17°.78S×179°.45W, h545km, mb4.3/12, mB4.5/6*

ISC 06 02:34:15.3±0.5**, 17°.7S**±0°.1×**178°.93W**±0°.09**, h539**km**, n211, σ1.00**/228**, mb4.3**/50**, 23C-4D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.88**	**268**	*e*P	**P**	**02 35 30.4**	**+1.5**
DZM	**Mont Dzumac**	**14.43**	**250**	P	**P**	**02 37 18.6**	**-0.6**
	1.3nm,0.3s,baz=90,slow=24,SNR=14						
URZ	**Urewera**	**20.80**	**189**	P	**P**	**02 38 16.4**	**-2.6**
	17nm,0.8s,baz=119,slow=2.7,SNR=6.6						
RPZ	**Rata Peaks**	**27.30**	**196**	P	**P**	**02 39 14.7**	**-2.1**
	8.4nm,0.7s,baz=23,slow=6.7,SNR=5.7						
CTA	**Charters Tower**	**32.99**	**260**	P	**P**	**02 40 06.1**	**0.0**
	5.6nm,0.6s,baz=105,slow=8.8,SNR=10						
CTAO	**Charters Tower**	**32.99**	**260**	*e*P	**P**	**02 40 06.4**	**+0.2**
	9.6nm,0.9s						
STKA	**Stephens Creek**	**38.30**	**241**	P	**P**	**02 40 51.1**	**+1.1**
	10.0nm,0.5s,baz=89,slow=9.8,SNR=39						
STKA	**Stephens Creek**	**38.30**	**241**	*e*P	**P**	**02 40 50.9**	**+0.9**
	3.2nm,0.8s						
WRAB	**Tennant Creek**	**44.17**	**259**	*e*P	**P**	**02 41 36.4**	**-0.4**
	8.0nm,1.0s						
WRA	**Warramunga Arr**	**44.18**	**259**	P	**P**	**02 41 36.0**	**-0.8**
	2.0nm,0.6s,baz=96,slow=7.1,SNR=16						
WRA				PcP	**PcP**	**02 43 09.6**	**-0.4**
	1.1nm,0.6s,baz=98,slow=3.4,SNR=5.2						
WRA				S	**S**	**02 47 33.6**	**+2.5**
	0.5nm,0.3s,baz=96,slow=13,SNR=6.1						
AS31	**Alice Springs**	**44.37**	**254**	*e*P	**P**	**02 41 38.7**	**+0.5**
ASAR	**Alice Springs**	**44.37**	**254**	P	**P**	**02 41 38.8**	**+0.5**
	20nm,0.4s,baz=89,slow=7.9,SNR=530						
ASAR				PcP	**PcP**	**02 43 10.1**	**-0.5**
	1.5nm,0.4s,baz=102,slow=4.2,SNR=8.0						
ASAR				ScP	**ScP**	**02 46 12.8**	**+1.5**
	0.6nm,0.6s,baz=103,slow=4.9,SNR=4.8						
ASAR				S	**S**	**02 47 33.4**	**-0.4**
	2.4nm,0.9s,baz=82,slow=16,SNR=11						
GUMO	**Guam**	**47.34**	**309**	P	**P**	**02 42 01.1**	**+0.3**
	48nm,0.6s,baz=195,slow=23,SNR=5.0						
SIJI	**Sorong**	**51.70**	**283**	P	**P**	**02 42 33.6**	**+0.6**
	3.1nm,0.6s,baz=93,slow=7.4,SNR=5.4						
SOEI	**Soe**	**55.57**	**270**	*e*P	**P**	**02 42 58.6**	**-2.0**
	16nm,0.9s						
MJAR	**Matsushiro Arr**	**67.43**	**324**	P	**P**	**02 44 17.3**	**-0.1**
	4.6nm,0.6s,baz=165,slow=6.8,SNR=23						
MAJO	**Matsushiro**	**67.43**	**324**	*e*P	**P**	**02 44 17.1**	**-0.4**
	9.0nm,0.7s						
MAT	**Matsushiro**	**67.43**	**324**	P	**P**	**02 44 17.4**	**0.0**
MAT				*e*S	S	02 52 37.8	+6.7
PETK	**Petropavlovsk-**	**73.33**	**346**	P	**P**	**02 44 52.1**	**+0.1**
	10nm,0.9s,baz=125,slow=8.3,SNR=11						
KSRS	**Korea Array**	**74.20**	**319**	P	**P**	**02 44 57.2**	**0.0**
	0.6nm,0.4s,baz=125,slow=6.3,SNR=5.8						
KSAR	**Wonju Array Be**	**74.22**	**319**	P	**P**	**02 44 57.2**	**-0.1**
MDJ	**Mudanjiang**	**77.71**	**325**	P	**P**	**02 45 17.9**	**+1.4**
MDJ				PMZ			
	10.0nm,0.7s						
MDJ				PMZ			
	76nm,7.0s						
HUMO	**Hull Mountain**	**79.03**	**39**	*e*P	**P**	**02 45 24.8**	**+1.1**
	29nm,2.1s						
CN2	**Changchun**	**79.54**	**323**	*e*P	**P**	**02 45 27.5**	**+1.3**
CN2				PMZ			
	10.0nm,0.7s						
NVAR	**Mina Array Bea**	**79.61**	**44**	P	**P**	**02 45 26.9**	**-0.2**
	4.1nm,0.8s,baz=225,slow=8.8,SNR=20						
K05A	**Summer Lake**	**80.34**	**39**	*e*P	**P**	**02 45 31.8**	**+1.1**
	7.9nm,0.9s						
WVOR	**Wild Horse Val**	**81.56**	**41**	*e*P	**P**	**02 45 37.5**	**+0.5**
	7.5nm,1.0s						
IPM	**Ipoh**	**81.90**	**277**	*e*P	**P**	**02 45 40.2**	**+1.0**
	8.4nm,0.7s						
I07A	**Izee**	**81.94**	**39**	*e*P	**P**	**02 45 39.6**	**+0.7**
TUC	**Tucson**	**81.96**	**53**	*e*P	**P**	**02 45 40.5**	**+1.3**
	4.0nm,0.9s						
ELK	**Elko**	**82.83**	**43**	*e*P	**P**	**02 45 43.7**	**+0.1**
	6.2nm,1.0s						
DIV	**Divide**	**82.91**	**16**	*e*P	**P**	**02 45 43.0**	**-0.2**
	146nm,2.2s						
WUAZ	**Wupatki**	**82.97**	**49**	*e*P	**P**	**02 45 45.6**	**+1.2**
	5.3nm,1.0s						
BJI	**Beijing**	**83.27**	**316**	P	**P**	**02 45 44.6**	**-0.9**
BJI				PMZ			
	8.0nm,0.5s						
SEY	**Seymchan**	**83.44**	**347**	P	**P**	**02 45 45.6**	**-0.2**
	13nm,0.6s,baz=158,slow=5.8,SNR=36						
MFID	**Camas Ranch**	**83.83**	**41**	*e*P	**P**	**02 45 48.6**	**+0.3**
	4.3nm,0.9s						
KTH	**Kantishna Hill**	**83.86**	**12**	*e*P	**P**	**02 45 46.8**	**-1.2**
	12nm,1.0s						
TRF	**Thorofare Moun**	**83.90**	**13**	*e*P	**P**	**02 45 46.8**	**-1.5**
HARP	**HAARP**	**84.15**	**15**	*e*P	**P**	**02 45 49.8**	**+0.4**
	17nm,0.8s						
BPAW	**Bear Paw Mtn.**	**84.33**	**12**	*e*P	**P**	**02 45 48.4**	**-1.8**
	1.6nm,1.0s						
MCK	**McKinley**	**84.43**	**13**	*e*P	**P**	**02 45 49.9**	**-0.8**
	13nm,0.8s						
GYA	**Guiyang**	**84.49**	**300**	*e*P	**P**	**02 45 50.0**	**-2.0**
GYA				pP	**pP**	**02 47 50.7**	**+1.7**
GYA				sP	**sP**	**02 48 45.2**	**+1.5**
GYA				PP	**PP**	**02 49 18.0**	**+0.5**
GYA				SKS	**SKSac**	**02 55 19.8**	**-5.1**
GYA				S	**SKKSac**	**02 55 30.4**	**-1.9**
GYA				PMZ			
	10.0nm,1.0s						
HLID	**Hailey**	**84.79**	**41**	*e*P	**P**	**02 45 53.3**	**+0.2**
	3.0nm,0.8s						
SRU	**San Rafael Swe**	**85.22**	**47**	*e*P	**P**	**02 45 55.3**	**0.0**
	2.5nm,0.8s						
HDA	**Harding Lake**	**85.45**	**13**	*e*P	**P**	**02 45 55.0**	**-0.6**
	8.3nm,0.5s						
DOT	**Dot Lake**	**85.47**	**15**	*e*P	**P**	**02 45 55.6**	**-0.2**
	7.0nm,0.7s						
CCB	**Clear Creek Bu**	**85.47**	**13**	*e*P	**P**	**02 45 54.5**	**-1.2**
	18nm,1.5s						
IM04	**Indian Mountai**	**85.53**	**10**	*e*P	**P**	**02 45 54.8**	**-1.2**
COLA	**College**	**85.66**	**13**	*e*P	**P**	**02 45 55.3**	**-1.3**
	4.6nm,0.6s						
ILAR	**Eielson Array**	**85.78**	**13**	P	**P**	**02 45 56.0**	**-1.2**
	2.9nm,0.4s,baz=224,slow=5.2,SNR=52						
MNTX	**Cornudas Mount**	**85.85**	**55**	*e*P	**P**	**02 45 58.4**	**0.0**
	3.3nm,1.1s						
TXAR	**Lajitas Array**	**86.30**	**58**	P	**P**	**02 46 01.9**	**+1.3**
	3.4nm,0.8s,baz=217,slow=6.2,SNR=53						
ANMO	**Albuquerque**	**86.35**	**52**	*e*P	**P**	**02 46 01.0**	**+0.2**
	3.6nm,1.2s						
MCMT	**McKenzie Canyo**	**86.39**	**41**	*e*P	**P**	**02 46 01.7**	**+0.8**
BSMT	**Bassoo Peak**	**86.74**	**37**	*e*P	**P**	**02 46 01.9**	**-0.5**
	2.5nm,0.7s						
HHC	**Hu-ho-hao-te**	**86.76**	**315**	*e*P	**P**	**02 46 01.8**	**-0.7**
HHC				S	**S**	**02 55 50.8**	**-4.5**
HHC				PMZ			
	14nm,1.3s						
HHC				PMZ			
	79nm,7.5s						
DLMT	**Dillon**	**86.81**	**40**	*e*P	**P**	**02 46 02.6**	**-0.1**
	4.0nm,0.9s						
TPAW	**Teton Pass**	**86.95**	**43**	*e*P	**P**	**02 46 04.0**	**+0.4**
	5.8nm,0.9s						
REDW	**Red Top Meadow**	**86.96**	**43**	*e*P	**P**	**02 46 04.0**	**+0.4**
	4.6nm,0.9s						
FXWY	**Fox Creek**	**86.97**	**42**	*e*P	**P**	**02 46 04.2**	**+0.5**
EGAK	**Eagle**	**87.12**	**15**	*e*P	**P**	**02 46 03.2**	**-0.3**
	3.9nm,0.6s						
IMW	**Indian Meadow**	**87.15**	**42**	*e*P	**P**	**02 46 05.7**	**+1.1**
	5.1nm,0.6s						
CHMT	**Chamberlain Mo**	**87.17**	**39**	*e*P	**P**	**02 46 03.7**	**-0.8**
COLD	**Coldfoot**	**87.28**	**11**	*e*P	**P**	**02 46 04.7**	**+0.5**
PDAR	**Pinedale Array**	**87.53**	**44**	P	**P**	**02 46 06.2**	**-0.1**
	2.3nm,0.5s,baz=203,slow=1.0,SNR=16						
H17A	**Grant Village**	**87.61**	**42**	*e*P	**P**	**02 46 08.8**	**+2.1**
	5.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**88.34**	**290**	P	**P**	**02 46 12.3**	**+2.1**
	1.2nm,0.7s,baz=123,slow=2.8,SNR=6.6						
CD2	**Chengdu**	**88.53**	**303**	*e*P	**P**	**02 46 09.8**	**-1.2**
LZH	**Lanzhou**	**90.36**	**308**	*e*P	**P**	**02 46 20.0**	**+0.5**
LZH				pP	**pP**	**02 48 19.7**	**+1.5**
LZH				sP	**sP**	**02 49 13.3**	**+0.8**
LZH				PMZ			
	12nm,1.0s						
WMOK	**Wichita Mounta**	**92.12**	**54**	*e*P	P	02 46 32.6	+5.1
	3.5nm,0.8s						
SONM	**Songino Array**	**93.05**	**319**	P	**P**	**02 46 30.8**	**-0.7**
	0.3nm,0.4s,baz=136,slow=3.9,SNR=3.7						
YKA	**Yellowknife Ar**	**94.33**	**25**	P	**P**	**02 46 35.5**	**-1.4**
	1.1nm,0.7s,baz=257,slow=4.7,SNR=4.3						
MKAR	**Makanchi Array**	**108.62**	**314**	PKiKP	**PKiKP**	**02 51 42.2**	**-0.9**
	0.7nm,0.5s,baz=190,slow=0.9,SNR=8.6						
BVAR	**Borovoye Array**	**116.35**	**321**	PKP	**PKPdf**	**02 51 56.9**	**-0.6**
	1.4nm,0.3s,baz=117,slow=3.1,SNR=5.5						
ARU	**Arti**	**122.38**	**326**	*e*PKPdf	**PKPdf**	**02 52 08.5**	**-0.5**
ABKAR	**Akbulak array**	**123.43**	**318**	*e*PKPdf	**PKPdf**	**02 52 10.7**	**-0.6**
ARCES	**ARCESS Array B**	**126.00**	**350**	PKP	**PKPdf**	**02 52 15.2**	**-0.4**
	1.7nm,0.6s,baz=20,slow=1.0,SNR=6.9						
FINES	**FINESS Array B**	**132.83**	**344**	PKhKP	PKPpre	02 52 22.2	
	4.0nm,1.1s,baz=108,slow=6.2,SNR=4.4						
FINES				PKP	**PKPdf**	**02 52 28.4**	**-0.4**
	3.8nm,1.0s,baz=100,slow=2.3,SNR=5.5						
NAO01	**NORSAR Array S**	**136.32**	**353**	*e*PKPdf	**PKPdf**	**02 52 34.5**	**-0.8**
TSUM	**Tsumeb**	**139.92**	**205**	*e*PKPdf	**PKPdf**	**02 52 44.8**	**+1.4**
AKASG	**Malin Array Be**	**140.12**	**332**	PKhKP	PKPpre	02 52 35.4	
	0.5nm,0.3s,baz=41,slow=3.8,SNR=4.9						
AKASG				PKP	**PKPdf**	**02 52 43.0**	**+0.4**
	0.7nm,0.4s,baz=83,slow=14,SNR=5.8						
HPK	**Haverah Park**	**143.73**	**3**	*e*P	PKPab	02 52 47.2	-0.6
RUE	**Ruedersdorf**	**143.86**	**347**	*e*PKPbc	PKPbc	02 52 48.3	+0.1
TLCR		**144.10**	**326**	⇑*i*P	PKPbc	02 52 49.8	+0.5
LHO	**Holmfirth**	**144.13**	**3**	*e*P	PKPbc	02 52 48.4	-0.8
BUR08	**Bucovina Ar. S**	**144.16**	**332**	*e*PKPdf	**PKPab**	**02 52 50.4**	**+0.5**
BURAR	**Bucovina Array**	**144.18**	**332**	⇑*i*P	**PKPdf**	**02 52 50.9**	**+0.9**
WLF1	**Llynfaes**	**144.21**	**6**	*e*P	PKPbc	02 52 48.6	-0.7
BR131	**Keskin Array S**	**144.27**	**315**	*e*PKPdf	PKPbc	02 52 50.2	0.0
BRTR	**Keskin Array B**	**144.27**	**315**	PKP	PKPbc	02 52 50.4	+0.2
	3.6nm,0.6s,baz=114,slow=3.6,SNR=26						
LMK	**Market Rasen**	**144.28**	**1**	*e*P	PKPbc	02 52 49.2	-0.3
WPM1	**Penmaenmawr**	**144.28**	**5**	*e*P	PKPbc	02 52 48.9	-0.7
TESR	**Tescani**	**144.31**	**329**	⇑*i*P	PKPbc	02 52 49.8	-0.1
YLL	**Llanberis**	**144.38**	**5**	*e*P	PKPbc	02 52 49.3	-0.5
STHS	**Stebnicka Huta**	**144.39**	**337**	*e*PKP	**PKPdf**	**02 52 51.0**	**+0.8**
KOLS	**Kolonicke sedl**	**144.39**	**336**	*e*PKP	**PKPdf**	**02 52 51.0**	**+0.8**
CFR	**Carcaliu**	**144.47**	**326**	⇑*i*P	**PKPdf**	**02 52 51.0**	**+0.6**
NRDL	**Niedersach Rie**	**144.54**	**350**	*e*PKPbc	**PKPdf**	**02 52 50.4**	**+0.2**
FOEL	**Foel Wylfa**	**144.70**	**4**	*e*P	**PKPdf**	**02 52 50.9**	**+0.3**
VRI	**Vrincioaia**	**144.72**	**328**	⇑*i*P	**PKPdf**	**02 52 50.7**	**-0.2**
PLOR	**Plostina**	**144.77**	**328**	⇑*i*P	**PKPab**	**02 52 52.5**	**+0.4**
BMR	**Baia Mare**	**144.89**	**333**	⇓*i*P	PKPbc	02 52 52.3	+0.7
HARR	**Harsova**	**144.90**	**326**	⇓*i*P	PKPbc	02 52 52.6	+0.8
TLB	**Topalu**	**144.91**	**326**	⇑*i*P	PKPbc	02 52 52.3	+0.5
TRPA	**Tarpa**	**144.93**	**335**	⇑*i*P	PKPbc	02 52 52.3	+0.6
IBBN	**Ibbenburen**	**145.05**	**353**	*e*PKPbc	**PKPdf**	**02 52 52.2**	**+1.0**
OKC	**Ostrava-Krasne**	**145.09**	**341**	*e*PKP	**PKPbc**	**02 52 52.7**	**+0.5**
HLM1	**Long Mynd**	**145.10**	**4**	*e*P	**PKPdf**	**02 52 51.2**	**-0.1**
CLZ	**Clausthal**	**145.12**	**350**	*e*PKPbc	**PKPbc**	**02 52 52.6**	**+0.3**
CLL	**Collm**	**145.13**	**347**	*e*PKPbc	**PKPdf**	**02 52 52.3**	**+0.9**
CLL	**Collm**	**145.13**	**347**	⇑*i*PKPbc	**PKPdf**	**02 52 52.3**	**+0.9**
	comp=Z,17nm,0.6s						
UPC	**Upice**	**145.13**	**343**	*e*PKP	**PKPbc**	**02 52 52.9**	**+0.6**
DPC	**Dobruska-Polom**	**145.18**	**343**	*i* PKP	**PKPbc**	**02 52 53.4**	**+0.9**
DPC				*e*x	x	02 52 54.8	
KRLC	**Kraliky**	**145.30**	**342**	*e*PKP	**PKPbc**	**02 52 53.3**	**+0.4**
KRLC				*e*x	x	02 52 55.5	
DOPR	**Dopca**	**145.31**	**330**	⇑*i*P	**PKPbc**	**02 52 53.9**	**+0.9**
BRG	**Berggiesshubel**	**145.32**	**346**	*e*PKP	**PKPbc**	**02 52 53.2**	**+0.4**
	comp=Z,8.5nm,0.8s						
	comp=N,194nm,23.9s						
	comp=E,170nm,24.0s						
	comp=Z,394nm,24.7s						
BRG	**Berggiesshubel**	**145.32**	**346**	*e*PKPbc	**PKPbc**	**02 52 53.3**	**+0.5**
MLR	**Muntele Rosu**	**145.38**	**329**	⇑*i*P	**PKPdf**	**02 52 53.3**	**+1.1**
LPW	**Lampeter**	**145.40**	**6**	*e*P	**PKPdf**	**02 52 52.6**	**+0.8**
FBE	**Freiberg**	**145.41**	**346**	*e*PKPbc	**PKPbc**	**02 52 53.8**	**+0.7**
KECS	**Kecovo**	**145.44**	**337**	*e*PKP	**PKPbc**	**02 52 54.0**	**+0.7**
NEUB	**Neuenburg**	**145.48**	**348**	*e*PKPbc	**PKPbc**	**02 52 53.6**	**+0.4**
PVCC	**Panska Ves**	**145.49**	**345**	*e*PKP	**PKPbc**	**02 52 54.2**	**+0.9**
PVCC				*e*x	x	02 52 55.5	
CJR	**Cluj-Napoca**	**145.58**	**332**	⇑*i*P	**PKPbc**	**02 52 54.7**	**+0.9**
MCH1	**Michaelchurch**	**145.61**	**4**	*e*P	**PKPdf**	**02 52 52.5**	**+0.4**
MONM	**Monmouth**	**145.78**	**4**	*e*P	**PKPdf**	**02 52 53.7**	**+1.3**
VOIR		**145.86**	**329**	⇓*i*P	**PKPdf**	**02 52 53.6**	**+0.7**
DRGR		**145.91**	**333**	⇑*i*P	**PKPbc**	**02 52 55.3**	**+0.5**
PRA	**Prague**	**145.94**	**345**	*e*PKP	**PKPbc**	**02 52 55.1**	**+0.5**
PRA				*e*x	x	02 52 57.1	
PRU	**Pruhonice**	**145.99**	**344**	*e*PKP	**PKPbc**	**02 52 55.1**	**+0.3**
PRU				*e*x	x	02 52 57.2	
GOPC	**GO Pecny, Ondr**	**146.00**	**344**	*e*PKP	**PKPbc**	**02 52 55.1**	**+0.3**
GOPC				*e*x	x	02 52 57.3	
MOX	**Moxa**	**146.04**	**348**	*e*PKPbc	**PKPbc**	**02 52 55.1**	**+0.2**
PLN	**Plauen**	**146.09**	**347**	*e*PKPbc	**PKPbc**	**02 52 55.5**	**+0.5**
TANN	**Tannenbergstha**	**146.09**	**347**	*e*PKPbc	**PKPbc**	**02 52 55.4**	**+0.3**
WERD	**Werda**	**146.09**	**347**	*e*PKPbc	**PKPbc**	**02 52 55.5**	**+0.4**
ARR	**Arges**	**146.11**	**330**	⇑*i*P	**PKPab**	**02 52 57.2**	**-0.2**
PSZ	**Piszkesteto**	**146.13**	**337**	⇑*i*P	**PKPbc**	**02 52 56.5**	**+1.2**
PSZ	**Piszkesteto**	**146.13**	**337**	*e*PKPbc	**PKPdf**	**02 52 54.9**	**+1.6**
GUNZ	**Gunzen**	**146.16**	**347**	*e*PKPbc	**PKPbc**	**02 52 55.8**	**+0.5**
GUNZ				*e*PKPab	**PKPab**	**02 52 57.9**	**+0.5**
WERN	**Wernitzgruen**	**146.22**	**347**	*e*PKPbc	**PKPbc**	**02 52 56.0**	**+0.5**
WERN				*e*PKPab	**PKPab**	**02 52 58.1**	**+0.5**
NKC	**Novy Kostel**	**146.26**	**347**	*e*PKP	**PKPbc**	**02 52 55.5**	**-0.1**
NKC				*e*x	x	02 52 57.8	
TREC	**Trest**	**146.37**	**343**	*e*PKP	**PKPbc**	**02 52 56.1**	**+0.2**
TREC				*e*x	x	02 52 58.3	
WOL	**Wolverton**	**146.39**	**3**	*e*P	**PKPbc**	**02 52 55.5**	**-0.3**
CSS	**Prodhromos**	**146.54**	**307**	*e*PKPbc	**PKPdf**	**02 52 55.9**	**+1.6**
MANZ	**Manzenberg**	**146.57**	**347**	*e*PKPbc	**PKPbc**	**02 52 56.9**	**+0.5**
ROTZ	**Rotzenmuhle**	**146.75**	**347**	*e*PKPbc	**PKPbc**	**02 52 57.6**	**+0.7**
ROTZ				*e*PKPab	**PKPab**	**02 53 00.3**	**+0.6**
BEBN	**Eben Emael**	**146.75**	**355**	PKP	**PKPbc**	**02 52 57.6**	**+0.8**
SIRR	**Siria**	**146.77**	**334**	⇓*i*P	**PKPbc**	**02 52 57.9**	**+0.8**
UCC	**Uccle**	**146.85**	**356**	PKPbc	**PKPbc**	**02 52 56.8**	**-0.2**
UCC				PKPab	**PKiKP**	**02 52 59.1**	**+0.1**
MEM	**Membach**	**146.91**	**354**	PKP	**PKPbc**	**02 52 57.5**	**+0.2**
TNS	**Taunus Mts**	**147.00**	**351**	*e*PKPbc	**PKPbc**	**02 52 57.9**	**+0.3**
TNS				*e*PKPab	**PKiKP**	**02 53 00.7**	**+1.2**
KHC	**Kasperske Hory**	**147.03**	**345**	*e*PKP	**PKPbc**	**02 52 58.1**	**+0.4**
KHC				*e*x	x	02 53 01.5	
KHC	**Kasperske Hory**	**147.03**	**345**	*e*PKPbc	**PKPdf**	**02 52 55.3**	**+0.6**
KHC				*e*PKPab	**PKPbc**	**02 52 58.1**	**+0.4**
GRF	**Grafenberg Arr**	**147.03**	**348**	*e*PKPbc	**PKPbc**	**02 52 58.2**	**+0.6**
GRF				*e*PKPab	**PKPab**	**02 53 01.4**	**+0.6**
GRFO	**Grafenberg**	**147.03**	**348**	*e*PKPbc	**PKPbc**	**02 52 57.7**	**+0.1**
SNF	**Seneffe**	**147.15**	**356**	PKPbc	**PKPbc**	**02 52 58.1**	**+0.2**
SNF				PKPab	**PKPab**	**02 53 01.2**	**0.0**
BCLA	**Clavier**	**147.16**	**355**	PKPbc	**PKPbc**	**02 52 58.8**	**+0.9**
BCLA				PKPab	**PKiKP**	**02 53 01.1**	**+1.4**
WET	**Wettzell**	**147.19**	**346**	*e*PKPab	**PKPab**	**02 53 02.0**	**+0.5**
GEC2	**GERESS Array S**	**147.26**	**345**	*e*PKPbc	**PKPbc**	**02 52 58.7**	**+0.3**
GERES	**GERESS Array B**	**147.26**	**345**	PKPbc	**PKPbc**	**02 52 58.7**	**+0.3**
	comp=Z,4.7nm,0.5s,baz=23,slow=3.1,SNR=47						
BZS	**Buzias**	**147.30**	**333**	⇑*i*P	**PKPbc**	**02 52 58.8**	**+0.3**
CONA	**Conrad Observa**	**147.49**	**341**	⇑*i*PKiKP	**PKPbc**	**02 52 59.7**	**+0.7**
	comp=Z,8.5nm,0.7s,SNR=8.8						
DOU	**Dourbes**	**147.54**	**356**	PKPbc	**PKPbc**	**02 52 59.0**	**+0.1**
DOU				PKPab	**PKPab**	**02 53 02.5**	**-0.3**
WLF	**Walferdange**	**147.83**	**354**	PKP	**PKPbc**	**02 52 59.4**	**-0.3**
WLF				PKPab	**PKPab**	**02 53 04.2**	**+0.1**
WLF	**Walferdange**	**147.83**	**354**	*e*PKPbc	**PKPbc**	**02 53 00.6**	**+0.9**
WLF				*e*PKPab	**PKPab**	**02 53 04.4**	**+0.3**
WLF	**Walferdange**	**147.83**	**354**	*e*PKPbc	**PKPbc**	**02 52 59.6**	**-0.1**
WLF				*e*PKPab	**PKPab**	**02 53 03.9**	**-0.2**
MPEP	**Malo Peshtene**	**148.01**	**328**	*e*P	**PKPbc**	**02 53 00.8**	**+0.4**
MOA	**Molln**	**148.02**	**343**	⇑*i*PKiKP	**PKPbc**	**02 53 00.6**	**+0.3**
	comp=Z,3.1nm,0.7s						
STU	**Stuttgart**	**148.29**	**350**	*e*PKPbc	**PKPbc**	**02 53 01.3**	**+0.4**
STU				*e*PKPab	**PKPab**	**02 53 06.0**	**0.0**
STU	**Stuttgart**	**148.29**	**350**	*e*PKPbc	**PKPbc**	**02 53 00.8**	**0.0**
STU				*e*PKPab	**PKPab**	**02 53 05.8**	**-0.1**
ALN	**Alexandroupoli**	**148.43**	**322**	*e*P	**PKPdf**	**02 52 59.8**	**+2.6**
FUR	**Furstenfeldbru**	**148.47**	**347**	*e*PKPbc	**PKPbc**	**02 53 01.7**	**+0.3**
FUR				*e*PKPab	**PKPab**	**02 53 07.3**	**+0.5**
RJOB	**Jochberg**	**148.51**	**345**	*e*PKPbc	**PKPbc**	**02 53 01.7**	**+0.1**
RJOB				*e*PKPab	**PKPab**	**02 53 08.0**	**+1.0**
VTS	**Vitosha**	**148.83**	**327**	⇑*i*P	**PKPbc**	**02 53 03.0**	**+0.4**
VTS	**Vitosha**	**148.83**	**327**	*e*P	**PKPbc**	**02 53 02.7**	**+0.1**
BFO	**Black Forest**	**148.86**	**351**	*e*PKPbc	**PKPbc**	**02 53 02.4**	**+0.1**
BFO				*e*PKPab	**PKPab**	**02 53 08.2**	**-0.2**
BFO	**Black Forest**	**148.86**	**351**	*e*PKPbc	**PKPbc**	**02 53 02.2**	**-0.2**
BFO				*e*PKPab	**PKPab**	**02 53 08.0**	**-0.4**
WATA	**Walderalm**	**149.18**	**346**	*i* PKiKP	**PKPbc**	**02 53 03.2**	**-0.1**
	comp=Z,4.8nm,0.4s,SNR=11						
DIVS	**Divibare**	**149.21**	**333**	⇑*i*P	**PKPbc**	**02 53 03.9**	**+0.5**
WTTA	**Wattenberg**	**149.24**	**346**	*i* PKiKP	**PKPbc**	**02 53 03.8**	**+0.3**
	comp=Z,8.4nm,0.4s,SNR=7.7						
MMB	**Musomiste**	**149.26**	**326**	*e*P	**PKPbc**	**02 53 03.3**	**-0.2**
MOTA	**Moosalm**	**149.28**	**347**	⇑*i*PKiKP	**PKPbc**	**02 53 03.4**	**-0.2**
	comp=Z,3.2nm,0.4s,SNR=8.6						
MYKA	**Terra Mystica**	**149.31**	**343**	*i* PKPbc	**PKPbc**	**02 53 03.0**	**-0.5**
	comp=Z,6.1nm,0.5s,SNR=7.0						
PRK	**Paraskevi**	**149.32**	**320**	*e*P	**PKPbc**	**02 53 03.8**	**+0.1**
NVR	**Nevrokopi**	**149.36**	**325**	*e*P	**PKPbc**	**02 53 03.5**	**-0.3**
KKB	**Krupnik**	**149.41**	**327**	*e*P	**PKPbc**	**02 53 03.8**	**-0.1**
ABTA	**Abfaltersbach**	**149.51**	**344**	*i* PKiKP	**PKPbc**	**02 53 03.6**	**-0.4**
	comp=Z,8.6nm,0.6s,SNR=7.8						
DAVA	**Damuels**	**149.59**	**348**	⇑*i*PKiKP	**PKPbc**	**02 53 04.5**	**+0.2**
	comp=Z,6.4nm,0.8s						
FETA	**Feichten**	**149.67**	**347**	⇑*i*PKiKP	**PKPbc**	**02 53 04.7**	**+0.2**
	comp=Z,8.5nm,1.0s						
CHOS	**Chios island**	**149.97**	**318**	*e*P	**PKPbc**	**02 53 05.0**	**-0.4**
GRG	**Griva**	**150.42**	**326**	*e*P	**PKPbc**	**02 53 05.3**	**-1.0**
FNA	**Florina**	**151.08**	**327**	*e*P	**PKPbc**	**02 53 07.4**	**-0.4**
PTL	**Penteli**	**151.54**	**320**	*e*P	**PKPbc**	**02 53 08.0**	**-0.9**
THL	**Klokotos Trika**	**151.61**	**324**	*e*P	**PKPbc**	**02 53 07.3**	**-1.7**
AXAR	**Agios Charalam**	**151.79**	**323**	*e*P	**PKPbc**	**02 53 08.1**	**-1.3**
VIL2	**Platees**	**151.79**	**321**	*e*P	**PKPdf**	**02 53 06.3**	**+3.8**
AGG	**Agios Georgios**	**151.81**	**323**	*e*P	**PKPbc**	**02 53 08.4**	**-1.1**
MAKR	**Makrakomi, Fth**	**151.92**	**323**	*e*P	**PKPbc**	**02 53 09.3**	**-0.5**
LTK	**Loutraki**	**152.10**	**321**	*e*P	**PKPbc**	**02 53 09.0**	**-1.1**
EVR	**Evrytania**	**152.17**	**324**	*e*P	**PKPbc**	**02 53 10.4**	**0.0**
DID	**Didima**	**152.26**	**320**	*e*P	**PKPbc**	**02 53 08.6**	**-1.9**
KALE	**Kalithea**	**152.34**	**323**	*e*P	**PKPbc**	**02 53 10.4**	**-0.3**
DSL	**Palaion Diasel**	**152.42**	**325**	*e*P	**PKPbc**	**02 53 10.6**	**-0.2**
KLV	**Kalavryta, Ach**	**152.57**	**322**	*e*P	**PKPbc**	**02 53 10.9**	**-0.3**
KEK	**Kerkira**	**152.69**	**327**	*e*P	**PKPbc**	**02 53 09.9**	**-1.5**
PDO	**Prodromos**	**152.75**	**324**	*e*P	**PKPdf**	**02 53 02.5**	**-1.4**
RLS	**Riolos of Patr**	**152.96**	**323**	*e*P	**PKPab**	**02 53 27.2**	**+1.3**
ESDC	**Sonseca Array**	**157.65**	**10**	PKPab	**PKPab**	**02 53 45.5**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=340,slow=4.7,SNR=6.3						
KEST	**Kesra**	**160.57**	**339**	PKPab	**PKPab**	**02 53 58.6**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=233,slow=1.1,SNR=4.6						
TOA0	**Torodi Ar. Sit**	**175.46**	**188**	*e*PKPdf	**PKPdf**	**02 53 23.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**175.46**	**188**	PKP	**PKPdf**	**02 53 22.5**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=178,slow=1.0,SNR=4.1						
TORD				PKPab	**PKPab**	**02 55 04.6**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=177,slow=4.2,SNR=2.9						

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*CSEM **06** 02:50:53.1, 42°.59N×12°.71E, h8km, MD2.5/25*

ROM 06 02:50:53.1±0.1**, 42°.59N×12°.71E, h8**km**, Md2.5**/25**, Ml1.8**/25**, 2C, Error ellipse: s-maj=0.9km s-min=0.8km az=65.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESX	**Cesi**	**0.09**	**280**	⇑*i*Pg	Pg	02 50 55.8	+0.3
CESX				Sg	Sg	02 50 57.3	+0.2
	2μm,0.5s						
CESX	**Cesi**	**0.09**	**280**	⇑*i*Pg	Pg	02 50 55.8	+0.3
CESX				Sg	Sg	02 50 57.3	+0.2
	2μm,0.5s						
MNS	**Montasola**	**0.21**	**185**	Pg	Pg	02 50 58.1	+0.7
MNS				Sg	Sg	02 51 02.1	+1.8
	213nm,0.4s						
MNS	**Montasola**	**0.21**	**185**	Pg	Pg	02 50 58.1	+0.7
MNS				Sg	Sg	02 51 02.1	+1.8
	213nm,0.4s						
LNSS	**Leonessa**	**0.25**	**88**	Pg	Pg	02 50 59.1	+0.9
LNSS				Sg	Sg	02 51 03.4	+1.7
	342nm,0.3s						
LNSS	**Leonessa**	**0.25**	**88**	Pg	Pg	02 50 59.1	+0.9
LNSS				Sg	Sg	02 51 03.4	+1.7
	342nm,0.3s						
NRCA	**Norcia**	**0.39**	**51**	Pg	Pg	02 51 01.4	+0.6
NRCA				Sg	Sb	02 51 07.5	-1.0
	102nm,0.4s						
NRCA	**Norcia**	**0.39**	**51**	Pg	Pg	02 51 01.4	+0.6
NRCA				Sg	Sb	02 51 07.5	-1.0
	102nm,0.4s						
CESI	**CESI - Serrava**	**0.44**	**20**	Pg	Pg	02 51 02.2	+0.4
CESI				Sg	Sb	02 51 09.1	-0.9
	41nm,0.5s						
CESI	**CESI - Serrava**	**0.44**	**20**	Pg	Pg	02 51 02.2	+0.4
CESI				Sg	Sb	02 51 09.1	-0.9
	41nm,0.5s						
FIAM	**Fiamignano**	**0.45**	**137**	Pg	Pg	02 51 02.3	+0.4
FIAM				Sg	Sb	02 51 09.3	-0.9
	47nm,0.5s						
FIAM	**Fiamignano**	**0.45**	**137**	Pg	Pg	02 51 02.3	+0.4
FIAM				Sg	Sb	02 51 09.3	-0.9
	47nm,0.5s						
CAMP	**Campotosto**	**0.52**	**96**	Pg	Pg	02 51 03.8	+0.4
	39nm,0.6s						
CAMP	**Campotosto**	**0.52**	**96**	Pg	Pg	02 51 03.8	+0.4
	39nm,0.6s						
T0104	**Madonna delle**	**0.52**	**116**	Pg	Pg	02 51 03.8	+0.5
FDMO	**Fiordimonte**	**0.53**	**32**	Pg	Pg	02 51 03.8	+0.4
FDMO				Sg	Sb	02 51 11.8	-0.6
	72nm,0.3s						
FDMO	**Fiordimonte**	**0.53**	**32**	Pg	Pg	02 51 03.8	+0.4
FDMO				Sg	Sb	02 51 11.8	-0.6
	72nm,0.3s						
MGAB	**Montegabbione**	**0.54**	**306**	Pg	Pg	02 51 04.1	+0.4
	75nm,0.3s						
MGAB	**Montegabbione**	**0.54**	**306**	Pg	Pg	02 51 04.1	+0.4
	75nm,0.3s						
AQU	**L'Aquila**	**0.57**	**115**	Pg	Pb	02 51 04.8	-0.6
	50nm,0.6s						
AQU	**L'Aquila**	**0.57**	**115**	Pg	Pb	02 51 04.8	-0.6
	50nm,0.6s						
MTCE	**Montecelio**	**0.57**	**177**	Pg	Pg	02 51 04.6	+0.4

	30nm,0.5s						
MTCE	Montecelio	0.57	177	Pg	Pg	02 51 04.6	+0.4
	30nm,0.5s						
T0106	Roio Piano	0.58	119	Pg	Pb	02 51 05.1	-0.5
	31nm,0.2s						
SACS	San Casciano d	0.64	294	Pg	Pg	02 51 06.1	+0.5
	34nm,0.8s						
TERO	Teramo	0.66	87	Pg	Pg	02 51 05.9	-0.1
TERO				Sg	Sb	02 51 15.8	-0.6
	33nm,0.6s						
TERO	Teramo	0.66	87	Pg	Pg	02 51 05.9	-0.1
TERO				Sg	Sb	02 51 15.8	-0.6
	33nm,0.6s						
LATE	Laterza	0.67	272	Pg	Pb	02 51 07.2	+0.2
	62nm,0.4s						
LATE	Laterza	0.67	272	Pg	Pb	02 51 07.2	+0.2
	62nm,0.4s						
CERT	Cerreto	0.68	162	Pg	Pg	02 51 06.3	+0.1
	33nm,0.5s						
CERT	Cerreto	0.68	162	Pg	Pg	02 51 06.3	+0.1
	33nm,0.5s						
SNTG	Esanatoglia	0.68	15	Pg	Pg	02 51 06.5	+0.1
	25nm,0.4s						
SNTG	Esanatoglia	0.68	15	Pg	Pg	02 51 06.5	+0.1
	25nm,0.4s						
FAGN	Fagnano	0.73	116	Pg	Pb	02 51 07.9	-0.2
	72nm,0.4s						
FAGN	Fagnano	0.73	116	Pg	Pb	02 51 07.9	-0.2
	72nm,0.4s						
TOLF	Tolfa	0.74	225	Pg	Pg	02 51 07.8	+0.3
	22nm,0.3s						
TOLF	Tolfa	0.74	225	Pg	Pg	02 51 07.8	+0.3
	22nm,0.3s						
ATVO	AVT- Monte Val	0.82	345	Pg	Pg	02 51 09.3	+0.3
	17nm,0.3s						
ATVO	AVT- Monte Val	0.82	345	Pg	Pg	02 51 09.3	+0.3
	17nm,0.3s						
CING	Cingoli	0.86	25	Pg	Pg	02 51 09.9	+0.1
	18nm,0.3s						
CING	Cingoli	0.86	25	Pg	Pg	02 51 09.9	+0.1
	18nm,0.3s						
ATPI	Pietralunga -	0.89	346	Pg	Pb	02 51 10.8	0.0
	19nm,0.4s						
ATPI	Pietralunga -	0.89	346	Pg	Pb	02 51 10.8	0.0
	19nm,0.4s						
CAFI	Castiglion Fio	0.91	324	Pg	Pg	02 51 10.5	-0.3
	15nm,0.5s						
CAFI	Castiglion Fio	0.91	324	Pg	Pg	02 51 10.5	-0.3
	15nm,0.5s						
ARVD	Arcevia	0.92	11	Pg	Pg	02 51 10.8	-0.1
	13nm,0.5s						
ARVD	Arcevia	0.92	11	Pg	Pg	02 51 10.8	-0.1
	13nm,0.5s						
PIEI	Pieia	0.95	353	Pg	Pb	02 51 11.8	-0.1
	13nm,0.3s						
PIEI	Pieia	0.95	353	Pg	Pb	02 51 11.8	-0.1
	13nm,0.3s						

IDC 06 02:52:03.2±10.0**, 5°.99S×154°.47E, h107km**±92km**, mb3.1**/3**, mb1 3.5**/4**, mb1mx3.2**/19**, mbtmp3.6**/4**, ML4.2**/1**, Error ellipse: s-maj=56.2km s-min=30.3km az=158.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	19.73	145	P	P	02 56 24.2	-0.5
	0.7nm,0.3s,baz=270,slow=24,SNR=8.9						
WRA	Warramunga Arr	23.98	233	P	P	02 57 08.4	+0.3
	0.3nm,0.4s,baz=64,slow=11,SNR=3.0						
WRA				PcP	PcP	03 00 48.0	+0.4
	0.3nm,0.4s,baz=57,slow=2.4,SNR=2.7						
ASAR	Alice Springs	26.46	226	P	P	02 57 30.6	+0.1
	0.4nm,0.4s,baz=56,slow=9.1,SNR=12						
ASAR				PcP	PcP	03 00 53.8	+0.5
	0.5nm,0.6s,baz=58,slow=2.7,SNR=7.3						
ILAR	Eielson Array	82.64	22	P	P	03 04 15.2	+0.8
	0.3nm,0.9s,baz=243,slow=5.9,SNR=4.6						
TORD	Torodi Ar. Bea	152.25	287	PKPbc	PKPbc	03 11 46.1	-1.5
	0.2nm,0.3s,baz=56,slow=1.7,SNR=22						

MEX 06 02:56:04.5±0.7**, 16°.27N×99°.62W, h19km**±10km**, MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.64	339	eP	Pb	02 56 10.8	-6.3
ACX				i S	Sb	02 56 18.4	-7.3
CAIG	El Cayaco	0.99	321	eP	Pb	02 56 20.2	-2.9
CAIG				i S	Sb	02 56 31.8	-4.1
PNIG	Pinotepa	1.44	85	eP	Pn	02 56 26.3	-3.4
PNIG				eS	Sn	02 56 43.8	-4.3
TLIG	Tlapa	1.64	38	eP	Pn	02 56 28.9	-3.6
TLIG				eS	Sn	02 56 48.8	-4.4
MEIG	Mezcala	1.65	0	eP	Pn	02 56 29.4	-3.2
MEIG				eS	Sn	02 56 49.1	-4.3
PLIG	Platanillo	2.12	3	i P	Pn	02 56 36.4	-2.7
PLIG				eS	Sn	02 57 01.3	-3.7
ARIG	Puente Sto Nin	2.12	341	eP	Pn	02 56 37.0	-2.0
ARIG				eS	Sn	02 57 01.4	-3.5

*ISCJB **06** 03:03:58.3±0.3, 24°.94N±0°.03×99°.34E±0°.03, h10km, mb3.9/21, Error ellipse: s-maj=5.1km s-min=4.3km az=20.3*

*IDC **06** 03:03:58.5±0.8, 24°.94N×99°.40E, h0km, mb3.9/15, mb1 4.0/16, mb1mx3.8/30, mbtmp3.9/16, ML4.5/1, Error ellipse: s-maj=24.9km s-min=14.5km az=68.0*

*NEIC **06** 03:03:59.9±0.3, 25°.00N×99°.72E, h10km, mb4.2/8, Error ellipse: s-maj=10.8km s-min=6.3km az=73.0*

*BJI **06** 03:04:00.0, 24°.92N×99°.23E, h11km, mb4.1/4, ML4.3/11, Ms4.1/2, Ms7 3.9/3*

ISC 06 03:04:00.2±0.5**, 24°.92N**±0°.03×**99°.29E**±0°.04**, h10km, n55,** σ1s75/60**, mb4.0**/21**, 1C-1D, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	3.14	86	⇓Pn	Pn	03 04 52.3	+2.4
KMI				Pg	Pg	03 05 00.6	+0.2
KMI				Sn	Sb	03 05 32.8	-1.9
KMI				Sg	Sg	03 05 40.8	-0.3
KMI				SMN			
	1µm,1.2s						
KMI				SME			
	800nm,1.1s						
KMI				LZ			
	990nm,4.4s						
CRAI	Chiangrai	4.78	168	P	Pn	03 05 09.3	-3.0
	46nm,0.8s,2µm						
CMAI	Chiengmai2	4.97	183	P	Pn	03 05 15.7	+0.6
	289nm,0.8s,4µm						
CHTO	Chiang Mai	6.09	183	P	Pn	03 05 33.2	+2.9
	624nm,0.8s,7µm						
CHTO	Chiang Mai	6.09	183	ePn	Pn	03 05 31.4	+1.1
	80nm,0.6s						
CHTO				ePg	Pg	03 05 53.9	-3.0
CHTO				eSg	Sg	03 07 12.0	-3.7
CMMT	Chiang Mai	6.09	183	P	Pn	03 05 33.1	+2.8
	185nm,0.7s,2µm						
LAMP	Lampang	6.38	177	P	Pn	03 05 35.2	+0.9
	61nm,1.1s,533nm						
CM31	Chiang Mai Arr	6.44	183	ePn	Pn	03 05 36.5	+1.3
	126nm,0.6s						
CM31				ePg	Pg	03 06 01.4	-2.2
CM31				eSg	Sg	03 07 23.3	-3.7
CMAR	Chiang Mai Arr	6.44	183	Pn	Pn	03 05 36.5	+1.3
	2.9nm,0.3s,baz=358,slow=13,SNR=23						
CMAR				Pg	Pg	03 06 01.1	-2.6
	11nm,0.3s,baz=352,slow=14,SNR=30						
CMAR				Lg	Lg	03 07 25.1	
	11nm,0.3s,baz=358,slow=30,SNR=21						
SHL	Shillong	6.74	277	eP	Pn	03 05 40.0	+0.6
GYA	Guiyang	6.83	75	⇑iPn	Pn	03 05 42.6	+2.0
GYA				Sn	Sn	03 06 57.2	-1.2
GYA				LZ			
	660nm,8.1s						
MHMT	Maesarieng	6.83	191	P	Pn	03 05 44.1	+3.6
CD2	Chengdu	7.16	33	Pn	Pn	03 05 46.0	+1.0
CD2				Sn	Sn	03 07 02.8	-3.6
CD2				Sg	Sg	03 07 45.5	-4.4
CD2				SMN			
	130nm,1.5s						
CD2				SME			
	130nm,1.4s						
UTTA	Uttaradit	7.24	170	P	Pn	03 05 47.6	+1.5
NONG	Nongkai	7.71	152	P	Pg	03 06 31.0	+3.1
	29nm,1.1s						
NONG				Pg	Pg	03 06 30.8	+2.9
	29nm,1.1s						
PBKT	Sadao Pong	8.46	169	P	Pg	03 06 43.7	+1.5
LSA	Lhasa	8.66	305	P	Pn	03 06 10.1	+4.0
LSA	Lhasa	8.66	305	ePn	Pn	03 06 11.7	+5.6
	11nm,0.5s						
TAPN	Taplejung	10.68	286	eP	Pn	03 06 35.6	+2.0
ODAN	Odare	10.89	283	eP	Pn	03 06 36.8	+0.4
	77nm,0.9s						
RAMN	Ramite	11.60	283	eP	Pn	03 06 45.5	-0.6
	16nm,0.6s						
JIRN	Jiri	12.06	286	eP	Pn	03 06 52.8	+0.2
	8.6nm,0.4s						
GUN	Gumba	12.38	287	eP	Pn	03 06 56.7	-0.2
PKI	Pulchoki	12.73	285	eP	Pn	03 07 00.7	-1.0
	11nm,0.6s						
GTA	Gaotai	14.45	2	eP	P	03 07 35.1	+3.2
GTA				pP	pP	03 07 38.4	
GTA				sP		03 07 42.1	
GTA				S	S	03 10 25.6	+0.2
GTA				sS	sS	03 10 31.8	
GTA				SS	SbSb	03 10 44.6	-21
GTA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,91nm,4.9s						
GTA				LR	LR		
	comp=N,370nm,8.1s						
GTA				LR	LR		
	comp=E,1µm,14.3s						
GTA				LR	LR		
	comp=Z,550nm,8.6s						
NJ2	Nanjing	18.59	63	eP	Pn	03 08 21.2	+3.4
NJ2				S	S	03 11 51.0	+1.4
NACB	Ninganchiao	20.30	87	eP	P	03 08 31.2	-5.2
	comp=Z,15nm,0.7s						
SONM	Songino Array	23.55	12	P	P	03 09 10.4	-0.5
	comp=Z,2.2nm,0.8s,baz=194,slow=10,SNR=13						
MK31	Makanchi Array	25.70	332	eP	P	03 09 31.9	+1.4
MKAR	Makanchi Array	25.70	332	P	P	03 09 32.1	+1.6
	comp=Z,3.3nm,0.7s,baz=143,slow=10,SNR=36						
AAK	Ala-Archa	26.99	317	P	P	03 09 41.5	-0.9
	comp=Z,0.6nm,0.3s,baz=303,slow=9.8,SNR=2.2						
AAK	Ala-Archa	26.99	317	eP	P	03 09 43.7	+1.2
	comp=Z,2.6nm,0.8s						
EKS2	Erkin-Say	27.45	316	eP	P	03 09 48.9	+2.3
	comp=Z,3.3nm,0.9s						
KURBB	Kurchatov Arra	30.25	333	P	P	03 10 12.1	+0.9
	comp=Z,0.8nm,0.5s,baz=134,slow=9.9,SNR=6.9						
KURK	Kurchatov	30.29	334	P	P	03 10 12.1	+0.6
ZAA0	Zalesovo Array	30.94	343	eP	P	03 10 17.0	-0.2
ZALV	Zalesovo Beam	30.94	343	P	P	03 10 17.9	+0.7
	comp=Z,3.6nm,0.8s,baz=161,slow=9.4,SNR=4.1						
USRK	Ussuriysk Ar.	32.79	46	P	P	03 10 33.4	-0.2
	comp=Z,5.3nm,0.6s,baz=249,slow=7.8,SNR=12						
BVAR	Borovoye Array	35.50	330	P	P	03 10 57.8	+0.8
	comp=Z,1.1nm,0.8s,baz=90,slow=2.9,SNR=5.5						
ABKAR	Akbulak array	39.05	319	eP	P	03 11 28.4	+1.3
ARU	Arti	43.06	328	eP	P	03 12 00.5	+0.5
	comp=Z,3.0nm,0.7s						
WRA	Warramunga Arr	56.14	139	P	P	03 13 39.3	-0.9
	comp=Z,1.2nm,0.8s,baz=330,slow=7.8,SNR=4.8						
BRTR	Keskin Array B	56.26	302	P	P	03 13 41.6	+0.5
	comp=Z,0.2nm,0.4s,baz=12,slow=7.4,SNR=2.8						
AKASG	Malin Array Be	58.65	316	P	P	03 13 56.5	-1.1
	comp=Z,0.6nm,0.4s,baz=77,slow=6.3,SNR=3.6						
ASAR	Alice Springs	58.81	142	P	P	03 13 58.8	-0.3
	comp=Z,1.0nm,0.9s,baz=325,slow=7.3,SNR=5.0						
FINES	FINESS Array B	60.43	328	P	P	03 14 10.5	+0.9
	comp=Z,1.7nm,0.8s,baz=208,slow=11,SNR=2.7						
NB2	NORSAR Subarra	67.61	328	P	P	03 14 56.3	-0.7
	comp=Z,1.2nm,0.7s,baz=78,slow=6.5						
NOA	NORSAR Array B	67.61	328	P	P	03 14 56.6	-0.3
	comp=Z,1.5nm,0.7s,baz=78,slow=6.3,SNR=8.2						
NAO01	NORSAR Array S	67.81	328	eP	P	03 14 57.8	-0.3
	comp=Z,4.9nm,1.0s						
GERES	GERESS Array B	68.85	315	P	P	03 15 05.2	+0.1
	comp=Z,0.4nm,0.8s,baz=69,slow=5.4,SNR=3.0						
COLD	Coldfoot	74.80	22	eP	P	03 15 38.1	-2.3
	comp=Z,1.7nm,1.0s						
BPAW	Bear Paw Mtn.	76.00	25	eP	P	03 15 46.8	-0.6
	comp=Z,1.2nm,1.1s						
TRF	Thorofare Moun	76.59	26	eP	P	03 15 49.4	-1.5
ILAR	Eielson Array	77.21	24	P	P	03 15 52.2	-1.9
	comp=Z,0.3nm,0.8s,baz=279,slow=5.5,SNR=5.5						
SML	Sawmill	78.19	27	eP	P	03 15 57.1	-2.6
	comp=Z,5.7nm,1.5s						

MAN 06 03:08:50, 11°.34N×125°.16E, h78km, mb4.5, ML3.4, MS3.3, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	Palo	0.25	226	⇓eP	Pn	03 09 03.1	+1.3
PLP				eS	Sn	03 09 13.0	+2.5
BESP	Borongan	0.37	46	eP	Pn	03 09 04.1	+1.5
BESP				eS	Sn	03 09 15.3	+3.5
OCLP	Ormoc	0.62	242	eP	Pn	03 09 07.6	+3.0
MSLP	Maasin	1.24	194	eP	Pn	03 09 13.1	+1.1
MSLP				eS	Sn	03 09 30.7	+2.4
CNP	Catarman	1.26	337	eP	Pn	03 09 13.1	+0.9
CNP				eS	Sn	03 09 26.7	-2.1

*ISCJB **06** 03:08:49.5±0.3, 24°.71N±0°.03×99°.32E±0°.03, h10km, mb4.2/29, MS3.8/1, Error ellipse: s-maj=3.9km s-min=3.7km az=164.5*

*IDC **06** 03:08:50.7±0.8, 24°.93N×99°.43E, h0km, mb4.0/14, mb1 4.1/15, mb1mx3.9/31, mbtmp4.0/15, ML3.9/1, MS3.8/1, Ms1 3.8/1, ms1mx3.0/42, Error ellipse: s-maj=25.9km s-min=14.2km az=68.0*

*NEIC **06** 03:08:51.9±0.3, 24°.92N×99°.60E, h10km, mb4.4/11, Error ellipse: s-maj=8.2km s-min=5.2km az=71.0*

*BJI **06** 03:08:52.0, 24°.90N×99°.20E, h11km, mb4.2/8, ML4.3/8, Ms4.1/6, Ms7 3.9/4*

*MOS **06** 03:08:53.5±1.1, 24°.82N×99°.38E, h33km, mb4.5/13, Error ellipse: s-maj=16.6km s-min=7.0km az=113.5*

ISC 06 03:08:52.2±0.4**, 24°.87N**±0°.04×**99°.34E**±0°.04**, h10km, n75,** σ1s40/77**, mb4.3**/29**, 4C-3D, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	Kunming	3.09	85	Pn	Pn	03 09 43.4	+2.1
KMI				Pg	Pg	03 09 52.4	+0.9
KMI				Sn	Sn	03 10 18.7	+0.3
KMI				Sg	Sg	03 10 32.6	+1.0
KMI				SMN			
	1µm,1.1s						
KMI				SME			
	810nm,1.1s						
KMI				LE			
	2µm,4.0s						
KMI				LZ			
	880nm,4.3s						
CHTO	Chiang Mai	6.04	184	eP	Pn	03 10 22.6	+1.0
CHTO	Chiang Mai	6.04	184	ePn	Pn	03 10 22.6	+1.0
CHTO				ePg	Pg	03 10 46.6	-1.2
CHTO				eSg	Sg	03 12 05.7	-0.4
CM31	Chiang Mai Arr	6.39	183	ePg	Pg	03 10 53.6	-1.0
	102nm,0.6s						
CM31				eSg	Sg	03 12 18.7	+1.3
CMAR	Chiang Mai Arr	6.39	183	Pn	Pn	03 10 28.2	+1.8
	0.7nm,0.3s,baz=358,slow=13,SNR=4.5						
CMAR				Pg	Pg	03 10 53.5	-1.2
	5.8nm,0.3s,baz=356,slow=17,SNR=34						
CMAR				Lg	Lg	03 12 17.4	
	5.3nm,0.3s,baz=358,slow=30,SNR=18						
SHL	Shillong	6.79	277	eP	Pn	03 10 38.0	+5.9
GYA	Guiyang	6.79	75	⇑iPn	Pn	03 10 36.5	+4.5
GYA				Sn	Sn	03 11 49.8	+0.2
GYA				LE			
	860nm,11.1s						
GYA				LZ			
	540nm,8.9s						
CD2	Chengdu	7.17	32	Pn	Pn	03 10 37.5	+0.3
CD2				Sn	Sn	03 11 55.8	-3.0
CD2				Sg	Sg	03 12 38.1	-4.4
CD2				SMN			
	150nm,1.5s						
LSA	Lhasa	8.73	305	P	Pn	03 11 01.6	+2.6
LSA	Lhasa	8.73	305	eP	Pn	03 11 00.7	+1.7
LSA				pmax	pmax		
	comp=Z,11nm,0.5s						
LSA	Lhasa	8.73	305	ePn	Pn	03 11 00.7	+1.7
	comp=Z,11nm,0.5s						
ENH	Enshi	10.48	57	ePn	Pn	03 11 17.9	-4.7
TAPN	Taplejung	10.74	286	eP	Pn	03 11 27.1	+0.7
	comp=Z,21nm,0.7s						
ODAN	Odare	10.95	283	eP	Pn	03 11 28.7	-0.4
	comp=Z,66nm,0.8s						
RAMN	Ramite	11.66	283	eP	Pn	03 11 37.6	-1.3
	comp=Z,19nm,0.6s						
JIRN	Jiri	12.13	286	eP	Pn	03 11 45.1	-0.3
	comp=Z,11nm,0.4s						
GUN	Gumba	12.44	287	eP	Pn	03 11 49.5	-0.2
PKI	Pulchoki	12.79	285	eP	Pn	03 11 53.2	-1.3
	comp=Z,6.8nm,0.4s						
KKN	Kakani	12.94	286	eP	Pn	03 11 55.6	-0.8
	comp=Z,44nm,0.9s						
GKN	Gorkha	13.54	287	eP	Pn	03 12 02.7	-1.8
	comp=Z,21nm,0.8s						
KOLN	Koldanda	14.41	285	eP	Pn	03 12 13.0	-3.5
GTA	Gaotai	14.51	1	eP	Pn	03 12 20.1	+2.5
GTA				pP	P	03 12 23.5	-0.9
GTA				sP		03 12 27.2	
GTA				S	Sn	03 15 04.2	+5.6
GTA				sS	S	03 15 10.2	-8.1
GTA				SS	SnSn	03 15 22.3	+11
GTA				PMZ			
	comp=Z,3.0nm,1.4s						
GTA				LN			
	comp=Z,360nm,8.5s						
GTA				LZ			
	comp=Z,290nm,8.5s						
NACB	Ninganchiao	20.26	87	eP	P	03 13 24.8	-3.1
	comp=Z,33nm,1.1s						
SMLA	Simla	20.53	293	eP	P	03 13 29.0	-1.8
SMLA				AMB	AMB	03 13 34.0	
	comp=Z,14nm,1.0s						
SONM	Songino Array	23.59	12	P	P	03 14 03.0	-0.2
	comp=Z,3.7nm,0.8s,baz=192,slow=9.2,SNR=19						
KKM	Kota Kinabalu	24.74	136	eP	P	03 14 09.1	-5.0
	comp=Z,11nm,0.9s						
ZAK	Zakamensk	25.65	6	eP	P	03 14 22.9	+0.8
ZAK				pmax	pmax		
	comp=Z,14nm,1.0s						
MK31	Makanchi Array	25.77	332	eP	P	03 14 23.8	+0.7
MK31	Makanchi Array	25.77	332	eP	P	03 14 23.8	+0.7
MKAR	Makanchi Array	25.77	332	P	P	03 14 24.0	+0.9
	comp=Z,5.1nm,0.8s,baz=143,slow=10,SNR=40						
MKAR	Makanchi Array	25.77	332	P	P	03 14 24.0	+0.9
TKM2	Tokmak 2	26.55	319	eP	P	03 14 31.3	+0.8
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TKM2	Tokmak 2	26.55	319	eP	P	03 14 31.3	+0.8
	comp=Z,2.2nm,0.7s						
HVS	Khovu-Aksy	26.58	352	P	P	03 14 34.3	+3.8
HVS				pmax	pmax		
	comp=Z,30nm,0.9s						
TLY	Talaya	26.97	6	⇓eP	P	03 14 36.9	+3.0
TLY				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AAK	Ala-Archa	27.06	317	P	P	03 14 36.5	+1.5
	comp=Z,0.5nm,0.3s,baz=132,slow=12,SNR=2.2						
AAK	Ala-Archa	27.06	317	eP	P	03 14 36.6	+1.6
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AAK	Ala-Archa	27.06	317	eP	P	03 14 36.6	+1.6
	comp=Z,4.8nm,1.0s						
EKS2	Erkin-Say	27.52	316	eP	P	03 14 40.1	+1.0
EKS2				pmax	pmax		
	comp=Z,2.0nm,0.9s						
EKS2	Erkin-Say	27.52	316	eP	P	03 14 40.1	+1.0
	comp=Z,2.1nm,0.9s						
KBL	Kabul	27.94	297	eP	P	03 14 44.5	+1.5
KBL				pmax	pmax		
	comp=Z,24nm,1.2s						
KBL	Kabul	27.94	297	eP	P	03 14 44.5	+1.5
	comp=Z,24nm,1.2s						
KURBB	Kurchatov Arra	30.32	333	P	P	03 15 04.5	+0.8
	comp=Z,1.3nm,0.6s,baz=135,slow=9.6,SNR=14						
KURK	Kurchatov	30.35	334	eP	P	03 15 04.4	+0.4
KURK	Kurchatov	30.35	334	eP	P	03 15 04.4	+0.4
ZAA0	Zalesovo Array	31.01	343	eP	P	03 15 09.9	+0.2
ZALV	Zalesovo Beam	31.01	343	P	P	03 15 09.5	-0.2
	comp=Z,2.1nm,0.3s,baz=208,slow=11,SNR=6.2						
USRK	Ussuriysk Ar.	32.79	46	P	P	03 15 25.5	0.0
	comp=Z,8.0nm,0.7s,baz=250,slow=9.2,SNR=15						
BVAR	Borovoye Array	35.57	330	P	P	03 15 49.6	+0.1
	comp=Z,1.4nm,0.7s,baz=132,slow=8.8,SNR=8.4						
BRVK	Borovoye	35.64	330	⇓eP	P	03 15 50.6	+0.5
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	Borovoye	35.64	330	eP	P	03 15 50.4	+0.2
	comp=Z,4.1nm,0.8s						
ABKAR	Akbulak array	39.12	319	eP	P	03 16 20.0	+0.3
AKTO	Aktyubinsk	40.73	320	P	P	03 16 33.3	+0.2
	comp=Z,0.6nm,0.8s,baz=202,slow=5.4,SNR=3.0						
YAK	Yakutsk	42.40	21	⇓eP	P	03 16 47.2	+0.6
YAK				pmax	pmax		
	comp=Z,16nm,0.8s						
ARU	Arti	43.13	328	eP	P	03 16 52.8	+0.3
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARU	Arti	43.13	328	eP	P	03 16 52.8	+0.3
	comp=Z,7.2nm,1.0s						
GNI	Garni	47.78	302	eP	P	03 17 31.8	+1.8
GNI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GNI	Garni	47.78	302	eP	P	03 17 31.8	+1.8
	comp=Z,9.9nm,0.9s						
NEY	Neytrino	49.41	307	⇑iP	P	03 17 44.3	+1.9
NEY				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KIV	Kislovodsk	49.47	307	i P	P	03 17 43.6	+0.8
KIV				pmax	pmax		
	comp=Z,11nm,1.7s						
WRA	Warramunga Arr	56.07	139	P	P	03 18 31.9	+0.3
	comp=Z,1.4nm,1.0s,baz=328,slow=7.6,SNR=4.1						
WRA				LR	LR	03 44 50.5	
	comp=Z,75nm,18.9s,baz=305,slow=38						
AKASG	Malin Array Be	58.72	316	P	P	03 18 48.6	-1.4
	comp=Z,0.7nm,0.4s,baz=83,slow=5.2,SNR=5.2						
AKASG	Malin Array Be	58.72	316	ceP	P	03 18 49.2	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KIEV	Kiev	58.73	316	P	P	03 18 48.3	-1.8
ASAR	Alice Springs	58.74	143	P	P	03 18 50.2	-0.3
	comp=Z,0.8nm,1.1s,baz=328,slow=6.5,SNR=3.7						
FINES	FINESS Array B	60.50	328	P	P	03 19 01.8	-0.3
	comp=Z,1.4nm,0.8s,baz=107,slow=10,SNR=4.5						
FINES	FINESS Array B	60.50	328	i P	P	03 19 02.5	+0.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CTAO	Charters Tower	63.87	130	eP	P	03 19 24.1	-1.2
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CTAO	Charters Tower	63.87	130	eP	P	03 19 24.1	-1.2
	comp=Z,3.7nm,0.8s						
KMBO	Kilima Mbogo	65.36	256	ceP	P	03 19 26.5	-9.0
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	NORSAR Subarra	67.68	328	P	P	03 19 48.4	-1.0
	comp=Z,1.4nm,0.7s,baz=80,slow=6.5						
NOA	NORSAR Array B	67.68	328	P	P	03 19 48.7	-0.7
	comp=Z,1.9nm,0.7s,baz=79,slow=6.3,SNR=10						
BPAW	Bear Paw Mtn.	76.03	25	eP	P	03 20 38.9	-0.5
	comp=Z,1.7nm,1.1s						
ILAR	Eielson Array	77.23	24	P	P	03 20 44.7	-1.5
	comp=Z,0.8nm,1.1s,baz=283,slow=4.8,SNR=6.3						
FFC	Flin Flon	98.64	12	i P	P	03 22 29.4	-2.0

BJI 06 03:09:57.0, 24°.88N×99°.22E, h9km, ML3.9/6**, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	7.22	33	Pn	Pn	03 11 43.2	+0.3
CD2				Sn	Sn	03 13 01.6	-3.5
CD2				Sg	Sg	03 13 43.9	-5.2
CD2				SMN			
	120nm,1.4s						

*ISCJB **06** 03:12:26.5±0.5, 24°.96N±0°.06×99°.34E±0°.04, h10km, mb3.9/15, Error ellipse: s-maj=9.3km s-min=5.0km az=9.2*

*IDC **06** 03:12:26.6±0.8, 24°.98N×99°.34E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.8/30, mbtmp3.9/12, ML4.2/1, Error ellipse: s-maj=29.5km s-min=15.1km az=72.0*
*NEIC **06** 03:12:27.6±0.5, 24°.86N×99°.31E, h10km, mb4.1/4, Error ellipse: s-maj=19.8km s-min=7.3km az=80.0*
*BJI **06** 03:12:28.8, 24°.90N×99°.22E, h9km, mb3.9/3, ML4.3/9, Ms4.1/3, Ms7 3.9/3*
ISC 06 03:12:28.4±0.7, 25°.10N±0°.06×99°.25E±0°.05, h10km, n28, σ1s.79/33, mb4.0/15, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.16**	**89**	Pn	**Pn**	**03 13 17.7**	**-0.8**
KMI				Pg	**Pg**	**03 13 28.3**	**-0.7**
KMI				Sn	**Sn**	**03 13 54.3**	**-2.1**
KMI				Sg	**Sb**	**03 14 08.6**	**+5.0**
KMI				SMN			
	2μm,0.9s						
KMI				SME			
	1μm,0.8s						
KMI				LE			
	2μm,3.8s						
KMI				LZ			
	910nm,5.0s						
CHTO	**Chiang Mai**	**6.26**	**183**	*e*Pg	Pb	03 14 21.5	+4.0
CM31	**Chiang Mai Arr**	**6.61**	**183**	*e*Pg	Pg	03 14 28.4	-6.6
CMAR	**Chiang Mai Arr**	**6.61**	**183**	Pn	**Pn**	**03 14 04.9**	**-0.8**
	1.5nm,0.3s,baz=359,slow=13,SNR=3.4						
CMAR				Pg	Pg	03 14 28.4	-6.6
	20nm,0.3s,baz=355,slow=18,SNR=24						
CMAR				Lg	Lg	03 15 53.1	
	26nm,0.3s,baz=356,slow=30,SNR=14						
GYA	**Guiyang**	**6.82**	**77**	⇑*i*Pn	**Pn**	**03 14 11.4**	**+2.8**
GYA				Sn	**Sn**	**03 15 25.6**	**-0.8**
GYA				LE			
	860nm,9.6s						
GYA				LZ			
	720nm,8.1s						
CD2	**Chengdu**	**7.03**	**33**	Pn	**Pn**	**03 14 12.9**	**+1.5**
CD2				Pg	Pg	03 14 40.6	-2.4
CD2				Sn	**Sn**	**03 15 31.0**	**-0.5**
CD2				Sg	**Sg**	**03 16 13.1**	**-1.0**
CD2				SMN			
	130nm,1.5s						
GTA	**Gaotai**	**14.28**	**2**	*e*P	**P**	**03 15 56.2**	**-1.9**
GTA				pP	Pn	03 15 59.6	+8.8
GTA				sP		03 16 03.2	
GTA				S	Sn	03 18 40.0	+11
GTA				sS	**S**	**03 18 46.8**	**-3.2**
GTA				SS	SnSn	03 18 58.0	+16
GTA				PMZ			
	3.0nm,1.2s						
GTA				LN			
	300nm,8.7s						
GTA				LE			
	1μm,14.0s						
GTA				LZ			
	280nm,11.9s						
SONM	**Songino Array**	**23.39**	**12**	P	**P**	**03 17 39.2**	**+1.8**
	1.9nm,0.8s,baz=199,slow=12,SNR=8.1						
KKM	**Kota Kinabalu**	**24.96**	**137**	*e*P	**P**	**03 17 49.9**	**-2.4**
	9.9nm,0.8s						
MK31	**Makanchi Array**	**25.53**	**332**	*e*P	**P**	**03 17 59.4**	**+2.3**
MKAR	**Makanchi Array**	**25.53**	**332**	P	**P**	**03 17 59.2**	**+2.1**
	3.1nm,0.9s,baz=142,slow=10,SNR=8.4						
EKS2	**Erkin-Say**	**27.30**	**316**	*e*P	**P**	**03 18 15.0**	**+1.6**
	1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**30.08**	**333**	P	**P**	**03 18 39.5**	**+1.8**
	0.3nm,0.3s,baz=142,slow=9.1,SNR=3.6						
KURK	**Kurchatov**	**30.11**	**333**	P	**P**	**03 18 39.5**	**+1.4**
ZALV	**Zalesovo Beam**	**30.77**	**343**	P	**P**	**03 18 44.9**	**+1.1**
	1.3nm,0.3s,baz=133,slow=13,SNR=4.0						
USRK	**Ussuriysk Ar.**	**32.69**	**46**	P	**P**	**03 19 01.1**	**+0.2**
	5.5nm,0.8s,baz=246,slow=7.8,SNR=9.8						
BVAR	**Borovoye Array**	**35.33**	**330**	P	**P**	**03 19 24.9**	**+1.2**
	0.6nm,0.7s,baz=138,slow=12,SNR=3.3						
ABKAR	**Akbulak array**	**38.90**	**319**	*e*P	**P**	**03 19 55.9**	**+1.9**
ARU	**Arti**	**42.89**	**328**	*e*P	**P**	**03 20 28.0**	**+1.2**
	3.3nm,0.8s						
WRA	**Warramunga Arr**	**56.29**	**139**	P	**P**	**03 22 08.1**	**-1.4**
	2.3nm,0.8s,baz=327,slow=7.6,SNR=5.9						
AKASG	**Malin Array Be**	**58.50**	**315**	P	**P**	**03 22 24.4**	**-0.3**
	0.3nm,0.3s,baz=77,slow=6.7,SNR=3.3						
ASAR	**Alice Springs**	**58.97**	**143**	P	**P**	**03 22 27.6**	**-0.7**
	0.8nm,0.8s,baz=333,slow=6.9,SNR=4.6						
NB2	**NORSAR Subarra**	**67.44**	**328**	P	**P**	**03 23 23.8**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=79,slow=6.5						
NOA	**NORSAR Array B**	**67.44**	**328**	P	**P**	**03 23 23.7**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=79,slow=6.3,SNR=4.1						
BPAW	**Bear Paw Mtn.**	**75.86**	**25**	*e*P	**P**	**03 24 14.5**	**-0.2**
	comp=Z,2.1nm,1.5s						
KTH	**Kantishna Hill**	**76.15**	**26**	*e*P	**P**	**03 24 16.6**	**+0.2**
ILAR	**Eielson Array**	**77.06**	**24**	P	**P**	**03 24 19.9**	**-1.5**
	comp=Z,0.7nm,1.1s,baz=290,slow=5.3,SNR=5.4						
SDV	**Santo Domingo**	**144.81**	**342**	*e*PKPdf	**PKPab**	**03 32 04.7**	**-0.9**

*ISCJB **06** 03:14:32.8±0.6, 16°.54S±0°.08×73°.56W±0°.08, h39km, mb4.2/15, MS4.5/1, Error ellipse: s-maj=14.9km s-min=5.7km az=135.1*
*NEIC **06** 03:14:37.6±1.0, 16°.35S×73°.45W, h60km±8km, mb4.3/9, Error ellipse: s-maj=14.9km s-min=7.1km az=221.0*
NEIC Felt [II] at Aplao and Ocona.
*IDC **06** 03:14:38.2±1.0, 16°.40S×73°.48W, h63km±5km, mb3.8/6, mb1 4.0/10, mb1mx3.7/21, mbtmp4.1/10, MS4.1/2, Ms1 4.1/2, ms1mx3.0/22, Error ellipse: s-maj=28.1km s-min=10.9km az=28.0*
ISC 06 03:14:35.7±0.6, 16°.52S±0°.07×73°.58W±0°.07, h39km, n35, σ2s.05/44, mb4.2/15, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.01**	**89**	⇑*i*P	**Pn**	**03 15 06.6**	**-0.8**
ARE				*i* S	Sn	03 15 22.2	-9.2
LPAZ	**La Paz**	**5.24**	**88**	P	**Pn**	**03 15 54.0**	**+2.0**
	3.1nm,0.3s,baz=278,slow=9.6,SNR=155						
LPAZ				S	**Sn**	**03 16 54.2**	**+2.7**
	baz=111,slow=19,SNR=1.2						
LPAZ	**La Paz**	**5.24**	**88**	*e*Pn	**Pn**	**03 15 54.8**	**+2.7**
	28nm,0.7s						
LPAZ				S	**Sn**	**03 16 54.2**	**+2.7**
NNA	**Nana**	**5.50**	**325**	P	**Pn**	**03 15 57.2**	**+2.0**
	4.7nm,0.3s,baz=159,slow=9.8,SNR=24						
NNA				S	**Sn**	**03 16 59.5**	**+2.3**
	10nm,0.3s,baz=283,slow=15,SNR=3.8						
NNA	**Nana**	**5.50**	**325**	*e*Pn	**Pn**	**03 15 57.0**	**+1.8**
	32nm,0.3s						
NNA				*e*Sn	**Sn**	**03 16 58.3**	**+1.1**
LVC	**Limon Verde**	**7.50**	**145**	P	**Pn**	**03 16 25.5**	**+2.8**
	236nm,0.3s,baz=337,slow=8.8,SNR=38						
LVC				S	**Sn**	**03 17 46.3**	**-0.4**
	436nm,0.3s,baz=260,slow=18,SNR=19						
LVC				LR	LR	03 18 52.5	
	comp=Z,698nm,21.2s,baz=258,slow=34						
LVC	**Limon Verde**	**7.50**	**145**	*e*Pn	**Pn**	**03 16 25.1**	**+2.4**
	15nm,0.4s						
LVC				*e*Sn	**Sn**	**03 17 45.7**	**-1.0**
ATAH	**Atahualpa**	**10.44**	**333**	P	**Pn**	**03 17 04.2**	**+0.9**
	0.2nm,0.3s,baz=61,slow=19,SNR=1.9						
SIV	**San Ignacio**	**12.03**	**89**	P	**Pn**	**03 17 23.7**	**-1.0**
	0.7nm,0.3s,baz=286,slow=9.0,SNR=8.4						
SAML	**Samuel**	**12.62**	**55**	*e*Pn	**Pn**	**03 17 32.4**	**-0.4**
OTAV	**Otavalo**	**17.32**	**343**	*e*Pn	**Pn**	**03 18 35.1**	**-0.1**
ROSC	**El Rosal**	**21.25**	**358**	P	**P**	**03 19 18.3**	**-0.8**
	7.4nm,0.4s,baz=112,slow=9.7,SNR=3.8						
BDFB	**Brasilia**	**24.58**	**92**	P	**P**	**03 19 50.9**	**-1.5**
	2.3nm,0.6s,baz=225,slow=13,SNR=3.3						
SDV	**Santo Domingo**	**25.41**	**7**	*e*P	**P**	**03 19 57.3**	**-2.6**
	5.0nm,0.9s						
GRGR	**Grenville**	**30.81**	**23**	*e*P	**P**	**03 20 47.7**	**-0.4**
SDDR	**Presa de Saban**	**35.35**	**4**	*e*P	**P**	**03 21 25.9**	**-1.7**
LRAL	**Lakeview Retre**	**50.91**	**345**	*e*P	**P**	**03 23 31.1**	**-2.0**
	8.4nm,1.3s						
HKT	**Hockley**	**50.93**	**335**	*e*P	**P**	**03 23 32.3**	**-0.9**
	6.0nm,1.3s						
TXAR	**Lajitas Array**	**54.05**	**327**	P	**P**	**03 23 56.3**	**-0.2**
	0.2nm,0.6s,baz=145,slow=7.0,SNR=5.6						
TXAR				pP	**pP**	**03 24 13.0**	**+5.0**
	0.1nm,0.5s,baz=160,slow=7.8,SNR=1.9						
TXAR				sP	sP	03 24 19.6	+7.1
	0.4nm,0.8s,baz=134,slow=7.2,SNR=3.6						
WCI	**Wyandotte Cave**	**55.75**	**348**	*e*P	**P**	**03 24 06.0**	**-2.6**
	4.0nm,0.6s						
TUL1	**Leonard**	**56.22**	**338**	*e*P	**P**	**03 24 10.4**	**-1.6**
	9.1nm,0.9s						
ANMO	**Albuquerque**	**59.95**	**329**	*e*P	**P**	**03 24 36.0**	**-2.4**
	1.5nm,0.9s						
MVCO	**Mesa Verde**	**62.75**	**329**	*e*P	**P**	**03 24 55.9**	**-1.4**
DUG	**Dugway, Tooele**	**67.20**	**328**	*e*P	**P**	**03 25 26.8**	**+0.7**
	1.3nm,0.8s						
HWUT	**Hardware Ranch**	**67.66**	**330**	*e*P	**P**	**03 25 29.0**	**0.0**
	1.7nm,0.8s						
TOA0	**Torodi Ar. Sit**	**80.00**	**73**	*e*P	**P**	**03 26 38.9**	**-2.7**
TORD	**Torodi Ar. Bea**	**80.00**	**73**	P	**P**	**03 26 39.5**	**-2.2**
	2.4nm,0.7s,baz=268,slow=5.4,SNR=38						
TORD				pP	**pP**	**03 26 57.5**	**+3.9**
	1.2nm,0.7s,baz=267,slow=5.2,SNR=5.4						
TORD				sP	sP	03 27 05.8	+7.8
	1.1nm,0.8s,baz=247,slow=4.6,SNR=4.1						
TORD				LR	LR	04 03 21.9	
	comp=Z,234nm,18.8s,baz=180,slow=37						
YKA	**Yellowknife Ar**	**85.08**	**342**	P	**P**	**03 27 06.2**	**-0.8**
	1.1nm,0.6s,baz=136,slow=4.8,SNR=5.7						
ESDC	**Sonseca Array**	**85.52**	**47**	P	**P**	**03 27 08.8**	**-1.0**
	1.0nm,0.7s,baz=260,slow=4.9,SNR=8.8						
TSUM	**Tsumeb**	**85.76**	**109**	*e*P	**P**	**03 27 11.2**	**-0.5**
	3.2nm,0.9s						
WRA	**Warramunga Arr**	**134.56**	**218**	PKP	**PKPdf**	**03 33 51.3**	**+0.5**
	0.4nm,0.3s,baz=157,slow=0.6,SNR=3.1						
MKAR	**Makanchi Array**	**143.78**	**28**	PKP	**PKPdf**	**03 34 05.7**	**-1.1**
	0.2nm,0.7s,baz=280,slow=2.5,SNR=3.1						
SONM	**Songino Array**	**148.77**	**0**	PKPbc	**PKPbc**	**03 34 18.6**	**-0.6**
	1.4nm,0.6s,baz=348,slow=1.5,SNR=7.8						
SONM				pPKPbc	**pPKPbc**	**03 34 36.6**	**+5.0**
	0.3nm,0.4s,baz=48,slow=43,SNR=2.1						
KSRS	**Korea Array**	**151.80**	**322**	PKPbc	**PKPbc**	**03 34 26.9**	**+0.3**
	1.4nm,0.8s,baz=1.0,slow=1.5,SNR=7.5						
KSAR	**Wonju Array Be**	**151.83**	**322**	PKPbc	**PKPbc**	**03 34 26.9**	**+0.2**

*ISCJB **06** 03:46:17.2±1.1, 19°.3N±0°.2×121°.4E±0°.3, h52km, mb3.5/6, Error ellipse: s-maj=36.5km s-min=20.1km az=164.9*
*IDC **06** 03:46:27.9±8.6, 19°.34N×121°.50E, h138km±84km, mb3.2/6, mb1 3.3/7, mb1mx3.1/27, mbtmp3.6/7, Error ellipse: s-maj=44.1km s-min=22.0km az=67.0*
ISC 06 03:46:19.1±1.2, 19°.3N±0°.2×121°.5E±0°.3, h52km, n7, σ1s.40/7, mb3.6/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**18.96**	**16**	P	**P**	**03 50 37.6**	**+1.7**
	0.2nm,0.3s,baz=196,slow=11,SNR=7.6						
SONM	**Songino Array**	**31.02**	**340**	P	**P**	**03 52 32.1**	**+0.2**
	0.3nm,0.7s,baz=148,slow=8.5,SNR=2.5						
MKAR	**Makanchi Array**	**42.15**	**320**	P	**P**	**03 54 06.4**	**-0.1**
	0.6nm,0.6s,baz=118,slow=9.4,SNR=8.0						
ASAR	**Alice Springs**	**44.37**	**164**	P	**P**	**03 54 24.9**	**+0.4**
	0.2nm,0.6s,baz=349,slow=6.9,SNR=4.9						
ZALV	**Zalesovo Beam**	**44.56**	**330**	P	**P**	**03 54 24.1**	**-1.6**
	0.8nm,0.3s,baz=141,slow=8.1,SNR=2.2						
BVAR	**Borovoye Array**	**51.70**	**323**	P	**P**	**03 55 20.9**	**+0.1**
	0.3nm,0.4s,baz=92,slow=8.7,SNR=2.7						
YKA	**Yellowknife Ar**	**87.36**	**23**	P	**P**	**03 58 58.8**	**-1.5**
	0.7nm,0.6s,baz=313,slow=3.9,SNR=3.6						

*ISCJB **06** 04:27:22.6±1.0, 18°.51S±0°.06×69°.0W±0°.2, h128km, mb3.6/4, Error ellipse: s-maj=24.9km s-min=7.6km az=10.5*
*IDC **06** 04:27:24.0±1.7, 18°.43S×68°.95W, h139km±12km, mb3.3/4, mb1 3.5/7, mb1mx3.4/19, mbtmp3.8/7, MS3.4/1, Ms1 3.3/1, ms1mx2.7/9, Error ellipse: s-maj=29.0km s-min=17.3km az=93.0*
ISC 06 04:27:23.0±0.9, 18°.49S±0°.06×68°.9W±0°.1, h128km, n9, σ1s.76/11, mb3.6/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.30**	**18**	P	**Pn**	**04 28 03.0**	**+1.8**
	4.0nm,0.3s,baz=220,slow=3.3,SNR=214						
LPAZ				S	**Sn**	**04 28 32.3**	**+1.9**
	1.6nm,0.3s,baz=172,slow=17,SNR=4.0						
LVC	**Limon Verde**	**4.10**	**181**	P	**Pn**	**04 28 26.2**	**+1.8**
	137nm,0.3s,baz=16,slow=8.8,SNR=45						
LVC				S	**Sn**	**04 29 11.9**	**0.0**
	202nm,0.3s,baz=226,slow=23,SNR=14						
SIV	**San Ignacio**	**7.84**	**73**	P	**Pn**	**04 29 16.1**	**+1.7**
	1.6nm,0.3s,baz=271,slow=12,SNR=19						
SIV				S	**Sn**	**04 30 39.4**	**-2.4**
	0.1nm,0.3s,baz=264,slow=18,SNR=1.6						
BDFB	**Brasilia**	**20.12**	**85**	P	Pn	04 31 52.5	+2.1
	2.7nm,0.5s,baz=248,slow=9.5,SNR=8.9						
BDFB				LR	LR	04 40 11.3	
	comp=Z,100nm,19.1s,baz=335,slow=38						
TXAR	**Lajitas Array**	**58.22**	**324**	P	**P**	**04 37 01.9**	**-2.2**
	0.1nm,0.5s,baz=156,slow=9.6,SNR=2.7						
DBIC	**Dimbokro**	**67.86**	**75**	P	**P**	**04 38 07.2**	**-0.9**
	2.4nm,0.9s,baz=291,slow=14,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.32**	**71**	P	**P**	**04 38 58.7**	**+0.3**
	0.2nm,0.4s,baz=247,slow=5.0,SNR=5.1						
YKA	**Yellowknife Ar**	**88.38**	**341**	P	**P**	**04 39 59.4**	**-0.6**
	1.1nm,0.7s,baz=136,slow=4.5,SNR=5.5						
SONM	**Songino Array**	**150.47**	**6**	PKPbc	**PKPbc**	**04 47 00.2**	**+0.4**
	0.8nm,0.5s,baz=0.0,slow=1.5,SNR=4.3						

MEX 06 04:54:15.9±0.8, 18°.44N×101°.07W, h50km±15km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.70**	**103**	*e*P	Pn	04 54 27.4	-2.3
ARIG				*i* S	Sn	04 54 38.1	-1.6
ZIIG	**Zihuatanejo**	**0.91**	**205**	*e*P	Pn	04 54 30.4	-2.0
ZIIG				*e*S	Sn	04 54 42.9	-1.6
MOIG	**Morelia**	**1.24**	**355**	*i* P	Pn	04 54 35.9	-1.3
MOIG				*e*S	Sn	04 54 50.7	-2.3
MEIG	**Mezcala**	**1.47**	**110**	*e*P	Pn	04 54 38.5	-1.6
MEIG				*e*S	Sn	04 54 56.9	-1.4
PLIG	**Platanillo**	**1.49**	**92**	*e*P	Pn	04 54 39.2	-1.2
PLIG				*e*S	Sn	04 54 56.5	-2.2
CAIG	**El Cayaco**	**1.58**	**151**	*e*P	Pn	04 54 40.1	-1.4
CAIG				*i* S	Sn	04 54 58.7	-2.1
TLIG	**Tlapa**	**2.53**	**110**	*e*P	Pn	04 54 53.8	-1.0
TLIG				*e*S	Sn	04 55 22.6	-1.9

*IDC **06** 04:57:51.5±0.8, 13°.98S×166°.76E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.2/20, mbtmp4.2/13, ML3.9/1, MS3.6/6, Ms1 3.6/6, ms1mx3.2/22, Error ellipse: s-maj=27.3km s-min=17.2km az=103.0*
*ISCJB **06** 04:57:56.5±0.7, 14°.13S±0°.06×166°.6E±0°.1, h43km, mb4.1/13, MS3.6/5, Error ellipse: s-maj=19.2km s-min=8.3km az=177.6*
*NEIC **06** 04:57:57.3±2.6, 14°.06S×166°.73E, h38km±22km, mb4.3/4, Error ellipse: s-maj=17.3km s-min=16.2km az=157.0*
ISC 06 04:57:58.1±0.7, 14°.08S±0°.07×166°.7E±0°.2, h43km, n40, σ1s.28/44, mb4.1/13, MS3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.96**	**182**	*e*Pn	**Pn**	**04 59 51.2**	**-0.2**
	36nm,0.3s						
DZM				*e*Sn	**Sn**	**05 01 19.6**	**-0.6**
	103nm,0.7s						
DZM				*e*LR	LR	05 01 49.0	
	363nm,25.9s						
DZM	**Mont Dzumac**	**7.96**	**182**	Pn	**Pn**	**04 59 50.2**	**-1.1**
	1.5nm,0.3s,baz=90,slow=24,SNR=15						
DZM				Sn	**Sn**	**05 01 21.1**	**+1.0**
	0.5nm,0.3s,baz=90,slow=24,SNR=14						
DZM				LR	LR	05 02 05.5	
	comp=Z,125nm,18.4s,baz=0.0,slow=32						
DZM	**Mont Dzumac**	**7.96**	**182**	*e*P	**Pn**	**04 59 50.6**	**-0.7**
DZM				*e*S	**Sn**	**05 01 18.9**	**-1.2**
CTA	**Charters Tower**	**20.46**	**250**	P	**P**	**05 02 31.9**	**-0.5**
	7.9nm,1.0s,baz=60,slow=17,SNR=5.6						
CTAO	**Charters Tower**	**20.46**	**250**	*e*P	**P**	**05 02 33.1**	**+0.8**
	10nm,1.0s						
URZ	**Urewera**	**25.79**	**161**	LR	LR	05 12 29.4	
	comp=Z,127nm,20.1s,baz=10.0,slow=34						
STKA	**Stephens Creek**	**29.03**	**228**	P	**P**	**05 03 54.3**	**+0.1**
	10nm,0.7s,baz=42,slow=8.5,SNR=30						
STKA				LR	LR	05 15 10.4	
	comp=Z,242nm,19.3s,baz=31,slow=36						
STKA	**Stephens Creek**	**29.03**	**228**	*e*P	**P**	**05 03 54.7**	**+0.4**
	1.3nm,0.6s						
WRAB	**Tennant Creek**	**31.48**	**255**	*e*P	**P**	**05 04 15.5**	**-0.5**
	7.3nm,1.0s						
WRA	**Warramunga Arr**	**31.49**	**255**	P	**P**	**05 04 14.6**	**-1.6**
	3.3nm,1.0s,baz=86,slow=8.5,SNR=9.9						
WRA				PcP	**PcP**	**05 07 09.3**	**+0.7**
	0.4nm,0.7s,baz=89,slow=3.6,SNR=3.2						
WRA				ScP	**ScP**	**05 10 50.4**	**+1.9**
	0.2nm,0.3s,baz=82,slow=2.8,SNR=2.9						
AS31	**Alice Springs**	**32.43**	**248**	*e*P	**P**	**05 04 23.1**	**-1.3**
ASAR	**Alice Springs**	**32.43**	**248**	P	**P**	**05 04 23.4**	**-1.1**
	2.8nm,0.6s,baz=73,slow=9.5,SNR=74						
ASAR				PcP	**PcP**	**05 07 12.6**	**+1.4**
	0.3nm,0.7s,baz=62,slow=3.9,SNR=2.5						
ASAR				ScP	**ScP**	**05 10 54.2**	**+2.5**
	0.4nm,0.8s,baz=88,slow=3.5,SNR=3.3						
ASAR				LR	LR	05 16 44.9	
	comp=Z,132nm,19.6s,baz=94,slow=35						
GUMO	**Guam**	**34.99**	**321**	LR	LR	05 18 07.1	
	comp=Z,69nm,20.4s,baz=90,slow=35						
PPT2	**Papeete2**	**42.11**	**101**	*e*LR	LR	05 17 54.0	
	112nm,25.0s						
MJAR	**Matsushiro Arr**	**57.09**	**333**	P	**P**	**05 07 39.3**	**-0.9**
	1.4nm,0.8s,baz=168,slow=9.5,SNR=5.8						
KSRS	**Korea Array**	**62.91**	**326**	P	**P**	**05 08 20.3**	**+0.2**
	0.4nm,0.4s,baz=142,slow=4.6,SNR=3.2						
KSAR	**Wonju Array Be**	**62.92**	**326**	P	**P**	**05 08 20.3**	**+0.1**
VNDA	**Vanda**	**63.50**	**181**	P	**P**	**05 08 24.5**	**+1.0**
	1.7nm,0.7s,baz=318,slow=5.9,SNR=9.7						
VNDA	**Vanda**	**63.50**	**181**	*e*P	**P**	**05 08 25.2**	**+1.8**
	3.1nm,0.9s						
PETK	**Petropavlovsk-**	**67.36**	**354**	P	**P**	**05 08 51.3**	**+2.6**
	4.9nm,1.0s,baz=132,slow=6.0,SNR=3.4						
CMAR	**Chiang Mai Arr**	**74.21**	**294**	P	**P**	**05 09 32.2**	**+1.1**
	0.8nm,0.3s,baz=126,slow=6.2,SNR=7.4						
SONM	**Songino Array**	**81.67**	**324**	P	**P**	**05 10 11.0**	**-1.0**
	0.4nm,0.3s,baz=122,slow=5.2,SNR=3.3						
MAW	**Mawson**	**82.29**	**202**	P	**P**	**05 10 15.8**	**+1.0**
	1.0nm,0.5s,baz=85,slow=7.5,SNR=2.6						
ILAR	**Eielson Array**	**86.07**	**18**	P	**P**	**05 10 32.7**	**-1.2**
	0.3nm,0.5s,baz=242,slow=4.8,SNR=9.1						
ILAR				LR	LR	05 43 19.2	
	comp=Z,42nm,19.2s,baz=232,slow=32						
MKAR	**Makanchi Array**	**96.38**	**317**	P	**P**	**05 11 22.5**	**0.0**
	0.8nm,0.8s,baz=104,slow=5.1,SNR=5.6						
ARCES	**ARCESS Array B**	**119.49**	**345**	PKP	**PKPdf**	**05 16 41.6**	**-0.9**
	2.9nm,0.7s,baz=72,slow=4.0,SNR=9.3						
FINES	**FINESS Array B**	**124.93**	**338**	PKP	**PKPdf**	**05 16 52.0**	**-1.1**
	0.9nm,0.7s,baz=101,slow=1.9,SNR=8.2						
NB2	**NORSAR Subarra**	**129.86**	**345**	PKPdf	**PKPdf**	**05 17 02.3**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.86**	**345**	PKP	**PKPdf**	**05 17 02.5**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=32,slow=2.0,SNR=3.6						
BRTR	**Keskin Array B**	**131.69**	**311**	PKP	**PKPdf**	**05 17 06.0**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=26,slow=30,SNR=2.6						
KRLC	**Kraliky**	**136.55**	**332**	*e*P	**PKSab**	**05 20 55.2**	**0.0**
DPC	**Dobruska-Polom**	**136.56**	**333**	*e*P	**PKSab**	**05 20 55.2**	**0.0**
UPC	**Upice**	**136.59**	**333**	*e*P	**PKSab**	**05 20 57.0**	**+1.7**
PRU	**Pruhonice**	**137.61**	**333**	*e*P	**PKSab**	**05 20 59.3**	**-0.5**
KHC	**Kasperske Hory**	**138.67**	**333**	*e*P	**PKSab**	**05 21 00.4**	**-4.2**
GERES	**GERESS Array B**	**138.83**	**333**	PKP	**PKPdf**	**05 17 19.4**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=45,slow=3.5,SNR=2.1						
BNI	**Bardonecchia**	**144.79**	**335**	*e*PKPdf	PKPbc	05 17 30.1	+0.4
KEST	**Kesra**	**150.38**	**321**	PKPbc	**PKPbc**	**05 17 45.4**	**0.0**
	comp=Z,1.9nm,0.8s,baz=359,slow=6.0,SNR=8.9						
ESDC	**Sonseca Array**	**153.22**	**344**	PKPbc	**PKPbc**	**05 17 50.8**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=28,slow=2.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**165.43**	**268**	PKP	**PKPdf**	**05 17 57.7**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=340,slow=2.7,SNR=4.3						
TORD				PKPab	**PKPab**	**05 18 57.3**	**+0.1**
	comp=Z,0.7nm,1.0s,baz=124,slow=3.8,SNR=3.0						

*ISCJB **06** 05:30:11.7±0.4, 35°.44N±0°.02×2°.30W±0°.03, h10km, Error ellipse: s-maj=4.1km s-min=2.7km az=44.7*
*LDG **06** 05:30:12.2±0.4, 35°.53N×2°.11W, h2km, Ml3.0/4, Error ellipse: s-maj=9.1km s-min=4.1km az=150.0*
*SFS **06** 05:30:12.0, 35°.15N×2°.14W, h26km, ML2.9*
*IGIL **06** 05:30:12.9, 35°.16N×2°.15W, h26km, ML2.2*
*INMG **06** 05:30:13.6±1.8, 35°.24N×2°.20W, h31km±15km, ML2.7, Error ellipse: s-maj=8.3km s-min=5.1km az=149.0*
*MDD **06** 05:30:13.9±0.7, 35°.27N×2°.20W, h26km±6km, mb3.8/2, mbLg2.8/23, Error ellipse: s-maj=7.5km s-min=4.5km az=142.0, PRXIMO*
*CSEM **06** 05:30:14.2±0.3, 35°.32N×2°.29W, h30km, MD3.6, Error ellipse: s-maj=6.3km s-min=3.8km az=139.0*
*CRAAG **06** 05:30:14.4, 35°.26N×1°.97W, Ml3.3*
*CNRM **06** 05:30:14.8, 35°.10N×2°.10W, h30km, MD3.6*
ISC 06 05:30:11.4±0.8, 35°.26N±0°.04×2°.18W±0°.03, h10km, n153, σ1s.69/187, 3C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.55**	**239**	P	**Pb**	**05 30 24.0**	**+0.9**
ZAI				S	**Sb**	**05 30 33.0**	**+2.0**
ZAI	**Zaio**	**0.55**	**239**	*i* P	**Pb**	**05 30 24.0**	**+0.9**
ZAI				*i* S	**Sb**	**05 30 33.0**	**+2.0**
MELI	**Melilla**	**0.62**	**274**	⇑P	**Pg**	**05 30 24.9**	**+1.5**
	142nm,0.2s,SNR=18						
MELI				S	**Sg**	**05 30 33.9**	**+2.3**
	381nm,0.1s,SNR=7.9						
MELI	**Melilla**	**0.62**	**274**	P	**Pg**	**05 30 24.9**	**+1.5**
	142nm,0.2s,SNR=18						
MELI				*i* S	**Sg**	**05 30 33.8**	**+2.3**
OLHC	**Oulhaca**	**0.62**	**90**	P	**Pg**	**05 30 24.2**	**+0.7**
OLHC	**Oulhaca**	**0.62**	**90**	P	**Pg**	**05 30 24.2**	**+0.7**
OLHC	**Oulhaca**	**0.62**	**90**	P	**Pg**	**05 30 24.2**	**+0.7**
EMLI	**Melilla**	**0.63**	**274**	P	**Pg**	**05 30 25.0**	**+1.3**
	224nm,0.1s,SNR=18						
EMLI				S	**Sb**	**05 30 34.8**	**+1.4**
	620nm,0.1s,SNR=14						
EMEL	**Melilla**	**0.64**	**274**	⇑P	**Pg**	**05 30 25.0**	**+1.2**
	224nm,0.1s,SNR=18						
EMEL				S	**Sb**	**05 30 34.9**	**+1.3**
	620nm,0.1s,SNR=14						
TOU	**Touzarine**	**1.32**	**258**	P	**Pn**	**05 30 36.5**	**+0.4**
TOU				S	**Sb**	**05 30 52.0**	**-1.5**
TOU	**Touzarine**	**1.32**	**258**	*i* P	**Pn**	**05 30 36.5**	**+0.4**
TOU				*i* S	**Sb**	**05 30 52.0**	**-1.5**
USTO	**Oran**	**1.41**	**70**	P	**Pg**	**05 30 41.0**	**+2.5**
USTO	**Oran**	**1.41**	**70**	P	**Pg**	**05 30 41.0**	**+2.5**
ENIJ	**Nijar**	**1.71**	**359**	P	Pn	05 30 39.4	-2.0
	114nm,0.4s,SNR=7.9						
ENIJ				S	**Sn**	**05 30 59.6**	**-3.8**
	95nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**1.71**	**359**	P	**Pn**	**05 30 39.7**	**-1.7**
	114nm,0.4s,SNR=7.9						
ENIJ				S	Sn	05 30 58.6	-4.7
	95nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.74**	**341**	P	Pn	05 30 39.8	-2.0
	35nm,0.4s,SNR=88						
EBER				S	**Sn**	**05 31 00.4**	**-3.7**
	265nm,0.6s,SNR=12						
EBER	**Berja**	**1.74**	**341**	P	Pn	05 30 39.8	-2.0
	35nm,0.4s,SNR=88						
EBER				S	**Sn**	**05 31 00.4**	**-3.7**
	122nm,0.4s,SNR=12						
EQUE	**Quentar**	**2.19**	**333**	⇓P	**Pn**	**05 30 47.5**	**-0.6**
	43nm,0.4s,SNR=18						
EQUE				S	**Sn**	**05 31 11.6**	**-3.7**
	15nm,0.3s,SNR=4.0						
EQUE	**Quentar**	**2.19**	**333**	P	**Pn**	**05 30 47.6**	**-0.5**
	43nm,0.4s,SNR=18						
EQUE				S	Sn	05 31 10.0	-5.4
	15nm,0.3s,SNR=6.2						
GORA	**Gorafe**	**2.33**	**343**	P	**Pn**	**05 30 49.9**	**+0.1**
	27nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**2.33**	**343**	P	**Pn**	**05 30 49.9**	**+0.1**
	27nm,0.2s,SNR=7.9						
SELV	**Sierra Elvira**	**2.34**	**328**	⇑P	**Pn**	**05 30 50.2**	**+0.2**
	34nm,0.5s,SNR=18						
SELV	**Sierra Elvira**	**2.34**	**328**	P	**Pn**	**05 30 50.2**	**+0.2**
	34nm,0.5s,SNR=18						
EMAL	**Malaga-Limoner**	**2.36**	**310**	*e*P	**Pn**	**05 30 48.8**	**-1.5**
EMAL				*e*S	Sn	05 31 12.6	-6.7
EMIJ	**Mijas**	**2.48**	**303**	P	Pn	05 30 49.9	-2.0
	2.2nm,0.1s,SNR=20						
EMIJ				S	Sn	05 31 16.8	-5.4
	24nm,0.4s,SNR=4.5						
EMIJ	**Mijas**	**2.48**	**303**	P	Pn	05 30 49.9	-2.0
	2.2nm,0.1s,SNR=20						
EMIJ				S	**Sn**	**05 31 19.2**	**-3.0**
	30nm,0.3s,SNR=4.5						
CART	**Cartagena**	**2.51**	**22**	P	**Pn**	**05 30 50.6**	**-1.7**
CART				S	Sn	05 31 14.6	-8.4
CART	**Cartagena**	**2.51**	**22**	*e*P	**Pn**	**05 30 50.6**	**-1.7**

EHUE	Huescar	2.58	353	P	Pn	05 30 53.5	+0.2
	21nm,0.4s,SNR=7.9						
EHUE				S	Sn	05 31 24.2	-0.5
	9.1nm,0.2s,SNR=7.9						
EHUE	Huescar	2.58	353	P	Pn	05 30 53.1	-0.2
	21nm,0.4s,SNR=7.9						
EHUE				S	Sn	05 31 24.2	-0.5
	9.1nm,0.2s,SNR=7.9						
EQES	Quesada	2.64	344	P	Pn	05 30 54.9	+0.7
	20nm,0.2s,SNR=65						
EQES				S	Sn	05 31 25.5	-0.9
	35nm,0.3s						
EQES	Quesada	2.64	344	P	Pn	05 30 54.9	+0.7
	20nm,0.2s,SNR=65						
EQES				S	Sn	05 31 25.5	-0.9
	58nm,0.4s						
ECEU	Ceuta	2.68	285	P	Pn	05 30 52.7	-1.9
	1.4nm,0.1s,SNR=7.3						
ECEU	Ceuta	2.68	285	P	Pn	05 30 52.8	-1.9
	5.2nm,0.1s,SNR=7.3						
EMUR	La Murta	2.69	16	P	Pn	05 30 53.4	-1.4
	17nm,0.2s,SNR=44						
EMUR				S	Sn	05 31 22.8	-4.6
	23nm,0.3s,SNR=5.3						
EMUR	La Murta	2.69	16	P	Pn	05 30 53.4	-1.4
	17nm,0.2s,SNR=44						
EMUR				S	Sn	05 31 22.1	-5.3
	23nm,0.3s,SNR=5.3						
SESP	Santiago Espad	2.87	354	P	Pn	05 30 57.7	+0.3
	14nm,0.1s,SNR=7.9						
SESP				S	Sn	05 31 29.4	-2.8
	103nm,0.5s,SNR=7.9						
SESP	Santiago Espad	2.87	354	P	Pn	05 30 57.6	+0.2
	14nm,0.1s,SNR=7.9						
SESP				S	Sn	05 31 29.4	-2.8
	103nm,0.5s,SNR=7.9						
LIJA	Lijar	3.09	303	P	Pn	05 31 00.5	+0.2
LIJA	Lijar	3.09	303	eP	Pn	05 31 00.5	+0.2
EBAN	Banos Encina	3.18	337	P	Pn	05 31 01.9	+0.4
	4.3nm,0.2s,SNR=9.8						
EBAN	Banos Encina	3.18	337	P	Pn	05 31 02.0	+0.5
	3.6nm,0.2s,SNR=9.8						
CZD	Col de Zad	3.25	228	P	Pn	05 31 03.0	+0.3
CZD				S	Sn	05 31 37.0	-4.6
CZD	Col de Zad	3.25	228	iP	Pn	05 31 03.0	+0.3
ESPR	Espera	3.38	299	P	Pn	05 31 04.8	+0.5
	1.3nm,0.1s,SNR=9.5						
ESPR	Espera	3.38	299	P	Pn	05 31 04.7	+0.4
	1.3nm,0.1s,SNR=9.5						
ESPR				S	Sn	05 31 43.7	-0.8
	11nm,0.7s						
EVIA	Vianos	3.39	356	P	Pn	05 31 05.2	+0.8
	6.0nm,0.2s,SNR=15						
EVIA				S	Sn	05 31 43.3	-1.4
	37nm,0.2s,SNR=5.4						
EVIA	Vianos	3.39	356	P	Pn	05 31 04.6	+0.2
	6.0nm,0.2s,SNR=15						
EVIA				S	Sn	05 31 43.3	-1.4
	37nm,0.2s,SNR=5.4						
ETOB	Tobarra	3.42	8	P	Pn	05 31 04.7	-0.2
	7.1nm,0.2s,SNR=44						
ETOB				S	Sn	05 31 42.3	-3.2
	26nm,0.5s						
ETOB	Tobarra	3.42	8	P	Pn	05 31 04.7	-0.2
	5.2nm,0.2s,SNR=44						
ETOB				S	Sn	05 31 43.0	-2.5
	26nm,0.5s						
EADA	Adamuz	3.49	327	P	Pn	05 31 05.0	-0.8
	1.1nm,0.1s,SNR=26						
EADA				S	Sn	05 31 46.5	-0.6
	6.6nm,0.2s,SNR=6.1						
EADA	Adamuz	3.49	327	P	Pn	05 31 05.3	-0.4
	0.7nm,0.1s,SNR=26						
EADA				S	Sn	05 31 46.5	-0.6
	6.6nm,0.2s,SNR=6.1						
ZFT	Errachidia	3.69	210	P	Pn	05 31 07.0	-1.7
ZFT				S	Sn	05 31 45.0	-7.4
EBEN	Beniarda	3.78	24	P	Pn	05 31 08.9	-0.9
	0.3nm,0.1s,SNR=12						
EBEN				S	Sn	05 31 49.8	-4.6
	6.1nm,0.5s						
EBEN	Beniarda	3.78	24	P	Pn	05 31 08.9	-0.9
	0.3nm,0.1s,SNR=12						
EBEN				S	Sn	05 31 49.4	-5.0
	6.1nm,0.5s						
ECAB	El Cabril	3.83	318	P	Pn	05 31 09.6	-0.9
	0.7nm,0.1s,SNR=10						
ECAB				S	Sn	05 31 51.7	-4.0
	1.3nm,0.3s						
ECAB	El Cabril	3.83	318	P	Pn	05 31 09.6	-0.9
	0.7nm,0.1s,SNR=10						
ECAB				S	Sn	05 31 52.5	-3.2
	5.0nm,0.4s						
KIB	El Ksiba	4.18	231	P	Pn	05 31 16.0	+0.7
KIB				S	Sn	05 32 01.0	-3.2
KIB	El Ksiba	4.18	231	eP	Pn	05 31 16.0	+0.7
KIB				iS	Sn	05 32 01.0	-3.2
EMIN	Mina Concepcio	4.40	306	P	Pn	05 31 16.8	-1.5
	2.0nm,0.2s,SNR=18						
EMIN				S	Sn	05 32 04.5	-5.1
	0.9nm,0.2s						
EMIN	Mina Concepcio	4.40	306	P	Pn	05 31 16.7	-1.6
	2.0nm,0.2s,SNR=18						
EMIN				S	Sn	05 32 04.9	-4.7
	1.1nm,0.3s						
ESDC	Sonseca Array	4.63	343	P	Pn	05 31 21.6	+0.1
	3.5nm,0.2s,baz=161,slow=12,SNR=29						
ESDC	Sonseca Array	4.63	343	P	Pn	05 31 21.7	+0.2
	3.5nm,0.2s,SNR=29						
EIBI	Ibiza	4.70	36	P	Pn	05 31 22.3	-0.1
	2.1nm,0.1s,SNR=15						
EIBI				S	Sn	05 32 14.0	-2.9
	5.8nm,0.2s						
EIBI	Ibiza	4.70	36	P	Pn	05 31 22.2	-0.2
	2.1nm,0.1s,SNR=15						
EIBI				S	Sn	05 32 13.1	-3.9
	5.8nm,0.2s						
EGRO	El Granado	4.84	300	P	Pn	05 31 23.3	-1.1
	4.2nm,0.3s,SNR=10						
EGRO				S	Sn	05 32 15.3	-5.2
	8.4nm,0.3s						
EGRO	El Granado	4.84	300	P	Pn	05 31 23.0	-1.4
	4.2nm,0.3s,SNR=10						
EGRO				S	Sn	05 32 16.5	-4.0
	8.4nm,0.3s						
PBAR	Barrancos	4.87	308	ePn	Pn	05 31 23.9	-0.8
PBAR				A	A	05 32 24.3	
	8.4nm,0.6s						
PBAR	Barrancos	4.87	308	ePn	Pn	05 31 23.9	-0.8
PBAR				A	A	05 32 24.3	
	8.4nm,0.6s						
PVAQ	Vaqueiros	4.96	297	ePn	Pn	05 31 24.7	-1.2
PVAQ				eSn	Sn	05 32 17.8	-5.5
PVAQ				A	A	05 32 22.3	
	8.2nm,0.8s						
PVAQ	Vaqueiros	4.96	297	ePn	Pn	05 31 24.7	-1.2
PVAQ				eSn	Sn	05 32 17.8	-5.5
PVAQ				A	A	05 32 22.3	
	8.2nm,0.8s						
PBDV	Barranco-do-Ve	5.05	295	ePn	Pn	05 31 26.3	-1.0
PBDV	Barranco-do-Ve	5.05	295	ePn	Pn	05 31 26.3	-1.0
EBAD	Badajoz	5.21	314	P	Pn	05 31 28.0	-1.4
	2.0nm,0.2s,SNR=23						
EBAD				S	Sn	05 32 24.2	-5.3
	4.2nm,0.2s,SNR=7.9						
EBAD	Badajoz	5.21	314	P	Pn	05 31 28.4	-1.0
	2.1nm,0.1s,SNR=23						
EBAD				S	Sn	05 32 25.5	-4.1
	4.2nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	5.28	14	P	Pn	05 31 31.2	+0.8
	0.2nm,0.1s,SNR=8.3						
EMOS	Mosqueruela	5.28	14	P	Pn	05 31 30.8	+0.3
	0.2nm,0.1s,SNR=8.3						
PCVE	Castro Verde	5.29	298	ePn	Pn	05 31 29.3	-1.1
PCVE				eSn	Sn	05 32 27.3	-4.1
PCVE	Castro Verde	5.29	298	ePn	Pn	05 31 29.3	-1.1
PCVE				eSn	Sn	05 32 27.3	-4.1
MESJ	Messejana	5.50	300	eP	Pn	05 31 32.3	-1.1
MESJ				eS	Sn	05 32 30.4	-6.4
MESJ				AML	AML	05 32 32.0	
	comp=E,3.3nm,0.5s						
MESJ	Messejana	5.50	300	P	Pn	05 31 32.3	-1.1
MESJ				S	Sn	05 32 30.4	-6.4
	comp=E,3.3nm,0.5s						
MESJ	Messejana	5.50	300	ePn	Pn	05 31 32.4	-1.0
MESJ				eSn	Sn	05 32 33.2	-3.6
MESJ	Messejana	5.50	300	ePn	Pn	05 31 32.4	-1.0
MESJ				eSn	Sn	05 32 33.2	-3.6
ETOR	Torete	5.55	1	P	Pn	05 31 34.5	+0.2
	comp=E,10nm,0.3s,SNR=17						
ETOR				S	Sn	05 32 32.9	-5.3
	comp=E,4.1nm,0.3s						
ETOR	Torete	5.55	1	P	Pn	05 31 34.6	+0.4
	comp=E,10nm,0.3s,SNR=17						
GUD	Guadarrama	5.60	344	P	Pn	05 31 34.8	-0.1
	comp=E,0.4nm,0.2s,SNR=7.0						
GUD				S	Sn	05 32 34.9	-4.4
	comp=E,3.4nm,0.5s,SNR=4.0						
GUD	Guadarrama	5.60	344	P	Pn	05 31 35.1	+0.2
	comp=E,0.4nm,0.2s,SNR=7.0						
PESTR	Estremoz	5.63	311	ePn	Pn	05 31 34.4	-0.8
PESTR	Estremoz	5.63	311	ePn	Pn	05 31 34.4	-0.8
EVO	Evora	5.70	307	ePn	Pn	05 31 34.8	-1.4
EVO				eSn	Sn	05 32 36.3	-5.4
	comp=E,8.8nm,0.6s						
EVO	Evora	5.70	307	ePn	Pn	05 31 35.4	-0.8
EVO				A	A	05 32 48.8	
	comp=E,5.5nm,0.7s						
EVO	Evora	5.70	307	ePn	Pn	05 31 35.4	-0.8
EVO				A	A	05 32 48.8	
	comp=E,5.5nm,0.7s						
EPLA	Plasencia	5.71	328	P	Pn	05 31 35.8	-0.5
	comp=E,1.8nm,0.2s,SNR=18						
EPLA				S	Sn	05 32 37.3	-4.6
	comp=E,1.7nm,0.3s						
EPLA	Plasencia	5.71	328	P	Pn	05 31 36.0	-0.3
	comp=E,1.8nm,0.2s,SNR=18						
EPLA				S	Sn	05 32 38.7	-3.2
	comp=E,1.7nm,0.3s						
PTEO	Sao Teotonio	5.75	295	ePn	Pn	05 31 36.2	-0.6
PTEO	Sao Teotonio	5.75	295	ePn	Pn	05 31 36.2	-0.6
EVOP	Sao Brissos	5.78	306	ePn	Pn	05 31 34.8	-2.3
PNCL	Nicolau / Gran	5.84	301	ePn	Pn	05 31 37.3	-0.8
PNCL				eSn	Sn	05 32 41.6	-3.5
PNCL	Nicolau / Gran	5.84	301	ePn	Pn	05 31 37.3	-0.8
PNCL				eSn	Sn	05 32 41.6	-3.5
PMRV	Marv??o	5.88	317	ePn	Pn	05 31 37.7	-0.9
PMRV	Marv??o	5.88	317	ePn	Pn	05 31 37.7	-0.9
ETOS	Mallorca	6.00	40	P	Pn	05 31 39.9	-0.4
	comp=E,1.3nm,0.3s,SNR=6.2						
ETOS				S	Sn	05 32 43.6	-5.6
	comp=E,2.0nm,0.3s,SNR=5.5						
ETOS	Mallorca	6.00	40	P	Pn	05 31 41.6	+1.3
	comp=E,1.7nm,0.3s,SNR=6.2						
ERTA	Horta de San J	6.03	18	P	Pn	05 31 41.9	+1.2
	comp=E,2.0nm,0.2s,SNR=7.2						
ERTA				S	Sn	05 32 42.5	-7.2
	comp=E,1.1nm,0.3s,SNR=7.9						
ERTA	Horta de San J	6.03	18	P	Pn	05 31 40.1	-0.5
	comp=E,2.0nm,0.2s,SNR=7.2						
PTOM	Tomar	6.60	313	ePn	Pn	05 31 47.4	-1.0
PTOM	Tomar	6.60	313	ePn	Pn	05 31 47.4	-1.0
EPOB	Poblet	6.60	22	P	Pn	05 31 49.1	+0.5
	comp=E,0.6nm,0.1s,SNR=9.5						
EPOB				S	Sn	05 32 58.4	-5.6
	comp=E,0.6nm,0.3s,SNR=7.9						
EPOB	Poblet	6.60	22	P	Pn	05 31 49.1	+0.5
	comp=E,0.6nm,0.1s,SNR=9.5						
MTE	Manteigas	6.66	322	ePn	Pn	05 31 49.4	0.0
MTE	Manteigas	6.66	322	ePn	Pn	05 31 49.4	0.0
PMAFR	Mafra	6.77	305	P	Pn	05 31 50.4	-0.4
	comp=E,3.5nm,0.2s,SNR=7.9						
PMAFR	Mafra	6.77	305	ePn	Pn	05 31 50.4	-0.4
PMAFR	Mafra	6.77	305	ePn	Pn	05 31 50.4	-0.4
MVO	Moncorvo	7.03	329	P	Pn	05 31 54.0	-0.3
	comp=E,3.2nm,0.2s,SNR=26						
MVO				S	Sn	05 33 08.0	-6.3
	comp=E,1.3nm,0.2s,SNR=7.9						
MVO	Moncorvo	7.03	329	P	Pn	05 31 54.5	+0.1
	comp=E,6.8nm,0.5s,SNR=26						
MVO	Moncorvo	7.03	329	ePn	Pn	05 31 54.1	-0.3
MVO	Moncorvo	7.03	329	ePn	Pn	05 31 54.1	-0.3
EMIR	Miracle	7.25	22	S	Sn	05 33 19.2	-0.7
	comp=E,0.8nm,0.2s,SNR=7.9						
PVRL	Vila Real	7.42	326	ePn	Pn	05 31 59.3	-0.5
PVRL	Vila Real	7.42	326	ePn	Pn	05 31 59.3	-0.5
CFON	Fontmartina	7.43	28	P	Pn	05 32 01.1	+1.1
	comp=E,1.3nm,0.2s,SNR=5.5						
CFON	Fontmartina	7.43	28	P	Pn	05 31 59.9	-0.1
	comp=E,0.6nm,0.2s,SNR=5.5						
PBRG	Braganca	7.45	333	ePn	Pn	05 32 00.6	+0.4
PBRG	Braganca	7.45	333	ePn	Pn	05 32 00.6	+0.4
POLO	Lamas de Olo	7.53	326	ePn	Pn	05 32 01.1	-0.3
POLO	Lamas de Olo	7.53	326	ePn	Pn	05 32 01.1	-0.3
CSOR	Sort	7.56	19	P	Pn	05 32 03.2	+1.4
	comp=E,0.4nm,0.2s,SNR=7.9						
CSOR	Sort	7.56	19	P	Pn	05 32 02.6	+0.8
	comp=E,0.4nm,0.2s,SNR=7.9						
ECAL	Calabor	7.57	333	P	Pn	05 32 01.9	+0.1
	comp=E,1.7nm,0.2s,SNR=7.9						
ECAL	Calabor	7.57	333	P	Pn	05 32 01.8	0.0
	comp=E,1.7nm,0.2s,SNR=7.9						
IELO	Elcoad	7.61	5	P	Pn	05 32 03.6	+1.1
	comp=E,0.7nm,0.3s,SNR=7.9						
ETSF	Etsaut	7.74	9	ePn	Pn	05 31 59.7	-4.4
ETSF	Etsaut	7.74	9	eP	Pn	05 32 04.9	+0.8
ETSF				eSn	Sn	05 33 20.5	-11
	comp=E,0.7nm,0.3s						
ETSF	Etsaut	7.74	9	P	Pn	05 32 04.9	+0.8
ETSF				Sn	Sn	05 33 20.5	-11
	comp=E,0.3nm,0.3s						
ETSF	Etsaut	7.74	9	eP	Pn	05 32 04.9	+0.8
SJPF	Ste Jean	7.88	5	ePn	Pn	05 32 01.7	-4.4
SJPF	Ste Jean	7.88	5	eP	Pn	05 32 06.7	+0.6
SJPF				eSn	Sn	05 33 23.8	-12
	comp=E,2.0nm,0.5s						
SJPF	Ste Jean	7.88	5	P	Pn	05 32 06.7	+0.6
SJPF				Sn	Sn	05 33 23.8	-12
	comp=E,1.0nm,0.5s						
SJPF	Ste Jean	7.88	5	eP	Pn	05 32 06.7	+0.6
ATE	Arette	7.90	8	P	Pn	05 32 07.3	+0.9
	comp=E,0.6nm,0.3s,SNR=7.9						
EALK	Alkurruntz	7.97	4	P	Pn	05 32 09.1	+1.9
	comp=E,1.3nm,0.3s,SNR=7.0						
EALK	Alkurruntz	7.97	4	P	Pn	05 32 09.3	+2.1
	comp=E,1.3nm,0.3s,SNR=7.0						
EPF	Esparros	8.01	13	ePn	Pn	05 32 03.5	-4.3
EPF	Esparros	8.01	13	eP	Pn	05 32 08.7	+0.9
EPF				eSn	Sn	05 33 26.9	-12
	comp=E,4.1nm,0.7s						
EPF	Esparros	8.01	13	P	Pn	05 32 08.7	+0.9
EPF				Sn	Sn	05 33 26.9	-12
	comp=E,2.0nm,0.7s						
EPF	Esparros	8.01	13	eP	Pn	05 32 08.7	+0.9
ELOB	Lobios	8.05	327	P	Pn	05 32 08.0	-0.4
	comp=E,0.9nm,0.2s,SNR=7.9						
ELOB	Lobios	8.05	327	P	Pn	05 32 07.6	-0.8
	comp=E,0.9nm,0.2s,SNR=7.9						
PGAV	Gavieira, Arco	8.22	326	ePn	Pn	05 32 10.0	-0.8
PGAV	Gavieira, Arco	8.22	326	ePn	Pn	05 32 10.0	-0.8
EARI	Arriondas	8.37	345	P	Pn	05 32 13.8	+1.0
	comp=E,5.0nm,0.6s,SNR=6.0						
EARI	Arriondas	8.37	345	P	Pn	05 32 13.8	+1.0
	comp=E,5.0nm,0.6s,SNR=6.0						

NNC ***06*** *06:26:57.6±12.0, 51°.60N×95°.60E, h0km, mb4.0, Error ellipse: s-maj=126.0km s-min=90.4km az=56.0*
ASRS ***06*** *06:26:59.7±1.9, 52°.44N×95°.45E, h15km, Ms3.5/6*
MOS ***06*** *06:27:00.5±1.8, 51°.98N×95°.24E, h12km, mb4.4/1, Error ellipse: s-maj=22.3km s-min=12.4km az=178.4*
IDC ***06*** *06:27:09.5±2.6, 51°.82N×94°.28E, h0km, mb1 3.7/4, mb1mx3.3/32, mbtmp3.7/4, ML3.4/4, Error ellipse: s-maj=37.8km s-min=23.0km az=25.0*
ISC 06 06:27:01.6±1.2**, 51°.99N**±0°.07×**95°.08E**±0°.06**, h10**km**, n30, σ1s.99**/31**, 2C-5D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HVS	Khovu-Aksy	1.21	226	d iPG	Pn	06 27 24.9	+0.3
CERR	Cheremushki	2.40	293	ePn	Pn	06 27 42.7	+1.7
CERR				i Pg	Pb	06 27 45.0	+0.1
CERR				i Sg	Sg	06 28 19.0	+0.2
CERR	Cheremushki	2.40	293	ePN	Pn	06 27 42.7	+1.7
CERR				i		06 28 19.0	
ORL	Orlik	2.96	77	ePN	Pn	06 27 36.4	-12
ORL				pmax	pmax		
	comp=Z,160nm,0.3s						
MOY	Mondy	3.69	93	ePN	Pn	06 27 51.6	-7.1
MOY				pmax	pmax		
	comp=Z,140nm,0.7s						
TASR	Tashtagol	4.48	283	ePg	Pb	06 28 21.9	+1.7
TASR				eSg	Sg	06 29 23.2	-2.0
TASR	Tashtagol	4.48	283	ePN	Pb	06 28 21.9	+1.7
TASR				e		06 29 23.2	
ARS	Arshan	4.54	88	ePN	Pn	06 28 07.4	-3.0
ARS				e		06 28 58.8	
ARS				pmax	pmax		
	comp=Z,89nm,0.3s						
ARS				smax	smax		
	comp=E,1μm,0.6s						
AKAR	Aktash	4.98	253	ePn	Pn	06 28 18.2	+1.7
AKAR				ePg	Pg	06 28 34.2	-2.7
AKAR				eSn	Sb	06 29 25.9	-2.9
AKAR				eSg	Sg	06 29 45.5	+4.1
AKAR	Aktash	4.98	253	ePN	Pn	06 28 18.2	+1.7
AKAR				e		06 28 34.2	
AKAR				e		06 29 25.9	
TLY	Talaya	5.32	90	ePN	Pn	06 28 06.9	-14
TLY				e		06 29 21.9	
TLY				pmax	pmax		
	comp=Z,20nm,0.5s						
TLY				smax	smax		
	comp=N,283nm,1.6s						
ZAK	Zakamensk	5.41	104	ePN	Pn	06 28 22.4	+0.1
ZAK				e		06 29 26.8	
ZAK				pmax	pmax		
	comp=Z,35nm,1.0s						
ZAK				smax	smax		
	comp=N,245nm,1.2s						
ELT	Yel'tsovka	5.53	287	ePn	Pn	06 28 26.2	+2.3
ELT				ePg	Pg	06 28 46.1	-1.3
ELT				eSn	Sn	06 29 27.2	-0.3
ELT				eSg	Sb	06 29 52.0	+7.5
ELT	Yel'tsovka	5.53	287	ePN	Pn	06 28 26.2	+2.3
ELT				e		06 28 46.1	
ELT				e		06 29 52.0	
IRK	Irkutsk	5.67	84	ePN	Pn	06 28 27.7	+1.8
IRK				e		06 29 32.0	
IRK				pmax	pmax		
	comp=Z,293nm,0.1s						
IRK				smax	smax		
	comp=E,674nm,0.7s						
LSTR	Listvyanka	6.04	87	ePN	Pn	06 28 29.7	-1.2
LSTR				e		06 29 42.0	
LSTR				pmax	pmax		
	comp=Z,15nm,1.0s						
LSTR				smax	smax		
	comp=N,175nm,0.8s						
ZALV	Zalesovo Beam	6.50	292	Pn	Pn	06 28 38.8	+1.6
	comp=N,1.0nm,0.3s,baz=112,slow=12,SNR=9.4						
ZALV				Lg	Lg	06 30 22.6	
	comp=N,6.1nm,0.3s,baz=98,slow=24,SNR=5.5						
ZALV	Zalesovo Beam	6.50	292	PN	Pn	06 28 38.8	+1.6
ZALV						06 30 22.6	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
UKR	Ust'-Kan	6.53	265	ePn	Pn	06 28 43.0	+5.4
UKR				ePg	Pg	06 29 03.7	-2.7
UKR				eSg	Sg	06 30 31.2	+0.3
UKR	Ust'-Kan	6.53	265	ePN	Pn	06 28 43.0	+5.4
UKR				e		06 29 03.7	
KAB	Kabansk	7.15	85	ePN	Pn	06 28 53.7	+7.6
KAB				pmax	pmax		
	comp=Z,152nm,0.3s						
NVS	Novosibirsk	7.63	297	ePg	Pb	06 29 15.8	+1.9
NVS				eSg	Sg	06 30 57.0	-9.3
OGRR	Ongureny	7.77	73	eP	Pb	06 29 07.7	-8.5
OGRR				pmax	pmax		
	comp=Z,20nm,0.6s						
SONM	Songino Array	8.40	115	Pn	Pb	06 29 17.7	-9.5
	comp=Z,1.1nm,0.3s,baz=304,slow=18,SNR=25						
SONM				Sn	Sb	06 31 04.5	-2.9
	comp=Z,2.3nm,0.3s,baz=289,slow=28,SNR=5.5						
MK31	Makanchi Array	9.82	243	⇓Pn	Pn	06 29 24.9	+2.2
	comp=Z,0.9nm,0.3s,baz=56,slow=16,SNR=19						
MK31				⇑Lg	Lg	06 32 16.7	
	comp=Z,12nm,0.9s,baz=59,slow=30,SNR=3.9						
MKAR	Makanchi Array	9.82	243	Pn	Pn	06 29 25.1	+2.4
	comp=Z,0.8nm,0.3s,baz=55,slow=17,SNR=15						
MKAR				Lg	Lg	06 32 09.9	
	comp=Z,0.2nm,0.3s,baz=54,slow=18,SNR=3.0						
KURK	Kurchatov	10.38	269	⇓Pn	Pn	06 29 30.2	-0.1
	comp=Z,0.8nm,0.4s						
KURK				⇓Lg	Lg	06 32 33.9	
	comp=Z,24nm,1.0s						
KURBB	Kurchatov Arra	10.45	269	⇑Pn	Pn	06 29 31.8	+0.5
	comp=Z,2.0nm,0.4s						
KURBB				⇓Lg	Lg	06 32 35.6	
	comp=Z,35nm,0.7s						
BVAR	Borovoye Array	15.05	284	Pn	Pn	06 30 35.6	+1.5
	comp=Z,0.2nm,0.3s,baz=83,slow=14,SNR=6.1						
NB2	NORSAR Subarra	44.05	316	P	P	06 35 02.9	-6.2
	comp=Z,0.6nm,0.6s,baz=61,slow=7.9						

CSEM ***06*** *07:01:30.6, 41°.72N×13°.69E, h4km, MD2.0/5*
ROM 06 07:01:30.6±0.3**, 41°.72N×13°.69E, h4**km±2km**, Md2.0**/5**, Ml1.0**/3**, Error ellipse: s-maj=3.0km s-min=1.5km az=42.0, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POFI	Posta Fibreno	0.02	81	Pg	Pg	07 01 31.6	0.0
POFI				Sg	Sg	07 01 32.0	-0.3
	1μm,0.1s						
POFI	Posta Fibreno	0.02	81	Pg	Pg	07 01 31.6	0.0
POFI				Sg	Sg	07 01 32.0	-0.3
	1μm,0.1s						
SDI	San Donato	0.09	94	Pg	Pg	07 01 33.1	+0.5
SDI				Sg	Sg	07 01 34.7	+0.8
	130nm,0.2s						
SDI	San Donato	0.09	94	Pg	Pg	07 01 33.1	+0.5
SDI				Sg	Sg	07 01 34.7	+0.8
	130nm,0.2s						
VVLD	Villa Vallelon	0.16	342	Pg	Pg	07 01 34.4	+0.4
VVLD				Sg	Sg	07 01 37.4	+1.1
	47nm,0.4s						
VVLD	Villa Vallelon	0.16	342	Pg	Pg	07 01 34.4	+0.4
VVLD				Sg	Sg	07 01 37.4	+1.1
	47nm,0.4s						
CERA	Filignano	0.27	115	Pg	Pg	07 01 36.5	+0.5
	18nm,0.9s						
CERA	Filignano	0.27	115	Pg	Pg	07 01 36.5	+0.5
	18nm,0.9s						
INTR	Introdacqua	0.34	28	Pg	Pg	07 01 37.8	+0.5
INTR				Sg	Sb	07 01 43.5	-1.6
	23nm,0.4s						
INTR	Introdacqua	0.34	28	Pg	Pg	07 01 37.8	+0.5
INTR				Sg	Sb	07 01 43.5	-1.6
	23nm,0.4s						

IDC ***06*** *07:02:11.1±0.9, 38°.91N×26°.10E, h0km, mb3.7/10, mb1 3.7/15, mb1mx3.6/32, mbtmp3.6/15, ML3.6/5, MS2.8/7, Ms1 2.8/7, ms1mx2.6/42, Error ellipse: s-maj=15.6km s-min=14.8km az=42.0*
ISCJB ***06*** *07:02:12.8±0.3, 38°.98N±0°.01×25°.98E±0°.02, h19km±3km, mb3.6/11, MS2.7/2, Error ellipse: s-maj=2.1km s-min=2.0km az=137.6*
ISK ***06*** *07:02:12.0, 38°.95N×25°.95E, h14km, ML4.1*
ATH ***06*** *07:02:12.1, 38°.99N×26°.04E, h27km, MD3.8/53, ML3.6*
THE ***06*** *07:02:12.9, 38°.96N×26°.00E, h7km±1km, ML4.0/7, Error ellipse: s-maj=1.2km s-min=0.4km az=72.0*
CSEM ***06*** *07:02:13.0±0.1, 38°.95N×26°.00E, h10km, mb3.7/6, Error ellipse: s-maj=1.8km s-min=1.5km az=156.0*
MOS ***06*** *07:02:13.6±0.9, 38°.94N×26°.10E, h31km, mb4.0/6, Error ellipse: s-maj=16.8km s-min=8.7km az=66.5*
DDA ***06*** *07:02:14.5, 39°.00N×26°.01E, h15km, ML4.0*
ISC 06 07:02:13.3±0.8**, 38°.98N**±0°.02×**26°.01E**±0°.02**, h15**km±5km**, n419, σ0s.99**/458**, mb3.6**/11**, 19C-27D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.26	333	ePG	Pg	07 02 18.6	-0.3
SIGR				eSG	Sg	07 02 22.4	-0.3
SIGR	SIGRI	0.26	333	P	Pg	07 02 18.6	-0.3
SIGR				S	Sg	07 02 22.5	-0.2
SIGR	SIGRI	0.26	333	ePB	Pg	07 02 18.5	-0.4
SIGR	SIGRI	0.26	333	ePb	Pg	07 02 18.5	-0.4
SIGR				eSg	Sg	07 02 22.4	-0.3
PRK	Paraskevi	0.34	37	P	Pg	07 02 20.0	-0.2
PRK				S	Sg	07 02 24.7	-0.1

PRK	Paraskevi	0.34	37	ePB	Pg	07 02 20.0	-0.2
PRK				eSB	Sg	07 02 24.8	-0.1
PRK	Paraskevi	0.34	37	P	Pg	07 02 20.0	-0.2
PRK				eSb	Sg	07 02 24.8	-0.1
CHOS	Chios island	0.59	177	ePG	Pg	07 02 24.5	-0.5
CHOS				eSG	Sg	07 02 32.4	-0.5
CHOS	Chios island	0.59	177	P	Pg	07 02 24.5	-0.5
CHOS				S	Sg	07 02 32.4	-0.5
CHOS	Chios island	0.59	177	ePN	Pg	07 02 24.6	-0.5
CHOS				eSN	Sg	07 02 33.2	+0.3
CHOS	Chios island	0.59	177	P	Pg	07 02 24.5	-0.5
CHOS				S	Sg	07 02 32.4	-0.5
CHOS				eSn	Sg	07 02 33.2	+0.3
AYVA	Ayvalik	0.62	58	iP	Pg	07 02 25.4	-0.1
AYVA				iS	Sg	07 02 33.9	+0.1
AYVA	Ayvalik	0.62	58	iP	Pg	07 02 25.4	-0.1
AYVA				iS	Sg	07 02 33.9	+0.1
ZEY	˜zmir	0.83	152	iP	Pg	07 02 28.3	-1.2
ZEY				iS	Sb	07 02 40.5	0.0
EZN	Ezine	0.88	16	ePG	Pb	07 02 29.7	-0.6
EZN	Ezine	0.88	16	ePg	Pb	07 02 29.7	-0.6
BLCB	Balcova	1.00	126	ePG	Pb	07 02 32.0	-0.4
BLCB	Balcova	1.00	126	ePg	Pb	07 02 32.0	-0.4
LIA	Limnos Island	1.12	325	P	Pb	07 02 33.7	-0.6
LIA				S	Sn	07 02 49.6	0.0
LIA	Limnos Island	1.12	325	ePN	Pb	07 02 34.0	-0.3
LIA				eSN	Sn	07 02 49.6	0.0
LIA	Limnos Island	1.12	325	P	Pb	07 02 33.7	-0.6
LIA	Limnos Island	1.12	325	ePn	Pb	07 02 34.0	-0.3
LIA				S	Sn	07 02 49.6	0.0
IZM	Izmir	1.14	120	ePN	Pb	07 02 34.6	-0.1
IZM	Izmir	1.14	120	ePn	Pb	07 02 34.6	-0.1
GADA	Gvkgeada	1.21	356	ePN	Pb	07 02 35.3	-0.4
GADA	Gvkgeada	1.21	356	ePn	Pb	07 02 35.3	-0.4
AKS	Akhisar	1.41	94	ePN	Pn	07 02 38.7	+0.2
AKS	Akhisar	1.41	94	ePn	Pn	07 02 38.7	+0.2
AKHS	Akhisar	1.41	94	iP	Pn	07 02 38.3	-0.2
AKHS				iS	Sg	07 02 59.1	+0.3
AKHS	Akhisar	1.41	94	iP	Pn	07 02 38.3	-0.2
AKHS				iS	Sg	07 02 59.1	+0.3
SMG	Samos	1.43	153	P	Pn	07 02 37.7	-1.0
SMG				S	Sb	07 02 57.4	-0.1
SMG	Samos	1.43	153	ePN	Pn	07 02 38.0	-0.7
SMG				eSN	Sb	07 02 57.5	-0.1
SMG	Samos	1.43	153	P	Pn	07 02 37.7	-1.0
SMG	Samos	1.43	153	ePn	Pn	07 02 38.0	-0.7
SMG				eSn	Sb	07 02 57.5	-0.1
BALY	Balya	1.46	58	iP	Pn	07 02 39.0	-0.2
BALY				iS	Sg	07 02 59.9	-0.5
BALY	Balya	1.46	58	iP	Pn	07 02 39.0	-0.2
BALY				iS	Sg	07 02 59.9	-0.5
GELI	Tayfur-Gelibol	1.46	14	ePN	Pn	07 02 39.7	+0.6
GELI	Tayfur-Gelibol	1.46	14	ePn	Pn	07 02 39.7	+0.6
LPK	Lapseki	1.51	22	ePN	Pb	07 02 40.5	-0.5
LPK	Lapseki	1.51	22	ePn	Pb	07 02 40.5	-0.5
SMTH	Samothraki Isl	1.53	346	P	Pn	07 02 39.7	-0.5
SMTH				S	Sb	07 03 01.2	+0.5
SMTH	Samothraki Isl	1.53	346	ePN	Pn	07 02 39.9	-0.3
SMTH				eSN	Sn	07 02 59.9	0.0
SMTH	Samothraki Isl	1.53	346	ePn	Pn	07 02 39.9	-0.3
SMTH				eSn	Sn	07 02 59.9	0.0
SMTH				S	Sb	07 03 01.2	+0.5
GCAM	G?zelcamI?	1.60	143	iP	Pb	07 02 42.4	-0.1
GCAM				iS	Sb	07 03 02.3	-0.2
GCAM	G?zelcamI?	1.60	143	iP	Pb	07 02 42.4	-0.1
GCAM				iS	Sb	07 03 02.3	-0.2
AOS	Alonnisos	1.67	277	P	Pn	07 02 41.6	-0.4
AOS	Alonnisos	1.67	277	ePB	Pn	07 02 41.6	-0.4
AOS	Alonnisos	1.67	277	P	Pn	07 02 41.6	-0.4
KRBG	Karabiga-Canak	1.73	35	ePN	Pn	07 02 43.1	+0.3
KRBG	Karabiga-Canak	1.73	35	ePn	Pn	07 02 43.1	+0.3
ERIK	Erikli-Kesan	1.73	13	ePN	Pn	07 02 43.6	+0.7
ERIK	Erikli-Kesan	1.73	13	ePn	Pn	07 02 43.6	+0.7
ENEZ	Enez	1.76	4	ePN	Pn	07 02 43.5	+0.3
ENEZ	Enez	1.76	4	ePn	Pn	07 02 43.5	+0.3
AYDB	Zeytinkoy-Aydi	1.80	124	ePN	Pn	07 02 44.1	+0.1
AYDB	Zeytinkoy-Aydi	1.80	124	ePn	Pn	07 02 44.1	+0.1
ALN	Alexandroupoli	1.92	1	ePN	Pn	07 02 45.1	-0.3
ALN	Alexandroupoli	1.92	1	P	Pn	07 02 45.1	-0.3
ALN	Alexandroupoli	1.92	1	ePN	Pn	07 02 45.0	-0.4
ALN	Alexandroupoli	1.92	1	P	Pn	07 02 45.1	-0.3
PTL	Penteli	1.92	242	ePB	Pn	07 02 45.5	0.0
PTL				eSN	Sn	07 03 09.3	-0.2
PTL	Penteli	1.92	242	ePb	Pn	07 02 45.5	0.0
PTL				eSn	Sn	07 03 09.3	-0.2
SART	Tekirdag	1.93	27	iP	Pb	07 02 48.2	-0.1
SART	Tekirdag	1.93	27	iP	Pb	07 02 48.2	-0.1
APE	Apeiranthos	1.94	191	ePN	Pn	07 02 44.4	-1.4
APE	Apeiranthos	1.94	191	P	Pn	07 02 44.6	-1.3
APE	Apeiranthos	1.94	191	ePB	Pn	07 02 44.8	-1.1
APE	Apeiranthos	1.94	191	⇓iP	Pn	07 02 44.2	-1.7
APE	Apeiranthos	1.94	191	⇑iP	Pn	07 02 45.0	-0.9
APE	Apeiranthos	1.94	191	S	Sg	07 03 14.8	-1.1
APE	Apeiranthos	1.94	191	P	Pn	07 02 44.6	-1.3
AYDN	Tasoluk	1.97	131	iP	Pn	07 02 46.1	-0.1
AYDN	Tasoluk	1.97	131	iP	Pn	07 02 46.1	-0.1
EDC	Edincik	1.98	46	ePN	Pn	07 02 46.8	+0.5
EDC	Edincik	1.98	46	ePn	Pn	07 02 46.8	+0.5
DURS	Dursunbey	2.01	71	iP	Pn	07 02 46.9	+0.1
DURS	Dursunbey	2.01	71	iP	Pn	07 02 46.9	+0.1
BNT	Bandirma	2.02	46	ePN	Pn	07 02 46.6	-0.2
BNT	Bandirma	2.02	46	ePn	Pn	07 02 46.6	-0.2
ATHU	Athens Univers	2.02	241	P	Pn	07 02 45.8	-1.0
ATHU	Athens Univers	2.02	241	P	Pn	07 02 45.8	-1.0
MRMT	Marmara Adasi	2.03	37	ePN	Pn	07 02 47.5	+0.5
MRMT	Marmara Adasi	2.03	37	ePn	Pn	07 02 47.5	+0.5
PAIG	Paliouri	2.04	298	P	Pn	07 02 46.6	-0.5
PAIG	Paliouri	2.04	298	ePB	Pn	07 02 47.4	+0.3
PAIG	Paliouri	2.04	298	P	Pn	07 02 46.6	-0.5
PAIG	Paliouri	2.04	298	ePb	Pn	07 02 47.4	+0.3
ATH	Athens Observa	2.06	242	P	Pn	07 02 46.4	-1.0
ATH				S	Sn	07 03 12.3	-0.5
ATH	Athens Observa	2.06	242	ePN	Pn	07 02 47.4	0.0
ATH	Athens Observa	2.06	242	P	Pn	07 02 46.4	-1.0
ATH	Athens Observa	2.06	242	ePn	Pn	07 02 47.4	0.0
ATH				S	Sn	07 03 12.3	-0.5
OUR	Ouranopolis	2.07	311	ePN	Pn	07 02 47.2	-0.3
OUR	Ouranopolis	2.07	311	P	Pn	07 02 47.6	+0.1
OUR	Ouranopolis	2.07	311	ePN	Pn	07 02 47.4	-0.1
OUR	Ouranopolis	2.07	311	P	Pn	07 02 47.6	+0.1
DEMI	Demirci	2.11	87	iP	Pn	07 02 48.4	+0.2
DEMI				iS	Sg	07 03 20.5	-0.6
DEMI	Demirci	2.11	87	iP	Pn	07 02 48.4	+0.2
KULA	Kula-Manisa	2.12	102	ePN	Pn	07 02 48.8	+0.4
KULA	Kula-Manisa	2.12	102	ePn	Pn	07 02 48.8	+0.4
BODT	Bodrum	2.17	151	ePN	Pn	07 02 48.2	-0.8
BODT	Bodrum	2.17	151	ePn	Pn	07 02 48.2	-0.8
SMIA	Simia	2.19	268	ePN	Pn	07 02 49.0	-0.2
SMIA	Simia	2.19	268	ePn	Pn	07 02 49.0	-0.2
NEO	Neokhori	2.19	279	ePN	Pn	07 02 48.8	-0.4
NEO	Neokhori	2.19	279	ePn	Pn	07 02 48.8	-0.4
RDO	Rodhopi	2.19	351	P	Pn	07 02 48.8	-0.4
RDO	Rodhopi	2.19	351	ePB	Pn	07 02 49.4	+0.2
RDO	Rodhopi	2.19	351	P	Pn	07 02 48.8	-0.4
RDO	Rodhopi	2.19	351	ePb	Pn	07 02 49.4	+0.2
KCTX	Karacabey (Bur	2.22	54	ePN	Pn	07 02 50.7	+1.1
KCTX	Karacabey (Bur	2.22	54	ePn	Pn	07 02 50.7	+1.1
BDRM	Kayabasi	2.22	149	iP	Pn	07 02 48.6	-1.0
BDRM				iS	Sb	07 03 21.2	+0.7
BDRM	Kayabasi	2.22	149	iP	Pn	07 02 48.6	-1.0
XOR	Xorichti	2.22	281	P	Pn	07 02 49.2	-0.5
XOR	Xorichti	2.22	281	ePN	Pn	07 02 49.1	-0.6
XOR	Xorichti	2.22	281	P	Pn	07 02 49.2	-0.5
VILL	Villia	2.27	250	P	Pn	07 02 49.7	-0.6
VILL	Villia	2.27	250	P	Pn	07 02 49.7	-0.6
KAVA	Kavala	2.32	331	P	Pn	07 02 50.8	-0.1
KAVA	Kavala	2.32	331	ePN	Pn	07 02 50.8	-0.1
KAVA	Kavala	2.32	331	P	Pn	07 02 50.8	-0.1
TKR	Tekirdag	2.33	30	ePN	Pn	07 02 51.8	+0.8
TKR	Tekirdag	2.33	30	ePn	Pn	07 02 51.8	+0.8
NAIG	Nisos Aigina	2.33	239	ePB	Pn	07 02 51.8	+0.7
NAIG	Nisos Aigina	2.33	239	ePb	Pn	07 02 51.8	+0.7
ATAL	Atalanti	2.35	264	P	Pn	07 02 50.9	-0.5
ATAL				S	Sn	07 03 20.2	+0.2
ATAL	Atalanti	2.35	264	P	Pn	07 02 50.9	-0.5
ATAL				S	Sn	07 03 20.2	+0.2
LKR	Lokris	2.38	263	P	Pn	07 02 50.9	-0.8
LKR	Lokris	2.38	263	ePN	Pn	07 02 51.3	-0.4
LKR	Lokris	2.38	263	P	Pn	07 02 50.9	-0.8
LKR	Lokris	2.38	263	ePn	Pn	07 02 51.3	-0.4
PLG	Polygyros	2.42	306	P	Pn	07 02 52.1	-0.3
PLG	Polygyros	2.42	306	ePN	Pn	07 02 52.7	+0.3
PLG	Polygyros	2.42	306	P	Pn	07 02 52.1	-0.3
PLG	Polygyros	2.42	306	ePn	Pn	07 02 52.7	+0.3
DAT	Datca	2.57	151	ePN	Pn	07 02 54.1	-0.4
DAT	Datca	2.57	151	ePn	Pn	07 02 54.1	-0.4
LTK	Loutraki	2.57	249	ePN	Pn	07 02 55.1	+0.7
LTK	Loutraki	2.57	249	ePn	Pn	07 02 55.1	+0.7
YER	Yerkesik	2.57	135	ePN	Pn	07 02 54.6	+0.1
YER	Yerkesik	2.57	135	ePn	Pn	07 02 54.6	+0.1
THR5	Thira Island,	2.61	192	ePN	Pn	07 02 53.6	-1.4
THR5	Thira Island,	2.61	192	P	Pn	07 02 53.9	-1.1
THR5	Thira Island,	2.61	192	ePn	Pn	07 02 53.6	-1.4
THR5	Thira Island,	2.61	192	P	Pn	07 02 53.9	-1.1
AXAR	Agios Charalam	2.62	266	ePN	Pn	07 02 54.9	-0.3
AXAR	Agios Charalam	2.62	266	ePn	Pn	07 02 54.9	-0.3
DID	Didima	2.63	237	P	Pn	07 02 54.5	-0.8
DID	Didima	2.63	237	ePN	Pn	07 02 55.1	-0.2
DID	Didima	2.63	237	P	Pn	07 02 54.5	-0.8
DID	Didima	2.63	237	ePn	Pn	07 02 55.1	-0.2
SANT	Santorini	2.64	190	ePN	Pn	07 02 54.5	-0.9
SANT	Santorini	2.64	190	ePn	Pn	07 02 54.5	-0.9
THR1	Thera Island	2.64	190	ePN	Pn	07 02 54.7	-0.7
THR1	Thera Island	2.64	190	ePn	Pn	07 02 54.7	-0.7
DENT	Denizli	2.67	116	ePN	Pn	07 02 56.3	+0.4
DENT	Denizli	2.67	116	ePn	Pn	07 02 56.3	+0.4
ULDT	Uludag	2.68	63	iP	Pn	07 02 55.9	-0.2
ULDT	Uludag	2.68	63	iP	Pn	07 02 55.9	-0.2
KDZ	Kurdzhali	2.71	351	⇑iP	Pn	07 02 56.3	0.0
KDZ	Kurdzhali	2.71	351	S	Sn	07 03 25.9	-2.9
KDZ	Kurdzhali	2.71	351	⇑iP	Pn	07 02 56.3	0.0
GDZ	Gediz	2.71	87	iP	Pn	07 02 57.0	+0.6
GDZ	Gediz	2.71	87	iP	Pn	07 02 57.0	+0.6
ARMT	Armutlu	2.71	53	ePN	Pn	07 02 57.2	+0.9
ARMT	Armutlu	2.71	53	ePn	Pn	07 02 57.2	+0.9
TVSB	Tavsanli	2.72	79	ePN	Pn	07 02 57.5	+0.9
TVSB	Tavsanli	2.72	79	ePn	Pn	07 02 57.5	+0.9
SOH	Sokhos	2.75	313	P	Pn	07 02 57.3	+0.4
SOH	Sokhos	2.75	313	ePN	Pn	07 02 57.4	+0.5
SOH	Sokhos	2.75	313	P	Pn	07 02 57.3	+0.4
HORT	Hortiatis	2.76	307	ePN	Pn	07 02 57.6	+0.5
HORT	Hortiatis	2.76	307	ePn	Pn	07 02 57.6	+0.5
DSF	Desfina	2.78	259	P	Pn	07 02 56.8	-0.6
DSF	Desfina	2.78	259	ePN	Pn	07 02 57.0	-0.4
DSF	Desfina	2.78	259	ePn	Pn	07 02 57.0	-0.4
SLVT	Silivri	2.81	36	ePN	Pn	07 02 58.7	+1.0
SLVT	Silivri	2.81	36	ePn	Pn	07 02 58.7	+1.0
KHL	Karahalli	2.83	102	ePN	Pn	07 02 59.2	+1.2
KHL	Karahalli	2.83	102	ePn	Pn	07 02 59.2	+1.2
SRS	Serrai	2.83	320	P	Pn	07 02 58.0	0.0
SRS	Serrai	2.83	320	ePN	Pn	07 02 58.0	0.0
SRS	Serrai	2.83	320	P	Pn	07 02 58.0	0.0
GEMT	Gemlik	2.85	58	ePN	Pn	07 03 00.1	+1.8
GEMT	Gemlik	2.85	58	ePn	Pn	07 03 00.1	+1.8
AGG	Agios Georgios	2.87	272	ePN	Pn	07 02 58.5	0.0
AGG	Agios Georgios	2.87	272	ePn	Pn	07 02 58.5	0.0
THE	Thessaloniki	2.87	306	ePN	Pn	07 02 59.1	+0.6
THE	Thessaloniki	2.87	306	ePn	Pn	07 02 59.1	+0.6
NVR	Nevrokopi	2.88	326	P	Pn	07 02 58.9	+0.2
NVR	Nevrokopi	2.88	326	ePN	Pn	07 02 58.9	+0.2
NVR	Nevrokopi	2.88	326	P	Pn	07 02 58.9	+0.2
PHSR	Pinarhisar	2.89	23	ePN	Pn	07 02 59.4	+0.6
PHSR	Pinarhisar	2.89	23	ePn	Pn	07 02 59.4	+0.6
EDRB	Edirne	2.92	11	ePN	Pn	07 03 00.0	+0.8
EDRB	Edirne	2.92	11	ePn	Pn	07 03 00.0	+0.8
TURN	Turunc	2.94	135	iP	Pn	07 02 58.7	-0.7
TURN	Turunc	2.94	135	iP	Pn	07 02 58.7	-0.7
CTKS	Kestanelik-??a	2.96	40	ePN	Pn	07 03 00.7	+1.0
CTKS	Kestanelik-??a	2.96	40	ePn	Pn	07 03 00.7	+1.0
IZI	Iznik	3.00	62	ePN	Pn	07 03 00.7	+0.3
IZI	Iznik	3.00	62	ePn	Pn	07 03 00.7	+0.3
MAKR	Makrakomi, Fth	3.02	272	ePN	Pn	07 03 01.3	+0.7
MAKR	Makrakomi, Fth	3.02	272	ePn	Pn	07 03 01.3	+0.7
BUY	Buyukada	3.04	51	iP	Pn	07 03 01.5	+0.7
BUY	Buyukada	3.04	51	iP	Pn	07 03 01.5	+0.7
BGKT	Bogazkoy	3.05	43	ePN	Pn	07 03 01.3	+0.3
BGKT	Bogazkoy	3.05	43	ePn	Pn	07 03 01.3	+0.3
GUR	Goura	3.06	251	ePN	Pn	07 03 01.1	-0.2
GUR	Goura	3.06	251	ePn	Pn	07 03 01.1	-0.2
KALE	Kalithea	3.08	260	P	Pn	07 03 01.5	0.0
KALE	Kalithea	3.08	260	ePN	Pn	07 03 01.5	0.0
KALE	Kalithea	3.08	260	P	Pn	07 03 01.5	0.0
ISK	Istanbul-Kandi	3.13	47	ePN	Pn	07 03 03.3	+1.2
ISK	Istanbul-Kandi	3.13	47	ePn	Pn	07 03 03.3	+1.2
MMB	Musomiste	3.14	327	⇓iP	Pn	07 03 02.4	+0.2
MMB	Musomiste	3.14	327	S	Sn	07 03 35.5	-3.9
MMB	Musomiste	3.14	327	⇓iP	Pn	07 03 02.4	+0.2
THL	Klokotos Trika	3.15	282	P	Pn	07 03 02.6	+0.2
THL	Klokotos Trika	3.15	282	ePN	Pn	07 03 02.9	+0.5
THL	Klokotos Trika	3.15	282	P	Pn	07 03 02.6	+0.2
THL	Klokotos Trika	3.15	282	ePn	Pn	07 03 02.9	+0.5
KLV	Kalavryta, Ach	3.17	254	P	Pn	07 03 02.5	-0.2
KLV	Kalavryta, Ach	3.17	254	ePN	Pn	07 03 02.4	-0.2
KLV	Kalavryta, Ach	3.17	254	P	Pn	07 03 02.5	-0.2
ALT	Altintas	3.19	87	ePN	Pn	07 03 04.3	+1.2
ALT	Altintas	3.19	87	ePn	Pn	07 03 04.3	+1.2
CAVI	Cavuskoy	3.20	66	ePN	Pn	07 03 04.7	+1.6
CAVI	Cavuskoy	3.20	66	ePn	Pn	07 03 04.7	+1.6
ADVT	Abdulvahap	3.22	62	ePN	Pn	07 03 04.8	+1.5
ADVT	Abdulvahap	3.22	62	ePn	Pn	07 03 04.8	+1.5
ARG	Arkhangelos	3.23	148	ePN	Pn	07 03 03.5	0.0
ARG	Arkhangelos	3.23	148	ePn	Pn	07 03 03.5	0.0
KNT	Kendrikon	3.23	313	P	Pn	07 03 04.3	+0.8
KNT	Kendrikon	3.23	313	ePN	Pn	07 03 04.5	+1.0
KNT	Kendrikon	3.23	313	P	Pn	07 03 04.3	+0.8
KLYT	Kilyos	3.25	45	ePN	Pn	07 03 04.5	+0.8
KLYT	Kilyos	3.25	45	ePn	Pn	07 03 04.5	+0.8
EFP	Efpalio	3.26	262	ePN	Pn	07 03 04.1	+0.3
EFP	Efpalio	3.26	262	ePn	Pn	07 03 04.1	+0.3
EVR	Evrytania	3.28	270	ePN	Pn	07 03 05.0	+0.8
EVR	Evrytania	3.28	270	ePn	Pn	07 03 05.0	+0.8
PLD	Plovdiv	3.28	343	P	Pn	07 03 05.0	+0.9
PLD	Plovdiv	3.28	343	P	Pn	07 03 05.0	+0.9
VLX	Vlachokerasia	3.28	242	P	Pn	07 03 04.2	-0.1
VLX	Vlachokerasia	3.28	242	ePN	Pn	07 03 04.7	+0.4
VLX	Vlachokerasia	3.28	242	P	Pn	07 03 04.2	-0.1
VLX	Vlachokerasia	3.28	242	ePn	Pn	07 03 04.7	+0.4
VLI	Veliai	3.32	228	P	Pn	07 03 03.9	-0.8
VLI	Veliai	3.32	228	ePN	Pn	07 03 04.2	-0.5
VLI	Veliai	3.32	228	P	Pn	07 03 03.9	-0.8
VLI	Veliai	3.32	228	ePn	Pn	07 03 04.2	-0.5
HRT	Hereke	3.36	56	ePN	Pn	07 03 07.2	+1.9
HRT	Hereke	3.36	56	ePn	Pn	07 03 07.2	+1.9
GRG	Griva	3.40	307	ePN	Pn	07 03 05.9	0.0
GRG	Griva	3.40	307	ePN	Pn	07 03 07.0	+1.1
GRG	Griva	3.40	307	ePn	Pn	07 03 05.9	0.0
JMB	Yambol	3.51	7	P	Pn	07 03 07.9	+0.6
JMB	Yambol	3.51	7	⇑iP	Pn	07 03 08.6	+1.3
JMB	Yambol	3.51	7	S	Sn	07 03 47.6	-1.0
JMB	Yambol	3.51	7	P	Pn	07 03 07.9	+0.6
VAY	Valandovo	3.52	313	iPn	Pn	07 03 09.8	+2.3
VAY	Valandovo	3.52	313	iPn	Pn	07 03 09.7	+2.2
DRO	Drossia	3.53	254	P	Pn	07 03 07.5	-0.1
DRO	Drossia	3.53	254	ePN	Pn	07 03 08.2	+0.6
DRO	Drossia	3.53	254	P	Pn	07 03 07.5	-0.1
DRO	Drossia	3.53	254	ePn	Pn	07 03 08.2	+0.6
SILT	Sile	3.53	51	ePN	Pn	07 03 08.4	+0.8
SILT	Sile	3.53	51	ePn	Pn	07 03 08.4	+0.8
KARP	Karpathos	3.55	165	ePN	Pn	07 03 07.5	-0.4
KARP	Karpathos	3.55	165	ePn	Pn	07 03 07.5	-0.4
GPA	Golpazari	3.57	67	ePN	Pn	07 03 08.9	+0.7
GPA	Golpazari	3.57	67	ePn	Pn	07 03 08.9	+0.7
KYTH	Kithira	3.58	222	P	Pn	07 03 08.0	-0.3
KYTH	Kithira	3.58	222	ePN	Pn	07 03 07.8	-0.5
KYTH	Kithira	3.58	222	P	Pn	07 03 08.0	-0.3
RLS	Riolos of Patr	3.68	257	ePN	Pn	07 03 10.2	+0.5
RLS	Riolos of Patr	3.68	257	ePn	Pn	07 03 10.2	+0.5
AMT	Artemida-Makis	3.68	248	ePN	Pn	07 03 11.3	+1.6
AMT	Artemida-Makis	3.68	248	ePn	Pn	07 03 11.3	+1.6
ITM	Ithomi	3.69	242	P	Pn	07 03 09.7	-0.1
ITM	Ithomi	3.69	242	ePN	Pn	07 03 10.5	+0.7
ITM	Ithomi	3.69	242	P	Pn	07 03 09.7	-0.1
ITM	Ithomi	3.69	242	ePn	Pn	07 03 10.5	+0.7
NPS	Neapolis	3.72	185	ePN	Pn	07 03 09.8	-0.5
NPS	Neapolis	3.72	185	ePn	Pn	07 03 09.8	-0.5
ISP	Isparta	3.73	107	ePN	Pn	07 03 11.6	+1.2
ISP	Isparta	3.73	107	ePn	Pn	07 03 11.6	+1.2
GULT	Gulveren	3.77	66	ePN	Pn	07 03 12.6	+1.7
GULT	Gulveren	3.77	66	ePn	Pn	07 03 12.6	+1.7
ANKY	Antikythira Is	3.78	216	ePN	Pn	07 03 12.3	+1.2
ANKY	Antikythira Is	3.78	216	ePn	Pn	07 03 12.3	+1.2
PDO	Prodromos	3.79	266	ePN	Pn	07 03 12.5	+1.3
PDO	Prodromos	3.79	266	ePn	Pn	07 03 12.5	+1.3
IDI	Anoyia	3.79	194	Pn	Pn	07 03 10.1	-1.2
	1.7nm,0.3s,baz=5.4,slow=14,SNR=12						
IDI				Sn	Sn	07 03 53.1	-2.5
	6.7nm,0.3s,baz=18,slow=20,SNR=3.7						
IDI				LR	LR	07 04 16.4	
	comp=Z,48nm,19.2s,baz=68,slow=34						
ESKT	Eskisehir	3.80	80	ePN	Pn	07 03 12.4	+1.0
ESKT	Eskisehir	3.80	80	ePn	Pn	07 03 12.4	+1.0
ELL	Elmali	3.81	125	ePN	Pn	07 03 12.2	+0.8
ELL	Elmali	3.81	125	ePn	Pn	07 03 12.3	+0.8
DSL	Palaion Diasel	3.83	274	ePN	Pn	07 03 13.3	+1.6
DSL	Palaion Diasel	3.83	274	ePn	Pn	07 03 13.3	+1.6
VAM	Vamos	3.85	203	ePN	Pn	07 03 13.0	+1.0
VAM	Vamos	3.85	203	ePn	Pn	07 03 13.0	+1.0
PYL	PYLOS	3.96	240	ePN	Pn	07 03 15.1	+1.5
PYL	PYLOS	3.96	240	ePn	Pn	07 03 15.1	+1.5
FNA	Florina	3.99	298	ePN	Pn	07 03 15.1	+1.1
FNA	Florina	3.99	298	ePn	Pn	07 03 15.1	+1.1
JAN	Janina	4.06	281	ePN	Pn	07 03 15.5	+0.6
JAN	Janina	4.06	281	ePn	Pn	07 03 15.5	+0.6
NEST	Nestorio	4.09	292	ePN	Pn	07 03 16.6	+1.3
NEST	Nestorio	4.09	292	ePn	Pn	07 03 16.6	+1.3
BTAS	Taskesti	4.16	66	iP	Pb	07 03 26.7	+0.4
BTAS				iS	Sg	07 04 25.0	-1.8
LKD2	Lefkada island	4.18	269	ePN	Pn	07 03 17.5	+0.9
LKD2	Lefkada island	4.18	269	ePn	Pn	07 03 17.5	+0.9
VTS	Vitosha	4.19	330	P	Pn	07 03 17.1	+0.3
VTS	Vitosha	4.19	330	⇓iP	Pn	07 03 17.9	+1.1
VTS	Vitosha	4.19	330	S	Sn	07 04 03.0	-2.5
VTS	Vitosha	4.19	330	P	Pn	07 03 17.1	+0.3
ZKS	Zakynthos	4.30	254	ePN	Pn	07 03 20.1	+1.9
ZKS	Zakynthos	4.30	254	ePn	Pn	07 03 20.1	+1.9
VLS	Valsamata	4.32	261	ePN	Pn	07 03 20.1	+1.6
VLS	Valsamata	4.32	261	ePn	Pn	07 03 20.1	+1.6
IGT	Igoumenitsa	4.44	279	ePN	Pn	07 03 21.4	+1.3
IGT	Igoumenitsa	4.44	279	ePn	Pn	07 03 21.4	+1.3
SGD	Sagiada	4.53	280	ePN	Pn	07 03 22.8	+1.5
SGD	Sagiada	4.53	280	ePn	Pn	07 03 22.8	+1.5
KEK	Kerkira	4.87	281	ePN	Pn	07 03 27.1	+1.1
KEK	Kerkira	4.87	281	ePn	Pn	07 03 27.1	+1.1
PSN	Preselentsi	4.97	19	⇓iP	Pn	07 03 27.0	-0.4
PSN	Preselentsi	4.97	19	⇓iP	Pn	07 03 27.0	-0.4
BARS	Barje	4.98	322	⇑iPn	Pn	07 03 28.7	+1.2
MSAB	Monastry St. A	5.29	14	⇓iP	Pn	07 03 32.1	+0.4
MSAB	Monastry St. A	5.29	14	⇓iP	Pn	07 03 32.1	+0.4
BOLS	Boljevac	5.72	329	⇑iPn	Pn	07 03 37.1	-0.6
TIRR	Tirgusor	5.76	17	⇑iP	Pn	07 03 38.2	0.0
TIRR	Tirgusor	5.76	17	⇑iP	Pn	07 03 38.2	0.0
TLB	Topalu	5.80	15	⇓iP	Pn	07 03 39.6	+0.8
BRTR	Keskin Array B	5.96	80	Pn	Pn	07 03 42.3	+1.2
	1.1nm,0.3s,baz=256,slow=13,SNR=29						
BRTR				Sn	Sn	07 04 48.4	-0.9
	baz=259,slow=17,SNR=1.7						
BRTR				Lg	Lg	07 05 23.9	
	baz=268,slow=23,SNR=2.0						
BRTR	Keskin Array B	5.96	80	iP	Pn	07 03 42.5	+1.4
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
BRTR	Keskin Array B	5.96	80	iP	Pn	07 03 42.5	+1.4
	comp=Z,4.0nm,0.4s						
CFR	Carcaliu	6.39	14	⇓iP	Pn	07 03 48.3	+1.4
CFR	Carcaliu	6.39	14	⇓iP	Pn	07 03 48.3	+1.4
ARR	Arges	6.46	351	⇓iP	Pn	07 03 48.0	0.0
ARR	Arges	6.46	351	S	Sn	07 04 59.0	-2.5
ARR	Arges	6.46	351	⇓iP	Pn	07 03 48.0	0.0
MLR	Muntele Rosu	6.51	360	Pn	Pn	07 03 50.7	+2.1
	comp=Z,1.0nm,0.3s,baz=233,slow=3.6,SNR=24						
MLR				Lg	Lg	07 05 41.5	
	comp=Z,0.1nm,0.3s,baz=97,slow=10,SNR=3.2						
MLR	Muntele Rosu	6.51	360	⇑iP	Pn	07 03 50.4	+1.8
LOT	Lotru	6.67	346	⇓iP	Pn	07 03 51.0	+0.1
LOT	Lotru	6.67	346	S	Sn	07 05 03.6	-3.1
LOT	Lotru	6.67	346	⇓iP	Pn	07 03 51.0	+0.1
TRUS	Trudelj	6.71	323	iPn	Pn	07 03 50.8	-0.5
DIVS	Divibare	6.82	320	⇑iP	Pn	07 03 53.4	+0.5
DIVS	Divibare	6.82	320	S	Sn	07 05 06.9	-3.4
DIVS	Divibare	6.82	320	⇑iP	Pn	07 03 53.4	+0.5
GZR	Gura Zlata	6.84	341	⇓iP	Pn	07 03 53.2	0.0
GZR	Gura Zlata	6.84	341	S	Sn	07 05 06.5	-4.3
GZR	Gura Zlata	6.84	341	⇓iP	Pn	07 03 53.2	0.0
PLOR	Plostina	6.88	4	⇓iP	Pn	07 03 55.0	+1.3
PLOR	Plostina	6.88	4	⇓iP	Pn	07 03 55.0	+1.3
VRI	Vrincioaia	6.90	4	⇓iP	Pn	07 03 56.0	+2.1
VRI	Vrincioaia	6.90	4	⇓iP	Pn	07 03 56.0	+2.1
DOPR	Dopca	7.00	356	⇓iP	Pn	07 03 57.1	+1.9
DOPR	Dopca	7.00	356	⇓iP	Pn	07 03 57.1	+1.9
DOPR				S	Sn	07 05 13.5	-1.1
TEKS	Tekeris	7.38	321	iPn	Pn	07 04 01.6	+1.2
BZS	Buzias	7.39	335	⇑iP	Pn	07 04 00.8	+0.2
BZS	Buzias	7.39	335	⇑iP	Pn	07 04 00.8	+0.2
TESR	Tescani	7.54	3	⇑iP	Pn	07 04 04.7	+2.0
TESR	Tescani	7.54	3	⇑iP	Pn	07 04 04.7	+2.0
SIRR	Siria	7.96	338	⇓iP	Pn	07 04 09.1	+0.7
SIRR	Siria	7.96	338	⇓iP	Pn	07 04 09.1	+0.7
SEV	Sevastopol’	7.98	43	eP	Pn	07 04 08.3	-0.3
SEV				eS	Sn	07 05 32.7	-5.9
SEV	Sevastopol’	7.98	43	eP	Pn	07 04 08.3	-0.3
DRGR		8.17	344	⇓iP	Pn	07 04 11.1	-0.3
DRGR		8.17	344	S	Sn	07 05 41.3	-2.2
DRGR		8.17	344	⇓iP	Pn	07 04 11.1	-0.3
YAL	Yalta	8.21	45	eP	Pn	07 04 12.1	+0.3
YAL	Yalta	8.21	45	eP	Pn	07 04 12.1	+0.3
ALU	Alushta	8.47	45	eP	Pn	07 04 19.0	+3.7
SIM	Simferopol’	8.48	43	P	Pn	07 04 17.4	+1.8
SIM				eS	Sn	07 05 47.5	-3.6
SIM				pmax	pmax		
	comp=Z,65nm,0.3s						
SIM				smax	smax		
	comp=N,18nm,0.9s						
SIM				smax	smax		
	comp=E,10.0nm,1.0s						
SIM	Simferopol’	8.48	43	P	Pn	07 04 17.4	+1.8
	comp=E,65nm,0.3s						
BURAR	Bucovina Array	8.65	356	⇑iP	Pn	07 04 18.9	+0.9
BURAR	Bucovina Array	8.65	356	⇑iP	Pn	07 04 18.9	+0.9
SUDU	Sudak	8.93	46	eP	Pn	07 04 22.1	+0.4
SUDU				eS	Sn	07 05 57.2	-4.7
SUDU	Sudak	8.93	46	eP	Pn	07 04 22.1	+0.4
MMAI	Mount Meron Ar	9.66	125	Pn	Pn	07 04 30.3	-1.5
	comp=E,1.4nm,0.3s,baz=306,slow=12,SNR=2.2						
PSZ	Piszkesteto	9.97	336	⇑iP	Pn	07 04 34.9	-1.2
PSZ	Piszkesteto	9.97	336	⇑iP	Pn	07 04 34.9	-1.2
ANN	Anapa	10.31	52	eP	Pn	07 04 40.7	+0.1
ANN				eS	Sn	07 06 36.8	+1.0
ANN				pmax	pmax		
	comp=Z,28nm,1.2s						
ANN	Anapa	10.31	52	eP	Pn	07 04 40.7	+0.1
	comp=Z,28nm,1.2s						
ANN				eS	Sn	07 06 36.8	+1.0
VRAC	Vranov	12.33	330	LR	LR	07 09 55.1	
	comp=Z,53nm,19.1s,baz=134,slow=37						
TREC	Trest	12.77	327	AMS	AMS	07 11 00.0	
	comp=Z,100nm,9.4s						
GERES	GERESS Array B	13.25	322	Pn	Pn	07 05 22.7	+1.9
	comp=Z,0.1nm,0.3s,baz=135,slow=13,SNR=2.4						
GERES				LR	LR	07 10 39.1	
	comp=Z,31nm,18.9s,baz=124,slow=38						
DPC	Dobruska-Polom	13.28	332	AMS	AMS	07 11 50.0	
	comp=Z,100nm,9.5s						
KHC	Kasperske Hory	13.51	323	eP	P	07 05 33.4	-0.1
KHC				ex	x	07 05 36.5	
KHC				AMS	AMS	07 10 30.0	
	comp=Z,100nm,11.4s						
KHC	Kasperske Hory	13.51	323	eP	P	07 05 33.4	-0.1
KHC				MLR	MLR		
	comp=Z,100nm,11.4s						
GOPC	GO Pecny, Ondr	13.54	327	AMS	AMS	07 10 40.0	
	comp=Z,100nm,7.4s						
DAVOX	Davos/Dischmat	14.15	309	LR	LR	07 10 54.2	
	comp=Z,54nm,18.2s,baz=216,slow=37						
OBN	Obninsk	17.64	20	LR	LR	07 13 52.3	
	comp=Z,36nm,21.0s,baz=270,slow=40						
FINES	FINESS Array B	22.49	0	P	P	07 07 12.7	+0.8
	comp=Z,1.7nm,1.0s,baz=181,slow=9.7,SNR=2.5						
FINES	FINESS Array B	22.49	0	eP	P	07 07 18.3	+6.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HFS	**Hagfors**	**22.56**	**344**	P	**P**	**07 07 12.0**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=146,slow=13,SNR=3.1						
HFS				LR	LR	07 16 47.3	
	comp=Z,39nm,18.6s,baz=154,slow=39						
HFS	**Hagfors**	**22.56**	**344**	P	**P**	**07 07 12.0**	**-0.6**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HFS				MLR	MLR		
	comp=Z,39nm,18.6s						
HFS	**Hagfors**	**22.56**	**344**	P	**P**	**07 07 12.0**	**-0.6**
	comp=Z,39nm,18.6s						
ESDC	**Sonseca Array**	**23.15**	**281**	P	**P**	**07 07 21.1**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=72,slow=10,SNR=5.9						
NOA	**NORSAR Array B**	**23.93**	**342**	P	**P**	**07 07 26.5**	**0.0**
	comp=Z,1.4nm,0.9s,baz=148,slow=9.7,SNR=4.4						
NOA				LR	LR	07 17 34.8	
	comp=Z,18nm,18.4s,baz=260,slow=38						
NOA	**NORSAR Array B**	**23.93**	**342**	P	**P**	**07 07 26.5**	**0.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,18nm,18.4s						
AKTK	**Aktyubinsk**	**25.27**	**53**	P	**P**	**07 07 38.3**	**-0.5**
	comp=Z,1.0nm,0.5s						
AKTO	**Aktyubinsk**	**25.27**	**53**	P	**P**	**07 07 38.3**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=237,slow=14,SNR=3.9						
AKTO	**Aktyubinsk**	**25.27**	**53**	P	**P**	**07 07 38.3**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EKA	**Eskdalemuir Ar**	**25.44**	**320**	P	**P**	**07 07 40.9**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=113,slow=10.0,SNR=7.1						
EKA	**Eskdalemuir Ar**	**25.44**	**320**	P	**P**	**07 07 40.9**	**+0.6**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**33.54**	**227**	P	**P**	**07 08 52.8**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=38,slow=8.5,SNR=6.6						
MKAR	**Makanchi Array**	**41.19**	**60**	P	**P**	**07 09 57.7**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=265,slow=8.8,SNR=14						
MKAR	**Makanchi Array**	**41.19**	**60**	*i* P	**P**	**07 09 58.0**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**41.19**	**60**	*i* P	**P**	**07 09 58.0**	**+0.8**
	comp=Z,1.0nm,0.5s						
SCHQ	**Schefferville**	**60.75**	**319**	P	**P**	**07 12 24.2**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=72,slow=7.6,SNR=3.9						
KSRS	**Korea Array**	**75.44**	**54**	P	**P**	**07 13 56.2**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=311,slow=5.7,SNR=4.3						
KSRS	**Korea Array**	**75.44**	**54**	*e*P	**P**	**07 13 56.7**	**+0.1**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSRS	**Korea Array**	**75.44**	**54**	*e*P	**P**	**07 13 56.7**	**+0.1**
	comp=Z,1.0nm,0.7s						

IDC 06 07:05:04.1±4.3**, 4°.76S×152°.61E, h0**km**, mb3.5**/2**, mb1 3.8**/2**, mb1mx3.4**/18**, mbtmp3.5**/2**, MS3.9**/1**, Ms1 3.9**/1**, ms1mx2.6**/19**, Error ellipse: s-maj=200.3km s-min=51.8km az=121.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.32**	**228**	P	P	07 10 13.9	-0.2
	1.5nm,0.9s,baz=54,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**26.05**	**222**	P	P	07 10 39.5	+0.2
	0.6nm,0.6s,baz=56,slow=8.8,SNR=9.3						
RAO	**Raoul Island**	**37.03**	**134**	LR	LR	07 23 17.3	
	comp=Z,206nm,21.6s,baz=79,slow=30						
TORD	**Torodi Ar. Bea**	**150.11**	**288**	PKPbc	PKPbc	07 24 57.4	-0.5
	0.4nm,0.6s,baz=89,slow=2.3,SNR=3.3						

DJA 06 07:24:02.3±1.0**, 7°S**±12°×**10°8E**±°**, h113**km±8km**, M3.1**/7**, MLv3.1**/7**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.29**	**127**	P	Pn	07 24 19.8	+1.3
CISI				S	Sn	07 24 33.1	+2.5
CNJI	**Cibinong**	**0.45**	**279**	P	Pn	07 24 20.0	+0.8
CNJI				S	Sn	07 24 34.3	+2.5
LEM	**Lembang**	**0.55**	**4**	P	Pn	07 24 20.6	+0.5
SKJI	**Sukabumi**	**1.08**	**290**	P	Pn	07 24 25.3	+0.7
SKJI				S	Sn	07 24 42.2	+0.8
KPJI	**Karang Pucung**	**1.34**	**88**	P	Pn	07 24 27.4	0.0
KPJI				S	Sn	07 24 46.9	+0.4
CGJI	**Cibinong**	**2.02**	**292**	P	Pn	07 24 35.6	-0.1
CGJI				S	Sn	07 25 01.4	+0.2

JMA 06 07:33:49.2±0.3**, 44°.12N×147°.89E, h0**km**, M3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.73**	**245**	P	Pn	07 34 21.0	+0.5
NEM2				*e*S	Sb	07 34 44.1	0.0
JRA	**Rausu**	**2.00**	**266**	P	Pn	07 34 25.1	+0.8
JNK	**Nakash**	**2.35**	**258**	P	Pn	07 34 30.2	+1.1
JNK				*e*S	Sn	07 34 59.4	+0.7
JAK	**Akkeshi**	**2.58**	**245**	P	Pn	07 34 32.5	+0.3
JAK				*e*S	Sn	07 35 04.6	+0.4
JAR	**Ashorobuto**	**3.10**	**256**	P	Pn	07 34 41.1	+1.8
JAR				*e*S	Sn	07 35 19.7	+2.6
JOB	**Onbets**	**3.19**	**249**	P	Pn	07 34 42.4	+1.8
JOB				*e*S	Sn	07 35 20.5	+1.2
JCH	**Churui**	**3.63**	**247**	P	Pn	07 34 48.3	+1.7
JCH				*e*S	Sn	07 35 30.7	+0.6
JNBK	**Urakawa-nobuka**	**4.18**	**246**	P	Pn	07 34 54.8	+0.6
JNBK				*e*S	Sn	07 35 43.1	-0.7

*IDC **06** 08:14:57.7±1.5, 35°.15S×71°.99W, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.6/17, mbtmp3.5/6, ML3.3/3, Error ellipse: s-maj=40.3km s-min=20.0km az=91.0*
*ISCJB **06** 08:15:03.5±0.7, 35°.18S±0°.04×71°.9W±0°.1, h61km±6km, mb3.9/5, Error ellipse: s-maj=15.7km s-min=5.1km az=14.9*
*GUC **06** 08:15:04.4±0.5, 35°.10S×71°.86W, h43km±1km, ML4.1*
*NEIC **06** 08:15:04.0, 35°.10S×71°.86W, h43km, mb4.3/3, After GUC.*
NEIC Felt [III] at Curico, Linares and Talca.
ISC 06 08:15:03.7±1.3**, 35°.13S**±0°.04×**72°.0W**±0°.1**, h43**km±13km**, n26, σ1s01**/38**, mb3.9**/5**, 4C-5D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.40**	**133**⇑	*i*P	**Pn**	**08 15 13.7**	**+0.4**
TALC				*i* S	**Sn**	**08 15 20.4**	**+0.2**
NICH	**Los Niches**	**0.64**	**79**⇓	*i*P	**Pn**	**08 15 16.1**	**-0.3**
NICH				*i* S	**Sn**	**08 15 24.3**	**-1.1**
LNCH	**Linares**	**0.79**	**156**⇓	*i*P	**Pn**	**08 15 19.0**	**+0.6**
LNCH				*i* S	**Sn**	**08 15 30.4**	**+1.3**
LNV	**Longovilo**	**1.26**	**22**	*e*P	**Pn**	**08 15 25.7**	**+0.9**
LNV				*i* S	**Sn**	**08 15 41.9**	**+1.2**
CHCH	**Chadas Angostu**	**1.62**	**43**⇓	*i*P	**Pn**	**08 15 30.3**	**+0.4**
CHCH				*i* S	**Sn**	**08 15 50.0**	**+0.4**
TACH	**Talagante**	**1.71**	**31**⇓	*e*P	**Pn**	**08 15 31.4**	**+0.4**
TACH				*i* S	**Sn**	**08 15 52.2**	**+0.5**
PCH	**Pirque**	**1.94**	**40**	*i* P	**Pn**	**08 15 34.9**	**+0.7**
PCH				*i* S	**Sn**	**08 15 57.8**	**+0.5**
SAN	**Santiago**	**2.00**	**34**⇑	*i*P	**Pn**	**08 15 35.7**	**+0.7**
SAN				*i* S	**Sn**	**08 15 59.3**	**+0.5**
SJCH	**San Jose de Ma**	**2.01**	**43**	*e*P	**Pn**	**08 15 34.7**	**-0.5**
SJCH				*e*S	**Sn**	**08 15 58.5**	**-0.7**
LACH	**Col Las Americ**	**2.06**	**36**⇑	*i*P	**Pn**	**08 15 36.3**	**+0.4**
LACH				*i* S	**Sn**	**08 16 00.8**	**+0.4**
CLCH	**Cerro Calan**	**2.10**	**35**	*e*P	**Pn**	**08 15 37.1**	**+0.7**
CLCH				*i* S	**Sn**	**08 16 01.8**	**+0.4**
CLCH				AML	AML	08 16 08.5	
	comp=E,2μm,0.2s						
PEL	**Peldehue**	**2.25**	**29**⇑	*i*P	**Pn**	**08 15 39.5**	**+1.0**
PEL				*i* S	**Sn**	**08 16 05.6**	**+0.5**
PEL				AML	AML	08 16 12.8	
	comp=E,2μm,0.4s						
ROCH	**El Roble**	**2.30**	**21**⇓	*e*P	**Pn**	**08 15 39.9**	**+0.7**
ROCH				*i* S	**Sn**	**08 16 07.6**	**+1.1**
ROCH				AML	AML	08 16 16.5	
	comp=N,2μm,0.5s						
CFAA	**Coronel Fontan**	**4.71**	**43**	Pn	**Pn**	**08 16 12.5**	**+0.2**
	comp=N,0.4nm,0.3s,baz=203,slow=15,SNR=67						
CFAA				Sn	**Sn**	**08 17 08.2**	**+2.6**
	comp=N,0.1nm,0.3s,baz=212,slow=15,SNR=1.5						
PLCA	**Paso Flores**	**5.71**	**169**	Pn	Pn	08 16 23.4	-2.6
	comp=N,0.1nm,0.3s,baz=343,slow=8.5,SNR=2.8						
PLCA				Lg	Lg	08 17 59.9	
	comp=N,0.1nm,0.3s,baz=139,slow=15,SNR=2.2						
PLCA	**Paso Flores**	**5.71**	**169**	*e*Pn	**Pn**	**08 16 24.4**	**-1.7**
LCO	**Las Campanas**	**6.19**	**11**	*e*Pn	**Pn**	**08 16 31.0**	**-1.8**
	comp=N,8.6nm,0.3s						
LCO				*e*Sn	**Sn**	**08 17 40.1**	**-2.4**
TRQA	**Tornquist**	**8.57**	**113**	*e*Pn	**Pn**	**08 17 05.3**	**+0.2**
LVC	**Limon Verde**	**12.76**	**13**	*e*Pn	Pn	08 17 57.8	-4.9
LPAZ	**La Paz**	**19.08**	**11**	P	**P**	**08 19 22.4**	**-0.8**
	comp=N,0.2nm,0.3s,baz=200,slow=8.7,SNR=6.3						
LPAZ	**La Paz**	**19.08**	**11**	*e*P	**P**	**08 19 22.2**	**-1.0**
	comp=N,2.3nm,0.9s						
SIV	**San Ignacio**	**21.42**	**30**	P	**P**	**08 19 47.1**	**-0.9**
	comp=N,1.7nm,0.8s,baz=222,slow=10.0,SNR=4.5						
TXAR	**Lajitas Array**	**70.73**	**331**	P	**P**	**08 26 16.4**	**+1.1**
	comp=N,0.2nm,0.5s,baz=151,slow=8.1,SNR=4.8						
MIAR	**Mount Ida**	**72.19**	**341**	P	P	08 26 29.1	+5.2
	comp=N,18nm,2.1s						
SDCO	**Great Sand Dun**	**78.89**	**334**	*e*P	**P**	**08 27 02.4**	**-0.1**
	comp=N,13nm,2.4s						
TORD	**Torodi Ar. Bea**	**84.56**	**70**	P	**P**	**08 27 32.1**	**-0.5**
	comp=N,0.4nm,0.4s,baz=235,slow=5.1,SNR=7.0						

*SJA **06** 08:26:44.2±0.8, 34°.59S×72°.85W, h20km, ML4.7*
*ISCJB **06** 08:26:47.4±0.9, 34°.74S±0°.02×71°.91W±0°.04, h3km±6km, mb4.4/40, MS4.0/13, Error ellipse: s-maj=6.5km s-min=3.4km az=21.1*
*GUC **06** 08:26:47.9±0.3, 34°.78S×71°.93W, h16km±63km, ML4.9*
*IDC **06** 08:26:48.9±0.7, 34°.79S×71°.87W, h0km, mb4.3/13, mb1 4.5/17, mb1mx4.4/23, mbtmp4.4/17, ML4.7/3, MS4.0/16, Ms1 4.0/16, ms1mx3.9/21, Error ellipse: s-maj=25.6km s-min=14.5km az=84.0*
*NEIC **06** 08:26:54.0±0.3, 34°.71S×71°.80W, h35km, mb4.5/28, ML4.9(GUC), Error ellipse: s-maj=9.6km s-min=6.1km az=75.0*
NEIC Felt [V] at Paredones and Santa Cruz; [IV] at San Fernando; [III] at Curico, Linares, Navidad, Pichilemu, Rancagua and Talca; [II] at San Francisco de Mostazal and Santiago. Also felt at San Vicente and Vina del Mar.
ISC 06 08:26:50.4±1.0**, 34°.71S**±0°.03×**71°.82W**±0°.05**, h13**km±6km**, n107, σ1s55**/119**, mb4.5**/39**, MS3.9**/13**, 2C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.57**	**121**⇑	*i*P	**Pg**	**08 26 59.6**	**-1.9**
NICH				*i* S	**Sg**	**08 27 08.5**	**-0.5**
TALC	**Talca**	**0.70**	**167**	*e*P	Pg	08 27 00.4	-3.6
TALC				*i* S	**Sg**	**08 27 09.5**	**-3.7**
LNV	**Longovilo**	**0.83**	**24**	*e*P	**Pg**	**08 27 04.4**	**-2.1**
LNV				*i* S	**Sg**	**08 27 17.1**	**-0.2**
LNCH	**Linares**	**1.15**	**171**	*e*P	**Pb**	**08 27 10.1**	**-1.9**
LNCH				*e*S	**Sb**	**08 27 24.9**	**-2.0**
TACH	**Talagante**	**1.29**	**35**	*e*P	**Pn**	**08 27 12.0**	**-2.1**
TACH				*i* S	**Sb**	**08 27 30.0**	**-1.0**
PCH	**Pirque**	**1.54**	**45**	*e*P	**Pn**	**08 27 17.0**	**-0.7**
PCH				*i* S	**Sb**	**08 27 38.2**	**-0.1**
SAN	**Santiago**	**1.58**	**38**	*e*P	**Pn**	**08 27 17.4**	**-0.8**
SAN				*e*S	**Sb**	**08 27 39.3**	**-0.2**
SJCH	**San Jose de Ma**	**1.62**	**49**⇓	*i*P	**Pn**	**08 27 17.5**	**-1.3**
SJCH				*i* S	**Sn**	**08 27 39.8**	**+0.1**
SJCH				AML	AML	08 27 43.5	
	comp=E,17μm,0.5s						
LACH	**Col Las Americ**	**1.65**	**41**	*e*P	**Pn**	**08 27 17.8**	**-1.4**
LACH				*e*S	**Sn**	**08 27 40.6**	**+0.2**
IHA	**Instituto Hidr**	**1.69**	**5**	*e*P	**Pn**	**08 27 18.6**	**-1.0**
IHA				*i* S	**Sn**	**08 27 41.2**	**0.0**
CLCH	**Cerro Calan**	**1.69**	**39**	*e*P	**Pn**	**08 27 18.6**	**-1.1**
CLCH				*i* S	**Sn**	**08 27 41.6**	**+0.2**
CLCH				AML	AML	08 27 48.6	
	comp=N,21μm,0.6s						
PEL	**Peldehue**	**1.83**	**31**⇑	*e*P	**Pn**	**08 27 21.4**	**-0.2**
PEL				*e*S	**Sb**	**08 27 46.1**	**-0.6**
ROCH	**El Roble**	**1.86**	**21**	*e*P	**Pn**	**08 27 21.3**	**-1.0**
ROCH				*e*S	**Sn**	**08 27 46.6**	**+0.8**
ROCH				AML	AML	08 27 51.2	
	comp=E,12μm,0.8s						
CCSP	**San Pedro de C**	**2.37**	**206**	AML	AML	08 28 04.2	
	comp=N,9μm,0.5s						
AAGR	**Agrelo**	**2.97**	**58**	*i* P	**Pb**	**08 27 42.5**	**-0.8**
AAGR				*i* P	**Pb**	**08 27 42.5**	**-0.8**
ARCO	**CERRO ARCO**	**3.05**	**53**	*i* P	**Pb**	**08 27 43.4**	**-1.2**
ARCO				*i* S	**Sg**	**08 28 27.8**	**-0.6**
ARCO				AML	AML	08 28 30.1	
	comp=Z,1μm,0.7s						
AUSP	**Uspallata**	**3.21**	**40**	*i* P	**Pb**	**08 27 44.5**	**-3.0**
AUSP				*i* S	**Sb**	**08 28 29.8**	**+3.1**
CANA	**Caviahue**	**3.23**	**169**	*e*P	**Pn**	**08 27 42.3**	**+1.4**
CANA				*e*S	**Sb**	**08 28 28.1**	**+1.2**
ASAL	**Salagasta**	**3.27**	**50**	*i* P	**Pb**	**08 27 46.5**	**-1.8**
RTLS	**Leoncito**	**3.60**	**37**	*i* P	Pn	08 27 50.0	+3.9
RTCV	**Cerro Valdivia**	**3.96**	**45**	*i* P	**Pn**	**08 27 53.8**	**+2.9**
SJA	**San Juan**	**4.20**	**42**	*e*P	Pb	08 27 59.6	-4.5
CFAA	**Coronel Fontan**	**4.32**	**45**	Pn	**Pn**	**08 27 57.5**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=221,slow=12,SNR=58						
CFAA				Sn	**Sb**	**08 28 54.2**	**-4.1**
	comp=Z,0.4nm,0.3s,baz=205,slow=18,SNR=2.3						
CFAA				LR	LR	08 29 45.7	
	comp=Z,266nm,20.0s,baz=230,slow=40						
CFAA	**Coronel Fontan**	**4.32**	**45**	*e*P	**Pn**	**08 27 58.8**	**+3.0**
RTLL	**Cerro Villicun**	**4.39**	**41**	*e*P	**Pn**	**08 27 59.6**	**+2.7**
ACAN	**Cantantal**	**4.57**	**59**	*e*P	**Pn**	**08 28 01.6**	**+2.2**
AMOG	**MOGNA**	**4.69**	**38**	*e*P	**Pn**	**08 28 03.1**	**+2.1**
LCO	**Las Campanas**	**5.77**	**10**	*e*Pn	**Pn**	**08 28 15.6**	**-0.3**
LCO				*e*Sn	**Sn**	**08 29 21.4**	**-0.7**
LCO	**Las Campanas**	**5.77**	**10**	*e*P	**Sn**	**08 29 21.8**	**-0.4**
PLCA	**Paso Flores**	**6.09**	**171**	Pn	**Pn**	**08 28 20.9**	**+0.7**
	comp=Z,4.8nm,0.3s,baz=336,slow=13,SNR=76						
PLCA				Lg	Lg	08 29 56.1	
	comp=Z,4.0nm,0.3s,baz=282,slow=23,SNR=4.8						
PLCA				LR	LR	08 30 55.6	
	comp=Z,838nm,21.3s,baz=354,slow=41						
CYA	**Choya**	**8.09**	**41**	*e*P	**Pn**	**08 28 46.1**	**-1.6**
TRQA	**Tornquist**	**8.61**	**116**	*e*Pn	**Pn**	**08 28 55.6**	**+0.9**
LVC	**Limon Verde**	**12.32**	**13**	Pn	**Pn**	**08 29 47.8**	**+1.9**
	comp=Z,19nm,0.3s,baz=190,slow=9.7,SNR=6.2						
LVC				Sn	Sn	08 32 16.8	+13
	comp=Z,18nm,0.3s,baz=155,slow=15,SNR=3.4						
LVC				LR	LR	08 34 15.5	
	comp=Z,3μm,18.8s,baz=208,slow=36						
LVC	**Limon Verde**	**12.32**	**13**	*e*Pn	**Pn**	**08 29 46.6**	**+0.7**
LVC				*e*sPn	sPn	08 29 54.7	+4.0
LVC				Sn	Sn	08 32 16.8	+13
LPAZ	**La Paz**	**18.65**	**11**	P	**Pn**	**08 31 09.5**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=192,slow=7.7,SNR=25						
LPAZ	**La Paz**	**18.65**	**11**	*e*P	**Pn**	**08 31 09.5**	**+0.6**
	comp=Z,41nm,1.2s						
USHA	**Ushuaia**	**20.25**	**174**	P	**P**	**08 31 25.1**	**-0.2**
	comp=Z,16nm,0.7s,baz=341,slow=7.7,SNR=7.5						
USHA				LR	LR	08 40 26.1	
	comp=Z,688nm,19.2s,baz=307,slow=40						
SIV	**San Ignacio**	**21.00**	**30**	P	**P**	**08 31 33.5**	**-0.2**
	comp=Z,5.2nm,0.6s,baz=222,slow=12,SNR=16						
SIV				LR	LR	08 40 59.7	
	comp=Z,263nm,21.5s,baz=234,slow=40						
NNA	**Nana**	**23.08**	**347**	P	**P**	**08 31 55.8**	**-0.1**
	comp=Z,12nm,0.8s,baz=233,slow=11,SNR=3.7						
NNA				LR	LR	08 38 58.4	
	comp=Z,382nm,20.9s,baz=175,slow=32						
SAML	**Samuel**	**26.84**	**19**	*e*P	**P**	**08 32 29.3**	**-1.4**
	comp=Z,6.4nm,1.0s						
ATAH	**Atahualpa**	**28.11**	**346**	LR	LR	08 42 22.1	
	comp=Z,283nm,18.6s,baz=191,slow=33						
BDFB	**Brasilia**	**28.60**	**54**	P	**P**	**08 32 45.8**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=217,slow=12,SNR=5.8						
BDFB				LR	LR	08 44 60.0	
	comp=Z,481nm,21.2s,baz=214,slow=38						
PMSA	**Palmer Station**	**30.46**	**173**	LR	LR	08 44 17.4	
	comp=Z,234nm,19.5s,baz=328,slow=34						
ROSC	**El Rosal**	**39.43**	**356**	*e*P	**P**	**08 34 21.0**	**+0.3**
SDV	**Santo Domingo**	**43.38**	**2**	*e*P	**P**	**08 34 52.6**	**-0.3**
	comp=Z,7.1nm,1.0s						
VNA1	**Neumayer--Stat**	**48.95**	**157**	P	**P**	**08 35 36.1**	**+0.2**
SNAA	**Sanae**	**50.86**	**158**	P	P	08 35 42.2	-8.3
SNAA	**Sanae**	**50.86**	**158**	P	**P**	**08 35 49.7**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=302,slow=7.5,SNR=22						
SNAA	**Sanae**	**50.86**	**158**	P	**P**	**08 35 49.7**	**-0.8**
	comp=Z,0.8nm,1.4s						
QSPA	**South Pole Qui**	**55.52**	**180**	*e*P	**P**	**08 36 24.7**	**-0.4**
	comp=Z,15nm,1.0s						
MEH	**Mehetia**	**68.93**	**262**	*e*T	T	09 52 31.6	
	comp=Z,16nm,0.2s						
TVO	**Taravao**	**69.94**	**262**	*e*T	T	09 53 46.0	
	comp=Z,0.7nm,0.2s						
JCT	**Junction City**	**70.00**	**334**	*e*P	**P**	**08 38 01.8**	**0.0**
	comp=Z,5.1nm,0.8s						
TIAR	**Tiarei**	**70.14**	**262**	*e*T	T	09 54 02.1	
	comp=Z,3.2nm,0.2s						
PPT2	**Papeete2**	**70.31**	**262**	*e*LR	LR	08 59 10.3	
	comp=Z,81nm,27.0s						
PPT	**Papeete**	**70.32**	**262**	LR	LR	09 02 57.5	
	comp=Z,60nm,18.6s,baz=197,slow=31						
TXAR	**Lajitas Array**	**70.44**	**331**	P	**P**	**08 38 04.6**	**0.0**
	comp=Z,0.9nm,0.5s,baz=155,slow=8.7,SNR=41						
TXAR				LR	LR	09 04 04.4	
	comp=Z,113nm,19.7s,baz=0.0,slow=32						
TX31	**Lajitas Ar. Si**	**70.44**	**331**	*e*P	**P**	**08 38 04.6**	**+0.1**
SWET	**Sewanee**	**70.81**	**348**	*e*P	**P**	**08 38 06.2**	**-0.3**
MAW	**Mawson**	**72.45**	**163**	P	**P**	**08 38 14.9**	**-1.1**
	comp=Z,1.3nm,0.4s,baz=206,slow=3.0,SNR=4.6						
MAW				LR	LR	09 12 17.5	
	comp=Z,182nm,18.6s,baz=236,slow=38						
MNTX	**Cornudas Mount**	**73.22**	**331**	*e*P	**P**	**08 38 20.1**	**-1.0**
	comp=Z,2.7nm,0.8s						
TUL1	**Leonard**	**73.74**	**340**	*e*P	**P**	**08 38 23.5**	**-0.5**
	comp=Z,26nm,1.7s						
MSTX	**Muleshoe**	**74.22**	**334**	*e*P	**P**	**08 38 27.1**	**0.0**
	comp=Z,6.5nm,1.0s						
121A	**Cookes Peak, D**	**74.94**	**329**	*e*P	**P**	**08 38 31.7**	**+0.3**
	comp=Z,6.2nm,0.9s						
DBIC	**Dimbokro**	**75.24**	**71**	LR	LR	09 09 47.5	
	comp=Z,48nm,18.3s,baz=148,slow=34						
TUC	**Tucson**	**76.06**	**327**	*e*P	**P**	**08 38 38.5**	**+0.8**
	comp=Z,8.2nm,1.5s						
LAZ	**Ladron**	**76.29**	**331**	*e*P	**P**	**08 38 39.4**	**+0.3**
	comp=Z,2.0nm,1.0s						
ANMO	**Albuquerque**	**76.49**	**331**	*e*P	**P**	**08 38 41.0**	**+0.8**
	comp=Z,8.6nm,1.5s						
214A	**Organ Pipe Nat**	**76.70**	**325**	P	**P**	**08 38 42.2**	**+0.9**
	comp=Z,3.9nm,0.9s						
T25A	**Trinidad**	**77.65**	**334**	*e*P	**P**	**08 38 47.4**	**+0.7**
	comp=Z,11nm,1.0s						
SDCO	**Great Sand Dun**	**78.59**	**333**	*e*P	**P**	**08 38 52.0**	**0.0**
	comp=Z,30nm,2.6s						
MVCO	**Mesa Verde**	**79.27**	**331**	*e*P	**P**	**08 38 57.2**	**+1.6**
	comp=Z,6.7nm,1.1s						
BOSA	**Boshof**	**79.58**	**117**	P	**P**	**08 38 58.3**	**+0.6**
	comp=Z,4.8nm,0.8s,baz=237,slow=4.9,SNR=7.8						
PV01	**Paradox Valley**	**80.10**	**331**	*e*P	**P**	**08 39 00.3**	**+0.2**
	comp=Z,222nm,1.1s						
SMCO	**Snowmass**	**80.39**	**333**	*e*P	**P**	**08 39 02.9**	**+1.0**
	comp=Z,6.9nm,1.0s						
KNB	**Kanab**	**80.92**	**328**	*e*P	**P**	**08 39 04.8**	**+0.3**
	comp=Z,7.0nm,1.3s						
ECSD	**EROS Data Cent**	**81.28**	**342**	*e*P	**P**	**08 39 05.5**	**-0.5**
	comp=Z,6.2nm,0.9s						
SHPR	**Sheep Range**	**81.55**	**326**	*e*P	**P**	**08 39 08.3**	**+0.5**
	comp=Z,3.9nm,1.1s						
CCUT	**Cedar City**	**81.60**	**328**	*e*P	**P**	**08 39 09.7**	**+1.5**
	comp=Z,49nm,2.8s						
LBTB	**Lobatse**	**81.84**	**115**	P	**P**	**08 39 09.7**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=285,slow=6.1,SNR=6.7						
MSU	**Marysvale**	**81.90**	**329**	*e*P	**P**	**08 39 09.5**	**-0.2**
	comp=Z,2.9nm,1.0s						
R11A	**Troy Canyon, C**	**83.25**	**327**	*e*P	**P**	**08 39 17.2**	**+0.5**
	comp=Z,31nm,2.6s						
DUG	**Dugway, Tooele**	**83.58**	**330**	*e*P	**P**	**08 39 18.5**	**+0.2**
	comp=Z,3.0nm,0.9s						
TPH	**Tonopah**	**83.78**	**326**	*e*P	**P**	**08 39 18.5**	**-1.0**
	comp=Z,3.3nm,1.0s						
HWUT	**Hardware Ranch**	**84.26**	**331**	*e*P	**P**	**08 39 21.6**	**-0.2**
	comp=Z,3.0nm,0.8s						
TOA0	**Torodi Ar. Sit**	**84.29**	**70**	*e*P	**P**	**08 39 24.6**	**+2.3**
TORD	**Torodi Ar. Bea**	**84.29**	**70**	P	**P**	**08 39 23.5**	**+1.2**
	comp=Z,3.1nm,0.9s,baz=249,slow=3.8,SNR=13						
TORD				LR	LR	09 16 10.2	
	comp=Z,118nm,19.3s,baz=250,slow=35						
PDAR	**Pinedale Array**	**84.48**	**333**	P	**P**	**08 39 25.1**	**+2.2**
	comp=Z,0.6nm,0.7s,baz=108,slow=2.9,SNR=2.5						
PDAR				LR	LR	09 13 13.0	
	comp=Z,72nm,19.4s,baz=142,slow=33						
NVAR	**Mina Array Bea**	**84.57**	**325**	P	**P**	**08 39 23.8**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=164,slow=6.1,SNR=3.6						
MSKU	**Masuku**	**85.31**	**89**	P	**P**	**08 39 29.8**	**+2.2**
	comp=Z,4.7nm,0.5s,baz=209,slow=7.5,SNR=4.2						
AGMN	**Agassiz Nation**	**85.39**	**344**	*e*P	**P**	**08 39 26.6**	**-0.5**
	comp=Z,7.5nm,1.4s						
MCMT	**McKenzie Canyo**	**87.48**	**332**	*e*P	P	08 39 34.4	-3.4
WVOR	**Wild Horse Val**	**87.92**	**327**	*e*P	**P**	**08 39 39.9**	**+0.1**
	comp=Z,0.8nm,0.5s						
ESDC	**Sonseca Array**	**96.94**	**46**	LR	LR	09 24 25.7	
	comp=Z,39nm,19.1s,baz=265,slow=36						
WRA	**Warramunga Arr**	**120.22**	**209**	PKP	**PKPdf**	**08 45 41.1**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=155,slow=1.8,SNR=5.8						
BVAR	**Borovoye Array**	**147.68**	**44**	PKPbc	**PKPbc**	**08 46 34.6**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=279,slow=2.9,SNR=11						
EKS2	**Erkin-Say**	**152.15**	**63**	*e*PKPdf	**PKPdf**	**08 46 39.7**	**+0.7**
EKS2				*e*PKPbc	**PKiKP**	**08 46 48.5**	**+2.6**
KURBB	**Kurchatov Arra**	**153.26**	**44**	PKPbc	**PKPbc**	**08 46 49.9**	**+2.3**
	comp=Z,1.6nm,0.7s,baz=295,slow=2.7,SNR=18						
KURK	**Kurchatov**	**153.27**	**44**	*e*PKPbc	**PKPbc**	**08 46 46.7**	**-1.0**
KSH	**Kashi**	**153.96**	**70**	*e*PKPbc	**PKPdf**	**08 46 41.5**	**-0.2**
KSH				pPKP	**PKiKP**	**08 46 52.1**	**+2.3**
KSH				sPKP		08 46 54.5	
KSH				PP	**PP**	**08 50 39.9**	**+1.7**
KSH				SKS	**SKSdf**	**08 53 47.1**	**-1.3**
KSH				SKKS	**SKKSac**	**08 57 23.4**	**-4.4**
KSH				PPMZ			
	comp=Z,68nm,4.6s						
ZALV	**Zalesovo Beam**	**154.73**	**33**	PKPbc	**PKPbc**	**08 46 53.3**	**+2.6**
	comp=Z,0.8nm,0.3s,baz=316,slow=4.0,SNR=3.5						
MKAR	**Makanchi Array**	**157.09**	**50**	PKP	**PKPdf**	**08 46 47.6**	**+2.0**
	comp=Z,0.4nm,0.9s,baz=290,slow=2.4,SNR=2.5						
MKAR				PKPab	**PKPab**	**08 47 18.2**	**+2.1**
	comp=Z,0.5nm,0.7s,baz=322,slow=4.1,SNR=4.1						
WMQ	**Urumqi**	**161.76**	**54**	PKP	**PKPdf**	**08 46 51.0**	**-0.1**
WMQ				PP	**PP**	**08 51 23.0**	**+2.5**
WMQ				PPMZ			
	comp=Z,9.0nm,11.0s						
NJ2	**Nanjing**	**170.69**	**256**	*e*PKP	**PKPdf**	**08 46 59.0**	**+0.6**
HHC	**Hu-ho-hao-te**	**173.31**	**337**	*e*PKP	**PKPdf**	**08 46 56.3**	**-3.2**
HHC				SS	SS	09 13 29.8	-3.7
HHC				PPMZ			
	comp=Z,33nm,9.5s						
CD2	**Chengdu**	**174.69**	**134**	PKP	**PKPdf**	**08 46 58.6**	**-1.6**
LZH	**Lanzhou**	**176.21**	**68**	*e*PKP	**PKPdf**	**08 46 59.5**	**-1.1**
LZH				pPKP	**pPKPdf**	**08 47 10.3**	**+5.4**
LZH				sPKP		08 47 14.5	

*KRNET **06** 08:27:35.3±0.1, 41°.02N×71°.16E, h1km, mb3.1*
*NNC **06** 08:27:40.6±1.0, 41°.12N×71°.25E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=9.4km s-min=7.6km az=99.0*
ISC 06 08:27:35.4±1.2**, 41°.04N**±0°.03×**71°.18E**±0°.03**, h4**km±12km**, n34, σ1s51**/47**, 34C-10D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.96**	**37**⇑	*i*P	**Pn**	**08 27 55.5**	**-0.3**
	baz=38						
ARK			⇑	*i*S	**Sb**	**08 28 08.3**	**+0.4**
	baz=38						
BTK	**Batken**	**1.02**	**196**	*e*P	**Pn**	**08 27 55.6**	**-0.9**
	baz=195						
BTK				*e*S	**Sb**	**08 28 09.0**	**-0.4**
	baz=195						
TAS	**Tashkent**	**1.45**	**282**	*e*P	**Pb**	**08 28 02.6**	**-0.5**
	baz=283						
TAS				*e*S	**Sg**	**08 28 24.4**	**+2.3**
	baz=283						
MNAS	**Manas**	**1.75**	**34**	⇑P	**Pg**	**08 28 09.1**	**+0.1**
	40nm,0.3s						
MNAS				⇓S	**Sg**	**08 28 33.1**	**+1.3**
	41nm,0.3s						
SFK	**Sufi-Kurgan**	**2.04**	**119**	⇓Pn	**Pb**	**08 28 13.8**	**+0.6**
	24nm,0.7s						
SFK				⇓Sn	**Sg**	**08 28 43.4**	**+2.4**
	124nm,0.4s						
SFK	**Sufi-Kurgan**	**2.04**	**119**⇓	*e*P	**Pb**	**08 28 13.8**	**+0.6**
	baz=119						
SFK			⇓	*i*S	**Sg**	**08 28 43.4**	**+2.4**
	baz=119						
KK31	**Karatay Array**	**2.13**	**347**	⇑Pn	**Pg**	**08 28 15.3**	**-0.8**
	22nm,0.3s,baz=171,slow=12,SNR=813						
KK31				⇓Sn	**Sg**	**08 28 44.5**	**+0.8**
	50nm,0.2s,baz=170,slow=28,SNR=24						
AML	**Almayashu**	**2.18**	**59**	P	**Pb**	**08 28 15.2**	**-0.5**
	SNR=127						
AML	**Almayashu**	**2.18**	**59**⇑	*i*P	**Pb**	**08 28 15.5**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
	baz=59						
AML				⇑iS	Sb	08 28 44.6	+1.4
	baz=59						
EKS2	Erkin-Say	2.53	49	P	Pb	08 28 20.7	-0.8
	SNR=87						
EKS2	Erkin-Say	2.53	49	⇑iP	Pb	08 28 20.3	-1.2
	baz=49						
EKS2				⇑iS	Sg	08 28 56.6	0.0
	baz=49						
EKS	Erkin-Say	2.54	49	⇑iP	Pb	08 28 21.1	-0.5
	baz=49						
EKS				⇑iS	Sb	08 28 54.8	+1.6
	baz=49						
UCH	Uchtor	2.77	63	P	Pb	08 28 23.6	-2.1
	SNR=25						
UCH	Uchtor	2.77	63	⇑iP	Pb	08 28 23.5	-2.1
	baz=63						
UCH				⇑iS	Sb	08 28 59.9	-0.2
	baz=63						
DZET	Dzherino	2.87	220	⇑Pn	Pg	08 28 29.9	-0.6
	11nm,0.3s						
DZET				⇑Sn	Sg	08 29 08.5	+0.9
	81nm,0.4s						
AAK	Ala-Archa	2.94	56	P	Pg	08 28 30.6	-1.2
	SNR=14						
AAK	Ala-Archa	2.94	56	⇑Pn	Pb	08 28 30.3	+1.7
	27nm,0.3s						
AAK				⇑Sn	Sb	08 29 06.6	+1.6
	56nm,0.6s						
AAK	Ala-Archa	2.94	56	⇑iP	Pb	08 28 26.4	-2.2
	baz=56						
AAK				⇑iS	Sb	08 29 05.2	+0.2
	baz=56						
FRU	Bishkek	3.13	54	eP	Pb	08 28 32.0	+0.4
	baz=54						
FRU				eS	Sg	08 29 15.0	-0.9
	baz=54						
KZA	Kyzart	3.22	70	P	Pb	08 28 30.4	-3.1
	SNR=13						
KZA	Kyzart	3.22	70	⇑iP	Pb	08 28 30.4	-3.1
	baz=70						
KZA				⇑iS	Sb	08 29 13.4	+0.1
	baz=70						
KBK	Karagaybulak	3.25	59	P	Pb	08 28 33.6	-0.1
	SNR=12						
KBK	Karagaybulak	3.25	59	⇑iP	Pb	08 28 31.0	-2.7
	baz=59						
KBK				⇑iS	Sb	08 29 13.2	-0.4
	baz=59						
CHMS	Chumysh	3.30	52	P	Pb	08 28 31.0	-3.6
	SNR=5.1						
CHMS	Chumysh	3.30	52	⇓iP	Pb	08 28 31.1	-3.5
	baz=52						
CHMS				⇓iS	Sb	08 29 17.8	+2.6
	baz=52						
USP	Ospenovka	3.32	47	P	Pn	08 28 30.9	+2.6
	SNR=6.5						
NRN	Naryn	3.65	82	⇑iP	Pb	08 28 38.7	-2.1
	baz=82						
NRN				⇑iS	Sb	08 29 25.6	0.0
	baz=82						
TKM2	Tokmak 2	3.79	59	⇑Pn	Pn	08 28 38.2	+3.4
	1.0nm,0.3s						
TKM2				⇑Lg	Lg	08 29 35.5	
	31nm,0.6s						
ANVS	Anan'yevo	5.14	68	⇑iP	Pn	08 28 58.7	+5.3
	baz=68						
ANVS				⇑iS	Sn	08 29 59.4	+6.1
	baz=68						
PDGK	Podgornoye	6.58	67	⇑Pg	Pg	08 29 40.4	-1.0
	1.6nm,0.5s						
PDGK				⇓Lg	Lg	08 31 05.0	
	14nm,0.8s						
MK31	Makanchi Array	9.86	51	⇑Pn	Pn	08 30 05.0	+7.1
	0.3nm,0.3s,baz=234,slow=13,SNR=6.0						
MK31				⇑Lg	Lg	08 32 54.3	
	1.6nm,0.8s,baz=238,slow=28,SNR=3.5						
KURBB	Kurchatov Arra	10.87	26	⇑Lg	Lg	08 33 24.1	
	3.5nm,0.6s						
KURK	Kurchatov	10.97	26	⇓Lg	Lg	08 33 24.1	
	2.5nm,0.8s						
AB31	Akbulak array	11.41	320	⇑Pn	Pn	08 30 18.7	-0.4
	0.7nm,0.5s,baz=0.0,slow=0.1,SNR=14						
AB31				⇑Sn	Sn	08 32 27.0	-0.1
	1.0nm,0.5s,baz=0.0,slow=0.1,SNR=5.4						

IDC 06 08:45:32.0±2.1**, 37°.42S**×**73°.51W, h0**km**, mb3.2**/2**, mb1 3.6**/3**, mb1mx3.4**/15**, mbtmp3.2**/3**, ML3.1**/1**, Error ellipse: s-maj=79.4km s-min=21.0km az=63.0, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.03	146	Pn	Pn	08 46 36.8	+1.8
	0.3nm,0.3s,baz=329,slow=12,SNR=4.5						
PLCA				Lg	Lg	08 47 38.2	
	0.4nm,0.3s,baz=315,slow=13,SNR=2.1						
LPAZ	La Paz	21.59	14	P	P	08 50 24.1	0.0
	0.5nm,0.6s,baz=195,slow=16,SNR=4.2						
TXAR	Lajitas Array	72.17	333	P	P	08 56 58.4	-0.2
	0.1nm,0.3s,baz=146,slow=8.7,SNR=4.5						

*IDC **06** 08:54:13.9±1.9, 4°.93N×127°.30E, h84km±17km, mb4.4/17, mb1 4.4/18, mb1mx4.2/28, mbtmp4.7/18, MS3.2/5, Ms1 3.2/5, ms1mx2.8/33, Error ellipse: s-maj=35.1km s-min=9.8km az=66.0*
*MAN **06** 08:54:13, 4°.69N×127°.08E, h55km, mb5.3, ML4.3, MS4.5*
*BJI **06** 08:54:14.6, 4°.95N×127°.28E, h100km, mb4.8/29, mB4.7/14*
*ISCJB **06** 08:54:14.5±0.3, 4°.94N±0°.03×127°.41E±0°.06, h108km, mb4.6/24, Error ellipse: s-maj=8.4km s-min=3.4km az=155.0*
*NEIC **06** 08:54:16.7±0.7, 4°.99N×127°.41E, h113km±7km, mb4.7/11, Error ellipse: s-maj=10.6km s-min=4.7km az=71.0*
*DJA **06** 08:54:17.0±1.1, 5°N±7°×12°7E±1°1, h100km±10km, M4.9/6, mb4.7/3, mB4.9/1, MLv5.0/6, Mw(mB)4.2/1*
ISC 06 08:54:16.5±0.4**, 4°.90N**±0°.05×**127°.27E**±0°.07**, h108**km**, n82, σ1s.87**/124**, mb4.9**/32**, 4C-2D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SGSI	Sangihe	2.12	235	P	Pn	08 54 52.9	+2.0
MATI	Mati	2.27	334	eP	Pn	08 54 50.9	-2.0
MATI				eS	Sn	08 55 08.5	-12
GSPH	General Santos	2.60	297	⇓iP	Pn	08 54 52.8	-4.5
GSPH				i S	Sn	08 55 24.9	-3.6
DAV	Davao City (W)	2.74	322	ePn	Pn	08 54 58.5	-0.4
BIPH	Bislig	3.39	345	⇑iP	Pn	08 55 09.6	+1.9
BIPH				i S	Sn	08 55 47.0	-0.1
BUKP	Musuan	3.69	324	eP	Pn	08 55 11.0	-0.7
CTBH	Cotabato--PC H	3.79	308	⇑iP	Pn	08 55 10.9	-2.1
TNTI	Ternate	4.10	179	P	Pn	08 55 17.8	+0.6
TNTI	Ternate	4.10	179	ePn	Pn	08 55 17.6	+0.4
BUTP	Butuan	4.36	338	eP	Pn	08 55 21.5	+0.8
CGP	Cagayan de Oro	4.36	324	⇑eP	Pn	08 55 20.7	0.0
CGP				eS	Sn	08 56 11.6	+1.0
PAGZ	Pagadian	4.85	307	eP	Pn	08 55 25.7	-1.6
SCPH	Surigao	5.16	340	⇑eP	Pn	08 55 34.2	+2.7
MRSI	Marisa	6.90	231	P	Pn	08 55 58.1	+3.0
	113nm,0.5s,1μm0.4nm						
SIJI	Sorong	6.98	145	P	Pn	08 55 55.1	-1.1
	9.4nm,0.3s,baz=330,slow=17,SNR=30						
SIJI				S	Sn	08 57 11.2	-2.9
	10nm,0.3s,baz=171,slow=22,SNR=13						
LUWI	Luwuk	7.42	217	ePn	Pn	08 56 06.6	+4.5
FAKI	Fak Fak	9.22	147	ePn	Pn	08 56 27.0	+0.4
FAKI				eSn	Sn	08 58 06.3	-2.3
SZP	Santa	14.23	333	ePn	Pn	08 57 33.0	-0.2
SBUM	Sibu	15.22	261	ePn	P	08 57 48.5	+0.3
	14nm,0.9s						
KSM	Kuching	17.27	259	eP	Pn	08 58 11.7	+0.6
	20nm,0.7s						
TPUB	Ta-pu	19.39	341	eP	P	08 58 33.1	-1.0
	38nm,0.5s						
SSLB	Suanglung	19.74	343	eP	P	08 58 37.2	-0.7
	19nm,0.8s						
LEM	Lembang	22.82	239	LR	LR	09 09 12.2	
	comp=Z,52nm,19.9s,baz=296,slow=39						
WRAB	Tennant Creek	25.64	164	eP	P	08 59 36.0	-0.2
	27nm,0.6s						
WRA	Warramunga Arr	25.64	164	P	P	08 59 36.1	-0.2
	20nm,0.4s,baz=343,slow=10,SNR=98						
WRA				ScP	ScP	09 06 37.0	+2.8
	1.6nm,0.8s,baz=341,slow=2.8,SNR=7.8						
IPM	Ipoh	26.16	270	P	P	08 59 41.7	+0.6
	4.1nm,0.7s						
MBWA	Marble Bar	26.93	196	eP	P	08 59 48.7	+0.9
	40nm,1.4s						
NJ2	Nanjing	28.14	345	eP	P	09 00 00.4	+1.9
NJ2				PMZ			
	30nm,0.5s						
GYA	Guiyang	29.11	320	eP	P	09 00 08.7	+1.3
GYA				pP	pP	09 00 31.4	+0.1
GYA				sP	sP	09 00 43.0	-0.8
GYA				PP	PnPn	09 01 07.4	+2.0
GYA				S	S	09 04 53.7	+2.0
GYA				sS	sS	09 05 31.2	-2.1
GYA				SS	SnSn	09 06 30.8	+2.7
GYA				PMZ			
	10.0nm,0.8s						
GYA				PMZ			
	90nm,4.8s						
GYA				LN			
	470nm,15.8s						
GYA				LE			
	360nm,16.1s						
GYA				LZ			
	440nm,15.9s						
AS31	Alice Springs	29.12	167	eP	P	09 00 07.7	+0.4
ASAR	Alice Springs	29.12	167	P	P	09 00 07.3	0.0
	3.6nm,0.5s,baz=358,slow=8.3,SNR=103						
ASAR				PcP	PcP	09 03 12.9	+0.2
	1.0nm,0.6s,baz=0.3,slow=2.0,SNR=4.2						
ASAR				ScP	ScP	09 06 47.7	+3.0
	1.5nm,0.9s,baz=2.9,slow=3.2,SNR=9.9						
AS01	Alice Springs	29.13	167	eP	P	09 00 07.3	-0.1
CMAR	Chiang Mai Arr	30.77	298	P	P	09 00 21.5	-0.5
	1.7nm,0.4s,baz=120,slow=7.5,SNR=10.0						
CMAR				LR	LR	09 13 24.6	
	comp=Z,16nm,18.6s,baz=195,slow=37						
KSAR	Wonju Array Be	32.40	1	P	P	09 00 36.0	0.0
KSRS	Korea Array	32.41	1	P	P	09 00 36.0	-0.1
	0.7nm,0.6s,baz=176,slow=9.4,SNR=5.9						
KSRS				LR	LR	09 19 18.5	
	comp=Z,10nm,18.0s,baz=202,slow=46						
XAN	Xi'an	33.63	332	P	P	09 00 46.1	-0.8
XAN				pP	pP	09 01 06.4	-4.6
XAN				PMZ			
	18nm,0.8s						
CD2	Chengdu	34.04	322	eP	P	09 00 51.0	+0.5
CD2				pP	pP	09 01 13.0	-1.6
CD2				sP	sP	09 01 24.4	-2.7
CD2				PP	PP	09 02 10.2	+0.5
CD2				S	S	09 06 11.0	+2.8
CD2				sS	sS	09 06 49.7	-0.5
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.2s						
BJT	Baijiatuau	36.37	346	eP	P	09 01 10.4	+0.1
	42nm,0.4s						
BJI	Beijing	36.39	346	P	P	09 01 11.9	+1.5
BJI				pP	pP	09 01 32.2	-2.6
BJI				sP	sP	09 01 42.8	-4.4
BJI				S	S	09 06 42.4	-1.4
BJI				sS	sS	09 07 27.3	+1.2
BJI				PMZ			
	56nm,0.5s						
LZH	Lanzhou	37.79	328	eP	P	09 01 23.4	+0.9
LZH				pP	pP	09 01 41.3	-5.7
LZH				sP	sP	09 01 56.4	-3.0
LZH				PP	PnPn	09 02 58.2	+4.9
LZH				S	S	09 07 06.8	+1.2
LZH				sS	sS	09 07 46.1	-1.9
LZH				SS	SS	09 09 46.5	-9.3
LZH				PMZ			
	30nm,1.1s						
LZH				PMZ			
	89nm,4.4s						
LZH				LN			
	400nm,14.0s						
LZH				LE			
	360nm,15.4s						
LZH				LZ			
	430nm,16.0s						
BBOO	Buckleboo	38.42	168	eP	P	09 01 27.9	+0.3
	14nm,0.6s						
HHC	Hu-ho-hao-te	38.47	341	eP	P	09 01 28.7	+0.6
HHC				pP	pP	09 01 52.6	-0.1
HHC				sP	sP	09 02 04.5	-0.5
HHC				PP	PnPn	09 03 04.9	+3.5
HHC				S	ScP	09 07 18.7	+1.3
HHC				sS	sS	09 07 57.8	-0.4
HHC				ScS	ScS	09 11 28.6	+0.7
HHC				PMZ			
	39nm,1.0s						
HHC				PMZ			
	50nm,5.3s						
HHC				LN			
	91nm,13.8s						
HHC				LE			
	110nm,13.1s						
HHC				LZ			
	51nm,13.7s						
CN2	Changchun	38.78	358	eP	P	09 01 29.3	-1.2
CN2				PMZ			
	10.0nm,0.6s						
STKA	Stephens Creek	39.03	160	P	P	09 01 32.6	-0.1
	30nm,0.6s,baz=334,slow=8.1,SNR=102						
STKA				LR	LR	09 19 47.9	
	comp=Z,88nm,18.1s,baz=204,slow=39						
STKA	Stephens Creek	39.03	160	eP	P	09 01 32.6	-0.1
	6.3nm,0.6s						
GTA	Gaotai	42.39	328	eP	P	09 02 00.8	+0.4
GTA				pP	pP	09 02 23.8	-1.6
GTA				sP	sP	09 02 35.2	-2.4
GTA				S	S	09 08 16.0	+2.0
GTA				sS	sS	09 08 55.5	-1.5
GTA				SS	SS	09 11 22.7	-4.4
GTA				PMZ			
	12nm,1.6s						
GTA				PMZ			
	43nm,5.2s						
GTA				LN			
	290nm,22.9s						
GTA				LE			
	430nm,22.4s						
GTA				LZ			
	63nm,21.1s						
TAPN	Taplejung	43.78	305	eP	P	09 02 11.4	-0.6
	38nm,0.6s						
ODAN	Odare	43.85	304	eP	P	09 02 11.9	-0.6
	41nm,0.7s						
RAMN	Ramite	44.54	304	eP	P	09 02 17.6	-0.4
	37nm,0.7s						
JIRN	Jiri	45.14	305	eP	P	09 02 22.2	-0.8
	38nm,0.6s						
GUN	Gumba	45.49	305	eP	P	09 02 24.8	-0.9
	50nm,0.5s						
PKI	Pulchoki	45.75	304	eP	P	09 02 26.3	-1.4
KKN	Kakani	45.94	304	eP	P	09 02 27.9	-1.2
	18nm,0.6s						
DMN	Daman	46.02	304	eP	P	09 02 28.5	-1.2
	27nm,0.9s						
SONM	Songino Array	46.38	341	P	P	09 02 32.2	+0.1
	2.4nm,0.4s,baz=160,slow=8.3,SNR=26						
SONA1	Songino Array	46.38	341	eP	P	09 02 32.0	-0.1
GKN	Gorkha	46.55	304	eP	P	09 02 32.1	-1.7
KOLN	Koldanda	47.32	304	eP	P	09 02 39.2	-0.6
	44nm,0.5s						
TLY	Talaya	50.60	341	P	P	09 03 04.6	+0.4
	3.8nm,0.5s,baz=180,slow=8.1,SNR=8.5						
TLY	Talaya	50.60	341	eP	P	09 03 04.8	+0.6
	6.5nm,0.7s						
WMQ	Urumqi	52.09	324	P	P	09 03 17.2	+1.6
WMQ				PMZ			
	9.0nm,0.4s						
WMQ				PMZ			
	59nm,4.6s						
WMQ				LN			
	59nm,8.0s						
WMQ				LE			
	95nm,8.0s						
WMQ				LZ			
	44nm,21.0s						
MK01	Makanchi Array	56.90	325	eP	P	09 03 50.2	-0.1
MKAR	Makanchi Array	56.92	325	P	P	09 03 50.6	+0.3
	7.0nm,0.4s,baz=122,slow=8.3,SNR=54						
MKAR	Makanchi Array	56.92	325	eP	P	09 03 50.8	+0.4
KSH	Kashi	57.61	314	eP	P	09 03 56.7	+1.2
KSH				pP	pP	09 04 22.6	+0.8
KSH				PcP	PcP	09 04 49.3	+1.7
KSH				ePP	PP	09 06 09.0	+4.5
KSH				PcS	PcS	09 08 50.9	+1.9
KSH				S	S	09 11 48.5	+2.9
KSH				sS	sS	09 12 30.9	+0.3
KSH				PMZ			
	100nm,1.0s						
KSH				LN			
	780nm,14.1s						
KSH				LE			
	520nm,15.9s						
KSH				LZ			
	100nm,5.7s						
ZAA0	Zalesovo Array	59.80	333	eP	P	09 04 09.6	-0.6
ZALV	Zalesovo Beam	59.80	333	P	P	09 04 09.8	-0.5
	1.4nm,0.3s,baz=119,slow=7.8,SNR=6.7						
KURK	Kurchatov	61.06	327	⇓P	P	09 04 18.9	0.0
	22nm,0.6s						
KURK	Kurchatov	61.06	327	P	P	09 04 18.8	0.0
KURK				pmax	pmax		
	comp=Z,22nm,0.6s						
KURK	Kurchatov	61.06	327	P	P	09 04 18.8	0.0
KURK	Kurchatov	61.06	327	eP	P	09 04 19.1	+0.3
	comp=Z,45nm,0.6s						
KURBB	Kurchatov Arra	61.06	327	P	P	09 04 18.8	0.0
	comp=Z,33nm,0.7s,baz=125,slow=6.3,SNR=397						
BVAR	Borovoye Array	66.64	327	P	P	09 04 55.5	0.0
	comp=Z,13nm,0.5s,baz=93,slow=8.7,SNR=17						
AKTO	Aktyubinsk	73.09	321	P	P	09 05 35.3	+0.3
	comp=Z,19nm,0.6s,baz=117,slow=6.8,SNR=6.1						
GNI	Garni	81.16	310	LR	LR	09 47 36.0	
	comp=Z,24nm,18.8s,baz=272,slow=40						
ILAR	Eielson Array	83.82	25	P	P	09 06 32.7	-1.0
	comp=Z,0.2nm,0.5s,baz=244,slow=5.3,SNR=2.8						
VNDA	Vanda	84.51	173	P	P	09 06 37.6	+0.7
	comp=Z,2.7nm,1.0s,baz=319,slow=5.1,SNR=8.9						
ASF	Jabal al Asfar	87.74	302	P	P	09 06 54.2	+0.4
	comp=Z,3.1nm,0.8s,baz=104,slow=8.3,SNR=5.3						
ARCES	ARCESS Array B	89.55	340	P	P	09 07 00.4	-1.0
	comp=Z,1.3nm,0.5s,baz=74,slow=5.1,SNR=7.9						
BRTR	Keskin Array B	89.70	310	P	P	09 07 02.1	-0.8
	comp=Z,2.1nm,0.9s,baz=106,slow=4.0,SNR=7.0						
BR231	Keskin MP Arra	90.34	310	eP	P	09 07 02.9	-3.0
FINES	FINESS Array B	91.06	332	P	P	09 07 07.6	-1.0
	comp=Z,0.8nm,0.6s,baz=104,slow=2.9,SNR=5.4						

*BJI **06** 09:00:54.0, 36°.51N×70°.43E, h134km, mb4.6/15, mB4.6/10*
*ISCJB **06** 09:00:54.5±0.3, 36°.45N±0°.02×70°.62E±0°.03, h142km±3km, mb4.1/31, Error ellipse: s-maj=4.1km s-min=2.7km az=157.6*
*IDC **06** 09:00:55.2±3.0, 36°.30N×70°.57E, h142km±27km, mb3.8/17, mb1 4.0/22, mb1mx3.8/31, mbtmp4.3/22, MS3.1/3, Ms1 3.1/3, ms1mx2.5/32, Error ellipse: s-maj=18.5km s-min=11.3km az=14.0*
*MOS **06** 09:00:55.3±0.8, 36°.48N×70°.65E, h150km, mb4.6/12, Error ellipse: s-maj=9.3km s-min=5.1km az=92.3*
*NEIC **06** 09:00:56.2±0.7, 36°.45N×70°.64E, h146km±6km, mb4.5/17, Error ellipse: s-maj=7.4km s-min=6.2km az=153.0*
*NNC **06** 09:00:59.4±2.2, 36°.80N×70°.36E, h174km±18km, mb3.9, mpv4.8, Error ellipse: s-maj=22.4km s-min=11.8km az=165.0*
ISC 06 09:00:55.7±0.4**, 36°.43N**±0°.04×**70°.53E**±0°.04**, h141**km±3km**, h140**km**:pP-P, n159, σ1s.61**/198**, mb4.3**/31**, 13C-14D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KBL	Kabul	2.24	213	ePN	Pn	09 01 34.9	+1.5
KBL				e		09 02 03.5	
KBL	Kabul	2.24	213	ePn	Pn	09 01 34.9	+1.5
KBL				eSn	Sn	09 02 03.5	+1.1
DZET	Dzherino	2.73	331	⇑P	Pn	09 01 39.9	+0.5
	105nm,0.4s						
DZET				⇑S	Sn	09 02 11.8	-1.3
	2μm,0.8s						
DZET	Dzherino	2.73	331	PN	Pn	09 01 39.8	+0.5
DZET				pmax	pmax		
	comp=Z,140nm,0.4s						
CEP	Cherat	2.83	156	P	Pn	09 01 42.3	+1.5
CEP				S	Sn	09 02 17.0	+1.5
CHCP	Chirah Chowk	3.56	140	P	Pn	09 01 51.5	+1.5
THW	Thamme Wali	3.76	164	P	Pn	09 01 53.7	+1.0
SFK	Sufi-Kurgan	4.28	32	⇓P	Pn	09 02 00.9	+1.4
	comp=Z,108nm,0.3s						
SFK				⇓S	Sn	09 02 50.0	+0.9
	comp=Z,443nm,0.3s						
SFK	Sufi-Kurgan	4.28	32	PN	Pn	09 02 00.7	+1.1
SFK				S	Sn	09 02 49.9	+0.8
SFK				pmax	pmax		
	comp=Z,108nm,0.3s						
SARP	Sargodha	4.83	158	P	Pn	09 02 06.8	0.0
KSH	Kashi	5.29	53	P	Pn	09 02 09.2	-3.7
KSH				sP	sP	09 02 41.8	
KSH				S	Sn	09 03 03.0	-10
KSH				SMN			
	comp=Z,2μm,0.8s						
KSH				SME			
	comp=Z,1μm,0.4s						
DLH	Dalhousie	5.93	129	eP	Pn	09 02 21.0	-0.6
DLH				eS	Sn	09 03 26.0	-2.7
AML	Almayashu	6.20	22	P	Pn	09 02 25.4	0.0
	SNR=235						
MNAS	Manas	6.24	14	⇑P	Pn	09 02 26.0	+0.4
	comp=Z,78nm,0.6s						
MNAS				⇓S	Sn	09 03 33.2	-2.7
	comp=Z,215nm,0.6s						
MNAS	Manas	6.24	14	PN	Pn	09 02 26.0	+0.4
MNAS				pmax	pmax		
	comp=Z,78nm,0.6s						
PONG	Pong	6.33	133	eP	Pn	09 02 25.0	-1.8
PONG				eS	Sn	09 03 35.3	-2.6
DHRM	DHARAMSHALA	6.34	129	eP	Pn	09 02 26.4	-0.7
DHRM				AMB	AMB	09 02 27.9	
	comp=Z,86nm,0.5s						
DHRM				eS	Sn	09 03 35.6	-2.8
UCH	Uchtor	6.56	27	P	Pn	09 02 30.2	0.0
	SNR=102						
KK31	Karatay Array	6.67	360	⇓P	Pn	09 02 31.4	+0.2
	comp=Z,46nm,0.5s,baz=178,slow=13,SNR=579						
KK31				⇑S	Sn	09 03 43.0	-2.9
	comp=Z,166nm,0.6s,baz=187,slow=21						
KK31	Karatay Array	6.67	360	PN	Pn	09 02 31.0	-0.2
KK31				pmax	pmax		
	comp=Z,37nm,0.3s						
KKAR	Karatay Array	6.67	360	ePN	Pn	09 02 31.3	+0.1
KKAR	Karatay Array	6.67	360	ePn	Pn	09 02 31.2	+0.1
KKAR				eSn	Sn	09 03 44.1	-1.8
EKS2	Erkin-Say	6.71	21	P	Pn	09 02 32.2	+0.3
	SNR=30						
EKS2	Erkin-Say	6.71	21	ePN	Pn	09 02 31.8	-0.1
EKS2				pmax	pmax		
	comp=Z,42nm,0.4s						
EKS2	Erkin-Say	6.71	21	ePn	Pn	09 02 31.8	-0.1
	comp=Z,42nm,0.4s						
EKS2				eSn	Sn	09 03 45.0	-2.1
KZA	Kyzart	6.72	32	P	Pn	09 02 32.0	-0.4
	SNR=80						
AAK	Ala-Archa	6.91	25	P	Pn	09 02 35.0	+0.4
	SNR=86						
AAK	Ala-Archa	6.91	25	⇓P	Pn	09 02 35.0	+0.4
	comp=Z,62nm,0.5s						
AAK				⇓S	Sn	09 03 50.4	-1.7
	comp=Z,105nm,0.6s						
AAK	Ala-Archa	6.91	25	P	Pn	09 02 34.9	+0.4
	comp=Z,17nm,0.3s,baz=195,slow=9.5,SNR=108						
AAK				S	Sn	09 03 50.4	-1.7
	comp=Z,18nm,0.3s,baz=326,slow=20,SNR=14						
AAK	Ala-Archa	6.91	25	PN	Pn	09 02 34.8	+0.2
AAK				pmax	pmax		
	comp=Z,72nm,0.5s						
AAK	Ala-Archa	6.91	25	ePn	Pn	09 02 35.0	+0.4
AAK				S	Sn	09 03 50.4	-1.7
AAK				eSn	Sn	09 03 51.9	-0.3
BHK	Bhakra	6.99	134	eP	Pn	09 02 40.0	+4.3
BHK				eS	Sn	09 03 55.2	+1.3
KBK	Karagaybulak	7.09	27	P	Pn	09 02 37.4	+0.3
	SNR=18						
FRU	Bishkek	7.13	25	ePN	Pn	09 02 36.0	-1.4
FRU				i S	Sn	09 03 56.0	-1.1
FRU				pmax	pmax		

comp=Z,60nm,1.0s
FRU smax smax
comp=N,530nm,1.6s
SDNR Sundarnagar 7.26 131 *e*P **Pn 09 02 39.0 -0.3**
SDNR *ex* **Sn 09 03 55.0 -5.5**
ULHL Ulahol 7.30 36 P **Pn 09 02 39.5 -0.4**
SNR=26
CHMS Chumysh 7.32 25 P **Pn 09 02 39.9 -0.2**
SNR=40
USP Ospenovka 7.48 23 P **Pn 09 02 41.7 -0.4**
SNR=26
TKM2 Tokmak 2 7.57 30 P **Pn 09 02 43.5 0.0**
SNR=72
TKM2 Tokmak 2 7.57 30 ⇓P **Pn 09 02 43.3 -0.1**
comp=N,22nm,0.4s
TKM2 ⇓S **Sn 09 04 05.6 -2.3**
comp=N,29nm,0.5s
TKM2 Tokmak 2 7.57 30 *e*PN **Pn 09 02 43.2 -0.3**
TKM2 pmax pmax
comp=Z,62nm,0.6s
TKM2 Tokmak 2 7.57 30 *e*Pn **Pn 09 02 43.2 -0.3**
comp=Z,62nm,0.6s
SMLA Simla 7.64 132 *i* P **Pn 09 02 42.9 -1.5**
SMLA AMB AMB 09 02 43.8
comp=Z,20nm,0.5s
SMLA *e*S **Sn 09 04 05.8 -3.7**
IMYA Miami 8.41 272 *e*P **Pn 09 02 54.1 -0.7**
AAA Alma-Ata 8.43 34 *e*PN **Pn 09 02 52.6 -2.2**
AAA pmax pmax
comp=Z,69nm,0.4s
DDI Dehra Dun 8.75 132 *e*P **Pn 09 02 58.7 -0.6**
DDI AMB AMB 09 02 59.5
comp=Z,70nm,0.4s
DDI *ex* Sn 09 04 29.0 -7.5
ISRO Mashad 8.92 273 *e*P **Pn 09 02 59.4 -2.2**
IMOG Moghan 9.04 271 *e*P **Pn 09 03 02.6 -0.7**
IPAY Payeh 9.29 274 *e*P **Pn 09 03 06.0 -0.6**
NDI New Delhi 9.56 142 *e*P **Pn 09 03 08.5 -1.6**
NDI *ex* Sn 09 04 46.0 -10
IKRD Kardeh 9.67 276 *e*P Pn 09 02 59.1 -13
PDGK Podgornoye 9.73 42 ⇓P **Pn 09 03 11.8 -0.3**
comp=Z,21nm,0.9s
AJM Ajmer 10.52 159 *ex* Pn 09 03 17.0 -5.9
AJM *ex* **Sn 09 05 14.0 -5.1**
LGTI Lohaghat 10.72 128 *e*P Pn 09 03 30.4 +4.9
LGTI *e*S **Sn 09 05 21.7 -2.2**
OTUK Ortayu 11.88 6 ⇑P **Pn 09 03 38.9 -1.8**
comp=Z,7.0nm,0.5s
MKAR Makanchi Array 13.57 37 P **Pn 09 04 01.6 -0.9**
comp=Z,0.7nm,0.3s,baz=223,slow=15,SNR=6.0
MKAR S **S 09 06 41.7 -3.2**
baz=236,slow=16,SNR=3.3
MKAR Makanchi Array 13.57 37 *ce*P Pn 09 03 59.0 -3.4
MKAR pmax pmax
comp=Z,1.0nm,0.4s
KOLN Koldanda 14.03 124 *e*P **Pn 09 04 05.5 -3.1**
comp=Z,44nm,0.3s
BHPL Bhopal 14.43 154 *e*P **Pn 09 04 12.6 -0.9**
BHPL AMB AMB 09 04 18.7
comp=Z,22nm,0.5s
BHPL *ex* Sn 09 06 41.0 -13
BHPL AML AML 09 06 47.0
comp=N,44nm,0.4s
BHPL AML AML 09 06 47.3
comp=E,52nm,0.7s
GKN Gorkha 14.59 121 *e*P **Pn 09 04 12.5 -3.1**
comp=E,192nm,0.4s
AB31 Akbulak array 14.97 332 ⇑P **Pn 09 04 18.8 -1.1**
comp=E,4.8nm,0.3s
AB31 ⇑S Sn 09 06 55.6 -10
comp=E,14nm,0.5s
AB31 Akbulak array 14.97 332 P **Pn 09 04 18.8 -1.1**
AB31 S Sn 09 06 55.5 -10
AB31 pmax pmax
comp=Z,8.0nm,0.3s
ABKAR Akbulak array 14.97 332 *e*Pn **Pn 09 04 18.6 -1.4**
ABKAR *e*Sn Sn 09 06 55.6 -10
DMN Daman 15.16 121 *e*P **Pn 09 04 20.3 -2.5**
comp=Z,59nm,0.3s
KKN Kakani 15.16 120 *e*P **Pn 09 04 20.1 -2.8**
comp=Z,408nm,0.7s
KURBB Kurchatov Arra 15.31 20 P **P 09 04 25.5 -0.3**
comp=Z,0.8nm,0.3s,baz=210,slow=10,SNR=57
KURBB S **S 09 07 19.3 -0.1**
comp=Z,0.0nm,0.3s,baz=200,slow=19,SNR=4.3
PKI Pulchoki 15.39 121 *e*P **Pn 09 04 23.1 -2.7**
comp=Z,113nm,0.5s
KURK Kurchatov 15.42 20 S **S 09 07 19.3 -1.9**
GUN Gumba 15.51 119 *e*P **Pn 09 04 24.7 -2.6**
comp=Z,242nm,0.6s
JIRN Jiri 15.88 119 *e*P **Pn 09 04 29.7 -2.2**
comp=Z,190nm,0.3s
BVA0 Borovoye Array 16.59 360 ⇓P **Pn 09 04 38.6 -1.4**
comp=Z,17nm,0.6s,baz=172,slow=13,SNR=92
BVA0 Borovoye Array 16.59 360 *i* P **Pn 09 04 38.5 -1.4**
BVA0 pmax pmax
comp=Z,12nm,0.6s
BVAR Borovoye Array 16.59 360 P **Pn 09 04 38.9 -1.1**
comp=Z,5.8nm,0.3s,baz=153,slow=13,SNR=59
RAMN Ramite 16.61 120 *e*P **P 09 04 39.0 -1.6**
comp=Z,55nm,0.3s
BRVK Borovoye 16.63 359 *d i*P **P 09 04 39.1 -1.2**
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 16.63 359 *e*P **P 09 04 39.3 -1.0**
comp=Z,24nm,0.8s
AKTO Aktyubinsk 16.66 331 ⇑P **Pn 09 04 40.8 0.0**
comp=Z,46nm,0.7s
AKTO Aktyubinsk 16.66 331 P **Pn 09 04 41.0 +0.3**
comp=Z,4.3nm,0.3s,baz=142,slow=9.7,SNR=148
AKTO S **Sn 09 07 41.0 -5.4**
comp=Z,1.8nm,0.3s,baz=137,slow=19,SNR=6.0
AKTO Aktyubinsk 16.66 331 P **Pn 09 04 40.7 0.0**
AKTO pmax pmax
comp=Z,46nm,0.7s
TAPN Taplejung 17.15 117 *e*P **P 09 04 45.6 -1.0**
comp=Z,178nm,0.5s
ODAN Odare 17.21 119 *e*P **P 09 04 46.3 -1.0**
comp=Z,66nm,0.5s
POO Poona 18.07 170 *e*P **P 09 04 52.8 -3.7**
POO AMB AMB 09 05 07.3
comp=Z,53nm,2.5s
LSA Lhasa 18.52 105 P **Pn 09 05 04.3 +0.6**
LSA Lhasa 18.52 105 *e*P **Pn 09 05 04.6 +0.9**
LSA pmax pmax
comp=Z,27nm,0.6s
LSA Lhasa 18.52 105 *e*P **Pn 09 05 04.6 +0.9**
comp=Z,27nm,0.6s
ZAA0 Zalesovo Array 20.14 25 *e*P **P 09 05 18.4 -0.2**
ZALV Zalesovo Beam 20.14 25 P **P 09 05 18.4 -0.1**
comp=Z,149nm,0.5s,baz=220,slow=11,SNR=303
HYB Hyderabad 20.23 157 *e*P **P 09 05 20.7 +0.8**
NVS Novosibirsk 20.38 21 ⇓*i*P **P 09 05 20.8 -0.4**
NVS *e*S **S 09 08 56.9 -4.8**
NVS pmax pmax
comp=Z,27nm,0.7s
NVS pmax pmax
comp=N,29nm,0.8s
NVS pmax pmax
comp=E,12nm,0.6s
NVS smax smax
comp=E,18nm,1.3s
GNI Garni 20.56 288 P Pn 09 05 26.0 -1.2
comp=E,3.3nm,0.4s,baz=180,slow=5.1,SNR=5.0
GNI Garni 20.56 288 ⇑*i*P Pn 09 05 26.2 -1.0
GNI pmax pmax
comp=Z,10.0nm,0.9s
GNI Garni 20.56 288 *e*P Pn 09 05 26.9 -0.3
comp=Z,10nm,0.8s
ARU Arti 21.58 342 *c i*P **P 09 05 34.5 +0.5**
ARU 09 06 06.0
ARU S **S 09 09 24.1 0.0**
ARU pmax pmax
comp=Z,65nm,1.7s
ARU Arti 21.58 342 *e*P **P 09 05 34.2 +0.3**
comp=Z,29nm,0.9s
KBZ Khabaz 22.30 298 P **P 09 05 41.6 +0.2**
comp=Z,3.0nm,0.8s,baz=326,slow=24,SNR=6.8
KBZ LR LR 09 18 13.6
comp=Z,19nm,19.1s,baz=44,slow=46
KIV Kislovodsk 22.49 298 *e*P **P 09 05 44.4 +1.0**
KIV *e**PP **pP 09 06 11.3 +1.9**
KIV *e*S **S 09 09 40.1 +0.3**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 22.49 298 *e*P **P 09 05 43.5 0.0**
comp=Z,10nm,0.6s
GTA Gaotai 23.25 74 *e*P **P 09 05 51.9 +1.2**
GTA pP **pP 09 06 19.0 +1.3**
GTA sP **sP 09 06 34.3 -0.9**
GTA S **S 09 09 55.5 +3.3**
GTA sS **sS 09 10 40.6 -0.7**
GTA PMZ
comp=Z,5.0nm,1.7s
GTA PMZ
comp=Z,32nm,4.3s
GTA LN
comp=Z,210nm,21.4s
GTA LE
comp=Z,270nm,20.0s
GTA LZ
comp=Z,60nm,16.6s
RAYN Ar Rayn 25.12 246 *e*P **P 09 06 09.8 +2.1**
comp=Z,8.2nm,1.6s
LZH Lanzhou 26.79 81 *e*P **P 09 06 25.7 +2.9**
LZH pP **pP 09 06 49.9 -2.5**
LZH PMZ
comp=Z,16nm,1.0s
CD2 Chengdu 28.11 92 *e*P **P 09 06 35.0 +0.6**
CD2 pP **pP 09 07 03.0 -1.3**
CD2 sP **sP 09 07 18.4 -2.1**
CD2 S **S 09 11 11.5 +2.4**
CD2 sS **sS 09 12 01.3 -0.4**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
SONM Songino Array 28.69 55 P **P 09 06 39.6 +0.2**
comp=Z,0.1nm,0.3s,baz=263,slow=8.3,SNR=3.6
BR131 Keskin Array S 29.09 288 *e*P **P 09 06 44.8 +1.7**
comp=Z,1.9nm,0.7s
BRTR Keskin Array B 29.09 288 P **P 09 06 44.7 +1.5**
comp=Z,1.6nm,0.6s,baz=102,slow=9.1,SNR=12
OBN Obninsk 29.75 320 ⇓*e*P **P 09 06 48.5 0.0**
OBN pmax pmax
comp=Z,8.0nm,0.4s
CMAR Chiang Mai Arr 30.75 118 P **P 09 06 57.4 -0.4**
comp=Z,1.3nm,0.3s,baz=291,slow=9.0,SNR=6.3
CMAR Chiang Mai Arr 30.75 118 *ce*P **P 09 06 58.5 +0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
KLMR Klimovskoe 31.36 331 *e*P **P 09 07 02.3 -0.4**
KLMR pmax pmax
comp=Z,27nm,1.6s
HHC Hu-ho-hao-te 32.14 69 *e*P **P 09 07 12.2 +2.3**
HHC pP **pP 09 07 43.3 +3.2**
HHC sP **sP 09 08 00.1 +3.8**
HHC PP **PP 09 08 25.7 +0.5**
HHC S **S 09 12 14.6 +2.4**
HHC sS **sS 09 13 07.7 +2.7**
HHC ScS **ScS 09 17 25.6 +0.4**
HHC PMZ
comp=Z,12nm,0.9s
HHC PMZ
comp=Z,75nm,5.2s
GYA Guiyang 32.23 98 *e*P **P 09 07 13.0 +2.1**
GYA pP **pP 09 07 41.4 +0.4**
GYA sP **sP 09 07 56.5 -0.6**
GYA PP **PnPn 09 08 24.3 +1.6**
GYA S **S 09 12 15.0 +1.2**
GYA sS **sS 09 13 06.9 +0.3**
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,80nm,4.8s
AKASG Malin Array Be 32.70 309 P **P 09 07 14.9 +0.5**
comp=Z,4.2nm,0.4s,baz=82,slow=7.1,SNR=23
AKASG Malin Array Be 32.70 309 P **P 09 07 15.0 +0.5**
AKBB Malin Array Si 32.70 309 *e*P **P 09 07 14.8 +0.3**
AKBB Malin Array Si 32.70 309 *e*P **P 09 07 14.8 +0.3**
AK01 Malin Array Si 32.70 309 *e*P **P 09 07 14.9 +0.4**
KIEV Kiev 32.70 309 *e*P **P 09 07 15.1 +0.6**
KIEV pmax pmax
comp=Z,8.0nm,0.5s
KIEV Kiev 32.70 309 *e*P **P 09 07 15.1 +0.6**
comp=Z,8.0nm,0.5s
MLR Muntele Rosu 34.48 299 ⇓*i*P **P 09 07 33.3 +3.1**
BURAR Bucovina Array 35.01 303 ⇓*i*P **P 09 07 36.1 +1.5**
BJI Beijing 35.74 70 P P 09 07 35.6 -5.2
BJI pmax pmax
comp=Z,12nm,0.5s
FINES FINESS Array B 37.33 326 P **P 09 07 54.6 +0.6**
comp=Z,5.2nm,0.4s,baz=123,slow=10.0,SNR=38
NJ2 Nanjing 39.86 82 *e*P **P 09 08 17.3 +1.8**
NJ2 PMZ
comp=Z,30nm,0.5s
DPC Dobruska-Polom 40.87 307 *e*P **P 09 08 25.3 +1.6**
DPC Dobruska-Polom 40.87 307 *e*P **P 09 08 25.3 +1.6**
ARCES ARCESS Array B 41.07 338 P **P 09 08 25.4 +0.4**
comp=Z,8.0nm,0.7s,baz=107,slow=7.5,SNR=22
UPC Upice 41.07 308 *e*P **P 09 08 26.7 +1.4**
UPC Upice 41.07 308 *e*P **P 09 08 26.7 +1.4**
BRG Berggiesshubel 42.37 308 *i* P **P 09 08 36.9 +1.1**
BRG Berggiesshubel 42.37 308 *i* P **P 09 08 36.9 +1.1**
BRG pmax pmax
comp=Z,3.0nm,0.6s
GERES GERESS Array B 42.66 305 P **P 09 08 39.1 +0.8**
comp=Z,0.5nm,0.5s,baz=80,slow=8.4,SNR=4.4
GERES LR LR 09 28 38.0
comp=Z,53nm,21.4s,baz=268,slow=39
CLL Collm 42.94 309 *e*P **P 09 08 41.0 +0.6**
CLL Collm 42.94 309 *e*P **P 09 08 41.0 +0.6**
NB2 NORSAR Subarra 44.21 323 P **P 09 08 50.3 -0.2**
comp=Z,8.6nm,0.5s,baz=96,slow=7.9
NOA NORSAR Array B 44.21 323 P **P 09 08 50.6 +0.1**
comp=Z,9.6nm,0.5s,baz=97,slow=7.8,SNR=68
NOA LR LR 09 31 04.7
comp=Z,26nm,19.0s,baz=275,slow=41
NAO01 NORSAR Array S 44.35 323 *e*P **P 09 08 51.3 -0.3**
comp=Z,5.7nm,0.7s
KONO Kongsberg 44.90 321 *e*P **P 09 08 55.9 0.0**
KONO pmax pmax
comp=Z,12nm,0.8s
KONO Kongsberg 44.90 321 *e*P **P 09 08 55.9 0.0**
comp=Z,12nm,0.8s
KSAR Wonju Array Be 45.23 71 P **P 09 08 58.5 -0.4**
KSAR Wonju Array Be 45.23 71 P **P 09 08 58.5 -0.4**
KSRS Korea Array 45.26 71 P **P 09 08 58.5 -0.6**
comp=Z,0.4nm,0.4s,baz=272,slow=7.5,SNR=4.1
SUMG Summit 61.01 341 *i* P **P 09 10 55.3 +1.1**
comp=Z,6.2nm,0.7s
SUMG Summit 61.01 341 *e*P **P 09 10 55.5 +1.3**
SUMG pmax pmax
comp=Z,6.0nm,0.7s
SUMG Summit 61.01 341 *e*P **P 09 10 55.5 +1.3**
comp=Z,6.2nm,0.7s
TORD Torodi Ar. Bea 65.34 268 P **P 09 11 21.1 -2.1**
comp=Z,1.9nm,0.4s,baz=50,slow=5.4,SNR=48
INK Inuvik 74.03 9 P **P 09 12 16.0 +0.5**
comp=Z,3.8nm,0.5s,baz=358,slow=5.4,SNR=13
INK Inuvik 74.03 9 *e*P **P 09 12 16.0 +0.5**
INK pmax pmax
comp=Z,6.0nm,0.7s
INK Inuvik 74.03 9 *e*P **P 09 12 16.0 +0.5**
comp=Z,5.9nm,0.7s
DBIC Dimbokro 74.31 267 P **P 09 12 17.3 -0.8**
comp=Z,3.1nm,0.7s,baz=3.5,slow=4.7,SNR=3.8
BPAW Bear Paw Mtn. 74.58 18 *e*P **P 09 12 18.0 -0.8**
comp=Z,0.6nm,1.0s
COLA College 74.65 16 *e*P **P 09 12 19.5 +0.4**
COLA pmax pmax
comp=Z,1.0nm,0.4s
COLA College 74.65 16 *e*P **P 09 12 19.5 +0.4**
comp=Z,1.4nm,0.4s
ILAR Eielson Array 74.95 16 P **P 09 12 20.1 -0.9**
comp=Z,0.9nm,0.8s,baz=356,slow=4.6,SNR=17
HYT Haines Junctio 80.41 14 *e*P **P 09 12 51.7 +0.3**
YKA Yellowknife Ar 81.33 2 P **P 09 12 56.1 0.0**
comp=Z,2.1nm,0.6s,baz=351,slow=5.5,SNR=8.3
WRA Warramunga Ar 82.28 122 P **P 09 13 00.7 -0.9**
comp=Z,0.3nm,0.4s,baz=325,slow=4.9,SNR=20
WRAB Tennant Creek 82.28 122 *e*P **P 09 13 01.3 -0.3**
WRAB pmax pmax
comp=Z,10.0nm,1.3s
WRAB Tennant Creek 82.28 122 *e*P **P 09 13 01.3 -0.3**
comp=Z,10nm,1.3s
ASAR Alice Springs 84.53 125 P **P 09 13 11.0 -2.1**
comp=Z,0.7nm,0.8s,baz=310,slow=5.6,SNR=6.1
ASAR Alice Springs 84.53 125 P **P 09 13 11.0 -2.1**

WEL 06 09:18:20.1±0.5, 37.11S×177.76E, h52km±4km, ML3.6/4, 4C-1D, Error ellipse: s-maj=3.7km s-min=1.9km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.62**	**227**	P*	Pn	09 18 33.1	+0.1
WIZ				S*	Sn	09 18 42.0	-0.2
MXZ	**Matakaoa Point**	**0.63**	**137**	P*	Pn	09 18 32.0	-1.0
MXZ				S*	Sn	09 18 42.7	+0.3
MXZ				AML	AML	09 18 44.4	
HAZ	**Te Kaha**	**0.65**	**179**	⇑P*	Pn	09 18 32.0	-1.3
WMGZ	**Waiomatatini S**	**0.88**	**144**	⇓PN	Pn	09 18 36.7	+0.4
PUZ	**Puketiti**	**1.04**	**158**	PN	Pn	09 18 37.9	-0.6
PUZ				SN	Sn	09 18 51.6	-0.5
PUZ				AML	AML	09 18 53.6	
TWGZ	**Tauwhareparae**	**1.08**	**171**	PN	Pn	09 18 39.3	+0.3
OPRZ	**Ohinepanea**	**1.21**	**232**	P*	Pn	09 18 40.7	0.0
OPRZ				S*	Sn	09 18 55.6	-0.5
MWZ	**Matawai**	**1.24**	**189**	⇑P*	Pn	09 18 39.7	-1.5
MWZ				AML	AML	09 18 53.7	
MWZ				AML	AML	09 18 59.6	
MWZ				AML	AML	09 18 59.6	
MWZ				AML	AML	09 19 00.7	
URZ	**Urewera**	**1.26**	**204**	⇑P*	Pn	09 18 40.4	-1.0
URZ				AML	AML	09 18 54.6	
URZ				AML	AML	09 18 54.9	
TKGZ	**Te Karaka**	**1.33**	**177**	PN	Pn	09 18 42.0	-0.3
TKGZ				SN	Sn	09 18 59.0	+0.1
CNGZ	**Carnagh Statio**	**1.42**	**166**	PN	Pn	09 18 42.8	-0.8
RRRZ	**Republican Roa**	**1.58**	**218**	⇑P*	Pn	09 18 45.5	-0.2
RIGZ	**Rimuhau**	**1.60**	**180**	PN	Pn	09 18 45.2	-0.8
SNGZ	**Shannon Statio**	**1.70**	**191**	PN	Pn	09 18 47.6	+0.1
PRRZ	**Plateau Road**	**1.76**	**218**	P*	Pn	09 18 48.0	-0.3
RAHZ	**Arahi**	**1.89**	**196**	PN	Pn	09 18 50.3	+0.3
TOZ	**Tahuroa Road**	**1.90**	**250**	P*	Pn	09 18 50.9	+0.8
KNZ	**Kokohu**	**1.91**	**182**	PN	Pn	09 18 48.7	-1.6
WHHZ	**Waihua**	**2.01**	**192**	PN	Pn	09 18 51.6	0.0
NMHZ	**Naumai**	**2.13**	**200**	PN	Pn	09 18 53.8	+0.5
ARHZ	**Aropaoanui**	**2.23**	**195**	PN	Pn	09 18 54.3	-0.4
BKZ	**Black Stump Fm**	**2.29**	**206**	P*	Pn	09 18 55.2	-0.3
MCHZ	**McNeill Hill**	**2.48**	**199**	PN	Pn	09 18 57.4	-0.6
KWHZ	**Kaweka Forest**	**2.54**	**204**	P*	Pn	09 18 58.4	-0.6
BHHZ	**Black Hill Sta**	**2.73**	**209**	P*	Pn	09 19 01.2	-0.3
BFZ	**Birch Farm**	**3.76**	**198**	PN	Pn	09 19 14.2	-1.3
OGWZ	**Otaki Gorge**	**4.22**	**208**	PN	Pn	09 19 19.4	-2.4

IDC 06 09:21:17.4±8.8, 18.20S×168.09E, h90km±77km, mb3.5/3, mb1 3.7/4, mb1mx3.3/17, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=168.3km s-min=58.4km az=104.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.15**	**202**	P	Pn	09 22 18.6	0.0
DZM	5.3nm,0.3s,baz=270,slow=24,SNR=139			S	Sn	09 23 06.5	+0.4
	24nm,0.3s,baz=150,slow=22,SNR=14						
STKA	**Stephens Creek**	**27.51**	**235**	P	P	09 26 55.7	+0.2
	1.6nm,0.5s,baz=66,slow=9.6,SNR=11						
WRA	**Warramunga Arr**	**31.92**	**261**	P	P	09 27 34.5	-0.2
	0.1nm,0.4s,baz=92,slow=9.2,SNR=4.7						
WRA				pP	pP	09 27 57.2	+1.9
	0.3nm,0.8s,baz=84,slow=8.3,SNR=1.9						
ASAR	**Alice Springs**	**32.34**	**254**	P	P	09 27 38.2	-0.1
	1.1nm,0.5s,baz=83,slow=8.8,SNR=21						
ASAR				pP	pP	09 28 01.7	+2.7
	0.6nm,0.6s,baz=80,slow=8.9,SNR=3.2						

WEL 06 09:44:24.7±0.3, 36.22S×178.97E, h204km±4km, ML3.6/2, 1C-1D, Error ellipse: s-maj=5.2km s-min=4.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**1.66**	**195**	PN	Pn	09 45 00.2	+0.1
WMGZ				SN	S	09 45 27.1	-0.3
HAZ	**Te Kaha**	**1.81**	**211**	⇑PN	Pn	09 45 01.7	+0.2
HAZ				SN	S	09 45 29.0	-0.8
PUZ	**Puketiti**	**1.94**	**197**	⇓PN	Pn	09 45 02.7	-0.2
PUZ				AML	AML	09 45 31.1	
PUZ				AML	AML	09 45 41.3	
TWGZ	**Tauwhareparae**	**2.11**	**202**	ePN	Pn	09 45 05.0	+0.4
TKGZ	**Te Karaka**	**2.39**	**202**	PN	Pn	09 45 07.8	+0.2
URZ	**Urewera**	**2.52**	**215**	PN	Pn	09 45 08.9	-0.1
URZ				AML	AML	09 45 41.6	
URZ				SN	S	09 45 44.0	+0.9
RIGZ	**Rimuhau**	**2.67**	**201**	PN	Pn	09 45 10.9	+0.3
RIGZ				SN	S	09 45 45.5	-0.6
SNGZ	**Shannon Statio**	**2.87**	**206**	PN	Pn	09 45 13.5	+0.6
KNZ	**Kokohu**	**2.98**	**200**	PN	Pn	09 45 14.4	+0.2
RAHZ	**Arahi**	**3.08**	**208**	PN	Pn	09 45 15.8	+0.4
WHHZ	**Waihua**	**3.17**	**205**	PN	Pn	09 45 16.4	0.0
ARHZ	**Aropaoanui**	**3.42**	**207**	PN	Pn	09 45 20.1	+0.7

*IDC **06** 10:16:27.1±1.0, 3.96S×152.67E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/37, mbtmp3.7/4, Error ellipse: s-maj=56.2km s-min=26.3km az=124.0*
*ISCJB **06** 10:16:30.7±1.3, 3.95S±0.3×152.6E±0.4, h33km, mb3.5/4, Error ellipse: s-maj=68.2km s-min=24.7km az=36.3*
ISC 06 10:16:32.5±1.0, 3.95S±0.3×152.6E±0.4, h35km, n10, σ0961/8, mb3.6/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.86**	**227**	P	**P**	**10 21 42.9**	**-0.1**
	1.5nm,0.4s,baz=53,slow=9.8,SNR=45						
WRA				PcP	**PcP**	**10 25 25.7**	**+0.1**
	0.6nm,0.7s,baz=50,slow=2.2,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**26.27**	**31**	T	T	10 49 43.1	
	baz=204,slow=74,SNR=13						
H11S2	**WAKE ISLAND Hy**	**26.27**	**32**	T	T	10 49 41.3	
	baz=204,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**26.29**	**31**	T	T	10 49 41.3	
	baz=204,slow=74,SNR=9.0						
ASAR	**Alice Springs**	**26.65**	**221**	P	**P**	**10 22 07.8**	**-0.5**
	0.3nm,0.3s,baz=52,slow=9.2,SNR=11						
VNDA	**Vanda**	**73.69**	**178**	P	**P**	**10 28 02.8**	**+0.5**
	0.5nm,0.7s,baz=346,slow=7.3,SNR=4.0						
ILAR	**Eielson Array**	**81.45**	**22**	P	**P**	**10 28 45.8**	**0.0**
	0.4nm,0.8s,baz=258,slow=4.5,SNR=7.0						
LPAZ	**La Paz**	**135.00**	**118**	PKP	**PKPdf**	**10 35 50.1**	**+0.2**
	1.4nm,1.0s,baz=270,slow=3.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**149.83**	**289**	PKPbc	**PKPbc**	**10 36 20.5**	**+0.4**
	0.9nm,0.4s,baz=65,slow=2.3,SNR=23						
BDFB	**Brasilia**	**151.81**	**134**	PKPbc	**PKPbc**	**10 36 23.8**	**-1.1**
	2.1nm,0.6s,baz=158,slow=5.4,SNR=3.2						

MEX 06 10:25:56.2±0.7, 20.38N×97.35W, h28km±31km, MD3.5, Veracruz

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVIG	**Laguna Verde**	**1.10**	**127**	*e*P	Pn	10 26 13.1	-2.7
LVIG				*e*S	Sn	10 26 26.9	-3.0
VTVM	**Tizayuca**	**1.47**	**246**	*e*P	Pn	10 26 18.3	-3.0
VTVM				*e*S	Sn	10 26 36.5	-3.4
IIO	**Organos**	**1.51**	**239**	*e*P	Pn	10 26 18.7	-3.2
IIO				*e*S	Sn	10 26 37.1	-4.0
DEIG	**Demacu**	**1.58**	**267**	*e*P	Pn	10 26 21.0	-1.8
DEIG				*e*S	Sn	10 26 40.0	-2.6
PPM	**Popocatepetl**	**1.78**	**223**	*e*P	Pn	10 26 23.9	-1.9
PPM				*e*S	Sn	10 26 44.8	-3.1
TPIG	**Tehuac#an**	**1.95**	**180**	*e*P	Pn	10 26 25.2	-2.6
TPIG				*i* S	Sn	10 26 48.2	-3.3

*NIED **06** 10:34:00, 33.30N×140.90E, h41km, Mw4.6 Best double couple: M0 9.54000×10^15 NP1:φ209.00000°, δ59.00000°, λ149.00000°. NP2:φ316.00000°, δ64.00000°, λ35.00000°.*
*ISCJB **06** 10:34:12.8±0.6, 33.21N±0.03×140.93E±0.05, h34km±5km, mb4.3/31, MS3.6/13, Error ellipse: s-maj=6.7km s-min=4.9km az=170.8*
*JMA **06** 10:34:13.7±0.2, 33.35N×140.93E, h32km, M4.6*
*MOS **06** 10:34:13.4±1.4, 33.10N×140.85E, h41km, mb4.4/11, Error ellipse: s-maj=16.7km s-min=7.5km az=118.0*
*BJI **06** 10:34:14.5, 33.10N×140.70E, h52km, mb4.1/4, mB4.4/4,*

Ms4.2/2, Ms7 4.0/2
*IDC **06** 10:34:15.9±2.0, 33°.16N×140°.73E, h48km±19km, mb3.8/16, mb1 4.1/19, mb1mx4.0/27, mbtmp4.2/19, ML4.8/3, MS3.5/16, Ms1 3.5/16, ms1mx3.4/30, Error ellipse: s-maj=21.7km s-min=12.2km az=74.0*
*NEIC **06** 10:34:16.5±0.8, 33°.15N×140°.73E, h52km±7km, mb4.3/13, Error ellipse: s-maj=9.0km s-min=6.1km az=72.0*
ISC 06 10:34:15.2±0.8**, 33°.22N**±0°.04×**140°.92E**±0°.05**, h41**km±7km**, n113, σ1s.53**/103**, mb4.2**/31**, MS3.6**/13**, 9C-2D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.93	264	⇓P	Pn	10 34 31.4	-0.4
JHJ2				S	Sn	10 34 44.5	+0.5
JHJ2	Mitsune	0.93	264	ePn	Pn	10 34 31.5	-0.4
JHJ2				eSn	Sn	10 34 44.9	+0.9
JHCJ	Hachijojimakas	0.95	261	⇓P	Pn	10 34 31.2	-0.9
JHCJ				S	Sn	10 34 43.4	-1.1
BSO1	Boso 1	1.43	2	P	Pn	10 34 36.5	-1.7
BSO3	Boso 3	1.61	348	P	Pn	10 34 39.2	-1.7
BSO3				eS	Sn	10 34 58.5	-1.9
JKO	Kozu shima	1.77	303	P	Pn	10 34 42.7	-0.7
JKO				S	Sn	10 35 03.3	-1.4
BSO4	Boso 4	1.83	345	P	Pn	10 34 42.6	-1.5
BSO4				eS	Sn	10 35 04.4	-1.6
JIM2	Oshima 3	1.94	321	⇑P	Pn	10 34 44.0	-1.7
JIM2				S	Sn	10 35 05.8	-3.0
KTR	Katsuura	1.99	346	P	Pn	10 34 43.7	-2.6
KTR				S	Sn	10 35 06.4	-3.5
I30JP	ISUMI INFRASON	2.14	347	S	Sn	10 35 15.8	+2.0
JIZS	Izushimoda	2.26	312	⇑P	Pn	10 34 49.5	-0.6
JIZS				S	Sn	10 35 15.7	-1.0
JCN	Nagara	2.27	345	P	Pn	10 34 50.2	0.0
KTJJ	Kamata 2	2.29	318	⇑P	Pn	10 34 49.4	-1.1
KTJJ				S	Sn	10 35 14.4	-3.2
MJAR	Matsushiro Arr	3.99	327	P	Pn	10 35 14.1	+0.2
	19nm,0.3s,baz=156,slow=12,SNR=206						
MJAR				S	Sn	10 35 57.0	-2.4
	17nm,0.3s,baz=147,slow=14,SNR=3.7						
MJAR				LR	LR	10 36 55.3	
	comp=Z,751nm,20.2s,baz=155,slow=41						
MAJO	Matsushiro	3.99	327	i P	Pn	10 35 13.3	-0.6
MAJO	Matsushiro	3.99	327	ePn	Pn	10 35 14.4	+0.4
MAT	Matsushiro	3.99	327	P	Pn	10 35 14.5	+0.6
MAT				S	Sn	10 35 58.2	-1.3
CBIJ	Chichi jima	6.20	170	ePn	Pn	10 35 43.7	-0.5
	36nm,0.3s						
CBIJ				eSn	Sn	10 36 50.2	-3.7
JCJ	Chichijima	6.20	170	P	Pn	10 35 42.5	-1.8
	42nm,0.3s,baz=83,slow=20,SNR=24						
JCJ				S	Sn	10 36 48.4	-5.5
	31nm,0.3s,baz=357,slow=23,SNR=4.1						
JNU	Nakatsue	8.42	272	P	Pn	10 36 15.8	+1.2
	0.8nm,0.3s,baz=198,slow=5.0,SNR=10						
JNU				S	Sn	10 37 37.2	-11
	baz=105,slow=19,SNR=2.0						
JNU				LR	LR	10 38 49.4	
	comp=Z,73nm,20.8s,baz=53,slow=33						
ERM	Erimo	8.96	11	eP	Pn	10 36 19.6	-2.3
ERM				pmax	pmax		
	comp=Z,28nm,0.4s						
ERM	Erimo	8.96	11	ePn	Pn	10 36 19.6	-2.3
	comp=Z,28nm,0.4s						
ASAJ	Asahikawa	10.96	6	P	Pn	10 36 46.0	-3.4
	comp=Z,2.6nm,0.3s,baz=215,slow=11,SNR=28						
ASAJ				S	Sn	10 38 42.2	-8.4
	comp=Z,0.8nm,0.3s,baz=76,slow=19,SNR=3.1						
ASAJ	Asahikawa	10.96	6	P	Pn	10 36 46.0	-3.4
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ	Asahikawa	10.96	6	ePn	Pn	10 36 46.5	-2.9
	comp=Z,4.9nm,0.6s						
ASAJ				S	Sn	10 38 42.2	-8.4
KSRS	Korea Array	11.42	295	P	Pn	10 36 59.6	+3.9
	comp=Z,0.2nm,0.3s,baz=111,slow=14,SNR=13						
KSAR	Wonju Array Be	11.45	295	P	Pn	10 36 59.6	+3.5
KSAR	Wonju Array Be	11.45	295	P	Pn	10 36 59.6	+3.5
YUK	Yuzh-Kuril'sk	11.46	18c	iP	Pn	10 36 48.2	-8.1
YUK				pmax	pmax		
	comp=N,29nm,0.7s						
YUK				pmax	pmax		
	comp=E,22nm,0.7s						
YUK				pmax	pmax		
	comp=Z,43nm,0.7s						
YUK				pmax	pmax		
	comp=Z,250nm,2.5s						
JOW	Kunigami	12.67	243	LR	LR	10 41 42.0	
	comp=Z,21nm,20.9s,baz=62,slow=36						
USRK	Ussuriysk Ar.	12.98	330	LR	LR	10 42 00.1	
	comp=Z,115nm,19.1s,baz=149,slow=36						
KLR	Kul'dur	17.40	340	eP	Pn	10 38 07.7	-7.0
TYV	Tymovskoe	17.68	4	eP	Pn	10 38 18.5	+0.4
TYV				pmax	pmax		
	comp=Z,6.0nm,0.6s						
GUMO	Guam	19.87	169	P	P	10 38 43.6	+0.5
	comp=Z,6.8nm,0.3s,baz=0.0,slow=15,SNR=5.1						
GUMO	Guam	19.87	169	P	P	10 38 43.6	+0.5
GUMO				pmax	pmax		
	comp=Z,7.0nm,0.3s						
GUMO	Guam	19.87	169	eP	P	10 38 43.5	+0.5
	comp=Z,11nm,0.9s						
SSLB	Suanglung	19.88	247	eP	P	10 38 42.5	-0.6
	comp=Z,12nm,0.8s						
PETK	Petropavlovsk-	23.23	26	LR	LR	10 51 36.9	
	comp=Z,48nm,18.3s,baz=227,slow=45						
HHC	Hu-ho-hao-te	24.56	297	eP	P	10 39 31.0	-0.3
HHC				S	S	10 43 47.5	-2.0
HHC				PMZ			
	comp=Z,27nm,0.7s						
HHC				PMZ			
	comp=Z,55nm,5.4s						
H11N2	WAKE ISLAND Hy	26.77	114	T	T	11 08 36.3	
	baz=306,slow=75,SNR=296						
H11N1	WAKE ISLAND Hy	26.77	114	T	T	11 08 42.5	
	baz=306,slow=75,SNR=365						
H11N3	WAKE ISLAND Hy	26.78	114	T	T	11 08 38.0	
	baz=306,slow=75,SNR=319						
H11S3	WAKE ISLAND Hy	27.34	116	T	T	11 09 29.6	
	baz=307,slow=75,SNR=9.1						
H11S1	WAKE ISLAND Hy	27.34	116	T	T	11 09 27.5	
	baz=307,slow=75,SNR=15						
H11S2	WAKE ISLAND Hy	27.35	116	T	T	11 09 27.5	
	baz=307,slow=75,SNR=9.4						
YAK	Yakutsk	29.71	349	LR	LR	10 53 00.3	
	comp=Z,88nm,21.3s,baz=157,slow=38						
SONM	Songino Array	29.74	310	P	P	10 40 17.3	-0.5
	comp=Z,1.1nm,0.9s,baz=114,slow=8.6,SNR=5.8						
TLY	Talaya	32.65	316	LR	LR	10 54 34.6	
	comp=Z,89nm,18.1s,baz=110,slow=37						
TLY	Talaya	32.65	316	eP	P	10 40 45.1	+1.9
TLY				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TLY				MLR	MLR		
	comp=Z,85nm,17.0s						
TLY	Talaya	32.65	316	eP	P	10 40 43.6	+0.4
	comp=Z,6.7nm,1.2s						
SIJI	Sorong	35.11	197	LR	LR	10 53 05.2	
	comp=Z,90nm,19.5s,baz=346,slow=32						
CMAR	Chiang Mai Arr	40.26	259	LR	LR	11 00 17.1	
	comp=Z,43nm,18.3s,baz=44,slow=39						
ZALV	Zalesovo Beam	44.26	315	P	P	10 42 20.0	-0.5
	comp=Z,1.1nm,0.5s,baz=115,slow=11,SNR=5.5						
ZALV	Zalesovo Beam	44.26	315	i P	P	10 42 23.2	+2.7
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVS	Novosibirsk	45.25	317	eP	P	10 42 29.5	+1.1
MK31	Makanchi Array	45.89	305	eP	P	10 42 33.0	-0.6
MK31	Makanchi Array	45.89	305	eP	P	10 42 33.0	-0.6
MKAR	Makanchi Array	45.89	305	P	P	10 42 32.4	-1.3
	comp=Z,1.2nm,0.6s,baz=86,slow=10,SNR=14						
MKAR				ScP	ScP	10 47 57.2	-2.8
	comp=Z,0.2nm,0.5s,baz=78,slow=5.6,SNR=4.0						
MKAR	Makanchi Array	45.89	305c	eP	P	10 42 33.0	-0.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	Kurchatov	48.04	311	eP	P	10 42 49.2	-1.1
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KURK	Kurchatov	48.04	311	eP	P	10 42 49.2	-1.1
	comp=Z,5.5nm,0.7s						
AAK	Ala-Archa	52.02	301	P	P	10 43 20.4	-0.4
	comp=Z,1.1nm,0.4s,baz=121,slow=5.9,SNR=3.7						
ILAR	Eielson Array	52.95	31	P	P	10 43 28.1	+0.9
	comp=Z,0.6nm,0.9s,baz=265,slow=5.8,SNR=8.9						
BRVK	Borovoye	52.95	314c	eP	P	10 43 28.4	+1.1
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRAB	Tennant Creek	53.23	188c	eP	P	10 43 28.7	-0.9
WRAB	Tennant Creek	53.23	188	eP	P	10 43 28.5	-1.1
	comp=Z,14nm,0.6s						
WRA	Warramunga Arr	53.24	188	P	P	10 43 28.7	-1.0
	comp=Z,18nm,0.4s,baz=3.6,slow=7.6,SNR=510						
WRA	Warramunga Arr	53.24	188	i P	P	10 43 28.3	-1.4
KKAR	Karatay Array	54.75	302	eP	P	10 43 39.8	-0.9
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KKAR	Karatay Array	54.75	302	eP	P	10 43 39.8	-0.9
	comp=Z,1.5nm,0.6s						
AS31	Alice Springs	56.96	188	eP	P	10 43 55.9	-0.7
ASAR	Alice Springs	56.96	188	P	P	10 43 55.9	-0.7
	comp=Z,6.7nm,0.5s,baz=4.2,slow=7.4,SNR=97						
ASAR				LR	LR	11 07 11.6	
	comp=Z,40nm,19.5s,baz=292,slow=35						
ARU	Arti	58.98	320c	iP	P	10 44 09.7	-0.7
ARU						10 46 18.1	
ARU				S	S	10 52 16.2	+2.5
ARU				SS	SS	10 56 05.2	-2.1
ARU				pmax	pmax		
	comp=Z,13nm,2.5s						
ABKAR	Akbulak array	60.13	312	eP	P	10 44 16.8	-1.7
	comp=Z,1.3nm,0.4s						
DLBC	Dease Lake	61.90	37	eP	P	10 44 29.8	-0.6
STKA	Stephens Creek	64.75	179	P	P	10 44 49.0	-0.4
	comp=Z,1.1nm,0.5s,baz=335,slow=7.7,SNR=5.1						
STKA	Stephens Creek	64.75	179	eP	P	10 44 49.4	0.0
STKA	Stephens Creek	64.75	179	eP	P	10 44 49.4	0.0
	comp=Z,0.3nm,0.6s						
ARCES	ARCESS Array B	67.42	340	LR	LR	11 17 38.3	
	comp=Z,52nm,21.6s,baz=60,slow=39						
NWAO	Narrogin (SRO)	69.48	201	P	P	10 45 18.8	-0.5
	comp=Z,8.2nm,0.8s,baz=330,slow=5.1,SNR=8.4						
MOS	Moscow	70.08	324	eP	P	10 45 23.8	+1.0
FINES	FINESS Array B	72.00	333	P	P	10 45 34.0	-0.4
	comp=Z,1.0nm,0.5s,baz=67,slow=5.7,SNR=12						
FINES				LR	LR	11 20 13.5	
	comp=Z,33nm,18.7s,baz=18,slow=38						
FINES	FINESS Array B	72.00	333	i P	P	10 45 35.2	+0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KBZ	Khabaz	73.09	311	P	P	10 45 40.9	-0.3
	comp=Z,1.8nm,0.7s,baz=143,slow=20,SNR=4.2						
NEW	Newport	73.16	43	eP	P	10 45 44.3	+2.6
NEW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NEW	Newport	73.16	43	eP	P	10 45 44.2	+2.6
	comp=Z,2.8nm,0.8s						
GNI	Garni	73.68	307	LR	LR	11 20 53.9	
	comp=Z,68nm,18.6s,baz=85,slow=38						
SUMG	Summit	74.49	360	eP	P	10 45 51.6	+2.2
SUMG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SUMG	Summit	74.49	360	eP	P	10 45 51.6	+2.2
	comp=Z,3.7nm,0.9s						
AKASG	Malin Array Be	77.07	323	P	P	10 46 02.5	-1.4
	comp=Z,0.8nm,0.4s,baz=48,slow=5.5,SNR=6.7						
AKASG				LR	LR	11 21 29.3	
	comp=Z,54nm,21.6s,baz=35,slow=37						
AKASG	Malin Array Be	77.07	323c	eP	P	10 46 08.3	+4.3
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LRM	Limekiln Ridge	77.17	43	eP	P	10 46 06.2	+1.2
	comp=Z,44nm,1.0s						
DLMT	Dillon	77.35	44	eP	P	10 46 08.4	+2.5
	comp=Z,4.3nm,1.1s						
NB2	NORSAR Subarra	77.54	337	P	P	10 46 05.8	-0.7
	comp=Z,1.2nm,0.7s,baz=43,slow=5.9						
NOA	NORSAR Array B	77.54	337	P	P	10 46 06.5	-0.1
	comp=Z,0.4nm,0.4s,baz=42,slow=5.5,SNR=4.8						
NOA				LR	LR	11 23 17.2	
	comp=Z,38nm,20.4s,baz=0.0,slow=38						
NVAR	Mina Array Bea	77.62	52	P	P	10 46 08.3	+0.7
	comp=Z,0.8nm,0.7s,baz=294,slow=5.4,SNR=7.6						
H17A	Grant Village	79.08	44	eP	P	10 46 18.5	+2.8
	comp=Z,2.5nm,1.1s						
BRTR	Keskin Array B	81.08	312	P	P	10 46 26.1	-0.2
	comp=Z,0.3nm,0.4s,baz=114,slow=3.6,SNR=2.4						
BRTR	Keskin Array B	81.08	312	i P	P	10 46 31.8	+5.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PMOR	Pomariorio Ree	83.05	113	eT	T	12 17 35.0	
	comp=Z,4.3nm,0.2s						
PPT2	Papeete2	83.33	116	eLR	LR	11 12 58.8	
	comp=Z,56nm,24.2s						
DPC	Dobruska-Polom	83.47	328	eP	P	10 46 39.2	+0.7
DPC				ex	x	10 46 46.0	
DPC				epP	pP	10 46 53.1	+2.3
DPC	Dobruska-Polom	83.47	328	eP	P	10 46 39.2	+0.7
DPC				e		10 46 53.1	
PV10	Paradox Valley	83.61	48	eP	P	10 46 40.9	+1.1
	comp=Z,94nm,0.8s						
PV01	Paradox Valley	84.05	48	eP	P	10 46 43.5	+1.5
	comp=Z,100nm,0.4s						
KHC	Kasperske Hory	85.57	328	eP	P	10 46 50.3	+1.1
KHC				ex	x	10 46 55.2	
KHC				epP	pP	10 47 02.0	+0.5
KHC	Kasperske Hory	85.57	328	eP	P	10 46 50.3	+1.1
KHC				e		10 47 02.0	
GERES	GERESS Array B	85.73	328	P	P	10 46 49.2	-0.8
	comp=Z,0.3nm,0.5s,baz=27,slow=8.8,SNR=2.7						
GERES				LR	LR	11 27 04.1	
	comp=Z,37nm,20.2s,baz=83,slow=37						
TXAR	Lajitas Array	92.77	52	P	P	10 47 24.1	+0.4
	comp=Z,0.9nm,0.7s,baz=302,slow=3.1,SNR=16						
TXAR				LR	LR	11 28 41.9	
	comp=Z,27nm,18.7s,baz=0.0,slow=35						
TORD	Torodi Ar. Bea	119.68	313	PKP	PKPdf	10 53 00.7	-0.7
	comp=Z,0.1nm,0.4s,baz=357,slow=2.3,SNR=6.0						
LPAZ	La Paz	148.84	64	PKPbc	PKPbc	10 53 59.9	+0.1
	comp=Z,0.9nm,0.5s,baz=359,slow=4.4,SNR=7.7						
LPAZ	La Paz	148.84	64	PKP2	PKPbc	10 53 59.9	+0.1
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LPAZ	La Paz	148.84	64	ePKPbc	PKPbc	10 54 00.1	+0.3

*IDC **06** 10:39:12.8±1.6, 7°.91N×125°.15E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/37, mbtmp3.6/5, Error ellipse: s-maj=74.7km s-min=26.9km az=66.0*
*MAN **06** 10:40:29, 13°.42N×120°.63E, h58km, mb4.2, ML3.1, MS2.8*
ISC 06 10:39:37.0±2.1**, 10°.2N**±0°.3×**123°.4E**±0°.2**, h17**km**, n9, σ1s.17**/8**, mb3.6**/4**, 2C, Cebu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	San Jose	3.11	316	eP	Pg	10 40 50.0	+13
SJMP				eS	Sb	10 41 10.3	+0.7
BUSP	Coron	3.56	300	eP	Pg	10 40 55.0	+10
BUSP				eS	Sn	10 41 13.2	+0.1
PGP	Puerto Galera	4.01	324	⇑iP	Pn	10 40 41.6	+4.0
TGY	Tagaytay City	4.51	329	⇑eP	Pn	10 40 44.8	+0.2
LUBP	Lubang	4.62	319	eP	Pn	10 40 43.9	-2.1
CMAR	Chiang Mai Arr	25.00	292	P	P	10 45 00.9	+0.8
	0.6nm,0.5s,baz=91,slow=8.1,SNR=5.0						
SONM	Songino Array	40.11	342	P	P	10 47 11.3	-0.6
	0.2nm,0.5s,baz=139,slow=6.8,SNR=2.5						
MKAR	Makanchi Array	50.34	324	P	P	10 48 33.6	+0.6
	0.7nm,0.8s,baz=132,slow=8.6,SNR=4.4						
KURBB	Kurchatov Arra	54.49	327	P	P	10 49 04.5	+0.8
	0.4nm,0.4s,baz=129,slow=8.1,SNR=4.5						

*NIED **06** 10:46:00, 42°.70N×149°.00E, h5km, Mw3.7 Best double couple: M0 4.39000×10^14 NP1:φs61.00000°, δ23.00000°, λ-102.00000°. NP2:φs254.00000°, δ67.00000°, λ-85.00000°.*
*IDC **06** 10:46:37.4±0.9, 42°.42N×149°.17E, h0km, mb3.6/9, mb1 3.7/11, mb1mx3.5/37, mbtmp3.5/11, ML3.3/2, Error ellipse: s-maj=23.4km s-min=20.9km az=102.0*
*JMA **06** 10:46:40.9±0.6, 42°.75N×149°.05E, h30km, M4.1*
*ISCJB **06** 10:46:41.8±0.6, 42°.45N±0°.05×148°.71E±0°.05, h33km, mb3.5/9, Error ellipse: s-maj=6.9km s-min=5.0km az=12.2*
*MOS **06** 10:46:42.3±1.7, 42°.52N×148°.78E, h49km, mb4.0/3, Error ellipse: s-maj=19.5km s-min=11.1km az=119.5*
*SKHL **06** 10:46:42.1±0.7, 42°.59N×148°.93E, h47km±3km, mb4.3/3*
ISC 06 10:46:42.7±0.8**, 42°.48N**±0°.05×**148°.87E**±0°.07**, h35**km**, n53, σ1s.76**/71**, mb3.6**/9**, Off southeast coast of Hokkaido**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	2.04	314	ePN	Pn	10 47 12.8	-1.7
SHO				eS	Sn	10 47 36.0	-2.6
SHO				pmax	pmax		
	comp=Z,80nm,0.3s						
SHO				smax	smax		
	comp=E,410nm,0.2s						
SHO	Shikotan	2.04	314	eP	Pn	10 47 12.8	-1.7
SHO				AMB	AMB	10 47 15.5	
	comp=E,75nm,0.3s						
SHO				eS	Sn	10 47 36.0	-2.6
SHO				A	A	10 47 37.0	
	comp=E,414nm,0.2s						
NEM2	Nemuro 2	2.46	292	P	Pn	10 47 19.1	-1.2
NEM2				eS	Sn	10 47 47.3	-1.8
YUK	Yuzh-Kuril'sk	2.69	306	ePN	Pn	10 47 22.0	-1.4
YUK				eS	Sn	10 47 52.9	-1.9
YUK				pmax	pmax		
	comp=Z,30nm,0.4s						
YUK				smax	smax		
	comp=N,120nm,0.4s						
YUK				smax	smax		
	comp=E,160nm,0.4s						
YUK	Yuzh-Kuril'sk	2.69	306	eP	Pn	10 47 22.0	-1.4
YUK				AMB	AMB	10 47 24.6	
	comp=E,20nm,0.3s						
YUK				AMB	AMB	10 47 24.6	
	comp=E,18nm,0.3s						
YUK				AMB	AMB	10 47 24.6	
	comp=E,33nm,0.3s						
YUK				eS	Sn	10 47 52.9	-1.9
YUK				A	A	10 47 55.7	
	comp=E,160nm,0.6s						
YUK				A	A	10 47 55.7	
	comp=E,119nm,0.6s						
KUR	Kuril'sk	2.84	346	ePN	Pn	10 47 23.8	-1.8
KUR				eS	Sn	10 47 55.2	-3.3
KUR				pmax	pmax		
	comp=Z,30nm,0.6s						
KUR				smax	smax		
	comp=N,50nm,0.3s						
KUR				smax	smax		
	comp=E,90nm,0.3s						
KUR	Kuril'sk	2.84	346	eP	Pn	10 47 23.8	-1.8
KUR				AMB	AMB	10 47 26.6	
	comp=E,130nm,0.8s						
KUR				eS	Sn	10 47 55.2	-3.3
KUR				A	A	10 48 03.2	
	comp=E,330nm,0.4s						
KUR				A	A	10 48 03.2	
	comp=E,270nm,0.4s						
JRA	Rausu	3.10	299	P	Pn	10 47 28.4	-0.7
JRA				eS	Sn	10 48 03.8	-1.1
JAK	Akkeshi	3.12	281	P	Pn	10 47 28.6	-0.7
JAK				eS	Sn	10 48 03.4	-1.9
JNK	Nakash	3.24	291	P	Pn	10 47 29.8	-1.2
JNK				eS	Sn	10 48 05.6	-2.7
JOB	Onbets	3.73	278	P	Pn	10 47 37.4	-0.4
JOB				eS	Sn	10 48 18.8	-1.8
JAR	Ashorobuto	3.83	284	P	Pn	10 47 38.7	-0.5
JAR				eS	Sn	10 48 21.5	-1.5
JTKR	Abashiri--Toko	3.92	294	P	Pn	10 47 40.2	-0.1
JTKR				eS	Sn	10 48 24.7	-0.4
JCH	Churui	4.07	274	P	Pn	10 47 42.4	-0.1
JCH				eS	Sn	10 48 27.3	-1.6
MYR	Moyori	4.14	269	eP	Pn	10 47 43.6	+0.2
MYR				eS	Sn	10 48 29.2	-1.4
JEM	Erimo	4.27	266	P	Pn	10 47 45.1	0.0
JMP	Maruseppu	4.30	293	P	Pn	10 47 46.0	+0.3
HRK	Horoka	4.33	285	eP	Pn	10 47 46.4	+0.4
HRK				eS	Sn	10 48 34.2	-1.0
JNBK	Urakawa-nobuka	4.54	269	P	Pn	10 47 48.3	-0.5
JFR	Furan	4.67	280	P	Pn	10 47 50.7	0.0
JFR				eS	Sn	10 48 42.5	-1.1
JKK2	Kamakawa 2	4.69	289	P	Pn	10 47 52.7	+1.8
JBT2	Biratori 2	4.81	276	P	Pn	10 47 52.1	-0.5
JKA	Kamikawa-asahi	4.86	292	eP	Pn	10 47 54.5	+1.2
ASAJ	Asahikawa	4.86	292	Pn	Pn	10 47 54.5	+1.2
	comp=E,1.5nm,0.3s,baz=109,slow=9.0,SNR=15						
ASAJ	Asahikawa	4.86	292	PN	Pn	10 47 54.5	+1.2
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JKB	Kayabe	5.85	267	eS	Sn	10 49 09.9	-2.9
JTH	Tanohata	5.86	247	eS	Sn	10 49 08.5	-4.6
JANG	Nango	5.92	252	P	Pn	10 48 06.6	-1.2
JANG				eS	Sn	10 49 10.4	-4.0
JTM	Tenmabayashi	6.09	256	eS	Sn	10 49 15.0	-3.5
YSS	Yuzh-Sakhalins	6.24	318	ePN	Pn	10 48 12.5	+0.3
YSS	Yuzh-Sakhalins	6.24	318	eP	Pn	10 48 12.5	+0.3
YSS				eS	Sn	10 49 20.0	-2.2
JRG	Rokugo	6.96	246	P	Pn	10 48 23.5	+1.4
JRG				eS	Sn	10 49 36.3	-3.7
JIO	Ouri	7.00	237	eS	Sn	10 49 34.0	-7.1
MJAR	Matsushiro Arr	10.15	238	Pn	Pn	10 49 05.6	-0.2
	comp=Z,0.1nm,0.3s,baz=83,slow=14,SNR=3.4						
EKMR	Ekimchan	15.02	320	erx	rx	10 49 53.6	
SONM	Songino Array	30.13	295	P	P	10 52 51.2	+2.0
	comp=Z,0.5nm,0.6s,baz=78,slow=8.5,SNR=5.4						
ILAR	Eielson Array	41.78	35	P	P	10 54 26.9	-1.3
	comp=Z,0.3nm,0.8s,baz=264,slow=8.7,SNR=3.4						
ILAR	Eielson Array	41.78	35	P	P	10 54 27.0	-1.3
ILAR	Eielson Array	41.78	35	eP	P	10 54 27.0	-1.3
MKAR	Makanchi Array	46.29	299	P	P	10 55 06.3	+1.5
	comp=Z,0.7nm,0.7s,baz=79,slow=7.9,SNR=7.5						
MKAR	Makanchi Array	46.29	299	P	P	10 55 06.3	+1.5
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	Kurchatov	47.28	305	P	P	10 55 14.6	+2.2
KURK	Kurchatov	47.28	305	eP	P	10 55 14.6	+2.2
KURBB	Kurchatov Arra	47.37	305	P	P	10 55 14.6	+1.5
	comp=Z,0.4nm,0.4s,baz=76,slow=8.7,SNR=4.1						
WRA	Warramunga Arr	63.55	195	P	P	10 57 09.2	-0.4
	comp=Z,0.6nm,0.9s,baz=13,slow=6.7,SNR=5.4						
WRA	Warramunga Arr	63.55	195	P	P	10 57 09.2	-0.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	FINESS Array B	66.57	334	P	P	10 57 30.6	+1.8
	comp=Z,1.0nm,0.6s,baz=40,slow=7.3,SNR=3.1						
FINES	FINESS Array B	66.57	334	P	P	10 57 30.6	+1.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	Alice Springs	67.25	195	P	P	10 57 34.0	+0.4
	comp=Z,0.2nm,0.7s,baz=7.0,slow=5.0,SNR=4.2						
ASAR	Alice Springs	67.25	195	P	P	10 57 34.0	+0.4
ASAR	Alice Springs	67.25	195	eP	P	10 57 34.0	+0.4
NOA	NORSAR Array B	71.23	340	P	P	10 57 58.2	+0.4
	comp=Z,0.3nm,0.5s,baz=30,slow=6.5,SNR=3.1						
TXAR	Lajitas Array	82.29	57	P	P	10 59 00.7	-0.2
	comp=Z,0.3nm,0.7s,baz=296,slow=4.1,SNR=5.3						

NNC 06 10:51:46.9±1.9**, 39°.07N×71°.59E, h0**km**, mb3.5, mpv3.2, 7C-2D, Error ellipse: s-maj=24.8km s-min=8.9km az=150.0, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.75	57	⇑Pn	Pn	10 52 17.6	-1.3
	3.3nm,0.2s						
SFK				⇑Lg	Lg	10 52 48.0	
	40nm,0.3s						
DZET	Dzherino	2.17	264	⇑Pn	Pn	10 52 23.7	-0.7
	5.1nm,0.3s						
DZET				⇓Sn	Sb	10 52 54.0	-0.8
	53nm,0.5s						
MNAS	Manas	3.48	11	⇑Pn	Pn	10 52 42.3	-0.2
	4.8nm,0.4s						
MNAS				⇑Sn	Sn	10 53 25.6	+1.0
	8.5nm,0.5s						
KK31	Karatay Array	4.11	349	Pn	Pn	10 52 48.8	-2.1
	1.0nm,0.2s,baz=170,slow=13,SNR=76						
KK31				⇑Sn	Sn	10 53 40.4	+0.6
	4.7nm,0.6s,baz=172,slow=23,SNR=7.5						
AAK	Ala-Archa	4.18	31	⇓Pn	Pn	10 52 51.6	-0.6
	1.8nm,0.4s						
AAK				⇑Sn	Sn	10 53 43.5	+1.5
	3.2nm,0.5s						

NNC 06 11:31:05.4±4.3**, 36°.88N×70°.75E, h0**km**, mb3.5, mpv3.1, 3C-2D, Error ellipse: s-maj=34.9km s-min=16.6km az=175.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZET	Dzherino	2.46	322	Pn	Pn	11 31 45.7	-1.2
DZET				Sn	Sn	11 32 19.5	+1.8
SFK	Sufi-Kurgan	3.80	34	⇑Pn	Pn	11 32 06.4	+0.8
	3.0nm,0.2s						
SFK				⇓Sn	Sn	11 32 51.8	+0.6
	4.6nm,0.2s						
MNAS	Manas	5.76	13	⇑Pn	Pn	11 32 32.3	-0.1
	0.3nm,0.2s						
MNAS				⇓Sn	Sn	11 33 40.5	+1.2
	4.3nm,0.7s						
KK31	Karatay Array	6.22	358	Pn	Pn	11 32 38.7	+0.2
	0.3nm,0.2s,baz=176,slow=13,SNR=23						
KK31				⇑Sn	Sn	11 33 50.8	+0.4
	5.9nm,0.6s,baz=185,slow=23						

*IDC **06** 12:09:17.9±1.4, 36.°52N×5.°17E, h0km, mb3.4/3, mb1 3.4/6, mb1mx3.2/42, mbtmp3.3/6, ML3.6/3, MS2.8/3, Ms1 2.8/3, ms1mx2.3/29, Error ellipse: s-maj=29.6km s-min=21.5km az=157.0*

*LDG **06** 12:09:18.5±0.1, 36.°63N×5.°16E, h2km, Ml3.4/18, Error ellipse: s-maj=2.9km s-min=2.5km az=134.0*

*CRAAG **06** 12:09:19.9, 36.°52N×5.°22E, Ml4.2*

*ISCJB **06** 12:09:19.8±0.3, 36.°82N±0.°02×5.°25E±0.°02, h13km, mb3.4/3, MS2.6/1, Error ellipse: s-maj=3.7km s-min=2.6km az=27.6*

*MDD **06** 12:09:20.9±0.3, 36.°55N×5.°21E, h0km, mb4.4/24, Error ellipse: s-maj=5.2km s-min=3.3km az=31.0, PRXIMO*

*CSEM **06** 12:09:21.0±0.4, 36.°71N×5.°35E, h10km, ML4.2, Error ellipse: s-maj=10.3km s-min=6.9km az=176.0*

ISC 06 12:09:20.3±0.3, **36.°72N**±0.°02×**5.°30E**±0.°01, **h13km, n185, σ1.°76**/181, **mb3.5**/3, **4C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DFRA	Djebel Bou Aff	0.50	110	P	Pb	12 09 31.0	+0.1
DFRA	Djebel Bou Aff	0.50	110	P	Pb	12 09 31.0	+0.1
SET	Setif	0.52	171	P	Pg	12 09 28.0	-2.6
SET	Setif	0.52	171	P	Pg	12 09 28.0	-2.6
CKHR	Kef el Ahmar	0.72	166	P	Pg	12 09 31.6	-2.7
CKHR	Kef el Ahmar	0.72	166	P	Pg	12 09 31.6	-2.7
CASM	Ain Smara	1.06	115	P	Pg	12 09 40.0	-0.8
CASM	Ain Smara	1.06	115	P	Pg	12 09 40.0	-0.8
CTEI	Djebel Teioual	1.11	126	P	Pn	12 09 41.4	-0.2
CTEI	Djebel Teioual	1.11	126	P	Pn	12 09 41.4	-0.2
ATAF	Djebel Tarf	1.18	225	P	Pb	12 09 39.8	-2.7
ATAF	Djebel Tarf	1.18	225	P	Pb	12 09 39.8	-2.7
CKFL	Kef-Lekhel	1.19	105	P	Pg	12 09 43.4	+0.2
CKFL	Kef-Lekhel	1.19	105	P	Pg	12 09 43.4	+0.2
CKFL	Kef-Lekhel	1.19	105	P	Pg	12 09 43.4	+0.2
CAEH	'Ain El Ouahch	1.25	87	P	Pg	12 09 46.0	+1.7
CAEH	'Ain El Ouahch	1.25	87	P	Pg	12 09 46.0	+1.7
CAEH	'Ain El Ouahch	1.25	87	P	Pg	12 09 46.0	+1.7
AKET	Djebel Ketaf	1.32	240	P	Pn	12 09 42.4	-2.2
AKET	Djebel Ketaf	1.32	240	P	Pn	12 09 42.4	-2.2
ADJB	Djebel Djouab	1.60	250	P	Pn	12 09 46.7	-1.6
ADJB	Djebel Djouab	1.60	250	P	Pn	12 09 46.7	-1.6
CMAH	Djebel Manchou	1.71	92	P	Pn	12 09 49.9	+0.1
CMAH	Djebel Manchou	1.71	92	P	Pn	12 09 49.9	+0.1
CMAH	Djebel Manchou	1.71	92	P	Pn	12 09 49.9	+0.1
ABSA	Djebel Ababsia	1.81	104	P	Pb	12 09 52.9	-0.5
ABSA	Djebel Ababsia	1.81	104	P	Pb	12 09 52.9	-0.5
CABS	Djebel Ababsia	1.81	104	P	Pb	12 09 52.9	-0.5
ABA	Alger-Bouzarea	1.82	273	P	Pn	12 09 50.0	-1.3
ABA	Alger-Bouzarea	1.82	273	P	Pn	12 09 50.0	-1.3
KEST	Kesra	3.42	106	Pn	Pn	12 10 14.7	+1.3
	2.6nm,0.3s,baz=236,slow=6.2,SNR=21						
KEST				Sn	Sn	12 10 57.0	+3.3
	0.0nm,0.3s,baz=186,slow=17,SNR=4.2						
EANR	'Ain N'Sour	3.47	259	P	Pn	12 10 16.0	+1.9
EANR	'Ain N'Sour	3.47	259	P	Pn	12 10 16.0	+1.9
EANR	'Ain N'Sour	3.47	259	P	Pn	12 10 16.0	+1.9
ETRT	Tiaret	3.50	249	P	Pn	12 10 15.0	+0.5
ETRT	Tiaret	3.50	249	P	Pn	12 10 15.0	+0.5
ETRT	Tiaret	3.50	249	P	Pn	12 10 15.0	+0.5
ETOS	Mallorca	3.62	328	P	Pn	12 10 17.7	+1.7
	39nm,0.5s,SNR=159						
ETOS				S	Sn	12 10 58.1	-0.5
	37nm,0.4s,SNR=5.6						
ETOS	Mallorca	3.62	328	P	Pn	12 10 17.7	+1.7
	39nm,0.5s,SNR=159						
ETOS				S	Sn	12 10 58.2	-0.4
	37nm,0.4s,SNR=5.6						
EIBI	Ibiza	3.88	308	P	Pn	12 10 21.2	+1.5
	0.7nm,0.3s,SNR=41						
EIBI				S	Sn	12 11 07.0	+1.8
	7.9nm,0.4s						
EIBI	Ibiza	3.88	308	P	Pn	12 10 21.2	+1.5
	0.7nm,0.3s,SNR=41						
EIBI				S	Sn	12 11 07.0	+1.8
	6.5nm,0.3s						
EBEN	Beniarda	4.81	296	P	Pn	12 10 32.8	+0.5
	1.4nm,0.1s,SNR=14						
EBEN				S	Sn	12 11 29.6	+1.7
	1.5nm,0.5s,SNR=7.9						
EBEN	Beniarda	4.81	296	P	Pn	12 10 32.9	+0.5
	1.0nm,0.2s,SNR=14						
EBEN				S	Sn	12 11 29.6	+1.7
	1.5nm,0.5s,SNR=7.9						
EMUR	La Murta	5.33	284	P	Pn	12 10 39.6	0.0
	0.8nm,0.2s,SNR=14						
EMUR				S	Sn	12 11 40.5	-0.4
	2.9nm,0.5s						
EMUR	La Murta	5.33	284	P	Pn	12 10 39.6	0.0
	0.8nm,0.2s,SNR=14						
EMUR				S	Sn	12 11 40.5	-0.4
	2.9nm,0.5s						
CFON	Fontmartina	5.50	337	⇑P	Pn	12 10 43.2	+1.2
	8.1nm,0.3s,SNR=18						
CFON				S	Sn	12 11 43.6	-1.6
	16nm,0.3s						
CFON	Fontmartina	5.50	337	P	Pn	12 10 43.2	+1.2
	8.1nm,0.3s,SNR=18						
EPOB	Poblet	5.67	326	P	Pn	12 10 45.7	+1.4
	1.3nm,0.1s,SNR=29						
EPOB				S	Sn	12 11 46.2	-3.1
	5.7nm,0.2s						
EPOB	Poblet	5.67	326	P	Pn	12 10 45.7	+1.4
	1.3nm,0.1s,SNR=29						
ERTA	Horta de San J	5.74	319	P	Pn	12 10 46.3	+1.2
	1.7nm,0.2s,SNR=8.9						
ERTA				S	Sn	12 11 50.4	-0.5
	1.4nm,0.4s						
ERTA	Horta de San J	5.74	319	P	Pn	12 10 47.1	+2.0
	1.7nm,0.2s,SNR=8.9						
ETOB	Tobarra	5.76	292	P	Pn	12 10 46.6	+1.1
	4.0nm,0.3s,SNR=26						
ETOB				S	Sn	12 11 49.7	-1.8
	5.9nm,0.6s						
ETOB	Tobarra	5.76	292	P	Pn	12 10 46.6	+1.1
	4.0nm,0.3s,SNR=26						
ETOB				S	Sn	12 11 49.8	-1.7
	5.9nm,0.6s						
EMOS	Mosqueruela	5.80	311	P	Pn	12 10 47.9	+1.7
	1.6nm,0.1s,SNR=19						
EMOS				S	Sn	12 11 52.2	-0.5
	2.0nm,0.4s,SNR=9.9						
EMOS	Mosqueruela	5.80	311	P	Pn	12 10 47.9	+1.7
	1.6nm,0.1s,SNR=19						
EMIR	Miracle	5.96	332	P	Pn	12 10 50.9	+2.7
	23nm,0.3s,SNR=47						
EMIR				S	Sn	12 11 55.7	-0.6
	7.0nm,0.2s						
EMIR	Miracle	5.96	332	P	Pn	12 10 50.9	+2.7
	23nm,0.3s,SNR=47						
EJON	La Jonquera	6.02	343	P	Pn	12 10 50.1	+1.1
	1.3nm,0.1s,SNR=11						
EJON				S	Sn	12 11 56.0	-1.8
	5.5nm,0.3s						
EJON	La Jonquera	6.02	343	P	Pn	12 10 50.3	+1.3
	3.3nm,0.2s,SNR=11						
SJAF	Saint Jean de	6.05	343	P	Pn	12 10 50.7	+1.3
	2.2nm,0.2s,SNR=7.9						
SJAF				S	Sn	12 11 59.2	+0.6
	1.8nm,0.2s,SNR=7.9						
SJAF	Saint Jean de	6.05	343	P	Pn	12 10 50.9	+1.4
	2.2nm,0.2s,SNR=7.9						
FILF	Fillols	6.21	341	eP	Pn	12 10 55.4	+3.8
FILF	Fillols	6.21	341	eP	Pn	12 10 55.4	+3.8
VALF	Valcebollere	6.22	337	eP	Pn	12 10 55.4	+3.6
VALF	Valcebollere	6.22	337	eP	Pn	12 10 55.4	+3.6
CLLI	Llivia	6.30	337	P	Pn	12 10 55.8	+2.9
	1.1nm,0.3s,SNR=19						
CLLI				S	Sn	12 12 03.6	-1.2
	1.1nm,0.2s						
CLLI	Llivia	6.30	337	P	Pn	12 10 55.8	+2.9
	1.1nm,0.3s,SNR=19						
EHUE	Huescar	6.39	282	P	Pn	12 10 55.9	+1.8
	0.5nm,0.4s,SNR=7.9						
EHUE	Huescar	6.39	282	P	Pn	12 10 56.0	+1.8
	0.5nm,0.4s,SNR=7.9						
SESP	Santiago Espad	6.40	285	P	Pn	12 10 55.8	+1.5
	6.9nm,0.3s,SNR=7.9						
SESP				S	Sn	12 12 06.8	-0.5
	2.6nm,0.1s,SNR=7.9						
SESP	Santiago Espad	6.40	285	P	Pn	12 10 55.8	+1.5
	4.1nm,0.4s,SNR=7.9						
SESP				S	Sn	12 12 07.7	+0.4
	3.0nm,0.2s,SNR=7.9						
EVIA	Vianos	6.48	290	⇑P	Pn	12 10 56.0	+0.7
	5.4nm,0.5s,SNR=18						
EVIA				S	Sn	12 12 08.9	-0.3
	3.2nm,0.4s						
EVIA	Vianos	6.48	290	P	Pn	12 10 56.0	+0.7
	5.4nm,0.5s,SNR=7.2						
EVIA				S	Sn	12 12 08.9	-0.3
	3.2nm,0.4s						
PGF	Pioggiola	6.49	25	ePn	Pn	12 10 55.5	0.0
PGF				eSn	Sn	12 12 06.3	-3.1
	5.5nm,0.3s						
PGF	Pioggiola	6.49	25	ePn	Pn	12 10 55.5	0.0
PGF				eSn	Sn	12 12 06.3	-3.1
	2.8nm,0.3s						
CSOR	Sort	6.50	332	⇑P	Pn	12 10 58.8	+3.1
	11nm,0.3s,SNR=18						
CSOR				S	Sn	12 12 10.2	+0.4
	12nm,0.4s						
CSOR	Sort	6.50	332	P	Pn	12 10 58.8	+3.1
	11nm,0.3s,SNR=18						
CSOR				S	Sn	12 12 10.6	+0.8
	12nm,0.4s						
EBER	Berja	6.57	274	P	Pn	12 10 55.7	-1.0
	1.6nm,0.3s,SNR=8.4						
EBER				S	Sn	12 12 10.1	-1.5
	2.0nm,0.4s,SNR=7.9						
EBER	Berja	6.57	274	P	Pn	12 10 56.1	-0.6
	1.6nm,0.3s,SNR=8.4						
EBER				S	Sn	12 12 10.1	-1.5
	2.0nm,0.4s,SNR=7.9						
LMR	La Mourre	6.67	8	ePn	Pn	12 10 59.0	+1.0
LMR				eSn	Sn	12 12 09.4	-4.4
	6.9nm,0.2s						
LMR	La Mourre	6.67	8	ePn	Pn	12 10 59.0	+1.0
LMR				eSn	Sn	12 12 09.4	-4.4
	3.5nm,0.2s						
ESAC	San Caprasio	6.71	320	P	Pn	12 11 01.2	+2.7
	20nm,0.3s,SNR=8.5						
ESAC				S	Sn	12 12 14.6	-0.2
	17nm,0.3s,SNR=7.9						
ESAC	San Caprasio	6.71	320	P	Pn	12 11 01.2	+2.7
	20nm,0.3s,SNR=8.5						
ESAC				S	Sn	12 12 15.1	+0.3
	6.4nm,0.3s,SNR=7.9						
EQES	Quesada	6.76	282	P	Pn	12 11 00.9	+1.6
	8.2nm,0.6s,SNR=22						
EQES				S	Sn	12 12 14.8	-1.4
	2.8nm,0.4s,SNR=9.0						
EQES	Quesada	6.76	282	P	Pn	12 11 00.9	+1.6
	8.2nm,0.6s,SNR=22						
EQES				S	Sn	12 12 16.4	+0.2
	2.8nm,0.4s,SNR=9.0						
SALF	Salau	6.81	334	eP	Pn	12 11 03.5	+3.5
SALF	Salau	6.81	334	eP	Pn	12 11 03.5	+3.5
FRF	La Foret Royal	6.91	8	ePn	Pn	12 11 01.7	+0.5
FRF				eSn	Sn	12 12 14.9	-4.8
	6.7nm,0.2s						
FRF	La Foret Royal	6.91	8	ePn	Pn	12 11 01.7	+0.5
FRF				eSn	Sn	12 12 14.9	-4.8
	3.3nm,0.2s						
EQUE	Quentar	7.01	277	P	Pn	12 11 05.2	+2.5
	1.4nm,0.5s,SNR=4.0						
EQUE	Quentar	7.01	277	P	Pn	12 11 05.2	+2.5
	1.4nm,0.5s,SNR=4.0						
MLS	Moulis	7.02	334	eP	Pn	12 11 07.1	+4.4
MTLF	Montolieu	7.02	341	ePn	Pn	12 11 01.2	-1.6
MTLF				eSn	Sn	12 12 15.4	-7.1
	3.4nm,0.4s						
MTLF	Montolieu	7.02	341	ePn	Pn	12 11 01.2	-1.6
MTLF				eSn	Sn	12 12 15.4	-7.1
	1.7nm,0.4s						
ETOR	Torete	7.05	308	P	Pn	12 11 06.4	+3.2
	2.1nm,0.3s,SNR=6.9						
ETOR	Torete	7.05	308	P	Pn	12 11 06.2	+2.9
	2.1nm,0.3s,SNR=6.9						
MELF	Melles	7.07	332	eP	Pn	12 11 07.1	+3.6
MELF	Melles	7.07	332	eP	Pn	12 11 07.1	+3.6
RESF	Ens	7.18	329	eP	Pn	12 11 08.2	+3.2
RESF	Ens	7.18	329	eP	Pn	12 11 08.2	+3.2
SMRF	Simiane la Rot	7.25	2	ePn	Pn	12 11 04.9	-1.1
SMRF	Simiane la Rot	7.25	2	ePn	Pn	12 11 04.9	-1.1
SBF	Sospel	7.32	12	ePn	Pn	12 11 06.5	-0.4
SBF				eSn	Sn	12 12 25.1	-4.8
	3.9nm,0.2s						
SBF	Sospel	7.32	12	ePn	Pn	12 11 06.5	-0.4
SBF				eSn	Sn	12 12 25.1	-4.8
	2.0nm,0.2s						
EPF	Esparros	7.37	330	eP	Pn	12 11 10.9	+3.4
EPF				eSn	Sn	12 12 22.8	-8.2
	11nm,0.5s						
EPF	Esparros	7.37	330	P	Pn	12 11 10.9	+3.4
EPF	Esparros	7.37	330	eP	Pn	12 11 10.9	+3.4
EPF				eSn	Sn	12 12 22.8	-8.2
	5.7nm,0.5s						
LASF	Ste Croix	7.43	352	eP	Pn	12 11 11.3	+2.9
LASF				eSn	Sn	12 12 26.0	-6.6
	3.0nm,0.4s						
LASF	Ste Croix	7.43	352	P	Pn	12 11 11.3	+2.9
LASF	Ste Croix	7.43	352	eP	Pn	12 11 11.3	+2.9
LASF				eSn	Sn	12 12 26.0	-6.6
	1.5nm,0.4s						
LABF	Labassere	7.49	329	eP	Pn	12 11 12.7	+3.5
LABF	Labassere	7.49	329	eP	Pn	12 11 12.7	+3.5
ETSF	Etsaut	7.64	326	eP	Pn	12 11 13.8	+2.5
ETSF				eSn	Sn	12 12 28.8	-9.0
	4.1nm,0.4s						
ETSF	Etsaut	7.64	326	P	Pn	12 11 13.8	+2.5
ETSF	Etsaut	7.64	326	eP	Pn	12 11 13.8	+2.5
ETSF				eSn	Sn	12 12 28.8	-9.0
	2.0nm,0.4s						
YNAR	Nardues-Alduna	7.83	321	P	Pn	12 11 16.8	+2.9
	6.8nm,0.2s,SNR=7.9						
ATE	Arette	7.85	326	⇑P	Pn	12 11 17.2	+3.1
	3.5nm,0.2s,SNR=18						
ATE				S	Sn	12 12 41.7	-1.2
	17nm,0.8s,SNR=7.9						
ATE	Arette	7.85	326	P	Pn	12 11 17.3	+3.1
	3.5nm,0.2s,SNR=18						
ESDC	Sonseca Array	7.87	295	Pn	Pn	12 11 15.0	+0.6
	0.8nm,0.3s,baz=111,slow=13,SNR=10						
ESDC				Sn	Sn	12 12 42.2	-1.1
	0.2nm,0.3s,baz=118,slow=25,SNR=3.0						
ESDC	Sonseca Array	7.87	295	P	Pn	12 11 15.3	+0.9
	0.8nm,0.3s,baz=108,slow=14,SNR=6.9						
ESDC	Sonseca Array	7.87	295	P	Pn	12 11 15.5	+1.1
	0.8nm,0.3s,SNR=6.9						
IELO	Elcoad	7.92	323	P	Pn	12 11 17.7	+2.6
	3.1nm,0.3s,SNR=7.9						
IELO				S	Sn	12 12 44.0	-0.6
	1.4nm,0.3s,SNR=4.0						
IELO	Elcoad	7.92	323	P	Pn	12 11 17.7	+2.6
	1.7nm,0.5s,SNR=7.9						
EADA	Adamuz	7.99	283	P	Pn	12 11 16.4	+0.3
	0.2nm,0.2s,SNR=7.9						
EADA	Adamuz	7.99	283	P	Pn	12 11 16.3	+0.3
	0.2nm,0.2s,SNR=7.9						
EARA	Aranguren	8.04	321	P	Pn	12 11 19.3	+2.5
	5.6nm,0.4s,SNR=7.9						
EARA	Aranguren	8.04	321	P	Pn	12 11 19.2	+2.5
	5.6nm,0.4s,SNR=7.9						
MBDF	Montbardon	8.08	8	ePn	Pn	12 11 15.5	-1.9
MBDF	Montbardon	8.08	8	ePn	Pn	12 11 15.5	-1.9
SJPF	Ste Jean	8.12	324	eP	Pn	12 11 20.6	+2.8
SJPF				eSn	Sn	12 12 40.1	-9.3
	5.3nm,0.4s						
SJPF	Ste Jean	8.12	324	P	Pn	12 11 20.6	+2.8
SJPF	Ste Jean	8.12	324	eP	Pn	12 11 20.6	+2.8
SJPF				eSn	Sn	12 12 40.1	-9.3
	2.7nm,0.4s						
VIVF	Saint-Julien-l	8.14	357	ePn	Pn	12 11 16.2	-2.0
VIVF				eSn	Sn	12 12 43.5	-6.6
	3.9nm,0.3s						
VIVF	Saint-Julien-l	8.14	357	ePn	Pn	12 11 16.2	-2.0
VIVF				eSn	Sn	12 12 43.5	-6.6
	2.0nm,0.3s						
ORIF	Oris-en-Rattie	8.21	3	ePn	Pn	12 11 16.9	-2.2
ORIF				eSn	Sn	12 12 45.5	-6.2
	3.8nm,0.7s						
ORIF	Oris-en-Rattie	8.21	3	ePn	Pn	12 11 16.9	-2.2
ORIF				eSn	Sn	12 12 45.5	-6.2
	1.9nm,0.7s						
EALK	Alkurruntz	8.33	323	P	Pn	12 11 23.7	+3.0
	3.1nm,0.2s,SNR=16						
EALK				S	Sn	12 12 53.2	-1.4
	4.7nm,0.3s,SNR=5.1						
EALK	Alkurruntz	8.33	323	P	Pn	12 11 23.7	+3.0
	5.3nm,0.3s,SNR=16						
GUD	Guadarrama	8.37	301	P	Pn	12 11 23.3	+2.0
	0.7nm,0.4s,SNR=7.9						
GUD	Guadarrama	8.37	301	P	Pn	12 11 23.1	+1.8
	0.7nm,0.4s,SNR=7.9						
CAF	Calviac	8.56	344	eP	Pn	12 11 26.4	+2.6
CAF	Calviac	8.56	344	P	Pn	12 11 26.4	+2.6
CAF	Calviac	8.56	344	eP	Pn	12 11 26.4	+2.6
ECAB	El Cabril	8.64	282	P	Pn	12 11 24.8	-0.1
	0.3nm,0.2s,SNR=8.5						
EJIF	Jimena Fronter	8.66	271	P	Pn	12 11 23.6	-1.7
	4.0nm,0.4s,SNR=7.9						
LPG	La Plagne	8.84	7	ePn	Pn	12 11 26.2	-1.8
LPG	La Plagne	8.84	7	eP	Pn	12 11 31.8	+3.8
LPG	La Plagne	8.84	7	P	Pn	12 11 31.8	+3.8
LPG	La Plagne	8.84	7	ePn	Pn	12 11 26.2	-1.8
LPG	La Plagne	8.84	7	eP	Pn	12 11 31.8	+3.8
LPL	La Plagne	8.86	7	ePn	Pn	12 11 26.2	-1.9
LPL	La Plagne	8.86	7	ePn	Pn	12 11 26.2	-1.9
LFF	La Frestale	8.91	339	eP	Pn	12 11 31.7	+3.1
LFF	La Frestale	8.91	339	P	Pn	12 11 31.7	+3.1
LFF	La Frestale	8.91	339	eP	Pn	12 11 31.7	+3.1
MDT	Midelt	9.03	247	Pn	Pn	12 11 27.0	-3.5
	0.1nm,0.3s,baz=58,slow=8.8,SNR=2.8						
MDT				Lg	Lg	12 13 53.6	
	0.0nm,0.3s,baz=260,slow=17,SNR=1.9						
MDT				LR	LR	12 14 36.1	
	comp=Z,59nm,18.5s,baz=190,slow=36						
RJF	Les Rejaudoux	9.04	343	ePn	Pn	12 11 28.6	-1.8
RJF	Les Rejaudoux	9.04	343	ePn	Pn	12 11 28.6	-1.8
ELAN	Lanestosa	9.34	317	P	Pn	12 11 37.3	+2.8
	0.5nm,0.2s,SNR=5.2						
ELAN	Lanestosa	9.34	317	P	Pn	12 11 36.9	+2.5
	0.5nm,0.2s,SNR=5.2						
CABF	La Chapelle	9.90	3	ePn	Pn	12 11 41.3	-1.0
CABF				eSn	Sn	12 13 26.1	-7.3
	1.2nm,0.5s						
CABF	La Chapelle	9.90	3	ePn	Pn	12 11 41.3	-1.0
CABF				eSn	Sn	12 13 26.1	-7.3
	0.6nm,0.5s						
EARI	Arriondas	10.39	312	P	Pn	12 11 52.1	+3.1
	0.7nm,0.2s,SNR=5.2						
EARI	Arriondas	10.39	312	P	Pn	12 11 52.0	+3.0
	0.7nm,0.2s,SNR=5.2						
SSF	Saint Saulge	10.42	353	ePn	Pn	12 11 46.9	-2.4
SSF	Saint Saulge	10.42	353	ePn	Pn	12 11 46.9	-2.4
MVO	Moncorvo	10.57	299	P	Pn	12 11 54.4	+2.8
	0.5nm,0.5s,SNR=7.9						
MVO	Moncorvo	10.57	299	P	Pn	12 11 54.2	+2.7
	0.5nm,0.5s,SNR=7.9						
LOR	Lormes	10.60	355	ePn	Pn	12 11 49.4	-2.4
LOR	Lormes	10.60	355	ePn	Pn	12 11 49.4	-2.4
ECAL	Calabor	10.68	303	P	Pn	12 11 54.5	+1.5
	3.0nm,0.3s,SNR=13						
ECAL	Calabor	10.68	303	P	Pn	12 11 54.9	+2.0
	3.0nm,0.3s,SNR=13						
HINF	Hinteralfeld	11.15	5	ePn	Pn	12 11 57.7	-1.7
HINF				eSn	Sn	12 13 56.0	-7.9
	0.9nm,0.3s						
HINF	Hinteralfeld	11.15	5	ePn	Pn	12 11 57.7	-1.7
HINF				eSn	Sn	12 13 56.0	-7.9
	0.4nm,0.3s						
HAU	Haudompre	11.31	4	ePn	Pn	12 11 59.6	-1.9
HAU				eSn	Sn	12 13 59.4	-8.3
	1.7nm,0.5s						
HAU	Haudompre	11.31	4	ePn	Pn	12 11 59.6	-1.9
HAU				eSn	Sn	12 13 59.4	-8.3
	0.9nm,0.5s						
CDF	Champ du Feu	11.78	6	ePn	Pn	12 12 06.2	-1.8
CDF				eSn	Sn	12 14 11.3	-8.0
	1.9nm,0.6s						
CDF	Champ du Feu	11.78	6	ePn	Pn	12 12 06.2	-1.8
CDF				eSn	Sn	12 14 11.3	-8.0
	0.9nm,0.6s						
BAIF	Baives	13.36	357	eP	Pn	12 12 32.6	+3.1
BAIF	Baives	13.36	357	eP	Pn	12 12 32.6	+3.1
GERES	GERESS Array B	13.59	24	LR	LR	12 18 45.5	
	comp=Z,33nm,18.7s,baz=288,slow=41						
AKASG	Malin Array Be	22.11	43	P	P	12 14 17.2	+2.1
	0.4nm,0.3s,baz=244,slow=10,SNR=5.3						
TORD	Torodi Ar. Bea	23.69	189	P	P	12 14 29.1	-2.6
	1.2nm,0.7s,baz=359,slow=10,SNR=9.8						
AKTO	Aktyubinsk	39.74	53	LR	LR	12 35 18.0	
	comp=Z,9.1nm,18.4s,baz=122,slow=39						
MKAR	Makanchi Array	56.17	54	P	P	12 18 59.9	+0.2
	0.4nm,0.6s,baz=290,slow=5.4,SNR=4.5						

*CSEM **06** 12:19:45.7, 42.°77N×12.°73E, h7km, MD2.4/20*

ROM 06 12:19:45.7±0.1, **42.°77N×12.°73E, h7km**±1km, **Md2.4**/20, **Ml1.6**/17, **Error ellipse: s-maj=1.0km s-min=0.8km az=119.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CESX	Cesi	0.20	214	Pg	Pg	12 19 50.5	+0.8
CESX				Sg	Sg	12 19 53.5	+1.0
CESX	Cesi	0.20	214	Pg	Pg	12 19 50.5	+0.8
CESX				Sg	Sg	12 19 53.5	+1.0
CESI	CESI - Serrava	0.26	29	Pg	Pg	12 19 51.8	+0.7
CESI				Sg	Sb	12 19 56.5	-1.2
	41nm,0.3s						
CESI	CESI - Serrava	0.26	29	Pg	Pg	12 19 51.8	+0.7
CESI				Sg	Sb	12 19 56.5	-1.2
	41nm,0.3s						
LNSS	Leonessa	0.28	127	Pg	Pg	12 19 52.3	+0.8
LNSS				Sg	Sb	12 19 57.1	-1.3
	195nm,0.4s						
LNSS	Leonessa	0.28	127	Pg	Pg	12 19 52.3	+0.8
LNSS				Sg	Sb	12 19 57.1	-1.3
	195nm,0.4s						
NRCA	Norcia	0.29	78	Pg	Pg	12 19 52.3	+0.8
NRCA				Sg	Sb	12 19 57.2	-1.2
	176nm,0.1s						
NRCA	Norcia	0.29	78	Pg	Pg	12 19 52.3	+0.8
NRCA				Sg	Sb	12 19 57.2	-1.2
	176nm,0.1s						
FDMO	Fiordimonte	0.37	45	Pg	Pg	12 19 53.7	+0.7
FDMO				Sg	Sb	12 19 59.8	-0.9
	58nm,0.2s						
FDMO	Fiordimonte	0.37	45	Pg	Pg	12 19 53.7	+0.7
FDMO				Sg	Sb	12 19 59.8	-0.9
	58nm,0.2s						
MNS	Montasola	0.39	185	Pg	Pb	12 19 54.6	-0.4
MNS				Sg	Sb	12 20 00.4	-0.9
	45nm,0.4s						
MNS	Montasola	0.39	185	Pg	Pb	12 19 54.6	-0.4
MNS				Sg	Sb	12 20 00.4	-0.9
	45nm,0.4s						
SMA1	SAN MARTINO	0.47	108	Pg	Pb	12 19 55.7	-0.7
SMA1				Sg	Sb	12 20 03.4	-0.2
	69nm,0.5s						
SMA1	SAN MARTINO	0.47	108	Pg	Pb	12 19 55.7	-0.7
SMA1				Sg	Sb	12 20 03.4	-0.2
	69nm,0.5s						
MGAB	Montegabbione	0.48	287	Pg	Pg	12 19 55.6	+0.6
	54nm,0.6s						
MGAB	Montegabbione	0.48	287	Pg	Pg	12 19 55.6	+0.6
	54nm,0.6s						
SNTG	Esanatoglia	0.51	18	Pg	Pg	12 19 55.7	+0.1
SNTG				Sg	Sb	12 20 04.7	+0.1
	20nm,0.2s						
SNTG	Esanatoglia	0.51	18	Pg	Pg	12 19 55.7	+0.1
SNTG				Sg	Sb	12 20 04.7	+0.1
	20nm,0.2s						
CAMP	Campotosto	0.55	115	Pg	Pg	12 19 56.9	+0.3
	17nm,0.8s						
CAMP	Campotosto	0.55	115	Pg	Pg	12 19 56.9	+0.3

	17nm,0.8s						
ATFO	**Monte Foce - G**	**0.60**	**349**	Pg	Pb	12 19 58.2	-0.5
	33nm,0.2s						
ATFO	**Monte Foce - G**	**0.60**	**349**	Pg	Pb	12 19 58.2	-0.5
	33nm,0.2s						
SACS	**San Casciano d**	**0.61**	**277**	Pg	Pg	12 19 58.1	+0.5
	14nm,0.5s						
ATVO	**AVT- Monte Val**	**0.65**	**339**	Pg	Pb	12 19 59.1	-0.4
ATVO	**AVT- Monte Val**	**0.65**	**339**	Pg	Pb	12 19 59.1	-0.4
TERO	**Teramo**	**0.66**	**103**	Pg	Pg	12 19 58.6	+0.1
	21nm,0.6s						
TERO	**Teramo**	**0.66**	**103**	Pg	Pg	12 19 58.6	+0.1
	21nm,0.6s						
T0106	**Roio Piano**	**0.67**	**134**	Pg	Pg	12 19 59.3	+0.5
	19nm,0.5s						
CING	**Cingoli**	**0.69**	**29**	Pg	Pg	12 19 59.2	+0.1
	16nm,0.1s						
CING	**Cingoli**	**0.69**	**29**	Pg	Pg	12 19 59.2	+0.1
	16nm,0.1s						
LATE	**Laterza**	**0.70**	**257**	Pg	Pb	12 20 00.3	0.0
	33nm,0.7s						
LATE	**Laterza**	**0.70**	**257**	Pg	Pb	12 20 00.3	0.0
	33nm,0.7s						
ATPC	**Poggio Castell**	**0.73**	**344**	Pg	Pg	12 20 00.2	+0.3
	39nm,0.3s						
ATPC	**Poggio Castell**	**0.73**	**344**	Pg	Pg	12 20 00.2	+0.3
	39nm,0.3s						
PIEI	**Pieia**	**0.78**	**349**	Pg	Pg	12 20 00.9	+0.2
	16nm,0.3s						
PIEI	**Pieia**	**0.78**	**349**	Pg	Pg	12 20 00.9	+0.2
	16nm,0.3s						
CAFI	**Castiglion Fio**	**0.79**	**315**	Pg	Pg	12 20 00.9	-0.1
CAFI	**Castiglion Fio**	**0.79**	**315**	Pg	Pg	12 20 00.9	-0.1
NVLJ	**Novalja**	**2.37**	**40**	*e*Pn	Pn	12 20 26.7	+1.8

*HLW **06** 12:20:58.0, 35.°71N×24.°80E, h22km±15km, Md4.0*
*BJI **06** 12:20:57.5, 35.°60N×24.°80E, h63km, mb4.8/12, mB4.7/9, Ms4.5/2, Ms7 4.1/2*
*ISCJB **06** 12:20:59.1±0.2, 35.°45N±0.°02×24.°82E±0.°01, h68km±2km, mb4.3/61, Error ellipse: s-maj=2.9km s-min=1.7km az=23.9*
*CSEM **06** 12:20:59.6±0.1, 35.°37N×24.°81E, h60km, mb4.4/27, Error ellipse: s-maj=3.5km s-min=2.0km az=31.0*
*IDC **06** 12:20:59.3±0.5, 35.°61N×24.°90E, h55km±4km, mb4.0/27, mb1 4.2/35, mb1mx4.1/44, mbtmp4.3/35, MS3.2/16, Ms1 3.2/16, ms1mx3.1/40, Error ellipse: s-maj=10.5km s-min=8.7km az=115.0*
*NEIC **06** 12:21:00.5, 35.°59N×24.°81E, h63km, mb4.4/35, After ATH.*
NEIC Felt [IV] at Irakleion. Also felt at Atsipopoulon, Chania, Khersonisos, Koutouloufarion, Malia, Mokhos and Stalis.
*MOS **06** 12:21:00.7±1.1, 35.°51N×24.°80E, h59km, mb4.6/23, Error ellipse: s-maj=6.8km s-min=3.9km az=96.2*
*DDA **06** 12:21:00.3, 35.°67N×24.°55E, h24km, ML4.4*
*ATH **06** 12:21:00.5, 35.°59N×24.°81E, h63km±1km, ML4.4*
*THE **06** 12:21:02.3, 35.°58N×24.°79E, h47km±6km, ML4.7/22, Error ellipse: s-maj=6.1km s-min=0.8km az=139.0*
*PDG **06** 12:21:04.7±0.6, 35.°95N×23.°96E, h10km±1km, ML4.7/12, Error ellipse: s-maj=11.8km s-min=7.4km az=90.0*
*NIC **06** 12:21:06.4, 35.°64N×25.°63E, h61km, mb4.8, ML4.4*
ISC 06 12:20:59.8±0.3, **35.°53N**±0.°03×**24.°80E**±0.°02, **h58**km±3km, **h58**km**:pP-P, n808,** σ1§77/881, **mb4.4**/67, **MS3.2**/10, **31C-15D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**0.25**	**162**	P	**Pn**	**12 21 11.3**	**+1.8**
	2µm,0.3s,baz=352,slow=5.8,SNR=7147						
IDI				S	**Sn**	**12 21 18.5**	**+2.1**
	baz=306,slow=19						
VAM	**Vamos**	**0.50**	**256**	*e*P	**Pn**	**12 21 14.0**	**+2.4**
VAM				*e*S	**Sn**	**12 21 23.2**	**+3.0**
VAM	**Vamos**	**0.50**	**256**	*e*P	**Pn**	**12 21 14.0**	**+2.4**
VAM				*e*S	**Sn**	**12 21 23.2**	**+3.0**
NPS	**Neapolis**	**0.72**	**112**	P	**Pn**	**12 21 15.7**	**+1.5**
NPS				S	**Sn**	**12 21 26.5**	**+1.8**
NPS	**Neapolis**	**0.72**	**112**	*e*P	**Pn**	**12 21 15.7**	**+1.5**
NPS				*e*S	**Sn**	**12 21 26.6**	**+1.8**
NPS	**Neapolis**	**0.72**	**112**	*e*P	**Pn**	**12 21 15.7**	**+1.5**
NPS				S	**Sn**	**12 21 26.5**	**+1.8**
THR6	**Thira Island,**	**0.96**	**30**	P	**Pn**	**12 21 18.9**	**+1.7**
THR6	**Thira Island,**	**0.96**	**30**	P	**Pn**	**12 21 18.9**	**+1.7**
THR5	**Thira Island,**	**0.99**	**27**	*e*PN	**Pn**	**12 21 19.6**	**+1.9**
THR5	**Thira Island,**	**0.99**	**27**	P	**Pn**	**12 21 19.4**	**+1.7**
THR5	**Thira Island,**	**0.99**	**27**	*e*Pn	**Pn**	**12 21 19.6**	**+1.9**
SANT	**Santorini**	**1.00**	**32**	P	**Pn**	**12 21 19.2**	**+1.4**
SANT				S	**Sn**	**12 21 32.6**	**+1.6**
SANT	**Santorini**	**1.00**	**32**	*e*P	**Pn**	**12 21 19.2**	**+1.4**
SANT				*e*S	**Sn**	**12 21 32.8**	**+1.7**
SANT	**Santorini**	**1.00**	**32**	*e*P	**Pn**	**12 21 19.2**	**+1.4**
SANT				*e*S	**Sn**	**12 21 32.8**	**+1.7**
SANT	**Santorini**	**1.00**	**32**	*e*Pn	**Pn**	**12 21 19.2**	**+1.4**
SANT				*e*Sn	**Sn**	**12 21 32.7**	**+1.6**
THR1	**Thera Island**	**1.00**	**32**	*e*PN	**Pn**	**12 21 19.7**	**+1.9**
THR1	**Thera Island**	**1.00**	**32**	P	**Pn**	**12 21 19.5**	**+1.7**
THR1	**Thera Island**	**1.00**	**32**	*e*Pn	**Pn**	**12 21 19.7**	**+1.9**
THR3	**Thira Island,**	**1.01**	**29**	P	**Pn**	**12 21 19.7**	**+1.9**
THR3	**Thira Island,**	**1.01**	**29**	P	**Pn**	**12 21 19.7**	**+1.9**
THR7	**Fira-Santorini**	**1.03**	**30**	P	**Pn**	**12 21 19.8**	**+1.7**
THR7	**Fira-Santorini**	**1.03**	**30**	P	**Pn**	**12 21 19.8**	**+1.7**
THR2	**Thira island,**	**1.05**	**29**	P	**Pn**	**12 21 19.9**	**+1.5**
THR2	**Thira island,**	**1.05**	**29**	P	**Pn**	**12 21 19.9**	**+1.5**
ANKY	**Antikythira Is**	**1.26**	**286**	P	**Pn**	**12 21 22.9**	**+1.7**
ANKY				S	**Sn**	**12 21 38.8**	**+1.6**
ANKY	**Antikythira Is**	**1.26**	**286**	*e*P	**Pn**	**12 21 23.0**	**+1.7**
ANKY				*e*S	**Sn**	**12 21 39.3**	**+2.1**
ANKY	**Antikythira Is**	**1.26**	**286**	P	**Pn**	**12 21 22.9**	**+1.7**
ANKY				*e*S	**Sn**	**12 21 39.3**	**+2.1**
KYTH	**Kithira**	**1.61**	**298**	P	**Pn**	**12 21 27.1**	**+1.1**
KYTH	**Kithira**	**1.61**	**298**	*e*P	**Pn**	**12 21 27.2**	**+1.2**
KYTH	**Kithira**	**1.61**	**298**	*e*P	**Pn**	**12 21 27.2**	**+1.2**
APE	**Apeiranthos**	**1.65**	**21**	*e*PN	**Pn**	**12 21 28.1**	**+1.6**
APE	**Apeiranthos**	**1.65**	**21**	P	**Pn**	**12 21 27.7**	**+1.3**
APE				S	**Sn**	**12 21 47.6**	**+1.0**
APE	**Apeiranthos**	**1.65**	**21**	*e*P	**Pn**	**12 21 27.8**	**+1.3**
APE				*e*S	**Sn**	**12 21 47.2**	**+0.6**
APE	**Apeiranthos**	**1.65**	**21**	*c i*P	**Pn**	**12 21 27.6**	**+1.1**
APE	**Apeiranthos**	**1.65**	**21**	⇑*i*P	**Pn**	**12 21 27.8**	**+1.3**
APE				S	**Sn**	**12 21 47.8**	**+1.2**
APE	**Apeiranthos**	**1.65**	**21**	*e*P	**Pn**	**12 21 27.8**	**+1.3**
APE	**Apeiranthos**	**1.65**	**21**	*e*Pn	**Pn**	**12 21 28.1**	**+1.6**
APE				S	**Sn**	**12 21 47.6**	**+1.0**
VLI	**Veliai**	**1.92**	**309**	P	**Pn**	**12 21 31.6**	**+1.5**
VLI				S	**Sn**	**12 21 53.4**	**+0.3**
VLI	**Veliai**	**1.92**	**309**	*e*P	**Pn**	**12 21 31.5**	**+1.5**
VLI				*e*S	**Sn**	**12 21 53.6**	**+0.5**
VLI	**Veliai**	**1.92**	**309**	P	**Pn**	**12 21 31.6**	**+1.5**
VLI				*e*S	**Sn**	**12 21 53.6**	**+0.5**
KARP	**Karpathos**	**1.93**	**89**	P	**Pn**	**12 21 31.5**	**+1.3**
KARP				S	**Sn**	**12 21 54.5**	**+1.1**
KARP	**Karpathos**	**1.93**	**89**	*e*P	**Pn**	**12 21 31.6**	**+1.3**
KARP				*e*S	**Sn**	**12 21 54.7**	**+1.3**
KARP	**Karpathos**	**1.93**	**89**	P	**Pn**	**12 21 31.5**	**+1.3**
KARP				S	**Sn**	**12 21 54.5**	**+1.1**
DID	**Didima**	**2.34**	**328**	P	**Pn**	**12 21 37.5**	**+1.6**
DID				S	**Sn**	**12 22 04.2**	**+0.7**
DID	**Didima**	**2.34**	**328**	*e*P	**Pn**	**12 21 37.7**	**+1.8**
DID				*e*S	**Sn**	**12 22 04.2**	**+0.7**
DID	**Didima**	**2.34**	**328**	*e*P	**Pn**	**12 21 37.7**	**+1.8**
DID				*e*S	**Sn**	**12 22 04.2**	**+0.7**
NAIG	**Nisos Aigina**	**2.46**	**335**	*e*P	**Pn**	**12 21 39.7**	**+2.2**
NAIG	**Nisos Aigina**	**2.46**	**335**	*e*P	**Pn**	**12 21 39.7**	**+2.2**
BODT	**Bodrum**	**2.54**	**52**	*e*PN	**Pn**	**12 21 40.5**	**+1.9**
BODT	**Bodrum**	**2.54**	**52**	*e*Pn	**Pn**	**12 21 40.5**	**+1.9**
DAT	**Datca**	**2.55**	**61**	*e*PN	**Pn**	**12 21 40.6**	**+1.8**
DAT	**Datca**	**2.55**	**61**	*e*Pn	**Pn**	**12 21 40.6**	**+1.8**
ATHU	**Athens Univers**	**2.56**	**342**	P	**Pn**	**12 21 40.9**	**+2.0**
ATHU				S	**Sn**	**12 22 09.1**	**+0.2**
ATHU	**Athens Univers**	**2.56**	**342**	P	**Pn**	**12 21 40.9**	**+2.0**
ATHU				S	**Sn**	**12 22 09.1**	**+0.2**
ATH	**Athens Observa**	**2.59**	**341**	P	**Pn**	**12 21 41.2**	**+2.0**
ATH				S	**Sn**	**12 22 09.8**	**+0.3**
ATH	**Athens Observa**	**2.59**	**341**	*e*P	**Pn**	**12 21 41.6**	**+2.4**
ATH				*e*S	**Sn**	**12 22 09.8**	**+0.3**
ATH	**Athens Observa**	**2.59**	**341**	P	**Pn**	**12 21 41.2**	**+2.0**
ATH				*e*S	**Sn**	**12 22 09.8**	**+0.3**
PTL	**Penteli**	**2.62**	**344**	P	**Pn**	**12 21 42.0**	**+2.3**
PTL				S	**Sn**	**12 22 10.3**	**-0.1**
PTL	**Penteli**	**2.62**	**344**	*e*P	**Pn**	**12 21 42.1**	**+2.3**
PTL				*e*S	**Sn**	**12 22 09.7**	**-0.7**
PTL	**Penteli**	**2.62**	**344**	P	**Pn**	**12 21 42.0**	**+2.3**
PTL				*e*S	**Sn**	**12 22 09.7**	**-0.7**
VLX	**Vlachokerasia**	**2.68**	**314**	P	**Pn**	**12 21 42.4**	**+1.9**
VLX				S	**Sn**	**12 22 13.1**	**+1.3**
VLX	**Vlachokerasia**	**2.68**	**314**	*e*P	**Pn**	**12 21 42.6**	**+2.1**
VLX				*e*S	**Sn**	**12 22 13.2**	**+1.4**
VLX	**Vlachokerasia**	**2.68**	**314**	P	**Pn**	**12 21 42.4**	**+1.9**
VLX				*e*S	**Sn**	**12 22 13.2**	**+1.4**
SMG	**Samos**	**2.73**	**36**	P	**Pn**	**12 21 42.6**	**+1.5**
SMG				S	**Sn**	**12 22 13.9**	**+1.0**
SMG	**Samos**	**2.73**	**36**	*e*P	**Pn**	**12 21 42.7**	**+1.6**
SMG				*e*S	**Sn**	**12 22 13.2**	**+0.3**
SMG	**Samos**	**2.73**	**36**	*e*P	**Pn**	**12 21 42.7**	**+1.6**
SMG				S	**Sn**	**12 22 13.9**	**+1.0**
ARG	**Arkhangelos**	**2.79**	**75**	P	**Pn**	**12 21 43.9**	**+2.0**
ARG				S	**Sn**	**12 22 15.2**	**+0.8**
ARG	**Arkhangelos**	**2.79**	**75**	*e*P	**Pn**	**12 21 44.0**	**+2.0**
ARG				*e*S	**Sn**	**12 22 15.5**	**+1.1**
ARG	**Arkhangelos**	**2.79**	**75**	P	**Pn**	**12 21 43.9**	**+2.0**
ARG				*e*S	**Sn**	**12 22 15.5**	**+1.1**
PYL	**PYLOS**	**2.82**	**300**	P	**Pn**	**12 21 43.1**	**+0.7**
PYL	**PYLOS**	**2.82**	**300**	*e*P	**Pn**	**12 21 43.4**	**+1.0**
PYL	**PYLOS**	**2.82**	**300**	*e*P	**Pn**	**12 21 43.4**	**+1.0**
ITM	**Ithomi**	**2.84**	**306**	P	**Pn**	**12 21 44.7**	**+2.0**
ITM	**Ithomi**	**2.84**	**306**	*e*P	**Pn**	**12 21 44.8**	**+2.0**
ITM				*e*S	**Sn**	**12 22 17.1**	**+1.4**
ITM	**Ithomi**	**2.84**	**306**	P	**Pn**	**12 21 44.7**	**+2.0**
ITM				*e*S	**Sn**	**12 22 17.1**	**+1.4**
VILL	**Villia**	**2.89**	**336**	P	**Pn**	**12 21 45.4**	**+2.1**
VILL				S	**Sn**	**12 22 19.0**	**+2.1**
VILL	**Villia**	**2.89**	**336**	P	**Pn**	**12 21 45.4**	**+2.1**
VILL				S	**Sn**	**12 22 19.0**	**+2.1**
LTK	**Loutraki**	**2.89**	**330**	P	**Pn**	**12 21 45.4**	**+2.0**
LTK				S	**Sn**	**12 22 17.4**	**+0.5**
LTK	**Loutraki**	**2.89**	**330**	*e*P	**Pn**	**12 21 45.3**	**+1.9**
LTK	**Loutraki**	**2.89**	**330**	*e*P	**Pn**	**12 21 45.3**	**+1.9**
LTK				S	**Sn**	**12 22 17.4**	**+0.5**
GCAM	**G?zelcaml?**	**2.92**	**41**	*i* P	**Pn**	**12 21 45.7**	**+2.0**
GCAM				*i* S	**Sn**	**12 22 19.4**	**+1.8**
GCAM	**G?zelcaml?**	**2.92**	**41**	*i* P	**Pn**	**12 21 45.7**	**+2.0**
GCAM				*i* S	**Sn**	**12 22 19.4**	**+1.8**
VIL2	**Platees**	**2.94**	**336**	*e*P	**Pn**	**12 21 45.6**	**+1.5**
CHOS	**Chios island**	**3.02**	**19**	*e*PN	**Pn**	**12 21 47.5**	**+2.2**
CHOS	**Chios island**	**3.02**	**19**	P	**Pn**	**12 21 46.7**	**+1.4**
CHOS				S	**Sn**	**12 22 22.8**	**+2.5**
CHOS	**Chios island**	**3.02**	**19**	*e*P	**Pn**	**12 21 46.7**	**+1.4**
CHOS	**Chios island**	**3.02**	**19**	*e*P	**Pn**	**12 21 46.7**	**+1.4**
CHOS	**Chios island**	**3.02**	**19**	*e*Pn	**Pn**	**12 21 47.5**	**+2.2**
CHOS				S	**Sn**	**12 22 22.8**	**+2.5**
ZEY	**˜zmir**	**3.03**	**26**	*i* P	**Pn**	**12 21 46.1**	**+0.9**
ZEY				*i* S	**Sn**	**12 22 20.1**	**-0.2**
GUR	**Goura**	**3.11**	**321**	P	**Pn**	**12 21 48.2**	**+1.9**
GUR				S	**Sn**	**12 22 23.0**	**+0.6**
GUR	**Goura**	**3.11**	**321**	*e*P	**Pn**	**12 21 48.3**	**+1.9**
GUR	**Goura**	**3.11**	**321**	*e*P	**Pn**	**12 21 48.3**	**+1.9**
GUR				S	**Sn**	**12 22 23.0**	**+0.6**
AMT	**Artemida-Makis**	**3.19**	**310**	P	**Pn**	**12 21 50.3**	**+2.8**
AMT	**Artemida-Makis**	**3.19**	**310**	*e*P	**Pn**	**12 21 49.7**	**+2.2**
AMT	**Artemida-Makis**	**3.19**	**310**	*e*P	**Pn**	**12 21 49.7**	**+2.2**
YER	**Yerkesik**	**3.24**	**59**	*e*PN	**Pn**	**12 21 50.6**	**+2.4**
YER	**Yerkesik**	**3.24**	**59**	*e*Pn	**Pn**	**12 21 50.6**	**+2.4**
AYDN	**Tasoluk**	**3.27**	**48**	*i* P	**Pn**	**12 21 50.8**	**+2.2**
AYDN				*i* S	**Sn**	**12 22 26.6**	**+0.4**
AYDN	**Tasoluk**	**3.27**	**48**	*i* P	**Pn**	**12 21 50.8**	**+2.2**
AYDN				*i* S	**Sn**	**12 22 26.6**	**+0.4**
KLV	**Kalavryta, Ach**	**3.29**	**321**	P	**Pn**	**12 21 50.6**	**+1.8**
KLV				S	**Sn**	**12 22 27.3**	**+0.6**
KLV	**Kalavryta, Ach**	**3.29**	**321**	*e*P	**Pn**	**12 21 50.7**	**+1.9**
KLV	**Kalavryta, Ach**	**3.29**	**321**	*e*P	**Pn**	**12 21 50.7**	**+1.9**
KLV				S	**Sn**	**12 22 27.3**	**+0.6**
MRKA	**Markates**	**3.31**	**343**	*e*P	**Pn**	**12 21 51.7**	**+2.5**
MRKA	**Markates**	**3.31**	**343**	*e*P	**Pn**	**12 21 51.7**	**+2.5**
BLCB	**Balcova**	**3.37**	**32**	*e*PN	**Pn**	**12 21 52.1**	**+2.2**
BLCB	**Balcova**	**3.37**	**32**	*e*Pn	**Pn**	**12 21 52.1**	**+2.2**
DSF	**Desfina**	**3.40**	**328**	P	**Pn**	**12 21 51.5**	**+1.1**
DSF				S	**Sn**	**12 22 30.4**	**+0.9**
DSF	**Desfina**	**3.40**	**328**	*e*P	**Pn**	**12 21 52.0**	**+1.6**
DSF	**Desfina**	**3.40**	**328**	*e*P	**Pn**	**12 21 52.0**	**+1.6**
DSF				S	**Sn**	**12 22 30.4**	**+0.9**
LKR	**Lokris**	**3.43**	**336**	P	**Pn**	**12 21 53.5**	**+2.8**
LKR				S	**Sn**	**12 22 31.3**	**+1.2**
LKR	**Lokris**	**3.43**	**336**	*e*P	**Pn**	**12 21 52.8**	**+2.1**
LKR	**Lokris**	**3.43**	**336**	*e*P	**Pn**	**12 21 52.8**	**+2.1**
LKR				S	**Sn**	**12 22 31.3**	**+1.2**
ATAL	**Atalanti**	**3.46**	**336**	P	**Pn**	**12 21 53.1**	**+1.9**
ATAL				S	**Sn**	**12 22 32.4**	**+1.5**
DRO	**Drossia**	**3.46**	**315**	P	Pn	12 21 54.9	+3.7
DRO				S	**Sn**	**12 22 34.0**	**+3.0**
DRO	**Drossia**	**3.46**	**315**	*e*P	**Pn**	**12 21 53.8**	**+2.6**
DRO	**Drossia**	**3.46**	**315**	*e*P	**Pn**	**12 21 53.8**	**+2.6**
DRO				S	**Sn**	**12 22 34.0**	**+3.0**
AYDB	**Zeytinkoy-Aydi**	**3.46**	**45**	*e*PN	**Pn**	**12 21 53.8**	**+2.5**
AYDB	**Zeytinkoy-Aydi**	**3.46**	**45**	*e*Pn	**Pn**	**12 21 53.8**	**+2.5**
IZM	**Izmir**	**3.48**	**34**	*e*PN	**Pn**	**12 21 54.0**	**+2.6**
IZM	**Izmir**	**3.48**	**34**	*e*Pn	**Pn**	**12 21 54.0**	**+2.6**
SFD	**Strofades**	**3.50**	**301**	*e*P	**Pn**	**12 21 53.7**	**+2.0**
SFD	**Strofades**	**3.50**	**301**	*e*P	**Pn**	**12 21 53.7**	**+2.0**
KALE	**Kalithea**	**3.56**	**324**	P	**Pn**	**12 21 54.1**	**+1.5**
KALE				S	**Sn**	**12 22 35.0**	**+1.5**
KALE	**Kalithea**	**3.56**	**324**	*e*P	**Pn**	**12 21 54.0**	**+1.5**
KALE	**Kalithea**	**3.56**	**324**	P	**Pn**	**12 21 54.1**	**+1.5**
KALE				S	**Sn**	**12 22 35.0**	**+1.5**
SMIA	**Simia**	**3.58**	**340**	P	**Pn**	**12 21 55.9**	**+3.2**
SMIA	**Simia**	**3.58**	**340**	*e*P	**Pn**	**12 21 55.5**	**+2.8**
SMIA	**Simia**	**3.58**	**340**	*e*P	**Pn**	**12 21 55.5**	**+2.8**
AXAR	**Agios Charalam**	**3.65**	**333**	P	**Pn**	**12 21 55.8**	**+2.0**
AXAR				S	**Sn**	**12 22 38.4**	**+2.7**
AXAR	**Agios Charalam**	**3.65**	**333**	*e*P	**Pn**	**12 21 55.9**	**+2.1**
AXAR	**Agios Charalam**	**3.65**	**333**	*e*P	**Pn**	**12 21 55.9**	**+2.1**
AXAR				S	**Sn**	**12 22 38.4**	**+2.7**
UPR	**University Cam**	**3.66**	**320**	P	Pn	12 21 57.6	+3.8
UPR	**University Cam**	**3.66**	**320**	P	Pn	12 21 57.6	+3.8
RLS	**Riolos of Patr**	**3.67**	**314**	P	**Pn**	**12 21 57.2**	**+3.1**
RLS				S	**Sn**	**12 22 39.3**	**+3.2**
RLS	**Riolos of Patr**	**3.67**	**314**	*e*P	**Pn**	**12 21 56.8**	**+2.7**
RLS	**Riolos of Patr**	**3.67**	**314**	*e*P	**Pn**	**12 21 56.8**	**+2.7**
RLS				S	**Sn**	**12 22 39.3**	**+3.2**
EFP	**Efpalio**	**3.70**	**322**	P	**Pn**	**12 21 55.9**	**+1.4**
EFP	**Efpalio**	**3.70**	**322**	*e*P	**Pn**	**12 21 56.4**	**+1.9**
EFP	**Efpalio**	**3.70**	**322**	*e*P	**Pn**	**12 21 56.4**	**+1.9**
AOS	**Alonnisos**	**3.71**	**349**	*e*PN	**Pn**	**12 21 57.5**	**+2.9**
AOS	**Alonnisos**	**3.71**	**349**	P	**Pn**	**12 21 57.1**	**+2.6**
AOS	**Alonnisos**	**3.71**	**349**	*e*P	**Pn**	**12 21 56.9**	**+2.4**
AOS	**Alonnisos**	**3.71**	**349**	*e*P	**Pn**	**12 21 56.9**	**+2.4**
SIGR	**SIGRI**	**3.77**	**13**	*e*PN	**Pn**	**12 21 56.8**	**+1.4**
SIGR	**SIGRI**	**3.77**	**13**	P	**Pn**	**12 21 56.7**	**+1.4**
SIGR	**SIGRI**	**3.77**	**13**	*e*P	**Pn**	**12 21 56.8**	**+1.4**
SIGR	**SIGRI**	**3.77**	**13**	*e*P	**Pn**	**12 21 56.8**	**+1.4**
ZKS	**Zakynthos**	**3.88**	**305**	P	**Pn**	**12 21 57.2**	**+0.2**
ZKS				S	**Sn**	**12 22 41.5**	**+0.2**
ZKS	**Zakynthos**	**3.88**	**305**	P	**Pn**	**12 21 57.2**	**+0.2**
ZKS				S	**Sn**	**12 22 41.5**	**+0.2**
PRK	**Paraskevi**	**3.89**	**17**	P	**Pn**	**12 21 58.3**	**+1.3**
PRK	**Paraskevi**	**3.89**	**17**	*e*P	**Pn**	**12 21 58.3**	**+1.3**
PRK	**Paraskevi**	**3.89**	**17**	*e*P	**Pn**	**12 21 58.3**	**+1.3**
KSL	**Kastellorizon**	**3.94**	**80**	*e*P	**Pn**	**12 21 59.5**	**+1.8**
KSL	**Kastellorizon**	**3.94**	**80**	*e*P	**Pn**	**12 21 59.5**	**+1.8**
NEO	**Neokhori**	**3.97**	**342**	P	**Pn**	**12 22 00.6**	**+2.3**
NEO				S	**Sn**	**12 22 44.8**	**+1.3**
NEO	**Neokhori**	**3.97**	**342**	*e*P	**Pn**	**12 22 00.5**	**+2.3**
NEO	**Neokhori**	**3.97**	**342**	*e*P	**Pn**	**12 22 00.5**	**+2.3**
NEO				S	**Sn**	**12 22 44.8**	**+1.3**
AGG	**Agios Georgios**	**4.00**	**331**	*e*PN	**Pn**	**12 22 01.3**	**+2.7**
AGG	**Agios Georgios**	**4.00**	**331**	P	**Pn**	**12 22 00.6**	**+2.0**
AGG				S	**Sn**	**12 22 46.0**	**+1.8**
AGG	**Agios Georgios**	**4.00**	**331**	*e*P	**Pn**	**12 22 00.7**	**+2.1**
AGG	**Agios Georgios**	**4.00**	**331**	*e*P	**Pn**	**12 22 00.8**	**+2.1**
AGG	**Agios Georgios**	**4.00**	**331**	*e*P	**Pn**	**12 22 00.7**	**+2.1**
AGG				S	**Sn**	**12 22 46.0**	**+1.8**
AGG	**Agios Georgios**	**4.00**	**331**	*e*Pn	**Pn**	**12 22 00.8**	**+2.1**
XOR	**Xorichti**	**4.04**	**342**	P	**Pn**	**12 22 01.0**	**+1.9**
XOR				S	**Sn**	**12 22 45.2**	**+0.1**
XOR	**Xorichti**	**4.04**	**342**	*e*P	**Pn**	**12 22 01.4**	**+2.3**
XOR	**Xorichti**	**4.04**	**342**	P	**Pn**	**12 22 01.0**	**+1.9**
XOR				S	**Sn**	**12 22 45.2**	**+0.1**
DENT	**Denizli**	**4.07**	**56**	*e*PN	**Pn**	**12 22 02.1**	**+2.6**
DENT	**Denizli**	**4.07**	**56**	*e*Pn	**Pn**	**12 22 02.1**	**+2.6**
MAKR	**Makrakomi, Fth**	**4.08**	**329**	P	**Pn**	**12 22 02.5**	**+2.9**
MAKR				S	**Sn**	**12 22 48.2**	**+2.2**
MAKR	**Makrakomi, Fth**	**4.08**	**329**	*e*P	**Pn**	**12 22 01.7**	**+2.1**
MAKR	**Makrakomi, Fth**	**4.08**	**329**	*e*P	**Pn**	**12 22 01.7**	**+2.1**
MAKR				S	**Sn**	**12 22 48.2**	**+2.2**
AKS	**Akhisar**	**4.12**	**35**	*e*PN	**Pn**	**12 22 02.9**	**+2.7**
AKS	**Akhisar**	**4.12**	**35**	*e*Pn	**Pn**	**12 22 02.9**	**+2.7**
KFL	**Anninata**	**4.12**	**310**	P	**Pn**	**12 22 02.2**	**+2.0**
KFL				S	**Sn**	**12 22 47.1**	**0.0**
KFL	**Anninata**	**4.12**	**310**	P	**Pn**	**12 22 02.2**	**+2.0**
KFL				S	**Sn**	**12 22 47.1**	**0.0**
EVR	**Evrytania**	**4.14**	**326**	P	Pn	12 22 03.8	+3.3
EVR				S	**Sn**	**12 22 49.9**	**+2.3**
EVR	**Evrytania**	**4.14**	**326**	*e*P	**Pn**	**12 22 02.9**	**+2.4**
EVR	**Evrytania**	**4.14**	**326**	*e*P	**Pn**	**12 22 02.9**	**+2.4**
EVR				S	**Sn**	**12 22 49.9**	**+2.3**
FYTO	**Fytoko, Volos**	**4.14**	**340**	P	**Pn**	**12 22 02.5**	**+2.0**
FYTO				S	**Sn**	**12 22 48.4**	**+0.7**
FYTO	**Fytoko, Volos**	**4.14**	**340**	P	**Pn**	**12 22 02.5**	**+2.0**
FYTO				S	**Sn**	**12 22 48.4**	**+0.7**
PDO	**Prodromos**	**4.21**	**318**	P	Pn	12 22 05.0	+3.5
PDO				S	**Sn**	**12 22 52.4**	**+3.1**
PDO	**Prodromos**	**4.21**	**318**	*e*P	Pn	12 22 04.9	+3.5
PDO	**Prodromos**	**4.21**	**318**	*e*P	Pn	12 22 04.9	+3.5
PDO				S	**Sn**	**12 22 52.4**	**+3.1**
VLS	**Valsamata**	**4.29**	**309**	P	**Pn**	**12 22 02.9**	**+0.5**
VLS				S	**Sn**	**12 22 51.7**	**+0.5**
VLS	**Valsamata**	**4.29**	**309**	P	**Pn**	**12 22 02.9**	**+0.5**
VLS				S	**Sn**	**12 22 51.7**	**+0.5**
KULA	**Kula-Manisa**	**4.29**	**45**	*e*PN	**Pn**	**12 22 04.9**	**+2.2**
KULA	**Kula-Manisa**	**4.29**	**45**	P	Pn	12 22 06.2	+3.6
KULA	**Kula-Manisa**	**4.29**	**45**	*e*Pn	**Pn**	**12 22 04.9**	**+2.2**
KULA	**Kula-Manisa**	**4.29**	**45**	P	Pn	12 22 06.2	+3.6
ELL	**Elmali**	**4.31**	**72**	*e*PN	**Pn**	**12 22 05.2**	**+2.3**
ELL	**Elmali**	**4.31**	**72**	*e*Pn	**Pn**	**12 22 05.2**	**+2.3**
LIA	**Limnos Island**	**4.37**	**4**	*e*P	**Pn**	**12 22 04.4**	**+0.8**
LIA	**Limnos Island**	**4.37**	**4**	*e*P	**Pn**	**12 22 04.4**	**+0.8**
EZN	**Ezine**	**4.46**	**15**	*e*PN	**Pn**	**12 22 07.2**	**+2.4**
EZN	**Ezine**	**4.46**	**15**	*e*Pn	**Pn**	**12 22 07.2**	**+2.4**
PAIG	**Paliouri**	**4.48**	**349**	P	**Pn**	**12 22 07.4**	**+2.3**
PAIG	**Paliouri**	**4.48**	**349**	*e*P	**Pn**	**12 22 07.2**	**+2.1**
PAIG	**Paliouri**	**4.48**	**349**	*e*P	**Pn**	**12 22 07.2**	**+2.1**
THL	**Klokotos Trika**	**4.59**	**332**	P	**Pn**	**12 22 08.9**	**+2.2**
THL	**Klokotos Trika**	**4.59**	**332**	*e*P	**Pn**	**12 22 08.3**	**+1.6**
THL	**Klokotos Trika**	**4.59**	**332**	*e*P	**Pn**	**12 22 08.3**	**+1.6**
DSL	**Palaion Diasel**	**4.65**	**322**	P	**Pn**	**12 22 10.0**	**+2.5**
DSL				S	**Sn**	**12 23 00.6**	**+0.4**
DSL	**Palaion Diasel**	**4.65**	**322**	*e*P	**Pn**	**12 22 09.5**	**+2.0**
DSL	**Palaion Diasel**	**4.65**	**322**	*e*P	**Pn**	**12 22 09.5**	**+2.0**
DSL				S	**Sn**	**12 23 00.6**	**+0.4**
KHL	**Karahalli**	**4.70**	**52**	*e*PN	**Pn**	**12 22 10.7**	**+2.4**
KHL	**Karahalli**	**4.70**	**52**	*e*Pn	**Pn**	**12 22 10.7**	**+2.4**
GADA	**Gvkgeada**	**4.74**	**10**	*e*PN	**Pn**	**12 22 10.7**	**+2.1**
OUR	**Ouranopolis**	**4.84**	**353**	*e*PN	**Pn**	**12 22 13.1**	**+3.1**
OUR	**Ouranopolis**	**4.84**	**353**	P	**Pn**	**12 22 12.5**	**+2.5**
OUR	**Ouranopolis**	**4.84**	**353**	*e*P	**Pn**	**12 22 12.2**	**+2.2**
OUR	**Ouranopolis**	**4.84**	**353**	*e*P	**Pn**	**12 22 12.2**	**+2.2**
OUR	**Ouranopolis**	**4.84**	**353**	*e*Pn	**Pn**	**12 22 13.1**	**+3.1**
ANTB	**Antalya**	**4.93**	**72**	*e*PN	**Pn**	**12 22 13.9**	**+2.7**
ANTB	**Antalya**	**4.93**	**72**	*e*Pn	**Pn**	**12 22 14.0**	**+2.7**
PLG	**Polygyros**	**4.95**	**348**	P	**Pn**	**12 22 13.5**	**+1.9**
PLG				S	**Sn**	**12 23 06.9**	**-0.7**
PLG	**Polygyros**	**4.95**	**348**	*e*P	**Pn**	**12 22 13.7**	**+2.1**
PLG	**Polygyros**	**4.95**	**348**	*e*P	**Pn**	**12 22 13.7**	**+2.1**
PLG				S	**Sn**	**12 23 06.9**	**-0.7**
SMTH	**Samothraki Isl**	**4.97**	**6**	P	**Pn**	**12 22 13.9**	**+2.1**
SMTH	**Samothraki Isl**	**4.97**	**6**	*e*P	**Pn**	**12 22 13.0**	**+1.2**
SMTH	**Samothraki Isl**	**4.97**	**6**	P	**Pn**	**12 22 13.9**	**+2.1**
DURS	**Dursunbey**	**5.00**	**35**	*i* P	**Pn**	**12 22 14.8**	**+2.4**
DURS				*i* S	**Sn**	**12 23 11.4**	**+2.5**
DURS	**Dursunbey**	**5.00**	**35**	*i* P	**Pn**	**12 22 14.8**	**+2.4**
DURS				*i* S	**Sn**	**12 23 11.4**	**+2.5**
GELI	**Tayfur-Gelibol**	**5.04**	**15**	*e*PN	**Pn**	**12 22 15.3**	**+2.6**
BCK	**Bucak**	**5.05**	**66**	*e*PN	**Pn**	**12 22 15.1**	**+2.1**
BCK	**Bucak**	**5.05**	**66**	*e*Pn	**Pn**	**12 22 15.1**	**+2.1**
LPK	**Lapseki**	**5.08**	**17**	*e*PN	**Pn**	**12 22 15.7**	**+2.4**
LPK	**Lapseki**	**5.08**	**17**	*e*Pn	**Pn**	**12 22 15.7**	**+2.4**
ISP	**Isparta**	**5.14**	**62**	*e*PN	**Pn**	**12 22 16.1**	**+1.8**
ISP	**Isparta**	**5.14**	**62**	P	**Pn**	**12 22 15.8**	**+1.6**
ISP	**Isparta**	**5.14**	**62**	*e*P	**Pn**	**12 22 16.1**	**+1.8**
ISP	**Isparta**	**5.14**	**62**	⇑*i*P	**Pn**	**12 22 15.4**	**+1.2**
ISP	**Isparta**	**5.14**	**62**	S	**Sn**	**12 23 10.5**	**-1.8**
ISP	**Isparta**	**5.14**	**62**	P	**Pn**	**12 22 15.8**	**+1.6**
ISP	**Isparta**	**5.14**	**62**	*e*Pn	**Pn**	**12 22 16.1**	**+1.8**
ISP	**Isparta**	**5.14**	**62**	*e*Pn	**Pn**	**12 22 16.1**	**+1.8**
JAN	**Janina**	**5.17**	**324**	P	**Pn**	**12 22 16.6**	**+1.9**
JAN				S	**Sn**	**12 23 13.7**	**+0.7**
JAN	**Janina**	**5.17**	**324**	*e*P	**Pn**	**12 22 16.4**	**+1.7**
JAN	**Janina**	**5.17**	**324**	*e*P	**Pn**	**12 22 16.4**	**+1.7**
JAN				S	**Sn**	**12 23 13.7**	**+0.7**
HORT	**Hortiatis**	**5.23**	**346**	*e*PN	**Pn**	**12 22 17.9**	**+2.4**
HORT	**Hortiatis**	**5.23**	**346**	P	**Pn**	**12 22 18.3**	**+2.8**
HORT	**Hortiatis**	**5.23**	**346**	*e*P	**Pn**	**12 22 18.4**	**+2.9**
HORT	**Hortiatis**	**5.23**	**346**	P	**Pn**	**12 22 18.3**	**+2.8**
KRBG	**Karabiga-Canak**	**5.24**	**21**	*e*PN	**Pn**	**12 22 17.4**	**+1.9**
KRBG	**Karabiga-Canak**	**5.24**	**21**	*e*Pn	**Pn**	**12 22 17.4**	**+1.9**
THE	**Thessaloniki**	**5.29**	**345**	P	**Pn**	**12 22 19.2**	**+3.0**
THE	**Thessaloniki**	**5.29**	**345**	*e*P	Pn	12 22 19.7	+3.5
THE	**Thessaloniki**	**5.29**	**345**	P	**Pn**	**12 22 19.2**	**+3.0**
ENEZ	**Enez**	**5.31**	**11**	*e*PN	**Pn**	**12 22 18.8**	**+2.4**
ERIK	**Erikli-Kesan**	**5.31**	**14**	*e*PN	**Pn**	**12 22 18.8**	**+2.4**
KZN	**Kozani**	**5.33**	**334**	P	Pn	12 22 20.5	+3.6
KZN				S	**Sn**	**12 23 17.1**	**+0.1**
KZN	**Kozani**	**5.33**	**334**	*e*P	**Pn**	**12 22 18.5**	**+1.6**
KZN	**Kozani**	**5.33**	**334**	*e*P	**Pn**	**12 22 18.5**	**+1.6**
IGT	**Igoumenitsa**	**5.34**	**320**	P	**Pn**	**12 22 18.1**	**+1.2**
IGT	**Igoumenitsa**	**5.34**	**320**	P	**Pn**	**12 22 18.1**	**+1.2**
EDC	**Edincik**	**5.38**	**26**	*e*PN	**Pn**	**12 22 20.1**	**+2.6**
TVSB	**Tavsanli**	**5.39**	**42**	*e*PN	**Pn**	**12 22 20.1**	**+2.5**
SOH	**Sokhos**	**5.40**	**348**	P	**Pn**	**12 22 21.0**	**+3.2**
SOH	**Sokhos**	**5.40**	**348**	*e*P	**Pn**	**12 22 20.5**	**+2.7**
SOH	**Sokhos**	**5.40**	**348**	*e*P	**Pn**	**12 22 20.5**	**+2.7**
ALN	**Alexandroupoli**	**5.45**	**10**	*e*PN	**Pn**	**12 22 20.5**	**+2.1**
ALN	**Alexandroupoli**	**5.45**	**10**	*e*P	**Pn**	**12 22 20.1**	**+1.8**
ALN	**Alexandroupoli**	**5.45**	**10**	*e*P	**Pn**	**12 22 20.1**	**+1.8**
SGD	**Sagiada**	**5.45**	**320**	P	**Pn**	**12 22 18.9**	**+0.5**
SGD	**Sagiada**	**5.45**	**320**	P	**Pn**	**12 22 18.9**	**+0.5**
KAVA	**Kavala**	**5.46**	**358**	*e*P	**Pn**	**12 22 20.5**	**+1.9**
KAVA	**Kavala**	**5.46**	**358**	*e*P	**Pn**	**12 22 20.5**	**+1.9**
KCTX	**Karacabey (Bur**	**5.50**	**30**	*e*PN	**Pn**	**12 22 21.1**	**+2.0**
ALT	**Altintas**	**5.51**	**49**	*e*PN	**Pn**	**12 22 21.8**	**+2.5**
ALT	**Altintas**	**5.51**	**49**	P	**Pn**	**12 22 22.4**	**+3.1**
ALT	**Altintas**	**5.51**	**49**	P	**Pn**	**12 22 22.4**	**+3.1**
MRMT	**Marmara Adasi**	**5.53**	**23**	*e*PN	**Pn**	**12 22 21.2**	**+1.7**
RDO	**Rodhopi**	**5.64**	**6**	P	**Pn**	**12 22 22.6**	**+1.7**
RDO	**Rodhopi**	**5.64**	**6**	*e*P	**Pn**	**12 22 22.8**	**+1.9**
RDO	**Rodhopi**	**5.64**	**6**	*e*P	**Pn**	**12 22 22.8**	**+1.9**
RDO	**Rodhopi**	**5.64**	**6**	*e*Pn	**Pn**	**12 22 22.8**	**+1.9**
SRS	**Serrai**	**5.66**	**351**	P	**Pn**	**12 22 23.7**	**+2.4**
SRS	**Serrai**	**5.66**	**351**	*e*P	**Pn**	**12 22 23.6**	**+2.3**
SRS	**Serrai**	**5.66**	**351**	*e*P	**Pn**	**12 22 23.6**	**+2.3**
NEST	**Nestorio**	**5.71**	**330**	P	**Pn**	**12 22 23.8**	**+1.8**
NEST	**Nestorio**	**5.71**	**330**	*e*P	**Pn**	**12 22 23.2**	**+1.2**
NEST	**Nestorio**	**5.71**	**330**	P	**Pn**	**12 22 23.8**	**+1.8**
GRG	**Griva**	**5.74**	**342**	*e*PN	**Pn**	**12 22 24.6**	**+2.3**
GRG	**Griva**	**5.74**	**342**	*e*P	**Pn**	**12 22 24.1**	**+1.8**
GRG	**Griva**	**5.74**	**342**	*e*P	**Pn**	**12 22 24.1**	**+1.8**
KEK	**Kerkira**	**5.76**	**318**	P	**Pn**	**12 22 22.4**	**-0.2**
KEK	**Kerkira**	**5.76**	**318**	P	**Pn**	**12 22 22.4**	**-0.2**
SRN	**Sarande**	**5.77**	**320**	P	**Pn**	**12 22 23.2**	**+0.4**
SRN	**Sarande**	**5.77**	**320**	P	**Pn**	**12 22 23.2**	**+0.4**
KNT	**Kendrikon**	**5.82**	**346**	*e*PN	**Pn**	**12 22 25.9**	**+2.5**
KNT	**Kendrikon**	**5.82**	**346**	P	**Pn**	**12 22 26.0**	**+2.5**
KNT	**Kendrikon**	**5.82**	**346**	*e*P	**Pn**	**12 22 26.1**	**+2.7**
KNT	**Kendrikon**	**5.82**	**346**	P	**Pn**	**12 22 26.0**	**+2.5**
NVR	**Nevrokopi**	**5.86**	**353**	P	**Pn**	**12 22 26.5**	**+2.5**
NVR	**Nevrokopi**	**5.86**	**353**	*e*P	**Pn**	**12 22 26.2**	**+2.2**
NVR	**Nevrokopi**	**5.86**	**353**	*e*P	**Pn**	**12 22 26.2**	**+2.2**
FNA	**Florina**	**5.90**	**334**	*e*PN	**Pn**	**12 22 26.6**	**+2.1**
FNA	**Florina**	**5.90**	**334**	P	**Pn**	**12 22 26.1**	**+1.5**
FNA	**Florina**	**5.90**	**334**	P	**Pn**	**12 22 26.1**	**+1.5**
ARMT	**Armutlu**	**5.96**	**31**	*e*PN	**Pn**	**12 22 27.7**	**+2.2**
GEMT	**Gemlik**	**6.00**	**34**	*e*PN	**Pn**	**12 22 28.0**	**+2.1**
VAY	**Valandovo**	**6.04**	**344**	P	Pn	12 22 29.8	+3.3
VAY	**Valandovo**	**6.04**	**344**	*i* Pn	Pn	12 22 30.6	+4.2
VAY	**Valandovo**	**6.04**	**344**	P	Pn	12 22 29.8	+3.3
IZI	**Iznik**	**6.06**	**36**	*e*PN	**Pn**	**12 22 29.4**	**+2.7**
MMB	**Musomiste**	**6.11**	**352**	⇓*i*P	**Pn**	**12 22 29.9**	**+2.5**
MMB	**Musomiste**	**6.11**	**352**	S	**Sn**	**12 23 40.2**	**+4.3**

MMB Musomiste 6.11 352 P Pn 12 22 29.7 +2.3
MMB Musomiste 6.11 352 ⇓iP Pn 12 22 29.9 +2.5
KDZ Kurdzhali 6.13 4 ⇓iP Pn 12 22 29.5 +1.8
KDZ Kurdzhali 6.13 4 P Pn 12 22 29.0 +1.3
KDZ Kurdzhali 6.13 4 ⇓iP Pn 12 22 29.5 +1.8
CAVI Cavuskoy 6.14 39 ePN Pn 12 22 29.4 +1.6
AKMC Akamas 6.18 92 P Pn 12 22 27.1 -1.4
baz=278
AKMC Akamas 6.18 92 P Pn 12 22 27.1 -1.4
PPCY Paphos 6.21 94 P Pn 12 22 27.7 -1.1
baz=279
PPCY Paphos 6.21 94 P Pn 12 22 27.7 -1.1
ESKT Eskisehir 6.25 49 ePN Pn 12 22 31.3 +1.9
ADVT Abdulvahap 6.26 37 ePN Pn 12 22 31.5 +2.1
SLVT Silivri 6.29 24 ePN Pn 12 22 32.0 +2.1
SWA2 6.29 175 P Pn 12 22 29.2 -0.8
baz=174
SWA2 6.29 175 P Pn 12 22 29.2 -0.8
HDMB Hadim 6.38 75 ePN Pn 12 22 32.8 +1.5
ALFC Alevga 6.39 91 P Pn 12 22 30.2 -1.1
baz=276
ALFC S Sn 12 23 35.3 -7.6
ALFC Alevga 6.39 91 P Pn 12 22 30.2 -1.1
OHR Ohrid 6.40 332 *i* Pn Pn 12 22 30.9 -0.5
CTKS Kastanelik-??a 6.40 26 ePN Pn 12 22 33.1 +1.8
BGKT Bogazkoy 6.45 28 ePN Pn 12 22 34.1 +2.1
PHSR Pinarhisar 6.46 19 ePN Pn 12 22 34.2 +2.0
KKB Krupnik 6.47 349 P Pn 12 22 35.6 +3.3
EDRB Edirne 6.49 13 ePN Pn 12 22 34.6 +2.0
HBRG Burj al 'Arab 6.51 138 S Sn 12 23 38.0 -7.7
baz=139
HRT Hereke 6.53 35 ePN Pn 12 22 35.1 +1.9
KONT Konya--Tatoy 6.54 66 ePN Pn 12 22 34.9 +1.6
PLD Plovdiv 6.57 359 P Pn 12 22 36.6 +2.9
PLD Plovdiv 6.57 359 P Pn 12 22 36.6 +2.9
KIZT Kizilcal 6.57 57 ePN Pn 12 22 35.6 +1.8
SVRH Sivrihisar-ESK 6.62 52 ePN Pn 12 22 36.3 +1.7
LADK Ladik-KONYA 6.63 64 ePN Pn 12 22 36.1 +1.4
LEF Lefka 6.63 91 ePN Pn 12 22 33.7 -0.9
GULT Gulveren 6.66 41 ePN Pn 12 22 37.2 +2.1
SZAC Souni-Zanaja 6.67 94 P Pn 12 22 33.9 -1.3
baz=280
SZAC S Sn 12 23 43.0 -6.8
SZAC Souni-Zanaja 6.67 94 P Pn 12 22 33.9 -1.3
AKDN Akdeniz- K¯br 6.68 90 ePN Pn 12 22 36.3 +1.1
MAMC Mammari 6.89 91 P Pn 12 22 37.4 -0.8
baz=276
MAMC Mammari 6.89 91 P Pn 12 22 37.4 -0.8
SKO Skopje 6.95 339 P Pn 12 22 43.0 +4.1
SKO Skopje 6.95 339 *i* Pn Pn 12 22 42.7 +3.8
SKO Skopje 6.95 339 P Pn 12 22 43.0 +4.1
TIR Tirane 6.98 328 eP Pn 12 22 41.6 +2.3
TIR pmax pmax
comp=Z,64nm,0.8s
TIR Tirane 6.98 328 eP Pn 12 22 41.6 +2.3
comp=Z,64nm,0.8s
TIR Tirane 6.98 328 ePn Pn 12 22 41.6 +2.3
comp=Z,64nm,0.8s
CSS Prodhromos 7.01 92 P Pn 12 22 38.7 -1.0
baz=278
CSS Prodhromos 7.01 92 ePN Pn 12 22 39.5 -0.3
CSS Prodhromos 7.01 92 ePn Pn 12 22 38.3 -1.4
CSS Prodhromos 7.01 92 P Pn 12 22 38.7 -1.0
CSS Prodhromos 7.01 92 ePn Pn 12 22 38.4 -1.4
CSS eSn Sn 12 23 48.5 -10
PHP Peshkopia 7.03 332 *i* PN Pn 12 22 47.0 +7.0
LFK Lefkose 7.14 89 ePN Pn 12 22 41.2 -0.4
VTS Vitosha 7.16 351 P Pn 12 22 45.5 +3.6
TIP Timpagrande 7.36 302 P Pn 12 22 44.2 -0.5
TIP Timpagrande 7.36 302 P Pn 12 22 44.2 -0.5
TIP Timpagrande 7.36 302 ePn Pn 12 22 44.0 -0.6
SULT Sultanhani-AKS 7.48 67 ePN Pn 12 22 47.5 +1.2
PUK Puka 7.55 331 *i* PN Pn 12 22 47.0 -0.1
CEL Celeste 7.63 294 ePn Pn 12 22 47.0 -1.4
HMYD Mayadein 7.63 137 P Pn 12 22 46.7 -1.6
baz=137
HMYD Mayadein 7.63 137 P Pn 12 22 46.7 -1.6
EREN Erenkoy 7.64 87 ePN Pn 12 22 48.6 +0.2
HNAT Natroun 7.66 139 P Pn 12 22 47.3 -1.4
baz=139
HNAT Natroun 7.66 139 P Pn 12 22 47.3 -1.4
ANTO Ankara 7.68 53 eP Pn 12 22 52.7 +3.7
ANTO pmax pmax
comp=Z,68nm,0.8s
ANTO Ankara 7.68 53 ePn Pn 12 22 52.7 +3.7
comp=Z,68nm,0.8s
ULC Ulcinj 7.75 328 ⇑*i* Pn Pn 12 22 48.6 -1.3
ULC eSn Sn 12 24 08.8 -7.4
SQR 7.80 134 P Pn 12 22 48.5 -2.1
baz=135
SQR 7.80 134 P Pn 12 22 48.5 -2.1
MPEP Malo Peshtene 7.86 354 P Pn 12 22 55.0 +3.6
AYT Al 'Ayyat 7.90 136 P Pn 12 22 49.7 -2.3
baz=136
AYT Al 'Ayyat 7.90 136 P Pn 12 22 49.7 -2.3
PRD Provadia 7.92 14 P Pn 12 22 53.8 +1.6
DRME Dracevica, Mon 7.96 328 ⇑*i* Pn Pn 12 22 51.6 -1.1
DRME eSn Sn 12 24 14.3 -6.9
MERS Mersin 7.98 78 ePN Pn 12 22 54.2 +1.2
PVY Plav 7.99 333 ⇓*i* Pn Pn 12 22 53.9 +0.6
PVY Plav 7.99 333 ⇓*i* Pn Pn 12 22 53.9 +0.6
PVY eSn Sn 12 24 14.5 -7.8
KAMT Kaman 8.06 59 ePN Pn 12 22 56.2 +2.0
PDG Podgorica 8.13 330 ⇑*i* Pn Pn 12 22 54.7 -0.3
TTG Podgorica 8.13 330 ⇑*i* Pn Pn 12 22 54.7 -0.3
TTG eSn Sn 12 24 17.8 -7.6
KOT Kottamia 8.14 131 P Pn 12 22 52.9 -2.4
baz=132
KOT Kottamia 8.14 131 P Pn 12 22 52.9 -2.4
BR131 Keskin Array S 8.17 57 ePn Pn 12 22 58.4 +2.7
comp=Z,24nm,0.7s
BR131 Keskin Array S 8.17 57 ePn Pn 12 22 58.4 +2.7
comp=Z,24nm,0.7s
BRTR Keskin Array B 8.17 57 P Pn 12 22 58.5 +2.7
comp=Z,1.9nm,0.3s,baz=233,slow=13,SNR=96
BRTR S Sn 12 24 26.4 -0.2
comp=Z,0.6nm,0.3s,baz=208,slow=21,SNR=2.9
BRTR LR LR 12 26 27.8
comp=Z,125nm,19.5s,baz=235,slow=41
BUM Brajici-Budva 8.18 328 ePn Pn 12 22 55.6 -0.2
BUM Brajici-Budva 8.18 328 ePn Pn 12 22 55.6 -0.2
BUM eSn Sn 12 24 18.3 -8.4
HSAF As Saff 8.20 134 P Pn 12 22 54.0 -2.1
baz=135
HSAF As Saff 8.20 134 P Pn 12 22 54.0 -2.1
BEY Berane 8.26 334 ePn Pn 12 22 57.2 +0.3
IVA Berane 8.26 334 ePn Pn 12 22 57.2 +0.3
IVA eSn Sn 12 24 21.7 -7.1
NIG Nigde 8.28 69 ePN Pn 12 22 58.4 +1.0
GLL Jalalah 8.32 134 P Pn 12 22 55.6 -2.2
baz=134
GLL Jalalah 8.32 134 P Pn 12 22 55.6 -2.2
WDD Wield Dalam 8.37 275 ePn Pn 12 22 57.4 -0.9
comp=Z,202nm,0.4s
WDD Wield Dalam 8.37 275 ePn Pn 12 22 57.4 -0.9
comp=Z,202nm,0.4s
CUC Castrocucco 8.39 305 ePn Pn 12 22 59.0 +0.3
comp=Z,101nm,0.8s
CUC Castrocucco 8.39 305 ePn Pn 12 22 59.0 +0.3
comp=Z,101nm,0.8s
KARA Karaisali 8.45 75 ePN Pn 12 23 00.4 +0.9
HCY Herceg Novi 8.47 327 ⇑*i* Pn Pn 12 22 59.2 -0.5
HCY eSn Sn 12 24 25.9 -7.9
NKME Niksic 8.53 330 ⇑*i* Pn Pn 12 22 58.4 -2.2
NKME eSn Sn 12 24 27.5 -7.9
NKY Niksic 8.55 330 ⇓*i* Pn Pn 12 23 00.5 -0.5
NKY eSn Sn 12 24 28.0 -8.0
KRTS Karatas 8.63 80 ePN Pn 12 23 02.4 +0.4
BRY Bratogost 8.82 328 ⇑*i* Pn Pn 12 23 03.9 -0.7
BRY eSn Sn 12 24 34.4 -8.1
NBNS Bani Suef 8.82 140 P Pn 12 23 02.1 -2.5
baz=140
NBNS Bani Suef 8.82 140 P Pn 12 23 02.1 -2.5
SUZ 8.83 128 P Pn 12 23 02.2 -2.5
baz=128
SUZ 8.83 128 P Pn 12 23 02.2 -2.5
PLE Pljevlja 8.84 333 ⇓*i* Pn Pn 12 23 05.2 +0.3
PLE Pljevlja 8.84 333 ⇓*i* Pn Pn 12 23 05.2 +0.3
PLE eSn Sn 12 24 35.8 -7.2
HFRF Wahat Farafira 8.88 159 P Pn 12 23 03.6 -1.8
baz=159
HFRF Wahat Farafira 8.88 159 P Pn 12 23 03.6 -1.8
UPM Unac-Piva 8.91 331 ⇓*i* Pn Pn 12 23 04.5 -1.5

UPM eSn Sn 12 24 37.2 -7.8
ZAF 9.04 131 P Pn 12 23 05.0 -2.6
baz=132
ZAF 9.04 131 P Pn 12 23 05.0 -2.6
DQRL Deir Qamar 9.06 98 eP Pn 12 23 05.2 -2.8
DQRL Deir Qamar 9.06 98 eP Pn 12 23 05.2 -2.8
BHL Bhannes 9.09 97 eP Pn 12 23 05.1 -3.2
BHL Bhannes 9.09 97 eP Pn 12 23 05.1 -3.2
KOZT Kozan 9.09 74 ePN Pn 12 23 08.9 +0.7
MMAI Mount Meron Ar 9.13 103 P Pn 12 23 05.8 -3.1
comp=Z,14nm,0.3s,baz=308,slow=11,SNR=32
MMAI S Sn 12 24 42.5 -7.7
comp=Z,41nm,0.3s,baz=296,slow=23,SNR=12
STON Ston 9.17 325 ePn Pn 12 23 05.9 -3.3
STON Sn Sn 12 24 42.0 -8.8
ZNM 9.18 130 P Pn 12 23 06.6 -2.8
baz=130
ZNM 9.18 130 P Pn 12 23 06.6 -2.8
HWQ Hawqa 9.24 95 eP Pn 12 23 07.9 -2.5
HWQ Hawqa 9.24 95 eP Pn 12 23 07.9 -2.5
KZIT Kziot 9.27 117 PN Pn 12 23 08.8 -2.0
DIVS Divibare 9.32 338 P Pn 12 23 11.8 +0.4
DIVS Divibare 9.32 338 ⇓*i* P Pn 12 23 15.6 +4.2
DIVS Divibare 9.32 338 P Pn 12 23 11.8 +0.4
RCY Rachaya 9.33 99 eP Pn 12 23 09.0 -2.7
RCY Rachaya 9.33 99 eP Pn 12 23 09.0 -2.7
CLTB Caltabellotta 9.54 286 ePn Pn 12 23 16.3 +1.8
CLTB Caltabellotta 9.54 286 ePn Pn 12 23 16.3 +1.8
MLR Muntele Rosu 9.99 5 P Pn 12 23 20.7 +0.1
comp=Z,0.2nm,0.3s,baz=200,slow=7.2,SNR=17
MLR LR LR 12 27 58.3
comp=Z,51nm,18.4s,baz=191,slow=42
MLR Muntele Rosu 9.99 5 ⇑*i* P Pn 12 23 23.9 +3.3
HRFI Mount Harif 10.21 120 ePN Pn 12 23 21.6 -2.0
BZS Buzias 10.36 348 eP Pn 12 23 26.1 +0.5
BZS Buzias 10.36 348 ⇓*i* P Pn 12 23 28.6 +3.1
BZS Buzias 10.36 348 ⇓*i* P Pn 12 23 28.6 +3.1
EIL Elat 10.36 121 ePN Pn 12 23 23.6 -2.2
EIL Elat 10.36 121 P Pn 12 23 23.4 -2.2
comp=Z,12nm,0.3s,baz=263,slow=2.0,SNR=244
EIL S Sn 12 25 10.3 -10
comp=Z,28nm,0.3s,baz=78,slow=23,SNR=13
HKAT Jabal Katrina 10.47 129 P Pn 12 23 24.2 -3.1
baz=130
HKAT Jabal Katrina 10.47 129 P Pn 12 23 24.2 -3.1
HBST Basata 10.49 124 P Pn 12 23 24.8 -2.7
baz=125
HBST Basata 10.49 124 P Pn 12 23 24.8 -2.7
ASF Jabal al Asfar 10.60 105 P Pn 12 23 26.1 -2.9
comp=Z,1.7nm,0.3s,baz=237,slow=13,SNR=12
ASF S Sn 12 25 17.8 -8.5
comp=Z,2.2nm,0.3s,baz=314,slow=21,SNR=5.6
HDHB Dhahab 10.74 126 P Pn 12 23 27.8 -3.0
baz=127
HDHB Dhahab 10.74 126 P Pn 12 23 27.8 -3.0
AQU L'Aquila 11.18 311 eP Pn 12 23 38.4 +1.6
AQU L'Aquila 11.18 311 eP Pn 12 23 38.4 +1.6
AQU L'Aquila 11.18 311 ePn Pn 12 23 38.4 +1.6
UDBI Udbina 11.34 325 *i* Pn Pn 12 23 36.5 -2.5
UDBI Sn Sn 12 25 34.8 -9.2
PKSM Moragy 11.64 338 eP Pn 12 23 47.3 +4.3
PKSM Moragy 11.64 338 ePn Pn 12 23 47.3 +4.3
PKS2 Kecel 11.73 341 eP Pn 12 23 47.7 +3.5
PKS2 Kecel 11.73 341 ePn Pn 12 23 47.7 +3.5
PKS6 Bocsa 11.74 342 ePn Pn 12 23 45.1 +0.8
NVLJ Novalja 11.79 323 ePn Pn 12 23 41.6 -3.5
NVLJ Sn Sn 12 25 45.5 -9.4
KIS Kishinev 11.85 14 *e* Pn 12 23 59.0 +13
KIS Kishinev 11.85 14 eP Pn 12 23 59.0 +13
PKS9 Tamasi 12.09 338 eP Pn 12 23 49.9 +0.8
PKS9 Tamasi 12.09 338 ePn Pn 12 23 49.9 +0.8
BUR08 Bucovina Ar. S 12.11 1 ePn Pn 12 23 52.8 +3.3
BUR08 Bucovina Ar. S 12.11 1 ePn Pn 12 23 52.8 +3.3
PKS7 Kunszentmiklos 12.26 342 eP Pn 12 23 54.7 +3.3
PKS7 Kunszentmiklos 12.26 342 ePn Pn 12 23 54.7 +3.3
BEHE Becsehely 12.49 334 epPn P 12 24 08.8 +4.4
KEST Kesra 12.57 275 P Pn 12 23 55.3 -0.6
comp=Z,0.1nm,0.3s,baz=154,slow=3.1,SNR=17
KEST LR LR 12 29 41.9
comp=Z,32nm,20.3s,baz=236,slow=41
KEST Kesra 12.57 275 ePn Pn 12 23 55.7 -0.2
KEST Kesra 12.57 275 ePn Pn 12 23 55.7 -0.2
BUD Budapest 12.70 342 eP P 12 24 02.2 -4.6
BUD Budapest 12.70 342 ePn P 12 24 02.2 -4.6
PKST T¯s 12.76 339 ePn P 12 24 04.4 -3.1
CSKK Cs¯ákako 12.79 340 ePn P 12 24 04.1 -3.7
PSZ Piszkesteto 12.90 345 eP Pn 12 24 04.5 +4.2
PSZ Piszkesteto 12.90 345 ⇓*i* P Pn 12 24 04.5 +4.2
PSZ Piszkesteto 12.90 345 eP Pn 12 24 04.5 +4.2
PSZ Piszkesteto 12.90 345 ePn Pn 12 24 04.5 +4.2
JAVS Javornik 13.16 325 *i* Pn Pn 12 24 01.2 -2.6
JAVS eSn Sn 12 26 18.5 -10
KECS Kecovo 13.33 347 eP P 12 24 10.1 -3.7
KECS Kecovo 13.33 347 eP P 12 24 10.1 -3.7
KECS Kecovo 13.33 347 ePN P 12 24 10.1 -3.7
SOKA Soboth 13.34 330 ⇑*i* Pn Pn 12 24 03.3 -2.9
SNR=6.8
KOLS Kolonicke sedl 13.52 353 eP Pn 12 24 11.4 +2.7
KOLS Kolonicke sedl 13.52 353 ePN Pn 12 24 11.4 +2.7
STHS Stebnicka Huta 14.12 350 eP P 12 24 27.1 +4.5
STHS Stebnicka Huta 14.12 350 eP P 12 24 27.1 +4.5
STHS Stebnicka Huta 14.12 350 *e* P 12 24 27.1 +4.5
LVV L'vov 14.29 358 eP Pn 12 24 21.5 +2.6
VRAC Vranov 15.03 339 P Pn 12 24 28.5 0.0
comp=Z,0.3nm,0.3s,baz=149,slow=10.0,SNR=9.9
VRAC LR LR 12 30 51.9
comp=Z,72nm,21.0s,baz=155,slow=40
OKC Ostrava-Krasne 15.10 343 eP P 12 24 31.8 -1.7
OKC *ex* x 12 24 36.1
OKC epP pP 12 24 46.4 +0.4
OKC Ostrava-Krasne 15.10 343 eP P 12 24 31.8 -1.7
WTTA Wattenberg 15.30 324 ⇑*i* Pn Pn 12 24 31.7 -0.5
SNR=5.9
TREC Trest 15.36 336 eP Pn 12 24 34.3 +1.5
TREC *ex* x 12 24 38.5
TREC AMS AMS 12 31 20.0
comp=Z,200nm,7.9s
TREC Trest 15.36 336 eP Pn 12 24 34.3 +1.5
TREC MLR MLR
comp=Z,200nm,7.9s
AK02 Malin Array Si 15.46 11 eP P 12 24 36.2 -1.1
AK01 Malin Array Si 15.49 11 eP P 12 24 36.5 -1.3
KIEV Kiev 15.49 11 eP Pn 12 24 35.9 +1.5
KIEV pmax pmax
comp=Z,31nm,0.8s
KIEV Kiev 15.49 11 eP Pn 12 24 35.9 +1.5
comp=Z,31nm,0.8s
AKASG Malin Array Be 15.50 11 P Pn 12 24 32.0 -2.5
comp=Z,3.3nm,0.3s,baz=204,slow=12,SNR=17
AKASG S Sn 12 27 30.4 +5.3
baz=195,slow=21,SNR=22
AKASG Malin Array Be 15.50 11 *ce*P Pn 12 24 35.7 +1.2
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AKBB Malin Array Si 15.50 11 eP P 12 24 36.8 -1.0
AKBB Malin Array Si 15.50 11 eP P 12 24 36.8 -1.0
FETA Feichten 15.58 322 ⇑*i* Pn Pn 12 24 36.0 +0.3
SNR=17
FETA Feichten 15.58 322 Pn Pn 12 24 36.0 +0.3
GEC2 GERESS Array S 15.62 332 eP P 12 24 42.2 +2.9
comp=Z,16nm,0.7s
GEC2 GERESS Array S 15.62 332 eP P 12 24 42.2 +2.9
comp=Z,16nm,0.7s
GERES GERESS Array B 15.62 332 P Pn 12 24 36.1 -0.1
comp=Z,1.1nm,0.3s,baz=149,slow=11,SNR=21
GERES S Sn 12 27 22.6 -5.5
comp=Z,0.2nm,0.3s,baz=157,slow=20,SNR=2.9
GERES LR LR 12 32 13.5
comp=Z,113nm,18.0s,baz=132,slow=43
GERES ScP ScP 12 33 01.2 -2.2
comp=Z,0.1nm,0.3s,baz=202,slow=1.1,SNR=5.7
SAOF Saorge 15.70 308 ⇑eP P 12 24 39.7 -0.5
REVF Revere 15.71 307 ⇑eP P 12 24 39.6 -0.7
AUTN L'Aution 15.79 308 eP P 12 24 41.1 -0.2
AUTN L'Aution 15.79 308 eP P 12 24 41.1 -0.2
NEY Neytrino 15.84 55 ⇑*i* P P 12 24 41.7 -0.2
NEY Neytrino 15.84 55 *i* P P 12 24 41.7 -0.2
DAVOX Davos/Dischmat 15.86 320 P Pn 12 24 39.9 +0.5
comp=Z,0.4nm,0.3s,baz=141,slow=14,SNR=7.9
DAVOX S Sn 12 27 25.5 -8.7
comp=Z,0.3nm,0.3s,baz=114,slow=14,SNR=4.1
KHC Kasperske Hory 15.90 332 eP P 12 24 42.1 -0.2

KHC *es*P sP 12 25 02.9 +0.5
KHC *ex* x 12 25 11.2
KHC *es* S 12 27 42.6 -3.6
KHC *ex*S sS 12 28 05.0 -1.4
KHC AMS AMS 12 32 00.0
comp=Z,200nm,7.3s
KHC Kasperske Hory 15.90 332 eP P 12 24 42.2 -0.2
KHC pmax pmax
comp=Z,4.0nm,0.7s
KHC Kasperske Hory 15.90 332 eP P 12 24 42.2 -0.2
comp=Z,4.2nm,0.7s
TOUF Mont Tournerai 15.91 307 ⇑eP P 12 24 41.6 -1.1
MVIF Mont Vial 15.92 307 eP P 12 24 42.6 -0.2
MVIF Mont Vial 15.92 307 eP P 12 24 42.6 -0.2
TUE Stuetta 15.95 318 eP Pn 12 24 41.5 +0.9
comp=Z,15nm,0.7s
CALN Calern 16.03 306 ⇑eP P 12 24 43.9 -0.1
CALN Calern 16.03 306 ⇑eP P 12 24 43.9 -0.1
DPC Dobruska-Polom 16.04 340 eP P 12 24 43.4 -0.6
DPC *ex* x 12 24 46.8
DPC epP pP 12 24 53.3 -3.2
DPC esP sP 12 25 04.2 +0.2
DPC Dobruska-Polom 16.04 340 eP P 12 24 43.4 -0.6
KIV Kislovodsk 16.11 53 eP P 12 24 45.8 +1.0
KIV pmax pmax
comp=Z,12nm,0.8s
KIV MLR MLR
comp=Z,41nm,14.0s
KIV Kislovodsk 16.11 53 eP P 12 24 45.8 +1.0
comp=Z,41nm,14.0s
KIV Kislovodsk 16.11 53 eP P 12 24 47.4 +2.7
comp=Z,17nm,0.8s
GOPC GO Pecny, Ondr 16.12 336 eP P 12 24 45.1 +0.3
GOPC *ex* x 12 24 47.9
GOPC AMS AMS 12 32 20.0
comp=Z,100nm,7.4s
KBZ Khabaz 16.15 54 P P 12 24 45.8 +0.7
comp=Z,0.3nm,0.3s,baz=146,slow=24,SNR=13
KBZ LR LR 12 32 32.1
comp=Z,72nm,19.0s,baz=15,slow=43
WET Wettzell 16.18 331 eP P 12 24 48.1 +2.6
comp=Z,17nm,0.8s
WET Wettzell 16.18 331 eP P 12 24 48.1 +2.6
comp=Z,17nm,0.8s
DAVA Damuels 16.19 321 ⇑*i* Pn Pn 12 24 43.3 -0.2
SNR=9.9
PRU Pruhonice 16.27 336 eP P 12 24 45.8 -0.6
PRU *ex* x 12 24 47.7
PRU esP sP 12 25 08.0 +1.6
PRU *ex* x 12 25 12.5
PRU AMS AMS 12 31 20.0
PRU Pruhonice 16.27 336 eP P 12 24 45.8 -0.6
UPC Upice 16.27 340 eP P 12 24 46.9 +0.5
UPC *ex* x 12 24 49.4
UPC epP pP 12 24 56.5 -2.5
UPC Upice 16.27 340 eP P 12 24 46.9 +0.5
UPC Upice 16.27 340 eP P 12 24 46.9 +0.5
PRA Prague 16.38 336 eP P 12 24 47.3 -0.3
PRA esP sP 12 25 08.0 +0.4
PRA Prague 16.38 336 eP P 12 24 47.3 -0.3
GNI Garni 16.41 68 P P 12 24 48.3 +0.1
comp=Z,1.1nm,0.3s,baz=330,slow=20,SNR=1.9
GNI Garni 16.41 68 *i* P P 12 24 47.8 -0.4
GNI pmax pmax
comp=Z,15nm,2.6s
NCK Nalchik 16.52 56 *i* P P 12 24 51.6 +2.3
NCK Nalchik 16.52 56 *i* P P 12 24 51.6 +2.3
PVCC Panska Ves 16.73 337 eP P 12 24 51.0 -0.5
PVCC *ex* x 12 24 53.5
PVCC Panska Ves 16.73 337 eP P 12 24 51.0 -0.5
BNI Bardonecchia 16.75 310 eP P 12 24 52.8 +0.9
BNI pmax pmax
comp=Z,19nm,1.4s
BNI Bardonecchia 16.75 310 eP P 12 24 52.8 +0.9
comp=Z,19nm,1.4s
BNI Bardonecchia 16.75 310 eP P 12 24 52.8 +0.9
comp=Z,19nm,1.4s
GOF Gofitskoye 16.83 50 eP P 12 25 08.6 +16
MANZ Manzenberg 17.15 331 eP P 12 24 57.3 +1.1
comp=Z,9.0nm,1.0s
MANZ Manzenberg 17.15 331 eP P 12 24 57.3 +1.1
comp=Z,9.0nm,1.0s
NKC Novy Kostel 17.22 332 eP Pn 12 24 56.3 +0.1
NKC *ex* x 12 25 02.3
NKC epP pP 12 25 10.8 +1.2
NKC esP sP 12 25 17.6 +0.6
NKC Novy Kostel 17.22 332 eP Pn 12 24 56.3 +0.1
BRG Berggiesshubel 17.23 336 *i* P P 12 24 58.5 +1.5
comp=Z,7.5nm,0.9s
BRG *e* 12 25 30.2
comp=Z,4.1nm,0.9s
BRG Berggiesshubel 17.23 336 *i* P P 12 24 58.5 +1.5
comp=Z,7.5nm,0.9s
BRG *e* 12 25 30.2
comp=Z,4.1nm,0.9s
BRG Berggiesshubel 17.23 336 eP P 12 24 59.5 +2.5
comp=Z,8.0nm,0.9s
BRG Berggiesshubel 17.23 336 *i* P P 12 24 58.5 +1.5
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG Berggiesshubel 17.23 336 eP P 12 24 59.5 +2.5
comp=Z,8.0nm,0.9s
SPAK Spaichingen-Ko 17.28 322 eP P 12 24 58.6 +0.9
GRA1 Grafenberg Arr 17.28 329 eP P 12 25 00.5 +2.8
comp=Z,35nm,1.0s
GRF Grafenberg Arr 17.28 329 eP P 12 25 00.5 +2.8
comp=Z,35nm,1.0s
GRFO Grafenberg 17.28 329 eP P 12 24 59.0 +1.4
GRFO pmax pmax
comp=Z,25nm,0.8s
GRFO Grafenberg 17.28 329 eP P 12 24 59.0 +1.4
comp=Z,25nm,0.8s
GRFO Grafenberg 17.28 329 eP P 12 24 59.0 +1.4
comp=Z,25nm,0.8s
WERN Wernitzgruen 17.29 332 eP P 12 25 01.0 +3.2
comp=Z,12nm,1.6s
WERN Wernitzgruen 17.29 332 eP P 12 25 01.0 +3.2
comp=Z,12nm,1.6s
TANN Tannenbergstha 17.36 333 eP P 12 25 00.2 +1.6
comp=Z,13nm,1.1s
TANN Tannenbergstha 17.36 333 eP P 12 25 00.2 +1.6
comp=Z,13nm,1.1s
GUNZ Gunzen 17.37 332 eP P 12 25 00.4 +1.8
comp=Z,10.0nm,0.9s
GUNZ Gunzen 17.37 332 eP P 12 25 00.4 +1.8
comp=Z,10.0nm,0.9s
WERD Werda 17.45 333 eP P 12 25 01.2 +1.7
comp=Z,13nm,1.3s
WERD Werda 17.45 333 eP P 12 25 01.2 +1.7
comp=Z,13nm,1.3s
FBE Freiberg 17.46 335 eP P 12 25 02.4 +2.8
comp=Z,16nm,1.1s
FBE Freiberg 17.46 335 eP P 12 25 02.4 +2.8
comp=Z,16nm,1.1s
STU Stuttgart 17.53 324 eP P 12 25 03.2 +2.9
comp=Z,10.0nm,0.6s
STU Stuttgart 17.53 324 eP P 12 25 02.8 +2.4
STU pmax pmax
comp=Z,13nm,0.8s
STU Stuttgart 17.53 324 eP P 12 25 02.8 +2.4
comp=Z,13nm,0.8s
STU Stuttgart 17.53 324 eP P 12 25 02.8 +2.4
comp=Z,13nm,0.8s
PLN Plauen 17.54 332 eP P 12 25 03.4 +3.0
comp=Z,13nm,1.3s
PLN Plauen 17.54 332 eP P 12 25 03.4 +3.0
comp=Z,13nm,1.3s
FELD Feldberg im Sc 17.54 320 eP P 12 25 01.5 +0.8
BBS Basel-Blauen 17.56 318 ⇑eP P 12 25 02.1 +1.4
BFO Black Forest 17.66 321 eP P 12 25 05.2 +3.3
comp=Z,19nm,1.4s
BFO Black Forest 17.66 321 eP Pn 12 25 01.8 +0.2
BFO pmax pmax
comp=Z,10.0nm,0.8s
BFO Black Forest 17.66 321 eP P 12 25 05.2 +3.3
comp=Z,19nm,1.4s
BFO Black Forest 17.66 321 eP Pn 12 25 01.8 +0.2
comp=Z,9.7nm,0.8s
IDHR Dehrash 17.68 86 eP P 12 25 02.6 +0.2
IDHR Dehrash 17.68 86 eP P 12 25 02.6 +0.2
LOMF Lomont 17.87 317 ⇑eP Pn 12 25 06.2 +2.0
LOMF Lomont 17.87 317 ⇑eP Pn 12 25 06.2 +2.0
CLL Collm 17.91 335 eP P 12 25 04.0 -0.5
comp=Z,6.0nm,1.1s
CLL *i* 12 25 07.2

comp=Z,8.0nm,1.0s
CLL esP **sP** 12 25 22.0 -2.6
CLL eS **S** 12 28 27.0 +0.3
CLL Collm 17.91 335 eP **Pn** 12 25 05.4 +0.9
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 17.91 335 eP **Pn** 12 25 05.4 +0.9
comp=Z,12nm,1.0s
CLL Collm 17.91 335 eP **Pn** 12 25 05.4 +0.9
comp=Z,12nm,1.0s
MOF Molkenrain 17.99 319⇑ eP **Pn** 12 25 07.1 +1.4
MOF Molkenrain 17.99 319⇑ eP **Pn** 12 25 07.1 +1.4
IHRS Heris 18.00 75 eP **Pn** 12 25 07.1 +1.1
IHRS Heris 18.00 75 eP **Pn** 12 25 07.1 +1.1
ECH Echery 18.20 320 eP **Pn** 12 25 10.0 +1.8
ECH Echery 18.20 320 eP **Pn** 12 25 09.4 +1.3
ECH pmax pmax
comp=Z,11nm,1.0s
ECH Echery 18.20 320 eP **Pn** 12 25 10.0 +1.8
ECH Echery 18.20 320 eP **Pn** 12 25 09.4 +1.3
comp=Z,11nm,1.0s
SSB Saint Sauveur 18.20 308 eP **P** 12 25 06.3 -1.5
SSB pmax pmax
comp=Z,3.0nm,0.7s
SSB Saint Sauveur 18.20 308 eP **P** 12 25 06.3 -1.5
comp=Z,3.0nm,0.7s
LANF Langenberg 18.35 322 eP **Pn** 12 25 13.2 +3.2
LANF Langenberg 18.35 322 eP **Pn** 12 25 13.2 +3.2
VORD Divnogorie 18.64 30 eP Pn 12 25 27.1 +14
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.8s
UBBA Unterbreizbach 18.65 330 eP **Pn** 12 25 15.1 +1.7
comp=Z,9.0nm,1.5s
UBBA Unterbreizbach 18.65 330 eP **Pn** 12 25 15.1 +1.7
comp=Z,9.0nm,1.5s
THEF They Montfort 18.84 318⇑ eP **Pn** 12 25 17.9 +2.1
TNS Taunus Mts 18.89 326 eP **Pn** 12 25 18.5 +2.0
comp=Z,12nm,0.6s
TNS Taunus Mts 18.89 326 eP **Pn** 12 25 18.5 +2.0
comp=Z,12nm,0.6s
IBZA Bozab 18.92 87 eP **P** 12 25 16.4 +0.3
IBZA Bozab 18.92 87 eP **P** 12 25 16.4 +0.3
RUP Ruppelstein 19.19 323 eP **Pn** 12 25 23.3 +3.2
WLF Walferdange 19.62 322 P **P** 12 25 22.6 -0.6
comp=Z,18nm,1.4s
WLF Walferdange 19.62 322 eP **Pn** 12 25 27.8 +2.7
comp=Z,26nm,0.9s
WLF Walferdange 19.62 322 eP **Pn** 12 25 26.4 +1.3
WLF pmax pmax
comp=Z,20nm,0.9s
WLF Walferdange 19.62 322 eP **Pn** 12 25 26.4 +1.3
comp=Z,20nm,0.9s
WLF Walferdange 19.62 322 eP **Pn** 12 25 26.4 +1.3
comp=Z,20nm,0.9s
LPSR Galich'ya Gora 19.80 26 eP Pn 12 25 37.8 +11
LPSR pmax pmax
comp=Z,20nm,1.1s
LPSR pmax pmax
comp=N,10.0nm,1.3s
LPSR pmax pmax
comp=E,9.0nm,0.6s
NRDL Niedersach Rie 19.91 333 eP **Pn** 12 25 31.6 +3.2
comp=Z,10.0nm,1.0s
MEM Membach 20.30 324 P **P** 12 25 31.2 +0.6
comp=Z,15nm,1.0s
MEM Membach 20.30 324 eP **P** 12 25 31.5 +0.9
MEM pmax pmax
comp=Z,23nm,0.9s
MEM Membach 20.30 324 eP **P** 12 25 31.5 +0.9
comp=Z,23nm,0.9s
MEM Membach 20.30 324 eP **P** 12 25 31.5 +0.9
comp=Z,23nm,0.9s
IRAZ Razeghan 20.46 83 eP Pn 12 25 34.5 -0.9
IRAZ Razeghan 20.46 83 eP Pn 12 25 34.5 -0.9
BCLA Clavier 20.52 322 P **P** 12 25 32.5 -0.5
DOU Dourbes 20.68 321 P **P** 12 25 35.2 +0.5
comp=Z,21nm,1.2s
SNF Seneffe 21.09 322 P **P** 12 25 39.6 +0.5
OBN Obninsk 21.21 19 LR LR 12 34 23.4
comp=Z,57nm,19.6s,baz=276,slow=38
OBN Obninsk 21.21 19⇓ eP **P** 12 25 42.6 +2.3
OBN *i* 12 26 03.4
OBN pmax pmax
comp=Z,10.0nm,0.8s
OBN MLR MLR
comp=Z,71nm,19.0s
OBN Obninsk 21.21 19 eP **P** 12 25 42.6 +2.3
comp=Z,71nm,19.0s
UCC Uccle 21.23 322 P **P** 12 25 40.7 +0.1
comp=Z,37nm,1.1s
RAYN Ar Rayn 21.58 118 eP **P** 12 25 46.9 +2.2
comp=Z,9.9nm,1.0s
IPIR Pirpir 21.77 90 eP **P** 12 25 46.8 -0.1
IPIR Pirpir 21.77 90 eP **P** 12 25 46.8 -0.1
IVRN Varamin 21.98 84 eP **P** 12 25 45.2 -3.7
MOS Moscow 22.04 20 eP P 12 26 02.9 +14
MOS *e* 12 26 18.1
MOS *e* 12 29 46.5
MOS Moscow 22.04 20 eP cP **cP** 12 29 46.5 +1.4
IKLH Kolahrood 22.18 88 eP **P** 12 25 54.5 +3.2
IZEF Zefreh 22.89 89 eP **P** 12 25 59.3 +0.4
IZEF Zefreh 22.89 89 eP **P** 12 25 59.3 +0.4
ESDC Sonseca Array 23.11 289 P **P** 12 26 00.4 -0.3
comp=Z,7.5nm,0.7s,baz=82,slow=9.8,SNR=48
ESLA Sonseca Array 23.11 289 eP **P** 12 26 00.6 -0.1
comp=Z,3.7nm,0.9s
ESLA Sonseca Array 23.11 289 eP **P** 12 26 00.6 -0.1
comp=Z,3.7nm,0.9s
PAB San Pablo 23.41 289 eP **P** 12 26 04.5 +0.9
PAB pmax pmax
comp=Z,14nm,1.0s
PAB San Pablo 23.41 289 eP **P** 12 26 04.5 +0.9
comp=Z,14nm,1.0s
PAB San Pablo 23.41 289 eP **P** 12 26 04.5 +0.9
comp=Z,14nm,1.0s
MDT Midelt 24.44 272 P **P** 12 26 14.6 +1.4
comp=Z,5.2nm,0.8s,baz=96,slow=13,SNR=6.9
MDT LR LR 12 36 40.6
comp=Z,81nm,21.8s,baz=141,slow=38
IMEH Mehriz 25.17 91 eP **P** 12 26 20.8 +0.8
IMEH Mehriz 25.17 91 eP **P** 12 26 20.8 +0.8
PBRG Braganca 25.32 294 eP **P** 12 26 21.5 +0.5
PBRG Braganca 25.32 294 eP **P** 12 26 21.5 +0.5
MVO Moncorvo 25.50 292 eP **P** 12 26 23.3 +0.7
comp=Z,27nm,1.2s
MVO Moncorvo 25.50 292 eP **P** 12 26 23.3 +0.7
comp=Z,27nm,1.2s
PBAR Barrancos 25.55 285 eP **P** 12 26 23.9 +0.9
comp=Z,58nm,1.2s
PBAR Barrancos 25.55 285 eP **P** 12 26 23.9 +0.9
comp=Z,58nm,1.2s
HFS Hagfors 25.65 347 P **P** 12 26 22.8 -0.9
comp=Z,1.1nm,0.4s,baz=161,slow=11,SNR=13
PMRV Marv??o 25.76 288 eP **P** 12 26 25.7 +0.7
comp=Z,37nm,0.6s
PMRV Marv??o 25.76 288 eP **P** 12 26 25.7 +0.7
comp=Z,37nm,0.6s
MTE Manteigas 25.87 291 eP **P** 12 26 28.1 +2.1
comp=Z,17nm,0.9s
MTE Manteigas 25.87 291 eP **P** 12 26 28.1 +2.1
comp=Z,17nm,0.9s
MTE Manteigas 25.87 291 eP **P** 12 26 28.5 +2.5
MTE Manteigas 25.87 291 eP **P** 12 26 28.5 +2.5
PESTR Estremoz 25.94 287 eP **P** 12 26 28.4 +1.8
PESTR Estremoz 25.94 287 eP **P** 12 26 28.4 +1.8
FINES FINESS Array B 25.95 1 P **P** 12 26 25.4 -1.0
comp=Z,1.1nm,0.4s,baz=165,slow=11,SNR=11
FINES cP **cP** 12 29 52.8 -0.6
comp=Z,0.9nm,0.5s,baz=151,slow=4.4,SNR=3.6
FINES LR LR 12 37 47.2
comp=Z,25nm,20.5s,baz=190,slow=39
FINES FINESS Array B 25.95 1 *i* P **P** 12 26 26.0 -0.3
FINES pmax pmax
comp=Z,1.0nm,0.4s
FIA1 FINESS Array S 25.95 1 eP **P** 12 26 26.1 -0.3
PVIS Viseu 26.14 291 eP **P** 12 26 31.0 +2.6
PVIS Viseu 26.14 291 eP **P** 12 26 31.0 +2.6
ISHV Shirvan 26.45 76 eP **P** 12 26 31.4 0.0
MESJ Messejana 26.50 285 eP **P** 12 26 34.5 +2.8
MESJ Messejana 26.50 285 eP **P** 12 26 34.5 +2.8
PNCL Nicolau / Gran 26.72 285 eP **P** 12 26 36.5 +2.9
PNCL Nicolau / Gran 26.72 285 eP **P** 12 26 36.5 +2.9
NB2 NORSAR Subarra 26.97 345 P **P** 12 26 33.7 -1.9
comp=Z,2.4nm,0.9s,baz=156,slow=9.3
NOA NORSAR Array B 26.97 345 P **P** 12 26 35.7 +0.1
comp=Z,0.3nm,0.7s,baz=151,slow=8.6,SNR=7.1
NOA LR LR 12 38 33.4
comp=Z,24nm,18.5s,baz=165,slow=39
EKA Eskdalemuir Ar 27.57 325 P **P** 12 26 40.3 -0.7
comp=Z,3.5nm,0.6s,baz=127,slow=9.4,SNR=29
ESK Eskdalemuir 27.58 325 eP **P** 12 26 43.6 +2.5
ESK pmax pmax
comp=Z,3.0nm,0.6s
ESK Eskdalemuir 27.58 325 eP **P** 12 26 43.6 +2.5
comp=Z,3.0nm,0.6s
ESK Eskdalemuir 27.58 325 eP **P** 12 26 43.6 +2.5
comp=Z,3.1nm,0.6s
AKTK Aktyubinsk 28.22 48 P **P** 12 26 46.1 -0.8
AKTO Aktyubinsk 28.22 48 P **P** 12 26 46.0 -0.9
comp=Z,2.9nm,0.6s,baz=257,slow=5.5,SNR=8.6
AB31 Akbulak array 29.07 51 *i* P **P** 12 26 53.7 -0.7
AB31 pmax pmax
comp=Z,1.0nm,0.2s
AB31 Akbulak array 29.07 51 *i* P **P** 12 26 53.7 -0.7
comp=Z,1.0nm,0.2s
ABKAR Akbulak array 29.07 51 eP **P** 12 26 54.2 -0.2
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 29.07 51 eP **P** 12 26 54.2 -0.2
comp=Z,3.1nm,0.7s
TOA0 Torodi Ar. Sit 30.50 229 eSg **P** 12 27 05.4 -2.0
TOA0 Torodi Ar. Sit 30.50 229 eP **P** 12 27 07.8 +0.4
TOA0 Torodi Ar. Sit 30.50 229 eP **P** 12 27 07.8 +0.4
TORD Torodi Ar. Bea 30.50 229 P **P** 12 27 07.7 +0.2
comp=Z,7.0nm,0.5s,baz=34,slow=8.5,SNR=111
ARCES ARCESS Array B 34.06 0 P **P** 12 27 34.7 -3.4
comp=Z,2.5nm,0.7s,baz=188,slow=10,SNR=9.5
ARCES LR LR 12 41 52.5
comp=Z,57nm,21.2s,baz=236,slow=37
KK31 Karatay Array 35.80 64 P **P** 12 27 53.6 +0.2
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KK31 Karatay Array 35.80 64 P **P** 12 27 53.6 +0.2
comp=Z,1.0nm,0.3s
KKAR Karatay Array 35.80 64 eP **P** 12 27 54.2 +0.8
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 35.80 64 eP **P** 12 27 54.2 +0.8
comp=Z,2.0nm,0.5s
KKAR Karatay Array 35.80 64 eP **P** 12 27 54.2 +0.8
comp=Z,2.1nm,0.5s
BRVK Borovoye 36.25 47⇑ eP **P** 12 27 57.0 -0.1
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 36.25 47 eP **P** 12 27 57.0 -0.1
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 36.31 47 P **P** 12 27 56.2 -1.4
comp=Z,1.4nm,0.7s,baz=270,slow=12,SNR=8.1
EKS2 Erkin-Say 38.23 64 eP **P** 12 28 15.2 +1.0
EKS2 pmax pmax
comp=Z,11nm,1.0s
EKS2 Erkin-Say 38.23 64 eP **P** 12 28 15.2 +1.0
comp=Z,11nm,1.0s
EKS2 Erkin-Say 38.23 64 eP **P** 12 28 15.2 +1.0
comp=Z,11nm,1.0s
AAK Ala-Archa 38.76 64 ceP **P** 12 28 20.2 +1.6
AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 38.76 64 eP **P** 12 28 20.0 +1.3
comp=Z,6.6nm,0.9s
AAK Ala-Archa 38.76 64 eP **P** 12 28 19.9 +1.3
comp=Z,6.6nm,0.9s
TKM2 Tokmak 2 39.53 63 eP **P** 12 28 25.4 +0.2
TKM2 pmax pmax
comp=Z,3.0nm,0.7s
TKM2 Tokmak 2 39.53 63 eP **P** 12 28 25.4 +0.2
comp=Z,3.0nm,0.7s
TKM2 Tokmak 2 39.53 63 eP **P** 12 28 25.4 +0.2
comp=Z,3.2nm,0.7s
DBIC Dimbokro 39.57 230 P **P** 12 28 25.7 +0.3
comp=Z,10nm,0.8s,baz=19,slow=7.8,SNR=17
DBIC LR LR 12 44 56.8
comp=Z,74nm,19.2s,baz=92,slow=36
DBIC Dimbokro 39.57 230 P **P** 12 28 25.7 +0.3
DBIC pmax pmax
comp=Z,10.0nm,0.8s
DBIC MLR MLR
comp=Z,74nm,19.2s
DBIC Dimbokro 39.57 230 eP **P** 12 28 25.3 -0.1
comp=Z,16nm,1.0s
DBIC Dimbokro 39.57 230 eP **P** 12 28 25.3 -0.1
comp=Z,16nm,1.0s
TIC Toumodi 39.69 231 eP **P** 12 28 26.3 -0.1
KIC Kosan Boka 39.73 230 eP **P** 12 28 26.6 -0.2
comp=Z,22nm,0.7s
LIC Lamto 40.02 230 eP **P** 12 28 29.0 -0.1
comp=Z,23nm,0.6s
KURBB Kurchatov Arra 41.12 51 P **P** 12 28 37.2 -0.6
comp=Z,4.3nm,0.6s,baz=277,slow=8.7,SNR=62
KURK Kurchatov 41.18 51 P **P** 12 28 37.6 -0.7
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 41.18 51 eP **P** 12 28 37.8 -0.5
comp=Z,10nm,0.8s
KURK Kurchatov 41.18 51 eP **P** 12 28 37.9 -0.5
comp=Z,10nm,0.8s
SPITS Spitsbergen Ar 42.91 357 P **P** 12 28 51.1 -1.0
comp=Z,7.7nm,1.0s,baz=142,slow=10,SNR=8.5
MK31 Makanchi Array 43.82 57 *i* P **P** 12 28 59.8 -0.1
MK31 pmax pmax
comp=Z,4.0nm,0.6s
MK31 Makanchi Array 43.82 57 *i* P **P** 12 28 59.8 -0.1
comp=Z,4.0nm,0.6s
MK31 Makanchi Array 43.82 57 eP **P** 12 28 59.6 -0.3
MKAR Makanchi Array 43.82 57 P **P** 12 28 59.8 -0.1
comp=Z,4.7nm,0.7s,baz=283,slow=6.3,SNR=50
MKAR ScP **ScP** 12 34 31.0 -1.0
comp=Z,0.4nm,0.7s,baz=318,slow=1.9,SNR=3.3
MKAR Makanchi Array 43.82 57⇑ eP **P** 12 28 59.7 -0.1
MKAR pmax pmax
comp=Z,46nm,0.7s
MKAR Makanchi Array 43.82 57 eP **P** 12 29 00.0 +0.1
NVS Novosibirsk 44.04 45 eP **P** 12 29 01.3 -0.1
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=Z,8.0nm,0.7s
NVS pmax pmax
comp=E,5.0nm,0.8s
NVS Novosibirsk 44.04 45 eP **P** 12 29 01.3 -0.1
ZAA0 Zalesovo Array 44.96 46 eP **P** 12 29 08.1 -0.8
ZAA0 Zalesovo Array 44.96 46 eP **P** 12 29 08.1 -0.8
ZALV Zalesovo Beam 44.96 46 P **P** 12 29 06.6 -2.2
comp=E,3.6nm,0.4s,baz=264,slow=9.5,SNR=8.2
ZALV pP **pP** 12 29 22.1 -1.9
comp=E,9.8nm,0.5s,baz=267,slow=9.1,SNR=7.4
ZALV ScP **ScP** 12 34 37.3 +0.7
comp=E,0.5nm,0.3s,baz=251,slow=4.4,SNR=3.7
ZALV LR LR 12 51 10.6
comp=E,21nm,19.5s,baz=248,slow=40
ZALV Zalesovo Beam 44.96 46 *i* P **P** 12 29 08.8 0.0
ZALV pmax pmax
comp=Z,5.0nm,0.5s
ZALV Zalesovo Beam 44.96 46 *i* P **P** 12 29 08.8 0.0
comp=Z,5.0nm,0.5s
WMQ Urumqi 48.08 60 eP **P** 12 29 36.4 +2.9
WMQ PMZ
comp=Z,2.0nm,0.4s
WMQ PMZ
comp=Z,11nm,5.6s
SUMG Summit 48.53 339 eP **P** 12 29 37.1 +0.2
SUMG pmax pmax
comp=Z,9.0nm,0.9s
SUMG Summit 48.53 339 eP **P** 12 29 37.1 +0.2
comp=Z,9.0nm,0.9s
SUMG Summit 48.53 339 eP **P** 12 29 37.1 +0.2
comp=Z,8.9nm,0.9s
KOLN Koldanda 50.02 82 eP **P** 12 29 48.7 0.0
comp=Z,8.2nm,0.5s
LSZ Lusaka 50.63 176 P **P** 12 29 53.7 +0.6
comp=Z,1.4nm,0.5s,baz=5.2,slow=9.7,SNR=4.0
GKN Gorkha 50.76 81 eP **P** 12 29 54.2 -0.1
comp=Z,16nm,0.6s
DMN Daman 51.30 81 eP **P** 12 29 58.9 +0.5
KKN Kakani 51.37 81 eP **P** 12 29 59.0 +0.1
comp=Z,18nm,0.7s
PKI Pulchoki 51.56 81 eP **P** 12 30 00.4 -0.1
comp=Z,23nm,0.7s
GUN Gumba 51.80 80 eP **P** 12 30 02.2 -0.1
comp=Z,19nm,0.8s
JIRN Jiri 52.15 80 eP **P** 12 30 04.7 -0.2
comp=Z,14nm,0.5s
TSUM Tsumeb 54.86 188 P **P** 12 30 23.5 -0.8
comp=Z,2.6nm,1.0s,baz=315,slow=4.3,SNR=3.7
ZAK Zakamensk 56.72 49 eP **P** 12 30 37.4 0.0
ZAK pmax pmax
comp=Z,2.0nm,0.9s
ZAK Zakamensk 56.72 49 eP **P** 12 30 37.4 0.0
comp=Z,2.0nm,0.9s
GTA Gaotai 58.05 62 eP **P** 12 30 47.4 +0.4
GTA PMZ
comp=Z,4.0nm,1.1s
SONM Songino Array 59.48 51 P **P** 12 30 56.3 -0.5
comp=Z,1.5nm,0.7s,baz=284,slow=8.5,SNR=11
SONM pP **pP** 12 31 10.0 -2.5
comp=Z,1.2nm,0.6s,baz=284,slow=7.1,SNR=5.6
BOD Bodaibo 60.35 38 eP **P** 12 31 00.7 -1.7
BOD pmax pmax
comp=Z,4.0nm,0.8s
LZH Lanzhou 62.30 64 eP **P** 12 31 16.6 +0.4
LZH pP **pP** 12 31 33.4 +1.4
LZH sP **sP** 12 31 40.0 +1.4
LZH PMZ
comp=Z,13nm,1.0s
SCHQ Schefferville 62.71 319 P **P** 12 31 17.7 -0.7
comp=Z,2.3nm,0.5s,baz=66,slow=8.9,SNR=5.6
SCHQ Schefferville 62.71 319 eP **P** 12 31 20.2 +1.8
comp=Z,11nm,0.6s
SCHQ Schefferville 62.71 319 eP **P** 12 31 20.2 +1.8
comp=Z,11nm,0.6s
BOSA Boshof 63.80 180 P **P** 12 31 26.0 +0.1
comp=Z,8.9nm,0.8s,baz=1.1,slow=8.1,SNR=11
BOSA Boshof 63.80 180 eP **P** 12 31 26.6 +0.7
BOSA pmax pmax
comp=Z,13nm,1.0s
BOSA Boshof 63.80 180 eP **P** 12 31 26.6 +0.7
comp=Z,13nm,1.0s
CD2 Chengdu 64.54 69 eP **P** 12 31 29.5 -1.3
HHC Hu-ho-hao-te 65.68 56 eP **P** 12 31 36.2 -2.0
HHC S **S** 12 40 17.2 -2.6
HHC PMZ
comp=Z,16nm,1.1s
HHC PMZ
comp=Z,59nm,6.6s
CMAR Chiang Mai Arr 66.82 83 P **P** 12 31 45.0 -0.7
comp=Z,1.9nm,0.7s,baz=301,slow=7.7,SNR=14
GYA Guiyang 68.91 72 eP **P** 12 32 00.2 +1.3
GYA PMZ
comp=Z,10.0nm,1.0s
BJI Beijing 69.17 55 P **P** 12 32 01.6 +1.6
BJI pP **pP** 12 32 16.8 +0.7
BJI PMZ
comp=Z,18nm,0.6s
BJI PMZ
comp=Z,88nm,4.4s
USRK Ussuriysk Ar. 76.79 45 P **P** 12 32 44.6 -0.4
comp=Z,3.0nm,0.6s,baz=268,slow=6.0,SNR=7.6
YKA Yellowknife Ar 77.01 342 P **P** 12 32 45.2 -0.7
comp=Z,0.6nm,0.6s,baz=33,slow=5.5,SNR=2.9
YKA Yellowknife Ar 77.01 342 P **P** 12 32 45.2 -0.7
YKA pmax pmax
comp=Z,1.0nm,0.6s
COLD Coldfoot 77.49 358 eP **P** 12 32 48.9 +0.3
comp=Z,1.4nm,0.9s
COLD Coldfoot 77.49 358 eP **P** 12 32 48.9 +0.3
comp=Z,1.4nm,0.9s
KSAR Wonju Array Be 78.28 52 P **P** 12 32 53.1 -0.4
KSAR *PP **pP** 12 33 07.5 -2.3
KSAR Wonju Array Be 78.28 52 P **P** 12 32 53.1 -0.4
KSAR Wonju Array Be 78.28 52 P **P** 12 32 53.0 -0.4
KSAR pP **pP** 12 33 07.5 -2.3
KSRS Korea Array 78.29 52 P **P** 12 32 53.0 -0.5
comp=Z,5.1nm,0.7s,baz=306,slow=4.6,SNR=35
KSRS pP **pP** 12 33 07.5 -2.4
comp=Z,4.0nm,0.7s,baz=309,slow=4.9,SNR=8.2
KSRS LR LR 13 11 28.0
comp=Z,16nm,19.5s,baz=355,slow=39
KSRS Korea Array 78.29 52 P **P** 12 32 53.1 -0.5
KSRS *PP **pP** 12 33 07.5 -2.4
KSRS pmax pmax
comp=Z,5.0nm,0.7s
KSRS MLR MLR
comp=Z,16nm,19.5s
FFC Flin Flon 79.16 332 eP **P** 12 32 58.0 0.0
FFC pmax pmax
comp=Z,4.0nm,0.8s
FFC Flin Flon 79.16 332 eP **P** 12 32 58.0 0.0
comp=Z,4.0nm,0.8s
FFC Flin Flon 79.16 332 eP **P** 12 32 58.0 0.0
comp=Z,3.7nm,0.8s
ILAR Eielson Array 79.82 356 P **P** 12 33 01.4 +0.1
comp=Z,0.4nm,0.8s,baz=351,slow=4.0,SNR=5.5
ILAR pP **pP** 12 33 15.8 -1.9
comp=Z,1.6nm,1.0s,baz=340,slow=5.1,SNR=7.0
ILAR PKKPbc **PKKPbc** 12 51 46.0 -1.4
comp=Z,0.7nm,0.7s,baz=221,slow=2.1,SNR=13
DAWY Dawson 79.95 353 eP **P** 12 33 02.5 +0.3
comp=Z,8.5nm,0.9s
DAWY Dawson 79.95 353 eP **P** 12 33 02.5 +0.3
comp=Z,8.5nm,0.9s
PPLA Purkeypile 81.88 359 eP **P** 12 33 12.5 -0.1
comp=Z,7.4nm,0.6s
PPLA Purkeypile 81.88 359 eP **P** 12 33 12.5 -0.1
comp=Z,7.4nm,0.6s
PETK Petropavlovsk- 82.72 26 LR LR 13 14 10.8
comp=Z,22nm,18.4s,baz=284,slow=39
MJAR Matsushiro Arr 85.30 48 P **P** 12 33 30.3 -0.2
comp=Z,3.1nm,0.8s,baz=299,slow=5.1,SNR=13
BDFB Brasilia 85.57 247 P **P** 12 33 33.5 +1.4
comp=Z,4.3nm,0.7s,baz=48,slow=8.1,SNR=6.5
LRAL Lakeview Retre 86.59 309 eP **P** 12 33 37.3 +0.4
comp=Z,5.0nm,0.8s
LRAL Lakeview Retre 86.59 309 eP **P** 12 33 37.3 +0.4
comp=Z,5.0nm,0.8s
NEW Newport 89.92 336 eP **P** 12 33 52.5 0.0
NEW pmax pmax
comp=Z,2.0nm,0.8s
NEW Newport 89.92 336 eP **P** 12 33 52.5 0.0
comp=Z,2.0nm,0.8s
NEW Newport 89.92 336 eP **P** 12 33 52.5 0.0
comp=Z,1.8nm,0.8s
PDAR Pinedale Array 91.63 328 P **P** 12 34 00.4 -0.4
comp=Z,0.4nm,0.4s,baz=79,slow=5.6,SNR=3.2
PDAR LR LR 13 18 06.9
comp=Z,35nm,18.2s,baz=65,slow=37
HWUT Hardware Ranch 93.44 329 eP **P** 12 34 08.7 -0.4
comp=Z,1.6nm,0.7s
HWUT Hardware Ranch 93.44 329 eP **P** 12 34 08.7 -0.4
comp=Z,1.6nm,0.7s
WRA Warramunga Arr 116.93 96 PKP **PKPdf** 12 39 37.1 -1.1
comp=Z,0.8nm,0.9s,baz=318,slow=1.4,SNR=8.7
ASAR Alice Springs 118.41 100 PKP **PKPdf** 12 39 40.6 -0.4
comp=Z,0.9nm,0.6s,baz=358,slow=2.0,SNR=8.9
STKA Stephens Creek 128.09 105 PKP **PKPdf** 12 39 59.4 +0.1
comp=Z,2.4nm,0.7s,baz=342,slow=3.1,SNR=6.6

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*IDC **06** 12:47:11.6±1.0, 4.°09S×137.°08E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.7/29, mbtmp3.8/8, ML4.1/3, Error ellipse: s-maj=48.3km s-min=19.7km az=70.0*
*ISCJB **06** 12:47:15.3±0.8, 4.°45S±0.°07×136.°6E±0.°1, h33km, mb3.6/5, Error ellipse: s-maj=16.7km s-min=7.2km az=154.5*
ISC 06 12:47:18.2±1.2, 4.°6S±0.°1×136.°5E±0.°2, h35km, n9, σ1°92/11, mb3.6/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.40**	**305**	Pn		**Pn**		**12 48 51.0**	**+0.9**
	10.0nm,0.3s,baz=111,slow=14,SNR=36								
SIJI				Sn		**Sn**		**12 50 02.3**	**+0.4**
	baz=37,slow=20,SNR=1.8								
WRA	**Warramunga Arr**	**15.42**	**188**	Pn		**Pn**		**12 50 52.5**	**-0.8**
	0.3nm,0.3s,baz=8.7,slow=13,SNR=21								
WRA				Sn		**Sn**		**12 53 42.4**	**-0.8**
	0.6nm,0.3s,baz=4.0,slow=23,SNR=8.1								
CTA	**Charters Tower**	**18.11**	**149**	P		**Pn**		**12 51 26.9**	**-0.2**
	0.3nm,0.3s,baz=321,slow=12,SNR=6.1								
ASAR	**Alice Springs**	**19.15**	**187**	P		**Pn**		**12 51 42.8**	**+3.0**
	0.4nm,0.3s,baz=13,slow=11,SNR=21								
ASAR				S		**Sn**		**12 55 10.4**	**-3.1**
	0.1nm,0.3s,baz=9.8,slow=28,SNR=3.1								
STKA	**Stephens Creek**	**27.58**	**171**	P		**P**		**12 53 03.8**	**+1.6**
	0.7nm,0.5s,baz=344,slow=11,SNR=3.9								
MKAR	**Makanchi Array**	**69.94**	**324**	P		**P**		**12 58 24.4**	**-1.7**
	0.2nm,0.4s,baz=113,slow=7.9,SNR=5.8								

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**74.14**	**174**	P	**P**	**12 58 51.9**	**+1.2**
	0.5nm,0.7s,baz=325,slow=3.1,SNR=5.3						
BVAR	**Borovoye Array**	**79.59**	**326**	P	**P**	**12 59 20.3**	**-1.5**
	0.3nm,0.5s,baz=97,slow=6.3,SNR=2.7						
ILAR	**Eielson Array**	**88.43**	**25**	P	P	13 00 02.3	-4.2
	0.5nm,0.9s,baz=268,slow=4.4,SNR=5.9						

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*MOS **06** 12:54:03.7±2.4, 49°.84N×157°.21E, h50km, mb4.2/1, Error ellipse: s-maj=46.5km s-min=10.4km az=84.8*
*KRSC **06** 12:54:03.8±2.7, 49°.84N×157°.21E, h50km±26km, ML4.0*
ISC 06 12:54:02.6±3.9**, 49°.6N**±0°.2×**156°.91E**±0°.08**, h51km, n29, σ1s82**/41**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.16**	**334**	eP	**Pn**	**12 54 22.1**	**-0.3**
SKR				eS	**Sn**	**12 54 35.2**	**-2.0**
SKR	**Severo-Kuril's**	**1.16**	**334**	ePN	Pn	12 54 11.2	-11
PAU	**Pauzhetka**	**1.83**	**358**	eP	**Pn**	**12 54 32.8**	**+1.3**
PAU				eS	**Sn**	**12 54 53.2**	**-0.3**
PAU	**Pauzhetka**	**1.83**	**358**	PN	**Pn**	**12 54 32.8**	**+1.3**
PAU				S	**Sn**	**12 54 53.2**	**-0.3**
MIPR	**Malaya Ipel'ka**	**2.64**	**358**	eP	**Pn**	**12 54 43.9**	**+1.2**
ASAK	**Asacha**	**2.81**	**12**	eP	**Pn**	**12 54 46.1**	**+1.0**
ASAK				eS	**Sn**	**12 55 16.9**	**-0.9**
MTVR	**Mutnovka**	**2.96**	**15**	eP	**Pn**	**12 54 48.1**	**+1.0**
MTVR				eS	**Sn**	**12 55 20.3**	**-1.1**
RUS	**Russkaya**	**2.97**	**19**	eP	**Pn**	**12 54 48.4**	**+1.2**
RUS				eS	**Sn**	**12 55 20.7**	**-0.8**
RUS	**Russkaya**	**2.97**	**19**	PN	**Pn**	**12 54 48.4**	**+1.2**
RUS				S	**Sn**	**12 55 20.7**	**-0.8**
APC	**Apacha**	**3.29**	**3**	eP	**Pn**	**12 54 52.6**	**+1.1**
APC	**Apacha**	**3.29**	**3**	PN	**Pn**	**12 54 52.6**	**+1.1**
PET	**Petropavlovsk**	**3.56**	**17**	eS	**Sn**	**12 55 36.7**	**+0.8**
UGLR	**Uglovaya**	**3.77**	**18**	eP	**Pn**	**12 55 00.6**	**+2.4**
AVH	**Avacha**	**3.80**	**17**	eP	**Pn**	**12 55 00.8**	**+2.1**
AVH				eS	**Sn**	**12 55 42.5**	**+0.4**
AVH	**Avacha**	**3.80**	**17**	PN	**Pn**	**12 55 00.8**	**+2.1**
AVH				S	**Sn**	**12 55 42.5**	**+0.4**
KOK	**Koryaka**	**3.81**	**16**	eP	Pn	12 55 01.9	+3.1
KOK	**Koryaka**	**3.81**	**16**	PN	Pn	12 55 01.9	+3.1
SMAR	**Somma**	**3.81**	**17**	P	**Pn**	**12 55 01.3**	**+2.4**
KRER	**Koryakskii**	**3.84**	**17**	eP	**Pn**	**12 55 01.4**	**+2.1**
KRER				eS	**Sn**	**12 55 42.8**	**-0.5**
SDLR	**Sedlovina**	**3.84**	**18**	eP	**Pn**	**12 55 01.0**	**+1.7**
SDLR				eS	**Sn**	**12 55 42.9**	**-0.3**
NLC	**Nalytchevo**	**3.85**	**22**	eS	**Sn**	**12 55 42.0**	**-1.1**
KRX	**Arik**	**3.88**	**16**	eP	**Pn**	**12 55 02.0**	**+2.3**
SPN	**Mys Shipunski**	**3.97**	**28**	eP	**Pn**	**12 55 02.9**	**+2.0**
SPN				S	**Sn**	**12 55 46.5**	**+0.4**
SPN	**Mys Shipunski**	**3.97**	**28**	PN	**Pn**	**12 55 02.9**	**+2.0**
SPN				S	**Sn**	**12 55 46.5**	**+0.4**
GNL	**Ganaly**	**4.11**	**9**	eP	**Pn**	**12 55 04.3**	**+1.4**
GNL	**Ganaly**	**4.11**	**9**	PN	**Pn**	**12 55 04.3**	**+1.4**
MKZ	**Mys Kozlova**	**5.75**	**29**	eP	**Pn**	**12 55 26.1**	**+0.9**
MKZ				eS	**Sn**	**12 56 25.9**	**-3.8**
MKZ	**Mys Kozlova**	**5.75**	**29**	PN	**Pn**	**12 55 26.1**	**+0.9**
MKZ				S	**Sn**	**12 56 25.9**	**-3.8**
BKI	**Bering**	**7.85**	**41**	eS	**Sn**	**12 57 16.0**	**-5.4**

IDC 06 12:55:39.7±8.1**, 21°.08S**×**66°.47W, h253km**±73km**, mb3.1**/1**, mb1 3.1**/2**, mb1mx2.9**/16**, mbtmp3.6**/2**, Error ellipse: s-maj=90.7km s-min=55.8km az=163.0, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.01**	**341**	P	Pn	12 56 56.5	-0.2
	1.1nm,0.3s,baz=151,slow=7.2,SNR=25						
LPAZ				S	S	12 57 58.0	+0.1
	baz=0.0,slow=16,SNR=1.3						
TORD	**Torodi Ar. Bea**	**75.08**	**69**	P	P	13 06 54.4	+0.1
	0.4nm,0.4s,baz=256,slow=6.3,SNR=7.8						
ASAR	**Alice Springs**	**131.30**	**205**	PKP	PKPdf	13 14 21.5	-1.0
	0.3nm,0.9s,baz=127,slow=2.3,SNR=2.8						
WRA	**Warramunga Arr**	**134.43**	**208**	PKP	PKPdf	13 14 28.4	0.0
	0.3nm,0.9s,baz=155,slow=1.9,SNR=3.9						
MKAR	**Makanchi Array**	**143.94**	**37**	PKP	PKPdf	13 14 44.4	-0.4
	0.3nm,0.7s,baz=329,slow=1.7,SNR=4.3						

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*IDC **06** 12:58:40.5±6.7, 35°.78N×70°.62E, h74km±60km, mb3.4/5, mb1 3.6/10, mb1mx3.2/49, mbtmp3.8/10, ML3.7/5, Error ellipse: s-maj=45.5km s-min=25.1km az=24.0*
*ISCJB **06** 12:58:42.8±0.6, 35°.95N±0°.04×70°.65E±0°.07, h110km, mb3.4/4, Error ellipse: s-maj=9.5km s-min=4.0km az=151.4*
*NNC **06** 12:58:50.1±2.6, 36°.51N×70°.43E, h122km±25km, mb3.3, mpv4.0, Error ellipse: s-maj=22.7km s-min=12.4km az=172.0*
ISC 06 12:58:43.7±0.7**, 36°.03N**±0°.06×**70°.67E**±0°.07**, h110km, n47, σ1s96**/52**, mb3.4**/4**, 12C-8D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.14**	**333**	⇓P	**Pn**	**12 59 30.7**	**-0.9**
	16nm,0.4s						
DZET				⇓S	**Sn**	**13 00 04.7**	**-3.8**
	76nm,0.4s						
SFK	**Sufi-Kurgan**	**4.56**	**28**	⇑P	**Pn**	**12 59 53.0**	**+2.2**
	12nm,0.2s						
SFK				⇓S	**Sn**	**13 00 43.9**	**+1.0**
	78nm,0.2s						
DLH	**Dalhousie**	**5.59**	**127**	eS	**Sn**	**13 01 08.0**	**+0.1**
DLH				ex	x	13 01 18.0	
AML	**Almayashu**	**6.53**	**20**	P	**Pn**	**13 00 18.3**	**+0.8**
	SNR=24						
MNAS	**Manas**	**6.61**	**12**	⇓P	**Pn**	**13 00 19.0**	**+0.7**
	5.4nm,0.5s						
MNAS				⇓S	**Sn**	**13 01 28.6**	**-3.6**
	26nm,0.6s						
UCH	**Uchtor**	**6.87**	**25**	P	**Pn**	**13 00 22.9**	**+0.7**
	SNR=8.9						
KZA	**Kyzart**	**7.01**	**29**	P	**Pn**	**13 00 24.7**	**+0.6**
	SNR=11						
EKS2	**Erkin-Say**	**7.05**	**19**	P	Pn	13 00 28.6	+4.3
	SNR=7.2						
KK31	**Karatay Array**	**7.07**	**359**	P	**Pn**	**13 00 24.1**	**-0.3**
	4.6nm,0.4s,baz=179,slow=13,SNR=86						
KK31				⇑S	**Sn**	**13 01 40.2**	**-3.0**
	3.6nm,0.3s,baz=186,slow=22,SNR=5.1						
AAK	**Ala-Archa**	**7.23**	**23**	P	Pn	13 00 30.2	+3.4
	SNR=9.9						
AAK	**Ala-Archa**	**7.23**	**23**	⇑P	**Pn**	**13 00 28.6**	**+1.8**
	3.8nm,0.3s						
AAK				⇑S	**Sn**	**13 01 45.8**	**-1.6**
	31nm,0.5s						
AAK	**Ala-Archa**	**7.23**	**23**	P	**Pn**	**13 00 27.2**	**+0.4**
	4.7nm,0.3s,baz=202,slow=10,SNR=22						
AAK				S	**Sn**	**13 01 45.3**	**-2.1**
	7.4nm,0.3s,baz=333,slow=20,SNR=18						
SMLA	**Simla**	**7.30**	**130**	i P	**Pn**	**13 00 27.9**	**+0.3**
SMLA				i S	**Sn**	**13 01 46.7**	**-2.1**
SMLA				i S	**Sn**	**13 01 47.0**	**-1.9**
CHMS	**Chumysh**	**7.64**	**23**	P	**Sn**	**13 01 57.3**	**+0.1**
	SNR=6.6						
USP	**Ospenovka**	**7.81**	**21**	P	**Sn**	**13 01 58.6**	**-2.6**
	SNR=8.3						
TKM2	**Tokmak 2**	**7.87**	**27**	P	**Pn**	**13 00 36.5**	**+1.0**
	SNR=7.7						
TKM2	**Tokmak 2**	**7.87**	**27**	⇑P	**Pn**	**13 00 36.7**	**+1.2**
	7.1nm,0.6s						
TKM2				⇓S	**Sn**	**13 01 57.8**	**-5.1**
	3.9nm,0.7s						
BHGR	**Bahadurgarh**	**9.03**	**142**	eS	**Sn**	**13 02 27.4**	**-3.7**
KHET	**Khetri**	**9.05**	**150**	eS	Sn	13 02 25.3	-6.2
KHET				AML	AML	13 02 29.3	
	comp=E,41nm,0.3s						
KHET				AML	AML	13 02 29.5	
	comp=N,37nm,0.3s						
NDI	**New Delhi**	**9.18**	**141**	eS	**Sn**	**13 02 30.5**	**-4.1**
KALG	**Kalgarh**	**9.41**	**131**	eS	**Sn**	**13 02 37.5**	**-2.8**
AGRA	**Agra**	**10.73**	**143**	eP	**Pn**	**13 01 16.8**	**+2.6**
AGRA				eS	Sn	13 03 06.0	-6.4
AGRA				AML	AML	13 03 23.2	
	comp=N,83nm,0.1s						
AGRA				AML	AML	13 03 23.3	
	comp=E,98nm,0.1s						
KOLN	**Koldanda**	**13.72**	**123**	eP	**Pn**	**13 01 52.7**	**-1.1**
MK31	**Makanchi Array**	**13.83**	**35**	⇑P	**P**	**13 01 58.7**	**-0.9**
	comp=E,0.9nm,0.6s,baz=206,slow=8.7,SNR=7.1						
MKAR	**Makanchi Array**	**13.83**	**35**	P	**Pn**	**13 01 56.4**	**+1.5**
	comp=E,0.2nm,0.3s,baz=224,slow=15,SNR=17						
GKN	**Gorkha**	**14.29**	**120**	eP	**Pn**	**13 01 59.6**	**-1.5**
	comp=E,7.2nm,0.3s						
DMN	**Daman**	**14.86**	**120**	eP	**Pn**	**13 02 07.7**	**-0.7**
	comp=E,6.4nm,0.4s						
KKN	**Kakani**	**14.87**	**119**	eP	**Pn**	**13 02 08.1**	**-0.4**
PKI	**Pulchoki**	**15.09**	**120**	eP	**Pn**	**13 02 10.7**	**-0.7**
	comp=E,5.5nm,0.3s						
GUN	**Gumba**	**15.22**	**118**	eP	**Pn**	**13 02 12.8**	**-0.3**
	comp=E,4.2nm,0.3s						
AB31	**Akbulak array**	**15.37**	**333**	⇓P	**Pn**	**13 02 13.5**	**-0.9**
	comp=E,1.6nm,0.4s,baz=170,slow=9.9,SNR=42						
AB31				⇑S	Sn	13 04 52.2	-12
	comp=E,4.7nm,0.7s,baz=138,slow=26,SNR=16						
JIRN	**Jiri**	**15.59**	**118**	eP	**Pn**	**13 02 18.3**	**+0.6**
	comp=E,9.1nm,0.3s						
KURBB	**Kurchatov Arra**	**15.65**	**19**	⇑P	**P**	**13 02 22.2**	**+2.4**
	comp=E,3.9nm,0.7s						
KURBB	**Kurchatov Arra**	**15.65**	**19**	P	**P**	**13 02 18.9**	**-0.9**
	comp=E,0.1nm,0.3s,baz=211,slow=10,SNR=4.4						
KURK	**Kurchatov**	**15.76**	**19**	⇑P	**P**	**13 02 23.0**	**+2.1**
	comp=E,1.5nm,0.9s						
RAMN	**Ramite**	**16.31**	**119**	eP	**P**	**13 02 27.3**	**-0.2**
	comp=E,11nm,0.6s						
TAPN	**Taplejung**	**16.87**	**116**	eP	**P**	**13 02 35.2**	**+1.5**
BVA0	**Borovoye Array**	**17.00**	**359**	⇓P	**P**	**13 02 36.2**	**+1.7**
	comp=E,1.0nm,0.5s,baz=178,slow=11,SNR=12						
BVAR	**Borovoye Array**	**17.00**	**359**	P	**P**	**13 02 36.0**	**+1.4**
	comp=E,0.4nm,0.3s,baz=166,slow=10,SNR=12						
BRVK	**Borovoye**	**17.03**	**359**	⇑P	**P**	**13 02 37.5**	**+2.5**
	comp=E,4.2nm,0.8s						
AKTO	**Aktyubinsk**	**17.06**	**331**	⇑P	**P**	**13 02 36.0**	**+0.7**
	comp=E,2.9nm,0.7s						
AKTO				⇑S	Sn	13 05 34.1	-11
	comp=E,4.7nm,0.8s						
AKTO	**Aktyubinsk**	**17.06**	**331**	P	**P**	**13 02 37.1**	**+1.7**
	comp=E,0.4nm,0.3s,baz=130,slow=14,SNR=10						
AKTO				S	Sn	13 05 32.3	-13
	comp=E,0.1nm,0.3s,baz=180,slow=19,SNR=4.2						
ZALV	**Zalesovo Beam**	**20.45**	**24**	P	Pn	13 03 13.9	-1.5
	comp=E,7.5nm,0.4s,baz=219,slow=12,SNR=30						
FINES	**FINESS Array B**	**37.73**	**327**	P	**P**	**13 05 50.5**	**+2.2**
	comp=E,1.2nm,0.8s,baz=96,slow=14,SNR=4.0						
NOA	**NORSAR Array B**	**44.60**	**323**	P	**P**	**13 06 46.4**	**+1.7**
	comp=E,0.4nm,0.6s,baz=108,slow=11,SNR=2.8						
TORD	**Torodi Ar. Bea**	**65.44**	**269**	P	**P**	**13 09 15.2**	**+0.1**
	comp=E,0.3nm,0.5s,baz=40,slow=5.7,SNR=3.5						
WRA	**Warramunga Arr**	**81.97**	**122**	P	**P**	**13 10 52.2**	**+0.7**
	comp=E,0.3nm,0.8s,baz=326,slow=6.1,SNR=3.0						

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*IDC **06** 13:11:06.6±1.3, 33°.12N×96°.00E, h0km, mb3.3/4, mb1 3.5/6, mb1mx3.3/49, mbtmp3.4/6, ML3.4/2, MS3.1/2, Ms1 3.2/2, ms1mx2.5/25, Error ellipse: s-maj=76.0km s-min=19.9km az=62.0*
*ISCJB **06** 13:11:09.0±0.8, 33°.2N±0°.1×96°.1E±0°.2, h26km, mb3.3/4, MS3.3/1, Error ellipse: s-maj=29.5km s-min=11.9km az=161.5*
ISC 06 13:11:09.4±1.1**, 33°.1N**±0°.1×**96°.1E**±0°.3**, h26km, n8, σ1s59**/7**, mb3.5**/4**, Qinghai**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.82**	**169**	Pn	**P**	**13 14 41.4**	**-1.6**
	0.0nm,0.3s,baz=351,slow=10,SNR=2.8						
CMAR				LR	LR	13 20 36.2	
	comp=Z,48nm,20.2s,baz=227,slow=38						
SONM	**Songino Array**	**16.64**	**25**	Pn	**P**	**13 15 01.7**	**-1.4**
	0.2nm,0.3s,baz=206,slow=13,SNR=5.5						
MKAR	**Makanchi Array**	**17.25**	**326**	P	**Pn**	**13 15 08.7**	**+0.3**
	0.1nm,0.3s,baz=135,slow=14,SNR=11						
KURBB	**Kurchatov Arra**	**21.75**	**329**	P	**P**	**13 15 58.6**	**-0.2**
	0.9nm,0.6s,baz=133,slow=11,SNR=8.1						
ZALV	**Zalesovo Beam**	**22.32**	**342**	P	**P**	**13 16 05.3**	**+0.5**
	0.7nm,0.3s,baz=155,slow=11,SNR=2.3						
FINES	**FINESS Array B**	**52.07**	**325**	LR	LR	13 43 51.8	
	comp=Z,28nm,18.5s,baz=178,slow=38						
WRA	**Warramunga Arr**	**64.17**	**140**	P	**P**	**13 21 43.6**	**+1.7**
	0.1nm,0.6s,baz=334,slow=7.2,SNR=3.2						
ASAR	**Alice Springs**	**66.99**	**142**	P	**P**	**13 22 01.6**	**+1.5**
	0.2nm,0.4s,baz=323,slow=6.0,SNR=3.8						

IDC 06 13:16:36.4±3.0**, 4°.11S**×**153°.84E, h0km, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.4**/29**, mbtmp3.7**/3**, Error ellipse: s-maj=107.2km s-min=45.9km az=110.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.67**	**229**	P	P	13 21 59.4	+0.2
	1.8nm,0.5s,baz=54,slow=9.9,SNR=20						
ASAR	**Alice Springs**	**27.35**	**223**	P	P	13 22 23.4	-0.1
	0.2nm,0.5s,baz=57,slow=9.0,SNR=9.2						
STKA	**Stephens Creek**	**29.92**	**201**	P	P	13 22 46.1	-0.1
	1.6nm,0.8s,baz=18,slow=9.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**151.06**	**290**	PKPbc	PKPbc	13 36 32.2	-0.4
	0.4nm,0.5s,baz=84,slow=1.4,SNR=7.8						

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*IDC **06** 13:25:19.4±6.7, 32°.00N×136°.78E, h292km±121km, mb2.7/3, mb1 2.9/4, mb1mx2.7/26, mbtmp3.3/4, Error ellipse: s-maj=170.3km s-min=27.3km az=62.0*
*JMA **06** 13:25:20.7±0.5, 31°.92N×138°.13E, h345km, M3.1*
*ISCJB **06** 13:25:21.4±0.7, 32°.36N±0°.07×138°.00E±0°.10, h376km, mb2.7/3, Error ellipse: s-maj=12.6km s-min=8.1km az=36.8*
ISC 06 13:25:22.6±1.1**, 32°.5N**±0°.1×**137°.95E**±0°.09**, h376km, n16, σ0s83**/22**, mb2.8**/3**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TTO3	**TONANKAI O.B.S**	**1.48**	**342**	P	**Pn**	**13 26 14.1**	**+1.1**
JWZ	**Kozaga**	**2.17**	**300**	P	**Pn**	**13 26 16.6**	**-0.8**
JIE	**Ise**	**2.20**	**332**	P	**Pn**	**13 26 17.7**	**+0.1**
JKN2	**Miekihoku**	**2.27**	**322**	P	**Pn**	**13 26 17.7**	**-0.4**
HMMJ	**Hamamatsu 2**	**2.40**	**355**	P	**Pn**	**13 26 19.5**	**+0.4**
JWY	**Kouya**	**2.65**	**312**	P	**Pn**	**13 26 21.0**	**0.0**
JOD2	**Odawara 2**	**2.96**	**18**	P	**Pn**	**13 26 24.6**	**+1.1**
JOD2				S	**S**	**13 27 13.2**	**+0.4**
BSO3	**Boso 3**	**3.17**	**42**	P	**Pn**	**13 26 24.2**	**-0.8**
BSO3				S	**S**	**13 27 14.4**	**-1.1**
BSO4	**Boso 4**	**3.22**	**38**	P	**Pn**	**13 26 26.6**	**+1.0**
BSO4				S	**S**	**13 27 16.0**	**-0.6**
JAI	**Aioi**	**3.23**	**295**	P	**Pn**	**13 26 24.9**	**-1.0**
BSO1	**Boso 1**	**3.35**	**48**	P	**Pn**	**13 26 25.5**	**-0.8**
BSO1				S	**S**	**13 27 16.2**	**-1.7**
MJAR	**Matsushiro Arr**	**4.08**	**3**	P	**Pn**	**13 26 34.2**	**+0.3**
	0.9nm,0.3s,baz=185,slow=10,SNR=19						
MJAR				S	**S**	**13 27 31.0**	**-0.7**
	0.2nm,0.3s,baz=218,slow=14,SNR=4.1						
MAT	**Matsushiro**	**4.08**	**3**	P	**Pn**	**13 26 34.0**	**+0.1**
MAT				S	**S**	**13 27 32.1**	**+0.4**
MKAR	**Makanchi Array**	**44.30**	**306**	P	**P**	**13 32 56.5**	**-0.1**
	0.3nm,0.5s,baz=85,slow=6.5,SNR=3.0						
WRA	**Warramunga Arr**	**52.21**	**184**	P	**P**	**13 33 57.0**	**+0.4**
	0.3nm,0.3s,baz=0.0,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**55.94**	**184**	P	**P**	**13 34 24.1**	**+1.0**
	0.1nm,0.5s,baz=8.0,slow=14,SNR=3.7						

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*ISCJB **06** 13:27:10.3±0.4, 30°.36N±0°.03×138°.68E±0°.07, h411km, mb3.0/5, Error ellipse: s-maj=7.7km s-min=4.7km az=1.0*
*JMA **06** 13:27:11.7±0.2, 30°.44N×139°.03E, h426km, M3.4*
*IDC **06** 13:27:11.6±1.4, 30°.44N×138°.78E, h420km±21km, mb2.8/5, mb1 2.9/8, mb1mx2.7/28, mbtmp3.6/8, Error ellipse: s-maj=37.5km s-min=14.9km az=66.0*
ISC 06 13:27:11.3±0.7**, 30°.45N**±0°.07×**138°.8E**±0°.1**, h411km, n28, σ1s79**/34**, mb3.7**/10**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**4.30**	**337**	P	P	13 28 30.8	+4.2
CBIJ	**Chichi jima**	**4.49**	**137**	P	**P**	**13 28 28.7**	**+0.1**
CBIJ				eS	**S**	**13 29 29.0**	**-2.7**
JCJ	**Chichijima**	**4.49**	**137**	P	**P**	**13 28 28.8**	**+0.2**
	6.3nm,0.3s,baz=288,slow=20,SNR=4.8						
JCJ				S	**S**	**13 29 29.0**	**-2.7**
	26nm,0.3s,baz=294,slow=23,SNR=12						
BSO3	**Boso 3**	**4.58**	**18**	eS	**S**	**13 29 33.8**	**+1.2**
BSO1	**Boso 1**	**4.59**	**23**	P	**P**	**13 28 31.3**	**+2.6**
BSO1				eS	**S**	**13 29 33.7**	**+1.5**
BSO4	**Boso 4**	**4.72**	**16**	eS	**S**	**13 29 36.3**	**+0.9**
JOD2	**Odawara 2**	**4.81**	**3**	eS	**S**	**13 29 39.3**	**+2.0**
JNY	**Yasuok**	**4.95**	**351**	P	P	13 28 36.6	+3.5
JHU	**Hanno**	**5.41**	**4**	P	**P**	**13 28 39.4**	**+1.8**
JHU				eS	**S**	**13 29 45.4**	**-3.0**
JRY	**Ryogami san**	**5.55**	**1**	P	**P**	**13 28 41.4**	**+2.2**
JRY				eS	**S**	**13 29 51.3**	**0.0**
JYT	**Yasato**	**5.88**	**11**	eS	**S**	**13 29 54.0**	**-3.6**
JAG	**Ashikaga**	**5.99**	**5**	P	**P**	**13 28 44.5**	**+0.8**
JAG				eS	**S**	**13 29 55.8**	**-3.9**
MJAR	**Matsushiro Arr**	**6.09**	**356**	P	**P**	**13 28 46.2**	**+1.3**
	0.3nm,0.3s,baz=169,slow=12,SNR=5.2						
MJAR				S	**S**	**13 30 01.6**	**-0.2**
	0.2nm,0.3s,baz=187,slow=26,SNR=4.0						
JHO	**Hitachi**	**6.33**	**13**	P	**P**	**13 28 48.6**	**+1.2**
JHO				eS	**S**	**13 30 04.1**	**-2.3**
JMK	**Ichinoseki**	**8.72**	**13**	P	**P**	**13 29 16.4**	**+2.2**
JMK				eS	**S**	**13 30 53.0**	**-2.4**
KSRS	**Korea Array**	**11.39**	**311**	P	**P**	**13 29 45.4**	**+1.5**
	0.2nm,0.3s,baz=123,slow=11,SNR=10.0						
ASAJ	**Asahikawa**	**13.98**	**11**	P	P	13 30 15.4	+3.3
	0.3nm,0.3s,baz=225,slow=13,SNR=3.8						
CMAR	**Chiang Mai Arr**	**37.98**	**261**	P	**P**	**13 33 51.6**	**-0.5**
	0.4nm,0.7s,baz=54,slow=4.7,SNR=3.7						
TAPN	**Taplejung**	**44.50**	**279**	eP	**P**	**13 34 44.2**	**-0.5**
	5.6nm,0.6s						
RAMN	**Ramite**	**45.57**	**279**	eP	**P**	**13 34 52.0**	**-0.9**
	11nm,0.5s						
JIRN	**Jiri**	**45.71**	**280**	eP	**P**	**13 34 53.8**	**-0.3**
	22nm,0.3s						
GUN	**Gumba**	**45.90**	**281**	eP	**P**	**13 34 55.5**	**-0.1**
	5.2nm,0.3s						
MKAR	**Makanchi Array**	**46.05**	**307**	P	**P**	**13 34 55.2**	**-0.8**
	0.4nm,0.5s,baz=91,slow=11,SNR=5.1						
PKI	**Pulchoki**	**46.40**	**280**	eP	**P**	**13 34 58.9**	**-0.4**
KOLN	**Koldanda**	**47.87**	**281**	eP	**P**	**13 35 11.4**	**+1.0**
	4.4nm,0.3s						
WRA	**Warramunga Arr**	**50.28**	**185**	P	**P**	**13 35 27.7**	**-0.5**
	0.5nm,0.4s,baz=2.5,slow=7.9,SNR=15						
ASAR	**Alice Springs**	**54.01**	**186**	P	**P**	**13 35 55.0**	**-0.2**
	0.2nm,0.3s,baz=360,slow=6.5,SNR=6.8						
FINES	**FINESS Array B**	**73.61**	**332**	P	**P**	**13 38 00.3**	**-0.4**
	0.4nm,0.6s,baz=28,slow=6.3,SNR=4.8						

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*NNC **06** 13:36:43.6±7.8, 35°.40N×69°.77E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=57.9km s-min=44.2km az=17.0*
ISC 06 13:36:47.8±4.5**, 35°.3N**±0°.2×**69°.7E**±0°.1**, h87km, n6, σ2s93**/10**, 6C-6D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.52**	**349**	⇓Pn	**Pn**	**13 37 40.4**	**0.0**
	14nm,0.6s						
DZET				⇑Sn	**Sn**	**13 38 24.1**	**+3.0**
	31nm,0.4s						
SFK	**Sufi-Kurgan**	**5.56**	**32**	⇓Pn	**Pn**	**13 38 07.2**	**-1.0**
	4.2nm,0.5s						
SFK				⇓Sn	**Sn**	**13 39 14.0**	**+3.0**
	5.1nm,0.3s						
MNAS	**Manas**	**7.47**	**16**	⇑Pn	Pn	13 38 29.5	-4.7
	1.4nm,0.4s						
MNAS				⇓Sn	**Sn**	**13 39 55.6**	**-1.6**
	5.0nm,0.9s						
KK31	**Karatay Array**	**7.78**	**5**	⇓Pn	Pn	13 38 32.6	-5.7
	0.6nm,0.3s,baz=181,slow=13,SNR=10						
KK31				⇓Sn	**Sn**	**13 40 00.7**	**-3.9**
	1.0nm,0.5s,baz=192,slow=25						
AAK	**Ala-Archa**	**8.19**	**26**	⇑Pn	**Pn**	**13 38 43.8**	**-0.2**
	1.3nm,0.4s						
AAK				⇑Sn	**Sn**	**13 40 19.0**	**+4.1**
	3.8nm,0.7s						
TKM2	**Tokmak 2**	**8.85**	**30**	⇑Pn	**Pn**	**13 38 53.1**	**0.0**
	1.6nm,0.7s						
TKM2				⇑Sn	**Sn**	**13 40 28.8**	**-2.4**
	2.4nm,0.5s						

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*ISCJB **06** 13:54:33.6±0.9, 33°.63N±0°.04×141°.04E±0°.09, h72km±9km, mb3.7/2, Error ellipse: s-maj=13.5km s-min=6.4km az=14.1*
*IDC **06** 13:54:33.2±1.6, 32°.95N×137°.97E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/32, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=112.4km s-min=24.7km az=94.0*
*JMA **06** 13:54:34.3±0.2, 33°.66N×141°.03E, h66km±4km, M3.1*
ISC 06 13:54:34.6±1.5**, 33°.62N**±0°.06×**141°.1E**±0°.1**, h62km**±15km**, n15, σ0s45**/23**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.04**	**357**	P	**Pn**	**13 54 52.5**	**-0.1**
BSO1				S	**Sn**	**13 55 05.8**	**-0.3**
JHJ2	**Mitsune**	**1.15**	**244**	P	**Pn**	**13 54 55.1**	**+0.5**
JHJ2				S	**Sn**	**13 55 09.5**	**-0.1**
BSO2	**Boso 2**	**1.16**	**348**	S	**Sn**	**13 55 09.7**	**+0.3**
JHCJ	**Hachijojimakas**	**1.18**	**243**	P	**Pn**	**13 54 55.1**	**0.0**
JHCJ				S	**Sn**	**13 55 10.1**	**-0.2**
BSO3	**Boso 3**	**1.27**	**339**	P	**Pn**	**13 54 56.0**	**+0.1**
BSO3				S	**Sn**	**13 55 12.4**	**+0.5**
BSO4	**Boso 4**	**1.49**	**337**	P	**Pn**	**13 54 59.4**	**+0.3**
KTR	**Katsuura**	**1.65**	**338**	P	**Pn**	**13 55 01.1**	**-0.1**
KTR				S	**Sn**	**13 55 21.3**	**-0.1**
JKO	**Kozu shima**	**1.69**	**290**	P	**Pn**	**13 55 02.0**	**+0.1**
JIM2	**Oshima 3**	**1.74**	**310**	P	**Pn**	**13 55 02.0**	**-0.5**
JIZS	**Izushimoda**	**2.11**	**302**	P	**Pn**	**13 55 07.9**	**+0.3**
JOD2	**Odawara 2**	**2.31**	**316**	P	**Pn**	**13 55 10.0**	**-0.3**
JOD2				S	**Sn**	**13 55 36.9**	**-0.7**
MJAR	**Matsushiro Arr**	**3.74**	**322**	Pn	**Pn**	**13 55 30.4**	**+0.6**
	3.5nm,0.3s,baz=188,slow=18,SNR=55						
MJAR				Sn	**Sn**	**13 56 12.5**	**-0.1**
	0.6nm,0.3s,baz=132,slow=18,SNR=4.1						
MAT	**Matsushiro**	**3.74**	**322**	P	**Pn**	**13 55 31.0**	**+1.2**
MAT				S	**Sn**	**13 56 12.3**	**-0.3**
WRA	**Warramunga Arr**	**53.64**	**188**	P	**P**	**14 03 49.5**	**-0.4**
	0.6nm,0.5s,baz=4.5,slow=7.6,SNR=16						
ASAR	**Alice Springs**	**57.37**	**188**	P	**P**	**14 04 16.6**	**+0.1**
	0.3nm,0.7s,baz=16,slow=9.1,SNR=5.2						

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*MDD **06** 13:55:06.6±2.0, 32°.37N×7°.74W, h0km, mb4.3/2, Error ellipse: s-maj=38.4km s-min=15.5km az=119.0, PRXIMO*
*IGIL **06** 13:55:07.7, 32°.38N×7°.76W, h2km, ML2.0*
ISC 06 13:55:11.4±4.3**, 32°.7N**±0°.2×**7°.6W**±0°.1**, h10km, n13, σ1s05**/18**, Morocco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**4.64**	**350**	eP	**Pn**	**13 56 21.3**	**-0.3**
EGRO	**El Granado**	**4.79**	**1**	P	**Pn**	**13 56 24.1**	**+0.4**
	1.0nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**13 57 20.7**	**+1.4**
	2.0nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.09**	**8**	P	**Pn**	**13 56 27.4**	**-0.3**
	1.1nm,0.1s,SNR=14						
EMIN				S	**Sn**	**13 57 27.2**	**+0.8**
	1.4nm,0.2s,SNR=9.5						
MESJ	**Messejana**	**5.12**	**355**	eP	**Pn**	**13 56 28.0**	**-0.2**
MESJ				eS	**Sn**	**13 57 26.4**	**-1.0**
MESJ				AML	AML	13 57 26.9	
	comp=N,2.0nm,0.5s						
ECAB	**El Cabril**	**5.63**	**18**	P	**Pn**	**13 56 35.2**	**0.0**
	comp=N,0.5nm,0.2s,SNR=5.9						
ECAB				S	**Sn**	**13 57 41.3**	**+1.4**
	comp=N,1.9nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**5.97**	**24**	P	**Pn**	**13 56 39.9**	**+0.1**
	comp=N,0.7nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**13 57 45.4**	**-2.8**
	comp=N,0.8nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**6.03**	**4**	P	**Pn**	**13 56 40.8**	**+0.1**
	comp=N,0.6nm,0.1s,SNR=8.2						
EBAD				S	**Sn**	**13 57 50.2**	**+0.4**
	comp=N,0.6nm,0.2s,SNR=7.9						
EFAM	**Famara**	**6.22**	**236**	P	Pn	13 56 34.7	-8.6
	comp=N,3.4nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**6.26**	**29**	P	**Pn**	**13 56 44.4**	**+0.5**
	comp=N,1.2nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**6.36**	**348**	S	**Sn**	**13 57 57.1**	**-0.8**
	comp=N,2.1nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**7.21**	**34**	P	**Pn**	**13 56 57.1**	**+0.1**
	comp=N,1.2nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**7.42**	**9**	P	**Pn**	**13 57 00.8**	**+1.0**
	comp=N,0.4nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**7.53**	**22**	S	**Sn**	**13 58 26.1**	**-0.7**
	comp=N,0.3nm,0.3s,SNR=7.9						

ISCJB ***06*** *14:03:30.2±0.5, 12°.83N±0°.07×88°.39W±0°.05, h64km±8km, mb3.3/3, Error ellipse: s-maj=13.8km s-min=4.2km az=33.2*
CASC ***06*** *14:03:30.5±2.0, 12°.83N×88°.39W, h54km±31km, MD4.3, ML4.0*
IDC ***06*** *14:03:35.5±1.6, 13°.04N×88°.45W, h99km±20km, mb3.0/3, mb1 3.4/6, mb1mx3.2/34, mbtmp3.6/6, Error ellipse: s-maj=39.6km s-min=12.4km az=41.0*
ISC 06 14:03:31.0±1.1**, 12°.85N**±0°.09×**88°.38W**±0°.05**, h60**km±11km**, n27, σ1s.25**/34**, mb3.2**/3**, 10D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	San Miguel	0.58	10	⇓iP	Pn	14 03 43.9	-0.3
BLLM	Bellamira	0.60	13	⇓iP	Pn	14 03 43.8	-0.4
CNCH	Conchagua	0.68	52	⇓eP	Pn	14 03 44.2	-1.0
CNCH				eS	Sn	14 03 56.8	+1.3
SNVI	San Vicente	0.88	329	⇓eP	Pn	14 03 47.1	-0.5
SNVI				⇓eS	Sn	14 04 00.2	+0.2
CAHU	Cacacuatique	0.93	10	⇓iP	Pn	14 03 48.4	+0.1
LFRS	El Faro	1.01	319	⇓iP	Pn	14 03 48.8	-0.6
LBRS	Las Brisas	1.09	324	eP	Pn	14 03 50.2	-0.2
SNET	Serv Nac Est T	1.17	315	eP	Pn	14 03 50.6	-0.9
SNET				eS	Sn	14 04 06.3	-0.4
SNET				AML	AML	14 04 08.1	
	comp=Z,3μm,0.3s						
BOQS	Boqueron	1.24	315	⇓iP	Pn	14 03 52.2	-0.3
BOQS				eS	Sn	14 04 08.9	+0.5
SBLS	San Blas	1.56	309	⇓eP	Pn	14 03 56.5	-0.2
SNJE	San Jose	1.56	310	eP	Pn	14 03 56.4	-0.4
TGUH	Tegucigalpa,Un	1.61	42	⇓iP	Pn	14 03 57.5	+0.3
CNGN	Cerro Negro	1.68	102	eP	Pn	14 03 56.4	-1.8
CNGN				eS	Sn	14 04 17.0	-1.7
RBDL	Robledal	1.79	315	eP	Pn	14 03 59.8	0.0
HUEN		2.21	103	eP	Pn	14 04 03.9	-1.6
MRL	Marmol	2.54	330	eP	Pn	14 04 10.6	+0.6
JTS	JuntasAbangare	4.21	127	P	Pn	14 04 39.5	+6.7
	comp=Z,18nm,0.3s,baz=300,slow=14,SNR=66						
JTS				S	Sn	14 05 30.4	+10
	comp=Z,3.8nm,0.3s,baz=274,slow=19,SNR=4.2						
JCR	Jicaral	4.38	133	eP	Pn	14 04 35.1	0.0
CGA2	Cerro Gallo 2	4.76	126	eP	Pn	14 04 41.8	+1.4
CGA2				eS	Sn	14 05 36.3	+1.8
URSC	Urasca	5.42	123	eP	Pn	14 04 51.8	+2.4
URSC				eS	Sn	14 05 52.4	+1.7
TEIG	Tepich	7.33	1	P	Pn	14 05 17.4	+1.9
	comp=Z,1.3nm,0.3s,baz=170,slow=12,SNR=4.3						
CMIG	Matias Romero	7.57	305	P	Pn	14 05 21.3	+2.6
	comp=Z,0.3nm,0.3s,baz=115,slow=14,SNR=3.9						
CMIG				S	Sn	14 06 43.1	0.0
	comp=Z,0.2nm,0.3s,baz=162,slow=20,SNR=2.4						
TXAR	Lajitas Array	21.69	321	P	P	14 08 17.9	+0.8
	comp=Z,0.4nm,0.6s,baz=139,slow=11,SNR=8.4						
TKL	Tuckaleechee C	23.08	10	P	P	14 08 31.7	0.0
	comp=Z,1.2nm,0.6s,baz=189,slow=19,SNR=3.5						
ILAR	Eielson Array	65.29	336	P	P	14 14 03.9	-2.5
	comp=Z,0.2nm,0.8s,baz=168,slow=4.7,SNR=6.0						
WRA	Warramunga Arr	138.51	254	PKP	PKPdf	14 22 51.5	+0.6
	comp=Z,0.1nm,0.5s,baz=88,slow=2.9,SNR=4.0						
ASAR	Alice Springs	138.57	249	PKP	PKPdf	14 22 52.2	+1.3
	comp=Z,0.1nm,0.8s,baz=94,slow=1.8,SNR=2.9						

DDA ***06*** *14:59:33.5, 37°.72N×27°.40E, h7km, MD2.6*
ISC 06 14:59:32.8±5.7**, 37°.2N**±0°.2×**28°.0E**±0°.3**, h12**km**, n5, σ0s.25**/5**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.22	102	ePG	Pg	14 59 35.6	-2.0
BDRM	Kayabasi	0.47	256	i P	Pg	14 59 42.2	+0.2
BDRM				i S	Sb	14 59 55.8	+5.9
AYDN	Tasoluk	0.49	347	i P	Pb	14 59 43.2	-0.2
AYDN				i S	Sb	14 59 50.7	+0.1
BODT	Bodrum	0.58	258	ePG	Pb	14 59 44.6	-0.2
AYDB	Zeytinkoy-Aydi	0.77	353	ePG	Pb	14 59 48.3	0.0

IDC ***06*** *15:02:53.8±0.5, 15°.19S×173°.40W, h0km, mb4.5/24, mb1 4.6/24, mb1mx4.6/28, mbtmp4.5/24, MS4.4/17, Ms1 4.4/17, ms1mx4.3/25, Error ellipse: s-maj=17.2km s-min=12.8km az=132.0*
ISCJB ***06*** *15:02:54.2±0.2, 15°.16S±0°.06×173°.48W±0°.04, h10km, mb4.6/91, MS4.5/22, Error ellipse: s-maj=8.7km s-min=5.8km az=161.2*
BJI ***06*** *15:02:54.7, 14°.76S×173°.24W, h6km, mb4.8/26, mB5.3/21, Ms4.8/15, Ms7 4.6/16*
GCMT ***06*** *15:02:55.5±0.2, 14°.96S×173°.03W, h14km±1km, MW5.1/87, Moment Tensor Solution. s37,c47; s87,c131; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.45±.15; $M_{\theta\theta}$2.05±.11; $M_{\phi\phi}$-3.49±.12; $M_{r\theta}$1.38±.29; $M_{\theta\phi}$2.72±.10; $M_{\phi r}$3.11±.38; Best double couple: $M_0$5.30100×10^{16} NP1:ϕ_s17.00000°, δ79.00000°, λ136.00000°. NP2: ϕ_s117.00000°, δ47.00000°, λ15.00000°. Principal axes: T 5.1120, Plg38.0000°, Azm327.0000°; N 0.3900, Plg45.0000°, Azm186.0000°; P -5.4910, Plg21.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***06*** *15:02:55.5±0.2, 15°.09S×173°.43W, h10km, mb4.7/63 Error ellipse: s-maj=8.7km s-min=4.9km az=141.0*
MOS ***06*** *15:02:58.2±1.4, 15°.04S×173°.45W, h33km, mb4.9/23, Error ellipse: s-maj=12.3km s-min=9.3km az=47.0*
ISC 06 15:02:56.2±0.5**, 15°.12S**±0°.07×**173°.38W**±0°.07**, h13**km±2km**, h13**km**:pP-P, n463, σ1s.05**/446**, mb4.7**/91**, MS4.5**/22**, 60C-55D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.96	52	eP	Pn	15 03 21.6	-7.6
AFI	Afiamalu	1.96	52	ePn	Pn	15 03 21.6	-7.6
MSVF	Nonsavu	8.63	251	eP	Pn	15 05 09.1	+8.3
MSVF				pmax	pmax		
	comp=Z,511nm,1.4s						
MSVF	Nonsavu	8.63	251	ePn	Pn	15 05 09.1	+8.3
	comp=Z,511nm,1.4s						
RAR	Rarotonga	14.27	117	Pn	Pn	15 06 10.7	-7.4
	comp=Z,2.0nm,0.3s,baz=271,slow=8.4,SNR=11						
RAR				Sn	Sn	15 08 40.9	-15
	comp=Z,0.5nm,0.3s,baz=137,slow=19,SNR=3.0						
RAR				LR	LR	15 10 08.5	
	comp=Z,2μm,21.7s,baz=292,slow=30						
DZM	Mont Dzumac	20.33	247	eLQ	LQ	15 11 49.1	
	comp=Z,1μm,27.6s						
DZM				eLR	LR	15 12 47.1	
	comp=Z,3μm,25.3s						
PPT	Papeete	22.96	99	P	P	15 08 00.3	-0.3
	comp=Z,21nm,0.8s,baz=353,slow=1.9,SNR=3.1						
PPT				LR	LR	15 14 17.9	
	comp=Z,1μm,21.6s,baz=254,slow=30						
PAE	Paea	22.97	100	eT	T	15 31 18.0	
	comp=Z,5.9nm,0.3s						
PPT2	Papeete2	22.97	99	eP	P	15 07 59.4	-1.2
	comp=Z,80nm,1.4s						
PPT2				eLQ	LQ	15 12 22.1	
	comp=Z,4μm,28.8s						
PPT2				eLR	LR	15 13 13.3	
	comp=Z,3μm,25.0s,baz=264						
PPT2	Papeete2	22.97	99	eT	T	15 31 15.7	
	comp=Z,7.5nm,0.3s						
TIAR	Tiarei	23.18	99	eT	T	15 31 34.7	
	comp=Z,5.1nm,0.4s						
TVO	Taravao	23.28	100	eT	T	15 31 41.3	
	comp=Z,3.2nm,0.4s						
TBI	Tubuai	23.99	114	eLQ	LQ	15 12 51.3	
	comp=Z,3μm,28.8s						
TBI				eLR	LR	15 13 47.1	
	comp=Z,3μm,26.2s,baz=285						
TBI	Tubuai	23.99	114	eT	T	15 32 36.1	
	comp=Z,18nm,0.3s						
MEH	Mehetia	24.42	100	eT	T	15 33 07.0	
	comp=Z,9.0nm,0.3s						
URZ	Urewera	24.54	198	P	P	15 08 14.5	-1.0
	comp=Z,15nm,0.7s,baz=90,slow=11,SNR=2.8						
URZ	Urewera	24.54	198	eP	P	15 08 16.9	+1.4
PMOR	Pomariorio Ree	24.61	93	eP	P	15 08 14.8	-1.5
	comp=Z,278nm,1.1s						
PMOR	Pomariorio Ree	24.61	93	eT	T	15 33 17.8	
	comp=Z,7.2nm,0.3s						
VAH	Vaihoa	24.85	94	eP	P	15 08 16.7	-1.8
	comp=Z,158nm,1.2s						
VAH	Vaihoa	24.85	94	eT	T	15 33 35.8	
	comp=Z,8.3nm,0.3s						
RPZ	Rata Peaks	31.45	202	P	P	15 09 15.9	-1.4
	comp=Z,12nm,1.1s,baz=20,slow=14,SNR=1.9						
TAOE	Nuku Hiva Isla	33.07	83	eT	T	15 43 47.1	
	comp=Z,150nm,0.3s						
RKT	Rikitea	37.06	108	eLQ	LQ	15 18 20.7	
	comp=Z,511nm,26.5s						
RKT				eLR	LR	15 19 48.7	
	comp=Z,1μm,23.8s,baz=280						
RKT	Rikitea	37.06	108	eT	T	15 48 58.4	
	comp=Z,6.4nm,0.3s						
CTA	Charters Tower	38.73	257	P	P	15 10 18.6	-1.7
	comp=Z,0.9nm,0.5s,baz=76,slow=12,SNR=3.0						
CTAO	Charters Tower	38.73	257	P	P	15 10 21.2	+0.9
CTAO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CTAO	Charters Tower	38.73	257	P	P	15 10 21.2	+0.9
	comp=Z,5.3nm,1.0s						
H11S2	WAKE ISLAND Hy	38.73	329	T	T	15 51 48.7	
	baz=148,slow=75,SNR=17						
H11S3	WAKE ISLAND Hy	38.75	329	T	T	15 52 07.6	
	baz=148,slow=75,SNR=15						
H11S1	WAKE ISLAND Hy	38.75	329	T	T	15 51 47.0	
	baz=148,slow=75,SNR=15						
H11N3	WAKE ISLAND Hy	39.68	330	T	T	15 53 12.2	
	baz=149,slow=76,SNR=7.8						
H11N1	WAKE ISLAND Hy	39.68	330	T	T	15 53 07.2	
	baz=149,slow=76,SNR=10						
H11N2	WAKE ISLAND Hy	39.70	330	T	T	15 52 53.7	
	baz=149,slow=76,SNR=11						
STKA	Stephens Creek	44.20	240	P	P	15 11 03.6	-1.4
	comp=Z,6.8nm,0.8s,baz=89,slow=9.6,SNR=16						
STKA				LR	LR	15 27 40.6	
	comp=Z,218nm,19.3s,baz=71,slow=34						
STKA	Stephens Creek	44.20	240	eP	P	15 11 04.0	-1.1
STKA	Stephens Creek	44.20	240	eP	P	15 11 04.0	-1.1
WRAB	Tennant Creek	49.92	257	ceP	P	15 11 49.2	-0.7
WRAB				pmax	pmax		
	comp=Z,27nm,1.2s						
WRAB	Tennant Creek	49.92	257	eP	P	15 11 49.3	-0.7
	comp=Z,10nm,1.1s						
WRA	Warramunga Arr	49.93	257	P	P	15 11 48.3	-1.7
	comp=Z,2.4nm,0.6s,baz=91,slow=7.0,SNR=43						
WRA				LR	LR	15 30 49.6	
	comp=Z,564nm,20.7s,baz=120,slow=34						
AS31	Alice Springs	50.22	252	eP	P	15 11 50.3	-2.0
ASAR	Alice Springs	50.22	252	P	P	15 11 50.4	-1.9
	comp=Z,11nm,0.7s,baz=86,slow=8.2,SNR=143						
ASAR				LR	LR	15 31 11.6	
	comp=Z,1μm,21.5s,baz=90,slow=34						
SIJI	Sorong	56.44	279	LR	LR	15 35 43.8	
	comp=Z,317nm,19.9s,baz=108,slow=35						
JCJ	Chichijima	60.18	314	LR	LR	15 34 17.3	
	comp=Z,377nm,21.6s,baz=129,slow=31						
SBA	Scott Base	63.53	185	eP	P	15 13 28.0	+2.3
SBA				pmax	pmax		
	comp=Z,12nm,1.0s						
SBA	Scott Base	63.53	185	eP	P	15 13 28.0	+2.3
	comp=Z,12nm,1.0s						
VNDA	Vanda	63.66	186	P	P	15 13 27.6	+1.0
	comp=Z,3.1nm,0.9s,baz=10.0,slow=6.6,SNR=11						
VNDA				LR	LR	15 40 41.0	
	comp=Z,132nm,18.1s,baz=357,slow=36						
VNDA	Vanda	63.66	186	eP	P	15 13 27.4	+0.8
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
VNDA	Vanda	63.66	186	eP	P	15 13 27.4	+0.8
	comp=Z,6.6nm,1.1s						
MJAR	Matsushiro Arr	68.74	320	P	P	15 13 60.0	+0.2
	comp=Z,7.3nm,1.1s,baz=165,slow=5.7,SNR=26						
MJAR				LR	LR	15 38 37.2	
	comp=Z,376nm,21.7s,baz=105,slow=31						
MJAR	Matsushiro Arr	68.74	320	P	P	15 14 00.0	+0.2
MAJO	Matsushiro	68.74	320	⇑iP	P	15 14 00.2	+0.4
MAJO	Matsushiro	68.74	320	eP	P	15 13 59.9	0.0
	comp=Z,30nm,1.4s						
MAT	Matsushiro	68.74	320	P	P	15 13 59.8	0.0
MAT				S	S	15 23 01.4	-1.6
YUK	Yuzh-Kuril'sk	69.63	330	c iP	P	15 14 05.7	+0.6
YUK				i		15 16 42.6	
YUK				i S	S	15 23 13.8	+0.7
ASAJ	Asahikawa	71.31	328	P	P	15 14 16.1	+0.7
	comp=Z,12nm,1.0s,baz=180,slow=18,SNR=2.7						
PETK	Petropavlovsk-	72.37	342	P	P	15 14 21.9	+0.3
	comp=Z,6.4nm,0.7s,baz=128,slow=9.5,SNR=8.3						
CMB	Columbia Colle	72.54	41	eP	P	15 14 22.6	-0.4
CMB				e		15 14 30.4	
CMB				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMB	Columbia Colle	72.54	41	eP	P	15 14 22.6	-0.4
	comp=Z,2.6nm,1.0s						
CMB				e		15 14 30.4	
YSS	Yuzh-Sakhalins	73.25	330	⇑eP	P	15 14 27.5	+0.6
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YBH	Yreka Blue Hor	73.36	37	P	P	15 14 28.2	+0.3
	comp=Z,1.7nm,0.8s,baz=217,slow=5.1,SNR=5.8						
YBH	Yreka Blue Hor	73.36	37	eP	P	15 14 28.7	+0.8
YBH	Yreka Blue Hor	73.36	37	eP	P	15 14 28.7	+0.8
NVAR	Mina Array Bea	74.11	42	P	P	15 14 32.8	+0.3
	comp=Z,1.7nm,0.8s,baz=226,slow=8.7,SNR=6.9						
TPH	Tonopah	74.61	43	P	P	15 14 33.8	-1.6
TPH				pmax	pmax		
	comp=Z,11nm,1.2s						
TPH	Tonopah	74.61	43	P	P	15 14 33.8	-1.6
	comp=Z,11nm,1.2s						
QSPA	South Pole Qui	74.92	180	eP	P	15 14 37.0	+0.3
	comp=Z,9.9nm,0.8s						
SHPR	Sheep Range	75.15	45	eP	P	15 14 38.6	+0.2
	comp=Z,8.8nm,1.3s						
KSRS	Korea Array	75.97	316	P	P	15 14 44.4	+1.4
	comp=Z,3.8nm,1.1s,baz=129,slow=6.8,SNR=21						
KSRS				LR	LR	15 46 34.6	
	comp=Z,113nm,18.1s,baz=110,slow=34						
KSAR	Wonju Array Be	75.99	315	P	P	15 14 44.4	+1.3
KSAR	Wonju Array Be	75.99	315	P	P	15 14 44.4	+1.3
TYV	Tymovskoe	76.11	333	eP	P	15 14 44.0	+0.6
TYV				pmax	pmax		
	comp=Z,40nm,1.2s						
TYV				MLR	MLR		
	comp=N,500nm,16.0s						
TYV				MLR	MLR		
	comp=Z,500nm,16.0s						
TUC	Tucson	76.19	51	eP	P	15 14 44.0	-0.5
TUC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TUC	Tucson	76.19	51	eP	P	15 14 44.0	-0.5
	comp=Z,7.6nm,1.0s						
WVOR	Wild Horse Val	76.20	38	eP	P	15 14 42.6	-1.8
WVOR				pmax	pmax		
	comp=Z,11nm,1.1s						
WVOR	Wild Horse Val	76.20	38	eP	P	15 14 42.6	-1.8
	comp=Z,11nm,1.1s						
USRK	Ussuriysk Ar.	77.17	323	P	P	15 14 50.7	+1.1
	comp=Z,10nm,1.2s,baz=130,slow=5.7,SNR=12						
USRK				LR	LR	15 43 00.2	
	comp=Z,348nm,21.1s,baz=135,slow=31						
WUAZ	Wupatki	77.29	48	eP	P	15 14 51.0	+0.2
	comp=Z,7.5nm,1.2s						
ELK	Elko	77.36	41	eP	P	15 14 50.4	-0.7
ELK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ELK	Elko	77.36	41	eP	P	15 14 50.4	-0.7
	comp=Z,3.2nm,1.0s						
HABR	Khabarovsk	78.11	328	eP	P	15 14 52.3	-2.4
HABR				e		15 15 01.8	
HABR				e		15 17 47.8	
HABR				ePPP	PPP	15 19 35.5	
HABR				eS	S	15 24 46.2	-2.4
HABR				e		15 25 11.4	
HABR				eSS	SS	15 29 47.8	-3.0
HABR				eSSS	SSS	15 33 12.5	
HABR				pmax	pmax		
	comp=E,3.0nm,0.7s						
HABR				pmax	pmax		
	comp=N,13nm,1.5s						
HABR				pmax	pmax		
	comp=Z,7.0nm,1.5s						
HABR				MLR	MLR		
	comp=Z,177nm,19.0s						
MVU	Marysvale	78.18	45	eP	P	15 14 55.0	-0.7
	comp=Z,7.3nm,1.0s						
MSU	Marysvale	78.21	45	eP	P	15 14 56.8	+0.9
MSU				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MSU	Marysvale	78.21	45	eP	P	15 14 56.8	+0.9
	comp=Z,9.1nm,1.1s						
MFID	Camas Ranch	78.45	39	eP	P	15 14 57.0	+0.1
	comp=Z,7.8nm,1.2s						
121A	Cookes Peak, D	78.56	52	P	P	15 14 58.7	+0.8
	baz=79						
121A	Cookes Peak, D	78.56	52	eP	P	15 14 58.6	+0.8
	comp=Z,14nm,1.1s						
DUG	Dugway, Tooele	78.64	43	P	P	15 14 57.6	-0.5
DUG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
DUG	Dugway, Tooele	78.64	43	P	P	15 14 58.9	+0.8
	baz=79						
DUG	Dugway, Tooele	78.64	43	P	P	15 14 57.5	-0.5
	comp=Z,7.9nm,1.1s						
BMRM	Bremner River	79.24	14	P	P	15 14 59.9	-0.9
	comp=Z,21nm,1.1s						
HLID	Hailey	79.40	39	P	P	15 15 03.1	+0.8
	baz=80						
HLID	Hailey	79.40	39	eP	P	15 15 02.3	+0.1
	comp=Z,7.7nm,1.0s						
HVU	Hansel Valley	79.48	42	eP	P	15 15 03.0	+0.3
HVU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HVU	Hansel Valley	79.48	42	eP	P	15 15 03.0	+0.3
	comp=Z,4.6nm,1.0s						
SRU	San Rafael Swe	79.63	45	P	P	15 15 03.0	-0.6
SRU				pmax	pmax		
	comp=Z,7.0nm,1.5s						
SRU	San Rafael Swe	79.63	45	P	P	15 15 03.0	-0.6
	comp=Z,6.9nm,1.5s						
NJ2	Nanjing	80.01	307	eP	P	15 15 05.4	-0.2
NJ2				S	S	15 25 11.0	+1.4
NJ2				PMZ			
	comp=Z,30nm,0.7s						
NJ2				LN			
	comp=Z,550nm,21.7s						
NJ2				LE			
	comp=Z,320nm,23.8s						
MNTX	Cornudas Mount	80.04	53	P	P	15 15 06.4	+0.7
	baz=80						
MNTX	Cornudas Mount	80.04	53	eP	P	15 15 06.0	+0.2
	comp=Z,8.7nm,1.1s						
HWUT	Hardware Ranch	80.17	42	P	P	15 15 05.9	-0.6
	comp=Z,13nm,1.6s						
KLR	Kul'dur	80.30	327	eP	P	15 15 03.4	-3.3
KTH	Kantishna Hill	80.33	10	eP	P	15 15 06.4	-0.3
	comp=Z,17nm,1.4s						
TRF	Thorofare Moun	80.34	10	eP	P	15 15 05.7	-1.2
	comp=Z,36nm,1.4s						
TXAR	Lajitas Array	80.44	56	P	P	15 15 08.2	+0.1
	comp=Z,2.3nm,1.1s,baz=225,slow=4.8,SNR=21						
TXAR				LR	LR	15 42 54.6	
	comp=Z,228nm,21.4s,baz=0.0,slow=30						
PV01	Paradox Valley	80.51	46	eP	P	15 15 08.2	-0.2
	comp=Z,761nm,1.0s						
ANMO	Albuquerque	80.60	50	P	P	15 15 09.4	+0.4
	comp=Z,2.1nm,1.0s,baz=249,slow=6.3,SNR=6.7						
ANMO	Albuquerque	80.60	50	ceP	P	15 15 09.6	+0.6
ANMO				pmax	pmax		
	comp=Z,32nm,2.0s						
ANMO	Albuquerque	80.60	50	eP	P	15 15 08.8	-0.2
	comp=Z,8.5nm,1.3s						
BPAW	Bear Paw Mtn.	80.83	10	eP	P	15 15 07.6	-1.7
	comp=Z,1.3nm,1.1s						
MCK	McKinley	80.84	11	eP	P	15 15 08.8	-0.6
MCK				pmax	pmax		
	comp=Z,14nm,0.8s						
MCK	McKinley	80.84	11	eP	P	15 15 08.8	-0.6
	comp=Z,14nm,0.8s						
CN2	Changchun	80.89	320	eP	P	15 15 11.0	+1.0
CN2				epP	PcP	15 15 15.6	-0.9
CN2				eS	S	15 25 16.9	-1.4
CN2				PMZ			
	comp=Z,10.0nm,0.7s						
CN2				PMZ			
	comp=Z,200nm,5.0s						
CN2				LN			
	comp=Z,200nm,17.0s						
CN2				LE			
	comp=Z,200nm,17.0s						
CN2				LZ			
	comp=Z,200nm,18.0s						
HYT	Haines Junctio	80.94	17	eP	P	15 15 10.8	+0.8
MCMT	McKenzie Canyo	81.02	39	eP	P	15 15 11.1	+0.1
	comp=Z,4.1nm,1.0s						
AHID	Auburn Hatcher	81.05	41	eP	P	15 15 11.4	+0.3
	comp=Z,4.1nm,0.9s						
DLBC	Dease Lake	81.43	21	P	P	15 15 12.8	+0.2
	comp=Z,2.0nm,1.0s,baz=248,slow=11,SNR=2.5						
MSO	Missoula	81.44	37	P	P	15 15 13.8	+0.8
	baz=82						
DLMT	Dillon	81.45	38	eP	P	15 15 13.2	0.0
	comp=Z,7.1nm,1.2s						
REDW	Red Top Meadow	81.51	41	eP	P	15 15 13.8	+0.2
	comp=Z,10nm,1.2s						
TPAW	Teton Pass	81.51	41	eP	P	15 15 13.7	0.0
	comp=Z,9.7nm,1.1s						
BSMT	Bassoo Peak	81.52	36	eP	P	15 15 13.1	-0.4
	comp=Z,5.4nm,0.9s						
S22A	4UR Ranch, Cre	81.56	47	P	P	15 15 14.9	+0.8
	baz=82						
SNOW	Snow King Moun	81.62	41	P	P	15 15 14.9	+0.7
	comp=Z,5.6nm,0.8s						
IMW	Indian Meadow	81.72	40	eP	P	15 15 15.2	+0.4
	comp=Z,10.0nm,1.0s						
DOT	Dot Lake	81.73	13	eP	P	15 15 13.8	-0.3
	comp=Z,9.0nm,0.9s						
MOOW	Moose Ponds	81.77	41	eP	P	15 15 16.6	+1.6
	comp=Z,5.8nm,1.2s						
LOHW	Long Hollow	81.79	41	eP	P	15 15 15.2	+0.1
	comp=Z,3.0nm,0.9s						
CHMT	Chamberlain Mo	81.89	37	P	P	15 15 14.8	-0.7
	comp=Z,4.8nm,1.1s						
QLMT	Earthquake Lak	81.89	39	eP	P	15 15 17.1	+1.5
529A	Stev Forest Ra	81.90	56	P	P	15 15 15.9	+0.1
	baz=82						
FLWY	Flagg Ranch	81.96	40	P	P	15 15 16.5	+0.5
	comp=Z,17nm,1.3s						
N20A	Spence Gulch,	81.98	44	P	P	15 15 16.7	+0.5
	baz=82						
BW06	Boulder Array	82.04	42	eP	P	15 15 16.0	-0.5
	comp=Z,8.2nm,1.4s						
PDAR	Pinedale Array	82.04	42	P	P	15 15 16.1	-0.4
	comp=Z,2.6nm,1.0s,baz=257,slow=3.6,SNR=9.0						
PDAR				LR	LR	15 46 20.1	
	comp=Z,113nm,18.9s,baz=244,slow=32						
COLA	College	82.08	11	eP	P	15 15 15.4	-0.4
COLA				pmax	pmax		
	comp=Z,14nm,0.8s						
COLA	College	82.08	11	eP	P	15 15 15.3	-0.4
	comp=Z,14nm,0.8s						
SMCO	Snowmass	82.10	46	eP	P	15 15 16.2	-0.9
	comp=Z,12nm,0.6s						
ILAR	Eielson Array	82.17	11	P	P	15 15 15.3	-1.0
	comp=Z,3.6nm,0.9s,baz=211,slow=4.5,SNR=20						
IM04	Indian Mountai	82.18	8	eP	P	15 15 16.1	-0.2
BOZ	Bozeman (W)	82.18	39	eP	P	15 15 17.2	+0.2
BOZ				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BOZ	Bozeman (W)	82.18	39	eP	P	15 15 17.2	+0.2
	comp=Z,8.4nm,1.3s						
H17A	Grant Village	82.20	40	eP	P	15 15 18.7	+1.4
	comp=Z,2.5nm,0.6s						
SEY	Seymchan	82.25	345	P	P	15 15 16.2	-0.6
	comp=Z,6.1nm,1.0s,baz=108,slow=5.4,SNR=7.1						
429A	Davenport Ranc	82.36	56	⇓P	P	15 15 18.2	+0.1
	baz=82,SNR=13						
228A	UT Block 9, Go	82.38	54	P	P	15 15 19.4	+1.1
	baz=82						
LKWY	Lake	82.39	40	P	P	15 15 19.5	+1.2
LKWY	Lake	82.39	40	P	P	15 15 19.5	+1.2
P22A	Eagle	82.44	46	P	P	15 15 19.3	+0.7
	baz=83						
R23A	Moffat	82.47	47	P	P	15 15 19.9	+1.0
	baz=83						
SDCO	Great Sand Dun	82.51	48	P	P	15 15 19.9	+0.8
	baz=83						
SDCO	Great Sand Dun	82.51	48	eP	P	15 15 19.1	0.0
	comp=Z,5.1nm,1.2s						
J19A	Crowheart	82.61	42	⇑P	P	15 15 20.7	+1.4
	baz=83						
HRY	Holter Researc	82.61	38	eP	P	15 15 18.5	-0.7
	comp=Z,7.8nm,0.8s						
329A	Wagon Wheel Ra	82.61	55	⇑P	P	15 15 20.2	+0.6
	baz=83						
530A	J-C Ranch, Com	82.62	56	⇓P	P	15 15 19.9	+0.3

baz=83,SNR=6.4
128A Castleberry Fa 82.66 54 ⇓P P 15 15 19.8 0.0
baz=83
QIZ Qiongzhong 82.82 292 P P 15 15 20.4 -0.4
QIZ S S 15 25 39.2 0.0
QIZ PMZ
comp=Z,7.0nm,1.2s
QIZ PMZ
comp=Z,53nm,4.5s
QIZ LZ
comp=Z,230nm,22.5s
O22A Kremmling 82.83 45 ⇓P P 15 15 21.8 +1.0
baz=83
229A Bryant Ranch, 82.93 54 P P 15 15 22.0 +0.8
baz=83
430A Baggett Ranch, 82.94 56 ⇓P P 15 15 21.3 +0.1
baz=83
631A Perdido Creek 82.96 57 ⇑P P 15 15 21.7 +0.4
baz=83,SNR=15
MSTX Muleshoe 82.97 52 P P 15 15 21.5 +0.2
baz=83
MSTX Muleshoe 82.97 52 *e*P P 15 15 21.4 0.0
comp=Z,200nm,1.2s
P23A Jefferson 82.98 46 ⇓P P 15 15 23.1 +1.6
baz=83
I19A Meeteetse 83.01 41 ⇓P P 15 15 23.0 +1.6
baz=83
T25A Trinidad 83.04 49 ⇓P P 15 15 21.9 +0.1
baz=83
832A Faith Ranch, C 83.04 58 P P 15 15 22.1 +0.4
baz=83
129A Stewart Farms, 83.14 54 ⇓P P 15 15 22.3 +0.1
baz=83
N22A Wattenberg Ran 83.18 45 ⇑P P 15 15 23.2 +0.7
baz=83
732A Laxson Ranch, 83.20 58 P P 15 15 24.0 +1.4
baz=83
330A Mertzon 83.22 55 ⇓P P 15 15 23.2 +0.5
baz=83
531A Rocksprings 83.26 56 ⇑P P 15 15 23.5 +0.6
baz=83,SNR=16
J20A Shoshoni 83.27 42 ⇑P P 15 15 23.9 +1.1
baz=83,SNR=8.2
Q24A Divide 83.28 47 ⇑P P 15 15 23.6 +0.5
baz=83
O23A Lake Granby, G 83.29 45 ⇓P P 15 15 24.1 +1.0
baz=84
ISCO Idaho Springs 83.32 46 *e*P P 15 15 23.5 +0.2
ISCO pmax pmax
comp=Z,3.0nm,0.9s
ISCO Idaho Springs 83.32 46 ⇓P P 15 15 23.3 0.0
baz=84
ISCO Idaho Springs 83.32 46 *e*P P 15 15 23.5 +0.2
comp=Z,2.9nm,0.9s
H19A Powell 83.32 40 ⇑P P 15 15 24.4 +1.4
baz=84
EGAK Eagle 83.34 13 *e*P P 15 15 22.2 -0.2
comp=Z,9.7nm,1.1s
Y28A McKinney Farm, 83.34 52 P P 15 15 24.3 +1.0
baz=84
RLMT Red Lodge 83.37 40 ⇓P P 15 15 24.6 +1.3
baz=84
RLMT Red Lodge 83.37 40 *e*P P 15 15 23.5 +0.2
comp=Z,7.8nm,1.1s
933A Laredo 83.38 59 ⇑P P 15 15 23.7 +0.2
baz=84,SNR=5.1
GCMT Greycliff 83.45 39 *e*P P 15 15 23.6 +0.1
comp=Z,6.7nm,1.2s
230A Sterling City 83.45 55 ⇓P P 15 15 24.6 +0.8
baz=84
Z29A Hungry Hill Ra 83.51 53 ⇓P P 15 15 24.1 0.0
baz=84
I20A Worland 83.52 41 ⇑P P 15 15 24.5 +0.6
baz=84,SNR=9.6
833A Chaparral WMA, 83.53 59 P P 15 15 25.5 +1.3
baz=84
N23A Red Feather La 83.57 45 ⇑P P 15 15 25.4 +0.9
baz=84
X28A Dimmitt 83.62 52 P P 15 15 25.7 +1.0
baz=84
632A Uvalde 83.64 57 ⇓P P 15 15 25.8 +1.1
baz=84,SNR=9.2
T26A Comanche Natio 83.65 49 ⇑P P 15 15 24.2 -0.7
baz=84
J21A Lysite 83.68 42 ⇓P P 15 15 25.5 +0.6
baz=84,SNR=21
034A Hebbronville 83.68 60 P P 15 15 25.9 +0.9
baz=84
733A Divot King Ran 83.76 58 P P 15 15 26.0 +0.6
baz=84
532A Rocksprings 83.77 57 ⇓P P 15 15 25.6 +0.1
baz=84,SNR=11
331A San Angelo 83.78 55 ⇑P P 15 15 25.5 0.0
baz=84
H20A Greybull 83.86 41 ⇑P P 15 15 26.8 +1.1
baz=84
COLD Coldfoot 83.86 9 *e*P P 15 15 26.3 +1.2
comp=Z,13nm,1.3s
U27A Thompson Grove 83.91 50 ⇓P P 15 15 26.1 -0.1
baz=84
F19A Roth Farm, Mol 83.92 39 ⇓P P 15 15 26.4 +0.4
baz=84,SNR=8.1
S26A Kim 83.92 49 ⇑P P 15 15 25.7 -0.5
baz=84
K22A Casper 83.97 43 ⇑P P 15 15 26.7 +0.4
baz=84
K22A Casper 83.97 43 *e*P P 15 15 25.4 -0.9
comp=Z,6.0nm,0.9s
Z30A Sanderson Ranc 83.97 53 ⇓P P 15 15 26.3 -0.1
baz=84,SNR=6.3
X29A Tulia 83.97 52 ⇓P P 15 15 26.0 -0.5
baz=84
JCT Junction City 83.97 56 P P 15 15 25.5 -1.0
JCT pmax pmax
comp=Z,16nm,1.3s
JCT Junction City 83.97 56 P P 15 15 25.5 -1.0
comp=Z,16nm,1.3s
I21A Big Trails, Te 83.99 42 ⇓P P 15 15 26.6 +0.1
baz=84,SNR=12
V28A Channing 84.09 51 P P 15 15 27.8 +0.7
baz=84
231A Bronte 84.10 55 ⇑P P 15 15 26.8 -0.3
baz=84
633A Saathoff Ranch 84.11 58 P P 15 15 27.8 +0.6
baz=84
432A Menard 84.12 56 ⇓P P 15 15 27.3 0.0
baz=84,SNR=11
AMTX Amarillo 84.16 52 P P 15 15 27.6 +0.2
baz=84
AMTX Amarillo 84.16 52 *e*P P 15 15 26.9 -0.5
comp=Z,22nm,1.1s
834A Tilden 84.16 59 P P 15 15 28.4 +0.9
baz=84
R26A Arlington 84.21 48 ⇑P P 15 15 27.4 -0.3
baz=84,SNR=7.3
T27A Campo 84.24 49 P P 15 15 27.8 0.0
baz=84
W29A Amarillo 84.27 51 ⇑P P 15 15 28.7 +0.7
baz=84
E19A Rath Farm, Rou 84.31 39 P P 15 15 28.6 +0.7
baz=84
131A Roby 84.31 54 P P 15 15 28.4 +0.2
baz=84
J22A Midwest 84.34 42 ⇓P P 15 15 28.4 +0.2
baz=84
332A Millersview 84.35 56 ⇑P P 15 15 28.5 +0.1
baz=84,SNR=9.9
Y30A Stafford Cattl 84.37 53 ⇓P P 15 15 28.7 +0.2
baz=84
F20A Billings 84.38 40 P P 15 15 29.6 +1.3
baz=85
533A Kerrville 84.45 57 ⇑P P 15 15 29.5 +0.5
baz=85,SNR=7.0
EGMT Eagleton 84.49 37 P P 15 15 29.2 +0.4
baz=85
EGMT Eagleton 84.49 37 *e*P P 15 15 28.9 +0.1
comp=Z,6.2nm,0.9s
I22A 9 Mile Ranch, 84.55 42 ⇑P P 15 15 30.0 +0.8
baz=85
K23A Bowen Ranch, D 84.60 43 ⇑P P 15 15 29.2 -0.3
baz=85
232A Coleman 84.61 55 ⇓P P 15 15 29.9 +0.2
baz=85,SNR=7.1
433A Art 84.65 56 ⇓P P 15 15 30.1 +0.2
baz=85,SNR=13
Z31A Sharp Cattle R 84.74 54 ⇑P P 15 15 30.7 +0.3
baz=85,SNR=5.4
ABTX Abilene, Hawle 84.88 54 P P 15 15 31.4 +0.4
baz=85
ABTX Abilene, Hawle 84.88 54 *e*P P 15 15 31.0 -0.1
comp=Z,19nm,0.8s
534A Blanco 84.89 57 ⇑P P 15 15 31.2 +0.1
baz=85,SNR=14
Y31A Rekieta Farm, 84.89 53 P P 15 15 31.4 +0.3
baz=85
333A Richland Sprin 84.94 56 ⇑P P 15 15 31.7 +0.3
baz=85
H22A Clearmont 84.95 41 P P 15 15 32.4 +1.1
baz=85
S28A Manter 85.05 49 P P 15 15 32.7 +0.8
baz=85
KSCO Kaye Shedlock' 85.09 48 P P 15 15 33.3 +1.2
baz=85
O26A Horse Wrangler 85.11 46 P P 15 15 32.9 +0.8
baz=85
B19A Brinkman Farms 85.18 37 P P 15 15 32.5 +0.3
baz=85
635A Leesville 85.24 58 P P 15 15 33.5 +0.7
baz=85
233A Rising Star 85.25 55 ⇓P P 15 15 33.2 +0.2
baz=85
Z32A Haskell 85.26 54 ⇑P P 15 15 33.8 +0.9
baz=85,SNR=12
G22A Birney 85.27 41 P P 15 15 34.3 +1.5
baz=85
BJI Beijing 85.29 313 P P 15 15 32.6 -0.3
BJI PP PP 15 18 48.9 -2.1
BJI S S 15 26 00.4 -2.8
BJI SS SS 15 31 42.6 +4.4
BJI PMZ
comp=Z,14nm,1.6s
BJI PMZ
comp=Z,84nm,3.5s
BJI LN
comp=Z,110nm,21.4s
BJI LE
comp=Z,120nm,23.3s
BJI LZ
comp=Z,150nm,25.2s
434A Burnet 85.33 57 ⇑P P 15 15 34.7 +1.4
baz=86,SNR=12
C20A Veseth Ranch, 85.37 38 P P 15 15 34.6 +1.5
baz=86
R28A Tribune 85.41 48 ⇑P P 15 15 33.6 0.0
baz=86
133A Hamilton Ranch 85.45 55 ⇑P P 15 15 34.4 +0.5
baz=86,SNR=7.4
334A Lometa 85.53 56 ⇑P P 15 15 34.9 +0.5
baz=86,SNR=14
Y32A R-V Farms, Ver 85.54 53 ⇓P P 15 15 34.7 +0.4
baz=86
W31A Holland Ranch, 85.59 52 ⇑P P 15 15 34.9 +0.4
baz=86
Z33A Whitaker Ranch 85.81 54 ⇑P P 15 15 36.1 +0.5
baz=86,SNR=5.8
X32A Elmer 85.81 53 ⇑P P 15 15 35.6 0.0
baz=86
G23A Biddle 85.83 41 P P 15 15 36.0 +0.4
baz=86
234A Clairette 85.85 55 ⇑P P 15 15 36.8 +0.9
baz=86,SNR=7.3
636A Smothers Creek 85.86 58 P P 15 15 37.1 +1.2
baz=86
C21A Desert Coulee 85.97 38 P P 15 15 36.8 +0.6
baz=86
A20A Cobblestone Ra 85.97 37 P P 15 15 36.7 +0.6
baz=86
LAO LASA Array 85.98 39 P P 15 15 37.5 +1.3
baz=86
E22A Miles City 86.03 40 P P 15 15 37.7 +1.2
baz=86
536A Bastrop 86.05 58 P P 15 15 37.8 +0.9
baz=86
F23A Volborg 86.05 41 P P 15 15 37.7 +1.1
baz=86
134A White-Moore Ra 86.09 55 ⇓P P 15 15 37.8 +0.8
baz=86,SNR=6.5
W32A Sentinel 86.10 52 P P 15 15 37.8 +0.8
baz=86
335A Moody 86.17 56 P P 15 15 38.1 +0.7
baz=86
H24A Dirks Ranch, A 86.17 42 P P 15 15 37.8 +0.5
baz=86
Y33A Hilltop Ranch, 86.17 53 ⇑P P 15 15 38.0 +0.6
baz=86
D22A Cohagen 86.21 39 P P 15 15 38.1 +0.7
baz=86
RSSD Black Hills 86.24 42 *e*P P 15 15 37.5 -0.3
RSSD pmax pmax
comp=Z,7.0nm,1.0s
RSSD Black Hills 86.24 42 *e*P P 15 15 37.5 -0.3
comp=Z,6.7nm,1.0s
WHTX Lake Whitney, 86.39 56 P P 15 15 38.8 +0.3
baz=86
I25A Rochford 86.39 43 P P 15 15 38.9 +0.4
baz=87
X33A Lawton 86.46 53 P P 15 15 39.3 +0.5
baz=87
R30A Dighton 86.50 49 P P 15 15 39.8 +0.8
baz=87
A21A Bergtoll Ranch 86.61 37 P P 15 15 40.1 +0.8
baz=87
135A Vickery Place, 86.62 55 P P 15 15 40.4 +0.8
baz=87
537A Green Hill Far 86.66 58 P P 15 15 40.6 +0.7
baz=87
336A Riesel 86.67 56 P P 15 15 40.4 +0.5
baz=87
F24A Ekalaka 86.71 41 P P 15 15 40.6 +0.7
baz=87
Y34A Reagan Ranch, 86.83 54 P P 15 15 40.9 +0.3
baz=87
B22A Reddig Ranch S 86.84 38 P P 15 15 40.6 +0.2
baz=87
X34A Smith Ranch, M 87.00 53 P P 15 15 42.6 +1.1
baz=87
Z35A Perchaven, San 87.01 54 P P 15 15 41.9 +0.4
baz=87
HKT Hockley 87.02 58 *e*P P 15 15 40.7 -0.8
HKT pmax pmax
comp=Z,26nm,1.6s
HKT Hockley 87.02 58 *e*P P 15 15 40.7 -0.8
comp=Z,26nm,1.6s
V33A Lossen Ranch, 87.08 52 P P 15 15 43.0 +1.1
baz=87
C23A Lambert 87.11 39 P P 15 15 42.4 +0.7
baz=87
A22A Carney Farms, 87.20 38 P P 15 15 43.1 +1.0
baz=87
H26A Fairpoint 87.27 42 P P 15 15 43.1 +0.5
baz=87
B23A Brockton 87.52 38 P P 15 15 44.5 +0.9
baz=88
438A Sam Houston St 87.57 57 P P 15 15 45.4 +1.1
baz=88
X35A Drake 87.59 54 P P 15 15 45.3 +1.0
baz=88
338A Crockett 87.90 57 P P 15 15 46.7 +0.8
baz=88
GYA Guiyang 87.93 298 *e*P P 15 15 47.0 +0.7
GYA PMZ
comp=Z,10.0nm,1.0s
INK Inuvik 87.99 14 P P 15 15 45.1 -0.3
comp=Z,4.9nm,1.1s,baz=219,slow=7.3,SNR=3.7
MAW Mawson 88.06 199 P P 15 15 45.9 -0.1
comp=Z,8.3nm,0.8s,baz=120,slow=4.7,SNR=10
MAW LR LR 15 54 52.1
comp=Z,234nm,18.4s,baz=68,slow=35
MAW Mawson 88.06 199 *e*P P 15 15 45.7 -0.3
MAW pmax pmax
comp=Z,2.0nm,0.9s
MAW Mawson 88.06 199 *e*P P 15 15 45.7 -0.3
comp=Z,2.1nm,0.9s
238A Jacksonville 88.26 56 P P 15 15 48.6 +1.0
baz=88
J29A Okreek 88.41 44 P P 15 15 50.3 +2.2
baz=89
W36A Wetumka 88.42 53 P P 15 15 49.6 +1.3
baz=89
138A Matatall Enter 88.50 56 P P 15 15 49.9 +1.2
baz=89
339A Huntington 88.50 57 P P 15 15 49.8 +1.1
baz=89
NATX Nacogdoches 88.55 57 P P 15 15 50.6 +1.6
baz=89
HHC Hu-ho-hao-te 88.85 313 *e*P P 15 15 51.3 +1.0
HHC pP pP 15 15 54.8 0.0
HHC sP sP 15 15 56.9 +0.5
HHC PP PP 15 19 23.7 +3.9
HHC SKS SKSac 15 26 16.6 -3.2
HHC S S 15 26 37.0 -0.8
HHC sS sS 15 26 43.3 -2.0
HHC PMZ
comp=Z,12nm,0.9s
HHC PMZ
comp=Z,110nm,5.3s
HHC LN
comp=Z,65nm,17.1s
HHC LE
comp=Z,120nm,16.7s
HHC LZ
comp=Z,150nm,16.8s
T37A Cheneyville 18 90.08 52 P P 15 15 56.0 0.0
baz=90
P36A Good Intent, A 90.67 49 P P 15 15 58.9 +0.2
baz=91
ECSD EROS Data Cent 91.04 45 P P 15 16 01.2 +0.8
baz=91
JTS JuntasAbangare 91.14 80 *i* P P 15 16 02.8 +1.3
CD2 Chengdu 91.68 301 *e*P P 15 16 02.8 -0.9
CD2 pP pP 15 16 06.1 -2.1
CD2 PP PP 15 19 41.0 -1.5
CD2 SKS SKSac 15 26 35.1 -1.4
CD2 S S 15 27 03.5 -0.8
CD2 SS SS 15 33 11.7 -0.1
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.6s
CMAR Chiang Mai Arr 92.55 288 P P 15 16 07.0 -0.8
comp=Z,0.2nm,0.3s,baz=127,slow=4.1,SNR=2.8
CMAR LR LR 15 52 40.2
comp=Z,129nm,21.9s,baz=116,slow=32
AGMN Agassiz Nation 93.07 41 P P 15 16 10.1 +0.5
baz=93
AGMN Agassiz Nation 93.07 41 *e*P P 15 16 09.0 -0.6
comp=Z,6.8nm,1.3s
SNAA Sanae 93.18 177 P P 15 16 02.9 -7.0
VNA2 Neumayer--Watz 93.63 175 P P 15 16 15.0 +3.1
baz=185,slow=2.7
VNA1 Neumayer--Stat 93.83 175 P P 15 16 11.7 -1.1
SONM Songino Array 94.65 318 LR LR 15 53 43.7
comp=Z,185nm,21.9s,baz=86,slow=32
GTA Gaotai 97.02 309 *e*P P 15 16 30.4 +2.3
GTA pP pP 15 16 34.4 +1.8
GTA sP sP 15 16 37.4 +3.2
GTA PMZ
comp=Z,1.0nm,1.5s
LPAZ La Paz 99.89 110 LR LR 15 54 43.9
comp=Z,122nm,18.6s,baz=279,slow=31
WMQ Urumqi 106.70 312 Pdif Pdif 15 17 12.0 +1.0
WMQ PP PP 15 21 38.3 +1.6
WMQ LN
comp=Z,32nm,12.1s
WMQ LE
comp=Z,25nm,13.4s
WMQ LZ
comp=Z,63nm,26.4s
KSH Kashi 115.32 307 *e*PKP PKPdf 15 21 39.8 +1.8
KSH *e*PP PP 15 22 40.7 +1.7
KSH PKS PKSdf 15 25 15.9 +1.1
KSH SKS SKSdf 15 28 49.4 -0.7
KSH SS SS 15 38 39.9 +2.8
KSH PPMZ
comp=Z,130nm,6.2s
KSH LN
comp=Z,43nm,3.5s
KSH LE
comp=Z,82nm,4.6s
ARU Arti 123.11 329 *i* PKIKP PKPdf 15 21 52.1 -0.1
ARU 15 23 36.3
ARU 15 28 53.9
ARU SS SS 15 40 19.6 +3.7
KIV Kislovodsk 138.00 321 *i* PKIKP PKPdf 15 22 15.2 -5.7
KIV pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 143.54 353 *e*PKPdf PKPbc 15 22 28.0 +0.2
CLL *i* (sPKiKP) 15 22 36.1
comp=Z,7.0nm,1.3s
CLL Collm 143.54 353 *e*PKIKP PKPbc 15 22 28.0 +0.2
CLL *i* 15 22 36.1
STHS Stebnicka Huta 143.77 344 *e*PKIKP PKPab 15 22 27.6 -0.3
STHS *i* 15 22 35.3
STHS Stebnicka Huta 143.77 344 *e* PKPab 15 22 27.6 -0.3
STHS Stebnicka Huta 143.77 344 *e*PKP PKPdf 15 22 35.2 +4.1
BRG Berggiesshubel 143.85 352 *e*PKP PKPdf 15 22 36.9 +5.8
comp=Z,4.5nm,1.0s
BRG Berggiesshubel 143.85 352 *e*PKIKP PKPdf 15 22 36.9 +5.8
BRG pmax pmax
comp=Z,2.0nm,1.0s
UPC Upice 143.89 350 *e*PKP PKPdf 15 22 30.8 -0.4
UPC *ep*PKP pPKPdf 15 22 32.9 -3.0
UPC *es*PKP 15 22 35.6
UPC Upice 143.89 350 *e*PKIKP PKPdf 15 22 30.8 -0.4
UPC *e* 15 22 35.6
KOLS Kolonicke sedl 143.91 342 *e*PKIKP PKPbc 15 22 29.5 +0.5
KOLS *i* 15 22 35.0
KOLS Kolonicke sedl 143.91 342 *e*PKP PKPbc 15 22 29.5 +0.5
KOLS *e* 15 22 35.0
DPC Dobruska-Polom 143.99 349 *e*PKP PKPbc 15 22 29.7 +0.4
DPC *ep*PKP pPKPdf 15 22 33.3 -2.8
DPC *ex* x 15 22 36.9
DPC AMS AMS 16 25 10.0
comp=Z,100nm,17.6s
DPC Dobruska-Polom 143.99 349 *e*PKIKP PKPbc 15 22 29.7 +0.4
DPC *e* 15 22 36.9
DPC MLR MLR
comp=Z,100nm,17.6s
BUR08 Bucovina Ar. S 144.10 338 *e*PKP PKPdf 15 22 32.6 +0.8
PVCC Panska Ves 144.10 351 *e*PKP PKPdf 15 22 31.0 -0.6
PVCC *ep*PKP pPKPdf 15 22 33.5 -2.7
PVCC Panska Ves 144.10 351 *e*PKIKP PKPdf 15 22 31.0 -0.6
BURAR Bucovina Array 144.12 338 ||PKIKP PKPbc 15 22 30.2 +0.4
BURAR Bucovina Array 144.12 338 ||*i*P PKPbc 15 22 30.2 +0.4
OKC Ostrava-Krasne 144.12 347 *e*PKP PKPbc 15 22 29.9 +0.3
OKC *ep*PKP pPKPdf 15 22 33.5 -2.8
OKC Ostrava-Krasne 144.12 347 *e*PKIKP PKPbc 15 22 29.9 +0.3
TESR Tescani 144.50 336 ||*i*P PKPdf 15 22 33.8 +1.4
TRPA Tarpa 144.55 342 ||*i*P PKPdf 15 22 33.9 +1.5
TRPA Tarpa 144.55 342 ||*e*PKPdf PKPbc 15 22 30.9 -0.1
PRA Prague 144.57 351 *e*PKP PKPdf 15 22 32.3 -0.1
PRA Prague 144.57 351 *e*PKIKP PKPdf 15 22 32.3 -0.1
MEM Membach 144.60 1 PKP PKPdf 15 22 32.0 -0.5
PRU Pruhonice 144.63 351 *e*PKP PKPdf 15 22 31.7 -0.8
PRU *ep*PKP pPKPdf 15 22 35.3 -1.8
PRU AMS AMS 16 29 50.0
comp=Z,200nm,18.0s
PRU Pruhonice 144.63 351 *e*PKIKP PKPdf 15 22 31.7 -0.8
PRU MLR MLR
comp=Z,200nm,18.0s
SNF Seneffe 144.65 3 PKP PKPdf 15 22 31.7 -0.8
NKC Novy Kostel 144.66 354 *e*PKP PKPdf 15 22 32.5 -0.1
NKC *ep*PKP pPKPdf 15 22 35.9 -1.3
NKC Novy Kostel 144.66 354 *e*PKIKP PKPdf 15 22 32.5 -0.1
GOPC GO Pecny, Ondr 144.66 351 *e*PKP PKPdf 15 22 32.6 0.0
GOPC *ep*PKP pPKPdf 15 22 35.6 -1.6
GOPC *ex* x 15 22 38.9
GOPC AMS AMS 16 25 30.0
comp=Z,200nm,23.0s
BCLA Clavier 144.78 1 PKP PKPdf 15 22 32.2 -0.6
KECS Kecovo 144.82 344 *e*PKIKP PKPdf 15 22 32.5 -0.4
KECS *i* 15 22 38.6
KECS *e* 15 25 48.8
KECS Kecovo 144.82 344 *e*PKP PKPdf 15 22 32.5 -0.4
KECS *e* 15 22 38.6
KECS *e*PP PP 15 25 48.8 -0.6
TNS Taunus Mts 144.96 358 *e*PKPbc PKPdf 15 22 33.3 +0.1
VRI Vrincioaia 145.00 335 ⇑PKIKP PKPdf 15 22 35.0 +1.7
VRI Vrincioaia 145.00 335 ⇑*i*P PKPdf 15 22 35.0 +1.7
PLOR Plostina 145.04 335 ⇑PKIKP PKPbc 15 22 32.7 -0.1
PLOR Plostina 145.04 335 ⇑*i*P PKPbc 15 22 32.7 -0.1
DOU Dourbes 145.08 2 PKP PKPbc 15 22 32.4 -0.3
ROTZ Rotzenmuhle 145.15 354 *e*PKPbc PKPdf 15 22 34.2 +0.8
TREC Trest 145.15 350 *e*PKP PKPbc 15 22 31.8 -1.2
TREC *ep*PKP PKPdf 15 22 34.2 +0.7
TREC *es*PKP 15 22 36.8
TREC AMS AMS 16 30 40.0
comp=Z,200nm,22.9s
TREC Trest 145.15 350 *e*PKP2 PKPbc 15 22 31.8 -1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TREC				e		15 22 34.2	
TREC				MLR	MLR		
	comp=Z,200nm,22.9s						
GRF	**Grafenberg Arr**	**145.32**	**355**	ePKPbc	**PKPdf**	**15 22 34.8**	**+1.1**
GRFO	**Grafenberg**	**145.32**	**355**	PKIKP	**PKPbc**	**15 22 33.1**	**-0.4**
GRFO	**Grafenberg**	**145.32**	**355**	PKP	**PKPbc**	**15 22 33.1**	**-0.4**
TIRR	**Tirgusor**	**145.40**	**332**	⇓PKIKP	**PKPdf**	**15 22 35.5**	**+1.5**
TIRR	**Tirgusor**	**145.40**	**332**	⇓iP	**PKPdf**	**15 22 35.5**	**+1.5**
HARR	**Harsova**	**145.43**	**333**	⇑PKIKP	**PKPab**	**15 22 37.5**	**+3.3**
HARR	**Harsova**	**145.43**	**333**	⇑iP	**PKPab**	**15 22 37.5**	**+3.3**
TLB	**Topalu**	**145.47**	**333**	⇓PKIKP	**PKPab**	**15 22 35.2**	**+0.9**
TLB	**Topalu**	**145.47**	**333**	⇓iP	**PKPab**	**15 22 35.2**	**+0.9**
PSZ	**Piszkesteto**	**145.50**	**344**	ePKIKP	**PKPbc**	**15 22 33.8**	**-0.4**
PSZ	**Piszkesteto**	**145.50**	**344**	⇑iP	PKPab	15 22 39.4	+5.0
PSZ	**Piszkesteto**	**145.50**	**344**	ePKP	**PKPbc**	**15 22 33.8**	**-0.4**
PSZ	**Piszkesteto**	**145.50**	**344**	ePKPbc	**PKPab**	**15 22 34.3**	**-0.1**
WLF	**Walferdange**	**145.54**	**1**	PKP	**PKPdf**	**15 22 33.5**	**-0.5**
WLF	**Walferdange**	**145.54**	**1**	ePKPbc	**PKPab**	**15 22 35.8**	**+1.4**
WLF	**Walferdange**	**145.54**	**1**	ePKIKP	**PKPdf**	**15 22 33.6**	**-0.5**
WLF	**Walferdange**	**145.54**	**1**	ePKP	**PKPdf**	**15 22 33.6**	**-0.5**
KHC	**Kasperske Hory**	**145.60**	**352**	ePKP	**PKPab**	**15 22 34.7**	**0.0**
KHC				epPKP	**PKiKP**	**15 22 38.6**	**+0.3**
KHC				ex	x	15 22 41.7	
KHC	**Kasperske Hory**	**145.60**	**352**	ePKP2	**PKPab**	**15 22 34.4**	**-0.3**
KHC	**Kasperske Hory**	**145.60**	**352**	ePKP	**PKPab**	**15 22 34.4**	**-0.3**
MLR	**Muntele Rosu**	**145.62**	**336**	⇓PKP2	**PKPab**	**15 22 35.6**	**+0.6**
MLR	**Muntele Rosu**	**145.62**	**336**	⇓iP	**PKPab**	**15 22 35.6**	**+0.6**
KMBO	**Kilima Mbogo**	**145.68**	**245**	PKPbc	**PKPab**	**15 22 36.3**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=56,slow=4.3,SNR=5.6						
WET	**Wettzell**	**145.68**	**353**	ePKPbc	**PKPab**	**15 22 35.9**	**+0.9**
DRGR		**145.68**	**340**	⇑PKP2	**PKPdf**	**15 22 34.1**	**-0.4**
DRGR		**145.68**	**340**	⇑iP	**PKPdf**	**15 22 34.1**	**-0.4**
ISR	**Istrita**	**145.68**	**335**	⇑PKP2	**PKPab**	**15 22 35.1**	**-0.1**
ISR	**Istrita**	**145.68**	**335**	⇑iP	**PKPab**	**15 22 35.1**	**-0.1**
GEC2	**GERESS Array S**	**145.87**	**352**	ePKPbc	**PKPab**	**15 22 36.5**	**+0.7**
GERES	**GERESS Array B**	**145.87**	**352**	PKPbc	**PKPbc**	**15 22 35.2**	**-0.1**
	comp=Z,7.3nm,1.0s,baz=28,slow=2.8,SNR=19						
BR131	**Keskin Array S**	**145.95**	**321**	ePKPbc	**PKPab**	**15 22 36.8**	**+0.3**
BRTR	**Keskin Array B**	**145.95**	**321**	PKPbc	**PKPab**	**15 22 36.7**	**+0.3**
	comp=Z,16nm,0.9s,baz=83,slow=2.6,SNR=53						
VOIR		**146.02**	**337**	⇓PKP2	**PKPab**	**15 22 36.9**	**+0.5**
VOIR		**146.02**	**337**	⇓iP	**PKPab**	**15 22 36.9**	**+0.5**
BUD	**Budapest**	**146.12**	**345**	⇑ePKPdf	**PKPab**	**15 22 36.5**	**-0.1**
LANF	**Langenberg**	**146.22**	**359**	PKP	**PKPab**	**15 22 38.0**	**+1.0**
ARR	**Arges**	**146.24**	**337**	⇓iP	**PKPab**	**15 22 38.1**	**+0.8**
ANTO	**Ankara**	**146.37**	**322**	⇓PKP2	**PKPab**	**15 22 37.9**	**-0.1**
ANTO	**Ankara**	**146.37**	**322**	⇓iP	**PKPab**	**15 22 37.9**	**-0.1**
STU	**Stuttgart**	**146.37**	**357**	ePKPbc	**PKPab**	**15 22 38.1**	**+0.5**
CONA	**Conrad Observa**	**146.40**	**349**	i pPKPdf	**PKPab**	**15 22 38.0**	**+0.2**
	comp=Z,19nm,1.2s,SNR=13						
SIRR	**Siria**	**146.49**	**341**	⇓iP	**PKPab**	**15 22 38.4**	**+0.3**
SOP	**Sopron**	**146.50**	**348**	⇑ePKPdf	**PKPab**	**15 22 37.8**	**-0.3**
FUR	**Furstenfeldbru**	**146.82**	**354**	ePKPbc	**PKPab**	**15 22 39.0**	**-0.4**
BFO	**Black Forest**	**146.85**	**358**	ePKPbc	**PKPab**	**15 22 39.2**	**-0.3**
BFO	**Black Forest**	**146.85**	**358**	PKP2	**PKPbc**	**15 22 37.7**	**-0.5**
BFO	**Black Forest**	**146.85**	**358**	PKPbc	**PKPbc**	**15 22 37.6**	**-0.5**
GZR	**Gura Zlata**	**146.89**	**339**	⇓PKP2	**PKPbc**	**15 22 38.7**	**+0.2**
GZR	**Gura Zlata**	**146.89**	**339**	⇓iP	**PKPbc**	**15 22 38.7**	**+0.2**
THEF	**They Montfort**	**146.98**	**1**	PKP	**PKPbc**	**15 22 38.4**	**-0.2**
ECH	**Echery**	**146.99**	**359**	PKP	**PKPbc**	**15 22 38.4**	**-0.2**
ECH	**Echery**	**146.99**	**359**	ePKIKP	**PKPdf**	**15 22 36.8**	**+0.2**
ECH	**Echery**	**146.99**	**359**	ePKPdf	**PKPdf**	**15 22 36.8**	**+0.2**
RJOB	**Jochberg**	**147.07**	**352**	ePKPbc	**PKPab**	**15 22 40.0**	**-0.4**
BZS	**Buzias**	**147.08**	**340**	⇓PKP2	**PKPbc**	**15 22 39.3**	**+0.4**
BZS	**Buzias**	**147.08**	**340**	⇓iP	**PKPbc**	**15 22 39.3**	**+0.4**
MOF	**Molkenrain**	**147.36**	**359**	PKP	**PKPbc**	**15 22 40.2**	**+0.5**
PKSM	**Moragy**	**147.40**	**344**	⇓ePKPdf	**PKPab**	**15 22 40.6**	**-1.0**
RETA	**Reutte**	**147.54**	**355**	i pPKPdf	**PKPbc**	**15 22 39.9**	**-0.3**
	comp=Z,24nm,1.2s,SNR=14						
WTTA	**Wattenberg**	**147.68**	**354**	⇑iPKPab	**PKPbc**	**15 22 40.9**	**+0.2**
	comp=Z,16nm,1.4s,SNR=5.2						
SOKA	**Soboth**	**147.76**	**349**	i pPKPdf	**PKPbc**	**15 22 40.8**	**-0.1**
	comp=Z,19nm,1.3s,SNR=18						
LOMF	**Lomont**	**147.86**	**360**	PKP	**PKPbc**	**15 22 39.5**	**-1.6**
MYKA	**Terra Mystica**	**148.04**	**351**	⇓ipPKPdf	**PKPbc**	**15 22 41.0**	**-0.6**
	comp=Z,13nm,1.4s,SNR=7.3						
ABTA	**Abfaltersbach**	**148.08**	**352**	⇑iPKPdf	**PKPdf**	**15 22 38.6**	**0.0**
	comp=Z,15nm,1.0s						
TUE	**Stuetta**	**148.66**	**356**	ePKPbc	**PKPbc**	**15 22 42.9**	**-0.6**
DIVS	**Divibare**	**148.95**	**341**	⇑iP	**PKPbc**	**15 22 44.7**	**+0.6**
AGO	**Saint Agoulin**	**149.02**	**5**	PKP	**PKPbc**	**15 22 44.1**	**0.0**
VTS	**Vitosha**	**149.13**	**336**	⇓PKP2	**PKPbc**	**15 22 45.2**	**+0.5**
VTS	**Vitosha**	**149.13**	**336**	⇓iP	**PKPbc**	**15 22 45.2**	**+0.5**
MMB	**Musomiste**	**149.75**	**334**	⇑PKP2	**PKPbc**	**15 22 46.2**	**+0.1**
MMB	**Musomiste**	**149.75**	**334**	⇑iP	**PKPbc**	**15 22 46.2**	**+0.1**
LBL	**Lubilhac**	**149.85**	**5**	PKP	**PKPbc**	**15 22 45.0**	**-1.3**
SSB	**Saint Sauveur**	**149.88**	**3**	ePKP2	**PKPab**	**15 22 50.3**	**-1.4**
SSB	**Saint Sauveur**	**149.88**	**3**	ePKPab	**PKPab**	**15 22 50.3**	**-1.4**
BNI	**Bardonecchia**	**150.16**	**360**	ePKIKP	**PKPbc**	**15 22 46.4**	**-0.7**
BNI	**Bardonecchia**	**150.16**	**360**	ePKPbc	**PKPbc**	**15 22 46.4**	**-0.7**
PGAV	**Gavieira, Arco**	**150.31**	**23**	A	A	16 26 35.7	
	comp=Z,162nm,18.0s						
PGAV	**Gavieira, Arco**	**150.31**	**23**	A	A	16 26 35.7	
	comp=Z,162nm,18.0s						
POLO	**Lamas de Olo**	**151.00**	**23**	ePKPab	**PKPab**	**15 22 57.1**	**+0.5**
POLO	**Lamas de Olo**	**151.00**	**23**	ePKPab	**PKPab**	**15 22 57.1**	**+0.5**
PVRL	**Vila Real**	**151.12**	**23**	ePKPab	**PKPab**	**15 22 58.1**	**+1.1**
PVRL	**Vila Real**	**151.12**	**23**	ePKPab	**PKPab**	**15 22 58.1**	**+1.1**
PTOM	**Tomar**	**152.26**	**25**	ePKPab	**PKPab**	**15 22 59.0**	**-2.7**
PTOM	**Tomar**	**152.26**	**25**	ePKPab	**PKPab**	**15 22 59.0**	**-2.7**
PMRV	**Marv??o**	**152.84**	**24**	A	A	16 25 48.7	
	comp=Z,134nm,20.0s						
PMRV	**Marv??o**	**152.84**	**24**	A	A	16 25 48.7	
	comp=Z,134nm,20.0s						
ESDC	**Sonseca Array**	**153.84**	**19**	PKPbc	**PKPbc**	**15 22 55.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=329,slow=2.3,SNR=3.2						
PVAQ	**Vaqueiros**	**154.41**	**27**	A	A	16 24 56.9	
	comp=Z,154nm,22.0s						
PVAQ	**Vaqueiros**	**154.41**	**27**	A	A	16 24 56.9	
	comp=Z,154nm,22.0s						
TORD	**Torodi Ar. Bea**	**174.83**	**112**	PKP	**PKPdf**	**15 23 05.1**	**-1.7**
	comp=Z,2.1nm,1.2s,baz=235,slow=1.9,SNR=4.8						
TORD				PKPab	**PKPab**	**15 24 39.2**	**-2.0**
	comp=Z,1.0nm,0.9s,baz=248,slow=4.2,SNR=4.4						

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*IDC **06** 15:15:04.0±1.2, 36°.24N×141°.53E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.5/26, mbtmp3.4/6, ML3.0/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/22, Error ellipse: s-maj=26.3km s-min=23.7km az=102.0*

*ISCJB **06** 15:15:06.5±1.0, 36°.33N±0°.04×141°.52E±0°.06, h27km±7km, mb3.5/4, Error ellipse: s-maj=8.1km s-min=6.5km az=168.4*

*JMA **06** 15:15:07.8±0.1, 36°.33N×141°.40E, h44km±3km, M2.9*

ISC 06 15:15:05.2±1.9**, 36°.34N**±0°.04×**141°.42E**±0°.06**, h8**km±13km**, n18, σ0ˢ.88**/26**, mb3.5**/4**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.74**	**292**	P	**Pn**	**15 15 21.6**	**-0.4**
JHO				S	**Sb**	**15 15 31.9**	**+1.2**
CHOJ	**Chosi**	**0.78**	**216**	P	**Pn**	**15 15 22.2**	**-0.3**
CHOJ				S	**Sb**	**15 15 32.5**	**+0.7**
ONAJ	**Iwakimizuishiy**	**0.92**	**327**	P	**Pn**	**15 15 24.1**	**-0.4**
JFK	**Kawauchi**	**1.12**	**337**	P	**Pn**	**15 15 27.2**	**-0.1**
JFT	**Otama**	**1.47**	**324**	P	**Pg**	**15 15 33.3**	**-0.1**
JFT				eS	**Sn**	**15 15 51.5**	**0.0**
JAG	**Ashikaga**	**1.59**	**274**	P	**Pn**	**15 15 34.0**	**+0.3**
JAG				eS	**Sn**	**15 15 53.6**	**-0.9**
JMM	**Marumori**	**1.61**	**342**	P	**Pn**	**15 15 34.3**	**+0.3**
JMM				S	**Sn**	**15 15 53.8**	**-1.1**
BSO3	**Boso 3**	**1.70**	**206**	P	**Pb**	**15 15 36.6**	**0.0**
BSO1	**Boso 1**	**1.72**	**192**	P	**Pb**	**15 15 36.4**	**-0.3**
JFY	**Yanaizu**	**1.74**	**308**	P	**Pb**	**15 15 37.4**	**-0.1**
JKT	**Katashina**	**1.80**	**284**	P	**Pb**	**15 15 38.0**	**-0.6**
JKT				eS	**Sn**	**15 15 59.7**	**-0.2**
MJAR	**Matsushiro Arr**	**2.60**	**275**	Pn	**Pn**	**15 15 48.9**	**+1.3**
	2.1nm,0.3s,baz=119,slow=8.5,SNR=41						
MJAR				Sn	**Sb**	**15 16 22.7**	**-1.5**
	1.7nm,0.3s,baz=180,slow=26,SNR=6.0						
MJAR				LR	LR	15 17 03.3	
	comp=Z,92nm,18.9s,baz=105,slow=45						
MAT	**Matsushiro**	**2.60**	**276**	P	**Pn**	**15 15 49.4**	**+1.8**
MAT				eS	**Sn**	**15 16 20.9**	**+1.4**
ASAJ	**Asahikawa**	**7.82**	**6**	Pn	**Pn**	**15 17 00.7**	**+1.4**
	0.2nm,0.3s,baz=209,slow=13,SNR=3.1						
MKAR	**Makanchi Array**	**44.50**	**303**	P	**P**	**15 23 17.3**	**+0.2**
	0.2nm,0.4s,baz=94,slow=8.7,SNR=3.4						
ILAR	**Eielson Array**	**50.08**	**32**	P	**P**	**15 24 00.6**	**+0.3**
	0.6nm,0.8s,baz=263,slow=6.8,SNR=12						
WRA	**Warramunga Arr**	**56.37**	**188**	P	**P**	**15 24 46.4**	**-0.7**
	0.4nm,0.7s,baz=7.1,slow=7.6,SNR=5.3						
ASAR	**Alice Springs**	**60.10**	**188**	P	**P**	**15 25 12.5**	**-0.6**
	0.3nm,0.8s,baz=8.9,slow=6.6,SNR=3.7						

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*JMA **06** 15:29:07.2±0.3, 23°.23N×120°.36E, h0km, M3.7*

*TAP **06** 15:29:09.4, 23°.18N×120°.47E, h15km, ML3.9, A*

*ISCJB **06** 15:29:10.5±0.3, 23°.18N±0°.01×120°.46E±0°.02, h13km±2km, Error ellipse: s-maj=2.7km s-min=2.2km az=3.1*

ISC 06 15:29:10.0±0.8**, 23°.20N**±0°.02×**120°.45E**±0°.02**, h14**km±6km**, n71, σ0ˢ.79**/114**, 14C-10D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHN1	**Nanshi**	**0.08**	**99**	⇑iP	**Pg**	**15 29 12.6**	**-0.4**
	baz=84						
TWK	**Hsinying**	**0.08**	**30**	⇓iP	**Pg**	**15 29 13.2**	**+0.2**
	baz=17						
CHN3	**Shinhua**	**0.14**	**211**	⇓iP	**Pb**	**15 29 14.2**	**-0.2**
	baz=232						
CHN3				i S	**Sb**	**15 29 18.2**	**+0.8**
	baz=232						
SGST	**Jiashian**	**0.17**	**132**	⇑iP	**Pg**	**15 29 14.0**	**-0.1**
	baz=132						
CHN4	**Tsaushan**	**0.20**	**42**	⇑iP	**Pg**	**15 29 14.9**	**+0.2**
	baz=39						
CHN4				S	**Sb**	**15 29 18.9**	**-0.4**
	baz=39						
SCLT	**Jiali**	**0.23**	**264**	⇑iP	**Pb**	**15 29 15.8**	**-0.2**
	baz=278						
SCLT				S	**Sb**	**15 29 21.5**	**+1.5**
	baz=278						
TAI1	**Yung-k'ang**	**0.25**	**232**	⇑iP	**Pb**	**15 29 16.3**	**-0.1**
	baz=237						
CHN8	**Yiju**	**0.26**	**304**	eP	**Pb**	**15 29 16.6**	**+0.1**
	baz=306						
CHN8				eS	**Sb**	**15 29 22.2**	**+1.4**
	baz=306						
STYT	**Tauyuan**	**0.29**	**97**	⇑iP	**Pg**	**15 29 16.0**	**-0.1**
	baz=84						
STYT				i S	**Sb**	**15 29 21.0**	**-0.7**
	baz=84						
CHY	**Chiayi**	**0.30**	**356**	⇓iP	**Pb**	**15 29 17.1**	**-0.1**
	baz=354						
CHY				eS	**Sb**	**15 29 22.8**	**+0.9**
	baz=354						
CHN2	**Minshiung**	**0.33**	**5**	P	**Pb**	**15 29 17.6**	**-0.2**
	baz=1.0						
CHN2				S	**Sb**	**15 29 24.3**	**+1.3**
	baz=1.0						
TWM1	**Shoushan**	**0.37**	**183**	⇓iP	**Pb**	**15 29 19.1**	**+0.7**
	baz=177						
CHN5	**Tsauling**	**0.45**	**28**	⇑iP	**Pg**	**15 29 19.2**	**+0.2**
	baz=25						
CHN5				S	**Sb**	**15 29 26.8**	**+0.4**
	baz=25						
ALS	**Alishan**	**0.45**	**47**	i P	**Pg**	**15 29 19.1**	**0.0**
	baz=52						
ALS				i S	**Sb**	**15 29 26.8**	**+0.1**
	baz=52						
SGLT	**Jiouru**	**0.47**	**175**	eP	**Pb**	**15 29 20.4**	**+0.3**
	baz=169						
SSD	**Sandimen**	**0.48**	**159**	⇓P	**Pg**	**15 29 19.6**	**+0.1**
	baz=151						
SSD				eS	**Sb**	**15 29 26.5**	**-0.6**
	baz=151						
WSF	**Szhu**	**0.48**	**335**	eP	**Pb**	**15 29 20.2**	**-0.1**
	baz=335						
WSF				eS	**Sn**	**15 29 28.6**	**-2.1**
	baz=335						
WGK	**Gukeng**	**0.50**	**12**	P	**Pb**	**15 29 20.6**	**0.0**
	baz=11						
WGK				S	**Sn**	**15 29 29.5**	**-1.6**
	baz=11						
ELDTW	**Lidau**	**0.53**	**91**	⇑iP	**Pg**	**15 29 20.1**	**-0.3**
	baz=88						
YUS	**Yu-Shan**	**0.55**	**58**	i P	**Pg**	**15 29 21.1**	**+0.1**
	baz=63						
YUS				S	**Sb**	**15 29 29.4**	**-0.2**
	baz=63						
WTCT	**Ta-ch'eng**	**0.68**	**347**	eP	**Pb**	**15 29 23.4**	**-0.3**
	baz=347						
WTCT				eS	**Sn**	**15 29 34.3**	**-1.3**
	baz=347						
TWG	**Pinlang**	**0.69**	**123**	⇑iP	**Pb**	**15 29 23.3**	**-0.5**
	baz=122						
TWG				eS	**Sb**	**15 29 33.0**	**-0.1**
	baz=122						
WNT	**Mingjian**	**0.71**	**18**	⇓iP	**Pg**	**15 29 24.2**	**+0.3**
	baz=17						
WNT				eS	**Sn**	**15 29 35.2**	**-1.1**
	baz=17						
WDGT	**Dungji**	**0.72**	**275**	P	**Pb**	**15 29 23.6**	**-0.8**
	baz=277						
WDGT				eS	**Sg**	**15 29 34.0**	**+0.3**
	baz=277						
ECL	**Taimali**	**0.76**	**142**	⇑iP	**Pb**	**15 29 24.4**	**-0.6**
	baz=142						
ECL				eS	**Sg**	**15 29 35.3**	**+0.5**
	baz=142						
TTN	**Taitung**	**0.78**	**124**	⇑P	**Pg**	**15 29 25.5**	**+0.3**
	baz=113						
TWF1	**Yuli**	**0.80**	**79**	i P	**Pb**	**15 29 25.0**	**-0.7**
	baz=77						
TWF1				S	**Sb**	**15 29 35.4**	**-0.9**
	baz=77						
TYC	**Yuchr**	**0.80**	**28**	⇓iP	**Pb**	**15 29 25.5**	**-0.2**
	baz=27						
TYC				i S	**Sn**	**15 29 37.6**	**-0.9**
	baz=27						
SMLT	**Sun Moon Lake**	**0.80**	**31**	⇓iP	**Pb**	**15 29 25.5**	**-0.2**
	baz=30						
SMLT				S	**Sn**	**15 29 37.6**	**-1.1**
	baz=30						
SCZT	**Fangliau**	**0.84**	**169**	eP	**Pb**	**15 29 26.0**	**-0.3**
	baz=157						
WDT	**Danda**	**0.84**	**49**	⇑iP	**Pb**	**15 29 26.2**	**-0.4**
	baz=56						
WDT				S	**Sn**	**15 29 38.8**	**-1.2**
	baz=56						
TWP	**Hsiaoliuchiu**	**0.85**	**185**	eP	**Pn**	**15 29 27.5**	**-0.1**
	baz=189						
CHKT	**Chengkung**	**0.85**	**96**	⇑iP	**Pg**	**15 29 26.6**	**0.0**
	baz=94						
EHY	**Hungye**	**0.86**	**69**	⇑iP	**Pb**	**15 29 26.2**	**-0.6**
	baz=74						
EHY				S	**Sg**	**15 29 38.6**	**+0.5**
	baz=74						
EAST	**Anshuo**	**0.89**	**155**	eP	**Pb**	**15 29 27.0**	**-0.3**
	baz=148						
EAST				eS	**Sn**	**15 29 40.3**	**-0.6**
	baz=148						
PNG	**Penghu**	**0.90**	**294**	eP	**Pb**	**15 29 26.4**	**-0.9**
	baz=296						
PNG				eS	**Sg**	**15 29 39.0**	**-0.2**
	baz=296						
TAW	**Tawu**	**0.93**	**153**	P	**Pb**	**15 29 27.7**	**-0.2**
	baz=147						
TAW				eS	**Sg**	**15 29 40.6**	**+0.3**
	baz=147						
TCU	**Taichung**	**0.97**	**13**	eP	**Pb**	**15 29 28.2**	**-0.4**
	baz=12						
ESL	**Shilin**	**1.09**	**56**	eP	**Pb**	**15 29 30.4**	**-0.3**
	baz=54						
ESL				eS	**Sg**	**15 29 45.6**	**+0.1**
	baz=54						
TWQ1	**Liyutan**	**1.18**	**15**	⇓iP	**Pb**	**15 29 32.1**	**-0.1**
	baz=14						
TWQ1				eS	**Sg**	**15 29 49.1**	**+0.8**
	baz=14						
WHF	**Hehuan Shan**	**1.21**	**38**	eP	**Pb**	**15 29 33.0**	**+0.2**
	baz=29						
HEN	**Hengchun**	**1.22**	**167**	eP	**Pg**	**15 29 33.0**	**-0.5**
	baz=169						
TWT	**Tachien**	**1.25**	**32**	eP	**Pn**	**15 29 32.7**	**-0.5**
	baz=31						
TWT				S	**Sn**	**15 29 49.9**	**0.0**
	baz=31						
NSY	**Sanyi**	**1.25**	**13**	eP	**Pb**	**15 29 33.1**	**-0.2**
	baz=13						
NSY				eS	**Sg**	**15 29 51.0**	**+0.7**
	baz=13						
TWK1	**Hengchun**	**1.29**	**165**	eP	**Pb**	**15 29 33.5**	**-0.6**
	baz=167						
HWA	**Hwalien**	**1.32**	**54**	eP	**Pb**	**15 29 34.7**	**+0.2**
	baz=53						
TSEB	**Hengchuen, Pin**	**1.36**	**162**	eP	**Pg**	**15 29 35.6**	**-0.6**
	baz=185						
TWD	**Chiawan**	**1.37**	**50**	P	**Pb**	**15 29 35.3**	**-0.2**
	baz=58						
TWD				S	**Sg**	**15 29 53.7**	**-0.6**
	baz=58						
NNS	**Nan Shan**	**1.50**	**34**	⇓eP	**Pn**	**15 29 36.8**	**+0.2**
	baz=35						
NSTT	**Nanjuang**	**1.52**	**20**	eP	**Pn**	**15 29 36.1**	**-0.6**
	baz=18						
NSTT				eS	**Sg**	**15 29 57.8**	**-1.0**
	baz=18						
LAY	**Lan-yu**	**1.54**	**138**	eP	**Pn**	**15 29 36.1**	**-0.9**
	baz=124						
NSK	**Sanguang**	**1.69**	**29**	eP	**Pn**	**15 29 39.0**	**-0.2**
	baz=15						
ENA	**Nanau**	**1.71**	**44**	eP	**Pb**	**15 29 40.2**	**-0.9**
	baz=28						
ENA				eS	**Sb**	**15 30 02.5**	**0.0**
	baz=28						
ENTT	**Nioudou**	**1.76**	**35**	P	**Pb**	**15 29 41.3**	**-0.9**
	baz=27						
ENTT				eS	**Sb**	**15 30 05.0**	**+0.9**
	baz=27						
TWE	**Neicheng**	**1.88**	**36**	eP	**Pb**	**15 29 43.2**	**-1.0**
	baz=35						
TWE				eS	**Sb**	**15 30 08.1**	**+0.5**
	baz=35						
TWC	**Suao**	**1.90**	**42**	eP	**Pb**	**15 29 43.7**	**-0.8**
	baz=28						
TWC				eS	**Sb**	**15 30 08.9**	**+0.8**
	baz=28						
TWA	**Mucha**	**2.06**	**30**	eP	**Pn**	**15 29 44.4**	**+0.2**
	baz=15						
TWS1	**Kuangyinshan**	**2.09**	**25**	eP	**Pn**	**15 29 43.7**	**-0.9**
	baz=10.0						
EGS		**2.13**	**39**	eP	**Pb**	**15 29 47.1**	**-1.3**
	baz=40						
KNM	**Kinmen**	**2.21**	**304**	eP	**Pn**	**15 29 46.4**	**+0.2**
	baz=300						
NWF	**Wu-fen Shan**	**2.23**	**33**	eP	**Pb**	**15 29 48.7**	**-1.4**
	baz=33						
TWB1	**Santiao Chiao**	**2.29**	**38**	eP	**Pn**	**15 29 46.8**	**-0.5**
	baz=21						
JYNG	**Yonagunijimaku**	**2.61**	**61**	P	**Pn**	**15 29 52.9**	**+1.2**
JYNG				S	**Sn**	**15 30 24.7**	**+1.5**
YOJ	**Yonaguni jima**	**2.67**	**61**	P	**Pn**	**15 29 54.5**	**+2.0**
YOJ				eS	**Sn**	**15 30 26.3**	**+1.7**
YOJ	**Yonaguni jima**	**2.67**	**61**	eP	**Pn**	**15 29 53.6**	**+1.1**
	baz=60						
HATJ	**Hateruma jima**	**3.20**	**74**	eS	**Sn**	**15 30 37.9**	**+0.2**
IRIF	**Iriomote-Funau**	**3.21**	**69**	P	**Pn**	**15 30 01.4**	**+1.3**
IRIF				S	**Sn**	**15 30 39.5**	**+1.3**
JKRS	**Kuro-shima**	**3.43**	**72**	P	**Pn**	**15 30 03.1**	**+0.1**
JKRS				S	**Sn**	**15 30 45.0**	**+1.6**
JIJ	**Ishigaki jima**	**3.58**	**70**	P	**Pn**	**15 30 05.4**	**+0.3**
JIJ				S	**Sn**	**15 30 49.5**	**+2.3**
JISG	**Ishigakijimahi**	**3.80**	**68**	P	**Pn**	**15 30 08.5**	**+0.4**
JISG				S	**Sn**	**15 30 52.5**	**-0.1**
JTJ	**Tarama**	**4.15**	**69**	P	**Pn**	**15 30 14.3**	**+1.4**
JTJ				S	**Sn**	**15 31 01.1**	**-0.2**

MAN 06 16:14:52, 18°.63N×121°.02E, h1km, mb4.1, ML2.8, MS2.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.49**	**232**	⇑iP	Pg	16 15 01.7	+0.3
PIP				eS	Sg	16 15 08.6	+0.8
APYP	**Conner**	**0.79**	**165**	eP	Pb	16 15 09.1	+0.5
APYP				eS	Sn	16 15 22.4	-0.4
ABRA	**Dolores**	**1.02**	**197**	eP	Pb	16 15 12.1	-0.4
ABRA				eS	Sn	16 15 28.4	0.0

WEL 06 16:17:09.7±0.2**, 45°.33S×167°.19E, h110**km±1km**, ML3.5**/9**, 3C-5D, Error ellipse: s-maj=1.6km s-min=0.9km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.15**	**189**	⇑PN	Pn	16 17 24.4	-0.5
DCZ				SN	Sn	16 17 35.4	-0.9
DCZ				AML	AML	16 17 35.9	
DCZ				AML	AML	16 17 36.0	
DCZ				AML	AML	16 17 36.2	
MLZ	**Mavora Lakes**	**0.69**	**92**	PN	Pn	16 17 27.5	-0.5
MLZ				SN	Sn	16 17 41.1	-0.7
MLZ				AML	AML	16 17 41.5	
WHZ	**Wether Hill Ro**	**0.77**	**137**	PN	Pn	16 17 28.6	0.0
WHZ				SN	Sn	16 17 42.5	-0.4
WHZ				AML	AML	16 17 43.2	
MSZ	**Milford Sound**	**0.84**	**39**	PN	Pn	16 17 29.2	-0.1
MSZ				SN	Sn	16 17 43.9	-0.1
MSZ				AML	AML	16 17 45.2	
MSZ				AML	AML	16 17 45.9	
MSZ				AML	AML	16 17 46.0	
PYZ	**Puysegur Point**	**0.91**	**203**	PN	Pn	16 17 29.8	-0.1
WKZ	**Wanaka**	**1.39**	**69**	⇑PN	Pn	16 17 35.1	-0.1
WKZ				AML	AML	16 17 54.7	
WKZ				AML	AML	16 17 54.7	
WKZ				AML	AML	16 17 54.8	
WKZ				AML	AML	16 17 55.9	
EAZ	**Earnscleugh**	**1.50**	**87**	⇓PN	Pn	16 17 36.1	-0.3
EAZ				AML	AML	16 17 36.4	
EAZ				AML	AML	16 17 55.5	
EAZ				AML	AML	16 17 55.6	
EAZ				AML	AML	16 17 56.5	
APZ	**The Paps**	**1.60**	**160**	PN	Pn	16 17 37.7	0.0
SYZ	**Scrubby Hill**	**1.82**	**132**	⇓PN	Pn	16 17 40.1	-0.2
SYZ				AML	AML	16 18 03.2	
SYZ				AML	AML	16 18 03.4	
SYZ				AML	AML	16 18 03.4	
TUZ	**Tuapeka**	**1.82**	**111**	⇓PN	Pn	16 17 40.1	-0.2
LBZ	**Lake Benmore**	**2.33**	**67**	⇓PN	Pn	16 17 45.0	-1.9
LBZ				AML	AML	16 18 48.0	
LBZ				AML	AML	16 19 05.6	
HHSZ	**Highcliff Hill**	**2.46**	**104**	⇓PN	Pn	16 17 47.8	-0.7
ODZ	**Otahua Downs**	**2.46**	**84**	⇑PN	Pn	16 17 47.0	-1.5
FOZ	**Fox Glacier**	**2.52**	**46**	AML	AML	16 18 01.4	
FOZ				AML	AML	16 18 59.8	

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*ARO **06** 16:21:26.5, 11°N±6°×4°2E±°, h2km±4km, ML3.7*

*ISCJB **06** 16:21:28.4±0.9, 11°.43N±0°.10×41°.82E±0°.07, h10km, Error ellipse: s-maj=15.8km s-min=7.4km az=152.1*

ISC 06 16:21:25.9±1.3**, 11°.33N**±0°.08×**41°.69E**±0°.07**, h10**km**, n9, σ0ˢ.50**/11**, Ethiopia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GBR	**Grand-Bara**	**0.78**	**103**	i P	**Pg**	**16 21 41.1**	**+0.1**
LDLD	**Lac de Lave**	**0.84**	**72**	eP	**Pg**	**16 21 42.1**	**+0.1**
MAOD	**Malaho**	**0.93**	**35**	i P	**Pg**	**16 21 43.5**	**-0.3**
SGH	**Sud-Ghoubbet**	**0.93**	**83**	eP	**Pg**	**16 21 44.0**	**+0.1**
ATD	**Arta Tunnel**	**1.16**	**80**	eP	**Pb**	**16 21 47.5**	**-0.6**
ATD				eS	**Sn**	**16 22 04.3**	**+0.1**
TDD	**Tadjoura Ara**	**1.29**	**68**	eP	**Pn**	**16 21 49.3**	**-0.6**
ATA	**Atar**	**1.50**	**85**	eP	**Pn**	**16 21 52.9**	**0.0**
TRBA	**At Turbah**	**3.04**	**51**	i P	**Pn**	**16 22 15.2**	**+0.9**
TRBA				e		16 22 15.3	
	baz=215,slow=10						
TRBA				i S	**Sb**	**16 22 57.9**	**+0.5**
TRBA				AML	AML	16 23 06.9	
	comp=N,290nm,0.6s						
FURI	**Furi**	**3.82**	**231**	P	Pb	16 22 29.9	-3.8
FURI				S	**Sb**	**16 23 20.4**	**+0.2**

IDC 06 16:32:36.7±4.7**, 2°.20S×138°.91E, h0**km**, mb3.2**/2**, mb1 3.5**/3**, mb1mx3.3**/17**, mbtmp3.3**/3**, ML3.3**/1**, Error ellipse: s-maj=189.4km s-min=30.4km az=87.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.19**	**194**	P	Pn	16 36 49.1	-1.8
	0.1nm,0.3s,baz=15,slow=12,SNR=12						
ASAR	**Alice Springs**	**21.88**	**192**	P	P	16 37 32.1	+0.7
	0.5nm,0.5s,baz=17,slow=9.4,SNR=31						
MKAR	**Makanchi Array**	**69.52**	**322**	P	P	16 43 47.4	+0.1
	0.2nm,0.6s,baz=104,slow=6.1,SNR=2.5						

IDC ***06*** *16:33:00.6±0.8, 34°.36N×80°.40E, h0km, mb3.6/8, mb1 3.7/13, mb1mx3.5/30, mbtmp3.5/13, ML2.9/5, MS4.3/1, Ms1 4.3/1, ms1mx2.7/35, Error ellipse: s-maj=33.1km s-min=15.4km az=55.0*

ISCJB ***06*** *16:33:03.9±0.8, 34°.6N±0°.1×80°.6E±0°.2, h33km, mb3.5/8, MS4.3/1, Error ellipse: s-maj=23.3km s-min=11.3km az=153.6*

ISC 06 16:33:05.8±0.9**, 34°.6N**±0°.1×**80°.7E**±0°.2**, h35km, n15, σ1s27**/12**, mb3.7**/8**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	9.42	331	Pn	Pn	16 35 21.9	+2.7
	0.1nm,0.3s,baz=180,slow=18,SNR=1.9						
AAK				Sn	Sn	16 37 12.0	+8.0
	0.1nm,0.3s,baz=356,slow=19,SNR=2.0						
AAK				LR	LR	16 39 03.8	
	comp=Z,32nm,20.0s,baz=194,slow=38						
MKAR	Makanchi Array	12.29	5	Pn	Pn	16 35 58.3	+0.1
	0.1nm,0.3s,baz=185,slow=13,SNR=4.9						
KURBB	Kurchatov Arra	16.14	355	Pn	Pn	16 36 49.2	-0.6
	0.0nm,0.3s,baz=178,slow=10,SNR=2.7						
ZALV	Zalesovo Beam	19.61	7	P	P	16 37 31.4	+0.5
	0.2nm,0.3s,baz=206,slow=9.6,SNR=5.1						
BVAR	Borovoye Array	19.88	341	P	P	16 37 33.5	-0.4
	0.2nm,0.3s,baz=153,slow=11,SNR=7.3						
CMAR	Chiang Mai Arr	22.80	130	P	P	16 38 06.4	+0.8
	0.4nm,0.6s,baz=316,slow=13,SNR=3.0						
AKASG	Malin Array Be	40.32	310	P	P	16 40 37.3	-2.3
	0.1nm,0.3s,baz=82,slow=7.3,SNR=4.8						
JNU	Nakatsue	41.34	77	LR	LR	16 59 41.9	
	comp=Z,346nm,18.0s,baz=286,slow=38						
FINES	FINESS Array B	43.56	325	P	P	16 41 06.1	+0.2
	0.9nm,0.7s,baz=103,slow=8.4,SNR=4.1						
NB2	NORSAR Subarra	50.67	324	P	P	16 41 54.4	-7.0
	comp=Z,0.6nm,0.6s,baz=88,slow=7.4						
NOA	NORSAR Array B	50.67	324	P	P	16 42 01.6	+0.1
	comp=Z,0.6nm,0.7s,baz=89,slow=7.5,SNR=3.1						
TORD	Torodi Ar. Bea	73.70	275	P	P	16 44 36.0	-0.4
	comp=Z,0.9nm,0.8s,baz=62,slow=5.6,SNR=4.5						
ILAR	Eielson Array	74.24	19	P	P	16 44 42.3	+3.5
	comp=Z,0.2nm,0.9s,baz=310,slow=5.8,SNR=3.3						
WRA	Warramunga Arr	74.39	128	P	P	16 44 40.5	+0.3
	comp=Z,1.4nm,0.8s,baz=324,slow=5.6,SNR=17						
ASAR	Alice Springs	76.81	131	P	P	16 44 54.5	+0.3
	comp=Z,1.1nm,0.6s,baz=317,slow=5.6,SNR=32						

IDC ***06*** *16:42:40.9±0.5, 33°.26N×96°.17E, h0km, mb4.4/26, mb1 4.5/30, mb1mx4.4/36, mbtmp4.4/30, ML3.7/4, MS4.1/22, Ms1 4.1/22, ms1mx4.0/35, Error ellipse: s-maj=16.7km s-min=10.7km az=41.0*

BJI ***06*** *16:42:42.2, 33°.31N×96°.20E, h10km, mb4.7/47, mB4.8/28, ML4.8/6, Ms4.8/69, Ms7 4.5/56*

MOS ***06*** *16:42:44.0±0.8, 33°.25N×96°.22E, h33km, mb4.9/38, MS4.2/12, Error ellipse: s-maj=8.7km s-min=4.5km az=122.0*

ISCJB ***06*** *16:42:45.1±0.1, 33°.28N±0°.02×96°.12E±0°.02, h39km, mb4.6/94, MS4.2/30, Error ellipse: s-maj=2.8km s-min=2.6km az=35.1*

GCMT ***06*** *16:42:47.7±0.3, 33°.18N×96°.27E, h18km±1km, MW4.9/67, Moment Tensor Solution. s17,c17; s67,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.00±.12; $M_{\theta\theta}$-0.66±.10; $M_{\phi\phi}$0.66±.10; $M_{r\theta}$-0.14±.23; $M_{\theta\phi}$2.27±.10; $M_{\phi r}$-0.56±.23; Best double couple: $M_0$2.43300×10^{16} NP1:ϕ_s171.00000°,δ85.00000°,λ168.00000°. NP2: ϕ_s262.00000°,δ78.00000°,λ5.00000°. Principal axes: T 2.4790, Plg12.0000°, Azm126.0000°; N -0.0930, Plg77.0000°, Azm331.0000°; P -2.3860, Plg5.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***06*** *16:42:47.7±1.0, 33°.30N×96°.18E, h49km±9km, mb4.7/31 Error ellipse: s-maj=6.3km s-min=4.9km az=201.0*

ISC 06 16:42:44.6±0.4**, 33°.33N**±0°.03×**96°.16E**±0°.03**, h20km**±6km**, n313, σ1s38**/338**, mb4.7**/101**, MS4.3**/30**, 14C-19D, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	5.60	231	Pg	Pb	16 44 16.3	-5.6
LSA				Sg	Sb	16 45 41.0	+12
LSA				LE			
	4µm,7.9s						
LSA				LZ			
	6µm,8.3s						
LSA	Lhasa	5.60	231	eP	Pn	16 44 10.5	+3.3
LSA				pmax	pmax		
	comp=Z,215nm,0.6s						
LSA	Lhasa	5.60	231	eP	Pn	16 44 10.5	+3.3
	comp=Z,215nm,0.6s						
GTA	Gaotai	6.75	25	Pn	Pn	16 44 24.0	+1.4
GTA				Sn	Sn	16 45 43.0	+4.1
GTA				LN			
	comp=Z,3µm,13.7s						
GTA				LE			
	comp=Z,5µm,9.5s						
GTA				LZ			
	comp=Z,3µm,10.0s						
CD2	Chengdu	6.88	108	Pn	Pn	16 44 26.5	+2.1
CD2				Sn	Sn	16 45 37.7	-4.5
CD2				Sg	Sb	16 46 14.5	+9.2
CD2				SMN			
	comp=Z,350nm,1.3s						
CD2				SME			
	comp=Z,350nm,1.3s						
CD2				LN			
	comp=Z,8µm,6.5s						
CD2				LE			
	comp=Z,4µm,4.7s						
CD2				LZ			
	comp=Z,7µm,5.9s						
LZH	Lanzhou	6.90	64	Pn	Pn	16 44 26.8	+2.1
LZH				eSn	Sn	16 45 48.4	+5.6
LZH				SMN			
	comp=Z,210nm,1.0s						
LZH				SME			
	comp=Z,190nm,1.2s						
LZH				LN			
	comp=Z,5µm,7.4s						
LZH				LE			
	comp=Z,6µm,8.8s						
LZH				LZ			
	comp=Z,7µm,10.2s						
SHL	Shillong	8.59	207	eP	Pn	16 44 47.5	-0.4
SHL				AMB	AMB	16 44 49.1	
	comp=Z,35nm,0.9s						
SHL				eS	Sn	16 46 22.4	-1.9
TAPN	Taplejung	9.42	233	eP	Pn	16 44 59.1	-0.3
	comp=Z,181nm,0.9s						
ODAN	Odare	9.96	232	eP	Pn	16 45 06.0	-0.8
	comp=Z,171nm,0.6s						
KMI	Kunming	9.99	143	P	Pn	16 45 07.2	0.0
KMI				PP	PnPn	16 45 15.8	+0.8
KMI				S	Sn	16 47 00.8	+1.9
KMI				PMZ			
	comp=Z,44nm,0.8s						
KMI				PMZ			
	comp=Z,93nm,3.1s						
KMI				LN			
	comp=Z,6µm,6.6s						
KMI				LE			
	comp=Z,4µm,7.4s						
KMI				LZ			
	comp=Z,3µm,12.2s						
JIRN	Jiri	10.29	239	eP	Pn	16 45 11.5	+0.1
	comp=Z,94nm,0.7s						
GUN	Gumba	10.37	241	eP	Pn	16 45 11.7	-0.8
	comp=Z,96nm,0.6s						
RAMN	Ramite	10.43	235	eP	Pn	16 45 12.0	-1.3
	comp=Z,105nm,0.7s						
XAN	Xi'an	10.66	83	P	Pn	16 45 16.7	+0.5
XAN				PP	PnPn	16 45 25.0	+1.2
XAN				S	Sn	16 47 14.6	-0.4
XAN				LN			
	comp=Z,3µm,21.4s						
XAN				LE			
	comp=Z,350nm,23.0s						
XAN				LZ			
	comp=Z,570nm,11.5s						
KKN	Kakani	10.88	242	eP	Pn	16 45 18.4	-0.9
	comp=Z,46nm,0.5s						
PKI	Pulchoki	10.90	241	eP	Pn	16 45 18.5	-1.3
	comp=Z,52nm,0.5s						
DMN	Daman	11.11	242	eP	Pn	16 45 21.8	-0.7
	comp=Z,65nm,0.6s						
GKN	Gorkha	11.25	245	eP	Pn	16 45 22.9	-1.5
	comp=Z,46nm,0.6s						
GYA	Guiyang	11.40	124⇑	iP	Pn	16 45 24.2	-2.2
GYA				PP	PnPn	16 45 36.8	+2.7
GYA				S	Sn	16 47 33.9	+0.7
GYA				SS	SnSn	16 47 51.4	+6.3
GYA				PMZ			
	comp=Z,40nm,0.9s						
GYA				PMZ			
	comp=Z,120nm,5.9s						
GYA				LN			
	comp=Z,3µm,9.3s						
GYA				LE			
	comp=Z,2µm,9.6s						
GYA				LZ			
	comp=Z,2µm,9.6s						
KOLN	Koldanda	12.15	246	eP	Pn	16 45 34.8	-2.0
	comp=Z,54nm,0.6s						
WMQ	Urumqi	12.38	330	P	Pn	16 45 39.8	+0.1
WMQ				pP		16 45 49.1	
WMQ				PP	P	16 45 53.7	+2.0
WMQ				S	Sn	16 47 57.1	0.0
WMQ				PMZ			
	comp=Z,44nm,0.8s						
WMQ				PMZ			
	comp=Z,88nm,4.2s						
WMQ				LN			
	comp=Z,3µm,12.0s						
WMQ				LE			
	comp=Z,2µm,12.6s						
WMQ				LZ			
	comp=Z,850nm,17.5s						
BOK	Bokaro	13.10	226	eP	Pn	16 45 48.1	-1.4
BOK				AMB	AMB	16 45 49.5	
	comp=Z,90nm,1.1s						
BTO	Baotou	13.24	53	eP	Pn	16 45 48.9	-2.6
CRAI	Chiangrai	13.58	163	P	Pn	16 45 52.9	-3.2
	comp=Z,15nm,1.3s,comp=Z,2µm						
CMAI	Chiengmai2	13.59	168	P	Pn	16 45 59.2	+2.8
	comp=Z,28nm,0.7s,comp=Z,4µm						
HHC	Hu-ho-hao-te	14.39	54	eP	Pn	16 46 05.3	-2.0
HHC				PP	PnPn	16 46 23.4	+8.2
HHC				S	Sn	16 48 49.6	+3.3
HHC				PMZ			
	comp=Z,21nm,0.6s						
HHC				PMZ			
	comp=Z,76nm,4.0s						
HHC				LN			
	comp=Z,2µm,10.3s						
HHC				LE			
	comp=Z,3µm,10.5s						
HHC				LZ			
	comp=Z,3µm,10.5s						
CHTO	Chiang Mai	14.67	170	P	Pn	16 46 11.1	+0.1
	comp=Z,98nm,1.4s						
CHTO	Chiang Mai	14.67	170	P	Pn	16 46 08.6	-2.4
CHTO				pmax	pmax		
	comp=Z,34nm,1.3s						
CHTO	Chiang Mai	14.67	170	P	Pn	16 46 08.6	-2.4
	comp=Z,34nm,1.3s						
CMMT	Chiang Mai	14.67	170	P	Pn	16 46 11.0	-0.1
	comp=Z,37nm,1.0s						
CM31	Chiang Mai Arr	15.02	170	eP	Pn	16 46 14.3	-1.5
	comp=Z,9.6nm,0.8s						
CMAR	Chiang Mai Arr	15.02	170	Pn	Pn	16 46 13.4	-2.3
	comp=Z,0.1nm,0.3s,baz=340,slow=9.4,SNR=34						
CMAR				Lg	Lg	16 50 37.4	
	comp=Z,0.0nm,0.3s,baz=327,slow=40,SNR=2.4						
CMAR				LR	LR	16 51 59.2	
	comp=Z,319nm,19.2s,baz=348,slow=37						
LAMP	Lampang	15.07	167	P	Pn	16 46 17.7	+1.3
	comp=Z,7.2nm,1.1s,comp=Z,56nm						
WHN	Wuhan	15.69	95	P	Pn	16 46 24.0	-0.5
WHN				LN			
	comp=Z,6µm,6.5s						
WHN				LE			
	comp=Z,2µm,6.0s						
WHN				LZ			
	comp=Z,3µm,10.9s						
UTTA	Uttaradit	16.02	165	P	Pn	16 46 29.6	+0.9
	comp=Z,5.4nm,1.2s,comp=Z,51nm						
SUKH	Sukhothai	16.09	168	P	P	16 46 35.2	+2.4
	comp=Z,5.7nm,1.2s,comp=Z,51nm						
SMLA	Simla	16.22	267	eP	Pn	16 46 30.1	-1.1
SMLA				AMB	AMB	16 46 39.2	
	comp=Z,22nm,0.9s						
SMLA				ex	Sn	16 49 22.3	-8.4
SONM	Songino Array	16.42	25	Pn	Pn	16 46 33.1	-0.7
	comp=Z,2.8nm,0.3s,baz=206,slow=13,SNR=25						
SONM				Lg	Lg	16 51 28.2	
	comp=Z,0.2nm,0.3s,baz=207,slow=30,SNR=2.6						
SONM				LR	LR	16 53 21.4	
	comp=Z,1µm,19.7s,baz=212,slow=39						
NONG	Nongkai	16.45	156	P	Pn	16 46 34.5	+0.3
	comp=Z,36nm,1.4s,comp=Z,4µm						
DHRM	DHARAMSHALA	16.74	272	eP	Pn	16 46 37.0	-1.1
DHRM				AMB	AMB	16 46 44.7	
	comp=Z,60nm,2.2s						
NDI	New Delhi	16.88	259	eP	Pn	16 46 40.0	+0.3
MK31	Makanchi Array	17.10	326	P	Pn	16 46 38.7	-3.6
MK31				pmax	pmax		
	comp=Z,27nm,0.8s						
MK31	Makanchi Array	17.10	326	eP	Pn	16 46 39.9	-2.4
MKAR	Makanchi Array	17.10	326	P	Pn	16 46 40.6	-1.7
	comp=Z,0.8nm,0.3s,baz=140,slow=12,SNR=30						
MKAR				LR	LR	16 53 51.8	
	comp=Z,645nm,20.7s,baz=136,slow=39						
PBKT	Sadao Pong	17.24	164	P	P	16 46 46.9	+1.2
	comp=Z,17nm,1.3s						
KSH	Kashi	17.36	297	P	P	16 46 48.4	+1.3
KSH				PP	PnPn	16 47 07.9	+12
KSH				S	S	16 50 06.2	-0.7
KSH				PcP	PcP	16 51 28.1	+0.9
KSH				PMZ			
	comp=Z,120nm,2.2s						
KSH				LN			
	comp=Z,850nm,11.1s						
KSH				LE			
	comp=Z,940nm,9.5s						
KSH				LZ			
	comp=Z,940nm,10.5s						
BJI	Beijing	17.38	62	P	P	16 46 46.6	-0.4
BJI				S	S	16 50 04.1	-2.8
BJI				PMZ			
	comp=Z,16nm,1.4s						
BJI				LN			
	comp=Z,3µm,16.5s						
BJI				LE			
	comp=Z,1µm,16.5s						
BJI				LZ			
	comp=Z,540nm,25.3s						
TIA	Tai'an	17.46	75	eP	P	16 46 49.2	+1.2
TIA				S	Sn	16 50 04.3	+3.5
TIA				LN			
	comp=Z,560nm,8.0s						
TIA				LE			
	comp=Z,1µm,7.3s						
TIA				LZ			
	comp=Z,630nm,8.6s						
SKNT	Sakolnakorn	17.75	155	P	P	16 46 51.0	-0.2
	comp=Z,57nm,1.2s						
ZAK	Zakamensk	17.83	15⇑	iP	Pn	16 46 51.7	+0.2
ZAK				pmax	pmax		
	comp=Z,11nm,1.4s						
UTHA	Uthaitani	17.94	170	P	P	16 46 55.9	+2.5
	comp=Z,10nm,1.0s,comp=Z,106nm						
ULHL	Ulahol	18.05	305	P	P	16 46 54.9	+0.2
	SNR=77						
CHAI	Chaiyaphum	18.14	162	P	P	16 46 56.9	+1.4
	comp=Z,8.1nm,1.1s,comp=Z,76nm						
CHLP	Challavanipeta	18.32	219	eP	P	16 46 57.1	-0.4
CHLP				IAmb	IAmb	16 47 00.4	
	comp=Z,15nm,0.7s						
CHLP				eSn	Sn	16 50 22.6	+1.1
CHLP				IVMsBB		16 54 01.3	
	comp=Z,296nm,8.3s						
MOY	Mondy	18.66	9	eP	Pn	16 47 03.0	+1.4
KZA	Kyzart	18.67	304	P	Pn	16 47 04.4	+2.2
	SNR=41						
TKM2	Tokmak 2	18.76	307	P	Pn	16 47 04.6	+1.6
	SNR=28						
TKM2	Tokmak 2	18.76	307	eP	Pn	16 47 03.1	+0.1
TKM2				pmax	pmax		
	comp=Z,95nm,1.3s						
TKM2	Tokmak 2	18.76	307	eP	Pn	16 47 03.1	+0.1
	comp=Z,95nm,1.3s						
QIZ	Qiongzhong	18.78	136	P	Pn	16 47 03.1	0.0
QIZ				S	Sn	16 50 31.8	-0.9
QIZ				PMZ			
	comp=Z,44nm,1.4s						
QIZ				PMZ			
	comp=Z,170nm,9.5s						
QIZ				LN			
	comp=Z,2µm,10.1s						
QIZ				LE			
	comp=Z,1µm,11.0s						
QIZ				LZ			
	comp=Z,4µm,10.8s						
QIZ	Qiongzhong	18.78	136	eP	P	16 47 01.7	-0.9
	comp=Z,84nm,1.4s						
SRDT	SRDT	19.09	171	P	Pn	16 47 09.5	+2.6
	comp=Z,151nm,1.2s,comp=Z,10µm						
KBK	Karagaybulak	19.09	305	P	Pn	16 47 09.0	+2.0
	SNR=38						
TLY	Talaya	19.13	14	P	Pn	16 47 06.8	-0.5
	comp=Z,0.0nm,0.3s,baz=224,slow=10,SNR=4.0						
TLY	Talaya	19.13	14	eP	Pn	16 47 07.7	+0.5
TLY				eS	Sn	16 50 27.9	-13
TLY				pmax	pmax		
	comp=Z,12nm,1.8s						
TLY				MLR	MLR		
	comp=Z,906nm,11.0s						
NJ2	Nanjing	19.14	88	eP	Pn	16 47 09.6	+2.1
NJ2				S	Sn	16 50 39.0	-2.4
NJ2				PMZ			
	comp=Z,70nm,0.8s						
NJ2				LN			
	comp=Z,2µm,11.6s						
NJ2				LE			
	comp=Z,2µm,9.9s						
NJ2				LZ			
	comp=Z,610nm,9.8s						
UCH	Uchtor	19.24	304	P	Pn	16 47 10.7	+1.7
	SNR=19						
BHPL	Bhopal	19.29	243	eP	P	16 47 06.9	-1.3
BHPL				AMB	AMB	16 47 08.5	
	comp=Z,36nm,1.4s						
SFK	Sufi-Kurgan	19.33	297	P	Pn	16 47 10.6	+0.7
SFK				pmax	pmax		
	comp=Z,35nm,0.9s						
CHMS	Chumysh	19.36	306	P	Pn	16 47 12.5	+2.5
	SNR=19						
FRU	Bishkek	19.39	306	eP	Pn	16 47 11.0	+0.6
FRU				pmax	pmax		
	comp=Z,60nm,1.2s						
FRU				MLR	MLR		
	comp=E,2µm,10.0s						
AAK	Ala-Archa	19.39	305	P	Pn	16 47 11.9	+1.3
	SNR=28						
AAK	Ala-Archa	19.39	305	P	Pn	16 47 11.7	+1.0
	comp=E,0.7nm,0.3s,baz=113,slow=8.6,SNR=51						
AAK				LR	LR	16 55 40.4	
	comp=E,734nm,21.4s,baz=96,slow=40						
AAK	Ala-Archa	19.39	305c	iP	Pn	16 47 11.8	+1.2
AAK				pmax	pmax		
	comp=Z,118nm,1.3s						
AAK	Ala-Archa	19.39	305	eP	Pn	16 47 11.2	+0.6
	comp=Z,32nm,0.9s						
USP	Ospenovka	19.63	307	P	Pn	16 47 14.3	+1.0
	SNR=12						
AML	Almayashu	19.78	303	P	Pn	16 47 18.3	+2.9
	SNR=21						
IRK	Irkutsk	19.80	15	eP	Pn	16 47 14.8	-0.3
IRK				pmax	pmax		
	comp=Z,49nm,1.9s						
UBPT	Khong Chiam	19.85	153	P	P	16 47 14.7	+0.3
	comp=Z,94nm,1.4s,comp=Z,1µm						
EKS2	Erkin-Say	19.90	304	P	Pn	16 47 17.2	+0.6
	SNR=27						
EKS2	Erkin-Say	19.90	304	eP	P	16 47 15.7	+0.8
EKS2				pmax	pmax		
	comp=Z,32nm,0.9s						
EKS2	Erkin-Say	19.90	304	eP	P	16 47 15.7	+0.8
	comp=Z,32nm,0.9s						
DGPR	DIGLIPUR	20.27	189	eP	P	16 47 19.4	+0.5
DGPR				AMB	AMB	16 47 20.9	
	comp=Z,102nm,1.5s						
PVM	Polavaram	20.67	223	eP	P	16 47 22.5	-0.8
PVM				IAmb	IAmb	16 47 28.5	
	comp=Z,93nm,1.7s						
PVM				eS	S	16 51 13.3	-0.1
PVM				IVMs_BB	IVMs_BB	16 55 17.8	
	comp=Z,384nm,5.2s						
MNAS	Manas	20.73	303	P	Pn	16 47 25.8	-0.6
MNAS				pmax	pmax		
	comp=Z,80nm,1.1s						
RPR	Rampur	20.86	230	eP	P	16 47 25.3	0.0
RPR				IAmb	IAmb	16 47 28.6	
	comp=Z,120nm,1.7s						
RPR				eS	S	16 51 16.8	-0.4
RPR				IVMsBB		16 55 28.0	
	comp=Z,964nm,13.1s						
CHBT	CHBT	21.25	163	P	P	16 47 33.1	+3.7
	comp=Z,57nm,1.4s,comp=Z,580nm						
QZH	Quanzhou	21.27	107⇑	iP	P	16 47 31.4	+1.7
QZH				S	S	16 51 19.7	-5.6
QZH				PMZ			
	comp=Z,150nm,1.1s						
QZH				LN			
	comp=Z,3µm,8.7s						
QZH				LE			
	comp=Z,2µm,7.8s						
QZH				LZ			
	comp=Z,5µm,8.7s						
DL2	Dalian	21.28	68	eP	P	16 47 34.5	+4.8
DL2				PMZ			
	comp=Z,28nm,1.1s						
DL2				PMZ			
	comp=Z,90nm,4.1s						
DL2				LN			
	comp=Z,970nm,17.6s						
DL2				LZ			
	comp=Z,830nm,12.9s						
SSE	Sheshan	21.28	89	P	P	16 47 30.3	+0.5
SSE				S	Sn	16 51 29.7	-3.3
SSE				PMZ			
	comp=Z,13nm,0.9s						
SSE				PMZ			
	comp=Z,68nm,3.5s						
SSE				LN			
	comp=Z,1µm,10.2s						
SSE				LE			
	comp=Z,480nm,10.2s						
SSE				LZ			
	comp=Z,750nm,8.6s						
SRSP	Sriramsagar	21.43	232	eP	P	16 47 34.5	+2.9
SRSP				IAmb	IAmb	16 47 39.0	
	comp=Z,37nm,1.1s						
SRSP				eS	S	16 51 26.8	-1.8
SRSP				IVMs_BB	IVMs_BB	16 55 46.3	
	comp=Z,671nm,10.9s						
KURBB	Kurchatov Arra	21.59	328	P	P	16 47 33.0	0.0
	comp=Z,32nm,0.8s,baz=137,slow=11,SNR=190						
KURK	Kurchatov	21.62	329	P	P	16 47 33.0	-0.2
KURK				pmax	pmax		
	comp=Z,27nm,1.1s						
KURK	Kurchatov	21.62	329	eP	P	16 47 33.1	-0.2
ZAA0	Zalesovo Array	22.13	342	eP	P	16 47 38.3	-0.4
ZALV	Zalesovo Beam	22.13	342	P	P	16 47 38.3	-0.4
	comp=Z,14nm,0.7s,baz=156,slow=10.0,SNR=54						
ZALV				LR	LR	16 56 41.5	
	comp=Z,311nm,19.3s,baz=250,slow=38						
ZALV	Zalesovo Beam	22.13	342	i P	P	16 47 38.5	-0.2
ZALV				pmax	pmax		
	comp=Z,19nm,0.7s						
HYBB	Hyderabad (bro	22.40	229	eP	P	16 47 41.5	-0.4
HYBB				IAmb	IAmb	16 47 48.1	
	comp=Z,56nm,1.4s						
HYBB				eS	S	16 51 44.7	-2.4
HYBB				IVMs_BB	IVMs_BB	16 56 28.0	
	comp=Z,612nm,7.9s						
HYB	Hyderabad	22.40	229	i P	P	16 47 43.0	+1.1
HYB				eS	S	16 51 48.0	+0.9
HYB	Hyderabad	22.40	229	eP	P	16 47 43.2	+1.3
HYB				AMB	AMB	16 47 47.8	
	comp=Z,39nm,1.2s						
KBL	Kabul	22.51	281	eP	P	16 47 42.9	-0.3
KBL				pmax	pmax		
	comp=Z,94nm,0.8s						
KBL	Kabul	22.51	281	eP	P	16 47 42.9	-0.3

comp=Z,94nm,0.8s
NJS Nagarjunasagar 22.58 226 eP P 16 47 44.2 +0.4
SRLM Srisailam 23.18 226 eP P 16 47 50.3 +0.2
SRLM IAmb IAmb 16 47 57.0
comp=Z,22nm,1.1s
SRLM eS S **16 52 01.7 +0.8**
SRLM IVMsBB 16 56 40.8
comp=Z,536nm,8.2s
KLRI Killari 23.21 234 eP P 16 47 49.2 -1.2
KLRI IAmb IAmb 16 47 51.0
comp=Z,21nm,0.8s
KLRI IVMs_BB IVMs_BB 16 57 12.0
comp=Z,709nm,4.4s
SNY Shenyang 23.25 61 ⇓P P 16 47 51.9 +1.3
SNY S S **16 52 04.1 +2.4**
SNY PMZ
comp=Z,13nm,0.9s
SNY PMZ
comp=Z,110nm,4.8s
SNY LN
comp=Z,640nm,12.6s
SNY LE
comp=Z,610nm,22.9s
SNY LZ
comp=Z,690nm,21.2s
NVS Novosibirsk 23.35 341 eP P 16 47 49.5 -1.9
NVS eS S **16 52 04.5 +1.5**
NVS pmax pmax
comp=E,12nm,1.2s
NVS pmax pmax
comp=Z,17nm,1.2s
NVS pmax pmax
comp=N,13nm,1.3s
NVS smax smax
comp=N,32nm,2.0s
NVS smax smax
comp=E,25nm,2.0s
RCLA Racherla 23.65 225 eP P 16 47 55.2 +0.5
RCLA IAmb IAmb 16 47 57.2
comp=Z,26nm,1.2s
RCLA eS S **16 52 07.1 -1.3**
RCLA IVMs_BB IVMs_BB 16 57 13.5
comp=Z,575nm,6.4s
HIA Hailar 23.68 41 eP P 16 47 56.3 +1.5
HIA pmax pmax
comp=Z,6.0nm,0.4s
HIA Hailar 23.68 41 eP P 16 47 56.3 +1.5
comp=Z,5.5nm,0.4s
SURT Suratani 24.38 174 P P 16 48 04.9 +3.4
comp=Z,25nm,1.0s
SKHT Srikalahasti 24.59 221 eP P 16 48 03.9 +0.5
SKHT IAmb IAmb 16 48 08.1
comp=Z,13nm,0.8s
SKHT eS S **16 52 22.9 -0.5**
SKHT IVMsBB 16 57 46.5
comp=Z,309nm,6.7s
POO Poona 24.82 239 eP P 16 48 06.0 +0.4
SRIT Nakonsritamara 24.82 172 P P 16 48 09.2 +3.7
comp=Z,122nm,0.9s
CN2 Changchun 25.06 57 eP P 16 48 08.4 +0.9
CN2 eS S **16 52 25.2 -5.5**
CN2 PMZ
comp=Z,30nm,0.8s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,1μm,12.0s
CN2 LE
comp=Z,900nm,12.0s
CN2 LZ
comp=Z,1μm,15.0s
URV Uravakonda 25.07 228 eP P 16 48 07.2 -0.6
URV IAmb IAmb 16 48 11.6
comp=Z,24nm,0.8s
URV eS S **16 52 29.6 -1.7**
URV IVMs_BB IVMs_BB 16 57 47.9
comp=Z,304nm,5.2s
KRAB Krabi 25.14 173 P P 16 48 13.0 +4.6
comp=Z,34nm,0.8s
TRTT Trang 25.58 172 P P 16 48 16.3 +3.9
comp=Z,54nm,1.5s
KSAR Wonju Array Be 26.12 72 P P 16 48 16.6 -0.6
KSAR Wonju Array Be 26.12 72 P P 16 48 16.6 -0.6
KSRS Korea Array 26.15 72 P P 16 48 16.5 -0.9
comp=Z,3.2nm,0.8s,baz=269,slow=9.4,SNR=23
KSRS Korea Array 26.15 72 P P 16 48 16.5 -0.9
KSRS pmax pmax
comp=Z,3.0nm,0.8s
BVA0 Borovoye Array 26.97 325 *i* P **P 16 48 25.4 +0.7**
BVA0 pmax pmax
comp=Z,8.0nm,1.2s
BVAR Borovoye Array 26.97 325 P P 16 48 25.2 +0.5
comp=Z,1.5nm,0.6s,baz=116,slow=9.8,SNR=11
BVAR LR LR 16 59 15.7
comp=Z,559nm,20.4s,baz=118,slow=37
BRVK Borovoye 27.04 325⇑ *i* P **P 16 48 26.0 +0.7**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
BRVK Borovoye 27.04 325 *eP* **P 16 48 25.6 +0.3**
comp=Z,5.4nm,0.8s
BOD Bodaibo 27.32 21 eP P 16 48 28.4 +0.6
JNU Nakatsue 28.97 81 P P 16 48 43.9 +1.1
comp=Z,7.9nm,1.0s,baz=305,slow=5.5,SNR=4.1
USRK Ussuriysk Ar. 29.76 58 LR LR 17 01 58.9
comp=Z,481nm,18.7s,baz=251,slow=39
KLR Kul'dur 30.77 48 eP P 16 48 55.0 -3.5
KLR MLR MLR
comp=E,800nm,12.0s
KLR MLR MLR
comp=Z,2μm,12.0s
AB31 Akbulak array 31.16 312 P P 16 49 02.5 +0.5
AB31 pmax pmax
comp=Z,2.0nm,0.6s
ABKAR Akbulak array 31.16 312 *eP* **P 16 49 02.5 +0.6**
comp=Z,5.7nm,0.9s
HABR Khabarovsk 32.67 51 eP P 16 49 13.4 -1.8
HABR *e**PP pP 16 49 23.0 +1.7
HABR *e**SP sP 16 49 27.4 +3.6
HABR *e* 16 50 22.1
HABR *e*PPP PPP 16 50 32.9
HABR *e* 16 51 58.1
HABR *e*S S **16 54 28.5 -1.7**
HABR *e**SS sS 16 54 44.9 +4.6
HABR *e*SS **SnSn 16 56 26.6 +1.1**
HABR *e*SSS SSS 16 56 43.0
HABR *e* 16 59 39.0
HABR pmax pmax
comp=N,5.0nm,1.1s
HABR pmax pmax
comp=E,9.0nm,1.1s
HABR pmax pmax
comp=Z,10.0nm,1.5s
HABR MLR MLR
comp=Z,1μm,16.0s
AKTO Aktyubinsk 32.70 313 P P 16 49 16.2 +0.8
comp=Z,6.0nm,0.8s,baz=102,slow=11,SNR=25
AKTO Aktyubinsk 32.70 313 P P 16 49 16.0 +0.5
AKTO pmax pmax
comp=Z,9.0nm,0.9s
SVE Sverdlovsk 33.76 325 eP P 16 49 25.8 +1.2
SVE pmax pmax
comp=Z,15nm,0.9s
MJAR Matsushiro Arr 34.43 73 P P 16 49 30.0 -0.7
comp=Z,1.7nm,1.0s,baz=274,slow=9.0,SNR=7.2
MJAR PcP **PcP 16 52 05.4 -0.6**
comp=Z,1.0nm,0.7s,baz=262,slow=2.4,SNR=6.7
ARU Arti 34.59 323 *d i* P **P 16 49 32.2 +0.4**
ARU 16 50 46.3
ARU 16 52 04.7
ARU S S **16 55 00.0 +0.2**
ARU SS **SnSn 16 57 06.7 -5.3**
ARU pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 34.59 323 *eP* **P 16 49 31.9 +0.1**
comp=Z,12nm,0.9s
YAK Yakutsk 35.77 26 eP P 16 49 43.0 +1.1
YAK *e**PP pP 16 49 51.9 +3.8
YAK *e* 16 52 08.1
YAK *e*S S **16 55 15.5 -2.3**
YAK *e**SS **sS 16 55 27.1 -0.9**
YAK *e*SS **SnSn 16 57 33.4 -7.1**
YAK *e*SSS SSS 16 58 01.9
YAK *e* 16 59 58.1
YAK pmax pmax
comp=Z,13nm,0.8s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK smax smax
comp=E,32nm,3.3s
YAK smax smax
comp=N,57nm,4.1s
YAK MLR MLR
comp=Z,508nm,14.0s
YAK MLR MLR
comp=E,292nm,12.0s
YAK MLR MLR
comp=N,194nm,14.0s
YAK Yakutsk 35.77 26 *eP* **P 16 49 41.7 -0.3**
comp=N,21nm,0.8s
SOKR Solikamsk 36.86 327 *eP* P 16 49 56.8 +5.6
SOKR pmax pmax
comp=Z,10.0nm,0.8s
SOKR MLR MLR
comp=Z,420nm,21.0s
DGRG David-gareji 40.66 297 P P 16 50 25.1 +1.6
DGRG David-gareji 40.66 297 P P 16 50 25.0 +1.6
GNI Garni 41.28 295 P P 16 50 29.8 +1.1
comp=Z,2.1nm,0.3s,baz=54,slow=17,SNR=1.6
GNI LR LR 17 11 17.6
comp=Z,134nm,18.2s,baz=86,slow=42
GNI Garni 41.28 295 *⇓i* P 16 50 33.2 +4.5
GNI pmax pmax
comp=Z,31nm,1.2s
ONI Oni 41.98 299 P P 16 50 35.5 +1.1
ONI Oni 41.98 299 P P 16 50 35.4 +1.1
GOF Gofitskoye 42.10 302 *eP* **P 16 50 35.2 0.0**
GOF pmax pmax
comp=Z,30nm,0.9s
KBZ Khabaz 42.29 300 P P 16 50 36.8 +0.1
comp=Z,5.3nm,0.9s,baz=326,slow=24,SNR=11
KBZ LR LR 17 11 23.5
comp=Z,361nm,18.9s,baz=54,slow=41
KIV Kislovodsk 42.42 301 *eP* **P 16 50 39.9 +2.0**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,185nm,16.0s
KIV Kislovodsk 42.42 301 *eP* **P 16 50 39.6 +1.7**
comp=Z,17nm,1.0s
NEY Neytrino 42.46 300⇑ *eP* **P 16 50 40.2 +1.9**
NEY pmax pmax
comp=Z,2.0nm,0.9s
VORD Divnogorie 44.52 311 *eP* **P 16 50 54.1 -0.5**
VORD pmax pmax
comp=Z,7.0nm,0.9s
VORD pmax pmax
comp=N,60nm,0.6s
VORD pmax pmax
comp=E,60nm,0.8s
VSR Storozhevoye 44.60 311 *eP* **P 16 50 55.2 0.0**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,7.0nm,0.7s
VSR pmax pmax
comp=E,20nm,0.8s
LPSR Galich'ya Gora 44.78 313 *eP* **P 16 50 57.0 +0.3**
LPSR pmax pmax
comp=Z,20nm,0.9s
LPSR pmax pmax
comp=N,6.0nm,0.6s
LPSR pmax pmax
comp=E,10.0nm,1.3s
KLMR Klimovskoe 45.39 325 *eP* **P 16 51 00.3 -1.1**
KLMR pmax pmax
comp=Z,10.0nm,0.8s
SEY Seymchan 45.64 32 LR LR 17 11 35.5
comp=Z,627nm,18.1s,baz=258,slow=38
OBN Obninsk 46.28 317 LR LR 17 11 17.2
comp=Z,387nm,18.8s,baz=88,slow=37
OBN Obninsk 46.28 317 *⇓eP* **P 16 51 08.5 0.0**
OBN pmax pmax
comp=Z,7.0nm,0.4s
OBN MLR MLR
comp=Z,400nm,20.0s
PETK Petropavlovsk- 47.40 46 LR LR 17 13 03.6
comp=Z,141nm,19.0s,baz=264,slow=38
SIM Simferopol' 48.41 303 *eP* **P 16 51 26.1 +0.9**
SIM pmax pmax
comp=Z,13nm,1.0s
SIM MLR MLR
comp=Z,160nm,17.2s
BR131 Keskin Array S 49.75 296 *eP* **P 16 51 35.1 -0.7**
comp=Z,5.3nm,0.8s
BRTR Keskin Array B 49.75 296 P P **16 51 35.2 -0.6**
comp=Z,8.2nm,0.9s,baz=98,slow=8.0,SNR=34
BRTR LR LR 17 15 24.0
comp=Z,56nm,19.3s,baz=74,slow=39
BRTR Keskin Array B 49.75 296 *i* P **P 16 51 35.5 -0.3**
BRTR pmax pmax
comp=Z,8.0nm,0.9s
ANTO Ankara 50.35 297 *eP* **P 16 51 40.3 +0.1**
ANTO pmax pmax
comp=Z,20nm,0.9s
ANTO Ankara 50.35 297 *⇓i* P **P 16 51 41.1 +0.8**
ANTO Ankara 50.35 297 *eP* **P 16 51 40.3 +0.1**
comp=Z,20nm,0.9s
AKASG Malin Array Be 50.90 311 P P **16 51 43.5 -0.6**
comp=Z,5.7nm,0.6s,baz=74,slow=6.6,SNR=22
AKASG PcP **PcP 16 53 00.4 0.0**
comp=Z,0.5nm,0.4s,baz=78,slow=5.1,SNR=3.0
AKASG LR LR 17 14 58.7
comp=Z,156nm,18.5s,baz=70,slow=38
AKASG Malin Array Be 50.90 311 *i* P **P 16 51 43.7 -0.4**
AKASG pmax pmax
comp=Z,14nm,0.8s
AKBB Malin Array Si 50.90 311 *eP* **P 16 51 43.0 -1.1**
AKBB Malin Array Si 50.90 311 *eP* **P 16 51 43.0 -1.1**
AK01 Malin Array Si 50.91 311 *eP* **P 16 51 43.6 -0.6**
KIEV Kiev 50.91 311 *eP* **P 16 51 43.1 -1.1**
KIEV pmax pmax
comp=Z,16nm,1.1s
KIEV Kiev 50.91 311 *eP* **P 16 51 43.1 -1.1**
comp=Z,16nm,1.1s
AK02 Malin Array Si 50.92 311 *eP* **P 16 51 43.8 -0.4**
VSU Vasula 51.69 321⇑ *i* P **P 16 51 49.9 0.0**
FINES FINESS Array B 51.93 325 P P **16 51 51.7 +0.1**
comp=Z,4.1nm,0.8s,baz=95,slow=7.4,SNR=20
FINES PcP **PcP 16 53 03.2 -0.8**
comp=Z,1.4nm,0.7s,baz=54,slow=5.7,SNR=3.2
FINES LR LR 17 13 13.3
comp=Z,169nm,19.8s,baz=96,slow=35
ARCES ARCESS Array B 52.45 335 P P **16 51 55.8 +0.4**
comp=Z,2.6nm,0.5s,baz=89,slow=7.4,SNR=17
ARCES PcP **PcP 16 53 05.7 -0.2**
comp=Z,3.1nm,0.8s,baz=93,slow=3.9,SNR=3.9
ARCES LR LR 17 16 05.0
comp=Z,306nm,19.2s,baz=88,slow=38
CFR Carcaliu 52.54 304 *⇓i* P **P 16 51 55.9 -0.5**
ISP Isparta 52.59 295 *eP* **P 16 51 56.3 -0.8**
ISP pmax pmax
comp=Z,13nm,0.9s
ISP Isparta 52.59 295 *⇓i* P **P 16 51 56.2 -0.8**
ISP Isparta 52.59 295 *eP* **P 16 51 56.3 -0.8**
comp=Z,13nm,0.9s
TLB Topalu 52.73 304⇑ *i* P **P 16 51 58.0 +0.2**
HARR Harsova 52.78 304 *⇓i* P **P 16 51 58.8 +0.6**
TESR Tescani 53.28 306⇑ *i* P **P 16 52 01.6 -0.3**
VRI Vrincioaia 53.36 305 *⇓i* P **P 16 52 03.6 +1.1**
PLOR Plostina 53.42 305 *⇓i* P **P 16 52 04.1 +1.1**
ISR Istrita 53.65 305 *⇓i* P **P 16 52 06.6 +1.9**
MLR Muntele Rosu 53.98 305 *⇓i* P **P 16 52 08.1 +0.9**
BURAR Bucovina Array 54.01 308 *⇓i* P **P 16 52 07.7 +0.4**
BUR08 Bucovina Ar. S 54.01 308 *eP* **P 16 52 07.2 -0.2**
SUW Suwalki 54.12 316 *eP* **P 16 52 08.3 +0.4**
SUW Suwalki 54.12 316 *eP* **P 16 52 08.4 +0.5**
DOPR Dopca 54.25 306 *⇓i* P **P 16 52 09.1 +0.1**
JMB Yambol 54.26 301 *⇓i* P **P 16 52 09.8 +0.7**
LVV L'vov 54.33 311 *eP* **P 16 52 09.3 -0.2**
VOIR 54.60 305⇑ *i* P **P 16 52 11.7 0.0**
ARR Arges 54.91 305 *⇓i* P **P 16 52 14.5 +0.6**
KWP Kalwaria Pacla 55.21 311 *eP* **P 16 52 16.8 +0.9**
KWP Kalwaria Pacla 55.21 311 *eP* **P 16 52 16.9 +1.0**
KDZ Kurdzhali 55.32 301 *⇓i* P **P 16 52 17.5 +0.7**
LOT Lotru 55.48 305 *⇓i* P **P 16 52 17.7 -0.3**
SPITS Spitsbergen Ar 55.55 346 P P **16 52 18.3 +0.3**
comp=Z,3.4nm,0.8s,baz=98,slow=6.0,SNR=8.5
SPITS PcP **PcP 16 53 17.6 0.0**
comp=Z,4.0nm,0.9s,baz=113,slow=3.3,SNR=5.4
KOLS Kolonicke sedl 55.64 310 *eP* **P 16 52 19.0 0.0**
KOLS pmax pmax
comp=Z,3.0nm,0.8s
KOLS Kolonicke sedl 55.64 310 *eP* **P 16 52 19.0 0.0**
BEL Belsk 55.94 314 *eP* **P 16 52 21.8 +0.7**
BEL Belsk 55.94 314 *eP* **P 16 52 21.9 +0.8**
STHS Stebnicka Huta 56.19 311 *eP* **P 16 52 23.1 +0.1**
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 56.19 311 *eP* **P 16 52 23.1 +0.1**
NIE Niedzica 56.78 311 *eP* **P 16 52 28.5 +1.4**
NIE Niedzica 56.78 311 *eP* **P 16 52 28.6 +1.4**
OJC Ojcow 56.91 312 *eP* **P 16 52 28.8 +0.7**
OJC Ojcow 56.91 312 *eP* **P 16 52 28.9 +0.8**
OKC Ostrava-Krasne 58.04 312 *eP* **P 16 52 36.4 +0.4**
OKC AMS AMS 17 18 40.0
comp=Z,300nm,15.3s
OKC Ostrava-Krasne 58.04 312 *eP* **P 16 52 36.4 +0.4**
OKC MLR MLR
comp=Z,300nm,15.3s
HFS Hagfors 58.10 324 P P **16 52 35.3 -0.9**
comp=Z,4.1nm,0.8s,baz=92,slow=10,SNR=4.5
HFS Hagfors 58.10 324 P P **16 52 35.3 -0.9**
HFS pmax pmax
comp=Z,4.0nm,0.8s
KSP Ksiaz 58.91 313 *eP* **P 16 52 42.8 +0.7**
KSP Ksiaz 58.91 313 *eP* **P 16 52 42.8 +0.7**
DPC Dobruska-Polom 59.03 313 *eP* **P 16 52 43.8 +0.8**
DPC *ex* x 16 52 46.2
DPC *e*pP pP 16 52 56.6 +7.2
DPC AMS AMS 17 19 20.0
comp=Z,300nm,19.1s
DPC Dobruska-Polom 59.03 313 *eP* **P 16 52 43.8 +0.8**
DPC *e* 16 52 56.6
DPC MLR MLR
comp=Z,300nm,19.1s
NB2 NORSAR Subarra 59.09 326 P P **16 52 42.6 -0.7**
comp=Z,3.8nm,0.7s,baz=74,slow=6.9
NOA NORSAR Array B 59.09 326 P P **16 52 42.5 -0.7**
comp=Z,2.5nm,0.8s,baz=72,slow=6.9,SNR=21
NOA LR LR 17 19 46.7
comp=Z,235nm,19.5s,baz=85,slow=38
UPC Upice 59.18 313 *eP* **P 16 52 44.0 +0.1**
UPC *ex* x 16 52 53.4
UPC Upice 59.18 313 *eP* **P 16 52 44.0 +0.1**
UPC *e* 16 52 53.4
TREC Trest 59.85 312 *eP* **P 16 52 49.3 +0.7**
TREC AMS AMS 17 20 40.0
comp=Z,200nm,12.2s
TREC Trest 59.85 312 *eP* **P 16 52 49.3 +0.7**
TREC MLR MLR
comp=Z,200nm,12.2s
CONA Conrad Observa 60.02 310⇑ *i* P **P 16 52 50.3 +0.4**
comp=Z,15nm,1.0s,SNR=10
PVCC Panska Ves 60.05 313 *eP* **P 16 52 50.7 +0.7**
PVCC *ex* x 16 52 52.6
PVCC AMS AMS 17 20 20.0
PVCC Panska Ves 60.05 313 *eP* **P 16 52 50.7 +0.7**
GOPC GO Pecny, Ondr 60.10 313 *eP* **P 16 52 50.8 +0.5**
GOPC *ex* x 16 52 53.2
GOPC AMS AMS 17 20 00.0
comp=Z,400nm,20.7s
PRU Pruhonice 60.23 313 *eP* **P 16 52 51.4 +0.2**
PRU *e*pP pP 16 53 05.1 +7.4
PRU AMS AMS 17 20 00.0
comp=Z,300nm,16.9s
PRU Pruhonice 60.23 313 *eP* **P 16 52 51.4 +0.2**
PRU *e* 16 53 05.1
PRU MLR MLR
comp=Z,300nm,16.9s
PRA Prague 60.27 313 *eP* **P 16 52 52.9 +1.4**
PRA Prague 60.27 313 *eP* **P 16 52 52.9 +1.4**
BRG Berggiesshubel 60.33 314 *eP* **P 16 52 52.1 +0.3**
comp=Z,6.5nm,0.7s
BRG Berggiesshubel 60.33 314 *eP* **P 16 52 52.2 +0.3**
comp=Z,9.0nm,0.7s
BRG Berggiesshubel 60.33 314 *eP* **P 16 52 52.1 +0.3**
BRG pmax pmax
comp=Z,9.0nm,0.7s
CLL Collm 60.77 314 *eP* **P 16 52 54.9 +0.1**
comp=Z,11nm,1.0s
CLL Collm 60.77 314 *eP* **P 16 52 54.0 -0.8**
comp=Z,7.0nm,0.8s
CLL *e*PPPP 16 57 08.0
CLL Collm 60.77 314 *eP* **P 16 52 54.0 -0.8**
CLL pmax pmax
comp=Z,7.0nm,0.8s
KHC Kasperske Hory 61.09 312 *eP* **P 16 52 57.4 +0.3**
KHC *ex* x 16 53 00.1
KHC *e*pP pP 16 53 09.9 +6.3
KHC Kasperske Hory 61.09 312 *eP* **P 16 52 56.4 -0.8**
KHC pmax pmax
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 61.09 312 *eP* **P 16 52 56.4 -0.8**
comp=Z,1.5nm,0.8s
GEC2 GERESS Array S 61.11 312 *eP* **P 16 52 57.8 +0.5**
comp=Z,18nm,1.6s
GERES GERESS Array B 61.11 312 P P **16 52 57.3 0.0**
comp=Z,4.3nm,0.7s,baz=72,slow=6.3,SNR=13
GERES LR LR 17 20 47.7
comp=Z,188nm,20.4s,baz=67,slow=37
TANN Tannenbergstha 61.37 314 *eP* **P 16 52 59.3 +0.3**
comp=Z,6.0nm,1.0s
NKC Novy Kostel 61.44 313 *eP* **P 16 52 59.9 +0.5**
NKC *ex* x 16 53 01.9
NKC AMS AMS 17 20 30.0
comp=Z,100nm,16.2s
NKC Novy Kostel 61.44 313 *eP* **P 16 52 59.9 +0.5**
NKC MLR MLR
comp=Z,100nm,16.2s
WERD Werda 61.45 314 *eP* **P 16 52 59.7 +0.1**
comp=Z,6.0nm,0.9s
WERN Wernitzgruen 61.46 313 *eP* **P 16 52 59.9 +0.3**
comp=Z,8.0nm,1.0s
GUNZ Gunzen 61.47 314 *eP* **P 16 53 00.1 +0.5**
comp=Z,12nm,1.1s
WET Wettzell 61.52 312 *eP* **P 16 53 00.4 +0.4**
comp=Z,8.0nm,1.1s
NEUB Neuenburg 61.53 315 *eP* **P 16 53 00.4 +0.4**
comp=Z,17nm,0.9s
PLN Plauen 61.53 314 *eP* **P 16 53 00.2 +0.1**
comp=Z,10.0nm,1.4s
ROTZ Rotzenmuhle 61.74 313 *eP* **P 16 53 02.2 +0.8**
comp=Z,14nm,1.1s
KBA Koelnbreinsper 61.91 310⇑ *i* P **P 16 53 04.6 +1.7**
comp=Z,5.2nm,0.7s
NRDL Niedersach Rie 62.09 316 *eP* **P 16 53 04.6 +0.9**
comp=Z,19nm,1.0s
CLZ Clausthal 62.16 316 *eP* **P 16 53 04.9 +0.6**
comp=Z,20nm,1.1s
GRFO Grafenberg 62.37 313 *eP* **P 16 53 05.8 +0.1**
GRFO pmax pmax
comp=Z,13nm,0.8s
GRFO Grafenberg 62.37 313 *eP* **P 16 53 05.8 +0.1**
comp=Z,13nm,0.8s
MOTA Moosalm 63.25 311⇑ *i* P **P 16 53 11.3 -0.5**
comp=Z,14nm,1.1s,SNR=8.1
RETA Reutte 63.42 311⇑ *i* P **P 16 53 13.4 +0.6**
comp=Z,11nm,1.1s
FETA Feichten 63.61 310 *i* P **P 16 53 13.8 -0.4**
comp=Z,15nm,1.2s,SNR=7.1
STU Stuttgart 63.93 313 P P **16 53 16.3 +0.2**
STU Stuttgart 63.93 313 P P **16 53 16.3 +0.2**
WRAB Tennant Creek 64.30 140 *⇓i* P **P 16 53 19.7 +1.0**
WRAB pmax pmax
comp=Z,50nm,1.2s
WRAB Tennant Creek 64.30 140 P P **16 53 16.3 -2.4**
comp=Z,18nm,1.0s
WRA Warramunga Arr 64.30 140 P P **16 53 17.7 -1.0**
comp=Z,7.4nm,0.9s,baz=332,slow=7.3,SNR=31
BFO Black Forest 64.63 312 *eP* **P 16 53 20.0 -0.7**
BFO pmax pmax
comp=Z,11nm,1.0s
BFO Black Forest 64.63 312 *eP* **P 16 53 20.0 -0.7**
comp=Z,11nm,1.0s
TUE Stuetta 64.69 310 *eP* **P 16 53 20.3 -1.1**
comp=Z,8.4nm,0.6s
KMBO Kilima Mbogo 65.06 251 P P **16 53 23.7 -0.5**
comp=Z,3.8nm,0.7s,baz=33,slow=12,SNR=9.2
KMBO Kilima Mbogo 65.06 251 *i* P **P 16 53 24.5 +0.3**
KMBO pmax pmax
comp=Z,4.0nm,0.7s
KMBO Kilima Mbogo 65.06 251 *eP* **P 16 53 23.8 -0.4**
MEM Membach 65.16 315 P P **16 53 24.3 +0.3**
comp=Z,7.0nm,1.6s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**65.40**	**313**	*e*P	**P**	**16 53 24.7**	**-1.0**
ECH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ECH	**Echery**	**65.40**	**313**	*e*P	**P**	**16 53 24.7**	**-1.0**
	comp=Z,6.3nm,1.0s						
WLF	**Walferdange**	**65.44**	**314**	P	**P**	**16 53 26.9**	**+1.1**
	comp=Z,14nm,1.3s						
WLF	**Walferdange**	**65.44**	**314**	*e*P	**P**	**16 53 26.7**	**+0.8**
WLF				pmax	pmax		
	comp=Z,17nm,0.8s						
WLF	**Walferdange**	**65.44**	**314**	*e*P	**P**	**16 53 26.7**	**+0.8**
	comp=Z,17nm,0.8s						
BCLA	**Clavier**	**65.65**	**315**	P	**P**	**16 53 27.0**	**-0.2**
DOU	**Dourbes**	**66.19**	**315**	P	**P**	**16 53 30.8**	**+0.1**
	comp=Z,4.3nm,1.4s						
SNF	**Seneffe**	**66.21**	**316**	P	**P**	**16 53 32.0**	**+1.2**
BNI	**Bardonecchia**	**66.97**	**310**	*e*P	**P**	**16 53 35.4**	**-0.6**
BNI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BNI	**Bardonecchia**	**66.97**	**310**	*e*P	**P**	**16 53 35.4**	**-0.6**
	comp=Z,6.0nm,0.7s						
AS31	**Alice Springs**	**67.13**	**142**	*e*P	**P**	**16 53 35.9**	**-1.0**
ASAR	**Alice Springs**	**67.13**	**142**	P	**P**	**16 53 36.0**	**-1.0**
	comp=Z,2.7nm,0.5s,baz=325,slow=6.6,SNR=106						
ASAR	**Alice Springs**	**67.13**	**142**	P	**P**	**16 53 36.0**	**-1.0**
COLD	**Coldfoot**	**68.10**	**23**	*e*P	**P**	**16 53 42.9**	**+0.4**
	comp=Z,3.2nm,0.9s						
EKA	**Eskdalemuir Ar**	**68.20**	**323**	P	**P**	**16 53 43.2**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=65,slow=5.4,SNR=7.6						
BPAW	**Bear Paw Mtn.**	**69.61**	**26**	*e*P	**P**	**16 53 52.9**	**+0.9**
	comp=Z,1.6nm,1.1s						
PPLA	**Purkeypile**	**69.84**	**27**	*e*P	**P**	**16 53 54.0**	**+0.4**
	comp=Z,35nm,1.3s						
ILAR	**Eielson Array**	**70.64**	**24**	P	**P**	**16 53 57.7**	**-0.6**
	comp=Z,1.4nm,1.0s,baz=294,slow=4.6,SNR=11						
ILAR				LR	LR	17 28 45.5	
	comp=Z,162nm,19.2s,baz=334,slow=39						
PMR	**Palmer**	**71.77**	**27**	*e*P	**P**	**16 54 05.1**	**0.0**
PMR				pmax	pmax		
	comp=Z,14nm,1.1s						
PMR	**Palmer**	**71.77**	**27**	*e*P	**P**	**16 54 05.1**	**0.0**
	comp=Z,14nm,1.1s						
INK	**Inuvik**	**72.17**	**17**	*e*P	**P**	**16 54 07.3**	**-0.1**
INK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
INK	**Inuvik**	**72.17**	**17**	*e*P	**P**	**16 54 07.3**	**-0.1**
	comp=Z,7.2nm,1.0s						
EGAK	**Eagle**	**72.52**	**22**	*e*P	**P**	**16 54 10.7**	**+1.1**
	comp=Z,6.0nm,1.2s						
KDAK	**Kodiak Island**	**72.59**	**32**	*i* P	**P**	**16 54 11.5**	**+1.4**
ESDC	**Sonseca Array**	**76.45**	**309**	P	**P**	**16 54 32.7**	**-0.3**
	comp=Z,4.9nm,1.1s,baz=48,slow=5.8,SNR=11						
STKA	**Stephens Creek**	**77.74**	**142**	P	**P**	**16 54 39.2**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=328,slow=6.3,SNR=10						
DLBC	**Dease Lake**	**80.78**	**23**	*e*P	**P**	**16 54 57.6**	**+1.1**
LSZ	**Lusaka**	**80.80**	**245**	*e*P	**P**	**16 54 56.7**	**-0.6**
LSZ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
LSZ	**Lusaka**	**80.80**	**245**	*e*P	**P**	**16 54 56.7**	**-0.6**
	comp=Z,5.7nm,0.7s						
YKA	**Yellowknife Ar**	**81.35**	**14**	P	**P**	**16 54 59.2**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=323,slow=4.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**86.55**	**283**	P	**P**	**16 55 26.1**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=46,slow=3.9,SNR=10						
TORD				PP	**PP**	**16 58 47.4**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=49,slow=8.5,SNR=3.8						
TORD				LR	LR	17 37 10.9	
	comp=Z,130nm,19.0s,baz=55,slow=38						
FFC	**Flin Flon**	**90.92**	**10**	*e*P	**P**	**16 55 46.2**	**-0.6**
FFC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FFC	**Flin Flon**	**90.92**	**10**	*e*P	**P**	**16 55 46.1**	**-0.6**
	comp=Z,3.2nm,0.8s						
SCHQ	**Schefferville**	**90.98**	**350**	LR	LR	17 38 55.5	
	comp=Z,81nm,21.2s,baz=317,slow=37						
DBIC	**Dimbokro**	**95.50**	**282**	LR	LR	17 43 56.3	
	comp=Z,103nm,22.0s,baz=38,slow=38						
SAML	**Samuel**	**149.15**	**317**	*e*PKPbc	**PKPdf**	**17 02 29.7**	**+1.7**

FUNV 06 16:48:55.5, 6°.79N×73°.12W, h168km, MW3.6, 9D, Northern Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.33**	**37**	⇓*i*P	Pn	16 49 24.3	-0.9
CAPV				*e*S	Sn	16 49 45.5	-2.5
VIGV	**El Vigia**	**2.68**	**40**	⇓*i*P	Pn	16 49 38.9	-0.9
VIGV				*e*S	Sn	16 50 10.8	-3.3
SOCV	**Socops**	**2.69**	**56**	⇓*i*P	Pn	16 49 39.1	-0.8
SOCV				*e*S	Sn	16 50 10.8	-3.5
ELOV	**Elorza**	**3.61**	**86**	*e*P	Pn	16 49 50.4	-1.0
VIRV	**Villa del Rosa**	**3.76**	**11**	⇓*i*P	Pn	16 49 51.4	-1.8
VIRV				*e*S	Sn	16 50 33.3	-4.9
QARV	**Quebrada Arrib**	**4.26**	**37**	⇓*i*P	Pn	16 49 58.8	-0.8
SANV	**Sanarito**	**4.45**	**53**	⇓*e*P	Pn	16 50 00.7	-1.6
CURV	**Curarigua**	**4.47**	**44**	⇓*e*P	Pn	16 50 01.2	-1.3
DABV	**Dabajuro**	**4.78**	**31**	⇓*e*P	Pn	16 50 05.4	-1.0
SIQV	**Siquisique**	**5.04**	**40**	⇓*i*P	Pn	16 50 08.2	-1.6
BAUV	**El Baul**	**5.46**	**67**	*e*P	Pn	16 50 12.7	-2.7
MONV	**Montecano**	**6.00**	**31**	*e*P	Pn	16 50 20.3	-2.1
TURV	**Turiamo**	**6.36**	**55**	*e*P	Pn	16 50 25.2	-1.9
BIRV	**Birongo**	**7.70**	**61**	*e*P	Pn	16 50 42.0	-2.9

*IDC **06** 16:49:51.0±1.7, 38°.20N×15°.30E, h0km, mb3.4/5, mb1 3.5/7, mb1mx3.4/28, mbtmp3.4/7, ML4.3/1, Error ellipse: s-maj=32.5km s-min=25.4km az=148.0*

*ISCJB **06** 16:49:53.5±0.2, 38°.26N±0°.02×15°.11E±0°.02, h26km±2km, mb3.5/5, Error ellipse: s-maj=4.0km s-min=3.2km az=176.7*

*ROM **06** 16:49:53.1±0.1, 38°.24N×15°.11E, h25km±2km, Ml3.5/26, Error ellipse: s-maj=1.8km s-min=1.6km az=6.0*

*CSEM **06** 16:49:53.6±0.1, 38°.23N×15°.09E, h20km, ML4.4/7, Error ellipse: s-maj=3.4km s-min=2.6km az=138.0*

ISC 06 16:49:53.4±0.9**, 38°.25N**±0°.02×**15°.10E**±0°.02**, h18**km±7km**, n104, σ1s.08**/118**, mb3.4**/5**, 14C-10D, Sicily**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VPL	**Vulcano Piano**	**0.16**	**326**	⇓*i*Pg	**Pb**	**16 49 58.5**	**+1.3**
VPL				Sg	**Sb**	**16 50 01.9**	**+2.2**
VPL	**Vulcano Piano**	**0.16**	**326**	⇓*i*Pg	**Pb**	**16 49 58.5**	**+1.3**
VPL				Sg	**Sb**	**16 50 01.9**	**+2.2**
LLI	**Lipari**	**0.23**	**329**	⇓*e*Pg	**Pb**	**16 49 59.8**	**+0.9**
LLI				Sg	**Sb**	**16 50 03.5**	**+1.0**
	37µm,0.7s						
LLI	**Lipari**	**0.23**	**329**	⇓*e*Pg	**Pb**	**16 49 59.8**	**+0.9**
LLI				Sg	**Sb**	**16 50 03.5**	**+1.0**
	37µm,0.7s						
MSRU	**Castanea**	**0.32**	**87**	⇑*i*Pg	**Pb**	**16 50 00.5**	**-0.2**
MSRU				Sg	**Sb**	**16 50 05.6**	**+0.1**
	12µm,0.4s						
MSRU	**Castanea**	**0.32**	**87**	⇑*i*Pg	**Pb**	**16 50 00.5**	**-0.2**
MSRU				Sg	**Sb**	**16 50 05.6**	**+0.1**
	12µm,0.4s						
MMME	**Mongiuffi-Meli**	**0.33**	**158**	⇑*i*Pg	**Pg**	**16 50 00.4**	**-0.2**
MMME				Sg	**Sg**	**16 50 04.9**	**-0.5**
	23µm,0.6s						
MMME	**Mongiuffi-Meli**	**0.33**	**158**	⇑*i*Pg	**Pg**	**16 50 00.4**	**-0.2**
MMME				Sg	**Sg**	**16 50 04.9**	**-0.5**
	23µm,0.6s						
MNO	**Monte Soro**	**0.45**	**226**	⇑*i*Pg	**Pb**	**16 50 02.9**	**0.0**
MNO				Sg	**Sb**	**16 50 09.6**	**+0.3**
	9µm,0.5s						
MNO	**Monte Soro**	**0.45**	**226**	⇑*i*Pg	**Pb**	**16 50 02.9**	**0.0**
MNO				Sg	**Sb**	**16 50 09.6**	**+0.3**
	9µm,0.5s						
MTTG	**Motta San Giov**	**0.53**	**117**	⇑*i*Pg	**Pg**	**16 50 03.8**	**-0.2**
MTTG				Sg	**Sb**	**16 50 12.9**	**+1.5**
	7µm,0.5s						
MTTG	**Motta San Giov**	**0.53**	**117**	⇑*i*Pg	**Pg**	**16 50 03.8**	**-0.2**
MTTG				Sg	**Sb**	**16 50 12.9**	**+1.5**
	7µm,0.5s						
STR4	**STROMBOLI 4**	**0.53**	**10**	Pg	**Pb**	**16 50 04.8**	**+0.6**
STR4	**STROMBOLI 4**	**0.53**	**10**	Pg	**Pb**	**16 50 04.8**	**+0.6**
STR3	**STROMBOLI 3**	**0.56**	**11**	Pg	**Pb**	**16 50 05.6**	**+1.0**
STR3	**STROMBOLI 3**	**0.56**	**11**	Pg	**Pb**	**16 50 05.6**	**+1.0**
ESLN	**Serra La Nave**	**0.56**	**190**	Pg	**Pb**	**16 50 05.3**	**+0.6**
	4µm,0.6s						
ESLN	**Serra La Nave**	**0.56**	**190**	Pg	**Pb**	**16 50 05.3**	**+0.6**
	4µm,0.6s						
CEL	**Celeste**	**0.63**	**89**	Pg	**Pg**	**16 50 05.2**	**-0.6**
CEL				Sg	**Sg**	**16 50 13.9**	**-0.3**
	3µm,0.5s						
CEL	**Celeste**	**0.63**	**89**	Pg	**Pg**	**16 50 05.2**	**-0.6**
CEL				Sg	**Sg**	**16 50 13.9**	**-0.3**
	3µm,0.5s						
IACL	**Alicudi**	**0.65**	**296**	⇑*i*Pg	**Pg**	**16 50 06.3**	**+0.1**
IACL				Sg	**Sb**	**16 50 15.7**	**+0.9**
	10µm,0.5s						
IACL	**Alicudi**	**0.65**	**296**	⇑*i*Pg	**Pg**	**16 50 06.3**	**+0.1**
IACL				Sg	**Sb**	**16 50 15.7**	**+0.9**
	10µm,0.5s						
ECNV	**Catenanuova**	**0.72**	**205**	⇓*e*Pg	**Pn**	**16 50 09.2**	**+0.6**
	8µm,0.7s						
ECNV	**Catenanuova**	**0.72**	**205**	⇓*e*Pg	**Pn**	**16 50 09.2**	**+0.6**
	8µm,0.7s						
SOI	**Samo**	**0.77**	**103**	Pg	**Pb**	**16 50 07.7**	**-0.6**
	1µm,0.5s						
SOI	**Samo**	**0.77**	**103**	Pg	**Pb**	**16 50 07.7**	**-0.6**
	1µm,0.5s						
PLLN	**Pollina**	**0.79**	**252**	Pg	**Pb**	**16 50 08.5**	**-0.2**
PLLN				Sg	**Sg**	**16 50 20.1**	**+0.6**
PLLN	**Pollina**	**0.79**	**252**	Pg	**Pb**	**16 50 08.5**	**-0.2**
PLLN				Sg	**Sg**	**16 50 20.1**	**+0.6**
CSLB	**Castelbuono**	**0.88**	**250**	Pg	**Pb**	**16 50 09.5**	**-0.6**
	704nm,0.4s						
CSLB	**Castelbuono**	**0.88**	**250**	Pg	**Pb**	**16 50 09.5**	**-0.6**
	704nm,0.4s						
GIB	**Gibilmanna**	**0.88**	**253**	⇑*e*Pg	**Pb**	**16 50 09.5**	**-0.7**
	3µm,0.5s						
GIB	**Gibilmanna**	**0.88**	**253**	⇑*e*Pg	**Pb**	**16 50 09.5**	**-0.7**
	3µm,0.5s						
SOLUN	**Solunto**	**1.24**	**263**	⇑*e*Pg	**Pn**	**16 50 14.7**	**-1.1**
	704nm,1.0s						
SOLUN	**Solunto**	**1.24**	**263**	⇑*e*Pg	**Pn**	**16 50 14.7**	**-1.1**
	704nm,1.0s						
MMGO	**Monte Magaggia**	**1.77**	**251**	Pg	**Pn**	**16 50 23.8**	**+0.6**
	220nm,0.4s						
MMGO	**Monte Magaggia**	**1.77**	**251**	Pg	**Pn**	**16 50 23.8**	**+0.6**
	220nm,0.4s						
MMN	**Mormanno**	**1.78**	**23**	Pg	**Pn**	**16 50 22.9**	**-0.3**
	59nm,0.5s						
MMN	**Mormanno**	**1.78**	**23**	Pg	**Pn**	**16 50 22.9**	**-0.3**
	59nm,0.5s						
LADO	**San Nicola del**	**1.80**	**54**	Pg	**Pn**	**16 50 24.3**	**+0.8**
	453nm,0.5s						
LADO	**San Nicola del**	**1.80**	**54**	Pg	**Pn**	**16 50 24.3**	**+0.8**
	453nm,0.5s						
PIPA	**Pietrapaola**	**1.82**	**47**	Pg	**Pn**	**16 50 24.6**	**+0.7**
	2µm,1.2s						
PIPA	**Pietrapaola**	**1.82**	**47**	Pg	**Pn**	**16 50 24.6**	**+0.7**
	2µm,1.2s						
CUC	**Castrocucco**	**1.83**	**18**	⇓*e*Pg	**Pn**	**16 50 23.6**	**-0.4**
	265nm,0.5s						
CUC	**Castrocucco**	**1.83**	**18**	⇓*e*Pg	**Pn**	**16 50 23.6**	**-0.4**
	265nm,0.5s						
BULG	**Bulgheria - Ca**	**1.84**	**7**	⇓*i*Pg	**Pn**	**16 50 23.5**	**-0.7**
	185nm,0.4s						
BULG	**Bulgheria - Ca**	**1.84**	**7**	⇓*i*Pg	**Pn**	**16 50 23.5**	**-0.7**
	185nm,0.4s						
MTGR	**Montagna Grand**	**1.88**	**260**	Pg	**Pn**	**16 50 24.1**	**-0.5**
	66nm,0.4s						
MTGR	**Montagna Grand**	**1.88**	**260**	Pg	**Pn**	**16 50 24.1**	**-0.5**
	66nm,0.4s						
SIRI	**Monte Sirino -**	**2.02**	**17**	Pg	**Pn**	**16 50 26.2**	**-0.5**
	214nm,0.4s						
SIRI	**Monte Sirino -**	**2.02**	**17**	Pg	**Pn**	**16 50 26.2**	**-0.5**
	214nm,0.4s						
CMPR	**Campora**	**2.08**	**4**	Pg	**Pn**	**16 50 26.7**	**-0.6**
	99nm,0.4s						
CMPR	**Campora**	**2.08**	**4**	Pg	**Pn**	**16 50 26.7**	**-0.6**
	99nm,0.4s						
MTSN	**Montesano sull**	**2.08**	**14**	Pg	**Pn**	**16 50 27.2**	**-0.3**
	62nm,0.5s						
MTSN	**Montesano sull**	**2.08**	**14**	Pg	**Pn**	**16 50 27.2**	**-0.3**
	62nm,0.5s						
SCHR	**S. Chirico Rap**	**2.09**	**21**	Pg	**Pn**	**16 50 26.3**	**-1.3**
	139nm,0.9s						
CDRU	**Civita di Ruta**	**2.25**	**4**	Pg	**Pn**	**16 50 29.2**	**-0.5**
	81nm,0.3s						
CDRU	**Civita di Ruta**	**2.25**	**4**	Pg	**Pn**	**16 50 29.2**	**-0.5**
	81nm,0.3s						
MRLC	**Muro Lucano**	**2.52**	**7**	Pg	**Pn**	**16 50 34.2**	**+0.7**
	58nm,0.6s						
MRLC	**Muro Lucano**	**2.52**	**7**	Pg	**Pn**	**16 50 34.2**	**+0.7**
	58nm,0.6s						
MCRV	**Calabrutti - M**	**2.53**	**1**	Pg	**Pn**	**16 50 33.7**	**0.0**
	50nm,0.5s						
MCRV	**Calabrutti - M**	**2.53**	**1**	Pg	**Pn**	**16 50 33.7**	**0.0**
	50nm,0.5s						
MIGL	**Miglionico**	**2.57**	**23**	Pg	**Pn**	**16 50 35.4**	**+1.2**
MIGL	**Miglionico**	**2.57**	**23**	Pg	**Pn**	**16 50 35.4**	**+1.2**
ACER	**Acerenza**	**2.62**	**14**	Pg	**Pn**	**16 50 36.2**	**+1.4**
	152nm,0.6s						
ACER	**Acerenza**	**2.62**	**14**	Pg	**Pn**	**16 50 36.2**	**+1.4**
	152nm,0.6s						
TAR1	**Taranto**	**2.84**	**36**	*e*P	**Pn**	**16 50 37.7**	**0.0**
SG1	**Sgolgore (BA)**	**2.86**	**25**	*e*P	**Pn**	**16 50 38.6**	**+0.4**
AMUR	**Altamura**	**2.90**	**23**	Pg	**Pn**	**16 50 38.9**	**+0.2**
	54nm,0.5s						
AMUR	**Altamura**	**2.90**	**23**	Pg	**Pn**	**16 50 38.9**	**+0.2**
	54nm,0.5s						
NOCI	**Noci**	**2.96**	**30**	Pg	**Pn**	**16 50 39.3**	**-0.2**
	75nm,0.5s						
NOCI	**Noci**	**2.96**	**30**	Pg	**Pn**	**16 50 39.3**	**-0.2**
	75nm,0.5s						
CDT	**Castel del Mon**	**2.97**	**17**	*e*P	**Pn**	**16 50 39.9**	**+0.2**
KEK	**Kerkira**	**3.94**	**67**	*e*P	**Pn**	**16 50 54.0**	**+1.0**
IGT	**Igoumenitsa**	**4.28**	**71**	*e*P	**Pn**	**16 50 58.0**	**+0.4**
VLS	**Valsamata**	**4.33**	**89**	*e*P	**Pn**	**16 50 58.0**	**-0.2**
VLS	**Valsamata**	**4.33**	**89**	*e*P	**Pn**	**16 50 58.5**	**+0.3**
DSL	**Palaion Diasel**	**4.78**	**77**	*e*P	**Pn**	**16 51 06.0**	**+1.6**
PDO	**Prodromos**	**4.79**	**84**	*e*P	**Pn**	**16 51 07.0**	**+2.4**
STON	**Ston**	**5.03**	**22**	Sn	**Sn**	**16 52 00.1**	**-5.3**
KEST	**Kesra**	**5.24**	**243**	Pn	Pn	16 51 13.9	+3.0
	0.3nm,0.3s,baz=95,slow=2.3,SNR=6.8						
KEST				Sn	**Sn**	**16 52 13.6**	**+2.6**
	0.1nm,0.3s,baz=3.6,slow=19,SNR=2.5						
AMT	**Artemida-Makis**	**5.28**	**96**	*e*P	Pn	16 51 14.5	+3.2
EFP	**Efpalio**	**5.36**	**86**	*e*P	**Pn**	**16 51 14.0**	**+1.6**
KALE	**Kalithea**	**5.54**	**86**	*e*P	Pn	16 51 18.5	+3.5
THL	**Klokotos Trika**	**5.55**	**74**	*e*P	Pn	16 51 19.0	+3.9
MAKR	**Makrakomi, Fth**	**5.56**	**80**	*e*P	**Pn**	**16 51 17.0**	**+1.8**
KLV	**Kalavryta, Ach**	**5.56**	**90**	*e*P	**Pn**	**16 51 16.5**	**+1.2**
AGG	**Agios Georgios**	**5.71**	**80**	*e*P	**Pn**	**16 51 19.0**	**+1.6**
GUR	**Goura**	**5.72**	**91**	*e*P	**Pn**	**16 51 19.5**	**+2.0**
DSF	**Desfina**	**5.84**	**86**	*e*P	Pn	16 51 22.5	+3.4
LTK	**Loutraki**	**6.21**	**90**	*e*P	**Pn**	**16 51 24.5**	**+0.4**
VLI	**Veliai**	**6.42**	**101**	*e*P	**Pn**	**16 51 29.5**	**+2.5**
DID	**Didima**	**6.48**	**94**	*e*P	**Pn**	**16 51 29.0**	**+1.1**
BBLS	**Lazići**	**6.49**	**29**	*e*Pn	**Pn**	**16 51 28.9**	**+0.9**
KYTH	**Kithira**	**6.63**	**105**	*e*P	**Pn**	**16 51 30.0**	**+0.1**
DIVS	**Divibare**	**6.91**	**31**	*e*Pn	**Pn**	**16 51 33.7**	**-0.1**
GRUS	**Gruza**	**7.05**	**35**	*e*Pn	**Pn**	**16 51 37.3**	**+1.6**
ZAPS	**Zavoj**	**7.61**	**46**	*e*Pn	**Pn**	**16 51 44.8**	**+1.5**
GERES	**GERESS Array B**	**10.64**	**355**	Pn	**Pn**	**16 52 27.6**	**+2.7**
	1.0nm,0.3s,baz=168,slow=12,SNR=14						
KECS	**Kecovo**	**10.95**	**19**	*e*P	**Pn**	**16 52 28.5**	**-0.6**
NOA	**NORSAR Array B**	**22.95**	**355**	P	**P**	**16 54 55.5**	**-0.9**
	0.8nm,1.0s,baz=173,slow=11,SNR=2.4						
FINES	**FINESS Array B**	**24.21**	**13**	P	**P**	**16 55 07.2**	**-1.5**
	3.7nm,1.1s,baz=212,slow=9.9,SNR=3.3						
KURBB	**Kurchatov Arra**	**45.61**	**53**	P	**P**	**16 58 12.6**	**+0.3**
	0.2nm,0.6s,baz=293,slow=7.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**48.81**	**47**	P	**P**	**16 58 37.1**	**-0.1**
	0.9nm,0.7s,baz=297,slow=6.3,SNR=2.1						
MKAR	**Makanchi Array**	**48.88**	**57**	P	**P**	**16 58 37.4**	**-0.5**
	0.2nm,0.6s,baz=291,slow=6.6,SNR=4.0						

*MOS **06** 16:57:21.2±1.3, 8°.47S×112°.49E, h51km, mb5.4/33, Error ellipse: s-maj=11.2km s-min=6.3km az=109.3*

*IDC **06** 16:57:25.8±1.7, 8°.53S×112°.55E, h75km±14km, mb4.7/29, mb1 4.7/31, mb1mx4.7/33, mbtmp5.0/31, MS3.7/17, Ms1 3.7/17, ms1mx3.5/33, Error ellipse: s-maj=12.1km s-min=9.2km az=81.0*

*ISCJB **06** 16:57:25.9±0.6, 8°.68S±0°.04×112°.51E±0°.03, h102km±5km, mb5.0/79, Error ellipse: s-maj=7.4km s-min=4.6km az=17.0*

*NEIC **06** 16:57:27.0±0.8, 8°.57S×112°.45E, h88km±6km, mb5.1/29, Error ellipse: s-maj=6.5km s-min=5.3km az=213.0*

NEIC Felt [III] at Karangkates. Also felt at Blitar, Jember, Kencong and Malang. Felt at Denpasar, Kuta and Ubud, Bali.

*BJI **06** 16:57:26.0, 8°.60S×112°.50E, h88km, mb5.1/54, mB5.0/38, Ms4.6/30, Ms7 4.2/17*

*KLM **06** 16:57:26.2, 8°.95S×112°.47E, h78km, mb5.0, ML5.0, MS5.8*

*DJA **06** 16:57:27.5±0.3, 9°S±3°×11°2E±°, h79km±4km, M4.9/40, mB5.3/15, mb5.1/40, MLv5.4/3, Mw(mB)4.7/15*

ISC 06 16:57:27.4±0.4**, 8°.70S**±0°.04×**112°.56E**±0°.04**, h94**km±2km**, h94**km**:pP-P, n504, σ1s.53**/506**, mb5.0**/90**, 24C-10D, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**2.15**	**291**	P	**Pn**	**16 57 59.8**	**-2.0**
UGM				S	**Sn**	**16 58 25.6**	**-2.6**
CISI	**Cisompet, Garu**	**4.83**	**283**	P	**Pn**	**16 58 35.9**	**-1.9**
CISI				S	**Sn**	**16 59 27.3**	**-5.3**
CISI	**Cisompet, Garu**	**4.83**	**283**	*e*Pn	**Pn**	**16 58 36.1**	**-1.7**
LEM	**Lembang**	**5.23**	**290**	P	**Pn**	**16 58 41.7**	**-1.7**
	4.6nm,0.3s,baz=127,slow=10,SNR=15						
LEM				S	**Sn**	**16 59 43.0**	**+0.4**
	8.5nm,0.3s,baz=143,slow=20,SNR=6.9						
LEM				LR	LR	17 00 52.9	
	comp=Z,794nm,20.4s,baz=39,slow=40						
KAPI	**Kappang**	**8.03**	**63**	Pn	**Pn**	**16 59 20.6**	**-0.8**
	356nm,0.4s,SNR=8.8						
KAPI	**Kappang**	**8.03**	**63**	P	**Pn**	**16 59 20.5**	**-0.8**
	11nm,0.3s,baz=236,slow=3.2,SNR=34						
KAPI				S	**Sn**	**17 00 46.0**	**-4.5**
	0.9nm,0.3s,baz=30,slow=17,SNR=2.4						
KAPI				LR	LR	17 02 50.7	
	comp=Z,346nm,21.9s,baz=241,slow=41						
KAPI	**Kappang**	**8.03**	**63**	*e*Pn	**Pn**	**16 59 20.6**	**-0.8**
	52nm,0.8s						
KAPI				S	**Sn**	**17 00 46.0**	**-4.5**
BKB	**Balikpapan**	**8.56**	**31**	P	Pn	16 59 34.7	+6.1
	196nm,0.9s,3µm						
MMRI	**Maumere**	**9.57**	**90**	P	**Pn**	**16 59 41.4**	**-1.0**
	278nm,1.0s,4µm						
MMRI				S	**Sn**	**17 01 24.1**	**-4.2**
	278nm,1.0s,4µm						
MMRI	**Maumere**	**9.57**	**90**	*e*Pn	**Pn**	**16 59 40.5**	**-2.0**
	167nm,0.5s						
KSM	**Kuching**	**10.35**	**347**	⇑P	**Pn**	**16 59 54.7**	**+1.7**
KSM	**Kuching**	**10.35**	**347**	*e*P	**Pn**	**16 59 53.5**	**+0.5**
	75nm,0.9s						
SBUM	**Sibu**	**11.08**	**358**	⇑P	**Pn**	**17 00 05.5**	**+2.6**
SOEI	**Soe**	**11.61**	**96**	P	**Pn**	**17 00 07.8**	**-2.4**
	263nm,0.9s,2µm						
SOEI	**Soe**	**11.61**	**96**	*e*P	**Pn**	**17 00 07.2**	**-3.0**
	150nm,0.6s						
BTM	**Bintulu**	**11.83**	**3**	⇑P	**Pn**	**17 00 16.0**	**+3.0**
LUWI	**Luwuk**	**12.70**	**54**	P	**P**	**17 00 29.6**	**-2.5**
	149nm,1.0s,1µm						
LUWI	**Luwuk**	**12.70**	**54**	*e*Pn	**Pn**	**17 00 27.5**	**+2.8**
	109nm,0.8s						
MYKOM	**Kota Tinggi**	**13.56**	**320**	⇓P	**Pn**	**17 00 38.5**	**+2.6**
TSM	**Tawau**	**13.95**	**23**	⇑P	**P**	**17 00 44.7**	**-1.4**
KGM	**Kluang**	**14.07**	**319**	⇑P	**Pn**	**17 00 44.4**	**+1.8**
MBWA	**Marble Bar**	**14.19**	**152**	*e*P	Pn	17 00 36.9	-7.2
	53nm,0.7s						
SANI	**Sanana**	**14.91**	**64**	P	**P**	**17 00 55.1**	**-1.6**
	123nm,1.0s,1µm						
KKM	**Kota Kinabalu**	**15.09**	**14**	⇑P	**P**	**17 00 59.0**	**+0.2**
KKM	**Kota Kinabalu**	**15.09**	**14**	*e*P	**Pn**	**17 00 56.2**	**+0.5**
	39nm,0.9s						
KDM	**Kudat**	**16.08**	**16**	⇑P	**P**	**17 01 11.8**	**+2.1**
FRIM	**Kepong**	**16.10**	**317**	⇓P	**P**	**17 01 09.9**	**-0.1**
KTGM	**Kuala Trenggan**	**16.80**	**326**	⇑P	**P**	**17 01 19.0**	**+1.4**
IPM	**Ipoh**	**17.42**	**318**	⇓P	**Pn**	**17 01 26.7**	**+2.0**
TNTI	**Ternate**	**17.50**	**58**	P	**Pn**	**17 01 26.5**	**+0.9**
	272nm,1.0s,2µm						
TNTI	**Ternate**	**17.50**	**58**	*e*P	**Pn**	**17 01 26.9**	**+1.3**
	152nm,0.6s						
PSI	**Prapat**	**17.75**	**309**	LR	LR	17 08 28.8	
	comp=Z,327nm,20.3s,baz=134,slow=38						
CTBH	**Cotabato--PC H**	**19.64**	**37**	⇓*i*P	**Pn**	**17 01 50.0**	**-1.1**
SIJI	**Sorong**	**20.19**	**68**	P	**P**	**17 01 54.4**	**-0.5**
	98nm,0.7s,baz=240,slow=8.9,SNR=25						
SIJI				S	**S**	**17 05 34.9**	**-1.6**
	8.0nm,0.9s,baz=212,slow=19,SNR=2.9						
SIJI				PcP	**PcP**	**17 06 06.8**	**+0.9**
	5.8nm,0.8s,baz=143,slow=5.0,SNR=3.9						
FAKI	**Fak Fak**	**20.41**	**75**	P	**P**	**17 01 56.6**	**-0.6**
	72nm,1.0s						
KRAB	**Krabi**	**21.44**	**321**	P	**P**	**17 02 09.7**	**+1.6**
	96nm,0.8s,742nm						
RKPI	**Ransiki, Papua**	**22.68**	**73**	P	**P**	**17 02 21.5**	**+0.2**
WRA	**Warramunga Arr**	**23.85**	**120**	P	**P**	**17 02 31.9**	**-0.4**
	70nm,0.6s,baz=297,slow=11,SNR=539						
WRA				PcP	**PcP**	**17 06 13.7**	**+0.5**
	4.5nm,0.5s,baz=302,slow=1.8,SNR=5.9						
WRA				S	**S**	**17 06 41.5**	**-0.2**
	2.5nm,0.9s,baz=314,slow=18,SNR=3.4						
WRA				ScP	**ScP**	**17 09 44.0**	**+0.7**
	1.4nm,0.5s,baz=305,slow=2.0,SNR=4.6						
WRAB	**Tennant Creek**	**23.86**	**120**	P	**P**	**17 02 32.3**	**0.0**
	603nm,0.7s,SNR=79						
WRAB	**Tennant Creek**	**23.86**	**120**	*e*P	**P**	**17 02 32.3**	**0.0**
WRAB				pmax	pmax		
	comp=Z,65nm,0.7s						
WRAB	**Tennant Creek**	**23.86**	**120**	*e*P	**P**	**17 02 32.3**	**0.0**
	comp=Z,65nm,0.7s						
TGY	**Tagaytay City**	**24.13**	**20**	P	**P**	**17 02 34.2**	**-0.5**
	comp=Z,48nm,0.3s,baz=163,slow=4.4,SNR=2.8						
NWAO	**Narrogin (SRO)**	**24.50**	**170**	P	**P**	**17 02 38.2**	**+0.2**
	comp=Z,13nm,0.8s,baz=326,slow=8.7,SNR=5.3						
NWAO				S	S	17 07 07.1	+15
	comp=Z,8.3nm,0.5s,baz=330,slow=20,SNR=6.8						
SRPI	**Serui, Papua**	**24.53**	**75**	P	**P**	**17 02 35.9**	**-2.5**
	comp=Z,91nm,0.9s,comp=Z,1µm						
AS31	**Alice Springs**	**25.28**	**129**	*e*P	**P**	**17 02 45.2**	**-0.1**
ASAR	**Alice Springs**	**25.28**	**129**	P	**P**	**17 02 45.4**	**+0.1**
	comp=Z,26nm,0.8s,baz=304,slow=9.8,SNR=360						
ASAR				PcP	**PcP**	**17 06 17.2**	**+1.0**
	comp=Z,7.5nm,0.7s,baz=331,slow=2.0,SNR=10						
ASAR				ScP	**ScP**	**17 09 48.6**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=311,slow=3.5,SNR=3.7						
ASAR				LR	LR	17 13 02.1	
	comp=Z,107nm,21.1s,baz=298,slow=37						
CHAI	**Chaiyaphum**	**26.59**	**337**	P	**P**	**17 02 57.9**	**+0.9**
	comp=Z,5.5nm,0.7s,comp=Z,56nm						
SKNT	**Sakolnakorn**	**26.88**	**342**	P	**P**	**17 03 01.1**	**+1.5**
	comp=Z,21nm,1.1s						
PBKT	**Sadao Pong**	**27.60**	**335**	P	**P**	**17 03 07.5**	**+1.5**
	comp=Z,14nm,1.2s						
QIZ	**Qiongzhong**	**27.68**	**354**	P	**P**	**17 03 08.5**	**+1.8**
QIZ				sP	**sP**	**17 03 36.4**	**-2.5**
QIZ				S	**S**	**17 07 47.0**	**+4.8**
QIZ				PMZ			
	comp=Z,9.0nm,1.9s						
NONG	**Nongkai**	**28.16**	**341**	P	**P**	**17 03 11.6**	**+0.5**
	comp=Z,32nm,0.8s,comp=Z,7µm						
UTTA	**Uttaradit**	**28.82**	**336**	P	**P**	**17 03 17.5**	**+0.6**
	comp=Z,5.9nm,0.8s,comp=Z,56nm						
LAMP	**Lampang**	**29.90**	**335**	P	**P**	**17 03 27.3**	**+0.8**
	comp=Z,8.2nm,0.7s,comp=Z,66nm						
CM31	**Chiang Mai Arr**	**30.14**	**334**	*e*P	**P**	**17 03 27.8**	**-0.8**
	comp=Z,4.1nm,0.4s						
CM31				*e*PcP	**PcP**	**17 06 29.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**30.14**	**334**	P	**P**	**17 03 28.2**	**-0.4**
	comp=Z,9.1nm,0.8s,baz=169,slow=8.1,SNR=52						
CMAR				PcP	**PcP**	**17 06 29.4**	**+1.3**
	comp=Z,6.9nm,0.7s,baz=189,slow=3.1,SNR=19						
CMAR				LR	LR	17 17 47.1	
	comp=Z,132nm,19.1s,baz=160,slow=41						
CHTO	**Chiang Mai**	**30.45**	**334**	P	**P**	**17 03 31.9**	**+0.5**
	comp=Z,48nm,1.3s,comp=Z,1µm						
CHTO	**Chiang Mai**	**30.45**	**334**	*e*P	**P**	**17 03 30.9**	**-0.5**
CHTO				*e*		17 06 30.1	
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CHTO	**Chiang Mai**	**30.45**	**334**	*e*P	**P**	**17 03 30.9**	**-0.5**
	comp=Z,7.5nm,1.1s						
CHTO				*e*PcP	**PcP**	**17 06 30.1**	**+1.2**
CMAI	**Chiengmai2**	**31.40**	**335**	P	**P**	**17 03 41.5**	**+1.6**
	comp=Z,32nm,0.7s						
CTAO	**Charters Tower**	**34.48**	**113**	*e*P	**P**	**17 04 07.2**	**+0.6**
CTAO				*e*		17 06 40.7	
CTAO				pmax	pmax		
	comp=Z,18nm,0.9s						
CTAO	**Charters Tower**	**34.48**	**113**	*e*P	**P**	**17 04 07.2**	**+0.6**
	comp=Z,18nm,0.9s						
CTAO				*e*PcP	**PcP**	**17 06 40.7**	**+0.6**
KMI	**Kunming**	**34.95**	**344**	P	**P**	**17 04 12.2**	**+1.4**
KMI				PMZ			
	comp=Z,8.0nm,1.0s						
GYA	**Guiyang**	**35.41**	**351**	⇑*i*P	**P**	**17 04 17.0**	**+2.4**
GYA				pP	**pP**	**17 04 38.4**	**+2.2**
GYA				sP	**sP**	**17 04 49.2**	**+2.2**

GYA PP **PP** **17 05 39.8 +2.9**
GYA PcP **PcP** **17 06 43.5 +0.8**
GYA S **S** **17 09 46.0 +3.3**
GYA sS **ScP** **17 10 22.4 +2.2**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,5.2s
GYA LN
comp=Z,730nm,17.3s
GYA LE
comp=Z,660nm,18.6s
GYA LZ
comp=Z,710nm,17.6s
STKA Stephens Creek 35.48 135 P **P** **17 04 16.1 +1.0**
comp=Z,72nm,0.5s,baz=314,slow=8.3,SNR=440
STKA PcP **PcP** **17 06 43.8 +1.0**
comp=Z,29nm,0.7s,baz=335,slow=2.5,SNR=9.0
STKA LR LR 17 19 26.0
comp=Z,277nm,22.0s,baz=303,slow=37
STKA Stephens Creek 35.48 135 *e*P **P** **17 04 16.1 +1.0**
STKA *e* 17 06 43.7
STKA pmax pmax
comp=Z,14nm,0.6s
STKA Stephens Creek 35.48 135 *e*P **P** **17 04 16.1 +0.9**
comp=Z,14nm,0.6s
STKA *e*PcP **PcP** **17 06 43.7 +1.0**
JOW Kunigami 38.47 23 P **P** **17 04 39.6 -0.8**
comp=Z,2.8nm,0.6s,baz=207,slow=9.0,SNR=7.6
GUMO Guam 38.98 56 P **P** **17 04 43.9 -0.9**
comp=Z,78nm,0.7s,baz=190,slow=11,SNR=7.3
CHLP Challavanipeta 39.00 314 *e*P **P** **17 04 43.2 -1.8**
CHLP IAmb IAmb 17 04 43.6
comp=Z,27nm,1.3s
WHN Wuhan 39.05 2 P **P** **17 04 44.1 -1.1**
SKHT Srikalahasti 39.49 304 *e*P **P** **17 04 47.4 -1.7**
SKHT IAmb IAmb 17 04 48.9
comp=Z,14nm,0.8s
H08S2 Diego Garcia H 39.66 268 T T 17 47 00.1
baz=95,slow=76,SNR=10
H08S3 Diego Garcia H 39.67 269 T T 17 47 00.9
baz=95,slow=76,SNR=8.6
H08S1 Diego Garcia H 39.67 268 T T 17 46 51.1
baz=95,slow=76,SNR=7.5
PVM Polavaram 39.99 310 *e*P **P** **17 04 51.6 -1.6**
PVM IAmb IAmb 17 04 52.6
comp=Z,9.2nm,0.6s
CD2 Chengdu 40.27 348 *e*P **P** **17 04 56.6 +1.2**
CD2 pP **pP** **17 05 17.7 +0.3**
CD2 sP **sP** **17 05 28.3 +0.2**
CD2 PP **PP** **17 06 31.7 +1.7**
CD2 S **S** **17 10 59.7 +3.7**
CD2 sS **sS** **17 11 36.6 +2.8**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,180nm,5.2s
CD2 LN
comp=Z,210nm,16.6s
CD2 LZ
comp=Z,240nm,17.6s
ADKI Addanki 40.45 307 *e*P **P** **17 04 55.9 -1.1**
ADKI IAmb IAmb 17 04 56.8
comp=Z,9.2nm,0.8s
NJ2 Nanjing 40.96 8 *e*P **P** **17 05 01.6 +0.6**
NJ2 PMZ
comp=Z,30nm,0.6s
RCLA Racherla 41.04 306 *e*P **P** **17 04 59.6 -2.2**
RCLA IAmb IAmb 17 05 05.7
comp=Z,10nm,0.7s
NJS Nagarjunasagar 41.37 307 *e*P **P** **17 05 03.2 -1.4**
NJS IAmb IAmb 17 05 03.3
comp=Z,18nm,1.2s
SRLM Srisailam 41.44 306 *e*P **P** **17 05 03.3 -1.9**
SRLM IAmb IAmb 17 05 09.5
comp=Z,10.0nm,0.9s
HYB Hyderabad 42.45 308 *i*P **P** **17 05 11.0 -2.4**
HYBB Hyderabad (bro 42.45 308 *e*P **P** **17 05 11.0 -2.5**
HYBB IAmb IAmb 17 05 12.1
comp=Z,26nm,1.4s
XAN Xi'an 42.64 356 P **P** **17 05 14.0 -0.7**
XAN pP **pP** **17 05 35.3 -1.6**
XAN PMZ
comp=Z,29nm,7.4s
RPR Rampur 42.73 310 *e*P **P** **17 05 13.7 -1.9**
RPR IAmb IAmb 17 05 14.4
comp=Z,20nm,0.7s
ODAN Odare 42.95 326 *e*P **P** **17 05 16.3 -1.3**
comp=Z,63nm,0.7s
TAPN Taplejung 43.17 327 *e*P **P** **17 05 18.6 -0.8**
comp=Z,58nm,0.7s
LSA Lhasa 43.38 332 P **P** **17 05 20.9 -0.3**
LSA Lhasa 43.38 332 *e*P **P** **17 05 21.1 -0.1**
LSA pmax pmax
comp=Z,37nm,0.8s
LSA Lhasa 43.38 332 *e*P **P** **17 05 21.1 -0.1**
comp=Z,37nm,0.8s
RAMN Ramite 43.47 325 *e*P **P** **17 05 20.5 -1.2**
comp=Z,18nm,0.6s
SRSP Sriramsagar 43.49 309 *e*P **P** **17 05 19.3 -2.5**
SRSP IAmb IAmb 17 05 20.4
comp=Z,29nm,0.7s
JIRN Jiri 44.24 326 *e*P **P** **17 05 26.9 -1.2**
comp=Z,56nm,0.6s
KLRI Killari 44.36 307 *e*P **P** **17 05 26.3 -2.5**
KLRI IAmb IAmb 17 05 26.9
comp=Z,25nm,0.7s
GUN Gumba 44.61 326 *e*P **P** **17 05 29.9 -1.1**
comp=Z,68nm,0.7s
PKI Pulchoki 44.62 325 *e*P **P** **17 05 29.1 -1.9**
comp=Z,11nm,0.5s
DMN Daman 44.82 325 *e*P **P** **17 05 30.9 -1.7**
comp=Z,46nm,0.6s
KKN Kakani 44.86 325 *e*P **P** **17 05 31.1 -1.7**
comp=Z,21nm,0.6s
TIA Tai'an 44.87 5 ⇓P **P** **17 05 31.8 -0.7**
TIA PMZ
comp=Z,20nm,0.7s
JNU Nakatsue 45.10 22 P **P** **17 05 33.1 -1.2**
comp=Z,9.7nm,0.7s,baz=227,slow=3.7,SNR=15
JNU Nakatsue 45.10 22 *e*P **P** **17 05 33.0 -1.3**
comp=Z,4.8nm,0.8s
LZH Lanzhou 45.29 350 ⇑P **P** **17 05 36.5 +0.5**
LZH pP **pP** **17 05 57.2 -1.2**
LZH sP **sP** **17 06 06.9 -2.1**
LZH PP **PP** **17 07 19.6 -4.3**
LZH S **S** **17 12 11.0 +1.3**
LZH sS **sS** **17 12 49.8 +1.7**
LZH SS **ScS** **17 15 19.1 -4.6**
LZH PMZ
comp=Z,32nm,1.0s
LZH PMZ
comp=Z,100nm,4.4s
LZH LN
comp=Z,490nm,11.5s
LZH LE
comp=Z,600nm,13.4s
LZH LZ
comp=Z,720nm,14.2s
GKN Gorkha 45.39 324 *e*P **P** **17 05 35.2 -1.7**
comp=Z,41nm,0.6s
KOLN Koldanda 45.82 323 *e*P **P** **17 05 38.6 -1.8**
comp=Z,37nm,0.6s
HNR Honiara 46.78 95 P **P** **17 05 48.0 +0.1**
INCN Inchon 47.79 15 *e*P **P** **17 05 55.5 +0.1**
comp=Z,18nm,0.6s
KSAR Wonju Array Be 48.09 16 P **P** **17 05 57.7 +0.1**
KSAR 17 07 24.5
KSAR Wonju Array Be 48.09 16 P **P** **17 05 57.6 +0.1**
KSAR PcP **PcP** **17 07 24.5 +0.5**
KSRS Korea Array 48.11 16 P **P** **17 05 57.6 -0.1**
comp=Z,15nm,0.7s,baz=204,slow=8.4,SNR=107
KSRS PcP **PcP** **17 07 24.5 +0.5**
comp=Z,3.7nm,0.8s,baz=190,slow=3.1,SNR=6.8
KSRS LR LR 17 26 38.2
comp=Z,64nm,21.7s,baz=236,slow=37
BJT Baijiatuan 48.58 4 P **P** **17 06 00.8 -0.6**
BJT *e* 17 07 26.3
BJT pmax pmax
comp=Z,24nm,0.4s
BJT Baijiatuan 48.58 4 P **P** **17 06 00.8 -0.6**
comp=Z,24nm,0.4s
BJT *e*PcP **PcP** **17 07 26.3 +0.6**
BJI Beijing 48.60 4 P **P** **17 06 00.7 -0.8**
BJI PMZ
comp=Z,38nm,0.9s
BJI PMZ
comp=Z,160nm,6.1s
BJI LN
comp=Z,100nm,23.5s
BJI LE
comp=Z,110nm,12.5s
GTA Gaotai 49.30 347 ⇑P **P** **17 06 07.4 +0.3**
GTA pP **pP** **17 06 29.3 -0.4**
GTA sP **sP** **17 06 40.4 +0.1**
GTA PcP **PcP** **17 07 29.5 +1.0**
GTA ScP **ScP** **17 11 17.7 +2.3**
GTA S **S** **17 13 06.8 +0.3**
GTA sS **sS** **17 13 47.4 +2.1**
GTA SS **SS** **17 16 36.5 -3.0**
GTA PMZ
comp=Z,14nm,1.3s
GTA PMZ
comp=Z,120nm,5.5s
GTA LN
comp=Z,200nm,20.6s
GTA LE
comp=Z,320nm,17.1s
GTA LZ
comp=Z,120nm,19.0s
HHC Hu-ho-hao-te 49.30 359 *e*P **P** **17 06 07.5 +0.5**
HHC pP **pP** **17 06 32.0 +2.3**
HHC sP **sP** **17 06 43.7 +3.4**
HHC PP **PP** **17 08 06.3 +4.3**
HHC S **S** **17 13 08.1 +1.7**
HHC ScS **ScS** **17 15 47.2 -2.7**
HHC PMZ
comp=Z,19nm,1.0s
HHC PMZ
comp=Z,81nm,6.3s
HHC LN
comp=Z,260nm,15.0s
HHC LE
comp=Z,230nm,15.1s
HHC LZ
comp=Z,99nm,14.6s
MAJO Matsushiro 51.05 27 *c i*P **P** **17 06 18.2 -2.0**
MAJO Matsushiro 51.05 27 *e*P **P** **17 06 17.6 -2.6**
comp=Z,15nm,0.7s
MAT Matsushiro 51.05 27 P **P** **17 06 18.3 -1.9**
MAT *e*S S 17 13 37.2 +6.6
MJAR Matsushiro Arr 51.05 27 P **P** **17 06 18.4 -1.8**
comp=Z,13nm,0.6s,baz=205,slow=8.7,SNR=89
MJAR ScP **ScP** **17 11 25.2 +2.3**
comp=Z,0.6nm,0.8s,baz=220,slow=7.6,SNR=4.6
MJAR LR LR 17 27 00.8
comp=Z,32nm,21.8s,baz=230,slow=35
SNY Shenyang 51.28 11 ⇑P **P** **17 06 19.9 -1.9**
SNY PMZ
comp=Z,13nm,0.6s
SNY PMZ
comp=Z,180nm,5.6s
SNY LN
comp=Z,110nm,13.9s
SNY LE
comp=Z,100nm,14.6s
CN2 Changchun 53.54 12 *e*P **P** **17 06 37.0 -1.5**
CN2 PMZ
comp=Z,10.0nm,0.7s
VLA Vladivostok 54.49 17 *oe*P **P** **17 06 43.8 -1.6**
VLA *i* *PP pP 17 06 53.7 -15
VLA *e* 17 08 44.0
VLA *e*S **S** **17 14 18.9 +1.8**
VLA *e* 17 14 31.0
VLA pmax pmax
comp=Z,25nm,1.1s
MDJ Mudanjiang 55.25 15 P **P** **17 06 50.1 -0.7**
MDJ PMZ
comp=Z,33nm,0.9s
MDJ PMZ
comp=Z,66nm,5.6s
MDJ Mudanjiang 55.25 15 *e*P **P** **17 06 49.1 -1.7**
comp=Z,34nm,1.0s
USRK Ussuriysk Ar. 55.51 17 P **P** **17 06 51.8 -0.9**
comp=Z,43nm,0.8s,baz=216,slow=5.2,SNR=70
SONM Songino Array 56.55 355 P **P** **17 06 59.4 -0.8**
comp=Z,10nm,0.6s,baz=177,slow=8.5,SNR=28
SONM PcP **PcP** **17 07 55.6 -0.1**
comp=Z,5.3nm,0.7s,baz=178,slow=3.3,SNR=5.4
WMQ Urumqi 56.93 339 P **P** **17 07 04.6 +1.7**
WMQ pP **pP** **17 07 28.5 +2.4**
WMQ sP **sP** **17 07 39.0 +2.5**
WMQ PcP **PcP** **17 07 58.1 +0.8**
WMQ S **S** **17 14 49.5 -0.2**
WMQ PMZ
comp=Z,8.0nm,0.5s
WMQ PMZ
comp=Z,99nm,5.6s
WMQ LN
comp=Z,91nm,6.0s
WMQ LE
comp=Z,53nm,5.2s
KSH Kashi 58.74 327 P **P** **17 07 13.3 -2.4**
KSH pP **pP** **17 07 38.4 -0.7**
KSH PcP **PcP** **17 08 03.0 -1.6**
KSH PP **PP** **17 09 26.5 -0.3**
KSH PcS **PcS** **17 12 06.1 -0.4**
KSH S **S** **17 15 09.8 -3.9**
KSH sS **sS** **17 15 50.5 -3.1**
KSH ScS **ScS** **17 16 52.0 -5.0**
KSH PMZ
comp=Z,10.0nm,0.8s
KSH PMZ
comp=Z,110nm,5.0s
KSH LN
comp=Z,98nm,4.1s
KSH LE
comp=Z,83nm,6.7s
KSH LZ
comp=Z,130nm,4.6s
ASAJ Asahikawa 59.19 25 P **P** **17 07 17.7 -0.9**
comp=Z,13nm,0.7s,baz=256,slow=6.9
ZAK Zakamensk 59.38 353 *e*P **P** **17 07 19.0 -0.9**
ZAK pmax pmax
comp=Z,2.0nm,1.8s
KBL Kabul 59.53 319 *e*P **P** **17 07 19.1 -2.3**
KBL pmax pmax
comp=Z,5.0nm,0.5s
KBL Kabul 59.53 319 *e*P **P** **17 07 19.1 -2.3**
comp=Z,5.1nm,0.5s
KLR Kul'dur 60.09 14 *e*P P 17 07 19.2 -5.5
KLR *e* 17 07 43.9
KLR pmax pmax
comp=Z,38nm,1.2s
HABR Khabarovsk 60.28 17 P P 17 07 21.9 -4.0
HABR *e**PP pP 17 07 31.9 -17
HABR *e* 17 08 07.6
HABR *e* 17 09 34.5
HABR *e*S **S** **17 15 32.8 0.0**
HABR *e**SS **SPn** **17 15 49.6 +4.9**
HABR *e*SS **SS** **17 19 30.7 -1.4**
HABR MLR MLR
comp=Z,55nm,18.0s
ULHL Ulahol 60.60 330 P **P** **17 07 27.3 -1.3**
SNR=16
MOY Mondy 60.94 352 *e*P **P** **17 07 29.7 -0.8**
KZA Kyzart 60.98 329 P **P** **17 07 30.6 -0.8**
SNR=36
TKM2 Tokmak 2 61.42 330 P **P** **17 07 32.6 -1.5**
SNR=33
TKM2 Tokmak 2 61.42 330 *e*P **P** **17 07 32.6 -1.5**
TKM2 pmax pmax
comp=Z,32nm,0.9s
TKM2 Tokmak 2 61.42 330 *e*P **P** **17 07 32.5 -1.5**
comp=Z,32nm,0.9s
RPZ Rata Peaks 61.45 135 LR LR 17 34 42.7
comp=Z,139nm,19.5s,baz=256,slow=36
UCH Uchtor 61.46 329 P **P** **17 07 34.0 -0.7**
SNR=18
MK31 Makanchi Array 61.47 337 *e*P **P** **17 07 32.8 -1.3**
MK31 Makanchi Array 61.47 337 *e*P **P** **17 07 32.8 -1.3**
MKAR Makanchi Array 61.47 337 P **P** **17 07 33.0 -1.2**
comp=Z,14nm,0.6s,baz=147,slow=7.2,SNR=181
MKAR LR LR 17 38 19.3
comp=Z,44nm,19.1s,baz=137,slow=40
MKAR Makanchi Array 61.47 337 P **P** **17 07 33.0 -1.2**
KBK Karagaybulak 61.55 329 P **P** **17 07 34.4 -0.5**
SNR=44
YSS Yuzh-Sakhalins 61.58 23 ⇑*e*P **P** **17 07 34.0 -0.8**
YSS *e* 17 07 53.0
YSS pmax pmax
comp=Z,70nm,1.0s
YSS Yuzh-Sakhalins 61.58 23 *e*P **P** **17 07 34.2 -0.5**
comp=Z,80nm,1.0s
AAK Ala-Archa 61.76 329 P **P** **17 07 35.5 -0.9**
comp=Z,139nm,0.9s,SNR=14
AAK Ala-Archa 61.76 329 P **P** **17 07 35.4 -0.9**
SNR=22
AAK Ala-Archa 61.76 329 P **P** **17 07 35.6 -0.9**
comp=Z,20nm,0.9s,baz=136,slow=5.9,SNR=44
AAK Ala-Archa 61.76 329 *c i*P **P** **17 07 35.5 -0.9**
AAK pmax pmax
comp=Z,50nm,0.8s
AAK Ala-Archa 61.76 329 *e*P **P** **17 07 35.3 -1.1**
comp=Z,23nm,0.9s
AML Almayashu 61.82 328 P **P** **17 07 36.0 -1.0**
SNR=22
CHMS Chumysh 61.90 329 P **P** **17 07 35.5 -1.6**
SNR=5.3
EKS2 Erkin-Say 62.15 329 P **P** **17 07 38.3 -0.6**
SNR=47
EKS2 Erkin-Say 62.15 329 *e*P **P** **17 07 38.0 -0.9**
EKS2 pmax pmax
comp=Z,36nm,0.9s
EKS2 Erkin-Say 62.15 329 *e*P **P** **17 07 38.0 -0.9**
comp=Z,36nm,0.9s
USP Ospenovka 62.22 329 P **P** **17 07 38.0 -1.3**
SNR=15
DZET Dzherino 62.32 322 P P 17 07 36.8 -3.3
DZET pmax pmax
comp=Z,11nm,0.7s
MSVF Nonsavu 64.13 105 P **P** **17 07 54.9 +2.4**
comp=Z,147nm,0.7s,SNR=6.9
MSVF Nonsavu 64.13 105 *e*P **P** **17 07 54.2 +1.7**
MSVF pmax pmax
comp=Z,33nm,1.1s
MSVF Nonsavu 64.13 105 *e*P **P** **17 07 54.2 +1.7**
comp=Z,33nm,1.1s
FAQ Al Faqa, Dubai 64.69 303 ⇑*e*P **P** **17 07 54.4 -1.4**
SNR=16
URZ Urewera 64.72 128 LR LR 17 35 33.7
comp=Z,96nm,19.4s,baz=273,slow=35
ASUD Al Ashush, Dub 64.86 302 ⇓*e*P **P** **17 07 55.9 -1.0**
SNR=8.5
KURK Kurchatov 66.08 337 P **P** **17 08 02.5 -1.7**
comp=Z,77nm,0.7s,SNR=17
KURK Kurchatov 66.08 337 P **P** **17 08 02.6 -1.7**
KURK pmax pmax
comp=Z,8.0nm,0.7s
KURK Kurchatov 66.08 337 *e*P **P** **17 08 02.7 -1.5**
comp=Z,18nm,0.8s
NKL Nikolayevsk 66.09 18 *i*P **P** **17 08 03.0 -1.2**
NKL pmax pmax
comp=N,13nm,0.8s
NKL pmax pmax
comp=Z,38nm,0.8s
BOD Bodaibo 66.29 1 *e*P **P** **17 08 04.1 -1.4**
BOD pmax pmax
comp=Z,14nm,1.0s
ZAA0 Zalesovo Array 66.66 343 *e*P **P** **17 08 05.9 -2.0**
ZALV Zalesovo Beam 66.66 343 P **P** **17 08 06.0 -1.9**
comp=Z,17nm,0.7s,baz=154,slow=4.6,SNR=84
ZALV PKPPKP **P'P'df** **17 36 38.1 +1.4**
comp=Z,0.4nm,0.5s,baz=299,slow=5.9,SNR=2.2
ZALV LR LR 17 39 44.1
comp=Z,44nm,18.0s,baz=250,slow=38
OTUK Ortayu 66.86 332 P **P** **17 08 08.5 -0.9**
OTUK pmax pmax
comp=Z,28nm,1.0s
MAW Mawson 67.43 198 P **P** **17 08 13.2 +0.6**
comp=Z,2.2nm,0.6s,baz=56,slow=5.2,SNR=10
MAW LR LR 17 32 58.9
comp=Z,101nm,20.7s,baz=61,slow=32
NVS Novosibirsk 67.91 342 *e*P **P** **17 08 12.7 -3.0**
NVS *e* 17 08 37.8
NVS *e* 17 17 01.6
NVS pmax pmax
comp=N,7.0nm,1.4s
NVS pmax pmax
comp=E,7.0nm,1.4s
NVS pmax pmax
comp=Z,13nm,1.4s
IPAR Pars 68.81 307 *e*P **P** **17 08 21.1 -1.2**
IGLO Ghaloghah 71.06 313 *e*P **P** **17 08 36.0 +0.2**
BRVK Borovoye 71.23 335 P **P** **17 08 34.5 -1.7**
comp=Z,44nm,1.0s,SNR=6.0
BRVK Borovoye 71.23 335 ⇓*i*P **P** **17 08 34.4 -1.7**
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK Borovoye 71.23 335 *e*P **P** **17 08 34.6 -1.7**
comp=Z,7.7nm,1.0s
IALA Alasht 71.61 312 *e*P **P** **17 08 38.5 -0.9**
IPIR Pirpir 71.64 309 *e*P **P** **17 08 37.0 -2.6**
YAK Yakutsk 71.76 8 P **P** **17 08 38.2 -1.0**
comp=Z,2.4nm,0.4s,baz=192,slow=23,SNR=16
YAK Yakutsk 71.76 8 *c i*P **P** **17 08 38.0 -1.2**
YAK *e* 17 08 54.3
YAK *e**PP **pP** **17 09 01.6 -1.7**
YAK *e* 17 11 18.3
YAK *e*PPP PPP 17 12 57.3
YAK *e*S **S** **17 17 52.8 +1.1**
YAK *e* 17 18 31.2
YAK *e**SS **ScS** **17 18 36.8 +0.9**
YAK pmax pmax
comp=Z,73nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=N,22nm,1.1s
YAK pmax pmax
comp=Z,53nm,3.8s
YAK pmax pmax
comp=E,24nm,3.4s
YAK pmax pmax
comp=N,24nm,3.8s
YAK smax smax
comp=N,45nm,3.8s
YAK smax smax
comp=E,17nm,1.8s
YAK Yakutsk 71.76 8 *e*P **P** **17 08 37.9 -1.2**
comp=E,72nm,0.8s
IDMV Damavand 71.97 312 *e*P **P** **17 08 40.2 -1.2**
IPRN Peran 72.03 312 *e*P **P** **17 08 39.9 -1.6**
PETK Petropavlovsk- 72.51 27 P **P** **17 08 43.4 -0.5**
comp=E,14nm,0.7s,baz=203,slow=5.6,SNR=13
PETK LR LR 17 43 33.9
comp=E,10nm,19.5s,baz=266,slow=38
RAYN Ar Rayn 72.89 298 P **P** **17 08 45.6 -1.3**
comp=E,106nm,0.9s,SNR=7.8
RAYN Ar Rayn 72.89 298 *e*P **P** **17 08 45.4 -1.5**
comp=E,16nm,0.9s
VNDA Vanda 73.33 170 P **P** **17 08 49.5 +1.0**
comp=E,1.5nm,0.7s,baz=312,slow=5.2,SNR=9.1
VNDA LR LR 17 39 48.3
comp=E,101nm,18.8s,baz=302,slow=35
AB31 Akbulak array 73.75 327 P **P** **17 08 50.0 -1.3**
AB31 pmax pmax
comp=Z,39nm,0.7s
ABKAR Akbulak array 73.75 327 *e*P **P** **17 08 50.0 -1.2**
comp=Z,38nm,0.7s
KMBO Kilima Mbogo 75.30 271 P **P** **17 09 02.1 +0.7**
comp=Z,5.6nm,0.8s,baz=68,slow=7.4,SNR=13
SYO Syowa Base 75.85 201 ⇑*e*P **P** **17 09 02.6 -0.5**
SEY Seymchan 77.66 17 P **P** **17 09 13.1 -0.2**
comp=Z,16nm,0.7s,baz=209,slow=4.7,SNR=94
SEY Seymchan 77.66 17 *c i*P **P** **17 09 13.2 -0.1**
IMRD Marand 77.85 313 *e*P **P** **17 09 14.2 -1.0**
SVE Sverdlovsk 77.89 334 *de*P **P** **17 09 13.8 -0.9**
SVE pmax pmax
comp=Z,30nm,0.9s
ARU Arti 78.58 333 P **P** **17 09 17.3 -1.2**
comp=Z,93nm,1.1s,SNR=5.9
ARU Arti 78.58 333 *d i*P **P** **17 09 17.0 -1.5**
ARU S **S** **17 19 11.2 +3.7**
ARU SS **SS** **17 24 17.6 +4.2**
ARU pmax pmax
comp=Z,18nm,1.0s
ARU Arti 78.58 333 *e*P **P** **17 09 17.1 -1.4**
comp=Z,21nm,1.1s
ZEI Tsey 80.60 316 *e*P **P** **17 09 29.3 -0.8**
ZEI pmax pmax
comp=Z,12nm,0.5s
SOKR Solikamsk 81.16 335 *e*P **P** **17 09 30.3 -2.0**
SOKR pmax pmax
comp=Z,20nm,2.0s
KBZ Khabaz 81.62 317 P **P** **17 09 35.0 -0.1**
comp=Z,21nm,0.9s,baz=146,slow=24,SNR=33

KIV Kislovodsk 81.84 317 *e*P **P** 17 09 36.1 -0.4
KIV pmax pmax
comp=Z,22nm,1.1s
KIV Kislovodsk 81.84 317 ‖ *e*P **P** 17 09 36.0 -0.4
KIV Kislovodsk 81.84 317 *e*P **P** 17 09 36.0 -0.5
comp=Z,18nm,0.8s
LSZ Lusaka 82.36 256 *e*P **P** 17 09 40.5 +0.7
LSZ pmax pmax
comp=Z,11nm,0.7s
LSZ Lusaka 82.36 256 *e*P **P** 17 09 40.5 +0.7
comp=Z,11nm,0.7s
BOSA Boshof 83.54 242 P **P** 17 09 46.6 +0.9
comp=Z,8.4nm,0.9s,baz=100,slow=5.0,SNR=9.0
VSR Storozhevoye 86.50 323 *e*P **P** 17 09 58.5 -1.3
VSR pmax pmax
comp=Z,30nm,0.7s
VSR pmax pmax
comp=N,7.0nm,1.1s
VSR pmax pmax
comp=E,20nm,0.8s
PRGR Permogore 86.96 334 *e*P **P** 17 09 58.7 -3.0
PRGR pmax pmax
comp=Z,19nm,0.6s
BR131 Keskin Array S 87.08 311 *e*P **P** 17 10 02.4 -0.6
comp=Z,14nm,0.8s
BRTR Keskin Array B 87.08 311 P **P** 17 10 02.4 -0.6
comp=Z,17nm,0.8s,baz=122,slow=7.0,SNR=88
BRTR Keskin Array B 87.08 311 *ce*P **P** 17 10 02.5 -0.6
BRTR pmax pmax
comp=Z,17nm,0.8s
LPSR Galich'ya Gora 87.08 324 *e*P **P** 17 10 02.1 -0.4
LPSR pmax pmax
comp=N,6.0nm,0.8s
LPSR pmax pmax
comp=Z,40nm,0.8s
LPSR pmax pmax
comp=E,20nm,1.4s
MOS Moscow 88.77 327 *e*P **P** 17 10 08.5 -2.0
MOS pmax pmax
comp=Z,43nm,0.9s
ISP Isparta 89.04 308 *e*P **P** 17 10 11.1 -1.3
ISP pmax pmax
comp=Z,8.0nm,0.8s
ISP Isparta 89.04 308 *e*P **P** 17 10 11.1 -1.3
comp=Z,7.7nm,0.8s
OBN Obninsk 89.16 326 P **P** 17 10 11.4 -0.9
comp=Z,14nm,0.4s,baz=142,slow=22,SNR=8.4
OBN Obninsk 89.16 326 ‖ *i* P **P** 17 10 11.9 -0.4
OBN pmax pmax
comp=Z,46nm,1.2s
OBN MLR MLR
comp=Z,47nm,19.0s
KLMR Klimovskoe 89.41 332 *e*P **P** 17 10 11.1 -2.3
KLMR pmax pmax
comp=Z,9.0nm,1.1s
TMCR Tamitsa 91.11 335 *e*P P 17 10 15.1 -6.1
TMCR pmax pmax
comp=Z,28nm,0.8s
VNA2 Neumayer--Watz 91.17 197 P pP 17 10 43.3 -3.2
baz=102,slow=3.9
VNA1 Neumayer--Stat 91.56 197 P pP 17 10 45.6 -2.7
AKASG Malin Array Be 92.46 321 P **P** **17 10 26.3 -1.5**
comp=Z,5.5nm,0.7s,baz=84,slow=4.4,SNR=26
AKASG Malin Array Be 92.46 321 *ce*P **P** 17 10 26.2 -1.5
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 92.46 321 *e*P **P** **17 10 25.9 -1.9**
AKBB Malin Array Si 92.46 321 *e*P **P** **17 10 25.9 -1.9**
AK02 Malin Array Si 92.46 321 *e*P **P** **17 10 25.6 -2.2**
AK01 Malin Array Si 92.46 321 *e*P **P** **17 10 26.2 -1.6**
KIEV Kiev 92.47 321 *e*P **P** **17 10 26.1 -1.7**
KIEV pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 92.47 321 *e*P **P** 17 10 26.1 -1.7
comp=Z,8.8nm,0.8s
BUR08 Bucovina Ar. S 94.58 317 *e*P **P** **17 10 37.0 -0.7**
FINES FINESS Array B 95.88 331 P **P** **17 10 42.2 -1.1**
comp=Z,1.8nm,0.6s,baz=133,slow=7.3,SNR=12
FINES PKiKP **PKiKP** **17 15 22.6 +0.7**
comp=Z,0.6nm,0.7s,baz=110,slow=8.3,SNR=3.8
FINES LR LR 17 59 24.5
comp=Z,36nm,18.0s,baz=91,slow=39
FINES FINESS Array B 95.88 331 *i* P **P** **17 10 42.5 -0.7**
FINES pmax pmax
comp=Z,2.0nm,0.6s
KOLS Kolonicke sedl 96.67 318 *e*P **P** **17 10 47.1 0.0**
KOLS Kolonicke sedl 96.67 318 *e*P **P** **17 10 47.1 0.0**
ARCES ARCESS Array B 97.05 339 LR LR 18 01 51.3
comp=Z,44nm,20.1s,baz=92,slow=40
STHS Stebnicka Huta 97.38 319 *e*P Pdif 17 10 50.6 +0.2
STHS Stebnicka Huta 97.38 319 *e*P Pdif 17 10 50.5 +0.1
ILAR Eielson Array 102.32 26 PP PP 17 15 23.9 -1.5
comp=Z,0.6nm,1.0s,baz=274,slow=6.9,SNR=4.3
ILAR PKiKP **PKiKP** **17 15 33.7 +0.4**
comp=Z,0.5nm,0.9s,baz=284,slow=3.6,SNR=4.3
TORD Torodi Ar. Bea 112.14 281 PKiKP **PKiKP** **17 15 52.6 -0.4**
comp=Z,2.4nm,0.6s,baz=78,slow=1.5,SNR=14
TORD PKKPbc **PKKPbc** **17 26 44.4 +0.2**
comp=Z,0.9nm,0.8s,baz=327,slow=4.8,SNR=4.8
TOA1 Torodi Ar. Sit 112.14 281 *e*PKiKP **PKiKP** **17 15 52.6 -0.4**
ESDC Sonseca Array 115.86 310 PKP **PKPdf** **17 15 59.5 -0.1**
comp=Z,0.8nm,0.7s,baz=35,slow=2.0,SNR=6.2
YKA Yellowknife Ar 116.43 22 PKP **PKPdf** **17 15 59.7 -0.1**
comp=Z,3.6nm,0.6s,baz=315,slow=1.8,SNR=11
KIC Kosan Boka 117.85 273 *e*PKiKP **PKPdf** **17 16 03.7 -0.3**
comp=Z,130nm,2.1s
DBIC Dimbokro 118.00 273 PKP **PKPdf** **17 16 04.3 0.0**
comp=Z,4.9nm,0.6s,baz=104,slow=3.1,SNR=6.4
LIC Lamto 118.12 272 *e*PKiKP **PKPdf** **17 16 04.1 -0.4**
comp=Z,106nm,2.3s
TIC Toumodi 118.16 273 *e*PKiKP **PKPdf** **17 16 04.1 -0.5**
I03D Drain, OR 120.36 44 P **PKPdf** **17 16 09.3 +1.3**
baz=120
M02C Callahan 121.42 47 P **PKPdf** **17 16 11.8 +1.5**
baz=121
I05D Terrebonne, OR 121.51 43 P **PKPdf** **17 16 11.7 +1.4**
baz=122
N02D Trinity Center 121.65 47 P **PKPdf** **17 16 12.1 +1.4**
baz=122
J05D Fort Rock, OR 121.94 44 P **PKPdf** **17 16 12.6 +1.3**
baz=122
NEW Newport 122.63 37 P **PKPdf** **17 16 13.8 +1.5**
baz=123
MSO Missoula 125.20 38 P **PKPdf** **17 16 17.9 +0.5**
baz=125
SLMT Seeley Lake 125.27 37 *e*PKPdf **PKPdf** **17 16 18.1 +0.5**
MFID Camas Ranch 125.54 42 *e*PKPdf **PKPdf** **17 16 19.3 +1.2**
PKM Mcpherson Peak 125.57 53 P **PKPdf** **17 16 20.5 +1.9**
baz=126
CHMT Chamberlain Mo 125.58 37 *e*PKPdf **PKPdf** **17 16 18.3 +0.1**
NVAR Mina Array Bea 125.67 49 PKP **PKPdf** **17 16 20.0 +1.3**
comp=Z,4.6nm,0.8s,baz=244,slow=2.5,SNR=27
NVAR PP **PP** **17 18 08.9 -2.6**
comp=Z,1.1nm,0.9s,baz=290,slow=6.4,SNR=4.2
HLID Hailey 126.41 41 P **PKPdf** **17 16 21.7 +1.8**
baz=126
HLID Hailey 126.41 41 *e*PKPdf **PKPdf** **17 16 21.0 +1.1**
TPH Tonopah 126.59 49 *e*PKiKP **PKPdf** **17 16 21.1 +0.7**
TPH Tonopah 126.59 49 *e*PKPdf **PKPdf** **17 16 21.1 +0.7**
LRM Limekiln Ridge 126.60 38 *e*PKPdf **PKPdf** **17 16 21.3 +1.1**
DLMT Dillon 126.73 39 *e*PKPdf **PKPdf** **17 16 20.7 +0.3**
MCMT McKenzie Canyo 126.83 39 *e*PKPdf **PKPdf** **17 16 22.3 +1.6**
EDW2 Edwards Air Fo 127.02 53 P **PKPdf** **17 16 23.3 +2.1**
baz=127
EGMT Eagleton 127.02 34 P **PKPdf** **17 16 21.9 +1.2**
baz=127
EGMT Eagleton 127.02 34 *e*PKPdf **PKPdf** **17 16 21.9 +1.2**
ELK Elko 127.03 45 *e*PKiKP **PKPdf** **17 16 22.0 +0.7**
ELK Elko 127.03 45 *e*PKPdf **PKPdf** **17 16 22.0 +0.7**
MPMC Manual Prospec 127.05 51 P **PKPdf** **17 16 23.3 +1.9**
baz=127
BOZ Bozeman (W) 127.18 38 *e*PKiKP **PKPdf** **17 16 22.6 +1.4**
BOZ Bozeman (W) 127.18 38 *e*PKPdf **PKPdf** **17 16 22.6 +1.4**
FURC Furnace Creek, 127.40 50 P **PKPdf** **17 16 24.0 +2.3**
baz=127
BFSC Mount Baldy Ra 127.46 53 P **PKPdf** **17 16 23.4 +1.3**
baz=128
R11A Troy Canyon, C 127.70 48 P **PKPdf** **17 16 24.3 +1.8**
baz=128
TPNV Topopah Spring 127.70 50 P **PKPdf** **17 16 24.2 +1.7**
baz=128
B20A Solberg Farm, 127.74 33 P **PKPdf** **17 16 23.2 +1.1**
baz=128
GSC Goldstone, Bar 127.81 52 P **PKPdf** **17 16 24.5 +1.8**
baz=128
SHOC Shoshone, Teco 128.03 51 P **PKPdf** **17 16 25.2 +2.2**
baz=128
C20A Veseth Ranch, 128.17 34 P **PKPdf** **17 16 23.9 +1.0**
baz=128
HVU Hansel Valley 128.28 43 *e*PKiKP **PKPdf** **17 16 25.0 +1.5**
HVU Hansel Valley 128.28 43 *e*PKPdf **PKPdf** **17 16 25.0 +1.5**
HEC Hector,Ludlow 128.33 52 P **PKPdf** **17 16 25.7 +2.0**
baz=128
E19A Rath Farm, Rou 128.44 36 P **PKPdf** **17 16 24.6 +1.0**
baz=128
SHPR Sheep Range 128.68 50 *e*PKPdf **PKPdf** **17 16 26.7 +2.3**
REDW Red Top Meadow 128.80 40 *e*PKPdf **PKPdf** **17 16 25.6 +1.1**
BELC Belle Mtn. Jos 128.85 53 P **PKPdf** **17 16 26.9 +2.1**
baz=129
GMRC Granite Mounta 128.87 52 P **PKPdf** **17 16 27.2 +2.4**
baz=129
DUG Dugway, Tooele 128.95 44 *e*PKiKP **PKPdf** **17 16 26.3 +1.5**
DUG Dugway, Tooele 128.95 44 P **PKPdf** **17 16 26.7 +1.9**
baz=129
DUG Dugway, Tooele 128.95 44 *e*PKPdf **PKPdf** **17 16 26.3 +1.5**
D21A La Casita Ranch 129.11 34 P **PKPdf** **17 16 26.3 +1.6**
baz=129
H19A Powell 129.29 38 P **PKPdf** **17 16 26.7 +1.4**
baz=129
C22A Vida 129.31 33 P **PKPdf** **17 16 26.9 +1.8**
baz=129
SWSC Sam W. Stewart 129.33 54 P **PKPdf** **17 16 27.7 +2.2**
baz=129
BC3 Big Chuckawall 129.39 53 P **PKPdf** **17 16 27.8 +2.0**
baz=129
G20A Bridger 129.45 37 P **PKPdf** **17 16 27.1 +1.5**
baz=129
D22A Cohagen 129.50 34 P **PKPdf** **17 16 27.0 +1.5**
baz=129
LAO LASA Array 129.75 34 P **PKPdf** **17 16 27.8 +1.8**
baz=130
PDAR Pinedale Array 129.92 40 PKP **PKPdf** **17 16 27.7 +1.0**
comp=Z,1.0nm,0.6s,baz=40,slow=2.5,SNR=4.9
J19A Crowheart 129.98 39 P **PKPdf** **17 16 28.2 +1.5**
baz=130
MSU Marysvale 130.10 46 *e*PKiKP **PKPdf** **17 16 29.6 +2.5**
MSU Marysvale 130.10 46 *e*PKPdf **PKPdf** **17 16 29.6 +2.5**
I20A Worland 130.19 38 P **PKPdf** **17 16 28.0 +1.0**
baz=130
E23A Ismay 130.38 34 P **PKPdf** **17 16 28.9 +1.8**
baz=130
A26A Wade Farm, Ken 130.54 30 P **PKPdf** **17 16 29.1 +1.8**
baz=130
J20A Shoshoni 130.54 39 P **PKPdf** **17 16 28.5 +0.8**
baz=130
G22A Birney 130.58 36 P **PKPdf** **17 16 29.3 +1.7**
baz=130
F23A Volborg 130.79 35 P **PKPdf** **17 16 29.9 +1.9**
baz=131
SRU San Rafael Swe 131.01 45 *e*PKiKP **PKPdf** **17 16 28.9 +0.1**
SRU San Rafael Swe 131.01 45 *e*PKPdf **PKPdf** **17 16 28.9 +0.1**
I22A 9 Mile Ranch, 131.22 37 P **PKPdf** **17 16 30.0 +1.0**
baz=131
F24A Ekalaka 131.25 34 P **PKPdf** **17 16 29.5 +0.5**
baz=131
J22A Midwest 131.49 38 P **PKPdf** **17 16 29.7 +0.2**
baz=131
N20A Spence Gulch, 131.72 42 P **PKPdf** **17 16 31.4 +1.2**
baz=132
H24A Dirks Ranch, A 131.85 35 P **PKPdf** **17 16 30.9 +0.8**
baz=132
K22A Casper 131.88 39 *e*PKPdf **PKPdf** **17 16 30.8 +0.5**
WUAZ Wupatki 131.89 49 PKPdf **PKPdf** **17 16 32.3 +1.7**
O20A White River Ci 132.09 42 P **PKPdf** **17 16 32.4 +1.6**
baz=132
B29A Wagenman Farm, 132.12 28 P **PKPdf** **17 16 31.3 +0.9**
baz=132
RSSD Black Hills 132.52 36 *e*PKiKP **PKPdf** **17 16 31.3 -0.3**
RSSD Black Hills 132.52 36 *e*PKPdf **PKPdf** **17 16 31.2 -0.3**
B30A Myrvik Farm, E 132.60 28 P **PKPdf** **17 16 29.9 -1.4**
baz=132
I25A Rochford 132.76 36 P **PKPdf** **17 16 32.0 +0.1**
baz=133
PV01 Paradox Valley 132.81 45 *e*PKPdf **PKPdf** **17 16 34.1 +1.8**
K24A Anderson Ranch 132.88 38 P **PKPdf** **17 16 32.1 -0.1**
baz=133
G27A Dupree 132.91 33 P **PKPdf** **17 16 32.7 +0.7**
baz=133
H27A Howes 133.31 34 P **PKPdf** **17 16 33.4 +0.6**
baz=133
O23A Lake Granby, G 133.58 41 P **PKPdf** **17 16 34.9 +1.1**
baz=134
G28A Parade 133.66 33 P **PKPdf** **17 16 33.8 +0.4**
baz=134
E30A Jud 133.72 30 P **PKPdf** **17 16 34.3 +0.9**
baz=134
AGMN Agassiz Nation 133.82 26 P **PKPdf** **17 16 33.4 -0.1**
baz=134
AGMN Agassiz Nation 133.82 26 *e*PKPdf **PKPdf** **17 16 32.7 -0.8**
SCHQ Schefferville 133.98 360 PKP **PKPdf** **17 16 34.2 +0.6**
comp=Z,5.8nm,0.7s,baz=3.0,slow=3.6,SNR=11
I28A Midland 134.22 34 P **PKPdf** **17 16 35.5 +1.0**
baz=134
J28A Allard Ranch, 134.55 35 P **PKPdf** **17 16 36.4 +1.3**
baz=134
G30A Faulkton 134.55 31 P **PKPdf** **17 16 36.8 +1.7**
baz=134
L27A T5 Ranch, Ells 134.76 37 P **PKPdf** **17 16 36.0 +0.4**
baz=135
ANMO Albuquerque 135.78 48 *e*PKiKP **PKPdf** **17 16 40.9 +3.0**
ANMO Albuquerque 135.78 48 *e*PKPdf **PKPdf** **17 16 40.9 +3.0**
EYMN Ely 135.90 23 *e*PKPdf **PKPdf** **17 16 37.8 +0.3**
T26A Comanche Natio 136.72 43 P **PKPdf** **17 16 40.4 +0.9**
baz=137
Q29A Oakley 137.48 40 P **PKPdf** **17 16 42.2 +1.4**
baz=137
MNTX Cornudas Mount 138.00 52 P **PKPdf** **17 16 41.9 0.0**
baz=138
MNTX Cornudas Mount 138.00 52 *e*PKPdf **PKPdf** **17 16 41.8 -0.1**
MSTX Muleshoe 138.93 47 PKPdf **PKPdf** **17 16 44.1 +0.5**
P34A Walnut Farm, R 139.58 36 P PKPpre 17 16 39.8
baz=140
CFAA Coronel Fontan 139.92 179 PKP PKPpre 17 16 46.7
comp=Z,0.6nm,0.8s,baz=221,slow=3.4,SNR=9.8
P35A Duane Minner, 140.06 35 P PKPpre 17 16 42.3
baz=140
T33A Patterson Ranc 140.29 40 P PKPpre 17 16 42.4
baz=140
TXAR Lajitas Array 140.32 54 PKhKP PKPpre 17 16 38.9
comp=Z,1.7nm,0.7s,baz=251,slow=2.8,SNR=20
Z30A Sanderson Ranc 140.46 47 P PKPpre 17 16 40.7
baz=140
JFWS Jewell Farm 140.48 27 *e*PKiKP PKPpre 17 16 43.7
JFWS Jewell Farm 140.48 27 *e*PKPpre PKPpre 17 16 43.7
Q35A Mercer Eighty, 140.50 36 P PKPpre 17 16 40.4
baz=140
X31A McDonald Ranch 140.56 44 P PKPpre 17 16 42.1
baz=140
329A Wagon Wheel Ra 140.70 50 P PKPpre 17 16 41.9
baz=141
Q36A Arnold C. Orve 140.76 35 P PKPpre 17 16 40.9
baz=141
130A Snyder 140.92 48 P PKPpre 17 16 43.5
baz=141
T34A McClaskey Farm 140.99 39 P PKPpre 17 16 43.2
baz=141
529A Stev Forest Ra 141.13 52 P PKPpre 17 16 43.9
baz=141
230A Sterling City 141.16 49 P PKPpre 17 16 43.1
baz=141
429A Davenport Ranc 141.16 51 P PKPpre 17 16 43.1
baz=141
WMOK Wichita Mounta 141.32 43 *e*PKHKP PKPpre 17 16 42.0
WMOK Wichita Mounta 141.32 43 *e*PKPpre PKPpre 17 16 42.0
330A Mertzon 141.34 49 P PKPpre 17 16 43.8
baz=141
R37A Teagarden Farm 141.56 36 P PKPpre 17 16 42.5
baz=141
430A Baggett Ranch, 141.59 50 P PKPpre 17 16 45.1
baz=142
Z32A Haskell 141.62 46 P PKPpre 17 16 45.0
baz=142
231A Bronte 141.73 48 P PKPpre 17 16 43.7
baz=142
530A J-C Ranch, Com 141.80 51 P PKPpre 17 16 44.7
baz=142
331A San Angelo 141.95 49 P PKPpre 17 16 45.2
baz=142
431A Sonora 142.12 50 P PKPpre 17 16 45.1
baz=142
PQI Presque Isle 142.16 1 *e*PKPpre PKPpre 17 16 43.9
232A Coleman 142.24 48 P PKPpre 17 16 46.5
baz=142
T37A Cheneyville 18 142.31 37 P PKPpre 17 16 45.4
baz=142
W35A Tecumseh 142.34 41 P PKPpre 17 16 45.9
baz=142
133A Hamilton Ranch 142.40 46 P PKPpre 17 16 46.8
baz=142
531A Rocksprings 142.41 51 P PKPpre 17 16 46.2
baz=142
332A Millersview 142.43 49 P PKPpre 17 16 47.1
baz=142
Y34A Reagan Ranch, 142.46 44 P PKPpre 17 16 47.3
baz=142
TUL1 Leonard 142.56 39 P PKPpre 17 16 46.7
baz=142
432A Menard 142.64 49 P PKPpre 17 16 47.8
baz=143
Z34A Collier Ranch, 142.68 44 P PKPpre 17 16 46.8
baz=143
631A Perdido Creek 142.73 52 P PKPpre 17 16 47.0
baz=143
W36A Wetumka 142.77 41 P PKPpre 17 16 46.7
baz=143
JCT Junction City 142.82 50 PKIKP PKPpre 17 16 47.5
JCT Junction City 142.82 50 P PKPpre 17 16 47.8
baz=143
JCT Junction City 142.82 50 PKPpre PKPpre 17 16 47.5
532A Rocksprings 142.91 50 P PKPpre 17 16 47.5
baz=143
134A White-Moore Ra 143.01 46 P PKPbc 17 16 48.3 +0.4
baz=143
333A Richland Sprin 143.01 48 P PKPbc 17 16 48.0 0.0
baz=143
X36A Centrahoma 143.04 42 P PKPbc 17 16 47.9 0.0
baz=143
Z35A Perchaven, San 143.16 44 P PKPbc 17 16 48.2 -0.1
baz=143
234A Clairette 143.28 46 P PKPbc 17 16 49.6 +1.0
baz=143
W37A Quinton 143.28 40 P PKPbc 17 16 48.9 +0.3
baz=143
632A Uvalde 143.29 51 P PKPbc 17 16 48.8 +0.1
baz=143
Y36A Durant 143.49 42 P PKPbc 17 16 49.1 0.0
baz=143
732A Laxson Ranch, 143.51 53 P PKPbc 17 16 49.9 +0.6
baz=144
334A Lometa 143.56 48 P PKPbc 17 16 50.3 +0.9
baz=144
X37A Clayton 143.66 41 P PKPbc 17 16 50.2 +0.6
baz=144
832A Faith Ranch, C 143.70 53 P PKPbc 17 16 50.5 +0.6
baz=144
WHTX Lake Whitney, 143.77 46 P PKPbc 17 16 50.6 +0.6
baz=144
WHTX Lake Whitney, 143.77 46 *e*PKPdf PKPbc 17 16 50.2 +0.1
633A Saathoff Ranch 143.79 51 P **PKPdf** **17 16 51.4 -0.9**
baz=144
434A Burnet 143.80 48 P PKPbc 17 16 50.4 +0.2
baz=144
CPUP Villa Florida 143.82 195 *e*PKiKP **PKPdf** **17 16 51.8 -0.7**
CPUP Villa Florida 143.82 195 *e*PKPdf **PKPdf** **17 16 51.8 -0.7**
Y37A Hugo 143.88 42 P PKPbc 17 16 50.8 +0.6
baz=144
W38A Poteau 143.90 39 P PKPbc 17 16 50.6 +0.3
baz=144
SFIN Lafayette 143.92 26 P PKPbc 17 16 50.0 -0.2
baz=144
534A Blanco 144.04 50 P **PKPdf** **17 16 51.9 -0.9**
baz=144
EMMW East Machias 144.12 0 *e*PKPdf PKPbc 17 16 50.4 -0.2
833A Chaparral WMA, 144.14 53 P **PKPdf** **17 16 52.7 -0.2**
baz=144
335A Moody 144.17 47 P **PKPdf** **17 16 52.3 -0.6**
baz=144
435B Jarrell 144.32 48 P **PKPdf** **17 16 52.7 -0.5**
baz=144
Z37A Pogue Cattle C 144.35 43 P **PKPdf** **17 16 52.4 -0.7**
baz=144
MDV Middlebury 144.48 7 *e*PKP PKPbc 17 16 51.7 -0.1
Y38A Idabel 144.49 41 P PKPbc 17 16 52.1 0.0
baz=144
336A Riesel 144.53 46 P **PKPdf** **17 16 53.6 0.0**
baz=144
933A Laredo 144.55 54 P **PKPdf** **17 16 54.4 +0.7**
baz=144
734A La Parita Cree 144.55 51 P **PKPdf** **17 16 54.2 +0.6**
baz=144
535A Dale 144.72 49 P **PKPdf** **17 16 54.0 +0.1**
baz=145
Z38A Mt. Pleasant 144.74 42 P **PKPdf** **17 16 54.4 +0.5**
baz=145
MIAR Mount Ida 144.83 39 *e*PKiKP PKPbc 17 16 53.5 +0.3
MIAR Mount Ida 144.83 39 *e*PKPdf PKPbc 17 16 53.5 +0.3
HNH Hanover 144.87 6 *e*PKP **PKPdf** **17 16 53.4 -0.3**
635A Leesville 144.89 50 P **PKPdf** **17 16 54.9 +0.7**
baz=145
834A Tilden 144.89 53 P **PKPdf** **17 16 55.4 +1.1**
baz=145
Y39A Lockesburg 144.89 40 P **PKPdf** **17 16 53.8 -0.3**
baz=145
436A Wall Ranch, Ga 144.90 47 P **PKPdf** **17 16 54.7 +0.5**
baz=145
237A Washetta, Mont 144.92 45 P **PKPdf** **17 16 54.8 +0.6**
baz=145
ACCN Adirondack Com 145.02 8 *e*PKPab **PKPbc** **17 16 53.3 -0.2**
138A Matatall Enter 145.03 43 P **PKPdf** **17 16 55.5 +1.1**
baz=145
SIUC Southern Illin 145.05 31 *e*PKP **PKPbc** **17 16 53.5 -0.2**
536A Bastrop 145.07 48 P **PKPdf** **17 16 55.5 +1.0**
baz=145
735A Kenedy 145.13 51 P **PKPdf** **17 16 56.3 +1.6**
baz=145
934A Benavides 145.16 53 P **PKPdf** **17 16 56.9 +2.1**
baz=145
BLO Bloomington 145.16 26 *e*PKiKP **PKPbc** **17 16 53.4 -0.7**
BLO Bloomington 145.16 26 *e*PKP **PKPbc** **17 16 53.4 -0.7**
FFD Franklin Falls 145.16 5 PKP **PKPbc** **17 16 53.7 -0.2**
337A Centerville 145.26 46 P **PKPab** **17 16 56.6 +1.7**
baz=145
034A Hebbronville 145.26 54 P **PKPab** **17 16 57.1 +2.1**
baz=145
Z39A Irene McRaven, 145.28 41 P **PKPab** **17 16 56.0 +1.1**
baz=145
437A Phantom Ranch, 145.35 47 P **PKPab** **17 16 56.5 +1.3**
baz=145
835A Beeville 145.38 52 P **PKPab** **17 16 57.6 +2.2**
baz=145
636A Smothers Creek 145.38 49 P **PKPab** **17 16 57.3 +1.9**
baz=145
238A Jacksonville 145.40 44 P **PKPab** **17 16 56.7 +1.4**
baz=145
RCBR Riachuelo 145.40 246 PKPbc **PKPab** **17 16 56.8 +0.9**
comp=Z,24nm,0.7s,baz=93,slow=6.0,SNR=18
RCBR Riachuelo 145.40 246 *e*PKP **PKPab** **17 16 56.4 +0.5**
RCBR PKPbc **PKPab** **17 16 56.8 +0.9**
UALR University of 145.44 38 *e*PKP **PKPdf** **17 16 55.0 0.0**
139A Bunkhouse Ranc 145.48 42 P **PKPab** **17 16 56.6 +0.9**
baz=145
USIN University of 145.62 29 *e*PKP **PKPbc** **17 16 55.7 +0.1**
338A Crockett 145.64 45 P **PKPab** **17 16 57.4 +1.1**
baz=146
736A Circle Diamond 145.64 50 P **PKPab** **17 16 58.2 +1.8**
baz=146
TRY Troy 145.66 8 *e*PKP **PKPab** **17 16 55.9 -0.1**
ACSO Alum Creek Sta 145.68 21 *e*PKP **PKPbc** **17 16 55.8 +0.1**
035A Encino 145.78 54 P **PKPab** **17 16 58.5 +1.6**
baz=146
BINY Binghamton 145.79 11 *e*PKPbc **PKPab** **17 16 56.4 -0.1**
239A Gary 145.83 43 P **PKPab** **17 16 57.6 +0.7**
baz=146
NATX Nacogdoches 145.85 44 PKPbc **PKPab** **17 16 57.3 +0.3**
438A Sam Houston St 145.87 46 P **PKPab** **17 16 58.2 +1.1**
baz=146
HBAR Harrisburg 145.88 35 *e*PKP **PKPab** **17 16 57.4 +0.4**
637A Eagle Lake 145.95 49 P **PKPab** **17 16 59.3 +1.8**
baz=146
035Z Hargill 146.02 55 P **PKPab** **17 16 59.2 +1.3**
baz=146
WCI Wyandotte Cave 146.04 27 *e*PKP2 **PKPbc** **17 16 57.0 +0.1**
WCI Wyandotte Cave 146.04 27 *e*PKPbc **PKPbc** **17 16 57.0 +0.1**
HKT Hockley 146.04 48 *e*PKP2 **PKPab** **17 16 58.0 +0.2**
HKT Hockley 146.04 48 *e*PKPdf **PKPab** **17 16 58.0 +0.2**
HRV Adam Dziewonsk 146.13 5 *e*PKP2 **PKPab** **17 16 57.8 +0.1**
HRV Adam Dziewonsk 146.13 5 *e*PKPbc **PKPab** **17 16 57.8 +0.1**
339A Huntington 146.18 44 P **PKPab** **17 16 58.6 +0.3**
baz=146
439A Center Grove, 146.34 45 P **PKPab** **17 16 59.6 +0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=146						
340A	Bronson	146.59	44	P	PKPab	17 16 59.6	-0.2
	baz=146						
SSPA	Standing Stone	146.86	15	ePKPdf	PKPdf	17 16 57.7	+0.5
SSPA				ePKPbc	PKPbc	17 16 59.6	+0.4
440A	Kirbyville	146.94	45	P	PKPab	17 17 01.5	+0.3
	baz=147						
540A	Vidor	147.23	46	P	PKPab	17 17 03.6	+1.2
	baz=147						
OXF	Oxford	147.34	35	ePKP2	PKPbc	17 17 00.7	0.0
OXF	Oxford	147.34	35	ePKPbc	PKPbc	17 17 00.7	0.0
LVC	Limon Verde	148.85	177	PKPbc	PKPab	17 17 07.6	-1.7
	comp=Z,31nm,0.8s,baz=165,slow=0.7,SNR=8.6						
BDFB	Brasilia	149.09	219	PKPbc	PKPbc	17 17 07.3	+1.3
	comp=Z,13nm,0.6s,baz=143,slow=2.4,SNR=23						
CPCT	Cooper Cave	149.13	28	ePKPbc	PKPbc	17 17 05.5	+0.1
BLA	Blacksburg	149.27	21	ePKP2	PKPbc	17 17 05.6	-0.1
BLA	Blacksburg	149.27	21	ePKPbc	PKPbc	17 17 05.6	-0.1
TKL	Tuckaleechee C	149.29	27	ePKP2	PKPbc	17 17 06.4	+0.6
TKL	Tuckaleechee C	149.29	27	ePKPbc	PKPbc	17 17 06.4	+0.6
VWCC	Virginia Weste	149.39	20	ePKPbc	PKPbc	17 17 06.0	0.0
JSRW	J. Sargeant Re	149.63	17	ePKPbc	PKPbc	17 17 06.9	+0.4
LRAL	Lakeview Retre	149.78	34	ePKPdf	PKPdf	17 17 02.7	+0.5
LRAL				ePKPbc	PKPbc	17 17 07.4	+0.4
KMSC	Kings Mountain	150.76	24	P	PKPbc	17 17 09.5	+0.2
	baz=151						
KMSC	Kings Mountain	150.76	24	ePKPbc	PKPbc	17 17 09.7	+0.3
BRAL	Brewton	151.24	37	ePKPbc	PKPbc	17 17 11.6	+1.0
TIGA	Tifton	152.83	31	P	PKPbc	17 17 14.9	+0.7
	baz=153						
TIGA	Tifton	152.83	31	ePKPbc	PKPbc	17 17 14.8	+0.7
SIV	San Ignacio	154.67	194	PKP	PKPdf	17 17 11.4	+1.4
	comp=Z,0.8nm,0.5s,baz=47,slow=19,SNR=3.4						
SIV				PKPbc	PKiKP	17 17 19.5	+0.9
	comp=Z,1.6nm,0.6s,baz=109,slow=2.7,SNR=4.7						
SIV				PKPab	PKPab	17 17 35.4	+2.0
	comp=Z,2.1nm,0.8s,baz=167,slow=5.2,SNR=4.5						
LPAZ	La Paz	155.17	178	PKP	PKPdf	17 17 12.8	+1.4
	comp=Z,1.9nm,0.9s,baz=47,slow=2.9,SNR=7.6						
LPAZ				PKPab	PKPab	17 17 37.9	+1.6
	comp=Z,5.0nm,0.8s,baz=167,slow=4.7,SNR=11						
SAML	Samuel	161.97	194	ePKPdf	PKPdf	17 17 19.5	+0.7

*ISCJB **06** 17:03:53.8±0.7, 6°.91N±0°.07×73°.08W±0°.09, h166km, Error ellipse: s-maj=14.6km s-min=6.9km az=32.7*
*FUNV **06** 17:03:55.2, 6°.80N×73°.12W, h162km, MW3.0*
*IDC **06** 17:03:59.5±7.1, 5°.10N×76°.54W, h110km±72km, mb1 2.6/1, mb1mx2.6/20, mbtmp3.1/1, ML1.6/1, Error ellipse: s-maj=145.8km s-min=75.4km az=10.0*
ISC 06 17:03:54.2±1.2**, 6°.88N**±0°.07×**73°.07W**±0°.09**, h166km, n16, σ1^{s}05**/21**, 4C-1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.23	37	⇑iP	Pn	17 04 23.5	+0.7
CAPV				eS	Sn	17 04 44.3	-0.5
ROSC	El Rosal	2.37	212	P	Pn	17 04 35.8	+0.9
	4.0nm,0.3s,baz=274,slow=17,SNR=11						
ROSC				S	Sn	17 05 04.1	-2.5
	9.4nm,0.3s,baz=80,slow=21,SNR=17						
VIGV	El Vigia	2.58	41	⇑iP	Pn	17 04 38.0	+0.9
VIGV				eS	Sn	17 05 09.8	-0.6
SOCV	Socops	2.60	57	⇑eP	Pn	17 04 38.4	+1.0
SOCV				eS	Sn	17 05 09.5	-1.3
ELOV	Elorza	3.56	88	eP	Pn	17 04 49.8	+0.4
VIRV	Villa del Rosa	3.66	10	⇑eP	Pn	17 04 50.5	0.0
VIRV				eS	Sn	17 05 32.7	-1.8
QARV	Quebrada Arrib	4.16	37	eP	Pn	17 04 57.8	+0.8
SANV	Sanarito	4.36	53	⇓eP	Pn	17 05 00.1	+0.4
CURV	Curarigua	4.38	44	eP	Pn	17 05 00.4	+0.6
DABV	Dabajuro	4.68	31	eP	Pn	17 05 05.0	+1.2
SIQV	Siquisique	4.94	41	eP	Pn	17 05 06.9	-0.3
BAUV	El Baul	5.39	67	eP	Pn	17 05 12.5	-0.5
MONV	Montecano	5.90	31	eP	Pn	17 05 19.8	0.0
TURV	Turiamo	6.27	55	eP	Pn	17 05 24.9	+0.3
ASAR	Alice Springs	149.18	234	PKPbc	PKPbc	17 23 24.9	+0.9
	0.4nm,0.9s,baz=113,slow=3.7,SNR=5.6						
WRA	Warramunga Arr	150.41	241	PKPbc	PKPbc	17 23 28.0	+1.0
	0.3nm,0.8s,baz=106,slow=2.8,SNR=6.0						

*NEIC **06** 17:23:03.2, 40°.46S×175°.98E, h32km, ML4.0(WEL), After WEL.*
NEIC Felt [IV] at Hokowhitu. Also felt at Wellington.
WEL 06 17:23:02.9±0.1**, 40°.42S×175°.94E, h31km, ML4.0**/34**, 15C-13D, Error ellipse: s-maj=1.3km s-min=0.7km az=90.0, MM 4., North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POWZ	Post Office Ro	0.13	281	⇓P*	Pb	17 23 08.2	-0.5
POWZ				S*	Sb	17 23 12.7	+0.1
POWZ	Post Office Ro	0.13	281	P*	Pb	17 23 08.2	-0.4
POWZ				S*	Sb	17 23 12.7	+0.1
PRWZ	Pori Road	0.14	170	⇑P*	Pn	17 23 08.9	0.0
PRWZ				S*	Sb	17 23 13.7	+1.0
DVHZ	Dannevirke	0.21	56	⇓P*	Pb	17 23 08.8	-0.7
DVHZ				S*	Sb	17 23 13.3	-0.6
DVHZ	Dannevirke	0.21	56	P*	Pb	17 23 08.8	-0.7
DVHZ				S*	Sb	17 23 13.2	-0.7
BFZ	Birch Farm	0.35	138	P*	Pn	17 23 11.6	-0.3
BFZ	Birch Farm	0.35	138	P*	Pn	17 23 11.6	-0.3
BFZ				S*	Sn	17 23 18.6	+0.8
TIWZ	Tintock	0.36	186	⇑P*	Pn	17 23 11.9	-0.1
TIWZ				AML	AML	17 23 19.4	
TIWZ				AML	AML	17 23 19.8	
TIWZ	Tintock	0.36	186	P*	Pn	17 23 11.9	-0.1
TSZ	Takapari Road	0.36	3	P*	Pb	17 23 10.5	-0.9
TSZ				AML	AML	17 23 16.3	
TSZ				AML	AML	17 23 16.3	
TSZ				AML	AML	17 23 16.5	
TSZ				AML	AML	17 23 16.5	
MRZ	Mangatainoka R	0.37	228	⇑P*	Pb	17 23 11.5	+0.1
MRZ				AML	AML	17 23 18.1	
MRZ				AML	AML	17 23 18.6	
MRZ	Mangatainoka R	0.37	228	P*	Pb	17 23 11.4	+0.1
ANWZ	Angora Road	0.41	96	⇑P*	Pn	17 23 12.4	-0.2
WPHZ	Waipukurau	0.52	48	⇑P*	Pb	17 23 13.6	-0.2
WPHZ	Waipukurau	0.52	48	P*	Pb	17 23 13.6	-0.2
CPWZ	Castlepoint	0.53	158	P*	Pn	17 23 14.8	+0.5
PNHZ	Pukenui	0.54	22	⇑P*	Pb	17 23 13.5	-0.6
PRHZ	Porangahau	0.55	74	⇓P*	Pn	17 23 14.5	-0.1
PRHZ	Porangahau	0.55	74	P*	Pn	17 23 14.5	-0.1
HOWZ	Holdsworth Sta	0.58	214	⇑P*	Pn	17 23 14.9	-0.1
HOWZ	Holdsworth Sta	0.58	214	P*	Pn	17 23 14.9	-0.1
TMWZ	Te Maipa	0.69	183	P*	Pn	17 23 16.4	-0.1
TMWZ	Te Maipa	0.69	183	P*	Pn	17 23 16.4	-0.1
OGWZ	Otaki Gorge	0.71	236	⇓P*	Pb	17 23 16.8	0.0
OGWZ	Otaki Gorge	0.71	236	P*	Pb	17 23 16.8	0.0
PXZ	Pawanui	0.81	62	⇓P*	Pn	17 23 17.6	-0.4
PXZ				AML	AML	17 23 32.4	
PXZ				AML	AML	17 23 33.2	
PXZ				AML	AML	17 23 33.7	
PXZ				AML	AML	17 23 33.7	
PXZ	Pawanui	0.81	62	P*	Pn	17 23 17.6	-0.4
MTW	Mount Morrison	0.81	204	P*	Pn	17 23 17.9	-0.3
MTW				AML	AML	17 23 31.9	
MTW				AML	AML	17 23 31.9	
MTW	Mount Morrison	0.81	204	P*	Pn	17 23 18.0	-0.2
KRHZ	Kereru	0.84	23	⇑PN	Pn	17 23 18.3	-0.4
KIW	Kapiti Island	0.90	240	⇓P*	Pb	17 23 19.7	-0.3
KIW				AML	AML	17 23 33.0	
KIW				AML	AML	17 23 33.3	
KIW	Kapiti Island	0.90	240	P*	Pb	17 23 19.8	-0.3
BHHZ	Black Hill Sta	0.93	6	⇑PN	Pn	17 23 19.7	-0.2
BHHZ	Black Hill Sta	0.93	6	Pn	Pn	17 23 19.7	-0.2
KAHZ	Kahuranaki	0.95	49	⇓PN	Pn	17 23 19.9	-0.2
KAHZ	Kahuranaki	0.95	49	Pn	Pn	17 23 19.9	-0.2
CAW	Cannon Point	0.95	224	⇓P*	Pn	17 23 20.1	0.0
CAW				AML	AML	17 23 35.5	
CAW				AML	AML	17 23 37.5	
CAW	Cannon Point	0.95	224	P*	Pn	17 23 20.1	0.0
WAZ	Wanganui	0.99	312	PN	Pb	17 23 21.6	+0.1
WAZ				AML	AML	17 23 36.9	
WAZ				AML	AML	17 23 37.7	
WAZ	Wanganui	0.99	312	Pn	Pb	17 23 21.6	+0.1
TRWZ	Traveller	1.00	191	P*	Pn	17 23 20.5	-0.3
TRWZ				AML	AML	17 23 41.0	
TRWZ				AML	AML	17 23 41.7	
TRWZ	Traveller	1.00	191	P*	Pn	17 23 20.5	-0.2
MOVZ	Moawhango	1.02	352	⇑PN	Pn	17 23 21.2	0.0
MOVZ				AML	AML	17 23 36.4	
MOVZ				AML	AML	17 23 36.6	
PAWZ	Paruwai Farm	1.04	202	P*	Pn	17 23 20.9	-0.4
PAWZ				AML	AML	17 23 39.0	
PAWZ				AML	AML	17 23 39.5	
PAWZ	Paruwai Farm	1.04	202	P*	Pn	17 23 20.9	-0.4
KWHZ	Kaweka Forest	1.06	21	⇑PN	Pn	17 23 21.4	-0.3
MTVZ	Mangateitei	1.09	341	PN	Pn	17 23 22.6	+0.4
MTVZ				AML	AML	17 23 39.4	
MTVZ				AML	AML	17 23 41.9	
MTVZ	Mangateitei	1.09	341	Pn	Pn	17 23 22.6	+0.4
MSWZ	Moikau Station	1.12	207	⇓P*	Pn	17 23 21.8	-0.6
MSWZ				AML	AML	17 23 41.1	
MSWZ				AML	AML	17 23 41.3	
MSWZ	Moikau Station	1.12	207	P*	Pn	17 23 21.9	-0.6
MCHZ	McNeill Hill	1.14	31	PN	Pn	17 23 22.4	-0.2
MCHZ	McNeill Hill	1.14	31	Pn	Pn	17 23 22.5	-0.2
CKHZ	Cape Kidnapper	1.16	49	PN	Pn	17 23 22.2	-0.7
CKHZ	Cape Kidnapper	1.16	49	Pn	Pn	17 23 22.2	-0.7
TRVZ	Turoa	1.16	345	PN	Pn	17 23 23.6	+0.4
TRVZ				AML	AML	17 23 42.4	
TRVZ				AML	AML	17 23 42.6	
TRVZ	Turoa	1.16	345	Pn	Pn	17 23 23.6	+0.4
FWVZ	Far West T-bar	1.20	346	⇑PN	Pn	17 23 24.1	+0.3
FWVZ				AML	AML	17 23 41.7	
FWVZ				AML	AML	17 23 42.4	
FWVZ	Far West T-bar	1.20	346	Pn	Pn	17 23 24.1	+0.3
WEL	Wellington	1.24	225	P*	Pn	17 23 23.7	-0.3
WEL				AML	AML	17 23 40.7	
WEL				AML	AML	17 23 41.2	
WEL	Wellington	1.24	225	P*	Pn	17 23 23.8	-0.3
WPVZ	Whakapapa	1.25	346	PN	Pn	17 23 25.0	+0.6
WPVZ				AML	AML	17 23 42.7	
WPVZ				AML	AML	17 23 44.6	
WPVZ	Whakapapa	1.25	346	Pn	Pn	17 23 25.0	+0.6
COVZ	Chateau Observ	1.26	346	PN	Pn	17 23 24.9	+0.5
PLWZ	Palliser	1.26	204	⇑P*	Pn	17 23 23.7	-0.7
PLWZ	Palliser	1.26	204	P*	Pn	17 23 23.6	-0.9
OTVZ	Oturere	1.27	350	⇑PN	Pn	17 23 25.3	+0.6
OTVZ				AML	AML	17 23 44.2	
OTVZ				AML	AML	17 23 45.4	
BHW	Baring Head	1.28	219	⇓P*	Pn	17 23 23.9	-0.6
BHW				AML	AML	17 23 41.4	
BHW				AML	AML	17 23 45.1	
BHW	Baring Head	1.28	219	P*	Pn	17 23 23.9	-0.6
SNZO	South Karori	1.29	226	ePn	Pn	17 23 24.4	-0.3
SNZO				eSn	Sn	17 23 41.4	+0.4
BKZ	Black Stump Fm	1.32	19	PN	Pn	17 23 24.8	-0.4
BKZ				AML	AML	17 23 44.1	
BKZ				AML	AML	17 23 50.8	
WTVZ	West Tongariro	1.33	348	PN	Pn	17 23 26.1	+0.6
WTVZ				AML	AML	17 23 45.9	
WTVZ				AML	AML	17 23 51.0	
WTVZ	West Tongariro	1.33	348	Pn	Pn	17 23 26.1	+0.7
KRVZ	Karewarewa	1.34	350	PN	Pn	17 23 26.4	+0.8
KRVZ				AML	AML	17 23 47.0	
KRVZ				AML	AML	17 23 48.7	
ARHZ	Aropaoanui	1.41	36	PN	Pn	17 23 25.8	-0.7
TCW	Tory Channel	1.49	237	⇓PN	Pn	17 23 27.1	-0.4
TCW				AML	AML	17 23 51.1	
TCW				AML	AML	17 23 51.2	
TCW	Tory Channel	1.49	237	Pn	Pn	17 23 27.1	-0.4
VRZ	Vera Road	1.58	324	ePN	Pn	17 23 29.8	+1.0
VRZ				AML	AML	17 23 55.3	
VRZ				AML	AML	17 24 04.1	
VRZ	Vera Road	1.58	324	Pn	Pn	17 23 30.0	+1.3
DUWZ	D'Urville Isla	1.58	255	PN	Pn	17 23 29.0	+0.2
DUWZ				AML	AML	17 23 56.1	
DUWZ				AML	AML	17 24 07.8	
DUWZ	D'Urville Isla	1.58	255	Pn	Pn	17 23 29.8	+1.0
WHHZ	Waihua	1.67	37	ePN	Pn	17 23 29.3	-0.8
RAHZ	Arahi	1.74	31	PN	Pn	17 23 30.3	-0.7
RAHZ	Arahi	1.74	31	Pn	Pn	17 23 29.9	-1.1
DREZ	Durham Road	1.82	312	Pn	Pn	17 23 33.5	+1.5
TUWZ	Tuamarina	1.82	236	⇓PN	Pn	17 23 31.1	-0.9
TUWZ				AML	AML	17 24 05.3	
TUWZ				AML	AML	17 24 07.8	
TUWZ	Tuamarina	1.82	236	Pn	Pn	17 23 31.1	-0.9
MHEZ	Mangahewa	1.83	317	Pn	Pb	17 23 34.3	-1.4
ALRZ	Allen Road	1.88	10	PN	Pn	17 23 32.1	-0.8
ALRZ	Allen Road	1.88	10	Pn	Pn	17 23 32.1	-0.8
KNZ	Kokohu	1.93	44	PN	Pn	17 23 32.0	-1.6
KNZ	Kokohu	1.93	44	Pn	Pn	17 23 32.0	-1.5
PKE	Pukeiti	1.94	309	AML	AML	17 24 13.2	
PKE				AML	AML	17 24 14.5	
PKE	Pukeiti	1.94	309	Pn	Pb	17 23 35.9	-1.7
PRRZ	Plateau Road	1.95	11	ePN	Pn	17 23 33.0	-0.8
PRRZ	Plateau Road	1.95	11	Pn	Pn	17 23 33.0	-0.8
BSWZ	Blackbirch Sta	2.03	230	⇑PN	Pn	17 23 34.0	-0.9
BSWZ				AML	AML	17 24 18.1	
BSWZ	Blackbirch Sta	2.03	230	Pn	Pn	17 23 34.0	-0.9
HIZ	Hauiti	2.08	336	ePN	Pb	17 23 37.8	-2.1
HIZ				AML	AML	17 24 07.8	
HIZ				AML	AML	17 24 20.8	
URZ	Urewera	2.34	23	ePn	Pn	17 23 37.3	-1.9
THZ	Tophouse	2.66	239	PN	Pn	17 23 42.2	-1.5
THZ				AML	AML	17 24 30.2	
THZ				AML	AML	17 24 38.2	
THZ	Tophouse	2.66	239	Pn	Pn	17 23 42.3	-1.3
KHZ	Kahutara	2.69	221	⇓PN	Pn	17 23 42.0	-2.0
KHZ				AML	AML	17 24 16.7	
KHZ	Kahutara	2.69	221	Pn	Pn	17 23 42.0	-2.0
TOZ	Tahuroa Road	2.71	353	PN	Pn	17 23 44.4	+0.2
TOZ	Tahuroa Road	2.71	353	Pn	Pn	17 23 44.4	+0.2
LTZ	Lake Taylor	3.62	228	AML	AML	17 26 24.1	
LTZ				AML	AML	17 26 24.2	
LTZ	Lake Taylor	3.62	228	Pn	Pn	17 23 53.0	-3.9
MQZ	McQueen's Vall	4.10	216	ePN	Pn	17 23 59.9	-3.4
MQZ	McQueen's Vall	4.10	216	Pn	Pn	17 24 00.1	-3.1
OXZ	Oxford	4.11	224	ePN	Pn	17 24 01.2	-2.3
WVZ	Waitaha Valley	4.71	234	AML	AML	17 25 18.0	
LBZ	Lake Benmore	5.82	225	ePN	Pn	17 24 25.6	-1.4
LBZ				AML	AML	17 24 29.6	
LBZ				AML	AML	17 26 34.4	
LBZ	Lake Benmore	5.82	225	Pn	Pn	17 24 25.1	-1.9
AS31	Alice Springs	38.95	282	P	P	17 30 25.9	-0.2

*ISCJB **06** 17:28:27.8±0.4, 33°.17N±0°.05×96°.18E±0°.06, h10km, mb3.7/12, MS3.1/5, Error ellipse: s-maj=8.5km s-min=5.4km az=42.7*
*IDC **06** 17:28:28.1±0.8, 33°.23N×96°.25E, h0km, mb3.7/12, mb1 3.9/16, mb1mx3.8/30, mbtmp3.8/16, ML3.7/4, MS3.3/7, Ms1 3.3/7, ms1mx3.0/37, Error ellipse: s-maj=30.0km s-min=14.0km az=53.0*
*BJI **06** 17:28:29.8, 33°.29N×96°.20E, h10km, mb4.1/4, ML4.1/5, Ms4.0/11, Ms7 3.9/7*
ISC 06 17:28:29.8±0.6**, 33°.21N**±0°.07×**96°.21E**±0°.08**, h10km, n35, σ1^{s}31**/29**, mb3.8**/12**, MS3.2**/5**, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	5.56	232	Pn	Pn	17 29 57.0	+4.0
LSA				Sn	Sb	17 31 08.0	-6.2
LSA				LZ			
	7µm,8.1s						
CD2	Chengdu	6.81	108	Pn	Pn	17 30 08.2	-1.6
CD2				Pg	Pb	17 30 33.2	+4.9
CD2				Sn	Sn	17 31 21.4	-6.0
CD2				Sg	Sg	17 32 00.8	-7.6
CD2				SMN			
	40nm,0.9s						
CD2				SME			
	50nm,1.4s						
CD2				LN			
	900nm,5.2s						
CD2				LZ			
	670nm,5.3s						
GTA	Gaotai	6.83	24	ePn	Pn	17 30 10.8	+0.6
GTA				Sn	Sn	17 31 32.2	+4.1
GTA				LN			
	360nm,12.8s						
GTA				LE			
	380nm,10.0s						
GTA				LZ			
	340nm,10.0s						
LZH	Lanzhou	6.92	63	ePn	Pn	17 30 14.6	+3.2
LZH				SMN			
	93nm,1.0s						
LZH				SME			
	110nm,0.8s						
LZH				LN			
	750nm,7.2s						
LZH				LE			
	610nm,6.1s						
LZH				LZ			
	1µm,9.8s						
TAPN	Taplejung	9.38	234	eP	Pn	17 30 46.6	+1.2
ODAN	Odare	9.92	233	eP	Pn	17 30 55.1	+2.4
	40nm,0.6s						
GUN	Gumba	10.35	242	eP	Pn	17 30 58.7	0.0
	12nm,0.5s						
RAMN	Ramite	10.40	236	eP	Pn	17 31 00.6	+1.4
	16nm,0.4s						
KKN	Kakani	10.86	243	eP	Pn	17 31 05.5	0.0
	16nm,0.7s						
PKI	Pulchoki	10.88	242	eP	Pn	17 31 05.9	-0.1
	16nm,0.6s						
DMN	Daman	11.09	243	eP	Pn	17 31 08.4	-0.3
GKN	Gorkha	11.23	246	eP	Pn	17 31 10.0	-0.6
	9.9nm,0.6s						
KOLN	Koldanda	12.15	247	eP	Pn	17 31 22.6	-0.5
	5.3nm,0.4s						
CMAR	Chiang Mai Arr	14.90	170	Pn	Pn	17 32 01.8	+1.2
	0.1nm,0.3s,baz=338,slow=12,SNR=7.9						
CMAR				Lg	Lg	17 36 21.6	
	0.3nm,0.3s,baz=234,slow=27,SNR=4.0						
CMAR				LR	LR	17 38 14.4	
	comp=Z,148nm,18.1s,baz=344,slow=39						
SONM	Songino Array	16.51	25	Pn	P	17 32 22.1	-2.1
	0.8nm,0.3s,baz=206,slow=15,SNR=7.4						
MKAR	Makanchi Array	17.21	326	P	Pn	17 32 29.8	-0.5
	0.2nm,0.3s,baz=140,slow=13,SNR=16						
TLY	Talaya	19.23	14	LR	LR	17 40 49.9	
	comp=Z,108nm,19.9s,baz=170,slow=39						
AAK	Ala-Archa	19.49	305	P	Pn	17 32 57.5	-0.8
	0.2nm,0.3s,baz=98,slow=11,SNR=8.6						
KURBB	Kurchatov Arra	21.71	328	P	P	17 33 20.4	-0.5
	5.6nm,0.9s,baz=135,slow=11,SNR=37						
ZALV	Zalesovo Beam	22.25	342	P	P	17 33 26.6	0.0
	1.9nm,0.7s,baz=161,slow=11,SNR=8.4						
KSRS	Korea Array	26.15	72	P	P	17 34 03.7	-0.5
	0.5nm,0.6s,baz=271,slow=9.0,SNR=4.2						
KSRS				LR	LR	17 44 40.8	
	comp=Z,36nm,18.3s,baz=262,slow=37						
BVAR	Borovoye Array	27.09	325	P	P	17 34 14.0	+1.5
	0.4nm,0.5s,baz=122,slow=7.0,SNR=2.5						
MJAR	Matsushiro Arr	34.42	72	LR	LR	17 49 06.5	
	comp=Z,43nm,19.1s,baz=240,slow=36						
KAPI	Kappang	44.09	145	LR	LR	17 56 35.6	
	comp=Z,49nm,18.4s,baz=332,slow=38						
PETK	Petropavlovsk-	47.45	46	LR	LR	17 58 08.0	
	comp=Z,25nm,19.1s,baz=288,slow=38						
GUMO	Guam	48.27	102	LR	LR	17 56 42.1	
	comp=Z,15nm,21.7s,baz=288,slow=35						
BRTR	Keskin Array B	49.84	296	P	P	17 37 23.4	+0.1
	0.8nm,0.8s,baz=97,slow=10,SNR=4.2						
AKASG	Malin Array Be	51.01	311	P	P	17 37 31.6	-0.1
	0.2nm,0.3s,baz=77,slow=5.8,SNR=4.7						
FINES	FINESS Array B	52.04	325	P	P	17 37 38.7	-0.6
	1.1nm,0.8s,baz=146,slow=21,SNR=2.8						
ARCES	ARCESS Array B	52.57	335	P	P	17 37 42.9	-0.2
	3.1nm,0.8s,baz=113,slow=6.9,SNR=4.2						
NB2	NORSAR Subarra	59.21	326	P	P	17 38 29.5	-1.4
	comp=Z,1.1nm,0.7s,baz=75,slow=6.9						
NOA	NORSAR Array B	59.21	326	P	P	17 38 29.4	-1.4
	comp=Z,1.2nm,0.7s,baz=76,slow=7.0,SNR=6.7						
WRA	Warramunga Arr	64.18	140	P	P	17 39 04.5	-0.4
	comp=Z,1.1nm,1.0s,baz=335,slow=6.6,SNR=7.0						
ASAR	Alice Springs	67.01	142	P	P	17 39 22.9	-0.2
	comp=Z,0.6nm,0.4s,baz=326,slow=6.4,SNR=38						
TORD	Torodi Ar. Bea	86.62	283	P	P	17 41 15.2	+1.2
	comp=Z,0.2nm,0.7s,baz=35,slow=5.3,SNR=2.4						

*IDC **06** 17:48:52.4±0.7, 28°.27N×56°.97E, h0km, mb4.1/22, mb1 4.2/27, mb1mx4.1/35, mbtmp4.1/27, ML3.7/4, MS3.6/14, Ms1 3.6/14, ms1mx3.3/35, Error ellipse: s-maj=15.8km s-min=13.4km az=163.0*
*ISCJB **06** 17:48:53.1±0.2, 28°.37N±0°.02×56°.97E±0°.03, h10km, mb4.2/42, MS3.6/13, Error ellipse: s-maj=4.2km s-min=3.0km az=10.8*
*CSEM **06** 17:48:54.8±0.2, 28°.39N×57°.03E, h10km, mb4.2/24, Ms3.8, Error ellipse: s-maj=7.5km s-min=5.2km az=104.0*
*BJI **06** 17:48:54.4, 28°.50N×57°.00E, h15km, mb4.1/5, Ms3.9/1, Ms7 3.8/1*
*MOS **06** 17:48:55.6±1.0, 28°.29N×56°.95E, h33km, mb4.6/17, Error ellipse: s-maj=9.0km s-min=6.3km az=86.1*
*THR **06** 17:48:57.3±0.6, 28°.45N×56°.82E, h16km±12km, ML4.2*
*DSN **06** 17:48:57.7±0.8, 27°.99N×57°.66E, h10km, mb4.5/9, ML5.1/8, Ms3.8/1, Error ellipse: s-maj=52.2km s-min=6.5km az=120.0*
*NEIC **06** 17:48:57.3±0.4, 28°.28N×56°.98E, h35km, mb4.3/14, MN4.3(TEH), Error ellipse: s-maj=7.8km s-min=5.7km az=146.0*
*TEH **06** 17:48:59.2, 28°.39N×56°.78E, h3km, ML4.3*
*OMAN **06** 17:49:27.1±99.0, 25°.87N×56°.84E, h0km±34km, Error ellipse: s-maj=109.0km s-min=9.6km az=1.0*
ISC 06 17:48:54.5±0.3**, 28°.33N**±0°.03×**56°.98E**±0°.04**, h10km, n224, σ1^{s}62**/207**, mb4.3**/44**, MS3.6**/13**, 12C-9D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	Bandar-abas	0.95	204	ePg	Pn	17 49 16.6	+2.6
IBND				e		17 49 45.9	
	comp=Z,74µm,0.4s						
IBND	Bandar-abas	0.95	204	Pg	Pn	17 49 16.5	+2.6
IBND	Bandar-abas	0.95	204	Pg	Pn	17 49 16.5	+2.6
NGRK	Negar Kerman	1.33	351	ePg	Pg	17 49 20.8	+0.6
NGRK	Negar Kerman	1.33	351	ePg	Pg	17 49 20.7	+0.6
CHMN	Cheshme madani	1.61	18	ePg	Pg	17 49 24.7	-0.7
CHMN	Cheshme madani	1.61	18	ePg	Pg	17 49 24.7	-0.7
KRBR	Kerman	1.66	354	ePg	Pb	17 49 25.3	-0.1
KRBR				AML	AML	17 49 54.2	
	comp=N,5µm,0.5s						
KRBR				AML	AML	17 49 60.0	
	comp=E,4µm,0.4s						
KRBR	Kerman	1.66	354	ePn	Pb	17 49 25.0	-0.4
KRBR	Kerman	1.66	354	ePg	Pb	17 49 25.3	-0.1
	comp=E,4µm,0.4s						
KRBR				eSg	Sg	17 49 48.0	0.0
KRBR	Kerman	1.66	354	ePn	Pb	17 49 25.0	-0.4
KRBR				eSg	Sg	17 49 48.0	0.0
TVBK	TV Kerman	1.67	354	ePn	Pg	17 49 26.1	-0.4
KHGB	Koh Gabri	2.09	348	ePn	Pg	17 49 33.4	-1.2
BANOM	Banah	2.47	194	P	Pn	17 49 36.6	+1.8
BANOM				S	Sn	17 50 07.4	+2.4
BANOM	Banah	2.47	194	P	Pn	17 49 36.5	+1.8
	SNR=471						
BANOM				⇑S	Sn	17 49 57.6	-7.5
BANOM	Banah	2.47	194	⇓eP	Pn	17 49 36.6	+1.8
	SNR=471						
BANOM				⇓P	Pn	17 49 36.6	+1.8
BANOM				⇓S	Sn	17 50 07.4	+2.4
IBAF	Bafgh	3.48	340	ePn	Pn	17 49 51.9	+3.0
IBAF				e		17 51 06.2	
	comp=Z,6µm,0.6s						
IBAF	Bafgh	3.48	340	ePn	Pn	17 49 51.9	+3.0
IBAF	Bafgh	3.48	340	Pn	Pn	17 49 51.8	+3.0
GHIR	Ghir-Karzin	3.52	270	ePn	Pn	17 49 51.6	+2.3
GHIR				AML	AML	17 51 03.8	
	comp=N,316nm,0.5s						
GHIR	Ghir-Karzin	3.52	270	ePn	Pn	17 49 51.6	+2.3
	comp=N,316nm,0.5s						
GHIR	Ghir-Karzin	3.52	270	ePn	Pn	17 49 51.0	+1.6
NAZ	Nazwa, Dubai	3.52	200	P	Pn	17 49 52.2	+2.9
	SNR=155						
NAZ	Nazwa, Dubai	3.52	200	⇓iP	Pn	17 49 52.2	+2.9
	SNR=155						
HATD	Hatta, Dubai	3.57	192	P	Pn	17 49 52.4	+2.5
	SNR=12						
HATD	Hatta, Dubai	3.57	192	⇑eP	Pn	17 49 52.4	+2.5
	SNR=12						
ZHSF	Zahedan	3.57	68	eP	Pb	17 49 55.6	-2.2
ZHSF	Zahedan	3.57	68	eP	Pb	17 49 55.0	-2.8
ZHSF	Zahedan	3.57	68	eP	Pb	17 49 55.0	-2.8
IMEH	Mehriz	3.68	327	ePn	Pn	17 49 54.9	+3.2
IMEH				e		17 51 07.0	
	comp=Z,5µm,0.5s						
IMEH	Mehriz	3.68	327	ePn	Pn	17 49 54.9	+3.2
IPAR	Pars	3.76	295	ePn	Pn	17 49 56.0	+3.1
IPAR				e		17 51 13.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,5µm,0.4s						
IPAR	Pars	3.76	295	Pn	Pn	17 49 55.9	+3.1
IPAR	Pars	3.76	295	Pn	Pn	17 49 55.9	+3.1
FAQ	Al Faqa, Dubai	3.77	199	P	Pn	17 49 55.4	+2.7
	SNR=146						
FAQ	Al Faqa, Dubai	3.77	199	⇑eP	Pn	17 49 55.4	+2.7
	SNR=146						
ASUD	Al Ashush, Dub	3.97	202	P	Pn	17 49 58.8	+3.4
	SNR=1000						
ASUD	Al Ashush, Dub	3.97	202	⇓eP	Pn	17 49 58.8	+3.4
	SNR=1265						
IKOO	Kooshah	4.45	23	e	Pg	17 50 23.3	+3.7
	comp=Z,5µm,0.2s						
IKOO				ePn	Pn	17 50 06.8	+4.6
IKOO				eSg	Sg	17 51 19.0	+1.7
ICHK	Chekchek	4.49	331	ePn	Pn	17 50 06.1	+3.2
ICHK				e		17 51 30.9	
	comp=Z,2µm,0.3s						
ICHK	Chekchek	4.49	331	ePn	Pn	17 50 06.1	+3.2
ISAD	Sadrabad	4.57	322	ePn	Pn	17 50 06.8	+2.8
ISAD				e		17 51 33.7	
	comp=Z,2µm,0.3s						
ISAD	Sadrabad	4.57	322	ePn	Pn	17 50 06.8	+2.8
IKAZ	Kazeroun	4.72	289	ePn	Pn	17 50 08.6	+2.4
IKAZ				e		17 51 11.1	
	comp=Z,5µm,0.1s						
IKAZ	Kazeroun	4.72	289	ePn	Pn	17 50 08.6	+2.4
HOQ	Hoqain	4.73	176	P	Pn	17 50 06.6	+0.6
	SNR=11						
HOQ	Hoqain	4.73	176	P	Pn	17 50 06.6	+0.6
	SNR=11						
ITEG	Tejag	4.81	18	ePn	Pn	17 50 11.5	+4.4
ITEG				e		17 51 38.4	
	comp=Z,6µm,0.4s						
ITEG	Tejag	4.81	18	ePn	Pn	17 50 11.5	+4.4
ARQ	Araqi	4.98	185	P	Pn	17 50 12.2	+2.8
ARQ	Araqi	4.98	185	⇓P	Pn	17 50 12.2	+2.8
IDAH	Dahanechah	5.06	29	ePn	Pn	17 50 16.0	+5.3
IDAH				e		17 51 50.7	
	comp=Z,3µm,0.5s						
IDAH	Dahanechah	5.06	29	ePn	Pn	17 50 16.0	+5.3
SMDO	Samad	5.33	169	P	Pn	17 50 16.4	+2.1
	SNR=16						
SMDO	Samad	5.33	169	P	Pn	17 50 16.4	+2.1
	SNR=16						
BSY	Bisya	5.56	178	⇑P	Pn	17 50 19.9	+2.6
NASN	Na'in	5.73	322	ePn	Pn	17 50 21.4	+1.6
NASN				eSg	Sb	17 51 49.2	+5.6
NASN	Na'in	5.73	322	ePn	Pn	17 50 21.5	+1.6
NASN	Na'in	5.73	322	ePn	Pn	17 50 21.0	+1.1
NASN				eSg	Sb	17 51 46.0	+2.4
WBK	Wadi Bani Khal	5.97	162	⇓P	Pn	17 50 24.2	+1.2
JMDO	Jabal Madar	6.02	170	⇑P	Pn	17 50 22.8	-0.8
IZEF	Zefreh	6.07	320	ePn	Pn	17 50 26.7	+2.2
IZEF				e		17 52 18.9	
	comp=Z,389nm,0.4s						
IZEF	Zefreh	6.07	320	ePn	Pn	17 50 26.7	+2.2
SLWS		6.67	240	P	Pn	17 50 34.0	+1.4
SLWS				S	Sn	17 51 46.0	-2.6
SLWS		6.67	240	S	Sn	17 51 45.5	-3.1
SLWS		6.67	240	P	Pn	17 50 34.0	+1.4
IPIR	Pirpir	6.81	311	ePn	Pn	17 50 35.9	+1.1
IPIR				e		17 51 55.4	
	comp=Z,522nm,0.3s						
IPIR	Pirpir	6.81	311	ePn	Pn	17 50 35.9	+1.1
BTHS		6.96	234	P	Pn	17 50 38.0	+1.4
BTHS				S	Sn	17 51 53.0	-2.9
BTHS		6.96	234	P	Pn	17 50 37.6	+1.0
BOQSS		7.20	252	P	Pn	17 50 40.0	+0.1
KHMZ	Khomeyn	8.08	314	ePn	Pn	17 50 53.8	+1.6
KHMZ	Khomeyn	8.08	314	ePn	Pn	17 50 53.8	+1.6
RBK	Rabkut	11.07	194	⇑P	Pn	17 51 31.9	-1.0
RAYN	Ar Rayn	11.38	248	ePn	Pn	17 51 34.6	-2.6
ABTO	Aybut	11.43	198	P	Pn	17 51 40.1	+2.2
	SNR=7.7						
GNI	Garni	15.52	323	Pn	Pn	17 52 35.1	+1.5
	comp=Z,0.2nm,0.3s,baz=215,slow=19,SNR=1.8						
GNI				LR	LR	17 59 14.5	
	comp=Z,123nm,19.9s,baz=91,slow=40						
GNI	Garni	15.52	323	⇑eP	P	17 52 36.4	-1.6
GNI				pmax	pmax		
	comp=Z,11nm,1.2s						
GNI	Garni	15.52	323	eP	P	17 52 36.4	-1.6
	comp=Z,11nm,1.2s						
ASF	Jabal al Asfar	17.77	287	P	Pn	17 53 02.4	+0.3
	comp=Z,0.3nm,0.3s,baz=73,slow=11,SNR=2.5						
SFK	Sufi-Kurgan	17.94	45	P	P	17 53 06.6	+1.7
SFK				pmax	pmax		
	comp=Z,15nm,0.8s						
SFK	Sufi-Kurgan	17.94	45	P	P	17 53 06.6	+1.7
	comp=Z,15nm,0.8s						
DAMY	Dhamar	17.99	223	ePn	Pn	17 53 03.9	-1.2
	comp=Z,25nm,0.8s						
DAMY	Dhamar	17.99	223	ePn	Pn	17 53 03.9	-1.2
	comp=Z,25nm,0.8s						
MNAS	Manas	18.93	38	P	Pn	17 53 17.3	+1.1
MNAS				pmax	pmax		
	comp=Z,14nm,1.1s						
MNAS	Manas	18.93	38	P	Pn	17 53 17.3	+1.1
	comp=Z,14nm,1.1s						
KBZ	Khabaz	19.09	327	P	Pn	17 53 18.5	+0.6
	comp=Z,0.1nm,0.3s,baz=323,slow=20,SNR=2.0						
MMAI	Mount Meron Ar	19.13	289	P	P	17 53 17.5	-0.3
	comp=Z,0.6nm,0.3s,baz=90,slow=12,SNR=2.6						
EIL	Elat	19.31	279	P	P	17 53 19.3	-0.5
	comp=Z,0.1nm,0.3s,baz=101,slow=10,SNR=2.6						
AML	Almayashu	19.35	40	P	Pn	17 53 23.5	+1.9
	SNR=6.0						
KIV	Kislovodsk	19.36	327	eP	Pn	17 53 21.4	0.0
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV	Kislovodsk	19.36	327	eP	Pn	17 53 21.4	0.0
	comp=Z,8.0nm,1.1s						
EKS2	Erkin-Say	19.74	39	eP	Pn	17 53 26.2	+0.2
EKS2				pmax	pmax		
	comp=Z,22nm,1.1s						
EKS2	Erkin-Say	19.74	39	eP	Pn	17 53 26.2	+0.2
	comp=Z,22nm,1.1s						
EKS2	Erkin-Say	19.74	39	ePn	Pn	17 53 26.2	+0.2
	comp=Z,22nm,1.1s						
AAK	Ala-Archa	20.13	40	P	Pn	17 53 29.8	-0.8
	comp=Z,3.1nm,0.9s,baz=203,slow=12,SNR=7.1						
AAK				LR	LR	18 02 18.2	
	comp=Z,252nm,18.6s,baz=228,slow=40						
AAK	Ala-Archa	20.13	40	⇓iP	Pn	17 53 30.2	-0.5
AAK				pmax	pmax		
	comp=Z,57nm,2.5s						
AAK	Ala-Archa	20.13	40	eP	Pn	17 53 29.6	-1.1
	comp=Z,25nm,1.4s						
AAK	Ala-Archa	20.13	40	eP	Pn	17 53 29.6	-1.0
	comp=Z,25nm,1.4s						
FRU	Bishkek	20.32	40	eP	Pn	17 53 36.0	+3.2
FRU				e		17 53 48.0	
TKM2	Tokmak 2	20.94	41	eP	P	17 53 38.2	+0.6
TKM2				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TKM2	Tokmak 2	20.94	41	eP	P	17 53 38.2	+0.6
	comp=Z,9.0nm,0.9s						
TKM2	Tokmak 2	20.94	41	eP	P	17 53 38.2	+0.6
	comp=Z,9.0nm,0.9s						
AB31	Akbulak array	21.02	5	P	P	17 53 39.2	+1.0
AB31				pmax	pmax		
	comp=Z,20nm,0.7s						
AB31	Akbulak array	21.02	5	P	P	17 53 39.2	+1.0
	comp=Z,20nm,0.7s						
ABKAR	Akbulak array	21.02	5	eP	P	17 53 38.8	+0.5
	comp=Z,15nm,0.6s						
ABKAR	Akbulak array	21.02	5	eP	P	17 53 38.8	+0.5
	comp=Z,15nm,0.6s						
AKTK	Aktyubinsk	22.10	2	P	P	17 53 50.5	+0.8
	comp=Z,22nm,1.0s						
AKTO	Aktyubinsk	22.10	2	P	P	17 53 50.9	+1.2
	comp=Z,8.2nm,0.4s,baz=176,slow=11,SNR=48						
AKTO				LR	LR	18 04 05.0	
	comp=Z,272nm,18.3s,baz=169,slow=41						
AKTO	Aktyubinsk	22.10	2	P	P	17 53 50.5	+0.8
AKTO				pmax	pmax		
	comp=Z,22nm,1.0s						
BR131	Keskin Array S	22.37	307	P	P	17 53 51.2	-1.7
	comp=Z,6.4nm,0.8s						
BR131	Keskin Array S	22.37	307	P	P	17 53 51.2	-1.7
	comp=Z,6.4nm,0.8s						
BRTR	Keskin Array B	22.37	307	P	P	17 53 53.7	+0.7
	comp=Z,9.6nm,1.1s,baz=123,slow=11,SNR=25						
BRTR				LR	LR	18 04 33.7	
	comp=Z,99nm,18.1s,baz=118,slow=42						
BRTR	Keskin Array B	22.37	307	ceP	P	17 53 53.5	+0.5
BRTR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BRTR	Keskin Array B	22.37	307	eP	P	17 53 53.5	+0.5
	comp=Z,10.0nm,1.1s						
ANN	Anapa	22.64	322	eP	P	17 53 52.2	-3.4
ANN				e		17 54 21.4	
ANN				eS	S	17 57 59.6	-3.9
ANN				eSS	SnSn	17 58 40.2	+7.2
ANN				pmax	pmax		
	comp=Z,46nm,1.4s						
ISP	Isparta	24.04	300	eP	P	17 54 08.4	-1.5
ISP				pmax	pmax		
	comp=Z,16nm,0.9s						
ISP	Isparta	24.04	300	eP	P	17 54 08.4	-1.5
	comp=Z,16nm,0.9s						
ISP	Isparta	24.04	300	eP	P	17 54 08.4	-1.5
	comp=Z,16nm,0.9s						
GKN	Gorkha	24.37	84	eP	P	17 54 13.7	+0.6
	comp=Z,30nm,0.9s						
DMN	Daman	24.84	85	eP	P	17 54 18.3	+0.9
	comp=Z,22nm,0.8s						
KKN	Kakani	24.96	84	eP	P	17 54 19.1	+0.6
	comp=Z,32nm,0.6s						
PKI	Pulchoki	25.11	85	eP	P	17 54 20.2	+0.3
	comp=Z,24nm,0.5s						
GUN	Gumba	25.47	84	eP	P	17 54 24.0	+0.7
	comp=Z,68nm,0.9s						
JIRN	Jiri	25.78	84	eP	P	17 54 26.6	+0.5
	comp=Z,14nm,0.5s						
RAMN	Ramite	26.25	86	eP	P	17 54 30.1	-0.1
	comp=Z,18nm,0.7s						
BVA0	Borovoye Array	26.60	18	iP	P	17 54 33.3	+0.5
BVA0				pmax	pmax		
	comp=Z,12nm,0.8s						
BVAR	Borovoye Array	26.60	18	P	P	17 54 33.3	+0.5
	comp=Z,9.3nm,0.7s,baz=199,slow=8.5,SNR=69						
BVAR				LR	LR	18 06 32.8	
	comp=Z,302nm,18.4s,baz=252,slow=40						
BRVK	Borovoye	26.60	18	⇑iP	P	17 54 32.5	-0.3
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BRVK	Borovoye	26.60	18	eP	P	17 54 31.7	-1.1
	comp=Z,6.0nm,0.8s						
BRVK	Borovoye	26.60	18	eP	P	17 54 31.7	-1.1
	comp=Z,6.0nm,0.8s						
MK31	Makanchi Array	27.06	40	iP	P	17 54 37.4	+0.3
MK31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MK31	Makanchi Array	27.06	40	iP	P	17 54 37.4	+0.3
	comp=Z,1.0nm,0.5s						
MK31	Makanchi Array	27.06	40	eP	P	17 54 36.1	-1.0
MKAR	Makanchi Array	27.06	40	P	P	17 54 37.3	+0.2
	comp=Z,1.7nm,0.6s,baz=226,slow=8.2,SNR=19						
MKAR				LR	LR	18 06 49.9	
	comp=Z,133nm,18.3s,baz=236,slow=40						
KURBB	Kurchatov Arra	27.61	30	P	P	17 54 42.0	+0.1
	comp=Z,2.0nm,0.7s,baz=229,slow=8.5,SNR=30						
KURK	Kurchatov	27.71	30	P	P	17 54 42.0	-0.8
KURK	Kurchatov	27.71	30	P	P	17 54 42.0	-0.8
KURK	Kurchatov	27.71	30	P	P	17 54 42.0	-0.8
AKASG	Malin Array Be	30.64	324	P	P	17 55 07.6	-1.2
	comp=Z,0.2nm,0.3s,baz=128,slow=8.1,SNR=3.0						
KIEV	Kiev	30.64	324	⇑eP	P	17 55 08.8	0.0
KIEV	Kiev	30.64	324	eP	P	17 55 08.8	0.0
NVS	Novosibirsk	32.61	28	eP	P	17 55 24.5	-1.6
NVS	Novosibirsk	32.61	28	eP	P	17 55 24.5	-1.6
ZAA0	Zalesovo Array	32.70	31	P	P	17 55 25.1	-1.8
ZAA0	Zalesovo Array	32.70	31	P	P	17 55 25.1	-1.8
ZALV	Zalesovo Beam	32.70	31	P	P	17 55 27.2	+0.3
	comp=Z,6.0nm,0.6s,baz=243,slow=9.4,SNR=32						
ZALV				LR	LR	18 10 18.4	
	comp=Z,145nm,19.0s,baz=250,slow=39						
KOLS	Kolonicke sedl	33.62	317	eP	P	17 55 35.7	+0.7
KOLS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KOLS	Kolonicke sedl	33.62	317	eP	P	17 55 35.7	+0.7
	comp=Z,5.0nm,0.9s						
KOLS	Kolonicke sedl	33.62	317	eP	P	17 55 35.7	+0.7
STHS	Stebnicka Huta	34.43	318	eP	P	17 55 43.9	+1.8
STHS				pmax	pmax		
	comp=Z,1.0nm,1.0s						
STHS	Stebnicka Huta	34.43	318	eP	P	17 55 43.9	+1.8
	comp=Z,1.0nm,1.0s						
STHS	Stebnicka Huta	34.43	318	eP	P	17 55 43.9	+1.8
KECS	Kecovo	34.52	316	eP	P	17 55 44.3	+1.5
KECS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KECS	Kecovo	34.52	316	eP	P	17 55 44.3	+1.5
	comp=Z,2.0nm,0.9s						
KECS	Kecovo	34.52	316	eP	P	17 55 44.3	+1.5
KMBO	Kilima Mbogo	34.87	216	P	P	17 55 45.9	-0.5
	comp=Z,0.7nm,0.3s,baz=29,slow=10,SNR=4.5						
GTA	Gaotai	36.94	61	eP	P	17 56 04.4	+0.5
GTA				pP	pP	17 56 11.1	+4.1
GTA				sP	sP	17 56 14.0	+5.8
GTA				PMZ			
	comp=Z,4.0nm,1.1s						
DPC	Dobruska-Polom	37.73	317	eP	P	17 56 07.3	-3.1
DPC	Dobruska-Polom	37.73	317	eP	P	17 56 07.3	-3.1
GERES	GERESS Array B	38.89	314	P	P	17 56 19.8	-0.4
	comp=Z,1.3nm,0.7s,baz=119,slow=8.2,SNR=7.0						
FINES	FINESS Array B	38.97	337	P	P	17 56 20.0	-0.6
	comp=Z,4.0nm,0.6s,baz=138,slow=9.5,SNR=29						
FINES				LR	LR	18 15 50.5	
	comp=Z,38nm,20.8s,baz=124,slow=42						
FINES	FINESS Array B	38.97	337	iP	P	17 56 20.2	-0.4
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	FINESS Array B	38.97	337	iP	P	17 56 20.2	-0.4
	comp=Z,4.0nm,0.6s						
KHC	Kasperske Hory	39.05	314	eP	P	17 56 18.4	-3.0
KHC				ex	x	17 56 20.9	
KHC				ex	x	17 56 24.2	
KHC	Kasperske Hory	39.05	314	eP	P	17 56 20.0	-1.4
KHC				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KHC	Kasperske Hory	39.05	314	eP	P	17 56 20.0	-1.4
	comp=Z,4.0nm,1.3s						
KHC	Kasperske Hory	39.05	314	eP	P	17 56 20.0	-1.4
	comp=Z,3.5nm,1.3s						
BRG	Berggiesshubel	39.33	317	eP	P	17 56 30.2	+6.4
	comp=Z,2.0nm,0.8s						
BRG	Berggiesshubel	39.33	317	eP	P	17 56 30.2	+6.4
BRG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CMAR	Chiang Mai Arr	39.58	95	LR	LR	18 14 50.6	
	comp=Z,57nm,18.4s,baz=320,slow=39						
WTTA	Wattenberg	39.86	311	⇓iP	P	17 56 27.2	-1.2
	comp=Z,7.8nm,1.0s						
WTTA	Wattenberg	39.86	311	P	P	17 56 27.2	-1.2
	comp=Z,7.8nm,1.0s						
CLL	Collm	40.03	317	iP	P	17 56 29.9	+0.3
	comp=Z,5.0nm,1.1s						
CLL				epP	pP	17 56 38.0	+5.3
CLL	Collm	40.03	317	iP	P	17 56 29.9	+0.3
CLL				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CLL	Collm	40.03	317	iP	P	17 56 29.9	+0.3
	comp=Z,5.0nm,1.1s						
MOY	Mondy	40.17	42	eP	P	17 56 31.9	+1.0
MOY	Mondy	40.17	42	eP	P	17 56 31.9	+1.0
BSD	Bornholm Skovb	40.33	324	iP	P	17 56 30.3	-1.6
BSD				i		17 56 34.3	
BSD	Bornholm Skovb	40.33	324	iP	P	17 56 30.3	-1.6
BSD	Bornholm Skovb	40.33	324	iP	P	17 56 30.3	-1.6
DAVA	Damuels	41.03	311	⇑iP	P	17 56 37.1	-1.0
	comp=Z,5.8nm,0.6s						
DAVA	Damuels	41.03	311	P	P	17 56 37.1	-1.0
	comp=Z,5.8nm,0.6s						
ZAK	Zakamensk	41.19	45	eP	P	17 56 39.3	0.0
BNI	Bardonecchia	42.94	307	eP	P	17 56 51.9	-1.8
BNI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BNI	Bardonecchia	42.94	307	eP	P	17 56 51.9	-1.8
	comp=Z,7.0nm,0.6s						
BNI	Bardonecchia	42.94	307	eP	P	17 56 51.9	-1.8
	comp=Z,6.6nm,0.6s						
NB2	NORSAR Subarra	44.63	330	P	P	17 57 05.5	-1.4
	comp=Z,0.8nm,0.6s,baz=115,slow=7.9						
NB2	NORSAR Subarra	44.63	330	P	P	17 57 05.5	-1.4
	comp=Z,0.8nm,0.6s,SNR=7.8						
NOA	NORSAR Array B	44.63	330	P	P	17 57 05.8	-1.1
	comp=Z,1.6nm,0.8s,baz=116,slow=8.0,SNR=7.5						
NOA				LR	LR	18 18 39.8	
	comp=Z,43nm,20.1s,baz=100,slow=40						
ARCES	ARCESS Array B	45.07	345	P	P	17 57 09.6	-0.7
	comp=Z,3.4nm,0.8s,baz=127,slow=7.8,SNR=7.8						
BOD	Bodaibo	49.04	36	eP	P	17 57 40.4	-1.0
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BOD	Bodaibo	49.04	36	eP	P	17 57 40.4	-1.0
	comp=Z,6.0nm,0.9s						
ESDC	Sonseca Array	50.90	300	P	P	17 57 55.5	-0.5
	comp=Z,0.3nm,0.5s,baz=81,slow=7.8,SNR=3.6						
TOA0	Torodi Ar. Sit	53.43	266	eP	P	17 58 12.8	-2.2
TOA0	Torodi Ar. Sit	53.43	266	eP	P	17 58 12.8	-2.2
TORD	Torodi Ar. Bea	53.43	266	P	P	17 58 13.8	-1.2
	comp=Z,2.7nm,0.6s,baz=63,slow=7.3,SNR=46						
YAK	Yakutsk	57.33	32	⇑eP	P	17 58 41.0	-1.3
YAK				pmax	pmax		
	comp=Z,13nm,2.5s						
YAK	Yakutsk	57.33	32	eP	P	17 58 41.0	-1.3
	comp=Z,13nm,2.5s						
KSAR	Wonju Array Be	58.98	61	P	P	17 58 53.2	-1.2
KSAR	Wonju Array Be	58.98	61	P	P	17 58 53.2	-1.2
KSAR	Wonju Array Be	58.98	61	P	P	17 58 53.2	-1.2
KSRS	Korea Array	59.01	61	P	P	17 58 53.2	-1.3
	comp=Z,0.8nm,0.6s,baz=278,slow=6.1,SNR=7.3						
KSRS				LR	LR	18 27 59.9	
	comp=Z,35nm,19.0s,baz=307,slow=40						
KSRS	Korea Array	59.01	61	P	P	17 58 53.2	-1.3
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KSRS				MLR	MLR		
	comp=Z,35nm,19.0s						
DBIC	Dimbokro	62.11	262	LR	LR	18 29 33.7	
	comp=Z,63nm,19.2s,baz=84,slow=39						
BOSA	Boshof	64.25	211	P	P	17 59 29.2	-0.8
	comp=Z,1.2nm,0.5s,baz=8.6,slow=8.1,SNR=4.5						
BOSA				LR	LR	18 30 47.5	
	comp=Z,43nm,18.4s,baz=34,slow=39						
SUMG	Summit	64.85	341	iP	P	17 59 33.9	+0.1
	comp=Z,5.7nm,0.9s						
SUMG	Summit	64.85	341	iP	P	17 59 33.9	+0.1
SUMG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SUMG	Summit	64.85	341	iP	P	17 59 33.9	+0.1
	comp=Z,6.0nm,0.9s						
SUMG	Summit	64.85	341	eP	P	17 59 32.3	-1.5
	comp=Z,5.3nm,1.0s						
MJAR	Matsushiro Arr	67.17	60	P	P	17 59 47.6	-1.2
	comp=Z,0.2nm,0.4s,baz=255,slow=4.7,SNR=3.4						
COLD	Coldfoot	82.56	10	eP	P	18 01 16.1	-1.2
	comp=Z,2.0nm,0.7s						
COLD	Coldfoot	82.56	10	eP	P	18 01 16.1	-1.2
	comp=Z,2.0nm,0.7s						
IM04	Indian Mountai	83.08	12	eP	P	18 01 17.7	-2.4
IM04	Indian Mountai	83.08	12	eP	P	18 01 17.7	-2.4
BPAW	Bear Paw Mtn.	85.29	12	eP	P	18 01 29.8	-1.5
	comp=Z,0.8nm,1.0s						
BPAW	Bear Paw Mtn.	85.29	12	eP	P	18 01 29.8	-1.5
	comp=Z,0.8nm,1.0s						
ILAR	Eielson Array	85.36	10	P	P	18 01 30.2	-1.4
	comp=Z,0.6nm,0.6s,baz=320,slow=5.0,SNR=9.0						
ILAR				LR	LR	18 44 01.1	
	comp=Z,28nm,19.1s,baz=296,slow=39						
EGAK	Eagle	86.13	8	eP	P	18 01 34.4	-1.1
	comp=Z,1.9nm,0.8s						
EGAK	Eagle	86.13	8	eP	P	18 01 34.4	-1.1
	comp=Z,1.9nm,0.8s						
WRA	Warramunga Arr	88.77	113	P	P	18 01 49.0	+0.1
	comp=Z,1.8nm,0.9s,baz=317,slow=4.0,SNR=16						
WRA	Warramunga Arr	88.77	113	iP	P	18 01 49.0	+0.1
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	89.25	356	P	P	18 01 49.8	-0.6
	comp=Z,1.8nm,0.7s,baz=2.9,slow=4.2,SNR=3.9						
ASAR	Alice Springs	90.32	117	P	P	18 01 56.1	0.0
	comp=Z,0.4nm,0.5s,baz=304,slow=4.9,SNR=17						

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*IDC **06** 18:27:41.3±1.8, 0°.56N×125°.83E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.3/3, Error ellipse: s-maj=160.8km s-min=28.1km az=65.0*

*ISCJB **06** 18:27:48.5±0.7, 0°.34S±0°.05×124°.22E±0°.05, h35km, mb3.3/3, Error ellipse: s-maj=7.8km s-min=6.2km az=33.8*

*DJA **06** 18:27:48.9±0.7, 0°S±5°×12°4E±°, h51km±13km, M3.8/7, mb3.9/2, MLv3.7/7*

ISC 06 18:27:48.7±1.0**, 0°.28S**±0°.06×**124°.21E**±0°.05**, h35km, n10, σ1s.56/15, mb3.4/3, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMSI	Cibinong	0.88	345	P	Pn	18 28 05.6	+1.0
KMSI				S	Sn	18 28 17.8	+1.7
LUWI	Luwuk	1.62	242	P	Pn	18 28 15.4	+0.6
LUWI				S	Sn	18 28 35.0	+0.4
MRSI	Marisa	2.39	288	P	Pn	18 28 23.1	-2.3
SANI	Sanana	2.50	135	P	Pn	18 28 28.0	+1.1
SANI				S	Sn	18 28 57.2	+1.0
APSI	Ampana	2.64	256	P	Pn	18 28 30.1	+1.3
APSI				S	Sn	18 29 00.4	+0.9
MPSI	Mapaga	4.36	278	P	Pn	18 28 55.5	+3.1
TTSI	Tana Toraja	5.18	238	P	Pn	18 29 04.6	+0.9
WRA	Warramunga Arr	21.92	154	P	P	18 32 37.7	-1.5
	0.5nm,0.6s,baz=340,slow=9.8,SNR=4.1						
ASAR	Alice Springs	25.08	159	P	P	18 33 09.7	-0.5
	0.9nm,0.8s,baz=343,slow=15,SNR=16						
ASAR				PcP	PcP	18 36 43.3	-1.0
	0.3nm,0.9s,baz=355,slow=2.3,SNR=3.0						
MKAR	Makanchi Array	59.49	328	P	P	18 37 47.2	-1.1
	0.2nm,0.6s,baz=123,slow=7.7,SNR=3.1						

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*IDC **06** 18:33:41.0±1.0, 55°.77S×142°.56W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/17, mbtmp3.6/3, MS4.2/18, Ms1 4.1/18, ms1mx4.1/20, Error ellipse: s-maj=160.9km s-min=28.2km az=174.0*

*GCMT **06** 18:33:44.0±0.2, 56°.92S×141°.59W, h25km, MW5.3/100, Moment Tensor Solution. s74,c98; s100,c159; Duration: 1s.1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.15±.02; $M_{\theta\theta}$0.96±.03; $M_{\phi\phi}$-0.81±.02; $M_{r\theta}$0.14±.05; $M_{\theta\phi}$0.72±.02; $M_{\phi r}$0.20±.04; Best double couple: $M_0$1.17000×10^{17} NP1:ϕ_s206.00000°,δ90.00000°, λ-168.00000°. NP2:ϕ_s116.00000°,δ78.00000°,λ0.00000°. Principal axes: T 1.2480, Plg8.0000°, Azm340.0000°; N -0.1560, Plg78.0000°, Azm207.0000°; P -1.0910, Plg9.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 18:33:41.4±0.9**, 56°.2S**±0°.1×**142°.1W**±0°.2**, h10km, n44, σ2s.35/9, mb3.7/3, MS4.2/18, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	Vanda	28.67	202	LR	LR	18 47 26.7	
	comp=Z,674nm,20.9s,baz=78,slow=28						
TBI	Tubuai	33.26	348	eLR	LR	18 49 13.9	
	2µm,29.5s,baz=175						
TBI	Tubuai	33.26	348	eT	T	19 15 30.9	
	32nm,0.3s						
RKT	Rikitea	33.47	12	eS	S	18 45 38.5	-3.4
	221nm,29.5s						
RKT				eLQ	LQ	18 48 01.3	
	2µm,30.5s						
RKT				eLR	LR	18 49 26.2	
	1µm,29.0s,baz=190						
RKT	Rikitea	33.47	12	eT	T	19 15 22.9	
	3.0nm,0.3s						
RAO	Raoul Island	36.93	302	LR	LR	18 53 19.1	
	comp=Z,167nm,19.9s,baz=331,slow=32						
RAR	Rarotonga	37.32	332	LR	LR	18 52 50.6	
	comp=Z,205nm,19.1s,baz=154,slow=31						
MEH	Mehetia	38.53	351	eT	T	19 22 02.4	
	9.3nm,0.2s						
TVO	Taravao	38.73	349	eT	T	19 22 20.0	
	0.7nm,0.3s						
PAE	Paea	38.89	349	eT	T	19 22 31.4	
	0.8nm,0.3s						
PPT2	Papeete2	38.96	349	eS	S	18 47 07.1	+1.0
	338nm,27.5s						
PPT2				eLR	LR	18 51 48.7	
	2µm,29.0s						
PPT2	Papeete2	38.96	349	eT	T	19 22 36.8	
	3.0nm,0.3s						
PPT	Papeete	38.98	349	LR	LR	18 52 46.1	
	comp=Z,637nm,21.4s,baz=176,slow=30						
VAH	Vaihoa	41.10	352	eT	T	19 25 14.3	
	15nm,0.3s						
VNA1	Neumayer--Stat	49.25	162	P	P	18 42 26.7	-2.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SNAA	Sanae	49.26	164	P	P	18 42 17.9	-12
DZM	Mont Dzumac	50.72	290	eLR	LR	18 56 31.7	
	535nm,25.4s						
DZM	Mont Dzumac	50.72	290	LR	LR	19 01 11.8	
	comp=Z,252nm,19.0s,baz=180,slow=33						
MAW	Mawson	55.11	191	LR	LR	19 03 39.1	
	comp=Z,366nm,21.7s,baz=154,slow=32						
STKA	Stephens Creek	56.72	261	LR	LR	19 03 22.2	
	comp=Z,291nm,20.5s,baz=149,slow=32						
LVC	Limon Verde	62.23	90	LR	LR	19 05 18.7	
	comp=Z,398nm,21.3s,baz=228,slow=30						
ASAR	Alice Springs	67.36	261	P	P	18 44 36.7	0.0
	0.4nm,0.7s,baz=142,slow=6.7,SNR=9.0						
ASAR				LR	LR	19 09 42.8	
	comp=Z,134nm,21.8s,baz=148,slow=32						
LPAZ	La Paz	67.73	86	P	P	18 44 41.5	+1.8
	1.2nm,0.9s,baz=225,slow=7.3,SNR=4.8						
LPAZ				LR	LR	19 08 11.2	
	comp=Z,70nm,20.8s,baz=189,slow=30						
H01W1	Cape Leeuwin H	68.69	239	T	T	20 00 23.9	
	baz=144,slow=75,SNR=26						
H01W2	Cape Leeuwin H	68.69	239	T	T	20 00 05.2	
	baz=144,slow=75,SNR=22						
H01W3	Cape Leeuwin H	68.70	239	T	T	20 00 11.5	
	baz=144,slow=75,SNR=20						
WRA	Warramunga Arr	70.09	264	P	P	18 44 53.0	-0.7
	0.3nm,0.7s,baz=145,slow=5.8,SNR=3.1						
SIV	San Ignacio	71.91	92	LR	LR	19 11 49.6	
	comp=Z,60nm,21.1s,baz=240,slow=32						
BDFB	Brasilia	79.43	102	LR	LR	19 17 06.1	
	comp=Z,343nm,19.9s,baz=191,slow=33						
ROSC	El Rosal	81.92	69	LR	LR	19 16 34.0	
	comp=Z,71nm,19.3s,baz=200,slow=31						
SIJI	Sorong	87.38	272	LR	LR	19 24 03.0	
	comp=Z,102nm,20.3s,baz=67,slow=35						
KAPI	Kappang	90.37	261	LR	LR	19 24 08.2	
	comp=Z,222nm,20.9s,baz=162,slow=34						
TXAR	Lajitas Array	91.27	33	LR	LR	19 18 34.7	
	comp=Z,50nm,21.7s,baz=0.0,slow=30						
GUMO	Guam	91.98	292	LR	LR	19 25 53.2	
	comp=Z,19nm,18.2s,baz=156,slow=34						
BOSA	Boshof	94.84	169	LR	LR	19 27 52.1	
	comp=Z,248nm,18.0s,baz=175,slow=34						
H10S3	ASCENSION HYDR	101.99	127	T	T	20 41 31.8	
	baz=207,slow=75,SNR=6.6						
H10S2	ASCENSION HYDR	101.99	127	T	T	20 41 26.7	
	baz=207,slow=75,SNR=5.6						
H10S1	ASCENSION HYDR	102.01	127	T	T	20 41 27.6	
	baz=207,slow=75,SNR=7.2						
H10N3	ASCENSION HYDR	103.05	126	T	T	20 42 45.7	
	baz=206,slow=75,SNR=5.2						
H10N1	ASCENSION HYDR	103.05	126	T	T	20 42 36.2	
	baz=206,slow=75,SNR=11						
H10N2	ASCENSION HYDR	103.06	126	T	T	20 42 37.5	
	baz=206,slow=75,SNR=9.3						
ILAR	Eielson Array	120.70	358	PKP	PKPdf	18 52 31.9	0.0
	0.1nm,0.4s,baz=202,slow=1.0,SNR=3.1						
ESDC	Sonseca Array	148.08	103	PKPbc	PKPbc	18 53 28.6	+2.1
	0.8nm,0.8s,baz=204,slow=2.8,SNR=4.7						
MKAR	Makanchi Array	151.25	270	PKPbc	PKPbc	18 53 36.3	+2.2
	0.5nm,0.8s,baz=108,slow=4.7,SNR=5.1						

*IDC **06** 18:45:39.9±34.0, 2°.74N×121°.85E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.4/37, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=564.1km s-min=70.7km az=146.0*
*ISCJB **06** 18:45:54.7±1.6, 1°.6N±0°.1×122°.28E±0°.08, h33km, mb3.5/3, Error ellipse: s-maj=19.2km s-min=10.6km az=162.4*
*DJA **06** 18:45:55.4±0.3, 2°N±3°×12°2E±°, h10km, M4.2/15, mb4.2/7, mB4.9/3, MLv4.2/15, Mw(mB)4.2/3*
ISC 06 18:45:55.8±2.0, **1°.6N**±0°.1×**122°.24E**±0°.07, **h35**km, **n13**, σ**1s.46**/13, **mb3.5**/3, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	1.17	195	P	Pn	18 46 14.7	-1.0
MRSI				S	Sn	18 46 29.1	-1.3
KMSI	Cibinong	2.02	121	P	Pn	18 46 28.9	+1.5
KMSI				S	Sn	18 47 00.0	+8.5
APSI	Ampana	2.58	193	P	Pn	18 46 35.9	+0.9
MPSI	Mapaga	2.66	242	P	Pn	18 46 36.6	+0.4
LUWI	Luwuk	2.69	169	P	Pn	18 46 38.8	+2.2
PCI	Palu	3.47	224	P	Pn	18 46 48.3	+1.0
TTSI	Tana Toraja	5.22	208	P	Pn	18 47 13.7	+2.3
	34nm,0.7s,511nm0.2nm						
SANI	Sanana	5.22	134	P	Pn	18 47 11.1	-0.4
	12nm,1.3s,0.1nm						
SPSI	Sidrap Palu	6.07	204	P	Pn	18 47 26.5	+3.5
KAPI	Kappang	7.04	201	Pn	Pn	18 47 38.3	+1.9
	1.1nm,0.3s,baz=12,slow=12,SNR=7.3						
WRA	Warramunga Arr	24.49	152	P	P	18 51 11.0	-0.9
	0.9nm,0.6s,baz=326,slow=10,SNR=22						
ASAR	Alice Springs	27.57	156	P	P	18 51 39.4	-0.4
	0.3nm,0.6s,baz=344,slow=14,SNR=6.2						
STKA	Stephens Creek	38.03	153	P	P	18 53 10.5	-0.4
	2.1nm,0.9s,baz=345,slow=10,SNR=3.5						

IDC 06 18:56:37.8±999.0, **1°.82S**×**78°.28W**, **h0**km, **Error ellipse: s-maj=1422.0km s-min=277.2km az=139.0, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I08BO	LAS PENAS INFR	17.27	146	i		20 41 20.0	
	baz=325,slow=322,SNR=1.1						
I41PY	VILLA FLORIDA	31.63	142	i		22 13 20.0	
	baz=316,slow=319,SNR=0.6						
I09BR	BRASILIA INFRA	32.84	116	i		22 15 10.0	
	baz=290,slow=323,SNR=2.2						

IDC 06 19:00:48.7±3.1, **29°.97S**×**177°.28W**, **h0**km, **mb3.6**/3, **mb1 3.8**/3, **mb1mx3.5**/19, **mbtmp3.6**/3, **Error ellipse: s-maj=59.1km s-min=25.0km az=76.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.91	322	Pn	Pn	19 01 09.5	+0.8
	254nm,0.3s,baz=95,slow=8.3,SNR=9.8						
RAO				Sn	Sn	19 01 21.9	-0.6
	295nm,0.3s,baz=121,slow=18,SNR=7.4						
STKA	Stephens Creek	35.18	256	P	P	19 07 44.2	-0.2
	0.7nm,0.8s,baz=97,slow=8.7,SNR=3.9						
ASAR	Alice Springs	43.76	266	P	P	19 08 56.8	+0.6
	0.4nm,0.6s,baz=105,slow=7.1,SNR=15						
WRA	Warramunga Arr	44.71	271	P	P	19 09 02.9	-0.9
	0.4nm,0.3s,baz=110,slow=8.1,SNR=19						
FINES	FINESS Array B	144.96	341	PKP	PKPab	19 20 25.9	-0.4
	1.0nm,0.7s,baz=61,slow=2.1,SNR=5.8						

*ISK **06** 19:09:04.4, 38°.23N×40°.47E, h5km, ML3.5*
*CSEM **06** 19:09:05.9±0.1, 38°.23N×40°.46E, h2km, ML3.5, Error ellipse: s-maj=4.1km s-min=3.0km az=162.0*
*DDA **06** 19:09:06.0, 38°.17N×40°.45E, h20km, MD3.2*
ISC 06 19:09:06.3±1.1, **38°.23N**±0°.02×**40°.45E**±0°.02, **h4**km±10km, **n60**, σ**0s.88**/80, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYBB	Diyarbakir	0.37	221	ePG	Pg	19 09 13.2	-0.2
DYBB				eSG	Sg	19 09 19.6	+1.4
DIY	Diyarbakir	0.38	207	ePg	Pg	19 09 13.2	-0.3
DIY				eSg	Sg	19 09 19.6	+1.1
SVAN	Silvan-Diyarba	0.60	97	ePG	Pg	19 09 16.7	-1.0
SVAN				eSG	Sg	19 09 25.7	+0.1
BINT	Bingol	0.65	3	ePg	Pb	19 09 20.1	-0.1
BEST	Besiri	0.73	117	i P	Pg	19 09 18.7	-1.6
BEST				i S	Sb	19 09 31.6	-0.6
MAZI	Mazidag	0.77	180	ePG	Pg	19 09 20.1	-0.9
MAZI				eSG	Sg	19 09 31.9	+0.9
MAZI	Mazidag	0.77	180	ePg	Pg	19 09 20.1	-0.9
MAZI				eSg	Sg	19 09 31.9	+0.9
BNGB	Bingˆ¶l	0.78	13	ePG	Pg	19 09 20.1	-1.2
BNGB				eSG	Sg	19 09 32.5	+1.1
BTMT	Batman	0.82	92	ePG	Pg	19 09 21.0	-1.1
BTMT	Batman	0.82	92	ePg	Pg	19 09 21.0	-1.1
SVRC	Sivrice-ELAZID	0.91	280	ePG	Pg	19 09 23.1	-0.6
SVRC	Sivrice-ELAZID	0.91	280	ePg	Pg	19 09 23.1	-0.6
ELZG	Elazig	1.18	283	i P	Pg	19 09 27.8	-1.1
ELZG				i S	Sg	19 09 44.7	+0.5
ELZG	Elazig	1.18	283	i P	Pg	19 09 27.8	-1.1
ELZG				i S	Sg	19 09 44.7	+0.5
VRTB	Varto-Mus	1.22	40	ePN	Pg	19 09 29.0	-0.7
VRTB	Varto-Mus	1.22	40	ePn	Pg	19 09 29.0	-0.7
ERZN	Erzincan	1.47	338	ePN	Pn	19 09 33.3	-0.4
URFA	Urfa	1.51	239	ePN	Pn	19 09 34.1	-0.1
URFA	Urfa	1.51	239	ePn	Pn	19 09 34.1	-0.1
MALT	Malatya	1.59	274	ePN	Pn	19 09 34.6	-0.8
MALT	Malatya	1.59	274	ePn	Pn	19 09 34.6	-0.8
EKAR	Karacoban	1.63	51	i P	Pn	19 09 36.2	+0.2
EKAR				i Sn	Sg	19 10 02.8	+4.2
EKAR	Karacoban	1.63	51	i P	Pn	19 09 36.2	+0.2
SIRT	Sirnak	1.74	114	ePN	Pn	19 09 36.5	-0.9
SIRT	Sirnak	1.74	114	ePn	Pn	19 09 36.5	-0.9
EZM	Erzurum	1.82	23	ePN	Pn	19 09 38.2	-0.4
ERZM	Erzurum	1.82	23	i P	Pn	19 09 39.1	+0.4
ERZM				i S	Sg	19 10 05.4	+0.7
ERZM	Erzurum	1.82	23	i P	Pn	19 09 39.1	+0.4
ERZM				i S	Sg	19 10 05.4	+0.7
KEMA	Kemaliye	1.84	305	i P	Pn	19 09 38.0	-0.9
KEMA				i S	Sg	19 10 06.1	+0.5
KEMA	Kemaliye	1.84	305	i P	Pn	19 09 38.0	-0.9
KEMA				i S	Sg	19 10 06.1	+0.5
ATAB	Bozova	1.86	247	i P	Pn	19 09 39.1	0.0
ATAB				i S	Sn	19 10 03.0	-0.1
ATAB	Bozova	1.86	247	i P	Pn	19 09 39.1	0.0
ATAB				i S	Sn	19 10 03.0	-0.1
ILIC	ilic-Erzincan	1.91	310	ePN	Pn	19 09 39.9	+0.2
ILIC	ilic-Erzincan	1.91	310	ePn	Pn	19 09 39.9	+0.2
AKCD	Akcadag	1.99	273	i P	Pn	19 09 39.4	-1.4
AKCD				i S	Sg	19 10 10.0	-0.2
AKCD	Akcadag	1.99	273	i P	Pn	19 09 39.4	-1.4
AKCD				i S	Sg	19 10 10.0	-0.2
GEVA	Gevas	2.06	87	i P	Pn	19 09 41.4	-0.5
GEVA				i S	Sn	19 10 08.9	+0.8
GEVA	Gevas	2.06	87	i P	Pn	19 09 41.4	-0.5
GEVA				i S	Sn	19 10 08.9	+0.8
BAYT	Ayd˜–ntepe-Bay	2.17	354	ePN	Pn	19 09 43.4	0.0
BAYT	Ayd˜–ntepe-Bay	2.17	354	ePn	Pn	19 09 43.4	0.0
VANB	Van	2.34	80	ePN	Pn	19 09 45.3	-0.4
VANB	Van	2.34	80	ePn	Pn	19 09 45.3	-0.4
DARE	Darende-Malaty	2.35	279	ePN	Pn	19 09 46.2	+0.3
DARE	Darende-Malaty	2.35	279	ePn	Pn	19 09 46.2	+0.3
AGRB	Hanur-Agry	2.40	55	ePN	Pn	19 09 46.5	0.0
AGRB	Hanur-Agry	2.40	55	ePn	Pn	19 09 46.6	0.0
CUKT	Cukurca	2.69	110	ePN	Pn	19 09 50.6	+0.1
CUKT	Cukurca	2.69	110	ePn	Pn	19 09 50.6	+0.1
CLDR	Caldiran	2.87	70	ePN	Pn	19 09 52.8	-0.2
CLDR	Caldiran	2.87	70	ePn	Pn	19 09 52.8	-0.2
KMRS	Kahramanmaras	2.90	257	ePN	Pn	19 09 54.0	+0.7
KMRS	Kahramanmaras	2.90	257	ePn	Pn	19 09 54.0	+0.7
SVSK	Karacayir	3.17	303	ePN	Pn	19 09 57.5	+0.6
SVSK	Karacayir	3.17	303	ePn	Pn	19 09 57.5	+0.6
BCA	Borcka	3.33	15	ePN	Pn	19 09 58.8	-0.5
BCA	Borcka	3.33	15	ePn	Pn	19 09 58.8	-0.5
KOZT	Kozan	3.73	260	ePN	Pn	19 10 05.8	+1.1
KOZT	Kozan	3.73	260	ePn	Pn	19 10 05.8	+1.1
TAHT	Tahtakopru-Hat	3.87	243	ePN	Pn	19 10 07.9	+1.3
TAHT	Tahtakopru-Hat	3.87	243	ePn	Pn	19 10 07.9	+1.3

*NIED **06** 19:17:00, 26°.60N×143°.00E, h14km, Mw3.8 Best double couple: M0 6.59000×10^14 NP1:φs244.00000°, δ28.00000°, λ173.00000°. NP2:φs341.00000°, δ87.00000°, λ63.00000°.*
*JMA **06** 19:17:11.8, 26°.59N×142°.99E, h0km, M3.9*
*IDC **06** 19:17:11.9±0.8, 26°.58N×142°.79E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.7/35, mbtmp3.8/9, ML3.7/1, Error ellipse: s-maj=26.3km s-min=13.8km az=68.0*
ISC 06 19:17:17.1±0.9, **26°.54N**±0°.07×**142°.7E**±0°.1, **h35**km, **n20**, σ**1s.41**/27, **mb3.9**/8, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	0.48	280	P	Pn	19 17 26.3	-1.1
JHHJ				S	Sn	19 17 36.6	+2.0
CBIJ	Chichi jima	0.72	320	P	Pn	19 17 29.3	-1.5
CBIJ				S	Sn	19 17 41.2	+0.6
JCJ	Chichijima	0.72	320	Pn	Pn	19 17 29.9	-0.9
	256nm,0.3s,baz=40,slow=20,SNR=106						
JCJ				Sn	Sn	19 17 43.4	+2.8
	775nm,0.3s,baz=270,slow=20,SNR=26						
BSO1	Boso 1	8.22	350	P	Pn	19 19 12.8	-0.5
BSO1				S	Sn	19 20 45.9	+1.2
BSO2	Boso 2	8.35	349	S	Sn	19 20 51.4	+3.1
BSO3	Boso 3	8.45	348	P	Pn	19 19 16.7	0.0
BSO3				S	Sn	19 20 52.2	+1.6
JOD2	Odawara 2	9.23	341	P	Pn	19 19 27.6	-0.1
JOD2				S	Sn	19 21 07.7	-2.6
JHU	Hanno	9.73	343	P	Pn	19 19 34.1	-0.4
JHU				S	Sn	19 21 22.3	-0.3
JRY	Ryogami san	9.99	342	P	Pn	19 19 37.2	-0.9
JHO	Hitachi	10.20	350	P	Pn	19 19 39.9	-1.1
JAG	Ashikaga	10.23	345	P	Pn	19 19 40.7	-0.7
MJAR	Matsushiro Arr	10.68	340	Pn	Pn	19 19 45.2	-2.3
	0.5nm,0.3s,baz=158,slow=12,SNR=8.3						
CMAR	Chiang Mai Arr	41.06	268	P	P	19 24 57.8	+0.2
	1.2nm,0.8s,baz=57,slow=8.8,SNR=8.6						
WRA	Warramunga Arr	46.92	191	P	P	19 25 45.0	+0.6
	1.5nm,0.3s,baz=11,slow=8.7,SNR=58						
ASAR	Alice Springs	50.63	190	P	P	19 26 13.2	+0.3
	0.3nm,0.7s,baz=11,slow=7.0,SNR=11						
ILAR	Eielson Array	57.97	28	P	P	19 27 06.1	+0.3
	0.1nm,0.6s,baz=260,slow=5.2,SNR=2.6						
STKA	Stephens Creek	58.10	181	P	P	19 27 07.2	+0.2
	1.8nm,1.0s,baz=337,slow=7.7,SNR=3.1						
ARCES	ARCESS Array B	74.21	341	P	P	19 28 49.2	-0.8
	4.9nm,0.9s,baz=59,slow=8.8,SNR=3.0						
FINES	FINESS Array B	78.64	334	P	P	19 29 15.8	+0.7
	1.2nm,0.4s,baz=96,slow=4.3,SNR=23						
NOA	NORSAR Array B	84.29	339	P	P	19 29 45.0	-0.2
	0.3nm,0.5s,baz=45,slow=4.5,SNR=3.1						

*ISCJB **06** 19:53:18.4±0.7, 33°.21N±0°.07×96°.1E±0°.1, h10km, mb3.3/4, Error ellipse: s-maj=14.0km s-min=8.6km az=35.6*
*IDC **06** 19:53:18.5±1.3, 33°.34N×96°.44E, h0km, mb3.3/4, mb1 3.5/6, mb1mx3.2/31, mbtmp3.3/6, ML3.3/2, Error ellipse: s-maj=115.9km s-min=19.9km az=61.0*
*BJI **06** 19:53:21.4, 33°.30N×96°.20E, h10km, ML3.2/5*
ISC 06 19:53:21.3±0.8, **33°.30N**±0°.09×**96°.03E**±0°.09, **h10**km, **n17**, σ**1s.49**/17, **mb3.4**/4, **Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	5.50	231	Pn	Pn	19 54 46.9	+3.1
GTA	Gaotai	6.82	25	ePn	Pn	19 55 02.7	+1.2
CD2	Chengdu	6.97	108	Pg	Pb	19 55 23.5	+0.9
CD2				Sg	Sb	19 56 51.1	+5.1
CD2				SMN			
	30nm,1.4s						
TAPN	Taplejung	9.32	233	eP	Pn	19 55 36.9	+0.9
	4.4nm,0.4s						
ODAN	Odare	9.86	232	eP	Pn	19 55 45.2	+1.8
	14nm,0.4s						
JIRN	Jiri	10.18	239	eP	Pn	19 55 48.8	+0.9
	2.8nm,0.3s						
GUN	Gumba	10.26	241	eP	Pn	19 55 49.6	+0.6
	4.3nm,0.3s						
KKN	Kakani	10.77	242	eP	Pn	19 55 55.3	-0.6
	4.9nm,0.4s						
PKI	Pulchoki	10.80	241	eP	Pn	19 55 55.8	-0.5
	4.0nm,0.4s						
DMN	Daman	11.00	242	eP	Pn	19 55 58.4	-0.6
GKN	Gorkha	11.14	245	eP	Pn	19 56 00.1	-0.8
CMAR	Chiang Mai Arr	15.01	169	Pn	Pn	19 56 53.5	-0.1
	0.0nm,0.3s,baz=339,slow=11,SNR=3.1						
MKAR	Makanchi Array	17.06	326	P	Pn	19 57 20.2	+0.2
	0.1nm,0.3s,baz=133,slow=14,SNR=5.8						
KURBB	Kurchatov Arra	21.56	329	P	P	19 58 11.0	+0.2
	0.6nm,0.5s,baz=134,slow=11,SNR=7.2						
ZALV	Zalesovo Beam	22.12	342	P	P	19 58 16.2	-0.6
	0.6nm,0.6s,baz=155,slow=11,SNR=4.8						
WRA	Warramunga Arr	64.34	140	P	P	20 03 54.6	-2.8
	0.2nm,0.7s,baz=326,slow=8.9,SNR=3.6						
ASAR	Alice Springs	67.17	142	P	P	20 04 13.6	-2.1
	0.3nm,0.5s,baz=323,slow=6.1,SNR=7.9						

*IDC **06** 20:08:27.1±0.8, 15°.26S×173°.45W, h0km, mb4.1/9, mb1 4.4/9, mb1mx4.1/34, mbtmp4.1/9, MS3.6/7, Ms1 3.6/7, ms1mx3.3/30, Error ellipse: s-maj=41.8km s-min=17.7km az=142.0*
*NEIC **06** 20:08:28.6±0.4, 15°.24S×173°.50W, h10km, mb4.5/2, Error ellipse: s-maj=18.2km s-min=8.0km az=146.0*
*ISCJB **06** 20:08:31.7±0.6, 15°.2S±0°.2×173°.7W±0°.1, h42km, mb4.2/11, MS3.6/6, Error ellipse: s-maj=27.6km s-min=12.5km az=147.9*
ISC 06 20:08:33.5±0.7, **15°.3S**±0°.2×**173°.6W**±0°.2, **h42**km, **n62**, σ**0s.77**/39, **mb4.2**/11, **MS3.6**/6, **6C-11D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.20	53	ePn	Pn	20 08 56.1	-12
MSVF	Nonsavu	8.40	252	Pn	Pn	20 10 31.7	-1.1
	19nm,1.0s						
RAR	Rarotonga	14.39	116	LR	LR	20 15 47.3	
	comp=Z,143nm,21.3s,baz=298,slow=31						
DZM	Mont Dzumac	20.09	247	eLR	LR	20 18 06.8	
	191nm,23.6s						
PAE	Paea	23.14	99	eT	T	20 36 30.4	
	3.7nm,0.3s						
PPT	Papeete	23.14	99	LR	LR	20 19 46.9	
	comp=Z,80nm,20.7s,baz=359,slow=30						
PPT2	Papeete2	23.14	99	eLQ	LQ	20 17 50.0	
	323nm,27.8s						
PPT2				eLR	LR	20 18 54.9	
	170nm,24.5s						
PPT2	Papeete2	23.14	99	eT	T	20 36 31.1	
	6.9nm,0.3s						
TIAR	Tiarei	23.36	99	eT	T	20 36 46.6	
	2.8nm,0.3s						
TVO	Taravao	23.45	100	eT	T	20 36 54.3	
	2.8nm,0.4s						
TBI	Tubuai	24.12	113	eLR	LR	20 19 14.2	
	388nm,29.8s						
TBI	Tubuai	24.12	113	eT	T	20 37 55.0	
	12nm,0.3s						
URZ	Urewera	24.35	198	LR	LR	20 21 39.3	
	comp=Z,213nm,18.7s,baz=32,slow=32						
PMOR	Pomariorio Ree	24.79	93	eT	T	20 38 30.2	
	4.3nm,0.3s						
VAH	Vaihoa	25.04	93	eT	T	20 38 48.3	
	7.2nm,0.3s						
TAOE	Nuku Hiva Isla	33.28	83	eT	T	20 49 01.4	
	162nm,0.3s						
RKT	Rikitea	37.20	108	eT	T	20 54 10.8	
	7.4nm,0.3s						
H11S2	WAKE ISLAND Hy	38.75	329	T	T	20 57 18.6	
	baz=149,slow=76,SNR=24						
H11S3	WAKE ISLAND Hy	38.76	329	T	T	20 57 19.6	
	baz=149,slow=76,SNR=22						
H11S1	WAKE ISLAND Hy	38.77	329	T	T	20 57 20.0	
	baz=149,slow=76,SNR=19						
H11N3	WAKE ISLAND Hy	39.70	330	T	T	20 58 36.7	
	baz=150,slow=76,SNR=15						
H11N1	WAKE ISLAND Hy	39.70	330	T	T	20 58 35.5	
	baz=150,slow=76,SNR=31						
H11N2	WAKE ISLAND Hy	39.71	330	T	T	20 58 44.4	
	baz=150,slow=76,SNR=16						
STKA	Stephens Creek	43.96	240	P	P	20 16 36.8	0.0
	6.2nm,0.8s,baz=75,slow=7.6,SNR=12						
STKA				PcP	PcP	20 18 22.7	+0.6
	1.7nm,0.6s,baz=48,slow=3.2,SNR=3.0						
WRAB	Tennant Creek	49.70	257	eP	P	20 17 22.2	+0.4
	3.1nm,1.1s						
WRA	Warramunga Arr	49.71	257	P	P	20 17 21.9	0.0
	2.3nm,0.7s,baz=91,slow=6.9,SNR=53						
WRA				PcP	PcP	20 18 43.0	+0.3
	1.0nm,0.6s,baz=92,slow=3.6,SNR=5.4						
AS31	Alice Springs	49.99	252	eP	P	20 17 23.3	-0.7
ASAR	Alice Springs	49.99	252	P	P	20 17 23.6	-0.4
	5.9nm,0.7s,baz=88,slow=8.0,SNR=88						
MJAR	Matsushiro Arr	68.71	320	P	P	20 19 33.6	+0.6
	0.7nm,1.0s,baz=157,slow=7.4,SNR=3.2						
MJAR				LR	LR	20 43 36.4	
	comp=Z,37nm,21.5s,baz=65,slow=31						
LPIG	La Paz	73.11	59	LR	LR	20 44 54.9	
	comp=Z,55nm,18.1s,baz=206,slow=30						
YBH	Yreka Blue Hor	73.58	37	P	P	20 20 02.0	-0.4
	2.3nm,0.8s,baz=287,slow=8.9,SNR=3.1						
YBH				LR	LR	20 46 33.5	
	comp=Z,56nm,19.1s,baz=265,slow=31						
NVAR	Mina Array Bea	74.33	42	P	P	20 20 07.2	+0.1
	0.5nm,0.5s,baz=230,slow=9.9,SNR=5.0						
QSPA	South Pole Qui	74.79	180	eP	P	20 20 09.2	-0.1
	9.9nm,1.0s						
TXAR	Lajitas Array	80.67	56	P	P	20 20 41.5	-1.1
	1.5nm,1.1s,baz=224,slow=5.2,SNR=10						
ILAR	Eielson Array	82.33	11	P	P	20 20 49.1	-1.3
	0.8nm,0.8s,baz=219,slow=5.9,SNR=10						
ILAR				LR	LR	20 50 59.4	
	comp=Z,27nm,21.5s,baz=272,slow=31						
MAW	Mawson	87.88	199	P	P	20 21 18.5	+0.2
	2.7nm,0.7s,baz=141,slow=6.6,SNR=7.4						
SNAA	Sanae	93.06	177	P	P	20 21 34.9	-7.6
MKAR	Makanchi Array	110.60	315	PKiKP	PKiKP	20 27 01.2	-0.4
	0.3nm,0.6s,baz=101,slow=2.9,SNR=3.5						
BVAR	Borovoye Array	117.66	322	PKP	PKPdf	20 27 14.7	-0.2
	0.9nm,0.6s,baz=104,slow=3.1,SNR=5.7						
DPC	Dobruska-Polom	144.08	349	ePKP	PKPbc	20 28 02.9	+0.2
DPC				ex	x	20 28 12.7	
CFR	Carcaliu	144.99	333	⇑iP	PKPdf	20 28 06.4	+0.1
VRI	Vrincioaia	145.04	335	⇑iP	PKPdf	20 28 07.2	+0.8
TIRR	Tirgusor	145.42	332	⇓iP	PKPab	20 28 07.9	+0.6
KMBO	Kilima Mbogo	145.44	245	PKPbc	PKPab	20 28 09.4	+0.8
	1.8nm,0.7s,baz=8.9,slow=1.8,SNR=3.4						
HARR	Harsova	145.46	333	⇑iP	PKPab	20 28 08.5	+1.1
DOPR	Dopca	145.49	336	⇓iP	PKPab	20 28 08.6	+1.1
TLB	Topalu	145.49	332	⇓iP	PKPab	20 28 08.3	+0.8
MLR	Muntele Rosu	145.66	335	⇑iP	PKPab	20 28 08.9	+0.6
KHC	Kasperske Hory	145.71	352	ePKP	PKPab	20 28 07.9	-0.3
KHC				epPKP	PKiKP	20 28 14.4	+2.8
KHC				ex	x	20 28 18.8	
ISR	Istrita	145.72	334	⇑iP	PKPab	20 28 09.2	+0.8
DRGR		145.74	340	⇓iP	PKPbc	20 28 07.9	-0.2
BRTR	Keskin Array B	145.93	321	PKPbc	PKPab	20 28 09.9	+0.3
	8.4nm,0.9s,baz=96,slow=2.1,SNR=32						
GERES	GERESS Array B	145.97	351	PKPbc	PKPbc	20 28 08.3	-0.5
	1.1nm,0.8s,baz=33,slow=3.2,SNR=11						
ARR	Arges	146.28	337	⇓iP	PKPab	20 28 11.3	+0.7
CONA	Conrad Observa	146.49	348	⇓ipPKPdf	PKPab	20 28 11.3	-0.1
	3.1nm,0.9s						
SIRR	Siria	146.55	341	⇓iP	PKPab	20 28 11.7	+0.2
BZS	Buzias	147.14	340	⇓iP	PKPbc	20 28 12.4	+0.3
SOKA	Soboth	147.85	349	⇓ipPKPdf	PKPbc	20 28 13.8	-0.4
	3.1nm,0.9s						
ABTA	Abfaltersbach	148.19	352	⇓ipPKPdf	PKPbc	20 28 14.8	-0.3
	3.2nm,0.8s						
DIVS	Divibare	149.01	341	⇑iP	PKPdf	20 28 07.2	-6.0
MMB	Musomiste	149.78	334	⇓iP	PKPbc	20 28 19.5	+0.3
ESDC	Sonseca Array	154.02	19	PKPab	PKPab	20 28 42.3	-0.1
	0.1nm,0.2s,baz=321,slow=3.1,SNR=3.3						

*ISCJB **06** 20:28:30.6±0.7, 36°.94N±0°.05×71°.29E±0°.08, h106km, Error ellipse: s-maj=9.7km s-min=5.6km az=148.8*
*NNC **06** 20:28:36.5±2.5, 37°.40N×71°.15E, h137km±26km, mb3.0, mpv3.8, Error ellipse: s-maj=23.1km s-min=9.8km az=163.0*
ISC 06 20:28:31.3±1.0, **37°.00N**±0°.07×**71°.32E**±0°.07, **h106**km, **n24**, σ**1s.57**/30, **4C-9D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.67	313	⇓P	Pn	20 29 14.2	+1.3
	14nm,0.3s						
DZET				⇑S	Sn	20 29 44.9	0.0
	82nm,0.4s						
SFK	Sufi-Kurgan	3.46	29	⇑P	Pn	20 29 26.1	+2.5
	6.4nm,0.3s						
SFK				⇓S	Sn	20 30 05.1	+1.1
	31nm,0.5s						
AML	Almayashu	5.45	19	P	Pn	20 29 51.9	+1.4
	SNR=86						
MNAS	Manas	5.56	9	⇓P	Pn	20 29 52.8	+1.1
	3.7nm,0.4s						
MNAS				⇓S	Sn	20 30 52.2	-2.2
	9.3nm,0.5s						
UCH	Uchtor	5.78	24	P	Pn	20 29 56.3	+1.4
	SNR=8.1						
DLH	Dalhousie	5.86	138	eP	Sn	20 31 02.0	0.0
KZA	Kyzart	5.91	30	P	Pn	20 29 58.5	+1.7
	SNR=5.6						
EKS2	Erkin-Say	5.96	18	P	Pn	20 29 59.0	+1.8
	SNR=23						
AAK	Ala-Archa	6.14	22	P	Pn	20 30 01.4	+1.8
	SNR=18						
AAK	Ala-Archa	6.14	22	P	Pn	20 30 01.1	+1.6
	8.4nm,0.5s						
AAK				⇑S	Sn	20 31 06.1	-2.4

	7.5nm,0.8s						
KK09	**Karatay Array**	**6.15**	**354**	⇓P	**Pn**	**20 30 00.5**	**+0.8**
	7.7nm,0.4s,baz=182,slow=14						
KK09				⇓S	**Sn**	**20 31 05.7**	**-2.8**
	3.7nm,0.5s,baz=180,slow=24						
KBK	**Karagaybulak**	**6.30**	**25**	P	**Pn**	**20 30 04.6**	**+2.7**
	SNR=6.4						
CHMS	**Chumysh**	**6.55**	**23**	P	**Pn**	**20 30 06.5**	**+1.5**
	SNR=6.0						
USP	**Ospenovka**	**6.72**	**20**	P	**Pn**	**20 30 08.3**	**+0.9**
	SNR=6.0						
TKM2	**Tokmak 2**	**6.77**	**28**	P	**Pn**	**20 30 09.4**	**+1.2**
	SNR=12						
TKM2	**Tokmak 2**	**6.77**	**28**	⇓P	**Pn**	**20 30 09.3**	**+1.1**
	4.3nm,0.6s						
TKM2				⇓S	**Sn**	**20 31 22.3**	**-1.5**
	3.0nm,0.7s						
KOLN	**Koldanda**	**13.86**	**128**	*e*P	**Pn**	**20 31 42.8**	**-0.6**
	3.5nm,0.3s						
KOLN				*e*S	Sn	20 34 04.3	-12
GKN	**Gorkha**	**14.37**	**125**	*e*P	**Pn**	**20 31 48.8**	**-1.0**
	4.1nm,0.2s						
AB31	**Akbulak array**	**14.78**	**330**	P	**Pn**	**20 31 53.7**	**-1.1**
	0.5nm,0.3s,baz=134,slow=19,SNR=16						
AB31				⇓S	Sn	20 34 27.9	-10
	1.1nm,0.6s,baz=273,slow=72,SNR=4.6						
KKN	**Kakani**	**14.93**	**124**	*e*P	**Pn**	**20 31 56.6**	**-0.5**
DMN	**Daman**	**14.94**	**125**	*e*P	**Pn**	**20 31 56.9**	**-0.3**
	3.4nm,0.4s						
PKI	**Pulchoki**	**15.16**	**124**	*e*P	**Pn**	**20 32 00.0**	**-0.1**
JIRN	**Jiri**	**15.63**	**122**	*e*P	**Pn**	**20 32 06.2**	**+0.2**
AKTO	**Aktyubinsk**	**16.48**	**329**	⇑P	**P**	**20 32 18.7**	**+1.9**
	1.2nm,0.5s						

*IDC **06** 20:37:59.4±2.6, 2°.37N×76°.42W, h66km±24km, mb3.4/9, mb1 3.7/11, mb1mx3.6/31, mbtmp3.8/11, MS3.3/10, Ms1 3.3/10, ms1mx3.2/16, Error ellipse: s-maj=23.2km s-min=18.0km az=48.0*

ISC 06 20:37:56.3±0.7**, 2°.5N**±0°.1×**76°.4W**±0°.2**, h35km, n23, σ0.78**/16**, mb3.7**/8**, MS3.2**/5**, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.12**	**40**	P	Pn	20 38 48.9	+5.6
	29nm,0.3s,baz=281,slow=4.5,SNR=30						
ROSC				S	Sn	20 39 36.6	+17
	38nm,0.3s,baz=90,slow=20,SNR=3.3						
ROSC				LR	LR	20 40 14.9	
	comp=Z,209nm,19.8s,baz=205,slow=42						
ATAH	**Atahualpa**	**9.75**	**192**	P	**Pn**	**20 40 14.2**	**-0.2**
	0.6nm,0.3s,baz=11,slow=5.5,SNR=8.3						
ATAH				LR	LR	20 44 42.2	
	comp=Z,226nm,19.1s,baz=40,slow=42						
JTS	**JuntasAbangare**	**11.55**	**313**	LR	LR	20 44 37.9	
	comp=Z,111nm,20.9s,baz=138,slow=34						
PCRV	**Puerto La Cruz**	**13.93**	**56**	LR	LR	20 47 24.8	
	comp=Z,126nm,18.7s,baz=230,slow=40						
NNA	**Nana**	**14.36**	**182**	LR	LR	20 48 36.4	
	comp=Z,89nm,20.8s,baz=352,slow=45						
LPAZ	**La Paz**	**20.32**	**157**	P	**P**	**20 42 30.5**	**+0.3**
	1.4nm,0.4s,baz=337,slow=7.7,SNR=4.6						
LPAZ				LR	LR	20 50 56.9	
	comp=Z,96nm,19.7s,baz=297,slow=38						
BDFB	**Brasilia**	**33.30**	**124**	LR	LR	20 58 26.0	
	comp=Z,164nm,18.4s,baz=342,slow=37						
TXAR	**Lajitas Array**	**37.26**	**319**	P	**P**	**20 45 06.4**	**+1.4**
	0.5nm,0.7s,baz=136,slow=8.5,SNR=7.2						
TXAR				LR	LR	21 01 49.7	
	comp=Z,36nm,19.4s,baz=0.0,slow=38						
PDAR	**Pinedale Array**	**49.88**	**328**	P	**P**	**20 46 45.2**	**-1.3**
	0.5nm,0.6s,baz=110,slow=7.1,SNR=5.0						
PDAR				LR	LR	21 11 47.9	
	comp=Z,10nm,18.5s,baz=108,slow=41						
NVAR	**Mina Array Bea**	**52.41**	**319**	P	**P**	**20 47 05.9**	**+0.3**
	0.8nm,0.8s,baz=114,slow=6.0,SNR=3.2						
SCHQ	**Schefferville**	**52.78**	**7**	LR	LR	21 12 50.9	
	comp=Z,31nm,18.7s,baz=326,slow=40						
YKA	**Yellowknife Ar**	**66.29**	**342**	P	**P**	**20 48 41.0**	**+0.2**
	0.5nm,0.4s,baz=134,slow=6.4,SNR=4.4						
DBIC	**Dimbokro**	**71.34**	**84**	P	**P**	**20 49 14.6**	**+1.4**
	1.7nm,0.7s,baz=251,slow=6.9,SNR=2.1						
ESDC	**Sonseca Array**	**74.90**	**50**	P	**P**	**20 49 33.3**	**-0.6**
	0.1nm,0.3s,baz=259,slow=5.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**77.81**	**77**	P	**P**	**20 49 50.1**	**-0.6**
	0.6nm,0.6s,baz=279,slow=5.5,SNR=6.7						
ILAR	**Eielson Array**	**79.56**	**336**	P	**P**	**20 49 58.7**	**-0.7**
	0.5nm,0.8s,baz=109,slow=4.4,SNR=7.1						
ASAR	**Alice Springs**	**143.93**	**232**	PKP	PKPab	20 57 26.2	+0.1
	0.3nm,0.5s,baz=115,slow=3.5,SNR=4.5						
GKN	**Gorkha**	**144.62**	**30**	*e*P	**PKPab**	**20 57 28.9**	**+0.2**
KKN	**Kakani**	**145.11**	**29**	*e*P	**PKPbc**	**20 57 30.7**	**+0.1**
	11nm,0.9s						
DMN	**Daman**	**145.18**	**30**	*e*P	**PKPbc**	**20 57 30.9**	**0.0**
	12nm,0.7s						
GUN	**Gumba**	**145.30**	**28**	*e*P	**PKPbc**	**20 57 31.5**	**+0.1**
	19nm,0.7s						
PKI	**Pulchoki**	**145.35**	**29**	*e*P	**PKPbc**	**20 57 30.7**	**-0.8**
WRA	**Warramunga Arr**	**145.36**	**238**	PKPbc	**PKPbc**	**20 57 30.9**	**-0.5**
	1.7nm,1.1s,baz=112,slow=3.2,SNR=6.0						

IDC 06 20:39:37.8±4.5**, 6°.39S**×**147°.60E, h0km, mb3.0**/2**, mb1 3.3**/3**, mb1mx3.2**/28**, mbtmp3.1**/3**, ML3.1**/1**, Error ellipse: s-maj=137.3km s-min=33.4km az=105.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.64**	**222**	P	Pn	20 43 58.5	+1.0
	0.1nm,0.3s,baz=48,slow=12,SNR=6.3						
ASAR	**Alice Springs**	**21.65**	**216**	P	P	20 44 29.4	-0.6
	0.3nm,0.6s,baz=49,slow=9.1,SNR=6.8						
MKAR	**Makanchi Array**	**78.17**	**320**	P	P	20 51 39.1	-0.1
	0.2nm,0.7s,baz=128,slow=4.2,SNR=2.3						

*IDC **06** 20:44:01.9±0.8, 2°.38N×95°.82E, h0km, mb4.3/18, mb1 4.4/20, mb1mx4.2/35, mbtmp4.3/20, ML3.9/2, MS3.4/8, Ms1 3.4/8, ms1mx3.1/33, Error ellipse: s-maj=25.4km s-min=12.7km az=37.0*
*ISCJB **06** 20:44:04.5±0.3, 2°.44N±0°.04×95°.83E±0°.03, h25km, mb4.5/35, MS3.5/6, Error ellipse: s-maj=6.3km s-min=3.4km az=34.3*
*MOS **06** 20:44:05.3±1.1, 2°.43N×95°.85E, h33km, mb4.9/13, Error ellipse: s-maj=13.8km s-min=7.8km az=107.1*
*BJI **06** 20:44:06.2, 2°.53N×95°.86E, h40km, mb4.8/25, mB4.7/9, Ms4.5/6, Ms7 4.5/5*
*NEIC **06** 20:44:07.2±0.4, 2°.48N×95°.86E, h35km, mb4.5/11, Error ellipse: s-maj=9.5km s-min=6.0km az=219.0*
*DJA **06** 20:44:08.0±1.1, 2°N±5°×9°6E±°, h26km±6km, M4.4/14, mb4.5/14, mB5.9/1, MLv4.4/10, Mw(mB)5.5/1*
*KLM **06** 20:44:10.0, 2°.68N×95°.89E, h60km, mb4.7, ML4.1, MS5.0*

ISC 06 20:44:06.0±0.5**, 2°.45N**±0°.05×**95°.81E**±0°.06**, h25km, n134, σ1.24**/131**, mb4.7**/44**, MS3.5**/6**, 8C-9D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.52**	**95**	P	**Pb**	**20 44 17.4**	**+0.8**
GSI	**Gunungsitoli**	**2.10**	**123**	P	**Pn**	**20 44 39.8**	**+0.1**
GSI				S	**Sn**	**20 45 04.8**	**-0.2**
GSI	**Gunungsitoli**	**2.10**	**123**	*e*Pn	**Pn**	**20 44 39.4**	**-0.3**
GSI				*e*Sn	**Sn**	**20 45 03.3**	**-1.7**
TSI	**Tuntungan**	**2.94**	**69**	P	**Pn**	**20 44 53.5**	**+2.3**
LHMI	**Lhok Sumawe**	**2.98**	**22**	P	**Pn**	**20 44 54.5**	**+2.7**
LHMI	**Lhok Sumawe**	**2.98**	**22**	*e*Pn	**Pn**	**20 44 50.8**	**-1.0**
LHMI				*e*Sn	**Sn**	**20 45 24.2**	**-2.6**
PSI	**Prapat**	**3.13**	**84**	Pn	**Pn**	**20 44 54.7**	**+0.7**
	5.1nm,0.3s,baz=260,slow=9.8,SNR=23						
PSI				Sn	**Sn**	**20 45 30.3**	**-0.4**
	4.9nm,0.3s,baz=230,slow=20,SNR=5.6						
PSI				LR	LR	20 46 19.5	
	comp=Z,441nm,19.3s,baz=313,slow=44						
MNSI	**Mandailing Nat**	**4.11**	**114**	P	**Pn**	**20 45 08.5**	**+1.2**
MNSI				S	**Sn**	**20 45 53.8**	**-0.9**
IPM	**Ipoh**	**5.58**	**69**	⇓P	**Pn**	**20 45 27.9**	**+0.3**
IPM	**Ipoh**	**5.58**	**69**	*e*Pn	**Pn**	**20 45 28.0**	**+0.4**
	60nm,0.4s						
KULM	**Kulim**	**5.59**	**60**	⇓P	**Pn**	**20 45 28.2**	**+0.5**
KULM	**Kulim**	**5.59**	**60**	*e*Pn	**Pn**	**20 45 27.9**	**+0.2**
	156nm,0.8s						
KULM				*e*Sn	**Sn**	**20 46 29.8**	**-1.5**
FRIM	**Kepong**	**5.86**	**82**	⇑P	**Pn**	**20 45 31.9**	**+0.5**
KGM	**Kluang**	**7.52**	**93**	⇑P	**Pn**	**20 45 55.6**	**+1.4**
KTGM	**Kuala Trenggan**	**7.85**	**68**	⇓P	**Pn**	**20 45 59.1**	**+0.4**
MYKOM	**Kota Tinggi**	**8.06**	**95**	⇓P	**Pn**	**20 46 03.0**	**+1.3**
TPRI	**Tanjung Pinang**	**8.85**	**100**	P	**Pn**	**20 46 13.4**	**+1.0**
	24nm,0.8s						
LHSI	**Lahat**	**9.92**	**129**	P	Pn	20 46 32.6	+5.5
MDSI	**Maura Dua**	**10.84**	**129**	P	**Pn**	**20 46 39.4**	**-0.3**
	30nm,0.7s						
TPI	**Tanjungpandan**	**12.92**	**114**	P	**Pn**	**20 47 09.4**	**+1.2**
	14nm,0.7s						
KSM	**Kuching**	**14.52**	**94**	⇓P	**Pn**	**20 47 31.6**	**+1.5**
PBKT	**Sadao Pong**	**14.92**	**20**	P	**P**	**20 47 40.8**	**-0.1**
	14nm,0.7s						
SUKH	**Sukhothai**	**15.40**	**14**	P	**P**	**20 47 45.9**	**-0.3**
	3.7nm,0.7s						
STKI	**Sintang**	**15.84**	**98**	P	**Pn**	**20 47 49.1**	**+1.5**
	24nm,1.2s,4μm						
UTTA	**Uttaradit**	**15.90**	**17**	P	**P**	**20 47 51.2**	**-0.5**
	5.4nm,0.8s						
UBPT	**Khong Chiam**	**15.91**	**36**	P	P	20 47 58.4	+6.5
CM31	**Chiang Mai Arr**	**16.20**	**11**	*e*Pn	**Pn**	**20 47 51.7**	**-0.5**
	6.5nm,0.8s						
CM31				*e*Sn	**Sn**	**20 50 52.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**16.20**	**11**	Pn	**Pn**	**20 47 51.0**	**-1.1**
	0.3nm,0.3s,baz=197,slow=11,SNR=33						
CMAR				LR	LR	20 53 32.7	
	comp=Z,90nm,19.5s,baz=202,slow=35						
CMAR	**Chiang Mai Arr**	**16.20**	**11**	*i* P	**P**	**20 47 54.2**	**-0.9**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SBUM	**Sibu**	**16.40**	**90**	⇓P	**Pn**	**20 47 55.8**	**+1.2**
LAMP	**Lampang**	**16.41**	**13**	P	**P**	**20 47 59.7**	**+2.3**
	comp=Z,3.6nm,1.0s						
CHTO	**Chiang Mai**	**16.55**	**10**	P	**Pn**	**20 47 55.7**	**-0.9**
	comp=Z,86nm,1.0s						
CHTO	**Chiang Mai**	**16.55**	**10**	*e*P	**Pn**	**20 47 55.2**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CHTO	**Chiang Mai**	**16.55**	**10**	*e*Pn	**Pn**	**20 47 55.2**	**-1.4**
	comp=Z,7.8nm,0.9s						
CMMT	**Chiang Mai**	**16.55**	**10**	P	**Pn**	**20 47 55.6**	**-1.0**
	comp=Z,14nm,1.1s						
NONG	**Nongkai**	**17.10**	**24**	P	**Pn**	**20 48 04.5**	**+0.9**
	comp=Z,26nm,0.9s						
CRAI	**Chiangrai**	**18.22**	**14**	P	**Pn**	**20 48 14.9**	**-2.5**
BBKI	**Banjar Baru**	**19.91**	**107**	P	**P**	**20 48 35.0**	**-1.1**
	comp=Z,24nm,1.2s						
KKM	**Kota Kinabalu**	**20.66**	**79**	⇑P	**P**	**20 48 45.5**	**+1.2**
KKM	**Kota Kinabalu**	**20.66**	**79**	*e*P	**P**	**20 48 42.7**	**-1.6**
	comp=Z,23nm,0.9s						
KDM	**Kudat**	**21.41**	**77**	⇑P	**P**	**20 48 54.4**	**+2.0**
SDKM	**Sandakan**	**21.57**	**81**	⇑P	**P**	**20 48 54.9**	**+0.9**
KMI	**Kunming**	**23.51**	**16**	P	**P**	**20 49 15.5**	**+1.0**
KMI				PMZ			
	comp=Z,12nm,1.1s						
PCI	**Palu**	**24.25**	**98**	P	**P**	**20 49 21.9**	**+0.5**
KAPI	**Kappang**	**25.04**	**107**	P	**P**	**20 49 27.6**	**-0.9**
	comp=Z,20nm,0.8s,baz=279,slow=8.9,SNR=9.3						
KAPI	**Kappang**	**25.04**	**107**	*e*P	**P**	**20 49 28.1**	**-0.5**
H08S2	**Diego Garcia H**	**25.33**	**246**	T	T	21 15 43.0	
	baz=67,slow=76,SNR=738						
H08S3	**Diego Garcia H**	**25.33**	**247**	T	T	21 15 42.5	
	baz=67,slow=76,SNR=551						
H08S1	**Diego Carcia H**	**25.35**	**246**	T	T	21 15 40.1	
	baz=67,slow=76,SNR=952						
ODAN	**Odare**	**25.58**	**342**	*e*P	**P**	**20 49 34.8**	**+1.3**
	comp=Z,69nm,0.7s						
RAMN	**Ramite**	**25.91**	**341**	*e*P	**P**	**20 49 38.3**	**+1.7**
	comp=Z,90nm,0.7s						
TAPN	**Taplejung**	**25.94**	**343**	*e*P	**P**	**20 49 38.5**	**+1.6**
	comp=Z,87nm,0.8s						
GYA	**Guiyang**	**26.05**	**23**	⇑*i*P	**P**	**20 49 37.2**	**-0.5**
GYA				PMZ			
	comp=Z,10.0nm,1.1s						
JIRN	**Jiri**	**26.70**	**341**	*e*P	**P**	**20 49 45.4**	**+1.5**
	comp=Z,159nm,0.9s						
PKI	**Pulchoki**	**26.89**	**339**	*e*P	**P**	**20 49 46.5**	**+1.0**
	comp=Z,40nm,0.9s						
DMN	**Daman**	**27.03**	**339**	*e*P	**P**	**20 49 47.6**	**+0.9**
GUN	**Gumba**	**27.04**	**340**	*e*P	**P**	**20 49 48.1**	**+1.2**
	comp=Z,85nm,0.8s						
KKN	**Kakani**	**27.13**	**339**	*e*P	**P**	**20 49 48.5**	**+0.9**
	comp=Z,49nm,0.9s						
LSA	**Lhasa**	**27.46**	**351**	P	**P**	**20 49 51.5**	**+0.7**
LSA				PMZ			
	comp=Z,30nm,0.8s						
LSA	**Lhasa**	**27.46**	**351**	*e*P	**P**	**20 49 51.2**	**+0.4**
LSA				pmax	pmax		
	comp=Z,29nm,0.8s						
LSA	**Lhasa**	**27.46**	**351**	*e*P	**P**	**20 49 51.1**	**+0.4**
	comp=Z,28nm,0.8s						
GKN	**Gorkha**	**27.56**	**338**	*e*P	**P**	**20 49 52.3**	**+1.0**
	comp=Z,32nm,0.8s						
KOLN	**Koldanda**	**27.75**	**336**	*e*P	**P**	**20 49 54.5**	**+1.4**
	comp=Z,27nm,0.6s						
XAN	**Xi'an**	**33.73**	**20**	P	**P**	**20 50 45.0**	**-0.6**
XAN				pP	**pP**	**20 50 53.5**	**+0.4**
XAN				PMZ			
	comp=Z,6.0nm,0.8s						
SIJI	**Sorong**	**35.60**	**95**	P	**P**	**20 51 01.1**	**-0.9**
	comp=Z,8.7nm,0.7s,baz=104,slow=22,SNR=4.5						
GTA	**Gaotai**	**36.97**	**5**	*e*P	**P**	**20 51 13.0**	**-0.5**
GTA				PMZ			
	comp=Z,16nm,1.2s						
TIA	**Tai'an**	**38.95**	**28**	⇓P	**P**	**20 51 30.1**	**0.0**
TIA				PMZ			
	comp=Z,10.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**40.79**	**18**	*e*P	P	20 51 52.5	+7.0
HHC				S	**S**	**20 57 57.0**	**+2.0**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,58nm,5.4s						
H01W3	**Cape Leeuwin H**	**40.93**	**157**	T	T	21 35 12.0	
	baz=332,slow=76,SNR=194						
H01W2	**Cape Leeuwin H**	**40.94**	**157**	T	T	21 35 12.8	
	baz=332,slow=76,SNR=219						
H01W1	**Cape Leeuwin H**	**40.95**	**157**	T	T	21 35 18.4	
	baz=332,slow=76,SNR=237						
ULHL	**Ulahol**	**43.33**	**339**	P	**P**	**20 52 07.6**	**+1.2**
	SNR=7.7						
WRA	**Warramunga Arr**	**43.87**	**122**	P	**P**	**20 52 08.8**	**-2.1**
	comp=Z,2.8nm,0.8s,baz=302,slow=9.0,SNR=12						
WRA				LR	LR	21 11 02.5	
	comp=Z,66nm,21.2s,baz=205,slow=37						
WRAB	**Tennant Creek**	**43.88**	**122**	*e*P	**P**	**20 52 10.1**	**-0.8**
WRAB	**Tennant Creek**	**43.88**	**122**	*e*P	**P**	**20 52 10.1**	**-0.8**
UCH	**Uchtor**	**43.96**	**337**	P	**P**	**20 52 13.6**	**+1.9**
	SNR=13						
KBK	**Karagaybulak**	**44.16**	**338**	P	**P**	**20 52 15.4**	**+2.4**
	SNR=9.8						
AML	**Almayashu**	**44.20**	**336**	P	**P**	**20 52 15.4**	**+1.8**
	SNR=8.5						
AAK	**Ala-Archa**	**44.31**	**337**	*e*P	**P**	**20 52 16.8**	**+2.6**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AAK	**Ala-Archa**	**44.31**	**337**	*e*P	P	20 52 11.2	-3.0
	comp=Z,3.9nm,0.8s						
EKS2	**Erkin-Say**	**44.62**	**337**	P	**P**	**20 52 18.5**	**+1.9**
	SNR=10.0						
EKS2	**Erkin-Say**	**44.62**	**337**	*e*P	**P**	**20 52 16.8**	**+0.2**
EKS2				pmax	pmax		
	comp=Z,6.0nm,0.8s						
EKS2	**Erkin-Say**	**44.62**	**337**	*e*P	**P**	**20 52 16.8**	**+0.2**
	comp=Z,5.7nm,0.8s						
USP	**Ospenovka**	**44.85**	**338**	P	**P**	**20 52 19.8**	**+1.5**
	SNR=17						
ASAR	**Alice Springs**	**45.25**	**127**	P	**P**	**20 52 21.6**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=302,slow=7.7,SNR=12						
KSAR	**Wonju Array Be**	**45.61**	**36**	P	**P**	**20 52 24.1**	**-0.3**
KSAR	**Wonju Array Be**	**45.61**	**36**	P	**P**	**20 52 24.1**	**-0.3**
KSRS	**Korea Array**	**45.64**	**36**	P	**P**	**20 52 24.1**	**-0.6**
	comp=Z,2.2nm,0.9s,baz=231,slow=9.0,SNR=14						
KSRS				LR	LR	21 13 38.6	
	comp=Z,72nm,18.8s,baz=241,slow=39						
MK31	**Makanchi Array**	**45.71**	**347**	*e*P	**P**	**20 52 24.4**	**-0.7**
MK31	**Makanchi Array**	**45.71**	**347**	*e*P	**P**	**20 52 24.4**	**-0.7**
MKAR	**Makanchi Array**	**45.71**	**347**	P	**P**	**20 52 25.6**	**+0.6**
	comp=Z,12nm,0.7s,baz=163,slow=8.0,SNR=110						
SONM	**Songino Array**	**46.13**	**10**	P	**P**	**20 52 29.2**	**+0.8**
	comp=Z,9.9nm,0.8s,baz=188,slow=9.9,SNR=8.3						
ZAK	**Zakamensk**	**48.18**	**6**	*e*P	**P**	**20 52 44.5**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**50.24**	**346**	*e*P	**P**	**20 52 59.7**	**-0.3**
KURK				pmax	pmax		
	comp=Z,11nm,1.1s						
KURK	**Kurchatov**	**50.24**	**346**	*e*P	**P**	**20 52 59.6**	**-0.3**
	comp=Z,11nm,1.1s						
MJAR	**Matsushiro Arr**	**51.73**	**44**	PcP	**PcP**	**20 54 25.9**	**+1.2**
	comp=Z,1.6nm,0.9s,baz=241,slow=4.6,SNR=8.0						
MJAR				LR	LR	21 17 27.0	
	comp=Z,13nm,18.2s,baz=255,slow=39						
ZAA0	**Zalesovo Array**	**52.12**	**352**	*e*P	**P**	**20 53 14.0**	**-0.1**
ZALV	**Zalesovo Beam**	**52.12**	**352**	P	**P**	**20 53 14.4**	**+0.4**
	comp=Z,12nm,0.8s,baz=175,slow=6.9,SNR=46						
USRK	**Ussuriysk Ar.**	**52.44**	**32**	P	**P**	**20 53 16.4**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=204,slow=4.2,SNR=4.8						
NVS	**Novosibirsk**	**53.22**	**351**	*e*P	P	20 53 19.3	-2.9
BRVK	**Borovoye**	**54.69**	**341**	⇑*i*P	**P**	**20 53 33.0**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRVK	**Borovoye**	**54.69**	**341**	*e*P	**P**	**20 53 32.1**	**-0.9**
	comp=Z,11nm,0.9s						
STKA	**Stephens Creek**	**55.22**	**132**	P	**P**	**20 53 37.4**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=316,slow=11,SNR=6.0						
STKA	**Stephens Creek**	**55.22**	**132**	*e*P	**P**	**20 53 36.9**	**-0.3**
STKA	**Stephens Creek**	**55.22**	**132**	*e*P	**P**	**20 53 36.9**	**-0.3**
ABKAR	**Akbulak array**	**55.77**	**332**	*e*P	**P**	**20 53 39.5**	**-1.3**
	comp=Z,6.3nm,0.8s						
KLR	**Kul'dur**	**55.78**	**28**	*e*P	P	20 53 37.1	-3.8
BOD	**Bodaibo**	**57.05**	**11**	*e*P	**P**	**20 53 49.3**	**-0.5**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SVE	**Sverdlovsk**	**61.02**	**339**	*e*P	**P**	**20 54 17.7**	**+0.3**
SVE				pmax	pmax		
	comp=Z,14nm,0.9s						
ARU	**Arti**	**61.50**	**338**	*d i*P	**P**	**20 54 20.2**	**-0.4**
ARU						20 56 34.7	
ARU				S	**S**	**21 02 43.1**	**+2.6**
ARU				SS	**SS**	**21 06 35.8**	**-6.0**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARU	**Arti**	**61.50**	**338**	*e*P	**P**	**20 54 20.0**	**-0.6**
	comp=Z,6.8nm,1.0s						
KBZ	**Khabaz**	**62.22**	**319**	P	**P**	**20 54 26.6**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=150,slow=5.5						
KIV	**Kislovodsk**	**62.46**	**319**	*e*P	**P**	**20 54 28.0**	**+0.6**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
YAK	**Yakutsk**	**64.62**	**17**	*e*P	**P**	**20 54 40.1**	**-1.1**
YAK				*e*		20 54 46.4	
YAK				pmax	pmax		
	comp=Z,15nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
BRTR	**Keskin Array B**	**67.25**	**312**	P	**P**	**20 54 58.8**	**0.0**
	comp=E,1.4nm,0.9s,baz=116,slow=8.4,SNR=7.7						
BRTR	**Keskin Array B**	**67.25**	**312**	*ce*P	**P**	**20 54 58.7**	**0.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PRGR	**Permogore**	**69.95**	**337**	P	P	20 55 11.8	-3.2
PRGR				pmax	pmax		
	comp=Z,11nm,0.4s						
OBN	**Obninsk**	**70.83**	**328**	*e*P	**P**	**20 55 20.8**	**+0.3**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PETK	**Petropavlovsk-**	**71.48**	**34**	LR	LR	21 28 29.6	
	comp=Z,20nm,19.4s,baz=225,slow=37						
KLMR	**Klimovskoe**	**72.03**	**335**	*e*P	**P**	**20 55 27.5**	**-0.1**
KLMR				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TIXI	**Tiksi**	**72.21**	**10**	⇓*i*P	**P**	**20 55 27.2**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIXI	**Tiksi**	**72.21**	**10**	*e*P	**P**	**20 55 27.6**	**-0.9**
	comp=Z,3.7nm,0.8s						
SEY	**Seymchan**	**73.17**	**24**	LR	LR	21 30 18.8	
	comp=Z,51nm,19.6s,baz=193,slow=38						
AKASG	**Malin Array Be**	**73.42**	**322**	P	**P**	**20 55 34.9**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=97,slow=3.7,SNR=5.4						
BUR08	**Bucovina Ar. S**	**75.19**	**319**	*e*P	**P**	**20 55 46.7**	**0.0**
FINES	**FINESS Array B**	**78.25**	**333**	P	**P**	**20 56 03.4**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=98,slow=8.1,SNR=8.6						
ARCES	**ARCESS Array B**	**80.90**	**340**	P	**P**	**20 56 18.6**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=96,slow=5.0,SNR=12						
ARCES				LR	LR	21 35 37.6	
	comp=Z,24nm,18.7s,baz=60,slow=38						
DPC	**Dobruska-Polom**	**81.41**	**320**	*e*P	**P**	**20 56 22.2**	**+1.3**
DPC				*e*PCP	**PcP**	**20 56 25.9**	**-1.1**
DPC				*e*pP	**pP**	**20 56 28.8**	**-0.2**
DPC	**Dobruska-Polom**	**81.41**	**320**	*e*P	**P**	**20 56 22.2**	**+1.3**
DPC				*e*		20 56 28.8	
GERES	**GERESS Array B**	**82.96**	**319**	P	**P**	**20 56 30.4**	**+1.2**
	comp=Z,2.4nm,0.9s,baz=89,slow=5.5,SNR=17						
CLL	**Collm**	**83.59**	**321**	*e*P	**P**	**20 56 34.0**	**+1.8**
NOA	**NORSAR Array B**	**85.24**	**331**	P	**P**	**20 56 40.5**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=92,slow=6.5,SNR=3.0						
KEST	**Kesra**	**85.71**	**305**	P	**P**	**20 56 43.7**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=199,slow=4.3,SNR=3.9						
TXAR	**Lajitas Array**	**143.30**	**29**	PKP	PKPbc	21 03 37.5	+1.4
	comp=Z,0.3nm,0.6s,baz=352,slow=0.7,SNR=6.2						

*SJA **06** 20:50:19.9±0.8, 28°.51S×67°.46W, h143km±6km, ML3.1*
*ISCJB **06** 20:50:20.0±0.7, 28°.43S±0°.04×67°.57W±0°.08, h130km, mb3.1/1, Error ellipse: s-maj=10.3km s-min=5.8km az=4.0*
*IDC **06** 20:50:23.7±3.7, 17°.13S×68°.11W, h0km, mb3.6/1, mb1 3.6/2, mb1mx3.4/19, mbtmp3.6/2, ML4.7/1, Error ellipse: s-maj=140.8km s-min=33.2km az=110.0*

ISC 06 20:50:20.7±1.1**, 28°.46S**±0°.05×**67°.57W**±0°.08**, h130km, n10, σ0.58**/16**, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACLC	**CERRO LA CRUZ**	**1.10**	**151**	*i* P	**Pn**	**20 50 45.1**	**+0.3**
ACLC				*i* S	**Sn**	**20 51 03.0**	**-0.1**
CYA	**Choya**	**1.55**	**90**	*i* P	**Pn**	**20 50 49.7**	**+0.2**
CYA				*i* S	**Sn**	**20 51 10.7**	**-0.6**
CYA				AML	AML	20 51 11.4	
	comp=Z,207nm,0.9s						
AVFE	**Valle Fertil**	**2.20**	**177**	*i* P	**Pn**	**20 50 57.4**	**+0.2**
AVFE				*i* S	**Sn**	**20 51 25.0**	**-0.2**
AHML	**Horco Molle**	**2.59**	**50**	*i* P	**Pn**	**20 51 01.9**	**-0.2**
AHML				*i* S	**Sn**	**20 51 33.5**	**-0.4**
AHML				AML	AML	20 51 33.6	
	comp=Z,50nm,0.7s						
FSA	**Cafayete**	**2.73**	**31**	*i* P	**Pn**	**20 51 05.1**	**+1.0**
RTLL	**Cerro Villicun**	**2.97**	**195**	*i* P	**Pn**	**20 51 07.0**	**0.0**
RTLL				*i* P	**Pn**	**20 51 07.0**	**0.0**
LVC	**Limon Verde**	**5.95**	**348**	Pn	**Pn**	**20 51 47.4**	**+0.6**
	comp=Z,21nm,0.3s,baz=206,slow=3.0,SNR=3.0						
LVC				Sn	**Sn**	**20 52 52.4**	**-1.4**
	comp=Z,37nm,0.3s,baz=64,slow=23,SNR=8.1						
LVC				Lg	Lg	20 53 28.4	
	comp=Z,43nm,0.3s,baz=313,slow=19,SNR=3.8						
TORD	**Torodi Ar. Bea**	**78.66**	**68**	P	**P**	**21 02 08.8**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=232,slow=7.0,SNR=6.2						
ZALV	**Zalesovo Beam**	**147.51**	**31**	PKP	**PKPbc**	**21 09 49.5**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=303,slow=2.6,SNR=4.3						
MKAR	**Makanchi Array**	**150.18**	**44**	PKP	**PKPbc**	**21 09 56.1**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=316,slow=3.3,SNR=3.5						

IDC 06 21:02:31.3±3.8**, 6°.58S**×**127°.91E, h441km**±54km**, mb2.9**/3**, mb1 3.1**/6**, mb1mx2.8**/26**, mbtmp3.8**/6**, Error ellipse: s-maj=92.0km s-min=16.3km az=76.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.58**	**31**	P	P	21 04 12.1	+0.5
	0.6nm,0.3s,baz=312,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**14.68**	**155**	P	P	21 05 38.0	-1.3
	1.4nm,0.3s,baz=336,slow=11,SNR=110						
ASAR	**Alice Springs**	**17.94**	**162**	P	P	21 06 13.0	-0.9
	0.7nm,0.3s,baz=343,slow=11,SNR=46						
STKA	**Stephens Creek**	**28.23**	**155**	P	P	21 07 47.5	+0.6
	1.2nm,0.5s,baz=337,slow=7.4,SNR=9.1						
MKAR	**Makanchi Array**	**66.75**	**328**	P	P	21 12 37.8	+0.3
	0.2nm,0.4s,baz=123,slow=7.5,SNR=4.9						
ZALV	**Zalesovo Beam**	**70.30**	**335**	P	P	21 12 58.5	-0.4
	0.3nm,0.4s,baz=147,slow=2.9,SNR=2.4						

*KRSC **06** 21:21:57.6±2.9, 49°.48N×156°.94E, h40km±27km, ML4.3*
*MOS **06** 21:21:57.5±2.7, 49°.48N×156°.94E, h41km, mb4.4/1, Error ellipse: s-maj=56.7km s-min=10.1km az=83.5*

ISC 06 21:21:57.5±4.3**, 49°.4N**±0°.2×**156°.3E**±0°.1**, h54km, n31,**

σ1.53/36, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.31	356	eP	Pn	21 22 17.9	-1.6
SKR				eS	Sn	21 22 34.0	-2.0
SKR	Severo-Kuril's	1.31	356	ePN	Pn	21 22 07.4	-12
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
PAU	Pauzhetka	2.12	9	eP	Pn	21 22 30.2	-0.3
PAU				eS	Sn	21 22 55.3	-0.4
PAU	Pauzhetka	2.12	9	PN	Pn	21 22 30.2	-0.3
PAU				S	Sn	21 22 55.3	-0.4
MIPR	Malaya Ipel'ka	2.92	6	eP	Pn	21 22 41.4	-0.1
ASAK	Asacha	3.19	18	eP	Pn	21 22 45.8	+0.6
MTVR	Mutnovka	3.34	21	eP	Pn	21 22 48.4	+1.1
MTVR				eS	Sn	21 23 26.8	+1.0
RUS	Russkaya	3.38	24	eP	Pn	21 22 47.2	-0.5
RUS				eS	Sn	21 23 24.5	-1.9
RUS	Russkaya	3.38	24	PN	Pn	21 22 47.2	-0.5
RUS				S	Sn	21 23 24.5	-1.9
APC	Apacha	3.60	9	eP	Pn	21 22 52.7	+2.0
APC	Apacha	3.60	9	PN	Pn	21 22 52.7	+2.0
PET	Petropavlovsk	3.95	21	eS	Sn	21 23 41.0	+0.5
UGLR	Uglovaya	4.16	22	eP	Pn	21 23 00.4	+1.9
AVH	Avacha	4.19	21	eP	Pn	21 23 00.8	+1.9
AVH	Avacha	4.19	21	PN	Pn	21 23 00.8	+1.9
KOK	Koryaka	4.19	20	eP	Pn	21 23 01.5	+2.5
KOK	Koryaka	4.19	20	PN	Pn	21 23 01.5	+2.5
SMAR	Somma	4.21	21	eP	Pn	21 23 00.1	+0.8
KRER	Koryakskii	4.23	21	eP	Pn	21 23 01.0	+1.4
KRER				eS	Sn	21 23 48.9	+1.1
SDLR	Sedlovina	4.24	22	eP	Pn	21 23 00.3	+0.7
KRX	Arik	4.26	20	eP	Pn	21 23 02.1	+2.2
NLC	Nalytchevo	4.26	26	eS	Sn	21 23 46.7	-1.5
SPN	Mys Shipunski	4.41	31	eP	Pn	21 23 02.4	+0.5
SPN	Mys Shipunski	4.41	31	PN	Pn	21 23 02.4	+0.5
GNL	Ganaly	4.45	13	eP	Pn	21 23 04.7	+2.2
GNL	Ganaly	4.45	13	PN	Pn	21 23 04.7	+2.2
MKZ	Mys Kozlova	6.19	31	eP	Pn	21 23 25.6	-0.6
MKZ	Mys Kozlova	6.19	31	PN	Pn	21 23 25.6	-0.6
TUMR	Tumrok	6.38	20	eP	Pn	21 23 31.5	+2.6
KBTR	Krutoberegovo	7.91	28	eP	Pn	21 23 49.6	-0.1
BKI	Bering	8.33	42	eS	Sn	21 25 21.1	-6.9

*IDC **06** 21:25:32.6±2.3, 9°.34S×121°.89E, h0km, mb3.9/2, mb1 3.4/4, mb1mx3.3/24, mbtmp3.4/4, ML2.8/2, Error ellipse: s-maj=232.8km s-min=28.4km az=54.0*
*ISCJB **06** 21:25:37.0±0.9, 9°.79S±0°.06×121°.90E±0°.06, h10km, mb3.9/2, Error ellipse: s-maj=9.1km s-min=8.4km az=20.8*
*DJA **06** 21:25:42.6±0.6, 10°S±5°×12°2E±°, h10km, M3.5/7, MLv3.5/7*
ISC 06 21:25:37.5±1.0, **9°.79S**±0°.07×**121°.95E**±0°.07, **h10**km, **n10**, σ**2.87**/10, **Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMRI	Maumere	1.18	14	P	Pb	21 25 59.4	-0.7
MMRI				S	Sb	21 26 14.5	-0.9
WSI	Waingapu	1.63	274	P	Pn	21 26 07.9	+1.6
SOEI	Soe	2.29	89	P	Pg	21 26 23.6	+2.2
WBSI	Waikabubak, Su	2.52	273	S	Sn	21 26 47.8	-1.8
BSSI	Bau Bau, Buton	3.90	338	P	Pn	21 26 39.1	+1.5
BKSI	Bulukumba	4.79	338	P	Pn	21 26 49.1	-0.7
WRA	Warramunga Arr	15.65	132	Pn	Pn	21 29 19.7	+1.3
	0.0nm,0.3s,baz=304,slow=14,SNR=2.2						
WRA				Sn	Sn	21 32 05.7	-6.4
	0.1nm,0.3s,baz=306,slow=28,SNR=3.1						
ASAR	Alice Springs	17.91	142	P	P	21 29 48.3	+0.7
	0.1nm,0.3s,baz=318,slow=12,SNR=2.7						
MKAR	Makanchi Array	66.51	331	P	P	21 36 22.4	-5.2
	0.6nm,0.6s,baz=139,slow=7.3,SNR=8.2						
ZALV	Zalesovo Beam	70.83	338	P	P	21 36 47.2	-7.1
	0.8nm,0.4s,baz=132,slow=5.0,SNR=4.6						

*NEIC **06** 21:53:56.6, 15°.42N×92°.00W, h209km, MD4.0(MEX), After MEX.*
MEX 06 21:53:56.6±0.8, **15°.42N**×**92°.01W**, **h209**km±6km, **MD4.0**, **Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		0.57	206	iP	Pn	21 54 23.9	-1.2
THIG				eS	S	21 54 45.3	-1.8
THIG		0.57	206	iP	Pn	21 54 23.9	-1.2
THIG				eS	S	21 54 45.3	-1.8
CCIG	Comitan	0.87	352	iP	Pn	21 54 25.8	-0.9
CCIG				eS	S	21 54 47.6	-2.6
CCIG	Comitan	0.87	352	iP	Pn	21 54 25.8	-0.9
CCIG				eS	S	21 54 47.6	-2.6
PCIG		1.20	284	iP	Pn	21 54 27.5	-1.2
PCIG				eS	S	21 54 51.3	-2.1
PCIG		1.20	284	iP	Pn	21 54 27.5	-1.2
PCIG				eS	S	21 54 51.3	-2.1
TGIG		1.73	322	iP	Pn	21 54 31.4	-1.8
TGIG				iS	S	21 54 59.8	-1.6
TGIG		1.73	322	iP	Pn	21 54 31.4	-1.8
TGIG				iS	S	21 54 59.8	-1.6
CMIG	Matias Romero	3.23	301	iP	Pn	21 54 49.0	-0.3
CMIG				iS	S	21 55 27.7	-2.5
CMIG	Matias Romero	3.23	301	iP	Pn	21 54 49.0	-0.3
CMIG				iS	S	21 55 27.7	-2.5
HUIG	Huatulco	3.97	276	iP	Pn	21 54 57.5	-0.9
HUIG				iS	S	21 55 43.9	-2.5
HUIG	Huatulco	3.97	276	iP	Pn	21 54 57.5	-0.9
HUIG				iS	S	21 55 43.9	-2.5
VHO	Vista Hermosa	4.83	291	iP	Pn	21 55 08.2	-1.1
VHO				iS	S	21 56 03.5	-2.8
VHO	Vista Hermosa	4.83	291	iP	Pn	21 55 08.2	-1.1
VHO				iS	S	21 56 03.4	-2.9

GUC 06 21:54:08.2±0.5, **33°.25S**×**72°.38W**, **h16**km±16km, **ML3.6**, **5C-2D**, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.66	71	⇓iP	Pg	21 54 20.2	-0.9
IHA				iS	Sg	21 54 29.7	-0.2
LNV	Longovilo	1.07	131	⇑iP	Pb	21 54 27.2	-1.2
LNV				iS	Sb	21 54 41.2	-1.0
ROCH	El Roble	1.18	77	⇑iP	Pn	21 54 28.7	-1.6
ROCH				iS	Sb	21 54 44.5	-1.4
ROCH				AML	AML	21 54 46.1	
	comp=E,2μm,0.5s						
TACH	Talagante	1.27	109	⇑iP	Pn	21 54 30.1	-1.3
TACH				eS	Sb	21 54 47.0	-1.0
RCDM	Rinconada Maip	1.34	101	eP	Pn	21 54 30.9	-1.4
RCDM				iS	Sn	21 54 48.4	-1.4
PEL	Peldehue	1.43	86	⇓iP	Pn	21 54 32.9	-0.6
PEL				iS	Sn	21 54 51.4	-0.5
PEL				AML	AML	21 54 57.9	
	comp=N,2μm,0.3s						
SAN	Santiago	1.45	99	⇑iP	Pn	21 54 33.3	-0.6
SAN				eS	Sn	21 54 52.1	-0.5
CLCH	Cerro Calan	1.55	96	⇑iP	Pn	21 54 34.7	-0.6
CLCH				iS	Sn	21 54 55.3	+0.2
CLCH				AML	AML	21 55 00.2	
	comp=E,915nm,0.6s						
FSR	Penalolen	1.57	99	eP	Pn	21 54 35.7	+0.2
FSR				eS	Sn	21 54 56.0	+0.5
CHCH	Chadas Angostu	1.60	116	eP	Pn	21 54 35.4	-0.5
PCH	Pirque	1.60	104	eP	Pn	21 54 36.1	+0.1

CASC 06 22:34:32.3±3.3, **10°.49N**×**83°.06W**, **h21**km±12km, **MD4.0**, **1C-1D**, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URSC	Urasca	0.96	228	⇓iP	Pb	22 34 50.3	-0.3
URSC				eS	Sb	22 35 01.8	-1.2
CGA2	Cerro Gallo 2	1.46	251	⇑eP	Pn	22 34 58.3	+0.6
CGA2				eS	Sn	22 35 16.0	-0.3
QCR	Quepos	1.52	226	eP	Pb	22 34 59.5	-0.4
QCR				eS	Sb	22 35 19.3	+0.6
FORC	Fortuna	1.59	269	iP	Pn	22 34 59.6	+0.4
FORC				iS	Sn	22 35 19.3	+0.2
BRU2	Volcan	1.72	168	eP	Pn	22 35 02.0	+0.8
BRU2				eS	Sb	22 35 24.0	-0.8
TBS2		1.73	167	eP	Pb	22 35 02.6	-1.0
TBS2				eS	Sn	22 35 21.7	-1.3
BRU	Baru	1.74	164	eS	Sb	22 35 25.1	-0.8
JTS	JuntasAbangare	1.88	264	eP	Pn	22 35 03.4	+0.2
JTS				eS	Sn	22 35 26.1	-0.2
AMAS	Alto Masis	1.91	274	iP	Pn	22 35 03.1	-0.6
CUI	Cuipilapa	2.08	275	iP	Pn	22 35 05.3	-0.7
COLC	Colonia	2.12	275	iP	Pn	22 35 06.3	-0.3
JCR	Jicaral	2.12	253	eP	Pn	22 35 07.8	+1.2
JCR				eS	Sn	22 35 33.8	+1.5
CAO	Cobano	2.16	249	eP	Pn	22 35 08.8	+1.6
LAPC	Finca la Perla	2.35	277	iP	Pn	22 35 09.5	-0.2
NY14	Universidad de	2.44	274	iP	Pn	22 35 11.0	+0.1
PNME	Penonome	3.35	126	eP	Pn	22 35 23.0	-0.4
PNME				eS	Sn	22 36 00.6	-1.9
BCIP	Isla Barro Col	3.43	112	eP	Pn	22 35 23.7	-0.9
BCIP				eS	Sn	22 36 00.3	-4.4
ZANG	Zanguenga, Cho	3.49	116	eP	Pn	22 35 24.0	-1.4
ZANG				eS	Sn	22 36 01.6	-4.6
AZU	Azuero	3.84	134	eS	Sn	22 36 12.9	-1.7

DJA 06 22:34:54.4±0.5, **9°S**±4°×**11°1E**±°, **h49**km±8km, **M3.8**/10, **MLv3.8**/10, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCJI	Pacitan	0.73	358	P	Pn	22 35 08.3	-0.2
PCJI				S	Sn	22 35 19.8	+1.0
UGM	Wanagama	1.21	326	P	Pn	22 35 16.6	+1.5
UGM				S	Sn	22 35 31.4	+1.0
TBJI	Tambak Boyo	2.19	17	P	Pn	22 35 28.7	+0.3
TBJI				S	Sn	22 35 55.6	+1.2
GRJI	Gresik	2.37	32	P	Pn	22 35 30.4	-0.4
GRJI				S	Sn	22 35 58.6	-0.1
UWJI	Ujung Watu	2.51	354	P	Pn	22 35 33.1	+0.4
UWJI				S	Sn	22 36 03.2	+1.1
BLJI	Banyuglugur	2.65	64	P	Pn	22 35 34.0	-0.6
CMJI	Cimerak	2.95	292	P	Pn	22 35 38.6	-0.2
CMJI				S	Sn	22 36 13.7	+0.7
ABJI	Asem Bagus	3.21	70	P	Pn	22 35 42.0	-0.3
CISI	Cisompet, Garu	3.62	292	P	Pn	22 35 48.3	+0.3
CISI				S	Sn	22 36 28.6	-1.0

*NIED **06** 22:43:00, 35°.10N×132°.80E, h8km, Mw3.4 Best double couple: M0 1.44000×10^14 NP1: φs79.00000°, δ76.00000°, λ-177.00000°. NP2: φs349.00000°, δ87.00000°, λ-14.00000°.*
JMA 06 22:43:01.0, **35°.12N**×**132°.74E**, **h10**km±1km, **M3.5**, **3C-2D** **Broadband fault plane solution: P waves. NP1:** φs77.00000°, δ81.00000°, λ-165.00000°. **NP2:** φs344.00000°, δ75.00000°, λ-9.00000°. **Principal axes:** T Plg4.0000°, Azm210.0000°; N Plg73.0000°, Azm107.0000°; P Plg17.0000°, Azm301.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHS	Saijyo	0.33	111	⇓P	Pg	22 43 07.7	0.0
JHS				S	Sg	22 43 12.2	0.0
JGT	Gotsu	0.34	255	⇑P	Pg	22 43 07.9	0.0
JGT				S	Sg	22 43 12.7	+0.2
JNM	Ikuma	0.44	32	⇑P	Pg	22 43 10.0	+0.3
JNM				S	Sg	22 43 16.6	+1.0
JHT	Toyohira	0.53	210	⇑P	Pg	22 43 11.2	-0.1
JHT				S	Sg	22 43 18.5	+0.2
JJG	Jouge	0.59	144	⇓P	Pg	22 43 12.5	0.0
JJG				S	Sg	22 43 20.5	+0.3

JMA 06 23:34:45.7±0.1, **29°.87N**×**141°.80E**, **h54**km, **M4.1**, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.79	173	P	Pn	23 35 29.0	+1.2
JHHJ	Haha-jima-NKT	3.25	174	P	Pn	23 35 35.5	+1.3
JHHJ				eS	Sn	23 36 12.7	+1.1
JHJ2	Mitsune	3.65	333	P	Pn	23 35 41.4	+1.8
JHJ2				eS	Sn	23 36 22.1	+0.7
BSO1	Boso 1	4.82	352	P	Pn	23 35 58.2	+3.2
BSO1				S	Sn	23 36 51.5	+2.5
BSO3	Boso 3	5.04	348	S	Sn	23 36 57.9	+2.9
BSO4	Boso 4	5.25	347	P	Pn	23 36 03.7	+2.2
JHU	Hanno	6.33	341	P	Pn	23 36 19.9	+3.5
JHO	Hitachi	6.80	352	P	Pn	23 36 24.7	+1.8
JAG	Ashikaga	6.83	344	P	Pn	23 36 25.0	+1.8
JAG				eS	Sn	23 37 40.9	+1.3
JFK	Kawauchi	7.52	354	P	Pn	23 36 33.7	+1.0
JFK				eS	Sn	23 37 53.3	-3.3
JMK	Ichinoseki	9.07	357	P	Pn	23 36 56.0	+2.1
JMK				eS	Sn	23 38 29.1	-5.5

JMA 07 00:02:53.1±0.5, **30°.86N**×**140°.27E**, **h0**km, **M3.7**, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	3.83	9	P	Pn	00 03 55.1	+2.5
BSO1				eS	Sn	00 04 41.3	+3.4
BSO3	Boso 3	3.94	3	P	Pn	00 03 56.5	+2.1
BSO3				eS	Sn	00 04 44.5	+3.4
BSO4	Boso 4	4.12	1	P	Pn	00 03 59.4	+2.2
BSO4				eS	Sn	00 04 48.7	+2.7
HMMJ	Hamamatsu 2	4.53	332	P	Pn	00 04 01.1	-1.8

NNC 07 00:29:17.1±14.0, **37°.08N**×**71°.32E**, **h0**km, **mb3.6**, **mpv3.2**, **3C-3D**, **Error ellipse: s-maj=116.6km s-min=63.0km az=165.0**, **Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZET	Dzherino	2.62	312	⇓Pn	Pn	00 30 00.6	-0.3
	10nm,0.3s						
DZET				⇑Sn	Sn	00 30 35.6	+2.0
	35nm,0.3s						
MNAS	Manas	5.48	9	⇓Pn	Pn	00 30 39.9	-0.3
	0.6nm,0.4s						
MNAS				⇓Sn	Sn	00 31 45.9	+1.8
	4.3nm,0.8s						
KK08	Karatay Array	6.05	354	⇑Sn	Sn	00 31 56.1	-1.9
	1.1nm,0.6s,baz=188,slow=25						
KK09	Karatay Array	6.07	354	⇑Pn	Pn	00 30 46.1	-2.0
	0.4nm,0.3s,baz=179,slow=12						

WEL 07 00:44:33.1±0.2, **37°.31S**×**177°.37E**, **h122**km±1km, **ML4.3**/20, **3C-12D**, **Error ellipse: s-maj=1.6km s-min=1.3km az=0.0**, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAZ	Te Kaha	0.55	143	⇓PN	Pn	00 44 51.5	-0.1
HAZ				SN	Sn	00 45 05.4	-0.2
MXZ	Matakaoa Point	0.79	109	PN	Pn	00 44 53.6	+0.3
MXZ				SN	Sn	00 45 08.8	+0.1
MXZ				AML	AML	00 45 10.1	
MXZ				AML	AML	00 45 14.8	
MXZ				AML	AML	00 45 14.8	
OPRZ	Ohinepanea	0.84	230	⇓PN	Pn	00 44 53.7	0.0
OPRZ				SN	Sn	00 45 09.8	+0.4
URZ	Urewera	0.97	192	PN	Pn	00 44 55.0	+0.1
URZ				SN	Sn	00 45 11.8	+0.3
URZ				AML	AML	00 45 17.7	
WMGZ	Waiomatatini S	0.98	122	PN	Pn	00 44 55.4	+0.3
TWGZ	Tauwhareparae	0.99	151	⇓PN	Pn	00 44 55.8	+0.5
MWZ	Matawai	1.03	173	⇓PN	Pn	00 44 55.6	0.0
MWZ				AML	AML	00 45 18.1	
MWZ				AML	AML	00 45 19.0	
MWZ				AML	AML	00 45 21.3	
MWZ				AML	AML	00 45 23.2	
PUZ	Puketiti	1.04	137	⇓PN	Pn	00 44 55.7	0.0
PUZ				AML	AML	00 45 20.0	
PUZ				AML	AML	00 45 22.7	
TARZ	Mount Tarawera	1.15	216	PN	Pn	00 44 57.7	+0.8
RAGZ	Rawiri	1.18	178	⇓PN	Pn	00 44 57.5	+0.2
TKGZ	Te Karaka	1.19	161	PN	Pn	00 44 57.1	-0.1
RRRZ	Republican Roa	1.23	213	PN	Pn	00 44 57.9	+0.2
CNGZ	Carnagh Statio	1.35	151	PN	Pn	00 44 59.3	+0.4
PRRZ	Plateau Road	1.41	213	PN	Pn	00 45 00.1	+0.4
RIGZ	Rimuhau	1.43	167	⇓PN	Pn	00 44 59.6	-0.2
KUZ	Kuaotunu	1.43	293	PN	Pn	00 44 59.3	-0.6
SNGZ	Shannon Statio	1.47	181	⇓PN	Pn	00 45 00.1	-0.2
ALRZ	Allen Road	1.49	213	PN	Pn	00 45 01.0	+0.4
TOZ	Tahuroa Road	1.54	254	PN	Pn	00 45 01.7	+0.6
RAHZ	Arahi	1.62	188	PN	Pn	00 45 02.1	0.0
PRGZ	Paritu Road	1.66	166	PN	Pn	00 45 01.9	-0.6
MRHZ	Matea Rd	1.69	206	PN	Pn	00 45 03.0	0.0
KNZ	Kokohu	1.72	172	⇓PN	Pn	00 45 02.7	-0.6
WHHZ	Waihua	1.77	183	PN	Pn	00 45 03.5	-0.3
NMHZ	Naumai	1.84	194	PN	Pn	00 45 04.8	0.0
GRZ	Great Barrier	1.86	304	⇑PN	Pn	00 45 04.6	-0.4
ARHZ	Aropaoanui	1.97	188	PN	Pn	00 45 05.9	-0.4
BKZ	Black Stump Fm	1.98	200	⇓PN	Pn	00 45 05.7	-0.8
BKZ				AML	AML	00 45 34.1	
BKZ				AML	AML	00 45 34.2	
RITZ	Rihia Road	2.04	215	PN	Pn	00 45 07.9	+0.7
MCHZ	McNeill Hill	2.19	194	PN	Pn	00 45 08.5	-0.6
KWHZ	Kaweka Forest	2.23	199	⇑PN	Pn	00 45 08.9	-0.8
HIZ	Hauiti	2.32	238	PN	Pn	00 45 11.8	+1.1
NGZ	Ngauruhoe	2.32	216	ePN	Pn	00 45 11.1	+0.2
TWVZ	Taurewa	2.32	220	PN	Pn	00 45 11.4	+0.6
CKHZ	Cape Kidnapper	2.36	185	PN	Pn	00 45 09.9	-1.2
COVZ	Chateau Observ	2.37	217	PN	Pn	00 45 11.9	+0.5
BHHZ	Black Hill Sta	2.40	205	PN	Pn	00 45 10.9	-0.9
MOVZ	Moawhango	2.45	211	⇑PN	Pn	00 45 11.5	-0.9
TRVZ	Turoa	2.45	215	ePN	Pn	00 45 12.4	-0.1
KRHZ	Kereru	2.46	198	⇓PN	Pn	00 45 11.0	-1.4
KAHZ	Kahuranaki	2.51	189	PN	Pn	00 45 11.9	-1.3
VRZ	Vera Road	2.74	228	PN	Pn	00 45 16.8	+0.8
PXZ	Pawanui	2.75	188	PN	Pn	00 45 14.0	-2.1
PXZ				AML	AML	00 45 48.8	
PXZ				AML	AML	00 45 48.8	
PXZ				AML	AML	00 45 49.5	
PXZ				AML	AML	00 45 49.5	
PNHZ	Pukenui	2.75	199	PN	Pn	00 45 14.3	-2.0
WPHZ	Waipukurau	2.84	194	PN	Pn	00 45 15.7	-1.7
TSZ	Takapari Road	2.96	201	⇓PN	Pn	00 45 16.6	-2.3
TSZ				AML	AML	00 45 53.8	
TSZ				AML	AML	00 45 55.7	
PRHZ	Porangahau	3.01	191	ePN	Pn	00 45 17.3	-2.2
WAZ	Wanganui	3.07	217	PN	Pn	00 45 20.2	-0.2
DVHZ	Dannevirke	3.13	197	PN	Pn	00 45 18.9	-2.3
ANWZ	Angora Road	3.22	192	PN	Pn	00 45 19.7	-2.6
POWZ	Post Office Ro	3.32	202	ePN	Pn	00 45 21.1	-2.5
PRWZ	Pori Road	3.42	198	PN	Pn	00 45 22.8	-2.1
BFZ	Birch Farm	3.48	194	PN	Pn	00 45 23.0	-2.6
MRZ	Mangatainoka R	3.62	202	PN	Pn	00 45 24.5	-3.2
MRZ				AML	AML	00 46 06.6	
MRZ				AML	AML	00 46 10.0	
TIWZ	Tintock	3.65	198	ePN	Pn	00 45 25.5	-2.5
TIWZ				AML	AML	00 46 10.4	
TIWZ				AML	AML	00 46 10.7	
CPWZ	Castlepoint	3.71	194	PN	Pn	00 45 26.6	-2.1
HOWZ	Holdsworth Sta	3.86	201	PN	Pn	00 45 27.3	-3.6
OGWZ	Otaki Gorge	3.90	205	PN	Pn	00 45 28.1	-3.1
TMWZ	Te Maipa	3.96	196	PN	Pn	00 45 28.9	-3.2
KIW	Kapiti Island	4.03	208	PN	Pn	00 45 29.9	-3.2
KIW				AML	AML	00 46 16.1	
KIW				AML	AML	00 46 17.1	
MTW	Mount Morrison	4.11	200	PN	Pn	00 45 30.3	-3.8
MTW				AML	AML	00 46 17.9	
MTW				AML	AML	00 46 18.3	
CAW	Cannon Point	4.19	204	PN	Pn	00 45 31.3	-3.9
CAW				AML	AML	00 46 20.7	
CAW				AML	AML	00 46 21.7	
TRWZ	Traveller	4.29	197	PN	Pn	00 45 32.6	-3.8
TRWZ				AML	AML	00 46 21.9	
TRWZ				AML	AML	00 46 41.8	
PAWZ	Paruwai Farm	4.33	200	PN	Pn	00 45 33.0	-4.1
PAWZ				AML	AML	00 46 22.8	
PAWZ				AML	AML	00 46 23.9	
DUWZ	D'Urville Isla	4.40	216	PN	Pn	00 45 35.0	-3.0
MSWZ	Moikau Station	4.41	201	PN	Pn	00 45 34.0	-4.2
MSWZ				AML	AML	00 46 24.4	
MSWZ				AML	AML	00 46 31.9	
WEL	Wellington	4.45	206	ePN	Pn	00 45 34.9	-3.7
WEL				AML	AML	00 46 26.7	
WEL				AML	AML	00 46 28.6	
BHW	Baring Head	4.53	205	ePN	Pn	00 45 34.7	-4.9
BHW				AML	AML	00 46 27.1	
PLWZ	Palliser	4.56	200	PN	Pn	00 45 35.4	-4.7
TCW	Tory Channel	4.58	211	PN	Pn	00 45 36.4	-3.9
TCW				AML	AML	00 46 29.7	
TCW				AML	AML	00 46 33.4	
TUWZ	Tuamarina	4.89	212	PN	Pn	00 45 40.6	-4.0
TUWZ				AML	AML	00 46 37.4	
TUWZ				AML	AML	00 46 39.2	
QRZ	Quartz Range	5.15	226	PN	Pn	00 45 44.9	-3.0
BSWZ	Blackbirch Sta	5.16	210	PN	Pn	00 45 43.9	-4.2
BSWZ				AML	AML	00 46 42.9	
THZ	Tophouse	5.63	216	PN	Pn	00 45 50.4	-4.1
KHZ	Kahutara	5.89	209	PN	Pn	00 45 53.1	-4.8
DSZ	Denniston Nort	6.17	222	ePN	Pn	00 45 56.9	-5.0
OXZ	Oxford	7.25	212	PN	Pn	00 46 09.7	-6.7
MQZ	McQueen's Vall	7.33	208	PN	Pn	00 46 11.1	-6.3

*DSN **07** 00:57:25.8±0.9, 26°.90N×59°.21E, h10km, mb3.2/4, ML4.1/3, Error ellipse: s-maj=110.9km s-min=6.9km az=160.0*
*IDC **07** 00:57:27.6±2.3, 27°.70N×55°.27E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.6/28, mbtmp3.8/7, ML3.2/1, Error ellipse: s-maj=47.9km s-min=24.8km az=159.0*
*ISCJB **07** 00:57:32.2±0.7, 27°.95N±0°.09×54°.9E±0°.1, h22km, mb3.8/6, Error ellipse: s-maj=15.9km s-min=9.7km az=143.2*
*CSEM **07** 00:57:32.5±0.7, 27°.98N×55°.07E, h2km, ML3.5, Error ellipse: s-maj=20.9km s-min=18.7km az=30.0*
*THR **07** 00:57:33.2±0.3, 27°.94N×55°.10E, h18km±3km, ML3.5*
ISC 07 00:57:33.3±0.7, **27°.94N**±0°.04×**55°.15E**±0°.05, **h22**km, **n19**, σ**2.47**/21, **mb3.8**/6, **3C-1D**, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	1.05	120	ePg	Pn	00 57 53.8	+0.9
BNDS				AML	AML	00 58 14.3	
	comp=N,1μm,0.6s						
BNDS	Bandar-Abbas	1.05	120	ePg	Pn	00 57 53.8	+0.9
	comp=N,1μm,0.6s						
GHIR	Ghir-Karzin	1.94	281	ePg	Pb	00 58 07.8	-0.2
GHIR	Ghir-Karzin	1.94	281	ePg	Pb	00 58 07.8	-0.2
BANOM	Banah	2.25	153	P	Pn	00 58 10.5	+1.2
BANOM				S	Sb	00 58 45.2	+4.4
BANOM	Banah	2.25	153	⇑P	Pn	00 58 10.5	+1.2
BANOM				⇓S	Sb	00 58 45.1	+4.4
KRBR	Kerman	2.48	34	ePn	Pb	00 58 15.4	-2.0
KRBR				eSg	Sb	00 58 51.9	+4.2
KRBR				AML	AML	00 59 02.1	
	comp=N,236nm,0.6s						
KRBR				AML	AML	00 59 07.0	
	comp=E,188nm,0.7s						
KRBR	Kerman	2.48	34	ePn	Pb	00 58 15.4	-2.0
KRBR				eSg	Sb	00 58 51.9	+4.2
	comp=E,188nm,0.7s						
NAZ	Nazwa, Dubai	2.97	171	P	Pb	00 58 23.1	-2.5
NAZ	Nazwa, Dubai	2.97	171	⇑P	Pb	00 58 23.1	-2.5
HATD	Hatta, Dubai	3.22	164	P	Pn	00 58 19.0	-3.6
HATD	Hatta, Dubai	3.22	164	⇑P	Pn	00 58 19.0	-3.6
KBZ	Khabaz	18.59	331	P	Pn	01 01 51.0	+1.8
	comp=E,0.1nm,0.3s,baz=323,slow=20,SNR=1.7						
BRTR	Keskin Array B	21.33	309	P	P	01 02 18.8	-0.2
	comp=E,1.9nm,0.7s,baz=131,slow=13,SNR=12						
MKAR	Makanchi Array	28.41	41	P	P	01 03 24.2	-2.0
	comp=E,0.4nm,0.8s,baz=224,slow=10,SNR=2.9						
AKASG	Malin Array Be	30.04	326	P	P	01 03 39.8	-0.7
	comp=E,0.7nm,0.5s,baz=137,slow=8.9,SNR=4.4						
ZALV	Zalesovo Beam	33.87	32	P	P	01 04 13.7	-0.4
	comp=E,1.9nm,0.5s,baz=237,slow=9.5,SNR=11						
FINES	FINESS Array B	38.71	338	P	P	01 04 54.3	-1.1
	comp=E,2.5nm,1.0s,baz=140,slow=12,SNR=5.1						
TORD	Torodi Ar. Bea	51.79	265	P	P	01 06 38.2	-1.5
	comp=E,2.1nm,1.0s,baz=63,slow=7.6,SNR=41						

DJA 07 01:04:57.8±0.3, **1°S**±3°×**12°0E**±°, **h10**km, **M3.8**/8, **MLv3.8**/8, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.48**	**273**	P	Pg	01 05 06.3	-1.0
PCI				S	Sb	01 05 15.8	+0.2
MPSI	**Mapaga**	**1.33**	**341**	P	Pn	01 05 20.1	-2.3
MRSI	**Marisa**	**2.14**	**49**	P	Pn	01 05 34.0	+0.4
MRSI				S	Sb	01 06 03.1	-0.2
TTSI	**Tana Toraja**	**2.16**	**193**	P	Pn	01 05 33.4	-0.5
TTSI				S	Sb	01 06 02.6	-1.3
LUWI	**Luwuk**	**2.45**	**93**	P	Pn	01 05 36.0	-1.9
SPSI	**Sidrap Palu**	**3.06**	**190**	P	Pn	01 05 45.8	-0.5

*IDC **07** 01:28:15.9±1.0, 18°63N×63°33W, h0km, mb3.6/6, mb1 4.0/7, mb1mx3.7/28, mbtmp3.7/7, ML3.7/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/20, Error ellipse: s-maj=31.7km s-min=22.1km az=61.0*
*TRN **07** 01:28:20.0, 18°68N×63°42W, h50km, MD4.0, M4.3(FDF)*
*NEIC **07** 01:28:22.0±1.0, 18°67N×63°43W, h41km±15km, mb4.0/2, Error ellipse: s-maj=15.2km s-min=6.9km az=208.0*
NEIC Felt at The Valley. Also felt at Marigot, Low Lands, Phillipsburg and Simpson Bay, Saint Martin.
ISC 07 01:28:20.2±1.4**, 18°63N**±0°06×**63°41W**±0°04**, h23**km±10km**, n59, σ1ˢ66**/70**, mb3.7**/7**, 7C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.49**	**260**	*e*Pn	**Pn**	**01 28 45.9**	**+0.2**
STVI				*e*S	**Sn**	**01 29 04.4**	**-0.1**
CDVI	**St. Croix**	**1.56**	**236**	*e*P	**Pn**	**01 28 47.8**	**+1.2**
CDVI				*e*S	**Sn**	**01 29 06.7**	**+0.6**
CDVI	**St. Croix**	**1.56**	**236**	*e*Pn	**Pn**	**01 28 46.9**	**+0.3**
CDVI				*e*S	**Sn**	**01 29 06.3**	**+0.2**
ANWB	**Willy Bob**	**1.81**	**122**	*e*P	**Pn**	**01 28 50.8**	**+0.7**
ANWB	**Willy Bob**	**1.81**	**122**	*e*Pn	**Pn**	**01 28 50.8**	**+0.7**
ANWB				*e*S	**Sb**	**01 29 15.3**	**+0.3**
BPA	**Boggy Peak**	**2.16**	**137**	⇑*i*P	**Pn**	**01 28 56.6**	**+1.8**
BPA				*e*S	**Sn**	**01 29 22.5**	**+1.6**
SJG	**San Juan**	**2.66**	**259**	*e*Pn	**Pn**	**01 29 02.8**	**+1.1**
SJG				*e*S	**Sn**	**01 29 35.4**	**+2.2**
SEG	**Port Louis**	**2.86**	**140**	*e*P	**Pn**	**01 29 05.4**	**+0.9**
SSG	**Sans Toucher**	**3.02**	**147**	⇑*e*P	**Pn**	**01 29 07.7**	**+0.9**
MLG	**Mont-d'or**	**3.02**	**147**	⇑*i*P	**Pn**	**01 29 08.0**	**+1.2**
FNG	**Fond-Bernard**	**3.04**	**147**	⇑*i*P	**Pn**	**01 29 08.1**	**+1.1**
CRG	**Carmichael**	**3.06**	**147**	*e*P	**Pn**	**01 29 08.4**	**+1.0**
ICMP	**Isla Caja de M**	**3.06**	**257**	*e*Pn	**Pn**	**01 29 08.5**	**+1.3**
ICMP				*e*S	**Sn**	**01 29 42.3**	**-0.8**
TAG	**Tarade**	**3.06**	**147**	*e*P	**Pn**	**01 29 08.6**	**+1.2**
LKG	**Breislack**	**3.06**	**147**	*e*P	**Pn**	**01 29 08.5**	**+1.1**
CELP	**Cerrillos**	**3.06**	**260**	*e*Pn	**Pn**	**01 29 08.3**	**+1.0**
CELP				*e*S	**Sn**	**01 29 47.3**	**+4.0**
SCG	**Saint Claude**	**3.06**	**147**	*e*P	**Pn**	**01 29 08.5**	**+1.1**
ECG	**Echelle**	**3.07**	**147**	⇑*i*P	**Pn**	**01 29 08.5**	**+1.0**
HMG	**Houelmont**	**3.09**	**148**	*e*P	**Pn**	**01 29 08.9**	**+1.1**
DOG	**Dongo Capester**	**3.10**	**146**	*e*P	**Pn**	**01 29 08.7**	**+1.0**
OBIP	**Obispado Ponce**	**3.10**	**260**	*e*Pn	**Pn**	**01 29 08.7**	**+1.0**
OBIP				*e*S	**Sn**	**01 29 47.3**	**+3.3**
PHG	**Guadaloupe-2**	**3.10**	**147**	*e*P	**Pn**	**01 29 09.2**	**+1.4**
DEG	**La Desirade**	**3.21**	**135**	*e*P	**Pn**	**01 29 10.1**	**+0.7**
H05N1	**Guadeloupe/Mar**	**3.21**	**135**	Pn	**Pn**	**01 29 09.9**	**+0.5**
H05N1				Sn	**Sn**	**01 29 46.1**	**-0.8**
TBG	**Guadaloupe-3**	**3.23**	**148**	⇑*i*P	**Pn**	**01 29 10.9**	**+1.3**
LRS	**Lares**	**3.28**	**265**	*e*Pn	**Pn**	**01 29 10.9**	**+0.6**
LRS				*e*S	**Sn**	**01 29 54.1**	**+5.4**
MGG	**Marie-Galante**	**3.35**	**143**	⇑*e*P	**Pn**	**01 29 12.8**	**+1.5**
AGPR	**Aguadilla, PR**	**3.52**	**268**	*e*Pn	**Pn**	**01 29 13.8**	**+0.2**
AGPR				*e*S	**Sn**	**01 29 56.0**	**+1.5**
LSP	**Las Mesas**	**3.52**	**263**	*e*Pn	**Pn**	**01 29 14.4**	**+0.8**
LSP				*e*S	**Sn**	**01 29 56.7**	**+2.1**
CRPR	**Cabo Rojo, PR**	**3.57**	**261**	*e*Pn	**Pn**	**01 29 15.6**	**+1.3**
CRPR				*e*S	**Sn**	**01 29 57.6**	**+1.8**
FDF	**Fort de France**	**4.43**	**150**	*e*P	**Pn**	**01 29 28.2**	**+2.0**
FDF	**Fort de France**	**4.43**	**150**	*e*Pn	**Pn**	**01 29 27.9**	**+1.7**
FDF				*e*S	**Sn**	**01 30 18.9**	**+1.7**
BVM	**Bellevue**	**4.47**	**150**	*e*P	**Pn**	**01 29 29.2**	**+2.5**
LPMF	**Morne Lapointe**	**4.66**	**150**	*e*P	**Pn**	**01 29 30.7**	**+1.5**
H05S1	**Guadeloupe/Mar**	**4.85**	**149**	Pn	**Pn**	**01 29 31.4**	**-0.5**
H05S1				Sn	**Sn**	**01 30 29.1**	**+1.7**
SMN1	**Samana, DR**	**5.58**	**277**	*e*Pn	**Pn**	**01 29 42.9**	**+0.9**
SMN1				*e*S	Sb	01 30 56.6	-7.0
GRGR	**Grenville**	**6.67**	**165**	*e*Pn	**Pn**	**01 29 58.4**	**+1.5**
SDDR	**Presa de Saban**	**7.47**	**274**	*e*Pn	**Pn**	**01 30 08.3**	**+0.3**
	21nm,0.6s						
SDDR				*e*S	**Sn**	**01 31 32.7**	**+0.6**
GRTK	**Grand Turk**	**7.81**	**293**	*e*Pn	**Pn**	**01 30 09.9**	**-2.6**
GRTK				*e*S	Sn	01 31 25.4	-15
PCRV	**Puerto La Cruz**	**8.49**	**188**	Pn	**Pn**	**01 30 21.8**	**-0.1**
	1.0nm,0.3s,baz=360,slow=3.8,SNR=18						
PCRV				Sn	**Sn**	**01 31 53.0**	**-4.0**
	0.7nm,0.3s,baz=52,slow=18,SNR=2.8						
SDV	**Santo Domingo**	**11.96**	**217**	*e*Pn	**Pn**	**01 31 09.3**	**-0.2**
ROSC	**El Rosal**	**17.35**	**219**	LR	LR	01 39 27.8	
	comp=Z,67nm,21.0s,baz=21,slow=39						
BCIP	**Isla Barro Col**	**18.50**	**242**	*e*P	**P**	**01 32 34.7**	**-0.3**
	2.9nm,0.4s						
JSRW	**J. Sargeant Re**	**22.83**	**329**	P	**P**	**01 33 22.7**	**+1.0**
BLA	**Blacksburg**	**23.78**	**325**	P	P	01 33 39.0	+7.7
BLA				*e*		01 33 53.3	
LPAZ	**La Paz**	**35.01**	**188**	P	**P**	**01 35 10.2**	**-1.7**
	0.7nm,0.8s,baz=264,slow=1.4,SNR=4.6						
WMOK	**Wichita Mounta**	**35.23**	**304**	*e*P	**P**	**01 35 11.3**	**-1.7**
	2.9nm,0.8s						
TXAR	**Lajitas Array**	**38.13**	**294**	P	**P**	**01 35 37.7**	**-0.3**
	0.3nm,0.5s,baz=128,slow=8.1,SNR=4.9						
PDAR	**Pinedale Array**	**45.69**	**312**	P	**P**	**01 36 39.9**	**+0.1**
	2.2nm,0.9s,baz=99,slow=7.7,SNR=11						
H10N3	**ASCENSION HYDR**	**54.93**	**114**	T	T	02 36 26.4	
	baz=299,slow=75,SNR=4.7						
H10N2	**ASCENSION HYDR**	**54.94**	**114**	T	T	02 36 19.4	
	baz=299,slow=75,SNR=5.3						
H10N1	**ASCENSION HYDR**	**54.95**	**114**	T	T	02 36 11.3	
	baz=299,slow=75,SNR=4.8						
H10S3	**ASCENSION HYDR**	**55.34**	**115**	T	T	02 36 52.5	
	baz=300,slow=75,SNR=4.0						
H10S1	**ASCENSION HYDR**	**55.35**	**115**	T	T	02 36 53.0	
	baz=300,slow=75,SNR=5.2						
H10S2	**ASCENSION HYDR**	**55.36**	**115**	T	T	02 36 53.9	
	baz=300,slow=75,SNR=5.4						
YKA	**Yellowknife Ar**	**56.15**	**334**	P	**P**	**01 37 56.8**	**-0.9**
	0.6nm,0.5s,baz=101,slow=7.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**62.57**	**85**	P	**P**	**01 38 42.1**	**-0.9**
	0.2nm,0.6s,baz=278,slow=6.9,SNR=3.0						
TORD				LR	LR	02 01 05.0	
	comp=Z,35nm,20.4s,baz=145,slow=32						
ILAR	**Eielson Array**	**70.55**	**333**	P	**P**	**01 39 32.0**	**-1.1**
	0.3nm,0.5s,baz=86,slow=4.2,SNR=4.9						
LZH	**Lanzhou**	**124.26**	**12**	*e*PKP	**PKPdf**	**01 47 22.0**	**+4.1**
LZH				pPKP	**pPKPdf**	**01 47 25.3**	**-0.3**
LZH				sPKP		01 47 26.5	
LZH				LR	LR		
	comp=N,100nm,17.8s						
LZH				LR	LR		
	comp=E,110nm,18.3s						
LZH				LR	LR		
	comp=Z,140nm,20.0s						

IDC 07 01:36:55.1±4.7**, 15°20S**×**173°11W, h0**km**, mb4.2**/4**, mb1 4.4**/4**, mb1mx3.9**/28**, mbtmp4.2**/4**, Error ellipse: s-maj=212.9km s-min=31.7km az=135.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.38**	**240**	P	P	01 45 07.5	0.0
	1.5nm,0.3s,baz=90,slow=9.4,SNR=22						
WRA	**Warramunga Arr**	**50.16**	**257**	P	P	01 45 52.8	-0.1
	0.8nm,0.3s,baz=92,slow=7.8,SNR=4.8						
ASAR	**Alice Springs**	**50.44**	**252**	P	P	01 45 54.7	-0.3
	9.2nm,0.4s,baz=88,slow=8.0,SNR=148						
ILAR	**Eielson Array**	**82.19**	**11**	P	P	01 49 17.6	0.0
	0.3nm,1.0s,baz=198,slow=5.5,SNR=2.9						

*ISCJB **07** 02:10:41.8±1.4, 20°32S±0°05×69°3W±0°2, h104km, mb3.9/1, Error ellipse: s-maj=25.5km s-min=7.6km az=3.7*
*SJA **07** 02:10:43.6±0.4, 20°38S×68°99W, h70km±17km, ML3.3, MW3.0*
*IDC **07** 02:10:45.5±3.1, 20°52S×68°68W, h116km±37km, mb3.5/3, mb1 3.5/4, mb1mx3.3/17, mbtmp4.0/4, Error ellipse: s-maj=64.6km s-min=27.7km az=112.0*
ISC 07 02:10:42.9±1.5**, 20°32S**±0°07×**69°1W**±0°2**, h104**km**, n10, σ1ˢ32**/11**, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.29**	**175**	*e*P	**Pn**	**02 11 20.4**	**+0.8**
LVC				*e*S	**Sn**	**02 11 47.6**	**-0.1**
YJA	**Yavi**	**3.84**	**119**	*e*P	**Pn**	**02 11 41.4**	**+1.1**
LPAZ	**La Paz**	**4.12**	**13**	P	Pn	02 11 48.8	+4.5
	1.9nm,0.3s,baz=182,slow=2.9,SNR=62						
LPAZ				S	**Sn**	**02 12 33.0**	**+1.2**
	1.6nm,0.3s,baz=194,slow=13,SNR=4.5						
HJA	**Humahuaca**	**4.49**	**130**	*e*P	**Pn**	**02 11 50.4**	**+1.3**
AZAP	**Zapla**	**5.40**	**137**	IAML		02 12 05.5	
	comp=Z,26nm,0.3s						
SLA	**San Lorenzo**	**5.51**	**143**	*e*P	**Pn**	**02 12 03.8**	**+1.1**
SLA				AML	AML	02 12 37.9	
	comp=Z,11nm,0.8s						
FSA	**Cafayete**	**6.42**	**154**	*e*P	**Pn**	**02 12 16.4**	**+1.4**
PLCA	**Paso Flores**	**20.38**	**183**	P	**P**	**02 15 11.2**	**-0.2**
	comp=Z,4.1nm,0.9s,baz=1.4,slow=14,SNR=4.9						
BDFB	**Brasilia**	**20.60**	**80**	P	**P**	**02 15 11.6**	**-2.4**
	comp=Z,1.7nm,0.5s,baz=249,slow=10,SNR=6.2						
TORD	**Torodi Ar. Bea**	**77.15**	**71**	P	**P**	**02 22 25.1**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=252,slow=5.4,SNR=56						
TORD				pP	**pP**	**02 22 52.4**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=247,slow=5.5,SNR=5.4						

*ISCJB **07** 02:25:05.4±0.9, 32°93S±0°04×71°82W±0°07, h47km±8km, mb3.6/2, MS3.3/1, Error ellipse: s-maj=10.1km s-min=6.7km az=171.1*
*GUC **07** 02:25:05.0±0.4, 32°89S×71°75W, h46km±1km, ML4.0*
*IDC **07** 02:25:06.4±1.6, 33°34S×69°12W, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.7/16, mbtmp3.6/4, ML3.7/2, MS3.4/1, Ms1 3.3/1, ms1mx2.8/18, Error ellipse: s-maj=58.4km s-min=27.9km az=94.0*
*SJA **07** 02:25:11.3±1.2, 32°62S×71°35W, h75km, ML3.5, MW3.7*
ISC 07 02:25:07.4±1.2**, 33°02S**±0°04×**71°70W**±0°07**, h34**km±1km**, n29, σ1ˢ39**/37**, 3C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.05**	**100**	⇓*i*P	**Pn**	**02 25 12.9**	**-0.1**
IHA				*i* S	**Sn**	**02 25 18.4**	**+1.5**
ROCH	**El Roble**	**0.58**	**86**	⇓*i*P	**Pn**	**02 25 18.1**	**-1.3**
ROCH				*i* S	**Sb**	**02 25 28.8**	**+1.1**
ROCH				AML	AML	02 25 31.3	
	comp=N,10μm,0.4s						
PEL	**Peldehue**	**0.86**	**99**	⇑*i*P	**Pn**	**02 25 22.8**	**-0.3**
PEL				*i* S	**Sn**	**02 25 36.0**	**+1.4**
RCDM	**Rinconada Maip**	**0.88**	**122**	⇓*i*P	**Pn**	**02 25 23.0**	**-0.4**
RCDM				*i* S	**Sb**	**02 25 36.9**	**+1.0**
RCDM				AML	AML	02 25 39.1	
	comp=N,9μm,0.1s						
TACH	**Talagante**	**0.90**	**135**	*i* P	**Pn**	**02 25 23.5**	**-0.2**
TACH				⇑*i*S	**Sb**	**02 25 37.7**	**+1.4**
LNV	**Longovilo**	**0.97**	**166**	*e*P	**Pb**	**02 25 24.6**	**-1.1**
LNV				*i* S	**Sb**	**02 25 39.3**	**+1.1**
SAN	**Santiago**	**0.97**	**117**	*e*P	**Pn**	**02 25 24.4**	**-0.3**
SAN				*i* S	**Sn**	**02 25 39.1**	**+1.8**
CLCH	**Cerro Calan**	**1.05**	**111**	⇓*i*P	**Pn**	**02 25 25.7**	**0.0**
CLCH				*i* S	**Sn**	**02 25 41.2**	**+2.0**
CLCH				AML	AML	02 25 44.4	
	comp=E,6μm,0.4s						
PCH	**Pirque**	**1.16**	**122**	⇑*i*P	**Pn**	**02 25 27.3**	**0.0**
PCH				*i* S	**Sn**	**02 25 44.0**	**+1.9**
CHCH	**Chadas Angostu**	**1.27**	**136**	*i* P	**Pn**	**02 25 28.7**	**0.0**
CHCH				*i* S	**Sb**	**02 25 47.0**	**+0.3**
SJCH	**San Jose de Ma**	**1.29**	**119**	*i* P	**Pn**	**02 25 28.2**	**-0.8**
SJCH				*e*S	**Sn**	**02 25 46.4**	**+1.2**
SJCH				AML	AML	02 25 50.9	
	comp=N,3μm,0.3s						
AUSP	**Uspallata**	**2.11**	**69**	*e*P	**Pn**	**02 25 41.1**	**+0.6**
AUSP				*e*S	**Sn**	**02 26 04.1**	**-1.6**
ARCO	**CERRO ARCO**	**2.33**	**86**	*e*P	**Pn**	**02 25 45.9**	**+2.4**
ARCO				AML	AML	02 26 22.5	
	comp=Z,325nm,0.7s						
RTLS	**Leoncito**	**2.37**	**60**	*e*P	**Pn**	**02 25 44.2**	**+0.1**
AAGR	**Agrelo**	**2.41**	**92**	*e*P	**Pb**	**02 25 47.6**	**-2.6**
ASAL	**Salagasta**	**2.45**	**81**	*e*P	**Pn**	**02 25 46.6**	**+1.6**
RTCV	**Cerro Valdivia**	**2.91**	**68**	*e*P	**Pn**	**02 25 51.9**	**+0.5**
SJA	**San Juan**	**3.05**	**62**	IAML		02 26 49.6	
	comp=Z,226nm,0.6s						
CFAA	**Coronel Fontan**	**3.25**	**65**	*e*P	**Pn**	**02 25 55.2**	**-0.8**
AMOG	**MOGNA**	**3.42**	**54**	*e*P	**Pn**	**02 25 57.1**	**-1.3**
LCO	**Las Campanas**	**4.08**	**12**	⇓*e*P	**Pn**	**02 26 08.4**	**+0.7**
AVFE	**Valle Fertil**	**4.31**	**58**	*e*P	**Pn**	**02 26 09.6**	**-1.1**
AVFE				IAML		02 27 25.1	
	comp=Z,61nm,0.6s						
ACLC	**CERRO LA CRUZ**	**5.42**	**50**	*e*P	**Pn**	**02 26 23.3**	**-2.6**
CYA	**Choya**	**6.82**	**50**	*e*P	Pn	02 26 40.3	-4.8
PLCA	**Paso Flores**	**7.75**	**174**	Pn	**Pn**	**02 26 57.0**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=337,slow=11,SNR=17						
PLCA				Sn	**Sn**	**02 28 22.1**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=73,slow=19,SNR=1.4						
LPAZ	**La Paz**	**16.97**	**12**	P	**P**	**02 29 05.8**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=191,slow=7.5,SNR=2.5						
BDFB	**Brasilia**	**27.55**	**57**	LR	LR	02 42 58.7	
	comp=Z,80nm,18.7s,baz=58,slow=41						
TXAR	**Lajitas Array**	**69.02**	**330**	P	P	02 36 22.6	+13
	comp=Z,0.2nm,0.7s,baz=151,slow=6.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**83.61**	**70**	P	P	02 37 27.2	-5.4
	comp=Z,1.2nm,0.9s,baz=247,slow=4.6,SNR=5.0						

*ISCJB **07** 02:28:07.7±0.4, 30°83N±0°04×49°95E±0°04, h10km, mb3.6/13, Error ellipse: s-maj=6.4km s-min=4.0km az=42.7*
*IDC **07** 02:28:08.1±1.5, 31°03N×50°03E, h0km, mb3.7/14, mb1 3.8/16, mb1mx3.7/42, mbtmp3.7/16, ML3.6/2, MS2.1/1, Ms1 2.1/1, ms1mx1.9/40, Error ellipse: s-maj=35.5km s-min=16.5km az=155.0*
*CSEM **07** 02:28:09.8±0.3, 30°88N×49°99E, h10km, ML3.8, Ms4.1, Error ellipse: s-maj=9.7km s-min=4.6km az=54.0*
*THR **07** 02:28:10.2±0.8, 30°87N×50°04E, h26km±8km, ML3.8*
*TEH **07** 02:28:12.9, 30°97N×50°04E, h24km, ML3.7*
*DSN **07** 02:28:25.2±3.0, 30°16N×51°11E, h10km, mb3.6/5, Ms4.1/5, Error ellipse: s-maj=32.2km s-min=27.5km az=128.0*
*ISN **07** 02:28:26.4±1.5, 31°19N×48°45E, h0km±6km, ML3.8*
ISC 07 02:28:09.3±0.6**, 30°91N**±0°05×**49°97E**±0°05**, h10**km**, n76, σ1ˢ16**/76**, mb3.6**/13**, 3C-1D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.56**	**320**	*e*Pg	**Pg**	**02 28 39.5**	**+0.2**
SHGR				AML	AML	02 29 06.4	
	comp=E,2μm,0.6s						
SHGR				AML	AML	02 29 09.6	
	comp=N,2μm,0.7s						
SHGR	**Shooshtar-Gavs**	**1.56**	**320**	*e*Pg	**Pg**	**02 28 39.5**	**+0.2**
	comp=N,2μm,0.7s						
IPIR	**Pirpir**	**1.94**	**24**	*e*Pn	**Pn**	**02 28 41.8**	**-0.8**
IPIR				*e*		02 29 11.3	
	comp=Z,5μm,0.2s						
IPIR	**Pirpir**	**1.94**	**24**	*e*Pn	**Pn**	**02 28 41.8**	**-0.8**
IKAZ	**Kazeroun**	**1.96**	**124**	*e*Pn	**Pb**	**02 28 45.2**	**-0.2**
IKAZ				*e*Sg	**Sg**	**02 29 14.3**	**+1.8**
IKAZ				*e*		02 29 22.4	
	comp=Z,18μm,0.2s						
IKAZ	**Kazeroun**	**1.96**	**124**	*e*Pn	**Pb**	**02 28 45.2**	**-0.2**
IKAZ				*e*Sg	**Sg**	**02 29 14.3**	**+1.8**
IKLH	**Kolahrood**	**2.77**	**29**	*e*Pn	**Pn**	**02 28 55.4**	**+1.5**
IKLH				*e*		02 29 39.0	
	comp=Z,2μm,0.3s						
IKLH	**Kolahrood**	**2.77**	**29**	*e*Pn	**Pn**	**02 28 55.4**	**+1.5**
IZEF	**Zefreh**	**2.82**	**45**	*e*Pn	**Pn**	**02 28 55.7**	**+1.0**
IZEF				*e*		02 29 00.9	
	comp=Z,877nm,0.2s						
IZEF	**Zefreh**	**2.82**	**45**	*e*Pn	**Pn**	**02 28 55.7**	**+1.0**
KHMZ	**Khomeyn**	**2.83**	**360**	*e*Pn	**Pn**	**02 28 56.8**	**+2.1**
KHMZ	**Khomeyn**	**2.83**	**360**	*e*Pn	**Pn**	**02 28 56.8**	**+2.1**
NASN	**Na'in**	**3.06**	**51**	*e*Pn	**Pn**	**02 28 58.8**	**+0.7**
NASN	**Na'in**	**3.06**	**51**	*e*Pn	**Pn**	**02 28 58.8**	**+0.7**
NSR	**Nassriya**	**3.29**	**273**	*e*PG	x	02 29 08.6	
NSR				*e*SG	x	02 29 38.5	
ISAD	**Sadrabad**	**3.33**	**71**	*e*	**Pb**	**02 29 09.2**	**+0.6**
	comp=Z,3μm,0.2s						
ISAD				*e*Pn	**Pn**	**02 29 02.5**	**+0.8**
ASAO	**Ashtian**	**3.63**	**1**	*e*Pn	**Pn**	**02 29 07.9**	**+2.0**
ASAO				AML	AML	02 30 15.7	
	comp=E,99nm,0.6s						
ASAO	**Ashtian**	**3.63**	**1**	*e*Pn	**Pn**	**02 29 07.9**	**+2.0**
	comp=E,99nm,0.6s						
GHIR	**Ghir-Karzin**	**3.70**	**134**	*e*Pn	**Pn**	**02 29 07.2**	**+0.5**
GHIR				AML	AML	02 30 23.2	
	comp=N,106nm,0.5s						
GHIR				AML	AML	02 30 30.9	
	comp=E,151nm,0.6s						
GHIR	**Ghir-Karzin**	**3.70**	**134**	*e*Pn	**Pn**	**02 29 07.2**	**+0.5**
	comp=E,151nm,0.6s						
GHVR	**GHOM**	**3.73**	**17**	*e*Pn	**Pn**	**02 29 08.6**	**+1.5**
GHVR	**GHOM**	**3.73**	**17**	*e*Pn	**Pn**	**02 29 08.6**	**+1.5**
IKOM	**Komasi**	**3.87**	**328**	*e*Pn	**Pn**	**02 29 11.0**	**+2.0**
IKOM				*e*		02 30 25.6	
	comp=Z,2μm,0.3s						
IKOM	**Komasi**	**3.87**	**328**	*e*Pn	**Pn**	**02 29 11.0**	**+2.0**
IBZA	**Bozab**	**3.98**	**334**	*e*Pn	**Pn**	**02 29 11.6**	**+1.0**
IBZA				*e*		02 30 32.3	
	comp=Z,1μm,0.3s						
IBZA	**Bozab**	**3.98**	**334**	*e*Pn	**Pn**	**02 29 11.6**	**+1.0**
IMEH	**Mehriz**	**4.01**	**82**	*e*Pn	**Pn**	**02 29 11.5**	**+0.5**
IMEH				*e*		02 30 05.4	
	comp=Z,696nm,0.2s						
IMEH	**Mehriz**	**4.01**	**82**	*e*Pn	**Pn**	**02 29 11.5**	**+0.5**
ICHK	**Chekchek**	**4.01**	**69**	*e*Pn	**Pn**	**02 29 11.1**	**+0.1**
ICHK				*e*		02 30 00.4	
	comp=Z,2μm,0.3s						
ICHK	**Chekchek**	**4.01**	**69**	*e*Pn	**Pn**	**02 29 11.1**	**+0.1**
IBDR	**Badra**	**4.08**	**304**	*e*PG	x	02 29 30.6	
IBDR				*e*SG	x	02 30 14.2	
IVRN	**Varamin**	**4.34**	**19**	*e*Pn	**Pn**	**02 29 15.6**	**+0.3**
IVRN				*e*		02 29 37.2	
	comp=Z,546nm,0.2s						
IVRN	**Varamin**	**4.34**	**19**	*e*Pn	**Pn**	**02 29 15.6**	**+0.3**
IRAZ	**Razeghan**	**4.49**	**360**	*e*Pn	**Pn**	**02 29 19.9**	**+2.4**
IRAZ				*e*		02 30 48.6	
	comp=Z,704nm,0.4s						
IRAZ	**Razeghan**	**4.49**	**360**	*e*Pn	**Pn**	**02 29 19.9**	**+2.4**
SNGE	**Sanandaj**	**4.72**	**333**	*e*Pn	**Pn**	**02 29 22.4**	**+1.6**
SNGE				Sn	**Sn**	**02 30 16.3**	**+0.5**
SNGE	**Sanandaj**	**4.72**	**333**	*e*Pn	**Pn**	**02 29 22.4**	**+1.6**
IMHD	**Mahdasht**	**4.80**	**7**	*e*Pn	**Pn**	**02 29 22.4**	**+0.6**
IMHD				*e*		02 29 40.5	
	comp=Z,376nm,0.2s						
IMHD	**Mahdasht**	**4.80**	**7**	*e*Pn	**Pn**	**02 29 22.4**	**+0.6**
IBAF	**Bafgh**	**4.84**	**80**	*e*Pn	**Pn**	**02 29 22.6**	**+0.3**
IBAF				*e*		02 29 25.0	
	comp=Z,413nm,0.3s						
IBAF	**Bafgh**	**4.84**	**80**	*e*Pn	**Pn**	**02 29 22.6**	**+0.3**
IDHR	**Dehrash**	**4.84**	**322**	*e*Pn	**Pn**	**02 29 23.0**	**+0.6**
IDHR				*e*		02 30 23.2	
	comp=Z,1μm,0.1s						
IDHR	**Dehrash**	**4.84**	**322**	*e*Pn	**Pn**	**02 29 23.0**	**+0.6**
IDMV	**Damavand**	**4.97**	**20**	*e*Pn	**Pn**	**02 29 24.3**	**+0.1**
IDMV				*e*		02 31 02.1	
	comp=Z,381nm,0.4s						
IDMV	**Damavand**	**4.97**	**20**	*e*Pn	**Pn**	**02 29 24.3**	**+0.1**
ILAS	**Lasjerd**	**5.12**	**28**	*e*Pn	**Pn**	**02 29 26.5**	**+0.3**
ILAS				*e*		02 29 32.3	
	comp=Z,234nm,0.1s						
ILAS	**Lasjerd**	**5.12**	**28**	*e*Pn	**Pn**	**02 29 26.5**	**+0.3**
IFIR	**Firoozkooh**	**5.27**	**25**	*e*Pn	**Pn**	**02 29 28.6**	**+0.3**
IFIR				*e*		02 30 21.1	
	comp=Z,110nm,0.1s						
IFIR	**Firoozkooh**	**5.27**	**25**	*e*Pn	**Pn**	**02 29 28.6**	**+0.3**
IKRK	**Kirkuk**	**6.51**	**315**	*e*PN	x	02 29 49.4	
IKRK				*e*SN	x	02 30 49.1	
BANOM	**Banah**	**7.46**	**130**	P	**Pn**	**02 29 58.2**	**0.0**
BANOM	**Banah**	**7.46**	**130**	⇓*e*P	**Pn**	**02 29 58.2**	**0.0**
NAZ	**Nazwa, Dubai**	**7.75**	**138**	P	**Pn**	**02 30 00.7**	**-1.4**
NAZ	**Nazwa, Dubai**	**7.75**	**138**	⇑P	**Pn**	**02 30 00.7**	**-1.4**
ASUD	**Al Ashush, Dub**	**7.85**	**142**	P	**Pn**	**02 30 03.6**	**0.0**
ASUD	**Al Ashush, Dub**	**7.85**	**142**	⇑P	**Pn**	**02 30 03.6**	**0.0**
MSL	**Mosul**	**7.92**	**316**	*e*PN	x	02 30 09.3	
MSL				*e*SN	x	02 31 23.2	
HATD	**Hatta, Dubai**	**8.14**	**137**	P	**Pn**	**02 30 06.7**	**-0.9**
HATD	**Hatta, Dubai**	**8.14**	**137**	⇑P	**Pn**	**02 30 06.7**	**-0.9**
GNI	**Garni**	**10.16**	**337**	LR	LR	02 34 12.0	
	comp=Z,11nm,20.4s,baz=103,slow=36						
ASF	**Jabal al Asfar**	**11.23**	**280**	Pn	**Pn**	**02 30 51.3**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=320,slow=2.7,SNR=7.1						
ASF				Sn	**Sn**	**02 32 52.9**	**-2.7**
	baz=343,slow=19,SNR=2.7						
BRTR	**Keskin Array B**	**15.96**	**308**	Pn	**P**	**02 31 56.8**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=135,slow=16,SNR=4.3						
AKTO	**Aktyubinsk**	**20.42**	**15**	P	**P**	**02 32 47.1**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=207,slow=8.2,SNR=2.5						
IDI	**Anoyia**	**21.44**	**288**	P	**P**	**02 32 59.9**	**+2.1**
	comp=Z,21nm,1.1s,baz=113,slow=14,SNR=5.8						
AKASG	**Malin Array Be**	**25.10**	**328**	P	**P**	**02 33 33.2**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=137,slow=9.2,SNR=5.7						
BVAR	**Borovoye Array**	**26.63**	**28**	P	**P**	**02 33 47.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=234,slow=5.0,SNR=2.2						
KURBB	**Kurchatov Arra**	**28.97**	**39**	P	**P**	**02 34 08.5**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=240,slow=9.8,SNR=2.8						
MKAR	**Makanchi Array**	**29.49**	**48**	P	**P**	**02 34 12.5**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=246,slow=8.1,SNR=3.5						
GERES	**GERESS Array B**	**32.71**	**314**	P	**P**	**02 34 41.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=114,slow=9.8,SNR=2.2						
FINES	**FINESS Array B**	**34.33**	**340**	P	**P**	**02 34 54.2**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=153,slow=9.9,SNR=22						
NOA	**NORSAR Array B**	**39.41**	**331**	P	**P**	**02 35 37.0**	**-2.1**
	comp=Z,0.6nm,0.9s,baz=124,slow=8.5,SNR=3.4						
ESDC	**Sonseca Array**	**44.32**	**297**	P	**P**	**02 36 20.4**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=79,slow=9.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**47.72**	**259**	P	**P**	**02 36 47.3**	**+0.7**
	comp=Z,1.0nm,1.0s,baz=55,slow=7.9,SNR=11						
DBIC	**Dimbokro**	**56.58**	**257**	P	**P**	**02 37 53.1**	**+0.6**
	comp=Z,3.1nm,0.9s,baz=120,slow=8.1,SNR=2.4						
SCHQ	**Schefferville**	**78.90**	**328**	P	**P**	**02 40 12.1**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=68,slow=5.4,SNR=4.2						
ILAR	**Eielson Array**	**83.73**	**7**	P	**P**	**02 40 38.0**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=305,slow=3.7,SNR=4.2						

*ISCJB **07** 02:56:16.2±0.5, 23°44S±0°03×26°20E±0°06, h10km, mb3.7/2, MS3.2/1, Error ellipse: s-maj=8.0km s-min=3.9km az=6.1*
*IDC **07** 02:56:17.9±1.4, 23°29S×26°09E, h0km, mb3.8/2, mb1 3.8/7, mb1mx3.5/42, mbtmp3.8/7, ML3.6/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/28, Error ellipse: s-maj=25.3km s-min=14.5km az=112.0*
*PRE **07** 02:56:25.7±1.8, 23°86S×25°97E, h5km, ML3.6*
ISC 07 02:56:17.1±0.8**, 23°50S**±0°04×**26°05E**±0°06**, h10**km**, n21, σ2ˢ00**/27**, 2C, Botswana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSR	**Koster**	**2.47**	**162**	*e*P	**Pg**	**02 57 04.5**	**+0.1**
KSR				*e*S	**Sn**	**02 57 29.9**	**+2.1**
KSR				AML	AML	02 57 49.8	
	comp=Z,115nm,0.8s						
BFSD	**Buffelsfontein**	**3.42**	**169**	*e*P	**Pb**	**02 57 15.9**	**-1.9**
BFSD				*e*S	**Sn**	**02 57 52.5**	**+1.3**
BFSD				AML	AML	02 58 14.1	
	comp=Z,118nm,0.4s						
TLEK	**Tau Lekoa**	**3.49**	**171**	*e*P	**Pb**	**02 57 16.8**	**-2.3**
TLEK				*e*S	**Sn**	**02 57 53.9**	**+0.8**
TLEK				AML	AML	02 58 28.7	
	comp=Z,65nm,0.5s						
MOAB	**Moab Khotsong**	**3.54**	**169**	*e*P	**Pb**	**02 57 19.3**	**-0.6**
MOAB				*e*S	**Sn**	**02 57 55.3**	**+1.1**
MOAB				AML	AML	02 58 17.3	
	comp=Z,136nm,0.7s						
SWZ	**Schweizer**	**3.73**	**190**	*e*P	Pb	02 57 19.7	-3.4
SWZ				*e*S	**Sn**	**02 57 58.2**	**-0.7**
SWZ				AML	AML	02 58 32.5	
	comp=Z,97nm,0.2s						
MATP	**Matopo**	**3.81**	**37**	Pn	**Pn**	**02 57 16.4**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=220,slow=12,SNR=17						
MATP				Sn	**Sn**	**02 57 57.0**	**-3.8**
	comp=Z,12nm,0.3s,baz=230,slow=19,SNR=9.9						
MATP				Lg	Lg	02 58 11.8	
	comp=Z,82nm,0.3s,baz=301,slow=19,SNR=33						
BLWY	**Bulawayo**	**4.10**	**36**	*i* P	**Pn**	**02 57 19.4**	**-0.6**
BLWY				*i*		02 57 19.6	
	baz=330,slow=28						
BLWY				*i* S	**Sn**	**02 58 05.4**	**-2.7**
SEK	**Senekal**	**5.01**	**164**	*e*P	Pn	02 57 38.6	+6.1
SEK				*e*S	**Sn**	**02 58 31.2**	**+0.7**
SEK				AML	AML	02 59 07.2	
	comp=Z,74nm,0.3s						
BOSA	**Boshof**	**5.14**	**188**	⇑*i*P	Pn	02 57 40.0	+5.8
BOSA				*e*S	**Sn**	**02 58 32.9**	**-0.9**
BOSA				AML	AML	02 59 12.1	
	comp=Z,37nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BOSA	**Boshof**	**5.14**	**188**	Pn	Pn	02 57 40.0	+5.8
	comp=Z,2.0nm,0.3s,baz=5.6,slow=15,SNR=41						
BOSA				Sn	**Sn**	**02 58 35.7**	**+1.9**
	comp=Z,15nm,0.3s,baz=254,slow=15,SNR=20						
BOSA				Lg	Lg	02 59 06.0	
	comp=Z,7.8nm,0.3s,baz=88,slow=18,SNR=10						
CNG	**Changalane**	**6.23**	**118**	*e*P	Pn	02 57 54.2	+5.1
CNG				*e*S	**Sn**	**02 59 01.2**	**+0.9**
CNG				AML	AML	02 59 43.3	
	comp=Z,62nm,0.4s						
CNG	**Changalane**	**6.23**	**118**	*e*	Pg	02 58 23.7	+7.4
	baz=186,slow=16						
CNG				*e*S	**Sn**	**02 58 58.3**	**-2.0**
CNG				AML	AML	02 59 03.0	
	comp=Z,661nm,0.1s						
UPI	**Upington**	**6.49**	**221**	⇑*i*P	Pn	02 57 57.7	+5.0
UPI				*e*S	**Sn**	**02 59 06.8**	**-0.1**
UPI				AML	AML	02 59 17.3	
	comp=Z,14nm,0.8s						
HVD	**Gariep Dam**	**7.10**	**184**	*e*P	Pn	02 58 05.5	+4.4
HVD				*e*S	**Sn**	**02 59 18.7**	**-3.2**
HVD				AML	AML	02 59 25.6	
	comp=Z,17nm,0.4s						
LSZ	**Lusaka**	**8.42**	**14**	Pn	**Pn**	**02 58 18.9**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=192,slow=13,SNR=8.7						
LSZ				Sn	Sn	02 59 45.3	-9.3
	comp=Z,2.0nm,0.3s,baz=91,slow=16,SNR=5.1						
LSZ				Lg	Lg	03 00 37.7	
	comp=Z,1.3nm,0.3s,baz=94,slow=19,SNR=4.2						
TSUM	**Tsumeb**	**8.97**	**297**	Pn	**Pn**	**02 58 29.6**	**+2.6**
	comp=Z,0.3nm,0.3s,baz=121,slow=14,SNR=4.6						
TSUM				Sn	**Sn**	**03 00 05.3**	**-2.9**
	comp=Z,0.6nm,0.3s,baz=75,slow=20,SNR=2.8						
TSUM				Lg	Lg	03 00 59.4	
	comp=Z,1.1nm,0.3s,baz=61,slow=8.9,SNR=4.2						
SUR	**Sutherland**	**9.99**	**206**	*e*P	Pn	02 58 45.8	+5.0
SUR				*e*S	**Sn**	**03 00 28.9**	**-4.2**
SUR				AML	AML	03 00 52.4	
	comp=Z,5.1nm,0.4s						
SUR	**Sutherland**	**9.99**	**206**	Pn	Pn	02 58 46.0	+5.2
	comp=Z,0.5nm,0.3s,baz=356,slow=12,SNR=7.7						
SUR				Sn	**Sn**	**03 00 32.4**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=134,slow=20,SNR=4.1						
SUR				Lg	Lg	03 01 35.7	
	comp=Z,3.3nm,0.3s,baz=306,slow=22,SNR=9.0						
OPO	**Ambohidratompo**	**20.32**	**80**	LR	LR	03 09 11.3	
	comp=Z,90nm,18.0s,baz=44,slow=38						
TORD	**Torodi Ar. Bea**	**43.52**	**324**	P	**P**	**03 04 22.0**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=153,slow=8.8,SNR=70						
ESDC	**Sonseca Array**	**68.81**	**336**	P	**P**	**03 07 22.9**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=149,slow=5.3,SNR=4.8						

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*ISCJB **07** 03:19:50.2±2.5, 35.°05S±0.°06×72.°92W±0.°07, h5km±18km, mb3.6/3, Error ellipse: s-maj=11.5km s-min=8.3km az=136.9*

*IDC **07** 03:19:51.0±1.7, 34.°99S×72.°85W, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.7/20, mbtmp3.6/6, ML3.6/2, MS1.8/1, Ms1 1.8/1, ms1mx1.8/23, Error ellipse: s-maj=42.0km s-min=29.6km az=87.0*

*GUC **07** 03:19:54.2±0.8, 35.°02S×72.°64W, h16km±5km, ML3.9*

ISC 07 03:19:52.2±2.6**, 34.°99S**±0.°05×**72.°8W**±0.°1**, h7**km±15km**, n16, σ0s68**/22**, mb3.9**/3**, 1C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
TALC	**Talca**	**1.00**	**114**	*e*P	**Pg**	**03 20 11.5**	**+0.1**
TALC				*e*S	**Sg**	**03 20 24.9**	**+0.3**
NICH	**Los Niches**	**1.25**	**91**	*e*P	**Pg**	**03 20 16.1**	**-0.1**
NICH				*e*S	**Sb**	**03 20 32.5**	**0.0**
LNCH	**Linares**	**1.27**	**133**	⇑*e*P	**Pn**	**03 20 16.3**	**-0.2**
LNCH				*e*S	**Sg**	**03 20 33.4**	**+0.3**
LNV	**Longovilo**	**1.52**	**48**	*e*P	**Pn**	**03 20 19.8**	**+0.1**
TACH	**Talagante**	**2.01**	**49**	*e*P	**Pb**	**03 20 28.6**	**-0.5**
CHCH	**Chadas Angostu**	**2.03**	**59**	*e*P	**Pb**	**03 20 28.4**	**-1.0**
SAN	**Santiago**	**2.31**	**49**	*e*P	**Pb**	**03 20 34.1**	**-0.2**
CLCH	**Cerro Calan**	**2.43**	**50**	*e*P	**Pb**	**03 20 36.5**	**+0.2**
CLCH				*e*S	**Sb**	**03 21 07.2**	**+0.7**
CLCH				AML	AML	03 21 16.0	
	comp=E,650nm,0.4s						
ROCH	**El Roble**	**2.48**	**36**	*e*P	**Pn**	**03 20 33.7**	**+0.5**
ROCH				*e*S	**Sg**	**03 21 11.4**	**-0.6**
PEL	**Peldehue**	**2.52**	**44**	*e*P	**Pn**	**03 20 35.1**	**+1.5**
PEL				*e*S	**Sb**	**03 21 08.0**	**-1.1**
PEL				AML	AML	03 21 18.0	
	comp=N,792nm,0.5s						
CFAA	**Coronel Fontan**	**5.07**	**50**	Pn	**Pn**	**03 21 09.7**	**+1.0**
	comp=N,0.1nm,0.3s,baz=227,slow=13,SNR=3.5						
CFAA				Lg	Lg	03 22 22.8	
	comp=N,0.2nm,0.3s,baz=307,slow=20,SNR=3.1						
CFAA				LR	LR	03 23 29.9	
	comp=N,11nm,20.9s,baz=203,slow=43						
PLCA	**Paso Flores**	**5.99**	**164**	Pn	**Pn**	**03 21 22.2**	**+0.9**
	comp=N,0.5nm,0.3s,baz=340,slow=12,SNR=12						
PLCA				Lg	Lg	03 22 55.1	
	comp=N,0.9nm,0.3s,baz=54,slow=19,SNR=3.5						
LPAZ	**La Paz**	**19.08**	**14**	P	**Pn**	**03 24 17.1**	**+0.4**
	comp=N,0.1nm,0.3s,baz=198,slow=6.6,SNR=6.3						
SIV	**San Ignacio**	**21.63**	**32**	P	**P**	**03 24 43.0**	**0.0**
	comp=N,1.5nm,0.7s,baz=213,slow=10,SNR=6.1						
TXAR	**Lajitas Array**	**70.31**	**332**	P	**P**	**03 31 06.2**	**-0.3**
	comp=N,0.5nm,0.6s,baz=162,slow=8.6,SNR=6.6						
TORD	**Torodi Ar. Bea**	**85.10**	**70**	P	**P**	**03 32 28.9**	**-0.3**
	comp=N,0.8nm,1.1s,baz=233,slow=4.9,SNR=3.2						

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*ISCJB **07** 03:25:10.1±0.6, 11.°00N±0.°04×62.°28W±0.°03, h103km±7km, Error ellipse: s-maj=6.8km s-min=4.0km az=143.8*

*FUNV **07** 03:25:11.8, 10.°94N×62.°18W, h100km, MW3.1*

*TRN **07** 03:25:13.6, 11.°05N×62.°13W, h91km, MD3.5*

ISC 07 03:25:09.5±1.3**, 10.°94N**±0.°04×**62.°24W**±0.°04**, h117**km±9km**, n21, σ1s58**/39**, 3C-5D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.29**	**178**	⇑*e*P	**Pn**	**03 25 26.2**	**+0.1**
GUIV				*e*S	**Sn**	**03 25 37.0**	**-1.6**
TCE	**Chacachacare**	**0.53**	**117**	*e*P	**Pn**	**03 25 28.6**	**+1.3**
TCE				*e*S	**Sn**	**03 25 40.0**	**-0.8**
TRN	**Trinidad (W)**	**0.87**	**110**	⇑*i*P	**Pn**	**03 25 31.8**	**+1.7**
TRN				*e*S	**Sn**	**03 25 44.0**	**-1.5**
TPP	**Pointe-a-Pierr**	**0.99**	**129**	*e*P	**Pn**	**03 25 33.9**	**+2.7**
TPP				*e*S	**Sn**	**03 25 48.1**	**+0.5**
CRUV	**Carupano**	**1.02**	**255**	⇓*i*P	**Pn**	**03 25 31.8**	**+0.3**
CRUV				*e*S	**Sn**	**03 25 46.8**	**-1.3**
GUNV	**Guanoco**	**1.04**	**222**	⇓*e*P	**Pn**	**03 25 32.9**	**+1.2**
GUNV				*e*S	**Sn**	**03 25 48.7**	**+0.2**
TBH	**Brigand Hill**	**1.24**	**111**	*i* P	**Pn**	**03 25 35.8**	**+2.1**
TBH				*e*S	**Sn**	**03 25 51.4**	**-0.7**
GRGR	**Grenville**	**1.31**	**26**	*e*P	**Pn**	**03 25 34.6**	**-0.1**
GRGR				*e*S	**Sn**	**03 25 50.8**	**-3.0**
GRW	**Mount Saint Ca**	**1.34**	**25**	*e*P	**Pn**	**03 25 36.6**	**+1.6**
GRW				*e*S	**Sn**	**03 25 52.6**	**-1.6**
BOT	**Bacolet**	**1.51**	**81**	*e*P	**Pn**	**03 25 38.2**	**+1.4**
BOT				*e*S	**Sn**	**03 25 56.8**	**-0.8**
TOSP	**Speyside**	**1.71**	**78**	*e*P	**Pn**	**03 25 39.3**	**+0.1**
TOSP				*e*S	**Sn**	**03 26 00.9**	**-0.9**
ORIV	**Oritupano**	**2.19**	**212**	*e*P	**Pn**	**03 25 46.5**	**+1.2**
ORIV				*e*S	**Sn**	**03 26 12.2**	**-0.5**
PCRV	**Puerto La Cruz**	**2.48**	**252**	⇓*e*P	**Pn**	**03 25 50.4**	**+1.4**
PCRV				*e*S	**Sn**	**03 26 18.9**	**-0.4**
SVB	**Belmont**	**2.51**	**22**	*e*P	**Pn**	**03 25 51.2**	**+1.8**
SVB				*e*S	**Sn**	**03 26 19.0**	**-1.0**
MCLT	**Moule a Chique**	**3.03**	**25**	*e*P	**Pn**	**03 25 57.9**	**+1.7**
MCLT				*e*S	**Sn**	**03 26 30.4**	**-1.7**
CUPV	**Cœpira**	**3.60**	**256**	⇑*e*P	**Pn**	**03 26 05.2**	**+1.4**
BIRV	**Birongo**	**3.99**	**264**	*e*P	**Pn**	**03 26 11.1**	**+2.2**
BIRV				*e*S	**Sn**	**03 26 53.9**	**-1.1**
MERV	**Las Mercedes**	**4.34**	**248**	⇓*e*P	**Pn**	**03 26 14.3**	**+0.7**
MERV				⇓*e*S	**Sn**	**03 27 02.4**	**-0.9**
LUEV	**Luepa**	**5.12**	**171**	*e*P	**Pn**	**03 26 24.8**	**+0.4**
LUEV				*e*S	**Sn**	**03 27 18.2**	**-4.3**
TURV	**Turiamo**	**5.53**	**265**	*e*P	**Pn**	**03 26 31.3**	**+1.7**
BAUV	**El Baul**	**6.05**	**251**	*e*P	**Pn**	**03 26 36.5**	**-0.2**

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*IDC **07** 03:40:15.0±7.5, 27.°06S×178.°04W, h231km±63km, mb3.6/4, mb1 3.7/5, mb1mx3.3/19, mbtmp4.2/5, Error ellipse: s-maj=49.3km s-min=25.6km az=44.0*

ISC 07 03:40:13.5±1.3**, 27.°4S**±0.°1×**178.°2W**±0.°2**, h202**km**, n10, σ1s49**/11**, mb3.9**/4**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
URZ	**Urewera**	**11.53**	**199**	P	**P**	**03 42 57.0**	**-0.6**
	1.7nm,0.3s,baz=193,slow=14,SNR=6.5						
URZ				S	**S**	**03 45 00.8**	**+0.2**
	0.8nm,0.3s,baz=149,slow=19,SNR=5.0						
CTA	**Charters Tower**	**33.30**	**275**	P	**P**	**03 46 32.9**	**+0.6**
	2.1nm,0.4s,baz=93,slow=9.3,SNR=6.5						
ASAR	**Alice Springs**	**43.21**	**264**	P	**P**	**03 47 54.4**	**-0.5**
	0.7nm,0.4s,baz=97,slow=6.9,SNR=19						
WRA	**Warramunga Arr**	**43.93**	**269**	P	**P**	**03 47 59.7**	**-0.9**
	1.7nm,0.6s,baz=107,slow=7.5,SNR=8.3						
MAW	**Mawson**	**75.05**	**200**	P	**P**	**03 51 33.5**	**+1.0**
	1.3nm,0.5s,baz=117,slow=4.5,SNR=5.8						
NB2	**NORSAR Subarra**	**145.78**	**352**	P	**PKPdf**	**03 59 25.6**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=6.0,slow=6.5						
NOA	**NORSAR Array B**	**145.78**	**352**	PKPbc	**PKPdf**	**03 59 25.0**	**-2.4**
	comp=Z,0.6nm,0.6s,baz=15,slow=4.8,SNR=4.5						
AKASG	**Malin Array Be**	**148.80**	**326**	PKPbc	**PKPdf**	**03 59 33.9**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=33,slow=2.8,SNR=4.9						
BRTR	**Keskin Array B**	**150.95**	**303**	PKPbc	**PKPdf**	**03 59 38.6**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=124,slow=3.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**165.81**	**179**	PKPab	**PKPab**	**04 00 54.5**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=190,slow=3.3,SNR=4.9						

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*IDC **07** 04:23:45.0±6.5, 33.°77S×179.°74E, h234km±60km, mb3.8/3, mb1 3.9/4, mb1mx3.5/17, mbtmp4.3/4, Error ellipse: s-maj=71.8km s-min=38.1km az=11.0*

*ISCJB **07** 04:23:46.5±1.3, 33.°54S±0.°08×178.°4E±0.°2, h250km, mb4.0/3, Error ellipse: s-maj=23.1km s-min=11.2km az=1.3*

ISC 07 04:23:50.0±1.6**, 33.°8S**±0.°1×**178.°4E**±0.°2**, h250**km**, n33, σ1s17**/41**, mb4.2**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**4.01**	**187**	*e*PN	**Pn**	**04 24 54.6**	**+0.7**
HAZ				SN	**S**	**04 25 46.7**	**+2.0**
WMGZ	**Waiomatatini S**	**4.04**	**180**	*e*PN	**Pn**	**04 24 54.0**	**-0.3**
WMGZ				*e*SN	**S**	**04 25 45.9**	**+0.6**
PUZ	**Puketiti**	**4.30**	**182**	*e*PN	**Pn**	**04 24 56.2**	**-1.1**
TWGZ	**Tauwhareparae**	**4.42**	**184**	*e*PN	**Pn**	**04 24 58.9**	**+0.2**
TWGZ				SN	**S**	**04 25 53.8**	**+0.4**
URZ	**Urewera**	**4.61**	**193**	P	**Pn**	**04 25 01.6**	**+0.7**
	4.1nm,0.3s,baz=331,slow=13,SNR=17						
URZ				S	**S**	**04 25 58.1**	**+0.6**
	9.1nm,0.3s,baz=312,slow=23,SNR=13						
URZ	**Urewera**	**4.61**	**193**	*e*PN	**Pn**	**04 25 02.4**	**+1.4**
URZ				SN	**S**	**04 25 59.1**	**+1.7**
MWZ	**Matawai**	**4.62**	**189**	*e*PN	**Pn**	**04 25 01.4**	**+0.3**
MWZ				*e*SN	**S**	**04 25 59.2**	**+1.5**
SNGZ	**Shannon Statio**	**5.08**	**189**	*e*PN	**Pn**	**04 25 07.5**	**+0.8**
SNGZ				SN	**S**	**04 26 09.3**	**+1.3**
KNZ	**Kokohu**	**5.28**	**186**	PN	**Pn**	**04 25 08.4**	**-0.7**
WHHZ	**Waihua**	**5.38**	**190**	SN	**S**	**04 26 15.8**	**+1.1**
ARHZ	**Aropaoanui**	**5.60**	**191**	*e*PN	**Pn**	**04 25 13.3**	**+0.2**
BKZ	**Black Stump Fm**	**5.61**	**195**	PN	**Pn**	**04 25 12.7**	**-0.6**
KWHZ	**Kaweka Forest**	**5.87**	**195**	PN	**Pn**	**04 25 18.0**	**+1.5**
BHHZ	**Black Hill Sta**	**6.01**	**198**	PN	**Pn**	**04 25 19.1**	**+0.7**
KRHZ	**Kereru**	**6.09**	**195**	*e*PN	**Pn**	**04 25 19.0**	**-0.2**
PNHZ	**Pukenui**	**6.39**	**195**	*e*PN	**Pn**	**04 25 22.5**	**-0.5**
TSZ	**Takapari Road**	**6.58**	**197**	PN	**Pn**	**04 25 24.7**	**-0.7**
MRZ	**Mangatainoka R**	**7.24**	**197**	*e*PN	**Pn**	**04 25 32.9**	**-0.8**
MRZ				*e*SN	**S**	**04 26 53.0**	**-4.0**
TMWZ	**Te Maipa**	**7.60**	**195**	*e*PN	**Pn**	**04 25 37.3**	**-0.8**
KIW	**Kapiti Island**	**7.61**	**200**	*e*PN	**Pn**	**04 25 38.3**	**0.0**
MTW	**Mount Morrison**	**7.73**	**197**	*e*PN	**Pn**	**04 25 39.3**	**-0.5**
CAW	**Cannon Point**	**7.79**	**199**	*e*PN	**Pn**	**04 25 39.3**	**-1.3**
TCW	**Tory Channel**	**8.12**	**203**	*e*PN	**Pn**	**04 25 43.5**	**-1.3**
PLWZ	**Palliser**	**8.18**	**197**	*e*PN	**Pn**	**04 25 43.8**	**-1.7**
TUWZ	**Tuamarina**	**8.43**	**204**	PN	**Pn**	**04 25 47.3**	**-1.3**
QRZ	**Quartz Range**	**8.46**	**212**	*e*PN	**Pn**	**04 25 50.7**	**+1.6**
THZ	**Tophouse**	**9.09**	**207**	PN	**Pn**	**04 25 57.6**	**+0.5**
THZ				*e*SN	**S**	**04 27 38.9**	**-0.9**
KHZ	**Kahutara**	**9.45**	**203**	*e*PN	**Pn**	**04 26 01.1**	**-0.3**
LTZ	**Lake Taylor**	**10.21**	**206**	*e*PN	**Pn**	**04 26 11.3**	**+0.1**
STKA	**Stephens Creek**	**30.89**	**263**	P	P	04 29 50.4	+6.9
	0.5nm,0.4s,baz=90,slow=13,SNR=3.7						
ASAR	**Alice Springs**	**40.04**	**273**	P	P	04 31 06.4	+5.1
	8.0nm,0.7s,baz=111,slow=7.5,SNR=66						
ASAR				PcP	**PcP**	**04 33 00.9**	**0.0**
	0.2nm,0.4s,baz=108,slow=5.3,SNR=3.8						
WRA	**Warramunga Arr**	**41.35**	**278**	P	P	04 31 16.8	+4.8
	8.7nm,0.8s,baz=116,slow=7.5,SNR=52						
WRA				PcP	**PcP**	**04 33 05.4**	**+0.2**
	0.1nm,0.4s,baz=119,slow=2.8,SNR=2.7						
FINES	**FINESS Array B**	**147.11**	**336**	PKPbc	**PKPdf**	**04 42 59.6**	**-0.6**
	1.3nm,0.9s,baz=76,slow=5.9,SNR=5.6						

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*IDC **07** 04:25:45.5±0.6, 0.°99S×13.°57W, h0km, mb4.4/24, mb1 4.5/25, mb1mx4.4/33, mbtmp4.5/25, ML4.8/1, MS4.4/25, Ms1 4.3/25, ms1mx4.3/27, Error ellipse: s-maj=15.4km s-min=13.6km az=93.0*

*ISCJB **07** 04:25:46.0±0.3, 1.°10S±0.°04×13.°46W±0.°07, h13km, mb4.6/65, MS4.4/32, Error ellipse: s-maj=10.3km s-min=4.7km az=12.9*

*GCMT **07** 04:25:49.4±0.1, 0.°74S×13.°55W, h17km, MW5.2/109, Moment Tensor Solution. s80,c117; s109,c196; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr-1.38±.15; Mθθ4.31±.15; Mφφ-2.93±.14; Mrθ0.41±.35; Mθφ-8.05±.14; Mφr2.23±.38; Best double couple: Mo9.16200×10^16 NP1:φs167.00000°, δ82.00000°, λ-15.00000°. NP2:φs259.00000°, δ75.00000°, λ-172.00000°. Principal axes: T 9.5860, Plg5.0000°, Azm213.0000°; N -0.8480, Plg73.0000°, Azm319.0000°; P -8.7380, Plg16.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **07** 04:25:49.4±0.3, 0.°89S×13.°23W, h10km, mb4.9/30 Error ellipse: s-maj=8.8km s-min=7.6km az=82.0*

*BJI **07** 04:25:49.4, 0.°90S×13.°20W, h15km, mb4.9/1, mB5.5/5, Ms5.0/5, Ms7 4.7/5*

*SZGRF **07** 04:26:06.7, 1.°07N×12.°43W, h33km, mb4.8, MS4.6, North of Ascension Island*

ISC 07 04:25:48.3±0.4**, 1.°01S**±0.°06×**13.°41W**±0.°08**, h13**km**, n156, σ1s59**/162**, mb4.7**/65**, MS4.5**/35**, 14C-5D, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.86**	**189**	Pn	**Pn**	**04 27 26.2**	**-2.2**
H10N2				T	T	04 34 40.1	
	baz=9.1,slow=74,SNR=214						
H10N3	**ASCENSION HYDR**	**6.87**	**189**	Pn	**Pn**	**04 27 26.3**	**-2.3**
H10N3				T	T	04 34 40.7	
	baz=9.1,slow=74,SNR=198						
H10N1	**ASCENSION HYDR**	**6.87**	**189**	Pn	**Pn**	**04 27 26.0**	**-2.6**
H10N1				T	T	04 34 40.1	
	baz=9.1,slow=74,SNR=702						
ASCN	**Ascension**	**6.94**	**188**	*e*Pn	**Pn**	**04 27 26.8**	**-3.0**
H10S1	**ASCENSION HYDR**	**7.97**	**189**	Pn	**Pn**	**04 27 41.2**	**-2.5**
H10S1				T	T	04 36 05.4	
	baz=8.3,slow=75,SNR=51						
H10S3	**ASCENSION HYDR**	**7.99**	**189**	Pn	**Pn**	**04 27 41.9**	**-2.1**
H10S3				T	T	04 36 06.6	
	baz=8.3,slow=75,SNR=61						
H10S2	**ASCENSION HYDR**	**7.99**	**189**	Pn	**Pn**	**04 27 41.9**	**-2.0**
H10S2				T	T	04 36 06.0	
	baz=8.3,slow=75,SNR=32						
DBIC	**Dimbokro**	**11.45**	**48**	Pn	**Pn**	**04 28 30.1**	**-1.6**
	6.2nm,0.3s,baz=237,slow=12,SNR=11						
DBIC				Sn	Sn	04 30 25.9	-14
	2.8nm,0.3s,baz=128,slow=19,SNR=2.4						
DBIC				LR	LR	04 32 13.2	
	comp=Z,2μm,20.1s,baz=210,slow=34						
DBIC	**Dimbokro**	**11.45**	**48**	*e*Pn	**Pn**	**04 28 28.7**	**-3.0**
DBIC				Sn	Sn	04 30 25.9	-14
DBIC				*e*S	Sn	04 30 31.0	-8.5
SHEL	**Horse Pasture**	**16.66**	**153**	*e*Pn	**P**	**04 29 43.6**	**-0.5**
	237nm,1.4s						
TORD	**Torodi Ar. Bea**	**20.55**	**46**	P	**P**	**04 30 25.3**	**-1.6**
	111nm,1.0s,baz=232,slow=11,SNR=121						
TORD				S	S	04 34 02.2	-14
	11nm,0.8s,baz=229,slow=22,SNR=4.3						
TORD				LR	LR	04 37 47.9	
	comp=Z,2μm,18.4s,baz=225,slow=35						
RCBR	**Riachuelo**	**22.95**	**257**	LR	LR	04 37 50.8	
	comp=Z,981nm,18.5s,baz=74,slow=32						
MSKU	**Masuku**	**27.02**	**92**	P	**P**	**04 31 30.2**	**-0.4**
	22nm,0.9s,baz=278,slow=10,SNR=11						
MSKU				LR	LR	04 40 44.3	
	comp=Z,870nm,18.1s,baz=269,slow=33						
TAM	**Tamanrasset**	**30.00**	**37**	*e*P	**P**	**04 31 58.2**	**+1.1**
	18nm,1.8s						
MDT	**Midelt**	**34.66**	**13**	P	**P**	**04 32 37.6**	**-0.2**
	3.5nm,1.1s,baz=180,slow=8.0,SNR=5.4						
MDT				LR	LR	04 45 57.0	
	comp=Z,950nm,21.0s,baz=196,slow=35						
TSUM	**Tsumeb**	**35.34**	**123**	P	**P**	**04 32 44.7**	**+0.8**
	10.0nm,0.9s,baz=286,slow=9.2,SNR=14						
TSUM	**Tsumeb**	**35.34**	**123**	*e*P	**P**	**04 32 45.1**	**+1.3**
	22nm,1.1s						
BDFB	**Brasilia**	**37.10**	**245**	P	**P**	**04 32 55.8**	**-3.2**
	3.2nm,0.8s,baz=92,slow=13,SNR=3.9						
BDFB				LR	LR	04 45 16.6	
	comp=Z,340nm,21.6s,baz=70,slow=32						
ESDC	**Sonseca Array**	**41.41**	**11**	P	**P**	**04 33 33.7**	**-0.8**
	0.1nm,0.3s,baz=188,slow=8.8,SNR=3.9						
ESDC				PP	**PP**	**04 35 05.2**	**-5.2**
	0.3nm,0.3s,baz=191,slow=11,SNR=7.3						
ESDC				LR	LR	04 50 16.9	
	comp=Z,306nm,20.8s,baz=205,slow=36						
KEST	**Kesra**	**42.27**	**28**	P	**P**	**04 33 41.5**	**-0.2**
	4.2nm,0.9s,baz=213,slow=5.1,SNR=12						
KEST				PP	**PP**	**04 35 18.5**	**-1.2**
	8.5nm,1.2s,baz=188,slow=9.8,SNR=7.6						
KEST				LR	LR	04 52 30.2	
	comp=Z,662nm,18.1s,baz=165,slow=38						
KEST	**Kesra**	**42.27**	**28**	*e*P	**P**	**04 33 42.0**	**+0.3**
KEST				PP	**PP**	**04 35 18.5**	**-1.2**
KEST				*e*		04 35 21.6	
LSZ	**Lusaka**	**43.43**	**111**	P	**P**	**04 33 52.9**	**+1.4**
	4.4nm,0.7s,baz=339,slow=7.9,SNR=9.8						
LSZ	**Lusaka**	**43.43**	**111**	*e*P	**P**	**04 33 52.9**	**+1.4**
	9.3nm,0.9s						
LSZ				*e*		04 35 29.1	
SUR	**Sutherland**	**44.85**	**138**	P	**P**	**04 34 02.6**	**-0.1**
	13nm,1.0s,baz=335,slow=6.6,SNR=4.1						
SUR	**Sutherland**	**44.85**	**138**	*e*P	**P**	**04 34 04.0**	**+1.2**
	4.8nm,1.2s						
MATP	**Matopo**	**45.25**	**118**	P	**P**	**04 34 06.4**	**+0.4**
	7.8nm,0.8s,baz=281,slow=8.6,SNR=12						
CLTB	**Caltabellotta**	**45.62**	**30**	*e*P	**P**	**04 34 10.1**	**+1.6**
	15nm,1.4s						
BOSA	**Boshof**	**45.99**	**130**	P	**P**	**04 34 12.2**	**+0.4**
	14nm,1.0s,baz=300,slow=8.7,SNR=11						
BOSA				LR	LR	04 52 01.0	
	comp=Z,356nm,18.1s,baz=314,slow=34						
BOSA	**Boshof**	**45.99**	**130**	*e*P	**P**	**04 34 12.2**	**+0.4**
	66nm,1.8s						
CEL	**Celeste**	**47.50**	**32**	*e*P	**P**	**04 34 24.6**	**+1.3**
	21nm,1.1s						
TIP	**Timpagrande**	**48.64**	**31**	*e*P	**P**	**04 34 32.1**	**0.0**
	11nm,1.3s						
CUC	**Castrocucco**	**48.77**	**30**	*e*P	**P**	**04 34 33.4**	**+0.3**
	15nm,1.4s						
BNI	**Bardonecchia**	**49.22**	**19**	*e*P	**P**	**04 34 38.0**	**+1.5**
	14nm,1.3s						
AQU	**L'Aquila**	**49.48**	**26**	*e*P	**P**	**04 34 39.4**	**+0.9**
	21nm,1.0s						
KMBO	**Kilima Mbogo**	**50.65**	**91**	P	**P**	**04 34 47.6**	**-0.5**
	4.6nm,1.0s,baz=248,slow=9.6,SNR=6.3						
KMBO				LR	LR	04 54 59.6	
	comp=Z,2μm,18.6s,baz=256,slow=34						
KMBO	**Kilima Mbogo**	**50.65**	**91**	*e*P	**P**	**04 34 50.5**	**+2.4**
	6.2nm,1.5s						
IDI	**Anoyia**	**50.81**	**41**	P	**P**	**04 34 48.7**	**-0.1**
	22nm,1.0s,baz=293,slow=13,SNR=3.0						
DAVOX	**Davos/Dischmat**	**51.80**	**20**	P	**P**	**04 34 55.9**	**-0.3**
	9.5nm,0.8s,baz=217,slow=8.5,SNR=13						
PCRV	**Puerto La Cruz**	**52.17**	**284**	P	**P**	**04 35 01.0**	**+1.8**
	4.0nm,1.0s,baz=45,slow=2.9,SNR=2.1						
ECH	**Echery**	**52.19**	**17**	*e*P	**P**	**04 34 58.7**	**-0.1**
	10nm,1.3s						
DAVA	**Damuels**	**52.24**	**20**	P	**P**	**04 34 59.0**	**-0.3**
	20nm,0.9s,SNR=8.9						
FETA	**Feichten**	**52.30**	**21**	⇑*i*P	**P**	**04 34 59.3**	**-0.5**
	9.2nm,1.4s						
TRI	**Trieste**	**52.36**	**24**	*e*P	**P**	**04 35 00.8**	**+0.8**
	12nm,0.8s						
BFO	**Black Forest**	**52.65**	**18**	*e*P	**P**	**04 35 02.3**	**+0.1**
	comp=Z,10.0nm,1.1s						
VOJS	**Vojsko**	**52.67**	**24**	*i* P	**P**	**04 35 02.9**	**+0.3**
VOJS	**Vojsko**	**52.67**	**24**	*i* P	**P**	**04 35 02.8**	**+0.3**
CADS	**Cadrg**	**52.77**	**23**	*i* P	**P**	**04 35 03.6**	**+0.4**
CADS	**Cadrg**	**52.77**	**23**	*i* P	**P**	**04 35 03.6**	**+0.4**
BOJS	**Bojanci**	**52.81**	**25**	*i* P	**P**	**04 35 04.1**	**+0.7**
BOJS	**Bojanci**	**52.81**	**25**	*i* P	**P**	**04 35 04.1**	**+0.7**
WTTA	**Wattenberg**	**52.84**	**21**	⇓*i*P	**P**	**04 35 03.5**	**-0.3**
	comp=Z,10nm,1.1s,SNR=5.5						
LJU	**Ljubljana**	**52.94**	**24**	*e*P	**P**	**04 35 05.1**	**+0.7**
LJU	**Ljubljana**	**52.94**	**24**	*e*P	**P**	**04 35 05.1**	**+0.7**
MYKA	**Terra Mystica**	**53.06**	**23**	⇑*i*P	**P**	**04 35 06.2**	**+0.8**
	comp=Z,11nm,0.9s						
WLF	**Walferdange**	**53.21**	**16**	*e*P	**P**	**04 35 05.5**	**-0.8**
	comp=Z,12nm,1.1s						
FUR	**Furstenfeldbru**	**53.48**	**20**	*e*P	**P**	**04 35 08.5**	**+0.2**
	comp=Z,70nm,1.8s						
SOKA	**Soboth**	**53.66**	**24**	⇓*i*P	**P**	**04 35 10.7**	**+1.0**
	comp=Z,11nm,1.3s						
RJOB	**Jochberg**	**53.66**	**22**	*e*P	**P**	**04 35 09.3**	**-0.4**
	comp=Z,10.0nm,0.7s						
DIVS	**Divibare**	**53.90**	**29**	⇑*i*P	**P**	**04 35 12.8**	**+1.2**
VTS	**Vitosha**	**54.49**	**33**	⇓*i*P	**P**	**04 35 17.2**	**+1.2**
GRF	**Grafenberg Arr**	**54.77**	**19**	*e*L	L	04 57 57.4	
	comp=Z,550nm,20.7s						
WET	**Wettzell**	**54.87**	**21**	*e*P	**P**	**04 35 18.7**	**+0.2**
	comp=Z,12nm,1.3s						
GEC2	**GERESS Array S**	**54.92**	**22**	*e*P	**P**	**04 35 19.0**	**+0.1**
	comp=Z,20nm,1.3s						
GERES	**GERESS Array B**	**54.92**	**22**	P	**P**	**04 35 18.7**	**-0.2**
	comp=Z,4.4nm,0.7s,baz=199,slow=6.5,SNR=20						
GERES				LR	LR	04 59 42.0	
	comp=Z,392nm,19.6s,baz=244,slow=37						
CONA	**Conrad Observa**	**55.00**	**24**	⇓*i*P	**P**	**04 35 20.0**	**+0.5**
	comp=Z,9.9nm,1.3s						
KHC	**Kasperske Hory**	**55.11**	**21**	*e*P	**P**	**04 35 19.8**	**-0.4**
KHC				*e*S	**S**	**04 42 59.1**	**-3.6**
KHC				AMS	AMS	04 59 10.0	
	comp=Z,600nm,20.3s						
KHC	**Kasperske Hory**	**55.11**	**21**	*e*P	**P**	**04 35 19.9**	**-0.4**
	comp=Z,3.3nm,1.3s						
ROTZ	**Rotzenmuhle**	**55.16**	**20**	*e*P	**P**	**04 35 20.6**	**0.0**
	comp=Z,17nm,1.7s						
UBBA	**Unterbreizbach**	**55.36**	**18**	*e*P	**P**	**04 35 22.5**	**+0.7**
	comp=Z,9.0nm,1.3s						
NKC	**Novy Kostel**	**55.64**	**20**	*e*P	**P**	**04 35 22.9**	**-1.1**
NKC				*e*pP	**pP**	**04 35 27.8**	**-0.4**
NKC				AMS	AMS	04 59 00.0	
	comp=Z,300nm,15.6s						
MOX	**Moxa**	**55.72**	**19**	*e*P	**P**	**04 35 24.7**	**+0.2**
	comp=Z,8.0nm,1.0s						
MOX				*e*L	L	04 58 24.7	
	comp=Z,613nm,20.8s						
BZS	**Buzias**	**55.80**	**29**	⇑*i*P	**P**	**04 35 26.7**	**+1.5**
TANN	**Tannenbergstha**	**55.80**	**20**	*e*P	**P**	**04 35 25.2**	**0.0**
	comp=Z,7.0nm,1.1s						
TREC	**Trest**	**55.96**	**22**	*e*S	**S**	**04 43 14.8**	**+0.8**
TREC				AMS	AMS	04 59 50.0	
	comp=Z,400nm,16.0s						
LPAZ	**La Paz**	**55.98**	**251**	P	**P**	**04 35 24.8**	**-3.0**
	comp=Z,1.5nm,0.8s,baz=98,slow=4.9,SNR=9.8						
LPAZ				LR	LR	04 57 27.4	
	comp=Z,461nm,21.4s,baz=88,slow=34						
PRU	**Pruhonice**	**56.17**	**21**	*e*P	**P**	**04 35 26.4**	**-1.4**
PRU				*e*S	**S**	**04 43 17.1**	**+0.3**
PRU				AMS	AMS	05 00 20.0	
	comp=Z,500nm,15.8s						
GOPC	**GO Pecny, Ondr**	**56.20**	**22**	*e*P	**P**	**04 35 28.0**	**0.0**
GOPC				*e*S	**S**	**04 43 19.4**	**+2.2**
GOPC				AMS	AMS	05 00 20.0	
	comp=Z,500nm,15.7s						
PRA	**Prague**	**56.20**	**21**	*e*P	**P**	**04 35 26.4**	**-1.6**
GZR	**Gura Zlata**	**56.21**	**30**	⇓*i*P	**P**	**04 35 29.3**	**+1.1**
SIRR	**Siria**	**56.29**	**29**	⇑*i*P	**P**	**04 35 29.9**	**+1.2**
PVCC	**Panska Ves**	**56.63**	**21**	*e*P	**P**	**04 35 30.2**	**-0.8**
PVCC				AMS	AMS	04 58 30.0	
	comp=Z,500nm,15.1s						
PSZ	**Piszkesteto**	**56.69**	**26**	⇑*i*P	**P**	**04 35 32.9**	**+1.3**
BRG	**Berggiesshubel**	**56.70**	**20**	*e*P	**P**	**04 35 31.6**	**+0.1**
	comp=Z,7.2nm,1.4s						
BRG				*e*PP	**PP**	**04 37 34.8**	**-2.9**
	comp=Z,4.8nm,1.2s						
BRG				S	S	04 43 30.0	+6.3
BRG				SS	**SS**	**04 47 11.0**	**-0.7**

comp=N,333nm,18.0s
comp=E,263nm,16.8s
comp=Z,247nm,15.5s

BRG Berggiesshubel 56.70 20 *e*P **P 04 35 32.8 +1.3**
comp=Z,18nm,1.6s

CLL Collm 56.74 20 *e*P **P 04 35 31.7 -0.1**
comp=Z,32nm,2.4s

CLL Collm 56.74 20 *e*P **P 04 35 32.0 +0.2**
CLL *e*S **S 04 43 25.0 +0.7**
CLL Lm MLR 04 58 00.0
comp=Z,400nm,19.6s

LOT Lotru 56.75 31⇑*i*P **P 04 35 33.5 +1.4**
ESK Eskdalemuir 56.76 7 *e*P **P 04 35 31.8 0.0**
DPC Dobruska-Polom 57.13 22 *e*P **P 04 35 34.4 -0.3**
DPC *e*S **S 04 43 31.1 +1.5**
DPC AMS AMS 05 00 10.0
comp=Z,200nm,14.5s

UPC Upice 57.14 22 *e*P **P 04 35 35.3 +0.6**
DRGR 57.17 29⇑*i*P **P 04 35 35.7 +0.7**
KECS Kecovo 57.38 26 *e*pP pP 04 35 39.1 -1.5
VOIR 57.40 31⇑*i*P **P 04 35 37.1 +0.4**
OKC Ostrava-Krasne 57.43 24 *e*P **P 04 35 34.8 -1.9**
OKC *e*pP **pP 04 35 37.7 -3.2**
OKC AMS AMS 05 01 00.0
comp=Z,400nm,14.2s

MLR Muntele Rosu 57.90 32⇑*i*P **P 04 35 41.6 +1.3**
OJC Ojcow 58.40 24 *e*P **P 04 35 44.6 +1.0**
STHS Stebnicka Huta 58.41 26 *e*P **P 04 35 45.9 +2.3**
KOLS Kolonicke sedl 58.51 27 *e*P **P 04 35 45.3 +1.0**
VRI Vrincioaia 58.56 32⇑*i*P **P 04 35 44.8 0.0**
BURAR Bucovina Array 58.97 30⇑*i*P **P 04 35 49.1 +1.5**
BRTR Keskin Array B 59.05 41 P **P 04 35 46.9 -1.6**
comp=Z,2.0nm,0.9s,baz=231,slow=5.9,SNR=7.8
BRTR LR LR 05 04 19.9
comp=Z,160nm,20.4s,baz=227,slow=39

KWP Kalwaria Pacla 59.21 26 *e*P **P 04 35 49.4 +0.2**
ROSC El Rosal 61.14 276 P **P 04 36 02.4 -1.1**
comp=Z,4.7nm,0.6s,baz=119,slow=7.6,SNR=5.7
ROSC LR LR 04 59 12.6
comp=Z,370nm,21.8s,baz=39,slow=33

ROSC El Rosal 61.14 276 *e*P **P 04 36 05.2 +1.6**
MALT Malatya 61.63 45⇑*i*P **P 04 36 07.9 +1.8**
SUW Suwalki 62.64 23 *e*P **P 04 36 13.5 +1.1**
AK01 Malin Array Si 62.97 29 *e*P **P 04 36 14.9 +0.2**
KIEV Kiev 62.97 29 *e*P **P 04 36 14.6 -0.1**
comp=Z,12nm,1.4s

AKASG Malin Array Be 62.98 29 P **P 04 36 14.3 -0.4**
comp=Z,0.9nm,0.6s,baz=226,slow=5.5,SNR=10
AKASG LR LR 05 04 27.4
comp=Z,233nm,21.0s,baz=220,slow=37

NB2 NORSAR Subarra 64.72 13 P **P 04 36 27.5 +1.4**
comp=Z,3.4nm,0.9s,baz=210,slow=6.9

NOA NORSAR Array B 64.72 13 P **P 04 36 26.1 0.0**
comp=Z,2.1nm,0.8s,baz=208,slow=6.7,SNR=8.7

PLCA Paso Flores 64.94 225 LR LR 05 00 04.3
comp=Z,257nm,21.8s,baz=76,slow=32

KBZ Khabaz 67.05 41 LR LR 05 10 13.0
comp=Z,88nm,19.6s,baz=140,slow=40

FINES FINESS Array B 69.18 19 P **P 04 36 53.6 -0.8**
comp=Z,3.7nm,0.8s,baz=215,slow=4.6,SNR=9.1
FINES LR LR 05 09 12.6
comp=Z,352nm,18.7s,baz=217,slow=38

VNA2 Neumayer--Watz 69.91 178 P **P 04 36 59.1 +0.4**
baz=337,slow=5.0

SCHQ Schefferville 70.71 331 LR LR 05 01 57.3
comp=Z,103nm,21.3s,baz=98,slow=31

SNAA Sanae 70.88 176 P **P 04 37 02.9 -1.8**
SNAA Sanae 70.88 176 P **P 04 37 04.7 0.0**
comp=Z,1.3nm,1.1s,baz=336,slow=6.5,SNR=3.8

SNAA Sanae 70.88 176 *e*P **P 04 37 07.5 +2.7**
comp=Z,14nm,1.6s

ARCES ARCESS Array B 75.10 13 LR LR 05 12 42.1
comp=Z,194nm,18.7s,baz=236,slow=38

SUMG Summit 75.16 352 *e*P **P 04 37 32.3 +1.8**
comp=Z,13nm,1.4s

ABKAR Akbulak array 79.95 40 *e*P **P 04 37 57.7 +0.5**
comp=Z,1.9nm,0.7s

AGMN Agassiz Nation 85.72 318 *e*P **P 04 38 29.0 +1.8**
comp=Z,4.9nm,0.8s

ECSD EROS Data Cent 85.78 314 *e*P **P 04 38 30.1 +2.5**
comp=Z,6.5nm,1.0s

WMOK Wichita Mounta 86.76 305 P **P 04 38 35.5 +2.8**
comp=Z,7.1nm,1.0s

BVAR Borovoye Array 87.06 37 P **P 04 38 32.5 -1.2**
comp=Z,0.8nm,0.7s,baz=262,slow=1.0,SNR=2.1

ABTX Abilene, Hawle 87.36 303 *e*P **P 04 38 38.1 +2.4**
comp=Z,15nm,0.8s

BRSD Miller 87.52 314 *e*P **P 04 38 38.8 +2.6**
comp=Z,15nm,0.8s

QSPA South Pole Qui 89.06 180 *e*P **P 04 38 43.4 +0.3**
comp=Z,12nm,1.0s

AAK Ala-Archa 89.13 48 P **P 04 38 45.3 +1.3**
comp=Z,1.7nm,0.6s,baz=267,slow=6.3,SNR=3.9

AAK Ala-Archa 89.13 48 *e*P P 04 38 47.1 +3.1
comp=Z,7.1nm,1.2s

KSCO Kaye Shedlock' 90.02 309 *e*P P 04 38 53.7 +5.4
comp=Z,16nm,1.1s

MSTX Muleshoe 90.03 304 *e*P P 04 38 51.9 +3.5
comp=Z,11nm,1.2s

KSH Kashi 90.16 51 *e*P **P 04 38 51.0 +2.1**
KSH *e*pP **pP 04 38 55.5 +2.3**
KSH sP **sP 04 38 57.9 +3.1**
KSH *e*PP **PP 04 42 23.4 +1.0**
KSH SKS **SKSac 04 49 16.9 -3.2**
KSH S **S 04 49 38.5 -4.2**
KSH sS **ScS 04 49 46.4 -0.2**
KSH PMZ
comp=Z,9.0nm,1.2s
KSH PMZ
comp=Z,150nm,4.6s
KSH LN
comp=Z,75nm,5.5s
KSH LE
comp=Z,68nm,5.5s
KSH LZ
comp=Z,140nm,6.1s

TXAR Lajitas Array 90.72 299 P **P 04 38 53.3 +1.7**
comp=Z,0.4nm,0.7s,baz=114,slow=5.6,SNR=4.8
TXAR LR LR 05 15 20.7
comp=Z,97nm,21.0s,baz=0.0,slow=33

SDCO Great Sand Dun 92.27 308 *e*P **P 04 39 01.8 +2.9**
comp=Z,8.5nm,1.5s

MKAR Makanchi Array 94.64 43 P **P 04 39 10.6 +1.2**
comp=Z,0.4nm,0.7s,baz=257,slow=2.5,SNR=3.1
MKAR LR LR 05 27 49.5
comp=Z,86nm,18.2s,baz=256,slow=39

RPN Rapa Nui 94.82 243 LR LR 05 17 36.4
comp=Z,143nm,20.4s,baz=82,slow=33

PDAR Pinedale Array 95.21 313 LR LR 05 19 10.9
comp=Z,132nm,18.6s,baz=98,slow=34

ZALV Zalesovo Beam 95.67 36 LR LR 05 26 32.7
comp=Z,168nm,19.2s,baz=250,slow=38

LZH Lanzhou 112.41 51 *e*PKP **PKiKP 04 44 26.8 +1.9**
LZH sPKP 04 44 31.3
LZH LN
comp=Z,150nm,18.2s
LZH LE
comp=Z,160nm,18.0s
LZH LZ
comp=Z,200nm,20.1s

CD2 Chengdu 113.66 57 PKP **PKiKP 04 44 29.1 +1.8**
CD2 sPKP 04 44 33.8
CD2 PP **PP 04 45 19.3 -0.2**
CD2 SKS **SKSdf 04 51 40.3 +0.7**
CD2 SS **SS 05 01 07.5 0.0**
CD2 PPMZ
comp=Z,120nm,5.2s

HHC Hu-ho-hao-te 116.50 44 *e*PKP **PKPdf 04 44 33.3 +0.7**
HHC PP PP 04 45 44.3 +5.2
HHC PKS **PKSdf 04 48 06.2 -3.1**
HHC SKS **SKSdf 04 51 42.8 -2.0**
HHC SKKS **SKKSac 04 52 37.6 -3.0**
HHC SS **SS 05 01 43.4 -0.6**
HHC PPMZ
comp=Z,45nm,9.2s
HHC LN
comp=Z,140nm,20.3s
HHC LE
comp=Z,260nm,20.3s
HHC LZ
comp=Z,180nm,20.4s

GYA Guiyang 117.19 61 *e*Pdif **Pdif 04 40 50.0 -0.5**
GYA PKP **PKiKP 04 44 35.2 +0.9**
GYA PP **PP 04 45 49.5 +5.0**
GYA PPMZ
comp=Z,110nm,7.8s

RKT Rikitea 118.36 243 *e*SS SS 05 02 22.4 +13
comp=Z,311nm,34.2s

RKT Rikitea 118.36 243 *e*LR LR 05 20 55.1
comp=Z,184nm,32.2s

BJI Beijing 120.02 43 PKP **PKPdf 04 44 40.3 +1.1**
BJI SS SS 05 02 33.6 +4.3
BJI LN
comp=Z,130nm,20.3s
BJI LE
comp=Z,140nm,21.9s
BJI LZ
comp=Z,96nm,33.1s

WHN Wuhan 122.48 54⇑PKP **PKPdf 04 44 45.8 +1.6**
TBI Tubuai 130.90 238 *e*SS SS 05 05 01.9 +15
comp=Z,163nm,28.8s

TBI Tubuai 130.90 238 *e*LR LR 05 26 42.4
comp=Z,162nm,30.8s

PPT2 Papeete2 133.05 245 *e*SS SS 05 05 25.5 +12
comp=Z,97nm,28.2s

PPT2 Papeete2 133.05 245 *e*LR LR 05 27 46.8
comp=Z,144nm,23.2s

STKA Stephens Creek 139.62 146 PKP **PKPdf 04 45 16.4 -0.1**
comp=Z,1.3nm,0.7s,baz=264,slow=0.8,SNR=3.8

ASAR Alice Springs 139.87 130 PKhKP PKPpre 04 45 08.0
comp=Z,0.7nm,0.7s,baz=236,slow=2.4,SNR=6.0
ASAR PKP **PKPdf 04 45 15.5 -1.8**
comp=Z,1.2nm,0.6s,baz=221,slow=3.1,SNR=5.3

WRA Warramunga Arr 142.14 125 PKhKP PKPpre 04 45 13.8
comp=Z,0.7nm,0.7s,baz=234,slow=2.3,SNR=4.2

DZM Mont Dzumac 157.06 180 *e*LR LR 05 38 41.0
comp=Z,208nm,28.0s

IDC 07 04:30:15.1±1.6, **33.68N**×**97.06E**, **h0**km, **mb3.8**/3, **mb1 3.8**/4, **mb1mx3.4**/47, **mbtmp3.8**/4, **ML3.4**/1, **MS2.8**/1, **Ms1 2.8**/1, **ms1mx2.3**/27, **Error ellipse: s-maj=122.1km s-min=28.0km az=53.0, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.25**	**324**	P	Pn	04 34 17.6	+0.3
	0.1nm,0.3s,baz=136,slow=14,SNR=9.2						
AAK	**Ala-Archa**	**19.82**	**303**	LR	LR	04 42 50.6	
	comp=Z,28nm,18.8s,baz=87,slow=38						
KURBB	**Kurchatov Arra**	**21.70**	**327**	P	P	04 35 07.3	-0.2
	1.6nm,0.7s,baz=135,slow=11,SNR=14						
ASAR	**Alice Springs**	**66.95**	**143**	P	P	04 41 09.5	0.0
	0.3nm,0.5s,baz=324,slow=6.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**87.20**	**284**	P	P	04 43 03.8	+0.1
	0.9nm,0.5s,baz=49,slow=6.6,SNR=6.9						

IDC 07 04:34:35.5±3.8, **22.24S**×**177.95W**, **h0**km, **mb4.5**/4, **mb1 4.7**/4, **mb1mx3.9**/31, **mbtmp4.5**/4, **Error ellipse: s-maj=165.5km s-min=44.6km az=145.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.10**	**246**	P	P	04 41 47.8	0.0
	2.5nm,0.6s,baz=99,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**44.19**	**258**	P	P	04 42 46.3	-0.2
	5.6nm,0.8s,baz=94,slow=8.1,SNR=43						
WRA	**Warramunga Arr**	**44.43**	**264**	P	P	04 42 48.2	-0.3
	8.2nm,0.7s,baz=102,slow=8.1,SNR=55						
CMAR	**Chiang Mai Arr**	**90.73**	**290**	P	P	04 47 41.4	+0.5
	0.6nm,0.3s,baz=142,slow=3.4,SNR=4.8						
AKASG	**Malin Array Be**	**144.54**	**330**	PKP	PKPdf	04 54 13.6	-0.2
	1.8nm,0.6s,baz=46,slow=4.1,SNR=7.1						
BRTR	**Keskin Array B**	**148.01**	**310**	PKPbc	PKPbc	04 54 22.1	-1.2
	0.6nm,0.7s,baz=72,slow=4.7,SNR=3.5						

NIED ***07*** *05:01:00.39˚10N×140˚90E, h5km, Mw4.2 Best double couple: M₀2.02000×10¹⁵ NP1:ϕ=213.00000˚, δ39.00000˚, λ96.00000˚. NP2:ϕ=26.00000˚, δ51.00000˚, λ85.00000˚.*
JMA ***07*** *05:01:35.9, 39˚08N×140˚93E, h7km±1km, M4.2 Broadband fault plane solution: P waves. NP1: ϕ=208.00000˚, δ47.00000˚, λ76.00000˚. NP2:ϕ=48.00000˚, δ45.00000˚, λ104.00000˚. Principal axes: T Plg80.0000˚, Azm44.0000˚; N Plg10.0000˚, Azm218.0000˚; P Plg1.0000˚, Azm308.0000˚;*
JMA Felt II J1.
ISCJB ***07*** *05:01:35.9±0.4, 39˚09N±0˚02×140˚96E±0˚03, h17km±3km, mb4.3/33, MS3.5/3 Error ellipse: s-maj=4.6km s-min=3.9km az=35.1*
MOS ***07*** *05:01:38.7±1.1, 39˚10N×140˚75E, h38km, mb4.7/12, Error ellipse: s-maj=11.2km s-min=7.4km az=84.7*
IDC ***07*** *05:01:40.5±2.4, 39˚09N×140˚83E, h41km±21km, mb3.9/17, mb1 4.1/21, mb1mx4.0/29, mbtmp4.1/21, ML3.3/3, MS3.3/7, Ms1 3.3/7, ms1mx3.1/34, Error ellipse: s-maj=18.5km s-min=12.9km az=94.0*
BJI ***07*** *05:01:40.3, 38˚83N×140˚66E, h50km, mb4.6/19, mB4.8/12, Ms4.1/14, Ms7 3.8/12*
NEIC ***07*** *05:01:41.3±0.7, 39˚08N×140˚86E, h48km±6km, mb4.6/12, MW4.1(NIED), Error ellipse: s-maj=9.5km s-min=5.7km az=128.0*
NEIC Recorded [2 JMA] in Iwate and Miyagi and [1 JMA] in Akita.

ISC 07 05:01:36.7±0.9, **39.07N**±0.03×**140.94E**±0.03, **h12**km±5km, **n103**, σ1=**57**/107, **mb4.5**/33, **MS3.5**/3, **10C-6D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMK	**Ichinoseki**	**0.25**	**117**	⇓P	**Pg**	**05 01 40.9**	**-0.9**
JMK				S	**Sg**	**05 01 44.6**	**-0.7**
JRG	**Rokugo**	**0.41**	**325**	⇓P	**Pg**	**05 01 43.5**	**-1.2**
JRG				*e*S	**Sg**	**05 01 49.5**	**-0.6**
JYK	**Kaneyama**	**0.47**	**252**	⇓P	**Pg**	**05 01 45.2**	**-0.8**
JYK				*e*S	**Sg**	**05 01 51.8**	**-0.5**
JOM	**Ohasama**	**0.49**	**34**	⇑P	**Pg**	**05 01 45.1**	**-1.2**
JOM				*e*S	**Sg**	**05 01 51.7**	**-1.1**
JIO	**Ouri**	**0.69**	**152**	⇓P	**Pg**	**05 01 49.1**	**-0.9**
JIO				*e*S	**Sg**	**05 01 58.5**	**-0.6**
JOU	**Okura**	**0.73**	**197**	⇑P	**Pg**	**05 01 50.2**	**-0.6**
JOU				*e*S	**Sg**	**05 02 00.1**	**-0.3**
MJAR	**Matsushiro Arr**	**3.32**	**221**	P	**Pn**	**05 02 29.5**	**+1.0**
	2.7nm,0.3s,baz=24,slow=13,SNR=26						
MJAR				S	**Sb**	**05 03 18.9**	**+3.1**
	3.2nm,0.3s,baz=25,slow=14,SNR=5.3						
MAJO	**Matsushiro**	**3.32**	**221**	⇓*e*P	**Pn**	**05 02 29.4**	**+0.9**
MAJO	**Matsushiro**	**3.32**	**221**	*e*Pn	**Pn**	**05 02 29.8**	**+1.3**
MAJO				*e*Sn	**Sn**	**05 03 07.6**	**-0.3**
MAT	**Matsushiro**	**3.32**	**221**	P	**Pn**	**05 02 29.8**	**+1.3**
MAT				*e*S	**Sn**	**05 03 11.7**	**+3.8**
ERM	**Erimo**	**3.40**	**29**	*ce*P	**Pn**	**05 02 32.6**	**+3.1**
ERM				pmax	pmax		
	comp=Z,34nm,1.2s						
ERM	**Erimo**	**3.40**	**29**	*e*Pn	**Pn**	**05 02 31.6**	**+2.2**
ERM				*e*Sn	**Sn**	**05 03 12.1**	**+2.4**
ASAJ	**Asahikawa**	**5.20**	**13**	P	**Pn**	**05 02 55.1**	**+0.9**
	baz=198,slow=20						
ASAJ				S	Sn	05 04 00.6	+6.5
	comp=Z,0.7nm,0.3s,baz=212,slow=15,SNR=3.6						
ASAJ	**Asahikawa**	**5.20**	**13**	P	**Pn**	**05 02 55.1**	**+0.9**
ASAJ				S	Sn	05 04 00.6	+6.5
ASAJ				smax	smax		
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**5.20**	**13**	*e*Pn	**Pn**	**05 02 56.9**	**+2.7**
ASAJ				*e*Sn	**Sn**	**05 03 58.0**	**+3.9**
YSS	**Yuzh-Sakhalins**	**8.00**	**9**⇑	*e*P	**Pn**	**05 03 33.1**	**+0.5**
USRK	**Ussuriysk Ar.**	**8.44**	**310**	P	**Pn**	**05 03 38.6**	**-0.1**
	comp=N,0.8nm,0.3s,baz=119,slow=14,SNR=11						
USRK				LR	LR	05 06 42.1	
	comp=N,259nm,18.1s,baz=142,slow=36						
KSTBA	**Taebaek**	**9.64**	**262**	P	Pn	05 04 00.0	+4.6
	SNR=13						
SEHB	**SEOHWA**	**9.95**	**269**	P	Pn	05 04 04.3	+4.8
	SNR=11						
JNU	**Nakatsue**	**10.07**	**237**	P	Pn	05 04 04.7	+3.6
	comp=N,0.3nm,0.3s,baz=42,slow=16,SNR=3.4						
JNU				LR	LR	05 08 14.7	
	comp=N,173nm,18.2s,baz=44,slow=39						
KSIJA	**INJE**	**10.11**	**268**	P	Pn	05 04 05.3	+3.7
	SNR=11						
KSRS	**Korea Array**	**10.36**	**265**	P	**Pn**	**05 04 06.4**	**+1.4**
	comp=N,1.0nm,0.3s,baz=80,slow=14,SNR=37						
KSRS				LR	LR	05 07 40.8	
	comp=N,128nm,19.2s,baz=72,slow=35						
KSAR	**Wonju Array Be**	**10.39**	**265**	P	**Pn**	**05 04 06.4**	**+0.9**
KSAR	**Wonju Array Be**	**10.39**	**265**	P	**Pn**	**05 04 06.4**	**+0.9**

KSCHJ Chungju 10.47 262 P Pn 05 04 11.5 +5.0
SNR=5.2

KSCWO Cheorwon 10.55 269 P Pn 05 04 11.7 +3.9
SNR=12

KSCPR CHUPUNGNYEONG 10.67 259 P Pn 05 04 13.7 +4.4
SNR=7.5

KSBON Boeun 10.71 260 P Pn 05 04 13.8 +3.9
SNR=8.6

YNCB YEONCHEON 11.02 269 P Pn 05 04 19.2 +5.1
SNR=8.2

KSCEA Cheonan 11.03 263 P Pn 05 04 18.7 +4.4
SNR=6.6

KLR Kul'dur 12.10 330 *e*P **Pn 05 04 28.7 -0.2**
KLR pmax pmax
comp=E,34nm,1.6s
KLR pmax pmax
comp=Z,50nm,1.6s

PETK Petropavlovsk- 18.16 34 LR LR 05 13 07.1
comp=Z,24nm,19.1s,baz=188,slow=38

BJI Beijing 19.11 281 P **P 05 05 58.8 -0.5**
BJI S **Sn 05 09 34.4 +0.4**
BJI PMZ
comp=Z,11nm,1.4s
BJI PMZ
comp=Z,98nm,3.2s
BJI LN
comp=Z,64nm,14.6s
BJI LE
comp=Z,200nm,13.5s

NJ2 Nanjing 19.26 255 *e*P **P 05 06 00.0 -1.0**
NJ2 PMZ
comp=Z,10.0nm,0.6s

HHC Hu-ho-hao-te 22.54 284 *e*P **P 05 06 35.1 -1.5**
HHC PP **PnPn 05 07 06.0 +6.2**
HHC S S 05 10 31.9 -12
HHC SS **SnSn 05 11 17.4 +5.0**
HHC PMZ
comp=Z,16nm,0.6s
HHC PMZ
comp=Z,87nm,4.2s
HHC LN
comp=Z,150nm,11.2s
HHC LE
comp=Z,250nm,11.2s
HHC LZ
comp=Z,150nm,11.5s

SEY Seymchan 24.88 12 P **P 05 06 59.0 +0.1**
comp=Z,2.6nm,0.6s,baz=178,slow=8.7,SNR=4.4

LZH Lanzhou 29.42 276 *e*P **P 05 07 39.5 -0.7**
LZH sP sP 05 08 00.0 +15
LZH *e*PP **PnPn 05 08 35.6 +1.7**
LZH *e*S S 05 12 27.2 -6.9
LZH sS sS 05 12 50.5 +11
LZH PMZ
comp=Z,21nm,1.2s
LZH PMZ
comp=Z,100nm,5.1s
LZH LN
comp=Z,160nm,14.2s
LZH LE
comp=Z,250nm,14.5s
LZH LZ
comp=Z,380nm,16.0s

H11N2 WAKE ISLAND Hy 29.54 123 T T 05 38 10.8
baz=317,slow=75,SNR=1760

H11N1 WAKE ISLAND Hy 29.55 123 T T 05 38 10.2
baz=317,slow=75,SNR=1748

H11N3 WAKE ISLAND Hy 29.56 123 T T 05 38 09.9
baz=317,slow=75,SNR=1124

H11S1 WAKE ISLAND Hy 30.31 125 T T 05 39 06.4
baz=318,slow=76,SNR=132

H11S3 WAKE ISLAND Hy 30.31 125 T T 05 39 05.8
baz=318,slow=76,SNR=195

H11S2 WAKE ISLAND Hy 30.32 125 T T 05 39 05.4
baz=318,slow=76,SNR=144

CD2 Chengdu 31.36 266 *e*P **P 05 07 56.1 -1.2**
CD2 pP pP 05 08 10.0 +9.2
CD2 S **S 05 12 58.9 -5.4**
CD2 sS sS 05 13 23.2 +13
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s

WMQ Urumqi 39.62 295 P **P 05 09 08.3 +0.2**
WMQ pP pP 05 09 23.6 +12
WMQ sP sP 05 09 30.8 +18
WMQ PP **PnPn 05 10 43.9 +1.9**
WMQ PMZ
comp=Z,7.0nm,0.2s
WMQ PMZ
comp=Z,12nm,4.2s
WMQ LN
comp=Z,190nm,21.0s
WMQ LE
comp=Z,210nm,14.6s
WMQ LZ
comp=Z,320nm,26.0s

ZALV Zalesovo Beam 40.29 311 P **P 05 09 12.4 -1.1**
comp=Z,1.5nm,0.5s,baz=76,slow=7.8,SNR=7.2
ZALV PcP **PcP 05 11 15.6 -1.2**
comp=Z,1.3nm,0.5s,baz=106,slow=4.7,SNR=2.9

ZALV Zalesovo Beam 40.29 311 *i*P **P 05 09 12.8 -0.6**
ZALV pmax pmax
comp=Z,2.0nm,0.5s

SIJI Sorong 40.72 195 P **P 05 09 17.2 -0.2**
comp=Z,9.3nm,0.6s,baz=197,slow=19,SNR=3.8

CMAR Chiang Mai Arr 41.69 253*ce*P **P 05 09 22.7 -2.7**
CMAR pmax pmax
comp=Z,1.0nm,0.3s

MK31 Makanchi Array 42.75 300 *e*P **P 05 09 33.2 -0.6**
MK31 *e*PP pP 05 09 46.1 +8.7
MK31 Makanchi Array 42.75 300 *e*P **P 05 09 33.2 -0.6**
MK31 *e*pP pP 05 09 46.1 +8.7

MKAR Makanchi Array 42.75 300 P **P 05 09 32.8 -1.0**
comp=Z,1.7nm,0.7s,baz=88,slow=9.4,SNR=18

MKAR Makanchi Array 42.75 300*ce*P **P 05 09 33.2 -0.5**
MKAR pmax pmax
comp=Z,2.0nm,0.7s

MKAR Makanchi Array 42.75 300 *e*P **P 05 09 33.3 -0.5**
KURK Kurchatov 44.40 306 *e*P **P 05 09 46.0 -1.0**
KURK pmax pmax
comp=Z,7.0nm,0.7s

KURK Kurchatov 44.40 306 *e*P **P 05 09 46.0 -1.0**
comp=Z,6.7nm,0.7s

IM04 Indian Mountai 45.09 32 *e*P **P 05 09 52.9 +0.6**
KTH Kantishna Hill 46.29 35 *e*P P 05 09 58.6 -3.3
comp=Z,8.2nm,1.4s

HDA Harding Lake 47.99 34 *e*P **P 05 10 16.3 +1.2**
comp=Z,7.7nm,1.3s

ILAR Eielson Array 47.99 33 P **P 05 10 14.9 -0.1**
comp=Z,1.4nm,0.9s,baz=268,slow=5.7,SNR=17

ILAR Eielson Array 47.99 33 P **P 05 10 15.0 -0.1**
TKM2 Tokmak 2 48.36 297 *e*P **P 05 10 18.1 -0.3**
TKM2 pmax pmax
comp=Z,13nm,1.3s

TKM2 Tokmak 2 48.36 297 *e*P **P 05 10 18.1 -0.3**
comp=Z,13nm,1.3s

PAX Paxson 48.79 36 *e*P **P 05 10 22.5 +1.2**
PAX pmax pmax
comp=Z,5.0nm,0.7s

PAX Paxson 48.79 36 *e*P **P 05 10 22.5 +1.2**
comp=Z,5.4nm,0.7s

HARP HAARP 49.01 36 *e*P **P 05 10 20.5 -2.5**
comp=Z,15nm,0.7s

AAK Ala-Archa 49.22 297⇑*i*P **P 05 10 24.9 -0.1**
AAK pmax pmax
comp=Z,11nm,1.7s

KSH Kashi 49.26 292 *e*P P 05 10 29.2 +3.9
KSH sP sP 05 10 50.0 +20
KSH PcP **PcP 05 11 49.0 +0.8**
KSH PP **PP 05 12 21.8 +2.8**
KSH PcS **PcS 05 15 46.6 +1.9**
KSH S **S 05 17 29.3 -1.9**
KSH sS sS 05 17 56.9 +20
KSH SS **SS 05 21 00.9 -1.5**
KSH PMZ
comp=Z,5.0nm,1.2s
KSH PMZ
comp=Z,100nm,5.5s
KSH LN
comp=Z,66nm,4.8s
KSH LE
comp=Z,76nm,6.8s
KSH LZ
comp=Z,77nm,7.0s

HYT Haines Junctio 52.90 37 *e*P **P 05 10 52.3 -0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ARU	**Arti**	**54.60**	**318**	*d i*P	**P**	**05 11 04.5**	**-0.2**
ARU						05 13 06.5	
ARU				S	**S**	**05 18 43.6**	**-0.3**
ARU				SS	**SKiKP**	**05 22 15.1**	**+1.7**
ARU				pmax	pmax		
	comp=Z,23nm,2.5s						
ABKAR	**Akbulak array**	**56.36**	**309**	*e*P	**P**	**05 11 16.8**	**-0.6**
	comp=Z,1.6nm,0.6s						
WRAB	**Tennant Creek**	**59.01**	**187**	*ce*P	**P**	**05 11 35.2**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,28nm,2.5s						
WRAB	**Tennant Creek**	**59.01**	**187**	*e*P	**P**	**05 11 35.6**	**-0.7**
	comp=Z,5.3nm,0.9s						
WRA	**Warramunga Arr**	**59.02**	**187**	P	**P**	**05 11 35.6**	**-0.8**
	comp=Z,2.9nm,0.6s,baz=4.6,slow=7.2,SNR=27						
ARCES	**ARCESS Array B**	**61.97**	**339**	LR	LR	05 43 39.1	
	comp=Z,24nm,18.2s,baz=66,slow=41						
ASAR	**Alice Springs**	**62.75**	**187**	P	**P**	**05 12 01.4**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=7.6,slow=5.6,SNR=19						
FINES	**FINESS Array B**	**66.85**	**332**	P	**P**	**05 12 27.3**	**-0.7**
	comp=Z,3.8nm,0.8s,baz=91,slow=7.0,SNR=9.5						
FINES				LR	LR	05 44 11.7	
	comp=Z,44nm,18.6s,baz=147,slow=38						
SUMG	**Summit**	**68.66**	**360**	*e*P	**P**	**05 12 39.8**	**0.0**
SUMG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SUMG	**Summit**	**68.66**	**360**	*e*P	**P**	**05 12 39.8**	**0.0**
	comp=Z,7.2nm,1.0s						
KIV	**Kislovodsk**	**69.30**	**310**	*e*P	**P**	**05 12 44.4**	**+0.5**
KIV				pmax	pmax		
	comp=Z,16nm,0.9s						
KBZ	**Khabaz**	**69.30**	**310**	P	**P**	**05 12 44.0**	**+0.3**
	comp=Z,3.9nm,0.9s,baz=143,slow=20						
STKA	**Stephens Creek**	**70.58**	**179**	P	**P**	**05 12 51.9**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=8.1,slow=7.1,SNR=2.5						
UOSS	**Wadi Hilu**	**70.84**	**287**	*e*P	**P**	**05 12 54.5**	**+0.9**
	comp=Z,24nm,1.3s						
NB2	**NORSAR Subarra**	**72.17**	**337**	P	**P**	**05 13 00.4**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**72.17**	**337**	P	**P**	**05 13 00.3**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=38,slow=6.1,SNR=7.1						
NOA				LR	LR	05 46 58.1	
	comp=Z,25nm,20.6s,baz=35,slow=38						
AKASG	**Malin Array Be**	**72.47**	**322**	P	**P**	**05 13 01.6**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=42,slow=5.2,SNR=8.0						
NVAR	**Mina Array Bea**	**74.08**	**53**	P	**P**	**05 13 13.4**	**+0.5**
	comp=Z,1.7nm,1.0s,baz=292,slow=7.1,SNR=8.2						
H17A	**Grant Village**	**74.89**	**45**	*e*P	P	05 13 20.9	+3.3
	comp=Z,3.8nm,1.1s						
R11A	**Troy Canyon, C**	**75.81**	**52**	*e*P	**P**	**05 13 24.7**	**+1.8**
	comp=Z,8.8nm,1.9s						
PDAR	**Pinedale Array**	**76.51**	**46**	P	**P**	**05 13 26.4**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=294,slow=1.5,SNR=4.2						
BRTR	**Keskin Array B**	**77.23**	**311**	P	**P**	**05 13 30.0**	**-0.9**
	comp=Z,1.5nm,1.0s,baz=75,slow=4.8,SNR=6.3						
BRTR	**Keskin Array B**	**77.23**	**311**	*ce*P	**P**	**05 13 30.7**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
DPC	**Dobruska-Polom**	**78.54**	**327**	*e*P	**P**	**05 13 38.1**	**+0.3**
DPC	**Dobruska-Polom**	**78.54**	**327**	*e*P	**P**	**05 13 38.1**	**+0.3**
CLL	**Collm**	**79.15**	**330**	*i* P	**P**	**05 13 40.5**	**-0.6**
	comp=Z,5.0nm,0.9s						
CLL	**Collm**	**79.15**	**330**	*i* P	**P**	**05 13 40.5**	**-0.6**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KHC	**Kasperske Hory**	**80.62**	**328**	*e*P	**P**	**05 13 49.0**	**-0.1**
KHC	**Kasperske Hory**	**80.62**	**328**	*e*P	**P**	**05 13 49.0**	**-0.1**
GERES	**GERESS Array B**	**80.79**	**328**	P	**P**	**05 13 49.3**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=21,slow=6.5,SNR=4.7						
ANMO	**Albuquerque**	**83.56**	**50**	⇑*e*P	**P**	**05 14 06.2**	**+1.1**
ANMO				pmax	pmax		
	comp=Z,12nm,1.7s						
TXAR	**Lajitas Array**	**89.17**	**52**	P	**P**	**05 14 32.3**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=293,slow=4.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	**115.63**	**315**	PKP	**PKPdf**	**05 20 18.0**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=18,slow=1.7,SNR=4.0						
LPAZ	**La Paz**	**145.94**	**56**	PKPbc	**PKPdf**	**05 21 16.7**	**0.0**
	comp=Z,1.4nm,0.9s,baz=3.6,slow=3.0,SNR=6.2						

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*IDC **07** 05:21:36.9±0.6, 36°.89S×78°.40E, h0km, mb4.3/16, mb1 4.3/16, mb1mx4.2/37, mbtmp4.3/16, MS4.4/16, Ms1 4.4/16, ms1mx4.2/24, Error ellipse: s-maj=21.2km s-min=16.5km az=172.0*

*ISCJB **07** 05:21:37.8±0.4, 36°.98S±0°.09×78°.42E±0°.09, h15km, mb4.5/25, MS4.4/16, Error ellipse: s-maj=12.4km s-min=10.7km az=170.2*

*NEIC **07** 05:21:38.5±0.3, 36°.98S×78°.40E, h10km, mb4.8/13, Error ellipse: s-maj=10.3km s-min=7.9km az=179.0*

*GCMT **07** 05:21:38.5±0.2, 36°.80S×78°.32E, h12km, MW5.1/90, Moment Tensor Solution. s38,c46; s90,c128; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.16±.13; $M_{\theta\theta}$-4.67±.11; $M_{\phi\phi}$4.83±.11; $M_{r\theta}$0.09±.33; $M_{\theta\phi}$0.48±.12; $M_{\phi r}$1.11±.33; Best double couple: $M_0$4.89200×10^{16} NP1:ϕ_s48.00000°, δ82.00000°, λ9.00000°. NP2: ϕ_s317.00000°, δ81.00000°, λ172.00000°. Principal axes: T 5.0900, Plg12.0000°, Azm273.0000°; N -0.3960, Plg78.0000°, Azm90.0000°; P -4.6940, Plg1.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 07 05:21:39.5±0.5**, 36°.9S**±0°.1×**78°.4E**±0°.1**, h15**km**, n59, σ0§71**/39**, mb4.5**/25**, MS4.5**/16**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAF	**Port-aux-Franc**	**13.77**	**203**	P	Pn	05 24 44.0	-10
PAF				R		05 27 00.0	
RER	**Riviere de l'E**	**25.21**	**302**	*e*P	**P**	**05 27 05.3**	**+0.6**
	17nm,0.7s						
H01W2	**Cape Leeuwin H**	**28.89**	**97**	T	T	05 57 46.6	
	baz=256,slow=75,SNR=1184						
H01W3	**Cape Leeuwin H**	**28.90**	**97**	T	T	05 57 46.5	
	baz=256,slow=75,SNR=1406						
H01W1	**Cape Leeuwin H**	**28.91**	**97**	T	T	05 57 46.0	
	baz=256,slow=75,SNR=915						
H08S2	**Diego Garcia H**	**29.65**	**348**	T	T	05 58 34.8	
	baz=170,slow=76,SNR=919						
H08S1	**Diego Carcia H**	**29.65**	**348**	T	T	05 58 35.1	
	baz=170,slow=76,SNR=884						
H08S3	**Diego Garcia H**	**29.67**	**348**	T	T	05 58 36.3	
	baz=170,slow=76,SNR=1507						
H08N1	**Diego Carcia H**	**31.19**	**346**	T	T	06 00 39.8	
	baz=177,SNR=9.1						
H08N3	**Diego Garcia H**	**31.19**	**346**	T	T	06 00 40.9	
	baz=177,SNR=13						
H08N2	**Diego Garcia H**	**31.21**	**346**	T	T	06 00 40.3	
	baz=177,SNR=9.5						
MAW	**Mawson**	**31.96**	**191**	LR	LR	05 38 50.4	
	comp=Z,1μm,18.1s,baz=45,slow=32						
LEM	**Lembang**	**40.07**	**49**	LR	LR	05 42 35.3	
	comp=Z,175nm,20.1s,baz=92,slow=31						
BOSA	**Boshof**	**44.98**	**265**	P	**P**	**05 29 53.9**	**-0.4**
	7.2nm,1.0s,baz=124,slow=7.8,SNR=5.8						
BOSA				LR	LR	05 44 39.2	
	comp=Z,330nm,22.0s,baz=126,slow=31						
BOSA	**Boshof**	**44.98**	**265**	*e*P	**P**	**05 29 54.1**	**-0.3**
	5.3nm,0.8s						
MATP	**Matopo**	**46.26**	**277**	P	**P**	**05 30 03.6**	**-1.0**
	2.8nm,0.7s,baz=128,slow=7.4,SNR=7.3						
SUR	**Sutherland**	**47.00**	**258**	P	**P**	**05 30 09.8**	**-0.5**
	4.9nm,0.7s,baz=96,slow=15,SNR=4.7						
ASAR	**Alice Springs**	**49.07**	**91**	P	**P**	**05 30 25.8**	**-0.4**
	4.3nm,1.0s,baz=240,slow=6.3,SNR=15						
ASAR				LR	LR	05 48 45.4	
	comp=Z,989nm,19.8s,baz=253,slow=33						
AS31	**Alice Springs**	**49.07**	**91**	*e*P	**P**	**05 30 26.5**	**+0.2**
KAPI	**Kappang**	**49.35**	**60**	LR	LR	05 47 20.2	
	comp=Z,392nm,21.6s,baz=227,slow=31						
LSZ	**Lusaka**	**49.36**	**282**	*e*P	**P**	**05 30 28.6**	**-0.1**
	8.5nm,0.8s						
STKA	**Stephens Creek**	**51.53**	**104**	P	**P**	**05 30 44.7**	**-0.1**
	3.5nm,0.9s,baz=287,slow=5.8,SNR=7.1						
STKA				LR	LR	05 48 34.8	
	comp=Z,630nm,20.8s,baz=231,slow=31						
KMBO	**Kilima Mbogo**	**52.07**	**303**	P	**P**	**05 30 48.5**	**-0.7**
	0.8nm,0.4s,baz=102,slow=14,SNR=2.8						
KMBO				LR	LR	05 47 40.7	
	comp=Z,202nm,21.7s,baz=168,slow=30						
SNAA	**Sanae**	**52.69**	**203**	P	P	05 30 46.1	-6.8
SNAA	**Sanae**	**52.69**	**203**	P	**P**	**05 30 52.8**	**-0.1**
	0.9nm,0.9s,baz=112,slow=6.1,SNR=7.8						
SNAA	**Sanae**	**52.69**	**203**	P	**P**	**05 30 51.1**	**-1.8**
	11nm,1.4s						
VNDA	**Vanda**	**52.85**	**164**	P	**P**	**05 30 53.7**	**-0.2**
	1.8nm,0.8s,baz=267,slow=7.7,SNR=6.5						
VNDA				LR	LR	05 51 47.9	
	comp=Z,526nm,18.1s,baz=268,slow=34						
VNDA	**Vanda**	**52.85**	**164**	*e*P	**P**	**05 30 54.6**	**+0.7**
	2.2nm,0.8s						
VNA2	**Neumayer--Watz**	**54.25**	**204**	P	**P**	**05 31 04.7**	**+0.4**
	baz=109,slow=6.6						
VNA1	**Neumayer--Stat**	**54.58**	**204**	P	**P**	**05 31 07.9**	**+1.2**
TSUM	**Tsumeb**	**55.63**	**271**	*e*P	**P**	**05 31 15.6**	**+0.4**
	7.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.40**	**23**	P	**P**	**05 31 32.9**	**-1.5**
	0.9nm,0.3s,baz=207,slow=5.8,SNR=3.2						
RAYN	**Ar Rayn**	**67.67**	**327**	*e*P	**P**	**05 32 37.1**	**+1.1**
	9.7nm,1.3s						
KBL	**Kabul**	**71.64**	**352**	*e*P	**P**	**05 33 00.9**	**+0.4**
	13nm,0.9s						
DZM	**Mont Dzumac**	**75.57**	**107**	*e*LR	LR	05 56 21.8	
	638nm,26.4s						
AAK	**Ala-Archa**	**79.27**	**357**	*e*P	**P**	**05 33 44.6**	**+0.5**
	6.0nm,0.9s						
EKS2	**Erkin-Say**	**79.33**	**357**	*e*P	**P**	**05 33 45.2**	**+0.9**
	10nm,1.0s						
TKM2	**Tokmak 2**	**79.52**	**358**	*e*P	**P**	**05 33 46.5**	**+1.0**
	14nm,1.4s						
MK31	**Makanchi Array**	**83.42**	**3**	*e*P	**P**	**05 34 04.8**	**-1.0**
MKAR	**Makanchi Array**	**83.42**	**3**	P	**P**	**05 34 05.1**	**-0.8**
	4.1nm,0.8s,baz=173,slow=4.7,SNR=19						
MKAR				LR	LR	06 08 41.3	
	comp=Z,291nm,20.8s,baz=179,slow=34						
BRTR	**Keskin Array B**	**86.69**	**327**	P	**P**	**05 34 22.5**	**-0.1**
	2.6nm,1.1s,baz=140,slow=6.3,SNR=5.9						
KSAR	**Wonju Array Be**	**87.00**	**37**	P	**P**	**05 34 23.9**	**0.0**
KSRS	**Korea Array**	**87.03**	**37**	P	**P**	**05 34 23.9**	**-0.1**
	0.5nm,0.3s,baz=204,slow=4.8,SNR=4.0						
KSRS				LR	LR	06 13 38.2	
	comp=Z,38nm,18.1s,baz=225,slow=36						
KURK	**Kurchatov**	**87.27**	**0**	*e*P	**P**	**05 34 25.0**	**+0.1**
	10nm,1.0s						
ABKAR	**Akbulak array**	**87.37**	**348**	*e*P	**P**	**05 34 25.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**87.48**	**288**	P	**P**	**05 34 26.4**	**-0.4**
	0.4nm,0.5s,baz=115,slow=5.3,SNR=6.7						
TORD				LR	LR	06 12 46.6	
	comp=Z,534nm,18.2s,baz=135,slow=35						
SONM	**Songino Array**	**88.01**	**18**	LR	LR	06 12 36.5	
	comp=Z,172nm,19.8s,baz=203,slow=35						
DBIC	**Dimbokro**	**88.62**	**279**	P	**P**	**05 34 32.2**	**0.0**
	7.5nm,1.1s,baz=107,slow=11,SNR=2.9						
DBIC				LR	LR	06 10 41.1	
	comp=Z,337nm,20.0s,baz=102,slow=33						
DBIC	**Dimbokro**	**88.62**	**279**	*e*P	**P**	**05 34 31.7**	**-0.6**
	27nm,1.4s						
ZALV	**Zalesovo Beam**	**90.68**	**4**	P	**P**	**05 34 41.1**	**+0.3**
	0.5nm,0.3s,baz=136,slow=5.4,SNR=2.6						
ZALV				LR	LR	06 13 32.2	
	comp=Z,222nm,19.8s,baz=250,slow=34						
MJAR	**Matsushiro Arr**	**91.72**	**44**	P	**P**	**05 34 46.8**	**+0.6**
	0.6nm,0.4s,baz=213,slow=4.6,SNR=3.3						
USRK	**Ussuriysk Ar.**	**94.21**	**35**	LR	LR	06 17 49.5	
	comp=Z,43nm,18.1s,baz=215,slow=36						
KEST	**Kesra**	**96.61**	**310**	LR	LR	06 17 29.2	
	comp=Z,54nm,18.9s,baz=259,slow=35						
TBI	**Tubuai**	**104.96**	**135**	*e*LR	LR	06 10 19.0	
	187nm,30.8s						
PPT2	**Papeete2**	**109.37**	**131**	*e*LR	LR	06 12 20.9	
	163nm,27.2s						
RKT	**Rikitea**	**112.48**	**147**	*e*LR	LR	06 13 38.9	
	408nm,40.8s						
ILAR	**Eielson Array**	**141.45**	**29**	PKhKP	PKPpre	05 41 04.9	
	0.2nm,0.6s,baz=306,slow=3.1,SNR=3.4						
DLBC	**Dease Lake**	**151.57**	**32**	*e*PKPdf	**PKPdf**	**05 41 26.6**	**+0.4**
DLBC				*e*PKPbc	**PKiKP**	**05 41 33.4**	**+0.6**
DLBC				*e*PKPab	**PKPab**	**05 41 40.2**	**-0.7**
YKA	**Yellowknife Ar**	**153.17**	**13**	PKPbc	**PKPbc**	**05 41 36.4**	**+0.7**
	0.8nm,0.8s,baz=352,slow=3.1,SNR=2.7						

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*IDC **07** 05:21:59.4±0.6, 26°.56N×142°.50E, h0km, mb4.3/18, mb1 4.5/22, mb1mx4.4/37, mbtmp4.2/22, ML3.4/4, MS3.8/3, Ms1 3.8/3, ms1mx3.1/30, Error ellipse: s-maj=18.7km s-min=11.6km az=71.0*

*NIED **07** 05:22:00, 26°.60N×141°.60E, h38km, Mw4.4 Best double couple: $M_0$4.52000×10^{15} NP1:ϕ_s145.00000°, δ57.00000°, λ13.00000°. NP2:ϕ_s47.00000°, δ79.00000°, λ146.00000°.*

*NEIC **07** 05:22:02.8±2.1, 26°.55N×142°.51E, h20km±14km, mb4.7/16, MW4.4(NIED), Error ellipse: s-maj=7.9km s-min=5.8km az=117.0*

*JMA **07** 05:22:02.7, 26°.62N×141°.61E, h12km, M4.4*

*MOS **07** 05:22:02.9±1.3, 26°.56N×142°.51E, h33km, mb4.8/17, Error ellipse: s-maj=16.3km s-min=7.1km az=116.5*

*ISCJB **07** 05:22:03.5±0.8, 26°.68N±0°.04×142°.58E±0°.05, h35km±5km, mb4.5/47, MS4.1/2, Error ellipse: s-maj=8.3km s-min=6.1km az=16.5*

*BJI **07** 05:22:03.5, 26°.55N×142°.19E, h19km, mb4.5/29, mB4.9/19, Ms4.6/15, Ms7 4.3/15*

ISC 07 05:22:04.8±0.6**, 26°.60N**±0°.05×**142°.56E**±0°.05**, h32**km±2km**, n121, σ1§23**/156**, mb4.5**/47**, 5C-5D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.34**	**275**	P	**Pb**	**05 22 12.6**	**-0.5**
JHHJ				S	**Sn**	**05 22 19.6**	**+0.3**
JCJ	**Chichijima**	**0.60**	**326**	Pn	**Pb**	**05 22 15.4**	**-1.6**
	689nm,0.3s,baz=222,slow=3.3,SNR=140						
JCJ				Sn	**Sb**	**05 22 25.5**	**+0.2**
	1μm,0.3s,baz=287,slow=19,SNR=47						
CBIJ	**Chichi jima**	**0.60**	**326**	P	**Pb**	**05 22 16.1**	**-0.9**
CBIJ				*e*S	**Sb**	**05 22 25.4**	**+0.1**
CBIJ	**Chichi jima**	**0.60**	**326**	*e*Pn	**Pb**	**05 22 15.9**	**-1.1**
CBIJ				*e*Sn	**Sb**	**05 22 23.8**	**-1.5**
BSO1	**Boso 1**	**8.14**	**351**	P	**Pn**	**05 24 00.6**	**+0.3**
BSO3	**Boso 3**	**8.36**	**348**	P	**Pn**	**05 24 03.7**	**+0.1**
BSO4	**Boso 4**	**8.58**	**348**	P	**Pn**	**05 24 07.8**	**+1.1**
JHU	**Hanno**	**9.64**	**344**	P	**Pn**	**05 24 21.2**	**-0.1**
JHU				*e*S	**Sn**	**05 26 05.7**	**-2.8**
JRY	**Ryogami san**	**9.89**	**342**	P	**Pn**	**05 24 24.9**	**+0.1**
JAG	**Ashikaga**	**10.15**	**346**	P	**Pn**	**05 24 27.1**	**-1.2**
JAG				*e*S	**Sn**	**05 26 18.9**	**-2.0**
MJAR	**Matsushiro Arr**	**10.58**	**341**	Pn	**Pn**	**05 24 32.9**	**-1.3**
	1.0nm,0.3s,baz=168,slow=12,SNR=18						
MJAR				Sn	**Sn**	**05 26 32.5**	**+0.9**
	0.2nm,0.3s,baz=163,slow=17,SNR=4.2						
MAJO	**Matsushiro**	**10.58**	**341**	*e*P	**Pn**	**05 24 34.5**	**+0.2**
MAJO				*e*		05 26 31.1	
MAJO	**Matsushiro**	**10.58**	**341**	*e*Pn	**Pn**	**05 24 34.5**	**+0.2**
MAJO				*e*Sn	**Sn**	**05 26 31.1**	**-0.5**
MAT	**Matsushiro**	**10.58**	**341**	P	**Pn**	**05 24 34.1**	**-0.1**
MAT				*e*S	**Sn**	**05 26 28.0**	**-3.6**
JFK	**Kawauchi**	**10.83**	**353**	*e*S	Sn	05 26 31.3	-6.4
JNU	**Nakatsue**	**12.04**	**305**	Pn	**Pn**	**05 24 52.0**	**-2.2**
	0.2nm,0.3s,baz=142,slow=12,SNR=2.0						
JNU				LR	LR	05 29 06.1	
	comp=Z,287nm,20.5s,baz=146,slow=36						
JNU	**Nakatsue**	**12.04**	**305**	Pn	**Pn**	**05 24 53.0**	**-1.2**
ERM	**Erimo**	**15.39**	**2**	*ce*P	**P**	**05 25 44.8**	**+1.0**
ERM				pmax	pmax		
	comp=Z,32nm,1.7s						
KSRS	**Korea Array**	**16.45**	**315**	Pn	**Pn**	**05 25 53.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=130,slow=12,SNR=9.0						
KSRS				LR	LR	05 31 54.6	
	comp=Z,283nm,19.5s,baz=129,slow=36						
KSAR	**Wonju Array Be**	**16.46**	**315**	P	**Pn**	**05 25 53.1**	**-0.2**
KSAR	**Wonju Array Be**	**16.46**	**315**	Pn	**Pn**	**05 25 53.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**19.53**	**337**	P	**P**	**05 26 29.4**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=155,slow=12,SNR=5.4						
YULB	**Yu-li**	**19.53**	**265**	*e*P	**P**	**05 26 29.5**	**-0.2**
	comp=Z,33nm,1.1s						
SSLB	**Suanglung**	**19.75**	**267**	*e*P	**P**	**05 26 31.2**	**-0.9**
	comp=Z,24nm,1.1s						
YSS	**Yuzh-Sakhalins**	**20.32**	**0**	*e*P	Pn	05 26 44.9	+4.7
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
NJ2	**Nanjing**	**21.35**	**290**	*e*P	**P**	**05 26 49.0**	**-0.4**
NJ2				PMZ			
	comp=Z,10.0nm,0.7s						
SNY	**Shenyang**	**21.77**	**319**	⇑P	**P**	**05 26 55.4**	**+1.6**
SNY				PMZ			
	comp=Z,14nm,0.6s						
CN2	**Changchun**	**22.06**	**325**	*e*P	**P**	**05 27 00.2**	**+3.3**
CN2				*e*sP	**sP**	**05 27 07.2**	**-2.5**
CN2				*e*S	**S**	**05 30 59.2**	**+0.8**
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
CN2				PMZ			
	comp=Z,200nm,3.0s						
CN2				LN			
	comp=Z,360nm,16.0s						
CN2				LE			
	comp=Z,270nm,16.0s						
CN2				LZ			
	comp=Z,210nm,16.0s						
H11N2	**WAKE ISLAND Hy**	**23.38**	**102**	T	T	05 51 17.5	
	baz=309,SNR=4.8						
H11N1	**WAKE ISLAND Hy**	**23.38**	**102**	T	T	05 51 17.5	
	baz=309,slow=74,SNR=4.8						
H11N3	**WAKE ISLAND Hy**	**23.39**	**102**	T	T	05 51 18.1	
	baz=309,slow=74,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**23.67**	**105**	T	T	05 51 42.2	
	baz=294,slow=75,SNR=9.5						
H11S1	**WAKE ISLAND Hy**	**23.68**	**105**	T	T	05 51 40.4	
	baz=294,slow=75,SNR=7.3						
H11S2	**WAKE ISLAND Hy**	**23.69**	**105**	T	T	05 51 41.6	
	baz=294,slow=75,SNR=9.5						
KLR	**Kul'dur**	**24.10**	**342**	*e*P	**P**	**05 27 15.0**	**-2.4**
KLR				pmax	pmax		
	comp=E,33nm,1.4s						
KLR				pmax	pmax		
	comp=Z,48nm,1.4s						
BJI	**Beijing**	**25.69**	**308**	P	**P**	**05 27 30.9**	**-1.0**
BJI				PMZ			
	comp=Z,6.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**29.26**	**307**	*e*P	**P**	**05 28 04.2**	**+0.1**
HHC				PP	**PnPn**	**05 29 00.6**	**+2.8**
HHC				S	**S**	**05 32 52.4**	**-2.6**
HHC				sS	**sS**	**05 33 10.4**	**-0.1**
HHC				SS	**SnSn**	**05 34 25.8**	**+4.0**
HHC				ScS	**ScS**	**05 38 43.2**	**-1.0**
HHC				PMZ			
	comp=Z,11nm,0.8s						
HHC				PMZ			
	comp=Z,58nm,5.0s						
HHC				LN			
	comp=Z,520nm,11.4s						
HHC				LE			
	comp=Z,450nm,10.3s						
HHC				LZ			
	comp=Z,380nm,10.6s						
QIZ	**Qiongzhong**	**31.02**	**263**	P	**P**	**05 28 19.5**	**-0.2**
QIZ				sP	**sP**	**05 28 32.3**	**-0.7**
QIZ				S	**S**	**05 33 22.5**	**-0.2**
QIZ				PMZ			
	comp=Z,20nm,2.0s						
QIZ				LZ			
	comp=Z,430nm,10.1s						
GYA	**Guiyang**	**32.05**	**278**	P	**P**	**05 28 28.9**	**0.0**
GYA				pP	**pP**	**05 28 39.4**	**+1.1**
GYA				PP	**PnPn**	**05 29 36.2**	**+1.4**
GYA				S	**S**	**05 33 37.0**	**-2.0**
GYA				sS	**sS**	**05 33 54.5**	**0.0**
GYA				SS	**SnSn**	**05 35 30.8**	**+0.8**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,120nm,4.8s						
GYA				LN			
	comp=Z,710nm,17.8s						
GYA				LE			
	comp=Z,640nm,18.0s						
GYA				LZ			
	comp=Z,680nm,17.5s						
CD2	**Chengdu**	**34.17**	**286**	*e*P	**P**	**05 28 46.2**	**-1.1**
CD2				pP	**pP**	**05 28 56.5**	**-0.2**
CD2				PP	**PP**	**05 30 03.9**	**-1.0**
CD2				PcP	**PcP**	**05 31 22.9**	**-1.0**
CD2				S	**S**	**05 34 10.3**	**-1.4**
CD2				sS	**sS**	**05 34 27.9**	**+0.6**
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,140nm,5.2s						
KMI	**Kunming**	**35.76**	**277**	P	**P**	**05 29 01.7**	**+0.4**
KMI				pP	**pP**	**05 29 11.9**	**+1.2**
KMI				PMZ			
	comp=Z,13nm,0.9s						
KMI				LN			
	comp=Z,760nm,6.7s						
KMI				LE			
	comp=Z,520nm,6.2s						
KMI				LZ			
	comp=Z,400nm,13.3s						
ZAK	**Zakamensk**	**38.20**	**319**	*e*P	**P**	**05 29 19.5**	**-2.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TLY	**Talaya**	**38.53**	**321**	*e*P	**P**	**05 29 24.6**	**+0.4**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CRAI	**Chiangrai**	**39.09**	**270**	P	**P**	**05 29 26.6**	**-2.7**
	comp=Z,12nm,0.8s						
CHAI	**Chaiyaphum**	**39.13**	**263**	P	**P**	**05 29 31.1**	**+1.5**
	comp=Z,3.9nm,0.9s						
UTTA	**Uttaradit**	**39.74**	**266**	P	**P**	**05 29 35.8**	**+1.2**
	comp=Z,2.8nm,1.1s						
CMAI	**Chiengmai2**	**40.37**	**270**	P	**P**	**05 29 41.9**	**+1.8**
	comp=Z,7.1nm,1.0s,comp=Z,764nm						
CMMT	**Chiang Mai**	**40.81**	**268**	P	**P**	**05 29 43.5**	**-0.1**
	comp=Z,25nm,0.8s						
CHTO	**Chiang Mai**	**40.82**	**268**	P	**P**	**05 29 43.5**	**-0.1**
	comp=Z,84nm,0.9s						
CHTO	**Chiang Mai**	**40.82**	**268**	*e*P	**P**	**05 29 43.7**	**0.0**
CHTO				pmax	pmax		
	comp=Z,12nm,0.7s						
CHTO	**Chiang Mai**	**40.82**	**268**	*e*P	**P**	**05 29 43.6**	**0.0**
	comp=Z,12nm,0.7s						
CMAR	**Chiang Mai Arr**	**40.94**	**268**	P	**P**	**05 29 44.0**	**-0.6**
	comp=Z,2.4nm,0.3s,baz=57,slow=7.6,SNR=24						
CMAR	**Chiang Mai Arr**	**40.94**	**268**	P	**P**	**05 29 44.0**	**-0.6**
UTHA	**Uthaitani**	**41.52**	**264**	P	**P**	**05 29 50.5**	**+1.1**
	comp=Z,6.3nm,0.9s						
MHMT	**Maesarieng**	**41.94**	**268**	P	**P**	**05 29 53.7**	**+0.9**
	comp=Z,16nm,0.8s						
TIXI	**Tiksi**	**45.74**	**354**	⇓*e*P	**P**	**05 30 24.8**	**+2.2**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.7s						
TIXI	**Tiksi**	**45.74**	**354**	*e*P	P	05 30 28.0	+5.4
	comp=Z,2.2nm,0.6s						
WRAB	**Tennant Creek**	**46.94**	**191**	⇓*e*P	**P**	**05 30 31.2**	**-1.4**
WRAB	**Tennant Creek**	**46.94**	**191**	*e*P	**P**	**05 30 32.0**	**-0.6**
	comp=Z,21nm,0.8s						
WRA	**Warramunga Arr**	**46.95**	**191**	P	**P**	**05 30 31.7**	**-1.0**
	comp=Z,18nm,0.8s,baz=9.7,slow=8.5,SNR=86						
WMQ	**Urumqi**	**47.13**	**306**	P	**P**	**05 30 35.6**	**+1.5**
WMQ				pP	**pP**	**05 30 45.5**	**+1.7**
WMQ				sP	**sP**	**05 30 49.4**	**+1.7**
WMQ				PP	**PP**	**05 32 25.8**	**+0.7**
WMQ				S	**S**	**05 37 24.0**	**-0.5**
WMQ				PMZ			
	comp=Z,6.0nm,0.4s						
WMQ				PMZ			
	comp=Z,11nm,4.6s						
WMQ				LN			
	comp=Z,400nm,6.0s						
WMQ				LE			
	comp=Z,450nm,8.5s						
WMQ				LZ			
	comp=Z,47nm,13.5s						
ZALV	**Zalesovo Beam**	**50.08**	**319**	P	**P**	**05 30 55.6**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=92,slow=7.4,SNR=4.0						
ZALV				PcP	**PcP**	**05 32 15.8**	**0.0**
	comp=Z,1.8nm,0.3s,baz=130,slow=4.4,SNR=4.8						
ZALV	**Zalesovo Beam**	**50.08**	**319**	*i* P	**P**	**05 30 57.0**	**+0.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**50.67**	**190**	P	**P**	**05 31 00.1**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=13,slow=7.1,SNR=7.5						
MK31	**Makanchi Array**	**51.05**	**310**	*e*P	**P**	**05 31 03.1**	**-0.9**
MK31	**Makanchi Array**	**51.05**	**310**	*e*P	**P**	**05 31 03.1**	**-0.9**
MKAR	**Makanchi Array**	**51.05**	**310**	P	**P**	**05 31 02.4**	**-1.6**
	comp=Z,1.1nm,0.7s,baz=88,slow=8.6,SNR=10						
MKAR				PcP	**PcP**	**05 32 19.0**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=87,slow=5.1,SNR=6.8						
MKAR				ScP	**ScP**	**05 36 16.1**	**+2.5**
	comp=Z,0.4nm,0.7s,baz=76,slow=6.1,SNR=2.8						
MKAR	**Makanchi Array**	**51.05**	**310**	*i* P	**P**	**05 31 03.0**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**51.05**	**310**	*e*P	**P**	**05 31 03.7**	**-0.3**
MKAR				PcP	**PcP**	**05 32 19.0**	**-0.6**
KURK	**Kurchatov**	**53.57**	**315**	*e*P	**P**	**05 31 21.2**	**-1.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURK	Kurchatov	53.57	315	eP	P	05 31 21.2	-1.3
	comp=Z,4.0nm,0.8s						
TKM2	Tokmak 2	55.97	305	eP	P	05 31 41.3	+0.9
TKM2				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TKM2	Tokmak 2	55.97	305	eP	P	05 31 41.3	+0.9
	comp=Z,3.5nm,1.0s						
KSH	Kashi	56.12	301	P	P	05 31 45.6	+4.2
KSH				pP	pP	05 31 56.0	+4.8
KSH				PcP	PcP	05 32 41.3	+2.2
KSH				PP	PP	05 33 54.3	+7.8
KSH				PcS	PcS	05 36 41.1	+1.4
KSH				S	S	05 39 32.6	+4.2
KSH				sS	sS	05 39 47.9	+3.2
KSH				ScS	ScS	05 41 28.6	+0.1
KSH				PMZ			
	comp=Z,5.0nm,1.0s						
KSH				PMZ			
	comp=Z,56nm,3.6s						
KSH				LN			
	comp=Z,150nm,8.3s						
KSH				LE			
	comp=Z,110nm,6.4s						
KSH				LZ			
	comp=Z,110nm,7.1s						
TRF	Thorofare Moun	56.35	30	eP	P	05 31 43.9	+1.2
	comp=Z,44nm,2.2s						
COLD	Coldfoot	56.97	25	eP	P	05 31 47.2	+0.4
	comp=Z,3.2nm,1.0s						
ILAR	Eielson Array	57.99	28	P	P	05 31 54.2	+0.2
	comp=Z,1.2nm,0.8s,baz=254,slow=5.9,SNR=12						
STKA	Stephens Creek	58.16	181	P	P	05 31 54.3	-1.2
	comp=Z,3.1nm,0.8s,baz=321,slow=8.3,SNR=6.0						
BRVK	Borovoye	58.69	318	⇓eP	P	05 31 58.4	-0.7
BRVK				pmax	pmax		
	comp=Z,15nm,1.7s						
BRVK	Borovoye	58.69	318	eP	P	05 31 58.1	-1.0
	comp=Z,6.6nm,0.8s						
DAWY	Dawson	61.22	29	eP	P	05 32 18.2	+1.9
	comp=Z,3.5nm,0.9s						
INK	Inuvik	63.34	24	P	P	05 32 30.7	+0.3
	comp=Z,1.7nm,0.8s,baz=264,slow=6.6,SNR=1.9						
ARU	Arti	65.02	322	d iP	P	05 32 41.9	+0.3
ARU						05 35 01.3	
ARU				S	S	05 41 21.5	+0.1
ARU				SS	SS	05 45 32.4	-0.7
ARU				pmax	pmax		
	comp=Z,37nm,1.7s						
ARU	Arti	65.02	322	eP	P	05 32 41.8	+0.3
	comp=Z,16nm,0.6s						
CRAG	Craig	65.38	39	eP	P	05 32 44.0	0.0
	comp=Z,37nm,1.3s						
ABKAR	Akbulak array	65.68	315	eP	P	05 32 45.1	-0.9
	comp=Z,1.5nm,0.5s						
YKA	Yellowknife Ar	72.42	28	P	P	05 33 27.0	-0.6
	comp=Z,0.6nm,0.6s,baz=291,slow=5.1,SNR=3.6						
YKA	Yellowknife Ar	72.42	28	P	P	05 33 27.0	-0.6
ARCES	ARCESS Array B	74.12	341	P	P	05 33 37.6	+0.1
	comp=Z,5.3nm,0.9s,baz=78,slow=5.6,SNR=6.3						
ARCES	ARCESS Array B	74.12	341	P	P	05 33 37.6	+0.1
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
UOSS	Wadi Hilu	76.20	291	eP	P	05 33 44.1	-6.2
	comp=Z,45nm,1.0s						
LPSR	Galich'ya Gora	77.04	323	eP	P	05 33 54.5	0.0
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LPSR				pmax	pmax		
	comp=N,2.0nm,0.5s						
LPSR				pmax	pmax		
	comp=E,7.0nm,1.2s						
OBN	Obninsk	77.13	325	⇓eP	P	05 33 55.6	+0.7
OBN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VSR	Storozhevoye	77.54	321	eP	P	05 33 57.5	+0.1
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR				pmax	pmax		
	comp=N,6.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VORD	Divnogorie	77.58	321	eP	P	05 33 56.8	-0.8
VORD				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.7s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.7s						
GOF	Gofitskoye	77.92	314	eP	P	05 33 54.3	-5.3
FIA1	FINESS Array S	78.54	334	eP	P	05 34 02.5	-0.2
FINES	FINESS Array B	78.54	334	P	P	05 34 02.5	-0.2
	comp=E,8.1nm,0.5s,baz=82,slow=5.2,SNR=49						
FINES	FINESS Array B	78.54	334	i P	P	05 34 03.4	+0.7
FINES				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KBZ	Khabaz	78.59	313	P	P	05 34 03.3	0.0
	comp=Z,11nm,0.8s,baz=322,slow=20						
KBZ				LR	LR	06 12 56.2	
	comp=Z,86nm,18.6s,baz=350,slow=39						
KIV	Kislovodsk	78.63	313	eP	P	05 34 01.2	-2.5
KIV				pmax	pmax		
	comp=Z,13nm,1.1s						
KIV				MLR	MLR		
	comp=Z,66nm,18.0s						
GNI	Garni	78.89	309	ceP	P	05 34 06.8	+1.5
GNI				pmax	pmax		
	comp=Z,16nm,1.2s						
NVAR	Mina Array Bea	80.56	52	P	P	05 34 14.3	-0.2
	comp=Z,0.5nm,0.8s,baz=246,slow=6.8,SNR=2.5						
AKASG	Malin Array Be	83.21	324	P	P	05 34 27.7	-0.2
	comp=Z,2.7nm,0.6s,baz=48,slow=5.8,SNR=5.3						
AKASG	Malin Array Be	83.21	324	ceP	P	05 34 29.7	+1.8
NB2	NORSAR Subarra	84.19	338	P	P	05 34 32.6	-0.2
	comp=Z,4.5nm,0.8s,baz=47,slow=4.8						
NOA	NORSAR Array B	84.19	338	P	P	05 34 32.6	-0.2
	comp=Z,3.6nm,0.7s,baz=46,slow=4.8,SNR=15						
RAYN	Ar Rayn	85.65	294	eP	P	05 34 41.0	+0.2
	comp=Z,16nm,1.0s						
BRTR	Keskin Array B	86.58	313	P	P	05 34 45.1	-0.2
	comp=Z,2.4nm,0.9s,baz=123,slow=4.6,SNR=5.1						
BRTR	Keskin Array B	86.58	313	ceP	P	05 34 46.4	+1.1
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
DPC	Dobruska-Polom	89.83	329	eP	P	05 35 00.1	-0.3
DPC	Dobruska-Polom	89.83	329	eP	P	05 35 00.1	-0.3
KHC	Kasperske Hory	91.96	329	eP	P	05 35 09.9	-0.4
KHC				ex	x	05 35 21.3	
KHC	Kasperske Hory	91.96	329	eP	P	05 35 09.9	-0.4
KHC				e		05 35 21.3	
GERES	GERESS Array B	92.11	329	P	P	05 35 10.8	-0.3
	comp=Z,1.5nm,0.8s,baz=87,slow=6.0,SNR=4.1						
TXAR	Lajitas Array	95.63	53	P	P	05 35 27.5	-0.2
	comp=Z,0.2nm,0.8s,baz=343,slow=2.8,SNR=2.9						
TORD	Torodi Ar. Bea	125.16	311	PKP	PKPdf	05 41 02.3	-0.6
	comp=Z,0.9nm,0.8s,baz=5.5,slow=2.0,SNR=4.8						
LPAZ	La Paz	149.72	76	PKPbc	PKPbc	05 41 52.9	0.0
	comp=Z,2.8nm,0.8s,baz=295,slow=3.0,SNR=12						
LPAZ	La Paz	149.72	76	PKP2	PKPbc	05 41 52.9	0.0
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LPAZ	La Paz	149.72	76	ePKPdf	PKPdf	05 41 48.1	0.0
LPAZ				PKPbc	PKPbc	05 41 52.9	0.0
LPAZ				ePKPbc	PKiKP	05 41 53.8	-0.1
LPAZ				ePKPab	PKPab	05 41 57.9	-0.2
SAML	Samuel	149.96	59	ePKPdf	PKPdf	05 41 47.9	0.0
SAML				ePKPbc	PKiKP	05 41 53.4	-0.3

MAN 07 05:35:30, 7.̊52N×125.̊07E, h32km, mb4.4, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUKP	Musuan	0.35	358	eP	Pn	05 35 41.1	+2.1
BUKP				eS	Sn	05 35 47.5	+2.5
CTBH	Cotabato--PC H	0.87	250	⇑iP	Pb	05 35 46.6	-0.1
CTBH				i S	Sn	05 35 56.6	-1.1
PAGZ	Pagadian	1.71	281	eP	Pb	05 35 59.3	-1.4
PAGZ				eS	Sn	05 36 19.6	+1.3

*ISCJB **07** 05:36:29.0±0.5, 33.̊22N±0.̊05×96.̊31E±0.̊07, h10km, mb3.7/8, MS3.7/2, Error ellipse: s-maj=8.8km s-min=5.6km az=35.6*

*IDC **07** 05:36:29.7±0.8, 33.̊21N×96.̊33E, h0km, mb3.7/8, mb1 3.9/12, mb1mx3.7/40, mbtmp3.8/12, ML4.0/4, MS3.6/4, Ms1 3.6/4, ms1mx3.1/39, Error ellipse: s-maj=33.6km s-min=17.0km az=53.0*

*BJI **07** 05:36:32.0, 33.̊31N×96.̊23E, h6km, mb4.2/6, ML3.8/10, Ms3.9/6, Ms7 3.7/5*

ISC 07 05:36:31.4±0.6, 33.̊24N±0.̊07×96.̊26E±0.̊06, h10km, n32, σ1.̊64/27, mb3.8/8, 1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSA	Lhasa	5.62	232	Pn	Pn	05 37 59.0	+3.6
LSA				LN			
	780nm,11.5s						
LSA				LZ			
	690nm,9.8s						
CD2	Chengdu	6.77	108	Pn	Pn	05 38 10.0	-0.9
CD2				Pg	Pb	05 38 34.4	+5.2
CD2				Sg	Sb	05 40 01.7	+11
CD2				SMN			
	70nm,1.1s						
CD2				SME			
	70nm,1.1s						
GTA	Gaotai	6.79	24	ePn	Pn	05 38 10.0	-1.3
GTA				Sn	Sn	05 39 28.6	-0.1
GTA				LN			
	370nm,13.6s						
GTA				LE			
	420nm,12.6s						
GTA				LZ			
	470nm,14.3s						
LZH	Lanzhou	6.86	63	eP	Pg	05 38 48.5	+5.7
LZH				pP	pP	05 38 59.0	
LZH				sP	sP	05 39 03.0	
LZH				PP	PP	05 40 02.6	
LZH				pmax	pmax		
	comp=Z,43nm,1.3s						
LZH				pmax	pmax		
	comp=Z,120nm,5.2s						
LZH				LR	LR		
	comp=N,250nm,13.5s						
LZH				LR	LR		
	comp=E,280nm,14.0s						
LZH				LR	LR		
	comp=Z,320nm,16.7s						
LZH	Lanzhou	6.86	63	ePn	Pn	05 38 17.6	+5.4
LZH				Sn	Sn	05 39 35.6	+5.1
LZH				Sg	Sg	05 40 07.9	-3.8
LZH				SMN			
	comp=Z,53nm,1.2s						
LZH				SME			
	comp=Z,220nm,1.2s						
LZH				LN			
	comp=Z,950nm,6.5s						
LZH				LE			
	comp=Z,690nm,6.0s						
LZH				LZ			
	comp=Z,740nm,8.0s						
SHL	Shillong	8.54	208	eP	Sn	05 40 01.0	-11
TAPN	Taplejung	9.44	234	eP	Pn	05 38 51.3	+3.6
ODAN	Odare	9.97	233	eP	Pn	05 38 57.5	+2.5
	comp=Z,39nm,0.6s						
JIRN	Jiri	10.32	240	eP	Pn	05 39 01.4	+1.5
GUN	Gumba	10.40	242	eP	Pn	05 39 01.6	+0.6
	comp=Z,14nm,0.6s						
RAMN	Ramite	10.45	236	eP	Pn	05 39 02.4	+0.8
	comp=Z,16nm,0.7s						
KKN	Kakani	10.91	243	eP	Pn	05 39 07.0	-0.9
PKI	Pulchoki	10.94	242	eP	Pn	05 39 08.9	+0.6
	comp=Z,12nm,0.5s						
DMN	Daman	11.14	243	eP	Pn	05 39 10.5	-0.6
GKN	Gorkha	11.29	246	eP	Pn	05 39 11.8	-1.2
	comp=Z,9.6nm,0.6s						
WMQ	Urumqi	12.51	330	eP	Pn	05 39 28.0	-1.5
CMAR	Chiang Mai Arr	14.91	170	Pn	Pn	05 40 01.7	-0.7
	comp=Z,0.8nm,0.3s,baz=348,slow=11,SNR=3.1						
SONM	Songino Array	16.46	25	Pn	Pn	05 40 23.5	+0.9
	comp=Z,0.9nm,0.3s,baz=202,slow=15,SNR=4.1						
MKAR	Makanchi Array	17.22	326	P	Pn	05 40 32.2	+0.2
	comp=Z,0.2nm,0.3s,baz=137,slow=12,SNR=20						
TLY	Talaya	19.20	14	LR	LR	05 49 03.4	
	comp=Z,138nm,20.6s,baz=168,slow=39						
AAK	Ala-Archa	19.52	305	P	Pn	05 41 00.4	+0.1
	comp=Z,0.1nm,0.3s,baz=93,slow=9.4,SNR=5.3						
AAK				LR	LR	05 49 42.9	
	comp=Z,116nm,19.3s,baz=100,slow=40						
ZALV	Zalesovo Beam	22.24	342	P	P	05 41 28.9	+0.7
	comp=Z,1.1nm,0.3s,baz=156,slow=11,SNR=5.3						
BVAR	Borovoye Array	27.09	325	LR	LR	05 53 46.6	
	comp=Z,91nm,18.3s,baz=224,slow=38						
TRD	Trivandrum	30.40	220	⇓eP	P	05 42 42.2	-1.7
SEY	Seymchan	45.66	32	LR	LR	06 05 32.5	
	comp=Z,154nm,18.3s,baz=122,slow=38						
BRTR	Keskin Array B	49.87	296	P	P	05 45 25.9	+0.8
	comp=Z,1.1nm,0.9s,baz=129,slow=9.7,SNR=4.5						
AKASG	Malin Array Be	51.03	311	P	P	05 45 32.5	-1.0
	comp=Z,0.3nm,0.2s,baz=67,slow=6.9,SNR=3.6						
NOA	NORSAR Array B	59.22	326	P	P	05 46 33.0	+0.5
	comp=Z,0.3nm,0.6s,baz=55,slow=4.8,SNR=3.2						
WRA	Warramunga Arr	64.17	140	P	P	05 47 06.1	-0.3
	comp=Z,1.1nm,0.8s,baz=335,slow=6.6,SNR=5.5						
ASAR	Alice Springs	67.00	143	P	P	05 47 24.1	-0.6
	comp=Z,0.6nm,0.6s,baz=325,slow=6.7,SNR=7.3						
ILAR	Eielson Array	70.69	24	P	P	05 47 46.8	-0.3
	comp=Z,0.2nm,0.8s,baz=285,slow=5.3,SNR=2.9						
TORD	Torodi Ar. Bea	86.66	283	P	P	05 49 16.1	+0.3
	comp=Z,0.3nm,0.8s,baz=62,slow=5.0,SNR=2.7						

*LJU **07** 05:49:04.6, 46.̊39N×15.̊07E, h0km Rockburst*

CSEM 07 05:49:04.6±99.0, 46.̊39N×15.̊07E, h0km, Suspected Mining induced., Northwestern Balkan Peninsula

*IDC **07** 06:19:36.9±1.1, 13.̊89S×166.̊65E, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.1/21, mbtmp4.1/11, ML3.9/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/33, Error ellipse: s-maj=32.6km s-min=21.3km az=107.0*

*NEIC **07** 06:19:38.4±0.5, 13.̊91S×166.̊67E, h10km, mb4.2/2, Error ellipse: s-maj=11.1km s-min=8.5km az=201.0*

*ISCJB **07** 06:19:40.8±0.6, 14.̊12S±0.̊07×166.̊70E±0.̊09, h43km, mb4.1/10, MS3.5/4, Error ellipse: s-maj=12.6km s-min=9.5km az=157.4*

ISC 07 06:19:42.8±0.7, 14.̊04S±0.̊09×166.̊7E±0.̊1, h43km, n20, σ1.̊16/18, mb4.0/10, MS3.5/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.99	182	Pn	Pn	06 21 36.5	+0.1
	1.4nm,0.3s,baz=90,slow=20,SNR=17						
DZM				Sn	Sn	06 23 03.6	-2.0
	0.6nm,0.3s,baz=270,slow=20,SNR=1.1						
MSVF	Nonsavu	11.50	110	ePn	Pn	06 22 24.3	-0.2
CTA	Charters Tower	20.46	250	P	P	06 24 16.1	-0.9
	3.4nm,0.9s,baz=66,slow=20,SNR=2.1						
CTAO	Charters Tower	20.46	250	eP	P	06 24 17.0	0.0
RAO	Raoul Island	20.77	139	eP	Pn	06 24 20.5	-2.4
STKA	Stephens Creek	29.04	228	P	P	06 25 40.3	+1.2
	8.9nm,0.6s,baz=44,slow=8.1,SNR=46						
STKA				LR	LR	06 36 46.6	
	comp=Z,292nm,18.3s,baz=30,slow=35						
RPZ	Rata Peaks	29.80	174	LR	LR	06 36 30.8	
	comp=Z,96nm,19.6s,baz=346,slow=34						
WRAB	Tennant Creek	31.47	255	P	P	06 26 00.2	-0.5
	1.9nm,0.8s						
WRA	Warramunga Arr	31.48	255	P	P	06 25 59.5	-1.3
	3.0nm,1.1s,baz=85,slow=8.6,SNR=8.9						
WRA				LR	LR	06 38 07.5	
	comp=Z,100nm,21.4s,baz=35,slow=35						
ASAR	Alice Springs	32.43	248	P	P	06 26 07.8	-1.3
	1.5nm,0.6s,baz=74,slow=9.1,SNR=16						
RAR	Rarotonga	32.67	107	LR	LR	06 38 24.6	
	comp=Z,46nm,18.9s,baz=154,slow=34						
MJAR	Matsushiro Arr	57.06	333	P	P	06 29 23.5	-1.2
	1.3nm,0.6s,baz=166,slow=8.1,SNR=5.4						
XMIS	Christmas Isla	59.65	266	eP	P	06 29 43.3	+0.1
VNDA	Vanda	63.53	181	P	P	06 30 09.7	+1.4
	1.3nm,0.6s,baz=0.4,slow=5.2,SNR=3.4						
VNDA	Vanda	63.53	181	eP	P	06 30 09.8	+1.5
	1.2nm,0.6s						
CMAR	Chiang Mai Arr	74.19	294	P	P	06 31 16.8	+1.2
	0.5nm,0.3s,baz=105,slow=5.7,SNR=3.3						
MAW	Mawson	82.32	202	P	P	06 32 00.5	+0.9
	1.0nm,0.4s,baz=198,slow=6.4,SNR=4.3						
ILAR	Eielson Array	86.04	18	P	P	06 32 17.4	-1.1
	0.6nm,0.7s,baz=241,slow=4.8,SNR=7.6						
MKAR	Makanchi Array	96.34	317	P	P	06 33 06.8	-0.3
	0.3nm,0.6s,baz=106,slow=9.2,SNR=3.2						
KEST	Kesra	150.35	321	PKPbc	PKPbc	06 39 31.0	+0.9
	2.1nm,1.0s,baz=72,slow=2.5,SNR=5.1						

NNC 07 06:21:47.4±3.3, 48.̊44N×69.̊42E, h0km, mb3.6, mpv3.2, 7C-1D, Error ellipse: s-maj=29.0km s-min=16.7km az=50.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BVA0	Borovoye Array	4.63	7	⇑Pn	Pn	06 22 59.9	+1.3
	2.3nm,0.5s,baz=185,slow=15,SNR=14						
BVA0				⇑Sn	Sn	06 23 53.7	+0.6
	5.1nm,0.6s,baz=190,slow=27						
BRVK	Borovoye	4.66	6	⇑Pn	Pn	06 22 58.9	0.0
	2.5nm,0.5s						
BRVK				⇓Sn	Sn	06 23 54.8	+1.2
	4.1nm,0.6s						
KURBB	Kurchatov Arra	6.32	66	⇑Pn	Pn	06 23 22.0	+0.3
	1.0nm,0.5s						
KURBB				⇑Lg	Lg	06 25 09.8	
	8.9nm,0.7s						
KURK	Kurchatov	6.40	66	⇑Pn	Pn	06 23 21.2	-1.7
	1.9nm,1.5s						
KURK				⇑Lg	Lg	06 25 10.9	
	1.5nm,0.7s						

MEX 07 06:30:13.1±0.5, 16.̊92N×100.̊33W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.14	27	i P	Pg	06 30 15.2	-0.8
CAIG				eS	Sg	06 30 18.1	+0.2
ACX	Acapulco	0.46	97	i P	Pg	06 30 20.8	-1.1
ACX				eS	Sg	06 30 25.9	-2.0
ZIIG	Zihuatanejo	1.28	302	i P	Pn	06 30 33.3	-4.3
ZIIG				i S	Sg	06 30 50.9	-3.3
ARIG	Puente Sto Nin	1.35	359	i P	Pn	06 30 35.0	-3.7
ARIG				eS	Sb	06 30 51.5	-5.1
PLIG	Platanillo	1.66	28	i P	Pn	06 30 39.7	-3.4
PLIG				i S	Sn	06 31 00.6	-4.3
TLIG	Tlapa	1.80	69	i P	Pn	06 30 41.9	-3.1
TLIG				eS	Sn	06 31 04.1	-4.3

NNC 07 06:31:38.3±1.7, 37.̊67N×71.̊75E, h188km±12km, mb2.5, mpv3.6, 8C-5D, Error ellipse: s-maj=15.5km s-min=5.9km az=158.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZET	Dzherino	2.56	297	⇑P	Pn	06 32 22.0	-0.3
	7.5nm,0.3s						
DZET				⇑S	Sn	06 32 57.2	+0.5
	98nm,0.5s						
SFK	Sufi-Kurgan	2.71	30	⇑P	Pn	06 32 23.9	-0.3
	16nm,0.4s						
SFK				⇓S	Sn	06 33 00.3	+0.1
	29nm,0.4s						
MNAS	Manas	4.85	7	⇓P	Pn	06 32 51.4	+0.8
	8.6nm,0.3s						
MNAS				⇓S	Sn	06 33 48.1	+0.5
	20nm,0.7s						
AAK	Ala-Archa	5.39	22	⇓P	Pn	06 32 57.2	-0.4
	3.3nm,0.4s						
AAK				⇑S	Sn	06 34 00.9	+0.8
	11nm,0.7s						
KK02	Karatay Array	5.51	351	⇑P	Pn	06 32 59.8	+0.8
	1.6nm,0.6s,baz=169,slow=12						
KK01	Karatay Array	5.51	350	⇑S	Sn	06 34 03.0	+0.3
	4.1nm,0.3s,baz=173,slow=21						
AB31	Akbulak array	14.38	327	⇓P	Pn	06 34 53.8	+0.6
	0.3nm,0.4s,baz=172,slow=13,SNR=5.0						
AB31				⇑S	Sn	06 37 28.5	-5.2
	0.8nm,0.5s						
AKTO	Aktyubinsk	16.10	327	⇑P	Pn	06 35 15.0	+0.9
	1.2nm,0.5s						

IDC 07 06:34:10.8±3.2, 4.̊07S×153.̊63E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=106.7km s-min=49.6km az=108.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.55	228	P	P	06 39 32.9	+0.4
	1.4nm,0.5s,baz=53,slow=9.9,SNR=24						
ASAR	Alice Springs	27.25	223	P	P	06 39 56.3	-0.6
	0.3nm,0.6s,baz=61,slow=8.4,SNR=2.3						
STKA	Stephens Creek	29.88	201	P	P	06 40 20.4	+0.1
	1.1nm,0.7s,baz=23,slow=15,SNR=4.1						
TORD	Torodi Ar. Bea	150.85	290	PKPbc	PKPbc	06 54 06.0	-0.5
	0.5nm,0.6s,baz=59,slow=2.5,SNR=4.6						

*IDC **07** 06:35:48.1±0.7, 5.̊30S×152.̊11E, h0km, mb4.3/13, mb1 4.6/13, mb1mx4.4/19, mbtmp4.3/13, MS3.2/5, Ms1 3.2/5, ms1mx3.0/25, Error ellipse: s-maj=28.9km s-min=17.6km az=112.0*

*ISCJB **07** 06:35:53.2±0.3, 5.̊32S±0.̊05×152.̊09E±0.̊06, h40km, mb4.6/39, MS3.2/5, Error ellipse: s-maj=10.4km s-min=5.8km az=36.8*

*BJI **07** 06:35:55.0, 5.̊28S×152.̊22E, h51km, mb4.8/15, mB4.8/7, Ms4.9/4, Ms7 4.5/3*

*NEIC **07** 06:35:57.9±1.6, 5.̊27S×151.̊91E, h69km±15km, mb4.8/27, Error ellipse: s-maj=13.8km s-min=8.9km az=118.0*

ISC 07 06:35:54.9±0.5, 5.̊42S±0.̊06×152.̊29E±0.̊08, h40km, n67, σ1.̊75/86, mb4.7/38, MS3.2/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.45	232	ePn	Pn	06 37 27.9	+0.6
PMG				eSn	Sn	06 38 39.1	-0.6
CTA	Charters Tower	15.72	201	Pn	P	06 39 37.2	+0.1
	0.2nm,0.3s,baz=25,slow=13,SNR=5.3						
CTAO	Charters Tower	15.72	201	ePn	Pn	06 39 34.9	+1.4
EIDS	Eidsvold	19.87	183	ePn	Pn	06 40 25.7	+1.1
	20nm,1.0s						
GUMO	Guam	20.27	339	LR	LR	06 46 28.9	
	comp=Z,61nm,21.8s,baz=101,slow=32						
DZM	Mont Dzumac	21.48	142	P	P	06 40 40.1	-0.2
	6.6nm,0.9s,baz=136,slow=5.5,SNR=3.3						
WRAB	Tennant Creek	22.64	229	eP	P	06 40 50.1	-2.6
	11nm,0.7s						
WRA	Warramunga Arr	22.66	229	P	P	06 40 50.8	-2.1
	4.9nm,0.6s,baz=52,slow=9.9,SNR=21						
WRA				PcP	PcP	06 44 44.2	-0.5
	1.7nm,0.9s,baz=46,slow=2.1,SNR=5.7						
AS31	Alice Springs	25.35	222	eP	P	06 41 17.8	-0.6
ASAR	Alice Springs	25.35	222	P	P	06 41 17.0	-1.4
	3.1nm,0.6s,baz=54,slow=9.2,SNR=28						
STKA	Stephens Creek	28.16	200	P	P	06 41 42.0	-1.5
	0.8nm,0.4s,baz=25,slow=14,SNR=3.7						
STKA	Stephens Creek	28.16	200	eP	P	06 41 43.9	+0.4
	1.4nm,1.2s						
MJAR	Matsushiro Arr	43.78	344	PcP	PcP	06 45 41.2	-1.8
	1.6nm,0.7s,baz=176,slow=4.9,SNR=3.9						
MJAR				LR	LR	07 00 42.8	
	comp=Z,34nm,21.0s,baz=170,slow=34						
KSRS	Korea Array	48.33	334	P	P	06 44 29.4	-3.0
	0.4nm,0.3s,baz=149,slow=9.2,SNR=2.8						
KSRS				LR	LR	07 05 44.9	
	comp=Z,12nm,18.1s,baz=160,slow=37						
KSAR	Wonju Array Be	48.33	334	P	P	06 44 29.4	-3.1
QIZ	Qiongzhong	48.35	301	P	P	06 44 31.5	-1.5
QIZ				pP	pP	06 44 45.5	+1.0
QIZ				sP	sP	06 44 51.4	+2.2
QIZ				PP	PP	06 46 24.6	-1.3
QIZ				S	S	06 51 28.8	-2.0
QIZ				PMZ			
	19nm,1.8s						
NJ2	Nanjing	49.01	322	eP	P	06 44 36.2	-1.6
NJ2				PMZ			
	10.0nm,0.6s						
BJI	Beijing	56.13	327	P	P	06 45 29.6	-0.8
BJI				PMZ			
	10.0nm,0.7s						
PETK	Petropavlovsk-	58.49	4	P	P	06 45 45.3	-1.6

	0.7nm,0.3s,baz=161,slow=15,SNR=2.5						
PETK				LR	LR	07 07 09.4	
	comp=Z,34nm,20.9s,baz=175,slow=32						
CD2	Chengdu	58.76	311	eP	P	06 45 48.5	-0.7
CD2				pP	pP	06 46 03.1	+2.2
CD2				PcP	PcP	06 46 37.7	-1.0
CD2				PP	PP	06 47 58.8	-0.8
CD2				PcS	PcS	06 50 39.5	-1.1
CD2				S	S	06 53 50.0	-1.8
CD2				sS	sS	06 54 15.1	+3.9
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.4s						
HHC	Hu-ho-hao-te	59.26	325	eP	P	06 45 51.6	-0.9
HHC				PP	PP	06 48 07.2	+3.3
HHC				S	S	06 53 53.6	-4.4
HHC				sS	sS	06 54 23.4	+5.9
HHC				SS	SS	06 57 52.8	-0.5
HHC				PMZ			
	17nm,1.1s						
HHC				PMZ			
	49nm,7.3s						
HHC				LN			
	89nm,15.8s						
HHC				LE			
	100nm,15.7s						
LZH	Lanzhou	61.32	316	eP	P	06 46 09.3	+2.4
LZH				pP	pP	06 46 23.8	+5.2
LZH				sP	sP	06 46 30.2	+6.9
LZH				PP	PP	06 48 27.0	+4.7
LZH				PMZ			
	20nm,1.3s						
LZH				PMZ			
	76nm,6.5s						
LZH				LN			
	310nm,15.0s						
LZH				LE			
	330nm,14.7s						
LZH				LZ			
	410nm,18.5s						
WMQ	Urumqi	75.85	318	P	P	06 47 37.3	0.0
WMQ				pP	PcP	06 47 53.9	+4.2
WMQ				sP	sP	06 48 00.8	+6.9
WMQ				PP	PP	06 50 29.4	+1.5
SVW2	Sparrevohn	77.59	23	eP	P	06 47 47.4	+0.8
	9.4nm,0.8s						
RSO	Redoubt South	78.36	24	eP	P	06 47 49.9	-1.2
	17nm,0.9s						
BRLK	Bradley Lake	78.77	26	eP	P	06 47 53.2	0.0
	17nm,0.7s						
RC01	Rabbit Creek A	79.95	25	eP	P	06 47 59.2	-0.4
	15nm,0.6s						
MKAR	Makanchi Array	80.46	319	P	P	06 48 00.9	-1.8
	1.8nm,0.8s,baz=104,slow=5.8,SNR=10						
MKAR	Makanchi Array	80.46	319	eP	P	06 48 01.9	-0.8
PMR	Palmer	80.46	24	eP	P	06 48 01.5	-0.7
	29nm,1.3s						
KTH	Kantishna Hill	80.78	22	eP	P	06 48 03.0	-1.1
	17nm,1.0s						
TRF	Thorofare Moun	80.97	23	eP	P	06 48 04.2	-0.9
	6.4nm,0.6s						
BPAW	Bear Paw Mtn.	81.05	22	eP	P	06 48 04.4	-1.0
	1.7nm,1.1s						
IM04	Indian Mountai	81.12	20	eP	P	06 48 05.9	+0.1
ZALV	Zalesovo Beam	81.39	326	P	P	06 48 05.4	-2.0
	1.0nm,0.3s,baz=94,slow=6.5,SNR=2.6						
MCK	McKinley	81.63	23	eP	P	06 48 07.5	-1.0
	29nm,0.9s						
DIV	Divide	81.65	26	eP	P	06 48 09.3	+0.6
DHY	Denali Highway	81.91	24	eP	P	06 48 10.3	+0.1
	6.0nm,0.9s						
BMRM	Bremner River	82.08	26	eP	P	06 48 11.4	+0.4
	9.1nm,1.0s						
HARP	HAARP	82.50	25	eP	P	06 48 13.9	+0.8
	12nm,0.8s						
CCB	Clear Creek Bu	82.52	22	eP	P	06 48 11.8	-1.3
	9.8nm,0.8s						
COLA	College	82.61	22	eP	P	06 48 12.7	-0.9
	14nm,0.7s						
PAX	Paxson	82.62	24	eP	P	06 48 13.8	-0.1
	3.4nm,0.7s						
HDA	Harding Lake	82.72	22	eP	P	06 48 13.1	-1.1
	4.2nm,0.8s						
ILAR	Eielson Array	82.92	22	P	P	06 48 13.7	-1.6
	7.6nm,0.7s,baz=247,slow=5.4,SNR=155						
KSH	Kashi	82.95	311	eP	P	06 48 17.4	+1.3
KSH				epP	pP	06 48 33.0	+4.7
KSH				esP	sP	06 48 42.0	+9.1
COLD	Coldfoot	83.01	19	eP	P	06 48 15.7	+0.1
	7.5nm,1.3s						
KURK	Kurchatov	83.94	322	eP	P	06 48 19.2	-1.6
	3.2nm,1.0s						
EGAK	Eagle	85.13	23	eP	P	06 48 26.2	-0.2
	9.3nm,0.9s						
HYT	Haines Junctio	85.22	28	eP	P	06 48 28.1	+0.9
DAWY	Dawson	85.56	24	eP	P	06 48 28.5	-0.2
	16nm,1.3s						
BESE	Bessie Mountai	85.77	30	eP	P	06 48 31.1	+1.2
	4.7nm,1.0s						
BBB	Bella Bella	87.89	37	LR	LR	07 23 55.3	
	comp=Z,22nm,19.2s,baz=140,slow=33						
DLBC	Dease Lake	88.17	31	eP	P	06 48 42.5	+0.9
	11nm,1.1s						
INK	Inuvik	89.21	21	P	P	06 48 45.3	-0.8
	4.7nm,1.2s,baz=249,slow=11,SNR=3.7						
HUMO	Hull Mountain	89.78	47	eP	P	06 48 51.7	+2.3
	6.7nm,1.0s						
I07A	Izee	92.44	46	eP	P	06 49 02.8	+0.9
NVAR	Mina Array Bea	92.87	52	P	P	06 49 04.5	+0.3
	1.9nm,0.8s,baz=254,slow=7.1,SNR=12						
PFO	Pinyon Flats O	94.01	57	eP	P	06 49 09.5	+0.2
	2.9nm,0.5s						
ABKAR	Akbulak array	95.60	319	eP	P	06 49 13.9	-2.2
	0.2nm,0.3s						
YKA	Yellowknife Ar	96.21	28	P	P	06 49 17.0	-1.5
	0.9nm,0.7s,baz=269,slow=5.4,SNR=4.5						
PDAR	Pinedale Array	99.64	48	P	Pdif	06 49 34.8	0.0
	0.9nm,0.9s,baz=328,slow=3.2,SNR=3.8						
GERES	GERESS Array B	124.31	328	PKP	PKPdf	06 54 49.2	-0.5
	0.3nm,0.3s,baz=85,slow=2.5,SNR=3.3						
LPAZ	La Paz	134.57	119	PKP	PKPdf	06 55 11.2	+0.5
	0.9nm,1.0s,baz=206,slow=7.2,SNR=3.6						
LPAZ	La Paz	134.57	119	PKP	PKPdf	06 55 11.2	+0.5
LPAZ				ePKPdf	PKiKP	06 55 11.8	-0.4
TOA0	Torodi Ar. Sit	150.01	287	ePKPdf	PKPdf	06 55 36.6	-0.6
TOA0				ePKPbc	PKPbc	06 55 41.0	-1.2
TOA0				ePKPab	PKiKP	06 55 45.7	+2.6
TORD	Torodi Ar. Bea	150.01	287	PKPbc	PKPbc	06 55 40.7	-1.5
	5.1nm,0.8s,baz=69,slow=2.2,SNR=33						

*IDC **07** 06:52:39.8±1.9, 32°01N×115°23W, h0km, mb2.9/1, mb1 3.4/5, mb1mx3.3/26, mbtmp3.1/5, ML3.2/4, MS3.4/1, Ms1 3.4/1, ms1mx2.9/4, Error ellipse: s-maj=30.5km s-min=9.0km az=38.0*

*MEX **07** 06:52:41.9±0.4, 32°23N×115°04W, h6km±7km, MD4.2*

*ECX **07** 06:52:42.9±0.5, 32°08N×115°07W, h8km, MD3.8, ML4.0, Fault plane solution: NP1:ϕ_s120.00000°, δ90.00000°, λ0.00000°.*

*NEIC **07** 06:52:43.0, 32°07N×115°08W, h8km, ML4.0(ECX), ML4.0(PAS), After ECX.*

ISC 07 06:52:41.6±1.0**, 32°06N**±0°02×**115°10W**±0°02**, h9**km±8km**, n76,** σ1§61/133**, 6C-12D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.40	334	⇑eP	Pb	06 52 50.2	-0.7
CPBX				⇑eP	Pg	06 52 50.4	+0.8
CPBX				eS	Sg	06 52 55.6	+0.8
CPBX				⇑e		06 52 59.4	
CPBX				IAML		06 52 59.4	
	comp=N,48µm,0.3s						
ECBX	El Chinero	0.58	176	⇑eP	Pg	06 52 53.2	+0.3
ECBX				eS	Sg	06 53 01.6	+1.0
YMD	Yuma Desert	0.68	43	⇑iP	Pg	06 52 54.2	-0.7
EMSC	East Mesa	0.69	8	ePn	Pg	06 52 54.6	-0.4
RDX	Rancho Dawling	0.73	260	eP	Pb	06 52 56.5	-0.1
RDX				eS	Sb	06 53 06.6	-0.2
RDX				⇓e		06 53 08.8	
RDX				IAML		06 53 10.1	
	comp=N,3µm,0.5s						
RDX				⇓e		06 53 10.1	
SGL	Mount Signal	0.80	318	⇓iP	Pg	06 52 56.8	-0.2
DREC	Desert Rsrch C	0.81	338	⇓eP	Pg	06 52 57.2	+0.1
COA	Coachella	0.81	358	⇓iP	Pg	06 52 56.1	-1.0
WESC	Westside Schoo	0.88	323	⇓eP	Pg	06 52 58.3	-0.4
YUH	Yuha Desert	0.92	310	ePn	Pg	06 52 58.2	-1.1
RMX	La Rumorosa	0.99	304	⇓eP	Pg	06 53 00.3	-0.5
RMX				eSn	Sb	06 53 14.0	-0.4
GLA	Glamis	1.02	13	P	Pg	06 52 59.0	-2.2
	baz=1.0						
GLA				S	Sg	06 53 12.2	-2.3
	baz=1.0						
GLA	Glamis	1.02	13	ePg	Pg	06 52 59.5	-1.7
GLA				eSg	Sg	06 53 13.3	-1.2
IBP	Imperial Bould	1.04	306	P	Pg	06 53 00.7	-0.9
	baz=1.0						
IBP				S	Sg	06 53 14.6	-0.5
	baz=1.0						
SPIG	San Pedro Mart	1.05	198	eP	Pg	06 53 01.9	0.0
SPIG				iS	Sn	06 53 18.2	+0.4
SPIG	San Pedro Mart	1.05	198	eP	Pg	06 53 01.9	0.0
SPIG				iS	Sn	06 53 18.2	+0.4
SPIG	San Pedro Mart	1.05	198	⇓eP	Pg	06 53 01.7	-0.2
SPX	San Pedro Mart	1.05	197	iP	Pb	06 53 02.3	0.0
SPX				eS	Sn	06 53 17.2	-0.6
SPX	San Pedro Mart	1.05	197	⇓eP	Pg	06 53 01.7	-0.2
SWSC	Sam W. Stewart	1.06	326	P	Pg	06 53 00.1	-2.0
	baz=1.1						
ECNX	Esteban Cantu	1.34	253	⇓eP	Pn	06 53 06.5	-0.1
CBX	Cerro Bola	1.35	281	eP	Pn	06 53 04.2	-2.6
CBX				iS	Sb	06 53 21.1	-3.7
CBX	Cerro Bola	1.35	281	eP	Pn	06 53 04.2	-2.6
CBX				iS	Sb	06 53 21.1	-3.7
CBX	Cerro Bola	1.35	281	⇑eP	Pn	06 53 06.3	-0.5
CBX				IAML		06 53 28.0	
	comp=E,5µm,0.4s						
CBX				⇓e		06 53 28.0	
MONP	Monument Peak,	1.40	307	P	Pn	06 53 05.9	-1.6
	baz=1.4						
MONP				S	Sn	06 53 26.0	-0.1
	baz=1.4						
PBX	Punta Banda	1.42	258	⇓eP	Pn	06 53 07.3	-0.3
BAR	Barrett	1.47	295	ePn	Pn	06 53 07.8	-0.6
BAR				eSn	Sn	06 53 27.7	-0.1
BC3	Big Chuckawall	1.62	349	P	Pn	06 53 08.2	-2.4
	baz=1.6						
BC3				S	Sn	06 53 28.2	-3.5
	baz=1.6						
109C	Camp Elliot, M	1.89	297	P	Pn	06 53 13.0	-1.0
	baz=1.9						
109C				Sb	Sb	06 53 39.7	-0.3
	baz=1.9						
PFO	Pinyon Flats O	1.93	324	Pn	Pn	06 53 12.6	-2.2
	baz=137,slow=12						
PFO				Sn	Sn	06 53 36.4	-2.8
	comp=E,36nm,0.3s,baz=126,slow=15,SNR=4.6						
PFO				LR	LR	06 53 47.7	
	comp=E,106nm,19.1s,baz=139,slow=36						
PFO	Pinyon Flats O	1.93	324	P	Pn	06 53 12.5	-2.2
	baz=1.9						
PFO	Pinyon Flats O	1.93	324	ePn	Pn	06 53 12.8	-1.9
PFO				eSn	Sn	06 53 38.2	-0.9
214A	Organ Pipe Nat	1.94	92	P	Pn	06 53 12.5	-2.3
	baz=1.9						
214A				S	Sn	06 53 36.4	-3.0
	baz=1.9						
214A	Organ Pipe Nat	1.94	92	ePn	Pn	06 53 12.8	-2.1
214A				eSn	Sb	06 53 40.8	-0.8
IRM	Iron Mountain	2.10	359	Pb	Pn	06 53 15.2	-1.8
	baz=2.1						
MURC	Murrieta	2.35	312	Pg	Pb	06 53 24.6	+0.4
	baz=2.3						
MURC				Sb	Sb	06 53 54.4	+1.2
	baz=2.3						
GMRC	Granite Mounta	2.76	350	Pb	Pn	06 53 27.7	+1.5
	baz=2.8						
GMRC				S	Sn	06 53 55.8	-3.9
	baz=2.8						
CIS	Catalina Islan	3.10	297	P	Pn	06 53 30.2	-0.5
	baz=3.1						
CIS				Sb	Sb	06 54 16.3	+1.5
	baz=3.1						
FMP	Fort Macarthur	3.16	302	Sb	Sb	06 54 18.2	+1.7
	baz=3.2						
MWC	Mount Wilson	3.29	312	ePn	Pn	06 53 36.3	+2.7
MWC				eSn	Sn	06 54 16.0	+3.0
PASC	Pasadena Art C	3.34	310	ePn	Pn	06 53 35.2	+1.1
PASC				eSn	Sn	06 54 16.2	+2.3
DECC	Green Verdugo	3.49	310	Sb	Sb	06 54 28.2	+2.2
	baz=3.5						
GSC	Goldstone, Bar	3.54	337	ePn	Pn	06 53 39.0	+2.2
TUC	Tucson	3.66	85	ePn	Pn	06 53 36.3	-2.3
TUC				ePg	Pg	06 53 52.7	+0.8
TUC				eSn	Sn	06 54 21.3	-0.7
TUC				eSg	Sg	06 54 37.7	-1.6
OSI	Osito Audit: C	3.97	311	Pn	Pn	06 53 43.2	+0.5
OSI				eSg	Sg	06 54 47.7	-1.3
SHPR	Sheep Range	4.44	359	ePn	Pn	06 53 49.7	+0.4
SHPR				eSn	Sn	06 54 43.0	+1.8
SHPR				eSg	Sg	06 55 03.8	-0.5
MPMC	Manual Prospec	4.46	334	Pb	Pb	06 53 58.8	-1.5
	baz=4.5						
ISA	Isabella, Lake	4.56	323	ePn	Pn	06 53 52.3	+1.3
ISA				eSn	Sn	06 54 45.8	+1.7
ISA				eSg	Sg	06 55 08.9	+0.7
WUAZ	Wupatki	4.64	41	P	Pn	06 53 52.9	+0.8
	baz=4.6						
WUAZ	Wupatki	4.64	41	ePn	Pn	06 53 53.1	+1.0
WUAZ				eSn	Sn	06 54 47.0	+0.9
DAC	Darwin (Calif)	4.69	335	ePn	Pn	06 53 52.9	0.0
DAC				eSg	Sg	06 55 13.3	+1.0
W18A	Petrified Fore	5.42	54	P	Pn	06 54 03.4	+0.7
	baz=5.4						
W18A	Petrified Fore	5.42	54	ePn	Pn	06 54 03.4	+0.7
	comp=E,24nm,0.5s						
W18A				eSn	Sn	06 55 04.3	-1.0
CCUT	Cedar City	5.67	14	ePn	Pn	06 54 07.5	+1.3
	comp=E,27nm,0.8s						
CCUT				ePg	Pg	06 54 29.8	-0.3
CCUT				eSg	Sg	06 55 41.6	-1.9
121A	Cookes Peak, D	6.21	84	P	Pn	06 54 12.8	-0.9
	baz=6.2						
121A	Cookes Peak, D	6.21	84	ePn	Pn	06 54 13.0	-0.6
	comp=E,14nm,0.6s						
121A				eSn	Sn	06 55 22.1	-2.8
121A				eSg	Sg	06 56 03.5	+2.6
TPH	Tonopah	6.25	344	ePn	Pn	06 54 16.3	+2.1
	comp=E,20nm,1.1s						
TPH				eSn	Sn	06 55 26.5	+0.6
R11A	Troy Canyon, C	6.29	356	ePn	Pn	06 54 15.9	+1.2
	comp=E,8.8nm,0.9s						
R11A				eSn	Sn	06 55 26.8	-0.1
R11A				eSg	Sg	06 56 05.0	+1.4
CGIG		6.33	104	iP	Pn	06 54 13.8	-1.5
CGIG				iS	Sn	06 55 25.4	-2.4
CGIG		6.33	104	iP	Pn	06 54 13.8	-1.5
CGIG				iS	Sn	06 55 25.4	-2.4
MVU	Marysvale	6.85	19	ePn	Pn	06 54 23.4	+0.8
	comp=E,19nm,0.9s						
MVU				ePg	Pg	06 54 52.0	-0.9
MVU				eSn	Sn	06 55 42.7	+1.9
MVU				eSg	Sg	06 56 22.2	+0.6
MSU	Marysvale	6.87	20	Pn	Pn	06 54 31.5	+8.7
	comp=E,21nm,0.7s						
MSU				ePg	Pg	06 54 51.9	-1.3
MSU				eSn	Sn	06 55 43.4	+2.2
MSU				eSg	Sg	06 56 20.6	-1.6
NVAR	Mina Array Bea	6.88	338	Pn	Pn	06 54 22.4	-0.4
	comp=E,0.1nm,0.3s,baz=146,slow=14,SNR=2.3						
LAZ	Ladron	7.07	69	ePn	Pn	06 54 26.8	+1.4
	comp=E,3.7nm,0.8s						
LAZ				eSn	Sn	06 55 48.1	+2.1
WAKR	Walker	7.35	332	ePn	Pn	06 54 29.2	-0.1
MVCO	Mesa Verde	7.48	45	P	Pn	06 54 32.9	+1.7
	baz=7.5						
MVCO	Mesa Verde	7.48	45	ePn	Pn	06 54 33.1	+2.0
	comp=E,22nm,0.9s						
MVCO				eSn	Sn	06 55 55.5	-0.8
ANMO	Albuquerque	7.77	66	Pn	Pn	06 54 37.7	+2.6
	comp=E,0.1nm,0.3s,baz=222,slow=14,SNR=2.5						
ANMO				Pg	Pg	06 55 05.5	-4.9
	comp=E,0.1nm,0.3s,baz=251,slow=16,SNR=2.7						
SRU	San Rafael Swe	7.96	27	Pn	Pn	06 54 35.6	-2.1
	comp=E,22nm,0.8s						
SRU				ePg	Pg	06 55 14.3	+0.2
SRU				eSn	Sn	06 56 08.5	+0.5
SRU				eSg	Sg	06 56 59.5	+2.3
PV01	Paradox Valley	8.08	40	ePn	Pn	06 54 42.5	+3.1
	comp=E,1µm,1.1s						
PV01				Sn	Sn	06 56 09.0	-2.1
PV04	Paradox Valley	8.10	37	ePn	Pn	06 54 43.3	+3.7
SAC	San Andreas	8.16	315	ePn	Pn	06 54 40.7	+0.4
ELK	Elko	8.67	359	Pn	Pn	06 54 50.2	+2.8
	comp=E,0.1nm,0.3s,baz=172,slow=14,SNR=2.6						
ELK				Sn	Sn	06 56 25.0	-0.6
	comp=E,0.1nm,0.3s,baz=245,slow=19,SNR=2.4						
ELK				Lg	Lg	06 57 21.4	
	comp=E,0.1nm,0.3s,baz=255,slow=11,SNR=4.1						
TXAR	Lajitas Array	10.21	102	Pn	Pn	06 55 10.3	+1.9
	comp=E,0.4nm,0.3s,baz=287,slow=13,SNR=28						
TXAR				Sn	Sn	06 57 02.2	-0.8
	comp=E,0.1nm,0.3s,baz=303,slow=22,SNR=3.8						
TXAR				Lg	Lg	06 58 06.8	
	comp=E,0.1nm,0.3s,baz=284,slow=30,SNR=5.4						
YBH	Yreka Blue Hor	11.41	330	LR	LR	07 00 25.9	
	comp=E,175nm,18.9s,baz=46,slow=41						
ILAR	Eielson Array	38.14	339	P	P	07 00 00.8	0.0
	comp=E,0.1nm,0.5s,baz=153,slow=7.8,SNR=1.6						

*NEIC **07** 07:04:11.0, 32°10N×115°06W, h2km, ML3.0(ECX), ML3.0(PAS), After ECX.*

ECX 07 07:04:11.4±0.4**, 32°10N×115°06W, h12**km**, MD2.7, ML3.0, 6C, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.38	327	ePn	Pg	07 04 18.5	-0.5
CPBX				eS	Sg	07 04 23.8	-0.3
CPBX				IAML		07 04 27.0	
	comp=E,4µm,0.2s						
ECBX	El Chinero	0.63	179	ePn	Pg	07 04 19.7	-3.9
ECBX				eS	Sg	07 04 28.6	-3.2
YMD	Yuma Desert	0.63	44	⇑iP	Pg	07 04 22.7	-1.0
YMD				⇑iP	Pg	07 04 22.7	-1.0
EMSC	East Mesa	0.64	6	ePn	Pg	07 04 22.9	-0.9
EMSC				ePn	Pg	07 04 22.9	-0.9
COA	Coachella	0.76	356	ePn	Pg	07 04 24.6	-1.6
RDX	Rancho Dawling	0.77	257	⇑eP	Pg	07 04 25.1	-1.4
RDX				eS	Sg	07 04 35.9	-0.9
RDX				IAML		07 04 37.8	
	comp=N,508nm,0.4s						
RDX				⇑e		07 04 37.8	
SGL	Mount Signal	0.78	315	ePn	Pg	07 04 25.3	-1.3
SGL				ePn	Pg	07 04 25.3	-1.3
YUH	Yuha Desert	0.91	307	ePn	Pg	07 04 27.1	-1.9
GLA	Glamis	0.97	12	Pg	Pg	07 04 28.9	-1.3
GLA				eSg	Sg	07 04 41.7	-1.3
RMX	La Rumorosa	0.99	301	ePn	Pb	07 04 28.8	-2.0
RMX				eS	Sg	07 04 42.3	-1.7
RMX				IAML		07 04 43.5	
	comp=N,370nm,0.1s						
RMX				⇑e		07 04 43.5	
SPX	San Pedro Mart	1.11	198	eP	Pb	07 04 30.3	-2.6
SPX				eS	Sb	07 04 46.0	-1.6
CBX	Cerro Bola	1.37	279	ePn	Pn	07 04 35.1	-1.5
CBX				eS	Sn	07 04 53.3	-1.6
CBX				IAML		07 04 55.6	
	comp=E,411nm,0.5s						
CBX				⇑e		07 04 55.6	
ECNX	Esteban Cantu	1.38	252	eP	Pn	07 04 35.4	-1.3
PBX	Punta Banda	1.46	256	eP	Pn	07 04 36.1	-1.5
BAR	Barrett	1.48	293	ePn	Pn	07 04 37.1	-0.8
BAR				eSn	Sn	07 04 55.9	-1.3
PFO	Pinyon Flats O	1.91	322	Pn	Pn	07 04 43.2	-0.7
PFO				eSn	Sn	07 05 05.1	-2.9
214A	Organ Pipe Nat	1.92	94	Pn	Pn	07 04 41.4	-2.5
214A				eSn	Sb	07 05 09.5	-0.8
MWC	Mount Wilson	3.29	311	Pn	Pn	07 05 03.7	+0.7
GSC	Goldstone, Bar	3.51	336	ePn	Pn	07 05 06.7	+0.8
GSC				eSn	Sn	07 05 47.7	+0.3
TUC	Tucson	3.63	86	ePn	Pn	07 05 08.4	+0.8
TUC				ePg	Pg	07 05 21.1	0.0
TUC				eSn	Sn	07 05 53.4	+2.9
TUC				eSg	Sg	07 06 06.7	-1.6
SHPR	Sheep Range	4.39	359	ePn	Pn	07 05 18.1	-0.1
SHPR				ePg	Pg	07 05 34.2	-1.7
SHPR				eSg	Sg	07 06 32.0	-1.0
WUAZ	Wupatki	4.59	41	Pn	Pn	07 05 22.6	+1.7
WUAZ				Sg	Sg	07 06 36.9	-2.2
DAC	Darwin (Calif)	4.66	334	Pn	Pn	07 05 20.4	-1.6
CCUT	Cedar City	5.61	14	ePn	Pn	07 05 35.0	0.0
	comp=E,5.2nm,1.0s						
CCUT				ePg	Pg	07 06 00.3	+1.0
TPH	Tonopah	6.22	344	ePn	Pn	07 05 45.5	+2.3
R11A	Troy Canyon, C	6.25	356	ePn	Pn	07 05 45.7	+2.0
R11A				ePg	Pg	07 06 11.7	+0.3
R11A				eSn	Sn	07 06 59.8	+4.5
R11A				eSg	Sg	07 07 31.9	-0.6
MSU	Marysvale	6.82	19	ePn	Pn	07 05 56.0	+4.4
	comp=E,4.7nm,1.0s						
MSU				ePg	Pg	07 06 20.1	-2.2
WAKR	Walker	7.32	332	ePn	Pn	07 05 59.5	+1.0

NEIC 07 07:05:59.6, 32°09N×115°08W, h10km**, ML2.9**(PAS)**, After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLA	Glamis	0.98	12	ePg	Pg	07 06 17.0	-1.7
GLA				eSg	Sg	07 06 30.3	-1.2
BAR	Barrett	1.47	294	ePn	Pn	07 06 26.2	-0.1
BAR				eSn	Sn	07 06 44.8	-0.9
PFO	Pinyon Flats O	1.91	323	Pn	Pn	07 06 31.6	-0.8
PFO				eSn	Sn	07 06 52.6	-4.0
214A	Organ Pipe Nat	1.93	93	ePn	Pn	07 06 30.1	-2.4
214A				eSg	Sg	07 07 02.1	+0.4
GSC	Goldstone, Bar	3.51	336	ePn	Pn	07 06 54.2	-0.2
GSC				eSn	Sn	07 07 36.0	-0.1
TUC	Tucson	3.64	85	ePn	Pn	07 06 57.5	+1.3
TUC				eSn	Sn	07 07 40.4	+1.0
SHPR	Sheep Range	4.41	359	ePn	Pn	07 07 07.2	+0.5
SHPR				eSn	Sn	07 07 59.6	+1.3
CCUT	Cedar City	5.63	14	ePn	Pn	07 07 19.4	-4.2
CCUT				eSn	Sn	07 08 26.8	-1.8
TPH	Tonopah	6.22	344	ePn	Pn	07 07 31.0	-0.9
TPH	Tonopah	6.22	344	eSg	Pn	07 07 31.0	-0.8

*ISCJB **07** 07:29:55.2±0.4, 59°88N±0°02×24°74E±0°05, h0km, Error ellipse: s-maj=4.0km s-min=3.2km az=24.7*

*CSEM **07** 07:29:55.6±0.2, 59°89N×24°77E, h2km, ML2.0, Error ellipse: s-maj=6.2km s-min=3.7km az=112.0, Mining explosion.*

*IDC **07** 07:29:56.2±2.2, 59°83N×25°08E, h0km, mb1 3.3/3, mb1mx3.0/26, mbtmp3.2/3, ML2.9/3, Error ellipse: s-maj=23.6km s-min=7.3km az=138.0*

*HEL **07** 07:29:56.9±0.1, 59°86N×24°81E, h0km, ML2.0, Explosion*

ISC 07 07:29:55.6±0.7**, 59°86N**±0°02×**24°81E**±0°03**, h0**km**, n27,** σ0§73/48**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.41	330	eP	Pg	07 30 04.1	+0.6
MEF				eS	Sg	07 30 09.7	+0.8
MEF	Metsahovi	0.41	330	P	Pg	07 30 04.0	+0.6
SRPE	Suurupi	0.45	209	eP	Pg	07 30 04.7	+0.4
SRPE				eS	Sg	07 30 10.6	+0.5
SRPE	Suurupi	0.45	209	P	Pg	07 30 04.7	+0.4
SRPE				S	Sg	07 30 10.6	+0.5
PVF	Pernaja	0.86	37	eP	Pg	07 30 12.3	+0.1
PVF				eS	Sg	07 30 23.6	+0.3
PVF	Pernaja	0.86	37	P	Pg	07 30 12.3	+0.1
PVF				S	Sg	07 30 23.6	+0.3
MTSE	Matsula	1.26	204	eP	Pg	07 30 19.3	-0.4
MTSE				eS	Sg	07 30 35.8	-0.2
MTSE	Matsula	1.26	204	P	Pg	07 30 19.3	-0.4
MTSE				S	Sg	07 30 35.7	-0.2
VJF	Virojoki	1.53	62	eP	Pn	07 30 23.8	-0.3
VJF				eS	Sn	07 30 44.0	-0.7
VJF	Virojoki	1.53	62	P	Pn	07 30 23.8	-0.3
VJF				S	Sn	07 30 44.0	-0.7
FIA0	FINESS Array S	1.71	21	eP	Pb	07 30 27.4	-0.4
FIA0				eS	Sb	07 30 50.0	+0.2
FIA0	FINESS Array S	1.71	21	P	Pb	07 30 27.4	-0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FINES	FINESS Array B	1.71	21	Pn	Pb	07 30 27.4	-0.4
	3.9nm,0.3s,baz=196,slow=15,SNR=108						
FINES				Lg	Lg	07 30 49.1	
	3.0nm,0.3s,baz=206,slow=31,SNR=21						
VSU	Vasula	1.72	144	eP	Pb	07 30 27.6	-0.5
VSU				eSN	Sb	07 30 50.5	+0.4
VSU	Vasula	1.72	144	P	Pb	07 30 27.5	-0.5
VSU				Sn	Sb	07 30 50.5	+0.4
RAF	Rauma	1.91	309	eP	Pb	07 30 30.7	-0.5
RAF				MSG		07 30 56.0	
	comp=Z,6.8nm,0.2s						
RAF				eSG	Sb	07 30 56.0	+0.6
KEF	Keuruu	2.31	1	ePB	Pb	07 30 37.7	-0.5
KEF				eSG	Sb	07 31 08.0	+0.7
KEF				MSG		07 31 09.9	
	comp=Z,10nm,0.2s						
KEF	Keuruu	2.31	1	Pb	Pb	07 30 37.6	-0.5
KEF				Sg	Sb	07 31 08.0	+0.7
KAF	Kangasniemi	2.37	17	ePG	Pb	07 30 39.0	-0.2
KAF				eSG	Sb	07 31 09.6	+0.6
KAF				MSG		07 31 10.4	
	comp=Z,6.6nm,0.2s						
KAF	Kangasniemi	2.37	17	Pg	Pb	07 30 39.0	-0.2
KAF				Sg	Sb	07 31 09.5	+0.6
AAL	Aland	2.44	280	ePB	Pb	07 30 39.9	-0.4
AAL				eSB	Sb	07 31 09.8	-1.0
AAL	Aland	2.44	280	Pb	Pb	07 30 39.8	-0.4
AAL				Sb	Sb	07 31 09.7	-1.0
SLIT	Slitere, Latvi	2.59	211	eP	Pn	07 30 40.8	+2.0
SLIT				eSG	Sb	07 31 16.3	+1.0
SUF	Sumiainen	2.94	12	MSG		07 31 29.3	
	comp=Z,3.5nm,0.2s						
HFS	Hagfors	5.58	278	Pn	Pn	07 31 21.0	+1.2
	comp=Z,0.2nm,0.3s,baz=110,slow=12,SNR=6.5						
HFS				Sn	Sn	07 32 24.5	-0.2
	comp=Z,0.2nm,0.3s,baz=72,slow=18,SNR=3.7						
NOA	NORSAR Array B	6.83	286	Pn	Pn	07 31 36.5	-0.5
	comp=Z,0.2nm,0.3s,baz=72,slow=18,SNR=4.6						
NOA				Sn	Sn	07 32 52.7	-2.6
	comp=Z,0.2nm,0.3s,baz=112,slow=19,SNR=2.4						
ARCES	ARCESS Array B	9.72	1	Pn	Pn	07 32 16.6	+0.1
	comp=Z,0.2nm,0.3s,baz=183,slow=15,SNR=8.5						

*CSEM **07** 07:33:49.2±0.5, 38°.54N×20°.17E, h5km, MD2.9, Error ellipse: s-maj=8.8km s-min=5.8km az=87.0*
*ATH **07** 07:33:51.1, 38°.51N×20°.47E, h22km±1km, MD2.9/8*
*THE **07** 07:33:52.6, 38°.51N×20°.40E, h0km±2km, ML2.2/9, Error ellipse: s-maj=2.6km s-min=0.8km az=269.0*
ISC 07 07:33:51.3±1.1**, 38°.51N**±0°.02×**20°.38E**±0°.04**, h10**km±8km**, n49,** σ1s**04**/79**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LKD2	Lefkada island	0.35	38	P	Pg	07 33 58.2	-0.2
LKD2				S	Sg	07 34 03.5	+0.4
LKD2	Lefkada island	0.35	38	ePB	Pg	07 33 58.2	-0.2
LKD2				eSB	Sg	07 34 02.6	-0.5
LKD2	Lefkada island	0.35	38	P	Pg	07 33 58.2	-0.2
LKD2				eSb	Sg	07 34 02.6	-0.5
LKD2				S	Sg	07 34 03.5	+0.4
VLS	Valsamata	0.37	153	P	Pb	07 33 59.2	-0.8
VLS				S	Sb	07 34 04.8	-1.1
VLS	Valsamata	0.37	153	ePB	Pb	07 33 59.2	-0.8
VLS				eSB	Sg	07 34 04.6	+1.0
VLS	Valsamata	0.37	153	P	Pb	07 33 59.2	-0.8
VLS				S	Sb	07 34 04.8	-1.1
KFL	Anninata	0.51	141	P	Pg	07 34 01.4	+0.1
KFL				S	Sb	07 34 09.5	-0.4
KFL	Anninata	0.51	141	P	Pg	07 34 01.4	+0.1
KFL				S	Sb	07 34 09.5	-0.4
PDO	Prodromos	0.64	82	P	Pb	07 34 04.2	-0.3
PDO				S	Sb	07 34 13.7	+0.2
PDO	Prodromos	0.64	82	ePN	Pg	07 34 02.3	-1.4
PDO				eSN	Sg	07 34 10.8	-1.2
PDO	Prodromos	0.64	82	P	Pb	07 34 04.2	-0.3
PDO				S	Sb	07 34 13.7	+0.2
DSL	Palaion Diasel	0.84	42	P	Pb	07 34 07.6	-0.4
DSL				S	Sn	07 34 21.1	-0.5
DSL	Palaion Diasel	0.84	42	ePN	Pg	07 34 06.8	-0.7
DSL	Palaion Diasel	0.84	42	ePn	Pg	07 34 06.8	-0.7
DSL	Palaion Diasel	0.84	42	P	Pb	07 34 07.6	-0.4
DSL				S	Sn	07 34 21.1	-0.5
ZKS	Zakynthos	0.87	158	P	Pb	07 34 09.1	+0.5
ZKS				S	Sn	07 34 22.1	-0.3
ZKS	Zakynthos	0.87	158	ePN	Pg	07 34 07.7	-0.4
ZKS	Zakynthos	0.87	158	ePn	Pg	07 34 07.7	-0.4
ZKS	Zakynthos	0.87	158	P	Pb	07 34 09.1	+0.5
ZKS				S	Sn	07 34 22.1	-0.3
PVO	Paravola	0.91	83	P	Pb	07 34 08.7	-0.4
PVO				S	Sn	07 34 22.8	-0.5
PVO	Paravola	0.91	83	P	Pb	07 34 08.7	-0.4
PVO				S	Sn	07 34 22.8	-0.5
DRO	Drossia	1.19	118	P	Pn	07 34 14.3	+0.3
DRO				S	Sn	07 34 31.9	+1.7
DRO	Drossia	1.19	118	ePN	Pg	07 34 12.8	-1.3
DRO	Drossia	1.19	118	ePn	Pg	07 34 12.8	-1.3
DRO	Drossia	1.19	118	P	Pn	07 34 14.3	+0.3
DRO				S	Sn	07 34 31.9	+1.7
EVR	Evrytania	1.19	70	P	Pn	07 34 15.5	+1.4
EVR	Evrytania	1.19	70	P	Pn	07 34 15.5	+1.4
KEK	Kerkira	1.28	340	P	Pb	07 34 17.5	+2.0
KEK	Kerkira	1.28	340	P	Pb	07 34 17.5	+2.0
KALE	Kalithea	1.39	94	P	Pg	07 34 17.6	-0.4
KALE				S	Sn	07 34 38.0	+2.7
KALE	Kalithea	1.39	94	ePN	Pn	07 34 15.9	-0.9
KALE	Kalithea	1.39	94	ePn	Pn	07 34 15.9	-0.9
KALE	Kalithea	1.39	94	P	Pg	07 34 17.6	-0.4
KALE				S	Sn	07 34 38.0	+2.7
AMT	Artemida-Makis	1.44	132	P	Pg	07 34 19.0	+0.2
AMT	Artemida-Makis	1.44	132	P	Pg	07 34 19.0	+0.2
MAKR	Makrakomi, Fth	1.46	69	P	Pg	07 34 19.2	-0.1
MAKR				S	Sg	07 34 40.0	+1.7
MAKR	Makrakomi, Fth	1.46	69	P	Pg	07 34 19.2	-0.1
MAKR				S	Sg	07 34 40.0	+1.7
KLV	Kalavryta, Ach	1.47	108	P	Pg	07 34 19.0	-0.5
KLV				S	Sg	07 34 40.9	+2.3
KLV	Kalavryta, Ach	1.47	108	ePN	Pn	07 34 17.0	-0.9
KLV	Kalavryta, Ach	1.47	108	ePn	Pn	07 34 17.0	-0.9
KLV	Kalavryta, Ach	1.47	108	P	Pg	07 34 19.0	-0.5
KLV				S	Sg	07 34 40.9	+2.3
AGG	Agios Georgios	1.61	71	P	Pg	07 34 22.1	-0.1
AGG				S	Sg	07 34 43.0	-0.1
AGG	Agios Georgios	1.61	71	P	Pg	07 34 22.1	-0.1
AGG				S	Sg	07 34 43.0	-0.1
THL	Klokotos Trika	1.65	50	P	Pg	07 34 22.4	-0.6
THL				S	Sg	07 34 45.0	+0.5
THL	Klokotos Trika	1.65	50	P	Pg	07 34 22.4	-0.6
THL				S	Sg	07 34 45.0	+0.5
ITM	Ithomi	1.81	137	P	Pb	07 34 24.1	-0.4
ITM	Ithomi	1.81	137	P	Pb	07 34 24.1	-0.4
STON	Ston	4.81	336	ePn	Pn	07 35 00.4	-3.3
STON				Sn	Sn	07 35 57.3	-2.2
STON	Ston	4.81	336	ePn	Pn	07 35 00.4	-3.3
STON				Sn	Sn	07 35 57.2	-2.2

IDC 07 07:39:46.9±1.8**, 11°.70N**×**142°.55E, h0**km**, mb3.4**/3**, mb1 3.7**/4**, mb1mx3.4**/40**, mbtmp3.5**/4**, ML3.9**/1**, Error ellipse: s-maj=104.9km s-min=23.2km az=117.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	2.94	50	Pn	Pn	07 40 35.2	+0.3
	18nm,0.3s,baz=277,slow=2.3,SNR=12						
GUMO				Sn	Sn	07 41 08.2	-2.8
	13nm,0.3s,baz=44,slow=23,SNR=4.1						
WRA	Warramunga Arr	32.47	194	P	P	07 46 18.6	-0.6
	0.4nm,0.7s,baz=18,slow=9.7,SNR=5.4						
ASAR	Alice Springs	36.15	194	P	P	07 46 51.6	+0.4
	0.2nm,0.6s,baz=19,slow=12,SNR=6.4						
ILAR	Eielson Array	71.23	25	P	P	07 51 07.6	-0.1
	0.1nm,0.5s,baz=256,slow=6.3,SNR=4.7						

IDC 07 08:10:14.7±2.2**, 2°.97N**×**123°.99E, h0**km**, mb3.5**/3**, mb1 3.6**/3**, mb1mx3.4**/23**, mbtmp3.5**/3**, Error ellipse: s-maj=371.3km s-min=26.3km az=62.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.94	156	P	P	08 15 40.4	+0.5
	0.2nm,0.5s,baz=336,slow=9.6,SNR=5.5						
STKA	Stephens Creek	38.49	156	P	P	08 17 38.0	-0.7
	0.4nm,0.3s,baz=319,slow=11,SNR=2.9						
MKAR	Makanchi Array	56.65	327	P	P	08 19 59.7	-0.1
	0.4nm,0.3s,baz=129,slow=7.8,SNR=8.7						

GUC 07 08:31:37.9±0.6**, 34°.87S**×**72°.48W, h16**km±4km**, ML3.5, 4C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TALC	Talca	0.87	127	⇓ iP	Pb	08 31 53.4	-1.3
TALC				i S	Sb	08 32 05.3	-0.8
NICH	Los Niches	1.04	98	⇑ iP	Pb	08 31 56.1	-1.4
NICH				i S	Sb	08 32 09.8	-1.1
LNCH	Linares	1.21	144	⇑ iP	Pn	08 31 59.1	-1.1
LNCH				eS	Sb	08 32 15.1	-0.8
LNV	Longovilo	1.27	44	⇑ iP	Pn	08 31 59.6	-1.4
LNV				eS	Sb	08 32 16.9	-0.8
COCH	Cobquecura	1.28	191	⇓ iP	Pn	08 31 59.9	-1.3
COCH				i S	Sb	08 32 16.4	-1.5
CHCH	Chadas Angostu	1.78	59	⇑ iP	Pn	08 32 08.3	+0.1
CLCH	Cerro Calan	2.18	48	eP	Pn	08 32 14.7	+1.0
CLCH				i S	Sn	08 32 42.1	+1.5
CLCH				AML	AML	08 32 48.9	
	comp=N,420nm,0.4s						
ROCH	El Roble	2.26	33	AML	AML	08 32 52.0	
	comp=N,403nm,0.4s						
PEL	Peldehue	2.28	41	eP	Pn	08 32 16.3	+1.3
PEL				i S	Sn	08 32 44.8	+1.9
PEL				AML	AML	08 32 53.7	
	comp=N,476nm,0.5s						

*IDC **07** 08:49:34.9±1.0, 37°.41S×73°.71W, h0km, mb4.2/8, mb1 4.4/11, mb1mx4.2/18, mbtmp4.2/11, ML3.5/3, MS3.8/12, Ms1 3.8/12, ms1mx3.7/20, Error ellipse: s-maj=30.0km s-min=15.7km az=77.0*
*ISCJB **07** 08:49:36.9±0.5, 37°.39S±0°.05×73°.63W±0°.08, h23km, mb4.3/16, MS3.9/9, Error ellipse: s-maj=8.6km s-min=7.1km az=0.2*
*NEIC **07** 08:49:40.0±0.4, 37°.38S×73°.72W, h35km, mb4.4/11, Error ellipse: s-maj=10.6km s-min=7.1km az=83.0*
ISC 07 08:49:38.1±0.6**, 37°.45S**±0°.06×**73°.75W**±0°.09**, h23**km**, n41,** σ1s**12**/38**, mb4.4**/16**, MS3.9**/9**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.12	144	Pn	Pn	08 50 40.9	+1.2
	1.2nm,0.3s,baz=316,slow=11,SNR=23						
PLCA				Lg	Lg	08 51 49.0	
	2.8nm,0.3s,baz=52,slow=19,SNR=3.1						
PLCA	Paso Flores	4.12	144	ePn	Pn	08 50 40.4	+0.7
PLCA				ePg	Pb	08 50 54.0	+4.1
PLCA				eSn	Sn	08 51 23.5	-3.7
PLCA				Lg	Lg	08 51 49.0	
CFAA	Coronel Fontan	7.39	40	Pn	Pn	08 51 23.9	-0.7
	0.2nm,0.3s,baz=218,slow=12,SNR=6.1						
CFAA				Sn	Sn	08 52 49.0	+1.2
	0.0nm,0.3s,baz=215,slow=13,SNR=4.0						
CFAA				LR	LR	08 54 24.3	
	comp=Z,87nm,21.3s,baz=224,slow=39						
LCO	Las Campanas	8.79	18	ePn	Pn	08 51 42.7	-1.4
	20nm,0.8s						
TRQA	Tornquist	9.34	97	ePn	Pn	08 51 53.2	+1.8
	25nm,1.2s						
TRQA				eSn	Sn	08 53 35.0	-0.7
LVC	Limon Verde	15.36	17	Pn	Pn	08 53 12.5	-1.1
	7.4nm,0.3s,baz=179,slow=18,SNR=4.3						
LVC				LR	LR	08 58 52.0	
	comp=Z,1μm,21.9s,baz=202,slow=36						
LVC	Limon Verde	15.36	17	ePn	Pn	08 53 11.9	-1.8
	13nm,1.0s						
LVC				eSn	Sn	08 55 54.0	-9.3
USHA	Ushuaia	17.77	170	P	P	08 53 45.0	+0.6
	0.2nm,0.3s,baz=326,slow=14,SNR=2.3						
USHA				LR	LR	09 00 22.6	
	comp=Z,527nm,20.4s,baz=218,slow=36						
CPUP	Villa Florida	17.78	56	ePn	P	08 53 45.5	+0.8
	0.1nm,0.8s						
LPAZ	La Paz	21.65	15	P	P	08 54 28.8	+1.1
	15nm,1.2s,baz=161,slow=8.3,SNR=19						
LPAZ	La Paz	21.65	15	eP	P	08 54 28.0	+0.4
	20nm,1.0s						
SIV	San Ignacio	24.14	31	LR	LR	09 06 14.5	
	comp=Z,506nm,19.8s,slow=42						
PMSA	Palmer Station	27.97	171	LR	LR	09 07 29.8	
	comp=Z,300nm,18.3s,baz=346,slow=38						
SAML	Samuel	29.94	21	eP	P	08 55 44.4	-0.1
	9.7nm,1.3s						
ATAH	Atahualpa	30.47	351	LR	LR	09 05 55.4	
	comp=Z,72nm,19.6s,baz=169,slow=32						
BDFB	Brasilia	31.46	53	P	P	08 55 58.4	+0.2
	5.6nm,1.1s,baz=163,slow=11,SNR=3.3						
BDFB				LR	LR	09 08 10.6	
	comp=Z,276nm,18.1s,baz=222,slow=36						
OTAV	Otavalo	37.75	352	eP	P	08 56 51.3	-1.5
	1.3nm,0.2s						
VNA1	Neumayer--Stat	47.09	156	P	P	08 58 08.9	+1.2
VNA2	Neumayer--Watz	47.41	156	P	P	08 58 10.9	+0.7
	baz=271,slow=8.3						
SNAA	Sanae	48.95	157	P	P	08 58 15.4	-6.8
SNAA	Sanae	48.95	157	P	P	08 58 22.6	+0.4
	3.2nm,0.8s,baz=284,slow=6.7,SNR=24						
SNAA	Sanae	48.95	157	eP	P	08 58 15.3	-6.9
	24nm,1.3s						
QSPA	South Pole Qui	52.80	180	eP	P	08 58 51.9	+0.7
	9.4nm,1.0s						
VNDA	Vanda	60.45	192	LR	LR	09 22 23.0	
	comp=Z,53nm,18.8s,baz=322,slow=32						
PPT	Papeete	68.44	264	LR	LR	09 23 17.6	
	comp=Z,98nm,18.6s,baz=126,slow=30						
MAW	Mawson	70.27	164	LR	LR	09 33 14.0	
	comp=Z,188nm,18.0s,baz=239,slow=37						
JCT	Junction City	71.84	336	eP	P	09 00 59.1	+0.1
	1.1nm,0.5s						
TXAR	Lajitas Array	72.11	333	P	P	09 01 01.6	+1.0
	0.4nm,0.8s,baz=148,slow=7.1,SNR=4.6						
TXAR				LR	LR	09 26 52.3	
	comp=Z,28nm,20.0s,baz=0.0,slow=31						
DBIC	Dimbokro	77.59	72	P	P	09 01 32.4	-0.2
	5.2nm,0.8s,baz=193,slow=4.0,SNR=3.8						
ACSO	Alum Creek Sta	77.77	353	eP	P	09 01 32.7	-0.3
	4.1nm,0.6s						
ANMO	Albuquerque	78.18	333	eP	P	09 01 36.8	+1.1
	2.9nm,1.2s						
BOSA	Boshof	79.69	118	P	P	09 01 44.3	0.0
	4.9nm,0.9s,baz=258,slow=6.4,SNR=5.0						
BOSA				LR	LR	09 33 43.2	
	comp=Z,47nm,18.9s,baz=178,slow=33						
CCUT	Cedar City	83.12	329	eP	P	09 02 02.4	+0.3
	0.5nm,0.6s						
ECSD	EROS Data Cent	83.42	344	eP	P	09 02 03.3	0.0
	5.2nm,1.0s						
PDAR	Pinedale Array	86.23	334	P	P	09 02 19.4	+1.8
	0.5nm,0.8s,baz=123,slow=6.6,SNR=3.3						
TORD	Torodi Ar. Bea	86.67	71	P	P	09 02 19.9	-0.3
	3.4nm,1.0s,baz=235,slow=3.9,SNR=12						
BRTR	Keskin Array B	124.67	63	PKP	PKPdf	09 08 35.0	-0.7
	1.0nm,0.8s,baz=134,slow=1.3,SNR=4.3						
ABKAR	Akbulak array	144.84	55	ePKPdf	PKPbc	09 09 11.8	+0.1
AAK	Ala-Archa	155.23	68	ePKPdf	PKPdf	09 09 28.8	-0.5
AAK				ePKPbc	PKPbc	09 09 39.2	
AAK				ePKPab	PKPab	09 09 55.2	+0.8
ZALV	Zalesovo Beam	157.86	35	PKP	PKPdf	09 09 31.6	-0.5
	0.5nm,0.3s,baz=272,slow=3.9,SNR=2.9						
ZALV				PKPab	PKPab	09 10 03.9	-1.2
	1.6nm,0.5s,baz=285,slow=5.8,SNR=5.2						
MKAR	Makanchi Array	159.99	55	PKP	PKPdf	09 09 34.3	-0.6
	1.5nm,1.1s,baz=350,slow=1.5,SNR=4.4						
MKAR				PKPab	PKPab	09 10 15.1	+0.4
	1.1nm,0.8s,baz=306,slow=4.1,SNR=5.9						

*ISCJB **07** 08:50:54.8±0.5, 32°.69N±0°.04×91°.48E±0°.06, h10km, mb3.9/11, MS2.7/2, Error ellipse: s-maj=7.3km s-min=6.3km az=176.9*
*IDC **07** 08:50:55.2±0.9, 32°.74N×91°.45E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.7/27, mbtmp3.8/11, ML2.3/1, MS2.8/4, Ms1 2.8/4, ms1mx2.5/34, Error ellipse: s-maj=30.0km s-min=18.0km az=52.0*
*BJI **07** 08:50:59.0, 32°.64N×91°.76E, h5km, ML3.5/3*
*NEIC **07** 08:51:00.4±0.5, 32°.78N×91°.46E, h35km, mb4.6/2, Error ellipse: s-maj=15.7km s-min=9.0km az=67.0*
ISC 07 08:50:56.6±0.6**, 32°.73N**±0°.06×**91°.40E**±0°.08**, h10**km**, n22,** σ1s**10**/23**, mb4.0**/11**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSA	Lhasa	3.03	184	Pg	Pb	08 51 49.6	-1.3
LSA				Sg	Sg	08 52 34.0	+0.1
LSA				SME			
	190nm,1.4s						
LSA	Lhasa	3.03	184	Pn	Pn	08 51 46.2	+1.2
CD2	Chengdu	10.67	96	eP	Pn	08 53 28.0	-1.6
CD2				S	Sn	08 55 29.0	-0.2
LZH	Lanzhou	10.81	69	eP	Pn	08 53 32.5	+0.9
LZH				pP		08 53 37.0	
LZH				sP		08 53 40.6	
LZH				ePP	PnPn	08 53 41.8	+2.5
LZH				eS	Sn	08 55 36.5	+3.7
LZH				sS		08 55 43.7	
MKAR	Makanchi Array	15.68	336	Pn	Pn	08 54 35.5	-2.1
	0.0nm,0.3s,baz=150,slow=14,SNR=4.9						
MKAR				LR	LR	09 00 17.5	
	comp=Z,15nm,18.3s,baz=171,slow=36						
AAK	Ala-Archa	16.61	311	Pn	P	08 54 52.6	+0.4
	0.3nm,0.3s,baz=169,slow=10,SNR=3.5						
AAK				LR	LR	09 02 21.8	
	comp=Z,44nm,20.2s,baz=110,slow=41						
SONM	Songino Array	18.89	33	P	Pn	08 55 17.9	+0.1
	baz=216,slow=7.1,SNR=2.9						
ZAA0	Zalesovo Array	21.73	349	eP	P	08 55 47.6	-0.2
ZALV	Zalesovo Beam	21.73	349	P	P	08 55 47.8	0.0
	3.7nm,0.7s,baz=172,slow=12,SNR=11						
BVAR	Borovoye Array	25.30	330	P	P	08 56 24.5	+1.4
	0.9nm,0.8s,baz=148,slow=14,SNR=4.8						
KSAR	Wonju Array Be	30.10	71	P	P	08 57 06.3	0.0
KSRS	Korea Array	30.13	71	P	P	08 57 06.3	-0.3
	0.8nm,0.6s,baz=275,slow=10,SNR=4.0						
KSRS				LR	LR	09 11 44.7	
	comp=Z,13nm,20.2s,baz=232,slow=42						
JNU	Nakatsue	33.01	78	LR	LR	09 13 35.4	
	comp=Z,22nm,18.1s,baz=323,slow=41						
FINES	FINESS Array B	50.13	325	P	P	08 59 52.5	+0.8
	1.2nm,0.8s,baz=94,slow=7.5,SNR=3.1						
ARE0	ARCESS Array S	51.33	336	eP	P	08 59 56.3	-4.5
MBWA	Marble Bar	60.04	149	eP	P	09 01 04.6	+0.9
	6.2nm,0.8s						
KEST	Kesra	65.94	298	P	P	09 01 43.5	+0.4
	0.5nm,0.4s,baz=136,slow=3.2,SNR=3.8						
WRA	Warramunga Arr	66.54	136	P	P	09 01 47.4	+0.5
	2.2nm,0.9s,baz=327,slow=6.9,SNR=9.0						
WRAB	Tennant Creek	66.54	136	P	P	09 01 46.8	-0.2
	2.7nm,0.8s						
ASAR	Alice Springs	69.21	138	P	P	09 02 04.0	+0.3
	1.8nm,0.9s,baz=324,slow=6.2,SNR=13						
ILAR	Eielson Array	72.77	22	P	P	09 02 23.1	-1.7
	0.4nm,0.8s,baz=294,slow=4.8,SNR=5.3						
TORD	Torodi Ar. Bea	82.77	281	P	P	09 03 20.9	-0.4
	0.8nm,0.7s,baz=47,slow=3.3,SNR=4.4						

*CSEM **07** 09:12:56.4, 35°.30N×25°.88E, h13km, MD2.9*
ATH 07 09:12:56.3, 35°.29N×**25°.88E, h13**km±2km**, MD2.9**/4**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NPS	Neapolis	0.22	263	ePG	Pg	09 13 00.8	-0.3
NPS				eSG	Sg	09 13 04.1	-0.3
NPS	Neapolis	0.22	263	ePg	Pg	09 13 00.8	-0.3
NPS				eSg	Sg	09 13 04.1	-0.3
LAST	Lasithi	0.35	249	ePB	Pg	09 13 03.4	-0.2
LAST				eSB	Sg	09 13 08.8	+0.3
LAST	Lasithi	0.35	249	ePb	Pg	09 13 03.4	-0.2
LAST				eSb	Sg	09 13 08.8	+0.3
KARP	Karpathos	1.08	76	ePN	Pn	09 13 17.4	+0.2
KARP				eSB	Sg	09 13 31.3	0.0
KARP	Karpathos	1.08	76	ePn	Pn	09 13 17.4	+0.2
KARP				eSb	Sg	09 13 31.3	0.0
KARN	Karanos	1.61	275	ePG	Pb	09 13 26.4	+0.5
KARN	Karanos	1.61	275	ePb	Pb	09 13 26.4	+0.5

*SJA **07** 09:12:59.0±1.0, 34°.66S×72°.75W, h25km, ML3.2, MW3.2*
*GUC **07** 09:13:07.6±0.6, 34°.80S×71°.73W, h46km±1km, ML3.5*
*ISCJB **07** 09:13:08.0±1.6, 34°.79S±0°.07×71°.8W±0°.1, h33km±18km, Error ellipse: s-maj=16.6km s-min=9.4km az=30.9*
ISC 07 09:13:07.5±2.1**, 34°.79S**±0°.04×**71°.8W**±0°.1**, h27**km±16km**, n23,** σ1s**06**/34**, 4C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	Los Niches	0.51	115	⇓ iP	Pb	09 13 18.4	+0.4
NICH				i S	Sn	09 13 26.4	-0.6
TALC	Talca	0.62	168	⇓ iP	Pn	09 13 20.7	+0.1
TALC				i S	Sn	09 13 29.9	+0.1
LNV	Longovilo	0.89	21	eP	Pn	09 13 24.2	-0.1
LNCH	Linares	1.07	172	⇓ iP	Pn	09 13 26.4	-0.4
LNCH				i S	Sn	09 13 40.7	-0.1
CHCH	Chadas Angostu	1.27	48	⇓ iP	Pn	09 13 29.0	-0.6
CHCH				i S	Sn	09 13 44.9	-0.9
TACH	Talagante	1.33	32	⇑ iP	Pn	09 13 30.1	-0.3
TACH				i S	Sn	09 13 47.0	-0.4
PCH	Pirque	1.57	43	⇑ iP	Pn	09 13 33.3	-0.5
PCH				i S	Sn	09 13 53.4	0.0
SAN	Santiago	1.63	36	eP	Pn	09 13 34.6	+0.1
SAN				eS	Sn	09 13 54.5	-0.1
SJCH	San Jose de Ma	1.65	47	⇓ iP	Pn	09 13 33.5	-1.4
SJCH				i S	Sn	09 13 54.4	-0.8
LACH	Col Las Americ	1.69	39	⇑ iP	Pn	09 13 34.9	-0.5
LACH				i S	Sn	09 13 56.0	-0.2
CLCH	Cerro Calan	1.73	37	⇑ iP	Pn	09 13 35.7	-0.3
CLCH				i S	Sn	09 13 57.5	+0.2
CLCH				AML	AML	09 13 59.9	
	comp=E,871nm,0.7s						
PEL	Peldehue	1.88	30	eP	Pn	09 13 38.2	+0.2
PEL				AML	AML	09 14 09.8	
	comp=N,654nm,0.3s						
ROCH	El Roble	1.92	20	eP	Pn	09 13 38.8	+0.1
ROCH				i S	Sn	09 14 02.9	+0.7
ROCH				AML	AML	09 14 07.6	
	comp=E,421nm,0.4s						
ARCO	CERRO ARCO	3.07	52	eP	Pn	09 13 57.5	+3.0
ARCO				AML	AML	09 14 16.0	
	comp=Z,29nm,0.5s						
CANA	Caviahue	3.15	169	⇓ eP	Sx	09 14 52.6	
AUSP	Uspallata	3.25	39	eP	Pn	09 13 59.3	+2.2
AUSP				eS	Sb	09 14 42.8	-1.2
ASAL	Salagasta	3.30	49	eP	Pn	09 13 59.9	+2.4
RTLS	Leoncito	3.64	36	eP	Pn	09 14 04.3	+1.9
CFAA	Coronel Fontan	4.35	44	eP	Pn	09 14 12.8	+0.8
RTLL	Cerro Villicun	4.43	40	eP	Pn	09 14 13.4	+0.3
ACAN	Cantantal	4.59	58	eP	Pn	09 14 16.3	+1.0
AMOG	MOGNA	4.74	37	eP	Pn	09 14 17.3	0.0
AVFE	Valle Fertil	5.50	43	eP	Pn	09 14 26.6	-1.2
AVFE				AML	AML	09 15 39.6	
	comp=Z,12nm,0.5s						

*ISCJB **07** 09:17:10.7±0.4, 33°.86N±0°.02×118°.44W±0°.03, h11km±3km, Error ellipse: s-maj=4.0km s-min=2.9km az=138.5*
*NEIC **07** 09:17:11.5, 33°.86N×118°.44W, h14km, ML3.5(PAS), After PAS.*
NEIC Felt [III] at El Segundo, Hawthorne, Hermosa Beach, Inglewood, Lawndale, Los Angeles, Manhattan Beach, Montebello, Playa del Rey, Redondo Beach, Santa Monica, Tarzana, Torrance and Woodland Hills; [II] in the Chatsworth-Pasadena-Long Beach area. Felt in Los Angeles, Orange and Ventura Counties.
ISC 07 09:17:10.9±0.9**, 33°.82N**±0°.03×**118°.46W**±0°.02**, h14**km±7km**, n36,** σ0s**84**/53**, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FMP	Fort Macarthur	0.18	129	P	Pg	09 17 15.4	+0.3
	baz=0.2						
FMP				S	Sg	09 17 18.3	+0.4
	baz=0.2						
PASC	Pasadena Art C	0.41	33	ePg	Pg	09 17 18.4	-0.8
CIS	Catalina Islan	0.42	174	P	Pb	09 17 20.1	+0.1
	baz=0.5						
CIS				S	Sb	09 17 26.4	+0.1
	baz=0.5						
DECC	Green Verdugo	0.44	14	P	Pg	09 17 18.9	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=0.4						
MWC	Mount Wilson	0.52	40	ePg	Pg	09 17 20.4	-0.8
BLG	Laguna Peak, P	0.58	300	P	Pg	09 17 21.7	-0.5
	baz=0.6						
BLG				S	Sg	09 17 29.8	-0.2
	baz=0.6						
BFSC	Mount Baldy Ra	0.78	58	P	Pg	09 17 24.9	-1.2
	baz=0.8						
OSI	Osito Audit: C	0.82	345	P	Pg	09 17 26.2	-0.6
	baz=0.8						
OSI	Osito Audit: C	0.82	345	ePg	Pg	09 17 26.2	-0.6
OSI				eSg	Sg	09 17 37.2	-0.4
SCI	San Clemente I	0.84	185	P	Pb	09 17 27.5	+0.2
	baz=0.9						
SCI				S	Sn	09 17 40.6	+0.1
	baz=0.9						
BSC	Santa Cruz Isl	0.99	280	P	Pb	09 17 29.2	-0.6
	baz=1.0						
BSC				S	Sg	09 17 43.5	+0.5
	baz=1.0						
MURC	Murrieta	1.07	102	P	Pb	09 17 30.2	-1.0
	baz=1.1						
MURC				S	Sg	09 17 45.5	-0.2
	baz=1.1						
EDW2	Edwards Air Fo	1.12	20	P	Pb	09 17 30.9	-1.2
	baz=1.1						
SBC	Santa Barbara	1.21	301	P	Pn	09 17 32.9	-0.4
	baz=1.2						
SBC				S	Sg	09 17 50.4	+0.5
	baz=1.2						
ARVC	Arvin	1.33	347	S	Sb	09 17 52.9	+0.2
	baz=1.3						
BBRC	Big Bear Solar	1.35	71	P	Pn	09 17 35.0	-0.5
	baz=1.3						
109C	Camp Elliot, M	1.47	129	P	Pn	09 17 36.4	-0.5
	baz=1.5						
109C				S	Sb	09 17 57.3	+0.9
	baz=1.5						
PKM	Mcpherson Peak	1.55	314	P	Pn	09 17 37.8	-0.4
	baz=1.5						
PFO	Pinyon Flats O	1.68	97	P	Pn	09 17 39.5	-0.5
	baz=1.7						
PFO				S	Sn	09 18 01.7	+0.3
	baz=1.7						
PFO	Pinyon Flats O	1.68	97	ePn	Pn	09 17 39.7	-0.3
LRMC	Laurel Mtn Rad	1.77	21	Pb	Pn	09 17 41.8	+0.7
	baz=1.7						
ISA	Isabella, Lake	1.83	360	Pb	Pn	09 17 42.6	+0.6
	baz=1.8						
ISA				S	Sn	09 18 05.4	+0.3
	baz=1.8						
BAR	Barrett	1.88	127	ePn	Pn	09 17 41.7	-1.0
BAR				eSn	Sn	09 18 05.6	-0.6
MONP	Monument Peak,	1.94	118	P	Pn	09 17 43.2	-0.5
	baz=1.9						
GSC	Goldstone, Bar	2.01	42	Pb	Pn	09 17 45.4	+0.9
	baz=2.0						
GSC	Goldstone, Bar	2.01	42	ePn	Pn	09 17 44.8	+0.4
GSC				eSn	Sn	09 18 09.2	-0.2
HEC	Hector,Ludlow	2.03	60	Pb	Pn	09 17 46.0	+1.4
	baz=2.0						
HEC				Sb	Sb	09 18 13.8	+1.2
	baz=2.0						
BELC	Belle Mtn. Jos	2.05	84	P	Pn	09 17 44.8	-0.3
	baz=2.0						
BELC				Sb	Sb	09 18 14.1	+0.6
	baz=2.0						
VES	Vestal, Richgr	2.08	346	P	Pn	09 17 45.3	0.0
	baz=2.0						
DAC	Darwin (Calif)	2.55	16	ePn	Pn	09 17 52.9	+0.9
SHPR	Sheep Range	3.80	44	ePn	Pn	09 18 09.8	+0.7
SHPR				eSn	Sn	09 18 53.3	-0.5
TPH	Tonopah	4.36	13	ePn	Pn	09 18 18.9	+2.1
CMB	Columbia Colle	4.48	340	ePn	Pn	09 18 19.0	+0.6
CMB				eSn	Sn	09 19 10.2	-0.1
CCUT	Cedar City	5.57	47	ePn	Pn	09 18 35.1	+1.6
	3.8nm,0.6s						
MVU	Marysvale	6.88	45	ePn	Pn	09 18 54.1	+2.6
	2.8nm,0.4s						
MSU	Marysvale	6.91	46	ePn	Pn	09 18 53.2	+1.4
	3.3nm,0.6s						

*ISN **07** 09:26:35.9±1.4, 43.°72N×41.°31E, h0km±8km, ML4.7*
*AZER **07** 09:26:46.8±1.1, 42.°38N×40.°67E, h8km, Error ellipse: s-maj=6.5km s-min=6.0km az=93.0*
*IDC **07** 09:26:50.5±0.7, 42.°64N×41.°63E, h0km, mb3.9/16, mb1 4.0/20, mb1mx3.9/32, mbtmp3.9/20, ML4.2/4, MS3.0/13, Ms1 3.0/13, ms1mx2.9/37, Error ellipse: s-maj=14.3km s-min=6.9km az=158.0*
*ISCJB **07** 09:26:50.0±0.4, 42.°73N±0.°01×41.°47E±0.°01, h0km±3km, mb4.2/26, MS3.0/8, Error ellipse: s-maj=2.4km s-min=1.8km az=2.3*
*MOS **07** 09:26:51.7±1.2, 42.°72N×41.°52E, h11km, mb4.5/8, Error ellipse: s-maj=4.9km s-min=4.8km az=139.1*
MOS Felt (III-IV) at Sochi.
*CSEM **07** 09:26:51.5±0.1, 42.°72N×41.°55E, h2km, mb4.2/12, Error ellipse: s-maj=3.2km s-min=2.5km az=177.0*
*TEH **07** 09:26:51.2, 42.°65N×41.°54E, h2km, ML4.7*
*NEIC **07** 09:26:52.1±1.2, 42.°75N×41.°64E, h8km±8km, mb4.2/9, ML4.6(DDA), ML4.1(ISK), ML4.7(TIF), Error ellipse: s-maj=6.3km s-min=5.0km az=189.0*
NEIC Felt at Gali and Zugdidi. Felt [IV] at Sochi, Russia.
*TIF **07** 09:26:52.6, 42.°66N×41.°77E, h12km±1km*
*DDA **07** 09:26:52.7, 42.°49N×41.°35E, h8km, ML4.6*
*NNC **07** 09:27:01.2±1.9, 42.°80N×43.°07E, h0km, mb4.2, Error ellipse: s-maj=78.3km s-min=13.9km az=140.0*

ISC 07 09:26:51.7±1.0, **42.°66N**±0.°02×**41.°62E**±0.°02, **h7**km±6km, **n353**, σ1.s**56**/408, **mb4.2**/28, **MS3.0**/8, **71C-28D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHVG	Ch'k'valeri	0.35	80	P	Pg	09 26 58.8	+0.3
CHVG				S	Sg	09 27 04.2	+1.0
CHVG	Ch'k'valeri	0.35	80	P	Pg	09 26 58.9	+0.3
CHVG				S	Sg	09 27 04.2	+1.0
CHVG	Ch'k'valeri	0.35	80	P	Pg	09 26 58.9	+0.4
DOMR	Dombai	0.63	1	⇑ePG	Pb	09 27 04.7	-0.5
DOMR				eS	Sg	09 27 12.9	+0.7
DOMR	Dombai	0.63	1	ePg	Pb	09 27 04.7	-0.5
DOMR				eSg	Sg	09 27 12.9	+0.7
NEY	Neytrino	1.00	54	c iPG	Pg	09 27 10.4	-0.6
NEY	Neytrino	1.00	54	i Pg	Pg	09 27 10.4	-0.6
BCA	Borcka	1.21	180	ePN	Pn	09 27 14.6	-0.4
BCA				eSN	Sg	09 27 31.4	+0.8
BCA	Borcka	1.21	180	ePn	Pn	09 27 14.6	-0.4
BCA				eSn	Sg	09 27 31.5	+0.8
DBOC	Borcka	1.31	178	i P	Pn	09 27 15.9	-0.6
DBOC				i S	Sb	09 27 33.7	0.0
DBOC	Borcka	1.31	178	i P	Pn	09 27 15.9	-0.6
DBOC				i S	Sb	09 27 33.7	0.0
ONI	Oni	1.36	92	P	Pn	09 27 16.3	-0.8
ONI				S	Sb	09 27 33.4	-1.7
ONI	Oni	1.36	92	PG	Pn	09 27 16.3	-0.8
ONI	Oni	1.36	92	P	Pn	09 27 16.3	-0.8
ONI				S	Sb	09 27 33.4	-1.7
ONI	Oni	1.36	92	P	Pn	09 27 16.3	-0.8
KBZ	Khabaz	1.42	41	Pg	Pb	09 27 18.3	-0.2
	370nm,0.3s,baz=326,slow=24,SNR=2807						
KBZ				Lg	Lg	09 27 37.6	
	209nm,0.3s,baz=59,slow=17,SNR=14						
DIGR	Digorskoe uzhe	1.47	80	i PG	Pn	09 27 18.7	0.0
DIGR				pmax	pmax		
	comp=Z,558nm,0.3s						
DIGR	Digorskoe uzhe	1.47	80	i Pg	Pn	09 27 18.7	0.0
	comp=Z,558nm,0.3s						
ARTV	Artvin	1.49	171	i P	Pn	09 27 19.1	+0.1
ARTV				i S	Sn	09 27 37.9	-1.0
ARTV	Artvin	1.49	171	i P	Pn	09 27 19.2	+0.1
ARTV				i S	Sn	09 27 37.9	-1.0
KIV	Kislovodsk	1.51	31	ePN	Pb	09 27 19.7	-0.4
KIV	Kislovodsk	1.51	31	⇓iPG	Pb	09 27 20.3	+0.1
KIV				i S	Sg	09 27 40.5	+0.1
KIV	Kislovodsk	1.51	31	ePn	Pb	09 27 20.0	-0.1
KIV	Kislovodsk	1.51	31	i Pg	Pb	09 27 20.3	+0.1
KIV				i Sg	Sg	09 27 40.5	+0.1
KIV	Kislovodsk	1.51	31	ePn	Pb	09 27 20.0	-0.1
DAGI	Agillar	1.59	172	i P	Pn	09 27 20.3	-0.1
DAGI				i S	Sn	09 27 40.8	-0.5
DBAD	Bademkaya	1.64	178	i P	Pn	09 27 20.7	-0.3
DBAD				i S	Sn	09 27 42.5	+0.1
DBAD	Bademkaya	1.64	178	i P	Pn	09 27 20.7	-0.3
DBAD				i S	Sn	09 27 42.5	+0.1
SOC	Sochi	1.67	304	d iPG	Pb	09 27 21.9	-0.8
SOC				e		09 27 46.1	
SOC				pmax	pmax		
	comp=Z,2µm,0.6s						
SOC				smax	smax		
	comp=E,612nm,0.4s						
SOC				smax	smax		
	comp=N,2µm,0.4s						
SOC	Sochi	1.67	304	i Pg	Pb	09 27 21.9	-0.8
	comp=N,2µm,0.6s						
SOC				eSg	Sg	09 27 46.1	+0.8
	comp=N,2µm,0.4s						
SOC	Sochi	1.67	304	i P	Pg	09 27 23.3	-0.4
NCK	Nalchik	1.68	59	d iPN	Pb	09 27 23.0	+0.2
NCK	Nalchik	1.68	59	i Pn	Pb	09 27 23.0	+0.2
ZEI	Tsey	1.69	85	⇑iPN	Pb	09 27 22.8	-0.4
ZEI	Tsey	1.69	85	i Pn	Pb	09 27 22.8	-0.4
LSNR	Lesken	1.74	68	⇑iPN	Pb	09 27 23.5	-0.4
KUBR	Kubataba	1.74	48	⇓ePN	Pb	09 27 24.1	+0.2
KUBR				eS	Sg	09 27 47.2	-0.4
KUBR	Kubataba	1.74	48	ePn	Pb	09 27 24.1	+0.2
KUBR				eSg	Sg	09 27 47.2	-0.4
DDEM	Demirkent	1.77	177	i P	Pn	09 27 22.7	-0.1
DDEM	Demirkent	1.77	177	i P	Pn	09 27 22.7	-0.1
KORR	Kora	1.85	76	i PN	Pb	09 27 25.0	-0.9
KORR				pmax	pmax		
	comp=Z,776nm,0.4s						
KORR	Kora	1.85	76	i Pn	Pb	09 27 25.0	-0.9
	comp=Z,776nm,0.4s						
AKH	Akhalkalaki	1.87	131	ePN	Pn	09 27 25.2	+0.9
AKH	Akhalkalaki	1.87	131	P	Pn	09 27 25.2	+0.9
AKH				S	Sb	09 27 50.9	+0.9
AKH	Akhalkalaki	1.87	131	PN	Pn	09 27 25.2	+0.9
AKH	Akhalkalaki	1.87	131	P	Pn	09 27 25.2	+0.9
AKH				S	Sb	09 27 50.9	+0.9
AKH	Akhalkalaki	1.87	131	P	Pn	09 27 25.2	+0.9
STDR	Stavd-Durt	1.93	68	⇓iPN	Pb	09 27 26.7	-0.5
STDR	Stavd-Durt	1.93	68	i Pn	Pb	09 27 26.7	-0.5
LACR	Lac	1.98	84	⇑iPN	Pb	09 27 27.7	-0.5
LACR	Lac	1.98	84	i Pn	Pb	09 27 27.7	-0.5
ARNR	Ardon	2.03	74	⇑iPN	Pb	09 27 28.2	-0.7
ARNR				eS	Sb	09 27 54.2	-0.1
ARNR	Ardon	2.03	74	i Pn	Pb	09 27 28.2	-0.7
ARNR				eSb	Sb	09 27 54.2	-0.1
MACK	Trabzon	2.20	219	i P	Pn	09 27 28.8	+0.2
MACK				i S	Sn	09 27 53.5	-2.6
MACK	Trabzon	2.20	219	i P	Pn	09 27 28.8	+0.2
MACK				i S	Sn	09 27 53.5	-2.6
PRTR	Priterechnaya	2.23	60	ePN	Pb	09 27 32.9	+0.5
PRTR				eS	Sb	09 27 59.8	-0.4
PRTR				pmax	pmax		
	comp=Z,475nm,0.5s						
PRTR	Priterechnaya	2.23	60	ePn	Pb	09 27 32.9	+0.5
	comp=Z,475nm,0.5s						
PRTR				eSn	Sb	09 27 59.8	-0.4
BTKR	Batakoyurt	2.26	71	⇓iPN	Pb	09 27 31.4	-1.5
BTKR				eS	Sb	09 27 59.8	-1.3
BTKR	Batakoyurt	2.26	71	i Pn	Pb	09 27 31.4	-1.5
BTKR				eSn	Sb	09 27 59.8	-1.3
VLKR	Vladikavkaz	2.29	79	ePN	Pb	09 27 34.1	+0.8
VLKR				eS	Sb	09 28 00.4	-1.3
VLKR	Vladikavkaz	2.29	79	ePn	Pb	09 27 34.1	+0.8
VLKR				eSn	Sb	09 28 00.4	-1.3
KARS	Kars	2.31	151	ePN	Pn	09 27 31.4	+1.1
KARS	Kars	2.31	151	PN	Pb	09 27 32.3	-1.4
KARS				S	Sg	09 28 06.6	+0.8
KARS	Kars	2.31	151	P	Pn	09 27 31.4	+1.1
KARS	Kars	2.31	151	Pn	Pb	09 27 32.3	-1.4
KARS				Sn	Sg	09 28 06.6	+0.8
KARS	Kars	2.31	151	P	Pn	09 27 31.4	+1.1
DUS	Dusheti	2.36	103	P	Pb	09 27 33.8	-0.8
DUS				S	Sb	09 28 04.0	+0.2
DUS	Dusheti	2.36	103	PN	Pb	09 27 33.7	-0.8
DUS				S	Sb	09 28 04.0	+0.2
DUS	Dusheti	2.36	103	Pn	Pb	09 27 33.7	-0.8
DUS				Sn	Sb	09 28 04.0	+0.2
DUS	Dusheti	2.36	103	P	Pb	09 27 33.8	-0.8
KZR	Kazreti	2.45	120	P	Pb	09 27 34.3	-1.7
KZR				S	Sb	09 28 06.1	-0.2
KZR	Kazreti	2.45	120	P	Pn	09 27 33.3	+1.2
KZR				S	Sb	09 28 06.1	-0.2
KZR	Kazreti	2.45	120	P	Pn	09 27 33.3	+1.2
EAK	Akyaka	2.47	142	i P	Pn	09 27 33.1	+0.6
EAK	Akyaka	2.47	142	i P	Pn	09 27 33.1	+0.6
TBLG	Delisi	2.50	111	ePN	Pn	09 27 33.6	+0.9
TBLG	Delisi	2.50	111	P	Pn	09 27 33.0	+0.3
TBLG				S	Sb	09 28 07.3	-0.6
TBLG	Delisi	2.50	111	PN	Pn	09 27 33.0	+0.3
TBLG				S	Sb	09 28 07.2	-0.6
TBLG	Delisi	2.50	111	P	Pn	09 27 33.0	+0.3
TBLG				Sn	Sb	09 28 07.2	-0.6
TBLG	Delisi	2.50	111	P	Pn	09 27 33.0	+0.3
BAYT	Ayd˜–ntepe-Bay	2.52	207	ePN	Pn	09 27 33.7	+0.5
BAYT	Ayd˜–ntepe-Bay	2.52	207	ePn	Pn	09 27 33.7	+0.5
SEAG	Tbilisi Sea	2.53	110	P	Pn	09 27 33.2	0.0
SEAG				S	Sb	09 28 07.5	-1.3
SEAG	Tbilisi Sea	2.53	110	P	Pn	09 27 33.2	0.0
SEAG				S	Sb	09 28 07.5	-1.3
DIGO	Kars	2.60	149	i P	Pn	09 27 36.0	+1.6
DIGO	Kars	2.60	149	i P	Pn	09 27 36.0	+1.6
GOF	Gofitskoye	2.61	23	ePN	Pn	09 27 36.0	+1.7
GOF				eS	Sb	09 28 12.8	+1.7
GOF				pmax	pmax		
	comp=Z,410nm,0.8s						
GOF				smax	smax		
	comp=N,1µm,1.0s						
GOF				smax	smax		
	comp=E,3µm,1.0s						
GOF	Gofitskoye	2.61	23	ePn	Pn	09 27 36.0	+1.7
	comp=E,410nm,0.8s						
GOF				eSb	Sb	09 28 12.8	+1.7
HOMI	Horasan	2.62	175	i P	Pn	09 27 36.4	+1.8
GUMT	Gumushane	2.72	217	ePN	Pn	09 27 35.8	-0.1
GUMT	Gumushane	2.72	217	Pn	Pn	09 27 35.8	-0.1
GUMT	Gumushane	2.72	217	Pn	Pn	09 27 35.8	-0.1
ERZM	Erzurum	2.76	184	i P	Pn	09 27 39.3	+2.8
ERZM	Erzurum	2.76	184	i P	Pn	09 27 39.3	+2.8
EZM	Erzurum	2.76	184	ePN	Pn	09 27 37.4	+0.9
EZM	Erzurum	2.76	184	Pn	Pn	09 27 37.4	+0.9
KOPT	Kop Dagi	2.77	198	i P	Pn	09 27 39.0	+2.3
KOPT				i S	Sn	09 28 12.1	+1.6
KOPT	Kop Dagi	2.77	198	i P	Pn	09 27 39.0	+2.3
KOPT				i S	Sn	09 28 12.1	+1.6
ESPY	Espiye-Giresun	2.77	232	ePN	Pn	09 27 36.6	+0.1
ESPY	Espiye-Giresun	2.77	232	ePn	Pn	09 27 36.6	+0.1
EATA	Eleskirt	2.87	166	i P	Pn	09 27 40.7	+2.6
EATA	Eleskirt	2.87	166	i P	Pn	09 27 40.7	+2.6
GRSN	GIRESUNGRSN	3.04	236	i P	Pn	09 27 39.5	-0.7
GRSN				i S	Sn	09 28 12.6	-4.3
GRSN	GIRESUNGRSN	3.04	236	i P	Pn	09 27 39.5	-0.7
DGRG	David-gareji	3.05	112	P	Pn	09 27 42.1	+1.7
DGRG				S	Sb	09 28 23.9	+0.2
DGRG	David-gareji	3.05	112	PN	Pn	09 27 42.0	+1.7
DGRG				S	Sb	09 28 23.8	+0.2
DGRG	David-gareji	3.05	112	Pn	Pn	09 27 42.0	+1.7
DGRG				Sn	Sb	09 28 23.8	+0.2
DGRG	David-gareji	3.05	112	P	Pn	09 27 42.1	+1.7
KELT	Kelkit	3.07	216	i P	Pn	09 27 41.3	+0.5
KELT				i S	Sn	09 28 18.9	+1.0
KELT	Kelkit	3.07	216	i P	Pn	09 27 41.3	+0.5
KELT				i S	Sn	09 28 18.9	+1.0
GRO	Groznyy	3.10	76	ePN	Pn	09 27 42.9	+1.9
GRO				eS	Sn	09 28 19.7	+1.3
GRO	Groznyy	3.10	76	ePn	Pn	09 27 42.9	+1.9
GRO				eSn	Sn	09 28 19.7	+1.3
QZX	Qazax, Azerbai	3.23	118	⇑P	Pn	09 27 44.0	+1.2
QZX				⇑S	Sb	09 28 29.4	+0.5
QZX	Qazax, Azerbai	3.23	118	P	Pn	09 27 44.0	+1.2
QZX				S	Sb	09 28 29.4	+0.5
AGRB	Hanur-Agry	3.25	161	ePN	Pn	09 27 44.3	+1.0
AGRB	Hanur-Agry	3.25	161	ePn	Pn	09 27 44.3	+1.0
EZC	Erzincan	3.37	211	ePn	Pn	09 27 46.1	+1.3
ERZN	Erzincan	3.38	206	ePN	Pn	09 27 46.1	+1.1
BTLR	Botlikh	3.40	88	⇑ePN	Pn	09 27 47.0	+1.8
BTLR	Botlikh	3.40	88	ePn	Pn	09 27 47.0	+1.8
GNI	Garni	3.44	136	Pn	Pb	09 27 52.3	-0.7
	comp=E,10nm,0.3s,baz=291,slow=1.8,SNR=18						
GNI				Lg	Lg	09 28 43.2	
	comp=E,21nm,0.3s,baz=306,slow=12,SNR=4.5						
GNI				LR	LR	09 29 37.4	
	comp=E,246nm,21.3s,baz=295,slow=49						
GNI	Garni	3.44	136	c iPN	Pb	09 27 51.6	-1.4
GNI				pmax	pmax		
	comp=Z,64nm,0.8s						
GNI	Garni	3.44	136	i Pn	Pb	09 27 51.6	-1.4
	comp=Z,64nm,0.8s						
SUSE	Susehri	3.54	227	i P	Pn	09 27 48.7	+1.4
SUSE				i S	Sn	09 28 31.6	+2.1
SUSE	Susehri	3.54	227	i P	Pn	09 27 48.7	+1.4
SUSE				i S	Sn	09 28 31.6	+2.1
ANN	Anapa	3.71	307	⇑iPN	Pn	09 27 52.4	+3.1
ANN				i S	Sn	09 28 36.8	+3.5
ANN				pmax	pmax		
	comp=Z,76nm,1.4s						
ANN	Anapa	3.71	307	i Pn	Pn	09 27 52.4	+3.1
	comp=Z,76nm,1.4s						
BNGB	Bing˜¶l	3.73	191	ePN	Pn	09 27 50.9	+1.2
ZKTA	Zakatala	3.86	104	⇑P	Pn	09 27 55.8	+4.4
ZKTA				⇑S	Sb	09 28 49.4	+2.4
BINT	Bingol	3.87	193	ePn	Pn	09 27 50.9	-0.9
RSDY	Resadiye-TOKAT	3.93	236	ePN	Pn	09 27 53.9	+1.4
RSDY	Resadiye-TOKAT	3.93	236	ePn	Pn	09 27 53.9	+1.4
ILIC	ilic-Erzincan	3.94	217	ePN	Pn	09 27 54.2	+1.5
ILIC	ilic-Erzincan	3.94	217	ePn	Pn	09 27 54.2	+1.5
GANJ	Ganja	4.06	118	⇑P	Pn	09 27 56.7	+2.5
GANJ				⇑S	Sb	09 28 51.6	-1.1
GANJ	Ganja	4.06	118	P	Pn	09 27 56.7	+2.5
KEMA	Kemaliye	4.13	216	i P	Pn	09 27 57.3	+2.1
KEMA	Kemaliye	4.13	216	i P	Pn	09 27 57.3	+2.1
ERBA	Erbaa	4.14	243	i P	Pn	09 27 56.5	+1.1
ERBA				i S	Sn	09 28 45.0	+1.0
ERBA	Erbaa	4.14	243	i P	Pn	09 27 56.5	+1.1
ERBA				i S	Sn	09 28 45.0	+1.0
MAK	Makhachkala	4.34	84	ePN	Pn	09 28 00.1	+2.0
MAK				e		09 28 18.0	
MAK				e		09 28 54.5	
MAK				e		09 29 09.2	
MAK				e		09 29 23.2	
MAK				pmax	pmax		
	comp=Z,156nm,0.3s						
MAK				smax	smax		
	comp=N,331nm,0.7s						
MAK				smax	smax		
	comp=E,317nm,0.7s						
MAK				MLR	MLR		
	comp=Z,560nm,17.0s						
MAK	Makhachkala	4.34	84	ePn	Pn	09 28 00.1	+2.0
	comp=Z,156nm,0.3s						
MAK	Makhachkala	4.34	84	ePg	Pg	09 28 18.0	+3.1
MAK				eSn	Sn	09 28 54.5	+5.6
	comp=Z,331nm,0.7s						
SCER	sogukcermik	4.39	232	i P	Pn	09 28 00.7	+1.9
SCER	sogukcermik	4.39	232	i P	Pn	09 28 00.7	+1.9
SEKA	Sheki	4.41	107	⇑P	Pn	09 28 01.9	+2.8
SEKA				⇓S	Sb	09 29 00.5	-2.4
SEKA	Sheki	4.41	107	P	Pn	09 28 01.9	+2.8
SVSK	Karacayir	4.43	233	ePN	Pn	09 28 01.1	+1.9
SVSK	Karacayir	4.43	233	ePn	Pn	09 28 01.1	+1.9
MNGR	Mingechevir, A	4.51	113	⇑P	Pn	09 28 02.8	+2.5
MNGR				⇑S	Sb	09 29 02.7	-2.9
MNGR	Mingechevir, A	4.51	113	P	Pn	09 28 02.8	+2.5
NAX	Nakhchivan	4.55	139	⇓P	Pn	09 28 00.3	-0.8
NAX				⇑S	Sn	09 28 58.2	+3.9
NAX	Nakhchivan	4.55	139	P	Pn	09 28 00.3	-0.8
NAX				S	Sn	09 28 58.2	+3.9
ELZG	Elazig	4.61	207	i P	Pn	09 28 02.8	+0.8
ELZG	Elazig	4.61	207	i P	Pn	09 28 02.8	+0.8
SVRC	Sivrice-ELAZID	4.62	203	ePN	Pn	09 28 03.2	+1.1
SVRC	Sivrice-ELAZID	4.62	203	ePn	Pn	09 28 03.2	+1.1
HAVZ	Havza	4.68	252	i P	Pn	09 28 03.7	+1.0
HAVZ	Havza	4.68	252	i P	Pn	09 28 03.7	+1.0
BRDA	Brd	4.82	118	⇓S	Sb	09 29 08.8	-5.7
IML	Ismayilli	5.25	109	⇓P	Pn	09 28 14.1	+3.4
IML				⇓S	Sb	09 29 21.6	-5.6
IML	Ismayilli	5.25	109	P	Pn	09 28 14.1	+3.4
MAZI	Mazidag	5.27	190	ePN	Pn	09 28 13.0	+2.1
MAZI	Mazidag	5.27	190	ePn	Pn	09 28 13.0	+2.1
SUDU	Sudak	5.28	297	ePN	Pn	09 28 11.4	+0.4
SUDU				eS	Sn	09 29 11.5	-0.6
SUDU	Sudak	5.28	297	ePn	Pn	09 28 11.4	+0.4
SUDU				eSn	Sn	09 29 11.5	-0.6
QUBA	Quba, Azerbaij	5.29	102	⇓P	Pn	09 28 15.4	+4.3
QUBA				⇑S	Sb	09 29 24.7	-3.4
QUBA	Quba, Azerbaij	5.29	102	P	Pn	09 28 15.4	+4.3
KDMR	Kurdemir	5.43	113	⇑S	Sb	09 29 25.3	-6.9
CTKT	Corum	5.50	251	i P	Pn	09 28 16.4	+2.2
CTKT	Corum	5.50	251	i P	Pn	09 28 16.4	+2.2
PQL	Pirkuli	5.54	107	⇓P	Pn	09 28 17.1	+2.3
PQL				⇓S	Sb	09 29 29.1	-6.5
PQL	Pirkuli	5.54	107	P	Pn	09 28 17.1	+2.3
ALU	Alushta	5.61	294	eP	Pn	09 28 16.2	+0.8
ALU				eS	Sn	09 29 18.7	-1.4
ALU	Alushta	5.61	294	eP	Pn	09 28 16.2	+0.8
ALU				eS	Sn	09 29 18.7	-1.4
YAL	Yalta	5.72	291	⇑iP	Pn	09 28 18.1	+1.2
YAL				eS	Sn	09 29 22.0	-0.8
YAL	Yalta	5.72	291	i P	Pn	09 28 18.1	+1.2
YAL				eS	Sn	09 29 22.0	-0.8
ATGJ	Altiaghaj	5.76	106	⇑P	Pn	09 28 20.5	+2.8
ATGJ				⇑S	Sb	09 29 35.1	-6.8
ATGJ	Altiaghaj	5.76	106	P	Pn	09 28 20.5	+2.8
SAAT	Saatly	5.84	116	⇓S	Sn	09 29 32.9	+7.1
SIM	Simferopol'	5.89	295	P	Pb	09 28 31.0	-3.6
SIM				pmax	pmax		
	comp=Z,17nm,1.0s						
SIM				MLR	MLR		
	comp=Z,90nm,15.5s						
SEV	Sevastopol'	6.07	291	eP	Pn	09 28 21.3	-0.5
SEV				eS	Sn	09 29 29.6	-1.8
SEV	Sevastopol'	6.07	291	eP	Pn	09 28 21.3	-0.5
SEV				eS	Sn	09 29 29.6	-1.8
ILGA	Ilgaz	6.11	257	i P	Pn	09 28 24.4	+1.8
ILGA	Ilgaz	6.11	257	i P	Pn	09 28 24.4	+1.8
GLBA	Clilabad	6.16	121	⇑P	Pn	09 28 24.2	+1.1
GLBA				⇑S	Sn	09 29 41.4	+7.7
GLBA	Clilabad	6.16	121	P	Pn	09 28 24.2	+1.1
ALIB	Äli-Bayra	6.18	113	⇑P	Pn	09 28 25.6	+2.3
ALIB				⇑S	Sn	09 29 43.5	+9.2
ALIB	Äli-Bayra	6.18	113	P	Pn	09 28 25.6	+2.3
MSL	Mosul	6.36	169	ePN	x	09 28 28.4	
MSL				eSN	x	09 29 45.3	
GOBA	Gobu	6.50	108	⇑P	Pn	09 28 30.5	+2.9
GOBA				⇑S	Sb	09 29 52.6	-10
GOBA	Gobu	6.50	108	P	Pn	09 28 30.5	+2.9
LRK	Lerik	6.50	126	⇓P	Pn	09 28 28.5	+0.6
LRK				⇑S	Sn	09 29 49.2	+6.9
LRK	Lerik	6.50	126	P	Pn	09 28 28.5	+0.6
ELDT	Eldivan	6.51	253	i P	Pn	09 28 29.7	+1.7
ELDT	Eldivan	6.51	253	i P	Pn	09 28 29.7	+1.7
NDR	Nardaran	6.61	105	⇓P	Pn	09 28 32.2	+3.0
NDR				⇑S	Sb	09 29 55.8	-10
NDR	Nardaran	6.61	105	P	Pn	09 28 32.2	+3.0
BRTR	Keskin Array B	6.69	247	Pn	Pn	09 28 32.1	+1.7
	comp=Z,4.8nm,0.3s,baz=42,slow=10,SNR=100						
BRTR				Sn	Sn	09 29 48.0	+1.0
	comp=Z,0.8nm,0.3s,baz=45,slow=19,SNR=3.6						
BRTR	Keskin Array B	6.69	247	c eP	Pn	09 28 32.7	+2.2
BRTR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
BRTR	Keskin Array B	6.69	247	eP	Pn	09 28 32.7	+2.2
	comp=Z,10.0nm,0.3s						
BRTR				Sn	Sn	09 29 48.0	+1.0
LKRN	Lenkeran, Azer	6.72	124	⇑P	Pn	09 28 31.8	+1.1
LKRN				⇑S	Sn	09 29 54.8	+7.3
LKRN	Lenkeran, Azer	6.72	124	P	Pn	09 28 31.8	+1.1
GALA	Gala	6.79	106	⇓P	Pn	09 28 34.2	+2.6
GALA				⇑S	Sn	09 29 59.5	+10
GALA	Gala	6.79	106	P	Pn	09 28 34.2	+2.6
IKRK	Kirkuk	7.55	163	ePn	x	09 28 43.3	
IKRK				eSn	x	09 30 14.7	
VORD	Divnogorie	8.46	350	eP	Pn	09 28 55.0	+0.5
VORD				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VORD				pmax	pmax		
	comp=N,30nm,0.9s						
VORD				pmax	pmax		
	comp=E,20nm,0.8s						
VSR	Storozhevoye	8.72	350	eP	Pn	09 28 55.3	-2.8
VSR				pmax	pmax		
	comp=N,7.0nm,0.6s						

VSR pmax pmax
comp=E,4.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 8.72 350 *e*P **Pn 09 28 55.3 -2.8**
TLCR 9.58 290⇑*i*P **Pn 09 29 09.2 -0.7**
TLCR 9.58 290 S Sn 09 30 48.7 -8.9
TLCR 9.58 290⇑*i*P **Pn 09 29 09.2 -0.7**
RTB Rutbah 9.67 187 *e*PN x 09 29 13.7
RTB *e*S x 09 31 03.7
TIRR Tirgusor 9.75 285 *e*P **Pn 09 29 10.0 -2.3**
TIRR Tirgusor 9.75 285⇑*i*P **Pn 09 29 10.6 -1.7**
TIRR Tirgusor 9.75 285 S Sn 09 30 51.7 -10
TIRR Tirgusor 9.75 285 *e*P **Pn 09 29 10.0 -2.3**
TIRR Tirgusor 9.75 285 *e*Pn **Pn 09 29 10.0 -2.3**
TIRR *e*Sn Sn 09 30 51.6 -10
PSN Preselentsi 9.87 281⇑*i*P **Pn 09 29 12.5 -1.4**
PSN Preselentsi 9.87 281⇑*i*P **Pn 09 29 12.5 -1.4**
TLB Topalu 10.03 286⇑*i*P **Pn 09 29 14.8 -1.3**
TLB Topalu 10.03 286 S Sn 09 31 00.6 -8.2
TLB Topalu 10.03 286⇑*i*P **Pn 09 29 14.8 -1.3**
CFR Carcaliu 10.05 289⇓*i*P **Pn 09 29 15.0 -1.3**
CFR Carcaliu 10.05 289⇓*i*P **Pn 09 29 15.0 -1.3**
LPSR Galich'ya Gora 10.11 351 *e*P **Pn 09 29 16.2 -1.0**
LPSR pmax pmax
comp=N,10.0nm,0.7s
LPSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR pmax pmax
comp=E,4.0nm,0.5s
LPSR Galich'ya Gora 10.11 351 *e*P **Pn 09 29 16.2 -1.0**
IBDR Badra 10.12 159 *e*PN x 09 29 20.3
IBDR *e*S x 09 31 15.1
HARR Harsova 10.12 286⇑*i*P **Pn 09 29 15.9 -1.4**
HARR Harsova 10.12 286⇑*i*P **Pn 09 29 15.9 -1.4**
MMAI Mount Meron Ar 10.80 209 LR LR 09 33 56.9
comp=E,25nm,19.5s,baz=295,slow=40
VRI Vrincioaia 11.15 292⇑*i*P **Pn 09 29 31.6 +0.2**
ISR Istrita 11.15 288⇓*i*P **Pn 09 29 30.0 -1.5**
ISR Istrita 11.15 288⇓*i*P **Pn 09 29 30.0 -1.5**
PLOR Plostina 11.20 292⇓*i*P **Pn 09 29 31.9 -0.2**
TESR Tescani 11.35 295⇑*i*P **Pn 09 29 33.8 -0.3**
TESR Tescani 11.35 295⇑*i*P **Pn 09 29 33.8 -0.3**
MLR Muntele Rosu 11.62 289 Pn **Pn 09 29 38.2 +0.2**
comp=E,0.2nm,0.3s,baz=124,slow=10,SNR=5.3
MLR Sn **Sn 09 31 46.4 -1.6**
comp=E,0.2nm,0.3s,baz=151,slow=19,SNR=3.4
MLR Muntele Rosu 11.62 289⇑*i*P **Pn 09 29 37.9 -0.1**
MLR Muntele Rosu 11.62 289⇑*i*P **Pn 09 29 37.9 -0.1**
AKASG Malin Array Be 11.70 318 Pn **Pn 09 29 36.3 -2.5**
comp=E,2.0nm,0.3s,baz=120,slow=14,SNR=5.1
AKASG Sn Sn 09 31 41.4 -8.2
comp=E,1.1nm,0.3s,baz=126,slow=25,SNR=4.1
KIEV Kiev 11.70 318 *i* P **Pn 09 29 38.2 -0.7**
KIEV Kiev 11.70 318 *i* P **Pn 09 29 38.2 -0.7**
DOPR Dopca 12.09 291⇑*i*P **Pn 09 29 42.5 -1.7**
DOPR Dopca 12.09 291⇑*i*P **Pn 09 29 42.5 -1.7**
VOIR 12.24 289⇑*i*P **Pn 09 29 46.0 -0.4**
VOIR 12.24 289⇑*i*P **Pn 09 29 46.0 -0.4**
BURAR Bucovina Array 12.59 299⇑*i*P **Pn 09 29 49.8 -1.4**
BURAR Bucovina Array 12.59 299⇑*i*P **Pn 09 29 49.8 -1.4**
OBN Obninsk 12.89 347 LR LR 09 34 40.1
comp=E,36nm,18.3s,baz=270,slow=36
ISHV Shirvan 13.33 107 *e*P **Pn 09 30 00.2 -1.2**
ISHV Shirvan 13.33 107 *e*P **Pn 09 30 00.1 -1.4**
AKTO Aktyubinsk 13.69 50 ⇑Pn **Pn 09 30 03.3 -2.8**
comp=E,5.9nm,0.8s
AKTO ⇑Sn Sn 09 32 28.9 -9.4
comp=E,7.9nm,1.3s
AKTO Aktyubinsk 13.69 50 Pn **Pn 09 30 03.5 -2.6**
comp=E,0.9nm,0.3s,baz=235,slow=11,SNR=14
AKTO Sn Sn 09 32 27.3 -11
comp=E,0.1nm,0.3s,baz=12,slow=20,SNR=2.5
AKTO LR LR 09 37 02.8
comp=E,94nm,18.5s,baz=251,slow=45
GZR Gura Zlata 13.83 288⇑*i*P **Pn 09 30 08.7 +0.6**
GZR Gura Zlata 13.83 288⇑*i*P **Pn 09 30 08.7 +0.6**
AB31 Akbulak array 14.34 56 Pn **Pn 09 30 12.7 -2.2**
comp=E,0.8nm,0.4s,baz=244,slow=9.5,SNR=20
AB31 ⇑Sn Sn 09 32 44.6 -9.5
comp=E,2.5nm,0.7s,baz=248,slow=21,SNR=3.5
AB31 Akbulak array 14.34 56 Pn **Pn 09 30 12.7 -2.2**
comp=E,0.8nm,0.4s,SNR=20
ABKAR Akbulak array 14.34 56 *e*Pn **Pn 09 30 12.7 -2.2**
ABKAR Akbulak array 14.34 56 *e*Pn **Pn 09 30 12.7 -2.2**
ABKAR *e*Sn Sn 09 32 47.4 -6.7
IAKL Akhelmad 14.52 109 *e*P **P 09 30 22.4 -2.2**
IAKL Akhelmad 14.52 109 *e*P **Pn 09 30 20.3 +2.5**
IDI Anoyia 14.93 246 LR LR 09 36 53.0
comp=E,47nm,22.0s,baz=81,slow=40
IKAZ Kazeroun 15.26 144 *e*P **P 09 30 34.5 +1.7**
IPAR Pars 15.75 141 *e*P **P 09 30 36.8 -1.5**
ARU Arti 17.56 32*c i*P **P 09 30 57.5 -0.3**
ARU S **Sn 09 34 14.0 +1.7**
ARU pmax pmax
comp=Z,7.0nm,0.6s
ARU Arti 17.56 32 *e*Pn **Pn 09 30 54.2 -2.5**
comp=Z,10.0nm,0.7s
ARU Arti 17.56 32 *i* P **P 09 30 57.5 -0.3**
comp=Z,7.0nm,0.6s
ARU Arti 17.56 32 *e*Pn **Pn 09 30 54.2 -2.5**
comp=Z,10.0nm,0.7s
KLMR Klimovskoe 18.27 357 *e*P **Pn 09 31 02.9 -2.5**
KLMR pmax pmax
comp=Z,16nm,0.9s
KLMR Klimovskoe 18.27 357 *e*P **Pn 09 31 02.9 -2.5**
comp=Z,16nm,0.9s
VRAC Vranov 18.57 300 LR LR 09 39 31.5
comp=Z,43nm,20.8s,baz=109,slow=41
SVE Sverdlovsk 18.67 34 *e*P **P 09 31 07.6 -2.4**
SVE pmax pmax
comp=Z,35nm,1.2s
SVE Sverdlovsk 18.67 34 *e*P **P 09 31 07.6 -2.4**
comp=Z,35nm,1.2s
CSNA Conrad Observa 18.83 295⇑*i*P Pn 09 31 20.0 +7.6
comp=Z,6.3nm,1.5s
DPC Dobruska-Polom 18.97 303 *e*P **Pn 09 31 17.3 +3.2**
DPC Dobruska-Polom 18.97 303 *e*P **Pn 09 31 17.3 +3.2**
PRGR Permogore 19.16 6 P **P 09 31 11.1 -4.2**
PRGR pmax pmax
comp=Z,11nm,0.8s
UPC Upice 19.20 303 *e*P **Pn 09 31 19.6 +2.8**
UPC *e*x x 09 31 21.7
UPC Upice 19.20 303 *e*P **Pn 09 31 19.6 +2.8**
TREC Trest 19.27 299 AMS AMS 09 40 50.0
comp=Z,100nm,14.2s
RAYN Ar Rayn 19.36 169 *e*P **Pn 09 31 20.1 +1.2**
comp=Z,5.3nm,1.1s
RAYN Ar Rayn 19.36 169 *e*P **Pn 09 31 20.1 +1.2**
comp=Z,5.4nm,1.1s
SOKR Solikamsk 19.37 24 *e*P Pn 09 31 28.7 +10
SOKR pmax pmax
comp=Z,10.0nm,0.9s
CUC Castrocucco 19.54 271 *e*P **Pn 09 31 22.3 +1.3**
comp=Z,14nm,1.1s
GERES GERESS Array B 20.37 297 P Pn 09 31 30.1 -0.8
comp=Z,2.5nm,0.8s,baz=110,slow=12,SNR=6.5
KBA Koelnbreinsper 20.46 292⇓*i*pP P 09 31 35.2 +5.3
comp=Z,18nm,1.4s
KHC Kasperske Hory 20.48 298 *e*P Pn 09 31 35.9 +3.8
KHC *e*pP pP 09 31 39.3 +7.3
KHC AMS AMS 09 41 40.0
comp=Z,100nm,11.6s
KHC Kasperske Hory 20.48 298 *e*P Pn 09 31 35.9 +3.8
KHC *e* 09 31 39.3
KHC MLR MLR
comp=Z,100nm,11.6s
FINES FINESS Array B 21.00 339 P **P 09 31 34.3 -1.0**
comp=Z,6.1nm,0.8s,baz=147,slow=13,SNR=9.0
FINES LR LR 09 40 35.8
comp=Z,44nm,21.2s,baz=170,slow=39
FINES FINESS Array B 21.00 339 P **P 09 31 34.3 -1.0**
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES MLR MLR
comp=Z,45nm,21.2s
CLL Collm 21.24 304 *e*P **P 09 31 39.0 +0.9**
CLL *i* 09 31 44.3
comp=Z,8.0nm,1.0s
CLL Collm 21.24 304 *e*P **P 09 31 39.0 +0.9**
CLL *i* 09 31 44.3
CLL Collm 21.24 304 *e*P **P 09 31 39.0 +0.9**
WTTA Wattenberg 21.64 293⇑*i*pP **P 09 31 46.2 +3.7**
comp=Z,16nm,1.1s
TMCR Tamitsa 21.64 356 *e*P **P 09 31 41.4 -0.8**
TMCR pmax pmax
comp=Z,30nm,0.4s
WATA Walderalm 21.68 293⇑*i*pP P 09 31 47.7 +4.7
comp=Z,43nm,1.5s
BRVK Borovoye 21.73 51 ⇑Pn **P 09 31 46.8 +3.5**
comp=Z,16nm,0.9s
BRVK ⇓Sn **S 09 35 42.6 -1.1**
comp=Z,3.5nm,0.8s
BRVK Borovoye 21.73 51 P **P 09 31 43.5 +0.2**
BRVK pmax pmax
comp=Z,9.0nm,1.5s
BRVK Borovoye 21.73 51 P **P 09 31 43.0 -0.3**
comp=Z,12nm,0.9s
BRVK Borovoye 21.73 51 Pn **P 09 31 46.8 +3.5**
comp=Z,16nm,0.9s
BRVK Borovoye 21.73 51 P **P 09 31 43.0 -0.3**
comp=Z,12nm,0.9s
BVA0 Borovoye Array 21.78 52 ⇓Pn **P 09 31 46.3 +2.5**
comp=Z,9.4nm,1.2s,baz=258,slow=7.2,SNR=19
BVA0 ⇑Sn **S 09 35 43.4 -1.3**
comp=Z,3.9nm,1.0s,baz=214,slow=35,SNR=4.0
BVA0 Borovoye Array 21.78 52 Pn **P 09 31 46.3 +2.5**
comp=Z,9.4nm,1.2s,SNR=19
BVAR Borovoye Array 21.78 52 P **P 09 31 43.9 0.0**
comp=Z,2.5nm,0.7s,baz=249,slow=6.0,SNR=9.6
MOTA Moosalm 22.00 293⇑*i*P **P 09 31 49.0 +2.6**
comp=Z,11nm,0.8s
FETA Feichten 22.25 292⇓*i*pP **P 09 31 51.0 +1.9**
comp=Z,14nm,1.0s
FETA Feichten 22.25 292 P **P 09 31 51.0 +1.9**
comp=Z,14nm,1.0s
DAVA Damuels 22.83 293⇑*i*pP **P 09 31 57.1 +1.8**
comp=Z,14nm,0.9s
DAVA Damuels 22.83 293 P **P 09 31 57.1 +1.8**
comp=Z,14nm,0.9s
DAVOX Davos/Dischmat 22.84 291 P **P 09 31 57.1 +1.7**
comp=Z,5.4nm,0.6s,baz=355,slow=19,SNR=4.4
TUE Stuetta 23.21 291 P **P 09 31 59.2 -0.1**
comp=Z,7.6nm,0.7s
TUE Stuetta 23.21 291 P **P 09 31 59.2 -0.1**
comp=Z,7.6nm,0.7s
AAK Ala-Archa 24.11 79 P **P 09 32 08.5 +0.4**
comp=Z,1.6nm,0.3s,baz=266,slow=10,SNR=5.5
AAK LR LR 09 41 47.8
comp=Z,41nm,19.6s,baz=269,slow=37
AAK Ala-Archa 24.11 79*ce*P **P 09 32 09.4 +1.4**
AAK pmax pmax
comp=Z,16nm,1.7s
HFS Hagfors 24.39 325 P **P 09 32 11.0 +0.7**
comp=Z,4.8nm,0.7s,baz=133,slow=11,SNR=12
HFS LR LR 09 41 52.4
comp=Z,52nm,18.6s,baz=120,slow=37
TKM2 Tokmak 2 24.84 78 *e*P **P 09 32 15.6 +0.8**
TKM2 pmax pmax
comp=Z,5.0nm,1.0s
TKM2 Tokmak 2 24.84 78 *e*P **P 09 32 15.6 +0.8**
comp=Z,4.5nm,1.0s
TKM2 Tokmak 2 24.84 78 *e*P **P 09 32 15.6 +0.8**
comp=Z,4.5nm,1.0s
KEST Kesra 25.84 265 P **P 09 32 24.9 +1.2**
comp=Z,1.0nm,0.8s,baz=98,slow=15,SNR=2.8
KEST Kesra 25.84 265 P **P 09 32 23.1 -0.6**
KEST Kesra 25.84 265 P **P 09 32 23.1 -0.6**
NB2 NORSAR Subarra 25.91 326 P **P 09 32 23.9 -0.2**
comp=Z,2.3nm,0.9s,baz=121,slow=9.3
NB2 NORSAR Subarra 25.91 326 P **P 09 32 23.9 -0.2**
comp=Z,2.3nm,0.9s,SNR=6.5
NOA NORSAR Array B 25.91 326 P **P 09 32 23.9 -0.2**
comp=Z,1.6nm,0.9s,baz=132,slow=7.7,SNR=6.2
NOA LR LR 09 43 14.6
comp=Z,45nm,18.7s,baz=120,slow=38
ARCES ARCESS Array B 28.20 348 LR LR 09 43 58.4
comp=Z,38nm,18.2s,baz=87,slow=36
MKAR Makanchi Array 28.96 68 P **P 09 32 51.1 -0.5**
comp=Z,0.6nm,0.6s,baz=280,slow=7.3,SNR=5.1
MKAR LR LR 09 47 02.2
comp=Z,50nm,20.4s,baz=272,slow=42
ZALV Zalesovo Beam 30.41 53 P **P 09 33 02.9 -1.4**
comp=Z,0.5nm,0.4s,baz=260,slow=8.9,SNR=4.5
ZALV Zalesovo Beam 30.41 53 *i* P **P 09 33 05.4 +1.1**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 30.41 53 *i* P **P 09 33 05.4 +1.1**
comp=Z,1.0nm,0.4s
ESDC Sonseca Array 34.12 281 P **P 09 33 37.3 +0.2**
comp=Z,0.3nm,0.3s,baz=68,slow=8.7,SNR=4.6
SPITS Spitsbergen Ar 37.04 352 P **P 09 34 02.4 +0.7**
comp=Z,7.1nm,0.9s,baz=142,slow=12,SNR=9.5
TORD Torodi Ar. Bea 45.27 242 P **P 09 35 10.1 0.0**
comp=Z,1.1nm,0.7s,baz=44,slow=7.1,SNR=10.0
SUMG Summit 46.99 336 *e*P **P 09 35 23.3 -0.1**
SUMG pmax pmax
comp=Z,4.0nm,0.9s
SUMG Summit 46.99 336 *e*P **P 09 35 23.3 -0.1**
comp=Z,4.0nm,0.9s
SUMG Summit 46.99 336 *e*P **P 09 35 23.2 -0.1**
comp=Z,4.3nm,0.9s
TIXI Tiksi 49.34 25⇓*i*P **P 09 35 41.1 +0.1**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
TIXI Tiksi 49.34 25 *i* P **P 09 35 41.1 +0.1**
comp=Z,2.0nm,1.0s
CMAR Chiang Mai Arr 53.81 98 LR LR 10 02 56.3
comp=Z,13nm,21.1s,baz=220,slow=40
SEY Seymchan 61.27 29⇑*i*P **P 09 37 07.3 +0.2**
SEY Seymchan 61.27 29 *i* P **P 09 37 07.3 +0.2**
KSAR Wonju Array Be 63.45 63 P **P 09 37 21.7 -0.4**
KSAR Wonju Array Be 63.45 63 P **P 09 37 21.7 -0.4**
KSAR Wonju Array Be 63.45 63 P **P 09 37 21.6 -0.4**
KSRS Korea Array 63.47 63 P **P 09 37 21.6 -0.5**
comp=Z,1.4nm,0.7s,baz=301,slow=5.8,SNR=7.7
KSRS Korea Array 63.47 63 P **P 09 37 21.7 -0.5**
KSRS pmax pmax
comp=Z,1.0nm,0.7s
COLD Coldfoot 70.07 5 *e*P **P 09 38 03.7 -0.2**
comp=Z,1.4nm,0.9s
COLD Coldfoot 70.07 5 *e*P **P 09 38 03.6 -0.2**
comp=Z,1.4nm,0.9s
MJAR Matsushiro Arr 70.61 58 P **P 09 38 07.1 -0.6**
comp=Z,1.2nm,1.0s,baz=283,slow=11,SNR=5.0
YKA Yellowknife Ar 73.47 349 P **P 09 38 24.4 +0.1**
comp=Z,1.0nm,0.7s,baz=18,slow=6.0,SNR=4.8
NEW Newport 87.54 346 *e*P **P 09 39 40.7 +0.6**
NEW pmax pmax
comp=Z,4.0nm,0.7s
NEW Newport 87.54 346 *e*P **P 09 39 40.7 +0.6**
comp=Z,4.0nm,0.7s
NEW Newport 87.54 346 *e*P **P 09 39 40.6 +0.6**
comp=Z,3.5nm,0.7s

LJU 07 09:26:57.4,46°.23N×14°.00E,h12km,ML0.5,1D,Austria

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
GORS Gorjuse 0.09 359⇓*i*Pg Pg 09 27 00.5 +0.2
GORS *i* Sg Sg 09 27 02.2 -0.2
comp=Z,7.0nm,0.1s
VOJS Vojsko 0.21 202 *i* Pg Pg 09 27 02.0 0.0
VOJS *i* Sg Sg 09 27 05.5 +0.3
comp=Z,2.0nm,0.1s
CRNS Crni Vrh 0.23 128 *i* Pg Pg 09 27 02.6 +0.2
comp=Z,2.0nm,0.1s
JAVS Javornik 0.34 172 *e*Pg Pg 09 27 04.1 -0.3

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*ISCJB **07** 09:30:44.9±1.5,7°.72S±0°.05×118°.9E±0°.2,h10km,mb3.6/2, Error ellipse: s-maj=26.6km s-min=5.7km az=7.6*
*IDC **07** 09:30:44.6±7.0,7°.78S×118°.96E,h0km,mb3.5/2, mb1 3.6/4,mb1mx3.4/23,mbtmp3.4/4,ML3.1/2,Error ellipse: s-maj=176.9km s-min=29.6km az=82.0*
*DJA **07** 09:30:47.5±0.7,8°S±3°×11°9E±°,h20km±10km,M3.2/6, MLv3.2/6*
ISC 07 09:30:45.7±1.9**,7°.73S**±0°.05×**118°.9E**±0°.2**,h10km,n7, σ0s.99**/11**,Flores Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
WBSI Waikabubak, Su 1.95 167 P **Pn 09 31 19.3 +0.4**
WBSI S **Sn 09 31 43.9 +0.4**
BSSI Bau Bau, Buton 2.21 44 P **Pn 09 31 22.8 +0.4**
BSSI S **Sn 09 31 50.0 +0.3**
BKSI Bulukumba 2.67 26 P **Pn 09 31 29.3 +0.6**
BKSI S **Sn 09 32 01.3 +0.2**
KAPI Kappang 2.82 17 Pn **Pn 09 31 31.6 +0.8**
1.6nm,0.3s,baz=197,slow=5.8,SNR=16
KAPI Sn **Sn 09 32 03.7 -1.1**
3.5nm,0.3s,baz=211,slow=20,SNR=5.7
WRA Warramunga Arr 19.24 131 P **P 09 35 09.1 -1.2**
0.1nm,0.3s,baz=309,slow=13,SNR=2.9
ASAR Alice Springs 21.38 139 P **P 09 35 35.2 +1.6**
0.9nm,0.4s,baz=315,slow=8.7,SNR=18
STKA Stephens Creek 31.97 142 P **P 09 37 11.1 -1.0**
1.1nm,1.0s,baz=316,slow=12,SNR=4.8

IDC 07 09:33:14.5±2.5**,3°.16N×126°.70E,h0km,mb3.4**/4**, mb1 3.5**/4**,mb1mx3.3**/30**,mbtmp3.4**/4**,Error ellipse: s-maj=247.8km s-min=28.0km az=65.0,Talaud Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
WRA Warramunga Arr 24.15 162 P P 09 38 32.7 +0.2
0.6nm,0.7s,baz=340,slow=10,SNR=3.9
ASAR Alice Springs 27.57 166 P P 09 39 04.7 +1.2
0.3nm,0.9s,baz=345,slow=6.7,SNR=4.1
STKA Stephens Creek 37.61 159 P P 09 40 29.9 -1.3
0.5nm,0.5s,baz=336,slow=18,SNR=3.4
MKAR Makanchi Array 58.01 325 P P 09 43 08.9 -0.2
0.2nm,0.4s,baz=144,slow=8.6,SNR=1.9

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*ISK **07** 09:42:33.7,37°.30N×35°.44E,h5km,ML3.3*
*DDA **07** 09:42:35.0,37°.38N×35°.44E,h5km,ML3.9*
*CSEM **07** 09:42:35.0±0.1,37°.27N×35°.46E,h2km,ML3.3,Error ellipse: s-maj=4.1km s-min=3.3km az=176.0*
ISC 07 09:42:35.0±1.1**,37°.25N**±0°.02×**35°.46E**±0°.02**,h5km**±9km**, n70,σ0s.90**/93**,Turkey**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
KARA Karaisali 0.32 271 *e*PG **Pg 09 42 40.6 -0.6**
KARA *e*SG **Sg 09 42 46.3 +0.8**
KARA Karaisali 0.32 271 *e*Pg **Pg 09 42 40.6 -0.6**
KARA *e*Sg **Sg 09 42 46.3 +0.8**
CEYT Ceyhan 0.34 136 *e*PG **Pg 09 42 41.9 +0.4**
CEYT *e*SG **Sb 09 42 49.0 -0.1**
CEYT Ceyhan 0.34 136 *e*Pg **Pg 09 42 41.9 +0.4**
CEYT *e*Sg **Sb 09 42 49.0 -0.1**
KOZT Kozan 0.37 52 *e*PG **Pg 09 42 41.4 -0.8**
KOZT *e*SG **Sb 09 42 48.4 -1.8**
KOZT Kozan 0.37 52 *e*Pg **Pg 09 42 41.4 -0.8**
KOZT *e*Sg **Sb 09 42 48.4 -1.8**
KRTS Karatas 0.68 186 *e*PG **Pb 09 42 49.5 +0.2**
KRTS Karatas 0.68 186 *e*Pg **Pb 09 42 49.5 +0.2**
ANDN Andirin 0.78 65 *i* P **Pg 09 42 49.1 -0.8**
ANDN Andirin 0.78 65 *i* P **Pg 09 42 49.1 -0.8**
MERS Mersin 0.84 243 *e*PG **Pg 09 42 50.5 -0.6**
MERS Mersin 0.84 243 *e*Pg **Pg 09 42 50.5 -0.6**
KAMA Osmaniye 0.97 94 *i* P **Pb 09 42 54.1 -0.2**
KAMA *i* S **Sn 09 43 09.1 -0.5**
NIG Nigde 1.09 322 *e*PG **Pg 09 42 55.1 -0.8**
NIG Nigde 1.09 322 *e*Pg **Pg 09 42 55.1 -0.8**
HCB Kahramanmara¯ 1.16 85 *i* P **Pg 09 42 57.1 -0.2**
HCB *i* S **Sg 09 43 11.6 -0.7**
KMRS Kahramanmaras 1.18 77 *e*PN **Pg 09 42 57.0 -0.6**
KMRS Kahramanmaras 1.18 77 *e*Pn **Pg 09 42 57.0 -0.6**
BSTP Nigde 1.28 303 *i* P **Pg 09 42 57.8 -1.7**
KIZK Mersin 1.31 234 *i* P **Pn 09 42 58.7 -1.2**
KIZK *i* S **Sn 09 43 18.1 +0.4**
KIZK Mersin 1.31 234 *i* P **Pn 09 42 58.7 -1.2**
KIZK *i* S **Sn 09 43 18.1 +0.4**
YAYL Yayladag 1.32 157 *i* P **Pn 09 42 57.9 -2.3**
YAYL *i* S **Sg 09 43 18.0 +0.4**
YAYL Yayladag 1.32 157 *i* P **Pn 09 42 57.9 -2.3**
YAYL *i* S **Sg 09 43 18.0 +0.4**
KUZU Kuzuini 1.38 110 *i* P **Pn 09 43 00.4 -0.6**
KUZU *i* S **Sn 09 43 20.7 +1.1**
KUZU Kuzuini 1.38 110 *i* P **Pn 09 43 00.4 -0.6**
KUZU *i* S **Sn 09 43 20.7 +1.1**
AVNT Avonos 1.60 343 *i* P **Pn 09 43 03.2 -0.9**
AVNT *i* S **Sb 09 43 25.7 +0.1**
AVNT Avonos 1.60 343 *i* P **Pn 09 43 03.2 -0.9**
AVNT *i* S **Sb 09 43 25.7 +0.1**
PINB Pinarbasi 1.61 27 *i* P **Pn 09 43 04.1 -0.2**
PINB *i* S **Sn 09 43 24.9 -0.6**
PINB Pinarbasi 1.61 27 *i* P **Pn 09 43 04.1 -0.2**
PINB *i* S **Sn 09 43 24.9 -0.6**
GZT Gaziantep 1.68 86 *i* P **Pn 09 43 04.6 -0.6**
SULT Sultanhani-AKS 1.81 302 *e*PN **Pn 09 43 06.7 -0.2**
SULT Sultanhani-AKS 1.81 302 *e*Pn **Pn 09 43 06.7 -0.2**
DARE Darende-Malaty 2.07 50 *e*PN **Pn 09 43 11.1 +0.6**
DARE Darende-Malaty 2.07 50 *e*Pn **Pn 09 43 11.1 +0.6**
ERMK Ermenek 2.13 254 *i* P **Pb 09 43 13.3 -0.9**
ERMK *i* S **Sg 09 43 44.4 +1.1**
ERMK Ermenek 2.13 254 *i* P **Pb 09 43 13.3 -0.9**
AKCD Akcadag 2.21 61 *i* P **Pn 09 43 12.4 -0.1**
AKCD *i* S **Sg 09 43 47.0 +0.8**
AKCD Akcadag 2.21 61 *i* P **Pn 09 43 12.4 -0.1**
ATAB Bozova 2.27 84 *i* P **Pb 09 43 17.3 +0.8**
ATAB Bozova 2.27 84 *i* P **Pb 09 43 17.3 +0.8**
YOZ Yozgat 2.39 357 *e*PN **Pn 09 43 14.9 0.0**
YOZ Yozgat 2.39 357 *e*Pn **Pn 09 43 14.9 0.0**
HDMB Hadim 2.39 264 *e*PN **Pn 09 43 15.4 +0.4**
HDMB Hadim 2.39 264 *e*Pn **Pn 09 43 15.4 +0.4**
KONT Konya--Tatoy 2.56 287 *e*PN **Pn 09 43 17.5 +0.4**
KONT Konya--Tatoy 2.56 287 *e*Pn **Pn 09 43 17.5 +0.4**
LADK Ladik-KONYA 2.63 292 *e*PN **Pn 09 43 18.7 +0.5**
LADK Ladik-KONYA 2.63 292 *e*Pn **Pn 09 43 18.7 +0.5**
URFA Urfa 2.69 85 *e*PN **Pn 09 43 20.0 +1.0**
URFA Urfa 2.69 85 *e*Pn **Pn 09 43 20.0 +1.0**
GAZI Gazipasa 2.72 249 *i* P **Pn 09 43 21.6 +2.2**
GAZI *i* S **Sb 09 43 56.9 -1.0**
GAZI Gazipasa 2.72 249 *i* P **Pn 09 43 21.6 +2.2**
GAZI *i* S **Sb 09 43 56.8 -1.0**
AFSR Af¯ar-Bala (A 2.88 320 *e*PN **Pn 09 43 22.2 +0.5**
AFSR Af¯ar-Bala (A 2.88 320 *e*Pn **Pn 09 43 22.2 +0.5**
SVSK Karacayir 2.92 24 *e*PN **Pn 09 43 22.7 +0.6**
SVSK Karacayir 2.92 24 *e*Pn **Pn 09 43 22.7 +0.6**
BBAL Bala 2.93 322 *i* P **Pn 09 43 22.4 +0.1**
BBAL *i* S **Sb 09 44 06.2 +2.2**
BBAL Bala 2.93 322 *i* P **Pn 09 43 22.4 +0.1**
KDHN Kadinhani 2.93 297 *i* P **Pn 09 43 23.2 +0.8**
KDHN Kadinhani 2.93 297 *i* P **Pn 09 43 23.2 +0.8**
CORM Corum 2.99 348 *e*PN **Pn 09 43 23.6 +0.4**
CORM Corum 2.99 348 *e*Pn **Pn 09 43 23.6 +0.4**
SVRC Sivrice-ELAZID 3.25 69 *e*PN **Pn 09 43 27.8 +1.0**
SVRC Sivrice-ELAZID 3.25 69 *e*Pn **Pn 09 43 27.8 +1.0**
KIZT Kizilcal 3.26 301 *e*PN **Pn 09 43 27.5 +0.7**
KIZT Kizilcal 3.26 301 *e*Pn **Pn 09 43 27.5 +0.7**
ANTO Ankara 3.34 322 *e*PN **Pn 09 43 28.8 +0.8**
ANTO Ankara 3.34 322 *e*Pn **Pn 09 43 28.8 +0.8**
PTK Pertek 3.51 61 *e*PN **Pn 09 43 31.3 +0.9**
PTK Pertek 3.51 61 *e*Pn **Pn 09 43 31.3 +0.9**

IDC 07 10:02:12.1±52.0**,19°.19S×178°.78W,h0km,mb3.7**/3**, mb1 3.9**/3**,mb1mx3.5**/32**,mbtmp3.7**/3**,Error ellipse: s-maj=947.4km s-min=146.5km az=81.0,Fiji Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
STKA Stephens Creek 37.72 242 P P 10 09 29.3 -0.4
1.6nm,1.1s,baz=76,slow=12,SNR=2.2
WRA Warramunga Arr 44.07 261 P P 10 10 22.0 -0.3
0.2nm,0.3s,baz=96,slow=7.5,SNR=18
ASAR Alice Springs 44.12 256 P P 10 10 22.9 +0.2
0.5nm,0.4s,baz=91,slow=8.5,SNR=11

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*IDC **07** 10:05:44.7±1.4,4°.71S×106°.38W,h0km,mb4.3/11, mb1 4.6/11,mb1mx4.4/28,mbtmp4.3/11,MS4.6/20, Ms1 4.6/20,ms1mx4.5/26,Error ellipse: s-maj=40.1km s-min=16.6km az=52.0*
*ISCJB **07** 10:05:47.4±0.5,4°.61S±0°.06×106°.11W±0°.06,h17km, mb4.7/108,MS4.7/256,Error ellipse: s-maj=9.3km s-min=7.7km az=38.9*
*GCMT **07** 10:05:48.2±0.2,4°.47S×106°.04W,h13km±1km,MW5.2/107, Moment Tensor Solution. s77,c112; s107,c200; Duration: 1s.0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.43±.13; $M_{\theta\theta}$3.06±.13; $M_{\phi\phi}$-2.64±.14; $M_{r\theta}$2.66±.39; $M_{\theta\phi}$7.18±.13; $M_{\phi r}$0.67±.31; Best double couple: $M_0$8.15700×10^{16} NP1:ϕ_s101.00000°,δ84.00000°, λ17.00000°. NP2:ϕ_s10.00000°,δ73.00000°,λ174.00000°.*

Principal axes: T 8.6710, Plg16.0000°, Azm327.0000°; N -1.0330, Plg72.0000°, Azm119.0000°; P -7.6440, Plg8.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **07** 10:05:48.3±0.5, 4.°59S×106.°10W, h10km, mb4.8/98, MS4.7/236 Error ellipse: s-maj=14.2km s-min=7.0km az=53.0*

ISC 07 10:05:49.5±0.5**, 4.°65S**±0.°10×**106.°10W**±0.°09**, h17km, n594,** σ**1.s03**/407**, mb4.7**/108**, MS4.7**/256**, 128C-144D, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**22.56**	**188**	LR	LR	10 17 20.0	
	comp=Z,2μm,19.8s,baz=6.0,slow=31						
H06S1	**SOCORRO T**	**23.73**	**348**	T	T	10 35 28.7	
	SNR=4.1						
H06E1	**SOCORRO T-PHAS**	**23.77**	**349**	T	T	10 35 28.8	
	SNR=12						
CMIG	**Matias Romero**	**24.28**	**27**	P	**P**	**10 11 06.8**	**+0.6**
	4.6nm,0.9s,baz=177,slow=8.4,SNR=5.2						
CMIG				LR	LR	10 18 22.2	
	comp=Z,1μm,20.6s,baz=194,slow=31						
SSN	**San Juan del S**	**25.63**	**52**	PFAKE		10 11 30.0	+12
SSN				LR	LR		
	comp=Z,400nm,21.7s						
JTS	**JuntasAbangare**	**25.77**	**55**	P	**P**	**10 11 21.0**	**+1.3**
	comp=Z,38nm,1.1s,baz=262,slow=4.7,SNR=13						
JTS				LR	LR	10 18 43.8	
	comp=Z,3μm,21.4s,baz=238,slow=30						
JTS	**JuntasAbangare**	**25.77**	**55**	*e*P	**P**	**10 11 22.2**	**+2.5**
	comp=Z,95nm,1.4s						
OTAV	**Otavalo**	**28.04**	**81**	*e*P	**P**	**10 11 41.2**	**+0.5**
	comp=Z,14nm,1.3s						
OTAV				LR	LR		
	comp=Z,2μm,20.8s						
SLBS	**Sierra La Lagu**	**28.42**	**353**	PFAKE		10 11 50.0	+6.5
SLBS				LR	LR		
	comp=Z,3μm,21.1s						
LPIG	**La Paz**	**28.88**	**352**	LR	LR	10 20 15.2	
	comp=Z,2μm,20.2s,baz=188,slow=30						
BCIP	**Isla Barro Col**	**29.56**	**62**	PFAKE		10 12 10.0	+16
BCIP				LR	LR		
	comp=Z,3μm,19.8s						
NNA	**Nana**	**29.82**	**106**	PFAKE		10 12 10.0	+14
NNA				LR	LR		
	comp=Z,1μm,21.4s						
TEIG	**Tepich**	**30.30**	**35**	LR	LR	10 22 14.5	
	comp=Z,1μm,20.2s,baz=232,slow=32						
PTCN	**Pitcairn Islan**	**30.71**	**226**	PFAKE		10 12 20.0	+16
PTCN				LR	LR		
	comp=Z,2μm,19.6s						
933A	**Laredo**	**32.75**	**11**	⇓P	**P**	**10 12 22.1**	**+0.5**
	baz=33						
KVTX	**Kingsville**	**32.98**	**13**	PFAKE		10 12 30.0	+6.4
KVTX				LR	LR		
	comp=Z,700nm,18.9s						
ROSC	**El Rosal**	**33.11**	**74**	LR	LR	10 23 16.1	
	comp=Z,791nm,21.2s,baz=231,slow=32						
832A	**Faith Ranch, C**	**33.27**	**10**	⇓P	**P**	**10 12 25.9**	**-0.3**
	baz=33						
RKT	**Rikitea**	**33.38**	**234**	*e*LQ	LQ	10 19 55.9	
	comp=Z,525nm,36.8s						
RKT				*e*LR	LR	10 21 22.3	
	comp=Z,3μm,28.0s,baz=54						
RKT	**Rikitea**	**33.38**	**234**	*e*T	T	10 47 34.3	
	comp=Z,3.3nm,0.2s						
834A	**Tilden**	**33.39**	**12**	⇑P	**P**	**10 12 27.3**	**0.0**
	baz=34						
733A	**Divot King Ran**	**33.82**	**11**	⇓P	**P**	**10 12 31.4**	**+0.4**
	baz=34						
TXAR	**Lajitas Array**	**33.87**	**4**	P	**P**	**10 12 30.1**	**-1.4**
	comp=Z,0.9nm,0.9s,baz=200,slow=9.6,SNR=8.2						
TXAR				LR	LR	10 23 48.2	
	comp=Z,786nm,20.4s,baz=0.0,slow=32						
734A	**La Parita Cree**	**34.09**	**12**	⇑P	**P**	**10 12 33.3**	**0.0**
	baz=34						
631A	**Perdido Creek**	**34.28**	**9**	⇓P	**P**	**10 12 35.1**	**0.0**
	baz=34						
632A	**Uvalde**	**34.50**	**10**	⇑P	**P**	**10 12 37.2**	**+0.3**
	baz=35						
736A	**Circle Diamond**	**34.52**	**14**	⇓P	**P**	**10 12 36.2**	**-0.9**
	baz=35						
633A	**Saathoff Ranch**	**34.56**	**11**	⇓P	**P**	**10 12 37.1**	**-0.3**
	baz=35						
529A	**Stev Forest Ra**	**34.78**	**6**	⇓P	**P**	**10 12 38.8**	**-0.5**
	baz=35						
530A	**J-C Ranch, Com**	**34.90**	**7**	⇓P	**P**	**10 12 40.1**	**-0.3**
	baz=35						
531A	**Rocksprings**	**35.03**	**8**	⇓P	**P**	**10 12 41.4**	**-0.1**
	baz=35						
636A	**Smothers Creek**	**35.03**	**14**	⇑P	**P**	**10 12 41.1**	**-0.4**
	baz=35						
532A	**Rocksprings**	**35.09**	**9**	⇓P	**P**	**10 12 42.3**	**+0.2**
	baz=35						
533A	**Kerrville**	**35.19**	**11**	⇑P	**P**	**10 12 42.9**	**+0.1**
	baz=35						
JCT	**Junction City**	**35.45**	**9**	⇓P	**P**	**10 12 44.9**	**-0.2**
	baz=36						
JCT	**Junction City**	**35.45**	**9**	PFAKE		10 13 00.0	+15
JCT				LR	LR		
	comp=Z,2μm,18.3s						
431A	**Sonora**	**35.53**	**8**	⇑P	**P**	**10 12 44.5**	**-1.3**
	baz=36						
430A	**Baggett Ranch,**	**35.55**	**7**	⇑P	**P**	**10 12 45.5**	**-0.4**
	baz=36						
537A	**Green Hill Far**	**35.79**	**15**	⇑P	**P**	**10 12 47.5**	**-0.5**
	baz=36						
HKT	**Hockley**	**35.79**	**15**	PFAKE		10 13 00.0	+12
HKT				LR	LR		
	comp=Z,400nm,19.1s						
432A	**Menard**	**35.84**	**9**	⇑P	**P**	**10 12 47.8**	**-0.6**
	baz=36						
MNTX	**Cornudas Mount**	**36.16**	**1**	⇓P	**P**	**10 12 50.5**	**-0.6**
	baz=36,SNR=10						
MNTX	**Cornudas Mount**	**36.16**	**1**	*e*P	**P**	**10 12 50.0**	**-1.1**
	comp=Z,17nm,1.4s						
MNTX				LR	LR		
	comp=Z,600nm,18.4s						
330A	**Mertzon**	**36.16**	**7**	⇑P	**P**	**10 12 50.6**	**-0.6**
	baz=36						
331A	**San Angelo**	**36.17**	**8**	⇑P	**P**	**10 12 50.8**	**-0.5**
	baz=36						
MTDJ	**Mount Denham**	**36.20**	**50**	PFAKE		10 13 00.0	+8.2
MTDJ				LR	LR		
	comp=Z,700nm,19.6s						
332A	**Millersview**	**36.34**	**9**	⇑P	**P**	**10 12 52.4**	**-0.4**
	baz=36						
333A	**Richland Sprin**	**36.42**	**10**	⇓P	**P**	**10 12 52.6**	**-0.8**
	baz=37						
334A	**Lometa**	**36.56**	**11**	⇓P	**P**	**10 12 53.9**	**-0.7**
	baz=37						
438A	**Sam Houston St**	**36.64**	**15**	⇓P	**P**	**10 12 54.8**	**-0.5**
	baz=37						
229A	**Bryant Ranch,**	**36.65**	**6**	⇓P	**P**	**10 12 54.9**	**-0.5**
	baz=37						
230A	**Sterling City**	**36.65**	**7**	⇓P	**P**	**10 12 54.9**	**-0.5**
	baz=37						
228A	**UT Block 9, Go**	**36.72**	**5**	⇑P	**P**	**10 12 55.5**	**-0.5**
	baz=37						
231A	**Bronte**	**36.80**	**8**	⇓P	**P**	**10 12 55.8**	**-0.9**
	baz=37						
232A	**Coleman**	**36.85**	**9**	⇑P	**P**	**10 12 56.5**	**-0.7**
	baz=37						
439A	**Center Grove,**	**36.88**	**16**	⇑P	**P**	**10 12 56.7**	**-0.5**
	baz=37						
336A	**Riesel**	**36.91**	**13**	⇓P	**P**	**10 12 57.1**	**-0.4**
	baz=37						
214A	**Organ Pipe Nat**	**36.96**	**350**	⇓P	**P**	**10 12 57.8**	**-0.2**
	baz=37						
214A	**Organ Pipe Nat**	**36.96**	**350**	*e*P	**P**	**10 12 57.2**	**-0.9**
	comp=Z,7.1nm,1.2s						
121A	**Cookes Peak, D**	**37.02**	**358**	⇓P	**P**	**10 12 58.4**	**-0.2**
	baz=37						
121A	**Cookes Peak, D**	**37.02**	**358**	*e*P	**P**	**10 12 58.5**	**-0.2**
	comp=Z,15nm,1.2s						
TUC	**Tucson**	**37.03**	**353**	PFAKE		10 13 10.0	+11
TUC				LR	LR		
	comp=Z,1μm,18.1s						
337A	**Centerville**	**37.07**	**15**	⇓P	**P**	**10 12 57.7**	**-1.2**
	baz=37						
233A	**Rising Star**	**37.11**	**10**	⇓P	**P**	**10 12 58.2**	**-1.0**
	baz=37						
128A	**Castleberry Fa**	**37.23**	**5**	⇑P	**P**	**10 12 59.5**	**-0.8**
	baz=37						
234A	**Clairette**	**37.23**	**11**	⇓P	**P**	**10 12 60.0**	**-0.3**
	baz=37						
129A	**Stewart Farms,**	**37.30**	**6**	⇓P	**P**	**10 12 59.5**	**-1.4**
	baz=38						
WHTX	**Lake Whitney,**	**37.36**	**12**	⇑P	**P**	**10 12 60.0**	**-1.4**
	baz=38						
WHTX	**Lake Whitney,**	**37.36**	**12**	*e*P	**P**	**10 13 01.9**	**+0.5**
	comp=Z,8.9nm,0.9s						
WHTX				LR	LR		
	comp=Z,500nm,18.8s						
130A	**Snyder**	**37.36**	**7**	⇑P	**P**	**10 13 00.5**	**-1.0**
	baz=38						
339A	**Huntington**	**37.44**	**16**	⇑P	**P**	**10 13 01.2**	**-0.9**
	baz=38						
131A	**Roby**	**37.52**	**8**	⇓P	**P**	**10 13 01.8**	**-0.9**
	baz=38						
236A	**Katherine and**	**37.57**	**13**	⇓P	**P**	**10 13 02.3**	**-0.8**
	baz=38						
ABTX	**Abilene, Hawle**	**37.58**	**9**	⇑P	**P**	**10 13 02.4**	**-0.9**
	baz=38						
ABTX	**Abilene, Hawle**	**37.58**	**9**	*e*P	**P**	**10 13 01.6**	**-1.7**
	comp=Z,23nm,1.7s						
ABTX				LR	LR		
	comp=Z,1μm,19.0s						
133A	**Hamilton Ranch**	**37.68**	**10**	⇓P	**P**	**10 13 03.8**	**-0.3**
	baz=38						
134A	**White-Moore Ra**	**37.80**	**11**	⇓P	**P**	**10 13 04.4**	**-0.6**
	baz=38						
NATX	**Nacogdoches**	**37.81**	**16**	PFAKE		10 13 20.0	+15
NATX				LR	LR		
	comp=Z,200nm,20.9s						
SDV	**Santo Domingo**	**37.83**	**69**	*e*P	**P**	**10 13 04.5**	**-1.3**
	comp=Z,20nm,1.0s						
SDV				LR	LR		
	comp=Z,1μm,20.8s						
Z28A	**Tucker Farm, M**	**37.90**	**5**	⇑P	**P**	**10 13 05.3**	**-0.7**
	baz=38						
Z29A	**Hungry Hill Ra**	**37.94**	**6**	⇓P	**P**	**10 13 05.5**	**-0.8**
	baz=38						
Z30A	**Sanderson Ranc**	**38.03**	**7**	⇑P	**P**	**10 13 06.3**	**-0.8**
	baz=38						
Z31A	**Sharp Cattle R**	**38.18**	**8**	⇓P	**P**	**10 13 07.6**	**-0.8**
	baz=38						
Z32A	**Haskell**	**38.27**	**9**	⇓P	**P**	**10 13 08.2**	**-0.8**
	baz=38						
Z33A	**Whitaker Ranch**	**38.37**	**10**	⇑P	**P**	**10 13 09.2**	**-0.7**
	baz=38						
GLA	**Glamis**	**38.40**	**348**	⇑P	**P**	**10 13 09.9**	**-0.4**
	baz=39						
GLA	**Glamis**	**38.40**	**348**	PFAKE		10 13 20.0	+10
GLA				LR	LR		
	comp=Z,2μm,19.3s						
BAR	**Barrett**	**38.46**	**346**	*e*P	**P**	**10 13 10.3**	**-0.4**
	comp=Z,2.5nm,1.3s						
BAR				LR	LR		
	comp=Z,242nm,18.6s						
Y28A	**McKinney Farm,**	**38.53**	**5**	⇑P	**P**	**10 13 10.6**	**-0.7**
	baz=39						
Y22D	**IRIS PASSCAL I**	**38.53**	**359**	⇓P	**P**	**10 13 11.0**	**-0.3**
	baz=39						
Y29A	**Porterfield Fa**	**38.53**	**6**	⇑P	**P**	**10 13 10.8**	**-0.6**
	baz=39						
MSTX	**Muleshoe**	**38.54**	**4**	⇓P	**P**	**10 13 10.7**	**-0.7**
	baz=39						
MSTX	**Muleshoe**	**38.54**	**4**	*e*P	**P**	**10 13 11.3**	**-0.2**
	comp=Z,16nm,1.3s						
MSTX				LR	LR		
	comp=Z,800nm,19.8s						
MONP	**Monument Peak,**	**38.60**	**346**	⇓P	**P**	**10 13 11.8**	**-0.3**
	baz=39,SNR=5.3						
LENM	**Lemitar**	**38.62**	**359**	*e*P	**P**	**10 13 12.6**	**+0.4**
Y31A	**Rekieta Farm,**	**38.80**	**8**	⇑P	**P**	**10 13 13.2**	**-0.3**
	baz=39						
LAZ	**Ladron**	**38.86**	**359**	*e*P	**P**	**10 13 14.1**	**-0.2**
	comp=Z,5.4nm,1.0s						
Y32A	**R-V Farms, Ver**	**38.96**	**9**	⇑P	**P**	**10 13 14.5**	**-0.3**
	baz=39						
LPAZ	**La Paz**	**39.00**	**110**	P	**P**	**10 13 16.1**	**0.0**
	comp=Z,2.0nm,1.0s,baz=271,slow=6.7,SNR=5.0						
LPAZ				LR	LR	10 26 58.2	
	comp=Z,357nm,20.2s,baz=264,slow=32						
GTBY	**Guantanamo Bay**	**39.04**	**50**	PFAKE		10 13 30.0	+14
GTBY				LR	LR		
	comp=Z,600nm,19.0s						
Y33A	**Hilltop Ranch,**	**39.10**	**10**	⇑P	**P**	**10 13 15.8**	**-0.2**
	baz=39						
X29A	**Tulia**	**39.11**	**6**	⇑P	**P**	**10 13 15.7**	**-0.5**
	baz=39						
BC3	**Big Chuckawall**	**39.12**	**348**	⇓P	**P**	**10 13 16.2**	**0.0**
	baz=39						
X28A	**Dimmitt**	**39.13**	**5**	⇑P	**P**	**10 13 15.9**	**-0.5**
	baz=39						
X30A	**Coker Ranch, T**	**39.20**	**7**	⇓P	**P**	**10 13 16.8**	**-0.1**
	baz=39						
PFO	**Pinyon Flats O**	**39.30**	**346**	P	**P**	**10 13 15.2**	**-2.6**
	comp=Z,6.4nm,1.0s,baz=167,slow=4.2,SNR=5.7						
PFO	**Pinyon Flats O**	**39.30**	**346**	⇑P	**P**	**10 13 17.7**	**-0.2**
	baz=39						
PFO	**Pinyon Flats O**	**39.30**	**346**	*e*P	**P**	**10 13 16.8**	**-1.0**
PFO				LR	LR		
	comp=Z,2μm,22.0s						
ANMO	**Albuquerque**	**39.39**	**360**	*e*P	**P**	**10 13 17.9**	**-0.8**
	comp=Z,5.4nm,1.0s						
ANMO				LR	LR		
	comp=Z,700nm,22.0s						
X32A	**Elmer**	**39.39**	**9**	⇑P	**P**	**10 13 17.8**	**-0.7**
	baz=40						
MURC	**Murrieta**	**39.47**	**345**	⇑P	**P**	**10 13 19.1**	**0.0**
	baz=40						
PDMCI	**Parker Dam,Lak**	**39.48**	**350**	⇓P	**P**	**10 13 18.4**	**-0.8**
	baz=40						
X31A	**McDonald Ranch**	**39.50**	**8**	⇓P	**P**	**10 13 18.8**	**-0.6**
	baz=40						
IRM	**Iron Mountain**	**39.54**	**348**	⇓P	**P**	**10 13 19.4**	**-0.3**
	baz=40						
AMTX	**Amarillo**	**39.55**	**6**	PFAKE		10 13 30.0	+10
AMTX				LR	LR		
	comp=Z,700nm,22.0s						
VBMS	**Vicksburg**	**39.55**	**21**	PFAKE		10 13 30.0	+10
VBMS				LR	LR		
	comp=Z,300nm,21.3s						
BELC	**Belle Mtn. Jos**	**39.57**	**347**	⇓P	**P**	**10 13 19.9**	**-0.2**
	baz=40,SNR=8.8						
W18A	**Petrified Fore**	**39.71**	**355**	⇑P	**P**	**10 13 20.6**	**-0.7**
	baz=40						
W18A	**Petrified Fore**	**39.71**	**355**	*e*P	**P**	**10 13 21.1**	**-0.2**
	comp=Z,16nm,1.0s						
W18A				LR	LR		
	comp=Z,1μm,18.5s						
WMOK	**Wichita Mounta**	**39.78**	**9**	PFAKE		10 13 30.0	+8.3
WMOK				LR	LR		
	comp=Z,600nm,21.3s						
BRAL	**Brewton**	**39.86**	**26**	PFAKE		10 13 30.0	+7.7
BRAL				LR	LR		
	comp=Z,300nm,18.6s						
BBRC	**Big Bear Solar**	**40.03**	**346**	⇑P	**P**	**10 13 23.4**	**-0.6**
	baz=40						
W31A	**Holland Ranch,**	**40.05**	**8**	⇓P	**P**	**10 13 23.1**	**-0.8**
	baz=40						
X36A	**Centrahoma**	**40.08**	**13**	⇑P	**P**	**10 13 23.8**	**-0.4**
	baz=40						
W32A	**Sentinel**	**40.09**	**9**	⇓P	**P**	**10 13 24.2**	**0.0**
	baz=40						
LVC	**Limon Verde**	**40.13**	**120**	P	**P**	**10 13 24.5**	**-0.6**
	comp=Z,29nm,1.0s,baz=294,slow=9.6,SNR=5.8						
LVC	**Limon Verde**	**40.13**	**120**	*e*P	**P**	**10 13 27.5**	**+2.4**
	comp=Z,115nm,2.5s						
LVC				LR	LR		
	comp=Z,1μm,21.2s						
JAKH	**Jacmel**	**40.17**	**55**	PFAKE		10 13 40.0	+15
JAKH				LR	LR		
	comp=Z,1μm,20.4s						
BFSC	**Mount Baldy Ra**	**40.20**	**345**	⇑P	**P**	**10 13 25.2**	**-0.1**
	baz=40						
LGNH	**LØogne**	**40.24**	**54**	PFAKE		10 13 40.0	+14
LGNH				LR	LR		
	comp=Z,600nm,19.0s						
GMRC	**Granite Mounta**	**40.24**	**348**	⇑P	**P**	**10 13 25.4**	**-0.3**
	baz=40						
WUAZ	**Wupatki**	**40.27**	**353**	⇓P	**P**	**10 13 25.5**	**-0.4**
	baz=40,SNR=12						
WUAZ	**Wupatki**	**40.27**	**353**	*e*P	**P**	**10 13 26.0**	**+0.1**
	comp=Z,13nm,1.1s						
WUAZ				LR	LR		
	comp=Z,200nm,19.3s						
PASC	**Pasadena Art C**	**40.27**	**344**	PFAKE		10 13 40.0	+14
PASC				LR	LR		
	comp=Z,1μm,19.9s						
MWC	**Mount Wilson**	**40.28**	**345**	PFAKE		10 13 40.0	+14
MWC				LR	LR		
	comp=Z,900nm,19.5s						
V27A	**Dan Oppiter Fa**	**40.31**	**4**	⇑P	**P**	**10 13 25.7**	**-0.6**
	baz=40						
X37A	**Clayton**	**40.32**	**14**	⇓P	**P**	**10 13 25.2**	**-1.0**
	baz=40						
V28A	**Channing**	**40.35**	**5**	⇓P	**P**	**10 13 26.3**	**-0.3**
	baz=40						
DECC	**Green Verdugo**	**40.38**	**344**	⇑P	**P**	**10 13 26.5**	**-0.3**
	baz=40						
HEC	**Hector,Ludlow**	**40.44**	**347**	⇓P	**P**	**10 13 27.2**	**0.0**
	baz=41						
W34A	**Bridge Creek,**	**40.44**	**11**	PFAKE		10 13 40.0	+13
W34A				LR	LR		
	comp=Z,900nm,18.0s						
W35A	**Tecumseh**	**40.53**	**12**	⇑P	**P**	**10 13 27.5**	**-0.5**
	baz=41						
W36A	**Wetumka**	**40.66**	**12**	⇑P	**P**	**10 13 28.6**	**-0.3**
	baz=41						
MIAR	**Mount Ida**	**40.74**	**16**	*e*P	**P**	**10 13 29.7**	**+0.1**
	comp=Z,14nm,1.3s						
MIAR				LR	LR		
	comp=Z,300nm,20.0s						
OSI	**Osito Audit: C**	**40.83**	**344**	PFAKE		10 13 40.0	+10
OSI				LR	LR		
	comp=Z,1μm,19.9s						
W37A	**Quinton**	**40.83**	**13**	⇓P	**P**	**10 13 29.8**	**-0.6**
	baz=41						
EDW2	**Edwards Air Fo**	**40.89**	**345**	⇓P	**P**	**10 13 30.7**	**-0.2**
	baz=41,SNR=5.8						
V33A	**Lossen Ranch,**	**40.92**	**10**	⇓P	**P**	**10 13 31.1**	**-0.1**
	baz=41						
U27A	**Thompson Grove**	**40.98**	**4**	⇓P	**P**	**10 13 31.4**	**-0.3**
	baz=41						
U28A	**Mallet**	**40.98**	**5**	⇓P	**P**	**10 13 31.2**	**-0.5**
	baz=41						
GSC	**Goldstone, Bar**	**41.00**	**347**	⇑P	**P**	**10 13 31.6**	**-0.2**
	baz=41,SNR=5.6						
GSC	**Goldstone, Bar**	**41.00**	**347**	*e*P	**P**	**10 13 32.4**	**+0.5**
	comp=Z,10.0nm,1.2s						
V34A	**Guthrie**	**41.07**	**11**	⇓P	**P**	**10 13 31.6**	**-0.8**
	baz=41						
V34A	**Guthrie**	**41.07**	**11**	*e*P	**P**	**10 13 31.6**	**-0.8**
	comp=Z,8.7nm,0.7s						
V34A				LR	LR		
	comp=Z,600nm,18.0s						
U30A	**WK&E Inc. Balk**	**41.28**	**7**	⇑P	**P**	**10 13 33.4**	**-0.8**
	baz=42						
UALR	**University of**	**41.30**	**17**	PFAKE		10 13 50.0	+16
UALR				LR	LR		
	comp=Z,300nm,20.1s						
LCO	**Las Campanas**	**41.36**	**130**	PFAKE		10 13 50.0	+15
LCO				LR	LR		
	comp=Z,2μm,19.8s						
TUL1	**Leonard**	**41.49**	**13**	⇑P	**P**	**10 13 35.6**	**-0.2**
	baz=42						
TUL1	**Leonard**	**41.49**	**13**	*e*P	**P**	**10 13 36.9**	**+1.1**
	comp=Z,19nm,1.4s						
TUL1				LR	LR		
	comp=Z,300nm,20.1s						
SDDR	**Presa de Saban**	**41.55**	**55**	PFAKE		10 13 50.0	+13
SDDR				LR	LR		
	comp=Z,600nm,18.2s						
T25A	**Trinidad**	**41.61**	**2**	⇑P	**P**	**10 13 36.2**	**-0.8**
	baz=42						
T25A	**Trinidad**	**41.61**	**2**	PFAKE		10 13 50.0	+13
T25A				LR	LR		
	comp=Z,500nm,19.2s						
T27A	**Campo**	**41.62**	**4**	⇓P	**P**	**10 13 36.2**	**-0.8**
	baz=42						
LRAL	**Lakeview Retre**	**41.63**	**24**	PFAKE		10 13 50.0	+13
LRAL				LR	LR		
	comp=Z,300nm,20.0s						
U34A	**Anderson Ranch**	**41.65**	**10**	⇓P	**P**	**10 13 36.7**	**-0.4**
	baz=42						
U34A	**Anderson Ranch**	**41.65**	**10**	PFAKE		10 13 50.0	+13
U34A				LR	LR		
	comp=Z,300nm,18.0s						
T26A	**Comanche Natio**	**41.68**	**3**	⇑P	**P**	**10 13 36.8**	**-0.8**
	baz=42						
MVCO	**Mesa Verde**	**41.71**	**357**	⇓P	**P**	**10 13 37.3**	**-0.6**
	baz=42,SNR=11						
MVCO	**Mesa Verde**	**41.71**	**357**	*e*P	**P**	**10 13 37.1**	**-0.8**
	comp=Z,14nm,1.1s						
MVCO				LR	LR		
	comp=Z,900nm,20.5s						
T28A	**Walsh**	**41.72**	**5**	⇑P	**P**	**10 13 37.6**	**-0.2**
	baz=42						
SHPR	**Sheep Range**	**41.81**	**349**	*e*P	**P**	**10 13 38.6**	**0.0**
T30A	**Plains**	**41.81**	**7**	⇑P	**P**	**10 13 38.1**	**-0.4**
	baz=42						
TIGA	**Tifton**	**41.82**	**29**	PFAKE		10 13 50.0	+11
TIGA				LR	LR		
	comp=Z,399nm,18.5s						
MPMC	**Manual Prospec**	**41.88**	**346**	⇓P	**P**	**10 13 38.8**	**-0.5**
	baz=42,SNR=5.5						
OXF	**Oxford**	**42.02**	**21**	PFAKE		10 13 50.0	+10
OXF				LR	LR		
	comp=Z,200nm,18.2s						
VES	**Vestal, Richgr**	**42.09**	**344**	⇑P	**P**	**10 13 40.3**	**-0.3**
	baz=42						
DAC	**Darwin (Calif)**	**42.12**	**346**	*e*P	**P**	**10 13 41.5**	**+0.3**
	comp=Z,7.2nm,1.3s						
DAC				LR	LR		
	comp=Z,200nm,18.0s						
S26A	**Kim**	**42.13**	**3**	⇑P	**P**	**10 13 40.6**	**-0.6**
	baz=42						
FURC	**Furnace Creek,**	**42.13**	**347**	⇑P	**P**	**10 13 41.1**	**+0.1**
	baz=42						
SDCO	**Great Sand Dun**	**42.19**	**1**	⇓P	**P**	**10 13 41.0**	**-0.8**
	baz=42,SNR=14						
SDCO	**Great Sand Dun**	**42.19**	**1**	*e*P	**P**	**10 13 41.3**	**-0.6**
	comp=Z,9.2nm,1.2s						
SDCO				LR	LR		
	comp=Z,600nm,21.1s						
S22A	**4UR Ranch, Cre**	**42.19**	**359**	⇓P	**P**	**10 13 41.3**	**-0.6**
	baz=42						
S22A	**4UR Ranch, Cre**	**42.19**	**359**	PFAKE		10 13 50.0	+8.1
S22A				LR	LR		
	comp=Z,1μm,19.5s						
S28A	**Manter**	**42.21**	**5**	⇑P	**P**	**10 13 40.7**	**-1.1**
	baz=42						
T35A	**Sooner Cattle**	**42.31**	**11**	⇓P	**P**	**10 13 42.8**	**+0.3**
	baz=42						
TPNV	**Topopah Spring**	**42.46**	**348**	⇓P	**P**	**10 13 43.8**	**-0.1**
	baz=43						
TPNV	**Topopah Spring**	**42.46**	**348**	PFAKE		10 13 50.0	+6.1
TPNV				LR	LR		
	comp=Z,2μm,20.5s						
CCUT	**Cedar City**	**42.53**	**351**	PFAKE		10 14 00.0	+15
CCUT				LR	LR		
	comp=Z,2μm,20.5s						
T36A	**Boggs Farm, Ca**	**42.58**	**12**	⇑P	**P**	**10 13 45.0**	**+0.4**
	baz=43						
R23A	**Moffat**	**42.63**	**0**	⇓P	**P**	**10 13 45.0**	**-0.4**
	baz=43						
PV01	**Paradox Valley**	**42.63**	**357**	*e*P	**P**	**10 13 44.4**	**-1.0**
GRAC	**Grapevine Rang**	**42.76**	**347**	⇓P	**P**	**10 13 45.7**	**-0.4**
	baz=43						
SAML	**Samuel**	**42.80**	**98**	*e*P	**P**	**10 13 46.5**	**-0.4**
	comp=Z,7.9nm,1.4s						
SAML				LR	LR		
	comp=Z,500nm,18.6s						
R26A	**Arlington**	**42.81**	**3**	⇓P	**P**	**10 13 46.0**	**-0.7**
	baz=43						
R27A	**Eads**	**42.83**	**4**	⇑P	**P**	**10 13 46.2**	**-0.6**
	baz=43						
T37A	**Cheneyville 18**	**42.85**	**13**	⇓P	**P**	**10 13 46.8**	**-0.1**
	baz=43						
PV04	**Paradox Valley**	**42.91**	**357**	*e*P	**P**	**10 13 47.5**	**-0.1**
R28A	**Tribune**	**42.96**	**5**	⇑P	**P**	**10 13 47.0**	**-0.9**
	baz=43						
GRTK	**Grand Turk**	**43.01**	**51**	PFAKE		10 14 00.0	+12
GRTK				LR	LR		
	comp=Z,1μm,19.8s						
R30A	**Dighton**	**43.06**	**7**	⇑P	**P**	**10 13 48.0**	**-0.6**
	baz=43						
S35A	**Otter Creek Ra**	**43.09**	**11**	⇑P	**P**	**10 13 48.3**	**-0.6**
	baz=43						
R31A	**Burdett**	**43.16**	**8**	⇑P	**P**	**10 13 48.8**	**-0.6**
	baz=43						
S36A	**Lake Cedric, C**	**43.28**	**12**	⇑P	**P**	**10 13 49.6**	**-0.8**
	baz=44						
MVU	**Marysvale**	**43.31**	**353**	*e*P	**P**	**10 13 51.0**	**+0.1**
	comp=Z,13nm,1.4s						
MVU				LR	LR		
	comp=Z,1μm,21.4s						
MSU	**Marysvale**	**43.32**	**353**	*e*P	**P**	**10 13 51.2**	**+0.3**
	comp=Z,9.1nm,1.2s						

Q24A **Divide** **43.41** **1** PFAKE 10 14 00.0 +8.2
Q24A LR LR
comp=Z,500nm,20.6s
Q26A **Hugo** **43.42** **3** ⇓P **P** **10 13 51.0 -0.7**
baz=44
R34A **Isabella, Hill** **43.52** **10** ⇑P **P** **10 13 52.0 -0.3**
baz=44
KSCO **Kaye Shedlock'** **43.56** **4** ⇑P **P** **10 13 52.4 -0.4**
baz=44
KSCO **Kaye Shedlock'** **43.56** **4** *e*P P 10 13 59.0 +6.2
comp=Z,26nm,1.1s
KSCO LR LR
comp=Z,500nm,19.6s
SMCO **Snowmass** **43.62** **359** *e*P **P** **10 13 53.6 +0.1**
comp=Z,7.2nm,0.9s
SMCO LR LR
comp=Z,1μm,18.3s
PVMO **Portageville** **43.64** **19** PFAKE 10 14 00.0 +6.8
PVMO LR LR
comp=Z,300nm,18.1s
R11A **Troy Canyon, C** **43.68** **349** ⇓P **P** **10 13 53.8 -0.1**
baz=44
R11A **Troy Canyon, C** **43.68** **349** *e*P **P** **10 13 53.8 -0.1**
comp=Z,23nm,1.9s
R11A LR LR
comp=Z,2μm,18.8s
MLAC **Mammoth, Mammo** **43.71** **345** ⇓P **P** **10 13 54.0 -0.1**
baz=44
SRU **San Rafael Swe** **43.74** **355** *e*P **P** **10 13 53.4 -0.8**
comp=Z,18nm,1.1s
PBMO **Poplar Bluff** **43.74** **18** *e*P **P** **10 13 54.1 +0.1**
comp=Z,26nm,1.4s
PBMO LR LR
comp=Z,200nm,19.7s
TPH **Tonopah** **43.75** **347** *e*P **P** **10 13 54.3 0.0**
comp=Z,8.2nm,1.1s
TPH LR LR
comp=Z,700nm,18.1s
Q30A **Quinter** **43.75** **7** ⇑P **P** **10 13 53.7 -0.5**
baz=44
P23A **Jefferson** **43.81** **0** ⇓P **P** **10 13 54.7 -0.3**
baz=44
PCRV **Puerto La Cruz** **43.84** **70** P **P** **10 13 53.7 -1.6**
comp=Z,14nm,1.0s,baz=356,slow=3.6,SNR=6.8
UTMT **University of** **43.86** **20** PFAKE 10 14 10.0 +15
UTMT LR LR
comp=Z,200nm,19.8s
R37A **Teagarden Farm** **44.01** **13** ⇑P **P** **10 13 55.8 -0.4**
baz=44
P22A **Eagle** **44.03** **359** ⇑P **P** **10 13 56.0 -0.7**
baz=44
P26A **Davis Ranch, A** **44.07** **3** ⇑P **P** **10 13 56.3 -0.5**
baz=44
P27A **Ficken Ranch,** **44.11** **4** ⇓P **P** **10 13 56.2 -0.9**
baz=44
P28A **Saint Francis** **44.19** **5** ⇓P **P** **10 13 57.4 -0.4**
baz=44
ISCO **Idaho Springs** **44.24** **1** ⇑P **P** **10 13 57.7 -0.7**
baz=44
ISCO **Idaho Springs** **44.24** **1** *e*P **P** **10 13 57.4 -1.0**
comp=Z,9.7nm,1.2s
ISCO LR LR
comp=Z,900nm,19.9s
Q35A **Mercer Eighty,** **44.28** **11** ⇑P **P** **10 13 58.0 -0.4**
baz=44
P29A **Atwood** **44.29** **6** ⇑P **P** **10 13 57.9 -0.6**
baz=44
P30A **Selden** **44.31** **6** ⇓P **P** **10 13 58.3 -0.4**
baz=44
NVAR **Mina Array Bea** **44.34** **346** P **P** **10 13 56.9 -2.2**
comp=Z,1.6nm,0.8s,baz=173,slow=9.2,SNR=9.7
P31A **Stockton** **44.39** **7** ⇑P **P** **10 13 58.6 -0.7**
baz=45
KSU1 **Kansas State U** **44.41** **11** PFAKE 10 14 10.0 +11
KSU1 LR LR
comp=Z,200nm,20.2s
PPT **Papeete** **44.43** **250** LR LR 10 27 44.6
comp=Z,718nm,18.5s,baz=82,slow=30
PPT2 **Papeete2** **44.43** **250** *e*S **S** **10 20 30.4 -4.2**
comp=Z,281nm,25.2s
PPT2 *e*LQ LQ 10 24 33.3
comp=Z,985nm,27.8s
PPT2 *e*LR LR 10 26 20.9
comp=Z,2μm,26.0s,baz=75
CFAA **Coronel Fontan** **44.48** **132** P **P** **10 13 60.0 -0.2**
comp=Z,0.1nm,0.4s,baz=315,slow=7.1,SNR=2.7
Q36A **Arnold C. Orve** **44.50** **12** ⇓P **P** **10 13 59.0 -1.1**
baz=45
CMB **Columbia Colle** **44.50** **344** PFAKE 10 14 10.0 +10
CMB LR LR
comp=Z,1μm,18.7s
CRPR **Cabo Rojo, PR** **44.56** **59** PFAKE 10 14 10.0 +9.1
CRPR LR LR
comp=Z,598nm,20.2s
P32A **Huiting Farm,** **44.60** **8** ⇓P **P** **10 14 00.3 -0.6**
baz=45
O22A **Kremmling** **44.60** **360** ⇑P **P** **10 14 00.2 -1.0**
baz=45
O20A **White River Ci** **44.61** **358** ⇓P **P** **10 14 01.8 +0.5**
baz=45
O20A **White River Ci** **44.61** **358** *e*P **P** **10 14 01.4 +0.2**
comp=Z,31nm,1.1s
O20A LR LR
comp=Z,601nm,18.6s
MPR **Mayaguez** **44.62** **58** PFAKE 10 14 10.0 +8.6
MPR LR LR
comp=Z,300nm,20.8s
Q37A **Longview Farm,** **44.63** **13** ⇓P **P** **10 14 00.7 -0.5**
baz=45
O23A **Lake Granby, G** **44.65** **0** ⇓P **P** **10 14 01.1 -0.5**
baz=45
AGP **Aguadilla** **44.71** **58** PFAKE 10 14 10.0 +7.8
AGP LR LR
comp=Z,600nm,18.9s
NLU **North Lily Min** **44.73** **353** *e*P **P** **10 14 02.9 +0.7**
comp=Z,8.8nm,1.0s
NLU LR LR
comp=Z,800nm,19.9s
O27A **Beecher Island** **44.75** **4** ⇑P **P** **10 14 01.5 -0.7**
baz=45
P34A **Walnut Farm, R** **44.81** **10** ⇑P **P** **10 14 03.1 +0.5**
baz=45
O29A **4D Ranch, Culb** **44.83** **6** ⇓P **P** **10 14 02.2 -0.6**
baz=45
NHSC **New Hope** **44.88** **31** PFAKE 10 14 10.0 +6.8
NHSC LR LR
comp=Z,600nm,20.1s
AOPR **Arecibo Observ** **45.01** **58** PFAKE 10 14 20.0 +15
AOPR LR LR
comp=Z,3μm,21.1s
O31A **Woolen Ranch,** **45.02** **7** ⇑P **P** **10 14 03.6 -0.7**
baz=45
DUG **Dugway, Tooele** **45.05** **353** ⇓P **P** **10 14 04.0 -0.7**
baz=45,SNR=13
DUG **Dugway, Tooele** **45.05** **353** *e*P **P** **10 14 04.8 0.0**
comp=Z,19nm,1.1s
DUG LR LR
comp=Z,2μm,19.6s
P36A **Good Intent, A** **45.19** **12** ⇑P **P** **10 14 05.6 0.0**
baz=45
O33A **Hebron** **45.19** **9** ⇑P **P** **10 14 04.3 -1.3**
baz=45
N22A **Wattenberg Ran** **45.24** **360** ⇓P **P** **10 14 05.8 -0.5**
baz=45
JSC **Jenkinsville** **45.27** **29** PFAKE 10 14 20.0 +14
JSC LR LR
comp=Z,100nm,19.5s
N20A **Spence Gulch,** **45.31** **358** ⇑P **P** **10 14 06.3 -0.6**
baz=46
N28A **Pribbeno Ranch** **45.31** **5** ⇓P **P** **10 14 06.5 -0.2**
baz=46
N23A **Red Feather La** **45.33** **0** ⇑P **P** **10 14 06.3 -0.7**
baz=46
N23A **Red Feather La** **45.33** **0** PFAKE 10 14 20.0 +13
N23A LR LR
comp=Z,1μm,19.9s
N26A **Koester Ranch,** **45.34** **3** ⇓P **P** **10 14 06.7 -0.2**
baz=46
MCCM **Marconi Confer** **45.34** **341** PFAKE 10 14 20.0 +13
MCCM LR LR
comp=Z,1μm,19.4s
N27A **Anderson Farm,** **45.36** **4** ⇓P **P** **10 14 06.5 -0.6**
baz=46
CTU **Camp Tracy** **45.42** **354** *e*P **P** **10 14 07.9 +0.2**
comp=Z,16nm,1.1s
SJG **San Juan** **45.42** **59** PFAKE 10 14 20.0 +12
SJG LR LR
comp=Z,600nm,20.7s

OGNE **Ogallala** **45.53** **4** ⇓P **P** **10 14 07.8 -0.6**
baz=46
SIV **San Ignacio** **45.60** **108** LR LR 10 30 39.4
comp=Z,621nm,21.4s,slow=33
O35A **Humboldt** **45.67** **11** ⇑P **P** **10 14 08.7 -0.7**
baz=46
HUMP **Col San Antoni** **45.69** **59** PFAKE 10 14 20.0 +10
HUMP LR LR
comp=Z,600nm,20.1s
USIN **University of** **45.73** **20** PFAKE 10 14 20.0 +10
USIN LR LR
comp=Z,300nm,18.2s
PHWY **Pilot Hill** **45.74** **1** *e*P **P** **10 14 10.3 0.0**
comp=Z,23nm,1.6s
PHWY LR LR
comp=Z,600nm,20.1s
TBI **Tubuai** **45.75** **242** *e*S **S** **10 20 53.7 +0.3**
comp=Z,275nm,27.0s
TBI *e*LQ LQ 10 25 00.0
comp=Z,445nm,29.5s
TBI *e*LR LR 10 27 06.4
comp=Z,2μm,27.8s,baz=65
TBI **Tubuai** **45.75** **242** *e*T T 11 03 01.1
comp=Z,11nm,0.2s
BGU **Big Grassy Mou** **45.80** **353** PFAKE 10 14 20.0 +9.3
BGU LR LR
comp=Z,27489μm,19.4s
KMSC **Kings Mountain** **45.93** **29** PFAKE 10 14 20.0 +8.5
KMSC LR LR
comp=Z,200nm,18.8s
ELK **Elko** **45.95** **350** *e*P **P** **10 14 09.8 -2.2**
comp=Z,4.9nm,1.0s
ELK LR LR
comp=Z,1μm,18.6s
BMN **Battle Mountai** **46.02** **348** PFAKE 10 14 20.0 +7.6
BMN LR LR
comp=Z,1μm,21.7s
TZTN **Tazewell** **46.09** **25** PFAKE 10 14 20.0 +7.2
TZTN LR LR
comp=Z,200nm,19.9s
N34A **Lincoln** **46.12** **10** ⇓P **P** **10 14 12.6 -0.3**
baz=46
RWWY **Rawlins** **46.13** **359** PFAKE 10 14 20.0 +6.6
RWWY LR LR
comp=Z,1μm,18.2s
HOPS **Hopland Field** **46.18** **342** PFAKE 10 14 20.0 +6.5
HOPS LR LR
comp=Z,1μm,18.3s
M31A **Lambtecht Ranc** **46.24** **7** ⇑P **P** **10 14 14.1 +0.2**
baz=46
OLIL **Olney** **46.27** **20** PFAKE 10 14 30.0 +16
OLIL LR LR
comp=Z,200nm,18.9s
HWUT **Hardware Ranch** **46.31** **354** *e*P **P** **10 14 13.8 -0.9**
comp=Z,96nm,2.5s
HWUT LR LR
comp=Z,502nm,18.1s
BGNE **Belgrade** **46.41** **8** ⇓P **P** **10 14 14.5 -0.8**
baz=47
BGNE **Belgrade** **46.41** **8** PFAKE 10 14 30.0 +15
BGNE LR LR
comp=Z,2μm,19.1s
WCI **Wyandotte Cave** **46.46** **22** PFAKE 10 14 30.0 +14
WCI LR LR
comp=Z,200nm,19.4s
CDVI **St. Croix** **46.46** **60** PFAKE 10 14 30.0 +14
CDVI LR LR
comp=Z,600nm,18.6s
HVU **Hansel Valley** **46.61** **353** *e*P **P** **10 14 15.3 -1.7**
comp=Z,19nm,1.2s
KCPM **Cahto Peak** **46.97** **342** PFAKE 10 14 30.0 +10
KCPM LR LR
comp=Z,600nm,19.7s
L31A **Butterfield Fa** **47.07** **7** ⇑P **P** **10 14 20.1 -0.4**
baz=47
K22A **Casper** **47.08** **360** ⇑P **P** **10 14 19.6 -1.1**
baz=47
K22A **Casper** **47.08** **360** *e*P **P** **10 14 20.4 -0.3**
comp=Z,21nm,1.4s
K22A LR LR
comp=Z,900nm,18.9s
K23A **Bowen Ranch, D** **47.19** **0** ⇑P **P** **10 14 20.2 -1.3**
baz=47
GRGR **Grenville** **47.23** **69** PFAKE 10 14 30.0 +7.9
GRGR LR LR
comp=Z,500nm,22.0s
BW06 **Boulder Array** **47.30** **357** *e*P **P** **10 14 21.0 -1.5**
comp=Z,8.2nm,1.1s
BW06 LR LR
comp=Z,900nm,19.5s
PDAR **Pinedale Array** **47.30** **357** P **P** **10 14 20.2 -2.3**
comp=Z,2.5nm,0.7s,baz=164,slow=6.0,SNR=14
PDAR LR LR 10 31 48.4
comp=Z,890nm,18.4s,baz=188,slow=33
K28A **Ten Mile Ranch** **47.34** **5** ⇑P **P** **10 14 21.4 -1.1**
baz=48
AHID **Auburn Hatcher** **47.41** **355** PFAKE 10 14 30.0 +6.7
AHID LR LR
comp=Z,800nm,18.4s
K30A **Basset** **47.47** **6** ⇑P **P** **10 14 23.3 -0.2**
baz=48
WDC **Whiskeytown Da** **47.48** **343** *e*P **P** **10 14 24.7 +1.1**
comp=Z,13nm,1.3s
WDC LR LR
comp=Z,1μm,21.0s
KMRM **Mail Ridge** **47.50** **342** PFAKE 10 14 40.0 +16
KMRM LR LR
comp=Z,1μm,20.7s
CNNC **Cliffs of the** **47.72** **32** PFAKE 10 14 40.0 +14
CNNC LR LR
comp=Z,800nm,20.6s
SABA **Saba** **47.73** **61** PFAKE 10 14 40.0 +14
SABA LR LR
comp=Z,600nm,19.6s
J19A **Crowheart** **47.77** **357** ⇑P **P** **10 14 24.9 -1.1**
baz=48
J24A **Dixon Ranch, L** **47.78** **1** ⇓P **P** **10 14 25.4 -0.7**
baz=48
J21A **Lysite** **47.79** **359** ⇓P **P** **10 14 25.5 -0.8**
baz=48
SCIA **State Center** **47.80** **13** PFAKE 10 14 40.0 +14
SCIA LR LR
comp=Z,400nm,19.0s
J20A **Shoshoni** **47.82** **358** ⇓P **P** **10 14 25.4 -1.0**
baz=48
J26A **Sides Ranch, S** **47.82** **3** ⇓P **P** **10 14 25.9 -0.4**
baz=48
J27A **Elkhorn Farm,** **47.83** **4** ⇓P **P** **10 14 25.4 -1.0**
baz=48
J22A **Midwest** **47.84** **360** ⇓P **P** **10 14 25.4 -1.2**
baz=48
J25A **Sunshine Ranch** **47.87** **2** ⇑P **P** **10 14 25.8 -0.9**
baz=48
N02D **Trinity Center** **47.89** **343** ⇓P **P** **10 14 26.3 -0.6**
baz=48
SEUS **St. Eustatius** **47.91** **62** PFAKE 10 14 40.0 +13
SEUS LR LR
comp=Z,500nm,19.3s
REDW **Red Top Meadow** **47.99** **355** PFAKE 10 14 40.0 +12
REDW LR LR
comp=Z,800nm,18.0s
PLCA **Paso Flores** **48.03** **144** LR LR 10 29 36.4
comp=Z,1μm,19.8s,baz=326,slow=30
BLA **Blacksburg** **48.04** **28** PFAKE 10 14 40.0 +12
BLA LR LR
comp=Z,200nm,20.0s
SMRT **St. Maarten** **48.05** **61** PFAKE 10 14 40.0 +12
SMRT LR LR
comp=Z,400nm,20.4s
J28A **Allard Ranch,** **48.06** **5** ⇓P **P** **10 14 27.5 -0.6**
baz=48
SNOW **Snow King Moun** **48.08** **355** *e*P **P** **10 14 27.6 -1.0**
comp=Z,6.0nm,0.9s
SNOW LR LR
comp=Z,600nm,19.9s
SFIN **Lafayette** **48.09** **20** PFAKE 10 14 40.0 +12
SFIN LR LR
comp=Z,300nm,21.8s
KHMM **Horse Mountain** **48.10** **342** PFAKE 10 14 40.0 +11
KHMM LR LR
comp=Z,1μm,19.6s
MOD **Modoc Plateau** **48.11** **346** PFAKE 10 14 40.0 +11
MOD LR LR
comp=Z,600nm,18.6s
J29A **Okreek** **48.12** **6** ⇑P **P** **10 14 28.0 -0.5**
baz=48
TPAW **Teton Pass** **48.12** **355** *e*P **P** **10 14 27.6 -1.2**
comp=Z,12nm,1.1s
TPAW LR LR
comp=Z,900nm,18.1s
J30A **Dallas** **48.13** **6** ⇓P **P** **10 14 28.0 -0.7**
baz=48
LOHW **Long Hollow** **48.22** **356** *e*P **P** **10 14 28.3 -1.3**
comp=Z,13nm,1.3s
LOHW LR LR
comp=Z,600nm,19.3s
WVOR **Wild Horse Val** **48.23** **348** *e*P **P** **10 14 29.5 -0.1**
comp=Z,12nm,1.5s
WVOR LR LR
comp=Z,700nm,19.3s
I21A **Big Trails, Te** **48.26** **359** ⇓P **P** **10 14 28.8 -0.9**
baz=48
FXWY **Fox Creek** **48.27** **355** *e*P **P** **10 14 29.2 -0.8**
comp=Z,21nm,1.3s
FXWY LR LR
comp=Z,900nm,18.6s
M02C **Callahan** **48.32** **343** ⇓P **P** **10 14 29.3 -0.8**
baz=48
I22A **9 Mile Ranch,** **48.33** **360** ⇓P **P** **10 14 28.7 -1.6**
baz=48
MOOW **Moose Ponds** **48.36** **355** *e*P **P** **10 14 30.4 -0.3**
comp=Z,9.6nm,1.3s
MOOW LR LR
comp=Z,600nm,18.8s
M04C **Macdoel** **48.40** **344** ⇓P **P** **10 14 29.9 -0.9**
baz=48
I20A **Worland** **48.41** **358** ⇓P **P** **10 14 29.6 -1.4**
baz=49
I25A **Rochford** **48.50** **2** ⇑P **P** **10 14 30.4 -1.3**
baz=49
IMW **Indian Meadow** **48.52** **355** *e*P **P** **10 14 30.7 -1.3**
comp=Z,17nm,1.1s
IMW LR LR
comp=Z,700nm,19.6s
I19A **Meeteetse** **48.54** **357** ⇓P **P** **10 14 30.8 -1.2**
baz=49
HLID **Hailey** **48.58** **352** ⇓P **P** **10 14 31.5 -0.8**
baz=49,SNR=14
HLID **Hailey** **48.58** **352** *e*P **P** **10 14 31.4 -0.9**
comp=Z,11nm,1.1s
HLID LR LR
comp=Z,1μm,18.3s
RSSD **Black Hills** **48.59** **2** *e*P **P** **10 14 31.1 -1.3**
comp=Z,8.5nm,1.0s
RSSD LR LR
comp=Z,300nm,20.0s
YBH **Yreka Blue Hor** **48.59** **343** PFAKE 10 14 40.0 +7.7
YBH LR LR
comp=Z,800nm,20.9s
I28A **Midland** **48.63** **5** ⇓P **P** **10 14 32.2 -0.4**
baz=49
I27A **Quinn** **48.64** **4** ⇓P **P** **10 14 31.7 -0.9**
baz=49
MFID **Camas Ranch** **48.65** **351** *e*P **P** **10 14 32.1 -0.7**
comp=Z,32nm,1.3s
MFID LR LR
comp=Z,2μm,18.2s
FLWY **Flagg Ranch** **48.69** **356** *e*P **P** **10 14 32.4 -0.8**
comp=Z,29nm,1.2s
FLWY LR LR
comp=Z,700nm,18.1s
I29A **Vivian Onida** **48.73** **6** ⇓P **P** **10 14 32.3 -1.0**
baz=49
ECSD **EROS Data Cent** **48.92** **9** ⇓P **P** **10 14 33.3 -1.4**
baz=49
ECSD **EROS Data Cent** **48.92** **9** *e*P **P** **10 14 33.9 -0.8**
comp=Z,12nm,1.4s
ECSD LR LR
comp=Z,1μm,18.3s
H20A **Greybull** **48.95** **358** ⇓P **P** **10 14 33.6 -1.5**
baz=49
H17A **Grant Village** **48.99** **356** *e*P **P** **10 14 37.9 +2.4**
comp=Z,16nm,1.4s
H17A LR LR
comp=Z,1μm,18.4s
ANWB **Willy Bob** **49.03** **62** PFAKE 10 14 50.0 +14
ANWB LR LR
comp=Z,400nm,20.3s
K05A **Summer Lake** **49.03** **346** *e*P **P** **10 14 36.5 +0.6**
comp=Z,35nm,1.4s
K05A LR LR
comp=Z,1μm,19.4s
YFT **Old Faithful** **49.07** **356** PFAKE 10 14 50.0 +14
YFT LR LR
comp=Z,2μm,18.7s
H25A **Fruitdale** **49.10** **2** ⇓P **P** **10 14 34.8 -1.3**
baz=49
H26A **Fairpoint** **49.14** **3** ⇓P **P** **10 14 35.5 -0.9**
baz=49
LKWY **Lake** **49.15** **356** *e*P **P** **10 14 36.8 0.0**
comp=Z,13nm,1.1s
LKWY LR LR
comp=Z,1μm,19.0s
H19A **Powell** **49.17** **357** ⇑P **P** **10 14 35.2 -1.6**
baz=49
H27A **Howes** **49.20** **4** ⇑P **P** **10 14 35.7 -1.2**
baz=49
H24A **Dirks Ranch, A** **49.20** **1** ⇓P **P** **10 14 35.6 -1.3**
baz=49
H18A **Shoshone NF, C** **49.21** **357** ⇓P **P** **10 14 36.0 -1.2**
baz=49
BRSD **Miller** **49.29** **7** ⇑P **P** **10 14 37.0 -0.5**
baz=50
BRSD **Miller** **49.29** **7** *e*P **P** **10 14 36.4 -1.1**
comp=Z,31nm,0.8s
BRSD LR LR
comp=Z,900nm,18.4s
YMR **Madison River** **49.29** **355** *e*P **P** **10 14 37.0 -0.8**
comp=Z,18nm,1.3s
YMR LR LR
comp=Z,1μm,20.9s
H28A **Mission Ridge** **49.32** **5** ⇑P **P** **10 14 36.7 -1.1**
baz=50
YNR **Norris Junctio** **49.32** **356** PFAKE 10 14 50.0 +12
YNR LR LR
comp=Z,1μm,19.7s
H29A **Onida** **49.34** **6** ⇓P **P** **10 14 36.7 -1.2**
baz=50
ACSO **Alum Creek Sta** **49.46** **23** PFAKE 10 14 50.0 +11
ACSO LR LR
comp=Z,300nm,19.0s
HUMO **Hull Mountain** **49.47** **344** PFAKE 10 14 50.0 +11
HUMO LR LR
comp=Z,1μm,20.9s
KBO **Bosley Butte** **49.48** **342** PFAKE 10 14 50.0 +11
KBO LR LR
comp=Z,800nm,20.2s
JFWS **Jewell Farm** **49.48** **15** *e*P **P** **10 14 38.2 -0.7**
comp=Z,53nm,1.9s
JFWS LR LR
comp=Z,300nm,20.9s
BBGH **Gun Hill** **49.48** **68** PFAKE 10 14 50.0 +11
BBGH LR LR
comp=Z,1μm,22.0s
MCMT **McKenzie Canyo** **49.63** **354** *e*P **P** **10 14 39.9 -0.5**
RLMT **Red Lodge** **49.63** **357** ⇓P **P** **10 14 38.8 -1.6**
baz=50,SNR=8.6
RLMT **Red Lodge** **49.63** **357** *e*P **P** **10 14 39.4 -1.0**
comp=Z,11nm,1.1s
RLMT LR LR
comp=Z,700nm,18.0s
G23A **Biddle** **49.64** **1** ⇓P **P** **10 14 38.9 -1.3**
baz=50
J05D **Fort Rock, OR** **49.64** **346** ⇓P **P** **10 14 39.6 -0.8**
baz=50
G22A **Birney** **49.65** **360** ⇓P **P** **10 14 39.0 -1.4**
baz=50
G21A **Lodge Grass** **49.67** **359** ⇑P **P** **10 14 39.2 -1.3**
baz=50
G20A **Bridger** **49.69** **358** ⇑P **P** **10 14 39.4 -1.3**
baz=50
G24A **Alzada** **49.78** **2** ⇓P **P** **10 14 40.1 -1.3**
baz=50
G26A **Maurine** **49.82** **3** ⇓P **P** **10 14 40.4 -1.2**
baz=50
J04D **Umpqua Nationa** **49.83** **345** ⇓P **P** **10 14 40.9 -1.0**
baz=50
G29A **Hoven** **49.93** **6** ⇑P **P** **10 14 41.0 -1.4**
baz=50
G27A **Dupree** **49.95** **4** ⇑P **P** **10 14 41.9 -0.6**
baz=50
G30A **Faulkton** **49.95** **6** ⇓P **P** **10 14 41.4 -1.2**
baz=50
I07A **Izee** **49.99** **347** *e*P **P** **10 14 43.0 -0.1**
KEBM **Edson Butte** **50.11** **343** PFAKE 10 15 00.0 +16

KEBM LR LR
comp=Z,900nm,19.7s
DLMT Dillon 50.13 354 *eP* **P 10 14 43.5 -0.6**
comp=Z,11nm,1.3s
DLMT LR LR
comp=Z,1μm,18.4s
F23A Volborg 50.16 1 ⇓P **P 10 14 42.6 -1.6**
baz=50
F22A Rosebud 50.21 360 ⇑P **P 10 14 42.9 -1.6**
baz=50
F20A Billings 50.27 358 ⇑P **P 10 14 43.4 -1.6**
baz=50
CBN Corbin Frederi 50.28 29 PFAKE 10 15 00.0 +15
CBN LR LR
comp=Z,500nm,20.7s
BMO Blue Mountains 50.30 350 PFAKE 10 15 00.0 +15
BMO LR LR
comp=Z,1μm,20.5s
F24A Ekalaka 50.30 2 ⇓P **P 10 14 43.7 -1.6**
baz=50
BOZ Bozeman (W) 50.32 355 PFAKE 10 15 00.0 +14
BOZ LR LR
comp=Z,800nm,19.9s
GCMT Greycliff 50.32 357 *eP* **P 10 14 43.9 -1.6**
F19A Roth Farm, Mol 50.35 357 ⇑P **P 10 14 43.8 -1.9**
baz=50
F26A Lodgepole 50.38 3 ⇓P **P 10 14 44.5 -1.3**
baz=51
F25A Bowman 50.41 2 ⇓P **P 10 14 44.7 -1.4**
baz=51
I04A Tendick Farm, 50.42 345 ⇓P **P 10 14 45.5 -0.7**
baz=51
F27A Lemmon 50.44 4 ⇓P **P 10 14 45.3 -1.0**
baz=51
F28A McLaughlin 50.50 5 ⇑P **P 10 14 45.5 -1.2**
baz=51
LRM Limekiln Ridge 50.57 354 *eP* **P 10 14 45.9 -1.6**
comp=Z,48nm,1.1s
F29A Eureka 50.57 6 ⇑P **P 10 14 46.2 -1.1**
baz=51
F30A Leola 50.66 6 ⇑P **P 10 14 46.6 -1.3**
baz=51
I05D Terrebonne, OR 50.66 346 ⇑P **P 10 14 47.1 -0.9**
baz=51
E23A Ismay 50.93 1 ⇑P **P 10 14 49.0 -1.0**
baz=51
AAM Ann Arbor 50.99 21 PFAKE 10 15 00.0 +10
AAM LR LR
comp=Z,200nm,19.3s
E26A Carlson Angus 51.00 3 ⇓P **P 10 14 49.4 -1.1**
baz=51
G08A Pilot Rock 51.03 348 *eP* **P 10 14 51.1 +0.2**
comp=Z,12nm,1.3s
G08A LR LR
comp=Z,1μm,21.7s
SPMN Marine on St. 51.06 12 ⇓P **P 10 14 49.5 -1.4**
baz=51
SPMN Marine on St. 51.06 12 PFAKE 10 15 00.0 +9.1
SPMN LR LR
comp=Z,400nm,18.9s
LAO LASA Array 51.12 360 ⇓P **P 10 14 49.9 -1.5**
baz=51
LAO LASA Array 51.12 360 *eP* **P 10 14 50.8 -0.7**
comp=Z,139nm,2.8s
LAO LR LR
comp=Z,400nm,21.0s
E28A Huff 51.23 5 ⇓P **P 10 14 51.2 -1.0**
baz=51
E29A Napoleon 51.32 6 ⇑P **P 10 14 52.0 -0.9**
baz=52
COR Corvallis 51.39 344 PFAKE 10 15 00.0 +6.6
COR LR LR
comp=Z,1μm,22.0s
SDMD Soldier's Deli 51.48 29 PFAKE 10 15 10.0 +16
SDMD LR LR
comp=Z,900nm,19.8s
D21A La Casta Ranch 51.50 359 ⇑P **P 10 14 53.1 -1.2**
baz=52
D24A Glendive 51.57 2 ⇑P **P 10 14 53.7 -1.1**
baz=52
D22A Cohagen 51.58 360 ⇑P **P 10 14 53.7 -1.1**
baz=52
D25A Fairfield 51.64 2 ⇑P **P 10 14 54.7 -0.6**
baz=52
CHMT Chamberlain Mo 51.73 354 *eP* **P 10 14 55.2 -1.0**
comp=Z,1.6nm,1.0s
ALLY Alegheny Colle 51.81 25 PFAKE 10 15 10.0 +13
ALLY LR LR
comp=Z,400nm,18.5s
D28A Regan 51.85 5 ⇑P **P 10 14 56.4 -0.5**
baz=52
D30A Buchanan 51.95 6 ⇑P **P 10 14 56.8 -0.8**
baz=52
SSPA Standing Stone 51.96 27 PFAKE 10 15 10.0 +12
SSPA LR LR
comp=Z,300nm,21.8s
C24A Savage 51.98 1 ⇑P **P 10 14 57.1 -0.8**
baz=52
E09A Wood Farm, Sta 52.05 349 PFAKE 10 15 10.0 +12
E09A LR LR
comp=Z,800nm,21.3s
SLMT Seeley Lake 52.09 354 *eP* **P 10 14 57.3 -1.5**
comp=Z,3.1nm,0.6s
TRQA Tornquist 52.09 136 PFAKE 10 15 10.0 +11
TRQA LR LR
comp=Z,1μm,20.3s
C20A Veseth Ranch, 52.17 358 ⇓P **P 10 14 57.7 -1.6**
baz=52
C22A Vida 52.18 0 ⇑P **P 10 14 58.0 -1.3**
baz=52
HAWA Hanford 52.21 348 PFAKE 10 15 10.0 +11
HAWA LR LR
comp=Z,700nm,20.2s
C23A Lambert 52.24 1 ⇑P **P 10 14 58.8 -0.9**
baz=52
C21A Desert Coulee 52.27 359 ⇓P **P 10 14 59.1 -0.8**
baz=52
C27A Sayler Ranch, 52.30 4 ⇑P **P 10 14 59.7 -0.5**
baz=52
C26A Wahner Farm, P 52.38 3 ⇓P **P 10 14 59.9 -0.8**
baz=53
SWMT Swartz Lake 52.41 353 *eP* **P 10 14 58.5 -2.5**
comp=Z,7.5nm,1.2s
EGMT Eagleton 52.55 357 *eP* P 10 15 05.3 +3.1
comp=Z,58nm,2.1s
EGMT LR LR
comp=Z,800nm,18.1s
C30A Mose, Pekin 52.56 6 ⇓P **P 10 15 01.5 -0.6**
baz=53
MDND Maddock 52.59 6 ⇑P **P 10 15 01.4 -0.9**
baz=53
MDND Maddock 52.59 6 *eP* **P 10 15 01.0 -1.3**
comp=Z,61nm,1.6s
MDND LR LR
comp=Z,2μm,18.0s
B22A Reddig Ranch S 52.73 0 ⇓P **P 10 15 02.1 -1.3**
baz=53
YBMT Yellow Bay 52.76 353 *eP* **P 10 15 02.3 -1.3**
comp=Z,12nm,1.1s
BSMT Bassoo Peak 52.84 353 *eP* **P 10 15 02.9 -1.5**
comp=Z,9.4nm,1.2s
GLMI Grayling 52.88 19 PFAKE 10 15 20.0 +15
GLMI LR LR
comp=Z,400nm,18.7s
B20A Solberg Farm, 52.90 358 ⇑P **P 10 15 03.2 -1.4**
baz=53
B23A Brockton 52.91 1 ⇑P **P 10 15 03.5 -1.2**
baz=53
B26A Jensen Ranch, 52.92 3 ⇓P **P 10 15 03.6 -1.2**
baz=53
DGMT Dagmar 52.93 2 ⇓P **P 10 15 03.8 -1.0**
baz=53
DGMT Dagmar 52.93 2 *eP* **P 10 15 04.5 -0.3**
DGMT LR LR
comp=Z,900nm,20.4s
B19A Brinkman Farms 52.95 358 ⇑P **P 10 15 03.8 -1.2**
baz=53
B27A Peters Farms, 53.01 4 ⇓P **P 10 15 04.4 -0.9**
baz=53
LUPA Lehigh Univers 53.12 29 PFAKE 10 15 20.0 +14
LUPA LR LR
comp=Z,100nm,19.4s
B28A Dugan Ranch, T 53.12 5 ⇓P **P 10 15 05.5 -0.7**
baz=53
B29A Wagenman Farm, 53.23 6 ⇑P **P 10 15 05.9 -1.1**
baz=53
B30A Myrvik Farm, E 53.32 6 ⇑P **P 10 15 06.7 -1.0**
baz=54

A20A Cobblestone Ra 53.34 358 ⇑P **P 10 15 06.5 -1.4**
baz=54
A24A Westby 53.39 2 ⇑P **P 10 15 07.1 -1.1**
baz=54
A19A Klindworth Far 53.41 358 ⇑P **P 10 15 07.1 -1.3**
baz=54
A22A Carney Farms, 53.42 0 ⇓P **P 10 15 07.4 -1.1**
baz=54
A26A Wade Farm, Ken 53.45 3 ⇓P **P 10 15 07.5 -1.1**
baz=54
AGMN Agassiz Nation 53.49 8 ⇓P **P 10 15 07.7 -1.2**
baz=54
AGMN Agassiz Nation 53.49 8 *eP* **P 10 15 07.5 -1.4**
comp=Z,8.5nm,0.9s
NEW Newport 53.58 351 ⇑P **P 10 15 08.7 -1.0**
baz=54
NEW Newport 53.58 351 *eP* **P 10 15 08.8 -0.8**
comp=Z,11nm,1.2s
NEW LR LR
comp=Z,1μm,18.7s
A28A Rude Farm, Bot 53.59 5 ⇓P **P 10 15 08.3 -1.3**
baz=54
MMNY Mt. Morris Dam 53.64 26 PFAKE 10 15 20.0 +10
MMNY LR LR
comp=Z,700nm,19.7s
A29A Manning Farm, 53.69 6 ⇓P **P 10 15 08.9 -1.5**
baz=54
A30A Hoffart Farm, 53.80 6 ⇑P **P 10 15 09.8 -1.5**
baz=54
BBSR BB Station 53.86 44 PFAKE 10 15 20.0 +8.1
BBSR LR LR
comp=Z,400nm,22.0s
ODNJ Ogdensburg 53.86 29 PFAKE 10 15 20.0 +8.2
ODNJ LR LR
comp=Z,600nm,19.1s
EYMN Ely 53.93 12 *eP* **P 10 15 11.4 -0.7**
comp=Z,15nm,1.0s
EYMN LR LR
comp=Z,300nm,19.7s
B08A Colville Reser 54.05 349 PFAKE 10 15 20.0 +6.9
B08A LR LR
comp=Z,700nm,19.3s
BINY Binghamton 54.07 27 PFAKE 10 15 20.0 +6.7
BINY LR LR
comp=Z,300nm,18.5s
NLWA Neilton Lookou 54.14 345 PFAKE 10 15 30.0 +16
NLWA LR LR
comp=Z,800nm,20.3s
PAL Palisades 54.15 30 PFAKE 10 15 30.0 +16
PAL LR LR
comp=Z,600nm,18.6s
POHA Pohakuloa 54.31 298 PFAKE 10 15 30.0 +14
POHA LR LR
comp=Z,1μm,19.6s
YLE Yale 54.86 30 PFAKE 10 15 30.0 +11
YLE LR LR
comp=Z,500nm,18.9s
A05A Maple Falls 55.22 347 PFAKE 10 15 30.0 +8.5
A05A LR LR
comp=Z,600nm,18.5s
TRY Troy 55.57 29 PFAKE 10 15 40.0 +16
TRY LR LR
comp=Z,500nm,19.7s
QUA2 Belchertown 55.87 30 PFAKE 10 15 40.0 +14
QUA2 LR LR
comp=Z,300nm,18.5s
ACCN Adirondack Com 56.07 28 PFAKE 10 15 40.0 +12
ACCN LR LR
comp=Z,400nm,18.8s
NCB Newcomb 56.26 27 PFAKE 10 15 40.0 +11
NCB LR LR
comp=Z,500nm,20.4s
PTN Potsdam (NY) 56.39 26 PFAKE 10 15 40.0 +10
PTN LR LR
comp=Z,900nm,20.4s
HRV Adam Dziewonsk 56.43 30 PFAKE 10 15 40.0 +10
HRV LR LR
comp=Z,400nm,21.0s
LONY Lake Ozonia 56.60 27 PFAKE 10 15 40.0 +8.5
LONY LR LR
comp=Z,400nm,19.7s
KIP Kipapa 57.08 299 PFAKE 10 15 50.0 +15
KIP LR LR
comp=Z,600nm,19.0s
EDM Edmonton 57.98 355 *eP* **P 10 15 39.4 -1.7**
BDFB Brasilia 58.04 105 LR LR 10 38 16.0
comp=Z,493nm,19.3s,baz=268,slow=34
WVL Waterville 58.88 30 PFAKE 10 16 00.0 +13
WVL LR LR
comp=Z,1μm,18.9s
FFC Flin Flon 59.27 3 *eP* **P 10 15 47.5 -2.5**
comp=Z,20nm,1.8s
FFC LR LR
comp=Z,1μm,18.3s
PKME Peaks-Kenny Pk 59.56 29 PFAKE 10 16 00.0 +7.8
PKME LR LR
comp=Z,600nm,20.1s
PQI Presque Isle 61.19 29 PFAKE 10 16 20.0 +17
PQI LR LR
comp=Z,900nm,21.5s
WRAK Wrangell Islan 64.55 344 PFAKE 10 16 40.0 +15
WRAK LR LR
comp=Z,300nm,18.0s
KNTN Kanton 65.49 269 PFAKE 10 16 40.0 +7.5
KNTN LR LR
comp=Z,700nm,18.8s
DLBC Dease Lake 65.75 346 LR LR 10 42 37.8
comp=Z,487nm,18.1s,baz=158,slow=34
DLBC Dease Lake 65.75 346 *eP* **P 10 16 32.8 -0.6**
comp=Z,12nm,1.2s
PMSA Palmer Station 67.04 162 PFAKE 10 16 50.0 +8.6
PMSA LR LR
comp=Z,2μm,19.1s
BESE Bessie Mountai 67.10 344 *eP* P 10 16 48.0 +6.0
comp=Z,15nm,0.4s
BESE LR LR
comp=Z,200nm,18.3s
YKA Yellowknife Ar 67.28 356 P **P 10 16 40.6 -2.3**
comp=Z,5.1nm,1.0s,baz=164,slow=6.5,SNR=14
SCHQ Schefferville 67.62 23 LR LR 10 44 57.8
comp=Z,201nm,21.9s,baz=292,slow=35
DRLN Deer Lake 68.22 32 PFAKE 10 17 00.0 +11
DRLN LR LR
comp=Z,500nm,19.2s
DHAK Deception Hill 68.48 343 PFAKE 10 17 00.0 +9.3
DHAK LR LR
comp=Z,500nm,21.4s
HYT Haines Junctio 69.72 344 *eP* **P 10 17 00.8 +2.3**
RCBR Riachuelo 69.87 94 PFAKE 10 17 10.0 +10
RCBR LR LR
comp=Z,600nm,20.4s
RAGM Ragged Mountai 71.52 341 PFAKE 10 17 20.0 +11
RAGM LR LR
comp=Z,600nm,19.7s
BMRM Bremner River 71.94 341 *eP* **P 10 17 11.6 -0.2**
comp=Z,10nm,1.0s
BMRM LR LR
comp=Z,600nm,19.8s
EYAK Cordova Ski Ar 71.99 341 *eP* **P 10 17 13.2 +1.1**
comp=Z,13nm,1.1s
EYAK LR LR
comp=Z,700nm,19.2s
DIV Divide 72.43 341 PFAKE 10 17 30.0 +15
DIV LR LR
comp=Z,600nm,20.0s
KDAK Kodiak Island 72.57 336 PFAKE 10 17 30.0 +14
KDAK LR LR
comp=Z,1μm,18.1s
SEW Seward 72.94 339 PFAKE 10 17 30.0 +12
SEW LR LR
comp=Z,600nm,22.0s
HARP HAARP 73.20 342 PFAKE 10 17 30.0 +11
HARP LR LR
comp=Z,300nm,19.4s
BRLK Bradley Lake 73.23 338 PFAKE 10 17 30.0 +10
BRLK LR LR
comp=Z,600nm,20.3s
HOM Homer 73.44 338 PFAKE 10 17 30.0 +9.3
HOM LR LR
comp=Z,700nm,19.3s
SCM Sheep Creek Mo 73.46 341 PFAKE 10 17 30.0 +9.1
SCM LR LR
comp=Z,400nm,19.2s
PAX Paxson 73.72 342 *eP* P 10 17 25.8 +3.4
comp=Z,6.3nm,1.2s
PAX LR LR

comp=Z,300nm,20.0s
RC01 Rabbit Creek A 73.74 340 PFAKE 10 17 30.0 +7.6
RC01 LR LR
comp=Z,400nm,21.6s
PMR Palmer 73.88 340 *eP* **P 10 17 21.5 -1.7**
comp=Z,6.6nm,1.0s
EGAK Eagle 73.93 345 *eP* **P 10 17 22.8 -0.7**
comp=Z,9.9nm,1.1s
EGAK LR LR
comp=Z,400nm,21.9s
RSO Redoubt South 74.40 338 *eP* **P 10 17 25.1 -1.5**
comp=Z,20nm,0.5s
HOPE Hope Point 74.40 145 PFAKE 10 17 40.0 +14
HOPE LR LR
comp=Z,1μm,20.9s
DDM Donnelly Dome 74.45 343 PFAKE 10 17 40.0 +13
DDM LR LR
comp=Z,100nm,19.1s
RND Reindeer 75.08 342 PFAKE 10 17 40.0 +10
RND LR LR
comp=Z,600nm,18.4s
HDA Harding Lake 75.24 343 *eP* P 10 17 34.6 +3.5
comp=Z,7.7nm,1.3s
HDA LR LR
comp=Z,300nm,20.0s
INK Inuvik 75.28 350 LR LR 10 48 12.6
comp=Z,826nm,18.5s,baz=142,slow=34
INK Inuvik 75.28 350 *eP* **P 10 17 30.9 -0.3**
comp=Z,12nm,1.3s
MCK McKinley 75.34 342 *eP* **P 10 17 32.4 +0.6**
comp=Z,9.7nm,1.2s
MCK LR LR
comp=Z,600nm,18.4s
ILAR Eielson Array 75.49 343 P **P 10 17 31.0 -1.5**
comp=Z,1.7nm,1.0s,baz=159,slow=4.7,SNR=16
TRF Thorofare Moun 75.57 341 *eP* **P 10 17 33.4 +0.1**
comp=Z,60nm,2.3s
TRF LR LR
comp=Z,400nm,19.8s
WRH Wood River Hil 75.62 343 PFAKE 10 17 40.0 +6.7
WRH LR LR
comp=Z,300nm,19.6s
CCB Clear Creek Bu 75.66 343 *eP* P 10 17 37.9 +4.4
comp=Z,1.1nm,1.7s
CCB LR LR
comp=Z,300nm,19.4s
PPLA Purkeypile 75.82 340 *eP* **P 10 17 33.3 -1.4**
comp=Z,18nm,1.2s
BWN Browne 75.82 342 *eP* P 10 17 38.7 +4.3
comp=Z,46nm,1.4s
BWN LR LR
comp=Z,500nm,18.9s
COLA College 75.84 343 PFAKE 10 17 50.0 +15
COLA LR LR
comp=Z,300nm,20.0s
KTH Kantishna Hill 75.85 341 *eP* **P 10 17 33.4 -1.3**
comp=Z,16nm,1.1s
KTH LR LR
comp=Z,300nm,20.8s
MIDW Midway 75.85 300 PFAKE 10 17 50.0 +15
MIDW LR LR
comp=Z,400nm,19.3s
SVW2 Sparrevohn 75.87 338 *eP* P 10 17 39.1 +4.3
comp=Z,8.3nm,1.2s
MDM Murphy Dome 76.02 343 PFAKE 10 17 50.0 +14
MDM LR LR
comp=Z,400nm,20.0s
BPAW Bear Paw Mtn. 76.25 341 *eP* **P 10 17 35.8 -1.1**
comp=Z,1.3nm,1.2s
FYU Fort Yukon 76.39 345 *eP* P 10 17 41.6 +4.0
comp=Z,53nm,1.9s
FYU LR LR
comp=Z,600nm,19.2s
URZ Urewera 76.76 232 LR LR 10 43 32.3
comp=Z,371nm,19.6s,baz=164,slow=30
MLY Manley 76.82 342 PFAKE 10 17 50.0 +10
MLY LR LR
comp=Z,400nm,18.9s
UNV Unalaska Valle 76.89 328 PFAKE 10 17 50.0 +9.3
UNV LR LR
comp=Z,700nm,19.7s
BKZ Black Stump Fm 77.32 231 PFAKE 10 18 00.0 +16
BKZ LR LR
comp=Z,2μm,21.3s
NIKH Nikolski High 77.78 327 PFAKE 10 18 00.0 +14
NIKH LR LR
comp=Z,800nm,20.1s
COLD Coldfoot 78.21 344 *eP* **P 10 17 47.2 -0.6**
comp=Z,10nm,1.2s
COLD LR LR
comp=Z,400nm,20.9s
IM04 Indian Mountai 78.39 342 *eP* P 10 17 52.1 +3.2
RES Resolute Bay 79.50 3 PFAKE 10 18 10.0 +15
RES LR LR
comp=Z,400nm,19.6s
KHZ Kahutara 79.76 228 PFAKE 10 18 10.0 +13
KHZ LR LR
comp=Z,3μm,18.4s
SPIA Saint Paul Isl 80.27 330 PFAKE 10 18 10.0 +11
SPIA LR LR
comp=Z,800nm,19.4s
ATKA Atka Island 80.49 325 PFAKE 10 18 10.0 +9.5
ATKA LR LR
comp=Z,200nm,21.6s
SFJD Kangerlussuaq 81.49 19 PFAKE 10 18 20.0 +14
SFJD LR LR
comp=Z,300nm,19.0s
TNA Tin City 82.97 338 PFAKE 10 18 20.0 +6.7
TNA LR LR
comp=Z,500nm,20.9s
GAMB Gambell 83.65 336 PFAKE 10 18 30.0 +13
GAMB LR LR
comp=Z,700nm,20.3s
QSPA South Pole Qui 85.40 180 *eP* **P 10 18 27.1 +1.1**
comp=Z,21nm,1.6s
QSPA LR LR
comp=Z,500nm,18.7s
DZM Mont Dzumac 85.92 248 *e*LR LR 10 45 46.3
comp=Z,319nm,22.9s
DZM Mont Dzumac 85.92 248 LR LR 10 52 35.4
comp=Z,176nm,18.2s,baz=180,slow=33
VNDA Vanda 85.93 193 LR LR 10 50 14.8
comp=Z,145nm,18.0s,baz=100,slow=31
KWAJ Kwajalein Atol 87.05 279 PFAKE 10 18 50.0 +15
KWAJ LR LR
comp=Z,400nm,18.5s
SUMG Summit 87.86 16 PFAKE 10 18 50.0 +12
SUMG LR LR
comp=Z,300nm,21.3s
H11N3 WAKE ISLAND Hy 88.73 290 T T 11 56 45.0
baz=96,slow=74,SNR=139
H11N2 WAKE ISLAND Hy 88.74 290 T T 11 56 46.7
baz=96,slow=74,SNR=185
H11N1 WAKE ISLAND Hy 88.75 290 T T 11 56 46.3
baz=96,slow=74,SNR=112
H11S2 WAKE ISLAND Hy 88.81 289 T T 11 56 56.4
baz=95,slow=75,SNR=123
H11S1 WAKE ISLAND Hy 88.81 289 T T 11 56 52.2
baz=95,slow=75,SNR=104
H11S3 WAKE ISLAND Hy 88.83 289 T T 11 56 58.2
baz=95,slow=75,SNR=72
WAKE Wake Island 88.93 289 PFAKE 10 18 50.0 +6.2
WAKE LR LR
comp=Z,700nm,18.8s
SNAA Sanae 89.76 162 PFAKE 10 19 00.0 +13
SNAA LR LR
comp=Z,700nm,20.9s
ASCN Ascension 91.08 98 PFAKE 10 19 10.0 +16
ASCN LR LR
comp=Z,800nm,19.0s
HNR Honiara 93.14 260 PFAKE 10 19 10.0 +6.5
HNR LR LR
comp=Z,100nm,21.9s
PETK Petropavlovsk- 97.43 323 LR LR 10 55 02.5
comp=Z,255nm,21.3s,baz=77,slow=30
TAU Tasmania Unive 98.88 225 PFAKE 10 19 40.0 +11
TAU LR LR
comp=Z,1μm,18.4s
TUE Stuetta 110.75 42 *e*Pdif **Pdif 10 20 24.4 +2.3**
CLL Collm 111.53 36 *e*PP PP 10 25 01.0 -3.0
CLL LmV 11 09 00.0
comp=Z,100nm,21.1s
BJI Beijing 128.16 319 PKP **PKPdf 10 24 54.2 -1.1**
BJI SS SS 10 44 13.4 +1.2
BJI LZ
comp=Z,700nm,21.9s
BRTR Keskin Array B 129.63 40 PKP **PKPdf 10 24 56.3 -2.0**

	comp=Z,1.8nm,0.9s,baz=305,slow=4.4,SNR=6.1						
HHC	**Hu-ho-hao-te**	**130.63**	**322**	*e*PKP	**PKPdf**	**10 24 59.4**	**-0.7**
HHC				PP	**PP**	**10 27 17.4**	**+2.8**
HHC				PKS	**PKSdf**	**10 28 37.0**	**+0.3**
HHC				SKS	**SKSdf**	**10 32 12.9**	**+1.6**
HHC				SS	**SS**	**10 44 46.0**	**+3.4**
HHC				PPMZ			
	comp=Z,39nm,9.3s						
HHC				LN			
	comp=Z,120nm,20.6s						
HHC				LE			
	comp=Z,190nm,20.6s						
HHC				LZ			
	comp=Z,120nm,20.3s						
GTA	**Gaotai**	**138.21**	**329**	*e*PKP	**PKPdf**	**10 25 15.1**	**+0.7**
GTA				sPKP		10 25 22.2	
LZH	**Lanzhou**	**138.32**	**323**	*e*PKP	**PKPdf**	**10 25 15.7**	**+0.9**
LZH				sPKP		10 25 20.2	
LZH				LN			
	comp=Z,150nm,18.0s						
LZH				LE			
	comp=Z,130nm,17.8s						
LZH				LZ			
	comp=Z,180nm,20.1s						
WMQ	**Urumqi**	**139.14**	**345**	PKP	**PKPdf**	**10 25 16.1**	**+0.2**
WMQ				PP	**PP**	**10 28 12.4**	**+4.7**
WMQ				PPMZ			
	comp=Z,32nm,9.8s						
WMQ				LN			
	comp=Z,210nm,14.2s						
WMQ				LE			
	comp=Z,680nm,14.5s						
WMQ				LZ			
	comp=Z,410nm,18.6s						
CD2	**Chengdu**	**141.65**	**316**	PKP	**PKPdf**	**10 25 20.0**	**-0.8**
CD2				sPKP		10 25 24.7	
CD2				PP	**PP**	**10 28 23.7**	**-0.3**
CD2				SKS	**SKSdf**	**10 32 30.0**	**-0.5**
CD2				SS	**SS**	**10 46 55.6**	**+0.9**
CD2				PPMZ			
	comp=Z,120nm,5.2s						
GYA	**Guiyang**	**141.92**	**308**	*e*PKP	**PKPdf**	**10 25 21.0**	**-0.5**
GYA				PP	**PP**	**10 28 29.4**	**+3.3**
GYA				PPMZ			
	comp=Z,110nm,8.0s						
KSH	**Kashi**	**145.25**	**357**	*e*PKPbc	**PKPdf**	**10 25 29.1**	**+2.1**
KSH				PKS	**PKSdf**	**10 29 01.5**	**-1.1**
RAYN	**Ar Rayn**	**146.80**	**53**	*e*PKPdf	**PKPdf**	**10 25 30.6**	**+0.6**

*IDC **07** 10:43:16.1±7.8, 32°.50S×179°.64E, h426km±97km, mb2.7/2, mb1 3.1/3, mb1mx2.8/31, mbtmp3.8/3, Error ellipse: s-maj=113.7km s-min=41.7km az=7.0*

ISC 07 10:43:15.4±2.0**, 32°.2S**±0°.1×**178°.9E**±0°.3**, h400**km**, n32, σ0ˢ88**/35**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**5.63**	**189**	*e*PN	**Pn**	**10 44 45.0**	**+1.2**
HAZ				SN	**S**	**10 45 55.8**	**-0.1**
WMGZ	**Waiomatatini S**	**5.63**	**184**	*e*PN	**Pn**	**10 44 44.5**	**+0.6**
WMGZ				SN	**S**	**10 45 54.6**	**-1.4**
PUZ	**Puketiti**	**5.89**	**185**	PN	**Pn**	**10 44 46.8**	**+0.1**
TWGZ	**Tauwhareparae**	**6.02**	**187**	PN	**Pn**	**10 44 49.3**	**+1.1**
URZ	**Urewera**	**6.23**	**193**	P	**Pn**	**10 44 51.3**	**+0.9**
	5.2nm,0.3s,baz=271,slow=4.0,SNR=50						
URZ				S	**S**	**10 46 07.2**	**-0.6**
	2.5nm,0.3s,baz=237,slow=23,SNR=10						
URZ	**Urewera**	**6.23**	**193**	*e*PN	**Pn**	**10 44 51.3**	**+0.9**
MWZ	**Matawai**	**6.23**	**190**	*e*PN	**Pn**	**10 44 50.8**	**+0.3**
MWZ				SN	**S**	**10 46 07.2**	**-0.8**
CNGZ	**Carnagh Statio**	**6.31**	**185**	*e*PN	**Pn**	**10 44 51.8**	**+0.6**
RAGZ	**Rawiri**	**6.41**	**190**	*e*PN	**Pn**	**10 44 53.0**	**+0.6**
RIGZ	**Rimuhau**	**6.57**	**188**	*e*PN	**P**	**10 44 55.5**	**+0.8**
SNGZ	**Shannon Statio**	**6.70**	**190**	PN	**P**	**10 44 57.6**	**+1.4**
RAHZ	**Arahi**	**6.87**	**192**	PN	**P**	**10 44 59.2**	**+1.1**
KNZ	**Kokohu**	**6.89**	**188**	*e*PN	**P**	**10 44 59.4**	**+1.2**
MRHZ	**Matea Rd**	**6.93**	**196**	PN	**P**	**10 44 59.6**	**+0.8**
WHHZ	**Waihua**	**7.00**	**191**	*e*PN	**P**	**10 45 00.3**	**+0.8**
NMHZ	**Naumai**	**7.10**	**193**	*e*PN	**P**	**10 45 01.2**	**+0.5**
ARHZ	**Aropaoanui**	**7.22**	**192**	*e*PN	**Pn**	**10 45 01.9**	**+0.4**
BKZ	**Black Stump Fm**	**7.23**	**195**	PN	**P**	**10 45 02.4**	**+0.2**
MCHZ	**McNeill Hill**	**7.45**	**193**	*e*PN	**P**	**10 45 05.2**	**+0.6**
KWHZ	**Kaweka Forest**	**7.49**	**195**	PN	**P**	**10 45 05.7**	**+0.6**
BHHZ	**Black Hill Sta**	**7.64**	**197**	*e*PN	**Pn**	**10 45 06.3**	**+0.1**
KRHZ	**Kereru**	**7.71**	**195**	*e*PN	**Pn**	**10 45 07.5**	**+0.5**
KAHZ	**Kahuranaki**	**7.76**	**192**	*e*PN	**Pn**	**10 45 08.1**	**+0.5**
TSZ	**Takapari Road**	**8.20**	**196**	PN	**P**	**10 45 13.2**	**+0.3**
MRZ	**Mangatainoka R**	**8.87**	**197**	PN	**Pn**	**10 45 20.3**	**+0.1**
MRZ				*e*SN	**S**	**10 47 01.0**	**-1.6**
CAW	**Cannon Point**	**9.41**	**198**	*e*PN	**P**	**10 45 26.2**	**-0.1**
QRZ	**Quartz Range**	**10.02**	**209**	*e*PN	**Pn**	**10 45 35.4**	**+1.8**
TUWZ	**Tuamarina**	**10.04**	**202**	*e*PN	**P**	**10 45 33.2**	**-0.1**
KHZ	**Kahutara**	**11.06**	**201**	PN	**Pn**	**10 45 45.7**	**+0.2**
ASAR	**Alice Springs**	**40.41**	**270**	P	P	10 50 20.8	+3.8
	0.7nm,0.9s,baz=107,slow=7.5,SNR=4.1						
WRA	**Warramunga Arr**	**41.57**	**276**	P	P	10 50 30.0	+3.8
	0.3nm,0.3s,baz=112,slow=8.1,SNR=13						
FINES	**FINESS Array B**	**145.83**	**337**	PKPbc	**PKPbc**	**11 02 06.3**	**-1.4**
	1.6nm,0.9s,baz=20,slow=4.4,SNR=2.9						

*IDC **07** 10:44:13.1±1.4, 34°.76N×32°.89W, h0km, mb3.7/12, mb1 3.9/12, mb1mx3.7/43, mbtmp3.8/12, MS3.5/5, Ms1 3.5/5, ms1mx3.1/35, Error ellipse: s-maj=39.5km s-min=20.9km az=8.0*

*PDA **07** 10:44:18.2±1.4, 34°.56N×32°.46W, h5km, MD4.5, ML4.9, Error ellipse: s-maj=9.3km s-min=6.6km az=111.0*

ISC 07 10:44:18.2±1.3**, 34°.8N**±0°.1×**32°.2W**±0°.1**, h10**km**, n29, σ1ˢ19**/33**, mb3.8**/12**, MS3.4**/5**, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**4.69**	**37**	*e*P	**Pn**	**10 45 29.9**	**+0.9**
HOR				*e*S	**Sn**	**10 46 24.1**	**+0.6**
CALA	**Caldeira**	**4.70**	**36**	*e*P	**Pn**	**10 45 29.9**	**+0.7**
CALA				*e*S	**Sn**	**10 46 23.9**	**0.0**
PCAN	**Candelaria**	**4.72**	**38**	*e*P	**Pn**	**10 45 29.8**	**+0.4**
PCED	**Cedros**	**4.74**	**36**	*e*P	**Pn**	**10 45 30.2**	**+0.5**
PCED				*e*S	**Sn**	**10 46 24.2**	**-0.5**
PCED				A	A	10 46 26.6	
	48nm,0.3s						
PICO	**Pico**	**4.78**	**39**	*e*P	**Pn**	**10 45 31.5**	**+1.2**
PICO				*e*S	**Sn**	**10 46 25.6**	**-0.1**
ROSA	**Rosais**	**5.04**	**38**	*e*P	**Pn**	**10 45 33.6**	**-0.2**
ROSA				*e*S	**Sn**	**10 46 32.5**	**+0.5**
ROSA				A	A	10 46 42.1	
	67nm,0.4s						
PMAN	**Manadas**	**5.05**	**40**	*e*P	**Pn**	**10 45 34.6**	**+0.7**
PMAN				*e*S	**Sn**	**10 46 31.6**	**-0.7**
PMAN				A	A	10 46 36.6	
	47nm,0.2s						
PSET	**Sete Cidades**	**6.04**	**58**	*e*P	**Pn**	**10 45 48.9**	**+1.3**
PSET				*e*S	**Sn**	**10 46 56.0**	**-0.8**
PSET				A	A	10 47 00.8	
	97nm,0.3s						
PDA	**Ponta Delgada**	**6.05**	**59**	*e*P	**Pn**	**10 45 49.0**	**+1.4**
GRON	**Grota Negra**	**6.15**	**59**	*e*P	**Pn**	**10 45 51.5**	**+2.4**
PSMA	**Santa Maria**	**6.15**	**67**	*e*P	**Pn**	**10 45 49.4**	**+0.3**
PSMA				*e*S	**Sn**	**10 46 57.7**	**-1.7**
PSMA				A	A	10 46 59.5	
	52nm,0.1s						
PSMN	**Pico do Norte,**	**6.20**	**67**	*e*P	**Pn**	**10 45 49.9**	**+0.1**
PSMN				*e*S	**Sn**	**10 46 58.7**	**-2.0**
BART	**Pico Bartolome**	**6.41**	**61**	*e*P	**Pn**	**10 45 53.9**	**+1.1**
BART				*e*S	**Sn**	**10 47 05.3**	**-0.8**
BART				A	A	10 47 06.8	
	19nm,0.2s						
ESDC	**Sonseca Array**	**22.96**	**69**	P	**P**	**10 49 24.1**	**+1.3**
	0.4nm,0.4s,baz=281,slow=11,SNR=4.0						
MDT	**Midelt**	**23.00**	**87**	P	**P**	**10 49 25.7**	**+2.5**
	2.3nm,0.9s,baz=299,slow=12,SNR=4.1						
KEST	**Kesra**	**33.76**	**76**	LR	LR	11 02 46.5	
	comp=Z,32nm,19.4s,baz=276,slow=32						
GERES	**GERESS Array B**	**36.41**	**53**	P	**P**	**10 51 21.8**	**-1.1**
	0.3nm,0.2s,baz=278,slow=9.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**37.48**	**117**	P	**P**	**10 51 32.1**	**0.0**
	0.7nm,0.7s,baz=312,slow=6.1,SNR=7.0						
FINES	**FINESS Array B**	**45.07**	**35**	P	**P**	**10 52 32.9**	**-1.1**
	1.6nm,0.8s,baz=254,slow=12,SNR=4.1						
AKASG	**Malin Array Be**	**46.47**	**50**	P	**P**	**10 52 45.0**	**-0.2**
	0.5nm,0.3s,baz=273,slow=6.9,SNR=5.0						
ROSC	**El Rosal**	**49.01**	**242**	LR	LR	11 12 05.5	
	comp=Z,19nm,18.2s,baz=315,slow=34						
BRTR	**Keskin Array B**	**51.59**	**64**	P	**P**	**10 53 26.0**	**+1.2**
	1.4nm,0.7s,baz=302,slow=5.7,SNR=5.5						
BRTR				LR	LR	11 15 08.9	
	comp=Z,37nm,20.2s,baz=324,slow=36						
YKA	**Yellowknife Ar**	**56.36**	**326**	P	P	10 53 54.0	-5.1
	0.6nm,0.6s,baz=78,slow=6.6,SNR=5.0						
KBZ	**Khabaz**	**56.99**	**57**	P	**P**	**10 54 05.9**	**+2.0**
	3.5nm,0.9s,baz=326,slow=24,SNR=5.2						
TXAR	**Lajitas Array**	**59.63**	**286**	P	P	10 54 15.3	-7.4
	0.4nm,0.7s,baz=81,slow=7.7,SNR=6.1						
ATAH	**Atahualpa**	**60.31**	**236**	LR	LR	11 18 15.8	
	comp=Z,39nm,18.4s,baz=296,slow=34						
AKTO	**Aktyubinsk**	**64.23**	**45**	P	**P**	**10 54 52.5**	**-0.7**
	0.3nm,0.4s,baz=285,slow=12,SNR=3.9						
MKAR	**Makanchi Array**	**79.72**	**39**	P	**P**	**10 56 24.6**	**-1.6**
	0.5nm,0.7s,baz=282,slow=5.7,SNR=4.4						
YAK	**Yakutsk**	**82.38**	**8**	LR	LR	11 29 05.8	
	comp=Z,254nm,20.1s,baz=164,slow=33						

*MAN **07** 10:46:40, 12°.30N×120°.44E, h1km, mb4.8, ML3.7, MS3.7*

*IDC **07** 10:46:42.9±1.2, 12°.33N×121°.30E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/39, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/23, Error ellipse: s-maj=98.0km s-min=13.2km az=75.0*

*ISCJB **07** 10:46:43.2±0.7, 12°.34N±0°.04×120°.56E±0°.06, h25km, mb3.4/3, MS3.1/1, Error ellipse: s-maj=8.4km s-min=5.9km az=176.1*

ISC 07 10:46:43.5±1.0**, 12°.34N**±0°.04×**120°.65E**±0°.07**, h25**km**, n12, σ1ˢ17**/14**, mb3.2**/3**, 3D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.47**	**75**	*e*P	**Pb**	**10 46 53.7**	**+0.4**
SJMP				*e*S	**Sn**	**10 47 01.9**	**-0.3**
PGP	**Puerto Galera**	**1.19**	**14**⇓	*e*P	**Pn**	**10 47 03.5**	**-1.1**
LUBP	**Lubang**	**1.44**	**344**	*e*P	**Pn**	**10 47 07.6**	**-0.4**
LUBP				*e*S	**Sn**	**10 47 25.4**	**-0.8**
CUYO	**Cuyo Island**	**1.52**	**166**	*e*P	**Pn**	**10 47 09.4**	**+0.2**
CUYO				*e*S	**Sb**	**10 47 29.1**	**-0.9**
ENPP	**El Nido**	**1.65**	**227**	*e*P	**Pn**	**10 47 10.7**	**-0.1**
TGY	**Tagaytay City**	**1.77**	**9**	Pn	**Pb**	**10 47 15.7**	**+0.3**
	84nm,0.3s,baz=203,slow=3.0,SNR=9.7						
TGY				Lg	Lg	10 47 39.5	
	172nm,0.3s,baz=113,slow=23,SNR=9.9						
TGY				LR	LR	10 48 14.0	
	comp=Z,5.3nm,21.6s,baz=330,slow=51						
RCP	**Roxas**	**2.19**	**111**⇓	*e*P	**Pb**	**10 47 21.3**	**-1.1**
GQP	**Guinayangan**	**2.34**	**48**⇓	*e*P	**Pb**	**10 47 23.2**	**-1.8**
GQP				*e*S	**Sb**	**10 47 55.7**	**+2.2**
LEM	**Lembang**	**23.03**	**215**	LR	LR	11 01 27.3	
	comp=Z,72nm,20.7s,baz=219,slow=38						
WRA	**Warramunga Arr**	**34.79**	**157**	P	**P**	**10 53 32.9**	**+0.5**
	1.0nm,0.7s,baz=336,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**38.06**	**160**	P	**P**	**10 54 01.6**	**+1.4**
	0.2nm,0.5s,baz=338,slow=6.7,SNR=6.2						
MKAR	**Makanchi Array**	**47.10**	**324**	P	P	10 55 19.5	+6.0
	0.2nm,0.7s,baz=119,slow=8.9,SNR=3.2						

*NEIC **07** 10:54:43.7, 17°.08N×101°.15W, h16km, MD4.0(MEX), After MEX.*

MEX 07 10:54:43.7±0.4**, 17°.08N**×**101°.15W, h16**km±9km**, MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.61**	**330**	*e*P	Pg	10 54 53.5	-2.2
ZIIG				*i* S	Sg	10 55 01.5	-2.4
ZIIG	**Zihuatanejo**	**0.61**	**330**	*e*P	Pg	10 54 53.5	-2.2
ZIIG				*i* S	Sg	10 55 01.5	-2.4
CAIG	**El Cayaco**	**0.84**	**92**	*i* P	Pb	10 54 56.8	-3.1
CAIG				*e*S	Sb	10 55 06.8	-4.3
CAIG	**El Cayaco**	**0.84**	**92**	*i* P	Pb	10 54 56.8	-3.1
CAIG				*e*S	Sb	10 55 06.8	-4.3
ACX	**Acapulco**	**1.25**	**99**	*i* P	Pb	10 55 06.8	-0.1
ACX				*i* S	Sb	10 55 21.9	-1.0
ACX	**Acapulco**	**1.25**	**99**	*i* P	Pb	10 55 06.8	-0.1
ACX				*i* S	Sb	10 55 21.9	-1.0
ARIG	**Puente Sto Nin**	**1.42**	**32**	*i* P	Pn	10 55 05.0	-3.9
ARIG				*e*S	Sn	10 55 21.7	-5.7
MEIG	**Mezcala**	**1.69**	**60**	*i* P	Pn	10 55 09.5	-3.2
MEIG				*e*S	Sn	10 55 29.7	-4.3
MEIG	**Mezcala**	**1.69**	**60**	*i* P	Pn	10 55 09.5	-3.2
MEIG				*e*S	Sn	10 55 29.7	-4.3
PLIG	**Platanillo**	**2.04**	**50**	*i* P	Pn	10 55 14.3	-3.3
PLIG				*e*S	Sn	10 55 38.2	-4.6
PLIG	**Platanillo**	**2.04**	**50**	*i* P	Pn	10 55 14.3	-3.3
PLIG				*e*S	Sn	10 55 38.2	-4.6
TLIG	**Tlapa**	**2.51**	**78**	*i* P	Pn	10 55 21.3	-2.8
TLIG				*i* S	Sn	10 55 49.1	-5.4

IDC 07 10:57:35.8±55.0**, 23°.38S**×**178°.48W, h0**km**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.6**/34**, mbtmp3.8**/3**, Error ellipse: s-maj=1006.0km s-min=157.0km az=87.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.21**	**248**	P	P	11 04 38.7	-1.7
	1.9nm,1.0s,baz=94,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**43.50**	**260**	P	P	11 05 41.2	-0.1
	0.4nm,0.4s,baz=93,slow=7.4,SNR=30						
WRA	**Warramunga Arr**	**43.84**	**265**	P	P	11 05 45.0	+0.9
	0.6nm,0.3s,baz=99,slow=7.5,SNR=36						

*NIED **07** 11:07:00, 29°.90N×131°.30E, h26km, Mw4.9 Best double couple: M₀2.18000×10[16] NP1:φs236.00000°, δ32.00000°, λ127.00000°. NP2:φs14.00000°, δ65.00000°, λ69.00000°.*

*MOS **07** 11:07:21.8±1.1, 29°.97N×131°.03E, h38km, mb4.9/24, Error ellipse: s-maj=9.7km s-min=5.8km az=102.3*

*BJI **07** 11:07:21.5, 29°.92N×131°.13E, h34km, mb4.5/45, mB4.7/35, Ms4.6/53, Ms7 4.6/51*

*JMA **07** 11:07:21.2±0.2, 29°.94N×131°.26E, h28km±2km, M4.4*

*ISCJB **07** 11:07:23.4±0.4, 30°.00N±0°.02×131°.08E±0°.03, h47km±3km, mb4.5/65, MS4.3/25, Error ellipse: s-maj=5.0km s-min=3.0km az=35.6*

*IDC **07** 11:07:23.6±1.6, 30°.02N×131°.07E, h40km±13km, mb4.0/22, mb1 4.1/28, mb1mx4.1/42, mbtmp4.2/28, ML3.4/5, MS4.2/23, Ms1 4.2/23, ms1mx4.0/34, Error ellipse: s-maj=15.5km s-min=8.1km az=106.0*

*NEIC **07** 11:07:23.1±1.8, 30°.01N×130°.96E, h29km±12km, mb4.7/33, MW4.8(NIED), Error ellipse: s-maj=8.1km s-min=5.2km az=142.0*

ISC 07 11:07:23.3±0.5**, 29°.99N**±0°.03×**131°.06E**±0°.04**, h32**km±2km**, h32**km**:pP-P, n196, σ1ˢ70**/228**, mb4.6**/65**, MS4.3**/25**, 11C-4D, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAK	**Yakushimahirau**	**0.54**	**298**	P	**Pn**	**11 07 34.6**	**-0.1**
JYAK				S	**Sn**	**11 07 44.8**	**+2.1**
JTN	**Tanegashima 3**	**0.67**	**354**	P	**Pb**	**11 07 35.5**	**-1.1**
JTN				S	**Sn**	**11 07 45.9**	**-0.1**
JKC	**Kuchinoerabu**	**0.89**	**303**	P	**Pb**	**11 07 40.6**	**+0.4**
JKC				S	**Sn**	**11 07 54.8**	**+3.6**
JNN	**Nakanoshima**	**1.04**	**262**	P	**Pb**	**11 07 43.3**	**+0.5**
JNN				S	**Sb**	**11 07 57.4**	**+1.3**
JTSR	**Tashiro 2**	**1.18**	**354**	P	**Pn**	**11 07 43.2**	**-0.4**
JTSR				S	**Sb**	**11 07 58.8**	**-1.4**
JNAR	**Kushima--Naru**	**1.55**	**7**	P	**Pn**	**11 07 48.2**	**-0.4**
JNAR				S	**Sn**	**11 08 07.5**	**-0.1**
JSU	**Suzuyama**	**1.60**	**341**	P	**Pn**	**11 07 49.2**	**-0.2**
JSU				S	**Sb**	**11 08 12.1**	**-0.1**
JTAJ	**Takarajima**	**1.82**	**243**	P	**Pb**	**11 07 54.4**	**-1.5**
JTZ	**Takazaki**	**1.91**	**1**	P	**Pn**	**11 07 53.5**	**-0.1**
JTZ				S	**Sn**	**11 08 17.2**	**+0.7**
JZK	**Kikaishima**	**1.92**	**210**	P	**Pb**	**11 07 55.3**	**-2.3**
JZK				S	**Sn**	**11 08 16.6**	**-0.1**
JAM	**Amami Oshima**	**2.02**	**219**	P	**Pn**	**11 07 56.0**	**+0.9**
JAM				S	**Sb**	**11 08 21.7**	**-2.4**
JSJ	**Shimokoshiki**	**2.04**	**326**	P	**Pn**	**11 07 54.7**	**-0.8**
JSJ				S	**Sb**	**11 08 21.2**	**-3.6**
JZO	**Okuchi**	**2.18**	**350**	P	**Pn**	**11 07 57.4**	**0.0**
JNU	**Nakatsue**	**3.13**	**357**	P	**Pn**	**11 08 10.4**	**-0.1**
	21nm,0.3s,baz=202,slow=1.2,SNR=94						
JNU				S	**Sn**	**11 08 45.7**	**-1.0**
	10nm,0.3s,baz=227,slow=19,SNR=4.2						
JNU	**Nakatsue**	**3.13**	**357**	*e*Pn	**Pn**	**11 08 09.9**	**-0.5**
JNU				S	**Sn**	**11 08 45.7**	**-1.0**
JOW	**Kunigami**	**3.98**	**219**	P	**Pn**	**11 08 22.8**	**+0.6**
	1.6nm,0.3s,baz=88,slow=26,SNR=61						
JOW				S	**Sn**	**11 09 08.5**	**+0.7**
	4.3nm,0.3s,baz=142,slow=28,SNR=18						
KSJDO	**Jindo**	**6.01**	**319**	P	Pn	11 08 54.0	+4.0
	SNR=8.4						
KSJEU	**Jeongeup**	**6.50**	**329**	P	Pn	11 09 00.3	+3.6
	SNR=6.4						
KSCPR	**CHUPUNGNYEONG**	**6.74**	**338**	P	Pn	11 09 03.0	+3.0
	SNR=9.3						
KSBON	**Boeun**	**7.05**	**338**	P	Pn	11 09 07.5	+3.3
	SNR=7.0						
TJN	**Taejon**	**7.09**	**335**⇓	*i*P	**Pn**	**11 09 06.4**	**+1.7**
KSTBA	**Taebaek**	**7.33**	**347**	P	**Pn**	**11 09 10.8**	**+2.6**
	SNR=9.1						
KSCHJ	**Chungju**	**7.34**	**340**	P	Pn	11 09 10.7	+2.6
	SNR=6.5						
KSCEA	**Cheonan**	**7.52**	**336**	P	**Pn**	**11 09 12.8**	**+2.0**
	SNR=7.2						
KSSES	**Seosan**	**7.80**	**332**	P	Pn	11 09 18.3	+3.8
	SNR=6.3						
KSAR	**Wonju Array Be**	**7.89**	**341**	P	**Pn**	**11 09 17.2**	**+1.4**
KSAR	**Wonju Array Be**	**7.89**	**341**	P	**Pn**	**11 09 17.2**	**+1.4**
KSICN	**Icheon**	**7.89**	**338**	P	Pn	11 09 18.4	+2.6
	SNR=8.8						
KSRS	**Korea Array**	**7.89**	**342**	P	**Pn**	**11 09 17.2**	**+1.4**
	0.7nm,0.3s,baz=159,slow=15,SNR=58						
KSRS	**Korea Array**	**7.89**	**342**	P	**Pn**	**11 09 17.2**	**+1.4**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSJMJ	**Jumunjin**	**8.11**	**347**	P	Pn	11 09 21.6	+2.9
	SNR=7.6						
KSSKC	**Sokcho**	**8.55**	**346**	P	Pn	11 09 27.6	+2.9
	SNR=5.9						
SSE	**Sheshan**	**8.59**	**280**	P	**Pn**	**11 09 23.2**	**-2.1**
SSE				S	**Sn**	**11 10 59.3**	**-1.7**
SSE				PMZ			
	comp=Z,53nm,0.8s						
SSE				PMZ			
	comp=Z,270nm,11.8s						
SSE				LN			
	comp=Z,1μm,12.3s						
SSE				LE			
	comp=Z,2μm,12.3s						
SSE				LZ			
	comp=Z,3μm,13.2s						
KSGAH	**Ganghwa**	**8.60**	**335**	P	Pn	11 09 28.6	+3.0
	SNR=12						
MAJO	**Matsushiro**	**8.86**	**41**	*e*P	**Pn**	**11 09 31.6**	**+2.5**
MAJO	**Matsushiro**	**8.86**	**41**	*e*Pn	**Pn**	**11 09 28.9**	**-0.3**
MAT	**Matsushiro**	**8.86**	**41**	P	**Pn**	**11 09 28.5**	**-0.6**
MAT				S	**Sn**	**11 11 09.8**	**+1.9**
MJAR	**Matsushiro Arr**	**8.86**	**41**	P	**Pn**	**11 09 30.1**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=215,slow=15,SNR=13						
YHNB	**Yeheng**	**10.11**	**241**	Pn	**Pn**	**11 09 44.9**	**-1.4**
	comp=Z,25nm,1.1s						
JCJ	**Chichijima**	**10.20**	**104**	LR	LR	11 13 07.4	
	comp=Z,547nm,21.4s,baz=240,slow=34						
NJ2	**Nanjing**	**10.67**	**284**	*e*P	**Pn**	**11 09 53.4**	**-0.5**
NJ2				S	**Sn**	**11 11 50.5**	**-1.8**
NJ2				LN			
	comp=Z,4μm,13.7s						
NJ2				LE			
	comp=Z,4μm,14.3s						
NJ2				LZ			
	comp=Z,4μm,12.2s						
QZH	**Quanzhou**	**12.15**	**249**	P	Pn	11 10 17.8	+3.6
QZH				*e*S	**Sn**	**11 12 31.9**	**+3.3**
QZH				LN			
	comp=Z,2μm,10.0s						
QZH				LE			
	comp=Z,2μm,15.2s						
QZH				LZ			
	comp=Z,2μm,16.5s						
TIA	**Tai'an**	**13.22**	**302**	*e*P	**Pn**	**11 10 30.3**	**+1.5**
TIA				PMZ			
	comp=Z,10.0nm,1.0s						
TIA				LN			
	comp=Z,1μm,13.0s						
TIA				LE			
	comp=Z,3μm,15.0s						
TIA				LZ			
	comp=Z,3μm,14.0s						
USRK	**Ussuriysk Ar.**	**14.21**	**3**	P	**Pn**	**11 10 43.3**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=182,slow=10,SNR=4.4						
USRK				LR	LR	11 16 12.8	
	comp=Z,654nm,21.0s,baz=172,slow=37						
WHN	**Wuhan**	**14.45**	**276**	P	**P**	**11 10 49.4**	**-2.5**
WHN				S	**Sn**	**11 13 26.4**	**+1.7**
WHN				LN			
	comp=Z,970nm,11.7s						
WHN				LE			
	comp=Z,3μm,14.3s						
WHN				LZ			
	comp=Z,4μm,12.0s						
MDJ	**Mudanjiang**	**14.65**	**356**	P	**Pn**	**11 10 49.4**	**+1.2**
MDJ				S	**Sn**	**11 13 31.1**	**+1.7**
MDJ				PcP	**PcP**	**11 16 01.5**	**+1.7**
MDJ				PcS	**PcS**	**11 19 36.6**	**+1.9**
MDJ				PMZ			
	comp=Z,2.0nm,0.4s						
MDJ				PMZ			
	comp=Z,160nm,9.0s						
MDJ				LN			
	comp=Z,680nm,17.9s						
MDJ				LE			
	comp=Z,620nm,13.8s						
MDJ				LZ			
	comp=Z,870nm,17.9s						
BJI	**Beijing**	**15.77**	**313**	P	**P**	**11 11 06.1**	**-0.4**
BJI				S	**Sn**	**11 13 54.4**	**-2.2**
BJI				PMZ			
	comp=Z,17nm,0.8s						
BJI				PMZ			
	comp=Z,160nm,4.3s						
BJI				LN			
	comp=Z,2μm,16.3s						
BJI				LE			
	comp=Z,2μm,13.2s						
BJI				LZ			
	comp=Z,1μm,15.1s						
ASAJ	**Asahikawa**	**16.82**	**30**	P	**Pn**	**11 11 16.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=169,slow=5.2,SNR=5.8						
ASAJ				LR	LR	11 18 11.1	
	comp=Z,753nm,19.9s,baz=262,slow=39						
ENH	**Enshi**	**18.66**	**276**	*e*Pn	**Pn**	**11 11 39.4**	**+0.3**
HABR	**Khabarovsk**	**18.71**	**8**	*ce*P	**P**	**11 11 37.4**	**-1.6**
HABR				*e*S	**Sn**	**11 15 06.7**	**-1.1**
HABR				pmax	pmax		
	comp=Z,41nm,1.5s						
HABR				MLR	MLR		
	comp=Z,549nm,15.0s						
HHC	**Hu-ho-hao-te**	**19.19**	**310**	*e*P	**Pn**	**11 11 44.7**	**-0.8**
HHC				pP	**pP**	**11 11 52.1**	**-0.9**
HHC				PP	**PnPn**	**11 12 02.1**	**+3.5**
HHC				S	Sn	11 15 12.5	-7.2
HHC				SS	**SnSn**	**11 15 38.1**	**+4.2**
HHC				PMZ			
	comp=Z,13nm,0.5s						
HHC				PMZ			
	comp=Z,210nm,3.9s						
HHC				LN			
	comp=Z,1μm,9.8s						
HHC				LE			
	comp=Z,1μm,10.0s						
HHC				LZ			
	comp=Z,2μm,9.8s						
XAN	**Xi'an**	**19.20**	**288**	P	**Pn**	**11 11 44.4**	**-1.2**
XAN				S	Sn	11 15 09.1	-11
XAN				LN			
	comp=Z,820nm,14.6s						
XAN				LE			
	comp=Z,320nm,16.3s						
XAN				LZ			
	comp=Z,330nm,13.2s						
YSS	**Yuzh-Sakhalins**	**19.22**	**25**	*e*P	**P**	**11 11 45.0**	**+0.5**
YSS				*e*S	Sn	11 15 10.0	-10
YSS				MLR	MLR		
	comp=N,500nm,15.0s						
YSS				MLR	MLR		
	comp=E,500nm,15.0s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						

YSS Yuzh-Sakhalins 19.22 25 eP P 11 11 43.2 -1.4
KLR Kul'dur 19.23 1 eP P 11 11 39.2 -5.4
KLR pmax pmax
comp=Z,50nm,1.8s
KLR MLR MLR
comp=Z,1μm,12.0s
KLR MLR MLR
comp=E,1.0nm,12.0s
BTO Baotou 20.13 307 eP Pn 11 11 57.2 +0.5
GUMO Guam 20.72 139 LR LR 11 18 39.3
comp=E,199nm,18.0s,baz=346,slow=33
GYA Guiyang 21.77 267⇑iP P 11 12 13.4 +0.9
GYA pP pP 11 12 22.5 +1.4
GYA sP sP 11 12 27.8 +2.6
GYA PP PnPn 11 12 39.0 +5.0
GYA S S 11 16 05.6 -6.1
GYA sS sS 11 16 22.7 -2.8
GYA SS SnSn 11 16 41.9 +4.6
GYA PMZ
comp=E,30nm,0.9s
GYA PMZ
comp=E,120nm,4.8s
GYA LN
comp=E,620nm,15.6s
GYA LE
comp=E,580nm,16.0s
GYA LZ
comp=E,650nm,15.8s
QIZ Qiongzhong 22.13 245 P P 11 12 17.0 +0.7
QIZ S S 11 16 19.8 +1.3
QIZ LN
comp=E,680nm,20.3s
QIZ LZ
comp=E,1μm,19.7s
CD2 Chengdu 23.54 279 P P 11 12 30.5 -0.3
CD2 pP pP 11 12 39.9 +0.1
CD2 sP sP 11 12 44.4 +0.6
CD2 PcP PcP 11 16 16.6 +0.9
CD2 S S 11 16 41.7 -1.0
CD2 sS sS 11 16 57.7 -0.4
CD2 PMZ
comp=E,50nm,0.8s
CD2 PMZ
comp=E,220nm,5.0s
CD2 LN
comp=E,1μm,14.1s
CD2 LE
comp=E,1μm,12.3s
CD2 LZ
comp=E,2μm,12.5s
LZH Lanzhou 23.57 292 eP P 11 12 31.5 +0.3
LZH pP pP 11 12 41.0 +0.8
LZH sP sP 11 12 45.2 +1.0
LZH ePP PnPn 11 13 03.7 +5.1
LZH eS S 11 16 37.0 -6.4
LZH sS sS 11 16 53.7 -5.1
LZH SS SnSn 11 17 26.5 +5.2
LZH PMZ
comp=E,41nm,1.3s
LZH PMZ
comp=E,160nm,5.0s
LZH LN
comp=E,790nm,12.8s
LZH LE
comp=E,1μm,12.9s
LZH LZ
comp=E,2μm,14.7s
NKL Nikolayevsk 24.20 14 eP P 11 12 45.0 +8.4
NKL pmax pmax
comp=Z,17nm,0.9s
NKL MLR MLR
comp=N,1μm,17.0s
NKL MLR MLR
comp=Z,1μm,17.0s
NKL MLR MLR
comp=E,500nm,13.0s
KMI Kunming 25.54 266 P P 11 12 50.8 +1.4
KMI S S 11 17 12.6 -2.6
KMI PMZ
comp=E,15nm,0.8s
KMI LN
comp=E,780nm,15.8s
KMI LE
comp=E,710nm,13.9s
KMI LZ
comp=E,910nm,13.3s
SONM Songino Array 26.02 320 P P 11 12 51.1 -2.3
comp=E,2.8nm,0.5s,baz=146,slow=9.0,SNR=7.1
SONM LR LR 11 24 25.3
comp=E,896nm,18.7s,baz=106,slow=39
GTA Gaotai 27.24 299 eP P 11 13 10.6 +6.0
GTA pP pP 11 13 20.0 +6.1
GTA sP sP 11 13 23.9 +6.1
GTA PMZ
comp=E,5.0nm,1.4s
GTA PMZ
comp=E,78nm,6.1s
GTA LN
comp=E,660nm,16.6s
GTA LE
comp=E,1μm,15.2s
GTA LZ
comp=E,1μm,14.3s
ZAK Zakamensk 29.14 322 eP P 11 13 19.6 -1.8
ZAK pmax pmax
comp=Z,4.0nm,1.6s
TLY Talaya 29.70 325 eP P 11 13 26.3 +0.1
TLY pmax pmax
comp=Z,8.0nm,1.6s
TLY MLR MLR
comp=Z,710nm,15.0s
PETK Petropavlovsk- 30.20 33 P P 11 13 28.5 -2.1
comp=Z,7.6nm,1.0s,baz=205,slow=6.6,SNR=5.3
PETK LR LR 11 27 06.5
comp=Z,267nm,18.3s,baz=226,slow=39
PET Petropavlovsk 30.60 33 eP P 11 13 38.3 +4.2
PET eS S 11 18 33.9 0.0
PET MLR MLR
comp=Z,400nm,19.0s
CHTO Chiang Mai 31.19 257 eP P 11 13 39.2 -0.5
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 31.19 257 eP P 11 13 39.2 -0.5
comp=Z,7.6nm,0.8s
CMAR Chiang Mai Arr 31.35 256 P P 11 13 40.2 -0.9
comp=Z,2.0nm,0.7s,baz=49,slow=7.7,SNR=9.5
CMAR PcP PcP 11 16 34.9 +0.3
comp=Z,0.7nm,0.6s,baz=51,slow=2.2,SNR=4.8
CMAR LR LR 11 28 23.5
comp=Z,679nm,18.4s,baz=68,slow=40
SBUM Sibu 32.70 217 eP P 11 13 53.6 +0.7
comp=Z,7.9nm,0.9s
H11N2 WAKE ISLAND Hy 33.96 99 T T 11 50 07.2
baz=296,slow=75,SNR=83
H11N1 WAKE ISLAND Hy 33.96 99 T T 11 50 07.2
baz=296,slow=75,SNR=35
H11N3 WAKE ISLAND Hy 33.98 99 T T 11 50 08.5
baz=296,slow=75,SNR=61
H11S3 WAKE ISLAND Hy 34.31 101 T T 11 51 29.4
baz=142,slow=74,SNR=9.4
H11S1 WAKE ISLAND Hy 34.31 101 T T 11 51 12.9
baz=303,slow=74,SNR=7.4
SEY Seymchan 35.72 17 ⇑P P 11 14 20.1 +1.5
TAPN Taplejung 37.96 277 eP P 11 14 38.5 0.0
comp=Z,19nm,1.0s
ODAN Odare 38.36 276 eP P 11 14 41.8 0.0
comp=Z,46nm,0.9s
RAMN Ramite 39.02 277 eP P 11 14 47.5 +0.2
JIRN Jiri 39.19 278 eP P 11 14 49.3 +0.4
comp=Z,27nm,0.8s
GUN Gumba 39.40 278 eP P 11 14 50.9 +0.3
comp=Z,102nm,0.8s
PKI Pulchoki 39.88 278 eP P 11 14 54.5 -0.1
comp=Z,52nm,1.0s
PKIN Phulchoki 39.89 278 eP P 11 14 55.1 +0.5
KKN Kakani 39.94 279 eP P 11 14 55.0 0.0
DMN Daman 40.14 278 eP P 11 14 56.8 +0.2
GKN Gorkha 40.44 279 eP P 11 14 58.9 -0.1
ZAA0 Zalesovo Array 40.91 319 eP P 11 15 01.4 -1.0
ZALV Zalesovo Beam 40.91 319 P P 11 15 01.4 -0.9
comp=Z,0.6nm,0.3s,baz=121,slow=7.6,SNR=7.8
ZALV PcP PcP 11 17 02.2 -0.2
comp=Z,3.3nm,0.8s,baz=94,slow=4.5,SNR=6.7
ZALV LR LR 11 33 18.2
comp=Z,444nm,19.4s,baz=68,slow=38
MK31 Makanchi Array 41.04 308 eP P 11 15 03.3 -0.3
MK31 Makanchi Array 41.04 308 eP P 11 15 03.3 -0.3
MKAR Makanchi Array 41.04 308 P P 11 15 03.3 -0.3
comp=Z,4.3nm,0.9s,baz=94,slow=11,SNR=28
MKAR PcP PcP 11 17 03.4 +0.3
comp=Z,1.6nm,0.8s,baz=85,slow=2.9,SNR=5.9
MKAR LR LR 11 32 52.2
comp=Z,325nm,19.6s,baz=84,slow=37
KOLN Koldanda 41.39 279 eP P 11 15 06.2 -0.7
TIXI Tiksi 41.73 359 ceP P 11 15 08.4 -0.4
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 41.73 359 eP P 11 15 08.6 -0.2
comp=Z,7.5nm,1.2s
KURK Kurchatov 43.94 313 P P 11 15 25.6 -1.5
KURK pmax pmax
comp=Z,6.0nm,1.1s
KURK Kurchatov 43.94 313 eP P 11 15 25.5 -1.5
comp=Z,11nm,1.1s
KSH Kashi 45.63 297 P P 11 15 45.0 +4.1
KSH epP pP 11 15 54.9 +4.4
KSH PcP PcP 11 17 23.7 +4.9
KSH PP PP 11 17 34.6 +6.7
KSH PcS PcS 11 21 16.1 +3.1
KSH S S 11 22 25.6 +4.0
KSH sS sS 11 22 42.6 +5.2
KSH PMZ
comp=Z,5.0nm,0.7s
KSH PMZ
comp=Z,69nm,4.4s
KSH LN
comp=Z,380nm,11.6s
KSH LE
comp=Z,260nm,11.3s
KSH LZ
comp=Z,520nm,15.4s
TKM2 Tokmak 2 45.67 302 P P 11 15 41.7 +0.4
SNR=17
TKM2 Tokmak 2 45.67 302 P P 11 15 41.6 +0.3
TKM2 pmax pmax
comp=Z,11nm,1.0s
TKM2 Tokmak 2 45.67 302 eP P 11 15 41.5 +0.2
comp=Z,23nm,0.9s
KZA Kyzart 45.98 301 P P 11 15 45.2 +1.3
SNR=11
KBK Karagaybulak 46.16 302 P P 11 15 46.0 +1.0
SNR=6.5
CHMS Chumysh 46.29 302 P P 11 15 46.5 +0.6
SNR=6.4
USP Ospenovka 46.46 303 P P 11 15 47.4 +0.1
SNR=6.2
AAK Ala-Archa 46.50 302 P P 11 15 48.2 +0.5
SNR=5.7
AAK Ala-Archa 46.50 302 P P 11 15 47.9 +0.2
AAK pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 46.50 302 eP P 11 15 47.4 -0.3
comp=Z,4.9nm,0.8s
UCH Uchtor 46.51 301 P P 11 15 49.2 +1.1
SNR=30
AML Almayashu 47.13 301 P P 11 15 54.1 +1.2
SNR=6.1
BVA0 Borovoye Array 49.23 316 i P P 11 16 07.6 -0.9
BVA0 pmax pmax
comp=Z,14nm,0.9s
BVAR Borovoye Array 49.23 316 P P 11 16 08.2 -0.3
comp=Z,7.9nm,0.6s,baz=94,slow=9.4,SNR=48
BRVK Borovoye 49.30 316 eP P 11 16 08.9 -0.1
BRVK pmax pmax
comp=Z,15nm,0.7s
BRVK Borovoye 49.30 316 eP P 11 16 08.9 -0.1
comp=Z,15nm,0.7s
WRA Warramunga Arr 49.74 176 P P 11 16 12.3 -0.3
comp=Z,3.0nm,1.1s,baz=358,slow=8.8,SNR=6.9
DZET Dzherino 51.23 298 P P 11 16 23.9 -0.1
DZET pmax pmax
comp=Z,30nm,0.8s
KBL Kabul 51.92 292 eP P 11 16 28.9 -0.5
KBL Kabul 51.92 292 eP P 11 16 28.9 -0.5
ASAR Alice Springs 53.41 177 P P 11 16 39.8 -0.4
comp=Z,1.6nm,0.9s,baz=354,slow=5.8,SNR=12
ASAR LR LR 11 39 33.0
comp=Z,61nm,19.6s,baz=283,slow=36
AB31 Akbulak array 55.97 312 i P P 11 16 57.8 -0.6
AB31 pmax pmax
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 55.97 312 eP P 11 16 58.2 -0.1
ARU Arti 56.05 320 d iP P 11 16 57.2 -1.7
ARU 11 18 59.9
ARU S S 11 24 43.0 -2.1
ARU SS SS 11 28 25.6 -5.5
ARU pmax pmax
comp=Z,26nm,1.7s
ARU MLR MLR
comp=Z,1μm,17.0s
ARU Arti 56.05 320 eP P 11 16 58.4 -0.5
comp=Z,29nm,1.4s
IM04 Indian Mountai 57.00 28 eP P 11 17 05.6 +0.1
AKTO Aktyubinsk 57.04 313 P P 11 17 04.7 -1.3
comp=Z,3.5nm,0.9s,baz=82,slow=14,SNR=7.5
AKTO LR LR 11 42 59.5
comp=Z,513nm,21.3s,baz=83,slow=38
KDAK Kodiak Island 58.03 38 ceP P 11 17 12.8 0.0
BPAW Bear Paw Mtn. 58.25 30 eP P 11 17 15.5 +1.2
comp=Z,2.0nm,1.5s
KTH Kantishna Hill 58.31 31 eP P 11 17 16.2 +1.4
comp=Z,19nm,1.5s
COLD Coldfoot 58.40 27 eP P 11 17 16.9 +1.6
comp=Z,15nm,1.8s
MCK McKinley 59.18 31 eP P 11 17 21.8 +1.0
MCK e*PP pP 11 17 34.0 +3.3
MCK pmax pmax
comp=Z,6.0nm,1.0s
MCK McKinley 59.18 31 eP P 11 17 21.8 +1.0
comp=Z,5.7nm,1.0s
MCK epP pP 11 17 34.0 +3.3
ILAR Eielson Array 59.95 29 P P 11 17 25.1 -0.9
comp=Z,0.6nm,0.7s,baz=275,slow=5.5,SNR=13
ILAR LR LR 11 45 12.0
comp=Z,77nm,18.1s,baz=304,slow=38
HDA Harding Lake 59.97 30 eP P 11 17 26.1 -0.1
comp=Z,6.6nm,1.0s
FYU Fort Yukon 60.41 27 eP P 11 17 31.0 +1.9
comp=Z,17nm,1.2s
PAX Paxson 60.83 31 eP P 11 17 33.3 +1.1
PAX pmax pmax
comp=Z,16nm,1.8s
PAX Paxson 60.83 31 eP P 11 17 33.3 +1.1
comp=Z,16nm,1.8s
HARP HAARP 61.07 32 eP P 11 17 34.0 +0.3
comp=Z,20nm,1.2s
HARP epP pP 11 17 45.7 +2.0
BMRM Bremner River 61.59 33 eP P 11 17 38.2 +0.9
comp=Z,22nm,1.4s
BMRM epP pP 11 17 48.8 +1.5
MENT Mentasta 61.62 31 eP P 11 17 38.1 +0.6
STKA Stephens Creek 62.33 170 P P 11 17 41.0 -1.4
comp=Z,2.4nm,1.0s,baz=44,slow=3.7,SNR=3.3
STKA LR LR 11 46 59.9
comp=Z,88nm,18.0s,baz=14,slow=38
DAWY Dawson 63.28 29 eP P 11 17 48.0 -0.6
comp=Z,5.6nm,1.2s
INK Inuvik 64.46 24 eP P 11 17 56.7 +0.5
INK pmax pmax
comp=Z,12nm,1.3s
INK Inuvik 64.46 24 eP P 11 17 56.7 +0.5
comp=Z,12nm,1.3s
HYT Haines Junctio 64.99 33 eP P 11 18 01.4 +1.4
SPITS Spitsbergen Ar 65.68 348 P P 11 18 03.3 -0.7
comp=Z,4.3nm,0.8s,baz=90,slow=9.2,SNR=6.6
ARCES ARCESS Array B 67.44 338 P P 11 18 14.5 -0.8
comp=Z,2.0nm,0.7s,baz=62,slow=8.6,SNR=5.1
ARCES LR LR 11 53 32.2
comp=Z,483nm,18.4s,baz=63,slow=41
NCK Nalchik 68.35 309 ⇓P P 11 18 22.3 +0.8
ZEI Tsey 68.39 308 eP P 11 18 19.7 -2.4
ZEI pmax pmax
comp=Z,9.0nm,0.5s
OBN Obninsk 68.41 322 LR LR 11 50 15.3
comp=Z,279nm,21.1s,baz=91,slow=38
OBN Obninsk 68.41 322⇑eP P 11 18 22.6 +1.0
OBN pmax pmax
comp=Z,11nm,1.5s
KBZ Khabaz 68.73 309 P P 11 18 24.1 +0.3
comp=Z,10nm,0.9s,baz=146,slow=24,SNR=18
GNI Garni 68.77 305⇓iP P 11 18 25.9 +1.5
GNI pmax pmax
comp=Z,13nm,1.2s
KIV Kislovodsk 68.79 309 eP P 11 18 25.3 +0.9
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,196nm,17.0s
FIA1 FINESS Array S 70.83 331 eP P 11 18 36.0 -0.4
FINES FINESS Array B 70.83 331 P P 11 18 35.0 -1.5
comp=Z,3.2nm,0.5s,baz=79,slow=5.4,SNR=20
FINES LR LR 11 53 00.4
comp=Z,388nm,18.3s,baz=44,slow=39
FINES FINESS Array B 70.83 331 ceP P 11 18 36.2 -0.3
FINES pmax pmax
comp=Z,3.0nm,0.5s
DAG Danmarks Havn 71.86 353 i P P 11 18 41.5 -0.9
DAG pmax pmax
comp=Z,12nm,1.2s
VSU Vasula 71.93 328⇑eP P 11 18 43.9 +0.8
VSU pmax pmax
comp=Z,18nm,1.0s
YKA Yellowknife Ar 74.07 26 P P 11 18 54.8 -0.9
comp=Z,1.9nm,0.8s,baz=302,slow=6.1,SNR=8.0
YKA Yellowknife Ar 74.07 26 P P 11 18 54.8 -0.9
YKA pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 74.30 320 P P 11 18 56.1 -1.2
comp=Z,0.9nm,0.4s,baz=52,slow=6.4,SNR=12
AKASG LR LR 11 53 52.0
comp=Z,171nm,18.7s,baz=45,slow=38
AKASG Malin Array Be 74.30 320 ceP P 11 18 57.5 +0.2
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 74.31 320⇑eP P 11 18 57.8 +0.4
RAYN Ar Rayn 74.99 289 eP P 11 19 02.2 +0.4
comp=Z,8.8nm,1.2s
RAYN epP PcP 11 19 13.8 -1.8
BR131 Keskin Array S 76.69 308 eP P 11 19 12.0 +0.5
comp=Z,3.7nm,0.8s
BRTR Keskin Array B 76.69 308 P P 11 19 11.3 -0.1
comp=Z,3.8nm,0.8s,baz=104,slow=5.1,SNR=16
BRTR Keskin Array B 76.69 308 ceP P 11 19 12.8 +1.3
BRTR pmax pmax
comp=Z,4.0nm,0.8s
NB2 NORSAR Subarra 77.04 334 P P 11 19 12.6 -0.3
comp=Z,1.7nm,0.6s,baz=49,slow=5.6
NOA NORSAR Array B 77.04 334 P P 11 19 10.9 -2.0
comp=Z,2.1nm,0.5s,baz=50,slow=5.6,SNR=9.2
NOA LR LR 11 58 26.3
comp=Z,110nm,18.3s,baz=55,slow=40
SUMG Summit 77.46 357 eP P 11 19 16.2 +0.7
SUMG pmax pmax
comp=Z,23nm,1.4s
SUMG Summit 77.46 357 eP P 11 19 16.2 +0.7
comp=Z,23nm,1.4s
B08A Colville Reser 79.84 40 eP P 11 19 29.5 +0.9
comp=Z,6.1nm,1.1s
EDM Edmonton 80.10 33 eP P 11 19 30.9 +1.0
EDM Edmonton 80.10 33 eP P 11 19 30.9 +1.0
BSMT Bassoo Peak 82.62 38 eP P 11 19 43.6 0.0
comp=Z,2.2nm,0.9s
SLMT Seeley Lake 83.69 38 eP P 11 19 49.2 +0.2
comp=Z,2.5nm,0.7s
GERES GERESS Array B 83.69 324 P P 11 19 48.4 -0.6
comp=Z,0.3nm,0.3s,baz=357,slow=2.7,SNR=3.7
GERES LR LR 12 01 16.1
comp=Z,295nm,18.2s,baz=46,slow=39
FFC Flin Flon 84.12 28 eP P 11 19 51.4 +0.5
FFC pmax pmax
comp=Z,6.0nm,1.0s
FFC Flin Flon 84.12 28 eP P 11 19 51.4 +0.5
comp=Z,5.9nm,1.0s
MFID Camas Ranch 84.70 42 eP P 11 19 55.5 +1.3
EGMT Eagleton 85.15 36 eP P 11 19 57.1 +0.7
comp=Z,8.9nm,1.1s
EGMT epP pP 11 20 04.7 -2.0
DLMT Dillon 85.34 39 eP P 11 19 58.5 +1.1
comp=Z,6.2nm,1.1s
HLID Hailey 85.43 42 eP P 11 19 59.5 +1.5
comp=Z,4.4nm,1.1s
NVAR Mina Array Bea 86.12 47 P P 11 20 00.8 -0.8
comp=Z,1.4nm,1.0s,baz=288,slow=4.4,SNR=8.3
H17A Grant Village 87.06 39 eP P 11 20 09.2 +3.1
comp=Z,9.4nm,1.2s
RLMT Red Lodge 87.30 38 eP P 11 20 08.6 +1.4
comp=Z,8.3nm,1.3s
FXWY Fox Creek 87.30 40 eP P 11 20 09.3 +2.1
comp=Z,6.4nm,1.4s
HWUT Hardware Ranch 88.29 42 eP P 11 20 13.6 +1.6
comp=Z,8.9nm,1.4s
PDAR Pinedale Array 88.69 40 P P 11 20 12.7 -1.1
comp=Z,1.4nm,0.8s,baz=341,slow=3.1,SNR=8.1
PPT Papeete 89.80 110 LR LR 11 59 56.8
comp=Z,58nm,18.7s,baz=338,slow=35
PV01 Paradox Valley 92.30 43 eP P 11 20 31.1 +0.3
SCHQ Schefferville 94.14 10 LR LR 12 07 19.3
comp=Z,108nm,18.8s,baz=304,slow=38
KEST Kesra 94.70 316 LR LR 12 09 30.5
comp=Z,50nm,19.7s,baz=252,slow=39
ESDC Sonseca Array 99.06 326 LR LR 12 12 12.6
comp=Z,65nm,19.1s,baz=20,slow=39

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*ISCJB **07** 11:23:52.6±1.4, 19°.72S±0°.09×68°.9W±0°.2, h105km, mb3.3/1, Error ellipse: s-maj=31.1km s-min=9.2km az=15.8*

*IDC **07** 11:23:53.6±2.2, 19°.74S×68°.93W, h110km±18km, mb3.2/3, mb1 3.3/6, mb1mx3.2/26, mbtmp3.6/6, Error ellipse: s-maj=47.5km s-min=14.3km az=104.0*

ISC 07 11:23:53.4±1.5**, 19°.72S**±0°.07×**68°.9W**±0°.2**, h105**km**, n6, σ0s.51**/7**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.88**	**179**	P	**Pn**	**11 24 38.2**	**+0.4**
	263nm,0.3s,baz=9.4,slow=11,SNR=42						
LVC				S	**Sn**	**11 25 12.5**	**+0.4**
	305nm,0.3s,baz=302,slow=4.1,SNR=6.5						
LPAZ	**La Paz**	**3.50**	**13**	P	**Pn**	**11 24 46.9**	**+0.4**
	1.7nm,0.3s,baz=185,slow=9.4,SNR=20						
SIV	**San Ignacio**	**8.36**	**65**	P	**Pn**	**11 25 51.9**	**+0.1**
	0.6nm,0.3s,baz=262,slow=11,SNR=7.4						
BDFB	**Brasilia**	**20.34**	**82**	P	**P**	**11 28 21.8**	**+0.2**
	1.1nm,0.4s,baz=256,slow=8.3,SNR=3.3						
PLCA	**Paso Flores**	**20.99**	**183**	P	**P**	**11 28 27.6**	**-0.7**
	2.2nm,1.0s,baz=2.9,slow=16,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.79**	**71**	P	**P**	**11 35 33.8**	**-0.3**
	0.2nm,0.3s,baz=251,slow=5.2,SNR=5.8						

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*IDC **07** 11:29:13.9±0.8, 79°.61N×3°.52E, h0km, mb3.8/8, mb1 4.1/14, mb1mx3.8/45, mbtmp3.9/14, ML3.3/3, MS3.3/10, Ms1 3.3/10, ms1mx3.1/39, Error ellipse: s-maj=20.7km s-min=13.9km az=56.0*

*ISCJB **07** 11:29:13.4±0.5, 79°.35N±0°.06×3°.5E±0°.2, h16km, mb3.8/9, MS3.5/4, Error ellipse: s-maj=9.4km s-min=5.0km az=28.6*

*CSEM **07** 11:29:15.1±0.2, 79°.38N×3°.18E, h20km, ML4.0, Error ellipse: s-maj=9.8km s-min=5.5km az=16.0*

*NEIC **07** 11:29:15.1±0.5, 79°.56N×3°.08E, h10km, mb4.1/1, Error ellipse: s-maj=11.1km s-min=9.4km az=220.0*

*BER **07** 11:29:16.8±3.0, 79°.70N×4°.29E, h20km±57km, MD3.1, ML3.1, ML4.0(NAO)*

*NAO **07** 11:29:18.0±6.4, 79°.76N×5°.18E, h22km±80km, ML4.0*

ISC 07 11:29:14.9±0.6**, 79°.38N**±0°.07×**3°.30E**±0°.05**, h16**km**, n58, σ2s.18**/62**, mb3.9**/9**, MS3.5**/4**, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**2.82**	**109**	Pn	**Pn**	**11 29 58.0**	**-1.3**
	baz=310,slow=11						
SPA0				Sn	**Sn**	**11 30 30.2**	**-2.7**
	baz=310,slow=28						
SPA0	**Spitsbergen Ar**	**2.82**	**109**	eP	**Pn**	**11 29 58.9**	**-0.4**
SPA0				IAML		11 30 41.3	
	comp=Z,154nm,0.7s						
SPA0	**Spitsbergen Ar**	**2.82**	**109**	Pn	**Pn**	**11 29 58.0**	**-1.3**
	SNR=999						
SPA0	**Spitsbergen Ar**	**2.82**	**109**	eP	**Pn**	**11 29 58.9**	**-0.4**
	SNR=55						
SPITS	**Spitsbergen Ar**	**2.82**	**109**	Pn	**Pn**	**11 29 58.9**	**-0.4**
	baz=315,slow=8.2						
SPITS				Sn	**Sn**	**11 30 29.4**	**-3.5**
	baz=316,slow=8.1,SNR=3.0						
SPITS				LR	LR	11 31 01.5	
	comp=Z,292nm,20.6s,baz=245,slow=38						

HSP	Hornsund	3.46	127	Pn	Pn	11 30 08.2	+0.2
HSP				Sn	Sn	11 30 47.0	-1.5
HSP	Hornsund	3.46	127	Pn	Pn	11 30 08.2	+0.2
HSP				Sn	Sn	11 30 47.0	-1.5
HSPB	Hornsund (broa	3.46	127	eP	Pn	11 30 08.3	+0.3
HSPB				eS	Sn	11 30 45.4	-3.1
HSPB				IAML		11 30 54.2	
	comp=Z,116nm,0.7s						
HSPB	Hornsund (broa	3.46	127	eP	Pn	11 30 08.3	+0.3
	SNR=55						
DAG	Danmarks Havn	5.22	251	iP	Pn	11 30 33.0	+0.9
DAG				eS	Sn	11 31 29.3	-2.5
HOPEN	Hopen	5.35	111	Pn	Pn	11 30 33.2	-0.7
HOPEN				Sn	Sn	11 31 30.1	-5.0
HOPEN	Hopen	5.35	111	eP	Pn	11 30 33.0	-0.9
HOPEN				eS	Sn	11 31 29.5	-5.6
HOPEN				IAML		11 31 34.7	
	comp=Z,38nm,0.3s						
HOPEN	Hopen	5.35	111	eP	Pn	11 30 33.0	-0.9
	SNR=53						
HOPEN	Hopen	5.35	111	Pn	Pn	11 30 33.2	-0.7
BJO	Bjornoya	6.04	136	eP	Pn	11 30 45.2	+1.8
BJO				eS	Sn	11 31 51.1	-1.1
BJO	Bjornoya	6.04	136	eP	Pn	11 30 45.2	+1.8
	SNR=53						
BJO				eS	Sn	11 31 51.1	-1.1
	SNR=53						
JMIC	Jan Mayen	8.93	206	eP	Pn	11 31 25.9	+3.0
JMIC				eS	Sn	11 32 59.9	-3.1
JMIC				IAML		11 33 06.7	
	comp=Z,29nm,0.5s						
JMIC	Jan Mayen	8.93	206	Pn	Pn	11 31 25.9	+3.0
	comp=Z,8.9nm,0.3s,baz=27,slow=2.2,SNR=14						
JMIC				Sn	Sn	11 33 01.6	-1.4
	comp=Z,10nm,0.3s,baz=140,slow=19,SNR=14						
JMIC				LR	LR	11 34 02.5	
	comp=Z,124nm,18.9s,baz=62,slow=32						
ARA0	ARCESS Array S	11.40	138	Pn	Pn	11 31 58.2	+1.4
	baz=344,slow=12						
ARA0				Sn	Sn	11 34 00.1	-3.5
	baz=352,slow=22						
ARA0	ARCESS Array S	11.40	138	Pn	Pn	11 31 58.2	+1.4
	baz=344,slow=12						
ARA0				Sn	Sn	11 34 00.1	-3.5
	baz=352,slow=22						
ARA0	ARCESS Array S	11.40	138	Pn	Pn	11 31 58.2	+1.4
	SNR=1.0						
ARCES	ARCESS Array B	11.40	138	Pn	Pn	11 31 58.1	+1.3
	comp=Z,1.0nm,0.3s,baz=341,slow=9.2,SNR=14						
ARCES				Sn	Sn	11 33 59.0	-4.5
	comp=Z,0.4nm,0.3s,baz=3.0,slow=19,SNR=4.0						
ARCES				LR	LR	11 36 04.0	
	comp=Z,130nm,21.4s,baz=278,slow=36						
SUMG	Summit	11.85	258	iP	Pn	11 32 02.3	-1.0
	comp=Z,50nm,0.9s						
SUMG	Summit	11.85	258	iP	Pn	11 32 02.3	-1.0
	comp=Z,50nm,0.9s						
SUMG	Summit	11.85	258	ePn	Pn	11 32 02.6	-0.7
	comp=Z,62nm,0.8s						
SUMG	Summit	11.85	258	ePn	Pn	11 32 02.6	-0.7
	comp=Z,62nm,0.8s						
KULLO	Kullorsuaq	13.77	282	iP	Pn	11 32 24.6	-4.5
NOA	NORSAR Array B	18.59	168	P	Pn	11 33 35.2	+4.0
	baz=352,slow=14,SNR=2.9						
NOA				LR	LR	11 39 30.0	
	comp=Z,42nm,21.7s,baz=350,slow=33						
SFJD	Kangerlussuaq	18.82	260	iP	P	11 33 31.1	-2.3
SFJD	Kangerlussuaq	18.82	260	P	P	11 33 31.9	-1.5
	comp=Z,1.2nm,0.3s,baz=29,slow=10,SNR=6.4						
SFJD				LR	LR	11 41 06.3	
	comp=Z,131nm,18.0s,baz=24,slow=38						
FIA0	FINESS Array S	19.27	146	P	Pn	11 33 43.4	+4.0
	baz=344,slow=10						
FIA0	FINESS Array S	19.27	146	P	Pn	11 33 43.4	+4.0
	baz=344,slow=10						
FINES	FINESS Array B	19.27	146	P	Pn	11 33 42.3	+2.9
	comp=Z,0.1nm,0.3s,baz=352,slow=12,SNR=9.9						
HFS	Hagfors	19.60	164	P	Pn	11 33 46.4	+3.1
	baz=351,slow=12						
HFS	Hagfors	19.60	164	P	Pn	11 33 46.4	+3.1
	baz=351,slow=12						
HFS	Hagfors	19.60	164	P	Pn	11 33 46.0	+2.6
	comp=Z,0.1nm,0.3s,baz=350,slow=13,SNR=3.6						
HFS				LR	LR	11 40 13.3	
	comp=Z,92nm,19.3s,baz=348,slow=33						
FRB	Frobisher Bay	25.07	274	LR	LR	11 44 15.1	
	comp=Z,100nm,18.3s,baz=329,slow=36						
TIXI	Tiksi	26.12	36	P	P	11 34 48.2	+0.7
TIXI	Tiksi	26.12	36	P	P	11 34 48.2	+0.7
VRAC	Vranov	30.56	163	P	P	11 35 31.0	+3.8
	comp=Z,3.3nm,0.6s,baz=291,slow=14,SNR=4.5						
GERES	GERESS Array B	30.88	167	P	P	11 35 34.3	+4.2
	comp=Z,0.3nm,0.2s,baz=6.7,slow=13,SNR=4.8						
COLD	Coldfoot	32.81	341	eP	P	11 35 47.0	+0.2
	comp=Z,2.4nm,1.0s						
COLD	Coldfoot	32.81	341	eP	P	11 35 47.0	+0.2
	comp=Z,2.4nm,1.0s						
ILAR	Eielson Array	35.03	338	P	P	11 36 05.8	-0.3
	comp=Z,0.5nm,0.9s,baz=14,slow=6.7,SNR=8.1						
ABKAR	Akbulak array	35.98	111	eP	P	11 36 17.7	+3.3
ZALV	Zalesovo Beam	36.02	84	LR	LR	11 53 19.7	
	comp=Z,51nm,21.1s,baz=250,slow=40						
ESDC	Sonseca Array	39.92	189	P	P	11 36 51.1	+3.3
	comp=Z,1.8nm,0.7s,baz=2.9,slow=9.8,SNR=10						
MK31	Makanchi Array	42.41	89	eP	P	11 37 08.7	+0.5
MK31	Makanchi Array	42.41	89	eP	P	11 37 08.7	+0.5
MKAR	Makanchi Array	42.41	89	P	P	11 37 09.5	+1.3
	comp=Z,0.4nm,0.5s,baz=340,slow=5.3,SNR=4.1						
PDAR	Pinedale Array	52.28	301	LR	LR	12 00 54.1	
	comp=Z,65nm,20.2s,baz=340,slow=36						
PV01	Paradox Valley	56.65	299	P	P	11 38 58.3	+1.3
PV01	Paradox Valley	56.65	299	P	P	11 38 58.4	+1.3
KSRS	Korea Array	59.26	50	LR	LR	12 05 04.7	
	comp=Z,41nm,19.6s,baz=250,slow=36						
MJAR	Matsushiro Arr	61.51	40	P	P	11 39 30.1	-0.3
	comp=Z,1.1nm,1.0s,baz=5.6,slow=6.4,SNR=4.5						
TXAR	Lajitas Array	64.43	292	P	P	11 39 51.0	+1.0
	comp=Z,0.2nm,0.8s,baz=38,slow=5.1,SNR=4.2						
TORD	Torodi Ar. Bea	66.25	182	P	P	11 40 03.2	+1.4
	comp=Z,2.3nm,1.1s,baz=347,slow=7.3,SNR=7.3						
PMSA	Palmer Station	149.00	230	PKPbc	PKPab	11 49 02.6	-1.7
	comp=Z,29nm,0.8s,baz=24,slow=6.4,SNR=12						

*IDC **07** 11:33:52.2±1.6, 37°.43S×73°.53W, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.8/20, mbtmp3.7/6, ML3.6/2, MS3.6/1, Ms1 3.6/1, ms1mx2.9/22, Error ellipse: s-maj=37.6km s-min=19.6km az=70.0*

*ISCJB **07** 11:33:54.6±1.2, 37°.37S±0°.09×73°.4W±0°.2, h23km, mb3.8/4, MS3.5/1, Error ellipse: s-maj=22.8km s-min=11.8km az=14.8*

ISC 07 11:33:55.8±1.4**, 37°.4S**±0°.1×**73°.5W**±0°.2**, h23**km**, n7, σ0.s56**/7**, mb3.9**/4**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.05	146	Pn	Pn	11 34 56.8	+0.3
	1.9nm,0.3s,baz=316,slow=13,SNR=47						
PLCA				Lg	Lg	11 35 59.5	
	6.0nm,0.3s,baz=350,slow=7.5,SNR=3.0						
CFAA	Coronel Fontan	7.25	39	Pn	Pn	11 35 40.2	-0.2
	0.2nm,0.3s,baz=207,slow=14,SNR=15						
CFAA				Sn	Sn	11 37 02.2	+0.2
	0.1nm,0.3s,baz=232,slow=16,SNR=2.3						
CFAA				LR	LR	11 38 11.6	
	comp=Z,18nm,21.1s,baz=223,slow=36						
LPAZ	La Paz	21.57	14	P	P	11 38 45.0	+0.6
	2.2nm,1.0s,baz=188,slow=8.0,SNR=6.6						
SIV	San Ignacio	24.01	31	P	P	11 39 09.2	+0.2
	4.0nm,0.8s,baz=222,slow=13,SNR=13						
SIV				LR	LR	11 50 09.6	
	comp=Z,147nm,18.6s,baz=186,slow=41						
SNAA	Sanae	48.92	157	P	P	11 42 32.1	-7.5
TXAR	Lajitas Array	72.15	333	P	P	11 45 18.7	+0.1
	0.9nm,0.9s,baz=157,slow=9.0,SNR=8.0						
TORD	Torodi Ar. Bea	86.50	71	P	P	11 46 36.3	-0.8
	0.6nm,0.7s,baz=243,slow=3.5,SNR=4.2						

*IDC **07** 11:46:43.4±3.1, 53°.58N×87°.81E, h0km, mb1 3.6/1, mb1mx3.0/38, mbtmp3.6/1, ML3.6/1, Error ellipse: s-maj=27.4km s-min=15.4km az=64.0*

*NNC **07** 11:46:49.8±2.7, 53°.35N×87°.20E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=21.2km s-min=18.5km az=44.0*

ISC 07 11:46:48.1±4.2**, 53°.7N**±0°.1×**87°.6E**±0°.2**, h35**km**, n6, σ0.s74**/8**, 6C-1D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.67	280	i		11 58 00.0	
	baz=100,slow=315,SNR=37						
ZALV	Zalesovo Beam	1.67	280	Pn	Pn	11 47 14.6	-0.2
	13nm,0.3s,baz=103,slow=13,SNR=54						
ZALV				Lg	Lg	11 47 41.2	
	15nm,0.3s,baz=105,slow=20,SNR=20						
KURK	Kurchatov	6.26	245	⇑Pn	Pn	11 48 18.3	+0.4
	1.4nm,0.7s						
KURK				⇑Sn	Sn	11 49 28.1	-0.1
	1.9nm,0.9s						
KURK				⇑Lg	Lg	11 49 58.2	
	9.6nm,1.0s						
KURBB	Kurchatov Arra	6.36	245	⇑Pn	Pn	11 48 19.9	+0.6
	3.9nm,0.3s						
MK31	Makanchi Array	7.69	208	⇓Pn	Pn	11 48 37.7	+0.2
	0.4nm,0.3s,baz=28,slow=13,SNR=31						
MK31				⇑Sn	Sn	11 50 01.9	-1.4
	3.9nm,0.8s,baz=351,slow=13,SNR=7.4						
MK31				⇑Lg	Lg	11 50 40.9	
	7.8nm,0.8s,baz=37,slow=30,SNR=5.8						
MKAR	Makanchi Array	7.69	208	Pn	Pn	11 48 37.6	+0.1
	0.9nm,0.3s,baz=29,slow=14,SNR=38						
MKAR				Sn	Sn	11 50 03.7	+0.5
	0.3nm,0.3s,baz=31,slow=24,SNR=12						
MKAR				Lg	Lg	11 50 44.8	
	0.4nm,0.3s,baz=34,slow=31,SNR=8.2						

*ISCJB **07** 11:55:20.6±0.6, 7°.40S±0°.06×129°.2E±0°.1, h100km, mb4.0/6, Error ellipse: s-maj=15.8km s-min=8.3km az=178.8*

*IDC **07** 11:55:24.3±4.4, 7°.32S×129°.25E, h113km±42km, mb3.8/6, mb1 3.9/8, mb1mx3.6/38, mbtmp4.2/8, MS3.0/2, Ms1 3.0/2, ms1mx2.5/29, Error ellipse: s-maj=59.7km s-min=15.6km az=81.0*

ISC 07 11:55:22.2±0.8**, 7°.41S**±0°.08×**129°.3E**±0°.2**, h100**km**, n18, σ0.s83**/16**, mb4.1**/6**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	6.79	17	P	Pn	11 57 01.5	+2.2
	2.6nm,0.3s,baz=52,slow=23,SNR=20						
SIJI				S	Sn	11 58 15.1	-0.2
	2.6nm,0.3s,baz=308,slow=22,SNR=8.0						
KAPI	Kappang	9.77	284	LR	LR	12 01 33.3	
	comp=Z,47nm,20.2s,baz=252,slow=38						
WRA	Warramunga Arr	13.38	159	P	Pn	11 58 26.8	-1.5
	1.9nm,0.3s,baz=331,slow=13,SNR=51						
WRA				S	Sn	12 00 46.5	-9.1
	4.8nm,0.3s,baz=338,slow=23,SNR=7.7						
ASAR	Alice Springs	16.76	165	P	P	11 59 12.0	+0.5
	3.3nm,0.3s,baz=338,slow=9.2,SNR=203						
ASAR				S	Sn	12 02 07.4	-10
	0.7nm,0.3s,baz=349,slow=26,SNR=11						
LEM	Lembang	21.51	270	LR	LR	12 09 47.7	
	comp=Z,70nm,18.3s,baz=314,slow=40						
STKA	Stephens Creek	26.91	156	P	P	12 00 56.1	+2.1
	1.3nm,0.3s,baz=327,slow=9.7,SNR=12						
MJAR	Matsushiro Arr	44.52	10	P	P	12 03 23.2	-0.7
	2.2nm,0.7s,baz=191,slow=10.0,SNR=7.8						
KSRS	Korea Array	44.65	358	P	P	12 03 25.9	+1.0
	0.8nm,0.6s,baz=177,slow=12,SNR=7.5						
USRK	Ussuriysk Ar.	51.43	2	P	P	12 04 17.0	0.0
	1.6nm,0.6s,baz=198,slow=8.8,SNR=4.6						
ODAN	Odare	53.00	312	eP	P	12 04 29.1	-0.2
	6.5nm,0.4s						
TAPN	Taplejung	53.03	312	eP	P	12 04 29.5	-0.1
	6.1nm,0.3s						
RAMN	Ramite	53.63	311	eP	P	12 04 34.0	+0.1
	20nm,0.7s						
JIRN	Jiri	54.33	312	eP	P	12 04 38.9	-0.2
	5.6nm,0.3s						
GUN	Gumba	54.69	312	eP	P	12 04 41.5	-0.3
	9.8nm,0.4s						
GKN	Gorkha	55.67	311	eP	P	12 04 48.2	-0.3
	10nm,0.4s						
KOLN	Koldanda	56.32	310	eP	P	12 04 53.2	-0.1
	8.4nm,0.5s						
MKAR	Makanchi Array	68.18	327	P	P	12 06 12.0	+0.2
	2.4nm,0.5s,baz=122,slow=7.9,SNR=31						
ZALV	Zalesovo Beam	71.64	334	P	P	12 06 32.2	-0.6
	1.3nm,0.5s,baz=144,slow=7.1,SNR=4.9						

IDC 07 12:03:04.2±2.1**, 4°.66S**×**151°.63E, h0**km**, mb3.3**/3**, mb1 3.7**/3**, mb1mx3.4**/36**, mbtmp3.3**/3**, Error ellipse: s-maj=149.9km s-min=28.1km az=126.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.68	226	P	P	12 08 07.3	-0.2
	0.5nm,0.7s,baz=51,slow=10,SNR=5.0						
ASAR	Alice Springs	25.48	220	P	P	12 08 34.0	-0.4
	0.4nm,0.6s,baz=56,slow=9.2,SNR=4.2						
ILAR	Eielson Array	82.47	22	P	P	12 15 27.9	-0.4
	0.4nm,0.6s,baz=248,slow=5.4,SNR=7.9						
TORD	Torodi Ar. Bea	149.15	288	PKPbc	PKPbc	12 22 56.0	+0.3
	0.6nm,1.2s,baz=78,slow=2.4,SNR=2.7						

*BJI **07** 12:03:52.2, 36°.53N×69°.35E, h15km, mb4.3/7, mB4.5/4, ML4.1/3, Ms3.6/2, Ms7 3.4/1*

*IDC **07** 12:04:00.5±4.5, 35°.95N×70°.03E, h102km±39km, mb3.7/14, mb1 3.9/17, mb1mx3.7/41, mbtmp4.2/17, Error ellipse: s-maj=27.5km s-min=13.5km az=11.0*

*MOS **07** 12:04:01.7±1.1, 36°.13N×70°.14E, h116km, mb4.3/18, Error ellipse: s-maj=10.6km s-min=6.1km az=102.0*

*ISCJB **07** 12:04:02.1±0.3, 36°.14N±0°.02×70°.22E±0°.04, h124km, mb4.1/22, Error ellipse: s-maj=4.4km s-min=3.0km az=157.6*

*NNC **07** 12:04:08.2±1.4, 36°.65N×69°.97E, h151km±11km, mb3.8, mpv4.5, Error ellipse: s-maj=11.9km s-min=7.0km az=173.0*

ISC 07 12:04:03.0±0.5**, 36°.13N**±0°.05×**70°.20E**±0°.06**, h124**km**, n101, σ1.s50**/106**, mb4.2**/22**, 14C-18D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.69	148	P	Pn	12 04 47.9	+2.3
CEP				S	Sn	12 05 21.0	+2.7
DZET	Dzherino	2.89	338	⇓P	Pn	12 04 47.4	-0.8
	20nm,0.3s						
DZET				⇑S	Sn	12 05 18.3	-4.6
	225nm,0.4s						
DZET	Dzherino	2.89	338	PN	Pn	12 04 47.3	-0.8
DZET				pmax	pmax		
	comp=Z,43nm,0.5s						
DZET				pmax	pmax		
	comp=Z,225nm,0.4s						
CHCP	Chirah Chowk	3.52	133	P	Pn	12 04 58.8	+2.5
THW	Thamme Wali	3.56	159	P	Pn	12 04 58.2	+1.4
SARP	Sargodha	4.67	153	P	Pn	12 05 12.1	+0.5
SFK	Sufi-Kurgan	4.67	33	⇓P	Pn	12 05 13.7	+1.8
	comp=Z,56nm,0.7s						
SFK				⇓S	Sn	12 06 04.4	-0.8
	comp=Z,85nm,0.4s						
AML	Almayashu	6.58	23	P	Pn	12 05 37.9	+0.3
	SNR=62						
MNAS	Manas	6.60	15	⇓P	Pn	12 05 37.7	0.0
	comp=Z,32nm,0.6s						
MNAS				⇑S	Sn	12 06 47.4	-4.2
	comp=Z,162nm,1.0s						
UCH	Uchtor	6.95	27	P	Pn	12 05 42.9	+0.2
	SNR=144						
KK31	Karatay Array	6.97	2	P	Pn	12 05 41.9	-0.7
	comp=Z,28nm,0.5s,baz=197,slow=21,SNR=272						
KK31				⇓S	Sn	12 06 55.3	-5.1
	comp=Z,126nm,0.8s,baz=197,slow=33,SNR=12						
KK31	Karatay Array	6.97	2	PN	Pn	12 05 41.9	-0.7
KK31				pmax	pmax		
	comp=Z,61nm,0.5s						
EKS2	Erkin-Say	7.09	22	P	Pn	12 05 44.3	+0.1
	SNR=36						
KZA	Kyzart	7.12	32	P	Pn	12 05 45.3	+0.3
	SNR=41						
AAK	Ala-Archa	7.30	26	P	Pn	12 05 47.7	+0.6
	SNR=42						
AAK	Ala-Archa	7.30	26	⇑P	Pn	12 05 47.4	+0.3
	comp=Z,32nm,0.6s						
AAK				⇓S	Sn	12 07 06.3	-2.2
	comp=Z,37nm,0.7s						
AAK	Ala-Archa	7.30	26	P	Pn	12 05 47.2	+0.1
	comp=Z,4.8nm,0.3s,baz=193,slow=8.3,SNR=47						
AAK				S	Sn	12 07 08.3	-0.2
	comp=Z,2.7nm,0.3s,baz=319,slow=20,SNR=3.6						
AAK	Ala-Archa	7.30	26	PN	Pn	12 05 47.3	+0.3
AAK						12 07 11.0	
AAK				pmax	pmax		
	comp=Z,32nm,0.6s						
AAK				smax	smax		
	comp=Z,37nm,0.7s						
KBK	Karagaybulak	7.48	28	P	Pn	12 05 50.5	+0.9
	SNR=23						
FRU	Bishkek	7.52	26	⇓iPN	Pn	12 05 50.0	+0.1
FRU				iS	Sn	12 07 16.0	+2.4
FRU				pmax	pmax		
	comp=Z,80nm,1.2s						
FRU				smax	smax		
	comp=N,170nm,1.6s						
SMLA	Simla	7.65	129	iP	Pn	12 05 52.4	+0.6
SMLA				iS	Sn	12 07 15.3	-1.6
SMLA				iS	Sn	12 07 15.9	-0.9
ULHL	Ulahol	7.70	36	P	Pn	12 05 54.9	+2.3
	SNR=16						
CHMS	Chumysh	7.71	26	P	Pn	12 05 52.8	+0.3
	SNR=62						
USP	Ospenovka	7.86	24	P	Pn	12 05 55.2	+0.6
	SNR=8.9						
TKM2	Tokmak 2	7.96	30	P	Pn	12 05 56.5	+0.4
	SNR=62						
TKM2	Tokmak 2	7.96	30	⇓P	Pn	12 05 55.9	-0.2
	comp=N,64nm,1.0s						
TKM2				⇓S	Sn	12 07 23.0	-1.6
	comp=N,21nm,0.8s						
KKR	Kurukshetra	8.28	136	eP	Pn	12 06 11.6	+11
KKR				eS	Sn	12 07 36.5	+4.3
BHGR	Bahadurgarh	9.35	141	eP	Pn	12 06 14.3	-0.3
BHGR				eS	Sn	12 07 52.5	-5.5
KUDL	Kundal	9.57	144	eP	Pn	12 06 16.5	-1.2
KUDL				eS	Sn	12 07 57.3	-6.2
KUDL				AML	AML	12 08 01.1	
	comp=E,48nm,0.5s						
KUDL				AML	AML	12 08 02.8	
	comp=N,35nm,0.4s						
AYAN	Aya Nagar	9.61	141	eP	Pn	12 06 19.0	+0.8
AYAN				eS	Sn	12 07 58.7	-5.6
KALG	Kalgarh	9.76	130	eS	Sn	12 08 05.7	-2.3
SONA	Sohna	9.78	142	eP	Pn	12 06 20.4	0.0
SONA				eS	Sn	12 08 02.4	-6.0
SONA				AML	AML	12 08 05.3	
	comp=N,60nm,0.0s						
SONA				AML	AML	12 08 06.4	
	comp=E,95nm,0.3s						
PDGK	Podgornoye	10.13	42	⇓P	Pn	12 06 25.8	+0.7
	comp=E,10.0nm,0.7s						
PDGK				⇓S	Sn	12 08 14.9	-2.0
	comp=E,15nm,1.1s						
AGRA	Agra	11.04	141	eP	Pn	12 06 38.3	+0.8
AGRA				eS	Sn	12 08 31.3	-7.8
AGRA				AML	AML	12 08 33.5	
	comp=N,113nm,0.3s						
AGRA				AML	AML	12 08 34.5	
	comp=E,91nm,0.5s						
MK31	Makanchi Array	13.97	37	P	Pn	12 07 15.3	-0.2
	comp=E,6.5nm,0.6s,baz=218,slow=10,SNR=28						
MKAR	Makanchi Array	13.97	37	P	Pn	12 07 15.4	-0.1
	comp=E,0.3nm,0.3s,baz=224,slow=12,SNR=11						
KOLN	Koldanda	14.09	122	eP	Pn	12 07 15.0	-2.3
	comp=E,9.8nm,0.4s						
GKN	Gorkha	14.66	119	eP	Pn	12 07 22.7	-1.9
	comp=E,10nm,0.3s						
AB31	Akbulak array	15.12	333	⇓P	Pn	12 07 28.3	-1.7
	comp=E,5.0nm,0.5s,baz=136,slow=13,SNR=62						
AB31				⇓S	Sn	12 10 05.0	-12
	comp=E,3.5nm,0.5s,baz=142,slow=25,SNR=8.1						
AB31	Akbulak array	15.12	333	P	Pn	12 07 28.2	-1.7
AB31				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KKN	Kakani	15.24	119	eP	Pn	12 07 30.6	-1.3
	comp=Z,33nm,0.7s						
PKIN	Phulchoki	15.46	119	eP	Pn	12 07 33.9	-0.7
PKI	Pulchoki	15.47	119	eP	Pn	12 07 34.2	-0.6
GUN	Gumba	15.60	117	eP	Pn	12 07 35.1	-1.4
	comp=Z,20nm,0.5s						
KURK	Kurchatov	15.80	20	iP	Pn	12 07 38.2	-0.1
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
JIRN	Jiri	15.97	117	eP	Pn	12 07 40.1	-1.0
	comp=Z,20nm,0.3s						
RAMN	Ramite	16.69	119	eP	P	12 07 49.7	-0.3
	comp=Z,12nm,0.3s						
AKTO	Aktyubinsk	16.80	332	⇑P	Pn	12 07 49.5	-1.2
	comp=Z,33nm,0.8s						
AKTO				⇑S	Sn	12 10 46.7	-11
	comp=Z,7.6nm,0.6s						
AKTO	Aktyubinsk	16.80	332	P	Pn	12 07 49.5	-1.2
	comp=Z,1.6nm,0.3s,baz=136,slow=13,SNR=68						
AKTO				S	Sn	12 10 46.4	-11
	comp=Z,0.5nm,0.3s,baz=327,slow=23,SNR=6.4						
AKTO	Aktyubinsk	16.80	332	P	Pn	12 07 49.4	-1.2
AKTO				pmax	pmax		
	comp=Z,33nm,0.8s						
BVA0	Borovoye Array	16.90	0	P	Pn	12 07 50.2	-1.7
	comp=Z,3.9nm,0.5s,baz=164,slow=13,SNR=24						
BVA0				⇓S	Sn	12 10 51.1	-8.8
	comp=Z,14nm,1.4s,baz=179,slow=24,SNR=5.8						
BVA0	Borovoye Array	16.90	0	iP	P	12 07 51.6	-0.2
BVA0				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BRVK	Borovoye	16.93	0c	iP	Pn	12 07 52.3	+0.1
BRVK				pmax	pmax		
	comp=Z,12nm,1.2s						
TAPN	Taplejung	17.25	116	eP	Pn	12 07 57.2	+0.5
	comp=Z,14nm,0.3s						
ODAN	Odare	17.30	117	eP	Pn	12 07 58.0	+0.8
	comp=Z,14nm,0.5s						
DGRG	David-gareji	20.04	293	P	Pn	12 08 28.2	-1.1
DGRG	David-gareji	20.04	293	P	Pn	12 08 28.1	-1.1
GNI	Garni	20.40	289	⇑iP	Pn	12 08 32.8	-0.8
GNI				pmax	pmax		
	comp=Z,35nm,1.0s						
ZALV	Zalesovo Beam	20.52	25	P	Pn	12 08 33.0	-1.7
	comp=Z,17nm,0.6s,baz=219,slow=11,SNR=53						
ZALV	Zalesovo Beam	20.52	25	P	Pn	12 08 33.0	-1.7
ZALV				pmax	pmax		
	comp=Z,17nm,0.6s						
NVS	Novosibirsk	20.76	22	eP	Pn	12 08 47.9	+10
ZEI	Tsey	21.32	296	eP	P	12 08 42.4	+2.2
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ONI	Oni	21.62	296	P	P	12 08 42.2	-1.0
ONI	Oni	21.62	296	P	P	12 08 42.1	-1.0
NCK	Nalchik	21.66	298	⇓eP	P	12 08 43.6	0.0
SVE	Sverdlovsk	21.69	346	⇑iP	P	12 08 45.2	+1.5
SVE				pmax	pmax		
	comp=Z,22nm,0.9s						
ARU	Arti	21.79	342c	iP	P	12 08 45.4	+0.7
ARU						12 09 10.3	
ARU				S	S	12 12 37.9	+0.3
ARU				pmax	pmax		
	comp=Z,48nm,1.7s						
KIV	Kislovodsk	22.40	299	eP	P	12 08 52.2	+0.9
KIV				eS	S	12 12 48.7	+0.2
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GTA	Gaotai	23.59	73	eP	P	12 09 06.9	+4.3
GTA				pP	pP	12 09 11.6	-16
GTA				sP	sP	12 09 14.7	-28
GTA				PMZ			
	comp=Z,4.0nm,1.2s						
MOY	Mondy	26.82	45	eP	P	12 09 42.4	+11
BRTR	Keskin Array B	28.94	288	P	P	12 09 50.5	-0.2
	comp=Z,2.1nm,0.7s,baz=92,slow=9.0,SNR=7.2						
BRTR	Keskin Array B	28.94	288c	eP	P	12 09 51.4	+0.7
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	Songino Array	29.08	55	P	P	12 09 54.8	+3.0
	comp=Z,2.1nm,0.8s,baz=240,slow=8.1,SNR=2.1						
SONM	Songino Array	29.08	55	P	P	12 09 54.8	+3.0
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
OBN	Obninsk	29.81	320	⇑eP	P	12 09 58.5	+0.6
OBN				e		12 10 56.2	
OBN				pmax	pmax		
	comp=Z,7.0nm,1.1s						

AKASG	Malin Array Be	32.68	309	P	P	12 10 23.1	-0.1
	comp=Z,1.1nm,0.4s,baz=83,slow=7.1,SNR=6.4						
AKASG	Malin Array Be	32.68	309	P	P	12 10 23.2	-0.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	37.44	327	P	P	12 11 03.8	-0.1
	comp=Z,2.4nm,0.7s,baz=120,slow=12,SNR=9.2						
FINES	FINESS Array B	37.44	327	ceP	P	12 11 04.4	+0.5
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
DPC	Dobruska-Polom	40.85	308	eP	P	12 11 33.7	+1.2
DPC				ex	x	12 11 36.0	
DPC	Dobruska-Polom	40.85	308	eP	P	12 11 33.7	+1.2
ARCES	ARCESS Array B	41.25	338	P	P	12 11 36.1	+0.7
	comp=Z,3.5nm,0.5s,baz=113,slow=7.5,SNR=28						
ARCES	ARCESS Array B	41.25	338	P	P	12 11 36.1	+0.7
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BRG	Berggiesshubel	42.35	309	eP	P	12 11 43.6	-1.0
	comp=Z,2.4nm,0.7s						
BRG	Berggiesshubel	42.35	309	eP	P	12 11 43.6	-1.0
BRG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	GERESS Array B	42.62	306	P	P	12 11 46.4	-0.6
	comp=Z,0.2nm,0.3s,baz=349,slow=6.1,SNR=3.6						
CLL	Collm	42.93	309	⇓iP	P	12 11 49.9	+0.6
	comp=Z,5.0nm,0.7s						
CLL				epP	pP	12 12 19.0	+1.6
CLL	Collm	42.93	309	⇓iP	P	12 11 49.9	+0.6
CLL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NB2	NORSAR Subarra	44.29	323	P	P	12 11 59.5	-0.6
	comp=Z,2.1nm,0.5s,baz=98,slow=7.9						
NOA	NORSAR Array B	44.29	323	P	P	12 12 00.0	-0.1
	comp=Z,2.2nm,0.5s,baz=98,slow=7.9,SNR=12						
NOA	NORSAR Array B	44.29	323	P	P	12 12 00.0	-0.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YAK	Yakutsk	44.64	35	⇓eP	P	12 12 06.1	+3.3
YAK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KSRS	Korea Array	45.61	70	P	P	12 12 11.4	+0.6
	comp=Z,0.3nm,0.3s,baz=274,slow=7.0,SNR=2.7						
BFO	Black Forest	46.22	305	ceP	P	12 12 16.3	+0.8
TIXI	Tiksi	46.36	22	⇑iP	P	12 12 17.6	+1.4
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ESDC	Sonseca Array	57.06	298	P	P	12 13 36.1	-0.1
	comp=Z,2.3nm,0.7s,baz=56,slow=7.6,SNR=11						
TORD	Torodi Ar. Bea	65.06	268	P	P	12 14 29.1	-1.3
	comp=Z,4.9nm,0.5s,baz=49,slow=5.9,SNR=66						
YKA	Yellowknife Ar	81.65	2	P	P	12 16 06.9	0.0
	comp=Z,0.8nm,0.5s,baz=351,slow=5.3,SNR=8.1						
YKA	Yellowknife Ar	81.65	2	P	P	12 16 06.9	0.0
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	Warramunga Arr	82.34	121	P	P	12 16 11.7	+0.5
	comp=Z,0.3nm,0.5s,baz=323,slow=4.8,SNR=2.7						
ASAR	Alice Springs	84.57	124	P	P	12 16 22.2	-0.4
	comp=Z,0.4nm,0.8s,baz=311,slow=5.8,SNR=3.6						

*CSEM **07** 12:05:59.4, 45°.78N×26°.69E, h114km, MD3.7/5*

BUC 07 12:05:59.4±0.9**, 45°.78N×26°.69E, h114**km±9km**, MD3.7**/5**, 45C-33D, Error ellipse: s-maj=7.9km s-min=6.1km az=343.0, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	Plostina	0.08	340	⇑iP	Pn	12 06 14.9	-0.2
PLOR	Plostina	0.08	340	⇑iP	Pn	12 06 14.9	-0.2
PLOR				iS	Sn	12 06 26.3	-0.6
PLOR	Plostina	0.08	340	⇑iP	Pn	12 06 14.9	-0.2
PLOR				iS	Sn	12 06 26.3	-0.6
VRI	Vrincioaia	0.09	19	⇑iP	Pn	12 06 15.1	0.0
VRI	Vrincioaia	0.09	19	⇑iP	Pn	12 06 15.1	0.0
VRI				iS	Sn	12 06 26.3	-0.6
VRI	Vrincioaia	0.09	19	⇑iP	Pn	12 06 15.1	0.0
VRI				iS	Sn	12 06 26.3	-0.6
ODBI	Odobesti	0.26	94	⇑iP	Pn	12 06 16.2	+0.8
ODBI	Odobesti	0.26	94	⇑iP	Pn	12 06 16.2	+0.8
ODBI				iS	Sn	12 06 28.1	+0.6
ODBI	Odobesti	0.26	94	⇑iP	Pn	12 06 16.2	+0.8
ODBI				iS	Sn	12 06 28.1	+0.6
PETR	Petresti	0.39	98	⇑iP	Pn	12 06 16.3	+0.3
PETR	Petresti	0.39	98	⇑iP	Pn	12 06 16.3	+0.3
PETR				iS	Sn	12 06 28.6	+0.2
PETR	Petresti	0.39	98	⇑iP	Pn	12 06 16.3	+0.3
PETR				iS	Sn	12 06 28.6	+0.2
GRER		0.45	153	⇓iP	Pn	12 06 17.5	+1.1
GRER		0.45	153	⇓iP	Pn	12 06 17.5	+1.1
GRER				iS	Sn	12 06 30.8	+1.7
GRER		0.45	153	⇓iP	Pn	12 06 17.5	+1.1
GRER				iS	Sn	12 06 30.8	+1.7
MLR	Muntele Rosu	0.59	241	⇑iP	Pn	12 06 17.7	+0.2
MLR	Muntele Rosu	0.59	241	⇑iP	Pn	12 06 17.7	+0.2
MLR				iS	Sn	12 06 30.8	-0.3
MLR	Muntele Rosu	0.59	241	⇑iP	Pn	12 06 17.7	+0.2
MLR				iS	Sn	12 06 30.8	-0.3
ISR	Istrita	0.67	189	⇑iP	Pn	12 06 18.6	+0.6
ISR	Istrita	0.67	189	⇑iP	Pn	12 06 18.6	+0.6
ISR				iS	Sn	12 06 31.0	-0.9
ISR	Istrita	0.67	189	⇑iP	Pn	12 06 18.6	+0.6
ISR				iS	Sn	12 06 31.0	-0.9
TESR	Tescani	0.73	358	⇓iP	Pn	12 06 18.1	-0.3
TESR	Tescani	0.73	358	⇓iP	Pn	12 06 18.1	-0.3
TESR				iS	Sn	12 06 31.0	-1.8
TESR	Tescani	0.73	358	⇓iP	Pn	12 06 18.1	-0.3
TESR				iS	Sn	12 06 31.0	-1.8
SECR		0.86	211	⇑iP	Pn	12 06 20.3	+0.7
SECR		0.86	211	⇑iP	Pn	12 06 20.3	+0.7
SECR				iS	Sn	12 06 35.3	+0.5
SECR		0.86	211	⇑iP	Pn	12 06 20.3	+0.7
SECR				iS	Sn	12 06 35.3	+0.5
PGOR	Pogoanele	0.90	166	S	Sn	12 06 35.0	-0.3
PGOR	Pogoanele	0.90	166	iS	Sn	12 06 35.0	-0.3
PGOR	Pogoanele	0.90	166	iS	Sn	12 06 35.0	-0.3
DOPR	Dopca	0.93	282	⇓iP	Pn	12 06 20.3	+0.1
DOPR	Dopca	0.93	282	⇓iP	Pn	12 06 20.3	+0.1
DOPR				iS	Sn	12 06 35.6	-0.3
DOPR	Dopca	0.93	282	⇓iP	Pn	12 06 20.3	+0.1
DOPR				iS	Sn	12 06 35.6	-0.3
PLAR	PLOIESTI	0.98	208	S	Sn	12 06 36.6	-0.2
PLAR	PLOIESTI	0.98	208	iS	Sn	12 06 36.6	-0.2
PLAR	PLOIESTI	0.98	208	iS	Sn	12 06 36.6	-0.2
GIUM	Giurgiulesti	1.11	105	⇑iP	Pn	12 06 22.3	+0.3
GIUM	Giurgiulesti	1.11	105	⇑iP	Pn	12 06 22.3	+0.3
GIUM				iS	Sn	12 06 38.6	-0.5
GIUM	Giurgiulesti	1.11	105	⇑iP	Pn	12 06 22.3	+0.3
GIUM				iS	Sn	12 06 38.6	-0.5
SULR		1.14	196	⇑iP	Pn	12 06 22.9	+0.5
SULR		1.14	196	⇑iP	Pn	12 06 22.9	+0.5
SULR				iS	Sn	12 06 40.3	+0.6
SULR		1.14	196	⇑iP	Pn	12 06 22.9	+0.5
SULR				iS	Sn	12 06 40.3	+0.6
CFR	Carcaliu	1.19	120	⇑iP	Pn	12 06 22.5	-0.3
CFR	Carcaliu	1.19	120	⇑iP	Pn	12 06 22.5	-0.3
CFR				iS	Sn	12 06 39.1	-1.4
CFR	Carcaliu	1.19	120	⇑iP	Pn	12 06 22.5	-0.3
CFR				iS	Sn	12 06 39.1	-1.4
VOIR		1.20	254	⇑iP	Pn	12 06 23.1	0.0
VOIR		1.20	254	⇑iP	Pn	12 06 23.1	0.0
VOIR				iS	Sn	12 06 40.1	-0.9
VOIR		1.20	254	⇑iP	Pn	12 06 23.1	0.0
VOIR				iS	Sn	12 06 40.1	-0.9
AMRR	Amara	1.26	158	S	Sn	12 06 42.1	+0.2
AMRR	Amara	1.26	158	iS	Sn	12 06 42.1	+0.2
AMRR	Amara	1.26	158	iS	Sn	12 06 42.1	+0.2
LEOM	Leova	1.29	57	⇑iP	Pn	12 06 24.3	+0.4
LEOM	Leova	1.29	57	⇑iP	Pn	12 06 24.3	+0.4
LEOM				iS	Sn	12 06 42.3	-0.2
LEOM	Leova	1.29	57	⇑iP	Pn	12 06 24.3	+0.4
LEOM				iS	Sn	12 06 42.3	-0.2
HARR	Harsova	1.40	141	⇓iP	Pn	12 06 25.1	-0.1
HARR	Harsova	1.40	141	⇓iP	Pn	12 06 25.1	-0.1
HARR	Harsova	1.40	141	⇓iP	Pn	12 06 25.1	-0.1
BUC	Bucharest	1.43	197	S	Sn	12 06 45.2	-0.2
BUC	Bucharest	1.43	197	iS	Sn	12 06 45.2	-0.2
BUC	Bucharest	1.43	197	iS	Sn	12 06 45.2	-0.2
CIOR	Ciorogarla	1.45	203	S	Sn	12 06 45.4	-0.4
CIOR	Ciorogarla	1.45	203	iS	Sn	12 06 45.4	-0.4
CIOR	Ciorogarla	1.45	203	iS	Sn	12 06 45.4	-0.4
ARR	Arges	1.50	255	⇓iP	Pn	12 06 26.4	-0.1
ARR	Arges	1.50	255	⇓iP	Pn	12 06 26.4	-0.1
ARR				iS	Sn	12 06 47.2	+0.1
ARR	Arges	1.50	255	⇓iP	Pn	12 06 26.4	-0.1
ARR				iS	Sn	12 06 47.2	+0.1
TLB	Topalu	1.53	141	⇓iP	Pn	12 06 26.6	-0.2
TLB	Topalu	1.53	141	⇓iP	Pn	12 06 26.6	-0.2
TLB				iS	Sn	12 06 46.1	-1.5
TLB	Topalu	1.53	141	⇓iP	Pn	12 06 26.6	-0.2
TLB				iS	Sn	12 06 46.1	-1.5
TLCR		1.61	111	⇓iP	Pn	12 06 27.5	-0.2
TLCR		1.61	111	⇓iP	Pn	12 06 27.5	-0.2
TLCR				iS	Sn	12 06 48.5	-0.8
TLCR		1.61	111	⇓iP	Pn	12 06 27.5	-0.2
TLCR				iS	Sn	12 06 48.5	-0.8
HUMR	Humele	1.74	225	⇑iP	Pn	12 06 29.1	-0.2
HUMR	Humele	1.74	225	⇑iP	Pn	12 06 29.1	-0.2
HUMR				iS	Sn	12 06 51.0	-1.1
HUMR	Humele	1.74	225	⇑iP	Pn	12 06 29.1	-0.2
HUMR				iS	Sn	12 06 51.0	-1.1
CVD	Cernavoda	1.75	146	⇓iP	Pn	12 06 29.1	-0.3
CVD	Cernavoda	1.75	146	⇓iP	Pn	12 06 29.1	-0.3
CVD				iS	Sn	12 06 50.6	-1.7
CVD	Cernavoda	1.75	146	⇓iP	Pn	12 06 29.1	-0.3
CVD				iS	Sn	12 06 50.6	-1.7
TIRR	Tirgusor	1.80	137	⇓iP	Pn	12 06 30.0	0.0
TIRR	Tirgusor	1.80	137	⇓iP	Pn	12 06 30.0	0.0
TIRR				iS	Sn	12 06 51.8	-1.6
TIRR	Tirgusor	1.80	137	⇓iP	Pn	12 06 30.0	0.0
TIRR				iS	Sn	12 06 51.8	-1.6
LOT	Lotru	2.07	262	⇑iP	Pn	12 06 34.2	+0.6
LOT	Lotru	2.07	262	⇑iP	Pn	12 06 34.2	+0.6
LOT				iS	Sn	12 06 59.6	-0.2
LOT	Lotru	2.07	262	⇑iP	Pn	12 06 34.2	+0.6
LOT				iS	Sn	12 06 59.6	-0.2
BURAR	Bucovina Array	2.10	332	⇓iP	Pn	12 06 35.3	+1.4
BURAR	Bucovina Array	2.10	332	⇓iP	Pn	12 06 35.3	+1.4
BURAR				iS	Sn	12 07 01.9	+1.6
BURAR	Bucovina Array	2.10	332	⇓iP	Pn	12 06 35.3	+1.4
BURAR				iS	Sn	12 07 01.9	+1.6
PSN	Preselentsi	2.35	153	⇓iP	Pn	12 06 37.7	+0.7
PSN	Preselentsi	2.35	153	⇓iP	Pn	12 06 37.7	+0.7
PSN				iS	Sn	12 07 05.3	-0.6
PSN	Preselentsi	2.35	153	⇓iP	Pn	12 06 37.7	+0.7
PSN				iS	Sn	12 07 05.3	-0.6
SORM	Soroca	2.62	25	⇑iP	Pn	12 06 40.2	-0.2
SORM	Soroca	2.62	25	⇑iP	Pn	12 06 40.2	-0.2
SORM				iS	Sn	12 07 09.6	-2.4
SORM	Soroca	2.62	25	⇑iP	Pn	12 06 40.2	-0.2
SORM				iS	Sn	12 07 09.6	-2.4
SRE	Strehaia	2.70	247	S	Sn	12 07 12.4	-1.6
SRE	Strehaia	2.70	247	iS	Sn	12 07 12.4	-1.6
SRE	Strehaia	2.70	247	iS	Sn	12 07 12.4	-1.6

IDC 07 12:06:20.3±5.4**, 15°.62S×172°.91W, h0**km**, mb4.2**/3**, mb1 4.4**/3**, mb1mx3.7**/31**, mbtmp4.2**/3**, Error ellipse: s-maj=183.3km s-min=107.3km az=149.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.33	240	P	P	12 14 32.5	+0.1
	1.7nm,0.5s,baz=91,slow=11,SNR=17						
WRA	Warramunga Arr	50.25	257	P	P	12 15 18.6	-0.1
	0.7nm,0.5s,baz=92,slow=7.4,SNR=6.8						
ASAR	Alice Springs	50.49	252	P	P	12 15 20.2	-0.3
	7.1nm,0.6s,baz=89,slow=8.1,SNR=141						
ASAR				PcP	PcP	12 16 38.5	-0.3
	0.3nm,0.5s,baz=100,slow=4.1,SNR=4.3						

WEL 07 12:08:59.3±0.1**, 40°.88S×175°.14E, h32**km**, ML3.7**/44**, 11C-6D, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGWZ	Otaki Gorge	0.07	18	⇓P*	Pb	12 09 04.6	-0.2
OGWZ				S*	Sb	12 09 08.7	+0.2
KIW	Kapiti Island	0.18	276	⇓P*	Pb	12 09 05.3	-0.3
KIW				S*	Sb	12 09 10.0	+0.1
KIW				AML	AML	12 09 10.1	
CAW	Cannon Point	0.23	194	⇑P*	Pb	12 09 06.0	-0.2
CAW				AML	AML	12 09 12.0	
CAW				AML	AML	12 09 13.3	
HOWZ	Holdsworth Sta	0.28	94	⇑P*	Pb	12 09 06.7	-0.1
MTW	Mount Morrison	0.39	136	⇑P*	Pb	12 09 08.4	+0.2
MTW				AML	AML	12 09 15.9	
MTW				AML	AML	12 09 17.1	
MRZ	Mangatainoka R	0.40	57	⇓P*	Pb	12 09 08.0	-0.3
MRZ				AML	AML	12 09 17.3	
MRZ				AML	AML	12 09 17.4	
WEL	Wellington	0.49	215	P*	Pb	12 09 09.3	-0.4
WEL				AML	AML	12 09 19.8	
WEL				AML	AML	12 09 19.8	
MSWZ	Moikau Station	0.54	171	⇑P*	Pb	12 09 10.6	0.0
MSWZ				AML	AML	12 09 20.4	
MSWZ				AML	AML	12 09 20.6	
PAWZ	Paruwai Farm	0.55	157	⇑P*	Pb	12 09 10.6	0.0
PAWZ				AML	AML	12 09 20.5	
PAWZ				AML	AML	12 09 20.7	
BHW	Baring Head	0.57	201	⇑P*	Pb	12 09 10.5	-0.4
BHW				AML	AML	12 09 20.8	
BHW				AML	AML	12 09 21.1	
TIWZ	Tintock	0.57	80	⇓P*	Pb	12 09 11.0	-0.1
TIWZ				AML	AML	12 09 21.2	
TIWZ				AML	AML	12 09 21.3	
TMWZ	Te Maipa	0.61	112	P*	Pb	12 09 11.5	-0.2
TRWZ	Traveller	0.66	142	P*	Pn	12 09 12.0	-0.5
TRWZ				AML	AML	12 09 24.8	
TRWZ				AML	AML	12 09 26.4	
POWZ	Post Office Ro	0.68	45	⇑P*	Pn	12 09 12.3	-0.4
PLWZ	Palliser	0.69	173	P*	Pn	12 09 12.5	-0.5
PRWZ	Pori Road	0.71	63	⇓P*	Pb	12 09 13.3	0.0
TCW	Tory Channel	0.73	243	⇑P*	Pn	12 09 13.0	-0.4
TCW				AML	AML	12 09 23.8	
TCW				AML	AML	12 09 24.3	
CPWZ	Castlepoint	0.80	92	P*	Pn	12 09 14.5	+0.1
BFZ	Birch Farm	0.86	77	⇑P*	Pn	12 09 14.7	-0.5
DUWZ	D'Urville Isla	0.93	274	P*	Pn	12 09 16.3	+0.1
DUWZ				AML	AML	12 09 29.8	
DUWZ				AML	AML	12 09 29.9	
DVHZ	Dannevirke	0.97	54	P*	Pn	12 09 16.3	-0.4
TSZ	Takapari Road	1.03	38	⇑P*	Pn	12 09 17.5	-0.1
TSZ				AML	AML	12 09 34.6	
TSZ				AML	AML	12 09 36.8	
TUWZ	Tuamarina	1.06	238	⇓P*	Pn	12 09 17.7	-0.3
TUWZ				AML	AML	12 09 33.4	
TUWZ				AML	AML	12 09 33.6	
ANWZ	Angora Road	1.10	68	P*	Pn	12 09 17.8	-0.6
WAZ	Wanganui	1.13	354	⇑PN	Pb	12 09 19.9	-0.4
WAZ				AML	AML	12 09 39.4	
WAZ				AML	AML	12 09 39.8	
BSWZ	Blackbirch Sta	1.27	228	P*	Pn	12 09 20.5	-0.3
BSWZ				AML	AML	12 09 42.8	
BSWZ				AML	AML	12 09 55.0	
WPHZ	Waipukurau	1.28	51	P*	Pn	12 09 20.9	-0.1
PRHZ	Porangahau	1.29	62	PN	Pn	12 09 20.7	-0.4
MTVZ	Mangateitei	1.51	10	PN	Pn	12 09 25.0	+0.7
MTVZ				AML	AML	12 09 52.0	
MTVZ				AML	AML	12 10 03.6	
MOVZ	Moawhango	1.54	18	PN	Pn	12 09 24.8	+0.1
MOVZ				AML	AML	12 09 48.3	
MOVZ				AML	AML	12 09 50.9	
KRHZ	Kereru	1.55	38	PN	Pn	12 09 24.1	-0.6
BHHZ	Black Hill Sta	1.56	27	PN	Pn	12 09 24.8	-0.1
PXZ	Pawanui	1.56	58	PN	Pn	12 09 23.9	-0.9
PXZ				AML	AML	12 09 46.9	
PXZ				AML	AML	12 09 46.9	
PXZ				AML	AML	12 09 55.3	
PKVZ	Pokaka	1.59	6	PN	Pn	12 09 26.3	+1.0
PKVZ				AML	AML	12 09 52.3	
PKVZ				AML	AML	12 09 55.2	
TRVZ	Turoa	1.61	11	PN	Pn	12 09 26.5	+0.7
TRVZ				AML	AML	12 09 52.2	
TRVZ				AML	AML	12 09 53.3	
DRZ	Dome Shelter	1.63	12	PN	Pn	12 09 26.6	+0.4
DRZ				AML	AML	12 09 56.8	
DRZ				AML	AML	12 09 59.5	
FWVZ	Far West T-bar	1.65	11	PN	Pn	12 09 27.0	+0.6
FWVZ				AML	AML	12 09 53.7	
FWVZ				AML	AML	12 09 54.6	
WPVZ	Whakapapa	1.70	11	PN	Pn	12 09 27.7	+0.8
WPVZ				AML	AML	12 09 55.6	
WPVZ				AML	AML	12 09 58.6	
COVZ	Chateau Observ	1.71	10	PN	Pn	12 09 27.8	+0.8
KAHZ	Kahuranaki	1.71	51	ePN	Pn	12 09 26.1	-0.9
NGZ	Ngauruhoe	1.74	12	PN	Pn	12 09 28.4	+0.9
NGZ				AML	AML	12 10 13.9	
NGZ				AML	AML	12 10 15.3	
KWHZ	Kaweka Forest	1.75	34	PN	Pn	12 09 26.8	-0.8
OTVZ	Oturere	1.76	13	PN	Pn	12 09 28.5	+0.7
OTVZ				AML	AML	12 09 57.3	
OTVZ				AML	AML	12 09 59.6	
VRZ	Vera Road	1.78	350	AML	AML	12 09 54.6	
VRZ				AML	AML	12 09 55.3	
WTVZ	West Tongariro	1.79	11	PN	Pn	12 09 29.0	+0.8
WTVZ				AML	AML	12 10 01.3	
WTVZ				AML	AML	12 10 02.7	
TWVZ	Taurewa	1.82	7	PN	Pn	12 09 29.0	+0.5
TWVZ				AML	AML	12 09 58.5	
TWVZ				AML	AML	12 10 10.4	
KRVZ	Karewarewa	1.82	12	PN	Pn	12 09 29.3	+0.7
KRVZ				AML	AML	12 09 59.5	
KRVZ				AML	AML	12 10 05.1	
PKE	Pukeiti	1.90	332	AML	AML	12 09 31.8	
THZ	Tophouse	1.90	242	PN	Pn	12 09 28.9	-0.7
THZ				AML	AML	12 10 02.4	
THZ				AML	AML	12 10 06.5	
KATZ	Kakaramea	1.95	13	PN	Pn	12 09 31.2	+0.9
KATZ				AML	AML	12 10 09.9	
KATZ				AML	AML	12 10 13.8	
KHZ	Kahutara	1.95	217	PN	Pn	12 09 29.1	-1.1
KHZ				AML	AML	12 09 53.7	
RITZ	Rihia Road	1.98	16	AML	AML	12 10 06.2	
RITZ				AML	AML	12 10 10.2	
QRZ	Quartz Range	1.98	271	ePN	Pn	12 09 30.4	-0.2
BKZ	Black Stump Fm	2.00	32	AML	AML	12 10 06.9	
BKZ				AML	AML	12 10 07.1	
RATZ	Rangitukua	2.07	14	PN	Pn	12 09 33.6	+1.8
RATZ				AML	AML	12 09 49.2	
RATZ				AML	AML	12 10 21.1	
WATZ	Wairara	2.21	12	AML	AML	12 09 44.1	
HIZ	Hauiti	2.37	355	PN	Pn	12 09 36.9	+0.9
HIZ				AML	AML	12 10 24.8	
HIZ				AML	AML	12 10 26.5	
TLZ	Tolley Road	2.57	7	ePN	Pn	12 09 38.8	0.0
DSZ	Denniston Nort	2.66	250	PN	Pn	12 09 39.4	-0.6
SNGZ	Shannon Statio	2.69	40	ePN	Pn	12 09 38.6	-1.8
LTZ	Lake Taylor	2.87	228	PN	Pn	12 09 41.2	-1.6
LTZ				AML	AML	12 10 19.5	
MWZ	Matawai	3.14	37	AML	AML	12 11 05.2	
MWZ				AML	AML	12 11 10.6	
CRLZ	Canterbury Las	3.28	214	AML	AML	12 10 11.3	
RPZ	Rata Peaks	4.15	226	AML	AML	12 10 41.7	
LBZ	Lake Benmore	5.07	225	AML	AML	12 11 39.9	
LBZ				AML	AML	12 12 13.6	

*THE **07** 12:25:47.7, 41°.30N×22°.76E, h3km±1km, ML2.3/4, Error ellipse: s-maj=1.5km s-min=0.5km az=205.0*
*SKO **07** 12:25:47.3, 41°.26N×22°.75E, h15km, M1.5, ML1.8*
*ATH **07** 12:25:48.6, 41°.24N×22°.81E, h13km±1km, MD3.0/9*
*BEO **07** 12:25:49.4±1.1, 41°.31N×22°.69E, h2km±7km, ML1.8/4*

CSEM 07 12:25:47.3±0.1**, 41°.30N×22°.77E, h7**km±1km**, ML1.8, 1C-2D, Error ellipse: s-maj=3.5km s-min=2.5km az=46.0, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	Valandovo	0.15	279	P	Pg	12 25 50.2	-0.2
VAY				S	Sg	12 25 52.9	+0.4
VAY	Valandovo	0.15	279	i Pg	Pg	12 25 51.2	+0.8
VAY				eLg	Lg	12 25 53.4	
	comp=N,697nm,0.6s						
VAY				i Sg	Sg	12 25 53.5	+0.9
VAY				eLg	Lg	12 25 53.6	
	comp=E,422nm,0.3s						
VAY	Valandovo	0.15	279	⇓iPg	Pg	12 25 50.7	+0.3
VAY				eSg	Sg	12 25 52.9	+0.4
VAY	Valandovo	0.15	279	P	Pg	12 25 50.2	-0.2
VAY	Valandovo	0.15	279	⇓iPg	Pg	12 25 50.7	+0.3
VAY				S	Sg	12 25 52.9	+0.4
VAY				eLg	Lg	12 25 53.4	
	comp=E,697nm,0.6s						
KNT	Kendrikon	0.17	143	P	Pg	12 25 51.4	+0.6
KNT				S	Sg	12 25 54.0	+0.9
KNT	Kendrikon	0.17	143	⇑iPG	Pg	12 25 51.4	+0.6
KNT				eSG	Sg	12 25 54.1	+1.0
KNT	Kendrikon	0.17	143	P	Pg	12 25 51.4	+0.6
KNT				eSg	Sg	12 25 54.1	+1.0
SRS	Serrai	0.65	106	P	Pg	12 26 00.4	+0.5
SRS				S	Sb	12 26 09.4	-0.9
SRS	Serrai	0.65	106	ePB	Pb	12 26 00.9	-0.1
SRS				eSB	Sb	12 26 09.6	-0.7
SRS	Serrai	0.65	106	P	Pg	12 26 00.4	+0.5
SRS	Serrai	0.65	106	ePb	Pb	12 26 00.9	-0.1
SRS				eSb	Sb	12 26 09.6	-0.7
SOH	Sokhos	0.65	137	P	Pg	12 26 00.2	+0.3
SOH				S	Sg	12 26 09.4	+0.9
SOH	Sokhos	0.65	137	ePB	Pg	12 26 00.2	+0.3
SOH				eSB	Sg	12 26 09.3	+0.8
SOH	Sokhos	0.65	137	P	Pg	12 26 00.2	+0.3
SOH				eSb	Sg	12 26 09.3	+0.8
THE	Thessaloniki	0.68	167	ePG	Pg	12 26 00.3	-0.1
THE				eSB	Sg	12 26 09.4	+0.1
THE	Thessaloniki	0.68	167	ePg	Pg	12 26 00.3	-0.1
THE				eSb	Sg	12 26 09.4	+0.1
HORT	Hortiatis	0.74	160	P	Pg	12 26 01.4	-0.3
HORT				S	Sb	12 26 12.5	-0.6
HORT	Hortiatis	0.74	160	ePG	Pg	12 26 01.5	-0.2
HORT	Hortiatis	0.74	160	ePg	Pg	12 26 01.5	-0.2
HORT				S	Sb	12 26 12.5	-0.6
NVR	Nevrokopi	0.83	86	P	Pg	12 26 03.4	+0.1
NVR				S	Sb	12 26 15.4	-0.1
NVR	Nevrokopi	0.83	86	ePG	Pb	12 26 03.8	-0.3
NVR	Nevrokopi	0.83	86	P	Pg	12 26 03.4	+0.1
NVR	Nevrokopi	0.83	86	ePg	Pb	12 26 03.8	-0.3
NVR				S	Sb	12 26 15.4	-0.1
FNA	Florina	1.17	244	ePB	Pn	12 26 11.0	+0.8
FNA	Florina	1.17	244	ePb	Pn	12 26 11.0	+0.8
SKO	Skopje	1.20	305	i Pg	Pn	12 26 12.4	+1.8
SKO	Skopje	1.20	305	i Pg	Pn	12 26 12.3	+1.8
OUR	Ouranopolis	1.33	136	ePB	Pb	12 26 12.6	0.0
OUR				eSB	Sg	12 26 30.2	0.0
OUR	Ouranopolis	1.33	136	ePb	Pb	12 26 12.6	0.0
OUR				eSb	Sg	12 26 30.2	0.0
VTS	Vitosha	1.33	14	P	Pb	12 26 13.0	+0.1
VTS				S	Sn	12 26 31.3	+0.6
VTS	Vitosha	1.33	14	ePg	Pg	12 26 13.2	0.0
VTS				eSg	Sn	12 26 31.4	+0.7
VTS	Vitosha	1.33	14	ePg	Pg	12 26 13.2	0.0
VTS				eSg	Sn	12 26 31.4	+0.7
KAVA	Kavala	1.35	102	P	Pb	12 26 12.9	-0.1
KAVA				S	Sg	12 26 32.1	+1.2
KAVA	Kavala	1.35	102	ePG	Pb	12 26 13.0	0.0
KAVA				eSB	Sg	12 26 31.3	+0.4
KAVA	Kavala	1.35	102	ePg	Pb	12 26 13.0	0.0
KAVA				eSb	Sg	12 26 31.3	+0.4
KAVA				S	Sn	12 26 32.1	+1.3
OHR	Ohrid	1.50	264	i Pg	Pb	12 26 15.5	0.0
OHR	Ohrid	1.50	264	i Pg	Pb	12 26 15.4	-0.1
PAIG	Paliouri	1.54	153	ePG	Pb	12 26 16.0	-0.1
PAIG	Paliouri	1.54	153	ePg	Pb	12 26 16.0	-0.1
PLD	Plovdiv	1.66	60	eSg	Sg	12 26 44.0	+3.3
BARS	Barje	1.68	335	ePg	Pb	12 26 18.8	+0.3
BARS				eSg	Sg	12 26 41.9	+0.7
BARS	Barje	1.68	335	ePg	Pb	12 26 18.8	+0.3
BARS				eSg	Sg	12 26 41.9	+0.7
ZAPS	Zavoj	1.98	357	ePg	Pg	12 26 25.4	+0.1
ZAPS				eSg	Sg	12 26 51.7	+0.7

BUC 07 12:26:47.7±0.7**, 45°.29N×25°.95E, h18**km±5km**, MD2.2**/4**, 22C-2D, Error ellipse: s-maj=7.2km s-min=5.4km az=325.0, Romania**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MLR	Muntele Rosu	0.20	360	⇓iP	Pg	12 26 53.1	+0.2
MLR	Muntele Rosu	0.20	360	S	Sg	12 26 57.8	+1.3
MLR	Muntele Rosu	0.20	360	⇓iP	Pg	12 26 53.1	+0.2
MLR				iS	Sg	12 26 57.8	+1.3
SECR		0.27	161	⇑iP	Pb	12 26 54.3	+0.4
SECR		0.27	161	⇑iP	Pb	12 26 54.3	+0.4
SECR				iS	Sg	12 26 57.7	-0.1
SECR		0.27	161	⇑iP	Pb	12 26 54.3	+0.4
ISR	Istrita	0.45	112	⇑iP	Pb	12 26 57.6	+0.3
ISR	Istrita	0.45	112	⇑iP	Pb	12 26 57.6	+0.3
ISR				iS	Sb	12 27 03.6	-0.2
ISR	Istrita	0.45	112	⇑iP	Pb	12 26 57.6	+0.3
VOIR		0.65	284	⇑iP	Pb	12 27 00.6	0.0
VOIR		0.65	284	⇑iP	Pb	12 27 00.6	0.0
VOIR				iS	Sn	12 27 10.8	-1.3
VOIR		0.65	284	⇑iP	Pb	12 27 00.6	0.0
PLOR	Plostina	0.75	41	⇑iP	Pb	12 27 02.2	-0.1
PLOR	Plostina	0.75	41	⇑iP	Pb	12 27 02.2	-0.1
PLOR				iS	Sn	12 27 14.3	-0.2
DOPR	Dopca	0.79	330	⇑iP	Pg	12 27 03.5	+0.4
DOPR	Dopca	0.79	330	⇑iP	Pg	12 27 03.5	+0.4
DOPR				iS	Sn	12 27 14.9	-0.4
DOPR	Dopca	0.79	330	⇑iP	Pg	12 27 03.5	+0.4
VRI	Vrincioaia	0.80	43	⇑iP	Pn	12 27 04.2	+0.1
VRI	Vrincioaia	0.80	43	⇑iP	Pn	12 27 04.2	+0.1
HUMR	Humele	1.02	222	S	Sn	12 27 22.1	+1.1
HUMR	Humele	1.02	222	iS	Sn	12 27 22.1	+1.1
CFR	Carcaliu	1.55	93	⇑iP	Pn	12 27 15.1	+0.7
CFR	Carcaliu	1.55	93	⇑iP	Pn	12 27 15.1	+0.7
CFR				iS	Sb	12 27 35.8	+0.7
TLB	Topalu	1.65	114	⇑iP	Pn	12 27 16.0	+0.3
TLB	Topalu	1.65	114	⇑iP	Pn	12 27 16.0	+0.3
TLB				iS	Sb	12 27 38.1	+0.2
TIRR	Tirgusor	1.94	114	⇑iP	Pn	12 27 21.0	+1.3
TIRR	Tirgusor	1.94	114	⇑iP	Pn	12 27 21.0	+1.3
TIRR				iS	Sb	12 27 46.3	0.0

IDC 07 12:30:26.9±2.1, 27°.68S×141°.06E, h0km, mb1 3.4/4, mb1mx3.3/31, mbtmp3.2/4, ML3.2/3, Error ellipse: s-maj=32.7km s-min=15.8km az=68.0, Queensland

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
STKA	Stephens Creek	4.21	174	Pn	Pn	12 31 32.1	-0.2
	0.6nm,0.3s,baz=348,slow=14,SNR=20						
STKA				Pg	Pb	12 31 44.1	+2.2
	1.4nm,0.3s,baz=341,slow=16,SNR=16						
STKA				Sn	Sn	12 32 18.4	-3.8
	3.8nm,0.3s,baz=6.0,slow=19,SNR=6.0						
STKA				Lg	Lg	12 32 39.6	
	4.2nm,0.3s,baz=57,slow=18,SNR=4.0						
ASAR	Alice Springs	7.59	300	Pn	Pn	12 32 17.6	-1.3
	0.3nm,0.3s,baz=130,slow=13,SNR=18						
ASAR				Sn	Sn	12 33 38.6	-7.0
	1.6nm,0.3s,baz=122,slow=23,SNR=8.8						
ASAR				Lg	Lg	12 34 28.6	
	0.6nm,0.3s,baz=118,slow=29,SNR=4.9						
CTA	Charters Tower	8.93	33	Pn	Pn	12 32 39.2	+2.0
	baz=218,slow=12,SNR=2.0						
CTA				Sn	Sn	12 34 21.3	+2.8
	0.3nm,0.3s,baz=306,slow=19,SNR=3.1						
WRA	Warramunga Arr	9.85	320	Pn	Pn	12 32 48.8	-1.1
	0.3nm,0.3s,baz=139,slow=12,SNR=7.8						
WRA				Sn	Sn	12 34 33.3	-8.0
	0.7nm,0.3s,baz=102,slow=18,SNR=8.5						
WRA				Lg	Lg	12 35 41.4	
	0.5nm,0.3s,baz=139,slow=30,SNR=4.6						

IDC 07 12:35:23.3±0.9, 17°.74S×172°.64W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.0/45, mbtmp4.1/9, MS3.4/15, Ms1 3.4/15, ms1mx3.3/25, Error ellipse: s-maj=37.3km s-min=19.2km az=137.0
NEIC 07 12:35:24.2±0.7, 17°.81S×172°.44W, h10km, mb4.7/3, Error ellipse: s-maj=25.5km s-min=12.6km az=135.0
ISCJB 07 12:35:25.0±0.7, 17°.56S±0°.10×172°.8W±0°.1, h21km, mb4.2/11, MS3.4/15, Error ellipse: s-maj=23.3km s-min=8.2km az=30.5
ISC 07 12:35:26.7±0.8, 17°.6S±0°.1×172°.7W±0°.2, h21km, n38, σ1.33/25, mb4.2/11, MS3.4/15, 1D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AFI	Afiamalu	3.78	14	ePn	Pn	12 36 22.1	-1.7
AFI				eSn	Sn	12 37 06.7	-1.0
MSVF	Nonsavu	8.83	268	ePn	Pn	12 37 38.8	+5.6
	24nm,1.1s						
DZM	Mont Dzumac	20.12	254	eLR	LR	12 45 21.9	
	263nm,26.4s						
PAE	Paea	22.02	94	eT	T	13 02 22.4	
	1.4nm,0.3s						
PPT2	Papeete2	22.03	93	eLR	LR	12 44 58.3	
	269nm,29.2s						
PPT2	Papeete2	22.03	93	eT	T	13 02 25.9	
	1.4nm,0.3s						
PPT	Papeete	22.03	93	LR	LR	12 47 13.0	
	comp=Z,84nm,18.3s,baz=304,slow=32						
URZ	Urewera	22.43	201	P	P	12 40 23.8	-0.3
	10nm,0.5s,baz=360,slow=2.0,SNR=7.9						
URZ	Urewera	22.43	201	eP	P	12 40 21.8	-2.3
	19nm,0.8s						
URZ				P	P	12 40 23.8	-0.3
TBI	Tubuai	22.49	109	eLR	LR	12 45 16.0	
	268nm,32.0s						
RPZ	Rata Peaks	29.43	204	LR	LR	12 53 56.9	
	comp=Z,92nm,18.4s,baz=44,slow=38						
STKA	Stephens Creek	43.57	242	P	P	12 43 28.1	-1.2
	3.7nm,1.0s,baz=81,slow=9.8,SNR=5.5						
STKA				LR	LR	13 00 48.1	
	comp=Z,85nm,18.2s,baz=195,slow=35						
WRAB	Tennant Creek	50.03	258	eP	P	12 44 19.9	-0.2
	9.4nm,1.3s						
WRA	Warramunga Arr	50.04	258	P	P	12 44 19.3	-0.8
	2.5nm,0.9s,baz=97,slow=7.3,SNR=16						
AS31	Alice Springs	50.11	254	eP	P	12 44 20.0	-0.7
ASAR	Alice Springs	50.11	254	P	P	12 44 20.2	-0.5
	8.3nm,0.9s,baz=87,slow=8.5,SNR=50						
ASAR				LR	LR	13 04 59.0	
	comp=Z,47nm,18.4s,baz=200,slow=35						
GUMO	Guam	52.11	304	LR	LR	13 05 22.1	
	comp=Z,43nm,18.1s,baz=162,slow=34						
RPN	Rapa Nui	58.83	111	LR	LR	13 05 59.2	
	comp=Z,44nm,19.7s,baz=209,slow=31						
JCJ	Chichijima	62.37	315	LR	LR	13 07 14.3	
	comp=Z,25nm,21.6s,baz=154,slow=31						
MJAR	Matsushiro Arr	71.05	320	P	P	12 46 43.3	0.0
	2.1nm,0.9s,baz=169,slow=6.7,SNR=4.5						
MJAR				LR	LR	13 13 49.7	
	comp=Z,6.6nm,21.7s,baz=25,slow=32						
PETK	Petropavlovsk-	74.92	342	LR	LR	13 15 24.7	
	comp=Z,9.3nm,19.6s,baz=112,slow=32						
NVAR	Mina Array Bea	75.52	41	P	P	12 47 10.8	+1.0
	0.3nm,0.6s,baz=238,slow=8.4,SNR=3.3						
NV11	Mina Array Sit	75.61	41	P	P	12 47 10.4	+0.1
KSRS	Korea Array	78.20	316	P	P	12 47 27.6	+2.9
	0.8nm,0.4s,baz=134,slow=6.1,SNR=14						
KSRS				LR	LR	13 17 37.7	
	comp=Z,19nm,21.6s,baz=178,slow=32						
KSAR	Wonju Array Be	78.22	316	P	P	12 47 27.6	+2.8
USRK	Ussuriysk Ar.	79.55	323	LR	LR	13 15 21.3	
	comp=Z,37nm,21.3s,baz=77,slow=30						
TXAR	Lajitas Array	81.28	56	P	P	12 47 41.1	-0.7
	1.2nm,1.1s,baz=216,slow=7.7,SNR=6.4						
PDAR	Pinedale Array	83.45	41	LR	LR	13 23 45.3	
	comp=Z,35nm,18.3s,baz=236,slow=35						
COLA	College	84.39	10	eP	P	12 47 57.3	+0.4
	5.8nm,1.0s						
ILAR	Eielson Array	84.47	11	P	P	12 47 57.2	-0.1
	1.0nm,0.9s,baz=210,slow=5.3,SNR=10						
ILAR				LR	LR	13 25 11.2	
	comp=Z,12nm,18.4s,baz=214,slow=35						
IM04	Indian Mountai	84.54	8	eP	P	12 47 58.5	+0.8
DAWY	Dawson	85.38	14	eP	P	12 48 02.7	+0.7
MAW	Mawson	85.93	198	LR	LR	13 28 45.8	
	comp=Z,39nm,18.0s,baz=74,slow=37						
CMAR	Chiang Mai Arr	93.94	288	LR	LR	13 28 54.7	
	comp=Z,7.2nm,19.5s,baz=245,slow=34						
KMBO	Kilima Mbogo	145.13	241	PKPbc	PKPbc	12 55 03.4	0.0
	2.6nm,0.8s,baz=100,slow=4.0,SNR=4.3						
CLL	Collm	146.07	354	⇓iPKPbc	PKPab	12 55 06.1	+0.6
	comp=Z,15nm,1.4s						
CLL				i		12 55 17.3	
	comp=Z,10.0nm,1.1s						
CLL				eSKPbc	SKiKP	12 58 46.0	+2.6
BRTR	Keskin Array B	148.28	319	PKPbc	PKPbc	12 55 12.0	+0.3
	comp=Z,3.0nm,1.1s,baz=126,slow=2.1,SNR=6.2						
GERES	GERESS Array B	148.41	352	PKPbc	PKPbc	12 55 12.4	+0.8
	comp=Z,0.3nm,0.2s,baz=42,slow=6.1,SNR=3.7						

CSEM 07 12:35:50.9±0.2, 37°.28N×22°.23E, h14km±1km, ML2.2, Error ellipse: s-maj=3.9km s-min=3.3km az=114.0
THE 07 12:35:50.4, 37°.24N×22°.27E, h21km±1km, ML2.2/3, Error ellipse: s-maj=1.4km s-min=0.4km az=141.0
ATH 07 12:35:51.3, 37°.26N×22°.22E, h10km±5km, MD2.7/9, Southern Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VLX	Vlachokerasia	0.17	49	P	Pg	12 35 54.9	-0.2
VLX				S	Sg	12 35 58.4	+0.6
VLX	Vlachokerasia	0.17	49	ePG	Pg	12 35 54.9	-0.2
VLX				eSG	Sg	12 35 57.9	+0.1
VLX	Vlachokerasia	0.17	49	P	Pg	12 35 54.9	-0.2
VLX				eSg	Sg	12 35 57.9	+0.1
VLX				S	Sg	12 35 58.4	+0.6
ITM	Ithomi	0.25	251	P	Pg	12 35 56.6	+0.2
ITM				S	Sg	12 36 01.6	+1.8
ITM	Ithomi	0.25	251	ePG	Pg	12 35 56.7	+0.3
ITM				eSG	Sg	12 35 59.7	-0.1
ITM	Ithomi	0.25	251	ePg	Pg	12 35 56.7	+0.3
ITM				eSg	Sg	12 35 59.7	-0.1
ITM				S	Sg	12 36 01.6	+1.8
AMT	Artemida-Makis	0.49	304	P	Pg	12 36 00.9	0.0
AMT				S	Sb	12 36 08.8	-0.6
AMT	Artemida-Makis	0.49	304	ePB	Pg	12 36 00.9	0.0
AMT				eSB	Sg	12 36 08.1	+0.6
AMT	Artemida-Makis	0.49	304	P	Pg	12 36 00.9	0.0
AMT				eSb	Sg	12 36 08.1	+0.6
PYL	PYLOS	0.53	227	ePG	Pg	12 36 01.3	-0.3
PYL	PYLOS	0.53	227	ePg	Pg	12 36 01.3	-0.3
GUR	Goura	0.68	8	P	Pg	12 36 03.5	-1.2
GUR				S	Sg	12 36 13.8	0.0
GUR	Goura	0.68	8	ePB	Pg	12 36 03.8	-0.9
GUR	Goura	0.68	8	P	Pg	12 36 03.5	-1.2
GUR	Goura	0.68	8	ePb	Pg	12 36 03.8	-0.9
GUR				S	Sg	12 36 13.8	0.0
KLV	Kalavryta, Ach	0.78	356	P	Pg	12 36 05.2	-1.4
KLV				S	Sg	12 36 17.1	+0.2
KLV	Kalavryta, Ach	0.78	356	ePB	Pg	12 36 05.4	-1.2
KLV	Kalavryta, Ach	0.78	356	ePb	Pg	12 36 05.4	-1.2
KLV				S	Sg	12 36 17.1	+0.2
VLI	Veliai	0.79	133	ePB	Pb	12 36 07.3	+0.2
VLI	Veliai	0.79	133	ePb	Pb	12 36 07.3	+0.2
DRO	Drossia	0.80	330	ePB	Pg	12 36 07.0	+0.2
DRO	Drossia	0.80	330	ePb	Pg	12 36 07.0	+0.2
DID	Didima	0.85	73	ePB	Pg	12 36 07.9	+0.2
DID	Didima	0.85	73	ePb	Pg	12 36 07.9	+0.2
LTK	Loutraki	0.96	38	ePG	Pg	12 36 09.1	-0.9
LTK	Loutraki	0.96	38	ePg	Pg	12 36 09.1	-0.9
KYTH	Kithira	1.18	146	ePN	Pb	12 36 13.0	-0.8
KYTH	Kithira	1.18	146	ePn	Pb	12 36 13.0	-0.8

CSEM 07 12:38:43.3±0.2, 44°.40N×21°.81E, h1km, ML1.5, Error ellipse: s-maj=6.6km s-min=3.9km az=98.0, Mining explosion.
BEO 07 12:38:44.5±0.4, 44°.41N×21°.98E, h0km, ML1.5/5, 6C-4D, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BOLS	Boljevac	0.58	182	eSg	Sg	12 39 01.7	-1.5
BOLS	Boljevac	0.58	182	eSg	Sg	12 39 01.7	-1.5
GRUS	Gruza	1.05	241	eSg	Sg	12 39 18.9	+0.6
GRUS	Gruza	1.05	241	eSg	Sg	12 39 18.9	+0.6
GZR	Gura Zlata	1.14	30	⇑iP	Pg	12 39 05.5	-0.9
GZR	Gura Zlata	1.14	30	⇑iP	Pg	12 39 05.5	-0.9
GZR				S	Sb	12 39 22.3	-0.2
TRUS	Trudelj	1.15	261	ePg	Pg	12 39 04.2	-2.3
TRUS				eSg	Sg	12 39 21.0	-0.4
TRUS	Trudelj	1.15	261	ePg	Pg	12 39 04.2	-2.3
TRUS				eSg	Sg	12 39 21.0	-0.4
ZAPS	Zavoj	1.23	157	ePg	Pg	12 39 07.6	-0.6
ZAPS				eSg	Sg	12 39 24.3	+0.1
BZS	Buzias	1.23	348	ePg	Pg	12 39 06.4	-1.8
BZS				eSg	Sg	12 39 23.7	-0.5
BZS	Buzias	1.23	348	⇓iP	Pg	12 39 06.5	-1.7
BZS	Buzias	1.23	348	ePg	Pg	12 39 06.4	-1.8
BZS	Buzias	1.23	348	⇓iP	Pg	12 39 06.5	-1.7
BZS				S	Sg	12 39 22.6	-1.6
BZS				eSg	Sb	12 39 23.7	-1.5
SELS	Selova	1.34	208	ePg	Pg	12 39 08.1	-2.2
SELS				eSg	Sg	12 39 27.1	-0.7
DIVS	Divibare	1.46	258	⇓iP	Pn	12 39 07.4	-4.9
DIVS	Divibare	1.46	258	⇓iP	Pn	12 39 07.4	-4.9
DIVS				S	Sg	12 39 23.8	-7.9
BARS	Barje	1.60	184	ePg	Pn	12 39 12.7	-1.3
BARS				eSg	Sg	12 39 35.8	-0.1
BARS	Barje	1.60	184	ePg	Pn	12 39 12.7	-1.3
BARS				eSg	Sg	12 39 35.8	-0.1
LOT	Lotru	1.64	50	⇑iP	Pn	12 39 15.2	+0.4
LOT	Lotru	1.64	50	⇑iP	Pn	12 39 15.2	+0.4
LOT				S	Sn	12 39 36.8	+0.1
SIRR	Siria	1.87	353	⇑iP	Pn	12 39 18.1	+0.3
SIRR	Siria	1.87	353	S	Sn	12 39 41.1	-1.1
SIRR	Siria	1.87	353	⇑iP	Pn	12 39 18.1	+0.3
SIRR				S	Sn	12 39 41.1	-1.1

MEX 07 12:45:12.6±0.8, 13°.99N×94°.30W, h16km±14km, MD4.3
ISCJB 07 12:45:13.7±0.5, 14°.22N±0°.05×94°.22W±0°.05, h30km, mb4.1/18, MS3.3/4, Error ellipse: s-maj=8.0km s-min=6.0km az=29.6
NEIC 07 12:45:13.4±0.6, 14°.28N×94°.11W, h10km, mb4.3/12, MD4.3(MEX), Error ellipse: s-maj=13.7km s-min=7.6km az=224.0
IDC 07 12:45:17.3±3.9, 14°.36N×93°.96W, h37km±33km, mb3.7/10, mb1 4.0/13, mb1mx3.8/41, mbtmp3.9/13, ML4.1/4, MS3.3/8, Ms1 3.2/8, ms1mx3.0/29, Error ellipse: s-maj=36.6km s-min=13.4km az=53.0
ISC 07 12:45:15.7±0.7, 14°.37N±0°.06×94°.18W±0°.04, h30km, n39, σ1.95/42, mb4.1/18, MS3.3/4, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
THIG		1.93	74	iP	Pn	12 45 45.1	-1.4
THIG				iS	Sn	12 46 09.4	-0.4
THIG		1.93	74	iP	Pn	12 45 45.1	-1.4
THIG				iS	Sn	12 46 09.4	-0.4
HUIG	Huatulco	2.33	307	iP	Pn	12 45 49.7	-2.3
HUIG				iS	Sn	12 46 17.4	-2.2
HUIG	Huatulco	2.33	307	iP	Pn	12 45 49.7	-2.3
HUIG				iS	Sn	12 46 17.4	-2.2
TGIG		2.60	23	eP	Pn	12 45 57.2	+1.3
TGIG				iS	Sb	12 46 31.5	-2.0
TGIG		2.60	23	eP	Pn	12 45 57.2	+1.3
TGIG				iS	Sb	12 46 31.5	-2.0
CCIG	Comitan	2.74	46	eP	Pn	12 45 58.8	+1.0
CCIG				iS	Sb	12 46 34.1	-3.3
CCIG	Comitan	2.74	46	eP	Pn	12 45 58.8	+1.0
CCIG				iS	Sb	12 46 34.1	-3.3
CMIG	Matias Romero	2.79	346	Pn	Pn	12 45 58.9	+0.5
	34nm,0.3s,baz=164,slow=14,SNR=281						
CMIG				Sn	Sn	12 46 29.8	-1.3
	58nm,0.3s,baz=104,slow=23,SNR=4.1						
CMIG				LR	LR	12 47 17.6	
	comp=Z,566nm,20.0s,baz=160,slow=42						
TEIG	Tepich	8.11	43	Pn	Pn	12 47 09.8	-1.7
	17nm,0.3s,baz=57,slow=1.1,SNR=43						
TEIG				Sn	Sn	12 48 39.1	-3.1
	5.6nm,0.3s,baz=315,slow=20,SNR=3.3						
TEIG				LR	LR	12 50 56.4	
	comp=Z,332nm,20.7s,baz=178,slow=42						
JTS	JuntasAbangare	9.88	113	Pn	Pn	12 47 35.4	-0.5
	0.9nm,0.3s,baz=302,slow=19,SNR=2.9						
JCT	Junction City	16.85	343	ePn	P	12 49 11.4	0.0
	14nm,1.0s						
TXAR	Lajitas Array	17.29	331	P	P	12 49 17.7	+1.4
	0.1nm,0.3s,baz=150,slow=16,SNR=12						
TXAR				LR	LR	12 55 26.2	
	comp=Z,22nm,21.2s,baz=0.0,slow=35						
LPIG	La Paz	18.03	305	LR	LR	12 55 53.1	
	comp=Z,62nm,19.1s,baz=283,slow=35						
MNTX	Cornudas Mount	20.07	331	eP	Pn	12 49 49.8	+1.1
	2.3nm,1.0s						
MIAR	Mount Ida	20.10	1	eP	P	12 49 47.9	+0.8
	8.3nm,0.8s						
WMOK	Wichita Mounta	20.70	349	eP	Pn	12 49 55.0	-1.1
	12nm,1.3s						
W34A	Bridge Creek,	21.03	352	eP	P	12 49 58.7	+1.6
	46nm,1.1s						
ROSC	El Rosal	21.71	114	P	P	12 50 05.4	+0.3
	2.3nm,0.4s,baz=90,slow=20,SNR=1.7						
121A	Cookes Peak, D	21.93	328	eP	P	12 50 11.2	+4.2
	15nm,0.9s						
TKL	Tuckaleechee C	23.17	22	LR	LR	13 01 41.6	
	comp=Z,81nm,18.6s,baz=232,slow=43						
ANMO	Albuquerque	23.29	334	P	P	12 50 23.5	+2.2
	2.0nm,0.9s,baz=152,slow=12,SNR=5.1						
TUC	Tucson	23.42	323	eP	P	12 50 26.4	+3.9
	11nm,1.5s						
SDV	Santo Domingo	23.69	101	eP	P	12 50 26.3	+1.0
	6.2nm,0.8s						
WCI	Wyandotte Cave	24.77	15	eP	P	12 50 34.8	-0.2
	19nm,0.8s						
WUAZ	Wupatki	26.12	327	eP	P	12 50 51.0	+3.6
	3.0nm,0.8s						
PFO	Pinyon Flats O	27.84	317	LR	LR	13 03 22.9	
	comp=Z,58nm,18.8s,baz=324,slow=39						
JFWS	Jewell Farm	28.65	6	eP	P	12 51 09.9	+0.1
	9.8nm,0.7s						
NVAR	Mina Array Bea	32.08	323	P	P	12 51 43.3	+2.9
	2.4nm,0.8s,baz=149,slow=9.1,SNR=11						
AGMN	Agassiz Nation	33.86	358	eP	P	12 51 56.4	+0.9
	9.7nm,1.1s						
LPAZ	La Paz	39.88	139	P	P	12 52 47.0	-0.8
	1.2nm,0.7s,baz=344,slow=7.4,SNR=2.2						
SIV	San Ignacio	44.50	131	P	P	12 53 23.8	-1.1
	1.7nm,0.9s,baz=354,slow=9.8,SNR=3.1						
SCHQ	Schefferville	45.64	22	LR	LR	13 14 52.1	
	comp=Z,61nm,18.9s,baz=266,slow=39						
YKA	Yellowknife Ar	50.20	348	P	P	12 54 10.4	+1.9
	2.0nm,0.9s,baz=152,slow=7.4,SNR=8.0						
PLCA	Paso Flores	59.04	159	P	P	12 55 12.1	-1.0
	2.9nm,0.9s,baz=9.5,slow=3.4,SNR=3.4						
INK	Inuvik	59.50	344	P	P	12 55 16.2	+0.5
	1.2nm,0.7s,baz=167,slow=0.4,SNR=3.3						
ILAR	Eielson Array	61.68	337	P	P	12 55 31.5	+0.8
	1.2nm,0.9s,baz=147,slow=4.2,SNR=18						
ESDC	Sonseca Array	81.14	51	P	P	12 57 28.1	-0.6
	0.1nm,0.3s,baz=279,slow=3.5,SNR=4.2						
FINES	FINESS Array B	91.05	25	LR	LR	13 38 44.0	
	comp=Z,12nm,21.8s,baz=5.0,slow=35						

ISCJB 07 12:46:06.0±0.5, 37°.26N±0°.03×28°.22E±0°.04, h7km±6km, Error ellipse: s-maj=6.1km s-min=4.8km az=147.7
CSEM 07 12:46:05.9±0.2, 37°.25N×28°.24E, h10km, MD2.7, Error ellipse: s-maj=4.1km s-min=3.8km az=58.0
ISK 07 12:46:05.3, 37°.26N×28°.20E, h8km, MD2.7
DDA 07 12:46:09.1, 37°.23N×28°.12E, h2km, MD2.7
ISC 07 12:46:05.9±1.2, 37°.26N±0°.02×28°.19E±0°.03, h2km±11km, n23, σ0.88/35, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YER	Yerkesik	0.15	150	ePG	Pg	12 46 08.8	0.0
YER				eSG	Sg	12 46 11.4	+0.8
YER	Yerkesik	0.15	150	ePg	Pg	12 46 08.8	+0.1
YER				eSg	Sg	12 46 11.5	+0.8
AYDN	Tasoluk	0.47	328	iP	Pb	12 46 16.3	-0.6
AYDN				iS	Sb	12 46 23.8	-0.5
AYDN	Tasoluk	0.47	328	iP	Pb	12 46 16.3	-0.6
AYDN				iS	Sb	12 46 23.8	-0.5
TURN	Turunc	0.51	140	iP	Pg	12 46 15.2	-0.5
TURN				iS	Sb	12 46 25.2	-0.2
TURN	Turunc	0.51	140	iP	Pg	12 46 15.2	-0.5
TURN				iS	Sb	12 46 25.2	-0.2
BDRM	Kayabasi	0.63	252	iP	Pb	12 46 19.0	-0.6
BDRM				iS	Sb	12 46 29.7	+0.9
BDRM	Kayabasi	0.63	252	iP	Pb	12 46 19.0	-0.6
BDRM				iS	Sb	12 46 29.7	+0.9
AYDB	Zeytinkoy-Aydi	0.72	341	ePG	Pg	12 46 19.7	0.0
AYDB				eSG	Sg	12 46 30.5	+1.4
AYDB	Zeytinkoy-Aydi	0.72	341	ePg	Pg	12 46 19.7	0.0
AYDB				eSg	Sg	12 46 30.5	+1.4
DAT	Datca	0.72	223	ePG	Pg	12 46 19.7	0.0
DAT	Datca	0.72	223	ePg	Pg	12 46 19.7	0.0
BODT	Bodrum	0.73	254	ePG	Pg	12 46 19.9	0.0
BODT				eSG	Sb	12 46 30.5	-1.3
BODT	Bodrum	0.73	254	ePg	Pg	12 46 19.9	0.0
BODT				eSg	Sb	12 46 30.5	-1.3
DENT	Denizli	0.83	54	ePG	Pg	12 46 21.4	-0.4
DENT	Denizli	0.83	54	ePg	Pg	12 46 21.4	-0.4
GOLH	Golhisar	1.09	91	iP	Pn	12 46 31.8	+3.4
GOLH				iS	Sn	12 46 47.0	+2.8
KULA	Kula-Manisa	1.30	16	ePN	Pn	12 46 30.4	-0.8
KULA	Kula-Manisa	1.30	16	ePn	Pn	12 46 30.4	-0.8
IZM	Izmir	1.35	327	ePN	Pn	12 46 31.2	-0.6
IZM	Izmir	1.35	327	ePn	Pn	12 46 31.2	-0.6
ELL	Elmali	1.47	110	ePN	Pn	12 46 32.8	-0.8
ELL	Elmali	1.47	110	ePn	Pn	12 46 32.8	-0.8

DJA 07 12:52:55.8±0.6, 1°S±7°×12°3E±°, h26km±9km, M3.6/2, MLv3.6/2, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LUWI	Luwuk	0.60	243	P	Pn	12 53 08.4	-0.3
LUWI				S	Sn	12 53 17.3	-0.3
GTOI	Gorontalo	1.43	348	P	Pb	12 53 22.0	+0.2
KMSI	Cibinong	1.49	27	P	Pn	12 53 20.7	-0.3
KMSI				S	Sn	12 53 33.2	-6.4
APSI	Ampana	1.67	265	P	Pn	12 53 24.3	+1.0
APSI				S	Sn	12 53 44.4	+0.5
MRSI	Marisa	1.85	312	P	Pn	12 53 20.0	-5.8
MRSI				S	Sn	12 53 49.7	+1.4
MPSI	Mapaga	3.58	288	P	Pn	12 53 44.9	-4.8

ISCJB 07 13:21:40.7±0.4, 26°.99S±0°.02×26°.79E±0°.03, h10km±3km, mb4.2/14, Error ellipse: s-maj=5.1km s-min=3.1km az=44.2
NEIC 07 13:21:40.5, 26°.99S×26°.82E, h2km, mb4.4/1, ML4.1(PRE), After PRE.
PRE 07 13:21:40.7±2.3, 27°.02S×26°.84E, h2km, ML4.1
IDC 07 13:21:41.6±0.6, 26°.89S×26°.66E, h0km, mb4.2/15, mb1 4.4/20, mb1mx4.3/31, mbtmp4.3/20, ML4.6/3, Error ellipse: s-maj=19.4km s-min=13.8km az=108.0
ISC 07 13:21:41.2±0.7, 26°.96S±0°.02×26°.83E±0°.02, h7km±4km, n73, σ1.75/110, mb4.3/14, 5C-12D, South Africa

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MOAB	Moab Khotsong	0.04	234	⇓iP	Pg	13 21 43.0	+0.2
MOAB				eS	Sg	13 21 43.2	-0.7
MOAB				AML	AML	13 21 43.5	
	comp=Z,278μm,0.1s						
MOAB	Moab Khotsong	0.04	234	⇓iP	Pg	13 21 43.0	+0.2
MOAB				eS	Sg	13 21 43.4	-0.6
BFSD	Buffelsfontein	0.11	337	eP	Pg	13 21 44.5	+0.8
BFSD				eS	Sg	13 21 45.5	+0.2
BFSD				AML	AML	13 21 47.2	
	comp=Z,24μm,0.8s						
BFSD	Buffelsfontein	0.11	337	⇓iP	Pg	13 21 44.3	+0.6
TLEK	Tau Lekoa	0.14	271	eP	Pg	13 21 44.6	+0.4
TLEK				eS	Sg	13 21 46.1	-0.3
TLEK				AML	AML	13 21 46.5	
	comp=Z,42μm,0.2s						
PRYS	Parys	0.47	85	eP	Pb	13 21 51.6	-0.3
PRYS				eS	Sg	13 21 57.1	+0.6
PRYS				AML	AML	13 22 03.2	
	comp=Z,9μm,0.6s						
PRYS	Parys	0.47	85	⇑iP	Pb	13 21 51.4	-0.5
PRYS				eS	Sb	13 21 58.1	-1.0
WDLM	Western Deep L	0.75	45	⇓iP	Pb	13 21 56.6	-0.1
WDLM				eS	Sg	13 22 05.5	0.0
KLOF	Kloof	0.93	49	⇓iP	Pn	13 21 59.9	-0.9
KLOF				eS	Sg	13 22 10.7	-0.4
KLOF				AML	AML	13 22 16.9	
	comp=Z,7μm,0.2s						
KLOF	Kloof	0.93	49	⇓iP	Pn	13 21 59.8	-0.9
KLOF				eS	Sb	13 22 11.0	-1.3
KSR	Koster	1.11	3	eP	Pn	13 22 02.4	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSR				eS	Sn	13 22 18.1	-0.8
KSR				AML	AML	13 22 21.6	
	comp=Z,1μm,0.3s						
KSR	Koster	1.11	3	⇓iP	Pn	13 22 02.3	-1.0
KSR				eS	Sb	13 22 16.8	-0.8
SWZ	Schweizer	1.36	260	⇑iP	Pb	13 22 06.2	-0.8
SWZ				eS	Sg	13 22 24.2	-0.6
SWZ				AML	AML	13 22 26.1	
	comp=Z,3μm,0.3s						
SWZ	Schweizer	1.36	260	⇓iP	Pn	13 22 06.0	-0.7
SWZ				eS	Sb	13 22 23.1	-1.5
SEK	Senekal	1.52	153	eP	Pg	13 22 10.3	-0.1
SEK				eS	Sb	13 22 29.1	-0.4
SEK				AML	AML	13 22 33.7	
	comp=Z,3μm,0.5s						
SEK	Senekal	1.52	153	⇑iP	Pg	13 22 10.1	-0.3
SEK				eS	Sg	13 22 30.6	+0.3
SLR	Silverton	1.79	47	⇓iP	Pb	13 22 14.2	-0.1
SLR				eS	Sb	13 22 36.3	-0.6
BOSA	Boshof	2.16	220	⇓iP	Pn	13 22 18.4	+0.7
BOSA				eS	Sn	13 22 44.2	-0.5
BOSA				AML	AML	13 22 48.6	
	comp=Z,772nm,0.3s						
BOSA	Boshof	2.16	220	Pn	Pn	13 22 18.4	+0.7
	comp=Z,110nm,0.3s,baz=34,slow=12,SNR=412						
BOSA				Pg	Pb	13 22 20.6	-0.1
	comp=Z,110nm,0.3s,baz=36,slow=18,SNR=153						
BOSA				Lg	Lg	13 22 44.7	
	comp=Z,301nm,0.3s,baz=308,slow=12,SNR=25						
BOSA	Boshof	2.16	220	Pn	Pn	13 22 18.4	+0.7
BOSA				Pg	Pb	13 22 20.6	-0.1
BOSA				Lg	Lg	13 22 44.7	
BOSA				eS	Sn	13 22 44.9	+0.2
BOSA				eSg	Sb	13 22 47.5	-0.1
HVD	Gariep Dam	3.81	198	⇓iP	Pn	13 22 40.9	+0.5
HVD				eS	Sn	13 23 24.2	-1.5
HVD				AML	AML	13 23 43.5	
	comp=Z,251nm,0.4s						
HVD	Gariep Dam	3.81	198	⇑iP	Pn	13 22 40.4	-0.1
HVD				eS	Sn	13 23 23.5	-2.1
CNG	Changalane	4.84	83	eP	Pn	13 22 54.7	+0.3
CNG				eS	Sn	13 23 45.6	-5.2
CNG				AML	AML	13 23 55.7	
	comp=Z,90nm,0.6s						
UPI	Upington	5.14	253	eP	Pn	13 22 58.7	0.0
UPI				eS	Sn	13 23 57.8	-0.5
UPI				AML	AML	13 24 26.1	
	comp=Z,265nm,0.5s						
UPI	Upington	5.14	253	⇓iP	Pn	13 22 59.2	+0.5
UPI				eS	Sn	13 23 57.3	-1.1
MSNA	Messina	5.44	33	eP	Pn	13 23 02.4	-0.4
MSNA				eS	Sn	13 24 02.5	-3.1
MSNA				AML	AML	13 24 40.6	
	comp=Z,156nm,0.7s						
MSNA	Messina	5.44	33	eP	Pn	13 23 02.2	-0.6
MSNA				eS	Sn	13 24 04.0	-1.7
SOE	Somerset East	5.83	191	eP	Pn	13 23 09.0	+0.8
SOE				eS	Sn	13 24 11.8	-3.6
SOE				AML	AML	13 24 21.3	
	comp=Z,62nm,0.6s						
SOE	Somerset East	5.83	191	eP	Pn	13 23 08.8	+0.7
SOE				eS	Sn	13 24 13.9	-1.5
GRM	Grahamstown	6.33	182	eP	Pn	13 23 14.8	-0.2
GRM				eS	Sn	13 24 23.1	-4.6
GRM				AML	AML	13 24 39.9	
	comp=Z,32nm,0.3s						
GRM	Grahamstown	6.33	182	eP	Pn	13 23 14.9	-0.1
GRM				eS	Sn	13 24 24.1	-3.6
MATP	Matopo	6.69	14	Pn	Pn	13 23 20.7	+0.7
	comp=Z,12nm,0.3s,baz=194,slow=13,SNR=152						
MATP				Sn	Sn	13 24 28.6	-8.0
	comp=Z,4.9nm,0.3s,baz=250,slow=13,SNR=3.7						
MATP				Lg	Lg	13 25 04.1	
	comp=Z,21nm,0.3s,baz=293,slow=21,SNR=7.1						
BUFB	Buffelsbos	7.39	194	eP	Pn	13 23 29.5	+0.1
BUFB				eS	Sn	13 24 48.7	-4.8
BUFB				AML	AML	13 24 53.8	
	comp=Z,28nm,0.2s						
BUFB	Buffelsbos	7.39	194	eP	Pn	13 23 29.2	-0.2
BUFB				eS	Sn	13 24 49.5	-3.9
SUR	Sutherland	7.52	223	eP	Pn	13 23 30.9	-0.5
SUR				eS	Sn	13 24 54.2	-2.9
SUR				AML	AML	13 25 40.2	
	comp=Z,97nm,0.6s						
SUR	Sutherland	7.52	223	Pn	Pn	13 23 31.5	0.0
	comp=Z,10nm,0.3s,baz=62,slow=16,SNR=63						
SUR				Sn	Sn	13 24 52.4	-4.7
	comp=Z,11nm,0.3s,baz=336,slow=16,SNR=5.1						
SUR				Lg	Lg	13 25 30.4	
	comp=Z,19nm,0.3s,baz=321,slow=18,SNR=3.8						
SUR	Sutherland	7.52	223	ePn	Pn	13 23 31.5	0.0
SUR				eS	Sn	13 24 52.7	-4.3
SUR				Lg	Lg	13 25 30.4	
CER	Ceres	9.12	224	⇑iP	Pn	13 23 53.3	+0.1
CER				eS	Sn	13 25 32.1	-4.1
CER				AML	AML	13 26 37.5	
	comp=Z,73nm,0.9s						
CER	Ceres	9.12	224	eP	Pn	13 23 53.4	+0.1
CER				eS	Sn	13 25 32.8	-3.4
TSUM	Tsumeb	11.49	310	eP	Pn	13 24 26.4	+0.5
TSUM				eS	Sn	13 26 30.3	-4.4
TSUM	Tsumeb	11.49	310	Pn	Pn	13 24 24.3	-1.6
	comp=Z,3.5nm,0.3s,baz=141,slow=12,SNR=31						
TSUM				Sn	Sn	13 26 27.4	-7.2
	comp=Z,0.9nm,0.3s,baz=33,slow=23,SNR=3.3						
TSUM				Lg	Lg	13 27 32.5	
	comp=Z,1.6nm,0.3s,baz=230,slow=15,SNR=4.1						
TSUM	Tsumeb	11.49	310	ePn	Pn	13 24 24.3	-1.6
TSUM				eS	Sn	13 26 26.8	-7.9
TSUM				Lg	Lg	13 27 32.5	
LSZ	Lusaka	11.70	6	Pn	Pn	13 24 27.4	-1.4
	comp=Z,3.4nm,0.3s,baz=190,slow=12,SNR=39						
LSZ				Sn	Sn	13 26 31.1	-8.6
	comp=Z,2.0nm,0.3s,baz=19,slow=21,SNR=4.0						
LSZ				Lg	Lg	13 27 40.3	
	comp=Z,1.1nm,0.3s,baz=116,slow=22,SNR=8.1						
LSZ	Lusaka	11.70	6	ePn	Pn	13 24 27.4	-1.4
LSZ				eS	Sn	13 26 34.1	-5.6
LSZ				Lg	Lg	13 27 40.3	
OPO	Ambohidratompo	20.52	70	P	Pn	13 26 23.1	+0.5
	comp=Z,6.8nm,0.9s,baz=221,slow=13,SNR=4.2						
MSKU	Masuku	28.18	331	P	P	13 27 34.5	-0.1
	comp=Z,2.6nm,0.3s,baz=176,slow=16,SNR=3.1						
DBIC	Dimbokro	45.38	313	P	P	13 30 00.1	-0.4
	comp=Z,2.2nm,0.5s,baz=104,slow=9.3,SNR=3.2						
DBIC	Dimbokro	45.38	313	P	P	13 30 01.4	+0.8
	comp=Z,3.7nm,0.8s						
TOA0	Torodi Ar. Sit	46.75	325	eP	P	13 30 11.4	+0.1
TORD	Torodi Ar. Bea	46.75	325	P	P	13 30 11.0	-0.3
	comp=Z,3.2nm,0.6s,baz=156,slow=7.4,SNR=38						
SNAA	Sanae	47.69	192	P	P	13 30 12.0	-6.0
BRTR	Keskin Array B	66.65	6	P	P	13 32 34.1	+1.6
	comp=Z,0.6nm,0.7s,baz=189,slow=9.8,SNR=3.9						
BDFB	Brasilia	69.78	262	P	P	13 32 53.6	+0.8
	comp=Z,6.3nm,0.7s,baz=86,slow=4.9,SNR=5.6						
ESDC	Sonseca Array	72.25	335	P	P	13 33 08.3	+1.2
	comp=Z,1.4nm,0.5s,baz=154,slow=6.1,SNR=11						
VNDA	Vanda	72.37	171	P	P	13 33 09.0	+1.7
	comp=Z,0.8nm,0.8s,baz=244,slow=5.3,SNR=4.1						
GERES	GERESS Array B	76.37	351	P	P	13 33 33.0	+2.0
	comp=Z,1.0nm,0.8s,baz=123,slow=4.8,SNR=4.2						
AKASG	Malin Array Be	77.35	2	P	P	13 33 37.2	+1.0
	comp=Z,1.5nm,0.5s,baz=184,slow=5.0,SNR=4.3						
CMAR	Chiang Mai Arr	83.20	65	P	P	13 34 09.8	+1.1
	comp=Z,0.6nm,0.6s,baz=236,slow=4.1,SNR=4.4						
LPAZ	La Paz	87.05	253	P	P	13 34 28.9	+0.1
	comp=Z,1.7nm,0.5s,baz=120,slow=5.9,SNR=8.6						
FINES	FINESS Array B	88.09	360	P	P	13 34 33.5	+1.7
	comp=Z,2.5nm,0.8s,baz=147,slow=3.9,SNR=7.0						
ASAR	Alice Springs	93.45	119	P	P	13 35 00.8	+2.8
	comp=Z,0.6nm,0.9s,baz=231,slow=4.8,SNR=9.1						
STKA	Stephens Creek	94.65	129	P	P	13 35 05.0	+1.8
	comp=Z,1.0nm,0.7s,baz=331,slow=4.2,SNR=4.0						
ILAR	Eielson Array	141.97	356	PKhKP	PKPpre	13 41 08.9	
	comp=Z,1.3nm,1.1s,baz=326,slow=3.5,SNR=6.6						
HYT	Haines Junctio	144.51	347	ePKP	PKPdf	13 41 18.8	+0.8
DLBC	Dease Lake	144.61	339	ePKP	PKPdf	13 41 19.3	+1.1
HLID	Hailey	144.66	308	ePKP	PKPdf	13 41 19.8	+1.0
MFID	Camas Ranch	145.69	308	ePKP	PKPab	13 41 22.9	+1.7
ELK	Elko	145.91	304	ePKPbc	PKPab	13 41 23.3	+1.0
BMO	Blue Mountains	146.25	311	ePKPbc	PKPab	13 41 23.9	+0.6
SHPR	Sheep Range	146.49	296	ePKPbc	PKPab	13 41 26.1	+1.5
R11A	Troy Canyon, C	146.60	299	ePKPbc	PKPab	13 41 25.2	+0.3
TPH	Tonopah	147.91	299	ePKPbc	PKPab	13 41 30.1	0.0
NVAR	Mina Array Bea	148.69	300	PKPbc	PKPab	13 41 31.9	-1.3
	comp=Z,3.1nm,0.7s,baz=73,slow=4.8,SNR=20						

ISCJB ***07*** *14:26:59.6±0.8, 80°32N±0°09×2°7W±0°3, h10km, mb3.6/7, MS3.0/7, Error ellipse: s-maj=13.6km s-min=6.5km az=3.6*
BER ***07*** *14:27:03.4±3.6, 80°89N×0°28W, h10km, ML2.8, ML4.2(NAO)*
IDC ***07*** *14:27:04.3±0.9, 80°18N×2°12W, h0km, mb3.6/9, mb1 3.9/11, mb1mx3.6/36, mbtmp3.8/11, ML4.4/3, MS3.0/13, Ms1 3.0/13, ms1mx2.8/37, Error ellipse: s-maj=27.4km s-min=14.8km az=38.0*
CSEM ***07*** *14:27:06.6±0.6, 80°36N×0°83E, h2km, ML4.2, Error ellipse: s-maj=21.8km s-min=11.0km az=15.0*
ISC 07 14:27:03.3±1.0, **80°3N**±0°1×**1°82W**±0°05, **h10**km, **n37**, σ**2°28**/34, **mb3.6**/7, **MS2.9**/7, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	3.98	112	Pn	Pn	14 28 04.2	-0.1
	baz=338,slow=10						
SPA0				Sn	Sn	14 28 48.3	-2.6
	baz=329,slow=28						
SPA0	Spitsbergen Ar	3.98	112	Pn	Pn	14 28 04.2	-0.1
	baz=338,slow=10						
SPA0				Sn	Sn	14 28 48.3	-2.6
	baz=329,slow=28						
SPA0	Spitsbergen Ar	3.98	112	Pn	Pn	14 28 04.2	-0.1
	SNR=942						
SPA0				Sn	Sn	14 28 48.3	-2.6
	SNR=6.1						
SPITS	Spitsbergen Ar	3.98	112	Pn	Pn	14 28 04.2	-0.1
	baz=316,slow=8.1,SNR=2882						
SPITS				Sn	Sn	14 28 47.7	-3.3
	baz=307,slow=16,SNR=2.5						
SPITS				LR	LR	14 29 35.8	
	comp=Z,216nm,19.8s,baz=250,slow=38						
HSP	Hornsund	4.71	125	Pn	Pn	14 28 14.8	+0.6
HSP	Hornsund	4.71	125	Pn	Pn	14 28 14.8	+0.6
HSPB	Hornsund (broa	4.71	125	eP	Pn	14 28 14.9	+0.7
HSPB				eS	Sn	14 29 07.1	-1.7
HSPB				IAML		14 29 12.5	
	comp=Z,33nm,0.7s						
HSPB	Hornsund (broa	4.71	125	eP	Pn	14 28 14.9	+0.7
	SNR=49						
HSPB				eS	Sn	14 29 07.1	-1.7
	SNR=49						
DAG	Danmarks Havn	4.83	232	i P	Pn	14 28 15.8	0.0
DAG				i S	Sn	14 29 08.3	-3.3
HOPEN	Hopen	6.52	111	Pn	Pn	14 28 38.3	-0.7
HOPEN				Sn	Sn	14 29 48.6	-4.5
HOPEN	Hopen	6.52	111	eP	Pn	14 28 38.2	-0.7
HOPEN				eS	Sn	14 29 48.6	-4.5
HOPEN				IAML		14 29 51.5	
	comp=Z,14nm,0.3s						
HOPEN	Hopen	6.52	111	Pn	Pn	14 28 38.3	-0.7
HOPEN				eS	Sn	14 29 48.6	-4.5
	SNR=47						
JMIC	Jan Mayen	9.45	193	Pn	Pn	14 29 20.2	+1.1
	comp=Z,8.0nm,0.3s,baz=149,slow=3.5,SNR=34						
JMIC				Sn	Sn	14 30 56.7	-8.4
	comp=Z,2.5nm,0.3s,baz=187,slow=16,SNR=2.7						
JMIC				LR	LR	14 32 07.5	
	comp=Z,40nm,18.2s,baz=222,slow=32						
SUMG	Summit	11.25	247	i P	Pn	14 29 36.3	-7.8
SUMG				i S	Sn	14 31 42.8	-7.0
ARA0	ARCESS Array S	12.66	133	Pn	Pn	14 30 04.2	+1.2
	baz=353,slow=14						
ARA0	ARCESS Array S	12.66	133	Pn	Pn	14 30 04.2	+1.2
	baz=353,slow=14						
ARA0	ARCESS Array S	12.66	133	Pn	Pn	14 30 04.2	+1.2
	SNR=8.5						
ARCES	ARCESS Array B	12.66	133	Pn	Pn	14 30 04.0	+0.9
	comp=Z,1.0nm,0.3s,baz=348,slow=11,SNR=20						
ARCES				LR	LR	14 34 33.5	
	comp=Z,29nm,20.5s,baz=266,slow=36						
KULLO	Kullorsuaq	12.75	274	i P	Pn	14 30 00.4	-3.8
KULLO				i S	Sn	14 32 13.0	-13
SFJD	Kangerlussuaq	18.16	252	P	Pn	14 31 11.3	-3.6
	comp=Z,2.0nm,0.3s,baz=6.5,slow=15,SNR=3.9						
SFJD				S	Sn	14 34 18.2	-19
	comp=Z,1.1nm,0.3s,baz=288,slow=20,SNR=3.0						
SFJD				LR	LR	14 38 22.0	
	comp=Z,67nm,19.7s,baz=37,slow=38						
RES	Resolute Bay	18.65	304	P	P	14 31 17.8	-2.8
	comp=Z,0.6nm,0.3s,baz=49,slow=9.8,SNR=7.3						
RES				S	Sn	14 34 30.7	-18
	comp=Z,0.5nm,0.3s,baz=156,slow=20,SNR=3.8						
RES				LR	LR	14 38 40.2	
	comp=Z,40nm,21.3s,baz=284,slow=37						
NOA	NORSAR Array B	19.67	161	LR	LR	14 37 52.2	
	comp=Z,21nm,19.2s,baz=200,slow=33						
FIA0	FINESS Array S	20.52	140	P	Pn	14 31 44.3	+1.0
	slow=10						
FIA0	FINESS Array S	20.52	140	P	Pn	14 31 44.3	+1.0
	slow=10						
FIA0	FINESS Array S	20.52	140	P	Pn	14 31 44.3	+1.0
	SNR=7.6						
FINES	FINESS Array B	20.52	140	P	Pn	14 31 44.0	+0.7
	comp=Z,2.1nm,0.7s,baz=359,slow=10,SNR=7.6						
FINES				LR	LR	14 39 06.9	
	comp=Z,44nm,20.7s,baz=312,slow=35						
HFS	Hagfors	20.72	158	P	P	14 31 44.2	+0.8
	comp=Z,1.6nm,0.8s,baz=352,slow=8.7,SNR=2.5						
HFS				LR	LR	14 38 45.7	
	comp=Z,27nm,19.9s,baz=183,slow=34						
FRB	Frobisher Bay	24.15	267	P	P	14 32 19.9	+1.1
	comp=Z,1.7nm,0.5s,baz=352,slow=7.1,SNR=3.9						
FRB				LR	LR	14 41 01.4	
	comp=Z,34nm,19.7s,baz=22,slow=35						
OBN	Obninsk	27.96	130	LR	LR	14 43 54.0	
	comp=Z,34nm,20.9s,baz=261,slow=36						
AKASG	Malin Array Be	31.42	141	P	P	14 33 26.1	+2.1
	comp=Z,0.7nm,0.4s,baz=351,slow=9.4,SNR=4.1						
GERES	GERESS Array B	31.97	160	P	P	14 33 32.8	+3.8
	comp=Z,0.2nm,0.3s,baz=340,slow=5.4,SNR=4.3						
ILAR	Eielson Array	33.87	334	P	P	14 33 48.3	+3.0
	comp=Z,0.4nm,0.7s,baz=6.7,slow=8.0,SNR=8.8						
ZALV	Zalesovo Beam	36.80	80	LR	LR	14 53 17.3	
	comp=Z,30nm,18.0s,baz=248,slow=43						
BRTR	Keskin Array B	42.75	139	P	P	14 35 03.5	+3.1
	comp=Z,1.1nm,0.8s,baz=321,slow=11,SNR=3.3						
MKAR	Makanchi Array	43.28	85	P	P	14 35 07.6	+3.1
	comp=Z,0.6nm,0.7s,baz=334,slow=7.7,SNR=5.0						
PDAR	Pinedale Array	51.07	296	LR	LR	14 58 08.3	
	comp=Z,36nm,21.7s,baz=46,slow=36						
TXAR	Lajitas Array	63.28	287	P	P	14 37 34.2	+2.4
	comp=Z,0.4nm,0.9s,baz=15,slow=3.8,SNR=3.2						
TXAR				LR	LR	15 06 03.4	
	comp=Z,41nm,20.2s,baz=0.0,slow=37						

IDC 07 14:48:52.7±3.4, **18°02S**×**173°82W**, **h0**km, **mb3.7**/3, **mb1 3.9**/3, **mb1mx3.6**/30, **mbtmp3.7**/3, **MS3.1**/1, **Ms1 3.1**/1, **ms1mx2.6**/24, **Error ellipse: s-maj=157.2km s-min=51.3km az=142.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPT	Papeete	23.08	93	LR	LR	15 00 36.7	
	comp=Z,46nm,19.6s,baz=110,slow=30						
STKA	Stephens Creek	42.43	242	P	P	14 56 49.9	+0.4
	0.7nm,0.7s,baz=107,slow=11,SNR=2.8						
WRA	Warramunga Arr	48.91	259	P	P	14 57 40.6	-0.3
	0.3nm,0.4s,baz=96,slow=7.3,SNR=15						
ASAR	Alice Springs	48.97	254	P	P	14 57 41.0	-0.3
	1.4nm,0.7s,baz=89,slow=8.1,SNR=27						
ASAR				PcP	PcP	14 59 04.6	-1.0
	0.3nm,0.8s,baz=111,slow=3.6,SNR=3.8						
BRTR	Keskin Array B	147.88	318	PKPbc	PKPbc	15 08 40.0	-0.3
	0.8nm,0.7s,baz=96,slow=1.4,SNR=2.0						

IDC 07 15:11:55.3±1.1, **55°55S**×**29°42W**, **h0**km, **mb3.7**/3, **mb1 3.7**/4, **mb1mx3.6**/16, **mbtmp3.5**/4, **ML2.8**/1, **Error ellipse: s-maj=47.8km s-min=27.0km az=78.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNAA	Sanae	19.72	155	P	Pn	15 16 27.1	-0.3
	0.0nm,0.3s,baz=308,slow=11,SNR=6.3						
VNDA	Vanda	47.01	183	P	P	15 20 27.0	-0.4
	0.9nm,0.8s,baz=194,slow=7.1,SNR=6.0						
H10S2	ASCENSION HYDR	47.92	20	T	T	16 12 28.9	
	baz=194						
H10S3	ASCENSION HYDR	47.93	20	T	T	16 12 24.1	
	baz=194						
H10S1	ASCENSION HYDR	47.94	20	T	T	16 12 25.2	
	baz=194						
H10N1	ASCENSION HYDR	49.04	20	T	T	16 13 45.9	
	baz=190						
H10N3	ASCENSION HYDR	49.04	20	T	T	16 13 45.1	
	baz=190						
H10N2	ASCENSION HYDR	49.06	20	T	T	16 13 51.5	
	baz=190						
LPAZ	La Paz	49.06	307	P	P	15 20 45.8	+0.9
	0.5nm,0.5s,baz=180,slow=8.1,SNR=3.6						
TORD	Torodi Ar. Bea	73.27	32	P	P	15 23 28.3	+0.2
	0.4nm,0.8s,baz=208,slow=7.1,SNR=2.1						
ILAR	Eielson Array	148.85	313	PKPbc	PKPbc	15 31 41.4	-1.8
	0.5nm,0.7s,baz=118,slow=1.7,SNR=6.7						

ISCJB ***07*** *15:24:32.0±0.7, 4°7N±0°2×127°4E±0°3, h100km, mb3.9/5, Error ellipse: s-maj=45.6km s-min=7.2km az=150.9*
IDC ***07*** *15:24:32.8±5.5, 4°49N×126°81E, h89km±53km, mb3.6/5, mb1 3.6/6, mb1mx3.2/37, mbtmp3.9/6, ML3.7/1, MS3.8/1, Ms1 3.8/1, ms1mx2.6/30, Error ellipse: s-maj=79.6km s-min=18.6km az=77.0*
MAN ***07*** *15:25:06, 7°18N×126°30E, h1km, mb5.0, ML3.9, MS4.0*
ISC 07 15:24:33.6±0.9, **4°7N**±0°2×**127°5E**±0°3, **h100**km, **n10**, σ**1°02**/9, **mb4.0**/5, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	Mati	2.53	331	eP	Pn	15 25 11.4	-1.8
MATI				eS	Sn	15 25 23.5	-20
BUKP	Musuan	3.96	323	eP	Pn	15 25 33.0	+0.6
BUTP	Butuan	4.62	336	eP	Pn	15 25 40.6	-0.5
SIJI	Sorong	6.71	146	P	Pn	15 26 12.1	+2.6
	1.3nm,0.3s,baz=326,slow=18,SNR=12						
SIJI				S	Sn	15 27 24.1	-0.4
	2.6nm,0.3s,baz=198,slow=24,SNR=11						
KAPI	Kappang	12.38	219	LR	LR	15 32 10.3	
	comp=Z,519nm,20.8s,baz=70,slow=39						
WRA	Warramunga Arr	25.41	165	P	P	15 29 51.8	-0.2
	1.8nm,0.3s,baz=338,slow=10,SNR=38						
ASAR	Alice Springs	28.89	168	P	P	15 30 22.9	-0.3
	1.3nm,0.6s,baz=352,slow=7.8,SNR=32						
STKA	Stephens Creek	38.79	161	P	P	15 31 49.0	+0.4
	0.9nm,0.4s,baz=340,slow=7.9,SNR=13						
MKAR	Makanchi Array	57.19	325	P	P	15 34 09.9	-0.3
	0.4nm,0.5s,baz=120,slow=7.6,SNR=5.0						
YAK	Yakutsk	57.21	1	P	P	15 34 11.4	+1.4
	0.8nm,0.3s,baz=204,slow=10.0,SNR=1.8						

DJA 07 15:24:56.8±0.2, **1°S**±3°×**12°2E**±°, **h10**km, **M4.4**/13, **mb4.5**/2, **MLv4.3**/13, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.59	124	P	Pg	15 25 05.7	-2.6
LUWI				S	Sb	15 25 17.4	-0.3
APSI	Ampana	0.66	252	P	Pg	15 25 09.0	-0.6
APSI				S	Sn	15 25 34.1	+11
MRSI	Marisa	1.23	344	P	Pn	15 25 16.1	-3.9
MRSI				S	Sn	15 25 47.1	+10
KMSI	Cibinong	2.13	53	P	Pn	15 25 32.3	-0.1
PCI	Palu	2.45	265	P	Pn	15 25 37.6	+0.7
MPSI	Mapaga	2.60	294	P	Pn	15 25 38.6	-0.3
KDI	Kendari	3.24	174	P	Pn	15 25 48.2	+0.4
TTSI	Tana Toraja	3.38	227	P	Pn	15 25 49.5	-0.2
SANI	Sanana	3.94	110	P	Pn	15 25 57.8	+0.4
SPSI	Sidrap Palu	4.09	218	P	Pn	15 25 58.8	-0.7
BKSI	Bulukumba	5.06	205	P	Pn	15 26 12.2	-0.6
	22nm,0.9s						
BKB	Balikpapan	5.41	264	P	Pn	15 26 18.2	+0.6
NLAI	Namlea	5.43	118	P	Pn	15 26 18.1	+0.2
KBKI	Kotabaru	6.63	247	P	Pn	15 26 33.8	-0.6

MOS ***07*** *15:27:07.6±1.3, 0°25S×124°34E, h37km, mb5.5/40, Error ellipse: s-maj=12.0km s-min=5.6km az=110.9*
IDC ***07*** *15:27:12.2±1.9, 0°25S×124°33E, h61km±16km, mb4.6/27, mb1 4.6/28, mb1mx4.6/34, mbtmp4.8/28, MS3.6/9, Ms1 3.6/9, ms1mx3.2/31, Error ellipse: s-maj=16.3km s-min=10.3km az=72.0*
BJI ***07*** *15:27:12.9, 0°30S×124°50E, h87km, mb5.2/60, mB4.9/36, Ms4.3/34, Ms7 4.0/24*
ISCJB ***07*** *15:27:13.2±0.3, 0°31S±0°02×124°63E±0°02, h89km±3km, mb5.0/101, Error ellipse: s-maj=3.4km s-min=2.8km az=12.3*
GCMT ***07*** *15:27:14.9±0.3, 0°37S×124°58E, h66km±2km, MW4.9/57, Moment Tensor Solution. s31,c33; s57,c74; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.00±.15; $M_{\theta\theta}$-1.18±.14; $M_{\phi\phi}$-0.82±.17; $M_{r\theta}$1.05±.07; $M_{\theta\phi}$-1.36±.10; $M_{\phi r}$0.85±.10; Best double couple: $M_0$2.57100×10^{16} NP1:ϕ_s50.00000°,δ61.00000°,λ91.00000°. NP2: ϕ_s227.00000°,δ29.00000°,λ87.00000°. Principal axes: T 2.3860, Plg74.0000°, Azm324.0000°; N 0.3700, Plg1.0000°, Azm229.0000°; P -2.7570, Plg16.0000°, Azm139.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***07*** *15:27:14.9±0.7, 0°26S×124°55E, h86km±7km, mb5.1/39 Error ellipse: s-maj=7.1km s-min=5.5km az=66.0*
DJA ***07*** *15:27:15.1±0.2, 0°S±2°×12°5E±°, h67km±3km, M5.1/33, mb5.3/33, mB5.5/14, MLv5.5/19, Mw(mB)5.0/14*
ISC 07 15:27:14.8±0.3, **0°31S**±0°03×**124°60E**±0°03, **h83**km±2km, **n385**, σ**1°56**/469, **mb5.0**/101, **15C-5D, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.07	325	P	Pn	15 27 32.5	-2.5
KMSI				S	Sn	15 27 49.6	-0.5
LUWI	Luwuk	1.97	248	P	Pn	15 27 47.5	+1.1
LUWI				S	Sn	15 28 13.3	+2.8
LUWI	Luwuk	1.97	248	ePn	Pn	15 27 47.9	+1.4
SANI	Sanana	2.22	141	P	Pn	15 27 45.5	-4.2
SANI				S	Sn	15 28 15.1	-1.3
MRSI	Marisa	2.77	286	P	Pn	15 27 54.8	-2.4
MRSI				S	Sn	15 28 31.7	+1.9
TNTI	Ternate	2.97	69	P	Pn	15 27 58.6	-1.3
TNTI				S	Sn	15 28 32.7	-1.8
TNTI	Ternate	2.97	69	ePn	Pn	15 27 58.5	-1.3
APSI	Ampana	3.01	259	P	Pn	15 28 01.4	+1.0
APSI				S	Sn	15 28 37.8	+2.2
NLAI	Namlea	3.83	139	P	Pn	15 28 09.5	-2.1
TOLI	Toli-Toli	4.06	290	ePn	Pn	15 28 14.0	-0.7
SGSI	Sangihe	4.08	13	P	Pn	15 28 15.4	+0.5
SGSI				S	Sn	15 29 01.3	-0.1
KDI	Kendari	4.13	209	P	Pn	15 28 13.2	-2.4
MPSI	Mapaga	4.75	278	P	Pn	15 28 25.1	+1.1
PCI	Palu	4.80	263	P	Pn	15 28 24.5	-0.3
PCI				S	Sn	15 29 21.9	+2.7
AAI	Ambon	4.91	133	P	Pn	15 28 25.5	-0.8
AAI				S	Sn	15 29 21.0	-0.9
MSAI	Masohi	5.27	125	P	Pn	15 28 30.1	-1.1
	635nm,0.8s,8μm2.6nm						
MSAI				S	Sn	15 29 28.4	-2.3
	635nm,0.8s,8μm2.6nm						
TTSI	Tana Toraja	5.50	240	P	Pn	15 28 33.5	-0.8
	546nm,0.9s,7μm2.9nm						
TTSI				S	Sn	15 29 39.0	+2.8
	546nm,0.9s,7μm2.9nm						
SPSI	Sidrap Palu	6.04	233	P	Pn	15 28 41.2	-0.5
	432nm,0.7s,5μm1.6nm						
SPSI				S	Sn	15 29 51.0	+1.6
	432nm,0.7s,5μm1.6nm						
SIJI	Sorong	6.69	95	P	Pn	15 28 50.4	-0.1
	28nm,0.3s,baz=279,slow=10,SNR=66						
SIJI				S	Sn	15 30 04.8	-0.4
	baz=102,slow=20,SNR=3.6						
BKSI	Bulukumba	6.69	222	P	Pn	15 28 50.4	-0.2
	172nm,0.6s,2μm1.1nm						
BKSI				S	Sn	15 29 58.0	-7.4
	172nm,0.6s,2μm1.1nm						
KAPI	Kappang	6.73	226	Pn	Pn	15 28 50.9	-0.2
	1μm,0.5s,SNR=14						
KAPI	Kappang	6.73	226	P	Pn	15 28 50.0	-1.1
	17nm,0.3s,baz=136,slow=4.0,SNR=22						
KAPI				S	Sn	15 30 04.1	-2.2
	28nm,0.3s,baz=334,slow=19,SNR=8.6						
KAPI	Kappang	6.73	226	ePn	Pn	15 28 50.4	-0.6

KAPI S **Sn** **15 30 04.1 -2.2**
BNDI **Bandanaira** **6.75 128** P **Pn** **15 28 50.6 -0.7**
896nm,0.8s,3.1nm
BNDI S **Sn** **15 30 06.8 0.0**
896nm,0.8s,3.1nm
SGKI **Sangatta, Kali** **7.00 268** P **Pn** **15 28 55.7 +0.9**
SGKI S **Sn** **15 30 16.1 +3.1**
BSSI **Bau Bau, Buton** **7.10 215** P **Pn** **15 28 57.3 +1.2**
BKB **Balikpapan** **7.76 263** P **Pn** **15 29 06.4 +1.2**
380nm,0.6s,4µm1.4nm
FAKI **Fak Fak** **8.07 109** P Pn 15 29 05.9 -3.5
FAKI **Fak Fak** **8.07 109** *e*Pn **Pn** **15 29 06.6 -2.8**
MMRI **Maumere** **8.60 196** P **Pn** **15 29 16.9 +0.3**
81nm,0.9s,37µm
MMRI **Maumere** **8.60 196** *e*Pn **Pn** **15 29 15.5 -1.2**
KBKI **Kotabaru** **8.94 250** P **Pn** **15 29 22.7 +1.5**
SOEI **Soe** **9.39 182** P **Pn** **15 29 28.5 +1.0**
225nm,1.0s,3µm
SOEI **Soe** **9.39 182** *e*Pn **Pn** **15 29 30.6 +3.1**
RKPI **Ransiki, Papua** **9.65 97** P **Pn** **15 29 30.5 -0.4**
83nm,0.6s,1µm
MTKI **Muara Teweh, K** **9.73 266** P **Pn** **15 29 32.3 +0.3**
SAUI **Saumlaki** **10.13 139** P **Pn** **15 29 36.2 -1.3**
807nm,1.0s
WSI **Waingapu** **10.24 205** P **Pn** **15 29 40.2 +1.3**
221nm,0.7s
BBKI **Banjar Baru** **10.24 252** P **Pn** **15 29 39.9 +0.8**
KKM **Kota Kinabalu** **10.48 307** *e*Pn **Pn** **15 29 44.4 +1.9**
WBSI **Waikabubak, Su** **10.62 209** P **Pn** **15 29 45.5 +1.3**
60nm,0.9s
BASI **Baing, Sumba** **10.63 202** P **Pn** **15 29 43.7 -0.6**
SRBI **Singaraja** **12.13 230** P **Pn** **15 30 04.2 -0.5**
DNP **Denpasar** **12.51 228** P **Pn** **15 30 10.9 +1.0**
IGBI **Denpasar** **12.65 228** P **Pn** **15 30 12.1 +0.3**
STKI **Sintang** **13.13 272** P **Pn** **15 30 18.5 +0.4**
JAGI **Jajag, Banyuwa** **13.20 232** *e*Pn **Pn** **15 30 19.6 +0.6**
SMPI **Sarmi** **14.20 97** P **P** **15 30 37.1 +0.1**
KSM **Kuching** **14.40 277** *e*Pn **Pn** **15 30 36.5 +1.8**
TGY **Tagaytay City** **14.77 346** P **Pn** **15 30 40.0 +0.5**
49nm,0.3s,baz=170,slow=19,SNR=3.0
PWJI **Pagerwojo** **14.88 239** P **P** **15 30 46.0 +1.5**
GENI **Genyem** **15.72 98** P **Pn** **15 30 51.7 +0.1**
77nm,0.9s,1µm
JAY **Jayapura** **16.25 98** P **P** **15 31 02.9 +3.1**
LEM **Lembang** **18.14 249** P **Pn** **15 31 22.9 +1.4**
98nm,1.0s
LEM **Lembang** **18.14 249** P **Pn** **15 31 22.4 +0.8**
2.8nm,0.3s,baz=70,slow=9.7,SNR=12
SZP **Santa** **18.21 347** *e*P **Pn** **15 31 22.9 +0.7**
437nm,1.4s
CISI **Cisompet, Garu** **18.22 246** P Pn 15 31 30.3 +7.9
CISI **Cisompet, Garu** **18.22 246** *e*P **Pn** **15 31 22.3 -0.1**
211nm,1.3s
CBJI **Citeko** **18.72 251** P **P** **15 31 27.3 +0.2**
181nm,0.8s
CGJI **Cibinong** **19.88 251** P **Pn** **15 31 42.1 +0.1**
118nm,0.9s
TPRI **Tanjung Pinang** **20.11 273** P **P** **15 31 41.7 -0.5**
KLSI **20.32 257** P Pn 15 31 46.7 -0.5
87nm,1.3s
KASI **Kota Agung** **20.73 255** P **P** **15 31 48.8 0.0**
89nm,1.1s
MDSI **Maura Dua** **20.82 258** P Pn 15 31 51.5 -1.5
30nm,0.9s
MYKOM **Kota Tinggi** **20.85 276** *e*P **P** **15 31 49.0 -1.1**
35nm,0.9s
MBWA **Marble Bar** **21.26 193** *e*P **P** **15 31 54.0 -0.5**
28nm,0.6s
WRAB **Tennant Creek** **21.71 154** P **P** **15 31 58.6 -0.7**
652nm,0.7s,SNR=59
WRAB **Tennant Creek** **21.71 154** *d iP* **P** **15 31 58.1 -1.2**
WRAB pmax pmax
comp=Z,268nm,1.1s
WRAB **Tennant Creek** **21.71 154** *e*P **P** **15 31 58.0 -1.3**
comp=Z,94nm,0.8s
WRA **Warramunga Arr** **21.72 155** P **P** **15 31 57.5 -1.8**
comp=Z,26nm,0.5s,baz=338,slow=10,SNR=105
WRA S **S** **15 35 55.3 +0.1**
comp=Z,5.2nm,0.9s,baz=334,slow=16,SNR=4.8
COEN **Coen** **22.84 127** *e*P **P** **15 32 09.8 -1.5**
comp=Z,104nm,1.4s
TWG **Pinlang** **23.25 352** *e*P **P** **15 32 14.6 -0.6**
comp=Z,116nm,0.7s
YULB **Yu-li** **23.78 352** *e*P **P** **15 32 16.5 -3.4**
comp=Z,16nm,0.9s
TPUB **Ta-pu** **23.78 351** *e*P **P** **15 32 17.7 -2.3**
comp=Z,88nm,0.8s
IPM **Ipoh** **24.03 282** *e*P **P** **15 32 21.0 -1.4**
comp=Z,110nm,1.4s
QIZ **Qiongzhong** **24.07 324** P **P** **15 32 22.9 +0.3**
QIZ pP **pP** **15 32 41.5 +0.2**
QIZ S **S** **15 36 35.6 +1.3**
QIZ PMZ
comp=Z,69nm,6.5s
PMG **Port Moresby** **24.20 113**⇑ *iP* **P** **15 32 25.1 +1.2**
PMG pmax pmax
comp=Z,189nm,1.1s
SSLB **Suanglung** **24.21 352** *e*P **P** **15 32 22.9 -0.9**
comp=Z,21nm,0.9s
UBPT **Khong Chiam** **24.44 310** P **P** **15 32 25.3 -0.7**
comp=Z,45nm,1.0s
KULM **Kulim** **24.56 283** *e*P **P** **15 32 25.4 -1.7**
comp=Z,25nm,1.0s
AS31 **Alice Springs** **24.91 159** *e*P **P** **15 32 30.3 0.0**
ASAR **Alice Springs** **24.91 159** P **P** **15 32 30.2 -0.1**
comp=Z,56nm,0.8s,baz=325,slow=6.8,SNR=209
ASAR PcP **PcP** **15 36 05.2 +1.0**
comp=Z,4.3nm,0.9s,baz=347,slow=2.2,SNR=4.7
ASAR S **S** **15 36 51.2 +3.4**
comp=Z,7.7nm,1.2s,baz=344,slow=22,SNR=5.1
ASAR PKiKP **PKiKP** **15 43 44.9 -0.9**
comp=Z,0.3nm,0.8s,baz=304,slow=1.4,SNR=4.4
AS01 **Alice Springs** **24.93 159** *e*P **P** **15 32 30.2 -0.2**
AS01 *e*ScP **ScP** **15 39 38.1 +2.2**
YHNB **Yeheng** **25.03 353** *e*P **P** **15 32 29.9 -1.5**
comp=Z,30nm,0.9s
MNSI **Mandailing Nat** **25.05 273** P pP 15 32 52.7 +2.1
CHBT **CHBT** **25.62 301** P **P** **15 32 37.7 +0.9**
comp=Z,115nm,1.0s,comp=Z,1µm
PSI **Prapat** **25.85 277** P **P** **15 32 36.1 -3.0**
comp=Z,4.0nm,0.3s,baz=97,slow=6.7,SNR=6.5
PSI LR LR 15 43 20.3
comp=Z,212nm,20.1s,baz=102,slow=38
PSI **Prapat** **25.85 277** *e*P **P** **15 32 36.4 -2.7**
PSI pmax pmax
comp=Z,21nm,0.9s
PSI **Prapat** **25.85 277** *e*P **P** **15 32 36.4 -2.7**
comp=Z,21nm,0.9s
SKNT **Sakolnakorn** **26.61 311** P **P** **15 32 45.0 -0.7**
comp=Z,26nm,1.1s
JOW **Kunigami** **27.22 7** P **P** **15 32 51.5 +0.6**
comp=Z,1.8nm,0.6s,baz=147,slow=16,SNR=5.5
CHAI **Chaiyaphum** **27.53 307** P **P** **15 32 52.9 -1.1**
comp=Z,20nm,0.8s,comp=Z,162nm
PBKT **Sadao Pong** **28.71 307** P **P** **15 33 04.3 -0.1**
comp=Z,14nm,1.3s
CTA **Charters Tower** **28.91 134** P **P** **15 33 07.7 +1.5**
comp=Z,8.1nm,0.9s,baz=301,slow=10.0,SNR=6.2
CTA LR LR 15 46 33.5
comp=Z,347nm,19.4s,baz=349,slow=40
UTHA **Uthaitani** **29.43 304** P **P** **15 33 10.5 -0.3**
comp=Z,16nm,0.7s,comp=Z,126nm
UTTA **Uttaradit** **29.70 308** P **P** **15 33 12.9 -0.3**
comp=Z,11nm,0.8s
FORT **Forrest** **30.48 174** *e*P **P** **15 33 20.0 +0.1**
comp=Z,77nm,1.2s
LAMP **Lampang** **30.86 309** P **P** **15 33 23.4 0.0**
comp=Z,12nm,0.7s,comp=Z,86nm
CRAI **Chiangrai** **31.30 312** P P 15 33 23.6 -3.7
comp=Z,8.0nm,1.0s,comp=Z,629nm
CM01 **Chiang Mai Arr** **31.33 308** *e*P **P** **15 33 26.5 -1.1**
CM01 *e*PcP **PcP** **15 36 21.0 +1.0**
CM31 **Chiang Mai Arr** **31.36 308** *e*P **P** **15 33 26.8 -1.1**
comp=Z,3.8nm,0.6s
CMAR **Chiang Mai Arr** **31.36 308** P **P** **15 33 26.8 -1.1**
comp=Z,6.0nm,0.7s,baz=135,slow=7.1,SNR=45
CMAR LR LR 15 46 34.2
comp=Z,128nm,21.1s,baz=144,slow=37
CMMT **Chiang Mai** **31.56 308** P **P** **15 33 28.9 -0.7**
comp=Z,42nm,0.8s
CHTO **Chiang Mai** **31.56 308** P **P** **15 33 28.9 -0.7**
comp=Z,144nm,1.0s
CHTO **Chiang Mai** **31.56 308** *e*P **P** **15 33 28.9 -0.7**
CHTO pmax pmax
comp=Z,24nm,0.8s
CHTO **Chiang Mai** **31.56 308** *e*P **P** **15 33 28.9 -0.7**
comp=Z,24nm,0.8s
GYA **Guiyang** **31.74 328**⇑ *iP* **P** **15 33 33.0 +1.8**
GYA pP **pP** **15 33 52.8 +2.3**
GYA sP **sP** **15 34 03.0 +2.8**
GYA PP **PnPn** **15 34 41.4 +2.8**
GYA S **S** **15 38 36.2 +1.0**
GYA sS **sS** **15 39 11.9 +3.3**
GYA SS **SnSn** **15 40 32.0 +1.3**
GYA PMZ
comp=Z,30nm,0.9s
GYA PMZ
comp=Z,120nm,4.8s
GYA LN
comp=Z,650nm,17.6s
GYA LE
comp=Z,540nm,18.0s
GYA LZ
comp=Z,620nm,17.8s
JCJ **Chichijima** **32.07 30** LR LR 15 47 47.0
comp=Z,46nm,18.2s,baz=121,slow=38
CMAI **Chiengmai2** **32.12 310** P **P** **15 33 33.6 -1.1**
comp=Z,178nm,0.8s,comp=Z,6µm
WHN **Wuhan** **32.20 343**⇑ *iP* **P** **15 33 36.4 +1.4**
NJ2 **Nanjing** **32.64 351** *e*P **P** **15 33 38.7 -0.2**
NJ2 pP **pP** **15 33 56.1 -2.2**
NJ2 sP **sP** **15 34 07.4 -0.6**
NJ2 S **S** **15 38 50.0 +1.1**
NJ2 sS **sS** **15 39 22.0 -0.3**
NJ2 PMZ
comp=Z,10.0nm,1.0s
NJ2 PMZ
comp=Z,140nm,7.0s
NJ2 LN
comp=Z,1µm,14.6s
NJ2 LE
comp=Z,1µm,16.6s
NJ2 LZ
comp=Z,740nm,16.7s
KMI **Kunming** **32.96 322** P **P** **15 33 42.6 +0.5**
KMI PMZ
comp=Z,10.0nm,1.5s
ENH **Enshi** **33.65 336** *e*P **P** **15 33 47.6 -0.1**
comp=Z,8.5nm,0.7s
JNU **Nakatsue** **33.77 9** P **P** **15 33 47.9 -0.9**
comp=Z,61nm,1.1s,baz=244,slow=1.2,SNR=14
JNU **Nakatsue** **33.77 9** *e*P **P** **15 33 48.0 -0.8**
comp=Z,50nm,1.0s
BBOO **Buckleboo** **34.08 163** *e*P **P** **15 33 51.6 +0.2**
comp=Z,13nm,0.8s
BBOO *e*PP **PP** **15 35 09.8 -0.4**
STKA **Stephens Creek** **35.27 154** P **P** **15 34 02.2 +0.5**
comp=Z,9.1nm,0.5s,baz=328,slow=8.6,SNR=69
TJN **Taejon** **36.59 4**⇓ *eP* **P** **15 34 12.5 -0.4**
KSBON **Boeun** **36.74 4** P **P** **15 34 14.5 +0.3**
SNR=12
KSBON **Boeun** **36.74 4** P **P** **15 34 14.5 +0.3**
SNR=12
CD2 **Chengdu** **36.82 329** P **P** **15 34 14.5 -0.5**
CD2 pP **pP** **15 34 35.1 +0.4**
CD2 sP **sP** **15 34 45.3 +1.0**
CD2 PP **PP** **15 35 40.7 +0.2**
CD2 S **S** **15 39 54.3 +0.8**
CD2 sS **sS** **15 40 29.6 +2.4**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,140nm,5.4s
CD2 LE
comp=Z,210nm,18.6s
CD2 LZ
comp=Z,150nm,15.6s
KSCEA **Cheonan** **37.03 4** P **P** **15 34 17.8 +1.2**
SNR=6.6
KSCEA **Cheonan** **37.03 4** P **P** **15 34 17.8 +1.2**
SNR=6.6
XAN **Xi'an** **37.20 338** P **P** **15 34 17.4 -0.8**
XAN pP **pP** **15 34 35.7 -2.2**
XAN sP **sP** **15 34 43.9 -3.6**
XAN PMZ
comp=Z,15nm,1.0s
KSTBA **Taebaek** **37.46 6** P **P** **15 34 20.8 +0.4**
SNR=8.7
KSTBA **Taebaek** **37.46 6** P **P** **15 34 20.8 +0.4**
SNR=8.7
KSAR **Wonju Array Be** **37.69 4** P **P** **15 34 22.2 +0.1**
KSAR 15 36 38.6
KSAR **Wonju Array Be** **37.69 4** P **P** **15 34 22.2 +0.1**
KSAR PcP **PcP** **15 36 38.5 +0.6**
KSRS **Korea Array** **37.70 4** P **P** **15 34 22.2 -0.1**
comp=Z,6.4nm,0.7s,baz=182,slow=10.0,SNR=41
KSRS PcP **PcP** **15 36 38.5 +0.6**
comp=Z,2.5nm,0.7s,baz=186,slow=3.0,SNR=8.5
KSRS LR LR 15 50 25.7
comp=Z,35nm,22.0s,baz=193,slow=37
KS01 **Wonju Array Si** **37.72 4** *e*P **P** **15 34 22.0 -0.4**
KS01 *e*PcP **PcP** **15 36 38.2 +0.2**
KSDGY **Daegwallycong** **38.00 5** P **P** **15 34 25.7 +0.8**
SNR=12
KSDGY **Daegwallycong** **38.00 5** P **P** **15 34 25.7 +0.8**
SNR=12
KSCHC **Chuncheon** **38.02 4** P **P** **15 34 25.5 +0.6**
SNR=12
KSCHC **Chuncheon** **38.02 4** P **P** **15 34 25.5 +0.6**
SNR=12
KSULL **Ulleungdo** **38.04 8** P **P** **15 34 26.9 +1.7**
SNR=9.1
KSULL **Ulleungdo** **38.04 8** P **P** **15 34 26.9 +1.7**
SNR=9.1
KSMUS **Musan** **38.06 3** P **P** **15 34 25.7 +0.4**
SNR=8.3
KSMUS **Musan** **38.06 3** P **P** **15 34 25.7 +0.4**
SNR=8.3
KSBAR **Backryungdo** **38.10 0** P **P** **15 34 25.8 +0.2**
SNR=13
KSBAR **Backryungdo** **38.10 0** P **P** **15 34 25.8 +0.2**
SNR=13
KSJMJ **Jumunjin** **38.20 5** P **P** **15 34 27.1 +0.7**
SNR=19
KSJMJ **Jumunjin** **38.20 5** P **P** **15 34 27.1 +0.7**
SNR=19
YNCB **YEONCHEON** **38.22 3** P **P** **15 34 28.1 +1.4**
SNR=13
YNCB **YEONCHEON** **38.22 3** P **P** **15 34 28.1 +1.4**
SNR=13
KSIJA **INJE** **38.24 4** P **P** **15 34 27.8 +0.9**
SNR=12
KSIJA **INJE** **38.24 4** P **P** **15 34 27.8 +0.9**
SNR=12
SEHB **SEOHWA** **38.54 5** P **P** **15 34 30.2 +0.9**
SNR=9.9
SEHB **SEOHWA** **38.54 5** P **P** **15 34 30.2 +0.9**
SNR=9.9
KSSKC **Sokcho** **38.58 5** P **P** **15 34 30.7 +1.0**
SNR=13
KSSKC **Sokcho** **38.58 5** P **P** **15 34 30.6 +1.0**
SNR=8.2
MAJO **Matsushiro** **38.78 18** *c iP* **P** **15 34 29.7 -1.7**
MAJO pmax pmax
comp=Z,103nm,0.8s
MAJO **Matsushiro** **38.78 18** *e*P **P** **15 34 30.4 -1.0**
comp=Z,22nm,0.9s
MJAR **Matsushiro Arp** **38.78 18** P **P** **15 34 30.0 -1.4**
comp=Z,16nm,0.8s,baz=195,slow=9.4,SNR=27
MJAR ScP **S** **15 40 23.5 +0.7**
comp=Z,1.6nm,0.7s,baz=181,slow=5.5,SNR=4.0
BJT **Baijiatuan** **40.87 350** *e*P **P** **15 34 48.9 +0.3**
BJT pmax pmax
comp=Z,21nm,0.4s
BJT **Baijiatuan** **40.87 350** *e*P **P** **15 34 48.9 +0.3**
comp=Z,21nm,0.4s
BJI **Beijing** **40.89 350** P **P** **15 34 48.9 +0.1**
BJI S **S** **15 40 59.2 +5.0**
BJI PMZ
comp=Z,49nm,0.8s
BJI PMZ
comp=Z,91nm,3.6s
BJI LN
comp=Z,110nm,31.2s
BJI LE
comp=Z,73nm,28.8s
BJI LZ
comp=Z,200nm,34.2s
LZH **Lanzhou** **41.04 334**⇓ P **P** **15 34 51.0 +0.7**
LZH pP **pP** **15 35 12.0 +1.8**
LZH sP **sP** **15 35 22.3 +2.5**
LZH PP **PnPn** **15 36 31.2 -0.4**
LZH PcP **PcP** **15 36 48.5 -0.3**
LZH *e*S **S** **15 40 57.3 +0.4**
LZH sS **sS** **15 41 33.5 +2.4**
LZH SS **SS** **15 43 59.2 -3.1**
LZH PMZ
comp=Z,87nm,1.3s
LZH PMZ
comp=Z,150nm,5.2s
LZH LN
comp=Z,350nm,12.3s
LZH LE
comp=Z,190nm,13.1s
LZH LZ
comp=Z,480nm,16.6s
HHC **Hu-ho-hao-te** **42.65 345** *e*P **P** **15 35 03.7 +0.4**
HHC pP **pP** **15 35 19.5 -3.8**
HHC PP **PP** **15 36 41.9 -1.9**
HHC S **S** **15 41 20.1 -0.3**
HHC sS **sS** **15 41 53.5 -1.2**
HHC SS **SS** **15 44 30.1 -3.6**
HHC ScS **ScS** **15 44 52.3 -4.2**
HHC PMZ
comp=Z,29nm,0.9s
HHC PMZ
comp=Z,72nm,5.3s
HHC LN
comp=Z,820nm,13.3s
HHC LE
comp=Z,980nm,13.7s
HHC LZ
comp=Z,850nm,13.6s
LSA **Lhasa** **43.67 316** *e*P **P** **15 35 11.2 -1.0**
LSA pmax pmax
comp=Z,26nm,0.7s
LSA **Lhasa** **43.67 316** *e*P **P** **15 35 11.2 -1.0**
comp=Z,26nm,0.7s
VLA **Vladivostok** **43.73 8**⇑ *iP* **P** **15 35 11.5 -0.3**
VLA *e* 15 36 53.6
VLA *e* 15 36 57.3
VLA *e*S **S** **15 41 38.5 +2.7**
VLA pmax pmax
comp=Z,42nm,1.2s
USRK **Ussuriysk Ar.** **44.80 8** P **P** **15 35 20.1 -0.3**
comp=Z,16nm,0.4s,baz=188,slow=7.0,SNR=93
ODAN **Odare** **44.84 310** *e*P **P** **15 35 19.9 -1.4**
comp=Z,23nm,0.5s
TAPN **Taplejung** **44.85 311** *e*P **P** **15 35 19.9 -1.5**
comp=Z,36nm,0.7s
MDJ **Mudanjiang** **44.95 5** P **P** **15 35 21.3 -0.2**
MDJ pP **pP** **15 35 42.0 +0.3**
MDJ sP **sP** **15 35 51.8 +0.6**
MDJ PP **PP** **15 37 09.9 +1.7**
MDJ PcS **PcS** **15 40 55.7 +0.5**
MDJ S **S** **15 41 55.1 +1.5**
MDJ sS **sS** **15 42 30.0 +1.9**
MDJ PMZ
comp=Z,27nm,0.8s
MDJ LN
comp=Z,87nm,22.7s
MDJ LE
comp=Z,48nm,24.7s
MDJ LZ
comp=Z,120nm,24.7s
MDJ **Mudanjiang** **44.95 5** *e*P **P** **15 35 21.2 -0.4**
comp=Z,22nm,0.6s
ERM **Erimo** **45.34 19**⇑ *e*P **P** **15 35 25.2 +0.5**
ERM pmax pmax
comp=Z,20nm,1.3s
RAMN **Ramite** **45.50 310** *e*P **P** **15 35 25.2 -1.3**
comp=Z,94nm,0.6s
GTA **Gaotai** **45.58 333** *e*P **P** **15 35 26.7 -0.1**
GTA pP **pP** **15 35 49.2 +2.2**
GTA sP **sP** **15 36 00.5 +4.0**
GTA PcP **PcP** **15 37 04.9 +0.9**
GTA ScP **ScP** **15 40 51.3 +1.7**
GTA S **S** **15 42 03.0 -0.1**
GTA SS **ScS** **15 45 21.6 +6.4**
GTA PMZ
comp=Z,40nm,1.6s
GTA PMZ
comp=Z,120nm,5.3s
GTA LN
comp=Z,170nm,20.0s
GTA LE
comp=Z,68nm,19.0s
GTA LZ
comp=Z,100nm,19.5s
DZM **Mont Dzumac** **46.13 121** P **P** **15 35 33.8 +2.5**
comp=Z,9.4nm,0.9s,baz=270,slow=20,SNR=3.6
DZM LR LR 15 55 12.5
comp=Z,71nm,18.1s,baz=1.0,slow=36
JIRN **Jiri** **46.17 310** *e*P **P** **15 35 30.2 -1.7**
comp=Z,55nm,0.5s
GUN **Gumba** **46.53 310** *e*P **P** **15 35 33.1 -1.6**
comp=Z,99nm,0.5s
PKI **Pulchoki** **46.72 310** *e*P **P** **15 35 34.0 -2.2**
comp=Z,26nm,0.5s
PKIN **Phulchoki** **46.74 310** *e*P **P** **15 35 34.5 -1.7**
comp=Z,14nm,0.5s
KKN **Kakani** **46.93 310** *e*P **P** **15 35 35.7 -2.0**
comp=Z,26nm,0.5s
DMN **Daman** **46.98 309** *e*P **P** **15 35 36.3 -1.8**
comp=Z,26nm,0.5s
ASAJ **Asahikawa** **47.05 18** P **P** **15 35 38.2 +0.2**
comp=Z,5.5nm,0.3s,baz=212,slow=11,SNR=12
ASAJ **Asahikawa** **47.05 18** *e*P **P** **15 35 38.5 +0.4**
comp=Z,13nm,0.8s
GKN **Gorkha** **47.53 310** *e*P **P** **15 35 40.3 -2.0**
comp=Z,35nm,0.5s
KOLN **Koldanda** **48.22 309** *e*P **P** **15 35 45.9 -1.8**
comp=Z,92nm,0.6s
HABR **Khabarovsk** **49.43 9** *e*P **P** **15 35 54.2 -2.0**
HABR *e**PP pP 15 36 07.4 -9.3
HABR *e* 15 37 48.6
HABR PPP PPP 15 38 42.8
HABR *e*S **S** **15 42 58.7 +1.6**
HABR *e**SS sS 15 43 21.1 -11
HABR *e* 15 45 40.9
HABR *e*SS **SS** **15 46 32.6 +2.5**
HABR *e*SSS SSS 15 47 55.4
HABR pmax pmax
comp=Z,5.0nm,1.2s
HABR MLR MLR
comp=Z,70nm,18.0s
HIA **Hailar** **49.56 356** *e*P **P** **15 35 58.6 +1.3**
HIA pmax pmax
comp=Z,69nm,1.0s
HIA **Hailar** **49.56 356** *e*P **P** **15 35 58.6 +1.3**
comp=Z,69nm,1.0s
YSS **Yuzh-Sakhalins** **49.68 16** *e*P **P** **15 35 57.0 -1.2**
YSS **Yuzh-Sakhalins** **49.68 16** *e*P **P** **15 35 58.1 -0.1**
comp=Z,38nm,1.6s
KLR **Kul'dur** **49.73 6** *e*P P 15 35 53.8 -4.8
KLR pmax pmax
comp=Z,45nm,1.6s
SONM **Songino Array** **50.50 344** P **P** **15 36 02.8 -1.8**
comp=Z,19nm,0.6s,baz=159,slow=8.4,SNR=92
SONM ScP **ScP** **15 41 10.7 +0.5**
comp=Z,1.0nm,0.7s,baz=163,slow=5.4,SNR=5.0
SONM LR LR 15 58 29.7
comp=Z,49nm,22.0s,baz=88,slow=37
SONA1 **Songino Array** **50.51 344** *e*P **P** **15 36 02.9 -1.8**
ZAK **Zakamensk** **53.68 343** *e*P **P** **15 36 25.6 -2.5**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
TLY **Talaya** **54.74 344** P **P** **15 36 34.4 -1.3**
comp=Z,10nm,0.6s,baz=193,slow=6.1,SNR=12
TLY **Talaya** **54.74 344** *e*P **P** **15 36 36.6 +0.9**
TLY pmax pmax
comp=Z,22nm,0.9s
TLY MLR MLR
comp=Z,45nm,20.0s
TLY **Talaya** **54.74 344** *e*P **P** **15 36 34.8 -0.9**
comp=Z,20nm,0.9s
WMQ **Urumqi** **54.90 328** P **P** **15 36 35.9 -1.1**
WMQ pP **pP** **15 36 53.6 -4.2**
WMQ PcP **PcP** **15 37 37.2 -0.9**
WMQ PP **PP** **15 38 41.0 +0.2**
WMQ ScP **ScP** **15 41 27.4 -2.0**
WMQ PcS **PcS** **15 41 35.6 -2.4**
WMQ S **S** **15 44 09.2 -3.1**
WMQ sS **sS** **15 44 44.9 -2.9**
WMQ ScS **ScS** **15 46 14.3 -4.2**
WMQ SS **SS** **15 47 53.0 -4.0**
WMQ PMZ

comp=Z,29nm,1.0s
WMQ PMZ
comp=Z,91nm,4.1s
WMQ LN
comp=Z,91nm,10.0s
WMQ LE
comp=Z,86nm,8.2s
WMQ LZ
comp=Z,79nm,25.0s
IRK Irkutsk 55.09 345 *e*P **P 15 36 37.2 -0.9**
IRK pmax pmax
comp=Z,30nm,1.1s
MOY Mondy 55.50 342 *e*P **P 15 36 41.8 +0.6**
MOY pmax pmax
comp=Z,28nm,1.6s
CLNS Chul'man 56.97 0 *e*P **P 15 36 50.4 -1.1**
CLNS pmax pmax
comp=N,8.0nm,0.7s
CLNS pmax pmax
comp=Z,18nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,0.7s
HVS Khovu-Aksy 57.56 337 ⇓ *i*P **P 15 36 55.7 -0.1**
HVS pmax pmax
comp=Z,146nm,1.0s
BOD Bodaibo 58.57 353 *e*P **P 15 37 01.4 -1.2**
BOD pmax pmax
comp=Z,31nm,1.0s
KSH Kashi 59.48 318 P **P 15 37 10.0 +0.5**
KSH sP **sP 15 37 37.4 -2.5**
KSH PcP **PcP 15 37 57.2 +0.9**
KSH S **S 15 45 14.6 +1.8**
KSH sS **sS 15 45 47.3 -1.5**
KSH PMZ
comp=Z,19nm,0.8s
KSH PMZ
comp=Z,60nm,3.9s
KSH LN
comp=Z,47nm,4.3s
KSH LE
comp=Z,89nm,5.1s
KSH LZ
comp=Z,80nm,6.9s
MK01 Makanchi Array 59.70 328 *e*P **P 15 37 08.6 -2.2**
MK31 Makanchi Array 59.72 328 P **P 15 37 08.9 -2.0**
MK31 pmax pmax
comp=Z,9.0nm,0.3s
MK31 Makanchi Array 59.72 328 *e*P **P 15 37 08.8 -2.1**
MKAR Makanchi Array 59.72 328 P **P 15 37 08.9 -2.0**
comp=Z,14nm,0.4s,baz=125,slow=7.9,SNR=60
MKAR PcP **PcP 15 37 56.1 -0.9**
comp=Z,10nm,0.6s,baz=127,slow=5.8,SNR=9.1
MKAR ScP **ScP 15 41 51.9 +1.3**
comp=Z,1.2nm,0.7s,baz=120,slow=4.3,SNR=4.7
PETK Petropavlovsk- 59.95 22 P **P 15 37 13.3 +1.0**
comp=Z,20nm,0.9s,baz=190,slow=6.0,SNR=25
PET Petropavlovsk 60.25 23 *e*P **P 15 37 15.5 +1.2**
PET pmax pmax
comp=Z,40nm,1.2s
PET Petropavlovsk 60.25 23 *e*P **P 15 37 15.5 +1.2**
comp=Z,40nm,1.2s
ULHL Ulahol 60.67 320 P **P 15 37 20.0 +2.3**
SNR=16
KZA Kyzart 61.23 320 P **P 15 37 20.9 -0.8**
SNR=13
TKM2 Tokmak 2 61.43 321 P **P 15 37 23.2 +0.3**
SNR=41
TKM2 Tokmak 2 61.43 321 *e*P **P 15 37 21.1 -1.7**
TKM2 pmax pmax
comp=Z,28nm,0.6s
TKM2 Tokmak 2 61.43 321 *e*P **P 15 37 21.1 -1.7**
comp=Z,28nm,0.6s
KBK Karagaybulak 61.71 320 P **P 15 37 24.4 -0.3**
SNR=21
UCH Uchtor 61.77 320 P **P 15 37 24.2 -1.3**
SNR=26
AAK Ala-Archa 61.99 320 P **P 15 37 25.5 -1.0**
comp=Z,162nm,0.5s,SNR=9.9
AAK Ala-Archa 61.99 320 P **P 15 37 27.1 +0.6**
SNR=24
AAK Ala-Archa 61.99 320 ⇓ *i*P **P 15 37 25.5 -1.0**
AAK pmax pmax
comp=Z,61nm,1.0s
AAK Ala-Archa 61.99 320 *e*P **P 15 37 25.4 -1.0**
comp=Z,20nm,0.7s
CHMS Chumysh 62.01 321 P **P 15 37 26.3 -0.1**
SNR=7.0
AML Almayashu 62.26 319 P **P 15 37 29.2 +0.6**
SNR=19
USP Ospenovka 62.30 321 P **P 15 37 26.7 -1.7**
SNR=33
YAK Yakutsk 62.30 3 P **P 15 37 27.6 -0.4**
comp=Z,2.9nm,0.3s,baz=163,slow=21,SNR=13
YAK Yakutsk 62.30 3 *c i*P **P 15 37 27.3 -0.6**
YAK *e**PP pP 15 37 41.9 -7.3
YAK *e* 15 38 06.6
YAK *e* 15 39 44.7
YAK *e*S **S 15 45 50.5 +3.0**
YAK *e**SS sS 15 46 16.0 -7.7
YAK *e* 15 47 10.1
YAK *e*SS **SS 15 49 57.2 +4.8**
YAK pmax pmax
comp=Z,44nm,0.8s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=Z,12nm,1.4s
YAK smax smax
comp=E,39nm,4.4s
YAK smax smax
comp=N,71nm,4.2s
YAK Yakutsk 62.30 3 *e*P **P 15 37 27.5 -0.5**
comp=N,62nm,0.9s
KBL Kabul 62.37 310 *e*P **P 15 37 27.1 -2.2**
KBL pmax pmax
comp=Z,38nm,0.8s
KBL Kabul 62.37 310 *e*P **P 15 37 27.1 -2.2**
comp=Z,38nm,0.8s
EKS2 Erkin-Say 62.46 320 P **P 15 37 28.2 -1.5**
SNR=29
EKS2 Erkin-Say 62.46 320 *e*P **P 15 37 28.2 -1.5**
EKS2 pmax pmax
comp=Z,29nm,0.8s
EKS2 Erkin-Say 62.46 320 *e*P **P 15 37 28.2 -1.5**
comp=Z,29nm,0.8s
ZAA0 Zalesovo Array 63.26 335 *e*P **P 15 37 31.6 -3.0**
comp=Z,16nm,0.8s
ZALV Zalesovo Beam 63.26 335 P **P 15 37 31.7 -2.8**
comp=Z,5.3nm,0.3s,baz=134,slow=6.0,SNR=27
ZALV LR LR 16 06 41.9
comp=Z,41nm,21.1s,baz=72,slow=38
KURK Kurchatov 64.05 329 P **P 15 37 37.6 -2.2**
comp=Z,298nm,0.4s,SNR=75
KURK Kurchatov 64.05 329 *e*P **P 15 37 37.4 -2.3**
KURK pmax pmax
comp=Z,47nm,0.4s
KURK Kurchatov 64.05 329 *e*P **P 15 37 37.4 -2.3**
comp=Z,47nm,0.4s
NVS Novosibirsk 64.55 335 ⇑ *i*P **P 15 37 40.1 -2.8**
NVS *i* 15 37 55.2
NVS *i* 15 38 14.4
NVS pmax pmax
comp=N,13nm,1.0s
NVS pmax pmax
comp=E,16nm,1.0s
NVS pmax pmax
comp=Z,25nm,1.0s
KK31 Karatay Array 64.79 319 *i*P **P 15 37 43.2 -1.6**
KK31 pmax pmax
comp=Z,6.0nm,0.5s
SEY Seymchan 66.42 13 P **P 15 37 55.4 +0.5**
comp=Z,5.8nm,0.9s,baz=184,slow=5.0,SNR=11
SEY Seymchan 66.42 13 *c i*P **P 15 37 55.9 +1.0**
AMKA Amchitka 69.02 33 *e*P **P 15 38 12.4 +0.9**
IDAH Dahanechah 69.09 305 *e*P **P 15 38 10.9 -1.7**
BVA0 Borovoye Array 69.58 328 *i*P **P 15 38 12.8 -2.1**
BVA0 pmax pmax
comp=Z,31nm,1.0s
BRVK Borovoye 69.65 328 P **P 15 38 13.8 -1.5**
comp=Z,194nm,1.0s,SNR=6.9
BRVK Borovoye 69.65 328 *c i*P **P 15 38 13.1 -2.2**
BRVK pmax pmax
comp=Z,32nm,1.0s
BRVK Borovoye 69.65 328 *e*P **P 15 38 13.2 -2.1**
ITEG Tejag 70.05 305 *e*P **P 15 38 16.8 -1.6**
IKRD Kardeh 71.20 309 *e*P P 15 38 18.9 -6.6

TIXI Tiksi 71.89 1 *c i*P **P 15 38 27.7 -0.8**
TIXI pmax pmax
comp=Z,12nm,0.9s
TIXI Tiksi 71.89 1 *e*P **P 15 38 27.1 -1.4**
ATKA Atka Island 73.01 34 *e*P **P 15 38 36.8 +1.3**
AB31 Akbulak array 73.96 322 *i*P **P 15 38 38.7 -2.5**
AB31 pmax pmax
comp=Z,2.0nm,0.3s
IPAR Pars 74.20 301 *e*P **P 15 38 40.5 -2.9**
IKAZ Kazeroun 75.23 301 *e*P **P 15 38 47.0 -2.4**
ILAS Lasjerd 75.27 307 *e*P **P 15 38 47.4 -2.0**
AKTO Aktyubinsk 75.52 323 P **P 15 38 48.0 -2.2**
AKTO pmax pmax
comp=Z,17nm,0.6s
IDMV Damavand 76.05 307 *e*P **P 15 38 51.8 -2.2**
SVE Sverdlovsk 76.30 329 ⇑ *i*P **P 15 38 53.0 -1.5**
SVE pmax pmax
comp=Z,58nm,1.0s
IPIR Pirpir 76.49 304 *e*P P 15 38 52.6 -3.8
ARU Arti 77.22 329 P **P 15 38 57.7 -2.0**
comp=Z,282nm,0.8s,SNR=12
ARU Arti 77.22 329 *c i*P **P 15 38 57.1 -2.6**
ARU *PP **PcP 15 39 09.7 -0.4**
ARU 15 41 48.8
ARU S **S 15 48 44.1 +1.5**
ARU pmax pmax
comp=Z,50nm,1.0s
ARU Arti 77.22 329 *e*P **P 15 38 56.8 -2.9**
IRAZ Razeghan 77.71 306 *e*P **P 15 39 01.2 -2.0**
GAMB Gambell 78.93 24 *e*P **P 15 39 10.6 +1.7**
VNDA Vanda 79.72 172 P **P 15 39 13.8 +0.7**
comp=Z,1.0nm,0.6s,baz=325,slow=6.2,SNR=9.7
VNDA Vanda 79.72 172 *e*P **P 15 39 14.6 +1.5**
VNDA Vanda 79.72 172 *e*P **P 15 39 14.6 +1.5**
FALS False Pass 79.95 34 *e*P **P 15 39 15.6 +0.9**
RAYN Ar Rayn 80.13 294 P **P 15 39 14.6 -1.8**
comp=Z,42nm,0.8s,SNR=5.5
ZEI Tsey 83.38 313 *e*P **P 15 39 30.6 -2.7**
ZEI pmax pmax
comp=Z,10.0nm,0.5s
KBZ Khabaz 84.21 314 P **P 15 39 35.1 -2.2**
comp=Z,3.9nm,0.9s,baz=143,slow=20,SNR=6.1
KIV Kislovodsk 84.38 314 *e*P P 15 39 34.1 -4.2
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,35nm,19.0s
PRGR Permogore 85.03 332 *e*P **P 15 39 38.0 -3.0**
PRGR pmax pmax
comp=Z,37nm,0.8s
SVW2 Sparrevohn 85.34 29 *e*P **P 15 39 43.9 +1.3**
OHAK Old Harbor 85.98 33 *e*P **P 15 39 47.2 +1.5**
KDAK Kodiak Island 86.42 32 *i*P **P 15 39 49.9 +2.0**
RSO Redoubt South 86.63 29 *e*P **P 15 39 50.6 +1.4**
SPU Mount Spurr 87.05 29 *e*P **P 15 39 51.5 +0.5**
VORD Divnogorie 87.27 321 *e*P **P 15 39 51.9 -0.3**
VORD pmax pmax
comp=Z,20nm,0.6s
VORD pmax pmax
comp=N,20nm,0.5s
VORD pmax pmax
comp=E,30nm,0.9s
KMBO Kilima Mbogo 87.34 269 P **P 15 39 54.3 +0.5**
comp=E,17nm,0.9s,baz=52,slow=6.5,SNR=30
VSR Storozhevoye 87.37 321 *e*P **P 15 39 52.7 0.0**
VSR pmax pmax
comp=Z,20nm,0.5s
VSR pmax pmax
comp=N,5.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.7s
BRLK Bradley Lake 87.49 30 *e*P **P 15 39 53.3 +0.1**
LPSR Galich'ya Gora 87.61 323 *e*P **P 15 39 54.4 +0.6**
LPSR pmax pmax
comp=Z,20nm,0.7s
LPSR pmax pmax
comp=N,5.0nm,0.6s
LPSR pmax pmax
comp=E,5.0nm,0.3s
KLMR Klimovskoe 87.86 331 *e*P **P 15 39 52.9 -1.9**
KLMR pmax pmax
comp=Z,35nm,0.8s
TRF Thorofare Moun 88.08 27 *e*P **P 15 39 55.9 -0.2**
ANN Anapa 88.20 315 *i*P **P 15 39 54.7 -2.1**
ANN *e*PP PcP 15 40 08.4 +10
ANN *e* 15 50 17.7
ANN pmax pmax
comp=Z,107nm,2.3s
SEW Seward 88.24 30 *e*P **P 15 39 56.5 -0.1**
COLD Coldfoot 88.42 23 *e*P **P 15 39 58.6 +1.2**
TMCR Tamitsa 88.77 334 *e*P **P 15 39 56.1 -3.0**
TMCR pmax pmax
comp=Z,33nm,0.9s
OBN Obninsk 89.12 325 *c i*P **P 15 39 59.2 -1.7**
OBN *e* 15 43 27.5
OBN pmax pmax
comp=Z,12nm,1.2s
CCB Clear Creek Bu 89.24 25 *e*P **P 15 40 00.6 -0.6**
SCM Sheep Creek Mo 89.36 28 *e*P **P 15 40 02.6 +0.6**
SCM Sheep Creek Mo 89.36 28 *e*P **P 15 40 02.6 +0.6**
QSPA South Pole Qui 89.62 180 *e*P **P 15 40 04.3 +1.1**
comp=Z,7.4nm,1.1s
ILAR Eielson Array 89.64 25 P **P 15 40 01.6 -1.5**
comp=Z,1.2nm,0.6s,baz=246,slow=4.9,SNR=18
PAX Paxson 90.24 27 *e*P **P 15 40 06.2 +0.1**
PAX pmax pmax
comp=Z,14nm,1.3s
PAX Paxson 90.24 27 *e*P **P 15 40 06.2 +0.1**
comp=Z,14nm,1.3s
BR131 Keskin Array S 90.94 310 *e*P **P 15 40 08.2 -1.8**
comp=Z,1.8nm,0.7s
BRTR Keskin Array B 90.94 310 P **P 15 40 07.0 -2.9**
comp=Z,2.8nm,0.9s,baz=122,slow=6.1,SNR=11
BRTR PP **PP 15 43 47.2 +0.1**
comp=Z,0.5nm,0.5s,baz=58,slow=7.5,SNR=3.7
BRTR Keskin Array B 90.94 310 *c e*P **P 15 40 08.3 -1.7**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
MENT Mentasta 91.04 27 *e*P **P 15 40 09.9 +0.2**
ARCES ARCESS Array B 93.47 340 P **P 15 40 18.8 -2.1**
comp=Z,4.0nm,0.8s,baz=86,slow=7.1,SNR=12
AKASG Malin Array Be 93.65 321 P **P 15 40 19.8 -2.3**
comp=Z,1.1nm,0.4s,baz=68,slow=4.5,SNR=6.8
FINES FINESS Array B 94.36 332 P **P 15 40 22.6 -2.4**
comp=Z,2.6nm,0.7s,baz=102,slow=8.0,SNR=7.0
INK Inuvik 94.67 21 P **P 15 40 26.1 -0.2**
comp=Z,2.8nm,0.5s,baz=269,slow=7.1,SNR=9.6
BUR08 Bucovina Ar. S 96.57 318 *e*P **P 15 40 34.6 -1.0**
BOSA Boshof 98.06 241 LR LR 16 19 16.8
comp=Z,30nm,21.2s,baz=169,slow=32
STHS Stebnicka Huta 98.91 320 *e*P **P 15 40 45.1 -0.9**
STHS Stebnicka Huta 98.91 320 PDIF **P 15 40 45.1 -0.9**
KECS Kecovo 99.57 319 *e*P **Pdif 15 40 48.7 -0.2**
KECS Kecovo 99.57 319 PDIF **Pdif 15 40 48.7 -0.2**
NB2 NORSAR Subarra101.41 333 P **Pdif 15 40 54.3 -2.6**
comp=Z,2.5nm,0.8s,baz=73,slow=4.4
NB2 NORSAR Subarra101.41 333 P **Pdif 15 40 54.3 -2.6**
baz=73,slow=4.4
NOA NORSAR Array B101.41 333 P **Pdif 15 40 54.6 -2.3**
comp=Z,2.0nm,0.9s,baz=72,slow=4.5,SNR=5.7
GERES GERESS Array B 103.87 321 PP PP 15 45 23.7 -2.2
comp=Z,0.7nm,0.9s,baz=69,slow=5.4,SNR=3.4
YKA Yellowknife Ar 104.03 24 Pdiff **Pdif 15 41 09.1 +0.7**
comp=Z,0.5nm,0.7s,baz=297,slow=3.8,SNR=2.7
YKA PKiKP **PKiKP 15 45 25.4 +0.2**
comp=Z,0.3nm,0.4s,baz=309,slow=1.9,SNR=7.3
NVAR Mina Array Bea 111.16 49 PKiKP **PKiKP 15 45 40.2 +0.6**
comp=Z,0.5nm,0.8s,baz=242,slow=3.8,SNR=3.9
B19A Brinkman Farms 113.55 36 P **PKiKP 15 45 43.3 -0.4**
baz=114
C20A Veseth Ranch, 114.46 36 P PKPdf 15 45 46.3 +0.8
baz=114
PDAR Pinedale Array 115.77 42 PKP **PKPdf 15 45 48.6 +0.3**
comp=Z,0.7nm,0.8s,baz=319,slow=4.0,SNR=3.1
PDAR PKKPab **PKKPab 15 56 25.0 -1.1**
comp=Z,0.2nm,0.4s,baz=112,slow=6.6,SNR=4.7
LAO LASA Array 116.02 36 P **PKPdf 15 45 48.5 0.0**
baz=116
I20A Worland 116.17 40 P **PKPdf 15 45 49.9 +0.9**
baz=116
J20A Shoshoni 116.48 40 P **PKPdf 15 45 50.4 +0.8**
baz=116
E23A Ismay 116.67 36 P **PKPdf 15 45 50.8 +1.1**
baz=117
I21A Big Trails, Te 116.77 40 P **PKPdf 15 45 50.7 +0.6**
baz=117
J21A Lysite 116.89 40 P **PKPdf 15 45 51.0 +0.6**
baz=117
F23A Volborg 117.00 37 P **PKPdf 15 45 51.2 +0.8**
baz=117
J22A Midwest 117.48 40 P **PKPdf 15 45 51.7 +0.2**
baz=117
N20A Spence Gulch, 117.49 43 P **PKPdf 15 45 53.0 +1.3**
baz=117
F24A Ekalaka 117.52 37 P **PKPdf 15 45 52.3 +0.9**
baz=117
N22A Wattenberg Ran 118.73 42 P **PKPdf 15 45 55.1 +1.0**
baz=119
I25A Rochford 118.90 38 P **PKPdf 15 45 54.5 +0.3**
baz=119
ESDC Sonseca Array 118.98 316 PP PP 15 47 11.9 -2.4
comp=Z,0.2nm,0.3s,baz=64,slow=8.6,SNR=5.2
H26A Fairpoint 119.17 37 P **PKPdf 15 45 55.1 +0.5**
baz=119
J25A Sunshine Ranch 119.18 39 P **PKPdf 15 45 54.9 +0.2**
baz=119
G27A Dupree 119.25 36 P **PKPdf 15 45 55.0 +0.3**
baz=119
I26A New Underwood 119.43 38 P **PKPdf 15 45 55.8 +0.6**
baz=119
J26A Sides Ranch, S 119.68 38 P **PKPdf 15 45 56.0 +0.4**
baz=120
S22A 4UR Ranch, Cre 119.83 46 P **PKPdf 15 45 58.5 +2.1**
baz=120
I27A Quinn 119.90 37 P **PKPdf 15 45 56.5 +0.5**
baz=120
K26A Motz Farm, Whi 119.93 39 P **PKPdf 15 45 56.4 +0.2**
baz=120
J27A Elkhorn Farm, 120.37 38 P **PKPdf 15 45 56.9 0.0**
baz=120
I28A Midland 120.47 37 P **PKPdf 15 45 57.5 +0.4**
baz=120
TORD Torodi Ar. Bea 122.03 285 PKP **PKPdf 15 46 00.3 -0.5**
comp=Z,2.6nm,0.7s,baz=92,slow=1.4,SNR=17
TORD PKKPab **PKKPab 15 56 00.3 +1.6**
comp=Z,1.1nm,0.9s,baz=264,slow=1.5,SNR=4.9
ECSD EROS Data Cent 123.30 35 P **PKPdf 15 46 02.9 +0.4**
baz=123
Q29A Oakley 123.34 42 P **PKPdf 15 46 03.4 +0.6**
baz=123
MNTX Cornudas Mount 123.43 51 P **PKPdf 15 46 04.0 +0.9**
baz=123
MNTX Cornudas Mount 123.43 51 *e*PKPdf **PKPdf 15 46 04.3 +1.2**
BGNE Belgrade 123.77 38 P **PKPdf 15 46 03.9 +0.4**
baz=124
MSTX Muleshoe 124.46 48 P **PKPdf 15 46 06.0 +0.9**
baz=124
SCHQ Schefferville 124.85 8 PKP **PKPdf 15 46 05.4 +0.3**
comp=Z,3.7nm,0.4s,baz=24,slow=2.6,SNR=18
O33A Hebron 124.89 39 P **PKPdf 15 46 06.0 +0.3**
baz=125
Z29A Hungry Hill Ra 125.57 48 P **PKPdf 15 46 08.1 +0.8**
baz=126
X30A Coker Ranch, T 125.63 46 P **PKPdf 15 46 08.1 +0.8**
baz=126
R33A Olander Ranch, 125.63 41 P **PKPdf 15 46 08.2 +1.1**
baz=126
P34A Walnut Farm, R 125.67 39 P **PKPdf 15 46 07.9 +0.7**
baz=126
TXAR Lajitas Array 125.72 53 PKP **PKPdf 15 46 09.0 +1.4**
comp=Z,0.9nm,0.6s,baz=222,slow=1.9,SNR=13
Q34A Chapman 125.96 40 P **PKPdf 15 46 09.1 +1.4**
baz=126
S33A Kaszmaul Farm, 126.01 42 P **PKPdf 15 46 08.9 +1.0**
baz=126
T33A Patterson Ranc 126.12 42 P **PKPdf 15 46 09.2 +1.1**
baz=126
P35A Duane Minner, 126.19 39 P **PKPdf 15 46 08.6 +0.4**
baz=126
529A Stev Forest Ra 126.55 52 P **PKPdf 15 46 10.2 +1.0**
baz=126
Q35A Mercer Eighty, 126.57 39 P **PKPdf 15 46 09.5 +0.5**
baz=126
429A Davenport Ranc 126.59 51 P **PKPdf 15 46 10.3 +1.0**
baz=126
430A Baggett Ranch, 127.03 51 P **PKPdf 15 46 11.6 +1.5**
baz=127
S35A Otter Creek Ra 127.07 41 P **PKPdf 15 46 11.1 +1.2**
baz=127
Z32A Haskell 127.19 47 P **PKPdf 15 46 11.6 +1.3**
baz=127
231A Bronte 127.22 49 P **PKPdf 15 46 11.8 +1.4**
baz=127
R36A Gordon, Harris 127.22 40 P **PKPdf 15 46 10.5 +0.4**
baz=127
530A J-C Ranch, Com 127.23 51 P **PKPdf 15 46 11.9 +1.4**
baz=127
431A Sonora 127.56 50 P **PKPdf 15 46 11.5 +0.4**
baz=128
R37A Teagarden Farm 127.66 39 P **PKPdf 15 46 11.4 +0.4**
baz=128
T36A Boggs Farm, Ca 127.71 41 P **PKPdf 15 46 12.2 +1.1**
baz=128
531A Rocksprings 127.84 51 P **PKPdf 15 46 12.9 +1.2**
baz=128
332A Millersview 127.91 49 P **PKPdf 15 46 13.3 +1.6**
baz=128
JCT Junction City 128.28 50 *e*PKIKP **PKPdf 15 46 13.3 +0.9**
JCT Junction City 128.28 50 P **PKPdf 15 46 13.3 +0.9**
baz=128
JCT Junction City 128.28 50 *e*PKPdf **PKPdf 15 46 13.3 +0.9**
333A Richland Sprin 128.51 49 P **PKPdf 15 46 13.8 +1.0**
baz=128
X36A Centrahoma 128.77 44 P **PKPdf 15 46 14.5 +1.3**
baz=129
Y36A Durant 129.18 45 P **PKPdf 15 46 15.4 +1.4**
baz=129
W38A Poteau 129.75 42 P **PKPdf 15 46 16.4 +1.4**
baz=130
PLCA Paso Flores 136.89 163 PKP **PKPdf 15 46 28.7 +0.2**
comp=Z,2.4nm,0.9s,baz=270,slow=4.0,SNR=2.4
JTS JuntasAbangare 148.98 70 *e*PKP2 **PKPbc 15 46 55.6 +1.2**
JTS JuntasAbangare 148.98 70 *e*PKPbc **PKPbc 15 46 55.6 +1.2**
LPAZ La Paz 159.27 143 PKP **PKPdf 15 47 07.0 +1.6**
comp=Z,2.1nm,1.0s,baz=273,slow=3.6,SNR=5.0
LPAZ La Paz 159.27 143 PKIKP **PKPdf 15 47 07.0 +1.6**
SDV Santo Domingo 162.60 60 *e*PKPdf **PKPdf 15 47 08.3 -0.2**

IDC 07 15:39:06.3±1.5, 0.°97N×126.°75E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/36, mbtmp3.3/4, ML3.0/1, Error ellipse: s-maj=63.7km s-min=24.5km az=59.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.87**	**112**	Pn	Pn	15 40 20.6	-0.4
	0.6nm,0.3s,baz=288,slow=20,SNR=4.1						
WRA	**Warramunga Arr**	**22.07**	**161**	P	P	15 44 02.8	-0.3
	0.4nm,0.6s,baz=339,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**25.46**	**165**	P	P	15 44 36.5	+0.3
	0.3nm,0.7s,baz=340,slow=7.7,SNR=8.1						
MKAR	**Makanchi Array**	**59.83**	**326**	P	P	15 49 13.6	-0.1
	0.4nm,0.5s,baz=132,slow=7.5,SNR=6.5						

*IDC **07** 15:40:54.1±1.5, 0.°84S×122.°52E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/35, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=54.7km s-min=24.7km az=75.0*

*ISCJB **07** 15:40:55.7±1.9, 0.°96S×0.°04×122.°34E×0.°03, h14km±13km, mb3.2/3, Error ellipse: s-maj=6.6km s-min=5.4km az=178.9*

*DJA **07** 15:40:55.8±0.3, 1.°5S×3.°1×12.°2E±.°, h10km, M3.8/9, MLv3.8/9*

ISC 07 15:40:55.5±1.3, 0.°90S±0.°04×122.°36E±0.°03, h8km±10km, n20, σ0=81/31, mb3.2/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.44**	**109**	P	**Pg**	**15 41 04.2**	**+0.2**
LUWI				S	**Sb**	**15 41 12.3**	**0.0**
LUWI	**Luwuk**	**0.44**	**109**	P	**Pg**	**15 41 04.3**	**+0.2**
LUWI				S	**Sb**	**15 41 12.3**	**0.0**
APSI	**Ampana**	**0.71**	**269**	P	**Pg**	**15 41 09.1**	**-0.1**
APSI				S	**Sn**	**15 41 24.0**	**+1.0**
APSI	**Ampana**	**0.71**	**269**	P	**Pg**	**15 41 09.0**	**-0.1**
APSI				S	**Sg**	**15 41 17.6**	**-0.8**
MRSI	**Marisa**	**1.43**	**343**	P	Pn	15 41 14.7	-7.1
MRSI	**Marisa**	**1.43**	**343**	P	**Pb**	**15 41 22.8**	**+0.3**
MRSI				S	**Sb**	**15 41 41.8**	**+0.9**
KMSI	**Cibinong**	**2.19**	**48**	P	Pn	15 41 31.2	-1.1
KMSI				S	**Sb**	**15 42 04.3**	**+1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	2.19	48	P	Pn	15 41 33.1	+0.8
KMSI				S	Sb	15 42 02.9	+0.2
PCI	Palu	2.52	270	P	Pn	15 41 37.8	+1.0
PCI	Palu	2.52	270	P	Pn	15 41 36.1	-0.7
PCI				S	Sn	15 42 07.3	-0.5
MPSI	Mapaga	2.75	297	P	Pn	15 41 39.1	-0.9
MPSI				S	Sn	15 42 13.9	+0.5
MPSI	Mapaga	2.75	297	P	Pn	15 41 36.6	-3.4
MPSI				S	Sn	15 42 13.3	-0.1
TTSI	Tana Toraja	3.31	230	P	Pn	15 41 48.6	+0.9
TTSI				S	Sn	15 42 27.4	0.0
TTSI	Tana Toraja	3.31	230	P	Pn	15 41 48.1	+0.4
TTSI				S	Sn	15 42 26.2	-1.2
SANI	Sanana	3.81	108	P	Pn	15 41 54.3	-0.2
SPSI	Sidrap Palu	3.99	220	P	Pn	15 41 58.8	+1.7
KAPI	Kappang	4.84	212	Pn	Pn	15 42 09.9	+1.0
	3.0nm,0.3s,baz=29,slow=10,SNR=7.6						
KAPI				Sn	Sn	15 43 04.2	-1.0
	baz=218,slow=16,SNR=3.0						
WRA	Warramunga Arr	22.27	149	P	P	15 45 53.2	-0.1
	0.9nm,0.9s,baz=329,slow=10,SNR=4.8						
ASAR	Alice Springs	25.25	155	P	P	15 46 21.6	-0.8
	0.3nm,0.6s,baz=339,slow=9.9,SNR=5.3						
SONM	Songino Array	50.49	346	P	P	15 49 53.9	-0.4
	0.4nm,0.7s,baz=149,slow=6.7,SNR=2.5						

IDC 07 15:46:36.9±3.5, 2°.52S×151°.39E, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.4/37, mbtmp3.9/2, Error ellipse: s-maj=140.7km s-min=46.6km az=113.0, New Ireland region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.02	223	P	P	15 51 55.1	+1.4
	5.1nm,0.5s,baz=47,slow=9.5,SNR=122						
ASAR	Alice Springs	26.98	217	P	P	15 52 20.0	-0.7
	0.2nm,0.4s,baz=51,slow=8.4,SNR=24						
TORD	Torodi Ar. Bea	148.22	291	PKPbc	PKPbc	16 06 24.8	-1.3
	0.2nm,0.3s,baz=73,slow=2.2,SNR=5.8						

IDC 07 16:03:33.6±1.1, 32°.69N×91°.07E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/25, mbtmp3.6/8, Error ellipse: s-maj=35.2km s-min=22.6km az=60.0
ISCJB 07 16:03:36.6±0.9, 32°.8N±0°.1×91°.2E±0°.2, h33km, mb3.6/7, Error ellipse: s-maj=24.1km s-min=19.2km az=151.9
ISC 07 16:03:38.9±1.1, 32°.8N±0°.2×91°.2E±0°.2, h35km, n8, σ1s.33/8, mb3.7/7, Xizang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	18.97	33	P	Pn	16 07 58.0	-0.2
	baz=209,slow=12,SNR=4.1						
ZALV	Zalesovo Beam	21.66	350	P	P	16 08 25.6	-0.6
	0.8nm,0.5s,baz=165,slow=12,SNR=4.9						
KSRS	Korea Array	30.32	71	P	P	16 09 45.8	-1.1
	0.3nm,0.5s,baz=275,slow=9.4,SNR=3.9						
FINES	FINESS Array B	50.00	325	P	P	16 12 29.0	-0.3
	0.7nm,0.7s,baz=96,slow=11,SNR=2.7						
WRA	Warramunga Arr	66.70	135	P	P	16 14 26.4	-0.1
	0.5nm,0.7s,baz=324,slow=6.2,SNR=4.5						
ASAR	Alice Springs	69.36	138	P	P	16 14 43.6	+0.5
	0.9nm,0.8s,baz=316,slow=5.8,SNR=14						
TORD	Torodi Ar. Bea	82.56	281	P	P	16 15 57.9	-0.8
	0.2nm,0.5s,baz=52,slow=5.2,SNR=2.5						
YKA	Yellowknife Ar	82.85	12	P	P	16 16 01.8	+2.5
	0.5nm,0.7s,baz=355,slow=4.6,SNR=3.2						

CSEM 07 16:19:38.3±0.9, 40°.56N×37°.19E, h2km, MD2.8, Error ellipse: s-maj=17.9km s-min=10.4km az=153.0
DDA 07 16:19:41.1, 40°.61N×37°.46E, h8km, MD2.8
ISC 07 16:19:38.2±3.3, 40°.6N±0°.1×37°.19E±0°.08, h4km±15km, n10, σ0s.78/18, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSDY	Resadiye-TOKAT	0.19	147	ePG	Pg	16 19 41.2	-0.8
RSDY				eSG	Sg	16 19 44.4	-0.1
RSDY	Resadiye-TOKAT	0.19	147	ePg	Pg	16 19 41.2	-0.8
RSDY				eSg	Sg	16 19 44.4	-0.1
SVSK	Karacayir	0.66	193	ePG	Pg	16 19 50.8	0.0
SVSK	Karacayir	0.66	193	ePg	Pg	16 19 50.8	0.0
SUSE	Susehri	0.85	114	iP	Pg	16 19 54.8	+0.3
SUSE				iS	Sg	16 20 05.4	-0.1
SUSE	Susehri	0.85	114	iP	Pg	16 19 54.8	+0.3
SUSE				iS	Sg	16 20 05.4	-0.1
KELT	Kelkit	1.63	104	iP	Pn	16 20 08.4	+0.5
KELT				iS	Sn	16 20 28.7	-0.8
KELT	Kelkit	1.63	104	iP	Pn	16 20 08.4	+0.5
KELT				iS	Sn	16 20 28.7	-0.8
KEMA	Kemaliye	1.63	142	iP	Pb	16 20 08.7	-0.3
KEMA				iS	Sg	16 20 32.3	+1.6
KEMA	Kemaliye	1.63	142	iP	Pb	16 20 08.7	-0.3
KEMA				iS	Sg	16 20 32.3	+1.6

SJA 07 16:30:07.5±1.0, 34°.48S×72°.79W, h50km, ML3.4, MW3.4
GUC 07 16:30:11.0±0.8, 34°.69S×71°.85W, h15km±5km, ML3.8
ISC 07 16:30:08.6±2.7, 34°.69S±0°.04×71°.9W±0°.1, h16km±16km, n20, σ1s.15/26, 1C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.61	121	⇑iP	Pb	16 30 20.5	-0.4
NICH				iS	Sg	16 30 28.5	-0.4
TALC	Talca	0.73	165	⇓iP	Pb	16 30 22.7	-0.2
TALC				iS	Sb	16 30 32.6	-0.1
LNV	Longovilo	0.83	28	⇓iP	Pb	16 30 24.3	-0.2
LNV				iS	Sb	16 30 34.5	-0.9
LNCH	Linares	1.17	169	eP	Pn	16 30 30.3	0.0
LNCH				iS	Sb	16 30 46.2	+0.8
CHCH	Chadas Angostu	1.26	54	⇓iP	Pn	16 30 31.7	+0.1
CHCH				iS	Sb	16 30 46.0	-2.0
TACH	Talagante	1.29	37	⇓iP	Pn	16 30 31.2	-0.7
TACH				iS	Sn	16 30 46.1	-2.8
PCH	Pirque	1.55	47	eP	Pn	16 30 36.0	+0.4
PCH				iS	Sn	16 30 56.2	+0.7
CLCH	Cerro Calan	1.70	41	⇓iP	Pn	16 30 38.8	+1.1
CLCH				eS	Sn	16 30 59.2	+0.1
CLCH				AML	AML	16 31 07.8	
	comp=E,2µm,0.3s						
PEL	Peldehue	1.83	33	eP	Pn	16 30 40.5	+1.1
PEL				iS	Sb	16 31 04.1	-0.4
PEL				AML	AML	16 31 10.7	
	comp=E,1µm,0.5s						
ROCH	El Roble	1.86	23	⇓iP	Pn	16 30 40.2	+0.2
ROCH				iS	Sn	16 31 03.1	-0.1
ROCH				AML	AML	16 31 13.2	
	comp=N,2µm,0.4s						
AAGR	Agrelo	3.00	59	eP	Pb	16 31 02.6	+1.0
ARCO	CERRO ARCO	3.07	54	eP	Pb	16 31 03.8	+0.9
ARCO				AML	AML	16 31 51.5	
	comp=Z,88nm,0.7s						
AUSP	Uspallata	3.22	41	eP	Pb	16 31 04.9	-0.6
AUSP				eS	Sb	16 31 46.9	+2.3
CANA	Caviahue	3.26	169	eP	Pb	16 31 04.9	-1.2
CANA				IAML		16 32 00.2	
	comp=Z,52nm,0.7s						
ASAL	Salagasta	3.29	51	eP	Pb	16 31 05.8	-0.8
RTLS	Leoncito	3.60	38	eP	Pb	16 31 09.7	-2.4
RTCV	Cerro Valdivia	3.97	46	eP	Pn	16 31 14.0	+5.2
CFAA	Coronel Fontan	4.33	46	eP	Pn	16 31 18.1	+4.3
RTLL	Cerro Villicun	4.40	41	eP	Pn	16 31 16.6	+1.8
ACAN	Cantantal	4.60	60	eP	Pn	16 31 21.2	+3.8

IDC 07 16:54:33.6±2.0, 2°.12N×96°.05E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.4/27, mbtmp3.5/7, ML3.3/2, Error ellipse: s-maj=57.5km s-min=23.0km az=54.0
ISCJB 07 16:54:35.8±1.4, 2°.1N±0°.1×96°.1E±0°.2, h27km, mb3.5/5, Error ellipse: s-maj=29.1km s-min=15.5km az=144.2
ISC 07 16:54:38.1±1.9, 2°.2N±0°.2×96°.2E±0°.2, h27km, n13, σ0s.51/7, mb3.7/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.80	78	Pn	Pn	16 55 21.4	+0.1
	1.6nm,0.3s,baz=161,slow=4.4,SNR=3.4						
CMAR	Chiang Mai Arr	16.34	9	Pn	P	16 58 27.9	-0.6
	0.1nm,0.3s,baz=198,slow=12,SNR=4.9						
H08S2	Diego Garcia H	25.59	247	T	T	17 26 35.4	
	baz=68,slow=76,SNR=164						
H08S3	Diego Garcia H	25.59	247	T	T	17 26 35.6	
	baz=68,slow=76,SNR=102						
H08S1	Diego Carcia H	25.61	247	T	T	17 26 38.7	
	baz=68,slow=76,SNR=104						
H01W3	Cape Leeuwin H	40.59	157	T	T	17 45 14.5	
	baz=333,slow=76,SNR=62						
H01W2	Cape Leeuwin H	40.60	157	T	T	17 45 16.1	
	baz=333,slow=76,SNR=68						
H01W1	Cape Leeuwin H	40.61	157	T	T	17 45 17.6	
	baz=333,slow=76,SNR=64						
WRA	Warramunga Arr	43.45	122	P	P	17 02 39.5	+0.3
	0.3nm,0.9s,baz=303,slow=8.8,SNR=2.7						
ASAR	Alice Springs	44.83	127	P	P	17 02 49.8	-0.5
	0.2nm,0.8s,baz=299,slow=7.9,SNR=2.8						
MKAR	Makanchi Array	46.00	347	P	P	17 02 59.4	+0.3
	0.8nm,0.7s,baz=157,slow=8.2,SNR=5.8						
SONM	Songino Array	46.27	10	P	P	17 03 01.4	0.0
	0.3nm,0.3s,baz=190,slow=7.3,SNR=3.1						
ZALV	Zalesovo Beam	52.38	352	P	P	17 03 48.1	+0.4
	1.9nm,0.7s,baz=171,slow=6.4,SNR=9.7						

ISCJB 07 17:21:36.1±0.7, 36°.60N±0°.04×71°.39E±0°.08, h100km, Error ellipse: s-maj=9.7km s-min=4.8km az=155.3
NNC 07 17:21:43.0±1.4, 37°.07N×71°.17E, h160km±13km, mb2.8, mpv3.7, Error ellipse: s-maj=13.1km s-min=6.3km az=160.0
ISC 07 17:21:36.5±1.2, 36°.61N±0°.08×71°.33E±0°.09, h100km, n19, σ1s.46/23, 8C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.96	319	⇓P	Pn	17 22 24.8	+3.1
	27nm,0.5s						
DZET				⇓S	Sn	17 22 58.4	+1.9
	103nm,0.4s						
SFK	Sufi-Kurgan	3.81	26	⇑P	Pn	17 22 36.7	+3.4
	6.3nm,0.3s						
SFK				⇑S	Sn	17 23 19.0	+1.8
MNAS	Manas	5.94	8	⇑P	Pn	17 23 03.5	+1.5
	2.0nm,0.4s						
MNAS				⇓S	Sn	17 24 06.1	-2.7
	11nm,0.6s						
AAK	Ala-Archa	6.50	21	⇑P	Pn	17 23 11.3	+1.7
	2.0nm,0.3s						
AAK				⇓S	Sn	17 24 21.9	-0.4
	8.4nm,0.7s						
KK31	Karatay Array	6.52	355	P	Pn	17 23 11.2	+1.4
	9.8nm,0.5s,baz=183,slow=13,SNR=79						
KK31				⇓S	Sn	17 24 20.2	-2.4
	7.1nm,0.5s,baz=178,slow=23,SNR=4.3						
TKM2	Tokmak 2	7.11	26	⇑P	Pn	17 23 19.4	+1.4
	2.2nm,0.5s						
TKM2				⇑S	Sn	17 24 36.7	-0.7
	4.3nm,0.8s						
MK31	Makanchi Array	13.05	35	⇓P	Pn	17 24 40.1	+2.2
	0.8nm,0.6s,baz=209,slow=11,SNR=8.7						
KOLN	Koldanda	13.62	127	eP	Pn	17 24 45.7	+0.1
	4.0nm,0.3s						
GKN	Gorkha	14.14	124	eP	Pn	17 24 51.4	-1.0
	11nm,0.4s						
DMN	Daman	14.71	124	eP	Pn	17 24 59.2	-0.6
	5.5nm,0.4s						
KKN	Kakani	14.71	123	eP	Pn	17 24 58.5	-1.2
PKIN	Phulchoki	14.93	123	eP	Pn	17 25 02.3	-0.2
	5.1nm,0.3s						
PKI	Pulchoki	14.94	123	eP	Pn	17 25 02.6	-0.2
GUN	Gumba	15.05	121	eP	Pn	17 25 03.1	-1.0
	7.2nm,0.4s						
AB31	Akbulak array	15.12	330	⇑P	Pn	17 25 03.4	-1.1
	0.3nm,0.5s,baz=127,slow=17,SNR=5.8						
AB31				⇓S	Sn	17 27 41.0	-10
	0.5nm,0.5s,baz=272,slow=69,SNR=3.9						
JIRN	Jiri	15.42	121	eP	Pn	17 25 08.5	-0.3
	14nm,0.5s						
RAMN	Ramite	16.15	122	eP	P	17 25 19.3	+0.1
	3.6nm,0.3s						
TAPN	Taplejung	16.67	119	eP	P	17 25 24.7	-0.3
	7.3nm,0.3s						
AKTO	Aktyubinsk	16.82	329	⇑P	Pn	17 25 24.0	-1.7
	2.0nm,0.9s						

NIED 07 17:46:00, 43°.50N×147°.70E, h80km, Mw4.0 Best double couple: M0 1.10000×10^15 NP1:φs149.00000°, δ32.00000°, λ-12.00000°. NP2:φs249.00000°, δ83.00000°, λ-122.00000°.
MOS 07 17:46:14.3±1.2, 43°.65N×147°.78E, h68km, mb4.2/15, Error ellipse: s-maj=10.7km s-min=7.6km az=104.6
ISCJB 07 17:46:14.5±0.7, 43°.58N±0°.05×147°.80E±0°.06, h73km±5km, mb3.8/20, Error ellipse: s-maj=9.7km s-min=5.2km az=139.3
JMA 07 17:46:15.7±0.2, 43°.50N×147°.69E, h28km, M4.6
SKHL 07 17:46:16.4±0.9, 43°.71N×147°.74E, h83km±9km, mb5.0/4, msh5.4/4
IDC 07 17:46:16.4±2.5, 43°.66N×147°.77E, h70km±22km, mb3.5/15, mb1 3.7/19, mb1mx3.5/36, mbtmp3.8/19, MS2.4/1, Ms1 2.4/1, ms1mx2.1/31, Error ellipse: s-maj=18.9km s-min=13.6km az=125.0
ISC 07 17:46:16.3±1.0, 43°.64N±0°.06×147°.79E±0°.06, h70km±7km, n83, σ1s.09/97, mb4.0/20, 4C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.73	289	ePN	Pn	17 46 30.9	-0.6
SHO				eS	Sn	17 46 42.2	-0.6
SHO				pmax	pmax		
	comp=Z,440nm,0.3s						
SHO				smax	smax		
	comp=N,550nm,0.3s						
SHO	Shikotan	0.73	289	eP	Pn	17 46 30.9	-0.6
SHO				AMB	AMB	17 46 36.6	
	comp=N,439nm,0.3s						
SHO				eS	Sn	17 46 42.2	-0.6
SHO				A	A	17 46 43.0	
	comp=N,550nm,0.3s						
YUK	Yuzh-Kuril'sk	1.45	286	ePN	Pn	17 46 40.0	-0.6
YUK				eS	Sn	17 46 58.4	-0.4
YUK				pmax	pmax		
	comp=N,260nm,0.2s						
YUK				pmax	pmax		
	comp=Z,600nm,0.2s						
YUK				smax	smax		
	comp=N,500nm,0.3s						
YUK				smax	smax		
	comp=E,2µm,0.3s						
YUK	Yuzh-Kuril'sk	1.45	286	eP	Pn	17 46 40.0	-0.6
YUK				AMB	AMB	17 46 41.4	
	comp=E,97nm,0.2s						
YUK				AMB	AMB	17 46 41.4	
	comp=E,255nm,0.2s						
YUK				AMB	AMB	17 46 41.4	
	comp=E,579nm,0.2s						
YUK				eS	Sn	17 46 58.4	-0.4
YUK				A	A	17 47 03.4	
	comp=E,496nm,0.4s						
YUK				A	A	17 47 03.4	
	comp=E,1µm,0.4s						
NEM2	Nemuro 2	1.52	260	P	Pn	17 46 40.5	-0.9
NEM2				eS	Sn	17 46 58.5	-1.9
KUR	Kuril'sk	1.59	2	ePN	Pn	17 46 42.4	-0.1
KUR				eS	Sn	17 47 00.9	-1.3
KUR				pmax	pmax		
	comp=Z,80nm,0.1s						
KUR				smax	smax		
	comp=N,160nm,0.2s						
KUR				smax	smax		
	comp=E,690nm,0.2s						
KUR	Kuril'sk	1.59	2	eP	Pn	17 46 42.4	-0.1
KUR				AMB	AMB	17 46 42.6	
	comp=E,14nm,0.1s						
KUR				AMB	AMB	17 46 42.6	
	comp=E,10.0nm,0.1s						
KUR				AMB	AMB	17 46 42.6	
	comp=E,83nm,0.1s						
KUR				eS	Sn	17 47 00.9	-1.3
KUR				A	A	17 47 04.8	
	comp=E,1µm,0.4s						
KUR				A	A	17 47 04.8	
	comp=E,1µm,0.4s						
JRA	Rausu	1.96	280	P	Pn	17 46 47.4	+0.1
JRA				eS	Sn	17 47 11.0	+0.1
JNK	Nakash	2.23	270	P	Pn	17 46 50.6	-0.5
JNK				eS	Sn	17 47 15.9	-1.7
JAK	Akkeshi	2.35	255	P	Pn	17 46 51.7	-0.9
JAK				eS	Sn	17 47 18.7	-1.7
JTKR	Abashiri--Toko	2.83	278	P	Pn	17 46 59.8	+0.7
JTKR				eS	Sn	17 47 32.5	+0.4
JAR	Ashorobuto	2.95	265	P	Pn	17 47 00.9	+0.1
JAR				eS	Sn	17 47 34.7	-0.3
JOB	Onbets	2.98	257	P	Pn	17 47 00.9	-0.3
JOB				eS	Sn	17 47 34.1	-1.7
JMP	Maruseppu	3.23	278	P	Pn	17 47 05.5	+0.9
HRK	Horoka	3.39	269	eP	Pn	17 47 07.9	+1.0
HRK				eS	Sn	17 47 46.9	+0.9
JCH	Churui	3.40	254	P	Pn	17 47 06.2	-0.7
JCH				eS	Sn	17 47 44.1	-1.9
JKK2	Kamakawa 2	3.66	275	P	Pn	17 47 11.7	+1.2
ERM	Erimo	3.78	246	d iPN	Pn	17 47 13.4	+1.4
ERM	Erimo	3.78	246	eP	Pn	17 47 13.4	+1.4
ASAJ	Asahikawa	3.79	279	P	Pn	17 47 14.0	+1.8
	comp=E,3.5nm,0.3s,baz=119,slow=8.6,SNR=7.3						
ASAJ	Asahikawa	3.79	279	PN	Pn	17 47 14.0	+1.8
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JFR	Furan	3.82	265	eS	Sn	17 47 56.1	-0.2
JNBK	Urakawa-nobuka	3.94	252	P	Pn	17 47 13.7	-0.6
JNBK				eS	Sn	17 47 56.9	-2.3
JSE	Soyaes	3.96	291	P	Pn	17 47 15.7	+1.1
JWK2	Keihoku	4.54	294	P	Pn	17 47 25.0	+2.6
JEW	Eniwo	4.70	262	eS	Sn	17 48 18.3	+0.4
YSS	Yuzh-Sakhalins	4.86	315	ePN	Pn	17 47 27.2	+0.4
YSS				eS	Sn	17 48 18.7	-3.0
YSS				pmax	pmax		
	comp=Z,50nm,0.5s						
YSS				smax	smax		
	comp=E,80nm,0.8s						
YSS	Yuzh-Sakhalins	4.86	315	eP	Pn	17 47 27.2	+0.4
YSS				AMB	AMB	17 47 27.9	
	comp=E,30nm,0.5s						
YSS				eS	Sn	17 48 18.7	-3.0
YSS				A	A	17 48 24.3	
	comp=E,50nm,0.8s						
UGL	Uglegorsk	6.73	326	ePN	Pn	17 47 51.0	-1.3
HABR	Khabarovsk	10.09	303	ePN	Pn	17 48 36.8	-1.4
HABR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HABR				MLR	MLR		
	comp=Z,59nm,16.0s						
HABR	Khabarovsk	10.09	303	eP	Pn	17 48 36.8	-1.4
MJAR	Matsushiro Arr	10.20	229	P	Pn	17 48 38.9	-1.0
	comp=Z,0.4nm,0.3s,baz=30,slow=12,SNR=11						
MAJO	Matsushiro	10.20	229	⇓ePN	Pn	17 48 38.7	-1.2
MAT	Matsushiro	10.20	229	P	Pn	17 48 38.6	-1.3
PETK	Petropavlovsk-	11.53	31	P	Pn	17 48 56.4	-1.5
	comp=Z,0.3nm,0.3s,baz=209,slow=15,SNR=6.2						
PETK				LR	LR	17 52 44.9	
	comp=Z,19nm,21.6s,baz=209,slow=34						
SEY	Seymchan	19.51	6	P	P	17 50 36.4	-1.2
	comp=Z,0.2nm,0.3s,baz=187,slow=9.0,SNR=11						
SEY	Seymchan	19.51	6	eP	P	17 50 37.3	-0.3
SEY	Seymchan	19.51	6	eP	P	17 50 37.3	-0.3
YAK	Yakutsk	21.28	336	eP	P	17 50 58.9	+2.2
YAK				pmax	pmax		
	comp=Z,11nm,1.0s						
H11N2	WAKE ISLAND Hy	28.72	140	T	T	18 23 05.5	
	baz=330,slow=75,SNR=148						
H11N1	WAKE ISLAND Hy	28.73	140	T	T	18 23 04.9	
	baz=330,slow=75,SNR=138						
H11N3	WAKE ISLAND Hy	28.73	140	T	T	18 23 01.0	
	baz=330,slow=75,SNR=169						
SONM	Songino Array	28.94	293	P	P	17 52 09.3	+0.4
	comp=Z,0.6nm,0.5s,baz=84,slow=8.8,SNR=6.9						
SONM	Songino Array	28.94	293	P	P	17 52 09.3	+0.4
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
H11S1	WAKE ISLAND Hy	29.69	142	T	T	18 24 22.8	
	baz=331,slow=76,SNR=335						
H11S3	WAKE ISLAND Hy	29.70	142	T	T	18 24 07.6	
	baz=331,slow=76,SNR=246						
H11S2	WAKE ISLAND Hy	29.71	142	T	T	18 24 09.1	
	baz=331,slow=76,SNR=207						
ILAR	Eielson Array	41.30	36	P	P	17 53 53.8	-0.7
	comp=Z,0.5nm,0.7s,baz=284,slow=9.2,SNR=12						
ILAR	Eielson Array	41.30	36	P	P	17 53 53.8	-0.7
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZALV	Zalesovo Beam	41.44	307	P	P	17 53 55.5	-0.2
	comp=Z,0.5nm,0.4s,baz=66,slow=7.0,SNR=3.3						
ZALV	Zalesovo Beam	41.44	307	P	P	17 53 55.5	-0.2
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	Makanchi Array	45.05	298	P	P	17 54 25.3	+0.3
	comp=Z,1.4nm,0.5s,baz=80,slow=8.3,SNR=18						
MKAR	Makanchi Array	45.05	298	c eP	P	17 54 25.6	+0.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	45.05	298	eP	P	17 54 25.5	+0.6
KURK	Kurchatov	45.98	304	⇑iP	P	17 54 32.0	-0.2
KURK				pmax	pmax		
	comp=Z,2.0nm,2.5s						
KURK	Kurchatov	45.98	304	eP	P	17 54 32.0	-0.2
INK	Inuvik	46.26	30	P	P	17 54 35.3	+1.1
	comp=Z,3.0nm,0.5s,baz=277,slow=6.7,SNR=6.4						
INK	Inuvik	46.26	30	P	P	17 54 35.3	+1.1
INK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CMAR	Chiang Mai Arr	47.94	254	P	P	17 54 47.6	-0.3
	comp=Z,0.2nm,0.6s,baz=52,slow=7.3,SNR=2.8						
BRVK	Borovoye	49.98	310	⇑eP	P	17 55 03.7	+0.7
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BRVK	Borovoye	49.98	310	eP	P	17 55 03.7	+0.7
ARU	Arti	54.74	317	d iP	P	17 55 38.1	-0.1
ARU				*PP	pP	17 55 59.0	+2.9
ARU						17 57 38.3	
ARU				S	S	18 03 12.6	-0.6
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARU	Arti	54.74	317	eP	P	17 55 38.7	+0.5
YKA	Yellowknife Ar	55.63	34	P	P	17 55 45.4	+0.9
	comp=Z,0.5nm,0.6s,baz=301,slow=7.1,SNR=3.8						
YKA	Yellowknife Ar	55.63	34	P	P	17 55 45.4	+0.9
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	ARCESS Array B	59.51	340	P	P	17 56 11.3	-0.4
	comp=Z,3.1nm,0.9s,baz=52,slow=7.7,SNR=9.3						
ARCES	ARCESS Array B	59.51	340	P	P	17 56 11.3	-0.4
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	Warramunga Arr	64.46	194	P	P	17 56 44.9	-0.5
	comp=Z,0.6nm,1.0s,baz=24,slow=7.9,SNR=3.1						
WRA	Warramunga Arr	64.46	194	P	P	17 56 44.9	-0.5
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
FINES	FINESS Array B	65.18	333	P	P	17 56 48.9	-0.7
	comp=Z,1.7nm,0.5s,baz=47,slow=7.4,SNR=19						
FINES	FINESS Array B	65.18	333	c eP	P	17 56 49.4	-0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	65.18	333	eP	P	17 56 49.4	-0.2
ASAR	Alice Springs	68.18	194	P	P	17 57 09.5	+0.4
	comp=Z,0.3nm,1.0s,baz=11,slow=6.2,SNR=7.6						
NB2	NORSAR Subarra	69.87	339	P	P	17 57 19.0	-0.3
	comp=Z,0.9nm,0.5s,baz=31,slow=6.5						
NOA	NORSAR Array B	69.87	339	P	P	17 57 19.0	-0.3
	comp=Z,0.8nm,0.5s,baz=30,slow=6.6,SNR=8.3						
NOA	NORSAR Array B	69.87	339	P	P	17 57 19.0	-0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	Hagfors	69.97	338	P	P	17 57 19.4	-0.4
	comp=Z,1.8nm,0.5s,baz=46,slow=6.4,SNR=11						
HFS	Hagfors	69.97	338	P	P	17 57 19.4	-0.4
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KIV	Kislovodsk	70.18	312	eP	P	17 57 20.8	-0.7
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIV	Kislovodsk	70.18	312	eP	P	17 57 20.8	-0.7
AKASG	Malin Array Be	71.94	324	P	P	17 57 31.7	-0.2
	comp=Z,0.9nm,0.4s,baz=40,slow=6.6,SNR=7.7						
AKASG	Malin Array Be	71.94	324	P	P	17 57 31.7	-0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	Lajitas Array	82.32	57	P	P	17 58 31.7	+1.1
	comp=Z,0.1nm,0.5s,baz=324,slow=4.5,SNR=2.9						

ISCJB ***07*** *17:59:31.9±0.3, 59°.83N±0°.02×22°.29E±0°.04, h0km, Error ellipse: s-maj=3.5km s-min=2.7km az=169.9*
IDC ***07*** *17:59:32.6±1.9, 59°.70N×22°.44E, h0km, mb1 3.0/4, mb1mx2.9/28, mbtmp3.0/4, ML2.8/3, Error ellipse: s-maj=26.1km s-min=8.0km az=159.0*
CSEM ***07*** *17:59:32.7±0.2, 59°.86N×22°.34E, h2km, ML2.2, Error ellipse: s-maj=4.4km s-min=3.2km az=178.0, Mining explosion.*
NAO ***07*** *17:59:32.6±1.1, 59°.85N×22°.34E, ML2.2*
HEL ***07*** *17:59:33.3±0.1, 59°.82N×22°.28E, h0km, ML2.1, ML2.2(UPP), Explosion*
BER ***07*** *17:59:33.2±5.3, 59°.90N×22°.34E, h0km±23km, ML2.2(NAO)*
UPP ***07*** *17:59:34.5, 59°.82N×22°.05E, h0km, ML2.2, Suspected Mining explosion.*
ISC 07 17:59:32.0±0.7**, 59°.85N**±0°.02×**22°.28E**±0°.02**, h0km, n88, σ1s.35**/118**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.13**	**70**	*e*P	**Pg**	**17 59 53.4**	**-0.1**
MEF				*e*S	**Sg**	**18 00 08.2**	**0.0**
MEF	**Metsahovi**	**1.13**	**70**	P	**Pg**	**17 59 53.4**	**-0.1**
MEF				S	**Sg**	**18 00 08.1**	**0.0**
SRPE	**Suurupi**	**1.14**	**109**	*e*P	**Pg**	**17 59 53.3**	**-0.4**
SRPE				*e*S	**Sg**	**18 00 08.3**	**0.0**
SRPE	**Suurupi**	**1.14**	**109**	P	**Pg**	**17 59 53.2**	**-0.4**
SRPE				S	**Sg**	**18 00 08.3**	**0.0**
AAL	**Aland**	**1.19**	**287**	*e*P	**Pg**	**17 59 54.9**	**0.0**
AAL				*e*S	**Sg**	**18 00 10.4**	**+0.2**
AAL	**Aland**	**1.19**	**287**	P	**Pg**	**17 59 54.8**	**0.0**
AAL				S	**Sg**	**18 00 10.5**	**+0.2**
AAL	**Aland**	**1.19**	**287**	P	**Pg**	**17 59 54.8**	**0.0**
AAL				S	**Sg**	**18 00 10.5**	**+0.2**
RAF	**Rauma**	**1.21**	**348**	*e*P	**Pg**	**17 59 55.3**	**+0.2**
RAF				*e*S	**Sg**	**18 00 11.7**	**+1.0**
RAF	**Rauma**	**1.21**	**348**	P	**Pg**	**17 59 55.2**	**+0.2**
RAF				S	**Sg**	**18 00 11.7**	**+1.0**
MTSE	**Matsula**	**1.38**	**145**	*e*P	**Pg**	**17 59 57.6**	**-0.8**
MTSE				*e*S	**Sg**	**18 00 15.5**	**-0.8**
MTSE	**Matsula**	**1.38**	**145**	P	**Pg**	**17 59 57.6**	**-0.8**
MTSE				S	**Sg**	**18 00 15.5**	**-0.8**
NRTU	**Norrtaelje**	**1.85**	**266**	*e*P	**Pn**	**18 00 05.8**	**+0.9**
NRTU				*e*S	**Sn**	**18 00 30.3**	**+1.3**
NRTU	**Norrtaelje**	**1.85**	**266**	P	**Pn**	**18 00 05.8**	**+0.9**
NRTU				S	**Sn**	**18 00 30.2**	**+1.3**
NRTU	**Norrtaelje**	**1.85**	**266**	P	**Pn**	**18 00 05.8**	**+0.9**
	baz=87						
NRTU				S	**Sn**	**18 00 30.3**	**+1.3**
PVF	**Pernaja**	**1.92**	**67**	*e*P	**Pn**	**18 00 07.4**	**+1.5**
PVF				*e*S	**Sn**	**18 00 32.7**	**+1.9**
PVF				MSG		18 00 34.9	
	comp=Z,11nm,0.1s						
PVF	**Pernaja**	**1.92**	**67**	P	**Pn**	**18 00 07.4**	**+1.5**
PVF				S	**Sn**	**18 00 32.6**	**+1.9**
GRAU	**Graesoe**	**1.94**	**286**	*e*P	**Pn**	**18 00 06.8**	**+0.8**
GRAU	**Graesoe**	**1.94**	**286**	P	**Pn**	**18 00 06.8**	**+0.8**
GRAU	**Graesoe**	**1.94**	**286**	P	**Pn**	**18 00 06.8**	**+0.8**
FORU	**Forsmark**	**2.12**	**287**	*e*P	**Pn**	**18 00 10.2**	**+1.6**
FORU	**Forsmark**	**2.12**	**287**	P	**Pn**	**18 00 10.1**	**+1.6**
FORU	**Forsmark**	**2.12**	**287**	P	**Pn**	**18 00 10.2**	**+1.6**
FLYU	**Flymyra**	**2.23**	**279**	*e*P	**Pn**	**18 00 11.2**	**+1.1**
FLYU	**Flymyra**	**2.23**	**279**	P	**Pn**	**18 00 11.2**	**+1.1**
FLYU	**Flymyra**	**2.23**	**279**	P	**Pn**	**18 00 11.2**	**+1.1**
SLIT	**Slitere, Latvi**	**2.23**	**180**	*e*P	**Pn**	**18 00 11.4**	**+1.3**
SLIT				*e*SB	**Sn**	**18 00 40.2**	**+2.0**
SLIT	**Slitere, Latvi**	**2.23**	**180**	P	**Pn**	**18 00 11.3**	**+1.3**
SLIT				Sb	**Sn**	**18 00 40.1**	**+2.0**
NYNU	**Nynaeshamn**	**2.34**	**251**	*e*P	**Pn**	**18 00 12.9**	**+1.3**
NYNU	**Nynaeshamn**	**2.34**	**251**	P	**Pn**	**18 00 12.9**	**+1.3**
NYNU	**Nynaeshamn**	**2.34**	**251**	P	**Pn**	**18 00 12.9**	**+1.3**
FIA0	**FINESS Array S**	**2.46**	**48**	Pn	**Pn**	**18 00 15.9**	**+2.6**
	baz=219,slow=16						
FIA0				Lg	Lg	18 00 48.0	
	baz=229,slow=28						
FIA0				Rg	Rg	18 00 58.0	
	baz=229,slow=28						
FIA0	**FINESS Array S**	**2.46**	**48**	Pn	**Pn**	**18 00 15.9**	**+2.6**
	baz=219,slow=16						
FIA0				Lg	Lg	18 00 48.0	
	baz=229,slow=28						
FIA0				Rg	Rg	18 00 58.0	
	baz=229,slow=28						
FIA0	**FINESS Array S**	**2.46**	**48**	*e*PB	**Pn**	**18 00 15.9**	**+2.6**
FIA0				*e*SB	**Sb**	**18 00 48.5**	**+0.6**
FIA0				MSG		18 00 50.2	
	comp=Z,11nm,0.1s						
FIA0	**FINESS Array S**	**2.46**	**48**	Pb	**Pn**	**18 00 15.9**	**+2.6**
FIA0				Lg	Lg	18 00 48.0	
	SNR=100						
FINES	**FINESS Array B**	**2.46**	**48**	Pn	**Pn**	**18 00 15.7**	**+2.4**
	comp=Z,2.5nm,0.3s,baz=228,slow=14,SNR=127						
FINES				Sn	**Sb**	**18 00 48.5**	**+0.6**
	comp=Z,5.1nm,0.3s,baz=235,slow=23,SNR=19						
BACU	**Backbrunna**	**2.61**	**272**	*e*P	**Pn**	**18 00 16.7**	**+1.3**
BACU	**Backbrunna**	**2.61**	**272**	P	**Pn**	**18 00 16.6**	**+1.3**
BACU	**Backbrunna**	**2.61**	**272**	P	**Pn**	**18 00 16.7**	**+1.3**
KEF	**Keuruu**	**2.65**	**27**	*e*PB	**Pb**	**18 00 19.4**	**-0.9**
KEF				*e*SB	**Sb**	**18 00 53.9**	**+0.7**
KEF				MSG		18 00 57.2	
	comp=Z,5.3nm,0.1s						
KEF	**Keuruu**	**2.65**	**27**	Pb	**Pb**	**18 00 19.3**	**-0.9**
KEF				Sb	**Sb**	**18 00 53.9**	**+0.7**
IGGU	**Iggoen**	**2.67**	**295**	*e*P	**Pn**	**18 00 17.5**	**+1.4**
IGGU	**Iggoen**	**2.67**	**295**	P	**Pn**	**18 00 17.5**	**+1.4**
IGGU	**Iggoen**	**2.67**	**295**	P	**Pn**	**18 00 17.5**	**+1.4**
VSU	**Vasula**	**2.68**	**119**	Pn	**Pn**	**18 00 16.8**	**+0.5**
VSU				Lg	Lg	18 00 54.2	
VSU	**Vasula**	**2.68**	**119**	Pn	**Pn**	**18 00 16.8**	**+0.5**
VSU				Lg	Lg	18 00 54.2	
VSU	**Vasula**	**2.68**	**119**	*e*P	**Pn**	**18 00 18.3**	**+1.9**
VSU				*e*SG	**Sb**	**18 00 54.8**	**+0.5**
VSU	**Vasula**	**2.68**	**119**	Pn	**Pn**	**18 00 16.8**	**+0.5**
	SNR=50						
VSU	**Vasula**	**2.68**	**119**	P	**Pn**	**18 00 18.2**	**+1.9**
VSU				Lg	Lg	18 00 54.2	
	SNR=97						
GOTU	**Gotland**	**2.90**	**223**	*e*P	**Pn**	**18 00 20.3**	**+1.0**
GOTU	**Gotland**	**2.90**	**223**	P	**Pn**	**18 00 20.3**	**+1.0**
GOTU	**Gotland**	**2.90**	**223**	P	**Pn**	**18 00 20.3**	**+1.0**
KAF	**Kangasniemi**	**3.00**	**39**	*e*PB	Pn	18 00 24.5	+3.8
KAF				*e*SB	**Sb**	**18 01 02.8**	**-0.6**
KAF				MSG		18 01 04.5	
	comp=Z,5.1nm,0.2s						
KAF	**Kangasniemi**	**3.00**	**39**	Pb	Pn	18 00 24.5	+3.8
KAF				Sb	**Sb**	**18 01 02.8**	**-0.6**
ARNU	**Arnoeviken**	**3.03**	**310**	*e*P	**Pn**	**18 00 22.7**	**+1.5**
ARNU	**Arnoeviken**	**3.03**	**310**	P	**Pn**	**18 00 22.7**	**+1.5**
ARNU	**Arnoeviken**	**3.03**	**310**	P	**Pn**	**18 00 22.7**	**+1.5**
ESKU	**Eskilstuna**	**3.06**	**261**	*e*P	**Pn**	**18 00 23.4**	**+1.9**
ESKU	**Eskilstuna**	**3.06**	**261**	P	**Pn**	**18 00 23.3**	**+1.9**
ESKU	**Eskilstuna**	**3.06**	**261**	P	**Pn**	**18 00 23.4**	**+1.9**
HUDU	**Hudiksvall**	**3.16**	**309**	*e*P	**Pn**	**18 00 24.3**	**+1.4**
HUDU	**Hudiksvall**	**3.16**	**309**	P	**Pn**	**18 00 24.3**	**+1.4**
HUDU	**Hudiksvall**	**3.16**	**309**	P	**Pn**	**18 00 24.3**	**+1.4**
VIKU	**Vikbolandet**	**3.17**	**247**	*e*P	**Pn**	**18 00 23.9**	**+0.8**
VIKU	**Vikbolandet**	**3.17**	**247**	P	**Pn**	**18 00 23.9**	**+0.8**
VIKU	**Vikbolandet**	**3.17**	**247**	P	**Pn**	**18 00 23.9**	**+0.8**
FALU	**Falun**	**3.29**	**284**	*e*P	**Pn**	**18 00 26.2**	**+1.5**
FALU	**Falun**	**3.29**	**284**	P	**Pn**	**18 00 26.1**	**+1.5**
FALU	**Falun**	**3.29**	**284**	P	**Pn**	**18 00 26.2**	**+1.5**
HEMU	**Hemsoen**	**3.50**	**326**	*e*P	**Pn**	**18 00 30.0**	**+2.5**
HEMU	**Hemsoen**	**3.50**	**326**	P	**Pn**	**18 00 30.0**	**+2.5**
HEMU	**Hemsoen**	**3.50**	**326**	P	**Pn**	**18 00 30.0**	**+2.5**
HFS	**Hagfors**	**4.32**	**278**	Pn	**Pn**	**18 00 39.9**	**+1.1**
	baz=89,slow=16						
HFS				Sn	**Sn**	**18 01 28.2**	**-1.7**
	baz=104,slow=28						
HFS				Lg	Lg	18 01 45.4	
	baz=80,slow=37						
HFS	**Hagfors**	**4.32**	**278**	Pn	**Pn**	**18 00 39.9**	**+1.1**
	baz=89,slow=16						
HFS				Sn	**Sn**	**18 01 28.2**	**-1.7**
	baz=104,slow=28						
HFS				Lg	Lg	18 01 45.4	
	baz=80,slow=37						
HFS	**Hagfors**	**4.32**	**278**	Pn	**Pn**	**18 00 39.7**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=92,slow=14,SNR=17						
HFS				Pg	**Pb**	**18 00 49.5**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=92,slow=17,SNR=7.5						
HFS				Sn	**Sn**	**18 01 31.1**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=78,slow=29,SNR=6.2						
HFS				Lg	Lg	18 01 44.9	
	comp=Z,1.3nm,0.3s,baz=90,slow=32,SNR=11						
HFS	**Hagfors**	**4.32**	**278**	Pn	**Pn**	**18 00 39.9**	**+1.1**
	SNR=50						
HFS				Sn	**Sn**	**18 01 28.2**	**-1.7**
	SNR=50						
HFS				Lg	Lg	18 01 45.4	
LILU	**Lilltraesk**	**5.57**	**349**	*e*P	**Pn**	**18 00 57.8**	**+1.8**
LILU	**Lilltraesk**	**5.57**	**349**	P	**Pn**	**18 00 57.8**	**+1.8**
LILU	**Lilltraesk**	**5.57**	**349**	P	**Pn**	**18 00 57.8**	**+1.8**
NB2	**NORSAR Subarra**	**5.61**	**287**	Pn	**Pn**	**18 00 56.7**	**+0.2**
	baz=95,slow=14						
NB2				Lg	Lg	18 02 22.9	
	baz=94,slow=37						
NB2	**NORSAR Subarra**	**5.61**	**287**	Pn	**Pn**	**18 00 56.7**	**+0.2**
	baz=95,slow=14						
NB2				Lg	Lg	18 02 22.9	
	baz=94,slow=37						
NB2	**NORSAR Subarra**	**5.61**	**287**	Pn	**Pn**	**18 00 56.7**	**+0.2**
	SNR=50						
NB2				Lg	Lg	18 02 22.9	
NOA	**NORSAR Array B**	**5.61**	**287**	Pn	**Pn**	**18 00 56.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=97,slow=14,SNR=6.3						
NOA				Sn	**Sn**	**18 02 01.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=139,slow=21,SNR=5.1						
NOA				Lg	Lg	18 02 22.7	
	comp=Z,0.6nm,0.3s,baz=62,slow=22,SNR=4.9						
STRU	**Stroemstad**	**5.72**	**267**	*e*P	**Pn**	**18 00 58.3**	**+0.3**
STRU	**Stroemstad**	**5.72**	**267**	P	**Pn**	**18 00 58.3**	**+0.3**
STRU	**Stroemstad**	**5.72**	**267**	P	**Pn**	**18 00 58.3**	**+0.3**
ARA0	**ARCESS Array S**	**9.82**	**7**	Pn	**Pn**	**18 01 53.5**	**-0.8**
	baz=187,slow=16						
ARA0				Sn	Sn	18 03 39.4	-5.8
	baz=189,slow=22						
ARA0	**ARCESS Array S**	**9.82**	**7**	Pn	**Pn**	**18 01 53.5**	**-0.8**
	baz=187,slow=16						
ARA0				Sn	Sn	18 03 39.4	-5.8
	baz=189,slow=22						
ARCES	**ARCESS Array B**	**9.82**	**7**	Pn	**Pn**	**18 01 53.6**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=186,slow=14,SNR=9.5						
ARCES				Sn	**Sn**	**18 03 40.6**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=192,slow=24,SNR=4.3						

WEL 07 18:10:59.1±0.1**, 37°.94S**×**178°.36E, h27**km±1km**, ML3.5**/6**, 3C-3D, Error ellipse: s-maj=2.0km s-min=0.8km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**0.13**	**19**	⇓P*	Pb	18 11 03.9	-0.3
WMGZ				S*	Sb	18 11 08.2	+0.6
PUZ	**Puketiti**	**0.16**	**212**	⇓P*	Pb	18 11 04.0	-0.6
PUZ				S*	Sb	18 11 08.2	0.0
PUZ				AML	AML	18 11 09.0	
MXZ	**Matakaoa Point**	**0.38**	**353**	P*	Pb	18 11 07.5	+0.1
MXZ				AML	AML	18 11 15.3	
MXZ				AML	AML	18 11 15.4	
MXZ				AML	AML	18 11 15.8	
MXZ				AML	AML	18 11 15.8	
TWGZ	**Tauwhareparae**	**0.38**	**232**	P*	Pb	18 11 07.6	0.0
HAZ	**Te Kaha**	**0.49**	**292**	⇓P*	Pb	18 11 09.0	-0.3
CNGZ	**Carnagh Statio**	**0.56**	**193**	P*	Pb	18 11 10.4	0.0
TKGZ	**Te Karaka**	**0.64**	**219**	P*	Pb	18 11 11.5	-0.3
MWZ	**Matawai**	**0.77**	**239**	⇑P*	Pb	18 11 13.2	-0.7
MWZ				AML	AML	18 11 25.9	
MWZ				AML	AML	18 11 25.9	
MWZ				AML	AML	18 11 27.4	
MWZ				AML	AML	18 11 27.5	
RIGZ	**Rimuhau**	**0.90**	**211**	PN	Pn	18 11 15.7	-0.4
RAGZ	**Rawiri**	**0.93**	**233**	PN	Pn	18 11 16.1	-0.4
URZ	**Urewera**	**1.04**	**252**	⇑PN	Pn	18 11 17.8	-0.1
URZ				AML	AML	18 11 37.1	
URZ				AML	AML	18 11 37.6	
PRGZ	**Paritu Road**	**1.05**	**201**	PN	Pn	18 11 17.0	-1.2
SNGZ	**Shannon Statio**	**1.16**	**223**	*e*PN	Pn	18 11 18.8	-0.9
MARZ	**Manawahe**	**1.33**	**267**	PN	Pn	18 11 21.7	-0.4
RAHZ	**Arahi**	**1.40**	**225**	*e*PN	Pn	18 11 23.2	+0.3
OPRZ	**Ohinepanea**	**1.43**	**273**	PN	Pn	18 11 22.6	-0.7
WHHZ	**Waihua**	**1.44**	**218**	PN	Pn	18 11 23.3	-0.1
TARZ	**Mount Tarawera**	**1.49**	**258**	PN	Pn	18 11 24.7	+0.4
KARZ	**Kaharoa**	**1.68**	**267**	PN	Pn	18 11 26.1	-0.6
TGRZ	**Tauranga**	**1.68**	**276**	PN	Pn	18 11 25.8	-0.9
ARHZ	**Aropaoanui**	**1.70**	**219**	PN	Pn	18 11 26.7	-0.3
BKZ	**Black Stump Fm**	**1.91**	**230**	PN	Pn	18 11 29.3	-0.7
BKZ				AML	AML	18 12 42.0	
BKZ				AML	AML	18 12 47.7	
MCHZ	**McNeill Hill**	**1.99**	**220**	*e*PN	Pn	18 11 29.9	-1.1
KWHZ	**Kaweka Forest**	**2.12**	**225**	PN	Pn	18 11 31.8	-1.1
KRHZ	**Kereru**	**2.31**	**222**	*e*PN	Pn	18 11 34.1	-1.3
BHHZ	**Black Hill Sta**	**2.37**	**229**	*e*PN	Pn	18 11 35.5	-0.8
KUZ	**Kuaotunu**	**2.42**	**299**	PN	Pn	18 11 35.8	-1.0
PNHZ	**Pukenui**	**2.59**	**220**	*e*PN	Pn	18 11 37.8	-1.5
MKAZ	**Moumakai**	**2.67**	**287**	⇑PN	Pn	18 11 40.1	-0.3
GRZ	**Great Barrier**	**2.87**	**305**	PN	Pn	18 11 42.7	-0.4
BFZ	**Birch Farm**	**3.19**	**210**	*e*PN	Pn	18 11 45.1	-2.4
MRZ	**Mangatainoka R**	**3.47**	**218**	*e*PN	Pn	18 11 49.3	-2.1
MRZ				AML	AML	18 12 28.7	
MRZ				AML	AML	18 12 57.3	

IDC 07 18:18:44.7±4.2**, 28°.90S**×**178°.11W, h0**km**, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/32**, mbtmp3.6**/3**, Error ellipse: s-maj=100.8km s-min=12.8km az=45.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.39**	**155**	Pn	Pn	18 18 57.9	+0.2
	863nm,0.3s,baz=90,slow=12,SNR=26						
RAO				Sn	Sb	18 19 05.9	+4.8
	4µm,0.3s,baz=90,slow=20,SNR=84						
STKA	**Stephens Creek**	**34.75**	**255**	P	P	18 25 37.1	+0.3
	1.5nm,0.8s,baz=96,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**43.12**	**265**	P	P	18 26 46.3	-0.7
	0.3nm,0.5s,baz=98,slow=6.1,SNR=11						
WRA	**Warramunga Arr**	**43.97**	**271**	P	P	18 26 53.8	-0.1
	0.5nm,0.5s,baz=110,slow=7.9,SNR=9.6						

ISCJB ***07*** *18:22:48.5±1.4, 15°.22N±0°.07×93°.1W±0°.1, h67km, Error ellipse: s-maj=16.9km s-min=6.0km az=149.5*
MEX ***07*** *18:22:48.8±0.8, 15°.17N×93°.17W, h68km±24km, MD3.8*
CASC ***07*** *18:22:51.0±1.9, 15°.32N×92°.79W, h20km±375km, MD4.0*
ISC 07 18:22:48.4±2.5**, 15°.21N**±0°.10×**93°.1W**±0°.2**, h67km, n13, σ0s.77**/19**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		**0.88**	**110**	*i* P	**Pn**	**18 23 04.7**	**-0.6**
THIG				*i* S	**Sn**	**18 23 18.1**	**+0.3**
CCIG	**Comitan**	**1.43**	**42**	*i* P	**Pn**	**18 23 13.3**	**+0.8**
CCIG				*i* S	**Sn**	**18 23 30.7**	**+0.1**
TGIG		**1.56**	**360**	*i* P	**Pn**	**18 23 14.0**	**-0.2**
TGIG				*e*S	**Sn**	**18 23 33.1**	**-0.4**
JAT	**Jato**	**1.69**	**122**	*e*P	**Pn**	**18 23 16.7**	**+0.9**
FUG	**Fuego 3**	**2.33**	**109**	*e*P	**Pn**	**18 23 25.8**	**+1.1**
IXG	**Ixpaco**	**2.78**	**111**	*e*P	**Pn**	**18 23 31.1**	**+0.3**
IXG				*e*S	**Sn**	**18 24 01.6**	**-1.7**
MRL	**Marmol**	**3.31**	**92**	*e*P	**Pn**	**18 23 38.0**	**-0.1**
RBDL	**Robledal**	**3.50**	**108**	*e*P	**Pn**	**18 23 40.4**	**-0.2**
RTR	**El Retiro**	**3.61**	**111**	*e*P	**Pn**	**18 23 43.2**	**+1.1**
SBLS	**San Blas**	**3.65**	**111**	*e*P	**Pn**	**18 23 42.9**	**+0.2**
SBLS				*e*S	**Sn**	**18 24 24.6**	**-0.2**
SNJE	**San Jose**	**3.66**	**111**	*e*P	**Pn**	**18 23 42.7**	**-0.1**
SNJE				*e*S	**Sn**	**18 24 24.0**	**-0.9**
BOQS	**Boqueron**	**4.00**	**111**	*e*P	**Pn**	**18 23 47.9**	**+0.4**
LFRS	**El Faro**	**4.24**	**111**	*e*P	**Pn**	**18 23 51.6**	**+1.0**

NEIC ***07*** *18:31:09.1, 35°.03S×178°.38E, h247km, MG4.7(WEL), After WEL.*
WEL 07 18:31:09.1±0.5**, 35°.10S**×**178°.45E, h259**km±6km**, ML4.7**/18**, 4C-3D, Error ellipse: s-maj=7.6km s-min=7.0km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.46**	**183**	*e*PN	Pn	18 31 57.1	+0.6
MXZ				AML	AML	18 32 36.3	
MXZ				AML	AML	18 32 36.4	
MXZ	**Matakaoa Point**	**2.46**	**183**	Pn	Pn	18 31 56.4	-0.1
HAZ	**Te Kaha**	**2.70**	**191**	PN	Pn	18 31 58.8	-0.1
HAZ				SN	S	18 32 37.9	-0.6
WMGZ	**Waiomatatini S**	**2.71**	**181**	PN	Pn	18 31 59.4	+0.3
WMGZ				SN	S	18 32 37.8	-0.9
PUZ	**Puketiti**	**2.97**	**183**	⇑PN	Pn	18 32 01.4	-0.3
PUZ				SN	S	18 32 41.9	-1.7
PUZ				AML	AML	18 32 57.8	
PUZ	**Puketiti**	**2.97**	**183**	Pn	Pn	18 32 01.4	-0.3
TWGZ	**Tauwhareparae**	**3.09**	**187**	PN	Pn	18 32 03.4	+0.3
TWGZ				SN	S	18 32 45.4	-0.6
MWZ	**Matawai**	**3.31**	**193**	⇑PN	Pn	18 32 05.7	+0.3
MWZ				AML	AML	18 32 53.1	
MWZ				AML	AML	18 32 54.0	
MWZ				AML	AML	18 32 54.0	
MWZ				AML	AML	18 32 54.2	
MWZ	**Matawai**	**3.31**	**193**	Pn	Pn	18 32 05.8	+0.3
URZ	**Urewera**	**3.33**	**198**	⇑PN	Pn	18 32 05.6	0.0
URZ				AML	AML	18 32 52.7	
URZ				AML	AML	18 32 53.0	
URZ	**Urewera**	**3.33**	**198**	Pn	Pn	18 32 05.6	0.0
TKGZ	**Te Karaka**	**3.37**	**188**	PN	Pn	18 32 05.9	-0.1
TKGZ				SN	S	18 32 50.4	-0.9
CNGZ	**Carnagh Statio**	**3.38**	**183**	PN	Pn	18 32 06.4	+0.2
CNGZ	**Carnagh Statio**	**3.38**	**183**	Pn	Pn	18 32 06.4	+0.2
RAGZ	**Rawiri**	**3.49**	**193**	PN	Pn	18 32 07.8	+0.3
RRRZ	**Republican Roa**	**3.59**	**205**	PN	Pn	18 32 09.5	+1.0
RRRZ	**Republican Roa**	**3.59**	**205**	Pn	Pn	18 32 10.3	+1.8
RIGZ	**Rimuhau**	**3.64**	**189**	PN	Pn	18 32 08.8	-0.3
PRRZ	**Plateau Road**	**3.77**	**205**	PN	Pn	18 32 12.2	+1.6
PRRZ	**Plateau Road**	**3.77**	**205**	Pn	Pn	18 32 11.2	+0.6
SNGZ	**Shannon Statio**	**3.78**	**193**	PN	Pn	18 32 10.7	0.0
PRGZ	**Paritu Road**	**3.84**	**187**	PN	Pn	18 32 11.1	-0.3
PRGZ	**Paritu Road**	**3.84**	**187**	Pn	Pn	18 32 11.1	-0.3
KNZ	**Kokohu**	**3.96**	**189**	*e*PN	Pn	18 32 12.2	-0.5
KNZ	**Kokohu**	**3.96**	**189**	Pn	Pn	18 32 12.3	-0.4
RAHZ	**Arahi**	**3.96**	**196**	PN	Pn	18 32 12.7	-0.1
RAHZ	**Arahi**	**3.96**	**196**	Pn	Pn	18 32 12.8	0.0
WHHZ	**Waihua**	**4.09**	**193**	PN	Pn	18 32 14.7	+0.5
NMHZ	**Naumai**	**4.20**	**198**	PN	Pn	18 32 15.9	+0.3
NMHZ	**Naumai**	**4.20**	**198**	Pn	Pn	18 32 15.9	+0.3
ARHZ	**Aropaoanui**	**4.31**	**195**	PN	Pn	18 32 16.7	-0.2
BKZ	**Black Stump Fm**	**4.35**	**201**	PN	Pn	18 32 17.7	+0.3
BKZ				AML	AML	18 33 13.3	
BKZ				AML	AML	18 33 15.9	
BKZ	**Black Stump Fm**	**4.35**	**201**	Pn	Pn	18 32 17.7	+0.3
HIZ	**Hauiti**	**4.46**	**219**	Pn	Pn	18 32 21.8	+3.2
MCHZ	**McNeill Hill**	**4.55**	**197**	PN	Pn	18 32 19.7	0.0
MCHZ	**McNeill Hill**	**4.55**	**197**	Pn	Pn	18 32 19.7	0.0
KWHZ	**Kaweka Forest**	**4.61**	**200**	PN	Pn	18 32 20.7	+0.2
OTVZ	**Oturere**	**4.63**	**208**	PN	Pn	18 32 21.3	+0.6
OTVZ	**Oturere**	**4.63**	**208**	Pn	Pn	18 32 21.3	+0.6
WPVZ	**Whakapapa**	**4.71**	**209**	PN	Pn	18 32 22.5	+0.8
WPVZ	**Whakapapa**	**4.71**	**209**	Pn	Pn	18 32 22.5	+0.8
FWVZ	**Far West T-bar**	**4.75**	**208**	PN	Pn	18 32 23.1	+0.8
FWVZ	**Far West T-bar**	**4.75**	**208**	Pn	Pn	18 32 22.7	+0.4
BHHZ	**Black Hill Sta**	**4.78**	**203**	PN	Pn	18 32 22.2	-0.2
BHHZ	**Black Hill Sta**	**4.78**	**203**	Pn	Pn	18 32 22.2	-0.2
WNVZ	**Wahianoa**	**4.79**	**208**	PN	Pn	18 32 23.1	+0.3
WNVZ	**Wahianoa**	**4.79**	**208**	Pn	Pn	18 32 23.1	+0.3
MOVZ	**Moawhango**	**4.81**	**206**	PN	Pn	18 32 22.4	-0.4
MOVZ	**Moawhango**	**4.81**	**206**	Pn	Pn	18 32 22.4	-0.4
KRHZ	**Kereru**	**4.83**	**199**	PN	Pn	18 32 22.1	-0.9
KAHZ	**Kahuranaki**	**4.85**	**195**	PN	Pn	18 32 22.6	-0.7
KAHZ	**Kahuranaki**	**4.85**	**195**	Pn	Pn	18 32 22.6	-0.7
PXZ	**Pawanui**	**5.08**	**194**	⇓PN	Pn	18 32 24.7	-1.3
PXZ				AML	AML	18 33 28.1	
PXZ				AML	AML	18 33 29.7	
PXZ	**Pawanui**	**5.08**	**194**	Pn	Pn	18 32 24.8	-1.3
PNHZ	**Pukenui**	**5.13**	**200**	PN	Pn	18 32 25.9	-0.8
WPHZ	**Waipukurau**	**5.21**	**197**	PN	Pn	18 32 27.2	-0.4
WPHZ	**Waipukurau**	**5.21**	**197**	Pn	Pn	18 32 27.2	-0.4
TSZ	**Takapari Road**	**5.33**	**201**	PN	Pn	18 32 27.8	-1.3
TSZ				AML	AML	18 33 36.1	
TSZ				AML	AML	18 33 36.6	
TSZ	**Takapari Road**	**5.33**	**201**	Pn	Pn	18 32 27.7	-1.4
PRHZ	**Porangahau**	**5.36**	**195**	PN	Pn	18 32 28.4	-1.0
PRHZ	**Porangahau**	**5.36**	**195**	Pn	Pn	18 32 28.4	-1.0
WAZ	**Wanganui**	**5.40**	**210**	PN	Pn	18 32 30.1	+0.1
WAZ	**Wanganui**	**5.40**	**210**	Pn	Pn	18 32 30.1	+0.1
DVHZ	**Dannevirke**	**5.50**	**199**	PN	Pn	18 32 29.9	-1.2
DVHZ	**Dannevirke**	**5.50**	**199**	Pn	Pn	18 32 29.9	-1.2
ANWZ	**Angora Road**	**5.58**	**196**	PN	Pn	18 32 31.9	-0.2
POWZ	**Post Office Ro**	**5.70**	**201**	PN	Pn	18 32 32.8	-0.8
POWZ	**Post Office Ro**	**5.70**	**201**	Pn	Pn	18 32 32.8	-0.8
PRWZ	**Pori Road**	**5.79**	**199**	⇑PN	Pn	18 32 34.1	-0.6
BFZ	**Birch Farm**	**5.84**	**197**	PN	Pn	18 32 34.3	-0.9
BFZ	**Birch Farm**	**5.84**	**197**	Pn	Pn	18 32 34.2	-1.0
MRZ	**Mangatainoka R**	**6.00**	**201**	PN	Pn	18 32 35.2	-2.1
MRZ				AML	AML	18 33 47.3	
MRZ				AML	AML	18 33 47.5	
MRZ	**Mangatainoka R**	**6.00**	**201**	Pn	Pn	18 32 35.2	-2.1
TIWZ	**Tintock**	**6.02**	**199**	PN	Pn	18 32 36.5	-1.0
TIWZ				AML	AML	18 33 49.0	
TIWZ				AML	AML	18 33 50.3	
TIWZ	**Tintock**	**6.02**	**199**	Pn	Pn	18 32 36.5	-1.0
HOWZ	**Holdsworth Sta**	**6.24**	**201**	PN	Pn	18 32 37.9	-2.3
HOWZ	**Holdsworth Sta**	**6.24**	**201**	Pn	Pn	18 32 37.9	-2.3
OGWZ	**Otaki Gorge**	**6.27**	**203**	PN	Pn	18 32 38.7	-1.9
OGWZ	**Otaki Gorge**	**6.27**	**203**	Pn	Pn	18 32 38.8	-1.8
TMWZ	**Te Maipa**	**6.33**	**198**	PN	Pn	18 32 40.3	-1.1
TMWZ	**Te Maipa**	**6.33**	**198**	Pn	Pn	18 32 40.3	-1.1
KIW	**Kapiti Island**	**6.39**	**205**	PN	Pn	18 32 40.4	-1.8
KIW				AML	AML	18 33 55.6	
KIW				AML	AML	18 33 55.9	
KIW	**Kapiti Island**	**6.39**	**205**	Pn	Pn	18 32 40.4	-1.8
MTW	**Mount Morrison**	**6.48**	**200**	PN	Pn	18 32 41.3	-1.9
MTW				AML	AML	18 33 58.3	
MTW				AML	AML	18 33 58.5	
MTW	**Mount Morrison**	**6.48**	**200**	Pn	Pn	18 32 41.3	-1.9
CAW	**Cannon Point**	**6.56**	**203**	⇓PN	Pn	18 32 42.3	-2.0
CAW				AML	AML	18 33 59.1	
CAW				AML	AML	18 34 01.1	
CAW	**Cannon Point**	**6.56**	**203**	Pn	Pn	18 32 42.3	-2.0
TRWZ	**Traveller**	**6.65**	**198**	PN	Pn	18 32 44.0	-1.4
TRWZ				AML	AML	18 34 02.0	
TRWZ				AML	AML	18 34 02.0	
TRWZ	**Traveller**	**6.65**	**198**	Pn	Pn	18 32 44.1	-1.3
PAWZ	**Paruwai Farm**	**6.71**	**200**	PN	Pn	18 32 44.0	-2.1
PAWZ				AML	AML	18 34 00.9	
PAWZ				AML	AML	18 34 02.0	
PAWZ	**Paruwai Farm**	**6.71**	**200**	Pn	Pn	18 32 44.0	-2.1
DUWZ	**D'Urville Isla**	**6.72**	**211**	PN	Pn	18 32 45.0	-1.3
DUWZ	**D'Urville Isla**	**6.72**	**211**	Pn	Pn	18 32 45.0	-1.3
MSWZ	**Moikau Station**	**6.79**	**201**	PN	Pn	18 32 44.8	-2.3
MSWZ				AML	AML	18 34 06.0	
MSWZ				AML	AML	18 34 08.1	
MSWZ	**Moikau Station**	**6.79**	**201**	Pn	Pn	18 32 44.9	-2.3
PLWZ	**Palliser**	**6.93**	**200**	PN	Pn	18 32 46.9	-2.0
PLWZ	**Palliser**	**6.93**	**200**	Pn	Pn	18 32 47.0	-1.9
TCW	**Tory Channel**	**6.93**	**207**	PN	Pn	18 32 46.9	-1.9
TCW				AML	AML	18 34 08.2	
TCW				AML	AML	18 34 08.3	
TCW	**Tory Channel**	**6.93**	**207**	Pn	Pn	18 32 46.9	-1.9
TUWZ	**Tuamarina**	**7.25**	**208**	PN	Pn	18 32 50.5	-2.3
TUWZ				AML	AML	18 34 13.7	
TUWZ				AML	AML	18 34 14.3	
TUWZ	**Tuamarina**	**7.25**	**208**	Pn	Pn	18 32 50.2	-2.6
QRZ	**Quartz Range**	**7.38**	**218**	PN	Pn	18 32 52.0	-2.5
QRZ	**Quartz Range**	**7.38**	**218**	Pn	Pn	18 32 52.5	-2.0
BSWZ	**Blackbirch Sta**	**7.52**	**207**	PN	Pn	18 32 54.0	-2.2
BSWZ	**Blackbirch Sta**	**7.52**	**207**	Pn	Pn	18 32 54.0	-2.2
THZ	**Tophouse**	**7.95**	**212**	PN	Pn	18 32 59.9	-1.8
THZ	**Tophouse**	**7.95**	**212**	Pn	Pn	18 33 00.0	-1.7
KHZ	**Kahutara**	**8.25**	**206**	⇓PN	Pn	18 33 02.9	-2.5
KHZ				AML	AML	18 34 36.6	
KHZ				AML	AML	18 35 33.8	
KHZ	**Kahutara**	**8.25**	**206**	Pn	Pn	18 33 02.9	-2.5
LTZ	**Lake Taylor**	**9.05**	**210**	PN	Pn	18 33 12.6	-3.0
LTZ	**Lake Taylor**	**9.05**	**210**	Pn	Pn	18 33 12.6	-3.0
OXZ	**Oxford**	**9.60**	**209**	PN	Pn	18 33 19.1	-3.3
MQZ	**McQueen's Vall**	**9.69**	**206**	PN	Pn	18 33 20.6	-2.9
MQZ	**McQueen's Vall**	**9.69**	**206**	Pn	Pn	18 33 20.4	-3.1
WVZ	**Waitaha Valley**	**9.96**	**215**	PN	Pn	18 33 24.3	-2.6
WVZ	**Waitaha Valley**	**9.96**	**215**	Pn	Pn	18 33 24.3	-2.6
FOZ	**Fox Glacier**	**10.83**	**216**	PN	Pn	18 33 34.6	-3.2
FOZ	**Fox Glacier**	**10.83**	**216**	Pn	Pn	18 33 34.6	-3.2
JCZ	**Jackson Bay**	**11.66**	**217**	Pn	Pn	18 33 45.7	-2.6

IDC 07 18:33:10.5±53.0**, 18°.90S**×**179°.17W, h0km, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.5**/18**, mbtmp3.7**/3**, Error ellipse: s-maj=956.4km s-min=155.0km az=80.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.53**	**242**	P	P	18 40 26.8	+0.3
	0.6nm,0.5s,baz=79,slow=8.9,SNR=3.5						
WRA	**Warramunga Arr**	**43.76**	**261**	P	P	18 41 17.7	-0.5
	0.2nm,0.3s,baz=97,slow=7.6,SNR=9.1						
ASAR	**Alice Springs**	**43.84**	**255**	P	P	18 41 18.7	-0.1
	1.2nm,0.6s,baz=92,slow=8.5,SNR=22						

DJA 07 18:36:03.8±0.6**, 1°N**±4°×**12°0E**±°**, h10km, M4.0**/4**, MLv4.0**/4**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.83**	**224**	P	Pg	18 36 19.0	-0.8
MPSI				S	Sg	18 36 29.7	-0.9
MRSI	**Marisa**	**1.54**	**107**	P	Pn	18 36 29.7	-1.6
MRSI				S	Sn	18 36 51.5	+0.1
PCI	**Palu**	**1.94**	**199**	P	Pn	18 36 36.6	-0.3
APSI	**Ampana**	**2.18**	**147**	S	Sn	18 37 07.8	+0.5
LUWI	**Luwuk**	**3.03**	**131**	P	Pb	18 36 55.1	-2.8
KMSI	**Cibinong**	**3.53**	**96**	P	Pb	18 37 05.2	-1.2
TTSI	**Tana Toraja**	**4.01**	**189**	P	Pn	18 37 05.5	+0.1
SPSI	**Sidrap Palu**	**4.92**	**188**	P	Pn	18 37 17.5	-0.4

IDC 07 18:43:50.5±46.0**, 19°.26S**×**176°.25W, h0km, mb4.2**/3**, mb1 4.3**/3**, mb1mx3.8**/26**, mbtmp4.2**/3**, Error ellipse: s-maj=861.0km s-min=150.4km az=82.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.81**	**243**	P	P	18 51 25.3	-0.3
	2.0nm,0.6s,baz=92,slow=11,SNR=12						
ASAR	**Alice Springs**	**46.41**	**255**	P	P	18 52 19.2	-0.1
	2.4nm,0.5s,baz=91,slow=8.1,SNR=48						
WRA	**Warramunga Arr**	**46.41**	**260**	P	P	18 52 19.3	0.0
	0.8nm,0.3s,baz=96,slow=7.4,SNR=82						

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*NNC **07** 19:14:43.8±4.7, 36°.89N×70°.49E, h227km±42km, mb2.4, mpv3.6, Error ellipse: s-maj=48.2km s-min=26.0km az=156.0*

ISC 07 19:14:43.9±3.4**, 36°.8N**±0°.2×**70°.68E**±0°.09**, h200km, n13, σ0.92**/18**, 5C-6D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.50**	**325**	⇓P	**Pn**	**19 15 28.2**	**+0.3**
	17nm,0.3s						
DZET				⇑S	**Sn**	**19 16 02.5**	**+0.3**
	33nm,0.5s						
SFK	**Sufi-Kurgan**	**3.91**	**34**	⇓P	**Pn**	**19 15 45.2**	**+0.4**
	4.2nm,0.2s						
SFK				⇓S	**Sn**	**19 16 34.6**	**+1.9**
	6.9nm,0.4s						
AML	**Almayashu**	**5.83**	**23**	P	**Pn**	**19 16 08.7**	**-0.5**
	SNR=54						
MNAS	**Manas**	**5.87**	**13**	⇑P	**Pn**	**19 16 09.2**	**-0.3**
	2.0nm,0.4s						
MNAS				⇑S	**Sn**	**19 17 17.4**	**+0.1**
	1.8nm,0.4s						
UCH	**Uchtor**	**6.19**	**27**	P	**Pn**	**19 16 12.7**	**-1.3**
	SNR=12						
KK31	**Karatay Array**	**6.32**	**359**	⇑P	**Pn**	**19 16 14.5**	**-0.7**
	2.4nm,0.5s,baz=175,slow=11,SNR=57						
KK31				⇓S	**Sn**	**19 17 27.1**	**-0.5**
	1.0nm,0.6s,baz=191,slow=24						
EKS2	**Erkin-Say**	**6.34**	**21**	P	**Pn**	**19 16 15.4**	**-0.2**
	SNR=14						
KZA	**Kyzart**	**6.36**	**32**	P	**Pn**	**19 16 15.0**	**-1.1**
	SNR=5.3						
AAK	**Ala-Archa**	**6.54**	**26**	P	**Pn**	**19 16 18.1**	**-0.2**
	SNR=7.5						
AAK	**Ala-Archa**	**6.54**	**26**	⇓P	**Pn**	**19 16 17.7**	**-0.5**
	2.6nm,0.3s						
AAK				⇓S	**Sn**	**19 17 34.3**	**+1.3**
	2.7nm,0.6s						
ULHL	**Ulahol**	**6.94**	**37**	P	**Pn**	**19 16 22.7**	**-0.9**
	SNR=11						
TKM2	**Tokmak 2**	**7.20**	**30**	P	**Pn**	**19 16 26.1**	**-0.8**
	SNR=5.3						
TKM2	**Tokmak 2**	**7.20**	**30**	⇑P	**Pn**	**19 16 25.8**	**-1.1**
	1.9nm,0.5s						

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*ISCJB **07** 19:21:08.9±0.6, 36°.08N±0°.04×139°.64E±0°.08, h102km±4km, mb3.6/5, Error ellipse: s-maj=10.5km s-min=5.8km az=11.0*

*IDC **07** 19:21:09.8±2.6, 36°.10N×139°.70E, h97km±17km, mb3.2/5, mb1 3.4/5, mb1mx3.1/25, mbtmp3.6/5, Error ellipse: s-maj=37.8km s-min=18.6km az=70.0*

*JMA **07** 19:21:10.7±0.1, 36°.10N×139°.69E, h86km±1km, M3.2 Broadband fault plane solution: P waves. NP1: ϕ_s4.00000°, δ54.00000°, λ82.00000°. NP2:ϕ_s198.00000°, δ37.00000°, λ101.00000°. Principal axes: T Plg79.0000°, Azm243.0000°; N Plg7.0000°, Azm9.0000°; P Plg9.0000°, Azm100.0000°;*

ISC 07 19:21:09.8±0.9**, 36°.08N**±0°.04×**139°.65E**±0°.07**, h95km**±7km**, n17, σ0.50**/29**, mb3.7**/5**, 5C-3D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAG	**Ashikaga**	**0.38**	**335**	⇑P	**Pn**	**19 21 24.1**	**-0.1**
JAG				*e*S	**Sn**	**19 21 34.1**	**-0.9**
JRY	**Ryogami san**	**0.61**	**264**	⇓P	**Pn**	**19 21 26.5**	**+0.6**
JRY				*e*S	**Sn**	**19 21 38.2**	**+0.2**
JKT	**Katashina**	**0.76**	**335**	⇑P	**Pn**	**19 21 27.5**	**+0.1**
JKT				*e*S	**Sn**	**19 21 40.2**	**-0.3**
JOD2	**Odawara 2**	**0.93**	**210**	⇑P	**Pn**	**19 21 29.4**	**+0.3**
JOD2				*e*S	**Sn**	**19 21 43.3**	**-0.3**
JYN	**Shimob**	**1.07**	**237**	⇓P	**Pn**	**19 21 31.5**	**+0.8**
JYN				*e*S	**Sn**	**19 21 47.1**	**+0.7**
MJAR	**Matsushiro Arr**	**1.25**	**292**	P	**Pn**	**19 21 31.8**	**-0.9**
	40nm,0.3s,baz=111,slow=12,SNR=485						
MJAR				S	**Sn**	**19 21 50.4**	**+0.3**
	17nm,0.3s,baz=111,slow=21,SNR=27						
MAT	**Matsushiro**	**1.25**	**292**	P	**Pn**	**19 21 33.3**	**+0.5**
MAT				S	**Sn**	**19 21 50.2**	**+0.1**
MAT	**Matsushiro**	**1.25**	**292**	P	**Pn**	**19 21 33.3**	**+0.5**
MAT				*e*S	**Sn**	**19 21 50.2**	**+0.1**
JHK	**Hiroka**	**1.27**	**337**	⇓P	**Pn**	**19 21 33.4**	**+0.4**
JHK				*e*S	**Sn**	**19 21 50.5**	**0.0**
JFY	**Yanaizu**	**1.33**	**2**	⇑P	**Pn**	**19 21 34.0**	**+0.4**
JFY				*e*S	**Sn**	**19 21 51.6**	**0.0**
JIM2	**Oshima 3**	**1.37**	**188**	P	**Pn**	**19 21 34.3**	**+0.1**
JIM2				*e*S	**Sn**	**19 21 52.4**	**-0.2**
JFT	**Otama**	**1.54**	**21**	⇑P	**Pn**	**19 21 36.8**	**+0.6**
JFT				*e*S	**Sn**	**19 21 57.1**	**+0.8**
ZALV	**Zalesovo Beam**	**41.52**	**313**	P	**P**	**19 28 47.5**	**0.0**
	0.7nm,0.5s,baz=91,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**43.43**	**303**	P	**P**	**19 29 02.5**	**-0.6**
	0.4nm,0.7s,baz=78,slow=8.5,SNR=4.2						
BVAR	**Borovoye Array**	**50.17**	**313**	P	**P**	**19 29 55.3**	**-0.2**
	0.2nm,0.5s,baz=81,slow=8.9,SNR=2.5						
WRA	**Warramunga Arr**	**55.94**	**186**	P	**P**	**19 30 38.5**	**+0.3**
	0.7nm,0.5s,baz=1.5,slow=7.7,SNR=28						
ASAR	**Alice Springs**	**59.67**	**186**	P	**P**	**19 31 04.0**	**-0.2**
	0.2nm,0.3s,baz=2.0,slow=7.6,SNR=5.8						

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*MAN **07** 19:25:21, 4°.32N×126°.00E, h87km, mb5.4, ML4.4, MS4.7*

*ISCJB **07** 19:25:24.0±0.3, 4°.54N±0°.02×126°.07E±0°.04, h100km, mb4.0/23, Error ellipse: s-maj=5.5km s-min=3.0km az=170.9*

*IDC **07** 19:25:24.9±1.6, 4°.56N×125°.96E, h100km±14km, mb3.8/15, mb1 4.0/17, mb1mx3.9/25, mbtmp4.2/17, MS3.2/11, Ms1 3.2/11, ms1mx3.0/31, Error ellipse: s-maj=21.3km s-min=9.8km az=76.0*

*NEIC **07** 19:25:25.6±0.8, 4°.62N×126°.06E, h107km±8km, mb4.4/7, Error ellipse: s-maj=11.6km s-min=7.2km az=81.0*

*DJA **07** 19:25:28.2±0.3, 4°N±2°×12°6E±°, h56km±6km, M5.0/8, mb5.2/8, mB5.4/7, MLv4.9/8, Mw(mB)4.9/7*

ISC 07 19:25:25.0±0.4**, 4°.50N**±0°.04×**125°.99E**±0°.06**, h100km, n72, σ1.57**/75**, mb4.1**/23**, 2C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.93**	**210**	P	**Pn**	**19 25 45.4**	**+0.7**
SGSI				S	**Sn**	**19 25 55.9**	**-3.6**
GSPH	**General Santos**	**1.88**	**327**	⇑*i*P	**Pn**	**19 25 54.7**	**-1.6**
GSPH				*i* S	**Sn**	**19 26 17.8**	**-2.2**
MATI	**Mati**	**2.44**	**6**	*e*P	**Pn**	**19 26 02.5**	**-0.9**
MATI				*e*S	**Sn**	**19 26 34.1**	**+1.3**
DAV	**Davao City (W)**	**2.58**	**351**	*e*P	**Pn**	**19 26 04.9**	**-0.3**
CTBH	**Cotabato--PC H**	**3.21**	**327**	*e*P	**Pn**	**19 26 13.3**	**-0.3**
CTBH				*e*S	**Sn**	**19 26 52.9**	**+1.8**
BUKP	**Musuan**	**3.48**	**345**	*e*P	**Pn**	**19 26 17.5**	**+0.3**
TNTI	**Ternate**	**3.95**	**160**	P	**Pn**	**19 26 24.3**	**+0.7**
TNTI				S	**Sn**	**19 27 08.8**	**-0.2**
TNTI	**Ternate**	**3.95**	**160**	*e*P	**Pn**	**19 26 23.6**	**0.0**
CGP	**Cagayan de Oro**	**4.13**	**342**	⇓*e*P	**Pn**	**19 26 27.3**	**+1.3**
CGP				*e*S	Sn	19 27 21.2	+7.9
PAGZ	**Pagadian**	**4.21**	**322**	*e*P	**Pn**	**19 26 26.9**	**-0.2**
PAGZ				*e*S	Sn	19 26 52.3	-23
KMSI	**Cibinong**	**4.39**	**207**	P	**Pn**	**19 26 31.4**	**+1.9**
BUTP	**Butuan**	**4.45**	**355**	*e*P	**Pn**	**19 26 31.3**	**+1.0**
SCPH	**Surigao**	**5.27**	**355**	⇑*e*P	**Pn**	**19 26 43.5**	**+2.1**
TBP	**Tagbilaran**	**5.57**	**338**	*e*P	**Pn**	**19 26 45.4**	**-0.1**
MRSI	**Marisa**	**5.69**	**225**	P	**Pn**	**19 26 48.6**	**+1.5**
	2µm,0.7s,19µm6.6nm						
MSLP	**Maasin**	**5.71**	**349**	*e*P	**Pn**	**19 26 47.7**	**+0.3**
TOLI	**Toli-Toli**	**6.18**	**237**	*e*P	**Pn**	**19 26 53.8**	**0.0**
	306nm,0.6s						
LUWI	**Luwuk**	**6.38**	**210**	P	Pn	19 27 00.6	+4.1
LUWI				S	**Sn**	**19 28 08.1**	**+0.2**
LUWI	**Luwuk**	**6.38**	**210**	*e*P	Pn	19 27 00.1	+3.6
	312nm,0.6s						
SANI	**Sanana**	**6.51**	**180**	P	**Pn**	**19 26 55.8**	**-2.5**
SANI				S	**Sn**	**19 28 11.5**	**+0.4**
APSI	**Ampana**	**6.91**	**219**	P	Pn	19 27 07.1	+3.4
GUIM	**Jordan**	**6.95**	**331**	*e*P	**Pn**	**19 27 04.7**	**+0.4**
MPSI	**Mapaga**	**7.36**	**236**	P	**Pn**	**19 27 11.2**	**+1.4**
	79nm,0.8s,939nm0.3nm						
SIJI	**Sorong**	**7.50**	**135**	P	**Pn**	**19 27 12.4**	**+0.6**
	4.9nm,0.3s,baz=292,slow=24,SNR=25						
SIJI				S	**Sn**	**19 28 35.5**	**+0.2**
	4.5nm,0.3s,baz=235,slow=24,SNR=9.0						
NLAI	**Namlea**	**7.77**	**172**	P	**Pn**	**19 27 14.5**	**-0.9**
	102nm,0.6s,3µm						
NLAI				S	**Sn**	**19 28 36.1**	**-5.7**
	102nm,0.6s,3µm						
PCI	**Palu**	**8.16**	**229**	P	**Pn**	**19 27 22.3**	**+1.5**
	103nm,0.9s,938nm						
FAKI	**Fak Fak**	**9.67**	**140**	P	**Pn**	**19 27 42.6**	**+1.3**
FAKI	**Fak Fak**	**9.67**	**140**	*e*P	**Pn**	**19 27 43.2**	**+1.9**
	52nm,1.1s						
TTSI	**Tana Toraja**	**9.71**	**220**	P	Pn	19 27 45.2	+3.4
RKPI	**Ransiki, Papua**	**10.13**	**126**	P	**Pn**	**19 27 49.8**	**+2.2**
SPSI	**Sidrap Palu**	**10.46**	**217**	P	Pn	19 27 55.2	+3.2
BKB	**Balikpapan**	**10.74**	**238**	P	**Pn**	**19 27 57.5**	**+1.7**
	254nm,0.9s,2µm						
KAPI	**Kappang**	**11.32**	**213**	P	**Pn**	**19 28 05.2**	**+1.5**
	1.6nm,0.3s,baz=18,slow=22,SNR=11						
KAPI				LR	LR	19 33 10.0	
	comp=Z,76nm,19.7s,baz=53,slow=41						
KAPI	**Kappang**	**11.32**	**213**	*e*P	Pn	19 28 07.3	+3.6
MTKI	**Muara Teweh, K**	**12.33**	**244**	P	**Pn**	**19 28 19.2**	**+2.0**
SOEI	**Soe**	**14.27**	**187**	*e*P	**P**	**19 28 44.6**	**-2.2**
	50nm,0.9s						
KSM	**Kuching**	**15.94**	**260**	*e*P	**P**	**19 29 05.5**	**+0.2**
	7.3nm,0.7s						
GUMO	**Guam**	**20.70**	**63**	LR	LR	19 36 36.0	
	comp=Z,50nm,21.8s,baz=220,slow=32						
LEM	**Lembang**	**21.52**	**239**	P	**P**	**19 30 09.8**	**+3.5**
	14nm,0.7s,baz=324,slow=19,SNR=3.8						
JOW	**Kunigami**	**22.31**	**5**	P	**P**	**19 30 13.7**	**-0.7**
	1.8nm,0.8s,baz=80,slow=18,SNR=2.3						
WRAB	**Tennant Creek**	**25.64**	**162**	*e*P	**P**	**19 30 47.2**	**+1.8**
	24nm,0.9s						
WRA	**Warramunga Arr**	**25.64**	**162**	P	**P**	**19 30 46.1**	**+0.6**
	16nm,0.8s,baz=338,slow=10,SNR=78						
WRA				ScP	**ScP**	**19 37 43.1**	**-1.4**
	0.4nm,1.0s,baz=338,slow=2.3,SNR=2.9						
CHAI	**Chaiyaphum**	**26.16**	**297**	P	**P**	**19 30 53.4**	**+3.2**
	2.9nm,0.8s						
AS31	**Alice Springs**	**29.04**	**165**	*e*P	**P**	**19 31 16.1**	**+0.2**
ASAR	**Alice Springs**	**29.04**	**165**	P	**P**	**19 31 16.4**	**+0.5**
	2.6nm,0.7s,baz=342,slow=7.1,SNR=26						
ASAR				PcP	**PcP**	**19 34 21.5**	**-0.6**
	0.6nm,0.6s,baz=342,slow=2.9,SNR=3.7						
ASAR				ScP	**ScP**	**19 37 54.1**	**-0.6**
	0.4nm,0.6s,baz=345,slow=2.9,SNR=6.1						
CMAR	**Chiang Mai Arr**	**29.85**	**300**	P	**P**	**19 31 23.0**	**-0.1**
	1.1nm,0.9s,baz=121,slow=8.7,SNR=8.1						
CMAR				PcP	**PcP**	**19 34 24.4**	**+0.1**
	0.4nm,0.4s,baz=116,slow=2.1,SNR=4.0						
CMAR				ScP	**ScP**	**19 37 56.8**	**-0.7**
	0.7nm,0.8s,baz=185,slow=4.3,SNR=5.9						
CMAR				LR	LR	19 44 25.6	
	comp=Z,36nm,18.4s,baz=154,slow=38						
KSAR	**Wonju Array Be**	**32.83**	**3**	P	**P**	**19 31 48.5**	**-0.5**
KSRS	**Korea Array**	**32.84**	**3**	P	**P**	**19 31 48.5**	**-0.6**
	1.3nm,0.8s,baz=178,slow=9.7,SNR=8.8						
KSRS				LR	LR	19 46 46.2	
	comp=Z,7.1nm,19.3s,baz=30,slow=39						
MJAR	**Matsushiro Arr**	**33.81**	**18**	P	**P**	**19 31 56.4**	**-1.2**
	1.7nm,0.8s,baz=195,slow=9.7,SNR=6.4						
MJAR				LR	LR	19 43 25.6	
	comp=Z,13nm,21.8s,baz=200,slow=32						
NWAO	**Narrogin (SRO)**	**38.14**	**192**	P	**P**	**19 32 34.2**	**-0.3**
	10nm,0.8s,baz=332,slow=7.1,SNR=6.0						
STKA	**Stephens Creek**	**39.11**	**159**	P	**P**	**19 32 43.8**	**+1.1**
	3.2nm,0.8s,baz=337,slow=6.5,SNR=16						
STKA				LR	LR	19 52 59.7	
	comp=Z,57nm,18.1s,baz=211,slow=42						
USRK	**Ussuriysk Ar.**	**39.89**	**7**	P	**P**	**19 32 49.2**	**+0.2**
	1.5nm,0.5s,baz=189,slow=9.9,SNR=4.2						
LSA	**Lhasa**	**41.38**	**311**	*e*P	**P**	**19 33 03.5**	**+1.4**
	1.6nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**42.60**	**66**	T	T	20 19 10.3	
	baz=255,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**42.61**	**66**	T	T	20 19 11.1	
	baz=255,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**42.62**	**66**	T	T	20 19 14.5	
	baz=255,slow=75,SNR=18						
SONM	**Songino Array**	**46.34**	**342**	P	**P**	**19 33 40.8**	**-0.2**
	0.2nm,0.4s,baz=173,slow=5.8,SNR=2.9						
SONM				PcP	**PcP**	**19 35 14.7**	**+0.1**
	0.9nm,0.7s,baz=151,slow=3.8,SNR=4.1						
SONM				LR	LR	19 53 15.8	
	comp=Z,32nm,21.0s,baz=134,slow=36						
PETK	**Petropavlovsk-**	**55.00**	**23**	P	**P**	**19 34 46.9**	**+0.9**
	1.3nm,0.5s,baz=203,slow=7.0,SNR=2.8						
MK31	**Makanchi Array**	**56.50**	**325**	*e*P	**P**	**19 34 55.3**	**-1.5**
MKAR	**Makanchi Array**	**56.50**	**325**	P	**P**	**19 34 55.0**	**-1.9**
	0.4nm,0.4s,baz=114,slow=7.7,SNR=12						
MKAR				LR	LR	20 01 03.6	
	comp=Z,26nm,18.1s,baz=166,slow=38						
ZALV	**Zalesovo Beam**	**59.57**	**333**	P	**P**	**19 35 16.3**	**-1.8**
	0.4nm,0.5s,baz=134,slow=8.3,SNR=2.7						
KURK	**Kurchatov**	**60.70**	**328**	*e*P	**P**	**19 35 23.3**	**-2.4**
	2.8nm,0.6s						
RPZ	**Rata Peaks**	**62.81**	**145**	LR	LR	20 01 40.2	
	comp=Z,161nm,20.6s,baz=29,slow=35						
TIXI	**Tiksi**	**67.09**	**1**	*e*P	**P**	**19 36 05.8**	**-1.4**
	2.1nm,0.5s						
VNDA	**Vanda**	**84.28**	**173**	P	**P**	**19 37 46.3**	**+1.2**
	1.9nm,0.8s,baz=313,slow=6.6,SNR=9.9						
ILAR	**Eielson Array**	**84.73**	**25**	P	**P**	**19 37 47.4**	**-0.3**
	0.2nm,0.5s,baz=239,slow=4.9,SNR=3.1						
ARCES	**ARCESS Array B**	**89.47**	**340**	P	**P**	**19 38 11.7**	**+1.2**
	4.4nm,1.0s,baz=90,slow=7.2,SNR=3.8						
ARCES				LR	LR	20 26 16.8	
	comp=Z,9.3nm,18.9s,baz=149,slow=41						
FINES	**FINESS Array B**	**90.81**	**332**	P	**P**	**19 38 15.6**	**-1.3**
	1.5nm,0.9s,baz=119,slow=11,SNR=2.6						
NOA	**NORSAR Array B**	**97.77**	**334**	LR	LR	20 26 01.6	
	comp=Z,9.9nm,18.7s,baz=5.0,slow=37						
TORD	**Torodi Ar. Bea**	**121.98**	**288**	PKP	**PKPdf**	**19 44 08.0**	**-0.8**
	0.2nm,0.3s,baz=74,slow=1.6,SNR=7.8						
V34A	**Guthrie**	**122.83**	**42**	*e*PKPdf	**PKPdf**	**19 44 07.0**	**-2.9**
TUL1	**Leonard**	**123.92**	**41**	*e*PKPdf	**PKPdf**	**19 44 11.0**	**-1.0**

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*ISCJB **07** 19:51:40.8±2.0, 32°.7S±0°.3×178°.1W±0°.3, h35km, mb4.3/5, Error ellipse: s-maj=40.6km s-min=27.5km az=36.2*

*NEIC **07** 19:51:43.4±0.8, 32°.69S×178°.15W, h35km, mb4.5/3, Error ellipse: s-maj=25.2km s-min=17.2km az=170.0*

*IDC **07** 19:51:48.4±12.0, 33°.53S×178°.30W, h83km±111km, mb4.1/3, mb1 4.2/4, mb1mx3.6/31, mbtmp4.3/4, ML3.9/1, Error ellipse: s-maj=136.6km s-min=39.0km az=13.0*

ISC 07 19:51:43.2±1.3**, 32°.7S**±0°.2×**178°.1W**±0°.2**, h35km, n15, σ0.99**/13**, mb4.4**/5**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.82**	**214**	P	Pn	19 53 14.7	-6.0
	2.8nm,0.3s,baz=250,slow=3.8,SNR=11						
OUZ	**Omahuta**	**7.36**	**247**	*e*P	**Pn**	**19 53 28.6**	**+0.5**
CTA	**Charters Tower**	**34.14**	**283**	P	**P**	**19 58 26.1**	**+1.1**
	5.1nm,0.5s,baz=114,slow=10,SNR=7.9						
CTAO	**Charters Tower**	**34.14**	**283**	*e*P	**P**	**19 58 25.5**	**+0.5**
	7.7nm,0.7s						
AS31	**Alice Springs**	**42.95**	**269**	*e*P	**P**	**19 59 38.2**	**-0.8**
ASAR	**Alice Springs**	**42.95**	**269**	P	**P**	**19 59 38.1**	**-0.9**
	1.0nm,0.4s,baz=109,slow=7.8,SNR=36						
WRAB	**Tennant Creek**	**44.14**	**275**	*e*P	**P**	**19 59 46.8**	**-1.7**
	4.2nm,0.6s						
WRA	**Warramunga Arr**	**44.15**	**275**	P	**P**	**19 59 47.6**	**-1.0**
	5.1nm,0.5s,baz=114,slow=7.8,SNR=114						
QSPA	**South Pole Qui**	**57.46**	**180**	P	**P**	**20 01 28.2**	**-0.2**
	2.3nm,0.9s						
MKAR	**Makanchi Array**	**119.14**	**309**	PKP	**PKPdf**	**20 10 27.9**	**-0.2**
	0.5nm,0.9s,baz=154,slow=3.4,SNR=3.4						
ZALV	**Zalesovo Beam**	**119.65**	**318**	PKP	**PKPdf**	**20 10 29.2**	**+0.4**
	0.3nm,0.2s,baz=67,slow=4.6,SNR=2.2						
ARCES	**ARCESS Array B**	**140.77**	**347**	PKhKP	PKPpre	20 11 05.2	
	2.5nm,0.8s,baz=40,slow=4.0,SNR=5.0						
FINES	**FINESS Array B**	**147.22**	**339**	PKPbc	**PKPab**	**20 11 23.1**	**-0.7**
	4.9nm,0.7s,baz=68,slow=4.3,SNR=28						
NB2	**NORSAR Subarra**	**150.96**	**351**	PKP	**PKPbc**	**20 11 32.9**	**+1.4**
	comp=Z,2.9nm,1.2s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.96**	**351**	PKPbc	**PKPbc**	**20 11 31.9**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=16,slow=4.1,SNR=4.1						

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*ISCJB **07** 19:52:46.9±0.8, 32°.89S±0°.08×178°.8W±0°.1, h32km, mb4.2/11, MS3.4/1, Error ellipse: s-maj=17.5km s-min=10.1km az=21.0*

*NEIC **07** 19:52:48.3±3.5, 32°.78S×178°.57W, h39km±29km, mb4.6/3, Error ellipse: s-maj=25.0km s-min=16.1km az=222.0*

*IDC **07** 19:52:49.0±5.7, 32°.74S×178°.62W, h43km±49km, mb4.0/9, mb1 4.2/10, mb1mx4.0/20, mbtmp4.2/10, ML4.4/1, MS3.4/2, Ms1 3.4/2, ms1mx3.0/14, Error ellipse: s-maj=34.3km s-min=22.8km az=42.0*

ISC 07 19:52:47.5±0.8**, 32°.8S**±0°.1×**178°.6W**±0°.1**, h32km, n26, σ1.28**/25**, mb4.2**/11**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.46**	**212**	P	**Pn**	**19 54 20.4**	**0.0**
	7.4nm,0.3s,baz=277,slow=4.2,SNR=8.2						
URZ				S	**Sn**	**19 55 33.0**	**+0.1**
	3.4nm,0.3s,baz=252,slow=19,SNR=3.6						
URZ				LR	LR	19 57 08.1	
	comp=Z,357nm,19.0s,baz=29,slow=40						
RPZ	**Rata Peaks**	**13.57**	**214**	P	**Pn**	**19 55 55.3**	**-2.4**
	0.5nm,0.3s,baz=4.5,slow=15,SNR=2.4						
RPZ				S	Sn	19 58 14.9	-12
	0.5nm,0.3s,baz=110,slow=1.5,SNR=3.4						
STKA	**Stephens Creek**	**33.51**	**261**	P	**P**	**19 59 24.9**	**+0.7**
	1.5nm,1.1s,baz=127,slow=5.1,SNR=3.1						
CTA	**Charters Tower**	**33.77**	**283**	P	**P**	**19 59 27.5**	**+1.0**
	6.7nm,0.6s,baz=124,slow=11,SNR=9.8						
CTAO	**Charters Tower**	**33.77**	**283**	*e*P	**P**	**19 59 28.1**	**+1.5**
	9.3nm,0.7s						
ASAR	**Alice Springs**	**42.54**	**270**	P	**P**	**20 00 40.1**	**-0.3**
	3.9nm,0.8s,baz=105,slow=7.4,SNR=10						
WRAB	**Tennant Creek**	**43.74**	**275**	*e*P	**P**	**20 00 49.6**	**-0.5**
	8.4nm,0.6s						
WRA	**Warramunga Arr**	**43.75**	**275**	P	**P**	**20 00 49.5**	**-0.6**
	9.5nm,0.6s,baz=116,slow=7.6,SNR=24						
SBA	**Scott Base**	**45.59**	**184**	*e*P	**P**	**20 01 04.5**	**+0.4**
	2.3nm,0.9s						
VNDA	**Vanda**	**45.64**	**186**	P	**P**	**20 01 06.2**	**+1.7**
	0.7nm,0.8s,baz=27,slow=6.6,SNR=3.5						
QSPA	**South Pole Qui**	**57.29**	**180**	P	**P**	**20 02 33.4**	**+1.4**
	2.4nm,0.8s,baz=102,slow=3.5,SNR=2.9						
KSRS	**Korea Array**	**85.87**	**320**	LR	LR	20 41 47.5	
	comp=Z,16nm,19.0s,baz=265,slow=34						
YBH	**Yreka Blue Hor**	**90.24**	**38**	P	**P**	**20 05 46.6**	**+1.7**
	0.5nm,0.3s,baz=0.4,slow=3.1,SNR=3.5						
NVAR	**Mina Array Bea**	**90.35**	**43**	P	**P**	**20 05 45.5**	**-0.2**
	0.3nm,0.3s,baz=179,slow=6.3,SNR=3.0						
CMAR	**Chiang Mai Arr**	**93.73**	**289**	P	**P**	**20 06 02.5**	**+1.1**
	0.2nm,0.3s,baz=122,slow=6.7,SNR=4.8						
MKAR	**Makanchi Array**	**118.93**	**309**	PKP	**PKPdf**	**20 11 30.5**	**-2.0**
	0.4nm,0.6s,baz=159,slow=1.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**119.49**	**318**	PKP	**PKPdf**	**20 11 31.5**	**-1.7**
	0.3nm,0.4s,baz=36,slow=2.7,SNR=2.7						
KURK	**Kurchatov**	**122.34**	**313**	*e*PKPdf	**PKPdf**	**20 11 37.9**	**-1.0**
BRVK	**Borovoye**	**127.83**	**315**	*e*PKPdf	**PKPdf**	**20 11 48.5**	**-0.8**
ARCES	**ARCESS Array B**	**140.84**	**347**	PKhKP	PKPpre	20 12 07.2	
	1.8nm,0.8s,baz=52,slow=1.5,SNR=4.0						
FIA1	**FINESS Array S**	**147.22**	**338**	*e*PKPdf	**PKPbc**	**20 12 25.5**	**-1.2**
FINES	**FINESS Array B**	**147.22**	**338**	PKPbc	**PKPbc**	**20 12 25.6**	**-1.2**
	9.0nm,0.7s,baz=63,slow=3.3,SNR=13						
NB2	**NORSAR Subarra**	**151.06**	**350**	PKP	**PKPbc**	**20 12 35.3**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.06**	**350**	PKPbc	**PKPbc**	**20 12 35.1**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=14,slow=4.1,SNR=6.2						
AKASG	**Malin Array Be**	**152.87**	**319**	PKPbc	**PKPbc**	**20 12 40.2**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=63,slow=2.1,SNR=6.1						
TORD	**Torodi Ar. Bea**	**160.41**	**181**	PKPab	**PKPab**	**20 13 24.0**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=254,slow=2.7,SNR=2.6						

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*SKHL **07** 20:09:01.4±0.5, 47°.48N×145°.66E, h448km±7km, mb4.4/9, msh5.3/1*

*BJI **07** 20:09:02.4, 47°.87N×145°.39E, h446km, mb4.4/12, mB4.5/5*

*JMA **07** 20:09:02.8±0.4, 47°.10N×145°.58E, h489km, M3.6*

*MOS **07** 20:09:02.3±0.9, 47°.58N×145°.45E, h450km, mb3.8/22, Error ellipse: s-maj=13.6km s-min=7.9km az=104.1*

*ISCJB **07** 20:09:02.1±0.3, 47°.51N±0°.03×145°.53E±0°.07, h450km, mb3.8/26, Error ellipse: s-maj=6.1km s-min=3.9km az=179.0*

*IDC **07** 20:09:03.4±1.1, 47°.65N×145°.36E, h444km±13km, mb3.4/20, mb1 3.4/27, mb1mx3.4/32, mbtmp4.1/27, Error ellipse: s-maj=11.9km s-min=8.9km az=129.0*

ISC 07 20:09:03.0±0.4**, 47°.43N**±0°.05×**145°.47E**±0°.06**, h450km, n125, σ1.38**/150**, mb3.9**/35**, 10C-4D, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**1.91**	**257**	*e*PN	**P**	**20 10 04.2**	**+1.2**
YSS				*e*S	**S**	**20 10 52.0**	**+0.3**
YSS				pmax	pmax		
	comp=Z,270nm,0.3s						
YSS				smax	smax		
	comp=E,2µm,1.5s						
YSS				smax	smax		
	comp=N,1µm,0.8s						
YSS	**Yuzh-Sakhalins**	**1.91**	**257**	*e*P	**P**	**20 10 04.2**	**+1.2**
YSS				AMB	AMB	20 10 05.0	
	comp=N,100nm,0.8s						
YSS				AMB	AMB	20 10 05.0	
	comp=N,170nm,0.8s						
YSS				*e*S	**S**	**20 10 52.0**	**+0.3**
YSS				A	A	20 10 54.1	
	comp=N,2µm,1.5s						
YSS				A	A	20 10 55.3	
	comp=N,190nm,1.0s						
KUR	**Kuril'sk**	**2.75**	**142**	*e*PN	**P**	**20 10 08.8**	**+0.5**
KUR				pmax	pmax		
	comp=Z,110nm,0.5s						
KUR	**Kuril'sk**	**2.75**	**142**	*e*P	**P**	**20 10 08.8**	**+0.5**
KUR				AMB	AMB	20 10 09.6	
	comp=Z,90nm,0.9s						
UGL	**Uglegorsk**	**2.81**	**307**	*e*PN	**P**	**20 10 09.0**	**+0.5**
UGL				*e*S	**S**	**20 11 02.0**	**+0.1**
UGL				pmax	pmax		
	comp=Z,310nm,0.5s						
UGL				smax	smax		
	comp=N,150nm,0.5s						
UGL				smax	smax		
	comp=E,80nm,0.5s						
UGL	**Uglegorsk**	**2.81**	**307**	*e*P	**P**	**20 10 09.0**	**+0.5**
UGL				AMB	AMB	20 10 10.0	
	comp=E,310nm,0.5s						
UGL				*e*S	**S**	**20 11 02.0**	**+0.1**
UGL				A	A	20 11 03.5	
	comp=E,77nm,0.5s						
UGL				A	A	20 11 03.5	
	comp=E,154nm,0.5s						
JSE	**Soyaes**	**3.18**	**220**	P	**P**	**20 10 13.0**	**+1.6**

JWK2	**Keihoku**	**3.25**	**231**	P	**P**	**20 10 14.1**	**+2.2**
JWK2				eS	**S**	**20 11 10.2**	**+2.3**
YUK	**Yuzh-Kuril'sk**	**3.40**	**175**	ePN	**P**	**20 10 13.8**	**+0.6**
YUK				eS	**S**	**20 11 10.6**	**+0.4**
YUK				pmax	pmax		
	comp=Z,20nm,0.2s						
YUK				smax	smax		
	comp=N,40nm,0.8s						
YUK				smax	smax		
	comp=E,140nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**3.40**	**175**	eP	**P**	**20 10 13.8**	**+0.6**
YUK				AMB	AMB	20 10 15.6	
	comp=E,4.0nm,0.2s						
YUK				AMB	AMB	20 10 15.6	
	comp=E,15nm,0.2s						
YUK				eS	**S**	**20 11 10.6**	**+0.4**
YUK				A	A	20 11 18.9	
	comp=E,39nm,0.8s						
YUK				A	A	20 11 18.9	
	comp=E,104nm,0.8s						
JRA	**Rausu**	**3.50**	**184**	P	**P**	**20 10 15.0**	**+1.0**
JTKR	**Abashiri--Toko**	**3.62**	**198**	P	**P**	**20 10 16.4**	**+1.4**
JTKR				eS	**S**	**20 11 14.7**	**+1.3**
SHO	**Shikotan**	**3.68**	**164**	ePN	**P**	**20 10 14.6**	**-0.9**
SHO				eS	**S**	**20 11 11.3**	**-3.0**
SHO				pmax	pmax		
	comp=Z,90nm,0.9s						
SHO				smax	smax		
	comp=E,520nm,0.8s						
SHO	**Shikotan**	**3.68**	**164**	eP	**P**	**20 10 14.6**	**-0.9**
SHO				AMB	AMB	20 10 17.3	
	comp=E,90nm,0.9s						
SHO				eS	**S**	**20 11 11.3**	**-3.0**
SHO				A	A	20 11 12.5	
	comp=E,520nm,0.8s						
ASAJ	**Asahikawa**	**3.87**	**212**	P	**P**	**20 10 18.6**	**+1.5**
	baz=14,slow=4.6						
JKK2	**Kamakawa 2**	**4.03**	**209**	P	**P**	**20 10 20.3**	**+1.8**
NEM2	**Nemuro 2**	**4.07**	**177**	P	**P**	**20 10 17.5**	**-1.3**
NEM2				eS	**S**	**20 11 16.2**	**-4.2**
JYG	**Yagishiri**	**4.12**	**225**	P	**P**	**20 10 20.7**	**+1.5**
JAR	**Ashorobuto**	**4.30**	**197**	P	**P**	**20 10 21.7**	**+0.8**
JAR				eS	**S**	**20 11 24.1**	**-0.1**
JAK	**Akkeshi**	**4.46**	**187**	P	**P**	**20 10 21.9**	**-0.5**
JAK				eS	**S**	**20 11 23.4**	**-3.5**
JCH	**Churui**	**5.04**	**198**	P	**P**	**20 10 27.1**	**-0.7**
JCH				eS	**S**	**20 11 32.5**	**-4.3**
MYR	**Moyori**	**5.36**	**198**	eP	**P**	**20 10 30.2**	**-0.8**
JSK	**Shakotan**	**5.38**	**223**	P	**P**	**20 10 32.5**	**+1.4**
JEW	**Eniwo**	**5.39**	**213**	P	**P**	**20 10 32.1**	**+0.8**
JEW				eS	**S**	**20 11 42.1**	**-1.1**
JNBK	**Urakawa-nobuka**	**5.49**	**202**	P	**P**	**20 10 32.0**	**-0.3**
JNBK				eS	**S**	**20 11 41.6**	**-3.4**
ERM	**Erimo**	**5.65**	**198**⇓	ePN	**P**	**20 10 34.8**	**+0.9**
ERM	**Erimo**	**5.65**	**198**	eP	**P**	**20 10 34.8**	**+0.9**
JKB	**Kayabe**	**6.37**	**211**	P	**P**	**20 10 41.0**	**-0.2**
JKB				eS	**S**	**20 11 57.3**	**-4.1**
NKL	**Nikolayevsk**	**6.50**	**334**	i PN	**P**	**20 10 41.2**	**-1.0**
NKL				pmax	pmax		
	comp=Z,17nm,0.5s						
NKL	**Nikolayevsk**	**6.50**	**334**	eP	**P**	**20 10 41.2**	**-1.0**
NKL				AMB	AMB	20 10 42.0	
	comp=Z,17nm,0.5s						
TEY	**Ternei**	**6.59**	**252**	eP	**P**	**20 10 43.0**	**-0.4**
TEY				AMB	AMB	20 10 44.5	
	comp=Z,34nm,0.9s						
GRNR	**Gornyy**	**6.81**	**303**	eP	**P**	**20 10 46.2**	**+0.6**
GRNR				AMB	AMB	20 10 47.0	
	comp=Z,62nm,0.8s						
GRNR				AMB	AMB	20 10 47.0	
	comp=Z,120nm,0.8s						
GRNR				AMB	AMB	20 10 47.0	
	comp=Z,96nm,0.8s						
JOSM	**Okushiri--Mats**	**6.83**	**221**	P	**P**	**20 10 46.3**	**+0.3**
JOSM				eS	**S**	**20 12 06.4**	**-3.8**
HABR	**Khabarovsk**	**7.07**	**282**c	iPN	**P**	**20 10 47.9**	**-0.5**
HABR				eS	**S**	**20 12 14.4**	**-0.3**
HABR				pmax	pmax		
	comp=Z,41nm,0.9s						
HABR				pmax	pmax		
	comp=E,29nm,0.9s						
HABR				pmax	pmax		
	comp=N,4.0nm,0.9s						
HABR	**Khabarovsk**	**7.07**	**282**	eP	**P**	**20 10 47.9**	**-0.5**
EKMR	**Ekimchan**	**9.80**	**310**	eP	**P**	**20 11 18.2**	**+0.4**
EKMR				AMB	AMB	20 11 22.0	
	comp=N,4.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**9.95**	**256**	P	**P**	**20 11 20.2**	**+0.7**
	comp=N,1.4nm,0.3s,baz=60,slow=12,SNR=17						
MJAR	**Matsushiro Arr**	**12.13**	**209**	P	**P**	**20 11 45.6**	**+2.2**
	comp=N,0.5nm,0.3s,baz=9.6,slow=11,SNR=10						
MJAR	**Matsushiro Arr**	**12.13**	**209**	PN	**P**	**20 11 45.6**	**+2.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BMKR	**Bomnak**	**12.73**	**311**	eP	**P**	**20 11 49.0**	**-0.5**
BMKR				AMB	AMB	20 11 50.5	
	comp=Z,2.0nm,0.6s						
KROS	**Kirovskiy**	**13.59**	**308**	eP	**P**	**20 11 58.5**	**-0.3**
SEY	**Seymchan**	**16.02**	**12**	P	**P**	**20 12 24.2**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=177,slow=11,SNR=11						
SEY	**Seymchan**	**16.02**	**12**	P	**P**	**20 12 24.2**	**-0.4**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**16.30**	**239**	P	**P**	**20 12 29.9**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=41,slow=11,SNR=16						
KSRS	**Korea Array**	**16.30**	**239**	P	**P**	**20 12 30.0**	**+2.1**
KSRS	**Korea Array**	**16.30**	**239**	eP	**P**	**20 12 30.0**	**+2.1**
YAK	**Yakutsk**	**17.16**	**334**	P	**P**	**20 12 34.1**	**-2.5**
	comp=Z,0.0nm,0.3s,baz=137,slow=19,SNR=5.2						
JNU	**Nakatsue**	**18.07**	**223**	P	**P**	**20 12 47.6**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=16,slow=3.6,SNR=6.2						
BOD	**Bodaibo**	**21.55**	**310**	eP	**P**	**20 13 16.5**	**-1.6**
JOW	**Kunigami**	**24.60**	**219**	P	**P**	**20 13 47.3**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=117,slow=6.8,SNR=3.8						
SONM	**Songino Array**	**26.15**	**286**	P	**P**	**20 13 59.0**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=74,slow=8.0,SNR=12						
SONM				PcP	**PcP**	**20 17 12.6**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=116,slow=3.4,SNR=2.9						
SONM	**Songino Array**	**26.15**	**286**	P	**P**	**20 13 59.0**	**-0.6**
SONM						20 17 12.6	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KDAK	**Kodiak Island**	**37.73**	**51**c	eP	**P**	**20 15 38.4**	**+0.1**
ZALV	**Zalesovo Beam**	**37.92**	**303**	P	**P**	**20 15 38.6**	**-1.4**
	comp=Z,1.4nm,0.5s,baz=74,slow=6.1,SNR=8.8						
ZALV				PcP	**PcP**	**20 17 44.5**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=113,slow=0.5,SNR=6.0						
ZALV				ScP	**ScP**	**20 20 48.6**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=64,slow=4.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**37.92**	**303**	i P	**P**	**20 15 39.0**	**-1.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**39.29**	**39**	P	**P**	**20 15 50.4**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=278,slow=7.4,SNR=35						
ILAR	**Eielson Array**	**39.29**	**39**	P	**P**	**20 15 50.4**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**41.93**	**293**	P	**P**	**20 16 12.1**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=67,slow=6.2,SNR=42						
MKAR				PcP	**PcP**	**20 17 58.2**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=65,slow=6.8,SNR=4.5						
MKAR				ScP	**ScP**	**20 21 04.8**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=68,slow=6.1,SNR=3.1						
MKAR	**Makanchi Array**	**41.93**	**293**c	iP	**P**	**20 16 12.5**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**41.93**	**293**	eP	**P**	**20 16 12.5**	**-0.1**
KURK	**Kurchatov**	**42.57**	**300**	i P	**P**	**20 16 17.1**	**-0.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	**Kurchatov**	**42.57**	**300**	eP	**P**	**20 16 17.1**	**-0.4**
INK	**Inuvik**	**43.87**	**32**	P	**P**	**20 16 26.9**	**-0.5**
	comp=Z,2.5nm,0.4s,baz=299,slow=7.5,SNR=5.9						
INK	**Inuvik**	**43.87**	**32**	P	**P**	**20 16 26.9**	**-0.5**
INK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BRVK	**Borovoye**	**46.36**	**306**⇑	iP	**P**	**20 16 46.9**	**0.0**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
BRVK	**Borovoye**	**46.36**	**306**	eP	**P**	**20 16 46.9**	**0.0**
CMAR	**Chiang Mai Arr**	**47.59**	**249**	P	**P**	**20 16 58.1**	**+1.5**
	comp=Z,1.0nm,0.5s,baz=29,slow=7.4,SNR=14						
CMAR	**Chiang Mai Arr**	**47.59**	**249**	P	**P**	**20 16 58.2**	**+1.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AAK	**Ala-Archa**	**48.79**	**292**⇑	iP	**P**	**20 17 05.8**	**+0.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AAK	**Ala-Archa**	**48.79**	**292**	eP	**P**	**20 17 05.8**	**+0.2**
TAPN	**Taplejung**	**48.87**	**267**	eP	**P**	**20 17 07.9**	**+1.3**
	comp=Z,10nm,0.3s						
ODAN	**Odare**	**49.41**	**267**	eP	**P**	**20 17 12.4**	**+1.9**
	comp=Z,5.8nm,0.5s						
JIRN	**Jiri**	**49.71**	**269**	eP	**P**	**20 17 14.0**	**+1.1**
	comp=Z,12nm,0.3s						
GUN	**Gumba**	**49.76**	**269**	eP	**P**	**20 17 14.0**	**+0.8**
	comp=Z,6.4nm,0.3s						
RAMN	**Ramite**	**49.88**	**268**	eP	**P**	**20 17 14.9**	**+0.8**
	comp=Z,29nm,0.4s						
KKN	**Kakani**	**50.24**	**269**	eP	**P**	**20 17 17.9**	**+1.3**
	comp=Z,5.3nm,0.4s						
PKI	**Pulchoki**	**50.29**	**269**	eP	**P**	**20 17 17.9**	**+0.7**
	comp=Z,3.8nm,0.5s						
PKIN	**Phulchoki**	**50.30**	**269**	eP	**P**	**20 17 18.1**	**+1.0**
	comp=Z,3.0nm,0.3s						
DMN	**Daman**	**50.47**	**269**	eP	**P**	**20 17 19.9**	**+1.5**
GKN	**Gorkha**	**50.54**	**270**	eP	**P**	**20 17 19.7**	**+0.9**
	comp=Z,6.8nm,0.3s						
ARU	**Arti**	**50.89**	**314**d	iP	**P**	**20 17 19.9**	**-0.8**
ARU						20 19 18.2	
ARU				S	**S**	**20 23 58.5**	**-3.7**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ARU	**Arti**	**50.89**	**314**	eP	**P**	**20 17 19.7**	**-1.0**
YKA	**Yellowknife Ar**	**53.43**	**35**	P	**P**	**20 17 38.2**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=304,slow=7.1,SNR=8.4						
YKA	**Yellowknife Ar**	**53.43**	**35**	P	**P**	**20 17 38.2**	**-0.7**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**55.39**	**338**	P	**P**	**20 17 51.5**	**-1.3**
	comp=Z,6.8nm,1.1s,baz=39,slow=6.5,SNR=7.1						
ARCES	**ARCESS Array B**	**55.39**	**338**	P	**P**	**20 17 51.5**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ARCES	**ARCESS Array B**	**55.39**	**338**	eP	**P**	**20 17 51.8**	**-0.9**
FINES	**FINESS Array B**	**61.07**	**331**	P	**P**	**20 18 30.2**	**-1.2**
	comp=Z,3.0nm,0.5s,baz=49,slow=6.2,SNR=26						
FINES	**FINESS Array B**	**61.07**	**331**c	eP	**P**	**20 18 30.5**	**-0.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FINES	**FINESS Array B**	**61.07**	**331**	eP	**P**	**20 18 30.1**	**-1.3**
NB2	**NORSAR Subarra**	**65.75**	**338**	P	**P**	**20 19 00.8**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**65.75**	**338**	P	**P**	**20 19 00.8**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=30,slow=5.9,SNR=14						
NOA	**NORSAR Array B**	**65.75**	**338**	P	**P**	**20 19 00.8**	**-0.9**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NCK	**Nalchik**	**66.31**	**309**⇑	eP	**P**	**20 19 05.5**	**+0.1**
KIV	**Kislovodsk**	**66.47**	**310**	eP	**P**	**20 19 06.7**	**+0.2**
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
KIV	**Kislovodsk**	**66.47**	**310**	eP	**P**	**20 19 06.8**	**+0.2**
KBZ	**Khabaz**	**66.51**	**310**	P	**P**	**20 19 07.5**	**+0.9**
	comp=Z,3.9nm,0.6s,baz=236,slow=2.9						
KBZ	**Khabaz**	**66.51**	**310**	P	**P**	**20 19 07.5**	**+0.9**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NVAR	**Mina Array Bea**	**66.64**	**58**	P	**P**	**20 19 08.1**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=295,slow=6.5,SNR=7.9						
PALK	**Pallekele**	**67.70**	**256**	i P	**P**	**20 19 13.3**	**-1.2**
WRA	**Warramunga Arr**	**67.80**	**191**	P	**P**	**20 19 16.0**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=7.1,slow=6.2,SNR=8.7						
WRA	**Warramunga Arr**	**67.80**	**191**	i P	**P**	**20 19 17.5**	**+2.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**67.80**	**191**	eP	**P**	**20 19 17.5**	**+2.7**
AKASG	**Malin Array Be**	**67.94**	**322**	P	**P**	**20 19 14.4**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=36,slow=6.3,SNR=7.4						
AKASG	**Malin Array Be**	**67.94**	**322**c	eP	**P**	**20 19 14.3**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**68.44**	**50**	P	**P**	**20 19 19.5**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=40,slow=2.5,SNR=6.0						
ANN	**Anapa**	**68.54**	**313**	eP	**P**	**20 19 18.9**	**-0.2**
ANN	**Anapa**	**68.54**	**313**	eP	**P**	**20 19 18.9**	**-0.2**
ASAR	**Alice Springs**	**71.52**	**191**	P	**P**	**20 19 39.5**	**+2.4**
	comp=Z,0.7nm,0.6s,baz=4.4,slow=5.4,SNR=21						
ASAR	**Alice Springs**	**71.52**	**191**	P	**P**	**20 19 39.6**	**+2.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BURAR	**Bucovina Array**	**71.99**	**322**⇑	iP	**P**	**20 19 39.7**	**-0.1**
DPC	**Dobruska-Polom**	**73.20**	**329**	eP	**P**	**20 19 46.9**	**+0.2**
DPC	**Dobruska-Polom**	**73.20**	**329**	eP	**P**	**20 19 46.9**	**+0.2**
CLL	**Collm**	**73.52**	**331**⇓	iP	**P**	**20 19 47.9**	**-0.5**
	comp=Z,3.0nm,0.5s						
CLL	**Collm**	**73.52**	**331**⇓	iP	**P**	**20 19 47.9**	**-0.5**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CLL	**Collm**	**73.52**	**331**	eP	**P**	**20 19 47.9**	**-0.5**
BRTR	**Keskin Array B**	**74.18**	**312**	P	**P**	**20 19 52.8**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=76,slow=3.1,SNR=8.8						
BRTR	**Keskin Array B**	**74.18**	**312**c	eP	**P**	**20 19 53.2**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KHC	**Kasperske Hory**	**75.18**	**330**	eP	**P**	**20 19 58.3**	**+0.3**
KHC	**Kasperske Hory**	**75.18**	**330**	eP	**P**	**20 19 58.3**	**+0.3**
KHC	**Kasperske Hory**	**75.18**	**330**	eP	**P**	**20 19 58.3**	**+0.3**
GERES	**GERESS Array B**	**75.38**	**329**	P	**P**	**20 19 58.8**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=35,slow=5.6,SNR=5.7						
GERES	**GERESS Array B**	**75.38**	**329**	P	**P**	**20 19 58.8**	**-0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**81.57**	**56**	P	**P**	**20 20 34.0**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=293,slow=3.1,SNR=21						
TXAR	**Lajitas Array**	**81.57**	**56**	P	**P**	**20 20 34.1**	**+1.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*ISCJB **07** 20:10:55.4±0.8, 13°.68N±0°.08×90°.79W±0°.05, h73km, mb4.0/2, Error ellipse: s-maj=12.4km s-min=5.1km az=28.5*

*CASC **07** 20:10:56.2±0.9, 13°.62N×90°.73W, h30km±3km, MD3.7*

*IDC **07** 20:10:58.6±2.3, 14°.32N×90°.34W, h73km±30km, mb3.8/2, mb1 3.8/5, mb1mx3.4/22, mbtmp3.8/5, MS3.2/1, Ms1 3.2/1, ms1mx2.5/22, Error ellipse: s-maj=60.8km s-min=17.4km az=35.0*

ISC 07 20:10:57.6±1.1**, 13°.76N**±0°.08**×90°.71W**±0°.06**, h73km, n22, σ1s.36**/26**, 2C-4D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.48**	**31**⇑	iP	**Pn**	**20 11 08.6**	**-2.2**
PCG	**Pacaya**	**0.64**	**9**⇓	eP	**Pn**	**20 11 11.7**	**-0.7**
FUG	**Fuego 3**	**0.70**	**349**	i P	**Pn**	**20 11 12.1**	**-0.9**
NBG	**Las Nubes**	**0.90**	**23**	eP	**Pn**	**20 11 15.5**	**+0.1**
NBG				eS	**Sn**	**20 11 30.0**	**+1.6**
RTR	**El Retiro**	**1.04**	**82**	eP	**Pn**	**20 11 15.7**	**-1.3**
RBDL	**Robledal**	**1.05**	**70**⇓	eP	**Pn**	**20 11 15.7**	**-1.5**
SBLS	**San Blas**	**1.06**	**86**⇓	eP	**Pn**	**20 11 15.8**	**-1.5**
SBLS				eS	**Sn**	**20 11 30.9**	**-1.0**
SNJE	**San Jose**	**1.08**	**84**⇓	iP	**Pn**	**20 11 16.2**	**-1.3**
BOQS	**Boqueron**	**1.39**	**91**	eP	**Pn**	**20 11 20.1**	**-1.4**
BOQS				eS	**Sn**	**20 11 39.6**	**+0.2**
LFRS	**El Faro**	**1.61**	**95**	eP	**Pn**	**20 11 23.0**	**-1.2**
LBRS	**Las Brisas**	**1.62**	**91**	eP	**Pn**	**20 11 23.5**	**-0.9**
MRL	**Marmol**	**1.63**	**37**⇑	iP	**Pn**	**20 11 24.0**	**-0.6**
MRL				eP	**Pn**	**20 11 24.9**	**+0.3**
SNVI	**San Vicente**	**1.82**	**94**	eP	**Pn**	**20 11 26.0**	**-1.1**
VSM	**San Miguel**	**2.39**	**98**	eP	**Pn**	**20 11 34.3**	**-0.6**
CMIG	**Matias Romero**	**5.21**	**310**	P	**Pn**	**20 12 11.5**	**-1.6**
	3.0nm,0.3s,baz=130,slow=9.7,SNR=20						
CMIG				S	**Sn**	**20 13 12.1**	**+0.2**
	10nm,0.3s,baz=208,slow=18,SNR=9.6						
JTS	**JuntasAbangare**	**6.60**	**121**	P	**Pn**	**20 12 32.3**	**+0.2**
	1.5nm,0.3s,baz=299,slow=18,SNR=7.2						
JTS				S	**Sn**	**20 13 49.8**	**+3.7**
	1.1nm,0.3s,baz=323,slow=20,SNR=1.7						
TEIG	**Tepich**	**6.84**	**20**	P	**Pn**	**20 12 34.0**	**-1.3**
	5.3nm,0.3s,baz=194,slow=4.2,SNR=12						
TXAR	**Lajitas Array**	**19.60**	**324**	P	**P**	**20 15 20.4**	**+0.2**
	0.5nm,0.3s,baz=142,slow=8.1,SNR=34						
ATAH	**Atahualpa**	**24.09**	**149**	LR	LR	20 23 09.2	
	comp=Z,60nm,21.2s,baz=86,slow=30						
NVAR	**Mina Array Bea**	**34.65**	**320**	P	**P**	**20 17 40.8**	**+0.4**
	1.5nm,0.7s,baz=135,slow=7.9,SNR=7.3						
SCHQ	**Schefferville**	**45.02**	**19**	P	P	20 19 01.0	-4.8
	1.6nm,0.5s,baz=232,slow=12,SNR=4.8						
CMAR	**Chiang Mai Arr**	**146.60**	**343**	PKPbc	**PKPdf**	**20 30 29.4**	**-0.9**
	1.0nm,0.6s,baz=351,slow=3.4,SNR=9.4						

IDC 07 20:36:40.3±2.1**, 8°.29S×122°.12E, h0km, mb3.5**/2**, mb1 3.7**/4**, mb1mx3.4**/20**, mbtmp3.5**/4**, ML3.3**/2**, Error ellipse: s-maj=192.9km s-min=26.4km az=58.0, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.56**	**136**	Pn	Pn	20 40 32.3	-1.8
	0.1nm,0.3s,baz=307,slow=15,SNR=5.6						
ASAR	**Alice Springs**	**19.01**	**145**	P	Pn	20 41 04.7	+0.3
	0.2nm,0.3s,baz=328,slow=13,SNR=13						
SONM	**Songino Array**	**57.59**	**348**	P	P	20 46 32.7	+0.6
	0.1nm,0.3s,baz=168,slow=7.7,SNR=4.2						
MKAR	**Makanchi Array**	**65.28**	**331**	P	P	20 47 23.5	-0.5
	0.6nm,0.9s,baz=134,slow=9.5,SNR=3.0						

*CSEM **07** 20:40:30.8±0.2, 42°.60N×0°.86E, h5km, ML1.5/4, Error ellipse: s-maj=3.9km s-min=3.0km az=23.0*

*STR **07** 20:40:31.3±0.2, 42°.61N×0°.88E, h2km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*LDG **07** 20:40:31.1±0.1, 42°.61N×0°.88E, h4km, Md2.0/3, Ml1.7/4, Error ellipse: s-maj=1.6km s-min=1.3km az=26.0*

MDD 07 20:40:31.3±0.3**, 42°.60N×0°.88E, h6km**±6km**, mbLg1.4**/5**, 1D, Error ellipse: s-maj=2.2km s-min=1.8km az=71.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEST	**Esterri de Car**	**0.28**	**89**	P	Pg	20 40 36.4	-0.6
CEST				S	Sg	20 40 40.5	-0.4
SALF	**Salau**	**0.28**	**55**	Pg	Pg	20 40 36.7	-0.3
SALF				Sg	Sg	20 40 40.5	-0.3
SALF	**Salau**	**0.28**	**55**	P	Pg	20 40 36.7	-0.3
SALF				S	Sg	20 40 40.5	-0.3
SALF	**Salau**	**0.28**	**55**	Pg	Pg	20 40 36.7	-0.3
SALF				Sg	Sg	20 40 40.5	-0.3
CTRE	**Tremp**	**0.28**	**195**	P	Pg	20 40 36.4	-0.6
CTRE				S	Sg	20 40 40.8	-0.1
MELF	**Melles**	**0.29**	**343**	Pg	Pg	20 40 36.5	-0.6
MELF				Sg	Sg	20 40 40.7	-0.3
MELF	**Melles**	**0.29**	**343**	P	Pg	20 40 36.7	-0.3
MELF				S	Sg	20 40 40.7	-0.3
MELF	**Melles**	**0.29**	**343**	Pg	Pg	20 40 36.5	-0.6
MELF				Sg	Sg	20 40 40.7	-0.3
CSOR	**Sort**	**0.29**	**139**	⇓Pg	Pg	20 40 36.6	-0.6
	1.3nm,0.1s,SNR=18						
CSOR				Lg	Lg	20 40 41.1	
	8.0nm,0.2s,SNR=21						
CSOR	**Sort**	**0.29**	**139**	Pg	Pg	20 40 36.6	-0.6
	1.3nm,0.1s,SNR=18						
CSOR				Lg	Lg	20 40 40.9	
	3.6nm,0.1s,SNR=21						
MLS	**Moulis**	**0.39**	**24**	Pg	Pg	20 40 38.5	-0.5
MLS				Sg	Sg	20 40 43.8	-0.4
MLS	**Moulis**	**0.39**	**24**	P	Pg	20 40 38.7	-0.3
MLS				S	Sg	20 40 43.9	-0.4
MLS	**Moulis**	**0.39**	**24**	Pg	Pg	20 40 38.5	-0.5
MLS				Sg	Sg	20 40 43.8	-0.4
CORG	**Organya**	**0.49**	**138**	P	Pg	20 40 40.2	-0.7
CORG				S	Sg	20 40 47.2	-0.2
GRBF	**Gourbit**	**0.55**	**63**	P	Pg	20 40 41.9	0.0
GRBF				S	Sg	20 40 48.5	-0.6
EPF	**Esparros**	**0.58**	**318**	ePg	Pg	20 40 41.9	-0.8
EPF				eSg	Sg	20 40 49.6	-0.8
	1.9nm,0.2s						
EPF	**Esparros**	**0.58**	**318**	Pg	Pg	20 40 41.9	-0.8
EPF				Lg	Lg	20 40 49.6	
	0.9nm,0.2s						
EPF	**Esparros**	**0.58**	**318**	ePg	Pg	20 40 41.9	-0.8
EPF				eSg	Sg	20 40 49.6	-0.8
	0.9nm,0.2s						
CAVN	**Les Avellanes**	**0.72**	**187**	P	Pg	20 40 44.6	-0.6
CAVN				S	Sg	20 40 54.9	+0.2
	2.6nm,0.2s						
CLLI	**Llivia**	**0.82**	**98**	Pg	Pg	20 40 46.8	-0.5
	0.1nm,0.0s,SNR=7.9						
CLLI				Lg	Lg	20 40 56.3	
	0.1nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**0.82**	**98**	Pg	Pb	20 40 48.2	0.0
	0.1nm,0.0s,SNR=7.9						
CLLI				Lg	Lg	20 40 57.4	
	0.3nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**0.84**	**145**	Pg	Pg	20 40 46.9	-0.6
	0.5nm,0.1s,SNR=7.9						
EMIR				Lg	Lg	20 40 59.0	
	0.7nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**0.84**	**145**	Pg	Pg	20 40 47.6	+0.1
	0.5nm,0.1s,SNR=7.9						
EMIR				Lg	Lg	20 40 58.9	
	0.7nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**1.10**	**286**	ePg	Pg	20 40 51.4	-1.1
ETSF				eSg	Sg	20 41 05.7	-1.2
	2.4nm,0.2s						
ETSF	**Etsaut**	**1.10**	**286**	Pg	Pg	20 40 51.4	-1.1
ETSF				Lg	Lg	20 41 05.7	
	1.2nm,0.2s						
ETSF	**Etsaut**	**1.10**	**286**	ePg	Pg	20 40 51.4	-1.1
ETSF				eSg	Sg	20 41 05.7	-1.2
	1.2nm,0.2s						
MTLF	**Montolieu**	**1.23**	**53**	ePn	Pg	20 40 53.0	-2.0
MTLF				eSg	Sg	20 41 09.1	-2.0
	1.2nm,0.3s						
MTLF	**Montolieu**	**1.23**	**53**	Pn	Pg	20 40 53.0	-2.0
MTLF				Lg	Lg	20 41 09.1	
	0.6nm,0.3s						
MTLF	**Montolieu**	**1.23**	**53**	ePn	Pg	20 40 53.0	-2.0
MTLF				eSg	Sg	20 41 09.1	-2.0
	0.6nm,0.3s						
EPOB	**Poblet**	**1.25**	**173**	Pg	Pg	20 40 54.3	-1.2
	0.1nm,0.1s,SNR=7.9						
EPOB				Lg	Lg	20 41 10.4	
	0.5nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.25**	**173**	Pg	Pg	20 40 54.1	-1.4
	0.1nm,0.1s,SNR=7.9						
EPOB				Lg	Lg	20 41 10.5	
	0.5nm,0.1s,SNR=7.9						
ATE	**Arette**	**1.26**	**293**	Pg	Pg	20 40 55.2	-0.3
	0.3nm,0.2s,SNR=7.9						
ATE				Lg	Lg	20 41 10.6	
	0.8nm,0.1s,SNR=7.9						
ATE	**Arette**	**1.26**	**293**	Pg	Pn	20 40 55.7	+0.2
	0.3nm,0.2s,SNR=7.9						
ATE				Lg	Lg	20 41 10.6	
	0.8nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.33**	**229**	Pg	Pn	20 40 56.5	-0.1
	0.7nm,0.1s,SNR=4.0						
ESAC				Lg	Lg	20 41 13.1	
	7.7nm,0.1s,SNR=7.0						
ESAC	**San Caprasio**	**1.33**	**229**	Pg	Pg	20 40 57.2	+0.3
	0.7nm,0.1s,SNR=4.0						
ESAC				Lg	Lg	20 41 14.3	
	7.7nm,0.1s,SNR=7.0						
CBEU	**Beuda**	**1.38**	**104**	P	Pn	20 40 56.1	-1.1
CBEU				S	Sb	20 41 14.4	-1.1
CFON	**Fontmartina**	**1.43**	**125**	Pg	Pb	20 40 58.6	+0.1
	0.7nm,0.2s,SNR=7.9						
CFON				Lg	Lg	20 41 16.6	
	4.8nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**1.43**	**125**	Pg	Pb	20 40 58.5	0.0
	0.7nm,0.2s,SNR=7.9						
CFON				Lg	Lg	20 41 16.6	
	4.8nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**1.49**	**94**	Pg	Pb	20 40 59.5	+0.1
	0.2nm,0.3s,SNR=7.9						
SJAF				Lg	Lg	20 41 19.2	
	0.2nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**1.49**	**94**	Pg	Pb	20 40 59.5	+0.1
	0.1nm,0.2s,SNR=7.9						
SJAF				Lg	Lg	20 41 18.5	
	0.2nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**1.57**	**280**	Pn	Pn	20 40 57.7	-2.2
	0.2nm,0.2s,SNR=4.0						
IELO				Lg	Lg	20 41 23.2	
	0.4nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**1.57**	**280**	Pg	Pb	20 41 01.1	+0.1
	0.2nm,0.2s,SNR=4.0						
IELO				Lg	Lg	20 41 22.4	
	0.4nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**1.63**	**289**	ePg	Pn	20 41 01.2	+0.6
SJPF				eSg	Sn	20 41 22.0	+0.1

	1.6nm,0.3s						
SJPF	**Ste Jean**	**1.63**	**289**	Pg	Pn	20 41 01.2	+0.6
SJPF				Lg	Lg	20 41 22.0	
	0.8nm,0.3s						
SJPF	**Ste Jean**	**1.63**	**289**	*e*Pg	Pn	20 41 01.2	+0.6
SJPF				*e*Sg	Sn	20 41 22.0	+0.1
	0.8nm,0.3s						
ERTA	**Horta de San J**	**1.69**	**194**	Pg	Pb	20 41 02.7	-0.2
	0.2nm,0.1s,SNR=7.9						
ERTA				Lg	Lg	20 41 23.9	
	0.6nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**1.69**	**194**	Pg	Pb	20 41 02.7	-0.2
	0.2nm,0.1s,SNR=7.9						
ERTA				Lg	Lg	20 41 23.9	
	0.6nm,0.1s,SNR=7.9						

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*DDA **07** 20:45:04.7, 35.°22N×31.°09E, h14km, MD3.3*
*ISCJB **07** 20:45:08.3±0.8, 35.°45N±0.°05×31.°24E±0.°06, h10km, Error ellipse: s-maj=8.1km s-min=5.1km az=41.3*
*NIC **07** 20:45:09.7, 35.°40N×31.°20E, h58km, ML3.5*
*CSEM **07** 20:45:09.1±0.4, 35.°44N×31.°28E, h10km, ML3.5, Error ellipse: s-maj=10.2km s-min=5.7km az=55.0*
ISC 07 20:45:09.0±1.1**, 35.°39N**±0.°05×**31.°26E**±0.°05**, h10km, n32, σ1s25**/38**, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKMC	**Akamas**	**0.95**	**112**	P	**Pg**	**20 45 28.3**	**+1.0**
	baz=292						
AKMC	**Akamas**	**0.95**	**112**	P	**Pg**	**20 45 28.3**	**+1.0**
PPCY	**Paphos**	**1.02**	**119**	P	**Pg**	**20 45 28.6**	**-0.1**
	baz=298						
PPCY	**Paphos**	**1.02**	**119**	P	**Pg**	**20 45 28.6**	**-0.1**
ALFC	**Alevga**	**1.12**	**102**	P	**Pb**	**20 45 29.9**	**-0.6**
	baz=282						
ALFC				S	**Sb**	**20 45 46.2**	**+1.1**
ALFC	**Alevga**	**1.12**	**102**	P	**Pb**	**20 45 29.9**	**-0.6**
ALFC				S	**Sb**	**20 45 46.2**	**+1.1**
GAZI	**Gazipasa**	**1.20**	**45**	*i* P	Pn	20 45 30.0	-1.9
GAZI				*i* S	**Sb**	**20 45 45.1**	**-2.3**
GAZI	**Gazipasa**	**1.20**	**45**	*i* P	Pn	20 45 30.0	-1.9
GAZI				*i* S	**Sb**	**20 45 45.1**	**-2.3**
SZAC	**Souni-Zanaja**	**1.47**	**115**	P	**Pn**	**20 45 35.2**	**-0.5**
	baz=295						
SZAC				S	**Sn**	**20 45 54.4**	**-0.6**
SZAC	**Souni-Zanaja**	**1.47**	**115**	P	**Pn**	**20 45 35.2**	**-0.5**
SZAC				S	**Sn**	**20 45 54.4**	**-0.6**
ELL	**Elmali**	**1.74**	**321**	*e*PN	**Pn**	**20 45 38.0**	**-1.4**
ELL	**Elmali**	**1.74**	**321**	*e*Pn	**Pn**	**20 45 38.0**	**-1.4**
CSS	**Prodhromos**	**1.75**	**104**	P	**Pn**	**20 45 38.8**	**-0.6**
	baz=284						
CSS	**Prodhromos**	**1.75**	**104**	P	**Pn**	**20 45 38.8**	**-0.6**
KORT	**Korkueli**	**1.76**	**336**	*i* P	Pn	20 45 37.4	-2.4
KORT				*i* S	**Sg**	**20 46 10.6**	**+4.8**
KORT	**Korkueli**	**1.76**	**336**	*i* P	Pn	20 45 37.4	-2.4
ERMK	**Ermenek**	**1.83**	**47**	*i* P	**Pn**	**20 45 41.4**	**+0.7**
ERMK				*i* S	**Sn**	**20 46 03.2**	**-0.8**
ERMK	**Ermenek**	**1.83**	**47**	*i* P	**Pn**	**20 45 41.4**	**+0.7**
ERMK				*i* S	**Sn**	**20 46 03.2**	**-0.8**
HDMB	**Hadim**	**1.85**	**32**	*e*PN	**Pn**	**20 45 40.3**	**-0.8**
HDMB	**Hadim**	**1.85**	**32**	*e*Pn	**Pn**	**20 45 40.3**	**-0.8**
GOLH	**Golhisar**	**2.29**	**324**	*i* P	**Pn**	**20 45 46.6**	**-0.4**
GOLH				*i* S	**Sg**	**20 46 24.1**	**+1.3**
GOLH	**Golhisar**	**2.29**	**324**	*i* P	**Pn**	**20 45 46.6**	**-0.4**
DALY	**Dalyan (Mu˜la**	**2.54**	**305**	*e*PN	Pn	20 45 46.2	-4.1
DALY	**Dalyan (Mu˜la**	**2.54**	**305**	*e*Pn	Pn	20 45 46.2	-4.1
KIZK	**Mersin**	**2.58**	**64**	*i* P	**Pn**	**20 45 51.4**	**+0.6**
KIZK				*i* S	**Sn**	**20 46 20.9**	**-1.3**
KIZK	**Mersin**	**2.58**	**64**	*i* P	**Pn**	**20 45 51.4**	**+0.6**
KIZK				*i* S	**Sn**	**20 46 20.9**	**-1.3**
KONT	**Konya--Tatoy**	**2.69**	**19**	*e*PN	**Pn**	**20 45 52.2**	**-0.3**
KONT	**Konya--Tatoy**	**2.69**	**19**	*e*Pn	**Pn**	**20 45 52.2**	**-0.3**
LADK	**Ladik-KONYA**	**2.94**	**17**	*e*P	**Pn**	**20 45 55.9**	**0.0**
LADK	**Ladik-KONYA**	**2.94**	**17**	*e*P	**Pn**	**20 45 55.9**	**0.0**
YAYL	**Yayladag**	**3.99**	**79**	*i* P	**Pn**	**20 46 10.2**	**-0.2**
YAYL				*i* S	Sn	20 46 51.7	-5.6
YAYL	**Yayladag**	**3.99**	**79**	*i* P	**Pn**	**20 46 10.2**	**-0.2**
YAYL				*i* S	Sn	20 46 51.7	-5.6

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*CSEM **07** 20:51:20.9, 34.°56N×24.°23E, h45km, MD2.9*
ATH 07 20:51:21.0, 34.°57N×24.°24E, h45km, MD2.9/6**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.84**	**358**	*e*P	Pn	20 51 38.1	+1.7
VAM				*e*S	Sn	20 51 49.6	+2.0
VAM	**Vamos**	**0.84**	**358**	*e*P	Pn	20 51 38.1	+1.7
VAM				*e*S	Sn	20 51 49.6	+2.0
KARN	**Karanos**	**0.87**	**342**	*e*P	Pn	20 51 37.8	+0.9
KARN				*e*S	Sn	20 51 49.7	+1.1
KARN	**Karanos**	**0.87**	**342**	*e*P	Pn	20 51 37.8	+0.9
KARN				*e*S	Sn	20 51 49.7	+1.1
LAST	**Lasithi**	**1.18**	**60**	*e*P	Pn	20 51 42.0	+0.8
LAST	**Lasithi**	**1.18**	**60**	*e*P	Pn	20 51 42.0	+0.8
LAST	**Lasithi**	**1.18**	**60**	*e*P	Pn	20 51 42.0	+0.8
ANKY	**Antikythira Is**	**1.50**	**330**	*e*P	Pn	20 51 47.0	+1.5
ANKY	**Antikythira Is**	**1.50**	**330**	*e*P	Pn	20 51 47.0	+1.5
KYTH	**Kithira**	**1.97**	**330**	*e*P	Pn	20 51 52.7	+0.8
KYTH	**Kithira**	**1.97**	**330**	*e*P	Pn	20 51 52.7	+0.8
KYTH	**Kithira**	**1.97**	**330**	*e*P	Pn	20 51 52.7	+0.8
VLI	**Veliai**	**2.39**	**334**	*e*P	Pn	20 51 59.0	+1.3
VLI	**Veliai**	**2.39**	**334**	*e*P	Pn	20 51 59.0	+1.3
VLI	**Veliai**	**2.39**	**334**	*e*P	Pn	20 51 59.0	+1.3
APE	**Apeiranthos**	**2.71**	**22**	*e*P	Pn	20 52 04.2	+2.1
APE	**Apeiranthos**	**2.71**	**22**	*e*P	Pn	20 52 04.2	+2.1
APE	**Apeiranthos**	**2.71**	**22**	*e*P	Pn	20 52 04.2	+2.1
PYL	**PYLOS**	**3.08**	**320**	*e*P	Pn	20 52 03.8	-3.4
ITM	**Ithomi**	**3.21**	**325**	*e*P	Pn	20 52 07.2	-1.8

IDC 07 20:51:34.5±71.0**, 20.°17S**×**179.°64W, h0km, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.6**/22**, mbtmp3.8**/3**, Error ellipse: s-maj=1289.0km s-min=161.6km az=82.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.55**	**243**	P	P	20 58 41.2	-1.0
	0.5nm,0.4s,baz=96,slow=8.8,SNR=5.2						
ASAR	**Alice Springs**	**43.10**	**257**	P	P	20 59 37.0	+0.2
	1.3nm,0.8s,baz=89,slow=8.7,SNR=10.0						
WRA	**Warramunga Arr**	**43.12**	**262**	P	P	20 59 37.2	+0.2
	0.6nm,0.4s,baz=92,slow=8.3,SNR=12						

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*CSEM **07** 20:51:56.3, 37.°06N×23.°06E, h40km, MD2.8*
ATH 07 20:51:56.3, 37.°06N×23.°08E, h42km±2km**, MD2.8**/4**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DID	**Didima**	**0.46**	**16**	*e*P	Pn	20 52 07.3	+0.6
DID				*e*S	Sn	20 52 15.1	+1.0
DID	**Didima**	**0.46**	**16**	*e*P	Pn	20 52 07.3	+0.6
DID	**Didima**	**0.46**	**16**	*e*P	Pn	20 52 07.3	+0.6
DID				*e*S	Sn	20 52 15.1	+1.0
LTK	**Loutraki**	**0.97**	**355**	*e*P	Pn	20 52 14.8	+1.3
LTK	**Loutraki**	**0.97**	**355**	*e*P	Pn	20 52 14.8	+1.3
LTK	**Loutraki**	**0.97**	**355**	*e*P	Pn	20 52 14.8	+1.3
GUR	**Goura**	**1.05**	**326**	*e*P	Pn	20 52 16.1	+1.3
GUR				*e*S	Sn	20 52 30.4	+2.0
GUR	**Goura**	**1.05**	**326**	*e*P	Pn	20 52 16.4	+1.6
GUR	**Goura**	**1.05**	**326**	*e*P	Pn	20 52 16.1	+1.3
GUR				*e*S	Sn	20 52 30.4	+2.0
KLV	**Kalavryta, Ach**	**1.23**	**323**	*e*P	Pn	20 52 17.8	+0.7
KLV	**Kalavryta, Ach**	**1.23**	**323**	*e*P	Pn	20 52 17.8	+0.7
KLV	**Kalavryta, Ach**	**1.23**	**323**	*e*P	Pn	20 52 17.8	+0.7
DSF	**Desfina**	**1.42**	**342**	*e*P	Pn	20 52 21.2	+1.5
DSF	**Desfina**	**1.42**	**342**	*e*P	Pn	20 52 21.2	+1.5
DSF	**Desfina**	**1.42**	**342**	*e*P	Pn	20 52 21.2	+1.5
KALE	**Kalithea**	**1.52**	**331**	*e*P	Pn	20 52 22.1	+0.9
KALE	**Kalithea**	**1.52**	**331**	*e*P	Pn	20 52 22.1	+0.9
KALE	**Kalithea**	**1.52**	**331**	*e*P	Pn	20 52 22.1	+0.9
EFP	**Efpalio**	**1.65**	**326**	*e*P	Pn	20 52 24.3	+1.5
EFP	**Efpalio**	**1.65**	**326**	*e*P	Pn	20 52 24.3	+1.5
EFP	**Efpalio**	**1.65**	**326**	*e*P	Pn	20 52 24.3	+1.5
AGG	**Agios Georgios**	**2.05**	**343**	*e*P	Pn	20 52 29.8	+1.5
AGG	**Agios Georgios**	**2.05**	**343**	*e*P	Pn	20 52 29.8	+1.5
AGG	**Agios Georgios**	**2.05**	**343**	*e*P	Pn	20 52 29.8	+1.5
PDO	**Prodromos**	**2.15**	**316**	*e*P	Pn	20 52 29.2	-0.4
DSL	**Palaion Diasel**	**2.59**	**324**	*e*P	Pn	20 52 35.4	-0.4
DSL	**Palaion Diasel**	**2.59**	**324**	*e*P	Pn	20 52 35.4	-0.4
DSL	**Palaion Diasel**	**2.59**	**324**	*e*Pn	Pn	20 52 35.4	-0.4
NEST	**Nestorio**	**3.71**	**335**	*e*P	Pn	20 52 52.5	+1.3

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*CSEM **07** 20:52:03.7, 37.°28N×21.°38E, h39km, MD2.5*
ATH 07 20:52:03.7, 37.°27N×21.°38E, h40km±3km**, MD2.5**/6**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.37**	**45**	*e*P	Pn	20 52 13.0	+0.1
AMT	**Artemida-Makis**	**0.37**	**45**	*e*P	Pn	20 52 13.0	+0.1
AMT	**Artemida-Makis**	**0.37**	**45**	*e*Pb	Pn	20 52 13.0	+0.1
ZKS	**Zakynthos**	**0.64**	**312**	*e*P	Pn	20 52 17.2	+0.9
ZKS	**Zakynthos**	**0.64**	**312**	*e*P	Pn	20 52 17.2	+0.9
ZKS	**Zakynthos**	**0.64**	**312**	*e*Pn	Pn	20 52 17.2	+0.9
DRO	**Drossia**	**0.73**	**21**	*e*P	Pn	20 52 18.5	+0.9
DRO	**Drossia**	**0.73**	**21**	*e*P	Pn	20 52 18.5	+0.9
DRO	**Drossia**	**0.73**	**21**	*e*Pn	Pn	20 52 18.5	+0.9
VLS	**Valsamata**	**1.10**	**326**	*e*P	Pn	20 52 23.5	+0.8
VLS				*e*S	Sn	20 52 39.0	+2.3
VLS	**Valsamata**	**1.10**	**326**	*e*P	Pn	20 52 23.5	+0.8
VLS	**Valsamata**	**1.10**	**326**	*e*Pb	Pn	20 52 23.5	+0.8
VLS				*e*Sn	Sn	20 52 39.0	+2.3
PDO	**Prodromos**	**1.33**	**353**	*e*P	Pn	20 52 27.7	+1.8
PDO	**Prodromos**	**1.33**	**353**	*e*Pn	Pn	20 52 27.7	+1.8
IGT	**Igoumenitsa**	**2.40**	**340**	*e*P	Pn	20 52 42.2	+1.6
IGT	**Igoumenitsa**	**2.40**	**340**	*e*P	Pn	20 52 42.2	+1.6
IGT	**Igoumenitsa**	**2.40**	**340**	*e*Pn	Pn	20 52 42.2	+1.6
SGD	**Sagiada**	**2.51**	**339**	*e*P	Pn	20 52 43.9	+2.0
SGD	**Sagiada**	**2.51**	**339**	*e*P	Pn	20 52 43.9	+2.0
SGD	**Sagiada**	**2.51**	**339**	*e*Pn	Pn	20 52 43.9	+2.0

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*MAN **07** 20:57:00.0, 20.°28N×122.°07E, h1km, mb4.6, ML3.5, MS3.4*
MAN INTENSITY III - BASCO BATANES.
JMA 07 20:57:28.9±0.8**, 20.°85N**×**122.°15E, h11km, M3.9, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**3.54**	**25**	*e*S	Sn	20 59 07.3	+1.6
JYNG	**Yonagunijimaku**	**3.66**	**11**	P	Pn	20 58 27.8	+2.3
JYNG				*e*S	Sn	20 59 12.6	+4.0
IRIF	**Iriomote-Funau**	**3.76**	**23**	P	Pn	20 58 28.7	+1.8
IRIF				*e*S	Sn	20 59 13.1	+1.9
JKRS	**Kuro-shima**	**3.78**	**27**	P	Pn	20 58 29.0	+1.8
JKRS				*e*S	Sn	20 59 13.1	+1.4
JIJ	**Ishigaki jima**	**3.95**	**27**	P	Pn	20 58 30.8	+1.3
JIJ				*e*S	Sn	20 59 16.3	+0.4
JISG	**Ishigakijimahi**	**4.22**	**28**	P	Pn	20 58 34.3	+1.1
JISG				*e*S	Sn	20 59 23.5	+1.0
JTJ	**Tarama**	**4.45**	**31**	P	Pn	20 58 38.5	+2.2
JTJ				*e*S	Sn	20 59 28.6	+0.5

IDC 07 20:58:47.6±53.0**, 16.°17S**×**175.°58W, h0km, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/24**, mbtmp3.6**/3**, Error ellipse: s-maj=1006.0km s-min=168.9km az=78.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.84**	**240**	P	P	21 06 39.8	+0.2
	0.6nm,0.6s,baz=90,slow=10,SNR=3.4						
WRA	**Warramunga Arr**	**47.63**	**258**	P	P	21 07 25.5	-0.5
	0.3nm,0.7s,baz=95,slow=7.3,SNR=6.3						
ASAR	**Alice Springs**	**47.88**	**253**	P	P	21 07 27.8	-0.2
	1.1nm,0.6s,baz=88,slow=8.4,SNR=19						

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*SFS **07** 21:25:28.0, 35.°33N×0.°02W, h0km, ML4.2*
*CRAAG **07** 21:25:29.0, 35.°51N×0.°03W, Ml3.5*
*ISCJB **07** 21:25:29.4±0.5, 35.°66N±0.°03×0.°18W±0.°03, h10km, Error ellipse: s-maj=4.8km s-min=3.4km az=2.7*
*MDD **07** 21:25:30.0±1.4, 35.°54N×0.°14W, h0km, mb4.0/14, Error ellipse: s-maj=15.4km s-min=5.2km az=171.0, PRXIMO*
*INMG **07** 21:25:31.2±1.7, 35.°43N×0.°05W, h31km, ML2.3, Error ellipse: s-maj=7.4km s-min=4.2km az=155.0*
*CSEM **07** 21:25:31.3±0.4, 35.°61N×0.°12W, h15km, ML3.5, Error ellipse: s-maj=9.3km s-min=4.8km az=179.0*
ISC 07 21:25:29.4±1.0**, 35.°54N**±0.°05×**0.°16W**±0.°03**, h10km, n85, σ1s70**/122**, 1C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ODJA	**Bouhanifia**	**0.21**	**177**	P	**Pg**	**21 25 33.9**	**+0.1**
USTO	**Oran**	**0.37**	**302**	P	**Pn**	**21 25 40.0**	**-0.8**
USTO	**Oran**	**0.37**	**302**	P	**Pn**	**21 25 40.0**	**-0.8**
OJGS	**Djebel Guires**	**0.74**	**92**	P	**Pg**	**21 25 45.6**	**+1.8**
OJGS	**Djebel Guires**	**0.74**	**92**	P	**Pg**	**21 25 45.6**	**+1.8**
OKGL	**Djebel Kef Gue**	**0.82**	**52**	P	**Pg**	**21 25 45.9**	**+0.6**
OKGL	**Djebel Kef Gue**	**0.82**	**52**	⇑P	**Pg**	**21 25 44.8**	**-0.5**
	291nm,0.5s,SNR=18						
OKGL				S	**Sg**	**21 25 57.2**	**+1.2**
	2µm,0.3s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**0.82**	**52**	P	**Pg**	**21 25 45.9**	**+0.6**
OKGL				S	**Sg**	**21 25 57.2**	**+1.2**
	2µm,0.3s,SNR=7.9						
EANR	**'Ain N'Sour**	**1.11**	**68**	P	Pb	21 25 48.6	-2.1
EANR	**'Ain N'Sour**	**1.11**	**68**	P	Pb	21 25 48.6	-2.1
ETRT	**Tiaret**	**1.20**	**97**	P	Pn	21 25 50.0	-2.4
ECHA	**Ech Chlef**	**1.38**	**63**	P	**Pn**	**21 25 55.0**	**+0.3**
ECHA	**Ech Chlef**	**1.38**	**63**	P	**Pn**	**21 25 55.0**	**+0.3**
CART	**Cartagena**	**2.15**	**342**	P	**Pn**	**21 26 04.6**	**-0.7**
CART				S	**Sn**	**21 26 27.7**	**-4.4**
CART	**Cartagena**	**2.15**	**342**	*i* P	**Pn**	**21 26 04.6**	**-0.7**
CART				*i* S	**Sn**	**21 26 27.7**	**-4.4**
EMUR	**La Murta**	**2.46**	**340**	P	**Pn**	**21 26 09.7**	**+0.2**
	0.8nm,0.2s,SNR=12						
EMUR				S	**Sn**	**21 26 37.1**	**-2.6**
	14nm,0.4s,SNR=5.0						
EMUR	**La Murta**	**2.46**	**340**	P	**Pn**	**21 26 10.1**	**+0.5**
	0.8nm,0.2s,SNR=12						
EMUR				S	**Sn**	**21 26 36.9**	**-2.8**
	14nm,0.4s,SNR=5.0						
EBER	**Berja**	**2.59**	**302**	P	**Pn**	**21 26 11.0**	**-0.5**
	2.5nm,0.1s,SNR=30						
EBER				S	**Sn**	**21 26 43.9**	**+0.8**
	15nm,0.3s,SNR=6.1						
EBER	**Berja**	**2.59**	**302**	P	**Pn**	**21 26 11.0**	**-0.5**
	2.5nm,0.1s,SNR=30						
EBER				S	**Sn**	**21 26 43.9**	**+0.8**
	15nm,0.3s,SNR=6.1						
EQUE	**Quentar**	**3.12**	**303**	P	**Pn**	**21 26 20.3**	**+1.5**
	2.7nm,0.2s,SNR=24						
EQUE				S	**Sn**	**21 26 57.0**	**+0.8**
	1.1nm,0.2s						
EQUE	**Quentar**	**3.12**	**303**	P	**Pn**	**21 26 20.0**	**+1.2**
	2.7nm,0.2s,SNR=24						
EQUE				S	**Sn**	**21 26 57.0**	**+0.8**
	1.6nm,0.2s						
EBEN	**Beniarda**	**3.16**	**359**	P	**Pn**	**21 26 19.3**	**0.0**
	0.3nm,0.1s,SNR=9.1						
EBEN				S	**Sn**	**21 26 55.9**	**-1.2**
	1.5nm,0.5s,SNR=7.9						
EBEN	**Beniarda**	**3.16**	**359**	P	**Pn**	**21 26 19.3**	**0.0**
	0.3nm,0.1s,SNR=9.1						
EBEN				S	**Sn**	**21 26 55.4**	**-1.7**
	1.5nm,0.5s,SNR=7.9						
SESP	**Santiago Espad**	**3.21**	**324**	P	**Pn**	**21 26 21.5**	**+1.5**
	12nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**21 26 58.8**	**+0.4**
	46nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**3.21**	**324**	P	**Pn**	**21 26 21.5**	**+1.5**
	12nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**21 26 59.1**	**+0.7**
	46nm,0.3s,SNR=7.9						
EQES	**Quesada**	**3.25**	**315**	P	**Pn**	**21 26 22.5**	**+2.0**
	4.1nm,0.1s,SNR=67						
EQES				S	**Sn**	**21 27 00.2**	**+0.8**
	13nm,0.2s,SNR=6.3						
EQES	**Quesada**	**3.25**	**315**	P	**Pn**	**21 26 22.5**	**+2.0**
	4.1nm,0.1s,SNR=67						
EQES				S	**Sn**	**21 27 01.2**	**+1.8**
	42nm,0.5s,SNR=6.3						
ETOB	**Tobarra**	**3.29**	**341**	P	**Pn**	**21 26 22.3**	**+1.2**
	3.9nm,0.2s,SNR=31						
ETOB				S	**Sn**	**21 26 58.5**	**-1.9**
	8.6nm,0.2s,SNR=5.0						
ETOB	**Tobarra**	**3.29**	**341**	P	**Pn**	**21 26 22.3**	**+1.2**
	1.5nm,0.1s,SNR=31						
ETOB				S	**Sn**	**21 26 58.5**	**-1.9**
	8.6nm,0.2s,SNR=5.0						
SELV	**Sierra Elvira**	**3.34**	**302**	P	**Pn**	**21 26 23.2**	**+1.5**
	SNR=7.9						
SELV	**Sierra Elvira**	**3.34**	**302**	P	**Pn**	**21 26 23.2**	**+1.5**
	SNR=7.9						
EIBI	**Ibiza**	**3.68**	**19**	P	**Pn**	**21 26 26.6**	**+0.2**
	7.7nm,0.1s,SNR=34						
EIBI				S	**Sn**	**21 27 07.2**	**-2.6**
	2.5nm,0.3s						
EIBI	**Ibiza**	**3.68**	**19**	P	**Pn**	**21 26 26.2**	**-0.2**
	9.7nm,0.1s,SNR=34						
EIBI				S	**Sn**	**21 27 07.3**	**-2.6**
	2.5nm,0.3s						
EMIJ	**Mijas**	**3.87**	**287**	P	**Pn**	**21 26 27.3**	**-1.7**
	0.6nm,0.1s,SNR=8.5						
EMIJ				S	**Sn**	**21 27 10.7**	**-3.9**
	8.4nm,0.3s,SNR=4.6						
EMIJ	**Mijas**	**3.87**	**287**	P	**Pn**	**21 26 27.3**	**-1.7**
	0.6nm,0.1s,SNR=8.5						
EMIJ				S	**Sn**	**21 27 10.7**	**-3.9**
	8.4nm,0.3s,SNR=4.6						
EADA	**Adamuz**	**4.41**	**308**	P	**Pn**	**21 26 37.5**	**+1.1**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**21 27 27.3**	**-0.5**
	0.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.41**	**308**	P	**Pn**	**21 26 37.5**	**+1.1**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**21 27 27.3**	**-0.5**
	0.8nm,0.1s,SNR=7.9						
LIJA	**Lijar**	**4.45**	**289**	P	Pn	21 26 42.0	+5.0
LIJA	**Lijar**	**4.45**	**289**	*e*P	Pn	21 26 42.0	+5.0
EMOS	**Mosqueruela**	**4.82**	**357**	P	**Pn**	**21 26 43.5**	**+1.3**
	1.6nm,0.3s,SNR=10.0						
EMOS				S	**Sn**	**21 27 34.6**	**-3.7**
	1.1nm,0.2s						
EMOS	**Mosqueruela**	**4.82**	**357**	P	**Pn**	**21 26 43.5**	**+1.3**
	1.6nm,0.3s,SNR=10.0						
EMOS				S	**Sn**	**21 27 35.4**	**-2.8**
	4.3nm,0.6s						
ETOS	**Mallorca**	**4.84**	**28**	P	**Pn**	**21 26 41.2**	**-1.1**
	0.9nm,0.1s,SNR=9.3						
ETOS				S	**Sn**	**21 27 35.4**	**-3.0**
	1.3nm,0.2s						
ETOS	**Mallorca**	**4.84**	**28**	P	**Pn**	**21 26 41.2**	**-1.1**
	0.9nm,0.1s,SNR=9.3						
ETOS				S	**Sn**	**21 27 35.0**	**-3.4**
	1.3nm,0.2s						
ECAB	**El Cabril**	**4.92**	**303**	P	**Pn**	**21 26 43.4**	**0.0**
	1.8nm,0.3s,SNR=12						
ECAB				S	**Sn**	**21 27 39.0**	**-1.4**
	0.7nm,0.2s						
ECAB	**El Cabril**	**4.92**	**303**	P	**Pn**	**21 26 43.4**	**0.0**
	1.8nm,0.3s,SNR=12						
ECAB				S	**Sn**	**21 27 39.0**	**-1.4**
	0.7nm,0.2s						
ESDC	**Sonseca Array**	**5.11**	**325**	P	**Pn**	**21 26 47.2**	**+1.1**
	1.1nm,0.2s,baz=142,slow=13,SNR=13						
ESDC				S	**Sn**	**21 27 44.0**	**-1.2**
	0.5nm,0.2s,baz=140,slow=22,SNR=5.2						
ESDC	**Sonseca Array**	**5.11**	**325**	P	**Pn**	**21 26 47.2**	**+1.1**
	1.1nm,0.2s,SNR=13						
ESDC				S	**Sn**	**21 27 44.0**	**-1.2**
	0.5nm,0.2s,SNR=5.2						
ERTA	**Horta de San J**	**5.42**	**4**	P	**Pn**	**21 26 51.4**	**+1.1**
	0.8nm,0.1s,SNR=7.9						
ERTA				S	**Sn**	**21 27 51.6**	**-1.2**
	1.5nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**5.42**	**4**	P	**Pn**	**21 26 51.4**	**+1.1**
	0.8nm,0.1s,SNR=7.9						
ERTA				S	**Sn**	**21 27 51.5**	**-1.3**
	1.5nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.69**	**295**	P	**Pn**	**21 26 54.7**	**+0.8**
	0.2nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**21 27 57.1**	**-2.1**
	0.5nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.69**	**295**	P	**Pn**	**21 26 54.7**	**+0.8**
	0.2nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**21 27 57.3**	**-2.0**
	0.5nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.89**	**9**	P	**Pn**	**21 26 57.8**	**+1.1**
	1.1nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**21 28 01.7**	**-2.6**
	1.5nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**5.89**	**9**	P	**Pn**	**21 26 57.8**	**+1.1**
	1.1nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**21 28 01.8**	**-2.5**
	1.5nm,0.4s,SNR=7.9						
GUD	**Guadarrama**	**5.99**	**329**	P	**Pn**	**21 26 58.4**	**+0.2**
	0.2nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**5.99**	**329**	P	**Pn**	**21 26 59.8**	**+1.6**
	0.2nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**6.11**	**298**	*e*Pn	**Pn**	**21 27 00.2**	**+0.5**
PBAR	**Barrancos**	**6.11**	**298**	*e*Pn	**Pn**	**21 27 00.2**	**+0.5**
ESAC	**San Caprasio**	**6.18**	**358**	P	**Pn**	**21 26 59.4**	**-1.4**
	4.3nm,0.3s,SNR=4.0						
EBAD	**Badajoz**	**6.34**	**302**	P	**Pn**	**21 27 03.5**	**+0.5**
	0.4nm,0.1s,SNR=5.4						
EBAD				S	**Sn**	**21 28 13.8**	**-1.7**
	1.7nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**6.34**	**302**	P	**Pn**	**21 27 03.5**	**+0.5**
	0.4nm,0.1s,SNR=5.4						
EBAD				S	**Sn**	**21 28 12.7**	**-2.7**
	1.7nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**6.37**	**289**	*e*Pn	**Pn**	**21 27 04.2**	**+1.0**
PVAQ				*e*Sn	**Sn**	**21 28 13.3**	**-2.7**
PVAQ				A	A	21 28 23.8	
	2.4nm,0.7s						
PVAQ	**Vaqueiros**	**6.37**	**289**	*e*Pn	**Pn**	**21 27 04.2**	**+1.0**
PVAQ				*e*Sn	**Sn**	**21 28 13.3**	**-2.7**
PVAQ				A	A	21 28 23.8	
	2.4nm,0.7s						
PBDV	**Barranco-do-Ve**	**6.49**	**287**	*e*Pn	**Pn**	**21 27 06.9**	**+1.9**
PBDV	**Barranco-do-Ve**	**6.49**	**287**	*e*Pn	**Pn**	**21 27 06.9**	**+1.9**
EMIR	**Miracle**	**6.50**	**11**	P	**Pn**	**21 27 07.2**	**+2.0**
	0.5nm,0.3s,SNR=7.9						
EMIR				S	**Sn**	**21 28 17.7**	**-1.7**
	2.4nm,0.4s,SNR=7.9						
EMIR	**Miracle**	**6.50**	**11**	P	**Pn**	**21 27 07.2**	**+2.0**
	0.5nm,0.3s,SNR=7.9						
EMIR				S	**Sn**	**21 28 17.5**	**-1.9**
	2.4nm,0.4s,SNR=7.9						
EPLA	**Plasencia**	**6.51**	**316**	P	**Pn**	**21 27 05.9**	**+0.7**
	SNR=7.9						
CFON	**Fontmartina**	**6.54**	**17**	P	**Pn**	**21 27 05.5**	**-0.2**
	4.4nm,0.2s,SNR=14						
CFON	**Fontmartina**	**6.54**	**17**	P	**Pn**	**21 27 05.5**	**-0.2**
	4.4nm,0.2s,SNR=14						
PESTR	**Estremoz**	**6.79**	**301**	*e*Pn	**Pn**	**21 27 09.1**	**-0.1**
PESTR	**Estremoz**	**6.79**	**301**	*e*Pn	**Pn**	**21 27 09.1**	**-0.1**
CSOR	**Sort**	**6.90**	**8**	P	**Pn**	**21 27 12.3**	**+1.6**
	1.4nm,0.3s,SNR=8.2						
CSOR	**Sort**	**6.90**	**8**	P	**Pn**	**21 27 12.3**	**+1.6**
	1.4nm,0.3s,SNR=8.2						
PMRV	**Marv??o**	**6.94**	**306**	*e*Pn	**Pn**	**21 27 12.3**	**+1.2**
PMRV	**Marv??o**	**6.94**	**306**	*e*Pn	**Pn**	**21 27 12.3**	**+1.2**
CLLI	**Llivia**	**7.13**	**13**	P	**Pn**	**21 27 15.7**	**+1.9**
	0.2nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**7.13**	**13**	P	**Pn**	**21 27 15.7**	**+1.9**
	0.2nm,0.2s,SNR=7.9						
PNCL	**Nicolau / Gran**	**7.18**	**293**	*e*Pn	**Pn**	**21 27 14.6**	**+0.1**
PNCL	**Nicolau / Gran**	**7.18**	**293**	*e*Pn	**Pn**	**21 27 14.6**	**+0.1**
ATE	**Arette**	**7.55**	**357**	P	Pn	21 27 22.9	+3.4
	0.3nm,0.6s,SNR=7.9						
ATE	**Arette**	**7.55**	**357**	P	Pn	21 27 22.9	+3.4
	0.3nm,0.6s,SNR=7.9						
ELAN	**Lanestosa**	**8.09**	**343**	P	**Pn**	**21 27 29.9**	**+3.1**
	0.4nm,0.2s,SNR=4.0						
ELAN	**Lanestosa**	**8.09**	**343**	P	**Pn**	**21 27 29.4**	**+2.6**
	0.4nm,0.2s,SNR=4.0						
EARI	**Arriondas**	**8.68**	**335**	P	**Pn**	**21 27 37.0**	**+2.0**
	0.3nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**8.68**	**335**	P	**Pn**	**21 27 37.0**	**+2.0**
	0.3nm,0.3s,SNR=7.9						

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*ISCJB **07** 21:32:57.2±0.7, 6.°43N±0.°06×126.°44E±0.°07, h68km, mb3.4/4, Error ellipse: s-maj=11.7km s-min=6.3km az=147.0*
*IDC **07** 21:32:57.2±6.3, 6.°41N×126.°15E, h49km±80km, mb3.3/4, mb1 3.5/5, mb1mx3.2/40, mbtmp3.6/5, ML4.0/1, Error ellipse: s-maj=229.9km s-min=24.6km az=66.0*
*MAN **07** 21:32:59, 6.°64N×126.°47E, h21km, mb4.7, ML3.5, MS3.5*
ISC 07 21:32:58.6±0.9**, 6.°44N**±0.°07×**126.°42E**±0.°09**, h68km, n11, σ1s48**/15**, mb3.4**/4**, 2C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.53	342	eP	Pn	21 33 08.9	-2.6
MATI				eS	Sn	21 33 17.7	-3.2
GSPH	General Santos	1.51	256	⇑iP	Pn	21 33 22.5	-1.2
GSPH				iS	Sn	21 33 41.1	-1.5
BUKP	Musuan	1.96	317	eP	Pn	21 33 29.5	-0.3
BUKP				eS	Sn	21 33 54.2	+0.7
BUTP	Butuan	2.63	342	eP	Pn	21 33 39.4	+0.6
CGP	Cagayan de Oro	2.63	319	⇑eP	Pn	21 33 39.7	+0.9
CGP				eS	Sn	21 34 10.6	+1.0
PAGZ	Pagadian	3.32	295	eP	Pn	21 33 48.4	+0.1
SIJI	Sorong	8.73	146	P	Pn	21 35 02.6	+0.5
	1.7nm,0.3s,baz=339,slow=5.7,SNR=7.2						
WRA	Warramunga Arr	27.35	164	P	P	21 38 38.4	+0.9
	0.2nm,0.4s,baz=342,slow=10,SNR=4.4						
ASAR	Alice Springs	30.81	167	P	P	21 39 09.2	+1.0
	0.3nm,0.5s,baz=345,slow=7.2,SNR=5.9						
STKA	Stephens Creek	40.77	160	P	P	21 40 33.6	+0.4
	0.8nm,0.5s,baz=338,slow=8.4,SNR=4.2						
MKAR	Makanchi Array	55.17	324	P	P	21 42 23.9	-0.4
	0.2nm,0.5s,baz=106,slow=8.7,SNR=3.8						

DDA 07 21:33:06.6, 37°.51N×26°.93E, h3km, MD2.8, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GCAM	G?zelcaml?	0.31	52	iP	Pb	21 33 13.8	-0.9
GCAM	G?zelcaml?	0.31	52	iP	Pb	21 33 13.8	-0.9
GCAM				iS	Sg	21 33 17.8	+1.3
GCAM	G?zelcaml?	0.31	52	iP	Pb	21 33 13.8	-0.9
BDRM	Kayabasi	0.60	137	iP	Pb	21 33 19.2	-0.6
BDRM				iS	Sb	21 33 27.8	-1.0
AYDN	Tasoluk	0.77	78	iP	Pg	21 33 21.9	+0.4
AYDN				iS	Sg	21 33 32.0	+0.5
ZEY	˜zmir	0.80	335	iP	Pg	21 33 22.1	+0.1
ZEY				iS	Sb	21 33 33.4	-1.0

CSEM 07 21:33:38.7, 38°.70N×39°.83E, h28km, MD2.9
DDA 07 21:33:38.7, 38°.70N×39°.83E, h28km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELZG	Elazig	0.69	254	iP	Pb	21 33 51.0	-1.5
ELZG				iS	Sn	21 34 04.3	+1.4
ELZG	Elazig	0.69	254	iP	Pb	21 33 51.0	-1.5
ELZG				iS	Sn	21 34 04.3	+1.4
DIYA	Diyarbakir	0.81	163	iP	Pb	21 33 51.5	-2.8
DIYA	Diyarbakir	0.81	163	iP	Pb	21 33 51.5	-2.8
EUZM	Uzumlu	1.01	354	iP	Pn	21 33 55.5	-1.9
EUZM				iS	Sn	21 34 09.2	-1.7
EUZM	Uzumlu	1.01	354	iP	Pn	21 33 55.5	-1.8
EUZM				iS	Sn	21 34 09.2	-1.6
KEMA	Kemaliye	1.19	299	iP	Pn	21 33 59.3	-0.3
KEMA				iS	Sb	21 34 17.9	+2.0
KEMA	Kemaliye	1.19	299	iP	Pn	21 33 59.3	-0.4
KEMA				iS	Sb	21 34 17.9	+2.0
MARD	Mardin	1.57	151	iP	Pn	21 34 03.0	-1.9
MARD				iS	Sn	21 34 20.7	-3.8
ATAB	Bozova	1.72	225	iP	Pn	21 34 06.6	-0.4
ATAB				iS	Sb	21 34 33.2	+2.2
ATAB	Bozova	1.72	225	iP	Pn	21 34 06.6	-0.3
ATAB				iS	Sb	21 34 33.2	+2.2

ISCJB 07 21:41:10.9±0.9, 32°.94S±0°.04×178°.2W±0°.1, h33km, mb4.7/12, Error ellipse: s-maj=17.8km s-min=5.3km az=11.3
NEIC 07 21:41:14.3±0.4, 32°.94S×178°.36W, h35km, mb4.8/10, Error ellipse: s-maj=11.7km s-min=10.0km az=119.0
IDC 07 21:41:47.4±8.6, 32°.00S×179°.66W, h282km±72km, mb3.9/6, mb1 4.1/7, mb1mx3.7/19, mbtmp4.5/7, Error ellipse: s-maj=42.9km s-min=31.1km az=117.0
ISC 07 21:41:15.6±0.7, 32°.93S±0°.08×178°.5W±0°.1, h35km, n58, σ1s.91/55, mb4.8/12, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	5.50	207	ePN	Pn	21 42 34.9	-0.1
WMGZ				SN	Sn	21 43 40.6	+3.6
HAZ	Te Kaha	5.71	211	ePN	Pn	21 42 37.1	-0.7
HAZ				SN	Sn	21 43 46.4	+4.4
PUZ	Puketiti	5.78	206	PN	Pn	21 42 37.3	-1.6
PUZ				SN	Sn	21 43 46.2	+2.2
TWGZ	Tauwhareparae	5.98	208	PN	Pn	21 42 40.6	-1.0
TWGZ				SN	Sn	21 43 51.3	+2.4
CNGZ	Carnagh Statio	6.17	205	PN	Pn	21 42 42.5	-1.6
MWZ	Matawai	6.30	210	PN	Pn	21 42 44.6	-1.4
MWZ				eSN	Sn	21 43 57.7	+0.9
URZ	Urewera	6.42	213	PN	Pn	21 42 46.6	-1.0
URZ				eSN	Sn	21 44 00.7	+1.0
URZ	Urewera	6.42	213	ePn	Pn	21 42 47.8	+0.2
URZ				eSn	Sn	21 43 59.7	+0.1
OUZ	Omahuta	6.96	249	ePn	Pn	21 42 57.6	+2.5
BKZ	Black Stump Fm	7.44	212	ePn	Pn	21 42 59.7	-2.0
BKZ				eSn	Sn	21 44 14.3	-10
BFZ	Birch Farm	8.82	207	ePn	Pn	21 43 18.3	-2.2
BFZ				eSn	Sn	21 44 55.1	-3.5
KHZ	Kahutara	11.38	211	ePn	Pn	21 43 57.7	+2.1
MSVF	Nonsavu	15.45	347	ePn	Pn	21 44 46.9	-4.1
	19nm,1.1s						
WHZ	Wether Hill Ro	16.63	215	ePn	Pn	21 45 02.6	-3.3
	143nm,1.7s						
DZM	Mont Dzumac	17.18	305	eP	P	21 45 18.0	+3.7
	70nm,1.4s						
DZM				eLR	LR	21 49 33.2	
	798nm,23.5s						
DZM	Mont Dzumac	17.18	305	P	P	21 45 14.7	+0.4
	0.3nm,0.3s,baz=90,slow=24,SNR=2.6						
TBI	Tubuai	27.23	77	eLR	LR	21 53 46.5	
	216nm,28.2s						
TBI	Tubuai	27.23	77	eT	T	22 14 36.8	
	9.4nm,0.3s						
EIDS	Eidsvold	27.56	278	eP	P	21 46 59.7	+0.4
	24nm,1.4s						
PAE	Paea	30.10	67	eT	T	22 18 09.0	
	3.6nm,0.3s						
PPT2	Papeete2	30.14	67	eLR	LR	21 55 00.6	
	132nm,22.0s						
VAH	Vaihoa	33.04	65	eT	T	22 21 49.5	
	6.6nm,0.3s						
STKA	Stephens Creek	33.59	261	P	P	21 47 53.2	+0.7
	5.0nm,1.1s,baz=77,slow=9.2,SNR=4.1						
STKA	Stephens Creek	33.59	261	eP	P	21 47 53.2	+0.7
	22nm,3.0s						
CTA	Charters Tower	33.89	283	P	P	21 47 55.4	+0.1
	14nm,0.6s,baz=114,slow=11,SNR=17						
CTAO	Charters Tower	33.89	283	eP	P	21 47 55.5	+0.3
	16nm,0.7s						
RKT	Rikitea	39.39	87	eLR	LR	21 59 22.6	
	265nm,28.2s						
COEN	Coen	39.64	289	eP	P	21 48 44.9	+0.7
	246nm,2.5s						
AS01	Alice Springs	42.59	270	eP	P	21 49 07.3	-1.1
AS12	Alice Springs	42.63	270	eP	P	21 49 08.1	-0.7
AS31	Alice Springs	42.63	270	eP	P	21 49 07.9	-0.9
ASAR	Alice Springs	42.63	270	P	P	21 49 08.1	-0.7
	7.8nm,0.8s,baz=109,slow=7.5,SNR=44						
WRAB	Tennant Creek	43.84	275	eP	P	21 49 16.8	-1.8
	16nm,0.7s						
WRA	Warramunga Arr	43.85	275	P	P	21 49 17.3	-1.3
	17nm,0.6s,baz=114,slow=8.0,SNR=189						
FORT	Forrest	45.06	258	eP	P	21 49 26.7	-1.4
	91nm,1.6s						
QSPA	South Pole Qui	57.19	180	eP	P	21 50 58.8	-0.1
	12nm,1.0s						
SNAA	Sanae	75.65	179	P	P	21 52 57.5	+0.8
SNAA	Sanae	75.65	179	P	P	21 52 54.6	-2.1
	7.9nm,1.1s						
VNA1	Neumayer--Stat	76.48	177	P	P	21 53 10.2	+8.9
KSRS	Korea Array	86.01	320	P	P	21 53 50.4	-1.8
	0.9nm,0.8s,baz=135,slow=5.6,SNR=5.6						
KSAR	Wonju Array Be	86.02	320	P	P	21 53 50.4	-1.9
NVAR	Mina Array Bea	90.36	43	P	P	21 54 16.5	+3.2
	0.4nm,0.5s,baz=229,slow=8.2,SNR=3.6						
MKAR	Makanchi Array	119.06	309	PKP	PKPdf	21 59 58.4	-1.9
	0.5nm,0.6s,baz=155,slow=1.7,SNR=5.8						
ZALV	Zalesovo Beam	119.63	318	PKP	PKPdf	21 59 59.9	-1.2
	0.6nm,0.5s,baz=151,slow=3.4,SNR=4.0						
KKAR	Karatay Array	126.10	302	ePKPdf	PKPdf	22 00 13.3	-0.6
BVAR	Borovoye Array	127.90	314	PKP	PKPdf	22 00 16.2	-0.9
	1.4nm,0.5s,baz=137,slow=1.5,SNR=11						
AKTO	Aktyubinsk	135.46	311	PKP	PKPdf	22 00 30.5	-0.9
	1.4nm,0.6s,baz=36,slow=1.0,SNR=8.6						
OBN	Obninsk	146.97	323	PKPbc	PKPdf	22 00 51.4	-0.4
	8.1nm,0.7s,baz=4.6,slow=12,SNR=4.0						
FINES	FINESS Array B	147.35	338	PKPbc	PKPdf	22 00 53.2	+1.0
	21nm,0.8s,baz=71,slow=3.2,SNR=43						
ASF	Jabal al Asfar	150.25	278	PKPbc	PKPbc	22 01 02.2	-1.0
	0.8nm,0.4s,baz=154,slow=1.1,SNR=4.7						
NB2	NORSAR Subarra	151.17	350	PKP	PKPdf	22 01 02.6	+4.1
	comp=Z,1.5nm,0.6s,baz=18,slow=2.6						
NOA	NORSAR Array B	151.17	350	PKPbc	PKPdf	22 01 03.2	+4.7
	comp=Z,1.7nm,0.7s,baz=14,slow=4.1,SNR=11						
EIL	Elat	151.32	273	PKPbc	PKPbc	22 01 05.2	-0.5
	comp=Z,9.9nm,0.7s,baz=30,slow=3.7,SNR=11						
HFS	Hagfors	151.62	347	PKPbc	PKPbc	22 01 04.4	-1.0
	comp=Z,2.9nm,0.6s,baz=132,slow=2.2,SNR=15						
MMAI	Mount Meron Ar	151.64	280	PKPbc	PKPbc	22 01 06.2	-0.2
	comp=Z,6.2nm,0.6s,baz=80,slow=6.0,SNR=14						
AKASG	Malin Array Be	153.00	319	PKPbc	PKPbc	22 01 07.7	-1.1
	comp=Z,1.3nm,0.4s,baz=59,slow=2.1,SNR=11						
CLL	Collm	159.80	339	ePKPab	PKPab	22 01 47.0	-2.3
TORD	Torodi Ar. Bea	160.31	180	PKPab	PKPab	22 02 00.1	+7.7
	comp=Z,2.3nm,0.8s,baz=176,slow=2.6,SNR=9.3						

IDC 07 21:42:18.5±3.8, 35°.54N×140°.71E, h36km±35km, mb3.3/3, mb1 3.6/7, mb1mx3.3/28, mbtmp3.7/7, ML3.3/3, MS1.7/1, Ms1 1.7/1, ms1mx1.7/15, Error ellipse: s-maj=39.4km s-min=22.7km az=62.0
JMA 07 21:42:19.8±0.1, 35°.39N×140°.36E, h59km±2km, M3.1
JMA Felt I J1.
ISCJB 07 21:42:20.0±0.7, 35°.32N±0°.05×140°.30E±0°.07, h62km±4km, mb3.5/3, Error ellipse: s-maj=11.2km s-min=6.3km az=137.3
ISC 07 21:42:21.4±1.0, 35°.31N±0°.06×140°.26E±0°.06, h55km±7km, n19, σ1s.06/26, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I30JP	ISUMI INFRASON	0.04	95	Pn	Pn	21 42 28.8	-0.9
I30JP				Sn	Sn	21 42 36.4	+0.8
JCN	Nagara	0.12	335	P	Pn	21 42 29.3	-0.6
JCN				eS	Sn	21 42 36.5	+0.5
KTR	Katsuura	0.17	165	P	Pn	21 42 29.4	-0.7
KTR				eS	Sn	21 42 36.1	-0.2
BSO4	Boso 4	0.33	169	P	Pn	21 42 30.9	-0.2
BSO4				eS	Sn	21 42 39.8	+1.7
BSO3	Boso 3	0.55	158	P	Pn	21 42 32.7	-0.5
BSO3				eS	Sn	21 42 42.0	+0.2
BSO1	Boso 1	0.88	138	P	Pn	21 42 35.8	-1.4
JIM2	Oshima 3	0.90	229	P	Pn	21 42 37.1	-0.9
JOD2	Odawara 2	0.96	267	P	Pn	21 42 38.2	-0.5
JOD2				eS	Sn	21 42 51.1	-0.5
JIZS	Izushimoda	1.28	243	P	Pn	21 42 42.5	-0.5
JIZS				eS	Sn	21 42 59.2	+0.1
JAG	Ashikaga	1.29	330	P	Pn	21 42 41.8	-1.3
JRY	Ryogami san	1.31	303	P	Pn	21 42 42.7	-0.8
MJAR	Matsushiro Arr	2.07	307	Pn	Pn	21 42 53.2	-0.6
	7.6nm,0.3s,baz=101,slow=14,SNR=44						
MJAR				Sn	Sn	21 43 19.8	+1.4
	4.9nm,0.3s,baz=160,slow=22,SNR=8.6						
MJAR				LR	LR	21 43 40.3	
	comp=Z,17nm,20.8s,baz=125,slow=37						
MAT	Matsushiro	2.07	307	P	Pn	21 42 52.9	-0.9
MAT				S	Sn	21 43 18.1	-0.3
JNU	Nakatsue	8.07	257	Pn	Pn	21 44 19.6	+3.6
	0.2nm,0.3s,baz=306,slow=8.7,SNR=2.5						
JCJ	Chichijima	8.35	168	Pn	Pn	21 44 17.7	-2.2
	12nm,0.3s,baz=273,slow=20,SNR=6.4						
ASAJ	Asahikawa	8.98	11	Pn	Pn	21 44 22.0	-6.2
	0.6nm,0.3s,baz=258,slow=12,SNR=5.3						
MKAR	Makanchi Array	44.27	303	P	P	21 50 24.6	-0.8
	0.3nm,0.7s,baz=89,slow=9.2,SNR=2.9						
WRA	Warramunga Arr	55.24	187	P	P	21 51 49.4	+0.5
	0.4nm,0.3s,baz=2.1,slow=7.6,SNR=6.4						
ASAR	Alice Springs	58.96	187	P	P	21 52 17.4	+2.2
	0.2nm,0.4s,baz=18,slow=12,SNR=4.3						

DDA 07 21:45:07.4, 37°.75N×36°.10E, h19km, ML4.2
ISK 07 21:45:08.1, 37°.70N×36°.13E, h6km, ML3.7
CSEM 07 21:45:08.8±0.1, 37°.70N×36°.14E, h2km, ML4.2, Error ellipse: s-maj=3.0km s-min=2.5km az=152.0
ISN 07 21:45:26.9±2.0, 39°.39N×38°.37E, h1km±7km, ML4.3
ISC 07 21:45:09.7±0.8, 37°.69N±0°.02×36°.12E±0°.02, h12km±6km, n109, σ1s.22/119, 7C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANDN	Andirin	0.21	122	iP	Pg	21 45 13.6	-0.8
ANDN				iS	Sg	21 45 18.1	+0.5
ANDN	Andirin	0.21	122	iP	Pg	21 45 13.6	-0.8
ANDN				iS	Sg	21 45 18.1	+0.5
KOZT	Kozan	0.31	228	ePG	Pg	21 45 14.7	-1.5
KOZT				eSG	Sg	21 45 20.5	+0.1
KOZT	Kozan	0.31	228	ePg	Pg	21 45 14.7	-1.5
KOZT				eSg	Sg	21 45 20.5	+0.1
KMRS	Kahramanmaras	0.65	106	ePG	Pg	21 45 21.2	-1.1
KMRS	Kahramanmaras	0.65	106	ePg	Pg	21 45 21.2	-1.1
KAMA	Osmaniye	0.67	139	iP	Pg	21 45 21.6	-1.2
KAMA				iS	Sg	21 45 30.8	-0.8
HCB	Kahramanmara¯	0.72	119	iP	Pg	21 45 22.5	-1.2
HCB				iS	Sb	21 45 33.9	-0.1
CEYT	Ceyhan	0.74	204	ePG	Pg	21 45 23.1	-1.0
CEYT	Ceyhan	0.74	204	ePg	Pg	21 45 23.1	-1.0
KARA	Karaisali	0.95	243	ePG	Pg	21 45 26.6	-1.5
KARA	Karaisali	0.95	243	ePg	Pg	21 45 26.6	-1.5
PINB	Pinarbasi	1.01	13	iP	Pb	21 45 25.3	-4.0
PINB				iS	Sg	21 45 39.9	-2.6
KUZU	Kuzuini	1.19	140	iP	Pn	21 45 31.9	-0.4
KUZU				iS	Sn	21 45 49.0	+0.6
KUZU	Kuzuini	1.19	140	iP	Pn	21 45 31.9	-0.4
KUZU				iS	Sn	21 45 49.0	+0.6
NIG	Nigde	1.26	290	ePN	Pn	21 45 31.2	-2.3
NIG	Nigde	1.26	290	ePn	Pn	21 45 31.2	-2.3
KRTS	Karatas	1.27	208	ePN	Pn	21 45 32.7	-0.5
KRTS	Karatas	1.27	208	ePn	Pn	21 45 32.7	-0.5
DARE	Darende-Malaty	1.39	50	ePN	Pn	21 45 33.5	-1.5
AVNT	Avonos	1.47	318	iP	Pn	21 45 33.5	-2.7
AVNT				iS	Sn	21 45 54.7	-0.8
MERS	Mersin	1.52	238	ePN	Pn	21 45 35.8	-1.0
MERS	Mersin	1.52	238	ePn	Pn	21 45 35.8	-1.0
AKCD	Akcadag	1.55	67	iP	Pn	21 45 37.2	-0.1
AKCD				iS	Sn	21 45 57.2	-0.1
AKCD	Akcadag	1.55	67	iP	Pn	21 45 37.2	-0.1
AKCD				iS	Sn	21 45 57.2	-0.1
BSTP	Nigde	1.61	280	iP	Pn	21 45 38.0	-0.1
BSTP				iS	Sb	21 46 00.1	+0.2
YAYL	Yayladag	1.65	180	iP	Pn	21 45 36.3	-2.4
YAYL				iS	Sn	21 45 57.6	-2.3
ATAB	Bozova	1.74	97	iP	Pn	21 45 38.5	-1.4
ATAB				iS	Sn	21 46 02.3	+0.3
ATAB	Bozova	1.74	97	iP	Pn	21 45 38.5	-1.4
ATAB				iS	Sn	21 46 02.3	+0.3
MALT	Malatya	1.93	71	ePN	Pn	21 45 42.0	-0.4
MALT	Malatya	1.93	71	⇓iP	Pn	21 45 41.7	-0.7
MALT	Malatya	1.93	71	S	Sn	21 46 06.9	+0.3
KIZK	Mersin	1.99	233	iP	Pn	21 45 43.5	+0.3
KIZK				iS	Sb	21 46 10.9	+0.3
KIZK	Mersin	1.99	233	iP	Pn	21 45 43.5	+0.3
KIZK				iS	Sb	21 46 10.9	+0.3
YOZ	Yozgat	2.04	342	ePN	Pn	21 45 44.3	+0.2
YOZ	Yozgat	2.04	342	ePn	Pn	21 45 44.3	+0.2
SULT	Sultanhani-AKS	2.12	285	ePN	Pn	21 45 45.2	+0.2
SULT	Sultanhani-AKS	2.12	285	ePn	Pn	21 45 45.3	+0.2
URFA	Urfa	2.16	96	ePN	Pn	21 45 45.6	-0.1
URFA	Urfa	2.16	96	ePn	Pn	21 45 45.6	-0.1
SVSK	Karacayir	2.33	17	ePN	Pn	21 45 47.7	-0.1
SVSK	Karacayir	2.33	17	ePn	Pn	21 45 47.7	-0.1
KEMA	Kemaliye	2.44	49	iP	Pn	21 45 48.9	-0.6
KEMA				iS	Sb	21 46 23.1	-0.6
KEMA	Kemaliye	2.44	49	iP	Pn	21 45 48.9	-0.6
KAMT	Kaman	2.52	312	ePN	Pn	21 45 50.9	+0.3
KAMT	Kaman	2.52	312	ePn	Pn	21 45 50.9	+0.3
ILIC	ilic-Erzincan	2.60	47	ePN	Pn	21 45 52.1	+0.4
ILIC	ilic-Erzincan	2.60	47	ePn	Pn	21 45 52.1	+0.4
SVRC	Sivrice-ELAZID	2.61	74	ePN	Pn	21 45 52.2	+0.3
SVRC	Sivrice-ELAZID	2.61	74	ePn	Pn	21 45 52.2	+0.3
TOKA	Tokat	2.64	6	iP	Pn	21 45 51.7	-0.5
TOKA				iS	Sn	21 46 26.7	+2.5
TOKA	Tokat	2.64	6	iP	Pn	21 45 51.7	-0.5
TOKA				iS	Sn	21 46 26.7	+2.5
TOKT	Tokat	2.65	7	ePN	Pn	21 45 51.8	-0.5
TOKT	Tokat	2.65	7	ePn	Pn	21 45 51.8	-0.5
EREN	Erenkoy	2.67	217	ePN	Pn	21 45 53.6	+1.1
EREN	Erenkoy	2.67	217	ePn	Pn	21 45 53.6	+1.1
CORM	Corum	2.74	335	ePN	Pn	21 45 54.0	+0.3
CORM	Corum	2.74	335	ePn	Pn	21 45 54.0	+0.3
ERMK	Ermenek	2.77	249	iP	Pn	21 45 56.0	+1.9
ERMK				iS	Sb	21 46 34.7	+1.6
ERMK	Ermenek	2.77	249	iP	Pn	21 45 56.0	+1.9
RSDY	Resadiye-TOKAT	2.86	19	ePN	Pn	21 45 55.5	+0.3
RSDY	Resadiye-TOKAT	2.86	19	ePn	Pn	21 45 55.5	+0.3
AFSR	Af¯ar-Bala (A	2.96	307	ePN	Pn	21 45 57.0	+0.3
AFSR	Af¯ar-Bala (A	2.96	307	ePn	Pn	21 45 57.0	+0.3
HDMB	Hadim	2.98	257	ePN	Pn	21 45 57.8	+0.7
HDMB	Hadim	2.98	257	ePn	Pn	21 45 57.8	+0.7
BBAL	Bala	2.99	309	iP	Pn	21 45 56.9	-0.1
BBAL				iS	Sb	21 46 37.4	-2.0
BBAL	Bala	2.99	309	iP	Pn	21 45 56.9	-0.1
KONT	Konya--Tatoy	2.99	276	ePN	Pn	21 45 57.8	+0.9
KONT	Konya--Tatoy	2.99	276	ePn	Pn	21 45 57.8	+0.9
SUSE	Susehri	2.99	32	iP	Pn	21 45 58.4	+1.2
SUSE				iS	Sn	21 46 36.0	+3.0
SUSE	Susehri	2.99	32	iP	Pn	21 45 58.4	+1.2
LADK	Ladik-KONYA	3.01	281	ePN	Pn	21 45 57.8	+0.5
LADK	Ladik-KONYA	3.01	281	ePn	Pn	21 45 57.8	+0.5
LFK	Lefkose	3.18	222	ePN	Pn	21 46 00.5	+0.8
LFK	Lefkose	3.18	222	ePn	Pn	21 46 00.5	+0.8
DYBB	Diyarbakir	3.19	84	ePN	Pn	21 46 00.4	+0.5
DIY	Diyarbakir	3.26	85	ePn	Pn	21 46 00.4	-0.3
ANTO	Ankara	3.39	311	ePN	Pn	21 46 04.0	+1.5
ANTO	Ankara	3.39	311	⇑iP	Pb	21 46 06.8	-2.9
ANTO	Ankara	3.39	311	S	Sg	21 46 57.8	-0.8
ANTO	Ankara	3.39	311	ePn	Pn	21 46 04.0	+1.5
ANTO	Ankara	3.39	311	⇑iP	Pb	21 46 06.8	-2.9
LOD	Lodumlu	3.42	311	ePN	Pn	21 46 03.6	+0.7
LOD	Lodumlu	3.42	311	ePn	Pn	21 46 03.6	+0.7
CANT	Cankiri	3.50	327	ePN	Pn	21 46 04.8	+0.8
CSS	Prodhromos	3.53	220	ePN	Pn	21 46 05.5	+1.1
CSS	Prodhromos	3.53	220	ePn	Pn	21 46 05.6	+1.1
KIZT	Kizilcal	3.54	291	ePN	Pn	21 46 05.5	+0.9
KIZT	Kizilcal	3.54	291	ePn	Pn	21 46 05.5	+0.9
MSL	Mosul	5.74	101	ePG	x	21 47 13.9	
MSL				eSG	x	21 48 27.7	
RTB	Rutbah	5.78	142	ePN	x	21 47 06.9	
RTB				eSN	x	21 48 14.7	
IKRK	Kirkuk	7.00	107	ePN	x	21 47 01.5	
IKRK				eSN	x	21 48 07.6	
MSAB	Monastry St. A	8.96	318	⇑iP	Pn	21 47 24.0	+5.1
IBDR	Badra	9.22	117	ePN	x	21 47 35.1	
IBDR				eSN	x	21 49 07.8	
CFR	Carcaliu	9.58	324	⇓iP	Pn	21 47 33.3	+5.9
NSR	Nassriya	10.63	126	ePN	x	21 48 02.1	
NSR				eSN	x	21 49 51.2	
VRI	Vrincioaia	10.76	322	⇓iP	Pn	21 47 48.7	+5.2
MLR	Muntele Rosu	10.89	319	⇑iP	Pn	21 47 51.2	+5.7
VTS	Vitosha	11.02	300	⇓iP	Pn	21 47 50.9	+3.6
TESR	Tescani	11.27	324	⇓iP	Pn	21 47 56.1	+5.6
BURAR	Bucovina Array	12.74	325	⇑iP	P	21 48 17.0	-4.9
BZS	Buzias	13.41	311	⇑iP	P	21 48 24.6	-4.7
DIVS	Divibare	13.77	303	⇑iP	P	21 48 29.3	-4.0
KOLS	Kolonicke sedl	15.06	323	eP	P	21 48 48.6	+1.0
KECS	Kecovo	15.68	318	eP	P	21 48 53.9	-0.5
STHS	Stebnicka Huta	15.89	322	eP	P	21 48 56.5	-0.3
DPC	Dobruska-Polom	18.97	318	eP	Pn	21 49 33.3	+1.8
DPC				epP	pP	21 49 36.9	+2.6
DPC				esP	sP	21 49 41.1	+5.2
KHC	Kasperske Hory	19.89	312	eP	Pn	21 49 46.8	+4.3

IDC 07 21:58:25.5±999.0, 2°.93S×77°.04W, h0km, Error ellipse: s-maj=1263.0km s-min=260.1km az=140.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I08BO	LAS PENAS INFR	15.67	148	i		23 32 30.0	
	baz=326,slow=325,SNR=2.8						

ISK 07 21:59:53.6, 37°.75N×36°.09E, h7km, MD3.2, ML3.2
DDA 07 21:59:53.4, 37°.74N×36°.11E, h24km, ML3.6
ISCJB 07 21:59:54.4±0.6, 37°.72N±0°.03×36°.08E±0°.03, h11km±5km, Error ellipse: s-maj=4.6km s-min=3.6km az=29.2
CSEM 07 21:59:54.5±0.2, 37°.73N×36°.08E, h10km, ML3.6, Error ellipse: s-maj=4.9km s-min=4.0km az=137.0
ISN 07 22:00:15.1±1.9, 38°.47N×39°.45E, h1km±9km, ML3.9
ISC 07 21:59:53.4±1.0, 37°.75N±0°.02×36°.09E±0°.02, h16km±9km, n54, σ0s.90/76, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANDN	Andirin	0.27	130	iP	Pb	22 00 00.0	+0.2
ANDN				iS	Sb	22 00 03.9	-0.2
ANDN	Andirin	0.27	130	iP	Pb	22 00 00.0	+0.2
ANDN				iS	Sb	22 00 03.9	-0.2
KOZT	Kozan	0.34	218	PG	Pg	22 00 00.7	+0.2
KOZT				eSG	Sb	22 00 06.6	+0.3
KOZT	Kozan	0.34	218	iPg	Pg	22 00 00.7	+0.2
KOZT				eSg	Sb	22 00 06.6	+0.3
KAMA	Osmaniye	0.73	141	iP	Pg	22 00 07.4	-0.3
KAMA				iS	Sg	22 00 17.1	-0.2
HCB	Kahramanmara¯	0.77	122	iP	Pb	22 00 08.3	-0.1
HCB				iS	Sb	22 00 19.2	+0.7
CEYT	Ceyhan	0.79	200	ePG	Pg	22 00 09.1	+0.3
CEYT	Ceyhan	0.79	200	ePg	Pg	22 00 09.1	+0.3
PINB	Pinarbasi	0.95	15	iP	Pb	22 00 11.8	+0.1
PINB				iS	Sn	22 00 25.8	+0.1
PINB	Pinarbasi	0.95	15	iP	Pb	22 00 11.8	+0.1
PINB				iS	Sn	22 00 25.8	+0.1
KARA	Karaisali	0.96	240	ePG	Pn	22 00 12.2	0.0
KARA	Karaisali	0.96	240	ePg	Pn	22 00 12.2	0.0
NIG	Nigde	1.22	287	ePN	Pg	22 00 17.3	+0.2
NIG	Nigde	1.22	287	ePn	Pg	22 00 17.3	+0.2
GZT	Gaziantep	1.24	108	iP	Pg	22 00 17.3	+0.1
GZT				iS	Sg	22 00 34.8	+1.4
KUZU	Kuzuini	1.25	141	iP	Pg	22 00 17.8	+0.2
KUZU				iS	Sg	22 00 33.9	0.0
KUZU	Kuzuini	1.25	141	iP	Pg	22 00 17.8	+0.2
KUZU				iS	Sg	22 00 33.9	0.0
KRTS	Karatas	1.31	206	ePN	Pg	22 00 18.4	-0.2
KRTS	Karatas	1.31	206	ePn	Pg	22 00 18.4	-0.2
DARE	Darende-Malaty	1.37	53	ePN	Pg	22 00 19.6	-0.1
DARE	Darende-Malaty	1.37	53	ePn	Pg	22 00 19.7	-0.1
AVNT	Avonos	1.41	317	iP	Pb	22 00 20.2	+0.7
AVNT				iS	Sg	22 00 39.0	-0.1
AVNT	Avonos	1.41	317	iP	Pb	22 00 20.2	+0.7
AVNT				iS	Sg	22 00 39.0	-0.1
MERS	Mersin	1.53	235	ePN	Pb	22 00 22.0	+0.6
MERS	Mersin	1.53	235	ePn	Pb	22 00 22.0	+0.6
AKCD	Akcadag	1.54	69	iP	Pg	22 00 23.1	0.0
AKCD				iS	Sb	22 00 41.5	+0.5
AKCD	Akcadag	1.54	69	iP	Pg	22 00 23.1	0.0
AKCD				iS	Sb	22 00 41.5	+0.5
YAYL	Yayladag	1.71	180	iS	Pn	22 00 22.3	-0.4
YAYL				iS	Sn	22 00 43.3	-1.0
YAYL	Yayladag	1.71	180	iP	Pn	22 00 22.3	-0.4
YAYL				iS	Sn	22 00 43.3	-1.0
ATAB	Bozova	1.77	99	iP	Pg	22 00 27.5	+0.1
ATAB				iS	Sb	22 00 47.8	+0.3
ATAB	Bozova	1.77	99	iP	Pg	22 00 27.5	+0.1
ATAB				iS	Sb	22 00 47.8	+0.3
MALT	Malatya	1.93	72	ePN	Pb	22 00 27.8	-0.4
MALT	Malatya	1.93	72	ePn	Pb	22 00 27.8	-0.4
YOZ	Yozgat	1.98	342	ePN	Pb	22 00 28.5	-0.6
YOZ	Yozgat	1.98	342	ePn	Pb	22 00 28.5	-0.6
KIZK	Mersin	2.01	231	iP	Pb	22 00 30.2	+0.7
KIZK				iS	Sg	22 00 57.4	-0.6
KIZK	Mersin	2.01	231	iP	Pb	22 00 30.2	+0.7
SULT	Sultanhani-AKS	2.08	283	ePN	Pb	22 00 30.0	-0.8
SULT	Sultanhani-AKS	2.08	283	ePn	Pb	22 00 30.0	-0.8
URFA	Urfa	2.19	97	ePN	Pb	22 00 31.5	-1.1
URFA	Urfa	2.19	97	ePn	Pb	22 00 31.5	-1.1
SVSK	Karacayir	2.27	18	ePN	Pb	22 00 32.6	-1.4
SVSK	Karacayir	2.27	18	ePn	Pb	22 00 32.6	-1.4
ELZG	Elazig	2.40	71	iP	Pn	22 00 34.2	+2.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ELZG				*i* S	Sb	22 01 08.3	+2.7
ELZG	Elazig	2.40	71	*i* P	Pn	22 00 34.2	+2.1
KEMA	Kemaliye	2.42	50	*i* P	Pb	22 00 35.1	-1.4
KEMA				*i* S	Sb	22 01 06.4	+0.3
KEMA	Kemaliye	2.42	50	*i* P	Pb	22 00 35.1	-1.4
KEMA				*i* S	Sb	22 01 06.4	+0.3
KAMT	Kaman	2.47	312	*e*PN	Pb	22 00 35.6	-1.8
KAMT	Kaman	2.47	312	*e*Pn	Pb	22 00 35.6	-1.8
DIYA	Diyarbakir	3.19	86	*i* P	Pg	22 00 54.7	+0.1
DIYA				*i* S	Sg	22 01 35.9	-0.1
MARD	Mardin	3.75	95	*i* P	Pn	22 00 51.8	+1.1
MARD				*i* S	Sg	22 01 50.2	-3.7
MSL	Mosul	5.77	101	*e*PG	x	22 01 35.8	
MSL				*e*SG	x	22 02 29.4	
RTB	Rutbah	5.84	143	*e*PN	x	22 01 38.2	
RTB				*e*SN	x	22 02 38.6	
IKRK	Kirkuk	7.04	107	*e*PN	x	22 01 31.9	
IKRK				*e*SN	x	22 02 26.2	

IDC 07 22:01:44.0±351.0**, 57°.02N×30°.31E, h0km, Error ellipse: s-maj=146.3km s-min=105.4km az=106.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	3.80	92	*i*		22 24 50.0	
	baz=276,slow=305,SNR=5.1						
I26DE	FREYUNG INFRAS	12.90	238	*i*		23 17 20.1	
	baz=43,slow=326,SNR=1.7						
I48TN	KESRA INFRASON	25.49	223	*i*		00 40 10.0	
	baz=25,slow=322,SNR=0.2						

IDC 07 22:09:36.5±999.0**, 2°.51S×77°.31W, h0km, Error ellipse: s-maj=1317.0km s-min=269.9km az=139.0, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I08BO	LAS PENAS INFR	16.18	148	*i*		23 45 30.0	
	baz=326,slow=325,SNR=5.3						
I41PY	VILLA FLORIDA	30.50	143	*i*		01 19 10.0	
	baz=318,slow=306,SNR=1.1						
I09BR	BRASILIA INFRA	31.67	116	*i*		01 22 03.5	
	baz=290,slow=322,SNR=6.4						

*IDC **07** 22:21:02.1±0.8, 35°.69N×67°.68E, h0km, mb4.0/16, mb1 4.2/21, mb1mx4.0/39, mbtmp4.0/21, ML3.8/4, MS3.4/16, Ms1 3.4/16, ms1mx3.2/36, Error ellipse: s-maj=17.4km s-min=12.9km az=0.0*
*ISCJB **07** 22:21:02.3±0.3, 35°.81N±0°.03×67°.71E±0°.04, h10km, mb3.9/23, MS3.4/14, Error ellipse: s-maj=4.7km s-min=3.3km az=142.2*
*NNC **07** 22:21:03.2±2.4, 35°.93N×67°.21E, h0km, mb4.6, mpv4.4, Error ellipse: s-maj=22.0km s-min=16.4km az=155.0*
*BJI **07** 22:21:06.1, 35°.95N×67°.78E, h17km, mb4.0/8, mB4.4/4, Ms3.8/3, Ms7 3.3/1*
*MOS **07** 22:21:06.1±0.9, 35°.87N×67°.76E, h33km, mb4.2/11, Error ellipse: s-maj=9.9km s-min=6.5km az=80.5*
*NEIC **07** 22:21:07.5±0.5, 35°.88N×67°.67E, h35km, mb4.1/9, Error ellipse: s-maj=8.6km s-min=7.3km az=174.0*
ISC 07 22:21:04.6±0.5**, 35°.87N**±0°.05×**67°.74E**±0°.05**, h10km, n120, σ1§89**/118**, mb4.0**/23**, MS3.4**/14**, 22C-8D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	1.71	141	*e*PN	Pn	22 21 33.2	-1.5
KBL				*e*		22 21 53.2	
KBL	Kabul	1.71	141	*e*Pn	Pn	22 21 33.2	-1.5
KBL				*e*Sn	Sn	22 21 53.2	-3.4
DZET	Dzherino	3.05	16	⇑Pn	Pn	22 21 55.5	+2.4
	38nm,0.5s						
DZET				⇑Pg	Pg	22 22 02.5	-0.6
	201nm,0.8s						
DZET				⇓Lg	Lg	22 22 44.2	
	352nm,0.5s						
CEP	Cherat	4.00	120	P	Pn	22 22 07.6	+1.5
THW	Thamme Wali	4.52	132	P	Pn	22 22 13.5	+0.3
CHCP	Chirah Chowk	5.06	114	P	Pn	22 22 22.0	+1.4
SFK	Sufi-Kurgan	6.15	46	⇑Pn	Pn	22 22 39.8	+4.0
	25nm,0.7s						
SFK				⇑Sn	Sn	22 23 55.3	+9.0
	64nm,0.7s						
KK31	Karatay Array	7.53	16	⇑Pn	Pn	22 22 55.7	+1.2
	5.2nm,0.4s,baz=205,slow=15,SNR=135						
KK31				⇑Sn	Sn	22 24 20.6	+0.6
	24nm,0.8s,baz=214,slow=40,SNR=5.4						
KK31	Karatay Array	7.53	16	*i* P	Pn	22 22 55.7	+1.2
KK31				pmax	pmax		
	comp=Z,5.0nm,0.2s						
KKAR	Karatay Array	7.53	16	*e*P	Pn	22 22 55.3	+0.8
KKAR				*e*		22 24 15.3	
KKAR	Karatay Array	7.53	16	*e*Pn	Pn	22 22 55.3	+0.8
KKAR				*e*Sn	Sn	22 24 15.3	-4.7
MNAS	Manas	7.57	28	⇓Pn	Pn	22 22 57.0	+1.8
	comp=Z,23nm,0.9s						
MNAS				⇑Sn	Sn	22 24 28.3	+7.3
MNAS				⇑Lg	Lg	22 25 09.4	
	comp=Z,72nm,1.3s						
AML	Almayashu	7.78	35	P	Pn	22 23 01.1	+2.9
	SNR=11						
DHRM	DHARAMSHALA	7.97	115	*e*P	Pn	22 23 01.7	+0.9
DHRM				*e*S	Sn	22 24 32.9	+1.8
DHRM				AML	AML	22 25 16.1	
	comp=E,96nm,0.4s						
DHRM				AML	AML	22 25 19.0	
	comp=N,105nm,0.7s						
EKS2	Erkin-Say	8.24	33	P	Pn	22 23 07.5	+3.2
	SNR=16						
EKS2	Erkin-Say	8.24	33	*e*P	Pn	22 23 06.0	+1.7
EKS2				*e*		22 24 36.3	
EKS2	Erkin-Say	8.24	33	*e*Pn	Pn	22 23 06.0	+1.7
EKS2				*e*Sn	Sn	22 24 36.3	-1.2
UCH	Uchtor	8.25	38	P	Pn	22 23 06.4	+1.7
	SNR=76						
KZA	Kyzart	8.52	41	P	Pn	22 23 09.8	+1.4
	SNR=38						
AAK	Ala-Archa	8.54	36	P	Pn	22 23 10.8	+2.2
	SNR=42						
AAK	Ala-Archa	8.54	36	⇓Pn	Pn	22 23 11.3	+2.7
	comp=N,24nm,0.6s						
AAK				⇓Sn	Sn	22 24 51.5	+6.4
	comp=N,32nm,0.9s						
AAK	Ala-Archa	8.54	36	Pn	Pn	22 23 10.6	+2.1
	comp=N,3.2nm,0.3s,baz=231,slow=9.4,SNR=96						
AAK				Sn	Sn	22 24 50.3	+5.3
	comp=N,0.9nm,0.3s,baz=223,slow=16,SNR=3.3						
AAK	Ala-Archa	8.54	36	⇓*e*P	Pn	22 23 11.6	+3.1
AAK	Ala-Archa	8.54	36	*e*Pn	Pn	22 23 10.6	+2.1
AAK				*e*Sn	Sn	22 24 44.9	-0.2
FRU	Bishkek	8.76	35	*e*P	Pn	22 23 13.0	+1.7
FRU				*e*S	Sn	22 24 56.0	+5.9
KBK	Karagaybulak	8.78	37	P	Pn	22 23 14.3	+2.5
	SNR=61						
CHMS	Chumysh	8.95	35	P	Pn	22 23 16.7	+2.7
	SNR=46						
ULHL	Ulahol	9.18	44	P	Pn	22 23 18.6	+1.4
	SNR=25						
SMLA	Simla	9.19	118	*e*x	x	22 23 12.9	
SMLA				*e*P	Pn	22 23 17.4	+0.2
SMLA				*e*S	Sn	22 25 00.8	+0.2
SMLA				AML	AML	22 26 03.0	
	comp=E,55nm,0.9s						
SMLA				AML	AML	22 26 03.7	
	comp=N,67nm,0.8s						
TKM2	Tokmak 2	9.30	38	P	Pn	22 23 20.9	+2.0
	SNR=16						
TKM2	Tokmak 2	9.30	38	⇑Pn	Pn	22 23 19.5	+0.6
	comp=N,11nm,0.7s						
TKM2				⇑Sn	Sn	22 25 08.6	+4.9
	comp=N,36nm,1.0s						
TKM2				⇑Lg	Lg	22 26 06.1	
	comp=N,21nm,1.2s						
TKM2	Tokmak 2	9.30	38	*e*P	Pn	22 23 19.0	+0.1
TKM2				*e*		22 24 59.7	
TKM2	Tokmak 2	9.30	38	*e*Pn	Pn	22 23 19.0	+0.1
TKM2				*e*Sn	Sn	22 24 59.7	-4.0
DDI	Dehra Dun	10.27	120	*e*P	Pn	22 23 31.9	-0.2
PDGK	Podgornoye	11.72	47	⇑Pn	Pn	22 23 53.5	+1.7
	comp=N,8.8nm,0.8s						
OTUK	Ortayu	12.82	14	⇓Pn	Pn	22 24 06.2	-0.7
	comp=N,10nm,0.8s						
AB31	Akbulak array	14.54	339	⇑Pn	Pn	22 24 28.2	-2.2
	comp=N,2.4nm,0.7s,baz=143,slow=13,SNR=27						
AB31				⇑Sn	Sn	22 27 03.6	-7.9
	comp=N,6.7nm,0.8s,baz=147,slow=26,SNR=5.4						
ABKAR	Akbulak array	14.54	339	*e*Pn	Pn	22 24 28.0	-2.4
ABKAR				Sn	Sn	22 27 04.1	-7.4
BHPL	Bhopal	15.14	144	*e*P	Pn	22 24 36.3	-2.3
MK01	Makanchi Array	15.41	41	*e*Pn	Pn	22 24 42.0	-0.1
MK31	Makanchi Array	15.42	41	Pn	Pn	22 24 42.6	+0.5
	comp=N,8.0nm,0.9s,baz=231,slow=13,SNR=20						
MK31	Makanchi Array	15.42	41	*e*P	Pn	22 24 42.1	-0.1
MK31	Makanchi Array	15.42	41	*e*Pn	Pn	22 24 42.1	-0.1
MKAR	Makanchi Array	15.42	41	Pn	Pn	22 24 41.5	-0.6
	comp=N,0.2nm,0.3s,baz=230,slow=12,SNR=22						
MKAR				LR	LR	22 31 22.7	
	comp=N,142nm,18.2s,baz=216,slow=40						
MKAR	Makanchi Array	15.42	41	*e*Pn	Pn	22 24 42.8	+0.6
AKTO	Aktyubinsk	16.17	337	⇑Pn	Pn	22 24 50.7	-1.2
	comp=N,6.2nm,0.8s						
AKTO				⇑Sn	Sn	22 27 48.2	-2.9
	comp=N,14nm,1.3s						
AKTO	Aktyubinsk	16.17	337	Pn	Pn	22 24 49.4	-2.4
	comp=N,0.3nm,0.3s,baz=146,slow=13,SNR=9.9						
AKTO				LR	LR	22 30 40.9	
	comp=N,66nm,18.6s,baz=148,slow=36						
GKN	Gorkha	16.34	114	*e*P	Pn	22 24 50.5	-3.8
	comp=N,99nm,1.0s						
KURK	Kurchatov	16.79	25	*e*P	Pn	22 25 00.4	+0.7
KURK				pmax	pmax		
	comp=Z,15nm,1.1s						
KURK	Kurchatov	16.79	25	*e*Pn	Pn	22 25 00.3	+0.7
	comp=Z,15nm,1.1s						
DMN	Daman	16.90	114	*e*P	Pn	22 24 57.2	-4.4
	comp=Z,41nm,0.9s						
KKN	Kakani	16.93	114	*e*P	Pn	22 24 58.0	-3.9
	comp=Z,33nm,0.6s						
PKIN	Phulchoki	17.13	114	*e*P	Pn	22 25 00.5	-4.0
	comp=Z,16nm,0.5s						
MAK	Makhachkala	17.14	301	*e*P	P	22 25 14.3	+8.5
MAK				MLR	MLR		
	comp=Z,318nm,13.0s						
PKI	Pulchoki	17.15	114	*e*P	Pn	22 25 00.5	-4.2
	comp=Z,77nm,1.1s						
BVA0	Borovoye Array	17.25	5	⇓Pn	Pn	22 25 04.0	-1.6
	comp=Z,6.0nm,0.7s,baz=172,slow=13,SNR=13						
BVAR	Borovoye Array	17.25	5	Pn	Pn	22 25 02.6	-2.9
	comp=Z,0.3nm,0.3s,baz=173,slow=13,SNR=9.1						
BRVK	Borovoye	17.27	5	⇑Pn	Pn	22 25 03.5	-2.3
	comp=Z,20nm,1.1s						
BRVK	Borovoye	17.27	5	*e*P	Pn	22 25 02.7	-3.1
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BRVK	Borovoye	17.27	5	*e*Pn	Pn	22 25 02.7	-3.1
	comp=Z,8.9nm,0.7s						
GUN	Gumba	17.32	112	*e*P	Pn	22 25 04.6	-2.3
	comp=Z,135nm,1.0s						
JIRN	Jiri	17.68	112	*e*P	Pn	22 25 09.0	-2.4
	comp=Z,94nm,1.2s						
RAMN	Ramite	18.37	114	*e*P	Pn	22 25 16.6	-3.2
	comp=Z,49nm,1.0s						
GNI	Garni	18.60	290	P	P	22 25 21.2	-1.0
	comp=Z,0.3nm,0.3s,baz=172,slow=20,SNR=2.3						
GNI				LR	LR	22 34 44.4	
	comp=Z,66nm,18.1s,baz=95,slow=44						
GNI	Garni	18.60	290	⇑*i*P	Pn	22 25 26.8	+4.4
GNI				pmax	pmax		
	comp=Z,14nm,1.2s						
GNI	Garni	18.60	290	*e*P	P	22 25 19.7	-2.5
	comp=Z,16nm,1.0s						
TAPN	Taplejung	18.99	111	*e*P	P	22 25 26.2	-0.5
	comp=Z,16nm,0.6s						
ODAN	Odare	19.01	113	*e*P	P	22 25 25.9	-1.0
	comp=Z,47nm,1.0s						
NCK	Nalchik	20.03	300	⇑*e*P	P	22 25 38.9	+1.2
KBZ	Khabaz	20.58	300	P	P	22 25 42.8	-0.8
	comp=Z,1.9nm,0.8s						
LSA	Lhasa	20.60	101	P	P	22 25 45.6	+1.1
LSA	Lhasa	20.60	101	*e*P	P	22 25 46.3	+1.8
LSA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LSA	Lhasa	20.60	101	*e*P	P	22 25 46.2	+1.8
	comp=Z,7.2nm,0.9s						
KIV	Kislovodsk	20.78	300	*e*P	P	22 25 47.8	+1.9
KIV				*e*S	S	22 29 37.3	-0.6
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,85nm,14.0s						
GOF	Gofitskoye	20.84	304	*e*P	P	22 25 48.2	+1.8
ARU	Arti	21.48	346	*d i*P	P	22 25 54.3	+1.1
ARU						22 26 13.6	
ARU				S	S	22 29 50.9	-0.4
ARU				SS	SnSn	22 30 14.1	-0.3
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ARU	Arti	21.48	346	*e*P	P	22 25 51.9	-1.3
	comp=Z,8.4nm,1.0s						
SVE	Sverdlovsk	21.50	349	*e*P	P	22 25 54.8	+1.4
SVE				*e*S	S	22 29 49.1	-2.5
SVE				pmax	pmax		
	comp=Z,15nm,1.1s						
ZAA0	Zalesovo Array	21.65	28	*e*P	P	22 25 54.3	-0.6
ZALV	Zalesovo Beam	21.65	28	P	P	22 25 55.4	+0.4
	comp=Z,9.5nm,0.8s,baz=223,slow=10,SNR=27						
ZALV				LR	LR	22 35 31.8	
	comp=Z,75nm,18.2s,baz=258,slow=40						
RAYN	Ar Rayn	22.84	243	*e*P	P	22 26 07.9	-0.1
	comp=Z,2.4nm,1.0s						
SHL	Shillong	23.11	110	*e*P	P	22 26 12.0	+1.0
GTA	Gaotai	25.57	72	*e*P	P	22 26 35.2	+1.3
GTA				pP	pP	22 26 40.9	+4.0
GTA				sP	sP	22 26 44.1	+5.9
GTA				S	S	22 30 57.5	-4.3
GTA				PMZ			
	comp=Z,3.0nm,1.2s						
GTA				PMZ			
	comp=Z,34nm,5.1s						
GTA				LN			
	comp=Z,180nm,16.6s						
GTA				LE			
	comp=Z,86nm,16.2s						
GTA				LZ			
	comp=Z,64nm,15.7s						
MMAI	Mount Meron Ar	26.75	273	LR	LR	22 38 59.3	
	comp=Z,78nm,18.2s,baz=80,slow=40						
BR131	Keskin Array S	27.12	288	*e*P	P	22 26 46.8	-1.2
	comp=Z,4.0nm,0.9s						
BRTR	Keskin Array B	27.12	288	P	P	22 26 48.6	+0.7
	comp=Z,4.8nm,0.9s,baz=102,slow=8.6,SNR=17						
BRTR				LR	LR	22 39 39.4	
	comp=Z,33nm,18.1s,baz=95,slow=41						
BRTR	Keskin Array B	27.12	288	*i* P	P	22 26 49.2	+1.3
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BR231	Keskin MP Arra	27.78	289	*e*P	P	22 26 49.9	-3.8
EIL	Elat	28.17	267	LR	LR	22 39 25.5	
	comp=Z,94nm,18.0s,baz=73,slow=39						
OBN	Obninsk	28.74	322	LR	LR	22 40 37.1	
	comp=Z,88nm,19.8s,baz=92,slow=41						
OBN	Obninsk	28.74	322	⇑*e*P	P	22 27 02.3	+0.3
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SONM	Songino Array	30.86	55	P	P	22 27 22.5	+1.4
	comp=Z,1.7nm,0.9s,baz=258,slow=10,SNR=15						
SONM				LR	LR	22 41 02.3	
	comp=Z,172nm,21.6s,baz=260,slow=39						
AKASG	Malin Array Be	31.31	310	LR	LR	22 42 20.6	
	comp=Z,93nm,19.5s,baz=105,slow=41						
AKASG	Malin Array Be	31.31	310	*ce*P	P	22 27 26.5	+1.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	Chiang Mai Arr	32.55	114	P	P	22 27 35.6	-0.4
	comp=Z,0.9nm,0.4s,baz=297,slow=8.6,SNR=8.2						
CMAR				LR	LR	22 42 51.7	
	comp=Z,64nm,19.6s,baz=210,slow=40						
STHS	Stebnicka Huta	36.20	307	*e*P	P	22 28 03.2	-4.2
STHS				pmax	pmax		
	comp=Z,2.0nm,1.5s						
FINES	FINESS Array B	36.56	328	P	P	22 28 10.9	+0.7
	comp=Z,1.7nm,0.6s,baz=123,slow=10.0,SNR=7.9						
FINES				LR	LR	22 44 55.5	
	comp=Z,66nm,18.9s,baz=61,slow=39						
FINES	FINESS Array B	36.56	328	P	P	22 28 11.0	+0.7
KECS	Kecovo	36.65	305	*e*P	P	22 28 05.6	-5.6
KECS				pmax	pmax		
	comp=Z,3.0nm,1.6s						
KECS	Kecovo	36.65	305	*e*	P	22 28 05.6	-5.6
BOD	Bodaibo	37.51	39	*e*P	P	22 28 17.5	-0.8
CUC	Castrocucco	40.69	292	*e*P	P	22 28 47.6	+2.4
	comp=Z,3.7nm,0.8s						
ARCES	ARCESS Array B	40.74	339	P	P	22 28 45.8	+0.5
	comp=Z,2.5nm,0.8s,baz=137,slow=12,SNR=5.0						
ARCES				LR	LR	22 46 23.1	
	comp=Z,30nm,20.4s,baz=32,slow=37						
GERES	GERESS Array B	41.14	306	P	P	22 28 48.8	-0.2
	comp=Z,0.2nm,0.5s,baz=87,slow=8.1,SNR=4.4						
GERES				LR	LR	22 48 46.7	
	comp=Z,51nm,18.3s,baz=74,slow=40						
CLL	Collm	41.54	309	*e*P	P	22 28 59.0	+6.9
NB2	NORSAR Subarra	43.30	324	P	P	22 29 06.0	-0.4
	comp=Z,2.6nm,1.1s,baz=100,slow=8.6						
NOA	NORSAR Array B	43.30	324	P	P	22 29 05.7	-0.7
	comp=Z,0.6nm,0.6s,baz=100,slow=8.1,SNR=4.3						
NOA				LR	LR	22 50 22.0	
	comp=Z,68nm,18.1s,baz=100,slow=40						
TIXI	Tiksi	47.34	22	⇑*i*P	P	22 29 39.6	+1.4
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TIXI	Tiksi	47.34	22	*e*P	P	22 29 39.0	+0.8
	comp=Z,3.5nm,0.8s						
KSAR	Wonju Array Be	47.55	69	P	P	22 29 40.3	0.0
KSAR	Wonju Array Be	47.55	69	P	P	22 29 40.3	0.0
KSRS	Korea Array	47.58	69	P	P	22 29 40.3	-0.2
	comp=Z,0.7nm,0.4s,baz=280,slow=7.3,SNR=3.9						
KSRS				LR	LR	22 52 41.3	
	comp=Z,33nm,18.0s,baz=282,slow=40						
KSRS	Korea Array	47.58	69	P	P	22 29 40.3	-0.2
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KSRS				MLR	MLR		
	comp=Z,33nm,18.0s						
ESDC	Sonseca Array	55.40	297	P	P	22 30 39.1	0.0
	comp=Z,0.1nm,0.2s,baz=64,slow=8.4,SNR=6.6						
TORD	Torodi Ar. Bea	63.05	267	P	P	22 31 30.1	-2.3
	comp=Z,2.0nm,0.9s,baz=51,slow=5.4,SNR=9.6						
ILAR	Eielson Array	76.07	15	P	P	22 32 50.6	-1.4
	comp=Z,1.0nm,0.9s,baz=322,slow=5.4,SNR=9.7						
YKA	Yellowknife Ar	81.95	1	P	P	22 33 22.5	-1.7
	comp=Z,1.7nm,0.8s,baz=352,slow=5.2,SNR=7.4						
WRA	Warramunga Arr	83.94	120	P	P	22 33 33.8	-1.3
	comp=Z,0.6nm,0.6s,baz=322,slow=4.6,SNR=5.8						
ASAR	Alice Springs	86.10	123	P	P	22 33 45.0	-1.0
	comp=Z,1.1nm,0.8s,baz=300,slow=4.6,SNR=7.7						
ASAR	Alice Springs	86.10	123	P	P	22 33 45.0	-1.0

IDC 07 22:22:49.5±7.2**, 27°.61S×177°.88W, h365km**±64km**, mb3.3**/6**, mb1 3.5**/8**, mb1mx3.3**/27**, mbtmp4.2**/8**, Error ellipse: s-maj=44.3km s-min=26.9km az=72.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.26	288	P	P	22 26 07.1	+0.8
	0.4nm,0.3s,baz=90,slow=24,SNR=10						
RPZ	Rata Peaks	18.38	206	P	P	22 26 40.4	+0.8
	0.3nm,0.3s,baz=18,slow=17,SNR=3.0						
STKA	Stephens Creek	35.30	253	P	P	22 29 11.7	+0.3
	1.5nm,0.8s,baz=111,slow=9.7,SNR=3.6						
ASAR	Alice Springs	43.43	264	P	P	22 30 17.4	-0.6
	0.9nm,0.7s,baz=116,slow=8.4,SNR=6.8						
WRA	Warramunga Arr	44.17	269	P	P	22 30 22.9	-0.9
	1.4nm,0.6s,baz=107,slow=7.3,SNR=16						
WRA				PcP	PcP	22 32 03.1	+1.6
	1.2nm,0.8s,baz=112,slow=3.5,SNR=5.0						
MJAR	Matsushiro Arr	76.02	325	P	P	22 33 56.1	-1.4
	1.3nm,0.6s,baz=168,slow=6.1,SNR=5.8						
KSRS	Korea Array	82.30	319	P	P	22 34 31.9	+0.8
	0.6nm,0.3s,baz=135,slow=7.4,SNR=6.4						
USRK	Ussuriysk Ar.	84.90	326	P	P	22 34 44.7	+0.7
	2.4nm,0.8s,baz=130,slow=5.1,SNR=7.4						
MKAR	Makanchi Array	116.04	311	PKP	PKPdf	22 40 49.1	-0.3
	0.7nm,0.8s,baz=298,slow=2.6,SNR=3.2						
FINES	FINESS Array B	142.56	341	PKP	PKPdf	22 41 35.9	-2.9
	0.9nm,0.7s,baz=300,slow=4.2,SNR=4.8						
NB2	NORSAR Subarra	146.02	352	PKP	PKPdf	22 41 45.1	+0.2
	comp=Z,1.0nm,0.7s,baz=12,slow=3.0						
NOA	NORSAR Array B	146.02	352	PKPbc	PKPdf	22 41 45.4	+0.5
	comp=Z,1.3nm,1.1s,baz=5.2,slow=4.9,SNR=5.1						
AKASG	Malin Array Be	149.11	326	PKPbc	PKPbc	22 41 55.0	+0.1
	comp=Z,2.9nm,0.6s,baz=40,slow=3.4,SNR=13						
BRTR	Keskin Array B	151.27	303	PKPbc	PKPbc	22 42 00.9	+0.4
	comp=Z,0.7nm,0.7s,baz=122,slow=3.2,SNR=4.3						
TORD	Torodi Ar. Bea	165.60	178	PKPab	PKPab	22 43 10.6	-1.7
	comp=Z,0.8nm,0.9s,baz=210,slow=8.1,SNR=3.6						

*ISCJB **07** 22:56:16.9±0.4, 38°.88N±0°.03×75°.19E±0°.06, h10km, mb3.6/11, MS3.2/1, Error ellipse: s-maj=6.6km s-min=4.7km az=169.3*
*BJI **07** 22:56:19.7, 39°.07N×75°.13E, h18km, ML3.7/7*
*IDC **07** 22:56:20.4±5.7, 39°.01N×75°.14E, h33km±39km, mb3.6/11, mb1 3.7/14, mb1mx3.5/45, mbtmp3.7/14, ML3.0/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/35, Error ellipse: s-maj=29.1km s-min=19.5km az=166.0*
*NNC **07** 22:56:20.7±1.4, 39°.12N×75°.11E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=12.3km s-min=8.0km az=155.0*
ISC 07 22:56:17.6±0.6**, 38°.90N**±0°.05×**75°.11E**±0°.06**, h10km, n49, σ1§92**/48**, mb3.8**/11**, 18C-3D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	0.91	47	⇑*i*Pg	Pg	22 56 29.0	-6.2
KSH				Sg	Sg	22 56 34.5	-13
KSH				SMN			
	11μm,0.2s						
KSH				SME			
	14μm,0.2s						
SFK	Sufi-Kurgan	1.67	312	⇓Pn	Pg	22 56 50.5	+0.8
	139nm,0.4s						
SFK				⇑Lg	Lg	22 57 10.8	
	463nm,0.3s						
KZA	Kyzart	3.18	2	P	Pn	22 57 09.5	+1.5
	SNR=19						
UCH	Uchtor	3.36	352	P	Pn	22 57 12.4	+1.8
	SNR=14						
AML	Almayashu	3.41	342	P	Pn	22 57 13.7	+2.5
	SNR=6.1						
ULHL	Ulahol	3.46	14	P	Pn	22 57 13.0	+1.4
	SNR=9.4						
KBK	Karagaybulak	3.76	358	P	Pn	22 57 17.9	+2.2
	SNR=29						
AAK	Ala-Archa	3.76	353	P	Pn	22 57 18.5	+2.6
	SNR=5.3						
AAK	Ala-Archa	3.76	353	⇑Pn	Pn	22 57 17.9	+2.1
	1.6nm,0.4s						
AAK				⇑Pg	Pb	22 57 24.7	+0.5
	15nm,0.5s						
AAK				⇑Lg	Lg	22 58 15.1	
	74nm,0.8s						
AAK	Ala-Archa	3.76	353	Pn	Pn	22 57 18.2	+2.4
	1.4nm,0.3s,baz=136,slow=7.0,SNR=7.8						
AAK				Sn	Sn	22 58 00.9	+0.6
	8.1nm,0.3s,baz=140,slow=23,SNR=5.8						
AAK				Lg	Lg	22 58 14.8	
	8.3nm,0.3s,baz=274,slow=22,SNR=6.0						
EKS2	Erkin-Say	3.90	345	P	Pg	22 57 30.2	-2.0
	SNR=6.4						
TKM2	Tokmak 2	4.04	5	P	Pn	22 57 21.7	+2.0
	SNR=50						
TKM2	Tokmak 2	4.04	5	⇑Pn	Pn	22 57 21.6	+2.0
	12nm,0.3s						
TKM2				⇑Pg	Pb	22 57 30.1	+1.2
	12nm,0.3s						
TKM2				⇑Lg	Lg	22 58 19.7	
	47nm,0.5s						
MNAS	Manas	4.10	332	⇑Pn	Pn	22 57 23.2	+2.7
	0.7nm,0.2s						
MNAS				⇑Pg	Pb	22 57 32.2	+2.3
	13nm,0.9s						
MNAS				⇑Sn	Sn	22 58 10.0	+1.5
	11nm,0.4s						
MNAS				⇑Lg	Lg	22 58 25.1	
	31nm,0.6s						
CHMS	Chumysh	4.11	356	P	Pn	22 57 22.7	+2.2
	SNR=8.1						
USP	Ospenovka	4.39	354	P	Pb	22 57 37.6	+2.7
	SNR=11						
KNDC	Almaty	4.54	17	Pg	Pb	22 57 39.3	+1.9
KNDC				Lg	Lg	22 58 36.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZET	Dzherino	4.91	271	⇑Pn	Pn	22 57 35.6	+4.1
	9.3nm,0.4s						
DZET				⇓Sn	Sn	22 58 32.1	+3.7
	50nm,0.5s						
DZET				⇑Lg	Lg	22 58 55.4	
	73nm,0.5s						
CHCP	Chirah Chowk	5.44	197	P	Pb	22 57 47.9	-4.7
KK31	Karatay Array	5.46	322	⇓Pn	Pn	22 57 40.2	+1.2
	1.7nm,0.3s,baz=143,slow=16,SNR=3.9						
KK31				⇑Sn	Sn	22 58 40.5	-1.3
	6.3nm,0.4s,baz=129,slow=22,SNR=5.6						
KK31				⇑Lg	Lg	22 59 08.4	
	26nm,0.9s,baz=142,slow=28,SNR=3.9						
PDGK	Podgornoye	5.52	35	Pn	Pn	22 57 40.9	+1.1
PDGK				Pg	Pb	22 57 56.1	+2.0
PDGK				Lg	Lg	22 59 09.7	
CEP	Cherat	5.68	208	P	Pb	22 57 50.6	-6.3
CEP				S	Sn	22 58 56.0	+8.4
DLH	Dalhousie	6.38	173	eP	Pn	22 58 00.0	+8.2
DLH				ex	x	22 59 11.0	
THW	Thamme Wali	6.67	205	P	Pn	22 58 03.2	+7.5
SMLA	Simla	7.93	167	i P	Pn	22 58 19.6	+6.8
SMLA				i S	Sn	22 59 45.1	+2.4
MK31	Makanchi Array	9.49	31	Pn	Pn	22 58 34.9	+0.7
	11nm,1.4s,baz=218,slow=18,SNR=5.6						
MKAR	Makanchi Array	9.49	31	Pn	Pn	22 58 34.9	+0.7
	0.1nm,0.3s,baz=207,slow=15,SNR=6.9						
MKAR				LR	LR	23 02 36.3	
	comp=Z,44nm,20.3s,baz=182,slow=40						
KALG	Kalgarh	9.84	161	eS	Sn	23 00 33.1	+3.6
BHGR	Bahadurgarh	10.29	171	ex	x	23 00 33.7	
WMQ	Urumqi	10.66	58	eP	Pn	22 58 53.0	+2.7
KUDL	Kundal	10.79	173	eP	Pn	22 58 57.9	+5.9
KUDL				eS	Sn	23 00 51.6	-1.2
KUDL				AML	AML	23 00 59.8	
	comp=N,5.1nm,0.2s						
KUDL				AML	AML	23 01 01.5	
	comp=E,7.7nm,0.3s						
AGRA	Agra	11.87	168	eS	Sn	23 01 18.4	-1.0
AGRA				AML	AML	23 02 01.5	
	comp=E,70nm,0.5s						
AGRA				AML	AML	23 02 01.8	
	comp=N,87nm,0.8s						
BVA0	Borovoye Array	14.50	349	⇑Pn	Pn	22 59 45.5	+2.8
	comp=N,2.2nm,0.7s,baz=157,slow=9.8,SNR=8.8						
BVAR	Borovoye Array	14.50	349	Pn	Pn	22 59 44.2	+1.4
	baz=156,slow=13,SNR=2.3						
AB31	Akbulak array	15.01	319	⇑Pn	Pn	22 59 47.2	-2.4
	comp=N,2.7nm,0.8s,baz=119,slow=15,SNR=13						
ZALV	Zalesovo Beam	16.45	21	Pn	Pn	23 00 06.2	-2.1
	baz=200,slow=11,SNR=3.1						
SONM	Songino Array	24.30	58	P	P	23 01 35.2	0.0
	comp=N,0.1nm,0.3s,baz=278,slow=9.9,SNR=2.6						
BRTR	Keskin Array B	31.90	285	P	P	23 02 44.0	+0.8
	comp=N,1.4nm,0.8s,baz=86,slow=8.0,SNR=8.3						
FINES	FINESS Array B	37.42	323	P	P	23 03 29.6	-0.8
	comp=N,0.9nm,0.4s,baz=123,slow=11,SNR=12						
ARCES	ARCESS Array B	40.25	336	P	P	23 03 53.0	-1.1
	comp=N,1.0nm,0.5s,baz=102,slow=9.1,SNR=10						
GERES	GERESS Array B	44.26	304	P	P	23 04 27.5	+0.2
	comp=N,0.4nm,0.7s,baz=57,slow=7.2,SNR=3.9						
NB2	NORSAR Subarra	44.49	321	P	P	23 04 27.2	-1.6
	comp=Z,1.0nm,0.5s,baz=90,slow=8.6						
NOA	NORSAR Array B	44.49	321	P	P	23 04 27.6	-1.2
	comp=Z,1.4nm,0.6s,baz=90,slow=8.0,SNR=6.8						
SPITS	Spitsbergen Ar	45.94	346	LR	LR	23 26 47.3	
	comp=Z,24nm,18.8s,baz=95,slow=40						
ESDC	Sonseca Array	59.22	298	P	P	23 06 17.5	-1.5
	comp=Z,0.4nm,0.5s,baz=55,slow=6.7,SNR=4.7						
TORD	Torodi Ar. Bea	69.00	270	P	P	23 07 22.3	-1.2
	comp=Z,0.9nm,0.5s,baz=46,slow=5.6,SNR=20						
ILAR	Eielson Array	71.55	18	P	P	23 07 35.5	-2.8
	comp=Z,0.1nm,0.4s,baz=292,slow=5.4,SNR=4.7						
DBIC	Dimbokro	78.04	269	P	P	23 08 16.1	-0.7
	comp=Z,4.0nm,1.0s,baz=270,slow=3.7,SNR=3.0						
YKA	Yellowknife Ar	78.65	5	P	P	23 08 17.7	-1.6
	comp=Z,0.3nm,0.4s,baz=352,slow=3.8,SNR=3.4						

*ISCJB **07** 23:00:54.9±0.6, 6°.84S±0°.05×128°.13E±0°.09, h309km, mb3.8/7, Error ellipse: s-maj=12.8km s-min=6.9km az=170.4*
*IDC **07** 23:00:54.2±1.9, 6°.91S×128°.10E, h284km±21km, mb3.6/8, mb1 3.8/11, mb1mx3.5/33, mbtmp4.4/11, Error ellipse: s-maj=18.7km s-min=10.1km az=69.0*
ISC 07 23:00:55.9±0.7**, 6°.87S**±0°.07×**128°.2E**±0°.1**, h309**km**, n11, σ1s.42**/14**, mb3.8**/7**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.69	27	P	Pn	23 02 33.9	+0.1
	3.3nm,0.3s,baz=325,slow=22,SNR=10						
SIJI				S	S	23 03 50.2	-2.8
	2.1nm,0.3s,baz=73,slow=21,SNR=6.8						
WRA	Warramunga Arr	14.29	156	P	P	23 04 04.1	-0.6
	6.9nm,0.3s,baz=331,slow=12,SNR=99						
WRA				S	S	23 06 40.0	-1.6
	0.1nm,0.3s,baz=330,slow=21,SNR=9.4						
ASAR	Alice Springs	17.57	162	P	P	23 04 41.0	+0.5
	6.4nm,0.3s,baz=342,slow=12,SNR=262						
ASAR				S	S	23 07 46.1	-0.8
	baz=340,slow=20,SNR=8.0						
LEM	Lembang	20.46	269	P	P	23 05 09.5	-1.7
	20nm,0.6s,baz=64,slow=7.1,SNR=3.9						
CTA	Charters Tower	21.88	129	P	P	23 05 25.7	+1.5
	3.3nm,0.6s,baz=303,slow=12,SNR=3.6						
STKA	Stephens Creek	27.83	155	P	P	23 06 18.2	+0.7
	2.9nm,0.4s,baz=333,slow=8.0,SNR=21						
PSI	Prapat	30.78	287	P	P	23 06 43.0	-0.9
	7.0nm,0.5s,baz=95,slow=12,SNR=5.8						
SONM	Songino Array	57.78	343	P	P	23 10 17.2	+1.8
	0.3nm,0.4s,baz=154,slow=7.1,SNR=4.7						
MKAR	Makanchi Array	67.16	328	P	P	23 11 17.6	+0.6
	1.0nm,0.5s,baz=119,slow=8.0,SNR=30						
ZALV	Zalesovo Beam	70.70	335	P	P	23 11 38.5	+0.1
	0.9nm,0.6s,baz=126,slow=7.5,SNR=4.8						
SEY	Seymchan	72.02	11	P	P	23 11 47.1	+0.9
	1.2nm,0.6s,baz=172,slow=21,SNR=3.9						

*KRSC **07** 23:15:11.2±1.1, 59°.96N×166°.87E, h16km±7km, ML4.1*
*ISCJB **07** 23:15:13.2±0.3, 60°.01N±0°.03×166°.53E±0°.07, h10km, mb3.9/20, MS2.8/2, Error ellipse: s-maj=5.7km s-min=4.0km az=43.3*
*IDC **07** 23:15:13.4±0.8, 60°.00N×166°.56E, h0km, mb3.8/14, mb1 4.0/16, mb1mx3.9/31, mbtmp3.8/16, ML2.3/2, MS2.7/4, Ms1 2.8/4, ms1mx2.5/36, Error ellipse: s-maj=25.5km s-min=15.0km az=169.0*
*MOS **07** 23:15:13.7±0.8, 60°.06N×166°.42E, h15km, mb4.1/9, Error ellipse: s-maj=21.8km s-min=8.8km az=80.3*
*NEIC **07** 23:15:19.1±2.9, 59°.95N×166°.49E, h44km±27km, mb4.1/10, Error ellipse: s-maj=21.8km s-min=7.0km az=176.0*
ISC 07 23:15:14.9±0.5**, 60°.01N**±0°.05×**166°.46E**±0°.05**, h10**km**, n68, σ0s.87**/72**, mb3.9**/20**, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TILK	Tilichiki	0.47	340	eP	Pg	23 15 23.6	-0.3
TILK				eS	Sg	23 15 30.3	+0.2
OSSR	Ossora	1.89	248	eP	Pn	23 15 47.2	+0.1
OSSR				eS	Sn	23 16 11.6	+0.7
PALN	Palana	3.43	257	eP	Pn	23 16 11.3	+3.0
PALN				eS	Sb	23 16 54.4	-3.0
KBTR	Krutoberegovo	4.27	208	eP	Pn	23 16 20.9	+1.0
KBTR				eS	Sn	23 17 10.4	+0.7
KBTR	Krutoberegovo	4.27	208	PN	Pn	23 16 20.9	+1.0
BKI	Bering	4.83	183	eP	Pn	23 16 27.6	+0.1
BKI	Bering	4.83	183	PN	Pn	23 16 27.6	+0.1
KMNR	Kamenistaya	5.41	221	eP	Pn	23 16 36.5	+1.0
KMNR	Kamenistaya	5.41	221	PN	Pn	23 16 36.5	+1.0
MKZ	Mys Kozlova	6.04	207	eP	Pn	23 16 45.6	+1.5
MKZ	Mys Kozlova	6.04	207	PN	Pn	23 16 45.6	+1.5
SEY	Seymchan	7.35	300	Pn	Pn	23 17 02.8	+0.7
	0.5nm,0.3s,baz=109,slow=13,SNR=8.1						
GNL	Ganaly	7.86	220	eP	Pn	23 17 10.4	+1.2
GNL	Ganaly	7.86	220	PN	Pn	23 17 10.4	+1.2
PEA2	Petropavlovsk-	8.44	219	ePn	Pn	23 17 18.5	+1.5
PETK	Petropavlovsk-	8.44	219	Pn	Pn	23 17 18.5	+1.5
	0.0nm,0.3s,baz=53,slow=20,SNR=2.5						
PETK				LR	LR	23 21 03.0	
	comp=Z,27nm,19.3s,baz=101,slow=41						
YAK	Yakutsk	17.78	292	LR	LR	23 26 25.6	
	comp=Z,26nm,20.7s,baz=248,slow=38						
IM04	Indian Mountai	18.74	55	eP	Pn	23 19 34.1	+0.3
MLY	Manley	20.06	57	eP	Pn	23 19 49.1	-0.5
	3.3nm,1.1s						
TRF	Thorofare Moun	20.47	62	eP	P	23 19 52.0	-0.5
	25nm,2.0s						
BWN	Browne	20.71	59	eP	P	23 19 55.7	+0.8
	7.3nm,0.6s						
WRH	Wood River Hil	21.25	58	eP	P	23 20 01.7	+0.9
	3.9nm,0.9s						
CCB	Clear Creek Bu	21.35	58	eP	P	23 20 02.6	+0.9
	4.7nm,1.2s						
IL1	Eielson Array	21.72	57	eP	P	23 20 05.5	-0.3
ILAR	Eielson Array	21.72	57	P	P	23 20 06.3	+0.6
	1.6nm,0.9s,baz=268,slow=8.5,SNR=21						
ILAR				LR	LR	23 29 42.6	
	comp=Z,36nm,18.1s,baz=261,slow=40						
ILAR	Eielson Array	21.72	57	P	P	23 20 06.3	+0.6
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR				MLR	MLR		
	comp=Z,36nm,18.1s						
ILB	Eielson Array	21.72	57	eP	P	23 20 06.3	+0.6
EGAK	Eagle	24.12	56	eP	P	23 20 30.3	-0.1
	comp=Z,3.5nm,1.0s						
INK	Inuvik	26.36	46	P	P	23 20 50.3	-0.3
	comp=Z,1.6nm,0.5s,baz=298,slow=13,SNR=4.2						
INK	Inuvik	26.36	46	eP	P	23 20 50.3	-0.3
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	Inuvik	26.36	46	eP	P	23 20 50.3	-0.3
	comp=Z,2.6nm,0.6s						
BOD	Bodaibo	26.59	289	eP	P	23 20 50.9	-1.9
YKA	Yellowknife Ar	35.85	51	P	P	23 22 13.7	-0.4
	comp=Z,0.7nm,0.6s,baz=306,slow=8.0,SNR=3.8						
YKA	Yellowknife Ar	35.85	51	P	P	23 22 13.7	-0.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKB5	Yellowknife Ar	35.85	51	eP	P	23 22 13.7	-0.4
SONA1	Songino Array	36.10	278	eP	P	23 22 16.9	+0.2
SONA0	Songino Array	36.12	278	eP	P	23 22 17.4	+0.7
SONA0				ePcP	PcP	23 24 41.9	-0.4
SONM	Songino Array	36.12	278	P	P	23 22 17.5	+0.7
	comp=Z,0.7nm,0.7s,baz=48,slow=6.4,SNR=4.3						
SONM				PcP	PcP	23 24 41.9	-0.4
	comp=Z,0.3nm,0.5s,baz=108,slow=1.9,SNR=3.4						
SONM	Songino Array	36.12	278	P	P	23 22 17.5	+0.7
SONM						23 24 41.9	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SPA0	Spitsbergen Ar	40.86	351	eP	P	23 22 56.4	+0.2
SPITS	Spitsbergen Ar	40.86	351	P	P	23 22 56.4	+0.2
	comp=Z,5.0nm,1.0s,baz=78,slow=9.4,SNR=4.5						
SPITS	Spitsbergen Ar	40.86	351	P	P	23 22 56.4	+0.2
SPITS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WALA	Waterton Lakes	44.70	67	eP	P	23 23 27.7	-0.1
	comp=Z,7.0nm,1.1s						
KURK	Kurchatov	47.20	300	eP	P	23 23 47.3	0.0
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KURK	Kurchatov	47.20	300	eP	P	23 23 47.2	0.0
	comp=Z,6.5nm,0.9s						
MK32	Makanchi Array	48.45	294	eP	P	23 23 56.4	-0.6
MKAR	Makanchi Array	48.45	294	P	P	23 23 56.4	-0.6
	comp=Z,0.3nm,0.5s,baz=56,slow=6.1,SNR=2.9						
MK01	Makanchi Array	48.46	294	eP	P	23 23 55.8	-1.4
NV01	Mina Array Sit	50.52	80	eP	P	23 24 12.9	-0.3
NVAR	Mina Array Bea	50.52	80	P	P	23 24 12.9	-0.3
	comp=Z,0.3nm,0.4s,baz=321,slow=7.0,SNR=3.2						
PD31	Pinedale Array	51.41	70	eP	P	23 24 19.6	-0.2
PDAR	Pinedale Array	51.41	70	P	P	23 24 19.6	-0.2
	comp=Z,1.1nm,0.7s,baz=349,slow=4.5,SNR=5.7						
FIA0	FINESS Array S	55.09	338	eP	P	23 24 47.2	+0.9
FIA0	FINESS Array S	55.09	338	eP	P	23 24 47.2	+0.9
FINES	FINESS Array B	55.09	338	P	P	23 24 47.2	+0.9
	comp=Z,1.4nm,0.7s,baz=144,slow=33,SNR=2.4						
FINES	FINESS Array B	55.09	338	P	P	23 24 47.2	+0.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
EYMN	Ely	55.28	53	eP	P	23 24 48.0	0.0
	comp=Z,4.2nm,0.8s						
ABKAR	Akbulak array	55.97	311	eP	P	23 24 53.0	+0.1
NB200	NORSAR Array S	57.77	346	eP	P	23 25 05.5	0.0
NOA	NORSAR Array B	57.77	346	P	P	23 25 05.5	0.0
	comp=Z,0.8nm,0.6s,baz=14,slow=7.3,SNR=3.5						
NOA				LR	LR	23 51 04.8	
	comp=Z,7.1nm,20.1s,baz=210,slow=37						
NOA	NORSAR Array B	57.77	346	P	P	23 25 05.5	0.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,7.0nm,20.1s						
CMAR	Chiang Mai Arr	62.97	260	P	P	23 25 42.0	+0.4
	comp=Z,2.1nm,0.3s,baz=9.7,slow=7.5,SNR=4.5						
CMAR	Chiang Mai Arr	62.97	260	P	P	23 25 42.0	+0.4
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	Malin Array Be	64.36	331	P	P	23 25 49.4	-0.8
	comp=Z,0.2nm,0.2s,baz=44,slow=2.8,SNR=2.2						
TXAR	Lajitas Array	65.01	74	P	P	23 25 55.3	+0.3
	comp=Z,0.6nm,1.0s,baz=335,slow=4.0,SNR=4.1						
TXAR	Lajitas Array	65.01	74	P	P	23 25 55.3	+0.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	Alice Springs	87.53	210	P	P	23 28 02.5	0.0
	comp=Z,0.5nm,0.8s,baz=9.8,slow=6.0,SNR=3.5						
ASAR	Alice Springs	87.53	210	P	P	23 28 02.5	0.0
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*JMA **07** 23:17:54.8±0.2, 37°.34N×141°.91E, h34km±4km, M3.1*
*IDC **07** 23:18:00.1±4.6, 37°.21N×142°.00E, h70km±42km, mb3.2/4, mb1 3.3/5, mb1mx3.1/24, mbtmp3.4/5, ML2.6/1, Error ellipse: s-maj=34.2km s-min=28.4km az=109.0*
ISC 07 23:17:52.6±2.3**, 37°.35N**±0°.05×**141°.95E**±0°.08**, h6**km±12km**, n14, σ1s.47**/22**, mb3.5**/4**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.86	271	P	Pb	23 18 10.3	+0.4
JFK				eS	Sg	23 18 20.7	+0.5
ONAJ	Iwakimizuishiy	0.95	255	P	Pg	23 18 11.5	+0.6
ONAJ				eS	Sg	23 18 22.9	-0.3
JMM	Marumori	1.05	299	P	Pb	23 18 13.3	+0.1
JMM				eS	Sg	23 18 25.1	-1.3
JIO	Ouri	1.20	337	P	Pn	23 18 15.6	-0.2
JIO				eS	Sb	23 18 29.8	-1.6
JFT	Otama	1.30	278	P	Pn	23 18 17.1	-0.1
JFT				eS	Sb	23 18 33.4	-0.8
JHO	Hitachi	1.33	237	P	Pn	23 18 16.6	-1.1
JHO				eS	Sb	23 18 32.7	-2.5
JOU	Okura	1.44	315	P	Pn	23 18 19.8	+0.7
JOU				eS	Sn	23 18 37.8	-0.5
JMK	Ichinoseki	1.70	340	P	Pn	23 18 23.2	+0.5
MJAR	Matsushiro Arr	3.10	256	P	Pn	23 18 45.4	+3.3
	0.8nm,0.3s,baz=88,slow=15,SNR=7.6						
MJAR				S	Sb	23 19 23.5	-2.8
	1.3nm,0.3s,baz=85,slow=11,SNR=5.2						
MAT	Matsushiro	3.11	256	P	Pn	23 18 44.2	+2.1
MAT				eS	Sn	23 19 22.7	+3.2
SONM	Songino Array	27.97	303	P	P	23 23 44.3	+0.4
	0.3nm,0.6s,baz=90,slow=8.6,SNR=3.7						
MKAR	Makanchi Array	44.31	302	P	P	23 26 03.3	+0.1
	0.7nm,0.8s,baz=85,slow=8.7,SNR=3.1						
ILAR	Eielson Array	48.99	33	P	P	23 26 40.2	+0.7
	0.3nm,0.8s,baz=246,slow=6.5,SNR=3.3						
WRA	Warramunga Arr	57.44	189	P	P	23 27 41.0	-1.1
	1.0nm,0.9s,baz=12,slow=5.1,SNR=4.1						

*IDC **07** 23:25:13.9±2.1, 29°.86S×177°.15W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/17, mbtmp3.9/3, Error ellipse: s-maj=48.6km s-min=25.7km az=53.0*
ISC 07 23:25:17.5±1.9**, 29°.9S**±0°.2×**177°.1W**±0°.3**, h24**km**, n7, σ0s.86**/8**, mb4.0**/3**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.92	312	Pn	Pb	23 25 34.5	-0.4
	649nm,0.3s,baz=98,slow=7.4,SNR=42						
RAO				Sn	Sn	23 25 48.0	+0.5
	694nm,0.3s,baz=40,slow=22,SNR=9.0						
STKA	Stephens Creek	35.33	256	P	P	23 32 11.7	+0.7
	0.7nm,0.4s,baz=105,slow=13,SNR=5.4						
ASAR	Alice Springs	43.89	266	P	P	23 33 21.4	-1.0
	0.4nm,0.3s,baz=99,slow=7.5,SNR=8.0						
WRA	Warramunga Arr	44.83	271	P	P	23 33 29.7	-0.3
	1.4nm,0.4s,baz=110,slow=7.9,SNR=9.1						
SONM	Songino Array	103.26	318	Pdiff	Pdif	23 39 16.4	+1.3
	0.4nm,0.6s,baz=125,slow=5.3,SNR=3.7						
MKAR	Makanchi Array	118.01	310	PKP	PKPdf	23 44 02.2	+0.2
	0.3nm,0.6s,baz=107,slow=8.6,SNR=4.2						
FINES	FINESS Array B	144.91	341	PKP	PKPdf	23 44 51.6	-0.2
	1.0nm,0.4s,baz=82,slow=3.0,SNR=12						

KRSC 07 23:26:25.1±1.0**, 60°.05N**×**166°.70E, h30**km±11km**, ML3.7, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TILK	Tilichiki	0.48	325	eP	Pn	23 26 36.1	+0.2
TILK				eS	Sb	23 26 42.0	-0.2
OSSR	Ossora	2.01	248	eP	Pb	23 26 59.4	-1.6
OSSR				eS	Sb	23 27 23.5	-2.1
KBTR	Krutoberegovo	4.37	210	eP	Pn	23 27 33.4	+4.1
BKI	Bering	4.88	185	eP	Pn	23 27 40.5	+4.3
TUMR	Tumrok	5.93	219	eP	Pn	23 27 57.4	+6.5
MKZ	Mys Kozlova	6.13	208	eP	Pn	23 27 58.7	+5.3

*ISCJB **07** 23:33:56.4±1.1, 11°.22S±0°.08×166°.1E±0°.2, h61km, mb3.8/5, Error ellipse: s-maj=30.0km s-min=10.8km az=171.4*
*IDC **07** 23:33:57.8±9.3, 11°.15S×166°.18E, h58km±92km, mb3.6/5, mb1 3.9/6, mb1mx3.5/30, mbtmp3.9/6, ML4.2/1, MS3.3/6, Ms1 3.4/6, ms1mx3.1/20, Error ellipse: s-maj=64.3km s-min=33.2km az=158.0*
ISC 07 23:33:58.3±1.2**, 11°.2S**±0°.1×**166°.2E**±0°.2**, h61**km**, n17, σ1s.23**/8**, mb3.7**/5**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.86	179	P	Pn	23 36 32.3	+1.2
	1.7nm,0.3s,baz=266,slow=23,SNR=12						
DZM				S	Sn	23 38 29.9	-1.3
	0.4nm,0.3s,baz=94,slow=24,SNR=2.1						
H11S2	WAKE ISLAND Hy	29.46	1	T	T	00 10 23.9	
	baz=181,slow=76,SNR=20						
H11S3	WAKE ISLAND Hy	29.46	1	T	T	00 10 24.2	
	baz=181,slow=76,SNR=15						
H11S1	WAKE ISLAND Hy	29.48	1	T	T	00 10 25.5	
	baz=181,slow=76,SNR=14						
H11N1	WAKE ISLAND Hy	30.68	1	T	T	00 11 55.7	
	baz=182,slow=76,SNR=3.2						
H11N3	WAKE ISLAND Hy	30.68	1	T	T	00 11 54.4	
	baz=182,slow=76,SNR=4.8						
H11N2	WAKE ISLAND Hy	30.70	1	T	T	00 11 55.4	
	baz=182,slow=76,SNR=4.0						
WRA	Warramunga Arr	31.83	250	P	P	23 40 17.2	-0.4
	0.8nm,0.6s,baz=82,slow=9.0,SNR=5.9						
GUMO	Guam	32.41	319	LR	LR	23 54 39.7	
	comp=Z,30nm,18.5s,baz=96,slow=38						
ASAR	Alice Springs	33.11	244	P	P	23 40 28.1	-0.7
	0.4nm,0.7s,baz=64,slow=10,SNR=3.8						
ASAR				LR	LR	23 52 13.3	
	comp=Z,110nm,20.5s,baz=198,slow=33						
PPT	Papeete	43.28	104	LR	LR	23 57 10.6	
	comp=Z,37nm,21.4s,baz=18,slow=32						
PETK	Petropavlovsk-	64.41	354	LR	LR	00 07 45.4	
	comp=Z,17nm,20.2s,baz=131,slow=32						
CMAR	Chiang Mai Arr	72.53	293	P	P	23 45 19.9	+0.6
	0.6nm,0.3s,baz=172,slow=34,SNR=3.9						
ILAR	Eielson Array	83.48	18	P	P	23 46 17.8	-1.3
	0.6nm,0.7s,baz=231,slow=5.4,SNR=6.8						
ILAR				LR	LR	00 17 41.7	
	comp=Z,21nm,21.5s,baz=122,slow=31						
MKAR	Makanchi Array	93.88	317	P	P	23 47 09.2	0.0
	0.7nm,0.8s,baz=76,slow=6.4,SNR=3.0						
TXAR	Lajitas Array	95.52	61	LR	LR	00 23 19.0	
	comp=Z,22nm,19.9s,baz=0.0,slow=31						
ARCES	ARCESS Array B	116.54	346	PKP	PKPdf	23 52 36.2	+1.4
	1.6nm,0.7s,baz=60,slow=4.8,SNR=3.9						

IDC 07 23:42:13.4±1.4**, 32°.61S**×**179°.39E, h431**km±17km**, mb3.1**/3**, mb1 3.3**/4**, mb1mx3.0**/24**, mbtmp4.0**/4**, Error ellipse: s-maj=27.9km s-min=20.7km az=114.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.07	35	P	P	23 43 28.5	+0.5
	112nm,0.3s,baz=257,slow=24,SNR=3.3						
URZ	Urewera	5.94	198	P	P	23 43 46.2	+0.1
	5.8nm,0.3s,baz=274,slow=5.6,SNR=44						
URZ				S	S	23 45 01.6	-0.5
	3.1nm,0.3s,baz=79,slow=23,SNR=13						
CTA	Charters Tower	32.07	285	P	P	23 48 03.9	+0.8
	3.0nm,0.7s,baz=130,slow=7.9,SNR=3.8						
ASAR	Alice Springs	40.84	271	P	P	23 49 15.8	-0.3
	0.5nm,0.7s,baz=106,slow=7.6,SNR=5.9						
WRA	Warramunga Arr	42.03	276	P	P	23 49 25.2	-0.4
	0.8nm,0.4s,baz=114,slow=8.0,SNR=7.6						
FINES	FINESS Array B	146.38	337	PKPbc	PKPdf	00 01 02.5	+0.5
	0.7nm,0.4s,baz=56,slow=3.2,SNR=9.0						
TORD	Torodi Ar. Bea	160.51	187	PKPab	PKPab	00 02 07.9	+0.8
	0.3nm,0.9s,baz=172,slow=4.2,SNR=4.4						

*ISCJB **07** 23:59:27.1±0.3, 33°.84N±0°.02×118°.42W±0°.02, h19km±3km, Error ellipse: s-maj=3.3km s-min=2.5km az=140.7*
*NEIC **07** 23:59:27.4, 33°.86N×118°.46W, h11km, ML3.7(PAS), After PAS.*
NEIC Felt [IV] at Inglewood and Wilmington and [III] at Culver City, El Segundo, Gardena, Hawthorne, Hermosa Beach, Huntington Park, Lawndale, Lomita, Long Beach, Los Angeles, Manhattan Beach, Playa del Rey, Redondo Beach, San Pedro and Torrance. Felt in Los Angeles and Orange Counties.
ISC 07 23:59:26.6±0.8**, 33°.87N**±0°.02×**118°.43W**±0°.02**, h16**km±6km**, n93, σ0s.96**/108**, Southern California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FMP	Fort Macarthur	0.20	144	P	Pg	23 59 31.2	0.0
	baz=0.2						
FMP				S	Sg	23 59 34.3	-0.1
	baz=0.2						
FMP	Fort Macarthur	0.20	144	ePg	Pg	23 59 31.5	+0.3
DJJ	Donna J Jenkin	0.23	355	ePg	Pg	23 59 32.1	+0.3
GVRC	Garvey Reservo	0.31	56	ePg	Pb	23 59 34.0	+0.2
PASC	Pasadena Art C	0.36	34	ePg	Pg	23 59 34.2	+0.2
PASC				eSg	Sg	23 59 37.1	-2.1
DECC	Green Verdugo	0.39	13	P	Pg	23 59 34.9	+0.4
	baz=0.4						
DECC				S	Sb	23 59 40.9	+0.1
	baz=0.4						
BLCC	Black Canyon	0.42	332	ePg	Pb	23 59 35.9	+0.2
CIS	Catalina Islan	0.47	177	P	Pg	23 59 35.9	0.0
	baz=0.5						
CIS				S	Sg	23 59 42.2	0.0
	baz=0.5						
MWC	Mount Wilson	0.47	41	ePg	Pg	23 59 36.3	+0.2
MWC				eSg	Sg	23 59 42.2	-0.2
CIAC	Catalina I. Ai	0.47	178	ePg	Pg	23 59 36.2	+0.2
IR2C	Iron Canyon	0.52	3	ePg	Pb	23 59 37.5	+0.3
BLG	Laguna Peak, P	0.58	294	P	Pg	23 59 37.7	-0.3
	baz=0.6						
BALC	Balcom Canyon	0.62	314	ePg	Pb	23 59 39.4	+0.4
SBI	Santa Barbara	0.63	232	ePg	Pb	23 59 39.3	+0.1
CHNC	Chino	0.64	78	ePg	Pg	23 59 39.5	+0.4
SSK	Sunset Peak	0.70	61	ePg	Pg	23 59 40.5	+0.2
LRRC	Littlerock Res	0.73	27	ePg	Pg	23 59 41.0	+0.1
BFSC	Mount Baldy Ra	0.74	60	P	Pg	23 59 41.4	+0.3
	baz=0.8						
BFSC	Mount Baldy Ra	0.74	60	ePg	Pg	23 59 41.3	+0.3
HOLC	Holcomb Ridge	0.76	40	ePg	Pg	23 59 41.8	+0.4
LEOC	Leona Valley	0.76	8	ePg	Pg	23 59 41.9	+0.4
OSI	Osito Audit: C	0.78	342	P	Pg	23 59 42.0	+0.3
	baz=0.8						
OSI	Osito Audit: C	0.78	342	ePg	Pg	23 59 42.1	+0.3
OSI				eSg	Sg	23 59 50.5	-1.6
BTPC	Burnt Peak	0.82	352	ePg	Pg	23 59 42.9	+0.4
FOXC	Fox Airport	0.89	11	ePg	Pg	23 59 44.1	+0.3
RVR	Riverside	0.89	82	ePg	Pb	23 59 43.9	+0.3
SCI	San Clemente I	0.90	186	P	Pb	23 59 43.8	+0.1
	baz=0.9						

SCI				S	Sn	23 59 56.6	-0.5
	baz=0.9						
STTC	Scott Ranch	0.91	358	ePg	Pg	23 59 44.6	+0.3
EL2	El Mirage 2	0.98	48	ePg	Pb	23 59 44.7	-0.6
BSC	Santa Cruz Isl	1.01	277	P	Pb	23 59 45.3	-0.3
	baz=1.0						
BSC				S	Sn	23 59 59.7	-0.2
	baz=1.0						
MURC	Murrieta	1.06	105	P	Pb	23 59 46.1	-0.5
	baz=1.1						
MURC				S	Sg	00 00 01.3	+0.2
	baz=1.1						
EDW2	Edwards Air Fo	1.07	20	P	Pb	23 59 46.9	+0.1
	baz=1.1						
EDW2				S	Sn	00 00 02.8	+1.4
	baz=1.1						
EDW2	Edwards Air Fo	1.07	20	ePg	Pn	23 59 47.3	+0.4
ABL	Mount Abel	1.17	326	ePn	Pb	23 59 48.9	+0.3
TJR	Tejon Ranch	1.18	347	ePn	Pb	23 59 49.1	+0.5
BACC	Bachelor Mtn.	1.19	102	ePn	Pb	23 59 49.0	+0.3
HMTC	Hemet	1.20	97	ePn	Pb	23 59 49.2	+0.3
DGR	Domenigoni Val	1.21	100	ePn	Pb	23 59 49.3	+0.3
SBC	Santa Barbara	1.21	298	S	Sg	00 00 06.8	+1.2
	baz=1.2						
BBSC	Beaumont Base	1.21	87	ePn	Pb	23 59 49.4	+0.3
PLEC	Pleito Hills	1.21	334	ePn	Pg	23 59 50.0	-0.1
ARVC	Arvin	1.29	345	Pb	Pg	23 59 51.3	-0.2
	baz=1.3						
ARVC				S	Sg	00 00 09.6	+1.2
	baz=1.3						
BBRC	Big Bear Solar	1.31	72	S	Sb	00 00 08.9	+1.3
	baz=1.3						
CCAC	Calif City Air	1.32	15	ePn	Pb	23 59 51.1	+0.1
MARC	Maricopa	1.35	327	ePn	Pn	23 59 45.3	-5.5
MARC				ePg	Pb	23 59 51.6	+0.1
PLM	Palomar	1.41	111	ePn	Pn	23 59 52.0	+0.3
CRY	Cary Ranch	1.45	102	ePn	Pn	23 59 52.6	+0.5
CPE	Camp Elliot	1.48	131	ePn	Pn	23 59 51.9	-0.6
HWB	Hans Werner Br	1.49	124	ePn	Pn	23 59 53.2	+0.5
DPP	Dos Picos Cty	1.52	125	ePn	Pn	23 59 53.5	+0.5
DNR	Dunn Ranch,Anz	1.53	101	ePn	Pn	23 59 47.7	-5.6
PKM	Mcpherson Peak	1.54	312	P	Pn	23 59 54.0	+0.5
	baz=1.5						
PKM				S	Sb	00 00 14.9	+0.9
	baz=1.5						
FIGC	Figueroa Mtn.	1.55	304	ePn	Pn	23 59 54.2	+0.7
SNDA	J Saunders Pla	1.55	101	ePn	Pn	23 59 54.0	+0.4
RRX	Edison Barstow	1.55	49	Sb	Sg	00 00 17.0	+0.4
	baz=1.6						
FRD	Ford Ranch, An	1.57	103	ePn	Pn	23 59 54.3	+0.4
BLKC	Black Mountain	1.57	39	ePn	Pn	23 59 54.5	+0.7
EML	El Monte Cty P	1.65	126	ePn	Pn	23 59 55.3	+0.5
PFO	Pinyon Flats O	1.67	99	P	Pn	23 59 55.6	+0.4
	baz=1.7						
PFO				S	Sn	00 00 16.9	+0.5
	baz=1.7						
PFO	Pinyon Flats O	1.67	99	ePn	Pn	23 59 55.3	+0.1
PFO				eSn	Sn	00 00 15.5	-0.8
WOFM	Oak Flat	1.68	352	ePn	Pn	23 59 55.8	+0.5
LRMC	Laurel Mtn Rad	1.71	21	P	Pb	23 59 57.3	-0.5
	baz=1.7						
CRGC	Crocker Grade	1.73	322	ePn	Pn	23 59 56.9	+0.8
ISA	Isabella, Lake	1.79	359	P	Pb	23 59 58.4	-0.6
	baz=1.8						
ISA				S	Sb	00 00 21.4	+0.3
	baz=1.8						
ISA	Isabella, Lake	1.79	359	ePn	Pb	23 59 58.4	-0.6
ISA				eSn	Sn	00 00 15.4	-3.8
CARC	Carrizo Plain	1.85	321	ePn	Pn	23 59 52.1	-5.5
HDB	Hidalgo Marine	1.85	73	ePn	Pn	23 59 58.3	+0.6
WASM	Alta Sierra Ca	1.86	357	ePn	Pn	23 59 58.8	+0.9
WSHM	Spangler Hills	1.89	24	ePn	Pn	23 59 58.7	+0.5
BAR	Barrett	1.89	128	ePn	Pn	23 59 57.3	-0.9
BAR				eSn	Sn	00 00 19.7	-2.1
SMMC	Simmler	1.93	318	S	Sb	00 00 25.0	-0.3
	baz=1.9						
MONP	Monument Peak,	1.95	120	P	Pn	23 59 58.8	-0.3
	baz=2.0						
GSC	Goldstone, Bar	1.96	43	Sb	Sg	00 00 29.5	-0.1
	baz=2.0						
GSC	Goldstone, Bar	1.96	43	ePn	Pn	00 00 00.5	+1.4
GSC				eSn	Sn	00 00 21.8	-1.6
HEC	Hector,Ludlow	1.98	61	Sb	Sg	00 00 29.6	-0.8
	baz=2.0						
TPC	Twentynine Pal	1.99	83	ePn	Pn	00 00 00.2	+0.5
VES	Vestal, Richgr	2.04	345	P	Pn	00 00 01.8	+1.6
	baz=2.0						
CRR	Carrizo Plain	2.28	115	ePn	Pn	00 00 04.0	+0.5
SWSC	Sam W. Stewart	2.39	112	ePn	Pn	00 00 05.5	+0.5
SWSC				eSn	Sn	00 00 33.4	-0.6
GMRC	Granite Mounta	2.46	68	P	Pn	00 00 06.9	+0.8
	baz=2.5						
DAC	Darwin (Calif)	2.50	16	ePn	Pb	00 00 10.9	-0.2
LTC	Little Chuckwa	2.83	97	ePn	Pn	00 00 11.5	+0.4
GLA	Glamis	3.12	104	ePn	Pb	00 00 20.4	-1.3
TPNV	Topopah Spring	3.55	30	ePn	Pn	00 00 18.6	-2.6
SHPR	Sheep Range	3.75	45	ePn	Pn	00 00 26.6	+2.8
TPH	Tonopah	4.31	13	ePg	Pb	00 00 42.5	+0.5
CMB	Columbia Colle	4.45	340	ePn	Pn	00 00 36.1	+2.7
NV01	Mina Array Sit	4.55	1	ePn	Pn	00 00 39.9	+5.0
WAKR	Walker	4.69	350	ePn	Pn	00 00 37.2	+0.3
WAKR				eSn	Sn	00 01 29.2	-1.9
R11A	Troy Canyon, C	5.03	26	ePn	Pn	00 00 43.9	+2.4
CCUT	Cedar City	5.52	47	ePn	Pn	00 00 52.3	+4.0
KNB	Kanab	5.55	54	ePn	Pn	00 00 52.0	+3.4
HUMO	Hull Mountain	9.42	339	ePn	Pn	00 01 38.9	-2.6

ISCJB ***08*** *00:05:43.7±0.8, 24°.32S±0°.08×180°.0W±0°.2, h500km, mb3.5/8, Error ellipse: s-maj=23.1km s-min=10.6km az=4.5*

IDC ***08*** *00:05:47.7±3.5, 24°.38S×179°.98W, h539km±38km, mb3.3/9, mb1 3.5/11, mb1mx3.3/20, mbtmp4.2/11, Error ellipse: s-maj=27.7km s-min=21.9km az=64.0*

ISC 08 00:05:43.9±0.7**, 24°.39S**±0°.10×**179°.7W**±0°.2**, h500**km**, n22, σ1s.42**/26**, mb3.6**/8**, 2C-2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.93	278	P	P	00 08 34.5	+2.0
	0.5nm,0.3s,baz=270,slow=24,SNR=5.7						
URZ	Urewera	14.09	190	P	P	00 08 46.8	+2.5
	2.2nm,0.3s,baz=314,slow=4.2,SNR=7.9						
URZ				S	S	00 11 10.3	-2.8
	0.5nm,0.3s,baz=3.6,slow=16,SNR=2.3						
RPZ	Rata Peaks	20.71	199	P	P	00 09 49.7	+0.9
	13nm,0.5s,baz=45,slow=4.3,SNR=4.1						
ASAR	Alice Springs	42.21	261	P	P	00 12 51.8	-0.8
	0.6nm,0.5s,baz=102,slow=8.6,SNR=5.4						
WRA	Warramunga Arr	42.63	267	P	P	00 12 54.9	-1.1
	1.5nm,0.5s,baz=104,slow=8.1,SNR=6.2						
MJAR	Matsushiro Arr	72.45	326	P	P	00 16 18.7	-0.4
	1.2nm,0.6s,baz=161,slow=7.8,SNR=3.8						
KSRS	Korea Array	78.79	320	P	P	00 16 54.6	+0.3
	0.7nm,0.4s,baz=125,slow=6.7,SNR=4.5						
PETK	Petropavlovsk-	79.64	346	P	P	00 16 59.1	+0.6
	1.5nm,0.5s,baz=132,slow=8.6,SNR=3.5						
CMAR	Chiang Mai Arr	89.94	290	P	P	00 17 49.1	-0.7
	0.5nm,0.6s,baz=180,slow=1.8,SNR=4.8						
TXAR	Lajitas Array	90.47	58	P	P	00 17 54.1	+1.9
	0.7nm,0.7s,baz=215,slow=6.9,SNR=8.7						
ILAR	Eielson Array	92.45	13	P	P	00 17 59.2	-1.1
	0.2nm,0.7s,baz=226,slow=5.0,SNR=4.8						
ARCES	ARCESS Array B	132.42	348	PKP	PKPdf	00 24 00.5	+0.4
	2.7nm,0.9s,baz=354,slow=5.4,SNR=5.1						
FINES	FINESS Array B	138.99	341	PKhKP	PKPpre	00 24 04.0	
	0.9nm,0.6s,baz=96,slow=5.6,SNR=4.7						
FINES				PKP	PKPdf	00 24 13.4	+0.9
	0.7nm,0.4s,baz=130,slow=2.2,SNR=7.3						
NOA	NORSAR Array B	142.61	351	PKP	PKPdf	00 24 16.1	-3.0
	0.3nm,0.7s,baz=28,slow=5.6,SNR=3.3						
AKASG	Malin Array Be	145.52	327	PKPbc	PKPdf	00 24 25.0	+0.6
	1.6nm,0.5s,baz=44,slow=3.9,SNR=10.0						
BRTR	Keskin Array B	148.08	307	PKPbc	PKPbc	00 24 31.7	-1.5
	1.2nm,0.7s,baz=139,slow=4.5,SNR=9.1						
BURAR	Bucovina Array	149.52	326	⇓iP	PKPbc	00 24 37.6	+1.2
CLL	Collm	151.40	343	⇓iPKPbc	PKPbc	00 24 40.6	+0.1
	comp=Z,6.0nm,0.7s						
CLL				⇑iPKPab	PKPab	00 24 51.0	0.0
	comp=Z,3.0nm,0.7s						
BRG	Berggiesshubel	151.53	342	eP	PKPbc	00 24 41.0	+0.2
	comp=Z,3.9nm,0.5s						
SIRR	Siria	152.23	327	⇑iP	PKPbc	00 24 43.0	+0.5
GERES	GERESS Array B	153.41	340	PKPbc	PKPbc	00 24 44.8	-0.3
	comp=Z,0.4nm,0.7s,baz=33,slow=2.3,SNR=3.6						
GERES				PKPab	PKPab	00 24 57.7	-2.1
	comp=Z,0.1nm,0.4s,baz=18,slow=5.1,SNR=2.3						
TORD	Torodi Ar. Bea	168.73	187	PKP	PKPdf	00 24 53.0	-0.8
	comp=Z,0.2nm,0.8s,baz=137,slow=0.7,SNR=2.2						
TORD				PKPab	PKPab	00 26 08.0	+0.6
	comp=Z,0.2nm,0.7s,baz=186,slow=3.2,SNR=2.3						

ISCJB ***08*** *00:18:27.9±0.6, 0°.34N±0°.05×121°.78E±0°.06, h55km±6km, mb3.7/6, Error ellipse: s-maj=10.3km s-min=6.8km az=36.5*

DJA ***08*** *00:18:29.0±0.3, 0°N±3°×12°2E±°, h27km±4km, M4.5/6, MLv4.5/6*

IDC ***08*** *00:18:34.4±8.1, 0°.07N×121°.69E, h102km±82km, mb3.4/6, mb1 3.6/7, mb1mx3.4/24, mbtmp3.8/7, ML4.6/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/16, Error ellipse: s-maj=79.6km s-min=18.1km az=60.0*

ISC 08 00:18:28.8±1.0**, 0°.36N**±0°.06×**121°.77E**±0°.05**, h45**km±9km**, n16, σ1s.63**/21**, mb3.8**/6**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MRSI	Marisa	0.20	55	P	Pn	00 18 36.8	+0.1
MRSI				S	Sn	00 18 41.7	-0.5
APSI	Ampana	1.27	186	P	Pn	00 18 48.8	-1.3
APSI				S	Sn	00 19 06.5	+0.5
LUWI	Luwuk	1.71	144	P	Pn	00 18 57.0	+0.8
LUWI				S	Sn	00 19 20.1	+3.2
MPSI	Mapaga	1.88	269	P	Pn	00 18 59.9	+1.5
KMSI	Cibinong	2.22	84	P	Pn	00 19 03.0	-0.1
KMSI				S	Sn	00 19 32.4	+3.1
PCI	Palu	2.31	237	P	Pn	00 19 03.2	-1.2
TTSI	Tana Toraja	3.91	210	P	Pn	00 19 27.9	+1.6
TTSI				S	Sn	00 20 11.9	+1.0
SPSI	Sidrap Palu	4.74	205	P	Pn	00 19 39.6	+1.8
SANI	Sanana	4.84	120	P	Pn	00 19 38.5	-0.7
KAPI	Kappang	5.71	201	P	Pn	00 19 52.2	+1.2
	17nm,0.3s,baz=24,slow=6.9,SNR=6.8						
KAPI				S	Sn	00 20 54.8	-0.6
	baz=198,slow=20,SNR=1.9						
KAPI				LR	LR	00 22 28.2	
	comp=Z,88nm,19.6s,baz=39,slow=43						
WRA	Warramunga Arr	23.64	149	P	P	00 23 33.9	-2.2
	4.4nm,0.9s,baz=333,slow=9.7,SNR=13						
ASAR	Alice Springs	26.63	155	P	P	00 24 01.4	-2.0
	0.7nm,0.5s,baz=342,slow=14,SNR=9.5						
STKA	Stephens Creek	37.15	151	P	P	00 25 35.0	-0.4
	0.7nm,0.5s,baz=321,slow=13,SNR=2.9						
SONM	Songino Array	49.14	346	P	P	00 27 15.1	+2.9
	0.2nm,0.4s,baz=166,slow=11,SNR=3.0						
MKAR	Makanchi Array	57.67	329	P	P	00 28 15.3	+0.6
	0.3nm,0.3s,baz=127,slow=8.5,SNR=5.3						
ZALV	Zalesovo Beam	61.49	336	P	P	00 28 40.8	0.0
	0.3nm,0.3s,baz=106,slow=4.8,SNR=2.0						

ISCJB ***08*** *00:58:29.6±0.6, 12°.64S±0°.10×75°.10W±0°.08, h96km, mb4.0/10, Error ellipse: s-maj=16.7km s-min=7.1km az=35.9*

IDC ***08*** *00:58:31.8±1.3, 12°.68S×75°.23W, h102km±11km, mb3.7/9, mb1 3.9/12, mb1mx3.9/21, mbtmp4.1/12, MS2.7/1, Ms1 2.8/1, ms1mx2.4/22, Error ellipse: s-maj=22.7km s-min=12.3km az=38.0*

ISC 08 00:58:31.3±0.6**, 12°.70S**±0°.10×**75°.22W**±0°.10**, h96**km**, n21, σ1s.16**/22**, mb3.8**/10**, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	Nana	1.73	294	P	Pn	00 59 00.8	+0.4
	354nm,0.3s,baz=126,slow=12,SNR=600						
NNA				S	Sn	00 59 23.2	+0.8
	765nm,0.3s,baz=322,slow=19,SNR=36						
ATAH	Atahualpa	6.35	330	P	Pn	01 00 02.6	-0.2
	3.9nm,0.3s,baz=192,slow=6.0,SNR=24						
ATAH				S	Sn	01 01 14.4	+0.3
	4.3nm,0.3s,baz=82,slow=14,SNR=3.8						
LPAZ	La Paz	7.74	118	P	Pn	01 00 22.8	+0.9
	1.2nm,0.3s,baz=313,slow=8.9,SNR=40						
LPAZ				LR	LR	01 03 11.4	
	comp=Z,50nm,20.1s,baz=285,slow=36						
LVC	Limon Verde	11.55	149	P	Pn	01 01 15.6	+2.3
	39nm,0.3s,baz=321,slow=9.5,SNR=11						
SIV	San Ignacio	14.10	105	P	Pn	01 01 42.6	-4.2
	0.3nm,0.3s,baz=308,slow=16,SNR=3.7						
ROSC	El Rosal	17.46	3	P	Pn	01 02 32.7	+3.4
	0.3nm,0.3s,baz=104,slow=19,SNR=2.4						
TXAR	Lajitas Array	50.00	327	P	P	01 07 16.4	+0.2
	1.1nm,0.6s,baz=146,slow=9.1,SNR=9.0						
PDAR	Pinedale Array	63.54	332	P	P	01 08 51.1	-0.7
	0.4nm,0.4s,baz=124,slow=11,SNR=3.3						
NVAR	Mina Array Bea	64.88	324	P	P	01 09 01.6	+0.9
	0.5nm,0.5s,baz=179,slow=8.0,SNR=3.9						
PPT	Papeete	71.54	256	P	P	01 09 41.5	-1.1
	34nm,0.4s,baz=180,slow=9.1,SNR=4.1						
SNAA	Sanae	72.50	162	P	P	01 09 46.7	-0.7
	1.2nm,0.7s,baz=289,slow=5.7,SNR=4.4						
DBIC	Dimbokro	72.51	79	P	P	01 09 48.1	-0.3
	1.7nm,0.5s,baz=219,slow=4.9,SNR=4.6						
TORD	Torodi Ar. Bea	80.46	74	P	P	01 10 32.9	-0.3
	5.4nm,0.7s,baz=271,slow=4.9,SNR=27						
YKA	Yellowknife Ar	80.98	343	P	P	01 10 34.4	-0.6
	0.9nm,0.7s,baz=141,slow=5.1,SNR=6.9						
ESDC	Sonseca Array	84.08	47	P	P	01 10 50.4	-1.4
	0.3nm,0.5s,baz=264,slow=4.3,SNR=4.1						
ILAR	Eielson Array	93.77	336	P	P	01 11 36.4	-0.8
	0.3nm,0.7s,baz=144,slow=3.2,SNR=3.3						
ASAR	Alice Springs	133.98	218	PKP	PKPdf	01 17 37.9	-0.4
	0.4nm,0.5s,baz=107,slow=1.5,SNR=4.4						
ZALV	Zalesovo Beam	135.92	17	PKP	PKPdf	01 17 40.8	-0.1
	0.8nm,0.6s,baz=298,slow=3.2,SNR=5.2						
WRA	Warramunga Arr	136.43	222	PKP	PKPdf	01 17 42.1	-0.8
	0.8nm,0.6s,baz=141,slow=1.9,SNR=3.9						
SONM	Songino Array	144.95	358	PKP	PKPdf	01 17 57.7	+0.1
	9.9nm,0.8s,baz=328,slow=2.5,SNR=71						
KSRS	Korea Array	147.82	324	PKPbc	PKPbc	01 18 05.6	+0.1
	3.7nm,1.0s,baz=29,slow=1.9,SNR=14						

ISCJB ***08*** *00:59:25.0±0.4, 37°.09S±0°.03×70°.80W±0°.06, h141km±3km, mb4.5/40, Error ellipse: s-maj=7.9km s-min=5.5km az=10.1*

BJI ***08*** *00:59:24.6, 37°.00S×70°.80W, h136km, mB4.9/3*

SJA ***08*** *00:59:24.2±0.4, 37°.15S×71°.04W, h152km±5km, ML4.1, MW4.5*

NEIC ***08*** *00:59:26.5±0.3, 37°.13S×70°.77W, mb4.6/29, Error ellipse: s-maj=8.8km s-min=7.6km az=77.0*

NEIC Felt at Chillan and Los Angeles, Chile.

IDC ***08*** *00:59:26.6±0.5, 37°.02S×70°.82W, h144km±4km, mb4.2/13, mb1 4.4/16, mb1mx4.2/21, mbtmp4.7/16, MS3.2/2, Ms1 3.1/2, ms1mx2.7/20, Error ellipse: s-maj=15.0km s-min=9.5km az=99.0*

ISC 08 00:59:26.2±0.4**, 37°.11S**±0°.04×**70°.86W**±0°.07**, h143**km±3km**, h143**km**:pP-P, n291, σ0s.97**/314**, mb4.6**/40**, 95C-92D, Southern Argentina**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CANA	Caviahue	0.80	192	eP	Pn	00 59 47.9	-1.0
CANA				iS	Sn	01 00 05.3	-0.9
CANA				AML	AML	01 00 10.2	
	comp=Z,3μm,0.8s						
PLCA	Paso Flores	3.63	176	P	Pn	01 00 21.2	-0.3
	comp=Z,4.7nm,0.3s,baz=2.0,slow=12,SNR=92						
PLCA				S	Sn	01 01 01.1	-3.3
	comp=Z,7.1nm,0.3s,baz=303,slow=17,SNR=3.5						
PLCA				LR	LR	01 02 00.7	
	comp=Z,158nm,18.1s,baz=20,slow=42						
PLCA	Paso Flores	3.63	176	ePn	Pn	01 00 20.3	-1.2
PLCA				eSn	Sn	01 01 01.1	-3.3
PLCA	Paso Flores	3.63	176	iP	Pn	01 00 20.2	-1.2
AAGR	Agrelo	4.34	23	⇑e		00 58 41.7	
AAGR				iP	Pn	01 00 31.7	+0.7
AAGR				iP	Pn	01 00 31.7	+0.7
ARCO	CERRO ARCO	4.54	21	iP	Pn	01 00 33.8	+0.1
ARCO				iS	Sn	01 01 25.1	-0.8
ARCO				AML	AML	01 01 30.3	
	comp=Z,105nm,0.7s						
ASAL	Salagasta	4.80	21	iP	Pn	01 00 36.4	-0.7
AUSP	Uspallata	5.02	14	iP	Pn	01 00 39.9	-0.2
RTLS	Leoncito	5.45	14	iP	Pn	01 00 45.9	+0.1
RTCV	Cerro Valdivia	5.57	21	iP	Pn	01 00 46.5	-0.8
CFAA	Coronel Fontan	5.90	22	P	Pn	01 00 50.6	-1.0
	comp=Z,3.1nm,0.3s,baz=202,slow=12,SNR=201						
CFAA				S	Sn	01 01 56.0	-2.3
	comp=Z,4.4nm,0.3s,baz=343,slow=18,SNR=14						
SUCO	SUCO	6.16	54	eP	Pn	01 00 57.4	+2.2
AMOG	MOGNA	6.46	18	eP	Pn	01 00 57.5	-1.6
AMOG				eS	Sn	01 02 11.8	+0.1
TRQA	Tornquist	7.12	100	ePn	Pn	01 01 08.6	+0.8
TRQA				eSn	Sn	01 02 24.6	-2.8
LCO	Las Campanas	8.07	1	ePn	Pn	01 01 18.7	-2.2
LCO				eSn	Sn	01 02 42.9	-8.0
CYA	Choya	9.63	28	eP	Pn	01 01 37.5	-4.0
LVC	Limon Verde	14.54	7	P	Pn	01 02 45.2	-0.4
	comp=Z,33nm,0.3s,baz=193,slow=10,SNR=12						
CPUP	Villa Florida	15.73	51	ePn	Pn	01 02 59.4	-0.6
USHA	Ushuaia	17.81	175	P	Pn	01 03 28.4	+3.6
	comp=Z,0.4nm,0.3s,baz=330,slow=5.9,SNR=3.9						
LPAZ	La Paz	20.88	7	P	P	01 03 58.3	+0.5
	comp=Z,30nm,0.7s,baz=176,slow=4.7,SNR=6.6						
SIV	San Ignacio	22.75	25	P	P	01 04 16.5	+0.1
	comp=Z,43nm,0.9s,baz=225,slow=11,SNR=46						
BDFB	Brasilia	29.45	50	P	P	01 05 15.4	-1.4
	comp=Z,18nm,0.8s,baz=208,slow=7.1,SNR=17						
BDFB	Brasilia	29.45	50	eP	P	01 05 16.1	-0.7
RPN	Rapa Nui	33.88	276	P	P	01 05 54.9	-0.4
	comp=Z,57nm,0.6s,baz=235,slow=3.1,SNR=2.3						
RPN	Rapa Nui	33.88	276	eP	P	01 05 54.9	-0.4
	comp=Z,394nm,1.4s						
VNA1	Neumayer--Stat	46.45	156	P	P	01 07 43.1	+4.9
SNAA	Sanae	48.35	157	P	P	01 07 46.0	-7.0
SNAA	Sanae	48.35	157	P	P	01 07 53.4	+0.4
	comp=Z,0.9nm,0.4s,baz=272,slow=3.6,SNR=26						
SNAA				pP	pP	01 08 27.3	+1.8
	comp=Z,2.8nm,0.8s,baz=273,slow=6.7,SNR=4.5						
SNAA	Sanae	48.35	157	eP	P	01 07 46.5	-6.5
	comp=Z,11nm,1.0s						
QSPA	South Pole Qui	53.14	180	P	P	01 08 29.6	+0.7
	comp=Z,5.1nm,0.9s,baz=159,slow=3.0,SNR=14						
QSPA				pP	pP	01 09 04.1	+2.0
	comp=Z,6.9nm,0.9s,baz=141,slow=4.0,SNR=6.8						
VNDA	Vanda	61.25	191	P	P	01 09 26.7	+1.1
	comp=Z,4.1nm,1.1s,baz=131,slow=3.6,SNR=10						
VNDA	Vanda	61.25	191	eP	P	01 09 27.4	+1.9
	comp=Z,32nm,2.4s						
035A	Encino	68.66	334	⇑P	P	01 10 14.8	+0.8
	baz=69						
034A	Hebbronville	68.99	334	⇓P	P	01 10 16.7	+0.7
	baz=69						
834A	Tilden	69.91	334	⇑P	P	01 10 23.3	+1.6
	baz=70						
736A	Circle Diamond	70.17	336	⇑P	P	01 10 24.6	+1.4
	baz=70						
833A	Chaparral WMA,	70.39	333	⇑P	P	01 10 25.1	+0.5
	baz=71						
832A	Faith Ranch, C	70.56	333	⇑P	P	01 10 25.7	0.0
	baz=71						
733A	Divot King Ran	70.71	334	⇓P	P	01 10 27.2	+0.7
	baz=71						
PPT	Papeete	70.77	262	LR	LR	01 33 52.7	
	comp=Z,30nm,21.7s,baz=59,slow=29						
732A	Laxson Ranch,	70.96	333	⇓P	P	01 10 28.9	+0.9
	baz=71						
537A	Green Hill Far	70.97	337	⇓P	P	01 10 28.9	+0.9
	baz=71						
633A	Saathoff Ranch	71.35	334	⇑P	P	01 10 30.4	0.0
	baz=72						
339A	Huntington	71.61	339	⇓P	P	01 10 32.4	+0.5
	baz=72						
632A	Uvalde	71.61	334	⇓P	P	01 10 32.3	+0.3
	baz=72						
338A	Crockett	71.85	338	⇑P	P	01 10 33.9	+0.6
	baz=72						
533A	Kerrville	71.86	334	⇓P	P	01 10 33.9	+0.5
	baz=72						
337A	Centerville	71.98	338	⇓P	P	01 10 35.0	+0.9
	baz=72						
532A	Rocksprings	72.21	334	⇓P	P	01 10 35.8	+0.3
	baz=73,SNR=9.8						
434A	Burnet	72.28	335	⇑P	P	01 10 35.7	-0.2
	baz=73						
336A	Riesel	72.35	337	⇓P	P	01 10 36.6	+0.3
	baz=73						
531A	Rocksprings	72.47	333	⇓P	P	01 10 37.6	+0.5
	baz=73,SNR=6.3						
JCT	Junction City	72.50	334	⇓P	P	01 10 37.6	+0.3
	baz=73,SNR=7.2						
JCT	Junction City	72.50	334	eP	P	01 10 37.9	+0.6
	comp=Z,17nm,1.0s						
433A	Art	72.50	335	⇑P	P	01 10 37.0	-0.3
	baz=73,SNR=7.8						
334A	Lometa	72.75	336	⇑P	P	01 10 38.4	-0.2
	baz=73						
530A	J-C Ranch, Com	72.75	333	⇓P	P	01 10 39.3	+0.5
	baz=73,SNR=10						
432A	Menard	72.85	334	⇓P	P	01 10 39.2	-0.2
	baz=73						
LTX	Lajitas	72.91	330	eP	P	01 10 39.2	-0.6
LTX				epP	pP	01 11 13.7	-1.1
TX31	Lajitas Ar. Si	72.91	330	eP	P	01 10 40.1	+0.3
TXAR	Lajitas Array	72.91	330	P	P	01 10 39.2	-0.5
	comp=Z,3.8nm,1.0s,baz=146,slow=7.6,SNR=14						
TXAR				pP	pP	01 11 13.7	-1.1
	comp=Z,1.1nm,0.8s,baz=148,slow=7.4,SNR=3.2						
431A	Sonora	72.97	333	⇑P	P	01 10 40.3	+0.2
	baz=73						
333A	Richland Sprin	72.99	335	⇑P	P	01 10 39.8	-0.3
	baz=73						
529A	Stev Forest Ra	73.05	332	⇑P	P	01 10 41.1	+0.5
	baz=73,SNR=7.9						
WHTX	Lake Whitney,	73.10	337	⇓P	P	01 10 40.9	+0.1
	baz=74						
430A	Baggett Ranch,	73.29	333	⇓P	P	01 10 42.0	+0.1
	baz=74,SNR=7.5						
332A	Millersview	73.30	334	⇑P	P	01 10 41.6	-0.3
	baz=74						
SWET	Sewanee	73.31	347	eP	P	01 10 42.2	+0.3
SWET				epP	pP	01 11 16.6	-0.4
234A	Clairette	73.33	336	⇓P	P	01 10 42.2	+0.1
	baz=74						
429A	Davenport Ranc	73.38	332	⇑P	P	01 10 42.8	+0.3
	baz=74,SNR=12						
331A	San Angelo	73.47	334	⇓P	P	01 10 42.8	-0.1
	baz=74,SNR=5.2						
233A	Rising Star	73.59	335	⇓P	P	01 10 43.6	-0.1
	baz=74						
330A	Mertzon	73.82	333	⇑P	P	01 10 44.3	-0.8
	baz=74						
134A	White-Moore Ra	73.84	336	⇓P	P	01 10 44.8	-0.2
	baz=74						
231A	Bronte	74.00	334	⇑P	P	01 10 45.9	-0.1
	baz=74						
133A	Hamilton Ranch	74.14	336	⇓P	P	01 10 46.8	-0.1
	baz=74						
329A	Wagon Wheel Ra	74.19	333	⇓P	P	01 10 47.3	+0.1
	baz=75,SNR=5.1						
Z35A	Perchaven, San	74.28	337	⇑P	P	01 10 47.4	-0.1
	baz=75						
ABTX	Abilene, Hawle	74.40	335	⇓P	P	01 10 48.4	+0.1
	baz=75						
ABTX	Abilene, Hawle	74.40	335	eP	P	01 10 48.4	+0.1
	comp=Z,18nm,1.2s						
229A	Bryant Ranch,	74.56	333	⇑P	P	01 10 49.8	+0.5
	baz=75						
131A	Roby	74.70	334	⇓P	P	01 10 50.2	+0.2
	baz=75						
Z33A	Whitaker Ranch	74.71	336	⇑P	P	01 10 50.1	0.0
	baz=75						
LIC	Lamto	74.89	70	eP	P	01 10 51.9	+0.3
	comp=Z,50nm,1.2s						
Z32A	Haskell	74.97	335	⇓P	P	01 10 51.7	+0.1
	baz=75						
228A	UT Block 9, Go	74.98	332	⇓P	P	01 10 52.2	+0.5
	baz=75						
Y34A	Reagan Ranch,	75.01	337	⇑P	P	01 10 51.9	+0.1
	baz=75						
W38A	Poteau	75.11	340	⇓P	P	01 10 52.6	+0.4
	baz=76						
X36A	Centrahoma	75.16	338	⇑P	P	01 10 52.3	-0.3
	baz=76						
TIC	Toumodi	75.17	70	eP	P	01 10 53.5	+0.3
X35A	Drake	75.18	338	⇓P	P	01 10 52.8	0.0
	baz=76						
KIC	Kosan Boka	75.19	70	eP	P	01 10 53.5	+0.2
	comp=Z,58nm,1.0s						
Z31A	Sharp Cattle R	75.20	335	⇑P	P	01 10 52.9	0.0
	baz=76						
DBIC	Dimbokro	75.31	70	P	P	01 10 53.6	-0.3

comp=Z,17nm,0.8s,baz=200,slow=7.3,SNR=14
DBIC pP pP 01 11 28.8 -0.4
comp=Z,14nm,1.0s,baz=204,slow=7.6,SNR=4.2
DBIC Dimbokro 75.31 70 *e*P P 01 10 54.8 +0.9
comp=Z,18nm,0.8s
DBIC epP pP 01 11 28.8 -0.4
Y33A Hilltop Ranch, 75.33 336 ⇑P P 01 10 53.1 -0.5
baz=76
128A Castleberry Fa 75.39 333 ⇓P P 01 10 54.4 +0.3
baz=76
W37A Quinton 75.42 339 ⇑P P 01 10 53.5 -0.6
baz=76
Z30A Sanderson Ranc 75.51 334 ⇓P P 01 10 54.2 -0.5
baz=76,SNR=6.3
X34A Smith Ranch, M 75.63 337 ⇑P P 01 10 55.5 +0.2
baz=76
W36A Wetumka 75.65 339 ⇑P P 01 10 54.7 -0.7
baz=76
MNTX Cornudas Mount 75.68 330 ⇓P P 01 10 55.5 -0.1
baz=76
MNTX Cornudas Mount 75.68 330 *e*P P 01 10 54.9 -0.8
comp=Z,5.7nm,0.9s
Z29A Hungry Hill Ra 75.69 334 ⇑P P 01 10 55.4 -0.4
baz=76,SNR=11
Y31A Rekieta Farm, 75.83 335 ⇓P P 01 10 57.1 +0.6
baz=76
X32A Elmer 75.93 336 ⇑P P 01 10 57.3 +0.3
baz=76
Z28A Tucker Farm, M 75.96 333 ⇑P P 01 10 57.1 -0.2
baz=76
WMOK Wichita Mounta 76.06 337 *e*P P 01 10 58.2 +0.4
comp=Z,6.4nm,1.1s
W34A Bridge Creek, 76.20 338 ⇓P P 01 10 58.3 -0.3
baz=77
Y29A Porterfield Fa 76.22 334 ⇓P P 01 10 59.2 +0.4
baz=77
TUL1 Leonard 76.25 339 ⇑P P 01 10 58.8 +0.1
baz=77
TUL1 Leonard 76.25 339 *e*P P 01 10 58.9 +0.1
comp=Z,12nm,0.8s
W33A Caddo, Fort Co 76.34 337 ⇓P P 01 10 59.9 +0.6
baz=77
X31A McDonald Ranch 76.34 336 ⇑P P 01 10 59.5 +0.1
baz=77
V35A Meyer Ranch, C 76.41 338 ⇑P P 01 10 59.9 +0.2
baz=77
W32A Sentinel 76.56 336 ⇑P P 01 11 00.9 +0.4
baz=77
V34A Guthrie 76.68 338 ⇑P P 01 11 00.6 -0.6
baz=77
MSTX Muleshoe 76.71 333 ⇑P P 01 11 02.0 +0.4
baz=77
MSTX Muleshoe 76.71 333 *e*P P 01 11 01.9 +0.3
comp=Z,12nm,1.0s
X29A Tulia 76.76 334 ⇑P P 01 11 02.3 +0.5
baz=77
W31A Holland Ranch, 76.84 336 ⇑P P 01 11 02.3 +0.1
baz=77
V33A Lossen Ranch, 76.90 337 ⇓P P 01 11 02.6 +0.2
baz=77
X28A Dimmitt 77.00 334 ⇑P P 01 11 03.7 +0.5
baz=77
T37A Cheneyville 18 77.14 340 ⇑P P 01 11 03.3 -0.5
baz=78
AMTX Amarillo 77.15 334 ⇓P P 01 11 04.3 +0.3
baz=78
V31A Spring Creek L 77.35 336 ⇑P P 01 11 05.9 +0.9
baz=78
T36A Boggs Farm, Ca 77.35 340 ⇑P P 01 11 04.2 -0.7
baz=78
W29A Amarillo 77.35 335 ⇓P P 01 11 05.5 +0.4
baz=78
121A Cookes Peak, D 77.39 329 ⇓P P 01 11 06.5 +1.0
baz=78
T35A Sooner Cattle 77.39 339 ⇑P P 01 11 05.8 +0.6
baz=78
U32A Winter Ranch, 77.64 337 ⇑P P 01 11 07.1 +0.5
baz=78
T34A McClaskey Farm 77.68 339 ⇓P P 01 11 07.1 +0.3
baz=78
BOSA Boshof 77.80 117 P P 01 11 07.9 -0.1
comp=Z,11nm,0.8s,baz=233,slow=4.8,SNR=12
S35A Otter Creek Ra 78.05 340 ⇑P P 01 11 09.0 +0.2
baz=78
T33A Patterson Ranc 78.05 338 ⇓P P 01 11 09.3 +0.5
baz=78
V28A Channing 78.12 334 ⇓P P 01 11 10.3 +1.0
baz=78
R37A Teagarden Farm 78.24 341 ⇓P P 01 11 09.8 0.0
baz=79
S34A Willow Spring 78.29 339 ⇓P P 01 11 10.2 +0.1
baz=79
U30A WK&E Inc. Balk 78.30 336 ⇑P P 01 11 11.1 +0.8
baz=79
BNM Barren Site 78.33 330 *e*P P 01 11 11.9 +1.2
R36A Gordon, Harris 78.43 340 ⇑P P 01 11 10.9 +0.1
baz=79
TUC Tucson 78.49 326 *e*P P 01 11 12.6 +1.2
comp=Z,20nm,1.4s
Q37A Longview Farm, 78.68 341 ⇑P P 01 11 11.7 -0.5
baz=79
U28A Mallet 78.69 335 ⇓P P 01 11 13.0 +0.5
baz=79
LAZ Ladron 78.75 330 *e*P P 01 11 14.4 +1.4
R34A Isabella, Hill 78.89 339 ⇑P P 01 11 13.3 -0.1
baz=79
U27A Thompson Grove 78.93 334 ⇓P P 01 11 14.8 +0.9
baz=79
ANMO Albuquerque 78.96 331 *e*P P 01 11 15.3 +1.2
comp=Z,8.2nm,1.0s
214A Organ Pipe Nat 79.11 325 ⇓P P 01 11 16.1 +1.3
baz=80
R33A Olander Ranch, 79.11 339 ⇓P P 01 11 14.6 0.0
baz=80
T28A Walsh 79.32 335 ⇑P P 01 11 16.0 +0.1
baz=80,SNR=7.8
Q34A Chapman 79.38 340 ⇓P P 01 11 15.8 -0.2
baz=80
R32A Long Quarter, 79.43 338 ⇑P P 01 11 17.0 +0.6
baz=80
S29A Ulysses 79.44 336 ⇓P P 01 11 16.9 +0.4
baz=80
T27A Campo 79.47 335 ⇑P P 01 11 17.6 +0.8
baz=80
R31A Burdett 79.55 337 ⇓P P 01 11 17.7 +0.6
baz=80
P36A Good Intent, A 79.57 341 ⇑P P 01 11 16.9 -0.1
baz=80
S28A Manter 79.67 335 ⇑P P 01 11 18.1 +0.3
baz=80
P35A Duane Minner, 79.70 340 ⇑P P 01 11 17.6 -0.2
baz=80
Q33A Connelly Farm, 79.71 339 ⇑P P 01 11 17.6 -0.3
baz=80
T26A Comanche Natio 79.88 334 ⇓P P 01 11 19.7 +0.6
baz=80,SNR=7.0
P34A Walnut Farm, R 79.94 340 ⇓P P 01 11 19.0 0.0
baz=80
T25A Trinidad 80.14 333 ⇑P P 01 11 21.5 +1.1
baz=80,SNR=13
T25A Trinidad 80.14 333 *e*P P 01 11 21.6 +1.1
comp=Z,18nm,0.9s
Q31A Ellis 80.17 338 ⇓P P 01 11 20.7 +0.3
baz=81
S26A Kim 80.24 334 ⇓P P 01 11 22.0 +1.2
baz=81
R28A Tribune 80.33 336 ⇓P P 01 11 21.9 +0.6
baz=81
Q30A Quinter 80.40 337 ⇓P P 01 11 22.4 +0.8
baz=81
R27A Eads 80.61 335 ⇑P P 01 11 23.6 +0.8
baz=81
O33A Hebron 80.64 340 ⇑P P 01 11 23.2 +0.4
baz=81
P31A Stockton 80.64 338 ⇓P P 01 11 23.1 +0.2
baz=81
R26A Arlington 80.84 335 ⇑P P 01 11 24.9 +0.8
baz=81
Q28A Sharon Springs 80.99 336 ⇑P P 01 11 25.2 +0.5
baz=81
N34A Lincoln 81.05 341 ⇑P P 01 11 24.6 -0.3
baz=81
SDCO Great Sand Dun 81.07 333 ⇑P P 01 11 25.8 +0.3
baz=82,SNR=11
SDCO Great Sand Dun 81.07 333 *e*P P 01 11 26.4 +0.9
comp=Z,5.2nm,1.0s
Y12C Blythe 81.39 324 ⇑P P 01 11 28.2 +1.3
baz=82
Q26A Hugo 81.42 335 ⇓P P 01 11 28.1 +0.9
baz=82
S22A 4UR Ranch, Cre 81.56 332 ⇑P P 01 11 28.9 +0.8
baz=82
R23A Moffat 81.58 333 ⇓P P 01 11 28.8 +0.7
baz=82
MVCO Mesa Verde 81.74 330 ⇑P P 01 11 29.8 +0.8
baz=82
MVCO Mesa Verde 81.74 330 *e*P P 01 11 29.8 +0.8
comp=Z,6.3nm,0.9s
BC3 Big Chuckawall 81.75 324 ⇑P P 01 11 30.2 +1.3
baz=82
P26A Davis Ranch, A 81.94 335 ⇓P P 01 11 30.2 +0.4
baz=82
IRM Iron Mountain 82.02 324 ⇓P P 01 11 31.7 +1.5
baz=82
Q24A Divide 82.03 334 ⇑P P 01 11 31.0 +0.5
baz=82,SNR=5.6
Q24A Divide 82.03 334 *e*P P 01 11 31.6 +1.1
comp=Z,6.6nm,0.8s
PFO Pinyon Flats O 82.19 323 *e*P P 01 11 33.2 +1.9
comp=Z,6.2nm,0.9s
BELC Belle Mtn. Jos 82.29 324 ⇑P P 01 11 32.7 +0.9
baz=83
P23A Jefferson 82.64 333 ⇑P P 01 11 34.3 +0.6
baz=83
GMRC Granite Mounta 82.77 324 ⇓P P 01 11 35.9 +1.7
baz=83
SMCO Snowmass 82.88 333 *e*P P 01 11 36.4 +1.4
ISCO Idaho Springs 82.93 334 ⇓P P 01 11 35.6 +0.4
baz=83
ISCO Idaho Springs 82.93 334 *e*P P 01 11 36.1 +1.0
L31A Butterfield Fa 82.94 339 ⇑P P 01 11 35.1 +0.3
baz=83
P22A Eagle 83.16 333 ⇓P P 01 11 37.2 +0.9
baz=84
KNB Kanab 83.36 327 *e*P P 01 11 39.0 +1.7
comp=Z,7.6nm,0.9s
O23A Lake Granby, G 83.41 334 ⇓P P 01 11 38.9 +1.3
baz=84
O22A Kremmling 83.59 333 ⇑P P 01 11 39.5 +1.0
baz=84
K30A Basset 83.62 339 ⇑P P 01 11 39.0 +0.7
baz=84
GSC Goldstone, Bar 83.74 324 ⇓P P 01 11 39.9 +0.7
baz=84
GSC Goldstone, Bar 83.74 324 *e*P P 01 11 42.0 +2.9
ECSD EROS Data Cent 83.79 342 ⇑P P 01 11 39.2 +0.1
baz=84
ECSD EROS Data Cent 83.79 342 *e*P P 01 11 39.2 +0.1
comp=Z,12nm,0.8s
ECSD epP pP 01 12 16.4 +1.4
N23A Red Feather La 84.02 334 ⇑P P 01 11 41.1 +0.4
baz=84
N23A Red Feather La 84.02 334 *e*P P 01 11 41.9 +1.2
comp=Z,12nm,1.1s
CCUT Cedar City 84.04 327 *e*P P 01 11 42.8 +2.0
comp=Z,6.6nm,1.0s
N22A Wattenberg Ran 84.12 334 ⇑P P 01 11 41.9 +0.7
baz=84
J30A Dallas 84.18 339 ⇓P P 01 11 41.2 +0.1
baz=85
SRU San Rafael Swe 84.18 330 *e*P P 01 11 42.2 +0.8
comp=Z,5.7nm,0.8s
SPMN Marine on St. 84.32 345 ⇑P P 01 11 41.0 -0.6
baz=85
TOA0 Torodi Ar. Sit 84.39 69 *e*P P 01 11 42.1 -0.7
TOA0 Torodi Ar. Sit 84.39 69 *e*P P 01 11 43.0 +0.2
TOA0 epP pP 01 12 18.6 -0.1
TORD Torodi Ar. Bea 84.39 69 P P 01 11 43.0 +0.1
comp=Z,8.6nm,0.8s,baz=278,slow=6.3,SNR=43
TORD pP pP 01 12 18.6 -0.1
comp=Z,3.8nm,0.8s,baz=230,slow=4.3,SNR=3.9
TOA1 Torodi Ar. Sit 84.39 69 *e*P P 01 11 42.1 -0.7
SBC Santa Barbara 84.46 321 ⇑P P 01 11 43.6 +0.9
baz=85
MSKU Masuku 84.59 88 *e*P P 01 11 45.1 +1.2
comp=Z,9.3nm,0.8s
MPMC Manual Prospec 84.68 324 ⇓P P 01 11 45.1 +1.1
baz=85
FURC Furnace Creek, 84.71 324 ⇓P P 01 11 45.7 +1.8
baz=85
J28A Allard Ranch, 84.78 338 ⇑P P 01 11 44.8 +0.7
baz=85
TPNV Topopah Spring 84.82 325 ⇓P P 01 11 45.4 +0.8
baz=85
ISA Isabella, Lake 84.83 323 ⇑P P 01 11 46.0 +1.4
baz=85
J27A Elkhorn Farm, 84.85 338 ⇓P P 01 11 45.3 +0.8
baz=85
PKM Mcpherson Peak 84.87 322 ⇑P P 01 11 46.2 +1.2
baz=85
DAC Darwin (Calif) 84.90 324 *e*P P 01 11 46.6 +1.5
comp=Z,4.8nm,0.9s
J26A Sid's Ranch, S 85.23 337 ⇑P P 01 11 47.5 +1.0
baz=86
VES Vestal, Richgr 85.27 323 ⇑P P 01 11 48.9 +2.2
baz=86
I28A Midland 85.28 339 ⇓P P 01 11 47.2 +0.6
baz=86
J25A Sunshine Ranch 85.53 337 ⇑P P 01 11 48.8 +0.8
baz=86
K23A Bowen Ranch, D 85.56 335 ⇓P P 01 11 48.7 +0.5
baz=86
R11A Troy Canyon, C 85.67 326 ⇓P P 01 11 50.6 +1.8
baz=86
R11A Troy Canyon, C 85.67 326 *e*P P 01 11 50.4 +1.5
comp=Z,33nm,2.3s
R11A epP pP 01 12 25.2 +0.3
J24A Dixon Ranch, L 85.76 336 ⇓P P 01 11 50.0 +0.9
baz=86
K22A Casper 85.78 334 ⇑P P 01 11 49.7 +0.4
baz=86
K22A Casper 85.78 334 *e*P P 01 11 50.2 +1.0
comp=Z,8.5nm,0.9s
I25A Rochford 86.08 337 ⇓P P 01 11 51.1 +0.3
baz=86,SNR=6.9
H27A Howes 86.13 338 ⇓P P 01 11 51.2 +0.4
baz=86
TPH Tonopah 86.19 325 *e*P P 01 11 52.8 +1.3
comp=Z,10nm,1.1s
G28A Parade 86.19 339 ⇑P P 01 11 51.3 +0.2
baz=87
I24A Kuemmerle Ranc 86.22 336 ⇑P P 01 11 52.0 +0.6
baz=87
RSSD Black Hills 86.26 337 *e*P P 01 11 52.1 +0.4
comp=Z,5.8nm,0.9s
J22A Midwest 86.43 335 ⇓P P 01 11 52.6 +0.1
baz=87
H25A Fruitdale 86.58 337 ⇓P P 01 11 54.3 +1.3
baz=87
EYMN Ely 86.66 346 *e*P P 01 11 54.1 +0.9
comp=Z,48nm,2.6s
J21A Lysite 86.71 334 ⇓P P 01 11 54.1 +0.3
baz=87
HWUT Hardware Ranch 86.73 331 *e*P P 01 11 54.5 +0.5
comp=Z,8.2nm,0.9s
G27A Dupree 86.76 339 ⇑P P 01 11 54.1 +0.2
baz=87
I22A 9 Mile Ranch, 86.86 335 ⇓P P 01 11 54.4 -0.1
baz=87
F28A McLaughlin 86.87 340 ⇓P P 01 11 54.8 +0.5
baz=87
G26A Maurine 86.88 338 ⇓P P 01 11 54.9 +0.4
baz=87
J20A Shoshoni 86.94 334 ⇓P P 01 11 55.4 +0.5
baz=87
BW06 Boulder Array 86.96 333 *e*P P 01 11 54.2 -0.9
PD31 Pinedale Array 86.96 333 *e*P P 01 11 54.4 -0.7
PDAR Pinedale Array 86.96 333 P P 01 11 54.4 -0.7
comp=Z,0.5nm,0.5s,baz=79,slow=7.7,SNR=5.3
NV01 Mina Array Sit 86.97 325 *e*P P 01 11 56.1 +0.8
NV01 epP pP 01 12 32.3 +0.9
NVAR Mina Array Bea 86.97 325 P P 01 11 55.6 +0.4
comp=Z,1.6nm,0.7s,baz=158,slow=6.1,SNR=11
NVAR pP pP 01 12 32.0 +0.6
comp=Z,0.7nm,0.6s,baz=180,slow=5.0,SNR=3.1
H24A Dirks Ranch, A 86.99 337 ⇓P P 01 11 55.1 +0.1
baz=87,SNR=5.7
G25A Newell 87.04 338 ⇑P P 01 11 55.8 +0.5
baz=87
I21A Big Trails, Te 87.06 335 ⇑P P 01 11 55.8 +0.3
baz=87
F27A Lemmon 87.24 339 ⇓P P 01 11 56.8 +0.6
baz=88
D30A Buchanan 87.48 341 ⇓P P 01 11 58.2 +1.0
baz=88
G23A Biddle 87.66 336 ⇑P P 01 11 58.4 +0.2
baz=88
F25A Bowman 87.71 338 ⇓P P 01 11 59.0 +0.5
baz=88
F24A Ekalaka 87.94 337 ⇑P P 01 12 00.1 +0.6
baz=88
G22A Birney 87.97 336 ⇓P P 01 11 59.6 -0.1
baz=88
D26A Manning 88.41 339 ⇑P P 01 12 01.9 +0.2
baz=89
HLID Hailey 89.50 330 ⇓P P 01 12 08.1 +1.0
baz=90
C23A Lambert 89.92 338 ⇑P P 01 12 08.8 +0.1
baz=90
A22A Carney Farms, 91.20 338 ⇓P P 01 12 15.0 +0.3
baz=92
CUC Castrocucco 110.42 55 *e*Pdif **Pdif 01 13 41.7 +0.4**
ILAR Eielson Array 117.39 332 PKP **PKPdf 01 17 53.6 -0.2**
comp=Z,0.4nm,0.9s,baz=70,slow=1.1,SNR=3.9
ILB Eielson Array 117.39 332 *e*PKPdf **PKPdf 01 17 53.6 -0.2**
PEA2 Petropavlovsk- 142.96 311 *e*PKPpre PKPpre 01 18 39.5
PETK Petropavlovsk- 142.97 311 PKP **PKPdf 01 18 39.5 -2.7**
comp=Z,1.9nm,0.8s,baz=198,slow=4.2,SNR=3.1
BRVK Borovoye 148.73 47 *e*PKPbc **PKPbc 01 18 57.3 +1.3**
BVAR Borovoye Array 148.80 47 PKPbc **PKPbc 01 18 57.4 +1.2**
comp=Z,3.3nm,0.7s,baz=268,slow=4.1,SNR=17
BVAR pPKPbc **pPKPbc 01 19 34.0 0.0**
comp=Z,2.3nm,0.7s,baz=270,slow=1.4,SNR=4.8
KKAR Karatay Array 150.05 66 *e*PKPbc **PKPbc 01 18 58.8 -0.8**
KSH Kashi 153.94 74 *e*PKPbc **PKPdf 01 18 59.2 -1.4**
KSH PKS **PKSdf 01 22 34.4 -0.5**
KSH PP **PP 01 22 56.9 -1.5**
KSH SKS **SKSdf 01 25 48.1 -6.0**
KSH SKKS **SKKSac 01 29 32.7 -1.4**
KSH PPMZ
comp=Z,100nm,4.2s
ZAA1 Zalesovo Array 156.23 37 *e*PKPab **PKPab 01 19 31.8 +0.1**
ZALV Zalesovo Beam 156.23 37 PKPab **PKPab 01 19 31.8 +0.1**
comp=Z,0.9nm,0.6s,baz=307,slow=5.4,SNR=4.3
MJAR Matsushiro Arr 156.76 277 PKPab **PKPab 01 19 34.7 0.0**
comp=Z,2.2nm,0.7s,baz=149,slow=3.9,SNR=6.7
MAJO Matsushiro 156.76 277 *e*PKPab **PKPab 01 19 34.7 0.0**
MK32 Makanchi Array 157.90 56 *e*PKPab **PKPab 01 19 39.4 +0.1**
MK32 *ep*PKPab **pPKPab 01 20 14.8 -1.1**
MKAR Makanchi Array 157.90 56 PKPab **PKPab 01 19 39.4 +0.1**
comp=Z,4.7nm,0.7s,baz=288,slow=4.3,SNR=21
MKAR pPKPab **pPKPab 01 20 14.8 -1.1**
comp=Z,1.3nm,0.7s,baz=297,slow=5.3,SNR=3.2
WMQ Urumqi 162.38 61 *e*PKP **PKPdf 01 19 10.6 0.0**
KSRS Korea Array 165.04 277 PKPab **PKPab 01 20 10.9 +0.1**
comp=Z,0.4nm,0.3s,baz=99,slow=3.5,SNR=4.2
KS15 Wonju Array Si 165.07 277 *e*PKPab **PKPab 01 20 10.9 0.0**
KMI Kunming 166.86 154 PKP **PKPdf 01 19 17.6 +2.3**
CD2 Chengdu 172.37 143 PKP **PKPdf 01 19 18.0 -0.1**
LZH Lanzhou 175.62 102 *e*PKP **PKPdf 01 19 21.0 +1.7**
LZH pPKP **pPKPdf 01 19 58.1 +0.5**
LZH sPKP 01 20 12.5
HHC Hu-ho-hao-te 175.81 334 *e*PKP **PKPdf 01 19 17.6 -1.5**
HHC SS SS 01 46 01.2 -4.6
HHC PPMZ
comp=Z,41nm,10.3s

JMA 08 01:03:56.7±0.6, 44.81N×147.34E, h147km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.85**	**219**	P	Pn	01 04 29.7	-0.1
NEM2				*e*S	Sn	01 04 55.4	+0.2
JNK	**Nakash**	**2.25**	**238**	P	Pn	01 04 35.1	+0.5
JTKR	**Abashiri--Toko**	**2.60**	**252**	P	Pn	01 04 38.7	-0.1
JTKR				*e*S	Sn	01 05 12.2	+0.9
JAK	**Akkeshi**	**2.63**	**227**	P	Pn	01 04 39.6	+0.3
JAK				*e*S	Sn	01 05 12.6	+0.5
JKK2	**Kamakawa 2**	**3.42**	**256**	P	Pn	01 04 49.7	+0.3
JCH	**Churui**	**3.62**	**234**	P	Pn	01 04 52.2	+0.3
JCH				*e*S	Sn	01 05 34.3	-0.4
JNBK	**Urakawa-nobuka**	**4.18**	**234**	P	Pn	01 04 58.7	-0.6
JKB	**Kayabe**	**5.45**	**240**	P	Pn	01 05 15.1	-0.8
JKB				*e*S	Sn	01 06 14.3	-3.5
JOT	**Ohata**	**5.74**	**236**	P	Pn	01 05 18.5	-1.4
JOT				*e*S	Sn	01 06 20.1	-4.7

*ISCJB **08** 01:29:10.9±0.3, 2.71N±0.03×128.58E±0.05, h250km, mb4.3/31, Error ellipse: s-maj=6.7km s-min=4.4km az=166.3*
*NEIC **08** 01:29:11.0±0.9, 2.77N×128.71E, h239km±9km, mb4.4/11, Error ellipse: s-maj=12.8km s-min=6.1km az=77.0*
*IDC **08** 01:29:11.9±1.6, 2.74N×128.61E, h249km±17km, mb3.9/15, mb1 4.0/16, mb1mx3.9/24, mbtmp4.5/16, Error ellipse: s-maj=22.2km s-min=8.4km az=81.0*
*DJA **08** 01:29:14.7±0.6, 3.N±6.×12.8E±., h210km±6km, M4.4/7, mb4.2/3, mB4.7/2, MLv4.5/7, Mw(mB)3.9/2*

ISC 08 01:29:12.2±0.5, 2.73N±0.05×128.50E±0.06, h250km, n66, σ1§42/70, mb4.4/38, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.25**	**210**	P	**Pn**	**01 29 55.6**	**-1.4**
TNTI	**Ternate**	**2.25**	**210**	*e*Pn	**Pn**	**01 29 55.7**	**-1.3**
TNTI				*e*S	**S**	**01 30 29.0**	**-3.4**
SGSI	**Sangihe**	**3.12**	**288**	P	**Pn**	**01 30 04.6**	**-1.3**
SGSI				S	**S**	**01 30 44.3**	**-4.2**
LBMI	**Labuha**	**3.49**	**197**	P	**Pn**	**01 30 09.7**	**-0.4**
LBMI				S	**S**	**01 30 52.5**	**-3.6**
SWI	**Sorong**	**4.51**	**142**	P	**Pn**	**01 30 21.2**	**-0.8**
SIJI	**Sorong**	**4.52**	**142**	P	**Pn**	**01 30 21.5**	**-0.7**
	9.5nm,0.3s,baz=331,slow=14,SNR=17						
SIJI				S	**S**	**01 31 16.9**	**-1.0**
	1.0nm,0.3s,baz=150,slow=20,SNR=3.1						
KMSI	**Cibinong**	**5.00**	**245**	P	**Pn**	**01 30 28.9**	**+0.9**
KMSI				S	**S**	**01 31 27.1**	**-1.2**
SANI	**Sanana**	**5.37**	**208**	P	**Pn**	**01 30 30.1**	**-2.4**
SANI				S	S	01 31 29.3	-7.3
NLAI	**Namlea**	**6.09**	**193**	P	**Pn**	**01 30 41.2**	**-0.2**
	28nm,1.0s,1μm						
LUWI	**Luwuk**	**6.84**	**237**	P	**Pn**	**01 30 50.8**	**-0.1**
LUWI	**Luwuk**	**6.84**	**237**	*e*Pn	**Pn**	**01 30 51.2**	**+0.3**
RKPI	**Ransiki, Papua**	**7.07**	**126**	P	**Pn**	**01 30 55.5**	**+1.8**
SOEI	**Soe**	**13.10**	**199**	*e*Pn	**P**	**01 32 11.2**	**0.0**
SBUM	**Sibu**	**16.27**	**269**	*e*P	**Pn**	**01 32 49.8**	**+2.2**
SZP	**Santa**	**16.72**	**332**	*e*P	**Pn**	**01 32 52.5**	**-0.3**
	69nm,0.6s						
YHNB	**Yeheng**	**22.88**	**343**	*e*P	**P**	**01 33 54.7**	**+0.4**
	25nm,0.8s						
WRAB	**Tennant Creek**	**23.24**	**166**	*e*P	**P**	**01 33 57.6**	**0.0**
	5.1nm,0.4s						
WRA	**Warramunga Arr**	**23.25**	**166**	P	**P**	**01 33 56.9**	**-0.8**
	6.9nm,0.5s,baz=344,slow=10.0,SNR=24						
MBWA	**Marble Bar**	**25.24**	**199**	*e*P	**P**	**01 34 15.8**	**+0.1**
	3.1nm,0.4s						
UBPT	**Khong Chiam**	**25.90**	**300**	P	**P**	**01 34 24.1**	**+2.4**
	15nm,1.0s						
AS31	**Alice Springs**	**26.75**	**169**	*e*P	**P**	**01 34 29.2**	**0.0**
ASAR	**Alice Springs**	**26.75**	**169**	P	**P**	**01 34 28.9**	**-0.3**
	4.2nm,0.6s,baz=354,slow=7.7,SNR=54						
ASAR				PcP	**PcP**	**01 37 45.3**	**-0.3**
	0.9nm,0.4s,baz=351,slow=2.4,SNR=5.9						
SKNT	**Sakolnakorn**	**27.94**	**302**	P	**P**	**01 34 41.8**	**+1.9**
	26nm,0.8s,2μm						
CHAI	**Chaiyaphum**	**29.20**	**298**	P	**P**	**01 34 52.9**	**+1.9**
	6.5nm,0.8s						
PBKT	**Sadao Pong**	**30.36**	**299**	P	**P**	**01 35 03.6**	**+2.4**
	12nm,1.2s,689nm						
UTHA	**Uthaitani**	**31.33**	**296**	P	P	01 35 12.4	+2.7
	5.3nm,0.7s						
LAMP	**Lampang**	**32.34**	**301**	P	P	01 35 21.4	+2.9
	5.5nm,0.9s						
CRAI	**Chiangrai**	**32.49**	**304**	P	**P**	**01 35 19.5**	**-0.3**
	7.4nm,1.2s						
CMAR	**Chiang Mai Arr**	**32.90**	**300**	P	**P**	**01 35 22.9**	**-0.5**
	4.6nm,0.7s,baz=117,slow=6.6,SNR=21						
CMMT	**Chiang Mai**	**33.05**	**301**	P	**P**	**01 35 26.9**	**+2.3**
CHTO	**Chiang Mai**	**33.05**	**301**	P	**P**	**01 35 26.9**	**+2.2**
	61nm,0.9s						
CHTO	**Chiang Mai**	**33.05**	**301**	*e*P	**P**	**01 35 25.7**	**+1.1**
	8.8nm,0.7s						
KSAR	**Wonju Array Be**	**34.55**	**359**	P	**P**	**01 35 38.0**	**+0.7**
KSRS	**Korea Array**	**34.57**	**359**	P	**P**	**01 35 38.0**	**+0.6**
	4.5nm,0.6s,baz=179,slow=10,SNR=23						
MJAR	**Matsushiro Arr**	**34.82**	**14**	P	**P**	**01 35 38.1**	**-1.5**
	7.1nm,0.8s,baz=189,slow=10,SNR=22						
MAJO	**Matsushiro**	**34.83**	**14**	*e*P	**P**	**01 35 38.6**	**-1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	11nm,0.9s						
MAT	Matsushiro	34.83	14	P	P	01 35 38.5	-1.1
STKA	Stephens Creek	36.59	161	P	P	01 35 54.1	-0.5
	5.6nm,0.5s,baz=334,slow=7.1,SNR=29						
STKA	Stephens Creek	36.59	161	eP	P	01 35 54.6	0.0
NWAO	Narrogin (SRO)	37.03	196	P	P	01 35 58.8	+0.5
	13nm,0.6s,baz=330,slow=3.9,SNR=10.0						
USRK	Ussuriysk Ar.	41.42	4	P	P	01 36 33.7	-0.6
	4.9nm,0.7s,baz=191,slow=6.2,SNR=16						
LSA	Lhasa	44.43	311	P	P	01 37 00.7	+1.4
TAPN	Taplejung	46.03	306	eP	P	01 37 13.2	+1.5
	34nm,1.0s						
ODAN	Odare	46.09	305	eP	P	01 37 13.7	+1.7
	46nm,0.7s						
RAMN	Ramite	46.77	305	eP	P	01 37 19.1	+1.8
	41nm,0.6s						
JIRN	Jiri	47.39	306	eP	P	01 37 23.8	+1.6
	25nm,0.5s						
GUN	Gumba	47.74	306	eP	P	01 37 26.3	+1.4
	28nm,0.5s						
PKI	Pulchoki	47.99	305	eP	P	01 37 27.7	+0.9
KKN	Kakani	48.18	306	eP	P	01 37 29.0	+0.9
DMN	Daman	48.25	305	eP	P	01 37 29.7	+1.0
	15nm,0.7s						
GKN	Gorkha	48.79	305	eP	P	01 37 33.7	+1.1
SONM	Songino Array	48.82	340	P	P	01 37 33.2	+0.7
	2.6nm,0.7s,baz=154,slow=8.3,SNR=18						
KOLN	Koldanda	49.55	305	eP	P	01 37 40.0	+1.6
	37nm,0.6s						
PETK	Petropavlovsk-	55.71	21	P	P	01 38 21.9	-0.9
	3.1nm,0.7s,baz=197,slow=4.6,SNR=4.6						
MKAR	Makanchi Array	59.39	325	P	P	01 38 49.4	+0.9
	3.9nm,0.5s,baz=115,slow=8.8,SNR=34						
ZALV	Zalesovo Beam	62.28	333	P	P	01 39 07.0	-0.7
	1.6nm,0.4s,baz=108,slow=5.8,SNR=9.4						
KURK	Kurchatov	63.53	327	eP	P	01 39 16.2	+0.1
	12nm,0.7s						
KKAR	Karatay Array	65.17	317	eP	P	01 39 27.6	+0.8
	3.0nm,0.8s						
BRVK	Borovoye	69.19	327	eP	P	01 39 52.4	+0.6
	6.7nm,0.8s						
ABKAR	Akbulak array	74.04	321	eP	P	01 40 21.0	+0.3
	1.4nm,0.7s						
VNDA	Vanda	82.22	173	P	P	01 41 05.1	+0.2
	1.2nm,0.5s,baz=314,slow=6.3,SNR=8.7						
VNDA	Vanda	82.22	173	eP	P	01 41 05.5	+0.6
	1.0nm,0.8s						
ARCES	ARCESS Array B	91.99	340	P	P	01 41 51.2	-1.0
	4.7nm,0.9s,baz=74,slow=8.9,SNR=5.2						
FINES	FINESS Array B	93.55	332	P	P	01 41 58.7	-0.8
	3.0nm,1.0s,baz=55,slow=5.3,SNR=2.5						
FXWY	Fox Creek	109.59	42	ePdif	Pdif	01 43 10.0	-2.1
TORD	Torodi Ar. Bea	124.91	288	PKP	PKPdf	01 47 44.0	+0.6
	0.2nm,0.6s,baz=52,slow=2.5,SNR=5.2						

KRSC 08 01:42:17.1±1.1, 53°.07N×156°.95E, h276km±7km, ML3.9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APC	Apacha	0.19	138	eP	Pn	01 42 53.2	+0.8
APC				eS	S	01 43 20.3	0.0
MIPR	Malaya Ipel'ka	0.80	188	eP	Pn	01 42 55.0	+0.9
MIPR				eS	S	01 43 24.2	+0.9
GNL	Ganaly	0.87	43	eP	Pn	01 42 55.5	+1.2
GNL				eS	S	01 43 24.8	+1.0
ASAK	Asacha	0.90	139	eP	Pn	01 42 55.9	+1.4
MTVR	Mutnovka	0.95	127	eP	Pn	01 42 56.1	+1.2
MTVR				eS	S	01 43 25.9	+1.2
PET	Petropavlovsk	1.03	92	eP	Pn	01 42 56.1	+1.1
PET				eS	S	01 43 25.7	+0.7
KOK	Koryaka	1.04	77	eP	Pn	01 42 56.7	+1.5
KRX	Arik	1.06	73	eP	Pn	01 42 56.6	+1.2
AVH	Avacha	1.10	79	eP	Pn	01 42 57.0	+1.6
AVH				eS	S	01 43 27.4	+1.6
SMAR	Somma	1.13	79	eP	Pn	01 42 57.2	+1.4
SMAR				eS	S	01 43 27.5	+1.0
UGLR	Uglovaya	1.14	82	eP	Pn	01 42 57.3	+1.6
UGLR				eS	S	01 43 27.9	+1.6
RUS	Russkaya	1.14	123	eP	Pn	01 42 55.9	+0.3
RUS				eS	S	01 43 25.5	-0.6
SDLR	Sedlovina	1.18	79	eP	Pn	01 42 57.3	+1.3
SDLR				eS	S	01 43 27.3	+0.5
NLC	Nalytchevo	1.45	85	eP	Pn	01 42 58.2	+0.8
NLC				eS	S	01 43 29.5	+0.1
PAU	Pauzhetka	1.60	183	eP	Pn	01 42 59.7	+1.0
SPN	Mys Shipunski	1.85	88	eP	Pn	01 43 00.5	0.0
SPN				eS	S	01 43 32.5	-2.4
KZV	Kizimen	2.84	43	eP	Pn	01 43 10.8	+1.1
KZV				eS	S	01 43 51.6	0.0
TUMR	Tumrok	2.91	39	eP	Pn	01 43 12.1	+1.8
TUMR				eS	S	01 43 54.1	+1.4
ESO	Esso	3.04	19	eP	Pn	01 43 12.7	+1.2
MKZ	Mys Kozlova	3.20	60	eP	Pn	01 43 13.2	0.0
SRDR	Sredinnyy	3.63	25	eP	Pn	01 43 19.1	+1.2
KBTR	Krutoberegovo	4.64	45	eP	Pn	01 43 28.5	-0.8
BKI	Bering	5.72	64	eP	Pn	01 43 44.0	+1.8
BKI				eS	S	01 44 46.1	-4.5

*IDC **08** 01:42:35.0±1.1, 2°.92S×101°.33E, h145km±10km, mb3.8/10, mb1 3.9/12, mb1mx3.6/25, mbtmp4.2/12, Error ellipse: s-maj=24.6km s-min=11.0km az=52.0*

*ISCJB **08** 01:42:36.2±0.3, 2°.49S±0°.05×101°.90E±0°.05, h150km, mb4.0/14, Error ellipse: s-maj=8.7km s-min=4.3km az=136.9*

*NEIC **08** 01:42:36.2±1.0, 2°.75S×101°.58E, h151km±8km, mb4.4/4, Error ellipse: s-maj=23.7km s-min=8.1km az=54.0*

*DJA **08** 01:42:38.6±0.5, 2°S±3°×10°2E±°, h122km±6km, M4.5/15, mb5.0/1, MLv4.3/15*

ISC 08 01:42:37.5±0.6, 2°.51S±0°.06×101°.94E±0°.05, h150km, n48, σ0s.99/48, mb4.3/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDSI	Sungai Dareh	1.64	342	P	Pn	01 43 07.9	-0.7
JMBI	JAMBI	1.91	63	P	Pn	01 43 11.2	-0.4
PPSI	Pulau Pagai	1.94	262	P	Pn	01 43 12.7	+0.8
PPSI				S	Sn	01 43 37.2	-1.1
LHSI	Lahat	2.06	130	P	Pn	01 43 13.2	-0.1
MNAI	Manna	2.11	151	P	Pn	01 43 14.0	+0.1
MNAI				S	Sn	01 43 42.1	+0.2
MNAI	Manna	2.11	151	ePn	Pn	01 43 13.7	-0.2
MNAI				eS	Sn	01 43 41.5	-0.4
PDSI	Padang	2.16	317	P	Pn	01 43 15.0	+0.4
PDSI				S	Sn	01 43 40.9	-2.2
BKNI	Bangkinang	2.95	342	P	Pn	01 43 24.5	+0.2
BKNI	Bangkinang	2.95	342	ePn	Pn	01 43 24.5	+0.2
MDSI	Maura Dua	2.98	131	P	Pn	01 43 25.1	+0.5
LWLI	Liwa	3.27	140	P	Pn	01 43 28.6	+0.1
DSRI	Dabo	3.32	53	P	Pn	01 43 28.9	-0.1
KASI	Kota Agung	3.94	140	P	Pn	01 43 36.4	-0.6
KASI				S	Sn	01 44 19.9	-3.3
MNSI	Mandailing Nat	4.04	324	P	Pn	01 43 38.6	+0.3
PPBI	Pangkal Pinang	4.21	85	P	Pn	01 43 41.2	+0.7
GSI	Gunungsitoli	5.77	311	P	Pn	01 44 00.7	-0.5
PSI	Prapat	6.07	330	P	Pn	01 44 03.9	-1.4
	4.1nm,0.3s,baz=154,slow=10.0,SNR=5.9						
KULM	Kulim	7.85	351	ePn	Pn	01 44 28.6	-0.3
KAPI	Kappang	17.95	99	P	Pn	01 46 40.6	+2.7
	3.7nm,0.3s,baz=269,slow=3.6,SNR=10						
KAPI	Kappang	17.95	99	ePn	Pn	01 46 38.9	+1.0
CMAR	Chiang Mai Arr	21.04	352	P	P	01 47 10.7	+1.0
	1.4nm,0.5s,baz=181,slow=8.7,SNR=11						
CMAR				pP	pP	01 47 38.5	+2.2
	1.1nm,0.4s,baz=182,slow=11,SNR=2.8						
H08S2	Diego Garcia H	29.76	259	T	T	02 17 32.0	
	baz=80,slow=75,SNR=42						
H08S3	Diego Garcia H	29.76	259	T	T	02 17 50.3	
	baz=80,slow=75,SNR=26						
H08S1	Diego Carcia H	29.77	259	T	T	02 17 35.0	
	baz=80,slow=75,SNR=43						
TAPN	Taplejung	32.70	336	eP	P	01 48 56.2	+0.1
	10nm,0.5s						
JIRN	Jiri	33.61	334	eP	P	01 49 04.3	+0.2
	13nm,0.3s						
GUN	Gumba	33.96	334	eP	P	01 49 07.1	0.0
	34nm,0.4s						
H01W3	Cape Leeuwin H	34.16	162	T	T	02 24 14.4	
	baz=337						
H01W2	Cape Leeuwin H	34.17	162	T	T	02 24 12.4	
	baz=337						
H01W1	Cape Leeuwin H	34.17	162	T	T	02 24 07.9	
	baz=337						
GKN	Gorkha	34.60	332	eP	P	01 49 12.3	-0.1
	9.8nm,0.4s						
KOLN	Koldanda	34.89	331	eP	P	01 49 15.2	+0.2
WRA	Warramunga Arr	36.07	121	P	P	01 49 24.7	-0.3
	0.7nm,0.3s,baz=299,slow=9.5,SNR=7.2						
WRA				pP	pP	01 49 56.8	-0.6
	0.6nm,0.7s,baz=301,slow=8.9,SNR=1.3						
WRAB	Tennant Creek	36.08	121	eP	P	01 49 25.5	+0.4
	0.9nm,0.4s						
ASAR	Alice Springs	37.40	127	P	P	01 49 36.0	-0.2
	1.1nm,0.5s,baz=302,slow=8.0,SNR=17						
ASAR				pP	pP	01 50 06.9	-1.9
	0.6nm,0.7s,baz=305,slow=8.5,SNR=2.2						
STKA	Stephens Creek	47.38	132	P	P	01 50 57.0	+0.3
	2.2nm,0.3s,baz=316,slow=6.4,SNR=23						
SONM	Songino Array	50.28	4	P	P	01 51 19.3	+0.6
	1.3nm,0.4s,baz=185,slow=9.7,SNR=13						
TKM2	Tokmak 2	51.08	335	eP	P	01 51 25.2	+0.3
	5.9nm,0.8s						
EKS2	Erkin-Say	51.65	334	eP	P	01 51 28.5	-0.6
	7.9nm,0.8s						
MK31	Makanchi Array	52.05	343	eP	P	01 51 31.8	0.0
MKAR	Makanchi Array	52.05	343	P	P	01 51 31.3	-0.5
	1.3nm,0.4s,baz=160,slow=9.1,SNR=27						
ZAA0	Zalesovo Array	58.04	348	eP	P	01 52 14.8	+0.3
ZALV	Zalesovo Beam	58.04	348	P	P	01 52 14.1	-0.5
	2.3nm,0.3s,baz=164,slow=7.3,SNR=14						
ABKAR	Akbulak array	63.02	331	eP	P	01 52 47.9	-0.6
	3.1nm,0.5s						
KMBO	Kilima Mbogo	64.66	270	P	P	01 52 53.5	-6.7
	2.8nm,0.3s,baz=40,slow=2.9,SNR=13						
BRTR	Keskin Array B	75.09	312	P	P	01 54 02.3	-1.0
	0.4nm,0.5s,baz=147,slow=7.9,SNR=3.2						
ARCES	ARCESS Array B	87.60	340	P	P	01 55 08.5	+0.1
	1.6nm,0.9s,baz=92,slow=6.8,SNR=3.7						
TXAR	Lajitas Array	143.89	40	PKP	PKPab	02 01 52.8	-0.5
	0.4nm,0.5s,baz=232,slow=1.0,SNR=3.8						

*NIED **08** 01:56:00, 30°.60N×142°.40E, h5km, Mw4.6 Best double couple: Mo9.86000×10^15 NP1:φs165.00000°, δ40.00000°, λ79.00000°. NP2:φs359.00000°, δ51.00000°, λ99.00000°.*

*IDC **08** 01:56:32.3±0.4, 30°.48N×142°.08E, h0km, mb4.5/26, mb1 4.7/30, mb1mx4.7/32, mbtmp4.5/30, ML4.4/3, MS3.9/21, Ms1 4.0/21, ms1mx3.8/32, Error ellipse: s-maj=15.5km s-min=10.9km az=81.0*

*JMA **08** 01:56:33.8±0.1, 30°.55N×142°.44E, h50km, M4.6*

*BJI **08** 01:56:33.8, 30°.49N×142°.10E, h28km, mb4.8/62, mB4.8/41, Ms4.5/54, Ms7 4.2/53*

*ISCJB **08** 01:56:36.0±0.2, 30°.48N±0°.02×142°.00E±0°.03, h33km, mb4.7/97, MS4.0/22, Error ellipse: s-maj=3.7km s-min=2.7km az=168.1*

*MOS **08** 01:56:35.9±1.1, 30°.47N×142°.04E, h33km, mb5.0/46, Error ellipse: s-maj=9.7km s-min=4.7km az=114.1*

*NEIC **08** 01:56:37.1±1.5, 30°.44N×142°.06E, h31km±10km, mb4.7/56, MW4.6(NIED), Error ellipse: s-maj=5.1km s-min=4.3km az=109.0*

ISC 08 01:56:37.1±0.4, 30°.51N±0°.03×142°.06E±0°.04, h31km±2km, h31km:pP-P, n326, σ1s.42/392, mb4.7/106, MS4.1/23, 21C-27D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	3.20	324	P	Pn	01 57 26.0	+0.8
JHCJ				eS	Sn	01 58 04.4	+2.1
JHJ2	Mitsune	3.22	324	P	Pn	01 57 26.0	+0.5
JHJ2				S	Sn	01 58 03.6	+0.8
JHJ2	Mitsune	3.22	324	ePn	Pn	01 57 24.9	-0.6
JHJ2				eS	Sn	01 58 04.8	+2.0
CBIJ	Chichi jima	3.40	178	P	Pn	01 57 26.9	-1.1
CBIJ				S	Sn	01 58 04.8	-2.5
CBIJ	Chichi jima	3.40	178	ePn	Pn	01 57 25.6	-2.4
CBIJ				eS	Sn	01 58 02.2	-5.1
JCJ	Chichijima	3.40	178	Pn	Pn	01 57 27.1	-0.9
	24nm,0.3s,baz=85,slow=17,SNR=21						
JCJ				Sn	Sn	01 58 02.5	-4.8
	66nm,0.3s,baz=214,slow=24,SNR=8.5						
JHHJ	Haha-jima-NKT	3.87	178	P	Pn	01 57 33.5	-0.9
JHHJ				S	Sn	01 58 16.7	-2.0
BSO1	Boso 1	4.23	348	P	Pn	01 57 37.6	-1.3
BSO1				S	Sn	01 58 27.9	+0.9
JKO	Kozu shima	4.42	327	P	Pn	01 57 43.1	+1.1
JKO				S	Sn	01 58 34.9	+2.4
BSO3	Boso 3	4.48	343	P	Pn	01 57 41.7	-0.8
BSO4	Boso 4	4.70	342	P	Pn	01 57 45.8	+0.1
BSO4				S	Sn	01 58 40.0	+0.9
JOD2	Odawara 2	5.36	333	P	Pn	01 57 55.8	+0.9
JOD2				S	Sn	01 58 54.3	-1.3
JHU	Hanno	5.82	337	P	Pn	01 58 01.1	-0.1
JHU				S	Sn	01 59 04.0	-2.8
JRY	Ryogami san	6.10	335	P	Pn	01 58 04.6	-0.5
JRY				S	Sn	01 59 12.6	-1.2
JHO	Hitachi	6.21	349	P	Pn	01 58 04.4	-2.2
JHO				S	Sn	01 59 10.8	-5.8
JAG	Ashikaga	6.29	340	P	Pn	01 58 06.6	-1.1
JAG				S	Sn	01 59 15.4	-3.1
MJAR	Matsushiro Arr	6.82	333	Pn	Pn	01 58 15.1	0.0
	5.6nm,0.3s,baz=156,slow=11,SNR=109						
MJAR				Sn	Sn	01 59 32.2	+0.6
	2.9nm,0.3s,baz=167,slow=17,SNR=7.2						
MJAR				LR	LR	02 00 44.8	
	comp=Z,718nm,18.9s,baz=155,slow=37						
MAJO	Matsushiro	6.82	333c	iP	Pn	01 58 15.3	+0.3
MAJO	Matsushiro	6.82	333	ePn	Pn	01 58 15.5	+0.5
MAJO				eS	Sn	01 59 19.9	-12
MAT	Matsushiro	6.82	333	P	Pn	01 58 15.4	+0.4
MAT				S	Sn	01 59 31.8	+0.1
JFK	Kawauchi	6.91	352	S	Sn	01 59 24.9	-8.9
JNU	Nakatsue	9.86	288	Pn	Pn	01 58 59.3	+2.5
	0.4nm,0.3s,baz=96,slow=6.5,SNR=3.4						
JNU				LR	LR	02 02 48.7	
	comp=Z,665nm,18.4s,baz=130,slow=38						
ERM	Erimo	11.52	4	eP	Pn	01 59 14.5	-4.8
ERM				pmax	pmax		
	comp=Z,22nm,0.8s						
ERM	Erimo	11.52	4	ePn	Pn	01 59 14.5	-4.8
	comp=Z,22nm,0.8s						
ERM				eS	Sn	02 01 10.2	-17
ASAJ	Asahikawa	13.59	2	Pn	Pn	01 59 44.3	-3.4
	baz=214,slow=13						
ASAJ				Sn	Sn	02 02 06.8	-11
	baz=131,slow=19						
ASAJ	Asahikawa	13.59	2	ePn	Pn	01 59 44.4	-3.3
ASAJ				eS	Sn	02 02 07.9	-10
KSRS	Korea Array	13.62	304	Pn	Pn	01 59 50.2	+2.2
	comp=Z,0.3nm,0.3s,baz=115,slow=14,SNR=18						
KSRS				LR	LR	02 05 17.7	
	comp=Z,467nm,19.1s,baz=109,slow=38						
KSAR	Wonju Array Be	13.64	304	P	Pn	01 59 50.2	+1.9
KSAR	Wonju Array Be	13.64	304	Pn	Pn	01 59 50.2	+1.9
YUK	Yuzh-Kuril'sk	13.84	12	eP	Pn	01 59 53.9	+3.0
YUK				i S	Sn	02 02 27.0	+3.6
YUK				pmax	pmax		
	comp=Z,31nm,0.9s						
YUK				pmax	pmax		
	comp=Z,61nm,2.0s						
YUK				smax	smax		
	comp=N,263nm,3.0s						
YUK				smax	smax		
	comp=E,188nm,3.0s						
YUK				MLR	MLR		
	comp=N,220nm,8.0s						
YUK				MLR	MLR		
	comp=E,206nm,8.0s						
YUK				MLR	MLR		
	comp=Z,180nm,8.0s						
INCN	Inchon	14.55	303	ePn	Pn	02 00 01.4	+0.5
VLA	Vladivostok	14.98	330	⇑P	Pn	02 00 07.1	+0.6
VLA				S	Sn	02 02 51.7	+0.4
VLA				pmax	pmax		
	comp=Z,20nm,0.6s						
USRK	Ussuriysk Ar.	15.82	333	Pn	Pn	02 00 15.3	-2.1
	comp=Z,0.1nm,0.3s,baz=145,slow=13,SNR=13						
YSS	Yuzh-Sakhalins	16.43	2	eP	Pn	02 00 21.0	-4.2
YSS				MLR	MLR		
	comp=N,600nm,14.0s						
YSS				MLR	MLR		
	comp=E,700nm,14.0s						
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
YSS	Yuzh-Sakhalins	16.43	2	ePn	Pn	02 00 25.2	0.0
GUMO	Guam	17.04	171	P	Pn	02 00 33.1	+0.1
	comp=Z,3.0nm,0.3s,baz=10,slow=11,SNR=3.0						
GUMO				LR	LR	02 06 49.7	
	comp=Z,488nm,18.2s,baz=352,slow=36						
MDJ	Mudanjiang	17.18	329	P	P	02 00 36.1	+0.1
MDJ				pP	pP	02 00 45.1	+0.9
MDJ				sP	sP	02 00 48.6	+0.4
MDJ				PMZ			
	comp=Z,31nm,0.8s						
MDJ				PMZ			
	comp=Z,62nm,6.4s						
MDJ				LN			
	comp=Z,450nm,18.4s						
MDJ				LE			
	comp=Z,500nm,16.2s						
MDJ				LZ			
	comp=Z,540nm,18.4s						
MDJ	Mudanjiang	17.18	329	ePn	P	02 00 36.1	+0.1
	comp=Z,35nm,1.0s						
YOJ	Yonaguni jima	17.93	255	eP	Pn	02 00 40.2	-3.9
YOJ	Yonaguni jima	17.93	255	ePn	Pn	02 00 40.2	-3.9
UGL	Uglegorsk	18.55	0	P	P	02 00 50.0	-1.1
UGL				eS	Sn	02 04 15.4	-2.3
SNY	Shenyang	18.67	312	⇑P	Pn	02 00 52.9	-0.1
SNY				PMZ			
	comp=Z,11nm,0.5s						
SNY				PMZ			
	comp=Z,190nm,5.7s						
SNY				LN			
	comp=Z,900nm,15.1s						
SNY				LE			
	comp=Z,400nm,15.2s						
SNY				LZ			
	comp=Z,560nm,16.7s						
CN2	Changchun	18.70	320	eP	P	02 00 51.8	-1.0
CN2				eS	S	02 04 24.2	+0.3
CN2				PMZ			
	comp=Z,20nm,1.0s						
CN2				LN			
	comp=Z,590nm,15.0s						
CN2				LE			
	comp=Z,730nm,15.0s						
CN2				LZ			
	comp=Z,460nm,18.0s						
HABR	Khabarovsk	18.72	345	eP	P	02 00 51.3	-1.7
HABR				eS	Sn	02 04 19.3	-2.7
HABR				pmax	pmax		
	comp=Z,22nm,1.4s						
HABR				MLR	MLR		
	comp=Z,387nm,18.0s						
TATO	Taipei	19.01	258	ePn	Pn	02 00 56.9	-0.3
YHNB	Yeheng	19.22	257	eP	P	02 00 58.5	-0.3
	comp=Z,44nm,0.8s						
NACB	Ninganchiao	19.23	256	eP	P	02 00 58.6	-0.1
	comp=Z,25nm,1.0s						
YULB	Yu-li	19.80	254	eP	P	02 01 05.3	+0.3
	comp=Z,22nm,0.7s						
NJ2	Nanjing	19.89	280	eP	Pn	02 01 07.4	-0.3
NJ2				S	Sn	02 04 49.5	-0.9
NJ2				PMZ			
	comp=Z,50nm,0.6s						
NJ2				LN			
	comp=Z,900nm,19.8s						
NJ2				LE			
	comp=Z,990nm,17.7s						
NJ2				LZ			
	comp=Z,1μm,16.8s						
SSLB	Suanglung	19.92	255	eP	P	02 01 06.4	0.0
	comp=Z,64nm,1.0s						
TWG	Pinlang	20.24	253	P	P	02 01 09.3	-0.5
KLR	Kul'dur	20.27	340	eP	P	02 01 04.6	-5.3
TYV	Tymovskoe	20.34	1	eP	Pn	02 01 12.0	-0.8
TYV				pmax	pmax		
	comp=Z,18nm,0.8s						
TYV				MLR	MLR		
	comp=E,1μm,14.0s						
TPUB	Ta-pu	20.39	255	P	Pn	02 01 13.1	-0.7
TIA	Tai'an	21.56	292	eP	P	02 01 23.7	-0.3
TIA				S	S	02 05 22.7	+1.4
TIA				PMZ			
	comp=E,10.0nm,0.8s						
TIA				LN			
	comp=E,680nm,14.0s						
TIA				LE			
	comp=E,740nm,15.0s						
TIA				LZ			
	comp=E,860nm,15.0s						
BJT	Baijiatuau	23.10	301	eP	P	02 01 38.8	-1.5
BJT				pmax	pmax		
	comp=Z,29nm,0.7s						
BJT	Baijiatuau	23.10	301	eP	P	02 01 38.8	-1.5
	comp=Z,29nm,0.7s						
BJI	Beijing	23.11	301	P	P	02 01 39.0	-1.3
BJI				S	S	02 05 49.1	-0.3
BJI				PMZ			
	comp=Z,35nm,1.2s						
BJI				PMZ			
	comp=Z,130nm,3.7s						
BJI				LN			
	comp=Z,310nm,13.8s						
BJI				LE			
	comp=Z,690nm,17.9s						
BJI				LZ			
	comp=Z,410nm,19.0s						
HIA	Hailar	25.22	324	eP	P	02 02 00.0	0.0
HIA				pmax	pmax		
	comp=Z,15nm,0.7s						
HIA	Hailar	25.22	324	eP	P	02 02 00.0	0.0
	comp=Z,15nm,0.7s						
PETK	Petropavlovsk-	25.30	22	P	P	02 02 02.0	+1.3
	comp=Z,0.6nm,0.5s,baz=151,slow=3.3,SNR=2.1						
PETK				LR	LR	02 12 34.1	
	comp=Z,158nm,20.8s,baz=219,slow=38						
H11S3	WAKE ISLAND Hy	25.34	112	T	T	02 28 08.4	
	baz=300						
H11S1	WAKE ISLAND Hy	25.34	112	T	T	02 28 22.3	
	baz=300						
H11S2	WAKE ISLAND Hy	25.36	112	T	T	02 28 14.8	
	baz=300						
HHC	Hu-ho-hao-te	26.71	301	eP	P	02 02 13.0	-0.7
HHC				sP	sP	02 02 26.7	+0.2
HHC				PP	PnPn	02 02 58.0	+2.6
HHC				S	S	02 06 42.4	-4.9
HHC				sS	sS	02 06 57.5	-4.8
HHC				SS	SnSn	02 07 56.8	+4.8
HHC				PMZ			
	comp=Z,16nm,0.7s						
HHC				PMZ			
	comp=Z,100nm,4.4s						
HHC				LN			
	comp=Z,400nm,10.5s						
HHC				LE			
	comp=Z,550nm,10.5s						
HHC				LZ			
	comp=Z,700nm,10.8s						
XAN	Xi'an	28.17	286	P	P	02 02 24.8	-2.0
XAN				pP	pP	02 02 33.8	-2.0
XAN				sP	sP	02 02 37.3	-2.3
XAN				PMZ			
	comp=Z,5.0nm,1.2s						
XAN				PMZ			
	comp=Z,16nm,6.0s						
GYA	Guiyang	31.29	271	P	P	02 02 55.8	+1.2
GYA				pP	pP	02 03 04.6	+0.9
GYA				PP	PnPn	02 03 59.3	+2.0
GYA				S	S	02 07 58.2	-1.4
GYA				sS	sS	02 08 15.0	+0.4
GYA				SS	SnSn	02 09 43.6	-0.2
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
GYA				PMZ			
	comp=Z,90nm,5.0s						
GYA				LN			
	comp=Z,620nm,17.8s						
GYA				LE			
	comp=Z,580nm,18.2s						
GYA				LZ			
	comp=Z,610nm,17.9s						
QIZ	Qiongzhong	31.30	256	P	P	02 02 54.9	+0.4
QIZ				pP	pP	02 03 03.7	+0.1
QIZ				sP	sP	02 03 07.5	+0.1
QIZ				S	S	02 08 00.0	+0.5
QIZ				PMZ			
	comp=Z,16nm,2.4s						
QIZ				LZ			

comp=Z,190nm,18.6s
SONM Songino Array 32.25 313 P **P** **02 03 03.9 +1.1**
comp=Z,6.4nm,0.7s,baz=96,slow=7.8,SNR=25
SONM PcP **PcP** **02 05 51.3 +0.7**
comp=Z,2.6nm,1.1s,baz=151,slow=3.3,SNR=4.2
SONM LR LR 02 16 55.4
comp=Z,489nm,18.1s,baz=105,slow=38
LZH Lanzhou 32.28 290 *e*P **P** **02 03 02.6 -0.6**
LZH pP **pP** **02 03 12.3 0.0**
LZH sP **sP** **02 03 16.4 +0.3**
LZH *e*PP **PnPn** **02 04 10.2 +0.2**
LZH *e*S **S** **02 08 13.0 -1.9**
LZH sS **sS** **02 08 28.2 -1.7**
LZH *e*SS **SnSn** **02 10 07.1 -0.6**
LZH PMZ
comp=Z,29nm,1.0s
LZH PMZ
comp=Z,130nm,5.6s
LZH LN
comp=Z,310nm,12.5s
LZH LE
comp=Z,480nm,13.0s
LZH LZ
comp=Z,680nm,16.3s
YAK Yakutsk 32.55 349 P **P** **02 03 04.9 -0.1**
comp=Z,2.7nm,0.4s,baz=75,slow=20,SNR=1.7
YAK Yakutsk 32.55 349 *e*P **P** **02 03 04.0 -1.1**
YAK *e**PP **pP** **02 03 12.9 -1.2**
YAK *e*PPP PPP 02 04 20.7
YAK *e* 02 05 50.7
YAK *e*S **S** **02 08 17.9 -0.3**
YAK *e**SS **sS** **02 08 33.6 +0.4**
YAK *e* 02 13 32.3
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK smax smax
comp=N,65nm,2.7s
YAK smax smax
comp=E,33nm,2.5s
YAK MLR MLR
comp=Z,291nm,17.0s
YAK MLR MLR
comp=E,124nm,15.0s
YAK MLR MLR
comp=N,202nm,17.0s
CD2 Chengdu 32.83 281 *e*P **P** **02 03 07.0 -0.9**
CD2 pP **pP** **02 03 16.6 -0.4**
CD2 PP **PP** **02 04 21.3 -1.1**
CD2 PcP **PcP** **02 05 51.7 -0.7**
CD2 S **S** **02 08 22.1 -1.2**
CD2 sS **sS** **02 08 38.6 +0.3**
CD2 PMZ
comp=N,10.0nm,0.5s
CD2 PMZ
comp=N,120nm,5.2s
CD2 LN
comp=N,560nm,12.7s
CD2 LE
comp=N,440nm,14.2s
CD2 LZ
comp=N,480nm,15.6s
SIJI Sorong 32.85 200 P **P** **02 03 07.5 -0.6**
comp=N,5.9nm,0.3s,baz=357,slow=18,SNR=4.3
SEY Seymchan 33.11 9 P **P** **02 03 08.7 -1.2**
comp=N,2.6nm,0.6s,baz=203,slow=7.7,SNR=7.7
BOD Bodaibo 33.46 333 *e*P **P** **02 03 13.3 +0.3**
BOD pmax pmax
comp=Z,8.0nm,1.1s
ZAK Zakamensk 35.04 316 *e*P **P** **02 03 26.2 -0.8**
ZAK pmax pmax
comp=Z,10.0nm,1.6s
KMI Kunming 35.06 271 P **P** **02 03 28.9 +1.3**
KMI PMZ
comp=Z,8.0nm,0.9s
TLY Talaya 35.28 318 P **P** **02 03 29.6 +0.7**
comp=Z,8.8nm,0.8s,baz=130,slow=6.1,SNR=13
TLY Talaya 35.28 318 *e*P **P** **02 03 30.8 +1.8**
TLY *e*S **S** **02 08 56.2 -4.6**
TLY pmax pmax
comp=Z,11nm,0.7s
TLY MLR MLR
comp=Z,389nm,16.0s
TLY Talaya 35.28 318 *e*P **P** **02 03 29.5 +0.5**
comp=Z,14nm,0.9s
GTA Gaotai 35.48 296 *e*P **P** **02 03 30.5 -0.4**
GTA pP **pP** **02 03 40.5 +0.4**
GTA sP **sP** **02 03 44.3 +0.5**
GTA S **S** **02 09 02.5 -1.8**
GTA sS **sS** **02 09 18.4 -0.9**
GTA SS **SnSn** **02 11 21.3 -3.8**
GTA PMZ
comp=Z,12nm,1.3s
GTA PMZ
comp=Z,91nm,4.9s
GTA LN
comp=Z,230nm,15.7s
GTA LE
comp=Z,390nm,16.6s
GTA LZ
comp=Z,430nm,18.1s
UBPT Khong Chiam 36.77 254 P P 02 03 47.2 +5.2
MOY Mondy 36.83 317 *e*P **P** **02 03 43.4 +1.1**
SKNT Sakolnakorn 37.18 258 P **P** **02 03 46.3 +0.7**
comp=Z,20nm,1.1s,comp=Z,1µm
CHAI Chaiyaphum 39.37 258 P **P** **02 04 04.1 +0.1**
comp=Z,8.5nm,0.8s
PBKT Sadao Pong 39.92 259 P **P** **02 04 09.6 +1.1**
comp=Z,14nm,0.8s,comp=Z,884nm
CMMT Chiang Mai 40.65 264 P **P** **02 04 14.3 -0.3**
comp=Z,14nm,1.0s
CHTO Chiang Mai 40.65 264 P **P** **02 04 14.4 -0.2**
comp=Z,51nm,1.0s
CHTO Chiang Mai 40.65 264 *e*P **P** **02 04 13.8 -0.8**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 40.65 264 *e*P **P** **02 04 13.8 -0.8**
comp=Z,8.0nm,0.8s
CMAR Chiang Mai Arr 40.80 263 P **P** **02 04 14.7 -1.2**
comp=Z,2.2nm,0.6s,baz=56,slow=6.9,SNR=14
CMAR PcP **PcP** **02 06 17.7 +1.1**
comp=Z,4.5nm,1.0s,baz=29,slow=1.3,SNR=13
CMAR LR LR 02 23 03.6
comp=Z,218nm,18.3s,baz=88,slow=39
UTHA Uthaitani 41.68 259 P **P** **02 04 24.4 +1.3**
comp=Z,6.2nm,0.9s
TIXI Tiksi 41.82 354 *e*P **P** **02 04 23.0 -0.5**
TIXI pmax pmax
comp=Z,5.0nm,1.1s
TIXI Tiksi 41.82 354 *e*P **P** **02 04 23.0 -0.5**
comp=Z,4.7nm,1.1s
WMQ Urumqi 44.56 303 P **P** **02 04 47.6 +1.4**
WMQ pP **pP** **02 04 57.5 +2.0**
WMQ sP **sP** **02 05 01.4 +2.2**
WMQ PcP **PP** **02 06 30.6 +0.3**
WMQ PP **PcP** **02 06 32.9 +4.0**
WMQ S **S** **02 11 20.7 +0.8**
WMQ PMZ
comp=Z,6.0nm,1.0s
WMQ PMZ
comp=Z,98nm,4.1s
WMQ LN
comp=Z,220nm,17.0s
WMQ LE
comp=Z,64nm,6.8s
WMQ LZ
comp=Z,100nm,21.4s
ZAA0 Zalesovo Array 46.88 317 *e*P **P** **02 05 04.3 +0.1**
ZALV Zalesovo Beam 46.88 317 P **P** **02 05 04.3 +0.1**
comp=Z,4.7nm,0.8s,baz=94,slow=7.1,SNR=14
ZALV PcP **PcP** **02 06 37.0 +0.4**
comp=Z,4.9nm,0.6s,baz=103,slow=3.8,SNR=6.6
ZALV LR LR 02 25 42.5
comp=Z,264nm,18.3s,baz=70,slow=37
ZALV Zalesovo Beam 46.88 317 *i* P **P** **02 05 05.1 +0.9**
ZALV pmax pmax
comp=Z,5.0nm,0.8s
TAPN Taplejung 47.29 280 *e*P **P** **02 05 08.7 +0.5**
ODAN Odare 47.71 280 *e*P **P** **02 05 11.0 -0.4**
comp=Z,8.1nm,0.5s
NVS Novosibirsk 47.90 318⇑ *i*P **P** **02 05 12.4 +0.3**
NVS pmax pmax
comp=N,7.0nm,1.1s
NVS pmax pmax
comp=E,14nm,1.1s
NVS pmax pmax
comp=Z,19nm,1.1s
MK31 Makanchi Array 48.27 307 *e*P **P** **02 05 15.7 +0.5**
MK31 Makanchi Array 48.27 307 *e*P **P** **02 05 15.7 +0.5**
MKAR Makanchi Array 48.27 307 P **P** **02 05 15.7 +0.5**
comp=Z,7.9nm,0.7s,baz=90,slow=8.9,SNR=35
MKAR LR LR 02 26 55.1
comp=Z,180nm,18.5s,baz=76,slow=38
MKAR Makanchi Array 48.27 307 *c e*P **P** **02 05 16.0 +0.8**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 48.27 307 *e*P **P** **02 05 16.1 +0.8**
RAMN Ramite 48.35 280 *e*P **P** **02 05 16.4 0.0**
comp=Z,20nm,0.7s
JIRN Jiri 48.49 281 *e*P **P** **02 05 17.7 +0.2**
comp=Z,39nm,0.8s
GUN Gumba 48.67 282 *e*P **P** **02 05 18.5 -0.5**
comp=Z,26nm,0.7s
PKI Pulchoki 49.17 281 *e*P **P** **02 05 22.9 +0.1**
PSI Prapat 49.19 244 LR LR 02 27 38.0
comp=Z,74nm,18.7s,slow=38
KKN Kakani 49.22 282 *e*P **P** **02 05 22.7 -0.3**
comp=Z,19nm,0.8s
DMN Daman 49.42 282 *e*P **P** **02 05 24.5 0.0**
comp=Z,14nm,0.6s
LEM Lembang 49.67 227 LR LR 02 28 00.6
comp=Z,54nm,18.8s,baz=50,slow=38
GKN Gorkha 49.70 282 *e*P **P** **02 05 26.3 -0.2**
KURK Kurchatov 50.56 313 P **P** **02 05 32.6 +0.1**
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 50.56 313 *e*P **P** **02 05 32.7 +0.1**
comp=Z,23nm,1.1s
KOLN Koldanda 50.64 282 *e*P **P** **02 05 33.2 -0.6**
comp=Z,17nm,0.7s
WRAB Tennant Creek 50.70 189 *e*P **P** **02 05 32.8 -1.0**
WRAB *e* 02 05 44.4
WRAB pmax pmax
comp=Z,26nm,0.8s
WRAB Tennant Creek 50.70 189 *e*P **P** **02 05 32.8 -1.0**
comp=Z,26nm,0.8s
WRAB *e* 02 05 44.4
WRA Warramunga Arr 50.70 189 P **P** **02 05 32.9 -1.0**
comp=Z,14nm,0.8s,baz=8.7,slow=8.0,SNR=54
KDAK Kodiak Island 51.74 38 *ce*P **P** **02 05 41.5 +0.3**
IM04 Indian Mountai 52.06 28 *e*P **P** **02 05 43.3 -0.3**
PPLA Purkeypile 52.31 32 *e*P **P** **02 05 46.3 +0.6**
comp=Z,4.5nm,0.8s
KTH Kantishna Hill 52.95 31 *e*P **P** **02 05 51.0 +0.7**
comp=Z,7.9nm,0.8s
KTH *e* 02 06 01.4
BPAW Bear Paw Mtn. 52.98 30 *e*P **P** **02 05 51.7 +1.3**
comp=Z,1.4nm,1.2s
ULHL Ulahol 53.07 302 P **P** **02 05 52.4 +0.7**
SNR=9.9
TRF Thorofare Moun 53.22 31 *e*P **P** **02 05 52.6 +0.2**
comp=Z,4.7nm,0.9s
TKM2 Tokmak 2 53.42 303 P **P** **02 05 55.3 +1.0**
SNR=8.0
TKM2 Tokmak 2 53.42 303 *e*P **P** **02 05 55.1 +0.8**
TKM2 pmax pmax
comp=Z,6.0nm,0.7s
TKM2 Tokmak 2 53.42 303 *e*P **P** **02 05 55.1 +0.8**
comp=Z,6.5nm,0.7s
COLD Coldfoot 53.66 27 *e*P **P** **02 05 56.6 +1.2**
comp=Z,2.5nm,0.9s
KSH Kashi 53.79 299 P P 02 06 01.0 +4.1
KSH sP sP 02 06 13.8 +3.7
KSH PcP **PcP** **02 07 05.2 +2.7**
KSH PP PP 02 08 04.8 +6.9
KSH PcS **PcS** **02 11 03.3 +1.4**
KSH S **S** **02 13 32.9 +3.3**
KSH sS sS 02 13 52.4 +7.2
KSH SS **SS** **02 17 14.9 +4.5**
KSH PMZ
comp=Z,17nm,0.8s
KSH PMZ
comp=Z,120nm,3.7s
KSH LN
comp=Z,110nm,5.1s
KSH LE
comp=Z,84nm,4.7s
KSH LZ
comp=Z,170nm,6.5s
KZA Kyzart 53.82 302 P **P** **02 05 59.5 +2.0**
SNR=12
MCK McKinley 53.85 31 *e*P **P** **02 05 57.5 +0.7**
MCK *e**PP **pP** **02 06 07.9 +1.6**
MCK pmax pmax
comp=Z,9.0nm,1.0s
MCK McKinley 53.85 31 *e*P **P** **02 05 57.5 +0.7**
comp=Z,8.5nm,1.0s
MCK *e*pP **pP** **02 06 07.9 +1.6**
KBK Karagaybulak 53.94 303 P **P** **02 05 59.1 +1.1**
SNR=14
USP Ospenovka 54.15 304 P **P** **02 06 00.3 +1.0**
SNR=6.9
AAK Ala-Archa 54.27 303 P **P** **02 06 01.4 +1.0**
SNR=6.1
AAK Ala-Archa 54.27 303 P **P** **02 06 00.6 +0.2**
comp=Z,7.6nm,0.8s,baz=123,slow=6.0,SNR=14
AAK Ala-Archa 54.27 303⇑ *i*P **P** **02 06 01.6 +1.2**
AAK pmax pmax
comp=Z,17nm,0.8s
AAK Ala-Archa 54.27 303 *e*P **P** **02 06 01.3 +0.9**
comp=Z,6.4nm,0.7s
UCH Uchtor 54.33 302 P **P** **02 06 03.0 +1.7**
SNR=9.7
COLA College 54.39 30 P **P** **02 06 01.6 +0.9**
COLA pmax pmax
comp=Z,4.0nm,0.6s
COLA College 54.39 30 P **P** **02 06 01.6 +0.9**
comp=Z,3.5nm,0.6s
CCB Clear Creek Bu 54.40 30 *e*P **P** **02 06 02.7 +2.0**
comp=Z,27nm,2.4s
AS31 Alice Springs 54.43 189 *e*P **P** **02 06 00.2 -1.3**
ASAR Alice Springs 54.43 189 P **P** **02 06 00.5 -1.0**
comp=Z,6.0nm,0.8s,baz=8.6,slow=6.0,SNR=31
ASAR LR LR 02 27 39.9
comp=Z,155nm,21.0s,baz=356,slow=34
EKS2 Erkin-Say 54.78 303 *e*P **P** **02 06 05.0 +0.9**
EKS2 pmax pmax
comp=Z,3.0nm,0.7s
EKS2 Erkin-Say 54.78 303 *e*P **P** **02 06 05.0 +0.9**
comp=Z,3.4nm,0.7s
ILAR Eielson Array 54.80 30 P **P** **02 06 03.1 -0.6**
comp=Z,3.3nm,1.0s,baz=262,slow=5.9,SNR=31
ILAR LR LR 02 27 24.2
comp=Z,61nm,21.6s,baz=296,slow=34
OTUK Ortayu 54.85 310 P **P** **02 06 04.7 +0.3**
OTUK pmax pmax
comp=Z,20nm,0.9s
AML Almayashu 54.95 302 P **P** **02 06 07.0 +1.4**
SNR=11
BVA0 Borovoye Array 55.49 316 *i* P **P** **02 06 09.1 +0.2**
BVA0 pmax pmax
comp=Z,8.0nm,0.7s
BRVK Borovoye 55.55 316⇓ *i*P **P** **02 06 10.3 +1.0**
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 55.55 316 *e*P **P** **02 06 09.7 +0.4**
comp=Z,20nm,0.5s
KK31 Karatay Array 57.04 304 *i* P **P** **02 06 20.1 0.0**
KK31 pmax pmax
comp=Z,9.0nm,0.5s
KKAR Karatay Array 57.04 304 *e*P **P** **02 06 20.8 +0.6**
KKAR pmax pmax
comp=Z,12nm,0.6s
KKAR Karatay Array 57.04 304 *e*P **P** **02 06 20.8 +0.6**
comp=Z,12nm,0.6s
DZM Mont Dzumac 57.29 153 P **P** **02 06 23.0 +1.0**
comp=Z,8.6nm,0.9s,baz=86,slow=23,SNR=3.8
DAWY Dawson 58.06 31 *e*P **P** **02 06 27.7 +0.7**
DZET Dzherino 59.35 300 P **P** **02 06 36.5 +0.1**
DZET pmax pmax
comp=Z,35nm,0.5s
INK Inuvik 59.99 25 P **P** **02 06 40.5 +0.4**
comp=Z,3.0nm,0.8s,baz=292,slow=11,SNR=3.9
INK Inuvik 59.99 25 *e*P **P** **02 06 40.6 +0.4**
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 59.99 25 *e*P **P** **02 06 40.6 +0.4**
comp=Z,4.8nm,1.0s
KBL Kabul 60.45 295 *e*P **P** **02 06 44.4 +0.2**
KBL pmax pmax
comp=Z,6.0nm,0.4s
KBL Kabul 60.45 295 *e*P **P** **02 06 44.4 +0.2**
comp=Z,6.5nm,0.4s
SVE Sverdlovsk 60.48 321 *e*P **P** **02 06 44.7 +1.0**
SVE pmax pmax
comp=Z,28nm,1.1s
ARU Arti 61.69 321 *c i*P **P** **02 06 52.1 +0.2**
ARU 02 09 05.6
ARU S **S** **02 15 12.7 +0.4**
ARU pmax pmax
comp=Z,26nm,1.0s
ARU Arti 61.69 321 *e*P **P** **02 06 51.8 -0.1**
comp=Z,22nm,0.9s
STKA Stephens Creek 62.05 180 P **P** **02 06 53.9 -0.6**
comp=Z,2.8nm,0.7s,baz=349,slow=7.5,SNR=5.8
FORT Forrest 62.38 194 *e*P **P** **02 06 55.3 -1.5**
comp=Z,48nm,0.7s
AB31 Akbulak array 62.67 313 *i* P **P** **02 06 58.7 +0.1**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Akbulak array 62.67 313 *e*P **P** **02 06 58.5 -0.1**
comp=Z,3.0nm,0.5s
AKTO Aktyubinsk 63.54 315 P **P** **02 07 04.5 +0.1**
AKTO pmax pmax
comp=Z,9.0nm,0.9s
PRGR Permogore 66.57 329 *e*P **P** **02 07 23.5 -0.3**
PRGR pmax pmax
comp=Z,15nm,0.7s
IMYA Miami 66.70 299 *e*P **P** **02 07 27.0 +1.6**
IMOG Moghan 67.36 300 *e*P **P** **02 07 31.3 +1.6**
IPAY Payeh 67.49 300 *e*P **P** **02 07 31.8 +1.3**
IAKL Akhelmad 67.61 300 *e*P **P** **02 07 33.1 +1.8**
IKRD Kardeh 67.73 300 *e*P **P** **02 07 29.0 -3.0**
ISFR Sfrayin 68.00 301 *e*P **P** **02 07 35.8 +2.0**
IDAH Dahanechah 68.24 296 *e*P **P** **02 07 36.9 +1.6**
IKOO Kooshah 69.03 296 *e*P **P** **02 07 41.7 +1.4**
ITEG Tejag 69.05 297 *e*P **P** **02 07 41.6 +1.4**
YKA Yellowknife Ar 69.21 29 P **P** **02 07 40.5 0.0**
comp=Z,3.0nm,0.8s,baz=293,slow=6.2,SNR=11
KLMR Klimovskoe 69.59 329 *e*P **P** **02 07 41.3 -1.5**
KLMR pmax pmax
comp=Z,24nm,1.3s
ARCES ARCESS Array B 70.30 340 P **P** **02 07 46.4 -0.6**
comp=Z,5.0nm,0.9s,baz=71,slow=12,SNR=4.0
ARCES LR LR 02 43 49.5
comp=Z,105nm,18.4s,baz=61,slow=40
IGLO Ghaloghah 71.30 302 *e*P **P** **02 07 55.7 +1.7**
DAG Danmarks Havn 72.31 355⇑ *i*P **P** **02 07 59.2 +0.1**
comp=Z,8.3nm,1.0s
DAG Danmarks Havn 72.31 355⇑ *i*P **P** **02 07 59.2 +0.1**
DAG pmax pmax
comp=Z,8.0nm,1.0s
IFIR Firoozkooh 72.45 301 *e*P P 02 08 05.0 +4.0
OBN Obninsk 73.68 325⇓ *i*P **P** **02 08 08.2 +0.7**
OBN *e* 02 08 22.3
OBN *i* 02 10 52.8
OBN *i* S **SKiKP** **02 17 29.3 -5.5**
OBN pmax pmax
comp=Z,21nm,1.4s
OBN MLR MLR
comp=Z,241nm,19.0s
IZEF Zefreh 73.95 299 *e*P **P** **02 08 11.4 +1.4**
YBH Yreka Blue Hor 73.97 51 P **P** **02 08 07.2 -2.5**
comp=Z,1.7nm,0.8s,baz=67,slow=7.7,SNR=1.8
EDM Edmonton 74.17 37 *e*P **P** **02 08 11.1 +0.6**
EDM *e* 02 08 21.8
EDM Edmonton 74.17 37 *e*P **P** **02 08 11.1 +0.6**
EDM *e* 02 08 21.8
IKLH Kolahrood 74.33 300 *e*P **P** **02 08 12.9 +0.8**
NEW Newport 74.48 43 *e*P **P** **02 08 13.9 +1.4**
NEW *e* 02 08 24.3
NEW pmax pmax
comp=Z,9.0nm,1.3s
NEW Newport 74.48 43 *e*P **P** **02 08 13.9 +1.4**
comp=Z,8.9nm,1.3s
NEW *e* 02 08 24.3
FINES FINESS Array B 74.85 333 P **P** **02 08 14.6 +0.3**
comp=Z,8.9nm,0.8s,baz=75,slow=4.6,SNR=22
IPIR Pirpir 75.13 299 *e*P **P** **02 08 16.3 -0.5**
NCK Nalchik 75.28 312⇓ *e*P **P** **02 08 18.1 +0.9**
KBZ Khabaz 75.62 312 P **P** **02 08 19.8 +0.8**
comp=Z,10nm,0.8s,baz=326,slow=24,SNR=13
KIV Kislovodsk 75.65 313⇓ *i*P **P** **02 08 20.8 +1.5**
KIV *e* 02 08 32.5
KIV *e* 02 11 11.7
KIV pmax pmax
comp=Z,18nm,1.2s
KIV MLR MLR
comp=Z,81nm,21.0s
KIV Kislovodsk 75.65 313 *e*P **P** **02 08 19.3 0.0**
comp=Z,12nm,0.9s
IKAZ Kazeroun 75.72 296 *e*P **P** **02 08 21.0 +0.8**
GNI Garni 76.10 308⇓ *i*P **P** **02 08 23.4 +1.3**
GNI pmax pmax
comp=Z,11nm,1.4s
GNI Garni 76.10 308 *e*P **P** **02 08 23.3 +1.2**
comp=Z,9.9nm,0.9s
VSU Vasula 76.37 331⇑ *e*P **P** **02 08 24.6 +1.6**
VSU pmax pmax
comp=Z,76nm,1.2s
SWMT Swartz Lake 76.68 43 *e*P **P** **02 08 26.2 +1.0**
comp=Z,7.9nm,1.2s
SUMG Summit 77.19 0 *i* P **P** **02 08 28.8 +0.9**
comp=Z,11nm,1.0s
SUMG Summit 77.19 0 *i* P **P** **02 08 28.8 +0.9**
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 77.19 0 *e*P **P** **02 08 28.4 +0.4**
comp=Z,9.4nm,0.9s
SUMG *e* 02 11 16.5
CMB Columbia Colle 77.27 53 *e*P **P** **02 08 29.4 +0.8**
CMB pmax pmax
comp=Z,10.0nm,1.3s
CMB Columbia Colle 77.27 53 *e*P **P** **02 08 29.4 +0.8**
comp=Z,10nm,1.3s
LRM Limekiln Ridge 78.47 43 *e*P **P** **02 08 36.1 +0.8**
comp=Z,94nm,0.9s
NVAR Mina Array Bea 78.51 52 P **P** **02 08 35.9 +0.2**
comp=Z,1.5nm,0.6s,baz=293,slow=6.7,SNR=8.8
DLMT Dillon 78.63 44 *e*P **P** **02 08 37.5 +1.4**
comp=Z,9.5nm,1.4s
FFC Flin Flon 78.92 32 *e*P **P** **02 08 37.6 +0.3**
FFC *e* 02 08 45.8
FFC pmax pmax
comp=Z,4.0nm,0.8s
FFC Flin Flon 78.92 32 *e*P **P** **02 08 37.6 +0.3**
comp=Z,4.0nm,0.8s
FFC *e* 02 08 45.8
BOZ Bozeman (W) 79.05 43 P **P** **02 08 37.3 -1.1**
BOZ pmax pmax
comp=Z,3.0nm,1.0s
BOZ Bozeman (W) 79.05 43 P **P** **02 08 37.3 -1.1**
comp=Z,2.6nm,1.0s
AKASG Malin Array Be 79.81 323 P **P** **02 08 42.4 +0.1**
comp=Z,3.2nm,0.6s,baz=44,slow=5.3,SNR=15
AK01 Malin Array Si 79.83 323 *e*P **P** **02 08 42.4 0.0**
AK01 *e*PP **PP** **02 11 42.5 -0.8**
KIEV Kiev 79.83 323 *e*P **P** **02 08 41.4 -0.9**
KIEV pmax pmax
comp=Z,6.0nm,0.7s
KIEV Kiev 79.83 323 *e*P **P** **02 08 41.4 -0.9**
comp=Z,6.0nm,0.7s
AK02 Malin Array Si 79.85 323 *e*P **P** **02 08 42.7 +0.3**
GCMT Greycliff 80.12 42 *e*P **P** **02 08 45.4 +1.1**
GCMT *e* 02 08 56.7
R11A Troy Canyon, C 80.39 51 *e*P **P** **02 08 47.0 +1.1**
comp=Z,50nm,3.0s
IMW Indian Meadow 80.41 45 *e*P **P** **02 08 46.9 +0.9**
comp=Z,8.1nm,1.1s
NB2 NORSAR Subarra 80.41 338 P **P** **02 08 45.3 -0.1**
comp=Z,7.6nm,1.0s,baz=39,slow=5.6
NOA NORSAR Array B 80.41 339 P **P** **02 08 45.5 +0.2**
comp=Z,5.5nm,0.9s,baz=40,slow=5.3,SNR=14
NOA LR LR 02 50 56.2
comp=Z,103nm,18.7s,baz=90,slow=41
MOOW Moose Ponds 80.61 45 *e*P **P** **02 08 45.5 -1.5**
comp=Z,5.3nm,1.1s
TPAW Teton Pass 80.63 45 *e*P **P** **02 08 48.5 +1.3**
comp=Z,2.3nm,0.7s
SUW Suwalki 80.69 328 *e*P **P** **02 08 47.3 +0.4**
SUW Suwalki 80.69 328 *e*P **P** **02 08 47.3 +0.4**
RLMT Red Lodge 80.73 43 *e*P **P** **02 08 48.5 +0.9**
comp=Z,17nm,1.5s
REDW Red Top Meadow 80.76 45 *e*P **P** **02 08 49.2 +1.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,20nm,1.8s						
PPT	Papeete	81.26	116	LR	LR	02 42 35.4	
	comp=Z,74nm,18.1s,baz=294,slow=34						
MALT	Malatya	81.27	309	⇓P	P	02 08 51.8	+1.4
MALT	Malatya	81.27	309	⇓iP	P	02 08 51.8	+1.4
HWUT	Hardware Ranch	81.28	47	eP	P	02 08 51.4	+0.8
	comp=Z,8.7nm,1.2s						
PDAR	Pinedale Array	81.88	45	P	P	02 08 53.4	-0.4
	comp=Z,1.6nm,0.7s,baz=330,slow=5.1,SNR=9.5						
PDAR				LR	LR	02 42 41.2	
	comp=Z,62nm,20.0s,baz=306,slow=34						
LVV	L'vov	82.98	325	eP	P	02 08 59.8	+0.7
BR131	Keskin Array S	83.61	313	eP	P	02 09 02.7	-0.1
	comp=Z,8.3nm,0.9s						
BRTR	Keskin Array B	83.61	313	P	P	02 09 03.1	+0.4
	comp=Z,8.1nm,0.9s,baz=105,slow=2.9,SNR=5.1						
BRTR				LR	LR	02 50 30.7	
	comp=Z,64nm,19.0s,baz=49,slow=39						
BRTR	Keskin Array B	83.61	313	ceP	P	02 09 03.7	+1.0
BRTR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
RAYN	Ar Rayn	83.68	293	eP	P	02 09 04.2	+1.0
	comp=Z,63nm,2.0s						
CFR	Carcaliu	83.71	319	⇑P	P	02 09 03.3	+0.4
CFR	Carcaliu	83.71	319	⇑iP	P	02 09 03.3	+0.4
TESR	Tescani	83.71	321	⇓iP	P	02 09 03.0	+0.1
KWP	Kalwaria Pacla	83.76	325	eP	P	02 09 03.8	+0.7
KWP	Kalwaria Pacla	83.76	325	eP	P	02 09 03.9	+0.8
BUR08	Bucovina Ar. S	83.77	323	eP	P	02 09 03.6	+0.2
BURAR	Bucovina Array	83.78	323	⇑P	P	02 09 04.2	+0.8
BURAR	Bucovina Array	83.78	323	⇑iP	P	02 09 04.2	+0.8
TIRR	Tirgusor	83.99	319	⇓P	P	02 09 11.6	+7.3
TIRR	Tirgusor	83.99	319	⇓iP	P	02 09 11.6	+7.3
ANTO	Ankara	84.07	313	⇓P	P	02 09 05.5	+0.5
ANTO	Ankara	84.07	313	⇓iP	P	02 09 05.5	+0.5
VRI	Vrincioaia	84.07	321	⇓P	P	02 09 06.0	+1.2
VRI	Vrincioaia	84.07	321	⇓iP	P	02 09 06.0	+1.2
TLB	Topalu	84.12	319	⇓P	P	02 09 06.0	+1.0
TLB	Topalu	84.12	319	⇓iP	P	02 09 06.0	+1.0
O20A	White River Ci	84.19	47	eP	P	02 09 05.7	0.0
	comp=Z,10nm,1.2s						
RSSD	Black Hills	84.34	41	eP	P	02 09 07.0	+0.5
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.9s						
RSSD	Black Hills	84.34	41	eP	P	02 09 07.0	+0.5
	comp=Z,2.3nm,0.9s						
DOPR	Dopca	84.73	321	⇓iP	P	02 09 08.4	+0.3
OJC	Ojcow	84.77	327	eP	P	02 09 09.1	+0.9
OJC	Ojcow	84.77	327	eP	P	02 09 09.1	+0.9
OJC				pmax	pmax		
	comp=Z,12nm,1.2s						
OJC	Ojcow	84.77	327	eP	P	02 09 09.1	+0.9
	comp=Z,12nm,1.2s						
NIE	Niedzica	85.07	326	eP	P	02 09 11.0	+1.3
NIE	Niedzica	85.07	326	eP	P	02 09 11.1	+1.3
ARR	Arges	85.52	321	⇓iP	P	02 09 13.7	+1.5
SMCO	Snowmass	85.54	47	eP	P	02 09 14.1	+1.3
	comp=Z,9.5nm,0.9s						
DRGR		85.62	323	⇑P	P	02 09 13.0	+0.4
DRGR		85.62	323	⇑iP	P	02 09 13.0	+0.4
MVCO	Mesa Verde	85.71	49	eP	P	02 09 14.6	+1.1
	comp=Z,2.3nm,0.8s						
KSP	Ksiaz	85.94	329	eP	P	02 09 14.6	+0.6
KSP	Ksiaz	85.94	329	eP	P	02 09 14.7	+0.7
DPC	Dobruska-Polom	86.28	329	eP	P	02 09 17.3	+1.5
DPC				ex	x	02 09 21.3	
DPC				epP	pP	02 09 24.1	-1.6
DPC	Dobruska-Polom	86.28	329	eP	P	02 09 17.3	+1.5
DPC				e		02 09 24.1	
PSZ	Piszkesteto	86.29	325	⇑P	P	02 09 16.8	+0.9
PSZ	Piszkesteto	86.29	325	⇑iP	P	02 09 16.8	+0.9
UPC	Upice	86.30	329	eP	P	02 09 17.0	+1.2
UPC	Upice	86.30	329	eP	P	02 09 17.0	+1.2
SIRR	Siria	86.51	323	⇓iP	P	02 09 19.6	+2.6
VRAC	Vranov	86.89	328	⇓P	P	02 09 17.0	-1.8
VRAC	Vranov	86.89	328	⇓iP	P	02 09 17.0	-1.8
PVCC	Panska Ves	86.93	330	eP	P	02 09 19.8	+0.9
PVCC	Panska Ves	86.93	330	eP	P	02 09 19.8	+0.9
CLL	Collm	87.03	331	eP	P	02 09 19.0	-0.3
	comp=Z,5.0nm,1.0s						
CLL	Collm	87.03	331	eP	P	02 09 19.0	-0.3
CLL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GOPC	GO Pecny, Ondr	87.28	329	eP	P	02 09 21.5	+0.9
PRU	Pruhonice	87.33	329	eP	P	02 09 21.8	+0.9
PRU	Pruhonice	87.33	329	eP	P	02 09 21.8	+0.9
TREC	Trest	87.41	328	eP	P	02 09 22.4	+1.1
TREC				AMS	AMS	02 53 30.0	
	comp=Z,200nm,15.9s						
TREC	Trest	87.41	328	eP	P	02 09 22.4	+1.1
TREC				MLR	MLR		
	comp=Z,200nm,15.9s						
NKC	Novy Kostel	88.06	330	eP	P	02 09 25.0	+0.6
NKC	Novy Kostel	88.06	330	eP	P	02 09 25.0	+0.6
PKSM	Moragy	88.08	325	⇓P	P	02 09 23.0	-1.5
PKSM	Moragy	88.08	325	⇓iP	P	02 09 23.0	-1.5
VTS	Vitosha	88.10	320	⇓P	P	02 09 23.6	-1.3
VTS	Vitosha	88.10	320	⇓iP	P	02 09 23.6	-1.3
EYMN	Ely	88.33	33	eP	P	02 09 25.5	-0.2
	comp=Z,6.3nm,1.0s						
ANMO	Albuquerque	88.38	50	⇓eP	P	02 09 28.2	+1.8
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KHC	Kasperske Hory	88.39	329	eP	P	02 09 25.4	-0.6
KHC	Kasperske Hory	88.39	329	eP	P	02 09 25.4	-0.6
GERES	GERESS Array B	88.54	329	P	P	02 09 25.9	-0.9
	comp=Z,0.2nm,0.6s,baz=31,slow=5.9,SNR=3.4						
GERES				LR	LR	02 52 09.1	
	comp=Z,96nm,19.5s,baz=52,slow=38						
DIVS	Divibare	88.84	322	⇓iP	P	02 09 28.0	-0.3
SOKA	Soboth	89.51	327	⇑iPcP	P	02 09 31.1	-0.3
	comp=Z,5.2nm,1.4s						
BFO	Black Forest	91.26	331	eP	P	02 09 39.5	+0.1
BFO				pmax	pmax		
	comp=Z,13nm,1.2s						
BFO	Black Forest	91.26	331	eP	P	02 09 39.5	+0.1
	comp=Z,13nm,1.2s						
SCHQ	Schefferville	91.44	16	LR	LR	02 58 29.9	
	comp=Z,28nm,18.4s,baz=10.0,slow=41						
TXAR	Lajitas Array	93.65	53	P	P	02 09 50.5	-0.4
	comp=Z,2.4nm,0.8s,baz=270,slow=2.5,SNR=12						
TXAR				LR	LR	02 50 28.3	
	comp=Z,119nm,18.9s,baz=0.0,slow=35						
ABTX	Abilene, Hawle	94.26	48	eP	P	02 09 53.7	+0.2
	comp=Z,7.6nm,1.1s						
QSPA	South Pole Qui	120.27	180	ePKPdf	PKPdf	02 15 22.8	-1.5
TORD	Torodi Ar. Bea	122.23	313	PKP	PKPdf	02 15 29.2	-0.3
	comp=Z,0.7nm,0.6s,baz=14,slow=1.1,SNR=14						
TORD				PP	PP	02 17 03.2	-1.0
	comp=Z,0.8nm,0.9s,baz=54,slow=4.0,SNR=3.9						
SNAA	Sanae	134.63	195	PKiKP	PKPdf	02 15 47.4	-4.1
SAML	Samuel	148.14	53	ePKPdf	PKPdf	02 16 18.2	+1.0
SAML				ePKPbc	PKPbc	02 16 20.0	-0.5
LPAZ	La Paz	149.01	70	PKP	PKPdf	02 16 20.4	+1.1
	comp=Z,4.2nm,1.0s,baz=13,slow=6.7,SNR=3.6						
LPAZ				PKPbc	PKiKP	02 16 24.2	-0.5
	comp=Z,4.8nm,0.9s,baz=8.6,slow=6.8,SNR=12						
LPAZ	La Paz	149.01	70	PKIKP	PKPdf	02 16 20.4	+1.1
LPAZ						02 16 24.2	
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LPAZ	La Paz	149.01	70	ePKPdf	PKPdf	02 16 18.0	-1.3
LPAZ				PKP	PKPdf	02 16 20.4	+1.1
LPAZ				ePKPbc	PKiKP	02 16 23.6	-1.1
LPAZ				PKPbc	PKiKP	02 16 24.2	-0.5
PLCA	Paso Flores	151.74	120	PKPbc	PKPbc	02 16 29.4	+0.8
	comp=Z,8.1nm,1.1s,baz=277,slow=3.6,SNR=4.9						

*ATH **08** 02:02:58.4, 41°.65N×23°.89E, h18km±2km, MD3.0/12*
*CSEM **08** 02:02:58.3±0.1, 41°.69N×23°.89E, h8km, MD3.0, Error ellipse: s-maj=2.6km s-min=2.1km az=84.0*
*THE **08** 02:02:58.7, 41°.67N×23°.90E, h3km, ML2.4/8, Error ellipse: s-maj=0.9km s-min=0.4km az=20.0*
*BEO **08** 02:02:59.7±0.5, 41°.71N×23°.88E, h15km±4km, ML2.1/6*
*SKO **08** 02:02:59.6, 41°.69N×23°.86E, h4km, M1.9, ML2.2*
ISC 08 02:02:58.7±0.9**, 41°.69N**±0°.02×**23°.91E**±0°.02**, h13km**±7km**, n69,** σ**0s.65**/107**, 6C-8D, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMB	Musomiste	0.17	235	⇑iP	Pg	02 03 02.5	-0.1
MMB				S	Sg	02 03 05.9	+0.5
MMB	Musomiste	0.17	235	⇑iP	Pg	02 03 02.5	-0.1
NVR	Nevrokopi	0.34	186	P	Pg	02 03 05.0	-0.6
NVR				S	Sg	02 03 09.9	-0.2
NVR	Nevrokopi	0.34	186	ePB	Pg	02 03 04.9	-0.6
NVR				eSB	Sg	02 03 09.7	-0.4
NVR	Nevrokopi	0.34	186	ePb	Pg	02 03 04.9	-0.6
NVR				S	Sg	02 03 09.9	-0.2
SRS	Serrai	0.62	203	P	Pg	02 03 10.4	-0.3
SRS				S	Sg	02 03 19.0	+0.2
SRS	Serrai	0.62	203	ePN	Pg	02 03 10.3	-0.4
SRS				eSN	Sg	02 03 18.3	-0.5
SRS	Serrai	0.62	203	ePn	Pg	02 03 10.3	-0.4
SRS				eSn	Sg	02 03 18.3	-0.5
SRS				S	Sg	02 03 19.0	+0.2
PLD	Plovdiv	0.72	54	P	Pg	02 03 13.1	+0.4
PLD				S	Sb	02 03 23.3	+0.3
PLD	Plovdiv	0.72	54	i Pg	Pg	02 03 13.2	+0.5
PLD				eSg	Sb	02 03 23.4	+0.4
PLD	Plovdiv	0.72	54	P	Pg	02 03 13.1	+0.4
PLD				S	Sb	02 03 23.3	+0.3
KAVA	Kavala	0.82	146	P	Pg	02 03 13.8	-0.8
KAVA				S	Sg	02 03 25.8	+0.4
KAVA	Kavala	0.82	146	ePN	Pg	02 03 13.7	-0.8
KAVA	Kavala	0.82	146	P	Pg	02 03 13.8	-0.8
KAVA				S	Sg	02 03 25.8	+0.4
KNT	Kendrikon	0.93	236	P	Pg	02 03 15.6	-0.9
KNT				S	Sb	02 03 28.9	+0.2
KNT	Kendrikon	0.93	236	P	Pg	02 03 15.6	-0.9
KNT				S	Sb	02 03 28.9	+0.2
SOH	Sokhos	0.96	206	P	Pg	02 03 16.2	-1.0
SOH				S	Sb	02 03 30.1	+0.3
SOH	Sokhos	0.96	206	ePN	Pg	02 03 16.4	-0.8
SOH				eSN	Sg	02 03 28.5	-1.2
SOH	Sokhos	0.96	206	P	Pg	02 03 16.2	-1.0
SOH				S	Sb	02 03 30.1	+0.3
VTS	Vitosha	1.05	330	P	Pg	02 03 18.1	-0.8
VTS				S	Sb	02 03 33.7	+1.3
VTS	Vitosha	1.05	330	⇓iPg	Pg	02 03 18.0	-0.8
VTS				eSg	Sg	02 03 31.1	-1.4
VTS	Vitosha	1.05	330	⇓iP	Pg	02 03 18.1	-0.8
VTS	Vitosha	1.05	330	P	Pg	02 03 18.1	-0.8
VTS				eSg	Sg	02 03 31.1	-1.4
VTS				S	Sb	02 03 33.7	+1.3
VAY	Valandovo	1.07	251	i Pg	Pn	02 03 20.0	+0.6
VAY				i Sg	Sb	02 03 33.9	+1.0
VAY				eLg	Lg	02 03 35.5	
	comp=N,48nm,0.3s						
VAY				eLg	Lg	02 03 36.9	
	comp=E,28nm,0.4s						
VAY	Valandovo	1.07	251	⇑iPg	Pb	02 03 19.4	+0.4
VAY				eSg	Sg	02 03 32.9	-0.4
VAY	Valandovo	1.07	251	⇑iPg	Pb	02 03 19.4	+0.4
VAY				eSg	Sg	02 03 32.9	-0.4
VAY				eLg	Lg	02 03 36.9	
	comp=E,28nm,0.4s						
KDZ	Kurdzhali	1.13	91	⇓iP	Pg	02 03 19.1	-1.3
KDZ				S	Sg	02 03 32.8	-2.3
KDZ	Kurdzhali	1.13	91	⇓iP	Pg	02 03 19.1	-1.3
HORT	Hortiatis	1.25	210	P	Pn	02 03 21.7	-0.2
HORT				S	Sg	02 03 39.2	+0.3
HORT	Hortiatis	1.25	210	ePN	Pn	02 03 21.6	-0.3
HORT	Hortiatis	1.25	210	P	Pn	02 03 21.7	-0.2
HORT				S	Sg	02 03 39.2	+0.3
THE	Thessaloniki	1.27	215	P	Pn	02 03 22.2	+0.1
THE	Thessaloniki	1.27	215	ePN	Pn	02 03 21.8	-0.3
THE	Thessaloniki	1.27	215	ePn	Pn	02 03 21.8	-0.3
THE	Thessaloniki	1.27	215	P	Pn	02 03 22.2	+0.1
RDO	Rodhopi	1.33	113	P	Pn	02 03 23.2	+0.3
RDO	Rodhopi	1.33	113	ePN	Pn	02 03 23.3	+0.3
RDO	Rodhopi	1.33	113	ePn	Pn	02 03 23.3	+0.3
OUR	Ouranopolis	1.35	178	P	Pn	02 03 23.0	-0.2
OUR				S	Sg	02 03 42.6	+0.4
OUR	Ouranopolis	1.35	178	ePN	Pn	02 03 23.0	-0.2
OUR	Ouranopolis	1.35	178	P	Pn	02 03 23.0	-0.2
OUR				S	Sg	02 03 42.6	+0.4
GRG	Griva	1.35	238	P	Pn	02 03 23.8	+0.6
GRG				S	Sg	02 03 42.1	-0.1
GRG	Griva	1.35	238	ePN	Pn	02 03 23.1	-0.1
GRG				eSN	Sb	02 03 41.3	+0.3
GRG	Griva	1.35	238	ePn	Pn	02 03 23.1	-0.1
GRG	Griva	1.35	238	P	Pn	02 03 23.8	+0.6
GRG				eSn	Sb	02 03 41.3	+0.3
GRG				S	Sg	02 03 42.1	-0.1
PLG	Polygyros	1.36	195	P	Pn	02 03 23.6	+0.2
PLG	Polygyros	1.36	195	ePN	Pn	02 03 23.5	+0.2
PLG				eSN	Sb	02 03 41.0	-0.2
PLG	Polygyros	1.36	195	ePn	Pn	02 03 23.5	+0.2
PLG				eSn	Sb	02 03 41.0	-0.2
SMTH	Samothraki Isl	1.72	134	ePN	Pn	02 03 29.9	+1.6
SMTH	Samothraki Isl	1.72	134	ePn	Pn	02 03 29.9	+1.6
PAIG	Paliouri	1.77	186	ePB	Pn	02 03 29.0	+0.1
PAIG	Paliouri	1.77	186	ePn	Pn	02 03 29.0	+0.1
ALN	Alexandroupoli	1.79	115	ePN	Pb	02 03 31.3	0.0
ALN	Alexandroupoli	1.79	115	ePn	Pb	02 03 31.3	0.0
ZAPS	Zavoj	1.85	330	ePg	Pg	02 03 33.6	-0.5
BARS	Barje	1.92	307	ePg	Pb	02 03 34.0	+0.4
BARS				eSg	Sg	02 03 59.7	-0.8
BARS	Barje	1.92	307	ePg	Pb	02 03 34.0	+0.4
BARS				eSg	Sg	02 03 59.7	-0.8
LIA	Limnos Island	2.03	151	ePB	Pn	02 03 32.6	+0.1
FNA	Florina	2.11	246	ePN	Pn	02 03 34.5	+0.7
FNA	Florina	2.11	246	ePn	Pn	02 03 34.5	+0.7
SELS	Selova	2.57	308	ePn	Pn	02 03 39.8	-0.3
GRUS	Gruza	3.22	314	ePn	Pn	02 03 49.1	+0.2
GRUS				eSn	Sn	02 04 27.3	+0.1
GRUS	Gruza	3.22	314	ePn	Pn	02 03 49.1	+0.2
GRUS				eSn	Sn	02 04 27.3	+0.1
DIVS	Divibare	3.76	311	⇓iP	Pn	02 03 52.5	-3.9
DIVS	Divibare	3.76	311	⇓iP	Pn	02 03 52.5	-3.9
GZR	Gura Zlata	3.80	348	⇓iP	Pn	02 03 57.3	+0.4
GZR	Gura Zlata	3.80	348	⇓iP	Pn	02 03 57.3	+0.4
BZS	Buzias	4.27	338	⇑iP	Pn	02 04 03.7	+0.4
BZS	Buzias	4.27	338	⇑iP	Pn	02 04 03.7	+0.4

OTT 08 02:07:47.9±0.4**, 72°.06N×65°.88W, h18km, ML3.4**/10**, Baffin Bay Seismic Zone. 200km northeast from Clyde River, Nu, Baffin Bay**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULLO	Kullorsuaq	3.56	40	i P	Pn	02 08 43.2	+1.1
KULLO				i S	Sn	02 09 21.6	-2.0
KULLO	Kullorsuaq	3.56	40	i P	Sn	02 09 21.9	-1.7
	34nm,0.6s						
KULLO	Kullorsuaq	3.56	40	PN	Pn	02 08 42.9	+0.8
KULLO				SN	Sn	02 09 21.2	-2.4
KULLO				Trac		02 09 24.8	
	comp=Z,6.5nm,0.1s						
GIFN	Gifford Fjord,	5.54	256	PN	Pn	02 09 09.3	0.0
GIFN				Trac		02 10 15.2	
	comp=Z,2.6nm,0.1s						
ILON	Igloolik, Nuna	5.92	251	PN	Pn	02 09 14.0	-0.6
ILON				SN	Sn	02 10 16.6	-5.2
ILON				Trac		02 10 19.2	
	comp=Z,8.1nm,0.2s						
CMBN	Cumberland Cam	6.42	175	PN	Pn	02 09 20.6	-0.9
CMBN				SN	Sn	02 10 28.0	-6.2
CMBN				Trac		02 10 31.2	
	comp=Z,1.3nm,0.1s						
LAIN	Lailor River,	6.57	252	PN	Pn	02 09 22.9	-0.6
LAIN				SN	Sn	02 10 31.1	-6.8
LAIN				Trac		02 10 35.6	
	comp=Z,2.5nm,0.1s						
AP3N	Apex site 3 Nu	6.66	256	PN	Pn	02 09 23.8	-0.9
AP3N				SN	Sn	02 10 34.7	-5.3
AP3N				Trac		02 10 37.7	
	comp=Z,4.7nm,0.1s						
FRB	Frobisher Bay	8.41	188	PN	Pn	02 09 48.7	+0.1
FRB				SN	Sn	02 11 12.9	-10
FRB				Trac		02 11 28.2	
	comp=Z,1.8nm,0.2s						
RES	Resolute Bay	8.66	301	PN	Pn	02 09 53.7	+1.6
RES				SN	Sn	02 11 25.2	-3.9
QILN	Qililugaq Expl	9.00	243	PN	Pn	02 09 55.1	-1.6
QILN				SN	Sn	02 11 28.1	-9.2
QILN				Trac		02 11 31.5	
	comp=Z,3.7nm,0.1s						
EUNU	Eureka	9.34	338	PN	Pn	02 10 05.0	+3.5
EUNU				SN	Sn	02 11 43.1	-2.8
WAGN	Wager Bay	10.42	245	PN	Pn	02 10 15.2	-0.9
WAGN				SN	Sn	02 11 58.5	-14
STLN	Stellar Camp,	10.47	256	PN	Pn	02 10 15.3	-1.6
STLN				SN	Sn	02 12 02.0	-12
STLN				Trac		02 12 06.6	
	comp=Z,2.1nm,0.3s						
BULN	Bullion Camp,	11.12	253	PN	Pn	02 10 23.7	-2.1
BULN				SN	Sn	02 12 19.2	-10
NUNN	Nunuq Camp, NU	11.37	246	PN	Pn	02 10 25.9	-3.2
NUNN				SN	Sn	02 12 22.0	-14
NUNN				Trac		02 12 27.4	
	comp=Z,1.6nm,0.3s						
AKVQ	Akulivik	12.28	209	PN	Pn	02 10 42.3	+0.7
AKVQ				SN	Sn	02 12 41.1	-17
SEDN	First Sedna Si	12.94	240	PN	Pn	02 10 46.8	-3.8
SEDN				SN	Sn	02 12 59.9	-14
SEDN				Trac		02 13 05.2	
	comp=Z,2.4nm,0.5s						
JOSN	Second Sedna S	13.10	240	SN	Sn	02 13 03.1	-15
INUQ	Inukjuak	14.54	206	SN	Sn	02 13 35.7	-17

*CSEM **08** 02:12:41.8±0.1, 40°.83N×15°.18E, h20km, ML0.9/5, Error ellipse: s-maj=5.1km s-min=3.4km az=70.0*
ROM 08 02:12:42.4±0.1**, 40°.82N×15°.20E, h13km**±1km**, Md1.7**/5**, Ml0.6**/4**, Error ellipse: s-maj=0.9km s-min=0.8km az=36.0, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MCRV	Calabrutti - M	0.04	210	Pg	Pg	02 12 45.1	+0.1
MCRV				Sg	Sg	02 12 47.0	+0.2
MCRV	Calabrutti - M	0.04	210	Pg	Pg	02 12 45.1	+0.1
MCRV				Sg	Sg	02 12 47.0	+0.2
SNAL	S. Angelo Dei	0.11	6	Pg	Pg	02 12 45.6	0.0
SNAL				Sg	Sb	02 12 48.6	-0.6
	14nm,0.2s						
SNAL	S. Angelo Dei	0.11	6	Pg	Pg	02 12 45.6	0.0
SNAL				Sg	Sb	02 12 48.6	-0.6
	14nm,0.2s						
CSSN	Cassano Irpino	0.14	288	Pg	Pb	02 12 46.5	-0.5
CSSN				Sg	Sg	02 12 48.9	+0.4
	5.0nm,0.2s						
CSSN	Cassano Irpino	0.14	288	Pg	Pb	02 12 46.5	-0.5
CSSN				Sg	Sg	02 12 48.9	+0.4
	5.0nm,0.2s						
CAFE	Carife	0.21	9	Pg	Pg	02 12 47.3	+0.1
CAFE				Sg	Sg	02 12 51.3	+0.8
	15nm,0.4s						
CAFE	Carife	0.21	9	Pg	Pg	02 12 47.3	+0.1
CAFE				Sg	Sg	02 12 51.3	+0.8
	15nm,0.4s						
MRLC	Muro Lucano	0.23	105	Pg	Pg	02 12 47.6	+0.1
MRLC				Sg	Sb	02 12 51.9	-0.8
	7.0nm,0.2s						
MRLC	Muro Lucano	0.23	105	Pg	Pg	02 12 47.6	+0.1
MRLC				Sg	Sb	02 12 51.9	-0.8
	7.0nm,0.2s						
CDRU	Civita di Ruta	0.34	166	Pg	Pg	02 12 49.9	+0.5
CDRU				Sg	Sg	02 12 55.0	+0.9
	3.0nm,0.1s						
CDRU	Civita di Ruta	0.34	166	Pg	Pg	02 12 49.9	+0.5
CDRU				Sg	Sg	02 12 55.0	+0.9
	3.0nm,0.1s						

*IDC **08** 02:45:16.9±1.6, 3°.59S×140°.73E, h0km, mb3.8/3, mb1 4.3/5, mb1mx3.9/18, mbtmp4.1/5, ML4.2/2, MS3.0/2, Ms1 3.0/2, ms1mx2.7/21, Error ellipse: s-maj=46.4km s-min=31.4km az=98.0*
*ISCJB **08** 02:45:20.5±0.8, 3°.60S±0°.05×140°.55E±0°.07, h39km, mb3.7/2, MS3.0/1, Error ellipse: s-maj=10.3km s-min=7.2km az=172.3*
*DJA **08** 02:45:20.8±1.0, 4°S±4°×14°0E±°, h11km±11km, M4.2/4, MLv4.2/4*
ISC 08 02:45:21.9±1.0**, 3°.54S**±0°.08×**140°.62E**±0°.09**, h39km, n10,** σ**1s.27**/12**, mb3.8**/3**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	Jayapura	1.02	5	P	Pn	02 45 38.4	-1.4
JAY				S	Sn	02 45 54.1	+1.2
GENI	Genyem	1.04	334	P	Pn	02 45 38.3	-1.8
GENI				S	Sn	02 45 52.5	-0.9
SMPI	Sarmi	2.45	309	P	Pn	02 45 59.4	0.0
SMPI				S	Sn	02 46 30.0	+1.8
SRPI	Serui, Papua	4.68	291	S	Sn	02 47 22.4	-0.8
SIJI	Sorong	9.72	286	Pn	Pn	02 47 39.7	+0.4
	1.7nm,0.3s,baz=144,slow=17,SNR=2.7						
SIJI				LR	LR	02 52 03.1	
	comp=Z,92nm,20.1s,baz=248,slow=41						
WRA	Warramunga Arr	17.42	200	Pn	Pn	02 49 20.9	-1.3
	1.1nm,0.3s,baz=27,slow=12,SNR=18						
ASAR	Alice Springs	21.04	197	P	P	02 50 02.7	0.0
	8.4nm,0.8s,baz=26,slow=9.2,SNR=51						
KSRS	Korea Array	42.46	345	LR	LR	03 09 13.5	
	comp=Z,20nm,19.2s,baz=244,slow=34						
VNDA	Vanda	74.80	175	P	P	02 56 58.2	+0.5
	0.5nm,0.5s,baz=318,slow=7.0,SNR=5.5						
ILAR	Eielson Array	85.79	24	P	P	02 57 58.1	+1.1
	0.3nm,0.7s,baz=258,slow=4.5,SNR=3.9						

*IDC **08** 03:31:01.8±1.0, 46°.96N×156°.59E, h0km, mb3.9/8, mb1 4.2/11, mb1mx3.9/28, mbtmp3.9/11, ML3.2/3, MS2.9/4, Ms1 3.0/4, ms1mx2.6/34, Error ellipse: s-maj=26.7km s-min=20.2km az=137.0*
*ISCJB **08** 03:31:02.3±0.7, 46°.94N±0°.08×156°.5E±0°.2, h18km, mb3.9/8, MS3.1/3, Error ellipse: s-maj=15.8km s-min=10.0km az=23.6*
ISC 08 03:31:04.3±0.9**, 46°.9N**±0°.1×**156°.6E**±0°.1**, h18km, n20,** σ**0s.80**/12**, mb3.9**/8**, MS3.2**/3**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	6.25	6	Pn	Pn	03 32 34.7	-0.8
	1.0nm,0.3s,baz=178,slow=13,SNR=7.8						
PETK				Sn	Sn	03 33 47.6	+1.2
	0.9nm,0.3s,baz=189,slow=24,SNR=4.0						
PETK				LR	LR	03 36 05.9	
	comp=Z,41nm,18.6s,baz=202,slow=49						
ASAJ	Asahikawa	10.20	259	Pn	Pn	03 33 29.2	-0.5
	0.3nm,0.3s,baz=66,slow=10.0,SNR=4.0						
SEY	Seymchan	16.23	353	Pn	Pn	03 34 50.2	-1.0
	0.2nm,0.3s,baz=147,slow=15,SNR=3.7						
H11N2	WAKE ISLAND Hy	28.40	159	T	T	04 06 24.9	
	baz=346,slow=76,SNR=19						
H11N1	WAKE ISLAND Hy	28.41	159	T	T	04 06 24.0	
	baz=346,slow=76,SNR=12						
H11N3	WAKE ISLAND Hy	28.41	159	T	T	04 06 25.1	
	baz=346,slow=76,SNR=19						
H11S1	WAKE ISLAND Hy	29.53	160	T	T	04 07 49.6	
	baz=347,slow=76,SNR=102						
H11S3	WAKE ISLAND Hy	29.54	160	T	T	04 07 48.0	
	baz=347,slow=76,SNR=100						
H11S2	WAKE ISLAND Hy	29.55	160	T	T	04 07 48.2	
	baz=347,slow=76,SNR=93						
ILAR	Eielson Array	34.94	39	P	P	03 37 54.1	-0.7
	0.6nm,0.6s,baz=252,slow=7.6,SNR=18						
INK	Inuvik	40.24	33	P	P	03 38 40.1	+0.6
	3.7nm,0.6s,baz=305,slow=9.8,SNR=5.6						
DLBC	Dease Lake	43.77	47	LR	LR	03 57 01.0	
	comp=Z,27nm,19.4s,baz=299,slow=36						
MKAR	Makanchi Array	48.96	299	P	P	03 39 50.5	+1.1
	0.9nm,0.7s,baz=56,slow=6.6,SNR=6.7						
YKA	Yellowknife Ar	49.36	38	P	P	03 39 51.8	-0.4
	0.9nm,0.7s,baz=299,slow=7.7,SNR=3.5						
ARCES	ARCESS Array B	58.46	342	LR	LR	04 08 43.8	
	comp=Z,20nm,21.8s,baz=60,slow=39						
NVAR	Mina Array Bea	60.24	64	P	P	03 41 11.9	+0.2
	1.1nm,0.7s,baz=292,slow=7.3,SNR=7.2						
PDAR	Pinedale Array	62.72	56	P	P	03 41 28.6	+0.3
	0.9nm,0.8s,baz=0.0,slow=1.5,SNR=5.5						
NOA	NORSAR Array B	68.81	343	LR	LR	04 16 51.3	
	comp=Z,8.8nm,19.1s,baz=220,slow=40						
WRA	Warramunga Arr	69.50	202	P	P	03 42 11.8	+0.1
	0.6nm,0.8s,baz=17,slow=7.1,SNR=3.8						
TXAR	Lajitas Array	75.33	63	P	P	03 42 46.8	+0.1
	1.2nm,0.5s,baz=304,slow=4.4,SNR=17						

*ISN **08** 04:26:13.3±2.1, 39°.24N×36°.48E, h0km±214km, ML4.2*

*IDC **08** 04:26:15.9±1.0, 37°67N×35°85E, h0km, mb3.6/5, mb1 3.7/11, mb1mx3.5/35, mbtmp3.6/11, ML3.6/6, MS3.2/4, Ms1 3.2/4, ms1mx2.8/23, Error ellipse: s-maj=19.5km s-min=12.3km az=73.0*
*ISCJB **08** 04:26:15.3±0.5, 37°73N±0°02×36°12E±0°02, h2km±4km, mb3.6/4, MS3.5/2, Error ellipse: s-maj=3.5km s-min=2.8km az=170.7*
*ISK **08** 04:26:15.3, 37°70N×36°14E, h8km, ML4.1*
*DDA **08** 04:26:15.3, 37°75N×36°13E, h22km, ML4.2*
*CSEM **08** 04:26:15.8±0.3, 37°73N×36°15E, h0km±4km, ML4.2, Error ellipse: s-maj=4.3km s-min=3.1km az=155.0*
ISC 08 04:26:15.7±1.1**, 37°75N**±0°02×**36°11E**±0°02**, h3**km±8km**, n143, σ1s31**/155**, mb3.6**/4**, 5C-8D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.25**	**131**	*i* P	**Pg**	**04 26 20.9**	**+0.3**
ANDN				*i* S	**Sg**	**04 26 25.2**	**+1.4**
ANDN	**Andirin**	**0.25**	**131**	*i* P	**Pg**	**04 26 20.9**	**+0.3**
ANDN				*i* S	**Sg**	**04 26 25.2**	**+1.4**
KOZT	**Kozan**	**0.35**	**220**	PG	**Pg**	**04 26 21.9**	**-0.5**
KOZT				*e*SG	**Sg**	**04 26 27.7**	**+0.9**
KOZT	**Kozan**	**0.35**	**220**	*i* Pg	**Pg**	**04 26 21.9**	**-0.5**
KOZT				*e*Sg	**Sg**	**04 26 27.7**	**+0.9**
KMRS	**Kahramanmaras**	**0.67**	**111**	PG	**Pg**	**04 26 28.4**	**-0.2**
KMRS	**Kahramanmaras**	**0.67**	**111**	*i* Pg	**Pg**	**04 26 28.4**	**-0.2**
KAMA	**Osmaniye**	**0.72**	**141**	*i* P	**Pg**	**04 26 28.9**	**-0.5**
HCB	**Kahramanmara¯**	**0.75**	**122**	*i* P	**Pg**	**04 26 29.9**	**-0.3**
CEYT	**Ceyhan**	**0.79**	**201**	*e*PG	**Pg**	**04 26 30.7**	**-0.1**
CEYT	**Ceyhan**	**0.79**	**201**	*e*Pg	**Pg**	**04 26 30.7**	**-0.1**
PINB	**Pinarbasi**	**0.96**	**14**	*i* P	**Pg**	**04 26 32.7**	**-1.4**
PINB				*i* S	**Sg**	**04 26 47.2**	**+0.7**
PINB	**Pinarbasi**	**0.96**	**14**	*i* P	**Pg**	**04 26 32.7**	**-1.4**
PINB				*i* S	**Sg**	**04 26 47.2**	**+0.7**
KARA	**Karaisali**	**0.97**	**240**	*e*PG	**Pg**	**04 26 33.5**	**-0.7**
KARA				*e*SG	**Sb**	**04 26 48.3**	**+0.1**
KARA	**Karaisali**	**0.97**	**240**	*e*Pg	**Pg**	**04 26 33.5**	**-0.7**
KARA				*e*Sg	**Sb**	**04 26 48.3**	**+0.1**
NIG	**Nigde**	**1.24**	**288**	*e*PN	**Pg**	**04 26 38.7**	**-0.7**
NIG	**Nigde**	**1.24**	**288**	*e*Pn	**Pg**	**04 26 38.7**	**-0.7**
KUZU	**Kuzuini**	**1.24**	**141**	*i* P	**Pg**	**04 26 39.4**	**-0.1**
KUZU				*i* S	**Sb**	**04 26 56.8**	**+0.6**
KUZU	**Kuzuini**	**1.24**	**141**	*i* P	**Pg**	**04 26 39.4**	**-0.1**
KUZU				*i* S	**Sb**	**04 26 56.8**	**+0.6**
KRTS	**Karatas**	**1.31**	**207**	*e*PN	**Pg**	**04 26 39.7**	**-1.1**
KRTS	**Karatas**	**1.31**	**207**	*e*Pn	**Pg**	**04 26 39.7**	**-1.1**
DARE	**Darende-Malaty**	**1.36**	**52**	*e*PN	**Pg**	**04 26 40.9**	**-0.9**
DARE	**Darende-Malaty**	**1.36**	**52**	*e*Pn	**Pg**	**04 26 40.9**	**-0.9**
AVNT	**Avonos**	**1.43**	**317**	*i* P	**Pn**	**04 26 41.2**	**-1.4**
AVNT				*i* S	**Sn**	**04 27 03.0**	**+1.0**
AVNT	**Avonos**	**1.43**	**317**	*i* S	**Sn**	**04 27 03.0**	**+1.0**
AKCD	**Akcadag**	**1.54**	**69**	*i* P	**Pn**	**04 26 44.2**	**+0.1**
AKCD				*i* S	**Sg**	**04 27 06.1**	**+1.1**
AKCD	**Akcadag**	**1.54**	**69**	*i* P	**Pn**	**04 26 44.2**	**+0.1**
AKCD				*i* S	**Sg**	**04 27 06.1**	**+1.1**
MERS	**Mersin**	**1.54**	**236**	*e*PN	**Pn**	**04 26 43.9**	**-0.1**
MERS	**Mersin**	**1.54**	**236**	*e*Pn	**Pn**	**04 26 43.9**	**-0.1**
YAYL	**Yayladag**	**1.71**	**180**	*i* P	**Pn**	**04 26 44.1**	**-2.3**
YAYL				*i* S	**Sn**	**04 27 05.7**	**-3.2**
ATAB	**Bozova**	**1.76**	**98**	*i* P	**Pn**	**04 26 45.8**	**-1.3**
ATAB				*i* S	**Sb**	**04 27 11.2**	**+0.1**
ATAB	**Bozova**	**1.76**	**98**	*i* P	**Pn**	**04 26 45.8**	**-1.3**
ATAB				*i* S	**Sb**	**04 27 11.2**	**+0.1**
MALT	**Malatya**	**1.92**	**72**	*e*PN	**Pn**	**04 26 49.2**	**-0.1**
MALT	**Malatya**	**1.92**	**72**	⇑*i*P	**Pn**	**04 26 49.1**	**-0.2**
MALT	**Malatya**	**1.92**	**72**	S	**Sn**	**04 27 14.8**	**+0.8**
MALT	**Malatya**	**1.92**	**72**	⇑*i*P	**Pn**	**04 26 49.1**	**-0.2**
MALT	**Malatya**	**1.92**	**72**	*e*Pn	**Pn**	**04 26 49.3**	**-0.1**
YOZ	**Yozgat**	**1.99**	**342**	*e*PN	**Pn**	**04 26 50.1**	**-0.2**
YOZ	**Yozgat**	**1.99**	**342**	*e*Pn	**Pn**	**04 26 50.2**	**-0.2**
KIZK	**Mersin**	**2.02**	**232**	*i* P	**Pn**	**04 26 51.5**	**+1.0**
KIZK				*i* S	**Sb**	**04 27 18.8**	**+0.4**
KIZK	**Mersin**	**2.02**	**232**	*i* P	**Pn**	**04 26 51.5**	**+1.0**
KIZK				*i* S	**Sb**	**04 27 18.8**	**+0.4**
URFA	**Urfa**	**2.18**	**97**	*e*PN	**Pn**	**04 26 51.6**	**-1.2**
URFA	**Urfa**	**2.18**	**97**	*e*Pn	**Pn**	**04 26 51.7**	**-1.2**
SVSK	**Karacayir**	**2.28**	**18**	*e*PN	**Pn**	**04 26 54.9**	**+0.8**
SVSK	**Karacayir**	**2.28**	**18**	*e*Pn	**Pn**	**04 26 54.9**	**+0.8**
ELZG	**Elazig**	**2.39**	**71**	*i* P	**Pn**	**04 26 56.1**	**+0.2**
ELZG	**Elazig**	**2.39**	**71**	*i* P	**Pn**	**04 26 56.1**	**+0.2**
KEMA	**Kemaliye**	**2.41**	**50**	*i* P	**Pn**	**04 26 56.9**	**+0.8**
KEMA				*i* S	**Sb**	**04 27 29.0**	**-1.0**
KEMA	**Kemaliye**	**2.41**	**50**	*i* P	**Pn**	**04 26 56.9**	**+0.8**
KAMT	**Kaman**	**2.48**	**312**	*e*PN	**Pn**	**04 26 58.0**	**+1.0**
KAMT	**Kaman**	**2.48**	**312**	*e*Pn	**Pn**	**04 26 58.1**	**+1.0**
TOKA	**Tokat**	**2.59**	**6**	*i* P	**Pn**	**04 26 59.0**	**+0.5**
TOKA				*i* S	**Sb**	**04 27 35.0**	**0.0**
TOKA	**Tokat**	**2.59**	**6**	*i* P	**Pn**	**04 26 59.0**	**+0.5**
TOKT	**Tokat**	**2.59**	**7**	*e*PN	**Pn**	**04 26 59.5**	**+0.9**
TOKT	**Tokat**	**2.59**	**7**	*e*Pn	**Pn**	**04 26 59.5**	**+0.9**
SVRC	**Sivrice-ELAZID**	**2.60**	**75**	*e*PN	**Pn**	**04 26 58.8**	**0.0**
SVRC	**Sivrice-ELAZID**	**2.60**	**75**	*e*Pn	**Pn**	**04 26 58.8**	**0.0**
CORM	**Corum**	**2.69**	**335**	*e*PN	**Pn**	**04 27 01.3**	**+1.4**
CORM	**Corum**	**2.69**	**335**	*e*Pn	**Pn**	**04 27 01.3**	**+1.4**
EREN	**Erenkoy**	**2.71**	**216**	*e*PN	**Pn**	**04 27 00.9**	**+0.9**
EREN	**Erenkoy**	**2.71**	**216**	*e*Pn	**Pn**	**04 27 01.0**	**+0.9**
BRTR	**Keskin Array B**	**2.76**	**316**	Pn	**Pn**	**04 27 01.6**	**+0.6**
	3.8nm,0.3s,baz=137,slow=15,SNR=98						
BRTR				Lg	Lg	04 27 38.5	
	9.2nm,0.3s,baz=140,slow=26,SNR=7.0						
ERMK	**Ermenek**	**2.78**	**248**	*i* P	**Pn**	**04 27 03.2**	**+2.0**
ERMK				*i* S	**Sn**	**04 27 37.5**	**+2.1**
ERMK	**Ermenek**	**2.78**	**248**	*i* P	**Pn**	**04 27 03.2**	**+2.0**
ERMK				*i* S	**Sn**	**04 27 37.5**	**+2.1**
RSDY	**Resadiye-TOKAT**	**2.81**	**19**	*e*PN	**Pn**	**04 27 02.8**	**+1.2**
RSDY	**Resadiye-TOKAT**	**2.81**	**19**	*e*Pn	**Pn**	**04 27 02.8**	**+1.2**
PTK	**Pertek**	**2.83**	**65**	*e*PN	**Pn**	**04 27 02.2**	**+0.4**
PTK	**Pertek**	**2.83**	**65**	*e*Pn	**Pn**	**04 27 02.3**	**+0.4**
AFSR	**Af¯ar-Bala (A**	**2.92**	**306**	*e*PN	**Pn**	**04 27 04.5**	**+1.4**
AFSR	**Af¯ar-Bala (A**	**2.92**	**306**	*e*Pn	**Pn**	**04 27 04.5**	**+1.4**
SUSE	**Susehri**	**2.95**	**33**	*i* P	**Pn**	**04 27 05.3**	**+1.7**
SUSE	**Susehri**	**2.95**	**33**	*i* P	**Pn**	**04 27 05.3**	**+1.7**
KONT	**Konya--Tatoy**	**2.97**	**275**	*e*PN	**Pn**	**04 27 05.3**	**+1.5**
HDMB	**Hadim**	**2.99**	**256**	*e*PN	**Pn**	**04 27 04.5**	**+0.4**
LADK	**Ladik-KONYA**	**2.99**	**280**	*e*PN	**Pn**	**04 27 04.5**	**+0.4**
DYBB	**Diyarbakir**	**3.20**	**85**	*e*PN	**Pn**	**04 27 07.2**	**+0.3**
LFK	**Lefkose**	**3.22**	**221**	*e*PN	**Pn**	**04 27 07.6**	**+0.4**
LFK	**Lefkose**	**3.22**	**221**	*e*Pn	**Pn**	**04 27 07.6**	**+0.4**
KDHN	**Kadinhani**	**3.24**	**285**	*i* P	**Pn**	**04 27 09.6**	**+2.1**
KDHN	**Kadinhani**	**3.24**	**285**	*i* P	**Pn**	**04 27 09.6**	**+2.1**
DIY	**Diyarbakir**	**3.27**	**86**	*e*Pn	**Pn**	**04 27 07.2**	**-0.6**
HAVZ	**Havza**	**3.34**	**355**	*i* P	**Pn**	**04 27 09.7**	**+0.9**
HAVZ				*i* S	**Sg**	**04 28 01.3**	**-1.6**
HAVZ	**Havza**	**3.34**	**355**	*i* P	**Pn**	**04 27 09.7**	**+0.9**
ANTO	**Ankara**	**3.34**	**310**	⇓*i*P	**Pb**	**04 27 14.5**	**-1.2**
ANTO	**Ankara**	**3.34**	**310**	S	**Sg**	**04 28 03.2**	**+0.1**
ANTO	**Ankara**	**3.34**	**310**	⇓*i*P	**Pb**	**04 27 14.5**	**-1.2**
LOD	**Lodumlu**	**3.38**	**310**	*e*PN	**Pn**	**04 27 11.0**	**+1.7**
GAZI	**Gazipasa**	**3.39**	**245**	*i* P	**Pn**	**04 27 11.0**	**+1.6**
GAZI				*i* S	**Sb**	**04 27 59.1**	**+1.1**
GAZI	**Gazipasa**	**3.39**	**245**	*i* P	**Pn**	**04 27 11.0**	**+1.6**
KELT	**Kelkit**	**3.43**	**45**	*i* P	**Pb**	**04 27 14.3**	**-3.0**
ELDT	**Eldivan**	**3.44**	**324**	*i* P	**Pn**	**04 27 10.9**	**+0.6**
ELDT	**Eldivan**	**3.44**	**324**	*i* P	**Pn**	**04 27 10.9**	**+0.6**
KIZT	**Kizilcal**	**3.51**	**290**	*e*PN	**Pn**	**04 27 12.9**	**+1.7**
KIZT	**Kizilcal**	**3.51**	**290**	*e*Pn	**Pn**	**04 27 12.9**	**+1.7**
CSS	**Prodhromos**	**3.57**	**220**	*e*PN	**Pn**	**04 27 12.5**	**+0.6**
CSS	**Prodhromos**	**3.57**	**220**	*e*Pn	**Pn**	**04 27 12.5**	**+0.6**
LEF	**Lefka**	**3.69**	**226**	*e*PN	**Pn**	**04 27 15.2**	**+1.7**
MARD	**Mardin**	**3.74**	**95**	*i* P	**Pn**	**04 27 12.9**	**-1.5**
ILGA	**Ilgaz**	**3.79**	**331**	*i* P	**Pn**	**04 27 16.8**	**+1.7**
ILGA	**Ilgaz**	**3.79**	**331**	*i* P	**Pn**	**04 27 16.8**	**+1.7**
BCAM	**Yenicaga**	**4.38**	**316**	*i* P	**Pb**	**04 27 34.1**	**+0.7**
BCAM				*i* S	**Sg**	**04 28 33.0**	**-3.5**
ISP	**Isparta**	**4.42**	**273**	⇓*i*P	Pb	04 27 30.0	-4.1
ISP	**Isparta**	**4.42**	**273**	⇓*i*P	Pb	04 27 30.0	-4.1
MMAI	**Mount Meron Ar**	**4.75**	**187**	Pn	**Pn**	**04 27 29.2**	**+0.9**
	10nm,0.3s,baz=359,slow=12,SNR=13						
MMAI				Sn	**Sn**	**04 28 22.2**	**-1.7**
	11nm,0.3s,baz=358,slow=23,SNR=5.5						
BORA	**Eskisehir**	**4.90**	**298**	*i* P	**Pn**	**04 27 31.0**	**+0.7**
BORA	**Eskisehir**	**4.90**	**298**	*i* P	**Pn**	**04 27 31.0**	**+0.7**
EKAR	**Karacoban**	**4.91**	**70**	*i* P	**Pg**	**04 27 52.3**	**+2.5**
GDZ	**Gediz**	**5.37**	**286**	*i* P	**Pn**	**04 27 39.5**	**+2.7**
GDZ	**Gediz**	**5.37**	**286**	*i* P	**Pn**	**04 27 39.5**	**+2.7**
DBAD	**Bademkaya**	**5.42**	**51**	*i* P	**Pb**	**04 27 48.9**	**-2.2**
DBAD				*i* S	**Sg**	**04 29 13.0**	**+3.1**
DAGI	**Agillar**	**5.59**	**52**	*i* P	Pb	04 27 57.4	+3.4
DAGI				*i* S	**Sg**	**04 29 15.5**	**+0.2**
ASF	**Jabal al Asfar**	**5.60**	**173**	Pn	**Pn**	**04 27 40.7**	**+0.7**
	0.5nm,0.3s,baz=333,slow=9.0,SNR=2.9						
ASF				Lg	Lg	04 29 09.9	
	2.7nm,0.3s,baz=322,slow=19,SNR=3.5						
MSL	**Mosul**	**5.76**	**101**	*e*PN	x	04 27 45.0	
MSL				*e*SN	x	04 28 49.1	
RTB	**Rutbah**	**5.82**	**143**	*e*PN	x	04 27 57.7	
RTB				*e*SN	x	04 29 11.2	
IKRK	**Kirkuk**	**7.03**	**107**	*e*PN	x	04 28 02.9	
IKRK				*e*SN	x	04 29 19.5	
GNI	**Garni**	**7.14**	**68**	LR	LR	04 31 18.4	
	comp=Z,242nm,18.2s,baz=258,slow=41						
IBDR	**Badra**	**9.25**	**117**	*e*PN	x	04 28 38.0	
IBDR				*e*SN	x	04 30 19.1	
IDI	**Anoyia**	**9.36**	**258**	Pn	**Pn**	**04 28 31.0**	**-0.5**
	2.1nm,0.3s,baz=77,slow=15,SNR=14						
CFR	**Carcaliu**	**9.53**	**324**	⇓*i*P	**Pn**	**04 28 36.4**	**+2.7**
CFR	**Carcaliu**	**9.53**	**324**	⇓*i*P	**Pn**	**04 28 36.4**	**+2.7**
MMB	**Musomiste**	**10.29**	**296**	⇓*i*P	Pn	04 28 48.1	+4.0
KKB	**Krupnik**	**10.83**	**296**	*e*P	Pn	04 28 59.9	+8.3
MLR	**Muntele Rosu**	**10.84**	**319**	LR	LR	04 33 51.4	
	comp=Z,29nm,19.2s,baz=146,slow=42						
VTS	**Vitosha**	**10.99**	**300**	⇓*i*P	Pn	04 29 01.3	+7.4
VTS	**Vitosha**	**10.99**	**300**	*e*P	Pn	04 29 01.7	+7.8
GZR	**Gura Zlata**	**12.56**	**312**	⇑*i*P	Pn	04 29 22.8	+7.6
BURAR	**Bucovina Array**	**12.69**	**324**	⇑*i*P	Pn	04 29 25.4	+8.3
BZS	**Buzias**	**13.37**	**311**	⇑*i*P	**P**	**04 29 33.4**	**-2.6**
AKASG	**Malin Array Be**	**13.85**	**341**	Pn	**Pn**	**04 29 33.6**	**+0.8**
	0.4nm,0.3s,baz=155,slow=11,SNR=6.6						
KECS	**Kecovo**	**15.63**	**318**	*e*	**P**	**04 30 00.6**	**-0.5**
DPC	**Dobruska-Polom**	**18.93**	**318**	*e*P	**Pn**	**04 30 40.7**	**+2.6**
DPC				*e*pP	P	04 30 44.0	+6.4
UPC	**Upice**	**19.18**	**318**	*e*P	**Pn**	**04 30 42.5**	**+1.4**
GOPC	**GO Pecny, Ondr**	**19.53**	**315**	*e*P	**Pn**	**04 30 45.7**	**+0.4**
GERES	**GERESS Array B**	**19.65**	**312**	P	**Pn**	**04 30 46.8**	**0.0**
	0.1nm,0.3s,baz=119,slow=8.0,SNR=8.3						
PRU	**Pruhonice**	**19.70**	**315**	*e*P	**Pn**	**04 30 47.5**	**+0.1**
KHC	**Kasperske Hory**	**19.85**	**312**	*e*P	**P**	**04 30 48.0**	**+0.4**
KHC				*e*pP	**Pn**	**04 30 52.1**	**+2.9**
AKTO	**Aktyubinsk**	**20.12**	**44**	P	Pn	04 30 52.8	+0.4
	1.0nm,0.4s,baz=241,slow=11,SNR=5.2						
BRG	**Berggiesshubel**	**20.48**	**317**	*e*P	**P**	**04 30 55.4**	**+0.9**
	7.3nm,1.6s						
CLL	**Collm**	**21.22**	**317**	*e*(P)	**P**	**04 31 03.0**	**+0.6**
CLL				*e*sP	sP	04 31 11.0	+7.3
CLL				*e*S	Sn	04 35 09.0	+3.6
KEST	**Kesra**	**21.52**	**273**	P	**P**	**04 31 03.6**	**-2.3**
	0.9nm,0.5s,baz=40,slow=3.0,SNR=4.9						
FINES	**FINESS Array B**	**24.54**	**348**	P	**P**	**04 31 38.5**	**+2.3**
	2.6nm,0.8s,baz=162,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**34.91**	**60**	P	**P**	**04 33 09.8**	**+1.3**
	0.8nm,0.9s,baz=280,slow=8.6,SNR=3.5						
MKAR				LR	LR	04 48 37.2	
	comp=Z,29nm,18.3s,baz=218,slow=38						
TORD	**Torodi Ar. Bea**	**39.21**	**241**	P	**P**	**04 33 43.1**	**-2.1**
	1.5nm,1.0s,baz=33,slow=7.4,SNR=7.9						
BOSA	**Boshof**	**66.79**	**190**	LR	LR	05 08 35.8	
	comp=Z,57nm,18.2s,baz=146,slow=38						

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*IDC **08** 04:53:02.2±5.2, 16°87N×86°11W, h0km, mb3.6/4, mb1 4.0/6, mb1mx3.7/30, mbtmp3.7/6, ML3.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/25, Error ellipse: s-maj=87.9km s-min=56.5km az=157.0*
ISC 08 04:53:10.9±2.4**, 17°0N**±0°1×**86°7W**±0°2**, h35**km**, n7, σ1s59**/8**,** **mb3.8**/3**, North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TEIG	**Tepich**	**3.55**	**335**	Pn	**Pn**	**04 54 02.3**	**-1.2**
	45nm,0.3s,baz=340,slow=0.6,SNR=787						
TEIG				Sn	**Sn**	**04 54 45.3**	**+1.1**
	19nm,0.3s,baz=261,slow=23,SNR=7.6						
CMIG	**Matias Romero**	**7.87**	**272**	Pn	**Pn**	**04 55 03.6**	**+0.6**
	0.1nm,0.3s,baz=91,slow=13,SNR=2.6						
CMIG				Sn	**Sn**	**04 56 29.1**	**-1.8**
	0.5nm,0.3s,baz=353,slow=17,SNR=3.1						
TXAR	**Lajitas Array**	**19.84**	**311**	P	**Pn**	**04 57 41.0**	**+0.3**
	0.8nm,0.7s,baz=129,slow=11,SNR=14						
ANMO	**Albuquerque**	**25.13**	**319**	P	**P**	**04 58 33.4**	**+0.4**
	1.1nm,0.7s,baz=124,slow=9.1,SNR=6.5						
SADO	**Sadowa**	**28.38**	**11**	LR	LR	05 10 32.5	
	comp=Z,19nm,19.3s,baz=270,slow=37						
NVAR	**Mina Array Bea**	**34.94**	**314**	P	**P**	**05 00 01.8**	**+1.9**
	1.0nm,0.8s,baz=132,slow=9.0,SNR=4.3						
ILAR	**Eielson Array**	**62.20**	**335**	P	**P**	**05 03 27.1**	**-1.6**
	0.8nm,0.8s,baz=124,slow=5.4,SNR=10						

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*NNC **08** 05:17:44.5±3.4, 53°94N×86°91E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=37.4km s-min=21.8km az=170.0*
IDC 08 05:17:43.5±2.8**, 54°06N**×**86°51E, h0**km**, mb1 3.0**/1**, mb1mx2.8**/33**, mbtmp3.0**/1**, ML3.0**/1**, 4C-2D, Error ellipse: s-maj=22.2km s-min=12.8km az=60.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**264**	*i*		05 24 23.7	
	baz=82,slow=317,SNR=0.7						
ZALV	**Zalesovo Beam**	**1.00**	**264**	Pg	Pg	05 18 01.3	-1.5
	1.6nm,0.3s,baz=82,slow=17,SNR=13						
ZALV				Lg	Lg	05 18 17.7	
	2.0nm,0.3s,baz=86,slow=29,SNR=8.5						
ZALV				Rg	Rg	05 18 25.0	
	2.3nm,0.4s,baz=79,slow=30,SNR=13						
KURK	**Kurchatov**	**5.88**	**238**	⇑Pn	Pn	05 19 15.3	+3.5
	0.8nm,1.1s						
KURK				⇑Sn	Sn	05 20 26.1	+6.3
	0.5nm,1.1s						
KURK				⇑Lg	Lg	05 20 57.7	
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**5.98**	**238**	⇓Pn	Pn	05 19 14.7	+1.5
	1.0nm,0.4s,baz=57,slow=14						
KURBB				⇓Sn	Sn	05 20 27.3	+5.0
	1.5nm,0.6s						
KURBB				⇑Lg	Lg	05 20 57.5	
	1.3nm,0.6s,baz=54,slow=34						
MK31	**Makanchi Array**	**7.76**	**202**	Pn	Pn	05 19 39.2	+1.6
	3.4nm,1.1s,baz=27,slow=12,SNR=8.1						
MKAR	**Makanchi Array**	**7.76**	**202**	Pn	Pn	05 19 39.2	+1.5
	0.2nm,0.3s,baz=22,slow=11,SNR=9.8						

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*ISCJB **08** 05:30:03.5±0.5, 16°45N±0°05×96°87W±0°06, h26km, mb4.1/24, MS3.4/7, Error ellipse: s-maj=9.8km s-min=5.0km az=136.5*
*MEX **08** 05:30:03.6±0.8, 16°13N×97°25W, h14km±8km, MD4.0*
*NEIC **08** 05:30:09.5±0.9, 16°65N×96°91W, h44km±7km, mb4.3/21, MD4.0(MEX), Error ellipse: s-maj=10.7km s-min=7.3km az=209.0*
NEIC Felt at Oaxaca.
*IDC **08** 05:30:11.2±2.9, 17°01N×96°75W, h49km±29km, mb3.5/9, mb1 3.8/12, mb1mx3.7/25, mbtmp3.8/12, ML4.1/3, MS3.5/10, Ms1 3.5/10, ms1mx3.4/20, Error ellipse: s-maj=31.0km s-min=15.4km az=53.0*
ISC 08 05:30:04.7±0.7**, 16°31N**±0°05×**96°91W**±0°05**, h26**km**, n177, σ1s53**/185**, mb4.2**/24**, MS3.5**/7**, 56C-53D, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.78**	**13**	*e*P	**Pn**	**05 30 20.3**	**0.0**
VHO				*e*S	**Sn**	**05 30 33.0**	**+1.8**
VHO	**Vista Hermosa**	**0.78**	**13**	*e*P	**Pn**	**05 30 20.3**	**0.0**
VHO				*e*S	**Sn**	**05 30 33.0**	**+1.8**
HUIG	**Huatulco**	**0.94**	**125**	*i* P	**Pn**	**05 30 21.4**	**-0.9**
HUIG				*i* S	**Sb**	**05 30 36.0**	**+1.6**
HUIG	**Huatulco**	**0.94**	**125**	*i* P	**Pn**	**05 30 21.4**	**-0.9**
HUIG				*i* S	**Sb**	**05 30 36.0**	**+1.6**
PNIG	**Pinotepa**	**1.17**	**274**	*i* P	Pn	05 30 17.5	-7.9
PNIG				*e*S	Sn	05 30 28.7	-12
CMIG	**Matias Romero**	**2.09**	**68**	*i* P	**Pn**	**05 30 39.6**	**+1.4**
CMIG				*i* S	**Sb**	**05 31 09.4**	**+1.8**
CMIG	**Matias Romero**	**2.09**	**68**	P	**Pn**	**05 30 39.6**	**+1.4**
	22nm,0.3s,baz=229,slow=12,SNR=494						
CMIG				S	**Sb**	**05 31 08.4**	**+0.7**
	102nm,0.3s,baz=240,slow=18,SNR=6.1						
TPIG	**Tehuac#an**	**2.15**	**349**	*e*P	**Pn**	**05 30 38.4**	**-0.6**
TPIG				*i* S	**Sn**	**05 31 04.7**	**-0.2**
TPIG	**Tehuac#an**	**2.15**	**349**	*e*P	**Pn**	**05 30 38.4**	**-0.6**
TPIG				*i* S	**Sn**	**05 31 04.7**	**-0.2**
TEIG	**Tepich**	**9.08**	**63**	P	**Pn**	**05 32 12.1**	**-2.1**
	7.8nm,0.3s,baz=274,slow=2.0,SNR=62						
TEIG				S	**Sn**	**05 33 52.2**	**-3.5**
	11nm,0.3s,baz=334,slow=22,SNR=12						
TEIG				LR	LR	05 36 34.0	
	comp=Z,491nm,19.3s,baz=222,slow=44						
TEIG	**Tepich**	**9.08**	**63**	*e*Pn	**Pn**	**05 32 15.8**	**+1.5**
TEIG				S	**Sn**	**05 33 52.2**	**-3.5**
834A	**Tilden**	**11.86**	**353**	⇑P	**Pn**	**05 32 53.8**	**+1.6**
	baz=12						
835A	**Beeville**	**11.95**	**356**	⇑P	**Pn**	**05 32 54.7**	**+1.2**
	baz=12						
833A	**Chaparral WMA,**	**12.18**	**350**	⇓P	**Pn**	**05 32 57.3**	**+0.7**
	baz=12						
832A	**Faith Ranch, C**	**12.25**	**347**	⇓P	**Pn**	**05 32 58.7**	**+1.1**
	baz=12						
JTS	**JuntasAbangare**	**13.08**	**116**	P	Pn	05 33 15.2	+6.1
	0.9nm,0.3s,baz=340,slow=12,SNR=4.9						
JTS				LR	LR	05 38 01.7	
	comp=Z,74nm,18.5s,baz=306,slow=36						
631A	**Perdido Creek**	**13.47**	**346**	⇑P	**Pn**	**05 33 13.7**	**-0.6**
	baz=13						
532A	**Rocksprings**	**14.03**	**349**	⇓P	**Pn**	**05 33 21.8**	**-0.1**
	baz=14,SNR=6.4						
531A	**Rocksprings**	**14.19**	**347**	⇓P	**Pn**	**05 33 24.1**	**-0.1**
	baz=14						
530A	**J-C Ranch, Com**	**14.36**	**344**	⇓P	**Pn**	**05 33 26.5**	**0.0**
	baz=14						
TXAR	**Lajitas Array**	**14.38**	**336**	P	**Pn**	**05 33 26.4**	**-0.4**
	baz=162,slow=14,SNR=11						
434A	**Burnet**	**14.50**	**355**	⇓P	**Pn**	**05 33 28.1**	**-0.1**
	baz=14						
433A	**Art**	**14.52**	**352**	⇑P	**Pn**	**05 33 28.6**	**-0.1**
	baz=14						
529A	**Stev Forest Ra**	**14.59**	**341**	⇓P	**Pn**	**05 33 29.7**	**+0.1**
	baz=14						
431A	**Sonora**	**14.71**	**347**	⇓P	**Pn**	**05 33 31.6**	**+0.4**
	baz=14						
LPIG	**La Paz**	**14.77**	**304**	LR	LR	05 38 54.7	
	comp=Z,131nm,18.3s,baz=192,slow=36						
335A	**Moody**	**14.92**	**358**	⇓P	**Pn**	**05 33 33.5**	**-0.5**
	baz=15						
430A	**Baggett Ranch,**	**14.95**	**345**	⇓P	**Pn**	**05 33 34.5**	**+0.1**
	baz=15						
429A	**Davenport Ranc**	**14.96**	**343**	⇑P	**Pn**	**05 33 35.0**	**+0.4**
	baz=15						
337A	**Centerville**	**14.97**	**3**	⇓P	**Pn**	**05 33 33.7**	**-0.9**
	baz=15						
333A	**Richland Sprin**	**15.07**	**353**	⇓P	**Pn**	**05 33 34.6**	**-1.5**
	baz=15						
332A	**Millersview**	**15.23**	**351**	⇓P	**Pn**	**05 33 38.3**	**+0.2**
	baz=15						
331A	**San Angelo**	**15.28**	**349**	⇑P	**Pn**	**05 33 38.9**	**+0.2**
	baz=15,SNR=6.9						
330A	**Mertzon**	**15.53**	**346**	⇑P	**P**	**05 33 44.3**	**-1.9**
	baz=15,SNR=17						
WHTX	**Lake Whitney,**	**15.62**	**358**	*e*Pn	**Pn**	**05 33 41.7**	**-1.5**
	16nm,0.9s						
234A	**Clairette**	**15.67**	**356**	⇓P	**Pn**	**05 33 43.2**	**-0.7**
	baz=15						
233A	**Rising Star**	**15.75**	**354**	⇑P	**Pn**	**05 33 44.1**	**-0.8**
	baz=16						
329A	**Wagon Wheel Ra**	**15.80**	**344**	⇓P	**Pn**	**05 33 45.1**	**-0.5**
	baz=16						
231A	**Bronte**	**15.87**	**349**	⇓P	**Pn**	**05 33 46.2**	**-0.2**
	baz=16						
229A	**Bryant Ranch,**	**16.21**	**345**	⇓P	**Pn**	**05 33 49.7**	**-1.2**
	baz=16						
134A	**White-Moore Ra**	**16.23**	**356**	⇑P	**Pn**	**05 33 50.4**	**-0.6**
	baz=16						
133A	**Hamilton Ranch**	**16.33**	**354**	⇑P	**Pn**	**05 33 51.7**	**-0.7**
	baz=16						
ABTX	**Abilene, Hawle**	**16.43**	**352**	⇑P	**Pn**	**05 33 52.6**	**-1.1**
	baz=16						
ABTX	**Abilene, Hawle**	**16.43**	**352**	*e*Pn	**Pn**	**05 33 53.5**	**-0.1**
129A	**Stewart Farms,**	**16.86**	**345**	⇑P	**Pn**	**05 33 58.4**	**-0.7**
	baz=17,SNR=5.8						
Z33A	**Whitaker Ranch**	**16.99**	**355**	⇑P	**Pn**	**05 33 59.5**	**-1.2**
	baz=17						
128A	**Castleberry Fa**	**17.01**	**344**	⇑P	**Pn**	**05 34 00.1**	**-0.9**
	baz=17						
Z32A	**Haskell**	**17.09**	**353**	⇑P	**Pn**	**05 34 00.7**	**-1.1**
	baz=17,SNR=7.3						
Z31A	**Sharp Cattle R**	**17.19**	**351**	⇑P	**Pn**	**05 34 01.6**	**-1.6**
	baz=17						
GDL2	**Guadalupe Moun**	**17.21**	**338**	Pn	**Pn**	**05 34 03.5**	**0.0**
	4.8nm,0.8s						
Z30A	**Sanderson Ranc**	**17.33**	**348**	⇓P	**Pn**	**05 34 04.6**	**-0.4**
	baz=17						
Z29A	**Hungry Hill Ra**	**17.43**	**346**	⇓P	**Pn**	**05 34 06.0**	**-0.2**
	baz=17						
Y34A	**Reagan Ranch,**	**17.59**	**358**	⇓P	**Pn**	**05 34 06.8**	**-1.3**
	baz=17						
Z28A	**Tucker Farm, M**	**17.62**	**345**	⇑P	**Pn**	**05 34 07.5**	**-1.0**
	baz=17,SNR=6.2						
Y33A	**Hilltop Ranch,**	**17.70**	**355**	⇓P	**Pn**	**05 34 08.4**	**-1.0**
	baz=17						
Y31A	**Rekieta Farm,**	**17.84**	**351**	⇓P	**Pn**	**05 34 09.3**	**-1.9**
	baz=18,SNR=5.7						
Y29A	**Porterfield Fa**	**18.00**	**347**	⇓P	**Pn**	**05 34 11.6**	**-1.6**
	baz=18						
X35A	**Drake**	**18.02**	**360**	⇓P	**Pn**	**05 34 11.0**	**-2.4**
	baz=18						
X32A	**Elmer**	**18.16**	**354**	⇑P	**Pn**	**05 34 13.4**	**-1.7**
	baz=18						
Y28A	**McKinney Farm,**	**18.18**	**346**	⇓P	**Pn**	**05 34 13.4**	**-2.0**
	baz=18						
X36A	**Centrahoma**	**18.20**	**1**	⇓P	**Pn**	**05 34 13.2**	**-2.3**
	baz=18						
X33A	**Lawton**	**18.21**	**356**	⇑P	**Pn**	**05 34 13.5**	**-2.3**
	baz=18						
MSTX	**Muleshoe**	**18.36**	**344**	⇑P	**Pn**	**05 34 15.4**	**-2.3**
	baz=18,SNR=7.7						
MSTX	**Muleshoe**	**18.36**	**344**	*e*Pn	**Pn**	**05 34 16.1**	**-1.7**
MIAR	**Mount Ida**	**18.41**	**9**	*e*Pn	**Pn**	**05 34 18.3**	**+0.1**
	20nm,0.8s						
X30A	**Coker Ranch, T**	**18.41**	**350**	⇓P	**P**	**05 34 15.8**	**-2.2**
	baz=18						
X31A	**McDonald Ranch**	**18.45**	**352**	⇓P	**P**	**05 34 16.5**	**-2.0**
	baz=18,SNR=6.1						
X29A	**Tulia**	**18.57**	**347**	⇓P	**P**	**05 34 18.1**	**-1.7**
	baz=18						
X28A	**Dimmitt**	**18.75**	**346**	⇓P	**P**	**05 34 20.3**	**-1.5**
	baz=18						
W36A	**Wetumka**	**18.77**	**2**	⇑P	**P**	**05 34 19.2**	**-2.7**
	baz=18						
W35A	**Tecumseh**	**18.77**	**0**	⇑P	**P**	**05 34 20.0**	**-2.0**
	baz=18						
W37A	**Quinton**	**18.80**	**4**	⇓P	**P**	**05 34 19.2**	**-3.1**
	baz=18						
W33A	**Caddo, Fort Co**	**18.82**	**356**	⇑P	**P**	**05 34 21.6**	**-0.9**
	baz=19						
UALR	**University of**	**18.84**	**12**	*e*Pn	**Pn**	**05 34 24.3**	**+0.9**
W32A	**Sentinel**	**18.86**	**354**	⇑P	**P**	**05 34 21.6**	**-1.3**
	baz=19						
W34A	**Bridge Creek,**	**18.87**	**358**	⇓P	**P**	**05 34 21.9**	**-1.1**
	baz=19						
121A	**Cookes Peak, D**	**18.93**	**331**	⇑P	**Pn**	**05 34 24.1**	**-0.5**
	baz=19						
121A	**Cookes Peak, D**	**18.93**	**331**	*e*P	**Pn**	**05 34 25.1**	**+0.4**
	7.2nm,1.0s						
AMTX	**Amarillo**	**18.99**	**348**	⇑P	**P**	**05 34 23.4**	**-1.0**
	baz=19						
AMTX	**Amarillo**	**18.99**	**348**	*e*Pn	**P**	**05 34 23.8**	**-0.6**
	17nm,1.0s						
W31A	**Holland Ranch,**	**19.00**	**352**	⇑P	**P**	**05 34 23.6**	**-0.9**
	baz=19						
TIGA	**Tifton**	**19.34**	**36**	⇑P	**P**	**05 34 28.1**	**-0.2**
	baz=19						
V32A	**Arapaho**	**19.43**	**355**	⇑P	**P**	**05 34 29.1**	**-0.1**
	baz=19						
V34A	**Guthrie**	**19.46**	**359**	⇑P	**P**	**05 34 28.8**	**-0.6**
	baz=19						
V34A	**Guthrie**	**19.46**	**359**	*e*P	**P**	**05 34 28.1**	**-1.4**
	17nm,1.0s						
TUL1	**Leonard**	**19.55**	**3**	⇓P	**P**	**05 34 28.6**	**-1.9**
	baz=19						
TUL1	**Leonard**	**19.55**	**3**	*e*P	**Pn**	**05 34 31.3**	**-0.6**
V30A	**Spur Ranch, Mi**	**19.67**	**351**	⇑P	**P**	**05 34 30.4**	**-1.5**
	baz=19						
U34A	**Anderson Ranch**	**20.06**	**359**	⇑P	**P**	**05 34 34.6**	**-1.5**
	baz=20						
LAZ	**Ladron**	**20.23**	**335**	*e*P	**P**	**05 34 37.7**	**-0.4**
	20nm,1.7s						
TUC	**Tucson**	**20.30**	**324**	*e*P	**P**	**05 34 39.6**	**+0.7**
ANMO	**Albuquerque**	**20.44**	**337**	P	**P**	**05 34 38.7**	**-1.7**
	0.1nm,0.3s,baz=141,slow=12,SNR=11						
ANMO				LR	LR	05 43 18.2	
	comp=Z,202nm,18.1s,baz=165,slow=40						
ANMO	**Albuquerque**	**20.44**	**337**	*e*P	**P**	**05 34 39.9**	**-0.5**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
T35A	Sooner Cattle	20.53	1	⇑P	P	05 34 39.4	-1.8
	baz=20,SNR=6.0						
T34A	McClaskey Farm	20.64	359	⇓P	P	05 34 40.2	-2.1
	baz=20						
T36A	Boggs Farm, Ca	20.69	2	⇓P	P	05 34 40.5	-2.4
	baz=20						
U27A	Thompson Grove	20.71	346	⇓P	P	05 34 41.2	-2.1
	baz=20						
PBMO	Poplar Bluff	21.19	15	*e*P	P	05 34 48.1	-0.1
	19nm,1.0s						
T28A	Walsh	21.24	348	⇓P	P	05 34 47.5	-1.4
	baz=21						
PARMO	Parma	21.25	16	*e*P	P	05 34 49.8	+0.9
PARMO				*e*pP	pP	05 34 56.3	+0.3
S35A	Otter Creek Ra	21.30	1	⇓P	P	05 34 47.8	-1.7
	baz=21						
S34A	Willow Spring	21.31	360	⇑P	P	05 34 47.6	-2.0
	baz=21						
R33A	Olander Ranch,	21.94	358	⇑P	P	05 34 55.8	-0.6
	baz=22						
R36A	Gordon, Harris	21.97	3	⇑P	P	05 34 54.8	-1.9
	baz=22						
R37A	Teagarden Farm	22.00	4	⇓P	P	05 34 55.2	-1.7
	baz=22						
CPCT	Cooper Cave	22.05	28	*e*P	P	05 34 57.4	-0.1
R30A	Dighton	22.09	353	⇑P	P	05 34 57.4	-0.7
	baz=22						
R28A	Tribune	22.37	350	⇓P	P	05 34 59.2	-1.9
	baz=22						
Q35A	Mercer Eighty,	22.48	2	⇓P	P	05 35 00.3	-1.8
	baz=22						
TKL	Tuckaleechee C	22.56	29	P	P	05 35 01.2	-1.8
	2.7nm,0.7s,baz=194,slow=13,SNR=3.0						
TKL				LR	LR	05 45 42.7	
	comp=Z,54nm,21.5s,baz=194,slow=43						
Q33A	Connelly Farm,	22.62	358	⇓P	P	05 35 00.2	-3.5
	baz=22						
Q32A	Meitler Ranch,	22.65	357	⇓P	P	05 35 00.4	-3.5
	baz=22						
R26A	Arlington	22.65	347	⇓P	P	05 35 00.2	-3.9
	baz=22						
SDCO	Great Sand Dun	22.66	342	⇓P	P	05 35 01.4	-3.0
	baz=22						
SDCO	Great Sand Dun	22.66	342	*e*P	P	05 35 03.4	-1.0
	6.5nm,1.2s						
Q29A	Oakley	22.78	352	⇑P	P	05 35 04.5	-0.9
	baz=22						
S22A	4UR Ranch, Cre	23.08	340	⇑P	P	05 35 07.9	-0.9
	baz=23						
WUAZ	Wupatki	23.08	329	⇑P	P	05 35 08.3	-0.4
	baz=23						
R23A	Moffat	23.17	342	⇓P	P	05 35 08.8	-0.9
	baz=23						
MVCO	Mesa Verde	23.21	336	⇑P	P	05 35 09.5	-0.5
	baz=23,SNR=6.9						
P31A	Stockton	23.23	355	⇑P	P	05 35 08.4	-1.5
	baz=23						
P29A	Atwood	23.48	352	⇑P	P	05 35 10.3	-2.1
	baz=23						
P27A	Ficken Ranch,	23.69	349	⇑P	P	05 35 13.0	-1.5
	baz=23						
WCI	Wyandotte Cave	23.75	21	*e*P	P	05 35 13.6	-1.4
	14nm,0.9s						
BC3	Big Chuckawall	24.03	319	⇓P	P	05 35 16.3	-1.6
	baz=24						
PV01	Paradox Valley	24.05	337	*e*P	P	05 35 17.9	-0.1
P23A	Jefferson	24.27	343	⇓P	P	05 35 19.0	-1.2
	baz=24						
O27A	Beecher Island	24.29	350	⇑P	P	05 35 18.9	-1.2
	baz=24						
PV04	Paradox Valley	24.40	337	*e*P	P	05 35 22.4	+1.2
PV04				*e*pP	pP	05 35 28.6	-0.3
SMCO	Snowmass	24.43	341	*e*P	P	05 35 21.4	-0.4
SMCO				*e*pP	pP	05 35 39.5	+10
O26A	Horse Wrangler	24.49	348	⇓P	P	05 35 19.7	-2.3
	baz=24						
ISCO	Idaho Springs	24.61	344	*e*P	P	05 35 24.3	+1.0
	4.5nm,0.8s						
GMRC	Granite Mounta	24.91	321	⇑P	P	05 35 25.8	-0.1
	baz=25						
O23A	Lake Granby, G	25.07	344	⇑P	P	05 35 27.8	+0.4
	baz=25						
BLA	Blacksburg	25.43	32	*e*P	P	05 35 29.8	-0.6
	76nm,1.9s						
SFIN	Lafayette	25.46	18	⇑P	P	05 35 29.6	-1.0
	baz=25						
SFIN	Lafayette	25.46	18	*e*P	P	05 35 29.6	-1.0
SRU	San Rafael Swe	25.66	335	*e*P	P	05 35 34.0	+1.4
O20A	White River Ci	25.71	340	⇓P	P	05 35 34.2	+1.1
	baz=26						
SDV	Santo Domingo	26.66	103	*e*P	P	05 35 45.9	+3.9
	6.2nm,0.9s						
SDV				*e*pP	pP	05 35 55.6	+6.0
ACSO	Alum Creek Sta	26.74	24	*e*P	P	05 35 44.3	+2.1
	10nm,0.9s						
JFWS	Jewell Farm	27.12	11	*e*P	P	05 35 44.0	-1.7
ECSD	EROS Data Cent	27.34	0	⇑P	P	05 35 46.3	-1.2
	baz=27						
ECSD	EROS Data Cent	27.34	0	*e*P	P	05 35 47.8	+0.2
	3.9nm,0.8s						
R11A	Troy Canyon, C	27.41	327	*e*P	P	05 35 50.6	+2.1
R11A				*e*pP	pP	05 36 00.1	+3.9
J26A	Sides Ranch, S	27.43	350	⇑P	P	05 35 47.4	-1.0
	baz=27						
PDAR	Pinedale Array	28.50	340	P	P	05 35 58.7	+0.4
	0.5nm,0.6s,baz=169,slow=5.1,SNR=2.4						
PDAR				LR	LR	05 48 26.2	
	comp=Z,111nm,18.7s,baz=176,slow=39						
I21A	Big Trails, Te	28.80	344	⇑P	P	05 36 02.0	+1.2
	baz=28						
NVAR	Mina Array Bea	28.96	324	P	P	05 36 02.2	-0.2
	1.2nm,0.9s,baz=142,slow=8.6,SNR=7.3						
ELK	Elko	29.07	331	P	P	05 36 01.9	-1.5
	0.5nm,0.4s,baz=223,slow=17,SNR=3.1						
ELK				LR	LR	05 48 41.2	
	comp=Z,205nm,18.5s,baz=144,slow=39						
REDW	Red Top Meadow	29.47	339	*e*P	P	05 36 04.8	-2.0
REDW				*e*pP	pP	05 36 18.9	+4.3
TPAW	Teton Pass	29.61	339	P	P	05 36 08.9	+0.8
	4.5nm,1.0s						
FXWY	Fox Creek	29.77	339	*e*pP	pP	05 36 20.8	+3.6
H19A	Powell	30.06	343	⇑P	P	05 36 11.8	-0.1
	baz=30						
MDND	Maddock	31.53	357	*e*P	P	05 36 24.0	-0.7
	10nm,0.9s						
D22A	Cohagen	31.70	348	⇑P	P	05 36 25.3	-1.0
	baz=31						
DLMT	Dillon	31.82	339	*e*P	P	05 36 26.5	-1.0
	8.2nm,1.3s						
AGMN	Agassiz Nation	31.92	1	*e*P	P	05 36 29.3	+1.2
	93nm,2.8s						
AGMN				*e*pP	pP	05 36 39.1	+3.3
WVOR	Wild Horse Val	32.01	329	P	P	05 36 28.6	-0.5
WVOR				*e*pP	pP	05 36 37.4	+0.5
C21A	Desert Coulee	32.53	347	⇑P	P	05 36 32.7	-0.9
	baz=32						
B20A	Solberg Farm,	33.32	346	⇑P	P	05 36 39.4	-1.0
	baz=33						
EGMT	Eagleton	33.35	344	⇑P	P	05 36 39.7	-1.0
	baz=33						
A21A	Bergtoll Ranch	33.61	348	⇓P	P	05 36 41.5	-1.5
	baz=33						
A20A	Cobblestone Ra	33.71	347	⇓P	P	05 36 42.6	-1.2
	baz=34						
A19A	Klindworth Far	33.94	346	⇓P	P	05 36 45.0	-0.9
	baz=34						
SWMT	Swartz Lake	34.17	339	*e*P	P	05 36 47.6	-0.3
EDM	Edmonton	39.03	344	*e*P	P	05 37 28.4	-0.8
	4.8nm,1.0s						
LPAZ	La Paz	43.07	137	P	P	05 38 10.5	+7.0
	0.8nm,0.9s,baz=298,slow=7.4,SNR=3.7						
LPAZ				LR	LR	05 53 55.5	
	comp=Z,58nm,21.1s,baz=258,slow=33						
SCHQ	Schefferville	44.90	24	P	P	05 38 14.6	-2.4
	2.8nm,0.8s,baz=245,slow=6.0,SNR=4.2						
SCHQ				LR	LR	05 58 47.7	
	comp=Z,85nm,21.7s,baz=94,slow=39						
YKA	Yellowknife Ar	47.79	349	P	P	05 38 37.3	-2.2
	1.1nm,0.7s,baz=154,slow=7.5,SNR=4.1						
DLBC	Dease Lake	48.67	338	*e*P	P	05 38 47.4	+0.8
	4.4nm,1.2s						
CFAA	Coronel Fontan	55.02	150	P	P	05 39 42.6	+8.4
	0.3nm,0.9s,baz=313,slow=7.6,SNR=5.0						
ILAR	Eielson Array	58.88	337	P	P	05 39 60.0	-1.2
	1.1nm,1.0s,baz=125,slow=7.1,SNR=12						
NB2	NORSAR Subarra	84.36	28	P	P	05 42 43.2	+8.7
	comp=Z,1.0nm,0.7s,baz=293,slow=5.1						
NOA	NORSAR Array B	84.36	28	P	P	05 42 42.5	+8.0
	comp=Z,1.8nm,0.9s,baz=300,slow=5.3,SNR=4.8						
NOA				LR	LR	06 21 07.3	
	comp=Z,11nm,20.4s,baz=280,slow=36						
HHC	Hu-ho-hao-te	117.29	336	*e*PKP	PKPdf	05 48 50.0	+1.7
HHC				PP	PP	05 50 01.0	+2.9
HHC	Hu-ho-hao-te	117.29	336	SS	SS	06 06 02.0	-3.9
HHC				AMB	AMB		
	comp=Z,42nm,9.1s						

KRSC ***08*** *05:45:10.6±1.8, 52°.09N×157°.56E, h151km±14km, ML3.8*
ISCJB ***08*** *05:45:12.4±0.5, 52°.06N±0°.06×157°.6E±0°.1, h142km±3km, mb3.6/6, Error ellipse: s-maj=13.8km s-min=5.3km az=35.4*
MOS ***08*** *05:45:12.1±0.5, 52°.02N×157°.70E, h142km, mb4.0/3, Error ellipse: s-maj=38.5km s-min=7.7km az=70.5*
IDC ***08*** *05:45:13.8±1.5, 52°.30N×157°.09E, h148km±15km, mb3.4/6, mb1 3.8/6, mb1mx3.3/25, mbtmp3.9/6, MS3.4/2, Ms1 3.4/2, ms1mx2.6/24, Error ellipse: s-maj=118.8km s-min=26.4km az=129.0*
ISC 08 05:45:13.6±0.8**, 52°.07N**±0°.05×**157°.70E**±0°.06**, h142**km±5km**, n54, σ1.50**/89**, mb3.7**/6**, 1D, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ASAK	Asacha	0.34	21	*e*P	Pn	05 45 32.9	-0.6
ASAK				*e*S	Sn	05 45 48.1	-0.5
MTVR	Mutnovka	0.51	35	*e*P	Pn	05 45 34.0	-0.3
MTVR				*e*S	Sn	05 45 50.4	+0.4
MIPR	Malaya Ipel'ka	0.62	290	*e*P	Pn	05 45 33.0	-1.7
MIPR				*e*S	Sn	05 45 48.2	-2.6
RUS	Russkaya	0.62	54	*e*P	Pn	05 45 34.1	-0.6
RUS				*e*S	Sn	05 45 50.5	-0.3
RUS	Russkaya	0.62	54	PN	Pn	05 45 34.1	-0.6
RUS				S	Sn	05 45 50.5	-0.3
PAU	Pauzhetka	0.82	223	*e*P	Pn	05 45 35.2	-1.0
PAU				*e*S	Sn	05 45 52.4	-0.8
PAU	Pauzhetka	0.82	223	PN	Pn	05 45 35.2	-1.0
PAU				S	Sn	05 45 52.4	-0.8
APC	Apacha	0.92	339	*e*P	Pn	05 45 35.4	-1.5
APC				*e*S	Sn	05 45 52.4	-2.3
APC	Apacha	0.92	339	PN	Pn	05 45 35.4	-1.5
APC				S	Sn	05 45 52.4	-2.3
PETK	Petropavlovsk-	1.04	360	P	Pn	05 45 36.9	-1.1
	15nm,0.3s,baz=179,slow=11,SNR=177						
PETK				S	Sn	05 45 56.3	-0.3
	4.2nm,0.3s,baz=257,slow=26,SNR=8.9						
PETK	Petropavlovsk-	1.04	360	PN	Pn	05 45 36.9	-1.1
PETK				S	Sn	05 45 56.3	-0.3
PETK				pmax	pmax		
	comp=Z,15nm,0.3s						
PETK				smax	smax		
	comp=N,4.0nm,0.3s						
PET	Petropavlovsk	1.12	31	*e*P	Pn	05 45 38.2	-0.4
PET				*e*S	Sn	05 45 57.6	-0.2
PET	Petropavlovsk	1.12	31	⇓*e*PN	Pn	05 45 38.3	-0.4
PET				*e*S	Sn	05 45 57.4	-0.4
PET				smax	smax		
	comp=E,123nm,0.6s						
PET				smax	smax		
	comp=N,128nm,0.5s						
UGLR	Uglovaya	1.33	31	*e*P	Pn	05 45 41.3	+0.4
UGLR				*e*S	Sn	05 46 02.6	+0.8
KOK	Koryaka	1.35	25	*e*P	Pn	05 45 41.4	+0.3
KOK				*e*S	Sn	05 46 03.6	+1.5
KOK	Koryaka	1.35	25	PN	Pn	05 45 41.4	+0.3
KOK				S	Sn	05 46 03.6	+1.5
AVH	Avacha	1.35	27	*e*P	Pn	05 45 41.5	+0.4
AVH				*e*S	Sn	05 46 03.1	+1.0
AVH	Avacha	1.35	27	PN	Pn	05 45 41.5	+0.4
AVH				S	Sn	05 46 03.1	+1.0
SMAR	Somma	1.37	29	*e*P	Pn	05 45 41.7	+0.3
SMAR				*e*S	Sn	05 46 03.3	+0.6
SMAR	Somma	1.37	29	PN	Pn	05 45 41.7	+0.3
SMAR				S	Sn	05 46 03.3	+0.6
KRER	Koryakskii	1.39	27	*e*P	Pn	05 45 41.6	0.0
KRER				*e*S	Sn	05 46 04.4	+1.4
SDLR	Sedlovina	1.41	30	*e*P	Pn	05 45 41.7	0.0
SDLR				*e*S	Sn	05 46 03.3	+0.1
SDLR	Sedlovina	1.41	30	PN	Pn	05 45 41.7	0.0
SDLR				S	Sn	05 46 03.3	+0.1
KRX	Arik	1.41	24	*e*P	Pn	05 45 41.8	0.0
KRX				*e*S	Sn	05 46 04.2	+0.8
NLC	Nalytchevo	1.49	42	*e*P	Pn	05 45 41.6	-0.8
NLC				*e*S	Sn	05 46 02.9	-1.6
NLC	Nalytchevo	1.49	42	PN	Pn	05 45 41.6	-0.8
NLC				S	Sn	05 46 02.9	-1.6
GNL	Ganaly	1.63	5	*e*P	Pn	05 45 43.1	-1.0
GNL				*e*S	Sn	05 46 06.0	-1.5
GNL	Ganaly	1.63	5	PN	Pn	05 45 43.1	-1.0
GNL				S	Sn	05 46 06.0	-1.5
SKR	Severo-Kuril's	1.71	216	*e*P	Pn	05 45 44.1	-0.8
SKR				*e*S	Sn	05 46 07.8	-0.9
SKR	Severo-Kuril's	1.71	216	*e*PN	Pn	05 45 32.5	-12
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				pmax	pmax		
	comp=E,40nm,0.3s						
SPN	Mys Shipunski	1.75	53	*e*P	Pn	05 45 45.3	0.0
SPN				*e*S	Sn	05 46 08.5	-1.1
SPN	Mys Shipunski	1.75	53	PN	Pn	05 45 45.3	0.0
SPN				S	Sn	05 46 08.5	-1.1
KZV	Kizimen	3.42	26	*e*P	Pn	05 46 06.6	+0.5
KZV				*e*S	Sn	05 46 46.5	-0.3
MKZ	Mys Kozlova	3.47	43	*e*P	Pn	05 46 05.9	-0.7
MKZ				*e*S	Sn	05 46 45.0	-2.7
MKZ	Mys Kozlova	3.47	43	PN	Pn	05 46 05.9	-0.7
MKZ				S	Sn	05 46 45.0	-2.7
TUMR	Tumrok	3.53	23	*e*P	Pn	05 46 08.1	+0.6
TUMR	Tumrok	3.53	23	PN	Pn	05 46 08.1	+0.6
KMNR	Kamenistaya	3.98	21	*e*P	Pn	05 46 14.2	+0.7
KMNR	Kamenistaya	3.98	21	PN	Pn	05 46 14.2	+0.7
KBTR	Krutoberegovo	5.12	34	*e*P	Pn	05 46 27.7	-0.7
KBTR				*e*S	Sn	05 47 22.4	-4.3
KBTR	Krutoberegovo	5.12	34	PN	Pn	05 46 27.7	-0.7
KBTR				S	Sn	05 47 22.4	-4.3
BKI	Bering	5.83	54	*e*P	Pn	05 46 37.4	-0.5
BKI				*e*S	Sn	05 47 37.8	-5.9
BKI	Bering	5.83	54	PN	Pn	05 46 37.4	-0.5
BKI				S	Sn	05 47 37.8	-5.9
ILAR	Eielson Array	30.57	44	P	P	05 51 13.3	-0.1
	comp=E,1.5nm,0.7s,baz=264,slow=7.7,SNR=30						
ILAR	Eielson Array	30.57	44	P	P	05 51 13.3	-0.1
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	44.90	41	P	P	05 53 13.9	+0.5
	comp=Z,0.7nm,0.6s,baz=294,slow=8.0,SNR=3.5						
YKA	Yellowknife Ar	44.90	41	P	P	05 53 13.9	+0.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	ARCESS Array B	53.79	341	LR	LR	06 22 17.2	
	comp=Z,25nm,18.1s,baz=248,slow=42						
NVAR	Mina Array Bea	57.47	68	P	P	05 54 48.9	+1.2
	comp=Z,0.8nm,0.7s,baz=294,slow=7.7,SNR=5.0						
PDAR	Pinedale Array	59.30	59	P	P	05 55 01.7	+1.3
	comp=Z,1.8nm,0.7s,baz=347,slow=4.6,SNR=11						
FINES	FINESS Array B	60.46	336	LR	LR	06 24 57.2	
	comp=Z,30nm,18.4s,baz=331,slow=40						
TXAR	Lajitas Array	72.39	65	P	P	05 56 25.1	+1.0
	comp=Z,0.7nm,0.5s,baz=297,slow=4.9,SNR=18						
TXAR	Lajitas Array	72.39	65	P	P	05 56 25.2	+1.0
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	Alice Springs	78.24	202	P	P	05 56 57.5	+0.2
	comp=Z,0.4nm,0.6s,baz=8.9,slow=6.6,SNR=2.9						

NIED ***08*** *05:46:00, 41°.10N×142°.70E, h26km, Mw3.6 Best double couple: M₀2.66000×10^14 NP1:φs82.00000°, δ46.00000°, λ107.00000°. NP2:φs238.00000°, δ46.00000°, λ73.00000°.*
JMA ***08*** *05:46:11.0±0.2, 41°.12N×142°.74E, h25km±4km, M3.6*
IDC ***08*** *05:46:15.7±2.9, 41°.05N×142°.61E, h64km±27km, mb3.3/5, mb1 3.6/7, mb1mx3.3/25, mbtmp3.6/7, ML3.1/1, Error ellipse: s-maj=33.3km s-min=21.0km az=111.0*
ISC 08 05:46:10.8±2.1**, 41°.17N**±0°.05×**142°.72E**±0°.05**, h20**km±13km**, n24, σ0.86**/25**, mb3.5**/5**, 2C-1D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JEM	Erimo	0.91	21	P	Pb	05 46 28.0	+0.1
JEM				*e*S	Sg	05 46 40.5	+0.8
JNBK	Urakawa-nobuka	1.11	1	⇓P	Pb	05 46 31.9	+0.5
JANG	Nango	1.21	230	P	Pn	05 46 32.1	-0.5
JANG				*e*S	Sb	05 46 47.3	-0.9
JOT	Ohata	1.28	280	⇑P	Pb	05 46 34.1	-0.1
JOT				*e*S	Sn	05 46 49.6	-0.5
JTM	Tenmabayashi	1.31	254	P	Pb	05 46 34.6	-0.1
JKB	Kayabe	1.46	300	⇑P	Pn	05 46 36.4	+0.4
JKB				*e*S	Sn	05 46 54.9	+0.4
JCH	Churui	1.53	18	P	Pb	05 46 38.1	-0.3
JBT2	Biratori 2	1.63	351	P	Pb	05 46 40.2	-0.1
JOM	Ohasama	2.01	213	P	Pn	05 46 44.3	+0.7
JOM				*e*S	Sn	05 47 08.1	-0.1
JAR	Ashorobuto	2.27	20	P	Pn	05 46 48.0	+0.8
JAR				*e*S	Sn	05 47 14.9	+0.4
JAK	Akkeshi	2.35	38	P	Pn	05 46 48.5	+0.3
JAK				*e*S	Sn	05 47 15.1	-1.4
ASAJ	Asahikawa	2.95	358	P	Pb	05 47 01.4	-1.3
	baz=208,slow=11						
MJAR	Matsushiro Arr	5.80	219	P	Pn	05 47 37.7	+1.9
	0.5nm,0.3s,baz=34,slow=12,SNR=3.4						
SONM	Songino Array	26.57	297	P	P	05 51 48.1	+0.6
	0.2nm,0.5s,baz=92,slow=8.5,SNR=2.3						
H11N2	WAKE ISLAND Hy	29.67	129	T	T	06 23 43.8	
	baz=318,slow=75,SNR=18						
H11N1	WAKE ISLAND Hy	29.68	129	T	T	06 23 24.1	
	baz=318,slow=75,SNR=24						
H11N3	WAKE ISLAND Hy	29.69	129	T	T	06 23 31.5	
	baz=318,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy	30.51	131	T	T	06 24 42.6	
	baz=324,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	30.52	131	T	T	06 24 45.3	
	baz=324,slow=76,SNR=7.5						
H11S2	WAKE ISLAND Hy	30.53	131	T	T	06 24 45.8	
	baz=324,slow=76,SNR=9.7						
ILAR	Eielson Array	45.49	34	P	P	05 54 29.1	+0.8
	0.2nm,0.6s,baz=267,slow=6.1,SNR=7.5						
WRA	Warramunga Arr	61.29	189	P	P	05 56 23.2	-1.6
	0.2nm,0.5s,baz=5.7,slow=7.0,SNR=4.8						
FINES	FINESS Array B	65.65	332	P	P	05 56 52.8	-0.3
	3.7nm,1.0s,baz=41,slow=6.3,SNR=3.0						
NVAR	Mina Array Bea	71.74	55	P	P	05 57 32.7	+0.9
	0.5nm,0.6s,baz=284,slow=3.6,SNR=4.2						

PDA 08 05:46:29.0±1.1**, 37°.53N×25°.16W, h5km, MD3.6, ML1.8, Error ellipse: s-maj=6.2km s-min=2.1km az=76.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BART	Pico Bartolome	0.25	358	*e*P	Pg	05 46 33.5	-0.5
BART				*i* S	Sg	05 46 37.4	+0.1
BART				A	A	05 46 38.0	
	75nm,0.1s						
PDA	Ponta Delgada	0.45	298	*e*P	Pg	05 46 36.6	-1.2
PDA				*e*S	Sg	05 46 43.0	-0.7
PDA				A	A	05 46 44.0	
	42nm,0.2s						
PSET	Sete Cidades	0.53	303	*e*P	Pg	05 46 38.0	-1.3
PSET				*e*S	Sg	05 46 45.3	-1.0
PSET				A	A	05 46 45.6	
	29nm,0.4s						
PSMN	Pico do Norte,	0.53	172	*e*P	Pg	05 46 38.2	-1.1
PSMN				*e*S	Sg	05 46 45.3	-0.9
PSMN				A	A	05 46 47.2	
	16nm,0.2s						
PSMA	Santa Maria	0.54	177	*e*P	Pg	05 46 37.7	-1.6
PSMA				*e*S	Sg	05 46 45.4	-0.9
PSMA				A	A	05 46 53.2	
	26nm,0.6s						

GUC 08 05:53:12.4±0.5**, 35°.83S×72°.12W, h54**km±8km**, ML4.0, 4C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LNCH	Linares	0.42	93	⇑*i*P	Pn	05 53 24.3	+1.2
LNCH				*e*S	Sn	05 53 32.8	+2.1
TALC	Talca	0.58	43	⇑*i*P	Pn	05 53 25.2	+0.4
TALC				*i* S	Sn	05 53 34.6	+0.7
NICH	Los Niches	1.10	42	⇑*i*P	Pn	05 53 32.0	+0.4
NICH				*i* S	Sn	05 53 46.8	+1.0
LNV	Longovilo	1.96	18	*e*P	Pn	05 53 43.9	+0.7
CHCH	Chadas Angostu	2.24	33	*e*P	Pn	05 53 47.7	+0.5
CLCH	Cerro Calan	2.75	29	⇑*i*P	Pn	05 53 55.0	+0.7
CLCH				*e*S	Sn	05 54 27.0	+0.6
CLCH				AML	AML	05 54 35.9	
	comp=E,464nm,0.4s						
PEL	Peldehue	2.93	24	*e*P	Pn	05 53 57.5	+0.9
PEL				AML	AML	05 54 43.9	
	comp=N,471nm,0.5s						
ROCH	El Roble	2.99	18	⇓*i*P	Pn	05 53 58.4	+0.7
ROCH				*i* S	Sn	05 54 33.1	+0.6
ROCH				AML	AML	05 54 46.7	
	comp=N,384nm,0.4s						

KRSC ***08*** *05:59:49.2±1.0, 53°.68N×160°.80E, h47km±16km, ML4.6*
MOS ***08*** *05:59:50.4±0.8, 53°.64N×160°.87E, h47km, mb4.5/7, Error ellipse: s-maj=10.1km s-min=5.4km az=69.9*
ISCJB ***08*** *05:59:51.4±0.4, 53°.70N±0°.03×160°.68E±0°.06, h62km±4km, mb4.2/31, Error ellipse: s-maj=6.8km s-min=2.4km az=33.8*
NEIC ***08*** *05:59:53.7±0.7, 53°.97N×160°.29E, h66km±8km, mb4.2/13, Error ellipse: s-maj=11.0km s-min=5.7km az=160.0*
IDC ***08*** *05:59:55.5±1.6, 53°.98N×160°.30E, h84km±21km, mb3.8/15, mb1 4.0/16, mb1mx3.8/29, mbtmp4.1/16, MS3.0/5, Ms1 3.0/5, ms1mx2.7/42, Error ellipse: s-maj=25.6km s-min=14.6km az=170.0*
ISC 08 05:59:51.1±0.4**, 53°.65N**±0°.02×**160°.79E**±0°.03**, h47**km±4km**, n133, σ1.22**/153**, mb4.3**/31**, MS2.8**/5**, 7C-3D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.72	220	*e*P	Pn	06 00 05.2	+0.3
SPN				*e*S	Sn	06 00 13.3	-1.6
SPN	Mys Shipunski	0.72	220	PN	Pn	06 00 05.2	+0.3
SPN				S	Sn	06 00 13.3	-1.6
KII	Karymskiy	0.88	297	*e*P	Pn	06 00 07.0	-0.3
KII				*e*S	Sn	06 00 17.0	-2.1
KII	Karymskiy	0.88	297	PN	Pn	06 00 07.0	-0.3
KII				S	Sn	06 00 17.0	-2.1
NLC	Nalytchevo	0.99	242	*e*P	Pn	06 00 08.8	+0.3
NLC				*e*S	Sn	06 00 19.8	-1.6
NLC	Nalytchevo	0.99	242	PN	Pn	06 00 08.8	+0.3
NLC				S	Sn	06 00 19.8	-1.6
MKZ	Mys Kozlova	1.07	31	*e*P	Pn	06 00 09.1	-0.5
MKZ				*e*S	Sn	06 00 21.8	-1.5
MKZ	Mys Kozlova	1.07	31	PN	Pn	06 00 09.1	-0.5
MKZ				S	Sn	06 00 21.8	-1.5
SDLR	Sedlovina	1.20	253	*e*P	Pn	06 00 12.1	+0.6
SDLR				*e*S	Sn	06 00 26.1	-0.6
SDLR	Sedlovina	1.20	253	PN	Pn	06 00 12.1	+0.6
SDLR				S	Sn	06 00 26.1	-0.6
SMAR	Somma	1.25	253	*e*P	Pn	06 00 12.9	+0.6
SMAR				*e*S	Sn	06 00 27.9	-0.2
SMAR	Somma	1.25	253	PN	Pn	06 00 12.9	+0.6
SMAR				S	Sn	06 00 27.9	-0.2
UGLR	Uglovaya	1.25	250	*e*P	Pn	06 00 13.1	+0.8
UGLR				*e*S	Sn	06 00 27.5	-0.6
KRER	Koryakskii	1.27	255	*e*P	Pn	06 00 13.5	+0.9
KRER				*e*S	Sn	06 00 28.7	+0.2
AVH	Avacha	1.28	253	*e*P	Pn	06 00 13.6	+0.9
AVH				*e*S	Sn	06 00 29.3	+0.5
AVH	Avacha	1.28	253	PN	Pn	06 00 13.6	+0.9
AVH				S	Sn	06 00 29.3	+0.5
KRX	Arik	1.31	258	*e*P	Pn	06 00 13.7	+0.6
KRX				*e*S	Sn	06 00 28.8	-0.7
KOK	Koryaka	1.33	255	*e*P	Pn	06 00 14.2	+0.8
KOK				*e*S	Sn	06 00 29.3	-0.7
KOK	Koryaka	1.33	255	PN	Pn	06 00 14.2	+0.8
KOK				S	Sn	06 00 29.3	-0.7
PET	Petropavlovsk	1.42	245	κ *i*PN	Pn	06 00 15.2	+0.7
PET				*i* S	Sn	06 00 33.0	+1.0
PET				pmax	pmax		
	comp=Z,600nm,1.6s						
PET				pmax	pmax		
	comp=Z,594nm,0.5s						
PET				smax	smax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,5µm,0.5s						
PET				smax	smax		
	comp=E,6µm,0.4s						
PET	Petropavlovsk	1.42	245	ePn	Pn	06 00 15.2	+0.7
INSR	Institute	1.43	247	eP	Pn	06 00 13.7	-0.9
INSR				eS	Sn	06 00 32.3	+0.1
KZV	Kizimen	1.50	349	eP	Pn	06 00 15.6	-0.1
KZV				eS	Sn	06 00 32.6	-1.5
TUMR	Tumrok	1.68	347	eP	Pn	06 00 18.6	+0.4
TUMR				eS	Sn	06 00 38.0	-0.6
TUMR	Tumrok	1.68	347	PN	Pn	06 00 18.6	+0.4
TUMR				S	Sn	06 00 38.0	-0.6
GNL	Ganaly	1.69	273	eP	Pn	06 00 19.1	+0.8
GNL				eS	Sn	06 00 38.8	-0.1
GNL	Ganaly	1.69	273	PN	Pn	06 00 19.1	+0.8
GNL				S	Sn	06 00 38.8	-0.1
RUS	Russkaya	1.83	229	eP	Pn	06 00 20.5	+0.4
RUS				eS	Sn	06 00 42.1	0.0
RUS	Russkaya	1.83	229	PN	Pn	06 00 20.5	+0.4
RUS				S	Sn	06 00 42.1	0.0
PEA0B	Petropavlovsk-	1.93	255	ePn	Pn	06 00 22.5	+1.1
PEA0B				eSn	Sn	06 00 45.2	+0.8
PETK	Petropavlovsk-	1.93	255	P	Pn	06 00 23.3	+1.9
	comp=E,123nm,0.3s,baz=91,slow=21,SNR=287						
PETK				S	Sn	06 00 47.1	+2.7
	comp=E,184nm,0.3s,baz=76,slow=40,SNR=30						
PETK				LR	LR	06 01 19.7	
	comp=E,282nm,19.3s,baz=77,slow=47						
MTVR	Mutnovka	1.96	234	eP	Pn	06 00 23.0	+1.0
MTVR				eS	Sn	06 00 45.9	+0.5
GRL	Gorelyy	1.97	237	eP	Pn	06 00 23.3	+1.2
GRL				eS	Sn	06 00 46.2	+0.5
GRL	Gorelyy	1.97	237	PN	Pn	06 00 23.3	+1.2
GRL				S	Sn	06 00 46.2	+0.5
KMNR	Kamenistaya	2.14	352	eP	Pn	06 00 25.6	+1.2
KMNR				eS	Sn	06 00 50.6	+0.9
KMNR	Kamenistaya	2.14	352	PN	Pn	06 00 25.6	+1.2
KMNR				S	Sn	06 00 50.6	+0.9
ASAK	Asacha	2.15	235	eP	Pn	06 00 26.3	+1.7
ASAK				eS	Sn	06 00 51.7	+1.5
APC	Apacha	2.30	253	eP	Pn	06 00 28.8	+2.4
APC				eS	Sn	06 00 55.2	+1.8
APC	Apacha	2.30	253	PN	Pn	06 00 28.8	+2.4
APC				S	Sn	06 00 55.2	+1.8
BZGR	Bezymyannyi-Gr	2.30	359	eP	Pn	06 00 28.0	+1.4
BZGR				eS	Sn	06 00 54.5	+0.8
BZMR	Bezymyannaya	2.30	356	eP	Pn	06 00 28.0	+1.3
BZMR				eS	Sn	06 00 54.7	+0.9
KIRR	Kirishev	2.33	354	eP	Pn	06 00 26.0	-1.0
ZLN	Zelenaya	2.38	0	eP	Pn	06 00 29.8	+2.1
ZLN	Zelenaya	2.38	0	PN	Pn	06 00 29.8	+2.1
KOZ	Kozyrevsk	2.47	348	eP	Pn	06 00 29.8	+0.9
KOZ				eS	Sn	06 00 57.1	-0.8
KOZ	Kozyrevsk	2.47	348	PN	Pn	06 00 29.8	+0.9
KOZ				S	Sn	06 00 57.1	-0.8
ESO	Esso	2.58	333	eP	Pn	06 00 30.8	+0.4
ESO	Esso	2.58	333	PN	Pn	06 00 30.8	+0.4
KLY	Klyuchi	2.67	358	eP	Pn	06 00 32.8	+1.2
KLY				eS	Sn	06 01 03.6	+0.9
SRDR	Sredinnyy	2.75	347	eP	Pn	06 00 33.0	+0.3
SRDR	Sredinnyy	2.75	347	PN	Pn	06 00 33.0	+0.3
MIPR	Malaya Ipel'ka	2.80	242	eP	Pn	06 00 35.4	+2.0
KBTR	Krutoberegovo	2.82	24	eP	Pn	06 00 34.7	+1.0
KBTR				eS	Sn	06 01 06.1	-0.3
KBTR	Krutoberegovo	2.82	24	PN	Pn	06 00 34.7	+1.0
KBTR				S	Sn	06 01 06.1	-0.3
BDR	Baidarnaya	2.94	5	eP	Pn	06 00 36.9	+1.6
BDR				eS	Sn	06 01 09.4	0.0
SMKR	Semkarok	2.97	7	eP	Pn	06 00 37.1	+1.4
SMKR	Semkarok	2.97	7	PN	Pn	06 00 37.1	+1.4
SRKR	Sorokina	3.02	4	eP	Pn	06 00 38.0	+1.5
SRKR				eS	Sn	06 01 12.2	+0.8
SRKR	Sorokina	3.02	4	PN	Pn	06 00 38.0	+1.5
SRKR				S	Sn	06 01 12.2	+0.8
PAU	Pauzhetka	3.26	230	eP	Pn	06 00 42.9	+3.2
PAU	Pauzhetka	3.26	230	PN	Pn	06 00 42.9	+3.2
BKI	Bering	3.41	61	eP	Pn	06 00 42.2	+0.5
BKI				eS	Sn	06 01 18.5	-2.2
BKI	Bering	3.41	61	PN	Pn	06 00 42.2	+0.5
BKI				S	Sn	06 01 18.5	-2.2
SKR	Severo-Kuril's	4.13	226	eP	Pn	06 00 54.1	+2.5
SKR				eS	Sn	06 01 40.9	+2.3
SKR	Severo-Kuril's	4.13	226	ePN	Pn	06 00 44.0	-7.6
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
OSSR	Ossora	5.76	12	eP	Pn	06 01 17.6	+3.7
SEY	Seymchan	10.30	338⥣	ePN	Pn	06 02 11.5	-4.5
YSS	Yuzh-Sakhalins	13.31	247⥣	ePN	Pn	06 02 54.3	-2.9
BILL	Bilibino	14.68	8	eP	P	06 03 32.3	+12
BILL	Bilibino	14.68	8	eP	P	06 03 32.3	+12
ASAJ	Asahikawa	15.26	239	P	Pn	06 03 23.5	+0.2
	baz=68,slow=11						
ASAJ	Asahikawa	15.26	239	ePn	Pn	06 03 24.2	+1.0
	comp=Z,2.8nm,0.8s						
ERM	Erimo	16.54	232⥣	eP	Pn	06 03 37.7	-1.9
ERM				pmax	pmax		
	comp=Z,19nm,1.2s						
YAK	Yakutsk	18.40	309⥥	eP	P	06 03 57.6	-4.3
YAK				pmax	pmax		
	comp=Z,16nm,0.5s						
VLA	Vladivostok	21.74	253⥣	eP	P	06 04 36.6	-1.7
VLA				e		06 04 57.7	
VLA				S	S	06 08 35.1	-1.0
VLA				e		06 08 36.9	
VLA				pmax	pmax		
	comp=Z,33nm,0.8s						
MJA0	Matsu Arr-Jizo	23.20	232	eP	P	06 04 53.2	-0.5
MJA0				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MAJO	Matsushiro	23.22	232	eP	P	06 04 54.1	+0.2
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MAJO	Matsushiro	23.22	232	eP	P	06 04 54.0	+0.2
	comp=Z,9.0nm,0.6s						
MAT	Matsushiro	23.22	232	P	P	06 04 54.7	+0.8
MJAR	Matsushiro Arr	23.22	232	P	P	06 04 54.4	+0.4
	comp=Z,2.8nm,0.4s,baz=20,slow=10,SNR=14						
MJAR				LR	LR	06 15 18.5	
	comp=Z,21nm,18.2s,baz=70,slow=40						
IM04	Indian Mountai	25.30	43	eP	P	06 05 13.0	+0.2
HIA	Hailar	25.68	277⥣	eP	P	06 05 15.7	-0.8
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BPAW	Bear Paw Mtn.	26.36	48	eP	P	06 05 23.1	+0.7
	comp=Z,0.7nm,0.8s						
KTH	Kantishna Hill	26.39	49	eP	P	06 05 23.7	+1.0
	comp=Z,4.5nm,0.9s						
TRF	Thorofare Moun	26.68	49	eP	P	06 05 26.1	+0.7
	comp=Z,5.4nm,0.9s						
COLD	Coldfoot	26.86	41	eP	P	06 05 27.0	+0.1
	comp=Z,3.0nm,0.8s						
COLA	College	27.71	46⥣	iP	P	06 05 35.0	+0.5
COLA				pmax	pmax		
	comp=Z,19nm,0.9s						
CCB	Clear Creek Bu	27.74	46	eP	P	06 05 35.2	+0.4
	comp=Z,2.9nm,0.8s						
KSRS	Korea Array	27.81	248	LR	LR	06 15 10.2	
	comp=Z,29nm,21.5s,baz=50,slow=33						
ILAR	Eielson Array	28.13	46	P	P	06 05 38.2	-0.1
	comp=Z,3.0nm,0.7s,baz=264,slow=8.2,SNR=66						
FYU	Fort Yukon	28.79	42	eP	P	06 05 45.3	+1.2
	comp=Z,9.0nm,0.7s						
JNU	Nakatsue	29.54	238	LR	LR	06 17 50.8	
	comp=Z,23nm,18.9s,baz=130,slow=36						
EGAK	Eagle	30.58	46	eP	P	06 05 59.6	-0.3
	comp=Z,5.1nm,0.7s						
INK	Inuvik	33.18	38	P	P	06 06 22.5	-0.2
	comp=Z,3.2nm,0.7s,baz=273,slow=2.5,SNR=5.5						
H11N2	WAKE ISLAND Hy	34.18	170	T	T	06 43 17.5	
	baz=354,slow=76,SNR=172						
SONM	Songino Array	34.18	283	P	P	06 06 30.2	-1.6
	comp=Z,0.2nm,0.4s,baz=76,slow=6.1,SNR=2.6						
SONM				LR	LR	06 21 38.3	
	comp=Z,38nm,19.3s,baz=122,slow=38						
H11N3	WAKE ISLAND Hy	34.20	170	T	T	06 43 26.5	
	baz=354,slow=76,SNR=130						
H11N1	WAKE ISLAND Hy	34.20	170	T	T	06 43 27.7	
	baz=354,slow=76,SNR=224						
H11S1	WAKE ISLAND Hy	35.37	170	T	T	06 44 21.8	
	baz=352,slow=76,SNR=6.4						
H11S3	WAKE ISLAND Hy	35.38	170	T	T	06 44 27.1	
	baz=352,slow=76,SNR=10						
H11S2	WAKE ISLAND Hy	35.39	170	T	T	06 44 21.7	
	baz=352,slow=76,SNR=5.5						
YKA	Yellowknife Ar	42.47	43	P	P	06 07 41.2	+0.2
	comp=Z,2.7nm,0.5s,baz=298,slow=7.7,SNR=13						
SPITS	Spitsbergen Ar	46.66	351	P	P	06 08 12.1	-2.1
	comp=Z,3.5nm,0.9s,baz=78,slow=9.3,SNR=5.6						
KURK	Kurchatov	47.79	302⥣	eP	P	06 08 22.6	-0.8
KURK				pmax	pmax		
	comp=Z,3.0nm,2.5s						
EDM	Edmonton	48.10	54	eP	P	06 08 26.8	+1.0
EDM	Edmonton	48.10	54	eP	P	06 08 26.8	+1.0
MKAR	Makanchi Array	48.29	296	P	P	06 08 23.4	-3.9
	comp=Z,0.2nm,0.5s,baz=41,slow=7.9,SNR=2.6						
CHMT	Chamberlain Mo	52.14	60	eP	P	06 08 57.0	+0.3
ARCES	ARCESS Array B	52.89	342	P	P	06 08 59.3	-2.3
	comp=Z,3.1nm,0.9s,baz=49,slow=9.7,SNR=2.9						
SUMG	Summit	53.36	7	eP	P	06 09 05.1	-0.4
SUMG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SUMG	Summit	53.36	7	eP	P	06 09 05.1	-0.4
	comp=Z,4.8nm,1.0s						
NVAR	Mina Array Bea	55.16	71	P	P	06 09 21.0	+2.1
	comp=Z,2.7nm,0.6s,baz=303,slow=7.7,SNR=19						
ELK	Elko	55.26	67	eP	P	06 09 21.3	+1.7
ELK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ELK	Elko	55.26	67	eP	P	06 09 21.3	+1.7
	comp=Z,2.3nm,1.0s						
RLMT	Red Lodge	55.40	59	eP	P	06 09 22.5	+2.0
	comp=Z,5.4nm,0.8s						
FXWY	Fox Creek	55.51	62	eP	P	06 09 23.5	+2.1
HWUT	Hardware Ranch	56.64	64	eP	P	06 09 31.5	+2.0
	comp=Z,5.5nm,0.8s						
R11A	Troy Canyon, C	56.74	69	eP	P	06 09 31.7	+1.5
PDAR	Pinedale Array	56.89	62	P	P	06 09 32.9	+1.6
	comp=Z,2.4nm,0.7s,baz=3.8,slow=4.5,SNR=15						
CMAR	Chiang Mai Arr	58.70	258	LR	LR	06 36 10.6	
	comp=Z,14nm,18.6s,baz=155,slow=37						
RSSD	Black Hills	58.75	57	eP	P	06 09 45.2	+0.9
RSSD	Black Hills	58.75	57	eP	P	06 09 45.1	+0.9
SRU	San Rafael Swe	58.98	65	eP	P	06 09 47.9	+2.1
SRU	San Rafael Swe	58.98	65	eP	P	06 09 47.9	+2.1
FINES	FINESS Array B	59.77	337	P	P	06 09 48.4	-2.4
	comp=Z,1.4nm,0.6s,baz=39,slow=7.3,SNR=4.9						
FINES	FINESS Array B	59.77	337	eP	P	06 09 50.1	-0.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ISCO	Idaho Springs	61.09	61	eP	P	06 10 02.7	+2.3
ISCO	Idaho Springs	61.09	61	eP	P	06 10 02.7	+2.3
NOA	NORSAR Array B	63.12	344	P	P	06 10 11.8	-1.6
	comp=Z,0.4nm,0.4s,baz=14,slow=5.8,SNR=3.6						
HFS	Hagfors	63.55	342	P	P	06 10 13.9	-2.2
	comp=Z,1.5nm,0.8s,baz=69,slow=7.9,SNR=4.8						
SCHQ	Schefferville	64.97	28	P	P	06 10 23.8	-1.7
	comp=Z,2.5nm,0.7s,baz=311,slow=7.5,SNR=4.6						
AKASG	Malin Array Be	68.35	329	P	P	06 10 44.7	-2.4
	comp=Z,0.2nm,0.3s,baz=29,slow=6.5,SNR=2.5						
TXAR	Lajitas Array	70.04	68	P	P	06 10 59.3	+1.3
	comp=Z,3.6nm,0.5s,baz=297,slow=5.0,SNR=103						

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*IDC **08** 06:00:58.0±2.0, 0°.58N×126°.86E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/36, mbtmp3.5/3, MS3.4/1, Ms1 3.4/1, ms1mx2.4/23, Error ellipse: s-maj=173.9km s-min=25.0km az=66.0*

*ISCJB **08** 06:01:00.0±3.0, 0°.6N±0°.1×126°.8E±0°.2, h28km±25km, mb3.4/3, MS3.4/1, Error ellipse: s-maj=34.1km s-min=14.9km az=158.5*

*DJA **08** 06:01:02.5±1.6, 1°N±7°×12°8E±1°5, h14km±18km, M3.5/3, MLv3.5/3*

ISC 08 06:01:01.3±1.4**, 0°.58N**±0°.09×**126°.9E**±0°.2**, h22**km±11km**, n7, σ0°.84**/8**, mb3.6**/3**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.52	68	P	Pb	06 01 11.5	-0.2
TNTI				S	Sb	06 01 19.2	+0.4
LBMI	Labuha	1.35	153	P	Pn	06 01 25.1	+0.2
LBMI				S	Sb	06 01 42.8	0.0
NLAI	Namlea	3.79	177	P	Pn	06 01 58.9	+0.4
WRA	Warramunga Arr	21.66	161	P	P	06 05 49.3	-1.2
	0.3nm,0.4s,baz=339,slow=11,SNR=14						
ASAR	Alice Springs	25.04	165	P	P	06 06 25.1	+0.9
	0.8nm,0.5s,baz=344,slow=11,SNR=8.2						
TLY	Talaya	54.56	342	LR	LR	06 36 20.6	
	comp=Z,31nm,18.1s,baz=354,slow=39						
MKAR	Makanchi Array	60.23	326	P	P	06 11 07.8	-0.1
	0.3nm,0.3s,baz=125,slow=6.6,SNR=7.7						

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*ISCJB **08** 06:06:44.1±0.8, 6°.76S±0°.04×132°.44E±0°.10, h10km, mb3.6/1, Error ellipse: s-maj=14.3km s-min=6.2km az=173.1*

*IDC **08** 06:06:44.9±3.9, 6°.65S×132°.83E, h0km, mb3.8/1, mb1 4.2/4, mb1mx3.7/17, mbtmp4.0/4, ML4.1/3, Error ellipse: s-maj=254.9km s-min=28.0km az=78.0*

*DJA **08** 06:06:58.1±1.1, 2°S±6°×12°9E±°, h10km, M4.4/4, MLv4.4/4*

ISC 08 06:06:45.9±0.9**, 6°.81S**±0°.06×**132°.5E**±0°.1**, h10**km**, n7, σ2°.38**/11**, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	3.43	311	P	Pn	06 07 41.5	+2.1
BNDI				S	Sn	06 08 17.6	-2.5
FAKI	Fak Fak	3.87	357	P	Pn	06 07 47.2	+1.7
FAKI				S	Sn	06 08 27.3	-3.8
RKPI	Ransiki, Papua	5.53	18	P	Pn	06 08 12.4	+4.1
RKPI				S	Sn	06 09 11.6	-0.3
SIJI	Sorong	6.02	348	Pn	Pn	06 08 15.2	+0.1
	3.8nm,0.3s,baz=188,slow=23,SNR=14						
SIJI				Sn	Sn	06 09 15.3	-8.9
	8.0nm,0.3s,baz=246,slow=22,SNR=11						
WRA	Warramunga Arr	13.18	172	Pn	Pn	06 09 54.5	+1.2
	0.9nm,0.3s,baz=356,slow=13,SNR=40						
WRA				Sn	Sn	06 12 16.7	-3.3
	0.6nm,0.3s,baz=1.3,slow=23,SNR=4.8						
ASAR	Alice Springs	16.82	175	Pn	P	06 10 44.5	+0.7
	1.0nm,0.3s,baz=351,slow=8.5,SNR=25						
ASAR				Sn	Sn	06 13 46.8	-1.9
	0.2nm,0.3s,baz=357,slow=28,SNR=3.7						
MKAR	Makanchi Array	69.44	326	P	P	06 17 55.1	+0.8
	0.6nm,0.7s,baz=120,slow=7.2,SNR=4.1						

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*ISCJB **08** 06:17:26.2±0.8, 21°.19S±0°.07×68°.0W±0°.1, h136km, mb3.1/1, Error ellipse: s-maj=18.2km s-min=7.8km az=17.5*

*IDC **08** 06:17:26.9±0.9, 21°.16S×68°.08W, h127km±19km, mb3.1/1, mb1 3.1/5, mb1mx3.1/18, mbtmp3.6/5, Error ellipse: s-maj=40.1km s-min=10.8km az=103.0*

ISC 08 06:17:27.1±1.0**, 21°.21S**±0°.07×**68°.1W**±0°.1**, h136**km**, n6, σ1°.28**/8**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.61	210	P	Pn	06 17 56.7	-0.4
	793nm,0.3s,baz=22,slow=10.0,SNR=326						
LVC				S	Sn	06 18 19.5	-0.6
	529nm,0.3s,baz=110,slow=22,SNR=35						
LPAZ	La Paz	4.89	359	P	Pn	06 18 40.0	+0.5
	0.2nm,0.3s,baz=159,slow=4.4,SNR=13						
LPAZ				S	Sn	06 19 33.9	-1.8
	0.0nm,0.3s,baz=83,slow=17,SNR=2.4						
SIV	San Ignacio	8.41	53	P	Pn	06 19 25.1	-1.0
	1.5nm,0.3s,baz=252,slow=14,SNR=20						
PLCA	Paso Flores	19.58	186	P	P	06 21 45.5	+0.9
	0.1nm,0.3s,baz=10,slow=11,SNR=2.8						
BDFB	Brasilia	19.79	77	P	P	06 21 48.4	+1.3
	0.3nm,0.3s,baz=238,slow=9.5,SNR=4.2						
TORD	Torodi Ar. Bea	76.50	70	P	P	06 29 03.4	+0.8
	0.2nm,0.4s,baz=258,slow=6.3,SNR=2.9						

KRSC 08 06:25:57.9±0.8**, 55°.04N**×**162°.50E, h60**km±18km**, ML3.5, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.66	223	eP	Pn	06 26 13.7	+2.0
MKZ				eS	Sn	06 26 24.0	+2.3
KBTR	Krutoberegovo	1.18	9	eP	Pn	06 26 19.9	+1.6
KBTR				eS	Sn	06 26 34.5	+0.9
KZV	Kizimen	1.27	274	eP	Pn	06 26 21.5	+1.8
KZV				eS	Sn	06 26 37.3	+1.3
BZGR	Bezymyannyi-Gr	1.36	312	eP	Pn	06 26 22.2	+1.3
TUMR	Tumrok	1.37	281	eP	Pn	06 26 23.2	+2.2
TUMR				eS	Sn	06 26 40.2	+1.8
KMNR	Kamenistaya	1.48	300	eP	Pn	06 26 24.6	+2.2
KMNR				eS	Sn	06 26 42.4	+1.6
KLY	Klyuchi	1.65	321	eP	Pn	06 26 26.0	+1.4
KLY				eS	Sn	06 26 45.1	+0.4
SMKR	Semkarok	1.65	340	eP	Pn	06 26 26.8	+2.1
SMKR				eS	Sn	06 26 46.5	+1.5
BDR	Baidarnaya	1.69	335	eP	Pn	06 26 27.9	+2.6
BDR				eS	Sn	06 26 48.1	+2.1
SRKR	Sorokina	1.78	336	eP	Pn	06 26 28.9	+2.4
SRKR				eS	Sn	06 26 50.3	+2.2
KOZ	Kozyrevsk	1.81	305	eP	Pn	06 26 29.5	+2.7
KOZ				eS	Sn	06 26 51.4	+2.8
BKI	Bering	2.00	84	eP	Pn	06 26 31.3	+2.0
BKI				eS	Sn	06 26 53.8	+0.6
SRDR	Sredinnyy	2.03	310	eP	Pn	06 26 32.3	+2.5
KII	Karymskiy	2.04	242	eP	Pn	06 26 32.9	+2.8
KII				eS	Sn	06 26 56.2	+1.7
ESO	Esso	2.34	294	eP	Pn	06 26 35.9	+1.9
ESO				eS	Sn	06 27 02.0	+0.4
SPN	Mys Shipunski	2.44	218	eP	Pn	06 26 36.8	+1.5
SPN				eS	Sn	06 27 02.9	-1.0
NLC	Nalytchevo	2.64	226	eP	Pn	06 26 40.6	+2.6
NLC				eS	Sn	06 27 10.6	+1.8
SDLR	Sedlovina	2.77	232	eP	Pn	06 26 43.2	+3.3
SDLR				eS	Sn	06 27 14.3	+2.0
KRER	Koryakskii	2.81	233	eP	Pn	06 26 44.0	+3.3
KRER				eS	Sn	06 27 16.1	+2.6
SMAR	Somma	2.81	232	eP	Pn	06 26 43.8	+3.1
SMAR				eS	Sn	06 27 15.7	+2.1
KRX	Arik	2.82	235	eP	Pn	06 26 43.6	+2.9
KRX				eS	Sn	06 27 15.7	+2.0
UGLR	Uglovaya	2.84	231	eP	Pn	06 26 44.4	+3.5
UGLR				eS	Sn	06 27 17.1	+3.1
AVH	Avacha	2.84	233	eP	Pn	06 26 44.4	+3.5
AVH				eS	Sn	06 27 17.7	+3.7
KOK	Koryaka	2.87	234	eP	Pn	06 26 44.6	+3.3
GNL	Ganaly	2.99	245	eP	Pn	06 26 46.6	+3.6
PET	Petropavlovsk	3.04	230	eP	Pn	06 26 46.5	+3.0
PET				eS	Sn	06 27 20.3	+1.7
RUS	Russkaya	3.53	224	eP	Pn	06 26 52.2	+2.0
MTVR	Mutnovka	3.62	227	eP	Pn	06 26 56.0	+4.3
MTVR				eS	Sn	06 27 36.1	+2.7
APC	Apacha	3.80	238	eP	Pn	06 26 58.3	+4.4
ASAK	Asacha	3.82	228	eP	Pn	06 26 58.5	+4.2
MIPR	Malaya Ipel'ka	4.40	233	eP	Pn	06 27 06.6	+4.5

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*IDC **08** 06:32:18.8±0.5, 17°.30S×72°.58W, h0km, mb4.5/25, mb1 4.6/29, mb1mx4.5/31, mbtmp4.5/29, ML3.7/3, MS4.3/14, Ms1 4.3/14, ms1mx4.2/17, Error ellipse: s-maj=18.5km s-min=11.7km az=60.0*

*ISCJB **08** 06:32:21.6±0.2, 17°.24S±0°.04×72°.75W±0°.04, h29km, mb4.7/86, MS4.5/18, Error ellipse: s-maj=6.6km s-min=4.2km az=28.8*

*MOS **08** 06:32:22.8±1.5, 17°.24S×72°.69W, h33km, mb5.1/17, Error ellipse: s-maj=10.8km s-min=8.0km az=115.4*

*GCMT **08** 06:32:22.4±0.4, 17°.39S×73°.11W, h28km±1km, MW5.1/59, Moment Tensor Solution. s32,c37; s59,c78; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.41±.28; $M_{\theta\theta}$-0.90±.16; $M_{\phi\phi}$-3.51±.21; $M_{r\theta}$1.11±.17; $M_{\theta\phi}$1.77±.10; $M_{\phi r}$-3.96±.30; Best double couple: $M_0$6.02700×10^{16} NP1:ϕ_s161.00000°, δ67.00000°, λ96.00000°. NP2: ϕ_s326.00000°, δ24.00000°, λ77.00000°. Principal axes: T 6.0690, Plg68.0000°, Azm82.0000°; N -0.0810, Plg5.0000°, Azm338.0000°; P -5.9860, Plg21.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 06:32:24.1±0.7, 17°.30S×72°.59W, h36km±6km, mb4.8/59 Error ellipse: s-maj=7.5km s-min=4.4km az=63.0*

NEIC Felt [II] at Camana. Also felt at Arequipa.

*BJI **08** 06:32:24.4, 17°.20S×72°.50W, h34km, mB5.2/8, Ms5.2/8, Ms7 5.0/8*

ISC 08 06:32:22.9±0.3**, 17°.37S**±0°.05×**72°.61W**±0°.05**, h29**km**, n479, σ1°.04**/470**, mb4.8**/84**, MS4.6**/18**, 124C-112D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARE	Arequipa	1.41	50⥣	iP	Pb	06 32 48.0	-0.7
ARE				iS	Sb	06 33 06.0	-0.4
ARE	Arequipa	1.41	50⥣	iP	Pb	06 32 48.0	-0.7
ARE				iS	Sb	06 33 06.0	-0.4
LPAZ	La Paz	4.43	77	Pn	Pn	06 33 32.2	+3.5
	2.4nm,0.3s,baz=253,slow=11,SNR=99						
LPAZ				Pg	Pb	06 33 38.8	-1.6
	38nm,0.3s,baz=270,slow=5.7,SNR=174						
LPAZ				Lg	Lg	06 34 36.9	
	4.9nm,0.3s,baz=137,slow=18,SNR=2.1						
LPAZ				LR	LR	06 34 56.1	
	comp=Z,1µm,19.1s,baz=252,slow=36						
LPAZ	La Paz	4.43	77	eP	Pn	06 33 32.8	+4.1
LVC	Limon Verde	6.27	147	Pn	Pn	06 33 54.1	+0.4
	593nm,0.3s,baz=352,slow=10,SNR=69						
LVC				Sn	Sn	06 35 03.0	-1.5
	3µm,0.3s,baz=80,slow=14,SNR=16						
LVC				Lg	Lg	06 35 42.8	
	baz=178,slow=13,SNR=4.0						
LVC	Limon Verde	6.27	147	ePn	Pn	06 33 53.6	-0.1
LVC				Sn	Sn	06 35 03.0	-1.5
LVC				Lg	Lg	06 35 42.8	
NNA	Nana	6.74	322	Pn	Pn	06 33 58.7	-1.3
	6.9nm,0.3s,baz=132,slow=13,SNR=13						
NNA				Sn	Sn	06 35 23.0	+7.1
	18nm,0.3s,baz=335,slow=7.7,SNR=3.8						
NNA				LR	LR	06 36 31.6	
	comp=Z,1µm,19.1s,baz=160,slow=38						
NNA	Nana	6.74	322	eP	Pn	06 34 02.3	+2.2
NNA	Nana	6.74	322	ePn	Pn	06 34 01.2	+1.2
NNA				Sn	Sn	06 35 23.0	+7.1
SIV	San Ignacio	11.14	85	Pn	Pn	06 35 00.8	+0.3
	0.7nm,0.3s,baz=269,slow=14,SNR=18						
SIV				Sn	Sn	06 37 11.0	+6.8
	0.8nm,0.3s,baz=261,slow=19,SNR=1.4						
SIV				Lg	Lg	06 38 16.2	
	baz=163,slow=19,SNR=1.8						
ATAH	Atahualpa	11.64	330	Pn	Pn	06 35 15.3	+7.8
	0.5nm,0.3s,baz=153,slow=12,SNR=8.4						
ATAH				Sn	Sn	06 37 26.0	+9.2
	0.4nm,0.3s,baz=60,slow=20,SNR=2.6						
SAML	Samuel	12.42	49	ePn	Pn	06 35 16.5	-1.4
CFAA	Coronel Fontan	14.71	165	Pn	Pn	06 35 47.8	-1.4
	0.1nm,0.3s,baz=340,slow=14,SNR=20						
CFAA				LR	LR	06 40 20.0	
	comp=Z,48nm,19.0s,baz=327,slow=32						
CPUP	Villa Florida	16.74	125	eP	Pn	06 36 15.5	+0.1
CPUP				pmax	pmax		
	comp=Z,1.0nm,1.2s						
CPUP	Villa Florida	16.74	125	ePn	Pn	06 36 15.5	+0.1
	comp=Z,0.7nm,1.2s						
OTAV	Otavalo	18.42	341	eP	Pn	06 36 37.6	+0.8
	comp=Z,35nm,1.5s						
ROSC	El Rosal	22.15	355	P	P	06 37 17.7	+0.7
	comp=Z,10nm,0.7s,baz=117,slow=7.1,SNR=13						
TRQA	Tornquist	22.62	158	eP	P	06 37 24.0	+2.5
	comp=Z,38nm,1.3s						
PLCA	Paso Flores	23.35	176	P	P	06 37 29.4	+0.3
	comp=Z,27nm,1.0s,baz=349,slow=11,SNR=28						
PLCA	Paso Flores	23.35	176	eP	P	06 37 29.3	+0.3
PLCA				pmax	pmax		
	comp=Z,62nm,1.0s						
PLCA	Paso Flores	23.35	176	eP	P	06 37 29.3	+0.3
	comp=Z,62nm,1.0s						
BDFB	Brasilia	23.64	89	P	P	06 37 31.2	-0.9
	comp=Z,13nm,0.7s,baz=260,slow=12,SNR=13						
SDV	Santo Domingo	26.16	4	eP	P	06 37 54.2	-1.0
	comp=Z,14nm,0.9s						
PCRV	Puerto La Cruz	28.49	17	P	P	06 38 15.1	-0.7
	comp=Z,10nm,0.9s,baz=214,slow=3.6,SNR=2.8						
GRGR	Grenville	31.25	21	eP	P	06 38 38.9	-1.5
CELP	Cerrillos	35.72	10	eP	P	06 39 17.8	-1.4
SJG	San Juan	35.83	11	eP	P	06 39 17.8	-2.3
SJG				pmax	pmax		
	comp=Z,9.0nm,0.3s						
SJG	San Juan	35.83	11	eP	P	06 39 17.8	-2.3
	comp=Z,8.5nm,0.3s						
LRS	Lares	35.89	9	eP	P	06 39 19.0	-1.7

SDDR **Presa de Saban** 36.15 2 *eP* P 06 39 22.0 -0.9
ANWB **Willy Bob** 36.42 18 *eP* P 06 39 21.8 -3.4
comp=Z,78nm,0.8s
USHA **Ushuaia** 37.52 176 P P 06 39 35.6 +1.4
comp=Z,16nm,1.1s,baz=275,slow=6.8,SNR=3.7
TEIG **Tepich** 40.41 337 P P 06 39 57.5 -1.1
comp=Z,7.2nm,0.7s,baz=156,slow=16,SNR=4.8
TEIG LR LR 06 57 57.3
comp=Z,370nm,18.6s,baz=136,slow=38
CMIG **Matias Romero** 40.67 326 P P 06 40 00.5 -0.4
comp=Z,2.5nm,0.9s,baz=53,slow=10,SNR=3.6
NHSC **New Hope** 50.71 352 *eP* P 06 41 20.2 +0.2
comp=Z,63nm,1.0s
034A **Hebbronville** 50.91 330 ⇑P P 06 41 21.6 -0.1
baz=51
933A **Laredo** 51.65 329 ⇓P P 06 41 27.1 -0.1
baz=52
736A **Circle Diamond** 51.77 332 ⇓P P 06 41 28.4 +0.4
baz=52
LRAL **Lakeview Retre** 51.98 345 *eP* P 06 41 28.6 -1.0
comp=Z,8.9nm,1.0s
636A **Smothers Creek** 52.22 333 ⇑P P 06 41 31.5 +0.1
baz=52
833A **Chaparral WMA,** 52.30 330 ⇓P P 06 41 31.9 -0.1
baz=52
537A **Green Hill Far** 52.42 334 ⇓P P 06 41 33.1 +0.3
baz=53
KMSC **Kings Mountain** 52.88 351 ⇓P P 06 41 36.0 -0.2
baz=53
KMSC **Kings Mountain** 52.88 351 *eP* P 06 41 35.6 -0.6
732A **Laxson Ranch,** 52.92 330 ⇓P P 06 41 36.0 -0.6
baz=53
338A **Crockett** 53.13 336 ⇑P P 06 41 37.1 -1.0
baz=53
633A **Saathoff Ranch** 53.15 331 ⇓P P 06 41 37.3 -1.1
baz=53,SNR=6.6
534A **Blanco** 53.31 332 ⇓P P 06 41 38.9 -0.6
baz=54
632A **Uvalde** 53.48 330 ⇑P P 06 41 40.7 0.0
baz=54
533A **Kerrville** 53.60 331 ⇑P P 06 41 41.0 -0.7
baz=54
631A **Perdido Creek** 53.78 330 ⇓P P 06 41 42.6 -0.3
baz=54
434A **Burnet** 53.89 333 ⇑P P 06 41 42.5 -1.3
baz=54
532A **Rocksprings** 54.05 331 ⇓P P 06 41 44.3 -0.7
baz=54
433A **Art** 54.21 332 ⇑P P 06 41 45.5 -0.6
baz=54,SNR=6.8
JCT **Junction City** 54.30 331 *eP* P 06 41 46.9 +0.1
JCT pmax pmax
comp=Z,7.0nm,1.2s
JCT **Junction City** 54.30 331 ⇑P P 06 41 46.3 -0.5
baz=54
JCT **Junction City** 54.30 331 *eP* P 06 41 46.9 +0.1
comp=Z,6.5nm,1.2s
334A **Lometa** 54.32 333 ⇓P P 06 41 46.1 -0.8
baz=54
531A **Rocksprings** 54.39 330 ⇑P P 06 41 47.4 0.0
baz=55
137A **Heron Place, G** 54.40 336 ⇓P P 06 41 47.2 -0.2
baz=55
WHTX **Lake Whitney,** 54.56 334 ⇑P P 06 41 48.4 -0.2
baz=55
432A **Menard** 54.63 331 ⇑P P 06 41 48.8 -0.4
baz=55,SNR=6.0
333A **Richland Sprin** 54.65 332 ⇓P P 06 41 48.6 -0.7
baz=55
530A **J-C Ranch, Com** 54.76 329 ⇓P P 06 41 50.1 0.0
baz=55
VWCC **Virginia Weste** 54.77 353 *eP* P 06 41 50.2 +0.2
431A **Sonora** 54.85 330 ⇓P P 06 41 50.2 -0.5
baz=55,SNR=5.4
234A **Clairette** 54.86 333 ⇓P P 06 41 50.2 -0.6
baz=55,SNR=8.4
332A **Millersview** 55.04 332 ⇓P P 06 41 51.4 -0.7
baz=55,SNR=9.5
233A **Rising Star** 55.20 333 ⇑P P 06 41 52.7 -0.5
baz=55,SNR=5.3
430A **Baggett Ranch,** 55.23 330 ⇑P P 06 41 53.0 -0.6
baz=55,SNR=6.2
TXAR **Lajitas Array** 55.27 327 P P 06 41 53.5 -0.4
comp=Z,1.0nm,0.7s,baz=149,slow=8.1,SNR=21
TXAR LR LR 07 04 05.0
comp=Z,192nm,18.1s,baz=0.0,slow=34
331A **San Angelo** 55.29 331 ⇑P P 06 41 53.1 -0.8
baz=56
134A **White-Moore Ra** 55.32 334 ⇓P P 06 41 53.9 -0.2
baz=56
MIAR **Mount Ida** 55.35 339 *eP* P 06 41 53.7 -0.6
MIAR pmax pmax
comp=Z,28nm,1.5s
MIAR **Mount Ida** 55.35 339 *eP* P 06 41 53.7 -0.6
comp=Z,28nm,1.5s
429A **Davenport Ranc** 55.42 329 ⇓P P 06 41 54.7 -0.3
baz=56,SNR=7.3
232A **Coleman** 55.42 332 ⇑P P 06 41 54.4 -0.5
baz=56
133A **Hamilton Ranch** 55.71 333 ⇑P P 06 41 56.6 -0.3
baz=56
330A **Mertzon** 55.72 330 ⇓P P 06 41 56.2 -0.8
baz=56
Z34A **Collier Ranch,** 55.95 334 ⇑P P 06 41 58.1 -0.5
baz=56
X37A **Clayton** 56.03 337 ⇓P P 06 41 59.0 -0.2
baz=56
ABTX **Abilene, Hawle** 56.04 332 ⇓P P 06 41 58.6 -0.7
baz=56,SNR=6.7
ABTX **Abilene, Hawle** 56.04 332 *eP* P 06 41 58.9 -0.4
W38A **Poteau** 56.15 338 ⇓P P 06 42 00.5 +0.5
baz=56
329A **Wagon Wheel Ra** 56.17 330 ⇓P P 06 42 00.0 -0.3
baz=56
Z33A **Whitaker Ranch** 56.23 334 ⇓P P 06 42 00.2 -0.4
baz=56,SNR=5.8
X36A **Centrahoma** 56.38 336 ⇑P P 06 42 01.0 -0.6
baz=57
Y34A **Reagan Ranch,** 56.39 335 ⇓P P 06 42 01.2 -0.6
baz=57
131A **Roby** 56.42 332 ⇓P P 06 42 01.8 -0.2
baz=57
PBMO **Poplar Bluff** 56.43 343 *eP* P 06 42 00.8 -1.1
comp=Z,9.8nm,0.9s
X35A **Drake** 56.47 336 ⇑P P 06 42 01.5 -0.8
baz=57
229A **Bryant Ranch,** 56.48 330 ⇑P P 06 42 02.1 -0.4
baz=57
W37A **Quinton** 56.54 338 ⇓P P 06 42 02.2 -0.6
baz=57
Z32A **Haskell** 56.55 333 ⇑P P 06 42 02.5 -0.4
baz=57
130A **Snyder** 56.61 331 ⇑P P 06 42 02.3 -1.1
baz=57
WCI **Wyandotte Cave** 56.78 347 *eP* P 06 42 03.2 -1.2
WCI pmax pmax
comp=Z,107nm,2.1s
WCI **Wyandotte Cave** 56.78 347 *eP* P 06 42 03.2 -1.2
comp=Z,107nm,2.1s
Y33A **Hilltop Ranch,** 56.79 334 ⇑P P 06 42 04.0 -0.6
baz=57
USIN **University of** 56.84 346 *eP* P 06 42 03.9 -0.9
comp=Z,34nm,0.9s
W36A **Wetumka** 56.84 337 ⇓P P 06 42 03.8 -1.1
baz=57
Z31A **Sharp Cattle R** 56.85 332 ⇓P P 06 42 04.7 -0.4
baz=57,SNR=9.8
SIUC **Southern Illin** 56.98 344 *eP* P 06 42 04.8 -1.0
comp=Z,31nm,0.7s
X34A **Smith Ranch, M** 56.98 335 ⇓P P 06 42 05.4 -0.6
baz=57
228A **UT Block 9, Go** 56.98 330 ⇓P P 06 42 05.6 -0.5
baz=57
W35A **Tecumseh** 57.09 336 ⇑P P 06 42 05.6 -1.0
baz=57
Y32A **R-V Farms, Ver** 57.13 333 ⇑P P 06 42 06.5 -0.5
baz=57
X33A **Lawton** 57.20 335 ⇓P P 06 42 06.9 -0.6
baz=57
Z30A **Sanderson Ranc** 57.27 332 ⇑P P 06 42 07.7 -0.3
baz=58,SNR=16
128A **Castleberry Fa** 57.35 330 ⇑P P 06 42 08.1 -0.5
baz=58
TUL1 **Leonard** 57.36 338 ⇑P P 06 42 07.8 -0.8
baz=58
TUL1 **Leonard** 57.36 338 *eP* P 06 42 08.1 -0.5
comp=Z,16nm,1.0s
X32A **Elmer** 57.42 334 ⇑P P 06 42 08.4 -0.7
baz=58
Y31A **Rekieta Farm,** 57.45 333 ⇑P P 06 42 09.0 -0.2
baz=58,SNR=8.9
WMOK **Wichita Mounta** 57.49 334 *eP* P 06 42 08.1 -1.4
WMOK pmax pmax
comp=Z,4.0nm,0.8s
WMOK **Wichita Mounta** 57.49 334 *eP* P 06 42 08.1 -1.4
comp=Z,4.2nm,0.8s
Z29A **Hungry Hill Ra** 57.51 331 ⇑P P 06 42 08.7 -1.1
baz=58
Y30A **Stafford Cattl** 57.66 332 ⇓P P 06 42 10.2 -0.6
baz=58
W33A **Caddo, Fort Co** 57.72 335 ⇑P P 06 42 10.6 -0.6
baz=58,SNR=6.3
BLO **Bloomington** 57.73 347 *eP* P 06 42 10.1 -1.0
BLO **Bloomington** 57.73 347 *eP* P 06 42 10.1 -1.0
Z28A **Tucker Farm, M** 57.85 331 ⇑P P 06 42 11.6 -0.6
baz=58
X31A **McDonald Ranch** 57.90 333 ⇑P P 06 42 11.4 -1.0
baz=58
V34A **Guthrie** 57.94 336 ⇓P P 06 42 11.6 -1.1
baz=58
V34A **Guthrie** 57.94 336 P P 06 42 12.1 -0.6
comp=Z,6.6nm,0.8s
Y29A **Porterfield Fa** 57.99 332 ⇓P P 06 42 12.7 -0.5
baz=58,SNR=6.4
W32A **Sentinel** 58.01 334 ⇑P P 06 42 12.7 -0.5
baz=58,SNR=8.4
ACSO **Alum Creek Sta** 58.12 351 *eP* P 06 42 13.1 -0.7
comp=Z,10nm,0.8s
X30A **Coker Ranch, T** 58.13 333 ⇑P P 06 42 13.3 -0.8
baz=58
T37A **Cheneyville 18** 58.14 339 ⇑P P 06 42 13.6 -0.5
baz=58
V33A **Lossen Ranch,** 58.23 336 ⇓P P 06 42 13.9 -0.8
baz=58
Y28A **McKinney Farm,** 58.30 331 ⇑P P 06 42 14.1 -1.2
baz=58
W31A **Holland Ranch,** 58.36 334 ⇑P P 06 42 14.7 -0.9
baz=59
RKT **Rikitea** 58.42 253 *eS* S 06 50 14.1 -3.8
RKT eLR LR 06 59 35.5
comp=Z,542nm,23.8s
RKT **Rikitea** 58.42 253 *eT* T 07 45 14.9
comp=Z,1.5nm,0.3s
T36A **Boggs Farm, Ca** 58.42 338 ⇑P P 06 42 15.4 -0.6
baz=59
U34A **Anderson Ranch** 58.48 337 ⇓P P 06 42 15.3 -1.1
baz=59
T35A **Sooner Cattle** 58.52 338 ⇓P P 06 42 16.0 -0.7
baz=59
MSTX **Muleshoe** 58.59 331 ⇑P P 06 42 16.2 -1.1
baz=59
MSTX **Muleshoe** 58.59 331 *eP* P 06 42 16.8 -0.6
comp=Z,21nm,1.3s
U33A **Lingo Farm, Me** 58.69 336 ⇑P P 06 42 16.9 -1.0
baz=59
X28A **Dimmitt** 58.78 332 ⇓P P 06 42 18.1 -0.6
baz=59
V31A **Spring Creek L** 58.82 334 ⇑P P 06 42 18.2 -0.6
baz=59
AMTX **Amarillo** 58.85 332 ⇑P P 06 42 18.2 -1.0
baz=59
T34A **McClaskey Farm** 58.86 337 ⇑P P 06 42 18.6 -0.5
baz=59
S36A **Lake Cedric, C** 58.91 339 ⇑P P 06 42 18.5 -0.9
baz=59
SFIN **Lafayette** 59.02 347 ⇑P P 06 42 18.4 -1.6
baz=59
W29A **Amarillo** 59.04 332 ⇑P P 06 42 19.2 -1.2
baz=59
S35A **Otter Creek Ra** 59.13 338 ⇓P P 06 42 20.1 -0.8
baz=59
R37A **Teagarden Farm** 59.19 340 ⇑P P 06 42 20.6 -0.7
baz=59
T33A **Patterson Ranc** 59.31 336 ⇓P P 06 42 21.4 -0.8
baz=60
S34A **Willow Spring** 59.43 338 ⇑P P 06 42 22.4 -0.6
baz=60
T32A **Huddler Ranch,** 59.66 336 ⇑P P 06 42 24.2 -0.5
baz=60
S33A **Kaszmaul Farm,** 59.67 337 ⇓P P 06 42 24.1 -0.6
baz=60
HDIL **Hopedale** 59.69 345 *eP* P 06 42 23.2 -1.4
comp=Z,11nm,0.8s
U30A **WK&E Inc. Balk** 59.80 334 ⇓P P 06 42 25.2 -0.5
baz=60
V28A **Channing** 59.82 332 ⇓P P 06 42 25.5 -0.4
baz=60,SNR=5.2
T31A **Randall Ranch,** 59.89 335 ⇑P P 06 42 25.8 -0.4
baz=60
121A **Cookes Peak, D** 59.96 326 ⇑P P 06 42 26.8 -0.2
baz=60
121A **Cookes Peak, D** 59.96 326 *eP* P 06 42 26.7 -0.2
comp=Z,5.7nm,0.9s
R34A **Isabella, Hill** 60.02 338 ⇑P P 06 42 26.3 -0.7
baz=60
Q35A **Mercer Eighty,** 60.09 339 ⇑P P 06 42 26.9 -0.6
baz=60
V27A **Dan Oppiter Fa** 60.10 332 ⇑P P 06 42 27.3 -0.5
baz=60
S32A **Newby Ranch, P** 60.12 336 ⇓P P 06 42 27.5 -0.3
baz=60
R33A **Olander Ranch,** 60.29 337 ⇓P P 06 42 28.3 -0.7
baz=60
U28A **Mallet** 60.35 333 ⇓P P 06 42 28.8 -0.6
baz=60
Q34A **Chapman** 60.46 338 ⇓P P 06 42 29.1 -1.0
baz=61
T29A **Hugoton** 60.60 334 ⇓P P 06 42 30.8 -0.4
baz=61
U27A **Thompson Grove** 60.65 332 ⇓P P 06 42 30.7 -0.8
baz=61
P35A **Duane Minner,** 60.68 339 ⇑P P 06 42 30.9 -0.6
baz=61
R31A **Burdett** 60.86 336 ⇑P P 06 42 32.3 -0.6
baz=61
P34A **Walnut Farm, R** 60.98 339 ⇓P P 06 42 32.7 -0.9
baz=61
LAZ **Ladron** 61.08 328 *eP* P 06 42 35.0 +0.4
comp=Z,4.0nm,1.0s
Q32A **Meitler Ranch,** 61.10 337 ⇓P P 06 42 34.1 -0.4
baz=61
T27A **Campo** 61.14 333 ⇑P P 06 42 34.3 -0.6
baz=61
ANMO **Albuquerque** 61.16 329 P P 06 42 35.1 -0.1
comp=Z,2.0nm,0.7s,baz=142,slow=8.7,SNR=11
ANMO **Albuquerque** 61.16 329 ⇓*eP* P 06 42 34.1 -1.1
ANMO pmax pmax
comp=Z,51nm,2.5s
ANMO **Albuquerque** 61.16 329 *eP* P 06 42 33.6 -1.6
comp=Z,18nm,1.8s
S28A **Manter** 61.23 334 ⇑P P 06 42 34.6 -0.8
baz=61,SNR=6.3
T26A **Comanche Natio** 61.62 332 ⇓P P 06 42 37.1 -1.1
baz=62
O33A **Hebron** 61.71 338 ⇓P P 06 42 37.7 -0.8
baz=62
R28A **Tribune** 61.83 334 ⇓P P 06 42 38.8 -0.7
baz=62
P31A **Stockton** 61.88 337 ⇑P P 06 42 39.4 -0.3
baz=62
T25A **Trinidad** 61.95 332 ⇑P P 06 42 40.0 -0.5
baz=62
O32A **Brockman Farm,** 62.12 338 ⇑P P 06 42 40.3 -1.0
baz=62
SADO **Sadowa** 62.13 355 P P 06 42 40.4 -0.8
comp=Z,4.5nm,0.8s,baz=169,slow=6.3
JFWS **Jewell Farm** 62.15 345 *eP* P 06 42 41.5 +0.1
JFWS **Jewell Farm** 62.15 345 *eP* P 06 42 41.5 +0.1
R26A **Arlington** 62.49 333 ⇑P P 06 42 43.5 -0.4
baz=63
KSCO **Kaye Shedlock'** 62.73 334 ⇓P P 06 42 45.2 -0.3
baz=63
KSCO **Kaye Shedlock'** 62.73 334 *eP* P 06 42 45.8 +0.2
comp=Z,55nm,1.8s
SDCO **Great Sand Dun** 62.95 331 ⇑P P 06 42 47.1 -0.1
baz=63,SNR=21
SDCO **Great Sand Dun** 62.95 331 *eP* P 06 42 47.2 0.0
comp=Z,8.7nm,0.8s
W18A **Petrified Fore** 62.98 326 ⇓P P 06 42 47.7 +0.3
baz=63
Q26A **Hugo** 63.04 333 ⇓P P 06 42 47.3 -0.3
baz=63
R23A **Moffat** 63.46 331 ⇓P P 06 42 50.0 -0.6
baz=64
P26A **Davis Ranch, A** 63.49 334 ⇑P P 06 42 50.5 -0.1
baz=64
S22A **4UR Ranch, Cre** 63.57 330 ⇑P P 06 42 50.6 -0.7
baz=64
O27A **Beecher Island** 63.67 335 ⇓P P 06 42 51.6 -0.1
baz=64
MVCO **Mesa Verde** 63.96 329 ⇓P P 06 42 53.4 -0.4
baz=64
MVCO **Mesa Verde** 63.96 329 *eP* P 06 42 54.3 +0.4
comp=Z,8.2nm,1.0s
WUAZ **Wupatki** 64.16 325 ⇓P P 06 42 55.5 +0.3
baz=64
ECSD **EROS Data Cent** 64.67 341 ⇑P P 06 42 57.1 -0.9
baz=65,SNR=7.2
ISCO **Idaho Springs** 64.67 332 *eP* P 06 42 58.6 0.0
ISCO pmax pmax
comp=Z,3.0nm,0.9s
ISCO **Idaho Springs** 64.67 332 ⇓P P 06 42 57.9 -0.7
baz=65
ISCO **Idaho Springs** 64.67 332 *eP* P 06 42 58.6 0.0
comp=Z,3.2nm,0.9s
PV01 **Paradox Valley** 64.72 329 *eP* P 06 42 59.0 +0.2
comp=Z,320nm,0.7s
SPMN **Marine on St.** 64.95 344 ⇓P P 06 42 58.9 -1.0
baz=65,SNR=9.8
SPMN **Marine on St.** 64.95 344 *eP* P 06 42 58.8 -1.0
comp=Z,15nm,0.8s
O23A **Lake Granby, G** 65.14 332 ⇓P P 06 43 01.7 +0.1
baz=65
BC3 **Big Chuckawall** 65.14 321 ⇑P P 06 43 01.2 -0.3
baz=65
VNA1 **Neumayer--Stat** 65.32 161 P P 06 43 05.7 +3.8
O22A **Kremmling** 65.39 332 ⇓P P 06 43 03.1 -0.1
baz=66
K28A **Ten Mile Ranch** 65.39 337 ⇑P P 06 43 03.1 +0.2
baz=66
J29A **Okreek** 65.61 338 ⇓P P 06 43 04.1 -0.2
baz=66
K27A **Fluecklinger Fa** 65.71 336 ⇓P P 06 43 04.8 -0.1
baz=66
BELC **Belle Mtn. Jos** 65.71 321 ⇓P P 06 43 05.2 0.0
baz=66
PFO **Pinyon Flats O** 65.72 321 P P 06 43 02.9 -2.3
comp=Z,0.7nm,0.4s,baz=135,slow=2.9,SNR=2.2
N22A **Wattenberg Ran** 65.86 332 ⇓P P 06 43 05.8 -0.4
baz=66
K26A **Motz Farm, Whi** 66.07 336 ⇑P P 06 43 07.5 +0.2
baz=66
O20A **White River Ci** 66.14 331 ⇑P P 06 43 07.4 -0.5
baz=66
SRU **San Rafael Swe** 66.44 329 *eP* P 06 43 10.4 +0.6
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU **San Rafael Swe** 66.44 329 *eP* P 06 43 10.4 +0.6
comp=Z,5.6nm,0.9s
J26A **Sides Ranch, S** 66.55 336 ⇓P P 06 43 10.1 -0.2
baz=67
N20A **Spence Gulch,** 66.70 331 ⇑P P 06 43 10.5 -1.0
baz=67
G30A **Faulkton** 66.72 340 ⇓P P 06 43 10.5 -0.8
baz=67
CCUT **Cedar City** 66.74 326 *eP* P 06 43 12.8 +1.0
comp=Z,10nm,1.3s
I27A **Quinn** 66.81 337 ⇑P P 06 43 11.6 -0.3
baz=67
MSU **Marysvale** 66.83 327 *eP* P 06 43 13.1 +0.7
MSU pmax pmax
comp=Z,7.0nm,0.9s
MSU **Marysvale** 66.83 327 *eP* P 06 43 13.1 +0.7
comp=Z,6.7nm,0.9s
H28A **Mission Ridge** 66.96 338 ⇓P P 06 43 12.7 -0.2
baz=67
SHPR **Sheep Range** 66.98 324 *eP* P 06 43 12.9 -0.4
G29A **Hoven** 67.04 339 ⇓P P 06 43 13.0 -0.3
baz=67
K23A **Bowen Ranch, D** 67.11 334 ⇑P P 06 43 14.2 +0.2
baz=67
EYMN **Ely** 67.19 346 *eP* P 06 43 13.4 -0.8
comp=Z,6.7nm,0.8s
SNAA **Sanae** 67.30 161 P P 06 43 08.6 -6.1
SNAA **Sanae** 67.30 161 *eP* P 06 43 08.6 -6.1
SNAA pmax pmax
comp=Z,29nm,1.3s
SNAA **Sanae** 67.30 161 *eP* P 06 43 08.6 -6.1
comp=Z,29nm,1.3s
H27A **Howes** 67.31 338 ⇓P P 06 43 14.8 -0.3
baz=68
K22A **Casper** 67.40 334 ⇓P P 06 43 15.6 -0.2
baz=68
K22A **Casper** 67.40 334 *eP* P 06 43 15.0 -0.8
comp=Z,2.3nm,0.6s
I25A **Rochford** 67.40 336 ⇑P P 06 43 16.1 +0.2
baz=68,SNR=8.2
EDW2 **Edwards Air Fo** 67.51 321 ⇑P P 06 43 16.6 0.0
baz=68
E30A **Jud** 67.87 341 ⇓P P 06 43 18.2 -0.4
baz=68
G27A **Dupree** 67.90 338 ⇓P P 06 43 18.6 -0.2
baz=68
F28A **McLaughlin** 67.91 339 ⇑P P 06 43 18.8 0.0
baz=68
TPNV **Topopah Spring** 67.91 323 ⇓P P 06 43 19.0 -0.2
baz=68
FURC **Furnace Creek,** 67.93 323 ⇓P P 06 43 19.0 -0.1
baz=68
J22A **Midwest** 68.00 334 ⇑P P 06 43 19.5 -0.1
baz=68
MPMC **Manual Prospec** 68.01 322 ⇓P P 06 43 19.3 -0.6
baz=68
JLU **Jordanelle** 68.04 329 *eP* P 06 43 20.6 +0.5
comp=Z,7.2nm,0.9s
G26A **Maurine** 68.06 338 ⇑P P 06 43 19.5 -0.4
baz=68
H24A **Dirks Ranch, A** 68.33 336 ⇑P P 06 43 21.7 +0.1
baz=68
F27A **Lemmon** 68.35 338 ⇑P P 06 43 21.2 -0.4
baz=69
J21A **Lysite** 68.36 333 ⇑P P 06 43 21.4 -0.5
baz=69
D30A **Buchanan** 68.36 341 ⇑P P 06 43 21.5 0.0
baz=69
I22A **9 Mile Ranch,** 68.40 334 ⇓P P 06 43 22.1 0.0
baz=69,SNR=5.3
DUG **Dugway, Tooele** 68.41 328 *eP* P 06 43 23.4 +1.2
DUG pmax pmax
comp=Z,12nm,1.0s
DUG **Dugway, Tooele** 68.41 328 ⇓P P 06 43 23.1 +0.9
baz=69
DUG **Dugway, Tooele** 68.41 328 *eP* P 06 43 23.4 +1.2
comp=Z,12nm,1.0s
E28A **Huff** 68.51 340 ⇓P P 06 43 22.9 +0.3
baz=69
R11A **Troy Canyon, C** 68.53 325 ⇑P P 06 43 23.7 +0.7
baz=69,SNR=5.1
R11A **Troy Canyon, C** 68.53 325 *eP* P 06 43 23.8 +0.7
comp=Z,2.6nm,0.9s
F26A **Lodgepole** 68.57 338 ⇑P P 06 43 22.7 -0.2
baz=69
AGMN **Agassiz Nation** 68.59 344 ⇑P P 06 43 22.3 -0.7
baz=69,SNR=5.7
AGMN **Agassiz Nation** 68.59 344 *eP* P 06 43 22.4 -0.7
comp=Z,7.1nm,0.8s
I21A **Big Trails, Te** 68.67 334 ⇑P P 06 43 23.9 +0.1
baz=69,SNR=7.8
E27A **Carson** 68.68 339 ⇑P P 06 43 23.6 0.0
baz=69
G24A **Alzada** 68.77 336 ⇓P P 06 43 24.3 0.0
baz=69
C30A **Mose, Pekin** 68.81 342 ⇑P P 06 43 24.3 0.0
baz=69
PDAR **Pinedale Array** 68.83 332 P P 06 43 24.5 -0.4
comp=Z,0.8nm,0.6s,baz=159,slow=6.3,SNR=4.7
PDAR LR LR 07 14 23.9
comp=Z,77nm,19.9s,baz=142,slow=37
HWUT **Hardware Ranch** 68.86 330 *eP* P 06 43 24.3 -0.8
comp=Z,12nm,1.2s
J19A **Crowheart** 68.99 332 ⇓P P 06 43 25.9 +0.1
baz=69
E26A **Carlson Angus** 69.03 338 ⇓P P 06 43 25.8 0.0
baz=69
G23A **Biddle** 69.04 336 ⇓P P 06 43 25.8 -0.2
baz=69
BGU **Big Grassy Mou** 69.07 328 *eP* P 06 43 26.3 0.0
comp=Z,8.4nm,1.5s
I20A **Worland** 69.14 333 ⇓P P 06 43 26.6 0.0
baz=69
F24A **Ekalaka** 69.21 337 ⇑P P 06 43 26.9 -0.2
baz=69,SNR=5.4
TPH **Tonopah** 69.25 324 *eP* P 06 43 28.0 +0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TPH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TPH	Tonopah	69.25	324	eP	P	06 43 28.0	+0.4
	comp=Z,7.7nm,1.0s						
MDND	Maddock	69.28	341	⇓P	P	06 43 27.5	+0.2
	baz=70						
E25A	Miller Ranch,	69.39	338	⇓P	P	06 43 28.1	+0.1
	baz=70						
B30A	Myrvik Farm, E	69.43	342	⇓P	P	06 43 27.9	-0.3
	baz=70						
F23A	Volborg	69.48	336	⇑P	P	06 43 28.3	-0.3
	baz=70						
H20A	Greybull	69.51	334	⇓P	P	06 43 28.7	-0.3
	baz=70						
I19A	Meeteetse	69.58	333	⇑P	P	06 43 29.4	-0.1
	baz=70						
HVU	Hansel Valley	69.58	329	eP	P	06 43 29.2	-0.3
HVU				pmax	pmax		
	comp=Z,4.0nm,1.1s						
HVU	Hansel Valley	69.58	329	eP	P	06 43 29.2	-0.3
	comp=Z,4.4nm,1.1s						
B29A	Wagenman Farm,	69.75	341	⇓P	P	06 43 30.0	-0.1
	baz=70,SNR=6.7						
E24A	Baker	69.77	337	⇓P	P	06 43 30.4	0.0
	baz=70						
F22A	Rosebud	69.86	336	⇓P	P	06 43 30.9	-0.1
	baz=70						
A30A	Hoffart Farm,	69.86	342	⇓P	P	06 43 30.3	-0.5
	baz=70						
D25A	Fairfield	69.91	338	⇑P	P	06 43 32.2	+1.0
	baz=70						
TPAW	Teton Pass	70.03	331	eP	P	06 43 32.3	-0.1
	comp=Z,9.8nm,1.2s						
C26A	Wahner Farm, P	70.07	339	⇑P	P	06 43 32.9	+0.7
	baz=70						
ELK	Elko	70.07	327	P	P	06 43 32.8	+0.1
	comp=Z,0.9nm,0.7s,baz=160,slow=6.0,SNR=4.5						
ELK	Elko	70.07	327	eP	P	06 43 32.9	+0.3
ELK	Elko	70.07	327	eP	P	06 43 32.9	+0.3
E23A	Ismay	70.09	337	⇓P	P	06 43 32.1	-0.3
	baz=70						
NVAR	Mina Array Bea	70.11	323	P	P	06 43 33.3	+0.4
	comp=Z,0.8nm,0.6s,baz=149,slow=9.0,SNR=6.1						
A29A	Manning Farm,	70.12	342	⇑P	P	06 43 32.2	-0.3
	baz=70,SNR=8.0						
C25A	Freed Ranch, W	70.37	339	⇑P	P	06 43 34.4	+0.4
	baz=71						
RLMT	Red Lodge	70.56	333	⇓P	P	06 43 35.7	+0.2
	baz=71						
RLMT	Red Lodge	70.56	333	eP	P	06 43 34.3	-1.2
	comp=Z,5.8nm,1.1s						
LAO	LASA Array	70.60	336	⇑P	P	06 43 35.9	+0.4
	baz=71						
C24A	Savage	70.63	338	⇓P	P	06 43 35.8	+0.2
	baz=71						
F20A	Billings	70.64	334	⇑P	P	06 43 36.2	+0.4
	baz=71						
LIC	Lamto	70.73	77	eP	P	06 43 35.1	-1.8
	comp=Z,80nm,1.6s						
A27A	Ledoux Ranch,	70.77	340	⇓P	P	06 43 36.8	+0.4
	baz=71						
TIC	Toumodi	70.88	76	eP	P	06 43 37.2	-0.7
D22A	Cohagen	70.96	336	⇑P	P	06 43 38.1	+0.4
	baz=71,SNR=8.8						
KIC	Kosan Boka	71.04	77	eP	P	06 43 38.2	-0.6
	comp=Z,42nm,1.0s						
DBIC	Dimbokro	71.04	76	P	P	06 43 38.6	-0.2
	comp=Z,12nm,0.9s,baz=243,slow=8.2,SNR=8.2						
DBIC				LR	LR	07 13 45.6	
	comp=Z,815nm,18.3s,baz=222,slow=35						
C23A	Lambert	71.14	337	⇑P	P	06 43 39.3	+0.6
	baz=71						
D21A	La Casta Ranch	71.21	336	⇑P	P	06 43 39.3	+0.1
	baz=71,SNR=6.6						
DGMT	Dagmar	71.34	338	⇑P	P	06 43 40.5	+0.6
	baz=72						
DGMT	Dagmar	71.34	338	eP	P	06 43 40.1	+0.1
	comp=Z,13nm,1.0s						
C22A	Vida	71.35	337	⇑P	P	06 43 40.5	+0.5
	baz=72						
A25A	Svangstu Ranch	71.37	339	⇑P	P	06 43 40.7	+0.6
	baz=72						
TBI	Tubuai	71.54	251	eLR	LR	07 05 39.4	
	comp=Z,348nm,29.5s						
B23A	Brockton	71.62	338	⇑P	P	06 43 41.9	+0.2
	baz=72						
A24A	Westby	71.66	339	⇓P	P	06 43 41.9	+0.1
	baz=72						
HLID	Hailey	71.72	329	⇑P	P	06 43 43.3	+0.8
	baz=72,SNR=5.8						
HLID	Hailey	71.72	329	eP	P	06 43 43.3	+0.8
	comp=Z,6.3nm,1.1s						
B22A	Reddig Ranch S	71.85	337	⇓P	P	06 43 42.9	-0.1
	baz=72,SNR=5.9						
C21A	Desert Coulee	71.87	336	⇑P	P	06 43 43.3	+0.1
	baz=72						
NVL	N'lazarevskaya	71.90	160	eP	P	06 43 51.8	+8.8
NVL				pmax	pmax		
	comp=Z,16nm,0.9s						
MCMT	McKenzie Canyo	71.93	331	eP	P	06 43 44.3	+0.5
	comp=Z,1.6nm,0.9s						
BOZ	Bozeman (W)	72.00	332	eP	P	06 43 44.1	-0.1
BOZ				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BOZ	Bozeman (W)	72.00	332	eP	P	06 43 44.1	-0.1
	comp=Z,4.5nm,1.3s						
SCHQ	Schefferville	72.08	4	P	P	06 43 43.8	-0.5
	comp=Z,2.9nm,0.8s,baz=226,slow=5.2,SNR=4.3						
SCHQ				LR	LR	07 15 31.6	
	comp=Z,117nm,20.9s,baz=208,slow=36						
C20A	Veseth Ranch,	72.13	336	⇑P	P	06 43 44.8	0.0
	baz=72						
DLMT	Dillon	72.22	332	eP	P	06 43 45.6	+0.2
	comp=Z,5.5nm,1.1s						
MFID	Camas Ranch	72.31	328	eP	P	06 43 46.7	+0.7
	comp=Z,16nm,1.2s						
A22A	Carney Farms,	72.40	338	⇑P	P	06 43 46.7	+0.4
	baz=73						
TIAR	Tiarei	72.66	257	eT	T	08 03 07.6	
	comp=Z,1.5nm,0.3s						
B20A	Solberg Farm,	72.73	336	⇑P	P	06 43 48.5	+0.2
	baz=73,SNR=5.6						
PMOZ	Porto Moniz, M	72.77	47	eLR	LR	07 10 48.8	
	comp=Z,267nm,20.0s						
PMOZ	Porto Moniz, M	72.77	47	eLR	LR	07 10 48.8	
	comp=Z,267nm,20.0s						
A21A	Bergtoll Ranch	72.77	337	⇓P	P	06 43 48.7	+0.2
	baz=73						
QSPA	South Pole Qui	72.79	180	eP	P	06 43 49.8	+1.1
	comp=Z,18nm,1.1s						
PPT2	Papeete2	72.87	257	eLR	LR	07 06 09.0	
	comp=Z,177nm,22.2s						
PPT	Papeete	72.87	257	LR	LR	07 08 36.1	
	comp=Z,118nm,21.7s,baz=105,slow=30						
A20A	Cobblestone Ra	73.05	336	⇑P	P	06 43 50.1	-0.1
	baz=73						
EGMT	Eagleton	73.08	335	⇓P	P	06 43 50.4	0.0
	baz=73						
EGMT	Eagleton	73.08	335	eP	P	06 43 50.1	-0.3
B19A	Brinkman Farms	73.10	336	⇓P	P	06 43 50.6	+0.1
	baz=73						
A19A	Klindworth Far	73.41	336	⇑P	P	06 43 52.4	+0.1
	baz=74						
MSO	Missoula	73.94	332	⇑P	P	06 43 56.3	+0.7
	baz=74						
SLMT	Seeley Lake	74.06	332	eP	P	06 43 56.0	-0.3
	comp=Z,5.8nm,1.2s						
M04C	Macdoel	74.37	324	⇓P	P	06 43 58.6	+0.4
	baz=74						
SWMT	Swartz Lake	74.48	332	eP	P	06 43 58.8	+0.1
J05D	Fort Rock, OR	75.04	325	⇓P	P	06 44 02.0	-0.1
	baz=75						
J04D	Umpqua Nationa	75.48	325	⇑P	P	06 44 05.0	+0.3
	baz=76						
I05D	Terrebonne, OR	75.80	326	⇑P	P	06 44 06.8	+0.6
	baz=76						
G05D	Wamic, OR	76.40	327	⇑P	P	06 44 10.3	+0.7
	baz=77						
EDM	Edmonton	78.58	336	eP	P	06 44 21.1	-0.6
EDM				pmax	pmax		
	comp=Z,14nm,0.8s						
EDM	Edmonton	78.58	336	eP	P	06 44 21.1	-0.6
	comp=Z,14nm,0.8s						
TOA0	Torodi Ar. Sit	79.37	73	eP	P	06 44 25.9	-0.9
TOA0	Torodi Ar. Sit	79.37	73	eP	P	06 44 26.1	-0.7
TORD	Torodi Ar. Bea	79.37	73	P	P	06 44 26.4	-0.4
	comp=Z,12nm,0.9s,baz=254,slow=5.3,SNR=54						
TORD				LR	LR	07 18 04.3	
	comp=Z,819nm,20.5s,baz=250,slow=35						
VNDA	Vanda	80.27	190	P	P	06 44 32.1	+1.5
	comp=Z,2.1nm,1.0s,baz=135,slow=3.6,SNR=6.0						
VNDA				LR	LR	07 15 28.8	
	comp=Z,242nm,19.1s,baz=130,slow=32						
MORF	Marmelete	81.08	46	eP	P	06 44 36.2	+0.7
MORF				AMS	AMS	07 18 17.6	
	comp=Z,456nm,16.9s						
MORF	Marmelete	81.08	46	eP	P	06 44 36.2	+0.7
MORF	Marmelete	81.08	46	eP	P	06 44 37.1	+1.5
MORF	Marmelete	81.08	46	eP	P	06 44 37.1	+1.5
PNCL	Nicolau / Gran	81.56	46	eP	P	06 44 39.7	+1.7
PNCL	Nicolau / Gran	81.56	46	eP	P	06 44 39.7	+1.7
SYO	Syowa Base	81.56	160	⇑ePcP	PcP	06 44 42.0	-1.4
MESJ	Messejana	81.64	46	eP	P	06 44 39.4	+0.9
MESJ				AMS	AMS	07 18 03.3	
	comp=Z,432nm,17.6s						
MESJ	Messejana	81.64	46	eP	P	06 44 39.4	+0.9
MESJ	Messejana	81.64	46	eP	P	06 44 40.3	+1.9
MESJ	Messejana	81.64	46	eP	P	06 44 40.3	+1.9
PCVE	Castro Verde	81.66	46	eP	P	06 44 40.1	+1.5
PCVE	Castro Verde	81.66	46	eP	P	06 44 40.1	+1.5
PVAQ	Vaqueiros	81.77	47	eLR	LR	07 14 58.2	
	comp=Z,399nm,20.0s						
PVAQ	Vaqueiros	81.77	47	eLR	LR	07 14 58.2	
	comp=Z,399nm,20.0s						
MDT	Midelt	81.89	52	P	P	06 44 40.3	+0.3
	comp=Z,4.2nm,0.9s,baz=264,slow=5.2,SNR=6.4						
EVO	Evora	82.12	46	eP	P	06 44 42.6	+1.6
EVO	Evora	82.12	46	eP	P	06 44 42.6	+1.6
PBAR	Barrancos	82.61	46	eP	P	06 44 44.9	+1.3
PBAR	Barrancos	82.61	46	eP	P	06 44 44.9	+1.3
PMRV	Marv??o	82.98	45	eLR	LR	07 14 35.3	
	comp=Z,275nm,20.0s						
PMRV	Marv??o	82.98	45	eLR	LR	07 14 35.3	
	comp=Z,275nm,20.0s						
PCBR	Castelo Branco	83.12	45	eP	P	06 44 46.9	+0.7
PCBR	Castelo Branco	83.12	45	eP	P	06 44 46.9	+0.7
PVIS	Viseu	83.27	44	eP	P	06 44 47.7	+0.7
PVIS	Viseu	83.27	44	eP	P	06 44 47.7	+0.7
PGAV	Gavieira, Arco	83.65	43	eP	P	06 44 51.9	+2.9
PGAV	Gavieira, Arco	83.65	43	eLR	LR	07 15 56.9	
	comp=Z,345nm,16.7s						
PGAV	Gavieira, Arco	83.65	43	eP	P	06 44 51.9	+2.9
PGAV	Gavieira, Arco	83.65	43	eLR	LR	07 15 56.9	
	comp=Z,345nm,16.7s						
POLO	Lamas de Olo	83.66	43	eP	P	06 44 50.3	+1.2
POLO	Lamas de Olo	83.66	43	eP	P	06 44 50.3	+1.2
PVRL	Vila Real	83.67	43	eP	P	06 44 50.3	+1.3
PVRL	Vila Real	83.67	43	eP	P	06 44 50.3	+1.3
PCAB	Cabril	83.68	43	eP	P	06 44 49.8	+0.8
PCAB	Cabril	83.68	43	eP	P	06 44 49.8	+0.8
MVO	Moncorvo	84.06	44	eP	P	06 44 51.8	+0.7
MVO	Moncorvo	84.06	44	eLR	LR	07 16 11.0	
	comp=Z,285nm,22.0s						
MVO	Moncorvo	84.06	44	eP	P	06 44 51.8	+0.7
MVO	Moncorvo	84.06	44	eLR	LR	07 16 11.0	
	comp=Z,285nm,22.0s						
PBRG	Braganca	84.56	43	eP	P	06 44 54.6	+1.0
PBRG	Braganca	84.56	43	eP	P	06 44 54.6	+1.0
TSUM	Tsumeb	84.61	108	eP	P	06 44 55.2	+0.7
	comp=Z,8.9nm,0.8s						
PAB	San Pablo	85.11	46	eP	P	06 44 57.3	+0.9
PAB				pmax	pmax		
	comp=Z,18nm,0.9s						
PAB	San Pablo	85.11	46	eP	P	06 44 57.3	+0.9
	comp=Z,18nm,0.9s						
ESDC	Sonseca Array	85.43	46	P	P	06 44 59.2	+1.2
	comp=Z,5.9nm,0.7s,baz=253,slow=5.1,SNR=31						
ESDC				LR	LR	07 20 24.9	
	comp=Z,322nm,20.2s,baz=245,slow=34						
ESLA	Sonseca Array	85.43	46	eP	P	06 44 58.6	+0.6
	comp=Z,32nm,1.8s						
TAM	Tamanrasset	86.17	65	eP	P	06 45 02.9	+0.8
TAM				pmax	pmax		
	comp=Z,16nm,1.3s						
TAM	Tamanrasset	86.17	65	eP	P	06 45 02.9	+0.8
	comp=Z,16nm,1.3s						
YKA	Yellowknife Ar	86.18	342	P	P	06 45 00.7	-0.3
	comp=Z,2.6nm,0.7s,baz=136,slow=5.1,SNR=18						
BOSA	Boshof	88.48	119	P	P	06 45 13.2	-0.1
	comp=Z,3.2nm,0.8s,baz=338,slow=1.8,SNR=3.8						
BOSA				LR	LR	07 23 02.8	
	comp=Z,156nm,18.4s,baz=222,slow=34						
DLBC	Dease Lake	88.96	334	P	P	06 45 15.4	+0.8
	comp=Z,4.6nm,0.8s,baz=127,slow=4.3,SNR=14						
DLBC	Dease Lake	88.96	334	eP	P	06 45 14.9	+0.2
	comp=Z,7.7nm,0.8s						
MAW	Mawson	89.24	164	P	P	06 45 16.8	+1.0
	comp=Z,2.5nm,0.8s,baz=214,slow=7.3,SNR=5.3						
MAW				LR	LR	07 27 23.4	
	comp=Z,114nm,18.1s,baz=240,slow=37						
SUMG	Summit	92.58	10	i P	P	06 45 32.5	+0.9
	comp=Z,14nm,1.1s						
SUMG	Summit	92.58	10	i P	P	06 45 32.5	+0.9
SUMG				pmax	pmax		
	comp=Z,14nm,1.1s						
SUMG	Summit	92.58	10	eP	P	06 45 31.2	-0.3
	comp=Z,5.8nm,0.7s						
DAVOX	Davos/Dischmat	97.46	43	P	Pdif	06 45 55.0	+0.7
	comp=Z,2.7nm,0.7s,baz=246,slow=7.7,SNR=3.3						
ILAR	Eielson Array	99.05	335	P	Pdif	06 46 00.2	-0.5
	comp=Z,0.2nm,0.9s,baz=156,slow=2.5,SNR=3.4						
ILAR				LR	LR	07 36 22.6	
	comp=Z,103nm,18.0s,baz=108,slow=39						
COLA	College	99.47	335	⇑eP	Pdif	06 46 01.7	-0.8
COLA				pmax	pmax		
	comp=Z,25nm,2.5s						
GERES	GERESS Array B	100.50	42	P	Pdif	06 46 07.7	0.0
	comp=Z,0.4nm,0.2s,baz=232,slow=4.8,SNR=3.7						
CLL	Collm	100.67	40	ePdif	Pdif	06 46 08.0	-0.2
CLL				ePP	PP	06 50 21.0	+5.1
CLL				eSKSac	SKSac	06 56 51.0	+5.9
CLL				eSdif	Sdif	06 57 48.0	+4.5
CLL				ePS	PS	06 59 22.0	+4.7
CLL				eSS	SS	07 04 42.0	+0.9
CLL				e		07 11 26.0	
CLL				LmH		07 28 00.0	
	comp=N,100nm,21.0s						
CLL				LmH		07 28 00.0	
	comp=E,200nm,20.6s						
CLL				LmH		07 28 00.0	
	comp=Z,200nm,20.2s						
CLL				LmV		07 33 00.0	
	comp=Z,200nm,18.5s						
CLL	Collm	100.67	40	eP	Pdif	06 46 08.0	-0.2
CLL				e		06 50 21.0	
CLL				e		06 56 51.0	
CLL				MLR	MLR		
	comp=Z,200nm,18.5s						
PRU	Pruhonice	101.31	41	AMS	AMS	07 32 40.0	
	comp=Z,200nm,17.2s						
GOPC	GO Pecny, Ondr	101.44	41	AMS	AMS	07 32 50.0	
	comp=Z,200nm,17.0s						
SMOL	Smolenice	102.83	43	eP	Pdif	06 46 19.2	+1.3
SMOL	Smolenice	102.83	43	PDIF	Pdif	06 46 19.2	+1.3
KECS	Kecovo	104.83	43	eP	Pdif	06 46 25.1	-1.7
KECS	Kecovo	104.83	43	PDIF	Pdif	06 46 25.1	-1.7
STHS	Stebnicka Huta	105.47	43	eP	Pdif	06 46 28.4	-1.2
STHS	Stebnicka Huta	105.47	43	PDIF	Pdif	06 46 28.4	-1.2
KOLS	Kolonicke sedl	106.07	43	eP	Pdif	06 46 32.4	+0.1
KOLS	Kolonicke sedl	106.07	43	PDIF	Pdif	06 46 32.4	+0.1
MPEP	Malo Peshtene	106.27	49	i P	PP	06 50 57.9	-0.1
GNI	Garni	121.80	53	⇑i PKIKP	PKPdf	06 51 13.8	-0.9
H11N3	WAKE ISLAND Hy	123.77	282	T	T	09 07 16.0	
	baz=98,slow=74,SNR=25						
H11S2	WAKE ISLAND Hy	123.78	281	T	T	09 07 28.5	
	baz=99,slow=75,SNR=74						
H11N2	WAKE ISLAND Hy	123.78	282	T	T	09 07 13.6	
	baz=98,slow=74,SNR=31						
H11N1	WAKE ISLAND Hy	123.78	282	T	T	09 07 13.9	
	baz=98,slow=74,SNR=19						
H11S1	WAKE ISLAND Hy	123.79	281	T	T	09 07 14.5	
	baz=99,slow=75,SNR=44						
H11S3	WAKE ISLAND Hy	123.80	281	T	T	09 07 15.2	
	baz=99,slow=75,SNR=42						
SEY	Seymchan	124.95	337	⇑i PKIKP	PKPdf	06 51 21.5	+1.7
ARU	Arti	126.59	31	i PKIKP	PKPdf	06 51 23.7	+0.6
ARU						06 53 18.3	
ARU						06 58 25.2	
ARU				MLR	MLR		
	comp=Z,209nm,18.0s						
ABKAR	Akbulak array	130.34	39	ePKPdf	PKPdf	06 51 31.2	+0.7
ASAR	Alice Springs	131.68	213	PKP	PKPdf	06 51 33.9	0.0
	comp=Z,0.9nm,1.0s,baz=132,slow=2.3,SNR=4.7						
BRVK	Borovoye	134.13	30	⇓i PKIKP	PKPdf	06 51 39.2	+1.7
WRA	Warramunga Arr	134.44	217	PKP	PKPdf	06 51 38.5	-0.7
	comp=Z,1.1nm,0.7s,baz=148,slow=1.6,SNR=15						
NVS	Novosibirsk	138.25	21	ePKIKP	PKPdf	06 51 41.2	-3.9
ZAA0	Zalesovo Array	139.52	20	ePKPdf	PKPdf	06 51 48.5	+1.0
ZALV	Zalesovo Beam	139.52	20	PKP	PKPdf	06 51 48.5	+1.0
	comp=Z,7.9nm,0.7s,baz=292,slow=2.2,SNR=26						
KURK	Kurchatov	139.57	28	ePKIKP	PKPdf	06 51 48.7	+1.0
KURK	Kurchatov	139.57	28	ePKPdf	PKPdf	06 51 48.7	+1.0
AAK	Ala-Archa	142.38	41	⇑ePKIKP	PKPdf	06 51 50.8	-2.4
MK31	Makanchi Array	144.08	30	ePKIKP	PKPbc	06 51 54.2	+0.3
MK31	Makanchi Array	144.08	30	ePKPdf	PKPbc	06 51 54.2	+0.3
MKAR	Makanchi Array	144.08	30	PKP	PKPbc	06 51 54.5	+0.6
	comp=Z,3.0nm,0.8s,baz=324,slow=4.0,SNR=25						
KSH	Kashi	144.93	45	PKP	PKPdf	06 51 58.4	+0.6
KSH				pPKP	pPKPdf	06 52 09.0	+1.6
KSH				sPKP		06 52 13.0	
KSH				PP	PP	06 55 17.8	+2.3
KSH				PKS	PKSdf	06 55 35.5	+2.1
KSH				SKS	SKSdf	06 59 02.4	-2.9
KSH				SKKS	SKKSac	07 02 03.0	-3.4
KSH				SS	SS	07 14 00.6	-2.6
KSH				PPMZ			
	comp=Z,150nm,4.8s						
KSH				LN			
	comp=Z,93nm,6.4s						
KSH				LE			
	comp=Z,51nm,4.5s						
KSH				LZ			
	comp=Z,120nm,7.6s						
MOY	Mondy	145.41	7	ePKIKP	PKPab	06 51 59.5	+1.2
MOY				pmax	pmax		
	comp=Z,34nm,1.8s						
TLY	Talaya	145.64	4	ePKP2	PKPab	06 51 59.6	+0.6
TLY				pmax	pmax		
	comp=Z,44nm,1.6s						
TLY	Talaya	145.64	4	ePKPdf	PKPab	06 51 59.9	+0.8
USRK	Ussuriysk Ar.	146.17	327	PKPbc	PKPab	06 52 01.4	+0.2
	comp=Z,5.1nm,0.7s,baz=44,slow=2.4,SNR=14						
MJAR	Matsushiro Arr	146.76	311	PKPbc	PKPbc	06 52 03.0	+0.4
	comp=Z,7.8nm,0.9s,baz=150,slow=0.4,SNR=24						
MJAR	Matsushiro Arr	146.76	311	PKP2	PKPbc	06 52 03.0	+0.4
MAJO	Matsushiro	146.76	311	dePKIKP	PKPdf	06 52 00.9	+0.1
MAJO	Matsushiro	146.76	311	ePKPbc	PKPbc	06 52 03.0	+0.4
MAT	Matsushiro	146.76	311	PKP	PKPbc	06 52 02.8	+0.2
ZAK	Zakamensk	146.91	5	ePKP2	PKPbc	06 52 02.3	-0.4
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SOEI	Soe	148.30	213	ePKPdf	PKPdf	06 52 03.3	-0.9
WMQ	Urumqi	148.82	28	ePKPbc	PKPdf	06 52 03.4	-0.7
SONM	Songino Array	149.61	1	PKPbc	PKPbc	06 52 10.7	+0.8
	comp=Z,6.4nm,0.8s,baz=284,slow=0.4,SNR=22						
KSRS	Korea Array	153.05	322	PKPbc	PKPbc	06 52 18.2	+0.2
	comp=Z,3.0nm,0.8s,baz=17,slow=1.1,SNR=12						
KSRS				PKPab	PKPab	06 52 29.1	-0.3
	comp=Z,4.6nm,0.8s,baz=357,slow=3.1,SNR=4.2						
KSAR	Wonju Array Be	153.08	322	PKIKP	PKPbc	06 52 18.2	+0.1
KSAR						06 52 29.1	
KSAR	Wonju Array Be	153.08	322	PKPbc	PKPbc	06 52 18.2	+0.1
KSAR				PKPab	PKPab	06 52 29.1	-0.5
HHC	Hu-ho-hao-te	156.33	352	ePKP	PKPdf	06 52 13.4	-1.9
HHC				pPKP	pPKPdf	06 52 24.7	-0.2
HHC				PP	PP	06 56 20.9	+1.0
HHC				SKS	SKSdf	06 59 16.6	-3.1
HHC				SS	SS	07 16 09.1	+1.5
HHC				PPMZ			
	comp=Z,90nm,9.3s						
HHC				LN			
	comp=Z,130nm,21.0s						
HHC				LE			
	comp=Z,130nm,20.6s						
HHC				LZ			
	comp=Z,140nm,20.3s						
LZH	Lanzhou	161.10	9	ePKP	PKPdf	06 52 18.7	-2.5
LZH				pPKP	pPKPdf	06 52 32.5	+1.7
LZH				sPKP		06 52 37.2	
LZH				LN			
	comp=Z,130nm,18.5s						
LZH				LE			
	comp=Z,130nm,19.0s						
LZH				LZ			
	comp=Z,150nm,20.3s						
CD2	Chengdu	166.12	13	PKP	PKPdf	06 52 24.4	-1.4
CD2				pPKP	pPKPdf	06 52 38.1	+2.6
CD2				sPKP		06 52 43.2	
CD2				PP	PP	06 57 12.3	-0.1
CD2				SKS	SKSdf	06 59 24.8	-3.4
CD2				PPMZ			
	comp=Z,120nm,5.2s						
KMI	Kunming	171.16	29	PKP	PKPdf	06 52 29.0	-0.5
CMAR	Chiang Mai Arr	171.89	81	PKP	PKPdf	06 52 30.1	+0.3
	comp=Z,0.7nm,0.3s,baz=222,slow=1.2,SNR=3.1						
CMAR				PKPab	PKPab	06 53 52.5	+0.1
	comp=Z,0.7nm,0.4s,baz=290,slow=5.7,SNR=5.2						

IDC 08 06:51:15.0±1.9, 5.48S×152.04E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/25, mbtmp3.7/4, Error ellipse: s-maj=75.0km s-min=25.4km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.43	229	P	P	06 56 15.1	-0.6
	1.9nm,0.6s,baz=52,slow=10.0,SNR=19						
ASAR	Alice Springs	25.14	222	P	P	06 56 42.6	+0.5
	2.5nm,0.8s,baz=58,slow=8.7,SNR=19						
SONM	Songino Array	66.50	328	P	P	07 02 07.0	+0.3
	0.4nm,0.5s,baz=145,slow=5.3,SNR=3.5						
ILAR	Eielson Array	83.07	22	P	P	07 03 42.1	-0.1
	0.3nm,0.8s,baz=254,slow=4.7,SNR=4.5						
TORD	Torodi Ar. Bea	149.79	287	PKPbc	PKPbc	07 11 07.3	-0.8
	1.7nm,0.7s,baz=79,slow=2.7,SNR=9.3						

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*ISCJB **08** 07:00:54.8±0.8, 36.56N±0.03×21.82E±0.04, h5km±5km, Error ellipse: s-maj=6.0km s-min=3.5km az=41.2*

*ATH **08** 07:00:55.2, 36.56N×21.78E, h24km±1km, MD3.6/23, ML3.2*

*CSEM **08** 07:00:55.6±0.4, 36.58N×21.85E, h8km, ML3.7, Error ellipse: s-maj=8.1km s-min=4.6km az=39.0*

*THE **08** 07:00:57.3, 36.62N×21.87E, h6km, ML3.7/10, Error ellipse: s-maj=1.1km s-min=0.6km az=46.0*

ISC 08 07:00:55.7±1.2, 36.56N±0.03×21.80E±0.03, h9km±9km, n94, σ0.55/134, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.34	353	P	Pg	07 01 02.9	+0.6
PYL				S	Sb	07 01 08.6	-0.7
PYL	PYLOS	0.34	353	ePB	Pg	07 01 03.0	+0.6
PYL				eSB	Sb	07 01 08.8	-0.5
PYL	PYLOS	0.34	353	ePb	Pg	07 01 03.0	+0.6
PYL				eSb	Sb	07 01 08.8	-0.5
ITM	Ithomi	0.63	10	P	Pg	07 01 07.5	-0.3
ITM				S	Sg	07 01 15.8	-0.2
ITM	Ithomi	0.63	10	ePN	Pg	07 01 07.4	-0.3
ITM				eSN	Sb	07 01 17.4	-0.3
ITM	Ithomi	0.63	10	P	Pg	07 01 07.5	-0.3
ITM				S	Sg	07 01 15.9	-0.1
ITM				eSn	Sb	07 01 17.4	-0.3
SFD	Strofades	0.93	318	ePN	Pg	07 01 12.9	-0.7
SFD	Strofades	0.93	318	P	Pg	07 01 13.1	-0.5
VLI	Veliai	0.93	80	P	Pb	07 01 14.0	0.0
VLI				S	Sb	07 01 26.6	+0.2
VLI	Veliai	0.93	80	ePN	Pb	07 01 14.0	0.0
VLI				eSN	Sb	07 01 26.8	+0.4
VLI	Veliai	0.93	80	P	Pb	07 01 14.0	0.0
VLI				eSn	Sb	07 01 26.8	+0.4
VLX	Vlachokerasia	0.93	30	P	Pg	07 01 12.9	-0.8
VLX				S	Sg	07 01 25.4	-0.4
VLX	Vlachokerasia	0.93	30	ePB	Pg	07 01 12.6	-1.1
VLX				eSN	Sb	07 01 26.5	-0.1
VLX	Vlachokerasia	0.93	30	ePb	Pg	07 01 12.6	-1.1
VLX	Vlachokerasia	0.93	30	P	Pg	07 01 12.9	-0.8
VLX				S	Sg	07 01 25.4	-0.4
VLX				eSn	Sb	07 01 26.5	-0.1
AMT	Artemida-Makis	0.97	356	P	Pg	07 01 14.2	-0.2
AMT				S	Sb	07 01 28.4	+0.8
AMT	Artemida-Makis	0.97	356	ePN	Pg	07 01 13.5	-0.9
AMT				eSN	Sb	07 01 28.1	+0.5
AMT	Artemida-Makis	0.97	356	ePn	Pg	07 01 13.5	-0.9

AMT	Artemida-Makis	0.97	356	P	Pg	07 01 14.2	-0.2
AMT				S	Sb	07 01 27.9	+0.3
KYTH	Kithira	1.04	105	P	Pb	07 01 15.8	0.0
KYTH	Kithira	1.04	105	*e*PN	Pg	07 01 14.9	-0.8
KYTH	Kithira	1.04	105	*e*Pn	Pg	07 01 14.9	-0.8
KYTH	Kithira	1.04	105	P	Pb	07 01 15.8	0.0
DRO	Drossia	1.39	357	P	Pn	07 01 21.5	+0.2
DRO				S	Sg	07 01 41.2	+0.8
DRO	Drossia	1.39	357	*e*PN	Pn	07 01 20.5	-0.8
DRO	Drossia	1.39	357	*e*Pn	Pn	07 01 20.5	-0.8
DRO	Drossia	1.39	357	P	Pn	07 01 21.5	+0.2
DRO				S	Sg	07 01 40.9	+0.5
ZKS	Zakynthos	1.39	325	P	Pb	07 01 22.0	+0.2
ZKS				S	Sg	07 01 41.5	+1.0
ZKS	Zakynthos	1.39	325	*e*PB	Pn	07 01 20.1	-1.2
ZKS				*e*SN	Sn	07 01 39.8	0.0
ZKS	Zakynthos	1.39	325	*e*Pb	Pn	07 01 20.1	-1.2
ZKS	Zakynthos	1.39	325	P	Pb	07 01 22.0	+0.2
ZKS				*e*Sn	Sn	07 01 39.8	0.0
ZKS				S	Sg	07 01 41.5	+1.0
ANKY	Antikythira Is	1.40	119	P	Pb	07 01 22.1	+0.1
ANKY				S	Sg	07 01 42.0	+1.3
ANKY	Antikythira Is	1.40	119	*e*PN	Pb	07 01 21.7	-0.3
ANKY				*e*SN	Sg	07 01 40.9	+0.2
ANKY	Antikythira Is	1.40	119	*e*Pn	Pb	07 01 21.7	-0.3
ANKY	Antikythira Is	1.40	119	P	Pb	07 01 22.1	+0.1
ANKY				*e*Sn	Sg	07 01 40.9	+0.2
GUR	Goura	1.44	17	P	Pn	07 01 22.2	+0.2
GUR				S	Sn	07 01 41.3	+0.2
GUR	Goura	1.44	17	*e*PN	Pn	07 01 21.6	-0.4
GUR	Goura	1.44	17	*e*Pn	Pn	07 01 21.6	-0.4
GUR	Goura	1.44	17	P	Pn	07 01 22.2	+0.2
GUR				S	Sn	07 01 41.3	+0.2
DID	Didima	1.49	50	P	Pn	07 01 22.2	-0.4
DID				S	Sb	07 01 42.6	0.0
DID	Didima	1.49	50	*e*PB	Pn	07 01 22.0	-0.6
DID	Didima	1.49	50	P	Pn	07 01 22.2	-0.4
DID				S	Sb	07 01 42.6	0.0
KLV	Kalavryta, Ach	1.51	11	P	Pn	07 01 23.1	+0.2
KLV				S	Sb	07 01 43.1	0.0
KLV	Kalavryta, Ach	1.51	11	*e*PN	Pn	07 01 22.5	-0.4
KLV	Kalavryta, Ach	1.51	11	*e*Pn	Pn	07 01 22.5	-0.4
KLV	Kalavryta, Ach	1.51	11	P	Pn	07 01 23.1	+0.2
KLV				S	Sb	07 01 43.1	0.0
RLS	Riolos of Patr	1.52	350	P	Pb	07 01 23.7	-0.3
RLS				S	Sg	07 01 44.5	0.0
RLS	Riolos of Patr	1.52	350	*e*PN	Pn	07 01 22.2	-0.8
RLS	Riolos of Patr	1.52	350	*e*Pn	Pn	07 01 22.2	-0.8
RLS	Riolos of Patr	1.52	350	P	Pb	07 01 23.7	-0.3
RLS				S	Sg	07 01 44.5	0.0
LTK	Loutraki	1.73	32	P	Pn	07 01 26.0	0.0
LTK	Loutraki	1.73	32	P	Pn	07 01 26.0	0.0
KFL	Anninata	1.74	333	P	Pb	07 01 27.2	-0.6
KFL				S	Sb	07 01 49.7	-0.1
KFL	Anninata	1.74	333	P	Pb	07 01 27.2	-0.6
KFL				S	Sb	07 01 49.7	-0.1
KALE	Kalithea	1.85	8	P	Pn	07 01 28.1	+0.5
KALE	Kalithea	1.85	8	*e*PN	Pn	07 01 28.0	+0.5
KALE	Kalithea	1.85	8	*e*Pn	Pn	07 01 28.0	+0.5
EFP	Efpalio	1.86	3	P	Pn	07 01 28.2	+0.5
EFP	Efpalio	1.86	3	*e*PN	Pn	07 01 28.1	+0.4
EFP	Efpalio	1.86	3	*e*Pn	Pn	07 01 28.1	+0.4
VLS	Valsamata	1.88	330	P	Pb	07 01 29.2	-0.9
VLS				S	Sb	07 01 53.7	0.0
VLS	Valsamata	1.88	330	*e*PB	Pn	07 01 27.4	-0.5
VLS	Valsamata	1.88	330	*e*Pb	Pn	07 01 27.4	-0.5
VLS	Valsamata	1.88	330	P	Pb	07 01 29.2	-0.9
VLS				S	Sb	07 01 53.7	0.0
DSF	Desfina	1.94	17	P	Pn	07 01 29.4	+0.6
DSF	Desfina	1.94	17	*e*PB	Pn	07 01 28.2	-0.6
DSF	Desfina	1.94	17	*e*Pb	Pn	07 01 28.2	-0.6
DSF	Desfina	1.94	17	P	Pn	07 01 29.4	+0.6
VILL	Villia	2.00	37	*e*Pb	Pn	07 01 29.5	-0.2
VIL2	Platees	2.02	35	*e*PB	Pn	07 01 29.5	-0.4
ATH	Athens Observa	2.08	47	*e*PB	Pn	07 01 31.1	+0.4
ATH	Athens Observa	2.08	47	*e*Pb	Pn	07 01 31.1	+0.4
PDO	Prodromos	2.09	347	*e*PN	Pn	07 01 30.5	-0.4
PDO	Prodromos	2.09	347	*e*Pn	Pn	07 01 30.5	-0.4
PTL	Penteli	2.22	47	*e*PB	Pn	07 01 33.0	+0.3
PTL	Penteli	2.22	47	*e*Pb	Pn	07 01 33.0	+0.3
LKR	Lokris	2.29	24	*e*PN	Pn	07 01 33.9	+0.2
LKR	Lokris	2.29	24	*e*Pn	Pn	07 01 33.9	+0.2
AXAR	Agios Charalam	2.31	17	*e*PB	Pn	07 01 34.6	+0.8
EVR	Evrytania	2.35	0	*e*PB	Pn	07 01 35.0	+0.5
EVR	Evrytania	2.35	0	*e*Pb	Pn	07 01 35.0	+0.5
LKD2	Lefkada island	2.40	338	P	Pn	07 01 36.0	+0.9
LKD2				S	Sn	07 02 06.0	+1.3
LKD2	Lefkada island	2.40	338	*e*PB	Pn	07 01 36.0	+0.9
LKD2	Lefkada island	2.40	338	P	Pn	07 01 36.0	+0.9
LKD2				S	Sn	07 02 06.0	+1.3
AGG	Agios Georgios	2.49	10	*e*PN	Pn	07 01 37.1	+0.7
AGG	Agios Georgios	2.49	10	*e*Pn	Pn	07 01 37.1	+0.7
DSL	Palaion Diasel	2.63	348	*e*PN	Pn	07 01 38.0	-0.3
DSL	Palaion Diasel	2.63	348	*e*Pn	Pn	07 01 38.0	-0.3
THL	Klokotos Trika	3.00	3	*e*PN	Pn	07 01 44.1	+0.7
THL	Klokotos Trika	3.00	3	*e*Pn	Pn	07 01 44.1	+0.7
XOR	Xorichti	3.01	21	*e*PN	Pn	07 01 44.3	+0.8
XOR	Xorichti	3.01	21	*e*Pn	Pn	07 01 44.3	+0.8
AOS	Alonnisos	3.08	32	*e*PN	Pn	07 01 44.4	-0.1
AOS	Alonnisos	3.08	32	*e*Pn	Pn	07 01 44.4	-0.1

IDC 08 07:10:26.9±4.0**, 5°.80S**×**148°.89E, h0**km**, mb3.1**/1**, mb1 3.7**/2**, mb1mx3.2**/24**, mbtmp3.4**/2**, ML3.5**/1**, Error ellipse: s-maj=140.9km s-min=50.1km az=112.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.95	224	P	P	07 15 00.8	+0.1
	0.2nm,0.3s,baz=49,slow=11,SNR=8.7						
ASAR	Alice Springs	22.89	218	P	P	07 15 32.0	-0.4
	0.5nm,0.6s,baz=54,slow=9.3,SNR=4.7						
TORD	Torodi Ar. Bea	146.86	285	PKPbc	PKPbc	07 30 11.7	-0.6
	0.2nm,0.3s,baz=72,slow=3.0,SNR=5.0						

*CRAAG **08** 07:26:10.9, 35°.41N×6°.02E, Ml3.9*
*IDC **08** 07:26:12.7±1.6, 35°.22N×5°.92E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.5/29, mbtmp3.7/5, ML3.8/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/28, Error ellipse: s-maj=36.4km s-min=23.6km az=150.0*
*ISCJB **08** 07:26:15.3±0.7, 35°.52N±0°.05×5°.88E±0°.03, h12km, mb3.8/3, MS3.9/1, Error ellipse: s-maj=7.9km s-min=3.9km az=9.5*
*CSEM **08** 07:26:17.4±0.5, 35°.60N×5°.95E, h5km, ML3.9, Error ellipse: s-maj=10.0km s-min=4.2km az=171.0*
ISC 08 07:26:14.7±0.9**, 35°.41N**±0°.06×**6°.04E**±0°.03**, h12**km**, n41, σ1§23**/52**, mb3.7**/3**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTEI	Djebel Teioual	0.72	25	P	Pg	07 26 27.6	-1.1
CTEI	Djebel Teioual	0.72	25	P	Pg	07 26 27.6	-1.1
CKHR	Kef el Ahmar	0.74	325	P	Pg	07 26 27.7	-1.4
CKHR	Kef el Ahmar	0.74	325	P	Pg	07 26 27.7	-1.4
CASM	Ain Smara	0.93	23	P	Pg	07 26 32.3	-0.3
CASM	Ain Smara	0.93	23	P	Pg	07 26 32.3	-0.3
SET	Setif	0.94	327	P	Pg	07 26 32.0	-1.0
SET	Setif	0.94	327	P	Pg	07 26 32.0	-1.0
CKFL	Kef-Lekhel	1.13	29	P	Pn	07 26 36.5	-0.1
CKFL	Kef-Lekhel	1.13	29	P	Pn	07 26 36.5	-0.1
DFRA	Djebel Bou Aff	1.14	354	P	Pg	07 26 36.3	-0.4
DFRA	Djebel Bou Aff	1.14	354	P	Pg	07 26 36.3	-0.4
ABSA	Djebel Ababsia	1.46	53	P	Pn	07 26 40.4	-0.6
CAEH	'Ain El Ouahch	1.52	26	P	Pg	07 26 44.4	+0.5
CAEH	'Ain El Ouahch	1.52	26	P	Pg	07 26 44.4	+0.5
CMAH	Djebel Manchou	1.65	42	P	Pg	07 26 46.1	-0.4
CMAH	Djebel Manchou	1.65	42	P	Pg	07 26 46.1	-0.4
KEST	Kesra	2.72	82	Pn	Pn	07 26 59.5	+1.2
	3.3nm,0.3s,baz=265,slow=6.6,SNR=52						
KEST				Sn	Sb	07 27 37.2	+0.6
	1.6nm,0.3s,baz=162,slow=20,SNR=3.9						
ABA	Alger-Bouzarea	2.80	301	P	Pg	07 27 09.0	+0.6
ECHA	Ech Chlef	3.87	282	P	Pg	07 27 30.0	+1.2
ETRT	Tiaret	3.87	271	P	Pn	07 27 12.8	-1.4
EANR	'Ain N'Sour	4.05	279	P	Pn	07 27 15.0	-1.6
ETOS	Mallorca	5.05	331	P	Pn	07 27 30.4	+0.2
	24nm,0.4s,SNR=25						
ETOS				S	Sn	07 28 27.7	-0.8
	2.4nm,0.3s,SNR=5.0						
EIBI	Ibiza	5.20	315	P	Pn	07 27 33.7	+1.4
	13nm,0.3s,SNR=21						
EIBI				S	Sn	07 28 32.0	-0.3
	21nm,0.5s						
EBEN	Beniarda	5.99	305	P	Pn	07 27 44.4	+1.2
	1.3nm,0.4s,SNR=7.9						
EBEN				S	Sn	07 28 52.1	+0.3
	7.4nm,0.6s,SNR=7.9						
ETOB	Tobarra	6.87	300	P	Pn	07 27 56.2	+0.8
	2.0nm,0.2s,SNR=6.1						
ETOB				S	Sn	07 29 12.6	-0.9
	15nm,0.7s						
CFON	Fontmartina	6.94	337	P	Pn	07 27 56.4	+0.1
	2.3nm,0.1s,SNR=6.0						
CFON				S	Sn	07 29 13.6	-1.6
	4.5nm,0.3s,SNR=7.9						
EPOB	Poblet	7.09	328	P	Pn	07 27 58.9	+0.5
	2.7nm,0.3s,SNR=5.6						
EPOB				S	Sn	07 29 16.6	-2.4
	2.3nm,0.3s						
EMOS	Mosqueruela	7.13	316	P	Pn	07 28 00.6	+1.5
	0.5nm,0.2s,SNR=7.9						
EMOS				S	Sn	07 29 17.8	-2.4
	42nm,1.0s,SNR=7.9						
EMIR	Miracle	7.39	333	P	Pn	07 28 04.1	+1.6
	16nm,0.4s,SNR=13						
EMIR				S	Sn	07 29 25.2	-1.1
	3.7nm,0.4s						
SESP	Santiago Espad	7.40	294	P	Pn	07 28 03.7	+1.0
	17nm,0.5s,SNR=7.9						
SESP				S	Sn	07 29 27.5	+0.9
	1.0nm,0.1s,SNR=7.9						
EQES	Quesada	7.70	291	P	Pn	07 28 07.9	+1.1
	4.3nm,0.4s,SNR=4.8						
EQES				S	Sn	07 29 36.0	+2.0
	17nm,0.6s,SNR=7.0						
CLLI	Llivia	7.73	337	P	Pn	07 28 08.2	+0.9
	1.0nm,0.2s,SNR=7.9						
CSOR	Sort	7.93	333	P	Pn	07 28 11.9	+1.9
	3.4nm,0.3s,SNR=10						
CSOR				S	Sn	07 29 37.9	-1.8
	15nm,0.7s						
ESAC	San Caprasio	8.10	323	P	Pn	07 28 14.6	+2.4
	13nm,0.3s,SNR=7.9						
ESDC	Sonseca Array	9.01	301	Pn	Pn	07 28 25.4	+0.7
	0.6nm,0.3s,baz=116,slow=14,SNR=4.6						
ESDC				LR	LR	07 31 21.2	
	comp=Z,53nm,19.8s,baz=245,slow=34						
GERES	GERESS Array B	14.57	21	Pn	P	07 29 47.7	+0.5
	0.2nm,0.3s,baz=220,slow=15,SNR=3.4						
BRTR	Keskin Array B	22.26	71	P	P	07 31 13.7	+2.0
	2.1nm,0.9s,baz=266,slow=12,SNR=8.3						
TORD	Torodi Ar. Bea	22.51	191	P	P	07 31 11.9	-2.4
	1.4nm,0.5s,baz=6.1,slow=10,SNR=19						
MKAR	Makanchi Array	56.46	53	P	P	07 35 56.4	0.0
	0.8nm,0.5s,baz=275,slow=6.0,SNR=2.7						
PDAR	Pinedale Array	82.51	318	LR	LR	08 11 09.2	
	comp=Z,62nm,21.4s,baz=168,slow=33						

*ISCJB **08** 07:30:26.7±0.2, 37°.23N±0°.02×72°.12E±0°.04, h200km, mb4.0/25, Error ellipse: s-maj=5.0km s-min=2.3km az=159.3*
*MOS **08** 07:30:28.5±0.9, 37°.31N×72°.24E, h227km, mb4.3/16, Error ellipse: s-maj=11.3km s-min=5.7km az=95.0*
*IDC **08** 07:30:29.0±1.8, 37°.25N×72°.25E, h221km±16km, mb3.7/16, mb1 3.9/20, mb1mx3.6/36, mbtmp4.4/20, Error ellipse: s-maj=11.8km s-min=10.4km az=15.0*
*BJI **08** 07:30:29.8, 37°.45N×72°.32E, h222km, mb4.5/3, mB4.5/2*
*NNC **08** 07:30:33.2±2.2, 37°.68N×72°.03E, h218km±16km, mb3.7, mpv4.6, Error ellipse: s-maj=24.5km s-min=17.3km az=51.0*
ISC 08 07:30:27.6±0.4**, 37°.26N**±0°.04×**72°.24E**±0°.05**, h200**km**, n118, σ1§56**/136**, mb4.1**/25**, 20C-10D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	2.93	19	⇑P	Pn	07 31 19.4	+2.8
	185nm,0.2s						
SFK				⇑S	Sn	07 31 56.0	+0.9
	871nm,0.2s						
SFK	Sufi-Kurgan	2.93	19	PN	Pn	07 31 19.1	+2.5
SFK				S	Sn	07 31 55.9	+0.9
SFK				pmax	pmax		
	comp=Z,185nm,0.2s						
DZET	Dzherino	3.10	301	⇓P	Pn	07 31 20.8	+2.2
	comp=Z,298nm,0.4s						
DZET				⇑S	Sn	07 31 58.1	-0.4
	comp=Z,4μm,0.4s						
DZET	Dzherino	3.10	301	PN	Pn	07 31 20.6	+2.0
DZET				S	Sn	07 31 59.0	+0.5
DZET				pmax	pmax		
	comp=Z,298nm,0.4s						
CEP	Cherat	3.43	185	⇓P	Pn	07 31 26.6	+3.9
CEP				S	Sn	07 32 10.0	+4.3
CHCP	Chirah Chowk	3.69	167	P	Pn	07 31 30.4	+4.8
KSH	Kashi	3.71	51	⇑*e*P	Pn	07 31 23.7	-2.1
KSH				S	Sn	07 32 02.6	-9.1
KSH				SMN			
	comp=Z,980nm,0.4s						
KSH				SME			
	comp=Z,550nm,0.7s						
THW	Thamme Wali	4.47	185	P	Pn	07 31 38.8	+3.4
AML	Almayashu	5.00	13	P	Pn	07 31 44.2	+1.9
	SNR=449						
MNAS	Manas	5.23	2	⇑P	Pn	07 31 46.9	+1.9
	comp=Z,23nm,0.3s						
MNAS				⇑S	Sn	07 32 44.9	-1.3
	comp=Z,449nm,0.5s						
MNAS	Manas	5.23	2	PN	Pn	07 31 46.9	+1.9
MNAS				S	Sn	07 32 44.8	-1.4
MNAS				pmax	pmax		
	comp=Z,37nm,0.5s						
UCH	Uchtor	5.27	19	P	Pn	07 31 47.6	+1.8
	SNR=280						
SARP	Sargodha	5.33	176	P	Pn	07 31 48.5	+2.2
KZA	Kyzart	5.35	25	P	Pn	07 31 48.2	+1.4
	SNR=138						
EKS2	Erkin-Say	5.53	12	P	Pn	07 31 50.7	+1.8
	SNR=33						
DLH	Dalhousie	5.61	146	*e*P	Pn	07 31 53.0	+2.8
DLH				*e*S	Sn	07 32 57.0	+1.7
AAK	Ala-Archa	5.64	17	P	Pn	07 31 52.6	+2.2
	SNR=63						
AAK	Ala-Archa	5.64	17	⇑P	Pn	07 31 52.6	+2.2
	comp=Z,30nm,0.5s						
AAK				⇑S	Sn	07 32 55.0	-0.9
	comp=Z,113nm,0.5s						
AAK	Ala-Archa	5.64	17	P	Pn	07 31 52.6	+2.2
	comp=Z,14nm,0.3s,baz=169,slow=5.3,SNR=106						
AAK				S	Sn	07 32 56.2	+0.3
	comp=Z,63nm,0.3s,baz=30,slow=17,SNR=16						
AAK	Ala-Archa	5.64	17*c*	*i*PN	Pn	07 31 52.5	+2.2
AAK				pmax	pmax		
	comp=Z,89nm,0.6s						
KBK	Karagaybulak	5.78	20	P	Pn	07 31 54.7	+2.5
	SNR=27						
ULHL	Ulahol	5.86	31	P	Pn	07 31 54.8	+1.5
	SNR=48						
FRU	Bishkek	5.86	17	*e*PN	Pn	07 31 54.0	+0.9
FRU				*i* S	Sn	07 33 00.0	-0.7
FRU				smax	smax		
	comp=E,370nm,2.0s						
KK31	Karatay Array	5.99	348	P	Pn	07 31 56.0	+1.3
	comp=E,16nm,0.4s,baz=162,slow=11,SNR=691						
KK31				⇑S	Sn	07 32 59.3	-4.3
	comp=E,134nm,0.5s,baz=172,slow=19,SNR=30						
KK31	Karatay Array	5.99	348	PN	Pn	07 31 56.0	+1.3
KK31				pmax	pmax		
	comp=Z,30nm,0.2s						
DHRM	DHARAMSHALA	6.01	145	*e*P	Pn	07 31 57.4	+2.1
DHRM				*e*S	Sn	07 33 04.9	+0.4
DHRM				AML	AML	07 33 07.0	
	comp=E,693nm,0.3s						
DHRM				AML	AML	07 33 07.2	
	comp=N,627nm,0.2s						
CHMS	Chumysh	6.05	18	P	Pn	07 31 57.5	+2.0
	SNR=26						
PONG	Pong	6.11	149	*e*P	Pn	07 31 55.0	-1.3
TKM2	Tokmak 2	6.22	23	P	Pn	07 31 59.8	+1.9
	SNR=7.4						
TKM2	Tokmak 2	6.22	23	⇓P	Pn	07 31 59.6	+1.8
	comp=N,38nm,0.8s						
USP	Ospenovka	6.25	15	P	Pn	07 31 59.9	+1.8
	SNR=18						
SMLA	Simla	7.35	145	*e*P	Pn	07 32 14.4	+2.0
SMLA				*e*S	Sn	07 33 34.9	-0.7
SMLA				AML	AML	07 33 37.5	
	comp=E,366nm,0.3s						
SMLA				AML	AML	07 33 38.0	
	comp=N,299nm,0.4s						
RTK	Rohtak	8.91	156	*e*P	Pn	07 32 33.3	+0.5
RTK				*e*S	Sn	07 34 08.2	-4.6
BHGR	Bahadurgarh	9.41	154	*e*S	Sn	07 34 21.2	-3.4
KALG	Kalgarh	9.45	143	*e*S	Sn	07 34 22.9	-2.7
NDI	New Delhi	9.51	153	*e*P	Pn	07 32 42.0	+1.4
NDI				*e*S	Sn	07 34 24.0	-3.1
ASOR	Ausora	9.66	150	*e*S	Sn	07 34 26.6	-4.1
SONA	Sohna	9.86	154	*e*P	Pn	07 32 44.7	-0.4
SONA				*e*S	Sn	07 34 29.2	-6.1
SONA				AML	AML	07 34 34.0	
	comp=N,36nm,0.5s						
SONA				AML	AML	07 34 36.0	
	comp=E,65nm,0.5s						
JASL	Jaisalmer	10.36	187	*e*P	Pn	07 32 51.9	+0.3
JASL				*e*S	Sn	07 34 38.1	-9.3
AJM	Ajmer	10.94	169	*e*P	Pn	07 32 59.0	0.0
AJM				*e*S	Sn	07 34 55.0	-6.1
AGRA	Agra	11.10	153	*e*S	Sn	07 35 01.5	-3.3
AGRA				AML	AML	07 35 12.7	
	comp=N,71nm,0.4s						
AGRA				AML	AML	07 35 15.2	
	comp=E,66nm,0.3s						
MK31	Makanchi Array	12.10	35	P	Pn	07 33 13.6	-0.1
	comp=E,6.0nm,0.7s,baz=220,slow=12,SNR=58						
MK31	Makanchi Array	12.10	35	P	Pn	07 33 13.6	-0.1
MK31				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MKAR	Makanchi Array	12.10	35	P	Pn	07 33 14.1	+0.4
	comp=Z,1.0nm,0.3s,baz=211,slow=8.8,SNR=32						
MKAR	Makanchi Array	12.10	35	P	Pn	07 33 14.1	+0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KOLN	Koldanda	13.46	131	*e*P	Pn	07 33 32.6	+1.5
	comp=Z,61nm,0.5s						
KOLN				*e*S	S	07 35 55.2	-6.0
	comp=Z,31nm,0.5s						
GKN	Gorkha	13.93	128	*e*P	Pn	07 33 38.9	+2.0
	comp=Z,154nm,0.4s						
KURBB	Kurchatov Arra	14.10	17	⇑P	Pn	07 33 37.9	-0.8
	comp=Z,18nm,0.6s						
KURK	Kurchatov	14.21	17	⇑P	Pn	07 33 39.0	-1.0
	comp=Z,14nm,0.9s						
KURK	Kurchatov	14.21	17	P	Pn	07 33 38.9	-1.0
KURK				pmax	pmax		
	comp=Z,14nm,0.9s						
KKN	Kakani	14.48	127	*e*P	P	07 33 45.7	+0.6
	comp=Z,85nm,0.5s						
DMN	Daman	14.50	128	*e*P	P	07 33 46.0	+0.7
	comp=Z,32nm,0.3s						
PKIN	Phulchoki	14.71	127	*e*P	P	07 33 48.7	+1.1
	comp=Z,38nm,0.3s						
PKI	Pulchoki	14.72	127	*e*P	P	07 33 49.1	+1.3
	comp=Z,26nm,0.2s						
GUN	Gumba	14.79	125	*e*P	Pn	07 33 47.8	+0.2
	comp=Z,46nm,0.3s						
AB31	Akbulak array	14.94	327	P	Pn	07 33 48.0	-0.9
	comp=Z,7.4nm,0.5s,baz=125,slow=16,SNR=162						
AB31				S	S	07 36 25.9	-8.9
	comp=Z,5.6nm,0.6s,baz=144,slow=24,SNR=6.3						
AB31	Akbulak array	14.94	327	P	Pn	07 33 48.0	-0.9
AB31				pmax	pmax		
	comp=Z,11nm,0.4s						
JIRN	Jiri	15.16	125	*e*P	Pn	07 33 53.1	+0.9
	comp=Z,96nm,0.3s						
BVA0	Borovoye Array	15.82	356	⇑P	P	07 33 59.5	+0.1
	comp=Z,13nm,0.3s						
BVA0	Borovoye Array	15.82	356	P	P	07 33 59.5	+0.1
BVA0				pmax	pmax		
	comp=Z,13nm,0.4s						
BVAR	Borovoye Array	15.82	356	P	P	07 33 59.1	-0.3
	comp=Z,12nm,0.3s,baz=162,slow=11,SNR=127						
BVAR				S	S	07 36 55.5	+0.6
	comp=Z,0.5nm,0.3s,baz=166,slow=25,SNR=7.0						
BVAR	Borovoye Array	15.82	356	P	P	07 33 59.1	-0.3
BVAR				S	S	07 36 55.5	+0.6
BVAR				pmax	pmax		
	comp=Z,12nm,0.3s						
BVAR				smax	smax		
	comp=N,1.0nm,0.3s						
BRVK	Borovoye	15.86	356	⇓P	P	07 33 59.6	-0.2
	comp=N,27nm,0.5s						
BRVK	Borovoye	15.86	356*c*	*e*P	P	07 33 59.6	-0.2
BRVK				pmax	pmax		
	comp=Z,35nm,1.0s						
RAMN	Ramite	15.91	126	*e*P	Pn	07 34 02.7	+1.5
	comp=Z,80nm,0.5s						
TAPN	Taplejung	16.37	123	*e*P	Pn	07 34 07.9	+1.1
	comp=Z,28nm,0.3s						
ODAN	Odare	16.48	125	*e*P	Pn	07 34 09.4	+1.4
	comp=Z,53nm,0.6s						
AKTO	Aktyubinsk	16.66	327	⇓P	P	07 34 09.2	+0.6
	comp=Z,57nm,0.7s						
AKTO				⇑S	S	07 37 06.1	-6.1
	comp=Z,24nm,1.6s						
AKTO	Aktyubinsk	16.66	327	P	P	07 34 09.3	+0.7
	comp=Z,8.5nm,0.3s,baz=130,slow=11,SNR=135						
AKTO				S	S	07 37 12.6	+0.3
	comp=Z,0.6nm,0.3s,baz=10,slow=20,SNR=4.9						
AKTO	Aktyubinsk	16.66	327	P	P	07 34 09.3	+0.7
AKTO				S	S	07 37 12.6	+0.3
AKTO				pmax	pmax		
	comp=Z,9.0nm,0.3s						
AKTO				smax	smax		
	comp=N,1.0nm,0.3s						
ZALV	Zalesovo Beam	18.82	24	P	P	07 34 32.2	+0.1
	comp=N,36nm,0.3s,baz=223,slow=11,SNR=442						
ZALV				S	S	07 37 53.7	-1.6
	comp=N,0.3nm,0.3s,baz=205,slow=16,SNR=3.7						
ZALV	Zalesovo Beam	18.82	24	P	P	07 34 32.2	+0.1
ZALV				S	S	07 37 53.7	-1.6
ZALV				pmax	pmax		
	comp=Z,36nm,0.3s						
NVS	Novosibirsk	19.13	20	⇑*i*P	P	07 34 35.3	-0.1
NVS				*e*S	S	07 37 46.3	-15
NVS				pmax	pmax		
	comp=N,31nm,0.6s						
NVS				pmax	pmax		
	comp=E,10.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,37nm,0.6s						
NVS				smax	smax		
	comp=N,3.0nm,0.6s						
NVS				smax	smax		
	comp=E,7.0nm,0.6s						
HVS	Khovu-Aksy	20.62	41	⇓*e*P	P	07 34 52.6	+1.1
HVS				pmax	pmax		
	comp=Z,28nm,0.7s						
ARU	Arti	21.27	339*d*	*i*P	P	07 34 57.9	-0.2
ARU				S	S	07 38 39.9	-1.8
ARU				pmax	pmax		
	comp=Z,24nm,1.2s						
GNI	Garni	21.62	286	⇓*e*P	P	07 35 03.8	+1.6
GNI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV	Kislovodsk	23.33	296	⇑*e*P	P	07 35 18.7	+0.8
KIV				*i* *PP	pP	07 36 02.1	+7.5
KIV				*e*S	S	07 39 18.7	+3.2
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SONM	Songino Array	27.09	56	P	P	07 35 52.6	+0.8
	comp=Z,0.4nm,0.6s,baz=271,slow=11,SNR=3.2						
PRGR	Permogore	29.51	334	P	P	07 36 11.4	-1.4
PRGR				pmax	pmax		
	comp=Z,17nm,0.7s						
CMAR	Chiang Mai Arr	29.97	121	P	P	07 36 17.4	-0.1
	comp=Z,1.1nm,0.3s,baz=320,slow=9.3,SNR=4.2						
CMAR	Chiang Mai Arr	29.97	121*c*	*e*P	P	07 36 18.7	+1.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
OBN	Obninsk	30.03	318*d*	*e*P	P	07 36 17.2	-0.3
OBN				*i* *PP	pP	07 37 04.0	+5.8
OBN				pmax	pmax		
	comp=Z,17nm,0.6s						
BRTR	Keskin Array B	30.16	287	P	P	07 36 20.1	+1.1
	comp=Z,0.9nm,0.5s,baz=99,slow=7.6,SNR=5.0						
BRTR	Keskin Array B	30.16	287	P	P	07 36 20.2	+1.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KLMR	Klimovskoe	31.32	329	*e*P	P	07 36 25.9	-2.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KLMR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
AKASG	**Malin Array Be**	**33.26**	**308**	P	**P**	**07 36 45.5**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=81,slow=7.0,SNR=9.4						
AKASG	**Malin Array Be**	**33.26**	**308**	P	**P**	**07 36 45.5**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KIEV	**Kiev**	**33.27**	**308**	⇑*e*P	**P**	**07 36 45.7**	**-0.2**
FINES	**FINESS Array B**	**37.42**	**325**	P	**P**	**07 37 20.9**	**-0.3**
	comp=Z,4.8nm,0.4s,baz=124,slow=11,SNR=51						
FINES	**FINESS Array B**	**37.42**	**325**	*i* P	**P**	**07 37 20.8**	**-0.3**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ARCES	**ARCESS Array B**	**40.83**	**337**	P	**P**	**07 37 49.2**	**-0.1**
	comp=Z,5.5nm,0.4s,baz=112,slow=8.2,SNR=81						
ARCES	**ARCESS Array B**	**40.83**	**337**	P	**P**	**07 37 49.2**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.4s						
DPC	**Dobruska-Polom**	**41.47**	**307**	*e*P	**P**	**07 37 55.3**	**+0.5**
DPC	**Dobruska-Polom**	**41.47**	**307**	*e*P	**P**	**07 37 55.3**	**+0.5**
PSI	**Prapat**	**42.16**	**138**	P	**P**	**07 37 60.0**	**-0.8**
	comp=Z,2.6nm,0.3s,baz=344,slow=7.4,SNR=4.1						
PSI	**Prapat**	**42.16**	**138**	P	**P**	**07 38 00.0**	**-0.8**
PSI				pmax	pmax		
	comp=Z,3.0nm,0.3s						
YAK	**Yakutsk**	**42.78**	**36**	⇓*e*P	**P**	**07 38 04.9**	**-0.1**
YAK				pmax	pmax		
	comp=Z,18nm,0.7s						
BRG	**Berggiesshubel**	**42.94**	**308**	*e*P	**P**	**07 38 06.8**	**+0.3**
	comp=Z,4.7nm,0.9s						
BRG	**Berggiesshubel**	**42.94**	**308**	*e*P	**P**	**07 38 06.8**	**+0.3**
BRG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KHC	**Kasperske Hory**	**43.35**	**305**	*e*P	**P**	**07 38 10.4**	**+0.4**
KHC	**Kasperske Hory**	**43.35**	**305**	*e*P	**P**	**07 38 10.4**	**+0.4**
CLL	**Collm**	**43.49**	**308**	*e*P	**P**	**07 38 11.0**	**0.0**
CLL	**Collm**	**43.49**	**308**	*e*P	**P**	**07 38 11.0**	**0.0**
CLL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NB2	**NORSAR Subarra**	**44.38**	**323**	P	**P**	**07 38 16.9**	**-1.0**
	comp=Z,4.1nm,0.5s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.38**	**323**	P	**P**	**07 38 17.0**	**-1.0**
	comp=Z,4.2nm,0.6s,baz=94,slow=7.7,SNR=17						
NOA	**NORSAR Array B**	**44.38**	**323**	P	**P**	**07 38 17.0**	**-1.0**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
JNU	**Nakatsue**	**47.45**	**77**	P	**P**	**07 38 42.5**	**+0.2**
	comp=Z,7.9nm,0.9s,baz=180,slow=5.1,SNR=2.6						
BILL	**Bilibino**	**57.49**	**26**	⇑*e*P	**P**	**07 39 55.4**	**0.0**
BILL				*e**PP	**pP**	**07 40 44.8**	**+4.1**
BILL				*e*		07 42 03.6	
BILL				pmax	pmax		
	comp=Z,5.0nm,2.3s						
ESDC	**Sonseca Array**	**57.98**	**298**	P	**P**	**07 39 58.7**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=60,slow=7.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**66.72**	**269**	P	P	07 40 55.4	-2.2
	comp=Z,1.8nm,0.4s,baz=49,slow=5.8,SNR=63						
INK	**Inuvik**	**73.00**	**10**	P	**P**	**07 41 33.8**	**-1.1**
	comp=Z,1.7nm,0.4s,baz=324,slow=5.0,SNR=8.8						
INK	**Inuvik**	**73.00**	**10**	P	**P**	**07 41 33.8**	**-1.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ILAR	**Eielson Array**	**73.78**	**16**	P	**P**	**07 41 38.0**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=308,slow=4.4,SNR=14						
ILAR	**Eielson Array**	**73.78**	**16**	P	**P**	**07 41 38.1**	**-1.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**80.44**	**3**	P	**P**	**07 42 15.6**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=350,slow=5.5,SNR=16						
YKA	**Yellowknife Ar**	**80.44**	**3**	P	**P**	**07 42 15.6**	**-1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**81.56**	**123**	P	P	07 42 21.2	-1.9
	comp=Z,0.3nm,0.6s,baz=323,slow=4.8,SNR=8.4						
SCHQ	**Schefferville**	**81.78**	**337**	P	**P**	**07 42 23.1**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=8.1,slow=7.1,SNR=2.6						

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*ISCJB **08** 07:40:12.6±0.6, 37.°38N±0.°02×20.°54E±0.°04, h11km±3km, Error ellipse: s-maj=5.4km s-min=2.8km az=147.3*
*ATH **08** 07:40:13.3, 37.°39N×20.°65E, h24km, MD3.4/20, ML3.3*
*THE **08** 07:40:14.4, 37.°43N×20.°62E, h5km, ML3.5/11, Error ellipse: s-maj=0.8km s-min=0.4km az=63.0*
*CSEM **08** 07:40:14.0±0.3, 37.°41N×20.°65E, h10km, ML3.5, Error ellipse: s-maj=6.9km s-min=3.4km az=60.0*
ISC 08 07:40:14.1±1.2**, 37.°40N**±0.°02×**20.°66E**±0.°03**, h10**km±8km**, n145, σ0.s59**/210**, Ionian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
ZKS	**Zakynthos**	**0.31**	**19**	P	**Pg**	**07 40 19.6**	**-0.7**
ZKS				S	**Sg**	**07 40 24.7**	**+0.3**
ZKS	**Zakynthos**	**0.31**	**19**	*e*PB	**Pg**	**07 40 20.0**	**-0.3**
ZKS				*e*SB	**Sb**	**07 40 26.0**	**-0.9**
ZKS	**Zakynthos**	**0.31**	**19**	*e*Pb	**Pg**	**07 40 20.0**	**-0.3**
ZKS				*e*Sb	**Sb**	**07 40 26.0**	**-0.9**
SFD	**Strofades**	**0.32**	**118**	P	**Pb**	**07 40 21.6**	**-0.4**
SFD				S	**Sb**	**07 40 26.8**	**-0.4**
SFD	**Strofades**	**0.32**	**118**	*e*PB	**Pg**	**07 40 20.5**	**0.0**
SFD				*e*SB	**Sb**	**07 40 26.4**	**-0.8**
SFD	**Strofades**	**0.32**	**118**	P	**Pb**	**07 40 21.6**	**-0.4**
SFD				*e*Sb	**Sb**	**07 40 26.4**	**-0.8**
VTN	**Vitineika**	**0.66**	**39**	P	**Pg**	**07 40 27.0**	**+0.1**
VTN				S	**Sb**	**07 40 36.4**	**-0.6**
VTN	**Vitineika**	**0.66**	**39**	P	**Pg**	**07 40 27.0**	**+0.1**
VTN				S	**Sb**	**07 40 36.4**	**-0.6**
KFL	**Anninata**	**0.71**	**8**	P	**Pg**	**07 40 27.6**	**-0.3**
KFL				S	**Sb**	**07 40 38.1**	**-0.4**
KFL	**Anninata**	**0.71**	**8**	P	**Pg**	**07 40 27.6**	**-0.3**
KFL				S	**Sb**	**07 40 38.1**	**-0.4**
VLS	**Valsamata**	**0.77**	**356**	P	**Pg**	**07 40 28.3**	**-0.8**
VLS				S	**Sg**	**07 40 39.0**	**-0.2**
VLS	**Valsamata**	**0.77**	**356**	*e*PN	**Pg**	**07 40 28.9**	**-0.2**
VLS				*e*SN	**Sb**	**07 40 40.3**	**0.0**
VLS	**Valsamata**	**0.77**	**356**	P	**Pg**	**07 40 28.3**	**-0.8**
VLS	**Valsamata**	**0.77**	**356**	*e*Pn	**Pg**	**07 40 28.9**	**-0.2**
VLS				S	**Sg**	**07 40 39.0**	**-0.2**
VLS				*e*Sn	**Sb**	**07 40 40.3**	**0.0**
AMT	**Artemida-Makis**	**0.84**	**81**	P	**Pg**	**07 40 30.3**	**-0.1**
AMT				S	**Sn**	**07 40 43.6**	**-1.0**
AMT	**Artemida-Makis**	**0.84**	**81**	*e*PN	**Pg**	**07 40 29.5**	**-0.9**
AMT				*e*SN	**Sg**	**07 40 41.9**	**+0.6**
AMT	**Artemida-Makis**	**0.84**	**81**	*e*Pn	**Pg**	**07 40 29.5**	**-0.9**
AMT	**Artemida-Makis**	**0.84**	**81**	P	**Pg**	**07 40 30.3**	**-0.1**
AMT				*e*Sn	**Sg**	**07 40 41.9**	**+0.6**
AMT				S	**Sn**	**07 40 43.6**	**-1.0**
RLS	**Riolos of Patr**	**0.91**	**44**	P	**Pg**	**07 40 31.7**	**0.0**
RLS				S	**Sn**	**07 40 45.4**	**-0.9**
RLS	**Riolos of Patr**	**0.91**	**44**	*e*PN	**Pg**	**07 40 31.1**	**-0.6**
RLS	**Riolos of Patr**	**0.91**	**44**	*e*Pn	**Pg**	**07 40 31.1**	**-0.6**
RLS	**Riolos of Patr**	**0.91**	**44**	P	**Pg**	**07 40 31.7**	**0.0**
RLS				S	**Sn**	**07 40 45.4**	**-0.9**
DRO	**Drossia**	**1.00**	**56**	P	**Pg**	**07 40 33.1**	**-0.2**
DRO				S	**Sn**	**07 40 48.6**	**+0.2**
DRO	**Drossia**	**1.00**	**56**	*e*PN	**Pg**	**07 40 33.0**	**-0.2**
DRO				*e*SN	**Sb**	**07 40 47.0**	**+0.3**
DRO	**Drossia**	**1.00**	**56**	P	**Pg**	**07 40 33.1**	**-0.2**
DRO				*e*Sn	**Sb**	**07 40 47.0**	**+0.3**
DRO				S	**Sn**	**07 40 48.6**	**+0.2**
PYL	**PYLOS**	**1.00**	**120**	P	**Pb**	**07 40 33.7**	**+0.1**
PYL				S	**Sn**	**07 40 49.3**	**+0.8**
PYL	**PYLOS**	**1.00**	**120**	*e*PN	**Pg**	**07 40 32.2**	**-1.2**
PYL				*e*SN	**Sg**	**07 40 46.6**	**+0.2**
PYL	**PYLOS**	**1.00**	**120**	*e*Pn	**Pg**	**07 40 32.2**	**-1.2**
PYL	**PYLOS**	**1.00**	**120**	P	**Pb**	**07 40 33.7**	**+0.1**
PYL				*e*Sn	**Sg**	**07 40 46.6**	**+0.2**
ITM	**Ithomi**	**1.03**	**102**	P	**Pb**	**07 40 34.4**	**+0.3**
ITM				S	**Sn**	**07 40 50.9**	**+1.6**
ITM	**Ithomi**	**1.03**	**102**	*e*PN	**Pg**	**07 40 33.5**	**-0.5**
ITM				*e*SN	**Sb**	**07 40 47.8**	**0.0**
ITM	**Ithomi**	**1.03**	**102**	*e*Pn	**Pg**	**07 40 33.5**	**-0.5**
ITM	**Ithomi**	**1.03**	**102**	P	**Pb**	**07 40 34.4**	**+0.3**
ITM				*e*Sn	**Sb**	**07 40 47.8**	**0.0**
PDO	**Prodromos**	**1.26**	**19**	P	**Pn**	**07 40 37.7**	**-0.2**
PDO				S	**Sn**	**07 40 55.6**	**+0.7**
PDO	**Prodromos**	**1.26**	**19**	*e*PN	**Pn**	**07 40 37.6**	**-0.3**
PDO				*e*SN	**Sn**	**07 40 55.5**	**+0.7**
PDO	**Prodromos**	**1.26**	**19**	P	**Pn**	**07 40 37.7**	**-0.2**
PDO				S	**Sn**	**07 40 55.6**	**+0.7**
KLV	**Kalavryta, Ach**	**1.34**	**61**	P	**Pb**	**07 40 39.7**	**+0.3**
KLV				S	**Sg**	**07 40 58.2**	**+0.9**
KLV	**Kalavryta, Ach**	**1.34**	**61**	*e*PN	**Pb**	**07 40 39.5**	**+0.1**
KLV	**Kalavryta, Ach**	**1.34**	**61**	*e*Pn	**Pb**	**07 40 39.5**	**+0.1**
KLV				S	**Sg**	**07 40 58.2**	**+0.9**
VLX	**Vlachokerasia**	**1.37**	**91**	P	**Pn**	**07 40 39.7**	**+0.3**
VLX				S	**Sg**	**07 40 59.4**	**+1.2**
VLX	**Vlachokerasia**	**1.37**	**91**	*e*PN	**Pn**	**07 40 39.4**	**0.0**
VLX				*e*SN	**Sn**	**07 40 58.0**	**+0.3**
VLX	**Vlachokerasia**	**1.37**	**91**	*e*Pn	**Pn**	**07 40 39.4**	**0.0**
VLX	**Vlachokerasia**	**1.37**	**91**	P	**Pn**	**07 40 39.7**	**+0.3**
VLX				*e*Sn	**Sn**	**07 40 58.0**	**+0.3**
LKD2	**Lefkada island**	**1.38**	**360**	P	**Pn**	**07 40 39.4**	**-0.2**
LKD2				S	**Sg**	**07 40 58.5**	**-0.1**
LKD2	**Lefkada island**	**1.38**	**360**	*e*PN	**Pn**	**07 40 39.4**	**-0.2**
LKD2				*e*SN	**Sb**	**07 40 57.8**	**-0.1**
LKD2	**Lefkada island**	**1.38**	**360**	P	**Pn**	**07 40 39.4**	**-0.2**
LKD2				*e*Sn	**Sb**	**07 40 57.8**	**-0.1**
LKD2				S	**Sg**	**07 40 58.5**	**-0.1**
EFP	**Efpalio**	**1.42**	**44**	P	**Pn**	**07 40 40.2**	**+0.2**
EFP				S	**Sg**	**07 40 59.9**	**+0.2**
EFP	**Efpalio**	**1.42**	**44**	*e*PN	**Pn**	**07 40 40.3**	**+0.2**
EFP				*e*SN	**Sb**	**07 40 59.0**	**+0.2**
EFP	**Efpalio**	**1.42**	**44**	P	**Pn**	**07 40 40.2**	**+0.2**
EFP				*e*Sn	**Sb**	**07 40 59.0**	**+0.2**
GUR	**Goura**	**1.44**	**68**	P	**Pn**	**07 40 40.7**	**+0.4**
GUR				S	**Sg**	**07 41 01.5**	**+1.2**
GUR	**Goura**	**1.44**	**68**	*e*PN	**Pn**	**07 40 39.3**	**-1.0**
GUR	**Goura**	**1.44**	**68**	*e*Pn	**Pn**	**07 40 39.3**	**-1.0**
GUR	**Goura**	**1.44**	**68**	P	**Pn**	**07 40 40.7**	**+0.4**
KALE	**Kalithea**	**1.53**	**49**	P	**Pn**	**07 40 41.5**	**-0.1**
KALE				S	**Sg**	**07 41 03.3**	**0.0**
KALE	**Kalithea**	**1.53**	**49**	*e*PN	**Pn**	**07 40 40.8**	**-0.8**
KALE	**Kalithea**	**1.53**	**49**	*e*Pn	**Pn**	**07 40 40.8**	**-0.8**
KALE	**Kalithea**	**1.53**	**49**	P	**Pn**	**07 40 41.5**	**-0.1**
KALE				S	**Sg**	**07 41 03.3**	**0.0**
DSL	**Palaion Diasel**	**1.76**	**11**	P	**Pn**	**07 40 44.9**	**+0.1**
DSL	**Palaion Diasel**	**1.76**	**11**	*e*PB	**Pn**	**07 40 44.1**	**-0.7**
DSL				*e*SN	**Sn**	**07 41 07.4**	**+0.1**
DSL	**Palaion Diasel**	**1.76**	**11**	*e*Pb	**Pn**	**07 40 44.1**	**-0.7**
DSL	**Palaion Diasel**	**1.76**	**11**	P	**Pn**	**07 40 44.9**	**+0.1**
DSL				*e*Sn	**Sn**	**07 41 07.4**	**+0.1**
EVR	**Evrytania**	**1.76**	**31**	P	**Pn**	**07 40 44.8**	**0.0**
EVR	**Evrytania**	**1.76**	**31**	*e*PB	**Pn**	**07 40 44.2**	**-0.6**
EVR				*e*SN	**Sn**	**07 41 06.9**	**-0.5**
EVR	**Evrytania**	**1.76**	**31**	*e*Pb	**Pn**	**07 40 44.2**	**-0.6**
EVR	**Evrytania**	**1.76**	**31**	P	**Pn**	**07 40 44.8**	**0.0**
EVR				*e*Sn	**Sn**	**07 41 06.9**	**-0.5**
DSF	**Desfina**	**1.79**	**55**	P	**Pn**	**07 40 45.8**	**+0.7**
DSF				S	**Sb**	**07 41 09.2**	**-0.3**
DSF	**Desfina**	**1.79**	**55**	*e*PN	**Pn**	**07 40 44.8**	**-0.3**
DSF				*e*SN	**Sn**	**07 41 08.0**	**+0.1**
DSF	**Desfina**	**1.79**	**55**	*e*Pn	**Pn**	**07 40 44.8**	**-0.3**
DSF	**Desfina**	**1.79**	**55**	P	**Pn**	**07 40 45.8**	**+0.7**
DSF				*e*Sn	**Sn**	**07 41 08.0**	**+0.1**
DSF				S	**Sb**	**07 41 09.2**	**-0.3**
LTK	**Loutraki**	**1.93**	**71**	*e*PN	**Pn**	**07 40 46.9**	**-0.2**
LTK	**Loutraki**	**1.93**	**71**	*e*Pn	**Pn**	**07 40 46.9**	**-0.2**
VLI	**Veliai**	**1.94**	**110**	P	**Pn**	**07 40 48.2**	**+1.0**
VLI				S	**Sb**	**07 41 14.2**	**+0.2**
VLI	**Veliai**	**1.94**	**110**	P	**Pn**	**07 40 48.2**	**+1.0**
MAKR	**Makrakomi, Fth**	**1.98**	**35**	P	**Pn**	**07 40 48.1**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.98**	**35**	*e*PB	**Pn**	**07 40 47.3**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.98**	**35**	*e*Pb	**Pn**	**07 40 47.3**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.98**	**35**	P	**Pn**	**07 40 48.1**	**+0.3**
DID	**Didima**	**2.05**	**86**	*e*PB	**Pn**	**07 40 48.2**	**-0.6**
DID	**Didima**	**2.05**	**86**	*e*Pb	**Pn**	**07 40 48.2**	**-0.6**
AXAR	**Agios Charalam**	**2.08**	**49**	*e*PN	**Pn**	**07 40 49.0**	**-0.2**
AXAR	**Agios Charalam**	**2.08**	**49**	*e*Pn	**Pn**	**07 40 49.0**	**-0.2**
AGG	**Agios Georgios**	**2.08**	**39**	*e*PB	**Pn**	**07 40 49.8**	**+0.6**
AGG				*e*SN	**Sn**	**07 41 14.4**	**-0.8**
AGG	**Agios Georgios**	**2.08**	**39**	*e*Pb	**Pn**	**07 40 49.8**	**+0.6**
IGT	**Igoumenitsa**	**2.14**	**353**	*e*PB	**Pn**	**07 40 51.1**	**+1.1**
IGT				*e*SN	**Sn**	**07 41 16.4**	**-0.2**
IGT	**Igoumenitsa**	**2.14**	**353**	*e*Pb	**Pn**	**07 40 51.1**	**+1.1**
IGT				*e*Sn	**Sn**	**07 41 16.4**	**-0.2**
KYTH	**Kithira**	**2.21**	**120**	P	**Pn**	**07 40 51.8**	**+0.9**
KYTH	**Kithira**	**2.21**	**120**	*e*PN	**Pn**	**07 40 50.5**	**-0.4**
KYTH	**Kithira**	**2.21**	**120**	*e*Pn	**Pn**	**07 40 50.5**	**-0.4**
KYTH	**Kithira**	**2.21**	**120**	P	**Pn**	**07 40 51.8**	**+0.9**
VIL2	**Platees**	**2.22**	**68**	*e*PN	**Pn**	**07 40 50.8**	**-0.2**
LKR	**Lokris**	**2.23**	**55**	*e*PN	**Pn**	**07 40 50.6**	**-0.5**
LKR				*e*SN	**Sn**	**07 41 19.0**	**+0.3**
LKR	**Lokris**	**2.23**	**55**	*e*Pn	**Pn**	**07 40 50.6**	**-0.5**
VILL	**Villia**	**2.23**	**69**	*e*Pn	**Pn**	**07 40 50.8**	**-0.5**
JAN	**Janina**	**2.25**	**4**	*e*PB	**Pn**	**07 40 51.9**	**+0.4**
JAN	**Janina**	**2.25**	**4**	*e*Pb	**Pn**	**07 40 51.9**	**+0.4**
NAIG	**Nisos Aigina**	**2.27**	**80**	*e*PN	**Pn**	**07 40 51.8**	**0.0**
NAIG	**Nisos Aigina**	**2.27**	**80**	*e*Pn	**Pn**	**07 40 51.8**	**0.0**
KEK	**Kerkira**	**2.40**	**344**	P	**Pn**	**07 40 53.7**	**+0.2**
KEK	**Kerkira**	**2.40**	**344**	*e*PN	**Pn**	**07 40 53.8**	**+0.2**
KEK	**Kerkira**	**2.40**	**344**	*e*Pn	**Pn**	**07 40 53.8**	**+0.2**
THL	**Klokotos Trika**	**2.40**	**26**	*e*PN	**Pn**	**07 40 53.8**	**+0.2**
THL	**Klokotos Trika**	**2.40**	**26**	*e*Pn	**Pn**	**07 40 53.8**	**+0.2**
ATH	**Athens Observa**	**2.49**	**76**	*e*PN	**Pn**	**07 40 54.7**	**0.0**
ATH	**Athens Observa**	**2.49**	**76**	*e*Pn	**Pn**	**07 40 54.7**	**0.0**
ANKY	**Antikythira Is**	**2.62**	**125**	P	**Pn**	**07 40 57.6**	**+1.1**
ANKY				S	**Sb**	**07 41 31.4**	**-2.0**
ANKY	**Antikythira Is**	**2.62**	**125**	*e*PN	**Pn**	**07 40 57.1**	**+0.6**
ANKY	**Antikythira Is**	**2.62**	**125**	*e*Pn	**Pn**	**07 40 57.1**	**+0.6**
ANKY	**Antikythira Is**	**2.62**	**125**	P	**Pn**	**07 40 57.6**	**+1.1**
MRKA	**Markates**	**2.65**	**60**	*e*PN	**Pn**	**07 40 57.6**	**+0.6**
MRKA	**Markates**	**2.65**	**60**	*e*Pn	**Pn**	**07 40 57.6**	**+0.6**
NEO	**Neokhori**	**2.77**	**46**	*e*PN	**Pn**	**07 40 58.9**	**+0.3**
NEO	**Neokhori**	**2.77**	**46**	*e*Pn	**Pn**	**07 40 58.9**	**+0.3**
XOR	**Xorichti**	**2.79**	**45**	*e*PN	**Pn**	**07 40 58.8**	**-0.1**
XOR	**Xorichti**	**2.79**	**45**	*e*Pn	**Pn**	**07 40 58.8**	**-0.1**
NEST	**Nestorio**	**3.02**	**6**	*e*PN	**Pn**	**07 41 02.8**	**+0.7**
NEST	**Nestorio**	**3.02**	**6**	*e*Pn	**Pn**	**07 41 02.8**	**+0.7**
KZN	**Kozani**	**3.02**	**16**	*e*PN	**Pn**	**07 41 02.8**	**+0.6**
KZN	**Kozani**	**3.02**	**16**	*e*Pn	**Pn**	**07 41 02.8**	**+0.6**
MHLO	**Agia Marina, M**	**3.08**	**102**	*e*PN	**Pn**	**07 41 02.7**	**-0.1**
MHLO	**Agia Marina, M**	**3.08**	**102**	*e*Pn	**Pn**	**07 41 02.7**	**-0.1**
AOS	**Alonnisos**	**3.08**	**54**	*e*PN	**Pn**	**07 41 02.6**	**-0.3**
AOS	**Alonnisos**	**3.08**	**54**	*e*Pn	**Pn**	**07 41 02.6**	**-0.3**
FNA	**Florina**	**3.42**	**9**	*e*PN	**Pn**	**07 41 08.2**	**+0.6**
FNA	**Florina**	**3.42**	**9**	*e*Pn	**Pn**	**07 41 08.2**	**+0.6**
PAIG	**Paliouri**	**3.45**	**42**	*e*PN	**Pn**	**07 41 08.4**	**+0.4**
PAIG	**Paliouri**	**3.45**	**42**	*e*Pn	**Pn**	**07 41 08.4**	**+0.4**
VAM	**Vamos**	**3.48**	**124**	*e*PN	**Pn**	**07 41 08.7**	**+0.3**
VAM	**Vamos**	**3.48**	**124**	*e*Pn	**Pn**	**07 41 08.7**	**+0.3**
PLG	**Polygyros**	**3.67**	**35**	*e*PN	**Pn**	**07 41 11.7**	**+0.6**
PLG	**Polygyros**	**3.67**	**35**	*e*Pn	**Pn**	**07 41 11.7**	**+0.6**
THE	**Thessaloniki**	**3.69**	**28**	*e*PN	**Pn**	**07 41 12.3**	**+1.1**
THE				*e*SN	**Sn**	**07 41 54.7**	**0.0**
THE	**Thessaloniki**	**3.69**	**28**	*e*Pn	**Pn**	**07 41 12.3**	**+1.1**
THE				*e*Sn	**Sn**	**07 41 54.7**	**0.0**
GRG	**Griva**	**3.80**	**20**	*e*PN	**Pn**	**07 41 13.7**	**+1.0**
GRG	**Griva**	**3.80**	**20**	*e*Pn	**Pn**	**07 41 13.7**	**+1.0**
APE	**Apeiranthos**	**3.90**	**93**	*e*PN	**Pn**	**07 41 14.1**	**-0.1**
APE	**Apeiranthos**	**3.90**	**93**	*e*Pn	**Pn**	**07 41 14.1**	**-0.1**
OUR	**Ouranopolis**	**3.91**	**41**	*e*PN	**Pn**	**07 41 15.3**	**+1.1**
OUR				*e*SN	**Sn**	**07 41 59.3**	**-0.9**
OUR	**Ouranopolis**	**3.91**	**41**	*e*Pn	**Pn**	**07 41 15.3**	**+1.1**
OUR				*e*Sn	**Sn**	**07 41 59.3**	**-0.9**
SOH	**Sokhos**	**4.00**	**31**	*e*PN	**Pn**	**07 41 16.2**	**+0.6**
SOH	**Sokhos**	**4.00**	**31**	*e*Pn	**Pn**	**07 41 16.2**	**+0.6**
BARS	**Barje**	**5.48**	**9**	*e*Pn	**Pn**	**07 41 35.0**	**-0.8**
STON	**Ston**	**5.91**	**338**	*e*Pn	Pn	07 41 36.5	-5.2
STON				Sn	Sn	07 42 41.1	-8.4
IVAS	**Ivanjica**	**6.18**	**357**	*e*Pn	**Pn**	**07 41 47.0**	**+1.5**
BBLS	**Lazići**	**6.53**	**352**	*e*Pn	**Pn**	**07 41 51.7**	**+1.4**
DIVS	**Divibare**	**6.71**	**356**	*e*Pn	**Pn**	**07 41 53.5**	**+0.7**

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*NEIC **08** 07:49:31.5, 15.°24N×96.°75W, h22km, mb4.7/98, MD4.5(MEX), After MEX.*
NEIC Felt [II] at Puerto Escondido. Also felt at Oaxaca.
*MEX **08** 07:49:31.5±0.4, 15.°24N×96.°75W, h22km±12km, MD4.5*
*IDC **08** 07:49:32.3±0.7, 15.°70N×96.°48W, h0km, mb4.2/16, mb1 4.5/19, mb1mx4.4/27, mbtmp4.2/19, ML3.7/3, MS3.9/20, Ms1 3.9/20, ms1mx3.8/30, Error ellipse: s-maj=19.6km s-min=13.6km az=58.0*
*ISCJB **08** 07:49:34.9±1.1, 15.°89N±0.°04×96.°50W±0.°03, h20km±7km, mb4.6/97, MS3.9/18, Error ellipse: s-maj=7.0km s-min=4.5km az=24.0*
ISC 08 07:49:35.4±1.4**, 15.°68N**±0.°06×**96.°64W**±0.°05**, h24**km±8km**, n572, σ0.s99**/573**, mb4.6**/98**, MS3.9**/18**, 197C-206D, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
HUIG	**Huatulco**	**0.52**	**81**	*i* P	**Pb**	**07 49 44.6**	**-1.3**
HUIG				*e*S	**Sn**	**07 49 54.4**	**-1.0**
HUIG	**Huatulco**	**0.52**	**81**	*i* P	**Pb**	**07 49 44.6**	**-1.3**
HUIG				*e*S	**Sn**	**07 49 54.4**	**-1.0**
VHO	**Vista Hermosa**	**1.38**	**356**	*i* P	**Pn**	**07 49 59.3**	**-0.2**
VHO				*e*S	**Sb**	**07 50 20.6**	**+2.5**
VHO	**Vista Hermosa**	**1.38**	**356**	*i* P	**Pn**	**07 49 59.3**	**-0.2**
VHO				*e*S	**Sb**	**07 50 20.6**	**+2.5**
PNIG	**Pinotepa**	**1.60**	**296**	*e*P	Pn	07 49 57.2	-5.0
PNIG				*i* S	**Sn**	**07 50 18.8**	**-3.3**
PNIG	**Pinotepa**	**1.60**	**296**	*e*P	Pn	07 49 57.2	-5.0
PNIG				*i* S	**Sn**	**07 50 18.8**	**-3.3**
CMIG	**Matias Romero**	**2.19**	**50**	*i* P	**Pn**	**07 50 09.2**	**-1.1**
CMIG				*i* S	**Sn**	**07 50 38.6**	**+1.9**
CMIG	**Matias Romero**	**2.19**	**50**	Pn	**Pn**	**07 50 09.0**	**-1.3**
	16nm,0.3s,baz=219,slow=11,SNR=232						
CMIG				Sn	**Sn**	**07 50 34.4**	**-2.3**
	126nm,0.3s,baz=229,slow=16,SNR=8.8						
CMIG				Lg	Lg	07 50 47.4	
	189nm,0.3s,baz=213,slow=23,SNR=6.1						
TLIG	**Tlapa**	**2.63**	**316**	*i* P	**Pn**	**07 50 14.6**	**-1.9**
TLIG				*i* S	**Sn**	**07 50 47.6**	**-0.1**
TPIG	**Tehuac#an**	**2.81**	**346**	*e*P	**Pn**	**07 50 19.4**	**+0.4**
TPIG				*i* S	**Sb**	**07 50 55.9**	**-3.1**
TPIG	**Tehuac#an**	**2.81**	**346**	*e*P	**Pn**	**07 50 19.4**	**+0.4**
TPIG				*i* S	**Sb**	**07 50 55.9**	**-3.1**
TUIG	**Tuzandepetl**	**3.16**	**42**	*i* P	**Pn**	**07 50 23.2**	**-0.5**
TUIG				*i* S	**Sn**	**07 51 03.7**	**+3.1**
TUIG	**Tuzandepetl**	**3.16**	**42**	*i* P	**Pn**	**07 50 23.2**	**-0.5**
TUIG				*i* S	**Sn**	**07 51 03.7**	**+3.1**
TEIG	**Tepich**	**9.15**	**59**	Pn	**Pn**	**07 51 42.9**	**-3.0**
	5.1nm,0.3s,baz=235,slow=2.0,SNR=40						
TEIG				Sn	**Sn**	**07 53 27.3**	**-1.0**
	4.0nm,0.3s,baz=6.9,slow=19,SNR=3.8						
TEIG				LR	LR	07 55 22.6	
	comp=Z,350nm,20.9s,baz=245,slow=39						
TEIG	**Tepich**	**9.15**	**59**	*e*Pn	Pn	07 51 42.7	-3.3
TEIG				*e*Sn	**Sn**	**07 53 30.9**	**+2.7**
933A	**Laredo**	**12.12**	**349**	⇓P	**Pn**	**07 52 25.7**	**-1.0**
	baz=13						
834A	**Tilden**	**12.51**	**352**	⇓P	**Pn**	**07 52 30.4**	**-1.5**
	baz=13						
JTS	**JuntasAbangare**	**12.58**	**114**	Pn	**Pn**	**07 52 35.4**	**+2.3**
	0.5nm,0.3s,baz=285,slow=12,SNR=4.1						
JTS				Lg	Lg	07 56 14.6	
	1.0nm,0.3s,baz=213,slow=16,SNR=3.6						
835A	**Beeville**	**12.59**	**355**	⇓P	**Pn**	**07 52 32.0**	**-1.1**
	baz=13						
833A	**Chaparral WMA,**	**12.84**	**349**	⇑P	**Pn**	**07 52 36.3**	**-0.1**
	baz=13						
832A	**Faith Ranch, C**	**12.91**	**347**	⇓P	**Pn**	**07 52 37.5**	**-0.1**
	baz=13						
734A	**La Parita Cree**	**13.22**	**353**	⇑P	**Pn**	**07 52 41.6**	**-0.1**
	baz=14						
732A	**Laxson Ranch,**	**13.34**	**347**	⇑P	**Pn**	**07 52 43.1**	**-0.3**
	baz=14,SNR=5.6						
635A	**Leesville**	**13.68**	**356**	⇑P	**Pn**	**07 52 47.2**	**-0.7**
	baz=14						
633A	**Saathoff Ranch**	**13.91**	**351**	⇓P	**Pn**	**07 52 50.7**	**-0.5**
	baz=14						
632A	**Uvalde**	**14.06**	**349**	⇓P	**Pn**	**07 52 52.7**	**-0.5**
	baz=14						
631A	**Perdido Creek**	**14.14**	**346**	⇓P	**Pn**	**07 52 53.7**	**-0.6**
	baz=15						
537A	**Green Hill Far**	**14.33**	**1**	⇑P	**Pn**	**07 52 55.9**	**-1.0**
	baz=15						
534A	**Blanco**	**14.38**	**354**	⇑P	**Pn**	**07 52 56.6**	**-0.9**
	baz=15						
533A	**Kerrville**	**14.49**	**352**	⇓P	**Pn**	**07 52 58.2**	**-0.9**
	baz=15						
532A	**Rocksprings**	**14.69**	**349**	⇑P	**Pn**	**07 53 01.8**	**0.0**
	baz=15						
531A	**Rocksprings**	**14.85**	**347**	⇑P	**Pn**	**07 53 03.6**	**-0.4**
	baz=15,SNR=26						
JCT	**Junction City**	**15.01**	**349**	⇑P	**Pn**	**07 53 05.9**	**-0.2**
	baz=16,SNR=12						
JCT	**Junction City**	**15.01**	**349**	*e*Pn	**Pn**	**07 53 06.7**	**+0.5**
436A	**Wall Ranch, Ga**	**15.02**	**359**	⇑P	**Pn**	**07 53 05.2**	**-1.0**
	baz=16						
530A	**J-C Ranch, Com**	**15.03**	**344**	⇑P	**Pn**	**07 53 06.4**	**0.0**
	baz=16						
438A	**Sam Houston St**	**15.04**	**4**	⇓P	**Pn**	**07 53 05.0**	**-1.4**
	baz=16						
TXAR	**Lajitas Array**	**15.05**	**336**	Pn	**Pn**	**07 53 07.9**	**+1.2**
	0.0nm,0.3s,baz=155,slow=11,SNR=14						
TXAR				Lg	Lg	07 57 43.8	
	0.0nm,0.3s,baz=152,slow=30,SNR=4.0						
435B	**Jarrell**	**15.05**	**357**	⇓P	**Pn**	**07 53 06.0**	**-0.6**
	baz=16						
434A	**Burnet**	**15.13**	**355**	⇓P	**Pn**	**07 53 06.9**	**-0.8**
	baz=16						
439A	**Center Grove,**	**15.14**	**6**	⇓P	**Pn**	**07 53 06.8**	**-0.9**
	baz=16						
433A	**Art**	**15.17**	**352**	⇓P	**Pn**	**07 53 07.5**	**-0.7**
	baz=16						
440A	**Kirbyville**	**15.19**	**9**	⇓P	**Pn**	**07 53 06.9**	**-1.5**
	baz=16						
529A	**Stev Forest Ra**	**15.26**	**341**	⇓P	**Pn**	**07 53 08.2**	**-1.2**
	baz=16,SNR=6.1						
LPIG	**La Paz**	**15.33**	**305**	LR	LR	07 57 57.2	
	comp=Z,519nm,21.0s,baz=19,slow=33						
431A	**Sonora**	**15.37**	**347**	⇓P	**Pn**	**07 53 10.4**	**-0.4**
	baz=16,SNR=5.7						
432A	**Menard**	**15.40**	**350**	⇓P	**Pn**	**07 53 11.1**	**-0.1**
	baz=16						
335A	**Moody**	**15.54**	**357**	⇑P	**Pn**	**07 53 12.2**	**-0.9**
	baz=16						
337A	**Centerville**	**15.58**	**2**	⇑P	**Pn**	**07 53 12.6**	**-0.9**
	baz=16						
430A	**Baggett Ranch,**	**15.61**	**345**	⇑P	**Pn**	**07 53 14.0**	**-0.1**
	baz=16,SNR=10						
336A	**Riesel**	**15.63**	**359**	⇓P	**Pn**	**07 53 13.3**	**-1.0**
	baz=16						
429A	**Davenport Ranc**	**15.63**	**343**	⇑P	**Pn**	**07 53 14.7**	**+0.4**
	baz=16,SNR=14						
334A	**Lometa**	**15.65**	**355**	⇑P	**Pn**	**07 53 13.4**	**-1.1**
	baz=16						
338A	**Crockett**	**15.65**	**4**	⇑P	**Pn**	**07 53 13.4**	**-1.1**
	baz=16						
339A	**Huntington**	**15.69**	**7**	⇑P	**Pn**	**07 53 13.9**	**-1.2**
	baz=16						
333A	**Richland Sprin**	**15.72**	**353**	⇑P	**Pn**	**07 53 14.7**	**-0.6**
	baz=16						
340A	**Bronson**	**15.86**	**9**	⇑P	**Pn**	**07 53 15.4**	**-1.7**
	baz=16						
332A	**Millersview**	**15.88**	**350**	⇑P	**Pn**	**07 53 16.8**	**-0.7**
	baz=16,SNR=12						
331A	**San Angelo**	**15.94**	**348**	⇑P	**Pn**	**07 53 17.9**	**-0.3**
	baz=16,SNR=14						
NATX	**Nacogdoches**	**16.11**	**6**	⇑P	**Pn**	**07 53 18.3**	**-2.0**
	baz=17						
NATX	**Nacogdoches**	**16.11**	**6**	*e*P	**P**	**07 53 24.1**	**+0.7**
	24nm,1.1s						
330A	**Mertzon**	**16.19**	**346**	⇓P	**Pn**	**07 53 21.3**	**-0.2**
	baz=17,SNR=22						
236A	**Katherine and**	**16.24**	**0**	⇓P	**Pn**	**07 53 20.7**	**-1.3**
	baz=17						
WHTX	**Lake Whitney,**	**16.25**	**358**	⇓P	**Pn**	**07 53 20.7**	**-1.5**
	baz=17						
WHTX	**Lake Whitney,**	**16.25**	**358**	*e*P	**Pn**	**07 53 21.2**	**-0.9**
	10.0nm,0.8s						
237A	**Washetta, Mont**	**16.26**	**3**	⇑P	**Pn**	**07 53 21.0**	**-1.3**
	baz=17						
234A	**Clairette**	**16.30**	**355**	⇓P	**Pn**	**07 53 21.9**	**-0.9**
	baz=17,SNR=20						
238A	**Jacksonville**	**16.30**	**5**	⇓P	**Pn**	**07 53 21.0**	**-1.8**
	baz=17						
232A	**Coleman**	**16.36**	**351**	⇓P	**Pn**	**07 53 22.8**	**-0.8**
	baz=17,SNR=16						
239A	**Gary**	**16.38**	**7**	⇓P	**Pn**	**07 53 22.7**	**-1.1**
	baz=17						
233A	**Rising Star**	**16.39**	**353**	⇑P	**Pn**	**07 53 23.4**	**-0.6**
	baz=17,SNR=20						
329A	**Wagon Wheel Ra**	**16.47**	**344**	⇑P	**Pn**	**07 53 24.9**	**-0.2**
	baz=17,SNR=5.9						
231A	**Bronte**	**16.52**	**349**	⇓P	**Pn**	**07 53 24.9**	**-0.8**
	baz=17,SNR=8.7						
230A	**Sterling City**	**16.64**	**347**	⇓P	**Pn**	**07 53 26.7**	**-0.5**
	baz=17						
135A	**Vickery Place,**	**16.81**	**358**	⇑P	**Pn**	**07 53 28.6**	**-0.8**
	baz=17						
137A	**Heron Place, G**	**16.86**	**3**	⇓P	**Pn**	**07 53 29.3**	**-0.6**
	baz=17						
134A	**White-Moore Ra**	**16.87**	**356**	⇑P	**Pn**	**07 53 29.0**	**-0.9**
	baz=17						

229A Bryant Ranch, 16.88 345 ⇓P Pn 07 53 29.8 -0.4
baz=17
138A Matatall Enter 16.96 4 ⇑P Pn 07 53 29.7 -1.5
baz=18
133A Hamilton Ranch 16.98 353 ⇓P Pn 07 53 30.6 -0.8
baz=18,SNR=14
139A Bunkhouse Ranc 17.04 6 ⇑P Pn 07 53 30.4 -1.7
baz=18
ABTX Abilene, Hawle 17.09 351 ⇑P Pn 07 53 31.4 -1.4
baz=18,SNR=8.4
ABTX Abilene, Hawle 17.09 351 eP Pn 07 53 32.6 -0.1
228A UT Block 9, Go 17.23 343 ⇓P Pn 07 53 33.9 -0.7
baz=18,SNR=10
131A Roby 17.25 349 ⇓P Pn 07 53 33.6 -1.3
baz=18
130A Snyder 17.29 348 ⇑P Pn 07 53 34.3 -1.0
baz=18
Z37A Pogue Cattle C 17.46 3 ⇑P Pn 07 53 36.2 -1.2
baz=18
129A Stewart Farms, 17.53 345 ⇑P Pn 07 53 37.6 -0.7
baz=18,SNR=22
Z38A Mt. Pleasant 17.55 5 ⇑P Pn 07 53 36.9 -1.6
baz=18
Z35A Perchaven, San 17.58 358 ⇓P Pn 07 53 37.6 -1.3
baz=18
Z39A Irene McRaven, 17.62 7 ⇑P Pn 07 53 37.4 -2.0
baz=18
Z33A Whitaker Ranch 17.63 354 ⇓P Pn 07 53 38.6 -0.9
baz=18
Z34A Collier Ranch, 17.65 356 ⇓P Pn 07 53 38.4 -1.3
baz=18
128A Castleberry Fa 17.68 344 ⇓P Pn 07 53 39.6 -0.6
baz=18,SNR=27
Z32A Haskell 17.73 352 ⇑P Pn 07 53 39.8 -0.9
baz=18,SNR=13
Z31A Sharp Cattle R 17.84 350 ⇓P Pn 07 53 41.4 -0.8
baz=18,SNR=11
GDL2 Guadalupe Moun 17.88 338 eP P 07 53 43.9 +0.7
31nm,0.7s
Z30A Sanderson Ranc 17.99 348 ⇓P Pn 07 53 42.8 -1.2
baz=18
Z29A Hungry Hill Ra 18.09 346 ⇑P Pn 07 53 44.4 -0.9
baz=19,SNR=21
Y34A Reagan Ranch, 18.22 357 ⇑P Pn 07 53 45.3 -1.5
baz=19,SNR=9.5
Z28A Tucker Farm, M 18.28 344 ⇓P Pn 07 53 47.2 -0.5
baz=19,SNR=22
Y33A Hilltop Ranch, 18.33 355 ⇑P P 07 53 47.0 -1.1
baz=19
Y32A R-V Farms, Ver 18.42 353 ⇑P P 07 53 48.0 -1.0
baz=19
CPRX Cap Rock 18.47 341 eP Pn 07 53 50.5 +0.5
32nm,0.8s
Y31A Rekieta Farm, 18.49 350 ⇑P P 07 53 48.8 -1.0
baz=19,SNR=14
Y30A Stafford Cattl 18.52 349 ⇓P P 07 53 49.4 -0.8
baz=19
X35A Drake 18.64 359 ⇓P P 07 53 50.7 -0.8
baz=19,SNR=18
Y29A Porterfield Fa 18.66 347 ⇓P P 07 53 51.0 -0.8
baz=19,SNR=8.3
X36A Centrahoma 18.81 1 ⇓P P 07 53 52.3 -1.0
baz=19
X32A Elmer 18.81 353 ⇓P P 07 53 52.8 -0.6
baz=19,SNR=11
Y28A McKinney Farm, 18.84 345 ⇑P P 07 53 53.8 0.0
baz=19,SNR=20
X33A Lawton 18.85 355 ⇓P P 07 53 52.9 -0.9
baz=19,SNR=28
X37A Clayton 18.86 3 ⇑P P 07 53 53.6 -0.3
baz=19
X34A Smith Ranch, M 18.87 357 ⇑P P 07 53 53.9 -0.1
baz=19,SNR=13
MIAR Mount Ida 18.98 8 eP Pn 07 53 55.6 -0.4
60nm,0.9s
MSTX Muleshoe 19.03 344 ⇑P P 07 53 56.0 +0.1
baz=20,SNR=20
MSTX Muleshoe 19.03 344 eP P 07 53 55.9 +0.1
63nm,0.9s
X30A Coker Ranch, T 19.07 349 ⇑P P 07 53 55.9 -0.3
baz=20,SNR=19
WMOK Wichita Mounta 19.07 355 eP P 07 53 56.1 -0.1
19nm,1.0s
X31A McDonald Ranch 19.11 352 ⇑P P 07 53 56.2 -0.4
baz=20
X29A Tulia 19.23 347 ⇓P P 07 53 58.1 +0.1
baz=20,SNR=13
W36A Wetumka 19.38 1 ⇓P P 07 53 59.2 -0.3
baz=20,SNR=9.8
W35A Tecumseh 19.39 359 ⇓P P 07 53 59.5 -0.1
baz=20,SNR=22
UALR University of 19.40 11 eP P 07 53 59.6 -0.1
41nm,0.9s
W38A Poteau 19.40 5 ⇓P P 07 53 59.7 -0.1
baz=20,SNR=8.0
W37A Quinton 19.40 3 ⇑P P 07 53 59.8 0.0
baz=20,SNR=6.8
X28A Dimmitt 19.41 346 ⇑P Pn 07 54 00.8 -0.5
baz=20,SNR=12
W33A Caddo, Fort Co 19.46 355 ⇑P P 07 54 00.9 +0.5
baz=20,SNR=8.7
W34A Bridge Creek, 19.50 357 ⇑P P 07 54 00.8 -0.1
baz=20
W34A Bridge Creek, 19.50 357 eP P 07 54 01.3 +0.4
30nm,1.0s
W32A Sentinel 19.50 354 ⇓P P 07 54 01.4 +0.5
baz=20,SNR=14
121A Cookes Peak, D 19.59 331 ⇑P Pn 07 54 03.2 -0.4
baz=20,SNR=17
121A Cookes Peak, D 19.59 331 eP Pn 07 54 03.8 +0.2
18nm,1.0s
W31A Holland Ranch, 19.65 352 ⇑P P 07 54 02.7 +0.2
baz=20,SNR=15
AMTX Amarillo 19.65 348 ⇓P P 07 54 02.8 +0.2
baz=20
AMTX Amarillo 19.65 348 eP Pn 07 54 03.4 -0.7
29nm,1.0s
TIGA Tifton 19.69 35 ⇓P P 07 54 01.0 -2.0
baz=20
W30A Crocket Farms 19.74 350 ⇑P P 07 54 04.0 +0.4
baz=20,SNR=5.4
OXF Oxford 19.84 18 eP P 07 54 04.3 -0.3
27nm,0.9s
W29A Amarillo 19.87 348 ⇑P P 07 54 04.9 -0.2
baz=20,SNR=13
V35A Meyer Ranch, C 20.00 360 ⇑P P 07 54 05.9 -0.4
baz=20,SNR=7.8
V32A Arapaho 20.07 354 ⇑P P 07 54 07.1 0.0
baz=21
V34A Guthrie 20.08 358 ⇑P P 07 54 07.1 -0.2
baz=21,SNR=12
V34A Guthrie 20.08 358 eP P 07 54 07.7 +0.5
43nm,1.1s
V33A Lossen Ranch, 20.11 356 ⇑P P 07 54 07.8 +0.2
baz=21,SNR=15
W28A Vega 20.12 347 ⇑P P 07 54 08.5 +0.7
baz=21
TUL1 Leonard 20.16 2 ⇑P P 07 54 07.8 -0.2
baz=21,SNR=11
TUL1 Leonard 20.16 2 eP P 07 54 08.4 +0.3
31nm,0.9s
V31A Spring Creek L 20.21 352 ⇑P P 07 54 09.4 +0.7
baz=21,SNR=8.3
V30A Spur Ranch, Mi 20.32 350 ⇓P P 07 54 10.8 +0.9
baz=21
HBAR Harrisburg 20.50 14 eP P 07 54 12.6 +0.8
Y22D IRIS PASSCAL I 20.52 335 ⇓P Pn 07 54 13.5 -1.0
baz=21
V29A Stinnett 20.57 349 ⇓P P 07 54 13.1 +0.5
baz=21
V28A Channing 20.60 347 ⇓P P 07 54 13.7 +0.7
baz=21,SNR=20
LPM Los Pinos Moun 20.62 336 eP Pn 07 54 15.1 -0.6
20nm,1.1s
LENM Lemitar 20.63 335 eP Pn 07 54 15.6 -0.2
U34A Anderson Ranch 20.68 358 ⇓P P 07 54 14.2 +0.4
baz=21,SNR=11
U34A Anderson Ranch 20.68 358 eP Pn 07 54 15.9 -0.3
50nm,1.0s
U33A Lingo Farm, Me 20.71 357 ⇓P P 07 54 14.4 +0.4
baz=21,SNR=36
U32A Winter Ranch, 20.72 355 ⇓P P 07 54 14.3 +0.1
baz=21
V27A Dan Oppiter Fa 20.75 346 ⇑P P 07 54 15.0 +0.5
baz=21
U31A Nine Bar Ranch 20.80 353 ⇓P P 07 54 15.4 +0.3
baz=21
LAZ Ladron 20.90 335 eP Pn 07 54 18.1 -0.8

GTBY Guantanamo Bay 20.92 75 eP P 07 54 15.9 -0.5
47nm,0.9s
TUC Tucson 20.96 325 eP Pn 07 54 18.8 -0.8
218nm,2.8s
U30A WK&E Inc. Balk 21.07 351 ⇑P P 07 54 18.2 +0.2
baz=22
U29A Oasis Ranch, S 21.09 350 ⇓P P 07 54 18.5 +0.2
baz=22
ANMO Albuquerque 21.11 337 P P 07 54 20.1 +1.5
13nm,0.9s,baz=154,slow=12,SNR=27
ANMO LR LR 08 01 48.1
comp=Z,129nm,18.9s,baz=162,slow=35
ANMO Albuquerque 21.11 337 eP P 07 54 19.8 +1.2
18nm,1.0s
T35A Sooner Cattle 21.15 0 ⇑P P 07 54 18.5 -0.2
baz=22,SNR=19
HALT Halls 21.17 17 eP P 07 54 18.9 -0.1
U28A Mallet 21.20 347 ⇑P P 07 54 19.4 -0.1
baz=22,SNR=14
T34A McClaskey Farm 21.26 359 ⇑P P 07 54 19.0 -0.9
baz=22
T36A Boggs Farm, Ca 21.30 2 ⇓P P 07 54 20.3 -0.1
baz=22,SNR=27
T33A Patterson Ranc 21.36 356 ⇑P P 07 54 20.7 -0.4
baz=22,SNR=5.9
U27A Thompson Grove 21.38 346 ⇓P P 07 54 21.0 -0.4
baz=22,SNR=29
T37A Cheneyville 18 21.41 4 ⇓P P 07 54 20.6 -1.0
baz=22,SNR=22
T31A Randall Ranch, 21.50 353 ⇑P P 07 54 22.0 -0.5
baz=22
T32A Huddler Ranch, 21.51 355 ⇑P P 07 54 22.5 -0.1
baz=22
T30A Plains 21.56 352 ⇓P P 07 54 23.1 -0.2
baz=22
SWET Sewanee 21.69 24 eP P 07 54 23.0 -1.7
10nm,0.9s
PBMO Poplar Bluff 21.72 14 eP P 07 54 24.8 -0.1
52nm,0.9s
PARMO Parma 21.77 15 eP P 07 54 25.5 0.0
T29A Hugoton 21.78 350 ⇓P P 07 54 25.5 -0.1
baz=22,SNR=5.4
S33A Kaszmaul Farm, 21.86 357 ⇓P P 07 54 25.5 -0.9
baz=22
214A Organ Pipe Nat 21.89 321 ⇑P P 07 54 26.8 -0.1
baz=22,SNR=6.8
214A Organ Pipe Nat 21.89 321 eP P 07 54 28.5 +1.7
43nm,1.6s
T28A Walsh 21.90 348 ⇑P P 07 54 25.9 -1.0
baz=22,SNR=15
S35A Otter Creek Ra 21.91 1 ⇑P P 07 54 26.1 -0.9
baz=22,SNR=17
S34A Willow Spring 21.93 359 ⇓P P 07 54 26.6 -0.6
baz=22
T27A Campo 21.97 347 ⇑P P 07 54 26.9 -0.8
baz=22,SNR=29
S36A Lake Cedric, C 21.97 2 ⇑P P 07 54 26.9 -0.7
baz=22,SNR=14
S31A Mullinville 21.99 354 ⇑P P 07 54 27.3 -0.6
baz=22,SNR=9.2
S32A Newby Ranch, P 22.02 355 ⇑P P 07 54 27.7 -0.5
baz=22,SNR=5.9
S30A Montezuma 22.13 352 ⇑P P 07 54 28.8 -0.6
baz=23
S29A Ulysses 22.21 351 ⇓P P 07 54 29.8 -0.4
baz=23
T26A Comanche Natio 22.28 345 ⇓P P 07 54 31.0 -0.1
baz=23,SNR=14
S28A Manter 22.31 349 ⇓P P 07 54 31.3 -0.1
baz=23,SNR=6.8
T25A Trinidad 22.46 344 ⇑P P 07 54 34.1 +1.1
baz=23,SNR=34
CPCT Cooper Cave 22.48 27 eP P 07 54 33.6 +0.6
R34A Isabella, Hill 22.54 359 ⇑P P 07 54 32.8 -0.9
baz=23,SNR=14
R35A Emporia Munici 22.55 1 ⇓P P 07 54 32.8 -1.0
baz=23
R33A Olander Ranch, 22.57 357 ⇑P P 07 54 33.7 -0.3
baz=23,SNR=14
R36A Gordon, Harris 22.57 2 ⇑P P 07 54 33.1 -1.0
baz=23,SNR=10
R37A Teagarden Farm 22.60 4 ⇓P P 07 54 33.8 -0.5
baz=23
S27A Las Animas 22.60 347 ⇑P P 07 54 33.9 -0.6
baz=23
W18A Petrified Fore 22.64 331 ⇑P P 07 54 35.8 +0.9
baz=23
R31A Burdett 22.66 354 ⇑P P 07 54 34.4 -0.6
baz=23,SNR=17
R32A Long Quarter, 22.73 356 ⇑P P 07 54 34.9 -0.8
baz=23,SNR=10.0
R30A Ighton 22.74 353 ⇓P P 07 54 35.2 -0.7
baz=23,SNR=8.6
SIUC Southern Illin 22.91 15 eP P 07 54 37.6 0.0
52nm,0.9s
TKL Tuckaleechee C 22.98 28 P P 07 54 37.3 -1.0
17nm,1.1s,baz=183,slow=9.0,SNR=10
TKL Tuckaleechee C 22.98 28 eP P 07 54 38.0 -0.3
R29A Marienthal 23.00 351 ⇑P P 07 54 38.3 -0.3
baz=24
R28A Tribune 23.03 350 ⇑P P 07 54 38.2 -0.7
baz=24,SNR=8.5
Q35A Mercer Eighty, 23.09 1 ⇑P P 07 54 38.5 -1.0
baz=24,SNR=6.7
Q34A Chapman 23.15 359 ⇑P P 07 54 39.9 -0.1
baz=24,SNR=5.7
R27A Eads 23.16 348 ⇓P P 07 54 39.8 -0.5
baz=24,SNR=23
Q37A Longview Farm, 23.18 4 ⇑P P 07 54 39.6 -0.8
baz=24,SNR=9.6
Q36A Arnold C. Orve 23.21 2 ⇑P P 07 54 40.3 -0.3
baz=24
Q33A Connelly Farm, 23.25 358 ⇑P P 07 54 40.9 -0.2
baz=24
Q32A Meitler Ranch, 23.28 356 ⇓P P 07 54 41.2 -0.1
baz=24,SNR=8.4
R26A Arlington 23.32 346 ⇓P P 07 54 42.5 +0.6
baz=24,SNR=16
KSU1 Kansas State U 23.33 0 ⇓P P 07 54 41.3 -0.6
baz=24
KSU1 Kansas State U 23.33 0 eP P 07 54 43.1 +1.2
42nm,1.0s
SDCO Great Sand Dun 23.33 342 ⇑P P 07 54 42.7 +0.5
baz=24,SNR=41
SDCO Great Sand Dun 23.33 342 eP P 07 54 43.0 +0.8
22nm,1.0s
Q31A Ellis 23.36 355 ⇑P P 07 54 42.3 +0.1
baz=24,SNR=10
Q30A Quinter 23.42 353 ⇓P P 07 54 42.4 -0.4
baz=24
Q29A Oakley 23.43 351 ⇓P P 07 54 42.9 0.0
baz=24,SNR=5.2
S23A Nye Farm, Mont 23.45 341 ⇑P P 07 54 44.2 +0.9
baz=24
USIN University of 23.57 18 eP P 07 54 44.4 +0.3
63nm,1.0s
P33A Williams Farm, 23.68 358 ⇓P P 07 54 45.2 -0.1
baz=24
Q28A Sharon Springs 23.73 350 ⇑P P 07 54 45.5 -0.4
baz=24,SNR=6.8
KMSC Kings Mountain 23.74 32 ⇓P P 07 54 44.2 -1.7
baz=24
KMSC Kings Mountain 23.74 32 eP P 07 54 44.8 -1.1
28nm,1.3s
WUAZ Wupatki 23.75 329 ⇓P P 07 54 46.4 +0.3
baz=24,SNR=33
WUAZ Wupatki 23.75 329 eP P 07 54 48.0 +1.9
44nm,1.0s
S22A 4UR Ranch, Cre 23.75 340 ⇓P P 07 54 46.7 +0.4
baz=24,SNR=14
P35A Duane Minner, 23.76 1 ⇓P P 07 54 45.5 -0.6
baz=24
P34A Walnut Farm, R 23.77 360 ⇓P P 07 54 45.2 -0.9
baz=24,SNR=11
KSCO Kaye Shedlock' 23.83 348 ⇓P P 07 54 46.7 -0.1
baz=24
KSCO Kaye Shedlock' 23.83 348 eP P 07 54 48.0 +1.2
24nm,1.0s
R23A Moffat 23.84 342 ⇑P P 07 54 47.2 +0.1
baz=24,SNR=20
P31A Stockton 23.87 355 ⇓P P 07 54 47.1 0.0
baz=24,SNR=14
P36A Good Intent, A 23.88 3 ⇑P P 07 54 46.9 -0.3
baz=24
GLA Glamis 23.88 320 ⇑P P 07 54 48.2 +0.9
baz=24
MVCO Mesa Verde 23.88 336 ⇑P P 07 54 47.9 +0.4
baz=24,SNR=17

MVCO Mesa Verde 23.88 336 eP P 07 54 48.5 +1.1
251nm,2.3s
P32A Huiting Farm, 23.91 356 ⇑P P 07 54 47.1 -0.4
baz=24
Q26A Hugo 23.93 347 ⇓P P 07 54 48.2 +0.4
baz=24,SNR=22
P30A Seiden 23.98 353 ⇓P P 07 54 48.2 0.0
baz=24,SNR=5.7
P29A Atwood 24.12 352 ⇑P P 07 54 49.5 0.0
baz=25,SNR=7.4
OLIL Olney 24.16 16 eP P 07 54 49.6 -0.1
61nm,1.3s
Y12C Blythe 24.17 321 ⇓P P 07 54 50.4 +0.4
baz=24
P28A Saint Francis 24.22 350 ⇑P P 07 54 50.6 +0.2
baz=25,SNR=8.1
WCI Wyandotte Cave 24.24 20 eP P 07 54 50.3 -0.2
69nm,1.0s
O33A Hebron 24.32 358 ⇓P P 07 54 51.4 +0.1
baz=25
PDMCI Parker Dam,Lak 24.33 323 ⇓P P 07 54 52.0 +0.6
baz=25
P27A Ficken Ranch, 24.34 349 ⇓P P 07 54 52.2 +0.6
baz=25,SNR=11
Q24A Divide 24.37 344 ⇓P P 07 54 52.7 +0.7
baz=25
O36A Bolckow 24.40 3 ⇓P P 07 54 51.1 -0.8
baz=25
SDDR Presa de Saban 24.41 79 eP P 07 54 52.7 +0.4
19nm,1.1s
ROSC El Rosal 24.41 114 P P 07 54 57.2 +4.4
8.9nm,1.0s,baz=270,slow=16,SNR=8.8
SWSC Sam W. Stewart 24.42 318 ⇑P P 07 54 53.1 +0.9
baz=25
IBP Imperial Bould 24.44 317 ⇑P P 07 54 53.4 +0.9
baz=25
O31A Woolen Ranch, 24.49 355 ⇓P P 07 54 53.2 +0.3
baz=25,SNR=6.1
O35A Humboldt 24.50 1 ⇑P P 07 54 52.5 -0.4
baz=25
P26A Davis Ranch, A 24.50 347 ⇓P P 07 54 53.9 +0.8
baz=25,SNR=13
Q23A Hartsel 24.50 343 ⇑P P 07 54 53.7 +0.5
baz=25
O32A Brockman Farm, 24.53 357 ⇑P P 07 54 53.6 +0.4
baz=25
O30A MW Ranch, Wils 24.59 354 ⇓P P 07 54 54.4 +0.7
baz=25
O29A 4D Ranch, Culb 24.62 352 ⇓P P 07 54 54.6 +0.6
baz=25
BC3 Big Chuckawall 24.68 320 ⇓P P 07 54 55.5 +0.8
baz=25,SNR=6.4
PV01 Paradox Valley 24.72 337 eP P 07 54 56.8 +1.7
O28A Krutsinger Ran 24.76 351 ⇑P P 07 54 56.1 +0.8
baz=25
MONP Monument Peak, 24.80 317 ⇓P P 07 54 56.9 +1.0
baz=25
IRM Iron Mountain 24.83 321 ⇓P P 07 54 57.0 +1.0
baz=25,SNR=12
P23A Jefferson 24.94 343 ⇓P P 07 54 58.1 +0.8
baz=25,SNR=17
O27A Beecher Island 24.94 349 ⇓P P 07 54 57.8 +0.8
baz=25
BLO Bloomington 25.03 19 eP P 07 54 57.5 -0.1
75nm,1.1s
N32A Stulken Farm, 25.03 357 ⇓P P 07 54 58.1 +0.4
baz=26
N34A Lincoln 25.06 0 ⇑P P 07 54 58.4 +0.4
baz=26
PV04 Paradox Valley 25.07 337 eP P 07 55 00.0 +1.7
N35A Tabor 25.10 2 ⇑P P 07 54 58.6 +0.3
baz=26
PV10 Paradox Valley 25.11 337 eP P 07 54 59.3 +0.6
198nm,0.9s
N31A Bailey Ranch, 25.13 356 ⇓P P 07 54 58.9 +0.3
baz=26
O26A Horse Wrangler 25.15 348 ⇓P P 07 55 00.1 +1.1
baz=26
N30A Hueftle Ranch, 25.20 354 ⇑P P 07 55 00.4 +1.1
baz=26,SNR=5.5
BELC Belle Mtn. Jos 25.24 320 ⇓P P 07 55 01.2 +1.4
baz=26
109C Camp Elliot, M 25.25 316 ⇓P P 07 55 02.0 +2.3
baz=26
ISCO Idaho Springs 25.27 344 ⇓P P 07 55 01.5 +1.2
baz=26,SNR=14
ISCO Idaho Springs 25.27 344 eP P 07 55 01.7 +1.5
25nm,1.3s
N28A Pribbeno Ranch 25.27 351 ⇑P P 07 55 00.7 +0.8
baz=26
PFO Pinyon Flats O 25.27 318 P P 07 55 02.3 +2.1
2.0nm,0.7s,baz=135,slow=12,SNR=4.3
PFO LR LR 08 04 08.9
comp=Z,218nm,20.1s,baz=132,slow=35
PFO Pinyon Flats O 25.27 318 ⇓P P 07 55 01.5 +1.4
baz=26
N29A Votaw Ranch, W 25.28 353 ⇑P P 07 55 01.3 +1.3
baz=26
P22A Eagle 25.42 342 ⇑P P 07 55 02.5 +1.1
baz=26,SNR=7.7
N27A Anderson Farm, 25.55 350 ⇓P P 07 55 03.5 +1.0
baz=26,SNR=8.0
GMRC Granite Mounta 25.56 322 ⇓P P 07 55 03.9 +1.2
baz=26
HDIL Hopedale 25.59 13 eP P 07 55 02.8 0.0
49nm,1.1s
OGNE Ogallala 25.60 351 ⇑P P 07 55 03.7 +0.8
baz=26,SNR=9.3
M31A Lambtecht Ranc 25.65 356 ⇑P P 07 55 04.3 +1.0
baz=26
BGNE Belgrade 25.67 357 ⇓P P 07 55 03.9 +0.5
baz=26
N26A Koester Ranch, 25.70 348 ⇑P P 07 55 04.4 +0.5
baz=26
CNNC Cliffs of the 25.72 37 eP P 07 55 03.1 -0.8
29nm,1.1s
M34A Aspy Farms, Fr 25.73 0 ⇓P P 07 55 04.4 +0.4
baz=26
O23A Lake Granby, G 25.74 343 ⇓P P 07 55 05.1 +0.6
baz=26
MURC Murrieta 25.75 318 ⇓P P 07 55 05.5 +1.2
baz=26
BLA Blacksburg 25.82 31 eP P 07 55 04.2 -0.7
22nm,1.2s
O22A Kremmling 25.87 342 ⇑P P 07 55 06.4 +0.8
baz=26
M29A Burnside Ranch 25.91 353 ⇓P P 07 55 06.4 +0.7
baz=26
M28A Bar X Bar Ranc 25.95 352 ⇑P P 07 55 06.8 +0.8
baz=26
SFIN Lafayette 25.97 17 ⇓P P 07 55 06.0 -0.2
baz=26,SNR=9.5
SFIN Lafayette 25.97 17 eP P 07 55 05.7 -0.5
25nm,1.0s
HEC Hector,Ludlow 26.00 321 ⇑P P 07 55 07.6 +1.0
baz=26
TUQ Turquoise Moun 26.17 322 ⇑P P 07 55 09.5 +1.3
baz=26
L34A Svendsen Farm, 26.19 0 ⇑P P 07 55 08.5 +0.3
baz=27
M27A Reverse DX Ran 26.23 350 ⇑P P 07 55 08.6 -0.1
baz=27
SCI San Clemente I 26.27 315 ⇑P P 07 55 10.1 +1.1
baz=26
SDV Santo Domingo 26.27 102 eP P 07 55 10.4 +1.0
11nm,0.8s
SCIA State Center 26.30 6 eP P 07 55 09.5 +0.4
42nm,0.9s
M26A McRoberts Ranc 26.30 349 ⇓P P 07 55 09.7 +0.4
baz=27
L30A Spencer Herefo 26.31 355 ⇑P P 07 55 09.8 +0.5
baz=27
O20A White River Ci 26.38 340 ⇓P P 07 55 11.0 +0.9
baz=27,SNR=8.3
O20A White River Ci 26.38 340 eP P 07 55 12.1 +1.9
24nm,1.2s
N23A Red Feather La 26.39 344 ⇑P P 07 55 10.8 +0.5
baz=27,SNR=7.6
N22A Wattenberg Ran 26.44 343 ⇓P P 07 55 12.1 +1.3
baz=27
M25A Palm-Egli Farm 26.45 347 ⇑P P 07 55 12.2 +1.5
baz=27
SHPR Sheep Range 26.49 325 eP P 07 55 12.8 +1.6
MSU Marysvale 26.54 332 eP P 07 55 13.5 +1.9
7.0nm,1.2s
PHWY Pilot Hill 26.64 345 eP P 07 55 13.9 +1.3
17nm,1.4s
L27A T5 Ranch, Ells 26.76 351 ⇓P P 07 55 14.7 +1.3

baz=27
L26A **Underwood Farm** 26.84 349 ⇑P P 07 55 14.8 +0.6
baz=27
DECC **Green Verdugo** 26.89 317 ⇓P P 07 55 15.4 +0.8
baz=27
N20A **Spence Gulch,** 27.02 340 ⇑P P 07 55 16.0 +0.1
baz=28,SNR=5.2
K30A **Basset** 27.02 355 ⇑P P 07 55 16.3 +0.6
baz=28
EDW2 **Edwards Air Fo** 27.06 319 ⇑P P 07 55 16.9 +0.7
baz=27
L25A **Engebretsen Ra** 27.12 348 ⇑P P 07 55 17.8 +1.0
baz=28
ACSO **Alum Creek Sta** 27.20 23 *e*P P 07 55 17.1 -0.2
34nm,1.0s
K28A **Ten Mile Ranch** 27.24 352 ⇓P P 07 55 18.6 +0.9
baz=28
K27A **Flueckinger Fa** 27.35 351 ⇓P P 07 55 19.3 +0.5
baz=28
TPNV **Topopah Spring** 27.42 324 ⇓P P 07 55 20.7 +1.2
baz=28
FURC **Furnace Creek,** 27.43 323 ⇓P P 07 55 20.5 +1.1
baz=28
RWWY **Rawlins** 27.48 343 *e*P P 07 55 23.1 +3.1
12nm,1.0s
JSRW **J. Sargeant Re** 27.49 34 *e*P P 07 55 19.2 -0.7
K26A **Motz Farm, Whi** 27.50 350 ⇓P P 07 55 20.9 +0.8
baz=28
K25A **Mack Ranch, Ha** 27.55 348 ⇑P P 07 55 20.5 0.0
baz=28
JFWS **Jewell Farm** 27.69 10 *e*P P 07 55 21.1 -0.5
121nm,2.1s
J27A **Elkhorn Farm,** 27.86 352 ⇓P P 07 55 24.6 +1.4
baz=28
ISA **Isabella, Lake** 27.87 320 ⇑P P 07 55 24.8 +1.4
baz=28
SBC **Santa Barbara** 27.92 316 ⇓P P 07 55 24.4 +0.6
baz=28
J28A **Allard Ranch,** 27.93 353 ⇓P P 07 55 25.0 +1.1
baz=28
ECSD **EROS Data Cent** 27.96 0 ⇑P P 07 55 23.8 -0.2
baz=28
ECSD **EROS Data Cent** 27.96 0 *e*P P 07 55 24.1 +0.1
18nm,1.3s
K23A **Bowen Ranch, D** 28.06 346 ⇑P P 07 55 25.8 +0.6
baz=29
R11A **Troy Canyon, C** 28.08 327 ⇓P P 07 55 25.4 0.0
baz=28,SNR=5.2
R11A **Troy Canyon, C** 28.08 327 *e*P P 07 55 27.3 +1.9
2.3nm,1.0s
J26A **Sides Ranch, S** 28.08 350 ⇓P P 07 55 26.3 +1.0
baz=29
GRAC **Grapevine Rang** 28.09 323 ⇓P P 07 55 25.4 0.0
baz=28
K22A **Casper** 28.18 344 ⇑P P 07 55 26.4 +0.1
baz=29,SNR=8.0
K22A **Casper** 28.18 344 *e*P P 07 55 27.5 +1.3
19nm,1.2s
DUG **Dugway, Tooele** 28.20 333 ⇓P P 07 55 27.5 +1.1
baz=29
DUG **Dugway, Tooele** 28.20 333 *e*P P 07 55 28.3 +1.9
40nm,2.4s
PKM **Mcpherson Peak** 28.26 317 ⇓P P 07 55 28.1 +1.0
baz=28
J25A **Sunshine Ranch** 28.28 349 ⇑P P 07 55 27.7 +0.7
baz=29
TCUT **Toone Canyon** 28.39 336 *e*P P 07 55 30.0 +1.8
6.2nm,0.3s
J24A **Dixon Ranch, L** 28.39 348 ⇓P P 07 55 29.0 +0.9
baz=29
I29A **Vivian Onida** 28.42 354 ⇓P P 07 55 27.7 -0.4
baz=29
I28A **Midland** 28.49 353 ⇓P P 07 55 29.5 +0.7
baz=29
I27A **Quinn** 28.66 352 ⇑P P 07 55 31.3 +0.9
baz=29
I26A **New Underwood** 28.75 351 ⇓P P 07 55 32.2 +1.1
baz=29
TPH **Tonopah** 28.76 325 *e*P P 07 55 33.0 +1.5
2.2nm,0.8s
HWUT **Hardware Ranch** 28.87 336 *e*P P 07 55 33.9 +1.5
5.9nm,1.1s
I25A **Rochford** 28.88 349 ⇓P P 07 55 33.0 +0.5
baz=29
J22A **Midwest** 28.89 345 ⇑P P 07 55 32.8 +0.3
baz=29,SNR=9.0
I24A **Kuemmerle Ranc** 28.90 348 ⇓P P 07 55 33.4 +0.9
baz=29
ATAH **Atahualpa** 28.99 140 LR LR 08 05 01.8
comp=Z,207nm,18.9s,baz=308,slow=32
J21A **Lysite** 29.07 344 ⇑P P 07 55 35.3 +1.1
baz=30,SNR=15
H28A **Mission Ridge** 29.14 354 ⇓P P 07 55 35.1 +0.6
baz=30
PDAR **Pinedale Array** 29.18 340 P P 07 55 36.1 +1.0
2.4nm,0.8s,baz=126,slow=10.0,SNR=16
H27A **Howes** 29.22 352 ⇓P P 07 55 35.9 +0.6
baz=30
J20A **Shoshoni** 29.26 343 ⇑P P 07 55 36.7 +0.9
baz=30
H26A **Fairpoint** 29.30 351 ⇑P P 07 55 36.9 +0.8
baz=30
I22A **9 Mile Ranch,** 29.34 345 ⇑P P 07 55 36.9 +0.4
baz=30
MLAC **Mammoth, Mammo** 29.38 322 ⇑P P 07 55 36.8 -0.2
baz=30
G30A **Faulkton** 29.43 356 ⇓P P 07 55 36.9 -0.2
baz=30
H25A **Fruitdale** 29.44 350 ⇓P P 07 55 38.4 +1.1
baz=30
J19A **Crowheart** 29.47 341 ⇑P P 07 55 38.0 +0.3
baz=30,SNR=5.0
I21A **Big Trails, Te** 29.47 344 ⇓P P 07 55 38.1 +0.4
baz=30,SNR=9.8
HVU **Hansel Valley** 29.50 335 *e*P P 07 55 39.7 +1.7
4.8nm,0.8s
G28A **Parade** 29.52 354 ⇑P P 07 55 38.5 +0.5
baz=30
ALLY **Alegheny Colle** 29.54 26 *e*P P 07 55 38.0 -0.1
31nm,0.8s
G29A **Hoven** 29.55 355 ⇑P P 07 55 38.0 -0.2
baz=30
NVAR **Mina Array Bea** 29.61 324 P P 07 55 41.0 +1.9
1.8nm,0.8s,baz=142,slow=7.1,SNR=14
SPMN **Marine on St.** 29.62 5 ⇓P P 07 55 38.4 -0.5
baz=30
SPMN **Marine on St.** 29.62 5 *e*P P 07 55 38.3 -0.5
7.2nm,0.8s
SSPA **Standing Stone** 29.72 30 *e*P P 07 55 39.0 -0.7
17nm,1.2s
H23A **Clabaugh Cattl** 29.73 347 ⇑P P 07 55 40.2 +0.3
baz=30
H24A **Dirks Ranch, A** 29.73 349 ⇑P P 07 55 40.6 +0.7
baz=30,SNR=7.9
ELK **Elko** 29.74 331 P P 07 55 41.3 +1.1
1.1nm,0.7s,baz=125,slow=5.5,SNR=5.3
ELK LR LR 08 08 51.6
comp=Z,1μm,18.2s,baz=150,slow=39
ELK **Elko** 29.74 331 *e*P P 07 55 41.8 +1.6
6.8nm,1.4s
I20A **Worland** 29.82 343 ⇑P P 07 55 42.0 +1.2
baz=30,SNR=10
G27A **Dupree** 29.94 353 ⇓P P 07 55 42.5 +0.8
baz=30
G26A **Maurine** 29.94 352 ⇑P P 07 55 42.4 +0.7
baz=30
G25A **Newell** 29.97 350 ⇓P P 07 55 42.6 +0.7
baz=30
H22A **Clearmont** 29.97 346 ⇓P P 07 55 42.7 +0.7
baz=30
F30A **Leola** 30.13 357 ⇓P P 07 55 43.2 -0.1
baz=31
REDW **Red Top Meadow** 30.14 339 *e*P P 07 55 45.2 +1.5
27nm,1.2s
I19A **Meeteetse** 30.15 342 ⇑P P 07 55 44.9 +1.1
baz=31,SNR=6.7
H21A **Big Horn, Sher** 30.17 345 ⇑P P 07 55 44.1 +0.3
baz=31
F29A **Eureka** 30.18 356 ⇓P P 07 55 43.9 +0.1
baz=31
SNOW **Snow King Moun** 30.20 339 *e*P P 07 55 45.3 +1.0
24nm,0.9s
G24A **Alzada** 30.27 349 ⇓P P 07 55 45.1 +0.4
baz=31
F28A **McLaughlin** 30.27 354 ⇑P P 07 55 45.0 +0.4
baz=31
LOHW **Long Hollow** 30.28 340 *e*P P 07 55 46.3 +1.4
15nm,0.9s

H20A **Greybull** 30.28 344 ⇓P P 07 55 45.2 +0.3
baz=31,SNR=6.4
TPAW **Teton Pass** 30.29 339 *e*P P 07 55 46.0 +1.0
7.4nm,0.9s
G23A **Biddle** 30.34 348 ⇑P P 07 55 45.6 +0.3
baz=31
F27A **Lemmon** 30.43 353 ⇓P P 07 55 45.7 -0.3
baz=31
FXWY **Fox Creek** 30.44 339 *e*P P 07 55 47.5 +1.1
MOOW **Moose Ponds** 30.45 340 *e*P P 07 55 47.8 +1.4
7.2nm,0.9s
F26A **Lodgepole** 30.50 352 ⇓P P 07 55 47.4 +0.8
baz=31
I17A **Pilgrim Ck.** 30.54 340 ⇓P P 07 55 48.1 +0.8
baz=31
G22A **Birney** 30.55 347 ⇑P P 07 55 47.3 +0.2
baz=31,SNR=6.7
IMW **Indian Meadow** 30.64 339 *e*P P 07 55 49.6 +1.4
6.9nm,1.0s
F25A **Bowman** 30.69 351 ⇑P P 07 55 49.0 +0.7
baz=31
H19A **Powell** 30.73 343 ⇑P P 07 55 49.6 +0.8
baz=31,SNR=21
G21A **Lodge Grass** 30.77 345 ⇑P P 07 55 49.7 +0.6
baz=31
F24A **Ekalaka** 30.77 349 ⇓P P 07 55 49.7 +0.5
baz=31
E30A **Jud** 30.79 357 ⇓P P 07 55 48.3 -0.8
baz=31
F23A **Volborg** 30.84 348 ⇓P P 07 55 50.1 +0.5
baz=31,SNR=5.1
E29A **Napoleon** 30.89 356 ⇓P P 07 55 50.1 0.0
baz=31
E27A **Carson** 30.93 353 ⇓P P 07 55 51.1 +0.7
baz=32
H18A **Shoshone NF, C** 30.93 342 ⇑P P 07 55 50.9 +0.2
baz=31,SNR=6.2
H17A **Grant Village** 30.96 340 ⇑P P 07 55 51.1 +0.1
baz=31
E28A **Huff** 30.98 355 ⇓P P 07 55 51.2 +0.3
baz=32
G20A **Bridger** 31.02 344 ⇑P P 07 55 51.4 +0.1
baz=32
LKWY **Lake** 31.06 341 *e*P P 07 55 54.4 +2.6
16nm,1.3s
F22A **Rosebud** 31.07 347 ⇑P P 07 55 52.2 +0.5
baz=32
E26A **Carlson Angus** 31.08 352 ⇓P P 07 55 52.4 +0.7
baz=32
RLMT **Red Lodge** 31.22 343 ⇓P P 07 55 53.7 +0.5
baz=32,SNR=17
RLMT **Red Lodge** 31.22 343 *e*P P 07 55 54.2 +1.0
23nm,1.0s
E25A **Miller Ranch,** 31.24 351 ⇓P P 07 55 53.8 +0.7
baz=32
F21A **Absaloka Mine,** 31.31 346 ⇓P P 07 55 53.9 +0.1
baz=32
MMNY **Mt. Morris Dam** 31.38 27 *e*P P 07 55 54.2 -0.1
D30A **Buchanan** 31.38 357 ⇑P P 07 55 53.8 -0.5
baz=32
E24A **Baker** 31.44 350 ⇓P P 07 55 55.5 +0.6
baz=32
F20A **Billings** 31.54 345 ⇓P P 07 55 56.2 +0.3
baz=32,SNR=6.0
E23A **Ismay** 31.56 349 ⇓P P 07 55 56.4 +0.4
baz=32
D28A **Regan** 31.59 355 ⇓P P 07 55 56.7 +0.5
baz=32
D27A **Center** 31.59 354 ⇑P P 07 55 56.8 +0.5
baz=32
D26A **Manning** 31.62 352 ⇓P P 07 55 56.7 +0.2
baz=32
E22A **Miles City** 31.64 348 ⇓P P 07 55 56.6 0.0
baz=32
HLID **Hailey** 31.65 335 ⇑P P 07 55 57.7 +0.8
baz=32,SNR=10
HLID **Hailey** 31.65 335 *e*P P 07 55 57.9 +0.9
9.8nm,1.2s
D25A **Fairfield** 31.86 351 ⇑P P 07 55 59.3 +0.7
baz=32
LAO **LASA Array** 31.93 347 ⇑P P 07 55 59.6 +0.3
baz=32
LAO **LASA Array** 31.93 347 *e*P P 07 56 00.0 +0.8
28nm,1.7s
GCMT **Greycliff** 31.95 343 *e*P P 07 56 00.1 +0.6
C30A **Mose, Pekin** 31.96 358 ⇑P P 07 55 59.7 +0.2
baz=32
E21A **Keefer Ranch,** 31.98 346 ⇓P P 07 55 60.0 +0.4
baz=32,SNR=8.7
D24A **Glendive** 31.98 350 ⇑P P 07 56 00.4 +0.7
baz=32
C28A **Hausauer Farms** 32.09 355 ⇓P P 07 56 00.7 +0.1
baz=33
MCMT **McKenzie Canyo** 32.12 338 *e*P P 07 56 03.2 +2.0
MFID **Camas Ranch** 32.13 333 *e*P P 07 56 03.1 +2.0
2.4nm,0.9s
MDND **Maddock** 32.17 356 ⇓P P 07 56 01.2 0.0
baz=33
C27A **Sayler Ranch,** 32.19 354 ⇑P P 07 56 01.6 +0.2
baz=33
D22A **Cohagen** 32.36 348 ⇑P P 07 56 03.6 +0.6
baz=33,SNR=9.1
C26A **Wahner Farm, P** 32.37 353 ⇓P P 07 56 03.2 +0.2
baz=33
C25A **Freed Ranch, W** 32.40 352 ⇓P P 07 56 03.7 +0.3
baz=33
C24A **Savage** 32.40 350 ⇓P P 07 56 04.3 +0.9
baz=33,SNR=6.0
BOZ **Bozeman (W)** 32.42 340 *e*P P 07 56 04.3 +0.6
8.1nm,1.1s
EYMN **Ely** 32.45 6 *e*P P 07 56 03.9 +0.2
7.6nm,1.3s
D21A **La Casta Ranch** 32.45 347 ⇑P P 07 56 04.3 +0.5
baz=33,SNR=5.1
DLMT **Dillon** 32.49 339 *e*P P 07 56 05.9 +1.6
32nm,1.0s
AGMN **Agassiz Nation** 32.53 1 ⇓P P 07 56 04.1 -0.2
baz=33,SNR=7.1
AGMN **Agassiz Nation** 32.53 1 *e*P P 07 56 04.4 0.0
7.2nm,0.8s
WVOR **Wild Horse Val** 32.67 329 *e*P P 07 56 07.3 +1.4
11nm,1.3s
B30A **Myrvik Farm, E** 32.70 358 ⇑P P 07 56 06.0 +0.1
baz=33
B29A **Wagenman Farm,** 32.77 357 ⇓P P 07 56 06.2 -0.3
baz=33
C23A **Lambert** 32.80 349 ⇓P P 07 56 07.4 +0.6
baz=33,SNR=6.4
B28A **Dugan Ranch, T** 32.82 355 ⇑P P 07 56 07.3 +0.4
baz=33
LRM **Limekiln Ridge** 32.85 339 *e*P P 07 56 08.8 +1.2
128nm,1.0s
B27A **Peters Farms,** 32.85 354 ⇓P P 07 56 07.7 +0.5
baz=33
C22A **Vida** 32.87 348 ⇑P P 07 56 08.3 +0.8
baz=33,SNR=6.5
B26A **Jensen Ranch,** 32.92 353 ⇓P P 07 56 08.2 +0.3
baz=33
B25A **Knox Farm, Ray** 32.94 352 ⇓P P 07 56 08.6 +0.5
baz=34
A30A **Hoffart Farm,** 33.19 358 ⇑P P 07 56 10.1 -0.1
baz=34
C21A **Desert Coulee** 33.20 347 ⇑P P 07 56 10.8 +0.5
baz=34
A29A **Manning Farm,** 33.22 357 ⇑P P 07 56 10.7 +0.3
baz=34,SNR=8.4
A28A **Rude Farm, Bot** 33.27 356 ⇓P P 07 56 11.0 +0.1
baz=34
DGMT **Dagmar** 33.28 351 ⇑P P 07 56 11.4 +0.4
baz=34
C20A **Veseth Ranch,** 33.29 346 ⇓P P 07 56 11.9 +0.7
baz=34
A27A **Ledoux Ranch,** 33.39 354 ⇓P P 07 56 12.5 +0.5
baz=34
B23A **Brockton** 33.40 350 ⇑P P 07 56 12.8 +0.7
baz=34
A26A **Wade Farm, Ken** 33.42 354 ⇓P P 07 56 12.7 +0.5
baz=34
B22A **Reddig Ranch S** 33.43 349 ⇑P P 07 56 12.6 +0.3
baz=34,SNR=5.0
HRY **Holter Researc** 33.43 341 *e*P P 07 56 12.6 +0.2
9.6nm,0.9s
A25A **Svangstu Ranch** 33.59 352 ⇑P P 07 56 14.3 +0.6
baz=34
A24A **Westby** 33.69 351 ⇓P P 07 56 15.6 +1.0
baz=34
B21A **Ellsworth Farm** 33.75 348 ⇓P P 07 56 15.8 +0.7
baz=34

N02D **Trinity Center** 33.84 323 ⇑P P 07 56 16.4 +0.4
baz=34
A23A **Redstone** 33.87 350 ⇑P P 07 56 16.6 +0.5
baz=34
M04C **Macdoel** 33.88 325 ⇑P P 07 56 17.1 +0.6
baz=34
B20A **Solberg Farm,** 33.98 346 ⇑P P 07 56 17.6 +0.4
baz=34
EGMT **Eagleton** 34.02 344 ⇑P P 07 56 17.9 +0.4
baz=34,SNR=5.6
EGMT **Eagleton** 34.02 344 *e*P P 07 56 18.3 +0.8
51nm,1.9s
CHMT **Chamberlain Mo** 34.07 340 *e*P P 07 56 19.0 +0.9
5.7nm,1.0s
A22A **Carney Farms,** 34.08 349 ⇑P P 07 56 19.0 +1.0
baz=35
M02C **Callahan** 34.19 324 ⇑P P 07 56 19.8 +0.7
baz=34
B19A **Brinkman Farms** 34.21 345 ⇓P P 07 56 19.6 +0.4
baz=35,SNR=9.9
MSO **Missoula** 34.23 339 ⇑P P 07 56 19.7 +0.3
baz=35,SNR=10.0
A21A **Bergtoll Ranch** 34.27 348 ⇓P P 07 56 20.4 +0.8
baz=35
LONY **Lake Ozonia** 34.35 28 *e*P P 07 56 19.1 -1.3
25nm,1.4s
A20A **Cobblestone Ra** 34.37 347 ⇓P P 07 56 21.2 +0.7
baz=35
K04D **Chiloquin, OR** 34.41 326 ⇓P P 07 56 21.5 +0.4
baz=35
SLMT **Seeley Lake** 34.44 340 *e*P P 07 56 21.8 +0.5
6.1nm,1.1s
J05D **Fort Rock, OR** 34.60 328 ⇓P P 07 56 22.8 0.0
baz=35
A19A **Klindworth Far** 34.61 346 ⇓P P 07 56 23.2 +0.6
baz=35,SNR=7.2
SWMT **Swartz Lake** 34.84 339 *e*P P 07 56 24.8 +0.2
12nm,1.0s
J04D **Umpqua Nationa** 35.03 327 ⇓P P 07 56 26.9 +0.5
baz=35
L02D **Cave Junction,** 35.12 324 ⇓P P 07 56 28.2 +1.2
baz=36
YBMT **Yellow Bay** 35.15 340 *e*P P 07 56 28.5 +1.2
9.2nm,1.1s
I05D **Terrebonne, OR** 35.41 329 ⇑P P 07 56 30.4 +0.9
baz=36
I04A **Tendick Farm,** 35.57 327 ⇓P P 07 56 31.4 +0.4
baz=36
I03D **Drain, OR** 36.00 326 ⇑P P 07 56 35.2 +0.7
baz=36
WALA **Waterton Lakes** 36.16 341 *e*P P 07 56 37.2 +1.2
7.2nm,1.0s
NEW **Newport** 36.60 337 ⇓P P 07 56 39.8 +0.1
baz=37
G03D **McMinnville, O** 36.99 328 ⇓P P 07 56 43.2 +0.2
baz=37
F04D **Rainier, OR** 37.48 329 ⇓P P 07 56 47.8 +0.7
baz=38
FFC **Flin Flon** 39.18 355 *e*P P 07 57 01.3 0.0
12nm,1.0s
EDM **Edmonton** 39.70 344 *e*P P 07 57 05.9 +0.2
19nm,1.0s
LPAZ **La Paz** 42.44 137 P P 07 57 28.3 -1.0
1.1nm,0.8s,baz=323,slow=9.5,SNR=5.3
LPAZ LR LR 08 14 14.6
comp=Z,129nm,19.0s,baz=298,slow=35
FCC **Fort Churchill** 43.05 2 *e*P P 07 57 33.4 +0.4
16nm,1.3s
SCHQ **Schefferville** 45.36 24 P P 07 57 51.2 -0.4
10nm,0.9s,baz=225,slow=3.5,SNR=8.6
SCHQ LR LR 08 19 18.9
comp=Z,107nm,19.3s,baz=240,slow=40
SCHQ **Schefferville** 45.36 24 *e*P P 07 57 51.2 -0.4
16nm,1.2s
LVC **Limon Verde** 46.75 144 P P 07 58 03.8 +0.6
4.4nm,0.4s,baz=312,slow=12,SNR=2.2
SIV **San Ignacio** 47.15 130 P P 07 58 07.8 +1.6
2.6nm,0.8s,baz=319,slow=9.1,SNR=5.8
YKA **Yellowknife Ar** 48.44 349 P P 07 58 15.7 +0.1
2.6nm,0.9s,baz=157,slow=7.0,SNR=10
DLBC **Dease Lake** 49.34 338 *e*P P 07 58 24.3 +1.6
66nm,1.8s
HYT **Haines Junctio** 53.76 337 *e*P P 07 58 57.9 +2.1
16nm,1.6s
DAWY **Dawson** 56.48 339 *e*P P 07 59 15.4 +0.2
5.4nm,1.4s
BDFB **Brasilia** 57.22 121 P P 07 59 26.0 +4.7
3.1nm,0.7s,baz=291,slow=8.7,SNR=6.7
EGAK **Eagle** 57.52 339 *e*P P 07 59 22.2 -0.3
5.6nm,0.9s
INK **Inuvik** 57.60 345 *e*P P 07 59 23.2 +0.2
9.9nm,1.1s
ILAR **Eielson Array** 59.55 338 P P 07 59 37.0 +0.2
3.8nm,0.9s,baz=135,slow=4.6,SNR=44
ILAR LR LR 08 26 04.9
comp=Z,155nm,18.7s,baz=140,slow=37
COLA **College** 59.96 337 *e*P P 07 59 39.7 +0.2
4.0nm,0.8s
TRF **Thorofare Moun** 60.23 335 *e*P P 07 59 42.0 +0.4
10nm,0.9s
KTH **Kantishna Hill** 60.53 335 *e*P P 07 59 43.4 -0.1
7.8nm,0.9s
BPAW **Bear Paw Mtn.** 60.80 336 *e*P P 07 59 44.7 -0.6
1.1nm,1.1s
PLCA **Paso Flores** 61.13 158 P P 07 59 46.9 -1.0
5.7nm,1.1s,baz=332,slow=8.2,SNR=3.9
PLCA LR LR 08 21 59.8
comp=Z,186nm,18.6s,baz=348,slow=32
COLD **Coldfoot** 61.95 339 *e*P P 07 59 53.5 +0.5
10.0nm,1.6s
DAG **Danmarks Havn** 72.08 14 *i*P P 08 00 55.5 -1.7
4.1nm,0.9s
SPITS **Spitsbergen Ar** 79.33 11 LR LR 08 39 39.9
comp=Z,172nm,18.9s,baz=300,slow=38
ESDC **Sonseca Array** 82.17 51 P P 08 01 54.6 -0.1
2.6nm,0.8s,baz=300,slow=5.2,SNR=12
ESDC LR LR 08 36 39.9
comp=Z,48nm,18.9s,baz=220,slow=34
NOA **NORSAR Array B** 84.78 28 P P 08 02 08.9 +1.2
2.3nm,1.1s,baz=292,slow=4.9,SNR=2.3
NOA LR LR 08 38 15.9
comp=Z,39nm,21.9s,baz=295,slow=34
ARCES **ARCESS Array B** 85.92 17 LR LR 08 41 04.4
comp=Z,72nm,21.6s,baz=280,slow=36
HFS **Hagfors** 86.27 28 LR LR 08 39 08.9
comp=Z,47nm,21.8s,slow=34
PETK **Petropavlovsk-** 86.70 324 LR LR 08 40 37.7
comp=Z,50nm,19.5s,baz=40,slow=35
TIXI **Tiksi** 87.65 347 *e*P P 08 02 21.1 -0.4
1.3nm,0.5s
FINES **FINESS Array B** 90.83 24 LR LR 08 46 01.7
comp=Z,34nm,18.6s,baz=349,slow=37
GERES **GERESS Array B** 91.12 38 P P 08 02 38.2 -0.2
0.3nm,0.4s,baz=328,slow=4.9,SNR=4.2
GERES LR LR 08 44 44.3
comp=Z,61nm,18.6s,baz=279,slow=36
VRAC **Vranov** 92.61 37 LR LR 08 46 08.1
comp=Z,47nm,18.1s,baz=280,slow=37
AKASG **Malin Array Be** 98.71 31 LR LR 08 49 00.8
comp=Z,30nm,19.7s,baz=50,slow=36
HHC **Hu-ho-hao-te** 117.97 336 *e*PKP PKPdf 08 08 19.8 -0.8
HHC sPKP 08 08 33.8
HHC PP PP 08 09 38.7 +4.9
HHC PKS PKSdf 08 11 55.3 -2.1
HHC SKS SKSdf 08 15 27.6 -3.9
HHC PPMZ
39nm,9.3s
HHC LN
98nm,20.3s
HHC LE
120nm,21.0s
HHC LZ
110nm,20.4s
WMQ **Urumqi** 120.65 356 *e*PKP PKPdf 08 08 27.2 +1.6
LZH **Lanzhou** 124.98 340 *e*PKP PKPdf 08 08 34.7 +0.4
LZH sPKP 08 08 49.5
LZH LN
130nm,18.0s
LZH LE
140nm,17.9s
LZH LZ
170nm,20.0s
CD2 **Chengdu** 129.69 337 PKP PKPdf 08 08 43.9 +0.6
CD2 sPKP 08 08 59.4
CD2 SKS SKSdf 08 15 52.6 -1.2
CD2 SS SS 08 28 13.5 -0.4
CD2 PPMZ
120nm,5.4s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WRA	Warramunga Arr	131.43	257	PKP	PKPdf	08 08 46.2	-0.5
	0.7nm,0.9s,baz=9.8,slow=0.7,SNR=4.2						
ASAR	Alice Springs	131.95	252	PKP	PKPdf	08 08 48.5	+0.8
	0.6nm,0.8s,baz=119,slow=1.2,SNR=3.4						
KMI	Kunming	135.26	335	PKP	PKPdf	08 08 54.4	+0.3

IDC 08 07:50:17.6±2.0, 1°.20S×127°.56E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/24, mbtmp3.3/3, ML3.6/1, Error ellipse: s-maj=155.5km s-min=26.0km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.77	161	P	P	07 54 49.3	-0.2
	0.2nm,0.3s,baz=340,slow=12,SNR=9.1						
ASAR	Alice Springs	23.16	165	P	P	07 55 26.1	+0.2
	0.2nm,0.3s,baz=347,slow=11,SNR=4.5						
MKAR	Makanchi Array	62.08	326	P	P	08 00 40.2	-0.1
	0.3nm,0.6s,baz=142,slow=7.3,SNR=3.0						

DDA 08 08:02:26.8, 37°.69N×36°.10E, h7km, MD2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	Andirin	0.22	120	i P	Pg	08 02 31.1	-0.3
ANDN				i S	Sg	08 02 35.6	+1.1
KAMA	Osmaniye	0.68	138	i P	Pb	08 02 41.8	+0.7
KAMA				i S	Sg	08 02 49.4	+0.5

IDC 08 08:49:51.2±1.8, 5°.78S×148°.82E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/17, mbtmp3.3/4, ML3.6/1, Error ellipse: s-maj=74.1km s-min=26.9km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.92	224	P	P	08 54 24.8	+0.1
	0.2nm,0.3s,baz=50,slow=11,SNR=8.8						
ASAR	Alice Springs	22.86	217	P	P	08 54 56.4	0.0
	0.3nm,0.4s,baz=52,slow=8.8,SNR=10						
MKAR	Makanchi Array	78.49	320	P	P	09 01 53.9	-0.4
	0.4nm,0.9s,baz=110,slow=6.7,SNR=2.6						
ILAR	Eielson Array	84.57	23	P	P	09 02 26.5	+0.4
	0.2nm,0.6s,baz=262,slow=4.4,SNR=4.1						
TORD	Torodi Ar. Bea	146.79	285	PKPbc	PKPbc	09 09 35.6	-0.8
	0.1nm,0.4s,baz=79,slow=3.5,SNR=3.3						

KRSC 08 08:52:21.6±2.7, 48°.27N×156°.99E, h16km±10km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.49	347	eP	Pn	08 53 00.9	-0.6
SKR				eS	Sn	08 53 31.3	-0.2
PAU	Pauzhetka	3.21	358	eS	Sn	08 53 52.3	+3.0
MIPR	Malaya Ipel'ka	4.02	358	eP	Pn	08 53 26.2	+3.6
ASAK	Asacha	4.16	8	eP	Pn	08 53 28.9	+4.3
RUS	Russkaya	4.29	13	eP	Pn	08 53 29.9	+3.7
RUS				eS	Sn	08 54 21.5	+5.7
MTVR	Mutnovka	4.29	10	eS	Sn	08 54 22.3	+6.0
UGLR	Uglovaya	5.08	13	eP	Pn	08 53 42.4	+5.1
AVH	Avacha	5.13	12	eP	Pn	08 53 43.5	+5.6
SMAR	Somma	5.13	12	eP	Pn	08 53 43.8	+5.7
KOK	Koryaka	5.14	11	eP	Pn	08 53 43.6	+5.5
SDLR	Sedlovina	5.16	13	eP	Pn	08 53 42.8	+4.4
KRER	Koryakskii	5.17	12	eP	Pn	08 53 43.3	+4.7
KRX	Arik	5.21	11	eP	Pn	08 53 43.9	+4.8
SPN	Mys Shipunski	5.21	21	eP	Pn	08 53 41.9	+3.1
GNL	Ganaly	5.47	6	eP	Pn	08 53 46.1	+3.5
MKZ	Mys Kozlova	6.96	23	eP	Pn	08 54 07.8	+4.9

KRSC 08 08:59:48.5±0.8, 52°.44N×160°.50E, h21km±11km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.72	337	eP	Pn	09 00 03.2	-0.3
SPN				eS	Sn	09 00 13.1	-0.9
NLC	Nalytchevo	1.02	317	eP	Pn	09 00 07.7	+0.2
NLC				eS	Sn	09 00 21.2	+0.1
RUS	Russkaya	1.22	271	eP	Pn	09 00 10.1	-0.1
RUS				eS	Sb	09 00 25.6	-0.4
PET	Petropavlovsk	1.27	298	eP	Pn	09 00 11.0	0.0
PET				eS	Sn	09 00 27.3	0.0
UGLR	Uglovaya	1.28	308	eP	Pb	09 00 11.9	-0.1
UGLR				eS	Sb	09 00 28.5	+0.4
SDLR	Sedlovina	1.29	311	eP	Pb	09 00 12.0	-0.3
SDLR				eS	Sb	09 00 28.5	-0.1
SMAR	Somma	1.32	310	eP	Pb	09 00 12.5	-0.4
AVH	Avacha	1.35	309	eP	Pb	09 00 13.1	-0.1
AVH				eS	Sb	09 00 30.3	+0.1
KRER	Koryakskii	1.37	310	eP	Pb	09 00 13.6	-0.1
KOK	Koryaka	1.42	308	eP	Pb	09 00 14.0	-0.4
MTVR	Mutnovka	1.42	273	eP	Pn	09 00 13.7	+0.5
MTVR				eS	Sb	09 00 31.9	-0.3
KRX	Arik	1.45	310	eP	Pn	09 00 14.3	+0.6
ASAK	Asacha	1.59	269	eP	Pb	09 00 16.7	-0.6
ASAK				eS	Sb	09 00 36.8	-0.3
KII	Karymskiy	1.72	339	eP	Pb	09 00 18.5	-1.0
KII				eS	Sn	09 00 39.8	+1.0
GNL	Ganaly	1.99	310	eP	Pb	09 00 23.0	-1.2
GNL				eS	Sb	09 00 48.0	-0.7
APC	Apacha	2.09	285	eP	Pb	09 00 24.4	-1.3
APC				eS	Sb	09 00 50.9	-0.3
MKZ	Mys Kozlova	2.25	19	eP	Pn	09 00 26.1	+1.7
MKZ				eS	Sn	09 00 53.3	+1.8
MIPR	Malaya Ipel'ka	2.30	268	eP	Pb	09 00 27.7	-1.6
MIPR				eS	Sb	09 00 55.6	-1.7
KZV	Kizimen	2.69	357	eP	Pb	09 00 33.7	-2.3
KZV				eS	Sb	09 01 06.2	-2.5
TUMR	Tumrok	2.86	356	eP	Pn	09 00 36.0	+3.0
TUMR				eS	Sb	09 01 10.4	-3.2
ESO	Esso	3.65	344	eP	Pn	09 00 47.0	+3.2
KBTR	Krutoberegovo	4.02	19	eP	Pn	09 00 52.4	+3.7

IDC 08 09:08:12.4±1.4, 6°.78S×152°.45E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.9/17, mbtmp3.9/9, MS3.1/2, Ms1 3.1/2, ms1mx2.6/24, Error ellipse: s-maj=49.4km s-min=20.8km az=109.0

ISCJB 08 09:08:16.4±1.0, 6°.8S±0°.1×152°.3E±0°.2, h33km, mb3.9/11, MS3.2/2, Error ellipse: s-maj=32.6km s-min=13.9km az=14.2

NEIC 08 09:08:17.9±0.9, 6°.87S×152°.43E, h35km, mb4.2/2, Error ellipse: s-maj=30.3km s-min=14.0km az=107.0

ISC 08 09:08:18.0±1.1, 6°.8S±0°.1×152°.4E±0°.3, h35km, n15, σ1s.14/16, mb3.8/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	21.85	232	eP	P	09 13 08.6	+0.8
	1.8nm,0.5s						
WRA	Warramunga Arr	21.87	232	P	P	09 13 06.7	-1.2
	2.0nm,0.7s,baz=55,slow=9.9,SNR=14						
ASAR	Alice Springs	24.44	225	P	P	09 13 33.0	-0.7
	1.0nm,0.7s,baz=55,slow=9.3,SNR=12						
STKA	Stephens Creek	26.90	201	P	P	09 13 57.0	+1.2
	3.2nm,0.9s,baz=19,slow=13,SNR=3.7						
STKA	Stephens Creek	26.90	201	eP	P	09 13 54.0	-1.9
	1.9nm,1.2s						
KSRS	Korea Array	49.63	334	P	P	09 17 05.4	-0.7
	0.3nm,0.3s,baz=160,slow=7.6,SNR=3.4						
KSRS				LR	LR	09 36 16.7	
	comp=Z,13nm,19.6s,baz=202,slow=34						
KSAR	Wonju Array Be	49.64	334	P	P	09 17 05.4	-0.7
CMAR	Chiang Mai Arr	58.41	296	P	P	09 18 11.3	+0.7
	0.7nm,0.3s,baz=120,slow=6.4,SNR=3.4						
SONM	Songino Array	67.83	328	P	P	09 19 14.2	+1.5
	0.2nm,0.3s,baz=159,slow=4.5,SNR=3.0						
SONM				PcP	PcP	09 19 38.5	-0.7
	0.2nm,0.4s,baz=147,slow=4.6,SNR=3.7						
MKAR	Makanchi Array	81.59	319	P	P	09 20 32.1	-0.3
	0.8nm,0.8s,baz=124,slow=4.4,SNR=4.4						
MKAR				LR	LR	09 57 49.5	
	comp=Z,16nm,18.8s,baz=182,slow=36						
ZALV	Zalesovo Beam	82.61	327	P	P	09 20 36.2	-1.3
	0.8nm,0.4s,baz=87,slow=6.4,SNR=3.7						
QSPA	South Pole Qui	83.16	180	eP	P	09 20 41.0	+0.6
	8.2nm,1.5s						
ILAR	Eielson Array	84.16	22	P	P	09 20 45.0	-0.3
	1.0nm,0.7s,baz=243,slow=5.3,SNR=13						
CSS	Prodhromos	117.63	306	ePKPdf	PKPdf	09 27 02.6	+1.6
TORD	Torodi Ar. Bea	150.51	285	PKPbc	PKPbc	09 28 06.6	-0.5
	2.0nm,0.7s,baz=71,slow=2.7,SNR=13						

BJI 08 09:25:58.4, 42°.65N×141°.43E, h137km, mb4.7/24, mB4.6/17

ISCJB 08 09:26:00.7±0.2, 41°.97N±0°.03×140°.77E±0°.03, h132km±2km, mb4.1/35, Error ellipse: s-maj=4.8km s-min=3.8km az=158.9

NIED 08 09:26:00, 41°.90N×140°.80E, h130km, Mw4.0 Best double couple: M₀1.07000×10^15 NP1:φs19.00000°, δ15.00000°, λ96.00000°. NP2:φs192.00000°, δ75.00000°, λ88.00000°.

MOS 08 09:26:01.9±0.8, 42°.13N×140°.69E, h139km, mb4.2/18, Error ellipse: s-maj=9.0km s-min=6.5km az=86.8

JMA 08 09:26:02.1±0.1, 41°.93N×140°.78E, h124km±1km, M3.5

IDC 08 09:26:02.6±1.4, 41°.91N×140°.71E, h140km±12km, mb3.7/16, mb1 3.8/19, mb1mx3.8/27, mbtmp4.1/19, Error ellipse: s-maj=13.1km s-min=11.7km az=149.0

NEIC 08 09:26:02.8±0.6, 42°.07N×140°.69E, h127km±7km, mb4.5/12, MW4.0(NIED), Error ellipse: s-maj=13.1km s-min=7.1km az=162.0

ISC 08 09:26:02.8±0.4, 41°.95N±0°.03×140°.82E±0°.03, h137km±3km, h136km:pP-P, n114, σ1s.62/142, mb4.2/35, 10C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	Kayabe	0.17	110	P	Pn	09 26 19.3	-2.0
JKB				eS	Sn	09 26 32.2	-3.2
JYM2	Yakumo 2	0.38	297	P	Pn	09 26 19.9	-2.1
JSR	Shiriuchi	0.52	216	P	Pn	09 26 20.4	-2.3
JSR				eS	Sn	09 26 34.0	-3.8
JNB	Noboribetsu	0.55	17	P	Pn	09 26 20.9	-1.9
JNB				eS	Sn	09 26 34.7	-3.5
JOT	Ohata	0.59	163	P	Pn	09 26 21.2	-1.9
JOT				eS	Sn	09 26 35.5	-3.0
JSH	Shimam	0.91	321	P	Pn	09 26 23.8	-1.6
JSH				eS	Sn	09 26 40.2	-2.5
JOSM	Okushiri--Mats	1.01	278	P	Pn	09 26 24.0	-2.4
JOSM				eS	Sn	09 26 40.5	-3.9
JTM	Tenmabayashi	1.17	171	P	Pn	09 26 26.2	-1.7
JTM				eS	Sn	09 26 44.4	-2.7
JBT2	Biratori 2	1.41	53	P	Pn	09 26 29.4	-1.0
JBT2				eS	Sn	09 26 51.0	-0.4
JSK	Shakotan	1.43	350	P	Pn	09 26 29.4	-1.1
JSK				eS	Sn	09 26 50.1	-1.7
JNBK	Urakawa-nobuka	1.47	76	P	Pn	09 26 29.9	-1.1
JNBK				eS	Sn	09 26 51.6	-1.0
JANG	Nango	1.66	161	P	Pn	09 26 30.7	-2.4
JANG				eS	Sn	09 26 52.8	-3.5
ERM	Erimo	1.74	87	ePN	Pn	09 26 33.0	-1.0
ERM				e		09 26 56.4	
ERM	Erimo	1.74	87	ePn	Pn	09 26 33.0	-1.0
ERM				eSn	Sn	09 26 56.4	-1.5
JFR	Furan	1.79	46	P	Pn	09 26 33.0	-1.6
JHR	Hokuryu	1.91	20	eS	Sn	09 27 02.7	+1.1
JCH	Churui	2.00	70	P	Pn	09 26 36.2	-0.8
JCH				eS	Sn	09 27 01.6	-1.7
ASAJ	Asahikawa	2.53	30	P	Pn	09 26 43.1	-0.4
	14nm,0.3s,baz=225,slow=11,SNR=139						
ASAJ				S	Sn	09 27 13.2	-1.8
	17nm,0.3s,baz=166,slow=15,SNR=7.8						
ASAJ	Asahikawa	2.53	30	PN	Pn	09 26 43.2	-0.4
ASAJ				S	Sn	09 27 13.2	-1.8
ASAJ				pmax	pmax		
	comp=Z,14nm,0.3s						
ASAJ				smax	smax		
	comp=N,17nm,0.3s						
ASAJ	Asahikawa	2.53	30	ePn	Pn	09 26 42.7	-0.8
ASAJ				eSn	Sn	09 27 14.3	-0.8
YUK	Yuzh-Kuril'sk	4.24	59	c iPN	Pn	09 27 05.5	-0.3
YUK				i S	Sn	09 27 52.3	-2.5
YUK				pmax	pmax		
	comp=N,27nm,0.2s						
YUK				pmax	pmax		
	comp=E,28nm,0.2s						
YUK				pmax	pmax		
	comp=Z,62nm,0.2s						
YUK				smax	smax		
	comp=E,68μm,0.2s						
YUK				smax	smax		
	comp=N,231nm,0.4s						
YSS	Yuzh-Sakhalins	5.19	15	ePN	Pn	09 27 18.1	-0.3
MJA0	Matsu Arr-Jizo	5.75	201	ePN	Pn	09 27 30.4	+4.3
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	Matsushiro	5.76	201	ePN	Pn	09 27 28.1	+1.9
MAJO				e		09 28 35.4	
MAJO	Matsushiro	5.76	201	ePn	Pn	09 27 28.1	+1.9
MAJO				eSn	Sn	09 28 35.4	+4.1
MJAR	Matsushiro Arr	5.77	201	P	Pn	09 27 27.3	+1.1
	comp=Z,0.8nm,0.3s,baz=2.5,slow=17,SNR=5.1						
MJAR	Matsushiro Arr	5.77	201	PN	Pn	09 27 27.3	+1.1
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KUR	Kuril'sk	6.08	55	PN	Pn	09 27 29.6	-0.7
KUR				i S	Sn	09 28 37.4	-1.2
KUR				pmax	pmax		
	comp=N,23nm,0.1s						
KUR				pmax	pmax		
	comp=E,5.0nm,0.1s						
KUR				pmax	pmax		
	comp=Z,20nm,0.1s						
KUR				smax	smax		
	comp=N,22nm,0.1s						
KUR				smax	smax		
	comp=E,19nm,0.1s						
VLA	Vladivostok	6.71	283	c iPN	Pn	09 27 38.0	-0.7
USRK	Ussuriysk Ar.	6.85	292	P	Pn	09 27 40.0	-0.6
	comp=E,2.9nm,0.3s,baz=115,slow=14,SNR=47						
USRK				S	Sn	09 28 56.8	-0.5
	baz=97,slow=24,SNR=2.1						
UGL	Uglegorsk	7.19	7	ePN	Pn	09 27 42.4	-2.7
UGL				eS	Sn	09 29 03.0	-2.3
HABR	Khabarovsk	7.69	330	ePN	Pn	09 27 48.5	-3.4
HABR				eS	Sn	09 29 14.0	-3.5
HABR				pmax	pmax		
	comp=N,2.0nm,0.8s						
HABR				pmax	pmax		
	comp=E,4.0nm,0.8s						
HABR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MDJ	Mudanjiang	8.62	292	P	Pn	09 28 04.3	-0.1
MDJ				PMZ			
	comp=Z,16nm,0.7s						
MDJ				PMZ			
	comp=Z,36nm,5.4s						
MDJ	Mudanjiang	8.62	292	ePn	Pn	09 28 04.0	-0.3
	comp=Z,8.2nm,0.6s						
MDJ				eSn	Sn	09 29 27.4	-13
MDJ				eSn	Sn	09 29 36.3	-3.7
KSRS	Korea Array	10.90	250	P	Pn	09 28 34.8	-0.1
	comp=Z,0.1nm,0.3s,baz=60,slow=13,SNR=8.3						
KSRS	Korea Array	10.90	250	ePN	Pn	09 28 35.1	+0.2
HIA	Hailar	16.43	304	⇑iP	Pn	09 29 44.2	-1.1
NJ2	Nanjing	20.09	248	eP	Pn	09 30 30.3	+1.6
NJ2				PMZ			
	comp=Z,10.0nm,0.6s						
HHC	Hu-ho-hao-te	21.93	277	eP	P	09 30 43.0	-2.3
HHC				pP	pP	09 31 10.8	+0.6
HHC				PP	PnPn	09 31 17.1	+2.0
HHC				sP	sP	09 31 27.3	0.0
HHC				S	S	09 34 27.4	-11
HHC				ScS	ScS	09 41 48.2	+0.4
HHC				PMZ			
	comp=Z,30nm,0.7s						
HHC				PMZ			
	comp=Z,80nm,4.1s						
SEY	Seymchan	22.10	14	⇑iP	P	09 30 45.0	-1.6
BOD	Bodaibo	23.24	322	eP	P	09 30 55.8	-1.8
BOD				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SONM	Songino Array	24.95	295	P	P	09 31 11.1	-2.2
	comp=Z,0.8nm,0.5s,baz=101,slow=9.2,SNR=5.9						
SONM	Songino Array	24.95	295	eP	P	09 31 11.3	-2.1
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TLY	Talaya	26.98	304	⇑iP	P	09 31 30.2	-1.2
TLY				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAK	Zakamensk	27.09	301	eP	P	09 31 30.6	-2.0
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LZH	Lanzhou	29.16	271	eP	P	09 31 45.3	-5.9
LZH				pP	pP	09 32 13.5	-6.9
LZH				sP	sP	09 32 30.0	-6.2
LZH				pP	PP	09 32 40.3	-19
LZH				ePP	PnPn	09 32 42.5	-8.4
LZH				sP	sP	09 33 18.5	+42
LZH				PP	PP	09 33 21.7	+22
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,78nm,4.7s						
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,73nm,4.7s						
LZH				LR	LR		
	comp=N,200nm,12.6s						
LZH				LR	LR		
	comp=E,200nm,13.0s						
LZH				LR	LR		
	comp=Z,290nm,16.8s						
GTA	Gaotai	31.00	279	eP	P	09 32 07.9	+0.6
GTA				pP	pP	09 32 37.9	+1.3
GTA				sP	sP	09 32 54.7	+2.3
GTA				PMZ			
	comp=Z,5.0nm,1.1s						
H11N2	WAKE ISLAND Hy	31.27	127	T	T	10 04 22.2	
	baz=327,slow=76,SNR=18						
H11N1	WAKE ISLAND Hy	31.28	127	T	T	10 04 25.4	
	baz=327,slow=76,SNR=17						
H11N3	WAKE ISLAND Hy	31.29	127	T	T	10 04 37.1	
	baz=327,slow=76,SNR=16						
CD2	Chengdu	31.57	262	eP	P	09 32 13.9	+1.6
CD2				pP	pP	09 32 43.0	+1.3
CD2				sP	sP	09 32 58.8	+1.4
CD2				PP	PP	09 33 27.3	+1.2
CD2				S	S	09 37 11.6	+0.7
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
GYA	Guiyang	31.95	252	eP	P	09 32 21.0	+5.2
GYA				pP	pP	09 32 50.2	+5.0
GYA				sP	sP	09 33 05.6	+4.7
GYA				PP	PP	09 33 30.9	+0.4
GYA				S	S	09 37 19.8	+2.8
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
H11S1	WAKE ISLAND Hy	32.11	129	T	T	10 05 30.3	
	baz=305,slow=74						
H11S3	WAKE ISLAND Hy	32.11	129	T	T	10 05 38.6	
	baz=305						
H11S2	WAKE ISLAND Hy	32.13	129	T	T	10 05 40.2	
	baz=305,slow=74						
QIZ	Qiongzhong	34.83	239	P	P	09 32 46.4	+5.8
QIZ				PP	PP	09 34 07.3	+5.0
QIZ				S	S	09 38 08.6	+7.3
QIZ				PMZ			
	comp=Z,7.0nm,1.8s						
QIZ				PMZ			
	comp=Z,53nm,4.9s						
ZAA0	Zalesovo Array	38.40	308	eP	P	09 33 09.8	-0.6
ZALV	Zalesovo Beam	38.40	308	P	P	09 33 09.8	-0.7
	comp=Z,6.7nm,0.5s,baz=86,slow=8.2,SNR=20						
ZALV	Zalesovo Beam	38.40	308	eP	P	09 33 09.7	-0.7
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.5s						
WMQ	Urumqi	38.42	291	P	P	09 33 11.0	+0.1
WMQ	Urumqi	38.42	291	P	P	09 33 12.0	+1.1
WMQ				pP	pP	09 33 43.0	+2.0
WMQ				sP	sP	09 33 59.3	+2.7
WMQ				PP	PnPn	09 34 45.0	+0.2
WMQ				PMZ			
	comp=Z,9.0nm,0.4s						
WMQ				PMZ			
	comp=Z,25nm,4.3s						
WMQ				LN			
	comp=Z,210nm,6.8s						
WMQ				LE			
	comp=Z,320nm,7.2s						
WMQ				LZ			
	comp=Z,420nm,9.6s						
MK31	Makanchi Array	41.29	297	eP	P	09 33 33.5	-1.0
MK31	Makanchi Array	41.29	297	eP	P	09 33 33.5	-1.0
MKAR	Makanchi Array	41.29	297	P	P	09 33 33.5	-1.0
	comp=Z,5.9nm,0.3s,baz=84,slow=9.8,SNR=38						
MKAR				ScP	ScP	09 39 06.4	-1.0
	comp=Z,0.3nm,0.8s,baz=72,slow=4.7,SNR=3.5						
MKAR	Makanchi Array	41.29	297	eP	P	09 33 33.4	-1.0
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MKAR	Makanchi Array	41.29	297	eP	P	09 33 33.8	-0.7
CMAR	Chiang Mai Arr	42.54	250	P	P	09 33 44.3	-0.6
	comp=Z,0.8nm,0.4s,baz=41,slow=7.2,SNR=5.0						
CMAR	Chiang Mai Arr	42.54	250	P	P	09 33 44.3	-0.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	Kurchatov	42.67	304	eP	P	09 33 44.6	-1.0
KURK				pmax	pmax		
	comp=Z,12nm,0.7s						
KURK	Kurchatov	42.67	304	eP	P	09 33 44.6	-1.0
	comp=Z,12nm,0.7s						
IM04	Indian Mountai	42.71	33	eP	P	09 33 46.3	+0.5
KTH	Kantishna Hill	44.01	37	eP	P	09 33 57.9	+1.6
	comp=Z,14nm,1.0s						
TRF	Thorofare Moun	44.30	37	eP	P	09 33 59.6	+0.9
	comp=Z,2.7nm,0.6s						
MCK	McKinley	44.88	36	eP	P	09 34 03.4	+0.3
MCK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MCK	McKinley	44.88	36	eP	P	09 34 03.4	+0.3
	comp=Z,6.5nm,0.8s						
COLA	College	45.24	35	c iP	P	09 34 06.8	+1.0
COLA				pmax	pmax		
	comp=Z,37nm,0.9s						
COLA	College	45.24	35	eP	P	09 34 06.9	+1.0
	comp=Z,6.7nm,0.6s						
CCB	Clear Creek Bu	45.28	35	eP	P	09 34 07.0	+0.8
ILAR	Eielson Array	45.66	35	P	P	09 34 09.3	+0.1
	comp=Z,4.4nm,0.8s,baz=273,slow=6.3,SNR=51						
ILAR	Eielson Array	45.66	35	eP	P	09 34 09.3	+0.1
ILAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BVAR	Borovoye Array	47.03	309	P	P	09 34 19.4	-0.7
	comp=Z,2.7nm,0.5s,baz=80,slow=7.5,SNR=11						
BVAR	Borovoye Array	47.03	309	P	P	09 34 19.4	-0.7
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TKM2	Tokmak 2	47.04	294	eP	P	09 34 20.6	0.0
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TKM2	Tokmak 2	47.04	294	eP	P	09 34 20.6	0.0
	comp=Z,8.0nm,0.8s						
BRVK	Borovoye	47.08	309	⇑iP	P	09 34 19.5	-0.9
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AAK	Ala-Archa	47.90	294	⇑iP	P	09 34 25.9	-1.2
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
EGAK	Eagle	48.08	34	eP	P	09 34 28.7	+0.7
	comp=Z,5.8nm,0.8s						
KSH	Kashi	48.14	290	eP	P	09 34 32.3	+3.3
KSH				epP	pP	09 35 04.4	+4.1
KSH				esP	sP	09 35 19.1	+3.6
KSH				ePP	PP	09 36 29.6	+7.3
KSH				PMZ			
	comp=Z,73nm,4.5s						
INK	Inuvik	50.27	29	eP	P	09 34 45.2	+0.7
INK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
INK	Inuvik	50.27	29	eP	P	09 34 45.2	+0.7
	comp=Z,4.8nm,0.4s						
KKAR	Karatay Array	50.40	296	eP	P	09 34 44.9	-1.0
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KKAR	Karatay Array	50.40	296	eP	P	09 34 44.9	-1.0
	comp=Z,1.2nm,0.5s						
HYT	Haines Junctio	50.69	39	eP	P	09 34 50.1	+2.1
ABKAR	Akbulak array	54.51	307	eP	P	09 35 15.4	-0.7

comp=Z,2.4nm,0.4s
ARCES ARCESS Array B 59.26 338 P **P 09 35 48.9 -0.3**
comp=Z,2.8nm,0.9s,baz=46,slow=8.7,SNR=3.9
ARCES ARCESS Array B 59.26 338 P **P 09 35 48.9 -0.3**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 59.82 31 P **P 09 35 53.5 +0.4**
comp=Z,0.6nm,0.5s,baz=300,slow=6.7,SNR=8.2
YKA Yellowknife Ar 59.82 31 P **P 09 35 53.5 +0.4**
YKA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 61.87 187 P **P 09 36 05.9 -1.6**
comp=Z,0.8nm,0.6s,baz=4.2,slow=7.1,SNR=17
WRA Warramunga Arr 61.87 187 *e*P **P 09 36 05.8 -1.6**
WRA pmax pmax
comp=Z,1.0nm,0.6s
OBN Obninsk 63.93 322⇑*i*P **P 09 36 20.6 -0.1**
OBN *e**PP **pP 09 36 49.6 -4.0**
OBN *e* 09 38 39.7
OBN *e*S S 09 44 33.6 -12
OBN pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 64.28 331 P **P 09 36 22.1 -0.8**
comp=Z,2.5nm,0.5s,baz=55,slow=7.2,SNR=22
FINES FINESS Array B 64.28 331 P **P 09 36 22.1 -0.8**
FINES pmax pmax
comp=Z,3.0nm,0.5s
ASAR Alice Springs 65.59 187 P **P 09 36 30.9 -1.0**
comp=Z,0.3nm,0.6s,baz=8.5,slow=7.5,SNR=7.2
KIV Kislovodsk 67.40 309c*e*P **P 09 36 43.8 +0.5**
KIV *e**PP **pP 09 37 17.3 +0.8**
KIV *e* 09 39 09.2
KIV *e*S S 09 45 56.8 +29
KIV pmax pmax
comp=Z,10.0nm,0.9s
NB2 NORSAR Subarra 69.50 336 P **P 09 36 55.1 -0.9**
comp=Z,0.7nm,0.6s,baz=38,slow=6.5
NOA NORSAR Array B 69.50 336 P **P 09 36 55.4 -0.7**
comp=Z,0.7nm,0.6s,baz=37,slow=6.2,SNR=3.4
NOA NORSAR Array B 69.50 336 *e*P **P 09 36 55.3 -0.7**
NOA pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 70.17 321 P **P 09 36 59.3 -0.9**
comp=Z,0.7nm,0.4s,baz=48,slow=5.9,SNR=4.1
AKASG Malin Array Be 70.17 321 P **P 09 36 59.3 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
DLMT Dillon 71.20 46 *e*P **P 09 37 07.8 +1.0**
comp=Z,1.5nm,0.4s
NVAR Mina Array Bea 72.44 54 P **P 09 37 15.3 +0.9**
comp=Z,0.7nm,0.6s,baz=287,slow=6.7,SNR=7.2
PDAR Pinedale Array 74.57 46 P **P 09 37 27.1 +0.3**
comp=Z,1.3nm,0.6s,baz=283,slow=2.1,SNR=7.4
TXAR Lajitas Array 87.47 52 P **P 09 38 35.3 +0.2**
comp=Z,0.3nm,0.5s,baz=279,slow=2.9,SNR=10

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*SJA **08** 09:52:43.4±1.0, 35°.08S×73°.57W, h32km, ML4.1*
*ISCJB **08** 09:52:49.7±1.3, 35°.36S±0°.03×72°.67W±0°.07, h23km±8km, mb4.3/13, MS3.3/2, Error ellipse: s-maj=10.1km s-min=4.5km az=21.8*
*NEIC **08** 09:52:50.0, 35°.27S×72°.65W, h15km, mb4.3/6, ML4.5(GUC), After GUC.*
NEIC Felt [IV] at Constitucion and [III] at Linares, Pencahue and Talca.
*GUC **08** 09:52:50.0±0.5, 35°.27S×72°.65W, h15km±2km, ML4.5*
*IDC **08** 09:52:54.0±3.8, 35°.27S×72°.34W, h38km±32km, mb4.0/8, mb1 4.0/11, mb1mx3.9/19, mbtmp4.1/11, ML3.8/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/29, Error ellipse: s-maj=38.2km s-min=16.5km az=95.0*
ISC 08 09:52:50.5±2.5**, 35°.28S**±0°.03×**72°.58W**±0°.07**, h15**km±15km**, n51,** σ**1s.31**/60**, mb4.4**/13**, 2D, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
TALC Talca 0.78 99⇓*i*P **Pb 09 53 04.8 -1.0**
TALC *e*S **Sg 09 53 16.6 +0.5**
LNCH Linares 0.98 125 *e*P **Pb 09 53 08.1 -1.1**
LNCH *i* S **Sb 09 53 22.1 +0.2**
NICH Los Niches 1.14 76⇓*i*P **Pn 09 53 10.9 -1.1**
NICH *i* S **Sb 09 53 26.7 +0.1**
LNV Longovilo 1.64 36 *e*P **Pn 09 53 18.2 -0.6**
LNV *i* S **Sn 09 53 39.2 -0.5**
CHCH Chadas Angostu 2.08 50 *e*P **Pn 09 53 25.6 +0.6**
CHCH *i* S **Sn 09 53 52.5 +1.7**
TACH Talagante 2.12 40 *e*P **Pn 09 53 25.9 +0.5**
TACH *i* S **Sn 09 53 53.2 +1.6**
PCH Pirque 2.38 46 *e*P **Pn 09 53 30.3 +1.1**
PCH *i* S **Sb 09 54 00.8 -1.7**
SJCH San Jose de Ma 2.46 49 *e*P **Pn 09 53 31.3 +1.0**
SJCH *i* S **Sn 09 54 02.4 +2.2**
CLCH Cerro Calan 2.53 42 *e*P **Pn 09 53 32.1 +0.9**
CLCH *i* S **Sn 09 54 04.0 +2.2**
CLCH AML AML 09 54 19.1
comp=N,3μm,0.5s
ROCH El Roble 2.65 30 *e*P **Pn 09 53 32.4 -0.6**
ROCH *i* S **Sn 09 54 05.7 +0.8**
PEL Peldehue 2.65 37 *e*P **Pn 09 53 33.8 +1.0**
PEL *i* S **Sn 09 54 06.8 +2.1**
PEL AML AML 09 54 21.4
comp=N,2μm,0.4s
CANA Caviahue 2.87 155 *e*P **Pn 09 53 38.1 +2.1**
CANA *e*S **Sb 09 54 18.8 +2.2**
CANA AML AML 09 54 31.4
comp=Z,540nm,0.8s
AAGR Agrelo 3.81 56 *e*P **Pn 09 53 51.6 +2.9**
ARCO CERRO ARCO 3.89 52 *e*P **Pn 09 53 52.3 +2.4**
ARCO AML AML 09 54 57.4
comp=Z,86nm,0.6s
AUSP Uspallata 4.05 42 *e*P **Pn 09 53 54.3 +2.0**
ASAL Salagasta 4.11 50 *e*P **Pn 09 53 55.5 +2.6**
RTLS Leoncito 4.43 39 *e*P **Pn 09 53 59.4 +1.9**
RTCV Cerro Valdivia 4.80 46 *e*P **Pn 09 54 03.5 +1.1**
CFAA Coronel Fontan 5.16 46 Pn **Pn 09 54 08.1 +0.8**
comp=Z,0.4nm,0.3s,baz=220,slow=12,SNR=34
CFAA Sn **Sn 09 55 09.5 +2.8**
comp=Z,0.1nm,0.3s,baz=233,slow=15,SNR=3.7
CFAA Lg Lg 09 55 31.1
comp=Z,0.3nm,0.3s,baz=128,slow=23,SNR=7.7
CFAA LR LR 09 56 40.5
comp=Z,8.9nm,18.0s,baz=240,slow=45
CFAA Coronel Fontan 5.16 46 *e*P **Pn 09 54 07.8 +0.4**
RTLL Cerro Villicun 5.23 42 *e*P **Pn 09 54 09.1 +0.8**
ACAN Cantantal 5.40 58 *e*P **Pn 09 54 12.3 +1.6**
AMOG MOGNA 5.53 39 *e*P **Pn 09 54 12.8 +0.4**
PLCA Paso Flores 5.67 164 Pn **Pn 09 54 15.1 +0.7**
comp=Z,1.7nm,0.3s,baz=333,slow=11,SNR=42
PLCA Lg Lg 09 55 41.5
comp=Z,2.4nm,0.3s,baz=273,slow=23,SNR=9.4
PLCA Paso Flores 5.67 164 *e*Pn **Pn 09 54 15.1 +0.7**
comp=Z,35nm,0.9s
PLCA Sn **Sn 09 55 18.3 -1.0**
PLCA Lg Lg 09 55 41.5
PLCA Paso Flores 5.67 164 *e*P **Pn 09 54 14.9 +0.6**
PLCA AML AML 09 55 48.6
comp=Z,76nm,0.5s
TRQA Tornquist 8.96 111 *e*Pn **Pn 09 54 59.6 +0.2**
comp=Z,6.0nm,0.6s
TRQA *e*Sn **Sn 09 56 39.2 -0.8**
LPAZ La Paz 19.33 13 P **Pn 09 57 18.3 +1.2**
comp=Z,0.1nm,0.3s,baz=199,slow=7.7,SNR=7.6
LPAZ La Paz 19.33 13 *e*P **Pn 09 57 17.0 -0.1**
comp=Z,4.3nm,1.0s
USHA Ushuaia 19.76 173 P **P 09 57 19.5 -0.3**
comp=Z,0.2nm,0.3s,baz=320,slow=7.9,SNR=2.7
SIV San Ignacio 21.80 31 P **P 09 57 40.8 -1.4**
comp=Z,4.1nm,0.6s,baz=222,slow=9.5,SNR=14
SIV LR LR 10 07 15.2
comp=Z,40nm,19.1s,baz=190,slow=40
SNAA Sanae 50.57 157 P P 10 01 40.8 -7.4
SNAA Sanae 50.57 157 P **P 10 01 48.0 -0.2**
comp=Z,2.7nm,0.9s,baz=282,slow=6.1,SNR=19
SNAA Sanae 50.57 157 *e*P P 10 01 40.9 -7.3
comp=Z,6.3nm,0.9s
QSPA South Pole Qui 54.95 180 P **P 10 02 21.0 +0.2**
comp=Z,7.4nm,0.8s,baz=152,slow=1.6,SNR=30
BBSR BB Station 67.70 7 *e*P **P 10 03 47.2 +0.1**
comp=Z,44nm,1.1s
TXAR Lajitas Array 70.64 331 P **P 10 04 06.0 +0.4**
comp=Z,0.5nm,0.8s,baz=159,slow=9.1,SNR=6.0
MAW Mawson 72.08 164 P **P 10 04 13.8 +0.1**
comp=Z,3.7nm,0.9s,baz=231,slow=8.9,SNR=4.2
TUL1 Leonard 74.06 341 P **P 10 04 26.0 +0.3**
comp=Z,3.2nm,0.8s
DBIC Dimbokro 76.01 71 P **P 10 04 35.9 -1.6**
comp=Z,3.5nm,0.7s,baz=225,slow=7.1,SNR=3.1
DBIC Dimbokro 76.01 71 P **P 10 04 37.2 -0.3**
TSUM Tsumeb 79.29 106 LR LR 10 37 56.9
comp=Z,32nm,18.7s,baz=333,slow=34
BOSA Boshof 79.87 118 P **P 10 04 58.8 -0.2**
comp=Z,4.0nm,0.8s,baz=287,slow=4.9,SNR=4.0
ECSD EROS Data Cent 81.63 343 *e*P **P 10 05 07.3 -0.4**
comp=Z,1.8nm,0.7s
HWUT Hardware Ranch 84.46 332 *e*P **P 10 05 22.6 -0.1**
comp=Z,1.2nm,0.6s
TORD Torodi Ar. Bea 85.06 70 P **P 10 05 24.7 -1.3**
comp=Z,0.9nm,0.9s,baz=269,slow=5.9,SNR=6.2
HVU Hansel Valley 85.08 331 *e*P **P 10 05 25.7 -0.1**
comp=Z,0.9nm,0.6s
H11N3 WAKE ISLAND Hy 25.74 270 T T 12 29 59.9
baz=116,slow=78,SNR=6.9
H11N1 WAKE ISLAND Hy 25.76 270 T T 12 30 02.9
baz=116,slow=78,SNR=29
H11N2 WAKE ISLAND Hy 25.76 270 T T 12 30 05.3
baz=116,slow=78,SNR=15
SONM Songino Array 167.44 3 PKPab **PKPab 10 14 01.6 +0.5**
comp=Z,0.3nm,0.5s,baz=259,slow=1.5,SNR=3.3

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*ISCJB **08** 10:10:28.9±1.1, 43°.89N±0°.08×147°.2E±0°.1, h58km±9km, Error ellipse: s-maj=17.5km s-min=6.6km az=140.4*
*JMA **08** 10:10:29.9±0.2, 43°.80N×147°.20E, h55km±5km, M3.5*
*SKHL **08** 10:10:30.4±0.6, 43°.86N×147°.26E, h46km±6km, mb4.6/3*
ISC 08 10:10:29.2±2.0**, 43°.9N**±0°.1×**147°.3E**±0°.1**, h55**km±13km**, n14,** σ**0s.88**/25**, Kuril Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
SHO Shikotan 0.33 271 *e*P **Pn 10 10 39.7 +0.6**
SHO AMB AMB 10 10 39.8
237nm,0.1s
SHO *e*S **Sn 10 10 46.3 +0.2**
SHO A A 10 10 47.2
2μm,0.2s
YUK Yuzh-Kuril'sk 1.05 280 *e*P **Pn 10 10 47.1 -0.6**
YUK AMB AMB 10 10 47.9
44nm,0.2s
YUK AMB AMB 10 10 47.9
98nm,0.2s
YUK AMB AMB 10 10 47.9
172nm,0.2s
YUK *e*S **Sn 10 10 59.3 -2.0**
YUK A A 10 11 00.6
650nm,0.2s
YUK A A 10 11 00.6
660nm,0.2s
NEM2 Nemuro 2 1.23 247 P **Pn 10 10 49.9 -0.2**
NEM2 *e*S **Sn 10 11 04.8 -0.9**
KUR Kuril'sk 1.43 17 *e*P **Pn 10 10 53.0 +0.2**
KUR AMB AMB 10 10 54.9
11nm,0.1s
KUR AMB AMB 10 10 54.9
15nm,0.1s
KUR AMB AMB 10 10 54.9
21nm,0.1s
KUR *e*S **Sn 10 11 09.9 -0.6**
KUR A A 10 11 11.7
200nm,0.2s
KUR A A 10 11 11.7
72nm,0.2s
JRA Rausu 1.57 273 P **Pn 10 10 55.0 +0.3**
JRA *e*S **Sn 10 11 13.7 -0.2**
JNK Nakash 1.89 262 P **Pn 10 10 59.1 +0.1**
JNK *e*S **Sn 10 11 20.9 -0.8**
JAK Akkeshi 2.08 246 P **Pn 10 11 01.6 -0.1**
JAK *e*S **Sn 10 11 25.1 -1.3**
JTKR Abashiri--Toko 2.45 274 P **Pn 10 11 07.1 +0.4**
JAR Ashorobuto 2.62 259 P **Pn 10 11 09.8 +0.7**
JAR *e*S **Sn 10 11 39.7 0.0**
JOB Onbets 2.70 250 P **Pn 10 11 10.8 +0.7**
JOB *e*S **Sn 10 11 41.3 -0.2**
JMP Maruseppu 2.84 274 P **Pn 10 11 12.7 +0.5**
HRK Horoka 3.05 264 *e*P **Pn 10 11 16.3 +1.3**
HRK *e*S **Sn 10 11 52.3 +2.1**
JCH Churui 3.13 248 P **Pn 10 11 16.1 0.0**
JCH *e*S **Sn 10 11 51.9 -0.3**
JNBK Urakawa-nobuka 3.68 246 P **Pn 10 11 23.9 +0.3**

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*NIED **08** 10:47:00, 42°.30N×143°.80E, h35km, Mw4.1 Best double couple: Mo1.86000×10¹⁵ NP1:φs170.00000°, δ8.00000°, λ-180.00000°. NP2:φs80.00000°, δ90.00000°, λ-82.00000°.*
*BJI **08** 10:47:45.8, 41°.73N×144°.68E, h50km, mb4.7/8, mB4.6/9, Ms3.7/6, Ms7 3.4/4*
*MOS **08** 10:47:52.9±1.0, 42°.42N×143°.68E, h45km, mb4.5/11, Error ellipse: s-maj=11.9km s-min=6.5km az=80.7*
*ISCJB **08** 10:47:53.2±0.4, 42°.32N±0°.03×143°.79E±0°.04, h49km±3km, mb4.2/35, MS3.4/6, Error ellipse: s-maj=6.3km s-min=3.8km az=36.7*
*JMA **08** 10:47:53.4±0.1, 42°.34N×143°.79E, h55km±2km, M4.1 Broadband fault plane solution: P waves. NP1: φs261.00000°, δ89.00000°, λ91.00000°. NP2:φs25.00000°, δ2.00000°, λ34.00000°. Principal axes: T Plg46.0000°, Azm173.0000°; N Plg1.0000°, Azm81.0000°; P Plg44.0000°, Azm350.0000°;*
JMA Felt III J1.
*IDC **08** 10:47:55.4±3.4, 42°.36N×143°.73E, h53km±31km, mb3.8/19, mb1 4.0/21, mb1mx4.0/27, mbtmp4.1/21, ML3.8/2, MS3.1/8, Ms1 3.2/8, ms1mx3.0/28 Error ellipse: s-maj=16.5km s-min=13.4km az=124.0*
*NEIC **08** 10:47:55.4±0.5, 42°.34N×143°.70E, h52km±5km, mb4.3/7, Error ellipse: s-maj=7.9km s-min=5.0km az=123.0*
NEIC Recorded [3 JMA] in southern Hokkaido and [1 JMA] in southeastern Hokkaido.
ISC 08 10:47:54.9±0.5**, 42°.34N**±0°.04×**143°.80E**±0°.04**, h48**km±3km**:pP-P, n100,** σ**1s.17**/116**, mb4.1**/35**, MS3.5**/6**, 15C-4D, Hokkaido region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JCH Churui 0.42 311 ⇑P **Pn 10 48 04.4 -0.7**
JCH *e*S **Sn 10 48 11.6 -0.9**
JOB Onbets 0.57 3 ⇑P **Pn 10 48 05.9 -0.9**
JOB *e*S **Sn 10 48 14.8 -0.6**
JEM Erimo 0.57 236 P **Pn 10 48 05.7 -1.2**
ERM Erimo 0.58 236c*e*PN **Pn 10 48 07.6 +0.7**
ERM Erimo 0.58 236 *e*Pn **Pn 10 48 06.7 -0.2**
ERM *e*Sn **Sn 10 48 14.0 -1.6**
JNBK Urakawa-nobuka 0.78 266 ⇑P **Pn 10 48 08.4 -1.2**
JAK Akkeshi 0.93 45 ⇑P **Pn 10 48 09.7 -1.9**
JAR Ashorobuto 0.96 359 ⇑P **Pn 10 48 10.9 -1.1**
JAR *e*S **Sn 10 48 22.8 -1.8**
JBT2 Biratori 2 1.15 293 ⇑P **Pn 10 48 13.0 -1.6**
JFR Furan 1.21 313 P **Pn 10 48 13.7 -1.8**
JFR *e*S **Sn 10 48 29.6 -1.2**
JNK Nakash 1.42 28 ⇑P **Pn 10 48 16.3 -1.9**
JTKR Abashiri--Toko 1.63 3 ⇑P **Pn 10 48 20.8 -0.4**
JTKR *e*S **Sn 10 48 40.6 -0.4**
JAB Ashibetsu 1.64 316 P **Pn 10 48 21.6 +0.3**
ASAJ Asahikawa 1.98 334 LR LR 10 49 30.3
comp=Z,183nm,19.2s,baz=354,slow=49
ASAJ Asahikawa 1.98 334 *e*Pn **Pn 10 48 26.3 +0.4**
ASAJ *e*Sn **Sn 10 48 50.1 +0.5**
YUK Yuzh-Kuril'sk 2.27 41c *i*PN **Pn 10 48 28.9 -1.0**
YUK *i* S **Sn 10 48 54.5 -2.1**
YUK pmax pmax
comp=N,56nm,0.3s
YUK pmax pmax
comp=E,69nm,0.3s
YUK pmax pmax
comp=Z,480nm,0.3s
YUK smax smax
comp=N,984nm,0.6s
YUK smax smax
comp=E,2μm,0.6s
KUR Kuril'sk 4.13 44 *e*PN **Pn 10 48 55.3 -0.1**
KUR *e*S **Sn 10 49 44.2 +1.9**
KUR pmax pmax
comp=N,24nm,0.4s
KUR pmax pmax
comp=E,23nm,0.4s
KUR pmax pmax
comp=Z,34nm,0.4s
KUR smax smax
comp=E,103nm,0.5s
KUR smax smax
comp=N,99nm,0.4s
YSS Yuzh-Sakhalins 4.67 351 *e*PN **Pn 10 49 02.7 -0.1**
YSS *e* 10 49 55.9
YSS Yuzh-Sakhalins 4.67 351 *e*Pn **Pn 10 49 02.7 -0.1**
YSS *e*Sn **Sn 10 49 55.9 +0.1**
UGL Uglegorsk 6.85 350 *e*PN Pn 10 49 46.8 +14
UGL *e*S **Sn 10 50 49.3 +0.1**
MAJO Matsushiro 7.22 219c*e*PN **Pn 10 49 37.8 -0.1**
MAJO Matsushiro 7.22 219 *e*Pn **Pn 10 49 37.7 -0.1**
MAJO *e*Sn **Sn 10 50 56.9 -1.7**
MAT Matsushiro 7.22 219 P **Pn 10 49 37.9 0.0**
MAT S **Sn 10 50 58.7 +0.1**
MJAR Matsushiro Arr 7.22 219 P **Pn 10 49 38.0 +0.1**
comp=N,2.3nm,0.3s,baz=26,slow=12,SNR=45
MJAR S Sn 10 51 08.2 +10
comp=N,0.4nm,0.3s,baz=4.4,slow=28,SNR=2.5
MJAR LR LR 10 53 09.2
comp=N,161nm,21.1s,baz=30,slow=44
HABR Khabarovsk 8.69 318 *e*PN **Pn 10 49 56.3 -1.5**
HABR pmax pmax
comp=N,10.0nm,1.5s
HABR pmax pmax
comp=Z,7.0nm,1.5s
HABR pmax pmax
comp=E,11nm,1.5s
HABR MLR MLR
comp=Z,100nm,17.0s
USRK Ussuriysk Ar. 8.82 286 P Pn 10 50 03.0 +3.4
comp=Z,0.6nm,0.3s,baz=86,slow=14,SNR=7.6
USRK LR LR 10 53 37.5
comp=Z,90nm,20.8s,baz=98,slow=39
KLR Kul'dur 10.87 313 *e*PN **Pn 10 50 25.7 -2.0**
SKR Severo-Kuril's 11.89 41 *e*PN Pn 10 50 30.0 -12
KSRS Korea Array 13.13 253 P P 10 51 04.1 -3.3
comp=Z,0.4nm,0.3s,baz=62,slow=14,SNR=4.6
KSRS LR LR 10 55 06.7
comp=Z,29nm,20.8s,baz=359,slow=33
KSAR Wonju Array Be 13.16 253 PN P 10 51 04.1 -3.7
KSAR Wonju Array Be 13.16 253 P P 10 51 04.1 -3.7
PETK Petropavlovsk- 14.24 36 P **Pn 10 51 13.9 +0.3**
comp=Z,1.5nm,0.3s,baz=200,slow=11,SNR=7.2
PETK LR LR 10 56 06.2
comp=Z,30nm,21.0s,baz=263,slow=34
PET Petropavlovsk 14.61 38 *e*P **Pn 10 51 17.8 -0.6**
PET pmax pmax
comp=Z,8.0nm,0.7s
SEY Seymchan 21.24 11 P **P 10 52 33.3 -3.2**
comp=Z,9.9nm,1.0s,baz=192,slow=8.5,SNR=19
SEY Seymchan 21.24 11⇓*e*P **P 10 52 34.0 -2.5**
YAK Yakutsk 21.45 342⇑*e*P **P 10 52 40.9 +2.2**
YAK pmax pmax
comp=Z,10.0nm,0.6s
HHC Hu-ho-hao-te 24.08 277 *e*P **P 10 53 04.2 -1.6**
HHC pP **pP 10 53 17.8 -0.5**
HHC sP **sP 10 53 22.7 -1.3**
HHC S **S 10 57 17.0 -3.0**
HHC SS SnSn 10 58 13.8 +9.4
HHC PMZ
comp=Z,24nm,0.6s
HHC PMZ
comp=Z,52nm,4.9s
HHC LN
comp=Z,88nm,10.6s
HHC LE
comp=Z,83nm,10.6s
HHC LZ
comp=Z,65nm,10.3s
SONM Songino Array 26.79 295 P **P 10 53 29.7 -0.6**
comp=Z,2.2nm,0.8s,baz=100,slow=8.8,SNR=9.9
SONM LR LR 11 04 02.5
comp=Z,32nm,20.2s,baz=77,slow=36
BILL Bilibino 28.42 18⇓*e*P **P 10 53 45.6 +1.1**
BILL *e* 10 54 32.8
BILL pmax pmax
comp=Z,2.0nm,1.0s
TLY Talaya 28.61 303 *e*P **P 10 53 49.2 +2.8**
TLY pmax pmax
comp=Z,2.0nm,0.6s
H11N2 WAKE ISLAND Hy 29.81 132 T T 11 25 18.1
baz=324,slow=75,SNR=521
H11N1 WAKE ISLAND Hy 29.82 132 T T 11 25 25.4
baz=324,slow=75,SNR=711
H11N3 WAKE ISLAND Hy 29.83 132 T T 11 25 26.0
baz=324,slow=75,SNR=234
H11S1 WAKE ISLAND Hy 30.70 134 T T 11 26 27.5
baz=325,slow=76,SNR=571
H11S3 WAKE ISLAND Hy 30.71 134 T T 11 26 30.1
baz=325,slow=76,SNR=644
H11S2 WAKE ISLAND Hy 30.72 134 T T 11 26 33.5
baz=325,slow=76,SNR=430
LZH Lanzhou 31.36 272 *e*P **P 10 54 09.8 -1.3**
LZH pP **pP 10 54 23.0 -0.7**
LZH sP **sP 10 54 28.7 -0.7**
LZH *e*PP **PnPn 10 55 14.0 -0.9**
LZH PMZ
comp=Z,19nm,1.1s
LZH PMZ
comp=Z,50nm,4.9s
LZH LN
comp=Z,170nm,12.8s
LZH LE
comp=Z,150nm,13.2s
LZH LZ
comp=Z,220nm,17.0s
CD2 Chengdu 33.81 264 *e*P **P 10 54 31.0 -1.4**
ZALV Zalesovo Beam 39.91 308 P **P 10 55 23.0 -0.8**
comp=Z,1.4nm,0.4s,baz=87,slow=7.6,SNR=7.8
ZALV Zalesovo Beam 39.91 308 *i* P **P 10 55 23.3 -0.5**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
WMQ Urumqi 40.33 292 P **P 10 55 30.4 +2.8**
WMQ pP **pP 10 55 42.6 +2.1**
WMQ sP **sP 10 55 48.1 +1.9**
WMQ PP **PnPn 10 57 07.6 +2.6**
WMQ LR LR
comp=N,120nm,8.6s
WMQ LR LR
comp=E,87nm,6.7s
WMQ LR LR
comp=Z,9.0nm,12.4s
WMQ Urumqi 40.33 292 *e*P **P 10 55 28.1 +0.5**
WMQ pP **pP 10 55 40.3 -0.2**
WMQ sP **sP 10 55 45.8 -0.4**
WMQ PP **PnPn 10 57 05.3 +0.3**
WMQ PMZ
comp=Z,6.0nm,0.4s
WMQ PMZ
comp=Z,11nm,4.6s
WMQ LN
comp=Z,19nm,8.5s
WMQ LE
comp=Z,23nm,9.6s
WMQ LZ
comp=Z,21nm,13.4s
IM04 Indian Mountai 41.17 33 *e*P **P 10 55 34.8 +0.6**
COLD Coldfoot 42.65 32 *e*P **P 10 55 47.8 +1.6**
comp=Z,13nm,2.2s
MKAR Makanchi Array 43.07 298 P **P 10 55 50.0 +0.1**
comp=Z,1.0nm,0.5s,baz=82,slow=10,SNR=17
MKAR Makanchi Array 43.07 298c*e*P P 10 55 56.0 +6.1
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 43.07 298 *e*P **P 10 55 50.1 +0.2**
COLA College 43.65 35⇑*e*P **P 10 55 54.6 +0.4**
COLA pmax pmax
comp=Z,16nm,0.8s
COLA College 43.65 35 *e*P **P 10 55 55.2 +0.9**
comp=Z,4.6nm,0.9s
CCB Clear Creek Bu 43.68 35 *e*P P 10 55 57.8 +3.3
comp=Z,14nm,2.1s
ILAR Eielson Array 44.07 35 P **P 10 55 57.5 -0.2**
comp=Z,2.0nm,0.9s,baz=258,slow=5.7,SNR=24
KURK Kurchatov 44.29 304 *e*P **P 10 55 59.4 -0.1**
KURK *e**PP **pP 10 56 13.0 +0.4**
KURK *e**SP **sP 10 56 18.7 +0.5**
KURK pmax pmax
comp=Z,4.0nm,0.7s
KURK Kurchatov 44.29 304 *e*P **P 10 55 59.4 -0.1**
comp=Z,4.4nm,0.7s
KURK *e*pP **pP 10 56 13.0 +0.4**
KURK *e*sP **sP 10 56 18.7 +0.5**
CMAR Chiang Mai Arr 44.76 252 P **P 10 56 04.8 +1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,0.5nm,0.4s,baz=36,slow=6.7,SNR=3.2						
EGAK	**Eagle**	**46.50**	**35**	*e*P	**P**	**10 56 17.8**	**+0.9**
	comp=Z,40nm,2.6s						
BRVK	**Borovoye**	**48.55**	**309⇑**	*e*P	**P**	**10 56 33.3**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**48.85**	**29**	P	**P**	**10 56 34.5**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=307,slow=12,SNR=24						
INK	**Inuvik**	**48.85**	**29**	P	**P**	**10 56 34.5**	**-0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**48.85**	**29**	*e*P	**P**	**10 56 34.7**	**-0.3**
KAPI	**Kappang**	**51.96**	**211**	P	P	10 57 02.9	+3.8
	comp=Z,11nm,0.7s,baz=61,slow=10,SNR=4.1						
DLBC	**Dease Lake**	**53.36**	**41**	P	**P**	**10 57 10.3**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=221,slow=9.3,SNR=3.5						
ARU	**Arti**	**53.69**	**317**	*d i*P	**P**	**10 57 10.7**	**-0.7**
ARU				S	**S**	**11 04 41.3**	**-0.3**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ABKAR	**Akbulak array**	**56.02**	**308**	*e*P	**P**	**10 57 28.4**	**0.0**
	comp=Z,1.2nm,0.3s						
ABKAR				*e*pP	**pP**	**10 57 42.1**	**+0.3**
YKA	**Yellowknife Ar**	**58.32**	**32**	P	**P**	**10 57 44.7**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=304,slow=7.2,SNR=5.7						
ARCES	**ARCESS Array B**	**59.70**	**339**	P	**P**	**10 57 52.9**	**-1.0**
	comp=Z,3.0nm,0.9s,baz=42,slow=7.4,SNR=4.2						
ARCES				LR	LR	11 26 42.2	
	comp=Z,27nm,18.1s,baz=16,slow=39						
WRA	**Warramunga Arr**	**62.58**	**190**	P	**P**	**10 58 13.2**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=7.3,slow=6.8,SNR=27						
COR	**Corvallis**	**63.73**	**53**	*e*P	**P**	**10 58 23.2**	**+1.9**
COR	**Corvallis**	**63.73**	**53**	*e*P	**P**	**10 58 23.2**	**+1.9**
	comp=Z,172nm,1.7s						
FINES	**FINESS Array B**	**64.99**	**332**	P	**P**	**10 58 28.4**	**-0.9**
	comp=Z,3.6nm,0.4s,baz=53,slow=7.1,SNR=26						
FINES				LR	LR	11 29 34.3	
	comp=Z,62nm,19.8s,baz=12,slow=38						
FINES	**FINESS Array B**	**64.99**	**332**	*i* P	**P**	**10 58 28.7**	**-0.6**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
SUMG	**Summit**	**65.38**	**1**	*e*P	**P**	**10 58 32.3**	**+0.1**
SUMG	**Summit**	**65.38**	**1**	*e*P	**P**	**10 58 32.3**	**+0.1**
ASAR	**Alice Springs**	**66.31**	**190**	P	**P**	**10 58 38.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=6.8,slow=6.6,SNR=14						
KIV	**Kislovodsk**	**68.84**	**311⇓**	*e*P	**P**	**10 58 54.7**	**+0.4**
KIV				*e*		10 59 20.9	
KIV				*e*		11 01 22.0	
KIV				pmax	pmax		
	comp=Z,11nm,1.7s						
KIV				MLR	MLR		
	comp=Z,27nm,17.0s						
KBZ	**Khabaz**	**68.86**	**310**	P	**P**	**10 58 55.0**	**+0.8**
	comp=Z,2.5nm,0.9s,baz=150,slow=20,SNR=3.2						
KBZ	**Khabaz**	**68.86**	**310**	P	**P**	**10 58 55.0**	**+0.8**
BOZ	**Bozeman (W)**	**69.67**	**46**	*e*P	**P**	**10 59 00.0**	**+0.6**
BOZ				*e**PP	**pP**	**10 59 13.8**	**+0.6**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BOZ	**Bozeman (W)**	**69.67**	**46**	*e*P	**P**	**10 59 00.0**	**+0.6**
	comp=Z,1.2nm,0.5s						
BOZ				*e*pP	**pP**	**10 59 13.8**	**+0.6**
NB2	**NORSAR Subarra**	**70.00**	**338**	P	**P**	**10 59 00.4**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=33,slow=6.5						
NOA	**NORSAR Array B**	**70.00**	**338**	P	**P**	**10 59 00.5**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=36,slow=6.1,SNR=7.8						
NVAR	**Mina Array Bea**	**70.41**	**56**	P	**P**	**10 59 04.9**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=297,slow=6.4,SNR=4.3						
AKASG	**Malin Array Be**	**71.23**	**322**	P	**P**	**10 59 08.0**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=44,slow=6.3,SNR=5.6						
PDAR	**Pinedale Array**	**72.69**	**48**	P	**P**	**10 59 18.0**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=50,slow=1.9,SNR=4.8						
GERES	**GERESS Array B**	**79.15**	**329**	P	**P**	**10 59 54.0**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=55,slow=7.3,SNR=2.9						
GERES				LR	LR	11 37 55.1	
	comp=Z,39nm,19.5s,baz=73,slow=38						
GERES	**GERESS Array B**	**79.15**	**329**	P	**P**	**10 59 54.0**	**-0.4**
TXAR	**Lajitas Array**	**85.47**	**54**	P	**P**	**11 00 28.3**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=302,slow=3.6,SNR=16						
TORD	**Torodi Ar. Bea**	**114.73**	**319**	PKP	PKPdf	11 06 29.5	-0.8
	comp=Z,0.5nm,1.0s,baz=214,slow=2.1,SNR=2.4						
LPAZ	**La Paz**	**142.31**	**56**	PKP	**PKPdf**	**11 07 20.1**	**-3.0**
	comp=Z,15nm,0.3s,baz=302,slow=4.6,SNR=174						
SIV	**San Ignacio**	**146.17**	**47**	PKPbc	**PKPdf**	**11 07 29.2**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=307,slow=5.1,SNR=3.9						
SNAA	**Sanae**	**146.35**	**198**	PKPbc	**PKPdf**	**11 07 28.4**	**+0.6**
	baz=213,slow=4.1						

*ISCJB **08** 11:04:08.5±1.4, 33°.97S±0°.03×72°.50W±0°.05, h13km±9km, mb4.1/8, MS3.6/2, Error ellipse: s-maj=7.3km s-min=5.4km az=10.7*

*IDC **08** 11:04:08.5±0.7, 33°.99S×72°.18W, h0km, mb4.1/7, mb1 4.3/10, mb1mx4.1/19, mbtmp4.2/10, ML4.1/2, MS3.5/5, Ms1 3.5/5, ms1mx3.1/20, Error ellipse: s-maj=26.5km s-min=14.8km az=109.0*

*GUC **08** 11:04:10.5±0.5, 34°.02S×72°.33W, h6km±1km, ML4.2*

*NEIC **08** 11:04:13.8±0.4, 33°.93S×72°.26W, h35km, mb4.1/3, Error ellipse: s-maj=11.4km s-min=6.9km az=95.0*

ISC 08 11:04:09.8±2.4**, 33°.97S**±0°.04**×72°.34W**±0°.08**, h10**km±14km**, n41, σ0s.72**/59**, mb4.3**/8**, 8C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.77**	**89⇓**	*i*P	**Pb**	**11 04 25.8**	**+0.6**
IHA	**Instituto Hidr**	**1.11**	**32⇑**	*i*P	**Pn**	**11 04 31.6**	**+0.3**
TACH	**Talagante**	**1.21**	**75⇑**	*i*P	**Pn**	**11 04 32.6**	**-0.1**
NICH	**Los Niches**	**1.38**	**139⇑**	*i*P	**Pn**	**11 04 34.8**	**-0.3**
NICH				*i* S	**Sb**	**11 04 52.9**	**-0.5**
SAN	**Santiago**	**1.49**	**70⇑**	*i*P	**Pb**	**11 04 37.4**	**-0.1**
SAN				*e*S	**Sg**	**11 04 57.5**	**-0.2**
ROCH	**El Roble**	**1.49**	**48⇑**	*i*P	**Pb**	**11 04 37.5**	**-0.2**
ROCH				*i* S	**Sg**	**11 04 59.0**	**+1.2**
ROCH				AML	AML	11 05 09.0	
	comp=E,4μm,0.7s						
TALC	**Talca**	**1.54**	**158⇓**	*i*P	**Pn**	**11 04 37.1**	**-0.2**
TALC				*i* S	**Sn**	**11 04 57.3**	**0.0**
PCH	**Pirque**	**1.56**	**78⇑**	*i*P	**Pb**	**11 04 38.4**	**-0.4**
LACH	**Col Las Americ**	**1.59**	**72**	*e*P	**Pb**	**11 04 38.9**	**-0.4**
CLCH	**Cerro Calan**	**1.61**	**70⇑**	*i*P	**Pb**	**11 04 39.2**	**-0.4**
CLCH				*i* S	**Sg**	**11 05 01.2**	**-0.3**
CLCH				AML	AML	11 05 12.3	
	comp=N,4μm,0.5s						
PEL	**Peldehue**	**1.61**	**60⇓**	*i*P	**Pb**	**11 04 39.6**	**0.0**
PEL				*i* S	**Sg**	**11 05 01.4**	**-0.1**
PEL				AML	AML	11 05 10.2	
	comp=N,7μm,0.6s						
SJCH	**San Jose de Ma**	**1.69**	**79**	*e*P	**Pn**	**11 04 39.5**	**+0.1**
SJCH				*i* S	**Sb**	**11 05 02.0**	**-0.2**
LNCH	**Linares**	**1.97**	**162⇑**	*i*P	**Pn**	**11 04 43.8**	**+0.6**
CFAA	**Coronel Fontan**	**4.18**	**57**	Pn	**Pn**	**11 05 13.7**	**0.0**
	comp=N,0.4nm,0.3s,baz=225,slow=13,SNR=40						
CFAA				Lg	Lg	11 06 17.1	
	comp=N,0.9nm,0.3s,baz=33,slow=17,SNR=5.1						
CFAA				LR	LR	11 06 55.6	
	comp=N,75nm,19.5s,baz=235,slow=41						
LCO	**Las Campanas**	**5.14**	**16**	*e*Pn	**Pn**	**11 05 26.7**	**-0.4**
	comp=N,42nm,0.8s						
LCO				*e*Sn	**Sn**	**11 06 25.4**	**-1.2**
PLCA	**Paso Flores**	**6.90**	**169**	Pn	**Pn**	**11 05 50.6**	**-0.5**
	comp=N,1.1nm,0.3s,baz=340,slow=12,SNR=22						
PLCA				Lg	Lg	11 07 41.9	
	comp=N,0.5nm,0.3s,baz=288,slow=19,SNR=2.3						
PLCA				LR	LR	11 08 34.0	
	comp=N,360nm,20.2s,baz=352,slow=39						
PLCA	**Paso Flores**	**6.90**	**169**	*e*Pn	**Pn**	**11 05 51.5**	**+0.5**
PLCA				Lg	Lg	11 07 41.9	
PLCA				*e*Sg	**Sg**	**11 07 49.9**	**-1.3**
TRQA	**Tornquist**	**9.33**	**119**	*e*Pn	**Pn**	**11 06 27.4**	**+3.1**
	comp=N,8.9nm,0.8s						
LVC	**Limon Verde**	**11.71**	**16**	Pn	**Pn**	**11 06 56.9**	**-0.3**
	comp=N,13nm,0.3s,baz=198,slow=14,SNR=2.6						
LVC				LR	LR	11 11 53.4	
	comp=N,925nm,21.0s,baz=210,slow=40						
CPUP	**Villa Florida**	**15.04**	**64**	*e*Pn	**Pn**	**11 07 42.4**	**0.0**
LPAZ	**La Paz**	**18.01**	**13**	P	**P**	**11 08 22.4**	**+1.0**
	comp=N,0.2nm,0.3s,baz=178,slow=11,SNR=6.1						
LPAZ	**La Paz**	**18.01**	**13**	*e*Pn	**P**	**11 08 22.2**	**+0.8**
	comp=N,5.7nm,0.8s						
SIV	**San Ignacio**	**20.58**	**32**	P	**P**	**11 08 48.4**	**-0.5**
	comp=N,3.8nm,0.7s,baz=221,slow=7.9,SNR=12						
SIV				LR	LR	11 18 10.4	
	comp=N,191nm,19.9s,baz=196,slow=41						
BDFB	**Brasilia**	**28.52**	**56**	P	**P**	**11 10 05.0**	**-0.7**
	comp=N,4.7nm,0.7s,baz=197,slow=11,SNR=4.4						
BDFB				LR	LR	11 22 48.8	
	comp=N,175nm,19.5s,baz=170,slow=39						
SNAA	**Sanae**	**51.71**	**158**	P	**P**	**11 13 16.7**	**0.0**
	comp=N,1.2nm,0.8s,baz=285,slow=7.1,SNR=16						
QSPA	**South Pole Qui**	**56.27**	**180**	P	**P**	**11 13 50.7**	**+0.5**
	comp=N,3.2nm,1.0s,baz=153,slow=4.2,SNR=9.1						
QSPA	**South Pole Qui**	**56.27**	**180**	*e*P	**P**	**11 13 50.8**	**+0.6**
JCT	**Junction City**	**69.15**	**335**	*e*P	**P**	**11 15 17.6**	**+1.3**
	comp=N,2.8nm,0.7s						
TXAR	**Lajitas Array**	**69.59**	**331**	P	**P**	**11 15 20.3**	**+1.2**
	comp=N,0.3nm,0.5s,baz=159,slow=8.0,SNR=9.6						
MAW	**Mawson**	**73.28**	**164**	P	**P**	**11 15 41.0**	**+0.2**
	comp=N,2.4nm,0.6s,baz=133,slow=3.2,SNR=6.2						
ECSD	**EROS Data Cent**	**80.44**	**342**	*e*P	**P**	**11 16 21.6**	**+0.2**
	comp=N,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**84.43**	**70**	P	**P**	**11 16 42.8**	**-0.1**
	comp=N,2.1nm,0.7s,baz=257,slow=4.3,SNR=20						
WRA	**Warramunga Arr**	**120.67**	**209**	PKP	**PKPdf**	**11 23 01.6**	**-0.9**
	comp=N,0.5nm,0.8s,baz=163,slow=1.6,SNR=6.9						
BRVK	**Borovoye**	**147.36**	**43**	*e*PKPbc	**PKPab**	**11 23 54.1**	**-1.0**
BVAR	**Borovoye Array**	**147.43**	**43**	PKPbc	**PKPbc**	**11 23 53.3**	**-0.1**
	comp=N,2.6nm,0.6s,baz=298,slow=3.2,SNR=14						
AAK	**Ala-Archa**	**152.71**	**62**	PKPbc	**PKPbc**	**11 24 06.7**	**-0.1**
	comp=N,2.5nm,0.7s,baz=225,slow=2.9,SNR=6.0						
AAK				PKPab	**PKPab**	**11 24 16.9**	**-0.7**
	comp=N,0.8nm,0.3s,baz=282,slow=4.2,SNR=3.5						
AAK	**Ala-Archa**	**152.71**	**62**	*e*PKPdf	**PKPdf**	**11 24 00.3**	**+0.6**
AAK				PKPbc	**PKPbc**	**11 24 06.7**	**-0.1**
AAK				*e*PKPbc	**PKiKP**	**11 24 07.8**	**+0.8**
AAK				PKPab	**PKPab**	**11 24 16.9**	**-0.7**
AAK				*e*PKPab	PKPab	11 24 18.1	+0.5
KURK	**Kurchatov**	**153.03**	**43**	*e*PKPdf	**PKPdf**	**11 23 59.4**	**-0.2**
KURK				*e*PKPbc	**PKPbc**	**11 24 06.7**	**-0.3**
KURK				*e*PKPab	**PKPab**	**11 24 17.5**	**-0.9**
ZAA0	**Zalesovo Array**	**154.33**	**32**	*e*PKPdf	**PKPdf**	**11 24 01.0**	**-0.4**
ZAA0				*e*PKPbc	**PKiKP**	**11 24 10.0**	**+0.2**
ZAA0				*e*PKPab	**PKPab**	**11 24 23.3**	**-0.5**
ZALV	**Zalesovo Beam**	**154.33**	**32**	PKPbc	**PKPbc**	**11 24 09.8**	**+0.1**
	comp=N,3.0nm,0.6s,baz=309,slow=2.6,SNR=12						
ZALV				PKPab	**PKPab**	**11 24 23.5**	**-0.3**
	comp=N,0.9nm,0.6s,baz=305,slow=3.7,SNR=5.5						
MKAR	**Makanchi Array**	**156.93**	**49**	PKPab	**PKPab**	**11 24 34.8**	**-0.5**
	comp=N,1.0nm,0.6s,baz=287,slow=3.8,SNR=7.6						

*IDC **08** 11:04:59.9±2.5, 15°.29S×178°.77W, h426km±27km, mb3.6/16, mb1 3.8/16, mb1mx3.7/22, mbtmp4.4/16, Error ellipse: s-maj=14.2km s-min=11.7km az=125.0*

*ISCJB **08** 11:05:00.7±0.5, 15°.38S±0°.09×178°.8W±0°.1, h450km, mb3.9/16, Error ellipse: s-maj=14.9km s-min=10.6km az=25.0*

ISC 08 11:05:01.8±0.6**, 15°.3S**±0°.1**×178°.7W**±0°.1**, h450**km**, n26, σ0s.99**/28**, mb3.9**/16**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.57**	**242**	P	**P**	**11 08 20.1**	**+1.0**
	2.3nm,0.3s,baz=90,slow=20,SNR=15						
URZ	**Urewera**	**23.18**	**188**	P	**P**	**11 09 29.7**	**-2.1**
	14nm,0.3s,baz=279,slow=2.9,SNR=32						
QRZ	**Quartz Range**	**26.56**	**195**	*e*PN	**P**	**11 10 01.8**	**0.0**
THZ	**Tophouse**	**27.36**	**194**	*e*PN	**P**	**11 10 06.7**	**-2.3**
DSZ	**Denniston Nort**	**27.61**	**195**	*e*PN	**P**	**11 10 09.5**	**-1.6**
JCZ	**Jackson Bay**	**30.61**	**198**	PN	**P**	**11 10 35.4**	**-2.0**
CTA	**Charters Tower**	**33.66**	**257**	P	**P**	**11 11 03.2**	**-0.6**
	2.7nm,0.4s,baz=78,slow=14						
STKA	**Stephens Creek**	**39.67**	**238**	P	**P**	**11 11 53.2**	**-0.4**
	3.2nm,0.4s,baz=83,slow=8.5,SNR=7.4						
WRA	**Warramunga Arr**	**44.86**	**257**	P	**P**	**11 12 34.5**	**-0.3**
	0.7nm,0.4s,baz=94,slow=6.3,SNR=29						
WRA				PcP	**PcP**	**11 14 07.8**	**+0.3**
	0.9nm,1.0s,baz=90,slow=3.7,SNR=4.6						
ASAR	**Alice Springs**	**45.26**	**252**	P	**P**	**11 12 37.7**	**-0.2**
	8.8nm,0.4s,baz=84,slow=8.2,SNR=185						
ASAR				PcP	**PcP**	**11 14 09.8**	**+0.9**
	1.0nm,0.5s,baz=101,slow=3.6,SNR=4.6						
ASAR				S	**S**	**11 18 44.5**	**0.0**
	1.4nm,0.8s,baz=84,slow=15,SNR=9.5						
VNDA	**Vanda**	**63.02**	**185**	P	**P**	**11 14 43.8**	**+0.9**
	1.7nm,0.7s,baz=19,slow=7.9,SNR=9.1						
VNDA				PcP	**PcP**	**11 15 16.6**	**+0.6**
	1.6nm,0.8s,baz=7.4,slow=4.9,SNR=2.8						
MJAR	**Matsushiro Arr**	**65.64**	**323**	P	**P**	**11 14 59.9**	**-0.4**
	0.8nm,0.6s,baz=165,slow=6.4,SNR=7.9						
PETK	**Petropavlovsk-**	**71.08**	**345**	P	**P**	**11 15 33.0**	**-0.1**
	4.2nm,0.7s,baz=138,slow=11,SNR=5.0						
KSRS	**Korea Array**	**72.55**	**318**	P	**P**	**11 15 43.1**	**+1.1**
	0.6nm,0.5s,baz=130,slow=6.9,SNR=5.7						
QSPA	**South Pole Qui**	**74.75**	**180**	P	**P**	**11 15 55.0**	**+0.6**
	23nm,0.7s,baz=355,slow=0.7,SNR=93						
NVAR	**Mina Array Bea**	**77.77**	**44**	P	**P**	**11 16 10.9**	**-0.8**
	0.3nm,0.6s,baz=228,slow=7.8,SNR=4.0						
ILAR	**Eielson Array**	**83.42**	**13**	P	**P**	**11 16 39.9**	**-0.4**
	0.7nm,0.5s,baz=229,slow=5.5,SNR=20						
TXAR	**Lajitas Array**	**84.87**	**58**	P	P	11 16 50.0	+1.6
	0.6nm,0.7s,baz=227,slow=6.4,SNR=9.2						
PDAR	**Pinedale Array**	**85.68**	**44**	P	**P**	**11 16 52.4**	**+0.2**
	0.5nm,0.4s,baz=220,slow=2.4,SNR=3.4						
MAW	**Mawson**	**86.21**	**200**	P	**P**	**11 16 55.1**	**+1.1**
	6.9nm,0.5s,baz=131,slow=4.8,SNR=19						
SNAA	**Sanae**	**93.21**	**179**	P	P	11 17 19.3	-7.3
SNAA	**Sanae**	**93.21**	**179**	P	**P**	**11 17 26.6**	**0.0**
	1.7nm,0.7s,baz=210,slow=6.2,SNR=23						
VNA1	**Neumayer--Stat**	**94.03**	**177**	P	**P**	**11 17 31.0**	**+0.7**
ARCES	**ARCESS Array B**	**123.69**	**350**	PKP	**PKPdf**	**11 23 07.1**	**+0.3**
	0.9nm,0.4s,baz=17,slow=0.9,SNR=7.3						
GERES	**GERESS Array B**	**145.01**	**346**	PKPbc	**PKPab**	**11 23 47.8**	**-0.3**
	0.5nm,0.4s,baz=45,slow=2.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**177.83**	**191**	PKP	**PKPdf**	**11 24 19.9**	**-0.7**
	0.4nm,0.7s,baz=282,slow=0.9,SNR=4.9						
TORD				PKPab	PKPab	11 26 11.2	+0.7
	0.7nm,0.7s,baz=176,slow=4.2,SNR=5.6						

*SJA **08** 11:09:21.3±0.8, 33°.83S×73°.31W, h35km, ML4.1*

*ISCJB **08** 11:09:25.3±1.5, 33°.99S±0°.03×72°.50W±0°.05, h11km±10km, mb4.0/8, Error ellipse: s-maj=7.6km s-min=5.2km az=10.0*

*IDC **08** 11:09:25.4±0.8, 33°.98S×72°.36W, h0km, mb4.0/7, mb1 4.1/9, mb1mx4.0/26, mbtmp4.0/9, ML4.1/2, Error ellipse: s-maj=32.8km s-min=17.2km az=93.0*

*GUC **08** 11:09:25.9±0.7, 34°.01S×72°.41W, h5km±2km, ML4.2*

*NEIC **08** 11:09:30.7±0.4, 33°.96S×72°.29W, h35km, mb4.0/2, Error ellipse: s-maj=13.3km s-min=7.9km az=85.0*

ISC 08 11:09:26.5±1.9**, 33°.97S**±0°.03**×72°.30W**±0°.07**, h9**km±11km**, n50, σ1s.26**/63**, mb4.1**/8**, 1C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.74**	**89⇓**	*i*P	**Pb**	**11 09 41.8**	**+0.2**
IHA	**Instituto Hidr**	**1.09**	**31**	*e*P	**Pb**	**11 09 47.6**	**+0.1**
IHA				*i* S	**Sn**	**11 10 04.1**	**+0.9**
TACH	**Talagante**	**1.18**	**75⇑**	*i*P	**Pg**	**11 09 48.8**	**-0.4**
NICH	**Los Niches**	**1.36**	**140**	*e*P	**Pn**	**11 09 50.9**	**-0.9**
NICH				*i* S	**Sg**	**11 10 09.9**	**-0.4**
SAN	**Santiago**	**1.46**	**70**	*i* S	**Sg**	**11 10 14.7**	**+1.2**
ROCH	**El Roble**	**1.47**	**48**	*e*P	**Pn**	**11 09 53.5**	**0.0**
ROCH				*i* S	**Sg**	**11 10 14.5**	**+0.8**
ROCH				AML	AML	11 10 26.1	
	comp=N,5μm,0.3s						
PCH	**Pirque**	**1.53**	**77**	*e*P	**Pb**	**11 09 55.1**	**0.0**
PCH				*i* S	**Sg**	**11 10 16.8**	**+1.1**
TALC	**Talca**	**1.53**	**159**	*e*P	**Pn**	**11 09 53.1**	**-0.9**
TALC				*e*S	**Sn**	**11 10 14.2**	**+0.1**
LACH	**Col Las Americ**	**1.56**	**71**	*e*P	**Pn**	**11 09 55.4**	**+0.8**
CLCH	**Cerro Calan**	**1.58**	**69**	*e*P	**Pn**	**11 09 55.6**	**+0.8**
CLCH				*e*S	**Sg**	**11 10 18.6**	**+1.3**
CLCH				AML	AML	11 10 29.7	
	comp=N,3μm,0.9s						
PEL	**Peldehue**	**1.58**	**59**	*e*P	**Pb**	**11 09 55.7**	**-0.3**
PEL				*e*S	**Sg**	**11 10 18.4**	**+1.1**
PEL				AML	AML	11 10 27.6	
	comp=N,7μm,0.3s						
SJCH	**San Jose de Ma**	**1.65**	**79**	*e*P	**Pn**	**11 09 56.3**	**+0.4**
SJCH				*e*S	**Sg**	**11 10 19.7**	**0.0**
LNCH	**Linares**	**1.96**	**163**	*e*P	**Pn**	**11 10 00.6**	**+0.6**
LNCH				*i* S	**Sn**	**11 10 25.8**	**+1.0**
AUSP	**Uspallata**	**3.00**	**55**	*e*P	**Pb**	**11 10 19.0**	**-1.4**
AUSP				*e*S	**Sg**	**11 11 02.2**	**-0.8**
AAGR	**Agrelo**	**3.03**	**74**	*e*P	**Pb**	**11 10 20.2**	**-0.6**
ARCO	**CERRO ARCO**	**3.03**	**69**	*e*P	**Pb**	**11 10 21.6**	**+0.8**
ARCO				AML	AML	11 11 18.8	
	comp=Z,299nm,0.6s						
ASAL	**Salagasta**	**3.21**	**66**	*e*P	**Pb**	**11 10 23.0**	**-0.8**
RTLS	**Leoncito**	**3.33**	**50**	*e*P	**Pb**	**11 10 23.4**	**-2.5**
RTCV	**Cerro Valdivia**	**3.80**	**57**	*e*P	Pn	11 10 29.1	+3.7
CANA	**Caviahue**	**4.04**	**166**	*e*P	**Pn**	**11 10 30.4**	**+1.6**
CFAA	**Coronel Fontan**	**4.16**	**57**	Pn	**Pn**	**11 10 32.1**	**+1.8**
	comp=Z,0.6nm,0.3s,baz=57,slow=3.0,SNR=50						
CFAA				Lg	Lg	11 11 35.0	
	comp=Z,2.1nm,0.3s,baz=117,slow=18,SNR=3.9						
CFAA	**Coronel Fontan**	**4.16**	**57**	*e*P	**Pn**	**11 10 33.1**	**+2.9**
RTLL	**Cerro Villicun**	**4.16**	**52**	*e*P	**Pn**	**11 10 33.1**	**+2.7**
AMOG	**MOGNA**	**4.41**	**48**	*e*P	**Pn**	**11 10 36.1**	**+2.2**
ACAN	**Cantantal**	**4.61**	**70**	*e*P	Pn	11 10 40.1	+3.6
LCO	**Las Campanas**	**5.13**	**16**	*e*P	**Pn**	**11 10 44.4**	**+0.6**
PLCA	**Paso Flores**	**6.89**	**169**	Pn	**Pn**	**11 11 08.0**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=341,slow=10,SNR=12						
PLCA				Lg	Lg	11 13 01.1	
	comp=Z,0.5nm,0.3s,baz=277,slow=22,SNR=2.8						
PLCA	**Paso Flores**	**6.89**	**169**	*e*Pn	**Pn**	**11 11 08.8**	**+0.9**
PLCA				Lg	Lg	11 13 01.1	
TRQA	**Tornquist**	**9.30**	**119**	*e*Pn	**Pn**	**11 11 41.5**	**+0.7**
TRQA				*e*Sn	**Sn**	**11 13 20.8**	**-4.8**
LVC	**Limon Verde**	**11.70**	**16**	*e*Pn	**Pn**	**11 12 11.2**	**-2.8**
LPAZ	**La Paz**	**18.00**	**13**	P	**Pn**	**11 13 38.2**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=192,slow=9.6,SNR=10						
LPAZ	**La Paz**	**18.00**	**13**	*e*Pn	**P**	**11 13 39.1**	**+0.8**
SIV	**San Ignacio**	**20.56**	**32**	P	**P**	**11 14 05.8**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=226,slow=10,SNR=10						
OTAV	**Otavalo**	**34.51**	**349**	*e*P	**P**	**11 16 13.6**	**-2.2**
	comp=Z,1.1nm,0.4s						
SNAA	**Sanae**	**51.70**	**158**	P	**P**	**11 18 33.8**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=310,slow=6.8,SNR=6.2						
QSPA	**South Pole Qui**	**56.27**	**180**	P	**P**	**11 19 07.9**	**+0.7**
	comp=Z,2.2nm,1.0s,baz=193,slow=3.0,SNR=7.4						
TXAR	**Lajitas Array**	**69.60**	**331**	P	**P**	**11 20 36.5**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=157,slow=8.5,SNR=9.9						
MAW	**Mawson**	**73.27**	**164**	P	**P**	**11 20 58.3**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=231,slow=6.5,SNR=5.8						
BOSA	**Boshof**	**80.28**	**118**	P	**P**	**11 21 37.8**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=222,slow=5.2,SNR=5.0						
ECSD	**EROS Data Cent**	**80.45**	**342**	*e*P	**P**	**11 21 39.1**	**+0.6**
	comp=Z,0.8nm,0.5s						
TORD	**Torodi Ar. Bea**	**84.40**	**70**	P	**P**	**11 22 00.3**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=285,slow=6.7,SNR=23						
WRA	**Warramunga Arr**	**120.68**	**209**	PKP	**PKPdf**	**11 28 19.0**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=152,slow=1.9,SNR=10						
BRVK	**Borovoye**	**147.33**	**43**	*e*PKPdf	**PKPdf**	**11 29 06.8**	**-1.0**
BRVK				*e*PKPbc	**PKPbc**	**11 29 10.1**	**0.0**
BRVK				*e*PKPab	**PKPab**	**11 29 11.9**	**-0.1**
BVAR	**Borovoye Array**	**147.41**	**43**	PKPbc	**PKPbc**	**11 29 10.4**	**0.0**
	comp=Z,2.6nm,0.6s,baz=292,slow=3.9,SNR=12						
AAK	**Ala-Archa**	**152.68**	**62**	PKPbc	**PKPbc**	**11 29 25.0**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=233,slow=5.1,SNR=3.5						
KURK	**Kurchatov**	**153.00**	**43**	*e*PKPdf	**PKPdf**	**11 29 17.6**	**+0.9**
KURK				*e*PKPbc	**PKiKP**	**11 29 24.8**	**+0.7**
KURK				*e*PKPab	**PKPab**	**11 29 35.7**	**+0.3**
ZAA0	**Zalesovo Array**	**154.31**	**32**	*e*PKPbc	**PKPbc**	**11 29 27.6**	**+0.9**
ZALV	**Zalesovo Beam**	**154.31**	**32**	PKPbc	**PKPbc**	**11 29 26.6**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=294,slow=3.1,SNR=8.0						
MKAR	**Makanchi Array**	**156.91**	**49**	PKPab	**PKPab**	**11 29 52.2**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=289,slow=4.5,SNR=7.5						
SONM	**Songino Array**	**166.11**	**4**	PKPab	**PKPab**	**11 30 32.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=20,slow=4.6,SNR=3.9						

WEL 08 11:10:23.3±0.1**, 40°.39S×176°.63E, h20**km**, ML3.6**/31**, 11C-9D, Error ellipse: s-maj=1.4km s-min=0.8km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRHZ	**Porangahau**	**0.13**	**3**	⇑P*	Pg	11 10 27.3	-0.3
PRHZ				S*	Sg	11 10 30.3	-0.1
ANWZ	**Angora Road**	**0.14**	**240**	⇓P*	Pg	11 10 29.0	+1.4
WPHZ	**Waipukurau**	**0.36**	**336**	⇓P*	Pg	11 10 30.4	-0.7
WPHZ				S*	Sg	11 10 35.6	-0.6
DVHZ	**Dannevirke**	**0.36**	**285**	⇓P*	Pg	11 10 31.2	0.0
DVHZ				S*	Sg	11 10 36.1	-0.4
PXZ	**Pawanui**	**0.40**	**26**	⇑P*	Pb	11 10 32.1	+0.2
PXZ				AML	AML	11 10 40.3	
PXZ				AML	AML	11 10 40.3	
PXZ				AML	AML	11 10 42.1	
PXZ				AML	AML	11 10 42.1	
BFZ	**Birch Farm**	**0.41**	**225**	⇑P*	Pn	11 10 34.0	-0.2
PRWZ	**Pori Road**	**0.53**	**252**	⇓P*	Pn	11 10 35.5	-0.2
PNHZ	**Pukenui**	**0.58**	**325**	⇓P*	Pb	11 10 34.2	-0.6
CPWZ	**Castlepoint**	**0.61**	**212**	P*	Pn	11 10 37.7	+0.8
TSZ	**Takapari Road**	**0.61**	**303**	⇓P*	Pb	11 10 34.9	-0.5
TSZ				AML	AML	11 10 45.4	
TSZ				AML	AML	11 10 45.5	
KAHZ	**Kahuranaki**	**0.63**	**18**	P*	Pg	11 10 36.1	+0.2
POWZ	**Post Office Ro**	**0.66**	**270**	⇓P*	Pg	11 10 37.0	+0.6
TIWZ	**Tintock**	**0.68**	**236**	⇑P*	Pn	11 10 38.2	+0.2
TIWZ				AML	AML	11 10 54.8	
TIWZ				AML	AML	11 10 55.3	
KRHZ	**Kereru**	**0.77**	**345**	P*	Pb	11 10 37.8	-0.4
CKHZ	**Cape Kidnapper**	**0.81**	**25**	*e*P*	Pg	11 10 39.2	0.0
MRZ	**Mangatainoka R**	**0.84**	**251**	⇑P*	Pg	11 10 40.0	+0.1
MRZ				AML	AML	11 10 53.2	
MRZ				AML	AML	11 10 56.9	
TMWZ	**Te Maipa**	**0.91**	**218**	P*	Pg	11 10 41.2	+0.1
MCHZ	**McNeill Hill**	**0.95**	**3**	P*	Pb	11 10 41.0	-0.1
KWHZ	**Kaweka Forest**	**0.98**	**351**	P*	Pb	11 10 41.2	-0.6
HOWZ	**Holdsworth Sta**	**0.98**	**239**	⇑P*	Pb	11 10 42.0	+0.2
BHHZ	**Black Hill Sta**	**1.00**	**334**	⇑P*	Pb	11 10 41.5	-0.7
MTW	**Mount Morrison**	**1.15**	**228**	P*	Pn	11 10 43.9	-0.4
MTW				AML	AML	11 11 08.1	
MTW				AML	AML	11 11 14.5	
ARHZ	**Aropaoanui**	**1.17**	**14**	PN	Pn	11 10 44.1	-0.4
OGWZ	**Otaki Gorge**	**1.19**	**249**	P*	Pn	11 10 44.7	-0.1
MOVZ	**Moawhango**	**1.19**	**325**	⇑PN	Pn	11 10 44.7	-0.3
MOVZ				AML	AML	11 11 02.7	
MOVZ				AML	AML	11 11 12.0	
BKZ	**Black Stump Fm**	**1.23**	**355**	⇑PN	Pn	11 10 44.5	-1.0
BKZ				AML	AML	11 11 07.0	
BKZ				AML	AML	11 11 10.8	
TRWZ	**Traveller**	**1.23**	**215**	*e*P*	Pn	11 10 45.0	-0.5
TRWZ				AML	AML	11 11 04.3	
NMHZ	**Naumai**	**1.30**	**6**	PN	Pn	11 10 45.9	-0.6
WNVZ	**Wahianoa**	**1.33**	**323**	⇑PN	Pn	11 10 47.0	0.0
PAWZ	**Paruwai Farm**	**1.34**	**222**	P*	Pn	11 10 46.5	-0.5
PAWZ				AML	AML	11 11 19.7	
PAWZ				AML	AML	11 11 21.6	
MTVZ	**Mangateitei**	**1.34**	**318**	PN	Pn	11 10 47.5	+0.4
MTVZ				AML	AML	11 11 14.5	
MTVZ				AML	AML	11 11 16.1	
TUVZ	**Tukino**	**1.35**	**326**	PN	Pn	11 10 47.5	+0.2
TUVZ				AML	AML	11 11 10.3	
TUVZ				AML	AML	11 11 17.6	
WHVZ	**Whangaehu Hut**	**1.37**	**324**	PN	Pn	11 10 47.7	0.0
TRVZ	**Turoa**	**1.37**	**322**	PN	Pn	11 10 47.8	+0.1
TRVZ				AML	AML	11 11 11.7	
TRVZ				AML	AML	11 11 12.1	
CAW	**Cannon Point**	**1.38**	**238**	P*	Pn	11 10 47.1	-0.4
CAW				AML	AML	11 11 13.5	
CAW				AML	AML	11 11 13.5	
KIW	**Kapiti Island**	**1.39**	**250**	P*	Pn	11 10 47.6	-0.1
KIW				AML	AML	11 11 10.0	
KIW				AML	AML	11 11 17.3	
WHHZ	**Waihua**	**1.40**	**20**	*e*PN	Pn	11 10 47.7	0.0
FWVZ	**Far West T-bar**	**1.41**	**324**	PN	Pn	11 10 48.1	-0.1
FWVZ				AML	AML	11 11 11.9	
FWVZ				AML	AML	11 11 22.9	
WAZ	**Wanganui**	**1.41**	**296**	PN	Pb	11 10 48.8	-0.2
WAZ				AML	AML	11 11 13.7	
WAZ				AML	AML	11 11 18.7	
OTVZ	**Oturere**	**1.43**	**329**	PN	Pn	11 10 48.9	+0.4
OTVZ				AML	AML	11 11 09.3	
OTVZ				AML	AML	11 11 13.8	
WPVZ	**Whakapapa**	**1.45**	**325**	PN	Pn	11 10 48.8	+0.1
WPVZ				AML	AML	11 11 18.4	
WPVZ				AML	AML	11 11 21.4	
NGZ	**Ngauruhoe**	**1.45**	**327**	⇓PN	Pn	11 10 49.3	+0.6
NGZ				AML	AML	11 11 16.8	
NGZ				AML	AML	11 11 17.3	
COVZ	**Chateau Observ**	**1.46**	**325**	PN	Pn	11 10 49.1	+0.4
MSWZ	**Moikau Station**	**1.46**	**225**	PN	Pn	11 10 48.0	-0.7
MSWZ				AML	AML	11 11 22.7	
MSWZ				AML	AML	11 11 23.7	
PKVZ	**Pokaka**	**1.48**	**318**	PN	Pb	11 10 49.7	-0.6
PKVZ				AML	AML	11 11 16.7	
PKVZ				AML	AML	11 11 17.2	
KRVZ	**Karewarewa**	**1.50**	**329**	AML	AML	11 11 18.3	
KRVZ				AML	AML	11 11 23.5	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WTVZ	West Tongariro	1.51	328	PN	Pb	11 10 50.2	-0.6
WTVZ				AML	AML	11 11 15.0	
WTVZ				AML	AML	11 11 20.2	
RAHZ	Arahi	1.52	14	PN	Pn	11 10 48.4	-1.0
MRHZ	Matea Rd	1.57	354	PN	Pn	11 10 49.8	-0.4
PLWZ	Palliser	1.57	221	PN	Pn	11 10 49.3	-0.8
KNZ	Kokohu	1.59	31	PN	Pn	11 10 49.5	-0.8
RATZ	Rangitukua	1.66	336	PN	Pn	11 10 52.2	+0.8
RATZ				AML	AML	11 11 19.2	
RATZ				AML	AML	11 11 29.9	
SNGZ	Shannon Statio	1.70	19	PN	Pn	11 10 51.2	-0.8
ALRZ	Allen Road	1.84	353	ePN	Pn	11 10 53.1	-0.7
VRZ	Vera Road	1.92	311	AML	AML	11 11 36.3	
VRZ				AML	AML	11 11 42.9	
TCW	Tory Channel	1.96	245	PN	Pn	11 10 54.7	-0.8
TCW				AML	AML	11 11 30.8	
TCW				AML	AML	11 11 31.8	
DUWZ	D'Urville Isla	2.10	258	PN	Pn	11 10 57.8	+0.4
DUWZ				AML	AML	11 11 39.4	
URZ	Urewera	2.16	10	PN	Pn	11 10 56.6	-1.7
URZ				AML	AML	11 11 23.5	
URZ				AML	AML	11 11 53.9	
TKGZ	Te Karaka	2.17	26	PN	Pn	11 10 56.7	-1.7
MWZ	Matawai	2.17	19	⇑PN	Pn	11 10 57.0	-1.4
MWZ				AML	AML	11 11 32.0	
MWZ				AML	AML	11 11 59.1	
TUWZ	Tuamarina	2.28	242	PN	Pn	11 10 58.7	-1.2
HIZ	Hauiti	2.33	323	PN	Pn	11 11 01.2	+0.7
HIZ				AML	AML	11 11 49.9	
BSWZ	Blackbirch Sta	2.46	237	PN	Pn	11 11 01.2	-1.2
HAZ	Te Kaha	2.78	19	ePN	Pn	11 11 05.0	-1.8
WMGZ	Waiomatatini S	2.92	29	PN	Pn	11 11 06.9	-1.8
THZ	Tophouse	3.13	243	⇓PN	Pn	11 11 10.1	-1.6
THZ				AML	AML	11 11 35.8	
THZ				AML	AML	11 12 09.0	
QRZ	Quartz Range	3.15	261	PN	Pn	11 11 11.4	-0.5
DSZ	Denniston Nort	3.89	248	ePN	Pn	11 11 20.6	-1.5
LTZ	Lake Taylor	4.05	232	PN	Pn	11 11 21.7	-2.5

*NEIC **08** 11:24:40.3, 19.°00N×65.°33W, h21km, MD3.5(RSPR), After RSPR.*

RSPR 08 11:24:40.3, 19.°00N×65.°33W, h21km±17km, MD3.5/9, 7C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUMP	Col San Antoni	0.98	210	⇓eP	Pb	11 24 56.2	-2.4
HUMP				eS	Sb	11 25 08.8	-2.4
HUMP	Col San Antoni	0.98	210	⇓eP	Pb	11 24 56.2	-2.5
ABV	Anegada	0.99	106	⇑eP	Pb	11 24 56.1	-2.6
SJG	San Juan	1.17	221	⇓eP	Pn	11 24 58.7	-2.8
SJG	San Juan	1.17	221	⇓eP	Pn	11 24 58.8	-2.7
SJG	San Juan	1.17	221	ePg	Pn	11 24 58.8	-2.7
SJG				eSg	Sb	11 25 13.9	-2.8
CDVI	St. Croix	1.35	156	ePn	Pn	11 25 03.8	-0.2
CDVI				eSn	Sb	11 25 21.8	-0.1
AOPR	Arecibo Observ	1.49	244	eS	Sn	11 25 21.3	-3.5
AOPR	Arecibo Observ	1.49	244	⇑eP	Pn	11 25 03.3	-2.6
CELP	Cerrillos	1.50	232	⇓iP	Pn	11 25 03.6	-2.3
CELP				eS	Sn	11 25 21.5	-3.4
CELP	Cerrillos	1.50	232	ePn	Pn	11 25 03.6	-2.4
CELP				eSn	Sn	11 25 23.8	-1.1
OBIP	Obispado Ponce	1.54	232	eS	Sn	11 25 22.6	-3.3
OBIP	Obispado Ponce	1.54	232	⇓eP	Pn	11 25 04.2	-2.3
OBIP	Obispado Ponce	1.54	232	ePn	Pn	11 25 04.2	-2.3
OBIP				eSn	Sn	11 25 22.7	-3.1
ICMP	Isla Caja de M	1.58	226	ePn	Pn	11 25 05.2	-1.9
ICMP				eSn	Sn	11 25 26.1	-0.9
LRS	Lares	1.60	244	⇑eP	Pn	11 25 05.0	-2.4
LRS	Lares	1.60	244	ePn	Pn	11 25 04.6	-2.8
LRS				eSn	Sn	11 25 26.0	-1.4
AGPR	Aguadilla, PR	1.77	253	eS	Sn	11 25 28.3	-3.1
AGPR	Aguadilla, PR	1.77	253	⇑eP	Pn	11 25 06.9	-2.7
AGPR	Aguadilla, PR	1.77	253	ePn	Pn	11 25 06.9	-2.8
AGPR				eSn	Sn	11 25 30.9	-0.6
GBPR	Guanica, Bosqu	1.79	235	eS	Sn	11 25 29.4	-2.5
GBPR	Guanica, Bosqu	1.79	235	⇓eP	Pn	11 25 08.2	-1.7
LSP	Las Mesas	1.85	244	⇓eP	Pn	11 25 08.7	-2.2
LSP	Las Mesas	1.85	244	ePn	Pn	11 25 08.6	-2.3
LSP				eSn	Sn	11 25 34.0	+0.2
CRPR	Cabo Rojo, PR	1.95	240	⇑eP	Pn	11 25 10.2	-2.0
CRPR	Cabo Rojo, PR	1.95	240	eS	Sn	11 25 32.6	-3.5
CRPR	Cabo Rojo, PR	1.95	240	ePn	Pn	11 25 10.1	-2.1
CRPR				eSn	Sb	11 25 38.4	-0.7
IDE	Isla Desecheo	2.12	254	⇑eP	Pn	11 25 12.1	-2.4
IDE	Isla Desecheo	2.12	254	eS	Sn	11 25 37.1	-3.1
PCDR	Punta Cana, DR	2.93	261	⇓eP	Pn	11 25 24.4	-1.2
SDDR	Presa de Saban	5.63	271	⇑eP	Pn	11 26 02.1	-0.9

*GUC **08** 11:38:48.3±0.6, 34.°61S×72.°84W, h32km±3km, ML3.6*
*SJA **08** 11:38:51.5±0.9, 34.°41S×72.°58W, h29km, ML2.9*

ISC 08 11:38:46.6±2.6, 34.°63S±0.°06×72.°8W±0.°1, h4km±13km, n19, σ1.s48/26, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TALC	Talca	1.26	128	⇑iP	Pb	11 39 10.4	-0.5
TALC				i S	Sn	11 39 27.1	-1.2
LNV	Longovilo	1.36	61	⇓iP	Pn	11 39 11.6	-0.9
LNV				i S	Sg	11 39 29.5	-0.9
NICH	Los Niches	1.38	106	⇓iP	Pg	11 39 12.6	-0.4
NICH				i S	Sn	11 39 30.7	-0.7
COCH	Cobquecura	1.50	178	eP	Pn	11 39 14.6	+0.3
COCH				eS	Sn	11 39 33.7	-0.7
CHCH	Chadas Angostu	1.94	70	⇑iP	Pn	11 39 20.4	-0.1
ROCH	El Roble	2.25	43	⇓iP	Pn	11 39 24.8	0.0
ROCH				AML	AML	11 40 06.8	
	comp=N,345nm,0.5s						
CLCH	Cerro Calan	2.28	58	eP	Pn	11 39 24.9	-0.1
CLCH				AML	AML	11 40 07.1	
	comp=N,458nm,0.8s						
PEL	Peldehue	2.33	51	⇑iP	Pn	11 39 26.0	+0.2
PEL				i S	Sn	11 39 53.9	-0.9
PEL				AML	AML	11 40 16.0	
	comp=E,528nm,0.4s						
CANA	Caviahue	3.56	157	eP	Pb	11 39 49.8	-0.5
CANA				eS	Sg	11 40 41.6	+0.7
AAGR	Agrelo	3.68	66	eP	Pn	11 39 47.2	+2.8
ARCO	CERRO ARCO	3.71	62	eP	Pn	11 39 47.4	+2.5
ARCO				AML	AML	11 40 29.0	
	comp=Z,26nm,0.6s						
AUSP	Uspallata	3.75	51	eP	Pn	11 39 47.6	+2.0
AUSP				eS	Sn	11 40 27.9	-2.6
ASAL	Salagasta	3.91	60	eP	Pn	11 39 51.1	+3.5
ASAL				eS	Sb	11 40 46.1	+2.1
RTLS	Leoncito	4.10	47	eP	Pn	11 39 52.4	+2.1
RTCV	Cerro Valdivia	4.54	54	eP	Pn	11 39 57.4	+1.1
CFAA	Coronel Fontan	4.90	53	eP	Pn	11 40 01.9	+0.8
RTLL	Cerro Villicun	4.93	49	eP	Pn	11 40 03.1	+1.6
AMOG	MOGNA	5.19	46	eP	Pn	11 40 05.8	+0.7
ACAN	Cantantal	5.28	65	eP	Pn	11 40 08.2	+1.9

IDC 08 11:55:39.4±3.5, 3.°98S×153.°31E, h0km, mb4.5/2, mb1 4.7/2, mb1mx3.6/32, mbtmp4.5/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/27, Error ellipse: s-maj=145.4km s-min=47.8km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	22.04	146	LR	LR	12 06 42.5	
	comp=Z,91nm,19.3s,baz=179,slow=30						
WRA	Warramunga Arr	24.37	228	P	P	12 00 60.0	+0.5
	2.8nm,0.6s,baz=54,slow=10,SNR=32						
ASAR	Alice Springs	27.10	222	P	P	12 01 24.4	+0.2
	13nm,0.7s,baz=57,slow=8.8,SNR=9.5						
TORD	Torodi Ar. Bea	150.53	290	PKPbc	PKPbc	12 15 33.4	-0.9
	0.9nm,0.7s,baz=67,slow=1.9,SNR=7.5						

*ISCJB **08** 11:59:48.9±0.5, 59.°86N±0.°03×24.°87E±0.°06, h0km, Error ellipse: s-maj=4.6km s-min=3.1km az=41.8*
*IDC **08** 11:59:50.3±0.9, 59.°88N×24.°95E, h0km, mb1 3.2/4, mb1mx3.0/27, mbtmp3.1/4, ML3.5/3, Error ellipse: s-maj=10.9km s-min=6.3km az=128.0*
*BER **08** 11:59:50.8±3.4, 59.°88N×24.°79E, h0km, ML2.1(NAO), Suspected explosion*
*NAO **08** 11:59:50.4±1.0, 59.°86N×24.°86E, ML2.1*
*CSEM **08** 11:59:50.0±0.1, 59.°84N×24.°90E, h2km, ML2.4, Error ellipse: s-maj=3.2km s-min=2.4km az=137.0, Mining explosion.*
*HEL **08** 11:59:50.5±0.1, 59.°86N×24.°83E, h0km, ML2.4, ML1.5(UPP), Explosion*
*UPP **08** 11:59:51.0, 59.°83N×24.°76E, h0km, ML1.5, Suspected Mining explosion.*

ISC 08 11:59:49.5±0.8, 59.°86N±0.°02×24.°83E±0.°03, h0km, n56, σ1.s18/85, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.42	328	eP	Pg	11 59 58.0	+0.5
MEF				eS	Sg	12 00 03.3	+0.4
MEF	Metsahovi	0.42	328	P	Pg	11 59 57.9	+0.5
MEF				S	Sg	12 00 03.2	+0.4
SRPE	Suurupi	0.46	210	eP	Pg	11 59 58.7	+0.4
SRPE				eS	Sg	12 00 05.0	+0.8
SRPE	Suurupi	0.46	210	P	Pg	11 59 58.7	+0.4
SRPE				S	Sg	12 00 05.0	+0.8
PVF	Pernaja	0.86	36	eP	Pg	12 00 05.9	+0.1
PVF				eS	Sg	12 00 16.5	-0.4
PVF	Pernaja	0.86	36	P	Pg	12 00 05.9	+0.1
PVF				S	Sg	12 00 16.5	-0.4
VJF	Virojoki	1.52	62	eP	Pn	12 00 17.6	-0.2
VJF				eS	Sg	12 00 36.9	-1.4
VJF	Virojoki	1.52	62	P	Pn	12 00 17.6	-0.2
VJF				S	Sg	12 00 36.8	-1.4
FIA0	FINESS Array S	1.70	21	Pg	Pb	12 00 21.4	-0.2
	baz=193,slow=18						
FIA0				Lg	Lg	12 00 43.5	
	baz=192,slow=37						
FIA0	FINESS Array S	1.70	21	Pg	Pb	12 00 21.4	-0.2
	baz=193,slow=18						
FIA0				Lg	Lg	12 00 43.5	
	baz=192,slow=37						
FIA0	FINESS Array S	1.70	21	eP	Pb	12 00 21.4	-0.2
FIA0				eS	Sn	12 00 42.8	0.0
FIA0				MSG		12 00 48.5	
	comp=Z,21nm,0.2s						
FIA0	FINESS Array S	1.70	21	P	Pb	12 00 21.4	-0.2
FIA0				S	Sn	12 00 42.7	0.0
FIA0				Lg	Lg	12 00 43.5	
	SNR=9.3						
FINES	FINESS Array B	1.70	21	Pg	Pb	12 00 21.0	-0.6
	comp=Z,11nm,0.3s,baz=201,slow=16,SNR=247						
FINES				Lg	Lg	12 00 42.5	
	comp=Z,8.6nm,0.3s,baz=196,slow=30,SNR=24						
VSU	Vasula	1.71	144	Pg	Pb	12 00 21.6	-0.2
VSU				Lg	Lg	12 00 45.0	
VSU	Vasula	1.71	144	Pg	Pb	12 00 21.6	-0.2
VSU				Lg	Lg	12 00 45.0	
VSU	Vasula	1.71	144	Pg	Pb	12 00 21.6	-0.2
	SNR=90						
VSU				Lg	Lg	12 00 45.0	
RAF	Rauma	1.92	309	eP	Pb	12 00 24.8	-0.4
RAF				eS	Sb	12 00 48.6	-1.0
RAF	Rauma	1.92	309	P	Pb	12 00 24.8	-0.4
RAF				S	Sb	12 00 48.6	-1.0
KEF	Keuruu	2.31	0	eP	Pb	12 00 30.5	-1.5
KEF				eS	Sn	12 00 58.4	+0.5
KEF				MSG		12 01 03.9	
	comp=Z,24nm,0.2s						
KEF	Keuruu	2.31	0	P	Pb	12 00 30.4	-1.5
KEF				S	Sn	12 00 58.4	+0.5
KAF	Kangasniemi	2.37	17	eP	Pb	12 00 31.2	-1.8
KAF				eS	Sn	12 00 59.5	+0.2
KAF				MSG		12 01 04.4	
	comp=Z,18nm,0.2s						
KAF	Kangasniemi	2.37	17	P	Pb	12 00 31.1	-1.8
KAF				S	Sn	12 00 59.5	+0.2
AAL	Aland	2.45	280	eP	Pn	12 00 32.0	+1.3
AAL				eS	Sn	12 01 02.6	+1.4
AAL	Aland	2.45	280	P	Pn	12 00 31.6	+1.0
AAL				S	Sn	12 01 02.6	+1.4
SLIT	Slitere, Latvi	2.60	212	ePB	Pb	12 00 35.2	-1.7
SLIT				eSG	Sb	12 01 09.7	+0.3
SUF	Sumiainen	2.94	12	eP	Pn	12 00 38.3	+1.0
SUF				eS	Sn	12 01 13.7	+0.4
SUF	Sumiainen	2.94	12	P	Pn	12 00 38.3	+1.0
SUF				S	Sn	12 01 13.6	+0.4
NRTU	Norrtaelje	3.14	269	eP	Pn	12 00 41.1	+1.0
NRTU	Norrtaelje	3.14	269	P	Pn	12 00 41.1	+1.0
GRAU	Graesoe	3.19	281	eP	Pn	12 00 41.3	+0.5
GRAU	Graesoe	3.19	281	P	Pn	12 00 41.3	+0.5
VAF	Ylistaro	3.35	343	eP	Pn	12 00 44.7	+1.6
VAF				eS	Sn	12 01 23.6	0.0
VAF	Ylistaro	3.35	343	P	Pn	12 00 44.6	+1.6
VAF				S	Sn	12 01 23.5	0.0
FLYU	Flymyra	3.50	277	eP	Pn	12 00 46.1	+1.0
FLYU	Flymyra	3.50	277	P	Pn	12 00 46.1	+1.0
IGGU	Iggoen	3.87	288	eP	Pn	12 00 50.9	+0.7
IGGU				eS	Sn	12 01 36.9	+0.7
IGGU	Iggoen	3.87	288	P	Pn	12 00 50.8	+0.7
IGGU				S	Sn	12 01 36.9	+0.7
OSTU	Oestervaala	3.88	279	eP	Pn	12 00 51.7	+1.5
OSTU	Oestervaala	3.88	279	P	Pn	12 00 51.7	+1.5
ARNU	Arnoeviken	4.09	300	eP	Pn	12 00 54.2	+1.0
ARNU	Arnoeviken	4.09	300	P	Pn	12 00 54.1	+1.0
KJN	Kajaani	4.45	17	ePG	Pb	12 01 10.5	+2.1
KJN				eSG	Sb	12 02 07.0	+4.5
FALU	Falun	4.54	282	eP	Pn	12 01 00.1	+0.8
FALU	Falun	4.54	282	P	Pn	12 01 00.1	+0.8
HFS	Hagfors	5.60	278	Pn	Pn	12 01 14.5	+0.7
	baz=92,slow=14						
HFS				Sn	Sn	12 02 17.2	-1.6
	baz=88,slow=28						
HFS				Lg	Lg	12 02 40.6	
	baz=101,slow=37						
HFS	Hagfors	5.60	278	Pn	Pn	12 01 14.5	+0.7
	baz=92,slow=14						
HFS				Sn	Sn	12 02 17.2	-1.6
	baz=88,slow=28						
HFS				Lg	Lg	12 02 40.6	
	baz=101,slow=37						
HFS	Hagfors	5.60	278	Pn	Pn	12 01 13.0	-0.9
	comp=Z,0.3nm,0.3s,baz=89,slow=15,SNR=20						
HFS				Sn	Sn	12 02 17.2	-1.6
	comp=Z,0.7nm,0.3s,baz=91,slow=25,SNR=7.7						
HFS				Lg	Lg	12 02 42.6	
	comp=Z,1.0nm,0.3s,baz=93,slow=29,SNR=8.0						
HFS	Hagfors	5.60	278	Pn	Pn	12 01 14.5	+0.7
	SNR=1.3						
HFS				Lg	Lg	12 02 40.7	
	SNR=50						
NB2	NORSAR Subarra	6.84	286	Pn	Pn	12 01 29.7	-1.3
	baz=93,slow=14						
NB2				Lg	Lg	12 03 20.1	
	baz=92,slow=37						
NB2	NORSAR Subarra	6.84	286	Pn	Pn	12 01 29.7	-1.3
	baz=93,slow=14						
NB2				Lg	Lg	12 03 20.1	
	baz=92,slow=37						
NB2	NORSAR Subarra	6.84	286	Pn	Pn	12 01 29.7	-1.3
	SNR=50						
NB2				Lg	Lg	12 03 20.1	
	SNR=50						
NOA	NORSAR Array B	6.84	286	Pn	Pn	12 01 29.8	-1.3
	comp=Z,0.4nm,0.3s,baz=98,slow=13,SNR=11						
NOA				Sn	Sn	12 02 47.6	-1.8
	comp=Z,0.4nm,0.3s,baz=94,slow=17,SNR=3.6						
NOA				Lg	Lg	12 03 22.2	
	comp=Z,0.6nm,0.3s,baz=129,slow=25,SNR=4.6						
AKASG	Malin Array Be	9.52	163	Pn	Pn	12 02 03.4	-4.1
	comp=Z,0.9nm,0.3s,baz=343,slow=13,SNR=4.2						
ARA0	ARCESS Array S	9.72	1	Pn	Pn	12 02 08.2	-2.1
ARA0	ARCESS Array S	9.72	1	Pn	Pn	12 02 08.2	-2.1
ARCES	ARCESS Array B	9.72	1	Pn	Pn	12 02 07.5	-2.9
	comp=Z,0.6nm,0.3s,baz=184,slow=13,SNR=20						

*ISCJB **08** 12:11:32.1±1.0, 51.°1N±0.°1×74.°2E±0.°1, h10km, mb3.1/1, Error ellipse: s-maj=24.4km s-min=6.6km az=28.8*
*NNC **08** 12:11:32.7±1.9, 51.°14N×73.°91E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=45.7km s-min=8.2km az=29.0*
*IDC **08** 12:11:37.0±1.1, 51.°74N×74.°17E, h0km, mb3.1/1, mb1 3.1/4, mb1mx3.0/30, mbtmp2.9/4, ML2.6/3, Error ellipse: s-maj=35.2km s-min=11.8km az=31.0*

ISC 08 12:11:34.1±1.2, 51.°1N±0.°1×74.°05E±0.°09, h10km, n9, σ1.s09/11, 10C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.88	99	⇓Pn	Pn	12 12 21.5	+1.5
	1.8nm,0.4s						
KURBB				⇑Pg	Pg	12 12 27.8	-1.5
	5.8nm,0.5s						
KURBB				⇑Lg	Lg	12 13 07.4	
	15nm,0.5s						
KURK	Kurchatov	2.92	97	⇑Pn	Pn	12 12 21.1	+0.6
	1.0nm,0.6s						
KURK				⇑Pg	Pb	12 12 27.2	+1.0
	1.8nm,0.7s						
KURK				⇑Lg	Lg	12 13 08.0	
	4.6nm,0.5s						
BVA0	Borovoye Array	2.94	311	⇓Pn	Pn	12 12 21.4	+0.5
	1.9nm,0.4s,baz=129,slow=16,SNR=21						
BVA0				⇓Lg	Lg	12 13 00.1	
	4.4nm,0.4s,baz=103,slow=29,SNR=4.0						
BVA0				⇓Rg	Rg	12 13 18.5	
	13nm,1.2s,baz=128,slow=35,SNR=3.6						
BVAR	Borovoye Array	2.94	311	Pn	Pn	12 12 21.4	+0.5
	2.1nm,0.3s,baz=122,slow=15,SNR=21						
BVAR				Lg	Lg	12 12 59.8	
	3.1nm,0.3s,baz=120,slow=29,SNR=8.7						
BRVK	Borovoye	3.02	311	⇑Pn	Pn	12 12 22.3	+0.4
	3.8nm,0.5s						
BRVK				⇑Lg	Lg	12 13 03.0	
	16nm,0.5s						
BRVK				⇑Rg	Rg	12 13 18.7	
	48nm,1.7s						
MK31	Makanchi Array	6.95	126	⇑Pn	Pn	12 13 19.5	+3.6
	0.3nm,0.6s,baz=300,slow=12,SNR=5.9						
MK31				⇓Pg	Pb	12 13 35.8	+0.9
	0.4nm,0.5s,baz=0.0,slow=0.1,SNR=5.4						
MK31				⇑Sn	Sn	12 14 33.6	-1.4
	0.5nm,0.5s						
MK31				⇓Lg	Lg	12 15 12.4	
	0.8nm,0.5s,baz=320,slow=25,SNR=4.6						
MKAR	Makanchi Array	6.95	126	Pn	Pn	12 13 23.8	+7.8
	0.1nm,0.3s,baz=320,slow=13,SNR=5.9						
MKAR				Lg	Lg	12 15 10.8	
	0.2nm,0.3s,baz=314,slow=25,SNR=4.6						
ZALV	Zalesovo Beam	7.14	63	Pn	Pn	12 13 19.0	+0.6
	0.3nm,0.3s,baz=259,slow=16,SNR=3.0						
ILAR	Eielson Array	60.15	19	P	P	12 21 41.0	-0.3
	0.1nm,0.5s,baz=327,slow=5.7,SNR=5.0						

IDC 08 12:22:12.6±1.4, 4.°57S×143.°96E, h104km±8km, mb3.1/4, mb1 3.5/5, mb1mx3.2/37, mbtmp3.6/5, Error ellipse: s-maj=52.5km s-min=22.6km az=107.0, New Guinea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.93	211	P	P	12 26 14.1	-0.4
	0.7nm,0.3s,baz=30,slow=12,SNR=40						
ASAR	Alice Springs	21.32	206	P	P	12 26 51.4	+0.1
	1.8nm,0.8s,baz=36,slow=7.1,SNR=12						
MKAR	Makanchi Array	74.49	321	P	P	12 33 40.2	+0.4
	0.2nm,0.5s,baz=97,slow=6.6,SNR=3.0						
MKAR				pP	pP	12 34 05.7	-0.6
	0.3nm,0.5s,baz=98,slow=8.2,SNR=3.7						
BVAR	Borovoye Array	83.85	324	P	P	12 34 30.2	-0.4
	0.3nm,0.4s,baz=152,slow=6.5,SNR=2.6						
BVAR				pP	pP	12 34 58.3	+0.7
	0.8nm,0.6s,baz=118,slow=5.5,SNR=3.4						
ILAR	Eielson Array	85.38	24	P	P	12 34 37.9	-0.1
	0.2nm,0.8s,baz=258,slow=4.5,SNR=3.0						
ILAR				pP	pP	12 35 05.3	+0.1
	0.4nm,0.7s,baz=255,slow=5.1,SNR=4.8						

DJA 08 12:29:04.5±1.2, 0°S±7°×12°5E±°, h29km±20km, M3.5/3, MLv3.5/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.14	301	P	Pn	12 29 24.4	-0.2
KMSI				S	Sn	12 29 37.7	-1.6
SANI	Sanana	2.26	153	P	Pn	12 29 41.1	+1.1
SANI				S	Sn	12 30 07.2	+0.3
LUWI	Luwuk	2.41	245	P	Pn	12 29 44.1	+2.1
MRSI	Marisa	3.06	279	P	Pn	12 29 51.1	+0.2

*JMA **08** 12:49:16.2±0.4, 33.°02N×142.°35E, h0km, M3.5*
*ISCJB **08** 12:49:17.9±1.0, 32.°97N±0.°08×142.°6E±0.°1, h40km, mb3.4/3, Error ellipse: s-maj=18.4km s-min=7.8km az=148.6*
*IDC **08** 12:49:21.1±4.0, 32.°28N×140.°73E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/27, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=145.1km s-min=24.1km az=71.0*

ISC 08 12:49:19.9±1.5, 32.°95N±0.°09×142.°5E±0.°1, h40km, n19, σ0.s72/26, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	2.14	323	P	Pn	12 49 51.9	-0.7
BSO1				eS	Sn	12 50 18.1	+0.5
JHJ2	Mitsune	2.29	275	P	Pn	12 49 54.1	-1.1
BSO3	Boso 3	2.50	318	P	Pn	12 49 57.4	-0.4
BSO4	Boso 4	2.73	319	P	Pn	12 50 01.1	-0.1
JOD2	Odawara 2	3.67	310	P	Pn	12 50 12.6	-1.6
JYT	Yasato	3.80	330	P	Pn	12 50 16.0	+0.1
JYT				eS	Sn	12 50 59.6	+0.3
JHU	Hanno	3.95	318	P	Pn	12 50 17.2	-0.8
JHU				eS	Sn	12 51 03.1	0.0
JHO	Hitachi	3.99	337	P	Pn	12 50 17.2	-1.4
JYN	Shimob	4.17	309	P	Pn	12 50 21.3	+0.2
JYN				eS	Sn	12 51 09.7	+1.1
JRY	Ryogami san	4.29	317	P	Pn	12 50 21.5	-1.1
JRY				eS	Sn	12 51 11.1	-0.3
JAG	Ashikaga	4.30	325	P	Pn	12 50 22.1	-0.7
JNY	Yasuok	4.56	303	P	Pn	12 50 26.4	0.0
JFT	Otama	4.90	339	P	Pn	12 50 30.5	-0.5
MJAR	Matsushiro Arr	5.05	316	Pn	Pn	12 50 32.8	-0.4
	1.8nm,0.3s,baz=159,slow=13,SNR=19						
MJAR				Sn	Sn	12 51 29.9	-0.4
	0.6nm,0.3s,baz=163,slow=10,SNR=4.1						
MAT	Matsushiro	5.05	316	P	Pn	12 50 33.7	+0.5
MAT				S	Sn	12 51 30.0	-0.3
MAT	Matsushiro	5.05	316	P	Pn	12 50 33.7	+0.5
SONM	Songino Array	30.96	309	P	P	12 55 33.1	-0.2
	0.2nm,0.5s,baz=99,slow=7.0,SNR=2.6						
MKAR	Makanchi Array	47.15	306	P	P	12 57 48.9	+0.6
	0.4nm,0.7s,baz=81,slow=8.9,SNR=3.3						
WRA	Warramunga Arr	53.17	190	P	P	12 58 34.3	+0.2
	0.4nm,0.8s,baz=6.9,slow=7.6,SNR=4.3						

*IDC **08** 13:47:05.7±6.7, 31.°10N×50.°94E, h0km, mb3.7/2, mb1 3.6/3, mb1mx3.2/26, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=135.3km s-min=53.6km az=113.0*
*ISCJB **08** 13:47:12.1±0.9, 30.°98N±0.°07×50.°04E±0.°09, h10km, mb3.8/2, Error ellipse: s-maj=13.0km s-min=7.6km az=136.0*
*THR **08** 13:47:12.2±0.8, 31.°01N×50.°19E, h14km±11km, ML3.5*
*CSEM **08** 13:47:12.2, 31.°01N×50.°19E, h14km, ML3.5*
*ISN **08** 13:48:28.5±0.5, 31.°63N×46.°04E, h0km±6km, ML3.5*

ISC 08 13:47:12.9±1.2, 30.°97N±0.°06×50.°11E±0.°07, h10km, n17, σ0.s54/17, Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	1.59	316	ePg	Pn	13 47 41.4	+0.3
SHGR				eSg	Sg	13 48 03.6	-0.5
SHGR				AML	AML	13 48 09.6	
	comp=E,762nm,0.8s						
SHGR				AML	AML	13 48 10.8	
	comp=N,1µm,0.9s						
SHGR	Shooshtar-Gavs	1.59	316	ePg	Pn	13 47 41.4	+0.3
SHGR				eSg	Sg	13 48 03.6	-0.5
	comp=N,1µm,0.9s						
AHBU	AHRAM	2.34	154	ePn	Pn	13 47 52.0	+0.6
KHMZ	Khomeyn	2.76	357	ePn	Pn	13 47 57.9	+0.5
KHMZ				eSg	Sb	13 48 37.3	+0.8
KHMZ				AML	AML	13 48 51.4	
	comp=E,119nm,0.9s						
KHMZ	Khomeyn	2.76	357	ePn	Pn	13 47 57.9	+0.5
KHMZ				eSg	Sb	13 48 37.3	+0.8
	comp=E,119nm,0.9s						
NASN	Na'in	2.93	51	ePn	Pn	13 47 59.5	-0.4
NASN	Na'in	2.93	51	ePn	Pn	13 47 59.5	-0.4
NSR	Nassriya	3.41	272	ePg	x	13 48 42.4	
NSR				eSg	x	13 48 52.4	
ASAO	Ashtian	3.57	359	ePn	Pn	13 48 08.8	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAO				AML	AML	13 49 09.0	
	comp=N,46nm,0.3s						
ASAO	**Ashtian**	**3.57**	**359**	*e*Pn	**Pn**	**13 48 08.8**	**+0.2**
	comp=N,47nm,0.3s						
GHVR	**GHOM**	**3.64**	**16**	*e*Pn	**Pn**	**13 48 09.8**	**+0.4**
GHVR	**GHOM**	**3.64**	**16**	*e*Pn	**Pn**	**13 48 09.8**	**+0.4**
IBDR	**Badra**	**4.14**	**302**	*e*PN	x	13 48 56.5	
IBDR				*e*SN	x	13 49 15.7	
IKRK	**Kirkuk**	**6.55**	**314**	*e*Pn	x	13 49 31.9	
IKRK				*e*SN	x	13 50 16.9	
BRTR	**Keskin Array B**	**16.01**	**308**	Pn	**P**	**13 51 01.0**	**-0.8**
	comp=N,0.1nm,0.3s,baz=117,slow=12,SNR=2.5						
FINES	**FINESS Array B**	**34.31**	**340**	P	P	13 53 54.6	-4.6
	comp=N,1.8nm,0.7s,baz=152,slow=9.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**47.85**	**259**	P	**P**	**13 55 51.1**	**-0.1**
	comp=N,0.3nm,0.6s,baz=61,slow=6.8,SNR=2.6						

IDC 08 13:48:50.4±6.4**, 7.°75S×128.°27E, h0^{km}, mb4.2**/1**, mb1 3.9**/3**, mb1mx3.5**/19**, mbtmp3.7**/3**, ML3.2**/2**, Error ellipse: s-maj=100.6km s-min=72.6km az=77.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.47**	**155**	Pn	Pn	13 52 04.8	+1.7
	0.1nm,0.3s,baz=335,slow=14,SNR=10						
WRA				Sn	Sn	13 54 33.3	-0.4
	0.3nm,0.3s,baz=327,slow=23,SNR=8.3						
ASAR	**Alice Springs**	**16.73**	**162**	Pn	Pn	13 52 46.9	+0.5
	0.3nm,0.3s,baz=343,slow=13,SNR=20						
ASAR				Sn	Sn	13 55 53.2	+0.2
	0.1nm,0.3s,baz=316,slow=17,SNR=3.6						
STKA	**Stephens Creek**	**27.03**	**154**	P	P	13 54 34.0	-0.5
	3.5nm,1.1s,baz=321,slow=13,SNR=2.9						

*IDC **08** 14:06:38.6±1.6, 4.°34S×128.°47E, h0^{km}, mb3.7/1, mb1 4.4/4, mb1mx3.7/39, mbtmp4.2/4, ML4.3/3, Error ellipse: s-maj=49.6km s-min=27.1km az=80.0*
*ISCJB **08** 14:06:50.5±0.7, 4.°13S±0.°06×129.°47E±0.°07, h150^{km}, mb3.5/1, Error ellipse: s-maj=10.2km s-min=7.5km az=20.5*
*DJA **08** 14:06:54.9±0.8, 4°S±6°×12°9E±°, h101^{km}±7^{km}, M3.9/7, mb4.4/1, mB5.2/1, MLv3.6/7, Mw(mB)4.5/1*
ISC 08 14:06:50.8±1.0**, 4.°15S**±0.°07×**129.°40E**±0.°07**, h150^{km}, n9, σ2.ˢ28**/14**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.63**	**126**	P	**Pn**	**14 07 13.1**	**+0.2**
BNDI				S	**Sn**	**14 07 27.9**	**-1.8**
MSAI	**Masohi**	**0.92**	**330**	P	**Pn**	**14 07 14.9**	**-0.1**
MSAI				S	**Sn**	**14 07 28.5**	**-4.9**
FAKI	**Fak Fak**	**3.10**	**67**	P	**Pn**	**14 07 40.1**	**+0.6**
FAKI				S	**Sn**	**14 08 15.5**	**-1.6**
SIJI	**Sorong**	**3.76**	**30**	Pn	**Pn**	**14 07 48.6**	**+0.6**
	5.6nm,0.3s,baz=240,slow=23,SNR=70						
SIJI				Sn	**Sn**	**14 08 29.8**	**-2.5**
	16nm,0.3s,baz=229,slow=19,SNR=20						
SANI	**Sanana**	**3.99**	**301**	P	**Pn**	**14 07 51.8**	**+0.8**
RKPI	**Ransiki, Papua**	**5.45**	**61**	P	**Pn**	**14 08 11.0**	**+0.8**
WRA	**Warramunga Arr**	**16.42**	**163**	Pn	**P**	**14 10 31.6**	**-1.3**
	1.3nm,0.3s,baz=342,slow=11,SNR=108						
WRA				Sn	S	14 13 22.1	-13
	0.2nm,0.3s,baz=346,slow=24,SNR=3.7						
ASAR	**Alice Springs**	**19.89**	**168**	P	**P**	**14 11 12.3**	**+1.6**
	1.3nm,0.3s,baz=348,slow=10,SNR=94						
ASAR				S	**S**	**14 14 44.3**	**-2.2**
	baz=351,slow=17,SNR=4.2						
MKAR	**Makanchi Array**	**65.53**	**326**	P	**P**	**14 17 21.3**	**+3.1**
	0.4nm,0.5s,baz=121,slow=7.8,SNR=5.7						

*SJA **08** 14:32:49.2±0.4, 34.°19S×73.°38W, h10^{km}, ML4.3*
*ISCJB **08** 14:33:03.5±0.7, 34.°77S±0.°03×71.°85W±0.°10, h56^{km}±5^{km}, mb4.0/10, MS3.6/5, Error ellipse: s-maj=13.4km s-min=4.6km az=12.8*
*NEIC **08** 14:33:03.4±0.4, 34.°72S×71.°83W, mb3.8/3, Error ellipse: s-maj=13.4km s-min=6.8km az=87.0*
NEIC Felt [IV] at Pichilemu and Rancagua; [III] at Curico, Paredones, Pencahue, San Fernando and Talca; [II] at Licanten, Los Quenes, Pelarco, San Clemente and Santiago.
*IDC **08** 14:33:03.6±0.6, 34.°74S×71.°75W, h40^{km}±4^{km}, mb3.8/9, mb1 4.0/12, mb1mx4.0/18, mbtmp4.0/12, ML4.0/3, MS3.7/6, Ms1 3.7/6, ms1mx3.3/20, Error ellipse: s-maj=24.9km s-min=14.0km az=78.0*
*GUC **08** 14:33:03.3±0.6, 34.°74S×71.°85W, h40^{km}±2^{km}, ML4.6*
ISC 08 14:33:03.6±0.6**, 34.°75S**±0.°03×**71.°94W**±0.°07**, h42^{km}**±4^{km}**, n65, σ1.ˢ37**/72**, mb4.0**/10**, MS3.7**/5**, 4C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.63**	**114**	⇓*i*P	**Pn**	**14 33 15.2**	**-1.0**
NICH				*i* S	**Sn**	**14 33 24.3**	**-0.9**
TALC	**Talca**	**0.69**	**159**	⇑*i*P	**Pn**	**14 33 16.8**	**-0.1**
TALC				*i* S	**Sn**	**14 33 26.4**	**-0.2**
LNV	**Longovilo**	**0.91**	**29**	⇓*i*P	**Pn**	**14 33 19.3**	**-0.6**
LNCH	**Linares**	**1.13**	**166**	⇓*i*P	**Pn**	**14 33 23.6**	**+0.7**
LNCH				*i* S	**Sn**	**14 33 38.9**	**+1.7**
CHCH	**Chadas Angostu**	**1.34**	**53**	⇑*i*P	**Pn**	**14 33 25.9**	**0.0**
TACH	**Talagante**	**1.37**	**37**	⇓*i*P	**Pn**	**14 33 26.5**	**+0.1**
PCH	**Pirque**	**1.63**	**47**	⇓*i*P	**Pn**	**14 33 30.1**	**+0.2**
PCH				*i* S	**Sn**	**14 33 51.4**	**+1.6**
SAN	**Santiago**	**1.67**	**40**	*e*P	**Pn**	**14 33 30.4**	**0.0**
SAN				*i* S	**Sn**	**14 33 51.1**	**+0.5**
SJCH	**San Jose de Ma**	**1.72**	**50**	⇓*i*P	**Pn**	**14 33 30.8**	**-0.3**
SJCH				*i* S	**Sn**	**14 33 51.9**	**0.0**
FSR	**Penalolen**	**1.73**	**43**	*e*P	**Pn**	**14 33 32.8**	**+1.6**
FSR				*i* S	**Sn**	**14 33 54.2**	**+2.1**
CLCH	**Cerro Calan**	**1.78**	**41**	⇑*i*P	**Pn**	**14 33 32.2**	**+0.2**
CLCH				*i* S	**Sn**	**14 33 54.2**	**+0.7**
CLCH				AML	AML	14 34 00.3	
	comp=E,10µm,0.4s						
PEL	**Peldehue**	**1.91**	**33**	⇓*i*P	**Pn**	**14 33 34.0**	**+0.3**
PEL				*e*S	**Sn**	**14 33 57.6**	**+1.0**
PEL				AML	AML	14 34 08.4	
	comp=N,10µm,0.7s						
ROCH	**El Roble**	**1.94**	**24**	⇑*i*P	**Pn**	**14 33 34.4**	**+0.2**
ROCH				*e*S	**Sn**	**14 33 58.8**	**+1.4**
ROCH				AML	AML	14 34 05.8	
	comp=N,8µm,0.4s						
AAGR	**Agrelo**	**3.07**	**58**	*e*P	**Pn**	**14 33 51.6**	**+1.9**
ARCO	**CERRO ARCO**	**3.15**	**54**	*e*P	**Pn**	**14 33 52.6**	**+1.8**
ARCO				AML	AML	14 34 43.9	
	comp=Z,376nm,0.6s						
CANA	**Caviahue**	**3.21**	**168**	*e*P	**Pn**	**14 33 54.2**	**+2.6**
CANA				*e*S	Sn	14 34 45.3	+16
AUSP	**Uspallata**	**3.30**	**41**	*e*P	**Pn**	**14 33 54.9**	**+1.9**
AUSP				*e*S	Sn	14 34 39.8	+8.6
ASAL	**Salagasta**	**3.37**	**51**	*e*P	**Pn**	**14 33 55.9**	**+2.1**
RTLS	**Leoncito**	**3.68**	**38**	*e*P	**Pn**	**14 34 00.2**	**+1.9**
RTCV	**Cerro Valdivia**	**4.05**	**46**	*e*P	**Pn**	**14 34 04.4**	**+1.3**
CFAA	**Coronel Fontan**	**4.41**	**46**	P	**Pn**	**14 34 08.2**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=217,slow=15,SNR=28						
CFAA				Lg	Lg	14 35 07.5	
	comp=Z,2.4nm,0.3s,baz=324,slow=18,SNR=6.6						
CFAA	**Coronel Fontan**	**4.41**	**46**	*e*P	**Pn**	**14 34 08.9**	**+0.8**
CFAA				*e*S	Sn	14 35 04.7	+6.4
RTLL	**Cerro Villicun**	**4.48**	**41**	*e*P	**Pn**	**14 34 09.8**	**+0.7**
ACAN	**Cantantal**	**4.67**	**59**	*e*P	**Pn**	**14 34 12.7**	**+1.0**
AMOG	**MOGNA**	**4.78**	**38**	*e*P	**Pn**	**14 34 13.6**	**+0.4**
AVFE	**Valle Fertil**	**5.56**	**44**	*e*P	**Pn**	**14 34 23.4**	**-0.5**
AVFE				*e*S	**Sn**	**14 35 31.7**	**+5.1**
ACHE	**Chepes**	**5.69**	**53**	*e*P	**Pn**	**14 34 25.3**	**-0.5**
ACHE				*e*S	**Sn**	**14 35 31.6**	**+1.6**
LCO	**Las Campanas**	**5.82**	**11**	*e*Pn	**Pn**	**14 34 27.1**	**-0.6**
	comp=Z,27nm,0.4s						
LCO	**Las Campanas**	**5.82**	**11**	*e*P	**Pn**	**14 34 27.4**	**-0.2**
LCO				*e*S	**Sn**	**14 35 31.1**	**-2.2**
PLCA	**Paso Flores**	**6.07**	**170**	P	**Pn**	**14 34 32.2**	**+1.4**
	comp=Z,1.7nm,0.3s,baz=343,slow=13,SNR=21						
PLCA				Lg	Lg	14 36 11.0	
	comp=Z,0.6nm,0.3s,baz=255,slow=20,SNR=3.2						
PLCA	**Paso Flores**	**6.07**	**170**	*e*Pn	**Pn**	**14 34 32.6**	**+1.8**
	comp=Z,17nm,0.7s						
PLCA				Lg	Lg	14 36 11.0	
ACLC	**CERRO LA CRUZ**	**6.79**	**40**	*e*P	**Pn**	**14 34 38.9**	**-2.0**
ACLC				*e*S	**Sn**	**14 36 01.1**	**+4.2**
CYA	**Choya**	**8.18**	**41**	*e*P	Pn	14 34 56.3	-3.5
TRQA	**Tornquist**	**8.68**	**115**	P	**Pn**	**14 35 05.3**	**-1.2**
	comp=Z,17nm,0.8s						
FSA	**Cafayete**	**10.03**	**32**	*e*P	**Pn**	**14 35 23.3**	**-2.0**
LVC	**Limon Verde**	**12.38**	**13**	LR	LR	14 40 43.6	
	comp=Z,645nm,18.6s,baz=212,slow=37						
LPAZ	**La Paz**	**18.70**	**11**	P	**Pn**	**14 37 20.1**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=179,slow=12,SNR=15						
LPAZ	**La Paz**	**18.70**	**11**	*e*P	**Pn**	**14 37 20.0**	**+0.2**
	comp=Z,6.1nm,0.9s						
EFI	**East Falkland**	**19.65**	**154**	*e*P	**P**	**14 37 28.4**	**-0.2**
USHA	**Ushuaia**	**20.23**	**174**	LR	LR	14 46 28.5	
	comp=Z,336nm,20.9s,baz=206,slow=40						
SIV	**San Ignacio**	**21.07**	**30**	LR	LR	14 47 23.3	
	comp=Z,90nm,20.3s,baz=185,slow=41						
SAML	**Samuel**	**26.91**	**19**	P	**P**	**14 38 39.6**	**-1.2**
	comp=Z,1.8nm,0.8s						
BDFB	**Brasilia**	**28.69**	**54**	LR	LR	14 51 35.7	
	comp=Z,143nm,18.3s,baz=194,slow=39						
PMSA	**Palmer Station**	**30.43**	**173**	*e*P	**P**	**14 39 11.9**	**+0.2**
SNAA	**Sanae**	**50.86**	**158**	P	**P**	**14 41 59.6**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=268,slow=8.6,SNR=8.3						
QSPA	**South Pole Qui**	**55.49**	**180**	P	**P**	**14 42 34.8**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=147,slow=2.9,SNR=6.9						
QSPA				pP	**pP**	**14 42 46.2**	**+0.1**
	comp=Z,2.6nm,1.0s,baz=154,slow=6.9,SNR=4.3						
TXAR	**Lajitas Array**	**70.43**	**331**	P	**P**	**14 44 14.2**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=158,slow=8.5,SNR=11						
TXAR				pP	**pP**	**14 44 26.1**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=154,slow=8.5,SNR=10						
TXAR				sP	**sP**	**14 44 31.2**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=152,slow=10.0,SNR=4.7						
MAW	**Mawson**	**72.44**	**163**	P	**P**	**14 44 25.2**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=260,slow=6.1,SNR=3.7						
MAW				pP	**pP**	**14 44 36.9**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=270,slow=9.1,SNR=3.2						
MAW				LR	LR	15 18 56.3	
	comp=Z,38nm,18.6s,baz=242,slow=38						
DBIC	**Dimbokro**	**75.34**	**71**	P	**P**	**14 44 42.2**	**-0.8**
	comp=Z,4.2nm,0.7s,baz=206,slow=4.0,SNR=3.4						
DBIC	**Dimbokro**	**75.34**	**71**	*e*P	**P**	**14 44 41.8**	**-1.1**
	comp=Z,1.2nm,0.5s						
BOSA	**Boshof**	**79.65**	**118**	P	**P**	**14 45 06.3**	**-0.8**
	comp=Z,9.8nm,1.1s,baz=239,slow=3.5,SNR=5.3						
TOA0	**Torodi Ar. Sit**	**84.39**	**70**	*e*P	**P**	**14 45 31.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**84.39**	**70**	P	**P**	**14 45 30.7**	**-1.1**
	comp=Z,2.6nm,1.0s,baz=245,slow=4.1,SNR=11						
TORD				sP	**sP**	**14 45 48.1**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=250,slow=4.2,SNR=6.2						
PDAR	**Pinedale Array**	**84.47**	**333**	P	**P**	**14 45 32.1**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=153,slow=6.1,SNR=2.4						
NVAR	**Mina Array Bea**	**84.55**	**325**	P	**P**	**14 45 33.4**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=182,slow=4.2,SNR=2.7						
MDT	**Midelt**	**92.22**	**51**	LR	LR	15 27 35.9	
	comp=Z,25nm,18.1s,baz=344,slow=36						
WRA	**Warramunga Arr**	**120.15**	**209**	PKP	**PKPdf**	**14 51 49.2**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=158,slow=1.4,SNR=6.0						
H11S2	**WAKE ISLAND Hyd**	**125.84**	**269**	T	T	17 10 34.0	
	baz=118,slow=75,SNR=8.7						
H11S1	**WAKE ISLAND Hyd**	**125.85**	**269**	T	T	17 10 36.0	
	baz=118,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hyd**	**125.86**	**269**	T	T	17 10 35.3	
	baz=118,slow=75,SNR=8.9						
H11N3	**WAKE ISLAND Hyd**	**126.27**	**270**	T	T	17 11 02.7	
	baz=114,slow=78,SNR=7.1						
H11N1	**WAKE ISLAND Hyd**	**126.28**	**270**	T	T	17 11 03.2	
	baz=114,slow=78,SNR=13						
H11N2	**WAKE ISLAND Hyd**	**126.29**	**270**	T	T	17 11 00.8	
	baz=114,slow=78,SNR=5.5						
MKAR	**Makanchi Array**	**157.19**	**50**	PKPab	**PKPab**	**14 53 24.2**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=330,slow=5.0,SNR=4.2						
SONM	**Songino Array**	**166.87**	**5**	PKPab	**PKPab**	**14 54 07.4**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=306,slow=3.4,SNR=3.5						

*CSEM **08** 15:12:18.8±0.4, 37.°32N×36.°19E, h10^{km}, MD2.8, Error ellipse: s-maj=12.7km s-min=10.0km az=153.0*
*ISK **08** 15:12:19.6, 37.°40N×36.°17E, h22^{km}, MD2.3*
*GRAL **08** 15:13:05.9±0.3, 33.°97N×36.°15E, h11^{km}±9^{km}, MD2.8*
DDA 08 15:12:18.7, 37.°73N×36.°12E, h7^{km}, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.23**	**130**	*i* P	Pg	15 12 24.3	+0.7
ANDN				*i* S	Sg	15 12 27.6	+0.8
ANDN	**Andirin**	**0.23**	**130**	*i* P	Pg	15 12 24.3	+0.7
ANDN				*i* S	Sg	15 12 27.6	+0.8
KOZT	**Kozan**	**0.34**	**223**	*e*PG	Pb	15 12 26.6	-0.6
KOZT				*e*SG	Sb	15 12 31.6	-1.2
KOZT	**Kozan**	**0.34**	**223**	*e*Pg	Pb	15 12 26.6	-0.6
KOZT				*e*Sg	Sb	15 12 31.6	-1.2
KMRS	**Kahramanmaras**	**0.66**	**110**	*e*PG	Pg	15 12 31.9	+0.4
KMRS				*e*SG	Sg	15 12 41.0	+0.8
KMRS	**Kahramanmaras**	**0.66**	**110**	*e*Pg	Pg	15 12 32.0	+0.4
KMRS				*e*Sg	Sg	15 12 41.1	+0.9
KAMA	**Osmaniye**	**0.70**	**141**	*i* P	Pg	15 12 32.3	-0.1
KAMA				*i* S	Sg	15 12 42.1	+0.6
PINB	**Pinarbasi**	**0.97**	**13**	*i* P	Pg	15 12 36.0	-1.8
PINB				*i* S	Sb	15 12 51.2	-0.4
PINB	**Pinarbasi**	**0.97**	**13**	*i* P	Pg	15 12 36.0	-1.8
PINB				*i* S	Sb	15 12 51.2	-0.4
KUZU	**Kuzuini**	**1.22**	**141**	*i* S	Sn	15 13 01.3	+2.1
KUZU	**Kuzuini**	**1.22**	**141**	*i* S	Sn	15 13 01.3	+2.1
NIG	**Nigde**	**1.25**	**288**	*e*PN	Pg	15 12 44.7	+1.6
NIG	**Nigde**	**1.25**	**288**	*e*Pn	Pg	15 12 44.7	+1.6
AKCD	**Akcadag**	**1.53**	**68**	*i* P	Pb	15 12 47.8	+0.1
AKCD				*i* S	Sb	15 13 07.8	+0.3
AKCD	**Akcadag**	**1.53**	**68**	*i* P	Pb	15 12 47.8	+0.1
AKCD				*i* S	Sb	15 13 07.8	+0.3
MERS	**Mersin**	**1.54**	**236**	*e*PN	Pn	15 12 44.7	-2.0
MERS	**Mersin**	**1.54**	**236**	*e*Pn	Pn	15 12 44.7	-2.0
HWQ	**Hawqa**	**3.45**	**182**	*e*P	Pn	15 13 12.4	-0.6
HWQ				*e*S	Sn	15 13 17.2	-37
HWQ	**Hawqa**	**3.45**	**182**	*e*P	Pn	15 13 12.4	-0.6
HWQ				*e*S	Sn	15 13 17.2	-37
BHL	**Bhannes**	**3.84**	**186**	*e*P	Pn	15 13 13.6	-4.8
BHL	**Bhannes**	**3.84**	**186**	*e*P	Pn	15 13 13.6	-4.7
DQRL	**Deir Qamar**	**4.04**	**186**	*e*P	Pn	15 13 16.0	-5.1
DQRL	**Deir Qamar**	**4.04**	**186**	*e*P	Pn	15 13 16.0	-5.1
RCY	**Rachaya**	**4.23**	**183**	*e*P	Pn	15 13 15.8	-8.0
RCY				*e*S	Sn	15 13 23.2	-50

*BJI **08** 15:16:05.9, 45.°86N×25.°92E, h108^{km}, mb4.7/16, mB4.7/9*
*PRU **08** 15:16:07.6, 45.°37N×27.°05E, h83^{km}, M4.5*
*ISCJB **08** 15:16:08.9±0.1, 45.°614N±0.°010×26.°38E±0.°01, h116^{km}±1^{km}, mb4.2/38, Error ellipse: s-maj=1.7km s-min=1.6km az=164.0*
*MOS **08** 15:16:08.4±1.1, 45.°63N×26.°48E, h105^{km}, mb4.5/16, Error ellipse: s-maj=5.5km s-min=3.7km az=78.2*
*SIGU **08** 15:16:08.0, 45.°67N×26.°46E, h128^{km}, mb3.6*
*CSEM **08** 15:16:09.9±0.1, 45.°61N×26.°42E, h109^{km}, mb4.3/12, Error ellipse: s-maj=2.1km s-min=1.9km az=133.0*
*NEIC **08** 15:16:09.8±0.2, 45.°62N×26.°37E, mb4.5/17, Error ellipse: s-maj=4.1km s-min=2.6km az=116.0*
NEIC Felt [II] at Bucharest. Also felt at Brasov, Galati, Ploiesti, Tulcea and Vrincioaia. Felt at Chisinau, Moldova.
*IDC **08** 15:16:09.9±0.3, 45.°62N×26.°25E, h110^{km}±2^{km}, mb3.8/18, mb1 3.9/25, mb1mx3.7/33, mbtmp4.1/25, MS2.6/4, Ms1 2.6/4, ms1mx2.3/36, Error ellipse: s-maj=12.9km s-min=7.5km az=155.0*
*PDG **08** 15:16:09.6±0.6, 45.°54N×26.°37E, h110^{km}±1^{km}, ML4.5/11, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*BUC **08** 15:16:10.0±0.7, 45.°61N×26.°43E, h116^{km}±8^{km}, MD5.0/5, Error ellipse: s-maj=5.5km s-min=5.1km az=91.0*
*SOF **08** 15:16:11.9, 45.°28N×26.°21E, h8^{km}, MD3.9*
*THE **08** 15:16:11.8, 45.°23N×26.°32E, h153^{km}±10^{km}, ML4.5/5, Error ellipse: s-maj=11.0km s-min=2.4km az=168.0*
*BEO **08** 15:16:11.9±1.4, 45.°53N×26.°45E, h113^{km}±1^{km}, ML4.4/1*
ISC 08 15:16:10.3±0.3**, 45.°62N**±0.°02×**26.°38E**±0.°03**, h115^{km}**±2^{km}**, h114^{km}:pP-P, n721, σ1.ˢ44**/905**, mb4.4**/45**, 113C-103D, Romania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.30**	**39**	⇑*i*P	**Pn**	**15 16 26.3**	**-0.3**
PLOR	**Plostina**	**0.30**	**39**	⇑*i*P	**Pn**	**15 16 26.3**	**-0.3**
PLOR				*i* S	**Sn**	**15 16 38.2**	**-0.8**
PLOR	**Plostina**	**0.30**	**39**	⇑*i*P	**Pn**	**15 16 26.3**	**-0.3**
PLOR				*i* S	**Sn**	**15 16 38.2**	**-0.8**
MLR	**Muntele Rosu**	**0.33**	**247**	P	**Pn**	**15 16 26.9**	**+0.1**
	416nm,0.3s,baz=8.2,slow=1.7						
MLR				S	**Sn**	**15 16 38.8**	**-0.5**
	526nm,0.3s,baz=227,slow=19,SNR=72						
MLR	**Muntele Rosu**	**0.33**	**247**	⇑*i*P	**Pn**	**15 16 27.0**	**+0.1**
MLR	**Muntele Rosu**	**0.33**	**247**	⇑*i*P	**Pn**	**15 16 27.0**	**+0.1**
MLR				*i* S	**Sn**	**15 16 39.5**	**+0.1**
VRI	**Vrincioaia**	**0.35**	**45**	⇑*i*P	**Pn**	**15 16 26.7**	**-0.1**
VRI	**Vrincioaia**	**0.35**	**45**	⇑*i*P	**Pn**	**15 16 26.7**	**-0.1**
VRI				*i* S	**Sn**	**15 16 38.7**	**-0.6**
VRI	**Vrincioaia**	**0.35**	**45**	⇑*i*P	**Pn**	**15 16 26.7**	**-0.1**
VRI				*i* S	**Sn**	**15 16 38.7**	**-0.6**
GRER		**0.48**	**120**	⇑*i*P	**Pn**	**15 16 28.1**	**+0.6**
GRER		**0.48**	**120**	⇑*i*P	**Pn**	**15 16 28.1**	**+0.6**
GRER				*i* S	**Sn**	**15 16 41.1**	**+0.6**
GRER		**0.48**	**120**	⇑*i*P	**Pn**	**15 16 28.1**	**+0.6**
GRER				*i* S	**Sn**	**15 16 41.1**	**+0.6**
ODBI	**Odobesti**	**0.50**	**73**	⇑*i*P	**Pn**	**15 16 28.2**	**+0.6**
ODBI	**Odobesti**	**0.50**	**73**	⇑*i*P	**Pn**	**15 16 28.2**	**+0.6**
ODBI				*i* S	**Sn**	**15 16 41.4**	**+0.8**
ODBI	**Odobesti**	**0.50**	**73**	⇑*i*P	**Pn**	**15 16 28.2**	**+0.6**
ODBI				*i* S	**Sn**	**15 16 41.4**	**+0.8**
ISR	**Istrita**	**0.51**	**167**	⇑*i*P	**Pn**	**15 16 27.7**	**-0.1**
ISR	**Istrita**	**0.51**	**167**	⇑*i*P	**Pn**	**15 16 27.7**	**-0.1**
ISR				*i* S	**Sn**	**15 16 41.6**	**+0.6**
ISR	**Istrita**	**0.51**	**167**	⇑*i*P	**Pn**	**15 16 27.7**	**-0.1**
ISR				*i* S	**Sn**	**15 16 41.6**	**+0.6**
PETR	**Petresti**	**0.61**	**80**	⇑*i*P	**Pn**	**15 16 28.5**	**+0.2**
PETR	**Petresti**	**0.61**	**80**	⇑*i*P	**Pn**	**15 16 28.5**	**+0.2**
PETR				*i* S	**Sn**	**15 16 41.6**	**-0.3**
PETR	**Petresti**	**0.61**	**80**	⇑*i*P	**Pn**	**15 16 28.5**	**+0.2**
PETR				*i* S	**Sn**	**15 16 41.6**	**-0.3**
SECR		**0.62**	**201**	⇑*i*P	**Pn**	**15 16 29.0**	**+0.5**
SECR		**0.62**	**201**	⇑*i*P	**Pn**	**15 16 29.0**	**+0.5**
SECR				*i* S	**Sn**	**15 16 42.9**	**+0.7**
SECR		**0.62**	**201**	⇑*i*P	**Pn**	**15 16 29.0**	**+0.5**
SECR				*i* S	**Sn**	**15 16 42.9**	**+0.7**
DOPR	**Dopca**	**0.78**	**297**	⇑*i*P	**Pn**	**15 16 29.9**	**+0.2**
DOPR	**Dopca**	**0.78**	**297**	⇑*i*P	**Pn**	**15 16 29.9**	**+0.2**
DOPR				*i* S	**Sn**	**15 16 44.3**	**-0.1**
DOPR	**Dopca**	**0.78**	**297**	⇑*i*P	**Pn**	**15 16 29.9**	**+0.2**
DOPR				*i* S	**Sn**	**15 16 44.3**	**-0.1**
PGOR	**Pogoanele**	**0.83**	**149**	⇑*i*P	**Pn**	**15 16 30.1**	**-0.1**
PGOR	**Pogoanele**	**0.83**	**149**	⇑*i*P	**Pn**	**15 16 30.1**	**-0.1**
PGOR				*i* S	**Sn**	**15 16 45.5**	**+0.3**
PGOR	**Pogoanele**	**0.83**	**149**	⇑*i*P	**Pn**	**15 16 30.1**	**-0.1**
PGOR				*i* S	**Sn**	**15 16 45.5**	**+0.3**
TESR	**Tescani**	**0.91**	**12**	⇓*i*P	**Pn**	**15 16 30.8**	**-0.2**
TESR	**Tescani**	**0.91**	**12**	⇓*i*P	**Pn**	**15 16 30.8**	**-0.2**
TESR				*i* S	**Sn**	**15 16 45.3**	**-1.4**
TESR	**Tescani**	**0.91**	**12**	⇓*i*P	**Pn**	**15 16 30.8**	**-0.2**
TESR				*i* S	**Sn**	**15 16 45.3**	**-1.4**
SULR		**0.94**	**185**	⇑*i*P	**Pn**	**15 16 31.5**	**+0.2**
SULR		**0.94**	**185**	⇑*i*P	**Pn**	**15 16 31.5**	**+0.2**
SULR				*i* S	**Sn**	**15 16 47.5**	**+0.4**
SULR		**0.94**	**185**	⇑*i*P	**Pn**	**15 16 31.5**	**+0.2**
SULR				*i* S	**Sn**	**15 16 47.5**	**+0.4**
VOIR		**0.95**	**259**	⇑*i*P	**Pn**	**15 16 31.5**	**+0.1**
VOIR		**0.95**	**259**	⇑*i*P	**Pn**	**15 16 31.5**	**+0.1**
VOIR				*i* S	**Sn**	**15 16 46.5**	**-0.9**
VOIR		**0.95**	**259**	⇑*i*P	**Pn**	**15 16 31.5**	**+0.1**
VOIR				*i* S	**Sn**	**15 16 46.5**	**-0.9**
MTUR	**Matau**	**1.01**	**247**	⇓*i*P	**Pn**	**15 16 32.7**	**+0.7**
MTUR	**Matau**	**1.01**	**247**	⇓*i*P	**Pn**	**15 16 32.7**	**+0.7**
MTUR	**Matau**	**1.01**	**247**	⇓*i*P	**Pn**	**15 16 32.7**	**+0.7**
AMRR	**Amara**	**1.22**	**146**	⇑*i*P	**Pn**	**15 16 33.8**	**-0.3**
AMRR	**Amara**	**1.22**	**146**	⇑*i*P	**Pn**	**15 16 33.8**	**-0.3**
AMRR				*i* S	**Sn**	**15 16 52.0**	**-0.1**
AMRR	**Amara**	**1.22**	**146**	⇑*i*P	**Pn**	**15 16 33.8**	**-0.3**
AMRR				*i* S	**Sn**	**15 16 52.0**	**-0.1**
BUC	**Bucharest**	**1.22**	**190**	⇑*i*P	**Pn**	**15 16 34.1**	**-0.1**
BUC	**Bucharest**	**1.22**	**190**	⇑*i*P	**Pn**	**15 16 34.1**	**-0.1**
BUC				*i* S	**Sn**	**15 16 51.8**	**-0.5**
BUC	**Bucharest**	**1.22**	**190**	⇑*i*P	**Pn**	**15 16 34.1**	**-0.1**
BUC				*i* S	**Sn**	**15 16 51.8**	**-0.5**
GIUM	**Giurgiulesti**	**1.29**	**95**	⇓*i*P	**Pn**	**15 16 34.7**	**-0.2**
GIUM	**Giurgiulesti**	**1.29**	**95**	⇓*i*P	**Pn**	**15 16 34.7**	**-0.2**
GIUM				*i* S	**Sn**	**15 16 52.7**	**-0.9**
GIUM	**Giurgiulesti**	**1.29**	**95**	⇓*i*P	**Pn**	**15 16 34.7**	**-0.2**
GIUM				*i* S	**Sn**	**15 16 52.7**	**-0.9**
CFR	**Carcaliu**	**1.31**	**109**	⇑*i*P	**Pn**	**15 16 34.2**	**-1.0**
CFR	**Carcaliu**	**1.31**	**109**	⇑*i*P	**Pn**	**15 16 34.2**	**-1.0**
CFR				*i* S	**Sn**	**15 16 52.4**	**-1.7**
CFR	**Carcaliu**	**1.31**	**109**	⇑*i*P	**Pn**	**15 16 34.2**	**-1.0**
CFR				*i* S	**Sn**	**15 16 52.4**	**-1.7**
HARR	**Harsova**	**1.44**	**130**	⇑*i*P	**Pn**	**15 16 36.0**	**-0.6**
HARR	**Harsova**	**1.44**	**130**	⇑*i*P	**Pn**	**15 16 36.0**	**-0.6**
HARR	**Harsova**	**1.44**	**130**	⇑*i*P	**Pn**	**15 16 36.0**	**-0.6**
MDB	**Medias**	**1.49**	**291**	⇓*i*P	**Pn**	**15 16 38.5**	**+1.3**
MDB	**Medias**	**1.49**	**291**	⇓*i*P	**Pn**	**15 16 38.5**	**+1.3**
MDB	**Medias**	**1.49**	**291**	⇓*i*P	**Pn**	**15 16 38.5**	**+1.3**
LEOM	**Leova**	**1.56**	**56**	⇓*i*P	**Pn**	**15 16 37.8**	**-0.1**
LEOM	**Leova**	**1.56**	**56**	⇓*i*P	**Pn**	**15 16 37.8**	**-0.1**
LEOM				*i* S	**Sn**	**15 16 57.8**	**-1.2**
LEOM	**Leova**	**1.56**	**56**	⇓*i*P	**Pn**	**15 16 37.8**	**-0.1**
LEOM				*i* S	**Sn**	**15 16 57.8**	**-1.2**
TLB	**Topalu**	**1.57**	**131**	⇑*i*P	**Pn**	**15 16 37.5**	**-0.6**
TLB	**Topalu**	**1.57**	**131**	⇑*i*P	**Pn**	**15 16 37.5**	**-0.6**
TLB				*i* S	**Sn**	**15 16 57.6**	**-1.7**
TLB	**Topalu**	**1.57**	**131**	⇑*i*P	**Pn**	**15 16 37.5**	**-0.6**
TLB				*i* S	**Sn**	**15 16 57.6**	**-1.7**
PRAR	**RASCA**	**1.75**	**357**	⇓*i*P	**Pn**	**15 16 41.1**	**+0.8**
PRAR	**RASCA**	**1.75**	**357**	⇓*i*P	**Pn**	**15 16 41.1**	**+0.8**
PRAR	**RASCA**	**1.75**	**357**	⇓*i*P	**Pn**	**15 16 41.1**	**+0.8**
CVD	**Cernavoda**	**1.75**	**137**	⇑*i*P	**Pn**	**15 16 39.7**	**-0.7**
CVD	**Cernavoda**	**1.75**	**137**	⇑*i*P	**Pn**	**15 16 39.7**	**-0.7**
CVD				*i* S	**Sn**	**15 17 00.5**	**-2.8**
CVD	**Cernavoda**	**1.75**	**137**	⇑*i*P	**Pn**	**15 16 39.7**	**-0.7**
CVD				*i* S	**Sn**	**15 17 00.5**	**-2.8**
TLCR		**1.77**	**103**	⇑*i*P	**Pn**	**15 16 39.8**	**-0.7**
TLCR		**1.77**	**103**	⇑*i*P	**Pn**	**15 16 39.8**	**-0.7**
TLCR				*i* S	**Sn**	**15 17 02.5**	**-1.2**
TLCR		**1.77**	**103**	⇑*i*P	**Pn**	**15 16 39.8**	**-0.7**
TLCR				*i* S	**Sn**	**15 17 02.5**	**-1.2**
IAS	**Iasi**	**1.77**	**27**	⇓*i*P	**Pn**	**15 16 40.4**	**-0.2**
IAS	**Iasi**	**1.77**	**27**	⇓*i*P	**Pn**	**15 16 40.4**	**-0.2**
IAS				*i* S	**Sn**	**15 17 02.2**	**-1.6**
IAS	**Iasi**	**1.77**	**27**	⇓*i*P	**Pn**	**15 16 40.4**	**-0.2**
IAS				*i* S	**Sn**	**15 17 02.2**	**-1.6**
LOT	**Lotru**	**1.84**	**266**	⇓*i*P	**Pn**	**15 16 41.6**	**0.0**
LOT	**Lotru**	**1.84**	**266**	⇓*i*P	**Pn**	**15 16 41.6**	**0.0**
LOT				*i* S	**Sn**	**15 17 04.7**	**-0.8**
LOT	**Lotru**	**1.84**	**266**	⇓*i*P	**Pn**	**15 16 41.6**	**0.0**
LOT				*i* S	**Sn**	**15 17 04.7**	**-0.8**
MSAB	**Monastry St. A**	**1.84**	**146**	⇑*i*P	**Pn**	**15 16 41.0**	**-0.5**
MSAB	**Monastry St. A**	**1.84**	**146**	⇑*i*P	**Pn**	**15 16 41.0**	**-0.5**
MSAB				*i* S	**Sn**	**15 17 03.7**	**-1.6**
MSAB	**Monastry St. A**	**1.84**	**146**	⇑*i*P	**Pn**	**15 16 41.0**	**-0.5**
MSAB				*i* S	**Sn**	**15 17 03.7**	**-1.6**
TIRR	**Tirgusor**	**1.85**	**128**	*e*PN	**Pn**	**15 16 41.0**	**-0.6**
TIRR	**Tirgusor**	**1.85**	**128**	*e*P	**Pn**	**15 16 40.8**	**-0.8**
TIRR				*e*S	**Sn**	**15 17 02.7**	**-2.7**
TIRR	**Tirgusor**	**1.85**	**128**	⇑*i*P	**Pn**	**15 16 41.0**	**-0.6**
TIRR	**Tirgusor**	**1.85**	**128**	⇑*i*P	**Pn**	**15 16 41.0**	**-0.6**
TIRR				*i* S	**Sn**	**15 17 03.5**	**-1.9**
TIRR	**Tirgusor**	**1.85**	**128**	⇑*i*P	**Pn**	**15 16 41.0**	**-0.6**
TIRR				*e*S	**Sn**	**15 17 02.7**	**-2.7**
TIRR	**Tirgusor**	**1.85**	**128**	*e*Pn	**Pn**	**15 16 40.8**	**-0.8**
TIRR				*e*S	**Sn**	**15 17 02.7**	**-2.7**
ZIMR		**2.09**	**201**	⇓*i*P	**Pn**	**15 16 44.3**	**-0.3**
ZIMR		**2.09**	**201**	⇓*i*P	**Pn**	**15 16 44.3**	**-0.3**
BURAR	**Bucovina Array**	**2.15**	**339**	⇓*i*P	**Pn**	**15 16 46.8**	**+1.4**
BURAR	**Bucovina Array**	**2.15**	**339**	⇓*i*P	**Pn**	**15 16 46.8**	**+1.4**
BURAR	**Bucovina Array**	**2.15**	**339**	⇓*i*P	**Pn**	**15 16 46.8**	**+1.4**
BUR08	**Bucovina Ar. S**	**2.18**	**339**	*e*Pn	**Pn**	**15 16 47.3**	**+1.5**
BUR08	**Bucovina Ar. S**	**2.18**	**339**	*e*Pn	**Pn**	**15 16 47.3**	**+1.5**
KIS	**Kishinev**	**2.18**	**50**	⇓*i*P	**Pn**	**15 16 45.0**	**-0.7**
	6µm,0.6s						
KIS				*i* S	**Sn**	**15 17 10.0**	**-2.9**
	17µm,0.5s						
KIS	**Kishinev**	**2.18**	**50**	⇓*i*P	**Pn**	**15 16 45.0**	**-0.7**
KIS				*i* S	**Sn**	**15 17 10.0**	**-2.9**
KIS				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KIS				smax	smax		
	comp=N,17µm,0.5s						
KIS				smax	smax		
	comp=E,15µm,0.5s						
KIS	**Kishinev**	**2.18**	**50**	⇓*i*P	**Pn**	**15 16 45.5**	**-0.2**
KIS	**Kishinev**	**2.18**	**50**	⇓*i*P	**Pn**	**15 16 45.5**	**-0.2**
KIS				*i* S	**Sn**	**15 17 10.8**	**-2.1**

KIS	Kishinev	2.18	50	iP	Pn	15 16 45.0	-0.7
	comp=E,6.0nm,0.6s						
KIS				iS	Sn	15 17 10.8	-2.1
KIS	Kishinev	2.18	50	iP	Pn	15 16 45.0	-0.7
KIS				Pm		15 16 45.2	
KIS				iS	Sn	15 17 10.0	-2.9
KIS				Sm		15 17 10.2	
CJR	Cluj-Napoca	2.22	301	⇑iP	Pn	15 16 46.9	+0.6
CJR	Cluj-Napoca	2.22	301	⇑iP	Pn	15 16 46.9	+0.6
CJR	Cluj-Napoca	2.22	301	⇑iP	Pn	15 16 46.9	+0.6
EFOR	EFORIE	2.22	133	⇑iP	Pn	15 16 45.8	-0.4
EFOR	EFORIE	2.22	133	⇑iP	Pn	15 16 45.8	-0.4
EFOR				iS	Sn	15 17 11.2	-2.6
EFOR	EFORIE	2.22	133	⇑iP	Pn	15 16 45.8	-0.4
EFOR				iS	Sn	15 17 11.2	-2.6
CRAR	CRAIOVA	2.24	236	⇓iP	Pn	15 16 46.1	-0.4
CRAR	CRAIOVA	2.24	236	⇓iP	Pn	15 16 46.1	-0.4
CRAR				iS	Sn	15 17 12.9	-1.3
CRAR	CRAIOVA	2.24	236	⇓iP	Pn	15 16 46.1	-0.4
CRAR				iS	Sn	15 17 12.9	-1.3
PSN	Preselentsi	2.33	146	⇑iP	Pn	15 16 47.6	0.0
PSN	Preselentsi	2.33	146	⇑iP	Pn	15 16 47.6	0.0
PSN				iS	Sn	15 17 15.4	-0.8
PSN	Preselentsi	2.33	146	P	Pn	15 16 47.7	+0.1
PSN	Preselentsi	2.33	146	⇑iP	Pn	15 16 47.6	0.0
PSN				iS	Sn	15 17 15.4	-0.8
SZH	Strazhica	2.37	188	P	Pn	15 16 47.9	-0.3
SZH	Strazhica	2.37	188	P	Pn	15 16 47.9	-0.3
MANR	Mangalia	2.39	138	⇓iP	Pn	15 16 48.0	-0.4
MANR	Mangalia	2.39	138	⇓iP	Pn	15 16 48.0	-0.4
MANR				iS	Sn	15 17 14.9	-2.8
MANR	Mangalia	2.39	138	⇓iP	Pn	15 16 48.0	-0.4
MANR				iS	Sn	15 17 14.9	-2.8
SRE	Strehaia	2.44	248	⇓iP	Pn	15 16 49.2	+0.1
SRE	Strehaia	2.44	248	⇓iP	Pn	15 16 49.2	+0.1
SRE				iS	Sn	15 17 17.9	-1.0
SRE	Strehaia	2.44	248	⇓iP	Pn	15 16 49.2	+0.1
SRE				iS	Sn	15 17 17.9	-1.0
PVL	Pavlikeni	2.52	198	P	Pn	15 16 51.5	+1.5
PVL	Pavlikeni	2.52	198	P	Pn	15 16 51.5	+1.5
PRD	Provadia	2.53	163	P	Pn	15 16 50.6	+0.4
PRD	Provadia	2.53	163	P	Pn	15 16 50.6	+0.4
GZR	Gura Zlata	2.54	266	⇑iP	Pn	15 16 51.1	+0.7
GZR	Gura Zlata	2.54	266	⇑iP	Pn	15 16 51.1	+0.7
GZR				iS	Sn	15 17 22.2	+0.9
GZR	Gura Zlata	2.54	266	⇑iP	Pn	15 16 51.1	+0.7
GZR				iS	Sn	15 17 22.2	+0.9
CHRU	Chernivtsi	2.70	354	iP	Pn	15 16 51.4	-1.0
CHRU				eS	Sn	15 17 23.0	-1.8
RMGR	Halanga-Turnu	2.78	251	⇑iP	Pn	15 16 53.3	-0.1
RMGR	Halanga-Turnu	2.78	251	⇑iP	Pn	15 16 53.3	-0.1
RMGR				iS	Sn	15 17 26.0	-0.7
RMGR	Halanga-Turnu	2.78	251	⇑iP	Pn	15 16 53.3	-0.1
RMGR				iS	Sn	15 17 26.0	-0.7
DRGR		2.80	296	⇓iPn	Pn	15 16 53.7	-0.1
DRGR		2.80	296	⇑iP	Pn	15 16 54.0	+0.2
DRGR		2.80	296	⇑iP	Pn	15 16 54.0	+0.2
DRGR		2.80	296	⇓iPn	Pn	15 16 53.7	-0.1
DRGR		2.80	296	⇑iP	Pn	15 16 54.0	+0.2
KSV	Kosov	2.84	342	iP	Pn	15 16 54.2	-0.1
KSV				Pm		15 16 54.8	
KSV				iS	Sn	15 17 26.2	-2.0
KSV				Sm		15 17 29.4	
SORM	Soroca	2.86	28	⇓iP	Pn	15 16 53.8	-0.6
SORM	Soroca	2.86	28	⇓iP	Pn	15 16 53.8	-0.6
SORM				iS	Sn	15 17 25.9	-2.6
SORM	Soroca	2.86	28	⇓iP	Pn	15 16 53.8	-0.6
SORM				iS	Sn	15 17 25.9	-2.6
RAK	Rakhov	2.86	329	iP	Pn	15 16 54.1	-0.4
RAK				Pm		15 16 56.7	
RAK				eS	Sn	15 17 27.9	-0.7
RAK				Sm		15 17 35.4	
DJES	Djerdap	2.89	252	iPn	Pn	15 16 53.5	-1.4
DJES				eSn	Sn	15 17 19.6	-10
DJES	Djerdap	2.89	252	iPn	Pn	15 16 53.5	-1.4
NSLU	Nyzhne Selyshc	2.90	334	iP	Pn	15 17 00.3	+5.3
NSLU				eS	Sn	15 17 37.5	+8.1
KMPD	K-Podol'skiy	2.94	1	iP	Pn	15 16 54.5	-1.1
KMPD				iS	Sn	15 17 28.0	-2.5
MPEP	Malo Peshtene	2.95	221	P	Pn	15 16 55.6	-0.1
NDNU	Novodnistrovsk	3.05	12	iP	Pn	15 16 54.2	-2.8
NDNU				Pm		15 16 57.2	
NDNU				iS	Sn	15 17 29.9	-3.2
NDNU				Sm		15 17 32.0	
JMB	Yambol	3.16	177	P	Pn	15 16 57.8	-0.6
JMB				S	Sn	15 17 32.1	-3.5
JMB	Yambol	3.16	177	P	Pn	15 16 57.8	-0.6
JMB				S	Sn	15 17 32.1	-3.5
JMB	Yambol	3.16	177	⇓iP	Pn	15 16 57.9	-0.5
JMB	Yambol	3.16	177	⇓iP	Pn	15 16 57.9	-0.5
JMB				iS	Sn	15 17 32.2	-3.4
JMB	Yambol	3.16	177	P	Pn	15 16 58.0	-0.5
JMB	Yambol	3.16	177	P	Pn	15 16 58.0	-0.5
JMB				S	Sn	15 17 32.1	-3.5
JMB	Yambol	3.16	177	P	Pn	15 16 57.8	-0.6
JMB				S	Sn	15 17 32.1	-3.5
BZS	Buzias	3.34	272	⇓iPn	Pn	15 17 00.6	-0.3
BZS	Buzias	3.34	272	⇓iP	Pn	15 17 00.8	-0.1
BZS	Buzias	3.34	272	⇓iP	Pn	15 17 00.8	-0.1
BZS	Buzias	3.34	272	⇓iP	Pn	15 17 00.8	-0.1
SIRR	Siria	3.35	283	⇑iP	Pn	15 17 02.3	+1.2
SIRR	Siria	3.35	283	⇑iP	Pn	15 17 02.3	+1.2
SIRR				iS	Sn	15 17 41.0	+0.7
SIRR	Siria	3.35	283	⇑iP	Pn	15 17 02.3	+1.2
SIRR				iS	Sn	15 17 41.0	+0.7
KORU	Korolevo	3.38	320	iP	Pn	15 17 01.8	+0.5
KORU				eS	Sn	15 17 40.2	-0.5
TRSU	Trosnyk	3.41	318	iP	Pn	15 17 00.6	-1.2
TRSU				eS	Sn	15 17 41.2	-0.4
PGB	Panagyurishte	3.46	208	P	Pn	15 17 02.7	+0.2
PGB	Panagyurishte	3.46	208	P	Pn	15 17 02.7	+0.2
DIM	Dimitrovgrad	3.62	190	P	Pn	15 17 04.2	-0.4
DIM	Dimitrovgrad	3.62	190	P	Pn	15 17 04.2	-0.4
BOLS	Boljevac	3.63	242	⇓iPn	Pn	15 17 02.0	-2.7
BOLS				eSn	Sn	15 17 35.3	-11
BOLS	Boljevac	3.63	242	⇓iPn	Pn	15 17 02.0	-2.7
BERU	Beregovo	3.66	317	eP	Pn	15 17 04.3	-0.7
BERU				eS	Sn	15 17 47.3	-0.1
PLD	Plovdiv	3.72	200	P	Pn	15 17 04.5	-1.4
PLD	Plovdiv	3.72	200	⇓iPn	Pn	15 17 04.5	-1.4
PLD				eSn	Sn	15 17 34.7	-14
PLD	Plovdiv	3.72	200	P	Pn	15 17 04.5	-1.4
PLD	Plovdiv	3.72	200	P	Pn	15 17 04.5	-1.4
PLD	Plovdiv	3.72	200	P	Pn	15 17 04.5	-1.4
EDRB	Edirne	3.78	176	ePN	Pn	15 17 05.8	-1.0
EDRB	Edirne	3.78	176	P	Pn	15 17 06.5	-0.2
EDRB				S	Sn	15 17 46.9	-3.6
EDRB	Edirne	3.78	176	ePn	Pn	15 17 05.8	-1.0
EDRB	Edirne	3.78	176	P	Pn	15 17 06.5	-0.2
EDRB				S	Sn	15 17 46.9	-3.6
EDRB	Edirne	3.78	176	P	Pn	15 17 06.5	-0.2
EDRB				S	Sn	15 17 46.9	-3.6
VTS	Vitosha	3.79	218	P	Pn	15 17 06.4	-0.6
VTS	Vitosha	3.79	218	⇓iPn	Pn	15 17 06.4	-0.6
VTS				eSn	Sn	15 17 38.2	-13
VTS	Vitosha	3.79	218	P	Pn	15 17 06.4	-0.6
VTS	Vitosha	3.79	218	⇓iP	Pn	15 17 06.5	-0.6
VTS	Vitosha	3.79	218	⇓iP	Pn	15 17 06.5	-0.6
VTS				iS	Sn	15 17 47.6	-3.4
VTS	Vitosha	3.79	218	P	Pn	15 17 06.5	-0.6
VTS	Vitosha	3.79	218	⇓iP	Pn	15 17 06.5	-0.6
VTS	Vitosha	3.79	218	P	Pn	15 17 06.4	-0.6
MUKU	Mukachevo	3.80	320	eP	Pn	15 17 06.1	-0.8
MUKU				eS	Sn	15 17 50.3	-0.4
MORU	Morshyn	3.90	335	eP	Pn	15 17 07.0	-1.2
MORU				eS	Sn	15 17 52.4	-0.8
SVIS	Svilajnac	3.91	252	⇓iPn	Pn	15 17 07.7	-0.7
SVIS				eSn	Sn	15 17 41.1	-12
KDZ	Kurdzhali	4.03	190	⇓iP	Pn	15 17 10.0	-0.1
KDZ	Kurdzhali	4.03	190	⇓iP	Pn	15 17 10.0	-0.1
KDZ				iS	Sn	15 17 54.1	-2.3
KDZ	Kurdzhali	4.03	190	P	Pn	15 17 09.9	-0.1
KDZ	Kurdzhali	4.03	190	P	Pn	15 17 09.9	-0.1
KDZ				iS	Sn	15 17 54.1	-2.3
PHSR	Pinarhisar	4.07	168	ePN	Pn	15 17 09.5	-1.2
PHSR	Pinarhisar	4.07	168	ePn	Pn	15 17 09.5	-1.2
UZH	Uzhgorod	4.11	319	eP	Pn	15 17 10.2	-0.8
UZH				Pm		15 17 17.0	
UZH				eS	Sn	15 17 58.0	-0.1
UZH				Sm		15 18 07.8	
ONO	Onokovtsy	4.11	319	eP	Pn	15 17 10.0	-1.1
ONO				eS	Sn	15 17 57.4	-0.9
RZN	Rozhen	4.11	198	P	Pn	15 17 10.9	-0.4
RZN	Rozhen	4.11	198	P	Pn	15 17 10.9	-0.4
SHIU	Shidnytsya	4.15	331	eP	Pn	15 17 10.7	-0.9
SHIU				eS	Sn	15 17 57.6	-1.6
BARS	Barje	4.31	231	⇓iPn	Pn	15 17 13.4	-0.5
BARS				eSn	Sn	15 17 49.6	-14
BARS	Barje	4.31	231	⇓iPn	Pn	15 17 13.4	-0.5
KOLS	Kolonicke sedl	4.33	321	eP	Pn	15 17 15.7	+1.6
KOLS	Kolonicke sedl	4.33	321	eP	Pn	15 17 15.7	+1.6
KOLS	Kolonicke sedl	4.33	321	ePN	Pn	15 17 15.7	+1.6
KKB	Krupnik	4.45	214	P	Pn	15 17 16.3	+0.6
KKB	Krupnik	4.45	214	P	Pn	15 17 16.3	+0.6
MMB	Musomiste	4.46	206	⇓iP	Pn	15 17 16.3	+0.3
MMB	Musomiste	4.46	206	⇓iP	Pn	15 17 16.3	+0.3
MMB	Musomiste	4.46	206	P	Pn	15 17 16.1	+0.1
MMB	Musomiste	4.46	206	P	Pn	15 17 16.1	+0.1
SELS	Selova	4.47	239	⇓ePn	Pn	15 17 15.0	-0.9
SELS	Selova	4.47	239	⇓ePn	Pn	15 17 15.0	-0.9
LVV	L'vov	4.49	340	eP	Pn	15 17 16.0	-0.2
LVV				eS	Sn	15 18 08.0	+0.6
LVV	L'vov	4.49	340	eP	Pn	15 17 16.0	-0.2
LVV				eS	Sn	15 18 08.0	+0.6
RDO	Rodhopi	4.51	188	P	Pn	15 17 15.9	-0.6
RDO	Rodhopi	4.51	188	eP	Sn	15 18 05.0	-3.0
RDO	Rodhopi	4.51	188	P	Pn	15 17 15.9	-0.6
RDO	Rodhopi	4.51	188	P	Pn	15 17 15.9	-0.6
SLVT	Silivri	4.59	162	ePN	Pn	15 17 16.5	-1.0
SLVT	Silivri	4.59	162	ePn	Pn	15 17 16.5	-1.0
NVR	Nevrokopi	4.64	204	P	Pn	15 17 18.0	-0.4
NVR				S	Sn	15 18 08.4	-2.9
NVR	Nevrokopi	4.64	204	eP	Pn	15 17 18.0	-0.4
NVR	Nevrokopi	4.64	204	P	Pn	15 17 18.0	-0.4
NVR				S	Sn	15 18 08.4	-2.9
NVR	Nevrokopi	4.64	204	P	Pn	15 17 18.0	-0.4
CTKS	Kestanelik-??a	4.65	160	ePN	Pn	15 17 17.7	-0.6
CTKS	Kestanelik-??a	4.65	160	ePn	Pn	15 17 17.7	-0.6
FGSL	Fruska Gora	4.65	267	⇓iPn	Pn	15 17 18.1	-0.3
FRGS	Fruska Gora	4.65	267	⇓iPn	Pn	15 17 18.1	-0.3
TKR	Tekirdag	4.70	169	ePN	Pn	15 17 18.4	-0.7
TKR	Tekirdag	4.70	169	ePn	Pn	15 17 18.4	-0.7
KWP	Kalwaria Pacla	4.72	330	ePn	Pn	15 17 20.7	+1.5
KWP				e		15 19 18.0	
KWP	Kalwaria Pacla	4.72	330	eP	Pn	15 17 20.8	+1.5
KWP	Kalwaria Pacla	4.72	330	eP	Pn	15 17 20.8	+1.5
ALN	Alexandroupoli	4.73	183	ePN	Pn	15 17 19.1	-0.3
ALN	Alexandroupoli	4.73	183	P	Pn	15 17 18.5	-0.9
ALN				S	Sn	15 18 09.4	-3.8
ALN	Alexandroupoli	4.73	183	eP	Pn	15 17 20.0	+0.6
ALN	Alexandroupoli	4.73	183	P	Pn	15 17 18.5	-0.9
ALN	Alexandroupoli	4.73	183	P	Pn	15 17 18.5	-0.9
ALN	Alexandroupoli	4.73	183	ePn	Pn	15 17 19.1	-0.3
ALN				S	Sn	15 18 09.4	-3.8
ALN	Alexandroupoli	4.73	183	P	Pn	15 17 18.5	-0.9
BGKT	Bogazkoy	4.77	158	ePN	Pn	15 17 19.9	0.0
BGKT	Bogazkoy	4.77	158	ePn	Pn	15 17 19.9	0.0
KLYT	Kilyos	4.78	155	ePN	Pn	15 17 19.4	-0.6
KLYT	Kilyos	4.78	155	ePn	Pn	15 17 19.4	-0.6
DIVS	Divibare	4.79	254	P	Pn	15 17 19.5	-0.8
DIVS	Divibare	4.79	254	⇓iPn	Pn	15 17 19.5	-0.8
DIVS	Divibare	4.79	254	P	Pn	15 17 19.5	-0.8
KAVA	Kavala	4.82	197	P	Pn	15 17 20.1	-0.6
KAVA				S	Sn	15 18 13.9	-1.5
KAVA	Kavala	4.82	197	eP	Pn	15 17 20.0	-0.6
KAVA	Kavala	4.82	197	P	Pn	15 17 20.1	-0.6
KAVA				S	Sn	15 18 13.9	-1.5
KAVA	Kavala	4.82	197	P	Pn	15 17 20.1	-0.6
KAVA				S	Sn	15 18 13.9	-1.5
PKS6	Bocsa	4.84	284	ePn	Pn	15 17 18.4	-2.5
PKS6				eSn	Sn	15 18 12.7	-3.1
PKS6	Bocsa	4.84	284	ePn	Pn	15 17 18.4	-2.5
PKS6				eSn	Sn	15 18 12.7	-3.1
ENEZ	Enez	4.88	182	ePN	Pn	15 17 20.7	-0.8
ENEZ	Enez	4.88	182	ePn	Pn	15 17 20.7	-0.8
IVAS	Ivanjica	4.89	248	iPn	Pn	15 17 20.9	-0.8
IVAS	Ivanjica	4.89	248	iPn	Pn	15 17 20.9	-0.8
SRS	Serrai	4.94	205	P	Pn	15 17 21.9	-0.4
SRS	Serrai	4.94	205	eP	Pn	15 17 22.0	-0.4
SRS	Serrai	4.94	205	P	Pn	15 17 21.9	-0.4
SRS	Serrai	4.94	205	P	Pn	15 17 21.9	-0.4
SRS	Serrai	4.94	205	P	Pn	15 17 21.9	-0.4
KECS	Kecovo	4.94	308	eP	Pn	15 17 23.0	+0.7
KECS	Kecovo	4.94	308	eP	Pn	15 17 23.0	+0.7
KECS	Kecovo	4.94	308	ePN	Pn	15 17 23.0	+0.7
KECS				ePCP	PcP	15 24 28.2	+1.1
ERIK	Erikli-Kesan	4.95	179	ePN	Pn	15 17 21.5	-0.9
ERIK	Erikli-Kesan	4.95	179	ePn	Pn	15 17 21.5	-0.9
ISK	Istanbul-Kandi	4.95	156	ePN	Pn	15 17 22.0	-0.5
ISK	Istanbul-Kandi	4.95	156	P	Pn	15 17 21.9	-0.6
ISK				S	Sn	15 18 15.2	-3.4
ISK	Istanbul-Kandi	4.95	156	P	Pn	15 17 21.9	-0.6
ISK				S	Sn	15 18 15.2	-3.4
ISK	Istanbul-Kandi	4.95	156	P	Pn	15 17 21.9	-0.6
ISK				S	Sn	15 18 15.2	-3.4
ISK	Istanbul-Kandi	4.95	156	P	Pn	15 17 21.9	-0.6
ISK				S	Sn	15 18 15.2	-3.4
PSZ	Piszkesteto	5.01	300	eP	Pn	15 17 23.9	+0.6
PSZ				pmax	pmax		
	comp=Z,20nm,0.6s						
PSZ	Piszkesteto	5.01	300	eP	Pn	15 17 23.9	+0.6
	comp=Z,20nm,0.6s						
PSZ	Piszkesteto	5.01	300	ePn	Pn	15 17 23.9	+0.6
	comp=Z,20nm,0.6s						
PSZ	Piszkesteto	5.01	300	ePn	Pn	15 17 25.5	+2.2
SILT	Sile	5.06	151	ePN	Pn	15 17 24.1	+0.2
SILT	Sile	5.06	151	ePn	Pn	15 17 24.1	+0.2
PKS2	Kecel	5.06	282	ePn	Pn	15 17 25.1	+1.2
PKS2				eSn	Sn	15 18 21.3	+0.1
PKS2	Kecel	5.06	282	ePn	Pn	15 17 25.1	+1.2
PKS2				eSn	Sn	15 18 21.3	+0.1
MRMT	Marmara Adasi	5.09	170	ePN	Pn	15 17 23.5	-0.9
MRMT	Marmara Adasi	5.09	170	ePn	Pn	15 17 23.5	-0.9
SKO	Skopje	5.11	226	P	Pn	15 17 24.1	-0.4
SKO	Skopje	5.11	226	iPn	Pn	15 17 24.8	+0.3
SKO	Skopje	5.11	226	P	Pn	15 17 24.1	-0.4
SKO	Skopje	5.11	226	P	Pn	15 17 24.1	-0.4
SKO	Skopje	5.11	226	iPn	Pn	15 17 24.8	+0.3
SKO	Skopje	5.11	226	P	Pn	15 17 24.1	-0.4
VAY	Valandovo	5.11	214	P	Pn	15 17 24.4	-0.2
VAY	Valandovo	5.11	214	iPn	Pn	15 17 25.1	+0.5
VAY	Valandovo	5.11	214	P	Pn	15 17 24.4	-0.2
VAY	Valandovo	5.11	214	P	Pn	15 17 24.4	-0.2
VAY	Valandovo	5.11	214	iPn	Pn	15 17 25.1	+0.5
VAY	Valandovo	5.11	214	P	Pn	15 17 24.4	-0.2
KNT	Kendrikon	5.13	211	ePN	Pn	15 17 24.9	0.0
KNT	Kendrikon	5.13	211	P	Pn	15 17 24.8	0.0
KNT	Kendrikon	5.13	211	eP	Pn	15 17 25.0	+0.2
KNT	Kendrikon	5.13	211	P	Pn	15 17 24.8	0.0
KNT	Kendrikon	5.13	211	P	Pn	15 17 24.8	0.0
KNT	Kendrikon	5.13	211	P	Pn	15 17 24.8	0.0
STHS	Stebnicka Huta	5.15	319	eP	Pn	15 17 27.3	+2.2
STHS	Stebnicka Huta	5.15	319	eP	Pn	15 17 27.3	+2.2
STHS	Stebnicka Huta	5.15	319	e	Pn	15 17 27.3	+2.2
STHS				ePCP	PcP	15 24 25.2	-2.0
SJES	Sjenica	5.16	245	⇓iPn	Pn	15 17 24.7	-0.6
SMTH	Samothraki Isl	5.18	187	P	Pn	15 17 24.3	-1.3
SMTH	Samothraki Isl	5.18	187	eP	Pn	15 17 24.5	-1.1
SMTH	Samothraki Isl	5.18	187	P	Pn	15 17 24.3	-1.3
SMTH	Samothraki Isl	5.18	187	P	Pn	15 17 24.3	-1.3
PKS7	Kunszentmiklos	5.20	289	eSb	Sn	15 18 40.9	+16
GELI	Tayfur-Gelibol	5.22	179	ePN	Pn	15 17 25.1	-1.0
GELI	Tayfur-Gelibol	5.22	179	ePn	Pn	15 17 25.1	-1.0
LPK	Lapseki	5.25	177	ePN	Pn	15 17 25.7	-0.8
LPK	Lapseki	5.25	177	ePn	Pn	15 17 25.7	-0.8
KRBG	Karabiga-Canak	5.27	172	ePN	Pn	15 17 25.7	-1.0
KRBG	Karabiga-Canak	5.27	172	ePn	Pn	15 17 25.7	-1.0
BBLS	Lazići	5.27	253	⇓iPn	Pn	15 17 26.3	-0.5
BBLS	Lazići	5.27	253	⇓iPn	Pn	15 17 26.3	-0.5
SEV	Sevastopol'	5.27	99	eP	Pn	15 17 24.0	-2.7
SEV				eS	Sn	15 18 20.7	-5.6
SEV	Sevastopol'	5.27	99	eP	Pn	15 17 24.0	-2.7
SEV				eS	Sn	15 18 20.7	-5.6
SEV	Sevastopol'	5.27	99	eP	Pn	15 17 24.0	-2.7
SEV				Pm		15 17 25.4	
SEV				eS	Sn	15 18 20.7	-5.6
SEV				Sm		15 18 25.5	
SOH	Sokhos	5.28	206	P	Pn	15 17 26.7	-0.2
SOH	Sokhos	5.28	206	eP	Pn	15 17 27.0	+0.1
SOH	Sokhos	5.28	206	P	Pn	15 17 26.7	-0.2
SOH	Sokhos	5.28	206	P	Pn	15 17 26.7	-0.2
SOH	Sokhos	5.28	206	P	Pn	15 17 26.7	-0.2
HRT	Hereke	5.36	152	ePN	Pn	15 17 28.7	+0.6
HRT	Hereke	5.36	152	ePn	Pn	15 17 28.7	+0.6
ARMT	Armutlu	5.37	159	ePN	Pn	15 17 27.7	-0.4
ARMT	Armutlu	5.37	159	ePn	Pn	15 17 27.7	-0.4
BNT	Bandirma	5.38	167	ePN	Pn	15 17 27.5	-0.8
BNT	Bandirma	5.38	167	ePn	Pn	15 17 27.5	-0.8
EDC	Edincik	5.38	168	ePN	Pn	15 17 27.8	-0.5
EDC	Edincik	5.38	168	ePn	Pn	15 17 27.8	-0.5
AK02	Malin Array Si	5.38	20	ePn	Pn	15 17 26.9	-1.3
AK02	Malin Array Si	5.38	20	ePn	Pn	15 17 26.9	-1.3
BEY	Berane	5.41	242	⇑iPn	Pn	15 17 28.9	+0.2
BEY				eSn	Sn	15 18 27.8	-2.0
IVA	Berane	5.41	242	⇑iPn	Pn	15 17 28.9	+0.2
IVA				eSn	Sn	15 18 27.8	-2.0
AK01	Malin Array Si	5.42	19	ePn	Pn	15 17 27.4	-1.2
AK01	Malin Array Si	5.42	19	ePn	Pn	15 17 27.4	-1.2
KIEV	Kiev	5.42	19	eP	Pn	15 17 27.4	-1.3
KIEV				pmax	pmax		
	comp=Z,56nm,0.4s						
KIEV	Kiev	5.42	19	eP	Pn	15 17 27.4	-1.3
	comp=Z,56nm,0.4s						
KIEV	Kiev	5.42	19	ePn	Pn	15 17 27.4	-1.3
	comp=Z,56nm,0.4s						
AKASG	Malin Array Be	5.43	19	P	Pn	15 17 27.5	-1.3
	comp=Z,44nm,0.3s,baz=205,slow=12,SNR=81						
AKASG				S	Sn	15 18 25.7	-4.3
	comp=Z,47nm,0.3s,baz=203,slow=20,SNR=9.9						
AKBB	Malin Array Si	5.43	19	eP	Pn	15 17 27.4	-1.4
AKBB	Malin Array Si	5.43	19	eP	Pn	15 17 27.4	-1.4
AKBB	Malin Array Si	5.43	19	ePn	Pn	15 17 27.4	-1.4
PKSM	Moragy	5.43	279	⇓iP	Pn	15 17 29.6	+0.7
PKSM	Moragy	5.43	279	⇓iP	Pn	15 17 29.6	+0.7
PKSM	Moragy	5.43	279	⇑ePn	Pn	15 17 29.5	+0.7
PKSM	Moragy	5.43	279	⇑ePn	Pn	15 17 29.5	+0.7
PKSM				⇓ePn	Pn	15 17 29.5	+0.7
PKSM				eSn	Sn	15 18 29.3	-0.8
GADA	Gvkgeada	5.44	184	ePN	Pn	15 17 28.0	-1.0
GRG	Griva	5.49	213	ePN	Pn	15 17 29.1	-0.6
GRG	Griva	5.49	213	P	Pn	15 17 29.1	-0.6
GRG	Griva	5.49	213	eP	Pn	15 17 29.5	-0.3
GRG	Griva	5.49	213	P	Pn	15 17 29.1	-0.6
GRG	Griva	5.49	213	P	Pn	15 17 29.1	-0.6
GRG	Griva	5.49	213	P	Pn	15 17 29.1	-0.6
PLE	Pljevlja	5.50	248	⇑iPn	Pn	15 17 29.9	0.0
PLE	Pljevlja	5.50	248	⇑iPn	Pn	15 17 29.9	0.0
PLE				eSn	Sn	15 18 29.4	-2.6
SIM	Simferopol'	5.50	94	ceP	Pn	15 17 28.6	-1.2
SIM				eS	Sn	15 18 27.0	-4.8
SIM				pmax	pmax		
	comp=Z,89nm,0.7s						
SIM	Simferopol'	5.50	94	eP	Pn	15 17 28.6	-1.2
	comp=Z,89nm,0.7s						
SIM	Simferopol'	5.50	94	eP	Pn	15 17 28.6	-1.2
SIM				Pm		15 17 33.3	
SIM				eS	Sn	15 18 28.0	-3.8
SIM				Sm		15 18 30.9	
PVY	Plav	5.52	239	⇓iPn	Pn	15 17 30.5	+0.2
PVY				eSn	Sn	15 18 30.0	-2.6
KCTX	Karacabey (Bur	5.54	164	ePN	Pn	15 17 30.3	-0.2
HORT	Hortiatis	5.56	207	ePN	Pn	15 17 30.0	-0.8
HORT	Hortiatis	5.56	207	P	Pn	15 17 30.4	-0.4
HORT	Hortiatis	5.56	207	eP	Pn	15 17 30.5	-0.4
HORT	Hortiatis	5.56	207	P	Pn	15 17 30.4	-0.4
HORT	Hortiatis	5.56	207	P	Pn	15 17 30.4	-0.4
OUR	Ouranopolis	5.57	199	ePN	Pn	15 17 29.9	-0.8
OUR	Ouranopolis	5.57	199	P	Pn	15 17 29.6	-1.1
OUR	Ouranopolis	5.57	199	eP	Pn	15 17 30.0	-0.8
OUR	Ouranopolis	5.57	199	P	Pn	15 17 29.6	-1.1
OUR	Ouranopolis	5.57	199	P	Pn	15 17 29.6	-1.1
OUR	Ouranopolis	5.57	199	P	Pn	15 17 29.6	-1.1
THE	Thessaloniki	5.58	208	eP	Pn	15 17 30.5	-0.3
GEMT	Gemlik	5.58	157	ePN	Pn	15 17 30.9	0.0
NIE	Niedzica	5.60	315	ePn	Pn	15 17 32.9	+1.8
NIE	Niedzica	5.60	315	eP	Pn	15 17 33.0	+1.8
NIE	Niedzica	5.60	315	eP	Pn	15 17 33.0	+1.8
YAL	Yalta	5.62	99	⇑iP	Pn	15 17 30.4	-1.1
YAL				eS	Sn	15 18 31.5	-3.3
YAL	Yalta	5.62	99	iP	Pn	15 17 30.4	-1.1
YAL				eS	Sn	15 18 31.5	-3.3
YAL	Yalta	5.62	99	iP	Pn	15 17 30.4	-1.1
YAL				Pm		15 17 31.3	
YAL				eS	Sn	15 18 31.5	-3.3
YAL				Sm		15 18 36.8	
PLG	Polygyros	5.67	203	P	Pn	15 17 31.6	-0.5
PLG	Polygyros	5.67	203	eP	Pn	15 17 32.0	-0.1
PLG	Polygyros	5.67	203	P	Pn	15 17 31.6	-0.5
PLG	Polygyros	5.67	203	P	Pn	15 17 31.6	-0.5
PLG	Polygyros	5.67	203	P	Pn	15 17 31.6	-0.5
SPNC	Sapanca-Adapaz	5.71	148	ePN	Pn	15 17 33.5	+0.9
PKS9	Tamasi	5.71	283	⇑ePn	Pn	15 17 34.5	+1.8
PKS9	Tamasi	5.71	283	⇑ePn	Pn	15 17 34.5	+1.8
ADVT	Abdulvahap	5.74	153	ePN	Pn	15 17 34.0	+1.0
IZI	Iznik	5.75	156	ePN	Pn	15 17 33.3	0.0
ALU	Alushta	5.75	97	⇑eP	Pn	15 17 31.2	-2.0
ALU				eS	Sn	15 18 33.1	-4.8
ALU	Alushta	5.75	97	eP	Pn	15 17 31.2	-2.0
ALU	Alushta	5.75	97	eP	Pn	15 17 31.2	-2.0
ALU				Pm		15 17 33.2	
ALU				eS	Sn	15 18 33.1	-4.8
ALU				Sm		15 18 40.1	
LIA	Limnos Island	5.79	189	P	Pn	15 17 32.5	-1.2
LIA	Limnos Island	5.79	189	eP	Pn	15 17 32.5	-1.2
LIA	Limnos Island	5.79	189	P	Pn	15 17 32.5	-1.2
LIA	Limnos Island	5.79	189	P	Pn	15 17 32.5	-1.2
EZN	Ezine	5.79	180	ePN	Pn	15 17 32.9	-0.9
PHP	Peshkopia	5.83	230	P	Pn	15 17 34.6	+0.2
PHP	Peshkopia	5.83	230	P	Pn	15 17 34.6	+0.2
PHP	Peshkopia	5.83	230	P	Pn	15 17 34.6	+0.2
PHP	Peshkopia	5.83	230	P	Pn	15 17 34.6	+0.2
UPM	Unac-Piva	5.87	248	⇓iPn	Pn	15 17 34.8	-0.2
UPM				eSn	Sn	15 18 39.1	-2.0
UPM	Unac-Piva	5.87	248	⇓iPn	Pn	15 17 34.8	-0.2
UPM				eSn	Sn	15 18 39.1	-2.0
CAVI	Cavuskoy	5.98	154	ePN	Pn	15 17 36.8	+0.4
PKST	Tˆ's	6.00	289	ePn	Pn	15 17 37.0	+0.5
PKST	Tˆ's	6.00	289	ePn	Pn	15 17 37.0	+0.5
NKY	Niksic	6.00	245	⇓iPn	Pn	15 17 36.7	0.0
NKY	Niksic	6.00	245	⇓iPn	Pn	15 17 36.7	0.0
NKY				eSn	Sn	15 18 41.4	-2.8
PAIG	Paliouri	6.03	200	P	Pn	15 17 35.5	-1.4
PAIG	Paliouri	6.03	200	eP	Pn	15 17 36.0	-0.9
PAIG	Paliouri	6.03	200	P	Pn	15 17 35.5	-1.4
PAIG	Paliouri	6.03	200	P	Pn	15 17 35.5	-1.4
PAIG	Paliouri	6.03	200	P	Pn	15 17 35.5	-1.4
PDG	Podgorica	6.04	241	⇓iPn	Pn	15 17 37.3	+0.1
PDG				eSn	Sn	15 18 42.8	-2.2
TTG	Podgorica	6.04	241	⇓iPn	Pn	15 17 37.3	+0.1
TTG				eSn	Sn	15 18 42.8	-2.2
NKME	Niksic	6.05	245	⇓iPn	Pn	15 17 37.1	-0.2
NKME	Niksic	6.05	245	⇓iPn	Pn	15 17 37.1	-0.2
NKME				eSn	Sn	15 18 42.7	-2.6
OHR	Ohrid	6.07	224	iPn	Pn	15 17 37.2	-0.4
BALB	Balikesir	6.08	169	ePN	Pn	15 17 37.6	0.0
SUDU	Sudak	6.13	94	eP	Pn	15 17 36.4	-1.9
SUDU				eS	Sn	15 18 42.4	-4.6
SUDU	Sudak	6.13	94	eP	Pn	15 17 36.4	-1.9
SUDU	Sudak	6.13	94	eP	Pn	15 17 36.4	-1.9
SUDU				Pm		15 17 36.7	
SUDU				eS	Sn	15 18 42.4	-4.6
SUDU				Sm		15 18 47.1	
DRME	Dracevica, Mon	6.23	239	⇑iPn	Pn	15 17 40.3	+0.6
DRME				eSn	Sn	15 18 47.4	-2.1
DRME	Dracevica, Mon	6.23	239	⇑iPn	Pn	15 17 40.3	+0.6
DRME				eSn	Sn	15 18 47.4	-2.1
DST	Dursunbey	6.24	164	ePN	Pn	15 17 40.1	+0.3
BRY	Bratogost	6.25	247	⇓iPn	Pn	15 17 40.2	+0.1
BRY				eSn	Sn	15 18 48.0	-2.2
BRY	Bratogost	6.25	247	⇓iPn	Pn	15 17 40.2	+0.1
BRY				eSn	Sn	15 18 48.0	-2.2
KZN	Kozani	6.29	214	eP	Pn	15 17 40.5	-0.2
ULC	Ulcinj	6.33	237	⇑iPn	Pn	15 17 41.9	+0.9
ULC				eSn	Sn	15 18 49.5	-2.4
ULC	Ulcinj	6.33	237	⇑iPn	Pn	15 17 41.9	+0.9
ULC				eSn	Sn	15 18 49.5	-2.4
BUM	Brajici-Budva	6.34	241	⇑iPn	Pn	15 17 42.1	+0.9
BUM				eSn	Sn	15 18 50.0	-2.3

BUM Brajici-Budva 6.34 241 ⇑*i*Pn **Pn** **15 17 42.1 +0.9**
BUM *e*Sn **Sn** **15 18 50.0 -2.3**
PRK Paraskevi 6.37 181 *e*P **Pn** **15 17 42.0 +0.4**
TIR Tirane 6.38 230 *e*P **Pn** **15 17 40.6 -1.1**
TIR pmax pmax
comp=Z,73nm,0.7s
TIR Tirane 6.38 230 *e*P **Pn** **15 17 40.6 -1.1**
comp=Z,73nm,0.7s
TIR Tirane 6.38 230 *e*Pn **Pn** **15 17 40.6 -1.1**
comp=Z,73nm,0.7s
FEO Feodosiya 6.38 92 *e*P **Pn** **15 17 40.1 -1.6**
FEO *e*S **Sn** **15 18 52.5 -0.6**
FEO Feodosiya 6.38 92 *e*P **Pn** **15 17 40.1 -1.6**
FEO *e*S **Sn** **15 18 52.5 -0.6**
FEO Feodosiya 6.38 92 *e*P **Pn** **15 17 40.1 -1.6**
FEO Pm 15 17 42.1
FEO *e*S **Sn** **15 18 52.5 -0.6**
FEO Sm 15 18 52.8
SIGR SIGRI 6.42 184 *e*PN **Pn** **15 17 42.0 -0.3**
SIGR SIGRI 6.42 184 P **Pn** **15 17 41.0 -1.2**
SIGR SIGRI 6.42 184 *e*P **Pn** **15 17 41.5 -0.7**
SIGR SIGRI 6.42 184 P **Pn** **15 17 41.0 -1.2**
SIGR SIGRI 6.42 184 P **Pn** **15 17 41.0 -1.2**
NEST Nestorio 6.50 219 P **Pn** **15 17 43.9 +0.4**
NEST Nestorio 6.50 219 *e*P **Pn** **15 17 44.0 +0.4**
NEST Nestorio 6.50 219 P **Pn** **15 17 43.9 +0.4**
HCY Herceg Novi 6.51 244 ⇓*i*Pn **Pn** **15 17 44.7 +1.2**
HCY Herceg Novi 6.51 244 ⇓*i*Pn **Pn** **15 17 44.7 +1.2**
HCY *e*Sn **Sn** **15 18 53.9 -2.3**
TVSB Tavsanli 6.57 159 *e*PN **Pn** **15 17 44.9 +0.4**
XOR Xorichti 6.68 202 P **Pn** **15 17 44.1 -1.7**
XOR S **Sn** **15 18 57.1 -3.4**
XOR Xorichti 6.68 202 *e*P **Pn** **15 17 44.5 -1.3**
XOR Xorichti 6.68 202 P **Pn** **15 17 44.1 -1.7**
XOR Xorichti 6.68 202 P **Pn** **15 17 44.1 -1.7**
XOR S **Sn** **15 18 57.1 -3.4**
AOS Alonnisos 6.71 197 *e*PN **Pn** **15 17 44.5 -1.7**
AOS Alonnisos 6.71 197 P **Pn** **15 17 44.6 -1.5**
AOS S **Sn** **15 18 57.4 -3.7**
AOS Alonnisos 6.71 197 *e*P **Pn** **15 17 44.5 -1.7**
AOS Alonnisos 6.71 197 P **Pn** **15 17 44.6 -1.5**
AOS Alonnisos 6.71 197 P **Pn** **15 17 44.6 -1.5**
AOS S **Sn** **15 18 57.4 -3.7**
NEO Neokhori 6.73 201 P **Pn** **15 17 44.9 -1.6**
NEO S **Sn** **15 18 58.7 -2.9**
NEO Neokhori 6.73 201 *e*P **Pn** **15 17 45.5 -1.0**
NEO Neokhori 6.73 201 P **Pn** **15 17 44.9 -1.6**
NEO Neokhori 6.73 201 P **Pn** **15 17 44.9 -1.6**
NEO S **Sn** **15 18 58.7 -2.9**
STON Ston 6.81 249 *i*Pn **Pn** **15 17 49.2 +1.7**
STON Sn **Sn** **15 19 02.8 -0.8**
STON Ston 6.81 249 *i*Pn **Pn** **15 17 49.2 +1.7**
STON Sn **Sn** **15 19 02.7 -0.8**
THL Klokotos Trika 6.85 210 P **Pn** **15 17 47.7 -0.4**
THL Klokotos Trika 6.85 210 *e*P **Pn** **15 17 48.0 -0.1**
THL Klokotos Trika 6.85 210 P **Pn** **15 17 47.7 -0.4**
SMIA Simia 7.13 200 P **Pn** **15 17 50.9 -1.1**
SMIA Simia 7.13 200 *e*P **Pn** **15 17 51.0 -1.1**
SMIA Simia 7.13 200 P **Pn** **15 17 50.9 -1.1**
MRKA Markates 7.21 198 P **Pn** **15 17 51.7 -1.4**
MRKA Markates 7.21 198 *e*P **Pn** **15 17 51.5 -1.6**
MRKA Markates 7.21 198 P **Pn** **15 17 51.7 -1.4**
JAN Janina 7.22 216 *e*P **Pn** **15 17 54.0 +0.9**
CHOS Chios island 7.23 182 *e*PN **Pn** **15 17 53.2 -0.2**
CHOS Chios island 7.23 182 P **Pn** **15 17 53.0 -0.4**
CHOS Chios island 7.23 182 *e*P **Pn** **15 17 53.0 -0.4**
CHOS Chios island 7.23 182 P **Pn** **15 17 53.0 -0.4**
CHOS Chios island 7.23 182 P **Pn** **15 17 53.0 -0.4**
AGG Agios Georgios 7.24 206 P **Pn** **15 17 52.8 -0.7**
AGG Agios Georgios 7.24 206 *e*P **Pn** **15 17 53.0 -0.5**
AGG Agios Georgios 7.24 206 P **Pn** **15 17 52.8 -0.7**
AGG Agios Georgios 7.24 206 P **Pn** **15 17 52.8 -0.7**
AGG Agios Georgios 7.24 206 P **Pn** **15 17 52.8 -0.7**
MAKR Makrakomi, Fth 7.31 207 *e*P **Pn** **15 17 54.5 +0.1**
AXAR Agios Charalam 7.38 203 *e*P **Pn** **15 17 54.0 -1.4**
LKR Lokris 7.40 201 *e*P **Pn** **15 17 54.0 -1.6**
EVR Evrytania 7.50 208 P **Pn** **15 17 56.9 -0.2**
EVR Evrytania 7.50 208 *e*P **Pn** **15 17 57.0 -0.2**
EVR Evrytania 7.50 208 P **Pn** **15 17 56.9 -0.2**
EVR Evrytania 7.50 208 P **Pn** **15 17 56.9 -0.2**
SGD Sagiada 7.52 219 *e*P **Pn** **15 17 59.0 +1.8**
IGT Igoumenitsa 7.54 218 *e*P **Pn** **15 17 59.0 +1.5**
DSL Palaion Diasel 7.57 213 P **Pn** **15 17 58.9 +1.1**
DSL Palaion Diasel 7.57 213 *e*P **Pn** **15 17 59.0 +1.1**
DSL Palaion Diasel 7.57 213 P **Pn** **15 17 58.9 +1.1**
DSL Palaion Diasel 7.57 213 P **Pn** **15 17 58.9 +1.1**
VRAC Vranov 7.59 303 LR LR 15 20 34.6
comp=Z,34nm,21.0s,baz=40,slow=35
UDBI Udbina 7.59 266 *e*Pn **Pn** **15 17 59.5 +1.2**
UDBI Udbina 7.59 266 *e*Pn **Pn** **15 17 59.4 +1.2**
DSF Desfina 7.75 203 P **Pn** **15 18 00.4 0.0**
DSF Desfina 7.75 203 *e*P **Pn** **15 17 59.0 -1.4**
DSF Desfina 7.75 203 P **Pn** **15 18 00.4 0.0**
DSF Desfina 7.75 203 P **Pn** **15 18 00.4 0.0**
VILL Platees 7.76 198 *e*P **Pn** **15 17 59.0 -1.4**
VILL Villia 7.79 198 P **Pn** **15 17 59.5 -1.4**
VILL Villia 7.79 198 P **Pn** **15 17 59.5 -1.4**
BOJS Bojanci 7.81 273 *i*P **Pn** **15 18 02.6 +1.5**
BOJS Bojanci 7.81 273 P **Pn** **15 18 02.6 +1.5**
ANN Anapa 7.85 92 *e*P Pn 15 17 57.6 -4.0
ANN *e*S Sn 15 19 21.9 -6.8
ANN pmax pmax
comp=Z,37nm,0.7s
KALE Kalithea 7.88 205 *e*P **Pn** **15 18 02.0 -0.1**
PERS Pernice 7.89 281 *i*P **Pn** **15 18 04.2 +2.0**
PERS Pernice 7.89 281 *i*P **Pn** **15 18 04.2 +2.0**
ATH Athens Observa 7.89 195 *e*P **Pn** **15 18 02.0 -0.3**
SMG Samos 7.91 177 *e*P **Pn** **15 18 03.0 +0.5**
EFP Efpalio 7.92 206 *e*P **Pn** **15 18 02.0 -0.6**
SOKA Soboth 7.95 282 ⇑*i*Pn **Pn** **15 18 04.4 +1.4**
comp=Z,21nm,0.9s,SNR=15
SOKA ⇑*i*Sn **Sn** **15 19 29.8 -1.5**
BR131 Keskin Array S 7.95 135 *e*Pn **Pn** **15 18 03.6 +0.4**
BR131 Keskin Array S 7.95 135 *e*Pn **Pn** **15 18 03.6 +0.4**
BRTR Keskin Array B 7.95 135 P **Pn** **15 18 03.4 +0.2**
comp=Z,6.0nm,0.3s,baz=331,slow=14,SNR=14
BRTR S **Sn** **15 19 26.8 -4.8**
comp=Z,0.2nm,0.3s,baz=307,slow=22,SNR=2.8
BRTR PcP **PcP** **15 24 29.5 +0.2**
comp=Z,0.2nm,0.3s,baz=294,slow=2.4,SNR=5.8
LTK Loutraki 8.01 200 *e*P **Pn** **15 18 02.0 -1.8**
PDO Prodromos 8.01 211 *e*P **Pn** **15 18 06.5 +2.7**
LKD2 Lefkada island 8.04 214 *e*P Pn 15 18 07.5 +3.3
DPC Dobruska-Polom 8.24 309 ⇓*e*P **Pn** **15 18 09.6 +2.7**
DPC *ex* x 15 18 15.1
DPC *ex* x 15 18 23.7
DPC *ex* x 15 18 29.0
DPC Dobruska-Polom 8.24 309 *e*P **Pn** **15 18 09.6 +2.7**
GUR Goura 8.25 203 *e*P **Pn** **15 18 06.0 -1.1**
OBKA Obir 8.28 280 ⇑*i*Pn **Pn** **15 18 09.1 +1.6**
comp=Z,7.2nm,0.8s,SNR=5.5
OBKA ⇓*i*Sn **Sn** **15 19 39.3 +0.1**
LJU Ljubljana 8.29 277 *i*P **Pn** **15 18 10.2 +2.7**
LJU Ljubljana 8.29 277 *i*P **Pn** **15 18 10.2 +2.7**
RLS Riolos of Patr 8.40 208 *e*P **Pn** **15 18 12.0 +3.0**
DRO Drossia 8.42 206 *e*P **Pn** **15 18 12.0 +2.7**
DID Didima 8.44 197 *e*P **Pn** **15 18 08.5 -1.2**
APE Apeiranthos 8.57 185 *e*P **Pn** **15 18 12.0 +0.6**
VLS Valsamata 8.60 212 *e*P **Pn** **15 18 13.5 +1.7**
JAVS Javornik 8.62 276 *i*P **Pn** **15 18 13.4 +1.4**
JAVS Javornik 8.62 276 *i*P **Pn** **15 18 13.4 +1.3**
SUW Suwalki 8.65 347 *e*P **Pn** **15 18 12.2 -0.1**
SUW Suwalki 8.65 347 *e*P **Pn** **15 18 12.2 -0.1**
SUW Suwalki 8.65 347 *e*P **Pn** **15 18 12.2 -0.1**
VLX Vlachokerasia 8.77 201 *e*P **Pn** **15 18 14.0 -0.2**
AMT Artemida-Makis 8.80 205 *e*P **Pn** **15 18 16.5 +1.9**
AMT Artemida-Makis 8.80 205 *e*P **Pn** **15 18 17.0 +2.4**
CADS Cadrg 8.84 278 *i*P **Pn** **15 18 17.0 +2.0**
CADS Cadrg 8.84 278 *i*P **Pn** **15 18 17.0 +2.0**
MNK Minsk 8.94 5⇓*e*P Pn 15 18 12.0 -4.2
MNK *e*S Sn 15 19 48.0 -7.0
MICGM Minsk 8.95 6⇓*e*P Pn 15 18 12.0 -4.3
ZKS Zakynthos 8.95 210 *e*P Pn 15 18 09.5 -7.1
KBA Koelnbreinsper 9.13 284 ⇑*i*Pn **Pn** **15 18 20.8 +1.7**
comp=Z,13nm,0.9s,SNR=8.7
KBA ⇑*i*Sn **Sn** **15 20 00.9 +0.7**
GERES GERESS Array B 9.21 295 P **Pn** **15 18 19.6 -0.4**
comp=Z,0.2nm,0.3s,baz=106,slow=14,SNR=11
GERES LR LR 15 22 17.1
comp=Z,34nm,20.1s,baz=98,slow=40
VLI Velíai 9.26 197 *e*P **Pn** **15 18 20.5 -0.3**

SFD Strofades 9.28 208 *e*P **Pn** **15 18 21.0 +0.1**
NACGM Naroch 9.30 1 *e*P Pn 15 18 17.0 -4.1
KHC Kasperske Hory 9.37 297⇓*e*P **Pn** **15 18 24.2 +2.1**
KHC *ex* x 15 18 35.8
KHC *ex* x 15 18 57.6
KHC *e*S **Sn** **15 20 04.7 -0.9**
KHC *ex* x 15 20 46.9
KHC Kasperske Hory 9.37 297 *e*P **Pn** **15 18 24.2 +2.1**
KHC *e*S **Sn** **15 20 04.7 -0.9**
KHC Kasperske Hory 9.37 297 P **Pn** **15 18 24.2 +2.1**
KHC S **Sn** **15 20 04.7 -0.9**
PYL PYLOS 9.39 203 *e*P Pn 15 18 19.0 -3.5
CUC Castrocucco 9.58 238 *e*Pn **Pn** **15 18 26.3 +1.2**
comp=Z,21nm,0.8s
CUC Castrocucco 9.58 238 *e*Pn **Pn** **15 18 26.3 +1.2**
comp=Z,21nm,0.8s
TIP Timpagrande 9.59 231 *e*Pn **Pn** **15 18 25.1 -0.1**
comp=Z,12nm,0.8s
TIP Timpagrande 9.59 231 *e*Pn **Pn** **15 18 25.1 -0.1**
comp=Z,12nm,0.8s
KYTH Kithira 9.66 196 *e*P **Pn** **15 18 26.0 -0.2**
ABTA Abfaltersbach 9.69 282 *i*Pn **Pn** **15 18 29.6 +3.1**
comp=Z,7.8nm,0.8s,SNR=5.7
IDID Didziasalis 9.71 1 *e*P **Pn** **15 18 24.4 -2.2**
IDID Didziasalis 9.71 1 *e*P **Pn** **15 18 24.5 -2.2**
SOC Sochi 9.73 97 *e*P Pn 15 18 36.2 +9.2
SOC pmax pmax
comp=Z,7.0nm,0.3s
IIGN Ignalina 9.74 359 *e*P **Pn** **15 18 25.0 -2.1**
IIGN Ignalina 9.74 359 *e*P **Pn** **15 18 25.0 -2.1**
ISAL Salakas 9.96 359 *e*P **Pn** **15 18 27.5 -2.6**
ISAL Salakas 9.96 359 *e*P **Pn** **15 18 27.5 -2.6**
VORD Divnogorie 10.13 53 *e*P **Pn** **15 18 29.5 -2.8**
VORD Divnogorie 10.13 53 *e*P **Pn** **15 18 29.5 -2.8**
IZAR Zarasai 10.14 360 *e*P Pn 15 18 29.1 -3.4
VSR Storozhevoye 10.17 52 *e*P **Pn** **15 18 30.8 -2.2**
VSR Storozhevoye 10.17 52 *e*P **Pn** **15 18 30.8 -2.2**
VOR Voronezh 10.45 50 *e*P **Pn** **15 18 35.0 -1.6**
VOR pmax pmax
comp=Z,480nm,1.4s
VOR Voronezh 10.45 50 *e*P **Pn** **15 18 35.0 -1.6**
comp=Z,480nm,1.4s
CEL Celeste 10.72 230 *e*Pn **Pn** **15 18 39.1 -1.4**
comp=Z,61nm,1.0s
CEL Celeste 10.72 230 *e*Pn **Pn** **15 18 39.1 -1.4**
comp=Z,61nm,1.0s
LPSR Galich'ya Gora 10.78 45 *e*P **Pn** **15 18 38.3 -2.9**
LPSR Galich'ya Gora 10.78 45 *e*P **Pn** **15 18 38.3 -2.9**
GVD Gavdhos 10.91 190 *e*P Pn 15 19 13.5 +30
DAVOX Davos/Dischmat 11.50 282 LR LR 15 23 49.6
comp=Z,29nm,19.1s,baz=84,slow=40
OBN Obninsk 11.51 31 P Pn 15 18 47.0 -3.8
comp=Z,59nm,0.3s,baz=50,slow=6.3,SNR=22
OBN S Sn 15 20 46.4 -11
comp=Z,7.2nm,0.3s,baz=19,slow=22,SNR=5.6
OBN Obninsk 11.51 31 *ce*P Pn 15 18 47.2 -3.6
OBN pmax pmax
comp=Z,168nm,1.5s
OBN MLR MLR
comp=Z,27nm,19.0s
OBN Obninsk 11.51 31 *e*Pn Pn 15 18 46.0 -4.8
comp=Z,107nm,0.4s
OBN S Sn 15 20 46.3 -11
OBN Obninsk 11.51 31 *e*Pn Pn 15 18 46.0 -4.8
comp=Z,107nm,0.4s
OBN S Sn 15 20 46.4 -11
KIV Kislovodsk 11.71 92⇓*i*P **Pn** **15 18 52.8 -0.9**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,28nm,23.0s
KIV Kislovodsk 11.71 92 *i*P **Pn** **15 18 52.8 -0.9**
comp=Z,28nm,23.0s
KBZ Khabaz 11.91 93 P **Pn** **15 18 55.5 -0.8**
comp=Z,0.8nm,0.3s,baz=326,slow=24,SNR=6.1
MOS Moscow 12.37 31 *e*P Pn 15 18 58.7 -3.5
MOS *e* 15 21 21.5
MOS pmax pmax
comp=Z,92nm,0.7s
NCK Nalchik 12.46 94⇓*e*P **Pn** **15 19 02.7 -0.9**
NCK Nalchik 12.46 94 *e*P **Pn** **15 19 02.7 -0.9**
CLTB Caltabellotta 12.70 235 *e*Pn **Pn** **15 19 09.1 +2.3**
comp=Z,7.7nm,0.4s
CLTB Caltabellotta 12.70 235 *e*Pn **Pn** **15 19 09.1 +2.3**
comp=Z,7.7nm,0.4s
VSU Vasula 12.87 1 *de*P **Pn** **15 19 05.7 -2.9**
ZEI Tsey 12.89 96 *e*P P 15 19 19.4 +3.8
ZEI pmax pmax
comp=Z,7.0nm,0.4s
BNI Bardonecchia 13.87 275 *e*P **Pn** **15 19 23.9 +1.9**
BNI pmax pmax
comp=Z,14nm,1.2s
BNI Bardonecchia 13.87 275 *e*P **Pn** **15 19 23.9 +1.9**
comp=Z,14nm,1.2s
BNI Bardonecchia 13.87 275 *e*Pn **Pn** **15 19 23.9 +1.9**
comp=Z,14nm,1.2s
MEM Membach 14.48 297 P **P** **15 19 31.8 -1.1**
comp=Z,8.3nm,1.5s
GNI Garni 14.52 106 *d*/P **Pn** **15 19 28.7 -1.6**
FINES FINESS Array B 15.86 359 P **Pn** **15 19 42.5 -4.1**
comp=Z,1.6nm,0.3s,baz=175,slow=14,SNR=21
FIA1 FINESS Array S 15.86 359 *e*Pn **Pn** **15 19 42.5 -4.2**
KEST Kesra 16.23 238 P **Pn** **15 19 50.4 -1.2**
comp=Z,0.1nm,0.3s,baz=313,slow=19,SNR=2.4
HFS Hagfors 16.38 337 P **Pn** **15 19 52.0 -1.1**
comp=Z,1.2nm,0.3s,baz=146,slow=12,SNR=24
HFS LR LR 15 27 35.7
comp=Z,21nm,18.4s,baz=118,slow=42
KLMR Klimovskoe 17.11 22 *e*P **P** **15 19 58.3 -3.6**
KLMR pmax pmax
comp=Z,29nm,1.1s
KONO Kongsberg 17.27 330⇓*e*P **P** **15 20 03.0 -0.7**
KONO Kongsberg 17.27 330 *e*P **P** **15 20 03.0 -0.7**
NB2 NORSAR Subarra 17.83 335 P **P** **15 20 09.4 -0.5**
comp=Z,12nm,0.6s,baz=139,slow=11
NB2 NORSAR Subarra 17.83 335 P **P** **15 20 09.4 -0.5**
comp=Z,12nm,0.6s,SNR=3.3
NOA NORSAR Array B 17.83 335 P **P** **15 20 08.0 -1.9**
comp=Z,1.5nm,0.3s,baz=132,slow=10,SNR=24
PRGR Permogore 19.56 28 *e*P **P** **15 20 28.1 -0.5**
PRGR *e* 15 23 56.5
PRGR pmax pmax
comp=Z,26nm,0.6s
PRGR Permogore 19.56 28 *e*P **P** **15 20 28.1 -0.5**
comp=Z,26nm,0.6s
TMCR Tamitsa 19.69 15 *e*P **P** **15 20 30.4 +0.3**
TMCR *e*S **S** **15 24 00.7 -4.9**
TMCR pmax pmax
comp=Z,28nm,0.9s
TMCR Tamitsa 19.69 15 *e*P **P** **15 20 30.4 +0.3**
comp=Z,28nm,0.9s
EKA Eskdalemuir Ar 21.01 308 P **P** **15 20 44.5 +0.2**
comp=Z,2.0nm,0.6s,baz=103,slow=11,SNR=9.2
AKTK Aktyubinsk 21.60 66 P **P** **15 20 51.1 +0.4**
AKTO Aktyubinsk 21.60 66 P **P** **15 20 51.1 +0.3**
comp=Z,2.2nm,0.4s,baz=268,slow=12,SNR=13
APA Apatity 22.31 7 ⇑*i*P P 15 21 03.0 +5.1
APA *e*S **S** **15 24 56.0 +0.9**
APA pmax pmax
comp=Z,36nm,1.0s
APA MLR MLR
comp=Z,1μm,17.0s
ARU Arti 22.73 50 *d*/P **P** **15 21 02.0 -0.3**
ARU *PP **pP** 15 21 22.0 -2.4
ARU 15 21 29.5
ARU S **S** **15 25 04.6 +2.6**
ARU SS **SnSn** **15 25 41.7 -3.7**
ARU pmax pmax
comp=Z,5.0nm,0.6s
ARU Arti 22.73 50 *e*Pn **P** **15 21 01.4 -0.9**
comp=Z,21nm,0.8s
ARU Arti 22.73 50 *i*P **P** **15 21 02.0 -0.3**
comp=Z,5.0nm,0.6s
ARU Arti 22.73 50 *e*Pn **P** **15 21 01.4 -0.9**
comp=Z,21nm,0.8s
AB31 Akbulak array 22.88 69 P **P** **15 21 04.4 +0.6**
AB31 pmax pmax
comp=Z,6.0nm,0.6s
AB31 Akbulak array 22.88 69 P **P** **15 21 04.4 +0.6**
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 22.88 69 *e*P **P** **15 21 04.0 +0.2**
comp=Z,9.7nm,0.7s
ABKAR Akbulak array 22.88 69 *e*P **P** **15 21 04.0 +0.2**
comp=Z,9.7nm,0.7s
ABKAR *e* 15 21 12.0

ESDC Sonseca Array 23.01 266 P **P** **15 21 04.2 -1.0**
comp=Z,0.6nm,0.3s,baz=65,slow=9.3,SNR=9.1
SVE Sverdlovsk 23.94 50 *e*P **P** 15 21 23.8 +10
ARCES ARCESS Array B 23.98 359 P **P** **15 21 13.4 -0.3**
comp=Z,2.2nm,0.6s,baz=181,slow=9.7,SNR=21
BRVK Borovoye 29.17 59 *ce*P **P** **15 22 01.7 +1.3**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 29.17 59 *e*P **P** **15 22 01.7 +1.3**
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 29.24 59 P **P** **15 22 02.1 +1.1**
comp=Z,1.4nm,0.6s,baz=281,slow=8.3,SNR=8.4
BVAR pP **pP** **15 22 26.3 +0.2**
comp=Z,2.1nm,0.5s,baz=266,slow=10,SNR=5.7
KK31 Karatay Array 31.36 79 *i*P **P** **15 22 21.4 +1.6**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KK31 Karatay Array 31.36 79 *i*P **P** **15 22 21.4 +1.6**
comp=Z,2.0nm,0.4s
KKAR Karatay Array 31.36 79 *e*P **P** **15 22 21.4 +1.6**
KKAR pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 31.36 79 *e*P **P** **15 22 21.4 +1.6**
comp=Z,2.9nm,0.5s
KKAR Karatay Array 31.36 79 *e*P **P** **15 22 21.4 +1.6**
comp=Z,2.9nm,0.5s
SPITS Spitsbergen Ar 32.91 356 P **P** **15 22 33.8 +0.9**
comp=Z,4.9nm,0.7s,baz=147,slow=11,SNR=9.4
AAK Ala-Archa 34.26 77 *c*/P **P** **15 22 47.5 +2.2**
AAK pmax pmax
comp=Z,13nm,0.7s
AAK Ala-Archa 34.26 77 *e*P **P** **15 22 47.4 +2.2**
comp=Z,3.9nm,0.7s
AAK Ala-Archa 34.26 77 *e*P **P** **15 22 47.4 +2.2**
comp=Z,3.9nm,0.7s
KURK Kurchatov 34.60 62 *e*P **P** **15 22 48.8 +0.9**
KURK pmax pmax
comp=Z,2.0nm,0.3s
KURK Kurchatov 34.60 62 *e*P **P** **15 22 48.8 +0.9**
comp=Z,2.1nm,0.3s
KURK Kurchatov 34.60 62 *e*P **P** **15 22 48.8 +0.9**
comp=Z,2.1nm,0.3s
ZAA0 Zalesovo Array 37.65 56 *e*P **P** **15 23 14.8 +1.0**
ZAA0 Zalesovo Array 37.65 56 *e*P **P** **15 23 14.8 +1.0**
ZAA0 *e* 15 23 39.2
ZALV Zalesovo Beam 37.65 56 P **P** **15 23 14.9 +1.1**
comp=Z,5.2nm,0.3s,baz=281,slow=8.7,SNR=22
ZALV pP **pP** **15 23 39.6 +0.1**
comp=Z,6.3nm,0.7s,baz=280,slow=9.3,SNR=9.5
MK31 Makanchi Array 38.02 68 *e*P **P** **15 23 18.2 +1.2**
MK31 pmax pmax
comp=Z,3.0nm,0.4s
MK31 Makanchi Array 38.02 68 *e*P **P** **15 23 17.9 +0.9**
MK31 Makanchi Array 38.02 68 *e*P **P** **15 23 17.9 +0.9**
MK31 *e* 15 23 43.5
MKAR Makanchi Array 38.02 68 P **P** **15 23 18.3 +1.3**
comp=Z,3.0nm,0.5s,baz=271,slow=8.5,SNR=52
MKAR pP **pP** **15 23 43.6 +0.9**
comp=Z,1.9nm,0.7s,baz=285,slow=7.3,SNR=5.4
MKAR sP **sP** **15 23 55.5 -0.4**
comp=Z,0.7nm,0.5s,baz=282,slow=7.2,SNR=2.6
TORD Torodi Ar. Bea 38.54 221 P **P** **15 23 22.3 +0.7**
comp=Z,1.1nm,0.4s,baz=25,slow=8.4,SNR=31
TORD pP **pP** **15 23 45.8 -1.7**
comp=Z,1.5nm,0.5s,baz=29,slow=8.4,SNR=5.1
TORD PcP **PcP** **15 25 31.5 -0.6**
comp=Z,1.0nm,0.6s,baz=24,slow=3.0,SNR=6.2
WMQ Urumqi 42.66 70 P **P** **15 23 56.7 +1.3**
WMQ pP **pP** **15 24 22.2 +0.6**
WMQ sP **sP** **15 24 35.2 +0.6**
WMQ PP **PP** **15 25 39.8 +3.5**
WMQ PcP **PcP** **15 25 47.6 +2.4**
WMQ pmax pmax
comp=Z,2.0nm,0.4s
WMQ pmax pmax
comp=Z,11nm,4.8s
WMQ LR LR
comp=N,12nm,7.6s
WMQ LR LR
comp=E,13nm,8.5s
WMQ LR LR
comp=Z,21nm,11.4s
WMQ Urumqi 42.66 70 P **P** **15 23 55.4 0.0**
WMQ pP **pP** **15 24 20.9 -0.7**
WMQ sP **sP** **15 24 33.9 -0.7**
WMQ PP **PP** **15 25 38.5 +2.2**
WMQ PcP **PcP** **15 25 47.6 +2.4**
WMQ PMZ
comp=Z,12nm,0.5s
WMQ PMZ
comp=Z,64nm,4.8s
WMQ LN
comp=Z,11nm,6.0s
WMQ LE
comp=Z,23nm,5.2s
WMQ LZ
comp=Z,25nm,20.0s
HVS Khovu-Aksy 43.64 57 *ce*P **P** **15 24 04.5 +1.3**
DBIC Dimbokro 47.29 225 P **P** **15 24 31.8 -0.3**
comp=Z,2.0nm,0.3s,baz=6.8,slow=8.2,SNR=11
KOLN Koldanda 48.18 91 *e*P **P** **15 24 40.6 +1.4**
comp=Z,15nm,0.7s
GKN Gorkha 48.76 90 *e*P **P** **15 24 44.8 +1.2**
comp=Z,21nm,0.5s
TLY Talaya 49.17 53 *e*P **P** **15 24 48.1 +1.8**
TLY pmax pmax
comp=Z,6.0nm,0.9s
DMN Daman 49.33 90 *e*P **P** **15 24 49.5 +1.4**
comp=Z,13nm,0.4s
KKN Kakani 49.34 90 *e*P **P** **15 24 49.2 +1.1**
PKIN Phulchoki 49.55 90 *e*P **P** **15 24 51.2 +1.4**
PKI Pulchoki 49.57 90 *e*P **P** **15 24 51.1 +1.2**
GUN Gumba 49.69 89 *e*P **P** **15 24 52.1 +1.2**
comp=Z,16nm,0.5s
JIRN Jiri 50.06 90 *e*P **P** **15 24 55.1 +1.4**
comp=Z,16nm,0.4s
RAMN Ramite 50.78 90 *e*P **P** **15 24 59.9 +0.9**
comp=Z,32nm,0.8s
TIXI Tiksi 51.13 23⇓*e*P **P** **15 25 02.0 +1.4**
TIXI pmax pmax
comp=Z,7.0nm,2.5s
TAPN Taplejung 51.32 89 *e*P **P** **15 25 04.2 +1.1**
comp=Z,8.8nm,0.4s
ODAN Odare 51.39 89 *e*P **P** **15 25 04.9 +1.3**
BOD Bodaibo 51.88 43 *e*P **P** **15 25 05.6 -0.8**
BOD pmax pmax
comp=Z,3.0nm,1.5s
LSA Lhasa 52.31 84 *e*P **P** **15 25 12.2 +1.6**
LSA pmax pmax
comp=Z,7.0nm,0.7s
LSA Lhasa 52.31 84 *e*P **P** **15 25 12.2 +1.6**
comp=Z,6.7nm,0.7s
LSA Lhasa 52.31 84 *e*P **P** **15 25 12.2 +1.6**
comp=Z,6.7nm,0.7s
SONM Songino Array 52.53 57 P **P** **15 25 13.0 +1.5**
comp=Z,3.3nm,0.6s,baz=297,slow=8.4,SNR=32
SONM pP **pP** **15 25 37.4 -1.3**
comp=Z,1.0nm,0.7s,baz=297,slow=8.2,SNR=3.3
GTA Gaotai 52.74 69 *e*P **P** **15 25 14.4 +1.1**
GTA pP **pP** **15 25 42.7 +2.3**
GTA sP **sP** **15 25 55.3 +2.1**
GTA PMZ
comp=Z,2.0nm,1.2s
SCHQ Schefferville 56.06 316 P **P** **15 25 37.1 +0.2**
comp=Z,2.6nm,0.7s,baz=240,slow=18,SNR=4.2
YAK Yakutsk 56.49 33⇑*e*P **P** **15 25 38.5 -1.3**
YAK pmax pmax
comp=Z,6.0nm,0.7s
LZH Lanzhou 57.24 70 *e*P **P** **15 25 46.7 +1.0**
LZH pP **pP** **15 26 13.3 0.0**
LZH sP **sP** **15 26 25.0 -0.9**
LZH *ePP **PP** **15 27 56.2 +2.5**
LZH PMZ
comp=Z,20nm,1.3s
LZH PMZ
comp=Z,75nm,6.5s
LZH LN
comp=Z,170nm,15.0s
LZH LE
comp=Z,150nm,15.5s
LZH LZ
comp=Z,180nm,18.6s
HHC Hu-ho-hao-te 59.41 61 *e*P **P** **15 25 59.9 -0.8**
HHC pP **pP** **15 26 29.0 +0.6**
HHC PP **PP** **15 28 12.6 -0.1**
HHC S **S** **15 34 00.4 -0.3**

HHC				SS	SS	15 37 54.7	-2.1
HHC				PMZ			
	comp=Z,11nm,1.0s						
HHC				PMZ			
	comp=Z,99nm,6.8s						
HHC				LN			
	comp=Z,130nm,16.2s						
HHC				LE			
	comp=Z,110nm,16.2s						
HHC				LZ			
	comp=Z,55nm,16.8s						
CD2	Chengdu	60.27	75	eP	P	15 26 06.2	-0.4
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
BILL	Bilibino	62.73	16c	iP	P	15 26 23.0	+0.5
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KMI	Kunming	63.20	81	P	P	15 26 28.0	+1.4
KMI				PMZ			
	comp=Z,11nm,1.0s						
SEY	Seymchan	63.59	24	⇑iP	P	15 26 29.1	+0.9
CHTO	Chiang Mai	64.69	89	eP	P	15 26 36.6	+0.5
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CHTO	Chiang Mai	64.69	89	eP	P	15 26 36.6	+0.5
	comp=Z,3.9nm,0.7s						
CHTO	Chiang Mai	64.69	89	eP	P	15 26 36.6	+0.5
	comp=Z,3.9nm,0.7s						
CMAR	Chiang Mai Arr	64.93	89	P	P	15 26 38.3	+0.7
	comp=Z,4.2nm,0.7s,baz=304,slow=7.7,SNR=30						
CMAR				pP	pP	15 27 05.1	-0.7
	comp=Z,0.9nm,0.6s,baz=306,slow=7.7,SNR=2.7						
YKA	Yellowknife Ar	67.81	342	P	P	15 26 55.0	-0.3
	comp=Z,1.0nm,0.5s,baz=23,slow=5.7,SNR=8.0						
YKA	Yellowknife Ar	67.81	342	P	P	15 26 55.0	-0.3
YKA	Yellowknife Ar	67.81	342	P	P	15 26 55.0	-0.3
YKA	Yellowknife Ar	67.81	342	P	P	15 26 55.0	-0.3
USRK	Ussuriysk Ar.	68.96	48	P	P	15 27 02.5	-0.3
	comp=Z,1.2nm,0.5s,baz=289,slow=4.3,SNR=4.8						
NJ2	Nanjing	69.48	65	eP	P	15 27 07.8	+1.6
NJ2				PMZ			
	comp=Z,10.0nm,0.6s						
KSAR	Wonju Array Be	71.35	55	P	P	15 27 17.7	+0.3
KSAR				*PP	pP	15 27 46.7	+0.6
KSAR	Wonju Array Be	71.35	55	P	P	15 27 17.7	+0.3
KSAR				pP	pP	15 27 46.7	+0.6
KSAR	Wonju Array Be	71.35	55	P	P	15 27 17.7	+0.3
KSAR				pP	pP	15 27 46.7	+0.6
KSRS	Korea Array	71.36	55	P	P	15 27 17.7	+0.2
	comp=Z,1.6nm,0.7s,baz=310,slow=4.8,SNR=13						
KSRS				pP	pP	15 27 46.7	+0.6
	comp=Z,0.8nm,0.8s,baz=316,slow=5.1,SNR=3.7						
KSRS	Korea Array	71.36	55	P	P	15 27 17.7	+0.2
KSRS				*PP	pP	15 27 46.7	+0.6
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ECSD	EROS Data Cent	77.66	322	eP	P	15 27 53.5	-0.4
	comp=Z,4.2nm,0.5s						
ECSD	EROS Data Cent	77.66	322	eP	P	15 27 53.5	-0.4
	comp=Z,4.2nm,0.5s						
PDAR	Pinedale Array	83.65	329	P	P	15 28 25.8	-0.4
	comp=Z,1.0nm,0.6s,baz=45,slow=6.8,SNR=6.9						
MFID	Camas Ranch	85.20	333	eP	P	15 28 34.3	+0.6
	comp=Z,3.0nm,0.8s						
MFID	Camas Ranch	85.20	333	eP	P	15 28 34.3	+0.6
	comp=Z,3.0nm,0.8s						
TXAR	Lajitas Array	92.70	318	P	P	15 29 08.8	-0.6
	comp=Z,0.2nm,0.5s,baz=59,slow=3.2,SNR=3.6						
WRA	Warramunga Arr	116.43	92	PKP	PKPdf	15 34 39.6	-0.9
	comp=Z,0.4nm,0.4s,baz=322,slow=1.7,SNR=22						
ASAR	Alice Springs	118.56	95	PKP	PKPdf	15 34 44.0	-0.5
	comp=Z,0.9nm,0.5s,baz=319,slow=1.5,SNR=31						
CTA	Charters Tower	124.88	83	PKP	PKPdf	15 34 57.2	+0.4
	comp=Z,1.4nm,0.4s,baz=183,slow=23,SNR=3.6						
STKA	Stephens Creek	128.96	98	PKP	PKPdf	15 35 04.1	-0.1
	comp=Z,1.3nm,0.4s,baz=56,slow=2.3,SNR=6.0						

MEX 08 15:17:16.7±0.3**, 18°.18N×101°.86W, h11**km±5km**, MD3.9, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.68	146	iP	Pg	15 17 28.1	-1.8
ZIIG				eS	Sg	15 17 37.9	-1.0
MMIG	Aquila	1.41	275	iP	Pn	15 17 38.7	-3.7
MMIG				eS	Sn	15 17 55.8	-5.2
ARIG	Puente Sto Nin	1.44	86	iP	Pn	15 17 39.1	-3.8
ARIG				eS	Sn	15 17 57.0	-4.9
MOIG	Morelia	1.62	23	iP	Pn	15 17 42.3	-3.4
MOIG				iS	Sn	15 18 01.1	-5.7
CAIG	El Cayaco	1.89	126	iP	Pn	15 17 45.7	-3.3
CAIG				eS	Sn	15 18 08.5	-4.3
EZ5V		2.10	308	iP	Pn	15 17 48.9	-3.2
EZ5V				eS	Sn	15 18 13.6	-5.0
MEIG	Mezcala	2.15	96	iP	Pn	15 17 49.3	-3.3
MEIG				eS	Sn	15 18 14.2	-5.2
R15V		2.24	297	iP	Pn	15 17 50.7	-3.2
R15V				eS	Sn	15 18 16.8	-4.9
PLIG	Platanillo	2.25	84	eP	Pn	15 17 51.2	-2.9
PLIG				iS	Sn	15 18 18.2	-3.8

CASC 08 15:21:51.9±2.7**, 7°.01N×82°.75W, h17**km±60km**, MD4.1, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	Volcan	1.77	2	eP	Sn	15 22 42.0	-2.3
BRU2				eS	Sb	15 22 45.9	-0.3
TBS2		1.77	3	eS	Sg	15 22 49.9	+0.5
BRU	Baru	1.79	6	eS	Sn	15 22 45.7	+0.3
AZU	Azuero	2.57	72	eP	Pn	15 22 32.1	-0.7
AZU				eS	Sn	15 23 00.9	-2.9
QCR	Quepos	2.77	330	eP	Pn	15 22 36.0	+0.4
QCR				eS	Sn	15 23 10.2	+1.5
URSC	Urasca	2.98	340	eP	Pn	15 22 36.2	-2.5
CGA2	Cerro Gallo 2	3.43	330	eP	Pn	15 22 45.9	+1.1
CAO	Cobano	3.54	319	eS	Pn	15 22 46.4	+0.2
BCIP	Isla Barro Col	3.59	53	eP	Pn	15 22 47.8	+1.0
JCR	Jicaral	3.66	320	eP	Pn	15 22 48.1	+0.3
JCR				eS	Sn	15 23 30.6	-0.1

DDA 08 15:33:06.8, 37°.79N×36°.12E, h7km**, MD2.6, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	Andirin	0.27	139	iP	Pg	15 33 12.4	+0.1
ANDN				iS	Sg	15 33 17.4	+1.3
KOZT	Kozan	0.39	218	ePG	Pg	15 33 13.0	-1.3
KAMA	Osmaniye	0.74	144	iP	Pg	15 33 20.7	-0.5
KAMA				iS	Sg	15 33 29.9	-1.0
PINB	Pinarbasi	0.92	14	iP	Pn	15 33 28.6	+2.1
PINB				iS	Sb	15 33 37.8	-0.3

WEL 08 16:01:17.4±0.2**, 37°.03S×176°.38E, h227**km±3km**, ML3.6**/11**, 1D, Error ellipse: s-maj=4.7km s-min=4.0km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	1.33	123	PN	Pn	16 01 52.3	+0.2
HAZ				SN	S	16 02 19.0	-0.2
URZ	Urewera	1.35	155	⇓PN	Pn	16 01 52.6	+0.3
URZ				SN	S	16 02 19.8	+0.1
MWZ	Matawai	1.59	145	ePN	Pn	16 01 54.3	+0.1
MWZ				SN	S	16 02 22.6	-0.5
MXZ	Matakaoa Point	1.62	110	PN	Pn	16 01 54.9	+0.4
MXZ				AML	AML	16 02 06.1	
WMGZ	Waiomatatini S	1.80	116	PN	Pn	16 01 56.4	+0.3
WMGZ				SN	S	16 02 26.1	-0.1
RAHZ	Arahi	1.96	164	PN	Pn	16 01 57.8	+0.3
BKZ	Black Stump Fm	2.13	178	PN	Pn	16 01 58.9	-0.4
ARHZ	Aropaoanui	2.28	168	PN	Pn	16 02 00.4	-0.3
WNVZ	Wahianoa	2.37	195	PN	Pn	16 02 02.0	+0.1
KWHZ	Kaweka Forest	2.39	179	PN	Pn	16 02 01.5	-0.4
MCHZ	McNeill Hill	2.42	174	PN	Pn	16 02 01.8	-0.4
BHHZ	Black Hill Sta	2.47	186	PN	Pn	16 02 02.1	-0.6
KRHZ	Kereru	2.61	180	PN	Pn	16 02 03.1	-1.1
KAHZ	Kahuranaki	2.79	172	PN	Pn	16 02 05.4	-0.7
PNHZ	Pukenui	2.88	183	PN	Pn	16 02 05.6	-1.6
TSZ	Takapari Road	3.04	186	PN	Pn	16 02 07.1	-1.9
DVHZ	Dannevirke	3.27	183	PN	Pn	16 02 09.7	-1.8
POWZ	Post Office Ro	3.39	188	PN	Pn	16 02 11.0	-1.9
MRZ	Mangatainoka R	3.68	190	PN	Pn	16 02 13.3	-3.0
OGWZ	Otaki Gorge	3.90	194	PN	Pn	16 02 16.1	-2.7
HOWZ	Holdsworth Sta	3.92	190	PN	Pn	16 02 16.2	-3.0
KIW	Kapiti Island	3.99	196	PN	Pn	16 02 17.2	-2.8
TMWZ	Te Maipa	4.09	185	PN	Pn	16 02 16.7	-4.5
CAW	Cannon Point	4.20	194	PN	Pn	16 02 19.4	-3.1
TCW	Tory Channel	4.48	201	PN	Pn	16 02 22.9	-3.1
TUWZ	Tuamarina	4.78	203	PN	Pn	16 02 26.4	-3.3
QRZ	Quartz Range	4.83	217	PN	Pn	16 02 27.0	-3.4
THZ	Tophouse	5.44	209	PN	Pn	16 02 34.5	-3.5
KHZ	Kahutara	5.81	201	PN	Pn	16 02 39.0	-3.5
LTZ	Lake Taylor	6.55	208	PN	Pn	16 02 47.5	-4.6
OXZ	Oxford	7.11	207	ePN	Pn	16 02 53.5	-5.6

*IDC **08** 16:09:19.1±0.5, 44°.31N×83°.23E, h0km, mb4.4/22, mb1 4.5/29, mb1mx4.4/37, mbtmp4.4/29, ML3.7/7, MS3.4/15, Ms1 3.5/15, ms1mx3.3/38, Error ellipse: s-maj=11.2km s-min=8.6km az=37.0*

*BJI **08** 16:09:19.0, 44°.44N×83°.26E, h5km, mb4.5/22, mB4.5/14, ML4.7/12, Ms4.1/14, Ms7 3.7/14*

*ISCJB **08** 16:09:22.6±0.2, 44°.40N±0°.02×83°.23E±0°.03, h33km, mb4.5/60, MS3.5/13, Error ellipse: s-maj=3.3km s-min=2.9km az=19.9*

*MOS **08** 16:09:22.8±0.9, 44°.32N×83°.23E, h37km, mb4.7/18, Error ellipse: s-maj=8.1km s-min=6.4km az=125.5*

*NEIC **08** 16:09:23.7±1.2, 44°.36N×83°.26E, h30km±9km, mb4.5/17, Error ellipse: s-maj=4.4km s-min=4.0km az=189.0*

*NNC **08** 16:09:27.0±1.3, 44°.55N×82°.67E, h16km±5km, mb4.6, mpv4.3, Error ellipse: s-maj=13.0km s-min=4.3km az=114.0*

ISC 08 16:09:23.8±0.5**, 44°.37N**±0°.03×**83°.21E**±0°.03**, h30**km±3km**, h29**km**:pP-P, n197, σ1s.50**/211**, mb4.5**/60**, MS3.4**/15**, 26C-28D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.51	345	Pn	Pn	16 10 03.9	+1.3
	17nm,0.6s,baz=161,slow=13						
MK31				⇓Pg	Pb	16 10 08.3	+0.1
	244nm,0.4s,baz=155,slow=16,SNR=7.1						
MK31				⇓Lg	Lg	16 10 38.4	
	562nm,0.3s,baz=181,slow=23,SNR=22						
MK31	Makanchi Array	2.51	345	eP	Pn	16 10 04.1	+1.5
MK31				e		16 10 38.4	
MK31	Makanchi Array	2.51	345	ePn	Pn	16 10 04.1	+1.5
MK31				eSg	Sb	16 10 38.4	-0.1
MKAR	Makanchi Array	2.51	345	Pn	Pn	16 10 04.0	+1.4
	73nm,0.3s,baz=157,slow=15,SNR=311						
MKAR				Lg	Lg	16 10 39.9	
	1µm,0.3s,baz=171,slow=30,SNR=16						
MKAR	Makanchi Array	2.51	345	P	Pn	16 10 04.0	+1.4
PDGK	Podgornoye	2.89	250	⇑Pn	Pn	16 10 08.5	+0.7
	18nm,0.7s						
PDGK				⇓Pg	Pb	16 10 12.2	-2.4
	230nm,0.5s						
PDGK				⇓Lg	Lg	16 10 49.7	
	6µm,0.7s						
WMQ	Urumqi	3.28	98	Pn	Pn	16 10 14.2	+1.0
WMQ				SMN			
	2µm,0.6s						
WMQ				SME			
	2µm,0.5s						
AAA	Alma-Ata	4.67	259	iP	Pb	16 10 47.7	+2.8
AAA				pmax	pmax		
	comp=Z,357nm,0.2s						
KNDC	Almaty	4.67	258	⇑Pn	Pn	16 10 32.9	+0.6
	comp=Z,35nm,0.8s						
KNDC				⇑Pg	Pb	16 10 47.1	+2.2
	comp=Z,231nm,0.6s						
KNDC				⇓Lg	Lg	16 11 45.7	
	comp=Z,2µm,0.7s						
ULHL	Ulahol	5.51	250	P	Pn	16 10 45.3	+1.3
	SNR=8.8						
TKM2	Tokmak 2	5.71	258	P	Pn	16 10 47.6	+0.8
	SNR=22						
TKM2	Tokmak 2	5.71	258	⇑Pn	Pn	16 10 47.5	+0.8
	comp=Z,23nm,0.5s						
TKM2				⇑Pg	Pb	16 11 09.2	+6.4
	comp=Z,83nm,0.5s						
TKM2				⇑Lg	Lg	16 12 17.5	
	comp=Z,252nm,0.5s						
TKM2	Tokmak 2	5.71	258	eP	Pn	16 10 47.4	+0.6
TKM2				pmax	pmax		
	comp=Z,20nm,0.9s						
TKM2	Tokmak 2	5.71	258	ePn	Pn	16 10 47.4	+0.6
	comp=Z,20nm,0.9s						
TKM2				ePg	Pb	16 11 09.2	+6.4
TKM2				eSg	Sb	16 12 17.0	+6.1
KBK	Karagaybulak	6.25	257	P	Pn	16 10 55.8	+1.6
	SNR=20						
KZA	Kyzart	6.25	251	P	Pn	16 10 56.2	+1.8
	SNR=28						
CHMS	Chumysh	6.29	260	P	Pn	16 10 55.6	+1.1
	SNR=17						
USP	Ospenovka	6.40	263	P	Pn	16 10 57.1	+1.0
	SNR=24						
FRU	Bishkek	6.43	259	eP	Pn	16 10 57.0	+0.6
FRU				pmax	pmax		
	comp=Z,180nm,1.8s						
AAK	Ala-Archa	6.57	258	P	Pb	16 11 24.9	+7.4
	SNR=5.2						
AAK	Ala-Archa	6.57	258	⇓Pn	Pn	16 10 59.8	+1.2
	comp=Z,4.7nm,1.0s						
AAK				⇓Pg	Pb	16 11 22.4	+4.9
	comp=Z,87nm,0.6s						
AAK				⇓Lg	Lg	16 12 44.8	
	comp=Z,352nm,0.8s						
AAK	Ala-Archa	6.57	258	Pn	Pn	16 10 59.9	+1.4
	comp=Z,1.2nm,0.3s,baz=72,slow=9.6,SNR=8.1						
AAK				Lg	Lg	16 12 46.2	
	comp=Z,14nm,0.3s,baz=37,slow=20,SNR=7.4						
AAK				LR	LR	16 13 17.3	
	comp=Z,56nm,18.0s,baz=56,slow=36						
AAK	Ala-Archa	6.57	258	⇓eP	Pn	16 11 00.1	+1.5
AAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
UCH	Uchtor	6.70	254	P	Pn	16 11 02.8	+2.2
	SNR=13						
KURBB	Kurchatov Arra	7.01	335	⇑Pn	Pn	16 11 04.3	0.0
	comp=Z,25nm,0.7s						
KURBB				⇓Pg	Pb	16 11 29.4	+4.7
	comp=Z,90nm,0.6s						
KURBB				⇓Sn	Sn	16 12 21.2	-1.7
	comp=Z,366nm,0.7s						
KURBB				⇑Lg	Lg	16 13 02.1	
	comp=Z,2µm,0.7s						
KURK	Kurchatov	7.07	336	⇑Pn	Pn	16 11 04.8	-0.3
	comp=Z,5.2nm,0.7s						
KURK				⇑Pg	Pb	16 11 30.2	+4.5
	comp=Z,36nm,0.9s						
KURK				⇓Sn	Sn	16 12 23.1	-1.3
	comp=Z,53nm,0.6s						
KURK				⇑Lg	Lg	16 13 02.9	
	comp=Z,401nm,0.7s						
KURK	Kurchatov	7.07	336	eP	Pn	16 11 04.0	-1.1
KURK				pmax	pmax		
	comp=Z,53nm,0.4s						
KURK	Kurchatov	7.07	336	eP	Pn	16 11 04.0	-1.1
	comp=Z,53nm,0.4s						
EKS2	Erkin-Say	7.07	259	P	Pn	16 11 06.4	+1.1
	SNR=12						
EKS2	Erkin-Say	7.07	259	eP	Pn	16 11 06.2	+0.9
EKS2	Erkin-Say	7.07	259	ePn	Pn	16 11 06.2	+0.9
KSH	Kashi	7.25	231	Pn	Pn	16 11 15.7	+7.8
KSH				Sn	Sn	16 12 37.5	+8.2
KSH				SMN			
	comp=Z,320nm,1.4s						
KSH				SME			
	comp=Z,260nm,1.1s						
MNAS	Manas	8.02	260	⇓Pn	Pn	16 11 19.3	+0.9
	comp=Z,5.2nm,1.0s						
MNAS				⇓Pg	Pb	16 11 49.1	+7.1
	comp=Z,28nm,0.9s						
MNAS				⇓Lg	Lg	16 13 32.2	
	comp=Z,144nm,0.7s						
SFK	Sufi-Kurgan	8.42	242	⇓Pn	Pn	16 11 24.5	+0.5
	comp=Z,1.0nm,0.3s						
SFK				⇓Pg	Pb	16 11 56.0	+7.1
	comp=Z,15nm,0.6s						
SFK				⇑Lg	Lg	16 13 42.0	
	comp=Z,170nm,1.2s						
OTUK	Ortayu	8.46	301	⇑Pn	Pn	16 11 23.6	-0.7
	comp=Z,9.8nm,0.6s						
OTUK				⇑Lg	Lg	16 13 46.7	
	comp=Z,513nm,0.7s						
KK31	Karatay Array	9.28	267	⇓Pn	Pn	16 11 35.7	+0.2
	comp=Z,5.7nm,0.8s,baz=16,slow=101,SNR=37						
KK31				⇓Lg	Lg	16 14 11.5	
	comp=Z,88nm,0.6s						
KKAR	Karatay Array	9.28	267	eP	Pn	16 11 35.8	+0.2
KKAR	Karatay Array	9.28	267	eP	Pn	16 11 35.8	+0.2
	comp=Z,0.2nm,0.3s						
ZAA0	Zalesovo Array	9.64	6	eP	Pn	16 11 39.5	-1.0
ZALV	Zalesovo Beam	9.64	6	Pn	Pn	16 11 39.6	-0.9
	comp=Z,3.9nm,0.3s,baz=191,slow=14,SNR=101						
ZALV				Sn	Sn	16 13 24.2	-3.4
	comp=Z,11nm,0.3s,baz=180,slow=28,SNR=7.6						
ZALV				Lg	Lg	16 14 28.5	
	comp=Z,3.6nm,0.3s,baz=192,slow=26,SNR=3.8						
ZALV				LR	LR	16 15 36.0	
	comp=Z,277nm,19.1s,baz=68,slow=39						
ZALV	Zalesovo Beam	9.64	6	iP	Pn	16 11 39.5	-0.9
ZALV				pmax	pmax		
	comp=Z,17nm,0.6s						
HVS	Khovu-Aksy	9.78	42	⇓eP	Pn	16 11 39.2	-3.2
NVS	Novosibirsk	10.48	0	eP	Pn	16 11 49.9	-2.0
NVS				e		16 13 44.9	
BVA0	Borovoye Array	12.10	320	⇓Pn	Pn	16 12 13.3	-0.7
	comp=Z,7.6nm,0.7s						
BVA0				⇓Sn	Sn	16 14 20.8	-7.0
	comp=Z,20nm,0.6s						
BVA0				⇓Lg	Lg	16 15 41.5	
	comp=Z,131nm,0.8s						
BVAR	Borovoye Array	12.10	320	Pn	Pn	16 12 13.2	-0.8
	comp=Z,2.1nm,0.3s,baz=126,slow=13,SNR=58						
BVAR				Sn	Sn	16 14 24.1	-3.7
	comp=Z,5.2nm,0.3s,baz=116,slow=23,SNR=7.1						
BVAR				Lg	Lg	16 15 40.8	
	comp=Z,5.2nm,0.3s,baz=119,slow=27,SNR=6.0						
DZET	Dzherino	12.12	248	⇓Pn	Pn	16 12 14.2	-0.3
	comp=Z,14nm,0.6s						
DZET				⇑Lg	Lg	16 15 42.5	
	comp=Z,26nm,1.0s						
BRVK	Borovoye	12.17	320	⇑Pn	Pn	16 12 14.3	-0.7
	comp=Z,17nm,0.7s						
BRVK				⇑Sn	Sn	16 14 23.7	-5.8
	comp=Z,38nm,0.8s						
BRVK				⇑Lg	Lg	16 15 42.2	
	comp=Z,263nm,0.8s						
BRVK	Borovoye	12.17	320c	eP	Pn	16 12 14.1	-0.9
BRVK				pmax	pmax		
	comp=Z,11nm,0.6s						
BRVK	Borovoye	12.17	320	eP	Pn	16 12 14.0	-1.0
	comp=Z,12nm,0.6s						
CHCP	Chirah Chowk	13.19	219	P	Pn	16 12 29.6	+0.5
GTA	Gaotai	13.32	106	eP	Pn	16 12 27.6	-3.3
GTA				pP	P	16 12 31.2	-9.0
GTA				sP		16 12 34.4	
GTA				S	Sn	16 14 52.0	-6.0
GTA				PMZ			
	comp=Z,13nm,1.2s						
GTA				PMZ			
	comp=Z,91nm,5.9s						
GTA				LN			
	comp=Z,320nm,13.3s						
GTA				LE			
	comp=Z,350nm,11.4s						
GTA				LZ			
	comp=Z,250nm,11.4s						
CEP	Cherat	13.70	224	P	Pn	16 12 37.3	+1.2
CEP				S	Sn	16 15 06.0	-1.2
MOY	Mondy	13.94	52	eP	P	16 12 48.8	+1.8
MOY				eS	Sn	16 15 22.2	+9.3
MOY				pmax	pmax		
	comp=Z,1.0nm,0.2s						
MOY				smax	smax		
	comp=N,196nm,2.1s						
THW	Thamme Wali	14.61	222	P	Pn	16 12 49.3	+0.8
KBL	Kabul	14.68	233	eP	Pn	16 12 48.8	-0.8
KBL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KBL	Kabul	14.68	233	eP	Pn	16 12 48.8	-0.8
	comp=Z,7.1nm,0.6s						
ZAK	Zakamensk	14.85	59	eP	Pn	16 12 49.2	-2.4
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TLY	Talaya	15.47	55	Pn	Pn	16 12 59.7	0.0
	comp=Z,0.0nm,0.3s,baz=276,slow=10,SNR=2.0						
TLY				Lg	Lg	16 17 28.2	
	comp=Z,0.0nm,0.3s,baz=18,slow=20,SNR=4.0						
TLY				LR	LR	16 19 16.4	
	comp=Z,94nm,21.1s,baz=252,slow=39						
TLY	Talaya	15.47	55	eP	Pn	16 13 00.5	+0.8
TLY				eS	Sn	16 15 49.6	-0.4
TLY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,49nm,11.0s						
LSA	Lhasa	15.94	154	P	Pn	16 13 06.1	-0.3
LSA	Lhasa	15.94	154	P	Pn	16 13 06.3	-0.1
LSA				pmax	pmax		
	comp=Z,34nm,1.0s						
LSA	Lhasa	15.94	154	P	Pn	16 13 06.2	-0.1
	comp=Z,34nm,1.0s						
NDI	New Delhi	16.37	199	eP	Pn	16 13 10.0	-1.4
NDI				eS	Sn	16 16 02.0	-10
GKN	Gorkha	16.38	176	eP	P	16 13 13.8	-0.4
	comp=Z,95nm,0.8s						
SONM	Songino Array	16.43	70	Pn	Pn	16 13 11.3	-0.9
	comp=Z,0.1nm,0.3s,baz=265,slow=12,SNR=22						
SONM				Lg	Lg	16 18 01.7	
	comp=Z,0.1nm,0.3s,baz=264,slow=29,SNR=5.7						
SONM				LR	LR	16 20 19.4	
	comp=Z,217nm,19.1s,baz=254,slow=40						
GUN	Gumba	16.57	172	eP	Pn	16 13 15.0	+0.8
	comp=Z,59nm,0.8s						
KOLN	Koldanda	16.57	179	eP	P	16 13 17.4	+0.9
	comp=Z,51nm,0.7s						
KKN	Kakani	16.63	174	eP	P	16 13 16.6	-0.5
	comp=Z,58nm,0.8s						
AB31	Akbulak array	16.64	295	⇓Pn	Pn	16 13 11.3	-3.3
	comp=Z,2.2nm,0.5s						
ABKAR	Akbulak array	16.64	295	eP	Pn	16 13 11.2	-3.4
	comp=Z,5.8nm,0.5s						
DMN	Daman	16.80	174	eP	P	16 13 18.9	-0.1
	comp=Z,48nm,0.9s						
JIRN	Jiri	16.85	171	eP	Pn	16 13 18.0	+0.2
	comp=Z,78nm,1.0s						
PKIN	Phulchoki	16.85	173	eP	Pn	16 13 17.0	-0.8
	comp=Z,28nm,0.9s						
PKI	Pulchoki	16.86	173	eP	Pn	16 13 16.7	-1.2
	comp=Z,36nm,0.8s						
TAPN	Taplejung	17.37	166	eP	Pn	16 13 23.1	-1.1
	comp=Z,65nm,1.0s						
RAMN	Ramite	17.60	170	eP	Pn	16 13 25.5	-1.5
	comp=Z,74nm,0.9s						
LZH	Lanzhou	17.76	111	eP	Pn	16 13 28.8	-0.1
LZH				pP	P	16 13 31.2	+1.6
LZH				sP	sP	16 13 33.5	-7.7
LZH				ePP	PnPn	16 13 43.5	+3.8
LZH				eS	Sn	16 16 44.1	-1.9
LZH				sS	S	16 16 49.2	-3.3
LZH				eSS	SnSn	16 17 07.0	+7.6
LZH				PMZ			
	comp=Z,25nm,1.0s						
LZH				PMZ			
	comp=Z,150nm,5.2s						
LZH				LN			
	comp=Z,330nm,10.1s						
LZH				LE			
	comp=Z,300nm,10.0s						
LZH				LZ			
	comp=Z,400nm,13.5s						
ODAN	Odare	17.80	168	eP	Pn	16 13 27.0	-2.5
AKTO	Aktyubinsk	18.05	299	⇓Pn	Pn	16 13 30.3	-2.0
	comp=Z,13nm,0.8s						
AKTO	Aktyubinsk	18.05	299	P	Pn	16 13 32.0	-0.2
	comp=Z,0.4nm,0.3s,baz=115,slow=13,SNR=8.8						
AKTO				Sn	Sn	16 16 44.1	-8.5
	comp=Z,0.2nm,0.3s,baz=108,slow=20,SNR=3.1						
AKTO				Lg	Lg	16 18 54.1	
	comp=Z,0.3nm,0.3s,baz=180,slow=20,SNR=5.6						
AKTO				LR	LR	16 20 50.9	
	comp=Z,253nm,18.8s,baz=110,slow=38						
SVE	Sverdlovsk	18.88	319	eP	Pn	16 13 46.4	+4.2
ARU	Arti	19.68	317	P	P	16 13 50.4	+0.1
ARU				S	Sn	16 17 35.2	+3.4
ARU	Arti	19.68	317	eP	Pn	16 13 51.1	-0.7

comp=Z,12nm,0.7s
IAKL Akhelmad 20.11 256 *e*P Pn 16 13 56.8 -0.6
ISFR Sfrayin 20.41 258 *e*P Pn 16 14 00.1 -0.9
CD2 Chengdu 21.03 123 *e*P **P 16 14 09.2 +4.1**
CD2 pP **pP 16 14 13.3 +0.2**
CD2 sP **sP 16 14 16.2 -0.7**
CD2 S **S 16 17 58.9 +1.2**
CD2 sS Sn 16 18 04.5 -0.1
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
CD2 LN
comp=Z,160nm,9.3s
CD2 LE
comp=Z,160nm,10.3s
CD2 LZ
comp=Z,270nm,14.3s
IMP Imphal 21.41 152 *e*P **P 16 14 09.0 -0.2**
IMP *e*S **pP 16 14 16.0 -1.3**
SOKR Solikamsk 22.07 323 *e*P **P 16 14 18.1 +2.1**
SOKR pmax pmax
comp=Z,30nm,1.5s
SOKR MLR MLR
comp=Z,90nm,16.0s
ITEG Tejag 22.20 247 *e*P **P 16 14 19.5 +1.7**
XAN Xi'an 22.35 109 P **P 16 14 17.8 -1.5**
BOD Bodaibo 23.31 44 *e*P P 16 14 34.1 +5.2
BOD pmax pmax
comp=Z,7.0nm,1.1s
KMI Kunming 24.91 134 P P 16 14 54.6 +10
KMI pmax pmax
comp=Z,13nm,1.1s
ENH Enshi 25.06 115 *e*P **P 16 14 45.4 -0.1**
comp=Z,16nm,0.9s
GYA Guiyang 26.02 126⇑ *i*P **P 16 14 54.4 0.0**
GYA PMZ
comp=Z,20nm,0.8s
CMAI Chiengmai2 27.71 146 P **P 16 15 11.0 +1.3**
comp=Z,30nm,1.0s,comp=Z,5µm
WHN Wuhan 28.12 109⇑ P **P 16 15 11.1 -1.9**
WHN S **S 16 19 58.4 +2.2**
WHN LZ
comp=Z,530nm,13.0s
GNI Garni 28.60 275 P **P 16 15 18.7 +1.2**
comp=Z,2.7nm,0.4s,baz=329,slow=14,SNR=3.5
GNI LR LR 16 28 28.4
comp=Z,57nm,18.5s,baz=58,slow=40
GNI Garni 28.60 275*d i*P **P 16 15 19.7 +2.2**
GNI pmax pmax
comp=Z,16nm,1.7s
CHTO Chiang Mai 28.69 148 P **P 16 15 18.7 +0.5**
comp=Z,50nm,1.1s
CHTO Chiang Mai 28.69 148 *e*P **P 16 15 18.2 0.0**
CHTO Chiang Mai 28.69 148 *e*P **P 16 15 18.2 0.0**
CMMT Chiang Mai 28.69 148 P **P 16 15 18.6 +0.4**
comp=Z,13nm,1.0s
KIV Kislovodsk 28.87 284 *e*P **P 16 15 19.0 -0.7**
KIV pmax pmax
comp=Z,5.0nm,0.8s
KIV MLR MLR
comp=Z,94nm,15.0s
CM31 Chiang Mai Arr 29.01 148 *e*P **P 16 15 21.1 0.0**
comp=Z,9.3nm,1.0s
CMAR Chiang Mai Arr 29.01 148 P **P 16 15 21.6 +0.5**
comp=Z,9.4nm,0.8s,baz=321,slow=8.8,SNR=70
UTTA Uttaradit 30.29 146 P **P 16 15 33.6 +1.3**
comp=Z,4.8nm,0.8s
KLMR Klimovskoe 30.51 318 *e*P **P 16 15 33.4 -0.5**
KLMR pmax pmax
comp=Z,4.0nm,0.3s
OBN Obninsk 31.43 307 LR LR 16 28 40.1
comp=Z,200nm,18.0s,baz=89,slow=37
OBN Obninsk 31.43 307⇑ *e*P **P 16 15 42.5 +0.4**
OBN *e* 16 16 51.1
OBN *e*SS SS 16 22 38.1 -24
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN MLR MLR
comp=Z,170nm,17.0s
YAK Yakutsk 32.06 40⇑ *e*P **P 16 15 47.8 +0.2**
YAK pmax pmax
comp=Z,18nm,2.5s
SKNT Sakolnakorn 32.44 141 P **P 16 15 52.4 +1.0**
comp=Z,11nm,0.9s
QIZ Qiongzhong 33.66 130 P P 16 15 58.6 -3.4
QIZ PMZ
comp=Z,4.0nm,1.2s
KSAR Wonju Array Be 34.12 86 P **P 16 16 06.0 +0.1**
KSAR Wonju Array Be 34.12 86 P **P 16 16 06.0 +0.1**
KSRS Korea Array 34.15 86 P **P 16 16 06.0 -0.1**
comp=Z,4.2nm,0.9s,baz=295,slow=8.3,SNR=17
KSRS LR LR 16 31 07.2
comp=Z,48nm,18.1s,baz=303,slow=38
KSRS Korea Array 34.15 86 P **P 16 16 06.0 -0.1**
KSRS pmax pmax
comp=Z,4.0nm,0.9s
KSRS MLR MLR
comp=Z,48nm,18.1s
TJN Taejon 34.23 88‖ *e*P **P 16 16 05.0 -1.8**
TIXI Tiksi 34.94 23*ce*P **P 16 16 13.2 +0.7**
TIXI pmax pmax
comp=Z,7.0nm,1.2s
TIXI Tiksi 34.94 23 *e*P **P 16 16 13.4 +0.9**
comp=Z,6.3nm,0.9s
AKASG Malin Array Be 36.29 300 P **P 16 16 24.3 -0.1**
comp=Z,1.6nm,0.6s,baz=64,slow=8.5,SNR=8.4
AKASG Malin Array Be 36.29 300 *i*P **P 16 16 24.6 +0.2**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 36.29 300 *e*P **P 16 16 24.1 -0.3**
AKBB Malin Array Si 36.29 300 *e*P **P 16 16 24.1 -0.3**
KIEV Kiev 36.31 300 *e*P **P 16 16 24.4 -0.1**
KIEV pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 36.31 300 *e*P **P 16 16 24.4 -0.1**
comp=Z,2.7nm,0.6s
AK02 Malin Array Si 36.31 300 *e*P **P 16 16 24.6 0.0**
BR131 Keskin Array S 36.65 280 *e*P **P 16 16 28.4 +0.7**
comp=Z,2.4nm,0.7s
BRTR Keskin Array B 36.65 280 P **P 16 16 28.6 +0.8**
comp=Z,2.4nm,0.6s,baz=88,slow=7.6,SNR=15
BRTR LR LR 16 35 08.3
comp=Z,31nm,20.2s,baz=70,slow=42
VSU Vasula 36.77 313⇑ *e*P **P 16 16 26.4 -1.9**
VSU pmax pmax
comp=Z,57nm,1.2s
FINES FINESS Array B 37.04 318 P **P 16 16 31.1 +0.4**
comp=Z,0.9nm,0.3s,baz=97,slow=8.5,SNR=16
FINES PcP **PcP 16 18 49.8 -1.0**
comp=Z,1.7nm,0.6s,baz=84,slow=5.7,SNR=2.8
FINES LR LR 16 32 39.2
comp=Z,84nm,18.1s,baz=88,slow=38
RAYN Ar Rayn 37.12 248 *e*P **P 16 16 31.7 -0.1**
comp=Z,23nm,0.8s
ARCES ARCESS Array B 38.08 331 P **P 16 16 40.0 +0.7**
comp=Z,2.0nm,0.5s,baz=93,slow=8.3,SNR=18
STHS Stebnicka Huta 41.59 300 *e*P **P 16 17 08.6 -0.2**
STHS pmax pmax
comp=Z,2.0nm,1.3s
STHS Stebnicka Huta 41.59 300 *e*P **P 16 17 08.6 -0.2**
MJAR Matsushiro Arr 41.89 81 P **P 16 17 10.3 -1.1**
comp=Z,2.5nm,0.9s,baz=301,slow=8.8,SNR=7.1
MJAR LR LR 16 35 42.3
comp=Z,42nm,19.8s,baz=265,slow=38
NIE Niedzica 42.17 300 *e*P **P 16 17 15.4 +1.9**
NIE Niedzica 42.17 300 *e*P **P 16 17 15.4 +1.9**
OJC Ojcow 42.24 301 *e*P **P 16 17 14.7 +0.6**
OJC Ojcow 42.24 301 *e*P **P 16 17 14.7 +0.6**
SPITS Spitsbergen Ar 42.26 344 P **P 16 17 14.2 +0.3**
comp=Z,4.1nm,0.9s,baz=115,slow=10,SNR=7.8
KECS Kecovo 42.36 299 *e*P **P 16 17 16.3 +1.3**
KECS pmax pmax
comp=Z,2.0nm,1.2s
KECS Kecovo 42.36 299 *e*P **P 16 17 16.3 +1.3**
SEY Seymchan 42.58 39 P **P 16 17 17.2 +0.6**
comp=Z,1.7nm,1.0s,baz=286,slow=6.9,SNR=7.4
NB2 NORSAR Subarra 44.22 318 P **P 16 17 30.0 +0.1**
comp=Z,7.4nm,0.5s,baz=78,slow=8.6
NOA NORSAR Array B 44.22 318 P **P 16 17 30.1 +0.1**
comp=Z,6.1nm,0.4s,baz=78,slow=8.0,SNR=58
NOA LR LR 16 36 58.5
comp=Z,42nm,18.8s,baz=70,slow=38
DPC Dobruska-Polom 44.32 303 *e*P **P 16 17 32.5 +1.6**
DPC *ep*P **pP 16 17 39.1 -0.7**
DPC *es*P **sP 16 17 45.0 +1.7**
DPC Dobruska-Polom 44.32 303 *e*P **P 16 17 32.5 +1.6**
DPC *e* 16 17 45.0
UPC Upice 44.45 303 *e*P **P 16 17 33.0 +1.1**
UPC Upice 44.45 303 *e*P **P 16 17 33.0 +1.1**
PVCC Panska Ves 45.32 303 AMS AMS 16 37 00.0
comp=Z,300nm,16.8s
BRG Berggiesshubel 45.57 304 *e*P **P 16 17 42.0 +1.2**
comp=Z,2.0nm,0.8s
CLL Collm 45.98 305 *e*P **P 16 17 45.0 +1.1**
comp=Z,7.0nm,0.7s
CLL Collm 45.98 305 *i*P **P 16 17 44.3 +0.3**
comp=Z,7.0nm,0.7s
CLL *e* 16 17 49.0
CLL LmV 16 37 00.0
comp=Z,100nm,18.9s
CLL Collm 45.98 305 *i*P **P 16 17 44.3 +0.3**
CLL pmax pmax
comp=Z,7.0nm,0.7s
GERES GERESS Array B 46.45 301 P **P 16 17 48.1 +0.3**
comp=Z,0.3nm,0.3s,baz=69,slow=7.3,SNR=5.8
GERES LR LR 16 38 05.7
comp=Z,38nm,19.4s,baz=67,slow=37
TANN Tannenbergstha 46.62 304 *e*P **P 16 17 50.4 +1.3**
comp=Z,4.0nm,1.1s
WET Wettzell 46.84 302 *e*P **P 16 17 52.2 +1.4**
comp=Z,4.0nm,1.1s
ROTZ Rotzenmuhle 47.01 303 *e*P **P 16 17 54.8 +2.7**
comp=Z,2.0nm,1.0s
MOX Moxa 47.03 304 *e*P **P 16 17 53.6 +1.3**
comp=Z,3.0nm,0.8s
MOX *e*L L 16 35 47.5
comp=Z,42nm,18.9s
NRDL Niedersach Rie 47.24 307 *e*P **P 16 17 55.5 +1.8**
comp=Z,10.0nm,1.1s
BILL Bilibino 47.29 31⇑ *e*P **P 16 17 54.4 +0.4**
BILL *e* 16 19 23.0
BILL *e* 16 19 47.9
BILL pmax pmax
comp=Z,5.0nm,1.7s
RJOB Jokberg 47.43 300 *e*P **P 16 17 58.2 +2.7**
comp=Z,5.0nm,0.8s
GRF Grafenberg Arr 47.63 303 *e*P **P 16 17 58.9 +2.0**
comp=Z,9.0nm,1.0s
GRF *e*L L 16 39 07.1
comp=Z,66nm,21.4s
IBBN Ibbenburen 48.65 308 *e*P **P 16 18 06.0 +1.3**
comp=Z,8.0nm,0.5s
STU Stuttgart 49.21 303 *e*P **P 16 18 12.1 +3.0**
BNI Bardonecchia 52.41 300 *e*P **P 16 18 32.8 -0.6**
BNI pmax pmax
comp=Z,9.0nm,0.8s
BNI Bardonecchia 52.41 300 *e*P **P 16 18 32.8 -0.6**
comp=Z,8.6nm,0.8s
TNTI Ternate 58.41 125 P **P 16 19 13.7 -3.0**
COLD Coldfoot 61.61 21 *e*P **P 16 19 38.5 +0.6**
comp=Z,7.5nm,0.8s
ESDC Sonseca Array 61.94 299 P **P 16 19 40.9 +0.2**
comp=Z,1.6nm,0.5s,baz=56,slow=7.2,SNR=11
COLA College 64.04 22 *e*P **P 16 19 54.2 +0.1**
COLA College 64.04 22 *e*P **P 16 19 54.2 +0.1**
INK Inuvik 64.33 14 P **P 16 19 56.3 +0.3**
comp=Z,4.2nm,0.9s,baz=354,slow=7.1,SNR=14
INK Inuvik 64.33 14 *e*P **P 16 19 56.3 +0.3**
INK pmax pmax
comp=Z,5.0nm,0.9s
INK Inuvik 64.33 14 *e*P **P 16 19 56.3 +0.3**
comp=Z,5.1nm,0.9s
ILAR Eielson Array 64.37 21 P **P 16 19 56.2 -0.1**
comp=Z,2.9nm,0.7s,baz=316,slow=5.1,SNR=38
ILAR LR LR 16 51 54.7
comp=Z,56nm,18.3s,baz=354,slow=40
EGAK Eagle 65.79 19 *e*P **P 16 20 05.6 0.0**
comp=Z,4.4nm,1.0s
TAM Tamanrasset 65.82 279 *e*P **P 16 20 07.1 +0.5**
TAM pmax pmax
comp=Z,2.0nm,0.6s
TAM Tamanrasset 65.82 279 *e*P **P 16 20 07.1 +0.5**
comp=Z,2.2nm,0.6s
YKA Yellowknife Ar 72.53 9 P **P 16 20 47.1 -0.2**
comp=Z,2.9nm,0.9s,baz=350,slow=6.1,SNR=7.3
YKA Yellowknife Ar 72.53 9 P **P 16 20 47.1 -0.2**
YKA pmax pmax
comp=Z,3.0nm,0.9s
TOA0 Torodi Ar. Sit 74.90 274 *e*P **P 16 21 01.5 -0.5**
TOA0 *e* 16 21 08.2
TORD Torodi Ar. Bea 74.90 274 P **P 16 21 01.5 -0.5**
comp=Z,9.0nm,0.8s,baz=41,slow=5.4,SNR=52
SCHQ Schefferville 77.94 343 LR LR 16 59 15.6
comp=Z,35nm,18.2s,baz=288,slow=38
WRAB Tennant Creek 79.21 132 *e*P **P 16 21 25.5 -0.5**
WRAB *e* 16 21 32.8
WRAB pmax pmax
comp=Z,10.0nm,0.8s
WRAB Tennant Creek 79.21 132 *e*P **P 16 21 25.5 -0.5**
comp=Z,9.7nm,0.8s
WRAB *e* 16 21 32.8
WRA Warramunga Arr 79.22 132 P **P 16 21 25.3 -0.7**
comp=Z,12nm,0.8s,baz=334,slow=5.4,SNR=81
EDM Edmonton 81.75 10 *e*P **P 16 21 39.4 +0.1**
EDM Edmonton 81.75 10 *e*P **P 16 21 39.4 +0.1**
AS31 Alice Springs 82.05 134 *e*P **P 16 21 40.6 -0.5**
ASAR Alice Springs 82.05 134 P **P 16 21 40.3 -0.8**
comp=Z,4.8nm,0.8s,baz=330,slow=5.1,SNR=68
DBIC Dimbokro 84.01 273 P **P 16 21 51.0 -0.6**
comp=Z,5.8nm,0.8s,baz=39,slow=3.8,SNR=3.4
DBIC Dimbokro 84.01 273 P **P 16 21 51.0 -0.6**
BSMT Bassoo Peak 86.81 12 *e*P **P 16 22 04.5 -0.8**
comp=Z,6.7nm,1.0s
BSMT *e* 16 22 12.5
CHMT Chamberlain Mo 87.94 11 *e*P **P 16 22 10.0 -0.8**
comp=Z,1.5nm,0.8s
STKA Stephens Creek 92.66 134 P **P 16 22 31.4 -1.2**
comp=Z,5.4nm,1.0s,baz=335,slow=5.0,SNR=4.7
NVAR Mina Array Bea 95.31 17 P **P 16 22 46.0 +0.8**
comp=Z,1.6nm,0.9s,baz=311,slow=3.9,SNR=7.1

LJU ***08*** *16:50:35.9,46.39N×15.07E,h0km Rockburst*
CSEM 08 16:50:35.9±99.0, 46.39N×15.07E, h0km, Suspected Mining induced., Northwestern Balkan Peninsula

IDC 08 17:01:41.2±1.8, 7.38S×128.86E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.4/20, mbtmpg3.6/4, ML3.8/3, Error ellipse: s-maj=61.1km s-min=29.3km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SIJI	**Sorong**	**6.89**	**20**	Pn		Pn	17 03 25.2	+1.5
	1.1nm,0.3s,baz=180,slow=17,SNR=8.3							
SIJI				Sn		Sn	17 04 34.5	-8.5
	1.4nm,0.3s,baz=224,slow=22,SNR=8.7							
WRA	**Warramunga Arr**	**13.58**	**157**	Pn		Pn	17 04 54.5	-0.8
	0.7nm,0.3s,baz=338,slow=13,SNR=29							
WRA				Sn		Sn	17 07 16.6	-11
	1.7nm,0.3s,baz=331,slow=22,SNR=11							
ASAR	**Alice Springs**	**16.91**	**164**	Pn		Pn	17 05 40.5	+1.0
	0.3nm,0.3s,baz=336,slow=9.1,SNR=28							
ASAR				Sn		Sn	17 08 37.2	-11
	0.3nm,0.3s,baz=350,slow=27,SNR=4.4							
MKAR	**Makanchi Array**	**67.92**	**327**	P		P	17 12 41.5	-0.4
	0.2nm,0.4s,baz=126,slow=8.2,SNR=5.5							

ISCJB ***08*** *17:33:56.8±0.8, 22.14N±0.03×121.67E±0.02, h15km±6km, Error ellipse: s-maj=5.5km s-min=2.8km az=179.1*
JMA ***08*** *17:33:56.1±0.1, 22.21N×121.57E, h12km, M3.6*
TAP ***08*** *17:33:57.9, 22.24N×121.40E, h7km, ML3.3, C*
ISC 08 17:33:57.6±1.0, 22.24N±0.03×121.56E±0.03, h25km±9km, n53, σ1.8 s36/104, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
LAY	**Lan-yu**	**0.20**	**183**	P		**Pb**	**17 34 03.8**	**+0.5**
	baz=143							
LAY				S		**Sb**	**17 34 08.4**	**+1.3**
	baz=143							
TAW	**Tawu**	**0.63**	**281**	*i* P		**Pb**	**17 34 08.6**	**-1.4**
	baz=283							
TAW				*e*S		**Sb**	**17 34 14.4**	**-4.0**
	baz=283							
TTN	**Taitung**	**0.64**	**323**	P		**Pb**	**17 34 09.9**	**-0.3**
	baz=336							
TTN				*i* S		**Sb**	**17 34 18.8**	**0.0**
	baz=336							
ECL	**Taimali**	**0.67**	**302**	P		**Pb**	**17 34 09.0**	**-1.6**
	baz=311							
ECL				*e*S		**Sb**	**17 34 17.1**	**-2.4**
	baz=311							
EAST	**Anshuo**	**0.68**	**282**	*i* P		**Pb**	**17 34 09.4**	**-1.5**
	baz=285							
EAST				*i* S		**Sb**	**17 34 17.1**	**-2.7**
	baz=285							
TSEB	**Hengchuen, Pin**	**0.70**	**241**	*e*P		**Pb**	**17 34 11.2**	**-0.1**
	baz=235							
TSEB				*e*S		**Sb**	**17 34 20.6**	**0.0**
	baz=235							
TWG	**Pinlang**	**0.73**	**322**	*e*P		**Pb**	**17 34 10.6**	**-1.2**
	baz=332							
TWG				*e*S		**Sb**	**17 34 20.9**	**-0.6**
	baz=332							
TWK1	**Hengchun**	**0.76**	**247**	P		**Pb**	**17 34 11.0**	**-1.2**
	baz=240							
TWK1				S		**Sb**	**17 34 19.8**	**-2.4**
	baz=240							
HEN	**Hengchun**	**0.80**	**253**	*i* P		**Pb**	**17 34 12.0**	**-0.9**
	baz=248							
HEN				*i* S		**Sb**	**17 34 21.5**	**-1.8**
	baz=248							
CHKT	**Chengkung**	**0.87**	**348**	*e*P		**Pb**	**17 34 13.2**	**-0.9**
	baz=358							
CHKT				*e*S		**Sb**	**17 34 23.9**	**-1.5**
	baz=358							
SCZT	**Fangliau**	**0.88**	**279**	P		**Pb**	**17 34 12.7**	**-1.6**
	baz=280							
SCZT				*e*S		**Sn**	**17 34 28.8**	**+2.3**
	baz=280							
SSD	**Sandimen**	**1.00**	**300**	*e*P		**Pb**	**17 34 14.2**	**-2.0**
	baz=305							
SSD				*e*S		**Sn**	**17 34 30.9**	**+1.6**
	baz=305							
ELDTW	**Lidau**	**1.07**	**332**	*e*P		**Pn**	**17 34 16.2**	**-0.9**
	baz=339							
ELDTW				*e*S		**Sn**	**17 34 32.9**	**+1.6**
	baz=339							
TWP	**Hsiaoliuchiu**	**1.12**	**276**	*e*P		**Pb**	**17 34 19.1**	**+0.8**
	baz=276							
TWF1	**Yuli**	**1.13**	**348**	*e*P		**Pb**	**17 34 18.5**	**0.0**
	baz=355							
TWF1				*e*S		**Sn**	**17 34 35.2**	**+2.5**
	baz=355							
STYT	**Tauyuan**	**1.18**	**321**	*e*P		**Pb**	**17 34 19.0**	**-0.4**
	baz=327							
STYT				*e*S		**Sn**	**17 34 34.8**	**+0.8**
	baz=327							
TWM1	**Shoushan**	**1.20**	**299**	*e*P		**Pb**	**17 34 21.2**	**+1.5**
	baz=302							
TWM1				*e*S		**Sn**	**17 34 33.5**	**-0.9**
	baz=302							
SGST	**Jiashian**	**1.23**	**313**	*e*P		**Pb**	**17 34 19.9**	**-0.4**
	baz=318							
SGST				*e*S		**Sb**	**17 34 38.2**	**+2.5**
	baz=318							
EHY	**Hungye**	**1.28**	**350**	*e*P		**Pn**	**17 34 19.6**	**-0.3**
	baz=357							
EHY				*e*S		**Sn**	**17 34 36.1**	**-0.2**
	baz=357							
WTP	**Ta-pu**	**1.33**	**319**	*e*P		**Pb**	**17 34 21.5**	**-0.4**
	baz=324							
WTP				*e*S		**Sb**	**17 34 40.9**	**+2.3**
	baz=324							
CHN1	**Nanshi**	**1.34**	**315**	*e*P		**Pb**	**17 34 21.8**	**-0.3**
	baz=319							
CHN1				*e*S		**Sb**	**17 34 40.2**	**+1.3**
	baz=319							
YUS	**Yu-Shan**	**1.36**	**336**	*e*P		**Pb**	**17 34 23.1**	**+0.3**
	baz=341							
YUS				*e*S		**Sb**	**17 34 40.2**	**+0.2**
	baz=341							
CHN3	**Shinhua**	**1.38**	**307**	*e*P		**Pb**	**17 34 23.7**	**+0.9**
	baz=311							
CHN3				*e*S		**Sb**	**17 34 43.5**	**+3.4**
	baz=311							
CHN4	**Tsaushan**	**1.42**	**321**	*e*P		**Pn**	**17 34 22.2**	**+0.3**
	baz=326							
CHN4				*e*S		**Sb**	**17 34 41.6**	**+0.5**
	baz=326							
TWK	**Hsinying**	**1.42**	**316**	*e*P		**Pb**	**17 34 23.1**	**-0.4**
	baz=320							
TWK				*e*S		**Sb**	**17 34 43.6**	**+2.4**
	baz=320							
ALS	**Alishan**	**1.44**	**331**	*e*P		**Pb**	**17 34 24.0**	**0.0**
	baz=336							
ALS				*e*S		**Sb**	**17 34 43.2**	**+1.1**
	baz=336							
WDT	**Danda**	**1.56**	**345**	*e*P		**Pb**	**17 34 26.5**	**+0.5**
	baz=351							
WDT				*e*S		**Sb**	**17 34 45.5**	**+0.1**
	baz=351							
ESL	**Shilin**	**1.57**	**356**	*e*P		**Pb**	**17 34 26.7**	**+0.7**
	baz=1.0							
ESL				*e*S		**Sb**	**17 34 45.9**	**+0.5**
	baz=1.0							
CHN5	**Tsauling**	**1.58**	**329**	*e*P		**Pb**	**17 34 26.1**	**-0.1**
	baz=333							
CHN5				*e*S		**Sb**	**17 34 46.9**	**+1.1**
	baz=333							
WGK	**Gukeng**	**1.71**	**327**	*e*P		**Pb**	**17 34 27.7**	**-0.7**
	baz=332							
WGK				*e*S		**Sb**	**17 34 48.7**	**-0.7**
	baz=332							
SMLT	**Sun Moon Lake**	**1.75**	**340**	*e*P		**Pb**	**17 34 28.1**	**-0.9**
	baz=344							
SMLT				*e*S		**Sb**	**17 34 50.5**	**-0.1**
	baz=344							
TYC	**Yuchr**	**1.78**	**339**	*e*P		**Pb**	**17 34 28.8**	**-0.7**
	baz=343							
TYC				*e*S		**Sb**	**17 34 52.1**	**+0.7**
	baz=343							
WNT	**Mingjian**	**1.82**	**334**	*e*P		**Pb**	**17 34 29.3**	**-1.0**
	baz=338							
WNT				*e*S		**Sb**	**17 34 52.8**	**+0.2**
	baz=338							
WHF	**Hehuan Shan**	**1.92**	**352**	*e*P		**Pb**	**17 34 30.6**	**-1.5**
	baz=356							
WHF				*e*S		**Sb**	**17 34 55.7**	**-0.1**
	baz=356							
TWT	**Tachien**	**2.03**	**350**	*e*P		**Pb**	**17 34 33.6**	**-0.4**
	baz=353							
TWT				*e*S		**Sb**	**17 34 59.2**	**+0.2**
	baz=353							
ENA	**Nanau**	**2.18**	**4**	*e*P		**Pn**	**17 34 33.4**	**+1.0**
	baz=8.0							
ENA				*e*S		**Sb**	**17 35 01.2**	**-1.8**
	baz=8.0							
NNS	**Nan Shan**	**2.20**	**355**	*e*P		**Pb**	**17 34 37.7**	**+1.0**
	baz=359							
NNS				*e*S		**Sb**	**17 35 03.8**	**+0.2**
	baz=359							
TWQ1	**Liyutan**	**2.22**	**341**	*e*P		**Pb**	**17 34 35.4**	**-1.6**
	baz=344							
TWQ1				*e*S		**Sb**	**17 35 05.1**	**+1.0**
	baz=344							
ENTT	**Nioudou**	**2.39**	**0**	*e*P		**Pb**	**17 34 37.7**	**-2.2**
	baz=3.0							
ENTT				*e*S		**Sb**	**17 35 07.0**	**-2.0**
	baz=3.0							
NSK	**Sanguang**	**2.43**	**356**	*e*P		**Pb**	**17 34 38.2**	**-2.5**
	baz=359							
NSK				*e*S		**Sb**	**17 35 08.3**	**-1.9**
	baz=359							
NSTT	**Nanjuang**	**2.43**	**348**	*e*P		**Pb**	**17 34 41.1**	**+0.4**
	baz=351							
NSTT				*e*S		**Sb**	**17 35 07.9**	**-2.4**
	baz=351							
JYNG	**Yonagunijimaku**	**2.54**	**30**	P		**Pn**	**17 34 38.0**	**+0.8**
JYNG				S		**Sn**	**17 35 06.3**	**-1.1**
YOJ	**Yonaguni jima**	**2.58**	**31**	P		**Pn**	**17 34 39.4**	**+1.6**
YOJ				S		**Sn**	**17 35 09.2**	**+0.9**
HATJ	**Hateruma jima**	**2.74**	**48**	P		**Pn**	**17 34 41.0**	**+1.0**
HATJ				S		**Sn**	**17 35 11.4**	**-1.0**
IRIF	**Iriomote-Funau**	**2.88**	**43**	P		**Pn**	**17 34 43.3**	**+1.4**
IRIF				S		**Sn**	**17 35 15.8**	**0.0**
JKRS	**Kuro-shima**	**3.00**	**48**	P		**Pn**	**17 34 44.9**	**+1.3**
JKRS				S		**Sn**	**17 35 17.6**	**-1.2**
JIJ	**Ishigaki jima**	**3.17**	**48**	P		**Pn**	**17 34 46.8**	**+0.8**
JIJ				S		**Sn**	**17 35 21.7**	**-1.4**
JISG	**Ishigakijimahi**	**3.44**	**47**	P		**Pn**	**17 34 50.1**	**+0.5**
JISG				S		**Sn**	**17 35 29.0**	**-0.5**
JTJ	**Tarama**	**3.74**	**50**	P		**Pn**	**17 34 55.0**	**+1.2**
JTJ				S		**Sn**	**17 35 36.4**	**-0.7**
JIRB	**Irabujima**	**4.20**	**51**	P		**Pn**	**17 35 00.7**	**+0.7**

JIRB				S	Sn	17 35 47.3	-0.9
JMJ	Miyako jima 2	4.28	52	eS	Sn	17 35 49.6	-0.6
JIKM	Ikemajima	4.31	51	P	Pn	17 35 02.9	+1.4
JIKM				S	Sn	17 35 49.9	-1.1
JOGS	Gusukube	4.33	54	P	Pn	17 35 03.5	+1.7
JOGS				S	Sn	17 35 52.5	+1.0

*IDC **08** 18:04:29.9±1.4, 5°.97S×147°.85E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.9/17, mbtmp3.8/9, ML4.2/1, MS3.5/1, Ms1 3.4/1, ms1mx2.6/22, Error ellipse: s-maj=59.0km s-min=19.3km az=100.0*
*ISCJB **08** 18:04:38.7±0.8, 6°.04S±0°.07×147°.5E±0°.2, h77km, mb3.7/10, Error ellipse: s-maj=27.3km s-min=9.1km az=5.7*
*NEIC **08** 18:04:39.1±1.9, 6°.03S×147°.61E, h69km±18km, mb4.5/3, Error ellipse: s-maj=24.0km s-min=12.0km az=104.0*
ISC 08 18:04:39.9±0.9, **6°.05S**±0°.09×**147°.7E**±0°.2, **h77**km, **n17**, σ**1s.00**/19, **mb3.8**/10, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.37	189	ePn	Pn	18 05 29.7	-0.5
PMG				e		18 05 35.4	
CTAO	Charters Tower	14.02	185	Pn	Pn	18 07 54.6	-0.5
WRAB	Tennant Creek	18.92	222	eP	P	18 08 53.8	-0.9
	28nm,1.5s						
WRA	Warramunga Arr	18.93	222	P	P	18 08 53.9	-1.0
	0.8nm,0.3s,baz=48,slow=12,SNR=32						
WRA				PcP	PcP	18 13 20.1	+1.9
	0.1nm,0.3s,baz=30,slow=1.8,SNR=5.6						
AS31	Alice Springs	21.96	216	eP	P	18 09 27.0	-0.4
ASAR	Alice Springs	21.96	216	P	P	18 09 27.3	-0.2
	3.4nm,0.4s,baz=45,slow=8.8,SNR=83						
ASAR				S	S	18 13 26.4	+0.7
	0.5nm,0.7s,baz=34,slow=23,SNR=4.3						
STKA	Stephens Creek	26.31	192	P	P	18 10 09.7	+1.2
	1.1nm,0.3s,baz=0.8,slow=8.4,SNR=3.4						
STKA				LR	LR	18 21 10.8	
	comp=Z,103nm,18.5s,baz=202,slow=38						
MBWA	Marble Bar	30.95	238	eP	P	18 10 49.2	-0.6
	14nm,1.0s						
MJAR	Matsushiro Arr	43.29	349	P	P	18 12 34.4	+0.3
	1.8nm,0.9s,baz=182,slow=10,SNR=4.0						
KSRS	Korea Array	47.04	338	P	P	18 13 04.3	+0.6
	0.3nm,0.5s,baz=155,slow=9.0,SNR=5.0						
KSAR	Wonju Array Be	47.04	338	P	P	18 13 04.3	+0.6
SONM	Songino Array	64.77	331	P	P	18 15 11.0	+0.6
	0.6nm,0.8s,baz=151,slow=6.3,SNR=5.0						
MKAR	Makanchi Array	77.96	320	P	P	18 16 30.0	+0.2
	0.1nm,0.3s,baz=106,slow=7.5,SNR=4.3						
ZALV	Zalesovo Beam	79.41	328	P	P	18 16 36.2	-1.4
	0.5nm,0.4s,baz=107,slow=6.5,SNR=3.7						
QSPA	South Pole Qui	83.92	180	eP	P	18 17 02.4	+1.1
	3.1nm,0.6s						
ILAR	Eielson Array	85.27	23	P	P	18 17 06.1	-1.8
	0.2nm,0.5s,baz=242,slow=5.8,SNR=3.8						
TORD	Torodi Ar. Bea	145.75	284	PKPbc	PKPdf	18 24 11.0	+0.4
	0.6nm,0.3s,baz=75,slow=3.2,SNR=11						

*IDC **08** 18:04:38.8±1.2, 4°.98N×126°.68E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.6/26, mbtmp3.8/6, ML3.2/1, Error ellipse: s-maj=127.1km s-min=22.5km az=61.0*
*ISCJB **08** 18:04:44.9±0.9, 5°.0N±0°.2×127°.0E±0°.2, h71km, mb3.7/5, Error ellipse: s-maj=43.6km s-min=12.7km az=142.1*
ISC 08 18:04:46.8±1.0, **5°.1N**±0°.4×**127°.2E**±0°.7, **h71**km, **n7**, σ**0s.38**/6, **mb3.9**/5, **1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	2.46	294	⇑iP	Pn	18 05 21.6	-3.2
SIJI	Sorong	7.17	146	Pn	Pn	18 06 29.0	-0.2
	0.4nm,0.3s,baz=207,slow=22,SNR=9.2						
WRA	Warramunga Arr	25.85	164	P	P	18 10 12.3	+0.4
	0.6nm,0.4s,baz=346,slow=10,SNR=2.5						
SONM	Songino Array	46.17	341	P	P	18 13 04.9	+0.3
	0.1nm,0.3s,baz=161,slow=9.2,SNR=2.4						
MKAR	Makanchi Array	56.73	325	P	P	18 14 23.1	-0.2
	1.0nm,0.4s,baz=116,slow=7.4,SNR=19						
BVAR	Borovoye Array	66.45	327	P	P	18 15 28.7	0.0
	0.8nm,0.5s,baz=118,slow=5.2,SNR=8.4						
AKTO	Aktyubinsk	72.90	321	P	P	18 16 08.2	-0.3
	1.1nm,0.5s,baz=98,slow=13,SNR=7.3						

IDC 08 18:25:04.7±2.7, **2°.37S**×**133°.36E, h0**km, **mb3.5**/2, **mb1 3.6**/4, **mb1mx3.3**/30, **mbtmp3.4**/4, **ML3.1**/2, **Error ellipse: s-maj=87.2km s-min=25.1km az=66.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	2.57	305	Pn	Pn	18 25 49.1	+1.4
	1.6nm,0.3s,baz=179,slow=1.3,SNR=20						
SIJI				Sn	Sn	18 26 15.2	-4.5
	4.2nm,0.3s,baz=230,slow=23,SNR=13						
WRA	Warramunga Arr	17.49	177	P	Pn	18 29 10.8	+0.6
	0.1nm,0.3s,baz=354,slow=12,SNR=7.7						
ASAR	Alice Springs	21.17	179	P	P	18 29 51.6	-0.2
	1.9nm,0.4s,baz=351,slow=10,SNR=50						
MKAR	Makanchi Array	66.33	324	P	P	18 35 54.5	-0.7
	0.2nm,0.5s,baz=127,slow=9.2,SNR=1.7						

IDC 08 18:36:53.2±1.7, **6°.69S**×**128°.59E, h0**km, **mb4.0**/1, **mb1 3.9**/4, **mb1mx3.5**/20, **mbtmp3.8**/4, **ML3.7**/3, **Error ellipse: s-maj=59.0km s-min=28.5km az=78.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.37	25	Pn	Pn	18 38 30.2	+1.7
	1.6nm,0.3s,baz=193,slow=20,SNR=16						
SIJI				Sn	Sn	18 39 31.0	-11
	5.7nm,0.3s,baz=251,slow=22,SNR=13						
WRA	Warramunga Arr	14.31	158	Pn	Pn	18 40 16.1	-1.2
	0.3nm,0.3s,baz=344,slow=13,SNR=22						
WRA				Sn	Sn	18 42 45.0	-12
	1.0nm,0.3s,baz=346,slow=24,SNR=9.8						
ASAR	Alice Springs	17.64	164	P	P	18 41 01.6	-0.1
	0.4nm,0.3s,baz=346,slow=11,SNR=32						
ASAR				S	Sn	18 44 09.6	-8.3
	0.2nm,0.3s,baz=355,slow=25,SNR=5.9						
MKAR	Makanchi Array	67.20	327	P	P	18 47 49.0	-0.4
	0.7nm,0.5s,baz=120,slow=7.7,SNR=10						

MAN 08 18:43:18, 11°.34N×125°.83E, h1km, mb4.6, ML3.5, MS3.4, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	Palo	0.85	258	⇑eP	Pb	18 43 35.1	-0.5
PLP				eS	Sg	18 43 45.4	0.0
OCLP	Ormoc	1.23	257	eP	Pn	18 43 43.4	+1.0
OCLP				eS	Sn	18 44 00.2	+0.6
MSLP	Maasin	1.53	219	eP	Pn	18 43 46.7	+0.2
MSLP				eS	Sg	18 44 08.5	+1.3
SCPH	Surigao	1.58	192	eP	Pb	18 43 47.6	-0.4
SCPH				eS	Sn	18 44 06.4	-1.9
CNP	Catarman	1.63	316	eP	Pg	18 43 49.6	+0.4
TBP	Tagbilaran	2.53	230	eP	Pb	18 44 02.9	-1.4
TBP				eS	Sb	18 44 37.5	+1.5
PVCP	Virac	2.78	324	eP	Pn	18 44 04.0	+0.4

IDC 08 18:58:45.7±1.2, **3°.07S**×**130°.90E, h38**km±15km, **mb3.3**/2, **mb1 3.3**/4, **mb1mx3.1**/22, **mbtmp3.3**/4, **ML2.9**/2, **Error ellipse: s-maj=32.8km s-min=4.6km az=86.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	2.21	10	Pn	Pn	18 59 19.9	0.0
	1.8nm,0.3s,baz=24,slow=22,SNR=30						
SIJI				Sn	Sn	18 59 46.4	+0.3
	3.6nm,0.3s,baz=104,slow=23,SNR=8.4						
WRA	Warramunga Arr	17.11	169	P	Pn	19 02 41.0	-1.1
	0.1nm,0.3s,baz=348,slow=12,SNR=5.8						
ASAR	Alice Springs	20.68	172	P	P	19 03 22.6	0.0
	1.3nm,0.5s,baz=352,slow=11,SNR=26						
MKAR	Makanchi Array	65.48	325	P	P	19 09 24.9	-0.1
	0.3nm,0.3s,baz=108,slow=9.3,SNR=6.4						

*ISCJB **08** 19:39:14.1±0.8, 43°.43N±0°.07×87°.33E±0°.08, h10km, mb3.5/5, MS3.5/1, Error ellipse: s-maj=9.8km s-min=7.4km az=27.0*
*IDC **08** 19:39:14.1±1.0, 43°.10N×87°.07E, h0km, mb3.5/5, mb1 3.6/9, mb1mx3.4/31, mbtmp3.4/9, ML2.9/4, MS3.5/1, Ms1 3.5/1, ms1mx2.3/34, Error ellipse: s-maj=32.8km s-min=17.3km az=42.0*
*NNC **08** 19:39:19.5±3.0, 43°.56N×87°.01E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=22.9km s-min=14.8km az=113.0*
ISC 08 19:39:16.6±1.0, **43°.45N**±0°.09×**87°.30E**±0°.08, **h10**km, **n16**, σ**1s.90**/21, **mb3.5**/5, **9C-6D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	4.88	315	⇓Pn	Pn	19 40 32.5	+2.6
	0.7nm,0.3s,baz=334,slow=19,SNR=50						
MK31				⇑Sn	Sn	19 41 27.9	+1.4
	2.1nm,0.3s						
MK31				⇑Lg	Lg	19 41 48.3	
	16nm,0.6s,baz=139,slow=28,SNR=3.8						
MKAR	Makanchi Array	4.88	315	Pn	Pn	19 40 32.7	+2.7
	1.0nm,0.3s,baz=136,slow=14,SNR=25						
MKAR				Sn	Sn	19 41 27.6	+1.1
	2.8nm,0.3s,baz=135,slow=18,SNR=5.4						
MKAR				Lg	Lg	19 41 45.8	
	3.3nm,0.3s,baz=133,slow=30,SNR=7.7						
PDGK	Podgornoye	5.70	271	⇑Pn	Pn	19 40 41.7	+0.5
	4.7nm,0.6s						
PDGK				⇓Sn	Sn	19 41 46.9	+0.3
	18nm,0.8s						
PDGK				⇑Lg	Lg	19 42 11.4	
	17nm,0.5s						
TKM2	Tokmak 2	8.57	271	⇑Pn	Pn	19 41 22.3	+1.5
	1.1nm,0.5s						
TKM2				⇑Sn	Sn	19 43 00.1	+2.4
	5.7nm,0.6s						
TKM2				⇓Lg	Lg	19 43 45.6	
	5.6nm,0.7s						
KURBB	Kurchatov Arra	9.34	323	⇓Pn	Pn	19 41 32.1	+0.9
	1.3nm,0.8s						
KURBB				⇓Sn	Sn	19 43 16.4	+0.1
	5.3nm,0.6s						
KURBB				⇑Lg	Lg	19 44 07.8	
	12nm,0.6s						
KURK	Kurchatov	9.37	324	⇑Pn	Pn	19 41 31.6	0.0
	1.9nm,1.4s						
KURK				⇑Sn	Sn	19 43 13.5	-3.5
	1.3nm,0.5s						
KURK				⇓Lg	Lg	19 44 09.9	
	2.8nm,0.6s						
AAK	Ala-Archa	9.41	269	Lg	Lg	19 44 09.1	
	0.2nm,0.3s,baz=243,slow=11,SNR=1.8						
ZALV	Zalesovo Beam	10.64	352	Pn	Pn	19 41 50.0	+1.1
	0.3nm,0.3s,baz=174,slow=14,SNR=4.0						
ZALV				Sn	Sn	19 43 45.3	-2.7
	1.4nm,0.3s,baz=175,slow=26,SNR=13						
SONM	Songino Array	14.05	65	Pn	Pn	19 42 38.2	+2.5
	0.0nm,0.3s,baz=241,slow=5.9,SNR=2.2						
SONM				Lg	Lg	19 46 51.8	
	0.1nm,0.3s,baz=241,slow=15,SNR=3.6						
BVAR	Borovoye Array	14.76	316	Pn	Pn	19 42 43.5	-1.7
	0.1nm,0.3s,baz=126,slow=11,SNR=2.3						
AKTO	Aktyubinsk	21.09	300	P	P	19 44 00.1	-0.8
	0.6nm,0.5s,baz=180,slow=15,SNR=2.6						
ARCES	ARCESS Array B	40.31	331	P	P	19 46 54.5	+0.9
	2.8nm,1.0s,baz=80,slow=7.5,SNR=3.6						
LEM	Lembang	53.32	155	LR	LR	20 14 58.0	
	comp=Z,44nm,20.6s,slow=40						
WRA	Warramunga Arr	76.43	135	P	P	19 51 05.1	-1.3
	1.3nm,1.3s,baz=340,slow=6.5,SNR=5.7						
TORD	Torodi Ar. Bea	77.92	277	P	P	19 51 13.1	-1.9
	0.3nm,0.6s,baz=40,slow=3.4,SNR=6.1						
ASAR	Alice Springs	79.32	137	P	P	19 51 20.8	-1.6
	0.3nm,0.6s,baz=334,slow=6.1,SNR=4.4						

*ISCJB **08** 19:42:34.8±0.3, 38°.06N±0°.02×21°.25E±0°.02, h11km±3km, Error ellipse: s-maj=3.2km s-min=2.9km az=19.2*
*CSEM **08** 19:42:34.7±0.2, 38°.05N×21°.26E, h5km, ML2.3, Error ellipse: s-maj=4.1km s-min=3.7km az=42.0*
*ATH **08** 19:42:34.8, 38°.07N×21°.26E, h10km±4km, MD2.8/18*
*THE **08** 19:42:34.3, 38°.01N×21°.28E, h23km±2km, ML2.3/3, Error ellipse: s-maj=2.3km s-min=0.9km az=173.0*
ISC 08 19:42:35.0±0.9, **38°.05N**±0°.02×**21°.26E**±0°.02, **h15**km±5km, **n58**, σ**0s.83**/95, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTN	Vitineika	0.15	203	P	Pg	19 42 39.0	+0.1
VTN				S	Sg	19 42 43.0	+1.6
VTN	Vitineika	0.15	203	P	Pg	19 42 39.0	+0.1
RLS	Riolos of Patr	0.16	88	P	Pg	19 42 38.1	-1.0
RLS				S	Sg	19 42 41.4	-0.4
RLS	Riolos of Patr	0.16	88	ePG	Pg	19 42 38.4	-0.7
RLS				eSG	Sg	19 42 41.0	-0.8
RLS	Riolos of Patr	0.16	88	P	Pg	19 42 38.1	-1.0
RLS	Riolos of Patr	0.16	88	ePg	Pg	19 42 38.4	-0.7
RLS				eSg	Sg	19 42 41.0	-0.8
DRO	Drossia	0.37	106	P	Pg	19 42 41.6	-0.9
DRO				S	Sg	19 42 47.7	0.0
DRO	Drossia	0.37	106	ePG	Pg	19 42 41.9	-0.6
DRO				eSB	Sg	19 42 47.4	-0.3
DRO	Drossia	0.37	106	P	Pg	19 42 41.6	-0.9
DRO	Drossia	0.37	106	ePg	Pg	19 42 41.9	-0.6
DRO				eSb	Sg	19 42 47.4	-0.3
KFL	Anninata	0.38	279	P	Pg	19 42 42.3	-0.4
KFL				S	Sb	19 42 49.3	+0.3
KFL	Anninata	0.38	279	P	Pg	19 42 42.3	-0.4
UPR	University Cam	0.47	61	P	Pg	19 42 44.5	+0.1
UPR	University Cam	0.47	61	P	Pg	19 42 44.5	+0.1
ZKS	Zakynthos	0.52	227	P	Pg	19 42 44.4	-0.8
ZKS	Zakynthos	0.52	227	ePB	Pg	19 42 44.4	-0.8
ZKS				eSB	Sb	19 42 53.0	-0.1
ZKS	Zakynthos	0.52	227	P	Pg	19 42 44.4	-0.8
ZKS				eSb	Sb	19 42 53.0	-0.1
VLS	Valsamata	0.54	283	P	Pg	19 42 44.6	-1.1
VLS				S	Sb	19 42 53.6	-0.3
VLS	Valsamata	0.54	283	ePB	Pg	19 42 44.7	-1.0
VLS				eSB	Sb	19 42 53.5	-0.3
VLS	Valsamata	0.54	283	ePb	Pg	19 42 44.7	-1.0
VLS				eSb	Sb	19 42 53.5	-0.3
PDO	Prodromos	0.55	354	P	Pg	19 42 45.2	-0.6
PDO				S	Sb	19 42 54.7	+0.7
PDO	Prodromos	0.55	354	ePB	Pg	19 42 45.3	-0.6
PDO				eSB	Sg	19 42 53.2	0.0
PDO	Prodromos	0.55	354	ePb	Pg	19 42 45.3	-0.6
PDO				eSb	Sg	19 42 53.2	0.0
PDO				S	Sb	19 42 54.7	+0.7
PVO	Paravola	0.60	20	P	Pg	19 42 46.8	0.0
PVO				S	Sb	19 42 56.8	+1.3
PVO	Paravola	0.60	20	P	Pg	19 42 46.8	0.0
PVO				S	Sb	19 42 56.8	+1.3
AMT	Artemida-Makis	0.63	146	P	Pg	19 42 46.4	-0.9
AMT	Artemida-Makis	0.63	146	ePG	Pg	19 42 47.0	-0.3
AMT				eSB	Sb	19 42 56.8	+0.5
AMT	Artemida-Makis	0.63	146	P	Pg	19 42 46.4	-0.9
AMT	Artemida-Makis	0.63	146	ePg	Pg	19 42 47.0	-0.3
AMT				eSb	Sb	19 42 56.8	+0.5
EFP	Efpalio	0.63	54	P	Pg	19 42 46.3	-1.1
EFP				S	Sb	19 42 57.0	+0.7
EFP	Efpalio	0.63	54	ePB	Pg	19 42 46.4	-1.0
EFP				eSB	Sg	19 42 55.4	-0.3
EFP	Efpalio	0.63	54	ePb	Pg	19 42 46.4	-1.0
EFP				eSb	Sg	19 42 55.4	-0.3
EFP				S	Sb	19 42 57.0	+0.7
KALE	Kalithea	0.77	64	P	Pg	19 42 48.6	-1.4
KALE	Kalithea	0.77	64	ePB	Pg	19 42 48.8	-1.2
KALE				eSB	Sg	19 43 00.3	+0.1
KALE	Kalithea	0.77	64	ePb	Pg	19 42 48.8	-1.2
KALE				eSb	Sg	19 43 00.3	+0.1
GUR	Goura	0.86	97	P	Pg	19 42 49.5	-2.2
GUR	Goura	0.86	97	ePB	Pg	19 42 50.6	-1.1
GUR				eSB	Sb	19 43 03.9	+0.8
GUR	Goura	0.86	97	P	Pg	19 42 49.5	-2.2
GUR	Goura	0.86	97	ePb	Pg	19 42 50.6	-1.1
GUR				eSb	Sb	19 43 03.9	+0.8
LKD2	Lefkada island	0.87	327	P	Pg	19 42 50.5	-1.5
LKD2	Lefkada island	0.87	327	ePG	Pg	19 42 50.7	-1.3
LKD2	Lefkada island	0.87	327	ePg	Pg	19 42 50.7	-1.3
EVR	Evrytania	0.96	26	ePB	Pg	19 42 52.9	-0.8
EVR				eSB	Sb	19 43 06.4	+0.4
EVR	Evrytania	0.96	26	ePb	Pg	19 42 52.9	-0.8
EVR				eSb	Sb	19 43 06.4	+0.4
ITM	Ithomi	1.02	149	ePG	Pg	19 42 54.2	-0.5
ITM				eSB	Sn	19 43 09.4	+0.6
ITM	Ithomi	1.02	149	ePg	Pg	19 42 54.2	-0.5
ITM				eSb	Sn	19 43 09.4	+0.6
DSF	Desfina	1.06	70	ePB	Pg	19 42 53.9	-1.6
DSF	Desfina	1.06	70	ePb	Pg	19 42 53.9	-1.6
DSL	Palaion Diasel	1.09	353	ePN	Pb	19 42 55.6	+0.1
DSL	Palaion Diasel	1.09	353	ePn	Pb	19 42 55.6	+0.1
VLX	Vlachokerasia	1.12	127	ePG	Pb	19 42 55.8	-0.3
VLX				eSB	Sn	19 43 12.3	+0.9
VLX	Vlachokerasia	1.12	127	ePg	Pb	19 42 55.8	-0.3
VLX				eSb	Sn	19 43 12.3	+0.9
MAKR	Makrakomi, Fth	1.18	35	ePB	Pb	19 42 57.0	0.0
MAKR				eSB	Sn	19 43 13.3	+0.6
MAKR	Makrakomi, Fth	1.18	35	ePb	Pb	19 42 57.0	0.0
MAKR				eSb	Sn	19 43 13.3	+0.6
AGG	Agios Georgios	1.28	41	ePB	Pg	19 42 59.4	-0.3
AGG	Agios Georgios	1.28	41	ePb	Pg	19 42 59.4	-0.3
DID	Didima	1.66	109	ePB	Pg	19 43 06.6	-0.2
DID	Didima	1.66	109	ePb	Pg	19 43 06.6	-0.2

*ATH **08** 19:43:14.0, 36°.43N×27°.95E, h26km±1km, MD3.6/14*
*ISCJB **08** 19:43:15.2±0.4, 36°.43N±0°.02×27°.93E±0°.02, h25km±4km, Error ellipse: s-maj=3.2km s-min=2.9km az=156.6*
*ISK **08** 19:43:15.6, 36°.57N×27°.88E, h14km, MD3.3, ML3.5*
*CSEM **08** 19:43:15.0±0.1, 36°.44N×27°.90E, h10km, ML3.9, Error ellipse: s-maj=2.4km s-min=2.2km az=49.0*
*THE **08** 19:43:16.2, 36°.41N×27°.95E, h12km±5km, ML3.9/1, Error ellipse: s-maj=7.2km s-min=1.3km az=93.0*
*DDA **08** 19:43:16.1, 36°.51N×27°.88E, h36km, ML3.6*
*HLW **08** 19:43:17.5, 36°.64N×27°.92E, h33km±15km, Md3.6*
*NIC **08** 19:43:18.7, 36°.73N×28°.22E, h55km, mb4.2, ML3.7*
ISC 08 19:43:15.3±1.0, **36°.45N**±0°.02×**27°.92E**±0°.02, **h20**km±3km, **n158**, σ**1s.11**/195, **2C-2D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.28	144	P	Pg	19 43 20.9	-0.7
ARG				S	Sb	19 43 25.3	-0.7
ARG	Arkhangelos	0.28	144	ePB	Pg	19 43 21.0	-0.7
ARG				eSB	Sb	19 43 25.4	-0.6
ARG	Arkhangelos	0.28	144	ePb	Pg	19 43 21.0	-0.7
ARG				eSb	Sb	19 43 25.4	-0.6
DAT	Datca	0.39	316	ePG	Pg	19 43 22.3	-1.3
DAT	Datca	0.39	316	ePg	Pg	19 43 22.3	-1.3
TURN	Turunc	0.70	52	iP	Pb	19 43 23.5	-5.2
TURN				iS	Sb	19 43 32.5	-5.4
DALY	Dalyan (Mu˜la	0.70	58	ePG	Pb	19 43 28.2	-0.5
DALY				eSG	Sg	19 43 39.0	+0.6
DALY	Dalyan (Mu˜la	0.70	58	ePg	Pb	19 43 28.3	-0.5
DALY				eSg	Sg	19 43 39.0	+0.6
BDRM	Kayabasi	0.72	329	iP	Pg	19 43 29.6	0.0
BDRM				iS	Sn	19 43 40.4	-0.6
BDRM	Kayabasi	0.72	329	iP	Pg	19 43 29.6	0.0
BDRM				iS	Sn	19 43 40.4	-0.6
YER	Yerkesik	0.75	23	ePG	Pb	19 43 29.1	-0.6
YER	Yerkesik	0.75	23	ePg	Pb	19 43 29.1	-0.6
BODT	Bodrum	0.78	322	ePG	Pb	19 43 29.6	-0.7
BODT	Bodrum	0.78	322	ePg	Pb	19 43 29.6	-0.7
KARP	Karpathos	1.09	215	P	Pn	19 43 35.0	-0.4
KARP				S	Sg	19 43 50.7	0.0
KARP	Karpathos	1.09	215	ePN	Pn	19 43 35.2	-0.2
KARP				eSN	Sn	19 43 50.3	+0.3
KARP	Karpathos	1.09	215	P	Pn	19 43 35.0	-0.4
KARP				eSn	Sn	19 43 50.3	+0.3
AYDN	Tasoluk	1.21	359	iP	Pg	19 43 38.3	-0.5
AYDN				iS	Sn	19 43 53.6	+0.5
AYDN	Tasoluk	1.21	359	iP	Pg	19 43 38.3	-0.5
AYDN				iS	Sn	19 43 53.6	+0.5
GCAM	G?zelcaml?	1.37	337	iP	Pb	19 43 40.2	0.0
GCAM				iS	Sb	19 43 57.1	-0.1
GCAM	G?zelcaml?	1.37	337	iP	Pb	19 43 40.2	0.0
GCAM				iS	Sb	19 43 57.1	-0.1
AKAS	Kas	1.38	98	iP	Pg	19 43 41.7	-0.3
AKAS				iS	Sg	19 44 01.4	+1.4
AKAS	Kas	1.38	98	iP	Pg	19 43 41.7	-0.3
AKAS				iS	Sg	19 44 01.4	+1.4
AYDB	Zeytinkoy-Aydi	1.50	359	ePN	Pn	19 43 41.2	+0.1
AYDB				eSN	Sn	19 43 59.5	-0.7
AYDB	Zeytinkoy-Aydi	1.50	359	ePn	Pn	19 43 41.3	+0.1
AYDB				eSn	Sn	19 43 59.5	-0.7
SMG	Samos	1.53	326	P	Pn	19 43 41.8	+0.3
SMG	Samos	1.53	326	ePN	Pn	19 43 41.9	+0.4
SMG	Samos	1.53	326	P	Pn	19 43 41.8	+0.3
SMG	Samos	1.53	326	ePn	Pn	19 43 41.9	+0.4
GOLH	Golhisar	1.54	59	iP	Pb	19 43 43.8	+0.7
GOLH				iS	Sg	19 44 05.4	+0.4
GOLH	Golhisar	1.54	59	iP	Pb	19 43 43.8	+0.7
GOLH				iS	Sg	19 44 05.4	+0.4
DENT	Denizli	1.58	34	ePN	Pb	19 43 43.3	-0.5
DENT	Denizli	1.58	34	ePn	Pb	19 43 43.3	-0.5
ELL	Elmali	1.63	79	ePN	Pb	19 43 44.5	-0.2
ELL				eSN	Sg	19 44 06.8	-1.2
ELL	Elmali	1.63	79	ePn	Pb	19 43 44.5	-0.2
ELL				eSn	Sg	19 44 06.8	-1.2
ZKR	Zakros	1.92	227	P	Pn	19 43 47.6	+0.8
ZKR	Zakros	1.92	227	P	Pn	19 43 47.6	+0.8
SANT	Santorini	1.98	269	ePN	Pn	19 43 48.2	+0.4
SANT	Santorini	1.98	269	ePn	Pn	19 43 48.2	+0.4
APE	Apeiranthos	2.02	289	ePN	Pn	19 43 49.5	+1.3
APE	Apeiranthos	2.02	289	ePN	Pn	19 43 48.0	-0.2
APE	Apeiranthos	2.02	289	ePn	Pn	19 43 49.5	+1.3
IZM	Izmir	2.02	345	ePN	Pn	19 43 48.4	+0.1
IZM	Izmir	2.02	345	ePn	Pn	19 43 48.4	+0.2
THR3	Thira Island,	2.03	270	P	Pn	19 43 49.2	+0.8
THR3	Thira Island,	2.03	270	P	Pn	19 43 49.2	+0.8
KORT	Korkueli	2.03	73	iP	Pb	19 43 52.7	+1.1
KORT				iS	Sg	19 44 20.5	-0.3
KORT	Korkueli	2.03	73	iP	Pb	19 43 52.7	+1.1
THR6	Thira Island,	2.04	268	P	Pn	19 43 49.1	+0.7
THR6	Thira Island,	2.04	268	P	Pn	19 43 49.1	+0.7
BLCB	Balcova	2.06	340	ePN	Pn	19 43 48.9	+0.1
BLCB	Balcova	2.06	340	ePn	Pn	19 43 48.9	+0.1
THR5	Thira Island,	2.07	270	ePN	Pn	19 43 50.2	+1.3
THR5	Thira Island,	2.07	270	ePn	Pn	19 43 50.2	+1.3
KULA	Kula-Manisa	2.15	16	ePN	Pn	19 43 50.0	-0.1
KULA	Kula-Manisa	2.15	16	ePn	Pn	19 43 50.0	-0.1
NPS	Neapolis	2.21	238	P	Pn	19 43 51.3	+0.4
NPS				S	Sn	19 44 17.0	-0.7
NPS	Neapolis	2.21	238	ePN	Pn	19 43 51.3	+0.4
NPS				eSN	Sn	19 44 18.1	+0.4
NPS	Neapolis	2.21	238	P	Pn	19 43 51.3	+0.4
NPS				S	Sn	19 44 17.0	-0.7
NPS				eSn	Sn	19 44 18.1	+0.4
KHL	Karahalli	2.27	34	ePN	Pn	19 43 52.6	+0.8
KHL	Karahalli	2.27	34	ePn	Pn	19 43 52.6	+0.8
LAST	Lasithi	2.36	238	P	Pn	19 43 53.4	+0.4
LAST	Lasithi	2.36	238	ePN	Pn	19 43 53.6	+0.6
LAST	Lasithi	2.36	238	ePn	Pn	19 43 53.6	+0.6
AKHS	Akhisar	2.43	358	iP	Pn	19 43 54.3	+0.4
AKHS				iS	Sn	19 44 23.4	+0.3
AKHS	Akhisar	2.43	358	iP	Pn	19 43 54.3	+0.4
AKS	Akhisar	2.43	358	ePN	Pn	19 43 54.2	+0.3
AKS	Akhisar	2.43	358	ePn	Pn	19 43 54.2	+0.3
CHOS	Chios island	2.44	323	ePN	Pn	19 43 54.4	+0.3
CHOS	Chios island	2.44	323	P	Pn	19 43 54.8	+0.7
CHOS	Chios island	2.44	323	ePN	Pn	19 43 54.8	+0.7
CHOS				eSN	Sn	19 44 24.4	+1.0
CHOS	Chios island	2.44	323	P	Pn	19 43 54.8	+0.7
CHOS				eSn	Sn	19 44 24.4	+1.0
DEMI	Demirci	2.67	13	iP	Pn	19 43 58.4	+1.2
DEMI	Demirci	2.67	13	iP	Pn	19 43 58.4	+1.2
SIVA	Sivas	2.90	241	P	Pn	19 44 01.9	+1.5
SIVA	Sivas	2.90	241	ePN	Pn	19 44 01.7	+1.3
SIVA	Sivas	2.90	241	ePn	Pn	19 44 01.7	+1.3
GDZ	Gediz	2.91	25	iP	Pn	19 44 03.1	+2.4
GDZ	Gediz	2.91	25	iP	Pn	19 44 03.1	+2.4
PRK	Paraskevi	3.08	336	ePN	Pn	19 44 03.9	+1.1
PRK	Paraskevi	3.08	336	ePn	Pn	19 44 03.9	+1.1
ALT	Altintas	3.13	33	ePN	Pn	19 44 04.7	+1.1
ALT	Altintas	3.13	33	ePn	Pn	19 44 04.7	+1.1
DURS	Dursunbey	3.18	8	iP	Pn	19 44 05.0	+0.7
DURS	Dursunbey	3.18	8	iP	Pn	19 44 05.0	+0.7
BALB	Balikesir	3.19	359	ePN	Pn	19 44 04.9	+0.6
BALB	Balikesir	3.19	359	ePn	Pn	19 44 04.9	+0.6

VAM	**Vamos**	**3.19**	**252**	*e*PN	**Pn**	**19 44 05.2**	**+0.9**
VAM	**Vamos**	**3.19**	**252**	*e*Pn	**Pn**	**19 44 05.2**	**+0.9**
DST	**Dursunbey**	**3.20**	**10**	*e*PN	**Pn**	**19 44 04.9**	**+0.3**
DST	**Dursunbey**	**3.20**	**10**	*e*Pn	**Pn**	**19 44 04.9**	**+0.4**
SIGR	**SIGRI**	**3.21**	**330**	*e*PN	**Pn**	**19 44 05.8**	**+1.3**
SIGR	**SIGRI**	**3.21**	**330**	P	**Pn**	**19 44 05.6**	**+1.1**
SIGR	**SIGRI**	**3.21**	**330**	*e*PN	**Pn**	**19 44 05.6**	**+1.1**
SIGR				*e*SN	**Sn**	**19 44 42.5**	**+0.3**
SIGR	**SIGRI**	**3.21**	**330**	P	**Pn**	**19 44 05.6**	**+1.1**
SIGR				*e*Sn	**Sn**	**19 44 42.5**	**+0.3**
TVSB	**Tavsanli**	**3.24**	**22**	*e*PN	**Pn**	**19 44 05.8**	**+0.7**
TVSB	**Tavsanli**	**3.24**	**22**	*e*Pn	**Pn**	**19 44 05.8**	**+0.7**
BALY	**Balya**	**3.30**	**356**	*i* P	**Pn**	**19 44 06.5**	**+0.7**
BALY				*i* S	**Sn**	**19 44 45.2**	**+0.7**
BALY	**Balya**	**3.30**	**356**	*i* P	**Pn**	**19 44 06.5**	**+0.7**
BALY				*i* S	**Sn**	**19 44 45.2**	**+0.7**
BOLV	**Bolvadin**	**3.31**	**46**	*i* P	Pb	19 44 10.1	-3.3
BOLV	**Bolvadin**	**3.31**	**46**	*i* P	Pb	19 44 10.1	-3.3
GAZI	**Gazipasa**	**3.56**	**92**	*i* P	**Pn**	**19 44 10.7**	**+1.3**
GAZI				*i* S	**Sn**	**19 44 50.8**	**-0.1**
GAZI	**Gazipasa**	**3.56**	**92**	*i* P	**Pn**	**19 44 10.7**	**+1.3**
GAZI				*i* S	**Sn**	**19 44 50.8**	**-0.1**
AKMC	**Akamas**	**3.86**	**110**	P	**Pn**	**19 44 14.8**	**+1.3**
	baz=298						
AKMC	**Akamas**	**3.86**	**110**	P	**Pn**	**19 44 14.8**	**+1.3**
PPCY	**Paphos**	**3.93**	**112**	P	**Pn**	**19 44 15.9**	**+1.5**
	baz=299						
PPCY	**Paphos**	**3.93**	**112**	P	**Pn**	**19 44 15.9**	**+1.5**
KYTH	**Kithira**	**3.94**	**269**	*e*PN	**Pn**	**19 44 16.6**	**+1.9**
KYTH	**Kithira**	**3.94**	**269**	*e*Pn	**Pn**	**19 44 16.6**	**+1.9**
KRBG	**Karabiga-Canak**	**3.97**	**353**	*e*PN	**Pn**	**19 44 16.0**	**+1.0**
KRBG	**Karabiga-Canak**	**3.97**	**353**	*e*Pn	**Pn**	**19 44 16.0**	**+1.0**
ALFC	**Alevga**	**4.02**	**107**	P	**Pn**	**19 44 16.8**	**+1.1**
	baz=295						
ALFC				S	**Sn**	**19 45 02.2**	**0.0**
ALFC	**Alevga**	**4.02**	**107**	P	**Pn**	**19 44 16.8**	**+1.1**
ALFC				S	**Sn**	**19 45 02.2**	**0.0**
VLI	**Veliai**	**4.02**	**275**	P	**Pn**	**19 44 17.5**	**+1.8**
VLI	**Veliai**	**4.02**	**275**	*e*PN	**Pn**	**19 44 17.2**	**+1.5**
VLI	**Veliai**	**4.02**	**275**	*e*Pn	**Pn**	**19 44 17.2**	**+1.5**
VLI	**Veliai**	**4.02**	**275**	P	**Pn**	**19 44 17.5**	**+1.8**
ERMK	**Ermenek**	**4.03**	**86**	*i* P	**Pn**	**19 44 19.1**	**+3.1**
ERMK	**Ermenek**	**4.03**	**86**	*i* P	**Pn**	**19 44 19.1**	**+3.1**
GADA	**Gvkgeada**	**4.06**	**338**	*e*PN	**Pn**	**19 44 17.1**	**+0.8**
GADA	**Gvkgeada**	**4.06**	**338**	*e*Pn	**Pn**	**19 44 17.1**	**+0.8**
GELI	**Tayfur-Gelibol**	**4.11**	**344**	*e*PN	**Pn**	**19 44 18.2**	**+1.3**
GELI	**Tayfur-Gelibol**	**4.11**	**344**	*e*Pn	**Pn**	**19 44 18.2**	**+1.3**
ARMT	**Armutlu**	**4.18**	**10**	*e*PN	**Pn**	**19 44 19.0**	**+1.1**
ARMT	**Armutlu**	**4.18**	**10**	*e*Pn	**Pn**	**19 44 19.0**	**+1.1**
ERIK	**Erikli-Kesan**	**4.36**	**346**	*e*PN	**Pn**	**19 44 21.6**	**+1.3**
ERIK	**Erikli-Kesan**	**4.36**	**346**	*e*Pn	**Pn**	**19 44 21.7**	**+1.3**
SZAC	**Souni-Zanaja**	**4.38**	**111**	⇑P	**Pn**	**19 44 22.2**	**+1.4**
	baz=298						
SZAC				S	**Sn**	**19 45 12.1**	**+0.8**
SZAC	**Souni-Zanaja**	**4.38**	**111**	⇑P	**Pn**	**19 44 22.2**	**+1.4**
SZAC				S	**Sn**	**19 45 12.1**	**+0.8**
MAMC	**Mammari**	**4.49**	**105**	⇓P	**Pn**	**19 44 24.9**	**+2.7**
	baz=292						
MAMC	**Mammari**	**4.49**	**105**	⇓P	**Pn**	**19 44 24.9**	**+2.7**
ENEZ	**Enez**	**4.50**	**343**	*e*PN	**Pn**	**19 44 23.6**	**+1.3**
ENEZ	**Enez**	**4.50**	**343**	*e*Pn	**Pn**	**19 44 23.6**	**+1.3**
CSS	**Prodhromos**	**4.65**	**107**	P	**Pn**	**19 44 25.6**	**+1.2**
	baz=294						
CSS	**Prodhromos**	**4.65**	**107**	P	**Pn**	**19 44 25.1**	**+0.7**
CSS	**Prodhromos**	**4.65**	**107**	P	**Pn**	**19 44 25.6**	**+1.2**
ALN	**Alexandroupoli**	**4.68**	**342**	*e*PN	**Pn**	**19 44 25.9**	**+1.1**
ALN	**Alexandroupoli**	**4.68**	**342**	*e*Pn	**Pn**	**19 44 25.9**	**+1.1**
ITM	**Ithomi**	**4.86**	**280**	*e*PN	**Pn**	**19 44 29.6**	**+2.3**
ITM	**Ithomi**	**4.86**	**280**	*e*Pn	**Pn**	**19 44 29.6**	**+2.3**
HMAT	**Matruh**	**5.38**	**188**	S	**Sn**	**19 45 31.8**	**-4.1**
	baz=188						
SLUM		**5.43**	**205**	P	**Pn**	**19 44 36.2**	**+1.1**
	baz=205						
SLUM		**5.43**	**205**	P	**Pn**	**19 44 36.2**	**+1.1**
HNAT	**Natroun**	**7.16**	**161**	P	**Pn**	**19 44 59.8**	**+0.8**
	baz=161						
HNAT	**Natroun**	**7.16**	**161**	P	**Pn**	**19 44 59.8**	**+0.8**
AMAG	**Maghara**	**7.28**	**141**	S	Sn	19 46 13.9	-8.8
	baz=142						
KOT	**Kottamia**	**7.28**	**152**	P	**Pn**	**19 45 00.8**	**+0.2**
	baz=152						
KOT				S	Sn	19 46 14.6	-8.1
	baz=152						
KOT	**Kottamia**	**7.28**	**152**	P	**Pn**	**19 45 00.8**	**+0.2**
RSH		**7.30**	**137**	P	**Pn**	**19 45 00.8**	**0.0**
	baz=137						
RSH		**7.30**	**137**	P	**Pn**	**19 45 00.8**	**0.0**
SWA2		**7.48**	**197**	P	**Pn**	**19 45 04.0**	**+0.8**
	baz=197						
SWA2				S	Sn	19 46 19.1	-8.3
	baz=197						
SWA2		**7.48**	**197**	P	**Pn**	**19 45 04.0**	**+0.8**
SUZ		**7.77**	**147**	P	**Pn**	**19 45 07.3**	**0.0**
	baz=147						
SUZ		**7.77**	**147**	P	**Pn**	**19 45 07.3**	**0.0**
TR2		**9.41**	**147**	P	**Pn**	**19 45 29.3**	**-0.5**
	baz=147						
TR2		**9.41**	**147**	P	**Pn**	**19 45 29.3**	**-0.5**
HKAT	**Jabal Katrina**	**9.42**	**145**	P	**Pn**	**19 45 29.3**	**-0.8**
	baz=146						
HKAT	**Jabal Katrina**	**9.42**	**145**	P	**Pn**	**19 45 29.3**	**-0.8**

*IDC **08** 19:50:35.4±1.0, 41.°61N×20.°04E, h0km, mb3.4/9, mb1 3.6/14, mb1mx3.5/30, mbtmp3.5/14, ML3.5/4, MS2.6/5, Ms1 2.6/5, ms1mx2.3/31, Error ellipse: s-maj=18.6km s-min=13.1km az=17.0*

*TIR **08** 19:50:36.8±8.5, 41.°98N×20.°21E, h23km±51km, ML3.9*

*PDG **08** 19:50:39.9±0.2, 41.°96N×20.°15E, h17km, MD3.7/10, ML3.7/11, Error ellipse: s-maj=0.2km s-min=0.2km az=0.0*

*ISCJB **08** 19:50:39.7±0.2, 42.°01N±0.°01×20.°17E±0.°02, h13km±1km, mb3.5/6, Error ellipse: s-maj=2.4km s-min=1.5km az=141.6*

*LDG **08** 19:50:39.0±0.1, 41.°97N×20.°17E, h2km, Ml3.6/6, Error ellipse: s-maj=2.6km s-min=1.8km az=30.0*

*BEO **08** 19:50:40.8±0.3, 41.°98N×20.°23E, h11km±2km, ML3.3/1*

*THE **08** 19:50:40.7, 42.°00N×20.°30E, h1km±4km, ML3.5/1, Error ellipse: s-maj=4.9km s-min=1.5km az=314.0*

*SKO **08** 19:50:40.2, 41.°94N×20.°16E, h10km*

*CSEM **08** 19:50:40.0±0.1, 41.°98N×20.°18E, h2km, ML3.9, Error ellipse: s-maj=2.3km s-min=1.6km az=49.0*

*VIE **08** 19:50:40.7±0.4, 42.°01N×20.°21E, h10km, mb3.3/12, Ms3.4/12, Error ellipse: s-maj=5.3km s-min=3.2km az=32.0*

*PRU **08** 19:50:41.3, 41.°97N×20.°33E, h0km*

*SZGRF **08** 19:50:44.2, 42.°07N×20.°14E, h10km, mb3.9, Northwestern Balkan Peninsula*

*SOF **08** 19:50:57.7, 42.°19N×21.°78E, h15km, MD3.0*

ISC 08 19:50:40.4±0.8**, 41.°96N**±0.°01×**20.°19E**±0.°01**, h15**km±5km**, n356,** σ1§**46**/428**, mb3.6**/6**, 59C-46D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUK	**Puka**	**0.23**	**291**	*i* PG	**Pg**	**19 50 44.8**	**-0.8**
PUK				*i* SG	**Sg**	**19 50 49.3**	**+0.1**
PUK	**Puka**	**0.23**	**291**	*i* Pg	**Pg**	**19 50 44.8**	**-0.8**
	SNR=92						
PUK				*i* Sg	**Sg**	**19 50 49.3**	**+0.1**
	SNR=92						
PHP	**Peshkopia**	**0.34**	**145**	*i* PG	**Pg**	**19 50 46.9**	**-0.4**
PHP				*i* SG	**Sg**	**19 50 53.1**	**+1.1**
PHP	**Peshkopia**	**0.34**	**145**	*i* Pg	**Pg**	**19 50 46.9**	**-0.4**
	SNR=92						
PHP				*i* Sg	**Sg**	**19 50 53.1**	**+1.1**
	SNR=92						
BCI	**Bajram Curri**	**0.41**	**348**	*i* PG	**Pg**	**19 50 48.2**	**-0.6**
BCI				*i* SG	**Sg**	**19 50 55.1**	**+0.7**
BCI	**Bajram Curri**	**0.41**	**348**	*i* Pg	**Pg**	**19 50 48.2**	**-0.6**
	SNR=91						
BCI				*i* Sg	**Sg**	**19 50 55.1**	**+0.7**
	SNR=91						
PVY	**Plav**	**0.66**	**345**	⇑*i*Pg	**Pg**	**19 50 52.4**	**-0.9**
PVY				*e*Sg	**Sb**	**19 51 02.6**	**0.0**
PVY	**Plav**	**0.66**	**345**	⇑*i*Pg	**Pg**	**19 50 52.4**	**-0.9**
PVY				*e*Sg	**Sb**	**19 51 02.6**	**0.0**
TIR	**Tirane**	**0.66**	**202**	*i* PG	**Pg**	**19 50 53.1**	**-0.2**
TIR				*i* SG	**Sb**	**19 51 03.7**	**+1.2**
TIR	**Tirane**	**0.66**	**202**	P	**Pg**	**19 50 53.5**	**+0.3**
TIR	**Tirane**	**0.66**	**202**	⇑*i*Pg	**Pg**	**19 50 53.1**	**-0.2**
TIR				*e*Sg	**Sb**	**19 51 04.3**	**+1.8**
TIR	**Tirane**	**0.66**	**202**	*i* Pg	**Pg**	**19 50 53.1**	**-0.2**
	SNR=90						
TIR	**Tirane**	**0.66**	**202**	P	**Pg**	**19 50 53.5**	**+0.3**
TIR				*i* Sg	**Sb**	**19 51 03.7**	**+1.2**
	SNR=90						
PEJK	**Peje**	**0.69**	**6**	P	**Pg**	**19 50 53.1**	**-0.7**
PEJK				S	**Sb**	**19 51 03.6**	**+0.3**
ULC	**Ulcinj**	**0.70**	**271**	P	**Pg**	**19 50 52.8**	**-1.3**
ULC				*e*Sg	**Sg**	**19 51 03.6**	**+0.2**
ULC	**Ulcinj**	**0.70**	**271**	⇑*i*Pg	**Pg**	**19 50 52.6**	**-1.5**
ULC				*e*Sg	**Sg**	**19 51 03.6**	**+0.2**
DRME	**Dracevica, Mon**	**0.78**	**287**	⇑*i*Pg	**Pg**	**19 50 54.1**	**-1.4**
DRME				*e*Sg	**Sb**	**19 51 06.3**	**+0.3**
DRME	**Dracevica, Mon**	**0.78**	**287**	⇑*i*Pg	**Pg**	**19 50 54.1**	**-1.4**
DRME				*e*Sg	**Sb**	**19 51 06.3**	**+0.3**
PDG	**Podgorica**	**0.84**	**304**	⇑*i*Pg	**Pb**	**19 50 54.7**	**-1.9**
PDG				*e*Sg	**Sg**	**19 51 08.2**	**+0.6**
PDG	**Podgorica**	**0.84**	**304**	⇑*i*Pg	**Pb**	**19 50 54.7**	**-1.9**
PDG				*e*Sg	**Sg**	**19 51 08.2**	**+0.6**
TTG	**Podgorica**	**0.84**	**304**	⇑*i*Pg	**Pb**	**19 50 54.6**	**-2.0**
TTG				*e*Sg	**Sg**	**19 51 08.3**	**+0.6**
SKO	**Skopje**	**0.93**	**89**	P	**Pb**	**19 50 57.3**	**-0.9**
SKO				S	**Sb**	**19 51 10.7**	**+0.3**
SKO	**Skopje**	**0.93**	**89**	*e*Pg	**Pb**	**19 50 57.7**	**-0.5**
SKO				*e*Sg	**Sg**	**19 51 11.2**	**+0.5**
SKO	**Skopje**	**0.93**	**89**	⇓*i*Pg	**Pb**	**19 50 57.6**	**-0.6**
SKO				*e*Sg	**Sb**	**19 51 10.2**	**-0.2**
SKO	**Skopje**	**0.93**	**89**	P	**Pb**	**19 50 57.3**	**-0.9**
SKO	**Skopje**	**0.93**	**89**	*e*Pg	**Pb**	**19 50 57.7**	**-0.5**
SKO				*e*Sg	**Sb**	**19 51 10.2**	**-0.2**
BEY	**Berane**	**0.94**	**347**	P	**Pb**	**19 50 57.5**	**-0.9**
BEY				*e*Sg	**Sn**	**19 51 11.9**	**-0.3**
IVA	**Berane**	**0.94**	**347**	⇓*i*Pg	**Pb**	**19 50 57.4**	**-0.9**
IVA				*e*Sg	**Sn**	**19 51 11.9**	**-0.3**
OHR	**Ohrid**	**0.96**	**151**	*i* Pg	**Pb**	**19 50 57.0**	**-1.8**
OHR				*e*Sg	**Sb**	**19 51 11.1**	**-0.3**
OHR	**Ohrid**	**0.96**	**151**	*i* Pg	**Pb**	**19 50 57.0**	**-1.8**
OHR				*e*Sg	**Sb**	**19 51 11.0**	**-0.3**
BUM	**Brajici-Budva**	**1.02**	**290**	⇑*i*Pg	**Pb**	**19 50 58.5**	**-1.2**
BUM				*e*Sg	**Sg**	**19 51 14.0**	**+0.5**
BUM	**Brajici-Budva**	**1.02**	**290**	⇑*i*Pg	**Pb**	**19 50 58.5**	**-1.2**
BUM				*e*Sg	**Sg**	**19 51 14.0**	**+0.5**
GJIK	**Gjilan**	**1.05**	**61**	P	**Pb**	**19 51 00.1**	**-0.2**
GJIK				S	**Sg**	**19 51 15.0**	**+0.5**
SMRK	**Smrekonice**	**1.07**	**31**	P	**Pg**	**19 51 01.4**	**+0.4**
NKME	**Niksic**	**1.22**	**312**	⇓*i*Pg	**Pn**	**19 51 01.6**	**-1.3**
NKME				*e*Sg	**Sg**	**19 51 20.9**	**+1.1**
NKME	**Niksic**	**1.22**	**312**	⇓*i*Pg	**Pn**	**19 51 01.6**	**-1.3**
NKME				*e*Sg	**Sg**	**19 51 20.9**	**+1.1**
NKY	**Niksic**	**1.23**	**314**	⇓*i*Pg	**Pn**	**19 51 02.0**	**-1.1**
NKY				*e*Sg	**Sg**	**19 51 21.6**	**+1.5**
NKY	**Niksic**	**1.23**	**314**	⇓*i*Pg	**Pn**	**19 51 02.0**	**-1.1**
NKY				*e*Sg	**Sg**	**19 51 21.6**	**+1.5**
SJES	**Sjenica**	**1.31**	**353**	⇓*i*Pg	**Pn**	**19 51 04.2**	**0.0**
SJES				*e*Sg	**Sg**	**19 51 23.3**	**+0.6**
SJES	**Sjenica**	**1.31**	**353**	⇓*i*Pg	**Pn**	**19 51 04.2**	**0.0**
SJES				*e*Sg	**Sg**	**19 51 23.3**	**+0.6**
HCY	**Herceg Novi**	**1.35**	**292**	⇓*i*Pg	**Pn**	**19 51 04.0**	**-0.6**
HCY				*e*Sg	**Sg**	**19 51 24.5**	**+0.6**
HCY	**Herceg Novi**	**1.35**	**292**	⇓*i*Pg	**Pn**	**19 51 04.0**	**-0.6**
HCY				*e*Sg	**Sg**	**19 51 24.5**	**+0.6**
KBN	**Korca**	**1.41**	**161**	*i* PG	**Pb**	**19 51 07.3**	**+0.9**
KBN	**Korca**	**1.41**	**161**	*i* Pg	**Pb**	**19 51 07.3**	**+0.9**
	SNR=90						
SELS	**Selova**	**1.43**	**28**	⇑*i*Pg	**Pn**	**19 51 05.9**	**+0.1**
BARS	**Barje**	**1.48**	**54**	⇓*i*Pg	**Pn**	**19 51 06.9**	**+0.5**
BARS				*e*Sg	**Sb**	**19 51 26.2**	**+0.1**
BARS	**Barje**	**1.48**	**54**	⇓*i*Pg	**Pn**	**19 51 06.9**	**+0.5**
BARS				*e*Sg	**Sb**	**19 51 26.2**	**+0.1**
PLE	**Pljevlja**	**1.49**	**337**	⇑*i*Pg	**Pn**	**19 51 06.8**	**+0.1**
PLE				*e*Sg	**Sg**	**19 51 28.1**	**-0.3**
PLE	**Pljevlja**	**1.49**	**337**	⇑*i*Pg	**Pn**	**19 51 06.8**	**+0.1**
PLE				*e*Sg	**Sg**	**19 51 28.1**	**-0.3**
BRY	**Bratogost**	**1.54**	**308**	⇓*i*Pg	**Pn**	**19 51 07.0**	**-0.4**
BRY				*e*Sg	**Sb**	**19 51 29.0**	**+1.0**
BRY	**Bratogost**	**1.54**	**308**	⇓*i*Pg	**Pn**	**19 51 07.0**	**-0.4**
BRY				*e*Sg	**Sb**	**19 51 29.0**	**+1.0**
UPM	**Unac-Piva**	**1.56**	**323**	*e*Pg	**Pn**	**19 51 07.9**	**+0.2**
UPM	**Unac-Piva**	**1.56**	**323**	P	**Pn**	**19 51 08.4**	**+0.7**
UPM				*e*Sg	**Sb**	**19 51 30.1**	**+1.4**
UPM	**Unac-Piva**	**1.56**	**323**	*e*Pg	**Pn**	**19 51 07.9**	**+0.2**
UPM				*e*Sg	**Sb**	**19 51 30.1**	**+1.4**
IVAS	**Ivanjica**	**1.61**	**359**	*i* Pn	**Pn**	**19 51 09.0**	**+0.6**
IVAS				*e*Sg	**Sb**	**19 51 30.8**	**+0.7**
IVAS	**Ivanjica**	**1.61**	**359**	*i* Pn	**Pn**	**19 51 09.0**	**+0.6**
IVAS				*e*Sg	**Sb**	**19 51 30.8**	**+0.7**
NEST	**Nestorio**	**1.68**	**157**	P	**Pn**	**19 51 10.6**	**+1.4**
NEST				S	**Sg**	**19 51 34.0**	**-0.3**
NEST	**Nestorio**	**1.68**	**157**	*e*P	**Pb**	**19 51 12.0**	**+1.1**
NEST	**Nestorio**	**1.68**	**157**	P	**Pn**	**19 51 10.6**	**+1.4**
NEST				S	**Sg**	**19 51 34.0**	**-0.3**
VAY	**Valandovo**	**1.90**	**109**	P	**Pn**	**19 51 13.1**	**+1.0**
VAY				S	**Sn**	**19 51 36.1**	**+0.4**
VAY	**Valandovo**	**1.90**	**109**	*e*Pn	**Pn**	**19 51 13.4**	**+1.3**
VAY	**Valandovo**	**1.90**	**109**	*e*Pg	**Pn**	**19 51 13.3**	**+1.2**
VAY				*e*Sn	**Sn**	**19 51 37.1**	**+1.4**
VAY	**Valandovo**	**1.90**	**109**	P	**Pn**	**19 51 13.1**	**+1.0**
VAY	**Valandovo**	**1.90**	**109**	*e*Pn	**Pn**	**19 51 13.4**	**+1.3**
VAY				S	**Sn**	**19 51 36.1**	**+0.4**
VAY				*e*Sn	**Sn**	**19 51 37.1**	**+1.4**
GRG	**Griva**	**1.94**	**120**	P	**Pn**	**19 51 14.1**	**+1.2**
GRG	**Griva**	**1.94**	**120**	*e*P	**Pn**	**19 51 14.0**	**+1.2**
GRG	**Griva**	**1.94**	**120**	P	**Pn**	**19 51 14.1**	**+1.2**
GRUS	**Gruza**	**1.96**	**11**	*e*Pn	**Pn**	**19 51 14.0**	**+0.9**
GRUS	**Gruza**	**1.96**	**11**	*e*Pn	**Pn**	**19 51 14.0**	**+0.9**
BBLS	**Lazići**	**1.99**	**343**	⇑*i*Pn	**Pn**	**19 51 14.4**	**+0.9**
BBLS	**Lazići**	**1.99**	**343**	⇑*i*Pn	**Pn**	**19 51 14.4**	**+0.9**
KZN	**Kozani**	**2.04**	**144**	P	**Pn**	**19 51 15.3**	**+1.1**
KZN	**Kozani**	**2.04**	**144**	*e*P	**Pn**	**19 51 15.5**	**+1.3**
KZN	**Kozani**	**2.04**	**144**	P	**Pn**	**19 51 15.3**	**+1.1**
STON	**Ston**	**2.05**	**297**	*i* Pn	**Pn**	**19 51 15.2**	**+1.0**
STON				Sn	**Sb**	**19 51 43.3**	**+0.6**
STON	**Ston**	**2.05**	**297**	⇑*i*Pn	**Pn**	**19 51 15.3**	**+1.0**
STON				*e*Sg	**Sg**	**19 51 48.0**	**+1.6**
STON	**Ston**	**2.05**	**297**	⇑*i*Pn	**Pn**	**19 51 15.3**	**+1.0**
STON				Sn	**Sb**	**19 51 43.2**	**+0.6**
STON				*e*Sg	**Sg**	**19 51 48.0**	**+1.6**
SRN	**Sarande**	**2.08**	**184**	*i* PN	**Pb**	**19 51 16.8**	**-1.0**
SRN	**Sarande**	**2.08**	**184**	*i* Pn	**Pb**	**19 51 16.8**	**-1.0**
	SNR=40						
DIVS	**Divibare**	**2.14**	**356**	P	**Pn**	**19 51 15.8**	**+0.2**
DIVS	**Divibare**	**2.14**	**356**	⇑*i*Pn	**Pn**	**19 51 15.8**	**+0.2**
DIVS	**Divibare**	**2.14**	**356**	⇑*i*P	**Pn**	**19 51 15.9**	**+0.3**
DIVS	**Divibare**	**2.14**	**356**	P	**Pn**	**19 51 15.8**	**+0.2**
KKB	**Krupnik**	**2.16**	**92**	*i* Pg	**Pb**	**19 51 18.3**	**-0.9**
KKB	**Krupnik**	**2.16**	**92**	*i* Pg	**Pb**	**19 51 18.3**	**-0.9**
KNT	**Kendrikon**	**2.19**	**111**	P	**Pn**	**19 51 16.9**	**+0.8**
KNT	**Kendrikon**	**2.19**	**111**	*e*P	**Pn**	**19 51 17.0**	**+0.8**
KNT	**Kendrikon**	**2.19**	**111**	P	**Pn**	**19 51 16.9**	**+0.8**
KEK	**Kerkira**	**2.27**	**188**	P	**Pn**	**19 51 18.3**	**+1.1**
KEK	**Kerkira**	**2.27**	**188**	*e*P	**Pn**	**19 51 18.5**	**+1.3**
KEK	**Kerkira**	**2.27**	**188**	P	**Pn**	**19 51 18.3**	**+1.1**
TRUS	**Trudelj**	**2.27**	**4**	*e*Pn	**Pn**	**19 51 17.0**	**-0.3**
TRUS	**Trudelj**	**2.27**	**4**	*e*Pn	**Pn**	**19 51 17.0**	**-0.3**
BOLS	**Boljevac**	**2.27**	**34**	*e*Pn	**Pn**	**19 51 19.2**	**+1.9**
BOLS	**Boljevac**	**2.27**	**34**	*e*Pn	**Pn**	**19 51 19.2**	**+1.9**
VTS	**Vitosha**	**2.33**	**73**	P	**Pn**	**19 51 19.4**	**+1.2**
VTS	**Vitosha**	**2.33**	**73**	⇑*i*P	**Pn**	**19 51 19.5**	**+1.2**
VTS	**Vitosha**	**2.33**	**73**	*i* Pg	**Pn**	**19 51 20.3**	**+2.1**
VTS	**Vitosha**	**2.33**	**73**	P	**Pn**	**19 51 19.4**	**+1.2**
VTS	**Vitosha**	**2.33**	**73**	*i* Pg	**Pn**	**19 51 20.3**	**+2.1**
SGD	**Sagiada**	**2.35**	**179**	P	**Pn**	**19 51 20.5**	**+2.2**
SGD	**Sagiada**	**2.35**	**179**	*e*P	**Pn**	**19 51 20.5**	**+2.2**
SGD	**Sagiada**	**2.35**	**179**	P	**Pn**	**19 51 20.5**	**+2.2**
JAN	**Janina**	**2.36**	**167**	P	**Pb**	**19 51 22.0**	**-0.5**
JAN	**Janina**	**2.36**	**167**	*e*P	**Pb**	**19 51 22.5**	**0.0**
JAN	**Janina**	**2.36**	**167**	P	**Pb**	**19 51 22.0**	**-0.5**
IGT	**Igoumenitsa**	**2.43**	**177**	P	**Pn**	**19 51 21.4**	**+2.0**
IGT	**Igoumenitsa**	**2.43**	**177**	*e*P	**Pn**	**19 51 21.5**	**+2.0**
IGT	**Igoumenitsa**	**2.43**	**177**	P	**Pn**	**19 51 21.4**	**+2.0**
THE	**Thessaloniki**	**2.48**	**121**	P	**Pn**	**19 51 21.1**	**+1.0**
THE	**Thessaloniki**	**2.48**	**121**	*e*P	**Pb**	**19 51 23.0**	**-1.5**
THE	**Thessaloniki**	**2.48**	**121**	P	**Pn**	**19 51 21.1**	**+1.0**
HORT	**Hortiatis**	**2.58**	**121**	P	**Pn**	**19 51 22.5**	**+0.8**
HORT	**Hortiatis**	**2.58**	**121**	*e*P	**Pn**	**19 51 22.5**	**+0.8**
HORT	**Hortiatis**	**2.58**	**121**	P	**Pn**	**19 51 22.5**	**+0.8**
BAI	**Bari**	**2.63**	**252**	*e*Pn	**Pn**	**19 51 22.2**	**+0.1**
TEKS	**Tekeris**	**2.63**	**350**	⇓*i*Pn	**Pn**	**19 51 22.8**	**+0.5**
TEKS	**Tekeris**	**2.63**	**350**	⇓*i*Pn	**Pn**	**19 51 22.8**	**+0.5**
SOH	**Sokhos**	**2.64**	**114**	P	**Pn**	**19 51 23.3**	**+0.9**
SOH	**Sokhos**	**2.64**	**114**	*e*P	**Pb**	**19 51 25.5**	**-1.8**
SOH	**Sokhos**	**2.64**	**114**	P	**Pn**	**19 51 23.3**	**+0.9**
MMB	**Musomiste**	**2.67**	**97**	⇑*i*P	**Pn**	**19 51 25.5**	**+2.6**
MMB	**Musomiste**	**2.67**	**97**	*i* P	**Pn**	**19 51 25.5**	**+2.6**
MMB				*i* Pg	**Pg**	**19 51 31.1**	**-0.5**
MMB	**Musomiste**	**2.67**	**97**	⇑*i*P	**Pn**	**19 51 25.5**	**+2.6**
SRS	**Serrai**	**2.69**	**107**	P	**Pn**	**19 51 23.9**	**+0.8**
SRS	**Serrai**	**2.69**	**107**	*e*P	**Pn**	**19 51 24.0**	**+0.8**
SRS	**Serrai**	**2.69**	**107**	P	**Pn**	**19 51 23.9**	**+0.8**
THL	**Klokotos Trika**	**2.77**	**149**	P	**Pn**	**19 51 25.6**	**+1.5**
THL	**Klokotos Trika**	**2.77**	**149**	P	**Pn**	**19 51 25.6**	**+1.5**
NVR	**Nevrokopi**	**2.82**	**101**	P	**Pn**	**19 51 26.0**	**+1.1**
NVR	**Nevrokopi**	**2.82**	**101**	P	**Pn**	**19 51 26.0**	**+1.1**
SG1	**Sgolgore (BA)**	**2.87**	**248**	*e*Pn	**Pn**	**19 51 27.1**	**+1.6**
DSL	**Palaion Diasel**	**2.91**	**166**	P	**Pn**	**19 51 28.9**	**+2.8**
DSL	**Palaion Diasel**	**2.91**	**166**	*e*P	**Pn**	**19 51 29.0**	**+2.8**
DSL	**Palaion Diasel**	**2.91**	**166**	P	**Pn**	**19 51 28.9**	**+2.8**
PLG	**Polygyros**	**2.93**	**122**	P	**Pn**	**19 51 27.8**	**+1.5**
PLG	**Polygyros**	**2.93**	**122**	P	**Pn**	**19 51 27.8**	**+1.5**
MPEP	**Malo Peshtene**	**2.97**	**61**	*i* Pg	**Pg**	**19 51 35.6**	**-1.6**
CDT	**Castel del Mon**	**3.07**	**255**	*e*Pn	**Pn**	**19 51 28.2**	**-0.1**
MS1	**Monte Sant'Ang**	**3.18**	**267**	*e*Pn	**Pn**	**19 51 29.8**	**-0.1**
LKD2	**Lefkada island**	**3.19**	**173**	P	**Pn**	**19 51 31.2**	**+1.3**
LKD2	**Lefkada island**	**3.19**	**173**	*e*P	**Pn**	**19 51 31.5**	**+1.6**
LKD2	**Lefkada island**	**3.19**	**173**	P	**Pn**	**19 51 31.2**	**+1.3**
FGSL	**Fruska Gora**	**3.21**	**355**	*e*Pn	**Pn**	**19 51 30.5**	**+0.3**
FRGS	**Fruska Gora**	**3.21**	**355**	*e*Pn	**Pn**	**19 51 30.5**	**+0.3**
EVR	**Evrytania**	**3.28**	**157**	*e*P	Pb	19 51 35.5	-2.8
OUR	**Ouranopolis**	**3.29**	**118**	P	**Pn**	**19 51 32.4**	**+1.1**
OUR	**Ouranopolis**	**3.29**	**118**	*e*P	**Pn**	**19 51 32.5**	**+1.1**
OUR	**Ouranopolis**	**3.29**	**118**	P	**Pn**	**19 51 32.4**	**+1.1**
MAKR	**Makrakomi, Fth**	**3.30**	**153**	P	**Pn**	**19 51 33.8**	**+2.4**
MAKR	**Makrakomi, Fth**	**3.30**	**153**	*e*P	Pn	19 51 34.5	+3.1
MAKR	**Makrakomi, Fth**	**3.30**	**153**	P	**Pn**	**19 51 33.8**	**+2.4**
PAIG	**Paliouri**	**3.33**	**126**	P	**Pn**	**19 51 32.7**	**+0.8**
PAIG	**Paliouri**	**3.33**	**126**	*e*P	**Pn**	**19 51 33.0**	**+1.1**
PAIG	**Paliouri**	**3.33**	**126**	P	**Pn**	**19 51 32.7**	**+0.8**
AGG	**Agios Georgios**	**3.36**	**150**	P	**Pn**	**19 51 34.0**	**+1.7**
AGG	**Agios Georgios**	**3.36**	**150**	*e*P	**Pn**	**19 51 34.0**	**+1.7**
AGG	**Agios Georgios**	**3.36**	**150**	P	**Pn**	**19 51 34.0**	**+1.7**
KAVA	**Kavala**	**3.39**	**105**	P	**Pn**	**19 51 33.8**	**+1.1**
KAVA	**Kavala**	**3.39**	**105**	*e*P	**Pn**	**19 51 34.0**	**+1.3**
KAVA	**Kavala**	**3.39**	**105**	P	**Pn**	**19 51 33.8**	**+1.1**
PDO	**Prodromos**	**3.44**	**167**	*e*P	**Pn**	**19 51 35.5**	**+2.1**
XOR	**Xorichti**	**3.46**	**138**	P	**Pn**	**19 51 34.2**	**+0.6**
XOR	**Xorichti**	**3.46**	**138**	*e*P	**Pn**	**19 51 34.5**	**+0.9**
XOR	**Xorichti**	**3.46**	**138**	P	**Pn**	**19 51 34.2**	**+0.6**
BANR	**Banloc**	**3.49**	**11**	⇑*i*P	**Pn**	**19 51 31.5**	**-2.5**
BANR	**Banloc**	**3.49**	**11**	⇑*i*P	**Pn**	**19 51 31.5**	**-2.5**
NEO	**Neokhori**	**3.52**	**138**	P	**Pn**	**19 51 35.2**	**+0.7**
NEO	**Neokhori**	**3.52**	**138**	P	**Pn**	**19 51 35.2**	**+0.7**
AXAR	**Agios Charalam**	**3.71**	**149**	*e*P	Pn	19 51 41.5	+4.4
EFP	**Efpalio**	**3.77**	**159**	P	Pn	19 51 41.5	+3.6
EFP	**Efpalio**	**3.77**	**159**	*e*P	Pn	19 51 42.0	+4.1
EFP	**Efpalio**	**3.77**	**159**	P	Pn	19 51 41.5	+3.6
VLS	**Valsamata**	**3.79**	**175**	P	**Pn**	**19 51 38.5**	**+0.3**
VLS	**Valsamata**	**3.79**	**175**	*e*P	**Pn**	**19 51 38.5**	**+0.3**
VLS	**Valsamata**	**3.79**	**175**	P	**Pn**	**19 51 38.5**	**+0.3**
BZS	**Buzias**	**3.80**	**15**	⇑*i*P	**Pn**	**19 51 38.7**	**+0.4**
BZS	**Buzias**	**3.80**	**15**	⇑*i*P	**Pn**	**19 51 38.7**	**+0.4**
TIP	**Timpagrande**	**3.81**	**224**	P	**Pn**	**19 51 38.2**	**-0.4**
TIP	**Timpagrande**	**3.81**	**224**	P	**Pn**	**19 51 38.2**	**-0.4**
SMIA	**Simia**	**3.85**	**142**	*e*P	**Pn**	**19 51 40.0**	**+1.0**
KALE	**Kalithea**	**3.87**	**157**	*e*P	Pn	19 51 43.0	+3.7
GZR	**Gura Zlata**	**3.91**	**28**	⇓*i*P	**Pn**	**19 51 41.9**	**+2.0**
GZR	**Gura Zlata**	**3.91**	**28**	⇓*i*P	**Pn**	**19 51 41.9**	**+2.0**
KDZ	**Kurdzhali**	**3.92**	**93**	⇑*i*P	**Pn**	**19 51 40.7**	**+0.7**
KDZ	**Kurdzhali**	**3.92**	**93**	⇑*i*P	**Pn**	**19 51 40.7**	**+0.7**
AOS	**Alonnisos**	**3.96**	**134**	P	**Pn**	**19 51 40.8**	**+0.3**
AOS	**Alonnisos**	**3.96**	**134**	*e*P	**Pn**	**19 51 41.0**	**+0.5**
AOS	**Alonnisos**	**3.96**	**134**	P	**Pn**	**19 51 40.8**	**+0.3**
DSF	**Desfina**	**3.97**	**152**	*e*P	**Pn**	**19 51 43.0**	**+2.3**
RDO	**Rodhopi**	**4.10**	**100**	P	**Pn**	**19 51 43.5**	**+1.1**
RDO	**Rodhopi**	**4.10**	**100**	P	**Pn**	**19 51 43.5**	**+1.1**
UDBI	**Udbina**	**4.13**	**310**	*e*Pn	**Pn**	**19 51 44.0**	**+1.2**
UDBI				Sn	**Sn**	**19 52 35.6**	**+4.8**
UDBI	**Udbina**	**4.13**	**310**	*e*Pn	**Pn**	**19 51 44.0**	**+1.2**
UDBI				Sn	**Sn**	**19 52 35.6**	**+4.8**
MRKA	**Markates**	**4.16**	**140**	*e*P	**Pn**	**19 51 44.5**	**+1.2**
DRO	**Drossia**	**4.17**	**163**	P	**Pn**	**19 51 45.8**	**+2.4**
DRO	**Drossia**	**4.17**	**163**	*e*P	**Pn**	**19 51 46.0**	**+2.6**
DRO	**Drossia**	**4.17**	**163**	P	**Pn**	**19 51 45.8**	**+2.4**
ZKS	**Zakynthos**	**4.28**	**174**	*e*P	Pn	19 51 39.5	-5.5
SMTH	**Samothraki Isl**	**4.30**	**108**	*e*P	**Pn**	**19 51 46.0**	**+0.9**
LIA	**Limnos Island**	**4.31**	**117**	P	**Pn**	**19 51 46.2**	**+0.9**
LIA	**Limnos Island**	**4.31**	**117**	*e*P	**Pn**	**19 51 46.0**	**+0.7**
LIA	**Limnos Island**	**4.31**	**117**	P	**Pn**	**19 51 46.2**	**+0.9**
GUR	**Goura**	**4.35**	**157**	P	**Pn**	**19 51 48.5**	**+2.6**
GUR	**Goura**	**4.35**	**157**	*e*P	Pn	19 51 49.0	+3.1
GUR	**Goura**	**4.35**	**157**	P	**Pn**	**19 51 48.5**	**+2.6**
LOT	**Lotru**	**4.35**	**35**	⇑*i*P	**Pn**	**19 51 47.0**	**+1.1**
LOT	**Lotru**	**4.35**	**35**	⇑*i*P	**Pn**	**19 51 47.0**	**+1.1**
PKSM	**Moragy**	**4.39**	**346**	⇑*i*P	**Pn**	**19 51 46.5**	**+0.1**
PKSM	**Moragy**	**4.39**	**346**	⇓*e*P	**Pn**	**19 51 46.7**	**+0.3**
PKSM				*e*S	**Sn**	**19 52 37.7**	**+0.4**
PKSM	**Moragy**	**4.39**	**346**	⇓*e*	**Pn**	**19 51 46.7**	**+0.3**
PKSM				*e*		19 52 37.7	
VIL2	**Platees**	**4.43**	**147**	*e*P	Pn	19 51 51.0	+4.0
SIRR	**Siria**	**4.43**	**13**	⇓*i*P	**Pn**	**19 51 47.6**	**+0.6**
SIRR	**Siria**	**4.43**	**13**	⇓*i*P	**Pn**	**19 51 47.6**	**+0.6**
SZH	**Strazhica**	**4.44**	**71**	P	**Pn**	**19 51 48.9**	**+1.8**
SZH	**Strazhica**	**4.44**	**71**	P	**Pn**	**19 51 48.9**	**+1.8**
LTK	**Loutraki**	**4.47**	**151**	*e*P	**Pn**	**19 51 50.0**	**+2.4**
ALN	**Alexandroupoli**	**4.53**	**102**	P	**Pn**	**19 51 49.5**	**+1.2**
ALN	**Alexandroupoli**	**4.53**	**102**	*e*P	**Pn**	**19 51 49.5**	**+1.2**
ALN	**Alexandroupoli**	**4.53**	**102**	P	**Pn**	**19 51 49.5**	**+1.2**
AMT	**Artemida-Makis**	**4.58**	**165**	P	**Pn**	**19 51 51.8**	**+2.8**
AMT	**Artemida-Makis**	**4.58**	**165**	*e*P	**Pn**	**19 51 51.5**	**+2.5**
AMT	**Artemida-Makis**	**4.58**	**165**	P	**Pn**	**19 51 51.8**	**+2.8**
PKS2	**Kecel**	**4.58**	**352**	⇓*e*P	**Pn**	**19 51 49.6**	**+0.5**
PKS2	**Kecel**	**4.58**	**352**	⇓*e*	**Pn**	**19 51 49.6**	**+0.5**
PKS2				*e*		19 52 44.8	
PKS6	**Bocsa**	**4.66**	**355**	⇓*e*P	Pn	19 51 46.9	-3.2
PKS6	**Bocsa**	**4.66**	**355**	⇓*e*	Pn	19 51 46.9	-3.2
PKS6				*e*		19 52 38.6	
NVLJ	**Novalja**	**4.67**	**306**	*e*Pn	**Pn**	**19 51 51.0**	**+0.7**
NVLJ				Sn	**Sn**	**19 52 45.9**	**+1.7**
NVLJ	**Novalja**	**4.67**	**306**	*e*Pn	**Pn**	**19 51 51.0**	**+0.7**
NVLJ				Sn	**Sn**	**19 52 45.9**	**+1.7**
JMB	**Yambol**	**4.78**	**82**	⇑*i*P	**Pn**	**19 51 52.0**	**+0.3**
JMB	**Yambol**	**4.78**	**82**	⇑*i*P	**Pn**	**19 51 52.0**	**+0.3**
PTL	**Penteli**	**4.82**	**143**	*e*P	**Pn**	**19 51 54.0**	**+1.6**
PKS9	**Tamasi**	**4.82**	**344**	⇑*e*P	**Pn**	**19 51 53.0**	**+0.6**
PKS9				*e*S	**Sn**	**19 52 49.8**	**+1.9**
PKS9	**Tamasi**	**4.82**	**344**	⇑*e*	**Pn**	**19 51 53.0**	**+0.6**
PKS9				*e*		19 52 49.8	
VLX	**Vlachokerasia**	**4.89**	**159**	*e*P	**Pn**	**19 51 56.0**	**+2.6**
EDRB	**Edirne**	**4.89**	**89**	P	**Pn**	**19 51 54.8**	**+1.5**
EDRB	**Edirne**	**4.89**	**89**	P	**Pn**	**19 51 54.8**	**+1.5**
VOIR		**4.95**	**44**	⇓*i*P	**Pn**	**19 51 56.0**	**+1.8**
VOIR		**4.95**	**44**	⇓*i*P	**Pn**	**19 51 56.0**	**+1.8**
ITM	**Ithomi**	**4.96**	**164**	*e*P	**Pn**	**19 51 55.5**	**+1.2**
DID	**Didima**	**5.03**	**151**	P	**Pn**	**19 51 57.6**	**+2.3**
DID	**Didima**	**5.03**	**151**	*e*P	**Pn**	**19 51 58.0**	**+2.7**
DID	**Didima**	**5.03**	**151**	P	**Pn**	**19 51 57.6**	**+2.3**
SIGR	**SIGRI**	**5.12**	**121**	*e*P	**Pn**	**19 51 58.0**	**+1.6**
BEHE	**Becsehely**	**5.13**	**333**	*e*P	**Pn**	**19 51 58.0**	**+1.4**
BEHE				*e*S	**Sn**	**19 52 57.4**	**+1.9**
BEHE	**Becsehely**	**5.13**	**333**	*e*	**Pn**	**19 51 58.0**	**+1.4**
BEHE				*e*		19 52 57.4	
PKS7	**Kunszentmiklos**	**5.14**	**352**	*e*S	**Sn**	**19 52 56.0**	**+0.3**
PKS7	**Kunszentmiklos**	**5.14**	**352**	*e*	**Sn**	**19 52 56.0**	**+0.3**
PYL	**PYLOS**	**5.20**	**166**	*e*P	**Pn**	**19 51 59.0**	**+1.4**
MLR	**Muntele Rosu**	**5.46**	**48**	Pn	**Pn**	**19 52 04.0**	**+2.7**
	baz=204,slow=10.0						
MLR				Sn	**Sn**	**19 53 05.4**	**+1.5**
	0.1nm,0.3s,baz=184,slow=19,SNR=3.1						
MLR				Lg	Lg	19 53 38.8	
	0.0nm,0.3s,baz=298,slow=21,SNR=3.2						
MLR	**Muntele Rosu**	**5.46**	**48**	⇑*i*P	**Pn**	**19 52 04.1**	**+2.8**
MLR	**Muntele Rosu**	**5.46**	**48**	⇑*i*P	**Pn**	**19 52 04.1**	**+2.8**
PKST	**Tˆ's**	**5.52**	**345**	*e*P	**Pn**	**19 52 03.3**	**+1.4**
PKST				*e*S	**Sn**	**19 53 07.0**	**+2.0**
PKST	**Tˆ's**	**5.52**	**345**	*e*	**Pn**	**19 52 03.3**	**+1.4**
PKST				*e*		19 53 07.0	
CSKK	**Csˆ‡kako**	**5.57**	**346**	*e*P	Pn	19 52 05.9	+3.2
CSKK				*e*S	**Sn**	**19 53 09.3**	**+2.9**
CSKK	**Csˆ‡kako**	**5.57**	**346**	*e*	Pn	19 52 05.9	+3.2
CSKK				*e*		19 53 09.3	
PKSG		**5.58**	**347**	*e*P	**Pn**	**19 52 03.5**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PKSG				eS	Sn	19 53 07.3	+0.8
PKSG		5.58	347	e	Pn	19 52 03.5	+0.8
PKSG				e		19 53 07.3	
ISR	Istrita	5.59	54	⇓iP	Pn	19 52 05.6	+2.6
ISR	Istrita	5.59	54	⇓iP	Pn	19 52 05.6	+2.6
VLI	Veliai	5.65	157	eP	Pn	19 52 05.0	+1.2
CHOS	Chios island	5.74	127	eP	Pn	19 52 09.0	+4.0
PSZ	Piszkesteto	5.96	358	⇑iP	Pn	19 52 08.6	+0.5
PSZ	Piszkesteto	5.96	358	⇑eP	Pn	19 52 08.4	+0.3
PSZ				eS	Sn	19 53 16.2	+0.1
PSZ	Piszkesteto	5.96	358	⇑e	Pn	19 52 08.4	+0.3
PSZ				e		19 53 16.2	
SOKA	Soboth	5.99	324	⇑iPn	Pn	19 52 10.1	+1.6
	SNR=14						
SOKA				⇓iSn	Sn	19 53 17.7	+0.8
SOKA	Soboth	5.99	324	Pn	Pn	19 52 10.1	+1.6
	SNR=14						
SOKA				Sn	Sn	19 53 17.7	+0.8
PLOR	Plostina	6.08	48	⇓iP	Pn	19 52 11.9	+2.3
PLOR	Plostina	6.08	48	⇓iP	Pn	19 52 11.9	+2.3
OBKA	Obir	6.09	320	⇓iPn	Pn	19 52 10.9	+1.1
OBKA	Obir	6.09	320	Pn	Pn	19 52 10.9	+1.1
KYTH	Kithira	6.09	158	P	Pn	19 52 12.5	+2.7
KYTH	Kithira	6.09	158	P	Pn	19 52 12.5	+2.7
PSN	Preselentsi	6.13	71	⇑iP	Pn	19 52 11.6	+1.3
PSN	Preselentsi	6.13	71	⇑iP	Pn	19 52 11.6	+1.3
VRI	Vrincioaia	6.13	48	⇑iP	Pn	19 52 12.1	+1.8
VRI	Vrincioaia	6.13	48	⇑iP	Pn	19 52 12.1	+1.8
MHLO	Agia Marina, M	6.19	147	eP	Pn	19 52 08.5	-2.7
TLB	Topalu	6.30	63	⇓iP	Pn	19 52 14.1	+1.4
TLB	Topalu	6.30	63	⇓iP	Pn	19 52 14.1	+1.4
TIRR	Tirgusor	6.51	65	⇓iP	Pn	19 52 16.8	+1.3
TIRR	Tirgusor	6.51	65	⇓iP	Pn	19 52 16.8	+1.3
CFR	Carcaliu	6.61	58	⇑iP	Pn	19 52 19.6	+2.8
CFR	Carcaliu	6.61	58	⇑iP	Pn	19 52 19.6	+2.8
MYKA	Terra Mystica	6.62	317	⇓iPn	Pn	19 52 17.8	+0.7
	SNR=5.7						
MYKA	Terra Mystica	6.62	317	Pn	Pn	19 52 17.8	+0.7
	SNR=5.7						
BURAR	Bucovina Array	6.69	31	⇑iP	Pn	19 52 19.8	+1.7
BURAR	Bucovina Array	6.69	31	⇑iP	Pn	19 52 19.8	+1.7
CONA	Conrad Observa	6.71	334	⇓iPn	Pn	19 52 19.6	+1.3
CONA				⇑iSn	Sn	19 53 35.5	+1.0
CONA	Conrad Observa	6.71	334	Pn	Pn	19 52 19.6	+1.3
CONA				Sn	Sn	19 53 35.5	+1.0
TLCR		7.05	60	⇑iP	Pn	19 52 24.9	+2.0
TLCR		7.05	60	⇑iP	Pn	19 52 24.9	+2.0
KBA	Koelnbreinsper	7.08	319	⇓iPn	Pn	19 52 24.8	+1.4
	SNR=10						
KBA				⇑iSn	Sn	19 53 45.3	+1.6
KBA	Koelnbreinsper	7.08	319	Pn	Pn	19 52 24.8	+1.4
	SNR=10						
KBA				Sn	Sn	19 53 45.3	+1.6
MOA	Molln	7.23	327	⇓iPn	Pn	19 52 26.7	+1.2
MOA				⇓iSn	Sn	19 53 48.9	+1.6
MOA	Molln	7.23	327	Pn	Pn	19 52 26.7	+1.2
MOA				Sn	Sn	19 53 48.9	+1.6
ABTA	Abfaltersbach	7.29	314	⇑iPn	Pn	19 52 27.2	+0.9
	SNR=13						
ABTA	Abfaltersbach	7.29	314	Pn	Pn	19 52 27.2	+0.9
	SNR=13						
IDI	Anoyia	7.61	150	Pn	Pn	19 52 28.7	-2.1
	0.2nm,0.3s,baz=270,slow=10,SNR=3.7						
IDI				Sn	Sn	19 53 52.3	-4.4
	0.3nm,0.3s,baz=126,slow=14,SNR=3.2						
IDI				LR	LR	19 56 23.2	
	comp=Z,24nm,21.9s,baz=338,slow=47						
VRAC	Vranov	7.77	342	LR	LR	19 55 22.2	
	comp=Z,26nm,20.5s,baz=152,slow=36						
RJOB	Jochberg	7.80	320	ePn	Pn	19 52 36.2	+2.9
RJOB	Jochberg	7.80	320	ePn	Pn	19 52 36.2	+2.9
OKC	Ostrava-Krasne	8.01	350	ePN	Pn	19 52 38.0	+2.0
OKC				eSN	Sn	19 54 05.7	-0.5
OKC	Ostrava-Krasne	8.01	350	Pn	Pn	19 52 38.0	+2.0
OKC				Sn	Sn	19 54 05.7	-0.5
MORC	Moravsky Berou	8.03	348	ePn	Pn	19 52 39.2	+2.8
MORC				eSn	Sn	19 54 06.4	-0.6
TREC	Trest	8.04	337	AMS	AMS	19 56 10.0	
	comp=Z,200nm,7.5s						
WTTA	Wattenberg	8.08	314	⇓iPn	Pn	19 52 38.0	+0.8
	SNR=6.2						
WTTA				⇓iSn	Sn	19 54 09.9	+1.6
WTTA	Wattenberg	8.08	314	Pn	Pn	19 52 38.0	+0.8
	SNR=6.2						
WTTA				Sn	Sn	19 54 09.9	+1.6
WATA	Walderalm	8.16	314	⇓iPn	Pn	19 52 39.0	+0.7
	SNR=8.3						
WATA	Walderalm	8.16	314	Pn	Pn	19 52 39.0	+0.7
	SNR=8.3						
GEC2	GERESS Array S	8.26	329	ePn	Pn	19 52 42.4	+2.8
GEC2	GERESS Array S	8.26	329	ePn	Pn	19 52 42.4	+2.8
GERES	GERESS Array B	8.26	329	Pn	Pn	19 52 41.9	+2.4
	0.5nm,0.3s,baz=150,slow=14,SNR=29						
GERES				Sn	Sn	19 54 11.9	-0.7
	0.4nm,0.3s,baz=143,slow=23,SNR=3.4						
GERES				LR	LR	19 56 21.6	
	comp=Z,63nm,19.9s,baz=124,slow=41						
PGF	Pioggiola	8.32	278	ePn	Pn	19 52 39.4	-1.1
PGF				eSn	Sn	19 54 06.7	-7.5
	2.6nm,0.6s						
PGF	Pioggiola	8.32	278	ePn	Pn	19 52 39.4	-1.1
MOTA	Moosalm	8.42	313	⇑iPn	Pn	19 52 42.8	+1.0
	SNR=12						
MOTA	Moosalm	8.42	313	Pn	Pn	19 52 42.8	+1.0
	SNR=12						
FETA	Feichten	8.44	310	⇑iPn	Pn	19 52 43.4	+1.2
FETA	Feichten	8.44	310	Pn	Pn	19 52 43.4	+1.2
KHC	Kasperske Hory	8.54	329	ePN	Pn	19 52 45.5	+2.1
KHC				ex	x	19 52 54.1	
KHC				ex	x	19 53 01.8	
KHC				eSN	Sn	19 54 18.8	-0.6
KHC				AMS	AMS	19 56 20.0	
	comp=Z,200nm,7.6s						
KHC	Kasperske Hory	8.54	329	Pn	Pn	19 52 45.5	+2.1
KHC				Sn	Sn	19 54 18.8	-0.6
GOPC	GO Pecny, Ondr	8.80	337	eSN	Sn	19 54 24.2	-1.5
GOPC				AMS	AMS	19 56 30.0	
	comp=Z,300nm,7.8s						
DPC	Dobruska-Polom	8.81	344	ePN	Pn	19 52 49.5	+2.4
DPC				ex	x	19 52 56.0	
DPC				ex	x	19 53 07.8	
DPC				eSN	Sn	19 54 25.4	-0.6
DPC				AMS	AMS	19 56 50.0	
	comp=Z,100nm,10.4s						
DPC	Dobruska-Polom	8.81	344	Pn	Pn	19 52 49.5	+2.4
DPC				Sn	Sn	19 54 25.4	-0.6
DAVOX	Davos/Dischmat	8.81	307	Pn	Pn	19 52 47.9	+0.6
	1.3nm,0.3s,baz=126,slow=12,SNR=14						
DAVOX				LR	LR	19 57 18.4	
	comp=Z,35nm,18.4s,baz=83,slow=45						
PRU	Pruhonice	8.94	336	ePN	Pn	19 52 50.9	+2.1
PRU				ex	x	19 53 01.7	
PRU				eSN	Sn	19 54 27.3	-1.8
PRU				AMS	AMS	19 56 30.0	
	comp=Z,200nm,10.9s						
PRU	Pruhonice	8.94	336	Pn	Pn	19 52 50.9	+2.1
DAVA	Damuels	9.07	309	⇑iPn	Pn	19 52 51.4	+0.6
DAVA				⇑iSn	Sn	19 54 33.6	+0.9
DAVA	Damuels	9.07	309	Pn	Pn	19 52 51.4	+0.6
DAVA				Sn	Sn	19 54 33.6	+0.9
SBF	Sospel	9.55	286	ePn	Pn	19 52 55.5	-1.8
FRF	La Foret Royal	10.09	284	ePn	Pn	19 53 02.7	-1.9
MBDF	Montbardon	10.16	290	ePn	Pn	19 53 03.0	-2.7
MBDF				eSn	Sn	19 54 50.1	-9.2
	1.6nm,0.3s						
LMR	La Mourre	10.17	282	ePn	Pn	19 53 04.0	-1.7
LPG	La Plagne	10.35	295	ePn	Pn	19 53 05.6	-2.8
LPG				eSn	Sn	19 54 55.0	-9.2
	4.3nm,0.5s						
LPL	La Plagne	10.36	295	ePn	Pn	19 53 05.8	-2.8
LPL	La Plagne	10.36	295	eP	Pn	19 53 11.4	+2.8
LPL				eSn	Sn	19 54 55.0	-10
	5.9nm,0.5s						
LPL	La Plagne	10.36	295	eP	Pn	19 53 11.4	+2.8
BRTR	Keskin Array B	10.44	98	Pn	Pn	19 53 10.3	+0.8
	0.2nm,0.3s,baz=279,slow=13,SNR=4.0						
CLL	Collm	10.57	335	eSb	Sn	19 55 33.0	+24
HINF	Hinteralfeld	11.12	306	ePn	Pn	19 53 15.6	-3.1
HINF				eSn	Sn	19 55 12.9	-10
	2.8nm,0.4s						
CABF	La Chapelle	11.12	299	ePn	Pn	19 53 16.2	-2.6
CDF	Champ du Feu	11.16	310	ePn	Pn	19 53 16.9	-2.4
HAU	Haudompre	11.51	306	ePn	Pn	19 53 21.3	-2.7
HAU				eSn	Sn	19 55 22.1	-10
	5.0nm,0.5s						
LOR	Lormes	12.78	300	ePn	Pn	19 53 39.2	-2.2
	baz=125						
MMAI	Mount Meron Ar	15.00	122	LR	LR	20 00 50.4	
	comp=Z,30nm,20.0s,baz=310,slow=41						
HFS	Hagfors	18.63	350	P	Pn	19 54 58.6	+1.1
	0.2nm,0.3s,baz=169,slow=10.0,SNR=6.9						
FINES	FINESS Array B	19.83	8	P	P	19 55 10.6	+0.4
	1.2nm,0.8s,baz=205,slow=6.2,SNR=3.5						
NOA	NORSAR Array B	19.87	347	P	P	19 55 09.9	-0.8
	0.4nm,0.6s,baz=174,slow=11,SNR=3.4						
EKA	Eskdalemuir Ar	20.29	319	P	P	19 55 13.0	-2.3
	1.3nm,0.8s,baz=115,slow=10,SNR=3.5						
TORD	Torodi Ar. Bea	32.91	215	P	P	19 57 07.2	-6.8
	0.1nm,0.5s,baz=15,slow=9.4,SNR=2.2						
ZALV	Zalesovo Beam	43.43	51	P	P	19 58 40.7	-1.5
	0.6nm,0.4s,baz=277,slow=9.9,SNR=2.9						
MKAR	Makanchi Array	43.63	62	P	P	19 58 43.0	-1.0
	0.4nm,0.5s,baz=272,slow=8.7,SNR=9.3						
SCHQ	Schefferville	55.55	316	P	P	20 00 12.1	-2.6
	2.0nm,0.8s,baz=48,slow=15,SNR=2.1						
SONM	Songino Array	58.30	52	P	P	20 00 33.0	-1.5
	0.8nm,1.1s,baz=290,slow=6.0,SNR=4.5						
ILAR	Eielson Array	73.12	354	P	P	20 02 10.5	+0.9
	0.1nm,0.5s,baz=14,slow=4.0,SNR=3.0						
ASAR	Alice Springs	122.75	94	PKP	PKPdf	20 09 34.4	-1.4
	0.3nm,0.5s,baz=321,slow=1.7,SNR=7.5						

IDC 08 20:07:28.8±4.8**, 22°.87S×115°.28E, h0**km**, mb3.8**/1**, mb1 3.9**/4**, mb1mx3.5**/19**, mbtmp3.8**/4**, ML3.9**/2**, MS3.6**/1**, Ms1 3.7**/1**, ms1mx2.7**/23**, Error ellipse: s-maj=60.6km s-min=21.6km az=148.0, Western Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	10.17	171	Pn	Pn	20 09 54.4	-1.8
	1.3nm,0.3s,baz=330,slow=15,SNR=9.4						
NWAO				Sn	Sn	20 11 50.4	-0.6
	3.0nm,0.3s,baz=150,slow=20,SNR=6.2						
ASAR	Alice Springs	17.14	96	P	Pn	20 11 30.3	+0.4
	1.1nm,0.3s,baz=276,slow=12,SNR=70						
ASAR				S	Sn	20 14 43.7	+2.4
	0.2nm,0.3s,baz=271,slow=22,SNR=3.3						
WRA	Warramunga Arr	17.99	84	P	Pn	20 11 39.7	-0.8
	0.2nm,0.3s,baz=259,slow=13,SNR=17						
WRA				S	Sn	20 15 02.6	+0.7
	0.8nm,0.3s,baz=262,slow=22,SNR=7.7						
STKA	Stephens Creek	24.99	117	P	P	20 12 55.6	+1.3
	1.7nm,0.7s,baz=290,slow=7.4,SNR=1.6						
VNDA	Vanda	59.00	169	LR	LR	20 39 58.4	
	comp=Z,59nm,21.8s,baz=338,slow=33						

KRSC 08 20:26:07.6±2.1**, 50°.00N×156°.70E, h30**km±12km**, ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.78	331	eP	Pn	20 26 22.2	-0.3
SKR				eS	Sn	20 26 33.2	0.0
PAU	Pauzhetka	1.47	3	eP	Pb	20 26 33.4	-0.9
PAU				eS	Sb	20 26 52.9	+0.3
MIPR	Malaya Ipel'ka	2.28	1	eP	Pn	20 26 44.2	+1.0
ASAK	Asacha	2.50	17	eP	Pb	20 26 49.6	-2.3
MTVR	Mutnovka	2.66	20	eP	Pn	20 26 51.3	+2.8
MTVR				eS	Sb	20 27 23.9	-3.0
RUS	Russkaya	2.69	24	eP	Pn	20 26 50.9	+2.2
RUS				eS	Sn	20 27 23.7	+3.5
UGLR	Uglovaya	3.48	22	eP	Pn	20 27 04.1	+4.4
AVH	Avacha	3.51	20	eP	Pb	20 27 05.1	-3.9
KOK	Koryaka	3.51	19	eP	Pb	20 27 04.9	-4.2
KRER	Koryakskii	3.55	20	eP	Pn	20 27 05.2	+4.4
SDLR	Sedlovina	3.55	22	eP	Pn	20 27 04.6	+3.8
KRX	Arik	3.58	19	eP	Pn	20 27 05.5	+4.4
NLC	Nalytchevo	3.58	26	eS	Sn	20 27 43.9	+1.8
SPN	Mys Shipunski	3.73	32	eP	Pn	20 27 06.2	+3.1
SPN				eS	Sb	20 27 51.7	-5.7
GNL	Ganaly	3.78	11	eP	Pn	20 27 07.5	+3.6

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*ISCJB **08** 20:40:02.3±1.1, 33°.09N±0°.07×142°.53E±0°.10, h31km, mb3.5/3, MS3.5/1, Error ellipse: s-maj=12.6km s-min=8.4km az=149.2*

*JMA **08** 20:40:02.0±0.4, 32°.99N×142°.52E, h75km, M3.2*

*IDC **08** 20:40:05.1±4.2, 32°.32N×140°.90E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/24, mbtmp3.4/4, ML3.3/1, MS2.9/3, Ms1 2.9/3, ms1mx2.4/28, Error ellipse: s-maj=149.9km s-min=24.9km az=70.0*

ISC 08 20:40:03.5±1.5**, 33°.05N**±0°.08×**142°.6E**±0°.1**, h31**km**, n17, σ1s.33**/23**, mb3.6**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	2.07	321	P	Pn	20 40 35.4	-0.2
BSO1				eS	Sn	20 41 01.1	+1.0
BSO2	Boso 2	2.26	319	eS	Sn	20 41 06.5	+1.3
JHJ2	Mitsune	2.30	272	P	Pn	20 40 38.7	-0.6
JHJ2				eS	Sn	20 41 06.4	-0.1
BSO3	Boso 3	2.44	316	P	Pn	20 40 40.8	-0.1
BSO4	Boso 4	2.67	317	P	Pn	20 40 44.7	+0.4
BSO4				eS	Sn	20 41 16.7	+1.2
JOD2	Odawara 2	3.62	309	P	Pn	20 40 56.7	-0.8
JOD2				eS	Sn	20 41 37.4	-1.8
JYN	Shimob	4.12	307	P	Pn	20 41 04.8	+0.4
JYN				eS	Sn	20 41 50.2	-1.4
JRY	Ryogami san	4.22	316	P	Pn	20 41 03.5	-2.3
JRY				eS	Sn	20 41 53.8	-0.3
JAG	Ashikaga	4.22	324	P	Pn	20 41 05.9	+0.1
JAG				eS	Sn	20 41 52.4	-1.7
JFT	Otama	4.81	339	P	Pn	20 41 14.0	+0.1
JFT				eS	Sn	20 42 05.4	-3.2
MJAR	Matsushiro Arr	4.99	315	Pn	Pn	20 41 16.9	+0.6
	1.3nm,0.3s,baz=158,slow=13,SNR=17						
MJAR				Sn	Sn	20 42 11.7	-1.3
	0.5nm,0.3s,baz=140,slow=30,SNR=4.3						
JNU	Nakatsue	9.80	274	LR	LR	20 44 57.3	
	comp=Z,69nm,18.1s,baz=32,slow=34						
KSRS	Korea Array	12.74	294	LR	LR	20 46 57.8	
	comp=Z,26nm,20.2s,baz=218,slow=35						
SONM	Songino Array	30.91	309	P	P	20 46 19.0	+1.6
	0.3nm,0.7s,baz=103,slow=7.6,SNR=3.1						
MKAR	Makanchi Array	47.11	305	P	P	20 48 33.5	+0.9
	0.4nm,0.6s,baz=93,slow=8.7,SNR=5.4						
WRA	Warramunga Arr	53.27	190	P	P	20 49 18.4	-1.1
	0.4nm,0.5s,baz=5.9,slow=7.7,SNR=6.9						
AKTO	Aktyubinsk	62.07	314	LR	LR	21 18 47.9	
	comp=Z,28nm,18.3s,slow=38						

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*ISCJB **08** 20:43:20.8±1.0, 33°.08N±0°.06×142°.53E±0°.10, h39km, mb3.4/5, Error ellipse: s-maj=12.2km s-min=7.3km az=156.5*

*JMA **08** 20:43:21.9±0.3, 33°.00N×142°.40E, h84km, M3.1*

*IDC **08** 20:43:22.1±1.2, 32°.42N×141°.28E, h0km, mb3.3/5, mb1 3.5/6, mb1mx3.4/24, mbtmp3.3/6, ML3.1/1, Error ellipse: s-maj=39.6km s-min=21.5km az=77.0*

ISC 08 20:43:23.0±1.4**, 33°.02N**±0°.08×**142°.5E**±0°.1**, h39**km**, n14, σ1s.37**/19**, mb3.3**/5**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	2.05	323	eS	Sn	20 44 19.9	+1.3
JHJ2	Mitsune	2.24	273	P	Pn	20 43 56.9	-0.7
JHJ2				eS	Sn	20 44 24.0	0.0
JHCJ	Hachijojimakas	2.25	272	P	Pn	20 43 56.8	-1.0
JOD2	Odawara 2	3.59	309	P	Pn	20 44 13.9	-2.3
JOD2				eS	Sn	20 44 56.2	-1.2
JYN	Shimob	4.09	308	P	Pn	20 44 24.4	+1.3
JRY	Ryogami san	4.20	316	P	Pn	20 44 24.7	+0.1
JRY				eS	Sn	20 45 12.6	+0.1
JAG	Ashikaga	4.21	325	P	Pn	20 44 24.7	0.0
JAG				eS	Sn	20 45 10.7	-2.0
JFT	Otama	4.82	339	P	Pn	20 44 32.8	-0.2
JFT				eS	Sn	20 45 24.9	-2.7
MJAR	Matsushiro Arr	4.97	316	Pn	Pn	20 44 35.0	-0.1
	0.9nm,0.3s,baz=157,slow=12,SNR=9.6						
MJAR				Sn	Sn	20 45 30.3	-1.0
	0.5nm,0.3s,baz=160,slow=19,SNR=5.2						
SONM	Songino Array	30.88	309	P	P	20 49 37.5	+1.7
	0.2nm,0.5s,baz=112,slow=7.3,SNR=2.4						
MKAR	Makanchi Array	47.08	305	P	P	20 51 52.2	+1.3
	0.3nm,0.6s,baz=90,slow=9.9,SNR=4.1						
ILAR	Eielson Array	52.45	31	P	P	20 52 43.8	+12
	0.2nm,0.6s,baz=262,slow=6.9,SNR=2.7						
WRA	Warramunga Arr	53.24	190	P	P	20 52 37.0	-0.7
	0.6nm,0.6s,baz=5.5,slow=7.6,SNR=5.9						
ASAR	Alice Springs	56.96	189	P	P	20 53 03.4	-1.2
	0.2nm,0.7s,baz=352,slow=5.7,SNR=3.4						

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*ISCJB **08** 20:50:18.2±0.6, 1°.13S±0°.07×13°.3W±0°.1, h13km, mb4.0/11, MS3.7/16, Error ellipse: s-maj=18.4km s-min=5.9km az=28.0*

*IDC **08** 20:50:20.1±1.4, 1°.13S×13°.32W, h0km, mb4.1/8, mb1 4.2/9, mb1mx3.9/25, mbtmp4.2/9, ML4.2/1, MS3.7/17, Ms1 3.7/17, ms1mx3.6/23, Error ellipse: s-maj=40.4km s-min=19.8km az=98.0*

*NEIC **08** 20:50:20.5±0.8, 1°.02S×13°.49W, h10km, mb4.1/3, Error ellipse: s-maj=24.2km s-min=15.5km az=140.0*

*LIC **08** 20:51:17.6±0.0, 4°.82N×11°.59W, h2km, Mb5.3/3, Error ellipse: s-maj=0.0km s-min=0.0km az=56.0*

ISC 08 20:50:21.1±0.7**, 1°.09S**±0°.10×**13°.5W**±0°.1**, h13**km**, n34, σ1s.47**/23**, mb4.2**/11**, MS3.7**/16**, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	6.77	189	Pn	Pn	20 51 59.4	-0.5
	baz=7.3,slow=11,SNR=33						
H10N2				T	T	20 58 58.6	
	baz=8.8,slow=74,SNR=111						
H10N3	ASCENSION HYDR	6.78	189	Pn	Pn	20 51 59.5	-0.6
	baz=7.3,slow=11,SNR=46						
H10N3				T	T	20 58 59.4	
	baz=8.8,slow=74,SNR=66						
H10N1	ASCENSION HYDR	6.79	188	Pn	Pn	20 51 59.5	-0.6
	baz=7.3,slow=11,SNR=39						
H10N1				T	T	20 58 59.2	
	baz=8.8,slow=74,SNR=90						
H10S1	ASCENSION HYDR	7.89	188	Pn	Pn	20 52 15.0	-0.4
	baz=78,slow=75,SNR=10						
H10S1				T	T	21 00 19.9	
	baz=8.0,slow=75,SNR=26						
H10S3	ASCENSION HYDR	7.90	189	Pn	Pn	20 52 15.2	-0.3
	baz=78,slow=75,SNR=12						
H10S3				T	T	21 00 24.4	
	baz=8.0,slow=75,SNR=41						
H10S2	ASCENSION HYDR	7.90	188	Pn	Pn	20 52 15.3	-0.3
	baz=78,slow=75,SNR=11						
H10S2				T	T	21 00 22.7	
	baz=8.0,slow=75,SNR=20						
LIC	Lamto	11.13	49	eP	Pn	20 52 59.1	-1.0
	14nm,0.3s						
TIC	Toumodi	11.41	48	eP	Pn	20 53 00.6	-3.4
	25nm,0.2s						
KIC	Kosan Boka	11.44	50	eP	Pn	20 53 02.5	-1.8
	98nm,1.2s						
DBIC	Dimbokro	11.55	48	Pn	Pn	20 53 03.5	-2.4
	1.5nm,0.3s,baz=215,slow=14,SNR=33						
DBIC				Sn	Sn	20 55 01.1	-14
	1.0nm,0.3s,baz=124,slow=18,SNR=2.3						
DBIC				LR	LR	20 56 46.0	
	comp=Z,361nm,20.4s,baz=210,slow=34						
DBIC	Dimbokro	11.55	48	ePn	Pn	20 53 03.4	-2.4
DBIC				Sn	Sn	20 55 01.1	-14
DBIC				eSn	Sn	20 55 02.1	-13
TOA0	Torodi Ar. Sit	20.65	46	e	P	20 54 58.9	-1.8
TOA0	Torodi Ar. Sit	20.65	46	eP	P	20 54 58.9	-1.8
TORD	Torodi Ar. Bea	20.65	46	P	P	20 54 59.3	-1.4
	12nm,0.5s,baz=230,slow=11,SNR=136						
TORD				LR	LR	21 02 21.0	
	comp=Z,328nm,18.3s,baz=225,slow=35						
MSKU	Masuku	27.09	91	P	P	20 56 03.1	-0.8
	5.6nm,0.7s,baz=278,slow=10,SNR=5.2						
MSKU				LR	LR	21 05 17.9	
	comp=Z,154nm,18.3s,baz=268,slow=33						
MDT	Midelt	34.75	13	LR	LR	21 11 02.7	
	comp=Z,147nm,19.8s,baz=159,slow=36						
ESDC	Sonseca Array	41.49	11	LR	LR	21 15 41.7	
	comp=Z,39nm,19.1s,baz=335,slow=37						
KEST	Kesra	42.37	28	P	P	20 58 16.9	+1.6
	1.5nm,0.9s,baz=214,slow=7.3,SNR=4.0						
KEST				LR	LR	21 17 03.0	
	comp=Z,128nm,18.0s,baz=124,slow=38						
LSZ	Lusaka	43.47	111	eP	P	20 58 26.2	+1.6
	2.9nm,0.7s						
BOSA	Boshof	45.99	130	P	P	20 58 45.3	+0.7
	5.0nm,1.0s,baz=296,slow=12,SNR=3.9						
BOSA				LR	LR	21 16 33.9	
	comp=Z,48nm,19.2s,baz=220,slow=34						
CPUP	Villa Florida	49.05	235	eP	P	20 59 06.9	-1.2
	0.3nm,1.2s						
AQU	L'Aquila	49.58	26	eP	P	20 59 15.6	+3.5
	13nm,1.0s						
SAML	Samuel	50.08	259	eP	P	20 59 15.8	-0.4
KMBO	Kilima Mbogo	50.72	91	LR	LR	21 19 33.2	
	comp=Z,304nm,18.8s,baz=256,slow=35						
GERES	GERESS Array B	55.02	22	P	P	20 59 52.9	+0.6
	3.1nm,0.9s,baz=200,slow=5.1,SNR=19						
GERES				LR	LR	21 24 15.3	
	comp=Z,57nm,20.1s,baz=246,slow=37						
LPAZ	La Paz	55.89	251	LR	LR	21 21 59.5	
	comp=Z,101nm,20.9s,baz=90,slow=34						
BRG	Berggiesshubel	56.79	20	eP	P	21 00 13.6	+8.6
	3.1nm,1.1s						
BRTR	Keskin Array B	59.16	41	P	P	21 00 23.8	+1.8
	1.3nm,0.9s,baz=220,slow=9.4,SNR=7.6						
BRTR				LR	LR	21 27 37.2	
	comp=Z,34nm,19.4s,baz=210,slow=38						
ROSC	El Rosal	61.08	276	LR	LR	21 23 44.4	
	comp=Z,80nm,20.8s,baz=70,slow=33						
NOA	NORSAR Array B	64.81	13	P	P	21 01 01.7	+2.3
	0.9nm,0.8s,baz=204,slow=7.0,SNR=3.1						
NOA				LR	LR	21 31 43.8	
	comp=Z,20nm,18.0s,baz=165,slow=38						
KBZ	Khabaz	67.15	41	LR	LR	21 34 03.5	
	comp=Z,19nm,19.1s,baz=161,slow=39						
FINES	FINESS Array B	69.28	19	P	P	21 01 27.1	-0.6
	0.3nm,0.4s,baz=233,slow=8.5,SNR=5.5						
FINES				LR	LR	21 34 13.1	
	comp=Z,75nm,18.2s,baz=218,slow=38						
ARCES	ARCESS Array B	75.19	13	LR	LR	21 37 25.0	
	comp=Z,42nm,19.8s,baz=272,slow=38						
MKAR	Makanchi Array	94.75	43	LR	LR	21 49 44.1	
	comp=Z,20nm,21.9s,baz=191,slow=38						

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*ISCJB **08** 20:51:18.8±0.6, 18°.70S±0°.08×169°.52E±0°.09, h10km, mb4.1/12, MS3.5/3, Error ellipse: s-maj=15.1km s-min=8.9km az=42.9*

*NEIC **08** 20:51:21.8±0.7, 18°.62S×169°.43E, h15km, mb4.3/4, Error ellipse: s-maj=21.8km s-min=14.1km az=160.0*

*IDC **08** 20:51:22.0±2.0, 18°.51S×168°.93E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/18, mbtmp4.1/9, ML3.5/1, MS3.5/3, Ms1 3.5/3, ms1mx3.1/27, Error ellipse: s-maj=60.1km s-min=21.3km az=122.0*

ISC 08 20:51:21.2±0.7**, 18°.7S**±0°.1×**169°.5E**±0°.1**, h10**km**, n20, σ1s.38**/20**, mb4.2**/12**, MS3.4**/3**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.42	219	Pn	Pn	20 52 28.5	0.0
	2.9nm,0.3s,baz=270,slow=23,SNR=13						
DZM				Sn	Sn	20 53 20.2	0.0
	3.2nm,0.3s,baz=270,slow=24,SNR=6.2						
MSVF	Nonsavu	8.22	85	ePn	Pn	20 53 18.8	-1.8
	36nm,0.9s						
CTAO	Charters Tower	21.93	262	P	P	20 56 14.5	-0.5
	11nm,1.2s						
STKA	Stephens Creek	28.34	237	P	P	20 57 14.8	-0.6
	4.7nm,0.7s,baz=76,slow=8.6,SNR=9.8						
STKA				LR	LR	21 07 55.4	
	comp=Z,201nm,18.5s,baz=46,slow=36						
WRAB	Tennant Creek	33.12	262	P	P	20 57 58.9	+1.1
	4.2nm,1.0s						
WRA	Warramunga Arr	33.13	262	P	P	20 57 55.2	-2.7
	0.6nm,0.5s,baz=81,slow=6.0,SNR=12						
AS31	Alice Springs	33.47	255	eP	P	20 57 59.1	-1.7
ASAR	Alice Springs	33.47	255	P	P	20 57 59.8	-1.1
	14nm,0.5s,baz=86,slow=8.8,SNR=141						
VNDA	Vanda	59.02	182	P	P	21 01 20.5	-0.3
	1.8nm,1.0s						
SBA	Scott Base	59.25	181	eP	P	21 01 22.7	+0.3
KSRS	Korea Array	68.14	325	P	P	21 02 22.7	+1.2
	0.4nm,0.3s,baz=151,slow=7.8,SNR=5.1						
KSAR	Wonju Array Be	68.15	325	P	P	21 02 22.7	+1.1
USRK	Ussuriysk Ar.	71.31	332	P	P	21 02 41.9	+1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.6nm,0.5s,baz=90,slow=7.6,SNR=4.7						
QSPA	South Pole Qui	71.40	180	eP	P	21 02 43.9	+2.5
	3.8nm,0.9s						
PETK	Petropavlovsk-	72.18	353	LR	LR	21 31 57.0	
	comp=Z,17nm,18.3s,baz=138,slow=34						
CMAR	Chiang Mai Arr	78.45	294	P	P	21 03 21.9	-0.9
	0.3nm,0.3s,baz=114,slow=4.4,SNR=4.9						
CMAR				LR	LR	21 38 17.7	
	comp=Z,16nm,20.7s,baz=100,slow=36						
SONM	Songino Array	86.87	323	P	P	21 04 05.0	-1.2
	1.4nm,0.9s,baz=116,slow=3.4,SNR=3.2						
ILAR	Eielson Array	89.61	17	P	P	21 04 20.1	+1.4
	0.4nm,0.8s,baz=208,slow=7.1,SNR=3.8						
GERES	GERESS Array B	144.07	332	PKP	PKPdf	21 10 57.5	+0.3
	0.8nm,0.8s,baz=18,slow=4.1,SNR=6.1						
DAVOX	Davos/Dischmat	147.30	334	PKPbc	PKPab	21 11 08.0	+1.0
	0.7nm,0.3s,baz=355,slow=16,SNR=3.9						

NEIC 08 20:53:50.5±0.7, 18°.94S×169°.52E, h10km, mb4.6/2, Error ellipse: s-maj=22.8km s-min=13.3km az=162.0
IDC 08 20:53:51.1±3.6, 18°.87S×169°.20E, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/18, mbtmp4.0/6, ML2.8/1, MS3.4/2, Ms1 3.4/2, ms1mx3.0/24, Error ellipse: s-maj=99.6km s-min=34.5km az=121.0
ISC 08 20:53:50.5±0.8, 18°.8S±0°.1×169°.6E±0°.1, h10km, n16, σ1s.73/12, mb4.2/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.36	222	Pn	Pn	20 54 56.6	-0.3
	0.6nm,0.3s,baz=90,slow=23,SNR=7.8						
DZM				Sn	Sn	20 55 50.8	+2.9
	2.2nm,0.3s,baz=270,slow=23,SNR=3.1						
MSVF	Nonsavu	8.13	84	ePn	Pn	20 55 49.0	+0.3
URZ	Urewera	20.44	163	LR	LR	21 05 09.3	
	comp=Z,161nm,19.5s,baz=344,slow=33						
STKA	Stephens Creek	28.33	237	P	P	20 59 43.1	-1.5
	2.1nm,0.7s,baz=78,slow=9.3,SNR=2.9						
WRA	Warramunga Arr	33.22	262	P	P	21 00 25.7	-2.2
	1.1nm,0.9s,baz=95,slow=9.2,SNR=3.1						
AS31	Alice Springs	33.53	255	eP	P	21 00 28.8	-1.9
ASAR	Alice Springs	33.53	255	P	P	21 00 29.6	-1.1
	7.4nm,0.8s,baz=85,slow=8.8,SNR=13						
H11N1	WAKE ISLAND Hy	38.40	356	T	T	21 41 33.6	
	baz=175,slow=76,SNR=6.4						
H11N3	WAKE ISLAND Hy	38.40	356	T	T	21 41 32.7	
	baz=175,slow=76,SNR=5.4						
H11N2	WAKE ISLAND Hy	38.41	356	T	T	21 41 33.0	
	baz=175,slow=76,SNR=6.4						
SBA	Scott Base	59.07	181	P	P	21 03 49.7	-0.7
	8.2nm,1.2s						
KSRS	Korea Array	68.35	325	LR	LR	21 31 14.7	
	comp=Z,17nm,20.0s,baz=222,slow=33						
QSPA	South Pole Qui	71.22	180	eP	P	21 05 09.6	-0.1
	3.4nm,1.0s						
CMAR	Chiang Mai Arr	78.63	294	P	P	21 05 55.4	+2.2
	0.9nm,1.0s,baz=113,slow=4.3,SNR=4.3						
SONM	Songino Array	87.09	323	P	P	21 06 37.5	+0.9
	1.5nm,1.0s,baz=134,slow=3.6,SNR=6.9						
GERES	GERESS Array B	144.28	332	PKP	PKPdf	21 13 27.3	+0.4
	0.2nm,0.3s,baz=56,slow=2.4,SNR=4.9						

IDC 08 21:03:44.9±1.1, 3°.40N×128°.62E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.7/40, mbtmp4.0/7, ML3.7/1, Error ellipse: s-maj=99.4km s-min=16.4km az=66.0
ISCJB 08 21:03:47.2±0.8, 3°.53N±0°.06×128°.96E±0°.06, h33km, mb3.9/6, Error ellipse: s-maj=10.3km s-min=7.2km az=39.7
DJA 08 21:03:52.6±2.6, 3°N±6°×12°9E±°, h26km±39km, M4.4/7, mb4.5/3, mB5.0/2, MLv4.3/7, Mw(mB)4.3/2
ISC 08 21:03:49.5±1.0, 3°.53N±0°.09×128°.96E±0°.09, h35km, n12, σ0s.91/16, mb4.0/6, North of Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	3.17	210	P	Pn	21 04 36.4	-0.5
TNTI				S	Sn	21 05 14.0	+0.5
SGSI	Sangihe	3.42	273	P	Pn	21 04 39.7	-0.7
SGSI				S	Sn	21 05 18.2	-1.6
SIJI	Sorong	4.94	152	Pn	Pn	21 05 01.2	-0.1
	2.8nm,0.3s,baz=329,slow=18,SNR=10						
SIJI				Sn	Sn	21 05 56.1	-1.3
	2.0nm,0.3s,baz=186,slow=23,SNR=6.9						
KMSI	Cibinong	5.77	240	P	Pn	21 05 14.2	+1.4
	86nm,0.9s,2μm0.6nm						
MRSI	Marisa	7.64	247	P	Pn	21 05 39.4	+1.0
TTSI	Tana Toraja	11.23	235	P	Pn	21 06 26.7	-0.9
WRA	Warramunga Arr	23.92	167	P	P	21 09 00.3	-0.1
	3.0nm,0.6s,baz=347,slow=10,SNR=25						
ASAR	Alice Springs	27.46	170	P	P	21 09 31.9	-0.6
	0.5nm,0.5s,baz=353,slow=7.6,SNR=9.9						
ASAR				PcP	PcP	21 12 51.5	+0.8
	0.5nm,0.6s,baz=352,slow=2.0,SNR=9.2						
STKA	Stephens Creek	37.21	162	P	P	21 10 58.0	+0.3
	3.0nm,0.6s,baz=331,slow=10,SNR=5.4						
MKAR	Makanchi Array	59.00	324	P	P	21 13 46.1	+0.3
	0.7nm,0.5s,baz=109,slow=8.1,SNR=11						
ZALV	Zalesovo Beam	61.79	332	P	P	21 14 05.2	+0.5
	0.4nm,0.3s,baz=148,slow=8.5,SNR=2.9						
AKTO	Aktyubinsk	75.20	321	P	P	21 15 28.5	-0.1
	0.6nm,0.5s,baz=103,slow=7.9,SNR=5.0						

IDC 08 21:03:49.6±0.8, 34°.44N×26°.36E, h0km, mb4.0/13, mb1 4.0/17, mb1mx3.9/30, mbtmp3.9/17, ML4.0/4, Error ellipse: s-maj=17.0km s-min=14.7km az=168.0
DDA 08 21:03:50.8, 34°.24N×26°.20E, h26km, MD3.5
HLW 08 21:03:51.1, 34°.47N×26°.41E, h10km±7km, Md3.5
ISCJB 08 21:03:52.7±0.3, 34°.21N±0°.02×26°.41E±0°.03, h54km±5km, mb3.9/13, Error ellipse: s-maj=4.0km s-min=3.7km az=9.6
CSEM 08 21:03:53.7±0.2, 34°.26N×26°.35E, h20km, ML3.3, Error ellipse: s-maj=4.9km s-min=4.1km az=5.0
ISK 08 21:03:56.9, 34°.80N×26°.46E, h3km, ML3.5
THE 08 21:03:56.3, 34°.51N×26°.19E, h2km±2km, ML3.3/2, Error ellipse: s-maj=3.6km s-min=1.6km az=171.0
ATH 08 21:03:56.4, 34°.49N×26°.28E, h38km±2km, MD3.8/24
ISC 08 21:03:53.8±0.8, 34°.28N±0°.04×26°.33E±0°.03, h37km±1km, n167, σ1s.88/200, mb3.8/13, Crete

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.83	354	P	Pn	21 04 08.3	-0.8
ZKR	Zakros	0.83	354	P	Pn	21 04 08.3	-0.8
LAST	Lasithi	1.12	322	P	Pn	21 04 13.7	+0.7
LAST				S	Sn	21 04 26.1	-1.2
LAST	Lasithi	1.12	322	ePB	Pn	21 04 13.9	+0.9
LAST				eSN	Sn	21 04 27.2	-0.1
LAST	Lasithi	1.12	322	ePn	Pn	21 04 13.9	+0.9
LAST				eSn	Sn	21 04 27.2	-0.1
NPS	Neapolis	1.14	329	P	Pn	21 04 14.1	+0.8
NPS	Neapolis	1.14	329	ePN	Pn	21 04 14.2	+0.9
NPS				eSN	Sn	21 04 27.9	+0.2
NPS	Neapolis	1.14	329	ePn	Pn	21 04 14.2	+0.9
NPS				eSn	Sn	21 04 27.9	+0.2
KARP	Karpathos	1.44	28	P	Pn	21 04 20.0	+2.7
KARP	Karpathos	1.44	28	ePN	Pn	21 04 20.1	+2.7
KARP				eSN	Sn	21 04 35.4	+0.5
KARP	Karpathos	1.44	28	P	Pn	21 04 20.0	+2.7
KARP				eSn	Sn	21 04 35.4	+0.5
SIVA	Sivas	1.45	301	P	Pn	21 04 20.4	+2.9
SIVA	Sivas	1.45	301	ePN	Pn	21 04 20.3	+2.8
SIVA				eSN	Sn	21 04 37.2	+2.0
SIVA	Sivas	1.45	301	ePn	Pn	21 04 20.3	+2.8
SIVA				eSn	Sn	21 04 37.2	+2.0
IDI	Anoyia	1.55	311	Pn	Pn	21 04 19.4	+0.5
	22nm,0.3s,baz=133,slow=9.5,SNR=224						
IDI				Sn	Sn	21 04 43.8	+6.0
	20nm,0.3s,baz=338,slow=12,SNR=10						
VAM	Vamos	2.08	303	ePN	Pn	21 04 29.1	+3.0
VAM				eSN	Sn	21 04 53.0	+2.2
VAM	Vamos	2.08	303	ePb	Pn	21 04 29.1	+3.0
VAM				eSn	Sn	21 04 53.0	+2.2
SANT	Santorini	2.20	341	ePN	Pn	21 04 29.4	+1.5
SANT				eSN	Sn	21 04 53.4	-0.4
SANT	Santorini	2.20	341	ePn	Pn	21 04 29.4	+1.5
SANT				eSn	Sn	21 04 53.4	-0.4
THR6	Thira Island,	2.20	340	P	Pn	21 04 29.5	+1.7
THR6	Thira Island,	2.20	340	P	Pn	21 04 29.5	+1.7
THR3	Thira Island,	2.25	341	P	Pn	21 04 30.3	+1.8
THR3	Thira Island,	2.25	341	P	Pn	21 04 30.3	+1.8
THR5	Thira Island,	2.27	340	ePN	Pn	21 04 30.5	+1.7
THR5	Thira Island,	2.27	340	P	Pn	21 04 30.5	+1.7
THR5	Thira Island,	2.27	340	P	Pn	21 04 30.5	+1.7
THR2	Thira island,	2.28	342	P	Pn	21 04 30.5	+1.6
THR2	Thira island,	2.28	342	P	Pn	21 04 30.5	+1.6
ARG	Arkhangelos	2.42	37	P	Pn	21 04 34.0	+3.1
ARG	Arkhangelos	2.42	37	ePN	Pn	21 04 34.0	+3.1
ARG				eSN	Sn	21 05 01.1	+1.8
ARG	Arkhangelos	2.42	37	P	Pn	21 04 34.0	+3.1
ARG				eSn	Sn	21 05 01.1	+1.8
DAT	Datca	2.65	22	ePN	Pn	21 04 35.6	+1.6
DAT	Datca	2.65	22	ePn	Pn	21 04 35.6	+1.6
APE	Apeiranthos	2.85	347	ePN	Pn	21 04 38.5	+1.6
APE				eSN	Sn	21 05 08.3	-1.7
APE	Apeiranthos	2.85	347	P	Pn	21 04 38.3	+1.5
APE				S	Sn	21 05 12.4	+2.4
APE	Apeiranthos	2.85	347	ePN	Pn	21 04 38.4	+1.6
APE				eSN	Sn	21 05 10.6	+0.6
APE	Apeiranthos	2.85	347	ePn	Pn	21 04 38.4	+1.6
APE				eSn	Sn	21 05 10.6	+0.6
APE				S	Sn	21 05 12.4	+2.4
MHLO	Agia Marina, M	2.87	327	ePN	Pn	21 04 39.1	+2.1
MHLO	Agia Marina, M	2.87	327	ePn	Pn	21 04 39.1	+2.1
BODT	Bodrum	2.89	16	ePN	Pn	21 04 37.0	-0.2
BODT	Bodrum	2.89	16	ePn	Pn	21 04 37.0	-0.2
BDRM	Kayabasi	2.92	18	iP	Pn	21 04 39.8	+2.1
BDRM				iS	Sn	21 05 12.1	+0.6
BDRM	Kayabasi	2.92	18	iP	Pn	21 04 39.8	+2.1
BDRM				iS	Sn	21 05 12.1	+0.6
SLUM		2.94	199	P	Pn	21 04 39.2	+1.3
	baz=200						
SLUM		2.94	199	P	Pn	21 04 39.2	+1.3
ANKY	Antikythira Is	2.94	303	P	Pn	21 04 40.8	+2.8
ANKY	Antikythira Is	2.94	303	P	Pn	21 04 40.8	+2.8
DALY	Dalyan (Mu˜la	3.16	36	ePN	Pn	21 04 41.7	+0.7
DALY	Dalyan (Mu˜la	3.16	36	ePn	Pn	21 04 41.7	+0.7
TURN	Turunc	3.18	35	iP	Pn	21 04 39.7	-1.5
TURN				iS	Sn	21 05 16.2	-1.7
YER	Yerkesik	3.26	29	ePN	Pn	21 04 44.1	+1.7
YER	Yerkesik	3.26	29	ePn	Pn	21 04 44.1	+1.7
AKAS	Kas	3.31	53	iP	Pn	21 04 44.7	+1.5
AKAS				iS	Sn	21 05 23.3	+1.9
AKAS	Kas	3.31	53	iP	Pn	21 04 44.7	+1.5
AKAS				iS	Sn	21 05 23.3	+1.9
KYTH	Kithira	3.35	307	P	Pn	21 04 45.4	+1.8
KYTH	Kithira	3.35	307	ePN	Pn	21 04 45.5	+1.8
KYTH	Kithira	3.35	307	P	Pn	21 04 45.4	+1.8
SMG	Samos	3.44	7	P	Pn	21 04 46.2	+1.3
SMG	Samos	3.44	7	ePN	Pn	21 04 46.2	+1.3
SMG				eSN	Sn	21 05 25.5	+1.1
SMG	Samos	3.44	7	P	Pn	21 04 46.2	+1.3
SMG				eSn	Sn	21 05 25.5	+1.1
AYDN	Tasoluk	3.60	20	iP	Pn	21 04 48.9	+1.9
AYDN				iS	Sn	21 05 29.5	+1.2
AYDN	Tasoluk	3.60	20	iP	Pn	21 04 48.9	+1.9
AYDN				iS	Sn	21 05 29.5	+1.2
VLI	Veliai	3.68	312	P	Pn	21 04 49.2	+1.0
VLI				S	Sn	21 05 30.8	+0.5
VLI	Veliai	3.68	312	ePN	Pn	21 04 49.2	+1.0
VLI	Veliai	3.68	312	P	Pn	21 04 49.2	+1.0
VLI				S	Sn	21 05 30.8	+0.5
ELL	Elmali	3.82	49	ePN	Pn	21 04 52.7	+2.6
ELL	Elmali	3.82	49	ePn	Pn	21 04 52.7	+2.6
AYDB	Zeytinkoy-Aydi	3.87	19	ePN	Pn	21 04 52.4	+1.5
AYDB	Zeytinkoy-Aydi	3.87	19	ePn	Pn	21 04 52.4	+1.5
GOLH	Golhisar	3.95	41	iP	Pn	21 04 54.5	+2.6
GOLH				iS	Sn	21 05 40.6	+3.6
GOLH	Golhisar	3.95	41	iP	Pn	21 04 54.5	+2.6
GOLH				iS	Sn	21 05 40.6	+3.6
ZEY	˜zmir	3.95	2	iP	Pn	21 04 53.2	+1.4
ZEY				iS	Sn	21 05 38.4	+1.5
DID	Didima	4.08	323	P	Pn	21 04 54.9	+1.3
DID	Didima	4.08	323	ePN	Pn	21 04 55.0	+1.3
DID	Didima	4.08	323	ePn	Pn	21 04 55.0	+1.3
CHOS	Chios island	4.10	357	ePN	Pn	21 04 54.5	+0.5
CHOS	Chios island	4.10	357	P	Pn	21 04 55.2	+1.2
CHOS	Chios island	4.10	357	ePN	Pn	21 04 55.7	+1.7
CHOS	Chios island	4.10	357	P	Pn	21 04 55.2	+1.2
CHOS	Chios island	4.10	357	ePn	Pn	21 04 55.7	+1.7
KORT	Korkueli	4.25	49	iS	Sn	21 05 48.9	+4.4
KORT	Korkueli	4.25	49	iS	Sn	21 05 48.9	+4.4
ANTB	Antalya	4.39	52	ePN	Pn	21 05 01.1	+3.3
ANTB	Antalya	4.39	52	ePn	Pn	21 05 01.1	+3.3
VLX	Vlachokerasia	4.45	315	ePN	Pn	21 05 00.8	+2.0
VLX	Vlachokerasia	4.45	315	ePn	Pn	21 05 00.8	+2.0
PYL	PYLOS	4.56	306	ePN	Pn	21 05 03.2	+3.0
PYL	PYLOS	4.56	306	ePn	Pn	21 05 03.2	+3.0
VILL	Villia	4.58	329	P	Pn	21 05 02.4	+1.9
VILL	Villia	4.58	329	P	Pn	21 05 02.4	+1.9
ITM	Ithomi	4.60	310	P	Pn	21 05 02.2	+1.4
ITM	Ithomi	4.60	310	ePN	Pn	21 05 03.0	+2.2
ITM	Ithomi	4.60	310	P	Pn	21 05 02.2	+1.4
ITM	Ithomi	4.60	310	ePn	Pn	21 05 03.0	+2.2
LTK	Loutraki	4.62	325	P	Pn	21 05 02.6	+1.5
LTK	Loutraki	4.62	325	ePN	Pn	21 05 02.5	+1.5
LTK	Loutraki	4.62	325	P	Pn	21 05 02.6	+1.5
KULA	Kula-Manisa	4.62	23	ePN	Pn	21 05 01.8	+0.7
KULA	Kula-Manisa	4.62	23	ePn	Pn	21 05 01.8	+0.7
VIL2	Platees	4.64	329	ePN	Pn	21 05 02.5	+1.2
GUR	Goura	4.87	320	P	Pn	21 05 05.7	+1.1
GUR	Goura	4.87	320	ePN	Pn	21 05 06.0	+1.4
GUR	Goura	4.87	320	P	Pn	21 05 05.7	+1.1
GUR	Goura	4.87	320	ePn	Pn	21 05 06.0	+1.4
SIGR	SIGRI	4.93	356	ePN	Pn	21 05 06.3	+0.9
SIGR	SIGRI	4.93	356	P	Pn	21 05 06.7	+1.4
SIGR	SIGRI	4.93	356	ePN	Pn	21 05 07.1	+1.8
SIGR	SIGRI	4.93	356	P	Pn	21 05 06.7	+1.4
SIGR	SIGRI	4.93	356	ePn	Pn	21 05 07.1	+1.8
SWA2		5.08	189	P	Pn	21 05 08.4	+1.0
	baz=190						
SWA2				S	Sn	21 06 02.4	-2.3
	baz=190						
SWA2		5.08	189	P	Pn	21 05 08.4	+1.0
SWA2				S	Sn	21 06 02.4	-2.3
SMIA	Simia	5.23	332	ePN	Pn	21 05 12.8	+3.4
SMIA	Simia	5.23	332	ePn	Pn	21 05 12.8	+3.4
DRO	Drossia	5.23	316	P	Pn	21 05 11.6	+2.1
DRO	Drossia	5.23	316	ePN	Pn	21 05 12.1	+2.6
DRO	Drossia	5.23	316	P	Pn	21 05 11.6	+2.1
DRO	Drossia	5.23	316	ePn	Pn	21 05 12.1	+2.6
AOS	Alonnisos	5.26	339	ePN	Pn	21 05 12.7	+2.9
AOS	Alonnisos	5.26	339	ePn	Pn	21 05 12.7	+2.9
GAZI	Gazipasa	5.27	67	iP	Pn	21 05 10.1	+0.1
GAZI				iS	Sn	21 06 06.9	-2.6
GAZI	Gazipasa	5.27	67	iP	Pn	21 05 10.1	+0.1
GAZI				iS	Sn	21 06 06.9	-2.6
KALE	Kalithea	5.31	322	ePN	Pn	21 05 13.0	+2.4
KALE	Kalithea	5.31	322	ePn	Pn	21 05 13.0	+2.4
AXAR	Agios Charalam	5.36	328	ePN	Pn	21 05 13.5	+2.2
AXAR	Agios Charalam	5.36	328	ePn	Pn	21 05 13.5	+2.2
AGG	Agios Georgios	5.72	327	P	Pn	21 05 18.0	+1.8
AGG	Agios Georgios	5.72	327	ePN	Pn	21 05 19.2	+3.0
AGG	Agios Georgios	5.72	327	P	Pn	21 05 18.0	+1.8
AGG	Agios Georgios	5.72	327	ePn	Pn	21 05 19.2	+3.0
MAKR	Makrakomi, Fth	5.80	326	ePN	Pn	21 05 20.5	+3.2
MAKR	Makrakomi, Fth	5.80	326	ePn	Pn	21 05 20.5	+3.2
ERMK	Ermenek	5.87	64	iP	Pn	21 05 19.6	+1.3
ERMK				iS	Sn	21 06 24.6	+0.2
ERMK	Ermenek	5.87	64	iP	Pn	21 05 19.6	+1.3
ERMK				iS	Sn	21 06 24.6	+0.2
PDO	Prodromos	5.98	318	ePN	Pn	21 05 23.1	+3.4
PDO	Prodromos	5.98	318	ePn	Pn	21 05 23.1	+3.4
AWBH		6.34	159	P	Pn	21 05 24.2	-0.5
	baz=160						
AWBH		6.34	159	P	Pn	21 05 24.2	-0.5
DSL	Palaion Diasel	6.41	321	P	Pn	21 05 26.9	+1.2
DSL	Palaion Diasel	6.41	321	P	Pn	21 05 26.9	+1.2
HHAG	Hagoal	6.53	130	S	Sn	21 06 32.7	-7.7
	baz=131						
GLL	Jalalah	6.55	134	P	Pn	21 05 26.0	-1.6
	baz=135						
HFRF	Wahat Farafira	7.31	166	P	Pn	21 05 37.0	-1.1
	baz=166						
HFRF				S	Sn	21 06 52.1	-7.7
	baz=166						
HFRF	Wahat Farafira	7.31	166	P	Pn	21 05 37.0	-1.1
NEST	Nestorio	7.42	327	P	Pn	21 05 41.2	+1.6
NEST	Nestorio	7.42	327	P	Pn	21 05 41.2	+1.6
MMAI	Mount Meron Ar	7.67	97	Pn	Pn	21 05 42.2	-0.8
	3.1nm,0.3s,baz=274,slow=11,SNR=19						
MMAI				Sn	Sn	21 07 05.3	-3.4
	3.8nm,0.3s,baz=219,slow=17,SNR=7.0						
BRTR	Keskin Array B	7.98	45	Pn	Pn	21 05 46.6	-0.6
	0.1nm,0.3s,baz=213,slow=13,SNR=5.3						
BRTR				Sn	Sn	21 07 15.0	-1.3
	0.1nm,0.3s,baz=211,slow=26,SNR=4.4						
EIL	Elat	8.65	120	Pn	Pn	21 05 55.2	-1.1
	0.7nm,0.3s,baz=336,slow=2.7,SNR=19						
EIL				Sn	Sn	21 07 25.8	-6.8
	1.1nm,0.3s,baz=356,slow=6.3,SNR=3.5						
HKAT	Jabal Katrina	8.71	129	P	Pn	21 05 54.4	-2.9
	baz=130						
HKAT				S	Sn	21 07 21.9	-13
	baz=130						
HDK2	Wahat Dakhilah	10.19	166	P	Pn	21 06 15.2	-2.3
	baz=167						
STON	Ston	10.91	324	iPn	Pn	21 06 24.7	-2.6
STON				Sn	Sn	21 08 18.2	-10
NVLJ	Novalja	13.54	323	ePn	Pn	21 06 57.9	-5.4
NVLJ				Sn	Sn	21 09 22.5	-10
AKASG	Malin Array Be	16.54	6	Pn	Pn	21 07 41.0	-1.8
	0.6nm,0.3s,baz=191,slow=11,SNR=3.5						
GERES	GERESS Array B	17.31	331	P	Pn	21 07 51.8	-0.8
	0.3nm,0.3s,baz=144,slow=12,SNR=11						
ESDC	Sonseca Array	24.72	291	P	P	21 09 11.4	-0.2
	1.1nm,0.5s,baz=80,slow=9.1,SNR=16						
HFS	Hagfors	27.15	346	P	P	21 09 32.6	-0.7
	1.5nm,0.8s,baz=149,slow=10,SNR=6.1						
FINES	FINESS Array B	27.18	360	P	P	21 09 33.2	-0.3
	1.0nm,0.6s,baz=164,slow=13,SNR=6.4						
NOA	NORSAR Array B	28.49	345	P	P	21 09 43.9	-1.4
	0.2nm,0.5s,baz=166,slow=9.1,SNR=2.7						
EKA	Eskdalemuir Ar	29.31	325	P	P	21 09 53.4	+0.8
	0.7nm,0.5s,baz=114,slow=12,SNR=4.8						
TORD	Torodi Ar. Bea	30.69	233	P	P	21 10 06.9	+1.8
	0.8nm,0.6s,baz=41,slow=8.6,SNR=10.0						
ARCES	ARCESS Array B	35.31	359	P	P	21 10 44.5	-0.4
	0.8nm,0.6s,baz=181,slow=8.2,SNR=8.3						
MSKU	Masuku	37.70	201	P	P	21 11 09.3	+3.5
	4.0nm,0.5s,baz=231,slow=2.3,SNR=4.6						
MKAR	Makanchi Array	43.46	56	P	P	21 11 55.0	+1.9
	1.8nm,0.7s,baz=276,slow=6.8,SNR=15						
ZALV	Zalesovo Beam	44.92	46	P	P	21 12 04.8	+0.1
	4.3nm,0.4s,baz=267,slow=8.4,SNR=22						
SONM	Songino Array	59.30	51	P	P	21 13 52.2	+0.4
	0.5nm,0.4s,baz=289,slow=6.9,SNR=5.8						
SCHQ	Schefferville	64.48	320	P	P	21 14 26.8	+0.4
	2.3nm,0.5s,baz=73,slow=4.9,SNR=8.1						
INK	Inuvik	76.61	352	P	P	21 15 39.5	-0.5
	0.7nm,0.6s,baz=360,slow=0.6,SNR=3.6						

MEX 08 21:09:26.4±0.6, 18°.50N×104°.23W, h16km±47km, MD3.6, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
R15V		0.71	19	iP	Pg	21 09 38.0	-2.3
R15V				iS	Sg	21 09 46.4	-3.5
MMIG	Aquila	0.86	104	iP	Pb	21 09 40.0	-3.0
MMIG				eS	Sb	21 09 50.6	-3.7
EZ5V		1.14	31	eP	Pn	21 09 44.9	-3.2
EZ5V				iS	Sb	21 09 58.9	-4.1

IDC 08 21:26:44.3±7.0, 31°.02S×178°.58W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/17, mbtmp3.6/2, Error ellipse: s-maj=295.6km s-min=55.7km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.58	268	P	P	21 34 42.1	-0.2
	0.4nm,0.5s,baz=111,slow=7.5,SNR=6.5						
WRA	Warramunga Arr	43.63	273	P	P	21 34 50.6	-0.1
	0.7nm,0.5s,baz=111,slow=8.1,SNR=14						
FINES	FINESS Array B	145.55	339	PKPbc	PKPdf	21 46 23.0	-0.7
	1.9nm,0.8s,baz=64,slow=4.4,SNR=8.7						

PDA 08 21:34:00.9±1.0, 37°.15N×24°.48W, h15km, MD3.8, ML2.8, Error ellipse: s-maj=8.3km s-min=3.5km az=93.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.49	252	eP	Pg	21 34 08.9	-1.9
PSMN				eS	Sg	21 34 15.2	-2.2
PSMN				A	A	21 34 31.3	
	196nm,0.6s						
PSMA	Santa Maria	0.55	253	eP	Pg	21 34 09.6	-2.1
PSMA				eS	Sg	21 34 16.3	-2.7
PSMA				A	A	21 34 23.2	
	168nm,0.7s						
BART	Pico Bartolome	0.83	319	eP	Pb	21 34 13.8	-3.4
BART				eS	Sg	21 34 23.5	-4.7
BART				A	A	21 34 26.0	
	230nm,0.5s						
GRON	Grota Negra	1.04	306	eS	Sb	21 34 26.0	-8.2
GRON				A	A	21 34 28.1	
	33nm,0.2s						
PDA	Ponta Delgada	1.11	302	eP	Pb	21 34 17.0	-4.9
PDA				eS	Sb	21 34 29.9	-6.3
PDA				A	A	21 34 32.0	
	70nm,0.2s						
PSET	Sete Cidades	1.19	304	eS	Sb	21 34 32.4	-6.2
PSET				A	A	21 34 39.9	
	146nm,0.3s						
ROSA	Rosais	3.36	299	eP	Pn	21 34 49.4	-3.5
ROSA				eS	Sn	21 35 24.8	-7.8
ROSA				A	A	21 35 26.1	
	14nm,0.2s						
PICO	Pico	3.40	294	eP	Pn	21 34 50.4	-3.2

MEX 08 21:45:37.3±0.5, 15°.39N×96°.64W, h4km±40km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.64	54	iP	Pg	21 45 48.8	-0.8
HUIG				iS	Sg	21 45 58.4	+0.6
VHO	Vista Hermosa	1.67	357	iP	Pn	21 46 04.1	-3.5
VHO				iS	Sn	21 46 24.5	-5.2
CMIG	Matias Romero	2.39	45	eP	Pn	21 46 13.8	-3.5
CMIG				iS	Sn	21 46 42.3	-4.7

IDC 08 21:48:05.3±3.7, 60°.85S×27°.31W, h0km, mb3.8/2, mb1 3.9/2, mb1mx3.6/14, mbtmp3.8/2, Error ellipse: s-maj=126.4km s-min=52.6km az=175.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	53.21	308	P	P	21 57 25.9	-0.1
	0.6nm,0.5s,baz=180,slow=6.1,SNR=5.6						
TORD	Torodi Ar. Bea	77.29	29	P	P	22 00 01.4	+0.1
	0.2nm,0.5s,baz=197,slow=6.2,SNR=6.1						
ILAR	Eielson Array	153.05	305	PKPbc	PKPbc	22 08 02.8	-0.2
	0.3nm,0.5s,baz=90,slow=0.5,SNR=4.2						

IDC 08 21:49:29.8±3.0, 39°.34N×141°.62E, h0km, mb3.3/2, mb1 3.4/4, mb1mx3.2/25, mbtmp3.2/4, ML2.9/2, Error ellipse: s-maj=60.5km s-min=38.3km az=58.0
ISCJB 08 21:49:33.7±0.7, 39°.09N±0°.03×140°.95E±0°.05, h14km±5km, mb3.3/2, Error ellipse: s-maj=6.6km s-min=5.3km az=153.9
JMA 08 21:49:34.1, 39°.08N×140°.93E, h7km±1km, M3.2
JMA Felt I J1.
ISC 08 21:49:33.6±1.1, 39°.07N±0°.03×140°.95E±0°.05, h14km±10km, n16, σ0s.75/15, 2C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMK	Ichinoseki	0.24	120	⇓P	Pb	21 49 39.2	-0.6
JMK				eS	Sb	21 49 42.8	-1.2
JRG	Rokugo	0.40	323	⇓P	Pg	21 49 41.8	+0.1
JRG				eS	Sg	21 49 47.6	+0.4
JOM	Ohasama	0.48	34	⇑P	Pb	21 49 43.3	-0.6
JOM				eS	Sb	21 49 50.1	-0.7
JYK	Kaneyama	0.49	251	⇓P	Pg	21 49 43.4	+0.2
JYK				eS	Sg	21 49 49.7	0.0
JIO	Ouri	0.69	153	⇓P	Pg	21 49 47.4	+0.3

JIO				eS	Sb	21 49 56.9	0.0
JOU	Okura	0.74	198	⇑P	Pg	21 49 48.5	+0.5
JOU				eS	Sg	21 49 58.2	+0.4
MJAR	Matsushiro Arr	3.33	221	Pn	Pb	21 50 31.0	-1.5
	0.5nm,0.3s,baz=37,slow=9.9,SNR=6.6						
KSRS	Korea Array	10.37	265	Pn	Pn	21 52 07.7	+5.8
	0.2nm,0.3s,baz=82,slow=12,SNR=7.9						
H11N2	WAKE ISLAND Hy	29.54	123	T	T	22 26 06.9	
	baz=317,slow=75,SNR=89						
H11N1	WAKE ISLAND Hy	29.55	123	T	T	22 26 07.6	
	baz=317,slow=75,SNR=130						
H11N3	WAKE ISLAND Hy	29.56	123	T	T	22 26 08.2	
	baz=317,slow=75,SNR=106						
H11S1	WAKE ISLAND Hy	30.30	125	T	T	22 27 07.6	
	baz=319,slow=76,SNR=18						
H11S3	WAKE ISLAND Hy	30.31	125	T	T	22 27 08.1	
	baz=319,slow=76,SNR=30						
H11S2	WAKE ISLAND Hy	30.32	125	T	T	22 27 08.2	
	baz=319,slow=76,SNR=18						
MKAR	Makanchi Array	42.75	300	P	P	21 57 31.2	+0.7
	0.2nm,0.6s,baz=83,slow=13,SNR=2.4						
WRA	Warramunga Arr	59.03	187	P	P	21 59 33.7	+0.6
	0.3nm,0.5s,baz=3.8,slow=7.2,SNR=5.5						

IDC 08 22:05:18.1±1.8, 7.°34S×155.°73E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/18, mbtmp3.7/7, MS3.8/1, Ms1 3.7/1, ms1mx2.7/21, Error ellipse: s-maj=60.0km s-min=25.7km az=112.0

ISCJB 08 22:05:21.0±1.5, 7.°4S±0.°2×155.°7E±0.°3, h29km, mb3.6/7, MS3.7/1, Error ellipse: s-maj=46.9km s-min=19.1km az=22.5

ISC 08 22:05:22.6±1.6, 7.°4S±0.°2×155.°7E±0.°4, h29km, n11, σ0.s92/8, mb3.7/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.22	237	P	P	22 10 35.9	-1.2
	1.4nm,0.8s,baz=58,slow=9.3,SNR=8.0						
ASAR	Alice Springs	26.49	230	P	P	22 10 56.7	-1.0
	0.6nm,0.8s,baz=61,slow=9.6,SNR=2.8						
STKA	Stephens Creek	27.73	207	P	P	22 11 09.6	+1.0
	4.6nm,0.9s,baz=38,slow=9.2,SNR=3.4						
STKA				LR	LR	22 20 55.8	
	comp=Z,186nm,18.3s,baz=205,slow=34						
H11S3	WAKE ISLAND Hy	27.87	23	T	T	22 39 37.2	
	baz=202,slow=75,SNR=11						
H11S2	WAKE ISLAND Hy	27.88	23	T	T	22 39 38.7	
	baz=202,slow=75,SNR=9.5						
H11S1	WAKE ISLAND Hy	27.89	23	T	T	22 39 37.6	
	baz=202,slow=75,SNR=5.5						
CMAR	Chiang Mai Arr	61.61	295	P	P	22 15 38.6	+0.6
	0.5nm,0.6s,baz=120,slow=4.5,SNR=3.7						
SONM	Songino Array	70.04	327	P	P	22 16 31.9	0.0
	0.4nm,0.5s,baz=130,slow=6.0,SNR=5.1						
ILAR	Eielson Array	83.45	21	P	P	22 17 46.6	-0.5
	0.2nm,0.5s,baz=239,slow=6.2,SNR=3.6						
MKAR	Makanchi Array	84.17	319	P	P	22 17 51.3	+0.1
	0.4nm,0.7s,baz=95,slow=6.1,SNR=3.2						
TORD	Torodi Ar. Bea	153.83	285	PKPbc	PKPbc	22 25 20.5	+0.4
	0.5nm,1.0s,baz=71,slow=1.8,SNR=3.3						

IDC 08 22:38:40.9±2.2, 11.°54S×166.°29E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/22, mbtmp3.7/5, Error ellipse: s-maj=113.2km s-min=27.8km az=145.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	31.82	251	P	P	22 45 07.8	+0.2
	0.9nm,0.8s,baz=82,slow=9.3,SNR=4.8						
ASAR	Alice Springs	33.05	244	P	P	22 45 18.4	-0.1
	0.5nm,0.6s,baz=71,slow=9.4,SNR=5.5						
ILAR	Eielson Array	83.81	18	P	P	22 51 12.0	+0.2
	0.2nm,0.6s,baz=220,slow=6.9,SNR=3.3						
NVAR	Mina Array Bea	85.93	50	P	P	22 51 23.4	0.0
	0.3nm,0.5s,baz=221,slow=9.5,SNR=4.0						
MKAR	Makanchi Array	94.25	317	P	P	22 52 01.5	-0.6
	0.3nm,0.6s,baz=96,slow=6.1,SNR=3.9						

TIR 08 22:44:21.7±1.1, 40.°21N×21.°79E, h2km±7km, ML3.0

SKO 08 22:44:22.2, 39.°98N×21.°54E, h2km, M2.5, ML3.0

ATH 08 22:44:23.9, 40.°15N×21.°68E, h17km, MD3.5/46, ML3.1

CSEM 08 22:44:24.2±0.1, 40.°13N×21.°68E, h2km, MD3.5, Error ellipse: s-maj=2.4km s-min=2.0km az=76.0

ISCJB 08 22:44:24.3±0.5, 40.°15N±0.°02×21.°67E±0.°03, h9km±4km, Error ellipse: s-maj=3.4km s-min=2.9km az=18.2

THE 08 22:44:24.4, 40.°14N×21.°65E, h0km±2km, ML2.9/6, Error ellipse: s-maj=2.8km s-min=0.6km az=289.0

ISC 08 22:44:24.3±0.8, 40.°14N±0.°01×21.°67E±0.°02, h12km±6km, n157, σ1.s11/186, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.18	25	P	Pg	22 44 28.4	0.0
KZN				S	Sg	22 44 31.6	+0.3
KZN	Kozani	0.18	25	ePB	Pg	22 44 28.4	0.0
KZN				eSB	Sg	22 44 31.6	+0.3
KZN	Kozani	0.18	25	P	Pg	22 44 28.4	0.0
KZN				S	Sg	22 44 31.6	+0.3
NEST	Nestorio	0.55	300	P	Pg	22 44 34.2	-0.8
NEST	Nestorio	0.55	300	ePN	Pg	22 44 34.2	-0.8
NEST				eSN	Sg	22 44 42.7	+0.4
NEST	Nestorio	0.55	300	P	Pg	22 44 34.2	-0.8
NEST				eSn	Sg	22 44 42.7	+0.4
THL	Klokotos Trika	0.64	155	P	Pg	22 44 35.9	-0.8
THL				S	Sb	22 44 46.1	-0.1
THL	Klokotos Trika	0.64	155	ePB	Pg	22 44 36.0	-0.8
THL				eSN	Sg	22 44 44.5	-0.6
THL	Klokotos Trika	0.64	155	P	Pg	22 44 35.9	-0.8
THL				eSn	Sg	22 44 44.5	-0.6
THL				S	Sb	22 44 46.1	-0.1
JAN	Janina	0.80	233	P	Pb	22 44 38.8	-1.3
JAN	Janina	0.80	233	ePB	Pb	22 44 38.8	-1.3
JAN				eSN	Sg	22 44 50.7	+0.5
JAN	Janina	0.80	233	P	Pb	22 44 38.8	-1.3
JAN				eSn	Sg	22 44 50.7	+0.5
KBN	Korca	0.83	306	i PG	Pb	22 44 40.0	-0.7
KBN				i SG	Sn	22 44 53.0	-1.1
KBN	Korca	0.83	306	i Pg	Pb	22 44 40.0	-0.7
	SNR=91						
KBN				i Sg	Sn	22 44 53.0	-1.1
	SNR=91						
GRG	Griva	0.98	34	P	Pb	22 44 42.6	-0.8
GRG	Griva	0.98	34	ePN	Pb	22 44 42.6	-0.8
GRG				eSN	Sg	22 44 56.0	-0.2
GRG	Griva	0.98	34	P	Pb	22 44 42.6	-0.8
DSL	Palaion Diasel	1.10	204	P	Pn	22 44 44.9	-0.7
DSL	Palaion Diasel	1.10	204	ePN	Pg	22 44 45.3	-0.2
DSL				eSN	Sg	22 45 00.8	+0.9
DSL	Palaion Diasel	1.10	204	P	Pn	22 44 44.9	-0.7
DSL	Palaion Diasel	1.10	204	ePn	Pg	22 44 45.3	-0.2
DSL				eSn	Sg	22 45 00.8	+0.9
THE	Thessaloniki	1.10	63	ePN	Pg	22 44 45.8	+0.2
THE	Thessaloniki	1.10	63	ePn	Pg	22 44 45.8	+0.2
OHR	Ohrid	1.17	326	i Pg	Pn	22 44 45.0	-1.7
OHR				i Sg	Sg	22 45 03.2	+1.1
OHR				i Lg	Lg	22 45 05.7	
	comp=E,555nm,0.6s						
OHR				i Lg	Lg	22 45 08.0	
	comp=N,145nm,0.5s						
OHR	Ohrid	1.17	326	i Pg	Pn	22 44 44.9	-1.7
OHR				i Sg	Sg	22 45 03.2	+1.1
OHR				i Lg	Lg	22 45 08.0	
	comp=N,145nm,0.5s						
HORT	Hortiatis	1.18	67	P	Pg	22 44 47.0	-0.1
HORT	Hortiatis	1.18	67	ePN	Pg	22 44 46.9	-0.1
HORT				eSN	Sg	22 45 02.6	+0.1
HORT	Hortiatis	1.18	67	P	Pg	22 44 47.0	-0.1
HORT				eSn	Sg	22 45 02.6	+0.1
MAKR	Makrakomi, Fth	1.18	162	P	Pb	22 44 46.3	-0.5
MAKR				S	Sg	22 45 05.2	+2.7
MAKR	Makrakomi, Fth	1.18	162	ePN	Pb	22 44 46.3	-0.5
MAKR	Makrakomi, Fth	1.18	162	P	Pb	22 44 46.3	-0.5
MAKR				S	Sg	22 45 05.2	+2.7
IGT	Igoumenitsa	1.20	240	P	Pb	22 44 46.7	-0.2
IGT	Igoumenitsa	1.20	240	ePN	Pb	22 44 46.8	-0.2
IGT	Igoumenitsa	1.20	240	P	Pb	22 44 46.7	-0.2
SGD	Sagiada	1.23	245	P	Pb	22 44 46.9	-0.5
SGD	Sagiada	1.23	245	P	Pb	22 44 46.9	-0.5
EVR	Evrytania	1.23	175	P	Pn	22 44 46.6	-0.9
EVR				S	Sg	22 45 05.7	+1.7
EVR	Evrytania	1.23	175	ePN	Pb	22 44 46.9	-0.7
EVR	Evrytania	1.23	175	P	Pn	22 44 46.6	-0.9
EVR	Evrytania	1.23	175	ePn	Pb	22 44 46.9	-0.7
EVR				S	Sg	22 45 05.7	+1.7
AGG	Agios Georgios	1.23	155	P	Pb	22 44 47.3	-0.3
AGG				S	Sg	22 45 06.2	+2.2
AGG	Agios Georgios	1.23	155	ePN	Pg	22 44 47.4	-0.6
AGG	Agios Georgios	1.23	155	P	Pb	22 44 47.3	-0.3
AGG				S	Sg	22 45 06.2	+2.2
SRN	Sarande	1.31	259	i PG	Pg	22 44 49.6	+0.1
SRN				i SG	Sg	22 45 11.5	+5.0
SRN	Sarande	1.31	259	i Pg	Pg	22 44 49.6	+0.1
	SNR=90						
VAY	Valandovo	1.36	30	i Pg	Pg	22 44 50.2	-0.3
VAY				i Sg	Sg	22 45 11.7	+3.6
VAY				i Lg	Lg	22 45 13.0	
	comp=E,69nm,0.6s						
VAY				i Lg	Lg	22 45 15.2	
	comp=N,98nm,0.8s						
VAY	Valandovo	1.36	30	i Pg	Pg	22 44 50.2	-0.3
VAY				i Sg	Sg	22 45 11.7	+3.6
VAY				i Lg	Lg	22 45 15.1	
	comp=N,98nm,0.8s						
PLG	Polygyros	1.38	80	P	Pg	22 44 50.7	-0.1
PLG	Polygyros	1.38	80	ePN	Pg	22 44 50.3	-0.5
PLG				eSN	Sb	22 45 07.1	-0.6
PLG	Polygyros	1.38	80	ePn	Pg	22 44 50.3	-0.5
PLG	Polygyros	1.38	80	P	Pg	22 44 50.7	-0.1
PLG				eSn	Sb	22 45 07.1	-0.6
KNT	Kendrikon	1.38	42	P	Pb	22 44 49.7	-0.4
KNT	Kendrikon	1.38	42	ePN	Pb	22 44 49.8	-0.4
KNT	Kendrikon	1.38	42	P	Pb	22 44 49.7	-0.4
XOR	Xorichti	1.41	123	P	Pb	22 44 50.3	-0.3
XOR	Xorichti	1.41	123	ePN	Pg	22 44 50.5	-0.9
XOR	Xorichti	1.41	123	P	Pb	22 44 50.3	-0.3
SOH	Sokhos	1.45	62	P	Pg	22 44 51.5	-0.7
SOH	Sokhos	1.45	62	ePN	Pg	22 44 51.7	-0.5
SOH	Sokhos	1.45	62	P	Pg	22 44 51.5	-0.7
NEO	Neokhori	1.46	124	ePN	Pb	22 44 51.1	-0.4
NEO	Neokhori	1.46	124	ePn	Pb	22 44 51.1	-0.4
KEK	Kerkira	1.50	254	P	Pb	22 44 52.1	-0.1
KEK	Kerkira	1.50	254	ePN	Pb	22 44 52.1	-0.1
KEK	Kerkira	1.50	254	P	Pb	22 44 52.1	-0.1
PAIG	Paliouri	1.56	97	P	Pb	22 44 52.1	-1.0
PAIG	Paliouri	1.56	97	ePN	Pb	22 44 52.0	-1.0
PAIG	Paliouri	1.56	97	P	Pb	22 44 52.1	-1.0
LKD2	Lefkada island	1.56	210	P	Pb	22 44 53.4	+0.2
LKD2	Lefkada island	1.56	210	ePN	Pg	22 44 54.4	+0.1
LKD2	Lefkada island	1.56	210	P	Pb	22 44 53.4	+0.2
LKD2	Lefkada island	1.56	210	ePn	Pg	22 44 54.4	+0.1
AXAR	Agios Charalam	1.57	151	P	Pb	22 44 53.1	-0.3
AXAR	Agios Charalam	1.57	151	ePB	Pb	22 44 52.1	-1.3
AXAR	Agios Charalam	1.57	151	ePb	Pb	22 44 52.1	-1.3
AXAR	Agios Charalam	1.57	151	P	Pb	22 44 53.1	-0.3
PDO	Prodromos	1.59	194	P	Pb	22 44 53.4	-0.2
PDO	Prodromos	1.59	194	ePN	Pb	22 44 53.5	-0.2
PDO	Prodromos	1.59	194	ePn	Pb	22 44 53.5	-0.2
EFP	Efpalio	1.72	174	P	Pb	22 44 55.6	-0.3
EFP	Efpalio	1.72	174	ePN	Pb	22 44 55.7	-0.2
EFP	Efpalio	1.72	174	P	Pb	22 44 55.6	-0.3
SMIA	Simia	1.74	136	ePN	Pb	22 44 55.6	-0.6
SMIA	Simia	1.74	136	ePn	Pb	22 44 55.6	-0.6
SRS	Serrai	1.76	56	P	Pb	22 44 55.7	-0.8
SRS	Serrai	1.76	56	ePN	Pb	22 44 56.5	0.0
SRS	Serrai	1.76	56	P	Pb	22 44 55.7	-0.8
SRS	Serrai	1.76	56	ePn	Pb	22 44 56.5	0.0
OUR	Ouranopolis	1.78	83	ePN	Pb	22 44 56.5	-0.4
OUR	Ouranopolis	1.78	83	ePn	Pb	22 44 56.5	-0.4
ATAL	Atalanti	1.79	144	P	Pb	22 44 55.7	-1.3
ATAL	Atalanti	1.79	144	P	Pb	22 44 55.7	-1.3
KALE	Kalithea	1.79	168	P	Pb	22 44 55.8	-1.3
KALE	Kalithea	1.79	168	ePN	Pb	22 44 55.8	-1.3
KALE	Kalithea	1.79	168	P	Pb	22 44 55.8	-1.3
PHP	Peshkopia	1.80	329	i PN	Pb	22 44 56.5	-0.8
PHP	Peshkopia	1.80	329	P	Pb	22 44 56.1	-1.2
PHP	Peshkopia	1.80	329	P	Pb	22 44 56.1	-1.2
PHP	Peshkopia	1.80	329	i Pn	Pb	22 44 56.5	-0.8
	SNR=40						
LKR	Lokris	1.81	145	P	Pb	22 44 56.0	-1.4
LKR	Lokris	1.81	145	ePN	Pb	22 44 56.2	-1.2
LKR	Lokris	1.81	145	ePn	Pb	22 44 56.2	-1.2
TIR	Tirane	1.82	312	i PN	Pb	22 44 57.2	-0.5
TIR	Tirane	1.82	312	i Pn	Pb	22 44 57.2	-0.5
	SNR=40						
SKO	Skopje	1.83	355	i Pn	Pb	22 44 57.6	-0.3
SKO	Skopje	1.83	355	i Pn	Pb	22 44 57.5	-0.3
DSF	Desfina	1.85	159	P	Pb	22 44 56.5	-1.7
DSF	Desfina	1.85	159	ePN	Pb	22 44 56.7	-1.5
DSF	Desfina	1.85	159	ePn	Pb	22 44 56.7	-1.5
AOS	Alonnisos	1.96	119	P	Pn	22 44 57.6	+0.1
AOS				S	Sb	22 45 24.6	+0.1
AOS	Alonnisos	1.96	119	ePB	Pn	22 44 57.7	+0.2
AOS	Alonnisos	1.96	119	P	Pn	22 44 57.6	+0.1
AOS				S	Sb	22 45 24.6	+0.1
NVR	Nevrokopi	2.06	53	P	Pb	22 44 59.9	-1.7
NVR	Nevrokopi	2.06	53	ePN	Pb	22 45 00.4	-1.2
NVR	Nevrokopi	2.06	53	P	Pb	22 44 59.9	-1.7
NVR	Nevrokopi	2.06	53	ePn	Pb	22 45 00.4	-1.2
MRKA	Markates	2.07	133	ePN	Pb	22 45 00.0	-1.8
MRKA	Markates	2.07	133	ePn	Pb	22 45 00.0	-1.8
VLS	Valsamata	2.14	203	ePN	Pb	22 45 01.9	-1.1
VLS	Valsamata	2.14	203	ePn	Pb	22 45 01.9	-1.1
GUR	Goura	2.27	166	ePN	Pb	22 45 03.2	-2.1
GUR	Goura	2.27	166	ePn	Pb	22 45 03.2	-2.1
VIL2	Platees	2.29	147	ePB	Pb	22 45 03.4	-2.3
PUK	Puka	2.32	325	i PN	Pb	22 45 05.0	-1.2
PUK	Puka	2.32	325	i Pn	Pb	22 45 05.0	-1.2
	SNR=40						
KAVA	Kavala	2.33	68	ePB	Pb	22 45 03.5	-2.7
LTK	Loutraki	2.35	154	ePB	Pn	22 45 03.3	+0.6
VILL	Villia	2.35	147	P	Pn	22 45 03.2	+0.3
VILL	Villia	2.35	147	P	Pn	22 45 03.2	+0.3
BARS	Barje	2.67	2	⇑iPn	Pn	22 45 08.6	+1.4
ATH	Athens Observa	2.69	143	ePN	Pn	22 45 08.0	+0.6
ATH	Athens Observa	2.69	143	ePn	Pn	22 45 08.0	+0.6
PTL	Penteli	2.70	140	ePN	Pn	22 45 08.7	+1.1
PTL	Penteli	2.70	140	ePn	Pn	22 45 08.7	+1.1
VLX	Vlachokerasia	2.83	168	ePN	Pn	22 45 11.1	+1.7
VLX	Vlachokerasia	2.83	168	ePn	Pn	22 45 11.1	+1.7
DID	Didima	2.90	155	P	Pn	22 45 11.3	+0.9
DID	Didima	2.90	155	ePN	Pn	22 45 11.0	+0.6
DID	Didima	2.90	155	ePn	Pn	22 45 11.0	+0.6
DID	Didima	2.90	155	P	Pn	22 45 11.3	+0.9
SMTH	Samothraki Isl	2.97	82	ePN	Pn	22 45 12.3	+1.0
SMTH	Samothraki Isl	2.97	82	ePn	Pn	22 45 12.3	+1.0
RDO	Rodhopi	3.11	70	ePN	Pn	22 45 14.0	+0.8
RDO	Rodhopi	3.11	70	ePn	Pn	22 45 14.0	+0.8
PYL	PYLOS	3.24	179	ePN	Pn	22 45 17.3	+2.2
PYL	PYLOS	3.24	179	ePn	Pn	22 45 17.3	+2.2
ALN	Alexandroupoli	3.42	76	ePN	Pn	22 45 19.0	+1.5
ALN	Alexandroupoli	3.42	76	ePn	Pn	22 45 19.0	+1.5
VLI	Veliai	3.56	163	ePN	Pn	22 45 20.3	+0.9
VLI	Veliai	3.56	163	ePn	Pn	22 45 20.3	+0.9
IVAS	Ivanjica	3.61	342	ePn	Pn	22 45 23.0	+2.8
GRUS	Gruza	3.81	350	ePn	Pn	22 45 23.6	+0.8
BBLS	Lazići	4.08	336	ePn	Pn	22 45 30.5	+3.8
DIVS	Divibare	4.14	343	ePn	Pn	22 45 28.8	+1.3
TRUS	Trudelj	4.18	347	ePn	Pn	22 45 28.2	+0.2
TEKS	Tekeris	4.68	341	ePn	Pn	22 45 36.5	+1.7
FGSL	Fruska Gora	5.19	345	ePn	Pn	22 45 43.2	+1.3

IDC 08 22:54:38.5±2.3, 2.°62S×139.°09E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.5/20, mbtmp3.7/4, ML3.8/2, Error ellipse: s-maj=65.1km s-min=28.0km az=82.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	8.01	282	Pn	Pn	22 56 36.5	+0.2
	2.6nm,0.3s,baz=122,slow=13,SNR=6.1						
WRA	Warramunga Arr	17.83	195	P	Pn	22 58 48.2	0.0
	0.2nm,0.3s,baz=16,slow=13,SNR=4.0						
ASAR	Alice Springs	21.52	193	P	P	22 59 29.1	-0.2
	0.5nm,0.5s,baz=15,slow=11,SNR=6.8						
MKAR	Makanchi Array	69.95	322	P	P	23 05 51.7	-0.1
	0.3nm,0.4s,baz=104,slow=8.3,SNR=10						
TORD	Torodi Ar. Bea	136.60	286	PKP	PKPdf	23 14 04.2	+0.4
	0.3nm,0.8s,baz=54,slow=2.1,SNR=2.9						

ISCJB 08 23:07:11.1±0.5, 2.°38N±0.°08×128.°31E±0.°10, h100km, mb3.8/6, Error ellipse: s-maj=17.1km s-min=7.2km az=141.7

IDC 08 23:07:12.5±2.6, 2.°36N×128.°30E, h101km±26km, mb3.5/6, mb1 3.7/8, mb1mx3.5/23, mbtmp4.0/8, Error ellipse: s-maj=29.4km s-min=16.2km az=68.0

ISC 08 23:07:12.5±0.7, 2.°36N±0.°10×128.°3E±0.°1, h100km, n19, σ0.s64/19, mb4.2/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	4.39	137	P	Pn	23 08 18.4	+1.3
	8.3nm,0.3s,baz=128,slow=23,SNR=24						
SIJI				S	Sn	23 09 06.1	-1.1
	11nm,0.3s,baz=91,slow=22,SNR=24						
KAPI	Kappang	11.23	229	P	Pn	23 09 49.9	-0.1
	1.8nm,0.3s,baz=59,slow=6.4,SNR=7.9						
WRA	Warramunga Arr	22.95	165	P	P	23 12 08.4	-0.1
	3.7nm,0.5s,baz=344,slow=10,SNR=15						
ASAR	Alice Springs	26.45	168	P	P	23 12 40.2	0.0
	0.4nm,0.5s,baz=353,slow=8.6,SNR=5.4						
ASAR				pP	pP	23 13 02.3	-0.1
	0.7nm,0.8s,baz=345,slow=9.6,SNR=3.8						
MJAR	Matsushiro Arr	35.23	14	P	P	23 13 57.3	0.0
	1.2nm,0.6s,baz=189,slow=10,SNR=4.1						
STKA	Stephens Creek	36.33	161	P	P	23 14 06.6	-0.2
	1.1nm,0.3s,baz=332,slow=10,SNR=5.9						
H11N1	WAKE ISLAND Hy	41.48	63	T	T	23 59 00.0	
	baz=250,slow=75,SNR=12						
H11N2	WAKE ISLAND Hy	41.50	63	T	T	23 59 01.1	
	baz=250,slow=75,SNR=5.2						
H11N3	WAKE ISLAND Hy	41.50	63	T	T	23 59 01.6	
	baz=250,slow=75,SNR=9.0						
TAPN	Taplejung	46.06	307	eP	P	23 15 27.7	+0.7
RAMN	Ramite	46.79	305	eP	P	23 15 33.4	+0.8
	9.5nm,0.7s						
JIRN	Jiri	47.41	306	eP	P	23 15 38.2	+0.6
	20nm,0.7s						
GUN	Gumba	47.77	306	eP	P	23 15 40.8	+0.5
	17nm,0.6s						
PKI	Pulchoki	48.01	306	eP	P	23 15 42.5	+0.3
GKN	Gorkha	48.81	306	eP	P	23 15 47.9	-0.2
SONM	Songino Array	49.08	341	P	P	23 15 49.7	-0.1
	0.6nm,0.6s,baz=158,slow=7.8,SNR=4.3						
KOLN	Koldanda	49.56	305	eP	P	23 15 54.6	+0.7
	21nm,0.6s						
MKAR	Makanchi Array	59.55	325	P	P	23 17 05.4	-0.2
	0.7nm,0.4s,baz=114,slow=7.7,SNR=14						
MKAR				PcP	PcP	23 17 51.1	-0.9
	0.5nm,0.7s,baz=113,slow=6.0,SNR=2.7						
TORD	Torodi Ar. Bea	124.80	288	PKP	PKPdf	23 26 01.2	-0.5
	0.3nm,0.9s,baz=82,slow=0.5,SNR=3.8						

ISCJB 08 23:16:43.8±0.9, 14.°56N±0.°09×93.°19W±0.°07, h51km, mb3.8/4, Error ellipse: s-maj=14.4km s-min=6.6km az=34.2

MEX 08 23:16:43.1±0.7, 14.°47N×93.°33W, h25km±41km, MD4.0

IDC 08 23:16:51.0±8.4, 14.°92N×92.°91W, h80km±60km, mb3.4/4, mb1 3.7/6, mb1mx3.3/38, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=68.2km s-min=30.8km az=11.0

CASC 08 23:16:50.4±2.0, 14.°32N×92.°71W, h68km±57km, MD4.0

ISC 08 23:16:46.0±1.1, 14.°59N±0.°08×93.°05W±0.°08, h51km, n17, σ1.s61/19, mb3.8/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	1.40	101	eP	Pn	23 17 10.2	+1.1
CCIG	Comitan	1.90	28	eP	Pn	23 17 15.7	-0.4
CCIG				i S	Sn	23 17 41.0	+2.1
FUG	Fuego 3	2.15	94	eP	Pn	23 17 20.1	+0.5
IXG	Ixpaco	2.55	99	eP	Pn	23 17 25.0	-0.1
IXG				eS	Sn	23 17 53.0	-2.1
NBG	Las Nubes	2.62	90	eP	Pn	23 17 28.4	+2.3
CMIG	Matias Romero	3.05	325	eP	Pn	23 17 27.8	-3.9
CMIG				i S	Sn	23 18 01.6	-5.4
CMIG	Matias Romero	3.05	325	S	Sn	23 18 04.2	-2.8
	10nm,0.3s,baz=88,slow=19,SNR=1.3						
HUIG	Huatulco	3.17	292	i P	Pn	23 17 26.4	-7.0
HUIG				i S	Sn	23 18 00.5	-10
MRL	Marmol	3.28	81	eP	Pn	23 17 36.5	+1.4
RBDL	Robledal	3.30	98	eP	Pn	23 17 35.3	0.0
RBDL				eS	Sn	23 18 10.8	-2.6
LFRS	El Faro	3.99	103	eP	Pn	23 17 44.1	-0.6
TEIG	Tepich	7.22	38	P	Pn	23 18 29.2	+0.2
	baz=239,slow=5.9						
TEIG				S	Sn	23 19 47.0	-2.7
	2.2nm,0.3s,baz=341,slow=19,SNR=1.5						
TXAR	Lajitas Array	17.65	328	P	Pn	23 20 49.0	+0.6
	0.1nm,0.3s,baz=146,slow=12,SNR=8.2						
NVAR	Mina Array Bea	32.57	322	P	P	23 23 13.8	+0.9
	0.8nm,0.8s,baz=142,slow=9.0,SNR=5.5						
YKA	Yellowknife Ar	50.22	347	P	P	23 25 35.9	-0.6
	1.2nm,0.7s,baz=146,slow=7.0,SNR=4.3						
ILAR	Eielson Array	61.90	337	P	P	23 27 00.2	+0.2
	0.2nm,0.6s,baz=141,slow=1.9,SNR=3.3						
TORD	Torodi Ar. Bea	91.23	76	P	P	23 29 47.1	+0.6
	0.5nm,0.8s,baz=269,slow=8.4,SNR=5.0						

CSEM 08 23:36:37.5, 43.°41N×13.°04E, h15km, MD1.7/6

ROM 08 23:36:37.5±0.2, 43.°41N×13.°04E, h15km±3km, Md1.7/6, Ml0.7/4, Error ellipse: s-maj=3.2km s-min=1.4km az=69.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARVD	Arcevia	0.12	321	Pg	Pg	23 36 41.1	0.0
ARVD				Sg	Sb	23 36 43.9	-0.2
	16nm,0.2s						
ARVD	Arcevia	0.12	321	Pg	Pg	23 36 41.1	0.0
ARVD				Sg	Sb	23 36 43.9	-0.2
	16nm,0.2s						
CING	Cingoli	0.12	106	Pg	Pg	23 36 41.1	0.0
CING				Sg	Sb	23 36 44.1	0.0
	28nm,0.3s						
CING	Cingoli	0.12	106	Pg	Pg	23 36 41.1	0.0
CING				Sg	Sb	23 36 44.1	0.0
	28nm,0.3s						
SNTG	Esanatoglia	0.17	206	Pg	Pg	23 36 41.9	+0.1
SNTG				Sg	Sb	23 36 45.4	-0.3
	9.0nm,0.2s						
SNTG	Esanatoglia	0.17	206	Pg	Pg	23 36 41.9	+0.1
SNTG				Sg	Sb	23 36 45.4	-0.3
	9.0nm,0.2s						
FSSB	Fossombrone	0.34	326	Pg	Pg	23 36 44.4	-0.3
FSSB				Sg	Sb	23 36 50.9	+0.2
FSSB	Fossombrone	0.34	326	Pg	Pg	23 36 44.4	-0.3
FSSB				Sg	Sb	23 36 50.9	+0.2
FDMO	Fiordimonte	0.37	175	Pg	Pg	23 36 45.0	-0.2
FDMO				Sg	Sb	23 36 51.4	-0.1
FDMO	Fiordimonte	0.37	175	Pg	Pg	23 36 45.0	-0.2
FDMO				Sg	Sb	23 36 51.4	-0.1
PIEI	Pieia	0.39	289	Pg	Pg	23 36 45.3	-0.2
PIEI				Sg	Sb	23 36 51.6	-0.5
	3.0nm,0.3s						
PIEI	Pieia	0.39	289	Pg	Pg	23 36 45.3	-0.2
PIEI				Sg	Sb	23 36 51.6	-0.5
	3.0nm,0.3s						
NRCA	Norcia	0.58	175	Pg	Pg	23 36 48.8	-0.2
NRCA				Sg	Sb	23 36 57.9	+0.4
NRCA	Norcia	0.58	175	Pg	Pg	23 36 48.8	-0.2
NRCA				Sg	Sb	23 36 57.9	+0.4

ISCJB 08 23:40:24.8±0.3, 38.°07N±0.°02×21.°24E±0.°02, h11km±2km, Error ellipse: s-maj=2.9km s-min=2.7km az=156.6

ATH 08 23:40:24.6, 38.°09N×21.°27E, h18km±1km, MD3.5/31, ML2.8

CSEM 08 23:40:24.4±0.2, 38.°06N×21.°24E, h5km, ML3.1, Error ellipse: s-maj=3.3km s-min=2.9km az=53.0

THE 08 23:40:25.0, 38.°07N×21.°27E, h0km±3km, ML3.0/11, Error ellipse: s-maj=3.3km s-min=0.9km az=302.0

ISC 08 23:40:25.0±0.8, 38.°07N±0.°01×21.°26E±0.°01, h14km±5km, n114, σ0.s91/190, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTN	Vitineika	0.16	201	P	Pg	23 40 28.9	0.0
VTN				S	Sb	23 40 33.1	+0.3
VTN	Vitineika	0.16	201	P	Pg	23 40 28.9	0.0
VTN				S	Sb	23 40 33.1	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.17	93	P	Pg	23 40 28.4	-0.6
RLS				S	Sg	23 40 31.6	-0.1
RLS	Riolos of Patr	0.17	93	*e*PB	Pg	23 40 28.5	-0.6
RLS				*e*SB	Sg	23 40 31.8	+0.1
RLS	Riolos of Patr	0.17	93	*e*Pb	Pg	23 40 28.5	-0.6
RLS				S	Sg	23 40 31.6	-0.1
KFL	Anninata	0.37	277	P	Pg	23 40 32.1	-0.4
KFL				S	Sb	23 40 39.1	+0.1
KFL	Anninata	0.37	277	P	Pg	23 40 32.1	-0.4
KFL				S	Sg	23 40 38.5	+0.8
DRO	Drossia	0.38	108	P	Pg	23 40 31.7	-0.8
DRO				S	Sg	23 40 38.0	+0.2
DRO	Drossia	0.38	108	*e*PB	Pg	23 40 31.8	-0.8
DRO				*e*SB	Sg	23 40 38.0	+0.2
DRO	Drossia	0.38	108	*e*Pb	Pg	23 40 31.8	-0.8
DRO				S	Sg	23 40 37.6	-0.2
DRO				*e*Sb	Sg	23 40 38.0	+0.2
UPR	University Cam	0.47	62	P	Pg	23 40 33.8	-0.5
UPR				S	Sg	23 40 41.2	+0.6
ZKS	Zakynthos	0.53	225	P	Pg	23 40 34.2	-1.1
ZKS				S	Sg	23 40 43.5	+1.1
ZKS	Zakynthos	0.53	225	P	Pg	23 40 34.2	-1.1
ZKS				S	Sg	23 40 42.8	+0.4
PDO	Prodromos	0.53	354	P	Pg	23 40 35.1	-0.4
PDO				S	Sb	23 40 44.8	+1.1
PDO	Prodromos	0.53	354	*e*PN	Pg	23 40 35.2	-0.3
PDO				*e*SN	Sg	23 40 42.8	+0.1
PDO	Prodromos	0.53	354	P	Pg	23 40 35.2	-0.3
PDO				*e*Sn	Sg	23 40 42.8	+0.1
PDO				S	Sb	23 40 44.7	+1.1
VLS	Valsamata	0.54	282	P	Pg	23 40 34.4	-1.2
VLS				S	Sg	23 40 43.1	+0.3
VLS	Valsamata	0.54	282	P	Pg	23 40 34.6	-1.0
VLS				S	Sg	23 40 43.1	+0.3
PVO	Paravola	0.59	21	P	Pg	23 40 36.6	+0.1
PVO				S	Sn	23 40 47.0	-1.3
PVO	Paravola	0.59	21	P	Pg	23 40 36.6	+0.1
PVO				S	Sn	23 40 47.0	-1.3
EFP	Efpalio	0.62	55	P	Pg	23 40 36.2	-1.0
EFP				S	Sg	23 40 45.5	0.0
EFP	Efpalio	0.62	55	*e*PB	Pg	23 40 36.0	-1.2
EFP				*e*SN	Sg	23 40 45.7	+0.2
EFP	Efpalio	0.62	55	P	Pg	23 40 36.2	-1.0
EFP				*e*Sn	Sg	23 40 45.7	+0.2
AMT	Artemida-Makis	0.64	146	P	Pg	23 40 36.3	-1.2
AMT				S	Sb	23 40 47.7	+1.0
AMT	Artemida-Makis	0.64	146	*e*PB	Pg	23 40 36.6	-0.9
AMT				*e*SN	Sg	23 40 46.2	+0.2
AMT	Artemida-Makis	0.64	146	P	Pg	23 40 36.3	-1.2
AMT	Artemida-Makis	0.64	146	*e*Pb	Pg	23 40 36.6	-0.9
AMT				*e*Sn	Sg	23 40 46.2	+0.2
AMT				S	Sb	23 40 47.1	+0.4
KALE	Kalithea	0.77	65	P	Pg	23 40 38.4	-1.5
KALE				S	Sb	23 40 51.3	+0.9
KALE	Kalithea	0.77	65	*e*PB	Pg	23 40 38.6	-1.3
KALE				*e*SN	Sb	23 40 50.7	+0.3
KALE	Kalithea	0.77	65	*e*Pb	Pg	23 40 38.6	-1.3
KALE				S	Sb	23 40 50.7	+0.3
SFD	Strofades	0.84	193	*e*PB	Pb	23 40 40.5	-0.7
SFD				*e*SN	Sn	23 40 53.8	-0.5
SFD	Strofades	0.84	193	*e*Pb	Pb	23 40 40.5	-0.7
SFD				*e*Sn	Sn	23 40 53.8	-0.5
LKD2	Lefkada island	0.86	327	P	Pb	23 40 40.4	-1.3
LKD2	Lefkada island	0.86	327	*e*PB	Pb	23 40 40.4	-1.3
LKD2				*e*SN	Sg	23 40 53.8	+0.8
LKD2	Lefkada island	0.86	327	P	Pb	23 40 40.4	-1.3
LKD2				*e*Sn	Sg	23 40 53.8	+0.8
GUR	Goura	0.87	98	P	Pb	23 40 39.9	-1.9
GUR				S	Sb	23 40 53.6	+0.3
GUR	Goura	0.87	98	*e*PN	Pb	23 40 40.1	-1.7
GUR				*e*SN	Sg	23 40 54.0	+0.8
GUR	Goura	0.87	98	P	Pb	23 40 40.0	-1.9
GUR				S	Sb	23 40 53.1	-0.2
GUR				*e*Sn	Sg	23 40 54.0	+0.8
EVR	Evrytania	0.95	27	P	Pb	23 40 42.5	-0.8
EVR	Evrytania	0.95	27	*e*PB	Pb	23 40 41.9	-1.4
EVR				*e*SN	Sb	23 40 56.0	+0.2
EVR	Evrytania	0.95	27	*e*Pb	Pb	23 40 41.9	-1.4
EVR	Evrytania	0.95	27	P	Pb	23 40 42.5	-0.8
EVR				*e*Sn	Sb	23 40 56.0	+0.2
ITM	Ithomi	1.03	149	P	Pb	23 40 43.5	-1.1
ITM				S	Sn	23 41 00.4	+1.2
ITM	Ithomi	1.03	149	*e*PB	Pb	23 40 43.8	-0.8
ITM				*e*SN	Sn	23 40 59.4	+0.2
ITM	Ithomi	1.03	149	P	Pb	23 40 43.5	-1.1
ITM	Ithomi	1.03	149	*e*Pb	Pb	23 40 43.8	-0.8
ITM				*e*Sn	Sn	23 40 59.4	+0.2
ITM				S	Sn	23 41 00.4	+1.2
DSF	Desfina	1.06	71	P	Pb	23 40 43.4	-1.6
DSF				S	Sg	23 40 59.7	+0.5
DSF	Desfina	1.06	71	*e*PB	Pb	23 40 43.5	-1.6
DSF				*e*SN	Sn	23 40 59.9	0.0
DSF	Desfina	1.06	71	*e*Pb	Pb	23 40 43.5	-1.6
DSF				S	Sg	23 40 59.7	+0.5
DSL	Palaion Diasel	1.07	353	*e*PN	Pb	23 40 44.4	-0.9
DSL	Palaion Diasel	1.07	353	*e*Pn	Pb	23 40 44.4	-0.9
VLX	Vlachokerasia	1.13	128	P	Pb	23 40 45.6	-0.7
VLX				S	Sg	23 41 02.8	+1.3
VLX	Vlachokerasia	1.13	128	*e*PN	Pb	23 40 45.7	-0.6
VLX				*e*SN	Sg	23 41 02.6	+1.1
VLX	Vlachokerasia	1.13	128	P	Pb	23 40 45.6	-0.7
VLX				*e*Sn	Sg	23 41 02.6	+1.1
MAKR	Makrakomi, Fth	1.17	36	*e*PN	Pn	23 40 46.6	-0.3
MAKR				*e*SN	Sg	23 41 03.1	+0.4
MAKR	Makrakomi, Fth	1.17	36	*e*Pn	Pn	23 40 46.6	-0.3
MAKR				*e*Sn	Sg	23 41 03.1	+0.4
PYL	PYLOS	1.23	162	*e*PB	Pn	23 40 47.3	-0.4
PYL				*e*SN	Sg	23 41 05.6	+0.9
PYL	PYLOS	1.23	162	*e*Pb	Pn	23 40 47.3	-0.4
PYL				*e*Sn	Sg	23 41 05.6	+0.9
AGG	Agios Georgios	1.27	41	P	Pn	23 40 48.0	-0.3
AGG				S	Sg	23 41 08.2	+2.1
AGG	Agios Georgios	1.27	41	*e*PN	Pn	23 40 48.0	-0.3
AGG				*e*SN	Sg	23 41 06.1	0.0
AGG	Agios Georgios	1.27	41	P	Pn	23 40 48.0	-0.3
AGG				*e*Sn	Sg	23 41 06.1	0.0
AGG				S	Sg	23 41 08.2	+2.1
AXAR	Agios Charalam	1.30	57	P	Pn	23 40 48.7	0.0
AXAR	Agios Charalam	1.30	57	*e*PN	Pn	23 40 48.7	0.0
AXAR				*e*SN	Sg	23 41 07.1	0.0
AXAR	Agios Charalam	1.30	57	P	Pn	23 40 48.7	0.0
AXAR				*e*Sn	Sg	23 41 07.1	0.0
LTK	Loutraki	1.35	91	P	Pn	23 40 49.4	0.0
LTK	Loutraki	1.35	91	*e*PN	Pn	23 40 49.4	0.0
LTK				*e*SN	Sg	23 41 09.4	+0.9
LTK	Loutraki	1.35	91	P	Pn	23 40 49.4	0.0
LTK				*e*Sn	Sg	23 41 09.4	+0.9
LKR	Lokris	1.49	66	*e*PN	Pn	23 40 51.8	+0.6
LKR				*e*SN	Sg	23 41 12.9	0.0
LKR	Lokris	1.49	66	*e*Pn	Pn	23 40 51.8	+0.6
LKR				*e*Sn	Sg	23 41 12.9	0.0
VIL2	Platees	1.59	84	*e*PN	Pg	23 40 55.2	-0.4
VIL2				*e*SN	Sg	23 41 15.6	-0.7
THL	Klokotos Trika	1.61	21	P	Pb	23 40 54.8	+0.4
THL	Klokotos Trika	1.61	21	*e*PN	Pb	23 40 54.5	+0.1
THL	Klokotos Trika	1.61	21	*e*Pn	Pb	23 40 54.5	+0.1
THL	Klokotos Trika	1.61	21	P	Pb	23 40 54.8	+0.4
JAN	Janina	1.62	349	*e*PN	Pb	23 40 54.3	-0.3
JAN	Janina	1.62	349	*e*Pn	Pb	23 40 54.3	-0.3
VILL	Villia	1.62	86	*e*Pn	Pb	23 40 55.2	+0.5
VILL				*e*Sn	Sb	23 41 15.6	+0.6
IGT	Igoumenitsa	1.63	334	P	Pn	23 40 53.9	+0.7
IGT	Igoumenitsa	1.63	334	*e*PN	Pn	23 40 53.8	+0.6
IGT	Igoumenitsa	1.63	334	*e*Pn	Pn	23 40 53.8	+0.6
DID	Didima	1.67	109	P	Pb	23 40 55.2	-0.2
DID				S	Sg	23 41 19.0	+0.4
DID	Didima	1.67	109	*e*PN	Pn	23 40 54.3	+0.6
DID				*e*SN	Sb	23 41 16.9	+0.7
DID	Didima	1.67	109	*e*Pn	Pn	23 40 54.3	+0.6
DID	Didima	1.67	109	P	Pb	23 40 55.2	-0.2
DID				*e*Sn	Sb	23 41 16.9	+0.7
DID				S	Sg	23 41 19.0	+0.4
SMIA	Simia	1.73	61	*e*PN	Pn	23 40 55.4	+0.8
SMIA	Simia	1.73	61	*e*Pn	Pn	23 40 55.4	+0.8
NAIG	Nisos Aigina	1.79	99	*e*PN	Pb	23 40 57.1	-0.4
NAIG	Nisos Aigina	1.79	99	*e*Pn	Pb	23 40 57.1	-0.4
MRKA	Markates	1.94	70	*e*PN	Pb	23 40 59.6	-0.5
MRKA				*e*SN	Sb	23 41 24.3	+0.2
MRKA	Markates	1.94	70	*e*Pn	Pb	23 40 59.6	-0.5
MRKA				*e*Sn	Sb	23 41 24.3	+0.2
ATH	Athens Observa	1.94	92	*e*PN	Pb	23 40 59.6	-0.5
ATH	Athens Observa	1.94	92	*e*Pn	Pb	23 40 59.6	-0.5
NEO	Neokhori	1.98	51	*e*PN	Pn	23 40 59.1	+1.1
NEO				*e*SN	Sb	23 41 24.8	-0.3
NEO	Neokhori	1.98	51	*e*Pn	Pn	23 40 59.1	+1.1
NEO				*e*Sn	Sb	23 41 24.8	-0.3
XOR	Xorichti	1.99	49	*e*PN	Pn	23 40 59.8	+1.6
XOR	Xorichti	1.99	49	*e*Pn	Pn	23 40 59.8	+1.6
KEK	Kerkira	2.00	326	*e*PB	Pn	23 40 59.1	+0.8
KEK	Kerkira	2.00	326	*e*Pb	Pn	23 40 59.1	+0.8
PTL	Penteli	2.06	90	*e*PN	Pn	23 41 00.4	+1.3
PTL	Penteli	2.06	90	*e*Pn	Pn	23 41 00.4	+1.3
KYTH	Kithira	2.28	141	*e*PN	Pb	23 41 06.4	+0.5
KYTH	Kithira	2.28	141	*e*Pn	Pb	23 41 06.4	+0.5
AOS	Alonnisos	2.33	61	*e*PN	Pn	23 41 04.9	+2.1
AOS	Alonnisos	2.33	61	*e*Pn	Pn	23 41 04.9	+2.1
NEST	Nestorio	2.35	356	*e*PN	Pn	23 41 05.1	+1.9
NEST	Nestorio	2.35	356	*e*Pn	Pn	23 41 05.1	+1.9
GRG	Griva	3.02	17	*e*PN	Pn	23 41 13.6	+1.3
GRG	Griva	3.02	17	*e*Pn	Pn	23 41 13.6	+1.3
SOH	Sokhos	3.19	30	*e*PN	Pn	23 41 16.8	+2.0
SOH	Sokhos	3.19	30	*e*Pn	Pn	23 41 16.8	+2.0
SRS	Serrai	3.54	30	*e*PN	Pn	23 41 21.5	+2.0
SRS	Serrai	3.54	30	*e*Pn	Pn	23 41 21.5	+2.0
STON	Ston	5.51	332	*i* Pn	Pn	23 41 45.1	-1.4
STON				Sn	Sn	23 42 43.8	-5.8
STON	Ston	5.51	332	*i* Pn	Pn	23 41 45.1	-1.4

*IDC **08** 23:41:30.7±9.5, 23°.22N×94°.34E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/27, mbtmp3.3/3, Error ellipse: s-maj=810.1km s-min=27.3km az=60.0*

ISC 08 23:41:32.1±1.4**, 23°.0N**±0°.1×**94°.1E**±0°.2**, h10**km**, n5,** σ**0.99**/6**, mb3.6**/3**, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMP	Imphal	1.76	356	*e*P	Pg	23 42 10.0	+4.1
IMP				*e*S	Sg	23 42 29.0	+0.2
SHL	Shillong	3.23	322	*e*PN	Pg	23 42 35.0	+1.0
SHL				*i* SN	Sb	23 43 08.0	-1.1
MKAR	Makanchi Array 0.2nm,0.5s,baz=146,slow=8.7,SNR=3.1	25.55	341	P	P	23 47 00.3	-0.8
WRA	Warramunga Arr 0.2nm,0.3s,baz=319,slow=7.6,SNR=2.5	58.03	134	P	P	23 51 25.4	0.0
ASAR	Alice Springs 0.3nm,0.5s,baz=314,slow=6.8,SNR=4.2	60.43	138	P	P	23 51 42.2	+0.1

KRSC 09 00:37:37.5±1.4**, 49°.61N**×**158°.39E, h40**km±17km**, ML3.7, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	2.11	332	*e*S	Sn	00 38 37.9	+2.7
ASAK	Asacha	2.79	354	*e*P	Pn	00 38 22.7	+3.0
RUS	Russkaya	2.82	2	*e*P	Pn	00 38 23.0	+3.0
RUS				*e*S	Sn	00 38 56.8	+4.0
MIPR	Malaya Ipel'ka	2.86	339	*e*P	Pn	00 38 23.4	+2.9
MTVR	Mutnovka	2.88	357	*e*P	Pn	00 38 24.3	+3.3
MTVR				*e*S	Sn	00 38 57.9	+3.5
UGLR	Uglovaya	3.61	4	*e*P	Pn	00 38 34.6	+3.6
SPN	Mys Shipunski	3.64	16	*e*P	Pn	00 38 36.4	+5.2
AVH	Avacha	3.66	3	*e*P	Pn	00 38 36.0	+4.3
SMAR	Somma	3.66	4	*e*P	Pn	00 38 36.3	+4.4
SDLR	Sedlovina	3.68	5	*e*P	Pn	00 38 35.4	+3.4
KOK	Koryaka	3.69	2	*e*P	Pn	00 38 36.6	+4.6
KRER	Koryakskii	3.70	3	*e*P	Pn	00 38 36.5	+4.1
KRX	Arik	3.75	2	*e*P	Pn	00 38 37.2	+4.2
GNL	Ganaly	4.10	356	*e*P	Pn	00 38 42.2	+4.5
KBTR	Krutoberegovo	7.13	20	*e*P	Pn	00 39 22.7	+3.6

*IDC **09** 01:07:52.5±2.5, 0°.94S×136°.78E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/20, mbtmp3.8/5, ML3.9/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/23, Error ellipse: s-maj=126.9km s-min=22.7km az=78.0*

*ISCJB **09** 01:07:54.6±0.8, 0°.88S±0°.08×136°.84E±0°.04, h29km, mb3.8/4, MS3.6/1, Error ellipse: s-maj=11.5km s-min=5.8km az=0.7*

*DJA **09** 01:07:57.5±0.5, 1°S±7°×13°7E±°, h79km±9km, M4.1/5, MLv4.1/5*

ISC 09 01:07:56.5±1.0**, 0°.96S**±0°.10×**136°.84E**±0°.05**, h29**km**, n12,** σ**0.50**/15**, mb3.8**/4**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRPI	Serui, Papua	1.08	214	P	Pb	01 08 16.2	-0.5
SRPI				S	Sb	01 08 31.2	+0.7
SMPI	Sarmi	2.13	119	P	Pn	01 08 30.3	+0.1
SMPI				S	Sn	01 08 56.1	+0.4
RKPI	Ransiki, Papua	2.72	258	P	Pn	01 08 38.3	0.0
RKPI				S	Sn	01 09 10.2	0.0
GENI	Genyem	3.70	116	P	Pn	01 08 51.4	-0.4
JAY	Jayapura	4.16	112	P	Pn	01 08 57.6	-0.6
FAKI	Fak Fak	4.98	247	P	Pn	01 09 09.8	+0.3
FAKI				S	Sn	01 10 05.1	-1.1
WRA	Warramunga Arr 0.4nm,0.3s,baz=8.3,slow=12,SNR=5.7	19.02	187	P	P	01 12 16.5	+0.2
ASAR	Alice Springs 1.7nm,0.4s,baz=13,slow=12,SNR=30	22.75	187	P	P	01 12 57.0	+0.4
STKA	Stephens Creek 1.5nm,0.4s,baz=326,slow=11,SNR=2.9	31.08	172	P	P	01 14 12.2	-0.1
ASAJ	Asahikawa comp=Z,69nm,18.1s,slow=35	45.17	6	LR	LR	01 34 11.5	
MKAR	Makanchi Array 0.5nm,0.8s,baz=115,slow=7.6,SNR=5.3	67.28	323	P	P	01 18 48.8	+0.2
BVAR	Borovoye Array 0.3nm,0.5s,baz=109,slow=7.8,SNR=3.5	76.82	325	P	P	01 19 45.8	+0.1

*ISCJB **09** 01:25:55.0±1.5, 17°.5S±0°.5×178°.7W±0°.3, h547km, mb3.6/7, Error ellipse: s-maj=72.0km s-min=18.3km az=152.4*

*IDC **09** 01:25:55.9±7.2, 17°.49S×178°.66W, h545km±85km, mb3.2/7, mb1 3.5/7, mb1mx3.2/20, mbtmp4.1/7, Error ellipse: s-maj=73.6km s-min=25.7km az=155.0*

ISC 09 01:25:55.8±1.7**, 17°.5S**±0°.5×**178°.7W**±0°.3**, h547**km**, n21,** σ**0.44**/20**, mb3.5**/7**, 1C-5D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.4nm,0.4s,baz=94,slow=7.3,SNR=3.3	44.47	259	P	P	01 33 19.1	+0.1
ASAR	Alice Springs 3.1nm,0.5s,baz=88,slow=8.3,SNR=37	44.67	254	P	P	01 33 20.6	+0.1
YBH	Yreka Blue Hor 2.7nm,0.8s,baz=108,slow=7.7,SNR=5.0	78.37	39	P	P	01 37 00.5	+0.5
NVAR	Mina Array Bea 1.0nm,0.7s,baz=229,slow=7.9,SNR=5.5	79.30	44	P	P	01 37 05.5	+0.3
SEY	Seymchan 2.2nm,0.5s,baz=180,slow=9.9,SNR=8.6	83.34	347	P	P	01 37 25.6	+0.5
ILAR	Eielson Array 0.5nm,0.4s,baz=241,slow=5.6,SNR=8.0	85.56	13	P	P	01 37 35.1	-0.8
TXAR	Lajitas Array 0.8nm,0.9s,baz=215,slow=6.5,SNR=8.7	85.98	58	P	P	01 37 39.0	+0.1
FINES	FINESS Array B 1.3nm,0.9s,baz=56,slow=3.5,SNR=3.5	132.74	344	PKP	PKPdf	01 44 08.1	-0.2
BRTR	Keskin Array B 0.9nm,0.5s,baz=91,slow=2.7,SNR=9.3	144.34	315	PKP	PKPbc	01 44 29.7	-0.3
CFR	Carcaliu	144.48	327 ⇑	*i*P	PKPab	01 44 30.5	-0.1
TLB	Topalu	144.92	326 ⇓	*i*P	PKPab	01 44 32.3	0.0
CLL	Collm comp=Z,5.0nm,1.0s	145.03	347 ⇓	*i*PKP	PKPbc	01 44 31.5	-0.1
UPC	Upice	145.04	344	*e*P	PKPbc	01 44 31.8	+0.1
UPC				*e*x	x	01 44 34.3	
DPC	Dobruska-Polom	145.10	343	*e*P	PKPbc	01 44 31.9	0.0
DPC				*e*x	x	01 44 34.0	
DPC				*e*x	x	01 44 36.3	
MLR	Muntele Rosu	145.37	329 ⇓	*i*P	PKPab	01 44 34.1	-0.2
PRU	Pruhonice	145.90	345	*e*P	PKPbc	01 44 33.7	-0.5
TREC	Trest	146.29	343	*e*P	PKPbc	01 44 35.4	+0.1
KHC	Kasperske Hory	146.94	345	*e*P	PKPbc	01 44 36.8	-0.3
GERES	GERESS Array B comp=Z,1.3nm,0.4s,baz=24,slow=3.3,SNR=15	147.17	345	PKPbc	PKPbc	01 44 37.5	-0.3
CONA	Conrad Observa comp=Z,2.0nm,0.7s	147.41	342 ⇓	*i*PKPdf	PKPbc	01 44 38.7	+0.2
ABTA	Abfaltersbach comp=Z,2.7nm,0.6s	149.42	345 ⇓	*i*PKPdf	PKPbc	01 44 42.3	-1.2

IDC 09 02:06:36.6±6.0**, 3°.02S**×**139°.03E, h0**km**, mb3.6**/2**, mb1 3.9**/3**, mb1mx3.5**/16**, mbtmp3.7**/3**, ML4.0**/1**, Error ellipse: s-maj=247.0km s-min=29.1km az=86.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.5nm,0.3s,baz=18,slow=13,SNR=5.7	17.43	195	P	Pn	02 10 39.7	-1.8
ASAR	Alice Springs 0.5nm,0.5s,baz=6.1,slow=11,SNR=10.0	21.12	193	P	P	02 11 23.9	+0.7
MKAR	Makanchi Array 0.7nm,0.4s,baz=123,slow=5.3,SNR=13	70.23	322	P	P	02 17 51.7	0.0

MEX 09 02:26:25.4±0.5**, 15°.36N**×**92°.78W, h124**km±33km**, MD3.5, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		0.67	132	*i* P	Pn	02 26 43.5	-1.5
THIG				*i* S	Sn	02 26 58.3	-1.4
CCIG	Comitan	1.11	34	*i* P	Pn	02 26 48.0	-1.2
CCIG				*i* S	Sn	02 27 05.5	-1.6

*BJI **09** 03:18:49.4, 52°.63N×166°.41W, h35km, mb4.8/6, mB4.5/5, Ms4.6/3, Ms7 4.2/3*

*MOS **09** 03:18:52.9±0.8, 53°.22N×166°.78W, h43km, mb4.9/25, Error ellipse: s-maj=13.6km s-min=6.2km az=86.7*

*ISCJB **09** 03:18:54.2±0.4, 53°.21N±0°.05×166°.73W±0°.04, h54km±2km, mb4.4/58, MS3.5/18, Error ellipse: s-maj=8.3km s-min=2.7km az=156.1*

*NEIC **09** 03:18:55.8±0.4, 53°.26N×166°.72W, h52km±2km, mb4.3/17, MW4.1, ML4.3(AEIC), Error ellipse: s-maj=7.3km s-min=2.6km az=156.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^{15}Nm; M_{rr}1.85; $M_{\theta\theta}$-1.84; $M_{\phi\phi}$-0.01; $M_{r\theta}$0.81; $M_{\theta\phi}$-0.32; $M_{\phi r}$0.29; Best double couple: $M_0$2.10000×10^{15} NP1:ϕ_s265.00000°, δ33.00000°, λ97.00000°. NP2:ϕ_s76.00000°, δ57.00000°, λ85.00000°. Principal axes: T 2.0400, Plg77.0000°, Azm331.0000°; N 0.0400, Plg3.0000°, Azm78.0000°; P -2.0800, Plg12.0000°, Azm169.0000°;*

*IDC **09** 03:18:55.6±3.8, 53°.31N×166°.85W, h53km±34km, mb3.9/27, mb1 4.1/28, mb1mx4.1/34, mbtmp4.2/28, ML3.8/1, MS3.5/18, Ms1 3.5/18, ms1mx3.3/41 Error ellipse: s-maj=18.5km s-min=11.4km az=173.0*

ISC 09 03:18:54.8±0.7**, 53°.23N**±0°.07×**166°.73W**±0°.04**, h45**km±5km**, n275,** σ**1.09**/282**, mb4.5**/67**, MS3.4**/18**, 10C-3D, Fox Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MGOD	Makushin Gods	0.58	352	P	Pn	03 19 06.6	-0.2
MREP	Makushin Rep't	0.59	359	P	Pn	03 19 07.3	+0.3
MSOM	Makushin Julie	0.61	348	P	Pn	03 19 07.2	+0.1
MSOM	Makushin Julie	0.61	348	P	Pn	03 19 07.2	+0.1
UNV	Unalaska Valle	0.64	12	*e*Pg	Pn	03 19 06.6	-0.9
UNV				*e*S	Sn	03 19 14.8	-1.9
MNAT	Makushin Natee	0.66	3	P	Pn	03 19 07.8	0.0
MSW	Makushin Switc	0.69	358	P	Pn	03 19 08.2	-0.1
OKFG	Magazine Ridge	0.73	285	P	Pn	03 19 08.3	-0.4
OKFG				S	Sn	03 19 20.0	+1.2
MCIR	Makushin Cirqu	0.73	353	P	Pn	03 19 09.3	+0.4
MTBL	Makushin Table	0.75	3	P	Pn	03 19 09.1	0.0
OKTU	Okmok Mt. Tuli	0.80	282	P	Pn	03 19 10.0	+0.2
OKSP	Okmok Steeple	0.94	272	P	Pn	03 19 11.3	-0.3
ZRO	Akutan Zero	0.98	27	P	Pn	03 19 11.6	-0.5
AKRB	Akutan Reef Bi	0.99	23	P	Pn	03 19 12.1	-0.1
AKRB				S	Sn	03 19 26.4	+1.3
LVA	Lava Point	1.03	24	P	Pn	03 19 12.6	-0.2
AHB	Akutan Harbor	1.05	31	P	Pn	03 19 12.4	-0.6
AKGG	Akutan Green G	1.07	24	P	Pn	03 19 13.1	-0.3
AKUT	Akutan	1.08	32	P	Pn	03 19 12.7	-0.7
AKUT				S	Sn	03 19 27.4	+0.2
AKA	Akutan	1.08	32	P	Pn	03 19 13.1	-0.3
HSB	Akutan Spr's B	1.08	27	P	Pn	03 19 13.3	-0.2
AKSA	Akutan Strait	1.10	34	P	Pn	03 19 12.8	-1.0
NIKH	Nikolski High	1.30	260	P	Pn	03 19 15.3	-1.2
NIKH				S	Sn	03 19 33.8	+1.0
WESP	Westdahl Peak	1.74	42	P	Pn	03 19 23.1	+0.5
WESP				S	Sn	03 19 45.7	+2.1
WESE	West Dahl East	1.78	45	P	Pn	03 19 23.5	+0.3
WESN	West Dahl Nort	1.85	43	P	Pn	03 19 24.4	+0.3
SSLW	Shishaldin Wes	2.19	44	P	Pn	03 19 28.9	+0.2
SSLN	Shishaldin Nor	2.27	44	P	Pn	03 19 31.1	+1.3
ISNN	Isanotski Nort	2.37	46	P	Pn	03 19 32.2	+1.0
FALS	False Pass	2.55	49	*e*Pn	Pn	03 19 34.5	+1.0
FALS				*e*S	Sn	03 20 07.1	+3.8
DT1	Dutton Round H	3.23	52	P	Pn	03 19 42.9	0.0
DTNA	Dutton South F	3.26	52	P	Pn	03 19 43.8	+0.4
SDPT	Sand Point	4.24	57	*e*Pn	Pn	03 19 58.5	+1.7
SDPT				*e*S	Sn	03 20 47.5	+2.6
SPIA	Saint Paul Isl	4.44	334	P	Pn	03 20 02.8	+3.3
ATKA	Atka Island	4.65	260	P	Pn	03 20 04.0	+1.6
VNSG	Veniaminof 6	5.30	54	P	Pn	03 20 12.4	+1.0
CHGN	Chignik	5.72	54	*e*Pn	Pn	03 20 17.8	+0.7
GSTR	Great Sitkin T	5.79	262	*e*Pn	Pn	03 20 18.9	+0.8
GSTR				*e*S	Sn	03 21 27.9	+4.8
GSMY	Great Sitkin M	5.80	262	P	Pn	03 20 19.8	+1.6
GSTD	Great Sitkin T	5.85	262	P	Pn	03 20 20.5	+1.6
GSCK	Great Sitkin C	5.87	262	P	Pn	03 20 20.7	+1.5
ETKA	Kagalaska Isla	6.06	261	P	Pn	03 20 23.9	+2.2
ADAG	Mount Adagdak	6.14	262	P	Pn	03 20 25.2	+2.3
ADK	Adak	6.22	262	*e*P	Pn	03 20 25.0	+1.1
ADK				*e*S	Sn	03 21 32.3	-1.3
ADK	Adak	6.22	262	*e*Pn	Pn	03 20 25.0	+1.1
ADK				*e*S	Sn	03 21 32.3	-1.3
TAPA	Tanaga Point A	6.91	263	P	Pn	03 20 35.9	+2.5
TAFP	Tanaga Falls P	6.99	264	P	Pn	03 20 35.7	+1.3
TASE	Tanaga Southea	7.04	263	P	Pn	03 20 38.1	+2.9
CERAA	Semis' Rag'd T	8.38	266	P	Pn	03 20 56.0	+2.4
CEAP	Semis' Anvil P	8.42	267	P	Pn	03 20 57.3	+3.2
CESW	Semis' Southwe	8.46	266	P	Pn	03 20 56.9	+2.3
OHAK	Old Harbor	8.66	57	*e*Pn	Pn	03 20 56.7	-0.7
OHAK				*e*S	Sn	03 22 33.0	-0.6
AMKA	Amchitka	8.76	263	*e*Pn	Pn	03 20 59.3	+0.6
LSNW	Little Sitkin	9.07	268	P	Pn	03 21 05.2	+2.2
KDAK	Kodiak Island	9.23	55	*i* P	Pn	03 21 04.8	-0.3
RSO	Redoubt South 38nm,0.7s	10.53	41	*e*Pn	Pn	03 21 25.5	+2.4
GAMB	Gambell	10.89	348	*e*Pn	Pn	03 21 30.3	+2.5
SEW	Seward	11.72	47	*e*Pn	Pn	03 21 37.6	-1.5
SEW				*e*S	Sn	03 23 44.2	-4.0
RC01	Rabbit Creek A	12.10	43	*e*Pn	Pn	03 21 44.2	-0.2
RC01				*e*S	Sn	03 23 54.6	-3.1
PPLA	Purkeypile 25nm,1.3s	12.35	33	*e*Pn	Pn	03 21 49.6	+1.8
TNA	Tin City	12.39	358	*e*Pn	Pn	03 21 51.3	+3.0
PMR	Palmer	12.62	41	*e*P	Pn	03 21 52.4	+1.0
PMR comp=Z,4.0nm,0.6s				pmax	pmax		
PMR	Palmer comp=Z,4.1nm,0.6s	12.62	41	*e*Pn	Pn	03 21 52.4	+1.0
KTH	Kantishna Hill comp=Z,12nm,0.9s	13.22	32	*e*Pn	Pn	03 22 02.1	+2.5
TRF	Thorofare Moun	13.35	33	*e*Pn	Pn	03 22 04.4	+2.8
EYAK	Cordova Ski Ar	13.57	49	*e*Pn	Pn	03 22 05.7	+1.3
BPAW	Bear Paw Mtn.	13.59	30	*e*Pn	Pn	03 22 06.4	+1.8
DIV	Divide	13.80	47	*e*Pn	Pn	03 22 05.7	-1.9
BMRM	Bremner River	14.25	48	*e*Pn	Pn	03 22 15.8	+2.2
IM04	Indian Mountai	14.32	22	*e*Pn	P	03 22 18.9	-1.7
CCB	Clear Creek Bu comp=Z,25nm,2.1s	14.97	33	*e*Pn	P	03 22 26.4	-1.4
HDA	Harding Lake comp=Z,34nm,1.5s	15.10	34	*e*Pn	P	03 22 30.1	+0.9
COLA	College	15.10	32 ⇑	*e*P	Pn	03 22 26.2	+1.4
COLA comp=Z,10.0nm,0.7s				pmax	pmax		
COLA	College comp=Z,5.4nm,1.0s	15.10	32	Pn	Pn	03 22 25.6	+0.8
ILAR	Eielson Array comp=Z,0.2nm,0.3s,baz=228,slow=12,SNR=16	15.35	33	P	Pn	03 22 27.8	-0.2
ILAR comp=Z,239nm,18.0s,baz=228,slow=40				LR	LR	03 29 02.5	
COLD	Coldfoot comp=Z,8.8nm,1.0s	16.18	23	*e*Pn	P	03 22 41.4	+0.2
EGAK	Eagle comp=Z,4.1nm,0.7s	17.38	38	*e*Pn	Pn	03 22 53.8	+0.2
HYT	Haines Junctio	17.51	53	*e*Pn	P	03 22 57.3	+1.2
BILL	Bilibino	19.63	329 ⇑	*e*P	P	03 23 18.8	-0.3

BILL pmax pmax
comp=Z,4.0nm,1.7s
BILL Bilibino 19.63 329 *eP* **Pn 03 23 21.3 +0.5**
comp=Z,32nm,1.8s
DLBC Dease Lake 21.07 61 P **P 03 23 36.3 +1.4**
comp=Z,6.3nm,0.7s,baz=268,slow=10,SNR=17
DLBC Dease Lake 21.07 61 *eP* **P 03 23 36.5 +1.6**
PETK Petropavlovsk- 21.19 284 P **P 03 23 35.7 -0.5**
comp=Z,3.3nm,0.4s,baz=96,slow=12,SNR=15
PETK LR LR 03 31 27.6
comp=Z,70nm,21.3s,baz=75,slow=36
INK Inuvik 21.75 33 P **P 03 23 41.5 -0.5**
comp=Z,8.5nm,0.6s,baz=243,slow=6.9,SNR=25
INK Inuvik 21.75 33 *eP* **P 03 23 43.1 +1.1**
INK pmax pmax
comp=Z,9.0nm,0.6s
INK Inuvik 21.75 33 *eP* **P 03 23 43.1 +1.1**
comp=Z,9.4nm,0.6s
SEY Seymchan 23.29 311 P **P 03 23 58.0 -0.2**
comp=Z,1.1nm,0.3s,baz=95,slow=19,SNR=4.8
SEY Seymchan 23.29 311⇑ *eP* **P 03 23 58.5 +0.3**
YKA Yellowknife Ar 28.47 50 P **P 03 24 45.2 +0.2**
comp=Z,0.7nm,0.4s,baz=274,slow=7.9,SNR=9.8
TIXI Tiksi 32.84 328⇓ *eP* **P 03 25 23.5 0.0**
TIXI pmax pmax
comp=Z,3.0nm,2.5s
BLMT Blacktail Moun 33.01 77 *eP* **P 03 25 26.1 +0.6**
comp=Z,2.8nm,0.7s
MCMT McKenzie Canyo 35.55 81 *eP* **P 03 25 48.1 +0.5**
EGMT Eagleton 35.69 75 *eP* **P 03 25 48.8 +0.2**
comp=Z,12nm,0.8s
NVAR Mina Array Bea 36.10 94 P **P 03 25 53.8 +1.4**
comp=Z,1.4nm,0.8s,baz=300,slow=8.6,SNR=6.6
PDAR Pinedale Array 38.68 82 P **P 03 26 14.6 +0.4**
comp=Z,2.5nm,1.0s,baz=329,slow=5.5,SNR=10.0
PDAR LR LR 03 40 03.8
comp=Z,43nm,18.4s,baz=297,slow=33
JLU Jordanelle 38.85 86 *eP* **P 03 26 17.6 +1.9**
comp=Z,11nm,1.9s
H11N2 WAKE ISLAND Hy 39.14 222 T T 04 07 47.3
baz=24,slow=76,SNR=3021
H11N3 WAKE ISLAND Hy 39.15 221 T T 04 07 47.8
baz=24,slow=76,SNR=3061
FCC Fort Churchill 39.16 52 *eP* **P 03 26 17.9 +0.3**
FCC pmax pmax
comp=Z,19nm,1.0s
FCC Fort Churchill 39.16 52 *eP* **P 03 26 17.9 +0.3**
comp=Z,11nm,1.0s
H11N1 WAKE ISLAND Hy 39.16 222 T T 04 07 48.6
baz=24,slow=76,SNR=2832
H11S1 WAKE ISLAND Hy 40.32 221 T T 04 09 16.9
baz=24,slow=76,SNR=3495
H11S2 WAKE ISLAND Hy 40.34 221 T T 04 09 21.1
baz=24,slow=76,SNR=3128
H11S3 WAKE ISLAND Hy 40.34 221 T T 04 09 18.3
baz=24,slow=76,SNR=1956
O20A White River Ci 41.07 84 *eP* **P 03 26 33.9 -0.1**
comp=Z,6.2nm,0.7s
MAJO Matsushiro 41.32 269⇑ *eP* **P 03 26 35.2 -0.6**
MJAR Matsushiro Arr 41.32 269 P **P 03 26 35.0 -0.8**
comp=Z,0.9nm,0.4s,baz=49,slow=8.6,SNR=4.4
MJAR LR LR 03 41 48.2
comp=Z,33nm,21.4s,baz=30,slow=33
MDJ Mudanjiang 41.43 285 P **P 03 26 36.8 +0.2**
MDJ PMZ
comp=Z,5.0nm,0.3s
MDJ PMZ
comp=Z,27nm,3.9s
SDCO Great Sand Dun 44.24 85 *eP* **P 03 27 01.1 +1.3**
comp=Z,12nm,1.8s
JCJ Chichijima 45.67 256 LR LR 03 45 15.2
ECSD EROS Data Cent 45.68 72 *eP* **P 03 27 09.4 -1.4**
comp=Z,8.8nm,1.2s
KSRS Korea Array 46.88 278 P **P 03 27 20.1 -0.2**
comp=Z,1.9nm,0.6s,baz=45,slow=7.7,SNR=11
KSRS LR LR 03 48 40.8
comp=Z,33nm,18.2s,baz=164,slow=38
KSAR Wonju Array Be 46.91 278 P **P 03 27 20.1 -0.5**
KSAR Wonju Array Be 46.91 278 P **P 03 27 20.1 -0.5**
JNU Nakatsue 48.05 271 LR LR 03 46 49.5
comp=Z,38nm,19.9s,baz=76,slow=35
SUMG Summit 49.48 18 *i* P **P 03 27 39.9 -0.5**
comp=Z,8.8nm,0.7s
SUMG Summit 49.48 18 *i* P **P 03 27 39.9 -0.5**
SUMG pmax pmax
comp=Z,9.0nm,0.7s
SUMG Summit 49.48 18 *eP* **P 03 27 39.6 -0.8**
comp=Z,13nm,1.0s
TLY Talaya 51.12 307 *eP* **P 03 27 52.8 +0.2**
TLY pmax pmax
comp=Z,4.0nm,1.1s
TXAR Lajitas Array 51.15 92 P **P 03 27 53.1 -0.1**
comp=Z,0.7nm,0.4s,baz=300,slow=5.7,SNR=22
SONM Songino Array 52.22 302 P **P 03 27 59.8 -1.3**
comp=Z,0.9nm,0.4s,baz=54,slow=7.5,SNR=7.2
SONM PcP **PcP 03 29 11.8 -0.2**
comp=Z,1.9nm,0.5s,baz=69,slow=2.5,SNR=8.4
SCHQ Schefferville 53.71 45 P **P 03 28 11.6 -0.1**
comp=Z,8.7nm,0.8s,baz=324,slow=7.6,SNR=10.0
SCHQ Schefferville 53.71 45 *eP* **P 03 28 12.0 +0.3**
HHC Hu-ho-hao-te 54.09 292 *eP* **P 03 28 15.9 +1.0**
HHC S **S 03 35 46.5 -1.5**
HHC PMZ
comp=Z,18nm,1.0s
HHC PMZ
comp=Z,53nm,7.1s
H06E1 SOCORRO T-PHAS 54.84 107 T T 04 27 53.4
SNR=13
ARCES ARCESS Array B 57.23 355 P **P 03 28 35.7 -1.0**
comp=Z,1.9nm,0.9s,baz=7.0,slow=8.2,SNR=10
ARCES PcP **PcP 03 29 29.6 -1.0**
comp=Z,4.6nm,0.8s,baz=17,slow=3.3,SNR=7.1
ZALV Zalesovo Beam 57.86 319 P **P 03 28 40.7 -0.7**
comp=Z,1.6nm,0.4s,baz=38,slow=5.7,SNR=6.9
ZALV PcP **PcP 03 29 33.0 -0.4**
comp=Z,2.7nm,0.8s,baz=27,slow=4.4,SNR=7.9
ZALV LR LR 03 55 06.0
comp=Z,49nm,19.4s,baz=68,slow=38
ZALV Zalesovo Beam 57.86 319 *i* P **P 03 28 41.4 0.0**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
LZH Lanzhou 61.74 293 *eP* **P 03 29 10.7 +2.2**
LZH pP **pP 03 29 21.0 -0.4**
LZH sP **sP 03 29 24.8 -1.8**
LZH *e*PP **PP 03 31 28.5 +4.1**
LZH PMZ
comp=Z,19nm,1.4s
LZH PMZ
comp=Z,52nm,7.6s
LZH LN
comp=Z,150nm,15.4s
LZH LE
comp=Z,150nm,16.0s
LZH LZ
comp=Z,180nm,19.0s
KURK Kurchatov 62.78 319⇑ *eP* **P 03 29 15.4 +0.4**
KURK pmax pmax
comp=Z,1.0nm,1.0s
BRVK Borovoye 63.93 326 *c i*P **P 03 29 23.2 +0.6**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
WMQ Urumqi 64.25 309 *eP* P 03 29 29.0 +4.0
WMQ pP pP 03 29 39.3 +1.4
WMQ sP sP 03 29 43.2 +0.1
WMQ PMZ
comp=Z,5.0nm,0.4s
WMQ PMZ
comp=Z,21nm,4.3s
WMQ LN
comp=Z,19nm,8.5s
WMQ LE
comp=Z,23nm,9.6s
WMQ LZ
comp=Z,21nm,13.4s
MKAR Makanchi Array 64.36 315 P **P 03 29 24.1 -1.5**
comp=Z,0.6nm,0.3s,baz=46,slow=6.3,SNR=12
MKAR LR LR 03 58 00.0
comp=Z,30nm,21.2s,baz=139,slow=36
MKAR Makanchi Array 64.36 315 *ceP* **P 03 29 24.6 -1.0**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
ARU Arti 64.57 334 *d i*P **P 03 29 27.2 +0.5**
ARU 03 31 45.9
ARU S **S 03 38 06.6 +4.1**
ARU SS **SS 03 42 11.7 -0.7**
ARU pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 65.22 353 P **P 03 29 29.6 -1.3**
comp=Z,0.9nm,0.5s,baz=18,slow=6.5,SNR=7.9
FINES LR LR 03 59 47.7
comp=Z,32nm,18.9s,baz=42,slow=38
CD2 Chengdu 65.61 289 *eP* **P 03 29 34.4 +0.4**
CD2 PMZ
comp=Z,10.0nm,0.5s
NOA NORSAR Array B 66.07 1 P **P 03 29 35.5 -1.0**
comp=Z,0.8nm,0.6s,baz=6.7,slow=7.2,SNR=3.6
NOA LR LR 03 59 55.7
comp=Z,7.8nm,18.3s,baz=10.0,slow=37
OBN Obninsk 70.32 346 *eP* **P 03 30 03.6 +0.6**
OBN pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 70.53 330 *eP* **P 03 30 04.4 -0.1**
comp=Z,0.7nm,0.4s
AAK Ala-Archa 70.99 317 LR LR 04 02 50.8
comp=Z,49nm,19.7s,baz=40,slow=37
AAK Ala-Archa 70.99 317⇑ *eP* **P 03 30 08.0 +0.4**
AAK pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 72.19 320 *eP* **P 03 30 14.2 -0.5**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 72.19 320 *eP* **P 03 30 14.2 -0.5**
comp=Z,3.5nm,0.6s
SIJI Sorong 74.32 246 P **P 03 30 27.4 -0.1**
comp=Z,4.8nm,0.5s,baz=212,slow=19
AKASG Malin Array Be 75.58 350 P **P 03 30 33.3 -1.0**
comp=Z,0.9nm,0.4s,baz=11,slow=5.6,SNR=5.8
AKASG LR LR 04 06 33.0
comp=Z,21nm,21.9s,baz=305,slow=38
AKASG Malin Array Be 75.58 350 *ceP* **P 03 30 33.5 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
KIEV Kiev 75.59 350⇓ *eP* **P 03 30 33.1 -1.2**
PVCC Panska Ves 76.61 359 *eP* P 03 30 36.2 -4.0
PVCC Panska Ves 76.61 359 *eP* P 03 30 36.2 -4.0
DPC Dobruska-Polom 76.77 358 *eP* **P 03 30 41.1 0.0**
DPC Dobruska-Polom 76.77 358 *eP* **P 03 30 41.1 0.0**
GIVF Givet 76.80 6 *eP* **P 03 30 41.0 -0.2**
GIVF Givet 76.80 6 *eP* **P 03 30 41.0 -0.2**
GIVF Givet 76.80 6 *eP* **P 03 30 41.0 -0.2**
BAIF Baives 76.81 6 *eP* **P 03 30 41.2 0.0**
comp=Z,4.1nm,0.5s
BAIF Baives 76.81 6 *eP* **P 03 30 41.2 0.0**
BAIF pmax pmax
comp=Z,4.0nm,0.5s
BAIF Baives 76.81 6 *eP* **P 03 30 41.2 0.0**
comp=Z,4.1nm,0.5s
TAPN Tanjejung 77.19 299 *eP* **P 03 30 44.0 -0.2**
comp=Z,11nm,0.5s
GUN Gumba 77.70 300 *eP* **P 03 30 47.0 -0.1**
comp=Z,11nm,0.3s
FLN La Foliniere 77.72 9 *eP* **P 03 30 45.8 -0.6**
FLN La Foliniere 77.72 9 *eP* **P 03 30 45.8 -0.6**
FLN La Foliniere 77.72 9 *eP* **P 03 30 45.8 -0.6**
JIRN Jiri 77.74 300 *eP* **P 03 30 47.1 -0.2**
comp=Z,10nm,0.3s
ROSF Rostrenen 77.84 11 *eP* **P 03 30 46.7 -0.4**
ROSF Rostrenen 77.84 11 *eP* **P 03 30 46.7 -0.4**
ROSF Rostrenen 77.84 11 *eP* **P 03 30 46.7 -0.4**
LDF La Druitiere 77.92 9 *eP* **P 03 30 47.0 -0.5**
comp=Z,8.3nm,0.7s
LDF La Druitiere 77.92 9 *eP* **P 03 30 47.0 -0.5**
LDF pmax pmax
comp=Z,8.0nm,0.7s
LDF La Druitiere 77.92 9 *eP* **P 03 30 47.0 -0.5**
comp=Z,8.3nm,0.7s
CMAR Chiang Mai Arr 77.97 285 P **P 03 30 48.4 +0.1**
comp=Z,3.8nm,0.4s,baz=23,slow=5.7,SNR=23
CMAR LR LR 04 06 39.7
comp=Z,20nm,20.9s,baz=10.0,slow=37
CMAR Chiang Mai Arr 77.97 285 *ceP* **P 03 30 48.7 +0.4**
CMAR pmax pmax
comp=Z,4.0nm,0.4s
SGMF Saint Gilles 78.01 11 *eP* **P 03 30 47.8 -0.2**
SGMF Saint Gilles 78.01 11 *eP* **P 03 30 47.8 -0.2**
SGMF Saint Gilles 78.01 11 *eP* **P 03 30 47.8 -0.2**
KHC Kasperske Hory 78.02 360 *eP* **P 03 30 48.2 +0.1**
KHC *e*p**P** **pP 03 31 01.9 +0.5**
KHC Kasperske Hory 78.02 360 *eP* **P 03 30 48.2 +0.1**
KHC *e* 03 31 01.9
GRR Gorron 78.05 10 *eP* **P 03 30 47.9 -0.3**
GRR Gorron 78.05 10 *eP* **P 03 30 47.9 -0.3**
GRR Gorron 78.05 10 *eP* **P 03 30 47.9 -0.3**
RAMN Ramite 78.09 299 *eP* **P 03 30 48.8 -0.4**
comp=Z,8.4nm,0.4s
KKN Kakani 78.11 301 *eP* **P 03 30 49.4 +0.2**
comp=Z,9.5nm,0.5s
PKI Pulchoki 78.22 300 *eP* **P 03 30 49.6 -0.3**
comp=Z,6.8nm,0.5s
PKIN Phulchoki 78.22 300 *eP* **P 03 30 50.2 +0.3**
comp=Z,5.8nm,0.4s
GKN Gorkha 78.27 301 *eP* **P 03 30 49.6 -0.4**
comp=Z,24nm,0.9s
GERES GERESS Array B 78.31 360 P **P 03 30 49.6 -0.1**
comp=Z,0.6nm,0.7s,baz=5.7,slow=5.4,SNR=6.9
PAGF Fort de Pagny 78.39 5 *eP* **P 03 30 49.8 -0.4**
PAGF Fort de Pagny 78.39 5 *eP* **P 03 30 49.8 -0.4**
CDF Champ du Feu 78.61 4 *eP* **P 03 30 51.2 -0.3**
CDF Champ du Feu 78.61 4 *eP* **P 03 30 51.2 -0.3**
CDF Champ du Feu 78.61 4 *eP* **P 03 30 51.2 -0.3**
SFTF Sexfontaines 78.70 6 *eP* **P 03 30 51.7 -0.2**
SFTF Sexfontaines 78.70 6 *eP* **P 03 30 51.7 -0.2**
HAU Haudompre 78.97 5 *eP* **P 03 30 53.3 -0.1**
HAU Haudompre 78.97 5 *eP* **P 03 30 53.3 -0.1**
HAU Haudompre 78.97 5 *eP* **P 03 30 53.3 -0.1**
KOLN Koldanda 78.99 302 *eP* **P 03 30 53.8 -0.2**
comp=Z,11nm,0.8s
HINF Hinteralfeld 79.19 4 *eP* **P 03 30 53.5 -1.1**
HINF Hinteralfeld 79.19 4 *eP* **P 03 30 53.5 -1.1**
HINF Hinteralfeld 79.19 4 *eP* **P 03 30 53.5 -1.1**
HYF Humbligny 79.47 7 *eP* **P 03 30 56.2 +0.1**
HYF Humbligny 79.47 7 *eP* **P 03 30 56.2 +0.1**
LOR Lormes 79.56 6 *eP* **P 03 30 56.5 -0.1**
comp=Z,5.4nm,0.7s
LOR Lormes 79.56 6 *eP* **P 03 30 56.5 -0.1**
LOR pmax pmax
comp=Z,5.0nm,0.7s
LOR Lormes 79.56 6 *eP* **P 03 30 56.5 -0.1**
comp=Z,5.4nm,0.7s
SSF Saint Saulge 79.74 7 *eP* **P 03 30 57.6 0.0**
comp=Z,4.1nm,0.4s
SSF Saint Saulge 79.74 7 *eP* **P 03 30 57.6 0.0**
SSF pmax pmax
comp=Z,4.0nm,0.4s
SSF Saint Saulge 79.74 7 *eP* **P 03 30 57.6 0.0**
comp=Z,4.1nm,0.4s
MFF Saint Martin d 79.89 9 *eP* **P 03 30 58.5 +0.1**
MFF Saint Martin d 79.89 9 *eP* **P 03 30 58.5 +0.1**
MFF Saint Martin d 79.89 9 *eP* **P 03 30 58.5 +0.1**
KIV Kislovodsk 79.95 339 *eP* **P 03 30 59.3 +0.4**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,34nm,18.0s
AVF Avril sur Loir 80.00 7 *eP* **P 03 30 58.8 -0.1**
comp=Z,8.0nm,0.7s
AVF Avril sur Loir 80.00 7 *eP* **P 03 30 58.8 -0.1**
AVF pmax pmax
comp=Z,8.0nm,0.7s
AVF Avril sur Loir 80.00 7 *eP* **P 03 30 58.8 -0.1**
comp=Z,8.0nm,0.7s
KBZ Khabaz 80.12 339 P **P 03 30 60.0 +0.4**
comp=Z,2.3nm,0.9s,baz=59,slow=9.1,SNR=3.4
KBZ LR LR 04 09 15.3
comp=Z,40nm,20.7s,baz=120,slow=38
KBZ Khabaz 80.12 339 P **P 03 31 00.0 +0.4**
SMF Signal de Mont 80.18 7 *eP* **P 03 30 59.8 -0.1**
comp=Z,6.1nm,0.6s
SMF Signal de Mont 80.18 7 *eP* **P 03 30 59.8 -0.1**
SMF pmax pmax
comp=Z,6.0nm,0.6s
SMF Signal de Mont 80.18 7 *eP* **P 03 30 59.8 -0.1**
comp=Z,6.1nm,0.6s
BGF Bois d'Agland 80.20 7 *eP* **P 03 30 59.9 -0.1**
comp=Z,7.2nm,0.7s
BGF Bois d'Agland 80.20 7 *eP* **P 03 30 59.9 -0.1**
BGF pmax pmax
comp=Z,7.0nm,0.7s
BGF Bois d'Agland 80.20 7 *eP* **P 03 30 59.9 -0.1**
comp=Z,7.2nm,0.7s
CABF La Chapelle 80.35 5 *eP* **P 03 31 01.3 +0.3**
comp=Z,14nm,1.0s
CABF La Chapelle 80.35 5 *eP* **P 03 31 01.3 +0.3**
CABF pmax pmax
comp=Z,14nm,1.0s
CABF La Chapelle 80.35 5 *eP* **P 03 31 01.3 +0.3**
comp=Z,14nm,1.0s
TCF Toulx Ste Croi 80.42 8 *eP* **P 03 31 00.3 -0.9**
TCF Toulx Ste Croi 80.42 8 *eP* **P 03 31 00.3 -0.9**
TCF Toulx Ste Croi 80.42 8 *eP* **P 03 31 00.3 -0.9**
RJF Les Rejaudoux 81.33 8 *eP* **P 03 31 06.8 +0.7**
RJF Les Rejaudoux 81.33 8 *eP* **P 03 31 06.8 +0.7**
RJF Les Rejaudoux 81.33 8 *eP* **P 03 31 06.8 +0.7**
LFF La Frestale 81.62 9 *eP* **P 03 31 07.8 +0.2**
LFF La Frestale 81.62 9 *eP* **P 03 31 07.8 +0.2**
LFF La Frestale 81.62 9 *eP* **P 03 31 07.8 +0.2**
CAF Calviac 81.76 8 *eP* **P 03 31 08.6 +0.2**
CAF Calviac 81.76 8 *eP* **P 03 31 08.6 +0.2**
CAF Calviac 81.76 8 *eP* **P 03 31 08.6 +0.2**
VIVF Saint-Julien-l 82.02 6 *eP* **P 03 31 10.0 +0.2**
VIVF Saint-Julien-l 82.02 6 *eP* **P 03 31 10.0 +0.2**
VIVF Saint-Julien-l 82.02 6 *eP* **P 03 31 10.0 +0.2**
ORIF Oris-en-Rattie 82.03 5 *eP* **P 03 31 10.1 +0.2**
comp=Z,5.1nm,0.6s
ORIF Oris-en-Rattie 82.03 5 *eP* **P 03 31 10.1 +0.2**
ORIF pmax pmax
comp=Z,5.0nm,0.6s
ORIF Oris-en-Rattie 82.03 5 *eP* **P 03 31 10.1 +0.2**
comp=Z,5.1nm,0.6s
MBDF Montbardon 82.27 5 *eP* **P 03 31 12.4 +1.2**
comp=Z,14nm,0.7s
MBDF Montbardon 82.27 5 *eP* **P 03 31 12.4 +1.2**
MBDF pmax pmax
comp=Z,14nm,0.7s
MBDF Montbardon 82.27 5 *eP* **P 03 31 12.4 +1.2**
comp=Z,14nm,0.7s
SBF Sospel 83.16 4 *eP* **P 03 31 15.7 -0.1**
comp=Z,18nm,0.7s
SBF Sospel 83.16 4 *eP* **P 03 31 15.7 -0.1**
SBF pmax pmax
comp=Z,18nm,0.7s
SBF Sospel 83.16 4 *eP* **P 03 31 15.7 -0.1**
comp=Z,18nm,0.7s
SJPF Ste Jean 83.23 11 *eP* **P 03 31 16.9 +0.8**
SJPF Ste Jean 83.23 11 *eP* **P 03 31 16.9 +0.8**
SJPF Ste Jean 83.23 11 *eP* **P 03 31 16.9 +0.8**
MTLF Montolieu 83.34 8 *eP* **P 03 31 17.0 +0.4**
comp=Z,12nm,0.8s
MTLF Montolieu 83.34 8 *eP* **P 03 31 17.0 +0.4**
MTLF pmax pmax
comp=Z,12nm,0.8s
MTLF Montolieu 83.34 8 *eP* **P 03 31 17.0 +0.4**
comp=Z,12nm,0.8s
FRF La Foret Royal 83.42 5 *eP* **P 03 31 16.6 -0.4**
FRF La Foret Royal 83.42 5 *eP* **P 03 31 16.6 -0.4**
FRF La Foret Royal 83.42 5 *eP* **P 03 31 16.6 -0.4**
EPF Esparros 83.48 10 *eP* **P 03 31 16.9 -0.5**
EPF Esparros 83.48 10 *eP* **P 03 31 16.9 -0.5**
EPF Esparros 83.48 10 *eP* **P 03 31 16.9 -0.5**
ETSF Etsaut 83.52 10 *eP* **P 03 31 18.3 +0.7**
comp=Z,6.1nm,0.6s
ETSF Etsaut 83.52 10 *eP* **P 03 31 18.3 +0.7**
ETSF pmax pmax
comp=Z,6.0nm,0.6s
ETSF Etsaut 83.52 10 *eP* **P 03 31 18.3 +0.7**
comp=Z,6.1nm,0.6s
BR131 Keskin Array S 85.76 344 *eP* **P 03 31 29.4 +0.3**
comp=Z,5.2nm,0.9s
BRTR Keskin Array B 85.76 344 P **P 03 31 29.2 +0.2**
comp=Z,5.6nm,0.9s,baz=1.9,slow=4.4,SNR=31
BRTR LR LR 04 13 11.9
comp=Z,28nm,21.5s,baz=20,slow=38
ESDC Sonseca Array 86.28 13 P **P 03 31 31.2 -0.3**
comp=Z,1.3nm,0.6s,baz=345,slow=4.4,SNR=9.4
ROSC El Rosal 87.59 85 LR LR 04 12 58.7
comp=Z,67nm,18.8s,baz=54,slow=37
WRA Warramunga Arr 88.80 234 P **P 03 31 42.6 -1.0**
comp=Z,1.1nm,0.9s,baz=38,slow=5.3,SNR=8.5
PCRV Puerto La Cruz 89.07 74 LR LR 04 11 30.8
comp=Z,138nm,21.8s,baz=172,slow=35
KEST Kesra 91.34 3 P **P 03 31 55.8 +0.2**
comp=Z,0.8nm,0.9s,baz=315,slow=4.3,SNR=5.4
ASAR Alice Springs 92.18 232 P **P 03 31 59.0 -0.4**
comp=Z,1.0nm,0.5s,baz=33,slow=5.0,SNR=9.4
ASAR Alice Springs 92.18 232 P **P 03 31 59.0 -0.4**
MAW Mawson 152.54 219 PKPbc **PKPbc 03 38 44.4 -0.1**
comp=Z,1.8nm,0.7s,baz=83,slow=4.8,SNR=3.9
BOSA Boshof 153.87 335 PKPbc **PKPbc 03 38 48.6 -0.3**
comp=Z,1.8nm,0.9s,baz=225,slow=1.4,SNR=3.3

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*BUC **09** 03:42:58.7±0.7,45°60'N×26°38'E,h167km±6km,MD4.3/9,*
Error ellipse: s-maj=5.3km s-min=4.5km az=17.0
*CSEM **09** 03:42:58.6±0.2,45°58'N×26°37'E,h161km±2km,MD4.3,*
Error ellipse: s-maj=3.9km s-min=2.9km az=178.0
*SIGU **09** 03:42:58.5,45°63'N×26°40'E,h160km,mb3.2*
*ISCJB **09** 03:43:00.4±0.3,45°61'N±0'02×26°32'E±0'03,h132km,*
Error ellipse: s-maj=3.4km s-min=3.1km az=12.1

ISC 09 03:43:01.1±1.1,45°61'N±0'03×26°34'E±0'03,h132km,n116,
σ1s78/172,81C-18D,Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.30**	**248**	⇓*i*P	P	**Pn**	**03 43 21.0**	**+1.4**
MLR	**Muntele Rosu**	**0.30**	**248**	⇓P	P	**Pn**	**03 43 21.0**	**+1.4**
MLR				*i* S		**Sn**	**03 43 37.5**	**+3.9**
MLR	**Muntele Rosu**	**0.30**	**248**	⇓*i*P	P	**Pn**	**03 43 21.0**	**+1.4**
MLR				*i* S		**Sn**	**03 43 37.5**	**+3.9**
PLOR	**Plostina**	**0.33**	**41**	⇑*i*P	P	**Pn**	**03 43 20.7**	**+1.1**
PLOR	**Plostina**	**0.33**	**41**	⇑P	P	**Pn**	**03 43 20.7**	**+1.1**
PLOR				*i* S		**Sn**	**03 43 37.0**	**+3.3**
PLOR	**Plostina**	**0.33**	**41**	⇑P	P	**Pn**	**03 43 20.7**	**+1.1**
PLOR				*i* S		**Sn**	**03 43 37.0**	**+3.3**
VRI	**Vrincioaia**	**0.38**	**46**	⇑P	P	**Pn**	**03 43 21.1**	**+1.3**
VRI	**Vrincioaia**	**0.38**	**46**	⇑*i*P	P	**Pn**	**03 43 21.1**	**+1.3**
VRI				*i* S		**Sn**	**03 43 37.5**	**+3.5**
VRI	**Vrincioaia**	**0.38**	**46**	⇑*i*P	P	**Pn**	**03 43 21.1**	**+1.3**
VRI				*i* S		**Sn**	**03 43 37.5**	**+3.5**
GRER		**0.50**	**117**	⇑*i*P	P	**Pn**	**03 43 22.6**	**+2.3**
GRER		**0.50**	**117**	⇑*i*P	P	**Pn**	**03 43 22.6**	**+2.3**
GRER				*i* S		**Sn**	**03 43 40.1**	**+5.2**
GRER		**0.50**	**117**	⇑*i*P	P	**Pn**	**03 43 22.6**	**+2.3**
GRER				*i* S		**Sn**	**03 43 40.1**	**+5.2**
ISR	**Istrita**	**0.51**	**164**	⇓*i*P	P	**Pn**	**03 43 21.7**	**+1.2**
ISR	**Istrita**	**0.51**	**164**	⇓*i*P	P	**Pn**	**03 43 21.7**	**+1.2**
ISR	**Istrita**	**0.51**	**164**	⇓*i*P	P	**Pn**	**03 43 21.7**	**+1.2**
ODBI	**Odobesti**	**0.52**	**72**	⇑*i*P	P	**Pn**	**03 43 22.7**	**+2.2**
ODBI	**Odobesti**	**0.52**	**72**	⇑*i*P	P	**Pn**	**03 43 22.7**	**+2.2**
ODBI				*i* S		**Sn**	**03 43 40.2**	**+5.0**
ODBI	**Odobesti**	**0.52**	**72**	⇑*i*P	P	**Pn**	**03 43 22.7**	**+2.2**
ODBI				*i* S		**Sn**	**03 43 40.2**	**+5.0**
SECR		**0.60**	**199**	⇑*i*P	P	**Pn**	**03 43 22.5**	**+1.5**
SECR		**0.60**	**199**	⇑*i*P	P	**Pn**	**03 43 22.5**	**+1.5**
SECR				*i* S		**Sn**	**03 43 40.5**	**+4.4**
SECR		**0.60**	**199**	⇑*i*P	P	**Pn**	**03 43 22.5**	**+1.5**
SECR				*i* S		**Sn**	**03 43 40.5**	**+4.4**
PETR	**Petresti**	**0.63**	**79**	⇑*i*P	P	**Pn**	**03 43 22.8**	**+1.7**
PETR	**Petresti**	**0.63**	**79**	⇑*i*P	P	**Pn**	**03 43 22.8**	**+1.7**
PETR				*i* S		**Sn**	**03 43 40.3**	**+4.0**
PETR	**Petresti**	**0.63**	**79**	⇑*i*P	P	**Pn**	**03 43 22.8**	**+1.7**
PETR				*i* S		**Sn**	**03 43 40.3**	**+4.0**
PLAR	**PLOIESTI**	**0.73**	**198**	⇑*i*P	P	**Pn**	**03 43 23.2**	**+1.3**
PLAR	**PLOIESTI**	**0.73**	**198**	⇑*i*P	P	**Pn**	**03 43 23.2**	**+1.3**
PLAR				*i* S		**Sn**	**03 43 41.9**	**+4.4**
PLAR	**PLOIESTI**	**0.73**	**198**	⇑*i*P	P	**Pn**	**03 43 23.2**	**+1.3**
PLAR				*i* S		**Sn**	**03 43 41.9**	**+4.4**
PGOR	**Pogoanele**	**0.83**	**147**	S		**Sn**	**03 43 42.8**	**+3.8**
PGOR	**Pogoanele**	**0.83**	**147**	*i* S		**Sn**	**03 43 42.8**	**+3.8**
PGOR	**Pogoanele**	**0.83**	**147**	*i* S		**Sn**	**03 43 42.8**	**+3.8**
VOIR		**0.93**	**260**	⇑*i*P	P	**Pn**	**03 43 24.0**	**+0.4**
VOIR		**0.93**	**260**	⇑*i*P	P	**Pn**	**03 43 24.0**	**+0.4**
VOIR				*i* S		**Sn**	**03 43 43.0**	**+2.4**
VOIR		**0.93**	**260**	⇑*i*P	P	**Pn**	**03 43 24.0**	**+0.4**
VOIR				*i* S		**Sn**	**03 43 43.0**	**+2.4**
SULR		**0.93**	**184**	⇑*i*P	P	**Pn**	**03 43 24.4**	**+0.9**
SULR		**0.93**	**184**	⇑*i*P	P	**Pn**	**03 43 24.4**	**+0.9**
SULR				*i* S		**Sn**	**03 43 43.5**	**+3.0**
SULR		**0.93**	**184**	⇑*i*P	P	**Pn**	**03 43 24.4**	**+0.9**
SULR				*i* S		**Sn**	**03 43 43.5**	**+3.0**
TESR	**Tescani**	**0.93**	**13**	⇑*i*P	P	**Pn**	**03 43 24.2**	**+0.7**
TESR	**Tescani**	**0.93**	**13**	⇑*i*P	P	**Pn**	**03 43 24.2**	**+0.7**
TESR				*i* S		**Sn**	**03 43 42.6**	**+2.0**
TESR	**Tescani**	**0.93**	**13**	⇑*i*P	P	**Pn**	**03 43 24.2**	**+0.7**

TESR				iS	Sn	03 43 42.6	+2.0
MTUR	Matau	0.98	248	⇑iP	Pn	03 43 24.8	+0.7
MTUR	Matau	0.98	248	⇑iP	Pn	03 43 24.8	+0.7
MTUR	Matau	0.98	248	⇑iP	Pn	03 43 24.8	+0.7
AMRR	Amara	1.22	144	⇑iP	Pn	03 43 26.7	+0.4
AMRR	Amara	1.22	144	⇑iP	Pn	03 43 26.7	+0.4
AMRR				iS	Sn	03 43 47.1	+1.7
AMRR	Amara	1.22	144	⇑iP	Pn	03 43 26.7	+0.4
AMRR				iS	Sn	03 43 47.1	+1.7
BUC1	Bucharest	1.28	190	⇑iP	Pn	03 43 27.1	+0.2
BUC1	Bucharest	1.28	190	⇑iP	Pn	03 43 27.1	+0.2
BUC1				iS	Sn	03 43 48.0	+1.5
BUC1	Bucharest	1.28	190	⇑iP	Pn	03 43 27.1	+0.2
BUC1				iS	Sn	03 43 48.0	+1.5
GIUM	Giurgiulesti	1.31	95	⇑iP	Pn	03 43 27.8	+0.6
GIUM	Giurgiulesti	1.31	95	⇑iP	Pn	03 43 27.8	+0.6
GIUM				iS	Sn	03 43 48.9	+1.7
GIUM	Giurgiulesti	1.31	95	⇑iP	Pn	03 43 27.8	+0.6
GIUM				iS	Sn	03 43 48.9	+1.7
CFR	Carcaliu	1.33	108	⇑iP	Pn	03 43 27.3	-0.1
CFR	Carcaliu	1.33	108	⇑iP	Pn	03 43 27.3	-0.1
CFR				iS	Sn	03 43 48.1	+0.6
CFR	Carcaliu	1.33	108	⇑iP	Pn	03 43 27.3	-0.1
CFR				iS	Sn	03 43 48.1	+0.6
HUMR	Humele	1.45	222	⇑iP	Pn	03 43 28.5	-0.2
HUMR	Humele	1.45	222	⇑iP	Pn	03 43 28.5	-0.2
HUMR				iS	Sn	03 43 50.5	+0.8
HUMR	Humele	1.45	222	⇑iP	Pn	03 43 28.5	-0.2
HUMR				iS	Sn	03 43 50.5	+0.8
HARR	Harsova	1.45	129	⇑iP	Pn	03 43 28.6	-0.1
HARR	Harsova	1.45	129	⇑iP	Pn	03 43 28.6	-0.1
HARR	Harsova	1.45	129	⇑iP	Pn	03 43 28.6	-0.1
TLB	Topalu	1.58	130	⇑iP	Pn	03 43 29.9	-0.2
TLB	Topalu	1.58	130	⇑iP	Pn	03 43 29.9	-0.2
TLB				iS	Sn	03 43 51.8	-0.5
TLB	Topalu	1.58	130	⇑iP	Pn	03 43 29.9	-0.2
CVD	Cernavoda	1.76	137	⇓iP	Pn	03 43 31.8	-0.5
CVD	Cernavoda	1.76	137	⇓iP	Pn	03 43 31.8	-0.5
CVD				iS	Sn	03 43 55.5	-0.6
CVD	Cernavoda	1.76	137	⇓iP	Pn	03 43 31.8	-0.5
CVD				iS	Sn	03 43 55.5	-0.6
TLCR		1.79	103	⇑iP	Pn	03 43 32.4	-0.2
TLCR		1.79	103	⇑iP	Pn	03 43 32.4	-0.2
TLCR				iS	Sn	03 43 57.0	+0.3
TLCR		1.79	103	⇑iP	Pn	03 43 32.4	-0.2
TLCR				iS	Sn	03 43 57.0	+0.3
LOT	Lotru	1.82	266	⇓iP	Pn	03 43 33.2	+0.1
LOT	Lotru	1.82	266	⇓iP	Pn	03 43 33.2	+0.1
LOT	Lotru	1.82	266	⇓iP	Pn	03 43 33.2	+0.1
MSAB	Monastry St. A	1.84	145	⇑iP	Pn	03 43 32.8	-0.5
MSAB	Monastry St. A	1.84	145	⇑iP	Pn	03 43 32.8	-0.5
MSAB				iS	Sn	03 43 57.7	-0.1
MSAB	Monastry St. A	1.84	145	⇑iP	Pn	03 43 32.8	-0.5
MSAB				iS	Sn	03 43 57.7	-0.1
TIRR	Tirgusor	1.86	127	⇑iP	Pn	03 43 33.0	-0.5
TIRR	Tirgusor	1.86	127	⇑iP	Pn	03 43 33.0	-0.5
TIRR				iS	Sn	03 43 57.4	-0.8
TIRR	Tirgusor	1.86	127	⇑iP	Pn	03 43 33.0	-0.5
TIRR				iS	Sn	03 43 57.4	-0.8
ZIMR		2.07	200	S	Sn	03 44 01.8	-0.9
ZIMR		2.07	200	iS	Sn	03 44 01.8	-0.9
KIS	Kishinev	2.21	50	eP	Pn	03 43 37.0	-0.7
	168nm,0.6s						
KIS				iS	Sn	03 44 04.5	-1.3
	600nm,0.5s						
KIS	Kishinev	2.21	50	eP	Pn	03 43 37.0	-0.7
	168nm,0.6s						
KIS				iS	Sn	03 44 04.5	-1.3
	600nm,0.5s						
KIS	Kishinev	2.21	50	eP	Pn	03 43 37.0	-0.7
KIS				Pm		03 43 37.5	
KIS				iS	Sn	03 44 04.5	-1.3
KIS				Sm		03 44 05.0	
KIS				Sm		03 44 05.0	
PSN	Preselentsi	2.33	145	⇑iP	Pn	03 43 38.8	-0.4
PSN	Preselentsi	2.33	145	⇑iP	Pn	03 43 38.8	-0.4
PSN				iS	Sn	03 44 08.3	-0.1
PSN	Preselentsi	2.33	145	⇑iP	Pn	03 43 38.8	-0.4
PSN				iS	Sn	03 44 08.3	-0.1
MANR	Mangalia	2.40	137	⇓iP	Pn	03 43 39.4	-0.6
MANR	Mangalia	2.40	137	⇓iP	Pn	03 43 39.4	-0.6
MANR				iS	Sn	03 44 08.9	-1.1
MANR	Mangalia	2.40	137	⇓iP	Pn	03 43 39.4	-0.6
MANR				iS	Sn	03 44 08.9	-1.1
SRE	Strehaia	2.41	248	⇓iP	Pn	03 43 39.8	-0.4
SRE	Strehaia	2.41	248	⇓iP	Pn	03 43 39.8	-0.4
SRE				iS	Sn	03 44 09.7	-0.6
SRE	Strehaia	2.41	248	⇓iP	Pn	03 43 39.8	-0.4
SRE				iS	Sn	03 44 09.7	-0.6
GZR	Gura Zlata	2.52	266	⇑iP	Pn	03 43 41.7	+0.1
GZR	Gura Zlata	2.52	266	⇑iP	Pn	03 43 41.7	+0.1
GZR				iS	Sn	03 44 13.0	+0.2
GZR	Gura Zlata	2.52	266	⇑iP	Pn	03 43 41.7	+0.1
GZR				iS	Sn	03 44 13.0	+0.2
KSV	Kosov	2.85	343	eP	Pn	03 43 44.6	-1.2
KSV				eS	Sn	03 44 19.6	-0.7
SORM	Soroca	2.88	28	⇑iP	Pn	03 43 45.1	-1.0
SORM	Soroca	2.88	28	⇑iP	Pn	03 43 45.1	-1.0
SORM				iS	Sn	03 44 19.8	-1.1
SORM	Soroca	2.88	28	⇑iP	Pn	03 43 45.1	-1.0
SORM				iS	Sn	03 44 19.8	-1.1
KMPD	K-Podol'skiy	2.96	1	iP	Pn	03 43 45.6	-1.6
KMPD				eS	Sn	03 44 22.4	-0.4
JMB	Yambol	3.14	177	⇑iP	Pn	03 43 47.7	-1.9
JMB	Yambol	3.14	177	⇑iP	Pn	03 43 47.7	-1.9
JMB	Yambol	3.14	177	⇑iP	Pn	03 43 47.7	-1.9
SIRR	Siria	3.33	283	⇑iP	Pn	03 43 51.3	-0.8
SIRR	Siria	3.33	283	⇑iP	Pn	03 43 51.3	-0.8
SIRR	Siria	3.33	283	⇑iP	Pn	03 43 51.3	-0.8
VTS	Vitosha	3.77	218	⇑iP	Pn	03 43 56.9	-1.0
VTS	Vitosha	3.77	218	⇑iP	Pn	03 43 56.9	-1.0
VTS	Vitosha	3.77	218	⇑iP	Pn	03 43 56.9	-1.0
BARS	Barje	4.29	231	iPn	Pn	03 44 03.1	-1.6
GRUS	Gruza	4.36	249	iPn	Pn	03 44 03.8	-1.8
SELS	Selova	4.44	239	iPn	Pn	03 44 04.5	-2.2
DIVS	Divibare	4.76	254	iPn	Pn	03 44 09.0	-2.1
IVAS	Ivanjica	4.87	248	iPn	Pn	03 44 11.0	-1.4
TEKS	Tekeris	4.94	260	iPn	Pn	03 44 11.4	-2.0
BBLS	Lazići	5.24	253	iPn	Pn	03 44 16.5	-0.9

ISCJB ***09*** *03:54:51.9±0.6, 15°.04S±0°.03×70°.42W±0°.04, h153km±6km, mb5.0/186, Error ellipse: s-maj=7.3km s-min=4.4km az=150.3*

BJI ***09*** *03:54:52.5, 14°.46S×70°.14W, h147km, mB5.0/18*

GCMT ***09*** *03:54:53.0±0.3, 15°.29S×70°.84W, h197km±3km, MW5.0/72, Moment Tensor Solution. s29,c31; s72,c101; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-2.45±.14; $M_{\theta\theta}$2.89±.14; $M_{\phi\phi}$-0.44±.19; $M_{r\theta}$1.25±.12; $M_{\theta\phi}$-0.84±.15; $M_{\phi r}$-2.41±.14; Best double couple: $M_0$3.90300×10^16 NP1:ϕ_s313.00000°,δ68.00000°,λ-62.00000°. NP2: ϕ_s78.00000°,δ35.00000°,λ-140.00000°. Principal axes: T 3.7010, Plg19.0000°, Azm23.0000°; N 0.4040, Plg26.0000°, Azm122.0000°; P -4.1060, Plg57.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***09*** *03:54:54.9±1.1, 14°.89S×70°.62W, h171km, mb5.0/36 Error ellipse: s-maj=10.6km s-min=6.2km az=111.3*

NEIC ***09*** *03:54:55.4±0.5, 15°.12S×70°.49W, h170km±4km, mb5.0/154, Error ellipse: s-maj=5.2km s-min=3.7km az=61.0*

IDC ***09*** *03:54:58.1±0.5, 15°.17S×70°.57W, h193km±3km, mb4.4/25, mb1 4.5/29, mb1mx4.4/33, mbtmp4.9/29, MS3.8/3, Ms1 3.8/3, ms1mx3.2/22, Error ellipse: s-maj=10.3km s-min=6.7km az=47.0*

ISC 09 03:54:54.2±0.5**, 15°.25S**±0°.04×**70°.65W**±0°.05**, h162**km±4km**, n816,**σ1°.05/870**, mb4.9**/186**, 225C-215D, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	Arequipa	1.46	214	⇑iP	Pn	03 55 27.0	+2.5
ARE				iS	Sn	03 55 49.0	+1.1
ARE	Arequipa	1.46	214	⇑iP	Pn	03 55 27.0	+2.5
ARE				iS	Sn	03 55 49.0	+1.1
LPAZ	La Paz	2.64	113	P	Pn	03 55 43.5	+5.4
	365nm,0.3s,baz=291,slow=9.5						
LPAZ				S	Sn	03 56 18.9	+6.8
	126nm,0.3s,baz=204,slow=20,SNR=10						
LPAZ				LR	LR	03 56 37.6	
	comp=Z,929nm,20.5s,baz=220,slow=38						
NNA	Nana	6.83	298	Pn	Pn	03 56 32.8	+0.6
	2µm,0.4s,SNR=27						
NNA	Nana	6.83	298	P	Pn	03 56 32.8	+0.6
	39nm,0.3s,baz=135,slow=15,SNR=102						
NNA				S	Sn	03 57 46.3	-2.9
	31nm,0.3s,baz=90,slow=18,SNR=6.9						
NNA	Nana	6.83	298	eP	Pn	03 56 32.6	+0.4
NNA				eS	Sn	03 57 46.9	-2.3
NNA	Nana	6.83	298	ePn	Pn	03 56 32.5	+0.4
NNA				eS	Sn	03 57 46.9	-2.3
LVC	Limon Verde	7.51	168	P	Pn	03 56 42.2	+0.9
	6µm,0.3s,baz=329,slow=9.0,SNR=826						
LVC				S	Sn	03 58 00.7	-4.8
	5µm,0.3s,baz=253,slow=19,SNR=15						
LVC				LR	LR	04 00 49.8	
	comp=Z,621nm,18.2s,baz=46,slow=46						
LVC	Limon Verde	7.51	168	ePn	Pn	03 56 41.3	+0.1
LVC				eS	Sn	03 58 01.1	-4.5
SIV	San Ignacio	9.26	96	P	Pn	03 57 05.7	+1.4
	15nm,0.3s,baz=284,slow=12,SNR=141						
SIV				S	Sn	03 58 48.3	+1.0
	2.6nm,0.3s,baz=246,slow=20,SNR=4.3						
SAML	Samuel	9.62	50	⇑iPn	Pn	03 57 10.6	+1.6
SAML				eS	Sn	03 59 02.2	+6.3
ATAH	Atahualpa	11.07	316	P	Pn	03 57 30.3	+1.7
	1.5nm,0.3s,baz=116,slow=15,SNR=8.6						
ATAH				S	Sn	03 59 31.1	-0.3
	0.4nm,0.3s,baz=48,slow=18,SNR=1.6						
LCO	Las Campanas	13.70	180	ePn	Pn	03 58 02.2	+0.1
LCO				eS	Sn	04 00 33.0	-1.3
CFAA	Coronel Fontan	16.43	173	P	Pn	03 58 37.0	+1.4
	1.3nm,0.3s,baz=344,slow=12,SNR=119						
CFAA				S	S	04 01 28.5	-9.2
	0.1nm,0.3s,baz=222,slow=18,SNR=6.0						
CPUP	Villa Florida	16.62	134	eP	P	03 58 37.2	-0.3
CPUP	Villa Florida	16.62	134	ePn	P	03 58 37.2	-0.3
	0.3nm,0.6s						
OTAV	Otavalo	17.21	333	ePn	Pn	03 58 46.9	+1.4
	200nm,0.8s						
OTAV				eS	S	04 01 53.4	-2.6
ROSC	El Rosal	20.30	349	P	P	03 59 18.3	+0.2
	26nm,0.5s,baz=105,slow=8.5,SNR=13						
ROSC				S	S	04 03 01.7	+4.5
	18nm,1.2s,baz=90,slow=20,SNR=4.2						
ROSC	El Rosal	20.30	349	eP	P	03 59 17.9	-0.2
ROSC				S	S	04 03 01.7	+4.5
BDFB	Brasilia	21.82	94	P	P	03 59 34.1	+0.2
	11nm,0.6s,baz=265,slow=12,SNR=21						
BDFB	Brasilia	21.82	94	eP	P	03 59 34.0	0.0
BDFB	Brasilia	21.82	94	eP	P	03 59 34.0	0.0
SDV	Santo Domingo	23.98	0	eP	P	03 59 52.2	-1.9
	66nm,1.1s						
SDV				eS	S	04 04 05.5	+6.1
TRQA	Tornquist	23.98	163	eP	P	03 59 53.4	-0.4
	53nm,1.4s						
PLCA	Paso Flores	25.39	180	P	P	04 00 07.5	+0.8
	13nm,0.4s,baz=356,slow=9.6,SNR=36						
PLCA				pP	pP	04 00 46.0	+5.9
	24nm,1.0s,baz=3.1,slow=13,SNR=5.1						
PLCA				PcP	PcP	04 03 35.5	+0.8
	5.7nm,0.9s,baz=13,slow=3.7,SNR=4.7						
PLCA				ScP	ScP	04 06 57.3	-1.6
	4.0nm,0.7s,baz=11,slow=5.3,SNR=9.7						
PLCA	Paso Flores	25.39	180	eP	P	04 00 07.4	+0.8
PLCA				*PP	pP	04 00 46.0	+5.9
PLCA						04 03 35.5	
PLCA				pmax	pmax		
	comp=Z,67nm,1.4s						
PLCA	Paso Flores	25.39	180	eP	P	04 00 07.4	+0.8
	comp=Z,67nm,1.4s						
PLCA				pP	pP	04 00 46.0	+5.9
PLCA				PcP	PcP	04 03 35.5	+0.8
PLCA				ScP	ScP	04 06 57.3	-1.6
BCIP	Isla Barro Col	25.91	339	eP	P	04 00 12.9	+1.5
	comp=Z,100nm,0.8s						
PCRV	Puerto La Cruz	25.95	14	P	P	04 00 11.7	-0.1
	comp=Z,7.6nm,0.4s,baz=228,slow=1.6,SNR=9.5						
PCRV				PcP	PcP	04 03 36.2	-0.2
	comp=Z,13nm,0.9s,baz=11,slow=6.2,SNR=3.7						
GRGR	Grenville	28.62	19	eP	P	04 00 35.3	-0.3
	comp=Z,96nm,0.6s						
JTS	JuntasAbangare	29.06	330	P	P	04 00 41.8	+2.3
	comp=Z,2.9nm,0.4s,baz=113,slow=4.6,SNR=4.6						
JTS	JuntasAbangare	29.06	330	⇑eP	P	04 00 37.5	-2.0
JTS				pmax	pmax		
	comp=Z,22nm,1.7s						
FDF	Fort de France	31.23	18	eP	P	04 00 56.3	-2.4
FDF				pmax	pmax		
	comp=Z,48nm,0.6s						
FDF	Fort de France	31.23	18	eP	P	04 00 56.3	-2.4
	comp=Z,48nm,0.6s						
CRPR	Cabo Rojo, PR	33.23	6	eP	P	04 01 14.2	-1.8
	comp=Z,61nm,1.3s						
OBIP	Obispado Ponce	33.32	7	eP	P	04 01 15.0	-1.7
	comp=Z,38nm,0.5s						
CELP	Cerrillos	33.35	7	eP	P	04 01 14.9	-2.2
LSP	Las Mesas	33.40	6	eP	P	04 01 15.3	-2.2
SJG	San Juan	33.44	8	eP	P	04 01 15.3	-2.6
SJG				pmax	pmax		
	comp=Z,14nm,1.1s						
SJG	San Juan	33.44	8	eP	P	04 01 15.3	-2.6
	comp=Z,14nm,1.1s						
STVI	Saint Thomas	33.85	10	eP	P	04 01 19.3	-2.1
	comp=Z,37nm,0.4s						
ANWB	Willy Bob	33.85	15	eP	P	04 01 18.4	-3.0
	comp=Z,82nm,0.6s						
MTDJ	Mount Denham	33.95	348	eP	P	04 01 21.4	-1.0
	comp=Z,60nm,0.8s						
SDDR	Presa de Saban	34.02	359	eP	P	04 01 21.7	-1.2
	comp=Z,34nm,1.4s						
SMN1	Samana, DR	34.24	2	eP	P	04 01 23.0	-1.9
GTBY	Guantanamo Bay	35.23	353	eP	P	04 01 32.0	-1.2
	comp=Z,32nm,1.0s						
RCBR	Riachuelo	35.37	78	P	P	04 01 35.9	+1.2
	comp=Z,4.8nm,0.5s,baz=243,slow=9.3,SNR=8.0						
EFI	East Falkland	37.71	167	d iP	P	04 01 55.1	+1.2
EFI				pmax	pmax		
	comp=Z,247nm,1.7s						
EFI	East Falkland	37.71	167	eP	P	04 01 54.8	+0.9
	comp=Z,30nm,0.7s						
RPN	Rapa Nui	37.81	245	P	P	04 01 56.0	+0.9
	comp=Z,90nm,0.7s,baz=45,slow=1.4,SNR=3.6						
TEIG	Tepich	39.28	333	P	P	04 02 08.0	+0.6
	comp=Z,29nm,0.5s,baz=149,slow=5.9,SNR=38						
TEIG				pP	pP	04 02 49.6	+7.3
	comp=Z,13nm,0.8s,baz=169,slow=5.8,SNR=2.2						
TEIG	Tepich	39.28	333	eP	P	04 02 08.0	+0.6
	comp=Z,43nm,0.7s						
TEIG				pP	pP	04 02 49.6	+7.3
USHA	Ushuaia	39.54	178	P	P	04 02 09.9	+0.8
	comp=Z,10nm,0.6s,baz=356,slow=7.1,SNR=7.0						
CMIG	Matias Romero	40.05	322	P	P	04 02 14.8	+1.0
	comp=Z,14nm,0.7s,baz=112,slow=6.3,SNR=23						
TIGA	Tifton	48.05	345	⇓P	P	04 03 16.3	-0.9
	baz=48,SNR=12						
TIGA	Tifton	48.05	345	eP	P	04 03 16.4	-0.8
	comp=Z,85nm,0.9s						
BRAL	Brewton	48.62	341	eP	P	04 03 22.7	+1.1
	comp=Z,217nm,0.6s						
RGRS	Roger Stewart	48.74	349	eP	P	04 03 22.3	-0.2
CSU	Charleston Sou	48.80	349	eP	P	04 03 22.4	-0.5
NHSC	New Hope	48.93	349	eP	P	04 03 23.5	-0.4
	comp=Z,228nm,0.9s						
035Z	Hargill	49.29	327	⇓P	P	04 03 27.4	+0.6
	baz=50						
034A	Hebbronville	50.10	327	⇑P	P	04 03 33.3	+0.4
	baz=50						
JSC	Jenkinsville	50.28	349	eP	P	04 03 33.4	-0.7
JSC				pmax	pmax		
	comp=Z,26nm,1.0s						
JSC	Jenkinsville	50.28	349	eP	P	04 03 33.4	-0.7
	comp=Z,26nm,1.0s						
934A	Benavides	50.44	327	⇑P	P	04 03 36.7	+1.2
	baz=51						
540A	Vidor	50.47	334	⇑P	P	04 03 36.0	+0.4
	baz=51						
LRAL	Lakeview Retre	50.49	342	eP	P	04 03 34.8	-0.9
	comp=Z,47nm,0.7s						
835A	Beeville	50.65	329	⇑P	P	04 03 36.2	-0.8
	baz=51						
CNNC	Cliffs of the	50.67	352	eP	P	04 03 36.0	-1.1
	comp=Z,20nm,0.8s						
539A	Cross D Ranch,	50.71	333	⇑P	P	04 03 37.8	+0.4
	baz=51						
736A	Circle Diamond	50.82	330	⇓P	P	04 03 39.8	+1.5
	baz=51,SNR=6.8						
933A	Laredo	50.85	327	⇓P	P	04 03 38.8	+0.2
	baz=51,SNR=6.7						
637A	Eagle Lake	50.88	331	⇓P	P	04 03 39.2	+0.5
	baz=51						
834A	Tilden	50.88	328	⇑P	P	04 03 39.9	+1.1
	baz=51,SNR=9.3						
440A	Kirbyville	50.93	334	⇓P	P	04 03 40.0	+1.0
	baz=51						
KMSC	Kings Mountain	51.13	349	⇓P	P	04 03 39.8	-0.7
	baz=51,SNR=23						
KMSC	Kings Mountain	51.13	349	eP	P	04 03 39.7	-0.7
	comp=Z,48nm,0.9s						
636A	Smothers Creek	51.25	330	⇓P	P	04 03 42.5	+1.0
	baz=51,SNR=13						
439A	Center Grove,	51.32	333	⇓P	P	04 03 43.1	+1.1
	baz=52						
537A	Green Hill Far	51.41	331	⇓P	P	04 03 43.2	+0.6
	baz=52						
734A	La Parita Cree	51.47	328	⇑P	P	04 03 43.7	+0.5
	baz=52						
833A	Chaparral WMA,	51.48	327	⇑P	P	04 03 43.2	0.0
	baz=52,SNR=11						
340A	Bronson	51.48	334	⇑P	P	04 03 43.1	-0.1
	baz=52,SNR=11						
635A	Leesville	51.52	329	⇓P	P	04 03 43.9	+0.4
	baz=52						
438A	Sam Houston St	51.59	333	⇓P	P	04 03 44.4	+0.4
	baz=52						
339A	Huntington	51.69	334	⇑P	P	04 03 45.6	+0.9
	baz=52						
733A	Divot King Ran	51.75	328	⇑P	P	04 03 45.1	-0.1
	baz=52,SNR=6.9						
536A	Bastrop	51.75	331	⇓P	P	04 03 45.3	+0.1
	baz=52						
832A	Faith Ranch, C	51.76	327	⇓P	P	04 03 45.2	0.0
	baz=52,SNR=13						
535A	Dale	51.96	330	⇓P	P	04 03 47.1	+0.4
	baz=52						
338A	Crockett	52.04	333	⇓P	P	04 03 48.3	+1.0
	baz=52,SNR=10						
NATX	Nacogdoches	52.10	334	⇑P	P	04 03 48.7	+1.0
	baz=52,SNR=6.9						
NATX	Nacogdoches	52.10	334	eP	P	04 03 48.8	+1.0
	comp=Z,81nm,1.2s						
732A	Laxson Ranch,	52.11	327	⇓P	P	04 03 47.7	-0.2
	baz=52,SNR=16						
TKL	Tuckaleechee C	52.13	346	eP	P	04 03 46.6	-1.3
TKL	Tuckaleechee C	52.13	346	eP	P	04 03 46.6	-1.3
436A	Wall Ranch, Ga	52.21	331	⇑P	P	04 03 49.1	+0.5
	baz=52						
SWET	Sewanee	52.24	344	eP	P	04 03 47.5	-1.2
	comp=Z,54nm,0.4s						
239A	Gary	52.25	334	⇑P	P	04 03 49.6	+0.8
	baz=52,SNR=9.2						
337A	Centerville	52.26	333	⇓P	P	04 03 49.4	+0.5
	baz=52						
633A	Saathoff Ranch	52.28	328	⇓P	P	04 03 49.3	+0.2
	baz=52,SNR=13						
534A	Blanco	52.40	329	⇓P	P	04 03 49.6	-0.4
	baz=53,SNR=8.8						
238A	Jacksonville	52.51	334	⇓P	P	04 03 51.4	+0.6
	baz=53,SNR=8.2						
435B	Jarrell	52.59	331	⇓P	P	04 03 51.9	+0.5
	baz=53						
OXF	Oxford	52.60	340	eP	P	04 03 49.6	-1.8
OXF				pmax	pmax		
	comp=Z,120nm,1.2s						
OXF	Oxford	52.60	340	eP	P	04 03 49.6	-1.8
	comp=Z,120nm,1.2s						
632A	Uvalde	52.63	328	⇓P	P	04 03 52.5	+0.8
	baz=53,SNR=17						
533A	Kerrville	52.71	329	⇓P	P	04 03 52.5	+0.2
	baz=53						
336A	Riesel	52.75	332	⇓P	P	04 03 52.5	0.0
	baz=53						
139A	Bunkhouse Ranc	52.79	335	⇑P	P	04 03 53.1	+0.4
	baz=53,SNR=7.3						
237A	Washetta, Mont	52.81	333	⇑P	P	04 03 53.8	+0.9
	baz=53						
335A	Moody	52.93	331	⇓P	P	04 03 54.0	+0.1
	baz=53,SNR=7.7						
434A	Burnet	52.94	330	⇑P	P	04 03 53.8	-0.2
	baz=53						
VWCC	Virginia Weste	52.94	351	eP	P	04 03 53.1	-0.7
631A	Perdido Creek	52.97	327	⇑P	P	04 03 54.0	-0.2
	baz=53,SNR=37						
BLA	Blacksburg	52.98	350	eP	P	04 03 53.3	-0.9
BLA				e		04 04 59.9	
BLA				pmax	pmax		
	comp=Z,97nm,1.5s						
BLA	Blacksburg	52.98	350	eP	P	04 03 53.3	-0.9
	comp=Z,97nm,1.5s						
BLA				ePcP	PcP	04 04 59.9	-0.9
138A	Matatall Enter	53.06	334	⇑P	P	04 03 56.4	+1.5
	baz=53,SNR=9.7						
JSRW	J. Sargeant Re	53.09	353	eP	P	04 03 53.8	-1.1
236A	Katherine and	53.13	332	⇓P	P	04 03 55.6	+0.3
	baz=53,SNR=6.5						
532A	Rocksprings	53.19	328	⇑P	P	04 03 55.5	-0.4
	baz=53,SNR=13						
Z39A	Irene McRaven,	53.20	335	⇓P	P	04 03 56.5	+0.7
	baz=53,SNR=5.5						
137A	Heron Place, G	53.29	333	⇑P	P	04 03 57.1	+0.6
	baz=54,SNR=8.5						
433A	Art	53.29	329	⇑P	P	04 03 56.0	-0.5
	baz=54,SNR=26						
334A	Lometa	53.35	330	⇓P	P	04 03 56.8	-0.2
	baz=54						
JCT	Junction City	53.43	328	eP	P	04 03 57.4	-0.2
JCT				pmax	pmax		
	comp=Z,25nm,1.3s						
JCT	Junction City	53.43	328	⇓P	P	04 03 57.2	-0.4
	baz=54,SNR=10						
JCT	Junction City	53.43	328	eP	P	04 03 57.4	-0.2
	comp=Z,25nm,1.3s						
Z38A	Mt. Pleasant	53.53	335	⇑P	P	04 03 58.8	+0.6
	baz=54,SNR=10						
WHTX	Lake Whitney,	53.54	332	⇓P	P	04 03 58.3	0.0
	baz=54,SNR=6.4						
WHTX	Lake Whitney,	53.54	332	eP	P	04 03 58.7	+0.4
	comp=Z,27nm,0.9s						
CBN	Corbin Frederi	53.54	353	eP	P	04 03 56.9	-1.2
	comp=Z,15nm,0.4s						
531A	Rocksprings	53.55	328	⇑P	P	04 03 58.9	+0.4
	baz=54,SNR=26						
333A	Richland Sprin	53.71	330	⇓P	P	04 03 59.1	-0.5
	baz=54,SNR=14						
432A	Menard	53.74	329	⇓P	P	04 03 59.7	-0.2
	baz=54,SNR=19						
Z37A	Pogue Cattle C	53.75	334	⇑P	P	04 03 60.0	+0.1
	baz=54						
234A	Clairette	53.87	331	⇑P	P	04 04 00.6	-0.1
	baz=54,SNR=8.0						
530A	J-C Ranch, Com	53.95	327	⇑P	P	04 04 01.7	+0.2
	baz=54,SNR=19						
HBAR	Harrisburg	53.96	340	eP	P	04 04 00.9	-0.4
135A	Vickery Place,	53.99	332	⇑P	P	04 04 01.3	-0.3
	baz=54						
431A	Sonora	54.00	328	⇓P	P	04 04 01.4	-0.4
	baz=54,SNR=35						
MIAR	Mount Ida	54.10	337	eP	P	04 04 02.2	-0.2
MIAR				pmax	pmax		
	comp=Z,27nm,0.8s						
MIAR	Mount Ida	54.10	337	eP	P	04 04 02.1	-0.2
	comp=Z,27nm,0.8s						
332A	Millersview	54.13	329	⇓P	P	04 04 02.8	+0.2
	baz=54,SNR=44						
GNAR	Gosnell	54.13	341	eP	P	04 04 01.4	-1.1
	comp=Z,290nm,0.7s						
GLAT	Glass	54.18	341	eP	P	04 04 01.9	-0.9
233A	Rising Star	54.24	330	⇑P	P	04 04 03.5	+0.1
	baz=54,SNR=26						
134A	White-Moore Ra	54.31	331	⇑P	P	04 04 04.1	+0.1
	baz=54,SNR=12						
430A	Baggett Ranch,	54.41	327	⇑P	P	04 04 04.6	-0.1
	baz=55,SNR=22						
529A	Stev Forest Ra	54.41	326	⇑P	P	04 04 05.2	+0.5
	baz=55,SNR=43						
331A	San Angelo	54.41	328	⇓P	P	04 04 04.4	-0.3
	baz=55,SNR=19						
232A	Coleman	54.49	330	⇓P	P	04 04 05.0	-0.2
	baz=55,SNR=26						
SLBS	Sierra La Lagu	54.52	315	eP	P	04 04 06.8	+1.1
	comp=Z,14nm,0.7s						
Z35A	Perchaven, San	54.57	333	⇓P	P	04 04 05.7	-0.1
	baz=55,SNR=5.7						
TXAR	Lajitas Array	54.59	324	P	P	04 04 06.0	-0.2
	comp=Z,7.9nm,0.7s,baz=150,slow=8.5,SNR=110						

TXAR pP pP 04 04 50.7 +7.4
comp=Z,1.0nm,0.8s,baz=134,slow=6.4,SNR=1.2
TXAR PcP **PcP** **04 05 07.0 -0.2**
comp=Z,0.9nm,0.5s,baz=139,slow=6.7,SNR=4.4
429A Davenport Ranc 54.62 327 ⇓P **P** **04 04 06.6 +0.3**
baz=55,SNR=44
PARMO Parma 54.69 341 *eP* **P** **04 04 06.3 -0.2**
133A Hamilton Ranch 54.73 331 ⇑P **P** **04 04 07.5 +0.5**
baz=55,SNR=34
X37A Clayton 54.85 335 ⇑P **P** **04 04 07.8 +0.1**
baz=55,SNR=20
231A Bronte 54.86 329 ⇑P **P** **04 04 07.7 -0.2**
baz=55
330A Mertzon 54.87 328 ⇑P **P** **04 04 07.6 -0.4**
baz=55,SNR=9.0
Z34A Collier Ranch, 54.91 332 ⇓P **P** **04 04 08.5 +0.4**
baz=55,SNR=8.4
W38A Poteau 54.93 336 ⇑P **P** **04 04 08.7 +0.4**
baz=55,SNR=40
PBMO Poplar Bluff 55.01 341 *eP* **P** **04 04 07.9 -0.9**
comp=Z,178nm,0.5s
ABTX Abilene, Hawle 55.09 330 ⇓P **P** **04 04 09.7 +0.2**
baz=55,SNR=18
ABTX Abilene, Hawle 55.09 330 *eP* **P** **04 04 09.8 +0.2**
comp=Z,24nm,0.6s
WCI Wyandotte Cave 55.18 345 *eP* **P** **04 04 08.6 -1.4**
WCI pmax pmax
comp=Z,71nm,0.5s
WCI Wyandotte Cave 55.18 345 *eP* **P** **04 04 08.6 -1.4**
comp=Z,71nm,0.5s
230A Sterling City 55.22 328 ⇓P **P** **04 04 10.7 +0.1**
baz=55
Z33A Whitaker Ranch 55.22 331 ⇓P **P** **04 04 11.0 +0.5**
baz=55,SNR=26
X36A Centrahoma 55.24 334 ⇑P **P** **04 04 10.4 -0.1**
baz=55,SNR=13
USIN University of 55.29 344 *eP* **P** **04 04 09.4 -1.4**
comp=Z,83nm,0.6s
Y34A Reagan Ranch, 55.33 333 ⇑P **P** **04 04 11.2 0.0**
baz=56,SNR=14
329A Wagon Wheel Ra 55.35 327 ⇑P **P** **04 04 11.1 -0.4**
baz=56,SNR=17
W37A Quinton 55.35 335 ⇓P **P** **04 04 11.5 +0.2**
baz=56,SNR=18
X35A Drake 55.36 334 ⇓P **P** **04 04 11.2 -0.2**
baz=56,SNR=12
131A Roby 55.49 329 ⇑P **P** **04 04 12.8 +0.3**
baz=56,SNR=15
Z32A Haskell 55.57 331 ⇓P **P** **04 04 13.0 0.0**
baz=56,SNR=10
229A Bryant Ranch, 55.64 328 ⇑P **P** **04 04 12.9 -0.7**
baz=56,SNR=9.2
W36A Wetumka 55.68 335 ⇑P **P** **04 04 13.2 -0.5**
baz=56,SNR=30
130A Snyder 55.72 329 ⇑P **P** **04 04 13.7 -0.4**
baz=56,SNR=7.8
LUPA Lehigh Univers 55.73 356 *eP* **P** **04 04 13.0 -0.9**
comp=Z,1.2nm,0.7s
BRNJ Basking Ridge 55.76 356 *eP* **P** **04 04 13.0 -1.1**
Y33A Hilltop Ranch, 55.76 332 ⇑P **P** **04 04 14.1 -0.2**
baz=56,SNR=17
Z31A Sharp Cattle R 55.90 330 ⇑P **P** **04 04 15.3 0.0**
baz=56,SNR=21
X34A Smith Ranch, M 55.90 333 ⇑P **P** **04 04 15.6 +0.3**
baz=56,SNR=28
W35A Tecumseh 55.96 334 ⇓P **P** **04 04 14.6 -1.0**
baz=56,SNR=16
SSPA Standing Stone 56.00 353 *eP* **P** **04 04 14.5 -1.3**
comp=Z,17nm,1.4s
PAL Palisades 56.05 357 *eP* **P** **04 04 13.8 -2.3**
PAL pmax pmax
comp=Z,18nm,0.9s
PAL Palisades 56.05 357 *eP* **P** **04 04 13.8 -2.3**
comp=Z,18nm,0.9s
OLIL Olney 56.13 344 *eP* **P** **04 04 14.8 -2.0**
comp=Z,42nm,0.4s
BLO Bloomington 56.13 345 *eP* **P** **04 04 15.3 -1.5**
BLO Bloomington 56.13 345 *eP* **P** **04 04 15.3 -1.5**
Y32A R-V Farms, Ver 56.13 331 ⇑P **P** **04 04 16.8 -0.1**
baz=56,SNR=7.2
X33A Lawton 56.15 332 ⇓P **P** **04 04 16.4 -0.6**
baz=56,SNR=13
ODNJ Ogdensburg 56.16 356 *eP* **P** **04 04 15.3 -1.7**
comp=Z,7.0nm,0.8s
228A UT Block 9, Go 56.17 327 ⇑P **P** **04 04 16.8 -0.5**
baz=56,SNR=9.8
TUL1 Leonard 56.17 335 ⇑P **P** **04 04 16.6 -0.5**
baz=56,SNR=18
TUL1 Leonard 56.17 335 *eP* **P** **04 04 17.3 +0.2**
129A Stewart Farms, 56.20 328 ⇑P **P** **04 04 17.6 +0.1**
baz=56,SNR=28
Z30A Sanderson Ranc 56.35 329 ⇑P **P** **04 04 18.5 -0.1**
baz=57,SNR=37
ACSO Alum Creek Sta 56.37 349 *eP* **P** **04 04 17.1 -1.3**
comp=Z,68nm,0.9s
X32A Elmer 56.41 332 ⇓P **P** **04 04 18.7 -0.1**
baz=57,SNR=9.9
W34A Bridge Creek, 56.41 333 ⇓P **P** **04 04 18.3 -0.7**
baz=57,SNR=6.8
W34A Bridge Creek, 56.41 333 *eP* **P** **04 04 19.6 +0.7**
comp=Z,13nm,0.5s
WMOK Wichita Mounta 56.44 332 *eP* **P** **04 04 18.7 -0.4**
WMOK pmax pmax
comp=Z,12nm,0.7s
WMOK Wichita Mounta 56.44 332 *eP* **P** **04 04 18.7 -0.4**
comp=Z,12nm,0.7s
V35A Meyer Ranch, C 56.47 334 ⇑P **P** **04 04 18.6 -0.6**
baz=57,SNR=11
Y31A Rekieta Farm, 56.48 330 ⇑P **P** **04 04 19.5 0.0**
baz=57,SNR=32
128A Castleberry Fa 56.51 328 ⇓P **P** **04 04 19.2 -0.5**
baz=57,SNR=10.0
Z29A Hungry Hill Ra 56.62 329 ⇓P **P** **04 04 19.7 -0.8**
baz=57,SNR=17
W33A Caddo, Fort Co 56.65 333 ⇑P **P** **04 04 21.0 +0.4**
baz=57,SNR=28
SLM Saint Louis 56.65 342 *eP* **P** **04 04 19.4 -1.1**
SLM pmax pmax
comp=Z,58nm,0.7s
SLM Saint Louis 56.65 342 *eP* **P** **04 04 19.4 -1.1**
comp=Z,58nm,0.7s
KSPA Keystone Colle 56.71 355 *eP* **P** **04 04 19.8 -1.0**
comp=Z,26nm,1.6s
Y30A Stafford Cattl 56.72 330 ⇓P **P** **04 04 21.1 -0.1**
baz=57
V34A Guthrie 56.81 334 ⇓P **P** **04 04 21.4 -0.3**
baz=57,SNR=12
V34A Guthrie 56.81 334 *eP* **P** **04 04 21.5 -0.2**
comp=Z,104nm,0.8s
BRYW Bryant College 56.88 359 *eP* **P** **04 04 21.0 -1.0**
comp=Z,50nm,0.9s
T37A Cheneyville 18 56.89 337 ⇑P **P** **04 04 21.8 -0.4**
baz=57,SNR=62
X31A McDonald Ranch 56.90 331 ⇑P **P** **04 04 22.3 0.0**
baz=57
W32A Sentinel 56.97 332 ⇓P **P** **04 04 23.0 +0.1**
baz=57,SNR=46
Z28A Tucker Farm, M 56.98 328 ⇓P **P** **04 04 22.7 -0.4**
baz=57,SNR=14
Y29A Porterfield Fa 57.08 329 ⇑P **P** **04 04 23.2 -0.5**
baz=57,SNR=14
V33A Lossen Ranch, 57.13 333 ⇑P **P** **04 04 23.9 -0.1**
baz=57,SNR=7.9
X30A Coker Ranch, T 57.17 330 ⇑P **P** **04 04 23.9 -0.4**
baz=57,SNR=7.3
T36A Boggs Farm, Ca 57.20 336 ⇑P **P** **04 04 24.1 -0.3**
baz=57,SNR=28
T35A Sooner Cattle 57.33 335 ⇑P **P** **04 04 25.0 -0.3**
baz=58,SNR=11
U34A Anderson Ranch 57.33 334 ⇓P **P** **04 04 25.1 -0.2**
baz=58,SNR=19
U34A Anderson Ranch 57.33 334 *eP* **P** **04 04 25.4 +0.1**
comp=Z,60nm,0.8s
U34A *e* 04 05 15.6
W31A Holland Ranch, 57.34 332 ⇓P **P** **04 04 25.0 -0.5**
baz=58,SNR=5.7
BINY Binghamton 57.37 355 *eP* **P** **04 04 24.3 -1.2**
comp=Z,36nm,0.8s
V32A Arapaho 57.38 333 ⇑P **P** **04 04 25.7 0.0**
baz=58,SNR=7.1
Y28A McKinney Farm, 57.41 329 ⇑P **P** **04 04 25.7 -0.3**
baz=58,SNR=10
SFIN Lafayette 57.41 345 ⇓P **P** **04 04 23.3 -2.4**
baz=58,SNR=21
SFIN Lafayette 57.41 345 *eP* **P** **04 04 23.6 -2.2**
comp=Z,69nm,0.5s
HRV Adam Dziewonsk 57.47 359 *eP* **P** **04 04 24.9 -1.2**
HRV pmax pmax
comp=Z,26nm,0.9s
HRV Adam Dziewonsk 57.47 359 *eP* **P** **04 04 24.9 -1.2**
comp=Z,26nm,0.9s
X29A Tulia 57.57 330 ⇑P **P** **04 04 26.5 -0.6**
baz=58,SNR=14
U33A Lingo Farm, Me 57.58 334 ⇑P **P** **04 04 26.4 -0.7**
baz=58,SNR=10
S36A Lake Cedric, C 57.67 337 ⇓P **P** **04 04 27.0 -0.7**
baz=58,SNR=26
T34A McClaskey Farm 57.69 335 ⇓P **P** **04 04 27.7 -0.1**
baz=58,SNR=13
MSTX Muleshoe 57.72 328 ⇓P **P** **04 04 27.8 -0.4**
baz=58,SNR=9.7
MSTX Muleshoe 57.72 328 *eP* **P** **04 04 28.0 -0.3**
comp=Z,20nm,0.8s
V31A Spring Creek L 57.78 332 ⇓P **P** **04 04 28.4 -0.1**
baz=58,SNR=16
X28A Dimmitt 57.87 329 ⇓P **P** **04 04 28.8 -0.5**
baz=58,SNR=5.6
R37A Teagarden Farm 57.90 338 ⇓P **P** **04 04 28.2 -1.1**
baz=58,SNR=14
AMTX Amarillo 57.91 330 ⇑P **P** **04 04 29.2 -0.4**
baz=58
AMTX Amarillo 57.91 330 *eP* **P** **04 04 29.0 -0.5**
comp=Z,12nm,0.5s
U32A Winter Ranch, 57.91 333 ⇑P **P** **04 04 29.6 +0.2**
baz=58
S35A Otter Creek Ra 57.91 336 ⇑P **P** **04 04 28.9 -0.5**
baz=58,SNR=29
MMNY Mt. Morris Dam 58.07 354 *eP* **P** **04 04 29.1 -1.2**
comp=Z,64nm,0.5s
W29A Amarillo 58.09 330 ⇑P **P** **04 04 30.4 -0.4**
baz=58
HDIL Hopedale 58.16 343 *eP* **P** **04 04 29.2 -1.8**
comp=Z,77nm,0.5s
V30A Spur Ranch, Mi 58.16 331 ⇑P **P** **04 04 32.1 +0.9**
baz=58
R36A Gordon, Harris 58.16 337 ⇓P **P** **04 04 30.4 -0.7**
baz=58,SNR=23
T33A Patterson Ranc 58.18 334 ⇑P **P** **04 04 31.1 -0.2**
baz=58,SNR=5.3
S34A Willow Spring 58.24 335 ⇓P **P** **04 04 31.3 -0.4**
baz=58,SNR=11
Q37A Longview Farm, 58.26 338 ⇓P **P** **04 04 30.8 -1.0**
baz=58,SNR=6.7
U31A Nine Bar Ranch 58.28 332 ⇑P **P** **04 04 31.4 -0.6**
baz=58
ACCN Adirondack Com 58.41 357 *eP* **P** **04 04 31.8 -0.9**
comp=Z,5.6nm,0.7s
R35A Emporia Munici 58.42 337 ⇑P **P** **04 04 32.6 -0.3**
baz=59,SNR=7.5
W28A Vega 58.47 330 ⇓P **P** **04 04 33.6 +0.2**
baz=59
AAM Ann Arbor 58.50 349 *eP* **P** **04 04 31.7 -1.6**
AAM pmax pmax
comp=Z,27nm,0.5s
AAM Ann Arbor 58.50 349 *eP* **P** **04 04 31.7 -1.6**
comp=Z,27nm,0.5s
S33A Kaszmaul Farm, 58.52 335 ⇓P **P** **04 04 33.9 +0.3**
baz=59
T32A Huddler Ranch, 58.55 334 ⇑P **P** **04 04 33.8 0.0**
baz=59,SNR=10
Q36A Arnold C. Ore 58.70 337 ⇓P **P** **04 04 34.0 -0.9**
baz=59,SNR=5.5
U30A WK&E Inc. Balk 58.77 332 ⇓P **P** **04 04 35.3 -0.1**
baz=59
R34A Isabella, Hill 58.82 336 ⇓P **P** **04 04 35.3 -0.3**
baz=59,SNR=20
Q35A Mercer Eighty, 58.83 337 ⇑P **P** **04 04 34.8 -0.9**
baz=59,SNR=14
V28A Channing 58.87 330 ⇓P **P** **04 04 36.3 +0.1**
baz=59,SNR=7.3
U29A Oasis Ranch, S 58.99 331 ⇓P **P** **04 04 37.1 +0.1**
baz=59
S32A Newby Ranch, P 59.00 334 ⇓P **P** **04 04 37.0 +0.1**
baz=59,SNR=7.5
MDV Middlebury 59.00 358 *eP* **P** **04 04 35.6 -1.1**
R33A Olander Ranch, 59.12 335 ⇓P **P** **04 04 37.5 -0.2**
baz=59,SNR=14
T30A Plains 59.15 332 ⇓P **P** **04 04 38.3 +0.3**
baz=59
S31A Mullinville 59.16 334 ⇓P **P** **04 04 38.4 +0.3**
baz=59,SNR=6.8
V27A Dan Oppiter Fa 59.17 330 ⇑P **P** **04 04 38.3 0.0**
baz=59,SNR=5.5
P36A Good Intent, A 59.19 338 ⇑P **P** **04 04 37.5 -0.6**
baz=59
Q34A Chapman 59.23 336 ⇓P **P** **04 04 38.1 -0.4**
baz=59,SNR=22
KSU1 Kansas State U 59.26 337 ⇓P **P** **04 04 37.3 -1.3**
baz=60,SNR=8.2
KSU1 Kansas State U 59.26 337 *eP* **P** **04 04 38.1 -0.6**
comp=Z,87nm,1.0s
121A Cookes Peak, D 59.33 324 ⇑P **P** **04 04 40.1 +0.6**
baz=60,SNR=20
121A Cookes Peak, D 59.33 324 *eP* **P** **04 04 40.0 +0.5**
comp=Z,17nm,0.8s
U28A Mallet 59.38 331 ⇑P **P** **04 04 39.5 -0.2**
baz=60,SNR=7.5
P35A Duane Minner, 59.41 337 ⇓P **P** **04 04 38.4 -1.3**
baz=60,SNR=7.6
R32A Long Quarter, 59.51 335 ⇓P **P** **04 04 40.3 -0.2**
baz=60,SNR=16
WVL Waterville 59.53 1 *eP* **P** **04 04 39.1 -1.2**
comp=Z,44nm,1.1s
O36A Bolckow 59.56 339 ⇑P **P** **04 04 39.2 -1.5**
baz=60,SNR=10
T29A Hugoton 59.58 332 ⇑P **P** **04 04 41.1 +0.1**
baz=60,SNR=11
S30A Montezuma 59.61 333 ⇑P **P** **04 04 41.0 -0.1**
baz=60
Q33A Connelly Farm, 59.65 336 ⇑P **P** **04 04 40.9 -0.4**
baz=60,SNR=9.9
PTN Potsdam (NY) 59.66 356 *eP* **P** **04 04 40.3 -0.9**
PTN pmax pmax
comp=Z,31nm,0.8s
PTN Potsdam (NY) 59.66 356 *eP* **P** **04 04 40.3 -0.9**
comp=Z,31nm,0.8s
LONY Lake Ozonia 59.68 357 *eP* **P** **04 04 40.1 -1.4**
comp=Z,16nm,0.9s
U27A Thompson Grove 59.70 330 ⇓P **P** **04 04 41.4 -0.5**
baz=60,SNR=11
P34A Walnut Farm, R 59.73 337 ⇓P **P** **04 04 41.7 -0.2**
baz=60,SNR=28
EMMW East Machias 59.74 3 *eP* **P** **04 04 40.8 -0.9**
comp=Z,9.5nm,0.6s
R31A Burdett 59.74 334 ⇓P **P** **04 04 41.9 -0.1**
baz=60,SNR=9.4
S29A Ulysses 59.88 332 ⇑P **P** **04 04 43.4 +0.4**
baz=60,SNR=18
T28A Walsh 59.93 331 ⇓P **P** **04 04 43.1 -0.3**
baz=60,SNR=18
Q32A Meitler Ranch, 59.94 335 ⇑P **P** **04 04 43.2 -0.1**
baz=60,SNR=19
P33A Williams Farm, 59.97 336 ⇓P **P** **04 04 43.7 +0.2**
baz=60
Y22D IRIS PASSCAL I 59.98 325 ⇓P **P** **04 04 44.3 +0.4**
baz=60
LPM Los Pinos Moun 60.01 326 *eP* **P** **04 04 44.4 +0.3**
comp=Z,14nm,1.0s
O35A Humboldt 60.02 338 ⇑P **P** **04 04 42.3 -1.5**
baz=60,SNR=7.9
R30A Dighton 60.06 333 ⇑P **P** **04 04 44.4 +0.2**
baz=60,SNR=14
LENM Lemitar 60.08 325 *eP* **P** **04 04 45.4 +0.8**
T27A Campo 60.17 331 ⇓P **P** **04 04 45.1 0.0**
baz=60,SNR=24
S28A Manter 60.21 332 ⇓P **P** **04 04 45.1 -0.2**
baz=60,SNR=31
PKME Peaks-Kenny Pk 60.23 1 *eP* **P** **04 04 44.2 -0.9**
comp=Z,14nm,0.8s
Q31A Ellis 60.29 334 ⇑P **P** **04 04 46.1 +0.3**
baz=60,SNR=10.0
LAZ Ladron 60.35 326 *eP* **P** **04 04 47.1 +0.7**
comp=Z,11nm,1.0s
ANMO Albuquerque 60.39 326 *d iP* **P** **04 04 46.4 -0.3**
ANMO pmax pmax
comp=Z,53nm,1.0s
ANMO Albuquerque 60.39 326 *eP* **P** **04 04 47.0 +0.2**
N35A Tabor 60.45 338 ⇓P **P** **04 04 45.8 -0.9**
baz=61,SNR=23
O33A Hebron 60.48 336 ⇑P **P** **04 04 46.7 -0.3**
baz=61,SNR=38
P32A Huiting Farm, 60.49 335 ⇓P **P** **04 04 46.7 -0.4**
baz=61,SNR=10
R29A Marienthal 60.55 333 ⇑P **P** **04 04 48.0 +0.4**
baz=61
SCIA State Center 60.56 341 *eP* **P** **04 04 46.6 -0.9**
comp=Z,75nm,0.6s
JFWS Jewell Farm 60.61 344 *eP* **P** **04 04 46.6 -1.2**
JFWS *e* 04 05 31.3
JFWS pmax pmax
comp=Z,67nm,0.5s
JFWS Jewell Farm 60.61 344 *eP* **P** **04 04 46.6 -1.2**
comp=Z,66nm,0.5s
JFWS *e*PcP **PcP** **04 05 31.3 +0.8**
Q30A Quinter 60.62 334 ⇓P **P** **04 04 48.4 +0.4**
baz=61,SNR=25
T26A Comanche Natio 60.67 330 ⇑P **P** **04 04 48.5 0.0**
baz=61,SNR=14
P31A Stockton 60.72 335 ⇑P **P** **04 04 48.7 0.0**
baz=61,SNR=19
N34A Lincoln 60.73 338 ⇑P **P** **04 04 47.9 -0.8**
baz=61,SNR=16
R28A Tribune 60.79 332 ⇓P **P** **04 04 48.9 -0.3**
baz=61,SNR=12
Q29A Oakley 60.87 333 ⇑P **P** **04 04 49.5 -0.2**
baz=61,SNR=14
O32A Brockman Farm, 60.91 336 ⇑P **P** **04 04 49.5 -0.4**
baz=61,SNR=15
TUC Tucson 60.93 321 *eP* **P** **04 04 50.4 +0.1**
TUC *e* 04 05 32.7
TUC pmax pmax
comp=Z,5.0nm,1.0s
TUC Tucson 60.93 321 *eP* **P** **04 04 50.4 +0.1**
comp=Z,5.3nm,1.0s
TUC *e* 04 05 32.6
T25A Trinidad 61.04 329 ⇓P **P** **04 04 51.5 +0.5**
baz=61,SNR=15
P30A Selden 61.10 334 ⇑P **P** **04 04 51.5 +0.3**
baz=61
GLMI Grayling 61.12 349 *eP* **P** **04 04 50.3 -0.8**
comp=Z,53nm,0.9s
R27A Eads 61.19 331 ⇓P **P** **04 04 51.7 -0.3**
baz=61
O31A Woolen Ranch, 61.23 335 ⇑P **P** **04 04 52.3 +0.2**
baz=61
M34A Aspy Farms, Fr 61.35 338 ⇓P **P** **04 04 52.5 -0.3**
baz=62,SNR=25
N32A Stulken Farm, 61.35 336 ⇑P **P** **04 04 52.7 -0.2**
baz=62,SNR=5.2
Q28A Sharon Springs 61.38 333 ⇓P **P** **04 04 53.2 0.0**
baz=62
P29A Atwood 61.44 334 ⇑P **P** **04 04 54.8 +1.3**
baz=62,SNR=11
R26A Arlington 61.50 331 ⇓P **P** **04 04 54.3 +0.2**
baz=62,SNR=20
O30A MW Ranch, Wils 61.55 335 ⇓P **P** **04 04 54.6 +0.3**
baz=62
N31A Bailey Ranch, 61.66 336 ⇓P **P** **04 04 55.5 +0.6**
baz=62
PQI Presque Isle 61.67 2 *eP* **P** **04 04 53.6 -1.2**
comp=Z,33nm,1.2s
L34A Svendsen Farm, 61.68 338 ⇓P **P** **04 04 54.1 -1.0**
baz=62,SNR=43
KSCO Kaye Shedlock' 61.70 332 ⇑P **P** **04 04 55.7 +0.3**
baz=62
KSCO Kaye Shedlock' 61.70 332 *eP* **P** **04 04 55.8 +0.4**
P28A Saint Francis 61.77 333 ⇑P **P** **04 04 55.9 +0.1**
baz=62
O29A 4D Ranch, Culb 61.82 334 ⇓P **P** **04 04 56.4 +0.3**
baz=62,SNR=14
BGNE Belgrade 61.84 337 ⇑P **P** **04 04 56.1 -0.1**
baz=62,SNR=32
BGNE Belgrade 61.84 337 *eP* **P** **04 04 56.3 +0.1**
comp=Z,80nm,0.4s
214A Organ Pipe Nat 61.93 320 ⇑P **P** **04 04 57.8 +0.9**
baz=62,SNR=12
214A Organ Pipe Nat 61.93 320 *eP* **P** **04 04 57.7 +0.7**
comp=Z,27nm,1.3s
Q26A Hugo 62.04 331 ⇓P **P** **04 04 58.0 +0.3**
baz=62,SNR=17
SDCO Great Sand Dun 62.05 329 ⇑P **P** **04 04 58.4 +0.5**
baz=62,SNR=20
SDCO Great Sand Dun 62.05 329 *eP* **P** **04 04 58.5 +0.5**
comp=Z,32nm,1.0s
N30A Hueftle Ranch, 62.09 335 ⇓P **P** **04 04 58.0 +0.2**
baz=62
M31A Lambtecht Ranc 62.11 336 ⇑P **P** **04 04 58.1 +0.2**
baz=62,SNR=9.7
P27A Ficken Ranch, 62.12 332 ⇓P **P** **04 04 57.9 -0.3**
baz=62
S23A Nye Farm, Mont 62.27 329 ⇑P **P** **04 04 59.2 -0.2**
baz=62
W18A Petrified Fore 62.32 324 ⇓P **P** **04 05 00.1 +0.4**
baz=62
W18A Petrified Fore 62.32 324 *eP* **P** **04 05 00.2 +0.5**
comp=Z,9.2nm,0.9s
N29A Votaw Ranch, W 62.33 335 ⇓P **P** **04 04 59.5 +0.1**
baz=62,SNR=10.0
P26A Davis Ranch, A 62.47 332 ⇓P **P** **04 05 00.9 +0.3**
baz=63,SNR=7.2
R23A Moffat 62.56 329 ⇑P **P** **04 05 01.8 +0.5**
baz=63
O27A Beecher Island 62.60 333 ⇑P **P** **04 05 01.9 +0.6**
baz=63,SNR=12
N28A Pribbeno Ranch 62.60 334 ⇑P **P** **04 05 02.7 +1.4**
baz=63,SNR=5.7
M30A Dale-Ortello V 62.63 336 ⇑P **P** **04 05 01.7 +0.3**
baz=63,SNR=7.1
S22A 4UR Ranch, Cre 62.72 328 ⇑P **P** **04 05 02.6 +0.2**
baz=63,SNR=16
L31A Butterfield Fa 62.77 337 ⇑P **P** **04 05 02.2 -0.1**
baz=63,SNR=36
Q24A Divide 62.84 330 ⇑P **P** **04 05 03.7 +0.5**
baz=63,SNR=11
M29A Burnside Ranch 62.88 335 ⇓P **P** **04 05 03.6 +0.5**
baz=63
L30A Spencer Herefo 62.91 336 ⇑P **P** **04 05 03.5 +0.2**
baz=63,SNR=11
O26A Horse Wrangler 63.01 332 ⇓P **P** **04 05 04.1 +0.1**
baz=63
OGNE Ogallala 63.02 334 ⇑P **P** **04 05 04.3 +0.2**
baz=63,SNR=25
OGNE Ogallala 63.02 334 *eP* **P** **04 05 04.8 +0.7**
comp=Z,44nm,0.6s
M28A Bar X Bar Ranc 63.12 334 ⇓P **P** **04 05 05.5 +0.9**
baz=63
N27A Anderson Farm, 63.13 333 ⇓P **P** **04 05 05.8 +1.1**
baz=63,SNR=7.2
MVCO Mesa Verde 63.18 327 ⇓P **P** **04 05 05.4 +0.1**
baz=63,SNR=18
MVCO Mesa Verde 63.18 327 *eP* **P** **04 05 05.2 -0.2**
comp=Z,14nm,0.9s
L29A Maesberg Ranch 63.31 336 ⇑P **P** **04 05 06.3 +0.4**
baz=64,SNR=9.6
ECSD EROS Data Cent 63.32 339 ⇑P **P** **04 05 05.3 -0.5**
baz=64,SNR=29
ECSD EROS Data Cent 63.32 339 *eP* **P** **04 05 05.4 -0.5**
comp=Z,147nm,1.7s
N26A Koester Ranch, 63.44 333 ⇓P **P** **04 05 07.2 +0.4**
baz=64,SNR=7.2
SPMN Marine on St. 63.45 343 ⇓P **P** **04 05 05.6 -1.1**
baz=64,SNR=28
SPMN Marine on St. 63.45 343 *eP* **P** **04 05 05.5 -1.1**
comp=Z,33nm,0.5s
K30A Basset 63.49 336 ⇑P **P** **04 05 07.4 +0.3**
baz=64,SNR=26
P23A Jefferson 63.49 330 ⇑P **P** **04 05 08.3 +0.8**
baz=64,SNR=7.3
WUAZ Wupatki 63.54 324 ⇑P **P** **04 05 08.8 +1.2**
baz=64,SNR=14
WUAZ Wupatki 63.54 324 *eP* **P** **04 05 08.6 +1.0**
comp=Z,29nm,1.1s
M27A Reverse DX Ran 63.65 334 ⇑P **P** **04 05 08.7 +0.5**
baz=64
L28A Connealy Angus 63.69 335 ⇓P **P** **04 05 09.3 +0.8**
baz=64
ISCO Idaho Springs 63.72 331 *eP* **P** **04 05 09.4 +0.5**
ISCO *e* 04 05 44.3
ISCO pmax pmax
comp=Z,9.0nm,0.8s
ISCO Idaho Springs 63.72 331 ⇓P **P** **04 05 09.4 +0.5**
baz=64,SNR=12
ISCO Idaho Springs 63.72 331 *eP* **P** **04 05 09.4 +0.5**
comp=Z,8.9nm,0.8s
ISCO *e* 04 05 44.3
K29A Lazy Trails An 63.84 336 ⇓P **P** **04 05 09.8 +0.5**
baz=64,SNR=13
SMCO Snowmass 63.89 329 *eP* **P** **04 05 11.0 +0.8**
comp=Z,15nm,0.8s
PV01 Paradox Valley 63.91 327 *eP* **P** **04 05 10.8 +0.7**
comp=Z,2µm,0.9s
GLA Glamis 63.92 319 ⇓P **P** **04 05 10.7 +0.6**
baz=64
J30A Dallas 64.00 337 ⇑P **P** **04 05 10.0 -0.3**

baz=64,SNR=27
P22A **Eagle** 64.11 330 ⇓P P 04 05 11.9 +0.5
baz=64,SNR=10
O23A **Lake Granby, G** 64.18 331 ⇑P P 04 05 12.6 +0.6
baz=64,SNR=22
Y12C **Blythe** 64.20 320 ⇓P P 04 05 12.2 +0.4
baz=64
K28A **Ten Mile Ranch** 64.22 335 ⇓P P 04 05 12.5 +0.7
baz=64
PV04 **Paradox Valley** 64.28 327 eP P 04 05 13.1 +0.6
M25A **Palm-Egli Farm** 64.30 333 ⇑P P 04 05 12.9 +0.4
baz=64
PDMCI **Parker Dam,Lak** 64.33 321 ⇓P P 04 05 13.1 +0.5
baz=64
L26A **Underwood Farm** 64.37 334 ⇓P P 04 05 12.9 0.0
baz=65
J29A **Okreek** 64.39 336 ⇑P P 04 05 12.9 0.0
baz=65,SNR=26
O22A **Kremmling** 64.45 330 ⇑P P 04 05 13.8 +0.2
baz=65,SNR=20
I30A **Oacoma** 64.48 337 ⇑P P 04 05 13.4 -0.1
baz=65,SNR=9.6
K27A **Flueckinger Fa** 64.56 335 ⇓P P 04 05 15.0 +0.9
baz=65,SNR=9.2
BC3 **Big Chuckawall** 64.72 319 ⇓P P 04 05 15.8 +0.5
baz=65
N23A **Red Feather La** 64.73 331 ⇑P P 04 05 15.7 +0.2
baz=65,SNR=6.0
J28A **Allard Ranch,** 64.76 336 ⇓P P 04 05 15.9 +0.5
baz=65,SNR=41
BRSD **Miller** 64.76 338 ⇑P P 04 05 14.9 -0.3
baz=65,SNR=6.8
BRSD **Miller** 64.76 338 eP P 04 05 15.1 -0.2
comp=Z,53nm,0.3s
PHWY **Pilot Hill** 64.83 332 eP P 04 05 16.6 +0.5
comp=Z,8.9nm,0.6s
MONP **Monument Peak,** 64.83 318 ⇑P P 04 05 16.8 +0.6
baz=65
L25A **Engebretsen Ra** 64.85 333 ⇑P P 04 05 16.7 +0.7
baz=65
IRM **Iron Mountain** 64.86 320 ⇓P P 04 05 16.8 +0.7
baz=65,SNR=12
BAR **Barrett** 64.86 318 eP P 04 05 17.5 +1.3
I29A **Vivian Onida** 64.90 337 ⇓P P 04 05 15.9 -0.3
baz=65,SNR=17
N22A **Wattenberg Ran** 64.90 331 ⇓P P 04 05 17.3 +0.7
baz=65,SNR=11
J27A **Elkhorn Farm,** 64.92 335 ⇑P P 04 05 17.2 +0.8
baz=65,SNR=12
K26A **Motz Farm, Whi** 64.95 334 ⇑P P 04 05 17.1 +0.5
baz=65
K25A **Mack Ranch, Ha** 65.17 334 ⇓P P 04 05 19.0 +0.9
baz=65
I28A **Midland** 65.22 336 ⇑P P 04 05 18.3 0.0
baz=65,SNR=13
O20A **White River Ci** 65.25 329 ⇓P P 04 05 19.5 +0.7
baz=66,SNR=16
O20A **White River Ci** 65.25 329 eP P 04 05 18.8 0.0
comp=Z,21nm,0.9s
109C **Camp Elliot, M** 65.27 318 ⇑P P 04 05 19.5 +0.8
baz=66
BELC **Belle Mtn. Jos** 65.28 319 ⇑P P 04 05 19.7 +0.7
baz=66
PFO **Pinyon Flats O** 65.32 319 P P 04 05 20.1 +0.9
comp=Z,6.7nm,0.7s,baz=113,slow=6.3,SNR=8.1
H29A **Onida** 65.38 337 ⇑P P 04 05 19.2 0.0
baz=66,SNR=13
J26A **Sides Ranch, S** 65.41 335 ⇑P P 04 05 20.5 +0.9
baz=66,SNR=19
G30A **Faulkton** 65.42 338 ⇓P P 04 05 19.9 +0.4
baz=66,SNR=12
GMRC **Granite Mounta** 65.58 320 ⇓P P 04 05 21.6 +0.6
baz=66
EYMN **Ely** 65.61 345 eP P 04 05 19.3 -1.3
comp=Z,27nm,0.6s
I27A **Quinn** 65.62 336 ⇑P P 04 05 21.3 +0.5
baz=66,SNR=24
SRU **San Rafael Swe** 65.66 327 eP P 04 05 21.9 +0.5
SRU pmax pmax
comp=Z,16nm,0.8s
SRU **San Rafael Swe** 65.66 327 eP P 04 05 21.9 +0.5
comp=Z,16nm,0.8s
K24A **Anderson Ranch** 65.67 333 ⇑P P 04 05 22.0 +0.6
baz=66
H28A **Mission Ridge** 65.73 337 ⇑P P 04 05 21.5 0.0
baz=66,SNR=16
G29A **Hoven** 65.76 338 ⇓P P 04 05 21.6 -0.1
baz=66,SNR=17
J25A **Sunshine Ranch** 65.78 334 ⇓P P 04 05 22.4 +0.4
baz=66
MURC **Murrieta** 65.79 318 ⇑P P 04 05 22.3 +0.2
baz=66
N20A **Spence Gulch,** 65.80 329 ⇑P P 04 05 22.8 +0.5
baz=66,SNR=27
I26A **New Underwood** 65.92 335 ⇓P P 04 05 23.1 +0.4
baz=66,SNR=13
RWWY **Rawlins** 65.95 331 eP P 04 05 24.6 +1.4
comp=Z,5.6nm,0.7s
F30A **Leola** 65.99 339 ⇓P P 04 05 23.4 +0.3
baz=66
G28A **Parade** 66.03 337 ⇓P P 04 05 23.7 +0.3
baz=66,SNR=14
HEC **Hector,Ludlow** 66.03 320 ⇑P P 04 05 25.0 +1.3
baz=66,SNR=8.3
K23A **Bowen Ranch, D** 66.06 332 ⇓P P 04 05 24.2 +0.4
baz=66
J24A **Dixon Ranch, L** 66.10 333 ⇓P P 04 05 23.8 -0.2
baz=66,SNR=7.9
CCUT **Cedar City** 66.10 324 eP P 04 05 25.7 +1.4
comp=Z,17nm,0.9s
H27A **Howes** 66.10 336 ⇓P P 04 05 24.1 +0.2
baz=66,SNR=20
MVU **Marysvale** 66.13 325 eP P 04 05 25.5 +1.0
comp=Z,16nm,0.8s
MVU eP cP P cP 04 05 54.2 +0.6
TMUT **Trail Mountain** 66.16 327 eP P 04 05 25.5 +0.8
comp=Z,7.0nm,0.6s
TUQ **Turquoise Moun** 66.18 321 ⇑P P 04 05 25.1 +0.4
baz=66
I25A **Rochford** 66.26 335 ⇓P P 04 05 26.1 +0.9
baz=66,SNR=90
F29A **Eureka** 66.27 338 ⇓P P 04 05 24.8 -0.1
baz=66,SNR=26
H26A **Fairpoint** 66.36 336 ⇓P P 04 05 25.8 +0.2
baz=67,SNR=12
K22A **Casper** 66.38 332 ⇓P P 04 05 26.4 +0.5
baz=67,SNR=14
K22A **Casper** 66.38 332 eP P 04 05 26.0 +0.1
comp=Z,14nm,0.8s
SHPR **Sheep Range** 66.43 322 eP P 04 05 27.2 +0.9
RSSD **Black Hills** 66.47 334 eP P 04 05 27.1 +0.6
RSSD pmax pmax
comp=Z,15nm,0.6s
RSSD **Black Hills** 66.47 334 eP P 04 05 27.1 +0.6
comp=Z,15nm,0.6s
BFSC **Mount Baldy Ra** 66.49 319 ⇓P P 04 05 27.3 +0.6
baz=67
I24A **Kuemmerle Ranc** 66.51 334 ⇓P P 04 05 27.0 +0.3
baz=67,SNR=6.4
E30A **Jud** 66.53 339 ⇑P P 04 05 26.6 +0.1
baz=67,SNR=9.9
GSC **Goldstone, Bar** 66.64 320 eP P 04 05 28.7 +1.1
GSC pmax pmax
comp=Z,6.0nm,0.7s
GSC **Goldstone, Bar** 66.64 320 ⇑P P 04 05 27.8 +0.3
baz=67
GSC **Goldstone, Bar** 66.64 320 eP P 04 05 28.7 +1.1
comp=Z,6.4nm,0.7s
F28A **McLaughlin** 66.64 338 ⇑P P 04 05 27.5 +0.2
baz=67,SNR=21
G27A **Dupree** 66.67 337 ⇑P P 04 05 27.6 +0.1
baz=67,SNR=19
H25A **Fruitdale** 66.70 335 ⇓P P 04 05 28.0 +0.3
baz=67,SNR=11
VNA1 **Neumayer--Stat** 66.70 161 P P 04 05 28.9 +1.6
SHOC **Shoshone, Teco** 66.70 321 ⇓P P 04 05 28.4 +0.5
baz=67
MWC **Mount Wilson** 66.73 318 eP P 04 05 29.3 +0.9
MWC pmax pmax
comp=Z,25nm,1.3s
MWC **Mount Wilson** 66.73 318 eP P 04 05 29.3 +0.9
comp=Z,25nm,1.3s
E29A **Napoleon** 66.84 339 ⇓P P 04 05 28.3 -0.2
baz=67
G26A **Maurine** 66.86 336 ⇓P P 04 05 28.8 0.0
baz=67,SNR=29
MPU **Maple Canyon** 66.91 327 eP P 04 05 30.0 +0.7
comp=Z,52nm,1.1s

DECC **Green Verdugo** 66.92 318 ⇑P P 04 05 30.2 +0.8
baz=67
J22A **Midwest** 66.96 332 ⇑P P 04 05 29.8 +0.2
baz=67,SNR=13
D30A **Buchanan** 67.00 340 ⇑P P 04 05 29.5 0.0
baz=67,SNR=33
NLU **North Lily Min** 67.10 326 eP P 04 05 31.2 +0.7
comp=Z,7.1nm,0.9s
G25A **Newell** 67.10 335 ⇑P P 04 05 30.6 +0.3
baz=67,SNR=17
EDW2 **Edwards Air Fo** 67.11 319 ⇓P P 04 05 31.2 +0.7
baz=67,SNR=7.7
F27A **Lemmon** 67.12 337 ⇑P P 04 05 30.5 +0.2
baz=67,SNR=32
AGMN **Agassiz Nation** 67.13 342 ⇑P P 04 05 29.9 -0.4
baz=67,SNR=36
AGMN **Agassiz Nation** 67.13 342 eP P 04 05 29.8 -0.4
comp=Z,38nm,0.7s
H24A **Dirks Ranch, A** 67.20 334 ⇑P P 04 05 30.7 -0.3
baz=67,SNR=16
E28A **Huff** 67.22 338 ⇓P P 04 05 31.6 +0.7
baz=67,SNR=26
JLU **Jordanelle** 67.23 327 eP P 04 05 32.0 +0.5
comp=Z,12nm,0.7s
BLG **Laguna Peak, P** 67.31 318 ⇑P P 04 05 32.0 +0.2
baz=68
I22A **9 Mile Ranch,** 67.34 333 ⇑P P 04 05 32.1 +0.2
baz=68,SNR=32
J21A **Lysite** 67.35 332 ⇑P P 04 05 32.4 +0.4
baz=68,SNR=25
F26A **Lodgepole** 67.35 336 ⇑P P 04 05 32.2 +0.4
baz=68,SNR=21
TPNV **Topopah Spring** 67.38 322 ⇓P P 04 05 33.6 +1.3
baz=68,SNR=22
H23A **Clabaugh Cattl** 67.41 334 ⇓P P 04 05 32.4 +0.2
baz=68
OSI **Osito Audit: C** 67.41 318 ⇑P P 04 05 32.7 +0.3
baz=68
E27A **Carson** 67.41 337 ⇑P P 04 05 32.7 +0.6
baz=68,SNR=29
C30A **Mose, Pekin** 67.42 340 ⇓P P 04 05 32.5 +0.3
baz=68,SNR=33
FURC **Furnace Creek,** 67.43 321 ⇓P P 04 05 33.5 +1.1
baz=68
CTU **Camp Tracy** 67.46 327 eP P 04 05 33.6 +0.8
comp=Z,7.9nm,0.9s
MPMC **Manual Prospec** 67.55 320 ⇓P P 04 05 33.8 +0.4
baz=68
TCUT **Toone Canyon** 67.59 328 eP P 04 05 34.2 +0.5
comp=Z,17nm,0.8s
G24A **Alzada** 67.61 335 ⇑P P 04 05 34.1 +0.5
baz=68,SNR=17
I21A **Big Trails, Te** 67.64 332 ⇑P P 04 05 33.8 0.0
baz=68,SNR=37
DUG **Dugway, Tooele** 67.66 326 eP P 04 05 34.5 +0.5
DUG pmax pmax
comp=Z,16nm,0.9s
DUG **Dugway, Tooele** 67.66 326 ⇑P P 04 05 35.1 +1.1
baz=68,SNR=15
DUG **Dugway, Tooele** 67.66 326 eP P 04 05 34.5 +0.5
comp=Z,16nm,0.9s
D28A **Regan** 67.70 338 ⇓P P 04 05 34.2 +0.3
baz=68
F25A **Bowman** 67.72 336 ⇑P P 04 05 34.7 +0.6
baz=68,SNR=15
DAC **Darwin (Calif)** 67.75 320 eP P 04 05 35.0 +0.3
DAC e 04 05 59.8
DAC pmax pmax
comp=Z,13nm,0.9s
DAC **Darwin (Calif)** 67.75 320 eP P 04 05 35.0 +0.3
comp=Z,13nm,0.9s
DAC e 04 05 59.8
E26A **Carlson Angus** 67.79 337 ⇑P P 04 05 34.8 +0.2
baz=68,SNR=32
ARVC **Arvin** 67.80 319 ⇑P P 04 05 35.4 +0.6
baz=68
H22A **Clearmont** 67.84 333 ⇑P P 04 05 35.5 +0.5
baz=68
PDAR **Pinedale Array** 67.89 330 P P 04 05 35.2 -0.3
comp=Z,2.8nm,0.5s,baz=126,slow=7.5,SNR=21
BW06 **Boulder Array** 67.89 330 eP P 04 05 35.2 -0.3
comp=Z,9.6nm,0.9s
ISA **Isabella, Lake** 67.91 319 eP P 04 05 36.8 +1.2
ISA pmax pmax
comp=Z,17nm,0.9s
ISA **Isabella, Lake** 67.91 319 ⇑P P 04 05 36.7 +1.2
baz=68,SNR=11
ISA **Isabella, Lake** 67.91 319 eP P 04 05 36.8 +1.2
comp=Z,17nm,0.9s
G23A **Biddle** 67.92 334 ⇓P P 04 05 35.7 +0.3
baz=68,SNR=17
R11A **Troy Canyon, C** 67.93 323 ⇑P P 04 05 36.9 +1.2
baz=68,SNR=26
R11A **Troy Canyon, C** 67.93 323 eP P 04 05 36.5 +0.8
comp=Z,9.1nm,0.8s
MDND **Maddock** 67.93 339 ⇑P P 04 05 36.0 +0.7
baz=68,SNR=15
MDND **Maddock** 67.93 339 eP P 04 05 36.0 +0.7
comp=Z,207nm,0.4s
D27A **Center** 67.97 338 ⇓P P 04 05 36.2 +0.6
baz=68,SNR=9.6
HWUT **Hardware Ranch** 68.03 328 eP P 04 05 36.5 +0.2
comp=Z,9.7nm,0.8s
B30A **Myrvik Farm, E** 68.03 341 ⇑P P 04 05 35.5 -0.4
baz=68,SNR=20
J19A **Crowheart** 68.03 331 ⇓P P 04 05 36.5 +0.2
baz=68,SNR=7.6
F24A **Ekalaka** 68.05 335 ⇓P P 04 05 36.6 +0.4
baz=68,SNR=12
C28A **Hausauer Farms** 68.08 339 ⇓P P 04 05 36.8 +0.5
baz=68
GRAC **Grapevine Rang** 68.09 321 ⇓P P 04 05 37.2 +0.6
baz=68
I20A **Worland** 68.13 332 ⇑P P 04 05 36.8 0.0
baz=68,SNR=19
CWC **Cottonwood Cre** 68.16 320 ⇑P P 04 05 37.6 +0.4
baz=68
H21A **Big Horn, Sher** 68.17 333 ⇑P P 04 05 37.1 0.0
baz=68,SNR=5.3
E25A **Miller Ranch,** 68.17 336 ⇑P P 04 05 37.2 +0.3
baz=68,SNR=14
D26A **Manning** 68.24 337 ⇓P P 04 05 37.7 +0.4
baz=68,SNR=9.0
PKM **Mcpherson Peak** 68.29 318 ⇓P P 04 05 38.9 +0.9
baz=68,SNR=5.7
BGU **Big Grassy Mou** 68.30 327 eP P 04 05 37.8 -0.2
comp=Z,12nm,1.1s
G22A **Birney** 68.31 334 ⇓P P 04 05 37.7 -0.2
baz=68,SNR=13
F23A **Volborg** 68.34 335 ⇑P P 04 05 38.2 +0.2
baz=68,SNR=27
B29A **Wagenman Farm,** 68.38 340 ⇑P P 04 05 38.4 +0.3
baz=69,SNR=18
VES **Vestal, Richgr** 68.41 319 ⇓P P 04 05 39.4 +0.9
baz=69,SNR=9.5
LIC **Lamto** 68.41 77 eP P 04 05 37.7 -1.3
comp=Z,29nm,0.8s,baz=259
LIC **Lamto** 68.41 77 eP P 04 05 37.7 -1.3
comp=Z,44nm,0.8s
LIC **Lamto** 68.41 77 eP P 04 05 37.7 -1.3
comp=Z,29nm,0.8s
A30A **Hoffart Farm,** 68.45 341 ⇓P P 04 05 38.5 0.0
baz=69,SNR=15
C27A **Sayler Ranch,** 68.48 338 ⇑P P 04 05 39.3 +0.5
baz=69
H20A **Greybull** 68.48 332 ⇓P P 04 05 38.8 -0.2
baz=69,SNR=23
TIC **Toumodi** 68.56 76 eP P 04 05 38.6 -1.4
E24A **Baker** 68.58 336 ⇑P P 04 05 40.0 +0.5
baz=69,SNR=22
I19A **Meeteetse** 68.59 331 ⇑P P 04 05 40.1 +0.3
baz=69,SNR=8.2
TIN **Tinemaha, Big** 68.65 321 ⇑P P 04 05 41.3 +1.1
baz=69
SMMC **Simmler** 68.66 318 ⇓P P 04 05 41.2 +1.0
baz=69
D25A **Fairfield** 68.68 337 ⇑P P 04 05 41.1 +1.0
baz=69,SNR=36
SNAA **Sanae** 68.70 162 P P 04 05 32.7 -7.3
TPH **Tonopah** 68.70 322 eP P 04 05 41.4 +0.8
TPH pmax pmax
comp=Z,13nm,0.8s
TPH **Tonopah** 68.70 322 eP P 04 05 41.4 +0.8
comp=Z,13nm,0.8s
B28A **Dugan Ranch, T** 68.70 339 ⇓P P 04 05 40.1 -0.1
baz=69,SNR=15
G21A **Lodge Grass** 68.71 333 ⇑P P 04 05 41.4 +1.0
baz=69,SNR=12

DBIC **Dimbokro** 68.72 76 P P 04 05 40.0 -0.9
comp=Z,23nm,0.4s,baz=231,slow=6.0,SNR=60
DBIC pP pP 04 06 26.3 +6.7
comp=Z,10nm,0.9s,baz=247,slow=7.7,SNR=2.4
KIC **Kosan Baya** 68.72 77 eP P 04 05 40.0 -1.0
comp=Z,95nm,0.7s
A29A **Manning Farm,** 68.74 340 ⇑P P 04 05 40.3 0.0
baz=69,SNR=47
F22A **Rosebud** 68.74 334 ⇑P P 04 05 40.7 +0.2
baz=69
HVU **Hansel Valley** 68.78 327 eP P 04 05 41.0 +0.1
HVU **Hansel Valley** 68.78 327 eP P 04 05 41.0 +0.1
C26A **Wahner Farm, P** 68.79 338 ⇑P P 04 05 40.9 +0.2
baz=69,SNR=5.5
RCTC **Rector, Farmer** 68.80 319 ⇓P P 04 05 41.6 +0.6
baz=69
E23A **Ismay** 68.93 335 ⇓P P 04 05 41.8 +0.2
baz=69,SNR=23
REDW **Red Top Meadow** 68.97 330 eP P 04 05 42.4 +0.2
comp=Z,8.4nm,0.6s
B27A **Peters Farms,** 68.98 339 ⇓P P 04 05 41.8 0.0
baz=69,SNR=11
SNOW **Snow King Moun** 69.00 330 eP P 04 05 42.6 +0.2
comp=Z,13nm,0.8s
LOHW **Long Hollow** 69.03 330 eP P 04 05 42.7 +0.2
comp=Z,11nm,0.5s
D24A **Glendive** 69.04 336 ⇑P P 04 05 43.0 +0.7
baz=69,SNR=15
A28A **Rude Farm, Bot** 69.07 340 ⇓P P 04 05 42.0 -0.4
baz=69,SNR=6.3
H19A **Powell** 69.08 332 ⇓P P 04 05 42.8 +0.1
baz=69
TPAW **Teton Pass** 69.11 330 eP P 04 05 43.1 0.0
comp=Z,12nm,0.9s
C25A **Freed Ranch, W** 69.12 337 ⇑P P 04 05 43.3 +0.5
baz=69,SNR=15
E22A **Miles City** 69.14 335 ⇓P P 04 05 42.8 -0.1
baz=69,SNR=11
F21A **Absaloka Mine,** 69.15 334 ⇓P P 04 05 43.8 +0.8
baz=69
G20A **Bridger** 69.15 333 ⇑P P 04 05 42.8 -0.4
baz=69,SNR=8.8
MOOW **Moose Ponds** 69.20 330 eP P 04 05 43.5 -0.1
I17A **Pilgrim Ck.** 69.25 330 ⇑P P 04 05 44.1 +0.2
baz=69
FXWY **Fox Creek** 69.26 330 eP P 04 05 44.3 +0.3
B26A **Jensen Ranch,** 69.30 338 ⇑P P 04 05 44.1 +0.2
baz=70,SNR=10
ELK **Elko** 69.37 325 eP P 04 05 44.9 +0.2
ELK pmax pmax
comp=Z,5.0nm,0.8s
ELK **Elko** 69.37 325 eP P 04 05 44.9 +0.2
comp=Z,5.2nm,0.8s
IMW **Indian Meadow** 69.41 330 eP P 04 05 45.2 +0.2
comp=Z,11nm,0.6s
C24A **Savage** 69.42 336 ⇓P P 04 05 45.3 +0.7
baz=70,SNR=13
FLWY **Flagg Ranch** 69.43 330 eP P 04 05 45.8 +0.8
comp=Z,31nm,0.9s
D23A **Lindsay** 69.43 336 ⇓P P 04 05 45.8 +1.1
baz=70
A27A **Ledoux Ranch,** 69.44 339 ⇓P P 04 05 45.2 +0.5
baz=70
LAO **LASA Array** 69.45 335 ⇓P P 04 05 45.2 +0.4
baz=70,SNR=21
LAO **LASA Array** 69.45 335 eP P 04 05 45.3 +0.4
comp=Z,51nm,1.3s
RLMT **Red Lodge** 69.55 332 ⇓P P 04 05 46.2 +0.5
baz=70,SNR=12
RLMT **Red Lodge** 69.55 332 eP P 04 05 46.0 +0.4
comp=Z,10nm,0.6s
B25A **Knox Farm, Ray** 69.55 337 ⇓P P 04 05 46.2 +0.9
baz=70,SNR=7.4
F20A **Billings** 69.57 333 ⇓P P 04 05 45.9 +0.2
baz=70,SNR=14
NVAR **Mina Array Bea** 69.58 322 P P 04 05 46.8 +0.8
comp=Z,4.5nm,0.7s,baz=134,slow=6.3,SNR=34
NVAR PcP PcP 04 06 08.1 +0.1
comp=Z,4.3nm,0.7s,baz=126,slow=4.6,SNR=8.7
H17A **Grant Village** 69.61 331 ⇑P P 04 05 47.0 +0.9
baz=70
H17A **Grant Village** 69.61 331 eP P 04 05 47.5 +1.4
LKWY **Lake** 69.65 331 eP P 04 05 47.2 +0.8
LKWY pmax pmax
comp=Z,19nm,0.8s
LKWY **Lake** 69.65 331 eP P 04 05 47.2 +0.8
comp=Z,19nm,0.8s
A26A **Wade Farm, Ken** 69.67 338 ⇓P P 04 05 46.0 -0.1
baz=70,SNR=8.5
E21A **Keefer Ranch,** 69.69 334 ⇑P P 04 05 47.0 +0.6
baz=70,SNR=15
YFT **Old Faithful** 69.77 330 eP P 04 05 48.7 +1.6
comp=Z,9.8nm,0.7s
D22A **Cohagen** 69.81 335 ⇓P P 04 05 47.9 +0.9
baz=70,SNR=32
SCHQ **Schefferville** 69.87 2 P P 04 05 45.5 -1.7
comp=Z,6.1nm,0.7s,baz=196,slow=5.4,SNR=11
YNR **Norris Junctio** 69.89 331 eP P 04 05 49.9 +2.1
C23A **Lambert** 69.94 336 ⇓P P 04 05 48.3 +0.6
baz=70,SNR=8.7
D21A **La Casta Ranch** 70.08 334 ⇓P P 04 05 49.5 +0.8
baz=70,SNR=28
A25A **Svangstu Ranch** 70.09 338 ⇓P P 04 05 49.5 +0.9
baz=70
DGMT **Dagmar** 70.10 337 ⇓P P 04 05 49.5 +0.7
baz=70,SNR=9.7
DGMT **Dagmar** 70.10 337 eP P 04 05 49.6 +0.9
comp=Z,66nm,0.6s
C22A **Vida** 70.17 336 ⇓P P 04 05 49.4 +0.2
baz=70,SNR=22
GCMT **Greycliff** 70.24 332 eP P 04 05 50.6 +0.8
WAKR **Walker** 70.31 321 eP P 04 05 51.9 +1.4
B23A **Brockton** 70.40 337 ⇑P P 04 05 51.5 +0.9
baz=71,SNR=24
A24A **Westby** 70.40 337 ⇑P P 04 05 51.6 +1.0
baz=71,SNR=17
CMB **Columbia Colle** 70.59 320 eP P 04 05 54.7 +2.7
CMB **Columbia Colle** 70.59 320 eP P 04 05 54.7 +2.7
B22A **Reddig Ranch S** 70.66 336 ⇓P P 04 05 52.7 +0.5
baz=71,SNR=8.8
C21A **Desert Coulee** 70.72 335 ⇑P P 04 05 53.1 +0.6
baz=71,SNR=38
A23A **Redstone** 70.76 337 ⇑P P 04 05 53.2 +0.5
baz=71,SNR=7.4
HLID **Hailey** 70.89 328 ⇑P P 04 05 54.8 +0.9
baz=71,SNR=21
HLID **Hailey** 70.89 328 eP P 04 05 54.9 +1.0
C20A **Veseth Ranch,** 71.01 334 ⇓P P 04 05 54.3 0.0
baz=71,SNR=15
MCMT **McKenzie Canyo** 71.02 330 eP P 04 05 55.7 +1.0
BOZ **Bozeman (W)** 71.04 331 eP P 04 05 54.7 +0.1
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ **Bozeman (W)** 71.04 331 eP P 04 05 54.7 +0.1
comp=Z,6.7nm,0.8s
B21A **Ellsworth Farm** 71.17 335 ⇓P P 04 05 56.0 +0.8
baz=71,SNR=8.5
A22A **Carney Farms,** 71.19 336 ⇑P P 04 05 56.0 +0.6
baz=71,SNR=8.5
DLMT **Dillon** 71.29 330 eP P 04 05 56.7 +0.5
comp=Z,4.3nm,0.6s
MFID **Camas Ranch** 71.53 327 eP P 04 05 58.7 +1.1
comp=Z,28nm,0.9s
LRM **Limekiln Ridge** 71.56 331 eP P 04 05 58.4 +0.5
comp=Z,40nm,0.7s
A21A **Bergtoll Ranch** 71.58 336 ⇓P P 04 05 58.4 +0.7
baz=72
B20A **Solberg Farm,** 71.59 335 ⇓P P 04 05 58.4 +0.6
baz=72,SNR=8.8
A20A **Cobblestone Ra** 71.89 335 ⇑P P 04 05 60.0 +0.4
baz=72,SNR=12
B19A **Brinkman Farms** 71.98 334 ⇓P P 04 06 00.6 +0.5
baz=72,SNR=20
EGMT **Eagleton** 71.99 334 ⇓P P 04 06 00.3 0.0
baz=72,SNR=16
EGMT **Eagleton** 71.99 334 eP P 04 06 00.5 +0.3
comp=Z,24nm,0.6s
A19A **Klindworth Far** 72.27 335 ⇑P P 04 06 02.0 +0.2
baz=72,SNR=12
CHMT **Chamberlain Mo** 72.73 331 eP P 04 06 05.5 +0.7
comp=Z,2.7nm,0.9s
MSO **Missoula** 73.00 331 ⇑P P 04 06 06.9 +0.7
baz=73,SNR=7.6
MSO **Missoula** 73.00 331 eP P 04 06 07.5 +1.2
SLMT **Seeley Lake** 73.08 331 eP P 04 06 07.5 +0.7
comp=Z,7.7nm,0.8s
NVL **N'lazarevskaya** 73.24 160 ⇑iP P 04 06 08.4 +1.2

NVL pmax pmax
comp=Z,32nm,0.9s
BMO Blue Mountains 73.29 327 *e*P **P 04 06 08.4 +0.4**
comp=Z,9.9nm,0.8s
WDC Whiskeytown Da 73.48 321 *e*P **P 04 06 08.3 -0.7**
WDC Whiskeytown Da 73.48 321 *e*P **P 04 06 08.3 -0.7**
SWMT Swartz Lake 73.52 331 *e*P **P 04 06 09.9 +0.7**
comp=Z,6.5nm,0.8s
YBMT Yellow Bay 73.78 331 *e*P **P 04 06 11.4 +0.7**
comp=Z,9.1nm,0.6s
M04C Macdoel 73.80 323 ⇑P **P 04 06 11.5 +0.4**
baz=74,SNR=8.7
N02D Trinity Center 73.81 322 ⇑P **P 04 06 11.2 +0.1**
baz=74
JTMT Jette 73.82 331 *e*P **P 04 06 11.4 +0.4**
K05A Summer Lake 73.85 324 *e*P **P 04 06 12.9 +1.6**
I07A Izee 73.94 326 *e*P **P 04 06 13.0 +1.2**
BLMT Blacktail Moun 74.05 331 *e*P **P 04 06 13.4 +0.9**
BSMT Bassoo Peak 74.13 331 P **P 04 06 13.5 +0.6**
LAMM Antelope Mount 74.16 322 P **P 04 06 13.0 -0.2**
M02C Callahan 74.16 322 ⇑P **P 04 06 13.1 0.0**
baz=74,SNR=5.2
K04D Chiloquin, OR 74.27 323 ⇑P **P 04 06 14.2 +0.4**
baz=74
YBH Yreka Blue Hor 74.28 322 P **P 04 06 12.9 -0.9**
comp=Z,5.3nm,0.7s,baz=148,slow=5.0,SNR=16
YBH Yreka Blue Hor 74.28 322 *e*P **P 04 06 13.7 -0.1**
YBH Yreka Blue Hor 74.28 322 *e*P **P 04 06 13.7 -0.1**
KHMM Horse Mountain 74.38 321 *e*P **P 04 06 15.4 +0.9**
comp=Z,23nm,1.1s
J05D Fort Rock, OR 74.39 324 ⇓P **P 04 06 15.1 +0.6**
baz=75,SNR=8.5
G08A Pilot Rock 74.45 327 *e*P **P 04 06 15.8 +1.1**
comp=Z,6.8nm,0.9s
WALA Waterton Lakes 74.60 332 *e*P **P 04 06 15.3 -0.2**
comp=Z,5.8nm,0.6s
FFC Flin Flon 74.61 342 P **P 04 06 15.3 0.0**
comp=Z,136nm,0.5s,SNR=7.2
FFC Flin Flon 74.61 342 *e*P **P 04 06 15.2 0.0**
FFC Flin Flon 74.61 342 *e*P **P 04 06 15.2 0.0**
J04D Umpqua Nationa 74.86 324 ⇓P **P 04 06 18.2 +0.9**
baz=75
QSPA South Pole Qui 74.91 180 *e*P **P 04 06 17.9 +0.8**
comp=Z,20nm,1.2s
L02D Cave Junction, 75.07 322 ⇑P **P 04 06 19.3 +1.1**
baz=75
I05D Terrebonne, OR 75.12 325 ⇓P **P 04 06 19.8 +1.3**
baz=75,SNR=13
VTHM Trough 75.23 326 P **P 04 06 20.6 +1.5**
CROR Criterion Ridg 75.34 326 P **P 04 06 21.3 +1.5**
I04A Tendick Farm, 75.38 324 ⇑P **P 04 06 20.1 +0.1**
baz=76
NEW Newport 75.54 330 *e*P **P 04 06 23.7 +2.9**
NEW Newport 75.54 330 ⇓P **P 04 06 22.7 +1.9**
baz=76
NEW Newport 75.54 330 *e*P **P 04 06 23.7 +2.9**
SNIWA Snively Ranch 75.59 327 P **P 04 06 22.6 +1.5**
G05D Wamic, OR 75.68 326 ⇓P **P 04 06 22.9 +1.3**
baz=76
OD2 Odessa Site #2 75.72 329 P **P 04 06 23.0 +1.1**
I03D Drain, OR 75.86 323 ⇓P **P 04 06 23.3 +0.7**
baz=76
FCC Fort Churchill 76.20 348 *e*P **P 04 06 24.0 -0.2**
FCC pmax pmax
comp=Z,32nm,0.9s
FCC Fort Churchill 76.20 348 *e*P **P 04 06 24.0 -0.2**
comp=Z,32nm,0.9s
ETW Entiat 76.69 328 P **P 04 06 28.5 +1.1**
G03D McMinnville, O 76.73 325 ⇑P **P 04 06 28.7 +1.2**
baz=77
LON Longmire 76.91 327 *e*P **P 04 06 28.6 0.0**
LON pmax pmax
comp=Z,7.0nm,1.0s
LON Longmire 76.91 327 *e*P **P 04 06 28.6 0.0**
comp=Z,6.8nm,1.0s
TOA0 Torodi Ar. Sit 76.93 72 *e*P **P 04 06 28.3 -1.1**
TORD Torodi Ar. Bea 76.93 72 P **P 04 06 28.0 -1.3**
comp=Z,49nm,0.5s,baz=270,slow=4.7,SNR=1616
TORD pP pP 04 07 17.3 +8.5
comp=Z,10.0nm,0.9s,baz=263,slow=5.2,SNR=3.8
TORD S S 04 15 54.4 -10
comp=Z,1.7nm,1.1s,baz=255,slow=12,SNR=5.0
TORD LR LR 04 40 16.2
comp=Z,93nm,18.5s,baz=220,slow=35
F04D Rainier, OR 77.13 326 ⇑P **P 04 06 31.4 +1.7**
baz=77
D05A Enumclaw 77.28 327 *e*P **P 04 06 31.4 +0.9**
EDM Edmonton 77.42 335 *e*P **P 04 06 30.4 -0.9**
EDM pmax pmax
comp=Z,56nm,0.8s
EDM Edmonton 77.42 335 *e*P **P 04 06 30.4 -0.9**
comp=Z,56nm,0.8s
B06A Marblemount 77.87 328 *e*P **P 04 06 34.1 +0.3**
MBW Mount Baker 78.25 328 P **P 04 06 36.4 +0.3**
NLWA Neilton Lookou 78.41 326 *e*P **P 04 06 37.9 +1.1**
comp=Z,11nm,0.6s
PGC Sidney 78.96 327 *e*P **P 04 06 40.4 +0.7**
comp=Z,11nm,0.6s
EVOP Sao Brissos 79.21 45 *e*P **P 04 06 41.2 -0.2**
EVOP pmax pmax
comp=Z,21nm,0.9s
EVOP Sao Brissos 79.21 45 *e*P **P 04 06 41.2 -0.2**
comp=Z,21nm,0.9s
EVO Evora 79.29 45 *e*P **P 04 06 41.2 -0.6**
comp=Z,21nm,0.9s
ESDC Sonseca Array 82.61 46 P **P 04 06 60.0 +0.5**
comp=Z,2.9nm,0.7s,baz=257,slow=4.8,SNR=16
ESDC pP pP 04 07 48.0 +8.5
comp=Z,2.4nm,0.8s,baz=253,slow=5.3,SNR=4.1
VNDA Vanda 82.69 190 P **P 04 07 00.4 +1.2**
comp=Z,5.7nm,0.9s,baz=129,slow=4.1,SNR=29
VNDA pP pP 04 07 47.3 +8.1
comp=Z,2.7nm,0.9s,baz=123,slow=5.0,SNR=3.7
SYO Syowa Base 82.91 160 ⇓/P **P 04 06 59.8 -0.6**
TSUM Tsumeb 83.48 108 *e*P **P 04 07 05.3 +0.7**
comp=Z,16nm,1.2s
TAM Tamanrasset 83.56 64 *e*P **P 04 07 04.7 -0.1**
TAM pmax pmax
comp=Z,3.0nm,0.5s
TAM Tamanrasset 83.56 64 *e*P **P 04 07 04.7 -0.1**
comp=Z,2.9nm,0.5s
RAR Rarotonga 83.81 250 P **P 04 07 06.3 +0.3**
comp=Z,9.9nm,0.8s,baz=216,slow=6.0,SNR=3.6
YKA Yellowknife Ar 84.77 341 P **P 04 07 09.6 -0.2**
comp=Z,40nm,0.7s,baz=132,slow=5.1,SNR=278
SJPF Ste Jean 85.96 43 *e*P **P 04 07 15.1 -1.1**
SJPF Ste Jean 85.96 43 *e*P **P 04 07 15.1 -1.1**
SJPF Ste Jean 85.96 43 *e*P **P 04 07 15.1 -1.1**
BOSA Boshof 87.87 119 P **P 04 07 25.7 -0.3**
comp=Z,6.2nm,0.9s,baz=246,slow=3.8,SNR=4.5
WRAK Wrangell Islan 87.88 331 *e*P **P 04 07 25.3 +0.2**
comp=Z,11nm,0.9s
DLBC Dease Lake 87.92 333 *e*P **P 04 07 25.9 +0.5**
comp=Z,20nm,0.9s
LFF La Frestale 88.00 42 *e*P **P 04 07 24.5 -1.5**
comp=Z,5.1nm,0.5s
LFF La Frestale 88.00 42 *e*P **P 04 07 24.5 -1.5**
LFF pmax pmax
comp=Z,5.0nm,0.5s
LFF La Frestale 88.00 42 *e*P **P 04 07 24.5 -1.5**
comp=Z,5.1nm,0.5s
MFF Saint Martin d 88.12 41 *e*P **P 04 07 24.8 -1.7**
MFF Saint Martin d 88.12 41 *e*P **P 04 07 24.8 -1.7**
MFF Saint Martin d 88.12 41 *e*P **P 04 07 24.8 -1.7**
GRR Gorron 88.43 39 *e*P **P 04 07 26.2 -1.7**
GRR Gorron 88.43 39 *e*P **P 04 07 26.2 -1.7**
GRR Gorron 88.43 39 *e*P **P 04 07 26.2 -1.7**
CAF Calviac 88.86 43 *e*P **P 04 07 29.0 -1.1**
comp=Z,4.6nm,0.6s
CAF Calviac 88.86 43 *e*P **P 04 07 29.0 -1.1**
CAF pmax pmax
comp=Z,5.0nm,0.6s
CAF Calviac 88.86 43 *e*P **P 04 07 29.0 -1.1**
comp=Z,4.6nm,0.6s
LDF La Druitiere 88.96 39 *e*P **P 04 07 28.8 -1.6**
LDF La Druitiere 88.96 39 *e*P **P 04 07 28.8 -1.6**
LDF La Druitiere 88.96 39 *e*P **P 04 07 28.8 -1.6**
TCF Toulx Ste Croi 89.48 42 *e*P **P 04 07 32.2 -0.8**
TCF Toulx Ste Croi 89.48 42 *e*P **P 04 07 32.2 -0.8**
TCF Toulx Ste Croi 89.48 42 *e*P **P 04 07 32.2 -0.8**
BGF Bois d'Agland 90.00 41 *e*P **P 04 07 33.9 -1.4**
comp=Z,7.9nm,0.5s
BGF Bois d'Agland 90.00 41 *e*P **P 04 07 33.9 -1.4**
BGF pmax pmax
comp=Z,8.0nm,0.5s
BGF Bois d'Agland 90.00 41 *e*P **P 04 07 33.9 -1.4**
comp=Z,7.9nm,0.5s
SUMG Summit 90.18 9 *i* P **P 04 07 35.8 -0.3**
comp=Z,10.0nm,1.0s
SUMG Summit 90.18 9 *i* P **P 04 07 35.8 -0.3**
SUMG pmax pmax
comp=Z,10.0nm,1.0s
AVF Avril sur Loir 90.41 41 *e*P **P 04 07 36.3 -0.9**
comp=Z,3.7nm,0.8s
AVF Avril sur Loir 90.41 41 *e*P **P 04 07 36.3 -0.9**
AVF pmax pmax
comp=Z,4.0nm,0.8s
AVF Avril sur Loir 90.41 41 *e*P **P 04 07 36.3 -0.9**
comp=Z,3.7nm,0.8s
SMF Signal de Mont 90.66 42 *e*P **P 04 07 37.4 -1.0**
comp=Z,5.9nm,0.6s
SMF Signal de Mont 90.66 42 *e*P **P 04 07 37.4 -1.0**
SMF pmax pmax
comp=Z,6.0nm,0.6s
SMF Signal de Mont 90.66 42 *e*P **P 04 07 37.4 -1.0**
comp=Z,5.9nm,0.6s
MAW Mawson 90.77 164 P **P 04 07 39.2 +0.6**
comp=Z,6.5nm,0.7s,baz=221,slow=5.2,SNR=17
MAW Mawson 90.77 164 *e*P **P 04 07 39.1 +0.6**
MAW pmax pmax
comp=Z,4.0nm,1.1s
MAW Mawson 90.77 164 *e*P **P 04 07 39.1 +0.6**
comp=Z,4.4nm,1.1s
LOR Lormes 90.90 41 *e*P **P 04 07 38.9 -0.6**
LOR Lormes 90.90 41 *e*P **P 04 07 38.9 -0.6**
LOR Lormes 90.90 41 *e*P **P 04 07 38.9 -0.6**
ORIF Oris-en-Rattie 91.38 44 *e*P **P 04 07 41.3 -0.6**
comp=Z,4.5nm,0.6s
ORIF Oris-en-Rattie 91.38 44 *e*P **P 04 07 41.3 -0.6**
ORIF pmax pmax
comp=Z,5.0nm,0.6s
ORIF Oris-en-Rattie 91.38 44 *e*P **P 04 07 41.3 -0.6**
comp=Z,4.5nm,0.6s
LPG La Plagne 92.16 43 *e*P **P 04 07 44.5 -1.2**
LPG La Plagne 92.16 43 *e*P **P 04 07 44.5 -1.2**
LPG La Plagne 92.16 43 *e*P **P 04 07 44.5 -1.2**
INK Inuvik 94.53 341 P **P 04 07 55.8 +0.1**
comp=Z,6.4nm,0.5s,baz=99,slow=5.4,SNR=14
EGAK Eagle 95.63 336 *e*P **P 04 08 00.2 -0.6**
comp=Z,2.6nm,0.8s
ILAR Eielson Array 97.91 335 P **P 04 08 10.3 -0.9**
comp=Z,0.7nm,0.7s,baz=145,slow=2.8,SNR=15
ILAR PP PP 04 12 06.6 -5.4
comp=Z,0.8nm,0.7s,baz=106,slow=6.6,SNR=8.4
COLA College 98.34 335 *c i*P **P 04 08 12.5 -0.5**
COLA pmax pmax
comp=Z,27nm,1.0s
OBN Obninsk 112.21 36 ⇑*i*PKIKP **PKiKP 04 13 11.5 +1.2**
OBN pmax pmax
comp=Z,7.0nm,0.5s
KBZ Khabaz 117.36 48 PKP **PKPdf 04 13 21.1 +0.5**
comp=Z,1.7nm,0.5s,baz=180,slow=1.8,SNR=5.7
KBZ SKP 04 16 36.1
comp=Z,3.3nm,0.9s,baz=56,slow=2.3,SNR=5.2
TIXI Tiksi 122.41 353 ⇑*i*PKIKP **PKPdf 04 13 28.8 -0.7**
SEY Seymchan 123.72 338 *c i*PKIKP **PKPdf 04 13 33.0 +0.8**
ARU Arti 123.80 31 *i*PKIKP **PKPdf 04 13 33.2 +0.6**
ARU 04 15 24.2
ARU 04 20 23.0
ARU SS SS 04 32 07.6 +14
STKA Stephens Creek 123.86 213 PKP **PKPdf 04 13 33.1 -0.4**
comp=Z,6.8nm,0.6s,baz=68,slow=1.9,SNR=16
STKA SKP 04 16 52.3
comp=Z,4.1nm,0.9s,baz=280,slow=5.7,SNR=3.2
ABKAR Akbulak array 127.51 39 *e*PKPdf **PKPdf 04 13 40.5 +0.6**
BRVK Borovoye 131.35 30 *c i*PKIKP **PKPdf 04 13 48.2 +1.1**
ASAR Alice Springs 134.48 212 PKhKP PKPpre 04 13 38.5
comp=Z,0.5nm,0.6s,baz=134,slow=2.7,SNR=5.1
ASAR PKP **PKPdf 04 13 53.5 -0.5**
comp=Z,6.4nm,0.7s,baz=134,slow=2.0,SNR=30
ASAR SKPbc **SKPbc 04 17 06.2 -2.8**
comp=Z,1.9nm,0.8s,baz=139,slow=3.6,SNR=9.2
PMG Port Moresby 135.24 239 ⇓*i*PKIKP **PKPdf 04 13 55.9 +0.3**
KURK Kurchatov 136.82 28 *e*PKIKP **PKPdf 04 13 57.9 +0.5**
KURK Kurchatov 136.82 28 *e*PKPdf **PKPdf 04 13 57.9 +0.5**
ZAA0 Zalesovo Array 136.87 21 *e*PKPdf **PKPdf 04 13 58.0 +0.6**
ZALV Zalesovo Beam 136.87 21 PKP **PKPdf 04 13 57.7 +0.3**
comp=Z,19nm,0.7s,baz=292,slow=2.7,SNR=59
ZALV SKPbc **SKPbc 04 17 14.4 -0.8**
comp=Z,8.9nm,0.8s,baz=318,slow=4.1,SNR=21
WRA Warramunga Arr 137.26 216 PKhKP PKPpre 04 13 45.6
comp=Z,0.8nm,0.5s,baz=136,slow=2.9,SNR=6.2
WRA PKP **PKPdf 04 13 58.9 -0.4**
comp=Z,8.7nm,0.6s,baz=145,slow=1.9,SNR=5.1
WRA SKPbc **SKPbc 04 17 15.1 -2.5**
comp=Z,7.0nm,0.8s,baz=142,slow=2.4,SNR=21
WRAB Tennant Creek 137.26 216 *e*PKIKP **PKPdf 04 13 58.8 -0.4**
WRAB Tennant Creek 137.26 216 *e*PKPdf **PKPdf 04 13 58.8 -0.4**
AAK Ala-Archa 139.54 41 ⇑*i*PKIKP **PKPdf 04 14 03.5 +0.6**
MKAR Makanchi Array 141.30 30 PKhKP PKPpre 04 14 00.7
comp=Z,1.2nm,0.5s,baz=322,slow=3.2,SNR=14
MKAR PKP **PKPdf 04 14 06.2 +0.4**
comp=Z,1.3nm,0.5s,baz=342,slow=1.8,SNR=12
MKAR SKPbc **SKPbc 04 17 23.6 -4.1**
comp=Z,5.1nm,0.9s,baz=318,slow=3.4,SNR=15
KSH Kashi 142.10 44 *e*PKP **PKPdf 04 14 07.8 +0.2**
KSH *e*PP **PP 04 17 13.7 -1.1**
TLY Talaya 143.37 6 *e*PKIKP PKPbc 04 14 07.9 +1.0
ZAK Zakamensk 144.61 7 ⇑*i*PKIKP PKPbc 04 14 10.8 +0.1
ZAK pmax pmax
comp=Z,10.0nm,1.1s
HIA Hailar 145.02 348 *d i*PKIKP **PKPbc 04 14 11.6 -0.3**
HIA Hailar 145.02 348 *e*PKPdf **PKPab 04 14 12.1 0.0**
USRK Ussuriysk Ar. 145.32 331 PKPbc **PKPbc 04 14 13.1 +0.1**
comp=Z,29nm,0.7s,baz=41,slow=2.7,SNR=46
WMQ Urumqi 146.06 29 PKPbc **PKPdf 04 14 14.4 +0.1**
WMQ PP **PP 04 17 40.8 +3.0**
WMQ AMB AMB
comp=Z,18nm,9.8s
WMQ LR LR
comp=N,65nm,12.4s
WMQ LR LR
comp=E,25nm,11.2s
WMQ LR LR
comp=Z,48nm,15.6s
WMQ Urumqi 146.06 29 PKPbc **PKPdf 04 14 13.2 -1.1**
WMQ pPKP **pPKPdf 04 14 55.3 -1.6**
WMQ sPKP 04 15 12.4
WMQ PP **PP 04 17 39.2 +1.4**
WMQ PPMZ
comp=Z,17nm,9.6s
WMQ LN
comp=Z,98nm,7.8s
WMQ LE
comp=Z,78nm,8.6s
WMQ LZ
comp=Z,32nm,9.2s
MDJ Mudanjiang 146.07 334 PKPbc **PKPdf 04 14 14.5 +0.4**
MDJ PPMZ
comp=Z,18nm,3.3s
MJAR Matsushiro Arr 146.69 315 PKPbc **PKPbc 04 14 17.3 -0.1**
comp=Z,32nm,0.8s,baz=100,slow=1.1,SNR=73
MJAR pPKPbc pPKPbc 04 15 06.4 +7.0
comp=Z,3.8nm,0.8s,baz=65,slow=1.2,SNR=1.8
MAJO Matsushiro 146.69 315 *i* PKP2 **PKPdf 04 14 16.3 +0.8**
MAJO Matsushiro 146.69 315 *e*PKPbc **PKPbc 04 14 17.3 -0.1**
MAT Matsushiro 146.69 315 PKP **PKPbc 04 14 16.9 -0.5**
SONM Songino Array 147.41 4 PKP **PKPdf 04 14 17.5 +1.1**
comp=Z,18nm,0.6s,baz=332,slow=2.1,SNR=49
SONM PKPbc **PKPbc 04 14 19.9 +0.7**
comp=Z,19nm,0.6s,baz=338,slow=2.7,SNR=60
SONM SKPbc **SKiKP 04 17 43.2 +0.9**
comp=Z,1.7nm,0.7s,baz=311,slow=1.2,SNR=4.2
FAKI Fak Fak 151.02 233 *e*PKPdf **PKPdf 04 14 23.9 +0.8**
FAKI *e*PKPbc **PKPbc 04 14 29.1 +0.1**
SOEI Soe 151.09 212 *e*PKPbc **PKPbc 04 14 30.4 +1.1**
KSRS Korea Array 152.42 327 PKP **PKPdf 04 14 25.4 +0.9**
comp=Z,6.2nm,0.9s,baz=52,slow=1.0,SNR=28
KSRS PKPbc **PKiKP 04 14 31.9 +0.2**
comp=Z,24nm,0.8s,baz=26,slow=1.8,SNR=59
KSAR Wonju Array Be 152.45 327 PKIKP **PKPdf 04 14 25.4 +0.9**
KSAR Wonju Array Be 152.45 327 PKP **PKPdf 04 14 25.4 +0.9**
KSAR PKPbc **PKiKP 04 14 31.9 +0.1**
HHC Hu-ho-hao-te 154.42 356 *e*PKPbc **PKPdf 04 14 24.8 -2.6**
HHC pPKP **pPKPdf 04 15 07.9 -2.3**
HHC sPKP 04 15 21.1
HHC PKS **PKSdf 04 17 59.1 -2.6**
HHC PP **PP 04 18 28.6 +3.3**
HHC SKS **SKSdf 04 21 15.3 -3.9**
HHC SS **SS 04 37 48.3 -3.1**
HHC PPMZ
comp=Z,42nm,10.1s
GTA Gaotai 154.51 17 *e*PKPbc **PKPdf 04 14 28.9 +1.3**
GTA PKPab **PKPab 04 14 54.2 +3.1**
GTA pPKP **pPKPdf 04 15 10.2 -0.2**
GTA sPKP 04 15 25.0
GTA PP **PP 04 18 30.0 +3.9**
GTA SKS **SKSdf 04 21 18.2 -1.2**
GTA SKKS **SKKSac 04 25 01.7 +0.4**
GTA PPMZ
comp=Z,50nm,7.4s
LZH Lanzhou 158.67 12 *e*PKP **PKPdf 04 14 33.0 -0.1**
LZH pPKP **PKPab 04 15 11.3 +2.2**
LZH sPKP 04 15 26.5
LZH PP **PP 04 18 51.5 +2.6**
LZH SKKS 04 25 24.1
LZH PPMZ
comp=Z,95nm,6.8s
NJ2 Nanjing 161.16 334 *e*PKP **PKPdf 04 14 36.7 +0.9**
CD2 Chengdu 163.59 17 PKP **PKPdf 04 14 37.0 -1.3**
CD2 pPKP **pPKPdf 04 15 14.8 -6.4**
CD2 sPKP 04 15 29.5
CD2 PP **PP 04 19 14.0 -1.1**
CD2 SKS **SKSdf 04 21 28.2 +0.2**
CD2 SKKS **SKKSac 04 25 47.6 -1.1**
CD2 PPMZ
comp=Z,120nm,5.2s
KMI Kunming 168.38 31 PKP **PKPdf 04 14 40.3 -2.2**
GYA Guiyang 168.56 12 PKP **PKPdf 04 14 42.0 -0.5**
GYA pPKP **pPKPdf 04 15 19.8 -5.6**
GYA sPKP 04 15 34.5
GYA PKPab **PKPab 04 15 53.0 +0.3**
GYA PKS **PKSdf 04 18 12.6 -2.7**
GYA PP **PP 04 19 42.7 +1.9**
GYA PPMZ
comp=Z,120nm,8.2s
CMAR Chiang Mai Arr 169.54 71 PKP **PKPdf 04 14 43.2 +0.1**
comp=Z,0.9nm,0.3s,baz=255,slow=1.8,SNR=6.5
CMAR PKPab **PKPab 04 15 57.3 -0.1**
comp=Z,2.1nm,0.5s,baz=284,slow=5.7,SNR=4.6

*ISCJB **09** 04:35:33.2±0.6, 19°.52S±0°.06×67°.34W±0°.08, h211km, mb3.8/6, Error ellipse: s-maj=11.3km s-min=7.3km az=26.9*
*IDC **09** 04:35:33.5±0.7, 19°.50S×67°.37W, h211km±8km, mb3.5/6, mb1 3.5/10, mb1mx3.4/26, mbtmp4.0/10, Error ellipse: s-maj=15.0km s-min=8.5km az=103.0*
ISC 09 04:35:33.8±0.8, **19°.51S**±0°.06×**67°.32W**±0°.08, **h211**km, **n10**, σ**0s99**/13, **mb4.0**/6, **Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.30**	**346**	P	**Pn**	**04 36 29.3**	**+1.1**
	0.7nm,0.3s,baz=332,slow=3.4,SNR=61						
LPAZ				S	**S**	**04 37 09.9**	**-0.4**
	1.0nm,0.3s,baz=40,slow=18,SNR=14						
LVC	**Limon Verde**	**3.43**	**205**	P	**Pn**	**04 36 30.2**	**+0.9**
	232nm,0.3s,baz=32,slow=12,SNR=55						
LVC				S	**S**	**04 37 11.9**	**-0.5**
	307nm,0.3s,baz=270,slow=20,SNR=29						
SIV	**San Ignacio**	**6.90**	**61**	P	**Pn**	**04 37 13.0**	**+0.1**
	1.7nm,0.3s,baz=270,slow=9.8,SNR=22						
SIV				S	**S**	**04 38 33.3**	**+1.7**
	baz=318,slow=18,SNR=2.8						
BDFB	**Brasilia**	**18.80**	**81**	P	**Pn**	**04 39 39.5**	**-1.4**
	0.4nm,0.3s,baz=278,slow=10,SNR=4.8						
PLCA	**Paso Flores**	**21.33**	**187**	P	**P**	**04 40 05.6**	**+1.1**
	1.5nm,0.6s,baz=318,slow=0.5,SNR=3.7						
RCBR	**Riachuelo**	**33.45**	**70**	P	**P**	**04 41 53.6**	**+0.4**
	13nm,1.2s,baz=229,slow=5.0,SNR=7.4						
TXAR	**Lajitas Array**	**59.90**	**323**	P	**P**	**04 45 17.4**	**-0.3**
	0.1nm,0.6s,baz=161,slow=8.4,SNR=5.1						
DBIC	**Dimbokro**	**66.74**	**73**	P	**P**	**04 46 02.0**	**-0.8**
	6.0nm,1.1s,baz=219,slow=3.2,SNR=8.3						
TORD	**Torodi Ar. Bea**	**75.28**	**70**	P	**P**	**04 46 53.6**	**-0.5**
	2.1nm,0.4s,baz=252,slow=5.3,SNR=82						
YKA	**Yellowknife Ar**	**89.83**	**340**	P	**P**	**04 48 07.8**	**-0.2**
	0.4nm,0.5s,baz=133,slow=4.6,SNR=5.9						

*IDC **09** 04:38:00.1±1.4, 3°.09S×129°.52E, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.7/23, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=42.9km s-min=22.6km az=74.0*
*ISCJB **09** 04:38:04.6±0.5, 2°.87S±0°.05×129°.63E±0°.05, h28km, mb3.9/3, Error ellipse: s-maj=9.0km s-min=5.0km az=139.1*
*DJA **09** 04:38:04.3±0.3, 3°.3S×13°.0E±°, h10km, M3.7/8, MLv3.7/8*
ISC 09 04:38:04.2±0.8, **2°.93S**±0°.05×**129°.61E**±0°.05, **h28**km, **n13**, σ**1s78**/17, **mb4.0**/3, **Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masobi**	**0.79**	**239**	P	**Pb**	**04 38 18.4**	**-1.0**
MSAI				S	**Sn**	**04 38 32.6**	**+2.1**
AAI	**Ambon**	**1.60**	**242**	P	**Pb**	**04 38 33.2**	**+0.1**
BNDI	**Bandanaira**	**1.61**	**169**	P	**Pb**	**04 38 33.2**	**0.0**
BNDI				S	**Sb**	**04 38 55.3**	**+2.2**
NLAI	**Namlea**	**2.52**	**263**	P	**Pb**	**04 38 46.2**	**-2.6**
SIJI	**Sorong**	**2.63**	**39**	Pn	**Pn**	**04 38 45.4**	**+0.5**
	8.2nm,0.3s,baz=199,slow=23,SNR=42						
SIJI				Sn	**Sn**	**04 39 15.8**	**-0.2**
	5.0nm,0.3s,baz=233,slow=20,SNR=6.1						
SWI	**Sorong**	**2.64**	**39**	P	**Pn**	**04 38 46.2**	**+1.3**
SWI				S	**Sn**	**04 39 18.0**	**+2.0**
FAKI	**Fak Fak**	**2.64**	**90**	P	**Pn**	**04 38 45.4**	**+0.5**
LBMI	**Labuha**	**3.10**	**317**	P	**Pn**	**04 38 52.5**	**+1.2**
SANI	**Sanana**	**3.72**	**284**	P	**Pn**	**04 39 01.2**	**+1.4**
WRA	**Warramunga Arr**	**17.53**	**165**	P	**Pn**	**04 42 02.9**	**-3.8**
	0.5nm,0.3s,baz=338,slow=13,SNR=5.0						
ASAR	**Alice Springs**	**21.03**	**169**	P	**P**	**04 42 44.8**	**-1.2**
	8.6nm,0.6s,baz=346,slow=9.7,SNR=53						
CTA	**Charters Tower**	**23.55**	**138**	P	**P**	**04 43 11.9**	**-0.5**
	1.2nm,0.2s,baz=329,slow=15,SNR=4.1						
MKAR	**Makanchi Array**	**64.64**	**326**	P	**P**	**04 48 40.5**	**+1.1**
	0.2nm,0.5s,baz=116,slow=6.6,SNR=2.8						

IDC 09 05:11:05.4±7.2, **12°.97S**×**171°.10E**, **h0**km, **mb3.5**/3, **mb1 3.8**/3, **mb1mx3.5**/19, **mbtmp3.5**/3, **Error ellipse: s-maj=349.5km s-min=34.3km az=141.0, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**35.87**	**254**	P		05 18 07.5	0.0
	0.2nm,0.4s,baz=85,slow=8.6,SNR=5.2						
ASAR	**Alice Springs**	**36.78**	**248**	P		05 18 14.9	-0.2
	0.4nm,0.4s,baz=78,slow=8.8,SNR=5.1						
ILAR	**Eielson Array**	**83.75**	**17**	P		05 23 36.0	0.0
	0.2nm,0.4s,baz=225,slow=5.0,SNR=6.1						

IDC 09 05:22:50.8±4.4, **55°.40N**×**86°.04E**, **h0**km, **mb1 3.0**/2, **mb1mx2.9**/29, **mbtmp3.0**/2, **ML3.0**/2, **Error ellipse: s-maj=46.9km s-min=20.0km az=43.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.62**	**207**	*i*		05 34 40.0	
	baz=23,slow=321,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.62**	**207**	Pn	**Pn**	05 23 19.7	-0.8
	7.8nm,0.3s,baz=26,slow=16,SNR=35						
ZALV				Sn	**Sg**	05 23 44.7	+1.9
	5.4nm,0.3s,baz=28,slow=26,SNR=8.4						
MKAR	**Makanchi Array**	**8.93**	**197**	Pn	**Pn**	05 25 01.1	0.0
	0.1nm,0.3s,baz=18,slow=14,SNR=4.0						
MKAR				Lg	**Lg**	05 27 33.7	
	0.1nm,0.3s,baz=22,slow=28,SNR=4.1						
BVAR	**Borovoye Array**	**9.48**	**262**	Pn	**Pn**	05 25 07.5	-0.9
	0.3nm,0.3s,baz=79,slow=14,SNR=3.7						

*BJI **09** 05:42:46.1, 43°.91N×129°.10W, h10km, mb4.6/5, mB4.6/3, Ms4.8/2, Ms7 4.4/1*
*IDC **09** 05:42:49.1±1.1, 44°.08N×128°.83W, h0km, mb3.7/8, mb1 4.1/15, mb1mx3.9/33, mbtmp3.9/15, ML3.8/7, MS3.6/18, Ms1 3.6/18, ms1mx3.4/36, Error ellipse: s-maj=27.0km s-min=12.2km az=40.0*
*ISCJB **09** 05:42:50.4±0.4, 44°.10N±0°.02×128°.95W±0°.05, h15km, mb4.1/16, MS3.6/11, Error ellipse: s-maj=4.9km s-min=3.1km az=176.2*

*NEIC **09** 05:42:50.5±0.7, 44.°09N×129.°14W, h10km, mb4.4/23,*
Error ellipse: s-maj=8.6km s-min=5.3km az=68.0

ISC 09 05:42:50.3±0.7**, 44.°00N**±0.°10×**129.°11W**±0.°08**, h15km, n493,** σ1.s**17**/457**, mb4.4**/16**, MS3.7**/11**, 174C-165D, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAKO	Tahkenitch	3.65	92	P	Pn	05 43 44.7	-1.5
KEBM	Edson Butte	3.66	106	ePn	Pn	05 43 42.6	-3.8
I03D	Drain, OR	4.18	92	⇑P	Pn	05 43 51.3	-2.2
	baz=4.2,SNR=39						
COR	Corvallis	4.21	80	ePn	Pn	05 43 52.6	-1.3
UMPQ	Umpqua Communi	4.25	98	P	Pn	05 43 52.7	-1.8
KMOR	Kings Mountain	4.32	66	P	Pn	05 43 53.8	-1.8
G03D	McMinnville, O	4.35	72	⇑P	Pn	05 43 53.7	-2.1
	baz=4.3,SNR=39						
L02D	Cave Junction,	4.44	113	⇓P	Pn	05 43 55.6	-1.5
	baz=4.5						
NLO	Nicolai Mounta	4.52	61	P	Pn	05 43 57.4	-0.8
HUMO	Hull Mountain	4.70	105	ePn	Pn	05 43 58.7	-2.1
HUMO				eSn	Sn	05 44 52.5	-2.6
F04D	Rainier, OR	4.80	62	⇑P	Pn	05 44 00.1	-1.9
	baz=4.8						
BBOR	Butler Butte	4.81	101	P	Pn	05 44 00.8	-1.6
I04A	Tendick Farm,	4.85	90	P	Pn	05 44 00.6	-2.1
	baz=4.9,SNR=53						
NLWA	Neilton Lookou	5.00	45	ePn	Pn	05 44 03.2	-1.6
KHMM	Horse Mountain	5.06	126	ePn	Pn	05 44 06.1	+0.3
J04D	Umpqua Nationa	5.14	96	⇓P	Pn	05 44 06.0	-1.0
	baz=5.2,SNR=24						
YBH	Yreka Blue Hor	5.22	114	Pn	Pn	05 44 06.7	-1.2
	3.4nm,0.3s,baz=316,slow=12,SNR=54						
YBH				Sn	Sn	05 45 05.5	-2.5
	0.6nm,0.3s,baz=266,slow=17,SNR=3.2						
YBH				LR	LR	05 45 49.9	
	comp=Z,369nm,21.4s,baz=299,slow=36						
M02C	Callahan	5.30	117	⇓P	Pn	05 44 09.1	+0.2
	baz=5.3						
OCP	Olym-Cheeka Pk	5.31	34	P	Pn	05 44 08.2	-0.8
KMRM	Mail Ridge	5.51	131	ePn	Pn	05 44 12.9	+0.9
K04D	Chiloquin, OR	5.54	102	⇑P	Pn	05 44 10.7	-1.7
	baz=5.6,SNR=9.2						
PFB	Port Renfrew	5.60	34	P	Pn	05 44 11.4	-1.6
I05D	Terrebonne, OR	5.60	84	⇑P	Pn	05 44 11.3	-1.8
	baz=5.6,SNR=8.4						
N02D	Trinity Center	5.62	120	⇑P	Pn	05 44 13.4	0.0
	baz=5.7						
G05D	Wamic, OR	5.70	75	⇓P	Pn	05 44 14.0	-0.4
	baz=5.7,SNR=33						
J05D	Fort Rock, OR	5.76	94	P	Pn	05 44 14.6	-0.8
	baz=5.8,SNR=27						
M04C	Macdoel	5.78	110	⇑P	Pn	05 44 15.7	0.0
	baz=5.8						
D05A	Enumclaw	5.93	55	ePn	Pn	05 44 17.3	-0.2
WDC	Whiskeytown Da	5.95	123	ePn	Pn	05 44 19.8	+1.9
KCPM	Cahto Peak	5.97	134	ePn	Pn	05 44 17.3	-0.9
	20nm,1.2s						
PGC	Sidney	6.08	38	ePn	Pn	05 44 18.0	-1.6
	18nm,0.6s						
K05A	Summer Lake	6.12	99	ePn	Pn	05 44 19.5	-0.9
HOPS	Hopland Field	6.75	136	ePn	Pn	05 44 29.2	+0.4
B06A	Marblemount	6.95	47	ePn	Pn	05 44 32.4	+0.9
HAWA	Hanford	7.18	67	ePn	Pn	05 44 34.9	+0.2
	17nm,0.4s						
G08A	Pilot Rock	7.36	76	ePn	Pn	05 44 35.4	-1.8
D08A	Wollman Farm,	7.78	63	ePn	Pn	05 44 46.6	+3.7
WVOR	Wild Horse Val	7.81	98	ePn	Pn	05 44 41.8	-1.7
B08A	Colville Reser	8.06	54	ePn	Pn	05 44 48.5	+1.7
BBB	Bella Bella	8.21	4	Pn	Pn	05 44 49.0	+0.1
	0.4nm,0.3s,baz=212,slow=4.3,SNR=8.1						
BMO	Blue Mountains	8.49	80	ePn	Pn	05 44 53.0	+0.2
CMB	Columbia Colle	8.89	129	ePn	Pn	05 45 00.4	+2.2
WAKR	Walker	9.12	124	ePn	Pn	05 45 04.0	+2.4
NEW	Newport	9.35	59	Pn	Pn	05 45 02.6	-1.9
	1.4nm,0.3s,baz=240,slow=11,SNR=13						
NEW				LR	LR	05 48 38.7	
	comp=Z,487nm,18.2s,baz=252,slow=38						
NEW	Newport	9.35	59	⇓P	Pn	05 45 02.9	-1.6
	baz=9.3,SNR=7.2						
NEW	Newport	9.35	59	ePn	Pn	05 45 03.6	-0.9
H02S1	DAWSON INLET T	9.47	348	T	T	05 54 35.0	
BMN	Battle Mountai	9.52	108	ePn	Pn	05 45 11.7	+4.8
MFID	Camas Ranch	9.64	89	ePn	Pn	05 45 10.5	+1.9
NVAR	Mina Array Bea	9.86	121	Pn	Pn	05 45 12.8	+1.0
	0.5nm,0.3s,baz=297,slow=14,SNR=23						
HLID	Hailey	10.64	87	⇓P	Pn	05 45 24.0	+1.6
	baz=11,SNR=43						
HLID	Hailey	10.64	87	ePn	Pn	05 45 24.9	+2.5
BSMT	Bassoo Peak	10.69	64	ePn	Pn	05 45 24.3	+1.2
	5.9nm,0.7s						
TPH	Tonopah	10.75	119	Pn	Pn	05 45 25.7	+1.8
	3.5nm,0.9s						
ELK	Elko	10.77	103	Pn	Pn	05 45 25.4	+1.3
	0.1nm,0.3s,baz=287,slow=11,SNR=23						
ELK				LR	LR	05 49 53.8	
	comp=Z,225nm,18.3s,baz=282,slow=40						
ELK	Elko	10.77	103	ePn	Pn	05 45 25.3	+1.1
	5.9nm,0.9s						
RCTC	Rector, Farmer	10.77	132	⇑P	Pn	05 45 25.3	+1.4
	baz=11						
JTMT	Jette	10.99	65	ePn	Pn	05 45 28.8	+1.7
BLMT	Blacktail Moun	11.01	64	ePn	Pn	05 45 28.5	+1.1
MSO	Missoula	11.03	70	⇑P	Pn	05 45 26.2	-1.4
	baz=11,SNR=14						
MSO	Missoula	11.03	70	ePn	Pn	05 45 26.3	-1.4
SWMT	Swartz Lake	11.12	66	ePn	Pn	05 45 30.0	+1.1
	10nm,0.9s						
YBMT	Yellow Bay	11.20	65	ePn	Pn	05 45 30.0	+0.1
	6.4nm,1.0s						
VES	Vestal, Richgr	11.21	133	⇓P	Pn	05 45 30.6	+0.7
	baz=11,SNR=6.5						
CWC	Cottonwood Cre	11.31	128	⇑P	Pn	05 45 33.3	+1.8
	baz=11						
SLMT	Seeley Lake	11.41	68	ePn	Pn	05 45 32.6	-0.2
	25nm,1.0s						
CHMT	Chamberlain Mo	11.51	70	ePn	Pn	05 45 34.1	-0.1
	5.6nm,1.0s						
WALA	Waterton Lakes	11.62	59	ePn	Pn	05 45 35.2	-0.5
	9.3nm,0.9s						
R11A	Troy Canyon, C	11.65	114	⇑P	Pn	05 45 37.8	+1.6
	baz=12,SNR=6.6						
R11A	Troy Canyon, C	11.65	114	ePn	Pn	05 45 39.2	+3.0
ISA	Isabella, Lake	11.66	132	⇓P	Pn	05 45 37.4	+1.1
	baz=12,SNR=9.3						
ISA	Isabella, Lake	11.66	132	ePn	Pn	05 45 37.8	+1.6
MCMT	McKenzie Canyo	11.66	80	ePn	Pn	05 45 37.0	+0.6
DAC	Darwin (Calif)	11.71	127	ePn	Pn	05 45 40.7	+3.8
DLMT	Dillon	11.84	78	ePn	Pn	05 45 40.5	+1.9
ARVC	Arvin	11.89	135	⇑P	Pn	05 45 40.1	+0.9
	baz=12						
MPMC	Manual Prospec	11.92	128	⇑P	Pn	05 45 41.0	+1.1
	baz=12						
LRM	Limekiln Ridge	11.96	75	ePn	Pn	05 45 40.0	-0.4
	65nm,1.0s						
FURC	Furnace Creek,	12.00	125	⇓P	Pn	05 45 42.0	+1.2
	baz=12						
TPNV	Topopah Spring	12.06	121	⇑P	Pn	05 45 42.9	+1.2
	baz=12,SNR=11						
HVU	Hansel Valley	12.19	95	ePn	Pn	05 45 45.3	+1.8
BGU	Big Grassy Mou	12.27	99	ePn	Pn	05 45 45.1	+0.5
	9.6nm,1.3s						
BSC	Santa Cruz Isl	12.41	140	⇑P	Pn	05 45 47.5	+1.1
	baz=12						
EDW2	Edwards Air Fo	12.51	133	⇓P	Pn	05 45 48.4	+0.5
	baz=13						
BOZ	Bozeman (W)	12.52	76	ePn	Pn	05 45 48.6	+0.6
	7.2nm,1.0s						
QLMT	Earthquake Lak	12.67	80	ePn	Pn	05 45 52.2	+2.0
	0.8nm,0.5s						
DUG	Dugway, Tooele	12.69	102	⇓P	Pn	05 45 50.5	+0.2
	baz=13						
DUG	Dugway, Tooele	12.69	102	ePn	Pn	05 45 52.4	+2.1
SHOC	Shoshone, Teco	12.73	125	⇓P	Pn	05 45 51.0	+0.2
	baz=13						
DECC	Green Verdugo	12.83	136	⇑P	Pn	05 45 52.7	+0.6
	baz=13						
GSC	Goldstone, Bar	12.85	128	⇑P	Pn	05 45 52.9	+0.4
	baz=13						
GSC	Goldstone, Bar	12.85	128	ePn	Pn	05 45 55.6	+3.1
YMR	Madison River	13.01	81	ePn	Pn	05 45 56.5	+1.7
	19nm,1.1s						
SHPR	Sheep Range	13.01	120	ePn	Pn	05 45 57.7	+2.9
FXWY	Fox Creek	13.07	85	ePn	Pn	05 45 58.4	+2.8
IMW	Indian Meadow	13.10	84	ePn	Pn	05 45 59.0	+2.9
HWUT	Hardware Ranch	13.11	94	ePn	Pn	05 45 57.7	+1.6
YFT	Old Faithful	13.12	82	ePn	Pn	05 45 58.6	+2.3
	28nm,1.2s						
TPAW	Teton Pass	13.14	86	ePn	Pn	05 45 59.3	+2.6
	17nm,1.1s						
BFSC	Mount Baldy Ra	13.18	134	⇓P	Pn	05 45 58.7	+1.6
	baz=13						
FLWY	Flagg Ranch	13.25	83	ePn	Pn	05 46 01.0	+3.0
	39nm,1.0s						
TUQ	Turquoise Moun	13.26	126	⇑P	Pn	05 46 00.3	+2.1
	baz=13						
SNOW	Snow King Moun	13.29	86	ePn	Pn	05 46 01.4	+2.8
	11nm,0.9s						
H17A	Grant Village	13.31	82	⇓P	Pn	05 45 58.5	-0.4
	baz=13,SNR=13						
H17A	Grant Village	13.31	82	ePn	Pn	05 46 02.5	+3.7
TCUT	Toone Canyon	13.37	96	ePn	Pn	05 46 02.8	+3.2
	8.3nm,0.9s						
LOHW	Long Hollow	13.38	85	ePn	Pn	05 46 02.0	+2.2
	14nm,1.2s						
LKWY	Lake	13.42	81	ePn	Pn	05 46 03.8	+3.4
	17nm,1.4s						
HEC	Hector,Ludlow	13.46	129	⇑P	Pn	05 46 02.2	+1.4
	baz=14						
CIS	Catalina Islan	13.47	138	⇑P	Pn	05 46 01.8	+0.9
	baz=14						
CCUT	Cedar City	13.55	113	ePn	Pn	05 46 05.2	+3.0
	6.7nm,0.9s						
MVU	Marysvale	13.84	108	ePn	Pn	05 46 09.0	+2.8
	28nm,1.1s						
MSU	Marysvale	13.86	107	ePn	Pn	05 46 09.1	+2.7
	44nm,1.2s						
GMRC	Granite Mounta	13.88	127	⇑P	Pn	05 46 07.1	+0.6
	baz=14						
EDM	Edmonton	13.89	43	ePn	Pn	05 46 08.5	+1.9
GCMT	Greycliff	13.90	76	ePn	Pn	05 46 08.5	+1.7
MURC	Murrieta	13.92	134	⇑P	Pn	05 46 08.0	+1.0
	baz=14						
EGMT	Eagleton	14.03	67	⇓P	Pn	05 46 08.1	-0.4
	baz=14						
EGMT	Eagleton	14.03	67	ePn	Pn	05 46 08.9	+0.3
RLMT	Red Lodge	14.19	79	⇓P	Pn	05 46 10.9	0.0
	baz=14						
RLMT	Red Lodge	14.19	79	ePn	Pn	05 46 13.8	+2.8
BW06	Boulder Array	14.28	88	ePn	Pn	05 46 13.3	+1.2
	4.4nm,1.0s						
PDAR	Pinedale Array	14.28	88	Pn	Pn	05 46 13.2	+1.1
	0.1nm,0.3s,baz=294,slow=11,SNR=16						
PDAR				LR	LR	05 51 47.2	
	comp=Z,324nm,19.8s,baz=282,slow=38						
PFO	Pinyon Flats O	14.30	132	LR	LR	05 51 16.7	
	comp=Z,233nm,19.0s,baz=316,slow=36						
H19A	Powell	14.42	80	⇑P	Pn	05 46 14.6	+0.6
	baz=14,SNR=12						
DLBC	Dease Lake	14.47	358	LR	LR	05 51 08.3	
	comp=Z,456nm,18.2s,baz=176,slow=35						
I19A	Meeteetse	14.48	83	⇓P	Pn	05 46 14.4	-0.4
	baz=14						
J19A	Crowheart	14.55	86	⇑P	Pn	05 46 15.2	-0.6
	baz=14						
IRM	Iron Mountain	14.62	128	⇑P	Pn	05 46 17.8	+1.3
	baz=15						
B19A	Brinkman Farms	14.64	65	⇓P	Pn	05 46 16.1	-0.7
	baz=15						
SRU	San Rafael Swe	14.74	103	ePn	Pn	05 46 21.5	+3.1
BC3	Big Chuckawall	14.81	130	⇓P	Pn	05 46 20.0	+0.7
	baz=15,SNR=7.3						
A19A	Klindworth Far	14.86	64	⇑P	Pn	05 46 19.5	-0.4
	baz=15,SNR=10.0						
MONP	Monument Peak,	14.88	134	⇓P	Pn	05 46 19.4	-0.9
	baz=15,SNR=7.0						
BAR	Barrett	14.91	135	ePn	Pn	05 46 21.3	+0.7
F20A	Billings	14.96	76	⇑P	Pn	05 46 20.6	-0.7
	baz=15						
PDMCI	Parker Dam,Lak	15.10	125	⇓P	Pn	05 46 24.7	+1.6
	baz=15						
I20A	Worland	15.11	83	⇓P	Pn	05 46 23.7	+0.5
	baz=15,SNR=5.6						
H20A	Greybull	15.14	81	⇓P	Pn	05 46 23.8	+0.2
	baz=15,SNR=12						
C20A	Veseth Ranch,	15.16	68	⇓P	Pn	05 46 23.7	-0.1
	baz=15,SNR=12						
J20A	Shoshoni	15.23	85	⇓P	Pn	05 46 25.0	+0.1
	baz=15						
B20A	Solberg Farm,	15.24	66	⇑P	Pn	05 46 24.7	-0.2
	baz=15,SNR=8.7						
Y12C	Blythe	15.27	127	⇓P	Pn	05 46 26.9	+1.6
	baz=15						
A20A	Cobblestone Ra	15.38	64	⇑P	Pn	05 46 25.8	-1.0
	baz=15,SNR=16						
GLA	Glamis	15.61	130	⇓P	Pn	05 46 30.3	+0.5
	baz=16						
G21A	Lodge Grass	15.64	78	⇑P	Pn	05 46 29.7	-0.5
	baz=16						
F21A	Absaloka Mine,	15.68	76	⇓P	Pn	05 46 30.6	0.0
	baz=16						
J21A	Lysite	15.69	85	⇑P	Pn	05 46 30.7	-0.2
	baz=16,SNR=12						
E21A	Keefer Ranch,	15.71	73	⇑P	Pn	05 46 30.6	-0.5
	baz=16,SNR=6.7						
N20A	Spence Gulch,	15.71	94	⇓P	Pn	05 46 31.5	+0.2
	baz=16,SNR=18						
I21A	Big Trails, Te	15.73	83	⇑P	Pn	05 46 30.6	-0.8
	baz=16,SNR=11						
C21A	Desert Coulee	15.78	68	⇑P	Pn	05 46 31.8	-0.1
	baz=16						
D21A	La Casta Ranch	15.79	71	⇑P	Pn	05 46 31.6	-0.5
	baz=16						
B21A	Ellsworth Farm	15.90	66	⇓P	Pn	05 46 33.5	0.0
	baz=16						
O20A	White River Ci	15.97	97	⇑P	Pn	05 46 34.8	+0.3
	baz=16						
O20A	White River Ci	15.97	97	ePn	Pn	05 46 36.6	+2.1
	35nm,1.1s						
WUAZ	Wupatki	16.04	116	⇓P	Pn	05 46 36.6	+1.2
	baz=16,SNR=13						
WUAZ	Wupatki	16.04	116	ePn	Pn	05 46 37.2	+1.8
A21A	Bergtoll Ranch	16.05	64	⇑P	Pn	05 46 34.7	-0.7
	baz=16,SNR=9.2						
PV04	Paradox Valley	16.20	103	ePn	Pn	05 46 39.1	+1.7
RWWY	Rawlins	16.22	91	ePn	Pn	05 46 38.3	+0.4
	20nm,1.1s						
F22A	Rosebud	16.29	76	⇑P	Pn	05 46 38.4	-0.1
	baz=16						
G22A	Birney	16.29	78	⇓P	Pn	05 46 38.6	0.0
	baz=16						
I22A	9 Mile Ranch,	16.29	83	⇑P	Pn	05 46 38.9	+0.3
	baz=16,SNR=5.7						
H22A	Clearmont	16.30	80	⇑P	Pn	05 46 38.2	-0.5
	baz=16						
LAO	LASA Array	16.30	73	⇓P	Pn	05 46 38.5	-0.2
	baz=16						
LAO	LASA Array	16.30	73	ePn	Pn	05 46 39.0	+0.4
D22A	Cohagen	16.35	71	⇓P	Pn	05 46 39.5	+0.2
	baz=16						
J22A	Midwest	16.37	84	⇓P	Pn	05 46 40.1	+0.4
	baz=16,SNR=7.3						
K22A	Casper	16.49	87	⇓P	Pn	05 46 40.2	-0.9
	baz=16						
K22A	Casper	16.49	87	ePn	Pn	05 46 41.9	+0.7
	26nm,1.5s						
E22A	Miles City	16.49	73	⇓P	Pn	05 46 40.3	-0.8
	baz=16						
PV01	Paradox Valley	16.55	104	ePn	Pn	05 46 42.9	+0.9
	3µm,1.3s						
B22A	Reddig Ranch S	16.56	67	⇑P	Pn	05 46 41.8	-0.1
	baz=16,SNR=15						
C22A	Vida	16.59	69	⇓P	Pn	05 46 42.3	+0.1
	baz=16,SNR=5.9						
A22A	Carney Farms,	16.71	64	⇑P	Pn	05 46 43.1	-0.6
	baz=17,SNR=8.3						
F23A	Volborg	16.88	76	⇓P	Pn	05 46 45.4	-0.7
	baz=17,SNR=12						
G23A	Biddle	16.93	78	⇑P	Pn	05 46 46.0	-0.6
	baz=17						
E23A	Ismay	16.93	73	⇓P	Pn	05 46 45.8	-0.8
	baz=17						
H23A	Clabaugh Cattl	16.98	80	⇓P	Pn	05 46 46.9	-0.4
	baz=17						
D23A	Lindsay	17.01	71	⇑P	Pn	05 46 47.4	-0.3
	baz=17						
N22A	Wattenberg Ran	17.03	93	⇓P	Pn	05 46 48.0	-0.1
	baz=17,SNR=9.8						
MVCO	Mesa Verde	17.04	106	⇑P	Pn	05 46 48.4	+0.2
	baz=17						
MVCO	Mesa Verde	17.04	106	ePn	Pn	05 46 49.5	+1.3
J23A	Dilts Ranch, B	17.04	84	⇓P	Pn	05 46 47.0	-1.1
	baz=17						
C23A	Lambert	17.06	69	⇑P	Pn	05 46 47.3	-0.9
	baz=17						
O22A	Kremmling	17.17	95	⇑P	Pn	05 46 50.3	+0.4
	baz=17,SNR=14						
P22A	Eagle	17.23	97	⇓P	Pn	05 46 50.1	-0.4
	baz=17						
SMCO	Snowmass	17.23	99	ePn	P	05 46 52.4	+0.1
	7.5nm,1.0s						
B23A	Brockton	17.25	67	⇓P	Pn	05 46 49.5	-1.0
	baz=17						
W18A	Petrified Fore	17.34	114	⇑P	Pn	05 46 52.2	+0.2
	baz=17,SNR=8.0						
W18A	Petrified Fore	17.34	114	ePn	Pn	05 46 52.8	+0.8
	71nm,1.4s						
N23A	Red Feather La	17.37	92	⇓P	Pn	05 46 51.9	-0.5
	baz=17,SNR=8.8						
A23A	Redstone	17.38	65	⇑P	Pn	05 46 51.2	-1.0
	baz=17						
F24A	Ekalaka	17.55	75	⇓P	Pn	05 46 53.7	-0.7
	baz=18,SNR=10						
C24A	Savage	17.56	70	⇓P	Pn	05 46 54.2	-0.3
	baz=18,SNR=16						
H24A	Dirks Ranch, A	17.56	79	P	Pn	05 46 54.0	-0.5
	baz=18,SNR=26						
214A	Organ Pipe Nat	17.56	128	⇓P	Pn	05 46 55.1	+0.6
	baz=18						
PHWY	Pilot Hill	17.60	91	ePn	P	05 46 56.8	+0.6
	4.9nm,0.8s						
G24A	Alzada	17.60	77	⇑P	Pn	05 46 55.0	-0.1
	baz=18						
O23A	Lake Granby, G	17.61	94	⇑P	Pn	05 46 55.4	0.0
	baz=18,SNR=8.4						
D24A	Glendive	17.61	71	⇓P	Pn	05 46 54.5	-0.6
	baz=18						
I24A	Kuemmerle Ranc	17.63	82	⇓P	Pn	05 46 54.9	-0.5
	baz=18						
J24A	Dixon Ranch, L	17.69	84	⇑P	Pn	05 46 56.0	-0.2
	baz=18						
K24A	Anderson Ranch	17.70	86	⇓P	Pn	05 46 56.2	-0.2
	baz=18						
DGMT	Dagmar	17.77	67	⇑P	P	05 46 57.1	-0.7
	baz=18						
DGMT	Dagmar	17.77	67	ePn	P	05 46 58.0	+0.2
	34nm,1.0s						
S22A	4UR Ranch, Cre	17.95	103	⇓P	Pn	05 47 00.3	+0.7
	baz=18,SNR=15						
A24A	Westby	17.95	65	⇑P	P	05 46 59.1	-0.6
	baz=18,SNR=5.8						
P23A	Jefferson	17.97	97	⇓P	Pn	05 46 59.9	+0.1
	baz=18,SNR=13						
ISCO	Idaho Springs	17.97	95	⇑P	Pn	05 46 59.6	-0.2
	baz=18						
ISCO	Idaho Springs	17.97	95	ePn	Pn	05 46 59.8	-0.1
	7.2nm,0.8s						
RSSD	Black Hills	18.01	81	ePn	Pn	05 47 00.1	0.0
	5.5nm,0.6s						
F25A	Bowman	18.23	75	⇑P	P	05 47 03.1	+0.2
	baz=18						
I25A	Rochford	18.24	81	⇓P	P	05 47 03.9	+0.7
	baz=18,SNR=25						
E25A	Miller Ranch,	18.25	73	⇓P	P	05 47 03.5	+0.4
	baz=18,SNR=6.4						
H25A	Fruitdale	18.25	79	⇑P	P	05 47 03.7	+0.6
	baz=18,SNR=7.7						
J25A	Sunshine Ranch	18.30	83	⇑P	Pn	05 47 03.7	+0.1
	baz=18,SNR=16						
D25A	Fairfield	18.30	71	⇑P	P	05 47 04.4	+0.8
	baz=18						
G25A	Newell	18.32	77	⇓P	P	05 47 04.4	+0.6
	baz=18						
C25A	Freed Ranch, W	18.36	69	⇑P	P	05 47 04.4	+0.2
	baz=18						
K25A	Mack Ranch, Ha	18.41	86	⇓P	Pn	05 47 05.4	+0.4
	baz=18,SNR=6.4						
L25A	Engebretsen Ra	18.45	87	⇑P	Pn	05 47 05.7	+0.2
	baz=18						
B25A	Knox Farm, Ray	18.45	68	⇓P	Pn	05 47 05.7	+0.3
	baz=18						
R23A	Moffat	18.46	100	⇓P	Pn	05 47 06.3	+0.5
	baz=18						
TUC	Tucson	18.50	123	eP	Pn	05 47 07.5	+1.4
	9.4nm,1.1s						
A25A	Svangstu Ranch	18.53	65	⇑P	Pn	05 47 06.2	-0.2
	baz=18						
S23A	Nye Farm, Mont	18.55	102	⇑P	P	05 47 06.9	+0.2
	baz=18						
M25A	Palm-Egli Farm	18.57	89	⇑P	P	05 47 06.8	0.0
	baz=18						
Q24A	Divide	18.62	97	⇓P	Pn	05 47 08.5	+0.7
	baz=19,SNR=9.2						
F26A	Lodgepole	18.79	75	⇑P	Pn	05 47 10.2	+0.7
	baz=19,SNR=9.6						
J26A	Sides Ranch, S	18.83	83	⇓P	Pn	05 47 10.0	-0.1
	baz=19,SNR=25						
H26A	Fairpoint	18.84	79	⇓P	Pn	05 47 10.7	+0.6
	baz=19,SNR=15						
I26A	New Underwood	18.86	81	⇑P	Pn	05 47 11.2	+0.7
	baz=19,SNR=6.2						
G26A	Maurine	18.88	77	⇓P	Pn	05 47 10.7	0.0
	baz=19,SNR=12						
K26A	Motz Farm, Whi	18.88	85	⇑P	Pn	05 47 11.5	+0.7
	baz=19,SNR=10.0						
SDCO	Great Sand Dun	18.89	101	⇑P	Pn	05 47 11.9	+0.9
	baz=19,SNR=23						
SDCO	Great Sand Dun	18.89	101	eP	Pn	05 47 12.3	+1.3
	15nm,1.0s						
E26A	Carlson Angus	18.90	73	⇓P	Pn	05 47 11.3	+0.4
	baz=19						
D26A	Manning	18.90	71	⇑P	Pn	05 47 10.8	-0.1
	baz=19						
B26A	Jensen Ranch,	19.07	67	⇑P	Pn	05 47 12.5	-0.4
	baz=19						
L26A	Underwood Farm	19.11	87	⇓P	P	05 47 12.8	+0.1
	baz=19						
C26A	Wahner Farm, P	19.14	69	⇑P	Pn	05 47 13.3	-0.5
	baz=19						
M26A	McRoberts Ranc	19.22	89	⇑P	P	05 47 14.3	+0.4
	baz=19						
A26A	Wade Farm, Ken	19.24	66	⇑P	Pn	05 47 14.1	-0.8
	baz=19						
F27A	Lemmon	19.24	75	⇑P	P	05 47 12.5	-1.5
	baz=19						
H27A	Howes	19.33	79	⇑P	Pn	05 47 16.1	+0.1
	baz=19,SNR=12						
G27A	Dupree	19.34	76	⇓P	Pn	05 47 16.0	-0.2
	baz=19						
N26A	Koester Ranch,	19.35	90	⇓P	Pn	05 47 16.3	-0.1
	baz=19						
I27A	Quinn	19.43	80	⇓P	Pn	05 47 17.2	0.0
	baz=19,SNR=11						
O26A	Horse Wrangler	19.47	92	⇓P	Pn	05 47 17.8	-0.1
	baz=19,SNR=6.8						
LAZ	Ladron	19.49	112	eP	Pn	05 47 19.4	+1.2
	6.7nm,1.2s						
E27A	Carson	19.52	73	P	Pn	05 47 18.5	+0.2
	baz=19,SNR=9.5						
D27A	Center	19.52	71	⇓P	P	05 47 16.7	-0.3
	baz=20						
C27A	Sayler Ranch,	19.54	69	⇑P	P	05 47 17.4	+0.2
	baz=20						
K27A	Flueckinger Fa	19.56	84	⇑P	Pn	05 47 19.6	+0.7
	baz=20,SNR=12						
J27A	Elkhorn Farm,	19.61	83	⇓P	Pn	05 47 19.4	0.0
	baz=20,SNR=7.7						
ANMO	Albuquerque	19.64	110	Pn	Pn	05 47 20.1	+0.1
	0.1nm,0.3s,baz=309,slow=11,SNR=23						
ANMO				LR	LR	05 54 20.6	
	comp=Z,123nm,19.9s,baz=306,slow=36						
ANMO	Albuquerque	19.64	110	eP	Pn	05 47 20.7	+0.7
L27A	T5 Ranch, Ells	19.65	86	⇑P	P	05 47 19.3	+0.8
	baz=20						
P26A	Davis Ranch, A	19.69	94	⇓P	Pn	05 47 20.9	+0.4
	baz=20						
B27A	Peters Farms,	19.72	67	⇑P	Pn	05 47 19.9	-0.7
	baz=20						
Q26A	Hugo	19.80	96	⇑P	Pn	05 47 21.9	0.0
	baz=20,SNR=14						
Y22D	IRIS PASSCAL I	19.83	112	⇓P	P	05 47 22.2	+1.6
	baz=20						
N27A	Anderson Farm,	19.85	90	⇑P	P	05 47 21.5	+0.7
	baz=20						
T25A	Trinidad	19.93	102	⇓P	Pn	05 47 23.5	0.0
	baz=20,SNR=15						
I28A	Midland	20.07	80	⇑P	Pn	05 47 24.9	+0.1
	baz=20,SNR=16						
H28A	Mission Ridge	20.07	78	⇑P	Pn	05 47 24.7	-0.1
	baz=20						
G28A	Parade	20.09	77	⇑P	Pn	05 47 24.6	-0.5
	baz=20						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
F28A	McLaughlin	20.09	75	⇓P	Pn	05 47 24.8	-0.3
	baz=20						
O27A	Beecher Island	20.09	92	⇓P	Pn	05 47 24.8	-0.4
	baz=20						
R26A	Arlington	20.11	98	⇑P	P	05 47 24.9	+1.4
	baz=20,SNR=6.0						
E28A	Huff	20.11	73	⇑P	Pn	05 47 24.4	-1.0
	baz=20						
J28A	Allard Ranch,	20.13	82	⇓P	Pn	05 47 25.1	-0.5
	baz=20,SNR=9.1						
OGNE	Ogallala	20.17	89	⇓P	Pn	05 47 25.6	-0.5
	baz=20						
K28A	Ten Mile Ranch	20.18	84	⇓P	P	05 47 25.0	+0.7
	baz=20						
121A	Cookes Peak, D	20.22	117	⇑P	Pn	05 47 27.2	+0.3
	baz=20,SNR=8.3						
121A	Cookes Peak, D	20.22	117	*e*P	Pn	05 47 27.4	+0.5
	46nm,1.3s						
C28A	Hausauer Farms	20.29	69	⇑P	Pn	05 47 26.3	-1.2
	baz=20						
B28A	Dugan Ranch, T	20.32	67	⇓P	Pn	05 47 27.0	-0.8
	baz=20,SNR=19						
YKA	Yellowknife Ar	20.36	20	P	Pn	05 47 26.1	-2.0
	3.1nm,0.8s,baz=206,slow=11,SNR=3.4						
S26A	Kim	20.38	99	⇑P	P	05 47 27.6	+1.0
	baz=20						
KSCO	Kaye Shedlock'	20.41	95	⇑P	Pn	05 47 28.4	-0.7
	baz=20						
KSCO	Kaye Shedlock'	20.41	95	*e*P	P	05 47 27.8	+1.0
	21nm,1.0s						
T26A	Comanche Natio	20.50	101	⇓P	P	05 47 29.5	+1.6
	baz=20,SNR=16						
FFC	Flin Flon	20.54	49	*e*P	P	05 47 27.8	-0.2
	24nm,0.8s						
R27A	Eads	20.58	97	P	Pn	05 47 30.5	-0.5
	baz=21,SNR=23						
N28A	Pribbeno Ranch	20.61	90	⇓P	P	05 47 29.8	+0.8
	baz=21						
O28A	Krutsinger Ran	20.62	91	⇑P	P	05 47 30.0	+0.8
	baz=21						
H29A	Onida	20.65	78	⇓P	Pn	05 47 30.8	-0.8
	baz=21,SNR=7.9						
I29A	Vivian Onida	20.68	80	⇑P	Pn	05 47 31.1	-0.9
	baz=21,SNR=9.0						
F29A	Eureka	20.77	75	⇓P	P	05 47 31.2	+0.6
	baz=21						
G29A	Hoven	20.77	76	⇑P	P	05 47 31.4	+0.7
	baz=21						
J29A	Okreek	20.78	82	⇓P	P	05 47 31.3	+0.6
	baz=21,SNR=7.3						
MDND	Maddock	20.82	69	⇓P	Pn	05 47 32.1	-1.5
	baz=21						
P28A	Saint Francis	20.83	93	⇑P	P	05 47 31.6	+0.3
	baz=21						
E29A	Napoleon	20.84	73	⇑P	P	05 47 32.0	+0.6
	baz=21						
D29A	Pettibone, Tap	20.84	71	⇓P	P	05 47 31.8	+0.4
	baz=21						
K29A	Lazy Trails An	20.92	83	⇑P	P	05 47 32.8	+0.5
	baz=21						
DAWY	Dawson	20.94	347	*e*P	P	05 47 32.4	+0.1
Q28A	Sharon Springs	20.96	94	⇑P	P	05 47 33.4	+0.5
	baz=21						
L29A	Maesberg Ranch	20.98	85	⇑P	P	05 47 33.4	+0.5
	baz=21						
B29A	Wagenman Farm,	20.99	67	⇓P	P	05 47 32.6	-0.4
	baz=21						
M29A	Burnside Ranch	21.00	87	⇓P	P	05 47 34.0	+0.9
	baz=21,SNR=5.6						
A29A	Manning Farm,	21.09	66	P	P	05 47 34.5	+0.6
	baz=21,SNR=22						
T27A	Campo	21.17	100	⇑P	P	05 47 35.9	+0.8
	baz=21,SNR=14						
N29A	Votaw Ranch, W	21.23	89	⇓P	P	05 47 35.2	-0.4
	baz=21						
R28A	Tribune	21.26	96	⇑P	P	05 47 36.5	+0.4
	baz=21,SNR=14						
I30A	Oacoma	21.32	80	⇑P	P	05 47 36.7	+0.2
	baz=21						
O29A	4D Ranch, Culb	21.33	91	⇓P	P	05 47 37.1	+0.4
	baz=21,SNR=5.9						
E30A	Jud	21.35	73	⇓P	P	05 47 36.9	+0.1
	baz=21						
J30A	Dallas	21.39	81	⇓P	P	05 47 37.9	+0.6
	baz=21,SNR=18						
U27A	Thompson Grove	21.39	102	⇑P	P	05 47 38.7	+1.2
	baz=21,SNR=14						
P29A	Atwood	21.41	92	⇓P	P	05 47 38.6	+1.0
	baz=21,SNR=9.4						
D30A	Buchanan	21.41	71	⇓P	P	05 47 38.3	+0.8
	baz=21,SNR=6.4						
K30A	Basset	21.45	83	⇑P	P	05 47 38.8	+0.8
	baz=21,SNR=7.0						
S28A	Manter	21.52	98	⇑P	P	05 47 39.8	+1.0
	baz=22						
L30A	Spencer Herefo	21.55	85	⇑P	P	05 47 39.9	+0.8
	baz=22						
T28A	Walsh	21.57	99	⇑P	P	05 47 40.2	+0.8
	baz=22,SNR=16						
C30A	Mose, Pekin	21.58	69	⇓P	P	05 47 39.2	-0.1
	baz=22						
Q29A	Oakley	21.64	94	⇑P	P	05 47 40.7	+0.6
	baz=22						
B30A	Myrvik Farm, E	21.67	67	⇓P	P	05 47 40.5	+0.2
	baz=22						
A30A	Hoffart Farm,	21.70	66	⇑P	P	05 47 40.7	+0.2
	baz=22						
R29A	Marienthal	21.71	95	⇓P	P	05 47 41.8	+1.0
	baz=22						
V27A	Dan Oppiter Fa	21.71	103	⇑P	P	05 47 42.1	+1.1
	baz=22,SNR=7.0						
U28A	Mallet	21.84	101	⇓P	P	05 47 43.9	+1.6
	baz=22,SNR=6.3						
O30A	MW Ranch, Wils	21.84	90	⇓P	P	05 47 43.0	+0.8
	baz=22						
P30A	Selden	21.93	92	⇑P	P	05 47 44.5	+1.4
	baz=22						
S29A	Ulysses	22.06	97	⇑P	P	05 47 45.5	+0.9
	baz=22						
L31A	Butterfield Fa	22.13	84	⇓P	P	05 47 46.1	+0.8
	baz=22						
T29A	Hugoton	22.14	98	⇑P	P	05 47 46.5	+1.0
	baz=22						
V28A	Channing	22.15	103	⇑P	P	05 47 45.8	+0.2
	baz=22						
Q30A	Quinter	22.16	93	⇑P	P	05 47 46.0	+0.4
	baz=22,SNR=10						
R30A	Dighton	22.39	95	⇓P	P	05 47 48.2	+0.1
	baz=22,SNR=6.8						
S30A	Montezuma	22.52	97	⇓P	P	05 47 50.3	+0.7
	baz=22						
P31A	Stockton	22.56	91	⇑P	P	05 47 50.3	+0.4
	baz=22,SNR=5.0						
MSTX	Muleshoe	22.71	107	⇓P	P	05 47 52.1	+0.5
	baz=23						
MSTX	Muleshoe	22.71	107	*e*P	P	05 47 53.4	+1.8
	6.1nm,0.9s						
Q31A	Ellis	22.74	92	⇓P	P	05 47 52.6	+0.7
	baz=23						
X28A	Dimmitt	22.80	105	⇑P	P	05 47 53.4	+0.8
	baz=23						
W29A	Amarillo	22.87	103	⇓P	P	05 47 54.5	+1.2
	baz=23						
R31A	Burdett	22.93	94	⇓P	P	05 47 54.0	+0.2
	baz=23,SNR=6.3						
AMTX	Amarillo	22.97	104	⇑P	P	05 47 54.9	+0.6
	baz=23						
AMTX	Amarillo	22.97	104	*e*P	P	05 47 56.1	+1.8
	18nm,0.9s						
ILAR	Eielson Array	23.08	340	P	P	05 47 56.0	+0.9
	0.6nm,0.8s,baz=153,slow=7.6,SNR=10						
ILAR				PcP	PcP	05 51 45.0	+1.5
	0.3nm,1.0s,baz=132,slow=1.3,SNR=2.9						
ILAR				LR	LR	05 55 25.8	
	comp=Z,164nm,21.6s,baz=146,slow=33						
P32A	Huiting Farm,	23.09	90	⇓P	P	05 47 55.8	+0.4
	baz=23,SNR=8.3						
O32A	Brockman Farm,	23.10	89	⇓P	P	05 47 55.8	+0.3
	baz=23						
Y28A	McKinney Farm,	23.10	107	⇑P	P	05 47 57.2	+1.5
	baz=23,SNR=21						
X29A	Tulia	23.19	105	⇑P	P	05 47 57.2	+0.7
	baz=23						
S31A	Mullinville	23.23	96	⇑P	P	05 47 57.5	+0.5
	baz=23						
AGMN	Agassiz Nation	23.32	68	⇓P	P	05 47 57.1	-0.5
	baz=23						
AGMN	Agassiz Nation	23.32	68	*e*P	P	05 47 57.2	-0.5
	13nm,0.9s						
Q32A	Meitler Ranch,	23.35	92	⇓P	P	05 47 59.3	+1.2
	baz=23,SNR=5.4						
ECSD	EROS Data Cent	23.35	79	P	P	05 47 57.6	-0.3
	baz=23,SNR=24						
ECSD	EROS Data Cent	23.35	79	*e*P	P	05 47 57.7	-0.3
	24nm,1.0s						
Z28A	Tucker Farm, M	23.36	108	⇑P	P	05 47 58.5	+0.3
	baz=23						
R32A	Long Quarter,	23.46	93	⇑P	P	05 48 00.4	+1.2
	baz=23						
Y29A	Porterfield Fa	23.53	106	⇑P	P	05 48 01.6	+1.7
	baz=24						
U31A	Nine Bar Ranch	23.53	99	⇑P	P	05 48 00.6	+0.7
	baz=24						
O33A	Hebron	23.66	89	⇓P	P	05 48 01.7	+0.6
	baz=24						
128A	Castleberry Fa	23.68	110	⇓P	P	05 48 02.5	+1.1
	baz=24						
X30A	Coker Ranch, T	23.77	104	⇓P	P	05 48 03.0	+0.8
	baz=24						
P33A	Williams Farm,	23.81	90	⇓P	P	05 48 03.0	+0.5
	baz=24						
V31A	Spring Creek L	23.82	100	⇓P	P	05 48 03.9	+1.2
	baz=24						
T32A	Huddler Ranch,	23.83	96	⇓P	P	05 48 03.6	+0.8
	baz=24						
Z29A	Hungry Hill Ra	23.84	107	⇑P	P	05 48 03.9	+0.9
	baz=24,SNR=5.2						
Q33A	Connelly Farm,	23.87	91	⇑P	P	05 48 03.4	+0.2
	baz=24						
228A	UT Block 9, Go	23.91	111	⇓P	P	05 48 04.3	+0.7
	baz=24						
M34A	Aspy Farms, Fr	23.93	85	⇓P	P	05 48 03.7	0.0
	baz=24						
L34A	Svendsen Farm,	23.95	83	⇑P	P	05 48 03.9	+0.1
	baz=24						
R33A	Olander Ranch,	24.03	93	⇓P	P	05 48 05.1	+0.5
	baz=24,SNR=5.5						
W31A	Holland Ranch,	24.04	101	⇓P	P	05 48 05.0	+0.3
	baz=24						
Y30A	Stafford Cattl	24.06	105	⇑P	P	05 48 05.7	+0.7
	baz=24						
129A	Stewart Farms,	24.09	109	⇑P	P	05 48 06.5	+1.2
	baz=24						
U32A	Winter Ranch,	24.13	98	⇓P	P	05 48 05.8	+0.2
	baz=24						
N34A	Lincoln	24.20	86	⇓P	P	05 48 06.5	+0.3
	baz=24						
Z30A	Sanderson Ranc	24.23	107	⇓P	P	05 48 07.7	+1.2
	baz=24						
X31A	McDonald Ranch	24.30	103	⇑P	P	05 48 08.4	+1.2
	baz=24						
S33A	Kaszmaul Farm,	24.31	95	⇓P	P	05 48 07.7	+0.5
	baz=24						
T33A	Patterson Ranc	24.36	96	⇑P	P	05 48 08.0	+0.4
	baz=24						
P34A	Walnut Farm, R	24.39	89	⇓P	P	05 48 09.3	+1.3
	baz=24,SNR=8.7						
V32A	Arapaho	24.41	99	⇓P	P	05 48 09.4	+1.2
	baz=24						
Y31A	Rekieta Farm,	24.45	104	⇑P	P	05 48 09.9	+1.3
	baz=24						
INK	Inuvik	24.47	356	LR	LR	05 57 20.1	
	comp=Z,219nm,18.1s,baz=150,slow=36						
229A	Bryant Ranch,	24.53	110	⇑P	P	05 48 10.8	+1.5
	baz=24						
Q34A	Chapman	24.54	91	⇓P	P	05 48 10.7	+1.4
	baz=24						
R34A	Isabella, Hill	24.56	92	⇑P	P	05 48 10.6	+1.0
	baz=24						
W32A	Sentinel	24.57	101	⇑P	P	05 48 10.9	+1.3
	baz=24						
329A	Wagon Wheel Ra	24.70	111	⇓P	P	05 48 12.7	+1.8
	baz=25						
130A	Snyder	24.73	108	⇑P	P	05 48 12.4	+1.3
	baz=25						
U33A	Lingo Farm, Me	24.74	97	⇓P	P	05 48 12.1	+0.9
	baz=25						
N35A	Tabor	24.80	86	⇑P	P	05 48 12.4	+0.7
	baz=25						
O35A	Humboldt	24.81	87	⇓P	P	05 48 12.9	+1.2
	baz=25						
Z31A	Sharp Cattle R	24.89	106	⇓P	P	05 48 13.3	+0.8
	baz=25						
X32A	Elmer	24.90	102	⇓P	P	05 48 13.8	+1.3
	baz=25						
S34A	Willow Spring	24.91	94	⇓P	P	05 48 13.7	+1.1
	baz=25						
V33A	Lossen Ranch,	24.91	99	⇑P	P	05 48 13.6	+1.0
	baz=25						
P35A	Duane Minner,	24.98	89	⇑P	P	05 48 14.5	+1.1
	baz=25						
TXAR	Lajitas Array	24.99	117	P	P	05 48 14.1	+0.6
	1.7nm,0.7s,baz=300,slow=7.3,SNR=16						
TXAR				LR	LR	05 57 52.8	
	comp=Z,84nm,18.6s,baz=0.0,slow=36						
Y32A	R-V Farms, Ver	25.01	103	⇑P	P	05 48 14.8	+1.2
	baz=25						
131A	Roby	25.08	107	⇓P	P	05 48 16.2	+1.9
	baz=25						
W33A	Caddo, Fort Co	25.10	100	⇓P	P	05 48 15.3	+0.9
	baz=25						
LPIG	La Paz	25.13	136	LR	LR	05 56 48.0	
	comp=Z,100nm,21.5s,baz=352,slow=34						
T34A	McClaskey Farm	25.14	95	⇑P	P	05 48 15.9	+1.2
	baz=25						
U34A	Anderson Ranch	25.16	97	⇑P	P	05 48 16.2	+1.3
	baz=25						
U34A	Anderson Ranch	25.16	97	*e*P	P	05 48 17.2	+2.4
	32nm,1.2s						
Q35A	Mercer Eighty,	25.22	90	⇓P	P	05 48 16.7	+1.3
	baz=25						
330A	Mertzon	25.30	110	⇓P	P	05 48 17.6	+1.3
	baz=25						
429A	Davenport Ranc	25.30	113	⇓P	P	05 48 17.4	+1.1
	baz=25,SNR=11						
Z32A	Haskell	25.36	105	⇑P	P	05 48 18.3	+1.6
	baz=25,SNR=5.5						
X33A	Lawton	25.39	101	⇓P	P	05 48 18.3	+1.3
	baz=25,SNR=7.9						
529A	Stev Forest Ra	25.40	114	⇑P	P	05 48 19.2	+2.0
	baz=25,SNR=8.2						
V34A	Guthrie	25.45	98	⇑P	P	05 48 18.7	+1.1
	baz=25						
V34A	Guthrie	25.45	98	*e*P	P	05 48 18.9	+1.3
	43nm,1.2s						
S35A	Otter Creek Ra	25.49	93	⇑P	P	05 48 18.1	+0.3
	baz=25						
O36A	Bolckow	25.53	87	⇑P	P	05 48 18.8	+0.5
	baz=26						
P36A	Good Intent, A	25.54	88	⇑P	P	05 48 18.6	+0.3
	baz=26						
W34A	Bridge Creek,	25.56	99	⇑P	P	05 48 19.3	+0.8
	baz=26						
W34A	Bridge Creek,	25.56	99	*e*P	P	05 48 20.2	+1.7
	27nm,1.0s						
231A	Bronte	25.56	108	⇑P	P	05 48 19.7	+1.1
	baz=26						
Y33A	Hilltop Ranch,	25.58	103	⇑P	P	05 48 19.9	+1.2
	baz=26,SNR=7.3						
Q36A	Arnold C. Orve	25.60	90	⇓P	P	05 48 18.9	0.0
	baz=26						
ABTX	Abilene, Hawle	25.63	106	⇓P	P	05 48 20.5	+1.3
	baz=26						
430A	Baggett Ranch,	25.64	112	⇓P	P	05 48 21.2	+1.9
	baz=26						
T35A	Sooner Cattle	25.68	95	⇓P	P	05 48 20.2	+0.6
	baz=26						
SPMN	Marine on St.	25.74	74	⇑P	P	05 48 20.9	+0.8
	baz=26						
SPMN	Marine on St.	25.74	74	*e*P	P	05 48 22.3	+2.2
	18nm,1.1s						
R36A	Gordon, Harris	25.81	91	⇑P	P	05 48 20.8	0.0
	baz=26						
IM04	Indian Mountai	25.83	337	P	P	05 48 20.6	-0.1
X34A	Smith Ranch, M	25.83	101	⇓P	P	05 48 22.0	+1.0
	baz=26						
331A	San Angelo	25.86	110	⇓P	P	05 48 22.1	+0.7
	baz=26						
Z33A	Whitaker Ranch	25.87	104	⇑P	P	05 48 23.0	+1.6
	baz=26						
V35A	Meyer Ranch, C	25.97	97	⇓P	P	05 48 22.8	+0.6
	baz=26						
530A	J-C Ranch, Com	25.97	113	⇓P	P	05 48 23.6	+1.2
	baz=26						
FCC	Fort Churchill	26.00	43	*e*P	P	05 48 24.1	+1.9
	20nm,1.5s						
T36A	Boggs Farm, Ca	26.07	94	⇓P	P	05 48 23.4	+0.2
	baz=26						
431A	Sonora	26.12	111	⇑P	P	05 48 25.6	+1.8
	baz=26						
133A	Hamilton Ranch	26.14	106	⇑P	P	05 48 25.4	+1.6
	baz=26						
W35A	Tecumseh	26.24	99	⇓P	P	05 48 25.3	+0.6
	baz=26						
332A	Millersview	26.29	109	⇑P	P	05 48 26.6	+1.4
	baz=26						
Z34A	Collier Ranch,	26.42	103	⇑P	P	05 48 27.8	+1.4
	baz=26						
233A	Rising Star	26.49	107	⇑P	P	05 48 28.3	+1.2
	baz=26,SNR=8.1						
531A	Rocksprings	26.49	112	⇑P	P	05 48 27.8	+0.8
	baz=26						
X35A	Drake	26.54	100	⇑P	P	05 48 28.5	+1.0
	baz=26						
432A	Menard	26.56	110	⇑P	P	05 48 29.5	+1.8
	baz=27						
TUL1	Leonard	26.65	96	⇑P	P	05 48 29.3	+0.9
	baz=27						
T37A	Cheneyville 18	26.73	93	⇑P	P	05 48 30.0	+0.9
	baz=27						
134A	White-Moore Ra	26.74	105	⇓P	P	05 48 29.5	+0.2
	baz=27						
JCT	Junction City	26.80	110	⇓P	P	05 48 30.6	+0.8
	baz=27						
333A	Richland Sprin	26.84	108	⇑P	P	05 48 31.2	+1.1
	baz=27						
X36A	Centrahoma	26.90	99	⇓P	P	05 48 31.3	+0.6
	baz=27						
Z35A	Perchaven, San	26.91	102	⇓P	P	05 48 32.7	+1.9
	baz=27						
532A	Rocksprings	26.95	111	⇓P	P	05 48 32.0	+0.8
	baz=27						
631A	Perdido Creek	26.95	113	⇑P	P	05 48 31.9	+0.8
	baz=27,SNR=7.5						
234A	Clairette	27.03	106	⇑P	P	05 48 32.9	+1.0
	baz=27						
433A	Art	27.11	109	⇑P	P	05 48 33.3	+0.7
	baz=27						
135A	Vickery Place,	27.22	104	⇑P	P	05 48 34.3	+0.7
	baz=27						
W37A	Quinton	27.28	97	⇓P	P	05 48 35.0	+0.9
	baz=27						
334A	Lometa	27.35	107	⇓P	P	05 48 36.3	+1.5
	baz=27						
632A	Uvalde	27.42	112	⇓P	P	05 48 36.8	+1.4
	baz=27						
WHTX	Lake Whitney,	27.51	105	⇓P	P	05 48 37.2	+1.0
	baz=28						
533A	Kerrville	27.57	110	⇑P	P	05 48 38.2	+1.5
	baz=28						
X37A	Clayton	27.59	98	⇓P	P	05 48 38.0	+1.1
	baz=28						
434A	Burnet	27.64	108	⇑P	P	05 48 38.2	+0.9
	baz=28						
732A	Laxson Ranch,	27.80	114	⇑P	P	05 48 40.0	+1.2
	baz=28						
633A	Saathoff Ranch	27.86	111	⇑P	P	05 48 41.0	+1.7
	baz=28						
335A	Moody	27.94	106	⇓P	P	05 48 40.7	+0.7
	baz=28						
W38A	Poteau	27.96	97	⇓P	P	05 48 41.7	+1.5
	baz=28						
534A	Blanco	27.97	110	⇓P	P	05 48 40.6	+0.2
	baz=28						
832A	Faith Ranch, C	28.09	114	⇓P	P	05 48 43.2	+1.8
	baz=28						
Z37A	Pogue Cattle C	28.13	101	⇑P	P	05 48 41.8	+0.2
	baz=28						
SCHQ	Schefferville	40.64	52	LR	LR	06 07 11.7	
	comp=Z,129nm,20.1s,baz=16,slow=36						
H11N3	WAKE ISLAND Hy	57.97	267	T	T	06 55 34.6	
	baz=49,slow=75,SNR=8397						
H11N2	WAKE ISLAND Hy	57.97	267	T	T	06 55 34.6	
	baz=49,slow=75,SNR=1787						
H11N1	WAKE ISLAND Hy	57.98	267	T	T	06 55 35.8	
	baz=49,slow=75,SNR=1305						
H11S1	WAKE ISLAND Hy	58.90	266	T	T	06 56 45.6	
	baz=50,slow=75,SNR=367						
H11S2	WAKE ISLAND Hy	58.90	266	T	T	06 56 46.9	
	baz=50,slow=75,SNR=295						
H11S3	WAKE ISLAND Hy	58.91	266	T	T	06 56 46.5	
	baz=50,slow=75,SNR=382						
ARCES	ARCESS Array B	65.24	10	LR	LR	06 22 07.9	
	comp=Z,35nm,20.6s,baz=88,slow=36						
MDJ	Mudanjiang	67.44	311	P	P	05 53 44.2	-1.0
MDJ				PMZ			
	5.0nm,0.7s						
MDJ				PMZ			
	22nm,3.1s						
FINES	FINESS Array B	73.00	12	P	P	05 54 20.3	+1.4
	1.0nm,1.0s,baz=348,slow=2.0,SNR=2.1						
SONM	Songino Array	76.34	325	P	P	05 54 41.1	+2.4
	1.1nm,0.7s,baz=66,slow=3.6,SNR=5.8						
SONM				LR	LR	06 28 49.8	
	comp=Z,68nm,18.5s,baz=73,slow=36						
ZALV	Zalesovo Beam	78.20	340	LR	LR	06 33 23.8	
	comp=Z,34nm,18.1s,baz=27,slow=39						
HHC	Hu-ho-hao-te	79.46	318	*e*P	P	05 54 54.0	-2.1
HHC				S	S	06 04 53.0	-3.8
HHC				PMZ			
	22nm,1.3s						
HHC				PMZ			
	61nm,8.0s						
LPAZ	La Paz	81.77	122	P	P	05 55 08.7	-0.6
	2.6nm,0.8s,baz=17,slow=12,SNR=12						
LPAZ	La Paz	81.77	122	*e*P	P	05 55 09.5	+0.2
BVAR	Borovoye Array	81.91	348	P	P	05 55 09.0	+0.1
	0.2nm,0.3s,baz=2.9,slow=2.9,SNR=2.6						
GERES	GERESS Array B	81.96	24	LR	LR	06 32 44.2	
	comp=Z,33nm,18.6s,baz=340,slow=37						
MKAR	Makanchi Array	85.42	339	P	P	05 55 26.8	-0.3
	0.3nm,0.7s,baz=35,slow=5.3,SNR=2.5						
MKAR				LR	LR	06 36 00.5	
	comp=Z,28nm,18.2s,baz=70,slow=37						
AKTO	Aktyubinsk	85.74	355	LR	LR	06 35 07.6	
	comp=Z,20nm,18.4s,slow=37						
WMQ	Urumqi	86.59	334	*e*P	P	05 55 34.6	+1.6
WMQ				PMZ			
	1.0nm,0.4s						
WMQ				PMZ			
	11nm,4.8s						
WMQ				LN			
	75nm,8.5s						
WMQ				LE			
	98nm,6.4s						
LZH	Lanzhou	86.91	320	*e*P	P	05 55 31.0	-3.8
LZH				*e*PP	PP	05 58 55.2	-1.7
LZH				PMZ			
	14nm,1.5s						
LZH				PMZ			
	49nm,9.2s						
LZH				LN			
	100nm,17.2s						
LZH				LE			
	110nm,16.8s						
LZH				LZ			
	140nm,19.5s						
CD2	Chengdu	91.18	317	*e*P	P	05 55 53.7	-1.1

*IDC **09** 05:48:58.9±1.2, 0.°52S×134.°85E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.8/22, mbtmp3.8/7, ML4.1/2, MS3.8/1, Ms1 3.8/1, ms1mx2.6/27, Error ellipse: s-maj=42.1km s-min=20.9km az=79.0*

*DJA **09** 05:49:01.9±0.9, 0°S±7°×13°5E±°, h27km±7km, M4.1/3, MLv4.1/3*

*ISCJB **09** 05:49:02.0±0.7, 0.°47S±0.°07×134.°81E±0.°04, h34km, mb3.7/5, MS3.7/1, Error ellipse: s-maj=9.4km s-min=5.5km az=178.3*

ISC 09 05:49:03.8±0.9, 0.°53S±0.°08×134.°78E±0.°05, h34km, n16, σ1.s14/17, mb4.0/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RKPI	Ransiki, Papua	1.15	212	P	Pn	05 49 22.0	-1.5
RKPI				S	Sb	05 49 39.1	-0.7
SRPI	Serui, Papua	1.97	132	P	Pn	05 49 35.0	+0.1
FAKI	Fak Fak	3.47	227	P	Pn	05 49 56.0	+0.5
FAKI				S	Sn	05 50 37.7	+2.2
SIJI	Sorong	3.53	265	Pn	Pn	05 49 55.3	-1.1
	5.8nm,0.3s,baz=160,slow=23,SNR=14						
SIJI				Sn	Sn	05 50 35.0	-2.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	6.3nm,0.3s,baz=74,slow=14,SNR=3.5						
SWI	Sorong	3.54	265	P	Pn	05 49 56.6	+0.2
SWI				S	Sn	05 50 38.6	+1.5
SMPI	Sarmi	4.18	110	P	Pn	05 50 04.5	-0.8
SMPI				S	Sn	05 50 53.4	+0.3
WRA	Warramunga Arr	19.30	181	P	P	05 53 26.1	+0.1
	1.0nm,0.3s,baz=0.3,slow=11,SNR=23						
ASAR	Alice Springs	23.01	182	P	P	05 54 06.1	0.0
	3.2nm,0.6s,baz=11,slow=11,SNR=31						
JCJ	Chichijima	28.38	14	LR	LR	06 03 01.9	
	comp=Z,208nm,21.7s,baz=136,slow=30						
STKA	Stephens Creek	31.84	169	P	P	05 55 25.3	-0.3
	1.4nm,0.4s,baz=359,slow=9.1,SNR=3.3						
H11N1	WAKE ISLAND Hy	37.35	56	T	T	06 35 40.7	
	baz=243,slow=75,SNR=8.2						
H11N2	WAKE ISLAND Hy	37.37	56	T	T	06 35 42.1	
	baz=243,slow=75,SNR=3.5						
H11N3	WAKE ISLAND Hy	37.37	56	T	T	06 35 41.1	
	baz=243,slow=75,SNR=3.7						
MKAR	Makanchi Array	65.69	323	P	P	05 59 45.7	+0.6
	0.2nm,0.4s,baz=109,slow=9.3,SNR=5.3						
ZALV	Zalesovo Beam	68.11	331	P	P	06 00 01.3	+1.1
	0.5nm,0.3s,baz=123,slow=10,SNR=2.6						
ILAR	Eielson Array	85.50	25	P	P	06 01 37.7	-0.4
	0.1nm,0.5s,baz=282,slow=4.5,SNR=2.7						

IGQ 09 05:55:47±0.2, 2°.03S×79°.75W, h2km±87km, Mb4.3, 5C-31D, Error ellipse: s-maj=1.1km s-min=0.9km az=36.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RIOE	Riobamba	1.15	76	⇑P	Pg	05 56 09.8	+0.2
RIOE	Riobamba	1.15	76	⇑S	Sb	05 56 25.6	-0.1
IGUA	Igualata	1.23	64	⇑P	Pg	05 56 10.4	-1.0
BIL2	Estacion Bilba	1.37	65	P	Pn	05 56 12.4	-1.2
BIL2	Estacion Bilba	1.37	65	S	Sg	05 56 31.5	-0.1
BMAS	Trigal station	1.37	68	⇑P	Pn	05 56 12.1	-1.6
CHIS	Cerro-Chispas-	1.38	315	⇓S	Sn	05 56 34.6	+2.4
CHIS	Cerro-Chispas-	1.38	315	⇓P	Pb	05 56 13.9	+0.3
BBIL	Ulba Tungurahu	1.38	66	⇓S	Sg	05 56 31.5	-0.7
BBIL	Ulba Tungurahu	1.38	66	⇓P	Pn	05 56 13.7	-0.1
ARRY	Arrayan	1.39	68	⇓P	Pn	05 56 12.1	-1.9
PAT1	Patacocha	1.41	68	P	Pn	05 56 13.7	-0.6
JUI6	Juive	1.41	65	⇓P	Pn	05 56 13.9	-0.3
JUI6	Juive	1.41	65	⇓S	Sg	05 56 31.2	-1.9
BPAT	Tungurahua Vol	1.41	68	⇓P	Pn	05 56 12.4	-1.9
BPAT	Tungurahua Vol	1.41	68	⇓S	Sg	05 56 31.4	-2.1
RETU	Refugio	1.42	66	P	Pn	05 56 13.3	-1.3
RUN5	Runtun	1.46	65	P	Pn	05 56 13.3	-1.5
ULBA	Ulba	1.46	67	P	Pn	05 56 13.5	-1.4
BULB	Ulba Tungurahu	1.46	66	⇓P	Pn	05 56 14.5	-0.4
BULB	Ulba Tungurahu	1.46	66	⇓S	Sb	05 56 32.9	-1.9
BRUN	Tungurahua Vol	1.46	66	⇓P	Pn	05 56 13.2	-1.7
ARNL	Arenillas	1.54	192	⇓P	Pn	05 56 14.6	-1.0
ARNL	Arenillas	1.54	192	⇓S	Sn	05 56 33.3	-2.9
MACE	Macas	1.56	98	S	Sn	05 56 35.5	-1.6
MACE	Macas	1.56	98	P	Pn	05 56 14.3	-1.8
PISA	Pisayambo	1.67	55	P	Pn	05 56 16.4	-1.5
PAST	Pastocalle	1.72	40	⇑P	Pn	05 56 18.1	-0.6
JAMA	Jama	1.81	345	P	Pn	05 56 17.3	-2.1
BMOR	Cotopaxi Volca	1.82	45	⇓S	Sn	05 56 44.4	+0.1
BMOR	Cotopaxi Volca	1.82	45	⇓P	Pn	05 56 19.8	-0.4
CAMI	Rancho Maria	1.83	43	⇓P	Pn	05 56 19.2	-0.9
MOV1	Cotopaxi Vol s	1.85	45	P	Pn	05 56 19.9	-0.7
BNAS	Cotopaxi Volca	1.85	43	⇓P	Pn	05 56 19.2	-1.2
NAS2	Nasa	1.88	43	P	Pn	05 56 20.9	+0.1
BREF	Cotopaxi Volca	1.88	44	⇓P	Pn	05 56 20.7	-0.3
BREF	Cotopaxi Volca	1.88	44	⇓S	Sb	05 56 47.1	-0.3
BTAM	Cotopaxi Volca	1.90	45	⇓P	Pn	05 56 20.8	-0.5
TAMB	Tambo	1.91	46	P	Pn	05 56 20.8	-0.5
VC1	Cotopaxi 1	1.92	44	⇓P	Pn	05 56 20.3	-1.2
MAG1	Magdalena	1.94	359	⇓P	Pn	05 56 20.6	-0.5
COV1	Cotopaxi Volc	1.95	46	⇓P	Pn	05 56 20.9	-1.1
JUA2	San Juan 2	2.13	32	⇓P	Pn	05 56 23.1	-1.2
TERV	Terraza Guagua	2.17	32	P	Pn	05 56 24.6	-0.2
GGP	Refugio Guagua	2.17	32	⇓P	Pn	05 56 24.6	-0.4
PINO	Pino	2.18	32	⇓P	Pn	05 56 24.7	-0.4
ANTI	Antisana	2.23	45	⇓P	Pn	05 56 24.8	-1.0
YANA	Yana	2.23	32	⇓P	Pn	05 56 24.2	-1.5
GOLV	Golondrinas	2.30	15	P	Pn	05 56 23.6	-2.5
GOLV	Golondrinas	2.30	15	S	Sn	05 56 49.2	-5.9
OTAV	Otavalo	2.60	30	⇓P	Pn	05 56 29.8	-0.8
CAYR	Refugio Cayamb	2.67	41	P	Pn	05 56 31.9	-0.1
CAYA	Cayambe	2.73	40	⇓P	Pn	05 56 31.9	-0.6
COTA	Cotacachi	2.74	31	P	Pn	05 56 31.1	-1.5
CONE	Cono NE Rev Vo	2.86	47	P	Pn	05 56 33.5	-0.7
LITE	Lita	3.14	26	P	Pn	05 56 35.1	-2.6

NNC 09 06:05:55.9±1.5, 48°.65N×68°.48E, h0km, mb3.6, mpv3.2, 11C-5D, Error ellipse: s-maj=17.1km s-min=11.5km az=81.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BVA0	Borovoye Array	4.55	15	⇑Pn	Pn	06 07 07.8	+1.8
	2.7nm,0.5s,baz=181,slow=16,SNR=11						
BVA0				⇑Sn	Sn	06 08 00.8	+1.2
	2.9nm,0.6s,baz=182,slow=29,SNR=4.1						
BRVK	Borovoye	4.56	14	⇑Pn	Pn	06 07 08.3	+2.1
	6.3nm,0.9s						
BRVK				⇓Sn	Sn	06 08 01.7	+1.8
	5.0nm,0.6s						
AB31	Akbulak array	5.66	279	⇓Pn	Pn	06 07 18.9	-2.3
	0.2nm,0.2s						
AB31				⇑Lg	Lg	06 08 57.9	
	4.2nm,0.7s						
KK31	Karatay Array	5.72	165	⇑Sn	Sn	06 08 30.9	+2.3
	2.1nm,0.6s,baz=345,slow=17,SNR=16						
KK31				⇑Lg	Lg	06 08 59.9	
	2.0nm,0.5s						
MNAS	Manas	6.78	154	⇑Sn	Sn	06 08 56.2	+1.4
	2.2nm,0.9s						
MNAS				⇓Lg	Lg	06 09 32.3	
	3.6nm,0.8s						
KURBB	Kurchatov Arra	6.82	69	⇑Pn	Pn	06 07 30.4	-6.8
	2.0nm,0.5s						
KURBB				⇓Lg	Lg	06 09 30.1	
	10nm,0.7s						
KURK	Kurchatov	6.90	69	⇑Lg	Lg	06 09 35.3	
	2.3nm,0.8s						
AKTO	Aktyubinsk	7.04	289	⇑Sn	Sn	06 09 01.3	+0.5
	1.4nm,0.7s						
AKTO				⇑Lg	Lg	06 09 39.4	
	4.3nm,1.2s						
TKM2	Tokmak 2	7.58	136	⇓Lg	Lg	06 09 58.0	
	4.6nm,1.1s						

*ISCJB **09** 06:08:47.8±1.2, 57°.9S±0°.2×25°.7W±0°.4, h49km, mb3.8/4, Error ellipse: s-maj=33.1km s-min=26.4km az=157.4*
*IDC **09** 06:08:57.1±10.0, 57°.97S×25°.65W, h122km±96km, mb3.5/4, mb1 3.7/4, mb1mx3.5/15, mbtmp3.9/4, Error ellipse: s-maj=36.5km s-min=26.3km az=71.0*
ISC 09 06:08:49.1±1.0, 57°.9S±0°.2×25°.6W±0°.2, h49km, n14, σ1s.98/8, mb3.8/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	33.21	281	P	P	06 15 21.8	+0.7
	2.3nm,1.0s,baz=58,slow=2.2,SNR=2.9						
VNDA	Vanda	44.78	182	P	P	06 16 57.2	0.0
	1.1nm,0.7s,baz=176,slow=6.2,SNR=7.7						
H10S2	ASCENSION HYDR	49.53	14	T	T	07 12 10.8	
	baz=188,slow=75,SNR=7.5						
H10S3	ASCENSION HYDR	49.53	14	T	T	07 12 10.1	
	baz=188,slow=75,SNR=9.1						
H10S1	ASCENSION HYDR	49.55	14	T	T	07 12 12.2	
	baz=188,slow=75,SNR=7.5						
H10N1	ASCENSION HYDR	50.65	14	T	T	07 13 34.1	
	baz=190,slow=71,SNR=3.7						
H10N3	ASCENSION HYDR	50.65	14	T	T	07 13 32.9	
	baz=190,slow=71,SNR=6.1						
H10N2	ASCENSION HYDR	50.66	14	T	T	07 13 35.8	
	baz=190,slow=71,SNR=4.8						
LPAZ	La Paz	52.15	305	P	P	06 17 55.0	-0.3
	0.3nm,0.3s,baz=150,slow=6.6,SNR=5.2						
TORD	Torodi Ar. Bea	74.24	28	P	P	06 20 21.7	+1.0
	0.6nm,0.5s,baz=199,slow=6.3,SNR=14						
FINES	FINESS Array B	125.59	28	PKP	PKPdf	06 27 39.9	-3.4
	0.9nm,0.9s,baz=248,slow=15,SNR=2.9						
YKA	Yellowknife Ar	138.11	316	PKP	PKPdf	06 28 05.8	-1.1
	0.3nm,0.5s,baz=137,slow=2.1,SNR=5.5						
SONM	Songino Array	149.93	88	PKPbc	PKPdf	06 28 30.4	+2.4
	0.5nm,0.3s,baz=227,slow=3.2,SNR=3.5						
ILAR	Eielson Array	151.97	309	PKPbc	PKPbc	06 28 37.0	0.0
	1.4nm,0.8s,baz=132,slow=1.3,SNR=19						
ILAR				pPKPbc	PKPab	06 28 52.6	+5.9
	1.0nm,0.8s,baz=134,slow=4.5,SNR=9.6						

*NNC **09** 06:20:13.2±3.3, 54°.06N×86°.49E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=41.1km s-min=22.8km az=162.0*
IDC 09 06:20:11.0±3.0, 54°.14N×86°.42E, h0km, mb1 3.0/1, mb1mx2.8/28, mbtmp3.0/1, ML3.0/1, 3C-4D, Error ellipse: s-maj=24.0km s-min=14.0km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.96	259	*i*		06 26 40.0	
	baz=79,slow=314,SNR=1.1						
ZALV	Zalesovo Beam	0.96	259	Pg	Pg	06 20 28.6	-0.9
	1.1nm,0.3s,baz=76,slow=17,SNR=11						
ZALV				Lg	Lg	06 20 43.7	
	1.7nm,0.3s,baz=80,slow=28,SNR=3.9						
KURK	Kurchatov	5.87	237	⇓Pn	Pn	06 21 41.9	+2.6
	0.5nm,0.5s						
KURK				⇑Lg	Lg	06 23 21.5	
	2.0nm,0.8s						
KURBB	Kurchatov Arra	5.98	237	⇓Pn	Pn	06 21 42.2	+1.6
	2.4nm,0.6s						
KURBB				⇓Sn	Sn	06 22 52.3	+2.5
	1.8nm,0.6s						
KURBB				⇑Lg	Lg	06 23 23.9	
	8.4nm,1.0s						
MK31	Makanchi Array	7.81	201	⇑Pn	Pn	06 22 07.4	+1.5
	0.7nm,0.7s,baz=27,slow=13,SNR=15						
MK31				⇓Lg	Lg	06 24 19.8	
	2.5nm,1.0s,baz=29,slow=28,SNR=4.8						
MKAR	Makanchi Array	7.81	201	Pn	Pn	06 22 07.2	+1.3
	0.2nm,0.3s,baz=24,slow=14,SNR=13						
MKAR				Lg	Lg	06 24 18.2	
	0.0nm,0.3s,baz=16,slow=32,SNR=8.2						

GUC 09 06:39:41.9±0.7, 34°.93S×72°.69W, h8km±6km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TALC	Talca	0.99	119	*e*P	Pg	06 39 59.2	-1.7
NICH	Los Niches	1.20	94	*e*P	Pb	06 40 03.2	-1.7
NICH				*e*S	Sb	06 40 20.2	-0.4
LNCH	Linares	1.28	136	*e*P	Pn	06 40 04.4	-1.6
LNCH				*e*S	Sb	06 40 22.1	-0.8
LNV	Longovilo	1.43	48	*e*P	Pn	06 40 05.9	-2.3
CHCH	Chadas Angostu	1.96	60	*e*P	Pn	06 40 15.5	+0.1
CLCH	Cerro Calan	2.35	50	*e*P	Pn	06 40 22.2	+1.4
CLCH				*e*S	Sb	06 40 52.5	-1.3
CLCH				AML	AML	06 41 04.8	
	comp=N,328nm,0.7s						
ROCH	El Roble	2.40	36	*e*P	Pn	06 40 20.4	-1.3
ROCH				*e*S	Sb	06 40 54.3	-1.2
ROCH				AML	AML	06 41 01.2	
	comp=E,192nm,0.6s						
PEL	Peldehue	2.44	44	*e*P	Pn	06 40 23.3	+1.2
PEL				*e*S	Sn	06 40 54.1	+2.0
PEL				AML	AML	06 41 00.4	
	comp=N,424nm,0.5s						

*NIED **09** 06:41:00, 33°.10N×142°.30E, h5km, Mw3.6 Best double couple: M0 2.89000×10^14 NP1:φs353.00000°, δ26.00000°, λ-87.00000°. NP2:φs169.00000°, δ64.00000°, λ-92.00000°.*
*JMA **09** 06:41:05.8±0.5, 33°.05N×142°.35E, h0km, M3.7*
*ISCJB **09** 06:41:07.7±0.9, 33°.02N±0°.06×142°.54E±0°.09, h40km, mb3.6/5, Error ellipse: s-maj=12.0km s-min=6.5km az=151.5*
*IDC **09** 06:41:08.8±1.3, 32°.53N×141°.46E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.6/24, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=42.3km s-min=22.4km az=76.0*
ISC 09 06:41:10.2±1.4, 33°.01N±0°.07×142°.5E±0°.1, h40km, n18, σ1s.18/26, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	2.07	323	P	Pn	06 41 40.9	-1.0
BSO1				*e*S	Sn	06 42 06.8	+0.6
JHJ2	Mitsune	2.25	273	P	Pn	06 41 43.9	-0.9
JHJ2				S	Sn	06 42 10.9	-0.4
JHCJ	Hachijojimakas	2.26	272	P	Pn	06 41 43.6	-1.5
BSO3	Boso 3	2.43	318	P	Pn	06 41 46.8	-0.3
BSO4	Boso 4	2.66	319	P	Pn	06 41 50.3	-0.2
BSO4				*e*S	Sn	06 42 22.4	+0.9
KTR	Katsuura	2.79	320	*e*S	Sn	06 42 24.7	-0.1
JOD2	Odawara 2	3.61	310	P	Pn	06 42 02.4	-1.2
JOD2				*e*S	Sn	06 42 43.4	-1.5
JYN	Shimob	4.10	308	P	Pn	06 42 10.5	+0.1
JYN				*e*S	Sn	06 42 58.8	+1.6
JRY	Ryogami san	4.21	316	P	Pn	06 42 10.7	-1.3
JRY				*e*S	Sn	06 43 00.3	+0.4
JAG	Ashikaga	4.23	325	P	Pn	06 42 11.3	-0.8
JAG				*e*S	Sn	06 43 01.3	+1.1
JFT	Otama	4.83	339	P	Pn	06 42 19.6	-0.8
JFT				*e*S	Sn	06 43 12.3	-2.8
MJAR	Matsushiro Arr	4.98	316	Pn	Pn	06 42 21.7	-0.8
	1.8nm,0.3s,baz=158,slow=13,SNR=12						
MJAR				Sn	Sn	06 43 10.4	-8.4
	0.7nm,0.3s,baz=148,slow=28,SNR=4.2						
MAT	Matsushiro	4.98	316	P	Pn	06 42 20.5	-2.0
MAT				*e*S	Sn	06 43 18.0	-0.9
SONM	Songino Array	30.89	309	P	P	06 47 24.0	+1.0
	0.4nm,0.4s,baz=90,slow=8.6,SNR=4.3						
MKAR	Makanchi Array	47.09	306	P	P	06 49 39.0	+1.0
	0.7nm,0.6s,baz=91,slow=9.6,SNR=11						
ILAR	Eielson Array	52.46	31	P	P	06 50 29.2	+11
	0.2nm,0.5s,baz=258,slow=6.3,SNR=4.2						
WRA	Warramunga Arr	53.23	190	P	P	06 50 23.9	-0.8
	0.7nm,0.5s,baz=7.1,slow=7.6,SNR=6.1						
ASAR	Alice Springs	56.95	189	P	P	06 50 52.1	+0.6
	0.4nm,0.6s,baz=17,slow=14,SNR=5.0						

BUC 09 06:49:57.0±0.4, 44°.25N×28°.35E, h14km±1km, MD2.1/3, 8C, Error ellipse: s-maj=3.3km s-min=1.7km az=5.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIRR	Tirgusor	0.22	12	⇑*i*P	Pg	06 50 02.3	+0.4
TIRR	Tirgusor	0.22	12	S	Sb	06 50 05.9	-0.7
TIRR	Tirgusor	0.22	12	⇑*i*P	Pg	06 50 02.3	+0.4
TIRR				*i* S	Sb	06 50 05.9	-0.7
TLB	Topalu	0.41	327	⇑*i*P	Pg	06 50 05.5	+0.3
TLB	Topalu	0.41	327	⇑*i*P	Pg	06 50 05.5	+0.3
TLB				*i* S	Sb	06 50 11.5	-0.5
HARR	Harsova	0.54	326	⇑*i*P	Pb	06 50 08.6	+0.4
HARR	Harsova	0.54	326	⇑*i*P	Pb	06 50 08.6	+0.4
CFR	Carcaliu	0.94	351	⇑*i*P	Pn	06 50 16.0	+0.2
CFR				S	Sg	06 50 27.9	+0.2
CFR	Carcaliu	0.94	351	⇑*i*P	Pn	06 50 16.0	+0.2
CFR				*i* S	Sg	06 50 27.9	+0.2

*ISK **09** 06:56:29.5, 37°.70N×36°.16E, h3km, MD2.9*
*DDA **09** 06:56:29.9, 37°.75N×36°.10E, h7km, MD2.9*
*CSEM **09** 06:56:30.2±0.1, 37°.76N×36°.12E, h2km, MD2.9, Error ellipse: s-maj=3.6km s-min=3.1km az=148.0*
ISC 09 06:56:30.4±1.1, 37°.76N±0°.02×36°.11E±0°.02, h6km±10km, n34, σ0s.72/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANDN	Andirin	0.26	134	*i* P	Pg	06 56 35.6	+0.1
ANDN				*i* S	Sg	06 56 39.9	+1.0
ANDN	Andirin	0.26	134	*i* P	Pg	06 56 35.6	+0.1
ANDN				*i* S	Sg	06 56 39.9	+1.0
KOZT	Kozan	0.36	219	*e*PG	Pg	06 56 37.0	-0.3
KOZT				*e*SG	Sg	06 56 42.7	+0.7
KOZT	Kozan	0.36	219	*e*Pg	Pg	06 56 37.0	-0.3
KOZT				*e*Sg	Sg	06 56 42.7	+0.7
KMRS	Kahramanmaras	0.68	112	*e*PG	Pg	06 56 42.3	-1.1
KMRS				*e*SG	Sg	06 56 51.5	-0.7
KMRS	Kahramanmaras	0.68	112	*e*Pg	Pg	06 56 42.3	-1.1
KMRS				*e*Sg	Sg	06 56 51.5	-0.7
KAMA	Osmaniye	0.72	142	*i* P	Pg	06 56 43.7	-0.6
CEYT	Ceyhan	0.80	201	*e*PG	Pg	06 56 44.9	-0.8
CEYT	Ceyhan	0.80	201	*e*Pg	Pg	06 56 44.9	-0.8
PINB	Pinarbasi	0.94	14	*i* P	Pg	06 56 48.1	-0.4
PINB				*i* S	Sb	06 57 02.2	0.0
PINB	Pinarbasi	0.94	14	*i* P	Pg	06 56 48.1	-0.4
PINB				*i* S	Sb	06 57 02.2	0.0
KARA	Karaisali	0.97	240	*e*PG	Pb	06 56 49.2	-0.5
KARA				*e*SG	Sb	06 57 03.5	+0.7
KARA	Karaisali	0.97	240	*e*Pg	Pb	06 56 49.2	-0.5
KARA				*e*Sg	Sb	06 57 03.5	+0.7
GZT	Gaziantep	1.23	109	*i* P	Pb	06 56 53.9	-0.1
GZT				*i* S	Sb	06 57 10.5	+0.4
KUZU	Kuzuini	1.25	142	*i* P	Pn	06 56 54.6	+0.2
KUZU				*i* S	Sn	06 57 12.0	+0.5
KUZU	Kuzuini	1.25	142	*i* P	Pn	06 56 54.6	+0.2
KUZU				*i* S	Sn	06 57 12.0	+0.5
DARE	Darende-Malaty	1.35	53	*e*PN	Pb	06 56 56.2	+0.1
DARE	Darende-Malaty	1.35	53	*e*Pn	Pb	06 56 56.2	+0.1
TAHT	Tahtakopru-Hat	1.38	177	*e*PN	Pn	06 56 55.7	-0.5
TAHT	Tahtakopru-Hat	1.38	177	*e*Pn	Pn	06 56 55.7	-0.5
AVNT	Avonos	1.42	316	*i* P	Pn	06 56 57.0	+0.1
AVNT				*i* S	Sb	06 57 13.8	-1.9
AVNT	Avonos	1.42	316	*i* P	Pn	06 56 56.9	+0.1
AVNT				*i* S	Sb	06 57 13.8	-1.9
AKCD	Akcadag	1.53	69	*i* P	Pb	06 56 58.9	-0.3
AKCD				*i* S	Sg	06 57 19.6	+0.1
AKCD	Akcadag	1.53	69	*i* P	Pb	06 56 58.9	-0.3
AKCD				*i* S	Sg	06 57 19.6	+0.1
MERS	Mersin	1.55	235	*e*PN	Pn	06 56 58.7	+0.2
MERS	Mersin	1.55	235	*e*Pn	Pn	06 56 58.7	+0.2
ATAB	Bozova	1.76	99	*i* P	Pn	06 57 01.2	-0.2
ATAB				*i* S	Sb	06 57 25.4	0.0
ATAB	Bozova	1.76	99	*i* P	Pn	06 57 01.2	-0.2
ATAB				*i* S	Sb	06 57 25.4	0.0
MALT	Malatya	1.91	72	*e*PN	Pn	06 57 04.0	+0.5
MALT	Malatya	1.91	72	*e*Pn	Pn	06 57 04.0	+0.5
SULT	Sultanhani-AKS	2.10	283	*e*PN	Pn	06 57 07.3	+1.2
SULT	Sultanhani-AKS	2.10	283	*e*Pn	Pn	06 57 07.3	+1.2
SVSK	Karacayir	2.26	18	*e*PN	Pn	06 57 09.6	+1.3
SVSK	Karacayir	2.26	18	*e*Pn	Pn	06 57 09.6	+1.3

*IDC **09** 06:57:58.5±1.7, 20°.24S×168°.10E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.8/31, mbtmp3.7/6, ML3.9/1, Error ellipse: s-maj=63.8km s-min=24.8km az=141.0*
*ISCJB **09** 06:58:01.0±1.3, 20°.4S±0°.2×168°.1E±0°.3, h27km, mb3.6/5, Error ellipse: s-maj=45.3km s-min=11.3km az=37.8*
ISC 09 06:58:02.1±1.4, 20°.5S±0°.3×168°.2E±0°.3, h27km, n6, σ1s.07/7, mb3.9/5, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.27	224	Pn	Pn	06 58 37.3	-0.7
	25nm,0.3s,baz=46,slow=6.3,SNR=506						
DZM				Sn	Sn	06 59 05.3	+0.3
	22nm,0.3s,baz=45,slow=19,SNR=4.8						
WRA	Warramunga Arr	31.71	265	P	P	07 04 24.3	+0.5
	0.3nm,0.8s,baz=90,slow=8.2,SNR=2.6						
ASAR	Alice Springs	31.86	258	P	P	07 04 26.4	+1.2
	0.9nm,0.6s,baz=78,slow=8.3,SNR=11						
SONM	Songino Array	87.58	324	P	P	07 10 46.4	-1.4
	0.3nm,0.5s,baz=133,slow=6.1,SNR=2.6						
NVAR	Mina Array Bea	90.36	49	P	P	07 11 01.4	+0.1
	0.4nm,0.6s,baz=225,slow=9.7,SNR=4.1						
ILAR	Eielson Array	91.69	18	P	P	07 11 07.2	+0.7
	0.2nm,0.8s,baz=214,slow=3.1,SNR=3.0						

JMA 09 06:58:15.9±0.1, 34°.69N×138°.68E, h11km±1km, M0.8, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIZS	Izushimoda	0.17	80	P	Pg	06 58 19.8	+0.2
JIZS				S	Sg	06 58 22.6	+0.4
KTJJ	Kamata 2	0.39	53	P	Pg	06 58 23.9	+0.2
KTJJ				S	Sg	06 58 29.4	+0.4
SHZ3	Shizuoka 3	0.54	314	*e*S	Sg	06 58 33.8	+0.1

*IDC **09** 07:00:11.2±2.1, 20°.12S×169°.24E, h24km±13km, mb4.8/25, mb1 5.0/27, mb1mx4.9/29, mbtmp5.0/27, ML4.5/2, MS4.5/20, Ms1 4.5/20, ms1mx4.4/24, Error ellipse: s-maj=12.8km s-min=10.8km az=148.0*
*SZGRF **09** 07:00:13.0, 19°.85S×170°.77E, h34km, mb4.6, Vanuatu Islands*
*NEIC **09** 07:00:13.0±0.1, 20°.09S×169°.16E, h35km, mb5.2/85, Error ellipse: s-maj=7.0km s-min=4.5km az=157.0*
*ISCJB **09** 07:00:14.1±1.3, 20°.15S±0°.05×169°.06E±0°.03, h54km±11km, mb5.2/129, MS4.5/29, Error ellipse: s-maj=8.2km s-min=4.7km az=175.3*
*MOS **09** 07:00:16.3±1.1, 20°.10S×169°.07E, h74km, mb5.6/33, MS4.8/8, Error ellipse: s-maj=8.8km s-min=8.1km az=155.7*
*GCMT **09** 07:00:19.7±0.2, 20°.20S×168°.82E, h40km, MW5.3/96, Moment Tensor Solution. s96,c137; s84,c124; Duration: 1s.1 Moment tensor: Scale 10^17 Nm; Mrr0.90±.02; Mθθ-0.01±.02; Mφφ-0.88±.02; Mrθ-0.00±.02; Mθφ0.45±.01; Mφr-0.21±.02; Best double couple: M0 1.00600×10^17 NP1:φs163.00000°, δ51.00000°, λ98.00000°. NP2:φs331.00000°, δ40.00000°, λ80.00000°. Principal axes: T 0.9220, Plg82.0000°, Azm117.0000°; N 0.1680, Plg6.0000°, Azm338.0000°; P -1.0900, Plg5.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **09** 07:00:21.6, 19°.38S×168°.97E, h92km, mb5.2/56, mB5.2/40*
ISC 09 07:00:15.4±0.8, 20°.14S±0°.06×169°.23E±0°.05, h59km±6km, n727, σ1s.29/712, mb5.2/127, MS4.6/31, 119C-56D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.23	233	*e*Pn	Pn	07 00 58.8	-5.1
	1μm,0.5s						
DZM				*e*LR	LR	07 01 31.7	
	15μm,23.4s						
DZM				*e*Sn	Sn	07 01 33.7	-7.5
	5μm,0.6s						
DZM	Mont Dzumac	3.23	233	Pn	Pn	07 00 58.9	-5.0
	69nm,0.3s,baz=70,slow=19,SNR=21						
DZM				Sn	Sn	07 01 33.4	-7.9
	520nm,0.3s,baz=90,slow=20,SNR=14						
DZM				LR	LR	07 02 11.3	
	comp=Z,9μm,19.7s,baz=142,slow=37						
MSVF	Nonsavu	8.68	75	Pn	Pn	07 02 25.0	+6.5
	2μm,0.8s,SNR=43						
MSVF	Nonsavu	8.68	75	*e*P	Pn	07 02 24.2	+5.7
MSVF	Nonsavu	8.68	75	*e*Pn	Pn	07 02 24.2	+5.7
OUZ	Omahuta	15.52	167	*e*P	P	07 03 56.2	+2.4
	70nm,1.1s						
EIDS	Eidsvold	17.52	249	*e*P	P	07 04 16.5	+0.4
	149nm,1.4s						
ARMA	Armidale	18.90	234	*e*P	Pn	07 04 33.4	+0.8
	195nm,1.6s						
AFI	Afiamalu	19.18	74	*e*P	Pn	07 04 36.7	+0.7
AFI				pmax	pmax		
	comp=Z,24nm,1.3s						
AFI	Afiamalu	19.18	74	*e*P	Pn	07 04 36.7	+0.7
	comp=Z,24nm,1.3s						
URZ	Urewera	19.31	161	P	P	07 04 36.1	+0.5
	comp=Z,1.1nm,0.3s,baz=358,slow=4.9,SNR=14						
URZ				S	Sn	07 08 28.2	+15
	comp=Z,0.3nm,0.3s,baz=342,slow=6.4,SNR=2.2						
URZ				LR	LR	07 10 44.8	
	comp=Z,2μm,20.2s,baz=342,slow=33						
URZ	Urewera	19.31	161	*e*P	Pn	07 04 38.1	+0.9
	comp=Z,210nm,1.3s						
URZ				S	Sn	07 08 28.2	+15
BKZ	Black Stump Fm	19.98	163	*e*P	Pn	07 04 44.7	-0.4
	comp=Z,125nm,1.1s						
CTA	Charters Tower	21.57	266	P	P	07 05 00.6	+0.3
	comp=Z,32nm,0.8s,baz=104,slow=13,SNR=38						
CTA				S	S	07 09 00.1	+3.7
	comp=Z,2.5nm,0.9s,baz=258,slow=19,SNR=6.0						
CTA				LR	LR	07 12 28.1	
	comp=Z,1μm,20.6s,baz=98,slow=34						
CTAO	Charters Tower	21.57	266	*e*P	P	07 05 00.8	+0.5

CTAO pmax pmax
comp=Z,46nm,0.9s
CTAO Charters Tower 21.57 266 *e*P **P 07 05 00.8 +0.5**
comp=Z,46nm,0.9s
RPZ Rata Peaks 23.56 177 P **P 07 05 21.1 +0.5**
comp=Z,14nm,0.9s,baz=260,slow=1.2,SNR=4.4
RPZ LR LR 07 14 21.8
comp=Z,3µm,18.2s,baz=342,slow=36
PMG Port Moresby 23.82 293*c i*P **P 07 05 22.7 -0.5**
PMG pmax pmax
comp=Z,524nm,2.5s
PMG Port Moresby 23.82 293 *e*P **P 07 05 23.0 -0.3**
comp=Z,124nm,1.4s
COEN Coen 25.64 280 *e*P **P 07 05 41.1 +1.3**
comp=Z,48nm,1.1s
STKA Stephens Creek 27.37 239 P **P 07 05 55.1 -0.1**
comp=Z,6.8nm,0.8s,baz=83,slow=11,SNR=7.0
STKA PcP **PcP 07 09 13.8 +0.6**
comp=Z,13nm,1.0s,baz=78,slow=5.6,SNR=4.2
STKA LR LR 07 16 28.2
comp=Z,2µm,19.5s,baz=106,slow=36
STKA Stephens Creek 27.37 239 *e*P **P 07 05 57.0 +1.8**
STKA 07 09 13.8
STKA pmax pmax
comp=Z,29nm,2.0s
STKA Stephens Creek 27.37 239 *e*P **P 07 05 57.0 +1.8**
comp=Z,29nm,2.0s
STKA PcP **PcP 07 09 13.8 +0.6**
RAR Rarotonga 29.00 98 LR LR 07 15 33.5
comp=Z,561nm,20.5s,baz=268,slow=32
WRAB Tennant Creek 32.73 264 P **P 07 06 41.5 -1.3**
comp=Z,85nm,0.6s,SNR=9.4
WRAB Tennant Creek 32.73 264*ce*P **P 07 06 40.8 -2.0**
WRAB pmax pmax
comp=Z,55nm,1.7s
WRAB Tennant Creek 32.73 264 *e*P **P 07 06 42.1 -0.7**
comp=Z,40nm,1.3s
WRA Warramunga Arr 32.74 264 P **P 07 06 41.0 -1.9**
comp=Z,6.5nm,0.5s,baz=92,slow=8.4,SNR=65
WRA PcP **PcP 07 09 27.4 +0.1**
comp=Z,5.8nm,0.9s,baz=92,slow=2.8,SNR=6.8
WRA S **S 07 11 52.5 -3.1**
comp=Z,0.3nm,0.3s,baz=95,slow=14,SNR=6.0
WRA ScP **ScP 07 13 10.3 +4.0**
comp=Z,1.0nm,1.1s,baz=92,slow=4.2,SNR=2.4
WRA LR LR 07 19 59.4
comp=Z,1µm,19.9s,baz=95,slow=36
AS01 Alice Springs 32.87 257 *e*P **P 07 06 42.5 -1.5**
AS01 *e*PcP **PcP 07 09 26.6 -1.0**
AS31 Alice Springs 32.91 257 *e*P **P 07 06 43.1 -1.2**
ASAR Alice Springs 32.91 257 P **P 07 06 43.1 -1.2**
comp=Z,24nm,0.7s,baz=82,slow=9.0,SNR=118
ASAR PcP **PcP 07 09 27.6 -0.2**
comp=Z,7.3nm,0.9s,baz=109,slow=3.1,SNR=8.6
ASAR S **S 07 11 55.2 -3.1**
comp=Z,0.3nm,0.6s,baz=88,slow=19,SNR=4.8
ASAR LR LR 07 20 30.5
comp=Z,2µm,18.5s,baz=94,slow=37
ASAR P3KPbc 07 38 03.6
comp=Z,0.9nm,0.9s,baz=270,slow=3.3,SNR=5.8
GENI Genyem 33.29 298 P **P 07 06 48.5 +0.8**
comp=Z,119nm,1.8s,comp=Z,2µm
TBI Tubuai 38.41 102 *e*S **S 07 13 19.6 -2.9**
comp=Z,298nm,30.5s
TBI *e*LQ LQ 07 16 41.6
comp=Z,2µm,32.0s
TBI *e*LR LR 07 18 29.8
comp=Z,1µm,26.5s,baz=263
FORT Forrest 38.46 246 *e*P **P 07 07 31.1 -0.7**
comp=Z,34nm,0.8s
RKPI Ransiki, Papua 38.93 294 P P 07 07 43.5 +7.6
PPT2 Papeete2 39.00 93 *e*S **S 07 13 29.1 -2.4**
comp=Z,392nm,26.8s
PPT2 *e*LQ LQ 07 16 57.8
comp=Z,2µm,31.5s
PPT2 *e*LR LR 07 18 45.2
comp=Z,2µm,26.0s,baz=252
PPT Papeete 39.00 93 LR LR 07 21 57.1
comp=Z,360nm,18.1s,baz=264,slow=34
FAKI Fak Fak 39.92 291 P **P 07 07 43.5 -0.6**
comp=Z,49nm,0.9s
GUMO Guam 41.20 322 LR LR 07 24 33.8
comp=Z,345nm,20.2s,baz=156,slow=36
SIJI Sorong 41.76 293 P **P 07 07 58.4 -1.0**
comp=Z,28nm,0.6s,baz=103,slow=6.8,SNR=22
SIJI LR LR 07 25 12.4
comp=Z,1µm,21.4s,baz=98,slow=36
SWI Sorong 41.77 293 P **P 07 07 58.7 -0.7**
comp=Z,65nm,1.0s,comp=Z,978nm
SANI Sanana 45.87 287 P **P 07 08 32.7 +0.4**
comp=Z,107nm,0.9s,comp=Z,1µm
MBWA Marble Bar 46.18 260 *e*P **P 07 08 33.9 -0.8**
comp=Z,103nm,1.5s
NWAO Narrogin (SRO) 47.80 243 P **P 07 08 46.2 -0.9**
comp=Z,27nm,0.9s,baz=148,slow=3.8,SNR=11
WSI Waingapu 48.26 275 P **P 07 08 50.0 -0.9**
comp=Z,1µm,0.5s,comp=Z,27µm
KAPI Kappang 50.36 280 LR LR 07 31 06.2
comp=Z,252nm,21.8s,baz=145,slow=37
KAPI Kappang 50.36 280 *e*P **P 07 09 07.7 +0.8**
comp=Z,20nm,1.4s
MRSI Marisa 50.62 288 P **P 07 09 09.8 +0.9**
SPSI Sidrap Palu 50.74 282 P **P 07 09 09.8 0.0**
comp=Z,16nm,1.1s
TTSI Tana Toraja 51.05 283 P **P 07 09 12.9 +0.7**
comp=Z,29nm,1.2s,comp=Z,2µm
RKT Rikitea 51.69 104 *e*LR LR 07 24 43.6
comp=Z,807nm,26.2s
PCI Palu 51.91 285 P P 07 09 21.8 +3.2
MPSI Mapaga 52.39 287 P **P 07 09 21.9 -0.2**
comp=Z,62nm,1.1s
JCJ Chichijima 53.77 330 LR LR 07 29 01.5
comp=Z,285nm,20.5s,slow=32
VNDA Vanda 57.54 182 P **P 07 09 58.2 -0.2**
comp=Z,6.1nm,0.9s,baz=351,slow=7.3,SNR=19
VNDA LR LR 07 31 04.4
comp=Z,447nm,20.7s,baz=11,slow=32
VNDA Vanda 57.54 182 *e*P **P 07 09 58.0 -0.4**
VNDA Vanda 57.54 182 *e*P **P 07 09 58.0 -0.4**
SBA Scott Base 57.77 181 *e*P **P 07 10 01.4 +1.4**
SBA Scott Base 57.77 181 *e*P **P 07 10 01.4 +1.4**
SBUM Sibu 60.22 285 *e*P **P 07 10 18.4 +0.4**
JOW Kunigami 61.28 318 *e*P **P 07 10 26.3 +1.4**
KSM Kuching 61.56 283 *e*P **P 07 10 26.3 -0.7**
comp=Z,52nm,1.0s
CGJI Cibinong 62.93 273 P **P 07 10 35.6 -0.6**
comp=Z,74nm,1.4s
MJAR Matsushiro Arr 63.54 332 P **P 07 10 39.4 -0.3**
comp=Z,18nm,1.0s,baz=169,slow=7.3,SNR=26
MJAR LR LR 07 34 31.1
comp=Z,104nm,21.7s,baz=145,slow=32
MAJO Matsushiro 63.54 332*c i*P **P 07 10 39.4 -0.4**
MAJO pmax pmax
comp=Z,252nm,1.4s
MAJO Matsushiro 63.54 332 *e*P **P 07 10 39.7 -0.1**
MAT Matsushiro 63.54 332 P **P 07 10 39.4 -0.4**
MAT *e*S **S 07 19 08.4 -0.5**
YULB Yu-li 63.68 310 *e*P **P 07 10 41.3 +0.3**
comp=Z,22nm,1.0s
NACB Ninganchiao 63.96 311 *e*P **P 07 10 42.4 -0.4**
comp=Z,99nm,1.1s
TPUB Ta-pu 64.11 310 *e*P **P 07 10 43.1 -0.6**
comp=Z,74nm,1.2s
SSLB Suanglung 64.17 311 *e*P **P 07 10 44.0 -0.2**
comp=Z,37nm,1.0s
JNU Nakatsue 64.39 325 P **P 07 10 45.4 0.0**
comp=Z,27nm,0.9s,baz=87,slow=4.5,SNR=14
JNU LR LR 07 37 05.2
comp=Z,101nm,20.6s,baz=132,slow=34
JNU Nakatsue 64.39 325 *e*P **P 07 10 45.7 +0.3**
KASI Kota Agung 64.41 274 P **P 07 10 44.8 -1.2**
comp=Z,90nm,1.0s
YHNB Yeheng 64.43 312 *e*P **P 07 10 45.8 -0.1**
comp=Z,114nm,1.1s
TATO Taipei 64.55 312 *e*P **P 07 10 46.9 +0.4**
MDSI Maura Dua 65.06 274 P **P 07 10 49.1 -1.1**
comp=Z,34nm,1.3s
QZH Quanzhou 66.58 310 P **P 07 11 00.6 +0.9**
QZH PMZ
comp=Z,410nm,8.4s
QZH LZ
comp=Z,460nm,21.2s
KSDAG Daegu 67.46 325 P **P 07 11 05.5 +0.4**
SNR=6.4
ASAJ Asahikawa 68.43 340 P **P 07 11 12.4 +1.5**
comp=Z,29nm,0.9s,baz=234,slow=8.7
ASAJ Asahikawa 68.43 340 *e*P **P 07 11 12.2 +1.2**
comp=Z,28nm,1.3s
KSDGY Daegwallycong 69.02 326 P **P 07 11 15.8 +0.9**
SNR=13
KSJMJ Jumunjin 69.12 327 P **P 07 11 16.9 +1.5**
SNR=6.1
KSRS Korea Array 69.24 326 P **P 07 11 16.5 +0.4**
comp=Z,5.5nm,1.0s,baz=142,slow=5.8,SNR=25
KSRS PKP2bc 07 39 30.6
comp=Z,1.0nm,0.5s,baz=318,slow=3.7,SNR=6.1
KSRS LR LR 07 39 38.9
comp=Z,146nm,20.8s,baz=130,slow=34
KSAR Wonju Array Be 69.25 326 P **P 07 11 16.5 +0.3**
KSAR Wonju Array Be 69.25 326 P **P 07 11 16.5 +0.3**
KSAR ⇑*e* 07 39 30.6
KSIJA INJE 69.54 326 P **P 07 11 19.4 +1.4**
SNR=9.1
KSCWO Cheorwon 69.92 326 P **P 07 11 22.2 +1.8**
SNR=5.1
INCN Inchon 69.95 325 *e*P **P 07 11 21.2 +0.7**
comp=Z,16nm,0.4s
QIZ Qiongzhong 70.02 300 P **P 07 11 22.1 +0.8**
QIZ S **S 07 20 26.0 -1.7**
QIZ PMZ
comp=Z,120nm,6.2s
QIZ LZ
comp=Z,180nm,24.9s
KSMUS Musan 70.18 325 P **P 07 11 23.0 +1.1**
SNR=6.9
YNCB YEONCHEON 70.20 326 P **P 07 11 23.1 +1.0**
SNR=18
KSGAH Ganghwa 70.21 325 P **P 07 11 23.3 +1.2**
SNR=9.2
NJ2 Nanjing 70.84 316 *e*P **P 07 11 27.6 +1.5**
NJ2 pP **PcP 07 11 50.4 +4.0**
NJ2 sP sP 07 11 58.7 +10
NJ2 S **S 07 20 36.5 -0.4**
NJ2 PMZ
comp=Z,60nm,0.8s
NJ2 PMZ
comp=Z,230nm,8.5s
NJ2 LN
comp=Z,290nm,19.1s
NJ2 LE
comp=Z,520nm,18.2s
NJ2 LZ
comp=Z,8µm,16.8s
YSS Yuzh-Sakhalins 70.92 341*oe*P **P 07 11 27.8 +1.6**
YSS *e* 07 21 13.0
YSS pmax pmax
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 70.92 341 *e*P **P 07 11 26.9 +0.7**
comp=Z,45nm,1.0s
IPM Ipoh 71.26 282 *e*P **P 07 11 29.0 -0.1**
comp=Z,46nm,1.0s
VLA Vladivostok 71.70 332⇑*i*P **P 07 11 31.6 +0.6**
VLA *e* 07 11 50.9
VLA *e* 07 14 11.0
VLA S **S 07 20 41.5 -4.9**
VLA pmax pmax
comp=Z,37nm,0.6s
UBPT Khong Chiam 71.86 294 P **P 07 11 34.8 +2.2**
comp=Z,19nm,1.0s
KULM Kulim 71.92 283 *e*P **P 07 11 32.4 -0.7**
comp=Z,20nm,1.0s
USRK Ussuriysk Ar. 72.53 333 P **P 07 11 34.8 -1.1**
comp=Z,28nm,1.1s,baz=149,slow=4.4,SNR=28
WHN Wuhan 72.94 312⇑P **P 07 11 39.1 +0.4**
WHN S S 07 20 50.2 -11
WHN LZ
comp=Z,630nm,18.8s
GSI Gunungsitoli 73.26 278 P **P 07 11 42.5 +1.5**
PET Petropavlovsk 73.43 353*c i*P **P 07 11 41.5 +0.5**
PET *e*S **S 07 21 02.2 -3.4**
PET *e**SS **ScS 07 21 46.8 +2.3**
PET *e*SS **SS 07 25 52.8 +3.2**
PET pmax pmax
comp=Z,22nm,0.6s
PETK Petropavlovsk- 73.62 353 P **P 07 11 42.5 +0.3**
comp=Z,20nm,0.9s,baz=132,slow=8.2,SNR=13
MDJ Mudanjiang 73.90 332 P **P 07 11 45.0 +0.9**
MDJ sP sP 07 12 17.8 +11
MDJ S **S 07 21 10.3 -1.1**
MDJ PMZ
comp=Z,41nm,1.3s
MDJ PMZ
comp=Z,110nm,5.3s
MDJ LN
comp=Z,160nm,22.4s
MDJ LE
comp=Z,99nm,25.4s
MDJ LZ
comp=Z,210nm,24.7s
MDJ Mudanjiang 73.90 332 *e*P **P 07 11 44.6 +0.6**
comp=Z,98nm,1.6s
TIA Tai'an 74.61 319⇑P **P 07 11 48.7 +0.3**
TIA PMZ
comp=Z,70nm,0.9s
SNY Shenyang 74.72 326⇑P **P 07 11 49.6 +0.7**
SNY PMZ
comp=Z,22nm,0.9s
SNY PMZ
comp=Z,240nm,4.7s
SNY LE
comp=Z,160nm,19.2s
SNY LZ
comp=Z,150nm,21.6s
HABR Khabarovsk 74.82 337 *e*P **P 07 11 48.9 -0.4**
HABR *e* 07 12 01.4
HABR *e**PP pP 07 12 13.5 +7.8
HABR S **S 07 21 17.4 -4.0**
HABR *e* 07 21 50.3
HABR *e**SS **ScS 07 22 01.2 +5.3**
HABR *e*SS **SS 07 26 07.0 -4.0**
HABR pmax pmax
comp=Z,78nm,2.7s
HABR MLR MLR
comp=Z,67nm,21.0s
CN2 Changchun 75.22 329 *e*P **P 07 11 52.1 +0.4**
CN2 *e*pP pP 07 12 17.2 +9.1
CN2 *e*S **S 07 21 22.5 -3.6**
CN2 PMZ
comp=Z,50nm,0.9s
CN2 PMZ
comp=Z,200nm,3.0s
ENH Enshi 76.23 310 *e*P **P 07 11 58.2 +0.4**
comp=Z,12nm,0.9s
GYA Guiyang 76.32 305⇑*i*P **P 07 11 58.5 -0.1**
GYA PP **PP 07 14 53.4 +2.5**
GYA S **S 07 21 35.8 -3.5**
GYA SKS SKSac 07 21 57.2 -8.0
GYA PMZ
comp=Z,20nm,0.9s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,520nm,19.8s
GYA LE
comp=Z,480nm,20.2s
GYA LZ
comp=Z,540nm,18.4s
UNV Unalaska Valle 76.59 14 *e*P **P 07 11 58.4 -0.8**
comp=Z,45nm,1.2s
KLR Kul'dur 76.68 336 *e*P **P 07 11 57.0 -2.9**
KLR pmax pmax
comp=E,45nm,1.6s
KLR pmax pmax
comp=Z,130nm,1.6s
MAW Mawson 77.60 202 P **P 07 12 05.5 +0.6**
comp=Z,8.9nm,0.6s,baz=115,slow=8.1,SNR=33
MAW Mawson 77.60 202 *e*P **P 07 12 05.5 +0.6**
comp=Z,1.7nm,0.5s
LAMP Lampang 78.30 295 P **P 07 12 11.5 +1.8**
comp=Z,8.5nm,1.0s,comp=Z,81nm
CRAI Chiangrai 78.42 297 P **P 07 12 08.6 -1.7**
comp=Z,11nm,1.5s,comp=Z,768nm
XAN Xi'an 78.71 313 P **P 07 12 12.4 +0.8**
XAN pP pP 07 12 36.5 +8.4
XAN sP sP 07 12 47.0 +12
XAN PP **PP 07 15 14.3 +3.6**
XAN S S 07 21 58.2 -6.4
XAN PMZ
comp=Z,12nm,1.2s
XAN PMZ
comp=Z,54nm,8.6s
KMI Kunming 78.74 302⇑P **P 07 12 13.6 +1.4**
KMI PP **PP 07 15 15.1 +3.8**
KMI S **S 07 22 01.4 -4.3**
KMI PMZ
comp=Z,37nm,1.1s
KMI PMZ
comp=Z,200nm,3.2s
KMI LN
comp=Z,150nm,14.4s
KMI LE
comp=Z,170nm,16.4s
KMI LZ
comp=Z,190nm,20.5s
CMAR Chiang Mai Arr 78.86 294 P **P 07 12 13.8 +1.0**
comp=Z,8.2nm,0.8s,baz=130,slow=4.2,SNR=32
CMAR PKKPbc **PKKPbc 07 31 06.8 +0.6**
comp=Z,0.8nm,0.3s,baz=293,slow=3.2,SNR=5.6
CMMT Chiang Mai 79.01 295 P **P 07 12 14.9 +1.3**
comp=Z,33nm,1.5s,comp=Z,576nm
CHTO Chiang Mai 79.01 295 P **P 07 12 14.9 +1.3**
comp=Z,116nm,1.5s,comp=Z,2µm
CHTO Chiang Mai 79.01 295 *e*P **P 07 12 13.9 +0.3**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 79.01 295 *e*P **P 07 12 13.9 +0.3**
comp=Z,6.7nm,0.8s
CMAI Chiengmai2 79.41 296 P **P 07 12 17.3 +1.4**
comp=Z,21nm,1.4s
MHMT Maesariang 79.61 294 P **P 07 12 19.7 +2.9**
comp=Z,12nm,1.3s,comp=Z,535nm
CD2 Chengdu 80.77 308 *e*P **P 07 12 23.5 +0.6**
CD2 pP pP 07 12 49.1 +10
CD2 PP **PP 07 15 28.7 +0.7**
CD2 S **S 07 22 24.1 -2.4**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.0s
CD2 LE
comp=Z,420nm,22.5s
CD2 LZ
comp=Z,250nm,21.6s
HHC Hu-ho-hao-te 80.89 320 *e*P **P 07 12 24.5 +1.1**
HHC pP pP 07 12 50.0 +10
HHC PP **PP 07 15 31.8 +3.0**
HHC S **S 07 22 27.8 +0.3**
HHC PMZ
comp=Z,59nm,1.3s
HHC PMZ
comp=Z,240nm,7.7s
HHC LN
comp=Z,170nm,17.3s
HHC LE
comp=Z,130nm,17.1s
HHC LZ
comp=Z,250nm,17.3s
LZH Lanzhou 83.32 312⇑P **P 07 12 38.1 +1.8**
LZH *e*PP **PP 07 15 53.2 +4.2**
LZH *e*S **S 07 22 49.6 -3.1**
LZH PMZ
comp=Z,43nm,1.6s
LZH PMZ
comp=Z,290nm,8.7s
LZH LN
comp=Z,160nm,16.5s
LZH LE
comp=Z,220nm,17.2s
LZH LZ
comp=Z,330nm,19.5s
SEY Seymchan 83.85 352 P **P 07 12 37.9 -0.2**
comp=Z,5.8nm,1.0s,baz=150,slow=7.4,SNR=10
SEY Seymchan 83.85 352 *i* P **P 07 12 38.0 -0.2**
KDAK Kodiak Island 83.88 19 P **P 07 12 38.9 +0.5**
comp=Z,220nm,1.1s,SNR=11
KDAK Kodiak Island 83.88 19 *e*P **P 07 12 38.6 +0.3**
KDAK pmax pmax
comp=Z,27nm,0.8s
KDAK Kodiak Island 83.88 19 *e*P **P 07 12 38.6 +0.3**
comp=Z,27nm,0.8s
SYO Syowa Base 84.07 196⇓*e*P **P 07 12 37.8 -1.6**
CLNS Chul'man 85.21 337 *e*P **P 07 12 46.4 +1.2**
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS pmax pmax
comp=N,32nm,1.1s
CLNS pmax pmax
comp=Z,47nm,1.1s
RSO Redoubt South 86.01 18 *e*P **P 07 12 49.1 -0.2**
comp=Z,30nm,0.9s
KCPM Cahto Peak 86.36 45 *e*P **P 07 12 53.1 +1.6**
comp=Z,33nm,0.8s
HOPS Hopland Field 86.36 46 *e*P **P 07 12 52.4 +1.1**
comp=Z,7.2nm,1.0s
KIPM Iron Peak 86.49 45 *e*P **P 07 12 53.0 +0.9**
comp=Z,63nm,1.0s
CIT Chita 86.66 329 *e*P **P 07 12 52.6 +0.1**
PKM Mcpherson Peak 86.72 51⇓P **P 07 12 55.7 +2.3**
baz=87
SMMC Simmler 86.78 51⇓P **P 07 12 54.8 +1.3**
baz=87
KHMM Horse Mountain 86.86 44 *e*P **P 07 12 55.0 +1.1**
comp=Z,39nm,0.8s
CIS Catalina Islan 87.10 53⇓P **P 07 12 57.3 +2.2**
baz=87
WDC Whiskeytown Da 87.50 45 *e*P **P 07 12 57.8 +1.0**
WDC pmax pmax
comp=Z,44nm,1.4s
WDC Whiskeytown Da 87.50 45 *e*P **P 07 12 57.8 +1.0**
comp=Z,44nm,1.4s
ARVC Arvin 87.55 51⇑P **P 07 12 59.0 +1.8**
baz=88
L02D Cave Junction, 87.58 43⇑P **P 07 12 58.9 +1.7**
baz=88
N02D Trinity Center 87.58 45⇓P **P 07 12 59.2 +1.9**
baz=88,SNR=15
VES Vestal, Richgr 87.69 51⇑P **P 07 12 58.8 +1.1**
baz=88
M02C Callahan 87.69 44⇓P **P 07 12 59.7 +1.9**
baz=88,SNR=23
YAK Yakutsk 87.72 343 *e*P **P 07 12 56.0 -1.3**
YAK pmax pmax
comp=Z,19nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=N,7.0nm,1.3s
GTA Gaotai 87.73 313⇑P **P 07 12 59.1 +1.0**
GTA pP pP 07 13 24.7 +10
GTA PP **PP 07 16 28.6 +3.9**
GTA SKS **SKSac 07 23 16.2 -5.1**
GTA S **SKKSac 07 23 31.9 +0.7**
GTA PMZ
comp=N,27nm,1.1s
GTA PMZ
comp=N,94nm,6.2s
GTA LN
comp=N,320nm,22.8s
GTA LE
comp=N,310nm,24.7s
GTA LZ
comp=N,150nm,18.5s
CMB Columbia Colle 87.76 48 *e*P **P 07 12 58.9 +0.7**
CMB pmax pmax
comp=Z,11nm,0.8s
CMB Columbia Colle 87.76 48 *e*P **P 07 12 58.9 +0.7**
comp=Z,11nm,0.8s
SHL Shillong 87.76 298 *e*P **P 07 12 58.0 -0.6**
RCTC Rector, Farmer 87.78 50⇓P **P 07 12 59.2 +0.9**
baz=88
109C Camp Elliot, M 87.86 54⇓P **P 07 12 59.7 +1.0**
baz=88
SONM Songino Array 87.93 323 P **P 07 12 59.2 +0.4**
comp=Z,44nm,0.9s,baz=138,slow=5.1,SNR=147
SONM LR LR 07 50 05.9
comp=Z,110nm,21.8s,baz=124,slow=34
BILL Bilibino 87.94 359*c i*P **P 07 12 58.1 -0.2**
BILL pmax pmax
comp=Z,14nm,1.0s
YBH Yreka Blue Hor 87.95 44 P **P 07 13 00.4 +1.4**
comp=Z,17nm,0.8s,baz=170,slow=2.4,SNR=31
YBH LR LR 07 44 13.8
comp=Z,398nm,20.6s,baz=242,slow=30
YBH Yreka Blue Hor 87.95 44 *e*P **P 07 12 59.6 +0.6**
YBH pmax pmax
comp=Z,37nm,1.3s
YBH Yreka Blue Hor 87.95 44 *e*P **P 07 12 59.6 +0.6**
comp=Z,37nm,1.3s
NVL N'lazarevskaya 87.97 187⇓*i*P **P 07 12 58.6 0.0**
NVL pmax pmax

comp=Z,17nm,0.9s
BFSC **Mount Baldy Ra** 88.03 52 ⇑P P 07 13 00.5 +0.8
baz=88
ISA **Isabella, Lake** 88.05 51 ⇑P P 07 13 01.0 +1.3
baz=88,SNR=16
EDW2 **Edwards Air Fo** 88.06 52 ⇑P P 07 13 00.9 +1.2
baz=88
MURC **Murrieta** 88.09 53 ⇓P P 07 13 00.9 +1.1
baz=88,SNR=5.2
HUMO **Hull Mountain** 88.22 43 eP P 07 13 01.2 +1.0
comp=Z,29nm,0.9s
SNAA **Sanae** 88.27 183 P P 07 12 51.6 -8.6
MONP **Monument Peak,** 88.38 54 ⇑P P 07 13 02.7 +1.3
baz=89,SNR=8.0
I03D **Drain, OR** 88.51 42 ⇓P P 07 13 03.1 +1.7
baz=89
M04C **Macdoel** 88.54 44 ⇓P P 07 13 03.3 +1.4
baz=89,SNR=8.3
WAKR **Walker** 88.64 48 eP P 07 13 03.8 +1.2
comp=Z,28nm,1.3s
PFO **Pinyon Flats O** 88.66 53 P P 07 13 03.3 +0.7
comp=Z,5.3nm,0.7s,baz=263,slow=3.0,SNR=6.6
PFO **Pinyon Flats O** 88.66 53 eP P 07 13 03.3 +0.7
PFO pmax pmax
comp=Z,16nm,1.3s
PFO **Pinyon Flats O** 88.66 53 ⇓P P 07 13 03.6 +0.9
baz=89
PFO **Pinyon Flats O** 88.66 53 eP P 07 13 03.3 +0.7
comp=Z,16nm,1.3s
CWC **Cottonwood Cre** 88.68 50 ⇑P P 07 13 03.8 +1.1
baz=89
RRX **Edison Barstow** 88.79 52 ⇑P P 07 13 04.3 +1.2
baz=89
TIN **Tinemaha, Big** 88.84 50 ⇑P P 07 13 05.0 +1.6
baz=89
SWSC **Sam W. Stewart** 88.88 54 ⇑P P 07 13 05.1 +1.6
baz=89
MPMC **Manual Prospec** 88.94 51 ⇑P P 07 13 05.3 +1.3
baz=89,SNR=19
DAC **Darwin (Calif)** 88.96 51 P P 07 13 04.7 +0.6
DAC pmax pmax
comp=Z,18nm,1.1s
DAC **Darwin (Calif)** 88.96 51 P P 07 13 04.7 +0.6
comp=Z,18nm,1.1s
K04D **Chiloquin, OR** 89.00 44 ⇑P P 07 13 05.3 +1.3
baz=89
KTH **Kantishna Hill** 89.02 17 eP P 07 13 02.0 -1.6
comp=Z,3.2nm,0.6s
J04D **Umpqua Nationa** 89.07 43 ⇑P P 07 13 05.9 +1.5
baz=89
TRF **Thorofare Moun** 89.12 17 eP P 07 13 02.6 -1.5
comp=Z,5.8nm,0.9s
GSC **Goldstone, Bar** 89.12 52 eP P 07 13 05.8 +1.1
GSC pmax pmax
comp=Z,16nm,1.3s
GSC **Goldstone, Bar** 89.12 52 ⇑P P 07 13 06.3 +1.6
baz=89
GSC **Goldstone, Bar** 89.12 52 eP P 07 13 05.8 +1.1
comp=Z,16nm,1.3s
I04A **Tendick Farm,** 89.14 42 ⇓P P 07 13 05.8 +1.2
baz=89
VNA2 **Neumayer--Watz** 89.15 181 P P 07 13 04.5 +0.3
baz=162,slow=4.7
BELC **Belle Mtn. Jos** 89.17 53 ⇑P P 07 13 06.4 +1.4
baz=89,SNR=14
HEC **Hector,Ludlow** 89.27 52 ⇓P P 07 13 06.4 +1.0
baz=90,SNR=6.0
G03D **McMinnville, O** 89.31 41 ⇓P P 07 13 06.8 +1.6
baz=90
NVAR **Mina Array Bea** 89.40 48 P P 07 13 07.0 +0.9
comp=Z,16nm,0.9s,baz=227,slow=8.0,SNR=75
BC3 **Big Chuckawall** 89.43 54 ⇑P P 07 13 07.8 +1.5
baz=90,SNR=7.4
GRAC **Grapevine Rang** 89.44 50 ⇓P P 07 13 07.5 +1.4
baz=90,SNR=15
VNA1 **Neumayer--Stat** 89.44 181 P P 07 13 05.5 0.0
FURC **Furnace Creek,** 89.58 51 ⇑P P 07 13 07.9 +1.3
baz=90,SNR=14
J05D **Fort Rock, OR** 89.65 43 ⇓P P 07 13 08.6 +1.5
baz=90,SNR=30
GLA **Glamis** 89.66 55 eP P 07 13 08.7 +1.4
GLA pmax pmax
comp=Z,39nm,1.2s
GLA **Glamis** 89.66 55 ⇑P P 07 13 09.0 +1.8
baz=90,SNR=8.0
GLA **Glamis** 89.66 55 eP P 07 13 08.7 +1.4
comp=Z,39nm,1.2s
GMRC **Granite Mounta** 89.75 53 ⇑P P 07 13 08.9 +1.1
baz=90,SNR=9.9
SHOC **Shoshone, Teco** 89.76 51 ⇑P P 07 13 08.7 +1.1
baz=90,SNR=10
TUQ **Turquoise Moun** 89.83 52 ⇑P P 07 13 08.6 +0.6
baz=90
IRM **Iron Mountain** 89.87 53 ⇑P P 07 13 09.7 +1.5
baz=90,SNR=11
F04D **Rainier, OR** 89.90 40 ⇓P P 07 13 09.2 +1.2
baz=90
LSA **Lhasa** 89.99 302 eP P 07 13 09.7 +0.3
LSA pmax pmax
comp=Z,6.0nm,0.4s
LSA **Lhasa** 89.99 302 eP P 07 13 09.7 +0.3
comp=Z,5.6nm,0.4s
TPH **Tonopah** 90.01 49 eP P 07 13 09.9 +0.9
TPH pmax pmax
comp=Z,24nm,1.1s
TPH **Tonopah** 90.01 49 eP P 07 13 09.9 +0.9
comp=Z,24nm,1.1s
NLWA **Neilton Lookou** 90.04 39 eP P 07 13 10.0 +1.4
comp=Z,31nm,1.1s
I05D **Terrebonne, OR** 90.08 42 ⇑P P 07 13 10.2 +1.3
baz=90
BOD **Bodaibo** 90.13 334 eP P 07 13 08.1 -0.6
BOD pmax pmax
comp=Z,30nm,1.4s
Y12C **Blythe** 90.18 54 ⇓P P 07 13 11.2 +1.6
baz=90,SNR=6.5
TPNV **Topopah Spring** 90.23 51 ⇓P P 07 13 11.3 +1.3
baz=90,SNR=27
IM04 **Indian Mountai** 90.28 14 eP P 07 13 09.3 0.0
VLL **Laurance Lake** 90.41 41 P P 07 13 11.8 +1.3
ERK **Elk Rock** 90.41 40 P P 07 13 12.3 +1.8
TDL **Tradedollar La** 90.51 40 P P 07 13 12.4 +1.4
G05D **Wamic, OR** 90.53 41 ⇑P P 07 13 12.2 +1.2
baz=91
WRAK **Wrangell Islan** 90.64 28 eP P 07 13 11.7 +0.6
comp=Z,25nm,0.9s
PDMCI **Parker Dam,Lak** 90.69 54 ⇓P P 07 13 13.4 +1.4
baz=91,SNR=14
214A **Organ Pipe Nat** 90.78 56 ⇑P P 07 13 14.0 +1.6
baz=91
214A **Organ Pipe Nat** 90.78 56 eP P 07 13 13.9 +1.4
comp=Z,23nm,1.2s
SHPR **Sheep Range** 90.83 51 eP P 07 13 14.1 +1.3
comp=Z,57nm,1.8s
COLA **College** 90.90 17 ⇓iP P 07 13 10.9 -1.2
COLA pmax pmax
comp=Z,39nm,1.0s
COLA **College** 90.90 17 eP P 07 13 11.0 -1.2
comp=Z,10nm,0.9s
PGC **Sidney** 90.91 38 eP P 07 13 13.1 +0.5
comp=Z,27nm,1.1s
LON **Longmire** 90.95 40 eP P 07 13 13.5 +0.6
LON pmax pmax
comp=Z,10.0nm,0.8s
LON **Longmire** 90.95 40 eP P 07 13 13.5 +0.6
comp=Z,9.6nm,0.8s
WVOR **Wild Horse Val** 90.95 45 eP P 07 13 14.2 +1.0
WVOR pmax pmax
comp=Z,24nm,0.9s
WVOR **Wild Horse Val** 90.95 45 eP P 07 13 14.2 +1.0
comp=Z,24nm,0.9s
GLK **Glacier Lake** 90.98 40 P P 07 13 14.6 +1.4
ZAK **Zakamensk** 91.02 324 eP P 07 13 13.0 -0.2
ZAK pmax pmax
comp=Z,23nm,1.3s
BMN **Battle Mountai** 91.03 47 eP P 07 13 14.0 +0.4
BMN pmax pmax
comp=Z,32nm,1.3s
BMN **Battle Mountai** 91.03 47 eP P 07 13 14.0 +0.4
comp=Z,32nm,1.3s
WPW **White Pass** 91.08 40 P P 07 13 14.8 +1.2
ILAR **Eielson Array** 91.09 17 P P 07 13 11.6 -1.5
comp=Z,4.9nm,0.8s,baz=234,slow=5.6,SNR=37
ILAR LR LR 07 47 42.6
comp=Z,389nm,21.2s,baz=220,slow=31
FMW **Mount Fremont** 91.12 40 P P 07 13 14.9 +1.1
R11A **Troy Canyon, C** 91.29 49 ⇓P P 07 13 15.7 +0.8
baz=92,SNR=16
R11A **Troy Canyon, C** 91.29 49 eP P 07 13 15.4 +0.5
comp=Z,6.3nm,0.8s
HYT **Haines Junctio** 91.32 23 eP P 07 13 14.0 -0.4
comp=Z,9.5nm,1.0s
TLY **Talaya** 91.49 325 P P 07 13 15.5 +0.2
comp=Z,141nm,0.8s,SNR=8.9
TLY **Talaya** 91.49 325 eP P 07 13 15.5 +0.2
TLY pmax pmax
comp=Z,46nm,1.8s
TLY MLR MLR
comp=Z,81nm,18.0s
TLY **Talaya** 91.49 325 eP P 07 13 15.1 -0.1
comp=Z,24nm,0.9s
NAC **Naches** 91.53 40 P P 07 13 17.0 +1.4
TAPN **Taplejung** 91.90 298 eP P 07 13 18.5 +0.4
comp=Z,40nm,1.1s
ODAN **Odle** 91.98 298 eP P 07 13 18.7 +0.3
comp=Z,67nm,1.1s
COLD **Coldfoot** 92.14 15 eP P 07 13 17.4 -0.5
comp=Z,6.6nm,1.0s
HAWA **Hanford** 92.17 41 eP P 07 13 19.1 +0.6
TUC **Tucson** 92.50 57 eP P 07 13 21.7 +1.2
TUC pmax pmax
comp=Z,14nm,1.0s
TUC **Tucson** 92.50 57 eP P 07 13 21.7 +1.2
comp=Z,14nm,1.0s
ELK **Elko** 92.53 47 eP P 07 13 21.3 +0.7
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK **Elko** 92.53 47 eP P 07 13 21.3 +0.7
comp=Z,3.9nm,0.8s
CCUT **Cedar City** 92.57 51 eP P 07 13 22.2 +1.3
comp=Z,7.2nm,0.9s
RAMN **Ramite** 92.67 298 eP P 07 13 21.9 +0.3
EGAK **Eagle** 92.77 19 eP P 07 13 20.4 -0.5
comp=Z,7.8nm,0.7s
DLBC **Dease Lake** 92.84 27 eP P 07 13 21.9 +0.5
comp=Z,20nm,1.1s
MOY **Mondy** 92.91 325 eP P 07 13 22.5 +0.5
MOY pmax pmax
comp=Z,42nm,2.4s
MFID **Camas Ranch** 93.24 45 eP P 07 13 24.3 +0.6
comp=Z,8.2nm,0.8s
WUAZ **Wupatki** 93.26 53 ⇑P P 07 13 25.6 +1.6
baz=94
WUAZ **Wupatki** 93.26 53 eP P 07 13 25.6 +1.6
comp=Z,15nm,0.9s
JIRN **Jiri** 93.27 298 eP P 07 13 24.2 -0.3
comp=Z,44nm,1.1s
GUN **Gumba** 93.61 298 eP P 07 13 26.1 0.0
comp=Z,41nm,1.0s
MVU **Marysvale** 93.78 50 eP P 07 13 27.4 +0.9
comp=Z,2.7nm,0.8s
MSU **Marysvale** 93.81 50 eP P 07 13 27.5 +0.9
MSU pmax pmax
comp=Z,3.0nm,0.8s
MSU **Marysvale** 93.81 50 eP P 07 13 27.5 +0.9
comp=Z,3.4nm,0.8s
PKI **Pulchoki** 93.89 298 eP P 07 13 27.2 -0.1
comp=Z,71nm,1.1s
PKIN **Phulchoki** 93.90 298 eP P 07 13 27.2 -0.1
DUG **Dugway, Tooele** 94.00 49 eP P 07 13 27.2 -0.1
DUG pmax pmax
comp=Z,3.0nm,0.9s
DUG **Dugway, Tooele** 94.00 49 ⇓P P 07 13 28.4 +1.0
baz=94
DUG **Dugway, Tooele** 94.00 49 eP P 07 13 27.2 -0.1
comp=Z,2.5nm,0.9s
KKN **Kakani** 94.07 298 eP P 07 13 28.1 +0.1
comp=Z,38nm,1.0s
BGU **Big Grassy Mou** 94.14 48 eP P 07 13 28.4 +0.4
comp=Z,2.5nm,1.0s
DMN **Daman** 94.15 298 eP P 07 13 28.6 +0.2
comp=Z,72nm,1.0s
HLID **Hailey** 94.24 45 ⇓P P 07 13 29.7 +1.3
baz=94
HLID **Hailey** 94.24 45 eP P 07 13 29.2 +0.8
comp=Z,4.3nm,0.8s
HVU **Hansel Valley** 94.65 47 eP P 07 13 31.1 +0.8
HVU pmax pmax
comp=Z,7.0nm,0.8s
HVU **Hansel Valley** 94.65 47 eP P 07 13 31.1 +0.8
comp=Z,7.4nm,0.8s
GKN **Gorkha** 94.68 298 eP P 07 13 30.4 -0.3
comp=Z,55nm,1.2s
121A **Cookes Peak, D** 94.95 57 ⇑P P 07 13 32.9 +1.0
baz=95
121A **Cookes Peak, D** 94.95 57 eP P 07 13 32.4 +0.5
comp=Z,3.8nm,0.9s
SRU **San Rafael Swe** 95.23 50 eP P 07 13 33.6 +0.6
SRU pmax pmax
comp=Z,4.0nm,1.0s
SRU **San Rafael Swe** 95.23 50 eP P 07 13 33.6 +0.6
comp=Z,4.5nm,1.0s
TCUT **Tecate Canyon** 95.34 48 eP P 07 13 33.9 +0.3
comp=Z,9.7nm,0.7s
HWUT **Hardware Ranch** 95.42 48 eP P 07 13 34.0 +0.2
comp=Z,3.4nm,0.8s
KOLN **Koldanda** 95.46 297 eP P 07 13 33.8 -0.6
comp=Z,19nm,0.9s
TIXI **Tiksi** 95.61 348 eP P 07 13 35.1 +1.4
TIXI pmax pmax
comp=Z,1.0nm,1.1s
MCMT **McKenzie Canyo** 95.77 44 eP P 07 13 35.9 +0.5
comp=Z,0.8nm,0.8s
MSO **Missoula** 95.84 42 ⇑P P 07 13 36.6 +1.1
baz=96
DLMT **Dillon** 96.14 44 eP P 07 13 37.4 +0.5
comp=Z,2.1nm,0.7s
PV04 **Paradox Valley** 96.15 51 eP P 07 13 38.4 +1.2
PV01 **Paradox Valley** 96.31 52 eP P 07 13 38.3 +0.3
comp=Z,156nm,0.8s
REDW **Red Top Meadow** 96.56 46 eP P 07 13 39.1 +0.1
comp=Z,5.6nm,1.2s
SNOW **Snow King Moun** 96.66 46 P P 07 13 42.0 +2.4
comp=Z,2.7nm,0.8s
IMW **Indian Meadow** 96.69 46 eP P 07 13 40.4 +0.7
comp=Z,4.0nm,1.0s
HVS **Khovu-Aksy** 96.76 322 iP P 07 13 39.1 -0.5
ANMO **Albuquerque** 96.81 55 iP P 07 13 39.2 -1.2
ANMO pmax pmax
comp=Z,7.0nm,1.0s
H17A **Grant Village** 97.12 45 ⇑P Pdif 07 13 42.7 +1.0
baz=97
H17A **Grant Village** 97.12 45 eP Pdif 07 13 42.8 +1.2
comp=Z,3.2nm,0.8s
TXAR **Lajitas Array** 97.20 62 P Pdif 07 13 43.5 +1.3
comp=Z,2.0nm,0.8s,baz=230,slow=5.3,SNR=25
TXAR PKKPbc **PKKPbc** 07 30 21.5 -0.1
comp=Z,0.8nm,0.8s,baz=96,slow=2.5,SNR=7.9
PDAR **Pinedale Array** 97.23 47 P P 07 13 42.0 -0.1
comp=Z,1.0nm,0.8s,baz=243,slow=1.7,SNR=6.7
PDAR PP **PP** 07 17 38.5 -0.9
comp=Z,1.5nm,1.2s,baz=234,slow=1.3,SNR=3.7
PDAR PKKPbc **PKKPbc** 07 30 20.6 -1.8
comp=Z,0.7nm,0.9s,baz=93,slow=5.9,SNR=4.4
O20A **White River Ci** 97.24 50 ⇓P Pdif 07 13 42.7 +0.4
baz=98
INK **Inuvik** 97.39 18 P P 07 13 41.0 -0.9
comp=Z,2.1nm,0.3s,baz=250,slow=6.7,SNR=6.0
N20A **Spence Gulch,** 97.47 49 ⇓P Pdif 07 13 44.1 +0.8
baz=98
S22A **4UR Ranch, Cre** 97.47 53 ⇑P Pdif 07 13 44.4 +1.0
baz=98
J19A **Crowheart** 97.75 47 ⇓P Pdif 07 13 45.0 +0.6
baz=98
WMQ **Urumqi** 97.81 314 P Pdif 07 13 45.0 +0.5
WMQ pP pP 07 14 11.0 +10
WMQ PP **PP** 07 17 46.9 +3.2
WMQ PMZ
comp=Z,6.0nm,1.4s
WMQ PMZ
comp=Z,69nm,4.6s
WMQ LN
comp=Z,36nm,16.0s
WMQ LE
comp=Z,160nm,22.8s
WMQ LZ
comp=Z,190nm,22.8s
I19A **Meeteetse** 98.06 46 ⇓Pdif Pdif 07 13 46.0 +0.2
baz=98
R23A **Moffat** 98.36 52 ⇑Pdif Pdif 07 13 47.9 +0.5
baz=99
429A **Davenport Ranc** 99.07 61 ⇑Pdif **Pdif** 07 13 51.0 +0.5
baz=99
N23A **Red Feather La** 99.15 50 ⇓Pdif **Pdif** 07 13 51.5 +0.7
baz=99
MSTX **Muleshoe** 99.39 57 ⇑Pdif **Pdif** 07 13 51.8 0.0
baz=100
C20A **Veseth Ranch,** 99.93 43 ⇑Pdif **Pdif** 07 13 55.0 +1.2
baz=100
832A **Faith Ranch, C** 99.95 64 ⇑Pdif **Pdif** 07 13 55.6 +1.3
baz=100
R26A **Arlington** 100.18 53 ⇑Pdif **Pdif** 07 13 55.1 -0.2
baz=100
Y29A **Porterfield Fa** 100.22 58 ⇓Pdif **Pdif** 07 13 55.9 +0.4
baz=100
D21A **La Casta Ranch** 100.38 44 ⇑Pdif **Pdif** 07 13 57.0 +1.1
baz=101
833A **Chaparral WMA,** 100.45 64 ⇑Pdif **Pdif** 07 13 57.2 +0.7
baz=101
034A **Hebbronville** 100.69 65 ⇑Pdif **Pdif** 07 13 57.5 -0.1
baz=101
432A **Menard** 100.87 61 ⇑Pdif **Pdif** 07 13 59.1 +0.7
baz=101
A21A **Bergtoll Ranch** 101.02 42 ⇓Pdif **Pdif** 07 14 00.1 +1.5
baz=101
332A **Millersview** 101.06 61 ⇓Pdif **Pdif** 07 14 00.7 +1.5
baz=101
H24A **Dirks Ranch, A** 101.30 46 ⇑Pdif **Pdif** 07 13 59.8 -0.2
baz=102
YKA **Yellowknife Ar** 101.47 27 P **Pdif** 07 14 01.8 +1.6
comp=Z,1.0nm,0.5s,baz=257,slow=5.0,SNR=8.6
N27A **Anderson Farm,** 101.58 51 ⇑Pdif **Pdif** 07 14 02.4 +1.0
baz=102
C23A **Lambert** 101.77 43 ⇓Pdif **Pdif** 07 14 02.9 +0.9
baz=102
Z32A **Haskell** 101.82 59 ⇓Pdif **Pdif** 07 14 03.4 +0.9
baz=102
MKAR **Makanchi Array** 102.37 315 P **Pdif** 07 14 05.2 +0.6
comp=Z,2.3nm,0.8s,baz=99,slow=5.8,SNR=13
MKAR PP **PP** 07 18 14.7 -3.4
comp=Z,2.0nm,0.9s,baz=109,slow=9.5,SNR=6.3
MKAR PKKPbc **PKKPbc** 07 30 05.0 -2.5
comp=Z,0.3nm,0.5s,baz=260,slow=2.6,SNR=3.8
MKAR PKKP PKKPdf 07 30 25.5 +11
comp=Z,1.6nm,0.9s,baz=289,slow=3.7,SNR=8.5
MKAR PKPPKP **P'P'df** 07 38 26.2 +2.1
comp=Z,0.6nm,0.9s,baz=338,slow=3.1,SNR=5.3
ZALV **Zalesovo Beam** 102.82 323 P **Pdif** 07 14 06.1 -0.3
comp=Z,2.4nm,0.7s,baz=145,slow=5.4,SNR=7.2
BVAR **Borovoye Array** 111.10 320 Pdiff **Pdif** 07 14 44.6 +1.4
comp=Z,0.5nm,0.4s,baz=42,slow=5.4,SNR=3.8
BVAR PKiKP **PKiKP** 07 18 41.9 -0.2
comp=Z,0.7nm,0.4s,baz=106,slow=3.1,SNR=4.4
BVAR PP **PP** 07 19 19.4 -2.5
comp=Z,0.8nm,0.7s,baz=98,slow=10,SNR=3.6
BVAR PKKPbc **PKKPbc** 07 29 38.1 -2.4
comp=Z,1.1nm,0.8s,baz=288,slow=0.5,SNR=3.6
BRVK **Borovoye** 111.16 320 iPKiKP **PKiKP** 07 18 42.1 -0.1
BRVK pmax pmax
comp=Z,3.0nm,0.8s
LPAZ **La Paz** 113.04 119 PKiKP **PKiKP** 07 18 47.7 0.0
comp=Z,2.6nm,1.0s,baz=236,slow=11,SNR=7.8
LPAZ **La Paz** 113.04 119 ePKiKP **PKiKP** 07 18 47.3 -0.3
LPAZ **La Paz** 113.04 119 ePKPdf **PKiKP** 07 18 47.3 -0.3
ROSC **El Rosal** 116.47 95 PKP **PKPdf** 07 18 53.3 -0.7
comp=Z,4.3nm,0.8s,baz=288,slow=20,SNR=4.6
ARU **Arti** 117.95 324 SS SKiKP 07 22 41.6 +16
ARU pmax pmax
comp=Z,3.0nm,0.8s
SOKR **Solikamsk** 118.49 328 ePKIKP **PKPdf** 07 18 55.6 -0.4
SOKR pmax pmax
comp=Z,20nm,1.2s
AKTO **Aktyubinsk** 118.72 317 PKP **PKPdf** 07 18 56.5 -0.3
comp=Z,4.9nm,0.8s,baz=27,slow=2.3,SNR=3.0
SIV **San Ignacio** 118.92 122 PKP **PKPdf** 07 18 57.8 -0.5
comp=Z,3.4nm,0.9s,baz=270,slow=3.7,SNR=7.2
BOSA **Boshof** 120.34 217 PKP **PKPdf** 07 19 01.3 +0.5
comp=Z,3.3nm,0.7s,baz=217,slow=5.1,SNR=3.7
SPITS **Spitsbergen Ar** 120.48 354 PKP **PKPdf** 07 18 58.2 -1.2
comp=Z,7.3nm,0.7s,baz=84,slow=7.6,SNR=14
SAML **Samuel** 120.89 114 ePKPdf **PKPdf** 07 19 01.0 -1.1
SDV **Santo Domingo** 121.25 92 ePKPdf **PKPdf** 07 19 01.6 -1.3
MDV **Middlebury** 123.43 50 ePKPdf **PKPdf** 07 19 05.0 -1.0
ILULI **Ilulissat** 125.12 16 iP **PKPdf** 07 19 07.8 -0.7
comp=Z,30nm,1.1s
SUMG **Summit** 125.24 10 iP **PKPdf** 07 19 08.9 -0.3
comp=Z,17nm,1.1s
SUMG **Summit** 125.24 10 iPKiKP **PKPdf** 07 19 08.9 -0.3
SUMG pmax pmax
comp=Z,17nm,1.1s
SUMG **Summit** 125.24 10 ePKPdf **PKPdf** 07 19 08.8 -0.4
SCHQ **Schefferville** 125.64 36 PKP **PKPdf** 07 19 08.8 -1.1
comp=Z,8.9nm,1.1s,baz=294,slow=3.7,SNR=5.5
ARCES **ARCESS Array B** 125.93 345 PKP **PKPdf** 07 19 09.4 -0.6
comp=Z,5.4nm,0.5s,baz=55,slow=2.0,SNR=23
KLMR **Klimovskoe** 126.32 332 ePKIKP **PKPdf** 07 19 10.0 -1.0
KLMR pmax pmax
comp=Z,45nm,1.5s
PQI **Presque Isle** 126.74 46 ePKPdf **PKPdf** 07 19 10.6 -1.7
SJG **San Juan** 127.84 82 ePKIKP **PKPdf** 07 19 14.6 -0.6
SJG **San Juan** 127.84 82 ePKPdf **PKPdf** 07 19 14.6 -0.6
RAYN **Ar Rayn** 127.93 285 ePKPdf **PKPdf** 07 19 15.6 +0.3
KMBO **Kilima Mbogo** 128.44 252 PKP **PKPdf** 07 19 16.7 -0.1
comp=Z,2.4nm,0.7s,baz=52,slow=19,SNR=5.0
GNI **Garni** 128.87 306 iPKiKP **PKPdf** 07 19 15.8 -1.0
GNI pmax pmax
comp=Z,7.0nm,0.7s
BDFB **Brasilia** 128.97 131 PKP **PKPdf** 07 19 17.3 -0.4
comp=Z,15nm,0.9s,baz=206,slow=2.6,SNR=23
ZEI **Tsey** 129.17 309 iPKIKP **PKPdf** 07 19 17.6 +0.3
ZEI pmax pmax
comp=Z,7.0nm,0.4s
KIV **Kislovodsk** 129.85 311 iPKIKP **PKPdf** 07 19 18.6 +0.2
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,110nm,20.0s
LPSR **Galich'ya Gora** 129.93 323 ePKIKP **PKPdf** 07 19 18.7 +0.6
LPSR pmax pmax
comp=N,9.0nm,1.2s
LPSR pmax pmax
comp=E,8.0nm,1.2s
LPSR pmax pmax
comp=Z,30nm,1.2s
OBN **Obninsk** 130.23 326 iPKIKP **PKPdf** 07 19 18.7 +0.1
OBN pmax pmax
comp=Z,41nm,1.4s
OBN MLR MLR
comp=Z,130nm,20.0s
VSR **Storozhevoye** 130.27 321 ePKIKP **PKPdf** 07 19 19.3 +0.5
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,10.0nm,1.1s
VORD **Divnogorie** 130.28 321 ePKIKP **PKPdf** 07 19 19.5 +0.7
VORD pmax pmax
comp=N,9.0nm,0.6s
VORD pmax pmax
comp=E,4.0nm,0.6s
VORD pmax pmax
comp=Z,5.0nm,0.6s
FIA1 **FINESS Array S** 131.41 337 ePKPdf **PKPdf** 07 19 21.4 +0.7
FINES **FINESS Array B** 131.41 337 PKP **PKPdf** 07 19 20.9 +0.3
comp=Z,3.9nm,0.8s,baz=99,slow=6.0,SNR=11
FINES SKPbc **SKPab** 07 22 42.4 +1.1
comp=Z,3.5nm,0.8s,baz=48,slow=4.1,SNR=6.8
VSU **Vasula** 133.07 334 iPKIKP **PKPdf** 07 19 22.4 -1.5
MALT **Malatya** 133.97 304 ⇑PKIKP **PKPdf** 07 19 27.6 +1.2
MALT **Malatya** 133.97 304 ⇑iP **PKPdf** 07 19 27.6 +1.2
AKASG **Malin Array Be** 136.21 324 PKP **PKPdf** 07 19 29.5 -0.5
comp=Z,2.6nm,0.7s,baz=53,slow=2.1,SNR=9.2
AKASG SKPbc **SKPab** 07 23 00.6 -1.9
comp=Z,0.2nm,0.3s,baz=49,slow=2.9,SNR=3.5
KIEV **Kiev** 136.22 324 ePKIKP **PKPdf** 07 19 29.5 -0.5
NB2 **NORSAR Subarra** 136.30 345 PKPdf PKPpre 07 19 23.3
comp=Z,8.1nm,1.0s,baz=31,slow=1.9
NB2 **NORSAR Subarra** 136.30 345 PKPdf PKPpre 07 19 23.3
baz=31,slow=1.9
NOA **NORSAR Array B** 136.30 345 PKhKP PKPpre 07 19 20.6
comp=Z,0.3nm,0.3s,baz=42,slow=2.3,SNR=4.7
NOA PKP **PKPdf** 07 19 30.5 +0.6
comp=Z,5.1nm,1.0s,baz=37,slow=2.1,SNR=8.0
HFS **Hagfors** 136.41 343 PKhKP PKPpre 07 19 18.4
comp=Z,2.4nm,0.9s,baz=8.5,slow=2.9,SNR=3.2
HFS PKP **PKPdf** 07 19 30.6 +0.5
comp=Z,5.3nm,0.8s,baz=104,slow=6.1,SNR=5.7
MMAI **Mount Meron Ar** 137.07 297 PKP **PKPdf** 07 19 33.1 +0.8
comp=Z,0.6nm,0.3s,baz=23,slow=7.8,SNR=4.4
BR131 **Keskin Array S** 137.35 307 ePKPdf **PKPdf** 07 19 33.3 +0.6

BRTR	**Keskin Array B**	**137.35**	**307**	PKP	**PKPdf**	**07 19 33.8**	**+1.1**
	comp=Z,4.1nm,1.0s,baz=98,slow=2.5,SNR=15						
CFR	**Carcaliu**	**139.38**	**317**	⇓PKIKP	**PKPdf**	**07 19 36.0**	**0.0**
CFR	**Carcaliu**	**139.38**	**317**	⇓*i*P	**PKPdf**	**07 19 36.0**	**0.0**
TIRR	**Tirgusor**	**139.50**	**316**	⇑PKIKP	**PKPdf**	**07 19 39.0**	**+2.7**
TIRR	**Tirgusor**	**139.50**	**316**	⇑*i*P	**PKPdf**	**07 19 39.0**	**+2.7**
TLB	**Topalu**	**139.69**	**316**	⇓PKIKP	**PKPdf**	**07 19 39.0**	**+2.4**
TLB	**Topalu**	**139.69**	**316**	⇓*i*P	**PKPdf**	**07 19 39.0**	**+2.4**
BUR08	**Bucovina Ar. S**	**140.03**	**322**	*e*PKPdf	**PKPdf**	**07 19 37.8**	**+0.5**
BURAR	**Bucovina Array**	**140.03**	**322**	⇑PKIKP	**PKPdf**	**07 19 38.6**	**+1.3**
BURAR	**Bucovina Array**	**140.03**	**322**	⇑*i*P	**PKPdf**	**07 19 38.6**	**+1.3**
MSAB	**Monastry St. A**	**140.03**	**316**	⇑*i*P	**PKPdf**	**07 19 38.3**	**+1.0**
MLR	**Muntele Rosu**	**140.63**	**318**	PKhKP	PKPpre	07 19 33.6	
	comp=Z,1.1nm,0.9s,baz=20,slow=4.4,SNR=5.0						
MLR				PKP	**PKPdf**	**07 19 39.5**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=44,slow=3.4,SNR=8.9						
MLR	**Muntele Rosu**	**140.63**	**318**	⇑PKIKP	**PKPdf**	**07 19 40.0**	**+1.5**
MLR	**Muntele Rosu**	**140.63**	**318**	⇑*i*P	**PKPdf**	**07 19 40.0**	**+1.5**
VOIR		**141.21**	**319**	⇑PKIKP	**PKPdf**	**07 19 41.8**	**+2.3**
VOIR		**141.21**	**319**	⇑*i*P	**PKPdf**	**07 19 41.8**	**+2.3**
TRPA	**Tarpa**	**141.27**	**324**	⇑*i*P	**PKPdf**	**07 19 39.3**	**-0.1**
NIE	**Niedzica**	**141.69**	**327**	*e*PKP	**PKPdf**	**07 19 37.1**	**-3.1**
NIE	**Niedzica**	**141.69**	**327**	*e*PKIKP	**PKPdf**	**07 19 37.1**	**-3.1**
DRGR		**141.92**	**322**	⇑PKIKP	**PKPdf**	**07 19 37.4**	**-3.3**
DRGR		**141.92**	**322**	⇑*i*P	**PKPdf**	**07 19 37.4**	**-3.3**
OKC	**Ostrava-Krasne**	**142.50**	**329**	*e*PKP	**PKPdf**	**07 19 41.3**	**-0.2**
OKC				*e*x	x	07 19 44.5	
OKC				AMS	AMS	08 21 20.0	
OKC	**Ostrava-Krasne**	**142.50**	**329**	*e*PKIKP	**PKPdf**	**07 19 41.3**	**-0.2**
ALN	**Alexandroupoli**	**142.50**	**312**	*e*P	**PKPdf**	**07 19 44.2**	**+2.4**
GZR	**Gura Zlata**	**142.62**	**320**	⇑*i*P	**PKPdf**	**07 19 38.6**	**-3.4**
KSP	**Ksiaz**	**142.67**	**332**	*e*PKP	**PKPdf**	**07 19 38.2**	**-3.6**
KSP	**Ksiaz**	**142.67**	**332**	*e*PKIKP	**PKPdf**	**07 19 38.2**	**-3.6**
SIRR	**Siria**	**142.81**	**322**	⇓*i*P	**PKPdf**	**07 19 39.3**	**-2.9**
PSZ	**Piszkesteto**	**142.83**	**325**	*e*PKIKP	**PKPdf**	**07 19 39.2**	**-3.1**
PSZ	**Piszkesteto**	**142.83**	**325**	⇑*i*P	**PKPdf**	**07 19 39.1**	**-3.2**
PSZ	**Piszkesteto**	**142.83**	**325**	*e*PKPdf	**PKPdf**	**07 19 39.2**	**-3.2**
PSZ	**Piszkesteto**	**142.83**	**325**	⇓*e*PKPdf	**PKPdf**	**07 19 39.5**	**-2.8**
KRLC	**Kraliky**	**142.98**	**330**	*e*PKP	**PKPdf**	**07 19 39.3**	**-3.2**
KRLC				*e*x	x	07 19 46.1	
KRLC	**Kraliky**	**142.98**	**330**	*e*PKIKP	**PKPdf**	**07 19 39.3**	**-3.2**
DPC	**Dobruska-Polom**	**143.00**	**331**	*e*PKP	PKPbc	07 19 39.7	+0.3
DPC				*e*x	x	07 19 46.2	
DPC				*e*x	x	07 19 49.5	
DPC				AMS	AMS	08 24 00.0	
	comp=Z,200nm,23.5s						
DPC	**Dobruska-Polom**	**143.00**	**331**	*e*PKIKP	PKPbc	07 19 39.7	+0.3
DPC				MLR	MLR		
	comp=Z,200nm,23.5s						
UPC	**Upice**	**143.03**	**331**	*e*PKP	PKPbc	07 19 39.7	+0.3
UPC				*e*x	x	07 19 46.2	
UPC				*e*x	x	07 19 50.8	
UPC	**Upice**	**143.03**	**331**	*e*PKIKP	PKPbc	07 19 39.7	+0.3
CHOS	**Chios island**	**143.39**	**308**	*e*P	PKPbc	07 19 40.7	-0.2
PKSN	**Nyarlorinc**	**143.46**	**324**	⇓*e*PKPdf	**PKPdf**	**07 19 42.1**	**-1.2**
KAVA	**Kavala**	**143.53**	**313**	*e*P	**PKPdf**	**07 19 43.8**	**+0.2**
BUD	**Budapest**	**143.56**	**325**	⇑*e*PKPdf	PKPbc	07 19 41.6	+0.7
VRAC	**Vranov**	**143.60**	**330**	PKP	PKPbc	07 19 41.5	+0.5
	comp=Z,13nm,0.9s,baz=84,slow=2.8,SNR=16						
VRAC	**Vranov**	**143.60**	**330**	⇓PKIKP	PKPbc	07 19 41.9	+0.9
VRAC	**Vranov**	**143.60**	**330**	⇓*i*P	PKPbc	07 19 41.9	+0.9
PVCC	**Panska Ves**	**143.65**	**333**	*e*PKP	PKPbc	07 19 41.8	+0.7
PVCC				*e*x	x	07 19 49.1	
PVCC				AMS	AMS	08 21 20.0	
	comp=Z,400nm,23.1s						
PVCC	**Panska Ves**	**143.65**	**333**	*e*PKIKP	PKPbc	07 19 41.8	+0.7
PVCC				MLR	MLR		
	comp=Z,400nm,23.1s						
BRG	**Berggiesshubel**	**143.66**	**333**	*i* PKP	PKPbc	07 19 41.1	-0.1
	comp=Z,48nm,1.1s						
	comp=N,108nm,21.7s						
	comp=E,118nm,23.7s						
	comp=Z,212nm,23.8s						
BRG	**Berggiesshubel**	**143.66**	**333**	*e*PKPbc	PKPbc	07 19 41.3	+0.2
BRG	**Berggiesshubel**	**143.66**	**333**	*i* PKIKP	PKPbc	07 19 41.1	0.0
BRG				pmax	pmax		
	comp=Z,48nm,1.1s						
BRG				MLR	MLR		
	comp=N,108nm,21.7s						
BRG				MLR	MLR		
	comp=E,118nm,23.7s						
BRG				MLR	MLR		
	comp=Z,212nm,23.8s						
VTS	**Vitosha**	**143.72**	**316**	⇑PKIKP	PKPbc	07 19 42.4	+0.6
VTS	**Vitosha**	**143.72**	**316**	⇑*i*P	PKPbc	07 19 42.4	+0.6
VTS	**Vitosha**	**143.72**	**316**	*i* P	PKPbc	07 19 42.1	+0.3
CLL	**Collm**	**143.72**	**335**	*e*PKPbc	PKPbc	07 19 41.3	0.0
CLL	**Collm**	**143.72**	**335**	⇑*i*PKPdf	PKPbc	07 19 41.2	-0.1
	comp=Z,42nm,1.1s						
CLL				*e*PKPlp		07 19 44.0	
	comp=Z,100nm,20.2s						
CLL				*i*		07 20 32.6	
CLL				*e*PP	**PP**	**07 23 00.0**	**+3.7**
CLL				*e*PPS	PPS	07 35 30.0	
CLL	**Collm**	**143.72**	**335**	⇑*i*PKIKP	PKPbc	07 19 41.2	-0.1
CLL				*e*		07 23 00.0	
CLL				pmax	pmax		
	comp=Z,42nm,1.1s						
PKS7	**Kunszentmiklos**	**143.76**	**325**	⇓*e*PKPdf	PKPbc	07 19 42.6	+1.1
PKS6	**Bocsa**	**143.81**	**324**	⇓*e*PKPdf	PKPab	07 19 39.3	-1.7
MMB	**Musomiste**	**143.82**	**314**	⇑PKIKP	PKPbc	07 19 42.3	+0.3
MMB	**Musomiste**	**143.82**	**314**	⇑*i*P	PKPbc	07 19 42.3	+0.3
MMB	**Musomiste**	**143.82**	**314**	*i* P	PKPbc	07 19 41.8	-0.2
NVR	**Nevrokopi**	**143.83**	**314**	*e*P	PKPbc	07 19 41.9	-0.1
NRDL	**Niedersach Rie**	**143.86**	**338**	*e*PKPbc	PKPbc	07 19 41.7	+0.2
PKSG		**143.96**	**326**	⇓*e*PKPdf	**PKPdf**	**07 19 43.2**	**-1.0**
GOPC	**GO Pecny, Ondr**	**144.01**	**332**	*e*PKP	PKPbc	07 19 42.5	+0.3
GOPC				*e*x	x	07 19 51.7	
GOPC				AMS	AMS	08 20 00.0	
	comp=Z,400nm,23.5s						
CSKK	**Csˆ‡kako**	**144.04**	**326**	⇓*e*PKPdf	**PKPdf**	**07 19 43.4**	**-0.9**
PRA	**Prague**	**144.05**	**332**	*e*PKP	PKPbc	07 19 42.9	+0.6
PRA				*e*x	x	07 19 54.5	
PRA	**Prague**	**144.05**	**332**	*e*PKIKP	PKPbc	07 19 42.9	+0.6
PRU	**Pruhonice**	**144.06**	**332**	*e*PKP	PKPbc	07 19 42.8	+0.4
PRU				*e*x	x	07 19 52.0	
PRU				*e*x	x	07 20 00.5	
PRU				AMS	AMS	08 20 00.0	
	comp=Z,400nm,23.9s						
PRU	**Pruhonice**	**144.06**	**332**	*e*PKIKP	PKPbc	07 19 42.8	+0.4
PRU				*e*		07 20 00.5	
PRU				MLR	MLR		
	comp=Z,400nm,23.9s						
PKS2	**Kecel**	**144.07**	**324**	⇓*e*PKPdf	**PKPdf**	**07 19 44.2**	**-0.2**
SRS	**Serrai**	**144.12**	**313**	P	**PKPab**	**07 19 42.5**	**+0.1**
SRS	**Serrai**	**144.12**	**313**	*e*P	PKPbc	07 19 42.7	-0.2
SRS	**Serrai**	**144.12**	**313**	PKIKP	**PKPab**	**07 19 42.5**	**+0.1**
SRS	**Serrai**	**144.12**	**313**	P	**PKPab**	**07 19 42.5**	**+0.1**
TREC	**Trest**	**144.13**	**330**	*e*PKP	PKPbc	07 19 42.9	+0.3
TREC				AMS	AMS	08 24 10.0	
	comp=Z,200nm,19.0s						
TREC	**Trest**	**144.13**	**330**	*e*PKIKP	PKPbc	07 19 42.9	+0.3
TREC				MLR	MLR		
	comp=Z,200nm,19.0s						
KKB	**Krupnik**	**144.13**	**315**	*i* P	PKPbc	07 19 43.4	+0.5
OUR	**Ouranopolis**	**144.17**	**312**	P	PKPbc	07 19 42.8	-0.2
OUR	**Ouranopolis**	**144.17**	**312**	*e*P	PKPbc	07 19 42.8	-0.2
OUR	**Ouranopolis**	**144.17**	**312**	PKIKP	PKPbc	07 19 42.8	-0.2
OUR	**Ouranopolis**	**144.17**	**312**	P	PKPbc	07 19 42.8	-0.2
APE	**Apeiranthos**	**144.20**	**306**	⇑PKIKP	**PKPab**	**07 19 41.6**	**-1.3**
APE	**Apeiranthos**	**144.20**	**306**	⇑*i*P	**PKPab**	**07 19 41.6**	**-1.3**
PKST	**Tˆ's**	**144.23**	**326**	⇓*e*PKPdf	PKPbc	07 19 43.7	+0.7
RCBR	**Riachuelo**	**144.28**	**134**	PKP	**PKPab**	**07 19 43.5**	**-0.2**
	comp=Z,39nm,1.1s,baz=162,slow=3.9,SNR=5.2						
NEUB	**Neuenburg**	**144.28**	**336**	*e*PKPbc	PKPbc	07 19 43.6	+0.6
CLZ	**Clausthal**	**144.30**	**337**	*e*PKPbc	PKPbc	07 19 43.9	+0.8
CLZ				*e*pPKPbc	PKiKP	07 19 54.1	+5.8
EKA	**Eskdalemuir Ar**	**144.39**	**353**	PKP	PKPbc	07 19 43.1	-0.1
	comp=Z,5.3nm,0.7s,baz=347,slow=3.4,SNR=9.9						
SOH	**Sokhos**	**144.41**	**313**	*e*P	**PKPab**	**07 19 43.6**	**+0.1**
ESK	**Eskdalemuir**	**144.41**	**353**	*i* PKIKP	**PKPdf**	**07 19 44.7**	**0.0**
SANT	**Santorini**	**144.47**	**305**	*e*PKPdf	**PKPab**	**07 19 43.3**	**-0.6**
PKS9	**Tamasi**	**144.52**	**325**	⇓*e*PKPdf	**PKPdf**	**07 19 44.9**	**-0.3**
PLG	**Polygyros**	**144.53**	**312**	*e*P	**PKPab**	**07 19 43.6**	**-0.4**
PAIG	**Paliouri**	**144.55**	**311**	P	**PKPab**	**07 19 43.6**	**-0.4**
PAIG	**Paliouri**	**144.55**	**311**	*e*P	PKPbc	07 19 44.2	0.0
PAIG	**Paliouri**	**144.55**	**311**	PKIKP	**PKPab**	**07 19 43.6**	**-0.4**
PAIG	**Paliouri**	**144.55**	**311**	P	**PKPab**	**07 19 43.6**	**-0.4**
PKSM	**Moragy**	**144.55**	**324**	⇑PKIKP	**PKPdf**	**07 19 44.8**	**-0.5**
PKSM	**Moragy**	**144.55**	**324**	⇑*i*P	**PKPdf**	**07 19 44.8**	**-0.5**
PKSM	**Moragy**	**144.55**	**324**	⇑*e*PKPdf	**PKPdf**	**07 19 44.7**	**-0.5**
KNT	**Kendrikon**	**144.57**	**314**	P	**PKPab**	**07 19 44.0**	**-0.1**

KNT	**Kendrikon**	**144.57**	**314**	*e*P	**PKPab**	**07 19 42.5**	**-1.6**
KNT	**Kendrikon**	**144.57**	**314**	PKIKP	**PKPab**	**07 19 44.0**	**-0.1**
KNT	**Kendrikon**	**144.57**	**314**	P	**PKPab**	**07 19 44.0**	**-0.1**
TANN	**Tannenbergstha**	**144.63**	**334**	*e*PKPbc	**PKPdf**	**07 19 45.0**	**-0.3**
TANN				*e*pPKPbc	PKiKP	07 19 55.4	+6.3
NPS	**Neapolis**	**144.66**	**303**	*e*P	PKPbc	07 19 45.2	+0.5
WERD	**Werda**	**144.66**	**334**	*e*pPKPbc	PKPdf	07 19 55.5	+10
HORT	**Hortiatis**	**144.68**	**313**	*e*P	**PKPab**	**07 19 43.6**	**-1.0**
PLN	**Plauen**	**144.70**	**334**	*e*PKPbc	**PKPdf**	**07 19 45.2**	**-0.2**
PLN				*e*pPKPbc	PKiKP	07 19 55.4	+6.3
AOS	**Alonnisos**	**144.70**	**310**	*e*P	**PKPab**	**07 19 44.0**	**-0.6**
SOP	**Sopron**	**144.72**	**328**	⇑*e*PKPbc	**PKPdf**	**07 19 45.5**	**0.0**
GUNZ	**Gunzen**	**144.72**	**334**	*e*pPKPbc	PKPdf	07 19 55.8	+10
VAY	**Valandovo**	**144.72**	**314**	*i* PKP	PKPbc	07 19 44.9	+0.2
THE	**Thessaloniki**	**144.75**	**313**	*e*P	**PKPab**	**07 19 44.4**	**-0.3**
WERN	**Wernitzgruen**	**144.76**	**334**	*e*pPKPbc	PKPdf	07 19 55.9	+10
NKC	**Novy Kostel**	**144.77**	**334**	*e*PKP	**PKPdf**	**07 19 45.4**	**-0.1**
NKC				*e*x	x	07 19 48.7	
NKC				*e*x	x	07 19 53.7	
NKC	**Novy Kostel**	**144.77**	**334**	*e*PKIKP	**PKPdf**	**07 19 45.4**	**-0.1**
MOX	**Moxa**	**144.79**	**335**	*e*PKPbc	**PKPdf**	**07 19 45.4**	**-0.1**
MOX				*e*pPKPbc	PKiKP	07 19 55.7	+6.4
MOX				*e*L	L	08 25 53.1	
	comp=Z,120nm,21.9s						
LAST	**Lasithi**	**144.79**	**303**	*e*P	PKPbc	07 19 45.6	+0.3
IBBN	**Ibbenburen**	**144.80**	**340**	*e*PKPbc	**PKPdf**	**07 19 45.2**	**-0.3**
IBBN				*e*pPKPbc	PKiKP	07 19 55.6	+6.4
CONA	**Conrad Observa**	**144.90**	**328**	⇑*i*PKPdf	**PKPdf**	**07 19 46.4**	**+0.5**
	comp=Z,139nm,1.2s,SNR=55						
DIVS	**Divibare**	**144.99**	**320**	⇑*i*P	**PKPdf**	**07 19 46.4**	**+0.2**
GRG	**Griva**	**145.00**	**314**	P	PKPbc	07 19 45.1	-0.6
GRG	**Griva**	**145.00**	**314**	*e*P	PKPbc	07 19 45.0	-0.7
GRG	**Griva**	**145.00**	**314**	PKIKP	PKPbc	07 19 45.1	-0.6
GRG	**Griva**	**145.00**	**314**	P	PKPbc	07 19 45.1	-0.6
GAL1	**Galloway**	**145.02**	**354**	*e*P	**PKPdf**	**07 19 45.5**	**-0.2**
GAL1				AMB	AMB	07 19 46.4	
	comp=Z,150nm,1.1s						
MRKA	**Markates**	**145.09**	**310**	*e*P	**PKPbc**	**07 19 44.8**	**-1.2**
MANZ	**Manzenberg**	**145.10**	**334**	*e*PKPbc	**PKPdf**	**07 19 46.6**	**+0.5**
MANZ				*e*pPKPbc	pPKPbc	07 19 56.9	-6.2
KESW	**Keswick, Cumbr**	**145.11**	**352**	*e*P	**PKPdf**	**07 19 46.1**	**+0.2**
KESW				AMB	AMB	07 19 47.0	
	comp=Z,93nm,1.1s						
XOR	**Xorichti**	**145.12**	**311**	P	**PKPbc**	**07 19 45.2**	**-0.9**
XOR	**Xorichti**	**145.12**	**311**	*e*P	**PKPbc**	**07 19 45.2**	**-0.9**
XOR	**Xorichti**	**145.12**	**311**	P	**PKPbc**	**07 19 45.2**	**-0.9**
KHC	**Kasperske Hory**	**145.12**	**332**	*e*PKP	**PKPdf**	**07 19 46.2**	**0.0**
KHC				*e*x	x	07 19 55.1	
KHC				AMS	AMS	08 22 30.0	
	comp=Z,300nm,18.0s						
KHC	**Kasperske Hory**	**145.12**	**332**	*e*PKIKP	**PKPdf**	**07 19 46.2**	**0.0**
KHC				MLR	MLR		
	comp=Z,300nm,18.0s						
KHC	**Kasperske Hory**	**145.12**	**332**	*e*PKPbc	**PKPdf**	**07 19 46.5**	**+0.2**
PTL	**Penteli**	**145.12**	**308**	*e*P	**PKPbc**	**07 19 46.0**	**-0.2**
SKO	**Skopje**	**145.17**	**316**	*i* PKP	**PKPdf**	**07 19 47.1**	**+0.6**
MHLO	**Agia Marina, M**	**145.18**	**306**	*e*P	**PKPbc**	**07 19 46.0**	**-0.3**
ATHU	**Athens Univers**	**145.21**	**308**	P	**PKPbc**	**07 19 45.7**	**-0.7**
ATHU	**Athens Univers**	**145.21**	**308**	P	**PKPbc**	**07 19 45.7**	**-0.7**
IDI	**Anoyia**	**145.22**	**303**	PKPbc	**PKPbc**	**07 19 46.3**	**-0.3**
	comp=Z,66nm,0.9s,baz=52,slow=7.5,SNR=26						
ROTZ	**Rotzenmuhle**	**145.23**	**334**	*e*PKPbc	**PKPdf**	**07 19 47.3**	**+1.0**
ROTZ				*e*pPKPbc	pPKPbc	07 19 57.7	-5.7
ATH	**Athens Observa**	**145.26**	**308**	*e*P	**PKPbc**	**07 19 46.2**	**-0.3**
UBBA	**Unterbreizbach**	**145.27**	**337**	*e*PKPbc	**PKPdf**	**07 19 46.8**	**+0.6**
UBBA				*e*pPKPbc	pPKPbc	07 19 57.5	-5.9
GEC2	**GERESS Array S**	**145.27**	**331**	*e*PKPbc	**PKPdf**	**07 19 47.1**	**+0.5**
GEC2				*e*pPKPbc	pPKPbc	07 19 57.4	-6.3
GERES	**GERESS Array B**	**145.27**	**331**	PKPbc	**PKPdf**	**07 19 46.6**	**0.0**
	comp=Z,53nm,0.8s,baz=44,slow=4.1,SNR=340						
SMIA	**Simia**	**145.29**	**310**	P	**PKPbc**	**07 19 46.2**	**-0.5**
SMIA	**Simia**	**145.29**	**310**	*e*P	**PKPab**	**07 19 46.9**	**+0.1**
SIVA	**Sivas**	**145.36**	**303**	*e*P	**PKPab**	**07 19 48.3**	**+1.2**
WTSB	**Winterswijk**	**145.39**	**341**	*e*PKP	**PKPbc**	**07 19 46.4**	**-0.1**
	comp=Z,121nm,1.0s						
BEHE	**Becsehely**	**145.40**	**326**	⇑*e*PKPbc	**PKPab**	**07 19 47.6**	**+0.7**
WET	**Wettzell**	**145.41**	**332**	*e*PKPbc	**PKPab**	**07 19 47.7**	**+0.7**
WET				*e*pPKPbc	pPKPbc	07 19 58.1	-5.9
VILL	**Villia**	**145.49**	**309**	P	**PKPdf**	**07 19 46.3**	**-0.9**
ATAL	**Atalanti**	**145.50**	**310**	P	**PKPdf**	**07 19 46.5**	**-0.6**
ATAL	**Atalanti**	**145.50**	**310**	P	**PKPdf**	**07 19 46.5**	**-0.6**
VIL2	**Platees**	**145.50**	**309**	*e*P	**PKPdf**	**07 19 46.3**	**-0.9**
NAIG	**Nisos Aigina**	**145.50**	**308**	*e*P	**PKPdf**	**07 19 46.0**	**-1.2**
HPK	**Haverah Park**	**145.51**	**350**	*e*P	**PKPdf**	**07 19 46.7**	**+0.1**
HPK				AMB	AMB	07 19 48.2	
	comp=Z,171nm,1.6s						
LKR	**Lokris**	**145.53**	**310**	*e*P	**PKPdf**	**07 19 46.5**	**-0.7**
GRF	**Grafenberg Arr**	**145.69**	**334**	*e*PKPbc	**PKPab**	**07 19 48.7**	**+0.8**
GRF				*e*pPKPbc	pPKPbc	07 19 58.8	-6.0
GRF				*e*L	L	08 21 26.0	
	comp=Z,101nm,20.9s						
GRFO	**Grafenberg**	**145.69**	**334**	*e*PKP2	**PKPdf**	**07 19 47.2**	**+0.1**
GRFO	**Grafenberg**	**145.69**	**334**	*e*PKPdf	**PKPdf**	**07 19 47.2**	**+0.1**
BUG	**Bochum--Univer**	**145.70**	**340**	*e*PKPbc	**PKPab**	**07 19 47.9**	**+0.1**
BUG				*e*pPKPbc	pPKPbc	07 19 58.2	-6.5
IVA	**Berane**	**145.71**	**318**	⇑*i*PKP	**PKPab**	**07 19 48.4**	**+0.1**
MOA	**Molln**	**145.73**	**330**	*i* PKPab	**PKPab**	**07 19 48.6**	**+0.4**
	comp=Z,192nm,1.0s,SNR=97						
VAM	**Vamos**	**145.73**	**304**	*e*P	**PKPab**	**07 19 48.9**	**+0.4**
PLE	**Pljevlja**	**145.77**	**319**	⇑*i*PKP	**PKPab**	**07 19 48.7**	**+0.1**
DID	**Didima**	**145.78**	**308**	P	**PKPdf**	**07 19 47.0**	**-0.7**
DID	**Didima**	**145.78**	**308**	*e*P	**PKPdf**	**07 19 46.5**	**-1.2**
DID	**Didima**	**145.78**	**308**	P	**PKPdf**	**07 19 47.0**	**-0.7**
LTK	**Loutraki**	**145.79**	**309**	*e*P	**PKPdf**	**07 19 46.7**	**-1.0**
PVY	**Plav**	**145.81**	**318**	⇑*i*PKP	**PKPbc**	**07 19 48.1**	**-0.2**
THL	**Klokotos Trika**	**145.87**	**312**	*e*P	**PKPdf**	**07 19 46.9**	**-0.8**
AGG	**Agios Georgios**	**145.87**	**311**	P	**PKPdf**	**07 19 47.6**	**-0.2**
AGG	**Agios Georgios**	**145.87**	**311**	*e*P	**PKPdf**	**07 19 47.7**	**-0.1**
AGG	**Agios Georgios**	**145.87**	**311**	PKP2	**PKPdf**	**07 19 47.6**	**-0.2**
AGG	**Agios Georgios**	**145.87**	**311**	P	**PKPdf**	**07 19 47.6**	**-0.2**
LHO	**Holmfirth**	**145.95**	**350**	⇑*e*P	**PKPbc**	**07 19 48.2**	**0.0**
PHP	**Peshkopia**	**145.96**	**316**	P	**PKPbc**	**07 19 48.9**	**+0.2**
PHP	**Peshkopia**	**145.96**	**316**	PKP2	**PKPbc**	**07 19 48.9**	**+0.2**
PHP	**Peshkopia**	**145.96**	**316**	P	**PKPbc**	**07 19 48.9**	**+0.2**
DSF	**Desfina**	**145.97**	**310**	P	**PKPdf**	**07 19 47.9**	**-0.1**
DSF	**Desfina**	**145.97**	**310**	*e*P	**PKPdf**	**07 19 47.9**	**-0.1**
DSF	**Desfina**	**145.97**	**310**	P	**PKPdf**	**07 19 47.9**	**-0.1**
OHR	**Ohrid**	**146.00**	**315**	*i* PKP	**PKPdf**	**07 19 48.3**	**+0.3**
MAKR	**Makrakomi, Fth**	**146.01**	**311**	*e*P	**PKPdf**	**07 19 47.7**	**-0.3**
UPM	**Unac-Piva**	**146.14**	**319**	⇑*i*PKP	**PKPbc**	**07 19 49.2**	**-0.2**
PERS	**Pernice**	**146.15**	**327**	*i* PKPdf	**PKPdf**	**07 19 47.3**	**-0.8**
PERS				*i* PKPbc	**PKPbc**	**07 19 49.2**	**+0.1**
PERS				*i*		07 19 59.8	
NEST	**Nestorio**	**146.16**	**314**	*e*P	**PKPdf**	**07 19 48.7**	**+0.4**
SOKA	**Soboth**	**146.16**	**327**	⇓*i*PKPdf	**PKPdf**	**07 19 47.5**	**-0.7**
	comp=Z,6.7nm,1.1s						
SOKA				*i* PKPab	**PKPbc**	**07 19 49.5**	**+0.3**
	comp=Z,56nm,1.1s,SNR=42						
KBI1	**Birley Grange**	**146.18**	**350**	*e*P	**PKPbc**	**07 19 48.9**	**0.0**
KALE	**Kalithea**	**146.25**	**310**	P	**PKPbc**	**07 19 49.4**	**-0.3**
KALE	**Kalithea**	**146.25**	**310**	*e*P	**PKPbc**	**07 19 49.5**	**-0.3**
KALE	**Kalithea**	**146.25**	**310**	P	**PKPbc**	**07 19 49.4**	**-0.3**
EVR	**Evrytania**	**146.28**	**311**	*e*P	**PKPdf**	**07 19 49.1**	**+0.5**
VLI	**Veliai**	**146.28**	**307**	*e*P	**PKPdf**	**07 19 49.1**	**+0.6**
GUR	**Goura**	**146.28**	**309**	P	**PKPbc**	**07 19 49.6**	**-0.3**
GUR	**Goura**	**146.28**	**309**	*e*P	**PKPbc**	**07 19 49.7**	**-0.2**
GUR	**Goura**	**146.28**	**309**	P	**PKPbc**	**07 19 49.6**	**-0.3**
ANKY	**Antikythira Is**	**146.28**	**305**	*e*P	**PKPab**	**07 19 50.2**	**-0.4**
NKY	**Niksic**	**146.30**	**319**	⇑*i*PKP	**PKPbc**	**07 19 50.1**	**+0.4**
TNS	**Taunus Mts**	**146.32**	**338**	*e*PKPbc	**PKPab**	**07 19 50.3**	**-0.1**
TNS				*e*pPKPbc	pPKPbc	07 20 00.7	-6.1
TTG	**Podgorica**	**146.34**	**318**	⇑*i*PKP	**PKPbc**	**07 19 49.9**	**+0.2**
KYTH	**Kithira**	**146.35**	**306**	*e*P	**PKPab**	**07 19 50.6**	**-0.3**
EFP	**Efpalio**	**146.41**	**310**	P	**PKPbc**	**07 19 50.5**	**+0.5**
EFP	**Efpalio**	**146.41**	**310**	*e*P	**PKPbc**	**07 19 50.6**	**+0.5**
WME	**Myndd Eilian**	**146.43**	**353**	⇑*e*P	**PKPbc**	**07 19 49.6**	**0.0**
VLX	**Vlachokerasia**	**146.47**	**308**	P	**PKPbc**	**07 19 50.4**	**0.0**
VLX	**Vlachokerasia**	**146.47**	**308**	*e*P	**PKPbc**	**07 19 50.2**	**-0.2**
VLX	**Vlachokerasia**	**146.47**	**308**	P	**PKPbc**	**07 19 50.4**	**0.0**
RJOB	**Jochberg**	**146.49**	**331**	*e*PKPbc	**PKPbc**	**07 19 50.6**	**+0.5**
RJOB				*e*pPKPbc	PKiKP	07 20 00.1	+7.1
TIR	**Tirane**	**146.50**	**316**	*e*PKP2	**PKPbc**	**07 19 50.7**	**+0.5**
TIR	**Tirane**	**146.50**	**316**	*e*PKPbc	**PKPbc**	**07 19 50.7**	**+0.5**
WPM1	**Penmaenmawr**	**146.51**	**353**	⇑*e*P	**PKPbc**	**07 19 49.8**	**-0.1**
OBKA	**Obir**	**146.52**	**328**	⇑*i*PKPab	**PKPbc**	**07 19 50.2**	**-0.1**
	comp=Z,32nm,0.8s,SNR=12						
BRY	**Bratogost**	**146.53**	**319**	⇑*i*PKP	**PKPbc**	**07 19 50.1**	**-0.4**
WLF1	**Llynfaes**	**146.54**	**353**	⇑*e*P	**PKPbc**	**07 19 49.8**	**-0.1**
ULC	**Ulcinj**	**146.59**	**317**	⇑*i*PKP	**PKPbc**	**07 19 50.4**	**-0.1**
PDKS	**Podkum**	**146.60**	**327**	*i* PKPbc	**PKPbc**	**07 19 50.8**	**+0.3**
YRC	**Rhoscolyn**	**146.60**	**353**	⇑*e*P	**PKPbc**	**07 19 49.5**	**-0.6**

BUM	**Brajici-Budva**	**146.63**	**318**	⇑*i*PKP	**PKPdf**	**07 19 48.7**	**-0.3**
JAN	**Janina**	**146.64**	**313**	*e*P	**PKPab**	**07 19 51.8**	**-0.1**
YLL	**Llanberis**	**146.66**	**353**	⇑*e*P	**PKPbc**	**07 19 50.0**	**-0.3**
DSL	**Palaion Diasel**	**146.69**	**312**	P	**PKPbc**	**07 19 51.4**	**+0.5**
DSL	**Palaion Diasel**	**146.69**	**312**	*e*P	**PKPbc**	**07 19 51.0**	**+0.1**
DSL	**Palaion Diasel**	**146.69**	**312**	P	**PKPbc**	**07 19 51.4**	**+0.5**
HGN	**Heimansgroeve**	**146.71**	**341**	*e*PKP	**PKPbc**	**07 19 50.2**	**-0.3**
	comp=Z,107nm,1.2s						
KBA	**Koelnbreinsper**	**146.71**	**329**	⇓*i*PKPbc	**PKPbc**	**07 19 50.2**	**-0.7**
	comp=Z,73nm,1.4s,SNR=28						
DRO	**Drossia**	**146.74**	**309**	P	**PKPbc**	**07 19 51.7**	**+0.6**
DRO	**Drossia**	**146.74**	**309**	*e*P	**PKPbc**	**07 19 51.6**	**+0.5**
BEBN	**Eben Emael**	**146.76**	**341**	PKPab	**PKPbc**	**07 19 51.1**	**+0.4**
FOEL	**Foel Wylfa**	**146.78**	**352**	*e*P	**PKPbc**	**07 19 50.4**	**-0.3**
FOEL				AMB	AMB	07 19 51.6	
	comp=Z,140nm,0.9s						
HCY	**Herceg Novi**	**146.81**	**319**	⇑*i*PKP	**PKPbc**	**07 19 50.6**	**-0.5**
MEM	**Membach**	**146.82**	**340**	PKPbc	**PKPbc**	**07 19 51.4**	**+0.6**
BOJS	**Bojanci**	**146.83**	**326**	*i* PKPdf	**PKPdf**	**07 19 49.1**	**-0.1**
BOJS				*i* PKPbc	**PKPab**	**07 19 51.9**	**-0.6**
BOJS				*i*		07 20 02.4	
YRE	**Yr Eifl**	**146.85**	**353**	⇑*e*P	**PKPbc**	**07 19 50.5**	**-0.4**
FUR	**Furstenfeldbru**	**146.85**	**333**	*e*PKPbc	**PKPab**	**07 19 51.9**	**-0.6**
FUR				*e*pPKPbc	pPKPbc	07 20 02.4	-5.9
VISS	**Visnje**	**146.85**	**326**	*i* PKPdf	**PKPdf**	**07 19 49.0**	**-0.2**
VISS				*i* PKPbc	**PKPbc**	**07 19 51.5**	**+0.3**
VISS				*i*		07 20 02.2	
PDO	**Prodromos**	**146.86**	**311**	P	**PKPbc**	**07 19 51.9**	**+0.5**
PDO	**Prodromos**	**146.86**	**311**	*e*P	**PKPbc**	**07 19 51.4**	**0.0**
ITM	**Ithomi**	**146.87**	**308**	*e*P	**PKPbc**	**07 19 51.2**	**-0.3**
RLS	**Riolos of Patr**	**146.87**	**310**	*e*P	**PKPbc**	**07 19 52.0**	**+0.6**
MYKA	**Terra Mystica**	**146.89**	**329**	⇑*i*PKPbc	**PKPbc**	**07 19 50.9**	**-0.4**
	comp=Z,35nm,0.8s,SNR=18						
AMT	**Artemida-Makis**	**146.90**	**309**	P	**PKPbc**	**07 19 51.6**	**0.0**
AMT	**Artemida-Makis**	**146.90**	**309**	*e*P	**PKPbc**	**07 19 52.2**	**+0.6**
GORS	**Gorjuse**	**146.93**	**328**	*i* PKPbc	**PKPbc**	**07 19 51.1**	**-0.3**
IGT	**Igoumenitsa**	**147.05**	**313**	P	**PKPbc**	**07 19 51.9**	**0.0**
IGT	**Igoumenitsa**	**147.05**	**313**	*e*P	**PKPbc**	**07 19 51.6**	**-0.3**
IGT	**Igoumenitsa**	**147.05**	**313**	PKP2	**PKPbc**	**07 19 51.9**	**0.0**
IGT	**Igoumenitsa**	**147.05**	**313**	P	**PKPbc**	**07 19 51.9**	**0.0**
SGD	**Sagiada**	**147.08**	**313**	P	**PKPbc**	**07 19 52.2**	**+0.3**
SGD	**Sagiada**	**147.08**	**313**	*e*P	**PKPbc**	**07 19 52.4**	**+0.5**
HLM1	**Long Mynd**	**147.10**	**351**	*e*P	**PKPbc**	**07 19 51.6**	**0.0**
HLM1				AMB	AMB	07 19 52.2	
	comp=Z,88nm,1.2s						
PYL	**PYLOS**	**147.12**	**307**	P	**PKPbc**	**07 19 51.7**	**-0.4**
PYL	**PYLOS**	**147.12**	**307**	*e*P	**PKPdf**	**07 19 51.0**	**+1.1**
PYL	**PYLOS**	**147.12**	**307**	P	**PKPbc**	**07 19 51.7**	**-0.4**
LKD2	**Lefkada island**	**147.15**	**311**	P	**PKPbc**	**07 19 52.5**	**+0.3**
LKD2	**Lefkada island**	**147.15**	**311**	*e*P	**PKPbc**	**07 19 52.6**	**+0.3**
LKD2	**Lefkada island**	**147.15**	**311**	P	**PKPbc**	**07 19 52.5**	**+0.3**
UCC	**Uccle**	**147.15**	**342**	PKPbc	**PKPbc**	**07 19 52.2**	**+0.5**
UDBI	**Udbina**	**147.19**	**324**	P	**PKPbc**	**07 19 52.3**	**+0.2**
JAVS	**Javornik**	**147.19**	**327**	*i* PKPdf	**PKPdf**	**07 19 49.2**	**-0.7**
JAVS				*i* PKPbc	**PKPbc**	**07 19 52.1**	**-0.1**
JAVS				*i*		07 20 02.5	
BCLA	**Clavier**	**147.20**	**341**	PKPbc	**PKPbc**	**07 19 52.3**	**+0.4**
STU	**Stuttgart**	**147.23**	**335**	*e*PKPbc	**PKPbc**	**07 19 52.9**	**+0.8**
STU				*e*pPKPbc	**pPKPbc**	**07 20 03.4**	**-6.0**
STU	**Stuttgart**	**147.23**	**335**	*e*PKP2	**PKPbc**	**07 19 52.6**	**+0.5**
STU	**Stuttgart**	**147.23**	**335**	*e*PKPbc	**PKPbc**	**07 19 52.6**	**+0.5**
KEK	**Kerkira**	**147.33**	**313**	*e*P	**PKPbc**	**07 19 53.0**	**+0.3**
WATA	**Walderalm**	**147.35**	**331**	⇓*i*PKPbc	**PKPbc**	**07 19 52.5**	**-0.1**
	comp=Z,74nm,1.2s,SNR=9.7						
ABTA	**Abfaltersbach**	**147.35**	**330**	⇑*i*PKPdf	**PKPdf**	**07 19 49.1**	**-1.1**
	comp=Z,11nm,0.8s,SNR=37						
ABTA				⇑*i*PKPbc	**PKPbc**	**07 19 52.1**	**-0.4**
	comp=Z,64nm,1.0s						
WTTA	**Wattenberg**	**147.37**	**331**	⇑*i*PKPdf	**PKPdf**	**07 19 50.0**	**-0.3**
	comp=Z,16nm,1.3s						
WTTA				⇑*i*PKPab	**PKPbc**	**07 19 52.8**	**0.0**
	comp=Z,138nm,1.2s,SNR=24						
SNF	**Seneffe**	**147.43**	**342**	PKPbc	**PKPbc**	**07 19 53.1**	**+0.6**
SKDS	**Skadanscina**	**147.45**	**327**	*i* PKPbc	**PKPbc**	**07 19 52.8**	**0.0**
TRI	**Trieste**	**147.47**	**327**	*e*PKP2	**PKPbc**	**07 19 52.5**	**-0.3**
TRI	**Trieste**	**147.47**	**327**	*e*PKPbc	**PKPbc**	**07 19 52.5**	**-0.3**
ZKS	**Zakynthos**	**147.51**	**309**	*e*P	**PKPbc**	**07 19 52.8**	**-0.4**
MOTA	**Moosalm**	**147.55**	**332**	⇑*i*PKPdf	**PKPdf**	**07 19 49.9**	**-0.6**
MOTA				*i* PKPab	**PKPbc**	**07 19 53.4**	**+0.2**
	SNR=34						
WLF	**Walferdange**	**147.59**	**339**	PKPbc	**PKPab**	**07 19 54.2**	**-1.0**
WLF	**Walferdange**	**147.59**	**339**	*e*PKPbc	**PKPab**	**07 19 54.4**	**-0.9**
WLF				*e*pPKPbc	**pPKPbc**	**07 20 04.9**	**-5.4**
WLF	**Walferdange**	**147.59**	**339**	*e*PKP2	**PKPbc**	**07 19 53.9**	**+0.9**
WLF	**Walferdange**	**147.59**	**339**	*e*PKPbc	**PKPbc**	**07 19 53.9**	**+0.9**
LANF	**Langenberg**	**147.59**	**337**	PKP	**PKPbc**	**07 19 54.0**	**+0.9**
RETA	**Reutte**	**147.59**	**332**	*i* PKPab	**PKPbc**	**07 19 53.6**	**+0.4**
	comp=Z,56nm,1.1s,SNR=13						
MCH1	**Michaelchurch**	**147.62**	**351**	⇑*e*P	**PKPbc**	**07 19 52.2**	**-0.9**
MCH1				AMB	AMB	07 19 53.5	
	comp=Z,112nm,1.2s						
NVLJ	**Novalja**	**147.65**	**325**	P	**PKPbc**	**07 19 53.2**	**-0.1**
LPW	**Lampeter**	**147.66**	**352**	*e*P	**PKPbc**	**07 19 53.0**	**-0.1**
LPW				AMB	AMB	07 19 54.3	
	comp=Z,104nm,1.2s						
ELSH	**Elham, Standar**	**147.66**	**346**	*e*P	**PKPbc**	**07 19 53.8**	**+0.6**
ELSH				AMB	AMB	07 19 54.3	
	comp=Z,211nm,1.0s						
DOU	**Dourbes**	**147.71**	**341**	PKPbc	**PKPbc**	**07 19 54.0**	**+0.7**
DOU				E		07 20 04.2	
MONM	**Monmouth**	**147.75**	**351**	*e*P	**PKPbc**	**07 19 53.2**	**-0.2**
MONM				AMB	AMB	07 19 53.9	
	comp=Z,113nm,1.1s						
SWN1	**Swindon**	**147.90**	**349**	*e*P	**PKPbc**	**07 19 54.1**	**+0.4**
SWN1				AMB	AMB	07 19 55.2	
	comp=Z,324nm,1.1s						
BFO	**Black Forest**	**147.93**	**336**	*e*PKPbc	**PKPbc**	**07 19 54.5**	**+0.5**
BFO				*e*pPKPbc	**pPKPbc**	**07 20 04.9**	**-6.4**
BFO	**Black Forest**	**147.93**	**336**	*e*PKP2	**PKPbc**	**07 19 54.2**	**+0.2**
BFO	**Black Forest**	**147.93**	**336**	*e*PKPbc	**PKPbc**	**07 19 54.2**	**+0.2**
MENF	**Mencas**	**147.96**	**344**	PKP	**PKPbc**	**07 19 54.4**	**+0.4**
FETA	**Feichten**	**147.96**	**332**	⇑*i*PKPdf	**PKPdf**	**07 19 50.9**	**-0.4**
	comp=Z,10nm,1.2s						
FETA				*i* PKiKP	**PKPbc**	**07 19 54.9**	**+0.6**
	comp=Z,115nm,1.0s,SNR=32						
WOL	**Wolverton**	**147.99**	**349**	*e*P	**PKPbc**	**07 19 53.8**	**-0.2**
WOL				AMB	AMB	07 19 54.7	
	comp=Z,164nm,0.9s						
HMNX	**Herstmonceux**	**148.10**	**347**	*e*P	**PKPbc**	**07 19 54.8**	**+0.4**
HMNX				AMB	AMB	07 19 55.7	
	comp=Z,166nm,1.1s						
DAVA	**Damuels**	**148.13**	**333**	⇑*i*PKPdf	**PKPdf**	**07 19 50.8**	**-0.7**
	comp=Z,6.5nm,1.1s						
DAVA				*i* PKiKP	**PKPbc**	**07 19 55.2**	**+0.4**
	comp=Z,81nm,1.1s,SNR=19						
ECH	**Echery**	**148.47**	**337**	PKP	**PKPbc**	**07 19 55.6**	**+0.2**
ECH	**Echery**	**148.47**	**337**	*e*PKP2	**PKPbc**	**07 19 55.1**	**-0.3**
ECH	**Echery**	**148.47**	**337**	*e*PKPbc	**PKPbc**	**07 19 55.1**	**-0.3**
ECH				*e*PKPab	**PKPab**	**07 19 59.3**	**+0.4**
DAVOX	**Davos/Dischmat**	**148.52**	**332**	PKPbc	**PKPbc**	**07 19 56.7**	**+0.8**
	comp=Z,78nm,0.7s,baz=0.0,slow=3.0,SNR=83						
HEX	**Exmoor**	**148.65**	**352**	⇑*e*P	**PKPbc**	**07 19 55.6**	**-0.1**
HEX				AMB	AMB	07 19 56.4	
	comp=Z,72nm,1.1s						
MOF	**Molkenrain**	**148.78**	**336**	PKP	**PKPbc**	**07 19 56.4**	**+0.1**
HTL	**Hartland**	**148.81**	**352**	*e*P	**PKPbc**	**07 19 56.1**	**0.0**
THEF	**They Montfort**	**148.88**	**338**	PKP	**PKPbc**	**07 19 56.8**	**+0.3**
DYA	**Yadsworthy**	**149.28**	**351**	*e*P	**PKPbc**	**07 19 57.0**	**-0.4**
DYA				AMB	AMB	07 19 57.9	
	comp=Z,83nm,1.1s						
LOMF	**Lomont**	**149.31**	**336**	PKP	**PKPbc**	**07 19 58.1**	**+0.4**
TIP	**Timpagrande**	**149.65**	**315**	*e*PKPbc	**PKPbc**	**07 19 58.8**	**0.0**
CCA1	**Carnmenellis**	**149.69**	**353**	*e*P	**PKPbc**	**07 19 58.4**	**+0.1**
CCA1				AMB	AMB	07 19 59.6	
	comp=Z,101nm,1.3s						
CUC	**Castrocucco**	**149.84**	**317**	*e*PKPbc	**PKPbc**	**07 19 58.3**	**-0.9**
AQU	**L'Aquila**	**149.90**	**323**	*e*PKP2	**PKPbc**	**07 19 59.2**	**-0.1**
AQU	**L'Aquila**	**149.90**	**323**	*e*PKPbc	**PKPbc**	**07 19 59.2**	**-0.1**
JSA	**Saint Aubin**	**150.21**	**349**	*e*P	**PKPbc**	**07 19 59.7**	**+0.1**
JSA				AMB	AMB	07 20 00.9	
	comp=Z,93nm,1.2s						
OG01	**Vacheresse**	**150.21**	**335**	PKP	**PKPbc**	**07 20 00.5**	**+0.6**
CEL	**Celeste**	**150.70**	**314**	*e*PKPbc	**PKPbc**	**07 20 00.7**	**-0.6**
RSL	**Roselend**	**150.76**	**335**	PKP	**PKPbc**	**07 20 01.5**	**+0.2**
BNI	**Bardonecchia**	**151.25**	**334**	*e*PKIKP	**PKPbc**	**07 20 02.9**	**+0.4**
BNI	**Bardonecchia**	**151.25**	**334**	*e*PKPbc	**PKPbc**	**07 20 02.9**	**+0.4**
GDM	**Grand'Maison**	**151.36**	**335**	PKP	**PKPbc**	**07 20 03.4**	**+0.6**
GRN	**Grenoble**	**151.48**	**335**	PKP	**PKPbc**	**07 20 03.7**	**+0.8**
PLDF	**La Plantade**	**151.64**	**339**	PKP	**PKPbc**	**07 20 04.7**	**+1.4**
SURF	**Saint Ours**	**151.66**	**333**	PKP	**PKPbc**	**07 20 04.2**	**+0.7**
SAOF	**Saorge**	**151.72**	**331**	PKP	**PKPbc**	**07 20 03.4**	**-0.1**
AUTN	**L'Aution**	**151.78**	**332**	PKP	**PKPbc**	**07 20 04.3**	**+0.5**

TOUF	Mont Tournerai	151.84	332	PKP	PKPbc	07 20 03.8	-0.1
SSB	Saint Sauveur	151.91	337	PKP	PKPbc	07 20 04.1	+0.2
SSB	Saint Sauveur	151.91	337	ePKIKP	PKPbc	07 20 03.9	0.0
SSB	Saint Sauveur	151.91	337	ePKPbc	PKPbc	07 20 03.9	0.0
SSB				ePKPab	PKPab	07 20 13.9	+0.8
MVIF	Mont Vial	151.97	332	PKP	PKPbc	07 20 02.5	-1.7
REVF	Revere	152.00	331	PKP	PKPbc	07 20 08.1	+4.0
COLF	Collangettes	152.01	338	PKP	PKPbc	07 20 04.6	+0.5
OG26	St.-Nazaire-De	152.20	335	PKP	PKPbc	07 20 05.3	+0.7
CALN	Calern	152.21	332	PKP	PKPbc	07 20 04.9	+0.2
LBL	Lubilhac	152.41	338	PKP	PKPbc	07 20 06.8	+1.8
CLTB	Caltabellotta	152.86	315	ePKPdf	PKPdf	07 19 59.9	+0.9
CLTB				ePKPbc	PKiKP	07 20 06.4	-0.1
KEST	Kesra	156.46	316	PKPab	PKPab	07 20 33.6	+0.8
	comp=Z,4.6nm,1.1s,baz=8.1,slow=5.8,SNR=4.5						
ESDC	Sonseca Array	159.66	345	PKPab	PKPab	07 20 46.3	-0.1
	comp=Z,0.2nm,0.3s,baz=21,slow=3.3,SNR=5.3						
DBIC	Dimbokro	165.44	204	PKPab	PKPab	07 21 12.8	+0.6
	comp=Z,16nm,1.1s,baz=135,slow=3.9,SNR=4.9						
TORD	Torodi Ar. Bea	166.19	242	PKP	PKPdf	07 20 14.2	-0.5
	comp=Z,1.5nm,0.9s,baz=27,slow=1.6,SNR=6.5						
TORD				PKPab	PKPab	07 21 15.2	-0.6
	comp=Z,5.5nm,1.1s,baz=130,slow=4.3,SNR=9.4						

IDC 09 07:13:30.1±6.4, 20.24°S×176.61°W, h300km±56km, mb3.2/3, mb1 3.4/4, mb1mx3.1/20, mbtmp3.9/4, Error ellipse: s-maj=42.5km s-min=19.5km az=90.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	18.77	196	P	P	07 17 27.8	-0.1
	0.7nm,0.3s,baz=346,slow=4.2,SNR=4.1						
URZ				S	S	07 20 45.9	+0.8
	0.3nm,0.3s,baz=93,slow=17,SNR=3.0						
CTA	Charters Tower	34.82	264	P	P	07 19 54.1	+0.7
	1.3nm,0.4s,baz=106,slow=9.6,SNR=3.4						
ASAR	Alice Springs	45.85	256	P	P	07 21 23.1	-0.2
	0.8nm,0.6s,baz=101,slow=7.9,SNR=7.1						
WRA	Warramunga Arr	45.93	261	P	P	07 21 23.2	-0.7
	0.5nm,0.5s,baz=96,slow=7.3,SNR=6.2						
BRTR	Keskin Array B	147.62	313	PKPbc	PKPbc	07 32 39.3	-0.4
	0.3nm,0.5s,baz=101,slow=4.6,SNR=2.8						
GERES	GERESS Array B	150.28	346	PKPbc	PKPbc	07 32 45.4	-0.5
	0.2nm,0.3s,baz=29,slow=2.2,SNR=4.2						

IDC 09 07:14:17.2±1.3, 38.29°N×70.29°E, h0km, mb3.7/7, mb1 3.9/12, mb1mx3.7/32, mbtmp3.8/12, ML3.6/5, Error ellipse: s-maj=23.6km s-min=12.6km az=147.0
TEH 09 07:14:18.5, 38.29°N×69.92°E, h8km, ML4.2
ISCJB 09 07:14:19.3±0.6, 38.26°N±0.06°×70.09°E±0.06°, h27km, mb3.7/7, Error ellipse: s-maj=9.6km s-min=4.7km az=150.5
NNC 09 07:14:21.8±1.2, 38.64°N×70.18°E, h0km, mb4.4, mpv4.3, Error ellipse: s-maj=15.2km s-min=3.2km az=167.0
MOS 09 07:14:24.1±1.9, 38.56°N×69.88°E, h63km, mb4.2/3, Error ellipse: s-maj=14.1km s-min=7.6km az=84.8
ISC 09 07:14:21.3±0.7, 38.39°N±0.06°×70.20°E±0.04°, h27km, n55, σ1.58s/49, mb3.6/7, 10C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZET	Dzherino	1.15	292	⇑P	Pb	07 14 41.7	-0.9
	529nm,0.3s						
DZET				⇓S	Sb	07 14 57.4	+0.1
	3µm,0.5s						
SFK	Sufi-Kurgan	3.04	57	⇓Pn	Pn	07 15 10.4	+2.6
SFK				⇓Lg	Lg	07 15 54.1	
	172nm,0.5s						
SFK	Sufi-Kurgan	3.04	57	PN	Pb	07 15 14.0	-0.9
SFK						07 15 54.0	
SFK				pmax	pmax		
	comp=Z,81nm,0.5s						
MNAS	Manas	4.46	23	⇓Pn	Pn	07 15 28.4	+1.1
	comp=Z,16nm,0.4s						
MNAS				⇑Lg	Lg	07 16 34.1	
	comp=Z,174nm,0.9s						
AML	Almayashu	4.60	34	P	Pn	07 15 33.7	+4.3
	SNR=34						
KSH	Kashi	4.64	74	Pn	Pn	07 15 27.5	-2.3
KSH				Sn	Sn	07 16 21.1	-1.7
KSH				smax	smax		
	comp=N,200nm,1.0s						
KSH				smax	smax		
	comp=E,130nm,0.6s						
KK31	Karatay Array	4.72	3	⇑Pn	Pn	07 15 31.6	+0.8
	comp=E,28nm,0.6s,baz=185,slow=14,SNR=273						
KK31				⇓Pg	Pb	07 15 44.4	+1.1
	comp=E,8.2nm,0.3s						
KK31				⇓Lg	Lg	07 16 43.0	
	comp=E,152nm,0.8s,baz=187,slow=27,SNR=9.8						
KK31	Karatay Array	4.72	3	PN	Pn	07 15 31.5	+0.8
KK31						07 16 27.4	
KK31				pmax	pmax		
	comp=Z,32nm,0.7s						
KK31				smax	smax		
	comp=Z,11nm,0.4s						
UCH	Uchtor	5.06	39	P	Pn	07 15 37.2	+1.4
	SNR=7.2						
EKS2	Erkin-Say	5.07	31	P	Pn	07 15 39.7	+4.1
	SNR=11						
KZA	Kyzart	5.34	45	P	Pn	07 15 41.4	+1.8
	SNR=11						
AAK	Ala-Archa	5.36	36	P	Pn	07 15 44.0	+4.4
	SNR=24						
AAK	Ala-Archa	5.36	36	⇑Pn	Pn	07 15 42.9	+3.2
	comp=Z,25nm,0.9s						
AAK				⇑Lg	Lg	07 17 05.6	
	comp=Z,79nm,1.0s						
AAK	Ala-Archa	5.36	36	Pn	Pn	07 15 41.7	+2.0
	comp=Z,5.3nm,0.3s,baz=210,slow=3.3,SNR=28						
AAK				Sn	Sn	07 16 45.1	+4.6
	comp=Z,2.0nm,0.3s,baz=216,slow=17,SNR=2.5						
AAK				Lg	Lg	07 17 06.0	
	comp=Z,3.2nm,0.3s,baz=240,slow=15,SNR=4.5						
AAK	Ala-Archa	5.36	36	PN	Pn	07 15 42.8	+3.2
AAK						07 16 47.3	
AAK				pmax	pmax		
	comp=Z,16nm,0.6s						
AAK				smax	smax		
	comp=Z,32nm,0.7s						
FRU	Bishkek	5.57	36	ePN	Pn	07 15 49.0	+6.6
FRU				pmax	pmax		
	comp=Z,40nm,1.7s						
KBK	Karagaybulak	5.59	39	P	Pn	07 15 48.3	+5.4
	SNR=27						
CHMS	Chumysh	5.76	35	P	Pn	07 15 49.3	+4.3
	SNR=12						
USP	Ospenovka	5.87	32	P	Pn	07 15 50.0	+3.5
	SNR=11						
TKM2	Tokmak 2	6.11	40	P	Pn	07 15 52.4	+2.3
	SNR=16						
TKM2	Tokmak 2	6.11	40	⇓Pn	Pn	07 15 52.2	+2.2
	comp=Z,16nm,0.5s						
TKM2				⇑Sn	Sn	07 16 58.5	-0.7
	comp=Z,30nm,0.8s						
TKM2				⇑Lg	Lg	07 17 27.0	
	comp=Z,24nm,0.7s						
IMYA	Miami	8.29	259	eP	Pn	07 16 19.8	-0.2
IMOG	Moghan	8.95	259	eP	Pn	07 16 27.9	-1.1
IPAY	Payeh	9.12	261	eP	Pn	07 16 31.8	+0.5
IAKL	Akhelmad	9.27	262	eP	Pn	07 16 32.2	-1.2
IKRD	Kardeh	9.41	264	eP	Pn	07 16 24.5	-11
ISFR	Sfrayin	9.76	266	eP	Pn	07 16 39.6	-0.4
MK31	Makanchi Array	12.24	43	⇑P	Pn	07 17 16.9	+3.1
	comp=Z,1.8nm,0.7s,baz=227,slow=13,SNR=11						
MKAR	Makanchi Array	12.24	43	Pn	Pn	07 17 14.1	+0.3
	comp=Z,0.1nm,0.3s,baz=228,slow=13,SNR=6.8						
MKAR	Makanchi Array	12.24	43	iP	Pn	07 17 18.7	+4.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AB31	Akbulak array	13.13	329	⇓P	Pn	07 17 25.2	-0.8
	comp=Z,4.4nm,0.5s						
AB31	Akbulak array	13.13	329	P	Pn	07 17 25.1	-0.8
AB31				pmax	pmax		
	comp=Z,5.0nm,0.4s						
KURBB	Kurchatov Arra	13.59	23	⇑P	Pn	07 17 30.7	-1.4
	comp=Z,2.7nm,0.9s						
KURK	Kurchatov	13.70	23	⇑P	Pn	07 17 32.6	-1.0
KURK	Kurchatov	13.70	23	eP	Pn	07 17 35.0	+1.4
BVA0	Borovoye Array	14.64	0	P	Pn	07 17 45.9	-0.6
	comp=Z,2.6nm,0.6s,baz=168,slow=13,SNR=15						
BVAR	Borovoye Array	14.64	0	Pn	Pn	07 17 43.4	-3.1
	comp=Z,0.7nm,0.3s,baz=169,slow=12,SNR=14						
BVAR	Borovoye Array	14.64	0	P	Pn	07 17 43.4	-3.1
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	Borovoye	14.68	0	eP	Pn	07 17 46.4	-0.5
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKTO	Aktyubinsk	14.84	328	⇓P	Pn	07 17 48.2	-1.0
	comp=Z,6.1nm,0.6s						
AKTO	Aktyubinsk	14.84	328	Pn	Pn	07 17 47.7	-1.4
	comp=Z,0.6nm,0.3s,baz=140,slow=14,SNR=18						
AKTO	Aktyubinsk	14.84	328	P	Pn	07 17 47.7	-1.4
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	Zalesovo Beam	18.51	28	P	P	07 18 34.0	-1.3
	comp=Z,0.1nm,0.3s,baz=209,slow=12,SNR=1.9						
ZALV	Zalesovo Beam	18.51	28	P	P	07 18 34.0	-1.3
ARU	Arti	19.64	341	d iP	P	07 18 46.5	-1.2
ARU				S	S	07 22 26.0	-1.7
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KBZ	Khabaz	21.22	293	P	P	07 19 04.7	-0.2
	comp=Z,1.3nm,0.8s,baz=146,slow=15,SNR=1.9						
FINES	FINESS Array B	35.57	325	P	P	07 21 15.7	-0.2
	comp=Z,1.5nm,0.9s,baz=116,slow=9.4,SNR=3.0						
ARCES	ARCESS Array B	39.16	337	P	P	07 21 46.5	+0.2
	comp=Z,0.4nm,0.4s,baz=111,slow=8.8,SNR=4.8						
HFS	Hagfors	41.20	321	P	P	07 22 03.9	+0.6
	comp=Z,1.7nm,0.5s,baz=95,slow=11,SNR=6.3						
HFS	Hagfors	41.20	321	P	P	07 22 03.9	+0.6
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	NORSAR Array B	42.50	322	P	P	07 22 14.3	+0.3
	comp=Z,0.8nm,0.7s,baz=94,slow=8.3,SNR=3.1						
NOA	NORSAR Array B	42.50	322	P	P	07 22 14.3	+0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KMBO	Kilima Mbogo	49.66	226	iP	P	07 23 09.1	-2.0
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TORD	Torodi Ar. Bea	65.15	267	P	P	07 25 01.2	+1.1
	comp=Z,1.7nm,1.1s,baz=46,slow=6.1,SNR=6.3						
WRA	Warramunga Arr	83.52	122	P	P	07 26 46.7	-0.3
	comp=Z,0.3nm,0.7s,baz=316,slow=6.0,SNR=3.0						

NIED 09 07:21:00, 24.00°N×122.30°E, h29km, Mw3.8 Best double couple: M0 5.79000×10^14 NP1: φs 153.00000°, δ51.00000°, λ7.00000°. NP2: φs 59.00000°, δ84.00000°, λ141.00000°.
IDC 09 07:21:52.5±1.5, 23.91°N×121.95°E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/25, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=73.0km s-min=24.1km az=69.0
ISCJB 09 07:21:55.6±0.3, 24.00°N±0.02°×122.36°E±0.01°, h16km±3km, mb3.5/4, Error ellipse: s-maj=3.0km s-min=1.8km az=158.0
TAP 09 07:21:56.0, 24.08°N×122.31°E, h13km±1km, ML4.1, D
JMA 09 07:21:55.3±0.1, 23.97°N×122.34°E, h18km±2km, M4.2
ISC 09 07:21:54.6±1.0, 23.99°N±0.02°×122.32°E±0.02°, h14km±8km, n80, σ0.81s/139, mb3.6/4, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HWA	Hwalien	0.65	269	eP	Pn	07 22 09.3	-0.1
	baz=260						
HWA				eS	Sn	07 22 19.1	-0.5
	baz=260						
TWD	Chiawan	0.67	278	P	Pb	07 22 09.2	+1.2
	baz=270						
TWD				S	Sb	07 22 18.7	+1.6
	baz=270						
ENA	Nanau	0.68	310	P	Pb	07 22 08.7	+0.4
	baz=303						
ENA				eS	Sb	07 22 18.2	+0.6
	baz=303						
JYNG	Yonagunijimaku	0.73	51	P	Pg	07 22 09.1	+0.2
JYNG				S	Sg	07 22 18.6	0.0
TWC	Suao	0.75	325	iP	Pg	07 22 09.5	+0.2
	baz=321						
TWC				eS	Sg	07 22 18.4	-0.8
	baz=321						
ESF	Shoufeng Towns	0.75	261	eP	Pn	07 22 12.4	+1.6
	baz=254						
ESF				S	Sn	07 22 23.0	+1.1
	baz=254						
TEGC	Jichi Village	0.77	249	eP	Pn	07 22 11.8	+0.8
	baz=242						
TEGC				eS	Sn	07 22 23.4	+1.1
	baz=242						
YOJ	Yonaguni jima	0.79	53	P	Pb	07 22 10.2	+0.1
YOJ				eS	Sg	07 22 20.2	-0.1
ESL	Shilin	0.83	258	eP	Pb	07 22 11.3	+0.5
	baz=251						
ESL				eS	Sg	07 22 20.4	-1.3
	baz=251						
EGS		0.92	338	P	Pg	07 22 12.4	0.0
	baz=336						
EGS				S	Sg	07 22 24.3	-0.3
	baz=336						
ILA	Ilan	0.93	326	eP	Pg	07 22 12.4	-0.3
	baz=323						
ILA				eS	Sb	07 22 25.4	+0.7
	baz=323						
TWE	Neicheng	0.94	321	P	Pg	07 22 12.9	+0.1
	baz=317						
TWE				eS	Sg	07 22 25.0	-0.1
	baz=317						
ENTT	Nioudou	0.94	313	P	Pn	07 22 13.6	+0.1
	baz=309						
ENTT				eS	Sg	07 22 24.3	-1.0
	baz=309						
NNS	Nan Shan	0.97	298	eP	Pn	07 22 14.1	+0.2
	baz=292						
NNS				eS	Sb	07 22 27.2	+1.2
	baz=292						
WHF	Hehuan Shan	0.98	279	eP	Pb	07 22 14.0	+0.4
	baz=273						
WHF				eS	Sg	07 22 26.4	0.0
	baz=273						
EHY	Hungye	1.03	242	eP	Pg	07 22 14.7	+0.1
	baz=237						
EHY				eS	Sb	07 22 28.4	+0.7
	baz=237						
TWB1	Santiao Chiao	1.06	343	P	Pb	07 22 14.8	+0.1
	baz=342						
TWB1				eS	Sb	07 22 27.6	-0.8
	baz=342						
TWT	Tachien	1.08	284	eP	Pn	07 22 16.3	+0.9
	baz=279						
TWT				eS	Sn	07 22 30.7	+0.4
	baz=279						
WDT	Danda	1.11	258	P	Pb	07 22 16.1	+0.4
	baz=253						
WDT				eS	Sb	07 22 29.7	-0.5
	baz=253						
TWF1	Yuli	1.13	236	eP	Pb	07 22 16.3	+0.3
	baz=231						
TWF1				eS	Sg	07 22 31.4	+0.1
	baz=231						
NWF	Wu-fen Shan	1.18	336	P	Pb	07 22 17.1	+0.3
	baz=333						
NWF				eS	Sb	07 22 32.0	-0.1
	baz=333						
TWA	Mucha	1.19	326	eP	Pg	07 22 18.1	+0.5
	baz=323						
TWA				eS	Sb	07 22 32.7	+0.4
	baz=323						
CHKT	Chengkung	1.25	225	eP	Pn	07 22 17.1	-0.5
	baz=221						
TAP	Taipei	1.28	325	eS	Sb	07 22 35.1	+0.3
	baz=322						
SMLT	Sun Moon Lake	1.30	266	eP	Pb	07 22 19.4	+0.4
	baz=261						
SMLT				eS	Sb	07 22 36.1	+0.5
	baz=261						
IRIF	Iriomote-Funau	1.33	75	P	Pn	07 22 19.3	+0.5
IRIF				S	Sb	07 22 36.3	0.0
TYC	Yuchr	1.34	267	eP	Pb	07 22 19.9	+0.4
	baz=262						
TYC				eS	Sb	07 22 36.7	+0.1
	baz=262						
YUS	Yu-Shan	1.35	249	eP	Pb	07 22 20.4	+0.5
	baz=244						
YUS				eS	Sb	07 22 36.8	-0.4
	baz=244						
HATJ	Hateruma jima	1.36	87	P	Pn	07 22 19.6	+0.4
HATJ				S	Sb	07 22 36.5	-0.6
NSTT	Nanjuang	1.36	298	eP	Pg	07 22 20.8	0.0
	baz=294						
NSTT				eS	Sb	07 22 37.0	-0.1
	baz=294						
TWS1	Kuangyinshan	1.38	324	eP	Pb	07 22 20.5	+0.3
	baz=321						
TWS1				eS	Sg	07 22 38.6	-0.5
	baz=321						
NCU	National Centr	1.42	314	eP	Pb	07 22 21.2	+0.3
	baz=310						
NCU				eS	Sb	07 22 39.7	+0.9
	baz=310						
ELDTW	Lidau	1.44	236	eP	Pn	07 22 20.4	+0.1
	baz=233						
TWY	Chenhua	1.44	333	eP	Pb	07 22 21.3	+0.2
	baz=331						
TWY				eS	Sg	07 22 40.5	-0.4
	baz=331						
TWQ1	Liyutan	1.46	284	eP	Pg	07 22 22.5	-0.2
	baz=280						
TWQ1				eS	Sg	07 22 41.5	-0.1
	baz=280						
ALS	Alishan	1.47	251	eP	Pb	07 22 22.1	+0.2
	baz=247						
ALS				eS	Sn	07 22 40.4	+0.3
	baz=247						
HSN	Hsinchu	1.47	304	eS	Sb	07 22 41.0	+0.7
	baz=302						
NSY	Sanyi	1.48	287	eP	Pg	07 22 23.1	0.0
	baz=283						
NSY				eS	Sg	07 22 42.4	-0.1
	baz=283						
WNT	Mingjian	1.50	266	eS	Sg	07 22 43.2	+0.2
	baz=262						
TCU	Taichung	1.51	276	eP	Pb	07 22 23.3	+0.9
	baz=272						
TCU				eS	Sg	07 22 43.8	+0.4
	baz=272						
CHN5	Tsauling	1.55	256	eP	Pb	07 22 23.9	+0.7
	baz=252						
CHN5				eS	Sb	07 22 43.3	+0.6
	baz=252						
JKRS	Kuro-shima	1.56	81	P	Pb	07 22 23.1	-0.2
JKRS				S	Sn	07 22 42.9	+0.9
TWG	Pinlang	1.63	225	eP	Pn	07 22 23.9	+1.0
	baz=222						
TWG				eS	Sn	07 22 42.7	-1.1
	baz=222						
WGK	Gukeng	1.64	260	eS	Sg	07 22 46.9	-0.5
	baz=256						
PCYT	Pengchaiyu	1.65	352	eP	Pn	07 22 23.4	+0.3
	baz=352						
PCYT				eS	Sn	07 22 43.6	-0.5
	baz=352						
STYT	Tauyuan	1.65	240	eP	Pn	07 22 24.5	+1.2
	baz=237						
STYT				eS	Sn	07 22 45.5	+1.2
	baz=237						
CHN4	Tsaushan	1.71	248	eP	Pb	07 22 26.6	+0.8
	baz=245						
CHN4				eS	Sb	07 22 48.5	+1.4
	baz=245						
JIJ	Ishigaki jima	1.71	77	P	Pn	07 22 24.0	+0.1
JIJ				S	Sn	07 22 46.5	+1.0
WTP	Ta-pu	1.73	245	eP	Pb	07 22 26.9	+0.7
	baz=241						
WTP				eS	Sb	07 22 48.9	+1.0
	baz=241						
CHN2	Minshiung	1.75	255	eS	Sg	07 22 50.5	-0.5
	baz=252						
CHY	Chiayi	1.81	255	eS	Sb	07 22 50.5	+0.6
	baz=251						
TWK	Hsinying	1.83	247	eP	Pb	07 22 28.0	+0.2
	baz=243						
TWK				eS	Sb	07 22 51.4	+0.8
	baz=243						
CHN1	Nanshi	1.83	244	eP	Pb	07 22 28.1	+0.3
	baz=241						
CHN1				eS	Sb	07 22 51.3	+0.6
	baz=241						
SGST	Jiashian	1.83	241	eP	Pn	07 22 26.0	+0.3
	baz=237						
SGST				eS	Sb	07 22 51.8	+1.0
	baz=237						
JISG	Ishigakijimahi	1.91	72	P	Pn	07 22 27.1	+0.4
JISG				S	Sn	07 22 50.9	+0.3
WSF	Szhu	1.95	260	eS	Sb	07 22 55.4	+1.3
	baz=256						
SSD	Sandimen	1.98	232	eP	Pb	07 22 29.6	-0.9
	baz=229						
SSD				eS	Sn	07 22 53.5	+1.1
	baz=229						
CHN8	Yiju	2.04	252	eS	Sb	07 22 56.0	-0.6
	baz=249						
LAY	Lan-yu	2.07	200	eP	Pn	07 22 27.7	-1.2
	baz=198						
TAW	Tawu	2.09	219	eS	Sn	07 22 55.4	+0.4
	baz=217						
TWM1	Shoushan	2.10	237	eP	Pb	07 22 31.9	-0.5
	baz=234						
TWM1				eS	Sb	07 23 00.2	+1.9
	baz=234						
EAST	Anshuo	2.10	221	eP	Pn	07 22 28.8	-0.6
	baz=218						
EAST				eS	Sb	07 22 59.6	+1.2
	baz=218						
SGLT	Jiouru	2.10	233	eS	Sg	07 23 01.1	-1.2
	baz=231						
SCZT	Fangliau	2.25	224	eP	Pb	07 22 34.3	-0.7
	baz=222						
SCZT				eS	Sb	07 23 01.5	-1.1
	baz=222						
JTJ	Tarama	2.27	73	P	Pn	07 22 32.8	+1.2
JTJ				S	Sn	07 23 00.4	+1.0
TWP	Hsiaoliuchiu	2.43	228	eP	Pb	07 22 38.5	+0.3
	baz=226						
TWP				eS	Sb	07 23 07.2	-0.9
	baz=226						
HEN	Hengchun	2.46	217	eS	Sn	07 23 03.8	-0.2
	baz=214						
TSEB	Hengchuen, Pin	2.46	212	eP	Pn	07 22 36.2	+1.9
	baz=211						
TSEB				eS	Sn	07 23 05.5	+1.4
	baz=211						
TWK1	Hengchun	2.47	215	eP	Pn	07 22 34.9	+0.4
	baz=212						
TWK1				eS	Sn	07 23 04.8	+0.4
	baz=212						
WDGT	Dungji	2.54	254	eP	Pn	07 22 36.8	+1.3
	baz=251						
WDGT				eS	Sn	07 23 05.0	-1.2
	baz=251						
PNG	Penghu	2.57	261	eP	Pn	07 22 36.2	+0.4
	baz=258						
PNG				eS	Sn	07 23 06.7	0.0
	baz=258						
JIKM	Ikemajima	2.83	70	P	Pn	07 22 40.7	+1.4
JIKM				eS	Sn	07 23 14.4	+1.2
QZH	Quanzhou	3.53	286	⇑iPn	Pn	07 22 49.2	+0.2
QZH				Sn	Sn	07 23 27.6	-2.9
QZH				smax	smax		
	comp=N,160nm,0.3s						
QZH				smax	smax		
	comp=E,100nm,0.3s						
KNM	Kinmen	3.57	278	eP	Pn	07 22 50.9	+1.3
	baz=275						
KNM				eS	Sn	07 23 31.2	-0.4
	baz=275						
JKE	Kume jima 2	4.67	59	P	Pn	07 23 06.4	+1.7
KSRS	Korea Array	14.25	18	Pn	Pn	07 25 19.7	+3.7
	comp=E,0.4nm,0.3s,baz=198,slow=12,SNR=8.8						
SONM	Songino Array	26.96	336	P	P	07 27 34.5	-1.2
	comp=E,2.4nm,0.8s,baz=146,slow=9.6,SNR=8.5						
MKAR	Makanchi Array	39.20	316	P	P	07 29 22.3	+0.1
	comp=E,0.4nm,0.4s,baz=106,slow=8.7,SNR=3.9						
ZALV	Zalesovo Beam	40.97	327	P	P	07 29 34.8	-2.0
	comp=E,0.9nm,0.4s,baz=108,slow=7.2,SNR=4.9						
WRA	Warramunga Arr	45.21	164	P	P	07 30 11.5	0.0
	comp=E,0.3nm,0.9s,baz=346,slow=8.4,SNR=3.6						

DJA 09 07:22:23.3±0.5, 9°S±7°×11°3E±°, h98km±12km, M3.5/8, MLv3.5/8, Jawa

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PWJI	**Pagerwojo**	**1.03**	**309**	P	Pn	07 22 44.5	+0.6
PWJI				S	Sn	07 23 00.8	+1.4
BLJI	**Banyuglugur**	**1.35**	**46**	P	Pn	07 22 47.8	+0.2
BLJI				S	Sn	07 23 07.4	+1.5
PCJI	**Pacitan**	**1.50**	**289**	P	Pn	07 22 49.7	+0.3
PCJI				S	Sn	07 23 09.9	+0.7
JAGI	**Jajag, Banyuwa**	**1.54**	**82**	P	Pn	07 22 49.8	-0.2
JAGI				S	Sn	07 23 10.9	+0.7
ABJI	**Asem Bagus**	**1.83**	**61**	P	Pn	07 22 54.0	+0.4
WOJI	**Wonogiri, Jawa**	**1.87**	**297**	P	Pn	07 22 53.8	-0.3
WOJI				S	Sn	07 23 18.0	+0.4
KMMI	**Kalianget**	**2.10**	**40**	P	Pn	07 22 56.5	-0.7
KMMI				S	Sn	07 23 22.8	-0.3
UGM	**Wanagama**	**2.20**	**290**	P	Pn	07 22 58.2	-0.3
UGM				S	Sn	07 23 25.0	-0.4
SRBI	**Singaraja**	**2.64**	**77**	P	Pn	07 23 03.5	-0.7
KPJI	**Karang Pucung**	**3.88**	**290**	P	Pn	07 23 20.8	-0.1

JMA 09 07:26:25.4±0.3, 23°.89N×126°.77E, h95km, M3.6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.52**	**305**	P	Pn	07 26 51.6	0.0
JOGS				eS	Sn	07 27 12.0	+0.6
JMJ	**Miyako jima 2**	**1.63**	**305**	eS	Sn	07 27 15.0	+1.0
JIKM	**Ikemajima**	**1.73**	**307**	P	Pn	07 26 55.0	+0.7
JIKM				eS	Sn	07 27 16.8	+0.6
JIRB	**Irabujima**	**1.73**	**303**	P	Pn	07 26 54.9	+0.6
JIRB				eS	Sn	07 27 16.4	+0.1
JTJ	**Tarama**	**2.03**	**292**	P	Pn	07 26 58.5	+0.4
JTJ				eS	Sn	07 27 23.4	+0.2
JISG	**Ishigakijimahi**	**2.35**	**288**	P	Pn	07 27 03.0	+0.7
JISG				eS	Sn	07 27 30.8	+0.1
JKE	**Kume jima 2**	**2.43**	**0**	P	Pn	07 27 04.1	+0.7
JKE				eS	Sn	07 27 32.4	-0.1
JIJ	**Ishigaki jima**	**2.45**	**282**	P	Pn	07 27 04.1	+0.5
JIJ				eS	Sn	07 27 32.3	-0.7
JKRS	**Kuro-shima**	**2.55**	**278**	P	Pn	07 27 05.7	+0.7
JKRS				eS	Sn	07 27 34.5	-0.9
HATJ	**Hateruma jima**	**2.72**	**274**	P	Pn	07 27 07.5	+0.3
HATJ				eS	Sn	07 27 37.2	-2.2
JAGN	**Aguni-jima**	**2.72**	**9**	P	Pn	07 27 08.2	+0.9
JAGN				eS	Sn	07 27 39.8	+0.3
IRIF	**Iriomote-Funau**	**2.81**	**280**	eS	Sn	07 27 41.8	+0.1
JNTH	**Nagotoyohara**	**2.85**	**23**	P	Pn	07 27 09.4	+0.3
JOW	**Kunigami**	**3.23**	**25**	P	Pn	07 27 14.6	+0.5
JIH	**Iheya**	**3.31**	**19**	eS	Sn	07 27 52.6	-1.1
JYNG	**Yonagunijimaku**	**3.54**	**280**	P	Pn	07 27 18.7	+0.5
JYNG				eS	Sn	07 27 56.8	-2.3
JOKE	**Okinoerabujima**	**3.82**	**25**	P	Pn	07 27 22.7	+0.6
JTK	**Tokunoshima**	**4.35**	**26**	P	Pn	07 27 29.6	+0.4
JMZ	**Minamidaito 2**	**4.48**	**64**	P	Pn	07 27 27.5	-3.4
JAMN	**Amaminishikomi**	**4.84**	**26**	P	Pn	07 27 36.6	+0.7
JAM	**Amami Oshima**	**5.17**	**29**	P	Pn	07 27 40.6	+0.2

SKHL 09 08:05:04.4±0.1, 53°.12N×131°.73E, h11km±1km, mb3.7/3, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EKMR	**Ekimchan**	**0.74**	**93**	ePg	Pg	08 05 17.6	-1.1
EKMR				AMB	AMB	08 05 19.0	
	7.0nm,0.3s						
EKMR				AMB	AMB	08 05 19.0	
	28nm,0.3s						
EKMR				AMB	AMB	08 05 19.0	
	31nm,0.3s						
EKMR				pPg	Pn	08 05 20.7	-0.1
EKMR				eSg	Sg	08 05 27.4	-1.0
EKMR				A	A	08 05 37.0	
	96nm,0.4s						
EKMR				A	A	08 05 37.0	
	62nm,0.4s						
EKMR				A	A	08 05 37.0	
	50nm,0.4s						
BMKR	**Bomnak**	**2.34**	**314**	ePn	Pn	08 05 44.5	+1.8
BMKR				ePg	Pb	08 05 46.4	-0.1
BMKR				AMB	AMB	08 05 46.9	
	16nm,0.4s						
BMKR				AMB	AMB	08 05 46.9	
	12nm,0.4s						
BMKR				AMB	AMB	08 05 46.9	
	23nm,0.4s						
BMKR				sPg	Sn	08 05 52.5	-19
BMKR				eSg	Sg	08 06 17.5	-2.0
BMKR				A	A	08 06 18.9	
	34nm,0.5s						
BMKR				A	A	08 06 18.9	
	29nm,0.5s						
GRNR	**Gornyy**	**3.74**	**127**	eSg	Sg	08 07 02.0	-2.5
GRNR				A	A	08 07 06.6	
	24nm,0.7s						

*IDC **09** 08:08:51.0±2.9, 9°.96S×112°.39E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/21, mbtmp3.3/3, Error ellipse: s-maj=155.5km s-min=26.3km az=47.0*
*ISCJB **09** 08:08:57.4±0.8, 9°.75S±0°.06×112°.86E±0°.05, h36km, mb3.2/3, Error ellipse: s-maj=9.3km s-min=7.4km az=25.3*
*DJA **09** 08:08:57.4±0.6, 10°S±5°×11°3E±°, h10km, M3.7/7, MLv3.7/7*
ISC 09 08:08:58.2±1.3, 9°.74S±0°.10×112°.87E±0°.06, h36km, n14, σ1s.19/17, mb3.3/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.79**	**45**	P	**Pn**	**08 09 26.6**	**0.0**
JAGI				S	Sn	08 09 41.4	-6.7
PWJI	**Pagerwojo**	**2.01**	**328**	P	**Pn**	**08 09 29.3**	**-0.2**
PWJI				S	**Sn**	**08 09 51.4**	**-2.0**
BLJI	**Banyuglugur**	**2.11**	**20**	P	**Pn**	**08 09 31.5**	**+0.5**
BLJI				S	**Sn**	**08 09 56.8**	**+0.9**
PCJI	**Pacitan**	**2.27**	**312**	P	**Pn**	**08 09 33.8**	**+0.6**
ABJI	**Asem Bagus**	**2.36**	**35**	P	**Pn**	**08 09 35.3**	**+0.9**
IGBI	**Denpasar**	**2.43**	**68**	P	**Pn**	**08 09 35.2**	**-0.1**
DNP	**Denpasar**	**2.54**	**66**	P	**Pn**	**08 09 37.4**	**+0.5**
WOJI	**Wonogiri, Jawa**	**2.70**	**314**	P	**Pn**	**08 09 40.3**	**+1.3**
SRBI	**Singaraja**	**2.84**	**55**	P	**Pn**	**08 09 40.8**	**-0.2**
KMMI	**Kalianget**	**2.89**	**22**	P	**Pn**	**08 09 40.9**	**-0.7**
KMMI				S	**Sn**	**08 10 17.4**	**+2.3**
UGM	**Wanagama**	**2.95**	**308**	P	**Pn**	**08 09 44.2**	**+1.7**
WRA	**Warramunga Arr**	**23.07**	**119**	P	**P**	**08 14 01.4**	**+0.6**
	0.3nm,0.6s,baz=290,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**24.40**	**127**	P	**P**	**08 14 13.7**	**+0.3**
	1.0nm,0.6s,baz=306,slow=8.9,SNR=11						
MKAR	**Makanchi Array**	**62.55**	**337**	P	**P**	**08 19 16.8**	**-1.6**
	0.1nm,0.4s,baz=132,slow=8.7,SNR=2.7						

*ISCJB **09** 08:33:13.0±0.5, 59°.82N±0°.03×22°.36E±0°.05, h0km, Error ellipse: s-maj=5.1km s-min=3.3km az=160.9*
*CSEM **09** 08:33:13.8±0.3, 59°.89N×22°.37E, h2km, ML2.0, Error ellipse: s-maj=7.8km s-min=4.3km az=161.0, Mining explosion.*
*HEL **09** 08:33:14.1±0.1, 59°.76N×22°.33E, h0km, ML2.0, ML2.0(UPP), Explosion*
*IDC **09** 08:33:15.2±1.9, 59°.90N×22°.36E, h0km, mb1 3.2/3, mb1mx2.9/27, mbtmp3.0/3, ML2.7/3, Error ellipse: s-maj=21.9km s-min=9.0km az=161.0*
*UPP **09** 08:33:15.3, 59°.85N×22°.14E, h0km, ML2.0, Suspected Mining explosion.*
ISC 09 08:33:13.2±0.8, 59°.81N±0°.04×22°.29E±0°.02, h0km, n49, σ1s.31/67, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.14**	**68**	ePB	**Pg**	**08 33 34.9**	**-0.1**
	baz=243						
MEF				eSB	**Sg**	**08 33 50.3**	**+0.6**
MEF	**Metsahovi**	**1.14**	**68**	Pb	**Pg**	**08 33 34.8**	**-0.1**
MEF				Sb	**Sg**	**08 33 50.2**	**+0.6**
AAL	**Aland**	**1.21**	**289**	eP	**Pg**	**08 33 36.3**	**-0.1**
AAL				eS	**Sg**	**08 33 51.9**	**-0.1**
AAL	**Aland**	**1.21**	**289**	P	**Pg**	**08 33 36.2**	**-0.1**
AAL				S	**Sg**	**08 33 52.2**	**+0.2**
AAL	**Aland**	**1.21**	**289**	P	**Pg**	**08 33 36.2**	**-0.1**
AAL				S	**Sg**	**08 33 52.2**	**+0.2**
RAF	**Rauma**	**1.24**	**348**	eP	**Pg**	**08 33 36.8**	**-0.2**
	baz=169						
RAF				eS	**Sb**	**08 33 53.8**	**-0.2**
RAF	**Rauma**	**1.24**	**348**	P	**Pg**	**08 33 36.8**	**-0.2**
MTSE	**Matsula**	**1.35**	**144**	ePN	**Pg**	**08 33 39.1**	**-0.1**
MTSE				eSN	**Sg**	**08 33 56.9**	**+0.4**
MTSE	**Matsula**	**1.35**	**144**	Pn	**Pg**	**08 33 39.0**	**-0.1**
NRTU	**Norrtaelje**	**1.85**	**267**	eP	**Pn**	**08 33 47.2**	**+1.0**
NRTU	**Norrtaelje**	**1.85**	**267**	P	**Pn**	**08 33 47.2**	**+1.0**
NRTU	**Norrtaelje**	**1.85**	**267**	P	**Pn**	**08 33 47.2**	**+1.0**
PVF	**Pernaja**	**1.93**	**66**	ePG	**Pb**	**08 33 48.7**	**-0.5**
PVF				MSG		08 34 11.7	
	comp=Z,11nm,0.2s						
PVF				eSG	**Sb**	**08 34 14.2**	**+0.3**
PVF	**Pernaja**	**1.93**	**66**	Pg	**Pb**	**08 33 48.7**	**-0.5**
PVF				Sg	**Sb**	**08 34 14.2**	**+0.3**
GRAU	**Graesoe**	**1.95**	**287**	eP	**Pn**	**08 33 48.6**	**+1.1**
GRAU	**Graesoe**	**1.95**	**287**	P	**Pn**	**08 33 48.6**	**+1.1**
GRAU	**Graesoe**	**1.95**	**287**	P	**Pn**	**08 33 48.6**	**+1.1**
FORU	**Forsmark**	**2.14**	**287**	eP	**Pb**	**08 33 51.5**	**-1.2**
FORU	**Forsmark**	**2.14**	**287**	P	**Pb**	**08 33 51.5**	**-1.2**
FORU	**Forsmark**	**2.14**	**287**	P	**Pb**	**08 33 51.5**	**-1.2**
FLYU	**Flymyra**	**2.23**	**280**	eP	**Pn**	**08 33 52.9**	**+1.4**
FLYU	**Flymyra**	**2.23**	**280**	P	**Pn**	**08 33 52.8**	**+1.4**
FLYU	**Flymyra**	**2.23**	**280**	P	**Pn**	**08 33 52.9**	**+1.4**
NYNU	**Nynaeshamn**	**2.33**	**252**	eP	**Pn**	**08 33 54.4**	**+1.6**
NYNU	**Nynaeshamn**	**2.33**	**252**	P	**Pn**	**08 33 54.4**	**+1.6**
NYNU	**Nynaeshamn**	**2.33**	**252**	P	**Pn**	**08 33 54.4**	**+1.6**
FIA0	**FINESS Array S**	**2.48**	**47**	ePB	**Pb**	**08 33 57.0**	**-1.7**
FIA0				eSB	**Sb**	**08 34 29.2**	**-0.6**
FIA0	**FINESS Array S**	**2.48**	**47**	Pb	**Pb**	**08 33 57.0**	**-1.7**
FIA0				Sb	**Sb**	**08 34 29.2**	**-0.6**
FINES	**FINESS Array B**	**2.48**	**47**	Pn	**Pb**	**08 33 57.3**	**-1.4**
	comp=Z,2.3nm,0.3s,baz=231,slow=15,SNR=38						
FINES				Lg	Lg	08 34 29.9	
	comp=Z,4.0nm,0.3s,baz=234,slow=26,SNR=21						
BACU	**Backbrunna**	**2.61**	**273**	eP	**Pn**	**08 33 58.2**	**+1.6**
BACU	**Backbrunna**	**2.61**	**273**	P	**Pn**	**08 33 58.2**	**+1.6**
BACU	**Backbrunna**	**2.61**	**273**	P	**Pn**	**08 33 58.2**	**+1.6**
OSTU	**Oestervaala**	**2.62**	**281**	eP	**Pn**	**08 33 57.9**	**+1.1**
OSTU	**Oestervaala**	**2.62**	**281**	P	**Pn**	**08 33 57.8**	**+1.1**
OSTU	**Oestervaala**	**2.62**	**281**	P	**Pn**	**08 33 57.9**	**+1.1**
KEF	**Keuruu**	**2.68**	**27**	ePB	**Pb**	**08 34 01.4**	**-0.6**
KEF				MSG		08 34 34.0	
	comp=Z,4.3nm,0.2s						
KEF				eSB	**Sb**	**08 34 35.7**	**+0.4**
KEF	**Keuruu**	**2.68**	**27**	Pb	**Pb**	**08 34 01.3**	**-0.6**
KEF				Sb	**Sb**	**08 34 35.7**	**+0.4**
VJF	**Virojoki**	**2.73**	**72**	eP	**Pn**	**08 33 59.4**	**+1.2**
VJF				MSG		08 34 34.7	
	comp=Z,3.5nm,0.2s						
VJF	**Virojoki**	**2.73**	**72**	P	**Pn**	**08 33 59.4**	**+1.2**
KAF	**Kangasniemi**	**3.03**	**39**	ePB	**Pb**	**08 34 05.8**	**-2.1**
	baz=218						
KAF				MSG		08 34 44.1	
	comp=Z,4.5nm,0.2s						
KAF				eSB	**Sb**	**08 34 44.3**	**-1.1**
KAF	**Kangasniemi**	**3.03**	**39**	Pb	**Pb**	**08 34 05.8**	**-2.1**
KAF				Sb	**Sb**	**08 34 44.3**	**-1.1**
VAF	**Ylistaro**	**3.25**	**3**	ePB	**Pb**	**08 34 11.7**	**0.0**
	baz=184						
VAF	**Ylistaro**	**3.25**	**3**	Pb	**Pb**	**08 34 11.6**	**0.0**
SUF	**Sumiainen**	**3.46**	**31**	eP	**Pn**	**08 34 11.3**	**+2.9**
	baz=213						
SUF				eSB	**Sb**	**08 34 55.6**	**-2.3**
SUF	**Sumiainen**	**3.46**	**31**	P	**Pn**	**08 34 11.2**	**+2.9**
SUF				Sb	**Sb**	**08 34 55.6**	**-2.3**
UMAU	**Umeaa**	**4.16**	**350**	ePG	**Pb**	**08 34 29.7**	**+2.6**
UMAU	**Umeaa**	**4.16**	**350**	Pg	**Pb**	**08 34 29.7**	**+2.6**
NOA	**NORSAR Array B**	**5.62**	**287**	Pn	**Pn**	**08 34 37.6**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=88,slow=14,SNR=3.8						
NOA				Sn	**Sn**	**08 35 41.0**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=57,slow=6.5,SNR=2.2						
NOA				Lg	Lg	08 36 04.0	
	comp=Z,0.8nm,0.3s,baz=110,slow=12,SNR=3.5						
ARCES	**ARCESS Array B**	**9.86**	**7**	Pn	**Pn**	**08 35 34.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=186,slow=14,SNR=5.8						
ARCES				Sn	Sn	08 37 20.3	-6.9
	comp=Z,0.1nm,0.3s,baz=189,slow=22,SNR=3.8						
ARCES				Lg	Lg	08 38 20.9	
	comp=Z,0.2nm,0.3s,baz=187,slow=28,SNR=4.5						

IDC 09 08:55:04.1±2.0, 5°.27N×126°.36E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.4/54, mbtmp3.7/4, MS3.9/1, Ms1 3.9/1, ms1mx3.1/32, Error ellipse: s-maj=155.1km s-min=26.1km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.25**	**163**	P	P	09 00 40.4	-0.8
	1.4nm,0.6s,baz=343,slow=10,SNR=13						
ASAR	**Alice Springs**	**29.68**	**166**	P	P	09 01 11.8	-0.1
	0.3nm,0.5s,baz=350,slow=7.6,SNR=6.1						
KSRS	**Korea Array**	**32.07**	**2**	LR	LR	09 13 05.7	
	comp=Z,229nm,20.6s,baz=175,slow=34						
STKA	**Stephens Creek**	**39.69**	**160**	P	P	09 02 39.2	+1.0
	1.2nm,0.6s,baz=345,slow=6.9,SNR=3.1						
MKAR	**Makanchi Array**	**56.09**	**325**	P	P	09 04 45.1	-0.1
	0.4nm,0.5s,baz=116,slow=8.1,SNR=4.5						

*ISCJB **09** 08:56:13.7±0.5, 27°.76N±0°.05×140°.11E±0°.09, h350km, mb3.6/12, Error ellipse: s-maj=11.5km s-min=5.4km az=155.6*
*IDC **09** 08:56:14.3±0.8, 27°.86N×140°.27E, h347km±8km, mb3.3/12, mb1 3.3/14, mb1mx3.2/53, mbtmp3.9/14, Error ellipse: s-maj=30.9km s-min=16.9km az=26.0*
*JMA **09** 08:56:15.7±0.3, 27°.89N×140°.64E, h366km±5km, M3.7*
ISC 09 08:56:14.9±0.7, 27°.90N±0°.06×140°.2E±0°.1, h350km, n33, σ1s.44/37, mb3.6/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.92**	**114**	P	**Pn**	**08 57 06.0**	**+0.3**
CBIJ				S	**S**	**08 57 44.9**	**-1.6**
JCJ	**Chichijima**	**1.92**	**114**	P	**Pn**	**08 57 04.7**	**-1.1**
	71nm,0.3s,baz=284,slow=18,SNR=29						
JCJ				S	**S**	**08 57 44.9**	**-1.5**
	75nm,0.3s,baz=266,slow=22,SNR=11						
JHHJ	**Haha-jima-NKT**	**2.16**	**126**	P	**Pn**	**08 57 07.8**	**+0.4**
JHHJ				S	**S**	**08 57 49.2**	**-0.3**
JHCJ	**Hachijojimakas**	**5.17**	**356**	P	Pn	08 57 39.9	+3.6
JHJ2	**Mitsune**	**5.20**	**356**	P	Pn	08 57 40.2	+3.5
BSO1	**Boso 1**	**6.76**	**5**	P	**Pn**	**08 57 56.5**	**+2.7**
BSO1				S	**S**	**08 59 15.6**	**+1.2**
JWZ	**Kozaga**	**6.82**	**326**	P	Pn	08 57 59.1	+4.0
BSO3	**Boso 3**	**6.88**	**2**	P	**Pn**	**08 57 58.5**	**+3.0**
BSO3				S	**S**	**08 59 16.9**	**-0.5**
BSO4	**Boso 4**	**7.07**	**1**	P	**Pn**	**08 58 01.0**	**+3.1**
BSO4				S	**S**	**08 59 22.8**	**+1.2**
JIE	**Ise**	**7.13**	**336**	P	Pn	08 58 02.9	+4.1
JOD2	**Odawara 2**	**7.40**	**353**	P	**Pn**	**08 58 03.8**	**+1.9**
JOD2				S	**S**	**08 59 30.4**	**+1.4**
JNY	**Yasuok**	**7.70**	**345**	P	Pn	08 58 09.1	+3.6
JHU	**Hanno**	**7.96**	**354**	P	**Pn**	**08 58 09.6**	**+1.1**
JHU				S	**S**	**08 59 38.1**	**-3.1**
JYT	**Yasato**	**8.30**	**360**	P	**P**	**08 58 14.8**	**-0.5**
JAG	**Ashikaga**	**8.52**	**356**	P	**Pn**	**08 58 16.5**	**+1.4**
JAG				S	**S**	**08 59 50.6**	**-2.7**
JHO	**Hitachi**	**8.69**	**2**	P	**Pn**	**08 58 18.5**	**+1.4**
MJAR	**Matsushiro Arr**	**8.78**	**349**	P	**Pn**	**08 58 18.3**	**0.0**
	0.5nm,0.3s,baz=163,slow=9.6,SNR=5.0						
KSRS	**Korea Array**	**14.06**	**316**	S	**S**	**09 01 53.5**	**+1.8**
	1.6nm,0.3s,baz=125,slow=14,SNR=10						
USRK	**Ussuriysk Ar.**	**17.55**	**340**	P	**P**	**08 59 57.1**	**+0.1**
	0.2nm,0.3s,baz=147,slow=13,SNR=6.1						
SONM	**Songino Array**	**32.93**	**316**	P	**P**	**09 02 18.3**	**+0.5**
	0.3nm,0.3s,baz=131,slow=6.9,SNR=2.9						
MKAR	**Makanchi Array**	**48.62**	**309**	P	**P**	**09 04 24.3**	**-0.2**
	0.2nm,0.4s,baz=91,slow=9.7,SNR=3.3						
BVAR	**Borovoye Array**	**56.27**	**317**	P	**P**	**09 05 20.0**	**+0.1**
	0.9nm,0.5s,baz=99,slow=8.9,SNR=3.7						
ILAR	**Eielson Array**	**57.85**	**29**	P	**P**	**09 05 30.1**	**-0.6**
	0.2nm,0.8s,baz=262,slow=6.3,SNR=3.8						
AKTO	**Aktyubinsk**	**64.24**	**315**	P	**P**	**09 06 12.9**	**-0.5**
	0.7nm,0.5s,baz=68,slow=8.5,SNR=3.7						
SPITS	**Spitsbergen Ar**	**69.28**	**349**	P	**P**	**09 06 44.4**	**-0.1**
	4.0nm,1.0s,baz=90,slow=8.6,SNR=3.5						
ARCES	**ARCESS Array B**	**72.20**	**340**	P	**P**	**09 07 02.7**	**+0.6**
	1.9nm,0.5s,baz=69,slow=8.6,SNR=26						
YKA	**Yellowknife Ar**	**72.26**	**28**	P	**P**	**09 07 02.1**	**-0.5**
	0.6nm,0.5s,baz=299,slow=6.3,SNR=4.9						
FINES	**FINESS Array B**	**76.45**	**333**	P	**P**	**09 07 26.4**	**0.0**
	2.7nm,0.4s,baz=85,slow=5.0,SNR=21						
NVAR	**Mina Array Bea**	**81.38**	**51**	P	**P**	**09 07 53.4**	**-0.4**
	0.3nm,0.5s,baz=307,slow=7.5,SNR=3.7						
HFS	**Hagfors**	**81.99**	**336**	P	**P**	**09 07 55.5**	**-0.7**
	1.7nm,0.4s,baz=57,slow=5.3,SNR=15						
NOA	**NORSAR Array B**	**82.21**	**338**	P	**P**	**09 07 56.4**	**-1.0**
	1.3nm,0.6s,baz=46,slow=5.0,SNR=6.6						
TORD	**Torodi Ar. Bea**	**122.73**	**310**	PKP	**PKPdf**	**09 14 29.3**	**-1.0**
	0.6nm,0.9s,baz=11,slow=1.4,SNR=3.7						
LPAZ	**La Paz**	**151.38**	**72**	PKPbc	**PKPbc**	**09 15 29.9**	**+0.8**
	0.5nm,0.6s,baz=221,slow=5.8,SNR=3.8						

*IDC **09** 08:57:18.0±2.8, 53°.51N×87°.96E, h0km, mb1 3.4/2, mb1mx3.1/29, mbtmp3.4/2, ML3.2/2, Error ellipse: s-maj=25.7km s-min=13.6km az=63.0*
*NNC **09** 08:57:25.7±7.2, 53°.38N×87°.49E, h21km±38km, mb3.8, mpv3.4, Error ellipse: s-maj=51.0km s-min=34.5km az=24.0*
ISC 09 08:57:25.1±3.7, 53°.6N±0°.1×87°.5E±0°.2, h35km, n7, σ0s.96/11, 7C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.66**	**284**	i		09 08 50.0	
	baz=98,slow=322,SNR=5.2						
ZALV	**Zalesovo Beam**	**1.66**	**284**	Pn	**Pn**	**08 57 51.6**	**0.0**
	3.1nm,0.3s,baz=101,slow=16,SNR=19						
ZALV				Lg	Lg	08 58 17.6	
	7.2nm,0.3s,baz=105,slow=28,SNR=17						
KURK	**Kurchatov**	**6.20**	**246**	⇑Pn	**Pn**	**08 58 54.5**	**+0.5**
	1.6nm,0.7s						
KURK				⇓Sn	**Sn**	**09 00 02.1**	**-1.5**
	1.6nm,0.7s						
KURK				⇑Lg	Lg	09 00 38.3	
	7.3nm,0.9s						
KURBB	**Kurchatov Arra**	**6.29**	**245**	⇑Pn	**Pn**	**08 58 55.6**	**+0.3**
	3.5nm,0.4s						
KURBB				⇓Sn	**Sn**	**09 00 06.2**	**+0.2**
	9.3nm,0.7s						
KURBB				⇑Lg	Lg	09 00 40.6	
	15nm,0.7s						
MK31	**Makanchi Array**	**7.59**	**208**	⇑Pn	**Pn**	**08 59 13.3**	**+0.1**
	1.2nm,0.7s,baz=29,slow=14						
MK31				⇑Sn	**Sn**	**09 00 38.9**	**+1.0**
	4.7nm,1.1s,baz=27,slow=23						
MK31				⇑Lg	Lg	09 01 19.0	
	4.6nm,0.8s,baz=29,slow=30						
MKAR	**Makanchi Array**	**7.59**	**208**	Pn	**Pn**	**08 59 11.2**	**-1.9**
	0.4nm,0.3s,baz=30,slow=13,SNR=12						
MKAR				Sn	**Sn**	**09 00 37.9**	**0.0**
	0.2nm,0.3s,baz=28,slow=24,SNR=9.0						
MKAR				Lg	Lg	09 01 19.9	
	0.1nm,0.3s,baz=31,slow=28,SNR=5.2						
BVAR	**Borovoye Array**	**10.28**	**274**	Pn	**Pn**	**08 59 50.2**	**+0.1**
	0.2nm,0.3s,baz=66,slow=15,SNR=4.1						
BVAR				Sn	**Sn**	**09 01 44.2**	**+0.2**
	0.3nm,0.3s,baz=79,slow=25,SNR=4.7						

*BJI **09** 08:57:38.9, 1°.87N×127°.25E, h110km, mb5.8/84, mB5.4/42*
*IDC **09** 08:57:40.6±0.9, 1°.95N×127°.17E, h106km±7km, mb5.1/46, mb1 5.2/49, mb1mx5.2/50, mbtmp5.5/49, MS4.0/15, Ms1 4.0/15, ms1mx3.7/31, Error ellipse: s-maj=10.4km s-min=6.9km az=74.0*
*ISCJB **09** 08:57:40.5±0.3, 1°.97N±0°.02×127°.17E±0°.02, h119km±2km, mb5.5/182, Error ellipse: s-maj=3.1km s-min=2.5km az=9.4*
*NEIC **09** 08:57:41.0±0.0, 1°.97N×127°.17E, h93km Best double couple: NP1:φs227.00000°, δ89.00000°, λ120.00000°. NP2:φs318.00000°, δ30.00000°, λ0.00000°. Principal axes: T 1.0300, Plg37.0000°, Azm164.0000°; N 0.1800, Plg30.0000°, Azm47.0000°; P -1.2100, Plg37.0000°, Azm290.0000°;*
*NEIC **09** 08:57:41.2±0.4, 1°.94N×127°.17E, h114km±4km, mb5.5/76, MW5.3, MW5.3 Error ellipse: s-maj=3.9km s-min=3.1km az=71.0 Best double couple: NP1:φs230.00000°, δ74.00000°, λ125.00000°. NP2:φs341.00000°, δ38.00000°, λ27.00000°. Principal axes: T 1.3800, Plg48.0000°, Azm177.0000°; N -0.3200, Plg33.0000°, Azm38.0000°; P -1.0700, Plg21.0000°, Azm293.0000°;*
NEIC Felt [III] on Pulau Ternate.
*GCMT **09** 08:57:41.2±0.1, 1°.97N×127°.13E, h113km±1km, MW5.4/103, Moment Tensor Solution. s82,c130; s103,c179; Duration: 1s.2 Moment tensor: Scale 10^17 Nm; Mrr0.01±.02; Mθθ0.98±.02; Mφφ-0.98±.03; Mrθ-0.83±.02; Mθφ-0.24±.03; Mφr-0.46±.02; Best double couple: M0 1.37800×10^17 NP1:φs233.00000°, δ88.00000°, λ137.00000°. NP2:φs324.00000°, δ47.00000°, λ2.00000°. Principal axes: T 1.4510, Plg30.0000°, Azm179.0000°; N -0.1460, Plg47.0000°, Azm51.0000°; P -1.3040, Plg27.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **09** 08:57:41.9±1.0, 1°.98N×127°.17E, h131km, mb5.6/59 Error ellipse: s-maj=8.6km s-min=4.5km az=113.6*
*KLM **09** 08:57:42.7, 1°.96N×127°.20E, h123km, mb5.9, MS6.3*
*DJA **09** 08:57:42.5±0.3, 2°N±2°×12°7E±°, h117km±2km, M5.6/81, mb5.8/81, mB6.0/67, MLv6.0/19, Mw(mB)5.6/67, Mwp5.2/1*
ISC 09 08:57:41.9±0.2, 1°.97N±0°.03×127°.15E±0°.03, h118km±1km, h118km:pP-P, n794, σ1s.38/910, mb5.6/193, 25C-67D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.21**	**170**	P	**Pn**	**08 58 05.1**	**-0.8**
TNTI				S	**Sn**	**08 58 23.2**	**-0.9**
TNTI	**Ternate**	**1.21**	**170**	ePn	**Pn**	**08 58 05.0**	**-0.8**
SGSI	**Sangihe**	**2.35**	**317**	P	**Pn**	**08 58 17.9**	**-1.8**
SGSI				S	**Sn**	**08 58 46.7**	**-2.0**
LBMI	**Labuha**	**2.61**	**172**	P	**Pn**	**08 58 23.5**	**+0.4**
LBMI				S	**Sn**	**08 58 55.9**	**+1.1**
KMSI	**Cibinong**	**3.46**	**246**	P	**Pn**	**08 58 34.2**	**+0.1**
KMSI				S	**Sn**	**08 59 16.3**	**+1.7**
SANI	**Sanana**	**4.16**	**196**	P	**Pn**	**08 58 41.8**	**-1.7**
SANI				S	Sn	08 59 24.6	-6.7
GSPH	**General Santos**	**4.64**	**332**	⇑eP	**Pn**	**08 58 47.5**	**-2.7**
GSPH				eS	**Sn**	**08 59 38.3**	**-4.9**
SWI	**Sorong**	**4.98**	**124**	P	**Pn**	**08 58 53.7**	**-0.9**
SIJI	**Sorong**	**4.99**	**124**	P	**Pn**	**08 58 54.0**	**-0.8**
	20nm,0.3s,baz=317,slow=9.5,SNR=137						
SIJI				LR	LR	09 01 10.4	
	comp=Z,5μm,20.7s,baz=290,slow=42						
MATI	**Mati**	**5.02**	**350**	eP	**Pn**	**08 58 55.0**	**-0.1**
MATI				eS	**Sn**	**08 59 57.6**	**+5.4**
NLAI	**Namlea**	**5.17**	**181**	P	**Pn**	**08 58 56.5**	**-0.7**
	1μm,0.7s,62μm7μm18nm						
NLAI				S	**Sn**	**08 59 50.8**	**-5.0**
	1μm,0.7s,62μm7μm18nm						
LUWI	**Luwuk**	**5.30**	**236**	P	**Pn**	**08 58 59.6**	**+0.7**
	1μm,0.6s,44μm63nm						
LUWI				S	**Sn**	**08 59 58.7**	**-0.1**
	1μm,0.6s,44μm63nm						
LUWI	**Luwuk**	**5.30**	**236**	ePn	**Pn**	**08 58 58.4**	**-0.5**
DAV	**Davao City (W)**	**5.30**	**343**	P	**Pn**	**08 58 58.6**	**-0.4**
	SNR=22						
DAV	**Davao City (W)**	**5.30**	**343**	ePn	**Pn**	**08 58 58.5**	**-0.4**
MRSI	**Marisa**	**5.41**	**254**	P	**Pn**	**08 59 00.5**	**+0.1**
	5μm,1.1s,47μm15nm						
MRSI				S	**Sn**	**09 00 02.2**	**+0.6**
	5μm,1.1s,47μm15nm						
MSAI	**Masohi**	**5.57**	**161**	P	**Pn**	**08 59 04.1**	**+1.6**
	404nm,1.0s,5μm1.4nm						
AAI	**Ambon**	**5.71**	**169**	P	**Pn**	**08 59 04.6**	**+0.1**
	2μm,0.7s,14μm5.5nm						
CTBH	**Cotabato--PC H**	**5.97**	**331**	eP	**Pn**	**08 59 06.1**	**-1.8**
CTBH				i S	**Sn**	**09 00 10.6**	**-4.4**
APSI	**Ampana**	**6.20**	**243**	P	**Pn**	**08 59 12.6**	**+1.6**
APSI				S	**Sn**	**09 00 22.6**	**+2.0**
TOLI	**Toli-Toli**	**6.41**	**263**	ePn	**Pn**	**08 59 13.4**	**-0.4**
CGP	**Cagayan de Oro**	**6.89**	**339**	⇓eP	**Pn**	**08 59 18.3**	**-2.1**
CGP				eS	**Sn**	**09 00 32.4**	**-5.0**
PAGZ	**Pagadian**	**6.94**	**327**	eP	**Pn**	**08 59 19.4**	**-1.7**
BNDI	**Bandanaira**	**7.01**	**157**	P	**Pn**	**08 59 23.4**	**+1.4**
	2μm,1.5s,23μm7.7nm						
FAKI	**Fak Fak**	**7.04**	**134**	P	**Pn**	**08 59 22.8**	**+0.4**
	674nm,1.0s,6μm2.0nm						
FAKI	**Fak Fak**	**7.04**	**134**	ePn	**Pn**	**08 59 22.3**	**-0.1**
BUTP	**Butuan**	**7.12**	**348**	eP	**Pn**	**08 59 22.3**	**-1.1**
BUTP				eS	**Sn**	**09 00 45.1**	**+2.2**

IPIL Ipil 7.36 322 eP Pn 08 59 25.9 -0.9
KDI Kendari 7.42 218 P Pn 08 59 25.7 -1.9
MPSI Mapaga 7.43 257 P Pn 08 59 27.8 +0.2
479nm,1.2s,6µm1.8nm
DCPH Dipolog City 7.58 330⇑ iP Pn 08 59 30.5 +0.8
RKPI Ransiki, Papua 7.83 116 P Pn 08 59 34.8 +1.7
PCI Palu 7.85 249 P Pn 08 59 33.8 +0.4
728nm,0.9s,6µm3.5nm
SCPH Surigao 7.94 348⇑ eP Pn 08 59 34.7 +0.2
TBP Tagbilaran 8.34 337 eP Pn 08 59 39.1 -0.9
MSLP Maasin 8.43 344 eP Pn 08 59 40.4 -0.8
TTSI Tana Toraja 8.86 236 P Pn 08 59 46.2 -0.8
690nm,0.6s,8µm
OCLP Ormoc 9.37 345 eP Pn 08 59 54.5 +0.5
PLP Palo 9.39 347⇑ eP Pn 08 59 52.6 -1.6
SPSI Sidrap Palu 9.44 231 P Pn 08 59 54.6 -0.3
672nm,0.7s,6µm
TSM Tawau 9.54 284 ⇓P Pn 08 59 56.6 +0.3
GUIM Jordan 9.72 332 eP Pn 08 59 58.3 -0.4
SRPI Serui, Papua 9.86 113 P Pn 09 00 05.3 +4.8
BKSI Bulukumba 10.09 224 P Pn 09 00 04.1 +0.5
281nm,0.6s,3µm
KAPI Kappang 10.13 227 Pn Pn 09 00 04.6 +0.3
2µm,0.6s,SNR=64
KAPI Kappang 10.13 227 P Pn 09 00 03.2 -1.1
62nm,0.3s,baz=46,slow=6.3,SNR=121
KAPI S Sn 09 01 52.1 -4.0
59nm,0.3s,baz=184,slow=23,SNR=11
KAPI LR LR 09 03 49.3
comp=Z,961nm,21.9s,baz=59,slow=36
KAPI Kappang 10.13 227 P Pn 09 00 04.0 -0.3
SNR=11
BSSI Bau Bau, Buton 10.45 219 P Pn 09 00 07.6 -0.9
458nm,1.4s,5µm
RCP Roxas 10.48 336⇑ eP Pn 09 00 09.9 +0.9
SDKM Sandakan 10.58 290 ⇓P Pn 09 00 10.3 0.0
SAUI Saumlaki 10.72 157 P Pn 09 00 11.1 -1.0
2µm,1.0s,17µm
BKB Balikpapan 10.74 253 P Pn 09 00 13.3 +0.8
CNP Catarman 10.76 347 eP Pn 09 00 08.3 -4.4
KDM Kudat 11.40 296 ⇑P Pn 09 00 24.0 +2.7
MMRI Maumere 11.62 205 P Pn 09 00 24.8 +0.7
856nm,0.9s,8µm
MMRI Maumere 11.62 205 ePn Pn 09 00 23.8 -0.3
KKM Kota Kinabalu 11.63 291 ⇑P Pn 09 00 25.4 +0.9
KKM Kota Kinabalu 11.63 291 ePn Pn 09 00 23.9 -0.5
492nm,0.9s
PVCP Virac 11.93 346 eP Pn 09 00 28.8 +0.6
SOEI Soe 11.99 194 P Pn 09 00 32.2 +2.9
SOEI Soe 11.99 194 ePn Pn 09 00 30.5 +1.2
KBKI Kotabaru 12.16 245 P Pn 09 00 30.6 -0.7
253nm,0.9s,2µm
SMPI Sarmi 12.21 109 P Pn 09 00 35.0 +3.0
WSI Waingapu 13.42 210 P Pn 09 00 49.1 +1.3
BBKI Banjar Baru 13.43 246 P Pn 09 00 47.9 0.0
266nm,1.7s,5µm
TGY Tagaytay City 13.53 333 P Pn 09 00 49.7 +0.5
82nm,0.3s,baz=256,slow=2.1,SNR=7.2
BASI Baing, Sumba 13.76 208 P Pn 09 00 52.7 +0.6
1µm,1.0s,13µm
GENI Genyem 13.78 109 P P 09 00 57.3 +0.4
BTM Bintulu 14.10 275 ⇓P Pn 09 00 57.7 +1.2
JAY Jayapura 14.27 108 P Pn 09 00 58.2 -0.5
162nm,0.9s,3µm
SBUM Sibu 14.93 272 ePn Pn 09 01 05.7 -1.3
SRBI Singaraja 15.54 230 P Pn 09 01 14.9 +0.3
STKI Sintang 15.78 263 P Pn 09 01 18.2 +0.5
209nm,1.3s
KMMI Kalianget 15.92 236 P P 09 01 20.8 +0.2
1µm,0.9s,12µm
DNP Denpasar 15.92 228 P P 09 01 25.7 +5.0
IGBI Denpasar 16.06 228 P P 09 01 22.3 +0.1
ABJI Asem Bagus 16.12 233 P P 09 01 23.0 +0.1
PBKI Pangkalan Bun 16.16 253 P Pn 09 01 22.1 -0.2
325nm,0.9s,10µm
JAGI Jajag, Banyuwa 16.60 231 P P 09 01 28.3 +0.1
JAGI Jajag, Banyuwa 16.60 231 eP P 09 01 28.2 +0.1
BLJI Banyuglugur 16.61 234 P P 09 01 31.3 +3.0
SZP Santa 16.82 337 ePn Pn 09 01 30.2 -0.2
335nm,0.8s
KSM Kuching 16.84 269 ⇓P P 09 01 31.7 +0.8
KSM Kuching 16.84 269 ePn Pn 09 01 30.8 +0.1
402nm,0.9s
GRJI Gresik 17.09 239 P Pn 09 01 35.1 +1.3
TBJI Tambak Boyo 17.59 240 P Pn 09 01 39.7 -0.1
UWJI Ujung Watu 18.19 243 P Pn 09 01 47.1 +0.1
446nm,1.0s
PWJI Pagerwojo 18.24 237 P P 09 01 46.8 +0.6
447nm,1.2s
WOJI Wonogiri, Jawa 18.89 239 P Pn 09 01 54.4 -0.8
284nm,1.0s
UGM Wanagama 19.27 239 P P 09 01 57.3 -0.2
KPJI Karang Pucung 20.39 243 P P 09 02 09.4 -0.2
380nm,0.9s,3µm
GUMO Guam 20.99 56 P P 09 02 13.8 -2.2
78nm,0.6s,baz=157,slow=5.0,SNR=8.6
GUMO Guam 20.99 56 P P 09 02 13.8 -2.2
GUMO pmax pmax
comp=Z,78nm,0.6s
GUMO Guam 20.99 56 eP P 09 02 17.2 +1.2
CMJI Cimerak 21.02 242 P P 09 02 14.7 -1.6
LEM Lembang 21.36 246 P P 09 02 22.7 +2.5
LEM Lembang 21.36 246 P P 09 02 20.0 -0.2
comp=Z,203nm,0.8s,baz=65,slow=7.6,SNR=15
LEM Lembang 21.36 246 P P 09 02 20.0 -0.2
PPBI Pangkal Pinang 21.40 259 P P 09 02 19.1 -1.4
CISI Cisompet, Garu 21.48 244 P P 09 02 20.5 -0.8
CISI Cisompet, Garu 21.48 244 eP P 09 02 20.6 -0.8
TWG Pinlang 21.55 345 eP P 09 02 19.5 -2.5
comp=Z,935nm,0.7s
CBJI Citeko 21.91 247 P P 09 02 26.3 +0.4
comp=Z,434nm,0.9s
CNJI Cibinong 22.00 245 P P 09 02 27.5 +0.7
comp=Z,454nm,1.1s,comp=Z,4µm
YULB Yu-li 22.04 346 eP P 09 02 24.2 -2.9
comp=Z,176nm,0.6s
TPUB Ta-pu 22.13 344 eP P 09 02 26.4 -1.6
comp=Z,636nm,0.8s
COEN Coen 22.42 135 eP P 09 02 28.7 -2.4
SBJI Serang 22.47 249 P P 09 02 35.2 +3.6
SSLB Suanglung 22.50 345 eP P 09 02 29.2 -2.6
comp=Z,171nm,0.7s
TPRI Tanjung Pinang 22.64 268 P P 09 02 32.6 -0.7
comp=Z,194nm,1.1s
DSRI Dabo 22.70 264 P P 09 02 34.2 +0.3
comp=Z,278nm,1.6s,comp=Z,7µm
YOJ Yonaguni jima 22.72 350 eP P 09 02 34.6 +0.7
YOJ pmax pmax
comp=Z,210nm,0.7s
YOJ Yonaguni jima 22.72 350 eP P 09 02 34.6 +0.7
comp=Z,210nm,0.7s
NACB Ninganchiao 22.72 347 eP P 09 02 32.1 -1.8
comp=Z,129nm,0.8s
WRAB Tennant Creek 22.88 162 P P 09 02 34.3 -1.3
comp=Z,12µm,0.8s
WRAB Tennant Creek 22.88 162 eP P 09 02 34.3 -1.3
WRAB Tennant Creek 22.88 162 eP P 09 02 34.2 -1.3
comp=Z,2µm,0.8s
WRA Warramunga Arr 22.89 162 P P 09 02 34.2 -1.4
comp=Z,449nm,0.7s,baz=342,slow=11,SNR=1887
WRA S S 09 06 30.9 -5.6
comp=Z,10nm,1.0s,baz=341,slow=18,SNR=3.9
WRA ScP ScP 09 09 49.8 0.0
comp=Z,22nm,0.8s,baz=343,slow=2.9,SNR=14
WRA P3KPbc 09 35 56.4
comp=Z,0.4nm,0.9s,baz=157,slow=3.7,SNR=3.5
PMBI Palembang 22.89 258 P P 09 02 39.7 +4.0
PMG Port Moresby 22.91 120 i P P 09 02 36.1 +0.2
PMG pmax pmax
comp=Z,334nm,1.0s
PMG Port Moresby 22.91 120 eP P 09 02 34.9 -1.0
CGJI Cibinong 23.05 248 P P 09 02 35.4 -1.9
BLSI Bandar Lampung 23.06 251 P P 09 02 39.6 +2.2
YHNB Yeheng 23.25 347 eP P 09 02 38.1 -0.9
comp=Z,955nm,1.0s
KLI Kotabumi 23.28 253 P P 09 02 40.4 +1.0
comp=Z,676nm,0.9s,comp=Z,5µm
MYKOM Kota Tinggi 23.29 270 ⇑P P 09 02 40.1 +0.7
MYKOM Kota Tinggi 23.29 270 eP P 09 02 38.6 -0.8
TATO Taipei 23.52 347 P P 09 02 41.7 +0.3
SNR=5.7
TATO Taipei 23.52 347 eP P 09 02 40.9 -0.5
comp=Z,387nm,0.9s
JMBI JAMBI 23.77 262 P P 09 02 47.0 +3.1
KGM Kluang 23.82 271 ⇓P P 09 02 45.4 +1.2

KASI Kota Agung 23.82 252 P P 09 02 44.1 -0.2
comp=Z,1µm,0.9s,comp=Z,8µm
MDSI Maura Dua 23.83 254 P P 09 02 43.2 -1.2
QIZ Qiongzhong 23.97 316 P P 09 02 45.5 -0.1
QIZ sP sP 09 03 22.9 -1.7
QIZ S S 09 06 55.7 +1.7
QIZ PMZ
comp=Z,480nm,1.0s
QIZ PMZ
comp=Z,590nm,7.2s
QIZ LN
comp=Z,2µm,14.9s
QIZ LE
comp=Z,670nm,20.1s
QIZ LZ
comp=Z,710nm,16.1s
QIZ Qiongzhong 23.97 316 eP P 09 02 45.0 -0.6
comp=Z,395nm,0.9s
LWLI Liwa 24.09 253 P P 09 02 47.0 +0.2
MBWA Marble Bar 24.11 197 P P 09 02 46.7 0.0
SNR=43
MBWA Marble Bar 24.11 197 eP P 09 02 45.4 -1.3
KTGM Kuala Trenggan 24.19 279 ⇓P P 09 02 48.5 +0.8
QZH Quanzhou 24.29 341 ⇓ iP P 09 02 48.9 +0.6
QZH S S 09 06 59.2 +0.3
QZH PMZ
comp=Z,550nm,0.6s
QZH PMZ
comp=Z,2µm,3.9s
LHSI Lahat 24.30 256 P P 09 02 50.9 +2.2
comp=Z,333nm,1.1s,comp=Z,4µm
XMIS Christmas Isla 24.71 240 eP P 09 02 52.7 +0.3
JOW Kunigami 24.75 2 eP P 09 02 53.5 +1.0
comp=Z,87nm,0.8s
GZH Guangzhou 24.90 329 P P 09 02 56.9 +3.0
GZH PMZ
comp=Z,1µm,5.7s
MNAI Manna 24.98 255 P P 09 02 59.0 +4.2
MNAI Manna 24.98 255 eP P 09 02 55.0 +0.2
comp=Z,1µm,1.0s
UBPT Khong Chiam 25.14 303 P P 09 02 57.2 +0.9
comp=Z,611nm,0.7s
MASI Maura Aman, Be 25.41 259 P P 09 03 00.0 +1.2
comp=Z,878nm,0.8s,comp=Z,7µm
FRIM Kepong 25.53 273 ⇓P P 09 03 01.0 +1.2
SDSI Sungai Dareh 25.88 264 P P 09 03 05.1 +2.1
comp=Z,206nm,0.9s
BKNI Bangkinang 26.15 267 P P 09 03 08.3 +2.8
BKNI Bangkinang 26.15 267 eP P 09 03 05.2 -0.2
comp=Z,719nm,1.4s
IPM Ipoh 26.20 276 ⇓P P 09 03 06.2 +0.3
IPM Ipoh 26.20 276 eP P 09 03 05.5 -0.4
AS31 Alice Springs 26.31 166 eP P 09 03 05.7 -1.1
ASAR Alice Springs 26.32 166 P P 09 03 05.7 -1.1
comp=Z,70nm,0.7s,baz=345,slow=6.5,SNR=650
ASAR PcP PcP 09 06 29.5 -0.6
comp=Z,15nm,0.6s,baz=0.0,slow=3.1,SNR=4.1
ASAR S S 09 07 42.6 +11
comp=Z,38nm,0.9s,baz=347,slow=22,SNR=8.8
ASAR ScP ScP 09 09 59.7 +0.4
comp=Z,16nm,0.8s,baz=341,slow=2.5,SNR=10
ASAR P3KPbc 09 35 45.4
comp=Z,1.3nm,1.1s,baz=157,slow=4.1,SNR=3.4
KULM Kulim 26.65 278 eP P 09 03 09.4 -0.5
CHBT CHBT 26.81 295 P P 09 03 11.3 0.0
comp=Z,638nm,0.8s,comp=Z,4µm
PDSI Padang 26.84 264 P P 09 03 12.0 +0.4
comp=Z,68nm,0.9s,comp=Z,2µm
SKLT Songkhla 26.93 282 P P 09 03 12.7 +0.2
comp=Z,152nm,1.0s,comp=Z,6µm
SKNT Sakolnakorn 27.23 305 P P 09 03 14.7 -0.3
comp=Z,365nm,0.9s,comp=Z,3µm
MNSI Mandailing Nat 27.59 268 P P 09 03 17.5 -0.8
comp=Z,202nm,0.7s,comp=Z,2µm
TRTT Trang 27.96 283 P P 09 03 21.5 -0.1
comp=Z,116nm,1.8s
PATY Pattaya 28.20 294 P P 09 03 23.5 -0.2
comp=Z,23nm,0.9s,comp=Z,894nm
PSI Prapat 28.21 272 P P 09 03 23.4 -0.6
comp=Z,39nm,0.6s,baz=93,slow=5.3,SNR=30
PSI ScP ScP 09 10 06.0 +0.6
comp=Z,45nm,1.1s,baz=186,slow=3.4,SNR=11
CTA Charters Tower 28.84 140 P P 09 03 28.9 -0.5
comp=Z,66nm,0.9s,baz=325,slow=11,SNR=29
CTAO Charters Tower 28.84 140 eP P 09 03 29.1 -0.3
CTAO pmax pmax
comp=Z,73nm,0.8s
CTAO Charters Tower 28.84 140 eP P 09 03 29.1 -0.3
comp=Z,73nm,0.8s
CBIJ Chichi jima 28.85 29 P P 09 03 28.1 -1.2
JCJ Chichijima 28.85 29 P P 09 03 28.1 -1.2
comp=Z,94nm,0.6s,baz=260,slow=20,SNR=7.4
JCJ LR LR 09 12 45.9
comp=Z,442nm,21.2s,baz=116,slow=31
SURT Suratani 29.05 285 P P 09 03 31.1 -0.2
comp=Z,96nm,0.9s,comp=Z,893nm
PKDT Phuket 29.29 283 P P 09 03 33.4 0.0
comp=Z,267nm,0.8s
SSE Sheshan 29.51 350 ⇓P P 09 03 36.2 +1.1
SSE pP pP 09 04 00.5 -0.4
SSE sP sP 09 04 12.8 -1.7
SSE S S 09 08 22.3 +1.1
SSE sS sS 09 09 07.3 +1.1
SSE PMZ
comp=Z,50nm,1.1s
SSE PMZ
comp=Z,180nm,4.8s
SSE LN
comp=Z,270nm,21.2s
SSE LE
comp=Z,530nm,21.2s
SSE LZ
comp=Z,420nm,19.1s
PBKT Sadao Pong 29.57 301 P P 09 03 35.7 -0.1
comp=Z,93nm,0.7s
GSI Gunungsitoli 29.57 269 eP P 09 03 34.1 -1.8
comp=Z,253nm,0.6s
SRDT SRDT 30.30 295 P P 09 03 42.8 +0.5
comp=Z,555nm,1.0s,comp=Z,11µm
UTTA Uttaradit 30.45 303 P P 09 03 43.9 +0.3
comp=Z,49nm,0.9s,comp=Z,406nm
WHN Wuhan 30.90 338 ⇑P P 09 03 49.3 +1.9
WHN pP pP 09 04 17.7 +4.5
WHN PP PnPn 09 04 52.2 -1.1
WHN S S 09 08 44.6 +1.6
WHN PMZ
comp=Z,590nm,2.7s
WHN LN
comp=Z,610nm,3.7s
WHN LE
comp=Z,790nm,5.4s
WHN LZ
comp=Z,1µm,16.4s
NJ2 Nanjing 30.93 346 eP P 09 03 49.2 +1.6
NJ2 pP pP 09 04 13.5 +0.1
NJ2 PP PP 09 04 57.2 -2.6
NJ2 S S 09 08 42.5 -0.8
NJ2 sS sS 09 09 28.0 -0.4
NJ2 PMZ
comp=Z,140nm,0.8s
NJ2 PMZ
comp=Z,830nm,6.4s
NJ2 LN
comp=Z,690nm,17.8s
NJ2 LE
comp=Z,580nm,14.2s
NJ2 LZ
comp=Z,9µm,14.8s
KHLT Khaolaem Dam 30.94 296 P P 09 03 48.4 +0.5
comp=Z,102nm,0.9s,comp=Z,1µm
JNU Nakatsue 31.19 6 P P 09 03 49.4 -0.6
comp=Z,55nm,0.9s,baz=158,slow=2.8,SNR=4.8
JNU Nakatsue 31.19 6 eP P 09 03 49.9 -0.1
GYA Guiyang 31.31 323⇑ iP P 09 03 51.2 0.0
GYA pP pP 09 04 18.9 +1.8
GYA sP sP 09 04 32.0 +1.3
GYA PP PnPn 09 05 00.6 +2.0
GYA PcP PcP 09 06 42.9 +0.1
GYA S S 09 08 46.9 -2.8
GYA sS sS 09 09 35.4 +0.6
GYA ScP ScP 09 10 15.0 -0.2
GYA PcS PcS 09 10 25.6 -1.8
GYA SS SnSn 09 10 47.2 +0.7
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,200nm,9.4s
GYA LN
comp=Z,570nm,16.6s
GYA LE
comp=Z,450nm,20.0s
GYA LZ
comp=Z,490nm,20.4s
LAMP Lampang 31.59 303 P P 09 03 54.6 +0.9
comp=Z,38nm,1.0s,comp=Z,340nm
CRAI Chiangrai 31.83 307 P P 09 03 52.8 -2.9
comp=Z,73nm,1.5s
CM31 Chiang Mai Arr 32.14 303 eP P 09 03 59.0 +0.6
comp=Z,30nm,0.8s
CMAR Chiang Mai Arr 32.14 303 P P 09 03 58.6 +0.1
comp=Z,38nm,0.8s,baz=122,slow=7.2,SNR=136
CMAR ScP ScP 09 10 20.1 +2.1
comp=Z,9.0nm,0.9s,baz=141,slow=1.8,SNR=25
CMAR LR LR 09 16 28.9
comp=Z,280nm,21.8s,baz=130,slow=35
CMAR PKPPKP P'P'df 09 37 36.3 -1.1
comp=Z,2.5nm,0.8s,baz=241,slow=3.9,SNR=7.3
CMAR Chiang Mai Arr 32.14 303 i P P 09 03 59.0 +0.5
CMAR pmax pmax
comp=Z,38nm,0.9s
KSWAN Wando 32.26 359 P P 09 04 00.2 +0.9
SNR=7.3
KSWAN Wando 32.26 359 P P 09 04 00.2 +0.9
SNR=7.3
CMMT Chiang Mai 32.30 303 P P 09 03 59.9 0.0
comp=Z,182nm,1.6s,comp=Z,2µm
CHTO Chiang Mai 32.30 303 P P 09 04 00.0 +0.1
comp=Z,625nm,1.6s,comp=Z,7µm
CHTO Chiang Mai 32.30 303 eP P 09 04 00.4 +0.5
CHTO pmax pmax
comp=Z,131nm,1.0s
CHTO Chiang Mai 32.30 303 P P 09 04 00.7 +0.7
SNR=46
CHTO Chiang Mai 32.30 303 eP P 09 04 00.4 +0.5
comp=Z,131nm,1.0s
KSJDO Jindo 32.34 359 ⇓P P 09 04 00.8 +0.8
SNR=27
KSJDO Jindo 32.34 359 ⇓P P 09 04 00.8 +0.8
SNR=27
KSKOH Goheung 32.47 0 P P 09 04 02.2 +1.1
SNR=7.4
KSKOH Goheung 32.47 0 P P 09 04 02.2 +1.1
SNR=7.4
KSHUK Heuksando 32.59 357 ⇑P P 09 04 03.0 +0.9
SNR=12
KSHUK Heuksando 32.59 357 ⇑P P 09 04 03.0 +0.9
SNR=12
KSNAH Namhae 32.69 1 P P 09 04 03.6 +0.6
SNR=5.8
KSNAH Namhae 32.69 1 P P 09 04 03.6 +0.6
SNR=5.8
CMAI Chiengmai2 32.76 305 P P 09 04 04.0 0.0
comp=Z,226nm,1.0s,comp=Z,3µm
ENH Enshi 32.76 331 eP P 09 04 04.1 +0.4
comp=Z,25nm,0.6s
MHMT Maesarieng 32.88 301 P P 09 04 05.2 +0.3
comp=Z,68nm,0.6s,comp=Z,848nm
KMI Kunming 32.92 316 ⇓P P 09 04 06.8 +1.3
KMI pP pP 09 04 33.0 +1.5
KMI sP sP 09 04 46.8 +1.8
KMI PP PP 09 05 22.0 -0.2
KMI S S 09 09 13.6 -1.5
KMI sS sS 09 09 58.2 -2.2
KMI SS SnSn 09 11 22.5 -3.3
KMI PMZ
comp=Z,110nm,1.3s
KMI PMZ
comp=Z,460nm,3.1s
KMI LN
comp=Z,1µm,17.6s
KMI LE
comp=Z,810nm,16.3s
KMI LZ
comp=Z,440nm,14.4s
KSKWJ Gwangju 33.02 360 ⇑P P 09 04 06.6 +0.7
SNR=6.2
KSKWJ Gwangju 33.02 360 ⇑P P 09 04 06.6 +0.7
SNR=6.2
KSJIN Jinju 33.04 1 ⇓P P 09 04 06.5 +0.5
SNR=7.4
KSJIN Jinju 33.04 1 ⇓P P 09 04 06.5 +0.5
SNR=7.4
KSJEU Jeongeup 33.36 360 P P 09 04 09.6 +0.8
SNR=18
KSJEU Jeongeup 33.36 360 ⇓P P 09 04 09.3 +0.5
SNR=11
KSDAG Daegu 33.67 3 P P 09 04 12.2 +0.7
SNR=10
KSDAG Daegu 33.67 3 ⇓P P 09 04 11.8 +0.3
SNR=5.6
KSJEO Jeonju 33.80 0 P P 09 04 13.2 +0.6
SNR=7.8
KSJEO Jeonju 33.80 0 P P 09 04 13.2 +0.6
SNR=7.8
KSCPR CHUPUNGNYEONG 34.09 1 P P 09 04 15.9 +0.7
SNR=8.3
KSCPR CHUPUNGNYEONG 34.09 1 P P 09 04 15.9 +0.7
SNR=8.3
KSPHA Pohang 34.12 3 P P 09 04 16.3 +1.0
SNR=5.2
TJN Taejon 34.24 0 i P P 09 04 16.7 +0.3
KSEUS ULSEONG 34.24 2 P P 09 04 17.2 +0.7
SNR=7.8
KSEUS ULSEONG 34.24 2 P P 09 04 17.2 +0.7
SNR=7.8
KSSAJ Sangju 34.28 1 P P 09 04 17.2 +0.4
SNR=6.8
KSBON Boeun 34.37 1 P P 09 04 18.9 +1.3
SNR=11
KSCEJ CHEONGJU 34.50 0 P P 09 04 19.4 +0.7
SNR=8.2
KSULJ Uljin 34.63 3 P P 09 04 20.6 +0.8
SNR=11
KSSES Seosan 34.66 359 P P 09 04 20.6 +0.6
SNR=8.0
KSCEA Cheonan 34.68 0 P P 09 04 21.5 +1.2
SNR=25
KSCHJ Chungju 34.74 1 P P 09 04 21.7 +0.9
SNR=9.6
KSTBA Taebaek 35.02 3 P P 09 04 24.3 +1.0
SNR=21
KSYOW Yeongwol 35.05 2 P P 09 04 24.4 +0.9
SNR=5.8
KSSWO Suwon 35.13 360 P P 09 04 25.6 +1.5
SNR=16
KSICN Icheon 35.15 0 P P 09 04 25.6 +1.3
SNR=18
KSWJU Wonju 35.27 1 P P 09 04 26.6 +1.2
SNR=9.0
KSAR Wonju Array Be 35.31 1 P P 09 04 26.2 +0.6
KSAR 09 06 54.3
KSAR Wonju Array Be 35.31 1 P P 09 04 26.2 +0.6
KSAR PcP PcP 09 06 54.3 +0.7
KSAR ScP ScP 09 10 29.6 +0.9
KSRS Korea Array 35.32 1 P P 09 04 26.2 +0.5
comp=Z,65nm,0.8s,baz=179,slow=10.0,SNR=149
KSRS PcP PcP 09 06 54.3 +0.7
comp=Z,7.4nm,0.7s,baz=181,slow=2.2,SNR=7.4
KSRS ScP ScP 09 10 29.6 +0.9
comp=Z,4.8nm,0.9s,baz=192,slow=4.3,SNR=10
INCN Inchon 35.34 359 P P 09 04 27.5 +1.5
SNR=6.7
INCN Inchon 35.34 359 eP P 09 04 26.6 +0.6
comp=Z,58nm,0.6s
KSSEO Seoul 35.35 360 P P 09 04 27.6 +1.6
SNR=8.0
KSGAH Ganghwa 35.57 359 P P 09 04 28.9 +1.0
SNR=12
KSDGY Dagwallycong 35.58 2 P P 09 04 29.2 +1.1
SNR=27
KSCHC Chuncheon 35.64 1 P P 09 04 29.9 +1.4
SNR=50
KSMUS Musan 35.75 359 P P 09 04 30.9 +1.6
SNR=10
KSDDC Dongducheon 35.76 360 P P 09 04 31.2 +1.7
SNR=11
KSJMJ Jumunjin 35.77 2 P P 09 04 30.8 +1.2
SNR=20
KSIJA INJE 35.86 1 P P 09 04 31.7 +1.4
SNR=38
MAJO Matsushiro 35.89 15 d iP P 09 04 29.4 -1.2
MAJO pmax pmax
comp=Z,444nm,0.8s
MAJO Matsushiro 35.89 15 eP P 09 04 29.5 -1.2

comp=Z,116nm,0.9s
MAT Matsushiro 35.89 15 P **P 09 04 29.5 -1.2**
MAT *e*S **S 09 09 59.0 -1.1**
MJAR Matsushiro Arr 35.89 15 P **P 09 04 29.3 -1.4**
comp=Z,55nm,0.7s,baz=191,slow=9.6,SNR=75
MJAR PcP **PcP 09 06 55.3 -0.1**
comp=Z,5.8nm,0.8s,baz=190,slow=4.3,SNR=3.6
MJAR ScP **ScP 09 10 31.5 +0.6**
comp=Z,10nm,0.8s,baz=195,slow=4.9,SNR=16
MJAR LR LR 09 16 49.7
comp=Z,170nm,20.8s,baz=185,slow=32
YNCB YEONCHEON 35.90 360 P **P 09 04 32.1 +1.5**
SNR=53
KSBAR Backryungdo 35.91 357 P **P 09 04 32.4 +1.7**
SNR=22
KSCWO Cheorwon 35.94 0 P **P 09 04 32.7 +1.6**
SNR=14
NWAO Narrogin (SRO) 35.95 194 P **P 09 04 30.8 -0.4**
comp=Z,257nm,0.6s,baz=329,slow=6.5,SNR=262
SEHB SEOHWA 36.14 1 P **P 09 04 34.2 +1.5**
SNR=27
XAN Xi'an 36.17 334 P **P 09 04 33.1 0.0**
XAN pP **pP 09 04 58.7 -0.7**
XAN sP **sP 09 05 11.3 -1.6**
XAN PP **PP 09 05 57.3 -0.5**
XAN PcP **PcP 09 06 56.8 +0.5**
XAN S **S 09 10 00.9 -3.6**
XAN PMZ
comp=Z,41nm,0.9s
XAN PMZ
comp=Z,62nm,8.0s
XAN LN
comp=Z,410nm,34.4s
XAN LE
comp=Z,250nm,33.6s
XAN LZ
comp=Z,190nm,43.4s
KSSKC Sokcho 36.17 2 P **P 09 04 34.5 +1.6**
SNR=10
CD2 Chengdu 36.31 325 ⇓P **P 09 04 34.6 +0.2**
CD2 pP **pP 09 05 00.1 -0.5**
CD2 sP **sP 09 05 13.4 -0.7**
CD2 PP **PP 09 05 59.8 +0.4**
CD2 S **S 09 10 08.5 +1.8**
CD2 sS **sS 09 10 53.4 +1.1**
CD2 PMZ
comp=Z,120nm,1.0s
CD2 PMZ
comp=Z,410nm,3.7s
CD2 LN
comp=Z,820nm,13.2s
CD2 LE
comp=Z,850nm,13.2s
CD2 LZ
comp=Z,610nm,16.6s
STKA Stephens Creek 36.35 159 P **P 09 04 34.1 -0.5**
comp=Z,652nm,0.8s,baz=334,slow=8.0,SNR=532
STKA PP **PP 09 05 57.1 -2.6**
comp=Z,150nm,0.8s,baz=337,slow=11,SNR=5.3
STKA ScP **ScP 09 10 33.8 +1.2**
comp=Z,8.7nm,0.6s,baz=3.4,slow=6.5,SNR=3.6
DL2 Dalian 37.11 353 ⇓*i*P **P 09 04 41.7 +0.8**
DL2 S **S 09 10 20.6 +2.2**
DL2 PMZ
comp=Z,170nm,0.9s
DL2 PMZ
comp=Z,160nm,3.7s
TIY Taiyuan 38.06 341 ⇓*i*P **P 09 04 50.3 +1.2**
TIY pP **pP 09 05 17.0 +1.5**
TIY S **S 09 10 33.3 +0.3**
TIY PMZ
comp=Z,330nm,0.7s
TIY LN
comp=Z,190nm,10.4s
TIY LE
comp=Z,170nm,9.5s
TIY LZ
comp=Z,880nm,44.4s
H01W3 Cape Leeuwin H 38.64 197 P **P 09 04 54.6 +1.0**
baz=35,slow=4.9,SNR=39
H01W1 Cape Leeuwin H 38.64 197 P **P 09 04 54.5 +0.9**
baz=35,slow=4.9,SNR=30
H01W2 Cape Leeuwin H 38.65 197 P **P 09 04 54.7 +1.0**
baz=35,slow=4.9,SNR=27
BJI Beijing 39.19 347 P **P 09 04 59.2 +0.9**
BJI S **S 09 10 45.7 -4.0**
BJI SS **SS 09 13 43.0 -4.6**
BJI PMZ
comp=Z,420nm,1.2s
BJI PMZ
comp=Z,590nm,3.5s
BJI LN
comp=Z,210nm,18.1s
BJI LE
comp=Z,240nm,21.2s
BJI LZ
comp=Z,270nm,23.2s
SNY Shenyang 39.81 356 ⇓P **P 09 05 04.2 +0.7**
SNY S **S 09 10 57.7 -1.3**
SNY PMZ
comp=Z,80nm,0.7s
SNY PMZ
comp=Z,160nm,7.8s
LZH Lanzhou 40.23 330 ⇓P **P 09 05 09.1 +1.8**
LZH pP **pP 09 05 35.2 +1.3**
LZH sP **sP 09 05 48.5 +1.2**
LZH PP **PnPn 09 06 47.0 +0.1**
LZH PcP **PcP 09 07 10.9 +1.8**
LZH ScP **ScP 09 10 48.5 +0.9**
LZH S **S 09 11 07.3 +1.5**
LZH sS **sS 09 11 53.1 +1.1**
LZH ScS **ScS 09 15 02.0 +0.3**
LZH PMZ
comp=Z,310nm,1.3s
LZH PMZ
comp=Z,1μm,5.5s
LZH LN
comp=Z,660nm,13.0s
LZH LE
comp=Z,680nm,12.5s
LZH LZ
comp=Z,1μm,16.0s
VLA Vladivostok 41.19 5 ⇓*i*P **P 09 05 15.2 +0.4**
VLA *e* 09 06 52.8
VLA *e*S **S 09 11 19.6 +0.1**
VLA pmax pmax
comp=Z,116nm,1.1s
HHC Hu-ho-hao-te 41.19 342 *e*P **P 09 05 16.3 +1.3**
HHC pP **pP 09 05 44.3 +2.5**
HHC sP **sP 09 05 56.1 +0.9**
HHC PP **PP 09 06 54.8 +2.3**
HHC S **S 09 11 22.9 +3.0**
HHC sS **sS 09 12 07.0 +0.8**
HHC SS **SS 09 14 21.2 -6.4**
HHC PMZ
comp=Z,190nm,0.9s
HHC PMZ
comp=Z,780nm,6.0s
SHL Shillong 41.26 308 ⇓*i*P **P 09 05 15.5 -0.5**
SHL *ex* x 09 10 52.5
CN2 Changchun 41.68 358 *e*P **P 09 05 18.1 -0.7**
CN2 *ep*P **pP 09 05 43.6 -2.0**
CN2 *e*S **S 09 11 27.0 +0.2**
CN2 *e*SS **SS 09 14 31.1 -5.9**
CN2 PMZ
comp=Z,20nm,0.7s
CN2 PMZ
comp=Z,90nm,3.0s
H11S3 WAKE ISLAND Hy 42.08 64 T T 09 49 10.0
baz=252,slow=75,SNR=14
H11S2 WAKE ISLAND Hy 42.10 64 T T 09 49 11.2
baz=252,slow=75,SNR=12
H11S1 WAKE ISLAND Hy 42.10 64 T T 09 49 09.4
baz=252,slow=75,SNR=7.0
USRK Ussuriysk Ar. 42.27 5 P **P 09 05 24.0 +0.4**
comp=Z,96nm,0.8s,baz=191,slow=7.2,SNR=234
ERM Erimo 42.38 18 P **P 09 05 25.5 +0.9**
comp=Z,256nm,0.9s,SNR=5.8
ERM Erimo 42.38 18 *e*P **P 09 05 25.3 +0.8**
ERM pmax pmax
comp=Z,38nm,0.8s
ERM Erimo 42.38 18 *e*P **P 09 05 25.3 +0.8**
comp=Z,38nm,0.8s
MDJ Mudanjiang 42.52 3 P **P 09 05 26.5 +0.8**
MDJ pP **pP 09 05 51.7 -0.9**
MDJ ScP **ScP 09 10 57.0 +0.7**
MDJ PcS **PcS 09 11 08.5 +0.3**
MDJ S **S 09 11 42.1 +2.9**
MDJ sS **sS 09 12 26.6 +0.9**
MDJ PMZ
comp=Z,150nm,0.9s
MDJ PMZ
comp=Z,110nm,3.2s
MDJ Mudanjiang 42.52 3 *e*P **P 09 05 26.1 +0.4**
comp=Z,152nm,0.9s
H11N1 WAKE ISLAND Hy 42.66 63 T T 09 49 53.1
baz=250,slow=75,SNR=9.8
H11N2 WAKE ISLAND Hy 42.67 63 T T 09 49 50.8
baz=250,slow=75,SNR=11
H11N3 WAKE ISLAND Hy 42.67 63 T T 09 49 51.9
baz=250,slow=75,SNR=17
LSA Lhasa 43.92 313 P **P 09 05 38.9 +1.2**
LSA PMZ
comp=Z,200nm,0.8s
LSA Lhasa 43.92 313 *e*P **P 09 05 39.2 +1.5**
LSA pmax pmax
comp=Z,140nm,0.8s
LSA Lhasa 43.92 313 *e*P **P 09 05 39.2 +1.5**
comp=Z,140nm,0.8s
ASAJ Asahikawa 44.15 16 *e*P **P 09 05 39.2 +0.4**
comp=Z,41nm,1.1s
GTA Gaotai 44.82 330 ⇓P **P 09 05 45.4 +1.1**
GTA pP **pP 09 06 11.0 -0.4**
GTA sP **sP 09 06 23.9 -0.8**
GTA PcP **PcP 09 07 25.5 +1.2**
GTA ScP **ScP 09 11 07.5 +1.5**
GTA PcS **PcS 09 11 16.8 -1.3**
GTA S **S 09 12 12.3 -0.7**
GTA sS **sS 09 12 56.5 -3.3**
GTA SS **ScS 09 15 26.4 -3.6**
GTA ScS **SS 09 15 31.0 -6.1**
GTA PMZ
comp=Z,180nm,0.9s
GTA PMZ
comp=Z,620nm,10.4s
GTA LN
comp=Z,420nm,17.6s
GTA LE
comp=Z,480nm,16.2s
GTA LZ
comp=Z,570nm,19.0s
DZM Mont Dzumac 45.20 124 *e*P **P 09 05 47.6 +0.1**
comp=Z,213nm,1.3s
DZM *ep*P **pP 09 06 11.3 -3.4**
comp=Z,139nm,1.2s
DZM *e*S **S 09 12 23.9 +5.0**
comp=Z,311nm,26.4s
DZM *e*LR LR 09 18 49.9
comp=Z,555nm,27.4s
DZM Mont Dzumac 45.20 124 P **P 09 05 47.0 -0.5**
comp=Z,41nm,0.8s,baz=89,slow=24,SNR=12
DZM LR LR 09 25 43.2
comp=Z,183nm,18.6s,baz=0.0,slow=37
CHLP Challavanipeta 45.30 294 *e*P **P 09 05 48.0 -0.3**
CHLP IAmb IAmb 09 05 50.2
comp=Z,161nm,0.9s
TAPN Taplejung 45.40 307 *e*P **P 09 05 49.9 +0.6**
comp=Z,285nm,0.7s
ODAN Odare 45.44 307 *e*P **P 09 05 50.0 +0.4**
comp=Z,407nm,0.8s
VIS Vishakhapatnam 45.76 293 *e*P **P 09 05 52.6 +0.7**
RAMN Ramite 46.11 306 *e*P **P 09 05 55.7 +0.8**
comp=Z,809nm,1.0s
PALK Pallekele 46.57 278 P **P 09 05 57.8 -0.6**
comp=Z,24nm,0.7s,baz=36,slow=3.0,SNR=12
PALK Pallekele 46.57 278 *e*P **P 09 05 57.8 -0.6**
PALK pmax pmax
comp=Z,21nm,0.7s
PALK Pallekele 46.57 278 *e*P **P 09 05 57.8 -0.6**
comp=Z,21nm,0.7s
JIRN Jiri 46.75 307 *e*P **P 09 06 00.6 +0.6**
comp=Z,372nm,0.6s
YSS Yuzh-Sakhalins 46.82 15 *e*P **P 09 06 00.0 +0.3**
YSS *e* 09 06 28.0
YSS pmax pmax
comp=Z,50nm,1.1s
YSS Yuzh-Sakhalins 46.82 15 *e*P **P 09 05 59.9 +0.1**
comp=Z,38nm,0.7s
HABR Khabarovsk 46.83 7 *e*P **P 09 05 58.2 -1.5**
HABR *e**PP **pP 09 06 24.8 -2.2**
HABR *e**SP **sP 09 06 38.8 -1.5**
HABR *e* 09 07 28.3
HABR *e* 09 07 48.8
HABR *e*PPP PPP 09 08 36.4
HABR *e*S **S 09 12 39.8 -1.4**
HABR *e* 09 15 39.2
HABR *e*SS **SS 09 16 08.6 -0.7**
HABR *e*SSS SSS 09 17 25.1
HABR pmax pmax
comp=N,31nm,0.9s
HABR pmax pmax
comp=E,31nm,0.9s
HABR pmax pmax
comp=Z,95nm,0.9s
GUN Gumba 47.10 307 *e*P **P 09 06 03.3 +0.6**
comp=Z,712nm,0.7s
PVM Polavaram 47.22 292 *e*P **P 09 06 03.0 -0.3**
PVM IAmb IAmb 09 06 05.1
comp=Z,94nm,0.7s
KLR Kul'dur 47.25 4 *e*P P 09 05 59.0 -4.0
KLR *e*S S 09 12 40.0 -7.2
KLR *e*SS **SS 09 16 16.0 -0.2**
KLR MLR MLR
comp=Z,1μm,12.0s
PKI Pulchoki 47.34 307 *e*P **P 09 06 04.6 +0.1**
comp=Z,380nm,1.1s
PKIN Phulchoki 47.35 307 *e*P **P 09 06 04.6 +0.1**
comp=Z,172nm,0.9s
KKN Kakani 47.53 307 *e*P **P 09 06 06.2 +0.3**
comp=Z,513nm,1.0s
HIA Hailar 47.55 353 *e*P **P 09 06 05.2 -0.2**
HIA pmax pmax
comp=Z,65nm,1.0s
HIA Hailar 47.55 353 *e*P **P 09 06 05.2 -0.2**
comp=Z,65nm,1.0s
DMN Daman 47.59 306 *e*P **P 09 06 06.9 +0.5**
comp=Z,494nm,0.9s
GKN Gorkha 48.14 307 *e*P **P 09 06 10.7 +0.2**
comp=Z,446nm,1.0s
SKHT Srikalahasti 48.32 287 *e*P **P 09 06 10.9 -1.0**
SKHT IAmb IAmb 09 06 13.5
comp=Z,46nm,0.6s
ADKI Addanki 48.47 289 *e*P **P 09 06 12.8 -0.1**
ADKI IAmb IAmb 09 06 14.6
comp=Z,59nm,0.8s
KOLN Koldanda 48.88 306 *e*P **P 09 06 16.9 +0.7**
comp=Z,751nm,0.7s
SONM Songino Array 49.09 342 P **P 09 06 18.3 +0.9**
comp=Z,69nm,0.7s,baz=155,slow=8.8,SNR=311
SONM PcP **PcP 09 07 39.7 +0.4**
comp=Z,20nm,0.8s,baz=163,slow=4.8,SNR=3.7
SONM ScP **ScP 09 11 23.9 +0.2**
comp=Z,3.2nm,0.9s,baz=166,slow=5.8,SNR=3.9
SONM LR LR 09 27 28.7
comp=Z,141nm,19.1s,baz=156,slow=36
NJS Nagarjunasagar 49.23 290 *e*P **P 09 06 18.2 -0.6**
NJS IAmb IAmb 09 06 19.9
comp=Z,66nm,0.7s
RCLA Racherla 49.35 289 *e*P **P 09 06 18.4 -1.3**
RCLA IAmb IAmb 09 06 21.0
comp=Z,86nm,0.8s
SRLM Srisailam 49.53 289 *e*P **P 09 06 19.9 -1.2**
SRLM IAmb IAmb 09 06 22.1
comp=Z,83nm,0.7s
RPR Rampur 49.76 293 *e*P **P 09 06 23.1 +0.4**
RPR IAmb IAmb 09 06 24.1
comp=Z,95nm,0.8s
HYB Hyderabad 50.12 291 *i*P **P 09 06 25.0 -0.6**
HYB Hyderabad 50.12 291 *e*P **P 09 06 25.5 -0.1**
HYBB Hyderabad (bro 50.12 291 *e*P **P 09 06 25.0 -0.6**
HYBB IAmb IAmb 09 06 26.6
comp=Z,170nm,0.9s
TYV Tymovskoe 50.45 13 *e*P **P 09 06 28.8 +1.3**
TYV pmax pmax
comp=Z,19nm,0.6s
NGP Nagpur 50.56 296 *e*P **P 09 06 29.0 +0.2**
SRSP Sriramsagar 50.65 293 *e*P **P 09 06 28.9 -0.6**
SRSP IAmb IAmb 09 06 30.4
comp=Z,102nm,1.0s
URV Uravakonda 50.87 288 *e*P **P 09 06 30.6 -0.6**
URV IAmb IAmb 09 06 32.3
comp=Z,713nm,0.9s
CIT Chita 51.16 349 *e*P **P 09 06 34.3 +1.4**
CIT *e* 09 07 06.3
CIT pmax pmax
comp=Z,224nm,1.4s
KLRI Killari 52.08 291 *e*P **P 09 06 39.2 -1.1**
KLRI IAmb IAmb 09 06 40.8
comp=Z,178nm,0.8s
NKL Nikolayevsk 52.23 10 *i*P **P 09 06 40.3 -0.3**
NKL pmax pmax
comp=N,40nm,0.9s
NKL pmax pmax
comp=E,35nm,0.9s
NKL pmax pmax
comp=Z,100nm,0.9s
ZAK Zakamensk 52.31 341 ⇑*i*P **P 09 06 41.6 +0.1**
ZAK *e* 09 07 52.1
ZAK pmax pmax
comp=Z,20nm,1.5s
BHPL Bhopal 52.58 298 *e*P **P 09 06 44.0 +0.1**
TLY Talaya 53.32 342 P **P 09 06 50.4 +1.6**
comp=Z,254nm,0.7s,SNR=16
TLY Talaya 53.32 342 P **P 09 06 49.7 +1.0**
comp=Z,18nm,0.6s,baz=183,slow=5.6,SNR=35
TLY Talaya 53.32 342 *e*P **P 09 06 50.2 +1.4**
TLY pmax pmax
comp=Z,51nm,1.1s
TLY MLR MLR
comp=Z,119nm,13.0s
TLY Talaya 53.32 342 P **P 09 06 50.1 +1.4**
SNR=31
TLY Talaya 53.32 342 *e*P **P 09 06 49.5 +0.8**
comp=Z,42nm,0.9s
IRK Irkutsk 53.62 343 *e*P P 09 06 44.1 -6.9
IRK pmax pmax
comp=Z,108nm,1.4s
MSVF Nonsavu 53.82 114 P **P 09 06 54.3 +1.3**
comp=Z,643nm,1.0s,SNR=22
MSVF Nonsavu 53.82 114 *e*P **P 09 06 53.7 +0.7**
MSVF pmax pmax
comp=Z,137nm,1.0s
MSVF Nonsavu 53.82 114 *e*P **P 09 06 53.7 +0.7**
comp=Z,137nm,1.0s
MOY Mondy 54.17 340 *e*P **P 09 06 56.5 +1.4**
MOY pmax pmax
comp=Z,150nm,1.9s
GOA Goa 54.23 288 *e*P **P 09 06 55.1 -0.9**
DDI Dehra Dun 54.34 306 *e*P **P 09 06 56.6 0.0**
WMQ Urumqi 54.40 326 P **P 09 06 58.0 +1.1**
WMQ pP **pP 09 07 24.5 -0.4**
WMQ sP **sP 09 07 37.1 -0.8**
WMQ PcP **PcP 09 08 00.2 +1.0**
WMQ PP **PP 09 09 03.1 +2.9**
WMQ PcS **PcS 09 11 58.4 -0.4**
WMQ S **S 09 14 25.4 -0.9**
WMQ pmax pmax
comp=Z,620nm,0.8s
WMQ pmax pmax
comp=Z,800nm,4.2s
WMQ LR LR
comp=N,920nm,17.2s
WMQ LR LR
comp=E,240nm,16.5s
WMQ LR LR
comp=Z,940nm,28.1s
WMQ Urumqi 54.40 326 P **P 09 06 58.6 +1.8**
WMQ pP **pP 09 07 25.1 +0.2**
WMQ sP **sP 09 07 37.7 -0.2**
WMQ PcP **PcP 09 08 00.2 +1.0**
WMQ PP PP 09 09 06.7 +6.5
WMQ ScP **ScP 09 11 47.3 +0.6**
WMQ S **S 09 14 26.5 +0.2**
WMQ sS **sS 09 15 12.4 -2.2**
WMQ ScS **ScS 09 16 32.6 -2.1**
WMQ SS **SS 09 18 10.0 -0.3**
WMQ PMZ
comp=Z,640nm,0.8s
WMQ PMZ
comp=Z,800nm,4.0s
WMQ LN
comp=Z,890nm,18.0s
WMQ LE
comp=Z,330nm,15.0s
WMQ LZ
comp=Z,900nm,24.0s
NDI New Delhi 54.44 304 *e*P **P 09 06 56.5 -0.8**
NDI *ex* x 09 14 40.0
POO Poona 54.73 291 *e*P **P 09 06 58.6 -0.9**
CLNS Chul'man 54.73 358 *e*P **P 09 06 59.1 +0.1**
CLNS *e**PP PcP 09 08 06.5 +6.4
CLNS *e* 09 09 05.3
CLNS *e*PPP PPP 09 10 25.4
CLNS *e*S S 09 14 20.1 -10
CLNS pmax pmax
comp=Z,55nm,0.8s
CLNS pmax pmax
comp=E,16nm,0.9s
CLNS pmax pmax
comp=N,32nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.7s
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=Z,7.0nm,1.1s
CLNS smax smax
comp=E,580nm,11.8s
CLNS smax smax
comp=N,420nm,12.5s
SMLA Simla 55.34 307 *i*P **P 09 07 05.0 +1.2**
H08S2 Diego Garcia H 55.35 259 P **P 09 07 03.7 -0.1**
baz=56,slow=9.9,SNR=5.0
H08S3 Diego Garcia H 55.36 259 P **P 09 07 03.3 -0.6**
baz=56,slow=9.9,SNR=4.3
H08S1 Diego Carcia H 55.37 259 P **P 09 07 03.5 -0.4**
baz=56,slow=9.9,SNR=4.7
DHRM DHARAMSHALA 56.44 308 *e*P **P 09 07 12.1 +0.3**
DHRM AMB AMB 09 07 17.7
comp=Z,15nm,0.2s
HVS Khovu-Aksy 56.50 335 *d*P **P 09 07 13.1 +1.3**
PONG Pong 56.61 307 *ex* P 09 07 08.0 -4.8
H08N1 Diego Carcia H 56.65 261 P **P 09 07 13.2 +0.2**
baz=104,slow=4.2,SNR=4.4
BOD Bodaibo 56.66 352 ⇓*i*P **P 09 07 13.3 +0.7**
BOD pmax pmax
comp=Z,71nm,1.4s
H08N2 Diego Garcia H 56.66 261 P **P 09 07 13.4 +0.4**
baz=104,slow=4.2,SNR=3.5
H08N3 Diego Garcia H 56.67 261 P **P 09 07 13.5 +0.4**
baz=104,slow=4.2,SNR=4.8
DLH Dalhousie 56.81 308 *e*P **P 09 07 14.0 -0.5**
DLH *ex* x 09 07 22.0
PEA0B Petropavlovsk- 56.90 21 *e*P **P 09 07 14.8 +0.3**
PETK Petropavlovsk- 56.90 21 P **P 09 07 15.2 +0.8**
comp=Z,32nm,0.5s,baz=189,slow=3.5,SNR=32
PETK LR LR 09 29 37.1
comp=Z,59nm,21.2s,baz=213,slow=34
PET Petropavlovsk 57.19 22 *e*P **P 09 07 17.0 +0.6**
PET *e**SP **sP 09 07 58.8 +1.1**
PET *e*S **S 09 15 05.3 +2.6**
PET *e*SP **SPn 09 15 21.6 +9.5**
PET pmax pmax
comp=Z,31nm,0.8s
PET MLR MLR
comp=Z,100nm,18.0s
MK31 Makanchi Array 59.23 326 P **P 09 07 32.2 +1.3**
MK31 pmax pmax
comp=Z,101nm,0.5s
MK31 Makanchi Array 59.23 326 *e*P **P 09 07 32.0 +1.1**
MKAR Makanchi Array 59.23 326 P **P 09 07 32.1 +1.2**
comp=Z,200nm,0.7s,baz=121,slow=8.5,SNR=1601
MKAR ScP **ScP 09 12 08.6 +0.7**
comp=Z,3.6nm,0.6s,baz=122,slow=5.1,SNR=4.3
MKAR LR LR 09 33 14.0
comp=Z,175nm,21.9s,baz=117,slow=36
MKAR PKPPKP P'P'df 09 36 50.0 -12
comp=Z,0.7nm,0.7s,baz=280,slow=4.0,SNR=5.6
MKAR Makanchi Array 59.23 326 *i*P **P 09 07 32.0 +1.1**
MKAR pmax pmax
comp=Z,200nm,0.7s
BHJ Bhuj 59.51 296 *e*P **P 09 07 33.1 0.0**
BHJ AMB AMB 09 08 24.1
comp=Z,21nm,0.3s
KSH Kashi 59.58 316 P **P 09 07 36.0 +2.5**
KSH pP **pP 09 08 04.6 +2.6**

KSH sP **sP** **09 08 16.9 +1.9**
KSH PcP **PcP** **09 08 22.9 +3.2**
KSH PP **PP** **09 09 50.2 +3.8**
KSH PcS **PcS** **09 12 23.0 +1.0**
KSH S **S** **09 15 39.3 +4.6**
KSH sS **sS** **09 16 24.9 +1.3**
KSH ScS **ScS** **09 17 14.3 +1.5**
KSH SS **SS** **09 19 35.2 +3.1**
KSH PMZ
comp=Z,260nm,1.0s
KSH LN
comp=Z,230nm,10.0s
KSH LE
comp=Z,99nm,5.5s
KSH LZ
comp=Z,110nm,7.4s
WHZ Wether Hill Ro 59.74 148 *e*P **P** **09 07 33.0 -1.2**
comp=Z,111nm,1.1s
YAK Yakutsk 59.95 1 P **P** **09 07 35.8 +0.5**
comp=Z,29nm,0.6s,baz=186,slow=22,SNR=48
YAK Yakutsk 59.95 1*d i*P **P** **09 07 35.7 +0.3**
YAK *e**PP **pP** **09 08 04.4 +0.5**
YAK *e* 09 08 21.8
YAK *e* 09 09 47.7
YAK *e*PPP PPP 09 11 15.5
YAK *e*S **S** **09 15 37.2 -1.0**
YAK *e* 09 17 12.6
YAK *e*SSS SSS 09 22 18.8
YAK pmax pmax
comp=Z,268nm,0.8s
YAK pmax pmax
comp=E,15nm,1.0s
YAK pmax pmax
comp=N,83nm,1.1s
YAK pmax pmax
comp=Z,48nm,1.6s
YAK pmax pmax
comp=N,78nm,2.3s
YAK pmax pmax
comp=E,31nm,1.3s
YAK smax smax
comp=N,133nm,2.3s
YAK smax smax
comp=E,178nm,2.3s
RPZ Rata Peaks 60.09 145 P **P** **09 07 36.6 -0.2**
comp=E,153nm,0.8s,baz=285,slow=1.4,SNR=69
RPZ Rata Peaks 60.09 145 *e*P **P** **09 07 36.3 -0.5**
comp=E,206nm,0.9s
KRAR Krasnoyarsk 60.53 339⇓*i*P **P** **09 07 40.0 +0.6**
KRAR pmax pmax
comp=Z,25nm,0.8s
ULHL Ulahol 60.61 319 P **P** **09 07 42.4 +1.8**
SNR=6.8
KHZ Kahutara 60.82 142 *e*P **P** **09 07 40.5 -1.2**
comp=Z,93nm,0.8s
SNZO South Karori 60.94 141 *e*P **P** **09 07 40.4 -2.1**
comp=Z,150nm,1.1s
URZ Urewera 60.98 136 *e*P **P** **09 07 40.9 -2.0**
comp=Z,50nm,1.0s
KZA Kyzart 61.19 318 P **P** **09 07 46.9 +2.1**
SNR=25
TKM2 Tokmak 2 61.34 319 P **P** **09 07 47.0 +1.5**
SNR=129
TKM2 Tokmak 2 61.34 319 P **P** **09 07 46.9 +1.4**
TKM2 pmax pmax
comp=Z,168nm,0.9s
TKM2 Tokmak 2 61.34 319 *e*P **P** **09 07 46.7 +1.2**
comp=Z,110nm,0.7s
SFK Sufi-Kurgan 61.52 315 P **P** **09 07 48.6 +1.8**
SFK pmax pmax
comp=Z,220nm,0.8s
KBK Karagaybulak 61.65 319 P **P** **09 07 49.4 +1.8**
SNR=52
UCH Uchtor 61.75 318 P **P** **09 07 50.5 +1.9**
SNR=260
CHMS Chumysh 61.93 319 P **P** **09 07 50.4 +1.1**
SNR=29
AAK Ala-Archa 61.94 318 P **P** **09 07 51.3 +1.8**
comp=Z,457nm,1.0s,SNR=29
AAK Ala-Archa 61.94 318 P **P** **09 07 51.2 +1.8**
SNR=44
AAK Ala-Archa 61.94 318 P **P** **09 07 51.3 +1.8**
comp=Z,457nm,1.0s,SNR=29
AAK Ala-Archa 61.94 318 P **P** **09 07 49.9 +0.4**
comp=Z,36nm,0.7s,baz=100,slow=5.3,SNR=78
AAK Ala-Archa 61.94 318 P **P** **09 07 50.8 +1.3**
AAK pmax pmax
comp=Z,230nm,1.9s
AAK Ala-Archa 61.94 318 P **P** **09 07 51.3 +1.8**
SNR=88
AAK Ala-Archa 61.94 318 *e*P **P** **09 07 50.5 +1.1**
FRU Bishkek 61.94 319⇓*i*P **P** **09 07 49.0 -0.4**
FRU pmax pmax
comp=Z,200nm,2.0s
USP Ospenovka 62.21 319 P **P** **09 07 52.5 +1.3**
SNR=167
AML Almayashu 62.26 318 P **P** **09 07 53.9 +2.0**
SNR=8.5
ZAA0 Zalesovo Array 62.34 333 *e*P **P** **09 07 51.5 -0.2**
ZALV Zalesovo Beam 62.34 333 P **P** **09 07 51.4 -0.3**
comp=Z,28nm,0.5s,baz=124,slow=6.5,SNR=74
ZALV PKP2bc 09 36 59.3
comp=Z,3.8nm,0.8s,baz=289,slow=4.5,SNR=11
ZALV LR LR 09 37 26.3
comp=Z,103nm,18.7s,baz=72,slow=38
EKS2 Erkin-Say 62.43 318 P **P** **09 07 54.6 +1.8**
SNR=144
EKS2 Erkin-Say 62.43 318 *e*P **P** **09 07 54.5 +1.8**
EKS2 pmax pmax
comp=Z,196nm,0.9s
EKS2 Erkin-Say 62.43 318 *e*P **P** **09 07 54.5 +1.7**
comp=Z,196nm,0.9s
KBL Kabul 62.92 308 *e*P **P** **09 07 57.2 +0.9**
KBL pmax pmax
comp=Z,583nm,1.1s
KBL Kabul 62.92 308 *e*P **P** **09 07 57.2 +0.9**
comp=Z,583nm,1.1s
MNAS Manas 63.21 317 P **P** **09 07 59.4 +1.5**
MNAS pmax pmax
comp=Z,211nm,0.9s
KURK Kurchatov 63.44 328 P **P** **09 08 00.5 +1.4**
comp=Z,2µm,0.6s
KURK Kurchatov 63.44 328 P **P** **09 07 59.8 +0.7**
KURK pmax pmax
comp=Z,218nm,0.7s
KURK Kurchatov 63.44 328 P **P** **09 08 00.1 +1.0**
SNR=176
KURK Kurchatov 63.44 328 *e*P **P** **09 07 59.9 +0.8**
comp=Z,450nm,0.6s
NVS Novosibirsk 63.62 333⇓*i*P **P** **09 07 59.8 -0.4**
NVS *i* 09 08 27.2
NVS eS **S** **09 16 24.0 -0.8**
NVS ePS PnS 09 16 40.9 -19
NVS pmax pmax
comp=N,60nm,1.3s
NVS pmax pmax
comp=E,64nm,1.3s
NVS pmax pmax
comp=Z,117nm,1.3s
NVS smax smax
comp=E,24nm,1.6s
SEY Seymchan 63.65 13 P **P** **09 08 01.1 +0.9**
comp=E,51nm,0.8s,baz=218,slow=5.6,SNR=121
SEY LR LR 09 38 05.7
comp=E,43nm,18.5s,baz=204,slow=38
SEY Seymchan 63.65 13*d i*P **P** **09 08 01.8 +1.6**
DZET Dzherino 64.44 313 P **P** **09 08 07.0 +0.9**
DZET pmax pmax
comp=Z,384nm,0.7s
KK31 Karatay Array 64.80 317 P **P** **09 08 08.7 +0.5**
KK31 pmax pmax
comp=Z,159nm,0.8s
KKAR Karatay Array 64.80 317 *e*P **P** **09 08 09.0 +0.8**
KKAR pmax pmax
comp=Z,163nm,0.8s
KKAR Karatay Array 64.80 317 *e*P **P** **09 08 09.0 +0.8**
comp=Z,163nm,0.8s
BVA0 Borovoye Array 69.02 327 *i* P **P** **09 08 34.8 +0.2**
BVA0 pmax pmax
comp=Z,237nm,1.3s
BVAR Borovoye Array 69.02 327 P **P** **09 08 35.0 +0.4**
comp=Z,118nm,0.8s,baz=125,slow=7.8,SNR=218
BRVK Borovoye 69.09 327 P **P** **09 08 35.4 +0.4**
comp=Z,1µm,0.8s,SNR=81
BRVK Borovoye 69.09 327*d i*P **P** **09 08 35.5 +0.4**
BRVK pmax pmax
comp=Z,155nm,0.9s
BRVK Borovoye 69.09 327 P **P** **09 08 35.9 +0.8**
SNR=117
BRVK Borovoye 69.09 327 *e*P **P** **09 08 35.6 +0.5**
comp=Z,147nm,0.8s
WBK Wadi Bani Khal 69.12 293 P **P** **09 08 36.8 +0.8**
SNR=15
TIXI Tiksi 69.59 1*d i*P **P** **09 08 37.5 -0.3**
TIXI pmax pmax
comp=Z,42nm,1.2s
TIXI Tiksi 69.59 1 *e*P **P** **09 08 37.0 -0.7**
comp=Z,42nm,0.9s
JMDO Jabal Madar 69.89 293 P **P** **09 08 41.4 +0.7**
SNR=28
IDAH Dahanechah 69.90 304 *e*P **P** **09 08 42.7 +1.9**
SMDO Samad 70.02 294 P **P** **09 08 42.0 +0.5**
SNR=14
IMYA Miami 70.44 308 *e*P **P** **09 08 45.0 +1.0**
IKOO Kooshah 70.56 304 *e*P **P** **09 08 46.2 +1.4**
HOQ Hoqain 70.75 294 P **P** **09 08 46.6 +0.7**
SNR=24
BSY Bisya 70.77 293 P **P** **09 08 47.2 +1.2**
SNR=19
ITEG Tejag 70.85 304 *e*P **P** **09 08 48.1 +1.6**
ISRO Mashad 70.93 308 *e*P **P** **09 08 47.9 +1.1**
IMOG Moghan 70.99 308 *e*P **P** **09 08 48.6 +1.1**
BILL Bilibino 71.14 15*d i*P **P** **09 08 47.2 -0.1**
BILL pmax pmax
comp=Z,12nm,1.0s
IPAY Payeh 71.33 308 *e*P **P** **09 08 50.3 +0.8**
ARQ Araqi 71.45 294 P **P** **09 08 51.1 +1.0**
SNR=18
IKRD Kardeh 71.78 308 *e*P P 09 08 48.4 -3.7
UOSS Wadi Hilu 71.91 295 P **P** **09 08 52.2 -0.6**
comp=Z,255nm,1.3s,SNR=9.9
BANOM Banah 71.94 297⇑*i*P **P** **09 08 54.1 +1.1**
SNR=9.6
HATD Hatta, Dubai 71.96 295 *i* P **P** **09 08 53.8 +0.7**
SNR=13
NAZ Nazwa, Dubai 72.40 295⇓*i*P **P** **09 08 56.3 +0.6**
SNR=7.8
FAQ Al Faqa, Dubai 72.44 295⇑*i*P **P** **09 08 56.6 +0.6**
SNR=16
ASUD Al Ashush, Dub 72.67 295⇓*i*P **P** **09 08 58.6 +1.3**
SNR=21
IBAF Bafgh 73.31 302 *e*P **P** **09 09 01.9 +0.8**
AB31 Akbulak array 73.77 321 P **P** **09 09 03.3 0.0**
AB31 pmax pmax
comp=Z,49nm,0.7s
ABKAR Akbulak array 73.77 321 *e*P **P** **09 09 03.5 +0.3**
comp=Z,51nm,0.7s
ABTO Aybut 74.00 287 P **P** **09 09 06.9 +1.6**
SNR=5.2
IMEH Mehriz 74.09 302 *e*P **P** **09 09 05.8 0.0**
ICHK Chekchek 74.37 303 *e*P **P** **09 09 07.8 +0.4**
UNV Unalaska Valle 74.63 34 *e*P **P** **09 09 08.3 +0.1**
comp=Z,29nm,0.8s
ISAD Sadrabad 74.94 302 *e*P **P** **09 09 10.8 0.0**
ISAD *e*P **P** **09 09 11.1 +0.3**
AKTO Aktyubinsk 75.29 322 P **P** **09 09 12.3 +0.3**
comp=Z,72nm,0.7s,baz=104,slow=7.4,SNR=164
AKTO Aktyubinsk 75.29 322 P **P** **09 09 12.3 +0.3**
AKTO pmax pmax
comp=Z,97nm,0.9s
SVE Sverdlovsk 75.67 329*c i*P **P** **09 09 14.3 +0.2**
SVE pmax pmax
comp=Z,103nm,0.8s
ISHM Shahmirzad 75.77 306 *e*P **P** **09 09 16.3 +0.8**
ILAS Lasjerd 75.98 306 *e*P **P** **09 09 16.7 +0.1**
IFIR Firoozkooh 76.19 306 *e*P **P** **09 09 18.2 +0.4**
IZEF Zefreh 76.19 303 *e*P **P** **09 09 17.3 -0.6**
ARU Arti 76.64 328 P **P** **09 09 19.3 -0.3**
comp=Z,512nm,0.7s,SNR=12
ARU Arti 76.64 328⇓*i*P **P** **09 09 19.1 -0.5**
ARU *e* 09 12 11.0
ARU eS **S** **09 18 54.6 -1.8**
ARU eSS **SS** **09 23 48.6 -5.7**
ARU pmax pmax
comp=Z,84nm,1.0s
ARU Arti 76.64 328 *e*P **P** **09 09 19.0 -0.6**
comp=Z,63nm,0.8s
IKLH Kolahrood 76.87 304 *e*P **P** **09 09 23.6 +1.9**
IPIR Pirpir 77.38 303 *e*P **P** **09 09 23.2 -1.4**
SDPT Sand Point 78.41 34 *e*P **P** **09 09 29.6 +0.2**
comp=Z,70nm,0.8s
SOKR Solikamsk 78.45 331*d i*P **P** **09 09 29.3 -0.2**
SOKR pmax pmax
comp=Z,80nm,1.5s
ABPO Ambohimpanom 81.12 251 *e*P **P** **09 09 45.2 +0.1**
ABPO pmax pmax
comp=Z,13nm,0.7s
ABPO Ambohimpanom 81.12 251 *e*P **P** **09 09 45.1 +0.1**
comp=Z,13nm,0.7s
RAYN Ar Rayn 81.56 293 P **P** **09 09 47.6 +0.5**
comp=Z,873nm,0.9s,SNR=81
RAYN Ar Rayn 81.56 293 *e*P **P** **09 09 47.5 +0.3**
comp=Z,148nm,0.9s
VNDA Vanda 81.64 173 P **P** **09 09 46.4 0.0**
comp=Z,123nm,0.8s,baz=318,slow=6.0,SNR=509
MAW Mawson 82.26 200 P **P** **09 09 50.1 +0.4**
comp=Z,57nm,0.9s,baz=68,slow=5.6,SNR=73
DAMY Dhamar 82.50 284 *e*P **P** **09 09 54.0 +1.5**
comp=Z,100nm,0.8s
DHBB Dhamar BB 82.50 284 *e*P **P** **09 09 53.9 +1.4**
DGRG David-gareji 82.53 311 P **P** **09 09 53.3 +1.4**
DGRG David-gareji 82.53 311 P **P** **09 09 53.2 +1.4**
SBA Scott Base 82.55 172 *e*P **P** **09 09 51.6 +0.5**
SBA pmax pmax
comp=Z,55nm,0.8s
SBA Scott Base 82.55 172 *e*P **P** **09 09 51.6 +0.5**
comp=Z,55nm,0.8s
TRBA At Turbah 82.77 283 *e*P **P** **09 09 55.3 +1.5**
GNI Garni 82.93 310 P **P** **09 09 55.0 +0.9**
comp=Z,8.9nm,0.5s,baz=121,slow=5.9,SNR=8.4
GNI Garni 82.93 310*d i*P **P** **09 09 53.6 -0.5**
GNI pmax pmax
comp=Z,35nm,1.3s
GNI Garni 82.93 310 P **P** **09 09 55.6 +1.5**
SNR=12
GNI Garni 82.93 310⇑*i*P **P** **09 09 54.3 +0.2**
SNR=8.2
GNI Garni 82.93 310 *e*P **P** **09 09 55.0 +0.9**
comp=Z,57nm,0.9s
SEAG Tbilisi Sea 82.98 312 P **P** **09 09 55.7 +1.5**
TBLG Delisi 83.03 312 P **P** **09 09 55.2 +0.8**
TBLG Delisi 83.03 312 P **P** **09 09 55.1 +0.8**
DUS Dusheti 83.08 312 P **P** **09 09 56.0 +1.3**
DUS Dusheti 83.08 312 P **P** **09 09 56.0 +1.3**
KDAK Kodiak Island 83.15 32 P **P** **09 09 55.2 +0.6**
comp=Z,179nm,0.6s,SNR=8.2
KDAK Kodiak Island 83.15 32 *e*P **P** **09 09 55.5 +0.9**
KDAK pmax pmax
comp=Z,23nm,0.6s
KDAK Kodiak Island 83.15 32 *e*P **P** **09 09 55.5 +0.9**
comp=Z,23nm,0.6s
RSO Redoubt South 83.41 29 *e*P **P** **09 09 55.8 -0.3**
comp=Z,55nm,0.8s
ZEI Tsey 83.71 313 *e*P **P** **09 09 56.7 -1.4**
ZEI pmax pmax
comp=Z,115nm,1.0s
IM04 Indian Mountai 83.76 24 *e*P **P** **09 09 58.4 +0.7**
NCK Nalchik 83.97 313 *e*P **P** **09 09 59.0 -0.2**
PPLA Purkeypile 84.00 27 *e*P **P** **09 09 59.7 +0.7**
comp=Z,27nm,0.9s
ONI Oni 84.03 312 P **P** **09 09 57.5 -2.0**
ONI Oni 84.03 312 P **P** **09 09 57.5 -2.0**
PPT Papeete 84.18 108 LR LR 09 46 02.8
comp=Z,58nm,18.1s,baz=220,slow=34
PPT2 Papeete2 84.18 108 eS **S** **09 20 15.4 -1.3**
comp=Z,140nm,28.2s
PPT2 Papeete2 84.18 108 eLR LR 09 36 43.9
comp=Z,280nm,27.5s
PRGR Permogore 84.24 332 *e*P **P** **09 09 57.8 -2.3**
PRGR S S 09 20 09.0 -6.5
PRGR pmax pmax
comp=Z,68nm,0.8s
GOF Gofitskoye 84.44 315 *e*P **P** **09 10 01.6 +0.1**
GOF pmax pmax
comp=Z,33nm,0.8s
KBZ Khabaz 84.49 314 P **P** **09 10 01.8 +0.1**
comp=Z,22nm,0.8s,baz=90,slow=6.6,SNR=23
KTH Kantishna Hill 84.64 26 *e*P **P** **09 10 02.1 -0.1**
comp=Z,39nm,1.2s
KIV Kislovodsk 84.65 314 *e*P **P** **09 10 03.0 +0.4**
KIV *e* 09 20 14.5
KIV pmax pmax
comp=Z,30nm,0.9s
KIV MLR MLR
comp=Z,91nm,19.0s
KIV Kislovodsk 84.65 314 P **P** **09 10 03.1 +0.4**
SNR=7.6
KIV Kislovodsk 84.65 314 *i* P **P** **09 10 03.5 +0.8**
SNR=6.7
KIV Kislovodsk 84.65 314 *e*P **P** **09 10 03.1 +0.4**
comp=Z,29nm,0.8s
BPAW Bear Paw Mtn. 84.68 26 *e*P **P** **09 10 02.9 +0.6**
comp=Z,4.4nm,0.9s
TBI Tubuai 84.71 114 *e*S **S** **09 20 22.2 +0.6**
comp=Z,97nm,27.8s
TBI Tubuai 84.71 114 *e*LR LR 09 36 57.3
comp=Z,262nm,40.2s
TRF Thorofare Moun 84.92 27 *e*P **P** **09 10 03.5 -0.2**
comp=Z,21nm,0.9s
RC01 Rabbit Creek A 84.95 29 *e*P **P** **09 10 03.7 0.0**
comp=Z,42nm,0.9s
SEW Seward 85.01 30 *e*P **P** **09 10 03.3 -0.7**
comp=Z,33nm,0.9s
CHVG Ch'k'valeri 85.04 313 P P 09 09 58.4 -6.2
COLD Coldfoot 85.34 23 *e*P **P** **09 10 06.5 +0.9**
comp=Z,27nm,0.9s
MCK McKinley 85.55 26 *e*P **P** **09 10 06.5 -0.1**
MCK pmax pmax
comp=Z,20nm,0.9s
MCK McKinley 85.55 26 *e*P **P** **09 10 06.5 -0.1**
comp=Z,20nm,0.9s
COLA College 86.10 25*d i*P **P** **09 10 08.9 -0.4**
COLA pmax pmax
comp=Z,10.0nm,0.7s
COLA College 86.10 25 *e*P **P** **09 10 08.5 -0.8**
comp=Z,9.8nm,1.1s
ILAR Eielson Array 86.50 25 P **P** **09 10 10.3 -1.0**
comp=Z,3.4nm,0.8s,baz=235,slow=4.9,SNR=37
ILAR PKKP **PKKPbc** **09 28 08.0 -2.0**
comp=Z,0.7nm,1.0s,baz=111,slow=2.9,SNR=5.4
ILAR LR LR 09 48 04.2
comp=Z,42nm,19.3s,baz=272,slow=35
SOC Sochi 86.79 313 *e*P **P** **09 10 12.4 -0.7**
SOC *e*S **SKSac** **09 20 27.2 -2.2**
SOC pmax pmax
comp=Z,84nm,0.6s
DIV Divide 86.87 29 *e*P **P** **09 10 13.1 -0.1**
comp=Z,44nm,1.3s
PAX Paxson 87.06 27 *e*P **P** **09 10 13.9 -0.3**
PAX pmax pmax
comp=Z,8.0nm,0.8s
PAX Paxson 87.06 27 *e*P **P** **09 10 13.9 -0.3**
comp=Z,7.9nm,0.8s
VORD Divnogorie 87.13 321 *e*P **P** **09 10 13.9 -0.7**
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,60nm,0.9s
VORD pmax pmax
comp=Z,130nm,0.9s
KLMR Klimovskoe 87.14 331*d i*P **P** **09 10 13.2 -1.2**
KLMR *e* 09 13 36.8
KLMR pmax pmax
comp=Z,63nm,0.8s
VSR Storozhevoye 87.21 321 *e*P **P** **09 10 14.2 -0.8**
VSR *e**SP **sP** **09 10 58.0 +0.1**
VSR *e*S **SKSac** **09 20 29.2 -2.4**
VSR *e*SSS SSS 09 30 05.5
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=E,20nm,0.6s
VSR pmax pmax
comp=Z,110nm,0.6s
VSR smax smax
comp=E,20nm,1.2s
VSR smax smax
comp=Z,5.0nm,0.8s
VSR smax smax
comp=N,10.0nm,1.1s
LPSR Galich'ya Gora 87.36 322 *e*P **P** **09 10 15.0 -0.7**
LPSR pmax pmax
comp=N,10.0nm,0.9s
LPSR pmax pmax
comp=E,10.0nm,0.9s
LPSR pmax pmax
comp=Z,130nm,0.9s
BMRM Bremner River 87.44 29 *e*P **P** **09 10 14.7 -1.2**
comp=Z,5.4nm,0.8s
TMCR Tamitsa 87.85 334 *e*P **P** **09 10 15.4 -2.3**
TMCR pmax pmax
comp=Z,50nm,0.7s
MOS Moscow 88.12 326 *e*P **P** **09 10 17.1 -2.1**
MOS *e**PP **pP** **09 10 52.0 +2.3**
MOS *e* 09 13 44.2
MOS *e* 09 20 34.9
MOS pmax pmax
comp=Z,100nm,0.7s
MOS pmax pmax
comp=Z,95nm,0.7s
ANN Anapa 88.42 315 *e*P **P** **09 10 19.9 -1.0**
ANN *e**PP **pP** **09 10 54.5 +3.1**
ANN *e*S **SKSac** **09 20 36.7 -2.4**
ANN pmax pmax
comp=Z,125nm,1.0s
OBN Obninsk 88.73 325 P **P** **09 10 21.3 -0.7**
comp=Z,42nm,0.6s,baz=130,slow=4.0,SNR=15
OBN Obninsk 88.73 325*d i*P **P** **09 10 21.2 -0.9**
OBN *e* 09 13 52.7
OBN *e*SS SS 09 26 54.7 +1.5
OBN pmax pmax
comp=Z,83nm,1.5s
OBN Obninsk 88.73 325 *e*P **P** **09 10 21.4 -0.7**
comp=Z,80nm,0.7s
EGAK Eagle 88.96 25 *e*P **P** **09 10 23.0 0.0**
comp=Z,14nm,1.1s
ASF Jabal al Asfar 89.18 302 P **P** **09 10 25.1 +0.3**
comp=Z,37nm,1.0s,baz=58,slow=2.3,SNR=12
APA Apatity 89.63 337 *e*P **P** **09 10 25.2 -0.8**
APA *e*S **S** **09 21 09.0 +1.9**
APA pmax pmax
comp=Z,12nm,0.8s
APA MLR MLR
comp=Z,600nm,12.0s
DAWY Dawson 89.76 26 *e*P **P** **09 10 26.8 -0.1**
comp=Z,17nm,1.1s
KMBO Kilima Mbogo 89.93 269 P **P** **09 10 29.8 +0.9**
comp=Z,7.5nm,0.8s,baz=51,slow=5.7,SNR=6.3
KMBO Kilima Mbogo 89.93 269 P **P** **09 10 29.8 +0.9**
KMBO pmax pmax
comp=Z,8.0nm,0.8s
KMBO Kilima Mbogo 89.93 269 *e*P **P** **09 10 29.5 +0.6**
comp=Z,22nm,1.0s
MMAI Mount Meron Ar 90.41 303 P **P** **09 10 30.6 0.0**
comp=Z,4.7nm,0.5s,baz=96,slow=7.6,SNR=8.5
SIM Simferopol' 90.78 315 *e*P **P** **09 10 31.0 -0.9**
SIM *e*S **SKSac** **09 20 53.0 +0.1**
SIM pmax pmax
comp=Z,34nm,0.6s
HYT Haines Junctio 90.91 29 *e*P **P** **09 10 32.3 -0.1**
comp=Z,4.0nm,0.8s
SYO Syowa Base 90.94 201⇓*e*X **P** **09 10 29.8 -2.3**
EIL Elat 90.95 300 P **P** **09 10 33.3 +0.2**
comp=Z,14nm,0.9s,baz=40,slow=6.5,SNR=7.2
BR131 Keskin Array S 91.46 310 *e*P **P** **09 10 34.7 -0.7**
comp=Z,3.6nm,0.6s
BRTR Keskin Array B 91.46 310 P **P** **09 10 34.5 -0.9**
comp=Z,8.4nm,0.9s,baz=120,slow=4.9,SNR=22
BRTR PP **PP** **09 14 11.9 -2.8**
comp=Z,2.9nm,0.7s,baz=106,slow=6.9,SNR=4.3
BRTR Keskin Array B 91.46 310 *i* P **P** **09 10 34.4 -1.0**
BRTR pmax pmax
comp=Z,8.0nm,0.9s
INK Inuvik 91.64 22 P **P** **09 10 35.0 -0.4**
comp=Z,3.5nm,0.3s,baz=269,slow=7.5,SNR=9.8
INK Inuvik 91.64 22 P **P** **09 10 35.0 -0.4**
INK pmax pmax
comp=Z,4.0nm,0.3s
INK Inuvik 91.64 22 *e*P **P** **09 10 34.9 -0.4**
comp=Z,4.9nm,0.6s
QSPA South Pole Qui 91.89 180 *e*P **P** **09 10 36.6 -0.1**
comp=Z,56nm,1.1s
CSS Prodhromos 92.02 305 *e*P **P** **09 10 37.6 -0.3**
comp=Z,10nm,0.8s
ARCES ARCESS Array B 92.23 340 P **P** **09 10 37.3 -0.8**
comp=Z,27nm,0.7s,baz=84,slow=6.3,SNR=89
ARCES PKKPbc **PKKPdf** **09 27 52.7 +0.1**
comp=Z,1.0nm,0.6s,baz=228,slow=1.5,SNR=5.2

ARCES LR LR 09 55 54.5
comp=Z,90nm,18.9s,baz=88,slow=38
SPITS Spitsbergen Ar 92.28 349 P **P** **09 10 37.6 -0.7**
comp=Z,17nm,0.6s,baz=90,slow=7.2,SNR=32
AKASG **Malin Array Be 93.51 321** P **P** **09 10 43.2 -1.2**
comp=Z,3.8nm,0.8s,baz=70,slow=4.3,SNR=18
AKASG PP **PP** **09 14 28.0 -2.3**
comp=Z,0.8nm,0.4s,baz=73,slow=7.7,SNR=4.7
AKBB Malin Array Si 93.51 321 *e*P **P** **09 10 42.9 -1.5**
AKBB Malin Array Si 93.51 321 *e*P **P** **09 10 42.9 -1.5**
AK01 Malin Array Si 93.52 321 *e*P **P** **09 10 42.9 -1.5**
KIEV Kiev 93.53 321 *e*P **P** **09 10 42.9 -1.5**
KIEV pmax pmax
comp=Z,7.0nm,0.7s
KIEV Kiev 93.53 321 *e*P **P** **09 10 42.9 -1.5**
comp=Z,7.3nm,0.7s
AK02 Malin Array Si 93.53 321 *e*P **P** **09 10 43.4 -1.1**
FIA1 FINESS Array S 93.57 332 *e*P **P** **09 10 43.0 -1.4**
FINES FINESS Array B 93.57 332 P **P** **09 10 43.2 -1.3**
comp=Z,6.4nm,0.5s,baz=73,slow=4.3,SNR=42
FINES LR LR 09 57 03.1
comp=Z,88nm,18.1s,baz=76,slow=38
FINES FINESS Array B 93.57 332 *i* P **P** **09 10 43.0 -1.4**
FINES pmax pmax
comp=Z,6.0nm,0.5s
VSU Vasula 93.78 329 *e*P **P** **09 10 44.8 -0.6**
VSU pmax pmax
comp=Z,22nm,0.9s
H02S1 DAWSON INLET T 94.65 36 T T 10 55 54.6
SNR=4.9
TIRR Tirgusor 94.87 315 ⇓ *i*P **P** **09 10 49.9 -0.9**
CFR Carcaliu 94.97 315 ⇓ *i*P **P** **09 10 50.5 -0.7**
DLBC Dease Lake 95.03 31 P **P** **09 10 51.0 -0.3**
comp=Z,2.2nm,0.7s,baz=264,slow=6.2,SNR=5.6
DLBC Dease Lake 95.03 31 *e*P **P** **09 10 51.4 +0.1**
TLB Topalu 95.11 315 ⇓ *i*P **P** **09 10 51.3 -0.6**
PSN Preselentsi 95.14 314 ⇓ *i*P **P** **09 10 51.8 -0.2**
TESR Tescani 95.80 317 ⇓ *i*P **P** **09 10 54.7 -0.3**
VRI Vrincioaia 95.85 316 ⇓ *i*P **P** **09 10 55.3 0.0**
MLR Muntele Rosu 96.45 316 P **P** **09 10 56.9 -1.2**
comp=Z,2.6nm,0.6s,baz=76,slow=2.9,SNR=21
MLR Muntele Rosu 96.45 316 ⇓ *i*P **P** **09 10 57.6 -0.5**
JMB Yamboi 96.47 313 ⇓ *i*P **P** **09 10 57.7 -0.4**
BURAR Bucovina Array 96.58 318 ⇓ *i*P **P** **09 10 58.4 -0.3**
BUR08 Bucovina Ar. S 96.59 318 *e*P **P** **09 10 58.3 -0.4**
SUW Suwalki 96.59 325 *e*P **P** **09 10 57.6 -0.8**
SUW Suwalki 96.59 325 *e*P **P** **09 10 57.6 -0.8**
VOIR 97.08 316 ⇓ *i*P **P** **09 11 00.1 -0.8**
CJR Cluj-Napoca 97.84 318 ⇑ *i*P **P** **09 11 03.9 -0.4**
KOLS Kolonicke sedl 98.25 320 *e*P **P** **09 11 05.5 -0.5**
KOLS Kolonicke sedl 98.25 320 PDIF **P** **09 11 05.5 -0.5**
UZH Uzhgorod 98.31 320 *i* P **P** **09 11 06.0 -0.2**
DRGR 98.42 318 ⇓ *i*P **P** **09 11 06.2 -0.7**
GZR Gura Zlata 98.66 316 ⇓ *i*P Pdif 09 11 08.3 +0.3
MMB Musomiste 98.71 312 ⇓ *i*P **P** **09 11 08.1 -0.2**
STHS Stebnicka Huta 98.80 321 *e*P **P** **09 11 08.4 -0.1**
STHS *e* 09 15 11.6
STHS Stebnicka Huta 98.80 321 PDIF **P** **09 11 08.4 -0.1**
STHS *e*PP **PP** **09 15 11.6 +0.5**
IDI Anoyia 98.86 306 P **P** **09 11 07.3 -1.8**
comp=Z,10nm,1.0s,baz=106,slow=7.4,SNR=3.5
VTS Vitosha 98.91 313 ⇓ *i*P **P** **09 11 08.6 -0.7**
SIRR Siria 99.24 317 ⇓ *i*P **Pdif** **09 11 10.2 -0.3**
NIE Niedzica 99.39 321 *e*P **Pdif** **09 11 11.3 +0.2**
NIE Niedzica 99.39 321 *e*P **Pdif** **09 11 11.3 +0.2**
KECS Kecovo 99.51 320 *e*P **Pdif** **09 11 11.1 -0.5**
KECS *e* 09 15 17.3
KECS Kecovo 99.51 320 PDIF **Pdif** **09 11 11.1 -0.5**
KECS *e*PP **PP** **09 15 17.3 +0.8**
OJC Ojcow 99.52 322 *e*P **Pdif** **09 11 10.9 -0.7**
OJC Ojcow 99.52 322 *e*P **Pdif** **09 11 11.0 -0.7**
HFS Hagfors 99.76 332 P **Pdif** **09 11 10.6 -1.8**
comp=Z,5.3nm,0.8s,baz=95,slow=4.9,SNR=11
NOA NORSAR Array B 100.54 334 P **Pdif** **09 11 14.0 -2.0**
comp=Z,6.8nm,0.8s,baz=67,slow=4.6,SNR=4.8
NOA NORSAR Array B 100.54 334 P **Pdif** **09 11 14.0 -2.0**
DIVS Divibare 100.88 315 ⇓ *i*P **Pdif** **09 11 17.5 -0.4**
YKA Yellowknife Ar 100.92 25 P **Pdif** **09 11 17.4 -0.2**
comp=Z,1.5nm,0.7s,baz=297,slow=4.4,SNR=5.3
PKSM Moragy 101.29 318 ⇓ *i*P **Pdif** **09 11 20.0 +0.4**
KSP Ksiaz 101.49 323 *e*P **Pdif** **09 11 19.6 -0.8**
KSP Ksiaz 101.49 323 *e*P **Pdif** **09 11 19.6 -0.8**
DPC Dobruska-Polom 101.62 322 *e*PP PP 09 15 34.3 +1.9
JMIC Jan Mayen 101.66 346 P **Pdif** **09 11 18.7 -2.0**
comp=Z,20nm,0.8s,baz=190,slow=4.7,SNR=4.0
UPC Upice 101.76 323 *e*PP PP 09 15 36.8 +3.4
VRAC Vranov 101.76 321 P **Pdif** **09 11 19.7 -1.9**
comp=Z,1.8nm,0.3s,baz=66,slow=6.1,SNR=3.1
CONA Conrad Observa 102.64 320 ⇑ *i*PP PP 09 15 42.1 +2.0
comp=Z,25nm,1.2s
GOPC GO Pecny, Ondr 102.70 322 *e*PP PP 09 15 42.5 +2.1
PRU Pruhonice 102.82 322 *e*PP PP 09 15 44.6 +3.3
BRG Berggiesshubel 102.89 323 *e*PDIF **Pdif** **09 11 26.1 -0.5**
comp=Z,7.5nm,0.8s
BRG *e*PP **PKiKP** **09 15 44.5 -1.9**
comp=Z,40nm,1.5s
BRG Berggiesshubel 102.89 323 *e*PP PP 09 15 45.0 +3.2
BRG Berggiesshubel 102.89 323 *e*P **Pdif** **09 11 26.1 -0.5**
BRG *e* 09 15 44.5
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG pmax pmax
comp=Z,40nm,1.5s
CLL Collm 103.30 324 *e*PP PP 09 15 48.0 +3.2
CLL Collm 103.30 324 *e*PP PP 09 15 44.0 -0.8
CLL *i* PPmax 09 15 47.4
comp=Z,24nm,1.2s
CLL *e*pSdiff pSdif 09 23 45.0 -0.8
CLL *e* 09 24 20.0
CLL *e*PS **PS** **09 24 51.0 -5.7**
CLL *e*PPS PPS 09 25 48.0
CLL *e* 09 31 40.0
SNAA Sanae 103.62 194 P **Pdif** **09 11 22.7 -6.8**
KHC Kasperske Hory 103.70 322 *e*PP PP 09 15 50.5 +2.6
KHC *e*SKS 09 22 00.0
KHC AMS AMS 09 55 50.0
comp=Z,200nm,22.0s
GEC2 GERESS Array S 103.72 321 *e*PP PP 09 15 50.4 +2.3
GERES GERESS Array B 103.72 321 Pdiff **Pdif** **09 11 29.7 -0.7**
comp=Z,1.8nm,0.4s,baz=74,slow=5.2,SNR=14
GERES PP **PKiKP** **09 15 47.7 -0.4**
comp=Z,3.8nm,0.8s,baz=74,slow=7.2,SNR=4.3
BSEG Bad Segeberg 103.84 327 *e*PP PP 09 15 48.7 0.0
TANN Tannenbergstha 103.94 323 *e*PP PP 09 15 53.3 +3.6
WET Wettzell 104.12 322 *e*PP PP 09 15 54.7 +3.6
ROTZ Rotzenmuhle 104.32 323 *e*PP PP 09 15 57.7 +5.2
MOX Moxa 104.36 324 *e*PP PP 09 15 56.4 +3.7
KBA Koelnbreinsper 104.52 320 ⇑ *i*PP PP 09 15 56.4 +2.1
comp=Z,17nm,1.5s
CLZ Clausthal 104.63 325 *e*PP PP 09 15 55.8 +1.1
RJOB Jochberg 104.66 321 *e*PP PP 09 15 55.5 +0.4
GRF Grafenberg Arr 104.94 323 *e*PP PP 09 15 58.5 +1.4
SUMG Summit 105.02 356 *i* P **PKKPab** **09 27 35.5 -1.8**
comp=Z,7.9nm,0.7s
VNA2 Neumayer--Watz 105.23 194 P **Pdif** **09 11 38.7 +2.1**
baz=125,slow=3.9
UBBA Unterbreizbach 105.24 324 *e*PP PP 09 16 00.7 +1.6
WTTA Wattenberg 105.56 320 ⇑ *i*PP PP 09 16 00.6 -1.3
comp=Z,38nm,1.1s
WATA Walderalm 105.57 320 ⇓ *i*PP PP 09 15 58.8 -3.2
comp=Z,19nm,0.8s
MOTA Moosalm 105.87 321 ⇑ *i*PP PP 09 15 59.4 -4.7
comp=Z,32nm,0.9s,SNR=8.2
RETA Reutte 106.03 321 ⇓ *i*PP PP 09 16 05.0 -0.3
comp=Z,42nm,0.9s,SNR=11
FETA Feichten 106.22 320 ⇑ *i*PP PP 09 16 03.1 -3.7
comp=Z,31nm,1.2s,SNR=7.9
TNS Taunus Mts 106.39 324 *e*PP PP 09 16 08.7 +1.0
STU Stuttgart 106.52 322 *e*PP PP 09 16 13.4 +4.7
BUG Bochum--Univer 106.56 326 *e*PP PP 09 16 15.3 +6.5
DAVA Damuels 106.66 321 ⇓ *i*PP PP 09 16 11.9 +1.9
comp=Z,23nm,1.2s
DAVOX **Davos/Dischmat 106.85 320** PP PP 09 16 13.0 +1.5
comp=Z,17nm,0.8s,baz=94,slow=4.0,SNR=13
BFO Black Forest 107.22 322 *e*PP PP 09 16 13.2 -0.7
NVAR Mina Array Bea 107.76 49 PKKPbc PKKPbc 09 27 10.2 -0.8
comp=Z,0.9nm,0.8s,baz=149,slow=2.6,SNR=5.5
LPL La Plagne 109.36 320 *e*PKIKP **PKiKP** **09 15 58.9 +0.1**
LPL La Plagne 109.36 320 *e*PKPdf **PKiKP** **09 15 58.9 +0.1**
EKA Eskdalemuir Ar 109.96 332 PP PP 09 16 34.2 +0.9
comp=Z,7.8nm,1.1s,baz=70,slow=8.1,SNR=4.4
KEST Kesra 111.06 310 PP PP 09 16 42.8 +0.6
comp=Z,3.8nm,0.9s,baz=339,slow=2.9,SNR=6.0
BGF Bois d'Agland 111.34 322 *e*PKIKP **PKiKP** **09 16 02.4 +0.2**
BGF Bois d'Agland 111.34 322 *e*PKPdf **PKiKP** **09 16 02.4 +0.2**
TCF Toulx Ste Croi 111.86 322 *e*PKIKP **PKiKP** **09 16 03.4 +0.1**
comp=Z,7.4nm,1.0s
TCF Toulx Ste Croi 111.86 322 *e*PKIKP **PKiKP** **09 16 03.4 +0.1**
TCF Toulx Ste Croi 111.86 322 *e*PKPdf **PKiKP** **09 16 03.4 +0.1**
PDAR Pinedale Array 112.39 42 PKKPbc PKKPbc 09 26 52.6 -3.6
comp=Z,2.0nm,0.9s,baz=108,slow=5.9,SNR=8.5
PDAR PKKPab **PKKPab** **09 27 02.9 -1.5**
comp=Z,3.4nm,1.0s,baz=106,slow=5.3,SNR=8.4
MTLF Montolieu 113.21 319 *e*PKIKP **PKiKP** **09 16 06.5 +0.6**
MTLF Montolieu 113.21 319 *e*PKIKP **PKiKP** **09 16 06.5 +0.6**
MTLF Montolieu 113.21 319 *e*PKPdf **PKiKP** **09 16 06.5 +0.6**
ROSF Rostrenen 114.02 326 *e*PKIKP PKPdf 09 16 07.7 +0.5
ROSF Rostrenen 114.02 326 *e*PKIKP PKPdf 09 16 07.7 +0.5
ROSF Rostrenen 114.02 326 *e*PKPdf PKPdf 09 16 07.7 +0.5
J22A Midwest 114.11 40 P PKPdf 09 16 07.5 -0.4
baz=114
PV01 Paradox Valley 115.02 46 *e*PKPdf **PKPdf** **09 16 09.3 -0.5**
F26A Lodgepole 115.23 36 P **PKPdf** **09 16 10.1 +0.3**
baz=115
RSSD Black Hills 115.31 38 *e*PKIKP **PKPdf** **09 16 09.7 -0.5**
RSSD Black Hills 115.31 38 *e*PKPdf **PKPdf** **09 16 09.7 -0.5**
SJPF Ste Jean 115.54 320 *e*PKIKP **PKPdf** **09 16 10.7 +0.3**
SJPF Ste Jean 115.54 320 *e*PKIKP **PKPdf** **09 16 10.7 +0.3**
SJPF Ste Jean 115.54 320 *e*PKPdf **PKPdf** **09 16 10.7 +0.3**
I25A Rochford 115.55 38 P **PKPdf** **09 16 10.3 -0.4**
baz=115
G27A Dupree 115.92 36 P **PKPdf** **09 16 11.3 +0.2**
baz=116
H27A Howes 116.24 37 P **PKPdf** **09 16 11.7 0.0**
baz=116
I27A Quinn 116.56 38 P **PKPdf** **09 16 12.2 -0.1**
baz=116
I28A Midland 117.13 37 P **PKPdf** **09 16 13.9 +0.5**
baz=117
K27A Flueckinger Fa 117.16 39 P **PKPdf** **09 16 13.9 +0.3**
baz=117
I29A Vivian Onida 117.64 37 P **PKPdf** **09 16 14.0 -0.4**
baz=118
G30A Faulkton 117.69 35 P **PKPdf** **09 16 15.1 +0.6**
baz=118
ANMO Albuquerque 117.88 48 *d* PKIKP **PKPdf** **09 16 14.7 -0.7**
P26A Davis Ranch, A 118.02 43 P **PKPdf** **09 16 15.5 +0.1**
baz=118
T25A Trinidad 118.43 45 P **PKPdf** **09 16 16.4 0.0**
baz=118
J30A Dallas 118.52 37 P **PKPdf** **09 16 16.6 +0.4**
baz=118
R26A Arlington 118.56 44 P **PKPdf** **09 16 16.6 +0.1**
baz=118
S26A Kim 118.87 44 P **PKPdf** **09 16 17.3 +0.2**
baz=119
T26A Comanche Natio 118.99 45 P **PKPdf** **09 16 17.9 +0.5**
baz=119
ESDC Sonseca Array 119.04 318 PP PP 09 17 38.5 +0.5
comp=Z,7.4nm,0.9s,baz=54,slow=7.3,SNR=14
P28A Saint Francis 119.08 42 P **PKPdf** **09 16 17.6 +0.2**
baz=119
L31A Butterfield Fa 119.56 38 P **PKPdf** **09 16 18.0 -0.2**
baz=120
P29A Atwood 119.62 41 P **PKPdf** **09 16 18.7 +0.3**
baz=120
O30A MW Ranch, Wils 119.89 40 P **PKPdf** **09 16 19.6 +0.7**
baz=120
U27A Thompson Grove 119.89 45 P **PKPdf** **09 16 19.7 +0.6**
baz=120
M31A Lambtecht Ranc 119.94 39 P **PKPdf** **09 16 19.1 +0.2**
baz=120
Q29A Oakley 119.95 42 P **PKPdf** **09 16 19.7 +0.6**
baz=120
ECSD EROS Data Cent 119.98 35 P **PKPdf** **09 16 19.3 +0.4**
baz=120
ECSD EROS Data Cent 119.98 35 *e*PKPdf **PKPdf** **09 16 19.1 +0.1**
T28A Walsh 120.06 44 P **PKPdf** **09 16 19.7 +0.3**
baz=120
P30A Selden 120.10 41 P **PKPdf** **09 16 20.2 +0.9**
baz=120
P31A Stockton 120.68 41 P **PKPdf** **09 16 21.1 +0.7**
baz=121
R30A Dighton 120.73 42 P **PKPdf** **09 16 21.6 +1.0**
baz=121
O32A Brockman Farm, 120.98 39 P **PKPdf** **09 16 21.5 +0.5**
baz=121
MSTX Muleshoe 121.05 48 *e*PKPdf **PKPdf** **09 16 20.6 -0.8**
P32A Huiting Farm, 121.13 40 P **PKPdf** **09 16 21.9 +0.6**
baz=121
X28A Dimmitt 121.22 47 P **PKPdf** **09 16 22.1 +0.4**
baz=121
R31A Burdett 121.24 42 P **PKPdf** **09 16 22.7 +1.2**
baz=121
U30A WK&E Inc. Balk 121.37 44 P **PKPdf** **09 16 22.9 +1.0**
baz=121
Y28A McKinney Farm, 121.47 48 P **PKPdf** **09 16 23.2 +1.1**
baz=121
Q32A Meitler Ranch, 121.50 41 P **PKPdf** **09 16 22.8 +0.8**
baz=121
O33A Hebron 121.53 39 P **PKPdf** **09 16 22.1 +0.1**
baz=121
S31A Mullinville 121.61 43 P **PKPdf** **09 16 22.7 +0.4**
baz=122
128A Castleberry Fa 121.87 49 P **PKPdf** **09 16 23.0 0.0**
baz=122
Y29A Porterfield Fa 121.92 48 P **PKPdf** **09 16 23.4 +0.4**
baz=122
Z29A Hungry Hill Ra 122.17 48 P **PKPdf** **09 16 23.4 -0.1**
baz=122
X30A Coker Ranch, T 122.22 47 P **PKPdf** **09 16 23.9 +0.4**
baz=122
SCHQ Schefferville 122.23 10 PKP **PKPdf** **09 16 23.2 +0.4**
comp=Z,4.5nm,0.4s,baz=336,slow=1.6,SNR=21
SCHQ PKKPbc **PKKPab** **09 26 18.5 -2.2**
comp=Z,4.0nm,0.7s,baz=164,slow=2.7,SNR=8.7
R33A Olander Ranch, 122.25 41 P **PKPdf** **09 16 24.3 +0.9**
baz=122
P34A Walnut Farm, R 122.31 39 P **PKPdf** **09 16 23.9 +0.3**
baz=122
TXAR Lajitas Array 122.33 53 PKP **PKPdf** **09 16 24.3 +0.3**
comp=Z,1.3nm,0.7s,baz=211,slow=1.2,SNR=20
TXAR PKKPbc **PKKPbc** **09 26 19.4 -0.9**
comp=Z,0.6nm,0.7s,baz=117,slow=6.1,SNR=8.7
129A Stewart Farms, 122.33 49 P **PKPdf** **09 16 24.5 +0.7**
baz=122
W31A Holland Ranch, 122.53 45 P **PKPdf** **09 16 25.4 +1.3**
baz=122
Z30A Sanderson Ranc 122.58 48 P **PKPdf** **09 16 24.8 +0.6**
baz=122
U32A Winter Ranch, 122.59 44 P **PKPdf** **09 16 24.7 +0.5**
baz=122
T33A Patterson Ranc 122.74 43 P **PKPdf** **09 16 25.7 +1.3**
baz=123
R34A Isabella, Hill 122.74 41 P **PKPdf** **09 16 25.4 +1.0**
baz=123
329A Wagon Wheel Ra 122.75 50 P **PKPdf** **09 16 25.1 +0.4**
baz=123
X31A McDonald Ranch 122.78 46 P **PKPdf** **09 16 25.3 +0.7**
baz=123
V32A Arapaho 122.90 44 P **PKPdf** **09 16 25.9 +1.1**
baz=123
Y31A Rekieta Farm, 122.90 47 P **PKPdf** **09 16 25.3 +0.5**
baz=123
W32A Sentinel 123.06 45 P **PKPdf** **09 16 25.6 +0.5**
baz=123
529A Stev Forest Ra 123.15 52 P **PKPdf** **09 16 25.5 0.0**
baz=123
429A Davenport Ranc 123.19 51 P **PKPdf** **09 16 26.1 +0.5**
baz=123
Q35A Mercer Eighty, 123.20 40 P **PKPdf** **09 16 25.4 +0.1**
baz=123
430A Baggett Ranch, 123.63 51 P **PKPdf** **09 16 26.9 +0.5**
baz=124
231A Bronte 123.81 49 P **PKPdf** **09 16 27.0 +0.3**
baz=124
530A J-C Ranch, Com 123.83 51 P **PKPdf** **09 16 27.7 +0.9**
baz=124
TORD Torodi Ar. Bea 123.85 287 PKP **PKPdf** **09 16 27.3 +0.2**
comp=Z,9.6nm,0.7s,baz=83,slow=1.5,SNR=53
TORD PP PP 09 18 02.3 -9.4
comp=Z,3.4nm,0.9s,baz=65,slow=7.6,SNR=3.7
TORD SKP 09 19 51.9
comp=Z,3.2nm,0.7s,baz=63,slow=1.9,SNR=3.9
TORD PKKPbc **PKKPbc** **09 26 13.3 -0.6**
comp=Z,1.8nm,0.8s,baz=268,slow=3.4,SNR=11
R36A Gordon, Harris 123.85 40 P **PKPdf** **09 16 26.5 0.0**
baz=124
331A San Angelo 124.02 50 P **PKPdf** **09 16 27.2 +0.1**
baz=124
S36A Lake Cedric, C 124.14 41 P **PKPdf** **09 16 27.5 +0.5**
baz=124
431A Sonora 124.16 50 P **PKPdf** **09 16 28.0 +0.6**
baz=124
R37A Teagarden Farm 124.29 40 P **PKPdf** **09 16 27.9 +0.6**
baz=124
X34A Smith Ranch, M 124.32 45 P **PKPdf** **09 16 28.5 +1.0**
baz=124
232A Coleman 124.34 49 P **PKPdf** **09 16 28.8 +1.1**
baz=124
531A Rocksprings 124.44 51 P **PKPdf** **09 16 28.6 +0.7**
baz=124
332A Millersview 124.50 49 P **PKPdf** **09 16 28.7 +0.7**
baz=124
432A Menard 124.70 50 P **PKPdf** **09 16 28.8 +0.4**
baz=125
W35A Tecumseh 124.70 44 P **PKPdf** **09 16 29.7 +1.5**
baz=125
631A Perdido Creek 124.75 52 P **PKPdf** **09 16 29.0 +0.5**
baz=125
233A Rising Star 124.84 48 P **PKPdf** **09 16 29.0 +0.4**
baz=125
JCT Junction City 124.87 50 *e*PKIKP **PKPdf** **09 16 29.2 +0.5**
JCT Junction City 124.87 50 P **PKPdf** **09 16 29.4 +0.7**
baz=125
JCT Junction City 124.87 50 *e*PKPdf **PKPdf** **09 16 29.2 +0.5**
333A Richland Sprin 125.10 49 P **PKPdf** **09 16 29.7 +0.6**
baz=125
433A Art 125.29 50 P **PKPdf** **09 16 29.8 +0.3**
baz=125
632A Uvalde 125.32 51 P **PKPdf** **09 16 30.4 +0.8**
baz=125
X36A Centrahoma 125.38 44 P **PKPdf** **09 16 30.8 +1.3**
baz=125
234A Clairette 125.41 48 P **PKPdf** **09 16 30.9 +1.2**
baz=125
732A Laxson Ranch, 125.52 52 P **PKPdf** **09 16 31.1 +1.2**
baz=125
334A Lometa 125.66 49 P **PKPdf** **09 16 31.0 +0.8**
baz=126
832A Faith Ranch, C 125.71 53 P **PKPdf** **09 16 31.7 +1.4**
baz=126
Y36A Durant 125.78 45 P **PKPdf** **09 16 31.7 +1.4**
baz=126
434A Burnet 125.89 49 P **PKPdf** **09 16 31.5 +0.8**
baz=126
Z36A Blue Ridge 126.01 46 P **PKPdf** **09 16 31.7 +1.0**
baz=126
833A Chaparral WMA, 126.15 52 P **PKPdf** **09 16 32.8 +1.6**
baz=126
HDIL Hopedale 126.19 34 *e*PKPdf **PKPdf** **09 16 31.3 +0.4**
W38A Poteau 126.36 43 P **PKPdf** **09 16 32.6 +1.2**
baz=126
933A Laredo 126.56 53 P **PKPdf** **09 16 33.8 +1.8**
baz=126
MIAR Mount Ida 127.30 43 *e*PKIKP **PKPdf** **09 16 33.1 -0.1**
MIAR Mount Ida 127.30 43 *e*PKPdf **PKPdf** **09 16 33.1 -0.1**
DBIC Dimbokro 131.33 281 PKP **PKPdf** **09 16 41.1 -0.3**
comp=Z,6.4nm,0.7s,baz=122,slow=2.7,SNR=6.4
DBIC SKPbc **SKPab** **09 19 56.5 +0.2**
comp=Z,23nm,0.8s,baz=49,slow=4.4,SNR=11
LRAL Lakeview Retre 132.55 40 *e*PKPdf **PKPdf** **09 16 43.9 +0.7**
TKL Tuckaleechee C 132.72 35 *e*PKIKP **PKPdf** **09 16 44.4 +0.9**
TKL Tuckaleechee C 132.72 35 *e*PKPdf **PKPdf** **09 16 44.4 +0.9**
PLCA Paso Flores 138.22 160 PKP **PKPdf** **09 16 53.7 0.0**
comp=Z,10.0nm,0.8s,baz=189,slow=2.1,SNR=13
PLCA SKPbc **SKPbc** **09 20 17.4 0.0**
comp=Z,12nm,0.9s,baz=189,slow=3.4,SNR=9.5
BCIP Isla Barro Col 150.92 67 *e*PKPbc **PKPbc** **09 17 21.0 -0.9**
CPUP Villa Florida 155.40 170 *e*PKIKP **PKPdf** **09 17 23.0 +0.8**
CPUP Villa Florida 155.40 170 *e*PKPdf **PKPdf** **09 17 23.0 +0.8**
LPAZ La Paz 159.29 134 PKP **PKPdf** **09 17 28.8 +0.7**
comp=Z,5.9nm,1.0s,baz=82,slow=2.1,SNR=17
LPAZ PKPab **PKPab** **09 18 06.1 +0.2**
comp=Z,20nm,1.1s,baz=196,slow=5.7,SNR=12
RCBR Riachuelo 162.66 257 PKPab **PKPab** **09 18 20.9 +0.7**
comp=Z,19nm,1.0s,baz=123,slow=4.3,SNR=4.2
SIV San Ignacio 163.88 150 PKP **PKPdf** **09 17 32.3 +0.1**
comp=Z,3.1nm,0.8s,baz=264,slow=1.0,SNR=7.0
SIV PKPab **PKPab** **09 18 25.1 0.0**
comp=Z,16nm,0.8s,baz=212,slow=4.6,SNR=22
BDFB Brasilia 165.60 199 PKP **PKPdf** **09 17 33.9 +0.1**
comp=Z,4.6nm,0.8s,baz=180,slow=1.0,SNR=5.2
BDFB PKPab **PKPab** **09 18 32.9 +0.2**
comp=Z,14nm,0.9s,baz=167,slow=4.7,SNR=10
SAML Samuel 167.60 124 *e*PKPdf **PKPdf** **09 17 35.5 +0.3**

JMA 09 09:00:19.2, 35.˚14N×132.˚78E, h9km±1km, M1.4, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHS	**Saijyo**	**0.31**	**117**	P	Pg	09 00 25.3	-0.1
JHS				S	Sg	09 00 29.7	+0.1
JGT	**Gotsu**	**0.38**	**253**	P	Pg	09 00 26.8	+0.1
JGT				S	Sg	09 00 32.0	+0.2
JNM	**Ikuma**	**0.41**	**30**	P	Pg	09 00 27.5	+0.3
JHT	**Toyohira**	**0.56**	**212**	P	Pg	09 00 30.0	-0.1
JHT				S	Sg	09 00 37.6	+0.1
JJG	**Jouge**	**0.58**	**148**	S	Sg	09 00 38.3	0.0

NIED ***09*** *09:00:00, 35.˚10N×132.˚80E, h8km, Mw3.4 Best double couple: M₀1.56000×10¹⁴ NP1:φ₀62.00000°, δ75.00000°, λ175.00000°. NP2:φ₀153.00000°, δ86.00000°, λ15.00000°.*

JMA 09 09:00:45.2, 35.˚14N×132.˚78E, h9km±1km, M3.6, 3C-3D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHS	**Saijyo**	**0.31**	**117**	⇓P	Pg	09 00 51.4	0.0
JHS				S	Sg	09 00 55.8	+0.2
JGT	**Gotsu**	**0.38**	**253**	⇓P	Pg	09 00 52.8	+0.1
JGT				S	Sg	09 00 57.8	0.0
JNM	**Ikuma**	**0.41**	**30**	⇑P	Pg	09 00 53.5	+0.3
JNM				S	Sg	09 00 59.4	+0.7
JHT	**Toyohira**	**0.56**	**212**	⇑P	Pg	09 00 56.1	0.0
JHT				S	Sg	09 01 03.5	0.0
JJG	**Jouge**	**0.58**	**148**	⇓P	Pg	09 00 56.6	0.0
JJG				S	Sg	09 01 04.5	+0.2
JHM	**Kurahashi**	**1.02**	**192**	⇑P	Pg	09 01 04.2	-0.6
JHM				S	Sg	09 01 17.7	-0.3

IDC 09 09:07:36.0±1.9, 0.˚38S×132.˚66E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/41, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=30.1km s-min=27.6km az=46.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**1.48**	**251**	Pg	Pn	09 08 03.3	-0.5
	36nm,0.3s,baz=50,slow=17,SNR=64						
SIJI				Sn	Sb	09 08 23.8	+0.1
	35nm,0.3s,baz=176,slow=20,SNR=19						
WRA	**Warramunga Arr**	**19.51**	**175**	P	P	09 12 04.8	-0.2
	0.1nm,0.3s,baz=355,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**23.18**	**177**	P	P	09 12 44.8	+0.3
	1.0nm,0.5s,baz=355,slow=11,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**39.04**	**57**	T	T	09 56 24.5	
	baz=242,slow=75,SNR=35						
H11N2	**WAKE ISLAND Hy**	**39.05**	**57**	T	T	09 56 25.5	
	baz=242,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**39.06**	**57**	T	T	09 56 25.9	
	baz=242,slow=75,SNR=34						
MKAR	**Makanchi Array**	**64.31**	**324**	P	P	09 18 13.3	-0.1
	0.4nm,0.5s,baz=119,slow=7.2,SNR=4.6						

ISCJB ***09*** *09:18:30.5±0.4, 60.˚36S±0.˚08×26.˚5W±0.˚2, h54km, mb4.7/20, MS4.1/10, Error ellipse: s-maj=14.9km s-min=8.3km az=143.1*
AWI ***09*** *09:18:31.2, 60.˚28S×26.˚67W*
NEIC ***09*** *09:18:31.1±0.2, 60.˚16S×26.˚53W, h35km, mb4.9/12, Error ellipse: s-maj=10.3km s-min=6.9km az=50.0*
IDC ***09*** *09:18:32.4±0.4, 60.˚22S×26.˚68W, h50km±3km, mb4.4/15, mb1 4.4/15, mb1mx4.3/18, mbtmp4.6/15, MS4.0/10, Ms1 4.0/10, ms1mx3.9/16, Error ellipse: s-maj=16.6km s-min=12.5km az=58.0*
ISC 09 09:18:32.5±0.6, 60.˚17S±0.˚09×26.˚63W±0.˚09, h48km±4km, n84, σ1s24/90, mb4.8/20, MS4.1/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	Hope Point	7.96	313	Pn	Pn	09 20 23.6	-1.7
VNA1	Neumayer--Stat	12.92	152	P	Pn	09 21 28.7	-4.5
VNA1	Neumayer--Stat	12.92	152	S	Sn	09 23 43.5	-12
VNA2	Neumayer--Watz	13.32	152	P	Pn	09 21 33.7	-4.9
	baz=306,slow=17						
VNA2	Neumayer--Watz	13.32	152	S	Sn	09 23 49.3	-16
SNAA	Sanae	14.92	150	P	Pn	09 21 46.6	-13
SNAA	Sanae	14.92	150	S	Sn	09 24 18.9	-25
SNAA	Sanae	14.92	150	P	Pn	09 21 54.3	-5.7
	3.7nm,0.3s,baz=312,slow=13,SNR=127						
SNAA				S	Sn	09 24 26.2	-18
	0.5nm,0.3s,baz=306,slow=18,SNR=6.8						
SNAA				LR	LR	09 26 35.3	
	comp=Z,227nm,18.9s,baz=308,slow=32						
PMSA	Palmer Station	17.70	239	Pn	Pn	09 22 25.7	-9.4
	60nm,0.5s						
H09N1	TRISTAN DA CUN	24.87	28	T	T	09 49 51.6	
	SNR=30						
QSPA	South Pole Qui	30.07	180	P	P	09 24 35.6	-1.3
	20nm,1.0s,baz=214,slow=2.2,SNR=47						
QSPA				LR	LR	09 36 27.2	
	comp=Z,468nm,18.6s,baz=178,slow=36						
QSPA	South Pole Qui	30.07	180	eP	P	09 24 37.4	+0.5
	62nm,1.4s						
TRQA	Tornquist	31.40	299	eP	P	09 24 49.7	+1.0
	17nm,0.7s						
PLCA	Paso Flores	33.22	286	P	P	09 25 03.0	-1.6
	3.8nm,0.6s,baz=151,slow=7.9,SNR=6.3						
PLCA	Paso Flores	33.22	286	eP	P	09 25 04.9	+0.3
	21nm,1.4s						
MAW	Mawson	36.72	140	P	P	09 25 32.1	-2.2
	11nm,0.9s,baz=244,slow=9.1,SNR=12						
MAW				LR	LR	09 38 47.0	
	comp=Z,315nm,21.3s,baz=242,slow=33						
MAW	Mawson	36.72	140	eP	P	09 25 34.1	-0.3
	2.7nm,0.9s						
CPUP	Villa Florida	39.84	314	eP	P	09 26 01.1	+0.1
SBA	Scott Base	41.98	184	eP	P	09 26 19.5	+1.4
	10nm,0.9s						
VNDA	Vanda	42.46	183	P	P	09 26 22.4	+0.4
	7.4nm,0.9s,baz=184,slow=5.9,SNR=35						
VNDA	Vanda	42.46	183	eP	P	09 26 23.2	+1.2
	11nm,1.0s						
BOSA	Boshof	46.85	71	P	P	09 26 56.7	-1.0
	2.7nm,0.8s,baz=193,slow=8.6,SNR=3.9						
BOSA				LR	LR	09 42 27.4	
	comp=Z,109nm,21.0s,baz=173,slow=31						
BDFB	Brasilia	47.11	331	P	P	09 26 58.9	-0.8
	4.2nm,0.8s,baz=93,slow=3.0,SNR=5.3						
BDFB				pP	pP	09 27 13.5	+0.8
	5.3nm,0.7s,baz=91,slow=2.5,SNR=4.1						
BDFB				LR	LR	09 44 02.6	
	comp=Z,215nm,21.7s,baz=194,slow=32						
LVC	Limon Verde	47.71	303	eP	P	09 27 05.7	+1.1
	15nm,1.3s						
SIV	San Ignacio	50.68	315	P	P	09 27 25.9	-1.1
	5.5nm,0.4s,baz=175,slow=7.9,SNR=32						
SIV				pP	pP	09 27 40.2	+0.1
	4.1nm,0.5s,baz=192,slow=9.9,SNR=6.3						
TSUM	Tsumeb	51.55	57	P	P	09 27 32.6	-1.0
	3.9nm,1.0s,baz=209,slow=7.2,SNR=3.0						
TSUM				pP	pP	09 27 47.5	+0.8
	11nm,0.8s,baz=202,slow=4.9,SNR=8.7						
H10S2	ASCENSION HYDR	51.89	15	T	T	10 23 54.1	
	baz=187,slow=75,SNR=16						
H10S3	ASCENSION HYDR	51.89	15	T	T	10 23 54.1	
	baz=187,slow=75,SNR=15						
H10S1	ASCENSION HYDR	51.91	15	T	T	10 23 53.5	
	baz=187,slow=75,SNR=18						
H10N1	ASCENSION HYDR	53.01	15	T	T	10 25 13.7	
	baz=180,slow=72,SNR=4.1						
H10N3	ASCENSION HYDR	53.01	15	T	T	10 25 14.9	
	baz=180,slow=72,SNR=15						
H10N2	ASCENSION HYDR	53.02	15	T	T	10 25 14.3	
	baz=180,slow=72,SNR=12						
LPAZ	La Paz	53.06	307	P	P	09 27 45.0	-0.4
	5.7nm,0.6s,baz=106,slow=5.2,SNR=27						
LPAZ				pP	pP	09 27 59.2	+0.7
	5.3nm,0.4s,baz=94,slow=8.5,SNR=8.0						
LPAZ				LR	LR	09 50 22.5	
	comp=Z,71nm,20.7s,baz=174,slow=36						
LPAZ	La Paz	53.06	307	eP	P	09 27 46.0	+0.6
	17nm,1.2s						
LPAZ				pP	pP	09 27 59.2	+0.7
SAML	Samuel	57.95	316	eP	P	09 28 19.9	+0.1
	12nm,0.9s						
MSKU	Masuku	66.02	45	P	P	09 29 13.2	-0.8
	3.0nm,0.5s,baz=206,slow=8.5,SNR=2.9						
MSKU	Masuku	66.02	45	eP	P	09 29 16.1	+2.1
	14nm,0.9s						
DBIC	Dimbokro	68.82	23	P	P	09 29 31.2	-0.3
	7.3nm,0.7s,baz=174,slow=6.2,SNR=6.1						
OTAV	Otavalo	72.21	304	eP	P	09 29 53.7	+0.8
	10.0nm,0.8s						
ROSC	El Rosal	74.78	310	LR	LR	10 05 58.3	
	comp=Z,68nm,19.1s,baz=136,slow=38						
TOA0	Torodi Ar. Sit	76.53	28	eP	P	09 30 18.4	+1.2
TORD	Torodi Ar. Bea	76.53	28	P	P	09 30 17.9	+0.6
	33nm,0.7s,baz=198,slow=6.4,SNR=82						
TORD				LR	LR	09 58 42.3	
	comp=Z,106nm,19.2s,baz=260,slow=32						
STKA	Stephens Creek	87.78	170	P	P	09 31 15.8	-0.4
	8.2nm,1.1s,baz=207,slow=4.5,SNR=4.2						
STKA				LR	LR	10 09 21.3	
	comp=Z,120nm,18.4s,baz=203,slow=35						
ASAR	Alice Springs	94.97	162	P	P	09 31 48.6	-1.1
	1.5nm,0.8s,baz=182,slow=3.9,SNR=14						
ASAR				LR	LR	10 11 55.5	
	comp=Z,273nm,20.0s,baz=210,slow=34						
AS01	Alice Springs	94.97	162	eP	P	09 31 48.5	-1.2
AS01				epP	pP	09 31 57.1	-6.7
WRA	Warramunga Arr	98.69	162	P	P	09 32 05.1	-1.4
	0.5nm,0.8s,baz=194,slow=4.7,SNR=3.1						
HWUT	Hardware Ranch	122.67	297	ePKPdf	PKPdf	09 37 22.5	+0.4
PDAR	Pinedale Array	122.72	300	PKP	PKPdf	09 37 21.7	-0.5
	0.3nm,0.5s,baz=120,slow=5.3,SNR=3.3						
PDAR				pPKP	pPKPdf	09 37 36.2	-0.6
	0.6nm,0.5s,baz=142,slow=4.5,SNR=3.6						
NVAR	Mina Array Bea	123.20	290	pPKP	pPKPdf	09 37 39.0	+1.2
	0.7nm,0.6s,baz=151,slow=3.5,SNR=5.8						
LOHW	Long Hollow	123.86	300	ePKPdf	PKPdf	09 37 25.4	+1.1
NOA	NORSAR Array B	124.36	21	PKP	PKPdf	09 37 24.9	+0.4
	0.8nm,0.8s,baz=204,slow=2.1,SNR=2.8						
FINES	FINESS Array B	127.87	29	PKP	PKPdf	09 37 31.6	+0.5
	2.4nm,0.6s,baz=149,slow=2.9,SNR=14						
ABKAR	Akbulak array	129.39	58	ePKPdf	PKPdf	09 37 35.1	+0.7
KKAR	Karatay Array	129.43	70	PKPdf	PKPdf	09 37 34.6	-0.2
AKTO	Aktyubinsk	129.49	56	PKP	PKPdf	09 37 34.9	+0.3
	1.3nm,0.7s,baz=246,slow=4.4,SNR=4.6						
AKTO				pPKP	pPKPdf	09 37 47.9	-1.2
	6.1nm,0.8s,baz=172,slow=2.7,SNR=11						
EKS2	Erkin-Say	130.64	73	PKPdf	PKPdf	09 37 38.4	+1.2
KMI	Kunming	130.78	112	PKP	PKPdf	09 37 38.3	+0.1
SUMG	Summit	132.71	355	iP	SKPbc	09 41 05.7	+2.2
	10nm,0.8s						
ARCES	ARCESS Array B	134.65	23	PKP	PKPdf	09 37 44.2	+0.4
	1.7nm,0.5s,baz=166,slow=1.3,SNR=14						
ARCES				SKPbc	SKPbc	09 41 07.7	-1.8
	2.9nm,0.8s,baz=289,slow=5.6,SNR=2.7						
CD2	Chengdu	136.15	109	SS	SS	09 58 29.1	+4.0
CD2				AMB	AMB		
	comp=Z,140nm,5.2s						
MKAR	Makanchi Array	137.79	75	PKP	PKPdf	09 37 49.5	-0.9
	comp=Z,0.4nm,0.7s,baz=211,slow=0.8,SNR=2.0						
WMQ	Urumqi	138.30	83	PKP	PKPdf	09 37 44.9	-6.5
WMQ				PP	PP	09 40 38.4	-3.6
WMQ				AMB	AMB		
	comp=Z,66nm,10.2s						
WMQ				LR	LR		
	comp=N,12nm,12.2s						
WMQ				LR	LR		
	comp=E,11nm,12.3s						
WMQ				LR	LR		
	comp=Z,15nm,14.1s						
WMQ	Urumqi	138.30	83	PKP	PKPdf	09 37 54.0	+2.6
WMQ				PPMZ			
	comp=Z,23nm,9.9s						
WMQ				LN			
	comp=Z,55nm,10.2s						
WMQ				LE			
	comp=Z,44nm,11.3s						
WMQ				LZ			
	comp=Z,65nm,13.5s						
YKA	Yellowknife Ar	139.36	315	PKP	PKPdf	09 37 52.6	-0.1
	comp=Z,0.8nm,0.5s,baz=128,slow=2.6,SNR=11						
YKA				pPKP	pPKPdf	09 38 07.3	+0.2
	comp=Z,2.9nm,0.6s,baz=133,slow=2.1,SNR=8.4						
YKA				SKPbc	SKPbc	09 41 23.6	0.0
	comp=Z,0.7nm,0.7s,baz=141,slow=3.0,SNR=5.0						
GTA	Gaotai	141.05	98	ePKP	PKPdf	09 37 58.7	+2.0
GTA				sPKP		09 38 13.1	
ZALV	Zalesovo Beam	143.76	69	PKP	PKPdf	09 38 00.4	-0.4
	comp=Z,1.0nm,0.4s,baz=255,slow=5.5,SNR=3.2						
NJ2	Nanjing	143.82	125	ePKP	PKPdf	09 38 03.6	+2.0
HHC	Hu-ho-hao-te	147.89	108	ePKPbc	PKPdf	09 38 06.6	-1.8
HHC				sPKP		09 38 20.3	
HHC				PKS	PKSdf	09 41 42.0	-1.6
HHC				PP	PP	09 41 44.0	+4.3
HHC				SKS	SKSdf	09 45 10.3	-2.3
HHC				SS	SS	10 00 43.2	+1.8
HHC				PPMZ			
	comp=Z,56nm,9.6s						
HHC				LN			
	comp=Z,120nm,21.5s						
HHC				LE			
	comp=Z,160nm,21.4s						
HHC				LZ			
	comp=Z,90nm,21.5s						
INK	Inuvik	149.09	316	ePKPbc	PKPbc	09 38 13.5	-0.1
DAWY	Dawson	149.64	307	ePKPbc	PKPbc	09 38 14.8	-0.3
SONM	Songino Array	150.44	93	PKP	PKPdf	09 38 12.2	-0.1
	comp=Z,0.3nm,0.4s,baz=200,slow=3.9,SNR=3.9						
SONM				PKPbc	PKPbc	09 38 18.0	+0.3
	comp=Z,2.9nm,0.7s,baz=194,slow=2.6,SNR=10						
SONM				pPKPbc	pPKPbc	09 38 33.0	+0.8
	comp=Z,12nm,0.8s,baz=221,slow=2.6,SNR=18						
BMRM	Bremner River	150.51	299	ePKPbc	PKPbc	09 38 19.6	+2.3
EGAK	Eagle	150.63	307	ePKPbc	PKPbc	09 38 16.9	-0.5
PAX	Paxson	151.71	302	ePKPbc	PKPbc	09 38 20.3	+0.2
KSAR	Wonju Array Be	152.07	133	PKPbc	PKPbc	09 38 21.7	+0.1
KSRS	Korea Array	152.09	133	PKPbc	PKPbc	09 38 21.7	0.0
	comp=Z,2.2nm,0.9s,baz=196,slow=2.2,SNR=12						
RC01	Rabbit Creek A	152.82	297	ePKPbc	PKPbc	09 38 22.4	-0.2
RC01				ePKPab	PKPab	09 38 35.4	+1.5
ILAR	Eielson Array	152.93	306	PKPbc	PKPbc	09 38 22.7	+0.1
	comp=Z,1.9nm,0.6s,baz=168,slow=1.6,SNR=45						
ILAR				pPKPbc	pPKPbc	09 38 37.0	-0.2
	comp=Z,5.3nm,0.8s,baz=162,slow=2.7,SNR=18						
COLA	College	153.35	306	ePKPbc	PKPbc	09 38 23.5	-0.1
COLA				ePKPab	PKPab	09 38 35.4	-0.6
MCK	McKinley	153.44	303	ePKPbc	PKPbc	09 38 24.4	+0.6
MCK				ePKPab	PKPab	09 38 38.2	+1.8
TRF	Thorofare Moun	153.92	302	ePKPbc	PKPbc	09 38 25.4	+0.3
TRF				ePKPab	PKPab	09 38 39.5	+0.8
BPAW	Bear Paw Mtn.	154.42	303	ePKPbc	PKPbc	09 38 26.4	+0.4
BPAW				ePKPab	PKPab	09 38 40.0	-0.6
MJAR	Matsushiro Arr	154.43	151	PKPbc	PKPbc	09 38 25.3	-1.6
	comp=Z,1.3nm,0.8s,baz=196,slow=3.2,SNR=3.2						
MJAR				pPKPbc	PKPab	09 38 41.0	-0.3
	comp=Z,1.4nm,0.7s,baz=198,slow=2.5,SNR=3.8						
COLD	Coldfoot	154.87	310	ePKPbc	PKPbc	09 38 27.7	+0.9
COLD				ePKPab	PKPab	09 38 41.4	-1.0

IDC 09 09:22:27.0±3.4, 53°.60N×88°.07E, h0km, mb1 2.7/1, mb1mx2.6/36, mbtmp2.7/1, ML2.6/1, Error ellipse: s-maj=29.1km s-min=16.6km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.96	281	i		09 34 20.0	
	baz=99,slow=322,SNR=8.4						
ZALV	Zalesovo Beam	1.96	281	Pn	Pn	09 23 01.3	-0.1
	1.5nm,0.3s,baz=99,slow=14,SNR=13						
ZALV				Lg	Lg	09 23 28.9	
	2.0nm,0.3s,baz=99,slow=24,SNR=12						
MKAR	Makanchi Array	7.76	211	Pn	Pn	09 24 22.4	+1.3
	0.1nm,0.3s,baz=33,slow=14,SNR=7.5						
MKAR				Sn	Sn	09 25 49.3	-0.4
	0.1nm,0.3s,baz=32,slow=26,SNR=4.1						
MKAR				Lg	Lg	09 26 33.3	
	0.1nm,0.3s,baz=32,slow=33,SNR=3.6						

IDC 09 10:13:24.6±1.5, 6°.54S×129°.92E, h0km, mb3.6/2, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, ML3.6/3, Error ellipse: s-maj=71.6km s-min=23.3km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	5.79	13	Pn	Pn	10 14 51.2	-0.7
	6.1nm,0.3s,baz=210,slow=16,SNR=9.2						
SIJI				Sn	Sn	10 15 48.1	-11
	4.5nm,0.3s,baz=225,slow=22,SNR=12						
WRA	Warramunga Arr	14.00	163	Pn	Pn	10 16 42.4	-2.1
	0.2nm,0.3s,baz=345,slow=14,SNR=16						
WRA				Sn	Sn	10 19 10.6	-10
	0.4nm,0.3s,baz=332,slow=23,SNR=9.3						
ASAR	Alice Springs	17.46	168	P	Pn	10 17 28.2	-1.6
	0.2nm,0.3s,baz=351,slow=9.9,SNR=16						
ASAR				S	Sn	10 20 35.0	-10
	0.1nm,0.3s,baz=352,slow=27,SNR=3.7						
STKA	Stephens Creek	27.47	158	P	P	10 19 13.7	+1.0
	1.5nm,0.7s,baz=319,slow=9.3,SNR=2.5						
MKAR	Makanchi Array	67.80	327	P	P	10 24 24.5	0.0
	0.1nm,0.4s,baz=121,slow=6.7,SNR=3.8						

IDC 09 10:23:44.2±3.3, 54°.38N×87°.23E, h0km, mb1 3.0/1, mb1mx2.8/31, mbtmp3.0/1, ML3.0/1, Error ellipse: s-maj=27.5km s-min=17.9km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.48	254	i		10 32 10.0	
	baz=71,slow=315,SNR=0.5						
ZALV	Zalesovo Beam	1.48	254	Pg	Pn	10 24 10.6	-1.5
	2.6nm,0.3s,baz=71,slow=17,SNR=18						
ZALV				Lg	Lg	10 24 31.7	
	2.0nm,0.3s,baz=75,slow=28,SNR=6.7						
MKAR	Makanchi Array	8.22	204	Pn	Pn	10 25 46.0	+1.3
	0.2nm,0.3s,baz=27,slow=13,SNR=11						
MKAR				Sn	Sn	10 27 17.5	-0.8
	0.1nm,0.3s,baz=31,slow=28,SNR=2.6						
MKAR				Lg	Lg	10 28 04.7	
	0.0nm,0.3s,baz=27,slow=29,SNR=3.7						

MEX 09 10:46:09.4±0.7, 16°.06N×98°.57W, h16km±6km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.54	52	iP	Pg	10 46 18.2	-1.9
PNIG				iS	Sg	10 46 25.2	-2.3
TLIG	Tlapa	1.50	0	eP	Pn	10 46 31.4	-4.4
TLIG				eS	Sn	10 46 49.5	-5.6
VHO	Vista Hermosa	2.03	60	iP	Pn	10 46 40.3	-2.9
VHO				iS	Sn	10 47 03.9	-4.6
HUIG	Huatulco	2.39	97	iP	Pn	10 46 45.1	-2.8
HUIG				iS	Sn	10 47 12.3	-4.5
PLIG	Platanillo	2.49	339	iP	Pn	10 46 47.0	-2.4
PLIG				iS	Sn	10 47 15.7	-3.8

IDC 09 11:25:31.3±5.4, 15°.33N×98°.66W, h0km, mb3.6/6, mb1 3.9/9, mb1mx3.8/24, mbtmp3.6/9, ML3.4/3, MS3.3/4, Ms1 3.3/4, ms1mx2.9/24, Error ellipse: s-maj=97.5km s-min=24.3km az=4.0

ISCJB 09 11:25:43.2±1.1, 16°.49N±0°.09×98°.49W±0°.06, h32km±7km, mb3.5/5, MS3.1/1, Error ellipse: s-maj=16.2km s-min=6.4km az=29.9

MEX 09 11:25:45.0±0.5, 16°.45N×98°.53W, h19km±23km, MD4.2

ISC 09 11:25:43.8±1.3, 16°.56N±0°.08×98°.48W±0°.08, h21km±3km, n16, σ0.85/18, mb3.5/5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.38	115	iP	Pb	11 25 51.9	+0.1
PNIG				iS	Sb	11 25 57.2	0.0
TLIG	Tlapa	1.00	355	iP	Pb	11 26 02.1	-0.5
TLIG				iS	Sb	11 26 15.0	-0.5
VHO	Vista Hermosa	1.75	73	eP	Pn	11 26 12.8	-0.4
VHO				iS	Sn	11 26 34.8	-0.2
PLIG	Platanillo	2.07	332	iP	Pn	11 26 17.4	-0.1
PLIG				eS	Sn	11 26 42.8	+0.1
HUIG	Huatulco	2.41	109	iP	Pn	11 26 22.0	-0.1
HUIG				eS	Sn	11 26 48.9	-2.1
CMIG	Matias Romero	3.49	81	eP	Pn	11 26 36.0	-0.8
CMIG				iS	Sn	11 27 17.7	+0.1
CMIG	Matias Romero	3.49	81	Pn	Pn	11 26 34.9	-2.0
	1.7nm,0.3s,baz=238,slow=12,SNR=16						
CMIG				Pg	Pb	11 26 46.1	+1.2
	2.6nm,0.3s,baz=270,slow=17,SNR=23						
CMIG				Lg	Lg	11 27 31.0	
	9.7nm,0.3s,baz=1.7,slow=18,SNR=9.5						
TEIG	Tepich	10.35	68	Pn	Pn	11 28 09.6	-1.6
	0.5nm,0.3s,baz=246,slow=20,SNR=3.0						
TEIG				Sn	Sn	11 29 58.7	-8.0
	0.7nm,0.3s,baz=0.0,slow=20,SNR=3.8						
LPIG	La Paz	13.39	306	LR	LR	11 32 48.3	
	comp=Z,44nm,19.1s,baz=46,slow=31						
TXAR	Lajitas Array	13.58	340	Pn	P	11 29 01.2	-3.1
	0.0nm,0.3s,baz=163,slow=18,SNR=3.0						
TXAR				LR	LR	11 34 45.3	
	comp=Z,142nm,18.2s,baz=0.0,slow=38						
ANMO	Albuquerque	19.66	340	P	Pn	11 30 13.5	+0.4
	0.9nm,0.8s,baz=155,slow=9.9,SNR=4.4						
ANMO				LR	LR	11 38 30.3	
	comp=Z,123nm,18.1s,baz=136,slow=38						
TKL	Tuckaleechee C	23.11	32	P	P	11 30 49.3	+0.9
	4.0nm,0.8s,baz=226,slow=9.0,SNR=5.2						
PDAR	Pinedale Array	27.79	342	P	P	11 31 32.6	+0.9
	0.4nm,0.5s,baz=149,slow=12,SNR=4.0						
PDAR				LR	LR	11 44 27.9	
	comp=Z,47nm,18.2s,baz=164,slow=39						
NVAR	Mina Array Bea	27.88	325	P	P	11 31 32.9	+0.4
	0.9nm,0.9s,baz=157,slow=9.4,SNR=5.4						
YKA	Yellowknife Ar	47.27	350	P	P	11 34 14.5	-0.8
	0.4nm,0.7s,baz=158,slow=6.8,SNR=3.2						
ILAR	Eielson Array	58.08	338	P	P	11 35 32.8	-2.5
	0.8nm,1.2s,baz=140,slow=5.7,SNR=5.3						

CSEM 09 11:30:54.5, 40°.43N×21°.86E, h5km, MD3.0

ATH 09 11:30:54.5, 40°.43N×21°.86E, h5km±2km, MD3.0/7, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KZN	Kozani	0.14	209	ePG	Pg	11 30 57.4	-0.1
KZN	Kozani	0.14	209	ePg	Pg	11 30 57.4	-0.1
LIT	Litokhoron	0.58	124	ePG	Pg	11 31 05.6	-0.2
LIT				eSB	Sb	11 31 15.1	-0.8
LIT	Litokhoron	0.58	124	ePg	Pg	11 31 05.6	-0.2
LIT				eSb	Sb	11 31 15.1	-0.8
NEST	Nestorio	0.62	269	ePB	Pg	11 31 06.8	+0.2
NEST	Nestorio	0.62	269	ePb	Pg	11 31 06.8	+0.2
GRG	Griva	0.67	38	ePB	Pg	11 31 07.5	+0.1
GRG	Griva	0.67	38	ePb	Pg	11 31 07.5	+0.1
THL	Klokotos Trika	0.87	172	ePB	Pg	11 31 11.4	+0.2
THL	Klokotos Trika	0.87	172	ePb	Pg	11 31 11.4	+0.2
MAKR	Makrakomi, Fth	1.43	171	ePB	Pg	11 31 21.9	-0.1
MAKR	Makrakomi, Fth	1.43	171	ePb	Pg	11 31 21.9	-0.1
XOR	Xorichti	1.48	136	ePG	Pn	11 31 21.9	+0.1
XOR				eSB	Sg	11 31 43.1	+1.0
XOR	Xorichti	1.48	136	ePg	Pn	11 31 21.9	+0.1
XOR				eSb	Sg	11 31 43.1	+1.0

IDC 09 11:36:01.0±2.6, 6°.07N×127°.37E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/36, mbtmp3.5/3, Error ellipse: s-maj=192.6km s-min=28.1km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.75	165	P	P	11 41 42.5	-0.1
	0.3nm,0.5s,baz=348,slow=9.8,SNR=6.8						
ASAR	Alice Springs	30.24	168	P	P	11 42 13.8	+0.1
	0.2nm,0.3s,baz=341,slow=7.3,SNR=13						
MKAR	Makanchi Array	56.02	324	P	P	11 45 41.5	-0.1
	0.3nm,0.5s,baz=114,slow=8.3,SNR=3.8						

CSEM 09 12:02:21.6, 45°.58N×26°.44E, h129km, MD3.4/6

BUC 09 12:02:21.6±1.1, 45°.58N×26°.44E, h129km±9km, MD3.4/6, 30C-33D, Error ellipse: s-maj=9.4km s-min=6.8km az=332.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLOR	Plostina	0.31	28	⇑iP	Pn	12 02 39.5	-0.2
PLOR	Plostina	0.31	28	⇑iP	Pn	12 02 39.5	-0.2
PLOR				iS	Sn	12 02 52.3	-1.1
PLOR	Plostina	0.31	28	⇑iP	Pn	12 02 39.5	-0.2
PLOR				iS	Sn	12 02 52.3	-1.1
VRI	Vrincioaia	0.35	35	⇑iP	Pn	12 02 39.9	+0.1
VRI	Vrincioaia	0.35	35	⇑iP	Pn	12 02 39.9	+0.1
VRI				iS	Sn	12 02 52.3	-1.3
VRI	Vrincioaia	0.35	35	⇑iP	Pn	12 02 39.9	+0.1
VRI				iS	Sn	12 02 52.3	-1.3
MLR	Muntele Rosu	0.36	256	⇑iP	Pn	12 02 39.9	-0.1
MLR	Muntele Rosu	0.36	256	⇑iP	Pn	12 02 39.9	-0.1
MLR				iS	Sn	12 02 52.9	-1.0
MLR	Muntele Rosu	0.36	256	⇑iP	Pn	12 02 39.9	-0.1
MLR				iS	Sn	12 02 52.9	-1.0
GRER		0.42	118	⇓iP	Pn	12 02 40.5	+0.4
GRER		0.42	118	⇓iP	Pn	12 02 40.5	+0.4
GRER		0.42	118	⇓iP	Pn	12 02 40.5	+0.4
ISR	Istrita	0.47	171	⇑iP	Pn	12 02 40.2	-0.2
ISR	Istrita	0.47	171	⇑iP	Pn	12 02 40.2	-0.2
ISR				iS	Sn	12 02 54.9	+0.3
ISR	Istrita	0.47	171	⇑iP	Pn	12 02 40.2	-0.2
ISR				iS	Sn	12 02 54.9	+0.3
PETR	Petresti	0.57	75	⇑iP	Pn	12 02 41.2	+0.3
PETR	Petresti	0.57	75	⇑iP	Pn	12 02 41.2	+0.3
PETR				iS	Sn	12 02 55.1	-0.4
PETR	Petresti	0.57	75	⇑iP	Pn	12 02 41.2	+0.3
PETR				iS	Sn	12 02 55.1	-0.4
SECR		0.60	206	⇑iP	Pn	12 02 41.4	+0.2
SECR		0.60	206	⇑iP	Pn	12 02 41.4	+0.2
SECR				iS	Sn	12 02 55.7	-0.3
SECR		0.60	206	⇑iP	Pn	12 02 41.4	+0.2
SECR				iS	Sn	12 02 55.7	-0.3
PLAR	PLOIESTI	0.73	204	⇓iP	Pn	12 02 42.2	+0.2
PLAR	PLOIESTI	0.73	204	⇓iP	Pn	12 02 42.2	+0.2
PLAR	PLOIESTI	0.73	204	⇓iP	Pn	12 02 42.2	+0.2
SULR		0.91	188	⇓iP	Pn	12 02 43.5	-0.1
SULR		0.91	188	⇓iP	Pn	12 02 43.5	-0.1
SULR				iS	Sn	12 02 59.8	-0.3
SULR		0.91	188	⇓iP	Pn	12 02 43.5	-0.1
SULR				iS	Sn	12 02 59.8	-0.3
TESR	Tescani	0.94	9	⇓iP	Pn	12 02 44.0	+0.1
TESR	Tescani	0.94	9	⇓iP	Pn	12 02 44.0	+0.1
TESR				iS	Sn	12 02 59.6	-1.2
TESR	Tescani	0.94	9	⇓iP	Pn	12 02 44.0	+0.1
TESR				iS	Sn	12 02 59.6	-1.2
VOIR		0.99	262	⇓iP	Pn	12 02 44.5	+0.1
VOIR		0.99	262	⇓iP	Pn	12 02 44.5	+0.1
VOIR				iS	Sn	12 03 00.0	-1.7
VOIR		0.99	262	⇓iP	Pn	12 02 44.5	+0.1
VOIR				iS	Sn	12 03 00.0	-1.7
AMRR	Amara	1.16	147	⇓iP	Pn	12 02 46.0	+0.1
AMRR	Amara	1.16	147	⇓iP	Pn	12 02 46.0	+0.1
AMRR				iS	Sn	12 03 03.3	-1.0
AMRR	Amara	1.16	147	⇓iP	Pn	12 02 46.0	+0.1
AMRR				iS	Sn	12 03 03.3	-1.0
GIUM	Giurgiulesti	1.25	94	⇓iP	Pn	12 02 47.2	+0.4
GIUM	Giurgiulesti	1.25	94	⇓iP	Pn	12 02 47.2	+0.4
GIUM				iS	Sn	12 03 04.4	-1.5
GIUM	Giurgiulesti	1.25	94	⇓iP	Pn	12 02 47.2	+0.4
GIUM				iS	Sn	12 03 04.4	-1.5
CFR	Carcaliu	1.26	108	⇓iP	Pn	12 02 46.5	-0.4
CFR	Carcaliu	1.26	108	⇓iP	Pn	12 02 46.5	-0.4
CFR				iS	Sn	12 03 03.4	-2.8
CFR	Carcaliu	1.26	108	⇓iP	Pn	12 02 46.5	-0.4
CFR				iS	Sn	12 03 03.4	-2.8
HARR	Harsova	1.38	130	⇓iP	Pn	12 02 47.8	-0.4
HARR	Harsova	1.38	130	⇓iP	Pn	12 02 47.8	-0.4
HARR	Harsova	1.38	130	⇓iP	Pn	12 02 47.8	-0.4
HUMR	Humele	1.48	225	⇑iP	Pn	12 02 49.1	-0.2
HUMR	Humele	1.48	225	⇑iP	Pn	12 02 49.1	-0.2
HUMR				iS	Sn	12 03 09.1	-1.3
HUMR	Humele	1.48	225	⇑iP	Pn	12 02 49.1	-0.2
HUMR				iS	Sn	12 03 09.1	-1.3
LEOM	Leova	1.54	54	⇑iP	Pn	12 02 50.6	+0.6
LEOM	Leova	1.54	54	⇑iP	Pn	12 02 50.6	+0.6
LEOM				iS	Sn	12 03 11.0	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LEOM	Leova	1.54	54	⇑iP	Pn	12 02 50.6	+0.6
LEOM				iS	Sn	12 03 11.0	-0.7
TLCR		1.72	102	⇓iP	Pn	12 02 52.0	-0.1
TLCR		1.72	102	⇓iP	Pn	12 02 52.0	-0.1
TLCR				iS	Sn	12 03 14.8	-0.5
TLCR		1.72	102	⇓iP	Pn	12 02 52.0	-0.1
TLCR				iS	Sn	12 03 14.8	-0.5
MSAB	Monastry St. A	1.78	146	⇑iP	Pn	12 02 52.7	-0.2
MSAB	Monastry St. A	1.78	146	⇑iP	Pn	12 02 52.7	-0.2
MSAB				iS	Sn	12 03 15.3	-1.4
MSAB	Monastry St. A	1.78	146	⇑iP	Pn	12 02 52.7	-0.2
MSAB				iS	Sn	12 03 15.3	-1.4
BURAR	Bucovina Array	2.21	338	⇓iP	Pn	12 03 00.6	+2.5
BURAR	Bucovina Array	2.21	338	⇓iP	Pn	12 03 00.6	+2.5
BURAR	Bucovina Array	2.21	338	⇓iP	Pn	12 03 00.6	+2.5
PSN	Preselentsi	2.27	146	⇑iP	Pn	12 02 58.8	0.0
PSN	Preselentsi	2.27	146	⇑iP	Pn	12 02 58.8	0.0
PSN				iS	Sn	12 03 26.3	-1.0
PSN	Preselentsi	2.27	146	⇑iP	Pn	12 02 58.8	0.0
PSN				iS	Sn	12 03 26.3	-1.0
SRE	Strehaia	2.47	249	S	Sn	12 03 30.6	-1.2
SRE	Strehaia	2.47	249	iS	Sn	12 03 30.6	-1.2
SRE	Strehaia	2.47	249	iS	Sn	12 03 30.6	-1.2

CSEM 09 12:13:13.5, 41°.50N×33°.85E, h3km, MD2.7

DDA 09 12:13:13.5, 41°.50N×33°.85E, h3km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAST	KASTAMONU	0.06	96	iP	Pg	12 13 11.3	-3.5
KAST				iS	Sg	12 13 15.4	-0.4
KAST	KASTAMONU	0.06	96	iP	Pg	12 13 11.3	-3.6
KAST				iS	Sg	12 13 15.4	-0.4
ILGA	Ilgaz	0.46	193	iP	Pg	12 13 22.5	-0.1
ILGA				iS	Sb	12 13 30.4	-1.4
ILGA	Ilgaz	0.46	193	iP	Pg	12 13 22.5	-0.1
ILGA				iS	Sb	12 13 30.4	-1.5
BOYT	Boyabat	0.80	95	iP	Pg	12 13 28.7	-0.1
BOYT				iS	Sb	12 13 42.2	+0.9
BOYT	Boyabat	0.80	95	iP	Pg	12 13 28.7	-0.2
BOYT				iS	Sb	12 13 42.2	+0.9
ELDT	Eldivan	1.06	198	iP	Pg	12 13 33.4	-0.6
ELDT				iS	Sn	12 13 51.5	+0.7
ELDT	Eldivan	1.06	198	iP	Pg	12 13 33.4	-0.6
ELDT				iS	Sn	12 13 51.5	+0.7

CSEM 09 12:14:39.9±0.2, 40°.25N×35°.00E, h5km, MD2.4, Error ellipse: s-maj=7.2km s-min=4.5km az=97.0
ISK 09 12:14:39.2, 40°.25N×35°.03E, h6km, MD2.4
DDA 09 12:14:40.4, 40°.27N×34°.95E, h5km, MD2.7

ISC 09 12:14:40.4±1.2**, 40°.25N**±0°.02×**35°.02E**±0°.04**, h3**km±11km**, n20, σ1.19**/36**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CORM	Corum	0.30	256	ePG	Pg	12 14 46.0	-0.3
CORM	Corum	0.30	256	ePg	Pg	12 14 46.0	-0.3
CTKT	Corum	0.41	335	iP	Pg	12 14 48.2	-0.2
CTKT				iS	Sb	12 14 57.3	+0.1
CTKT	Corum	0.41	335	iP	Pg	12 14 48.2	-0.1
CTKT				iS	Sb	12 14 57.3	+0.1
CTKT	Corum	0.41	335	iP	Pg	12 14 48.2	-0.2
CTKT				iS	Sb	12 14 57.3	+0.1
CTKT	Corum	0.41	335	iP	Pg	12 14 48.2	-0.1
CTKT				iS	Sb	12 14 57.3	+0.1
YOZ	Yozgat	0.65	159	ePG	Pg	12 14 52.2	-0.7
YOZ				eSG	Sg	12 15 01.6	+0.2
YOZ	Yozgat	0.65	159	ePg	Pg	12 14 52.2	-0.7
YOZ				eSg	Sg	12 15 01.6	+0.2
CDAG	Cicekdag	0.80	219	iP	Pg	12 14 54.6	-1.1
CDAG				iS	Sn	12 15 10.1	-1.1
CDAG	Cicekdag	0.80	219	iP	Pg	12 14 54.6	-1.1
CDAG				iS	Sn	12 15 10.1	-1.1
HAVZ	Havza	0.98	33	iP	Pg	12 14 58.7	-0.5
HAVZ				iS	Sb	12 15 13.9	+0.4
HAVZ	Havza	0.98	33	iP	Pg	12 14 58.7	-0.5
HAVZ				iS	Sb	12 15 13.9	+0.4
BOYT	Boyabat	1.17	356	iP	Pg	12 15 01.7	-1.2
BOYT				iS	Sn	12 15 23.1	+2.7
BOYT	Boyabat	1.17	356	iP	Pg	12 15 01.7	-1.2
BOYT				iS	Sn	12 15 23.1	+2.7
DIKM	Dikmen	1.41	7	ePN	Pn	12 15 05.9	-1.2
DIKM				eSN	Sg	12 15 25.6	-0.1
DIKM	Dikmen	1.41	7	ePn	Pn	12 15 05.9	-1.2
DIKM				eSn	Sg	12 15 25.6	-0.1
AVNT	Avonos	1.47	185	iP	Pg	12 15 08.6	0.0
AVNT				iS	Sg	12 15 30.7	+2.9
AVNT	Avonos	1.47	185	iP	Pg	12 15 08.6	0.0
AVNT				iS	Sg	12 15 30.7	+2.9
SVSK	Karacayir	1.56	102	ePN	Pn	12 15 08.2	-0.8
SVSK	Karacayir	1.56	102	ePn	Pn	12 15 08.2	-0.8

IDC 09 12:28:14.7±1.2**, 9°.45N×138°.55E, h0**km**, mb3.7**/5**, mb1 4.0**/5**, mb1mx3.6**/24**, mbtmp3.7**/5**, MS3.4**/3**, Ms1 3.5**/3**, ms1mx2.9**/29**, Error ellipse: s-maj=41.0km s-min=23.3km az=88.0, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy	28.71	69	T	T	13 04 39.4	
	baz=256,slow=75,SNR=17						
H11S1	WAKE ISLAND Hy	28.72	69	T	T	13 04 40.0	
	baz=256,slow=75,SNR=22						
H11S2	WAKE ISLAND Hy	28.72	69	T	T	13 04 39.0	
	baz=256,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	29.21	66	T	T	13 05 18.0	
	baz=254,slow=74,SNR=28						
H11N2	WAKE ISLAND Hy	29.22	66	T	T	13 05 19.2	
	baz=254,slow=74,SNR=17						
H11N3	WAKE ISLAND Hy	29.23	66	T	T	13 05 21.2	
	baz=254,slow=74,SNR=18						
KSRS	Korea Array	29.49	343	LR	LR	12 44 02.6	
	comp=Z,42nm,19.7s,baz=240,slow=32						
WRA	Warramunga Arr	29.50	188	P	P	12 34 20.3	-0.5
	1.0nm,0.9s,baz=8.8,slow=10,SNR=4.2						
ASAR	Alice Springs	33.23	188	P	P	12 34 54.1	+0.5
	0.7nm,0.9s,baz=18,slow=13,SNR=9.3						
CMAR	Chiang Mai Arr	39.40	288	P	P	12 35 46.1	-0.4
	1.3nm,0.7s,baz=99,slow=6.9,SNR=7.4						
CMAR				LR	LR	12 51 38.4	
	comp=Z,97nm,19.2s,baz=192,slow=36						
SONM	Songino Array	46.90	331	P	P	12 36 47.4	+0.3
	1.4nm,1.0s,baz=139,slow=7.2,SNR=5.3						
ILAR	Eielson Array	74.93	25	P	P	12 39 57.2	-0.1
	0.5nm,0.8s,baz=250,slow=6.2,SNR=8.6						
MMAI	Mount Meron Ar	95.75	305	LR	LR	13 28 51.5	
	comp=Z,17nm,19.3s,baz=75,slow=38						

SJA 09 12:30:33.8±0.9**, 31°.21S×68°.78W, h107**km±5km**, ML3.2, MW3.8, San Juan Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RTLL	Cerro Villicun	0.28	114	eP	Pn	12 30 49.8	+0.6
RTLL				eS	Sn	12 31 01.0	+0.2
SJA	San Juan	0.36	149	eP	Pn	12 30 50.7	+1.2
AMOG	MOGNA	0.37	42	eP	Pn	12 30 50.8	+1.1
CFAA	Coronel Fontan	0.60	130	eP	Pn	12 30 51.8	+0.7
CFAA				eP	Pn	12 30 51.8	+0.7
RTCV	Cerro Valdivia	0.68	163	eP	Pn	12 30 52.5	+0.7
RTLS	Leoncito	0.73	217	eP	Pn	12 30 53.5	+1.0
AUSP	Uspallata	1.13	207	eP	Pn	12 30 57.5	+0.9
ASAL	Salagasta	1.37	182	eP	Pn	12 31 00.1	+1.1
ARCO	CERRO ARCO	1.63	185	eP	Pn	12 31 03.2	+0.9
ARCO				AML	AML	12 31 27.3	
	comp=Z,185nm,0.5s						
ACAN	Cantantal	1.72	128	eP	Pn	12 31 04.4	+1.2
AAGR	Agrelo	1.87	181	eP	Pn	12 31 06.0	+0.8
APLL	PUNTA DE LOS L	2.10	68	eP	Pn	12 31 08.9	+0.8
ACLC	CERRO LA CRUZ	2.38	42	eP	Pn	12 31 12.6	+0.8

SJA 09 12:33:21.1±0.9, 34°.57S×74°.28W, h40km, ML3.9
GUC 09 12:33:31.7±0.5, 34°.97S×72°.62W, h21km±4km, ML4.1
IDC 09 12:33:35.0±1.5, 35°.02S×71°.34W, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.7/15, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=65.5km s-min=21.9km az=84.0

ISC 09 12:33:32.0±2.0**, 35°.02S**±0°.05×**72°.66W**±0°.07**, h7**km±12km**, n25, σ1.27**/27**, 5C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TALC	Talca	0.92	114	⇑iP	Pg	12 33 49.1	-0.6
TALC				iS	Sg	12 34 02.6	+1.0
COCH	Cobquecura	1.11	185	⇑iP	Pg	12 33 53.4	+0.1
COCH				iS	Sn	12 34 09.4	-0.1
NICH	Los Niches	1.18	89	⇑iP	Pb	12 33 53.6	-1.1
NICH				iS	Sb	12 34 09.4	-0.7
LNCH	Linares	1.19	134	eP	Pb	12 33 55.2	+0.2
LNCH				iS	Sn	12 34 12.4	+0.7
LNV	Longovilo	1.48	44	⇑iP	Pn	12 33 56.3	-2.8
CHCH	Chadas Angostu	1.98	57	eP	Pn	12 34 05.3	-0.8
CLCH	Cerro Calan	2.40	48	eP	Pn	12 34 11.8	+0.1
CLCH				eS	Sn	12 34 42.0	+0.5
CLCH				AML	AML	12 34 49.9	
	comp=N,2μm,0.6s						
ROCH	El Roble	2.46	34	AML	AML	12 34 59.0	
	comp=N,822nm,0.4s						
PEL	Peldehue	2.49	42	⇑iP	Pn	12 34 14.0	+1.0
PEL				iS	Sn	12 34 45.6	+1.8
PEL				AML	AML	12 34 54.6	
	comp=N,2μm,1.0s						
CANA	Caviahue	3.13	156	eP	Pb	12 34 26.1	-2.1
CANA				eS	Sg	12 35 13.6	+0.9
AAGR	Agrelo	3.72	60	eP	Pn	12 34 34.4	+4.3
ARCO	CERRO ARCO	3.79	56	eP	Pn	12 34 34.5	+3.5
ARCO				AML	AML	12 35 32.9	
	comp=Z,62nm,1.0s						
AUSP	Uspallata	3.91	45	eP	Pn	12 34 34.4	+1.6
ASAL	Salagasta	4.00	54	eP	Pn	12 34 36.3	+2.4
RTLS	Leoncito	4.27	42	eP	Pn	12 34 37.8	0.0
RTCV	Cerro Valdivia	4.67	49	eP	Pn	12 34 43.2	+0.1
CFAA	Coronel Fontan	5.04	49	eP	Pn	12 34 47.8	-0.3
RTLL	Cerro Villicun	5.09	45	eP	Pn	12 34 47.5	-1.3
ACAN	Cantantal	5.33	61	eP	Pn	12 34 52.7	+0.7
AMOG	MOGNA	5.37	42	eP	Pn	12 34 51.1	-1.6
PLCA	Paso Flores	5.94	164	Pn	Pn	12 35 02.5	+2.0
	comp=Z,1.1nm,0.3s,baz=3.3,slow=12,SNR=9.1						
PLCA				Lg	Lg	12 36 37.0	
	comp=Z,0.7nm,0.3s,baz=34,slow=19,SNR=2.9						
AVFE	Valle Fertil	6.18	47	eP	Pn	12 35 02.6	-1.1
AVFE				AML	AML	12 36 33.1	
	comp=Z,35nm,0.7s						
LPAZ	La Paz	19.10	13	P	Pn	12 37 58.5	+1.7
	comp=Z,0.1nm,0.3s,baz=176,slow=13,SNR=4.5						
TXAR	Lajitas Array	70.38	331	P	P	12 44 53.8	+7.0
	comp=Z,0.3nm,0.6s,baz=160,slow=13,SNR=4.8						
TORD	Torodi Ar. Bea	85.04	70	P	P	12 46 07.3	-1.4
	comp=Z,0.5nm,0.7s,baz=251,slow=4.4,SNR=2.9						

IDC 09 13:20:53.5±1.3, 19°.04S×167°.63E, h0km, mb4.0/7, mb1 4.2/8, mb1mx4.0/29, mbtmp4.0/8, ML4.2/1, Error ellipse: s-maj=45.5km s-min=21.9km az=140.0
ISCJB 09 13:20:56.5±0.9, 19°.13S±0°.08×167°.6E±0°.2, h28km, mb4.0/6, Error ellipse: s-maj=21.4km s-min=10.6km az=16.2
NEIC 09 13:20:58.9±0.9, 19°.15S×167°.67E, h35km, mb4.0/1, Error ellipse: s-maj=22.7km s-min=16.8km az=137.0

ISC 09 13:20:57.9±1.0**, 19°.1S**±0°.1×**167°.6E**±0°.2**, h28**km**, n11, σ0.97**/11**, mb4.1**/6**, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.12	200	Pn	Pn	13 21 44.6	-0.7
	24nm,0.3s,baz=270,slow=24,SNR=109						
DZM				Sn	Sn	13 22 21.2	-0.5
	17nm,0.3s,baz=111,slow=22,SNR=6.9						
CTA	Charters Tower	20.14	264	P	P	13 25 29.4	-0.5
	2.5nm,0.7s,baz=86,slow=16,SNR=2.8						
CTAO	Charters Tower	20.14	264	eP	Pn	13 25 32.9	+1.0
	7.2nm,0.8s						
STKA	Stephens Creek	26.60	236	P	P	13 26 35.5	+1.5
	2.1nm,0.7s,baz=80,slow=10,SNR=4.1						
WRA	Warramunga Arr	31.33	263	P	P	13 27 15.2	-1.0
	0.2nm,0.3s,baz=80,slow=6.1,SNR=6.3						
AS31	Alice Springs	31.65	256	eP	P	13 27 19.5	+0.5
ASAR	Alice Springs	31.65	256	P	P	13 27 19.5	+0.5
	1.2nm,0.4s,baz=83,slow=8.2,SNR=53						
QSPA	South Pole Qui	70.92	180	eP	P	13 32 13.4	+0.9
SONM	Songino Array	86.21	324	P	P	13 33 37.5	+0.6
	1.6nm,0.9s,baz=140,slow=7.0,SNR=8.3						
NVAR	Mina Array Bea	89.89	49	P	P	13 33 54.9	+0.1
	0.9nm,0.8s,baz=225,slow=8.9,SNR=6.8						
ILAR	Eielson Array	90.60	18	P	P	13 33 55.9	-1.2
	0.9nm,0.8s,baz=240,slow=5.1,SNR=17						

ISCJB 09 13:24:43.5±0.3, 59°.82N±0°.03×22°.24E±0°.04, h0km, Error ellipse: s-maj=4.5km s-min=2.7km az=151.0
HEL 09 13:24:44.8±0.1, 59°.79N×22°.29E, h0km, ML2.2, ML2.2(UPP), Explosion
CSEM 09 13:24:44.8±0.2, 59°.82N×22°.27E, h2km, ML2.2, Error ellipse: s-maj=4.9km s-min=3.2km az=148.0, Mining explosion.
BER 09 13:24:44.7±4.6, 59°.84N×22°.26E, h0km, ML2.3(NAO), Suspected explosion
NAO 09 13:24:44.3±1.1, 59°.82N×22°.34E, ML2.3
IDC 09 13:24:45.8±1.7, 59°.86N×22°.35E, h0km, mb1 3.0/4, mb1mx2.9/28, mbtmp3.0/4, ML2.9/3, Error ellipse: s-maj=23.4km s-min=8.2km az=160.0
UPP 09 13:24:46.8, 59°.85N×21°.99E, h0km, ML2.2, Suspected Mining explosion.

ISC 09 13:24:44.0±0.8**, 59°.84N**±0°.04×**22°.27E**±0°.02**, h0**km**, n128, σ1.17**/152**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	1.13	69	eP	Pg	13 25 05.2	-0.5
MEF				eS	Sg	13 25 19.4	-0.9
MEF	Metsahovi	1.13	69	P	Pg	13 25 05.1	-0.5
MEF				S	Sg	13 25 19.4	-0.9
AAL	Aland	1.20	288	eP	Pg	13 25 06.5	-0.4
AAL				eS	Sg	13 25 22.2	-0.1
AAL	Aland	1.20	288	P	Pg	13 25 06.5	-0.4
AAL				S	Sg	13 25 22.2	-0.1
AAL	Aland	1.20	288	P	Pg	13 25 06.5	-0.4
AAL				S	Sg	13 25 21.6	-0.7
RAF	Rauma	1.22	348	eP	Pg	13 25 07.1	-0.2
RAF				eS	Sb	13 25 23.8	-0.2
RAF	Rauma	1.22	348	P	Pg	13 25 07.0	-0.2
RAF				S	Sb	13 25 23.8	-0.2
MTSE	Matsula	1.38	144	eP	Pn	13 25 09.3	-1.1
MTSE	Matsula	1.38	144	P	Pn	13 25 09.3	-1.1
NRTU	Norrtaelje	1.85	267	eP	Pn	13 25 17.6	+0.6
NRTU	Norrtaelje	1.85	267	P	Pn	13 25 17.5	+0.6
NRTU	Norrtaelje	1.85	267	P	Pn	13 25 17.6	+0.6
	baz=82						
PVF	Pernaja	1.93	67	eP	Pn	13 25 19.1	+1.1
PVF				eS	Sb	13 25 45.3	+0.7
PVF				MSG		13 25 47.9	
	comp=Z,19nm,0.3s						
PVF	Pernaja	1.93	67	P	Pn	13 25 19.1	+1.1
PVF				S	Sb	13 25 45.2	+0.7
FIA0	FINESS Array S	2.47	48	Pn	Pn	13 25 27.6	+2.2
	baz=217,slow=16						
FIA0				Lg	Lg	13 25 59.9	
	baz=224,slow=28						
FIA0				Rg	Rg	13 26 15.1	
	baz=212,slow=56						
FIA0	FINESS Array S	2.47	48	Pn	Pn	13 25 27.6	+2.2
	baz=217,slow=16						
FIA0				Lg	Lg	13 25 59.9	
	baz=224,slow=28						
FIA0				Rg	Rg	13 26 15.1	
	baz=212,slow=56						
FIA0	FINESS Array S	2.47	48	eP	Pn	13 25 27.0	+1.5
FIA0				eSB	Sb	13 25 59.2	-0.9
FIA0				MSG		13 26 02.6	
	comp=Z,12nm,0.3s						
FIA0	FINESS Array S	2.47	48	P	Pn	13 25 27.0	+1.5
FIA0	FINESS Array S	2.47	48	Pn	Pn	13 25 27.6	+2.2
	SNR=50						
FIA0				Sb	Sb	13 25 59.2	-0.9
FINES	FINESS Array B	2.47	48	Pn	Pn	13 25 27.6	+2.2
	comp=Z,3.4nm,0.3s,baz=227,slow=15,SNR=136						
FINES				Sn	Sb	13 25 59.7	-0.4
	comp=Z,9.0nm,0.3s,baz=235,slow=24,SNR=40						
BACU	Backbrunna	2.61	273	eP	Pn	13 25 28.5	+1.2
BACU	Backbrunna	2.61	273	P	Pn	13 25 28.5	+1.2
BACU	Backbrunna	2.61	273	P	Pn	13 25 28.5	+1.2
OSTU	Oestervaala	2.61	281	eP	Pn	13 25 28.2	+0.9
OSTU	Oestervaala	2.61	281	P	Pn	13 25 28.2	+0.9
OSTU	Oestervaala	2.61	281	P	Pn	13 25 28.2	+0.9
KEF	Keuruu	2.66	27	eP	Pn	13 25 28.8	+0.8
KEF				eSB	Sb	13 26 06.2	+0.7
KEF				MSG		13 26 09.3	
	comp=Z,7.6nm,0.3s						
KEF	Keuruu	2.66	27	P	Pn	13 25 28.8	+0.8
KEF				Sb	Sb	13 26 06.2	+0.7
VSU	Vasula	2.68	119	Pn	Pn	13 25 29.6	+1.3
VSU				Lg	Lg	13 26 06.3	
VSU	Vasula	2.68	119	Pn	Pn	13 25 29.6	+1.3
VSU				Lg	Lg	13 26 06.3	
VSU	Vasula	2.68	119	eSG	Sb	13 26 05.6	-0.6
VSU	Vasula	2.68	119	Pn	Pn	13 25 29.6	+1.3
	SNR=50						
VSU				Lg	Lg	13 26 06.3	
VJF	Virojoki	2.73	73	eP	Pn	13 25 29.6	+0.6
VJF				eSG	Sb	13 26 09.0	+1.4
VJF				MSG		13 26 11.4	
	comp=Z,6.8nm,0.3s						
VJF	Virojoki	2.73	73	P	Pn	13 25 29.6	+0.6
VJF				Sg	Sb	13 26 09.0	+1.4
KAF	Kangasniemi	3.01	39	eP	Pn	13 25 35.8	+2.8
KAF				eSB	Sb	13 26 14.7	-1.1
KAF				MSG		13 26 15.3	
	comp=Z,11nm,0.3s						
KAF	Kangasniemi	3.01	39	P	Pn	13 25 35.7	+2.8
KAF				Sb	Sb	13 26 14.6	-1.1
ARNU	Arnoeviken	3.04	310	eP	Pn	13 25 34.5	+1.3
ARNU	Arnoeviken	3.04	310	P	Pn	13 25 34.5	+1.3
ARNU	Arnoeviken	3.04	310	P	Pn	13 25 34.5	+1.3
ESKU	Eskilstuna	3.06	261	eP	Pn	13 25 34.9	+1.4
ESKU	Eskilstuna	3.06	261	P	Pn	13 25 34.8	+1.4
ESKU	Eskilstuna	3.06	261	P	Pn	13 25 34.9	+1.4
HUDU	Hudiksvall	3.16	309	eP	Pn	13 25 36.2	+1.2
HUDU	Hudiksvall	3.16	309	P	Pn	13 25 36.1	+1.2
HUDU	Hudiksvall	3.16	309	P	Pn	13 25 36.2	+1.2
VIKU	Vikbolandet	3.17	247	eP	Pn	13 25 36.1	+1.0
VIKU	Vikbolandet	3.17	247	P	Pn	13 25 36.0	+1.0
VIKU	Vikbolandet	3.17	247	P	Pn	13 25 36.1	+1.0
VAF	Ylistaro	3.22	3	eP	Pn	13 25 38.6	+2.9
VAF				eSB	Sb	13 26 23.0	+1.2
VAF	Ylistaro	3.22	3	P	Pn	13 25 38.6	+2.9
VAF				Sb	Sb	13 26 22.9	+1.2
FALU	Falun	3.29	284	eP	Pn	13 25 37.8	+1.1
FALU	Falun	3.29	284	P	Pn	13 25 37.7	+1.1
FALU	Falun	3.29	284	P	Pn	13 25 37.8	+1.1
SUF	Sumiainen	3.44	31	eP	Pn	13 25 41.1	+2.2
SUF	Sumiainen	3.44	31	P	Pn	13 25 41.0	+2.2
HEMU	Hemsoen	3.51	326	eP	Pn	13 25 41.7	+2.0
HEMU	Hemsoen	3.51	326	P	Pn	13 25 41.6	+2.0
HEMU	Hemsoen	3.51	326	P	Pn	13 25 41.7	+2.0
ROTU	Roteberg	3.56	299	eP	Pn	13 25 40.8	+0.4
ROTU	Roteberg	3.56	299	P	Pn	13 25 40.8	+0.4
ROTU	Roteberg	3.56	299	P	Pn	13 25 40.8	+0.4
NRAU	Nora	3.68	269	eP	Pn	13 25 42.9	+0.9
NRAU	Nora	3.68	269	P	Pn	13 25 42.9	+0.9
NRAU	Nora	3.68	269	P	Pn	13 25 42.9	+0.9
HUSU	Husum	3.81	339	eP	Pn	13 25 45.4	+1.5
HUSU	Husum	3.81	339	P	Pn	13 25 45.3	+1.5
HUSU	Husum	3.81	339	P	Pn	13 25 45.4	+1.5
ASPU	Aespoe	3.83	233	eP	Pn	13 25 45.1	+0.9
ASPU	Aespoe	3.83	233	P	Pn	13 25 45.0	+0.9
ASPU	Aespoe	3.83	233	P	Pn	13 25 45.1	+0.9
LNKU	Linkoeping	3.85	248	eP	Pn	13 25 46.1	+1.6
LNKU	Linkoeping	3.85	248	P	Pn	13 25 46.0	+1.6
LNKU	Linkoeping	3.85	248	P	Pn	13 25 46.1	+1.6
UMAU	Umeaa	4.13	350	eSG	Sg	13 26 54.4	-2.2
UMAU	Umeaa	4.13	350	Sg	Sg	13 26 54.3	-2.2
OSKU	Oskarshamn	4.18	233	eP	Pn	13 25 49.7	+0.7
OSKU	Oskarshamn	4.18	233	P	Pn	13 25 49.7	+0.7
OSKU	Oskarshamn	4.18	233	P	Pn	13 25 49.7	+0.7
HFS	Hagfors	4.32	278	Pn	Pn	13 25 51.2	+0.4
	baz=102,slow=9.3						
HFS				Pg	Pb	13 26 01.2	+0.5
	baz=99,slow=16						
HFS				Lg	Lg	13 26 54.8	
	baz=98,slow=28						
HFS	Hagfors	4.32	278	Pn	Pn	13 25 51.2	+0.4
	baz=102,slow=9.3						
HFS				Pg	Pb	13 26 01.2	+0.5
	baz=99,slow=16						
HFS				Lg	Lg	13 26 54.8	
	baz=98,slow=28						
HFS	Hagfors	4.32	278	Pn	Pn	13 25 51.7	+0.8
	comp=Z,0.2nm,0.3s,baz=102,slow=11,SNR=20						
HFS				Sn	Sn	13 26 43.5	+1.6
	comp=Z,0.6nm,0.3s,baz=92,slow=25,SNR=6.9						
HFS				Lg	Lg	13 26 56.6	
	comp=Z,1.7nm,0.3s,baz=91,slow=32,SNR=9.3						
HFS	Hagfors	4.32	278	Pn	Pn	13 25 51.2	+0.4
	SNR=50						
HFS				Lg	Lg	13 26 54.8	
NASU	Vaermlandsnaes	4.74	263	eP	Pn	13 25 57.2	+0.6
NASU	Vaermlandsnaes	4.74	263	P	Pn	13 25 57.2	+0.6
NASU	Vaermlandsnaes	4.74	263	P	Pn	13 25 57.2	+0.6
VXJU	Vaexsjoe	4.84	236	eP	Pn	13 25 58.9	+0.8
VXJU	Vaexsjoe	4.84	236	P	Pn	13 25 58.9	+0.8
VXJU	Vaexsjoe	4.84	236	P	Pn	13 25 58.9	+0.8
BLEU	Blekinge	4.93	227	eP	Pn	13 25 59.4	+0.1
BLEU	Blekinge	4.93	227	P	Pn	13 25 59.4	+0.1
BLEU	Blekinge	4.93	227	P	Pn	13 25 59.4	+0.1
FINU	Finntorp	4.99	269	eP	Pn	13 26 00.9	+0.8
FINU	Finntorp	4.99	269	P	Pn	13 26 00.8	+0.8
FINU	Finntorp	4.99	269	P	Pn	13 26 00.9	+0.8
VANU	Vaenersborg	5.42	260	eP	Pn	13 26 06.3	+0.3
VANU	Vaenersborg	5.42	260	P	Pn	13 26 06.3	+0.3
VANU	Vaenersborg	5.42	260	P	Pn	13 26 06.3	+0.3
LILU	Lilltraesk	5.58	349	eP	Pn	13 26 09.7	+1.5
LILU	Lilltraesk	5.58	349	P	Pn	13 26 09.6	+1.5
LILU	Lilltraesk	5.58	349	P	Pn	13 26 09.7	+1.5
NB2	NORSAR Subarra	5.61	287	Pn	Pn	13 26 08.6	0.0
	baz=95,slow=14						
NB2	NORSAR Subarra	5.61	287	Pn	Pn	13 26 08.6	0.0
	baz=95,slow=14						
NB2	NORSAR Subarra	5.61	287	Pn	Pn	13 26 08.6	0.0
	SNR=50						
NOA	NORSAR Array B	5.61	287	Pn	Pn	13 26 09.2	+0.7
	comp=Z,0.3nm,0.3s,baz=90,slow=12,SNR=7.6						
NOA				Sn	Sn	13 27 11.0	-2.7
	comp=Z,0.3nm,0.3s,baz=241,slow=20,SNR=4.5						
NOA				Lg	Lg	13 27 36.4	
	comp=Z,0.9nm,0.3s,baz=119,slow=15,SNR=5.0						
SJUU	Sjulsmark	5.70	357	eP	Pn	13 26 10.9	+1.1
SJUU	Sjulsmark	5.70	357	P	Pn	13 26 10.9	+1.1
SJUU	Sjulsmark	5.70	357	P	Pn	13 26 10.9	+1.1
STRU	Stroemstad	5.72	267	eP	Pn	13 26 09.8	-0.2
STRU	Stroemstad	5.72	267	P	Pn	13 26 09.8	-0.2
STRU	Stroemstad	5.72	267	P	Pn	13 26 09.8	-0.2
BSD	Bornholm Skovb	6.18	223	iP	Pn	13 26 15.5	-0.9
BSD	Bornholm Skovb	6.18	223	eP	Pn	13 26 15.5	-0.9
HARU	Harads	6.38	355	eP	Pn	13 26 19.7	+0.7
HARU	Harads	6.38	355	P	Pn	13 26 19.7	+0.7
HARU	Harads	6.38	355	P	Pn	13 26 19.7	+0.7
ERTU	Ertsjaerv	6.74	360	eP	Pn	13 26 24.7	+0.6
ERTU	Ertsjaerv	6.74	360	P	Pn	13 26 24.7	+0.6
ERTU	Ertsjaerv	6.74	360	P	Pn	13 26 24.7	+0.6
MASU	Masugnsbyn	7.65	359	eP	Pn	13 26 37.4	+0.8
MASU	Masugnsbyn	7.65	359	P	Pn	13 26 37.4	+0.8
MASU	Masugnsbyn	7.65	359	P	Pn	13 26 37.4	+0.8
LANU	Lannavaara	8.24	359	eP	Pn	13 26 44.7	0.0
LANU	Lannavaara	8.24	359	P	Pn	13 26 44.7	0.0
LANU	Lannavaara	8.24	359	P	Pn	13 26 44.7	0.0
ARA0	ARCESS Array S	9.83	7	Pn	Pn	13 27 05.3	-1.1
	baz=190,slow=16						
ARA0	ARCESS Array S	9.83	7	Pn	Pn	13 27 05.3	-1.1
	baz=190,slow=16						
ARA0	ARCESS Array S	9.83	7	Pn	Pn	13 27 05.3	-1.1
	SNR=50						
ARCES	ARCESS Array B	9.83	7	Pn	Pn	13 27 05.2	-1.2
	comp=Z,0.3nm,0.3s,baz=185,slow=14,SNR=15						
ARCES				Sn	Sn	13 28 50.5	-6.8
	comp=Z,0.2nm,0.3s,baz=189,slow=22,SNR=3.4						

CSEM 09 13:27:19.5±0.7, 36°.23N×21°.32E, h2km, ML2.8, Error ellipse: s-maj=14.7km s-min=7.8km az=42.0
ATH 09 13:27:20.2, 36°.24N×21°.37E, h20km±2km, MD3.5/16

*THE **09** 13:27:21.8, 36.°29N×21.°43E, h4km±1km, ML2.8/5, Error ellipse: s-maj=1.5km s-min=0.9km az=53.0*
ISC 09 13:27:20.4±2.1**, 36.°24N**±0.°07×**21.°40E**±0.°06**, h2**km±12km**,**
n59, σ0.46/69**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.71**	**23**	P	**Pg**	**13 27 33.6**	**-0.5**
PYL				S	**Sg**	**13 27 43.6**	**+0.3**
PYL	**PYLOS**	**0.71**	**23**	*e*PB	**Pg**	**13 27 33.7**	**-0.4**
PYL	**PYLOS**	**0.71**	**23**	*e*Pb	**Pg**	**13 27 33.7**	**-0.4**
PYL				S	**Sg**	**13 27 43.6**	**+0.3**
ITM	**Ithomi**	**1.03**	**24**	P	**Pg**	**13 27 40.1**	**-0.1**
ITM	**Ithomi**	**1.03**	**24**	*e*PN	**Pg**	**13 27 39.6**	**-0.6**
ITM	**Ithomi**	**1.03**	**24**	*e*Pn	**Pg**	**13 27 39.6**	**-0.6**
ITM	**Ithomi**	**1.03**	**24**	P	**Pg**	**13 27 40.1**	**-0.1**
AMT	**Artemida-Makis**	**1.32**	**11**	P	**Pg**	**13 27 45.6**	**0.0**
AMT				S	**Sn**	**13 28 04.0**	**-0.1**
AMT	**Artemida-Makis**	**1.32**	**11**	*e*PN	**Pg**	**13 27 45.7**	**+0.1**
AMT	**Artemida-Makis**	**1.32**	**11**	P	**Pg**	**13 27 45.6**	**0.0**
AMT				S	**Sn**	**13 28 04.0**	**-0.1**
KYTH	**Kithira**	**1.32**	**88**	P	**Pg**	**13 27 45.2**	**-0.5**
KYTH	**Kithira**	**1.32**	**88**	*e*PN	**Pg**	**13 27 45.6**	**-0.1**
KYTH	**Kithira**	**1.32**	**88**	P	**Pg**	**13 27 45.2**	**-0.5**
KYTH	**Kithira**	**1.32**	**88**	*e*Pn	**Pg**	**13 27 45.6**	**-0.1**
VLI	**Veliai**	**1.33**	**68**	P	**Pb**	**13 27 46.2**	**+0.2**
VLI				S	**Sn**	**13 28 04.1**	**-0.2**
VLI	**Veliai**	**1.33**	**68**	*e*PN	**Pb**	**13 27 46.4**	**+0.4**
VLI	**Veliai**	**1.33**	**68**	P	**Pb**	**13 27 46.2**	**+0.2**
VLI				S	**Sn**	**13 28 04.1**	**-0.2**
VLX	**Vlachokerasia**	**1.38**	**34**	P	**Pn**	**13 27 46.2**	**-0.6**
VLX				S	**Sg**	**13 28 04.9**	**+0.2**
VLX	**Vlachokerasia**	**1.38**	**34**	*e*PN	**Pn**	**13 27 46.5**	**-0.3**
VLX	**Vlachokerasia**	**1.38**	**34**	P	**Pn**	**13 27 46.2**	**-0.6**
VLX	**Vlachokerasia**	**1.38**	**34**	*e*Pn	**Pn**	**13 27 46.5**	**-0.3**
VLX				S	**Sg**	**13 28 04.9**	**+0.2**
ZKS	**Zakynthos**	**1.54**	**342**	P	**Pn**	**13 27 48.2**	**-0.7**
ZKS				S	**Sn**	**13 28 09.3**	**-0.2**
ZKS	**Zakynthos**	**1.54**	**342**	P	**Pn**	**13 27 48.2**	**-0.7**
ZKS				S	**Sn**	**13 28 09.3**	**-0.2**
ANKY	**Antikythira Is**	**1.58**	**103**	P	**Pn**	**13 27 49.7**	**+0.2**
ANKY	**Antikythira Is**	**1.58**	**103**	*e*PN	**Pn**	**13 27 49.7**	**+0.2**
ANKY	**Antikythira Is**	**1.58**	**103**	P	**Pn**	**13 27 49.7**	**+0.2**
DRO	**Drossia**	**1.73**	**8**	P	**Pn**	**13 27 51.3**	**-0.3**
DRO	**Drossia**	**1.73**	**8**	*e*PN	**Pn**	**13 27 51.5**	**-0.1**
DRO	**Drossia**	**1.73**	**8**	P	**Pn**	**13 27 51.3**	**-0.3**
KRND	**KRANIDI**	**1.81**	**50**	P	**Pn**	**13 27 52.2**	**-0.4**
KRND	**KRANIDI**	**1.81**	**50**	P	**Pn**	**13 27 52.2**	**-0.4**
GUR	**Goura**	**1.86**	**24**	*e*PN	**Pn**	**13 27 54.0**	**+0.6**
GUR	**Goura**	**1.86**	**24**	*e*Pn	**Pn**	**13 27 54.0**	**+0.6**
DID	**Didima**	**1.94**	**49**	P	**Pn**	**13 27 54.2**	**-0.3**
DID	**Didima**	**1.94**	**49**	*e*PN	**Pn**	**13 27 54.4**	**-0.1**
DID	**Didima**	**1.94**	**49**	*e*Pn	**Pn**	**13 27 54.4**	**-0.1**
VLS	**Valsamata**	**2.04**	**342**	*e*PB	**Pn**	**13 27 55.2**	**-0.6**
VLS	**Valsamata**	**2.04**	**342**	*e*Pb	**Pn**	**13 27 55.2**	**-0.6**
LTK	**Loutraki**	**2.18**	**35**	*e*PB	**Pn**	**13 27 56.7**	**-1.0**
LTK	**Loutraki**	**2.18**	**35**	*e*Pb	**Pn**	**13 27 56.7**	**-1.0**
KALE	**Kalithea**	**2.23**	**15**	*e*PN	**Pn**	**13 27 59.0**	**+0.5**
KALE	**Kalithea**	**2.23**	**15**	*e*Pn	**Pn**	**13 27 59.0**	**+0.5**
DSF	**Desfina**	**2.35**	**22**	P	**Pn**	**13 27 59.7**	**-0.3**
DSF	**Desfina**	**2.35**	**22**	*e*PN	**Pn**	**13 27 59.8**	**-0.3**
DSF	**Desfina**	**2.35**	**22**	*e*Pn	**Pn**	**13 27 59.8**	**-0.3**
PDO	**Prodromos**	**2.37**	**356**	*e*PB	**Pn**	**13 28 00.4**	**+0.2**
PDO	**Prodromos**	**2.37**	**356**	*e*Pb	**Pn**	**13 28 00.4**	**+0.2**
VILL	**Villia**	**2.46**	**38**	*e*Pn	**Pn**	**13 28 01.4**	**-0.1**
VIL2	**Platees**	**2.47**	**37**	*e*PN	**Pn**	**13 28 01.4**	**-0.3**
AXAR	**Agios Charalam**	**2.72**	**21**	*e*PN	**Pn**	**13 28 05.6**	**+0.5**
AXAR	**Agios Charalam**	**2.72**	**21**	*e*Pn	**Pn**	**13 28 05.6**	**+0.5**
AGG	**Agios Georgios**	**2.88**	**15**	*e*PB	**Pn**	**13 28 08.3**	**+1.0**
AGG	**Agios Georgios**	**2.88**	**15**	*e*Pb	**Pn**	**13 28 08.3**	**+1.0**
DSL	**Palaion Diasel**	**2.90**	**355**	*e*PN	**Pn**	**13 28 08.2**	**+0.5**
DSL	**Palaion Diasel**	**2.90**	**355**	*e*Pn	**Pn**	**13 28 08.2**	**+0.5**
XOR	**Xorichti**	**3.43**	**24**	*e*PN	**Pn**	**13 28 14.8**	**-0.1**
XOR	**Xorichti**	**3.43**	**24**	*e*Pn	**Pn**	**13 28 14.8**	**-0.1**
NEST	**Nestorio**	**4.18**	**356**	*e*PN	**Pn**	**13 28 26.1**	**+0.8**
NEST	**Nestorio**	**4.18**	**356**	*e*Pn	**Pn**	**13 28 26.1**	**+0.8**

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*NNC **09** 13:31:12.8±0.3, 50.°02N×78.°70E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=6.1km s-min=1.8km az=77.0*
*ISCJB **09** 13:31:13.3±0.6, 50.°03N±0.°03×78.°63E±0.°08, h10km, Error ellipse: s-maj=7.7km s-min=3.6km az=164.3*
*IDC **09** 13:31:14.8±1.0, 50.°02N×78.°77E, h0km, mb1 3.2/3, mb1mx3.1/29, mbtmp3.2/3, ML3.0/3, Error ellipse: s-maj=22.4km s-min=8.0km az=44.0*
ISC 09 13:31:14.7±0.8**, 50.°04N**±0.°05×**78.°69E**±0.°07**, h10**km**, n22,**
σ1.04/29**, 18C-10D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.55**	**349**	⇑P	**Pg**	**13 31 24.3**	**-1.1**
KUR07				⇑S	**Sg**	**13 31 33.0**	**+0.3**
KUR06	**Kurchatov Arra**	**0.57**	**350**	⇑P	**Pg**	**13 31 24.5**	**-1.3**
KUR06				⇓S	**Sg**	**13 31 33.2**	**0.0**
KUR14	**Kurchatov Arra**	**0.58**	**354**	⇑S	**Sg**	**13 31 33.1**	**-0.3**
KUR15	**Kurchatov Arra**	**0.58**	**352**	⇑P	**Pg**	**13 31 24.7**	**-1.3**
KUR15				⇓S	**Sg**	**13 31 33.8**	**+0.1**
KURBB	**Kurchatov Arra**	**0.59**	**350**	⇓P	**Pg**	**13 31 24.8**	**-1.3**
	35nm,0.2s						
KURBB				⇑S	**Sg**	**13 31 33.5**	**-0.3**
	366nm,0.6s						
KUR16	**Kurchatov Arra**	**0.60**	**349**	⇑P	**Pg**	**13 31 25.0**	**-1.3**
KUR16				⇑S	**Sg**	**13 31 33.9**	**-0.2**
KUR17	**Kurchatov Arra**	**0.61**	**347**	⇑P	**Pg**	**13 31 25.1**	**-1.3**
KUR17				⇓S	**Sg**	**13 31 34.2**	**-0.2**
KUR05	**Kurchatov Arra**	**0.61**	**351**	⇑P	**Pg**	**13 31 25.0**	**-1.4**
KUR05				⇑S	**Sg**	**13 31 34.0**	**-0.4**
KUR04	**Kurchatov Arra**	**0.63**	**352**	⇑P	**Pg**	**13 31 25.6**	**-1.2**
KUR04				⇑S	**Sg**	**13 31 34.7**	**-0.3**
KURK	**Kurchatov**	**0.68**	**356**	⇑P	**Pg**	**13 31 26.3**	**-1.4**
	13nm,0.4s						
KURK				⇓S	**Sg**	**13 31 36.1**	**-0.5**
	59nm,0.5s						
MK31	**Makanchi Array**	**4.04**	**142**	⇑Pn	**Pn**	**13 32 17.2**	**+0.6**
	0.4nm,0.2s,baz=315,slow=22,SNR=4.4						
MK31				⇓Pg	**Pb**	**13 32 25.3**	**-0.6**
	3.1nm,0.5s,baz=322,slow=13,SNR=18						
MK31				Lg	Lg	13 33 18.5	
	19nm,0.6s,baz=336,slow=24,SNR=18						
MKAR	**Makanchi Array**	**4.04**	**142**	Pn	**Pn**	**13 32 17.1**	**+0.5**
	1.0nm,0.3s,baz=329,slow=11,SNR=29						
MKAR				Pg	**Pb**	**13 32 25.0**	**-0.9**
	2.3nm,0.3s,baz=314,slow=16,SNR=21						
MKAR				Sn	**Sn**	**13 33 04.9**	**+1.0**
	1.5nm,0.3s,baz=327,slow=16,SNR=3.7						
MKAR				Lg	Lg	13 33 19.5	
	3.2nm,0.3s,baz=332,slow=23,SNR=9.5						
ZALV	**Zalesovo Beam**	**5.44**	**42**	Pn	**Pn**	**13 32 37.8**	**+2.0**
	2.7nm,0.3s,baz=236,slow=14,SNR=24						
ZALV				Lg	Lg	13 34 06.8	
	0.7nm,0.3s,baz=231,slow=29,SNR=4.9						
I46RU	**ZALESOVO INFRA**	**5.45**	**42**	*i*		14 01 00.0	
	baz=223,slow=325,SNR=1.7						
BVA0	**Borovoye Array**	**5.98**	**303**	⇓Pn	**Pn**	**13 32 43.9**	**+0.7**
	1.5nm,0.7s,baz=121,slow=15,SNR=6.2						
BVA0				Sn	**Sn**	**13 33 52.4**	**+0.8**
	4.0nm,0.5s,baz=116,slow=22,SNR=9.7						
BVA0				⇓Lg	Lg	13 34 21.7	
	5.1nm,0.6s,baz=118,slow=30,SNR=3.6						
BVAR	**Borovoye Array**	**5.98**	**303**	Pn	**Pn**	**13 32 44.2**	**+1.1**
	0.4nm,0.3s,baz=115,slow=14,SNR=6.3						
BVAR				Sn	**Sn**	**13 33 53.3**	**+1.7**
	2.4nm,0.3s,baz=112,slow=22,SNR=14						
BVAR				Lg	Lg	13 34 24.1	
	2.2nm,0.3s,baz=119,slow=27,SNR=5.4						
PDGK	**Podgornoye**	**6.74**	**175**	⇓Lg	Lg	13 34 45.8	
	7.5nm,0.6s						
TKM2	**Tokmak 2**	**7.43**	**198**	⇑Lg	Lg	13 35 08.6	
	5.5nm,0.7s						
AAK	**Ala-Archa**	**7.96**	**203**	⇓Lg	Lg	13 35 25.8	
	4.6nm,0.5s						
MNAS	**Manas**	**8.68**	**212**	⇑Lg	Lg	13 35 48.5	
	2.1nm,0.6s						
KK31	**Karatay Array**	**8.93**	**222**	⇑Lg	Lg	13 35 57.9	
	2.9nm,0.6s,baz=40,slow=26,SNR=4.9						
I31KZ	**AKTYUBINSK INF**	**13.23**	**280**	*i*		14 55 10.0	
	baz=85,slow=313,SNR=0.6						

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*ISCJB **09** 13:38:19.2±1.2, 54.°6S±0.°2×0.°8W±0.°3, h10km, mb4.2/7, MS3.9/6, Error ellipse: s-maj=29.2km s-min=18.7km az=138.3*
*IDC **09** 13:38:20.1±1.4, 54.°77S×0.°95W, h0km, mb4.2/7, mb1 4.2/8, mb1mx4.0/27, mbtmp4.1/8, ML3.6/1, MS3.9/6, Ms1 3.8/6, ms1mx3.4/21, Error ellipse: s-maj=48.1km s-min=21.4km az=44.0*
*NEIC **09** 13:38:21.2±0.8, 54.°65S×0.°92W, h10km, mb4.9/2, Error ellipse: s-maj=24.2km s-min=13.2km az=51.0*
ISC 09 13:38:21.5±1.3**, 54.°8S**±0.°2×**1.°0W**±0.°2**, h10**km**, n24,**
σ0.57/12**, mb4.5**/7**, MS3.9**/6**, Bouvet Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.27**	**189**	P	**P**	**13 42 12.7**	**-0.1**
SNAA	**Sanae**	**16.99**	**182**	P	Pn	13 42 12.7	-6.3
SNAA	**Sanae**	**16.99**	**182**	Pn	**P**	**13 42 20.5**	**-0.5**
	0.2nm,0.3s,baz=357,slow=14,SNR=25						
SNAA				LR	LR	13 48 09.3	
	comp=Z,17nm,18.2s,baz=334,slow=35						
SUR	**Sutherland**	**27.18**	**44**	LR	LR	13 51 47.0	
	comp=Z,78nm,19.5s,baz=54,slow=30						
MAW	**Mawson**	**31.73**	**139**	P	**P**	**13 44 45.2**	**+0.1**
	0.8nm,0.4s,baz=257,slow=14,SNR=2.5						
MAW				LR	LR	13 54 51.3	
	comp=Z,168nm,22.0s,baz=242,slow=31						
QSPA	**South Pole Qui**	**35.48**	**180**	P	**P**	**13 45 18.4**	**+0.5**
	4.9nm,0.7s,baz=230,slow=4.8,SNR=14						
H10S2	**ASCENSION HYDR**	**46.96**	**341**	T	T	14 37 24.2	
	baz=169,slow=75,SNR=57						
H10S3	**ASCENSION HYDR**	**46.97**	**341**	T	T	14 37 24.9	
	baz=169,slow=75,SNR=51						
H10S1	**ASCENSION HYDR**	**46.98**	**341**	T	T	14 37 24.0	
	baz=169,slow=75,SNR=47						
VNDA	**Vanda**	**47.55**	**175**	P	**P**	**13 46 55.7**	**-0.7**
	2.3nm,0.9s,baz=214,slow=8.7,SNR=13						
VNDA				LR	LR	14 05 11.3	
	comp=Z,95nm,18.9s,baz=176,slow=34						
VNDA	**Vanda**	**47.55**	**175**	*e*P	**P**	**13 46 57.2**	**+0.8**
	7.1nm,1.0s						
CFAA	**Coronel Fontan**	**51.95**	**268**	P	**P**	**13 47 30.0**	**-0.5**
	0.2nm,0.4s,baz=152,slow=7.2,SNR=4.8						
RCBR	**Riachuelo**	**56.28**	**317**	LR	LR	14 06 15.7	
	comp=Z,109nm,18.6s,baz=153,slow=30						
LPAZ	**La Paz**	**63.67**	**279**	P	**P**	**13 48 54.4**	**+0.6**
	11nm,1.1s,baz=127,slow=6.1,SNR=17						
LPAZ	**La Paz**	**63.67**	**279**	*e*P	**P**	**13 48 53.9**	**+0.2**
	15nm,1.2s						
H08N3	**Diego Garcia H**	**74.48**	**79**	T	T	15 11 45.6	
	baz=217,slow=76,SNR=22						
H08N1	**Diego Carcia H**	**74.50**	**79**	T	T	15 11 48.9	
	baz=217,slow=76,SNR=17						
H08N2	**Diego Garcia H**	**74.50**	**79**	T	T	15 11 43.7	
	baz=217,slow=76,SNR=23						
H01W2	**Cape Leeuwin H**	**74.82**	**130**	T	T	15 12 56.4	
	baz=212,slow=75,SNR=9.7						
H01W1	**Cape Leeuwin H**	**74.84**	**130**	T	T	15 12 56.7	
	baz=212,slow=75,SNR=12						
H01W3	**Cape Leeuwin H**	**74.84**	**130**	T	T	15 12 56.5	
	baz=212,slow=75,SNR=9.9						
STKA	**Stephens Creek**	**87.90**	**149**	P	**P**	**13 51 11.4**	**+0.2**
	3.1nm,0.8s,baz=133,slow=14,SNR=3.1						
STKA				LR	LR	14 29 22.1	
	comp=Z,112nm,18.3s,baz=209,slow=35						
ASAR	**Alice Springs**	**92.86**	**139**	P	**P**	**13 51 33.9**	**-0.6**
	0.4nm,0.7s,baz=197,slow=4.7,SNR=6.3						
ASAR				LR	LR	14 27 44.5	
	comp=Z,80nm,18.3s,baz=318,slow=32						
YKA	**Yellowknife Ar**	**146.05**	**310**	PKPbc	**PKPbc**	**13 58 00.3**	**+0.2**
	2.4nm,1.1s,baz=104,slow=3.6,SNR=6.8						

DDA 09 13:56:02.9, 37.°45N×28.°10E, h7km**, MD2.5, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.27**	**321**	*i* P	Pg	13 56 08.6	+0.1
AYDN				*i* S	Sg	13 56 12.9	+0.7
BDRM	**Kayabasi**	**0.65**	**234**	*i* P	Pg	13 56 15.3	-0.1
BDRM				*i* S	Sb	13 56 25.3	-0.5
TURN	**Turunc**	**0.70**	**145**	*i* P	Pg	13 56 15.6	-0.9
TURN				*i* S	Sg	13 56 26.2	+0.6

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*ISCJB **09** 13:56:19.9±0.6, 39.°46N±0.°04×31.°42E±0.°03, h5km±4km, Error ellipse: s-maj=6.1km s-min=4.1km az=2.5*
*CSEM **09** 13:56:19.9±0.2, 39.°47N×31.°43E, h5km, MD2.9, Error ellipse: s-maj=6.8km s-min=4.7km az=15.0*
*ISK **09** 13:56:19.2, 39.°47N×31.°42E, h5km, MD2.9*
*DDA **09** 13:56:20.6, 39.°46N×31.°35E, h7km, MD2.8*
ISC 09 13:56:20.2±1.1**, 39.°46N**±0.°02×**31.°41E**±0.°02**, h2**km±10km**,**
n32, σ0.79/52**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRH	**Sivrihisar-ESK**	**0.09**	**97**	*e*PG	**Pg**	**13 56 21.6**	**-0.4**
SVRH				*e*SG	**Sg**	**13 56 23.3**	**+0.2**
SVRH	**Sivrihisar-ESK**	**0.09**	**97**	*e*Pg	**Pg**	**13 56 21.6**	**-0.4**
SVRH				*e*Sg	**Sg**	**13 56 23.3**	**+0.2**
ESKT	**Eskisehir**	**0.44**	**278**	*e*PG	**Pg**	**13 56 28.2**	**-0.5**
ESKT	**Eskisehir**	**0.44**	**278**	*e*Pg	**Pg**	**13 56 28.2**	**-0.5**
SEYT	**Eskypehyr**	**0.44**	**278**	*i* P	**Pg**	**13 56 27.9**	**-0.8**
SEYT				*i* S	**Sg**	**13 56 35.0**	**+0.7**
SEYT	**Eskypehyr**	**0.44**	**278**	*i* P	**Pg**	**13 56 27.9**	**-0.8**
SEYT				*i* S	**Sg**	**13 56 35.0**	**+0.7**
KIZT	**Kizilcal**	**0.68**	**148**	*e*PG	**Pg**	**13 56 32.9**	**-0.4**
KIZT	**Kizilcal**	**0.68**	**148**	*e*Pg	**Pg**	**13 56 32.9**	**-0.4**
BOLV	**Bolvadin**	**0.82**	**206**	*i* P	**Pg**	**13 56 35.7**	**-0.3**
BOLV				*i* S	**Sg**	**13 56 47.8**	**+1.2**
BOLV	**Bolvadin**	**0.82**	**206**	*i* P	**Pg**	**13 56 35.7**	**-0.3**
BOLV				*i* S	**Sg**	**13 56 47.8**	**+1.2**
BORA	**Eskisehir**	**0.85**	**300**	*i* P	**Pg**	**13 56 35.7**	**-0.8**
BORA				*i* S	**Sn**	**13 56 53.3**	**+0.9**
BORA	**Eskisehir**	**0.85**	**300**	*i* P	**Pg**	**13 56 35.7**	**-0.8**
KDHN	**Kadinhani**	**1.08**	**149**	*i* P	**Pn**	**13 56 42.3**	**-0.2**
KDHN				*i* S	**Sn**	**13 57 00.1**	**+2.0**
KDHN	**Kadinhani**	**1.08**	**149**	*i* P	**Pn**	**13 56 42.3**	**-0.2**
ALT	**Altintas**	**1.09**	**249**	*e*PN	**Pg**	**13 56 40.7**	**-0.4**
ALT				*e*SN	**Sb**	**13 56 56.4**	**-0.1**
ALT	**Altintas**	**1.09**	**249**	*e*Pn	**Pg**	**13 56 40.7**	**-0.3**
ALT				*e*Sn	**Sb**	**13 56 56.4**	**-0.1**
LOD	**Lodumlu**	**1.13**	**67**	*e*PN	**Pg**	**13 56 41.2**	**-0.6**
LOD				*e*SN	**Sb**	**13 56 57.0**	**-0.6**
LOD	**Lodumlu**	**1.13**	**67**	*e*Pn	**Pg**	**13 56 41.2**	**-0.6**
LOD				*e*Sn	**Sb**	**13 56 57.0**	**-0.6**
ANTO	**Ankara**	**1.14**	**69**	*e*PN	**Pg**	**13 56 41.7**	**-0.4**
ANTO	**Ankara**	**1.14**	**69**	*e*Pn	**Pg**	**13 56 41.7**	**-0.4**
CAVI	**Cavuskoy**	**1.42**	**302**	*e*PN	**Pn**	**13 56 46.2**	**-0.8**
CAVI				*e*SN	**Sg**	**13 57 06.0**	**+0.2**
CAVI	**Cavuskoy**	**1.42**	**302**	*e*Pn	**Pn**	**13 56 46.2**	**-0.8**
CAVI				*e*Sn	**Sg**	**13 57 06.0**	**+0.2**
BCAM	**Yenicaga**	**1.45**	**20**	*i* P	**Pg**	**13 56 48.2**	**+0.3**
BCAM				*i* S	**Sg**	**13 57 09.1**	**+2.4**
BCAM	**Yenicaga**	**1.45**	**20**	*i* P	**Pg**	**13 56 48.2**	**+0.3**
LADK	**Ladik-KONYA**	**1.46**	**149**	*e*PN	**Pn**	**13 56 47.0**	**-0.7**
LADK				*e*SN	**Sg**	**13 57 07.3**	**+0.2**
LADK	**Ladik-KONYA**	**1.46**	**149**	*e*Pn	**Pn**	**13 56 47.0**	**-0.7**
LADK				*e*Sn	**Sg**	**13 57 07.3**	**+0.2**
TVSB	**Tavsanli**	**1.51**	**270**	*e*PN	**Pn**	**13 56 47.7**	**-0.7**
TVSB	**Tavsanli**	**1.51**	**270**	*e*Pn	**Pn**	**13 56 47.7**	**-0.7**
GDZ	**Gediz**	**1.54**	**257**	*i* P	**Pg**	**13 56 50.0**	**+0.2**
GDZ				*i* S	**Sn**	**13 57 09.1**	**-0.5**
GDZ	**Gediz**	**1.54**	**257**	*i* P	**Pg**	**13 56 50.0**	**+0.2**
GDZ				*i* S	**Sn**	**13 57 09.1**	**-0.5**
ULDT	**Uludag**	**1.88**	**292**	*i* P	**Pb**	**13 56 55.4**	**0.0**
ULDT				*i* S	**Sg**	**13 57 23.0**	**+2.3**
ULDT	**Uludag**	**1.88**	**292**	*i* P	**Pb**	**13 56 55.4**	**0.0**

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*NEIC **09** 13:58:58.9±0.2, 20.°43S×68.°64W, mb4.4/29, Error ellipse: s-maj=6.8km s-min=4.9km az=68.0*
NEIC Felt [IV] at Pica; [III] at Alto Hospicio, Camina, Iquique and Pozo Almonte; [II] at Pisagua, Chile.
*GUC **09** 13:58:58.5±0.6, 20.°48S×69.°01W, h116km±4km, ML5.2*
*SJA **09** 13:58:58.7±0.9, 20.°52S×68.°88W, h128km±34km, ML5.4*
*IDC **09** 13:58:59.2±0.3, 20.°45S×68.°73W, h115km±3km, mb4.1/15, mb1 4.3/19, mb1mx4.2/22, mbtmp4.6/19, MS3.4/3, Ms1 3.4/3, ms1mx2.8/22, Error ellipse: s-maj=13.3km s-min=6.6km az=92.0*
ISC 09 13:58:59.0±0.3**, 20.°41S**±0.°04×**68.°83W**±0.°05**, h115**km±2km**,**
h114km**:pP-P, n239, σ1.34**/134**, mb4.3**/35**, 81C-61D,**
Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.88**	**224**	⇑*e*P	**Pn**	**13 59 18.1**	**-1.3**
PB01				*e*S	**Sn**	**13 59 32.7**	**-2.3**
PB01				AML	AML	13 59 33.5	
	comp=N,51µm,0.2s						
PB11	**IPOC Station P**	**1.01**	**310**	⇑*e*P	**Pn**	**13 59 20.3**	**-0.6**
PB11				*e*S	**Sn**	**13 59 36.5**	**-0.9**
PATCX	**Punta Patache**	**1.31**	**252**	⇑*e*P	**Pn**	**13 59 22.5**	**-1.4**
PATCX				*e*S	**Sn**	**13 59 40.4**	**-2.5**
PB09	**IPOC Station P**	**1.43**	**196**	⇑*e*P	**Pn**	**13 59 24.7**	**-0.7**
PB09				*e*S	**Sn**	**13 59 44.7**	**-0.9**
PB09				AML	AML	13 59 46.7	
	comp=N,52µm,0.5s						
PSGC	**Pisagua**	**1.46**	**303**	⇑*e*P	**Pn**	**13 59 24.8**	**-0.9**
PSGC				*e*S	**Sn**	**13 59 44.6**	**-1.4**
PSGC				AML	AML	13 59 46.9	
	comp=N,20µm,1.0s						
MNMC	**Minimini**	**1.46**	**330**	⇑*e*P	**Pn**	**13 59 26.4**	**+0.4**
MNMC				*e*S	**Sn**	**13 59 47.1**	**+0.7**
MNMC				AML	AML	13 59 49.0	
	comp=N,122µm,0.6s						
PB07	**IPOC Station P**	**1.64**	**217**	⇑*e*P	**Pn**	**13 59 26.4**	**-1.5**
PB07				*e*S	**Sn**	**13 59 47.0**	**-3.0**
PB07				AML	AML	13 59 49.5	
	comp=E,16µm,0.7s						
PB04	**IPOC Station P**	**1.94**	**198**	*e*P	Pn	13 59 34.5	+3.0
PB04				*e*S	**Sn**	**13 59 59.8**	**+3.5**
PB04				AML	AML	14 00 08.2	
	comp=E,7µm,0.4s						
LVC	**Limon Verde**	**2.19**	**182**	P	**Pn**	**13 59 34.7**	**-0.2**
	comp=E,4µm,0.3s,baz=17,slow=9.9,SNR=226						
LVC				S	**Sn**	**14 00 01.8**	**-0.6**
	comp=E,27µm,0.3s,baz=75,slow=19,SNR=32						
LVC	**Limon Verde**	**2.19**	**182**	*e*P	**Pn**	**13 59 34.7**	**-0.2**
LVC				*e*S	**Sn**	**14 00 01.9**	**-0.4**
LVC				AML	AML	14 00 06.9	
	comp=Z,21µm,0.3s						
PB06	**IPOC Station P**	**2.39**	**197**	*e*P	**Pn**	**13 59 36.2**	**-1.0**
PB06				*e*S	**Sn**	**14 00 03.3**	**-3.4**
PB10	**IPOC Station P**	**3.48**	**207**	*e*P	**Pn**	**13 59 48.7**	**-2.7**
YJA	**Yavi**	**3.55**	**120**	*e*P	**Pn**	**13 59 54.8**	**+2.0**
LPAZ	**La Paz**	**4.15**	**9**	P	**Pn**	**14 00 03.2**	**+2.1**
	comp=Z,20nm,0.3s,baz=169,slow=5.5,SNR=277						
LPAZ	**La Paz**	**4.15**	**9**	*e*P	**Pn**	**14 00 03.6**	**+2.5**
LPAZ	**La Paz**	**4.15**	**9**	*e*P	**Pn**	**14 00 03.9**	**+2.8**
HJA	**Humahuaca**	**4.22**	**132**	*e*P	**Pn**	**14 00 03.7**	**+2.0**
AZAP	**Zapla**	**5.15**	**138**	*e*P	**Pn**	**14 00 14.3**	**+0.2**
SLA	**San Lorenzo**	**5.28**	**145**	*e*P	**Pn**	**14 00 16.9**	**+1.2**
ASTB	**Santa Barbara**	**5.35**	**132**	*e*P	**Pn**	**14 00 17.0**	**+0.3**
ALOL	**LOMAS DE OLMED**	**5.63**	**128**	*e*P	**Pn**	**14 00 20.2**	**-0.2**
FSA	**Cafayete**	**6.22**	**156**	*e*P	**Pn**	**14 00 29.5**	**+1.0**
SIV	**San Ignacio**	**8.58**	**60**	P	**Pn**	**14 00 58.5**	**-1.8**
	comp=Z,15nm,0.3s,baz=256,slow=12,SNR=174						
SIV				S	**Sn**	**14 02 30.9**	**-4.6**
	baz=332,slow=21,SNR=6.6						
TLL	**Tololo Astrono**	**9.88**	**190**	*e*P	Pn	14 01 12.4	-5.7
CFAA	**Coronel Fontan**	**11.16**	**177**	P	Pn	14 01 29.6	-5.6
	comp=Z,0.4nm,0.3s,baz=357,slow=11,SNR=24						
CFAA				S	Sn	14 03 27.1	-11
	comp=Z,0.5nm,0.3s,baz=337,slow=5.5,SNR=8.4						
NNA	**Nana**	**11.37**	**316**	P	**Pn**	**14 01 38.0**	**-0.1**
	comp=Z,2.3nm,0.3s,baz=214,slow=7.3,SNR=3.2						
NNA				S	**Sn**	**14 03 43.5**	**+0.1**
	comp=Z,1.8nm,0.3s,baz=315,slow=20,SNR=2.7						
CPUP	**Villa Florida**	**12.09**	**121**	*e*Pn	**Pn**	**14 01 45.1**	**-2.3**
	comp=Z,0.9nm,0.8s						
SAML	**Samuel**	**12.63**	**26**	*e*Pn	**Pn**	**14 01 52.6**	**-2.1**
	comp=Z,4.4nm,0.6s						
ATAH	**Atahualpa**	**16.13**	**324**	LR	LR	14 08 33.1	
	comp=Z,41nm,19.6s,baz=170,slow=35						
TRQA	**Tornquist**	**18.56**	**163**	*e*P	**P**	**14 03 06.0**	**-0.9**
	comp=Z,10nm,0.6s						
PLCA	**Paso Flores**	**20.31**	**184**	P	**P**	**14 03 25.7**	**-0.2**
	comp=Z,27nm,0.8s,baz=15,slow=14,SNR=45						
PLCA	**Paso Flores**	**20.31**	**184**	*e*P	**P**	**14 03 25.6**	**-0.3**
	comp=Z,42nm,0.9s						
BDFB	**Brasilia**	**20.35**	**80**	P	**P**	**14 03 25.2**	**-1.4**
	comp=Z,22nm,0.4s,baz=252,slow=10,SNR=23						
BDFB				LR	LR	14 12 31.8	
	comp=Z,155nm,19.6s,baz=222,slow=40						
PCRV	**Puerto La Cruz**	**30.67**	**8**	P	**P**	**14 05 04.2**	**+1.3**
	comp=Z,6.7nm,0.4s,baz=331,slow=13,SNR=2.9						
USHA	**Ushuaia**	**34.37**	**180**	P	**P**	**14 05 34.3**	**-0.3**
	comp=Z,10nm,0.9s,baz=346,slow=12,SNR=2.6						
RCBR	**Riachuelo**	**35.09**	**70**	P	**P**	**14 05 40.9**	**-0.6**
	comp=Z,18nm,0.8s,baz=241,slow=10,SNR=7.9						
ICMP	**Isla Caja de M**	**38.13**	**4**	*e*P	**P**	**14 06 07.2**	**+0.2**
CELP	**Cerrillos**	**38.31**	**3**	*e*P	**P**	**14 06 07.4**	**-1.2**
SJG	**San Juan**	**38.37**	**4**	*e*P	**P**	**14 06 07.1**	**-2.0**
	comp=Z,15nm,0.4s						
933A	**Laredo**	**56.10**	**327**	⇓P	pP	14 08 53.8	-0.2
	baz=56						
834A	**Tilden**	**56.16**	**328**	⇑P	pP	14 08 55.0	+0.6
	baz=56						
636A	**Smothers Creek**	**56.58**	**330**	⇓P	pP	14 08 57.8	+0.5
	baz=57						
833A	**Chaparral WMA,**	**56.74**	**328**	⇑P	pP	14 08 58.5	0.0
	baz=57						
734A	**La Parita Cree**	**56.76**	**329**	⇑P	pP	14 08 58.9	+0.3
	baz=57						
832A	**Faith Ranch, C**	**57.01**	**327**	⇑P	pP	14 09 00.6	+0.1
	baz=57						
733A	**Divot King Ran**	**57.02**	**328**	⇑P	pP	14 09 00.6	+0.1
	baz=57						
732A	**Laxson Ranch,**	**57.37**	**327**	⇓P	pP	14 09 03.2	+0.2
	baz=58						
633A	**Saathoff Ranch**	**57.57**	**329**	⇓P	pP	14 09 05.0	+0.6
	baz=58						
239A	**Gary**	**57.63**	**334**	⇑P	pP	14 09 05.7	+0.9
	baz=58						
534A	**Blanco**	**57.70**	**330**	⇑P	pP	14 09 05.6	+0.2
	baz=58						
533A	**Kerrville**	**58.01**	**329**	⇓P	pP	14 09 07.6	0.0
	baz=58						
336A	**Riesel**	**58.10**	**332**	⇑P	pP	14 09 08.7	+0.6
	baz=58						
631A	**Perdido Creek**	**58.23**	**327**	⇑P	pP	14 09 09.0	-0.1
	baz=59						
532A	**Rocksprings**	**58.48**	**328**	⇑P	pP	14 09 12.3	+1.4
	baz=59						
433A	**Art**	**58.60**	**329**	⇑P	pP	14 09 11.8	+0.1
	baz=59						
334A	**Lometa**	**58.68**	**331**	⇑P	pP	14 09 12.8	+0.6
	baz=59						
JCT	**Junction City**	**58.72**	**329**	⇑P	pP	14 09 12.7	+0.2
	baz=59						
531A	**Rocksprings**	**58.82**	**328**	⇑P	pP	14 09 13.1	-0.2
	baz=59,SNR=5.6						
WHTX	**Lake Whitney,**	**58.88**	**332**	⇑P	pP	14 09 14.1	+0.5
	baz=59						
333A	**Richland Sprin**	**59.02**	**330**	⇓P	pP	14 09 14.2	-0.4
	baz=59						
432A	**Menard**	**59.04**	**329**	⇑P	pP	14 09 14.8	0.0
	baz=59						
234A	**Clairette**	**59.20**	**331**	⇓P	pP	14 09 16.1	+0.3
	baz=60						
530A	**J-C Ranch, Com**	**59.21**	**327**	⇓P	pP	14 09 15.8	-0.3
	baz=60						
431A	**Sonora**	**59.28**	**328**	⇑P	pP	14 09 16.4	-0.1
	baz=60						
135A	**Vickery Place,**	**59.34**	**332**	⇓P	pP	14 09 17.1	+0.3
	baz=60						
332A	**Millersview**	**59.43**	**329**	⇑P	pP	14 09 17.6	+0.1
	baz=60						
529A	**Stev Forest Ra**	**59.64**	**326**	⇓P	pP	14 09 19.0	0.0
	baz=60,SNR=7.9						
430A	**Baggett Ranch,**	**59.67**	**328**	⇑P	pP	14 09 19.0	-0.3
	baz=60,SNR=5.9						
331A	**San Angelo**	**59.70**	**329**	⇑P	pP	14 09 19.2	-0.2
	baz=60						
TXAR	**Lajitas Array**	**59.79**	**325**	P	**P**	**14 08 52.6**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=134,slow=7.8,SNR=3.7						
TXAR				pP	**pP**	**14 09 19.7**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=138,slow=9.5,SNR=8.8						
232A	**Coleman**	**59.80**	**330**	⇓P	pP	14 09 20.6	+0.5
	baz=60						
429A	**Davenport Ranc**	**59.88**	**327**	⇑P	pP	14 09 20.8	+0.1
	baz=60						
Z35A	**Perchaven, San**	**59.93**	**333**	⇓P	pP	14 09 21.4	+0.5
	baz=60						
330A	**Mertzon**	**60.15**	**328**	⇓P	pP	14 09 22.4	-0.1
	baz=60						
X37A	**Clayton**	**60.24**	**335**	⇑P	pP	14 09 24.1	+1.1
	baz=61						
W38A	**Poteau**	**60.33**	**336**	⇑P	pP	14 09 24.7	+1.1
	baz=61						
ABTX	**Abilene, Hawle**	**60.41**	**330**	⇓P	pP	14 09 24.2	-0.1
	baz=61						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ABTX	Abilene, Hawle	60.41	330	*e*pP	pP	14 09 23.4	-0.9
	comp=Z,17nm,1.2s						
329A	Wagon Wheel Ra	60.62	328	⇑P	pP	14 09 25.6	-0.2
	baz=61						
Y34A	Reagan Ranch,	60.69	333	⇑P	pP	14 09 26.8	+0.7
	baz=61						
W37A	Quinton	60.74	335	⇑P	pP	14 09 27.1	+0.6
	baz=61						
229A	Bryant Ranch,	60.92	328	⇓P	pP	14 09 27.4	-0.4
	baz=61						
130A	Snyder	61.02	329	⇑P	pP	14 09 28.3	-0.1
	baz=61						
W36A	Wetumka	61.06	334	⇓P	pP	14 09 29.6	+1.0
	baz=61						
Z31A	Sharp Cattle R	61.22	330	⇑P	pP	14 09 30.0	+0.1
	baz=62						
228A	UT Block 9, Go	61.43	328	⇑P	pP	14 09 31.0	-0.4
	baz=62						
129A	Stewart Farms,	61.48	328	⇓P	pP	14 09 31.9	+0.2
	baz=62						
Z30A	Sanderson Ranc	61.66	329	⇓P	pP	14 09 32.9	0.0
	baz=62						
128A	Castleberry Fa	61.78	328	⇓P	pP	14 09 33.1	-0.6
	baz=62						
Y31A	Rekieta Farm,	61.81	331	⇑P	pP	14 09 34.1	+0.3
	baz=62						
Z29A	Hungry Hill Ra	61.91	329	⇓P	pP	14 09 34.2	-0.4
	baz=62						
W33A	Caddo, Fort Co	62.01	333	⇓P	pP	14 09 35.8	+0.7
	baz=62						
T37A	Cheneyville 18	62.29	337	⇑P	pP	14 09 36.9	0.0
	baz=63						
W32A	Sentinel	62.32	332	⇓P	pP	14 09 37.5	+0.2
	baz=63						
T36A	Boggs Farm, Ca	62.60	336	⇑P	pP	14 09 39.5	+0.5
	baz=63						
SFIN	Lafayette	62.83	344	⇑P	pP	14 09 39.5	-0.9
	baz=63						
TRY	Troy	62.98	356	*e*P	**P**	**14 09 13.6**	**+0.3**
	comp=Z,8.1nm,0.8s						
MSTX	Muleshoe	63.01	329	⇓P	pP	14 09 41.7	-0.2
	baz=63						
MSTX	Muleshoe	63.01	329	*e*P	**P**	**14 09 14.7**	**+0.8**
	comp=Z,13nm,0.9s						
MSTX				*e*pP	**pP**	**14 09 40.9**	**-1.1**
S36A	Lake Cedric, C	63.07	336	⇓P	pP	14 09 41.9	-0.3
	baz=63						
T34A	McClaskey Farm	63.08	335	⇑P	pP	14 09 40.9	-1.4
	baz=63						
AMTX	Amarillo	63.23	330	⇓P	pP	14 09 43.1	-0.3
	baz=64						
SNAA	Sanae	63.28	161	P	P	14 09 07.7	-7.4
SNAA	Sanae	63.28	161	P	**P**	**14 09 15.8**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=283,slow=7.2,SNR=13						
SNAA				pP	**pP**	**14 09 44.7**	**+1.5**
	comp=Z,1.9nm,0.7s,baz=302,slow=5.8,SNR=7.1						
R37A	Teagarden Farm	63.31	337	⇓P	pP	14 09 43.8	+0.1
	baz=64						
W29A	Amarillo	63.41	330	⇓P	pP	14 09 44.4	-0.2
	baz=64						
R36A	Gordon, Harris	63.57	337	⇑P	pP	14 09 46.7	+1.3
	baz=64						
R34A	Isabella, Hill	64.21	335	⇑P	pP	14 09 51.0	+1.2
	baz=65						
121A	Cookes Peak, D	64.50	324	⇓P	pP	14 09 52.0	0.0
	baz=65						
121A	Cookes Peak, D	64.50	324	*e*pP	pP	14 09 52.1	+0.2
	comp=Z,4.2nm,0.7s						
ANMO	Albuquerque	65.64	327	P	**P**	**14 09 31.5**	**+0.4**
	comp=Z,2.2nm,0.8s						
ANMO				*e*pP	**pP**	**14 09 59.5**	**+0.1**
T26A	Comanche Natio	65.99	330	⇓P	pP	14 10 02.2	+0.6
	baz=66						
S26A	Kim	66.30	330	P	pP	14 10 03.5	0.0
	baz=67						
R26A	Arlington	66.84	331	⇑P	pP	14 10 08.8	+1.8
	baz=67						
214A	Organ Pipe Nat	66.98	320	⇑P	pP	14 10 08.6	+0.7
	baz=67						
BGNE	Belgrade	67.25	336	⇑P	pP	14 10 11.1	+1.7
	baz=68						
SDCO	Great Sand Dun	67.36	329	⇑P	pP	14 10 11.4	+0.9
	baz=68						
SDCO	Great Sand Dun	67.36	329	*e*P	**P**	**14 09 43.0**	**+0.9**
	comp=Z,3.9nm,1.3s						
SDCO				*e*pP	**pP**	**14 10 10.2**	**-0.3**
W18A	Petrified Fore	67.51	324	⇓P	pP	14 10 12.3	+0.9
	baz=68						
P26A	Davis Ranch, A	67.82	332	⇓P	pP	14 10 14.6	+1.3
	baz=68						
R23A	Moffat	67.86	329	⇑P	pP	14 10 14.7	+1.0
	baz=68						
O27A	Beecher Island	67.96	333	⇑P	pP	14 10 15.8	+1.7
	baz=68						
N28A	Pribbeno Ranch	67.98	334	⇑P	pP	14 10 16.1	+2.0
	baz=68						
S22A	4UR Ranch, Cre	68.00	328	⇓P	pP	14 10 15.2	+0.6
	baz=68						
LIC	Lamto	68.01	74	*e*P	**P**	**14 09 45.5**	**-0.9**
	comp=Z,120nm,1.9s						
Q24A	Divide	68.16	330	⇑P	pP	14 10 16.4	+0.8
	baz=68						
L31A	Butterfield Fa	68.17	336	⇑P	pP	14 10 17.2	+1.9
	baz=68						
TIC	Toumodi	68.20	74	*e*P	**P**	**14 09 46.6**	**-1.0**
KIC	Kosan Boka	68.33	74	*e*P	**P**	**14 09 47.7**	**-0.7**
	comp=Z,91nm,0.7s						
DBIC	Dimbokro	68.36	74	P	**P**	**14 09 48.0**	**-0.5**
	comp=Z,34nm,0.6s,baz=223,slow=6.2,SNR=36						
DBIC				LR	LR	14 39 11.2	
	comp=Z,40nm,18.1s,baz=128,slow=35						
WUAZ	Wupatki	68.70	324	⇓P	pP	14 10 20.3	+1.4
	baz=69,SNR=10.0						
WUAZ	Wupatki	68.70	324	*e*P	**P**	**14 09 52.3**	**+1.8**
	comp=Z,14nm,0.9s						
WUAZ				*e*pP	**pP**	**14 10 19.8**	**+0.9**
SPMN	Marine on St.	68.88	342	⇑P	pP	14 10 20.8	+1.2
	baz=69						
ISCO	Idaho Springs	69.04	330	⇓P	pP	14 10 21.6	+0.5
	baz=69						
ISCO	Idaho Springs	69.04	330	*e*pP	pP	14 10 21.9	+0.7
Y12C	Blythe	69.26	320	⇓P	pP	14 10 23.4	+1.1
	baz=70						
PDMCI	Parker Dam,Lak	69.42	321	⇑P	pP	14 10 24.3	+1.1
	baz=70						
IBP	Imperial Bould	69.47	319	⇓P	pP	14 10 24.2	+0.5
	baz=70						
BC3	Big Chuckawall	69.75	320	⇑P	pP	14 10 26.0	+0.5
	baz=70,SNR=6.9						
O22A	Kremmling	69.77	330	⇑P	pP	14 10 26.3	+0.6
	baz=70						
QSPA	South Pole Qui	69.78	180	*e*P	**P**	**14 09 57.4**	**+0.7**
	comp=Z,6.7nm,1.0s						
QSPA				*e*PcP	**PcP**	**14 10 21.2**	**+2.6**
QSPA				*e*pP	**pP**	**14 10 25.9**	**+0.7**
QSPA				*e*sP	**sP**	**14 10 39.4**	**+1.8**
MONP	Monument Peak,	69.83	319	⇑P	pP	14 10 26.9	+0.8
	baz=70						
IRM	Iron Mountain	69.92	320	⇓P	pP	14 10 27.5	+1.1
	baz=70,SNR=9.5						
N22A	Wattenberg Ran	70.23	330	⇑P	pP	14 10 29.5	+1.0
	baz=71						
BELC	Belle Mtn. Jos	70.32	320	⇓P	pP	14 10 29.7	+0.7
	baz=71						
PFO	Pinyon Flats O	70.33	319	⇓P	pP	14 10 30.5	+1.4
	baz=71						
PFO	Pinyon Flats O	70.33	319	*e*pP	pP	14 10 30.2	+1.1
	comp=Z,6.5nm,0.9s						
GMRC	Granite Mounta	70.65	320	⇓P	pP	14 10 32.1	+1.0
	baz=71,SNR=9.0						
HEC	Hector,Ludlow	71.09	320	⇓P	pP	14 10 34.9	+1.3
	baz=71						
N20A	Spence Gulch,	71.10	329	⇓P	pP	14 10 34.9	+1.1
	baz=72						
CCUT	Cedar City	71.28	324	*e*P	**P**	**14 10 08.7**	**+2.5**
	comp=Z,4.0nm,1.0s						
CCUT				*e*pP	**pP**	**14 10 35.9**	**+1.0**
MVU	Marysvale	71.34	325	*e*P	**P**	**14 10 08.8**	**+2.1**
	comp=Z,1.6nm,0.7s						
MVU				*e*pP	**pP**	**14 10 36.0**	**+0.7**
K23A	Bowen Ranch, D	71.42	332	⇓P	pP	14 10 37.8	+2.2
	baz=72						
G28A	Parade	71.43	337	⇑P	pP	14 10 37.3	+1.9
	baz=72						
BFSC	Mount Baldy Ra	71.50	319	⇑P	pP	14 10 37.6	+1.4
	baz=72						
SHPR	Sheep Range	71.55	322	P	**P**	**14 10 09.7**	**+1.9**
	comp=Z,7.0nm,0.9s						
SHPR				*e*pP	**pP**	**14 10 36.9**	**+0.4**
I25A	Rochford	71.65	334	⇓P	pP	14 10 38.3	+1.4
	baz=72						
GSC	Goldstone, Bar	71.69	320	⇑P	pP	14 10 38.5	+1.2
	baz=72						
GSC	Goldstone, Bar	71.69	320	*e*P	**P**	**14 10 10.4**	**+1.8**
	comp=Z,7.9nm,1.2s						
GSC				*e*pP	**pP**	**14 10 38.3**	**+1.0**
H26A	Fairpoint	71.76	335	⇑P	pP	14 10 39.5	+2.1
	baz=72						
EDW2	Edwards Air Fo	72.13	319	⇓P	pP	14 10 40.5	+0.6
	baz=72						
J22A	Midwest	72.32	332	⇓P	pP	14 10 41.7	+0.7
	baz=73						
LRMC	Laurel Mtn Rad	72.34	320	⇓P	pP	14 10 42.6	+1.3
	baz=73						
TPNV	Topopah Spring	72.49	322	⇑P	pP	14 10 43.5	+1.4
	baz=73,SNR=7.3						
FURC	Furnace Creek,	72.52	321	⇓P	pP	14 10 43.6	+1.5
	baz=73,SNR=6.4						
H24A	Dirks Ranch, A	72.58	334	⇓P	pP	14 10 42.7	+0.2
	baz=73						
MPMC	Manual Prospec	72.61	320	⇑P	pP	14 10 43.5	+0.5
	baz=73,SNR=5.4						
J21A	Lysite	72.69	332	⇓P	pP	14 10 43.4	+0.1
	baz=73						
I22A	9 Mile Ranch,	72.70	332	⇓P	pP	14 10 42.7	-0.5
	baz=73						
F26A	Lodgepole	72.75	336	⇑P	pP	14 10 43.3	-0.1
	baz=73						
C30A	Mose, Pekin	72.85	340	⇑P	pP	14 10 46.0	+2.1
	baz=73						
DUG	Dugway, Tooele	72.90	326	⇑P	pP	14 10 46.2	+1.7
	baz=73						
DUG	Dugway, Tooele	72.90	326	*e*pP	pP	14 10 45.4	+0.9
	comp=Z,2.3nm,0.4s						
ISA	Isabella, Lake	72.94	320	⇓P	pP	14 10 46.3	+1.5
	baz=73						
J20A	Shoshoni	72.98	331	⇑P	pP	14 10 47.1	+2.2
	baz=73						
I21A	Big Trails, Te	72.99	332	⇓P	pP	14 10 45.7	+0.6
	baz=73						
R11A	Troy Canyon, C	73.08	323	⇓P	pP	14 10 47.1	+1.4
	baz=73						
R11A	Troy Canyon, C	73.08	323	*e*P	**P**	**14 10 18.7**	**+1.8**
	comp=Z,7.0nm,1.4s						
R11A				*e*pP	**pP**	**14 10 46.3**	**+0.6**
GRAC	Grapevine Rang	73.18	321	⇑P	pP	14 10 47.6	+1.5
	baz=74						
PDAR	Pinedale Array	73.21	330	P	**P**	**14 10 18.8**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=193,slow=3.7,SNR=3.3						
PDAR				pP	**pP**	**14 10 46.7**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=100,slow=5.0,SNR=3.3						
CWC	Cottonwood Cre	73.22	320	⇓P	pP	14 10 47.8	+1.2
	baz=74						
PKM	Mcpherson Peak	73.27	318	⇓P	pP	14 10 47.6	+0.7
	baz=74						
G23A	Biddle	73.30	334	⇑P	pP	14 10 47.5	+0.8
	baz=74						
F24A	Ekalaka	73.44	335	⇑P	pP	14 10 48.0	+0.4
	baz=74						
BGU	Big Grassy Mou	73.54	327	*e*P	**P**	**14 10 20.5**	**+1.0**
	comp=Z,3.9nm,1.0s						
BGU				*e*pP	**pP**	**14 10 48.6**	**+0.3**
F23A	Volborg	73.72	334	⇓P	pP	14 10 49.1	-0.1
	baz=74						
B29A	Wagenman Farm,	73.80	339	⇑P	pP	14 10 50.2	+0.7
	baz=74						
HVU	Hansel Valley	74.04	327	*e*P	**P**	**14 10 23.4**	**+1.0**
	comp=Z,4.0nm,1.0s						
HVU				*e*pP	**pP**	**14 10 51.4**	**+0.1**
A29A	Manning Farm,	74.16	340	⇓P	pP	14 10 51.8	+0.2
	baz=74						
ELK	Elko	74.58	325	*e*pP	pP	14 10 55.4	+0.8
	comp=Z,1.4nm,0.8s						
NVAR	Mina Array Bea	74.69	322	P	**P**	**14 10 27.0**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=160,slow=7.4,SNR=4.6						
NVAR				pP	**pP**	**14 10 56.3**	**+1.0**
	comp=Z,4.3nm,0.8s,baz=154,slow=6.6,SNR=17						
IMW	Indian Meadow	74.72	330	P	**P**	**14 10 27.9**	**+1.4**
	comp=Z,4.7nm,1.0s						
IMW				*e*pP	**pP**	**14 10 55.1**	**-0.3**
RLMT	Red Lodge	74.90	332	*e*pP	pP	14 10 55.7	-0.6
	comp=Z,8.6nm,1.1s						
SCHQ	Schefferville	74.95	1	P	**P**	**14 10 26.8**	**-0.4**
	comp=Z,4.7nm,0.8s,baz=133,slow=3.3,SNR=6.6						
SCHQ				pP	**pP**	**14 10 57.1**	**+1.0**
	comp=Z,5.8nm,0.9s,baz=219,slow=8.7,SNR=4.5						
D22A	Cohagen	75.19	335	⇑P	pP	14 10 59.2	+1.5
	baz=76						
C23A	Lambert	75.33	336	⇑P	pP	14 11 00.5	+1.9
	baz=76						
D21A	La Casta Ranch	75.46	334	⇓P	pP	14 11 00.7	+1.4
	baz=76						
GCMT	Greycliff	75.59	332	*e*P	**P**	**14 10 32.3**	**+1.1**
	comp=Z,5.2nm,1.0s						
GCMT				*e*pP	**pP**	**14 11 00.8**	**+0.6**
GCMT				sP	**sP**	**14 11 12.8**	**+0.3**
PPT	Papeete	75.65	256	P	**P**	**14 10 32.3**	**+0.2**
	comp=Z,14nm,0.7s,baz=117,slow=2.3,SNR=2.6						
HLID	Hailey	76.17	328	⇓P	pP	14 11 04.9	+1.3
	baz=76						
HLID	Hailey	76.17	328	*e*P	**P**	**14 10 36.5**	**+1.9**
	comp=Z,2.8nm,0.9s						
HLID				*e*pP	**pP**	**14 11 04.4**	**+0.8**
MCMT	McKenzie Canyo	76.33	329	*e*pP	pP	14 11 04.3	-0.2
	comp=Z,1.7nm,0.9s						
BOZ	Bozeman (W)	76.37	331	*e*pP	pP	14 11 04.4	-0.3
	comp=Z,5.1nm,1.1s						
C20A	Veseth Ranch,	76.39	334	⇑P	pP	14 11 05.0	+0.3
	baz=77						
MFID	Camas Ranch	76.78	327	*e*pP	pP	14 11 07.9	+0.9
	comp=Z,6.7nm,1.0s						
TOA0	Torodi Ar. Sit	76.92	71	*e*P	**P**	**14 10 37.6**	**-1.6**
TOA0	Torodi Ar. Sit	76.92	71	*e*P	**P**	**14 10 38.1**	**-1.1**
TOA0				*e*pP	**pP**	**14 11 08.1**	**-0.1**
TORD	Torodi Ar. Bea	76.92	71	P	**P**	**14 10 38.4**	**-0.8**
	comp=Z,8.1nm,0.3s,baz=253,slow=5.2,SNR=160						
TORD				pP	**pP**	**14 11 08.3**	**+0.1**
	comp=Z,3.9nm,0.7s,baz=254,slow=5.2,SNR=2.5						
TORD				sP	**sP**	**14 11 20.2**	**-0.3**
	comp=Z,6.0nm,0.7s,baz=250,slow=5.3,SNR=2.9						
A20A	Cobblestone Ra	77.28	335	⇑P	pP	14 11 09.6	-0.1
	baz=78						
SYO	Syowa Base	77.49	160	⇓*e*pP	pP	14 11 10.8	+0.3
VNDA	Vanda	77.93	190	P	**P**	**14 10 45.5**	**+1.7**
	comp=Z,1.3nm,0.8s,baz=119,slow=3.4,SNR=6.9						
MSO	Missoula	78.32	330	⇑P	pP	14 11 16.0	+0.4
	baz=79						
N02D	Trinity Center	78.92	321	⇑P	pP	14 11 18.8	-0.2
	baz=79						
M04C	Macdoel	78.94	323	⇑P	pP	14 11 19.7	+0.5
	baz=79						
I05D	Terrebonne, OR	80.32	325	⇑P	pP	14 11 27.0	+0.4
	baz=81						
G05D	Wamic, OR	80.90	325	⇑P	pP	14 11 31.1	+1.4
	baz=81						
FCC	Fort Churchill	81.59	347	*e*P	**P**	**14 11 04.0**	**+0.4**
	comp=Z,3.7nm,0.8s						
FCC				*e*pP	**pP**	**14 11 33.2**	**+0.2**
EDM	Edmonton	82.81	335	*e*P	**P**	**14 11 10.0**	**-0.2**
EDM				*e*pP	**pP**	**14 11 38.8**	**-0.8**
BOSA	Boshof	83.89	118	P	**P**	**14 11 16.0**	**-0.6**
	comp=Z,2.6nm,0.4s,baz=253,slow=7.8,SNR=2.7						
ESDC	Sonseca Array	85.01	45	P	**P**	**14 11 21.5**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=242,slow=5.4,SNR=6.5						
YKA	Yellowknife Ar	90.19	341	P	**P**	**14 11 46.7**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=130,slow=4.6,SNR=6.9						
YKA				pP	**pP**	**14 12 16.0**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=134,slow=4.7,SNR=12						
YKA				sP	**sP**	**14 12 28.9**	**+1.1**
	comp=Z,5.5nm,0.8s,baz=134,slow=4.8,SNR=6.9						
AKASG	Malin Array Be	110.56	42	PP	PP	14 17 58.5	+2.8
	comp=Z,0.2nm,0.2s,baz=253,slow=7.8,SNR=4.2						
AKTO	Aktyubinsk	128.77	41	PKP	**PKPdf**	**14 17 52.4**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=108,slow=5.0,SNR=1.9						
ASAR	Alice Springs	130.91	208	PKP	**PKPdf**	**14 17 57.6**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=126,slow=1.6,SNR=22						
ASAR				pPKP	**pPKPdf**	**14 18 27.1**	**-1.7**
	comp=Z,0.8nm,0.8s,baz=78,slow=0.8,SNR=4.0						
WRA	Warramunga Arr	133.93	211	PKP	**PKPdf**	**14 18 03.8**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=161,slow=1.7,SNR=15						
WRA				pPKP	**pPKPdf**	**14 18 34.1**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=162,slow=1.6,SNR=3.3						
ZALV	Zalesovo Beam	140.94	25	PKhKP	PKPpre	14 18 08.4	
	comp=Z,0.4nm,0.4s,baz=321,slow=3.9,SNR=2.5						
MK31	Makanchi Array	144.71	35	*e*PKPdf	**PKPdf**	**14 18 22.1**	**-0.1**
MK31				*e*pPKPdf	**pPKPdf**	**14 18 53.1**	**-0.2**
MKAR	Makanchi Array	144.71	35	PKP	PKPbc	14 18 21.8	+0.5
	comp=Z,5.4nm,0.8s,baz=318,slow=3.6,SNR=42						
MKAR				pPKP	pPKPdf	14 18 52.9	-0.5
	comp=Z,0.7nm,0.5s,baz=326,slow=2.6,SNR=2.7						
TLY	Talaya	148.24	9	pPKPbc	pPKPbc	14 19 03.7	+1.3
	comp=Z,4.6nm,0.6s,baz=339,slow=4.4,SNR=2.1						
WMQ	Urumqi	149.53	35	PKPbc	**PKPdf**	**14 18 31.1**	**+0.7**
USRK	Ussuriysk Ar.	150.63	329	PKPbc	**PKPbc**	**14 18 38.5**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=242,slow=7.7,SNR=3.4						
USRK				pPKPbc	**pPKPbc**	**14 19 08.8**	**+0.3**
	comp=Z,3.5nm,0.8s,baz=323,slow=1.0,SNR=4.3						
MJAR	Matsushiro Arr	151.45	310	PKPbc	**PKPbc**	**14 18 40.0**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=68,slow=0.9,SNR=5.1						
MJAR				pPKPbc	**pPKPbc**	**14 19 11.0**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=97,slow=1.6,SNR=5.8						
SONM	Songino Array	152.37	7	PKPbc	**PKPbc**	**14 18 41.5**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=308,slow=1.6,SNR=9.1						
SONM				pPKPbc	**pPKPbc**	**14 19 13.9**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=304,slow=1.6,SNR=4.6						
KSRS	Korea Array	157.63	323	PKPab	**PKPab**	**14 19 14.8**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=59,slow=2.8,SNR=4.8						
KSAR	Wonju Array Be	157.66	323	PKPab	**PKPab**	**14 19 14.8**	**0.0**
HHC	Hu-ho-hao-te	159.62	359	*e*PKP	**PKPdf**	**14 18 41.9**	**-2.5**
HHC				SS	SS	14 43 03.2	+2.0
HHC				PPMZ			
	comp=Z,37nm,9.3s						
LZH	Lanzhou	163.11	21	*e*PKP	**PKPdf**	**14 18 48.5**	**+0.2**
LZH				pPKP	**pPKPdf**	**14 19 16.7**	**-2.9**
LZH				sPKP		14 19 28.3	
LZH				LN			
	comp=Z,91nm,18.1s						
LZH				LE			
	comp=Z,100nm,18.3s						
LZH				LZ			
	comp=Z,130nm,20.2s						
CD2	Chengdu	167.59	31	PKP	**PKPdf**	**14 18 50.8**	**-1.3**
CMAR	Chiang Mai Arr	168.30	97	PKPab	**PKPab**	**14 20 02.0**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=262,slow=6.1,SNR=5.0						

JMA ***09*** *14:35:49.5±0.7, 32.°95N×142.°56E, h18km, M3.4*
IDC ***09*** *14:35:55.6±3.7, 32.°24N×140.°55E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/48, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=137.7km s-min=25.4km az=72.0*
ISC 09 14:35:57.2±2.6**, 33.°3N**±0.°2×**142.°5E**±0.°2**, h31km, n12, σ1.s43**/15**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.86	319	P	**Pn**	**14 36 25.3**	**-1.1**
BSO1				*e*S	**Sb**	**14 36 51.7**	**-1.0**
BSO3	Boso 3	2.23	314	P	**Pn**	**14 36 31.2**	**-0.6**
BSO4	Boso 4	2.46	315	P	**Pn**	**14 36 34.8**	**-0.3**
BSO4				*e*S	**Sb**	**14 37 07.8**	**-2.8**
JOD2	Odawara 2	3.43	307	*e*S	Sb	14 37 30.2	-8.4
JYN	Shimob	3.93	306	P	**Pn**	**14 36 54.9**	**-0.6**
JYN				*e*S	Sb	14 37 43.7	-9.3
JAG	Ashikaga	4.01	323	P	**Pn**	**14 36 56.1**	**-0.4**
JRY	Ryogami san	4.02	314	P	**Pn**	**14 36 56.4**	**-0.3**
JRY				S	**Sn**	**14 37 44.4**	**+1.7**
MJAR	Matsushiro Arr	4.79	314	Pn	**Pn**	**14 37 07.0**	**-0.2**
	1.0nm,0.3s,baz=159,slow=13,SNR=12						
MJAR				Sn	**Sn**	**14 38 03.2**	**+1.6**
	0.2nm,0.3s,baz=178,slow=14,SNR=4.0						
MAT	Matsushiro	4.79	314	P	**Pn**	**14 37 07.2**	**0.0**
MAT				S	**Sn**	**14 38 03.2**	**+1.6**
JMK	Ichinoseki	5.77	350	P	**Pn**	**14 37 20.4**	**-0.2**
MKAR	Makanchi Array	46.92	305	P	**P**	**14 44 22.5**	**-2.3**
	0.2nm,0.6s,baz=84,slow=13,SNR=3.6						
WRA	Warramunga Arr	53.47	190	P	P	14 45 08.2	-6.4
	0.2nm,0.5s,baz=5.4,slow=7.6,SNR=4.7						

IDC 09 14:36:22.6±559.0**, 48.°78N**×**42.°63E, h0km, Error ellipse: s-maj=191.5km s-min=152.8km az=169.0, Ukraine-Moldova-Southwestern Russia region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	8.60	340	*i*		15 31 10.0	
	baz=152,slow=323,SNR=0.9						
I31KZ	AKTYUBINSK INF	10.14	75	*i*		15 41 45.0	
	baz=265,slow=316,SNR=3.2						
I26DE	FREYUNG INFRAS	19.00	281	*i*		16 31 20.0	
	baz=80,slow=317,SNR=0.7						

ISCJB ***09*** *14:44:53.5±0.5, 10.°15N±0.°06×125.°3E±0.°1, h200km, mb3.6/16, Error ellipse: s-maj=16.4km s-min=8.3km az=179.0*
MAN ***09*** *14:44:53, 10.°12N×125.°36E, h202km, mb4.7, ML3.6, MS3.6*
IDC ***09*** *14:44:59.1±3.8, 10.°10N×125.°30E, h245km±38km, mb3.4/16, mb1 3.5/16, mb1mx3.3/48, mbtmp4.0/16, Error ellipse: s-maj=25.4km s-min=9.9km az=76.0*
ISC 09 14:44:54.7±0.6**, 10.°13N**±0.°07×**125.°2E**±0.°1**, h200km, n24, σ0.s87**/27**, mb3.7**/16**, 2C-3D, Leyte**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.44	143	⇓*e*P	**Pn**	**14 45 22.8**	**+1.2**
SCPH				*e*S	**Sn**	**14 45 42.8**	**+0.4**
PLP	Palo	1.05	347	⇓*i*P	**Pn**	**14 45 24.1**	**-0.7**
PLP				*i* S	**Sn**	**14 45 46.7**	**-1.6**
TBP	Tagbilaran	1.41	252	⇑*i*P	**Pn**	**14 45 28.2**	**+0.6**
CGP	Cagayan de Oro	1.75	197	⇓*e*P	**Pn**	**14 45 30.3**	**-0.4**
DCPH	Dipolog City	2.40	230	⇑*e*P	**Pn**	**14 45 38.0**	**+0.5**
JOW	Kunigami	16.86	9	P	**Pn**	**14 48 41.1**	**+1.8**
	0.1nm,0.3s,baz=146,slow=17,SNR=4.2						
KSRS	Korea Array	27.31	5	P	**P**	**14 50 20.7**	**0.0**
	0.3nm,0.4s,baz=179,slow=10,SNR=4.1						
WRA	Warramunga Arr	31.21	163	P	**P**	**14 50 54.4**	**-1.0**
	0.3nm,0.4s,baz=344,slow=8.9,SNR=12						
USRK	Ussuriysk Ar.	34.44	9	P	**P**	**14 51 23.4**	**+0.2**
	1.8nm,0.6s,baz=170,slow=7.1,SNR=4.9						
ASAR	Alice Springs	34.65	166	P	**P**	**14 51 25.3**	**0.0**
	1.3nm,0.3s,baz=342,slow=7.4,SNR=42						
ASAR				PcP	**PcP**	**14 53 54.7**	**-0.2**
	0.6nm,0.7s,baz=340,slow=2.7,SNR=5.1						
ASAJ	Asahikawa	37.05	21	P	**P**	**14 51 46.2**	**+0.8**
	4.3nm,0.7s,baz=232,slow=9.9,SNR=10						
SONM	Songino Array	40.79	341	P	**P**	**14 52 17.3**	**+0.8**
	0.2nm,0.4s,baz=145,slow=8.8,SNR=4.5						
STKA	Stephens Creek	44.62	160	P	**P**	**14 52 47.5**	**+0.3**
	1.0nm,0.4s,baz=331,slow=12,SNR=4.9						
MKAR	Makanchi Array	51.51	323	P	**P**	**14 53 41.3**	**+1.3**
	1.2nm,0.5s,baz=123,slow=7.9,SNR=20						
ZALV	Zalesovo Beam	54.25	332	P	**P**	**14 53 60.0**	**+0.2**
	0.6nm,0.4s,baz=93,slow=5.9,SNR=2.8						
BVAR	Borovoye Array	61.19	326	P	**P**	**14 54 48.4**	**+0.3**
	0.8nm,0.6s,baz=120,slow=8.8,SNR=7.1						
AKTO	Aktyubinsk	67.77	320	P	**P**	**14 55 31.0**	**+0.2**
	0.3nm,0.3s,baz=80,slow=3.0,SNR=3.5						
ILAR	Eielson Array	80.01	26	P	**P**	**14 56 40.8**	**-0.8**
	0.6nm,0.6s,baz=239,slow=4.7,SNR=9.5						
ARCES	ARCESS Array B	83.96	340	P	**P**	**14 57 01.7**	**-0.3**
	1.9nm,0.7s,baz=66,slow=6.8,SNR=6.4						
FINES	FINESS Array B	85.52	332	P	**P**	**14 57 09.2**	**-0.7**
	1.0nm,0.4s,baz=88,slow=4.4,SNR=13						
HFS	Hagfors	91.69	332	P	**P**	**14 57 38.4**	**-0.7**
	0.8nm,0.5s,baz=54,slow=7.7,SNR=4.7						
YKA	Yellowknife Ar	94.30	24	P	**P**	**14 57 50.9**	**-0.2**
	0.3nm,0.6s,baz=320,slow=5.5,SNR=4.2						
TXAR	Lajitas Array	118.69	49	PKP	**PKPdf**	**15 03 19.5**	**-0.3**
	0.1nm,0.5s,baz=338,slow=4.0,SNR=2.7						
TORD	Torodi Ar. Bea	119.35	291	PKP	**PKPdf**	**15 03 19.3**	**-1.9**
	0.3nm,0.6s,baz=34,slow=1.8,SNR=2.2						

NIED ***09*** *14:50:00, 33.°00N×142.°40E, h5km, Mw3.6 Best double couple: $M_0$2.95000×10^14 NP1:ϕ_s6.00000°, δ28.00000°, λ-96.00000°. NP2:ϕ_s192.00000°, δ62.00000°, λ-87.00000°.*
IDC ***09*** *14:50:57.5±1.9, 32.°98N×142.°90E, h0km, mb3.8/6, mb1 3.8/9, mb1mx3.6/47, mbtmp3.8/9, ML3.7/3, MS3.3/3, Ms1 3.3/3, ms1mx2.7/35, Error ellipse: s-maj=64.9km s-min=19.0km az=70.0*
JMA ***09*** *14:50:59.6±0.6, 33.°05N×142.°39E, h0km, M3.7*
ISCJB ***09*** *14:51:01.4±0.7, 33.°01N±0.°05×142.°59E±0.°08, h35km, mb3.9/9, MS3.8/2, Error ellipse: s-maj=10.4km s-min=6.1km az=146.0*

*NEIC **09** 14:51:02.8±0.8, 33°.05N×142°.77E, h35km, mb4.1/2, Error ellipse: s-maj=13.6km s-min=10.5km az=94.0*
ISC 09 14:51:03.7±1.3, 33°.02N±0°.08×142°.6E±0°.1, h35km, n35, σ1s.02/39, mb4.0/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	2.11	321	P	Pn	14 51 35.2	-0.9
BSO1				S	Sn	14 52 01.6	+0.7
JHJ2	Mitsune	2.33	273	P	Pn	14 51 39.2	-0.4
JHJ2				S	Sn	14 52 05.3	-1.8
JHJ2	Mitsune	2.33	273	P	Pn	14 51 39.3	-0.4
JHCJ	Hachijojimakas	2.35	272	P	Pn	14 51 37.3	-2.5
BSO3	Boso 3	2.48	316	P	Pn	14 51 40.9	-0.5
BSO4	Boso 4	2.72	317	P	Pn	14 51 44.7	-0.1
BSO4				S	Sn	14 52 17.2	+0.8
KTR	Katsuura	2.84	319	P	Pn	14 51 46.1	-0.5
JIZS	Izushimoda	3.52	300	P	Pn	14 51 54.5	-1.5
JOD2	Odawara 2	3.67	309	P	Pn	14 51 56.1	-1.9
JOD2				S	Sn	14 52 40.3	+0.2
JYN	Shimob	4.17	308	P	Pn	14 52 04.7	-0.2
JYN				S	Sn	14 52 51.7	-0.7
JAG	Ashikaga	4.27	324	P	Pn	14 52 05.4	-0.9
JAG				eS	Sn	14 52 55.4	+0.5
JRY	Ryogami san	4.27	315	P	Pn	14 52 05.1	-1.2
JRY				S	Sn	14 52 54.3	-0.6
JFT	Otama	4.85	338	P	Pn	14 52 13.7	-0.6
MJAR	Matsushiro Arr	5.04	315	Pn	Pn	14 52 16.0	-0.8
	2.7nm,0.3s,baz=160,slow=13,SNR=26						
MJAR				Sn	Sn	14 53 12.8	-1.0
	1.0nm,0.3s,baz=152,slow=18,SNR=5.4						
MAJO	Matsushiro	5.04	315	eP	Pn	14 52 17.2	+0.3
	12nm,0.3s						
MAT	Matsushiro	5.04	315	P	Pn	14 52 16.7	-0.1
MAT				S	Sn	14 53 12.4	-1.4
MAT	Matsushiro	5.04	315	P	Pn	14 52 17.2	+0.4
MAT				S	Sn	14 53 12.4	-1.4
ERM	Erimo	8.99	3	eP	Pn	14 53 08.5	-2.5
JNU	Nakatsue	9.83	274	P	Pn	14 53 23.0	+0.3
ASAJ	Asahikawa	11.08	0	Pn	Pn	14 53 38.0	-1.7
	1.2nm,0.3s,baz=244,slow=8.3,SNR=15						
ASAJ	Asahikawa	11.08	0	eP	Pn	14 53 37.5	-2.2
KSRS	Korea Array	12.78	294	Pn	Pn	14 54 04.5	+1.6
	0.1nm,0.3s,baz=107,slow=14,SNR=7.3						
KSRS				LR	LR	14 58 36.8	
	comp=Z,23nm,20.3s,baz=210,slow=35						
KSAR	Wonju Array Be	12.81	294	Pn	Pn	14 54 04.5	+1.3
SONM	Songino Array	30.96	309	P	P	14 57 18.8	+1.2
	1.6nm,0.8s,baz=114,slow=8.5,SNR=9.1						
ZALV	Zalesovo Beam	45.39	315	P	P	14 59 24.9	+6.2
	0.9nm,0.4s,baz=93,slow=6.1,SNR=4.9						
MK31	Makanchi Array	47.15	306	eP	P	14 59 33.0	+0.3
MKAR	Makanchi Array	47.15	306	P	P	14 59 33.3	+0.7
	1.3nm,0.7s,baz=90,slow=9.7,SNR=15						
KURK	Kurchatov	49.23	311	eP	P	14 59 48.0	-0.5
	3.4nm,0.8s						
WRA	Warramunga Arr	53.25	190	P	P	15 00 17.8	-1.2
	0.7nm,0.6s,baz=5.6,slow=7.7,SNR=14						
BVAR	Borovoye Array	54.03	315	P	P	15 00 24.2	-0.3
	0.3nm,0.4s,baz=95,slow=3.6,SNR=4.8						
ASAR	Alice Springs	56.98	190	P	P	15 00 45.0	-0.8
	0.3nm,0.5s,baz=5.5,slow=6.5,SNR=7.6						
ABKAR	Akbulak array	61.31	312	eP	P	15 01 15.9	+0.4
	0.8nm,0.6s						
AKTO	Aktyubinsk	62.11	314	P	P	15 01 21.9	+0.9
	0.8nm,0.6s,baz=64,slow=15,SNR=4.6						
RAR	Rarotonga	77.02	126	LR	LR	15 33 18.3	
	comp=Z,42nm,19.9s,baz=206,slow=33						
URZ	Urewera	77.85	153	LR	LR	15 38 56.1	
	comp=Z,46nm,18.8s,baz=185,slow=37						

*JMA **09** 14:53:14.7±0.5, 32°.96N×142°.41E, h88km, M3.3*
*ISCJB **09** 14:53:15.8±1.1, 33°.14N±0°.07×142°.5E±0°.1, h33km, mb3.6/4, Error ellipse: s-maj=13.1km s-min=8.3km az=149.1*
*IDC **09** 14:53:19.4±4.4, 32°.44N×140°.71E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/44, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=161.0km s-min=26.2km az=71.0*
ISC 09 14:53:17.8±1.5, 33°.11N±0°.09×142°.5E±0°.1, h33km, n13, σ0s.89/19, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.23	271	eS	Sn	14 54 17.3	-1.4
BSO4	Boso 4	2.58	317	P	Pn	14 53 57.3	+0.2
BSO4				eS	Sn	14 54 28.3	+1.1
JOD2	Odawara 2	3.53	308	P	Pn	14 54 09.1	-1.2
JOD2				eS	Sn	14 54 50.8	-0.1
JYN	Shimob	4.03	307	P	Pn	14 54 17.4	+0.2
JRY	Ryogami san	4.13	316	P	Pn	14 54 18.0	-0.6
JRY				S	Sn	14 55 06.5	+0.7
JAG	Ashikaga	4.13	324	P	Pn	14 54 18.6	0.0
JAG				S	Sn	14 55 05.4	-0.4
JFT	Otama	4.73	339	P	Pn	14 54 26.1	-0.7
JFT				S	Sn	14 55 18.6	-1.9
MJAR	Matsushiro Arr	4.90	315	Pn	Pn	14 54 29.0	-0.1
	1.8nm,0.3s,baz=154,slow=12,SNR=8.7						
MJAR				Sn	Sn	14 55 26.0	+1.4
	0.6nm,0.3s,baz=77,slow=27,SNR=2.0						
MAT	Matsushiro	4.90	315	P	Pn	14 54 29.0	-0.1
MAT				S	Sn	14 55 24.4	-0.3
SONM	Songino Array	30.82	309	P	P	14 59 31.4	+0.8
	0.7nm,0.8s,baz=108,slow=9.9,SNR=3.6						
ZALV	Zalesovo Beam	45.25	315	P	P	15 01 39.2	+7.4
	0.6nm,0.5s,baz=118,slow=37,SNR=2.5						
MKAR	Makanchi Array	47.02	305	P	P	15 01 45.4	-0.5
	0.5nm,0.6s,baz=81,slow=9.0,SNR=3.9						
ASAR	Alice Springs	57.05	189	P	P	15 03 01.1	+0.4
	0.2nm,0.6s,baz=1.0,slow=5.5,SNR=4.2						

IDC 09 15:05:28.6±32.0, 11°.68S×172°.90E, h0km, mb4.4/4, mb1 4.5/4, mb1mx3.8/36, mbtmp4.4/4, Error ellipse: s-maj=560.8km s-min=115.4km az=64.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	26.93	249	P	P	15 11 13.8	+1.9
	1.5nm,0.5s,baz=73,slow=14,SNR=2.6						
STKA	Stephens Creek	35.14	230	P	P	15 12 24.1	-0.1
	2.9nm,0.4s,baz=62,slow=9.9,SNR=16						
WRA	Warramunga Arr	37.93	253	P	P	15 12 47.9	-0.4
	3.5nm,0.6s,baz=85,slow=8.8,SNR=51						
ASAR	Alice Springs	38.90	247	P	P	15 12 55.4	-0.9
	4.0nm,0.4s,baz=76,slow=9.3,SNR=209						

NNC 09 15:16:15.0±2.9, 37°.02N×70°.81E, h0km, mb3.7, mpv3.4, 8C-2D, Error ellipse: s-maj=23.1km s-min=9.7km az=176.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.37	319	⇑Pn	Pn	15 16 55.3	-0.1
	22nm,0.5s						
DZET				⇑Sn	Sn	15 17 26.8	+1.5
	64nm,0.6s						
SFK	Sufi-Kurgan	3.66	34	⇑Pn	Pn	15 17 13.3	0.0
	2.3nm,0.3s						
SFK				⇑Sn	Sn	15 18 00.4	+3.0
	8.1nm,0.4s						
MNAS	Manas	5.62	13	⇑Pn	Pn	15 17 39.2	-0.7
	1.2nm,0.5s						
MNAS				⇑Sn	Sn	15 18 45.7	+0.4
	4.0nm,0.6s						
KK31	Karatay Array	6.08	358	⇓Pn	Pn	15 17 44.6	-1.6
	1.7nm,0.3s,baz=173,slow=16,SNR=30						
KK31				⇓Sn	Sn	15 18 54.6	-2.0
	1.3nm,0.4s,baz=182,slow=24,SNR=6.8						
AAK	Ala-Archa	6.29	26	⇑Pn	Pn	15 17 48.4	-0.8
	0.8nm,0.3s						
AAK				Sn	Sn	15 19 01.7	-0.1
	3.1nm,0.5s						
AB31	Akbulak array	14.56	331	⇑P	Pn	15 19 39.9	-2.3
	0.3nm,0.3s,baz=134,slow=18,SNR=4.1						
AB31				S	Sn	15 22 24.1	0.0
	0.4nm,0.4s,baz=152,slow=24,SNR=2.6						

IDC 09 15:23:34.9±1.2, 55°.71S×28°.35W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.7/19, mbtmp3.8/2, Error ellipse: s-maj=87.4km s-min=33.7km az=102.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	46.88	183	P	P	15 32 06.6	+0.5
	1.0nm,0.7s,baz=191,slow=6.2,SNR=9.9						
TORD	Torodi Ar. Bea	73.09	31	P	P	15 35 07.8	+1.2
	0.6nm,0.5s,baz=189,slow=7.4,SNR=5.0						
ILAR	Eielson Array	149.40	312	PKPbc	PKPbc	15 43 23.4	-0.8
	1.4nm,0.8s,baz=120,slow=3.4,SNR=13						
SONM	Songino Array	151.36	87	PKPbc	PKPbc	15 43 27.7	-1.9
	0.7nm,0.5s,baz=221,slow=3.6,SNR=5.5						

*SJA **09** 15:34:31.1±1.0, 33°.70S×73°.59W, h40km, ML3.4*
*GUC **09** 15:34:39.5±0.4, 34°.03S×72°.29W, h8km±1km, ML3.5*
ISC 09 15:34:38.2±2.2, 34°.04S±0°.05×72°.3W±0°.1, h5km±12km, n20, σ1s.23/27, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.71	84	⇓iP	Pn	15 34 54.1	-0.9
LNV				iS	Sn	15 35 04.8	-1.5
TACH	Talagante	1.17	71	⇓iP	Pg	15 35 00.9	+0.4
TACH				iS	Sn	15 35 17.2	-0.4
NICH	Los Niches	1.29	139	eP	Pg	15 35 02.8	-0.1
NICH				iS	Sg	15 35 20.7	+1.1
TALC	Talca	1.46	159	⇑iP	Pg	15 35 05.3	-0.8
TALC				iS	Sg	15 35 25.2	+0.3
ROCH	El Roble	1.49	45	⇓iP	Pb	15 35 06.4	-0.1
ROCH				iS	Sg	15 35 26.8	+0.8
ROCH				AML	AML	15 35 37.6	
	comp=N,803nm,0.3s						
PCH	Pirque	1.51	75	⇑iP	Pb	15 35 06.5	-0.3
CLCH	Cerro Calan	1.57	67	eP	Pb	15 35 07.5	-0.3
CLCH				iS	Sb	15 35 28.6	+0.6
CLCH				AML	AML	15 35 42.8	
	comp=N,708nm,0.4s						
PEL	Peldehue	1.59	56	⇓iP	Pb	15 35 07.9	-0.2
PEL				iS	Sb	15 35 29.0	+0.5
PEL				AML	AML	15 35 37.6	
	comp=E,2μm,0.4s						
AUSP	Uspallata	3.01	54	eP	Pb	15 35 31.6	-1.0
AUSP				eS	Sg	15 36 15.1	+0.1
AAGR	Agrelo	3.02	73	eP	Pb	15 35 32.8	+0.3
ARCO	CERRO ARCO	3.03	68	eP	Pb	15 35 32.9	+0.2
ARCO				AML	AML	15 36 20.7	
	comp=Z,56nm,0.6s						
ASAL	Salagasta	3.21	64	eP	Pb	15 35 35.2	-0.6
RTLS	Leoncito	3.34	49	eP	Pb	15 35 35.5	-2.7
RTLS				eS	Sg	15 36 23.7	-2.0
RTCV	Cerro Valdivia	3.81	56	eP	Pn	15 35 41.2	+3.6
CFAA	Coronel Fontan	4.17	56	eP	Pn	15 35 45.0	+2.5
RTLL	Cerro Villicun	4.18	51	eP	Pn	15 35 45.2	+2.4
RTLL				eS	Sb	15 36 42.4	-0.7
AMOG	MOGNA	4.43	47	eP	Pn	15 35 48.0	+1.7
ACAN	Cantantal	4.60	69	eP	Pn	15 35 52.4	+3.9
AVFE	Valle Fertil	5.28	52	eP	Pn	15 36 00.7	+2.8
ACLC	CERRO LA CRUZ	6.45	46	eP	Pn	15 36 14.7	+0.7

IDC 09 15:41:36.7±5.2, 21°.94S×123°.17E, h0km, mb1 3.7/4, mb1mx3.4/21, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=77.1km s-min=28.7km az=156.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	10.05	102	Pn	Pn	15 44 02.1	-0.3
	0.2nm,0.3s,baz=283,slow=12,SNR=25						
ASAR				Sn	Sn	15 45 48.8	-7.2
	0.4nm,0.3s,baz=277,slow=24,SNR=5.5						
ASAR				Lg	Lg	15 46 54.5	
	0.7nm,0.3s,baz=284,slow=28,SNR=5.9						
WRA	Warramunga Arr	10.62	81	Pn	Pn	15 44 11.1	+0.8
	0.2nm,0.3s,baz=252,slow=12,SNR=16						
WRA				Sn	Sn	15 46 00.7	-9.4
	1.0nm,0.3s,baz=271,slow=24,SNR=8.8						
WRA				Lg	Lg	15 47 13.7	
	baz=260,slow=24,SNR=3.8						
NWAO	Narrogin (SRO)	12.14	204	Pn	Pn	15 44 30.3	-0.8
	0.3nm,0.3s,baz=331,slow=7.0,SNR=6.5						
STKA	Stephens Creek	19.15	125	P	P	15 46 02.1	+0.4
	0.1nm,0.3s,baz=292,slow=11,SNR=2.2						

IDC 09 15:48:43.8±3.0, 6°.83S×129°.35E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.3/32, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=276.1km s-min=32.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.91	160	Pn	Pn	15 52 01.7	-0.7
	0.1nm,0.3s,baz=338,slow=15,SNR=6.4						
WRA				Sn	Sn	15 54 29.2	-8.4
	0.2nm,0.3s,baz=345,slow=22,SNR=7.1						
ASAR	Alice Springs	17.30	166	P	Pn	15 52 47.5	+0.5
	0.1nm,0.3s,baz=345,slow=10,SNR=5.8						
MKAR	Makanchi Array	67.73	327	P	P	15 59 43.2	0.0
	0.2nm,0.4s,baz=122,slow=7.9,SNR=5.5						

*NIED **09** 15:59:00, 26°.60N×142°.70E, h8km, Mw4.0 Best double couple: $M_0$1.19000×10^15 NP1:ϕ_s203.00000°, δ11.00000°, λ115.00000°. NP2:ϕ_s358.00000°, δ80.00000°, λ85.00000°.*
*IDC **09** 15:59:03.1±0.7, 26°.52N×142°.41E, h0km, mb3.9/12, mb1 4.1/14, mb1mx3.9/40, mbtmp3.9/14, ML3.2/2, MS2.9/3, Ms1 2.9/3, ms1mx2.6/25, Error ellipse: s-maj=27.3km s-min=13.5km az=83.0*
*BJI **09** 15:59:04.2, 26°.50N×142°.50E, h28km, mb4.3/5, mB4.7/5*
*ISCJB **09** 15:59:05.3±0.6, 26°.50N±0°.06×142°.6E±0°.1, h31km, mb4.0/14, Error ellipse: s-maj=16.4km s-min=8.4km az=167.2*
*NEIC **09** 15:59:07.2±2.0, 26°.55N×142°.46E, h28km±13km, mb4.4/2, Error ellipse: s-maj=18.2km s-min=10.7km az=94.0*
ISC 09 15:59:06.7±0.8, 26°.62N±0°.09×142°.6E±0°.1, h31km, n27, σ1s.43/27, mb4.2/14, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	0.62	321	eP	Pb	15 59 19.2	+0.1
CBIJ				Pn	Pn	15 59 20.2	+0.8
JCJ	Chichijima	0.62	321	Pn	Pn	15 59 20.2	+0.8
	baz=231,slow=0.0						
MJAR	Matsushiro Arr	10.59	340	Pn	Pn	16 01 36.0	-0.2
	0.6nm,0.3s,baz=166,slow=13,SNR=9.2						
JNU	Nakatsue	12.07	305	LR	LR	16 06 20.0	
	comp=Z,114nm,18.4s,baz=182,slow=36						
GUMO	Guam	13.13	170	LR	LR	16 05 25.7	
	comp=Z,19nm,19.6s,baz=326,slow=29						
ERM	Erimo	15.37	2	eP	P	16 02 43.3	-2.4
KSRS	Korea Array	16.47	315	Pn	P	16 02 58.2	+0.3
	0.2nm,0.3s,baz=119,slow=11,SNR=9.8						
KSRS				LR	LR	16 08 59.0	
	comp=Z,57nm,19.7s,baz=162,slow=36						
KSAR	Wonju Array Be	16.49	314	Pn	P	16 02 58.2	+0.1
ASAJ	Asahikawa	17.46	360	eP	P	16 03 08.6	-0.2
USRK	Ussuriysk Ar.	19.54	337	P	Pn	16 03 34.1	+1.0
	0.2nm,0.3s,baz=142,slow=19,SNR=3.0						
SONM	Songino Array	35.33	316	P	P	16 06 00.0	+0.8
	0.3nm,0.6s,baz=142,slow=5.1,SNR=4.0						
GTA	Gaotai	37.76	301	eP	P	16 06 21.3	+1.2
GTA				pP	pP	16 06 26.7	-2.5
GTA				sP	sP	16 06 29.6	-3.4
GTA				PMZ			
	5.0nm,1.0s						
CHTO	Chiang Mai	40.88	268	eP	P	16 06 45.6	-0.6
	3.7nm,0.9s						
CMAR	Chiang Mai Arr	40.99	268	P	P	16 06 47.2	0.0
	1.8nm,0.9s,baz=57,slow=7.9,SNR=11						
WRAB	Tennant Creek	46.96	191	eP	P	16 07 34.4	-0.5
	5.0nm,0.6s						
WRA	Warramunga Arr	46.97	191	P	P	16 07 34.6	-0.4
	8.6nm,1.1s,baz=12,slow=8.7,SNR=33						
ASAR	Alice Springs	50.69	190	P	P	16 08 03.0	-0.6
	0.3nm,0.6s,baz=14,slow=7.9,SNR=12						
ILAR	Eielson Array	57.95	28	P	P	16 08 57.5	+1.7
	0.4nm,0.7s,baz=236,slow=6.4,SNR=3.5						
STKA	Stephens Creek	58.17	181	P	P	16 08 59.5	+1.8
	1.2nm,0.7s,baz=0.7,slow=6.6,SNR=2.6						
BVAR	Borovoye Array	58.66	318	P	P	16 09 00.4	-0.6
	1.1nm,0.5s,baz=86,slow=11,SNR=4.1						
YKA	Yellowknife Ar	72.38	28	P	P	16 10 33.3	+3.9
	0.3nm,0.6s,baz=289,slow=7.2,SNR=4.0						
ARCES	ARCESS Array B	74.12	341	P	P	16 10 39.2	-0.5
	2.1nm,0.8s,baz=67,slow=9.3,SNR=5.0						
FINES	FINESS Array B	78.55	334	P	P	16 11 05.7	+0.8
	2.3nm,0.4s,baz=86,slow=4.9,SNR=25						
KBZ	Khabaz	78.62	313	P	P	16 11 06.6	+1.0
	3.3nm,0.9s,baz=85,slow=3.1,SNR=5.7						
NB2	NORSAR Subarra	84.20	338	P	P	16 11 36.2	+1.3
	comp=Z,1.2nm,0.8s,baz=44,slow=5.6						
NOA	NORSAR Array B	84.20	338	P	P	16 11 35.4	+0.5
	comp=Z,1.8nm,0.9s,baz=47,slow=4.6,SNR=3.8						
LPAZ	La Paz	149.66	76	PKPbc	PKPab	16 18 56.9	-3.1
	comp=Z,0.6nm,0.5s,baz=243,slow=2.3,SNR=3.7						

*MOS **09** 16:01:04.0±1.1, 35°.81N×69°.47E, h59km, mb4.4/12, Error ellipse: s-maj=12.6km s-min=6.0km az=85.4*
*BJI **09** 16:01:06.6, 36°.14N×69°.25E, h77km, mb4.7/3, mB5.0/3*
*IDC **09** 16:01:08.3±3.1, 35°.89N×69°.57E, h82km±27km, mb3.4/11, mb1 3.6/13, mb1mx3.4/42, mbtmp3.8/13, Error ellipse: s-maj=18.4km s-min=16.0km az=164.0*
*ISCJB **09** 16:01:10.3±0.3, 36°.11N±0°.03×69°.65E±0°.04, h112km, mb3.9/19, Error ellipse: s-maj=5.4km s-min=3.3km az=155.1*
*NNC **09** 16:01:14.0±1.1, 36°.46N×69°.41E, h134km±11km, mb3.8, mpv4.6, Error ellipse: s-maj=10.9km s-min=7.2km az=165.0*
ISC 09 16:01:11.3±0.5, 36°.04N±0°.05×69°.54E±0°.05, h112km, n95, σ1s.91/108, mb3.9/20, 14C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.82	349	⇓P	Pn	16 01 54.1	-1.0
	153nm,0.4s						
DZET				⇓S	Sn	16 02 24.6	-4.3
	2μm,0.9s						
DZET	Dzherino	2.82	349	PN	Pn	16 01 54.1	-1.0
DZET				pmax	pmax		
	comp=Z,153nm,0.4s						
CHCP	Chirah Chowk	3.87	127	P	Pn	16 02 11.0	+2.0
SFK	Sufi-Kurgan	5.05	37	⇓P	Pn	16 02 25.4	+0.3
	comp=Z,32nm,0.3s						
SFK				⇑S	Sn	16 03 22.2	-0.2
	comp=Z,277nm,0.3s						
KSH	Kashi	6.16	54	P	Pn	16 02 36.0	-4.0
KSH				S	Sn	16 03 38.5	-11
DHRM	DHARAMSHALA	6.75	122	eP	Pn	16 02 49.0	+0.9
DHRM				eS	Sn	16 04 02.6	-1.1
DHRM				AML	AML	16 04 04.7	
	comp=N,566nm,0.6s						
DHRM				AML	AML	16 04 04.7	
	comp=E,472nm,0.2s						
MNAS	Manas	6.84	19	⇑P	Pn	16 02 48.1	-1.0
	comp=E,26nm,0.5s						
MNAS				⇑S	Sn	16 04 00.3	-5.2
	comp=E,41nm,0.5s						
AML	Almayashu	6.89	27	P	Pn	16 02 49.0	-1.0
	SNR=112						
KK31	Karatay Array	7.10	6	⇑P	Pn	16 02 51.0	-1.5
	comp=E,26nm,0.5s,baz=199,slow=15,SNR=334						
KK31				⇑S	Sn	16 04 06.2	-5.5
	comp=E,13nm,0.4s,baz=192,slow=23,SNR=8.1						
KK31	Karatay Array	7.10	6	eP	Pn	16 02 51.0	-1.5
KK31				S	Sn	16 04 06.1	-5.5
KK31				pmax	pmax		
	comp=Z,11nm,0.3s						
UCH	Uchtor	7.29	30	P	Pn	16 02 54.7	-0.8
	SNR=70						
EKS2	Erkin-Say	7.38	25	P	Pn	16 02 55.7	-0.8
	SNR=29						
KZA	Kyzart	7.49	35	P	Pn	16 02 57.0	-1.2
	SNR=32						
AAK	Ala-Archa	7.62	29	P	Pn	16 02 59.2	-0.6
	SNR=47						
AAK	Ala-Archa	7.62	29	⇓P	Pn	16 02 59.0	-0.8
	comp=Z,14nm,0.3s						
AAK				⇑S	Sn	16 04 21.2	-3.4
	comp=Z,46nm,0.5s						
AAK	Ala-Archa	7.62	29	P	Pn	16 02 59.0	-0.8
	comp=Z,19nm,0.3s,baz=179,slow=7.1,SNR=60						
AAK				S	Sn	16 04 21.1	-3.4
	comp=Z,4.3nm,0.3s,baz=313,slow=22,SNR=17						
AAK	Ala-Archa	7.62	29	P	Pn	16 02 58.9	-0.8
AAK				S	Sn	16 04 21.1	-3.4
AAK				pmax	pmax		
	comp=Z,14nm,0.3s						
SDNR	Sundarnagar	7.66	124	eP	Pn	16 03 20.0	+20
SDNR				eS	Sn	16 04 22.0	-3.4
KBK	Karagaybulak	7.82	31	P	Pn	16 03 01.7	-0.8
	SNR=33						
FRU	Bishkek	7.84	28	eP	Pn	16 03 00.0	-2.6
FRU				iS	Sn	16 04 26.0	-3.6
FRU				smax	smax		
	comp=N,180nm,2.0s						
SMLA	Simla	8.02	125	iP	Pn	16 03 06.6	+1.6
SMLA				iS	Sn	16 04 31.9	-2.2
SMLA				AML	AML	16 04 56.1	
	comp=N,165nm,0.4s						
SMLA				AML	AML	16 04 57.3	
	comp=E,180nm,0.0s						
CHMS	Chumysh	8.03	28	P	Pn	16 03 04.2	-1.0
	SNR=37						
ULHL	Ulahol	8.09	38	P	Pn	16 03 05.1	-1.0
	SNR=11						
USP	Ospenovka	8.17	26	P	Pn	16 03 06.0	-1.1
	SNR=57						
TKM2	Tokmak 2	8.31	32	P	Pn	16 03 08.1	-1.0
	SNR=27						
TKM2	Tokmak 2	8.31	32	⇑P	Pn	16 03 07.4	-1.7
	comp=E,11nm,0.5s						
TKM2				⇓S	Sn	16 04 38.3	-3.1
	comp=E,23nm,0.7s						
KHET	Khetri	9.55	144	eP	Pn	16 03 24.9	-0.9
KHET				eS	Sn	16 05 00.9	-10
KHET				AML	AML	16 05 07.8	
	comp=N,322nm,0.1s						
KHET				AML	AML	16 05 07.8	
	comp=E,338nm,0.1s						
NDI	New Delhi	9.79	136	eP	Pn	16 03 28.0	-1.0
NDI				eS	Sn	16 05 05.5	-12
KUDL	Kundal	9.82	141	eP	Pn	16 03 27.3	-2.2
KUDL				eS	Sn	16 05 09.1	-8.9
KUDL				AML	AML	16 05 15.7	
	comp=N,40nm,0.4s						
KUDL				AML	AML	16 05 16.4	
	comp=E,38nm,0.3s						
SONA	Sohna	10.05	138	eP	Pn	16 03 30.5	-2.1
SONA				eS	Sn	16 05 13.1	-10
SONA				AML	AML	16 05 22.7	
	comp=E,102nm,0.3s						
SONA				AML	AML	16 05 23.4	
	comp=N,56nm,0.1s						
KALG	Kalgarh	10.12	127	eS	Sn	16 05 18.1	-7.0
PDGK	Podgornoye	10.56	43	⇓P	Pn	16 03 38.7	-0.7
	comp=N,5.0nm,0.8s						
AGRA	Agra	11.32	138	eS	Sn	16 05 45.7	-8.6
AGRA				AML	AML	16 06 08.2	
	comp=E,76nm,0.3s						
AGRA				AML	AML	16 06 09.1	
	comp=N,79nm,0.3s						
OTUK	Ortayu	12.37	9	⇑P	Pn	16 04 00.8	-2.8
	comp=N,10nm,0.6s						
MK31	Makanchi Array	14.37	38	⇓P	Pn	16 04 29.7	+0.3
	comp=N,8.9nm,0.8s,baz=214,slow=13,SNR=65						
MK31	Makanchi Array	14.37	38	eP	Pn	16 04 29.6	+0.3
MK31				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MKAR	Makanchi Array	14.37	38	P	Pn	16 04 28.3	-1.1
	comp=Z,0.3nm,0.3s,baz=223,slow=15,SNR=21						
KOLN	Koldanda	14.49	121	eP	Pn	16 04 30.3	-1.0
	comp=Z,22nm,0.4s						
AB31	Akbulak array	14.96	335	P	Pn	16 04 34.0	-2.9
	comp=Z,2.1nm,0.3s,baz=142,slow=13,SNR=61						
AB31	Akbulak array	14.96	335	P	Pn	16 04 33.9	-2.9
AB31				pmax	pmax		
	comp=Z,3.0nm,0.3s						
GKN	Gorkha	15.09	118	eP	Pn	16 04 37.3	-1.5
	comp=Z,32nm,0.3s						
DMN	Daman	15.65	118	eP	Pn	16 04 45.5	-0.5
	comp=Z,24nm,0.4s						
KKN	Kakani	15.67	117	eP	Pn	16 04 45.6	-0.6
	comp=Z,18nm,0.5s						
PKIN	Phulchoki	15.88	118	eP	Pn	16 04 48.4	-0.4
	comp=Z,16nm,0.3s						
PKI	Pulchoki	15.89	118	eP	Pn	16 04 49.2	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,23nm,0.4s						
GUN	Gumba	16.04	116	eP	Pn	16 04 50.4	-0.4
	comp=Z,21nm,0.4s						
KURK	Kurchatov	16.07	21	⇑P	P	16 04 51.0	-0.9
	comp=Z,7.0nm,1.1s						
KURK	Kurchatov	16.07	21	P	P	16 04 50.9	-0.9
KURK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
JIRN	Jiri	16.41	116	eP	P	16 04 55.5	-0.7
	comp=Z,39nm,0.3s						
AKTO	Aktyubinsk	16.63	333	⇑P	Pn	16 04 55.6	-2.0
	comp=Z,9.3nm,0.8s						
AKTO	Aktyubinsk	16.63	333	P	Pn	16 04 56.1	-1.4
	comp=Z,0.7nm,0.3s,baz=141,slow=15,SNR=18						
AKTO				S	Sn	16 07 49.1	-13
	comp=Z,0.4nm,0.3s,baz=196,slow=22,SNR=3.8						
AKTO	Aktyubinsk	16.63	333	P	Pn	16 04 55.6	-2.0
AKTO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BVA0	Borovoye Array	17.00	2	iP	Pn	16 04 59.9	-2.1
BVA0				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BVAR	Borovoye Array	17.00	2	P	Pn	16 04 59.9	-2.1
	comp=Z,2.0nm,0.3s,baz=170,slow=12,SNR=23						
BVAR	Borovoye Array	17.00	2	P	Pn	16 04 59.9	-2.1
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BRVK	Borovoye	17.03	2	⇑P	Pn	16 05 00.4	-2.0
	comp=Z,14nm,0.9s						
BRVK	Borovoye	17.03	2	iP	Pn	16 05 00.9	-1.5
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
RAMN	Ramite	17.12	117	eP	P	16 05 03.3	-0.6
	comp=Z,25nm,0.4s						
TAPN	Taplejung	17.70	114	eP	Pn	16 05 11.1	+0.1
	comp=Z,19nm,0.4s						
ODAN	Odare	17.74	116	eP	Pn	16 05 12.5	+1.0
	comp=Z,26nm,0.6s						
GNI	Garni	19.93	289	P	Pn	16 05 37.5	+0.4
	comp=Z,0.6nm,0.3s,baz=204,slow=22,SNR=7.5						
GNI	Garni	19.93	289	P	Pn	16 05 37.5	+0.4
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	Zalesovo Beam	20.84	26	P	P	16 05 44.4	+0.6
	comp=Z,35nm,0.5s,baz=222,slow=11,SNR=158						
ZALV				S	S	16 09 32.8	+3.0
	comp=Z,1.9nm,0.8s,baz=220,slow=14,SNR=3.7						
ZALV	Zalesovo Beam	20.84	26	P	P	16 05 44.4	+0.6
ZALV				S	S	16 09 32.8	+3.0
ZALV				pmax	pmax		
	comp=Z,35nm,0.5s						
ZALV				smax	smax		
	comp=N,2.0nm,0.8s						
NVS	Novosibirsk	21.05	22	eP	P	16 05 45.8	-0.2
NVS				e		16 09 37.3	
NVS				pmax	pmax		
	comp=Z,34nm,1.2s						
NVS				pmax	pmax		
	comp=N,21nm,1.3s						
NCK	Nalchik	21.24	298	eP	P	16 05 47.9	-0.4
SVE	Sverdlovsk	21.65	347	eP	P	16 05 52.7	+0.2
SVE				pmax	pmax		
	comp=Z,14nm,1.2s						
ARU	Arti	21.71	343d	iP	P	16 05 53.7	+0.5
ARU						16 06 20.6	
ARU				S	S	16 09 50.9	+4.4
ARU				SS	SnSn	16 10 32.3	+10
ARU				pmax	pmax		
	comp=Z,11nm,1.2s						
KBZ	Khabaz	21.78	299	P	P	16 05 54.7	+0.7
	comp=Z,4.0nm,0.7s,baz=151,slow=9.3,SNR=8.8						
KBZ	Khabaz	21.78	299	P	P	16 05 54.7	+0.7
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KIV	Kislovodsk	21.98	299	eP	P	16 05 55.8	-0.4
KIV				eS	S	16 09 54.3	+2.6
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HVS	Khovu-Aksy	22.96	41	eP	P	16 06 06.8	+0.8
HVS				pmax	pmax		
	comp=Z,44nm,0.8s						
BRTR	Keskin Array B	28.46	288	P	P	16 06 56.8	+0.9
	comp=Z,0.5nm,0.7s,baz=104,slow=9.4,SNR=4.0						
BRTR	Keskin Array B	28.46	288c	eP	P	16 06 56.7	+0.9
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	Malin Array Be	32.33	310	P	P	16 07 29.7	+0.1
	comp=Z,0.3nm,0.3s,baz=85,slow=6.9,SNR=6.1						
AKASG	Malin Array Be	32.33	310c	eP	P	16 07 30.5	+0.9
BOD	Bodaibo	36.45	39	eP	P	16 08 05.9	+0.9
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES	ARCESS Array B	41.13	338	P	P	16 08 44.2	+0.3
	comp=Z,2.3nm,0.9s,baz=111,slow=8.6,SNR=9.7						
ARCES	ARCESS Array B	41.13	338	P	P	16 08 44.3	+0.3
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NB2	NORSAR Subarra	44.05	323	P	P	16 09 07.4	-0.3
	comp=Z,0.4nm,0.4s,baz=99,slow=7.9						
NOA	NORSAR Array B	44.05	323	P	P	16 09 07.9	+0.2
	comp=Z,0.4nm,0.5s,baz=99,slow=7.9,SNR=3.1						
KSRS	Korea Array	46.14	70	P	P	16 09 24.4	0.0
	comp=Z,0.5nm,0.5s,baz=275,slow=6.8,SNR=4.2						
KSRS	Korea Array	46.14	70	P	P	16 09 24.5	0.0
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TIXI	Tiksi	46.64	22	iP	P	16 09 29.7	+1.8
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KMBO	Kilima Mbogo	47.65	226c	eP	P	16 09 34.0	-2.7
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.2s						
SEY	Seymchan	55.45	33	P	P	16 10 35.8	+1.9
	comp=Z,0.9nm,0.6s,baz=267,slow=11,SNR=5.5						
SEY	Seymchan	55.45	33	P	P	16 10 35.8	+1.9
SEY				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BILL	Bilibino	59.54	26	iP	P	16 11 03.6	+1.2
BILL				pmax	pmax		
	comp=Z,6.0nm,2.2s						
INK	Inuvik	74.55	9	P	P	16 12 39.5	+2.2
	comp=Z,3.2nm,0.3s,baz=295,slow=3.0,SNR=6.1						
INK	Inuvik	74.55	9	P	P	16 12 39.5	+2.2
INK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ILAR	Eielson Array	75.54	15	P	P	16 12 44.8	+1.7
	comp=Z,0.3nm,0.5s,baz=288,slow=3.6,SNR=5.0						
YKA	Yellowknife Ar	81.75	2	P	P	16 13 19.1	+2.0
	comp=Z,0.9nm,0.5s,baz=351,slow=5.5,SNR=7.7						
YKA	Yellowknife Ar	81.75	2	P	P	16 13 19.1	+2.0
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	Warramunga Arr	82.75	121	P	P	16 13 22.2	-0.8
	comp=Z,0.3nm,0.8s,baz=326,slow=4.7,SNR=5.6						
ASAR	Alice Springs	84.96	124	P	P	16 13 33.4	-0.8
	comp=Z,0.3nm,0.7s,baz=313,slow=4.4,SNR=7.9						

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*ISCJB **09** 16:06:56.0±0.4, 39°.29N±0°.02×29°.08E±0°.02, h2km±4km, Error ellipse: s-maj=3.8km s-min=3.0km az=171.1*
*CSEM **09** 16:06:56.4±0.1, 39°.29N×29°.09E, h5km, ML3.3, Error ellipse: s-maj=2.3km s-min=2.1km az=169.0*
*ISK **09** 16:06:56.1, 39°.29N×29°.09E, h5km, ML3.3*
*DDA **09** 16:06:56.2, 39°.29N×29°.09E, h9km, MD3.3*
*THE **09** 16:06:58.8, 39°.13N×29°.19E, h24km±7km, ML3.2/1, Error ellipse: s-maj=8.1km s-min=1.1km az=149.0*
ISC 09 16:06:56.5±1.0**, 39°.29N**±0°.02×**29°.08E**±0°.02**, h6**km±9km**, n83,** σ0s.68/114**, 2C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	Tavsanli	0.34	61	PG	Pg	16 07 03.2	+0.2
TVSB				eSG	Sg	16 07 07.7	+0.2
TVSB	Tavsanli	0.34	61	iPg	Pg	16 07 03.2	+0.2
TVSB				eSg	Sg	16 07 07.7	+0.2
GDZ	Gediz	0.37	122	iP	Pg	16 07 03.8	+0.1
GDZ				iS	Sg	16 07 08.6	0.0
GDZ	Gediz	0.37	122	iP	Pg	16 07 03.8	+0.1
GDZ				iS	Sg	16 07 08.6	0.0
DEMI	Demirci	0.37	229	iP	Pg	16 07 04.3	+0.6
DEMI				iS	Sg	16 07 09.3	+0.7
DEMI	Demirci	0.37	229	iP	Pg	16 07 04.3	+0.6
DEMI				iS	Sg	16 07 09.3	+0.7
DST	Dursunbey	0.48	312	PG	Pg	16 07 06.2	+0.5
DST	Dursunbey	0.48	312	iPg	Pg	16 07 06.2	+0.5
DURS	Dursunbey	0.56	304	iP	Pg	16 07 07.7	+0.4
DURS				iS	Sg	16 07 13.3	-1.4
DURS	Dursunbey	0.56	304	iP	Pg	16 07 07.7	+0.4
DURS				iS	Sg	16 07 13.3	-1.4
ORLT	Orhaneli	0.77	349	PG	Pg	16 07 11.2	-0.1
ORLT	Orhaneli	0.77	349	iPg	Pg	16 07 11.2	-0.1
ALT	Altintas	0.83	106	ePG	Pg	16 07 12.3	-0.2
ALT	Altintas	0.83	106	P	Pg	16 07 11.7	-0.8
ALT				S	Sg	16 07 22.1	-1.2
ALT	Altintas	0.83	106	P	Pg	16 07 11.7	-0.8
ALT	Altintas	0.83	106	ePg	Pg	16 07 12.3	-0.2
ALT				S	Sg	16 07 22.1	-1.2
KULA	Kula-Manisa	0.84	203	ePG	Pg	16 07 12.5	0.0
KULA	Kula-Manisa	0.84	203	P	Pg	16 07 12.4	-0.2
KULA				S	Sg	16 07 23.1	-0.3
KULA	Kula-Manisa	0.84	203	ePg	Pg	16 07 12.5	0.0
KULA				S	Sg	16 07 23.1	-0.3
ULDT	Uludag	0.85	3	iP	Pg	16 07 12.6	-0.3
ULDT	Uludag	0.85	3	iP	Pg	16 07 12.6	-0.3
BALB	Balikesir	0.99	291	ePG	Pb	16 07 15.8	-0.3
BALB				eSG	Sb	16 07 29.9	+0.4
BALB	Balikesir	0.99	291	ePg	Pb	16 07 15.8	-0.3
BALB				eSg	Sb	16 07 29.9	+0.4
KHL	Karahalli	1.02	160	ePG	Pg	16 07 16.1	0.0
KHL	Karahalli	1.02	160	ePg	Pg	16 07 16.1	0.0
AKHS	Akhisar	1.07	248	iP	Pg	16 07 17.1	+0.2
AKHS				iS	Sb	16 07 31.7	+0.1
AKHS	Akhisar	1.07	248	iP	Pg	16 07 17.1	+0.2
AKHS				iS	Sb	16 07 31.7	+0.1
AKS	Akhisar	1.07	248	ePG	Pg	16 07 17.1	+0.2
AKS	Akhisar	1.07	248	ePg	Pg	16 07 17.1	+0.2
CAVI	Cavuskoy	1.09	33	ePG	Pg	16 07 17.1	-0.2
CAVI	Cavuskoy	1.09	33	ePg	Pg	16 07 17.1	-0.2
IZI	Iznik	1.09	16	ePN	Pg	16 07 17.3	-0.1
IZI				eSN	Sb	16 07 32.7	+0.3
IZI	Iznik	1.09	16	ePn	Pg	16 07 17.3	-0.1
IZI				eSn	Sb	16 07 32.7	+0.3
KCTX	Karacabey (Bur	1.12	330	ePN	Pg	16 07 18.1	+0.1
KCTX	Karacabey (Bur	1.12	330	ePn	Pg	16 07 18.1	+0.1
GEMT	Gemlik	1.15	4	ePN	Pn	16 07 18.9	-0.3
GEMT	Gemlik	1.15	4	ePn	Pn	16 07 18.9	-0.3
ADVT	Abdulvahap	1.25	24	ePN	Pn	16 07 20.2	-0.4
ADVT	Abdulvahap	1.25	24	ePn	Pn	16 07 20.2	-0.4
ARMT	Armutlu	1.29	353	ePN	Pn	16 07 20.1	-1.0
ARMT				eSN	Sn	16 07 39.3	+0.6
ARMT	Armutlu	1.29	353	ePn	Pn	16 07 20.1	-1.0
ARMT				eSn	Sn	16 07 39.3	+0.6
GPA	Golpazari	1.38	43	ePN	Pb	16 07 22.5	-0.2
GPA	Golpazari	1.38	43	ePn	Pb	16 07 22.5	-0.2
ESKT	Eskisehir	1.39	80	ePN	Pb	16 07 22.9	-0.1
ESKT	Eskisehir	1.39	80	ePn	Pb	16 07 22.9	-0.1
SEYT	Eskypehyr	1.39	80	iP	Pn	16 07 22.0	-0.6
SEYT				iS	Sg	16 07 42.8	+1.7
SEYT	Eskypehyr	1.39	80	iP	Pn	16 07 22.0	-0.6
SEYT				iS	Sg	16 07 42.8	+1.7
EDC	Edincik	1.41	319	ePN	Pn	16 07 22.4	-0.4
EDC	Edincik	1.41	319	ePn	Pn	16 07 22.4	-0.4
DENT	Denizli	1.53	181	ePN	Pb	16 07 24.8	-0.5
DENT	Denizli	1.53	181	ePn	Pb	16 07 24.8	-0.5
HRT	Hereke	1.60	16	ePN	Pn	16 07 25.5	+0.1
HRT	Hereke	1.60	16	ePn	Pn	16 07 25.5	+0.1
SPNC	Sapanca-Adapaz	1.69	34	ePN	Pn	16 07 26.9	+0.4
SPNC	Sapanca-Adapaz	1.69	34	ePn	Pn	16 07 26.9	+0.4
ISK	Istanbul-Kandi	1.78	359	ePN	Pn	16 07 28.3	+0.5
ISK	Istanbul-Kandi	1.78	359	P	Pb	16 07 29.7	+0.2
ISK				S	Sg	16 07 52.8	-0.7
ISK	Istanbul-Kandi	1.78	359	ePn	Pn	16 07 28.3	+0.5
ISK	Istanbul-Kandi	1.78	359	P	Pb	16 07 29.7	+0.2
ISK				S	Sg	16 07 52.8	-0.7
SVRH	Sivrihisar-ESK	1.90	84	ePN	Pn	16 07 29.9	+0.3
SVRH	Sivrihisar-ESK	1.90	84	ePn	Pn	16 07 29.9	+0.3
SILT	Sile	1.91	13	ePN	Pn	16 07 30.2	+0.6
SILT	Sile	1.91	13	ePn	Pn	16 07 30.2	+0.6
GOLH	Golhisar	2.08	169	iP	Pn	16 07 31.8	-0.3
GOLH				iS	Pg	16 07 36.6	+0.2
GOLH	Golhisar	2.08	169	iP	Pn	16 07 31.8	-0.3
PRK	Paraskevi	2.18	270	P	Pn	16 07 34.1	+0.8
PRK				S	Sn	16 08 00.5	-0.1
PRK	Paraskevi	2.18	270	eP	Pn	16 07 34.2	+0.9
PRK				eS	Sg	16 08 07.0	+0.5
PRK	Paraskevi	2.18	270	P	Pn	16 07 34.1	+0.8
PRK				S	Sn	16 08 00.5	-0.1
SMG	Samos	2.36	229	eP	Pg	16 07 40.7	-1.0
SMG				eS	Sg	16 08 14.6	+2.2
SIGR	SIGRI	2.50	269	P	Pn	16 07 37.5	-0.3
SIGR	SIGRI	2.50	269	eP	Pb	16 07 40.2	-1.7
SIGR				eS	Sg	16 08 15.1	-1.8
SIGR	SIGRI	2.50	269	P	Pn	16 07 37.5	-0.3
CHOS	Chios island	2.53	250	eP	Pb	16 07 41.1	-1.2
CHOS				eS	Sg	16 08 18.0	+0.3
ALN	Alexandroupoli	2.83	306	eP	Pn	16 07 42.2	0.0
ALN				eS	Sn	16 08 16.5	-0.1
SMTH	Samothraki Isl	2.98	295	eP	Pn	16 07 44.6	+0.3
LIA	Limnos Island	3.07	283	P	Pn	16 07 45.9	+0.3
LIA	Limnos Island	3.07	283	eP	Pn	16 07 48.1	+2.5
LIA	Limnos Island	3.07	283	P	Pn	16 07 45.9	+0.3
RDO	Rodhopi	3.29	306	P	Pn	16 07 49.5	+1.0
RDO	Rodhopi	3.29	306	eP	Pn	16 07 49.5	+1.0
RDO	Rodhopi	3.29	306	P	Pn	16 07 49.5	+1.0
MLR	Muntele Rosu	6.62	341	⇑iP	Pn	16 08 39.7	+5.3
VRI	Vrincioaia	6.80	346	⇑iP	Pn	16 08 37.1	+0.3

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*IDC **09** 16:20:45.5±2.2, 7°.91S×122°.06E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.2/22, mbtmp3.2/3, ML2.9/2, Error ellipse: s-maj=285.1km s-min=29.7km az=55.0*
*ISCJB **09** 16:20:48.9±0.9, 8°.28S±0°.08×121°.84E±0°.06, h33km, mb3.5/1, Error ellipse: s-maj=12.4km s-min=7.4km az=17.2*
*DJA **09** 16:20:48.3±0.4, 8°S±5°×12°2E±°, h10km, M3.5/7, MLv3.5/7*
ISC 09 16:20:49.9±1.1**, 8°.38S**±0°.08×**121°.88E**±0°.06**, h35**km**, n8,** σ1s.**92**/10**, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	0.43	126	P	Pn	16 20 59.2	-0.4
MMRI				S	Sn	16 21 08.0	+1.7
WSI	Waingapu	2.02	231	P	Pn	16 21 20.9	-0.6
BSSI	Bau Bau, Buton	2.62	328	P	Pn	16 21 29.7	0.0
SOEI	Soe	2.72	120	P	Pn	16 21 36.1	+4.8
WBSI	Waikabubak, Su	2.76	243	P	Pn	16 21 30.9	-0.8
WBSI				S	Sn	16 22 05.5	+1.6
WRA	Warramunga Arr	16.66	135	Pn	P	16 24 42.9	0.0
	0.0nm,0.3s,baz=308,slow=12,SNR=2.5						
WRA				Sn	Sn	16 27 41.5	-3.4
	0.0nm,0.3s,baz=333,slow=24,SNR=2.8						
ASAR	Alice Springs	19.07	144	P	Pn	16 25 13.1	+2.6
	0.1nm,0.3s,baz=329,slow=14,SNR=7.2						
MKAR	Makanchi Array	65.25	331	P	P	16 31 26.9	-1.1
	0.2nm,0.5s,baz=145,slow=7.2,SNR=4.7						

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*ISCJB **09** 16:45:20.4±0.5, 32°.30N±0°.03×115°.33W±0°.03, h14km±4km, Error ellipse: s-maj=4.9km s-min=4.1km az=174.6*
*MEX **09** 16:45:21.9±0.6, 32°.44N×115°.23W, h25km±9km, MD3.8*
*ECX **09** 16:45:22.2±0.5, 32°.31N×115°.37W, h6km, MD3.3, ML3.5*
*NEIC **09** 16:45:22.2, 32°.31N×115°.36W, h8km, ML3.4(PAS), ML3.5(ECX), After ECX.*
ISC 09 16:45:20.6±0.9**, 32°.26N**±0°.03×**115°.37W**±0°.02**, h14**km±7km**, n35,** σ1s.**00**/49**, 12C-5D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.17	18	iP	Pg	16 45 24.5	-0.2
CPBX				eS	Sg	16 45 27.8	+0.3
CPBX	Cerro Prieto	0.17	18⇓	eP	Pg	16 45 24.4	-0.2
CPBX				eS	Sg	16 45 26.9	-0.6
CPBX				IAML		16 45 29.1	
	comp=N,61µm,0.2s						
CPBX				e		16 45 29.1	
MBIG	Mexicali	0.20	44	iP	Pg	16 45 25.5	+0.2
MBIG				eS	Sg	16 45 27.8	-0.6
SGL	Mount Signal	0.49	322⇑	iP	Pg	16 45 30.2	-0.2
DREC	Desert Rsrch C	0.55	353⇓	eP	Pg	16 45 31.4	0.0
EMSC	East Mesa	0.58	34⇑	iP	Pg	16 45 31.7	-0.3
WESC	Westside Schoo	0.59	328⇑	eP	Pg	16 45 32.1	0.0
RDX	Rancho Dawling	0.59	236⇑	eP	Pb	16 45 33.4	+0.6
RDX				eS	Sb	16 45 41.7	+0.6
RDX				⇑e		16 45 43.7	
YUH	Yuha Desert	0.61	310⇑	iP	Pg	16 45 32.2	-0.4
RMX	La Rumorosa	0.69	300⇑	eP	Pg	16 45 33.9	-0.3
RMX				eS	Sg	16 45 43.2	-0.2
RMX				IAML		16 45 44.8	
	comp=N,3µm,0.2s						
RMX				⇑e		16 45 44.8	
YMD	Yuma Desert	0.75	67⇑	iP	Pg	16 45 34.4	-0.9
ECBX	El Chinero	0.83	161	ePn	Pg	16 45 36.5	-0.2
ECBX				eS	Sb	16 45 48.1	+0.4
GLA	Glamis	0.91	30	ePg	Pg	16 45 36.1	-2.2
GLA				ePn	Pn	16 45 40.7	+1.6
GLA				eSg	Sg	16 45 47.2	-3.1
ZAX	El Zacaton	1.07	226⇑	eP	Pb	16 45 41.5	+0.5
CBX	Cerro Bola	1.10	273	eP	Pg	16 45 40.8	-1.1
CBX				eS	Sg	16 45 55.3	-1.0
CBX	Cerro Bola	1.10	273	eP	Pg	16 45 40.8	-1.1
CBX				eS	Sg	16 45 55.3	-1.0
CBX	Cerro Bola	1.10	273⇓	eP	Pg	16 45 41.4	-0.5
CBX				IAML		16 45 59.4	
	comp=E,1µm,0.3s						
CBX				⇓e		16 45 59.4	
BAR	Barrett	1.18	291	ePg	Pb	16 45 41.8	-1.0
BAR				eSg	Sg	16 45 57.9	-1.0
BAR	Barrett	1.18	291	eP	Pb	16 45 42.4	-0.4
ECNX	Esteban Cantu	1.21	240⇑	eP	Pb	16 45 43.6	+0.3
SPX	San Pedro Mart	1.21	184	iP	Pb	16 45 43.5	0.0
SPX				eS	Sg	16 45 59.9	0.0
SPX	San Pedro Mart	1.21	184⇓	eP	Pb	16 45 43.5	0.0
PBX	Punta Banda	1.27	246⇑	eP	Pn	16 45 44.3	+0.5
214A	Organ Pipe Nat	2.19	97	ePn	Pn	16 45 54.8	-1.8
214A				ePg	Pb	16 46 00.3	+0.3
MWC	Mount Wilson	2.99	312	ePg	Pb	16 46 13.6	-0.1
MWC				eSg	Sb	16 46 51.6	+1.5
PASC	Pasadena Art C	3.04	310	ePg	Pb	16 46 13.6	-0.8
GSC	Goldstone, Bar	3.26	339	ePg	Pg	16 46 26.4	+3.2
OSI	Osito Audit: C	3.66	311	ePg	Pb	16 46 25.2	+0.1
TUC	Tucson	3.88	88	ePn	Pn	16 46 19.9	+0.1
TUC				ePg	Pb	16 46 30.4	+1.6
SHPR	Sheep Range	4.24	2	Pn	Pn	16 46 27.4	+2.5
DAC	Darwin (Calif)	4.41	336	Pg	Pg	16 46 43.8	-1.3
WUAZ	Wupatki	4.64	45	ePn	Pn	16 46 31.2	+0.7
W18A	Petrified Fore	5.49	57	ePn	Pn	16 46 42.8	+0.6
R11A	Troy Canyon, C	6.08	358	ePg	Pg	16 47 16.6	-0.4
	comp=E,1.2nm,0.5s						
121A	Cookes Peak, D	6.42	86	ePn	Pn	16 46 55.0	+0.2
	comp=E,4.5nm,0.4s						

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*MOS **09** 16:54:21.9±0.9, 70°.41N×15°.19W, h10km, mb5.0/70, MS4.3/33, Error ellipse: s-maj=11.7km s-min=4.0km az=102.9*
*ISCJB **09** 16:54:21.9±0.1, 70°.33N±0°.02×15°.35W±0°.05, h10km, mb4.7/165, MS4.4/59, Error ellipse: s-maj=2.7km s-min=2.2km az=137.2*
*CSEM **09** 16:54:21.9±0.1, 70°.36N×15°.26W, h2km, mb4.9/99, Ms4.2, Error ellipse: s-maj=3.4km s-min=2.3km az=40.0*
*IDC **09** 16:54:22.1±0.4, 70°.37N×15°.14W, h0km, mb4.2/28, mb1 4.4/34, mb1mx4.3/51, mbtmp4.2/34, ML3.9/4, MS4.3/36, Ms1 4.3/36, ms1mx4.3/41, Error ellipse: s-maj=13.3km s-min=8.9km az=31.0*
*BJI **09** 16:54:22.3, 70°.89N×15°.53W, h12km, mb4.9/53, mB5.0/43, Ms4.8/40, Ms7 4.6/40*
*REY **09** 16:54:22.4, 70°.00N×13°.72W, h10km, ML3.6, ML3.6*
*NEIC **09** 16:54:23.7±0.1, 70°.40N×15°.10W, h10km, mb4.9/94, Error ellipse: s-maj=4.2km s-min=2.3km az=36.0*
*GCMT **09** 16:54:23.7±0.2, 70°.40N×15°.07W, h12km, MW5.0/97, Moment Tensor Solution. s36,c40; s97,c160; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.57±.10; $M_{\theta\theta}$1.09±.10; $M_{\phi\phi}$3.48±.09; $M_{r\theta}$0.56±.39; $M_{\theta\phi}$1.34±.08; $M_{\phi r}$-1.82±.33; Best double couple: $M_0$4.70000×10^{16} NP1:ϕ_s11.00000°, δ56.00000°, λ-104.00000°. NP2: ϕ_s215.00000°, δ37.00000°, λ-70.00000°. Principal axes: T 4.3220, Plg10.0000°, Azm111.0000°; N 0.7560, Plg12.0000°, Azm19.0000°; P -5.0780, Plg75.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BER **09** 16:54:25.0±3.5, 70°.27N×14°.49W, h10km, ML4.2(NAO)*
*SZGRF **09** 16:54:35.7, 70°.00N×12°.59W, h33km, mb5.2, MS4.0, Jan Mayen Island region*
ISC 09 16:54:23.9±0.3**, 70°.35N**±0°.03×**15°.38W**±0°.03**, h13**km±1km**, h13**km**:pP-P, n722,** σ1s.**41**/786**, mb4.8**/175**, MS4.4**/61**, 22C-18D, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	Jan Mayen	2.29	72	eP	Pn	16 54 56.3	-4.9
JMI				eS	Sn	16 55 20.6	-8.6
JMIC	Jan Mayen	2.38	71	eP	Pn	16 54 56.9	-5.5
JMIC				eS	Sn	16 55 24.7	-6.6
JMIC	Jan Mayen	2.38	71	Pn	Pn	16 54 56.8	-5.6
	4.4nm,0.3s,baz=217,slow=1.1,SNR=15						
JMIC				Sn	Sn	16 55 21.7	-10
	21nm,0.3s,baz=252,slow=14,SNR=11						
JNW	Jan Mayen West	2.41	70	eP	Pn	16 54 58.3	-4.6
JNE	Jan Mayen East	2.44	71	eP	Pn	16 54 59.5	-3.8
JNE	Jan Mayen East	2.44	71	eP	Pn	16 54 59.5	-3.8
	SNR=50						
IGRI	Grimsey	3.95	195	P	Pn	16 55 22.1	-1.9
IGRI	Grimsey	3.95	195	P	Pn	16 55 22.1	-1.9
	baz=207						
ILEI	Leirhofn	3.99	186	P	Pn	16 55 21.0	-3.6
ILEI	Leirhofn	3.99	186	P	Pn	16 55 20.9	-3.6
	baz=197						
ILEI				S	Sn	16 56 07.1	-3.9
	baz=197						
IFLA	Flatey	4.31	193	P	Pn	16 55 27.2	-1.8
IFLA	Flatey	4.31	193	P	Pn	16 55 27.2	-1.8
	baz=204						
IGIL	Gilhagi	4.31	185	P	Pn	16 55 25.1	-3.9
	baz=195						
IGIL				S	Sn	16 56 14.2	-4.8
	baz=195						
IHED	Heoinshofoi	4.35	190	P	Pn	16 55 27.2	-2.3
IHED				S	Sn	16 56 17.4	-2.6
IHED	Heoinshofoi	4.35	190	P	Pn	16 55 27.2	-2.3
	baz=201						
IHED				S	Sn	16 56 17.4	-2.6
	baz=201						
IBRE	Brettingsstaoi	4.35	194	P	Pn	16 55 27.6	-2.0
IBRE	Brettingsstaoi	4.35	194	P	Pn	16 55 27.6	-2.0
	baz=204						
ISIG	Siglufjorour	4.44	199	P	Pn	16 55 29.5	-1.2
ISIG				S	Sn	16 56 21.1	-1.0
ISIG	Siglufjorour	4.44	199	P	Pn	16 55 29.5	-1.2
	baz=209						
ISIG				S	Sn	16 56 21.1	-1.0
	baz=209						
IDIM	Dimmadals˜¡s	4.45	188	P	Pn	16 55 27.5	-3.4
	baz=198						
IDIM				S	Sn	16 56 18.6	-3.9
	baz=198						
IGRA	Granastaoir	4.53	191	P	Pn	16 55 30.4	-1.6
IGRA				S	Sn	16 56 22.7	-1.7
IGRA	Granastaoir	4.53	191	P	Pn	16 55 30.4	-1.6
	baz=201						
IGRA				S	Sn	16 56 22.7	-1.7
	baz=201						
IGHA	Grjothals	4.56	187	P	Pn	16 55 28.8	-3.6
IGHA	Grjothals	4.56	187	P	Pn	16 55 28.8	-3.6
	baz=196						
IGHA				S	Sn	16 56 20.8	-4.3
	baz=196						
IHLA	Hella	4.57	196	P	Pn	16 55 31.0	-1.5
IHLA				S	Sn	16 56 24.5	-0.9
IHLA	Hella	4.57	196	P	Pn	16 55 31.0	-1.5
	baz=206						
IHLA				S	Sn	16 56 24.5	-0.9
	baz=206						
IHRN	Hraun	4.61	205	P	Pn	16 55 32.3	-0.8
IHRN				S	Sn	16 56 27.0	+0.6
IHRN	Hraun	4.61	205	P	Pn	16 55 32.3	-0.8
	baz=215						
IHRN				S	Sn	16 56 27.0	+0.6
	baz=215						
IKVO	Krokottuvotn	4.70	188	P	Pn	16 55 31.4	-2.9
IKVO	Krokottuvotn	4.70	188	P	Pn	16 55 31.4	-2.9
	baz=197						
IGRS	Grimsstaoir	4.75	184	P	Pn	16 55 31.2	-3.8

IGRS Grimsstaoir 4.75 184 P Pn 16 55 31.2 -3.8
baz=193
IREN Reynihlio 4.76 188 P Pn 16 55 32.6 -2.6
IREN S Sn 16 56 27.8 -2.4
IREN Reynihlio 4.76 188 P Pn 16 55 32.6 -2.6
baz=197
IREN S Sn 16 56 27.8 -2.4
baz=197
IMEL Melhnausar 4.83 186 P Pn 16 55 32.7 -3.4
IMEL Melhnausar 4.83 186 P Pn 16 55 32.7 -3.4
baz=196
ISVA Svartarkot 5.09 189 P Pn 16 55 37.3 -2.4
ISVA S Sn 16 56 36.4 -1.8
ISVA Svartarkot 5.09 189 P Pn 16 55 37.3 -2.4
baz=198
ISVA S Sn 16 56 36.4 -1.8
baz=198
IADA Aoalbol 5.36 181 P Pn 16 55 39.6 -3.8
baz=189
IGLU Glumsstadir 5.40 179 P Pn 16 55 40.0 -3.9
baz=187
IMKO Mokollar 5.41 184 P Pn 16 55 41.5 -2.7
baz=192
IHVA Hvannstoosfjol 5.43 182 P Pn 16 55 40.6 -3.7
baz=190
IBRU Bruarjokull 5.56 183 P Pn 16 55 42.7 -3.5
baz=191
IVSH V-Sauoahnukur 5.57 182 P Pn 16 55 42.8 -3.6
baz=189
BORG Borgarnes 6.07 205 Pn Pn 16 55 53.5 +0.4
3.8nm,0.3s,baz=45,slow=6.4,SNR=13
BORG Sn Sn 16 57 07.6 +5.3
baz=15,slow=22,SNR=0.6
BORG LR LR 16 57 39.3
comp=Z,1µm,21.6s,baz=350,slow=32
BORG Borgarnes 6.07 205 eP Pn 16 55 53.6 +0.4
BORG 16 57 07.6
BORG pmax pmax
comp=Z,86nm,0.8s
BORG Borgarnes 6.07 205 eP Pn 16 55 53.6 +0.4
comp=Z,86nm,0.8s
BORG Borgarnes 6.07 205 eP Pn 16 55 53.6 +0.4
comp=Z,86nm,0.8s
BORG Sn Sn 16 57 07.6 +5.3
SUMG Summit 7.66 298 i P Pn 16 56 15.0 -0.2
SUMG eS Sn 16 57 37.4 -4.4
comp=Z,10µm,13.0s
SUMG Summit 7.66 298 eP Pn 16 56 15.0 -0.2
SUMG eS Sn 16 57 37.4 -4.4
SUMG MLR MLR
comp=Z,10µm,13.0s
SUMG Summit 7.66 298 ePn Pn 16 56 14.8 -0.4
comp=Z,133nm,1.3s
SUMG Summit 7.66 298 eP Pn 16 56 15.1 -0.2
SNR=53
SUMG Summit 7.66 298 ePn Pn 16 56 14.8 -0.4
comp=Z,133nm,1.3s
SPA0 Spitsbergen Ar 11.44 33 Pn Pn 16 57 05.1 -1.4
baz=238,slow=12
SPA0 Sn Sn 16 59 08.7 -5.2
baz=243,slow=28
SPA0 Spitsbergen Ar 11.44 33 Pn Pn 16 57 05.1 -1.4
SNR=50
SPITS Spitsbergen Ar 11.44 33 Pn Pn 16 57 05.2 -1.4
baz=217,slow=14,SNR=90
SPITS LR LR 17 00 21.0
comp=Z,2µm,20.8s,baz=255,slow=32
AKN Aaknes 12.10 122 Pn Pn 16 57 15.9 +0.3
AKN Aaknes 12.10 122 Pn Pn 16 57 15.9 +0.3
SNR=50
ILULI Ilulissat 12.29 282 i P Pn 16 57 15.4 -2.8
comp=Z,72nm,1.5s
comp=Z,6µm,14.0s
KULLO Kullorsuaq 13.05 308 i P Pn 16 57 23.5 -5.1
comp=Z,79nm,1.1s
comp=Z,7µm,12.0s
ARA0 ARCESS Array S 13.86 74 Pn Pn 16 57 33.5 -6.2
ARCES ARCESS Array B 13.86 74 Pn Pn 16 57 33.9 -5.8
comp=Z,0.1nm,0.3s,baz=302,slow=8.4,SNR=3.6
ARCES LR LR 17 01 56.1
comp=Z,2µm,19.2s,baz=296,slow=33
ARE0 ARCESS Array S 13.86 74 P P 16 57 45.1 -2.8
NB2 NORSAR Subarra 14.24 118 P Pn 16 57 42.6 -2.3
comp=Z,66nm,2.0s,baz=322,slow=11
NB2 NORSAR Subarra 14.24 118 Pn Pn 16 57 42.5 -2.4
NB2 NORSAR Subarra 14.24 118 P Pn 16 57 42.6 -2.3
comp=Z,66nm,2.0s,SNR=7.5
NOA NORSAR Array B 14.24 118 Pn Pn 16 57 44.8 -0.1
comp=Z,0.1nm,0.3s,baz=315,slow=11,SNR=3.8
NOA LR LR 17 02 34.7
comp=Z,1µm,20.9s,baz=320,slow=35
KONO Kongsberg 14.90 123 eP Pn 16 57 52.8 -1.0
KONO pmax pmax
comp=Z,38nm,1.2s
HFS Hagfors 15.71 116 Pn Pn 16 58 03.9 -0.6
baz=307,slow=10
HFS Hagfors 15.71 116 Pn Pn 16 58 02.9 -1.6
comp=Z,0.1nm,0.3s,baz=317,slow=12,SNR=15
HFS LR LR 17 03 19.8
comp=Z,2µm,21.7s,baz=308,slow=34
HFS Hagfors 15.71 116 Pn Pn 16 58 03.9 -0.6
SNR=50
EKA Eskdalemuir Ar 16.01 154 Pn Pn 16 58 09.5 +1.0
baz=350,slow=11,SNR=8.0
EKA LR LR 17 03 37.5
comp=Z,2µm,19.1s,baz=340,slow=35
MUD Monsted U'grnd 17.54 130⇑iP Pn 16 58 26.3 -1.4
comp=Z,218nm,2.2s
comp=Z,1µm,23.0s
MUD Monsted U'grnd 17.54 130⇑iP Pn 16 58 26.3 -1.4
MUD pmax pmax
comp=Z,220nm,2.2s
MUD MLR MLR
comp=Z,1µm,23.0s
MUD Monsted U'grnd 17.54 130⇑iP Pn 16 58 26.4 -1.3
SNR=46
LVZ Lovozero 17.58 74 i P Pn 16 58 27.0 -1.2
LVZ pmax pmax
comp=Z,69nm,1.7s
LVZ Lovozero 17.58 74 i P Pn 16 58 27.0 -1.2
comp=Z,69nm,1.7s
LVZ Lovozero 17.58 74 P Pn 16 58 25.4 -2.7
comp=Z,68nm,1.4s
FIA0 FINESS Array S 18.72 98 Pn P 16 58 40.9 -0.8
baz=324,slow=12
FIA0 FINESS Array S 18.72 98 Pn P 16 58 40.9 -0.8
SNR=50
FIA1 FINESS Array S 18.72 98 eP P 16 58 41.2 -0.5
FIA1 FINESS Array S 18.72 98 eP P 16 58 41.2 -0.5
FINES FINESS Array B 18.72 98 P P 16 58 40.1 -1.6
comp=Z,0.9nm,0.3s,baz=318,slow=10,SNR=49
FINES LR LR 17 05 01.1
comp=Z,2µm,19.5s,baz=318,slow=34
COP Copenhagen 19.09 126 i P P 16 58 45.7 0.0
comp=Z,560nm,18.0s
COP Copenhagen 19.09 126 eP P 16 58 45.7 0.0
COP MLR MLR
comp=Z,560nm,18.0s
COP Copenhagen 19.09 126 eP P 16 58 45.7 0.0
comp=Z,874nm,2.9s,SNR=40
LLD Lille Linde 19.34 127 i P Pn 16 58 50.5 +0.9
LLD Lille Linde 19.34 127 eP Pn 16 58 50.5 +0.9
LLD Lille Linde 19.34 127 eP Pn 16 58 50.5 +0.9
BSD Bornholm Skovb 20.28 123 i P P 16 58 57.5 -1.2
comp=Z,43nm,1.2s
comp=Z,730nm,13.0s
BSD Bornholm Skovb 20.28 123 i P P 16 58 57.5 -1.2
BSD pmax pmax
comp=Z,43nm,1.2s
BSD MLR MLR
comp=Z,740nm,13.0s
BSD Bornholm Skovb 20.28 123 i P P 16 58 57.6 -1.2
SNR=39
TMCR Tamitsa 20.89 81 eP P 16 59 05.8 +0.5
TMCR pmax pmax
comp=Z,64nm,1.7s
IBBN Ibbenburen 20.97 138 eP P 16 59 07.5 +1.2
comp=Z,88nm,2.1s
IBBN Ibbenburen 20.97 138 eP P 16 59 07.5 +1.2
comp=Z,88nm,2.1s
WTSB Winterswijk 21.07 139 eP P 16 59 06.7 -0.7
WTSB Winterswijk 21.07 139 eP P 16 59 06.7 -0.7
FRB Frobisher Bay 21.08 278 P P 16 59 08.5 +1.1
comp=Z,6.3nm,0.8s,baz=53,slow=12,SNR=8.8
FRB LR LR 17 07 07.1
comp=Z,1µm,18.6s,baz=37,slow=36
VSU Vasula 21.18 103c iP P 16 59 07.1 -1.3
VSU pmax pmax
comp=Z,292nm,1.1s
VSU Vasula 21.18 103 i P P 16 59 07.1 -1.3
comp=Z,292nm,1.1s
NRDL Niedersach Rie 21.35 134 eP P 16 59 10.4 +0.1
comp=Z,212nm,2.1s
NRDL Niedersach Rie 21.35 134 eP P 16 59 10.4 +0.1
comp=Z,212nm,2.1s
BUG Bochum--Univer 21.67 139 eP P 16 59 13.6 -0.2
comp=Z,76nm,1.4s
BUG Bochum--Univer 21.67 139 eP P 16 59 13.6 -0.2
comp=Z,76nm,1.4s
SNF Seneffe 21.93 145 P P 16 59 16.7 +0.1
BEBN Eben Emael 21.94 142 P P 16 59 16.9 +0.3
CLZ Clausthal 22.02 134 eP P 16 59 17.4 -0.2
comp=Z,65nm,2.0s
CLZ Clausthal 22.02 134 eP P 16 59 17.4 -0.2
comp=Z,65nm,2.0s
HGN Heimansgroeve 22.02 142 eP P 16 59 17.7 +0.2
comp=Z,240nm,2.0s
HGN eL L 17 06 55.8
comp=Z,797nm,22.0s
HGN Heimansgroeve 22.02 142 eP P 16 59 17.7 +0.2
comp=Z,240nm,2.0s
MEM Membach 22.18 142 P P 16 59 20.4 +1.1
BCLA Clavier 22.22 143 P P 16 59 20.9 +1.2
comp=Z,28nm,2.2s
DOU Dourbes 22.39 145 P P 16 59 21.1 -0.4
comp=Z,24nm,2.6s
GIVF Givet 22.43 144 eP P 16 59 20.9 -1.0
GIVF Givet 22.43 144 eP P 16 59 20.9 -1.0
GIVF Givet 22.43 144 eP P 16 59 20.9 -1.0
GIVF Givet 22.43 144 eP P 16 59 20.9 -1.0
RES Resolute Bay 22.55 317 P P 16 59 24.5 +1.5
comp=Z,11nm,1.0s,baz=50,slow=9.3,SNR=8.9
RES LR LR 17 08 06.2
comp=Z,2µm,18.3s,baz=64,slow=36
RES Resolute Bay 22.55 317 P P 16 59 24.5 +1.5
RES pmax pmax
comp=Z,11nm,1.0s
RES MLR MLR
comp=Z,2µm,18.3s
RES Resolute Bay 22.55 317 eP P 16 59 22.6 -0.4
comp=Z,43nm,1.4s
RES Resolute Bay 22.55 317 eP P 16 59 22.6 -0.4
comp=Z,43nm,1.4s
GKP Gorka Klasztor 22.55 122 eP P 16 59 23.3 +0.1
GKP LMZ LR 17 05 54.1
GKP Gorka Klasztor 22.55 122 eP P 16 59 23.4 +0.2
GKP Gorka Klasztor 22.55 122 eP P 16 59 23.4 +0.2
FLN La Foliniere 22.80 154 eP P 16 59 25.2 -0.7
comp=Z,68nm,1.3s
FLN eR
comp=Z,1µm,17.8s
FLN La Foliniere 22.80 154 eP P 16 59 25.2 -0.7
FLN pmax pmax
comp=Z,68nm,1.3s
FLN La Foliniere 22.80 154 eP P 16 59 25.2 -0.7
comp=Z,34nm,1.3s
FLN La Foliniere 22.80 154 eP P 16 59 25.2 -0.7
comp=Z,68nm,1.3s
ROSF Rostrenen 22.84 159 eP P 16 59 27.1 +0.8
comp=Z,102nm,1.6s
ROSF Rostrenen 22.84 159 eP P 16 59 27.1 +0.8
ROSF pmax pmax
comp=Z,102nm,1.6s
ROSF Rostrenen 22.84 159 eP P 16 59 27.1 +0.8
comp=Z,51nm,1.6s
ROSF Rostrenen 22.84 159 eP P 16 59 27.1 +0.8
comp=Z,102nm,1.6s
UBBA Unterbreizbach 22.88 136 eP P 16 59 26.6 0.0
comp=Z,211nm,2.5s
UBBA Unterbreizbach 22.88 136 eP P 16 59 26.6 0.0
comp=Z,211nm,2.5s
SGMF Saint Gilles 23.01 158 eP P 16 59 29.2 +1.1
comp=Z,142nm,1.8s
SGMF Saint Gilles 23.01 158 eP P 16 59 29.2 +1.1
SGMF pmax pmax
comp=Z,142nm,1.8s
SGMF Saint Gilles 23.01 158 eP P 16 59 29.2 +1.1
comp=Z,71nm,1.8s
SGMF Saint Gilles 23.01 158 eP P 16 59 29.2 +1.1
comp=Z,142nm,1.8s
LDF La Druitiere 23.02 153 eP P 16 59 27.5 -0.6
comp=Z,79nm,1.3s
LDF La Druitiere 23.02 153 eP P 16 59 27.5 -0.6
LDF pmax pmax
comp=Z,79nm,1.3s
LDF La Druitiere 23.02 153 eP P 16 59 27.5 -0.6
comp=Z,40nm,1.3s
LDF La Druitiere 23.02 153 eP P 16 59 27.5 -0.6
comp=Z,79nm,1.3s
TNS Taunus Mts 23.07 139 eP P 16 59 29.0 +0.2
comp=Z,506nm,3.2s
TNS Taunus Mts 23.07 139 eP P 16 59 29.0 +0.2
comp=Z,506nm,3.2s
GRR Gorron 23.11 155 eP P 16 59 29.0 -0.1
comp=Z,40nm,1.0s
GRR Gorron 23.11 155 eP P 16 59 29.0 -0.1
GRR pmax pmax
comp=Z,41nm,1.0s
GRR Gorron 23.11 155 eP P 16 59 29.0 -0.1
comp=Z,20nm,1.0s
GRR Gorron 23.11 155 eP P 16 59 29.0 -0.1
comp=Z,40nm,1.0s
WLF Walferdange 23.11 143 P P 16 59 29.2 +0.1
WLF Walferdange 23.11 143 eP P 16 59 28.2 -0.9
comp=Z,568nm,3.8s
WLF Walferdange 23.11 143 eP P 16 59 28.2 -0.9
comp=Z,568nm,3.8s
CLL Collm 23.17 131 eP P 16 59 29.0 -0.6
comp=Z,329nm,2.9s
CLL Collm 23.17 131 eP P 16 59 28.0 -1.6
comp=Z,333nm,2.9s
CLL ePP PnPn 16 59 56.0 +1.2
CLL eS S 17 03 42.0 +1.4
CLL Collm 23.17 131 eP P 16 59 28.0 -1.6
CLL eS S 17 03 42.0 +1.4
CLL pmax pmax
comp=Z,333nm,2.9s
CLL Collm 23.17 131 eP P 16 59 29.0 -0.6
comp=Z,329nm,2.9s
RUP Ruppelstein 23.26 141⇑eP P 16 59 31.6 +0.9
QUIF Quistinic 23.26 159 eP P 16 59 30.2 -0.4
comp=Z,64nm,1.4s
QUIF Quistinic 23.26 159 eP P 16 59 30.2 -0.4
QUIF pmax pmax
comp=Z,64nm,1.4s
QUIF Quistinic 23.26 159 eP P 16 59 30.2 -0.4
comp=Z,32nm,1.4s
QUIF Quistinic 23.26 159 eP P 16 59 30.2 -0.4
comp=Z,64nm,1.4s
MOX Moxa 23.43 133 eP P 16 59 32.5 +0.2
comp=Z,183nm,2.5s
MOX eL L 17 07 43.5
comp=Z,695nm,21.7s
MOX Moxa 23.43 133 eP P 16 59 32.5 +0.2
comp=Z,183nm,2.5s
KLMR Klimovskoe 23.68 86c iP P 16 59 33.8 -0.9
KLMR S S 17 03 49.7 +1.0
KLMR pmax pmax
comp=Z,193nm,1.6s
KLMR MLR MLR
comp=Z,2µm,16.0s
KLMR Klimovskoe 23.68 86 i P P 16 59 33.8 -0.9
comp=Z,193nm,1.6s
SUW Suwalki 23.68 114 eP P 16 59 33.6 -1.1
SUW LMZ LR 17 07 38.1
SUW Suwalki 23.68 114 eP P 16 59 33.6 -1.1
SUW MLR MLR
comp=Z,2µm,22.5s
SUW Suwalki 23.68 114 eP P 16 59 33.6 -1.1
comp=Z,2µm,22.5s
TOD Tromm 23.73 139 eP P 16 59 35.6 +0.3
BRG Berggiesshubel 23.81 130 i P P 16 59 35.7 -0.3
comp=Z,12nm,1.1s
BRG *e* 16 59 50.3
comp=Z,32nm,1.9s
BRG S S 17 03 56.0 +5.1
comp=N,768nm,18.2s
comp=E,640nm,16.8s
comp=Z,1µm,17.4s
BRG Berggiesshubel 23.81 130 eP P 16 59 35.4 -0.6
comp=Z,362nm,3.2s
BRG Berggiesshubel 23.81 130 i P P 16 59 35.7 -0.3
BRG S S 17 03 56.0 +5.1
BRG pmax pmax
comp=Z,12nm,1.1s
BRG MLR MLR
comp=N,768nm,18.2s
BRG MLR MLR
comp=E,640nm,16.8s
BRG MLR MLR
comp=Z,1µm,17.4s
BRG Berggiesshubel 23.81 130 i P P 16 59 35.7 -0.3
comp=Z,12nm,1.1s
KTD Kalmit 23.84 140⇑eP P 16 59 37.1 +0.7
TANN Tannenbergstha 23.85 132 eP P 16 59 36.2 -0.3
comp=Z,321nm,2.8s
TANN Tannenbergstha 23.85 132 eP P 16 59 36.2 -0.3
comp=Z,321nm,2.8s
MEZF Maizieres J'vi 24.00 145 eP P 16 59 38.1 +0.3
MEZF Maizieres J'vi 24.00 145 eP P 16 59 38.1 +0.3
MEZF Maizieres J'vi 24.00 145 eP P 16 59 38.1 +0.3
NKC Novy Kostel 24.01 133 eP P 16 59 38.3 +0.3
NKC AMS AMS 17 07 30.0
comp=Z,500nm,23.4s
NKC Novy Kostel 24.01 133 eP P 16 59 38.3 +0.3
NKC MLR MLR
comp=Z,500nm,23.4s
NKC Novy Kostel 24.01 133 eP P 16 59 38.3 +0.3
comp=Z,500nm,23.4s
NACGM Naroch 24.07 108 eP P 16 59 36.0 -2.4
PAGF Fort de Pagny 24.08 144 eP P 16 59 38.8 +0.2
PAGF Fort de Pagny 24.08 144 eP P 16 59 38.8 +0.2
PAGF Fort de Pagny 24.08 144 eP P 16 59 38.8 +0.2
LANF Langenberg 24.11 141 eP P 16 59 39.4 +0.6
LANF Langenberg 24.11 141 eP P 16 59 39.4 +0.6
GRA1 Grafenberg Arr 24.21 135 eP P 16 59 40.3 +0.5
comp=Z,780nm,3.2s
GRF Grafenberg Arr 24.21 135 eP P 16 59 40.3 +0.5
comp=Z,780nm,3.2s
GRF eL L 17 08 08.7
comp=Z,501nm,21.1s
GRFO Grafenberg 24.22 135 eP P 16 59 39.8 0.0
GRFO pmax pmax
comp=Z,126nm,1.9s
GRFO Grafenberg 24.22 135 eP P 16 59 39.8 0.0
comp=Z,126nm,1.9s
GRFO Grafenberg 24.22 135 eP P 16 59 39.8 0.0
comp=Z,126nm,1.9s
SFTF Sexfontaines 24.28 145 eP P 16 59 40.8 +0.4
comp=Z,24nm,0.8s
SFTF Sexfontaines 24.28 145 eP P 16 59 40.8 +0.4
comp=Z,12nm,0.8s
SFTF Sexfontaines 24.28 145 eP P 16 59 40.8 +0.4
comp=Z,24nm,0.8s
ROTZ Rotzenmuhle 24.39 133 eP P 16 59 41.3 -0.1
comp=Z,461nm,3.7s
ROTZ Rotzenmuhle 24.39 133 eP P 16 59 41.3 -0.1
comp=Z,461nm,3.7s
THEF They Montfort 24.45 144 eP P 16 59 44.3 +2.4
THEF They Montfort 24.45 144 eP P 16 59 44.3 +2.4
KSP Ksiaz 24.46 126 eP P 16 59 42.1 +0.1
KSP eS S 17 04 12.9 +11
KSP LMZ LR 17 08 36.6
KSP Ksiaz 24.46 126 eP P 16 59 42.2 +0.2
KSP MLR MLR
comp=Z,1µm,18.9s
KSP Ksiaz 24.46 126 eP P 16 59 42.2 +0.2
comp=Z,1µm,18.9s
CDF Champ du Feu 24.53 142 eP P 16 59 43.0 +0.2
comp=Z,34nm,1.1s
CDF Champ du Feu 24.53 142 eP P 16 59 43.0 +0.2
CDF pmax pmax
comp=Z,34nm,1.0s
CDF Champ du Feu 24.53 142 eP P 16 59 43.0 +0.2
comp=Z,17nm,1.1s
CDF Champ du Feu 24.53 142 eP P 16 59 43.0 +0.2
comp=Z,34nm,1.0s
STU Stuttgart 24.61 139 eP P 16 59 44.0 +0.6
comp=Z,39nm,1.1s
STU Stuttgart 24.61 139 eP P 16 59 44.0 +0.6
comp=Z,39nm,1.1s
PRA Prague 24.67 130 AMS AMS 17 09 40.0
comp=Z,1µm,18.8s
UPC Upice 24.69 127 eP P 16 59 45.0 +0.9
UPC Upice 24.69 127 eP P 16 59 45.0 +0.9
UPC Upice 24.69 127 eP P 16 59 45.0 +0.9
ECH Echery 24.69 142⇑eP P 16 59 44.5 +0.3
ECH Echery 24.69 142 P P 16 59 43.5 -0.7
ECH pmax pmax
comp=Z,29nm,1.4s
ECH Echery 24.69 142⇑eP P 16 59 44.5 +0.3
ECH Echery 24.69 142 P P 16 59 43.5 -0.7
comp=Z,29nm,1.4s
MNK Minsk 24.75 107 eP P 16 59 43.0 -1.6
MNK MLR MLR
comp=Z,3µm,16.0s
MNK Minsk 24.75 107 eP P 16 59 43.0 -1.6
comp=Z,3µm,16.0s
MICGM Minsk 24.76 107 *e* P 16 59 43.0 -1.7
PRU Pruhonice 24.77 130 eP P 16 59 44.8 -0.1
PRU eS S 17 04 12.1 +5.7
PRU AMS AMS 17 09 40.0
comp=Z,1µm,17.8s
PRU Pruhonice 24.77 130 eP P 16 59 44.8 -0.1
PRU *e* 17 04 12.1
PRU MLR MLR
comp=Z,1µm,17.8s
PRU Pruhonice 24.77 130 eP P 16 59 44.8 -0.1
comp=Z,1µm,17.8s
BFO Black Forest 24.83 140 eP P 16 59 45.6 +0.1
comp=Z,292nm,3.0s
BFO Black Forest 24.83 140 eP P 16 59 45.4 -0.1
BFO pmax pmax
comp=Z,23nm,1.3s
BFO Black Forest 24.83 140 eP P 16 59 45.6 +0.1
comp=Z,292nm,3.0s
BFO Black Forest 24.83 140 eP P 16 59 45.4 -0.1
comp=Z,23nm,1.3s
BEL Belsk 24.85 119 eP P 16 59 46.0 +0.5
BEL LMZ LR 17 07 26.2
BEL Belsk 24.85 119 eP P 16 59 46.0 +0.5
BEL Belsk 24.85 119 eP P 16 59 46.0 +0.5
LIBD Limburg 24.85 142 eP P 16 59 46.6 +1.0
GOPC GO Pecny, Ondr 24.90 130 eP P 16 59 47.2 +1.1
GOPC eS S 17 04 14.9 +6.3
GOPC AMS AMS 17 09 40.0
comp=Z,1µm,17.5s
DPC Dobruska-Polom 24.91 127 eP P 16 59 47.3 +1.1
DPC eS S 17 04 14.7 +5.9
DPC Dobruska-Polom 24.91 127 eP P 16 59 47.3 +1.1
DPC *e* 17 04 14.7
DPC Dobruska-Polom 24.91 127 eP P 16 59 47.3 +1.1
MFF Saint Martin d 24.96 155 eP P 16 59 46.6 0.0
comp=Z,85nm,1.6s
MFF Saint Martin d 24.96 155 eP P 16 59 46.6 0.0
MFF pmax pmax
comp=Z,85nm,1.6s
MFF Saint Martin d 24.96 155 eP P 16 59 46.6 0.0
comp=Z,43nm,1.6s
MFF Saint Martin d 24.96 155 eP P 16 59 46.6 0.0
comp=Z,85nm,1.6s
LOR Lormes 24.96 148 eP P 16 59 45.9 -0.7
comp=Z,22nm,0.9s
LOR eR
comp=Z,1µm,21.8s
LOR Lormes 24.96 148 eP P 16 59 45.9 -0.7
LOR pmax pmax
comp=Z,22nm,0.9s
LOR Lormes 24.96 148 eP P 16 59 45.9 -0.7
comp=Z,11nm,0.9s
LOR Lormes 24.96 148 eP P 16 59 45.9 -0.7
comp=Z,22nm,0.9s
HINF Hinteralfeld 25.01 143 eP P 16 59 47.6 +0.5
HINF Hinteralfeld 25.01 143 eP P 16 59 47.6 +0.5
HINF Hinteralfeld 25.01 143 eP P 16 59 47.6 +0.5
HINF Hinteralfeld 25.01 143 eP P 16 59 47.6 +0.5
MOF Molkenrain 25.04 142 eP P 16 59 47.9 +0.5
MOF Molkenrain 25.04 142 eP P 16 59 47.9 +0.5
SSF Saint Saulge 25.10 149 eP P 16 59 48.2 +0.4
comp=Z,12nm,0.9s
SSF Saint Saulge 25.10 149 eP P 16 59 48.2 +0.4
SSF pmax pmax
comp=Z,12nm,0.9s
SSF Saint Saulge 25.10 149 eP P 16 59 48.2 +0.4
comp=Z,6.2nm,0.9s
SSF Saint Saulge 25.10 149 eP P 16 59 48.2 +0.4
comp=Z,12nm,0.9s
WET Wettzell 25.13 133 eP P 16 59 48.5 +0.4
comp=Z,192nm,2.7s

WET Wettzell 25.13 133 *e*P P 16 59 48.5 +0.4
comp=Z,192nm,2.7s
SPAK Spaichingen-Ko 25.15 140 *e*P P 16 59 49.2 +0.8
PRGR Permogore 25.16 79 *e*P P 16 59 46.9 -1.3
PRGR pmax pmax
comp=Z,104nm,1.4s
PRGR Permogore 25.16 79 *e*P P 16 59 46.9 -1.3
comp=Z,104nm,1.4s
FELD Feldberg im Sc 25.19 141 *e*P P 16 59 49.0 +0.1
KHC Kasperske Hory 25.31 132 *e*P P 16 59 50.0 +0.2
KHC *e*x x 17 00 06.0
KHC *e*S S 17 04 21.5 +6.3
KHC AMS AMS 17 08 00.0
comp=Z,800nm,23.8s
KHC Kasperske Hory 25.31 132 *e*P P 16 59 50.0 +0.2
KHC *e* 17 04 21.5
KHC MLR MLR
comp=Z,800nm,23.8s
KHC Kasperske Hory 25.31 132 *e*P P 16 59 50.5 +0.7
KHC pmax pmax
comp=Z,3.0nm,0.8s
KHC Kasperske Hory 25.31 132 *e*P P 16 59 50.0 +0.2
KHC Kasperske Hory 25.31 132 *e*P P 16 59 50.5 +0.7
comp=Z,2.8nm,0.8s
AVF Avril sur Loir 25.33 149 *e*P P 16 59 49.3 -0.6
comp=Z,43nm,1.4s
AVF Avril sur Loir 25.33 149 *e*P P 16 59 49.3 -0.6
AVF pmax pmax
comp=Z,43nm,1.4s
AVF Avril sur Loir 25.33 149 *e*P P 16 59 49.3 -0.6
comp=Z,21nm,1.4s
AVF Avril sur Loir 25.33 149 *e*P P 16 59 49.3 -0.6
comp=Z,43nm,1.4s
LOMF Lomont 25.45 143 *e*P P 16 59 51.7 +0.6
LOMF Lomont 25.45 143 *e*P P 16 59 51.7 +0.6
BGF Bois d'Agland 25.47 150 *e*P P 16 59 51.1 -0.1
comp=Z,12nm,0.7s
BGF Bois d'Agland 25.47 150 *e*P P 16 59 51.1 -0.1
BGF pmax pmax
comp=Z,12nm,0.7s
BGF Bois d'Agland 25.47 150 *e*P P 16 59 51.1 -0.1
comp=Z,6.1nm,0.7s
BGF Bois d'Agland 25.47 150 *e*P P 16 59 51.1 -0.1
comp=Z,12nm,0.7s
BBS Basel-Blauen 25.48 142 *e*P P 16 59 51.7 +0.3
SMF Signal de Mont 25.56 148 *e*P P 16 59 52.3 +0.3
comp=Z,15nm,0.9s
SMF Signal de Mont 25.56 148 *e*P P 16 59 52.3 +0.3
SMF pmax pmax
comp=Z,15nm,0.9s
SMF Signal de Mont 25.56 148 *e*P P 16 59 52.3 +0.3
comp=Z,7.6nm,0.9s
SMF Signal de Mont 25.56 148 *e*P P 16 59 52.3 +0.3
comp=Z,15nm,0.9s
GEC2 GERESS Array S 25.61 132 *e*P P 16 59 53.4 +0.8
comp=Z,75nm,2.0s
GEC2 GERESS Array S 25.61 132 *e*P P 16 59 53.4 +0.8
comp=Z,75nm,2.0s
GERES GERESS Array B 25.61 132 P P 16 59 53.1 +0.6
comp=Z,3.3nm,0.8s,baz=330,slow=7.7,SNR=20
GERES LR LR 17 09 21.2
comp=Z,716nm,21.4s,baz=341,slow=35
TCF Toulx Ste Croi 25.63 151 *e*P P 16 59 52.4 -0.3
comp=Z,50nm,1.3s
TCF Toulx Ste Croi 25.63 151 *e*P P 16 59 52.4 -0.3
TCF pmax pmax
comp=Z,50nm,1.3s
TCF Toulx Ste Croi 25.63 151 *e*P P 16 59 52.4 -0.3
comp=Z,25nm,1.3s
TCF Toulx Ste Croi 25.63 151 *e*P P 16 59 52.4 -0.3
comp=Z,50nm,1.3s
FUR Furstenfeldbru 25.65 136 *e*P P 16 59 53.3 +0.4
comp=Z,166nm,2.3s
FUR Furstenfeldbru 25.65 136 *e*P P 16 59 53.3 +0.4
comp=Z,166nm,2.3s
TREC Trest 25.65 129 *e*P P 16 59 54.8 +1.9
TREC Trest 25.65 129 *e*P P 16 59 54.8 +1.9
TREC Trest 25.65 129 *e*P P 16 59 54.8 +1.9
MORC Moravsky Berou 25.77 126 *e*P P 16 59 53.5 -0.4
OKC Ostrava-Krasne 25.88 125 AMS AMS 17 12 00.0
comp=Z,700nm,13.7s
VRAC Vranov 25.93 128 P P 16 59 55.5 +0.1
comp=Z,4.6nm,0.8s,baz=340,slow=12,SNR=5.5
VRAC LR LR 17 10 29.8
comp=Z,1μm,18.4s,baz=335,slow=37
OJC Ojcow 26.00 122 *e*P P 16 59 56.0 0.0
OJC LMZ LR 17 08 54.1
OJC Ojcow 26.00 122 *e*P P 16 59 56.0 0.0
OJC MLR MLR
comp=Z,700nm,22.5s
OJC Ojcow 26.00 122 *e*P P 16 59 56.0 0.0
comp=Z,700nm,22.5s
CABF La Chapelle 26.01 145 *e*P P 16 59 57.3 +1.1
comp=Z,22nm,1.1s
CABF La Chapelle 26.01 145 *e*P P 16 59 57.3 +1.1
CABF pmax pmax
comp=Z,22nm,1.1s
CABF La Chapelle 26.01 145 *e*P P 16 59 57.3 +1.1
comp=Z,11nm,1.1s
CABF La Chapelle 26.01 145 *e*P P 16 59 57.3 +1.1
comp=Z,22nm,1.1s
DAVA Damuels 26.16 139⇑ *i*P P 16 59 58.2 +0.6
comp=Z,16nm,1.2s
DAVA Damuels 26.16 139 P P 16 59 58.2 +0.6
comp=Z,16nm,1.2s
RETA Reutte 26.17 137⇑ *i*P P 16 59 56.8 -0.8
comp=Z,16nm,1.3s
RETA Reutte 26.17 137 P P 16 59 56.8 -0.8
comp=Z,16nm,1.3s
RJOB Jochberg 26.42 134 *e*P P 17 00 00.4 +0.6
comp=Z,134nm,2.9s
RJOB Jochberg 26.42 134 *e*P P 17 00 00.4 +0.6
comp=Z,134nm,2.9s
RJF Les Rejaudoux 26.48 153 *e*P P 17 00 00.2 -0.1
comp=Z,26nm,0.9s
RJF *e*R
comp=Z,2μm,19.0s
RJF Les Rejaudoux 26.48 153 *e*P P 17 00 00.2 -0.1
RJF pmax pmax
comp=Z,27nm,0.9s
RJF Les Rejaudoux 26.48 153 *e*P P 17 00 00.2 -0.1
comp=Z,13nm,0.9s
RJF Les Rejaudoux 26.48 153 *e*P P 17 00 00.2 -0.1
comp=Z,26nm,0.9s
WTTA Wattenberg 26.58 136⇑ *i*pP P 17 00 02.5 +1.0
comp=Z,23nm,1.8s
FETA Feichten 26.60 138⇑ *i*sP P 17 00 06.1 +4.4
comp=Z,18nm,1.9s
DAVOX Davos/Dischmat 26.64 139 P P 17 00 01.9 -0.1
comp=Z,2.0nm,0.9s,baz=217,slow=20,SNR=2.4
DAVOX LR LR 17 10 51.6
comp=Z,872nm,19.7s,baz=265,slow=37
MOA Molln 26.68 132⇑ *i*pP P 17 00 03.7 +1.6
comp=Z,13nm,1.6s
LFF La Frestale 26.71 154 *e*P P 17 00 04.4 +1.9
LFF La Frestale 26.71 154 *e*P P 17 00 04.4 +1.9
LFF La Frestale 26.71 154 *e*P P 17 00 04.4 +1.9
LFF La Frestale 26.71 154 *e*P P 17 00 04.4 +1.9
NIE Niedzica 26.86 123 *e*P P 17 00 03.4 -0.4
NIE LMZ LR 17 09 21.5
NIE Niedzica 26.86 123 *e*P P 17 00 03.5 -0.4
NIE MLR MLR
comp=Z,500nm,21.6s
NIE Niedzica 26.86 123 *e*P P 17 00 03.5 -0.4
comp=Z,500nm,21.6s
CAF Calviac 26.93 152 *e*P P 17 00 04.2 -0.3
comp=Z,18nm,1.0s
CAF Calviac 26.93 152 *e*P P 17 00 04.2 -0.3
CAF pmax pmax
comp=Z,18nm,1.0s
CAF Calviac 26.93 152 *e*P P 17 00 04.2 -0.3
comp=Z,9.1nm,1.0s
CAF Calviac 26.93 152 *e*P P 17 00 04.2 -0.3
comp=Z,18nm,1.0s
MOS Moscow 26.97 95 *e*P P 17 00 02.5 -2.2
MOS pmax pmax
comp=Z,44nm,0.9s
MOS MLR MLR
comp=Z,900nm,12.0s
MOS Moscow 26.97 95 *e*P P 17 00 02.5 -2.2
comp=Z,900nm,12.0s
CSNA Conrad Observa 27.01 130⇓ *i*pP P 17 00 07.6 +2.4
comp=Z,5.8nm,1.0s
OBN Obninsk 27.12 97 P P 17 00 06.2 +0.1
comp=Z,8.3nm,0.4s,baz=348,slow=16,SNR=5.6
OBN LR LR 17 10 13.1
comp=Z,1μm,18.6s,baz=274,slow=35
OBN Obninsk 27.12 97 *i*P P 17 00 05.0 -1.0
OBN *e* 17 00 47.7
OBN *e*S S 17 04 42.2 -1.3
OBN *e*SS SnSn 17 05 51.2 +1.0
OBN pmax pmax
comp=Z,61nm,2.5s
OBN MLR MLR
comp=Z,797nm,17.0s
STHS Stebnicka Huta 27.13 121 *e*P P 17 00 07.3 +1.1
STHS pmax pmax
comp=Z,2.0nm,0.6s
STHS Stebnicka Huta 27.13 121 *e*P P 17 00 07.3 +1.1
comp=Z,2.0nm,0.6s
STHS Stebnicka Huta 27.13 121 *e*P P 17 00 07.3 +1.1
SCHQ Schefferville 27.19 262 P P 17 00 07.4 +0.7
comp=Z,7.2nm,0.7s,baz=23,slow=8.1,SNR=11
SCHQ LR LR 17 10 19.3
comp=Z,1μm,19.1s,baz=55,slow=35
SCHQ Schefferville 27.19 262 *e*P P 17 00 07.1 +0.4
comp=Z,7.9nm,0.8s
SCHQ Schefferville 27.19 262 *e*P P 17 00 07.1 +0.4
comp=Z,7.9nm,0.8s
LPL La Plagne 27.19 145 *e*P P 17 00 08.0 +1.0
LPL La Plagne 27.19 145 *e*P P 17 00 08.0 +1.0
LPL La Plagne 27.19 145 *e*P P 17 00 08.0 +1.0
LPL La Plagne 27.19 145 *e*P P 17 00 08.0 +1.0
LPG La Plagne 27.21 145 *e*P P 17 00 08.0 +0.7
LPG La Plagne 27.21 145 *e*P P 17 00 08.0 +0.7
LPG La Plagne 27.21 145 *e*P P 17 00 08.0 +0.7
LPG La Plagne 27.21 145 *e*P P 17 00 08.0 +0.7
KWP Kalwaria Pacla 27.37 119 *e*P P 17 00 08.4 +0.1
KWP LMZ LR 17 09 01.9
KWP Kalwaria Pacla 27.37 119 *e*P P 17 00 08.5 +0.1
KWP Kalwaria Pacla 27.37 119 *e*P P 17 00 08.5 +0.1
LVV L'vov 27.60 117 *e*P P 17 00 16.0 +5.6
LVV *e*S S 17 04 56.0 +4.9
ORIF Oris-en-Rattie 27.60 146 *e*P P 17 00 11.4 +0.8
ORIF *e*R
comp=Z,824nm,22.2s
ORIF Oris-en-Rattie 27.60 146 *e*P P 17 00 11.4 +0.8
ORIF Oris-en-Rattie 27.60 146 *e*P P 17 00 11.4 +0.8
ORIF Oris-en-Rattie 27.60 146 *e*P P 17 00 11.4 +0.8
KECS Kecovo 27.76 123 *e*P P 17 00 15.8 +4.0
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 27.76 123 *e*P P 17 00 15.8 +4.0
KECS *e*PCP PcP 17 03 28.8 +1.0
KOLS Kolonicke sedl 27.87 120 *e*P P 17 00 13.0 +0.2
KOLS pmax pmax
comp=Z,20nm,2.3s
KOLS Kolonicke sedl 27.87 120 *e*P P 17 00 13.0 +0.2
comp=Z,20nm,2.3s
KOLS Kolonicke sedl 27.87 120 *e*P P 17 00 13.0 +0.2
MBDF Montbardon 27.96 145 *e*P P 17 00 14.8 +1.0
MBDF Montbardon 27.96 145 *e*P P 17 00 14.8 +1.0
MBDF Montbardon 27.96 145 *e*P P 17 00 14.8 +1.0
MBDF Montbardon 27.96 145 *e*P P 17 00 14.8 +1.0
PSZ Piszkesteto 28.11 124 ⇓P P 17 00 18.5 +3.5
SJPF Ste Jean 28.23 158 *e*P P 17 00 17.2 +1.1
comp=Z,8.6nm,0.9s
SJPF Ste Jean 28.23 158 *e*P P 17 00 17.2 +1.1
SJPF pmax pmax
comp=Z,9.0nm,0.9s
SJPF Ste Jean 28.23 158 *e*P P 17 00 17.2 +1.1
comp=Z,4.3nm,0.9s
SJPF Ste Jean 28.23 158 *e*P P 17 00 17.2 +1.1
comp=Z,8.6nm,0.9s
AKASG Malin Array Be 28.43 110 P P 17 00 16.1 -1.6
comp=Z,2.6nm,0.6s,baz=327,slow=9.5,SNR=10
AKASG PcP PcP 17 03 28.6 -0.8
comp=Z,0.2nm,0.3s,baz=309,slow=2.3,SNR=4.3
AKASG LR LR 17 11 06.9
comp=Z,953nm,20.7s,baz=315,slow=35
AKASG Malin Array Be 28.43 110 *ce*P P 17 00 16.5 -1.2
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 28.43 110 *e*P P 17 00 16.5 -1.2
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 28.43 110 *e*P P 17 00 16.9 -0.9
AKBB Malin Array Si 28.43 110 *e*P P 17 00 16.9 -0.9
AKBB Malin Array Si 28.43 110 *e*P P 17 00 16.9 -0.9
KIEV Kiev 28.43 110 *e*P P 17 00 14.1 -3.6
KIEV pmax pmax
comp=Z,4.0nm,0.9s
KIEV Kiev 28.43 110 *e*P P 17 00 14.1 -3.6
comp=Z,4.4nm,0.9s
AK01 Malin Array Si 28.43 110 *e*P P 17 00 17.4 -0.4
AK01 Malin Array Si 28.43 110 *e*P P 17 00 17.4 -0.4
AK02 Malin Array Si 28.46 110 *e*P P 17 00 17.2 -0.8
AK02 Malin Array Si 28.46 110 *e*P P 17 00 17.2 -0.8
EPF Esparros 28.53 155 *e*P P 17 00 19.8 +1.0
EPF Esparros 28.53 155 *e*P P 17 00 19.8 +1.0
EPF Esparros 28.53 155 *e*P P 17 00 19.8 +1.0
EPF Esparros 28.53 155 *e*P P 17 00 19.8 +1.0
ETSF Etsaut 28.53 157 *e*P P 17 00 19.6 +0.8
comp=Z,12nm,1.0s
ETSF Etsaut 28.53 157 *e*P P 17 00 19.6 +0.8
ETSF pmax pmax
comp=Z,12nm,1.0s
ETSF Etsaut 28.53 157 *e*P P 17 00 19.6 +0.8
comp=Z,5.9nm,1.0s
ETSF Etsaut 28.53 157 *e*P P 17 00 19.6 +0.8
comp=Z,12nm,1.0s
SBF Sospel 28.92 145 *e*P P 17 00 22.3 +0.1
SBF Sospel 28.92 145 *e*P P 17 00 22.3 +0.1
SBF Sospel 28.92 145 *e*P P 17 00 22.3 +0.1
SBF Sospel 28.92 145 *e*P P 17 00 22.3 +0.1
FRF La Foret Royal 29.06 146 *e*P P 17 00 24.2 +0.8
FRF La Foret Royal 29.06 146 *e*P P 17 00 24.2 +0.8
FRF La Foret Royal 29.06 146 *e*P P 17 00 24.2 +0.8
FRF La Foret Royal 29.06 146 *e*P P 17 00 24.2 +0.8
BUR08 Bucovina Ar. S 29.89 118 *e*P P 17 00 31.3 +0.4
BUR08 Bucovina Ar. S 29.89 118 *e*P P 17 00 31.3 +0.4
BURAR Bucovina Array 29.92 118 ⇓P P 17 00 31.3 +0.2
LPSR Galich'ya Gora 29.99 98 *e*P P 17 00 29.8 -1.8
LPSR pmax pmax
comp=Z,8.0nm,0.8s
LPSR pmax pmax
comp=N,7.0nm,1.1s
LPSR pmax pmax
comp=E,8.0nm,1.0s
LPSR MLR MLR
comp=Z,810nm,17.0s
LPSR MLR MLR
comp=N,550nm,18.0s
LPSR MLR MLR
comp=E,790nm,15.0s
LPSR Galich'ya Gora 29.99 98 *e*P P 17 00 29.8 -1.8
comp=E,550nm,18.0s
SOKR Solikamsk 30.36 73 *e*P P 17 00 34.0 -0.7
SOKR pmax pmax
comp=Z,10.0nm,0.7s
SOKR MLR MLR
comp=Z,1μm,15.0s
PGF Pioggiola 30.49 143 *e*P P 17 00 37.1 +0.8
comp=Z,23nm,0.9s
PGF Pioggiola 30.49 143 *e*P P 17 00 37.1 +0.8
PGF pmax pmax
comp=Z,23nm,0.9s
PGF Pioggiola 30.49 143 *e*P P 17 00 37.1 +0.8
comp=Z,12nm,0.9s
PGF Pioggiola 30.49 143 *e*P P 17 00 37.1 +0.8
comp=Z,23nm,0.9s
BZS Buzias 30.69 124 ⇓P P 17 00 39.8 +2.0
BZS Buzias 30.69 124 P P 17 00 39.8 +2.0
GZR Gura Zlata 31.22 123 ⇑P P 17 00 43.5 +0.9
GZR Gura Zlata 31.22 123 P P 17 00 43.5 +0.9
VSR Storozhevoye 31.24 99 *e*P P 17 00 41.8 -0.8
VSR pmax pmax
comp=Z,6.0nm,0.8s
VSR pmax pmax
comp=N,10.0nm,1.7s
VSR pmax pmax
comp=E,3.0nm,0.4s
VSR MLR MLR
comp=Z,2μm,19.0s
VSR MLR MLR
comp=N,770nm,16.0s
VSR MLR MLR
comp=E,720nm,20.0s
VSR Storozhevoye 31.24 99 *e*P P 17 00 41.8 -0.8
comp=E,770nm,16.0s
ESDC Sonseca Array 31.32 163 P P 17 00 44.3 +0.8
comp=E,0.2nm,0.3s,baz=5.7,slow=9.5,SNR=4.6
ESDC LR LR 17 13 11.8
comp=E,496nm,18.4s,baz=355,slow=36
VORD Divnogorie 31.49 99 *e*P P 17 00 43.2 -1.6
VORD pmax pmax
comp=Z,40nm,1.6s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.4s
VORD MLR MLR
comp=Z,2μm,20.0s
VORD MLR MLR
comp=N,1μm,21.0s
VORD MLR MLR
comp=E,610nm,17.0s
VORD Divnogorie 31.49 99 *e*P P 17 00 43.2 -1.6
comp=E,1μm,21.0s
KIS Kishinev 31.57 114 *e*P P 17 00 46.0 +0.5
KIS *e*L L 17 09 48.0
KIS LRM MLR 17 13 00.0
comp=E,2μm,19.0s
KIS Kishinev 31.57 114 *e*P P 17 00 46.0 +0.5
KIS MLR MLR
comp=Z,2μm,19.0s
KIS MLR MLR
comp=N,1μm,19.0s
KIS MLR MLR
comp=Z,1μm,19.0s
KIS Kishinev 31.57 114 *e*P P 17 00 46.0 +0.5
comp=Z,2μm,19.0s
VOIR 31.84 120 ⇑P P 17 00 54.4 +6.4
MLR Muntele Rosu 32.05 119 P P 17 00 50.2 +0.3
comp=Z,0.2nm,0.3s,baz=320,slow=6.7,SNR=4.7
MLR PcP PcP 17 03 39.0 -0.1
comp=Z,0.1nm,0.4s,baz=221,slow=5.9,SNR=3.1
MLR LR LR 17 14 17.9
comp=Z,264nm,19.1s,baz=348,slow=37
MLR Muntele Rosu 32.05 119 ⇓P P 17 00 50.5 +0.5
CFR Carcaliu 32.99 117 ⇑P P 17 00 58.4 +0.4
CFR Carcaliu 32.99 117 P P 17 00 58.4 +0.4
ARU Arti 33.44 76 *d*P P 17 01 01.2 -0.6
ARU 17 03 41.0
ARU S S 17 06 23.8 +1.4
ARU SS SnSn 17 08 26.2 +2.4
ARU pmax pmax
comp=Z,16nm,1.7s
ARU MLR MLR
comp=Z,1μm,19.0s
ARU Arti 33.44 76 *i*P P 17 01 01.2 -0.6
comp=Z,16nm,1.7s
ARU Arti 33.44 76 PcP PcP 17 03 41.0 -1.6
ARU Arti 33.44 76 *e*P P 17 01 01.0 -0.8
comp=Z,8.5nm,0.9s
TLB Topalu 33.50 117 ⇓P P 17 01 02.6 +0.1
TLB Topalu 33.50 117 P P 17 01 02.6 +0.1
TIRR Tirgusor 33.73 117 ⇓P P 17 01 04.7 +0.3
TIRR Tirgusor 33.73 117 P P 17 01 04.7 +0.3
SVE Sverdlovsk 33.80 74 *e*P P 17 01 04.7 -0.2
SVE Sverdlovsk 33.80 74 *e*P P 17 01 04.7 -0.2
MMB Musomiste 35.00 124 ⇓P P 17 01 16.5 +1.0
MMB Musomiste 35.00 124 P P 17 01 16.5 +1.0
SIM Simferopol' 35.06 110 P P 17 01 17.0 +1.0
SIM pmax pmax
comp=Z,40nm,9.9s
SIM MLR MLR
comp=Z,530nm,13.2s
SIM Simferopol' 35.06 110 P P 17 01 17.0 +1.0
comp=Z,530nm,13.2s
INK Inuvik 35.48 326 P P 17 01 20.1 +0.8
comp=Z,2.8nm,0.3s,baz=48,slow=15,SNR=11
INK Inuvik 35.48 326 *e*P P 17 01 20.2 +0.8
INK pmax pmax
comp=Z,6.0nm,0.8s
INK Inuvik 35.48 326 *e*P P 17 01 20.2 +0.8
comp=Z,5.9nm,0.8s
INK Inuvik 35.48 326 *e*P P 17 01 20.2 +0.8
comp=Z,5.9nm,0.8s
YKA Yellowknife Ar 36.07 309 P P 17 01 25.2 +0.8
comp=Z,5.9nm,0.9s,baz=33,slow=8.3,SNR=20
YKA PcP PcP 17 03 49.8 -0.2
comp=Z,0.6nm,0.6s,baz=31,slow=2.9,SNR=4.4
YKA Yellowknife Ar 36.07 309 P P 17 01 25.2 +0.8
YKA 17 03 49.8
YKA pmax pmax
comp=Z,6.0nm,0.9s
ANN Anapa 36.25 106 *e*P P 17 01 24.1 -2.1
ANN *e*S S 17 07 08.2 +2.3
ANN pmax pmax
comp=Z,36nm,1.2s
ANN MLR MLR
comp=Z,2μm,17.0s
ANN MLR MLR
comp=E,488nm,17.0s
ANN MLR MLR
comp=N,482nm,17.0s
ANN Anapa 36.25 106 *e*P P 17 01 24.1 -2.1
comp=N,36nm,1.2s
TIXI Tiksi 36.33 18 ⇓ *i*P P 17 01 27.6 +1.1
TIXI pmax pmax
comp=Z,55nm,1.7s
TIXI Tiksi 36.33 18 *i*P P 17 01 27.6 +1.1
comp=Z,55nm,1.7s
TIXI Tiksi 36.33 18 *e*P P 17 01 27.8 +1.2
comp=Z,122nm,1.9s
KEST Kesra 37.15 146 LR LR 17 16 59.3
comp=Z,175nm,18.1s,baz=318,slow=37
GOF Gofitskoye 37.87 100 *e*P P 17 01 41.2 +1.2
GOF Gofitskoye 37.87 100 *e*P P 17 01 41.2 +1.2
SOC Sochi 38.08 105 *e*P P 17 01 35.1 -6.7
SOC *e*S S 17 07 25.9 -7.8
SOC *e*SS SnSn 17 10 15.6 -0.8
SOC pmax pmax
comp=Z,13nm,0.5s
SOC MLR MLR
comp=Z,1μm,12.0s
KIV Kislovodsk 38.73 102 *e*P P 17 01 46.3 -1.0
KIV *e* 17 03 15.0
KIV *e*S S 17 07 43.5 -0.2
KIV *e*SS SnSn 17 10 30.8 -1.3
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,693nm,15.0s
KIV Kislovodsk 38.73 102 *e*P P 17 01 46.3 -1.0
comp=Z,6.0nm,1.0s
FFC Flin Flon 38.91 293 *e*P P 17 01 49.9 +1.3
FFC pmax pmax
comp=Z,63nm,1.6s
FFC Flin Flon 38.91 293 *e*P P 17 01 49.9 +1.3
comp=Z,63nm,1.6s
FFC Flin Flon 38.91 293 *e*P P 17 01 49.9 +1.3
comp=Z,63nm,1.6s
KBZ Khabaz 39.00 102 P P 17 01 50.3 +0.8
comp=Z,1.2nm,0.6s,baz=322,slow=12,SNR=4.5
KBZ LR LR 17 17 30.7
comp=Z,920nm,18.7s,baz=305,slow=36
NCK Nalchik 39.44 101 *e*P P 17 01 53.7 +0.5
NCK Nalchik 39.44 101 *e*P P 17 01 53.7 +0.5
BR131 Keskin Array S 39.64 114 *e*P P 17 01 55.5 +0.5
comp=Z,1.9nm,0.8s
BR131 Keskin Array S 39.64 114 *e*P P 17 01 55.5 +0.5
comp=Z,1.9nm,0.8s
BRTR Keskin Array B 39.64 114 P P 17 01 55.7 +0.7
comp=Z,1.7nm,0.7s,baz=334,slow=6.0,SNR=9.4
BRTR LR LR 17 18 36.9
comp=Z,416nm,21.8s,baz=328,slow=37
ABKAR Akbulak array 39.91 81 *e*P P 17 01 54.5 -2.5
comp=Z,3.4nm,0.9s
ABKAR Akbulak array 39.91 81 *e*P P 17 01 54.5 -2.5
comp=Z,3.4nm,0.9s
SADO Sadowa 39.91 265 P P 17 01 59.6 +2.5
comp=Z,4.6nm,0.6s,baz=8.7,slow=4.8,SNR=5.4
BRVK Borovoye 40.03 69 *i*P P 17 01 57.5 -0.4
BRVK pmax pmax
comp=Z,12nm,1.7s
BRVK Borovoye 40.03 69 *e*P P 17 01 57.8 -0.1
comp=Z,27nm,1.8s
BRVK Borovoye 40.03 69 *e*P P 17 01 57.8 -0.1
comp=Z,27nm,1.8s
EGAK Eagle 40.04 327 *e*P P 17 01 58.3 +0.4
comp=Z,24nm,1.5s
EGAK Eagle 40.04 327 *e*P P 17 01 58.3 +0.4
comp=Z,24nm,1.5s
DAWY Dawson 40.36 326 *e*P P 17 02 01.3 +0.7
DAWY Dawson 40.36 326 *e*P P 17 02 01.3 +0.7
IM04 Indian Mountai 40.97 336 *e*P P 17 02 06.6 +0.9

IM04 Indian Mountai 40.97 336 *e*P **P** **17 02 06.6 +0.9**
ILAR Eielson Array 41.05 331 P **P** **17 02 07.8 +1.6**
comp=Z,2.1nm,0.9s,baz=16,slow=7.6,SNR=28
ILAR PcP **PcP** **17 04 05.4 -0.2**
comp=Z,1.8nm,1.0s,baz=338,slow=3.5,SNR=7.4
ILAR LR LR 17 22 22.6
comp=Z,427nm,20.1s,baz=52,slow=41
COLA College 41.11 331 *e*P **P** **17 02 08.7 +2.0**
COLA pmax pmax
comp=Z,13nm,1.0s
COLA College 41.11 331 *e*P **P** **17 02 08.6 +2.0**
comp=Z,13nm,1.0s
COLA College 41.11 331 *e*P **P** **17 02 08.7 +2.0**
comp=Z,13nm,1.0s
MAK Makhachkala 41.22 97 *e*P **P** **17 02 08.8 +1.0**
MAK MLR MLR
comp=Z,798nm,15.0s
MAK Makhachkala 41.22 97 *e*P **P** **17 02 08.8 +1.0**
comp=Z,798nm,15.0s
BILL Bilibino 41.86 359*d i*P **P** **17 02 13.2 +0.4**
BILL pmax pmax
comp=Z,23nm,1.7s
BILL Bilibino 41.86 359 *i* P **P** **17 02 13.2 +0.4**
comp=Z,23nm,1.7s
BPAW Bear Paw Mtn. 42.33 333 *e*P **P** **17 02 16.9 +0.2**
comp=Z,20nm,2.1s
BPAW Bear Paw Mtn. 42.33 333 *e*P **P** **17 02 16.9 +0.2**
comp=Z,20nm,2.1s
MCK McKinley 42.35 331 *e*P **P** **17 02 16.8 -0.1**
MCK pmax pmax
comp=Z,34nm,1.4s
MCK McKinley 42.35 331 *e*P **P** **17 02 16.8 -0.1**
comp=Z,34nm,1.4s
MCK McKinley 42.35 331 *e*P **P** **17 02 16.8 -0.1**
comp=Z,34nm,1.4s
NVS Novosibirsk 42.41 58 *e*P **P** **17 02 17.4 0.0**
NVS *e* 17 03 54.7
NVS pmax pmax
comp=Z,34nm,1.8s
NVS pmax pmax
comp=N,19nm,2.0s
NVS Novosibirsk 42.41 58 *e*P **P** **17 02 17.4 0.0**
comp=N,19nm,2.0s
MALT Malatya 42.43 110 ⇑P **P** **17 02 19.5 +1.6**
MALT Malatya 42.43 110 P **P** **17 02 19.5 +1.6**
PAX Paxson 42.47 329 *e*P **P** **17 02 17.9 -0.1**
PAX pmax pmax
comp=Z,20nm,1.6s
PAX Paxson 42.47 329 *e*P **P** **17 02 17.9 -0.1**
comp=Z,20nm,1.6s
PAX Paxson 42.47 329 *e*P **P** **17 02 17.9 -0.1**
comp=Z,20nm,1.6s
GNI Garni 42.81 102 *i* P **P** **17 02 20.8 -0.3**
GNI pmax pmax
comp=Z,31nm,2.5s
GNI Garni 42.81 102 *i* P **P** **17 02 20.8 -0.3**
comp=Z,31nm,2.5s
TRF Thorofare Moun 42.83 332 *e*P **P** **17 02 22.2 +1.2**
comp=Z,46nm,1.9s
TRF Thorofare Moun 42.83 332 *e*P **P** **17 02 22.2 +1.2**
comp=Z,46nm,1.9s
KTH Kantishna Hill 42.83 333 P **P** **17 02 22.6 +1.7**
comp=Z,13nm,1.4s
KTH Kantishna Hill 42.83 333 P **P** **17 02 22.6 +1.7**
comp=Z,13nm,1.4s
HYT Haines Junctio 42.93 322 *e*P **P** **17 02 23.4 +1.6**
HYT Haines Junctio 42.93 322 *e*P **P** **17 02 23.4 +1.6**
SSPA Standing Stone 43.17 261 *e*P **P** **17 02 25.7 +1.9**
comp=Z,50nm,2.0s
SSPA Standing Stone 43.17 261 *e*P **P** **17 02 25.7 +1.9**
comp=Z,50nm,2.0s
DLBC Dease Lake 43.43 316 P **P** **17 02 28.2 +2.4**
comp=Z,1.2nm,0.5s,baz=20,slow=5.2,SNR=4.4
DLBC Dease Lake 43.43 316 *e*P **P** **17 02 28.3 +2.5**
EDM Edmonton 43.64 300 *e*P **P** **17 02 27.4 -0.1**
EDM Edmonton 43.64 300 *e*P **P** **17 02 27.4 -0.1**
EDM Edmonton 43.64 300 *e*P **P** **17 02 27.4 -0.1**
ZAA0 Zalesovo Array 43.64 57 *e*P **P** **17 02 26.6 -0.9**
ZAA0 Zalesovo Array 43.64 57 *e*P **P** **17 02 26.6 -0.9**
ZALV Zalesovo Beam 43.64 57 P **P** **17 02 27.5 +0.1**
comp=Z,2.2nm,0.8s,baz=339,slow=7.9,SNR=7.7
ZALV PP **PcP** **17 04 17.3 +2.9**
comp=Z,1.3nm,0.7s,baz=331,slow=8.8,SNR=4.5
ZALV LR LR 17 22 48.0
comp=Z,393nm,20.2s,baz=260,slow=39
BMRM Bremner River 44.18 327 *e*P **P** **17 02 33.1 +1.4**
comp=Z,20nm,1.3s
BMRM Bremner River 44.18 327 *e*P **P** **17 02 33.1 +1.4**
comp=Z,20nm,1.3s
PMR Palmer 44.39 330 *e*P **P** **17 02 35.3 +2.0**
PMR Palmer 44.39 330 *e*P **P** **17 02 35.3 +2.0**
PMR Palmer 44.39 330 *e*P **P** **17 02 35.3 +2.0**
KURK Kurchatov 44.65 64 *e*P **P** **17 02 35.1 -0.4**
KURK pmax pmax
comp=Z,11nm,0.9s
KURK Kurchatov 44.65 64 *e*P **P** **17 02 35.1 -0.4**
comp=Z,11nm,0.9s
KURK Kurchatov 44.65 64 *e*P **P** **17 02 35.1 -0.4**
comp=Z,11nm,0.9s
RC01 Rabbit Creek A 44.96 331 *e*P **P** **17 02 39.2 +1.3**
comp=Z,15nm,1.1s
RC01 Rabbit Creek A 44.96 331 *e*P **P** **17 02 39.2 +1.3**
comp=Z,15nm,1.1s
YAK Yakutsk 45.64 22 P **P** **17 02 42.4 -0.8**
comp=Z,0.5nm,0.3s,baz=163,slow=23,SNR=5.7
YAK Yakutsk 45.64 22 *e*P **P** **17 02 42.0 -1.2**
YAK *e* 17 04 22.4
YAK *e*PPP PPP 17 05 06.3
YAK *e*S **S** **17 09 22.5 -2.4**
YAK *e* 17 12 36.0
YAK pmax pmax
comp=Z,16nm,1.1s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK smax smax
comp=E,50nm,3.1s
YAK smax smax
comp=N,32nm,2.8s
YAK MLR MLR
comp=Z,128nm,16.0s
YAK MLR MLR
comp=N,103nm,18.0s
YAK Yakutsk 45.64 22 *e*PcP **PcP** **17 04 22.4 +1.3**
SFIN Lafayette 46.50 269 *e*P **P** **17 02 51.9 +1.6**
comp=N,32nm,1.4s
SFIN Lafayette 46.50 269 *e*P **P** **17 02 51.9 +1.6**
comp=N,32nm,1.4s
ECSD EROS Data Cent 46.71 280 P **P** **17 02 52.3 +0.3**
comp=N,72nm,2.1s
ECSD EROS Data Cent 46.71 280 P **P** **17 02 52.3 +0.3**
comp=N,72nm,2.1s
SEY Seymchan 46.72 8 P **P** **17 02 52.1 +0.4**
comp=N,2.7nm,0.9s,baz=6.5,slow=3.4,SNR=8.6
SEY Seymchan 46.72 8*c i*P **P** **17 02 52.8 +1.1**
BLA Blacksburg 47.11 261 P **P** **17 02 56.3 +1.1**
BLA Blacksburg 47.11 261 P **P** **17 02 56.3 +1.1**
BLA Blacksburg 47.11 261 P **P** **17 02 56.3 +1.1**
EGMT Eagleton 47.14 294 *e*P **P** **17 02 55.7 +0.3**
comp=N,84nm,1.6s
EGMT Eagleton 47.14 294 *e*P **P** **17 02 55.6 +0.3**
comp=N,84nm,1.6s
LAO LASA Array 47.22 290 P **P** **17 02 58.8 +2.8**
comp=N,39nm,1.2s
LAO LASA Array 47.22 290 P **P** **17 02 58.8 +2.8**
comp=N,39nm,1.2s
WALA Waterton Lakes 47.48 298 *e*P **P** **17 02 58.3 +0.3**
comp=N,33nm,1.7s
WALA Waterton Lakes 47.48 298 *e*P **P** **17 02 58.3 +0.3**
comp=N,33nm,1.7s
HVS Khovu-Aksy 48.61 53*d i*P **P** **17 03 07.4 +0.7**
HVS pmax pmax
comp=Z,58nm,1.1s
HVS Khovu-Aksy 48.61 53 *i* P **P** **17 03 07.4 +0.7**
comp=Z,58nm,1.1s
RSSD Black Hills 48.81 287 *e*P **P** **17 03 09.4 +0.9**
RSSD pmax pmax
comp=Z,5.0nm,1.3s
RSSD Black Hills 48.81 287 *e*P **P** **17 03 09.4 +0.9**
comp=Z,5.1nm,1.3s
RSSD Black Hills 48.81 287 *e*P **P** **17 03 09.3 +0.9**
comp=Z,5.1nm,1.3s
BSMT Bassoo Peak 48.83 298 *e*P **P** **17 03 09.4 +0.9**
comp=Z,19nm,1.4s
BSMT Bassoo Peak 48.83 298 *e*P **P** **17 03 09.4 +0.9**
comp=Z,19nm,1.4s
USIN University of 48.86 269 *e*P **P** **17 03 09.6 +1.0**
USIN University of 48.86 269 *e*P **P** **17 03 09.7 +1.0**
SWMT Swartz Lake 48.90 297 *e*P **P** **17 03 10.4 +1.4**
comp=Z,18nm,1.4s
SWMT Swartz Lake 48.90 297 *e*P **P** **17 03 10.4 +1.4**
comp=Z,18nm,1.4s
SLMT Seeley Lake 48.98 297 *e*P **P** **17 03 10.2 +0.5**
comp=Z,10nm,0.9s
SLMT Seeley Lake 48.98 297 *e*P **P** **17 03 10.2 +0.5**
comp=Z,10nm,0.9s
GCMT Greycliff 49.11 293 P **P** **17 03 12.2 +1.6**
comp=Z,2.6nm,0.4s
GCMT Greycliff 49.11 293 P **P** **17 03 12.2 +1.6**
comp=Z,2.6nm,0.4s
CHMT Chamberlain Mo 49.20 296 *e*P **P** **17 03 11.5 0.0**
comp=Z,18nm,1.7s
CHMT Chamberlain Mo 49.20 296 *e*P **P** **17 03 11.5 0.0**
comp=Z,18nm,1.7s
OHAK Old Harbor 49.22 331 *e*P **P** **17 03 11.9 +0.7**
comp=Z,52nm,1.8s
OHAK Old Harbor 49.22 331 *e*P **P** **17 03 11.9 +0.7**
comp=Z,52nm,1.8s
MK31 Makanchi Array 49.25 64 *e*P **P** **17 03 10.4 -1.2**
MK31 Makanchi Array 49.25 64 *e*P **P** **17 03 10.4 -1.2**
MK31 Makanchi Array 49.25 64 *e*P **P** **17 03 10.4 -1.2**
MKAR Makanchi Array 49.25 64 P **P** **17 03 11.4 -0.2**
comp=Z,5.3nm,1.0s,baz=348,slow=5.1,SNR=37
MKAR PP **PP** **17 05 05.2 +0.1**
comp=Z,1.5nm,0.9s,baz=353,slow=4.9,SNR=4.1
MKAR LR LR 17 25 34.3
comp=Z,224nm,20.7s,baz=316,slow=38
MKAR Makanchi Array 49.25 64*ce*P **P** **17 03 11.3 -0.3**
MKAR pmax pmax
comp=Z,5.0nm,1.0s
KMSC Kings Mountain 49.29 261 *e*P **P** **17 03 13.9 +1.9**
KMSC Kings Mountain 49.29 261 *e*P **P** **17 03 13.8 +1.9**
RLMT Red Lodge 49.58 292 *e*P **P** **17 03 15.6 +1.3**
comp=Z,29nm,1.8s
RLMT Red Lodge 49.58 292 *e*P **P** **17 03 15.6 +1.3**
comp=Z,29nm,1.8s
SIUC Southern Illin 49.62 270 P **P** **17 03 13.5 -0.9**
SIUC Southern Illin 49.62 270 P **P** **17 03 13.5 -0.9**
LRM Limekiln Ridge 49.94 295 *e*P **P** **17 03 17.9 +0.8**
comp=Z,282nm,2.0s
LRM Limekiln Ridge 49.94 295 *e*P **P** **17 03 17.9 +0.8**
comp=Z,282nm,2.0s
MOY Mondy 50.01 47 *e*P **P** **17 03 18.7 +1.3**
MOY pmax pmax
comp=Z,59nm,2.3s
MOY Mondy 50.01 47 *e*P **P** **17 03 18.7 +1.3**
comp=Z,59nm,2.3s
EKS2 Erkin-Say 50.28 74 *e*P **P** **17 03 19.8 +0.2**
EKS2 pmax pmax
comp=Z,5.0nm,1.0s
EKS2 Erkin-Say 50.28 74 *e*P **P** **17 03 19.8 +0.2**
comp=Z,5.1nm,1.0s
EKS2 Erkin-Say 50.28 74 *e*P **P** **17 03 19.8 +0.2**
comp=Z,5.1nm,1.0s
FRU Bishkek 50.40 73⇓*e*P **P** **17 03 20.0 -0.3**
FRU *e* 17 05 16.0
FRU pmax pmax
comp=Z,50nm,2.2s
FRU Bishkek 50.40 73 *e*P **P** **17 03 20.0 -0.3**
comp=Z,50nm,2.2s
DLMT Dillon 50.40 295 P **P** **17 03 22.3 +1.8**
comp=Z,20nm,1.6s
DLMT Dillon 50.40 295 P **P** **17 03 22.3 +1.8**
comp=Z,20nm,1.6s
AAK Ala-Archa 50.53 73*d i*P **P** **17 03 22.4 +0.9**
AAK pmax pmax
comp=Z,36nm,1.7s
AAK Ala-Archa 50.53 73 *i* P **P** **17 03 22.4 +0.9**
comp=Z,36nm,1.7s
AAK Ala-Archa 50.53 73 *e*P **P** **17 03 22.5 +0.9**
comp=Z,16nm,1.3s
TKM2 Tokmak 2 50.63 72 *e*P **P** **17 03 23.4 +1.1**
TKM2 pmax pmax
comp=Z,19nm,1.4s
TKM2 Tokmak 2 50.63 72 *e*P **P** **17 03 23.4 +1.1**
comp=Z,19nm,1.4s
TKM2 Tokmak 2 50.63 72 *e*P **P** **17 03 23.4 +1.1**
comp=Z,19nm,1.4s
TLY Talaya 50.64 45 *e*P **P** **17 03 21.8 -0.2**
TLY pmax pmax
comp=Z,10.0nm,1.6s
TLY MLR MLR
comp=Z,226nm,16.0s
TLY Talaya 50.64 45 *e*P **P** **17 03 21.8 -0.2**
comp=Z,226nm,16.0s
H17A Grant Village 50.64 293 *e*P **P** **17 03 23.9 +1.4**
comp=Z,22nm,1.4s
H17A Grant Village 50.64 293 *e*P **P** **17 03 23.9 +1.4**
comp=Z,22nm,1.4s
K22A Casper 50.93 288 *e*P **P** **17 03 24.0 -0.5**
comp=Z,32nm,1.5s
K22A Casper 50.93 288 *e*P **P** **17 03 24.0 -0.5**
comp=Z,32nm,1.5s
MCMT McKenzie Canyo 50.96 295 *e*P **P** **17 03 26.0 +1.2**
comp=Z,8.9nm,1.7s
MCMT McKenzie Canyo 50.96 295 *e*P **P** **17 03 26.0 +1.2**
comp=Z,8.9nm,1.7s
ZAK Zakamensk 51.75 46⇓*i*P **P** **17 03 30.6 +0.1**
ZAK pmax pmax
comp=Z,5.0nm,2.0s
ZAK Zakamensk 51.75 46 *i* P **P** **17 03 30.6 +0.1**
comp=Z,5.0nm,2.0s
BW06 Boulder Array 51.79 291 *e*P **P** **17 03 30.6 -0.5**
comp=Z,12nm,1.3s
BW06 Boulder Array 51.79 291 *e*P **P** **17 03 30.6 -0.5**
comp=Z,12nm,1.3s
PDAR Pinedale Array 51.79 291 P **P** **17 03 31.4 +0.3**
comp=Z,1.8nm,0.7s,baz=49,slow=6.7,SNR=10
PDAR LR LR 17 25 21.5
comp=Z,1μm,20.2s,baz=19,slow=36
RWWY Rawlins 52.02 288 *e*P **P** **17 03 34.2 +1.4**
comp=Z,20nm,1.5s
RWWY Rawlins 52.02 288 *e*P **P** **17 03 34.1 +1.4**
comp=Z,20nm,1.5s
BMO Blue Mountains 52.28 298 *e*P **P** **17 03 34.5 -0.1**
comp=Z,4.7nm,0.9s
BMO Blue Mountains 52.28 298 *e*P **P** **17 03 34.5 -0.1**
comp=Z,4.7nm,0.9s
HLID Hailey 52.58 295 *e*P **P** **17 03 37.6 +0.7**
comp=Z,6.7nm,0.2s
HLID Hailey 52.58 295 *e*P **P** **17 03 37.6 +0.7**
comp=Z,6.7nm,0.2s
ISCO Idaho Springs 53.21 286 *e*P **P** **17 03 42.5 +0.8**
ISCO pmax pmax
comp=Z,15nm,1.7s
ISCO Idaho Springs 53.21 286 *e*P **P** **17 03 42.5 +0.8**
comp=Z,15nm,1.7s
ISCO Idaho Springs 53.21 286 *e*P **P** **17 03 42.5 +0.8**
comp=Z,15nm,1.7s
HWUT Hardware Ranch 53.47 292 *e*P **P** **17 03 44.3 +0.8**
comp=Z,52nm,2.0s
HWUT Hardware Ranch 53.47 292 *e*P **P** **17 03 44.3 +0.8**
comp=Z,52nm,2.0s
WMQ Urumqi 53.56 61 P **P** **17 03 46.1 +2.1**
WMQ pP **pP** **17 03 50.6 +2.4**
WMQ sP **sP** **17 03 53.1 +3.2**
WMQ PcP **PcP** **17 04 51.4 +1.0**
WMQ PP **PP** **17 05 48.1 +3.9**
WMQ S **S** **17 11 16.6 +0.2**
WMQ pmax pmax
comp=Z,8.0nm,0.4s
WMQ pmax pmax
comp=Z,190nm,4.1s
WMQ LR LR
comp=N,520nm,16.0s
WMQ LR LR
comp=E,210nm,20.0s
WMQ LR LR
comp=Z,440nm,18.5s
WMQ Urumqi 53.56 61 P **P** **17 03 45.5 +1.5**
WMQ pP **pP** **17 03 50.1 +1.9**
WMQ sP **sP** **17 03 52.5 +2.6**
WMQ S **S** **17 11 16.2 -0.2**
WMQ sS **sS** **17 11 23.2 -0.2**
WMQ ScS **ScS** **17 13 29.4 -3.2**
WMQ SS **SS** **17 14 54.9 -1.1**
WMQ PMZ
comp=Z,9.0nm,0.4s
WMQ PMZ
comp=Z,190nm,4.2s
WMQ LN
comp=Z,220nm,15.0s
WMQ LE
comp=Z,510nm,16.0s
WMQ LZ
comp=Z,440nm,19.0s
O20A White River Ci 53.75 288 *e*P **P** **17 03 46.0 +0.4**
comp=Z,10.0nm,0.6s
O20A White River Ci 53.75 288 *e*P **P** **17 03 46.0 +0.4**
comp=Z,10.0nm,0.6s
KSH Kashi 53.83 73 P **P** **17 03 49.1 +3.1**
KSH pP **pP** **17 03 53.2 +2.9**
KSH sP **sP** **17 03 55.6 +3.7**
KSH PcP **PcP** **17 04 55.6 +4.0**
KSH PP **PP** **17 05 51.0 +4.3**
KSH PcS **PcS** **17 08 52.2 +1.3**
KSH S **S** **17 11 20.9 +0.7**
KSH sS **sS** **17 11 29.6 +2.4**
KSH ScS **ScS** **17 13 35.6 +0.9**
KSH SS **SS** **17 15 00.3 -0.1**
KSH PMZ
comp=Z,20nm,1.2s
KSH PMZ
comp=Z,140nm,3.2s
KSH LN
comp=Z,280nm,9.9s
KSH LE
comp=Z,440nm,13.0s
KSH LZ
comp=Z,520nm,16.9s
TCUT Toone Canyon 53.87 292 *e*P **P** **17 03 46.7 +0.2**
comp=Z,23nm,1.3s
TCUT Toone Canyon 53.87 292 *e*P **P** **17 03 46.7 +0.2**
comp=Z,23nm,1.3s
MIAR Mount Ida 53.96 272 *e*P **P** **17 03 47.2 +0.3**
MIAR pmax pmax
comp=Z,57nm,2.0s
MIAR Mount Ida 53.96 272 *e*P **P** **17 03 47.2 +0.3**
comp=Z,57nm,2.0s
MIAR Mount Ida 53.96 272 *e*P **P** **17 03 47.2 +0.3**
comp=Z,57nm,2.0s
CTU Camp Tracy 54.36 292 P **P** **17 03 50.6 +0.6**
CTU Camp Tracy 54.36 292 P **P** **17 03 50.6 +0.6**
BGU Big Grassy Mou 54.55 293 *e*P **P** **17 03 51.1 -0.2**
comp=Z,43nm,1.9s
BGU Big Grassy Mou 54.55 293 *e*P **P** **17 03 51.1 -0.2**
comp=Z,43nm,1.9s
SONM Songino Array 54.87 44 P **P** **17 03 53.0 -0.5**
comp=Z,2.1nm,1.0s,baz=327,slow=5.9,SNR=17
SONM LR LR 17 29 55.4
comp=Z,318nm,21.1s,baz=344,slow=39
SDCO Great Sand Dun 55.03 285 *e*P **P** **17 03 55.3 +0.3**
comp=Z,9.1nm,1.5s
SDCO Great Sand Dun 55.03 285 *e*P **P** **17 03 55.3 +0.3**
comp=Z,9.1nm,1.5s
DUG Dugway, Tooele 55.15 292 *e*P **P** **17 03 56.9 +1.2**
DUG pmax pmax
comp=Z,38nm,1.5s
DUG Dugway, Tooele 55.15 292 *e*P **P** **17 03 56.8 +1.2**
comp=Z,38nm,1.5s
DUG Dugway, Tooele 55.15 292 *e*P **P** **17 03 56.9 +1.2**
comp=Z,38nm,1.5s
SRU San Rafael Swe 55.41 290 *e*P **P** **17 03 57.3 -0.3**
SRU pmax pmax
comp=Z,25nm,1.4s
SRU San Rafael Swe 55.41 290 *e*P **P** **17 03 57.3 -0.3**
comp=Z,25nm,1.4s
SRU San Rafael Swe 55.41 290 *e*P **P** **17 03 57.3 -0.3**
comp=Z,25nm,1.4s
WMOK Wichita Mounta 55.54 277 *e*P **P** **17 03 56.0 -2.4**
WMOK pmax pmax
comp=Z,44nm,1.8s
WMOK Wichita Mounta 55.54 277 *e*P **P** **17 03 56.0 -2.4**
comp=Z,44nm,1.8s
HIA Hailar 56.35 34*d i*P **P** **17 04 03.8 -0.2**
HIA pmax pmax
comp=Z,8.0nm,1.2s
HIA Hailar 56.35 34 *i* P **P** **17 04 03.8 -0.2**
comp=Z,8.0nm,1.2s
MVCO Mesa Verde 56.50 287 *e*P **P** **17 04 06.3 +0.9**
comp=Z,38nm,1.5s
MVCO Mesa Verde 56.50 287 *e*P **P** **17 04 06.3 +0.9**
comp=Z,38nm,1.5s
MVU Marysvale 56.50 291 *e*P **P** **17 04 07.2 +1.7**
comp=Z,43nm,1.8s
MVU Marysvale 56.50 291 *e*P **P** **17 04 07.2 +1.7**
comp=Z,43nm,1.8s
PETK Petropavlovsk- 56.74 5 LR LR 17 29 47.1
comp=Z,54nm,19.3s,baz=12,slow=38
PET Petropavlovsk 56.85 4 *e*P **P** **17 04 04.8 -2.6**
PET *e*S S 17 11 52.5 -7.5
PET pmax pmax
comp=Z,10.0nm,0.8s
R11A Troy Canyon, C 57.70 294 *e*P **P** **17 04 14.0 +0.1**
comp=Z,21nm,1.4s
R11A Troy Canyon, C 57.70 294 *e*P **P** **17 04 14.0 +0.1**
comp=Z,21nm,1.4s
ABTX Abilene, Hawle 57.76 277 *e*P **P** **17 04 13.7 -0.5**
comp=Z,56nm,1.8s
ABTX Abilene, Hawle 57.76 277 *e*P **P** **17 04 13.7 -0.5**
comp=Z,56nm,1.8s
ANMO Albuquerque 57.90 284 *i* P **P** **17 04 16.3 +1.0**
ANMO pmax pmax
comp=Z,16nm,1.2s
ANMO Albuquerque 57.90 284 *i* P **P** **17 04 16.3 +1.0**
comp=Z,16nm,1.2s
TORD Torodi Ar. Bea 58.15 160 P **P** **17 04 15.2 -1.8**
comp=Z,4.8nm,1.1s,baz=352,slow=9.0,SNR=12
TORD LR LR 17 29 56.2
comp=Z,247nm,18.3s,baz=355,slow=37
KLR Kul'dur 58.37 25 *e*P P 17 04 13.0 -5.2
NVAR Mina Array Bea 58.46 296 P **P** **17 04 19.3 +0.1**
comp=Z,1.4nm,0.9s,baz=25,slow=5.6,SNR=7.2
HKT Hockley 58.93 272 *e*P **P** **17 04 24.0 +1.8**
HKT pmax pmax
comp=Z,10.0nm,1.7s
HKT Hockley 58.93 272 *e*P **P** **17 04 24.0 +1.8**
comp=Z,10.0nm,1.7s
WUAZ Wupatki 58.97 289 *e*P **P** **17 04 22.4 -0.4**
comp=Z,55nm,1.8s
WUAZ Wupatki 58.97 289 *e*P **P** **17 04 22.4 -0.4**
comp=Z,55nm,1.8s
SHPR Sheep Range 59.26 293 *e*P **P** **17 04 25.8 +1.0**
comp=Z,67nm,2.1s
SHPR Sheep Range 59.26 293 *e*P **P** **17 04 25.8 +1.0**
comp=Z,67nm,2.1s
HABR Khabarovsk 59.56 22*de*P **P** **17 04 25.6 -0.8**
HABR *e**PP **pP** **17 04 29.0 -1.7**
HABR *e**SP **sP** **17 04 30.2 -2.1**
HABR *e* 17 05 12.8
HABR *e* 17 06 36.8
HABR *e*S **S** **17 12 35.9 +0.5**
HABR *e**SS **sS** **17 12 41.8 -0.6**
HABR *e* 17 14 15.9
HABR *e*SS **SS** **17 16 33.1 +3.4**
HABR pmax pmax
comp=N,9.0nm,0.9s
HABR pmax pmax
comp=E,40nm,1.9s
HABR pmax pmax
comp=Z,46nm,1.9s
HABR MLR MLR
comp=Z,124nm,19.0s
HABR Khabarovsk 59.56 22 *e*P **P** **17 04 25.6 -0.8**
comp=Z,46nm,1.9s
HABR Khabarovsk 59.56 22 *e*PcP **PcP** **17 05 12.8 -0.8**
JCT Junction City 59.78 276 *e*P **P** **17 04 27.9 -0.3**
JCT Junction City 59.78 276 *e*P **P** **17 04 27.9 -0.3**
JCT Junction City 59.78 276 *e*P **P** **17 04 27.9 -0.3**
DAC Darwin (Calif) 60.23 295 *e*P **P** **17 04 31.8 +0.3**
DAC pmax pmax
comp=Z,13nm,1.5s
DAC Darwin (Calif) 60.23 295 *e*P **P** **17 04 31.8 +0.3**
comp=Z,13nm,1.5s
121A Cookes Peak, D 60.55 284 *e*P **P** **17 04 34.9 +1.2**
comp=Z,104nm,2.0s
ISA Isabella, Lake 61.06 295 *e*P **P** **17 04 35.8 -1.2**
ISA Isabella, Lake 61.06 295 *e*P **P** **17 04 35.8 -1.2**
GTA Gaotai 61.09 53 ⇑P **P** **17 04 37.6 +0.4**
GTA pP **pP** **17 04 42.2 +0.7**
GTA sP **sP** **17 04 44.6 +1.5**
GTA PcP **PcP** **17 05 21.7 +1.6**
GTA PP **PP** **17 06 55.2 +4.0**
GTA S **S** **17 12 53.9 -1.6**
GTA sS **sS** **17 13 03.1 +0.5**
GTA SS **SS** **17 16 54.7 +0.3**
GTA PMZ
comp=Z,11nm,1.4s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GTA				PMZ			
	comp=Z,100nm,4.8s						
GTA				LN			
	comp=Z,220nm,15.2s						
GTA				LE			
	comp=Z,350nm,18.1s						
GTA				LZ			
	comp=Z,300nm,18.1s						
TUC	**Tucson**	**61.73**	**287**	*e*P	**P**	**17 04 42.5**	**+0.9**
TUC				pmax	pmax		
	comp=Z,49nm,1.9s						
TUC	**Tucson**	**61.73**	**287**	*e*P	**P**	**17 04 42.5**	**+0.9**
	comp=Z,49nm,1.9s						
TXAR	**Lajitas Array**	**62.13**	**279**	P	**P**	**17 04 43.9**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=76,slow=5.3,SNR=6.3						
TXAR				LR	LR	17 31 58.0	
	comp=Z,953nm,19.1s,baz=0.0,slow=36						
MDJ	**Mudanjiang**	**62.55**	**28**	P	**P**	**17 04 45.4**	**-1.4**
MDJ				pP	**pP**	**17 04 48.7**	**-2.4**
MDJ				sP	**sP**	**17 04 49.9**	**-2.9**
MDJ				S	**S**	**17 13 11.4**	**-2.3**
MDJ				sS	**sS**	**17 13 16.4**	**-4.4**
MDJ				ScS	**ScS**	**17 14 37.5**	**-0.8**
MDJ				PMZ			
	comp=Z,6.0nm,1.4s						
MDJ				PMZ			
	comp=Z,78nm,4.2s						
MDJ				LN			
	comp=Z,36nm,24.4s						
MDJ				LE			
	comp=Z,47nm,22.5s						
MDJ				LZ			
	comp=Z,76nm,26.7s						
MDJ	**Mudanjiang**	**62.55**	**28**	*e*P	**P**	**17 04 46.1**	**-0.7**
	comp=Z,22nm,1.4s						
CN2	**Changchun**	**62.66**	**31**	*e*P	**P**	**17 04 46.8**	**-0.7**
CN2				*e*PP	**PP**	**17 07 06.0**	**+1.2**
CN2				*e*S	**S**	**17 13 10.9**	**-4.1**
CN2				PMZ			
	comp=Z,10.0nm,1.2s						
CN2				PMZ			
	comp=Z,90nm,4.0s						
CN2				LN			
	comp=Z,150nm,14.0s						
CN2				LE			
	comp=Z,120nm,14.0s						
CN2				LZ			
	comp=Z,150nm,15.0s						
HHC	**Hu-ho-hao-te**	**62.68**	**43**	*e*P	**P**	**17 04 47.8**	**-0.1**
HHC				sP	**sP**	**17 04 55.6**	**+1.8**
HHC				PP	**PP**	**17 07 05.7**	**+0.5**
HHC				S	**S**	**17 13 10.4**	**-5.2**
HHC				sS	**sS**	**17 13 20.9**	**-1.8**
HHC				SS	**SS**	**17 17 20.4**	**+1.2**
HHC				PMZ			
	comp=Z,25nm,1.1s						
HHC				PMZ			
	comp=Z,68nm,7.8s						
HHC				LN			
	comp=Z,300nm,16.3s						
HHC				LE			
	comp=Z,220nm,17.0s						
HHC				LZ			
	comp=Z,220nm,16.5s						
USRK	**Ussuriysk Ar.**	**63.33**	**26**	P	**P**	**17 04 50.9**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=15,slow=7.9,SNR=6.1						
DBIC	**Dimbokro**	**63.97**	**168**	LR	LR	17 33 18.3	
	comp=Z,110nm,18.8s,baz=350,slow=36						
LZH	**Lanzhou**	**65.28**	**51**	*e*P	**P**	**17 05 05.1**	**0.0**
LZH				pP	**pP**	**17 05 08.3**	**-1.2**
LZH				sP	**sP**	**17 05 09.8**	**-1.3**
LZH				*e*PP	**PP**	**17 07 30.2**	**+2.0**
LZH				*e*SS	**SS**	**17 17 59.5**	**-0.6**
LZH				PMZ			
	comp=Z,31nm,1.5s						
LZH				PMZ			
	comp=Z,130nm,8.0s						
LZH				LN			
	comp=Z,400nm,16.0s						
LZH				LE			
	comp=Z,250nm,14.0s						
LZH				LZ			
	comp=Z,500nm,18.5s						
KOLN	**Koldanda**	**67.08**	**72**	*e*P	**P**	**17 05 16.2**	**-0.6**
	comp=Z,16nm,1.0s						
GKN	**Gorkha**	**67.20**	**71**	*e*P	**P**	**17 05 17.0**	**-0.5**
	comp=Z,99nm,1.7s						
KKN	**Kakani**	**67.60**	**70**	*e*P	**P**	**17 05 19.5**	**-0.6**
LSA	**Lhasa**	**67.66**	**64**	P	**P**	**17 05 20.8**	**+0.1**
LSA	**Lhasa**	**67.66**	**64**	*e*P	**P**	**17 05 21.2**	**+0.5**
LSA				pmax	pmax		
	comp=Z,48nm,1.6s						
LSA	**Lhasa**	**67.66**	**64**	*e*P	**P**	**17 05 21.2**	**+0.5**
	comp=Z,48nm,1.6s						
LSA	**Lhasa**	**67.66**	**64**	*e*P	**P**	**17 05 21.2**	**+0.5**
	comp=Z,48nm,1.6s						
GUN	**Gumba**	**67.68**	**70**	*e*P	**P**	**17 05 20.8**	**0.0**
	comp=Z,53nm,1.0s						
DMN	**Daman**	**67.72**	**71**	*e*P	**P**	**17 05 20.7**	**-0.2**
PKIN	**Phulchoki**	**67.84**	**70**	*e*P	**P**	**17 05 21.2**	**-0.5**
PKI	**Pulchoki**	**67.85**	**70**	*e*P	**P**	**17 05 21.3**	**-0.5**
	comp=Z,32nm,1.3s						
JIRN	**Jiri**	**68.01**	**70**	*e*P	**P**	**17 05 23.0**	**+0.1**
	comp=Z,97nm,1.4s						
RAMN	**Ramite**	**68.80**	**69**	*e*P	**P**	**17 05 27.4**	**-0.3**
	comp=Z,66nm,1.1s						
KSRS	**Korea Array**	**69.27**	**31**	LR	LR	17 36 39.8	
	comp=Z,74nm,18.1s,baz=340,slow=37						
CD2	**Chengdu**	**70.16**	**53**	*e*P	**P**	**17 05 34.5**	**-1.2**
CD2				pP	**pP**	**17 05 37.7**	**-2.4**
CD2				PcP	**PcP**	**17 05 56.7**	**-0.9**
CD2				PP	**PP**	**17 08 08.8**	**-1.7**
CD2				S	**S**	**17 14 44.9**	**-1.5**
CD2				sS	**sS**	**17 14 50.4**	**-3.2**
CD2				SS	**SS**	**17 19 14.7**	**-0.6**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.0s						
MAJO	**Matsushiro**	**71.70**	**22**	*e*P	**P**	**17 05 44.6**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,66nm,1.1s						
MAJO	**Matsushiro**	**71.70**	**22**	*e*P	**P**	**17 05 44.4**	**-0.6**
	comp=Z,26nm,1.5s						
MAJO	**Matsushiro**	**71.70**	**22**	*e*P	**P**	**17 05 44.4**	**-0.6**
	comp=Z,26nm,1.5s						
MAT	**Matsushiro**	**71.70**	**22**	P	**P**	**17 05 44.3**	**-0.7**
MAT				*e*S	**SKiKP**	**17 15 21.6**	**-0.9**
MJAR	**Matsushiro Arr**	**71.70**	**22**	P	**P**	**17 05 44.6**	**-0.5**
	comp=Z,7.1nm,1.0s,baz=341,slow=5.8,SNR=18						
NJ2	**Nanjing**	**72.74**	**40**	*e*P	**P**	**17 05 52.0**	**+0.7**
NJ2				PMZ			
	comp=Z,50nm,0.6s						
NJ2				LN			
	comp=Z,350nm,15.8s						
NJ2				LE			
	comp=Z,430nm,13.7s						
WHN	**Wuhan**	**73.18**	**44**	P	**P**	**17 05 53.4**	**-0.5**
WHN				LZ			
	comp=Z,520nm,21.9s						
JNU	**Nakatsue**	**73.99**	**29**	LR	LR	17 37 47.6	
	comp=Z,66nm,21.5s,slow=35						
GYA	**Guiyang**	**75.16**	**52**⇓	*i*P	**P**	**17 06 04.7**	**-0.9**
GYA				PP	**PP**	**17 08 55.6**	**+2.3**
GYA				S	**S**	**17 15 42.2**	**-1.5**
GYA				SKS	**SKSac**	**17 16 10.0**	**-4.4**
GYA				SS	**SS**	**17 20 32.3**	**+0.3**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,110nm,5.2s						
GYA				LN			
	comp=Z,470nm,18.7s						
GYA				LE			
	comp=Z,380nm,19.0s						
GYA				LZ			
	comp=Z,460nm,18.4s						
ROSC	**El Rosal**	**75.35**	**242**	LR	LR	17 37 14.5	
	comp=Z,28nm,19.7s,baz=210,slow=34						
ROSC	**El Rosal**	**75.35**	**242**	P	**P**	**17 06 08.8**	**+1.7**
KMI	**Kunming**	**75.36**	**56**	P	**P**	**17 06 07.8**	**+0.9**
KMI				sP	**sP**	**17 06 11.9**	**-1.0**
KMI				S	**S**	**17 15 45.6**	**-0.5**
KMI				SS	**SS**	**17 20 36.0**	**+0.7**
KMI				PMZ			
	comp=Z,7.0nm,0.5s						
KMI				PMZ			
	comp=Z,71nm,4.6s						
KMI				LN			
	comp=Z,280nm,19.6s						
KMI				LE			
	comp=Z,180nm,16.1s						
KMI				LZ			
	comp=Z,340nm,20.0s						
KMBO	**Kilima Mbogo**	**79.23**	**126**	LR	LR	17 44 14.7	
	comp=Z,88nm,19.9s,baz=96,slow=38						
CHTO	**Chiang Mai**	**80.23**	**61**	*e*P	**P**	**17 06 32.9**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,50nm,2.1s						
CHTO	**Chiang Mai**	**80.23**	**61**	*e*P	**P**	**17 06 32.9**	**-0.9**
	comp=Z,50nm,2.1s						
CMAR	**Chiang Mai Arr**	**80.57**	**61**	P	**P**	**17 06 34.8**	**-0.9**
	comp=Z,2.8nm,1.1s,baz=323,slow=6.1,SNR=13						
CMAR				LR	LR	17 46 54.0	
	comp=Z,80nm,19.7s,baz=236,slow=39						
QIZ	**Qiongzhong**	**83.08**	**51**	P	**P**	**17 06 48.6**	**-0.3**
QIZ				pP	**pP**	**17 06 51.7**	**-1.6**
QIZ				S	**S**	**17 17 07.0**	**-0.9**
QIZ				PMZ			
	comp=Z,7.0nm,1.6s						
QIZ				PMZ			
	comp=Z,65nm,3.8s						
QIZ				LZ			
	comp=Z,250nm,16.6s						
SAML	**Samuel**	**85.47**	**227**	*e*P	**P**	**17 07 01.0**	**+0.1**
	comp=Z,17nm,1.6s						
BDFB	**Brasilia**	**88.72**	**211**	LR	LR	17 39 58.2	
	comp=Z,220nm,18.2s,baz=346,slow=31						
LPAZ	**La Paz**	**93.77**	**230**	LR	LR	17 46 48.0	
	comp=Z,37nm,20.9s,baz=357,slow=34						
PPT2	**Papeete2**	**120.50**	**307**	*e*LR	LR	17 50 19.1	
	comp=Z,160nm,24.0s						
TBI	**Tubuai**	**125.95**	**305**	*e*LR	LR	17 52 51.5	
	comp=Z,207nm,37.0s						
WRA	**Warramunga Arr**	**126.43**	**36**	PKP	**PKPdf**	**17 13 25.6**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=313,slow=2.4,SNR=6.4						
ASAR	**Alice Springs**	**129.96**	**38**	PKP	**PKPdf**	**17 13 32.0**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=344,slow=1.4,SNR=9.4						
DZM	**Mont Dzumac**	**131.69**	**358**	*e*LR	LR	17 55 22.8	
	comp=Z,862nm,31.6s						
MAW	**Mawson**	**147.44**	**136**	*e*PKP2	**PKPab**	**17 14 06.8**	**-0.7**
MAW	**Mawson**	**147.44**	**136**	*e*PKPbc	**PKPab**	**17 14 06.8**	**-0.7**

*CSEM **09** 16:55:54.9±0.2, 37°.31N×22°.08E, h15km, ML1.9, Error ellipse: s-maj=4.3km s-min=3.8km az=149.0*
*ATH **09** 16:55:55.1, 37°.31N×22°.09E, h18km±3km, MD2.9/13*
THE 09 16:55:55.6, 37°.26N×22°.09E, h2km±24km, ML1.9/3, Error ellipse: s-maj=24.4km s-min=0.5km az=222.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.15**	**237**	P	Pg	16 55 58.7	+0.1
ITM				S	Sg	16 56 00.9	+0.2
ITM	**Ithomi**	**0.15**	**237**	*e*PB	Pg	16 55 58.9	+0.3
ITM				*e*SB	Sg	16 56 03.5	+2.8
ITM	**Ithomi**	**0.15**	**237**	*e*Pb	Pg	16 55 58.9	+0.3
ITM				S	Sg	16 56 00.9	+0.2
ITM				*e*Sb	Sg	16 56 03.5	+2.8
VLX	**Vlachokerasia**	**0.26**	**65**	P	Pg	16 55 59.9	-0.8
VLX				S	Sg	16 56 04.4	+0.3
VLX	**Vlachokerasia**	**0.26**	**65**	*e*PB	Pg	16 56 00.1	-0.6
VLX				*e*SB	Sg	16 56 04.5	+0.4
VLX	**Vlachokerasia**	**0.26**	**65**	*e*Pb	Pg	16 56 00.1	-0.6
VLX				S	Sg	16 56 04.4	+0.3
AMT	**Artemida-Makis**	**0.41**	**312**	P	Pg	16 56 03.1	-0.4
AMT				S	Sg	16 56 09.4	+0.6
AMT	**Artemida-Makis**	**0.41**	**312**	*e*PB	Pg	16 56 03.5	0.0
AMT				*e*SB	Sg	16 56 09.5	+0.7
AMT	**Artemida-Makis**	**0.41**	**312**	P	Pg	16 56 03.1	-0.4
AMT	**Artemida-Makis**	**0.41**	**312**	*e*Pb	Pg	16 56 03.5	0.0
AMT				S	Sg	16 56 09.4	+0.6
PYL	**PYLOS**	**0.46**	**217**	P	Pg	16 56 04.4	0.0
PYL	**PYLOS**	**0.46**	**217**	*e*PB	Pg	16 56 04.7	+0.3
PYL	**PYLOS**	**0.46**	**217**	P	Pg	16 56 04.4	0.0
PYL	**PYLOS**	**0.46**	**217**	*e*Pb	Pg	16 56 04.7	+0.3
GUR	**Goura**	**0.70**	**17**	*e*PB	Pg	16 56 07.1	-2.2
GUR	**Goura**	**0.70**	**17**	*e*Pb	Pg	16 56 07.1	-2.2
DRO	**Drossia**	**0.75**	**337**	*e*PB	Pg	16 56 08.5	-1.6
DRO	**Drossia**	**0.75**	**337**	*e*Pb	Pg	16 56 08.5	-1.6
VLI	**Veliai**	**0.87**	**128**	P	Pg	16 56 11.9	-0.4
VLI				S	Sb	16 56 24.9	-0.7
VLI	**Veliai**	**0.87**	**128**	*e*PB	Pg	16 56 12.0	-0.3
VLI				*e*SN	Sb	16 56 25.8	+0.2
VLI	**Veliai**	**0.87**	**128**	P	Pg	16 56 11.9	-0.4
VLI				S	Sb	16 56 24.9	-0.7
VLI				*e*Sn	Sg	16 56 25.8	+2.2
RLS	**Riolos of Patr**	**0.94**	**328**	*e*PN	Pg	16 56 12.3	-1.2
RLS	**Riolos of Patr**	**0.94**	**328**	*e*Pn	Pg	16 56 12.3	-1.2
DID	**Didima**	**0.95**	**75**	P	Pg	16 56 12.8	-1.0
DID				S	Sb	16 56 27.6	-0.3
DID	**Didima**	**0.95**	**75**	*e*PB	Pg	16 56 12.4	-1.4
DID	**Didima**	**0.95**	**75**	*e*Pb	Pg	16 56 12.4	-1.4
DID	**Didima**	**0.95**	**75**	P	Pg	16 56 12.8	-1.0
LTK	**Loutraki**	**1.03**	**42**	*e*PN	Pg	16 56 14.8	-0.6
LTK	**Loutraki**	**1.03**	**42**	*e*Pn	Pg	16 56 14.8	-0.6
ZKS	**Zakynthos**	**1.12**	**293**	P	Pg	16 56 16.6	-0.6
ZKS	**Zakynthos**	**1.12**	**293**	*e*PN	Pg	16 56 16.8	-0.4
ZKS	**Zakynthos**	**1.12**	**293**	*e*Pn	Pg	16 56 16.8	-0.4
KALE	**Kalithea**	**1.13**	**2**	*e*PB	Pg	16 56 14.6	-2.7
KALE				*e*SN	Sg	16 56 31.0	-1.1
KALE	**Kalithea**	**1.13**	**2**	*e*Pb	Pg	16 56 14.6	-2.7
KALE				*e*Sn	Sg	16 56 31.0	-1.1
EFP	**Efpalio**	**1.17**	**353**	*e*PN	Pg	16 56 16.0	-2.1
EFP				*e*SN	Sg	16 56 33.1	-0.2
EFP	**Efpalio**	**1.17**	**353**	*e*Pn	Pg	16 56 16.0	-2.1
EFP				*e*Sn	Sg	16 56 33.1	-0.2
DSF	**Desfina**	**1.20**	**17**	*e*PN	Pg	16 56 16.9	-1.8
DSF	**Desfina**	**1.20**	**17**	*e*Pn	Pg	16 56 16.9	-1.8
KYTH	**Kithira**	**1.24**	**142**	*e*PN	Pn	16 56 20.0	-0.1
KYTH	**Kithira**	**1.24**	**142**	*e*Pn	Pn	16 56 20.0	-0.1

*NIED **09** 16:56:00, 29°.60N×130°.10E, h8km, Mw3.6 Best double couple: Mo2.38000×10^14 NP1:φs268.00000°, δ47.00000°, λ-133.00000°. NP2:φs142.00000°, δ58.00000°, λ-53.00000°.*
*IDC **09** 16:56:39.4±1.4, 29°.47N×129°.77E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.3/52, mbtmp3.4/5, ML2.9/2, Error ellipse: s-maj=66.2km s-min=20.9km az=80.0*
*ISCJB **09** 16:56:40.4±0.7, 29°.56N±0°.04×130°.07E±0°.08, h22km±6km, mb3.4/3, Error ellipse: s-maj=12.5km s-min=4.0km az=23.6*
*JMA **09** 16:56:40.5±0.1, 29°.58N×130°.07E, h23km±2km, M3.5*
JMA Felt I J1.
ISC 09 16:56:39.9±1.3, 29°.56N±0°.03×130°.08E±0°.08, h10km±10km, n16, σ1.20/24, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.33**	**329**	P	**Pb**	**16 56 47.4**	**-0.6**
JNN				S	**Sb**	**16 56 52.4**	**-1.0**
JYAK	**Yakushimahirau**	**0.78**	**29**	P	**Pg**	**16 56 54.6**	**-0.4**
JYAK				S	**Sg**	**16 57 04.9**	**-0.2**
JTAJ	**Takarajima**	**0.86**	**242**	P	**Pb**	**16 56 56.9**	**0.0**
JKC	**Kuchinoerabu**	**0.91**	**7**	P	**Pg**	**16 56 57.1**	**-0.4**
JKC				*e*S	**Sg**	**16 57 09.2**	**-0.1**
JAM	**Amami Oshima**	**1.21**	**200**	P	**Pn**	**16 57 02.0**	**-0.9**
JAM				S	**Sb**	**16 57 18.0**	**-0.6**
JZK	**Kikaishima**	**1.24**	**184**	P	**Pg**	**16 57 04.9**	**+1.1**
JTN	**Tanegashima 3**	**1.35**	**35**	P	**Pn**	**16 57 03.8**	**-1.0**
JTN				*e*S	**Sb**	**16 57 21.1**	**-1.5**
JAMN	**Amaminishikomi**	**1.53**	**211**	P	**Pn**	**16 57 06.3**	**-0.9**
JAMN				S	**Sn**	**16 57 26.3**	**-0.8**
JTK	**Tokunoshima**	**2.02**	**210**	P	**Pn**	**16 57 13.6**	**-0.5**
JOKE	**Okinoerabujima**	**2.56**	**212**	P	**Pn**	**16 57 21.8**	**+0.4**
JIH	**Iheya**	**3.12**	**217**	P	**Pn**	**16 57 29.4**	**+0.2**
JIH				*e*S	**Sn**	**16 58 04.9**	**-1.7**
JNU	**Nakatsue**	**3.62**	**11**	Pn	**Pn**	**16 57 38.2**	**+2.1**
	1.7nm,0.3s,baz=188,slow=12,SNR=25						
JNU				Sn	**Sn**	**16 58 19.9**	**+1.0**
	baz=8.7,slow=17,SNR=2.4						
KSRS	**Korea Array**	**8.08**	**348**	Pn	**Pn**	**16 58 40.2**	**+3.0**
	0.1nm,0.3s,baz=168,slow=14,SNR=4.2						
SONM	**Songino Array**	**25.81**	**322**	P	**P**	**17 02 10.9**	**-0.4**
	0.3nm,0.6s,baz=131,slow=9.8,SNR=2.4						
WRA	**Warramunga Arr**	**49.38**	**175**	P	**P**	**17 05 29.5**	**-0.3**
	0.5nm,0.5s,baz=355,slow=8.3,SNR=5.3						
ASAR	**Alice Springs**	**53.04**	**176**	P	**P**	**17 05 58.7**	**+1.4**
	0.7nm,1.1s,baz=8.4,slow=14,SNR=7.3						

*DDA **09** 16:57:36.4, 40°.71N×27°.39E, h13km, MD3.2*
*CSEM **09** 16:57:36.2±0.1, 40°.76N×27°.39E, h8km, MD3.2, Error ellipse: s-maj=3.7km s-min=2.5km az=4.0*
*ISCJB **09** 16:57:36.3±0.3, 40°.73N±0°.02×27°.38E±0°.02, h10km±2km, Error ellipse: s-maj=3.1km s-min=2.3km az=1.2*
*ISK **09** 16:57:36.1, 40°.71N×27°.39E, h15km, MD2.8*
*ATH **09** 16:57:37.9, 40°.83N×27°.28E, h27km±2km, MD3.3/11*
*THE **09** 16:57:38.7, 40°.72N×27°.36E, h23km±3km, ML2.5/5, Error ellipse: s-maj=3.4km s-min=0.8km az=118.0*
ISC 09 16:57:36.4±0.8, 40°.72N±0°.02×27°.38E±0°.01, h14km±5km, n115, σ0.78/162, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SART	**Tekirdag**	**0.16**	**260**	*i* P	**Pg**	**16 57 40.3**	**0.0**
SART				*i* S	**Sg**	**16 57 42.8**	**-0.2**
SART	**Tekirdag**	**0.16**	**260**	*i* P	**Pg**	**16 57 40.3**	**0.0**
SART				*i* S	**Sg**	**16 57 42.8**	**-0.2**
MRMT	**Marmara Adasi**	**0.20**	**125**	PG	**Pg**	**16 57 40.6**	**-0.3**
MRMT				*e*SG	**Sg**	**16 57 43.6**	**-0.4**
MRMT	**Marmara Adasi**	**0.20**	**125**	*i* Pg	**Pg**	**16 57 40.7**	**-0.2**
TKR	**Tekirdag**	**0.30**	**23**	*e*PG	**Pg**	**16 57 43.0**	**+0.4**
TKR				*e*SG	**Sb**	**16 57 47.8**	**-0.5**
TKR	**Tekirdag**	**0.30**	**23**	*e*Sg	**Sb**	**16 57 47.8**	**-0.5**
TKR	**Tekirdag**	**0.30**	**23**	*e*Pg	**Pg**	**16 57 43.0**	**+0.4**
KRBG	**Karabiga-Canak**	**0.33**	**192**	*e*PG	**Pg**	**16 57 43.4**	**+0.3**
KRBG				*e*SG	**Sg**	**16 57 48.1**	**+0.4**
KRBG	**Karabiga-Canak**	**0.33**	**192**	*e*Pg	**Pg**	**16 57 43.4**	**+0.3**
KRBG				*e*Sg	**Sg**	**16 57 48.1**	**+0.4**
CRLT	**Corlu**	**0.49**	**33**	*e*PG	**Pb**	**16 57 46.5**	**-0.3**
CRLT	**Corlu**	**0.49**	**33**	*e*Pg	**Pb**	**16 57 46.5**	**-0.3**
EDC	**Edincik**	**0.52**	**135**	*e*PG	**Pg**	**16 57 46.8**	**+0.2**
EDC	**Edincik**	**0.52**	**135**	*e*Pg	**Pg**	**16 57 46.8**	**+0.2**
BNT	**Bandirma**	**0.55**	**131**	*e*PG	**Pg**	**16 57 47.1**	**0.0**
BNT	**Bandirma**	**0.55**	**131**	*e*Pg	**Pg**	**16 57 47.1**	**0.0**
LPK	**Lapseki**	**0.59**	**234**	*e*PG	**Pg**	**16 57 48.0**	**+0.1**
LPK	**Lapseki**	**0.59**	**234**	*e*Pg	**Pg**	**16 57 48.0**	**+0.1**
ERIK	**Erikli-Kesan**	**0.66**	**266**	*e*PG	**Pg**	**16 57 49.5**	**+0.2**
ERIK	**Erikli-Kesan**	**0.66**	**266**	*e*Pg	**Pg**	**16 57 49.5**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.76**	**246**	*e*PG	**Pg**	**16 57 51.1**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.76**	**246**	*e*Pg	**Pg**	**16 57 51.1**	**-0.1**
SLVT	**Silivri**	**0.81**	**50**	*e*PG	**Pn**	**16 57 52.7**	**-0.7**
SLVT	**Silivri**	**0.81**	**50**	*e*Pg	**Pn**	**16 57 52.7**	**-0.7**
KCTX	**Karacabey (Bur**	**0.87**	**121**	*e*PG	**Pb**	**16 57 52.9**	**-0.3**
KCTX	**Karacabey (Bur**	**0.87**	**121**	*e*Pg	**Pb**	**16 57 52.9**	**-0.3**
ELBA	**Catalca**	**0.90**	**61**	*i* P	Pn	16 58 00.0	+5.3
ELBA				*i* S	**Sn**	**16 58 11.6**	**+4.1**
PHSR	**Pinarhisar**	**0.92**	**7**	*e*PG	**Pb**	**16 57 53.7**	**-0.4**
PHSR	**Pinarhisar**	**0.92**	**7**	*e*Pg	**Pb**	**16 57 53.7**	**-0.4**
ENEZ	**Enez**	**0.94**	**272**	*e*PG	**Pg**	**16 57 54.6**	**+0.1**
ENEZ	**Enez**	**0.94**	**272**	*e*Pg	**Pg**	**16 57 54.6**	**+0.1**
CTKS	**Kestanelik-??a**	**1.00**	**58**	*e*PG	**Pb**	**16 57 55.3**	**-0.2**
CTKS	**Kestanelik-??a**	**1.00**	**58**	*e*Pg	**Pb**	**16 57 55.3**	**-0.1**
ALN	**Alexandroupoli**	**1.03**	**280**	*e*PG	**Pg**	**16 57 57.1**	**+0.8**
ALN	**Alexandroupoli**	**1.03**	**280**	P	**Pb**	**16 57 56.1**	**+0.1**
ALN				S	**Sb**	**16 58 09.5**	**+0.1**
ALN	**Alexandroupoli**	**1.03**	**280**	*e*PN	**Pn**	**16 57 56.2**	**-0.2**
ALN				*e*SN	**Sb**	**16 58 09.3**	**-0.1**
ALN	**Alexandroupoli**	**1.03**	**280**	P	**Pb**	**16 57 56.1**	**+0.1**
ALN	**Alexandroupoli**	**1.03**	**280**	*e*Pg	**Pg**	**16 57 57.1**	**+0.8**
ARMT	**Armutlu**	**1.13**	**97**	*e*PN	**Pg**	**16 57 58.3**	**0.0**
ARMT	**Armutlu**	**1.13**	**97**	*e*Pn	**Pg**	**16 57 58.3**	**0.0**
BALB	**Balikesir**	**1.14**	**160**	*e*PN	**Pg**	**16 57 58.2**	**-0.2**
BALB	**Balikesir**	**1.14**	**160**	*e*Pn	**Pg**	**16 57 58.2**	**-0.2**
BGKT	**Bogazkoy**	**1.15**	**66**	*e*PN	**Pn**	**16 57 57.7**	**-0.4**
BGKT	**Bogazkoy**	**1.15**	**66**	*e*Pn	**Pn**	**16 57 57.7**	**-0.4**
EZN	**Ezine**	**1.20**	**223**	*e*PN	**Pb**	**16 57 58.9**	**0.0**
EZN	**Ezine**	**1.20**	**223**	*e*Pn	**Pb**	**16 57 58.9**	**0.0**
EDRB	**Edirne**	**1.23**	**337**	*e*PN	**Pg**	**16 57 59.8**	**-0.2**
EDRB	**Edirne**	**1.23**	**337**	P	**Pb**	**16 57 59.5**	**+0.1**
EDRB				S	**Sg**	**16 58 15.9**	**-0.1**
EDRB	**Edirne**	**1.23**	**337**	P	**Pb**	**16 57 59.5**	**+0.1**
EDRB	**Edirne**	**1.23**	**337**	*e*Pn	**Pg**	**16 57 59.8**	**-0.2**
GADA	**Gvkgeada**	**1.25**	**246**	*e*PN	**Pn**	**16 57 59.2**	**-0.2**
GADA	**Gvkgeada**	**1.25**	**246**	*e*Pn	**Pn**	**16 57 59.2**	**-0.2**
ISK	**Istanbul-Kandi**	**1.32**	**74**	*e*PN	**Pn**	**16 58 00.1**	**-0.3**
ISK	**Istanbul-Kandi**	**1.32**	**74**	P	**Pn**	**16 58 00.2**	**-0.2**
ISK				S	**Sg**	**16 58 18.6**	**-0.3**
ISK	**Istanbul-Kandi**	**1.32**	**74**	P	**Pn**	**16 58 00.2**	**-0.2**
ISK				S	**Sg**	**16 58 18.6**	**-0.3**
BUY	**Buyukada**	**1.32**	**84**	*i* P	**Pn**	**16 58 00.1**	**-0.4**
BUY				*i* S	**Sg**	**16 58 18.7**	**-0.4**
BUY	**Buyukada**	**1.32**	**84**	*i* P	**Pn**	**16 58 00.1**	**-0.4**
BUY				*i* S	**Sg**	**16 58 18.7**	**-0.4**
ORLT	**Orhaneli**	**1.33**	**120**	*e*PN	**Pn**	**16 58 00.8**	**+0.1**
ORLT	**Orhaneli**	**1.33**	**120**	*e*Pn	**Pn**	**16 58 00.8**	**+0.1**
BOZC	**Bozcaada**	**1.34**	**230**	*i* P	**Pb**	**16 58 01.3**	**0.0**
BOZC				*i* S	**Sg**	**16 58 19.9**	**+0.2**
KLYT	**Kilyos**	**1.36**	**66**	*e*PN	**Pn**	**16 58 00.9**	**-0.1**
KLYT	**Kilyos**	**1.36**	**66**	*e*Pn	**Pn**	**16 58 00.9**	**-0.1**
DURS	**Dursunbey**	**1.39**	**143**	*i* P	**Pb**	**16 58 02.6**	**+0.4**
DURS				*i* S	**Sb**	**16 58 20.1**	**+0.2**
DURS	**Dursunbey**	**1.39**	**143**	*i* P	**Pb**	**16 58 02.6**	**+0.4**
DURS				*i* S	**Sb**	**16 58 20.1**	**+0.2**
SMTH	**Samothraki Isl**	**1.43**	**261**	P	**Pn**	**16 58 01.8**	**-0.2**
SMTH				S	**Sn**	**16 58 19.9**	**-0.7**
SMTH	**Samothraki Isl**	**1.43**	**261**	*e*PB	**Pn**	**16 58 02.0**	**0.0**
SMTH				*e*SN	**Sb**	**16 58 21.2**	**+0.2**
SMTH	**Samothraki Isl**	**1.43**	**261**	P	**Pn**	**16 58 01.8**	**-0.2**
SMTH				S	**Sn**	**16 58 19.9**	**-0.7**
SMTH				*e*Sn	**Sb**	**16 58 21.2**	**+0.2**
ULDT	**Uludag**	**1.46**	**113**	*i* P	**Pg**	**16 58 04.3**	**-0.1**
ULDT				*i* S	**Sn**	**16 58 19.7**	**-1.7**
ULDT	**Uludag**	**1.46**	**113**	*i* P	**Pg**	**16 58 04.3**	**-0.1**
ULDT				*i* S	**Sn**	**16 58 19.7**	**-1.7**
DST	**Dursunbey**	**1.46**	**139**	*e*PN	**Pn**	**16 58 02.6**	**+0.2**
DST	**Dursunbey**	**1.46**	**139**	*e*Pn	**Pn**	**16 58 02.6**	**+0.2**
RDO	**Rodhopi**	**1.46**	**288**	P	**Pb**	**16 58 02.9**	**-0.5**
RDO				S	**Sb**	**16 58 21.6**	**-0.2**
RDO	**Rodhopi**	**1.46**	**288**	*e*PN	**Pb**	**16 58 02.9**	**-0.5**
RDO				*e*SN	**Sb**	**16 58 21.9**	**+0.1**
RDO	**Rodhopi**	**1.46**	**288**	P	**Pb**	**16 58 02.9**	**-0.5**
RDO				S	**Sb**	**16 58 21.6**	**-0.2**
AYVA	**Ayvalik**	**1.50**	**201**	*i* P	**Pg**	**16 58 04.6**	**-0.7**
AYVA				*i* S	**Sg**	**16 58 24.0**	**-0.8**
AYVA	**Ayvalik**	**1.50**	**201**	*i* P	**Pg**	**16 58 04.6**	**-0.7**
AYVA				*i* S	**Sg**	**16 58 24.0**	**-0.8**
IZI	**Iznik**	**1.64**	**103**	*e*PN	**Pb**	**16 58 05.9**	**-0.5**
IZI	**Iznik**	**1.64**	**103**	*e*Pn	**Pb**	**16 58 05.9**	**-0.5**
PRK	**Paraskevi**	**1.70**	**211**	P	**Pb**	**16 58 06.4**	**-1.0**
PRK				S	**Sn**	**16 58 27.5**	**+0.4**
PRK	**Paraskevi**	**1.70**	**211**	*e*PB	**Pg**	**16 58 08.3**	**-0.7**
PRK				*e*SN	**Sg**	**16 58 31.2**	**+0.1**
PRK	**Paraskevi**	**1.70**	**211**	P	**Pb**	**16 58 06.4**	**-1.0**
PRK	**Paraskevi**	**1.70**	**211**	*e*Pb	**Pg**	**16 58 08.3**	**-0.7**
PRK				*e*Sn	**Sg**	**16 58 31.2**	**+0.1**
HRT	**Hereke**	**1.74**	**86**	*e*PN	**Pn**	**16 58 06.3**	**+0.1**
HRT	**Hereke**	**1.74**	**86**	*e*Pn	**Pn**	**16 58 06.3**	**+0.1**
SILT	**Sile**	**1.77**	**75**	*e*PN	**Pn**	**16 58 07.3**	**+0.8**
SILT	**Sile**	**1.77**	**75**	*e*Pn	**Pn**	**16 58 07.3**	**+0.8**
ADVT	**Abdulvahap**	**1.81**	**98**	*e*PN	**Pn**	**16 58 07.6**	**+0.4**
ADVT	**Abdulvahap**	**1.81**	**98**	*e*Pn	**Pn**	**16 58 07.6**	**+0.4**
AKHS	**Akhisar**	**1.86**	**170**	*i* P	**Pb**	**16 58 10.9**	**+0.6**
AKHS				*i* S	**Sg**	**16 58 36.4**	**0.0**
AKHS	**Akhisar**	**1.86**	**170**	*i* P	**Pb**	**16 58 10.9**	**+0.6**
LIA	**Limnos Island**	**1.87**	**245**	P	**Pn**	**16 58 08.3**	**+0.3**
LIA				S	**Sn**	**16 58 31.0**	**-0.4**
LIA	**Limnos Island**	**1.87**	**245**	*e*PB	**Pb**	**16 58 09.4**	**-0.9**
LIA				*e*SN	**Sb**	**16 58 33.3**	**-0.3**
LIA	**Limnos Island**	**1.87**	**245**	P	**Pn**	**16 58 08.3**	**+0.3**
LIA	**Limnos Island**	**1.87**	**245**	*e*Pb	**Pb**	**16 58 09.4**	**-0.9**
LIA				S	**Sn**	**16 58 31.0**	**-0.4**
LIA				*e*Sn	**Sb**	**16 58 33.3**	**-0.3**
SIGR	**SIGRI**	**1.91**	**218**	*e*PB	**Pb**	**16 58 11.6**	**+0.6**
SIGR				*e*SN	**Sg**	**16 58 36.3**	**-1.5**
SIGR	**SIGRI**	**1.91**	**218**	*e*Pb	**Pb**	**16 58 11.6**	**+0.6**
SIGR				*e*Sn	**Sg**	**16 58 36.3**	**-1.5**
DEMI	**Demirci**	**1.96**	**148**	*i* P	**Pn**	**16 58 10.4**	**+1.1**
DEMI				*i* S	**Sn**	**16 58 34.0**	**+0.3**
DEMI	**Demirci**	**1.96**	**148**	*i* P	**Pn**	**16 58 10.4**	**+1.1**
DEMI				*i* S	**Sn**	**16 58 34.0**	**+0.3**
KAVA	**Kavala**	**2.19**	**278**	P	**Pn**	**16 58 13.0**	**+0.6**
KAVA				S	**Sn**	**16 58 39.5**	**+0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAVA	Kavala	2.19	278	ePB	Pb	16 58 14.3	-1.6
KAVA	Kavala	2.19	278	P	Pn	16 58 13.0	+0.6
KAVA	Kavala	2.19	278	ePb	Pb	16 58 14.3	-1.6
KAVA				S	Sn	16 58 39.5	+0.1
GDZ	Gediz	2.29	135	iP	Pg	16 58 19.6	-0.8
GDZ				iS	Sn	16 58 42.4	+0.4
KULA	Kula-Manisa	2.41	155	P	Pn	16 58 16.4	+0.9
KULA	Kula-Manisa	2.41	155	P	Pn	16 58 16.4	+0.9
BORA	Eskisehir	2.49	109	iP	Pb	16 58 22.2	+1.3
BORA				iS	Sg	16 58 55.5	-1.0
CHOS	Chios island	2.54	204	ePN	Pb	16 58 21.0	-0.9
CHOS				eSN	Sb	16 58 52.8	-0.2
CHOS	Chios island	2.54	204	ePn	Pb	16 58 21.0	-0.9
CHOS				eSn	Sb	16 58 52.8	-0.2
OUR	Ouranopolis	2.62	263	ePN	Pn	16 58 17.2	-1.1
OUR				eSN	Sn	16 58 50.6	+0.7
OUR	Ouranopolis	2.62	263	ePn	Pn	16 58 17.2	-1.1
OUR				eSn	Sn	16 58 50.6	+0.7
SRS	Serrai	2.90	279	ePN	Pn	16 58 24.3	+2.1
SRS	Serrai	2.90	279	ePn	Pn	16 58 24.3	+2.1
PAIG	Paliouri	2.94	256	ePN	Pn	16 58 24.4	+1.7
PAIG	Paliouri	2.94	256	ePn	Pn	16 58 24.4	+1.7
AOS	Alonnisos	3.10	241	ePN	Pn	16 58 27.7	+2.8
AOS	Alonnisos	3.10	241	ePn	Pn	16 58 27.7	+2.8

*NIED **09** 17:09:00, 23°30N×125°30E, h5km, Mw4.1 Best double couple: Mo1.51000×10^15 NP1:φs72.00000°, δ34.00000°, λ-105.00000°. NP2:φs269.00000°, δ58.00000°, λ-80.00000°.*
*IDC **09** 17:09:29.5±0.8, 23°17N×125°41E, h0km, mb4.0/12, mb1 4.0/15, mb1mx3.8/49, mbtmp4.0/15, ML3.3/3, MS3.3/3, Ms1 3.3/3, ms1mx2.8/40, Error ellipse: s-maj=23.5km s-min=16.0km az=89.0*
*NEIC **09** 17:09:31.7±3.5, 23°05N×125°20E, h14km±22km, mb4.2/6, Error ellipse: s-maj=9.9km s-min=8.3km az=150.0*
*ISCJB **09** 17:09:32.3±0.4, 23°22N±0°03×125°37E±0°03, h35km, mb4.0/17, MS4.0/1, Error ellipse: s-maj=4.8km s-min=3.9km az=170.2*
*JMA **09** 17:09:33.6±0.2, 23°27N×125°28E, h65km, M3.5*
ISC 09 17:09:34.7±0.8, **23°24N**±0°07×**125°39E**±0°04, **h35**km, **n56**, σ1s**85**/70, **mb4.1**/17, **Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	Gusukube	1.51	0	P	Pn	17 09 58.7	-0.6
JOGS				S	Sn	17 10 16.5	-1.2
JTJ	Tarama	1.53	336	P	Pn	17 09 58.5	-1.0
JTJ				S	Sn	17 10 17.3	-0.9
JMJ	Miyako jima 2	1.57	357	P	Pn	17 09 59.4	-0.6
JMJ				S	Sn	17 10 19.5	+0.4
JIRB	Irabujima	1.59	353	P	Pn	17 09 59.4	-1.0
JIRB				S	Sn	17 10 19.5	-0.2
JIJ	Ishigaki jima	1.60	315	P	Pn	17 09 58.8	-1.7
JIJ				S	Sn	17 10 17.2	-2.7
JKRS	Kuro-shima	1.61	308	P	Pn	17 09 59.2	-1.4
JKRS				S	Sn	17 10 16.6	-3.6
JISG	Ishigakijimahi	1.67	324	P	Pn	17 10 00.0	-1.4
JISG				eS	Sn	17 10 19.8	-1.8
HATJ	Hateruma jima	1.67	299	P	Pn	17 09 59.9	-1.5
HATJ				eS	Sn	17 10 20.0	-1.6
JIKM	Ikemajima	1.68	355	P	Pn	17 10 00.9	-0.7
JIKM				S	Sn	17 10 22.0	+0.1
IRIF	Iriomote-Funau	1.87	306	P	Pn	17 10 02.7	-1.5
IRIF				S	Sn	17 10 24.3	-2.3
YOJ	Yonaguni jima	2.50	300	P	Pn	17 10 11.3	-1.5
YOJ				S	Sn	17 10 39.4	-2.7
YOJ	Yonaguni jima	2.50	300	eP	Pn	17 10 11.1	-1.7
JYNG	Yonagunijimaku	2.54	299	P	Pn	17 10 11.9	-1.6
JYNG				S	Sn	17 10 40.8	-2.4
JKE	Kume jima 2	3.32	22	P	Pn	17 10 22.9	-1.3
JKE				S	Sn	17 11 01.0	-1.4
JJT2	Tamagusuku 2	3.59	36	P	Pn	17 10 27.0	-0.9
JJT2				eS	Sn	17 11 08.2	-0.9
JAGN	Aguni-jima	3.73	26	P	Pn	17 10 28.6	-1.2
JAGN				eS	Sn	17 11 08.5	-4.0
YULB	Yu-li	3.77	273	eP	Pn	17 10 25.7	-4.7
YHNB	Yeheng	3.94	292	eP	Pn	17 10 31.1	-1.7
TATO	Taipei	3.96	297	eP	Pn	17 10 32.0	-1.0
TWG	Pinlang	4.00	265	eP	Pn	17 10 29.4	-4.2
JNTH	Nagotoyohara	4.04	36	P	Pn	17 10 32.7	-1.4
SSLB	Suanglung	4.11	278	eP	Pn	17 10 31.3	-3.8
TPUB	Ta-pu	4.38	272	eP	Pn	17 10 35.9	-2.9
JOW	Kunigami	4.43	36	P	Pn	17 10 38.1	-1.3
JOW				S	Sn	17 11 25.1	-4.6
JOW	Kunigami 2.0nm,0.3s,baz=140,slow=21,SNR=58	4.43	36	Pn	Pn	17 10 38.4	-1.0
JOW	0.8nm,0.3s,baz=89,slow=30,SNR=8.7			Sn	Sn	17 11 26.3	-3.4
JIH	Iheya	4.44	31	P	Pn	17 10 38.3	-1.2
JIH				eS	Sn	17 11 25.7	-4.3
JOKE	Okinoerabujima	5.01	34	P	Pn	17 10 46.5	-0.9
JOKE				S	Sn	17 11 40.2	-3.9
JTK	Tokunoshima	5.55	35	P	Pn	17 10 53.1	-1.7
JTK				S	Sn	17 11 52.0	-5.4
JMZ	Minamidaito 2	5.89	63	P	Pn	17 10 55.9	-3.6
JMZ				eS	Sn	17 11 59.1	-6.7
JNU	Nakatsue 0.3nm,0.3s,baz=207,slow=2.3,SNR=3.3	10.96	25	Pn	Pn	17 12 09.2	+0.1
KSAR	Wonju Array Be	14.31	8	Pn	Pn	17 12 54.7	-0.1
KSRS	Korea Array 0.1nm,0.3s,baz=184,slow=14,SNR=16	14.33	8	Pn	Pn	17 12 54.7	-0.3
KSRS	comp=Z,85nm,20.0s,baz=216,slow=37			LR	LR	17 18 23.5	
MAJO	Matsushiro 12nm,1.0s	17.27	37	eP	P	17 13 37.3	+3.0
MAT	Matsushiro	17.27	37	P	P	17 13 36.5	+2.2
MAT				eS	Sn	17 16 20.0	-24
MJAR	Matsushiro Arr 0.2nm,0.3s,baz=226,slow=11,SNR=29	17.27	37	P	P	17 13 36.0	+1.7
MJAR	comp=Z,31nm,21.7s,baz=190,slow=36			LR	LR	17 19 54.8	
USRK	Ussuriysk Ar. 2.2nm,0.6s,baz=191,slow=8.6,SNR=5.6	21.60	13	P	P	17 14 21.7	+0.3
CMAR	Chiang Mai Arr 0.8nm,0.8s,baz=70,slow=8.2,SNR=6.6	25.16	264	P	P	17 14 57.5	+0.7
ASAJ	Asahikawa 6.0nm,0.7s,baz=236,slow=9.8,SNR=10.0	25.17	30	P	P	17 14 57.6	+1.0
YSS	Yuzh-Sakhalins 47nm,1.1s	27.47	26	eP	P	17 15 19.6	+2.2
SONM	Songino Array 0.7nm,0.8s,baz=147,slow=8.0,SNR=5.4	28.85	333	P	P	17 15 30.0	+0.1
SONM	0.4nm,0.7s,baz=126,slow=2.5,SNR=3.9			PcP	PcP	17 18 39.5	+0.7
MK31	Makanchi Array	41.71	315	eP	P	17 17 20.6	+0.4
MKAR	Makanchi Array 3.1nm,0.7s,baz=96,slow=11,SNR=31	41.71	315	P	P	17 17 20.7	+0.6
ZAA0	Zalesovo Array	43.16	326	eP	P	17 17 31.5	-0.3
ZALV	Zalesovo Beam 4.6nm,0.5s,baz=113,slow=8.2,SNR=26	43.16	326	P	P	17 17 32.0	+0.2
WRAB	Tennant Creek	43.79	168	eP	P	17 17 34.9	-2.3
WRA	Warramunga Arr 3.1nm,0.9s,baz=349,slow=8.8,SNR=10	43.80	168	P	P	17 17 35.9	-1.4
KURK	Kurchatov 18nm,1.5s	45.30	319	eP	P	17 17 49.5	+0.6
ASAR	Alice Springs 0.8nm,0.7s,baz=353,slow=8.1,SNR=16	47.35	169	P	P	17 18 05.0	-0.3
TIXI	Tiksi 1.5nm,0.6s	48.47	1	eP	P	17 18 13.5	+0.1
BVAR	Borovoye Array comp=Z,148nm,19.3s,baz=254,slow=39	50.85	320	LR	LR	17 42 43.6	
BRVK	Borovoye 2.0nm,0.6s	50.92	320	eP	P	17 18 33.3	+0.9
ABKAR	Akbulak array 0.9nm,0.6s	56.85	315	eP	P	17 19 15.9	+0.1
KBZ	Khabaz 1.7nm,0.8s,baz=51,slow=1.9,SNR=4.5	69.06	310	P	P	17 20 38.0	+1.0
SPITS	Spitsbergen Ar 0.9nm,0.5s,baz=43,slow=6.5,SNR=5.4	71.21	348	P	P	17 20 50.4	+0.8
FINES	FINESS Array B 0.7nm,0.7s,baz=102,slow=10,SNR=3.6	74.18	330	P	P	17 21 08.1	+0.7
AKASG	Malin Array Be 0.3nm,0.3s,baz=58,slow=5.4,SNR=5.1	76.12	319	P	P	17 21 18.3	-0.6

*ISCJB **09** 17:12:52.6±0.8, 70°24N±0°05×14°9W±0°3, h10km, mb3.3/2, MS3.7/1, Error ellipse: s-maj=15.1km s-min=5.2km az=23.9*
*REY **09** 17:12:54.1, 70°08N×14°08W, h10km*
*IDC **09** 17:12:55.7±1.4, 70°65N×14°98W, h0km, mb3.4/2, mb1 3.6/7, mb1mx3.3/42, mbtmp3.6/7, ML3.1/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/40, Error ellipse: s-maj=29.3km s-min=22.6km az=20.0*
ISC 09 17:12:54.7±1.0, **70°24N**±0°08×**14°8W**±0°1, **h10**km, **n20**, σ**0s92**/25, **Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMIC	Jan Mayen 1.4nm,0.3s,baz=207,slow=11,SNR=3.7	2.24	68	Pn	Pn	17 13 31.2	-0.6
IGRI	Grimsey baz=204	3.90	199	P	Pn	17 13 54.1	-0.5
IGRI	baz=204			S	Sn	17 14 40.4	+0.2
ILEI	Leirhofn baz=195	3.90	190	P	Pn	17 13 53.3	-1.3
ILEI	baz=195			S	Sn	17 14 39.8	-0.5
IGIL	Gilhagi baz=193	4.22	188	P	Pn	17 13 57.1	-1.9
IGIL	baz=193			S	Sn	17 14 48.1	-0.2
IFLA	Flatey baz=202	4.25	197	P	Pn	17 13 59.0	-0.4
IHED	Heoinshofoi baz=198	4.28	194	P	Pn	17 13 59.0	-0.8
IHED	baz=198			S	Sn	17 14 49.6	-0.1
IBRE	Brettingsstaoi baz=202	4.29	197	P	Pn	17 13 59.5	-0.5
IBRE	baz=202			S	Sn	17 14 50.5	+0.5
IDIM	Dimmadals^¡s baz=196	4.37	191	P	Pn	17 13 60.0	-1.1
IDIM	baz=196			S	Sn	17 14 52.0	0.0
IGRA	Granastaoir baz=199	4.46	195	S	Sn	17 14 54.5	+0.3
IGHA	Grjothals baz=194	4.47	190	P	Pn	17 14 01.7	-0.8
IGHA	baz=194			S	Sn	17 14 53.0	-1.4
IHLA	Hella baz=203	4.52	199	P	Pn	17 14 02.9	-0.1
IHLA	baz=203			S	Sn	17 14 56.0	+0.5
IHRN	Hraun baz=212	4.59	208	P	Pn	17 14 04.2	+0.1
IHRN	baz=212			S	Sn	17 14 58.3	+0.9
BORG	Borgarnes 0.8nm,0.3s,baz=14,slow=8.5,SNR=3.1	6.05	207	Pn	Pn	17 14 29.4	+5.4
SPITS	Spitsbergen Ar baz=230,slow=11,SNR=11	11.43	33	Pn	Pn	17 15 36.8	-0.9
NOA	NORSAR Array B comp=Z,45nm,20.1s,baz=310,slow=34	14.02	118	LR	LR	17 20 54.5	
HFS	Hagfors baz=308,slow=7.1,SNR=3.1	15.49	116	Pn	P	17 16 38.5	+1.2
FINES	FINESS Array B baz=328,slow=9.9,SNR=6.1	18.52	98	P	Pn	17 17 12.9	+1.9
GERES	GERESS Array B 0.2nm,0.3s,baz=338,slow=7.4,SNR=5.1	25.40	133	P	P	17 18 28.3	+6.3
YKA	Yellowknife Ar 0.3nm,0.5s,baz=42,slow=8.4,SNR=3.4	36.28	309	P	P	17 19 57.5	-0.1
BRTR	Keskin Array B comp=Z,108nm,20.6s,baz=56,slow=34	39.42	115	LR	LR	17 35 19.9	

*IDC **09** 17:13:27.6±2.4, 4°29S×141°72E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.8/25, mbtmp3.8/8, Error ellipse: s-maj=60.4km s-min=35.9km az=160.0*
ISC 09 17:13:32.4±1.3, **4°5S**±0°2×**141°7E**±0°2, **h35**km, **n10**, σ**1s09**/10, **mb3.8**/8, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.1nm,0.3s,baz=24,slow=22,SNR=2.8	16.97	204	S	S	17 20 43.3	-0.9
KAPI	Kappang 2.3nm,0.3s,baz=73,slow=20,SNR=6.0	21.86	268	P	P	17 18 23.8	+1.5
KSRS	Korea Array 0.3nm,0.5s,baz=152,slow=8.7,SNR=3.9	43.62	344	P	P	17 21 33.3	-0.1
CMAR	Chiang Mai Arr 0.5nm,0.8s,baz=138,slow=7.0,SNR=4.0	47.87	300	P	P	17 22 05.8	-1.6
SONM	Songino Array 0.3nm,0.4s,baz=124,slow=6.4,SNR=4.7	60.58	333	P	P	17 23 39.9	+0.3
MKAR	Makanchi Array 0.9nm,0.6s,baz=107,slow=7.4,SNR=11	72.98	322	P	P	17 24 58.8	+0.2
ZALV	Zalesovo Beam 0.3nm,0.4s,baz=133,slow=8.1,SNR=2.4	74.94	329	P	P	17 25 08.6	-1.2
BVAR	Borovoye Array 1.4nm,0.8s,baz=96,slow=9.0,SNR=11	82.44	325	P	P	17 25 51.6	+0.5
ILAR	Eielson Array 0.9nm,0.7s,baz=261,slow=4.8,SNR=10	86.20	24	P	P	17 26 09.7	-0.2
LPAZ	La Paz 0.9nm,0.4s,baz=270,slow=1.0,SNR=5.6	144.03	126	PKP	PKPdf	17 33 07.0	+0.9

*ISCJB **09** 17:14:26.4±0.4, 40°59N±0°03×26°94E±0°03, h11km±4km, Error ellipse: s-maj=5.3km s-min=3.5km az=179.9*
*CSEM **09** 17:14:26.4±0.1, 40°61N×26°94E, h10km, MD2.5, Error ellipse: s-maj=2.5km s-min=1.7km az=3.0*
*DDA **09** 17:14:26.6, 40°57N×26°98E, h7km, MD2.5*
*ISK **09** 17:14:26.0, 40°60N×26°96E, h6km, MD2.5*
*THE **09** 17:14:27.8, 40°63N×26°84E, h9km±2km, ML1.3/1, Error ellipse: s-maj=2.4km s-min=1.0km az=254.0*
ISC 09 17:14:26.6±0.8, **40°60N**±0°03×**26°94E**±0°02, **h14**km±7km, **n52**, σ**0s57**/68, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SART	Tekirdag	0.20	65	iP	Pg	17 14 30.7	-0.6
SART				iS	Sg	17 14 35.4	+1.0
SART	Tekirdag	0.20	65	iP	Pg	17 14 30.7	-0.6
SART				iS	Sg	17 14 35.4	+1.0
LPK	Lapseki	0.27	211	ePG	Pg	17 14 31.9	-0.4
LPK				eSG	Sg	17 14 36.3	+0.1
LPK	Lapseki	0.27	211	ePg	Pg	17 14 31.9	-0.4
LPK				eSg	Sg	17 14 36.3	+0.1
ERIK	Erikli-Kesan	0.33	282	ePG	Pg	17 14 33.3	-0.1
ERIK				eSG	Sg	17 14 38.7	+0.6
ERIK	Erikli-Kesan	0.33	282	ePg	Pg	17 14 33.3	-0.1
ERIK				eSg	Sg	17 14 38.7	+0.6
KRBG	Karabiga-Canak	0.34	127	ePG	Pg	17 14 33.0	-0.7
KRBG				eSG	Sg	17 14 37.9	-0.5
KRBG	Karabiga-Canak	0.34	127	ePg	Pg	17 14 33.0	-0.7
KRBG				eSg	Sg	17 14 37.9	-0.5
GELI	Tayfur-Gelibol	0.41	240	ePG	Pg	17 14 34.4	-0.5
GELI				eSG	Sg	17 14 41.1	+0.7
GELI	Tayfur-Gelibol	0.41	240	ePg	Pg	17 14 34.4	-0.5
GELI				eSg	Sg	17 14 41.1	+0.7
MRMT	Marmara Adasi	0.50	90	ePG	Pg	17 14 35.8	-0.7
MRMT	Marmara Adasi	0.50	90	ePg	Pg	17 14 35.8	-0.7
ENEZ	Enez	0.61	283	ePG	Pg	17 14 38.6	-0.1
ENEZ	Enez	0.61	283	ePg	Pg	17 14 38.6	-0.1
ALN	Alexandroupoli	0.74	294	ePG	Pg	17 14 41.0	-0.1
ALN	Alexandroupoli	0.74	294	P	Pg	17 14 40.5	-0.6
ALN				S	Sg	17 14 49.9	-0.9
ALN	Alexandroupoli	0.74	294	P	Pg	17 14 40.5	-0.6
ALN	Alexandroupoli	0.74	294	ePg	Pg	17 14 41.0	-0.1
ALN				S	Sg	17 14 49.9	-0.9
EDC	Edincik	0.75	110	ePG	Pg	17 14 40.4	-0.8
EDC	Edincik	0.75	110	ePg	Pg	17 14 40.4	-0.8
GADA	Gvkgeada	0.90	243	ePG	Pg	17 14 43.4	-0.6
GADA	Gvkgeada	0.90	243	ePg	Pg	17 14 43.4	-0.6
SMTH	Samothraki Isl	1.08	263	P	Pb	17 14 46.3	-0.8
SMTH	Samothraki Isl	1.08	263	P	Pb	17 14 46.3	-0.8
PHSR	Pinarhisar	1.12	23	ePN	Pn	17 14 47.9	0.0
PHSR	Pinarhisar	1.12	23	ePn	Pn	17 14 47.9	0.0
SLVT	Silivri	1.15	56	ePN	Pb	17 14 47.9	-0.3
SLVT	Silivri	1.15	56	ePn	Pb	17 14 47.9	-0.3
RDO	Rodhopi	1.20	297	P	Pb	17 14 48.3	-0.7
RDO				S	Sb	17 15 04.7	+0.4
RDO	Rodhopi	1.20	297	P	Pb	17 14 48.3	-0.7
RDO				S	Sb	17 15 04.7	+0.4
BALB	Balikesir	1.20	143	ePN	Pn	17 14 49.3	+0.3
BALB	Balikesir	1.20	143	ePn	Pn	17 14 49.3	+0.3
EDRB	Edirne	1.25	353	ePN	Pg	17 14 50.2	-0.6
EDRB	Edirne	1.25	353	P	Pg	17 14 50.4	-0.3
EDRB				S	Sn	17 15 06.8	+0.5
EDRB	Edirne	1.25	353	ePn	Pg	17 14 50.2	-0.6
EDRB	Edirne	1.25	353	P	Pg	17 14 50.4	-0.3
EDRB				S	Sn	17 15 06.8	+0.5
CTKS	Kestanelik-??a	1.34	61	ePN	Pb	17 14 51.6	0.0
CTKS	Kestanelik-??a	1.34	61	ePn	Pb	17 14 51.6	0.0
ARMT	Armutlu	1.46	91	ePN	Pb	17 14 53.5	0.0
ARMT	Armutlu	1.46	91	ePn	Pb	17 14 53.6	0.0
BGKT	Bogazkoy	1.50	67	ePN	Pb	17 14 53.9	-0.4
BGKT	Bogazkoy	1.50	67	ePn	Pb	17 14 53.9	-0.4
LIA	Limnos Island	1.52	243	P	Pn	17 14 53.6	+0.3
LIA	Limnos Island	1.52	243	P	Pn	17 14 53.6	+0.3
SIGR	SIGRI	1.62	211	ePN	Pn	17 14 55.9	+1.2
SIGR	SIGRI	1.62	211	P	Pn	17 14 55.1	+0.4
SIGR	SIGRI	1.62	211	P	Pn	17 14 55.1	+0.4
SIGR	SIGRI	1.62	211	ePn	Pn	17 14 55.9	+1.2
DST	Dursunbey	1.63	127	ePN	Pn	17 14 55.7	+0.8
DST	Dursunbey	1.63	127	ePn	Pn	17 14 55.7	+0.8
KAVA	Kavala	1.88	283	P	Pn	17 14 58.4	0.0
KAVA	Kavala	1.88	283	P	Pn	17 14 58.4	0.0

*ISCJB **09** 17:25:48.8±0.3, 43°59N±0°01×45°57E±0°02, h10km±2km, mb4.3/47, MS3.9/4, Error ellipse: s-maj=2.3km s-min=1.8km az=23.0*
*IDC **09** 17:25:48.0±0.5, 43°35N×45°48E, h0km, mb4.1/20, mb1 4.2/27, mb1mx4.1/43, mbtmp4.1/27, ML4.0/5, Error ellipse: s-maj=8.9km s-min=7.4km az=125.0*
*NEIC **09** 17:25:49.8±2.8, 43°51N×45°54E, h7km±19km, mb4.4/16, Error ellipse: s-maj=6.8km s-min=5.1km az=167.0*
NEIC Felt [V] at Groznyy and [III] at Makhachkala.
*BJI **09** 17:25:50.7, 44°39N×45°22E, h18km, mb4.6/6, mB4.8/3, Ms4.5/2, Ms7 4.3/2*
*TIF **09** 17:25:51.0, 43°39N×45°52E, h26km±1km*
*MOS **09** 17:25:50.5±1.4, 43°57N×45°57E, h24km, mb4.7/17, Error ellipse: s-maj=4.5km s-min=3.9km az=119.8*
MOS Felt (IV-V) at Grozny; (III) at Makhachkala.
*CSEM **09** 17:25:50.2±0.1, 43°54N×45°52E, h10km, mb4.5/29, Error ellipse: s-maj=3.0km s-min=2.3km az=24.0*
*AZER **09** 17:25:52.1±1.2, 43°50N×45°27E, h26km, Error ellipse: s-maj=12.0km s-min=10.3km az=71.0*
*NNC **09** 17:26:01.3±4.0, 43°73N×46°34E, h45km±35km, mb4.4, Error ellipse: s-maj=43.9km s-min=20.2km az=125.0*
ISC 09 17:25:51.1±0.6, **43°54N**±0°02×**45°52E**±0°01, **h19**km±2km, **h19**km**:pP-P**, **n345**, σ**1s57**/413, **mb4.4**/47, **MS3.9**/4, **38C-39D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRKR	Terskaya	0.60	288	ePG	Pn	17 26 04.4	-0.3
SNJR	Sundja	0.70	228	⇑iPG	Pb	17 26 03.6	-1.1
SNJR				eS	Sb	17 26 13.7	-0.2
SNJR	Sundja	0.70	228	iPg	Pb	17 26 03.6	-1.1
SNJR				eSg	Sb	17 26 13.7	-0.2
BTKR	Batakoyurt	0.73	257	⇓iPG	Pb	17 26 05.5	+0.2
BTKR				iS	Sn	17 26 16.9	-0.2
BTKR	Batakoyurt	0.73	257	iPg	Pb	17 26 05.5	+0.2
VLKR	Vladikavkaz	0.79	232	⇓iPG	Pb	17 26 05.3	-0.9
VLKR				eS	Sb	17 26 16.5	0.0
VLKR	Vladikavkaz	0.79	232	iPg	Pb	17 26 05.3	-0.9
VLKR				eSg	Sb	17 26 16.5	0.0
PRTR	Priterechnaya	0.93	284	⇑iPG	Pg	17 26 09.9	+0.7
PRTR				eS	Sn	17 26 24.5	+2.7
PRTR	Priterechnaya	0.93	284	iPg	Pg	17 26 09.9	+0.7
DLMR	Dylym	0.93	120	⇑iPG	Pb	17 26 08.8	+0.1
DLMR				eS	Sn	17 26 22.2	+0.2
DLMR	Dylym	0.93	120	iPg	Pb	17 26 08.8	+0.1
DLMR				eSg	Sn	17 26 22.2	+0.2
ARNR	Ardon	0.97	249	⇓iPG	Pb	17 26 09.2	-0.1
ARNR				eS	Sn	17 26 23.6	+0.6
ARNR	Ardon	0.97	249	iPg	Pb	17 26 09.2	-0.1
ARNR				eSg	Sn	17 26 23.6	+0.6
BTLR	Botlikh	1.01	149	ePG	Pb	17 26 07.5	-2.5
BTLR				eS	Sb	17 26 20.5	-2.5
BTLR	comp=Z,392nm,0.3s			pmax	pmax		
BTLR	Botlikh comp=Z,392nm,0.3s	1.01	149	ePg	Pb	17 26 07.5	-2.5
STDR	Stavd-Durt	1.08	262	⇓iPG	Pn	17 26 11.5	+0.3
STDR				iS	Sg	17 26 27.2	+1.0
STDR	Stavd-Durt	1.08	262	iPg	Pn	17 26 11.5	+0.3
LACR	Lac	1.14	232	⇑iPG	Pn	17 26 10.6	-1.6
LACR				eS	Sb	17 26 26.5	-0.3
LACR	Lac	1.14	232	iPg	Pn	17 26 10.6	-1.6
LACR				eSg	Sb	17 26 26.5	-0.3
KORR	Kora	1.15	248	⇑iPG	Pn	17 26 12.0	-0.3
KORR				eS	Sg	17 26 28.6	0.0
KORR	Kora	1.15	248	iPg	Pn	17 26 12.0	-0.3
KORR				eSg	Sg	17 26 28.6	0.0
KRNR	Karanay	1.24	125	⇓iPG	Pn	17 26 12.8	-0.6
KRNR				iS	Sg	17 26 31.0	-0.3
KRNR	Karanay	1.24	125	iPg	Pn	17 26 12.8	-0.6
KRNR				iSg	Sg	17 26 31.0	-0.3
UNCR	Uncukul	1.24	131	⇓iPG	Pn	17 26 12.5	-1.0
UNCR				iS	Sg	17 26 31.2	-0.2
UNCR	Uncukul	1.24	131	iPg	Pn	17 26 12.5	-1.0
UNCR				iSg	Sg	17 26 31.2	-0.2
LSNR	Lesken	1.26	259	⇓iPG	Pb	17 26 14.2	-0.1
LSNR				iS	Sg	17 26 32.4	+0.3
LSNR	Lesken	1.26	259	iPg	Pb	17 26 14.2	-0.1
LSNR				iSg	Sg	17 26 32.4	+0.3
XNZR	Khunzakh	1.32	139	⇑iPG	Pn	17 26 13.9	-0.8
XNZR				eS	Sn	17 26 30.9	-0.9
XNZR	Khunzakh	1.32	139	iPg	Pn	17 26 13.9	-0.8
XNZR				eSg	Sn	17 26 30.9	-0.9
BUJR	Buynaksk	1.36	121	ePG	Pb	17 26 16.0	0.0
BUJR				eS	Sg	17 26 36.0	+0.8
BUJR	Buynaksk	1.36	121	ePg	Pb	17 26 16.0	0.0
BUJR				eSg	Sg	17 26 36.0	+0.8
NCK	Nalchik	1.40	269	c iPG	Pn	17 26 15.9	+0.2
NCK	Nalchik	1.40	269	iPg	Pn	17 26 15.9	+0.2
ZEI	Tsey	1.40	238	⇓iPG	Pn	17 26 14.8	-1.1
ZEI	Tsey	1.40	238	eP	Pn	17 26 14.7	-1.1
ARKR	Arakani	1.43	130	iPG	Pn	17 26 16.1	+0.1
ARKR				eS	Sg	17 26 38.1	+0.8
ARKR	Arakani	1.43	130	iPg	Pn	17 26 16.1	+0.1
ARKR				eSg	Sg	17 26 38.1	+0.8
DIGR	Digorskoe uzhe	1.56	247	⇓iPG	Pn	17 26 16.7	-1.3
MAK	Makhachkala	1.56	111	ePG	Pb	17 26 19.5	+0.2
MAK				e		17 26 41.9	
MAK	comp=Z,919nm,0.4s			pmax	pmax		
MAK	Makhachkala comp=Z,919nm,0.4s	1.56	111	ePg	Pb	17 26 19.5	+0.2
MAK				eSg	Sg	17 26 41.9	+0.5
GNBR	Gunib	1.56	137	iPG	Pn	17 26 18.5	+0.6
GNBR				iS	Sb	17 26 40.0	+1.2
GNBR	Gunib	1.56	137	iPg	Pn	17 26 18.5	+0.6
GNBR				iSg	Sb	17 26 40.0	+1.2
DUS	Dusheti	1.57	203	P	Pn	17 26 12.0	-6.0
DUS				S	Sn	17 26 38.4	+0.7
DUS	Dusheti	1.57	203	PG	Pn	17 26 12.0	-6.0
ONI	Oni	1.79	239	P	Pn	17 26 20.3	-0.8
ONI				S	Sn	17 26 44.4	+1.2
ONI	Oni	1.79	239	PN	Pn	17 26 20.2	-0.8
ONI	Oni	1.79	239	P	Pn	17 26 20.3	-0.8
SEAG	Tbilisi Sea	1.85	197	P	Pn	17 26 21.0	-0.8
SEAG				S	Sn	17 26 45.3	+0.6
SEAG	Tbilisi Sea	1.85	197	P	Pn	17 26 21.0	-0.8
SEAG				S	Sn	17 26 45.3	+0.6
TBLG	Delisi	1.90	198	P	Pn	17 26 22.1	-0.3
TBLG				S	Sn	17 26 47.3	+1.5
TBLG	Delisi	1.90	198	PN	Pn	17 26 22.1	-0.3
TBLG	Delisi	1.90	198	P	Pn	17 26 22.1	-0.3
TBLG				S	Sn	17 26 47.3	+1.5
TBLG	Delisi	1.90	198	P	Pn	17 26 22.1	-0.3
SGKR	Sergokala	1.90	124	ePN	Pb	17 26 25.0	-0.2
SGKR				eS	Sg	17 26 51.0	-1.4
SGKR	comp=Z,1μm,0.2s			pmax	pmax		
SGKR	Sergokala comp=Z,1μm,0.2s	1.90	124	ePn	Pb	17 26 25.0	-0.2
SGKR				eSg	Sg	17 26 51.0	-1.4
KBZ	Khabaz comp=Z,33nm,0.3s,baz=135,slow=3.6,SNR=191	1.92	277	Pn	Pn	17 26 22.4	-0.3
KBZ	comp=Z,117nm,0.3s,baz=302,slow=19,SNR=12			Sn	Sn	17 26 45.6	-0.6
ZKTA	Zakatala	2.06	156	⇑P	Pn	17 26 25.8	+1.0
ZKTA				⇑S	Sg	17 26 55.7	-1.8
URKR	Urkarakh	2.07	131	⇑iPN	Pn	17 26 22.0	-2.9
DGRG	David-gareji	2.09	183	P	Pn	17 26 26.0	+0.9
DGRG				S	Sb	17 26 54.7	+0.7
DGRG	David-gareji	2.09	183	PN	Pn	17 26 26.0	+0.9

DGRG S **Sb** **17 26 54.6 +0.7**
DGRG David-gareji 2.09 183 P **Pn** **17 26 26.0 +0.9**
DGRG S **Sb** **17 26 54.7 +0.7**
KIV Kislovodsk 2.10 282 *i* PN **Pn** **17 26 25.5 +0.2**
KIV Kislovodsk 2.10 282 *e*Pn **Pn** **17 26 25.3 0.0**
KIV Kislovodsk 2.10 282 *e*Pn **Pn** **17 26 25.3 0.0**
KZR Kazreti 2.31 201 P **Pn** **17 26 27.9 -0.2**
KZR S **Sn** **17 26 57.1 +1.1**
KZR Kazreti 2.31 201 P **Pn** **17 26 27.9 -0.2**
KZR S **Sn** **17 26 57.1 +1.1**
GOF Gofitskoye 2.34 311 *e*PN **Pb** **17 26 31.4 -1.3**
GOF *i* S **Sb** **17 27 03.4 +2.2**
GOF pmax pmax
comp=Z,257nm,1.1s
GOF smax smax
comp=N,1µm,1.2s
GOF smax smax
comp=E,984nm,0.7s
QZX Qazax, Azerbai 2.48 183 ⇓P **Pn** **17 26 29.5 -1.0**
SNR=122
QZX ⇑S **Sn** **17 27 02.9 +2.7**
QZX Qazax, Azerbai 2.48 183 P **Pn** **17 26 29.5 -1.0**
SNR=122
QZX S **Sn** **17 27 02.9 +2.7**
SEKA Sheki 2.64 151 ⇑P **Pn** **17 26 33.4 +0.7**
SNR=122
SEKA ⇑S **Sn** **17 27 06.1 +2.0**
SEKA Sheki 2.64 151 P **Pn** **17 26 33.4 +0.7**
SNR=122
SEKA S **Sn** **17 27 06.1 +2.0**
CHVG Ch'k'valeri 2.65 253 P **Pn** **17 26 34.7 +1.9**
CHVG Ch'k'valeri 2.65 253 P **Pn** **17 26 34.7 +1.9**
GANJ Ganja 2.95 168 ⇑P **Pn** **17 26 37.1 +0.2**
SNR=20
GANJ ⇓S **Sn** **17 27 13.4 +1.6**
GANJ Ganja 2.95 168 P **Pn** **17 26 37.1 +0.2**
SNR=20
GANJ S **Sn** **17 27 13.4 +1.6**
MNGR Mingechevir, A 3.00 157 ⇓P **Pn** **17 26 39.2 +1.6**
SNR=6.6
MNGR ⇑S **Sn** **17 27 15.2 +2.3**
MNGR Mingechevir, A 3.00 157 P **Pn** **17 26 39.2 +1.6**
SNR=6.6
MNGR S **Sn** **17 27 15.2 +2.3**
QUBA Quba, Azerbaij 3.10 134 ⇓P **Pn** **17 26 41.6 +2.6**
SNR=29
QUBA ⇑S **Sb** **17 27 20.3 -2.6**
QUBA Quba, Azerbaij 3.10 134 P **Pn** **17 26 41.6 +2.6**
SNR=29
QUBA S **Sb** **17 27 20.3 -2.6**
EAK Akyaka 3.19 207 *i* P **Pn** **17 26 40.0 -0.3**
EAK Akyaka 3.19 207 *i* P **Pn** **17 26 40.0 -0.3**
IML Ismayilli 3.38 143 ⇑P **Pn** **17 26 44.0 +1.1**
SNR=10
IML ⇓S **Sn** **17 27 25.9 +3.4**
IML Ismayilli 3.38 143 P **Pn** **17 26 44.0 +1.1**
SNR=10
IML S **Sn** **17 27 25.9 +3.4**
GNI Garni 3.44 190 Pn **Pn** **17 26 43.6 -0.2**
comp=E,2.8nm,0.3s,baz=8.2,slow=5.7,SNR=26
GNI Pg **Pb** **17 26 48.7 -2.7**
comp=E,21nm,0.3s,baz=354,slow=11,SNR=34
GNI Lg Lg 17 27 31.9
comp=E,46nm,0.3s,baz=273,slow=20,SNR=5.5
BRDA Brd 3.50 159 ⇓P **Pn** **17 26 45.7 +1.3**
BRDA Brd 3.50 159 P **Pn** **17 26 45.7 +1.3**
ARTV Artvin 3.55 230 *i* P **Pn** **17 26 45.6 +0.2**
ARTV Artvin 3.55 230 *i* P **Pn** **17 26 45.6 +0.2**
PQL Pirkuli 3.57 139 ⇑P **Pn** **17 26 47.6 +2.0**
SNR=32
PQL ⇓S **Sn** **17 27 30.4 +3.1**
PQL Pirkuli 3.57 139 P **Pn** **17 26 47.6 +2.0**
SNR=32
PQL S **Sn** **17 27 30.4 +3.1**
DBOC Borcka 3.60 234 *i* P **Pn** **17 26 46.1 +0.2**
DBOC Borcka 3.60 234 *i* P **Pn** **17 26 46.1 +0.2**
DAGI Agillar 3.63 229 *i* P **Pn** **17 26 46.9 +0.5**
ATGJ Altiaghaj 3.69 135 ⇑P **Pn** **17 26 49.7 +2.6**
SNR=14
ATGJ Altiaghaj 3.69 135 P **Pn** **17 26 49.7 +2.6**
SNR=14
KDMR Kurdemir 3.73 147 ⇑S **Sn** **17 27 34.1 +3.1**
KDMR Kurdemir 3.73 147 S **Sn** **17 27 34.1 +3.1**
DBAD Bademkaya 3.79 230 *i* P **Pn** **17 26 49.0 +0.4**
DBAD Bademkaya 3.79 230 *i* P **Pn** **17 26 49.0 +0.4**
DDEM Demirkent 3.85 228 *i* P **Pn** **17 26 49.9 +0.5**
DDEM Demirkent 3.85 228 *i* P **Pn** **17 26 49.9 +0.5**
SOC Sochi 4.22 273 *e*PN **Pn** **17 26 54.3 -0.1**
SOC *e* 17 27 42.4
SOC pmax pmax
comp=Z,16nm,0.8s
SOC MLR MLR
comp=Z,741nm,10.0s
SOC Sochi 4.22 273 *e*Pn **Pn** **17 26 54.3 -0.1**
comp=Z,16nm,0.8s
SOC *e*Sn **Sn** **17 27 42.4 -0.7**
comp=Z,741nm,10.0s
EATA Eleskirt 4.32 213 *i* P **Pn** **17 26 56.8 +0.8**
EATA Eleskirt 4.32 213 *i* P **Pn** **17 26 56.8 +0.8**
ALIB Äli-Bayra 4.42 143 ⇑P **Pn** **17 26 59.6 +2.4**
SNR=3.6
ALIB ⇑S **Sn** **17 27 49.4 +1.3**
ALIB Äli-Bayra 4.42 143 P **Pn** **17 26 59.6 +2.4**
SNR=3.6
ALIB S **Sn** **17 27 49.4 +1.3**
GOBA Gobu 4.43 134 ⇓P **Pn** **17 26 60.0 +2.7**
SNR=8.5
GOBA ⇑S **Sn** **17 27 47.9 -0.5**
GOBA Gobu 4.43 134 P **Pn** **17 27 00.0 +2.7**
SNR=8.5
GOBA S **Sn** **17 27 47.9 -0.5**
NDR Nardaran 4.45 130 ⇓P **Pn** **17 26 59.3 +1.9**
NDR Nardaran 4.45 130 P **Pn** **17 26 59.3 +1.9**
TUTA Tutak 4.61 207 *i* P **Pb** **17 27 08.6 -2.8**
GLBA Clilabad 4.80 152 ⇑P **Pn** **17 27 03.0 +0.6**
SNR=15
GLBA ⇓S **Sn** **17 27 58.8 +1.4**
GLBA Clilabad 4.80 152 P **Pn** **17 27 03.0 +0.6**
SNR=15
GLBA S **Sn** **17 27 58.8 +1.4**
EKAR Karacoban 5.01 212 *i* P **Pn** **17 27 05.6 +0.2**
EKAR Karacoban 5.01 212 *i* P **Pn** **17 27 05.6 +0.2**
LRK Lerik 5.33 156 ⇓P **Pn** **17 27 10.1 +0.3**
SNR=17
LRK ⇓S **Sn** **17 28 12.5 +1.8**
LRK Lerik 5.33 156 P **Pn** **17 27 10.1 +0.3**
SNR=17
LRK S **Sn** **17 28 12.5 +1.8**
LKRN Lenkeran, Azer 5.41 152 ⇓P **Pn** **17 27 10.1 -0.6**
SNR=3.3
LKRN ⇑S **Sn** **17 28 12.5 +0.1**
LKRN Lenkeran, Azer 5.41 152 P **Pn** **17 27 10.1 -0.6**
SNR=3.3
LKRN S **Sn** **17 28 12.5 +0.1**
ANN Anapa 5.96 285 *e*P **Pn** **17 27 17.1 -1.1**
ANN *e*S **Sn** **17 28 29.5 +3.7**
ANN pmax pmax
comp=Z,57nm,1.5s
ANN Anapa 5.96 285 *e*P **Pn** **17 27 17.1 -1.1**
comp=Z,57nm,1.5s
VORD Divnogorie 8.55 333 *e*P **Pn** **17 27 55.3 +1.5**
VORD pmax pmax
comp=N,30nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=E,20nm,0.8s
VORD Divnogorie 8.55 333 *e*P **Pn** **17 27 55.3 +1.5**
VSR Storozhevoye 8.81 333 *e*P **Pn** **17 27 59.1 +1.8**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,10.0nm,0.5s
VSR pmax pmax
comp=E,7.0nm,0.9s
VSR Storozhevoye 8.81 333 *e*P **Pn** **17 27 59.1 +1.8**
comp=E,10.0nm,0.5s
BRTR Keskin Array B 9.68 251 Pn Pn 17 28 12.7 +3.2
comp=E,0.1nm,0.3s,baz=75,slow=11,SNR=6.2
LPSR Galich'ya Gora 10.08 336 *e*P Pn 17 28 17.8 +3.1
LPSR pmax pmax
comp=Z,30nm,0.9s
LPSR pmax pmax
comp=N,7.0nm,0.4s
LPSR pmax pmax
comp=E,7.0nm,0.5s
AKTK Aktyubinsk 10.96 47 P **Pn** **17 28 26.8 -0.1**
comp=E,16nm,0.8s
AKTO Aktyubinsk 10.96 47 ⇑Pn **Pn** **17 28 26.8 -0.1**
comp=E,16nm,0.8s
AKTO ⇓Sn Sn 17 30 22.0 -6.9
comp=E,44nm,0.8s
AKTO Aktyubinsk 10.96 47 Pn **Pn** **17 28 26.6 -0.3**
comp=E,2.7nm,0.3s,baz=240,slow=14,SNR=34
AKTO Sn **Sn** **17 30 23.5 -5.4**
comp=E,1.9nm,0.3s,baz=237,slow=21,SNR=6.7
AKTO Aktyubinsk 10.96 47 P **Pn** **17 28 26.8 -0.1**
AKTO 17 30 21.9
AKTO pmax pmax
comp=Z,16nm,0.8s
AKTO Aktyubinsk 10.96 47 Pn **Pn** **17 28 26.8 -0.1**
comp=Z,16nm,0.8s
AB31 Akbulak array 11.48 55 Pn **Pn** **17 28 34.0 +0.1**
comp=Z,8.5nm,0.5s,baz=222,slow=6.7,SNR=177
AB31 ⇓Sn **Sn** **17 30 37.6 -3.7**
comp=Z,58nm,0.9s,baz=236,slow=14,SNR=7.2
AB31 Akbulak array 11.48 55 Pn **Pn** **17 28 34.0 +0.1**
comp=Z,8.5nm,0.5s,SNR=177
ABKAR Akbulak array 11.48 55 *e*Pn **Pn** **17 28 34.0 +0.2**
comp=Z,24nm,0.9s
ABKAR Akbulak array 11.48 55 *e*Pn **Pn** **17 28 34.0 +0.2**
comp=Z,24nm,0.9s
TIRR Tirgusor 12.36 280 ⇓P Pn 17 28 51.8 +5.9
CFR Carcaliu 12.55 284 ⇓P **P** **17 28 57.7 -2.4**
OBN Obninsk 12.96 337 Pn **Pn** **17 28 53.0 -1.1**
comp=Z,5.3nm,0.3s,baz=350,slow=20,SNR=4.9
OBN Sn **Sn** **17 31 12.1 -5.4**
comp=E,1.1nm,0.3s,baz=76,slow=23,SNR=3.1
OBN Lg Lg 17 32 50.5
comp=E,1.5nm,0.3s,baz=181,slow=21,SNR=2.8
OBN Obninsk 12.96 337 *e*P **Pn** **17 28 52.6 -1.5**
OBN *e*S **Sn** **17 31 18.7 +1.1**
OBN pmax pmax
comp=Z,16nm,0.8s
OBN MLR MLR
comp=Z,138nm,17.0s
OBN Obninsk 12.96 337 *e*P **Pn** **17 28 52.6 -1.5**
comp=Z,138nm,17.0s
OBN Obninsk 12.96 337 *e*Pn **Pn** **17 28 53.3 -0.8**
comp=Z,19nm,0.4s
OBN *e*S **Sn** **17 31 18.7 +1.1**
OBN Obninsk 12.96 337 *e*Pn **Pn** **17 28 53.3 -0.8**
comp=Z,19nm,0.4s
OBN Sn **Sn** **17 31 12.1 -5.4**
OBN Lg Lg 17 32 50.5
MMAI Mount Meron Ar 13.16 220 Pn **Pn** **17 28 55.8 -1.2**
comp=Z,0.5nm,0.3s,baz=46,slow=8.5,SNR=3.0
MMAI Lg Lg 17 32 33.1
comp=Z,0.7nm,0.3s,baz=10,slow=37,SNR=3.2
AKASG Malin Array Be 13.20 309 Pn **Pn** **17 28 56.4 -0.9**
comp=Z,1.3nm,0.3s,baz=107,slow=11,SNR=6.9
AKASG Sn **Sn** **17 31 19.2 -4.1**
comp=Z,1.0nm,0.3s,baz=120,slow=29,SNR=3.2
AKASG Lg Lg 17 32 37.9
comp=Z,0.1nm,0.3s,baz=113,slow=29,SNR=3.3
KIEV Kiev 13.20 309 *e*P **Pn** **17 28 57.1 -0.3**
KIEV Kiev 13.20 309 *e*P **Pn** **17 28 57.1 -0.3**
MOS Moscow 13.23 340 *e*P **Pn** **17 28 54.8 -2.9**
MOS *e*S **Sn** **17 31 18.7 -5.4**
MOS MLR MLR
comp=Z,500nm,2.0s
VRI Vrincioaia 13.57 286 ⇓P **P** **17 29 08.7 -2.7**
MLR Muntele Rosu 14.11 285 Pn **Pn** **17 29 11.6 +1.7**
comp=Z,0.1nm,0.3s,baz=117,slow=12,SNR=3.5
MLR Lg Lg 17 33 05.3
comp=Z,0.0nm,0.3s,baz=145,slow=14,SNR=4.1
MLR Muntele Rosu 14.11 285 ⇓P Pn 17 29 13.3 +3.4
MLR Muntele Rosu 14.11 285 P Pn 17 29 13.3 +3.4
VOIR 14.74 284 ⇓P **P** **17 29 22.6 -1.8**
VOIR 14.74 284 P **P** **17 29 22.6 -1.8**
BURAR Bucovina Array 14.79 293 ⇓P **P** **17 29 22.8 -2.2**
BUR08 Bucovina Ar. S 14.80 293 *e*P **Pn** **17 29 17.9 -1.5**
ARU Arti 15.35 28*d* *i*P **Pn** **17 29 24.1 -2.4**
ARU S **Sn** **17 32 12.6 -3.3**
ARU pmax pmax
comp=Z,19nm,1.2s
ARU Arti 15.35 28 *e*P **Pn** **17 29 23.3 -3.2**
comp=Z,11nm,0.6s
MICGM Minsk 15.89 320 *e* **P** **17 29 36.0 -1.1**
MNK Minsk 15.92 320 *e*P **P** **17 29 36.0 -1.4**
MNK Minsk 15.92 320 *e*P **P** **17 29 36.0 -1.4**
MMB Musomiste 16.17 271 ⇓P **P** **17 29 42.0 +1.6**
MMB Musomiste 16.17 271 P **P** **17 29 42.0 +1.6**
EIL Elat 16.21 215 Pn **P** **17 29 40.6 -0.2**
comp=Z,0.1nm,0.3s,baz=30,slow=17,SNR=4.1
SVE Sverdlovsk 16.40 31⇑ *e*P **Pn** **17 29 39.0 -1.0**
SVE *e*S Sn 17 32 33.1 -8.1
SVE pmax pmax
comp=Z,44nm,0.9s
DRGR 16.40 289 ⇑P **P** **17 29 45.1 +2.2**
DRGR 16.40 289 P **P** **17 29 45.1 +2.2**
KOLS Kolonicke sedl 16.94 297 *e*P **P** **17 29 50.8 +2.0**
KOLS pmax pmax
comp=Z,3.0nm,0.9s
KOLS Kolonicke sedl 16.94 297 *e*P **P** **17 29 50.8 +2.0**
comp=Z,3.0nm,0.9s
KOLS Kolonicke sedl 16.94 297 *e*P **P** **17 29 50.8 +2.0**
KOLS *e* 17 29 56.0
KOLS *e* 17 29 58.5
BARS Barje 17.30 276 *e*P **P** **17 29 52.6 -0.2**
SOKR Solikamsk 17.50 19 *e*P **Pn** **17 29 51.0 -2.7**
SOKR pmax pmax
comp=Z,20nm,1.1s
STHS Stebnicka Huta 17.69 298 *e*P **Pn** **17 29 56.1 -0.1**
STHS pmax pmax
comp=Z,1.0nm,1.2s
STHS Stebnicka Huta 17.69 298 *e*P **Pn** **17 29 56.1 -0.1**
comp=Z,1.0nm,1.2s
STHS Stebnicka Huta 17.69 298 *e*P **Pn** **17 29 56.1 -0.1**
STHS *e* 17 30 03.3
KLMR Klimovskoe 17.72 350 *e*P **P** **17 29 58.8 +1.6**
KLMR *e*S Sn 17 33 05.1 -8.0
KLMR pmax pmax
comp=Z,36nm,1.1s
KLMR Klimovskoe 17.72 350 *e*P **P** **17 29 58.8 +1.6**
comp=Z,36nm,1.1s
SELS Selova 17.73 277 *e*P **P** **17 29 58.2 +0.6**
IDI Anoyia 17.91 250 P **P** **17 30 02.1 +2.4**
comp=Z,0.3nm,0.3s,baz=53,slow=10,SNR=3.8
GRUS Gruza 17.93 280 *e*P **P** **17 30 00.6 +0.9**
KECS Kecovo 18.05 295 *e*P **P** **17 30 01.7 +0.7**
KECS pmax pmax
comp=Z,1.0nm,0.5s
KECS Kecovo 18.05 295 *e*P **P** **17 30 01.7 +0.7**
comp=Z,1.0nm,0.5s
KECS Kecovo 18.05 295 *e*P **P** **17 30 01.7 +0.7**
KECS *e* 17 30 07.1
PRGR Permogore 18.13 0 *e*P Pn 17 29 56.0 -5.5
PRGR 17 33 25.6
PRGR pmax pmax
comp=Z,11nm,0.6s
DZET Dzherino 18.15 97 ⇑P **P** **17 30 02.2 -0.1**
comp=Z,30nm,0.8s
KK31 Karatay Array 18.17 83 P **Pn** **17 30 02.0 -0.2**
comp=Z,10nm,0.8s,baz=298,slow=12,SNR=64
KK31 Karatay Array 18.17 83 *i* P **Pn** **17 30 02.0 -0.2**
KK31 pmax pmax
comp=Z,7.0nm,0.6s
KK31 Karatay Array 18.17 83 P **Pn** **17 30 02.0 -0.2**
comp=Z,10nm,0.8s,SNR=64
KKAR Karatay Array 18.17 83 *e*P **P** **17 30 02.2 -0.3**
KKAR pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 18.17 83 *e*P **P** **17 30 02.2 -0.3**
comp=Z,5.5nm,0.6s
KKAR Karatay Array 18.17 83 *e*P **P** **17 30 02.2 -0.3**
comp=Z,5.5nm,0.6s
PSZ Piszkesteto 18.39 293 ⇓P Pn 17 30 10.5 +5.6
DIVS Divibare 18.42 281 *e*P **Pn** **17 30 06.3 +1.0**
TEKS Tekeris 18.70 282 *e*P **Pn** **17 30 10.2 +1.6**
PUL Pulkovo 18.71 336 *e*P **P** **17 30 07.6 -0.6**
PUL pmax pmax
comp=Z,54nm,0.7s
PUL Pulkovo 18.71 336 *e*P **P** **17 30 07.6 -0.6**
comp=Z,54nm,0.7s
BBLS Lazići 18.87 280 *e*P **Pn** **17 30 12.0 +1.3**
BRVK Borovoye 18.94 51 ⇑P **Pn** **17 30 12.0 +0.5**
comp=Z,62nm,0.9s
BRVK ⇑S **Sn** **17 33 36.9 -6.0**
comp=Z,33nm,1.1s
BRVK Borovoye 18.94 51*d* *i*P **P** **17 30 09.8 -1.0**
BRVK pmax pmax
comp=Z,39nm,0.9s
BRVK Borovoye 18.94 51 P **Pn** **17 30 12.0 +0.5**
comp=Z,62nm,0.9s
BRVK Borovoye 18.94 51 *e*P **P** **17 30 10.2 -0.6**
comp=Z,42nm,0.8s
VSU Vasula 18.95 329 *e*P **P** **17 30 10.1 -0.7**
VSU pmax pmax
comp=Z,48nm,0.9s
VSU Vasula 18.95 329 *e*P **P** **17 30 10.1 -0.7**
comp=Z,48nm,0.9s
BVA0 Borovoye Array 18.99 51 ⇑P **Pn** **17 30 12.7 +0.6**
comp=Z,29nm,0.9s,baz=247,slow=10.0,SNR=214
BVA0 ⇓S **Sn** **17 33 37.9 -6.1**
comp=Z,23nm,1.0s
BVA0 Borovoye Array 18.99 51 *i* P **Pn** **17 30 11.8 -0.3**
BVA0 pmax pmax
comp=Z,35nm,1.0s
BVA0 Borovoye Array 18.99 51 *i* P **Pn** **17 30 11.8 -0.3**
comp=Z,35nm,1.0s
BVAR Borovoye Array 18.99 51 P **P** **17 30 11.2 -0.1**
comp=Z,0.4nm,0.3s,baz=239,slow=13,SNR=27
BVAR S Sn 17 33 35.2 -8.9
comp=Z,0.6nm,0.3s,baz=246,slow=24,SNR=5.9
PKSM Moragy 19.21 287 ⇓P **Pn** **17 30 15.5 +0.8**
PKSM Moragy 19.21 287 P **Pn** **17 30 15.5 +0.8**
MNAS Manas 19.73 84 ⇓P **Pn** **17 30 23.2 +2.0**
comp=Z,15nm,1.5s
MNAS Manas 19.73 84 P **Pn** **17 30 23.5 +2.3**
MNAS pmax pmax
comp=Z,15nm,1.5s
OKC Ostrava-Krasne 19.74 298 *e*P Pn 17 30 26.5 +5.4
OKC AMS AMS 17 42 40.0
comp=Z,300nm,9.9s
RAYN Ar Rayn 19.96 180 *e*P **P** **17 30 22.7 +0.5**
comp=Z,4.3nm,0.8s
RAYN Ar Rayn 19.96 180 *e*P **P** **17 30 22.7 +0.5**
comp=Z,4.3nm,0.8s
KBL Kabul 20.30 108 *e*P Pn 17 30 27.8 -0.3
KBL pmax pmax
comp=Z,14nm,0.9s
KBL Kabul 20.30 108 *e*P Pn 17 30 27.8 -0.3
comp=Z,14nm,0.9s
KBL Kabul 20.30 108 *e*P Pn 17 30 27.8 -0.3
comp=Z,14nm,0.9s
EKS2 Erkin-Say 20.61 83 *e*P Pn 17 30 30.5 -1.1
EKS2 pmax pmax
comp=Z,9.0nm,0.9s
EKS2 Erkin-Say 20.61 83 *e*P Pn 17 30 30.5 -1.1
comp=Z,9.4nm,0.9s
EKS2 Erkin-Say 20.61 83 *e*P Pn 17 30 30.5 -1.1
comp=Z,9.4nm,0.9s
VRAC Vranov 20.69 296 P Pn 17 30 31.7 -0.5
comp=Z,1.7nm,0.5s,baz=82,slow=10.0,SNR=4.1
DPC Dobruska-Polom 20.98 299 *e*P Pn 17 30 36.9 +1.2
DPC *ep*P pP 17 30 41.4 +2.9
DPC AMS AMS 17 44 10.0
CONA Conrad Observa 21.10 292⇑ *i*pP **P** **17 30 36.0 +1.6**
comp=Z,12nm,1.1s
CONA Conrad Observa 21.10 292 P **P** **17 30 36.0 +1.6**
comp=Z,12nm,1.1s
TMCR Tamitsa 21.11 351 *e*P **P** **17 30 35.8 +1.6**
TMCR pmax pmax
comp=Z,47nm,1.3s
TMCR Tamitsa 21.11 351 *e*P **P** **17 30 35.8 +1.6**
comp=Z,47nm,1.3s
SFK Sufi-Kurgan 21.12 90 ⇓P **P** **17 30 35.5 +0.6**
comp=Z,17nm,1.0s
SFK Sufi-Kurgan 21.12 90 P **P** **17 30 35.5 +0.6**
comp=Z,17nm,1.0s
AAK Ala-Archa 21.14 82 P **P** **17 30 35.6 +0.6**
comp=Z,6.0nm,0.8s,baz=227,slow=7.6,SNR=10
AAK Ala-Archa 21.14 82 *e*P **P** **17 30 34.5 -0.4**
AAK pmax pmax
comp=Z,18nm,0.9s
FRU Bishkek 21.18 82 *e*P P 17 30 41.0 +5.7
FRU *e* 17 34 46.0
UPC Upice 21.20 300 *e*P **P** **17 30 38.9 +3.6**
UPC *ep*P **pP** **17 30 43.4 +2.6**
FIA1 FINESS Array S 21.34 334 *e*P **P** **17 30 38.2 +1.5**
FIA1 FINESS Array S 21.34 334 *e*P **P** **17 30 38.1 +1.5**
FINES FINESS Array B 21.34 334 P **P** **17 30 37.5 +0.8**
comp=Z,6.8nm,0.7s,baz=139,slow=13,SNR=20
TREC Trest 21.41 296 AMS AMS 17 44 20.0
comp=Z,300nm,11.6s
SOKA Soboth 21.68 289⇑ *i*P **P** **17 30 39.6 -1.1**
comp=Z,5.3nm,1.1s
SOKA Soboth 21.68 289 P **P** **17 30 39.6 -1.1**
comp=Z,5.3nm,1.1s
TKM2 Tokmak 2 21.87 81 *e*P **P** **17 30 41.3 -1.6**
TKM2 pmax pmax
comp=Z,7.0nm,0.9s
TKM2 Tokmak 2 21.87 81 *e*P **P** **17 30 41.3 -1.6**
comp=Z,7.4nm,0.9s
TKM2 Tokmak 2 21.87 81 *e*P **P** **17 30 41.3 -1.6**
comp=Z,7.4nm,0.9s
GOPC GO Pecny, Ondr 21.91 298 AMS AMS 17 44 00.0
comp=Z,300nm,12.1s
PRU Pruhonice 22.07 298 *e*P **P** **17 30 45.5 +0.7**
PRU *ep*P **pP** **17 30 48.4 -1.8**
PRU AMS AMS 17 44 00.0
comp=Z,300nm,11.9s
PVCC Panska Ves 22.11 299 *e*P **P** **17 30 48.3 +3.2**
PVCC *ep*P **pP** **17 30 52.9 +2.3**
CUC Castrocucco 22.38 271 *e*P **P** **17 30 48.5 +0.3**
comp=Z,7.5nm,1.0s
CUC Castrocucco 22.38 271 *e*P **P** **17 30 48.5 +0.3**
comp=Z,7.5nm,1.0s
BRG Berggiesshubel 22.55 300 *e*P **P** **17 30 52.4 +2.5**
comp=Z,13nm,1.8s
BRG Berggiesshubel 22.55 300 *e*P **P** **17 30 52.3 +2.5**
BRG pmax pmax
comp=Z,13nm,1.8s
BRG Berggiesshubel 22.55 300 *e*P **P** **17 30 52.3 +2.5**
comp=Z,13nm,1.8s
GERES GERESS Array B 22.56 295 P **P** **17 30 50.6 +0.5**
comp=Z,1.8nm,0.8s,baz=81,slow=8.2,SNR=10
KHC Kasperske Hory 22.65 296 *e*P **P** **17 30 52.7 +1.8**
KHC *ep*P **pP** **17 30 55.7 -0.7**
KHC AMS AMS 17 45 10.0
comp=Z,300nm,12.9s
KHC Kasperske Hory 22.65 296 *e*P **P** **17 30 51.3 +0.3**
KHC Kasperske Hory 22.65 296 *e*P **P** **17 30 51.3 +0.3**
KHC Kasperske Hory 22.65 296 *e*P **P** **17 30 51.2 +0.3**
comp=Z,1.3nm,0.8s
RUE Ruedersdorf 22.88 304 *e*P **P** **17 30 55.5 +2.2**
comp=Z,20nm,0.3s
RUE Ruedersdorf 22.88 304 *e*P **P** **17 30 55.5 +2.2**
comp=Z,20nm,0.3s
CLL Collm 23.19 301 *e*P **P** **17 30 58.0 +1.6**
comp=Z,3.0nm,1.1s
CLL *ep*P **pP** **17 30 59.0 -3.0**
CLL *e*(sP) **sP** **17 31 01.0 -3.5**
CLL *e*S Sn 17 35 18.0 -6.8
CLL Collm 23.19 301 *e*P **P** **17 30 58.0 +1.6**
CLL Collm 23.19 301 *e*P **P** **17 30 58.0 +1.6**
KURBB Kurchatov Arra 23.42 61 ⇑P **P** **17 31 01.0 +2.2**
comp=Z,20nm,0.8s
KURBB Kurchatov Arra 23.42 61 P **P** **17 31 01.0 +2.2**
comp=Z,20nm,0.8s
NKC Novy Kostel 23.44 298 *e*P **P** **17 31 00.0 +1.0**
NKC *ex* x 17 31 05.9
KURK Kurchatov 23.49 61 ⇓P **P** **17 31 01.6 +2.1**
comp=Z,12nm,1.1s
KURK Kurchatov 23.49 61 P **P** **17 31 00.0 +0.6**
KURK pmax pmax
comp=Z,12nm,1.1s
KURK Kurchatov 23.49 61 P **P** **17 31 00.0 +0.6**
comp=Z,12nm,1.1s
KURK Kurchatov 23.49 61 *e*P **P** **17 31 01.1 +1.7**
comp=Z,22nm,1.0s
PDGK Podgornoye 24.57 79 ⇑P **P** **17 31 10.3 +0.7**
FETA Feichten 24.61 290⇑ *i*P **P** **17 31 08.8 -1.4**
comp=Z,19nm,1.3s
FETA Feichten 24.61 290 P **P** **17 31 08.8 -1.4**
comp=Z,19nm,1.3s
LVZ Lovozero 25.09 350 *e*P **P** **17 31 13.6 -0.6**
LVZ pmax pmax
comp=Z,21nm,1.0s
LVZ Lovozero 25.09 350 *e*P **P** **17 31 13.6 -0.6**
comp=Z,21nm,1.0s
DAVOX Davos/Dischmat 25.21 290 P **P** **17 31 15.2 -0.5**
comp=Z,3.9nm,0.7s,baz=123,slow=10.0,SNR=5.8
HFS Hagfors 25.38 322 P **P** **17 31 17.6 +0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res
	comp=Z,5.8nm,0.7s,baz=104,slow=12,SNR=7.8						
MK31	Makanchi Array	25.97	70	⇑P	P	17 31 22.5	+0.1
	comp=Z,6.0nm,0.8s,baz=204,slow=19,SNR=4.6						
MK31	Makanchi Array	25.97	70	eP	P	17 31 22.0	-0.4
MK31	Makanchi Array	25.97	70	P	P	17 31 22.5	+0.1
	comp=Z,6.0nm,0.8s,SNR=4.6						
MK31	Makanchi Array	25.97	70	eP	P	17 31 22.0	-0.4
MKAR	Makanchi Array	25.97	70	P	P	17 31 23.4	+0.9
	comp=Z,1.7nm,0.5s,baz=273,slow=7.9,SNR=16						
NVS	Novosibirsk	26.79	52	eP	P	17 31 32.9	+3.3
NVS				pmax	pmax		
	comp=N,4.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NB2	NORSAR Subarra	26.88	323	P	P	17 31 30.6	+0.2
	comp=Z,4.6nm,1.1s,baz=116,slow=9.3						
NB2	NORSAR Subarra	26.88	323	P	P	17 31 30.6	+0.2
	comp=Z,4.6nm,1.1s,SNR=7.5						
NOA	NORSAR Array B	26.88	323	P	P	17 31 31.4	+1.0
	comp=Z,1.6nm,0.8s,baz=122,slow=8.8,SNR=7.0						
ZALV	Zalesovo Beam	27.59	54	P	P	17 31 37.6	+0.8
	comp=Z,1.4nm,0.6s,baz=272,slow=9.9,SNR=5.9						
ARCES	ARCESS Array B	28.01	345	P	P	17 31 42.4	+1.9
	comp=Z,4.0nm,1.0s,baz=153,slow=8.1,SNR=3.9						
ARCES	ARCESS Array B	28.01	345	P	P	17 31 42.4	+1.9
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KRAR	Krasnoyarsk	32.37	50	eP	P	17 32 17.4	-1.6
KRAR				pmax	pmax		
	comp=Z,11nm,1.2s						
KRAR	Krasnoyarsk	32.37	50	eP	P	17 32 17.4	-1.6
	comp=Z,11nm,1.2s						
KOLN	Koldanda	34.37	105	eP	P	17 32 37.3	+0.2
	comp=Z,11nm,0.8s						
GKN	Gorkha	34.96	103	eP	P	17 32 42.3	+0.2
	comp=Z,5.4nm,0.4s						
DMN	Daman	35.53	103	eP	P	17 32 47.5	+0.3
KKN	Kakani	35.55	103	eP	P	17 32 46.9	-0.3
	comp=Z,11nm,0.8s						
PKIN	Phulchoki	35.76	103	eP	P	17 32 49.0	-0.1
	comp=Z,11nm,0.8s						
PKI	Pulchoki	35.77	103	eP	P	17 32 49.3	0.0
	comp=Z,16nm,0.8s						
JIRN	Jiri	36.27	102	eP	P	17 32 54.0	+0.4
	comp=Z,24nm,0.7s						
SPITS	Spitsbergen Ar	36.62	350	P	P	17 32 58.4	+2.7
	comp=Z,4.8nm,0.6s,baz=130,slow=11,SNR=16						
SPITS	Spitsbergen Ar	36.62	350	P	P	17 32 58.4	+2.7
SPITS				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ESDC	Sonseca Array	36.77	281	P	P	17 32 56.5	-0.9
	comp=Z,0.1nm,0.2s,baz=66,slow=8.6,SNR=4.0						
RAMN	Ramite	36.99	103	eP	P	17 33 00.1	+0.5
TAPN	Taplejung	37.54	101	eP	P	17 33 05.3	+1.0
ODAN	Odare	37.60	102	eP	P	17 33 05.2	+0.4
	comp=Z,27nm,0.8s						
TAM	Tamanrasset	38.88	251	eP	P	17 33 15.7	+0.2
TAM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TAM	Tamanrasset	38.88	251	eP	P	17 33 15.7	+0.2
	comp=Z,3.3nm,0.8s						
TAM	Tamanrasset	38.88	251	eP	P	17 33 15.7	+0.2
	comp=Z,3.3nm,0.8s						
GTA	Gaotai	40.28	77	eP	P	17 33 32.2	+5.2
GTA				pP	pP	17 33 38.4	+5.4
GTA				sP	sP	17 33 41.4	+6.0
GTA				PcP	PcP	17 35 34.2	+3.8
GTA				PMZ			
	comp=Z,4.0nm,0.9s						
SONM	Songino Array	41.78	62	P	P	17 33 40.3	+1.1
	comp=Z,1.0nm,0.8s,baz=286,slow=10,SNR=4.7						
BOD	Bodaibo	43.73	46	eP	P	17 33 55.7	+1.0
BOD				pmax	pmax		
	comp=Z,21nm,0.7s						
BOD	Bodaibo	43.73	46	eP	P	17 33 55.7	+1.0
	comp=Z,21nm,0.7s						
TIXI	Tiksi	47.33	25	eP	P	17 34 22.1	-0.9
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TIXI	Tiksi	47.33	25	eP	P	17 34 25.7	+2.7
	comp=Z,8.8nm,1.0s						
TIXI	Tiksi	47.33	25	eP	P	17 34 25.7	+2.7
	comp=Z,8.8nm,1.0s						
TORD	Torodi Ar. Bea	48.23	245	P	P	17 34 29.3	-1.4
	comp=Z,8.5nm,0.8s,baz=44,slow=6.9,SNR=41						
YAK	Yakutsk	50.19	38	eP	P	17 34 49.1	+4.0
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
YAK	Yakutsk	50.19	38	eP	P	17 34 49.0	+4.0
	comp=E,17nm,0.8s						
CMAR	Chiang Mai Arr	51.14	102	P	P	17 34 52.4	-0.5
	comp=E,1.9nm,0.9s,baz=304,slow=8.9,SNR=7.5						
CMAR	Chiang Mai Arr	51.14	102	P	P	17 34 52.4	-0.5
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
DBIC	Dimbokro	57.33	245	P	P	17 35 36.5	-1.3
	comp=Z,8.6nm,0.7s,baz=16,slow=8.7,SNR=11						
DBIC	Dimbokro	57.33	245	P	P	17 35 36.6	-1.3
DBIC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TIC	Toumodi	57.45	245	eP	P	17 35 37.3	-1.6
KIC	Kosan Boka	57.48	245	eP	P	17 35 37.5	-1.5
	comp=Z,32nm,0.9s						
LIC	Lamto	57.77	245	eP	P	17 35 39.3	-1.8
	comp=Z,47nm,0.7s						
SEY	Seymchan	59.08	31	eP	P	17 35 47.7	-1.8
VLA	Vladivostok	59.92	58	eP	P	17 35 56.0	+0.4
VLA				pmax	pmax		
	comp=Z,20nm,1.3s						
VLA	Vladivostok	59.92	58	eP	P	17 35 56.0	+0.4
	comp=Z,20nm,1.3s						
KSAR	Wonju Array Be	60.50	65	P	P	17 36 00.2	+0.5
KSAR	Wonju Array Be	60.50	65	P	P	17 36 00.2	+0.5
KSAR	Wonju Array Be	60.50	65	P	P	17 36 00.1	+0.5
KSRS	Korea Array	60.52	65	P	P	17 36 00.1	+0.4
	comp=Z,2.6nm,0.7s,baz=298,slow=6.3,SNR=17						
KSRS	Korea Array	60.52	65	P	P	17 36 00.2	+0.4
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAJ	Asahikawa	65.69	52	P	P	17 36 34.1	+0.1
	comp=Z,3.2nm,0.9s,baz=286,slow=7.4,SNR=2.6						
ASAJ	Asahikawa	65.69	52	P	P	17 36 34.2	+0.1
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
JKA	Kamikawa-asahi	65.69	52	P	P	17 36 34.2	+0.1
	comp=Z,3.0nm,0.9s						
COLD	Coldfoot	68.92	6	eP	P	17 36 55.7	+1.5
	comp=Z,4.1nm,0.9s						
COLD	Coldfoot	68.92	6	eP	P	17 36 55.7	+1.5
	comp=Z,4.1nm,0.9s						
IM04	Indian Mountai	69.81	8	eP	P	17 37 00.6	+0.9
IM04	Indian Mountai	69.81	8	eP	P	17 37 00.6	+0.9
EGAK	Eagle	71.90	3	eP	P	17 37 14.1	+1.7
	comp=Z,7.7nm,0.1s						
EGAK	Eagle	71.90	3	eP	P	17 37 14.1	+1.7
	comp=Z,7.7nm,0.1s						
DAWY	Dawson	72.67	2	eP	P	17 37 18.0	+0.9
	comp=Z,6.7nm,0.9s						
DAWY	Dawson	72.67	2	eP	P	17 37 18.0	+0.9
	comp=Z,6.7nm,0.9s						
YKA	Yellowknife Ar	73.12	351	P	P	17 37 21.0	+1.3
	comp=Z,2.9nm,0.7s,baz=12,slow=6.2,SNR=11						
YKA	Yellowknife Ar	73.12	351	P	P	17 37 21.0	+1.3
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YKA	Yellowknife Ar	73.12	351	P	P	17 37 21.0	+1.3
	comp=Z,3.0nm,0.7s						
BOSA	Boshof	74.17	198	P	P	17 37 25.4	-0.9
	comp=Z,3.5nm,0.7s,baz=337,slow=5.1,SNR=4.2						
BOSA	Boshof	74.17	198	P	P	17 37 25.4	-0.9
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.7s						

ISN ***09*** *17:29:22.5±1.9, 44°.33N×45°.69E, h0km±377km, ML3.5*

IDC ***09*** *17:29:32.6±0.5, 43°.30N×45°.37E, h0km, mb4.2/19, mb1 4.3/22, mb1mx4.1/36, mbtmp4.2/22, ML0.3/1, MS3.6/17, Ms1 3.6/17, ms1mx3.4/34, Error ellipse: s-maj=8.8km s-min=7.6km az=133.0*

AZER ***09*** *17:29:33.9±1.1, 43°.19N×44°.46E, h15km, Error ellipse: s-maj=16.9km s-min=9.6km az=35.0*

NEIC ***09*** *17:29:34.5±0.3, 43°.33N×45°.53E, h10km, mb4.4/12, Error ellipse: s-maj=6.9km s-min=4.6km az=168.0*

MOS ***09*** *17:29:36.1±1.2, 43°.49N×45°.49E, h27km, mb4.6/15, Error ellipse: s-maj=4.9km s-min=4.6km az=19.8*

CSEM ***09*** *17:29:36.6±0.1, 43°.48N×45°.49E, h20km, mb4.4/33, Ms3.8, Error ellipse: s-maj=3.8km s-min=2.8km az=5.0*

TIF ***09*** *17:29:36.4, 43°.36N×45°.46E, h27km±3km*

ISCJB ***09*** *17:29:36.4±0.5, 43°.55N±0°.02×45°.52E±0°.02, h30km±3km, mb4.2/40, MS3.6/15, Error ellipse: s-maj=2.9km s-min=2.2km az=24.2*

BJI ***09*** *17:29:37.2, 44°.19N×46°.08E, h15km, mb4.5/10, mB4.8/6, Ms4.4/3, Ms7 4.3/3*

NNC ***09*** *17:29:47.7±7.5, 43°.79N×46°.47E, h25km±114km, mb4.8, Error ellipse: s-maj=93.6km s-min=57.5km az=86.0*

ISC 09 17:29:36.1±0.5**, 43°.43N**±0°.02×**45°.50E**±0°.01**, h17**km±3km**, h17**km**:pP-P, n324, σ1s.37**/387**, mb4.4**/48**, MS3.5**/16**, 33C-33D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	Sundja	0.62	234	⇑iPG	Pg	17 29 48.5	+0.2
SNJR				eS	Sb	17 29 58.4	+1.6
SNJR	Sundja	0.62	234	i Pg	Pg	17 29 48.5	+0.2
SNJR				eSg	Sb	17 29 58.4	+1.6
TRKR	Terskaya	0.63	298	⇑iPG	Pb	17 29 49.2	+0.6
TRKR				i S	Sn	17 29 59.9	+0.1
TRKR	Terskaya	0.63	298	i Pg	Pb	17 29 49.2	+0.6
TRKR				i Sg	Sn	17 29 59.9	+0.1
BTKR	Batakoyurt	0.70	266	⇓iPG	Pb	17 29 50.4	+0.6
BTKR				eS	Sn	17 30 01.9	+0.3
BTKR	Batakoyurt	0.70	266	i Pg	Pb	17 29 50.4	+0.6
BTKR				eSg	Sn	17 30 01.9	+0.3
VLKR	Vladikavkaz	0.71	238	⇑iPG	Pb	17 29 50.4	+0.4
VLKR				eS	Sn	17 30 01.6	-0.3
VLKR	Vladikavkaz	0.71	238	i Pg	Pb	17 29 50.4	+0.4
VLKR				eSg	Sn	17 30 01.6	-0.3
DLMR	Dylym	0.90	113	PG	Pn	17 29 56.0	+2.1
DLMR				i S	Sn	17 30 07.0	+0.4
DLMR	Dylym	0.90	113	Pg	Pn	17 29 56.0	+2.1
DLMR				i Sg	Sn	17 30 07.0	+0.4
ARNR	Ardon	0.92	255	⇓iPG	Pg	17 29 54.1	+0.1
ARNR				eS	Sn	17 30 08.9	+1.8
ARNR	Ardon	0.92	255	i Pg	Pg	17 29 54.1	+0.1
ARNR				eSg	Sn	17 30 08.9	+1.8
BTLR	Botlikh	0.93	145	ePG	Pb	17 29 54.0	+0.2
BTLR				eS	Sb	17 30 05.0	-0.9
BTLR	Botlikh	0.93	145	ePg	Pb	17 29 54.0	+0.2
BTLR				eSg	Sb	17 30 05.0	-0.9
PRTR	Priterechnaya	0.94	290	⇑iPG	Pn	17 29 55.1	+0.6
PRTR				eS	Sn	17 30 09.9	+2.4
PRTR	Priterechnaya	0.94	290	i Pg	Pn	17 29 55.1	+0.6
PRTR				eSg	Sn	17 30 09.9	+2.4
STDR	Stavd-Durt	1.05	267	⇑iPG	Pg	17 29 56.5	+0.1
STDR				eS	Sn	17 30 12.7	+2.5
STDR	Stavd-Durt	1.05	267	i Pg	Pg	17 29 56.5	+0.1
STDR				eSg	Sn	17 30 12.7	+2.5
LACR	Lac	1.07	236	⇓iPG	Pb	17 29 55.4	-0.7
LACR				i S	Sn	17 30 11.1	+0.3
LACR	Lac	1.07	236	i Pg	Pb	17 29 55.4	-0.7
LACR				i Sg	Sn	17 30 11.1	+0.3
KORR	Kora	1.10	252	⇑iPG	Pg	17 29 57.3	-0.1
KORR				eS	Sg	17 30 13.8	+2.0
KORR	Kora	1.10	252	i Pg	Pg	17 29 57.3	-0.1
KORR				eSg	Sg	17 30 13.8	+2.0
UNCR	Uncukul	1.19	127	ePG	Pn	17 29 58.0	+0.1
UNCR				eS	Sn	17 30 14.0	+0.3
UNCR	Uncukul	1.19	127	ePg	Pn	17 29 58.0	+0.1
UNCR				eSg	Sn	17 30 14.0	+0.3
KRNR	Karanay	1.19	120	ePG	Pn	17 29 57.0	-1.1
KRNR				eS	Sg	17 30 15.0	+0.2
KRNR	Karanay	1.19	120	ePg	Pn	17 29 57.0	-1.1
KRNR				eSg	Sg	17 30 15.0	+0.2
LSNR	Lesken	1.23	263	⇑iPG	Pb	17 29 58.9	+0.1
LSNR				i S	Sg	17 30 17.3	+1.4
XNZR	Khunzakh	1.25	135	⇑iPG	Pn	17 29 58.7	-0.2
XNZR				eS	Sg	17 30 17.0	+0.3
XNZR	Khunzakh	1.25	135	i Pg	Pn	17 29 58.7	-0.2
XNZR				eSg	Sg	17 30 17.0	+0.3
BUJR	Buynaksk	1.32	117	ePG	Pb	17 30 01.2	+0.7
BUJR				i S	Sg	17 30 21.2	+2.3
BUJR	Buynaksk	1.32	117	ePg	Pb	17 30 01.2	+0.7
BUJR				i Sg	Sg	17 30 21.2	+2.3
ZEI	Tsey	1.33	242	⇑iPG	Pn	17 29 59.4	-0.7
ZEI				i S	Sn	17 30 18.2	+0.7
ZEI	Tsey	1.33	242	eP	Pn	17 29 59.3	-0.8
ZEI				i Sg	Sn	17 30 18.2	+0.7
ZEI	Tsey	1.33	242	eP	Pn	17 29 59.3	-0.8
ARKR	Arakani	1.37	126	ePG	Pn	17 30 00.0	-0.5
ARKR				eS	Sg	17 30 21.0	+0.5
ARKR				pmax	pmax		
	comp=Z,1μm,0.4s						
ARKR	Arakani	1.37	126	ePg	Pn	17 30 00.0	-0.5
	comp=Z,1μm,0.4s						
ARKR				eSg	Sg	17 30 21.0	+0.5
NCK	Nalchik	1.39	273	ePG	Pn	17 30 00.3	-0.3
NCK	Nalchik	1.39	273	ePg	Pn	17 30 00.3	-0.3
DUS	Dusheti	1.46	204	P	Pn	17 30 02.3	+0.6
DUS				S	Sg	17 30 23.7	+0.4
DUS	Dusheti	1.46	204	PG	Pn	17 30 02.3	+0.6
DUS				S	Sg	17 30 23.7	+0.4
DUS	Dusheti	1.46	204	Pg	Pn	17 30 02.3	+0.6
DUS				S	Sg	17 30 23.7	+0.4
GNBR	Gunib	1.50	134	i PG	Pb	17 30 03.5	+0.1
GNBR				i S	Sg	17 30 24.3	-0.1
GNBR	Gunib	1.50	134	i Pg	Pb	17 30 03.5	+0.1
GNBR				i Sg	Sg	17 30 24.3	-0.1
DIGR	Digorskoe uzhe	1.50	250	⇑iPG	Pn	17 30 01.5	-0.9
DIGR				eS	Sb	17 30 23.2	+0.8
DIGR	Digorskoe uzhe	1.50	250	i Pg	Pn	17 30 01.5	-0.9
DIGR				eSg	Sb	17 30 23.2	+0.8
MAK	Makhachkala	1.54	107	ePG	Pb	17 30 04.3	+0.2
MAK				e		17 30 26.2	
MAK				pmax	pmax		
	comp=Z,1μm,0.6s						
MAK	Makhachkala	1.54	107	ePg	Pb	17 30 04.3	+0.2
	comp=Z,1μm,0.6s						
MAK				eSg	Sg	17 30 26.2	+0.5
ONI	Oni	1.72	241	P	Pn	17 30 05.6	+0.3
ONI				S	Sb	17 30 30.5	+2.0
ONI	Oni	1.72	241	PN	Pn	17 30 05.5	+0.3
ONI				S	Sb	17 30 30.5	+2.0
ONI	Oni	1.72	241	P	Pn	17 30 05.6	+0.3
ONI				Sg	Sb	17 30 30.5	+2.0
SEAG	Tbilisi Sea	1.74	197	P	Pn	17 30 05.9	+0.3
SEAG				S	Sb	17 30 29.8	+0.7
TBLG	Delisi	1.79	199	ePN	Pn	17 30 06.9	+0.8
TBLG	Delisi	1.79	199	P	Pn	17 30 07.0	+0.8
TBLG				S	Sn	17 30 29.5	+1.0
TBLG	Delisi	1.79	199	PN	Pn	17 30 06.9	+0.8
TBLG	Delisi	1.79	199	Pn	Pn	17 30 06.9	+0.8
TBLG				S	Sn	17 30 29.5	+1.0
KBZ	Khabaz	1.91	280	Pn	Pn	17 30 07.4	-0.4
	comp=Z,22nm,0.3s,baz=119,slow=6.3,SNR=24						
KBZ				Sn	Sn	17 30 31.6	+0.1
	comp=Z,38nm,0.3s,baz=333,slow=18,SNR=4.6						
KBZ				LR	LR	17 30 49.5	
	comp=Z,345nm,18.6s,baz=166,slow=42						
ZKTA	Zakatala	1.97	155	⇓Pn	Pb	17 30 10.9	-0.6
	SNR=122						
ZKTA				⇓Sn	Sg	17 30 39.4	-0.2
DGRG	David-gareji	1.98	183	P	Pb	17 30 10.9	-0.8
DGRG				S	Sg	17 30 39.5	-0.3
DGRG	David-gareji	1.98	183	PN	Pb	17 30 10.8	-0.8
DGRG	David-gareji	1.98	183	Pn	Pb	17 30 10.8	-0.8
DGRG				S	Sg	17 30 39.5	-0.3
KIV	Kislovodsk	2.11	285	ePN	Pn	17 30 08.1	-2.5
KIV	Kislovodsk	2.11	285	ePN	Pn	17 30 10.0	-0.5
KIV	Kislovodsk	2.11	285	P	Pn	17 30 10.1	-0.5
	SNR=27						
KIV	Kislovodsk	2.11	285	⇓P	Pn	17 30 10.1	-0.5
	SNR=27						
KZR	Kazreti	2.20	202	P	Pn	17 30 12.9	+1.1
KZR				S	Sb	17 30 41.8	-0.5
KZR	Kazreti	2.20	202	P	Pn	17 30 12.9	+1.1
KZR				S	Sb	17 30 41.8	-0.5
QZX	Qazax, Azerbai	2.37	182	⇓Pn	Pn	17 30 14.3	+0.1
	SNR=17						
QZX				⇓Sn	Sn	17 30 39.4	-3.4
GOF	Gofitskoye	2.40	314	ePN	Pb	17 30 16.7	-2.1
GOF				i S	Sb	17 30 48.7	+0.6
GOF				smax	smax		
	comp=E,712nm,0.9s						
GOF	Gofitskoye	2.40	314	ePn	Pb	17 30 16.7	-2.1
GOF				i Sn	Sb	17 30 48.7	+0.6
DRN	Derbent	2.51	123	⇓iPN	Pb	17 30 19.5	-1.2
DRN				eS	Sb	17 30 53.0	+1.8
DRN	Derbent	2.51	123	i Pn	Pb	17 30 19.5	-1.2
DRN				eSn	Sb	17 30 53.0	+1.8
SEKA	Sheki	2.55	150	⇑Pn	Pn	17 30 18.3	+1.6
	SNR=42						
SEKA				⇓Sn	Sb	17 30 52.2	-0.3
SEKA	Sheki	2.55	150	Pn	Pn	17 30 18.3	+1.6
	SNR=42						
SEKA				Sn	Sb	17 30 52.2	-0.3
CHVG	Ch'k'valeri	2.60	255	ePN	Pn	17 30 09.5	-7.8
CHVG	Ch'k'valeri	2.60	255	P	Pg	17 30 27.3	+1.4
GANJ	Ganja	2.85	167	⇑Pn	Pn	17 30 20.2	-0.5
	SNR=7.8						
GANJ				⇑Sn	Sn	17 30 57.7	+3.0
MNGR	Mingechevir, A	2.91	155	⇓Pn	Pn	17 30 24.1	+2.7
	SNR=8.3						
MNGR				⇓Sn	Sb	17 31 01.1	-1.5
QUBA	Quba, Azerbaij	3.04	132	⇓Pn	Pn	17 30 26.1	+2.8
	SNR=3.7						
QUBA				⇓Sn	Sg	17 31 11.3	-2.3
QUBA	Quba, Azerbaij	3.04	132	Pn	Pn	17 30 26.1	+2.8
	SNR=3.7						
IML	Ismayilli	3.31	142	⇓Pn	Pn	17 30 28.9	+1.9
IML				⇓Sn	Sb	17 31 14.6	+0.4
IML	Ismayilli	3.31	142	Pn	Pn	17 30 28.9	+1.9
GNI	Garni	3.33	190	Pn	Pn	17 30 26.6	-0.8
	comp=E,0.9nm,0.3s,baz=24,slow=7.5,SNR=3.6						
GNI				Pg	Pb	17 30 32.6	-2.1
	comp=E,27nm,0.3s,baz=319,slow=4.5,SNR=13						
GNI				Lg	Lg	17 31 15.1	
	comp=E,29nm,0.3s,baz=37,slow=18,SNR=4.1						
GNI				LR	LR	17 31 31.3	
	comp=E,366nm,18.7s,baz=4.5,slow=37						
GNI	Garni	3.33	190	P	Pn	17 30 29.2	+1.8
	SNR=6.8						
GNI	Garni	3.33	190	⇑P	Pn	17 30 29.2	+1.8
	SNR=6.8						
KARS	Kars	3.33	214	ePN	Pn	17 30 28.0	+0.5
KARS	Kars	3.33	214	PN	Pb	17 30 36.5	+1.8
KARS	Kars	3.33	214	ePn	Pn	17 30 28.0	+0.5
BRDA	Brd	3.40	158	⇑Pn	Pn	17 30 29.2	+0.9
BRDA				⇓Sn	Sn	17 31 07.9	-0.4
BRDA	Brd	3.40	158	Pn	Pn	17 30 29.2	+0.9
BRDA				Sn	Sn	17 31 07.9	-0.4
BCA	Borcka	3.49	237	ePN	Pn	17 30 29.3	-0.2
BCA	Borcka	3.49	237	ePn	Pn	17 30 29.3	-0.2
PQL	Pirkuli	3.50	138	⇓Pn	Pn	17 30 32.7	+2.9
ATGJ	Altiaghaj	3.62	134	⇑Pn	Pn	17 30 35.7	+4.3
ATGJ				⇓Sn	Sb	17 31 25.1	+1.7
KDMR	Kurdemir	3.65	146	⇑Sn	Sn	17 31 19.6	+5.3
KDMR	Kurdemir	3.65	146	Sn	Sn	17 31 19.6	+5.3
SAAT	Saatly	4.18	147	⇓Sn	Sn	17 31 30.0	+2.5
SAAT	Saatly	4.18	147	Sn	Sn	17 31 30.0	+2.5
SOC	Sochi	4.21	274	ePN	Pn	17 30 38.8	-0.6
SOC				e		17 31 26.3	
SOC				pmax	pmax		
	comp=Z,28nm,0.8s						
SOC				MLR	MLR		
	comp=Z,1μm,10.0s						
SOC	Sochi	4.21	274	ePn	Pn	17 30 38.8	-0.6
	comp=Z,28nm,0.8s						
SOC				eSn	Sn	17 31 26.3	-1.8
	comp=Z,1μm,10.0s						
AGRB	Hanur-Agry	4.29	207	ePN	Pn	17 30 43.3	+2.6
AGRB	Hanur-Agry	4.29	207	ePn	Pn	17 30 43.3	+2.6
ALIB	Äli-Bayra	4.35	142	⇑Pn	Pn	17 30 44.8	+3.5
	SNR=4.4						
ALIB				⇓Sn	Sb	17 31 39.8	-4.4
ALIB	Äli-Bayra	4.35	142	Pn	Pn	17 30 44.8	+3.5
	SNR=4.4						
GOBA	Gobu	4.38	132	⇑Pn	Pn	17 30 45.0	+3.3
	SNR=2.8						
GOBA				⇑Sn	Sb	17 31 46.3	+1.4
NDR	Nardaran	4.39	129	⇑Pn	Pn	17 30 47.1	+5.2
NDR	Nardaran	4.39	129	Pn	Pn	17 30 47.1	+5.2
CLDR	Caldiran	4.45	196	ePN	Pn	17 30 47.3	+4.4
CLDR	Caldiran	4.45	196	ePn	Pn	17 30 47.3	+4.4
EZM	Erzurum	4.69	223	ePN	Pn	17 30 48.1	+1.8
GLBA	Clilabad	4.72	152	⇓Pn	Pn	17 30 47.3	+0.9
	SNR=18						
GLBA				⇓Sn	Sn	17 31 44.0	+3.4
GLBA	Clilabad	4.72	152	Pn	Pn	17 30 47.3	+0.9
	SNR=18						
GLBA				Sn	Sn	17 31 44.0	+3.4
BAYT	Ayd˜–ntepe-Bay	5.02	235	ePN	Pn	17 30 50.3	-0.4
BAYT	Ayd˜–ntepe-Bay	5.02	235	ePn	Pn	17 30 50.3	-0.4
LRK	Lerik	5.24	155	⇓Pn	Pn	17 30 54.8	+1.0
	SNR=17						
LRK	Lerik	5.24	155	Pn	Pn	17 30 54.8	+1.0
	SNR=17						
LKRN	Lenkeran, Azer	5.33	151	⇑Pn	Pn	17 30 54.9	+0.2
	SNR=5.0						
LKRN				⇓Sn	Sn	17 31 56.7	+1.1
GUMT	Gumushane	5.38	239	ePN	Pn	17 30 53.5	-2.1
GUMT	Gumushane	5.38	239	ePn	Pn	17 30 53.5	-2.1
BNGB	Bingˆ¶l	5.73	221	ePN	Pn	17 31 04.7	+4.2
BINT	Bingol	5.92	221	ePn	Pn	17 31 04.7	+1.7
ANN	Anapa	5.97	286	eP	Pn	17 31 03.9	+0.4
ANN				eS	Sn	17 32 14.0	+2.6
ANN				pmax	pmax		
	comp=Z,79nm,1.3s						
ANN				MLR	MLR		
	comp=Z,477nm,12.0s						
ANN	Anapa	5.97	286	eP	Pn	17 31 03.9	+0.4
	comp=Z,79nm,1.3s						
ANN				eS	Sn	17 32 14.0	+2.6
	comp=Z,477nm,12.0s						
MSL	Mosul	7.26	195	ePN	x	17 31 24.1	
MSL				eSN	x	17 32 48.4	
MALT	Malatya	7.40	229	eP	Pn	17 31 24.0	+0.6
MALT	Malatya	7.40	229	eP	Pn	17 31 24.0	+0.6
IKRK	Kirkuk	8.07	187	ePN	x	17 31 35.8	
IKRK				eSN	x	17 33 08.0	
BRTR	Keskin Array B	9.63	251	Pn	Pn	17 31 54.5	+0.6
	baz=64,slow=13,SNR=1.8						
IBDR	Badra	10.31	178	ePN	x	17 32 06.7	
IBDR				eSN	x	17 34 03.5	
AKTK	Aktyubinsk	11.05	46	P	Pn	17 32 13.2	0.0
	comp=Z,207nm,20.6s						
AKTO	Aktyubinsk	11.05	46	⇑Pn	Pn	17 32 13.1	-0.1
	comp=Z,28nm,0.9s						
AKTO				⇓Sn	Sn	17 34 09.6	-6.7
	comp=Z,51nm,0.7s						
AKTO	Aktyubinsk	11.05	46	Pn	Pn	17 32 13.2	-0.1
	comp=Z,3.5nm,0.3s,baz=238,slow=8.5,SNR=6.9						
AKTO				Sn	Sn	17 34 08.2	-8.2
	comp=Z,1.9nm,0.3s,baz=24,slow=20,SNR=4.5						
AKTO				LR	LR	17 38 10.1	
	comp=Z,207nm,20.6s,baz=232,slow=46						
AKTO	Aktyubinsk	11.05	46	Pn	Pn	17 32 13.1	-0.1
	comp=Z,28nm,0.9s						
AKTO				Sn	Sn	17 34 09.6	-6.7
	comp=Z,51nm,0.7s						
RTB	Rutbah	11.15	203	ePn	x	17 32 19.1	
RTB				i Sn	x	17 34 23.8	
AB31	Akbulak array	11.55	55	Pn	Pn	17 32 20.6	+0.6
	comp=Z,0.9nm,0.1s,baz=337,slow=14,SNR=16						
AB31				Sn	Sn	17 34 20.0	-8.6
	comp=Z,64nm,0.9s,baz=246,slow=18,SNR=10						
AB31	Akbulak array	11.55	55	Pn	Pn	17 32 20.6	+0.6
	comp=Z,0.9nm,0.1s,SNR=16						
KIS	Kishinev	12.29	293	eP	Pn	17 32 32.0	+1.8
KIS				LRM	MLR	17 38 30.0	
	comp=Z,500nm,12.0s						
KIS	Kishinev	12.29	293	eP	Pn	17 32 32.0	+1.8
KIS				MLR	MLR		
	comp=N,400nm,12.0s						
KIS				MLR	MLR		
	comp=E,400nm,12.0s						
KIS				MLR	MLR		
	comp=Z,500nm,12.0s						
KIS	Kishinev	12.29	293	eP	Pn	17 32 32.0	+1.8
OBN	Obninsk	13.05	337	Lg	Lg	17 36 35.2	
	comp=Z,3.2nm,0.3s,baz=211,slow=23,SNR=2.4						
OBN				LR	LR	17 38 14.0	
	comp=Z,332nm,19.0s,baz=193,slow=40						
OBN	Obninsk	13.05	337	eP	Pn	17 32 38.4	-2.1
OBN				eS	Sn	17 35 03.4	-1.7

OBN pmax pmax
comp=Z,31nm,0.8s
OBN MLR MLR
comp=Z,273nm,17.0s
OBN Obninsk 13.05 337 *e*P **Pn 17 32 38.4 -2.1**
comp=Z,31nm,0.8s
OBN *e*S **Sn 17 35 03.4 -1.7**
comp=Z,273nm,17.0s
AKASG Malin Array Be 13.25 309 Lg Lg 17 36 24.8
comp=Z,0.1nm,0.3s,baz=122,slow=26,SNR=3.5
ARU Arti 15.45 28*d i*P Pn 17 33 02.9 -10
ARU SS **Sn 17 36 05.0 +1.3**
ARU pmax pmax
comp=Z,34nm,1.2s
ARU MLR MLR
comp=Z,322nm,19.0s
MMB Musomiste 16.16 271 ⇑P **P 17 33 27.2 +1.8**
MMB Musomiste 16.16 271 P **P 17 33 27.2 +1.8**
GZR Gura Zlata 16.35 285 ⇑*i*P **P 17 33 29.2 +1.7**
GZR Gura Zlata 16.35 285 ⇑*i*P **P 17 33 29.2 +1.7**
DRGR 16.42 290 ⇑P P 17 33 33.6 +5.3
DRGR 16.42 290 P P 17 33 33.6 +5.3
SVE Sverdlovsk 16.50 30 *e*P **P 17 33 31.7 +2.7**
SVE *e*S Sn 17 36 18.1 -11
SVE pmax pmax
comp=Z,60nm,1.0s
SVE Sverdlovsk 16.50 30 *e*P **P 17 33 31.7 +2.7**
comp=Z,60nm,1.0s
KOLS Kolonicke sedl 16.97 297 *e*P **P 17 33 34.6 +0.3**
KOLS pmax pmax
comp=Z,15nm,2.0s
KOLS Kolonicke sedl 16.97 297 *e*P **P 17 33 34.6 +0.3**
comp=Z,15nm,2.0s
KOLS Kolonicke sedl 16.97 297 *e*P **P 17 33 34.6 +0.3**
STHS Stebnicka Huta 17.72 298 *e*P **Pn 17 33 41.8 -0.1**
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 17.72 298 *e*P **Pn 17 33 41.8 -0.1**
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 17.72 298 *e*PN **Pn 17 33 41.8 -0.1**
KLMR Klimovskoe 17.82 350 *e*P **P 17 33 43.6 0.0**
KLMR pmax pmax
comp=Z,47nm,1.1s
KLMR Klimovskoe 17.82 350 *e*P **P 17 33 43.6 0.0**
comp=Z,47nm,1.1s
GRUS Gruza 17.93 280 *e*P **P 17 33 45.7 +0.8**
KECS Kecovo 18.07 295 *e*P **Pn 17 33 43.8 -2.4**
KECS pmax pmax
comp=Z,1.0nm,0.7s
KECS Kecovo 18.07 295 *e*P **Pn 17 33 43.8 -2.4**
comp=Z,1.0nm,0.7s
KECS Kecovo 18.07 295 *e* **Pn 17 33 43.8 -2.4**
KK31 Karatay Array 18.21 82 ⇓P **P 17 33 49.5 +1.5**
comp=Z,22nm,0.9s
KK31 Karatay Array 18.21 82 P **P 17 33 49.5 +1.5**
comp=Z,22nm,0.9s
KKAR Karatay Array 18.21 82 *e*P **Pn 17 33 47.6 -0.3**
KKAR pmax pmax
comp=Z,17nm,0.7s
KKAR Karatay Array 18.21 82 *e*P **Pn 17 33 47.6 -0.3**
comp=Z,17nm,0.7s
KKAR Karatay Array 18.21 82 *e*P **Pn 17 33 47.6 -0.3**
comp=Z,17nm,0.7s
PRGR Permogore 18.24 0 P Pn 17 33 40.8 -7.2
PRGR pmax pmax
comp=Z,13nm,0.6s
DIVS Divibare 18.42 281 ⇓*i*P **Pn 17 33 51.7 +1.2**
DIVS Divibare 18.42 281 *e*P **Pn 17 33 51.5 +1.0**
TEKS Tekeris 18.70 282 *e*P **Pn 17 33 54.9 +1.0**
BBLS Lazići 18.87 280 *e*P **P 17 33 55.5 +0.1**
BRVK Borovoye 19.02 51 ⇑P **Pn 17 33 57.6 -0.1**
comp=Z,66nm,0.9s
BRVK Borovoye 19.02 51 *e*P **Pn 17 33 58.0 +0.3**
BRVK pmax pmax
comp=Z,41nm,0.9s
BRVK Borovoye 19.02 51 *e*P **Pn 17 33 58.0 +0.3**
comp=Z,41nm,0.9s
BVA0 Borovoye Array 19.07 51 ⇑P **Pn 17 34 00.5 +2.2**
comp=Z,32nm,0.9s
BVAR Borovoye Array 19.07 51 P **P 17 33 56.8 -0.7**
comp=Z,2.5nm,0.3s,baz=244,slow=13,SNR=15
BVAR S Sn 17 37 23.2 -8.1
comp=Z,1.0nm,0.3s,baz=231,slow=21,SNR=7.3
BVAR Borovoye Array 19.07 51 P **P 17 33 56.8 -0.7**
BVAR S Sn 17 37 23.2 -8.1
BVAR pmax pmax
comp=Z,3.0nm,0.3s
BVAR smax smax
comp=N,1.0nm,0.3s
PKSM Moragy 19.22 288 ⇑P **Pn 17 34 00.4 +0.3**
PKSM Moragy 19.22 288 ⇑*i*P **Pn 17 34 00.4 +0.3**
PKSM Moragy 19.22 288 P **Pn 17 34 00.4 +0.3**
BANOM Banah 19.56 150 ⇓P **Pn 17 34 04.2 -0.1**
RAYN Ar Rayn 19.86 180 *e*P **P 17 34 03.7 -2.5**
comp=N,6.7nm,0.9s
RAYN Ar Rayn 19.86 180 *e*P **P 17 34 03.7 -2.5**
comp=N,6.7nm,0.9s
KBL Kabul 20.29 108 *e*P **Pn** 17 34 13.4 +0.2
KBL pmax pmax
comp=Z,44nm,1.2s
KBL Kabul 20.29 108 *e*P **Pn** 17 34 13.4 +0.2
comp=Z,44nm,1.2s
KBL Kabul 20.29 108 *e*P **Pn** 17 34 13.4 +0.2
comp=Z,44nm,1.2s
FAQ Al Faqa, Dubai 20.40 153 ⇓*e*P **P 17 34 13.2 +1.1**
HATD Hatta, Dubai 20.51 151 ⇓*i*P **P 17 34 14.0 +0.7**
SNR=9.0
EKS2 Erkin-Say 20.65 82 *e*P **P 17 34 14.3 -0.5**
EKS2 Erkin-Say 20.65 82 *e*P **P 17 34 14.3 -0.5**
EKS2 Erkin-Say 20.65 82 *e*P **P 17 34 14.3 -0.5**
VRAC Vranov 20.72 297 P Pn 17 34 17.0 -0.8
comp=Z,1.2nm,0.3s,baz=88,slow=11,SNR=5.5
VRAC LR LR 17 42 37.2
comp=Z,158nm,18.9s,baz=84,slow=38
DPC Dobruska-Polom 21.01 299 *e*P **P 17 34 21.4 +2.8**
DPC *e*pP **pP 17 34 26.2 +2.7**
CONA Conrad Observa 21.12 293 ⇓*i*Pn **P 17 34 20.9 +1.0**
comp=Z,12nm,1.4s
CONA Conrad Observa 21.12 293 P **P 17 34 20.9 +1.0**
comp=Z,12nm,1.4s
AAK Ala-Archa 21.17 82 P **P 17 34 21.0 +0.5**
comp=Z,7.8nm,0.7s,baz=216,slow=9.0,SNR=7.9
AAK LR LR 17 42 48.7
comp=Z,142nm,18.5s,baz=270,slow=37
AAK Ala-Archa 21.17 82 *e*P **P 17 34 20.8 +0.3**
AAK pmax pmax
comp=Z,25nm,0.8s
AAK Ala-Archa 21.17 82 *e*P **P 17 34 20.0 -0.5**
AAK Ala-Archa 21.17 82 *e*P **P 17 34 20.0 -0.5**
TMCR Tamitsa 21.21 351 *e*P **P 17 34 18.7 -1.8**
TMCR pmax pmax
comp=Z,26nm,1.2s
TMCR Tamitsa 21.21 351 *e*P **P 17 34 18.7 -1.8**
comp=Z,26nm,1.2s
FRU Bishkek 21.22 82 *e*P **P 17 34 24.0 +3.1**
FRU Bishkek 21.22 82 *e*P **P 17 34 24.0 +3.1**
UPC Upice 21.23 300 *e*P **P 17 34 24.4 +3.5**
UPC *e*pP **pP 17 34 28.3 +2.4**
FIA1 FINESS Array S 21.42 334 *e*P **P 17 34 24.4 +1.5**
FIA1 FINESS Array S 21.42 334 *e*P **P 17 34 24.4 +1.5**
FINES FINESS Array B 21.42 334 P **P 17 34 22.3 -0.6**
comp=Z,5.1nm,0.8s,baz=125,slow=14,SNR=6.2
FINES LR LR 17 43 15.2
comp=Z,262nm,20.0s,baz=140,slow=38
FINES FINESS Array B 21.42 334 P **P 17 34 22.3 -0.6**
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES MLR MLR
comp=Z,262nm,20.0s
SOKA Soboth 21.70 289 ⇑*i*P **P 17 34 24.9 -1.1**
comp=Z,8.3nm,1.4s
SOKA Soboth 21.70 289 P **P 17 34 24.9 -1.1**
comp=Z,8.3nm,1.4s
TKM2 Tokmak 2 21.91 81 *e*P **P 17 34 27.7 -0.7**
TKM2 Tokmak 2 21.91 81 *e*P **P 17 34 27.7 -0.7**
TKM2 Tokmak 2 21.91 81 *e*P **P 17 34 27.7 -0.7**
GOPC GO Pecny, Ondr 21.95 298 *e*P **P 17 34 28.7 +0.1**
PRU Pruhonice 22.11 298 *e*P **P 17 34 30.6 +0.3**
PVCC Panska Ves 22.15 300 *e*P **P 17 34 29.6 -1.2**
CUC Castrocucco 22.37 271 *e*P **P 17 34 31.0 -2.3**
comp=Z,10nm,1.3s
CUC Castrocucco 22.37 271 *e*P **P 17 34 31.0 -2.3**
comp=Z,10nm,1.3s
BRG Berggiesshubel 22.59 300 *i*P **P 17 34 37.1 +1.7**
comp=Z,7.7nm,1.3s
BRG *e* 17 34 41.7
comp=Z,13nm,1.5s
comp=N,254nm,11.3s
comp=E,247nm,14.3s
comp=Z,309nm,14.0s
BRG Berggiesshubel 22.59 300 *e*P **P 17 34 36.9 +1.5**
comp=Z,51nm,2.5s
BRG Berggiesshubel 22.59 300 *i*P **P 17 34 37.1 +1.7**
BRG *e* 17 34 41.7
BRG pmax pmax
comp=Z,8.0nm,1.3s
BRG MLR MLR
comp=N,254nm,11.3s
BRG MLR MLR
comp=E,247nm,14.3s
BRG MLR MLR
comp=Z,309nm,14.0s
BRG Berggiesshubel 22.59 300 *e*P **P 17 34 36.9 +1.5**
comp=Z,51nm,2.5s
GEC2 GERESS Array S 22.59 295 *e*P **P 17 34 37.8 +2.2**
comp=Z,7.0nm,1.3s
GEC2 GERESS Array S 22.59 295 *e*P **P 17 34 37.8 +2.2**
comp=Z,7.0nm,1.3s
GERES GERESS Array B 22.59 295 P **P 17 34 35.3 -0.3**
comp=Z,1.2nm,0.6s,baz=110,slow=7.3,SNR=6.3
GERES LR LR 17 44 18.4
comp=Z,98nm,18.1s,baz=77,slow=39
KHC Kasperske Hory 22.68 296 *e*P **P 17 34 38.6 +2.1**
KHC *e*pP **pP 17 34 40.9 -0.5**
KHC Kasperske Hory 22.68 296 *e*P **P 17 34 38.6 +2.1**
KHC Kasperske Hory 22.68 296 *e*P **P 17 34 38.6 +2.1**
KHC Kasperske Hory 22.68 296 *e*P **P 17 34 38.6 +2.1**
comp=Z,2.2nm,1.1s
CLL Collm 23.23 301 *e*P **P 17 34 43.0 +0.9**
comp=Z,8.0nm,1.4s
CLL *e*pP **pP 17 34 46.0 -1.1**
CLL *e* 17 34 49.0
CLL Collm 23.23 301 *e*P **P 17 34 43.0 +0.9**
CLL *e* 17 34 46.0
CLL Collm 23.23 301 *e*P **P 17 34 43.0 +0.9**
NKC Novy Kostel 23.47 298 *e*P **P 17 34 43.4 -1.2**
NKC *e*pP **pP 17 34 45.5 -4.2**
TANN Tannenbergstha 23.48 299 *e*P **P 17 34 48.7 +4.0**
comp=Z,9.0nm,1.5s
KURK Kurchatov 23.56 60 *e*P **P 17 34 46.1 +0.7**
KURK Kurchatov 23.56 60 *e*P **P 17 34 46.1 +0.7**
KURK Kurchatov 23.56 60 *e*P **P 17 34 46.1 +0.7**
MOX Moxa 24.03 299 *e*P **P 17 34 49.6 -0.3**
comp=Z,67nm,2.8s
MOX *e*L L 17 44 45.3
comp=Z,128nm,18.7s
MOX Moxa 24.03 299 *e*P **P 17 34 49.6 -0.3**
comp=Z,67nm,2.8s
FETA Feichten 24.63 291 ⇑*i*P **P 17 34 54.0 -1.6**
comp=Z,16nm,1.2s
FETA Feichten 24.63 291 P **P 17 34 54.0 -1.6**
comp=Z,16nm,1.2s
DAVOX Davos/Dischmat 25.23 290 P **P 17 35 00.5 -0.5**
comp=Z,3.2nm,0.6s,baz=114,slow=12,SNR=4.9
DAVOX LR LR 17 47 29.8
comp=Z,118nm,21.1s,baz=94,slow=43
DAVOX Davos/Dischmat 25.23 290 P **P 17 35 00.5 -0.5**
DAVOX pmax pmax
comp=Z,3.0nm,0.6s
DAVOX MLR MLR
comp=Z,118nm,21.1s
HFS Hagfors 25.45 322 P **P 17 35 02.5 -0.2**
comp=Z,4.8nm,0.8s,baz=116,slow=10,SNR=8.7
HFS Hagfors 25.45 322 P **P 17 35 02.5 -0.2**
HFS pmax pmax
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 26.03 70 *e*P **P 17 35 07.3 -0.8**
MK31 Makanchi Array 26.03 70 *e*P **P 17 35 07.3 -0.8**
MK31 Makanchi Array 26.03 70 *e*P **P 17 35 07.3 -0.8**
MKAR Makanchi Array 26.03 70 P **P 17 35 08.1 -0.1**
comp=Z,2.6nm,0.6s,baz=269,slow=8.3,SNR=6.7
MKAR LR LR 17 46 46.6
comp=Z,174nm,18.6s,baz=276,slow=40
MKAR Makanchi Array 26.03 70 *i*P **P 17 35 10.6 +2.5**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
NVS Novosibirsk 26.87 52 *e*P **P 17 35 15.8 +0.2**
NVS pmax pmax
comp=N,5.0nm,1.1s
NVS pmax pmax
comp=Z,11nm,1.1s
NVS pmax pmax
comp=E,4.0nm,1.0s
NVS Novosibirsk 26.87 52 *e*P **P 17 35 15.8 +0.2**
NOA NORSAR Array B 26.95 323 P **P 17 35 15.3 -1.0**
comp=E,0.5nm,0.6s,baz=118,slow=8.4,SNR=2.9
NOA LR LR 17 46 26.1
comp=E,55nm,20.8s,baz=130,slow=38
NOA NORSAR Array B 26.95 323 P **P 17 35 15.3 -1.0**
comp=E,55nm,20.8s
ZALV Zalesovo Beam 27.66 54 P **P 17 35 22.3 -0.4**
comp=E,1.0nm,0.5s,baz=264,slow=9.8,SNR=3.5
ZALV LR LR 17 48 39.7
comp=E,76nm,18.2s,baz=250,slow=41
ZALV Zalesovo Beam 27.66 54 P **P 17 35 22.3 -0.4**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV MLR MLR
comp=Z,76nm,18.2s
ARCES ARCESS Array B 28.11 345 P **P 17 35 27.6 +1.0**
comp=Z,7.5nm,1.1s,baz=151,slow=10.0,SNR=5.4
ARCES LR LR 17 46 07.4
comp=Z,94nm,21.4s,baz=147,slow=35
ARCES ARCESS Array B 28.11 345 P **P 17 35 27.6 +1.0**
ARCES pmax pmax
comp=Z,8.0nm,1.1s
ARCES MLR MLR
comp=Z,94nm,21.4s
KOLN Koldanda 34.36 104 *e*P **P 17 36 21.3 -1.0**
comp=Z,8.1nm,0.5s
GKN Gorkha 34.96 103 *e*P **P 17 36 27.1 -0.2**
comp=Z,22nm,0.8s
DMN Daman 35.52 103 *e*P **P 17 36 32.4 +0.1**
KKN Kakani 35.54 103 *e*P **P 17 36 31.8 -0.6**
comp=Z,27nm,1.1s
PKIN Phulchoki 35.75 103 *e*P **P 17 36 34.0 -0.3**
comp=Z,15nm,0.7s
PKI Pulchoki 35.76 103 *e*P **P 17 36 34.0 -0.5**
comp=Z,16nm,0.8s
GUN Gumba 35.90 102 *e*P **P 17 36 35.1 -0.5**
comp=Z,31nm,0.9s
JIRN Jiri 36.27 102 *e*P **P 17 36 38.8 0.0**
comp=Z,17nm,0.5s
SPITS Spitsbergen Ar 36.72 350 P **P 17 36 43.8 +2.0**
comp=Z,8.5nm,0.9s,baz=131,slow=10,SNR=11
SPITS Spitsbergen Ar 36.72 350 P **P 17 36 43.8 +2.0**
SPITS pmax pmax
comp=Z,9.0nm,0.9s
RAMN Ramite 36.98 103 *e*P **P 17 36 44.4 -0.4**
TAPN Taplejung 37.53 101 *e*P **P 17 36 49.2 -0.3**
ODAN Odare 37.60 102 *e*P **P 17 36 50.1 +0.1**
comp=Z,38nm,0.9s
LSA Lhasa 38.67 95 *e*P **P 17 36 59.0 -0.3**
LSA pmax pmax
comp=Z,6.0nm,0.9s
LSA Lhasa 38.67 95 *e*P **P 17 36 59.0 -0.3**
comp=Z,6.0nm,0.9s
LSA Lhasa 38.67 95 *e*P **P 17 36 59.0 -0.3**
comp=Z,6.0nm,0.9s
TAM Tamanrasset 38.83 251 *e*P **P 17 37 00.8 +0.5**
TAM pmax pmax
comp=Z,4.0nm,1.0s
TAM Tamanrasset 38.83 251 *e*P **P 17 37 00.8 +0.5**
comp=Z,4.0nm,1.0s
TAM Tamanrasset 38.83 251 *e*P **P 17 37 00.8 +0.5**
comp=Z,4.2nm,1.0s
ZAK Zakamensk 39.20 59 *e*P **P 17 37 02.5 -0.6**
ZAK pmax pmax
comp=Z,2.0nm,1.6s
ZAK Zakamensk 39.20 59 *e*P **P 17 37 02.5 -0.6**
comp=Z,2.0nm,1.6s
GTA Gaotai 40.33 76 *e*P **P 17 37 12.7 +0.1**
GTA pP **pP 17 37 17.1 -0.9**
GTA sP **sP 17 37 19.8 -0.3**
GTA PMZ
comp=Z,3.0nm,1.0s
SONM Songino Array 41.84 62 P **P 17 37 24.9 -0.1**
comp=Z,0.9nm,0.6s,baz=278,slow=9.4,SNR=4.9
SONM LR LR 17 56 37.3
comp=Z,244nm,20.0s,baz=280,slow=39
SONM Songino Array 41.84 62 P **P 17 37 24.9 -0.1**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM MLR MLR
comp=Z,244nm,20.0s
BOD Bodaibo 43.82 46 *e*P **P 17 37 40.6 -0.1**
BOD pmax pmax
comp=Z,24nm,0.7s
BOD Bodaibo 43.82 46 *e*P **P 17 37 40.6 -0.1**
comp=Z,24nm,0.7s
TIXI Tiksi 47.44 25 *e*P **P 17 38 08.6 -0.5**
TIXI pmax pmax
comp=Z,3.0nm,1.2s
TIXI Tiksi 47.44 25 *e*P **P 17 38 10.3 +1.2**
comp=Z,12nm,1.1s
TIXI Tiksi 47.44 25 *e*P **P 17 38 10.3 +1.2**
comp=Z,12nm,1.1s
TORD Torodi Ar. Bea 48.16 245 P **P 17 38 14.2 -1.2**
comp=Z,7.7nm,0.8s,baz=42,slow=7.4,SNR=33
XAN Xi'an 49.28 78 P **P 17 38 23.4 -0.5**
XAN pP pP 17 38 34.7 +5.3
XAN PMZ
comp=Z,2.0nm,1.0s
YAK Yakutsk 50.29 38 *e*P **P 17 38 33.9 +2.8**
YAK pmax pmax
comp=Z,12nm,0.8s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK Yakutsk 50.29 38 *e*P **P 17 38 30.8 -0.3**
comp=E,17nm,0.7s
YAK Yakutsk 50.29 38 *e*P **P 17 38 30.8 -0.3**
comp=E,17nm,0.7s
CMAR Chiang Mai Arr 51.14 102 P **P 17 38 37.0 -1.0**
comp=E,1.8nm,0.8s,baz=306,slow=8.4,SNR=9.0
CMAR Chiang Mai Arr 51.14 102 P **P 17 38 37.1 -1.0**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
DBIC Dimbokro 57.27 245 P **P 17 39 21.4 -1.4**
comp=Z,5.7nm,0.5s,baz=19,slow=7.7,SNR=8.7
DBIC Dimbokro 57.27 245 P **P 17 39 21.4 -1.4**
DBIC pmax pmax
comp=Z,6.0nm,0.5s
SEY Seymchan 59.18 31 *e*P **P 17 39 35.8 +0.3**
SEY Seymchan 59.18 31 *e*P **P 17 39 35.8 +0.3**
BILL Bilibino 60.36 22 *e*P **P 17 39 44.1 +0.5**
BILL pmax pmax
comp=Z,4.0nm,0.9s
BILL Bilibino 60.36 22 *e*P **P 17 39 44.1 +0.5**
comp=Z,4.0nm,0.9s
KSAR Wonju Array Be 60.56 65 P **P 17 39 45.0 -0.4**
KSAR Wonju Array Be 60.56 65 P **P 17 39 45.0 -0.4**
KSAR Wonju Array Be 60.56 65 P **P 17 39 45.0 -0.4**
KSRS Korea Array 60.58 65 P **P 17 39 45.0 -0.5**
comp=Z,3.7nm,0.8s,baz=293,slow=7.1,SNR=13
KSRS LR LR 18 08 49.9
comp=Z,95nm,18.7s,baz=286,slow=39
KSRS Korea Array 60.58 65 P **P 17 39 45.0 -0.5**
KSRS pmax pmax
comp=Z,4.0nm,0.9s
KSRS MLR MLR
comp=Z,95nm,18.7s
KSRS Korea Array 60.58 65 P **P 17 39 45.0 -0.5**
comp=Z,95nm,18.7s
PETK Petropavlovsk- 67.63 37 LR LR 18 15 39.1
comp=Z,46nm,18.3s,baz=291,slow=41
MJAR Matsushiro Arr 67.77 60 P **P 17 40 33.7 +0.9**
comp=Z,1.4nm,0.9s,baz=300,slow=9.4,SNR=4.1
MJAR LR LR 18 13 27.9
comp=Z,50nm,18.5s,baz=210,slow=38
MJAR Matsushiro Arr 67.77 60 P **P 17 40 33.7 +0.9**
MJAR pmax pmax
comp=Z,1.0nm,0.9s
MJAR MLR MLR
comp=Z,50nm,18.5s
COLD Coldfoot 69.02 6 *e*P **P 17 40 40.7 +0.6**
comp=Z,4.1nm,0.9s
COLD Coldfoot 69.02 6 *e*P **P 17 40 40.7 +0.6**
comp=Z,4.1nm,0.9s
IM04 Indian Mountai 69.91 8 *e*P **P 17 40 44.0 -1.7**
IM04 Indian Mountai 69.91 8 *e*P **P 17 40 44.0 -1.7**
ILAR Eielson Array 71.70 6 P **P 17 40 56.9 +0.4**
comp=Z,0.5nm,0.6s,baz=336,slow=3.0,SNR=5.4
ILAR LR LR 18 16 46.5
comp=Z,33nm,18.5s,baz=7.0,slow=39
EGAK Eagle 72.01 3 *e*P **P 17 40 58.4 +0.1**
comp=Z,4.8nm,0.9s
EGAK Eagle 72.01 3 *e*P **P 17 40 58.4 +0.1**
comp=Z,4.8nm,0.9s
DAWY Dawson 72.78 2 *e*P **P 17 41 03.1 +0.1**
comp=Z,6.8nm,1.0s
DAWY Dawson 72.78 2 *e*P **P 17 41 03.1 +0.1**
comp=Z,6.8nm,1.0s
YKA Yellowknife Ar 73.22 351 P **P 17 41 05.4 -0.1**
comp=Z,2.0nm,0.6s,baz=12,slow=5.9,SNR=12
YKA Yellowknife Ar 73.22 351 P **P 17 41 05.4 -0.1**
YKA pmax pmax
comp=Z,2.0nm,0.6s
BOSA Boshof 74.06 198 P **P 17 41 09.2 -1.7**
comp=Z,2.5nm,0.8s,baz=350,slow=6.1,SNR=3.6
BOSA Boshof 74.06 198 P **P 17 41 09.2 -1.7**
BOSA pmax pmax
comp=Z,3.0nm,0.8s

IDC 09 17:30:44.0±1.2, 28.68N×142.79E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/32, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=64.1km s-min=18.9km az=104.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.67**	**199**	Pn	Pn	17 31 14.8	+0.2
	3.3nm,0.3s,baz=18,slow=20,SNR=2.6						
JCJ				Sn	Sn	17 31 36.1	-0.6
	15nm,0.3s,baz=268,slow=23,SNR=4.5						
MJAR	**Matsushiro Arr**	**8.73**	**335**	Pn	Pn	17 32 50.7	-1.0
	0.4nm,0.3s,baz=152,slow=11,SNR=5.6						
MJAR				Sn	Sn	17 34 25.5	-5.4
	0.0nm,0.3s,baz=130,slow=31,SNR=2.9						
WRA	**Warramunga Arr**	**49.02**	**191**	P	P	17 39 32.9	0.0
	1.0nm,0.7s,baz=14,slow=8.7,SNR=10						
ASAR	**Alice Springs**	**52.74**	**190**	P	P	17 40 00.8	0.0
	0.5nm,1.1s,baz=11,slow=8.4,SNR=3.3						
ILAR	**Eielson Array**	**56.07**	**29**	P	P	17 40 24.4	-0.1
	0.2nm,0.5s,baz=259,slow=6.3,SNR=3.6						

CSEM 09 17:31:54.4, 36.13N×21.14E, h13km, MD3.3
ATH 09 17:31:54.3, 36.13N×21.13E, h13km±2km, MD3.3/10, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.91**	**33**	*e*PG	Pg	17 32 11.1	-0.8
PYL				*e*Sb	Sb	17 32 24.4	+0.4
PYL	**PYLOS**	**0.91**	**33**	*e*Pg	Pg	17 32 11.1	-0.8
PYL				*e*Sb	Sb	17 32 24.4	+0.4
ITM	**Ithomi**	**1.23**	**31**	*e*PG	Pn	17 32 17.1	-0.1
ITM				*e*SB	Sg	17 32 35.1	+1.1
ITM	**Ithomi**	**1.23**	**31**	*e*Pg	Pn	17 32 17.1	-0.1
ITM				*e*Sb	Sg	17 32 35.1	+1.1
KYTH	**Kithira**	**1.55**	**84**	*e*PB	Pg	17 32 23.9	-0.2
KYTH	**Kithira**	**1.55**	**84**	*e*Pb	Pg	17 32 23.9	-0.2
VLI	**Veliai**	**1.57**	**68**	*e*PB	Pg	17 32 24.1	-0.4
VLI				*e*SB	Sg	17 32 45.4	+0.5
VLI	**Veliai**	**1.57**	**68**	*e*Pb	Pg	17 32 24.1	-0.4
VLI				*e*Sb	Sg	17 32 45.4	+0.5
VLX	**Vlachokerasia**	**1.59**	**39**	*e*PG	Pb	17 32 23.6	-0.2
VLX				*e*SB	Sg	17 32 45.8	-0.1
VLX	**Vlachokerasia**	**1.59**	**39**	*e*Pg	Pb	17 32 23.6	-0.2
VLX				*e*Sb	Sg	17 32 45.8	-0.1
ANKY	**Antikythira Is**	**1.78**	**98**	*e*PN	Pb	17 32 26.7	-0.1
ANKY	**Antikythira Is**	**1.78**	**98**	*e*Pn	Pb	17 32 26.7	-0.1
DRO	**Drossia**	**1.88**	**14**	*e*PG	Pg	17 32 29.5	-0.9
DRO	**Drossia**	**1.88**	**14**	*e*Pg	Pg	17 32 29.5	-0.9
GUR	**Goura**	**2.05**	**28**	*e*PN	Pb	17 32 30.1	-1.4
GUR	**Goura**	**2.05**	**28**	*e*Pn	Pb	17 32 30.1	-1.4
DID	**Didima**	**2.18**	**50**	*e*PB	Pn	17 32 31.4	+1.1
DID	**Didima**	**2.18**	**50**	*e*Pb	Pn	17 32 31.4	+1.1
LTK	**Loutraki**	**2.39**	**37**	*e*PN	Pb	17 32 35.5	-1.8
LTK	**Loutraki**	**2.39**	**37**	*e*Pn	Pb	17 32 35.5	-1.8
KALE	**Kalithea**	**2.40**	**19**	*e*PN	Pb	17 32 36.1	-1.3
KALE				*e*SN	Sb	17 33 06.2	-0.8
KALE	**Kalithea**	**2.40**	**19**	*e*Pn	Pb	17 32 36.1	-1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KALE				eSn	Sb	17 33 06.2	-0.8

*CSEM **09** 17:35:01.1±0.2, 60°.53N×12°.27E, h1km, ML1.1, Error ellipse: s-maj=10.0km s-min=4.9km az=41.0, Mining explosion.*

UPP 09 17:35:06.3, 60°.28N×13°.03E, h0km, ML1.1, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NASU	Vaermlandsnaes	1.36	177	P	Pg	17 35 31.4	-0.9
FALU	Falun	1.41	80	P	Pn	17 35 32.3	-0.8
ASKU	Askersund	1.66	146	P	Pn	17 35 37.2	+0.5
ESKU	Eskilstuna	2.00	120	P	Pb	17 35 42.5	-1.0
OSTU	Oestervaala	2.04	90	P	Pn	17 35 42.4	+0.5

*IDC **09** 17:58:35.8±0.7, 43°.37N×45°.29E, h0km, mb3.7/6, mb1 3.6/10, mb1mx3.4/34, mbtmp3.6/10, ML0.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.4/39, Error ellipse: s-maj=10.6km s-min=9.3km az=98.0*
*ISCJB **09** 17:58:38.6±0.4, 43°.59N±0°.02×45°.54E±0°.02, h23km±3km, mb3.7/7, MS3.0/2, Error ellipse: s-maj=3.8km s-min=2.5km az=16.0*
*TIF **09** 17:58:38.8, 43°.38N×45°.51E, h24km±2km*
*MOS **09** 17:58:38.1±0.9, 43°.55N×45°.50E, h18km, mb4.4/4, Error ellipse: s-maj=5.8km s-min=5.4km az=95.8*
*CSEM **09** 17:58:39.3±0.1, 43°.53N×45°.48E, h20km, mb4.2/4, Error ellipse: s-maj=4.2km s-min=2.9km az=12.0*
*AZER **09** 17:58:39.7±1.1, 43°.68N×45°.71E, h25km, Error ellipse: s-maj=8.9km s-min=6.5km az=130.0*
*NNC **09** 17:58:55.1±3.8, 43°.88N×46°.99E, h28km±79km, mb3.8, Error ellipse: s-maj=59.0km s-min=19.6km az=72.0*

ISC 09 17:58:38.6±1.0**, 43°.55N**±0°.03×**45°.50E**±0°.02**, h17**km±7km**, n117, σ1s21**/179**, mb3.7**/7**, 21C-16D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRO	Groznyy	0.29	141	⇑iPG	Pb	17 58 45.2	-0.1
GRO				eS	Sb	17 58 50.8	+0.9
GRO	Groznyy	0.29	141	i Pg	Pb	17 58 45.2	-0.1
GRO				eSg	Sb	17 58 50.8	+0.9
TRKR	Terskaya	0.59	288	⇑iPG	Pn	17 58 52.5	+0.3
TRKR				i S	Sn	17 59 02.5	+1.2
TRKR	Terskaya	0.59	288	i Pg	Pn	17 58 52.5	+0.3
SNJR	Sundja	0.69	227	ePG	Pg	17 58 51.4	-0.9
SNJR				eS	Sg	17 59 01.8	+0.3
SNJR	Sundja	0.69	227	ePg	Pg	17 58 51.4	-0.9
SNJR				eSg	Sg	17 59 01.8	+0.3
BTKR	Batakoyurt	0.72	256	⇓iPG	Pb	17 58 53.0	+0.3
BTKR				i S	Sn	17 59 04.5	-0.2
BTKR	Batakoyurt	0.72	256	i Pg	Pb	17 58 53.0	+0.3
BTKR				i Sg	Sn	17 59 04.5	-0.2
VLKR	Vladikavkaz	0.78	231	i PG	Pg	17 58 52.8	-1.1
VLKR				pmax	pmax		
	comp=Z,124nm,0.2s						
VLKR	Vladikavkaz	0.78	231	i Pg	Pg	17 58 52.8	-1.1
	comp=Z,124nm,0.2s						
PRTR	Priterechnaya	0.91	283	⇓iPG	Pn	17 58 57.7	+1.1
PRTR				eS	Sn	17 59 11.9	+2.6
PRTR	Priterechnaya	0.91	283	i Pg	Pn	17 58 57.7	+1.1
DLMR	Dylym	0.95	120	ePG	Pb	17 58 56.0	-0.6
DLMR				eS	Sb	17 59 07.5	-1.4
DLMR	Dylym	0.95	120	ePg	Pb	17 58 56.0	-0.6
DLMR				eSg	Sb	17 59 07.5	-1.4
ARNR	Ardon	0.96	248	ePG	Pb	17 58 56.9	+0.1
ARNR				eS	Sn	17 59 11.3	+0.7
ARNR	Ardon	0.96	248	ePg	Pb	17 58 56.9	+0.1
ARNR				eSg	Sn	17 59 11.3	+0.7
BTLR	Botlikh	1.03	149	ePG	Pb	17 58 56.5	-1.5
BTLR				eS	Sb	17 59 08.7	-2.5
BTLR	Botlikh	1.03	149	ePg	Pb	17 58 56.5	-1.5
STDR	Stavd-Durt	1.06	261	⇑iPG	Pg	17 58 59.2	0.0
STDR				eS	Sn	17 59 15.1	+2.0
STDR	Stavd-Durt	1.06	261	i Pg	Pg	17 58 59.2	0.0
LACR	Lac	1.14	231	i PG	Pn	17 58 58.2	-1.7
LACR				pmax	pmax		
	comp=Z,202nm,0.1s						
LACR	Lac	1.14	231	i Pg	Pn	17 58 58.2	-1.7
	comp=Z,202nm,0.1s						
KORR	Kora	1.14	247	⇓iPG	Pn	17 58 59.7	-0.2
KORR				eS	Sg	17 59 16.6	+0.9
KORR	Kora	1.14	247	i Pg	Pn	17 58 59.7	-0.2
KORR				eSg	Sg	17 59 16.6	+0.9
LSNR	Lesken	1.25	258	ePG	Pn	17 59 01.3	-0.1
LSNR				eS	Sg	17 59 19.6	+0.5
KRNR	Karanay	1.25	125	ePG	Pn	17 59 00.0	-1.5
KRNR				eS	Sn	17 59 18.5	+0.5
KRNR	Karanay	1.25	125	ePg	Pn	17 59 00.0	-1.5
KRNR				eSg	Sn	17 59 18.5	+0.5
UNCR	Uncukul	1.26	131	ePG	Pn	17 59 00.0	-1.5
UNCR				eS	Sb	17 59 18.0	+0.1
UNCR				pmax	pmax		
	comp=Z,386nm,0.3s						
UNCR	Uncukul	1.26	131	ePg	Pn	17 59 00.0	-1.5
	comp=Z,386nm,0.3s						
UNCR				eSg	Sb	17 59 18.0	+0.1
XNZR	Khunzakh	1.34	138	⇓iPG	Pn	17 59 02.0	-0.7
XNZR				eS	Sn	17 59 19.0	-1.1
XNZR				pmax	pmax		
	comp=Z,559nm,0.3s						
XNZR	Khunzakh	1.34	138	i Pg	Pn	17 59 02.0	-0.7
	comp=Z,559nm,0.3s						
XNZR				eSg	Sn	17 59 19.0	-1.1
BUJR	Buynaksk	1.38	121	⇑iPG	Pg	17 59 04.8	-0.4
BUJR				eS	Sg	17 59 25.0	+1.9
BUJR				pmax	pmax		
	comp=Z,338nm,0.3s						
BUJR	Buynaksk	1.38	121	i Pg	Pg	17 59 04.8	-0.4
	comp=Z,338nm,0.3s						
NCK	Nalchik	1.39	269	ePG	Pn	17 59 03.0	-0.2
NCK	Nalchik	1.39	269	ePg	Pn	17 59 03.0	-0.2
ZEI	Tsey	1.40	238	⇑iPG	Pn	17 59 02.2	-1.3
ZEI				eS	Sn	17 59 20.9	-0.7
ARKR	Arakani	1.44	130	⇑iPG	Pn	17 59 04.0	0.0
ARKR				eS	Sn	17 59 22.5	-0.1
ARKR				pmax	pmax		
	comp=Z,174nm,0.3s						
ARKR	Arakani	1.44	130	i Pg	Pn	17 59 04.0	0.0
	comp=Z,174nm,0.3s						
ARKR				eSg	Sn	17 59 22.5	-0.1
DIGR	Digorskoe uzhe	1.55	246	ePG	Pn	17 59 04.7	-0.9
DIGR				i S	Sn	17 59 25.4	0.0
DIGR	Digorskoe uzhe	1.55	246	ePg	Pn	17 59 04.7	-0.9
DIGR				i Sg	Sn	17 59 25.4	0.0
DUS	Dusheti	1.57	202	P	Pn	17 59 05.7	-0.1
DUS				S	Sn	17 59 26.7	+0.9
DUS	Dusheti	1.57	202	PG	Pn	17 59 05.6	-0.1
DUS				S	Sn	17 59 26.6	+0.9
DUS	Dusheti	1.57	202	P	Pn	17 59 05.7	-0.1
DUS				Sg	Sn	17 59 26.6	+0.9
MAK	Makhachkala	1.58	111	ePG	Pb	17 59 07.8	+0.5
MAK				e		17 59 30.5	
MAK				pmax	pmax		
	comp=Z,480nm,0.4s						
MAK				smax	smax		
	comp=E,3µm,0.6s						
MAK				smax	smax		
	comp=N,3µm,0.6s						
MAK	Makhachkala	1.58	111	ePg	Pb	17 59 07.8	+0.5
	comp=N,480nm,0.4s						
GNBR	Gunib	1.58	137	i PG	Pn	17 59 06.3	+0.4
GNBR				i S	Sn	17 59 26.4	+0.5
GNBR	Gunib	1.58	137	i Pg	Pn	17 59 06.3	+0.4
GNBR				i Sg	Sn	17 59 26.4	+0.5
ONI	Oni	1.78	238	P	Pn	17 59 09.0	+0.3
ONI				S	Sb	17 59 32.4	-0.5
ONI	Oni	1.78	238	PN	Pn	17 59 09.0	+0.3
ONI	Oni	1.78	238	P	Pn	17 59 09.0	+0.3
ONI				S	Sb	17 59 32.4	-0.5
SEAG	Tbilisi Sea	1.85	196	P	Pn	17 59 09.2	-0.4
SEAG				S	Sn	17 59 33.7	+1.0
SEAG	Tbilisi Sea	1.85	196	P	Pn	17 59 09.2	-0.4
SEAG				S	Sn	17 59 33.7	+1.0
KBZ	Khabaz	1.90	276	Pn	Pn	17 59 10.1	-0.2
	comp=N,2.6nm,0.3s,baz=132,slow=5.6,SNR=28						
KBZ				Sn	Sn	17 59 33.8	0.0
	comp=N,7.2nm,0.3s,baz=104,slow=19,SNR=7.4						
TBLG	Delisi	1.90	198	P	Pn	17 59 09.9	-0.4
TBLG				S	Sn	17 59 34.2	+0.4
TBLG	Delisi	1.90	198	PN	Pn	17 59 09.9	-0.4
TBLG	Delisi	1.90	198	P	Pn	17 59 09.9	-0.4
TBLG				S	Sn	17 59 34.2	+0.4
ZKTA	Zakatala	2.08	156	⇑P	Pn	17 59 14.0	+1.3
	SNR=8.6						
ZKTA				⇓S	Sb	17 59 40.4	-1.1
URKR	Urkarakh	2.09	131	i PN	Pb	17 59 15.0	-1.1
URKR				i S	Sb	17 59 41.0	-0.8
URKR				pmax	pmax		
	comp=Z,200nm,0.2s						
URKR	Urkarakh	2.09	131	i Pn	Pb	17 59 15.0	-1.1
	comp=Z,200nm,0.2s						
URKR				i Sb	Sb	17 59 41.0	-0.8
DGRG	David-gareji	2.10	183	P	Pn	17 59 13.7	+0.6
DGRG				S	Sb	17 59 41.4	-0.6
DGRG	David-gareji	2.10	183	PN	Pn	17 59 13.6	+0.6
DGRG				S	Sb	17 59 41.4	-0.6
DGRG	David-gareji	2.10	183	Pn	Pn	17 59 13.6	+0.6
DGRG				S	Sb	17 59 41.4	-0.6
KZR	Kazreti	2.31	201	P	Sb	17 59 46.1	-2.0
GOF	Gofitskoye	2.32	311	ePN	Pn	17 59 13.9	-2.2
GOF				eS	Sg	17 59 51.5	-1.8
GOF				smax	smax		
	comp=E,156nm,0.9s						
GOF				smax	smax		
	comp=N,176nm,1.2s						
GOF	Gofitskoye	2.32	311	ePn	Pn	17 59 13.9	-2.2
QZX	Qazax, Azerbai	2.49	182	⇓P	Pn	17 59 19.8	+1.4
	SNR=25						
QZX				⇓S	Sb	17 59 53.0	-0.3
QZX	Qazax, Azerbai	2.49	182	P	Pn	17 59 19.8	+1.4
	SNR=25						
QZX				S	Sb	17 59 53.0	-0.3
SEKA	Sheki	2.65	151	⇓P	Pn	17 59 21.4	+0.7
	SNR=12						
SEKA				⇑S	Sn	17 59 53.8	+1.3
SEKA	Sheki	2.65	151	P	Pn	17 59 21.4	+0.7
	SNR=12						
SEKA				S	Sn	17 59 53.8	+1.3
MNGR	Mingechevir, A	3.01	156	⇓S	Sb	18 00 05.3	-2.9
MNGR	Mingechevir, A	3.01	156	S	Sb	18 00 05.3	-2.9
QUBA	Quba, Azerbaij	3.11	134	⇑P	Pn	17 59 28.2	+1.2
	SNR=6.0						
QUBA				⇑S	Sn	18 00 05.4	+1.6
QUBA	Quba, Azerbaij	3.11	134	P	Pn	17 59 28.2	+1.2
	SNR=6.0						
QUBA				S	Sn	18 00 05.4	+1.6
IML	Ismayilli	3.40	143	⇓P	Pn	17 59 32.0	+1.1
	SNR=5.9						
IML				⇓S	Sn	18 00 13.2	+2.4
IML	Ismayilli	3.40	143	P	Pn	17 59 32.0	+1.1
	SNR=5.9						
IML				S	Sn	18 00 13.2	+2.4
KARS	Kars	3.43	213	PN	Pb	17 59 41.4	+2.4
GNI	Garni	3.44	190	Pn	Pn	17 59 31.1	-0.5
	comp=N,1.0nm,0.3s,baz=16,slow=6.6,SNR=4.8						
GNI				Pg	Pb	17 59 36.7	-2.5
	comp=N,4.6nm,0.3s,baz=337,slow=7.5,SNR=11						
GNI				Lg	Lg	18 00 19.6	
	comp=N,3.4nm,0.3s,baz=232,slow=19,SNR=5.8						
GNI				LR	LR	18 00 34.8	
	comp=N,11nm,20.8s,baz=279,slow=37						
PQL	Pirkuli	3.59	139	⇓P	Pn	17 59 33.7	+0.1
	SNR=4.9						
PQL	Pirkuli	3.59	139	P	Pn	17 59 33.7	+0.1
	SNR=4.9						
ATGJ	Altiaghaj	3.70	135	⇑P	Pn	17 59 35.6	+0.5
	SNR=4.3						
ATGJ				⇑S	Sn	18 00 21.1	+2.7
ATGJ	Altiaghaj	3.70	135	P	Pn	17 59 35.6	+0.5
	SNR=4.3						
ATGJ				S	Sn	18 00 21.1	+2.7
GLBA	Clilabad	4.82	152	⇑P	Pn	17 59 50.2	-0.2
	SNR=7.7						
GLBA				⇓S	Sn	18 00 47.1	+1.4
GLBA	Clilabad	4.82	152	P	Pn	17 59 50.2	-0.2
	SNR=7.7						
GLBA				S	Sn	18 00 47.1	+1.4
LRK	Lerik	5.35	155	⇓P	Pn	17 59 57.9	+0.1
LRK				⇓S	Sn	18 00 59.2	+0.2
LRK	Lerik	5.35	155	P	Pn	17 59 57.9	+0.1
LRK				S	Sn	18 00 59.2	+0.2
AKTK	Aktyubinsk	10.97	47	P	Pn	18 01 15.4	+0.7
	comp=N,1.0nm,0.3s						
AKTO	Aktyubinsk	10.97	47	⇓Pn	Pn	18 01 15.3	+0.7
	comp=N,1.5nm,0.5s						
AKTO				⇑Sn	Sn	18 03 07.8	-9.1
	comp=N,6.6nm,0.7s						
AKTO	Aktyubinsk	10.97	47	Pn	Pn	18 01 15.4	+0.7
	comp=N,1.0nm,0.3s,baz=230,slow=9.4,SNR=15						
AKTO				Sn	Sn	18 03 11.2	-5.7
	comp=N,0.8nm,0.3s,baz=18,slow=21,SNR=8.0						
AKTO	Aktyubinsk	10.97	47	P	Pn	18 01 15.4	+0.7
AKTO						18 03 11.2	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax	smax		
	comp=N,1.0nm,0.3s						
AKTO	Aktyubinsk	10.97	47	Pn	Pn	18 01 15.3	+0.7
	comp=N,1.5nm,0.5s						
AB31	Akbulak array	11.48	55	Pn	Pn	18 01 22.9	+1.2
	comp=N,1.5nm,0.5s,baz=242,slow=9.4,SNR=28						
AB31				⇑Sn	Sn	18 03 20.1	-9.3
	comp=N,3.2nm,0.5s,baz=226,slow=14,SNR=11						
AB31	Akbulak array	11.48	55	Pn	Pn	18 01 22.9	+1.2
	comp=N,1.5nm,0.5s,SNR=28						
AKASG	Malin Array Be	13.18	309	Pn	Pn	18 01 40.3	-4.5
	comp=N,0.2nm,0.3s,baz=103,slow=11,SNR=2.9						
KK31	Karatay Array	18.19	83	⇑P	P	18 02 52.3	+1.9
	comp=N,0.7nm,0.6s,baz=298,slow=11,SNR=9.4						
KK31				⇑S	Sn	18 06 00.7	-12
	comp=N,0.5nm,0.4s,baz=295,slow=26,SNR=5.9						
KK31	Karatay Array	18.19	83	P	P	18 02 52.3	+1.9
	comp=N,0.7nm,0.6s,SNR=9.4						
BRVK	Borovoye	18.95	51	⇑P	Pn	18 03 01.6	+2.3
	comp=N,6.6nm,0.9s						
BRVK				⇑S	Sn	18 06 21.4	-10
	comp=N,2.5nm,0.7s						
BRVK	Borovoye	18.95	51	eP	Pn	18 03 00.6	+1.3
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRVK	Borovoye	18.95	51	eP	Pn	18 03 00.6	+1.3
	comp=Z,5.0nm,1.0s						
BVA0	Borovoye Array	19.00	51	⇑P	Pn	18 03 02.9	+2.9
	comp=Z,3.4nm,0.8s,baz=232,slow=13,SNR=20						
BVA0				⇑S	Sn	18 06 21.9	-10
	comp=Z,1.7nm,0.7s,baz=255,slow=25,SNR=4.4						
BVAR	Borovoye Array	19.00	51	P	Pn	18 03 00.7	+0.8
	comp=Z,0.6nm,0.3s,baz=238,slow=9.7,SNR=13						
BVAR				S	Sn	18 06 22.2	-10
	comp=Z,0.2nm,0.3s,baz=248,slow=23,SNR=3.6						
BVAR	Borovoye Array	19.00	51	P	Pn	18 03 00.7	+0.8
BVAR				S	Sn	18 06 22.2	-10
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AAK	Ala-Archa	21.15	82	LR	LR	18 14 19.9	
	comp=Z,57nm,18.6s,baz=198,slow=44						
FINES	FINESS Array B	21.32	334	P	P	18 03 24.8	+0.5
	comp=Z,1.0nm,0.8s,baz=142,slow=12,SNR=3.5						
CLL	Collm	23.17	301	eP	P	18 03 45.0	+0.9
CLL	Collm	23.17	301	eP	P	18 03 45.0	+0.9
CLL	Collm	23.17	301	eP	P	18 03 45.0	+0.9
KURK	Kurchatov	23.50	61	eP	P	18 03 47.4	+0.1
KURK	Kurchatov	23.50	61	eP	P	18 03 47.4	+0.1
HFS	Hagfors	25.36	322	P	P	18 04 05.0	+0.5
	comp=Z,0.7nm,0.7s,baz=140,slow=11,SNR=2.8						
HFS				LR	LR	18 14 31.9	
	comp=Z,53nm,20.2s,baz=291,slow=38						
MKAR	Makanchi Array	25.98	70	P	P	18 04 11.2	+0.8
	comp=Z,0.2nm,0.5s,baz=270,slow=8.2,SNR=3.3						
BOD	Bodaibo	43.73	46	eP	P	18 06 43.1	+0.5
BOD				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BOD	Bodaibo	43.73	46	eP	P	18 06 43.1	+0.5
	comp=Z,3.0nm,0.7s						
TORD	Torodi Ar. Bea	48.22	245	P	P	18 07 16.9	-1.5
	comp=Z,1.4nm,0.9s,baz=36,slow=8.0,SNR=6.3						
DBIC	Dimbokro	57.32	245	P	P	18 08 24.1	-1.6
	comp=Z,7.5nm,1.1s,baz=36,slow=8.7,SNR=3.8						
DBIC	Dimbokro	57.32	245	P	P	18 08 24.1	-1.6
DBIC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
YKA	Yellowknife Ar	73.11	350	P	P	18 10 08.5	+1.1
	comp=Z,0.5nm,0.7s,baz=11,slow=6.6,SNR=3.6						
YKA	Yellowknife Ar	73.11	350	P	P	18 10 08.5	+1.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

IDC 09 18:24:27.0±7.1**, 3°.15N×127°.75E, h0km, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.3**/46**, mbtmp3.9**/3**, MS3.4**/1**, Ms1 3.4**/1**, ms1mx2.4**/33**, Error ellipse: s-maj=143.8km s-min=112.5km az=78.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.84	165	P	P	18 29 42.0	-0.1
	1.1nm,0.4s,baz=344,slow=11,SNR=14						
WRA				LR	LR	18 40 35.9	
	comp=Z,77nm,18.1s,baz=310,slow=41						
ASAR	Alice Springs	27.32	168	P	P	18 30 14.0	+0.3
	0.4nm,0.5s,baz=354,slow=7.7,SNR=26						
STKA	Stephens Creek	37.23	160	P	P	18 31 40.0	-0.4
	0.6nm,0.3s,baz=338,slow=11,SNR=5.8						

*ISCJB **09** 18:30:24.8±0.7, 35°.13N±0°.02×27°.24E±0°.02, h11km±4km, mb3.9/21, MS3.0/1, Error ellipse: s-maj=3.4km s-min=2.4km az=0.4*
*IDC **09** 18:30:24.7±0.7, 35°.19N×27°.17E, h0km, mb4.0/15, mb1 3.9/22, mb1mx3.8/44, mbtmp3.9/22, ML3.4/7, MS2.7/4, Ms1 2.7/4, ms1mx2.4/35, Error ellipse: s-maj=15.6km s-min=13.1km az=168.0*
*HLW **09** 18:30:24.9, 35°.63N×27°.18E, h22km±5km, Md3.7*
*DDA **09** 18:30:25.2, 35°.30N×27°.21E, h5km, MD3.7*
*ISK **09** 18:30:26.9, 35°.34N×27°.06E, h7km, ML4.1*
*NEIC **09** 18:30:26.9±2.3, 35°.15N×27°.18E, h17km±16km, mb4.2/11, ML3.6(THE), Error ellipse: s-maj=7.6km s-min=4.3km az=192.0*
*NIC **09** 18:30:26.4, 35°.98N×27°.21E, h25km, mb4.4, ML3.9*
*CSEM **09** 18:30:26.4±0.1, 35°.16N×27°.22E, h10km, mb4.0/5, Ms2.6, Error ellipse: s-maj=3.6km s-min=2.5km az=5.0*
*THE **09** 18:30:27.0, 35°.29N×27°.09E, h1km±1km, ML3.6/2, Error ellipse: s-maj=3.2km s-min=0.9km az=143.0*
*ATH **09** 18:30:28.8, 35°.69N×26°.94E, h5km±3km, MD3.8/30*

ISC 09 18:30:26.7±0.8**, 35°.25N**±0°.03×**27°.20E**±0°.02**, h15**km±5km**, n378, σ1s46**/397**, mb3.9**/20**, 4C-8D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.30	354	P	Pg	18 30 32.4	-0.6
KARP				S	Sg	18 30 37.5	+0.1
KARP	Karpathos	0.30	354	ePG	Pg	18 30 32.5	-0.6
KARP				eSG	Sg	18 30 37.2	-0.2
KARP	Karpathos	0.30	354	P	Pg	18 30 32.4	-0.6
KARP				S	Sg	18 30 37.5	+0.1
ZKR	Zakros	0.82	261	P	Pg	18 30 40.8	-1.7
ZKR				S	Sg	18 30 53.0	-0.2
ZKR	Zakros	0.82	261	P	Pg	18 30 40.8	-1.7
ZKR				S	Sg	18 30 53.0	-0.2
ARG	Arkhangelos	1.23	38	P	Pn	18 30 49.4	+0.1
ARG				S	Sg	18 31 07.7	+1.4
ARG	Arkhangelos	1.23	38	ePN	Pb	18 30 49.7	+0.1
ARG				eSB	Sg	18 31 06.4	+0.1
ARG	Arkhangelos	1.23	38	P	Pn	18 30 49.4	+0.1
ARG	Arkhangelos	1.23	38	ePn	Pb	18 30 49.7	+0.1
ARG				eSb	Sg	18 31 06.4	+0.1
ARG				S	Sg	18 31 07.7	+1.4
NPS	Neapolis	1.30	271	P	Pn	18 30 50.0	-0.3
NPS				S	Sb	18 31 06.6	-0.8
NPS	Neapolis	1.30	271	ePN	Pn	18 30 50.5	+0.2
NPS				eSB	Sn	18 31 07.8	+0.3
NPS	Neapolis	1.30	271	P	Pn	18 30 50.0	-0.3
NPS	Neapolis	1.30	271	ePn	Pn	18 30 50.5	+0.2
NPS				S	Sb	18 31 06.6	-0.8
NPS				eSb	Sn	18 31 07.8	+0.3
LAST	Lasithi	1.41	267	P	Pn	18 30 51.7	-0.3
LAST	Lasithi	1.41	267	ePN	Pb	18 30 52.7	-0.1
LAST				eSB	Sb	18 31 11.3	+0.6
LAST	Lasithi	1.41	267	P	Pn	18 30 51.7	-0.3
LAST	Lasithi	1.41	267	ePn	Pb	18 30 52.7	-0.1
LAST				eSb	Sb	18 31 11.3	+0.6
DAT	Datca	1.51	12	ePN	Pb	18 30 54.0	-0.5
DAT				eSN	Sb	18 31 14.1	+0.5
DAT	Datca	1.51	12	ePn	Pb	18 30 54.0	-0.5
DAT				eSn	Sb	18 31 14.1	+0.5
SANT	Santorini	1.81	309	ePB	Pn	18 30 57.5	+0.1
SANT	Santorini	1.81	309	ePn	Pn	18 30 57.4	+0.1
SANT	Santorini	1.81	309	ePn	Pn	18 30 57.4	0.0
BODT	Bodrum	1.82	3	ePN	Pn	18 30 57.6	+0.1
BODT	Bodrum	1.82	3	ePn	Pn	18 30 57.6	+0.1
BDRM	Kayabasi	1.83	6	i P	Pn	18 30 58.0	+0.3
BDRM				i S	Sg	18 31 24.7	-0.8
BDRM	Kayabasi	1.83	6	i P	Pn	18 30 57.9	+0.3
BDRM				i S	Sg	18 31 24.7	-0.8
THR6	Thira Island,	1.84	308	P	Pn	18 30 58.0	+0.3
THR6	Thira Island,	1.84	308	P	Pn	18 30 58.0	+0.3
THR3	Thira Island,	1.87	309	P	Pn	18 30 58.4	+0.3
THR3	Thira Island,	1.87	309	P	Pn	18 30 58.4	+0.3
THR2	Thira island,	1.87	310	P	Pn	18 30 58.0	-0.2
THR2	Thira island,	1.87	310	P	Pn	18 30 58.0	-0.2
IDI	Anoyia	1.89	272	Pn	Pb	18 30 59.9	-1.0
	25nm,0.3s,baz=112,slow=15,SNR=77						
IDI				Sn	Sb	18 31 24.3	-0.2
	42nm,0.3s,baz=341,slow=21,SNR=5.8						
THR5	Thira Island,	1.91	308	ePN	Pn	18 30 57.9	-0.8
THR5	Thira Island,	1.91	308	P	Pn	18 30 59.0	+0.3
THR5	Thira Island,	1.91	308	ePn	Pn	18 30 57.9	-0.8
THR5	Thira Island,	1.91	308	P	Pn	18 30 59.0	+0.3
DALY	Dalyan (Mu˜la	1.96	36	ePN	Pb	18 31 01.9	-0.2
DALY	Dalyan (Mu˜la	1.96	36	ePn	Pb	18 31 01.9	-0.2
SIVA	Sivas	1.97	264	P	Pn	18 31 00.8	+1.2
SIVA	Sivas	1.97	264	ePG	Pb	18 31 03.1	+0.8
SIVA	Sivas	1.97	264	P	Pn	18 31 00.8	+1.2
TURN	Turunc	1.98	35	i P	Pn	18 30 57.7	-2.0
TURN				i S	Sn	18 31 20.9	-3.4
TURN	Turunc	1.98	35	i P	Pn	18 30 57.7	-2.0
TURN				i S	Sn	18 31 20.9	-3.4
YER	Yerkesik	2.08	25	ePN	Pb	18 31 03.1	-1.1
YER	Yerkesik	2.08	25	ePn	Pb	18 31 03.1	-1.1
AKAS	Kas	2.19	63	i P	Pn	18 31 04.0	+1.3
AKAS	Kas	2.19	63	i P	Pn	18 31 04.0	+1.3
APE	Apeiranthos	2.27	324	ePN	Pn	18 31 04.8	+1.1
APE	Apeiranthos	2.27	324	P	Pn	18 31 02.7	-1.0
APE				S	Sn	18 31 31.1	-0.3
APE	Apeiranthos	2.27	324	ePN	Pn	18 31 03.2	-0.5
APE				eSN	Sn	18 31 29.5	-1.9
APE	Apeiranthos	2.27	324	⇓iP	Pn	18 31 03.9	+0.2
APE				S	Sn	18 31 31.3	-0.1
APE	Apeiranthos	2.27	324	P	Pn	18 31 02.7	-1.0
APE	Apeiranthos	2.27	324	ePn	Pn	18 31 04.8	+1.1
APE				S	Sn	18 31 31.1	-0.3
GCAM	G?zelcaml?	2.45	1	i P	Pb	18 31 08.6	-1.8
GCAM	G?zelcaml?	2.45	1	i P	Pb	18 31 08.6	-1.8
VAM	Vamos	2.46	275	ePG	Pb	18 31 10.2	-0.4
VAM				eSN	Sb	18 31 41.2	+0.5
AYDN	Tasoluk	2.47	13	i P	Pn	18 31 08.2	+1.7
AYDN	Tasoluk	2.47	13	i P	Pn	18 31 08.2	+1.7
SMG	Samos	2.48	353	P	Pn	18 31 06.2	-0.3
SMG	Samos	2.48	353	ePG	Pn	18 31 07.6	+1.1
SMG	Samos	2.48	353	P	Pn	18 31 06.2	-0.3
SMG	Samos	2.48	353	ePg	Pn	18 31 07.6	+1.1
GVD	Gavdhos	2.59	262	ePN	Pb	18 31 13.3	+0.5
GVD	Gavdhos	2.59	262	ePn	Pn	18 31 09.4	+1.4
GVD	Gavdhos	2.59	262	ePn	Pn	18 31 09.4	+1.4
ELL	Elmali	2.66	55	ePN	Pn	18 31 10.6	+1.4
ELL	Elmali	2.66	55	ePn	Pn	18 31 10.6	+1.4
MHLO	Agia Marina, M	2.69	303	ePG	Pn	18 31 11.6	+2.2
MHLO	Agia Marina, M	2.69	303	ePg	Pn	18 31 11.6	+2.2
AYDB	Zeytinkoy-Aydi	2.75	11	ePN	Pn	18 31 11.3	+0.9
AYDB	Zeytinkoy-Aydi	2.75	11	ePn	Pn	18 31 11.3	+0.9
GOLH	Golhisar	2.76	43	i P	Pb	18 31 13.2	-2.5
GOLH				i S	Sg	18 31 53.5	-1.7
GOLH	Golhisar	2.76	43	i P	Pb	18 31 13.2	-2.5
DENT	Denizli	2.91	30	ePN	Pn	18 31 15.3	+2.8
DENT	Denizli	2.91	30	ePn	Pn	18 31 15.3	+2.8
ZEY	˜zmir	3.04	350	i P	Pn	18 31 15.2	+0.9
KORT	Korkueli	3.09	55	i P	Pn	18 31 17.8	+2.6
KORT	Korkueli	3.09	55	i P	Pn	18 31 17.8	+2.6
BLCB	Balcova	3.14	358	ePN	Pn	18 31 17.6	+2.0
BLCB	Balcova	3.14	358	ePn	Pn	18 31 17.6	+2.0
IZM	Izmir	3.15	1	ePN	Pn	18 31 17.2	+1.4
IZM	Izmir	3.15	1	ePn	Pn	18 31 17.2	+1.4
ANKY	Antikythira Is	3.24	282	P	Pn	18 31 17.6	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ANKY	Antikythira Is	3.24	282	ePB	Pn	18 31 17.9	+0.9
ANKY	Antikythira Is	3.24	282	P	Pn	18 31 17.6	+0.6
ANKY	Antikythira Is	3.24	282	ePb	Pn	18 31 17.9	+0.9
ANTB	Antalya	3.25	58	ePN	Pb	18 31 21.1	-3.0
ANTB	Antalya	3.25	58	ePn	Pb	18 31 21.1	-3.0
CHOS	Chios island	3.27	344	ePN	Pn	18 31 18.7	+1.2
CHOS	Chios island	3.27	344	P	Pn	18 31 18.3	+0.8
CHOS	Chios island	3.27	344	ePN	Pn	18 31 17.9	+0.4
CHOS	Chios island	3.27	344	P	Pn	18 31 18.3	+0.8
CHOS	Chios island	3.27	344	ePn	Pn	18 31 18.7	+1.2
KULA	Kula-Manisa	3.47	19	ePN	Pn	18 31 20.4	+0.2
KULA	Kula-Manisa	3.47	19	P	Pn	18 31 21.4	+1.2
KULA	Kula-Manisa	3.47	19	ePn	Pn	18 31 20.4	+0.2
KULA	Kula-Manisa	3.47	19	P	Pn	18 31 21.4	+1.2
BCK	Bucak	3.52	50	ePN	Pb	18 31 24.9	-3.8
BCK	Bucak	3.52	50	ePn	Pb	18 31 24.9	-3.8
KYTH	Kithira	3.54	288	P	Pn	18 31 21.9	+0.7
KYTH	Kithira	3.54	288	ePB	Pn	18 31 22.4	+1.2
KYTH	Kithira	3.54	288	P	Pn	18 31 21.9	+0.7
KYTH	Kithira	3.54	288	ePb	Pn	18 31 22.4	+1.2
AKS	Akhisar	3.66	8	ePN	Pn	18 31 24.7	+1.9
AKS	Akhisar	3.66	8	ePn	Pn	18 31 24.7	+1.9
VLI	Veliai	3.76	294	P	Pn	18 31 24.7	+0.6
VLI	Veliai	3.76	294	ePN	Pn	18 31 25.0	+0.9
VLI				eSN	Sn	18 32 07.6	-0.5
VLI	Veliai	3.76	294	P	Pn	18 31 24.7	+0.6
VLI	Veliai	3.76	294	ePn	Pn	18 31 25.0	+0.9
VLI				eSn	Sn	18 32 07.6	-0.5
SUTC	Sutluce-Ispart	3.79	53	ePN	Pn	18 31 28.4	+3.7
SUTC	Sutluce-Ispart	3.79	53	ePn	Pn	18 31 28.4	+3.7
PTL	Penteli	3.88	317	ePB	Pn	18 31 27.5	+1.7
PTL	Penteli	3.88	317	ePb	Pn	18 31 27.5	+1.7
KRND	KRANIDI	3.91	304	P	Pn	18 31 28.1	+2.0
KRND	KRANIDI	3.91	304	ePB	Pn	18 31 28.1	+2.0
KRND	KRANIDI	3.91	304	P	Pn	18 31 28.1	+2.0
ATH	Athens Observa	3.91	315	ePG	Pn	18 31 26.5	+0.3
ATH	Athens Observa	3.91	315	ePn	Pn	18 31 26.5	+0.3
DID	Didima	3.91	306	P	Pn	18 31 28.4	+2.1
DID	Didima	3.91	306	ePB	Pn	18 31 28.6	+2.3
DID	Didima	3.91	306	P	Pn	18 31 28.4	+2.1
PRK	Paraskevi	4.06	350	ePB	Pn	18 31 29.1	+0.8
PRK	Paraskevi	4.06	350	ePb	Pn	18 31 29.1	+0.8
SLUM		4.10	205	P	Pn	18 31 29.4	+0.6
	baz=203						
SLUM				S	Sn	18 32 15.5	-1.0
	baz=203						
SLUM		4.10	205	P	Pn	18 31 29.4	+0.6
SLUM				S	Sn	18 32 15.5	-1.0
SIGR	SIGRI	4.10	345	ePN	Pn	18 31 29.8	+1.0
SIGR	SIGRI	4.10	345	ePB	Pn	18 31 29.2	+0.4
SIGR	SIGRI	4.10	345	ePn	Pn	18 31 29.8	+1.0
HMAT	Matruh	4.14	181	S	Sn	18 32 17.1	-0.5
	baz=181						
HMAT	Matruh	4.14	181	S	Sn	18 32 17.1	-0.5
AKMC	Akamas	4.21	91	P	Pn	18 31 29.9	-0.5
	baz=284						
AKMC	Akamas	4.21	91	P	Pn	18 31 29.9	-0.5
PPCY	Paphos	4.24	93	P	Pn	18 31 31.1	+0.4
	baz=286						
PPCY	Paphos	4.24	93	P	Pn	18 31 31.1	+0.4
VILL	Villia	4.27	314	P	Pn	18 31 33.8	+2.6
VILL	Villia	4.27	314	ePb	Pn	18 31 32.7	+1.5
VILL	Villia	4.27	314	P	Pn	18 31 33.8	+2.6
GAZI	Gazipasa	4.28	75	iP	Pn	18 31 31.3	0.0
GAZI				iS	Sn	18 32 21.1	+0.1
GAZI	Gazipasa	4.28	75	iP	Pn	18 31 31.3	0.0
GAZI				iS	Sn	18 32 21.1	+0.1
VIL2	Platees	4.33	314	ePB	Pn	18 31 32.7	+0.7
LTK	Loutraki	4.39	310	P	Pn	18 31 34.9	+2.1
LTK	Loutraki	4.39	310	ePB	Pn	18 31 35.2	+2.4
LTK	Loutraki	4.39	310	P	Pn	18 31 34.9	+2.1
LTK	Loutraki	4.39	310	ePb	Pn	18 31 35.2	+2.4
BALB	Balikesir	4.42	7	ePN	Pn	18 31 35.4	+2.2
BALB	Balikesir	4.42	7	ePn	Pn	18 31 35.4	+2.2
ALFC	Alevga	4.42	90	P	Pn	18 31 32.8	-0.5
	baz=282						
ALFC				S	Sn	18 32 24.7	+0.1
ALFC	Alevga	4.42	90	P	Pn	18 31 32.8	-0.5
ALFC				S	Sn	18 32 24.7	+0.1
VLX	Vlachokerasia	4.43	300	P	Pn	18 31 35.1	+1.6
VLX	Vlachokerasia	4.43	300	ePN	Pn	18 31 35.3	+1.8
VLX	Vlachokerasia	4.43	300	P	Pn	18 31 35.1	+1.6
ALT	Altintas	4.46	31	ePN	Pn	18 31 37.4	+3.5
ALT	Altintas	4.46	31	P	Pn	18 31 35.3	+1.5
ALT	Altintas	4.46	31	P	Pn	18 31 35.3	+1.5
ALT	Altintas	4.46	31	ePn	Pn	18 31 37.4	+3.5
DST	Dursunbey	4.50	14	ePN	Pn	18 31 36.5	+2.2
DST	Dursunbey	4.50	14	ePn	Pn	18 31 36.5	+2.2
MRKA	Markates	4.50	321	P	Pn	18 31 36.2	+1.8
MRKA	Markates	4.50	321	ePB	Pn	18 31 36.2	+1.8
MRKA	Markates	4.50	321	P	Pn	18 31 36.2	+1.8
TVSB	Tavsanli	4.57	23	ePN	Pn	18 31 37.8	+2.4
TVSB	Tavsanli	4.57	23	ePn	Pn	18 31 37.8	+2.4
ITM	Ithomi	4.68	296	P	Pn	18 31 40.0	+3.2
ITM	Ithomi	4.68	296	ePB	Pn	18 31 39.7	+2.9
ITM	Ithomi	4.68	296	ePn	Pn	18 31 39.7	+2.9
ITM	Ithomi	4.68	296	P	Pn	18 31 40.0	+3.2
SZAC	Souni-Zanaja	4.69	94	⇓P	Pn	18 31 36.8	-0.2
	baz=286						
SZAC				S	Sn	18 32 33.0	+1.8
SZAC	Souni-Zanaja	4.69	94	⇓P	Pn	18 31 36.8	-0.2
SZAC				S	Sn	18 32 33.0	+1.8
PYL	PYLOS	4.72	292	P	Pn	18 31 38.7	+1.4
PYL	PYLOS	4.72	292	ePN	Pn	18 31 39.5	+2.2
PYL	PYLOS	4.72	292	P	Pn	18 31 38.7	+1.4
PYL	PYLOS	4.72	292	ePn	Pn	18 31 39.5	+2.2
AOS	Alonnisos	4.73	327	P	Pn	18 31 38.7	+1.2
AOS	Alonnisos	4.73	327	ePN	Pn	18 31 38.5	+1.0
AOS	Alonnisos	4.73	327	ePn	Pn	18 31 38.5	+1.0
GUR	Goura	4.74	306	P	Pn	18 31 39.5	+1.7
GUR	Goura	4.74	306	ePB	Pn	18 31 39.8	+2.0
GUR	Goura	4.74	306	P	Pn	18 31 39.5	+1.7
GUR	Goura	4.74	306	ePn	Pn	18 31 39.8	+2.0
LKR	Lokris	4.78	317	ePB	Pn	18 31 39.7	+1.5
LKR	Lokris	4.78	317	ePn	Pn	18 31 39.7	+1.5
ATAL	Atalanti	4.80	317	P	Pn	18 31 40.0	+1.5
ATAL	Atalanti	4.80	317	P	Pn	18 31 40.0	+1.5
SMIA	Simia	4.83	320	P	Pn	18 31 41.6	+2.7
SMIA	Simia	4.83	320	ePN	Pn	18 31 39.7	+0.8
SMIA	Simia	4.83	320	ePn	Pn	18 31 39.7	+0.8
SMIA	Simia	4.83	320	P	Pn	18 31 41.6	+2.7
ERMK	Ermenek	4.84	72	iP	Pn	18 31 40.6	+1.4
ERMK				iS	Sn	18 32 33.5	-1.6
ERMK	Ermenek	4.84	72	iP	Pn	18 31 40.6	+1.4
ERMK				iS	Sn	18 32 33.5	-1.6
DSF	Desfina	4.90	312	P	Pn	18 31 42.1	+2.2
DSF	Desfina	4.90	312	ePB	Pn	18 31 42.3	+2.4
DSF	Desfina	4.90	312	P	Pn	18 31 42.1	+2.2
LIA	Limnos Island	4.91	342	ePN	Pn	18 31 40.1	+0.1
LIA	Limnos Island	4.91	342	ePn	Pn	18 31 40.1	+0.1
MAMC	Mammari	4.93	89	P	Pn	18 31 39.9	-0.3
	baz=281						
MAMC	Mammari	4.93	89	P	Pn	18 31 39.9	-0.3
AMT	Artemida-Makis	4.98	299	ePB	Pn	18 31 44.3	+3.3
AMT	Artemida-Makis	4.98	299	ePb	Pn	18 31 44.3	+3.3
CSS	Prodhromos	5.03	91	P	Pn	18 31 41.2	-0.5
	baz=283						
CSS	Prodhromos	5.03	91	P	Pn	18 31 41.1	-0.6
CSS	Prodhromos	5.03	91	ePn	Pn	18 31 40.9	-0.8
	5.9nm,0.5s						
CSS	Prodhromos	5.03	91	P	Pn	18 31 41.2	-0.5
CSS	Prodhromos	5.03	91	ePn	Pn	18 31 40.9	-0.8
	5.9nm,0.5s						
AXAR	Agios Charalam	5.05	315	P	Pn	18 31 45.1	+3.1
AXAR	Agios Charalam	5.05	315	ePB	Pn	18 31 44.3	+2.3
AXAR	Agios Charalam	5.05	315	ePb	Pn	18 31 44.3	+2.3
AXAR	Agios Charalam	5.05	315	P	Pn	18 31 45.1	+3.1
KDHN	Kadinhani	5.12	49	iP	Pn	18 31 44.4	+1.4
KDHN	Kadinhani	5.12	49	iP	Pn	18 31 44.4	+1.4
KALE	Kalithea	5.13	309	ePN	Pn	18 31 44.9	+1.8
KALE	Kalithea	5.13	309	ePn	Pn	18 31 44.9	+1.8
NEO	Neokhori	5.15	323	ePB	Pn	18 31 45.3	+2.1
NEO	Neokhori	5.15	323	ePb	Pn	18 31 45.3	+2.1
DRO	Drossia	5.18	303	P	Pn	18 31 45.5	+1.8
DRO	Drossia	5.18	303	ePN	Pn	18 31 46.3	+2.6
DRO	Drossia	5.18	303	P	Pn	18 31 45.5	+1.8
DRO	Drossia	5.18	303	ePn	Pn	18 31 46.3	+2.6
XOR	Xorichti	5.21	323	P	Pn	18 31 46.1	+2.0
XOR	Xorichti	5.21	323	ePB	Pn	18 31 46.1	+2.0
XOR	Xorichti	5.21	323	P	Pn	18 31 46.1	+2.0
EFP	Efpalio	5.30	308	P	Pn	18 31 50.1	+4.8
EFP	Efpalio	5.30	308	ePN	Pn	18 31 48.1	+2.8
EFP	Efpalio	5.30	308	ePn	Pn	18 31 48.1	+2.8
EFP	Efpalio	5.30	308	P	Pn	18 31 50.1	+4.8
SMTH	Samothraki Isl	5.38	346	ePN	Pn	18 31 47.5	+1.0
SMTH	Samothraki Isl	5.38	346	ePn	Pn	18 31 47.5	+1.0
RLS	Riolos of Patr	5.40	303	ePN	Pn	18 31 46.8	+0.2
RLS	Riolos of Patr	5.40	303	ePn	Pn	18 31 46.8	+0.2
AGG	Agios Georgios	5.42	316	P	Pn	18 31 50.6	+3.6
AGG	Agios Georgios	5.42	316	ePB	Pn	18 31 50.8	+3.8
PAIG	Paliouri	5.45	330	ePN	Pn	18 31 49.0	+1.7
PAIG	Paliouri	5.45	330	ePn	Pn	18 31 49.0	+1.7
MAKR	Makrakomi, Fth	5.53	314	P	Pn	18 31 52.5	+4.0
MAKR	Makrakomi, Fth	5.53	314	ePB	Pn	18 31 51.7	+3.2
MAKR	Makrakomi, Fth	5.53	314	ePb	Pn	18 31 51.7	+3.2
EVR	Evrytania	5.66	312	ePN	Pn	18 31 52.9	+2.6
EVR	Evrytania	5.66	312	ePn	Pn	18 31 52.9	+2.6
OUR	Ouranopolis	5.68	334	ePN	Pn	18 31 51.7	+1.1
OUR	Ouranopolis	5.68	334	ePn	Pn	18 31 51.7	+1.1
ALN	Alexandroupoli	5.72	351	ePN	Pn	18 31 51.9	+0.9
ALN	Alexandroupoli	5.72	351	ePn	Pn	18 31 51.9	+0.9
ZKS	Zakynthos	5.72	297	ePB	Pn	18 31 57.3	+6.2
PDO	Prodromos	5.87	307	ePN	Pn	18 31 56.2	+3.1
PDO	Prodromos	5.87	307	ePn	Pn	18 31 56.2	+3.1
PLG	Polygyros	5.92	331	ePN	Pn	18 31 53.9	0.0
PLG	Polygyros	5.92	331	ePn	Pn	18 31 53.9	0.0
THL	Klokotos Trika	5.97	318	P	Pn	18 31 58.1	+3.6
THL	Klokotos Trika	5.97	318	ePN	Pn	18 31 57.5	+3.0
THL	Klokotos Trika	5.97	318	ePn	Pn	18 31 57.5	+3.0
RDO	Rodhopi	6.04	348	ePN	Pn	18 31 56.3	+0.9
RDO	Rodhopi	6.04	348	ePn	Pn	18 31 56.3	+0.9
VLS	Valsamata	6.06	301	ePN	Pn	18 31 57.1	+1.3
VLS	Valsamata	6.06	301	ePn	Pn	18 31 57.1	+1.3
LIT	Litokhoron	6.12	324	ePN	Pn	18 31 57.9	+1.3
LIT	Litokhoron	6.12	324	ePn	Pn	18 31 57.9	+1.3
SWA2		6.16	194	P	Pn	18 31 57.1	-0.1
	baz=194						
SWA2				S	Sn	18 33 02.5	-5.0
	baz=194						
SWA2		6.16	194	P	Pn	18 31 57.1	-0.1
DSL	Palaion Diasel	6.23	310	ePN	Pn	18 32 00.4	+2.3
DSL	Palaion Diasel	6.23	310	ePn	Pn	18 32 00.4	+2.3
LKD2	Lefkada island	6.32	306	ePN	Pn	18 32 01.8	+2.5
LKD2	Lefkada island	6.32	306	ePn	Pn	18 32 01.8	+2.5
ANTO	Ankara	6.41	42	ePn	Pn	18 32 02.1	+1.5
	8.8nm,0.6s						
ANTO	Ankara	6.41	42	ePn	Pn	18 32 02.1	+1.5
	8.8nm,0.6s						
KDZ	Kurdzhali	6.55	348	⇑iP	Pn	18 32 05.2	+2.7
KDZ	Kurdzhali	6.55	348	⇑iP	Pn	18 32 05.2	+2.7
BRTR	Keskin Array B	6.80	47	Pn	Pn	18 32 07.5	+1.4
	0.4nm,0.3s,baz=215,slow=13,SNR=19						
BRTR				Sn	Sn	18 33 24.8	+1.5
	baz=212,slow=24,SNR=3.5						
BR131	Keskin Array S	6.80	47	ePn	Pn	18 32 07.1	+1.1
	2.4nm,0.6s						
BR131	Keskin Array S	6.80	47	ePn	Pn	18 32 07.0	+1.1
	2.4nm,0.6s						
KNT	Kendrikon	6.81	331	ePN	Pn	18 32 07.1	+1.0
KNT	Kendrikon	6.81	331	ePn	Pn	18 32 07.1	+1.0
MMB	Musomiste	6.89	338	⇓iP	Pn	18 32 08.6	+1.3
MMB	Musomiste	6.89	338	⇓iP	Pn	18 32 08.6	+1.3
RSH		6.94	126	P	Pn	18 32 06.0	-1.9
	baz=128						
RSH				S	Sn	18 33 17.4	-9.3
	baz=128						
RSH		6.94	126	P	Pn	18 32 06.0	-1.9
SGD	Sagiada	7.05	310	ePN	Pn	18 32 11.8	+2.5
SGD	Sagiada	7.05	310	ePn	Pn	18 32 11.8	+2.5
NEST	Nestorio	7.09	319	ePN	Pn	18 32 14.0	+4.0
MMAI	Mount Meron Ar	7.16	106	Pn	Pn	18 32 10.0	-0.9
	5.0nm,0.3s,baz=304,slow=12,SNR=21						
MMAI				Sn	Sn	18 33 31.9	-0.1
	5.4nm,0.3s,baz=294,slow=29,SNR=5.5						
FNA	Florina	7.19	322	ePN	Pn	18 32 14.5	+3.2
FNA	Florina	7.19	322	ePn	Pn	18 32 14.5	+3.2
JMB	Yambol	7.23	356	⇓iP	Pn	18 32 17.6	+5.8
KEK	Kerkira	7.38	309	ePN	Pn	18 32 15.9	+2.0
KEK	Kerkira	7.38	309	ePn	Pn	18 32 15.9	+2.0
HFRF	Wahat Farafira	8.13	173	S	Sn	18 33 47.5	-8.3
	baz=173						
EIL	Elat	8.59	128	Pn	Pn	18 32 29.5	-1.0
	0.5nm,0.3s,baz=337,slow=15,SNR=7.7						
EIL				Sn	Sn	18 33 59.4	-7.7
	2.4nm,0.3s,baz=17,slow=9.0,SNR=9.2						
ASF	Jabal al Asfar	8.64	108	Pn	Pn	18 32 30.8	-0.5
	0.2nm,0.3s,baz=197,slow=7.8,SNR=3.7						
ASF				Sn	Sn	18 34 09.0	+0.5
	0.3nm,0.3s,baz=263,slow=17,SNR=2.1						
HKAT	Jabal Katrina	8.84	137	P	Pn	18 32 32.1	-2.1
	baz=139						
HKAT	Jabal Katrina	8.84	137	P	Pn	18 32 32.1	-2.1
TIP	Timpagrande	9.21	298	ePn	Pn	18 32 37.3	-1.7
	2.3nm,0.3s						
TIRR	Tirgusor	9.25	5	⇓iP	Pn	18 32 43.7	+4.2
GTR	Jabal at Tayr	10.13	162	P	Pn	18 32 49.7	-1.9
	baz=163						
GTR	Jabal at Tayr	10.13	162	P	Pn	18 32 49.7	-1.9
CUC	Castrocucco	10.20	301	ePn	Pn	18 32 51.9	-0.6
	6.7nm,0.7s						
CUC	Castrocucco	10.20	301	ePn	Pn	18 32 51.9	-0.6
	6.7nm,0.7s						
MLR	Muntele Rosu	10.28	355	Pn	Pn	18 32 56.5	+2.8
	0.0nm,0.3s,baz=175,slow=6.7,SNR=4.8						
MLR				LR	LR	18 37 17.9	
	comp=Z,18nm,19.9s,baz=180,slow=40						
MLR	Muntele Rosu	10.28	355	⇑iP	Pn	18 32 59.9	+6.2
VOIR		10.31	352	⇑iP	Pn	18 32 58.4	+4.3
VRI	Vrincioaia	10.62	358	⇓iP	Pn	18 33 03.9	+5.7
GNI	Garni	14.72	65	LR	LR	18 39 48.5	
	comp=Z,39nm,20.7s,baz=291,slow=38						
KBZ	Khabaz	14.77	50	Pn	P	18 33 59.8	-1.2
	0.1nm,0.3s,baz=208,slow=1.4,SNR=2.1						
AKASG	Malin Array Be	15.52	5	Pn	P	18 34 08.1	-1.2
	1.3nm,0.3s,baz=194,slow=12,SNR=7.2						
GERES	GERESS Array B	16.85	328	Pn	Pn	18 34 22.4	+0.3
	0.1nm,0.3s,baz=140,slow=14,SNR=5.0						
GERES				LR	LR	18 41 52.9	
	comp=Z,28nm,19.4s,baz=94,slow=41						
KHC	Kasperske Hory	17.12	328	eP	P	18 34 29.5	+2.5
SBF	Sospel	17.47	305	eP	Pn	18 34 28.5	-1.4
	31nm,0.8s						
SBF	Sospel	17.47	305	eP	Pn	18 34 28.5	-1.4
	31nm,0.8s						
MBDF	Montbardon	18.25	307	eP	P	18 34 39.8	+0.1
MBDF	Montbardon	18.25	307	eP	P	18 34 39.8	+0.1
MBDF	Montbardon	18.25	307	eP	P	18 34 39.8	+0.1
BRG	Berggiesshubel	18.33	332	eP	P	18 34 46.8	+6.4
	5.7nm,1.4s						
LPG	La Plagne	18.60	310	eP	Pn	18 34 44.3	+0.4
	11nm,0.9s						
LPG	La Plagne	18.60	310	eP	Pn	18 34 44.3	+0.4
	5.7nm,0.9s						
LPG	La Plagne	18.60	310	eP	Pn	18 34 44.3	+0.4
	11nm,0.9s						
LPL	La Plagne	18.62	310	eP	Pn	18 34 44.5	+0.4
	6.6nm,0.6s						
LPL	La Plagne	18.62	310	eP	Pn	18 34 44.5	+0.4
	3.3nm,0.6s						
LPL	La Plagne	18.62	310	eP	Pn	18 34 44.5	+0.4
	6.6nm,0.6s						
CLL	Collm	19.04	332	eP	Pn	18 34 49.0	+0.1
CLL				epP	pP	18 34 54.0	+1.8
CABF	La Chapelle	19.52	312	eP	Pn	18 34 54.4	-0.4
	10nm,0.7s						
CABF	La Chapelle	19.52	312	eP	Pn	18 34 54.4	-0.4
	5.2nm,0.7s						
CABF	La Chapelle	19.52	312	eP	Pn	18 34 54.4	-0.4
	10nm,0.7s						
HINF	Hinteralfeld	19.67	316	eP	Pn	18 34 56.1	-0.4
HINF	Hinteralfeld	19.67	316	eP	Pn	18 34 56.1	-0.4
HINF	Hinteralfeld	19.67	316	eP	Pn	18 34 56.1	-0.4
VIVF	Saint-Julien-l	19.68	306	eP	P	18 34 55.9	+0.7
	11nm,0.8s						
VIVF	Saint-Julien-l	19.68	306	eP	P	18 34 55.9	+0.7
	5.5nm,0.8s						
VIVF	Saint-Julien-l	19.68	306	eP	P	18 34 55.9	+0.7
	11nm,0.8s						
CDF	Champ du Feu	19.76	318	eP	Pn	18 34 57.0	-0.7
CDF	Champ du Feu	19.76	318	eP	Pn	18 34 57.0	-0.7
CDF	Champ du Feu	19.76	318	eP	Pn	18 34 57.0	-0.7
SMF	Signal de Mont	20.92	310	eP	P	18 35 09.1	+0.5
	4.2nm,0.5s						
SMF	Signal de Mont	20.92	310	eP	P	18 35 09.1	+0.5
	2.1nm,0.5s						
SMF	Signal de Mont	20.92	310	eP	P	18 35 09.1	+0.5
	4.2nm,0.4s						
MEZF	Maizieres J'vi	21.06	316	eP	P	18 35 11.0	+0.9
	4.8nm,0.4s						
MEZF	Maizieres J'vi	21.06	316	eP	P	18 35 11.0	+0.9
	2.4nm,0.4s						
MEZF	Maizieres J'vi	21.06	316	eP	P	18 35 11.0	+0.9
	4.8nm,0.4s						
LOR	Lormes	21.18	312	eP	P	18 35 12.4	+1.0
LOR				eR			
	38nm,18.8s						
LOR	Lormes	21.18	312	eP	P	18 35 12.4	+1.0
LOR	Lormes	21.18	312	eP	P	18 35 12.4	+1.0
AVF	Avril sur Loir	21.29	310	eP	P	18 35 13.4	+0.9
	13nm,0.9s						
AVF	Avril sur Loir	21.29	310	eP	P	18 35 13.4	+0.9
	6.6nm,0.9s						
AVF	Avril sur Loir	21.29	310	eP	P	18 35 13.4	+0.9
	13nm,0.9s						
SSF	Saint Saulge	21.30	311	eP	P	18 35 13.3	+0.5
	11nm,0.8s						
SSF	Saint Saulge	21.30	311	eP	P	18 35 13.3	+0.5
	5.7nm,0.8s						
SSF	Saint Saulge	21.30	311	eP	P	18 35 13.3	+0.5
	11nm,0.8s						
RJF	Les Rejaudoux	21.94	305	eP	P	18 35 19.9	+0.3
RJF				eR			
	58nm,21.0s						
RJF	Les Rejaudoux	21.94	305	eP	P	18 35 19.9	+0.3
RJF	Les Rejaudoux	21.94	305	eP	P	18 35 19.9	+0.3
LDF	La Druitiere	24.16	312	eP	P	18 35 42.6	+0.4
	4.3nm,0.6s						
LDF	La Druitiere	24.16	312	eP	P	18 35 42.6	+0.4
	2.2nm,0.6s						
LDF	La Druitiere	24.16	312	eP	P	18 35 42.6	+0.4
	4.3nm,0.6s						
FLN	La Foliniere	24.45	312	eP	P	18 35 44.2	-0.6
FLN				eR			
	44nm,19.8s						
FLN	La Foliniere	24.45	312	eP	P	18 35 44.2	-0.6
FLN	La Foliniere	24.45	312	eP	P	18 35 44.2	-0.6
GRR	Gorron	24.53	311	eP	P	18 35 44.8	-0.8
	4.3nm,0.5s						
GRR	Gorron	24.53	311	eP	P	18 35 44.8	-0.8
	2.2nm,0.5s						
GRR	Gorron	24.53	311	eP	P	18 35 44.8	-0.8
	4.3nm,0.4s						
ESDC	Sonseca Array	25.06	289	P	P	18 35 49.9	-0.6
	0.5nm,0.5s,baz=78,slow=9.7,SNR=4.6						
FINES	FINESS Array B	26.23	359	P	P	18 36 02.3	+1.5
	0.8nm,0.6s,baz=159,slow=12,SNR=5.6						
HFS	Hagfors	26.40	345	P	P	18 36 02.9	+0.6
	0.6nm,0.6s,baz=148,slow=8.4,SNR=3.3						
HFS				LR	LR	18 47 33.8	
	comp=Z,39nm,19.2s,baz=125,slow=39						
AKTO	Aktyubinsk	26.98	46	P	P	18 36 10.0	+2.3
	1.5nm,0.6s,baz=230,slow=8.3,SNR=4.7						
AKTO	Aktyubinsk	26.98	46	P	P	18 36 10.0	+2.3
TORD	Torodi Ar. Bea	31.85	233	P	P	18 36 51.1	-0.1
	1.9nm,0.6s,baz=33,slow=8.3,SNR=19						
ARCES	ARCESS Array B	34.36	359	P	P	18 37 11.8	-0.8
	2.1nm,1.0s,baz=169,slow=10,SNR=4.1						
MSKU	Masuku	38.85	202	P	P	18 37 51.0	-0.5
	2.4nm,0.5s,baz=18,slow=20,SNR=3.2						
MSKU	Masuku	38.85	202	P	P	18 37 51.0	-0.5
KURK	Kurchatov	39.83	51	eP	P	18 37 57.5	-1.8
MK31	Makanchi Array	42.33	57	eP	P	18 38 20.8	+0.8
MK31	Makanchi Array	42.33	57	eP	P	18 38 20.8	+0.8
MKAR	Makanchi Array	42.33	57	P	P	18 38 20.9	+0.9
	1.1nm,0.5s,baz=278,slow=6.9,SNR=18						
SPITS	Spitsbergen Ar	43.29	357	P	P	18 38 27.6	+0.3
	1.7nm,0.7s,baz=149,slow=9.8,SNR=5.5						
ZALV	Zalesovo Beam	43.74	46	P	P	18 38 30.8	-0.5
	0.8nm,0.5s,baz=269,slow=9.3,SNR=4.5						
SONM	Songino Array	58.14	51	P	P	18 40 21.2	+1.4
	1.2nm,0.6s,baz=282,slow=8.1,SNR=10						
SCHQ	Schefferville	64.20	320	P	P	18 41 00.5	-0.2
	1.0nm,0.5s,baz=63,slow=14,SNR=3.4						
CMAR	Chiang Mai Arr	64.90	85	P	P	18 41 06.1	+0.3
	0.4nm,0.7s,baz=291,slow=7.5,SNR=3.1						
USRK	Ussuriysk Ar.	75.59	46	P	P	18 42 12.1	+1.3
	4.0nm,0.8s,baz=277,slow=6.0,SNR=5.1						
KSAR	Wonju Array Be	76.88	53	P	P	18 42 19.7	+1.4
KSAR	Wonju Array Be	76.88	53	P	P	18 42 19.7	+1.4
KSRS	Korea Array	76.90	53	P	P	18 42 19.7	+1.3
	0.4nm,0.5s,baz=296,slow=5.4,SNR=4.1						

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*ISCJB **09** 18:31:28.9±0.6, 33.°20N±0.°07×96.°41E±0.°08, h10km, mb3.4/2, MS3.0/1, Error ellipse: s-maj=11.2km s-min=7.4km az=44.0*

*IDC **09** 18:31:29.2±1.6, 33.°18N×96.°36E, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.3/44, mbtmp3.5/5, ML3.4/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/25, Error ellipse: s-maj=77.5km s-min=24.1km az=70.0*

*BJI **09** 18:31:31.0, 33.°33N×96.°18E, h9km, ML3.6/5, Ms3.4/8, Ms7 3.2/6*

ISC 09 18:31:30.7±0.8**, 33.°27N**±0.°08×**96.°33E**±0.°09**, h10km, n11,** σ**1.s51**/11**, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSA	Lhasa	5.68	233	Pn	Pn	18 32 56.7	+1.2
LSA				Sn	Sn	18 34 01.7	+0.7
CD2	Chengdu	6.72	108	Pn	Pn	18 33 09.5	0.0
CD2				Pg	Pb	18 33 34.5	+6.8
CD2				Sg	Sg	18 35 02.4	-4.2
CD2				SMN			
	30nm,0.9s						
CD2				SME			
	30nm,1.0s						
CD2				LN			
	270nm,6.2s						
CD2				LE			
	350nm,5.8s						
CD2				LZ			
	320nm,5.6s						
GTA	Gaotai	6.75	24	ePn	Pn	18 33 11.7	+1.8
GTA				LN			
	78nm,16.6s						
GTA				LE			
	66nm,17.6s						
GTA				LZ			
	83nm,18.1s						
LZH	Lanzhou	6.80	63	ePn	Pn	18 33 10.0	-0.6
LZH				LN			
	170nm,6.5s						
LZH				LE			
	180nm,5.6s						
LZH				LZ			
	200nm,8.5s						
WMQ	Urumqi	12.51	330	eP	Pn	18 34 26.0	-2.8
CMAR	Chiang Mai Arr	14.93	170	Pn	Pn	18 35 00.2	-1.6
	0.0nm,0.3s,baz=343,slow=11,SNR=2.6						
SONM	Songino Array	16.42	25	Pn	Pn	18 35 22.2	+1.0
	0.2nm,0.3s,baz=207,slow=14,SNR=16						
SONM				LR	LR	18 41 39.4	
	comp=Z,54nm,18.9s,baz=213,slow=37						
MKAR	Makanchi Array	17.23	326	Pn	Pn	18 35 30.6	-0.8
	0.1nm,0.3s,baz=135,slow=14,SNR=9.9						
ZALV	Zalesovo Beam	22.24	342	P	P	18 36 27.9	+0.6
	0.4nm,0.4s,baz=152,slow=9.5,SNR=2.7						
KSRS	Korea Array	26.03	72	LR	LR	18 48 28.3	
	comp=Z,46nm,20.0s,baz=208,slow=39						
ASAR	Alice Springs	66.99	143	P	P	18 42 23.4	-0.4
	0.4nm,0.6s,baz=328,slow=6.7,SNR=11						

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*IGIL **09** 18:37:07.9, 33.°49N×3.°11W, h2km, ML2.7*

*CSEM **09** 18:37:09.3±0.5, 33.°66N×3.°09W, h2km, MD3.2, Error ellipse: s-maj=12.6km s-min=4.9km az=121.0*

*INMG **09** 18:37:09.3±1.5, 33.°36N×3.°20W, h31km, ML2.8, Error ellipse: s-maj=7.4km s-min=5.8km az=148.0*

*CNRM **09** 18:37:10.0, 33.°58N×2.°81W, h15km, MD3.2*

*MDD **09** 18:37:10.1±0.9, 33.°67N×3.°03W, h0km, mb4.1/14, Error ellipse: s-maj=10.4km s-min=5.2km az=125.0, PRXIMO*

ISC 09 18:37:10.8±1.4**, 33.°69N**±0.°03×**3.°19W**±0.°04**, h15km**±9km**, n74,** σ**1.s43**/124**, 1C, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAI	Zaio	1.32	16	P	Pn	18 37 33.0	-1.8
ZAI				S	Sn	18 37 51.5	-0.8

ZAI	Zaio	1.32	16	eP	Pn	18 37 33.0	-1.8
ZAI				iS	Sn	18 37 51.5	-0.8
TOU	Touzarine	1.35	340	P	Pn	18 37 35.0	-0.2
TOU				S	Sg	18 37 54.0	-0.4
TOU	Touzarine	1.35	340	iP	Pn	18 37 35.0	-0.2
TOU				iS	Sg	18 37 54.0	-0.4
TGT	Taghat	1.60	284	P	Pg	18 37 41.0	-0.5
TGT				S	Sg	18 38 04.0	+1.7
TGT	Taghat	1.60	284	iP	Pg	18 37 41.0	-0.5
TGT				iS	Sg	18 38 04.0	+1.7
MELI	Melilla	1.61	7	S	Sb	18 38 01.2	+0.8
	22nm,0.1s,SNR=4.0						
MELI	Melilla	1.61	7	S	Sb	18 38 01.2	+0.8
	22nm,0.1s,SNR=7.9						
EMEL	Melilla	1.61	7	S	Sg	18 38 02.5	-0.3
	79nm,0.1s,SNR=7.9						
EMLI	Melilla	1.61	7	S	Sg	18 38 02.8	0.0
	79nm,0.1s,SNR=7.9						
CZD	Col de Zad	1.69	248	P	Pb	18 37 42.0	+0.3
CZD				S	Sg	18 38 05.0	-0.2
CZD	Col de Zad	1.69	248	iP	Pb	18 37 42.0	+0.3
CZD				iS	Sg	18 38 05.0	-0.2
MIF	Mishlifen	1.73	261	P	Pb	18 37 41.5	-0.9
MIF				S	Sb	18 38 05.0	+1.0
MIF	Mishlifen	1.73	261	iP	Pb	18 37 41.5	-0.9
MIF				iS	Sb	18 38 05.0	+1.0
ZFT	Errachidia	1.92	211	P	Pn	18 37 42.0	-1.2
ZFT				S	Sn	18 38 05.0	-2.2
ZFT	Errachidia	1.92	211	iP	Pn	18 37 42.0	-1.2
ZFT				iS	Sn	18 38 05.0	-2.2
ECEU	Ceuta	2.84	321	S	Sn	18 38 29.3	-0.4
	4.4nm,0.2s,SNR=7.9						
EMIJ	Mijas	3.15	336	P	Pn	18 37 58.8	-1.0
	8.1nm,0.3s,SNR=15						
EMIJ				S	Sn	18 38 35.9	-1.2
	21nm,0.4s,SNR=7.9						
EMIJ	Mijas	3.15	336	P	Pn	18 37 58.8	-1.0
	8.1nm,0.3s,SNR=15						
EMIJ				S	Sn	18 38 35.9	-1.2
	7.4nm,0.2s,SNR=7.9						
TZC	Tazercounte	3.18	242	P	Pn	18 38 03.0	+2.6
TZC				S	Sn	18 38 41.0	+2.9
TZC	Tazercounte	3.18	242	eP	Pn	18 38 03.0	+2.6
TZC				eS	Sn	18 38 41.0	+2.9
EBER	Berja	3.21	4	P	Pn	18 38 00.9	+0.1
	1.2nm,0.2s,SNR=7.9						
EBER				S	Sn	18 38 38.6	-0.3
	19nm,0.5s,SNR=7.9						
EBER	Berja	3.21	4	P	Pn	18 38 01.2	+0.4
	1.2nm,0.2s,SNR=7.9						
EBER				S	Sn	18 38 40.9	+2.0
	19nm,0.5s,SNR=7.9						
ENIJ	Nijar	3.37	13	P	Pn	18 38 03.2	+0.3
	3.5nm,0.2s,SNR=7.9						
EQUE	Quentar	3.51	357	P	Pn	18 38 06.1	+1.2
	2.2nm,0.3s,SNR=5.1						
EQUE				S	Sn	18 38 46.3	+0.1
	1.7nm,0.2s,SNR=7.9						
EQUE	Quentar	3.51	357	P	Pn	18 38 06.1	+1.2
	2.2nm,0.3s,SNR=5.1						
EQUE				S	Sn	18 38 46.9	+0.7
	7.8nm,0.5s,SNR=7.9						
SELV	Sierra Elvira	3.56	353	S	Sn	18 38 46.9	-0.6
	8.8nm,0.6s,SNR=4.0						
SELV	Sierra Elvira	3.56	353	S	Sn	18 38 50.7	+3.2
	8.8nm,0.6s,SNR=7.9						
ESPR	Espera	3.85	326	P	Pn	18 38 12.3	+2.9
	2.4nm,0.3s,SNR=4.8						
ESPR				S	Sn	18 38 55.9	+1.5
	5.0nm,0.4s,SNR=7.9						
ESPR	Espera	3.85	326	P	Pn	18 38 12.3	+2.9
	2.4nm,0.3s,SNR=4.8						
OKGL	Djebel Kef Gue	3.92	52	P	Pn	18 38 09.9	-0.6
	13nm,0.2s,SNR=7.9						
EQES	Quesada	4.10	1	⇑P	Pn	18 38 15.0	+1.9
	12nm,0.4s,SNR=18						
EQES				S	Sn	18 39 01.1	+0.3
	7.0nm,0.2s,SNR=4.0						
EQES	Quesada	4.10	1	P	Pn	18 38 15.0	+1.9
	12nm,0.4s,SNR=18						
EQES				S	Sn	18 39 03.1	+2.3
	16nm,0.7s,SNR=5.1						
EHUE	Huescar	4.14	7	P	Pn	18 38 15.2	+1.6
	1.9nm,0.2s,SNR=7.9						
EHUE	Huescar	4.14	7	P	Pn	18 38 15.2	+1.6
	1.9nm,0.2s,SNR=7.9						
EMUR	La Murta	4.43	20	P	Pn	18 38 17.1	-0.4
	9.7nm,0.5s,SNR=7.8						
EMUR				S	Sn	18 39 08.9	0.0
	2.2nm,0.3s,SNR=7.9						
EMUR	La Murta	4.43	20	P	Pn	18 38 17.1	-0.4
	9.7nm,0.5s,SNR=7.8						
EMUR				S	Sn	18 39 08.9	0.0
	SNR=7.9						
EADA	Adamuz	4.61	346	P	Pn	18 38 20.7	+0.8
	5.0nm,0.4s,SNR=7.9						
EADA				S	Sn	18 39 14.5	+1.4
	2.3nm,0.2s,SNR=7.9						
EADA	Adamuz	4.61	346	P	Pn	18 38 21.4	+1.5
	5.0nm,0.4s,SNR=7.9						
EADA				S	Sn	18 39 14.5	+1.4
	1.1nm,0.2s,SNR=7.9						
OUK	Oukaimeden	4.67	239	iP	Pn	18 38 21.0	0.0
OUK				iS	Sn	18 39 14.0	-1.1
ECAB	El Cabril	4.73	338	P	Pn	18 38 21.9	+0.3
	2.7nm,0.4s,SNR=9.9						
ECAB				S	Sn	18 39 16.4	+0.1
	6.3nm,0.3s,SNR=6.4						
ECAB	El Cabril	4.73	338	P	Pn	18 38 22.0	+0.3
	2.7nm,0.4s,SNR=9.9						
ECAB				S	Sn	18 39 16.4	+0.1
	3.4nm,0.3s,SNR=6.4						
EMIN	Mina Concepcio	4.96	326	P	Pn	18 38 24.7	0.0
	3.0nm,0.2s,SNR=17						
EMIN				S	Sn	18 39 20.1	-1.6
	1.9nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	4.96	326	P	Pn	18 38 25.2	+0.5
	4.8nm,0.5s,SNR=17						
EMIN				S	Sn	18 39 20.9	-0.8
	0.9nm,0.2s,SNR=7.9						
ETOB	Tobarra	5.12	15	P	Pn	18 38 28.2	+1.2
	1.0nm,0.2s,SNR=5.5						
ETOB				S	Sn	18 39 26.4	+0.6
	1.1nm,0.2s,SNR=7.9						
ETOB	Tobarra	5.12	15	P	Pn	18 38 28.2	+1.2
	2.2nm,0.4s,SNR=5.5						
ETOB				S	Sn	18 39 26.4	+0.6
	1.8nm,0.2s,SNR=7.9						
EGRO	El Granado	5.19	319	P	Pn	18 38 27.7	-0.2
	3.0nm,0.1s,SNR=11						
EGRO				S	Sn	18 39 25.0	-2.5
	5.2nm,0.3s,SNR=7.9						
EGRO	El Granado	5.19	319	P	Pn	18 38 27.6	-0.2
	12nm,0.3s,SNR=11						
EGRO				S	Sn	18 39 26.4	-1.1
	1.9nm,0.1s,SNR=7.9						
PVAQ	Vaqueiros	5.23	316	ePn	Pn	18 38 27.8	-0.6
PVAQ				eSn	Sn	18 39 28.4	-0.1
PVAQ				A	A	18 39 29.1	
	9.5nm,0.2s						
PVAQ	Vaqueiros	5.23	316	ePn	Pn	18 38 27.8	-0.6
PVAQ				eSn	Sn	18 39 28.4	-0.1
PVAQ				A	A	18 39 29.1	
	9.5nm,0.2s						
PBDV	Barranco-do-Ve	5.25	314	eSn	Sn	18 39 25.8	-3.1
PBDV	Barranco-do-Ve	5.25	314	eSn	Sn	18 39 25.8	-3.1
PBAR	Barrancos	5.46	326	ePn	Pn	18 38 32.0	+0.5
PBAR				eSn	Sn	18 39 33.0	-1.0
PBAR	Barrancos	5.46	326	ePn	Pn	18 38 32.0	+0.5
PBAR				eSn	Sn	18 39 33.0	-1.0
PCVE	Castro Verde	5.57	316	ePn	Pn	18 38 32.8	-0.3
PCVE				eSn	Sn	18 39 35.5	-1.4
PCVE	Castro Verde	5.57	316	ePn	Pn	18 38 32.8	-0.3
PCVE				eSn	Sn	18 39 35.5	-1.4
MORF	Marmelete	5.73	311	eP	Pn	18 38 34.2	-1.1
MORF				eS	Sn	18 39 37.1	-3.8
MORF				AML	AML	18 39 39.8	
	comp=N,8.0nm,0.1s						
PFVI	Vila Bisbo	5.74	308	P	Pn	18 38 35.8	+0.3
	comp=N,5.5nm,0.3s,SNR=7.9						
PFVI				S	Sn	18 39 37.7	-3.4
	comp=N,8.0nm,0.3s,SNR=7.9						
PFVI	Vila Bisbo	5.74	308	P	Pn	18 38 35.6	+0.1
	comp=N,5.5nm,0.3s,SNR=7.9						
PFVI	Vila Bisbo	5.74	308	eSn	Sn	18 39 39.0	-2.1
PFVI	Vila Bisbo	5.74	308	eSn	Sn	18 39 39.0	-2.1
MESJ	Messejana	5.82	317	eP	Pn	18 38 35.6	-0.9
MESJ				eS	Sn	18 39 39.4	-3.5
MESJ				AML	AML	18 39 42.1	
	comp=E,7.4nm,0.4s						
MESJ	Messejana	5.82	317	ePn	Pn	18 38 36.0	-0.5
MESJ				eSn	Sn	18 39 41.3	-1.7
MESJ	Messejana	5.82	317	ePn	Pn	18 38 36.0	-0.5
MESJ				eSn	Sn	18 39 41.3	-1.7
EBAD	Badajoz	5.92	330	P	Pn	18 38 38.6	+0.6
	comp=E,6.4nm,0.3s,SNR=13						
EBAD				S	Sn	18 39 44.0	-1.6
	comp=E,5.2nm,0.2s,SNR=7.9						
EBAD	Badajoz	5.92	330	P	Pn	18 38 39.3	+1.4
	comp=E,5.2nm,0.3s,SNR=13						
ESDC	Sonseca Array	6.00	354	P	Pn	18 38 40.4	+1.3
	comp=E,0.5nm,0.1s,baz=172,slow=12,SNR=5.5						
ESDC	Sonseca Array	6.00	354	P	Pn	18 38 40.4	+1.3
	comp=E,2.0nm,0.6s,SNR=5.5						
PNCL	Nicolau / Gran	6.18	317	ePn	Pn	18 38 40.9	-0.6
PNCL				eSn	Sn	18 39 50.4	-1.5
PNCL	Nicolau / Gran	6.18	317	ePn	Pn	18 38 40.9	-0.6
PNCL				eSn	Sn	18 39 50.4	-1.5
EVO	Evora	6.21	322	ePn	Pn	18 38 41.9	0.0
EVO	Evora	6.21	322	ePn	Pn	18 38 41.9	0.0
PESTR	Estremoz	6.27	327	ePn	Pn	18 38 43.8	+1.1
PESTR	Estremoz	6.27	327	ePn	Pn	18 38 43.8	+1.1

SKHL 09 18:41:28.2±0.6**,53°.09N×142°.92E,h10km,mb4.1**/4**,1C-2D, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKH	Okha	0.46	1	ePg	Pn	18 41 40.1	-0.8
OKH				⇓iPg	Pn	18 41 40.1	-0.8
OKH				AMB	AMB	18 41 40.3	
	600nm,0.2s						
OKH				eSg	Sb	18 41 48.2	+2.9
OKH				⇑iSg	Sb	18 41 48.2	+2.9
OKH				A	A	18 41 49.1	
	4µm,0.4s						
OKH				A	A	18 41 49.1	
	2µm,0.4s						
NKL	Nikolayevsk	1.35	273	⇓iPg	Pg	18 41 54.7	+0.6
NKL				AMB	AMB	18 41 55.3	
	30nm,0.3s						
NKL				AMB	AMB	18 41 55.3	
	80nm,0.3s						
NKL				AMB	AMB	18 41 55.3	
	90nm,0.3s						
NKL				eSg	Sg	18 42 13.7	+2.1
NKL				A	A	18 42 15.0	
	1µm,0.5s						
NKL				A	A	18 42 15.2	
	280nm,0.3s						
NKL				A	A	18 42 15.2	
	620nm,0.3s						
TYV	Tymovskoe	2.24	184	ePg	Pg	18 42 12.5	+1.4
TYV				AMB	AMB	18 42 25.2	
	12nm,0.6s						
TYV				eSg	Sg	18 42 43.3	+3.3
TYV				A	A	18 42 47.8	
	22nm,0.8s						
GRNR	Gornyy	4.64	243	ePg	Pg	18 43 00.5	+3.3
GRNR				AMB	AMB	18 43 02.5	
	5.0nm,0.4s						
GRNR				eSg	Sg	18 44 03.3	+6.0
GRNR				A	A	18 44 08.0	
	25nm,0.9s						
EKMR	Ekimchan	6.01	274	ePg	Pg	18 43 24.5	+1.2
EKMR				AMB	AMB	18 43 29.4	
	4.0nm,0.5s						
EKMR				eSg	Sg	18 44 50.0	+8.9
EKMR				A	A	18 44 50.5	
	24nm,0.7s						
EKMR				A	A	18 44 50.5	
	9.0nm,0.7s						
EKMR				A	A	18 44 50.5	
	15nm,0.7s						
YASR	Yasnyy	8.98	277	eSg	Sg	18 46 09.5	-6.6
YASR				A	A	18 46 10.6	
	23nm,1.0s						
YASR				A	A	18 46 10.6	
	7.0nm,1.0s						
YASR				A	A	18 46 10.6	
	9.0nm,1.0s						

*IDC **09** 18:53:24.6±1.3,3°.26S×145°.83E,h0km,mb3.7/8, mb1 4.0/8,mb1mx3.8/27,mbtmp3.8/8,MS3.3/3,Ms1 3.3/3, ms1mx3.0/21,Error ellipse: s-maj=56.4km s-min=18.6km az=96.0*
*ISCJB **09** 18:53:27.0±1.2,3°.3S±0°.1×145°.7E±0°.3,h25km,mb3.6/7, MS3.6/2,Error ellipse: s-maj=48.8km s-min=14.5km az=7.1*
ISC 09 18:53:28.6±1.3**,3°.3S**±0°.1×**145°.8E**±0°.4**,h25km,n11,** σ**0s.73**/9**,mb3.6**/7**,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	16.78	357	LR	LR	19 03 60.0	
	comp=Z,33nm,18.4s,baz=171,slow=38						
WRA	Warramunga Arr	19.99	213	P	P	18 57 59.1	-0.3
	13nm,0.8s,baz=38,slow=12,SNR=41						
ASAR	Alice Springs	23.31	209	P	P	18 58 34.0	-0.8
	5.4nm,0.8s,baz=44,slow=7.6,SNR=50						
STKA	Stephens Creek	28.72	187	P	P	18 59 24.8	+0.8
	2.3nm,0.8s,baz=354,slow=10,SNR=2.7						
KSRS	Korea Array	43.80	339	P	P	19 01 32.6	+0.2
	0.3nm,0.4s,baz=153,slow=9.3,SNR=3.1						
SONM	Songino Array	61.46	331	P	P	19 03 43.9	+0.7
	0.3nm,0.6s,baz=156,slow=5.0,SNR=3.0						
SONM				LR	LR	19 30 00.2	
	comp=Z,51nm,19.2s,baz=185,slow=36						
MKAR	Makanchi Array	74.65	320	P	P	19 05 05.3	-0.7
	0.2nm,0.7s,baz=108,slow=7.4,SNR=3.2						
ZALV	Zalesovo Beam	76.09	328	LR	LR	19 37 23.9	
	comp=Z,28nm,20.7s,baz=70,slow=35						
ILAR	Eielson Array	83.47	23	P	P	19 05 53.4	-0.5
	0.5nm,0.8s,baz=264,slow=4.5,SNR=4.0						
BVAR	Borovoye Array	83.88	324	P	P	19 05 56.6	+0.4
	0.2nm,0.5s,baz=107,slow=7.7,SNR=3.3						
TORD	Torodi Ar. Bea	143.20	288	PKP	PKPdf	19 13 01.0	-0.6
	0.2nm,0.7s,baz=95,slow=3.5,SNR=3.0						

*IDC **09** 18:57:02.1±2.7,21°.89S×169°.74E,h0km,mb3.9/5, mb1 4.0/6,mb1mx3.7/27,mbtmp3.8/6,ML3.1/1,Error ellipse: s-maj=63.6km s-min=38.9km az=142.0*
ISC 09 18:57:07.5±1.6**,21°.8S**±0°.5×**169°.4E**±0°.1**,h21km,n9,** σ**0s.94**/11**,mb3.8**/5**,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BAYA	Yate Dam	2.39	261	eS	Sb	18 58 19.3	+0.4
DZM	Mont Dzumac	2.79	264	Pn	Pn	18 57 51.3	+0.3
	2.7nm,0.3s,baz=90,slow=24,SNR=17						
DZM				Sn	Sn	18 58 23.3	-0.8
	6.6nm,0.3s,baz=270,slow=24,SNR=24						
DZM	Mont Dzumac	2.79	264	eP	Pn	18 57 51.1	+0.1
DZM				eS	Sn	18 58 23.4	-0.7
CTA	Charters Tower	21.71	270	P	P	19 01 59.2	+1.8
	1.9nm,0.5s,baz=101,slow=5.2,SNR=4.2						
STKA	Stephens Creek	26.73	242	P	P	19 02 44.7	-0.9
	3.7nm,1.0s,baz=98,slow=7.1,SNR=3.0						
ASAR	Alice Springs	32.77	260	P	P	19 03 40.2	+0.8
	1.5nm,0.7s,baz=84,slow=9.2,SNR=23						
WRA	Warramunga Arr	32.80	267	P	P	19 03 38.8	-0.8
	0.5nm,0.6s,baz=98,slow=8.1,SNR=2.9						
CMAR	Chiang Mai Arr	79.72	295	P	P	19 09 13.6	-0.6
	0.5nm,0.6s,baz=122,slow=4.4,SNR=4.6						
GERES	GERESS Array B	146.80	330	PKPbc	PKPdf	19 16 46.5	+0.2
	0.3nm,0.6s,baz=34,slow=4.2,SNR=4.0						

JSN 09 19:06:53.7±1.2**,19°.82N×76°.60W,h29km**±318km**,MD3.8, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNJ	Bonny Gate	1.52	193	iP	Pn	19 07 18.3	-0.8
BBJ	Bamboo Saint A	1.56	204	iP	Pn	19 07 18.6	-1.0
GWJ	Greenwich	1.74	184	iP	Pn	19 07 20.9	-1.2
STH	Stony Hill	1.74	187	iP	Pn	19 07 20.9	-1.1
STH				iS	Sn	19 07 41.8	-1.5
HOJ	Hope	1.81	185	iP	Pn	19 07 21.0	-1.9
CVJ	Coleyville	1.81	209	iP	Pn	19 07 22.3	-0.8
MBJ	Montego Bay	1.85	221	iP	Pn	19 07 22.8	-0.8
MBJ				iS	Sn	19 07 43.6	-2.3
MCJ	Malvern	2.15	209	iP	Pn	19 07 27.2	-0.4

TIF 09 19:17:32.9,43°.38N×45°.70E,h30km±2km,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TBLG	Delisi	1.80	204	P	Sb	19 18 30.5	+3.1
ONI	Oni	1.83	245	P	Pb	19 18 04.6	-1.2
ONI				S	Sb	19 18 28.2	-0.2
DGRG	David-gareji	1.95	187	P	Pb	19 18 10.8	+3.0
DGRG				S	Sb	19 18 38.8	+7.2

*IDC **09** 19:43:20.4±1.0,23°.70N×143°.19E,h0km,mb3.8/9, mb1 3.9/12,mb1mx3.6/58,mbtmp3.7/12,ML3.7/2,Error ellipse: s-maj=35.2km s-min=17.1km az=85.0*
*ISCJB **09** 19:43:24.3±0.8,23°.80N±0°.06×143°.1E±0°.2,h39km, mb3.7/10,Error ellipse: s-maj=26.8km s-min=7.1km az=172.2*
*NEIC **09** 19:43:25.6±0.7,23°.74N×143°.17E,h35km,mb4.0/1,Error ellipse: s-maj=26.1km s-min=9.5km az=83.0*
ISC 09 19:43:26.0±1.0**,23°.78N**±0°.08×**143°.2E**±0°.2**,h39km,n15,** σ**1s.00**/17**,mb3.8**/10**,Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.42	345	Pn	Pn	19 44 17.1	+0.4
CBIJ				Sn	Sn	19 44 55.1	-0.9
JCJ	Chichijima	3.42	345	Pn	Pn	19 44 17.1	+0.4
	baz=221,slow=20						
JCJ				Sn	Sn	19 44 55.1	-0.9
	50nm,0.3s,baz=114,slow=23,SNR=19						
MJAR	Matsushiro Arr	13.42	343	Pn	Pn	19 46 32.3	-1.6
	0.3nm,0.3s,baz=169,slow=12,SNR=3.6						
KSRS	Korea Array	18.88	320	P	Pn	19 47 43.4	-0.4
	0.2nm,0.3s,baz=138,slow=11,SNR=3.2						
KSAR	Wonju Array Be	18.90	320	P	P	19 47 43.4	+0.2
CMAR	Chiang Mai Arr	41.47	271	P	P	19 51 10.1	+0.7
	0.2nm,0.5s,baz=50,slow=7.5,SNR=4.5						
WRAB	Tennant Creek	44.29	192	eP	P	19 51 32.3	+0.3
	1.6nm,0.6s						
WRA	Warramunga Arr	44.30	192	P	P	19 51 32.0	-0.1
	0.5nm,0.3s,baz=15,slow=8.9,SNR=9.9						
ASAR	Alice Springs	48.01	191	P	P	19 52 01.2	-0.1
	0.5nm,0.9s,baz=10,slow=9.9,SNR=5.9						
MKAR	Makanchi Array	53.30	312	P	P	19 52 40.7	-0.3
	0.3nm,0.6s,baz=99,slow=9.5,SNR=3.4						
STKA	Stephens Creek	55.36	182	P	P	19 52 54.0	-2.1
	1.1nm,0.4s,baz=0.0,slow=6.1,SNR=3.1						
ILAR	Eielson Array	60.21	28	P	P	19 53 30.6	+0.9
	0.3nm,0.8s,baz=278,slow=6.3,SNR=4.1						
ARCES	ARCESS Array B	76.95	341	P	P	19 55 15.5	+1.4
	2.2nm,0.7s,baz=72,slow=8.6,SNR=5.9						
KBZ	Khabaz	80.92	314	P	P	19 55 37.4	+1.2
	1.3nm,0.6s,baz=37,slow=5.9,SNR=4.3						
FINES	FINESS Array B	81.31	334	P	P	19 55 38.2	+0.3
	0.5nm,0.4s,baz=79,slow=6.4,SNR=9.8						

*IDC **09** 19:55:27.1±6.2,32°.07S×179°.87W,h195km±46km,mb3.8/3, mb1 3.9/4,mb1mx3.4/27,mbtmp4.3/4,Error ellipse: s-maj=60.4km s-min=20.5km az=46.0*
ISC 09 19:55:31.2±1.4**,32°.55S**±0°.09×**179°.3E**±0°.2**,h200km,n36,** σ**1s.99**/49**,mb4.1**/3**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.07	189	ePN	Pn	19 56 48.1	+1.7
MXZ				eSN	Sn	19 57 46.3	+0.4
WMGZ	Waiomatatini S	5.31	188	ePN	Pn	19 56 51.7	+2.3
HAZ	Te Kaha	5.34	193	PN	Pn	19 56 51.7	+1.8
HAZ				SN	Sn	19 57 54.9	+2.8
PUZ	Puketiti	5.58	188	PN	Pn	19 56 55.1	+2.1
PUZ				eSN	Sn	19 57 58.7	+1.0
TWGZ	Tauwhareparae	5.72	190	ePN	Pn	19 56 57.0	+2.2
TWGZ				eSN	Sn	19 58 03.3	+2.3
MWZ	Matawai	5.95	194	ePN	Pn	19 56 58.2	+0.4
MWZ				SN	Sn	19 58 07.8	+1.4
URZ	Urewera	5.97	197	P	Pn	19 57 02.7	+4.7
	4.8nm,0.3s,baz=85,slow=19,SNR=15						
URZ				S	Sn	19 58 08.9	+2.2
	8.2nm,0.3s,baz=313,slow=2.7,SNR=22						
URZ	Urewera	5.97	197	ePN	Pn	19 57 00.4	+2.4
URZ				eSN	Sn	19 58 09.0	+2.2
CNGZ	Carnagh Statio	5.99	188	ePN	Pn	19 56 58.0	-0.3
RIGZ	Rimuhau	6.27	191	ePN	Pn	19 57 04.7	+2.7
SNGZ	Shannon Statio	6.42	194	ePN	Pn	19 57 06.0	+2.2
KNZ	Kokohu	6.59	191	ePN	Pn	19 57 08.5	+2.5
KNZ				eSN	Sn	19 58 19.6	-1.6
ARHZ	Aropaoanui	6.96	195	ePN	Pn	19 57 13.8	+3.0
ARHZ				eSN	Sn	19 58 31.0	+1.1
BKZ	Black Stump Fm	6.99	198	ePN	Pn	19 57 12.1	+0.8
FWVZ	Far West T-bar	7.35	203	ePN	Pn	19 57 18.6	+2.5
WNVZ	Wahianoa	7.40	203	ePN	Pn	19 57 19.7	+3.0
BHHZ	Black Hill Sta	7.41	200	ePN	Pn	19 57 18.5	+1.8
KAHZ	Kahuranaki	7.49	194	ePN	Pn	19 57 17.5	-0.3
PXZ	Pawanui	7.72	194	ePN	Pn	19 57 21.5	+0.8
PXZ				eSN	Sn	19 58 43.5	-4.4
TSZ	Takapari Road	7.96	199	ePN	Pn	19 57 24.2	+0.3
TSZ				eSN	Sn	19 58 50.7	-3.0
BFZ	Birch Farm	8.48	196	ePN	Pn	19 57 31.0	+0.5
BFZ				eSN	Sn	19 59 02.8	-3.1
MRZ	Mangatainoka R	8.63	199	ePN	Pn	19 57 31.8	-0.7
MRZ				eSN	Sn	19 59 03.8	-5.7
TIWZ	Tintock	8.66	197	ePN	Pn	19 57 33.2	+0.3
HOWZ	Holdsworth Sta	8.87	199	ePN	Pn	19 57 35.6	-0.1
OGWZ	Otaki Gorge	8.89	201	ePN	Pn	19 57 36.0	0.0
KIW	Kapiti Island	9.01	202	ePN	Pn	19 57 37.7	+0.1
TCW	Tory Channel	9.54	203	ePN	Pn	19 57 44.1	-0.1
TCW				eSN	Sn	19 59 28.8	-2.1
QRZ	Quartz Range	9.89	211	ePN	Pn	19 57 51.2	+2.4
THZ	Tophouse	10.51	207	ePN	Pn	19 57 57.5	+0.5
THZ				eSN	Sn	19 59 51.3	-3.0
KHZ	Kahutara	10.86	203	ePN	Pn	19 58 01.2	-0.2
MQZ	McQueen’s Vall	12.30	203	ePN	Pn	19 58 18.3	-1.5
MQZ				eSN	Sn	20 00 26.5	-10
ASAR	Alice Springs	40.75	271	P	P	20 02 54.9	+2.0
	1.4nm,0.6s,baz=106,slow=7.4,SNR=22						
WRA	Warramunga Arr	41.94	276	P	P	20 03 04.1	+1.5
	2.6nm,0.4s,baz=113,slow=8.1,SNR=14						
QSPA	South Pole Qui	57.57	180	P	P	20 04 59.4	-0.3
	4.2nm,0.7s,baz=12,slow=1.0,SNR=23						
FINES	FINESS Array B	146.29	337	PKPbc	PKPdf	20 14 43.1	-2.8
	0.3nm,0.4s,baz=50,slow=4.3,SNR=4.1						
TORD	Torodi Ar. Bea	160.56	187	PKPab	PKPab	20 15 48.0	-1.8
	0.3nm,0.5s,baz=184,slow=3.2,SNR=5.0						

*DDA **09** 20:13:06.9,37°.60N×35°.99E,h7km,MD2.6*
*ISCJB **09** 20:13:08.0±1.9,37°.7N±0°.1×36°.07E±0°.07,h13km±7km, Error ellipse: s-maj=20.6km s-min=8.7km az=167.5*
ISC 09 20:13:08.3±2.1**,37°.7N**±0°.1×**36°.07E**±0°.05**,h9km**±10km**,n6,** σ**0s.72**/11**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANDN	Andirin	0.23	111	iP	Pg	20 13 12.7	-0.3
ANDN				iS	Sg	20 13 17.2	+1.0
KOZT	Kozan	0.27	227	ePG	Pg	20 13 13.3	-0.4
KOZT				eSG	Sb	20 13 20.3	+0.2
KAMA	Osmaniye	0.67	135	iP	Pg	20 13 20.8	-0.5
KAMA				iS	Sg	20 13 30.1	+0.1
KMRS	Kahramanmaras	0.68	103	ePG	Pb	20 13 22.7	+0.4
HCB	Kahramanmara¯	0.74	115	iP	Pg	20 13 21.8	-0.7
HCB				iS	Sb	20 13 33.0	-0.5
GZT	Gaziantep	1.22	104	iP	Pn	20 13 31.2	-0.6
GZT				iS	Sn	20 13 49.5	+0.9

*ISCJB **09** 20:13:48.2±0.5,36°.21N±0°.02×22°.82E±0°.03,h6km±4km, Error ellipse: s-maj=4.6km s-min=2.9km az=40.8*
*ATH **09** 20:13:48.5,36°.23N×22°.83E,h18km,MD3.5/38,ML2.8*
*CSEM **09** 20:13:49.7±0.1,36°.22N×22°.87E,h10km,MD3.5,Error ellipse: s-maj=4.1km s-min=2.1km az=48.0*
*THE **09** 20:13:49.0,36°.21N×22°.80E,h8km,ML3.1/6,Error ellipse:*

s-maj=1.3km s-min=0.6km az=220.0

ISC 09 20:13:49.6±0.9, **36°.23N**±0°.02×**22°.84E**±0°.02, **h12**km±7km, **n161**, σ**0s.86**/209, **Southern Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.17	71	P	Pg	20 13 53.4	-0.1
KYTH	Kithira	0.17	71	ePB	Pg	20 13 53.8	+0.3
KYTH	Kithira	0.17	71	P	Pg	20 13 53.4	-0.1
KYTH	Kithira	0.17	71	ePb	Pg	20 13 53.8	+0.3
VLI	Veliai	0.50	9	P	Pg	20 13 58.9	-0.5
VLI				S	Sg	20 14 06.6	+0.6
VLI	Veliai	0.50	9	ePB	Pg	20 13 59.0	-0.5
VLI				eSB	Sg	20 14 06.0	0.0
VLI	Veliai	0.50	9	P	Pg	20 13 58.9	-0.5
VLI				S	Sg	20 14 06.6	+0.6
ANKY	Antikythira Is	0.52	134	P	Pg	20 13 59.4	-0.3
ANKY				S	Sg	20 14 06.4	-0.2
ANKY	Antikythira Is	0.52	134	ePN	Pg	20 13 59.5	-0.3
ANKY				eSN	Sg	20 14 06.6	0.0
ANKY	Antikythira Is	0.52	134	ePn	Pg	20 13 59.5	-0.3
ANKY				eSn	Sg	20 14 06.6	0.0
PYL	PYLOS	1.11	307	P	Pg	20 14 08.8	-2.1
PYL				S	Sb	20 14 25.2	+0.1
PYL	PYLOS	1.11	307	ePN	Pg	20 14 09.4	-1.5
PYL				eSN	Sg	20 14 24.1	-1.3
PYL	PYLOS	1.11	307	P	Pg	20 14 08.8	-2.1
PYL				S	Sb	20 14 25.2	+0.1
KRND	KRANIDI	1.18	12	P	Pb	20 14 11.5	-0.4
KRND				S	Sn	20 14 28.3	+0.3
KRND	KRANIDI	1.18	12	ePN	Pb	20 14 11.6	-0.4
KRND				eSN	Sb	20 14 26.6	-0.6
KRND	KRANIDI	1.18	12	ePn	Pb	20 14 11.6	-0.4
KRND				eSn	Sb	20 14 26.6	-0.6
KRND				S	Sn	20 14 28.3	+0.3
VLX	Vlachokerasia	1.20	342	P	Pb	20 14 11.5	-0.8
VLX				S	Sg	20 14 28.1	-0.3
VLX	Vlachokerasia	1.20	342	ePN	Pb	20 14 11.6	-0.8
VLX				eSN	Sg	20 14 28.6	+0.2
VLX	Vlachokerasia	1.20	342	ePn	Pb	20 14 11.6	-0.8
VLX				S	Sg	20 14 28.1	-0.3
ITM	Ithomi	1.20	323	P	Pb	20 14 11.1	-1.2
ITM				S	Sg	20 14 28.3	-0.1
ITM	Ithomi	1.20	323	ePN	Pb	20 14 11.5	-0.8
ITM				eSN	Sb	20 14 27.9	+0.1
ITM	Ithomi	1.20	323	P	Pb	20 14 11.1	-1.2
ITM	Ithomi	1.20	323	ePn	Pb	20 14 11.5	-0.8
ITM				eSn	Sb	20 14 27.9	+0.1
ITM				S	Sg	20 14 28.3	-0.1
DID	Didima	1.32	14	P	Pn	20 14 13.4	-0.5
DID				S	Sn	20 14 31.8	+0.4
DID	Didima	1.32	14	ePN	Pn	20 14 13.8	-0.1
DID				eSN	Sg	20 14 32.0	-0.1
DID	Didima	1.32	14	P	Pn	20 14 13.4	-0.5
DID	Didima	1.32	14	ePn	Pn	20 14 13.8	-0.1
DID				eSn	Sg	20 14 32.0	-0.1
MHLO	Agia Marina, M	1.34	69	P	Pn	20 14 13.7	-0.4
MHLO				S	Sn	20 14 32.4	+0.5
MHLO	Agia Marina, M	1.34	69	ePN	Pn	20 14 14.1	0.0
MHLO				eSN	Sb	20 14 31.6	-0.2
MHLO	Agia Marina, M	1.34	69	P	Pn	20 14 13.7	-0.4
MHLO	Agia Marina, M	1.34	69	ePn	Pn	20 14 14.1	0.0
MHLO				eSn	Sb	20 14 31.6	-0.2
MHLO				S	Sn	20 14 32.4	+0.5
VAM	Vamos	1.37	126	ePN	Pn	20 14 14.9	+0.3
VAM				eSN	Sg	20 14 33.8	-0.1
VAM	Vamos	1.37	126	ePn	Pn	20 14 14.9	+0.3
AMT	Artemida-Makis	1.59	326	P	Pb	20 14 18.4	-0.5
AMT	Artemida-Makis	1.59	326	ePN	Pb	20 14 18.7	-0.2
AMT				eSN	Sb	20 14 39.6	+0.6
AMT	Artemida-Makis	1.59	326	P	Pb	20 14 18.4	-0.5
AMT	Artemida-Makis	1.59	326	ePn	Pb	20 14 18.7	-0.2
AMT				eSn	Sb	20 14 39.6	+0.6
GVD	Gavdhos	1.72	143	ePN	Pn	20 14 19.8	+0.5
GVD	Gavdhos	1.72	143	ePn	Pn	20 14 19.8	+0.5
GUR	Goura	1.75	347	P	Pn	20 14 20.9	+1.0
GUR	Goura	1.75	347	ePN	Pb	20 14 21.1	-0.7
GUR	Goura	1.75	347	P	Pn	20 14 20.9	+1.0
LTK	Loutraki	1.80	3	P	Pn	20 14 21.1	+0.7
LTK	Loutraki	1.80	3	ePN	Pb	20 14 21.8	-0.7
LTK				eSN	Sn	20 14 43.7	+0.5
LTK	Loutraki	1.80	3	P	Pn	20 14 21.1	+0.7
LTK	Loutraki	1.80	3	ePn	Pb	20 14 21.8	-0.7
LTK				eSn	Sn	20 14 43.7	+0.5
ATH	Athens Observa	1.88	22	ePN	Pn	20 14 21.9	+0.4
ATH				eSN	Sn	20 14 45.7	+0.5
ATH	Athens Observa	1.88	22	ePn	Pn	20 14 21.9	+0.4
ATH				eSn	Sn	20 14 45.7	+0.5
ATHU	Athens Univers	1.90	23	P	Pn	20 14 21.7	-0.1
ATHU	Athens Univers	1.90	23	P	Pn	20 14 21.7	-0.1
DRO	Drossia	1.95	333	ePB	Pn	20 14 21.6	-0.9
DRO	Drossia	1.95	333	ePb	Pn	20 14 21.6	-0.9
VILL	Villia	1.97	11	P	Pn	20 14 22.6	-0.3
VILL	Villia	1.97	11	P	Pn	20 14 22.6	-0.3
VILL	Villia	1.97	11	ePn	Pn	20 14 23.2	+0.3
VILL				eSn	Sn	20 14 48.0	+0.4
PTL	Penteli	2.00	24	P	Pn	20 14 23.3	+0.1
PTL	Penteli	2.00	24	ePN	Pn	20 14 23.3	+0.1
PTL				eSN	Sn	20 14 48.0	-0.1
PTL	Penteli	2.00	24	P	Pn	20 14 23.3	+0.1
PTL				eSn	Sn	20 14 48.0	-0.1
SIVA	Sivas	2.01	126	ePN	Pn	20 14 24.0	+0.7
SIVA	Sivas	2.01	126	ePn	Pn	20 14 24.0	+0.7
VIL2	Platees	2.01	10	ePN	Pn	20 14 23.2	-0.2
VIL2				eSN	Sn	20 14 48.0	-0.5
THR3	Thira Island,	2.08	84	P	Pn	20 14 24.0	-0.2
THR3	Thira Island,	2.08	84	P	Pn	20 14 24.0	-0.2
SANT	Santorini	2.12	85	ePB	Pn	20 14 24.9	0.0
SANT	Santorini	2.12	85	ePb	Pn	20 14 24.9	0.0
RLS	Riolos of Patr	2.13	329	ePB	Pn	20 14 24.5	-0.5
RLS	Riolos of Patr	2.13	329	ePb	Pn	20 14 24.5	-0.5
DSF	Desfina	2.20	354	ePN	Pn	20 14 27.6	+1.6
DSF	Desfina	2.20	354	ePn	Pn	20 14 27.6	+1.6
ZKS	Zakynthos	2.21	312	P	Pn	20 14 26.9	+0.9
ZKS	Zakynthos	2.21	312	ePN	Pn	20 14 26.9	+0.9
ZKS	Zakynthos	2.21	312	P	Pn	20 14 26.9	+0.9
KALE	Kalithea	2.23	346	P	Pn	20 14 26.0	-0.5
KALE	Kalithea	2.23	346	ePB	Pn	20 14 26.2	-0.3
KALE	Kalithea	2.23	346	ePb	Pn	20 14 26.2	-0.3
EFP	Efpalio	2.32	342	P	Pn	20 14 27.0	-0.6
EFP	Efpalio	2.32	342	ePB	Pn	20 14 27.6	0.0
EFP	Efpalio	2.32	342	P	Pn	20 14 27.0	-0.6
EFP	Efpalio	2.32	342	ePb	Pn	20 14 27.6	0.0
APE	Apeiranthos	2.32	68	P	Pn	20 14 28.1	+0.4
APE	Apeiranthos	2.32	68	ePB	Pn	20 14 28.3	+0.6
APE	Apeiranthos	2.32	68	P	Pn	20 14 28.1	+0.4
LAST	Lasithi	2.40	116	P	Pn	20 14 28.6	-0.1
LAST	Lasithi	2.40	116	ePN	Pn	20 14 29.1	+0.4
LAST	Lasithi	2.40	116	P	Pn	20 14 28.6	-0.1
LAST	Lasithi	2.40	116	ePn	Pn	20 14 29.1	+0.4
LKR	Lokris	2.42	3	P	Pn	20 14 29.8	+0.8
LKR	Lokris	2.42	3	ePB	Pn	20 14 30.1	+1.1
LKR				eSN	Sn	20 15 00.4	+1.8
LKR	Lokris	2.42	3	P	Pn	20 14 29.8	+0.8
LKR	Lokris	2.42	3	ePb	Pn	20 14 30.1	+1.1
LKR				eSn	Sn	20 15 00.4	+1.8
NPS	Neapolis	2.45	112	P	Pn	20 14 28.6	-0.8
NPS	Neapolis	2.45	112	ePN	Pn	20 14 29.1	-0.3
NPS	Neapolis	2.45	112	P	Pn	20 14 28.6	-0.8
NPS	Neapolis	2.45	112	ePn	Pn	20 14 29.1	-0.3
ATAL	Atalanti	2.47	3	P	Pn	20 14 30.6	+1.0
ATAL	Atalanti	2.47	3	P	Pn	20 14 30.6	+1.0
AXAR	Agios Charalam	2.54	357	P	Pn	20 14 31.6	+0.9
AXAR	Agios Charalam	2.54	357	ePB	Pn	20 14 31.5	+0.9
AXAR	Agios Charalam	2.54	357	ePb	Pn	20 14 31.5	+0.9
MRKA	Markates	2.55	13	P	Pn	20 14 31.3	+0.6
MRKA	Markates	2.55	13	ePB	Pn	20 14 31.6	+0.9
MRKA				eSN	Sn	20 15 02.7	+1.0
MRKA	Markates	2.55	13	P	Pn	20 14 31.3	+0.6
MRKA	Markates	2.55	13	ePb	Pn	20 14 31.6	+0.9
MRKA				eSn	Sn	20 15 02.7	+1.0
VLS	Valsamata	2.65	318	ePB	Pn	20 14 34.3	+2.1
VLS				eSN	Sn	20 15 06.0	+1.8
VLS	Valsamata	2.65	318	ePb	Pn	20 14 34.3	+2.1
VLS				eSn	Sn	20 15 06.0	+1.8
SMIA	Simia	2.67	6	P	Pn	20 14 33.3	+0.9
SMIA	Simia	2.67	6	ePB	Pn	20 14 33.7	+1.3
SMIA	Simia	2.67	6	P	Pn	20 14 33.3	+0.9
SMIA	Simia	2.67	6	ePb	Pn	20 14 33.7	+1.3
PDO	Prodromos	2.71	331	ePB	Pn	20 14 34.1	+1.1
PDO	Prodromos	2.71	331	ePb	Pn	20 14 34.1	+1.1
EVR	Evrytania	2.81	343	ePB	Pn	20 14 36.0	+1.6
EVR	Evrytania	2.81	343	ePb	Pn	20 14 36.0	+1.6
AGG	Agios Georgios	2.82	352	ePB	Pn	20 14 36.2	+1.7
AGG	Agios Georgios	2.82	352	ePb	Pn	20 14 36.2	+1.7
MAKR	Makrakomi, Fth	2.84	349	ePB	Pn	20 14 36.6	+1.8
MAKR	Makrakomi, Fth	2.84	349	ePb	Pn	20 14 36.6	+1.8
ZKR	Zakros	2.96	111	P	Pn	20 14 35.8	-0.7
ZKR	Zakros	2.96	111	P	Pn	20 14 35.8	-0.7
AOS	Alonnisos	3.05	15	P	Pn	20 14 37.7	0.0
AOS	Alonnisos	3.05	15	ePN	Pn	20 14 37.9	+0.2
AOS	Alonnisos	3.05	15	ePn	Pn	20 14 37.9	+0.2
LKD2	Lefkada island	3.09	327	ePN	Pn	20 14 39.3	+1.1
LKD2	Lefkada island	3.09	327	ePn	Pn	20 14 39.3	+1.1
NEO	Neokhori	3.09	6	P	Pn	20 14 38.9	+0.7
NEO	Neokhori	3.09	6	ePN	Pn	20 14 39.0	+0.7
NEO	Neokhori	3.09	6	ePn	Pn	20 14 39.0	+0.7
XOR	Xorichti	3.15	5	P	Pn	20 14 39.8	+0.8
XOR	Xorichti	3.15	5	ePN	Pn	20 14 40.0	+1.0
XOR	Xorichti	3.15	5	P	Pn	20 14 39.8	+0.8
DSL	Palaion Diasel	3.22	335	ePN	Pn	20 14 41.0	+1.0
DSL	Palaion Diasel	3.22	335	ePn	Pn	20 14 41.0	+1.0
CHOS	Chios island	3.35	49	P	Pn	20 14 41.9	+0.1
CHOS	Chios island	3.35	49	P	Pn	20 14 41.9	+0.1
THL	Klokotos Trika	3.40	349	ePN	Pn	20 14 43.7	+1.3
THL	Klokotos Trika	3.40	349	ePn	Pn	20 14 43.7	+1.3
PAIG	Paliouri	3.75	10	P	Pn	20 14 47.7	+0.4
PAIG	Paliouri	3.75	10	ePN	Pn	20 14 47.7	+0.4
PAIG	Paliouri	3.75	10	P	Pn	20 14 47.7	+0.4
SIGR	SIGRI	3.82	38	P	Pn	20 14 48.0	-0.2
SIGR	SIGRI	3.82	38	P	Pn	20 14 48.0	-0.2
IGT	Igoumenitsa	3.85	330	ePN	Pn	20 14 49.0	+0.3
IGT				eSN	Sn	20 15 35.2	+1.4
IGT	Igoumenitsa	3.85	330	ePn	Pn	20 14 49.0	+0.3
IGT				eSn	Sn	20 15 35.2	+1.4
SGD	Sagiada	3.96	329	ePN	Pn	20 14 52.3	+2.2
SGD				eSN	Sn	20 15 37.6	+1.1
SGD	Sagiada	3.96	329	ePn	Pn	20 14 52.3	+2.2
SGD				eSn	Sn	20 15 37.6	+1.1
PLG	Polygyros	4.17	6	P	Pn	20 14 53.5	+0.4
PLG	Polygyros	4.17	6	ePN	Pn	20 14 53.4	+0.4
PLG	Polygyros	4.17	6	P	Pn	20 14 53.5	+0.4
OUR	Ouranopolis	4.20	12	P	Pn	20 14 54.2	+0.8
OUR	Ouranopolis	4.20	12	ePN	Pn	20 14 54.0	+0.6
OUR	Ouranopolis	4.20	12	P	Pn	20 14 54.2	+0.8
KEK	Kerkira	4.23	326	ePN	Pn	20 14 54.9	+1.0
KEK	Kerkira	4.23	326	ePn	Pn	20 14 54.9	+1.0
NEST	Nestorio	4.41	342	ePN	Pn	20 14 56.7	+0.2
NEST	Nestorio	4.41	342	ePn	Pn	20 14 56.7	+0.2
SOH	Sokhos	4.61	5	ePN	Pn	20 15 00.5	+1.4
SOH	Sokhos	4.61	5	ePn	Pn	20 15 00.5	+1.4
SRS	Serrai	4.92	7	ePN	Pn	20 15 04.4	+1.0
SRS	Serrai	4.92	7	ePn	Pn	20 15 04.4	+1.0
KNT	Kendrikon	4.93	1	ePN	Pn	20 15 05.1	+1.6
KNT	Kendrikon	4.93	1	ePn	Pn	20 15 05.1	+1.6

*IDC **09** 20:18:29.2±6.2, 32°.70S×72°.55W, h0km, mb3.9/1, mb1 3.8/2, mb1mx3.6/14, mbtmp3.7/2, ML3.5/1, Error ellipse: s-maj=215.7km s-min=78.3km az=81.0*
*GUC **09** 20:18:36.9±0.6, 31°.97S×71°.66W, h35km±3km, ML3.7*
*SJA **09** 20:18:38.6±0.7, 31°.90S×71°.86W, h40km, ML3.7*
ISC 09 20:18:34.5±2.3, **32°.22S**±0°.05×**72°.02W**±0°.08, **h9**km±12km, **n29**, σ**1s.67**/37, **2C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.86	158	eP	Pn	20 18 52.2	-0.7
IHA				iS	Sn	20 19 07.0	+1.4
ROCH	El Roble	1.13	132	⇓iP	Pg	20 18 56.9	+0.7
ROCH				iS	Sg	20 19 12.6	+1.7
ROCH				AML	AML	20 19 15.6	
	comp=N,2µm,0.3s						
PEL	Peldehue	1.45	130	⇑iP	Pb	20 19 01.8	+0.1
PEL				iS	Sg	20 19 20.4	-0.8
PEL				AML	AML	20 19 22.4	
	comp=N,3µm,0.4s						
SAN	Santiago	1.68	137	eP	Pb	20 19 05.6	+0.1
SAN				iS	Sg	20 19 27.4	-1.0
TACH	Talagante	1.69	148	eP	Pb	20 19 06.5	+0.7
TACH				iS	Sg	20 19 29.0	+0.1
CLCH	Cerro Calan	1.71	134	⇑iP	Pb	20 19 06.0	-0.1
CLCH				eS	Sb	20 19 27.9	+0.1
CLCH				AML	AML	20 19 31.0	
	comp=E,2µm,0.6s						
PCH	Pirque	1.88	138	eP	Pb	20 19 08.9	-0.2
PCH				iS	Sb	20 19 33.0	+0.2
CHCH	Chadas Angostu	2.06	146	eP	Pb	20 19 11.5	-0.5
AUSP	Uspallata	2.23	91	eP	Pb	20 19 14.5	-0.7
AUSP				eS	Sb	20 19 41.4	-1.5
RTLS	Leoncito	2.35	80	eP	Pb	20 19 15.8	-1.4
ARCO	CERRO ARCO	2.68	104	eP	Pb	20 19 21.9	-0.8
ARCO				AML	AML	20 20 06.9	
	comp=Z,219nm,0.7s						
ASAL	Salagasta	2.72	99	eP	Pb	20 19 22.3	-1.1
AAGR	Agrelo	2.83	109	eP	Pb	20 19 23.8	-1.4
RTCV	Cerro Valdivia	2.97	84	eP	Pn	20 19 24.3	+2.3
RTLL	Cerro Villicun	3.15	74	eP	Pn	20 19 26.0	+1.7
AMOG	MOGNA	3.27	68	eP	Pn	20 19 27.5	+1.5
CFAA	Coronel Fontan	3.27	80	eP	Pn	20 19 27.8	+1.8
ACAN	Cantantal	4.09	92	eP	Pn	20 19 40.6	+3.3
ACAN				eS	Sb	20 20 30.8	-5.5
AVFE	Valle Fertil	4.20	69	eP	Pn	20 19 40.5	+1.7
AVFE				eS	Sn	20 20 30.6	+2.6
AVFE				AML	AML	20 20 40.6	
	comp=Z,179nm,0.6s						
ACLC	CERRO LA CRUZ	5.17	59	eP	Pn	20 19 53.0	+0.7
CYA	Choya	6.56	57	eP	Pn	20 20 11.6	+0.4
CYA				eS	Sn	20 21 29.2	+2.9
FSA	Cafayete	8.05	42	eP	Pn	20 20 33.0	+1.1
FSA				eS	Sn	20 22 05.6	+2.4
LPAZ	La Paz	16.25	13	Pn	P	20 22 26.9	0.0
	comp=Z,0.1nm,0.3s,baz=190,slow=11,SNR=4.3						
TORD	Torodi Ar. Bea	83.59	70	P	P	20 31 02.5	-1.0
	comp=Z,0.7nm,0.7s,baz=237,slow=4.8,SNR=4.3						
H11S2	WAKE ISLAND Hy	125.80	270	T	T	22 56 29.1	
	baz=117						
H11S1	WAKE ISLAND Hy	125.81	270	T	T	22 56 29.1	
	baz=117						
H11S3	WAKE ISLAND Hy	125.81	270	T	T	22 56 29.1	
	baz=117						
ZALV	Zalesovo Beam	152.70	30	PKPab	PKPab	20 38 39.9	-2.0
	comp=Z,0.7nm,0.5s,baz=322,slow=3.6,SNR=3.5						
MKAR	Makanchi Array	155.55	46	PKPab	PKPab	20 38 53.7	-0.6
	comp=Z,0.5nm,0.9s,baz=293,slow=4.2,SNR=5.0						

*IDC **09** 20:23:36.9±1.1, 9°.39N×58°.01E, h0km, mb3.6/10, mb1 3.7/10, mb1mx3.6/25, mbtmp3.6/10, MS3.5/9, Ms1 3.5/9, ms1mx3.2/30, Error ellipse: s-maj=33.3km s-min=20.5km az=170.0*
*ISCJB **09** 20:23:38.1±0.8, 9°.5N±0°.2×58°.0E±0°.1, h17km, mb3.6/11, MS3.5/9, Error ellipse: s-maj=24.9km s-min=15.2km az=161.8*
ISC 09 20:23:39.6±1.0, **9°.4N**±0°.2×**58°.0E**±0°.1, **h17**km, **n20**, σ**0s.74**/10, **mb3.6**/11, **MS3.6**/9, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	20.29	140	T	T	20 49 13.8	
	baz=320,slow=76,SNR=22						
H08N3	Diego Garcia H	20.30	140	T	T	20 49 13.8	
	baz=320,slow=76,SNR=24						
H08N1	Diego Carcia H	20.31	140	T	T	20 49 15.2	
	baz=320,slow=76,SNR=23						
PALK	Pallekele	22.55	94	LR	LR	20 35 13.0	
	comp=Z,201nm,18.6s,baz=258,slow=31						
KMBO	Kilima Mbogo	23.17	244	P	P	20 28 46.1	+0.3
	0.8nm,0.3s,baz=49,slow=17,SNR=2.8						
BRTR	Keskin Array B	37.20	328	P	P	20 30 50.0	-0.2
	0.8nm,0.9s,baz=131,slow=5.9,SNR=3.5						
CMAR	Chiang Mai Arr	40.65	73	P	P	20 31 19.8	+0.5
	3.1nm,1.2s,baz=253,slow=9.4,SNR=6.1						
CMAR				LR	LR	20 46 53.6	
	comp=Z,126nm,18.9s,baz=204,slow=34						
MKAR	Makanchi Array	42.62	25	P	P	20 31 35.7	+0.7
	0.2nm,0.6s,baz=216,slow=7.1,SNR=2.8						
MKAR				LR	LR	20 52 32.3	
	comp=Z,28nm,18.1s,baz=200,slow=41						
BVAR	Borovoye Array	44.64	11	P	P	20 31 55.8	+4.6
	0.3nm,0.4s,baz=194,slow=8.5,SNR=3.0						
AKASG	Malin Array Be	47.53	335	LR	LR	20 56 51.5	
	comp=Z,20nm,18.0s,baz=25,slow=42						
BOSA	Boshof	49.29	219	LR	LR	20 50 26.8	
	comp=Z,92nm,20.8s,baz=3.5,slow=33						
ZALV	Zalesovo Beam	49.35	21	P	P	20 32 28.7	+0.8
	0.4nm,0.3s,baz=242,slow=6.1,SNR=3.3						
ZALV				LR	LR	20 54 05.1	
	comp=Z,50nm,21.1s,baz=252,slow=37						
TORD	Torodi Ar. Bea	55.26	279	P	P	20 33 13.1	+0.6
	0.8nm,1.1s,baz=104,slow=6.1,SNR=3.5						
SONM	Songino Array	55.84	37	P	P	20 33 16.3	0.0
	0.8nm,1.0s,baz=242,slow=6.2,SNR=6.6						
TLY	Talaya	56.18	32	LR	LR	20 57 57.6	
	comp=Z,55nm,18.6s,baz=198,slow=37						
DBIC	Dimbokro	62.24	273	LR	LR	21 00 23.8	
	comp=Z,27nm,20.3s,baz=74,slow=36						
ESDC	Sonseca Array	62.54	310	P	P	20 34 02.0	-0.8
	0.2nm,0.4s,baz=102,slow=8.6,SNR=5.4						
KSRS	Korea Array	68.41	53	P	P	20 34 39.6	-1.1
	0.3nm,0.3s,baz=253,slow=7.5,SNR=4.9						
MJAR	Matsushiro Arr	76.61	55	LR	LR	21 08 33.1	
	comp=Z,30nm,19.4s,baz=5.0,slow=35						
ASAR	Alice Springs	81.04	116	P	P	20 35 54.1	-0.2
	0.6nm,1.1s,baz=302,slow=5.3,SNR=4.3						

*ISCJB **09** 20:53:17.9±0.5, 40°.49N±0°.04×63°.21E±0°.04, h15km, mb3.6/12, Error ellipse: s-maj=5.8km s-min=4.4km az=22.4*
*IDC **09** 20:53:17.3±0.9, 40°.19N×63°.00E, h0km, mb3.7/13, mb1 3.8/18, mb1mx3.7/31, mbtmp3.7/18, ML3.7/5, Error ellipse: s-maj=16.9km s-min=10.2km az=175.0*
*NNC **09** 20:53:22.8±0.9, 40°.50N×63°.30E, h25km±5km, mb4.0, mpv3.7, Error ellipse: s-maj=7.2km s-min=3.6km az=43.0*
ISC 09 20:53:19.0±0.7, **40°.43N**±0°.06×**63°.12E**±0°.05, **h15**km, **n36**, σ**1s.92**/48, **mb3.6**/12, **15C-22D, Northwestern Uzbekistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZET	Dzherino	4.70	108	⇓Pn	Pn	20 54 31.3	+1.9
	15nm,0.5s						
DZET				⇓Pg	Pg	20 54 45.4	-3.6
	34nm,0.5s						
DZET				⇓Sn	Sn	20 55 24.1	+0.3
	78nm,0.5s						
DZET				⇓Lg	Lg	20 55 48.0	
	164nm,0.7s						
KK31	Karatay Array	6.14	62	Pn	Pn	20 54 50.1	+1.0
	0.7nm,0.3s,baz=241,slow=16,SNR=23						
KK31				⇑Pg	Pg	20 55 14.3	-2.2
	1.5nm,0.3s,baz=246,slow=17,SNR=6.5						
KK31				⇑Sn	Sn	20 55 58.4	-0.7
	3.3nm,0.4s,baz=257,slow=15,SNR=3.6						
KK31				⇑Lg	Lg	20 56 33.5	
	16nm,0.6s,baz=237,slow=29,SNR=5.8						
MNAS	Manas	7.34	71	⇑Pn	Pn	20 55 06.6	+0.8
	0.9nm,0.3s						
MNAS				⇓Pg	Pb	20 55 31.5	+5.3
	2.5nm,0.7s						
MNAS				⇑Sn	Sn	20 56 28.7	-0.3
	9.0nm,0.5s						
MNAS				⇑Lg	Lg	20 57 12.0	
	19nm,0.8s						
SFK	Sufi-Kurgan	7.96	90	⇓Pn	Pn	20 55 14.6	+0.3
	1.7nm,0.4s						
SFK				⇑Sn	Sn	20 56 43.3	-0.9
	4.4nm,0.4s						
SFK				⇓Lg	Lg	20 57 33.0	
	14nm,0.6s						
AAK	Ala-Archa	8.81	72	⇓Pn	Pn	20 55 25.7	-0.2
	2.5nm,0.8s						
AAK				⇑Sn	Sn	20 57 05.2	+0.1
	3.6nm,0.5s						
AAK				⇑Lg	Lg	20 57 58.6	
	8.2nm,0.6s						
AAK	Ala-Archa	8.81	72	Pn	Pn	20 55 27.4	+1.5
	0.4nm,0.3s,baz=250,slow=13,SNR=4.0						
AAK				Sn	Sn	20 57 05.1	+0.1
	0.7nm,0.3s,baz=332,slow=16,SNR=4.0						
AAK				Lg	Lg	20 58 03.6	
	0.6nm,0.3s,baz=357,slow=18,SNR=2.8						
AB31	Akbulak array	9.10	347	⇑Pn	Pn	20 55 32.8	+3.0
	0.4nm,0.3s,baz=108,slow=23,SNR=18						
AB31				⇓Pg		20 56 08.6	
	0.7nm,0.3s,baz=170,slow=16,SNR=4.9						
AB31				⇓Sn	Sn	20 57 12.8	+0.9
	1.4nm,0.3s,baz=261,slow=4.0,SNR=6.3						
AB31				⇓Lg	Lg	20 58 12.2	
	13nm,0.7s,baz=343,slow=9.2,SNR=4.6						
CEP	Cherat	9.63	130	P	Pn	20 55 37.5	+0.3
CEP				S	Sn	20 57 22.0	-3.1
TKM2	Tokmak 2	9.66	71	⇓Lg	Lg	20 58 24.2	
	9.7nm,1.1s						
OTUK	Ortayu	10.22	37	⇓Pn	Pn	20 55 45.7	+0.6
	7.6nm,0.4s						
OTUK				⇓Sn	Sn	20 57 37.9	-1.5
	5.9nm,0.6s						
OTUK				⇓Lg	Lg	20 58 44.8	
	9.8nm,1.0s						
CHCP	Chirah Chowk	10.55	127	P	Pn	20 55 49.0	-0.7
AKTO	Aktyubinsk	10.62	342	⇑Pn	Pn	20 55 53.1	+2.6
	3.8nm,0.8s						
AKTO				⇓Sn	Sn	20 57 52.0	+2.9
	9.3nm,0.8s						
AKTO				⇑Lg	Lg	20 59 01.1	
	19nm,1.2s						
AKTO	Aktyubinsk	10.62	342	Pn	Pn	20 55 52.0	+1.5
	1.0nm,0.3s,baz=115,slow=9.2,SNR=15						
AKTO				Sn	Sn	20 57 45.0	-4.1
	0.6nm,0.3s,baz=41,slow=19,SNR=4.6						
AKTO				Lg	Lg	20 59 04.3	
	0.3nm,0.3s,baz=256,slow=22,SNR=4.0						
PDGK	Podgornoye	12.54	71	⇓Lg	Lg	20 59 57.9	
	5.2nm,1.0s						
DGRG	David-gareji	13.46	280	P	Pn	20 56 28.9	-0.4
BVA0	Borovoye Array	13.54	19	⇓Pn	Pn	20 56 31.7	+1.4
	2.6nm,0.6s,baz=215,slow=12,SNR=17						
BVA0				⇑Sn	Sn	20 59 00.4	0.0
	3.4nm,0.7s,baz=212,slow=24,SNR=5.9						
BVA0				⇓Lg	Lg	21 00 30.3	
	7.3nm,1.1s,baz=201,slow=27,SNR=4.3						
BVAR	Borovoye Array	13.54	19	Pn	Pn	20 56 31.2	+0.9
	1.0nm,0.3s,baz=224,slow=11,SNR=14						
BVAR				Sn	Sn	20 58 56.3	-4.1
	0.4nm,0.3s,baz=205,slow=24,SNR=5.0						
BRVK	Borovoye	13.54	19	⇓Pn	Pn	20 56 30.2	-0.2
	3.0nm,0.5s						
BRVK				⇑Sn	Sn	20 58 59.1	-1.4
	5.4nm,0.6s						
BRVK				⇓Lg	Lg	21 00 31.4	
	27nm,1.8s						
KURBB	Kurchatov Arra	14.82	41	⇑Pn	Pn	20 56 48.4	+0.6
KURK	Kurchatov	14.92	41	⇓Pn	Pn	20 56 50.6	+1.4
	1.1nm,0.8s						
MK31	Makanchi Array	15.26	59	Pn	Pn	20 56 52.5	-1.3
	1.0nm,0.5s,baz=249,slow=13,SNR=15						
MKAR	Makanchi Array	15.26	59	Pn	Pn	20 56 53.3	-0.5
	0.1nm,0.3s,baz=251,slow=15,SNR=18						
KBZ	Khabaz	15.37	289	Pn	Pn	20 56 52.5	-2.6
	0.1nm,0.3s,baz=108,slow=9.6,SNR=2.3						
KBZ				Sn	Sn	20 59 37.9	-7.1
	0.4nm,0.3s,baz=54,slow=14,SNR=3.1						
ZALV	Zalesovo Beam	19.90	40	P	Pn	20 57 51.3	0.0
	1.4nm,0.4s,baz=243,slow=11,SNR=6.6						
BRTR	Keskin Array B	22.52	278	P	P	20 58 18.7	+0.4
	0.8nm,1.0s,baz=120,slow=7.3,SNR=5.0						
AKASG	Malin Array Be	25.64	305	P	P	20 58 47.9	+0.1
	0.5nm,0.4s,baz=106,slow=8.1,SNR=3.7						
TLY	Talaya	29.91	54	P	P	20 59 26.7	+0.6
	1.1nm,0.3s,baz=60,slow=8.0,SNR=4.3						
FINES	FINESS Array B	30.76	326	P	P	20 59 35.0	+1.6
	0.4nm,0.5s,baz=130,slow=11,SNR=6.8						
SONM	Songino Array	31.59	62	P	P	20 59 42.6	+1.5
	0.4nm,0.8s,baz=258,slow=7.2,SNR=2.6						
ARCES	ARCESS Array B	35.17	338	P	P	21 00 15.7	+3.8
	1.3nm,0.8s,baz=130,slow=8.4,SNR=4.7						
NOA	NORSAR Array B	37.48	321	P	P	21 00 32.6	+0.9
	0.8nm,0.8s,baz=100,slow=8.4,SNR=2.6						
USRK	Ussuriysk Ar.	49.71	62	P	P	21 02 14.2	+3.9
	0.5nm,0.5s,baz=288,slow=7.8,SNR=4.0						
TORD	Torodi Ar. Bea	59.89	261	P	P	21 03 24.3	-0.1
	0.6nm,0.8s,baz=52,slow=7.2,SNR=5.9						
YKA	Yellowknife Ar	77.41	359	P	P	21 05 15.1	+2.2
	0.5nm,0.7s,baz=360,slow=5.9,SNR=4.1						
WRA	Warramunga Arr	89.31	117	P	P	21 06 14.9	+0.1
	0.4nm,0.8s,baz=324,slow=4.2,SNR=3.5						
ASAR	Alice Springs	91.58	120	P	P	21 06 25.4	0.0

	0.2nm,0.7s,baz=303,slow=4.4,SNR=5.3						

GUC 09 20:57:17.8±0.6,34°.80S×72°.41W,h15km±4km,ML4.0, 4C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.87	133	⇑iP	Pb	20 57 33.4	-1.2
TALC				iS	Sb	20 57 45.4	-0.6
NICH	Los Niches	0.99	102	⇑iP	Pb	20 57 35.2	-1.5
NICH				iS	Sb	20 57 48.4	-1.1
LNV	Longovilo	1.18	45	⇓iP	Pn	20 57 38.1	-1.7
LNV				iS	Sb	20 57 54.1	-0.9
LNCH	Linares	1.23	148	⇓iP	Pn	20 57 39.5	-1.0
LNCH				iS	Sb	20 57 55.6	-1.0
TACH	Talagante	1.67	47	⇓iP	Pn	20 57 45.8	-0.8
CHCH	Chadas Angostu	1.69	60	⇑iP	Pn	20 57 46.6	-0.3
PCH	Pirque	1.96	54	eP	Pn	20 57 51.2	+0.5
PCH				iS	Sn	20 58 16.0	+0.9
SAN	Santiago	1.98	48	eP	Pn	20 57 51.0	+0.2
SAN				eS	Sn	20 58 16.7	+1.3
CLCH	Cerro Calan	2.09	48	⇑iP	Pn	20 57 53.4	+0.9
CLCH				iS	Sn	20 58 19.7	+1.4
CLCH				AML	AML	20 58 30.0	
	comp=N,2µm,0.5s						
ROCH	El Roble	2.16	33	eP	Pn	20 57 54.3	+0.7
ROCH				AML	AML	20 58 28.8	
	comp=N,859nm,0.5s						
PEL	Peldehue	2.19	41	⇓iP	Pn	20 57 54.9	+1.2
PEL				eS	Sn	20 58 22.3	+1.7
PEL				AML	AML	20 58 29.9	
	comp=E,2µm,0.3s						

ISCJB 09 21:02:14.5±0.9,21°.79S±0°.05×68°.55W±0°.09, h127km±13km,Error ellipse: s-maj=14.3km s-min=6.9km az=156.8
SJA 09 21:02:14.3±0.8,21°.74S×68°.46W,h108km±22km,ML4.0
GUC 09 21:02:15.2±0.3,21°.80S×68°.62W,h126km±3km,ML3.9
ISC 09 21:02:15.1±1.8,21°.78S±0°.06×68°.54W±0°.10, h124km±19km,n15,σ0s.60/19,4C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.65	268	⇑iP	Pn	21 02 35.0	+0.3
PB09				iS	Sn	21 02 49.7	+0.3
LVC	Limon Verde	0.90	202	eP	Pn	21 02 36.2	-0.5
LVC				eS	Sn	21 02 52.4	-0.8
LVC				AML	AML	21 02 53.7	
	comp=Z,2µm,0.5s						
PB04	IPOC Station P	1.00	241	eP	Pn	21 02 43.8	+6.4
PB04				iS	Sn	21 03 05.6	+11
PB01	IPOC Station P	1.15	309	⇑iP	Pn	21 02 39.3	+0.3
PB01				iS	Sn	21 02 57.4	+0.3
PB07	IPOC Station P	1.25	272	eP	Pn	21 02 40.4	+0.2
PB07				iS	Sn	21 02 59.2	0.0
PB06	IPOC Station P	1.33	226	⇑iP	Pn	21 02 40.9	-0.1
PB06				iS	Sn	21 03 00.7	0.0
PATCX	Punta Patache	1.78	302	AML	AML	21 03 12.7	
	comp=N,1µm,0.2s						
PB11	IPOC Station P	2.26	332	⇑iP	Pn	21 02 52.6	+0.4
PB11				iS	Sn	21 03 21.3	+0.7
PSGC	Pisagua	2.63	325	eP	Pn	21 02 56.1	-0.7
PSGC				iS	Sn	21 03 27.6	-1.2
PSGC				AML	AML	21 03 29.8	
	comp=N,311nm,0.3s						
MNMC	Minimini	2.81	339	AML	AML	21 03 42.8	
	comp=E,426nm,0.1s						
HJA	Humahuaca	3.23	117	eP	Pn	21 03 05.0	+0.2
AZAP	Zapla	4.02	128	eP	Pn	21 03 15.2	0.0
SLA	San Lorenzo	4.05	137	eP	Pn	21 03 16.0	+0.6
ASTB	Santa Barbara	4.32	121	eP	Pn	21 03 18.5	-0.6
FSA	Cafayete	4.88	152	eP	Pn	21 03 27.3	+0.7

IDC 09 21:27:39.8±6.6,5°.09S×10°.51W,h0km,mb3.9/4, mb1 4.0/4,mb1mx3.6/22,mbtmp3.9/4,MS3.2/4,Ms1 3.2/4, ms1mx2.9/31,Error ellipse: s-maj=209.1km s-min=111.5km az=139.0,Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	4.80	235	T	T	21 31 54.9	
	baz=54,slow=74,SNR=739						
H10N1	ASCENSION HYDR	4.80	235	T	T	21 32 00.6	
	baz=54,slow=74,SNR=997						
H10N3	ASCENSION HYDR	4.81	235	T	T	21 32 01.7	
	baz=54,slow=74,SNR=774						
H10S1	ASCENSION HYDR	5.61	227	T	T	21 33 01.6	
	baz=43,slow=75,SNR=197						
H10S2	ASCENSION HYDR	5.62	227	T	T	21 33 02.2	
	baz=43,slow=75,SNR=181						
H10S3	ASCENSION HYDR	5.63	227	T	T	21 33 05.4	
	baz=43,slow=75,SNR=151						
DBIC	Dimbokro	12.98	26	LR	LR	21 35 08.2	
	comp=Z,66nm,19.1s,baz=170,slow=35						
TORD	Torodi Ar. Bea	21.80	34	P	P	21 32 33.5	-0.1
	4.2nm,1.0s,baz=218,slow=12,SNR=12						
TORD				LR	LR	21 40 38.1	
	comp=Z,49nm,19.4s,baz=170,slow=36						
LPAZ	La Paz	57.53	254	LR	LR	22 00 08.7	
	comp=Z,30nm,19.8s,baz=114,slow=34						
GERES	GERESS Array B	57.73	19	P	P	21 37 32.8	+0.3
	1.5nm,1.0s,baz=208,slow=7.6,SNR=5.8						
GERES				LR	LR	22 03 01.8	
	comp=Z,30nm,18.3s,baz=269,slow=37						
BRTR	Keskin Array B	60.32	38	P	P	21 37 51.0	+0.2
	0.5nm,0.9s,baz=234,slow=5.0,SNR=3.7						
AKASG	Malin Array Be	65.22	27	P	P	21 38 22.5	-0.5
	3.8nm,1.0s,baz=226,slow=6.7,SNR=7.3						

IDC 09 21:27:37.7±1.2,7°.66S×124°.64E,h0km,mb3.6/4, mb1 3.9/7,mb1mx3.6/26,mbtmp3.7/7,ML3.9/3,Error ellipse: s-maj=70.7km s-min=24.3km az=55.0
ISCJB 09 21:27:40.1±0.8,8°.0S±0°.1×124°.4E±0°.2,h33km,mb3.6/4, Error ellipse: s-maj=30.8km s-min=7.0km az=137.7
ISC 09 21:27:42.3±0.9,8°.0S±0°.2×124°.4E±0°.2,h35km,n8, σ1s.81/11,mb3.6/4,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	5.46	303	Pn	Pn	21 29 00.8	-0.4
	4.6nm,0.3s,baz=108,slow=2.9,SNR=16						
KAPI				Sn	Sn	21 30 02.2	-0.7
	1.5nm,0.3s,baz=294,slow=15,SNR=2.2						
WRA	Warramunga Arr	15.29	142	Pn	Pn	21 31 15.6	-0.1
	0.5nm,0.3s,baz=316,slow=14,SNR=18						
WRA				Sn	Sn	21 34 01.8	-2.2
	0.3nm,0.3s,baz=318,slow=25,SNR=5.4						
ASAR	Alice Springs	18.05	151	P	P	21 31 53.8	+3.1
	0.3nm,0.3s,baz=323,slow=11,SNR=13						
ASAR				S	Sn	21 35 08.8	-2.0
	0.1nm,0.3s,baz=308,slow=20,SNR=4.5						
CMAR	Chiang Mai Arr	36.35	317	P	P	21 34 44.1	+0.9
	0.5nm,0.8s,baz=133,slow=6.3,SNR=3.9						
SONM	Songino Array	57.84	346	P	P	21 37 30.7	+0.2
	0.4nm,0.8s,baz=147,slow=8.9,SNR=3.7						
MKAR	Makanchi Array	66.15	330	P	P	21 38 26.4	+0.2
	0.5nm,0.6s,baz=133,slow=7.2,SNR=8.0						
ZALV	Zalesovo Beam	70.15	336	P	P	21 38 48.8	-2.2
	0.3nm,0.4s,baz=127,slow=3.8,SNR=2.4						
TORD	Torodi Ar. Bea	123.50	280	PKP	PKPdf	21 46 37.7	+0.8
	0.4nm,0.8s,baz=97,slow=2.8,SNR=2.6						

JMA 09 21:28:57.2±0.1,27°.80N×140°.73E,h493km,M3.7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.47	118	P	P	21 29 59.5	+0.1
JHHJ	Haha-jima-NKT	1.74	132	P	P	21 30 00.9	+0.4
JHHJ				S	S	21 30 51.7	0.0
JIE	Ise	7.42	333	P	P	21 30 48.7	+1.4
JKN2	Miekihoku	7.47	330	P	P	21 30 48.4	+0.6
JNY	Yasuok	7.92	343	P	P	21 30 51.9	-0.7
JRY	Ryogami san	8.34	350	P	P	21 30 58.3	+1.5
JAG	Ashikaga	8.67	353	P	P	21 31 00.7	+0.5
JAG				eS	S	21 32 39.1	-2.3
JHO	Hitachi	8.79	359	P	P	21 31 04.2	+2.7
JHO				S	S	21 32 44.6	+0.9

IDC 09 22:02:56.3±2.5,8°.36S×112°.74E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/22,mbtmp3.5/4,Error ellipse: s-maj=123.2km s-min=23.2km az=54.0
ISCJB 09 22:03:05.5±0.7,8°.62S±0°.08×112°.46E±0°.04,h98km±7km, mb3.6/4,Error ellipse: s-maj=14.0km s-min=6.1km az=3.5
DJA 09 22:03:07.3±0.4,9°S±4°×11°2E±°,h67km±6km,M3.6/12, MLv3.6/12
ISC 09 22:03:06.2±1.1,8°.63S±0°.09×112°.47E±0°.04,h87km±10km, n13,σ0s.83/20,mb3.5/4,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	Pagerwojo	0.89	313	P	Pn	22 03 24.0	-0.5
PWJI				S	Sn	22 03 37.4	-0.8
PCJI	Pacitan	1.34	289	P	Pn	22 03 29.9	0.0
PCJI				S	Sn	22 03 48.2	+0.4
BLJI	Banyuglugur	1.42	52	P	Pn	22 03 30.9	0.0
BLJI				S	Sn	22 03 49.8	+0.3
GRJI	Gresik	1.70	0	P	Pn	22 03 35.5	+1.0
GRJI				S	Sn	22 03 55.9	0.0
ABJI	Asem Bagus	1.94	65	P	Pn	22 03 37.7	+0.2
UGM	Wanagama	2.05	290	P	Pn	22 03 40.0	+0.9
UGM				S	Sn	22 04 05.1	+1.0
UWJI	Ujung Watu	2.66	325	P	Pn	22 03 47.4	+0.2
UWJI				S	Sn	22 04 19.7	+1.1
SRBI	Singaraja	2.77	79	P	Pn	22 03 49.6	+0.9
SRBI				S	Sn	22 04 22.6	+1.3
CISI	Cisompet, Garu	4.73	283	P	Pn	22 04 16.4	+1.2
WRA	Warramunga Arr	23.96	120	P	P	22 08 11.6	-1.1
	0.9nm,0.6s,baz=297,slow=11,SNR=8.8						
STKA	Stephens Creek	35.59	135	P	P	22 09 55.5	0.0
	4.1nm,1.0s,baz=330,slow=5.7,SNR=4.7						
SONM	Songino Array	56.47	355	P	P	22 12 39.0	-0.2
	0.2nm,0.6s,baz=172,slow=8.1,SNR=3.2						
MKAR	Makanchi Array	61.38	337	P	P	22 13 12.5	-0.6
	0.2nm,0.4s,baz=142,slow=7.2,SNR=5.1						

GUC 09 22:06:24.8±0.4,26°.98S×71°.04W,h32km±3km,ML3.7,1C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	Caldera	0.21	114	iP	Pb	22 06 31.3	-0.1
CDCH				iS	Sb	22 06 35.8	0.0
CPCH	Copiapo	0.71	122	⇑iP	Pn	22 06 38.1	-0.6
CPCH				iS	Sb	22 06 48.5	0.0
CPCH				AML	AML	22 06 50.6	
	comp=N,15µm,0.1s						
VACH	Vallenar	1.60	171	iP	Pn	22 06 52.1	+1.1
VACH				iS	Sb	22 07 13.1	-0.8
VACH				AML	AML	22 07 19.9	
	comp=N,819nm,0.2s						

IDC 09 22:31:01.5±1.1,19°.66N×76°.52W,h0km,mb3.8/9, mb1 4.1/11,mb1mx3.8/38,mbtmp3.9/11,ML4.3/2,MS2.9/2, Ms1 2.9/2,ms1mx2.5/28,Error ellipse: s-maj=32.1km s-min=21.3km az=179.0
ISCJB 09 22:31:04.8±0.5,19°.73N±0°.04×76°.67W±0°.09,h33km, mb3.7/9,Error ellipse: s-maj=12.2km s-min=5.7km az=13.3
JSN 09 22:31:04.3±1.2,19°.80N×76°.59W,h28km±22km,MD4.2
ISC 09 22:31:06.6±0.7,19°.67N±0°.07×76°.71W±0°.08,h35km,n22, σ1s.35/23,mb3.9/9,Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBJ	Bamboo Saint A	1.39	203	iP	Pn	22 31 29.1	-0.5
GWJ	Greenwich	1.59	181	iP	Pn	22 31 31.5	-0.9
STH	Stony Hill	1.59	184	iP	Pn	22 31 31.5	-0.8
STH				iS	Sn	22 31 52.2	+0.5
CVJ	Coleyville	1.64	209	iP	Pn	22 31 32.8	-0.2
HOJ	Hope	1.66	181	iP	Pn	22 31 31.5	-1.7
MBJ	Montego Bay	1.67	221	iP	Pn	22 31 33.4	0.0
MBJ				iS	Sn	22 31 54.2	+0.5
MCJ	Malvern	1.97	208	iP	Pn	22 31 37.8	+0.3
TEIG	Tepich	10.90	275	Pn	Pn	22 33 40.3	+0.2
	1.2nm,0.3s,baz=87,slow=18,SNR=4.5						
TEIG				Sn	Sn	22 35 37.4	-3.4
	0.6nm,0.3s,baz=324,slow=19,SNR=4.7						
JTS	JuntasAbangare	12.26	222	LR	LR	22 38 32.2	
	comp=Z,50nm,20.2s,baz=16,slow=36						
TKL	Tuckaleechee C	17.10	340	Pn	Pn	22 34 60.0	-2.9
	1.5nm,0.3s,baz=146,slow=11,SNR=6.6						
CMIG	Matias Romero	17.44	264	LR	LR	22 41 04.9	
	comp=Z,45nm,18.7s,baz=6.5,slow=34						
TXAR	Lajitas Array	26.30	297	P	P	22 36 41.4	+2.3
	0.5nm,0.8s,baz=116,slow=11,SNR=6.7						
SCHQ	Schefferville	35.90	10	P	P	22 38 03.6	+0.4
	1.2nm,0.7s,baz=215,slow=12,SNR=3.4						
NVAR	Mina Array Bea	40.48	307	P	P	22 38 44.4	+2.1
	0.2nm,0.3s,baz=102,slow=8.6,SNR=2.9						
YKA	Yellowknife Ar	50.09	338	P	P	22 39 58.0	+0.2
	0.3nm,0.6s,baz=122,slow=8.2,SNR=3.3						
SPITS	Spitsbergen Ar	71.52	13	P	P	22 42 22.8	-0.6
	1.0nm,0.5s,baz=231,slow=6.3,SNR=9.0						
NOA	NORSAR Array B	72.00	31	P	P	22 42 27.2	+0.5
	1.1nm,0.9s,baz=281,slow=5.9,SNR=2.9						
TORD	Torodi Ar. Bea	74.92	81	P	P	22 42 44.2	-0.3
	0.7nm,0.6s,baz=292,slow=6.9,SNR=12						
ARCES	ARCESS Array B	75.93	21	P	P	22 42 49.2	-0.2
	1.3nm,0.7s,baz=305,slow=4.5,SNR=7.8						
FINES	FINESS Array B	78.85	29	P	P	22 43 06.2	+0.4
	0.8nm,0.5s,baz=236,slow=2.1,SNR=11						
WRA	Warramunga Arr	150.81	264	PKPbc	PKPbc	22 50 56.4	+0.3
	1.0nm,0.6s,baz=90,slow=2.9,SNR=6.1						
ASAR	Alice Springs	151.31	257	PKPbc	PKPbc	22 50 57.6	+0.4
	0.8nm,0.8s,baz=123,slow=2.5,SNR=6.8						

MEX 09 22:57:59.4±0.6,17°.34N×96°.51W,h84km±5km,MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	Vista Hermosa	0.34	219	iP	Pn	22 58 11.8	-1.0
VHO				iS	Sn	22 58 20.8	-1.7
TPIG	Tehuac#an	1.35	323	iP	Pn	22 58 22.5	-0.7
TPIG				iS	Sn	22 58 38.6	-2.5
CMIG	Matias Romero	1.57	99	iP	Pn	22 58 24.5	-1.3
CMIG				iS	Sn	22 58 44.1	-1.7
HUIG	Huatulco	1.61	166	iP	Pn	22 58 24.7	-1.7
HUIG				eS	Sn	22 58 45.4	-1.4
PNIG	Pinotepa	1.82	239	iP	Pn	22 58 28.1	-1.0
PNIG				iS	Sn	22 58 49.5	-2.1
TLIG	Tlapa	1.98	277	iP	Pn	22 58 30.2	-1.1
TLIG				iS	Sn	22 58 53.7	-1.9

ATH 09 23:05:23.5,39°.96N×23°.63E,h5km±1km,MD2.9/9
CSEM 09 23:05:23.1±0.1,39°.95N×23°.63E,h5km,MD2.9,Error ellipse: s-maj=2.9km s-min=1.8km az=102.0
THE 09 23:05:23.5,39°.95N×23°.62E,h1km±1km,ML1.6/9,Error ellipse: s-maj=1.7km s-min=0.5km az=136.0,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	Paliouri	0.06	118	P	Pg	23 05 24.4	-0.2
PAIG				S	Sg	23 05 25.6	+0.3
PAIG	Paliouri	0.06	118	ePG	Pg	23 05 24.8	+0.2
PAIG				eSG	Sg	23 05 25.5	+0.2
PAIG	Paliouri	0.06	118	P	Pg	23 05 24.4	-0.2
PAIG	Paliouri	0.06	118	ePg	Pg	23 05 24.8	+0.2
PAIG				eSg	Sg	23 05 25.5	+0.2
PLG	Polygyros	0.44	343	P	Pg	23 05 31.4	-0.6
PLG				S	Sg	23 05 37.8	0.0
PLG	Polygyros	0.44	343	ePB	Pg	23 05 31.6	-0.4
PLG				eSB	Sg	23 05 38.0	+0.2
PLG	Polygyros	0.44	343	ePb	Pg	23 05 31.6	-0.4
PLG				S	Sg	23 05 37.8	0.0
OUR	Ouranopolis	0.47	36	P	Pg	23 05 33.0	+0.4
OUR				S	Sg	23 05 40.2	+1.5
OUR	Ouranopolis	0.47	36	ePB	Pg	23 05 33.1	+0.5
OUR				eSB	Sg	23 05 38.5	-0.2
OUR	Ouranopolis	0.47	36	P	Pg	23 05 33.0	+0.4
OUR				eSb	Sg	23 05 38.5	-0.2
OUR				S	Sb	23 05 40.2	-1.9
XOR	Xorichti	0.67	209	P	Pg	23 05 35.4	-1.0
XOR				S	Sg	23 05 46.1	+0.9
XOR	Xorichti	0.67	209	ePG	Pg	23 05 36.3	-0.1
XOR	Xorichti	0.67	209	P	Pg	23 05 35.4	-1.0
XOR	Xorichti	0.67	209	ePg	Pg	23 05 36.3	-0.1
XOR				S	Sg	23 05 46.1	+0.9
NEO	Neokhori	0.71	205	P	Pg	23 05 36.9	-0.3
NEO				S	Sg	23 05 47.2	+0.7
NEO	Neokhori	0.71	205	ePB	Pg	23 05 37.8	+0.6
NEO				eSB	Sb	23 05 47.9	-1.2
NEO	Neokhori	0.71	205	P	Pg	23 05 36.9	-0.3
NEO	Neokhori	0.71	205	ePb	Pg	23 05 37.8	+0.6
NEO				S	Sg	23 05 47.2	+0.7
FYTO	Fytoko, Volos	0.75	224	P	Pg	23 05 37.5	-0.5
FYTO				S	Sb	23 05 49.3	-0.9
FYTO	Fytoko, Volos	0.75	224	P	Pg	23 05 37.5	-0.5
FYTO				S	Sb	23 05 49.3	-0.9
HORT	Hortiatis	0.76	329	P	Pg	23 05 37.1	-1.1
HORT				S	Sg	23 05 48.9	+0.8
HORT	Hortiatis	0.76	329	ePG	Pg	23 05 37.5	-0.7
HORT	Hortiatis	0.76	329	P	Pg	23 05 37.1	-1.1
HORT	Hortiatis	0.76	329	ePg	Pg	23 05 37.5	-0.7
HORT				S	Sg	23 05 48.9	+0.8
AOS	Alonnisos	0.81	165	P	Pg	23 05 38.9	-0.1
AOS				S	Sg	23 05 50.2	+0.7
AOS	Alonnisos	0.81	165	ePG	Pg	23 05 38.9	-0.1
AOS	Alonnisos	0.81	165	P	Pg	23 05 38.9	-0.1
AOS				S	Sg	23 05 50.2	+0.7
LIT	Litokhoron	0.88	280	P	Pg	23 05 40.5	+0.1
LIT				S	Sb	23 05 52.9	-0.9
LIT	Litokhoron	0.88	280	ePB	Pg	23 05 40.5	+0.1
LIT	Litokhoron	0.88	280	P	Pg	23 05 40.5	+0.1
LIT				S	Sb	23 05 52.9	-0.9
SOH	Sokhos	0.89	347	P	Pg	23 05 40.1	-0.6
SOH				S	Sg	23 05 52.6	+0.3
SOH	Sokhos	0.89	347	ePG	Pg	23 05 40.2	-0.5
SOH	Sokhos	0.89	347	ePg	Pg	23 05 40.2	-0.5
SOH				S	Sg	23 05 52.6	+0.3
SRS	Serrai	1.16	359	P	Pg	23 05 45.6	-0.3
SRS				S	Sg	23 06 01.4	+0.4
SRS	Serrai	1.16	359	ePB	Pg	23 05 45.6	-0.3
SRS	Serrai	1.16	359	P	Pg	23 05 45.6	-0.3
SRS				S	Sg	23 06 01.4	+0.4
LIA	Limnos Island	1.21	92	P	Pg	23 05 45.4	-1.2
LIA	Limnos Island	1.21	92	P	Pg	23 05 45.4	-1.2
KAVA	Kavala	1.25	33	P	Pg	23 05 46.8	-0.6
KAVA	Kavala	1.25	33	ePB	Pg	23 05 46.9	-0.5
KAVA	Kavala	1.25	33	ePb	Pg	23 05 46.9	-0.5
THL	Klokotos Trika	1.29	253	P	Pg	23 05 47.5	-0.8
THL	Klokotos Trika	1.29	253	ePN	Pg	23 05 47.4	-0.9
THL	Klokotos Trika	1.29	253	P	Pg	23 05 47.5	-0.8
KNT	Kendrikon	1.33	336	P	Pg	23 05 48.9	-0.1
KNT				S	Sn	23 06 07.3	-0.2
KNT	Kendrikon	1.33	336	ePB	Pg	23 05 48.9	-0.1
KNT	Kendrikon	1.33	336	P	Pg	23 05 48.9	-0.1
KNT				S	Sn	23 06 07.3	-0.2
AGG	Agios Georgios	1.36	227	P	Pg	23 05 47.9	-1.8
AGG	Agios Georgios	1.36	227	P	Pg	23 05 47.9	-1.8
NVR	Nevrokopi	1.41	8	P	Pn	23 05 49.1	-1.2
NVR				S	Sb	23 06 09.1	-0.1
NVR	Nevrokopi	1.41	8	P	Pn	23 05 49.1	-1.2
NVR				S	Sb	23 06 09.1	-0.1
FNA	Florina	1.90	297	P	Pn	23 05 56.8	-0.4
FNA	Florina	1.90	297	P	Pn	23 05 56.8	-0.4

IDC 09 23:10:12.4±2.0,30°.28S×178°.12W,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.7/20,mbtmp3.8/4,Error ellipse: s-maj=53.0km s-min=34.6km az=38.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.40	257	P	P	23 17 02.5	+1.0
	2.1nm,0.9s,baz=101,slow=16,SNR=2.3						
ASAR	Alice Springs	43.01	267	P	P	23 18 13.4	-0.5
	0.3nm,0.4s,baz=102,slow=6.9,SNR=5.8						
WRA	Warramunga Arr	43.99	272	P	P	23 18 21.7	-0.1
	0.8nm,0.3s,baz=114,slow=7.3,SNR=3.8						
QSPA	South Pole Qui	59.83	180	P	P	23 20 20.3	+0.8
	1.0nm,0.6s,baz=335,slow=0.2,SNR=10						
FINES	FINESS Array B	145.00	340	PKPbc	PKPbc	23 29 48.4	-1.8
	1.3nm,0.7s,baz=35,slow=3.4,SNR=7.4						

IDC 09 23:18:25.6±3.5,17°.72S×178°.71W,h535km±36km, mb3.6/13,mb1 3.8/14,mb1mx3.5/34,mbtmp4.5/14,Error ellipse: s-maj=21.5km s-min=15.1km az=65.0
ISCJB 09 23:18:26.0±0.7,17°.7S±0°.1×178°.8W±0°.1,h547km, mb4.1/13,Error ellipse: s-maj=20.0km s-min=14.7km az=42.5
ISC 09 23:18:26.3±0.6,17°.7S±0°.1×178°.7W±0°.1,h547km,n81, σ1s.01/83,mb4.0/13,12C-9D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.62	250	P	P	23 21 32.3	+0.3
	baz=270,slow=20						
URZ	Urewera	20.82	189	P	P	23 22 27.8	-2.0
	6.2nm,0.3s,baz=266,slow=2.9,SNR=12						
CTA	Charters Tower	33.20	260	P	P	23 24 18.4	0.0
	6.5nm,0.5s,baz=84,slow=10,SNR=10						
STKA	Stephens Creek	38.48	241	P	P	23 25 03.0	+1.0
	14nm,0.4s,baz=90,slow=9.5,SNR=57						
WRA	Warramunga Arr	44.39	259	P	P	23 25 48.0	-0.8
	8.2nm,0.6s,baz=93,slow=7.1,SNR=40						
WRA				PcP	PcP	23 27 20.4	-0.4
	2.0nm,0.6s,baz=95,slow=3.3,SNR=5.6						
ASAR	Alice Springs	44.57	254	P	P	23 25 50.2	0.0
	78nm,0.6s,baz=88,slow=8.1,SNR=894						
ASAR				PcP	PcP	23 27 21.2	-0.2
	2.4nm,0.4s,baz=102,slow=3.9,SNR=5.4						
SIJI	Sorong	51.90	283	P	P	23 26 45.2	+0.4
	36nm,0.6s,baz=94,slow=6.9,SNR=22						
NWAO	Narrogin (SRO)	59.06	242	P	P	23 27 33.9	-0.3
	3.7nm,0.5s,baz=149,slow=4.2,SNR=3.8						
MJAR	Matsushiro Arr	67.56	323	P	P	23 28 28.4	-0.2
	2.1nm,0.6s,baz=162,slow=7.4,SNR=7.0						
QSPA	South Pole Qui	72.36	180	P	P	23 28 58.1	+1.3
	baz=360,slow=1.0						
KSRS	Korea Array	74.35	318	P	P	23 29 09.6	+1.2
	0.7nm,0.4s,baz=125,slow=6.2,SNR=4.2						
SEY	Seymchan	83.50	347	P	P	23 29 56.4	+0.1
	2.1nm,0.5s,baz=126,slow=19						
MAW	Mawson	83.97	200	P	P	23 29 59.5	+0.8
	2.4nm,0.7s,baz=144,slow=5.4,SNR=5.2						
ILAR	Eielson Array	85.74	13	P	P	23 30 06.5	-0.7
	0.3nm,0.4s,baz=228,slow=4.9,SNR=5.2						
TXAR	Lajitas Array	86.12	58	P	P	23 30 12.3	+2.3
	0.5nm,0.7s,baz=204,slow=5.2,SNR=8.8						
CMAR	Chiang Mai Arr	88.54	290	P	P	23 30 22.4	+1.0
	1.0nm,0.3s,baz=103,slow=2.2,SNR=7.5						
MKAR	Makanchi Array	108.78	314	PKiKP	PKiKP	23 35 52.3	-1.2
	0.5nm,0.5s,baz=237,slow=0.6,SNR=7.2						
BVAR	Borovoye Array	116.49	321	PKP	PKPdf	23 36 06.7	-1.3
	0.9nm,0.3s,baz=174,slow=3.0,SNR=6.3						
FINES	FINESS Array B	132.90	344	PKP	PKPdf	23 36 38.8	-0.2
	0.3nm,0.4s,baz=106,slow=4.9,SNR=4.7						
BURAR	Bucovina Array	144.29	332	⇓iP	PKPab	23 37 01.2	+0.7
BRTR	Keskin Array B	144.42	315	PKP	PKPbc	23 37 00.5	-0.4
	3.7nm,0.8s,baz=109,slow=3.3,SNR=28						
TESR	Tescani	144.42	329	⇑iP	PKPdf	23 37 00.6	+0.1
CFR	Carcaliu	144.59	327	⇑iP	PKPab	23 37 01.4	-0.1
ASF	Jabal al Asfar	144.82	301	PKP	PKPdf	23 37 02.0	+0.3
	2.2nm,0.7s,baz=226,slow=0.6,SNR=6.1						
VRI	Vrincioaia	144.84	329	⇑iP	PKPdf	23 37 01.5	+0.3
PLOR	Plostina	144.89	329	⇑iP	PKPdf	23 36 59.8	-1.5
TIRR	Tirgusor	144.92	325	⇓iP	PKPdf	23 37 00.7	-0.6
TLB	Topalu	145.04	326	⇓iP	PKPab	23 37 02.9	-0.4
CLL	Collm	145.19	347	iPKP	PKPbc	23 37 02.7	+0.1
	comp=Z,7.0nm,0.7s						
BRG	Berggiesshubel	145.38	346	iP	PKPbc	23 37 03.4	+0.2
	comp=Z,5.8nm,1.2s						
DOPR	Dopca	145.42	330	⇑iP	PKPab	23 37 04.5	-0.3
MLR	Muntele Rosu	145.50	329	⇑iP	PKPbc	23 37 04.3	+0.4
PSN	Preselentsi	145.55	325	⇑iP	PKPbc	23 37 03.6	-0.3
MMAI	Mount Meron Ar	145.78	303	PKPbc	PKPbc	23 37 05.5	+0.5
	comp=Z,5.5nm,0.5s,baz=65,slow=5.9,SNR=22						
VOIR		145.97	330	⇑iP	PKPbc	23 37 04.6	-0.6
DRGR		146.01	333	⇑iP	PKPbc	23 37 05.5	+0.3
GERES	GERESS Array B	147.33	345	PKPbc	PKPbc	23 37 08.8	0.0
	comp=Z,2.4nm,0.5s,baz=20,slow=3.4,SNR=26						
CONA	Conrad Observa	147.57	342	⇓iPKPbc	PKPbc	23 37 09.7	+0.3
	comp=Z,4.0nm,0.6s						
PKSM	Moragy	148.12	337	⇑iP	PKPbc	23 37 10.6	-0.1

KDZ	**Kurdzhali**	**148.43**	**324**	⇓*i*P	**PKPbc**	**23 37 11.7**	**+0.1**
RDO	**Rodhopi**	**148.69**	**323**	*e*P	**PKPbc**	**23 37 11.7**	**-0.5**
SOKA	**Soboth**	**148.94**	**342**	⇓*i*PKPbc	**PKPbc**	**23 37 12.3**	**-0.6**
	comp=Z,1.6nm,0.6s						
RETA	**Reutte**	**149.28**	**347**	⇑*i*PKPbc	**PKPbc**	**23 37 13.2**	**-0.4**
	comp=Z,1.6nm,0.4s						
WTTA	**Wattenberg**	**149.30**	**346**	⇓*i*PKPbc	**PKPbc**	**23 37 13.7**	**-0.1**
	comp=Z,6.4nm,0.4s						
MOTA	**Moosalm**	**149.34**	**347**	⇑*i*PKPbc	**PKPbc**	**23 37 13.5**	**-0.4**
	comp=Z,1.2nm,0.4s						
KAVA	**Kavala**	**149.37**	**324**	*e*P	**PKPbc**	**23 37 13.5**	**-0.4**
MMB	**Musomiste**	**149.39**	**326**	⇓*i*P	**PKPbc**	**23 37 13.9**	**-0.1**
NVR	**Nevrokopi**	**149.49**	**325**	*e*P	**PKPbc**	**23 37 13.3**	**-0.9**
ABTA	**Abfaltersbach**	**149.57**	**345**	⇓*i*PKPbc	**PKPbc**	**23 37 13.5**	**-0.8**
	comp=Z,4.8nm,0.6s						
LIA	**Limnos Island**	**149.71**	**322**	*e*P	**PKPbc**	**23 37 14.2**	**-0.5**
SRS	**Serrai**	**149.79**	**325**	*e*P	**PKPbc**	**23 37 13.6**	**-1.3**
CHOS	**Chios island**	**150.11**	**319**	*e*P	**PKPbc**	**23 37 15.2**	**-0.7**
OUR	**Ouranopolis**	**150.11**	**324**	*e*P	**PKPbc**	**23 37 14.8**	**-0.9**
PAIG	**Paliouri**	**150.56**	**323**	*e*P	**PKPbc**	**23 37 14.8**	**-1.9**
AOS	**Alonnisos**	**150.95**	**322**	*e*P	**PKPbc**	**23 37 16.1**	**-1.5**
KARP	**Karpathos**	**150.96**	**313**	*e*P	**PKPbc**	**23 37 17.4**	**-0.5**
LIT	**Litokhoron**	**151.10**	**325**	*e*P	**PKPbc**	**23 37 16.9**	**-1.1**
FNA	**Florina**	**151.21**	**327**	*e*P	**PKPbc**	**23 37 17.6**	**-0.7**
XOR	**Xorichti**	**151.22**	**323**	*e*P	**PKPbc**	**23 37 16.9**	**-1.4**
SMIA	**Simia**	**151.53**	**322**	*e*P	**PKPbc**	**23 37 18.1**	**-0.9**
NEST	**Nestorio**	**151.65**	**327**	*e*P	**PKPbc**	**23 37 18.9**	**-0.4**
PTL	**Penteli**	**151.68**	**320**	*e*P	**PKPbc**	**23 37 18.2**	**-1.2**
THL	**Klokotos Trika**	**151.74**	**325**	*e*P	**PKPbc**	**23 37 17.6**	**-1.8**
LKR	**Lokris**	**151.81**	**322**	*e*P	**PKPbc**	**23 37 18.3**	**-1.3**
AXAR	**Agios Charalam**	**151.93**	**323**	*e*P	**PKPbc**	**23 37 19.0**	**-0.9**
VIL2	**Platees**	**151.94**	**321**	*e*P	**PKPbc**	**23 37 18.3**	**-1.6**
AGG	**Agios Georgios**	**151.94**	**324**	*e*P	**PKPbc**	**23 37 18.6**	**-1.3**
MAKR	**Makrakomi, Fth**	**152.06**	**324**	*e*P	**PKPbc**	**23 37 19.5**	**-0.7**
LTK	**Loutraki**	**152.24**	**321**	*e*P	**PKPbc**	**23 37 17.2**	**-3.4**
DSF	**Desfina**	**152.24**	**322**	*e*P	**PKPbc**	**23 37 19.3**	**-1.3**
EVR	**Evrytania**	**152.31**	**324**	*e*P	**PKPbc**	**23 37 20.2**	**-0.6**
DID	**Didima**	**152.41**	**320**	*e*P	**PKPbc**	**23 37 19.2**	**-1.8**
KALE	**Kalithea**	**152.48**	**323**	*e*P	**PKPbc**	**23 37 20.6**	**-0.6**
KRND	**KRANIDI**	**152.54**	**320**	*e*P	**PKPbc**	**23 37 19.6**	**-1.6**
EFP	**Efpalio**	**152.59**	**323**	*e*P	**PKPbc**	**23 37 20.8**	**-0.5**
GUR	**Goura**	**152.67**	**322**	*e*P	**PKPbc**	**23 37 20.8**	**-0.9**
IGT	**Igoumenitsa**	**152.67**	**327**	*e*P	**PKPbc**	**23 37 20.0**	**-1.5**
KEK	**Kerkira**	**152.81**	**328**	*e*P	**PKPbc**	**23 37 21.3**	**-0.5**
PDO	**Prodromos**	**152.88**	**324**	*e*P	**PKPbc**	**23 37 21.5**	**-0.5**
PYL	**PYLOS**	**153.71**	**321**	*e*P	**PKPbc**	**23 37 22.0**	**-1.8**
TORD	**Torodi Ar. Bea**	**175.47**	**185**	PKP	**PKPdf**	**23 37 33.2**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=236,slow=1.6,SNR=3.8						
TORD				PKPab	**PKPab**	**23 39 15.3**	**0.0**
	comp=Z,0.4nm,0.8s,baz=146,slow=1.9,SNR=3.0						

NOU ***09*** *23:23:11.9±1.9, 17.°76S×169.°14E, h30km±999km, MD3.9, ML3.3, MS6.3*

ISCJB ***09*** *23:23:14.4±1.6, 18.°58S±0.°03×169.°44E±0.°03, h0km±10km, mb5.3/139, MS5.8/91, Error ellipse: s-maj=4.9km s-min=3.8km az=45.0*

IDC ***09*** *23:23:15.7±0.5, 18.°57S×169.°43E, h0km, mb4.9/23, mb1 5.0/24, mb1mx4.9/34, mbtmp4.9/24, ML4.1/1, MS5.8/14, Ms1 5.8/14, ms1mx5.6/19, Error ellipse: s-maj=16.3km s-min=13.4km az=110.0*

NEIC ***09*** *23:23:17.4±2.5, 18.°60S×169.°49E, h12km±15km, mb5.4/85, MS5.8/68, MW5.9, MW5.9, MW6.0, Error ellipse: s-maj=6.0km s-min=4.7km az=168.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^{18}Nm; M_{rr}0.22; $M_{\theta\theta}$0.17; $M_{\phi\phi}$-0.39; $M_{r\theta}$-0.32; $M_{\theta\phi}$-1.05; $M_{\phi r}$-0.33; Best double couple: $M_0$1.20000×10^{18} NP1:ϕ_s351.00000°, δ75.00000°, λ-8.00000°. NP2:ϕ_s83.00000°, δ82.00000°, λ-165.00000°. Principal axes: T 0.9800, Plg4.0000°, Azm216.0000°; N 0.3500, Plg72.0000°, Azm111.0000°; P -1.3300, Plg16.0000°, Azm308.0000°;*

NEIC ***09*** *23:23:19.0±0.0, 18.°59S×169.°47E, h18km, Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M_{rr}0.21; $M_{\theta\theta}$0.21; $M_{\phi\phi}$-0.42; $M_{r\theta}$3.00; $M_{\theta\phi}$-8.66; $M_{\phi r}$-3.64; Best double couple: $M_0$9.70000×10^{17} NP1:ϕ_s181.00000°, δ76.00000°, λ20.00000°. NP2:ϕ_s86.00000°, δ70.00000°, λ165.00000°. Principal axes: T 10.7000, Plg24.0000°, Azm44.0000°; N -1.9000, Plg65.0000°, Azm214.0000°; P -8.8000, Plg3.0000°, Azm312.0000°;*

MOS ***09*** *23:23:19.1±1.7, 18.°58S×169.°33E, h26km, mb5.5/49, MS5.7/25 Error ellipse: s-maj=8.5km s-min=7.6km az=119.4*

BJI ***09*** *23:23:20.2, 17.°99S×168.°95E, h13km, mb5.2/64, mB5.6/58, Ms5.7/76, Ms7 5.6/68*

SZGRF ***09*** *23:23:21.2, 19.°74S×171.°04E, h33km, mb5.8, Vanuatu Islands region*

GCMT ***09*** *23:23:22.3±0.1, 18.°41S×169.°59E, h12km, MW6.0/133, Moment Tensor Solution. s115,c247; s133,c435; Duration: 2.s4 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.13±.01; $M_{\theta\theta}$0.23±.01; $M_{\phi\phi}$-0.09±.01; $M_{r\theta}$0.32±.02; $M_{\theta\phi}$-1.11±.01; $M_{\phi r}$-0.06±.02; Best double couple: $M_0$1.16500×10^{18} NP1:ϕ_s86.00000°, δ89.00000°, λ165.00000°. NP2:ϕ_s176.00000°, δ75.00000°, λ1.00000°. Principal axes: T 1.2420, Plg12.0000°, Azm40.0000°; N -0.1560, Plg75.0000°, Azm263.0000°; P -1.0870, Plg10.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***09*** *23:23:35.0±0.0, 18.°60S×169.°38E, h10km Best double couple: NP1:ϕ_s88.00000°, δ77.00000°, λ-162.00000°. NP2:ϕ_s354.00000°, δ73.00000°, λ-12.00000°. Principal axes: T 0.9900, Plg2.0000°, Azm220.0000°; N 0.0900, Plg68.0000°, Azm123.0000°; P -1.0800, Plg21.0000°, Azm312.0000°;*

ISC 09 23:23:18.5±0.3**, 18.°64S**±0.°04×**169.°55E**±0.°04**, h16**km±1km**, h15**km**:pP-P, n846,** σ**1.s73**/772**, mb5.4**/139**, MS5.8**/93**, 19C-19D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**3.04**	**225**	*e*P	**Pn**	**23 24 03.2**	**-2.8**
LIFNC				*e*S	**Sn**	**23 24 40.3**	**-1.8**
LIFNC				AMP		23 27 00.7	
	comp=Z,3521µm,28.2s						
BAYA	**Yate Dam**	**4.30**	**215**	*e*S	**Sn**	**23 25 13.4**	**+0.3**
DZM	**Mont Dzumac**	**4.49**	**220**	*e*Pn	**Pn**	**23 24 25.3**	**-0.7**
	comp=Z,2µm,1.1s						
DZM				*e*LR	LR	23 25 30.5	
	comp=Z,273µm,24.6s						
DZM	**Mont Dzumac**	**4.49**	**220**	Pn	**Pn**	**23 24 24.6**	**-1.3**
	comp=Z,9.2nm,0.3s,baz=89,slow=24,SNR=15						
DZM				Sn	**Sn**	**23 25 20.6**	**+2.7**
	baz=90,slow=20						
DZM				LR	LR	23 25 49.1	
	comp=Z,77µm,20.1s,baz=0.0,slow=34						
DZM	**Mont Dzumac**	**4.49**	**220**	*e*P	**Pn**	**23 24 24.7**	**-1.3**
NOUC	**Port Laguerre**	**4.60**	**221**	*e*P	Pn	23 24 23.9	-3.5
NOUC				*e*S	**Sn**	**23 25 20.0**	**-0.6**
NOUC				AMP		23 25 38.5	
	comp=Z,86nm,4.2s						
MSVF	**Nonsavu**	**8.13**	**85**	Pn	**Pn**	**23 25 16.2**	**+0.1**
	comp=Z,7µm,1.1s						
MSVF	**Nonsavu**	**8.13**	**85**	*e*P	**Pn**	**23 25 16.1**	**0.0**
MSVF	**Nonsavu**	**8.13**	**85**	*e*Pn	**Pn**	**23 25 16.1**	**0.0**
MSVF				*e*Sn	**Sn**	**23 26 44.5**	**-3.3**
HNR	**Honiara**	**13.05**	**313**	*e*P	**Pn**	**23 26 22.9**	**-0.5**
HNR				*e*		23 28 53.7	
HNR	**Honiara**	**13.05**	**313**	*e*P	Pn	23 26 28.0	+4.6
HNR	**Honiara**	**13.05**	**313**	*e*Pn	**Pn**	**23 26 22.9**	**-0.5**
HNR				*e*Sn	**Sn**	**23 28 53.7**	**+5.3**
RAO	**Raoul Island**	**15.57**	**135**	LR	LR	23 31 33.8	
	comp=Z,40µm,19.3s,baz=331,slow=32						
OUZ	**Omahuta**	**16.90**	**169**	*e*Pn	**P**	**23 27 16.0**	**-0.4**
	comp=Z,46nm,1.2s						
EIDS	**Eidsvold**	**18.38**	**245**	*e*Pn	**P**	**23 27 31.9**	**-0.9**
	comp=Z,131nm,1.3s						
EIDS				*e*Sn	**S**	**23 31 04.5**	**+2.1**
AFI	**Afiamalu**	**18.53**	**78**	*e*P	P	23 27 29.8	-4.8
AFI				*e*		23 30 53.6	
AFI				pmax	pmax		
	comp=Z,280nm,1.0s						
AFI	**Afiamalu**	**18.53**	**78**	*e*P	P	23 27 29.8	-4.8
	comp=Z,280nm,1.0s						
AFI				*e*Sn	Sn	23 30 53.6	-8.2
TOZ	**Tahuroa Road**	**19.72**	**166**	*e*P*	**Pn**	**23 27 53.6**	**+4.7**
ARMA	**Armidale**	**20.05**	**231**	*e*P	Pn	23 27 52.5	-0.5
	comp=Z,294nm,1.5s						
ARMA				*e*S	**S**	**23 31 31.6**	**-4.6**
ARMA				LR	LR		
	comp=Z,47µm,20.0s						
HAZ	**Te Kaha**	**20.36**	**161**	*e*P*	Pn	23 27 57.1	+0.6
URZ	**Urewera**	**20.64**	**163**	P	**P**	**23 27 58.0**	**+0.7**
	comp=Z,26nm,0.9s,baz=348,slow=8.4,SNR=12						
URZ				LR	LR	23 33 58.1	
	comp=Z,29µm,21.9s,baz=344,slow=31						
URZ	**Urewera**	**20.64**	**163**	*e*P	**P**	**23 27 58.1**	**+0.7**
	comp=Z,744nm,1.9s						
URZ				*e*S	**S**	**23 31 46.6**	**-0.9**
URZ				LR	LR		
	comp=Z,25µm,22.0s						
PUZ	**Puketiti**	**20.80**	**160**	*e*P*	**P**	**23 28 00.3**	**+1.1**
BKZ	**Black Stump Fm**	**21.33**	**165**	*e*P	**P**	**23 28 07.3**	**+2.4**
	comp=Z,172nm,1.4s						
BKZ				*e*S	Sn	23 32 07.5	-1.4
BKZ				LR	LR		
	comp=Z,30µm,18.0s						
BHHZ	**Black Hill Sta**	**21.53**	**166**	*e*P*	P	23 28 12.9	+5.8
KRHZ	**Kereru**	**21.75**	**166**	*e*P*	P	23 28 15.2	+5.8
CTA	**Charters Tower**	**22.02**	**262**	P	**P**	**23 28 12.5**	**0.0**
	comp=Z,13nm,0.5s,baz=89,slow=12,SNR=12						
CTAO	**Charters Tower**	**22.02**	**262**	*e*P	**P**	**23 28 13.8**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,130nm,1.2s						
CTAO				MLR	MLR		
	comp=Z,12µm,18.0s						
CTAO	**Charters Tower**	**22.02**	**262**	*e*P	**P**	**23 28 13.8**	**+1.3**
	comp=Z,130nm,1.2s						
CTAO				LR	LR		
	comp=Z,12µm,18.0s						
QRZ	**Quartz Range**	**22.26**	**174**	*e*P*	P	23 28 20.6	+5.7
MRZ	**Mangatainoka R**	**22.55**	**168**	*e*P*	**P**	**23 28 20.9**	**+2.9**
OGWZ	**Otaki Gorge**	**22.63**	**169**	P*	**P**	**23 28 22.3**	**+3.5**
BFZ	**Birch Farm**	**22.71**	**167**	*e*P	**P**	**23 28 18.1**	**-1.6**
BFZ				LR	LR		
	comp=Z,37µm,18.0s						
THZ	**Tophouse**	**23.23**	**174**	*e*P*	**P**	**23 28 26.9**	**+1.9**
PMG	**Port Moresby**	**23.55**	**290**	*d i*P	**P**	**23 28 27.4**	**-1.1**
PMG				pmax	pmax		
	comp=Z,910nm,1.7s						
PMG				MLR	MLR		
	comp=Z,151µm,16.0s						
PMG	**Port Moresby**	**23.55**	**290**	*e*P	**P**	**23 28 28.6**	**+0.1**
	comp=Z,4µm,2.3s						
PMG				LR	LR		
	comp=Z,120µm,18.0s						
KHZ	**Kahutara**	**23.95**	**173**	*e*P	**P**	**23 28 30.3**	**-1.7**
	comp=Z,824nm,2.4s						
KHZ				*e*sP	**sP**	**23 28 36.1**	**-2.6**
KHZ				LR	LR		
	comp=Z,18µm,20.0s						
KNTN	**Kanton**	**24.19**	**52**	*e*P	**P**	**23 28 31.0**	**-3.5**
	comp=Z,2µm,2.9s						
CAN	**Canberra**	**24.64**	**223**	*e*P	**P**	**23 28 37.8**	**-0.8**
CAN				pmax	pmax		
	comp=Z,135nm,1.0s						
CAN	**Canberra**	**24.64**	**223**	*e*P	**P**	**23 28 37.8**	**-0.8**
	comp=Z,135nm,1.0s						
RPZ	**Rata Peaks**	**25.03**	**177**	P	**P**	**23 28 42.6**	**+0.7**
	comp=Z,76nm,1.2s,baz=206,slow=3.6,SNR=5.1						
RPZ				LR	LR	23 37 27.5	
	comp=Z,26µm,20.7s,baz=348,slow=34						
RPZ	**Rata Peaks**	**25.03**	**177**	*e*P	**P**	**23 28 41.5**	**-0.5**
	comp=Z,142nm,1.1s						
RPZ				LR	LR		
	comp=Z,27µm,21.0s						
COEN	**Coen**	**25.72**	**276**	*e*P	**P**	**23 28 49.7**	**+1.2**
	comp=Z,255nm,1.3s						
ODZ	**Otahua Downs**	**26.35**	**178**	*e*P	**P**	**23 28 58.0**	**+4.2**
	comp=Z,86nm,1.3s						
DCZ	**Deep Cove**	**26.84**	**184**	*e*P	**P**	**23 29 01.1**	**+2.9**
	comp=Z,65nm,1.0s						
DCZ				LR	LR		
	comp=Z,14µm,18.0s						
STKA	**Stephens Creek**	**28.41**	**237**	P	**P**	**23 29 12.5**	**0.0**
	comp=Z,28nm,0.7s,baz=70,slow=9.4,SNR=28						
STKA	**Stephens Creek**	**28.41**	**237**	*e*P	**P**	**23 29 12.6**	**0.0**
STKA				pmax	pmax		
	comp=Z,31nm,1.3s						
STKA	**Stephens Creek**	**28.41**	**237**	*e*P	**P**	**23 29 12.6**	**0.0**
	comp=Z,31nm,1.3s						
RAR	**Rarotonga**	**28.94**	**100**	LR	LR	23 38 14.4	
	comp=Z,6µm,21.0s,baz=258,slow=31						
GENI	**Genyem**	**32.89**	**296**	P	**P**	**23 29 52.3**	**+0.1**
	comp=Z,120nm,1.6s						
BBOO	**Buckleboo**	**33.15**	**238**	*e*P	**P**	**23 29 54.0**	**-0.3**
	comp=Z,80nm,1.0s						
WRAB	**Tennant Creek**	**33.21**	**262**	*i* P	**P**	**23 29 55.1**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,144nm,1.7s						
WRAB				MLR	MLR		
	comp=Z,24µm,18.0s						
WRAB	**Tennant Creek**	**33.21**	**262**	*e*P	**P**	**23 29 53.3**	**-1.7**
WRAB				LR	LR		
	comp=Z,10µm,18.0s						
WRA	**Warramunga Arr**	**33.22**	**262**	P	**P**	**23 29 53.0**	**-2.0**
	comp=Z,3.7nm,0.6s,baz=93,slow=8.4,SNR=11						
AS01	**Alice Springs**	**33.52**	**255**	*e*P	**P**	**23 29 55.9**	**-1.8**
AS31	**Alice Springs**	**33.56**	**255**	*e*P	**P**	**23 29 56.6**	**-1.4**
AS12	**Alice Springs**	**33.56**	**255**	*e*P	**P**	**23 29 56.7**	**-1.3**
ASAR	**Alice Springs**	**33.56**	**255**	P	**P**	**23 29 56.7**	**-1.3**
	comp=Z,28nm,0.5s,baz=86,slow=8.9,SNR=57						
SMPI	**Sarmi**	**34.45**	**295**	P	**P**	**23 30 06.4**	**+0.6**
	comp=Z,51nm,1.6s,comp=Z,4µm						
SRPI	**Serui, Papua**	**36.65**	**293**	P	**P**	**23 30 24.7**	**0.0**
	comp=Z,160nm,0.5s,comp=Z,9µm						
H11S2	**WAKE ISLAND Hy**	**37.00**	**356**	T	T	00 09 27.7	
	baz=181,slow=77,SNR=186						
H11S3	**WAKE ISLAND Hy**	**37.01**	**355**	T	T	00 09 28.1	
	baz=181,slow=77,SNR=135						
H11S1	**WAKE ISLAND Hy**	**37.02**	**356**	T	T	00 09 32.6	
	baz=181,slow=77,SNR=108						
H11N1	**WAKE ISLAND Hy**	**38.20**	**356**	T	T	00 11 01.4	
	baz=175,slow=76,SNR=126						
H11N3	**WAKE ISLAND Hy**	**38.21**	**356**	T	T	00 11 03.1	
	baz=175,slow=76,SNR=51						
H11N2	**WAKE ISLAND Hy**	**38.22**	**356**	T	T	00 11 03.4	
	baz=175,slow=76,SNR=65						
TBI	**Tubuai**	**38.47**	**104**	*e*P	P	23 30 36.8	-3.2
	comp=Z,164nm,1.3s						
TBI				*e*S	**S**	**23 36 31.4**	**-3.6**
	comp=Z,3µm,28.5s						
TBI				*e*LQ	LQ	23 39 24.8	
	comp=Z,43µm,29.5s						
TBI				*e*LR	LR	23 41 03.5	
	comp=Z,21µm,31.0s,baz=276						
RKPI	**Ransiki, Papua**	**38.62**	**292**	P	**P**	**23 30 42.4**	**+1.0**
	comp=Z,186nm,1.2s,comp=Z,9µm						
PAE	**Paea**	**38.79**	**95**	*e*P	P	23 30 38.6	-4.2
	comp=Z,19nm,1.5s						
PPT2	**Papeete2**	**38.81**	**95**	*e*P	P	23 30 39.1	-3.9
	comp=Z,70nm,1.4s						
PPT2				*e*S	S	23 36 31.8	-8.6
	comp=Z,5µm,24.8s						
PPT2				*e*LQ	LQ	23 39 33.6	
	comp=Z,53µm,29.5s						
PPT2				*e*LR	LR	23 41 12.7	
	comp=Z,14µm,27.8s,baz=255						
PPT	**Papeete**	**38.81**	**95**	LR	LR	23 42 39.6	
	comp=Z,3µm,21.7s,baz=262,slow=30						
TIAR	**Tiarei**	**39.03**	**95**	*e*P	P	23 30 40.9	-3.9
	comp=Z,10nm,0.8s						
TVO	**Taravao**	**39.09**	**95**	*e*P	P	23 30 41.2	-4.2
FORT	**Forrest**	**39.37**	**244**	*e*P	**P**	**23 30 46.5**	**-1.0**
	comp=Z,228nm,1.2s						
FORT				LR	LR		
	comp=Z,20µm,20.0s						
FAKI	**Fak Fak**	**39.70**	**289**	P	**P**	**23 30 49.2**	**-1.2**
	comp=Z,157nm,1.4s,comp=Z,2µm						
FAKI	**Fak Fak**	**39.70**	**289**	*e*P	**P**	**23 30 48.3**	**-2.1**
	comp=Z,186nm,1.2s						
MEH	**Mehetia**	**40.19**	**96**	*e*P	P	23 30 50.5	-4.0
	comp=Z,64nm,1.6s						
PMOR	**Pomariorio Ree**	**40.83**	**92**	*e*P	P	23 30 54.6	-5.2
	comp=Z,84nm,1.0s						
VAH	**Vaihoa**	**41.04**	**92**	*e*P	P	23 30 57.1	-4.4
	comp=Z,56nm,1.0s						
SIJI	**Sorong**	**41.49**	**291**	P	**P**	**23 31 03.7**	**-1.6**
	comp=Z,41nm,0.8s,baz=99,slow=8.6,SNR=18						
NLAI	**Namlea**	**44.24**	**285**	P	**P**	**23 31 27.5**	**-0.1**
SOEI	**Soe**	**44.67**	**275**	P	**P**	**23 31 30.3**	**-0.9**
SOEI	**Soe**	**44.67**	**275**	P	**P**	**23 31 29.7**	**-1.4**
	comp=Z,170nm,1.2s						
LBMI	**Labuha**	**44.96**	**289**	P	**P**	**23 31 32.8**	**-0.5**
TNTI	**Ternate**	**45.70**	**290**	PFAKE		23 31 50.0	+11
TNTI				LR	LR		
	comp=Z,7µm,22.0s						
SANI	**Sanana**	**45.73**	**286**	P	**P**	**23 31 38.8**	**-0.7**
MBWA	**Marble Bar**	**46.76**	**258**	*e*P	**P**	**23 31 46.6**	**-0.9**
	comp=Z,170nm,1.4s						
MBWA				LR	LR		
	comp=Z,10µm,20.0s						
MIDW	**Midway**	**48.27**	**16**	PFAKE		23 32 10.0	+11
MIDW				LR	LR		
	comp=Z,8µm,20.7s						
KMSI	**Cibinong**	**48.65**	**288**	P	**P**	**23 32 00.4**	**-1.8**
SGSI	**Sangihe**	**48.69**	**293**	P	**P**	**23 32 02.1**	**-0.4**
NWAO	**Narrogin (SRO)**	**48.75**	**242**	P	**P**	**23 32 01.2**	**-1.6**
	comp=Z,46nm,1.0s,baz=152,slow=3.5,SNR=7.8						
LUWI	**Luwuk**	**49.08**	**285**	P	**P**	**23 32 06.0**	**+0.5**
WBSI	**Waikabubak, Su**	**49.31**	**273**	P	**P**	**23 32 07.4**	**0.0**
BSSI	**Bau Bau, Buton**	**49.34**	**278**	P	**P**	**23 32 07.3**	**-0.2**
TAOE	**Nuku Hiva Isla**	**49.68**	**86**	*e*S	S	23 39 11.5	-7.3
	comp=Z,6µm,25.7s						
TAOE				*e*LQ	LQ	23 43 55.5	
	comp=Z,13µm,24.5s						
TAOE				*e*LR	LR	23 46 09.6	
	comp=Z,16µm,26.4s						
BKSI	**Bulukumba**	**49.95**	**279**	P	**P**	**23 32 11.7**	**-0.5**
APSI	**Ampana**	**50.16**	**285**	P	**P**	**23 32 13.9**	**+0.2**
DAV	**Davao City (W)**	**50.32**	**296**	PFAKE		23 32 30.0	+15
DAV				LR	LR		
	comp=Z,3µm,21.0s						
KAPI	**Kappang**	**50.40**	**279**	P	**P**	**23 32 16.5**	**+0.9**
	comp=Z,215nm,1.2s,SNR=5.9						
KAPI	**Kappang**	**50.40**	**279**	P	**P**	**23 32 14.1**	**-1.5**
	comp=Z,24nm,1.1s,baz=327,slow=5.4,SNR=6.7						
KAPI	**Kappang**	**50.40**	**279**	*e*P	**P**	**23 32 14.8**	**-0.8**
MRSI	**Marisa**	**50.46**	**287**	P	**P**	**23 32 14.7**	**-1.3**
SPSI	**Sidrap Palu**	**50.75**	**280**	P	**P**	**23 32 17.1**	**-1.1**
KIP	**Kipapa**	**50.93**	**40**	PFAKE		23 32 30.0	+11
KIP				LR	LR		
	comp=Z,14µm,20.3s						
TTSI	**Tana Toraja**	**51.03**	**282**	P	**P**	**23 32 19.8**	**-0.6**
POHA	**Pohakuloa**	**51.28**	**44**	PFAKE		23 32 30.0	+7.6
POHA				LR	LR		
	comp=Z,9µm,22.0s						
DRV	**Dumont d'Urvil**	**51.68**	**194**	P	P	23 32 00.0	-24
DRV				PP	**PP**	**23 34 19.0**	**-2.9**
DRV				S	S	23 39 14.0	-31
DRV				L	L	23 45 00.0	
DRV				R		23 47 00.0	
RKT	**Rikitea**	**51.78**	**105**	*e*S	**S**	**23 39 45.1**	**-2.5**
	comp=Z,4µm,28.0s						
RKT				*e*LQ	LQ	23 45 05.8	
	comp=Z,6µm,26.2s						
RKT				*e*LR	LR	23 47 12.5	
	comp=Z,14µm,31.5s,baz=266						
PCI	**Palu**	**51.82**	**284**	P	**P**	**23 32 26.5**	**+0.2**
	comp=Z,159nm,1.2s,comp=Z,3µm						
MPSI	**Mapaga**	**52.26**	**285**	P	**P**	**23 32 28.5**	**-1.0**
SRBI	**Singaraja**	**53.71**	**274**	P	**P**	**23 32 39.6**	**-0.7**
KBKI	**Kotabaru**	**54.35**	**280**	P	**P**	**23 32 43.5**	**-1.4**
ABJI	**Asem Bagus**	**54.72**	**274**	P	**P**	**23 32 46.9**	**-0.7**
KMMI	**Kalianget**	**55.20**	**274**	P	**P**	**23 32 51.3**	**+0.2**
BLJI	**Banyuglugur**	**55.34**	**273**	P	**P**	**23 32 51.8**	**-0.3**
TSM	**Tawau**	**55.75**	**289**	⇑P	**P**	**23 32 55.9**	**+0.9**
SDKM	**Sandakan**	**56.95**	**290**	⇓P	**P**	**23 33 03.5**	**-0.1**
PWJI	**Pagerwojo**	**56.96**	**272**	P	**P**	**23 33 02.9**	**-0.8**
PCJI	**Pacitan**	**57.50**	**272**	P	**P**	**23 33 08.2**	**+0.7**
KDM	**Kudat**	**57.84**	**291**	⇑P	**P**	**23 33 11.9**	**+2.0**
WOJI	**Wonogiri, Jawa**	**57.85**	**272**	P	**P**	**23 33 09.7**	**-0.2**
KKM	**Kota Kinabalu**	**58.00**	**290**	⇓P	**P**	**23 33 11.3**	**+0.2**
KKM	**Kota Kinabalu**	**58.00**	**290**	*e*P	**P**	**23 33 10.7**	**-0.4**
	comp=Z,196nm,1.5s						
KKM				LR	LR		
	comp=Z,4µm,22.0s						
UGM	**Wanagama**	**58.20**	**272**	P	**P**	**23 33 14.0**	**+1.5**
UWJI	**Ujung Watu**	**58.25**	**274**	P	P	23 33 16.2	+3.4
VNDA	**Vanda**	**59.04**	**182**	P	**P**	**23 33 16.1**	**-1.2**
	comp=Z,7.6nm,1.1s,baz=360,slow=5.0,SNR=11						
VNDA	**Vanda**	**59.04**	**182**	*e*P	**P**	**23 33 17.5**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,39nm,1.3s						
VNDA				MLR	MLR		
	comp=Z,5µm,18.3s						
VNDA	**Vanda**	**59.04**	**182**	*e*P	**P**	**23 33 17.5**	**+0.2**
	comp=Z,39nm,1.3s						
VNDA				LR	LR		
	comp=Z,5µm,18.3s						
SBA	**Scott Base**	**59.27**	**181**	*e*P	**P**	**23 33 19.4**	**+0.5**
SBA				pmax	pmax		
	comp=Z,79nm,1.1s						
SBA				MLR	MLR		
	comp=Z,6µm,21.0s						
SBA	**Scott Base**	**59.27**	**181**	*e*P	**P**	**23 33 19.4**	**+0.5**
	comp=Z,79nm,1.1s						
SBA				LR	LR		
	comp=Z,6µm,21.0s						
BTM	**Bintulu**	**59.64**	**285**	⇓P	**P**	**23 33 23.6**	**+1.2**
SBUM	**Sibu**	**60.14**	**284**	⇓P	**P**	**23 33 26.5**	**+0.6**
SBUM	**Sibu**	**60.14**	**284**	*e*P	**P**	**23 33 26.4**	**+0.6**
	comp=Z,81nm,1.9s						
JOW	**Kunigami**	**60.38**	**317**	PFAKE		23 33 40.0	+13
JOW				LR	LR		
	comp=Z,4µm,22.0s						
CASY	**Casey**	**60.79**	**203**	*e*P	**P**	**23 33 29.6**	**+0.2**
	comp=Z,76nm,1.3s						
CASY				LR	LR		
	comp=Z,9µm,20.0s						
LEM	**Lembang**	**61.28**	**272**	P	**P**	**23 33 31.4**	**-2.4**
	comp=Z,14nm,0.5s,baz=323,slow=20,SNR=3.1						
KSM	**Kuching**	**61.53**	**282**	⇑P	**P**	**23 33 35.1**	**-0.2**
KSM	**Kuching**	**61.53**	**282**	*e*P	**P**	**23 33 34.7**	**-0.6**
	comp=Z,30nm,0.9s						
XMIS	**Christmas Isla**	**62.11**	**268**	PFAKE		23 33 50.0	+11
XMIS				LR	LR		
	comp=Z,6µm,18.5s						
MJAR	**Matsushiro Arr**	**62.36**	**332**	P	**P**	**23 33 38.0**	**-2.5**
	comp=Z,10nm,1.0s,baz=158,slow=5.6,SNR=5.0						
MJAR				LR	LR	23 58 26.6	
	comp=Z,3µm,21.7s,baz=170,slow=34						
MJAR	**Matsushiro Arr**	**62.36**	**332**	P	**P**	**23 33 38.0**	**-2.5**
MAJO	**Matsushiro**	**62.36**	**332**	*e*P	**P**	**23 33 39.6**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,159nm,1.4s						
MAJO	**Matsushiro**	**62.36**	**332**	*e*P	**P**	**23 33 41.3**	**+0.8**
	comp=Z,40nm,1.2s						
MAJO				LR	LR		
	comp=Z,5µm,22.0s						
MAT	**Matsushiro**	**62.36**	**332**	P	**P**	**23 33 39.2**	**-1.3**
MAT				S	**S**	**23 42 05.0**	**-1.6**
YOJ	**Yonaguni jima**	**62.38**	**312**	PFAKE		23 33 50.0	+9.2
YOJ				LR	LR		
	comp=Z,3µm,21.0s						
YULB	**Yu-li**	**62.95**	**310**	*e*P	**P**	**23 33 43.7**	**-1.0**
	comp=Z,38nm,1.4s						
NACB	**Ninganchiao**	**63.21**	**311**	*e*P	**P**	**23 33 46.0**	**-0.3**
	comp=Z,63nm,1.1s						
NACB				LR	LR		
	comp=Z,2µm,20.0s						
TPUB	**Ta-pu**	**63.39**	**309**	*e*P	**P**	**23 33 45.1**	**-2.5**
	comp=Z,60nm,1.2s						
SSLB	**Suanglung**	**63.44**	**310**	*e*P	**P**	**23 33 45.4**	**-2.6**
	comp=Z,28nm,1.0s						
SSLB				LR	LR		
	comp=Z,6µm,22.0s						
YHNB	**Yeheng**	**63.67**	**311**	*e*P	**P**	**23 33 47.7**	**-1.8**
	comp=Z,104nm,1.2s						
TATO	**Taipei**	**63.78**	**311**	*e*P	**P**	**23 33 49.9**	**-0.2**
	comp=Z,156nm,1.4s						
ERM	**Erimo**	**65.09**	**339**	PFAKE		23 34 10.0	+12
ERM				LR	LR		
	comp=Z,5µm,19.0s						
QZH	**Quanzhou**	**65.86**	**309**	⇑P	P	23 33 56.0	-7.6
QZH				S	S	23 42 42.2	-8.1
QZH				pmax	pmax		
	comp=Z,1µm,6.7s						
QZH				LR	LR		
	comp=N,3µm,15.1s						
QZH				LR	LR		
	comp=E,880nm,14.8s						
QZH				LR	LR		
	comp=Z,12µm,35.7s						
YUK	**Yuzh-Kuril'sk**	**66.03**	**342**	*d i*P	**P**	**23 34 05.4**	**+1.1**
YUK				*i*		23 36 30.5	
YUK				*e*PPP	PPP	23 38 08.6	
YUK				*i* S	**S**	**23 42 51.8**	**+0.2**
YUK				*i* SS	**SS**	**23 47 05.8**	**-1.8**

YUK pmax pmax
comp=Z,344nm,6.9s
YUK pmax pmax
comp=N,91nm,1.2s
YUK pmax pmax
comp=E,55nm,1.2s
YUK pmax pmax
comp=Z,92nm,1.2s
KSJIN Jinju 66.45 324 P **P** **23 34 06.8 -0.4**
SNR=7.4
KSPHA Pohang 66.47 325 P **P** **23 34 06.3 -1.0**
SNR=11
KSPHA Pohang 66.47 325 P **P** **23 34 06.3 -1.0**
SNR=11
KUR Kuril'sk 66.56 343 P **P** **23 34 07.6 -0.1**
KUR *i* S **S** **23 42 58.7 +0.7**
KUR pmax pmax
comp=Z,44nm,1.5s
ASAJ Asahikawa 67.14 339 *e*P **P** **23 34 10.5 -0.9**
comp=Z,37nm,0.9s
KSTBA Taebaek 67.38 326 P **P** **23 34 12.4 -0.8**
SNR=20
KSTBA Taebaek 67.38 326 P **P** **23 34 12.4 -0.8**
SNR=20
MYKOM Kota Tinggi 67.65 280 ⇓P **P** **23 34 15.7 +0.3**
MYKOM Kota Tinggi 67.65 280 PFAKE 23 34 30.0 +15
MYKOM LR LR
comp=Z,4μm,19.0s
TJN Taejon 67.70 324 *i* P **P** **23 34 14.8 -0.3**
SSE Sheshan 67.84 316 *e*P P 23 34 20.4 +4.3
SSE pP pP 23 34 27.2 +6.0
SSE S **S** **23 43 15.1 +1.1**
SSE PMZ
comp=Z,30nm,0.9s
SSE PMZ
comp=Z,270nm,6.8s
SSE LN
comp=Z,2μm,21.2s
SSE LE
comp=Z,1μm,21.0s
SSE LZ
comp=Z,3μm,22.1s
KSDGY Daegwallycong 67.95 326 P **P** **23 34 16.4 -0.4**
SNR=19
KSDGY Daegwallycong 67.95 326 P **P** **23 34 16.4 -0.4**
SNR=19
KSJMJ Jumunjin 68.05 326 P **P** **23 34 16.4 -0.9**
SNR=16
KSJMJ Jumunjin 68.05 326 P **P** **23 34 16.4 -0.9**
SNR=16
KSRS Korea Array 68.18 325 P **P** **23 34 16.6 -1.6**
comp=Z,4.2nm,0.9s,baz=126,slow=6.3,SNR=24
KSRS PKP2ab 00 02 39.2
comp=Z,0.4nm,0.4s,baz=329,slow=3.5,SNR=5.0
KS15 Wonju Array Si 68.19 325 *e*P **P** **23 34 16.6 -1.7**
KSAR Wonju Array Be 68.19 325 P **P** **23 34 16.6 -1.6**
KSAR Wonju Array Be 68.19 325 P **P** **23 34 16.6 -1.6**
KS01 Wonju Array Si 68.21 325 *e*P **P** **23 34 16.4 -2.0**
KGM Kluang 68.23 280 ⇓P **P** **23 34 17.8 -1.2**
KSIJA INJE 68.47 326 P **P** **23 34 19.4 -0.6**
SNR=11
KSIJA INJE 68.47 326 P **P** **23 34 19.4 -0.6**
SNR=11
KSSWO Suwon 68.56 325 P **P** **23 34 22.1 +1.5**
SNR=15
KSSWO Suwon 68.56 325 P **P** **23 34 22.1 +1.5**
SNR=15
KSSEO Seoul 68.75 325 P **P** **23 34 22.8 +1.1**
SNR=14
KSSEO Seoul 68.75 325 P **P** **23 34 22.8 +1.1**
SNR=14
GZH Guangzhou 68.79 305 P P 23 34 16.4 -5.8
GZH PP PP 23 36 44.3 -10
GZH S S 23 43 14.8 -11
GZH Guangzhou 68.79 305 SS SS 23 47 47.2 -3.9
GZH LR LR
comp=N,3μm,18.0s
GZH LR LR
comp=E,3μm,18.0s
KSCWO Cheorwon 68.86 325 P **P** **23 34 21.9 -0.5**
SNR=21
KSCWO Cheorwon 68.86 325 P **P** **23 34 21.9 -0.5**
SNR=21
INCN Inchon 68.90 325 *e*P **P** **23 34 21.6 -1.1**
comp=E,134nm,1.3s
KSDDC Dongducheon 68.97 325 P **P** **23 34 24.0 +0.9**
SNR=6.0
KSDDC Dongducheon 68.97 325 P **P** **23 34 24.0 +0.9**
SNR=6.0
KSMUS Musan 69.13 325 P **P** **23 34 23.2 -0.9**
SNR=15
YNCB YEONCHEON 69.15 325 P **P** **23 34 23.9 -0.3**
SNR=12
YNCB YEONCHEON 69.15 325 P **P** **23 34 25.3 +1.1**
SNR=9.8
KSGAH Ganghwa 69.17 325 P **P** **23 34 25.3 +1.0**
SNR=5.4
QIZ Qiongzhong 69.54 299 P **P** **23 34 27.9 +0.9**
QIZ PP **PP** **23 37 01.5 +0.5**
QIZ S **S** **23 43 36.7 +2.0**
QIZ PMZ
comp=E,16nm,1.3s
QIZ PMZ
comp=E,310nm,9.5s
QIZ LN
comp=E,2μm,27.1s
QIZ LZ
comp=E,3μm,36.7s
KTGM Kuala Trenggan 69.60 283 ⇓P **P** **23 34 27.7 +0.2**
YSS Yuzh-Sakhalins 69.61 341 *e*P **P** **23 34 26.0 -0.8**
YSS *e**SP **sP** **23 34 34.0 +0.2**
YSS *e* 23 37 04.0
YSS *e*PPP PPP 23 38 42.0
YSS *e*S S 23 43 27.0 -7.4
YSS *e*SSS SSS 23 51 11.0
YSS pmax pmax
comp=Z,40nm,1.0s
YSS pmax pmax
comp=Z,600nm,5.0s
YSS Yuzh-Sakhalins 69.61 341 *e*P **P** **23 34 25.6 -1.3**
comp=Z,57nm,1.1s
NJ2 Nanjing 69.98 316 *e*P **P** **23 34 30.7 +1.2**
NJ2 pP **pP** **23 34 33.9 -0.7**
NJ2 sP **sP** **23 34 35.9 -0.5**
NJ2 PP **PP** **23 37 04.2 -0.4**
NJ2 PMZ
comp=Z,40nm,0.6s
NJ2 PMZ
comp=Z,1μm,7.0s
NJ2 LN
comp=Z,5μm,27.5s
NJ2 LE
comp=Z,6μm,25.4s
NJ2 LZ
comp=Z,9μm,25.8s
SKR Severo-Kuril's 70.03 351 *e*P P 23 34 23.0 -6.3
SKR *e*S S 23 43 28.0 -11
SKR *e* 23 44 15.0
SKR pmax pmax
comp=Z,1μm,6.0s
SKR smax smax
comp=N,2μm,12.0s
SKR smax smax
comp=E,4μm,12.0s
SKR MLR MLR
comp=N,2μm,16.0s
SKR MLR MLR
comp=Z,2μm,16.0s
FRIM Kepong 70.24 281 ⇓P P 23 34 37.6 +6.1
VLA Vladivostok 70.53 332⇑ *e*P **P** **23 34 33.0 +0.4**
VLA 23 34 53.1
VLA 23 37 07.0
VLA *i* S **S** **23 43 43.3 -2.1**
VLA pmax pmax
comp=Z,27nm,1.3s
ADK Adak 71.24 9 PFAKE 23 34 50.0 +13
ADK LR LR
comp=Z,7μm,21.5s
IPM Ipoh 71.25 282 ⇑P **P** **23 34 38.2 +0.6**
USRK Ussuriysk Ar. 71.34 332 P **P** **23 34 38.1 +0.6**
comp=Z,46nm,1.3s,baz=151,slow=4.4,SNR=14
QSPA South Pole Qui 71.41 180 *e*P **P** **23 34 36.7 -1.2**
comp=Z,86nm,1.1s
QSPA LR LR
comp=Z,6μm,18.0s
UBPT Khong Chiam 71.53 294 P **P** **23 34 41.3 +2.1**
comp=Z,31nm,0.8s,comp=Z,856nm
KULM Kulim 71.89 282 PFAKE 23 34 50.0 +8.5
KULM LR LR
comp=Z,3μm,18.6s
PET Petropavlovsk 71.98 353*c* *i*P P 23 34 45.0 +3.9
PET *e* 23 37 28.2
PET *i* S **S** **23 44 02.8 +1.0**
PET *e*PS **PnS** **23 44 30.9 -1.5**
PET pmax pmax
comp=Z,400nm,7.2s
PET pmax pmax
comp=Z,700nm,5.5s
PET Petropavlovsk 71.98 353 PFAKE 23 34 50.0 +8.9
PET LR LR
comp=Z,5μm,22.0s
WHN Wuhan 72.17 312 P **P** **23 34 41.1 -1.6**
WHN S **S** **23 44 04.3 -0.5**
WHN LN
comp=Z,4μm,19.9s
WHN LE
comp=Z,4μm,17.4s
WHN LZ
comp=Z,9μm,22.8s
PEA2 Petropavlovsk- 72.18 353 *e*P **P** **23 34 42.8 +0.4**
PETK Petropavlovsk- 72.18 353 P **P** **23 34 42.8 +0.4**
comp=Z,5.1nm,0.8s,baz=150,slow=12,SNR=4.6
SKLT Songkhla 72.61 284 P P 23 34 51.6 +5.8
comp=Z,42nm,1.1s
PSI Prapat 72.61 279 *e*P **P** **23 34 43.6 -2.4**
PSI pmax pmax
comp=Z,38nm,1.2s
PSI Prapat 72.61 279 *e*P **P** **23 34 43.6 -2.4**
comp=Z,38nm,1.2s
DL2 Dalian 72.72 323 P **P** **23 34 45.9 +0.1**
DL2 PMZ
comp=Z,100nm,1.4s
DL2 PMZ
comp=Z,430nm,5.9s
DL2 LE
comp=Z,1μm,24.5s
DL2 LZ
comp=Z,1μm,22.1s
MDJ Mudanjiang 72.74 331 P **P** **23 34 47.6 +1.7**
MDJ pP **pP** **23 34 50.7 -0.3**
MDJ sP **sP** **23 34 52.1 -0.8**
MDJ PMZ
comp=Z,19nm,1.0s
MDJ PMZ
comp=Z,50nm,2.7s
MDJ LN
comp=Z,4μm,29.9s
MDJ LE
comp=Z,4μm,25.8s
MDJ LZ
comp=Z,2μm,33.3s
MDJ Mudanjiang 72.74 331 *e*P **P** **23 34 44.9 -1.0**
comp=Z,84nm,1.4s
TYV Tymovskoe 73.13 343 *e*P P 23 34 51.8 +3.8
TYV pmax pmax
comp=Z,26nm,1.0s
SKNT Sakolnakorn 73.55 295 P **P** **23 34 51.3 0.0**
comp=Z,45nm,1.2s
HABR Khabarovsk 73.56 337 *e*P **P** **23 34 49.2 -1.4**
HABR *e**PP **pP** **23 34 55.9 +0.1**
HABR *e**SP **sP** **23 34 58.4 +0.8**
HABR *e* 23 35 05.3
HABR 23 37 32.6
HABR *e*PPP PPP 23 39 17.2
HABR *e* 23 44 56.5
HABR *e*SS **SS** **23 49 01.0 -2.6**
HABR pmax pmax
comp=N,21nm,1.2s
HABR pmax pmax
comp=Z,68nm,1.8s
HABR pmax pmax
comp=E,14nm,0.9s
HABR MLR MLR
comp=Z,1μm,18.0s
TIA Tai'an 73.69 318 *e*P **P** **23 34 49.9 -1.8**
TIA S **S** **23 44 24.0 +2.0**
TIA PMZ
comp=Z,20nm,1.2s
TIA PMZ
comp=Z,750nm,7.0s
TIA LN
comp=Z,3μm,22.0s
TIA LE
comp=Z,2μm,21.4s
TIA LZ
comp=Z,5μm,23.0s
NIKH Nikolski High 73.73 13 *e*P **P** **23 34 51.3 -0.2**
comp=Z,65nm,0.8s
CN2 Changchun 74.10 328 *e*P **P** **23 34 52.1 -1.8**
CN2 *e*pP **pP** **23 34 56.7 -2.3**
CN2 *e*PP **PP** **23 37 39.0 -0.7**
CN2 *e*S **SKiKP** **23 44 22.9 +1.3**
CN2 PMZ
comp=Z,20nm,0.9s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,2μm,21.0s
CN2 LE
comp=Z,1μm,21.0s
CN2 LZ
comp=Z,2μm,22.0s
NONG Nongkai 74.74 295 P **P** **23 34 59.1 +0.9**
comp=Z,24nm,1.1s
UNV Unalaska Valle 75.08 14 *e*P P 23 34 54.8 -4.5
comp=Z,18nm,0.8s
UNV Unalaska Valle 75.08 14 *e*P P 23 34 54.8 -4.5
KLR Kul'dur 75.45 335 *e*P P 23 34 55.5 -6.1
KLR pmax pmax
comp=Z,2μm,8.0s
ENH Enshi 75.52 309 *e*P P 23 35 06.7 +4.2
comp=Z,15nm,1.1s
GYA Guiyang 75.72 305⇑ *i*P **P** **23 35 03.6 -0.2**
GYA PcP **PcP** **23 35 18.0 +1.5**
GYA PP **PP** **23 37 57.5 +3.6**
GYA S **S** **23 44 46.5 +1.2**
GYA SKS **SKSac** **23 45 09.4 -4.6**
GYA PMZ
comp=Z,50nm,1.0s
GYA PMZ
comp=Z,280nm,7.2s
GYA LN
comp=Z,1μm,22.5s
GYA LE
comp=Z,1μm,21.5s
GYA LZ
comp=Z,2μm,20.6s
NKL Nikolayevsk 75.73 343 *e*P **P** **23 35 06.0 +3.0**
NKL *e*S **S** **23 44 47.0 +3.1**
NKL pmax pmax
comp=Z,150nm,1.6s
NKL pmax pmax
comp=Z,900nm,6.0s
NKL pmax pmax
comp=N,300nm,7.0s
NKL smax smax
comp=E,1μm,13.0s
NKL smax smax
comp=N,2μm,15.0s
NKL MLR MLR
comp=Z,2μm,17.0s
NKL MLR MLR
comp=N,2μm,19.0s
NKL MLR MLR
comp=E,1μm,19.0s
PBKT Sadao Pong 75.99 293 P P 23 35 09.7 +4.3
comp=E,16nm,2.1s
LOEI Loei 76.12 294 P **P** **23 35 08.3 +2.1**
comp=E,42nm,1.0s,comp=E,3μm
BJT Baijiatuau 76.65 321 *e*P **P** **23 35 08.9 +0.2**
BJT pmax pmax
comp=Z,57nm,1.0s
BJT Baijiatuau 76.65 321 *e*P **P** **23 35 08.9 +0.2**
comp=Z,57nm,1.0s
BJI Beijing 76.66 321 P **P** **23 35 07.4 -1.3**
BJI PMZ
comp=Z,31nm,1.1s
BJI PMZ
comp=Z,250nm,3.9s
BJI LN
comp=Z,2μm,27.5s
BJI LE
comp=Z,2μm,30.3s
BJI LZ
comp=Z,1μm,36.3s
UTTA Uttaradit 76.84 294 P P 23 35 14.7 +4.5
comp=Z,3.0nm,1.3s
UTHA Uthaitani 76.92 291 P **P** **23 35 13.2 +2.5**
comp=Z,5.8nm,1.0s,comp=Z,86nm
TIY Taiyuan 77.59 317 *e*P **P** **23 35 13.1 -1.0**
TIY PP **PP** **23 38 10.9 +1.4**
TIY S **S** **23 45 07.0 +1.7**
TIY PMZ
comp=Z,250nm,4.9s
TIY LN
comp=Z,2μm,17.4s
TIY LE
comp=Z,510nm,12.0s
TIY LZ
comp=Z,4μm,26.9s
XAN Xi'an 77.92 312 P **P** **23 35 14.7 -1.3**
XAN sP **sP** **23 35 22.7 -0.3**
XAN PcP **PcP** **23 35 24.4 -1.4**
XAN PP **PP** **23 38 09.8 -2.5**
XAN S **S** **23 45 04.4 -4.5**
XAN PMZ
comp=Z,120nm,8.8s
XAN LN
comp=Z,1μm,28.4s
XAN LE
comp=Z,710nm,37.2s
XAN LZ
comp=Z,880nm,24.0s
LAMP Lampang 77.95 294 P P 23 35 20.1 +3.6
comp=Z,5.9nm,1.2s,comp=Z,66nm
KMI Kunming 78.21 302 P **P** **23 35 18.9 +0.9**
KMI pP **pP** **23 35 23.8 +0.6**
KMI PP **PP** **23 38 17.9 +2.9**
KMI S **S** **23 45 10.4 -2.3**
KMI sS **sS** **23 45 19.9 -1.3**
KMI PMZ
comp=Z,24nm,0.9s
KMI PMZ
comp=Z,370nm,5.4s
KMI LN
comp=Z,1μm,26.7s
KMI LE
comp=Z,2μm,27.8s
KMI LZ
comp=Z,3μm,23.2s
CM01 Chiang Mai Arr 78.50 294 *e*P **P** **23 35 19.1 -0.4**
CM31 Chiang Mai Arr 78.53 294 *e*P **P** **23 35 19.2 -0.4**
CMAR Chiang Mai Arr 78.53 294 P **P** **23 35 19.2 -0.4**
comp=Z,9.8nm,1.1s,baz=127,slow=4.0,SNR=16
CMMT Chiang Mai 78.67 294 P **P** **23 35 21.0 +0.6**
comp=Z,50nm,1.1s,comp=Z,781nm
CHTO Chiang Mai 78.67 294 P **P** **23 35 21.0 +0.6**
comp=Z,73nm,1.3s,comp=Z,3μm
CHTO Chiang Mai 78.67 294 *e*P **P** **23 35 20.5 +0.1**
CHTO pmax pmax
comp=Z,16nm,1.0s
CHTO Chiang Mai 78.67 294 *e*P **P** **23 35 20.5 +0.1**
comp=Z,16nm,1.0s
CMAI Chiengmai2 79.04 295 P **P** **23 35 23.5 +0.9**
comp=Z,27nm,1.5s,comp=Z,7μm
MAW Mawson 79.10 202 P **P** **23 35 22.0 +0.1**
comp=Z,20nm,0.9s,baz=124,slow=6.6,SNR=5.1
MAW LR LR 00 05 54.4
comp=Z,9μm,20.9s,baz=96,slow=32
MAW Mawson 79.10 202 *e*P **P** **23 35 22.3 +0.4**
MAW pmax pmax
comp=Z,10.0nm,1.2s
MAW Mawson 79.10 202 *e*P **P** **23 35 22.3 +0.4**
comp=Z,9.8nm,1.2s
HHC Hu-ho-hao-te 79.96 319 *e*P **P** **23 35 26.5 -0.6**
HHC sP **sP** **23 35 34.9 +0.8**
HHC PP **PP** **23 38 31.2 +2.0**
HHC S **S** **23 45 33.4 +2.9**
HHC SKS **SKSac** **23 45 36.9 -7.0**
HHC PMZ
comp=Z,32nm,1.3s
HHC PMZ
comp=Z,480nm,8.1s
HHC LN
comp=Z,3μm,17.3s
HHC LE
comp=Z,2μm,17.3s
HHC LZ
comp=Z,4μm,17.6s
CD2 Chengdu 80.11 307 ⇓P **P** **23 35 28.6 +0.5**
CD2 pP **PcP** **23 35 34.5 -0.9**
CD2 sP **sP** **23 35 36.8 +1.7**
CD2 PP **PP** **23 38 30.6 0.0**
CD2 S **S** **23 45 33.2 +0.8**
CD2 sS **SKSac** **23 45 43.2 -2.1**
CD2 PMZ
comp=Z,30nm,1.0s
CD2 PMZ
comp=Z,460nm,6.4s
CD2 LN
comp=Z,3μm,26.0s
CD2 LE
comp=Z,4μm,24.0s
CD2 LZ
comp=Z,4μm,30.0s
HIA Hailar 80.74 330 *e*P **P** **23 35 30.9 -0.1**
HIA pmax pmax
comp=Z,32nm,1.2s
HIA MLR MLR
comp=Z,2μm,20.0s
HIA Hailar 80.74 330 *e*P **P** **23 35 29.3 -1.7**
comp=Z,38nm,1.1s
OHAK Old Harbor 81.69 19 *e*P **P** **23 35 38.4 +2.5**
comp=Z,33nm,1.0s
PAF Port-aux-Franc 81.97 221 P P 23 35 29.0 -8.6
PAF Port-aux-Franc 81.97 221 S S 23 45 43.0 -8.1
PAF SS **SS** **23 51 08.0 -1.3**
PAF R 00 01 00.0
SEY Seymchan 82.42 352 P **P** **23 35 38.4 -1.1**
comp=Z,2.4nm,0.7s,baz=149,slow=8.2,SNR=5.0
SEY Seymchan 82.42 352 *i* P **P** **23 35 39.3 -0.2**
LZH Lanzhou 82.55 312 ⇑P **P** **23 35 41.0 -0.1**
LZH pP **pP** **23 35 47.2 +1.0**
LZH sP **sP** **23 35 49.1 +1.0**
LZH PP **PP** **23 38 53.0 +2.2**
LZH S **S** **23 45 57.3 -0.4**
LZH sS **sS** **23 46 07.2 +0.9**
LZH PMZ
comp=Z,120nm,1.5s
LZH PMZ
comp=Z,700nm,7.2s
LZH LN
comp=Z,2μm,17.0s
LZH LE
comp=Z,1μm,16.0s
LZH LZ
comp=Z,4μm,19.5s
KCPM Cahto Peak 85.10 45 *e*P **P** **23 35 53.0 -1.0**
comp=Z,78nm,1.7s
KIPM Iron Peak 85.23 45 *e*P **P** **23 35 53.8 -0.9**
KMRM Mail Ridge 85.28 45 *e*P **P** **23 35 55.5 +0.7**
comp=Z,605nm,2.6s
CIT Chita 85.53 329 *e*P P 23 35 59.3 +3.6
CIT *e* 23 36 07.3
CIT pmax pmax
comp=Z,79nm,1.4s
SYO Syowa Base 85.59 196⇓ *e*P **P** **23 35 57.4 +1.6**
RC01 Rabbit Creek A 85.89 19 PFAKE 23 36 10.0 +13
RC01 LR LR
comp=Z,7μm,20.0s
BALC Balcom Canyon 85.93 52 *e*P **P** **23 35 59.2 +1.1**
WDC Whiskeytown Da 86.23 45 *e*P **P** **23 35 59.7 +0.3**
WDC pmax pmax
comp=Z,43nm,1.4s
WDC Whiskeytown Da 86.23 45 *e*P **P** **23 35 59.7 +0.3**
comp=Z,43nm,1.4s
N02D Trinity Center 86.31 45 P P **23 36 00.0 +0.1**
baz=86
YAK Yakutsk 86.39 342 *e*P **P** **23 36 02.5 +2.9**
YAK *e**PP pP 23 36 11.4 +6.5
YAK *e* 23 39 23.0
YAK *e*PPP PPP 23 41 18.8
YAK *e*S **SKSac** **23 46 25.4 +0.3**
YAK *e*SS SS **23 52 15.0 -0.1**
YAK *e*SSS SSS 23 55 49.3
YAK pmax pmax
comp=Z,39nm,1.3s

YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,278nm,5.3s
YAK pmax pmax
comp=N,145nm,3.8s
YAK pmax pmax
comp=E,130nm,4.3s
YAK smax smax
comp=N,158nm,4.4s
YAK smax smax
comp=E,96nm,4.1s
YAK MLR MLR
comp=Z,2µm,18.0s
YAK MLR MLR
comp=E,761nm,19.0s
YAK MLR MLR
comp=N,2µm,19.0s
M02C Callahan 86.41 44 P P 23 36 00.8 +0.4
baz=87
BILL Bilibino 86.46 359 *e*P P 23 35 58.5 -1.4
BILL Bilibino 86.46 359 *e*P P 23 35 58.5 -1.4
CMB Columbia Colle 86.54 48 *e*P P 23 36 01.0 -0.1
CMB pmax pmax
comp=Z,27nm,1.3s
CMB MLR MLR
comp=Z,7µm,20.0s
CMB Columbia Colle 86.54 48 *e*P P 23 36 01.0 -0.1
comp=Z,27nm,1.3s
CMB LR LR
comp=Z,7µm,20.0s
MWC Mount Wilson 86.57 52 *e*P P 23 36 05.7 +4.2
MWC Mount Wilson 86.57 52 *e*P P 23 36 05.7 +4.2
YBH Yreka Blue Hor 86.67 44 LR LR 00 06 13.5
comp=Z,9µm,21.2s,baz=244,slow=30
YBH Yreka Blue Hor 86.67 44 *e*P P 23 36 02.1 +0.4
YBH pmax pmax
comp=Z,44nm,1.3s
YBH Yreka Blue Hor 86.67 44 *e*P P 23 36 02.1 +0.4
comp=Z,44nm,1.3s
ISA Isabella, Lake 86.88 51 *e*P P 23 36 03.0 +0.2
ISA pmax pmax
comp=Z,28nm,1.2s
ISA MLR MLR
comp=Z,5µm,20.0s
ISA Isabella, Lake 86.88 51 P P 23 36 02.3 -0.5
baz=87
ISA Isabella, Lake 86.88 51 *e*P P 23 36 03.0 +0.2
comp=Z,28nm,1.2s
ISA LR LR
comp=Z,5µm,20.0s
EDW2 Edwards Air Fo 86.90 52 P P 23 36 02.4 -0.5
baz=87
SONA0 Songino Array 86.92 323 *e*P P 23 36 02.1 -0.7
SONM Songino Array 86.92 323 P P 23 36 02.1 -0.7
comp=Z,47nm,1.2s,baz=134,slow=4.4,SNR=29
SONA1 Songino Array 86.92 323 *e*P P 23 35 58.0 -4.8
HUMO Hull Mountain 86.92 43 *e*P P 23 36 07.2 +4.3
comp=Z,45nm,1.3s
HUMO LR LR
comp=Z,10µm,21.0s
GTA Gaotai 86.93 313 *e*P P 23 36 02.5 -0.6
GTA pP pP 23 36 06.9 -1.4
GTA sP sP 23 36 09.4 -0.7
GTA PP PP 23 39 28.0 +1.6
GTA SKS SKSac 23 46 28.2 -1.6
GTA S SKKSac 23 46 39.1 +0.7
GTA sS ScS 23 46 46.9 -2.0
GTA PMZ
comp=Z,13nm,0.9s
GTA PMZ
comp=Z,370nm,7.1s
GTA LN
comp=Z,2µm,20.4s
GTA LE
comp=Z,2µm,22.8s
GTA LZ
comp=Z,3µm,26.1s
MONP Monument Peak, 87.26 54 P P 23 36 04.7 -0.3
baz=88
M04C Macdoel 87.27 44 P P 23 36 04.4 -0.2
baz=88
WAKR Walker 87.42 48 *e*P P 23 36 06.2 +0.6
PFO Pinyon Flats O 87.53 53 LR LR 00 06 03.3
comp=Z,6µm,22.0s,baz=296,slow=29
PFO Pinyon Flats O 87.53 53 *e*P P 23 36 06.1 0.0
PFO pmax pmax
comp=Z,17nm,1.5s
PFO Pinyon Flats O 87.53 53 *e*P P 23 36 06.1 0.0
comp=Z,17nm,1.5s
TRF Thorofare Moun 87.60 17 *e*P P 23 36 10.5 +4.7
comp=Z,9.4nm,1.0s
SWSC Sam W. Stewart 87.76 54 P P 23 36 07.0 0.0
baz=88
MPMC Manual Prospec 87.77 51 P P 23 36 07.1 -0.2
baz=88
DAC Darwin (Calif) 87.78 51 PFAKE 23 36 20.0 +13
DAC LR LR
comp=Z,7µm,20.0s
GSC Goldstone, Bar 87.96 52 *e*P P 23 36 11.0 +2.9
GSC pmax pmax
comp=Z,44nm,1.8s
GSC Goldstone, Bar 87.96 52 P P 23 36 07.8 -0.2
baz=88
GSC Goldstone, Bar 87.96 52 *e*P P 23 36 11.0 +2.9
comp=Z,44nm,1.8s
BELC Belle Mtn. Jos 88.04 53 P P 23 36 08.3 -0.2
baz=88
HEC Hector,Ludlow 88.12 52 P P 23 36 08.5 -0.3
baz=88
NV01 Mina Array Sit 88.19 48 *e*P P 23 36 08.5 -0.8
NVAR Mina Array Bea 88.19 48 P P 23 36 08.9 -0.3
comp=Z,2.7nm,0.9s,baz=233,slow=6.7,SNR=12
BC3 Big Chuckawall 88.31 54 P P 23 36 10.0 +0.2
baz=88
K05A Summer Lake 88.32 44 *e*P P 23 36 13.4 +3.6
comp=Z,322nm,2.4s
K05A LR LR
comp=Z,9µm,20.2s
GLA Glamis 88.55 54 *e*P P 23 36 14.8 +3.9
GLA pmax pmax
comp=Z,25nm,1.1s
GLA Glamis 88.55 54 P P 23 36 11.1 +0.2
baz=89
GLA Glamis 88.55 54 *e*P P 23 36 14.8 +3.9
comp=Z,25nm,1.1s
SHOC Shoshone, Teco 88.60 51 P P 23 36 11.9 +0.9
baz=89
GMRC Granite Mounta 88.61 53 P P 23 36 11.7 +0.5
baz=89
IRM Iron Mountain 88.74 53 P P 23 36 12.0 +0.2
baz=89
LPIG La Paz 88.89 64 LR LR 00 06 54.9
comp=Z,9µm,20.7s,baz=244,slow=29
BOD Bodaibo 88.92 334 *e*P P 23 36 09.4 -2.5
BOD pmax pmax
comp=Z,33nm,1.6s
TPNV Topopah Spring 89.05 50 *e*P P 23 36 13.4 +0.1
TPNV pmax pmax
comp=Z,22nm,1.3s
TPNV MLR MLR
comp=Z,7µm,20.0s
TPNV Topopah Spring 89.05 50 P P 23 36 13.1 -0.2
baz=89
TPNV Topopah Spring 89.05 50 *e*P P 23 36 13.4 +0.1
comp=Z,22nm,1.3s
TPNV LR LR
comp=Z,7µm,20.0s
HDA Harding Lake 89.28 17 *e*P P 23 36 17.4 +3.9
comp=Z,13nm,1.0s
HDA LR LR
comp=Z,8µm,22.0s
MDM Murphy Dome 89.35 17 *e*P P 23 36 16.5 +2.7
comp=Z,11nm,1.1s
COLA College 89.39 17 *e*P P 23 36 15.7 +1.8
COLA pmax pmax
comp=Z,29nm,1.3s
COLA MLR MLR
comp=Z,14µm,17.0s
COLA College 89.39 17 *e*P P 23 36 13.7 -0.2
LSA Lhasa 89.46 302 P P 23 36 13.9 -1.9
LSA Lhasa 89.46 302 *e*P P 23 36 19.8 +4.0
LSA pmax pmax
comp=Z,7.0nm,0.8s
LSA Lhasa 89.46 302 *e*P P 23 36 19.8 +4.0

comp=Z,7.1nm,0.8s
NVL N'lazarevskaya 89.49 187⇓*i*P P 23 36 17.5 +3.0
NVL *e* 23 36 22.9
NVL *e**PP pP 23 36 27.5 +7.7
NVL *i* 23 41 43.6
NVL *e* 23 46 49.3
NVL pmax pmax
comp=Z,32nm,0.9s
PGC Sidney 89.55 38 *e*P P 23 36 14.2 -0.9
PDMCI Parker Dam,Lak 89.57 54 P P 23 36 16.1 +0.5
baz=90
ILAR Eielson Array 89.57 17 P P 23 36 12.0 -2.9
comp=Z,1.5nm,0.8s,baz=233,slow=5.4,SNR=4.9
ILAR LR LR 00 09 28.1
comp=Z,7µm,22.0s,baz=232,slow=31
ILB Eielson Array 89.57 17 *e*P P 23 36 12.0 -2.9
IL1 Eielson Array 89.58 17 *e*P P 23 36 13.7 -1.2
LON Longmire 89.61 40 *e*P P 23 36 14.7 -0.9
LON Longmire 89.61 40 *e*P P 23 36 14.7 -0.9
SHPR Sheep Range 89.67 51 *e*P P 23 36 16.0 -0.2
WVOR Wild Horse Val 89.69 45 *e*P P 23 36 16.2 +0.1
WVOR pmax pmax
comp=Z,68nm,1.4s
WVOR MLR MLR
comp=Z,6µm,20.0s
WVOR Wild Horse Val 89.69 45 *e*P P 23 36 16.2 +0.1
comp=Z,68nm,1.4s
WVOR LR LR
comp=Z,6µm,20.0s
214A Organ Pipe Nat 89.70 56 P P 23 36 17.1 +0.8
baz=90
214A Organ Pipe Nat 89.70 56 *e*P P 23 36 16.0 -0.3
comp=Z,20nm,1.3s
D05A Enumclaw 89.71 39 *e*P P 23 36 19.1 +3.2
comp=Z,204nm,1.7s
SNAA Sanae 89.77 182 P P 23 36 06.8 -9.2
SNAA Sanae 89.77 182 *e*P P 23 36 04.6 -11
BEVT Boeing Everett 89.89 39 *e*P P 23 36 20.7 +4.0
ZAK Zakamensk 89.98 324 *e*P P 23 36 15.1 -2.1
ZAK pmax pmax
comp=Z,15nm,1.5s
R11A Troy Canyon, C 90.10 49 P P 23 36 17.2 -1.0
baz=90
R11A Troy Canyon, C 90.10 49 *e*P P 23 36 18.0 -0.2
comp=Z,21nm,1.7s
R11A LR LR
comp=Z,7µm,22.0s
IRK Irkutsk 90.38 326 *e*P P 23 36 20.8 +1.9
IRK pmax pmax
comp=Z,36nm,1.2s
TLY Talaya 90.43 325 *e*P P 23 36 18.6 -0.6
TLY *e*S SKSac 23 46 46.6 -3.3
TLY *e* 23 47 12.6
TLY *e*SS SS 23 53 23.0 +8.5
TLY pmax pmax
comp=Z,17nm,0.9s
TLY MLR MLR
comp=Z,1µm,18.0s
LTY Liberty 90.54 40 *e*P P 23 36 19.8 -0.1
comp=Z,24nm,1.2s
LTY LR LR
comp=Z,5µm,21.0s
COLD Coldfoot 90.62 15 *e*P P 23 36 18.4 -1.3
comp=Z,6.6nm,0.9s
G08A Pilot Rock 90.72 42 *e*P P 23 36 19.1 -1.8
comp=Z,45nm,1.3s
HAWA Hanford 90.85 41 *e*P P 23 36 21.7 +0.5
comp=Z,49nm,1.2s
VNA1 Neumayer--Stat 90.94 181 P P 23 36 23.2 +1.9
ELK Elko 91.30 47 *e*P P 23 36 22.6 -1.2
ELK pmax pmax
comp=Z,83nm,2.6s
ELK Elko 91.30 47 *e*P P 23 36 22.6 -1.2
comp=Z,83nm,2.6s
DAWY Dawson 91.33 20 *e*P P 23 36 20.8 -2.3
DAWY *e* 23 36 27.8
DLBC Dease Lake 91.38 27 LR LR 00 09 40.9
comp=Z,7µm,20.5s,baz=250,slow=30
DLBC Dease Lake 91.38 27 *e*P P 23 36 23.7 +0.2
comp=Z,3.5nm,0.3s
CCUT Cedar City 91.40 51 *e*P P 23 36 24.7 +0.4
comp=Z,18nm,1.2s
CCUT LR LR
comp=Z,7µm,20.0s
TUC Tucson 91.43 56 *e*P P 23 36 24.9 +0.5
TUC pmax pmax
comp=Z,19nm,1.4s
TUC MLR MLR
comp=Z,3µm,19.0s
TUC Tucson 91.43 56 *e*P P 23 36 24.9 +0.5
comp=Z,19nm,1.4s
TUC LR LR
comp=Z,3µm,19.0s
KNB Kanab 91.60 51 *e*P P 23 36 25.8 +0.6
KNB pmax pmax
comp=Z,23nm,1.2s
KNB MLR MLR
comp=Z,4µm,19.0s
KNB Kanab 91.60 51 *e*P P 23 36 25.8 +0.6
comp=Z,23nm,1.2s
KNB LR LR
comp=Z,4µm,19.0s
B08A Colville Reser 91.84 39 *e*P P 23 36 25.6 -0.2
comp=Z,28nm,1.3s
MOY Mondy 91.87 325 *e*P P 23 36 28.6 +2.6
MOY pmax pmax
comp=Z,52nm,3.0s
MFID Camas Ranch 91.97 45 *e*P P 23 36 28.0 +1.3
comp=Z,16nm,1.2s
MFID LR LR
comp=Z,7µm,19.0s
F10A Beach Ranch, E 92.11 42 *e*P P 23 36 28.5 +1.3
comp=Z,45nm,1.4s
WUAZ Wupatki 92.13 53 P P 23 36 27.0 -0.7
baz=92
WUAZ Wupatki 92.13 53 *e*P P 23 36 28.1 +0.4
comp=Z,15nm,1.0s
WUAZ LR LR
comp=Z,5µm,22.0s
HLID Hailey 92.97 45 P P 23 36 31.7 +0.3
baz=93
HLID Hailey 92.97 45 *e*P P 23 36 30.2 -1.2
comp=Z,4.6nm,0.9s
HLID LR LR
comp=Z,7µm,20.0s
W18A Petrified Fore 93.24 54 *e*P P 23 36 33.1 +0.3
comp=Z,20nm,1.4s
W18A LR LR
comp=Z,2µm,20.4s
HVU Hansel Valley 93.41 47 *e*P P 23 36 32.7 -0.7
HVU pmax pmax
comp=Z,7.0nm,1.1s
HVU Hansel Valley 93.41 47 *e*P P 23 36 32.7 -0.7
comp=Z,7.1nm,1.1s
121A Cookes Peak, D 93.89 57 *e*P P 23 36 35.5 -0.4
comp=Z,11nm,1.2s
TIXI Tiksi 94.22 348 *i* P P 23 36 36.9 +0.7
TIXI pmax pmax
comp=Z,3.0nm,1.4s
TIXI MLR MLR
comp=Z,2µm,19.0s
CRZF Crozet Islands 94.32 218 SP SP 23 48 20.0 -43
CRZF R 00 07 00.0
PV01 Paradox Valley 95.15 52 *e*P P 23 36 40.5 -1.1
REDW Red Top Meadow 95.31 46 *e*pP pP 23 36 50.5 +3.1
BOZ Bozeman (W) 95.59 44 P P 23 36 43.5 +0.2
baz=96
ANMO Albuquerque 95.72 55 *e*P P 23 36 45.5 +1.3
ANMO pmax pmax
comp=Z,18nm,1.3s
ANMO MLR MLR
comp=Z,11µm,16.0s
ANMO Albuquerque 95.72 55 *e*P P 23 36 45.6 +1.3
comp=Z,3.7nm,1.0s
HVS Khovu-Aksy 95.77 322 *e*P P 23 36 44.0 +0.1
HVS pmax pmax
comp=Z,82nm,1.3s
BW06 Boulder Array 96.00 47 *e*P P 23 36 43.9 -1.4
PD31 Pinedale Array 96.00 47 *e*P P 23 36 46.1 +0.7
PDAR Pinedale Array 96.00 47 P P 23 36 46.1 +0.7
comp=Z,0.5nm,0.4s,baz=258,slow=4.4,SNR=4.2
PDAR PKKP PKKPbc 23 53 35.0 +0.3
comp=Z,0.7nm,0.9s,baz=116,slow=4.1,SNR=3.7
TX31 Lajitas Ar. Si 96.22 61 *e*P P 23 36 46.1 -0.4
LTX Lajitas 96.22 61 *e*P P 23 36 46.3 -0.3
LTX Lajitas 96.22 61 *e*P P 23 36 46.2 -0.3

TXAR Lajitas Array 96.22 61 P P 23 36 46.2 -0.3
comp=Z,2.6nm,1.1s,baz=224,slow=5.2,SNR=9.8
TXAR PKKP PKKPdf 23 53 36.1 +1.2
comp=Z,0.6nm,0.9s,baz=109,slow=3.0,SNR=5.1
TXAR LR LR 00 13 30.2
comp=Z,5µm,18.7s,baz=0.0,slow=31
CRMT Chrome Mountai 96.51 44 *e*P P 23 36 47.3 -0.4
WMQ Urumqi 97.00 314 P Pdif 23 36 50.1 +0.3
WMQ pP pP 23 36 56.5 +1.6
WMQ sP sP 23 36 59.2 +2.4
WMQ SKS SKSac 23 47 24.7 -1.6
WMQ S S 23 48 04.9 -7.1
WMQ sS sS 23 48 18.7 -2.0
WMQ PMZ
comp=Z,9.0nm,1.0s
WMQ PMZ
comp=Z,190nm,4.2s
WMQ LN
comp=Z,2µm,23.0s
WMQ LE
comp=Z,2µm,24.0s
WMQ LZ
comp=Z,3µm,25.0s
YKA Yellowknife Ar 100.00 27 P Pdif 23 37 01.6 -1.0
comp=Z,1.1nm,0.8s,baz=248,slow=4.1,SNR=4.1
YKB5 Yellowknife Ar 100.00 27 *e*Pdif Pdif 23 37 05.8 +3.3
MK01 Makanchi Array 101.50 316 *e*Pdif Pdif 23 37 09.4 -0.3
MK32 Makanchi Array 101.52 316 *e*Pdif Pdif 23 37 09.8 0.0
MKAR Makanchi Array 101.52 316 P Pdif 23 37 09.8 0.0
comp=Z,1.2nm,0.6s,baz=91,slow=6.7,SNR=14
ZAA0 Zalesovo Array 101.81 323 *e*Pdif Pdif 23 37 10.4 -0.4
ZALV Zalesovo Beam 101.81 323 P Pdif 23 37 09.2 -1.6
comp=Z,0.7nm,0.6s,baz=115,slow=6.5,SNR=3.4
ZAA1 Zalesovo Array 101.81 323 *e*Pdif Pdif 23 37 09.2 -1.6
NVS Novosibirsk 102.94 324 *e*P Pdif 23 37 17.6 +1.8
KURK Kurchatov 104.77 319 *e*Pdif Pdif 23 37 30.0 +6.0
KURK *e*PKiKP PKiKP 23 41 39.9 +0.5
ARU Arti 116.92 324 *i* PKIKP PKPdf 23 42 01.8 -0.4
ARU 23 43 09.8
ARU 23 48 51.5
ARU SP SP 23 52 52.6 +0.6
AKTO Aktyubinsk 117.82 318 PKP PKPdf 23 42 02.9 -1.3
comp=Z,1.8nm,0.8s,baz=180,slow=2.0,SNR=3.3
BOSA Boshof 121.71 217 PKP PKPdf 23 42 13.5 +1.0
comp=Z,11nm,1.1s,baz=98,slow=7.1,SNR=3.2
SUMG Summit 123.72 10 *e*PKIKP PKPdf 23 42 18.6 +3.2
SUMG Summit 123.72 10 *e*PKPdf PKPdf 23 42 18.6 +3.2
APA Apatity 123.76 341 *e*PKIKP PKPdf 23 42 18.0 +3.0
APA *i* 23 43 56.0
APA *i* PPP PPP 23 46 34.0
APA *i* SS SS 00 00 46.0 +0.8
SCHQ Schefferville 124.25 36 PKP PKPdf 23 42 15.8 -0.5
comp=Z,2.2nm,0.8s,baz=104,slow=4.2,SNR=3.1
ARA0 ARCESS Array S 124.56 345 *e*PKPdf PKPdf 23 42 19.5 +3.0
ARCES ARCESS Array B 124.56 345 PKP PKPdf 23 42 19.5 +3.0
comp=Z,4.6nm,0.9s,baz=35,slow=3.3,SNR=5.4
KLMR Klimovskoe 125.14 333 *e*PKIKP PKPdf 23 42 18.9 +1.1
KLMR pmax pmax
comp=Z,16nm,1.4s
MAK Makhachkala 125.80 310 *e*PKIKP PKPdf 23 42 25.6 +5.9
MAK *e* 23 44 08.3
MAK *e* 23 49 18.2
MAK *e*SS SS 00 01 10.1 -2.6
MAK MLR MLR
comp=Z,2µm,23.0s
DAMY Dhamar 127.45 274 *e*PKPdf PKPdf 23 42 28.7 +4.7
DGRG David-gareji 127.58 308 P PKPdf 23 42 27.8 +4.5
DGRG David-gareji 127.58 308 PKIKP PKPdf 23 42 27.7 +4.5
HUMP Col San Antoni 127.62 81 *e*PKPdf PKPdf 23 42 26.6 +2.7
RAYN Ar Rayn 127.83 286 *e*PKPdf PKPdf 23 42 26.9 +2.7
RAYN LR LR
comp=Z,2µm,21.0s
TBLG Delisi 128.01 309 P PKPdf 23 42 27.3 +3.3
TBLG Delisi 128.01 309 PKIKP PKPdf 23 42 27.3 +3.3
GNI Garni 128.23 307 PKP PKPdf 23 42 23.5 -1.2
comp=Z,1.0nm,0.4s,baz=190,slow=6.1,SNR=2.1
GNI Garni 128.23 307 *i* PKIKP PKPdf 23 42 27.5 +2.8
GNI pmax pmax
comp=Z,13nm,1.7s
ZEI Tsey 128.45 310 *i* PKIKP PKPdf 23 42 28.2 +3.2
ZEI pmax pmax
comp=Z,7.0nm,0.4s
NCK Nalchik 128.53 311 *i* PKIKP PKPdf 23 42 28.1 +3.2
GOF Gofitskoye 128.60 313 *e*PKIKP PKPdf 23 42 26.8 +1.8
ONI Oni 128.81 310 P PKPdf 23 42 29.3 +3.7
ONI Oni 128.81 310 PKIKP PKPdf 23 42 29.2 +3.7
LPSR Galich'ya Gora 128.92 323 *e*PKIKP PKPdf 23 42 24.8 -0.5
LPSR pmax pmax
comp=E,6.0nm,1.5s
LPSR pmax pmax
comp=Z,10.0nm,1.5s
LPSR pmax pmax
comp=N,3.0nm,1.0s
KIV Kislovodsk 129.09 312 *i* PKIKP PKPdf 23 42 27.9 +1.8
KIV *e* 23 44 34.8
KIV *e* 23 49 34.1
KIV *e*SS SS 00 01 51.9 -1.8
KIV pmax pmax
comp=Z,11nm,1.1s
KIV Kislovodsk 129.09 312 *e*PKPdf PKPdf 23 42 28.0 +2.0
KIV LR LR
comp=Z,1µm,19.0s
OBN Obninsk 129.15 327 *i* PKIKP PKPdf 23 42 27.1 +1.5
OBN *e* 23 44 36.0
OBN pmax pmax
comp=Z,13nm,1.3s
LSZ Lusaka 129.17 231 *e*PKIKP PKPdf 23 42 26.6 -0.5
LSZ *e* 23 44 34.0
LSZ Lusaka 129.17 231 *e*PKPdf PKPdf 23 42 26.6 -0.5
LSZ *e*PP PP 23 44 34.0 -0.7
KMBO Kilima Mbogo 129.18 253 PKP PKPdf 23 42 25.5 -1.8
comp=Z,0.6nm,0.3s,baz=45,slow=16,SNR=2.1
VSR Storozhevoye 129.30 322 *e*PKIKP PKPdf 23 42 29.0 +2.9
VSR pmax pmax
comp=Z,10.0nm,1.4s
VSR pmax pmax
comp=N,6.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VORD Divnogorie 129.31 321 *e*PKIKP PKPdf 23 42 28.1 +2.0
VORD pmax pmax
comp=Z,8.0nm,0.4s
VORD pmax pmax
comp=N,20nm,1.4s
VORD pmax pmax
comp=E,20nm,0.5s
KARS Kars 129.42 308 PKIKP PKPdf 23 42 26.1 -0.8
NACGM Naroch 134.05 331 *e* PP 23 45 05.0 -0.3
SIM Simferopol' 134.70 315 *e*PKIKP PKPdf 23 42 48.0 +12
SIM *e* 23 45 13.0
SIM pmax pmax
comp=Z,80nm,7.7s
NB200 NORSAR Array S 134.94 345 *e*PKPdf PKPdf 23 42 36.1 -0.4
NOA NORSAR Array B 134.94 345 PKP PKPdf 23 42 36.1 -0.4
comp=Z,1.1nm,1.0s,baz=2.3,slow=2.6,SNR=3.3
AKASG Malin Array Be 135.17 325 PKP PKPdf 23 42 40.4 +3.2
comp=Z,0.4nm,0.4s,baz=58,slow=2.2,SNR=4.2
AKASG Malin Array Be 135.17 325*c* *i*PKIKP PKPdf 23 42 41.5 +4.3
AKBB Malin Array Si 135.17 325 *e*PKIKP PKPdf 23 42 40.4 +3.2
AKBB Malin Array Si 135.17 325 *e*PKPdf PKPdf 23 42 40.4 +3.2
KIEV Kiev 135.19 325 *i* PKIKP PKPdf 23 42 39.6 +2.4
MBAR Mbarara 135.25 249 *e*PKIKP PKPdf 23 42 42.5 +3.8
MBAR Mbarara 135.25 249 *e*PKPdf PKPdf 23 42 42.5 +3.8
SUW Suwalki 136.25 332 *e*PKPdf PKPdf 23 42 43.7 +4.6
SUW Suwalki 136.25 332 *e*PKIKP PKPdf 23 42 43.7 +4.6
MMAI Mount Meron Ar 136.65 299 PKP PKPdf 23 42 43.6 +3.0
comp=Z,21nm,1.2s,baz=284,slow=3.4,SNR=6.6
BR101 Keskin Array S 136.67 309 *e*PKPpre PKPpre 23 42 33.6
BR101 *e*PKPdf PKPdf 23 42 40.4 -0.2
BR131 Keskin Array S 136.67 309 *e*PKPdf PKPdf 23 42 40.5 -0.1
BRTR Keskin Array B 136.67 309 PKhKP PKPpre 23 42 33.6
comp=Z,0.3nm,0.6s,baz=150,slow=1.0,SNR=3.6
BRTR PKP PKPdf 23 42 40.4 -0.1
comp=Z,3.3nm,1.1s,baz=152,slow=5.6,SNR=5.4
BRTR PP PP 23 45 22.8 -0.1
comp=Z,3.0nm,1.2s,baz=100,slow=5.1,SNR=6.2
BRTR Keskin Array B 136.67 309*c* *i*PKIKP PKPdf 23 42 42.7 +2.1
BRTR pmax pmax
comp=Z,3.0nm,1.1s
KIS Kishinev 137.22 320 *e*PKP PKPdf 23 42 39.0 -2.1
KIS Kishinev 137.22 320 *e*PP PP 23 45 28.0 +2.3
KIS *e*SKP 23 46 28.0
KIS Kishinev 137.22 320 *e*PPS PPS 23 57 37.0
KIS *e*SS SS 00 04 09.0 +38

KIS			eL	L	00 30 44.0	
KIS			LRM	MLR	00 48 44.0	
	comp=Z,3µm,20.0s					
KIS	Kishinev	137.22 320	ePKIKP	PKPdf	23 42 39.0	-2.1
KIS			e		23 45 28.0	
KIS			e		23 57 37.0	
KIS			eSS	SS	00 04 09.0	+38
BR231	Keskin MP Arra	137.28 309	ePKPpre	PKPpre	23 42 34.0	
BR231			ePP	PP	23 45 24.0	-2.5
CSS	Prodhromos	138.03 302	ePKPdf	PKPdf	23 42 47.9	+4.9
BUR04	Bucovina Ar. S	139.03 323	ePKPdf	PKPdf	23 42 44.3	-0.3
KWP	Kalwaria Pacla	139.24 327	ePKPdf	PKPdf	23 42 46.1	+1.3
KWP	Kalwaria Pacla	139.24 327	ePKIKP	PKPdf	23 42 46.1	+1.3
GKP	Gorka Klasztor	139.31 335	ePKPdf	PKPdf	23 42 50.8	+6.1
GKP	Gorka Klasztor	139.31 335	ePKIKP	PKPdf	23 42 50.8	+6.1
KOLS	Kolonicke sedl	139.89 326	ePKIKP	PKPdf	23 42 44.8	-1.2
KOLS			e		23 45 41.8	
KOLS	Kolonicke sedl	139.89 326	ePKP	PKPdf	23 42 44.8	-1.2
KOLS			ePP	PP	23 45 41.8	-0.2
STHS	Stebnicka Huta	140.12 328	ePKIKP	PKPdf	23 42 45.6	-0.8
STHS			e		23 45 41.4	
STHS	Stebnicka Huta	140.12 328	ePKP	PKPdf	23 42 45.6	-0.8
STHS			ePP	PP	23 45 41.4	-2.0
OJC	Ojcow	140.32 330	ePKPdf	PKPdf	23 42 47.3	+0.6
OJC			ePP	PP	23 45 45.0	+0.5
OJC	Ojcow	140.32 330	ePKIKP	PKPdf	23 42 47.4	+0.7
OJC			e		23 45 45.1	
NIE	Niedzica	140.59 328	ePKPdf	PKPdf	23 42 45.6	-1.7
NIE			ePP	PP	23 45 47.0	+0.7
NIE	Niedzica	140.59 328	ePKIKP	PKPdf	23 42 45.7	-1.6
NIE			e		23 45 47.0	
KECS	Kecovo	141.10 327	ePKIKP	PKPdf	23 42 48.3	+0.1
KECS			e		23 45 52.8	
KECS	Kecovo	141.10 327	ePKP	PKPdf	23 42 48.3	+0.1
KECS			e		23 45 52.8	
BSEG	Bad Segeberg	141.30 340	ePKPbc	PKPdf	23 42 45.7	-2.6
OKC	Ostrava-Krasne	141.36 330	ex	x	23 45 06.2	
OKC			ex	x	23 57 10.2	
OKC			AMS	AMS	00 46 20.0	
	comp=Z,1µm,21.4s					
KSP	Ksiaz	141.49 333	ePKPdf	PKPdf	23 42 46.7	-2.1
KSP	Ksiaz	141.49 333	ePKIKP	PKPdf	23 42 46.8	-2.1
PSZ	Piszkesteto	141.76 327	ePKIKP	PKPdf	23 42 48.2	-1.3
PSZ	Piszkesteto	141.76 327	ePKPdf	PKPdf	23 42 48.2	-1.3
KDZ	Kurdzhali	141.83 315	eP	PKPdf	23 42 49.5	-0.2
DPC	Dobruska-Polom	141.84 332	ePKP	PKPdf	23 42 46.9	-2.6
DPC			epPKP	pPKPdf	23 42 56.4	+1.5
DPC			ex	x	23 44 12.6	
DPC			ex	x	23 45 07.5	
DPC			ex	x	23 57 11.2	
DPC			eSS	SS	00 04 26.9	+1.9
DPC			AMS	AMS	00 46 30.0	
	comp=Z,3µm,21.4s					
DPC	Dobruska-Polom	141.84 332	ePKIKP	PKPdf	23 42 47.4	-2.1
UPC	Upice	141.86 333	ePKP	PKPdf	23 42 47.5	-2.0
UPC			epPKP	PKiKP	23 42 52.8	+0.4
UPC	Upice	141.86 333	ePKIKP	PKPdf	23 42 48.2	-1.3
RDO	Rodhopi	141.96 314	eP	PKPdf	23 42 48.0	-1.9
RDO	Rodhopi	141.96 314	ePKPdf	PKPdf	23 42 49.5	-0.5
RDO			LR	LR		
	comp=Z,1µm,18.0s					
MPEP	Malo Peshtene	142.13 318	eP	PKPdf	23 42 50.3	+0.1
SMTH	Samothraki Isl	142.25 313	eP	PKPdf	23 42 48.5	-2.0
BRG	Berggiesshubel	142.46 335	ePKP	PKPdf	23 42 50.7	+0.2
	comp=Z,7.7nm,1.1s					
BRG			e		23 43 06.4	
	comp=Z,8.9nm,1.2s					
BRG	Berggiesshubel	142.46 335	ePKIKP	PKPdf	23 42 50.7	+0.2
BRG			pmax	pmax		
	comp=Z,8.0nm,1.1s					
PVCC	Panska Ves	142.46 334	ex	x	23 45 07.6	
PVCC			ex	x	23 48 53.6	
PVCC			AMS	AMS	00 44 50.0	
	comp=Z,2µm,22.2s					
CLL	Collm	142.49 336	ePKPpre	PKPpre	23 42 46.0	
CLL			i PKPdf	PKPdf	23 42 48.6	-2.0
	comp=Z,11nm,1.4s					
CLL			i PKiKP	PKiKP	23 42 53.0	-0.6
CLL			i pPKiKP	pPKiKP	23 42 56.0	-3.0
CLL			i		23 43 02.7	
CLL			ePKPdf(2)		23 43 38.0	
CLL			e		23 44 56.0	
CLL			ePP(2)		23 46 56.0	
CLL			e		23 54 06.0	
CLL			ePSKS(2)		23 57 05.0	
CLL			ePPS(2)		23 59 06.0	
CLL			e		23 59 30.0	
CLL			eSKSac(2)		23 59 59.0	
CLL			eSS	SS	00 04 29.0	-3.3
CLL			e		00 06 12.0	
CLL			eSSS	SSS	00 09 36.0	
CLL			Lm	MLR	00 48 00.0	
	comp=N,1µm,20.7s					
CLL			Lm	MLR	00 48 00.0	
	comp=E,900nm,21.2s					
CLL			Lm	MLR	00 48 00.0	
	comp=Z,2µm,19.9s					
CLL	Collm	142.49 336	i PKIKP	PKPdf	23 42 48.6	-2.0
CLL			i		23 42 51.7	
CLL			pmax	pmax		
	comp=Z,11nm,1.4s					
CLL			MLR	MLR		
	comp=Z,2µm,19.9s					
CLL	Collm	142.49 336	ePKPdf	PKPdf	23 42 49.5	-1.0
CLL			LR	LR		
	comp=Z,2µm,20.0s					
SIGR	SIGRI	142.53 311	eP	PKPdf	23 42 50.0	-1.0
CHOS	Chios island	142.69 310	eP	PKPdf	23 42 48.0	-3.4
PKS7	Kunszentmiklos	142.70 326⇓	ePKPdf	PKPdf	23 42 51.0	0.0
KAVA	Kavala	142.73 314	eP	PKPdf	23 42 51.5	+0.2
LIA	Limnos Island	142.73 312	eP	PKPdf	23 42 51.5	+0.2
PKS6	Bocsa	142.77 325⇓	ePKPdf	PKPdf	23 42 46.8	-4.4
KARP	Karpathos	142.78 305	eP	PKPdf	23 42 49.5	-2.1
GOPC	GO Pecny, Ondr	142.83 333	ePKP	PKPdf	23 42 50.5	-0.8
GOPC			epPKP	pPKPdf	23 42 56.7	+0.1
GOPC			ex	x	23 45 04.5	
GOPC			ex	x	23 48 50.2	
GOPC			ex	x	23 57 25.5	
GOPC			eSS	SS	00 04 44.8	+8.4
GOPC			AMS	AMS	00 42 00.0	
	comp=Z,2µm,25.1s					
VTS	Vitosha	142.84 317	eP	PKPdf	23 42 51.0	-0.7
PRA	Prague	142.86 333	ePKP	PKPdf	23 42 50.8	-0.5
PRA			ex	x	23 44 08.6	
PRA			ex	x	23 45 03.7	
PRA			ex	x	23 48 54.1	
PRA			ex	x	23 57 26.1	
PRA			eSS	SS	00 04 47.5	+11
PRA			AMS	AMS	00 47 00.0	
	comp=Z,2µm,23.9s					
PRU	Pruhonice	142.88 333	ePKP	PKPdf	23 42 49.6	-1.7
PRU			ex	x	23 44 04.9	
PRU			ex	x	23 44 59.8	
PRU			ex	x	23 48 54.2	
PRU			ex	x	23 57 25.3	
PRU			eSS	SS	00 04 34.9	-2.0
PRU			AMS	AMS	00 42 00.0	
	comp=Z,2µm,23.7s					
PRU	Pruhonice	142.88 333	ePKIKP	PKPdf	23 42 49.6	-1.7
PKSG		142.88 327⇓	ePKPdf	PKPdf	23 42 51.7	+0.3
CSKK	Csˆ‡kako	142.97 327	ePKPdf	PKPdf	23 42 50.3	-1.2
TREC	Trest	142.97 332	ePKP	PKPdf	23 42 50.1	-1.4
TREC			ex	x	23 44 05.3	
TREC			ex	x	23 45 00.4	
TREC			ex	x	23 48 55.4	
TREC			ex	x	23 57 24.4	
TREC			AMS	AMS	00 47 10.0	
	comp=Z,3µm,21.5s					
TREC	Trest	142.97 332	ePKIKP	PKPdf	23 42 50.1	-1.4
MMB	Musomiste	142.99 316	eP	PKPdf	23 42 51.5	-0.3
NVR	Nevrokopi	143.01 315	P	PKPab	23 42 47.2	+0.1
NVR	Nevrokopi	143.01 315	eP	PKPab	23 42 47.5	+0.4
NVR	Nevrokopi	143.01 315	P	PKPab	23 42 47.2	+0.1
PKS2	Kecel	143.02 325⇓	ePKPdf	PKPdf	23 42 52.6	+1.0
CLZ	Clausthal	143.03 338	ePKPbc	PKPdf	23 42 52.1	+0.5
KKB	Krupnik	143.28 316	eP	PKPdf	23 42 51.0	-1.3
SRS	Serrai	143.29 315	P	PKPab	23 42 48.0	-0.2
SRS	Serrai	143.29 315	eP	PKPab	23 42 48.5	+0.3
SRS	Serrai	143.29 315	PKIKP	PKPab	23 42 48.0	-0.2
SRS	Serrai	143.29 315	P	PKPab	23 42 48.0	-0.2
OUR	Ouranopolis	143.38 314	P	PKPab	23 42 48.4	-0.1
OUR	Ouranopolis	143.38 314	eP	PKPab	23 42 47.0	-1.5
OUR	Ouranopolis	143.38 314	PKIKP	PKPab	23 42 48.4	-0.1
OUR	Ouranopolis	143.38 314	P	PKPab	23 42 48.4	-0.1
TANN	Tannenbergstha	143.41 335	ePKPbc	PKPdf	23 42 53.2	+0.9
IBBN	Ibbenburen	143.49 341	ePKPbc	PKPdf	23 42 53.5	+1.2
PKSM	Moragy	143.51 325	ePKPdf	PKPbc	23 42 50.0	+0.2
APE	Apeiranthos	143.55 308	eP	PKPdf	23 42 52.0	-1.0
MOX	Moxa	143.56 336	ePKPbc	PKPdf	23 42 53.6	+1.1
MOX	Moxa	143.56 336	eL	L	00 46 37.9	
	comp=Z,1µm,21.5s					
NKC	Novy Kostel	143.56 335	ePKP	PKPbc	23 42 49.4	-0.4
NKC			epPKP	PKPdf	23 42 53.2	+0.7
NKC			ex	x	23 44 10.9	
NKC			ex	x	23 45 02.3	
NKC			AMS	AMS	00 47 50.0	
	comp=Z,1µm,21.5s					
NKC	Novy Kostel	143.56 335	ePKIKP	PKPdf	23 42 52.4	-0.1
SOH	Sokhos	143.59 315	P	PKPbc	23 42 50.7	+0.4
SOH	Sokhos	143.59 315	eP	PKPab	23 42 49.5	+0.1
SOH	Sokhos	143.59 315	PKIKP	PKPbc	23 42 50.7	+0.4
SOH	Sokhos	143.59 315	P	PKPbc	23 42 50.7	+0.4
SOP	Sopron	143.61 329	ePKPdf	PKPdf	23 42 53.0	+0.3
PLG	Polygyros	143.73 314	P	PKPab	23 42 49.0	-1.0
PLG	Polygyros	143.73 314	eP	PKPab	23 42 49.0	-1.0
PLG	Polygyros	143.73 314	PKIKP	PKPab	23 42 49.0	-1.0
PLG	Polygyros	143.73 314	P	PKPab	23 42 49.0	-1.0
KNT	Kendrikon	143.74 315	P	PKPab	23 42 48.8	-1.1
KNT	Kendrikon	143.74 315	eP	PKPab	23 42 49.0	-0.9
KNT	Kendrikon	143.74 315	P	PKPab	23 42 48.8	-1.1
PAIG	Paliouri	143.77 313	P	PKPab	23 42 49.3	-0.7
PAIG	Paliouri	143.77 313	eP	PKPab	23 42 49.0	-1.0
PAIG	Paliouri	143.77 313	PKIKP	PKPab	23 42 49.3	-0.7
PAIG	Paliouri	143.77 313	P	PKPab	23 42 49.3	-0.7
CSNA	Conrad Observa	143.78 330⇓	iPKPdf	PKPbc	23 42 51.0	+0.4
	comp=Z,37nm,1.2s					
SANT	Santorini	143.84 307	eP	PKPdf	23 42 53.0	-0.5
SANT	Santorini	143.84 307	ePKPdf	PKPdf	23 42 52.9	-0.5
HORT	Hortiatis	143.86 314	eP	PKPab	23 42 48.0	-2.5
VAY	Valandovo	143.88 316	P	PKPdf	23 42 54.4	+1.1
VAY	Valandovo	143.88 316	i PKP	PKPbc	23 42 51.5	+0.4
VAY	Valandovo	143.88 316	PKIKP	PKPdf	23 42 54.4	+1.1
VAY	Valandovo	143.88 316	P	PKPdf	23 42 54.4	+1.1
KHC	Kasperske Hory	143.94 333	ePKP	PKPbc	23 42 51.8	+0.8
KHC			epPKP	PKPdf	23 42 54.9	+1.6
KHC			ex	x	23 45 07.0	
KHC			ex	x	23 48 53.8	
KHC			ex	x	23 57 28.0	
KHC			eSS	SS	00 04 52.3	+3.0
KHC			AMS	AMS	00 47 30.0	
	comp=Z,2µm,22.0s					
KHC	Kasperske Hory	143.94 333	ePKIKP	PKPbc	23 42 51.9	+0.9
KHC			MLR	MLR		
	comp=Z,1µm,22.0s					
KHC	Kasperske Hory	143.94 333	ePKPdf	PKPbc	23 42 51.9	+0.9
KHC			LR	LR		
	comp=Z,1µm,22.0s					
THE	Thessaloniki	143.94 315	eP	PKPdf	23 42 53.0	-0.4
AOS	Alonnisos	143.95 312	P	PKPab	23 42 49.7	-1.1
AOS	Alonnisos	143.95 312	eP	PKPab	23 42 50.5	-0.3
AOS	Alonnisos	143.95 312	P	PKPab	23 42 49.7	-1.1
UBBA	Unterbreizbach	144.01 338	ePKPbc	PKPdf	23 42 55.1	+2.0
ROTZ	Rotzenmuhle	144.02 335	ePKPbc	PKPdf	23 42 55.6	+2.3
NPS	Neapolis	144.08 305	P	PKPbc	23 42 51.7	-0.2
NPS	Neapolis	144.08 305	eP	PKPbc	23 42 52.0	+0.1
NPS	Neapolis	144.08 305	PKIKP	PKPbc	23 42 51.7	-0.2
NPS	Neapolis	144.08 305	P	PKPbc	23 42 51.7	-0.2
GEC2	GERESS Array S	144.10 333	ePKPbc	PKPdf	23 42 55.4	+1.8
GEC2	GERESS Array S	144.10 333	ePKIKP	PKPdf	23 42 52.8	-0.8
GEC2	GERESS Array S	144.10 333	ePKPdf	PKPdf	23 42 52.8	-0.8
GERES	GERESS Array B	144.10 333	PKP	PKPbc	23 42 52.6	+1.0
	comp=Z,19nm,1.1s,baz=29,slow=3.0,SNR=42					
LAST	Lasithi	144.21 305	P	PKPdf	23 42 55.0	+0.8
LAST	Lasithi	144.21 305	P	PKPdf	23 42 55.0	+0.8
WET	Wettzell	144.22 334	ePKPbc	PKPdf	23 42 56.0	+2.3
SKO	Skopje	144.29 318	i PKP	PKPbc	23 42 52.9	+0.5
BEHE	Becsehely	144.32 327	ePKPdf	PKPdf	23 42 54.5	+0.5
XOR	Xorichti	144.35 313	eP	PKPdf	23 42 57.0	+2.7
NEO	Neokhori	144.35 312	eP	PKPdf	23 42 54.5	+0.2
BUG	Bochum--Univer	144.40 341	ePKPbc	PKPdf	23 42 56.2	+2.3
PTL	Penteli	144.41 310	P	PKPab	23 42 52.1	-0.5
PTL	Penteli	144.41 310	eP	PKPdf	23 42 54.5	+0.1
PTL	Penteli	144.41 310	ePKPdf	PKPab	23 42 52.1	-0.5
GRF	Grafenberg Arr	144.47 336	ePKPbc	PKPdf	23 42 57.1	+3.0
GRF	Grafenberg Arr	144.47 336	eL	L	00 47 07.9	
	comp=Z,2µm,22.0s					
GRFO	Grafenberg	144.47 336	ePKIKP	PKPdf	23 42 54.6	+0.5
GRFO			MLR	MLR		
	comp=Z,2µm,22.0s					
GRFO	Grafenberg	144.47 336	ePKPdf	PKPdf	23 42 54.5	+0.5
GRFO			LR	LR		
	comp=Z,2µm,22.0s					
ATHU	Athens Univers	144.50 310	P	PKPab	23 42 51.1	-1.8
ATHU	Athens Univers	144.50 310	ePKPdf	PKPab	23 42 51.1	-1.8
LIT	Litokhoron	144.51 314	P	PKPab	23 42 50.2	-2.7
LIT	Litokhoron	144.51 314	eP	PKPab	23 42 51.5	-1.4
LIT	Litokhoron	144.51 314	P	PKPab	23 42 50.2	-2.7
MHLO	Agia Marina, M	144.53 308	eP	PKPab	23 42 53.0	0.0
SMIA	Simia	144.54 312	P	PKPab	23 42 51.1	-1.9
SMIA	Simia	144.54 312	eP	PKPab	23 42 52.0	-1.0
ATH	Athens Observa	144.55 310	P	PKPab	23 42 50.3	-2.7
ATH	Athens Observa	144.55 310	eP	PKPab	23 42 52.0	-1.0
ATH	Athens Observa	144.55 310	P	PKPab	23 42 50.3	-2.7
MOA	Molln	144.58 331⇑	iPKPdf	PKPab	23 42 51.4	-1.5
	comp=Z,74nm,1.2s,SNR=22					
ATAL	Atalanti	144.76 312	P	PKPab	23 42 51.5	-2.3
ATAL	Atalanti	144.76 312	P	PKPab	23 42 51.5	-2.3
VILL	Villia	144.77 311	P	PKPab	23 42 51.1	-2.8
SIVA	Sivas	144.78 305	P	PKPdf	23 42 56.9	+1.8
SIVA	Sivas	144.78 305	P	PKPdf	23 42 56.9	+1.8
VIL2	Platees	144.78 311	eP	PKPab	23 42 51.5	-2.4
LKR	Lokris	144.79 312	P	PKPab	23 42 52.1	-1.8
LKR	Lokris	144.79 312	eP	PKPdf	23 42 55.0	0.0
LKR	Lokris	144.79 312	ePKPdf	PKPab	23 42 52.1	-1.8
NAIG	Nisos Aigina	144.80 310	eP	PKPab	23 42 52.0	-2.0
KZN	Kozani	144.90 315	P	PKPab	23 42 54.3	-0.1
KZN	Kozani	144.90 315	eP	PKPdf	23 42 56.0	+0.7
KZN	Kozani	144.90 315	ePKIKP	PKPab	23 42 54.3	-0.1
KZN	Kozani	144.90 315	ePKPdf	PKPab	23 42 54.3	-0.1
FNA	Florina	144.93 316	P	PKPab	23 42 52.1	-2.3
FNA	Florina	144.93 316	eP	PKPab	23 42 53.0	-1.4
FNA	Florina	144.93 316	ePKIKP	PKPab	23 42 52.1	-2.3
FNA	Florina	144.93 316	ePKPdf	PKPab	23 42 52.1	-2.3
AXAR	Agios Charalam	144.98 312	P	PKPab	23 42 52.6	-2.1
AXAR	Agios Charalam	144.98 312	eP	PKPab	23 42 52.5	-2.1
AXAR	Agios Charalam	144.98 312	ePKPdf	PKPab	23 42 52.6	-2.1
PERS	Pernice	145.04 329	i PKPdf	PKPbc	23 42 53.1	-1.6
PERS			i PKPbc	PKiKP	23 42 57.5	-1.6
TNS	Taunus Mts	145.05 339	ePKPbc	PKPdf	23 42 58.9	+3.7
SOKA	Soboth	145.06 329	i PKPab	PKPbc	23 42 53.3	-1.4
	comp=Z,98nm,1.2s,SNR=67					
LTK	Loutraki	145.07 311	P	PKPbc	23 42 52.3	-2.7
LTK	Loutraki	145.07 311	eP	PKPbc	23 42 53.0	-2.0
LTK	Loutraki	145.07 311	ePKPdf	PKPbc	23 42 52.3	-2.7
PHP	Peshkopia	145.08 318	P	PKPbc	23 42 52.7	-2.2
PHP	Peshkopia	145.08 318	PKIKP	PKPbc	23 42 52.7	-2.2
PHP	Peshkopia	145.08 318	P	PKPbc	23 42 52.7	-2.2
THL	Klokotos Trika	145.08 314	P	PKPbc	23 42 52.0	-2.9
THL	Klokotos Trika	145.08 314	eP	PKPbc	23 42 51.5	-3.4
DID	Didima	145.09 310	P	PKPbc	23 42 51.9	-3.1
DID	Didima	145.09 310	eP	PKPbc	23 42 52.0	-3.1
DID	Didima	145.09 310	P	PKPbc	23 42 51.9	-3.1
AGG	Agios Georgios	145.10 313	P	PKPbc	23 42 52.7	-2.4
AGG	Agios Georgios	145.10 313	eP	PKPbc	23 42 53.0	-2.1
AGG	Agios Georgios	145.10 313	ePKIKP	PKPbc	23 42 52.9	-2.1
AGG			MLR	MLR		
	comp=Z,2µm,21.0s					
AGG	Agios Georgios	145.10 313	ePKPbc	PKPbc	23 42 52.9	-2.1
AGG			LR	LR		
	comp=Z,2µm,21.0s					
VAM	Vamos	145.12 306	eP	PKPbc	23 42 54.5	-0.7
KRND	KRANIDI	145.20 309	P	PKPbc	23 42 53.3	-2.1
KRND	KRANIDI	145.20 309	eP	PKPbc	23 42 52.0	-3.4
SISC	Sisak	145.20 326	P	PKPdf	23 42 55.4	-0.1
DSF	Desfina	145.23 311	P	PKPbc	23 42 53.3	-2.2
DSF	Desfina	145.23 311	eP	PKPbc	23 42 53.0	-2.5
DSF	Desfina	145.23 311	ePKPbc	PKPbc	23 42 53.3	-2.2
MAKR	Makrakomi, Fth	145.24 313	P	PKPbc	23 42 53.9	-1.6
MAKR	Makrakomi, Fth	145.24 313	eP	PKPbc	23 42 54.0	-1.6
MAKR	Makrakomi, Fth	145.24 313	P	PKPbc	23 42 53.9	-1.6
NEST	Nestorio	145.33 315	P	PKPbc	23 42 54.9	-0.9
NEST	Nestorio	145.33 315	eP	PKPbc	23 42 54.0	-1.8
RJOB	Jochberg	145.33 332	ePKPbc	PKPdf	23 42 59.8	+4.0
GVD	Gavdhos	145.40 305	P	PKPbc	23 42 55.7	-0.4
GVD	Gavdhos	145.40 305	eP	PKPab	23 42 57.0	+0.7
GVD	Gavdhos	145.40 305	P	PKPbc	23 42 55.7	-0.4
KBN	Korca	145.40 316	P	PKPbc	23 42 54.4	-1.6
KBN	Korca	145.40 316	PKP2	PKPbc	23 42 54.4	-1.6
KBN	Korca	145.40 316	P	PKPbc	23 42 54.4	-1.6
OBKA	Obir	145.41 329⇑	iPKPdf	PKPbc	23 42 55.1	-0.7
	comp=Z,68nm,1.3s,SNR=22					
BEBN	Eben Emael	145.44 342	PKP	PKPbc	23 42 55.2	-0.4
MEM	Membach	145.51 341	ePKIKP	PKPdf	23 42 55.7	-0.2
MEM	Membach	145.51 341	ePKPbc	PKPdf	23 42 55.7	-0.2
KALE	Kalithea	145.51 312	P	PKPdf	23 42 52.1	-4.3
KALE	Kalithea	145.51 312	eP	PKPdf	23 42 52.5	-3.9
KALE	Kalithea	145.51 312	P	PKPdf	23 42 52.1	-4.3
EVR	Evrytania	145.51 313	P	PKPdf	23 42 54.9	-1.5
EVR	Evrytania	145.51 313	eP	PKPdf	23 42 55.0	-1.5
EVR	Evrytania	145.51 313	P	PKPdf	23 42 54.9	-1.5
GUR	Goura	145.56 311	P	PKPdf	23 42 54.0	-2.5
GUR	Goura	145.56 311	eP	PKPdf	23 42 55.0	-1.5
GUR	Goura	145.56 311	P	PKPdf	23 42 54.0	-2.5
KBA	Koelnbreinsper	145.57 331⇓	iPKPab	PKPdf	23 42 55.4	-1.0
	comp=Z,97nm,1.2s,SNR=30					
VLI	Veliai	145.61 308	P	PKPdf	23 42 53.6	-2.9
VLI	Veliai	145.61 308	eP	PKPdf	23 42 54.0	-2.5
VLI	Veliai	145.61 308	ePKPdf	PKPdf	23 42 53.6	-2.9
TIR	Tirane	145.62 318	ePKIKP	PKPab	23 42 59.0	+2.1
TIR	Tirane	145.62 318	ePKPdf	PKPab	23 42 59.0	+2.1
ANKY	Antikythira Is	145.65 307	P	PKPdf	23 42 55.5	-1.1
ANKY	Antikythira Is	145.65 307	eP	PKPdf	23 42 54.5	-2.1
ANKY	Antikythira Is	145.65 307	P	PKPdf	23 42 55.5	-1.1
FUR	Furstenfeldbru	145.66 334	ePKPbc	PKPab	23 43 01.2	+4.4
EFP	Efpalio	145.66 312	P	PKPdf	23 42 56.1	-0.5
EFP	Efpalio	145.66 312	eP	PKPdf	23 42 56.0	-0.5
KYTH	Kithira	145.70 308	eP	PKPdf	23 42 55.0	-1.7
LJU	Ljubljana	145.75 328	i PKPdf	PKPdf	23 42 56.2	-0.2
LJU			i PKPbc	PKiKP	23 43 00.3	-0.2
BOJS	Bojanci	145.76 327	ePKPdf	PKPdf	23 42 55.3	-1.1
BOJS			i PKPbc	PKiKP	23 43 00.7	+0.2
MYKA	Terra Mystica	145.76 330	i PKPab	PKPdf	23 42 56.7	+0.2
	comp=Z,67nm,1.0s,SNR=29					
VLX	Vlachokerasia	145.76 310	P	PKPdf	23 42 54.8	-2.1
VLX	Vlachokerasia	145.76 310	eP	PKPdf	23 42 55.5	-1.4
VLX	Vlachokerasia	145.76 310	ePKPdf	PKPdf	23 42 54.8	-2.1
UCC	Uccle	145.82 343	PKP	PKPdf	23 42 55.6	-0.8
UCC	Uccle	145.82 343	ePKP2	PKPbc	23 42 56.6	-0.2
UCC			MLR	MLR		
	comp=Z,3µm,20.0s					
UCC	Uccle	145.82 343	ePKPdf	PKPbc	23 42 56.6	-0.2
UCC			LR	LR		
	comp=Z,3µm,20.0s					
GORS	Gorjuse	145.82 329	ePKPdf	PKPdf	23 42 55.1	-1.6
JAN	Janina	145.83 314	P	PKPdf	23 42 55.6	-1.2
JAN	Janina	145.83 314	eP	PKPdf	23 42 56.0	-0.8
JAN	Janina	145.83 314	ePKIKP	PKPdf	23 42 55.6	-1.2
JAN	Janina	145.83 314	ePKPdf	PKPdf	23 42 55.6	-1.2
BCLA	Clavier	145.89 342	PKPbc	PKPbc	23 42 56.9	-0.2
DSL	Palaion Diasel	145.91 313	P	PKPdf	23 42 55.4	-1.6
DSL	Palaion Diasel	145.91 313	P	PKPdf	23 42 55.4	-1.6
STU	Stuttgart	145.99 337	ePKPbc	PKPab	23 43 02.2	+4.2
STU	Stuttgart	145.99 337	ePKP2	PKPab	23 42 58.3	+0.2
STU	Stuttgart	145.99 337	ePKPdf	PKPab	23 42 58.3	+0.2
DRO	Drossia	146.00 311	P	PKPdf	23 42 56.5	-0.7
DRO	Drossia	146.00 311	eP	PKPdf	23 42 57.0	-0.2
JAVS	Javornik	146.09 329	i PKPdf	PKPdf	23 42 56.5	-0.6
JAVS			i PKPbc	PKiKP	23 43 01.3	0.0
PDO	Prodromos	146.09 313	P	PKPdf	23 42 56.4	-0.8
PDO	Prodromos	146.09 313	eP	PKPdf	23 42 57.0	-0.2
STON	Ston	146.09 322	P	PKPdf	23 42 56.4	-0.6
SNF	Seneffe	146.10 343	PKP	PKPbc	23 42 57.8	+0.1
RLS	Riolos of Patr	146.13 311	P	PKPdf	23 42 57.7	+0.4
RLS	Riolos of Patr	146.13 311	eP	PKPpre	23 42 53.0	
RLS	Riolos of Patr	146.13 311	P	PKPdf	23 42 57.7	+0.4
UDBI	Udbina	146.14 325	P	PKPdf	23 42 57.0	-0.2
WATA	Walderalm	146.17 333⇑	iPKPab	PKPbc	23 42 57.9	-0.4
	comp=Z,41nm,1.2s,SNR=5.6					
ITM	Ithomi	146.17 310	P	PKPdf	23 42 57.1	-0.4
ITM	Ithomi	146.17 310	eP	PKPdf	23 42 57.0	-0.4
ITM	Ithomi	146.17 310	ePKPdf	PKPdf	23 42 57.1	-0.4
AMT	Artemida-Makis	146.18 310	P	PKPdf	23 42 57.3	-0.2
AMT	Artemida-Makis	146.18 310	eP	PKPdf	23 42 57.5	0.0
ABTA	Abfaltersbach	146.20 331	i pPKPdf	PKPab	23 42 58.7	-0.3
	comp=Z,104nm,1.2s,SNR=50					
WTTA	Wattenberg	146.20 333⇑	ipPKPdf	PKPab	23 42 58.8	-0.3
	comp=Z,79nm,1.4s,SNR=13					
IGT	Igoumenitsa	146.24 315	P	PKPdf	23 42 55.6	-1.9
IGT	Igoumenitsa	146.24 315	eP	PKPdf	23 42 57.5	0.0
IGT	Igoumenitsa	146.24 315	ePKIKP	PKPdf	23 42 55.6	-1.9
IGT	Igoumenitsa	146.24 315	ePKPdf	PKPdf	23 42 55.6	-1.9
SGD	Sagiada	146.26 315	P	PKPdf	23 42 57.1	-0.4
SGD	Sagiada	146.26 315	eP	PKPdf	23 42 57.5	0.0
SRN	Sarande	146.29 315	P	PKPab	23 42 59.4	0.0
SRN	Sarande	146.29 315	P	PKPab	23 42 59.4	0.0
WLF	Walferdange	146.29 340	PKP	PKPbc	23 42 58.6	+0.3
WLF	Walferdange	146.29 340	ePKPbc	PKPab	23 43 03.3	+4.2
WLF	Walferdange	146.29 340	ePKP2	PKPbc	23 42 58.7	+0.3
WLF			MLR	MLR		
	comp=Z,2µm,21.0s					
WLF	Walferdange	146.29 340	ePKPdf	PKPbc	23 42 58.7	+0.3
WLF			LR	LR		
	comp=Z,2µm,21.0s					
LANF	Langenberg	146.33 338	PKP	PKPab	23 42 59.9	+0.6
TRI	Trieste	146.36 329	ePKIKP	PKPdf	23 42 56.4	-1.0
TRI	Trieste	146.36 329	ePKPdf	PKPdf	23 42 56.4	-1.0
MOTA	Moosalm	146.37 333⇑	iPKPab	PKPdf	23 42 58.0	+0.3
	comp=Z,51nm,1.0s,SNR=29					
LKD2	Lefkada island	146.37 313	P	PKPdf	23 42 57.6	-0.2
LKD2	Lefkada island	146.37 313	eP	PKPdf	23 42 57.5	-0.2
LKD2	Lefkada island	146.37 313	ePKPdf	PKPdf	23 42 57.6	-0.2
DOU	Dourbes	146.38 342	PKPbc	PKPdf	23 42 57.8	+0.5
RETA	Reutte	146.40 334⇑	iPKPab	PKPbc	23 42 58.5	-0.4
	comp=Z,44nm,1.1s,SNR=18					
PYL	PYLOS	146.42 309	P	PKPdf	23 42 56.0	-1.9
PYL	PYLOS	146.42 309	eP	PKPdf	23 42 57.0	-0.9
PYL	PYLOS	146.42 309	P	PKPdf	23 42 56.0	-1.9
KEK	Kerkira	146.51 315	P	PKPdf	23 42 55.8	-2.1
KEK	Kerkira	146.51 315	eP	PKPdf	23 42 58.5	+0.6
KEK	Kerkira	146.51 315	ePKPdf	PKPdf	23 42 55.8	-2.1
MENF	Mencas	146.60 345	PKP	PKPbc	23 42 59.4	+0.2
BFO	Black Forest	146.68 337	ePKPbc	PKPab	23 43 03.9	+3.2
BFO	Black Forest	146.68 337	ePKP2	PKPdf	23 42 58.5	+0.5
BFO	Black Forest	146.68 337	ePKPdf	PKPdf	23 42 58.5	+0.5
VLS	Valsamata	146.70 312	P	PKPdf	23 42 58.5	+0.2
VLS	Valsamata	146.70 312	eP	PKPdf	23 42 56.0	-2.3
VLS	Valsamata	146.70 312	PKP2	PKPdf	23 42 58.5	+0.2
VLS	Valsamata	146.70 312	P	PKPdf	23 42 58.5	+0.2
ZKS	Zakynthos	146.78 311	P	PKPbc	23 42 59.7	-0.5
ZKS	Zakynthos	146.78 311	eP	PKPdf	23 42 58.5	0.0
FETA	Feichten	146.78 333⇑	ipPKPdf	PKPab	23 43 00.8	-0.5
	comp=Z,96nm,1.1s,SNR=29					
SFD	Strofades	146.80 310	eP	PKPab	23 43 02.0	+0.5
DAVA	Damuels	146.93 334⇑	iPKiKP	PKPab	23 43 01.6	-0.2
	comp=Z,111nm,1.1s,SNR=20					
ECH	Echery	147.20 338	PKP	PKPab	23 43 02.5	-0.3
ECH	Echery	147.20 338	ePKIKP	PKPdf	23 42 59.0	+0.2
ECH	Echery	147.20 338	ePKPdf	PKPdf	23 42 59.0	+0.2
FUORN	Ofenpass-Fuorn	147.29 333	ePKPdf	PKPdf	23 43 00.3	+1.0
FUORN			LR	LR		
	comp=Z,2µm,20.0s					
MOF	Molkenrain	147.52 338	PKP	PKPab	23 43 03.1	-1.0
THEF	They Montfort	147.60 339	PKP	PKPab	23 43 04.1	-0.2
TUE	Stuetta	147.80 334	ePKPab	PKPab	23 43 06.4	+1.0
LOMF	Lomont	148.06 338	PKP	PKPbc	23 43 02.5	-1.0
SENIN	Lac Senin/Sane	148.71 336	ePKPab	PKPab	23 43 08.7	-0.3
TIP	Timpagrande	148.79 317	P	PKPab	23 43 09.2	-0.3
TIP	Timpagrande	148.79 317	P	PKPab	23 43 09.2	-0.3
AQU	L'Aquila	148.87 325	ePKP2	PKPbc	23 43 07.4	+1.7
AQU	L'Aquila	148.87 325	ePKPbc	PKPbc	23 43 07.4	+1.7
CUC	Castrocucco	148.93 319	ePKPdf	PKPdf	23 43 04.0	+2.0
CEL	Celeste	149.86 316	ePKPbc	PKPbc	23 43 11.0	+2.6
CEL			LR	LR		
	comp=Z,2µm,20.0s					
BNI	Bardonecchia	150.04 335	ePKP2	PKPab	23 43 12.0	-2.4
BNI			MLR	MLR		
	comp=Z,2µm,22.0s					
BNI	Bardonecchia	150.04 335	ePKPbc	PKPab	23 43 12.0	-2.4
BNI			LR	LR		
	comp=Z,2µm,22.0s					
PLDF	La Plantade	150.36 340	PKP	PKPab	23 43 12.6	-3.0
AGO	Saint Agoulin	150.44 341	PKP	PKPab	23 43 13.5	-2.4
SSB	Saint Sauveur	150.65 338	ePKIKP	PKPdf	23 43 04.0	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SSB	**Saint Sauveur**	**150.65**	**338**	*e*PKPdf	**PKPdf**	**23 43 04.0**	**-0.6**
LBL	**Lubilhac**	**151.13**	**340**	PKP	**PKPbc**	**23 43 12.6**	**+1.4**
H07S1	**FLORES T-PHASE**	**152.62**	**37**	*e*LR	LR	00 34 39.3	
PGRA	**Graciosa**	**154.62**	**33**	*e*LR	LR	00 35 01.2	
	comp=Z,140nm,16.2s						
ROSA	**Rosais**	**154.71**	**34**	*e*LR	LR	00 34 54.8	
	comp=Z,131nm,20.4s						
KEST	**Kesra**	**155.58**	**318**	*e*PKPab	**PKPab**	**23 43 38.4**	**+0.5**
PGAV	**Gavieira, Arco**	**156.67**	**356**	*e*P	PKPab	23 43 53.2	+11
PGAV				*i* P	Px	23 45 03.8	
PGAV	**Gavieira, Arco**	**156.67**	**356**	*e*LQ	LQ	00 30 31.1	
PGAV				*e*LR	LR	00 37 18.2	
	comp=Z,2μm,18.0s						
PGAV	**Gavieira, Arco**	**156.67**	**356**	*e*P	PKPab	23 43 53.2	+11
PGAV				*i* P	Px	23 45 03.8	
PGAV	**Gavieira, Arco**	**156.67**	**356**	*e*LQ	LQ	00 30 31.1	
PGAV				*e*LR	LR	00 37 18.2	
	comp=Z,2μm,18.0s						
PBRG	**Braganca**	**156.69**	**353**	*e*P	PKPab	23 43 55.6	+13
PBRG	**Braganca**	**156.69**	**353**	*e*P	PKPab	23 43 55.6	+13
POLO	**Lamas de Olo**	**157.22**	**355**	*e*P	**PKPab**	**23 43 48.6**	**+3.9**
POLO				*i* P	Px	23 45 03.8	
POLO	**Lamas de Olo**	**157.22**	**355**	*e*P	**PKPab**	**23 43 48.6**	**+3.9**
POLO				*i* P	Px	23 45 03.8	
MVO	**Moncorvo**	**157.36**	**353**	*e*P	PKPab	23 43 57.9	+13
MVO				*i* P	Px	23 45 05.0	
MVO	**Moncorvo**	**157.36**	**353**	*e*LQ	LQ	00 25 57.2	
MVO	**Moncorvo**	**157.36**	**353**	*e*LR	LR	00 39 24.6	
	comp=Z,2μm,20.0s						
MVO	**Moncorvo**	**157.36**	**353**	*e*P	PKPab	23 43 57.9	+13
MVO				*i* P	Px	23 45 05.0	
MVO	**Moncorvo**	**157.36**	**353**	*e*LQ	LQ	00 25 57.2	
MVO	**Moncorvo**	**157.36**	**353**	*e*LR	LR	00 39 24.6	
	comp=Z,2μm,20.0s						
PSMN	**Pico do Norte,**	**157.65**	**32**	*e*LR	LR	00 35 30.9	
	comp=Z,149nm,23.0s						
PCAS	**Casmilo, Conde**	**158.59**	**356**	*e*P	PKPab	23 43 57.9	+7.3
PCAS	**Casmilo, Conde**	**158.59**	**356**	*e*P	PKPab	23 43 57.9	+7.3
PMRV	**Marv??o**	**159.11**	**353**	*e*P	**PKPab**	**23 43 57.9**	**+5.0**
PMRV	**Marv??o**	**159.11**	**353**	*e*LQ	LQ	00 28 44.9	
PMRV				*e*LR	LR	00 38 31.6	
	comp=Z,2μm,20.0s						
PMRV	**Marv??o**	**159.11**	**353**	*e*P	**PKPab**	**23 43 57.9**	**+5.0**
PMRV	**Marv??o**	**159.11**	**353**	*e*LQ	LQ	00 28 44.9	
PMRV				*e*LR	LR	00 38 31.6	
	comp=Z,2μm,20.0s						
PMTG	**Montargil**	**159.55**	**355**	*e*P	PKPab	23 44 01.4	+6.7
PMTG				*i* P	Px	23 45 02.7	
PMTG	**Montargil**	**159.55**	**355**	*e*P	PKPab	23 44 01.4	+6.7
PMTG				*i* P	Px	23 45 02.7	
PESTR	**Estremoz**	**159.69**	**354**	*e*P	**PKPab**	**23 43 56.7**	**+1.3**
PESTR				*i* P	Px	23 45 08.5	
PESTR	**Estremoz**	**159.69**	**354**	*e*P	**PKPab**	**23 43 56.7**	**+1.3**
PESTR				*i* P	Px	23 45 08.5	
PMAFR	**Mafra**	**159.73**	**357**	*e*P	PKPab	23 44 01.4	+5.9
PMAFR				*i* P	Px	23 44 59.2	
PMAFR	**Mafra**	**159.73**	**357**	*e*P	PKPab	23 44 01.4	+5.9
PMAFR				*i* P	Px	23 44 59.2	
PBAR	**Barrancos**	**160.31**	**352**	*e*P	**PKPab**	**23 43 58.4**	**+0.4**
PBAR				*i* P	Px	23 45 03.8	
PBAR	**Barrancos**	**160.31**	**352**	*e*P	**PKPab**	**23 43 58.4**	**+0.4**
PBAR				*i* P	Px	23 45 03.8	
PNCL	**Nicolau / Gran**	**160.52**	**355**	*e*P	**PKPab**	**23 44 01.4**	**+2.4**
PNCL				*i* P	Px	23 45 06.2	
PNCL	**Nicolau / Gran**	**160.52**	**355**	*e*P	**PKPab**	**23 44 01.4**	**+2.4**
PNCL				*i* P	Px	23 45 06.2	
PCVE	**Castro Verde**	**160.96**	**354**	*e*P	**PKPab**	**23 43 59.0**	**-1.9**
PCVE				*i* P	Px	23 45 22.4	
PCVE	**Castro Verde**	**160.96**	**354**	*e*P	**PKPab**	**23 43 59.0**	**-1.9**
PCVE				*i* P	Px	23 45 22.4	
PVAQ	**Vaqueiros**	**161.15**	**353**	*e*P	PKPab	23 43 53.9	-7.8
PVAQ				*i* P	Px	23 45 18.9	
PVAQ	**Vaqueiros**	**161.15**	**353**	*e*LQ	LQ	00 28 55.4	
PVAQ	**Vaqueiros**	**161.15**	**353**	*e*LR	LR	00 39 48.6	
	comp=Z,2μm,22.0s						
PVAQ	**Vaqueiros**	**161.15**	**353**	*e*P	PKPab	23 43 53.9	-7.8
PVAQ				*i* P	Px	23 45 18.9	
PVAQ	**Vaqueiros**	**161.15**	**353**	*e*LQ	LQ	00 28 55.4	
PVAQ	**Vaqueiros**	**161.15**	**353**	*e*LR	LR	00 39 48.6	
	comp=Z,2μm,22.0s						
PBDV	**Barranco-do-Ve**	**161.33**	**354**	*e*P	**PKPab**	**23 43 57.9**	**-4.7**
PBDV				*i* P	Px	23 45 24.7	
PBDV	**Barranco-do-Ve**	**161.33**	**354**	*e*P	**PKPab**	**23 43 57.9**	**-4.7**
PBDV				*i* P	Px	23 45 24.7	
MORF	**Marmelete**	**161.33**	**356**	*e*P	**PKPab**	**23 43 59.0**	**-3.6**
MORF	**Marmelete**	**161.33**	**356**	*e*P	**PKPab**	**23 43 59.0**	**-3.6**
PFVI	**Vila Bisbo**	**161.52**	**356**	*e*P	**PKPab**	**23 44 01.4**	**-2.0**
PFVI	**Vila Bisbo**	**161.52**	**356**	*e*P	**PKPab**	**23 44 01.4**	**-2.0**
PMOZ	**Porto Moniz, M**	**164.63**	**22**	*e*LR	LR	00 39 54.3	
	comp=Z,2μm,20.0s						
PMOZ	**Porto Moniz, M**	**164.63**	**22**	*e*LR	LR	00 39 54.3	
	comp=Z,2μm,20.0s						
DBIC	**Dimbokro**	**166.91**	**205**	PKP	**PKPdf**	**23 43 25.7**	**+1.2**
	comp=Z,17nm,1.2s,baz=204,slow=2.3,SNR=3.5						
TOA0	**Torodi Ar. Sit**	**167.10**	**247**	*e*PKPdf	**PKPdf**	**23 43 24.0**	**-0.6**
TOA0				*e*PKPdf	PKPdf	23 43 24.2	-0.4
TOA0				*e*PKPab	**PKPab**	**23 44 30.4**	**+1.6**
TORD	**Torodi Ar. Bea**	**167.10**	**247**	PKP	**PKPdf**	**23 43 24.2**	**-0.4**
	comp=Z,10.0nm,1.0s,baz=129,slow=0.5,SNR=28						
TORD				PKPab	**PKPab**	**23 44 28.8**	**0.0**
	comp=Z,10nm,1.2s,baz=110,slow=3.6,SNR=7.5						

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*IDC **09** 23:25:06.8±6.6, 36°22N×70°75E, h119km±62km, mb3.2/3, mb1 3.1/7, mb1mx2.9/45, mbtmp3.6/7, Error ellipse: s-maj=62.9km s-min=42.3km az=133.0*
*ISCJB **09** 23:25:13.3±0.8, 36°60N±0°06×70°79E±0°08, h188km, mb3.3/2, Error ellipse: s-maj=9.8km s-min=8.0km az=34.3*
*NNC **09** 23:25:18.2±5.1, 36°97N×70°96E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=41.5km s-min=17.4km az=173.0*
ISC 09 23:25:12.7±0.9**, 36°52N**±0°07×**70°90E**±0°07**, h188**km**, n15,** σ**1°89**/23**, 4C-8D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.81**	**325**	⇓P	**Pn**	**23 26 00.2**	**+0.6**
	16nm,0.3s						
DZET				⇓S	**Sn**	**23 26 33.4**	**-2.9**
	116nm,0.6s						
SFK	**Sufi-Kurgan**	**4.04**	**30**	⇓P	**Pn**	**23 26 16.8**	**+2.0**
	2.8nm,0.3s						
SFK				⇑S	**Sn**	**23 27 03.9**	**+0.4**
	10nm,0.2s						
MNAS	**Manas**	**6.09**	**11**	⇓P	**Pn**	**23 26 42.3**	**+1.3**
	2.5nm,0.4s						
MNAS				⇓S	**Sn**	**23 27 48.7**	**-2.0**
	13nm,0.5s						
KK31	**Karatay Array**	**6.58**	**358**	P	**Pn**	**23 26 48.3**	**+1.0**
	1.5nm,0.2s,baz=198,slow=16,SNR=171						
KK31				⇓S	**Sn**	**23 27 58.3**	**-3.9**
	5.7nm,0.3s						
AAK	**Ala-Archa**	**6.71**	**23**	⇓P	**Pn**	**23 26 50.7**	**+1.6**
	0.8nm,0.3s						
AAK				⇑S	**Sn**	**23 28 04.7**	**-0.7**
	10nm,0.7s						
AAK	**Ala-Archa**	**6.71**	**23**	P	**Pn**	**23 26 47.4**	**-1.7**
	0.2nm,0.3s,baz=216,slow=14,SNR=2.8						
AAK				S	**Sn**	**23 28 04.8**	**-0.5**
	0.7nm,0.3s,baz=344,slow=20,SNR=21						
TKM2	**Tokmak 2**	**7.34**	**28**	⇑P	**Pn**	**23 26 58.7**	**+1.2**
	5.5nm,1.0s						
TKM2				⇑S	**Sn**	**23 28 20.1**	**-0.5**
	3.0nm,0.8s						
SMLA	**Simla**	**7.49**	**134**	*e*P	**Pn**	**23 27 00.6**	**+1.3**
SMLA				*e*S	**Sn**	**23 28 19.8**	**-4.0**
SMLA				AML	AML	23 28 22.9	
	comp=N,15nm,0.1s						
SMLA				AML	AML	23 28 23.5	
	comp=E,21nm,0.5s						
MKAR	**Makanchi Array**	**13.32**	**36**	P	**P**	**23 28 16.6**	**-1.0**
	comp=E,0.1nm,0.3s,baz=214,slow=10,SNR=3.1						
AB31	**Akbulak array**	**15.03**	**331**	⇓P	**Pn**	**23 28 35.5**	**-0.1**
	comp=E,0.4nm,0.3s						
BVAR	**Borovoye Array**	**16.51**	**359**	P	**Pn**	**23 28 55.2**	**+1.7**
	comp=E,0.2nm,0.3s,baz=163,slow=11,SNR=3.8						
AKTO	**Aktyubinsk**	**16.72**	**330**	P	**Pn**	**23 28 57.4**	**+1.3**
	comp=E,0.3nm,0.3s,baz=147,slow=12,SNR=4.4						
ZALV	**Zalesovo Beam**	**19.93**	**25**	P	**Pn**	**23 29 32.6**	**-1.4**
	comp=E,1.6nm,0.4s,baz=218,slow=12,SNR=6.8						
NOA	**NORSAR Array B**	**44.31**	**323**	P	**P**	**23 33 05.8**	**+2.2**
	comp=E,0.4nm,0.5s,baz=96,slow=7.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**65.64**	**269**	P	**P**	**23 35 37.3**	**+0.3**
	comp=E,0.2nm,0.5s,baz=52,slow=6.2,SNR=8.5						

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*IDC **09** 23:31:20.6±4.9, 36°10N×71°28E, h203km±45km, mb3.3/3, mb1 3.2/7, mb1mx2.9/43, mbtmp3.8/7, Error ellipse: s-maj=48.8km s-min=32.0km az=137.0*
*ISCJB **09** 23:31:24.0±0.8, 36°50N±0°04×70°87E±0°10, h188km, mb3.6/2, Error ellipse: s-maj=11.4km s-min=4.4km az=162.3*
*NNC **09** 23:31:31.4±1.4, 36°90N×70°98E, h214km±13km, mb2.5, mpv3.6, Error ellipse: s-maj=14.9km s-min=7.1km az=155.0*
ISC 09 23:31:25.2±1.0**, 36°53N**±0°07×**71°05E**±0°09**, h188**km**, n26,** σ**1°50**/30**, 8C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.88**	**323**	⇓P	Pn	23 32 17.2	+4.4
	30nm,0.2s						
DZET				⇑S	**Sn**	**23 32 52.6**	**+2.5**
	100nm,0.5s						
SFK	**Sufi-Kurgan**	**3.98**	**28**	⇓P	Pn	23 32 30.2	+3.7
	6.2nm,0.2s						
SFK				⇑S	**Sn**	**23 33 16.8**	**+2.2**
	99nm,0.7s						
MNAS	**Manas**	**6.06**	**10**	⇓P	**Pn**	**23 32 55.8**	**+2.7**
	2.0nm,0.3s						
MNAS				⇑S	**Sn**	**23 34 02.8**	**+0.3**
	18nm,0.5s						
DHRM	**DHARAMSHALA**	**6.09**	**133**	*e*P	Pn	23 32 57.3	+3.6
DHRM				*e*S	**Sn**	**23 34 06.2**	**+2.7**
DHRM				AML	AML	23 34 07.6	
	comp=E,205nm,0.5s						
DHRM				AML	AML	23 34 08.4	
	comp=N,134nm,0.4s						
KK31	**Karatay Array**	**6.58**	**357**	⇓P	**Pn**	**23 33 02.3**	**+2.5**
	comp=N,1.0nm,0.4s,baz=169,slow=11,SNR=40						
KK31				⇑S	**Sn**	**23 34 13.3**	**-1.3**
	comp=N,2.0nm,0.3s,baz=188,slow=22,SNR=9.3						
AAK	**Ala-Archa**	**6.65**	**23**	⇓P	**Pn**	**23 33 03.4**	**+2.5**
	comp=N,2.1nm,0.5s						
AAK				⇑S	**Sn**	**23 34 17.5**	**+0.9**
	comp=N,16nm,0.8s						
AAK	**Ala-Archa**	**6.65**	**23**	P	**Pn**	**23 33 02.2**	**+1.3**
	comp=N,1.5nm,0.3s,baz=185,slow=4.8,SNR=7.5						
AAK				S	**Sn**	**23 34 17.6**	**+1.0**
	comp=N,1.5nm,0.3s,baz=317,slow=23,SNR=21						
TKM2	**Tokmak 2**	**7.28**	**27**	⇑P	**Pn**	**23 33 10.7**	**+1.5**
	comp=N,1.9nm,0.7s						
TKM2				⇑S	**Sn**	**23 34 30.5**	**-1.0**
	comp=N,6.5nm,1.0s						
MK31	**Makanchi Array**	**13.24**	**36**	P	**Pn**	**23 34 25.6**	**-0.5**
	comp=N,0.7nm,0.4s,baz=221,slow=14,SNR=14						
MKAR	**Makanchi Array**	**13.24**	**36**	P	**Pn**	**23 34 25.8**	**-0.3**
	comp=N,0.2nm,0.3s,baz=219,slow=15,SNR=10						
KOLN	**Koldanda**	**13.75**	**126**	*e*P	**P**	**23 34 34.3**	**-1.0**
	comp=N,3.7nm,0.3s						
GKN	**Gorkha**	**14.29**	**123**	*e*P	**P**	**23 34 40.8**	**-0.4**
	comp=N,8.5nm,0.4s						
KKN	**Kakani**	**14.86**	**122**	*e*P	**Pn**	**23 34 46.5**	**0.0**
	comp=N,9.9nm,0.5s						
PKIN	**Phulchoki**	**15.07**	**122**	*e*P	**P**	**23 34 50.1**	**+0.1**
	comp=N,12nm,0.5s						
AB31	**Akbulak array**	**15.08**	**331**	⇑P	**Pn**	**23 34 48.7**	**+0.1**
	comp=N,0.2nm,0.3s,baz=132,slow=13,SNR=9.4						
PKI	**Pulchoki**	**15.09**	**122**	*e*P	**P**	**23 34 50.3**	**+0.1**
	comp=N,13nm,0.5s						
GUN	**Gumba**	**15.20**	**120**	*e*P	**P**	**23 34 51.5**	**0.0**
	comp=N,6.2nm,0.3s						
JIRN	**Jiri**	**15.57**	**120**	*e*P	**P**	**23 34 55.6**	**0.0**
	comp=N,9.2nm,0.3s						
RAMN	**Ramite**	**16.30**	**121**	*e*P	**P**	**23 35 03.6**	**+0.1**
	comp=N,4.7nm,0.3s						
BVAR	**Borovoye Array**	**16.50**	**359**	P	**Pn**	**23 35 06.1**	**+0.2**
	comp=N,0.3nm,0.3s,baz=166,slow=11,SNR=4.8						
AKTO	**Aktyubinsk**	**16.77**	**330**	P	**P**	**23 35 07.8**	**-0.5**
	comp=N,0.8nm,0.3s,baz=135,slow=13,SNR=10						
TAPN	**Taplejung**	**16.83**	**118**	*e*P	**Pn**	**23 35 10.4**	**0.0**
	comp=N,13nm,0.4s						
ODAN	**Odare**	**16.90**	**120**	*e*P	**Pn**	**23 35 11.3**	**+0.1**
ZALV	**Zalesovo Beam**	**19.87**	**24**	P	**P**	**23 35 39.0**	**-2.8**
	comp=N,1.5nm,0.4s,baz=208,slow=12,SNR=6.0						
ARCES	**ARCESS Array B**	**41.13**	**338**	P	**P**	**23 38 48.5**	**-2.0**
	comp=N,1.3nm,0.8s,baz=106,slow=9.5,SNR=2.6						
TORD	**Torodi Ar. Bea**	**65.76**	**269**	P	P	23 41 44.8	-5.4
	comp=N,0.5nm,0.4s,baz=49,slow=5.9,SNR=28						

NEIC 09 23:32:51.4, 59°26N×153°82W, h126km**, MG2.9**(AEIC)**, After AEIC., Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUW	**Augustine West**	**0.21**	**58**	P	Pn	23 33 08.5	-0.3
AUI	**Augustine Isla**	**0.22**	**69**	P	Pn	23 33 08.3	-0.5
AUI				S	Sn	23 33 21.2	-0.7
AUL	**Augustine Lava**	**0.23**	**58**	P	Pn	23 33 08.7	-0.2
MCNL	**McNeil River**	**0.28**	**255**	P	Pn	23 33 08.1	-0.9
OPT	**Oil Point**	**0.50**	**37**	P	Pn	23 33 09.6	-0.4
PDB	**Pedro Bay**	**0.56**	**340**	P	Pn	23 33 09.3	-1.1
ILS	**Iliamna Low So**	**0.80**	**28**	P	Pn	23 33 11.7	-0.5
ILW	**Iliamna West**	**0.88**	**23**	P	Pn	23 33 12.1	-0.9
ILIM	**Iliamna**	**0.93**	**28**	P	Pn	23 33 12.7	-0.6
KAKN	**Katmai Knife C**	**1.16**	**214**	P	Pn	23 33 14.7	-0.9
KAKN				S	Sn	23 33 32.8	-1.3
KVTA	**Katmai Vly 10**	**1.17**	**222**	P	Pn	23 33 14.8	-0.8
KBM	**Katmai Bkd Mtn**	**1.22**	**217**	P	Pn	23 33 15.5	-0.7
KCE	**Katmai Mt Cerb**	**1.24**	**215**	P	Pn	23 33 16.0	-0.4
KABR	**Katmai Barrier**	**1.28**	**208**	P	Pn	23 33 15.8	-1.1
RSO	**Redoubt South**	**1.32**	**24**	P	Pn	23 33 16.6	-0.9
NCT	**North Crescent**	**1.38**	**19**	P	Pn	23 33 17.0	-1.0
DFR	**Drift River**	**1.45**	**23**	P	Pn	23 33 17.9	-0.9
DFR				S	Sn	23 33 38.8	-0.9
BRLK	**Bradley Lake**	**1.58**	**70**	P	Pn	23 33 19.1	-1.1
BRLK				S	Sn	23 33 40.6	-1.4
KDAK	**Kodiak Island**	**1.62**	**156**	P	Pn	23 33 19.4	-1.1
KDAK				S	Sn	23 33 40.8	-1.9
PLK3	**Peulik 3**	**2.03**	**220**	P	Pn	23 33 25.1	-0.4
SVW2	**Sparrevohn**	**2.04**	**335**	P	Pn	23 33 24.4	-1.2
OHAK	**Old Harbor**	**2.06**	**172**	P	Pn	23 33 24.4	-1.4
OHAK				S	Sn	23 33 50.0	-2.2
PLK1	**Peulik 1**	**2.07**	**226**	P	Pn	23 33 25.5	-0.4
CKL	**Chakachamna La**	**2.08**	**20**	P	Pn	23 33 25.4	-0.9
BGL	**Barrier Glacie**	**2.13**	**19**	P	Pn	23 33 26.3	-0.6
SPBG	**Spurr Blockage**	**2.13**	**19**	P	Pn	23 33 26.1	-0.7
SLKM	**Skilak Lake**	**2.21**	**54**	P	Pn	23 33 27.3	-0.4
SEW	**Seward**	**2.37**	**67**	P	Pn	23 33 29.2	-0.5
SEW				S	Sn	23 33 56.3	-2.9
STLK	**Strandline Lak**	**2.45**	**23**	P	Pn	23 33 30.1	-0.8
FIB	**Fire Island**	**2.64**	**42**	P	Pn	23 33 33.0	-0.1
SUA	**Susitna One**	**2.69**	**33**	P	Pn	23 33 33.2	-0.7
SUA				S	Sn	23 34 04.9	-1.8
RC01	**Rabbit Creek A**	**2.75**	**46**	P	Pn	23 33 33.5	-1.0
SKT	**Skwentna**	**2.96**	**21**	P	Pn	23 33 36.2	-1.0
LTI	**Latouche**	**3.13**	**73**	P	Pn	23 33 38.8	-0.7
TRAP	**Trapper Creek**	**3.55**	**28**	P	Pn	23 33 44.1	-0.8
PPLA	**Purkeypile**	**3.74**	**12**	P	Pn	23 33 47.2	-0.4
TT01	**Tatalina**	**3.81**	**345**	P	Pn	23 33 47.0	-1.5
HIN	**Hinchinbrook I**	**3.87**	**70**	P	Pn	23 33 48.4	-0.8
JPK	**Jack Peak**	**4.03**	**60**	P	Pn	23 33 50.3	-1.2
SCM	**Sheep Creek Mo**	**4.12**	**48**	P	Pn	23 33 50.9	-1.7
VNHG	**Veniaminof 1**	**4.18**	**226**	P	Pn	23 33 53.4	-0.1
VNSG	**Veniaminof 6**	**4.22**	**224**	P	Pn	23 33 53.3	-0.8
CAST	**Castle Rocks**	**4.26**	**11**	P	Pn	23 33 53.7	-0.7
DIV	**Divide**	**4.43**	**62**	P	Pn	23 33 56.2	-0.6
KTH	**Kantishna Hill**	**4.53**	**17**	P	Pn	23 33 56.8	-1.3
TRF	**Thorofare Moun**	**4.54**	**20**	P	Pn	23 33 56.7	-1.6
RAGM	**Ragged Mountai**	**4.75**	**72**	P	Pn	23 34 00.1	-1.0
RND	**Reindeer**	**4.80**	**28**	P	Pn	23 34 00.4	-1.3
BPAW	**Bear Paw Mtn.**	**5.04**	**14**	P	Pn	23 34 03.0	-1.9
BERG	**Berg Lake**	**5.23**	**73**	P	Pn	23 34 06.3	-1.1
VRDI	**Verde Repeater**	**5.53**	**65**	P	Pn	23 34 10.7	-0.9
KULT	**Kultieth River**	**5.70**	**75**	P	Pn	23 34 12.6	-1.2
BARK	**Barkley Ridge**	**5.83**	**74**	P	Pn	23 34 14.9	-0.7
WRH	**Wood River Hil**	**5.89**	**25**	P	Pn	23 34 13.6	-2.6
MLY	**Manley**	**5.97**	**13**	P	Pn	23 34 15.4	-2.0
KIAG	**Kiagna River**	**5.97**	**69**	P	Pn	23 34 16.6	-1.0
PTPK	**Patty Peak**	**5.98**	**66**	P	Pn	23 34 17.1	-0.7
BAGL	**Bagley Icefiel**	**6.04**	**73**	P	Pn	23 34 17.4	-0.7
CCB	**Clear Creek Bu**	**6.10**	**25**	P	Pn	23 34 16.4	-2.7
GRNC	**Granite Creek**	**6.23**	**71**	P	Pn	23 34 20.3	-0.8
RKAV	**Rock Avalanche**	**6.39**	**75**	P	Pn	23 34 21.6	-1.5
IL1	**Eielson Array**	**6.42**	**28**	P	Pn	23 34 20.8	-2.6
ILB	**Eielson Array**	**6.42**	**28**	P	Pn	23 34 20.8	-2.6

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*CSEM **09** 23:34:13.9±0.3, 67°79N×20°24E, h0km±3km, ML0.7, Error ellipse: s-maj=7.0km s-min=6.3km az=161.0, Mining explosion.*
*UPP **09** 23:34:22.3, 67°83N×20°22E, h0km, ML1.4, Mining explosion.*
HEL 09 23:34:15.0±0.1**, 67°83N×20°20E, h0**km**, ML1.0, ML0.7**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**22**	*i* P	Pg	23 34 17.2	-0.5
KUA				*i* S	Sg	23 34 19.4	-0.1
KUA	**Kurravaara**	**0.14**	**22**	P	Pg	23 34 17.2	-0.5
KUA				S	Sg	23 34 19.4	-0.1
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* P	Pg	23 34 22.7	-0.8
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	23 34 22.7	-0.8
MASU	**Masugnsbyn**	**0.78**	**118**	*i* P	Pg	23 34 29.1	-1.0
MASU	**Masugnsbyn**	**0.78**	**118**	P	Pg	23 34 29.0	-1.1
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	23 34 29.4	-0.8
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	23 34 29.3	-0.9
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*PB	Pg	23 34 37.7	-0.3
	baz=192						
KIF	**Kilpisjarvi**	**1.20**	**10**	Pb	Pg	23 34 37.7	-0.3
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pg	23 34 39.4	-2.2
PAJU	**Pajala**	**1.39**	**124**	P	Pg	23 34 39.4	-2.2
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	23 34 40.4	-1.7
	baz=239						
HEF				MSG		23 34 58.4	
	comp=Z,1.2nm,0.2s						
HEF	**Hetta**	**1.42**	**64**	P	Pn	23 34 40.4	-1.7
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pn	23 34 59.5	+1.6
RNF	**Rovaniemi**	**2.57**	**116**	Pb	Pn	23 34 59.4	+1.5
ARE0	**ARCESS Array S**	**2.59**	**46**	*e*P	Pn	23 34 58.5	+0.4
	baz=229						
ARE0	**ARCESS Array S**	**2.59**	**46**	P	Pn	23 34 58.5	+0.4

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*UPP **09** 23:34:14.4, 67°83N×20°19E, h0km, ML0.7, Mining explosion.*
CSEM 09 23:34:17.8±1.8**, 67°86N×19°55E, h1**km**, ML1.4, Error ellipse: s-maj=38.5km s-min=18.6km az=92.0, Mining explosion., Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.31**	**72**	P	Pb	23 34 25.1	-1.1
KUA				S	Sg	23 34 27.2	-0.7
LANU	**Lannavaara**	**0.94**	**77**	P	Pg	23 34 35.6	-0.2
MASU	**Masugnsbyn**	**1.02**	**112**	P	Pg	23 34 37.0	-0.3
KIF	**Kilpisjarvi**	**1.24**	**21**	Sn	Sb	23 34 58.2	-0.2
KIF	**Kilpisjarvi**	**1.24**	**21**	*e*SN	Sb	23 34 58.2	-0.2
PAJU	**Pajala**	**1.61**	**120**	P	Pn	23 34 47.2	-0.1

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*CSEM **09** 23:40:45.3, 37°93N×21°18E, h5km, MD2.8*
ATH 09 23:40:45.3, 37°93N×21°18E, h5km±4km**, MD2.8**/6**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.26**	**61**	*e*PG	Pg	23 40 50.1	-0.3
RLS				*e*SG	Sg	23 40 54.8	+1.0
RLS	**Riolos of Patr**	**0.26**	**61**	*e*Pg	Pg	23 40 50.1	-0.3
RLS				*e*Sg	Sg	23 40 54.8	+1.0
ZKS	**Zakynthos**	**0.39**	**233**	*e*PB	Pg	23 40 53.4	+0.5
ZKS	**Zakynthos**	**0.39**	**233**	*e*Pb	Pg	23 40 53.4	+0.5
DRO	**Drossia**	**0.42**	**87**	*e*PG	Pg	23 40 53.2	-0.3
DRO				*e*SB	Sb	23 41 00.5	-1.5
DRO	**Drossia**	**0.42**	**87**	*e*Pg	Pg	23 40 53.2	-0.3
DRO				*e*Sb	Sb	23 41 00.5	-1.5
VLS	**Valsamata**	**0.53**	**298**	*e*PG	Pg	23 40 55.5	0.0
VLS	**Valsamata**	**0.53**	**298**	*e*Pg	Pg	23 40 55.5	0.0
AMT	**Artemida-Makis**	**0.58**	**133**	*e*PB	Pg	23 40 56.9	+0.4
AMT	**Artemida-Makis**	**0.58**	**133**	*e*Pb	Pg	23 40 56.9	+0.4
PDO	**Prodromos**	**0.67**	**0**	*e*PB	Pb	23 40 59.0	-0.5
PDO	**Prodromos**	**0.67**	**0**	*e*Pb	Pb	23 40 59.0	-0.5
GUR	**Goura**	**0.92**	**89**	*e*PB	Pg	23 41 03.2	+0.1
GUR				*e*SB	Sb	23 41 16.0	-0.5
GUR	**Goura**	**0.92**	**89**	*e*Pb	Pg	23 41 03.2	+0.1
GUR				*e*Sb	Sb	23 41 16.0	-0.5

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*SJA **09** 23:41:34.1±0.4, 33°89S×73°02W, h33km, ML3.8*
*IDC **09** 23:41:34.0±1.2, 34°08S×72°32W, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.5/29, mbtmp3.4/6, ML3.1/3, Error ellipse: s-maj=38.6km s-min=21.6km az=87.0*
*GUC **09** 23:41:37.9±0.5, 34°06S×72°20W, h6km±3km, ML3.9*
ISC 09 23:41:35.1±1.8**, 34°06S**±0°04×**72°33W**±0°07**, h6**km±10km**, n34,** σ**1°28**/40**, 6C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.77**	**83**	⇓*i*P	**Pb**	**23 41 51.6**	**+0.7**
IHA	**Instituto Hidr**	**1.18**	**30**	⇑*i*P	**Pg**	**23 41 58.5**	**+0.8**
IHA				*i* S	**Sg**	**23 42 14.5**	**+1.5**
TACH	**Talagante**	**1.23**	**71**	⇑*i*P	**Pg**	**23 41 58.6**	**-0.1**
NICH	**Los Niches**	**1.31**	**136**	⇑*i*P	**Pg**	**23 42 00.8**	**+0.6**
NICH				*i* S	**Sg**	**23 42 17.4**	**+0.1**
CHCH	**Chadas Angostu**	**1.40**	**85**	⇑*i*P	**Pn**	**23 42 01.3**	**+0.1**
CHCH				*i* S	**Sg**	**23 42 19.6**	**-0.5**
SAN	**Santiago**	**1.52**	**67**	⇑*i*P	**Pn**	**23 42 03.4**	**+0.5**
SAN				*i* S	**Sb**	**23 42 22.5**	**-0.7**
ROCH	**El Roble**	**1.55**	**46**	*e*P	**Pn**	**23 42 03.8**	**+0.4**
ROCH				*i* S	**Sn**	**23 42 23.9**	**-0.1**
ROCH				AML	AML	23 42 34.6	
	comp=N,3μm,0.4s						
PCH	**Pirque**	**1.58**	**74**	*e*P	**Pn**	**23 42 04.2**	**+0.5**
CLCH	**Cerro Calan**	**1.64**	**67**	⇑*i*P	**Pn**	**23 42 05.3**	**+0.7**
CLCH				*i* S	**Sn**	**23 42 26.1**	**+0.2**
CLCH				AML	AML	23 42 35.0	
	comp=E,2μm,0.7s						
PEL	**Peldehue**	**1.65**	**57**	⇓*i*P	**Pn**	**23 42 05.7**	**+1.0**
PEL				*i* S	**Sn**	**23 42 26.7**	**+0.4**
PEL				AML	AML	23 42 36.2	
	comp=E,5μm,0.5s						
AUSP	**Uspallata**	**3.08**	**54**	*e*P	**Pb**	**23 42 29.8**	**-0.6**
AUSP				*e*S	**Sb**	**23 43 10.6**	**+2.3**
AAGR	**Agrelo**	**3.08**	**73**	*e*P	**Pb**	**23 42 30.4**	**-0.1**
ARCO	**CERRO ARCO**	**3.09**	**68**	*e*P	**Pb**	**23 42 30.5**	**-0.1**
ARCO				AML	AML	23 43 21.6	
	comp=Z,110nm,0.5s						
ASAL	**Salagasta**	**3.27**	**64**	*e*P	**Pb**	**23 42 33.0**	**-0.7**
RTLS	**Leoncito**	**3.41**	**49**	*e*P	Pn	23 42 33.9	+4.9
RTCV	**Cerro Valdivia**	**3.87**	**57**	*e*P	Pn	23 42 39.1	+3.9
CFAA	**Coronel Fontan**	**4.23**	**56**	Pn	**Pn**	**23 42 42.0**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=57,slow=3.2,SNR=32						
CFAA				Lg	Lg	23 43 42.1	
	comp=Z,0.6nm,0.3s,baz=61,slow=16,SNR=4.9						
CFAA	**Coronel Fontan**	**4.23**	**56**	*e*P	**Pn**	**23 42 43.0**	**+2.8**
RTLL	**Cerro Villicun**	**4.24**	**51**	*e*P	**Pn**	**23 42 43.3**	**+3.0**
AMOG	**MOGNA**	**4.49**	**47**	*e*P	**Pn**	**23 42 46.0**	**+2.2**
ACAN	**Cantantal**	**4.67**	**69**	*e*P	**Pn**	**23 42 48.8**	**+2.7**
LCO	**Las Campanas**	**5.22**	**16**	⇓*e*P	**Pn**	**23 42 54.2**	**+0.3**
LCO				*e*S	**Sn**	**23 43 53.4**	**-1.3**
AVFE	**Valle Fertil**	**5.34**	**52**	*e*P	**Pn**	**23 42 57.1**	**+1.7**
AVFE				AML	AML	23 44 12.4	
	comp=Z,62nm,0.7s						
ACLC	**CERRO LA CRUZ**	**6.51**	**46**	*e*P	**Pn**	**23 43 12.2**	**+0.6**
PLCA	**Paso Flores**	**6.81**	**168**	Pn	**Pn**	**23 43 17.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=335,slow=16,SNR=2.4						
PLCA				Lg	Lg	23 45 07.5	
	comp=Z,0.0nm,0.3s,baz=239,slow=2.1,SNR=3.3						
CYA	**Choya**	**7.91**	**47**	⇓*e*P	**Pn**	**23 43 29.9**	**-0.9**
FSA	**Cafayete**	**9.64**	**36**	⇓*e*P	Pn	23 43 52.8	-1.8
LPAZ	**La Paz**	**18.09**	**13**	P	**Pn**	**23 45 46.8**	**-1.0**
	comp=Z,0.0nm,0.3s,baz=143,slow=10,SNR=2.0						
SIV	**San Ignacio**	**20.65**	**32**	P	**P**	**23 46 15.5**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=205,slow=11,SNR=5.9						
TXAR	**Lajitas Array**	**69.67**	**331**	P	**P**	**23 52 46.2**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=120,slow=5.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**84.46**	**70**	P	**P**	**23 54 09.1**	**0.0**
	comp=Z,0.7nm,0.8s,baz=217,slow=1.4,SNR=7.2						
BVAR	**Borovoye Array**	**147.49**	**43**	PKPbc	**PKPdf**	**00 01 18.0**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=291,slow=5.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**154.41**	**32**	PKPbc	**PKPbc**	**00 01 36.3**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=289,slow=4.4,SNR=4.9						
MKAR	**Makanchi Array**	**156.99**	**49**	PKPab	**PKPab**	**00 01 59.6**	**-1.9**
	comp=Z,0.1nm,0.6s,baz=308,slow=3.2,SNR=2.6						

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*CSEM **09** 23:41:58.2, 40°36N×26°10E, h12km, MD2.5*

ATH 09 23:41:58.0, 40°.35N×26°.11E, h11km, MD2.5/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.46**	**285**	*e*PB	Pg	23 42 06.8	-0.3
SMTH	**Samothraki Isl**	**0.46**	**285**	*e*Pb	Pg	23 42 06.8	-0.3
RDO	**Rodhopi**	**0.91**	**332**	*e*PB	Pg	23 42 15.2	-0.3
RDO	**Rodhopi**	**0.91**	**332**	*e*Pb	Pg	23 42 15.2	-0.3
KAVA	**Kavala**	**1.38**	**299**	*e*PB	Pg	23 42 24.2	-0.2
KAVA	**Kavala**	**1.38**	**299**	*e*Pb	Pg	23 42 24.2	-0.2
AOS	**Alonnisos**	**2.08**	**236**	*e*PN	Pb	23 42 35.3	-0.5
AOS	**Alonnisos**	**2.08**	**236**	*e*Pn	Pb	23 42 35.3	-0.5

*ISCJB **09** 23:44:24.6±0.3, 39°.26N±0°.01×23°.18E±0°.02, h7km±2km, Error ellipse: s-maj=2.8km s-min=2.2km az=8.8*
*CSEM **09** 23:44:24.7±0.1, 39°.27N×23°.17E, h10km, MD3.1, Error ellipse: s-maj=2.8km s-min=1.8km az=107.0*
*ATH **09** 23:44:24.5, 39°.27N×23°.17E, h13km, MD3.1/28, ML2.4*
*THE **09** 23:44:25.4, 39°.24N×23°.15E, h8km, ML2.3/17, Error ellipse: s-maj=0.7km s-min=0.4km az=358.0*
ISC 09 23:44:24.9±0.7**, 39°.27N**±0°.01×**23°.17E**±0°.02**, h13**km±4km**, n125, σ0°.63**/195**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.06**	**47**	P	**Pg**	**23 44 27.8**	**+0.4**
NEO				S	**Sg**	**23 44 29.7**	**+0.4**
NEO	**Neokhori**	**0.06**	**47**	*e*PG	**Pg**	**23 44 26.4**	**-1.0**
NEO				*e*SG	**Sg**	**23 44 28.7**	**-0.6**
NEO	**Neokhori**	**0.06**	**47**	*e*Pg	**Pg**	**23 44 26.4**	**-1.0**
NEO	**Neokhori**	**0.06**	**47**	P	**Pg**	**23 44 27.8**	**+0.4**
NEO				*e*Sg	**Sg**	**23 44 28.7**	**-0.6**
NEO				S	**Sg**	**23 44 29.7**	**+0.4**
XOR	**Xorichti**	**0.10**	**11**	P	**Pg**	**23 44 28.5**	**+0.6**
XOR				S	**Sg**	**23 44 30.9**	**+0.8**
XOR	**Xorichti**	**0.10**	**11**	*e*PG	**Pg**	**23 44 27.1**	**-0.8**
XOR				*e*SG	**Sg**	**23 44 28.8**	**-1.3**
XOR	**Xorichti**	**0.10**	**11**	*e*Pg	**Pg**	**23 44 27.1**	**-0.8**
XOR	**Xorichti**	**0.10**	**11**	P	**Pg**	**23 44 28.5**	**+0.6**
XOR				S	**Sg**	**23 44 30.9**	**+0.8**
FYTO	**Fytoko, Volos**	**0.23**	**309**	P	**Pg**	**23 44 30.1**	**+0.3**
FYTO				S	**Sg**	**23 44 33.6**	**+0.5**
FYTO	**Fytoko, Volos**	**0.23**	**309**	P	**Pg**	**23 44 30.1**	**+0.3**
FYTO				S	**Sg**	**23 44 33.6**	**+0.5**
SMIA	**Simia**	**0.39**	**175**	P	**Pg**	**23 44 32.9**	**+0.3**
SMIA				S	**Sg**	**23 44 37.9**	**+0.1**
SMIA	**Simia**	**0.39**	**175**	*e*PB	**Pg**	**23 44 32.8**	**+0.2**
SMIA				*e*SB	**Sg**	**23 44 38.1**	**+0.3**
SMIA	**Simia**	**0.39**	**175**	P	**Pg**	**23 44 32.9**	**+0.3**
SMIA				S	**Sg**	**23 44 37.9**	**+0.1**
AOS	**Alonnisos**	**0.56**	**100**	P	**Pg**	**23 44 35.9**	**0.0**
AOS				S	**Sb**	**23 44 44.5**	**-0.1**
AOS	**Alonnisos**	**0.56**	**100**	*e*PB	**Pg**	**23 44 35.7**	**-0.2**
AOS				*e*SB	**Sg**	**23 44 43.4**	**0.0**
AOS	**Alonnisos**	**0.56**	**100**	*e*Pb	**Pg**	**23 44 35.7**	**-0.2**
AOS				*e*Sb	**Sg**	**23 44 43.4**	**0.0**
AOS				S	**Sb**	**23 44 44.5**	**-0.1**
ATAL	**Atalanti**	**0.58**	**191**	P	**Pg**	**23 44 36.1**	**-0.2**
ATAL				S	**Sg**	**23 44 43.9**	**-0.1**
ATAL	**Atalanti**	**0.58**	**191**	P	**Pg**	**23 44 36.1**	**-0.2**
ATAL				S	**Sg**	**23 44 43.9**	**-0.1**
LKR	**Lokris**	**0.63**	**192**	P	**Pg**	**23 44 36.9**	**-0.2**
LKR				S	**Sg**	**23 44 45.6**	**+0.2**
LKR	**Lokris**	**0.63**	**192**	*e*PB	**Pg**	**23 44 36.8**	**-0.3**
LKR				*e*SB	**Sb**	**23 44 46.2**	**-0.2**
LKR	**Lokris**	**0.63**	**192**	P	**Pg**	**23 44 36.9**	**-0.2**
LKR				S	**Sg**	**23 44 45.6**	**+0.2**
LKR				*e*Sb	**Sb**	**23 44 46.2**	**-0.2**
AXAR	**Agios Charalam**	**0.64**	**219**	P	**Pg**	**23 44 36.2**	**-1.1**
AXAR				S	**Sb**	**23 44 46.3**	**-0.5**
AXAR	**Agios Charalam**	**0.64**	**219**	*e*PG	**Pg**	**23 44 36.7**	**-0.6**
AXAR				*e*SB	**Sb**	**23 44 46.2**	**-0.5**
AXAR	**Agios Charalam**	**0.64**	**219**	P	**Pg**	**23 44 36.2**	**-1.1**
AXAR	**Agios Charalam**	**0.64**	**219**	*e*Pg	**Pg**	**23 44 36.7**	**-0.6**
AXAR				*e*Sb	**Sb**	**23 44 46.2**	**-0.5**
MRKA	**Markates**	**0.65**	**149**	P	**Pg**	**23 44 37.2**	**-0.3**
MRKA				S	**Sg**	**23 44 45.8**	**-0.3**
MRKA	**Markates**	**0.65**	**149**	*e*PB	**Pg**	**23 44 37.1**	**-0.4**
MRKA				*e*SB	**Sg**	**23 44 46.6**	**+0.5**
MRKA	**Markates**	**0.65**	**149**	P	**Pg**	**23 44 37.2**	**-0.3**
MRKA				S	**Sg**	**23 44 45.8**	**-0.3**
MRKA				*e*Sb	**Sg**	**23 44 46.6**	**+0.5**
AGG	**Agios Georgios**	**0.69**	**250**	P	**Pg**	**23 44 38.4**	**0.0**
AGG				S	**Sg**	**23 44 47.8**	**+0.3**
AGG	**Agios Georgios**	**0.69**	**250**	*e*PB	**Pg**	**23 44 37.2**	**-1.2**
AGG				*e*SB	**Sb**	**23 44 48.1**	**-0.3**
AGG	**Agios Georgios**	**0.69**	**250**	*e*Pb	**Pg**	**23 44 37.2**	**-1.2**
AGG				S	**Sg**	**23 44 47.8**	**+0.3**
AGG				*e*Sb	**Sb**	**23 44 48.1**	**-0.3**
PAIG	**Paliouri**	**0.77**	**31**	P	**Pn**	**23 44 41.0**	**-0.5**
PAIG				S	**Sb**	**23 44 52.0**	**+1.4**
PAIG	**Paliouri**	**0.77**	**31**	*e*PB	**Pg**	**23 44 39.3**	**-0.5**
PAIG				*e*SB	**Sb**	**23 44 50.2**	**-0.4**
PAIG	**Paliouri**	**0.77**	**31**	*e*Pb	**Pg**	**23 44 39.3**	**-0.5**
PAIG	**Paliouri**	**0.77**	**31**	P	**Pn**	**23 44 41.0**	**-0.5**
PAIG				*e*Sb	**Sb**	**23 44 50.2**	**-0.4**
PAIG				S	**Sb**	**23 44 52.0**	**+1.4**
MAKR	**Makrakomi, Fth**	**0.84**	**253**	P	**Pg**	**23 44 41.0**	**-0.2**
MAKR				S	**Sg**	**23 44 52.5**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.84**	**253**	*e*PB	**Pg**	**23 44 41.2**	**0.0**
MAKR				*e*SB	**Sg**	**23 44 52.1**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.84**	**253**	P	**Pg**	**23 44 41.0**	**-0.2**
MAKR				*e*Sb	**Sg**	**23 44 52.1**	**-0.1**
THL	**Klokotos Trika**	**0.94**	**289**	P	**Pg**	**23 44 42.2**	**-0.8**
THL				S	**Sn**	**23 44 57.1**	**-0.1**
THL	**Klokotos Trika**	**0.94**	**289**	*e*PB	**Pg**	**23 44 42.3**	**-0.8**
THL				*e*SB	**Sb**	**23 44 56.4**	**+0.9**
THL	**Klokotos Trika**	**0.94**	**289**	*e*Pb	**Pg**	**23 44 42.3**	**-0.8**
THL				*e*Sb	**Sb**	**23 44 56.4**	**+0.9**
THL				S	**Sn**	**23 44 57.1**	**-0.1**
LIT	**Litokhoron**	**0.98**	**328**	*e*PG	**Pg**	**23 44 42.8**	**-1.1**
LIT				*e*SB	**Sb**	**23 44 56.9**	**+0.1**
LIT	**Litokhoron**	**0.98**	**328**	*e*Pg	**Pg**	**23 44 42.8**	**-1.1**
LIT				*e*Sb	**Sb**	**23 44 56.9**	**+0.1**
DSF	**Desfina**	**0.99**	**211**	P	**Pg**	**23 44 42.9**	**-1.0**
DSF				S	**Sb**	**23 44 57.1**	**+0.2**
DSF	**Desfina**	**0.99**	**211**	*e*PG	**Pg**	**23 44 43.2**	**-0.7**
DSF				*e*SB	**Sb**	**23 44 57.2**	**+0.3**
DSF	**Desfina**	**0.99**	**211**	*e*Pg	**Pg**	**23 44 43.2**	**-0.7**
DSF				*e*Sb	**Sb**	**23 44 57.2**	**+0.3**
VIL2	**Platees**	**1.05**	**176**	*e*PG	**Pb**	**23 44 45.1**	**+0.1**
VIL2				*e*SB	**Sn**	**23 45 00.7**	**+0.7**
VILL	**Villia**	**1.11**	**174**	P	**Pb**	**23 44 45.2**	**-0.7**
VILL				S	**Sb**	**23 45 00.9**	**+0.6**
VILL	**Villia**	**1.11**	**174**	*e*Pg	**Pb**	**23 44 45.1**	**-0.8**
VILL				*e*Sb	**Sb**	**23 45 00.7**	**+0.4**
EVR	**Evrytania**	**1.11**	**252**	P	**Pg**	**23 44 46.3**	**0.0**
EVR				S	**Sn**	**23 45 01.9**	**+0.3**
EVR	**Evrytania**	**1.11**	**252**	*e*PB	**Pb**	**23 44 46.1**	**0.0**
EVR	**Evrytania**	**1.11**	**252**	P	**Pg**	**23 44 46.3**	**0.0**
EVR				S	**Sn**	**23 45 01.9**	**+0.3**
PLG	**Polygyros**	**1.13**	**11**	P	**Pb**	**23 44 46.3**	**0.0**
PLG	**Polygyros**	**1.13**	**11**	*e*PB	**Pb**	**23 44 45.2**	**-1.1**
PLG	**Polygyros**	**1.13**	**11**	*e*Pb	**Pb**	**23 44 45.2**	**-1.1**
PLG	**Polygyros**	**1.13**	**11**	P	**Pb**	**23 44 46.3**	**0.0**
KALE	**Kalithea**	**1.19**	**223**	P	**Pb**	**23 44 46.7**	**-0.6**
KALE				S	**Sg**	**23 45 03.4**	**+0.3**
KALE	**Kalithea**	**1.19**	**223**	*e*PG	**Pb**	**23 44 46.7**	**-0.6**
KALE				*e*SB	**Sg**	**23 45 03.4**	**+0.3**
KALE	**Kalithea**	**1.19**	**223**	P	**Pb**	**23 44 46.7**	**-0.6**
KALE				S	**Sg**	**23 45 03.4**	**+0.3**
OUR	**Ouranopolis**	**1.24**	**30**	P	**Pn**	**23 44 47.9**	**0.0**
OUR	**Ouranopolis**	**1.24**	**30**	*e*PB	**Pn**	**23 44 47.6**	**-0.3**
OUR				*e*SB	**Sb**	**23 45 04.2**	**+0.1**
OUR	**Ouranopolis**	**1.24**	**30**	*e*Pb	**Pn**	**23 44 47.6**	**-0.3**
OUR	**Ouranopolis**	**1.24**	**30**	P	**Pn**	**23 44 47.9**	**0.0**
OUR				*e*Sb	**Sb**	**23 45 04.2**	**+0.1**
LTK	**Loutraki**	**1.25**	**187**	P	**Pn**	**23 44 47.5**	**-0.7**
LTK				S	**Sn**	**23 45 05.2**	**+0.3**
LTK	**Loutraki**	**1.25**	**187**	*e*PN	**Pn**	**23 44 47.4**	**-0.7**
LTK				*e*SB	**Sn**	**23 45 05.7**	**+0.8**
LTK	**Loutraki**	**1.25**	**187**	*e*Pn	**Pn**	**23 44 47.4**	**-0.7**
LTK				S	**Sn**	**23 45 05.2**	**+0.3**
EFP	**Efpalio**	**1.29**	**230**	P	**Pb**	**23 44 49.0**	**-0.1**
EFP				S	**Sg**	**23 45 07.8**	**+1.3**
EFP	**Efpalio**	**1.29**	**230**	*e*PB	**Pb**	**23 44 48.9**	**-0.1**
EFP				*e*SB	**Sn**	**23 45 06.2**	**+0.4**
EFP	**Efpalio**	**1.29**	**230**	P	**Pb**	**23 44 49.0**	**-0.1**
EFP				*e*Sb	**Sn**	**23 45 06.2**	**+0.4**
EFP				S	**Sg**	**23 45 07.8**	**+1.3**
HORT	**Hortiatis**	**1.33**	**358**	P	**Pn**	**23 44 49.0**	**-0.3**
HORT	**Hortiatis**	**1.33**	**358**	*e*PB	**Pn**	**23 44 49.4**	**+0.1**
HORT	**Hortiatis**	**1.33**	**358**	P	**Pn**	**23 44 49.0**	**-0.3**
HORT	**Hortiatis**	**1.33**	**358**	*e*Pb	**Pn**	**23 44 49.4**	**+0.1**
PTL	**Penteli**	**1.33**	**156**	*e*PB	**Pn**	**23 44 49.2**	**-0.1**
PTL	**Penteli**	**1.33**	**156**	*e*Pb	**Pn**	**23 44 49.2**	**-0.1**
ATH	**Athens Observa**	**1.36**	**161**	P	**Pn**	**23 44 49.8**	**+0.2**
ATH	**Athens Observa**	**1.36**	**161**	*e*PG	**Pn**	**23 44 49.7**	**+0.2**
ATH	**Athens Observa**	**1.36**	**161**	P	**Pn**	**23 44 49.8**	**+0.2**
ATHU	**Athens Univers**	**1.39**	**159**	P	**Pn**	**23 44 49.8**	**-0.2**
ATHU				S	**Sg**	**23 45 09.5**	**0.0**
ATHU	**Athens Univers**	**1.39**	**159**	P	**Pn**	**23 44 49.8**	**-0.2**
ATHU				S	**Sg**	**23 45 09.5**	**0.0**
GUR	**Goura**	**1.48**	**206**	P	**Pn**	**23 44 51.3**	**0.0**
GUR	**Goura**	**1.48**	**206**	*e*PN	**Pn**	**23 44 51.2**	**0.0**
GUR	**Goura**	**1.48**	**206**	P	**Pn**	**23 44 51.3**	**0.0**
SOH	**Sokhos**	**1.56**	**5**	P	**Pn**	**23 44 52.8**	**+0.4**
SOH	**Sokhos**	**1.56**	**5**	*e*PG	**Pb**	**23 44 53.3**	**-0.4**
SOH	**Sokhos**	**1.56**	**5**	P	**Pn**	**23 44 52.8**	**+0.4**
SOH	**Sokhos**	**1.56**	**5**	*e*Pg	**Pb**	**23 44 53.3**	**-0.4**
PDO	**Prodromos**	**1.68**	**247**	*e*PG	**Pg**	**23 44 56.7**	**-0.5**
PDO				*e*SB	**Sg**	**23 45 18.2**	**-0.8**
PDO	**Prodromos**	**1.68**	**247**	*e*Pg	**Pg**	**23 44 56.7**	**-0.5**
PDO				*e*Sb	**Sg**	**23 45 18.2**	**-0.8**
DRO	**Drossia**	**1.74**	**221**	*e*PN	**Pb**	**23 44 56.8**	**+0.1**
DRO	**Drossia**	**1.74**	**221**	*e*Pg	**Pb**	**23 44 56.8**	**+0.1**
DID	**Didima**	**1.76**	**178**	P	**Pn**	**23 44 54.8**	**-0.3**
DID	**Didima**	**1.76**	**178**	*e*PN	**Pb**	**23 44 56.2**	**-0.8**
DID	**Didima**	**1.76**	**178**	P	**Pn**	**23 44 54.8**	**-0.3**
DID	**Didima**	**1.76**	**178**	*e*Pn	**Pb**	**23 44 56.2**	**-0.8**
RLS	**Riolos of Patr**	**1.79**	**228**	*e*PN	**Pb**	**23 44 57.5**	**-0.1**
RLS	**Riolos of Patr**	**1.79**	**228**	*e*Pn	**Pb**	**23 44 57.5**	**-0.1**
SRS	**Serrai**	**1.88**	**10**	P	**Pn**	**23 44 57.1**	**+0.3**
SRS	**Serrai**	**1.88**	**10**	*e*PB	**Pn**	**23 44 57.1**	**+0.3**
SRS	**Serrai**	**1.88**	**10**	P	**Pn**	**23 44 57.1**	**+0.3**
KRND	**KRANIDI**	**1.88**	**180**	P	**Pn**	**23 44 56.7**	**0.0**
KRND	**KRANIDI**	**1.88**	**180**	*e*PN	**Pb**	**23 44 58.1**	**-1.0**
KRND	**KRANIDI**	**1.88**	**180**	P	**Pn**	**23 44 56.7**	**0.0**
KRND	**KRANIDI**	**1.88**	**180**	*e*Pn	**Pb**	**23 44 58.1**	**-1.0**
KNT	**Kendrikon**	**1.91**	**354**	P	**Pn**	**23 44 57.5**	**+0.4**
KNT	**Kendrikon**	**1.91**	**354**	*e*PN	**Pn**	**23 44 58.2**	**+1.1**
KNT	**Kendrikon**	**1.91**	**354**	P	**Pn**	**23 44 57.5**	**+0.4**
KNT	**Kendrikon**	**1.91**	**354**	*e*Pn	**Pn**	**23 44 58.2**	**+1.1**
VLX	**Vlachokerasia**	**1.99**	**198**	P	**Pn**	**23 44 58.9**	**+0.5**
VLX	**Vlachokerasia**	**1.99**	**198**	P	**Pn**	**23 44 58.9**	**+0.5**
KAVA	**Kavala**	**2.01**	**30**	*e*PN	**Pn**	**23 44 59.9**	**+1.3**
KAVA	**Kavala**	**2.01**	**30**	*e*Pn	**Pn**	**23 44 59.9**	**+1.3**
FNA	**Florina**	**2.05**	**318**	*e*PN	**Pb**	**23 45 00.9**	**-1.1**
FNA	**Florina**	**2.05**	**318**	*e*Pn	**Pb**	**23 45 00.9**	**-1.1**
AMT	**Artemida-Makis**	**2.08**	**214**	*e*PN	**Pb**	**23 45 01.5**	**-0.9**
AMT	**Artemida-Makis**	**2.08**	**214**	*e*Pn	**Pb**	**23 45 01.5**	**-0.9**
NVR	**Nevrokopi**	**2.15**	**14**	P	**Pn**	**23 45 00.8**	**+0.3**
NVR	**Nevrokopi**	**2.15**	**14**	*e*PN	**Pn**	**23 45 02.0**	**+1.5**
NVR	**Nevrokopi**	**2.15**	**14**	P	**Pn**	**23 45 00.8**	**+0.3**
NVR	**Nevrokopi**	**2.15**	**14**	*e*Pn	**Pn**	**23 45 02.0**	**+1.5**
ITM	**Ithomi**	**2.30**	**205**	*e*PB	**Pn**	**23 45 04.0**	**+1.4**
VLI	**Veliai**	**2.55**	**184**	*e*PN	**Pn**	**23 45 06.2**	**+0.2**
VLI	**Veliai**	**2.55**	**184**	*e*Pn	**Pn**	**23 45 06.2**	**+0.2**
KYTH	**Kithira**	**2.98**	**182**	*e*PN	**Pn**	**23 45 13.9**	**+2.0**
KYTH	**Kithira**	**2.98**	**182**	*e*Pn	**Pn**	**23 45 13.9**	**+2.0**

*IDC **09** 23:48:12.0±3.9, 34°.37N×73°.58E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.3/38, mbtmp3.6/6, ML3.5/2, Error ellipse: s-maj=86.0km s-min=32.3km az=123.0*
*NNC **09** 23:48:25.3±8.0, 35°.04N×73°.03E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=61.3km s-min=47.1km az=157.0*
ISC 09 23:48:17.0±1.9**, 34°.5N**±0°.1×**73°.3E**±0°.2**, h22**km**, n10, σ1°.72**/11**, mb3.7**/4**, 4C-4D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**5.53**	**2**	⇑P	Pn	23 49 41.7	+3.5
	2.4nm,0.6s						
SFK				⇓S	**Sn**	**23 50 44.6**	**+3.3**
	5.1nm,0.3s						
DZET	**Dzherino**	**5.61**	**322**	⇑P	Pn	23 49 44.7	+5.6
	12nm,0.4s						
DZET				⇓S	**Sn**	**23 50 42.8**	**-0.2**
	5.2nm,0.3s						
MNAS	**Manas**	**8.03**	**356**	⇓P	**Pn**	**23 50 13.0**	**+0.6**
	0.7nm,0.4s						
MNAS				⇑S	**Sn**	**23 51 39.4**	**-3.0**
	1.6nm,0.8s						
KK31	**Karatay Array**	**8.88**	**347**	⇑P	**Pn**	**23 50 24.2**	**+0.2**
	2.1nm,0.2s,baz=154,slow=11,SNR=130						
KK31				⇓S	Sn	23 51 58.4	-5.0
	1.2nm,0.7s,baz=168,slow=23,SNR=4.0						
BVAR	**Borovoye Array**	**18.66**	**355**	P	**P**	**23 52 33.1**	**-0.2**
	0.1nm,0.3s,baz=161,slow=9.4,SNR=4.0						
AKTO	**Aktyubinsk**	**19.46**	**330**	P	**P**	**23 52 42.1**	**+0.1**
	0.2nm,0.3s,baz=158,slow=9.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**21.11**	**19**	P	**P**	**23 52 58.1**	**-1.7**
	1.3nm,0.4s,baz=212,slow=11,SNR=10						
FINES	**FINESS Array B**	**40.19**	**327**	P	**P**	**23 55 51.6**	**+0.3**
	0.2nm,0.3s,baz=132,slow=12,SNR=5.9						
ARCES	**ARCESS Array B**	**43.72**	**338**	P	**P**	**23 56 20.1**	**0.0**
	2.1nm,0.9s,baz=106,slow=8.1,SNR=7.9						
TORD	**Torodi Ar. Bea**	**67.56**	**271**	P	**P**	**23 59 12.3**	**+0.3**
	0.2nm,0.4s,baz=48,slow=5.7,SNR=13						

*NIED **10** 00:03:00, 33°.10N×142°.30E, h5km, Mw4.6 Best double couple: M₀8.57000×10^15 NP1:φs358.00000°, δ33.00000°, λ-101.00000°. NP2:φs191.00000°, δ58.00000°, λ-83.00000°.*
*IDC **10** 00:03:55.0±0.4, 32°.90N×142°.56E, h0km, mb4.6/32, mb1 4.7/39, mb1mx4.7/44, mbtmp4.6/39, ML4.6/6, MS4.0/2, Ms1 4.0/2, ms1mx3.5/36, Error ellipse: s-maj=13.0km s-min=9.8km az=92.0*
*ISCJB **10** 00:03:56.4±0.9, 32°.92N±0°.02×142°.35E±0°.02, h14km±5km, mb5.0/168, MS5.1/5, Error ellipse: s-maj=3.3km s-min=2.8km az=26.7*
*JMA **10** 00:03:56.7±0.2, 33°.06N×142°.29E, h0km, M4.8*
*NEIC **10** 00:03:56.6±2.1, 32°.91N×142°.45E, h9km±12km, mb4.9/63, MW4.6(NIED), Error ellipse: s-maj=4.9km s-min=4.1km az=113.0*
*MOS **10** 00:03:58.9±0.9, 32°.93N×142°.38E, h33km, mb5.1/74, Error ellipse: s-maj=8.4km s-min=4.3km az=119.5*
*SZGRF **10** 00:04:01.5, 32°.96N×142°.59E, h33km, mb4.9, Southeast of Honshu, Japan*
*BJI **10** 00:04:02.0, 33°.03N×142°.02E, h46km, mb4.9/56, mB5.1/24, Ms4.8/26, Ms7 4.5/21*
ISC 10 00:04:01.4±0.5**, 32°.97N**±0°.03×**142°.43E**±0°.04**, h40**km±3km**, h40**km**:pP-P, n583, σ1°.13**/623**, mb5.0**/195**, MS5.0**/5**, 63C-65D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.07**	**325**	P	**Pn**	**00 04 31.4**	**-1.7**
BSO1				S	**Sn**	**00 04 56.8**	**-0.6**
JHJ2	**Mitsune**	**2.20**	**274**	P	**Pn**	**00 04 33.7**	**-1.7**
JHJ2				S	**Sn**	**00 05 01.0**	**-0.4**
JHJ2	**Mitsune**	**2.20**	**274**	*e*Pn	**Pn**	**00 04 33.7**	**-1.7**
JHJ2				*e*Sn	**Sn**	**00 04 58.8**	**-2.6**
JHCJ	**Hachijojimakas**	**2.21**	**273**	P	**Pn**	**00 04 33.6**	**-2.0**
JHCJ				S	**Sn**	**00 04 59.5**	**-2.3**
BSO2	**Boso 2**	**2.26**	**322**	S	**Sn**	**00 05 02.2**	**-0.2**
BSO3	**Boso 3**	**2.43**	**319**	P	**Pn**	**00 04 36.9**	**-1.4**
BSO3				S	**Sn**	**00 05 06.5**	**-0.1**
BSO4	**Boso 4**	**2.66**	**320**	P	**Pn**	**00 04 40.9**	**-0.8**
BSO4				S	**Sn**	**00 05 13.0**	**+0.4**
KTR	**Katsuura**	**2.79**	**322**	P	**Pn**	**00 04 42.3**	**-1.2**
KTR				S	**Sn**	**00 05 14.6**	**-1.4**
JIM2	**Oshima 3**	**3.04**	**306**	P	**Pn**	**00 04 44.5**	**-2.5**
JIM2				S	**Sn**	**00 05 19.9**	**-2.4**
JOD2	**Odawara 2**	**3.59**	**310**	P	**Pn**	**00 04 52.3**	**-2.3**
JOD2				S	**Sn**	**00 05 34.2**	**-1.6**
JYT	**Yasato**	**3.74**	**331**	P	**Pn**	**00 04 55.4**	**-1.1**
JYT				S	**Sn**	**00 05 39.4**	**+0.1**
JHU	**Hanno**	**3.88**	**319**	P	**Pn**	**00 04 56.5**	**-2.0**
JHU				S	**Sn**	**00 05 41.3**	**-1.5**
JHO	**Hitachi**	**3.94**	**338**	P	**Pn**	**00 04 56.7**	**-2.6**
JHO				S	**Sn**	**00 05 40.3**	**-4.0**
TK02	**Tokai 2**	**4.03**	**285**	P	**Pn**	**00 05 00.2**	**-0.1**
JYN	**Shimob**	**4.09**	**309**	P	**Pn**	**00 04 59.8**	**-1.6**
JYN				S	**Sn**	**00 05 48.7**	**+0.6**
MJAR	**Matsushiro Arr**	**4.98**	**317**	Pn	**Pn**	**00 05 12.3**	**-1.3**
	40nm,0.3s,baz=158,slow=13,SNR=258						
MJAR				Sn	**Sn**	**00 06 08.1**	**-1.8**
	12nm,0.3s,baz=157,slow=18,SNR=7.3						
MJAR	**Matsushiro Arr**	**4.98**	**317**	P	**Pn**	**00 05 12.3**	**-1.3**
MJAR						00 06 08.1	
MJAR				pmax	pmax		
	comp=Z,41nm,0.3s						
MJAR				smax	smax		
	comp=N,12nm,0.3s						
MAJO	**Matsushiro**	**4.98**	**317**	d *i*P	**Pn**	**00 05 11.8**	**-1.8**
MAJO	**Matsushiro**	**4.98**	**317**	*e*Pn	**Pn**	**00 05 12.9**	**-0.7**
MAT	**Matsushiro**	**4.98**	**317**	P	**Pn**	**00 05 12.3**	**-1.3**
MAT				S	**Sn**	**00 06 07.9**	**-2.0**
CBIJ	**Chichi jima**	**5.86**	**182**	*e*Pn	Pn	00 05 21.4	-4.3
CBIJ				*e*Sn	Sn	00 06 25.5	-6.1
JCJ	**Chichijima**	**5.86**	**182**	Pn	Pn	00 05 20.8	-4.9
	comp=N,32nm,0.3s,baz=359,slow=20,SNR=29						
JCJ				Sn	Sn	00 06 22.4	-9.2
	comp=N,48nm,0.3s,baz=300,slow=20,SNR=4.1						
ERM	**Erimo**	**9.05**	**3**	*i* P	Pn	00 06 03.7	-5.7
ERM				pmax	pmax		
	comp=Z,30nm,0.8s						
ERM	**Erimo**	**9.05**	**3**	*e*Pn	Pn	00 06 04.0	-5.3
ERM				*e*Sn	Sn	00 07 34.3	-16
JNU	**Nakatsue**	**9.70**	**274**	Pn	**Pn**	**00 06 18.3**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=72,slow=6.5,SNR=16						
JNU				LR	LR	00 10 20.7	
	comp=Z,882nm,19.8s,baz=157,slow=39						
JNU	**Nakatsue**	**9.70**	**274**	*e*Pn	**Pn**	**00 06 18.6**	**+0.3**
ASAJ	**Asahikawa**	**11.13**	**1**	Pn	Pn	00 06 34.3	-3.5
	comp=Z,9.6nm,0.3s,baz=230,slow=14,SNR=23						
ASAJ				Sn	Sn	00 08 32.7	-8.2
	baz=72,slow=20						
ASAJ	**Asahikawa**	**11.13**	**1**	*e*Pn	Pn	00 06 33.9	-3.9
ASAJ				*e*Sn	Sn	00 08 29.3	-12
YUK	**Yuzh-Kuril'sk**	**11.37**	**13**	d *i*P	Pn	00 06 36.9	-4.2
YUK				pmax	pmax		
	comp=N,57nm,0.4s						
YUK				pmax	pmax		
	comp=E,40nm,0.4s						
YUK				pmax	pmax		
	comp=Z,139nm,0.4s						
YUK				pmax	pmax		
	comp=Z,153nm,2.1s						
KSRS	**Korea Array**	**12.68**	**295**	Pn	**Pn**	**00 06 59.8**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=108,slow=13,SNR=32						
KSRS				LR	LR	00 11 56.2	
	comp=Z,768nm,18.6s,baz=165,slow=38						
KSRS				PcP	**PcP**	**00 12 35.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=95,slow=1.5,SNR=4.8						
KSAR	**Wonju Array Be**	**12.70**	**295**	P	**Pn**	**00 06 59.8**	**+0.4**
KSAR	**Wonju Array Be**	**12.70**	**295**	Pn	**Pn**	**00 06 59.8**	**+0.4**
KSAR				PcP	**PcP**	**00 12 35.4**	**+1.0**
KS01	**Wonju Array Si**	**12.71**	**295**	*e*Pn	**Pn**	**00 07 01.6**	**+2.2**
TJN	**Taejon**	**12.86**	**290**	*e*P	**Pn**	**00 07 02.1**	**+0.6**
VLA	**Vladivostok**	**13.09**	**324**	⇑*e*P	**Pn**	**00 07 04.3**	**-0.4**
VLA				S	**Sn**	**00 09 28.9**	**0.0**
VLA				pmax	pmax		
	comp=Z,45nm,1.2s						
INCN	**Inchon**	**13.68**	**294**	*e*Pn	**Pn**	**00 07 10.3**	**-2.4**
JOW	**Kunigami**	**13.71**	**247**	Pn	**Pn**	**00 07 12.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=75,slow=12,SNR=2.9						
USRK	**Ussuriysk Ar.**	**13.86**	**327**	Pn	**Pn**	**00 07 12.6**	**-2.5**
	comp=Z,0.7nm,0.3s,baz=137,slow=12,SNR=26						
YSS	**Yuzh-Sakhalins**	**13.97**	**1**	*e*P	Pn	00 07 11.8	-4.8
MDJ	**Mudanjiang**	**15.32**	**323**	P	**Pn**	**00 07 33.2**	**-1.5**
MDJ				PMZ			
	comp=Z,15nm,0.5s						
MDJ				PMZ			
	comp=Z,320nm,9.6s						
MDJ	**Mudanjiang**	**15.32**	**323**	*e*P	**Pn**	**00 07 31.3**	**-3.4**
	comp=Z,18nm,0.7s						
UGL	**Uglegorsk**	**16.10**	**359**	*e*P	**P**	**00 07 49.2**	**+1.8**
UGL				*e*S	**Sn**	**00 10 35.5**	**-6.4**
HABR	**Khabarovsk**	**16.45**	**342**	*e*P	**Pn**	**00 07 45.1**	**-4.0**
HABR				*e*S	**Sn**	**00 10 44.5**	**-6.0**
HABR				pmax	pmax		
	comp=N,20nm,1.3s						
HABR				pmax	pmax		
	comp=Z,22nm,1.3s						
HABR				pmax	pmax		
	comp=E,24nm,1.3s						
CN2	**Changchun**	**17.12**	**314**	*e*P	**Pn**	**00 07 56.0**	**-1.5**
CN2				*e*S	**Sn**	**00 11 05.3**	**-1.5**
CN2				PMZ			
	comp=E,10.0nm,0.6s						
CN2				PMZ			
	comp=E,2μm,6.0s						
CN2				LN			
	comp=E,1μm,15.0s						
CN2				LE			
	comp=E,1μm,15.0s						
CN2				LZ			
	comp=E,1μm,17.0s						
TYV	**Tymovskoe**	**17.88**	**0**	*e*P	**Pn**	**00 08 06.5**	**-0.3**
TYV				pmax	pmax		
	comp=Z,13nm,0.8s						
KLR	**Kul'dur**	**18.10**	**337**	*e*P	P	00 08 01.9	-7.7
YOJ	**Yonaguni jima**	**19.00**	**249**	*e*P	**P**	**00 08 18.0**	**-1.7**
YOJ				pmax	pmax		
	comp=Z,175nm,1.0s						
YOJ	**Yonaguni jima**	**19.00**	**249**	*e*P	**P**	**00 08 18.0**	**-1.7**
	comp=Z,175nm,1.0s						
GUMO	**Guam**	**19.42**	**173**	P	**P**	**00 08 23.2**	**-1.1**
	comp=Z,2.8nm,0.3s,baz=134,slow=7.8,SNR=5.7						
GUMO	**Guam**	**19.42**	**173**	P	**P**	**00 08 23.2**	**-1.1**
GUMO				pmax	pmax		
	comp=Z,3.0nm,0.3s						
GUMO	**Guam**	**19.42**	**173**	*e*P	**P**	**00 08 23.5**	**-0.8**
	comp=Z,46nm,1.5s						
NJ2	**Nanjing**	**19.90**	**274**	*e*P	**P**	**00 08 29.2**	**-0.2**
NJ2				PMZ			
	comp=Z,70nm,0.8s						
YHNB	**Yeheng**	**20.19**	**251**	*e*P	**P**	**00 08 30.5**	**-2.2**
	comp=Z,30nm,0.7s						
NKL	**Nikolayevsk**	**20.21**	**357**	*e*P	**P**	**00 08 32.8**	**+0.2**
NKL				pmax	pmax		
	comp=Z,43nm,1.0s						
YULB	**Yu-li**	**20.90**	**248**	*e*P	**P**	**00 08 38.8**	**-1.6**
	comp=Z,21nm,1.0s						
SSLB	**Suanglung**	**20.96**	**250**	*e*P	**P**	**00 08 39.2**	**-1.9**
	comp=Z,21nm,0.7s						
TIA	**Tai'an**	**21.07**	**286**	⇑P	**P**	**00 08 40.3**	**-1.8**
TIA				PMZ			
	comp=Z,30nm,0.7s						
BJI	**Beijing**	**22.20**	**296**	P	**P**	**00 08 53.7**	**-0.5**
BJI				PMZ			
	comp=Z,18nm,0.7s						
BJT	**Baijiatuau**	**22.21**	**296**	*e*P	**P**	**00 08 53.6**	**-0.6**
BJT				pmax	pmax		
	comp=Z,19nm,0.5s						
BJT	**Baijiatuau**	**22.21**	**296**	*e*P	**P**	**00 08 53.6**	**-0.6**
	comp=Z,19nm,0.5s						
HIA	**Hailar**	**23.47**	**321**	*e*P	**P**	**00 09 06.1**	**-1.1**
HIA				pmax	pmax		
	comp=Z,25nm,1.3s						
HIA	**Hailar**	**23.47**	**321**	*e*P	**P**	**00 09 05.7**	**-1.5**
	comp=Z,30nm,0.9s						
WHN	**Wuhan**	**23.97**	**272**	P	**P**	**00 09 10.0**	**-2.0**
H11N2	**WAKE ISLAND Hy**	**25.51**	**115**	T	T	00 36 09.0	
	baz=305,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**25.51**	**115**	T	T	00 36 07.9	
	baz=305,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**25.52**	**115**	T	T	00 36 08.2	
	baz=305,slow=75,SNR=18						
HHC	**Hu-ho-hao-te**	**25.81**	**297**	*e*P	**P**	**00 09 28.4**	**-0.4**
HHC				S	**S**	**00 13 55.2**	**-0.3**
HHC				PMZ			
	comp=Z,24nm,0.6s						
HHC				PMZ			
	comp=Z,390nm,4.5s						
HHC				LN			
	comp=Z,720nm,11.4s						
HHC				LE			
	comp=Z,760nm,12.0s						
HHC				LZ			
	comp=Z,830nm,11.2s						
H11S3	**WAKE ISLAND Hy**	**26.09**	**118**	T	T	00 36 53.0	
	baz=309,slow=74						
H11S1	**WAKE ISLAND Hy**	**26.09**	**118**	T	T	00 36 50.4	
	baz=309,slow=74						
H11S2	**WAKE ISLAND Hy**	**26.11**	**118**	T	T	00 37 00.6	
	baz=309						
TGY	**Tagaytay City**	**27.12**	**231**	P	**P**	**00 09 41.1**	**+0.4**
	comp=Z,115nm,0.3s,baz=107,slow=14,SNR=2.9						
XAN	**Xi'an**	**27.89**	**282**	P	**P**	**00 09 45.9**	**-1.7**

XAN PMZ
comp=Z,9.0nm,1.0s
ENH Enshi 28.12 273 *e*P **P 00 09 48.3 -1.3**
comp=Z,20nm,0.9s
YAK Yakutsk 30.21 348 *e*P **P 00 10 06.2 -1.5**
YAK pmax pmax
comp=Z,23nm,1.4s
SEY Seymchan 30.64 9 P **P 00 10 11.9 +0.4**
comp=Z,7.4nm,0.5s,baz=195,slow=7.7,SNR=23
SEY Seymchan 30.64 9 P **P 00 10 11.9 +0.4**
SEY pmax pmax
comp=Z,7.0nm,0.5s
SONA1 Songino Array 30.88 309 *e*P **P 00 10 14.9 +0.9**
SONM Songino Array 30.88 309 P **P 00 10 15.1 +1.1**
comp=Z,17nm,0.8s,baz=111,slow=8.9,SNR=87
SONM PcP **PcP 00 13 10.6 +0.7**
comp=Z,1.0nm,0.7s,baz=121,slow=2.7,SNR=4.7
SONM Songino Array 30.88 309 P **P 00 10 15.1 +1.1**
SONM 00 13 10.6
SONM pmax pmax
comp=Z,17nm,0.8s
BOD Bodaibo 31.44 331 *e*P **P 00 10 18.2 -0.4**
BOD pmax pmax
comp=Z,27nm,0.9s
GYA Guiyang 31.63 268 *e*P **P 00 10 21.8 +1.0**
GYA pP **pP 00 10 33.6 +1.7**
GYA sP **sP 00 10 39.2 +2.5**
GYA PP **PnPn 00 11 27.9 +2.6**
GYA S **S 00 15 27.0 -0.3**
GYA sS **sS 00 15 46.7 +0.9**
GYA ScP **ScP 00 16 52.2 -0.1**
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,110nm,4.9s
GYA LN
comp=Z,480nm,17.6s
GYA LE
comp=Z,420nm,18.0s
GYA LZ
comp=Z,470nm,17.8s
LZH Lanzhou 31.80 287 *e*P **P 00 10 23.5 +1.2**
LZH pP **pP 00 10 37.2 +3.8**
LZH sP sP 00 10 44.2 +5.9
LZH PMZ
comp=Z,39nm,1.3s
LZH PMZ
comp=Z,190nm,5.0s
QIZ Qiongzhong 32.27 253 P **P 00 10 23.9 -2.4**
CD2 Chengdu 32.76 277 ⇓P **P 00 10 29.0 -1.6**
CD2 pP **pP 00 10 40.6 -1.1**
CD2 sP **sP 00 10 46.0 -0.6**
CD2 PP **PP 00 11 43.5 -1.6**
CD2 S **S 00 15 43.3 -1.5**
CD2 sS **sS 00 16 03.3 0.0**
CD2 PMZ
comp=Z,60nm,0.5s
CD2 PMZ
comp=Z,140nm,5.2s
CD2 LN
comp=Z,1μm,16.2s
CD2 LE
comp=Z,1μm,14.7s
CD2 LZ
comp=Z,980nm,15.6s
ZAK Zakamensk 33.55 313 ⇑*i*P **P 00 10 37.7 +0.4**
ZAK pmax pmax
comp=Z,7.0nm,1.7s
TLY Talaya 33.72 315 *e*P **P 00 10 40.2 +1.6**
TLY pmax pmax
comp=Z,11nm,0.8s
TLY Talaya 33.72 315 *e*P **P 00 10 40.2 +1.6**
comp=Z,11nm,0.8s
GTA Gaotai 34.74 293 P **P 00 10 48.0 +0.2**
GTA pP **pP 00 10 59.5 +0.5**
GTA sP **sP 00 11 05.1 +1.2**
GTA PcP **PcP 00 13 22.0 +1.2**
GTA ScP **ScP 00 17 03.8 +0.8**
GTA PMZ
comp=Z,13nm,1.2s
SMPI Sarmi 34.95 187 P **P 00 10 51.5 +1.9**
comp=Z,38nm,1.3s,comp=Z,12μm
TNTI Ternate 35.02 207 P **P 00 10 49.4 -0.8**
comp=Z,80nm,1.1s
SWI Sorong 35.26 200 P **P 00 10 52.6 +0.3**
comp=Z,16nm,1.1s
SIJI Sorong 35.27 200 P **P 00 10 51.2 -1.2**
comp=Z,8.4nm,0.5s,baz=7.7,slow=13,SNR=6.1
MOY Mondy 35.29 314 *e*P **P 00 10 52.9 +0.5**
LBMI Labuha 36.27 206 P **P 00 11 01.7 +0.7**
comp=Z,56nm,1.2s
KMSI Cibinong 36.60 212 P **P 00 11 02.9 -0.9**
comp=Z,168nm,0.9s
MRSI Marisa 37.64 215 P **P 00 11 11.8 -0.8**
comp=Z,72nm,1.2s
UBPT Khong Chiam 37.81 251 P **P 00 11 13.4 -0.6**
comp=Z,20nm,1.0s
SKNT Sakolnakorn 38.08 255 P **P 00 11 15.6 -0.7**
comp=Z,24nm,1.2s,comp=Z,2μm
SANI Sanana 38.14 207 P **P 00 11 15.2 -1.6**
comp=Z,88nm,0.6s
NONG Nongkai 38.20 257 P **P 00 11 17.2 -0.1**
comp=Z,28nm,1.2s
NLAI Namlea 38.83 205 P **P 00 11 23.3 +0.7**
comp=Z,23nm,1.2s
APSI Ampana 38.99 214 P **P 00 11 22.0 -1.9**
comp=Z,132nm,0.9s,comp=Z,1μm
TIXI Tiksi 39.41 353 *i*P **P 00 11 26.6 -0.3**
TIXI pmax pmax
comp=Z,8.0nm,1.0s
TIXI Tiksi 39.41 353 *e*P **P 00 11 26.5 -0.3**
comp=Z,16nm,1.4s
CRAI Chiangrai 39.44 262 P **P 00 11 25.1 -2.7**
comp=Z,34nm,0.7s,comp=Z,7μm
HVS Khovu-Aksy 39.65 312 *d i*P **P 00 11 30.0 +0.8**
HVS pmax pmax
comp=Z,149nm,1.3s
PCI Palu 39.87 217 P **P 00 11 29.4 -1.9**
comp=Z,73nm,1.2s,comp=Z,1μm
LOEI Loei 40.02 258 P P 00 11 28.9 -3.7
comp=Z,37nm,0.8s,comp=Z,6μm
UTTA Uttaradit 40.49 258 P **P 00 11 36.4 0.0**
comp=Z,4.9nm,1.0s
CMAI Chiengmai2 40.68 262 P **P 00 11 39.9 +1.6**
comp=Z,24nm,2.5s
PBKT Sadao Pong 40.74 257 P **P 00 11 37.9 -0.6**
comp=Z,41nm,1.1s,comp=Z,1μm
LAMP Lampang 40.86 260 P **P 00 11 39.9 +0.4**
comp=Z,3.6nm,0.9s
CMMT Chiang Mai 41.29 261 P **P 00 11 42.7 -0.4**
comp=Z,14nm,1.3s
CHTO Chiang Mai 41.29 261 P **P 00 11 42.8 -0.3**
comp=Z,78nm,1.5s
CHTO Chiang Mai 41.29 261 *e*P **P 00 11 42.8 -0.3**
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CHTO Chiang Mai 41.29 261 *e*P **P 00 11 42.8 -0.3**
comp=Z,9.3nm,0.9s
CMAR Chiang Mai Arr 41.47 261 P **P 00 11 44.0 -0.5**
comp=Z,2.4nm,0.5s,baz=53,slow=7.6,SNR=15
CMAR PcP **PcP 00 13 43.2 +1.4**
comp=Z,1.0nm,0.4s,baz=142,slow=0.4,SNR=4.8
CMAR Chiang Mai Arr 41.47 261 P **P 00 11 44.0 -0.5**
CMAR 00 13 43.2
CMAR pmax pmax
comp=Z,2.0nm,0.5s
UTHA Uthaitani 42.52 256 P **P 00 11 54.3 +1.2**
comp=Z,4.0nm,1.1s
SPSI Sidrap Palu 42.55 215 P **P 00 11 52.1 -1.2**
comp=Z,28nm,0.8s
BBSI Bau Bau 42.64 210 P **P 00 11 55.0 +1.0**
comp=Z,36nm,1.1s,comp=Z,5μm
KAPI Kappang 43.48 214 *e*P **P 00 12 00.5 -0.2**
comp=Z,5.7nm,1.0s
KSM Kuching 43.49 231 *e*P **P 00 12 01.2 +0.3**
comp=Z,24nm,0.8s
WMQ Urumqi 43.53 301 P **P 00 12 02.7 +1.6**
WMQ pP **pP 00 12 15.0 +2.5**
WMQ sP **sP 00 12 20.4 +3.1**
WMQ PP **PcP 00 13 46.3 -2.1**
WMQ S **S 00 18 27.7 +0.4**
WMQ pmax pmax
comp=Z,21nm,1.5s
WMQ pmax pmax
comp=Z,210nm,6.0s
WMQ LR LR
comp=N,930nm,14.0s
WMQ LR LR
comp=E,280nm,18.0s
WMQ LR LR
comp=Z,500nm,22.2s
WMQ Urumqi 43.53 301 P **P 00 12 02.2 +1.1**
WMQ pP **pP 00 12 14.1 +1.6**
WMQ sP **sP 00 12 19.9 +2.6**
WMQ PP **PP 00 13 45.6 +2.9**
WMQ PMZ
comp=Z,34nm,0.2s
WMQ PMZ
comp=Z,65nm,4.4s
WMQ LN
comp=Z,910nm,15.2s
WMQ LE
comp=Z,230nm,16.4s
WMQ LZ
comp=Z,310nm,22.0s
LSA Lhasa 43.58 280 P **P 00 12 01.6 -0.5**
LSA Lhasa 43.58 280 *e*P **P 00 12 00.9 -1.2**
LSA pmax pmax
comp=Z,6.0nm,0.4s
LSA Lhasa 43.58 280 *e*P **P 00 12 00.9 -1.2**
comp=Z,5.7nm,0.4s
STKI Sintang 43.82 228 P **P 00 12 03.5 -0.1**
ZAA0 Zalesovo Array 45.33 315 *e*P **P 00 12 14.8 -0.4**
ZAA0 *e*PcP **PcP 00 13 54.1 -0.1**
ZAA0 *e*PP **PP 00 14 06.7 +5.2**
ZALV Zalesovo Beam 45.33 315 P **P 00 12 15.3 +0.1**
comp=Z,4.6nm,0.6s,baz=104,slow=6.7,SNR=14
ZALV PcP **PcP 00 13 54.2 0.0**
comp=Z,7.1nm,0.7s,baz=94,slow=3.5,SNR=7.0
ZALV Zalesovo Beam 45.33 315 P **P 00 12 15.3 +0.1**
ZALV 00 13 54.2
ZALV pmax pmax
comp=Z,5.0nm,0.6s
NVS Novosibirsk 46.30 317 ⇓*i*P **P 00 12 22.8 -0.1**
NVS *e* 00 12 31.1
NVS pmax pmax
comp=E,24nm,1.2s
NVS pmax pmax
comp=Z,34nm,1.2s
MK01 Makanchi Array 47.07 305 *e*P **P 00 12 29.2 +0.2**
MK31 Makanchi Array 47.07 306 *i*P **P 00 12 29.0 -0.1**
MK31 pmax pmax
comp=Z,17nm,0.7s
MK31 Makanchi Array 47.07 306 *e*P **P 00 12 29.9 +0.8**
MKAR Makanchi Array 47.07 306 P **P 00 12 29.4 +0.4**
comp=Z,9.6nm,0.5s,baz=90,slow=9.8,SNR=153
MKAR PcP **PcP 00 14 01.1 +0.6**
comp=Z,2.3nm,0.7s,baz=91,slow=4.3,SNR=2.5
MKAR Makanchi Array 47.07 306 *e*P **P 00 12 29.3 +0.2**
MKAR pmax pmax
comp=Z,10.0nm,0.5s
TAPN Taplejung 47.21 278 *e*P **P 00 12 30.6 -0.1**
comp=Z,45nm,0.9s
KULM Kulim 47.64 244 *e*P **P 00 12 34.6 +0.9**
comp=Z,18nm,0.8s
ODAN Odare 47.65 278 *e*P **P 00 12 33.9 -0.2**
comp=Z,69nm,0.9s
IPM Ipoh 47.88 243 *e*P **P 00 12 32.6 -3.1**
comp=Z,38nm,1.2s
RAMN Ramite 48.27 278 *e*P **P 00 12 38.6 -0.3**
comp=Z,201nm,0.9s
SRBI Singaraja 48.35 217 P **P 00 12 39.6 +0.4**
comp=Z,96nm,0.8s
JIRN Jiri 48.36 279 *e*P **P 00 12 40.0 +0.3**
comp=Z,169nm,1.0s
GUN Gumba 48.53 280 *e*P **P 00 12 41.1 +0.1**
comp=Z,101nm,0.9s
ABJI Asem Bagus 48.61 219 P **P 00 12 41.4 +0.2**
comp=Z,54nm,0.8s
DSRI Dabo 48.76 235 P P 00 12 46.5 +4.1
PKI Pulchoki 49.04 280 *e*P **P 00 12 44.6 -0.3**
comp=Z,64nm,1.1s
PKIN Phulchoki 49.05 280 *e*P **P 00 12 44.5 -0.4**
comp=Z,15nm,0.5s
KKN Kakani 49.07 280 *e*P **P 00 12 44.9 -0.1**
comp=Z,86nm,1.0s
TBJI Tambak Boyo 49.10 222 P **P 00 12 45.7 +0.8**
comp=Z,141nm,1.3s
KURK Kurchatov 49.16 311 P **P 00 12 44.9 -0.2**
KURK pmax pmax
comp=Z,28nm,0.9s
KURK Kurchatov 49.16 311 *e*P **P 00 12 44.3 -0.8**
comp=Z,53nm,0.8s
OHAK Old Harbor 49.24 40 *e*P **P 00 12 45.7 +0.2**
DMN Daman 49.28 280 *e*P **P 00 12 46.5 -0.1**
comp=Z,63nm,1.1s
UWJI Ujung Watu 49.29 223 P **P 00 12 48.6 +2.2**
comp=Z,104nm,1.3s
GKN Gorkha 49.52 280 *e*P **P 00 12 48.6 +0.2**
comp=Z,44nm,0.5s
KDAK Kodiak Island 49.63 40 *e*P **P 00 12 49.0 +0.5**
KDAK pmax pmax
comp=Z,13nm,0.8s
KDAK Kodiak Island 49.63 40 *e*P **P 00 12 49.0 +0.5**
comp=Z,13nm,0.8s
IM04 Indian Mountai 49.75 29 *e*P **P 00 12 49.5 +0.1**
PPLA Purkeypile 50.07 33 *e*P **P 00 12 52.5 +0.5**
comp=Z,14nm,1.4s
PWJI Pagerwojo 50.11 221 P **P 00 12 51.5 -1.2**
comp=Z,100nm,0.7s
CAST Castle Rocks 50.16 32 *e*P **P 00 12 53.8 +1.2**
comp=Z,6.1nm,1.3s
KOLN Koldanda 50.47 281 *e*P **P 00 12 55.8 +0.2**
comp=Z,15nm,0.3s
MLY Manley 50.89 30 *e*P **P 00 12 58.9 +0.8**
comp=Z,12nm,1.6s
KPJI Karang Pucung 51.20 225 P **P 00 13 00.7 -0.1**
comp=Z,158nm,0.9s,comp=Z,4μm
SDSI Sungai Dareh 51.28 237 P **P 00 13 01.2 -0.3**
comp=Z,23nm,1.1s,comp=Z,28μm
MNSI Mandailing Nat 51.41 240 P **P 00 13 03.0 +0.5**
comp=Z,36nm,0.6s
LEM Lembang 51.58 226 P **P 00 13 04.6 +0.6**
comp=Z,275nm,0.9s
KLSI 51.76 231 P **P 00 13 05.7 +0.6**
comp=Z,178nm,0.9s
KLI Kotabumi 51.81 231 P **P 00 13 06.1 +0.6**
comp=Z,110nm,0.7s
LHSI Lahat 51.92 233 P **P 00 13 06.7 +0.4**
comp=Z,123nm,0.9s
MDM Murphy Dome 51.95 30 *e*P **P 00 13 06.8 +0.9**
comp=Z,8.6nm,1.1s
SBJI Serang 51.95 228 P **P 00 13 07.1 +0.6**
comp=Z,84nm,1.2s
MDSI Maura Dua 51.97 232 P **P 00 13 06.1 -0.6**
comp=Z,126nm,1.0s
SCM Sheep Creek Mo 52.29 34 *e*P **P 00 13 09.2 +0.6**
SCM pmax pmax
comp=Z,14nm,1.0s
SCM Sheep Creek Mo 52.29 34 *e*P **P 00 13 09.2 +0.6**
comp=Z,14nm,1.0s
TKM2 Tokmak 2 52.38 302 P **P 00 13 10.8 +1.1**
SNR=11
TKM2 Tokmak 2 52.38 302 *e*P **P 00 13 10.8 +1.1**
TKM2 pmax pmax
comp=Z,56nm,1.8s
TKM2 Tokmak 2 52.38 302 *e*P **P 00 13 10.8 +1.1**
comp=Z,56nm,1.8s
HDA Harding Lake 52.48 31 *e*P **P 00 13 10.1 +0.2**
comp=Z,36nm,2.1s
IL1 Eielson Array 52.52 31 *e*P **P 00 13 09.4 -0.7**
ILAR Eielson Array 52.52 31 P **P 00 13 09.5 -0.6**
comp=Z,1.5nm,0.8s,baz=259,slow=6.0,SNR=12
ILAR Eielson Array 52.52 31 P **P 00 13 09.5 -0.6**
ILAR pmax pmax
comp=Z,2.0nm,0.9s
KASI Kota Agung 52.54 230 P **P 00 13 09.7 -1.2**
comp=Z,68nm,1.1s
GSI Gunungsitoli 52.55 243 P **P 00 13 11.0 -0.1**
comp=Z,135nm,1.0s
MNAI Manna 52.69 233 P P 00 13 08.7 -3.3
comp=Z,331nm,1.4s
KZA Kyzart 52.82 301 P **P 00 13 14.4 +1.1**
SNR=9.7
CTA Charters Tower 52.88 175 P **P 00 13 10.6 -2.7**
comp=Z,2.4nm,0.6s,baz=22,slow=13,SNR=3.5
CTA Charters Tower 52.88 175 P **P 00 13 10.6 -2.7**
CTA pmax pmax
comp=Z,2.0nm,0.6s
KBK Karagaybulak 52.91 301 P **P 00 13 14.4 +0.9**
SNR=5.8
KSH Kashi 52.92 297 P P 00 13 17.9 +4.3
KSH *e*pP pP 00 13 30.8 +5.5
KSH sP sP 00 13 35.9 +5.9
KSH PcP **PcP 00 14 24.0 +1.8**
KSH PP PP 00 15 19.9 +6.6
KSH PcS **PcS 00 18 24.6 +3.5**
KSH S **S 00 20 44.7 +4.6**
KSH sS sS 00 21 04.4 +5.0
KSH PMZ
comp=Z,15nm,0.8s
KSH PMZ
comp=Z,80nm,5.7s
KSH LN
comp=Z,320nm,13.8s
KSH LE
comp=Z,600nm,14.5s
KSH LZ
comp=Z,650nm,17.4s
USP Ospenovka 53.09 302 P **P 00 13 15.4 +0.6**
SNR=5.4
FRU Bishkek 53.10 302 *e*P **P 00 13 14.0 -0.8**
FRU *e* 00 13 26.0
WRAB Tennant Creek 53.17 190 *i*P **P 00 13 16.7 +1.3**
WRAB pmax pmax
comp=Z,14nm,0.7s
WRAB Tennant Creek 53.17 190 *e*P **P 00 13 13.8 -1.6**
comp=Z,12nm,0.6s
WRA Warramunga Arr 53.18 190 P **P 00 13 14.2 -1.2**
comp=Z,12nm,0.7s,baz=7.6,slow=7.9,SNR=19
WRA Warramunga Arr 53.18 190 P **P 00 13 14.3 -1.2**
WRA pmax pmax
comp=Z,12nm,0.7s
AAK Ala-Archa 53.24 301 *d i*P **P 00 13 15.8 -0.2**
AAK pmax pmax
comp=Z,26nm,1.7s
AAK Ala-Archa 53.24 301 *e*P **P 00 13 16.8 +0.8**
comp=Z,6.1nm,0.9s
BMRM Bremner River 53.63 35 *e*P **P 00 13 19.4 +1.0**
comp=Z,12nm,0.9s
EKS2 Erkin-Say 53.74 302 *e*P **P 00 13 20.5 +0.8**
EKS2 pmax pmax
comp=Z,7.0nm,1.3s
EKS2 Erkin-Say 53.74 302 *e*P **P 00 13 20.5 +0.8**
comp=Z,7.3nm,1.3s
CHLP Challavanipeta 53.90 270 *e*P **P 00 13 21.6 +0.7**
CHLP IAmb IAmb 00 13 22.6
comp=Z,28nm,1.0s
AML Almayashu 53.93 301 P **P 00 13 22.5 +1.1**
SNR=14
BVA0 Borovoye Array 53.97 315 P **P 00 13 19.8 -1.2**
BVA0 pmax pmax
comp=Z,26nm,1.1s
BRVK Borovoye 54.03 315 *d i*P **P 00 13 21.4 0.0**
BRVK pmax pmax
comp=Z,21nm,1.2s
BRVK Borovoye 54.03 315 *e*P **P 00 13 21.6 +0.2**
comp=Z,19nm,1.1s
NDI New Delhi 55.37 284 *e*P **P 00 13 32.0 +0.5**
KK31 Karatay Array 55.95 303 *i*P **P 00 13 35.6 +0.1**
KK31 pmax pmax
comp=Z,22nm,0.9s
KKAR Karatay Array 55.95 303 *e*P **P 00 13 35.6 +0.1**
KKAR Karatay Array 55.95 303 *e*P **P 00 13 35.6 +0.1**
PVM Polavaram 56.53 270 *e*P **P 00 13 39.9 0.0**
PVM IAmb IAmb 00 13 41.0
comp=Z,21nm,0.8s
AS01 Alice Springs 56.90 189 *e*P **P 00 13 41.1 -1.1**
AS31 Alice Springs 56.90 189 *e*P **P 00 13 42.4 +0.1**
ASAR Alice Springs 56.90 189 P **P 00 13 41.5 -0.8**
comp=Z,2.8nm,0.5s,baz=13,slow=8.0,SNR=32
ASAR Alice Springs 56.90 189 P **P 00 13 41.5 -0.8**
ASAR pmax pmax
comp=Z,3.0nm,0.5s
HYT Haines Junctio 57.10 35 *e*P **P 00 13 44.8 +1.3**
INK Inuvik 57.64 26 P **P 00 13 47.2 +0.2**
comp=Z,2.6nm,0.3s,baz=286,slow=8.1,SNR=7.2
INK Inuvik 57.64 26 P **P 00 13 47.2 +0.2**
INK pmax pmax
comp=Z,3.0nm,0.3s
INK Inuvik 57.64 26 *e*P **P 00 13 48.2 +1.3**
comp=Z,6.2nm,0.8s
RPR Rampur 57.74 273 *e*P **P 00 13 48.1 -0.4**
RPR IAmb IAmb 00 13 49.7
comp=Z,43nm,0.9s
MBWA Marble Bar 58.03 205 *e*P **P 00 13 50.6 +0.4**
comp=Z,126nm,1.9s
DZET Dzherino 58.44 298 P **P 00 13 53.6 +0.4**
DZET pmax pmax
comp=Z,23nm,0.5s
SRSP Sriramsagar 58.51 273 *e*P **P 00 13 53.3 -0.6**
SRSP IAmb IAmb 00 13 55.5
comp=Z,58nm,1.0s
ADKI Addanki 58.60 269 *e*P **P 00 13 54.1 -0.4**
ADKI *e* 00 13 56.3
ADKI IAmb IAmb 00 13 57.8
comp=Z,27nm,1.1s
SVE Sverdlovsk 58.78 320 *ce*P **P 00 13 55.5 +0.4**
SVE pmax pmax
comp=Z,22nm,1.3s
NJS Nagarjunasagar 58.81 270 *e*P **P 00 13 55.6 -0.4**
NJS IAmb IAmb 00 13 57.2
comp=Z,48nm,1.2s
HYB Hyderabad 59.04 271 *i*P **P 00 13 57.0 -0.6**
HYBB Hyderabad (bro 59.04 272 *e*P **P 00 13 57.3 -0.3**
HYBB IAmb IAmb 00 13 58.5
comp=Z,44nm,1.1s
SRLM Srisailam 59.38 270 *e*P **P 00 13 59.3 -0.6**
SRLM IAmb IAmb 00 14 01.6
comp=Z,39nm,1.2s
RCLA Racherla 59.64 269 *e*P **P 00 14 01.6 -0.2**
RCLA IAmb IAmb 00 14 02.5
comp=Z,24nm,1.1s
KBL Kabul 59.73 294 *e*P **P 00 14 02.6 +0.2**
KBL pmax pmax
comp=Z,7.0nm,0.6s
KBL Kabul 59.73 294 *e*P **P 00 14 02.6 +0.2**
comp=Z,7.4nm,0.6s
SKHT Srikalahasti 59.85 267 *e*P **P 00 14 03.5 +0.4**
SKHT IAmb IAmb 00 14 05.1
comp=Z,51nm,0.9s
ARU Arti 59.98 320 *d i*P **P 00 14 03.4 -0.1**
ARU 00 14 45.5
ARU S **S 00 22 15.3 +2.4**
ARU SS **SS 00 26 12.8 +3.5**
ARU pmax pmax
comp=Z,39nm,1.2s
ARU Arti 59.98 320 *e*P **P 00 14 03.0 -0.5**
comp=Z,23nm,0.6s
KLRI Killari 60.37 273 *e*P **P 00 14 05.9 -0.9**
KLRI IAmb IAmb 00 14 08.3
comp=Z,46nm,0.7s
AB31 Akbulak array 61.24 312 P **P 00 14 11.8 -0.3**
AB31 pmax pmax
comp=Z,19nm,0.7s
ABKAR Akbulak array 61.24 312 *e*P **P 00 14 11.6 -0.5**
comp=Z,12nm,0.6s
URV Uravakonda 61.31 270 *e*P **P 00 14 13.1 -0.1**
URV IAmb IAmb 00 14 15.1
comp=Z,56nm,1.3s
STKA Stephens Creek 64.50 181 P **P 00 14 33.5 -0.4**
comp=Z,1.2nm,0.5s,baz=278,slow=9.3,SNR=3.4
STKA Stephens Creek 64.50 181 P **P 00 14 33.5 -0.4**
STKA pmax pmax
comp=Z,1.0nm,0.5s
PRGR Permogore 64.64 328 ⇓*i*P **P 00 14 33.4 -1.1**
PRGR pmax pmax
comp=Z,19nm,0.9s
SPITS Spitsbergen Ar 64.66 349 P **P 00 14 35.0 +0.5**
comp=Z,4.5nm,0.9s,baz=76,slow=7.0,SNR=8.4
SPITS Spitsbergen Ar 64.66 349 P **P 00 14 35.0 +0.5**
SPITS pmax pmax
comp=Z,5.0nm,0.9s
RES Resolute Bay 66.32 14 P **P 00 14 45.4 +0.2**
comp=Z,11nm,0.8s,baz=337,slow=4.8,SNR=9.1
RES Resolute Bay 66.32 14 P **P 00 14 45.4 +0.2**
RES pmax pmax
comp=Z,11nm,0.8s
TMCR Tamitsa 66.72 332 *e*P **P 00 14 46.2 -1.6**
TMCR pmax pmax
comp=Z,28nm,1.3s
YKA Yellowknife Ar 66.91 29 P **P 00 14 48.8 -0.3**
comp=Z,5.4nm,0.9s,baz=295,slow=6.2,SNR=25
YKA Yellowknife Ar 66.91 29 P **P 00 14 48.8 -0.3**
YKA pmax pmax
comp=Z,5.0nm,0.9s
YKB5 Yellowknife Ar 66.91 29 *e*P **P 00 14 48.1 -1.0**
KLMR Klimovskoe 67.65 329 *e*P **P 00 14 52.7 -1.1**

KLMR pmax pmax
comp=Z,12nm,0.7s
ARCES ARCESS Array B 68.09 340 P **P** **00 14 56.9 +0.4**
comp=Z,4.3nm,0.7s,baz=60,slow=7.2,SNR=20
ARCES ARCESS Array B 68.09 340 P **P** **00 14 56.9 +0.4**
ARCES pmax pmax
comp=Z,4.0nm,0.7s
NWAO Narrogin (SRO) 69.72 202 P **P** **00 15 06.7 -0.3**
comp=Z,4.3nm,0.7s,baz=329,slow=9.8,SNR=3.8
NWAO Narrogin (SRO) 69.72 202 P **P** **00 15 06.7 -0.3**
NWAO pmax pmax
comp=Z,4.0nm,0.7s
DAG Danmarks Havn 69.88 355 *i* P **P** **00 15 07.0 -0.5**
comp=Z,7.7nm,1.0s
DAG Danmarks Havn 69.88 355 *i* P **P** **00 15 07.0 -0.5**
DAG pmax pmax
comp=Z,8.0nm,1.0s
OBN Obninsk 71.86 324 P **P** **00 15 19.9 +0.1**
comp=Z,12nm,0.7s,baz=9.5,slow=0.6,SNR=8.8
OBN Obninsk 71.86 324 *d i* P **P** **00 15 19.7 -0.1**
OBN *i* 00 15 36.4
OBN *i* 00 17 56.4
OBN pmax pmax
comp=Z,33nm,1.2s
OBN MLR MLR
comp=Z,774nm,19.0s
OBN Obninsk 71.86 324 *e*P **P** **00 15 19.9 +0.1**
comp=Z,56nm,1.5s
LPSR Galich'ya Gora 71.97 321 *e*P **P** **00 15 20.4 -0.1**
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR pmax pmax
comp=N,3.0nm,0.6s
LPSR pmax pmax
comp=E,8.0nm,0.9s
RAO Raoul Island 72.40 144 P **P** **00 15 22.8 -0.5**
comp=E,202nm,0.4s,baz=287,slow=19,SNR=2.4
RAO Raoul Island 72.40 144 P **P** **00 15 22.8 -0.5**
RAO pmax pmax
comp=Z,202nm,0.4s
NEW Newport 72.47 44 P **P** **00 15 23.6 -0.2**
comp=Z,3.0nm,0.8s,baz=294,slow=8.0,SNR=3.6
NEW Newport 72.47 44 P **P** **00 15 23.6 -0.2**
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 72.47 44 ⇑P **P** **00 15 24.5 +0.7**
baz=72
VSR Storozhevoye 72.56 320 *e*P **P** **00 15 23.7 -0.4**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,8.0nm,0.8s
VORD Divnogorie 72.62 320 *e*P **P** **00 15 24.1 -0.3**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=N,10.0nm,0.4s
VORD pmax pmax
comp=E,5.0nm,0.4s
FIA1 FINESS Array S 72.80 333 *e*P **P** **00 15 25.1 -0.2**
FINES FINESS Array B 72.80 333 P **P** **00 15 25.4 +0.2**
comp=E,12nm,0.8s,baz=65,slow=5.5,SNR=54
FINES FINESS Array B 72.80 333 P **P** **00 15 25.5 +0.2**
FINES pmax pmax
comp=Z,12nm,0.8s
DGRG David-gareji 73.77 309 P **P** **00 15 32.8 +1.2**
DGRG David-gareji 73.77 309 P **P** **00 15 32.7 +1.2**
NCK Nalchik 73.89 312 *e*P **P** **00 15 32.4 +0.3**
TBLG Delisi 74.04 310 P **P** **00 15 33.4 +0.3**
TBLG Delisi 74.04 310 P **P** **00 15 33.4 +0.3**
ZEI Tsey 74.05 311 *e*P P 00 15 30.0 -3.3
ZEI pmax pmax
comp=Z,5.0nm,0.3s
KIV Kislovodsk 74.22 312 *e*P **P** **00 15 35.0 +0.9**
KIV pmax pmax
comp=Z,34nm,1.0s
KIV MLR MLR
comp=Z,1μm,17.0s
KIV Kislovodsk 74.22 312 *e*P **P** **00 15 35.1 +0.9**
comp=Z,32nm,1.0s
VSU Vasula 74.39 331 *e*P **P** **00 15 34.8 +0.1**
VSU pmax pmax
comp=Z,94nm,1.2s
ONI Oni 74.44 311 P **P** **00 15 36.7 +1.2**
ONI Oni 74.44 311 P **P** **00 15 36.6 +1.2**
YBMT Yellow Bay 74.47 43 *e*P **P** **00 15 33.5 -2.1**
SUMG Summit 74.74 0 *i* P **P** **00 15 37.9 +0.9**
comp=Z,5.0nm,0.8s
SUMG Summit 74.74 0 *i* P **P** **00 15 37.9 +0.9**
SUMG pmax pmax
comp=Z,5.0nm,0.8s
SUMG Summit 74.74 0 *e*P **P** **00 15 38.1 +1.1**
comp=Z,119nm,3.0s
GNI Garni 74.83 308 *d i* P **P** **00 15 38.4 +0.5**
GNI pmax pmax
comp=Z,21nm,1.2s
GNI Garni 74.83 308 *e*P **P** **00 15 39.5 +1.6**
comp=Z,12nm,0.9s
SLMT Seeley Lake 75.10 43 *e*P **P** **00 15 39.8 +0.5**
KARS Kars 75.68 309 P P 00 15 33.9 -8.8
LRM Limekiln Ridge 76.48 44 *e*P **P** **00 15 48.0 +0.8**
NV01 Mina Array Sit 76.76 53 *e*P **P** **00 15 49.3 +0.3**
NVAR Mina Array Bea 76.76 53 P **P** **00 15 49.4 +0.4**
comp=Z,0.6nm,0.5s,baz=294,slow=5.6,SNR=6.3
EGMT Eagleton 76.77 41 ⇑P **P** **00 15 49.2 +0.5**
baz=77
EGMT Eagleton 76.77 41 *e*P **P** **00 15 50.2 +1.5**
comp=Z,27nm,1.6s
A19A Klindworth Far 76.81 40 ⇑P **P** **00 15 49.7 +0.9**
baz=77,SNR=11
ANN Anapa 76.97 315 *e*P P 00 15 44.4 -5.3
ANN *e**PP PcP 00 15 54.8 -5.8
ANN *eS* S 00 25 27.0 -8.0
ANN pmax pmax
comp=Z,74nm,1.3s
ANN MLR MLR
comp=Z,934nm,20.0s
ANN MLR MLR
comp=E,358nm,20.0s
ANN MLR MLR
comp=N,393nm,20.0s
B19A Brinkman Farms 76.97 40 ⇓P **P** **00 15 49.9 +0.2**
baz=77,SNR=12
BOZ Bozeman (W) 77.05 44 ⇓P **P** **00 15 50.8 +0.4**
baz=77
FCC Fort Churchill 77.26 26 *e*P **P** **00 15 50.6 -0.5**
FCC pmax pmax
comp=Z,3.0nm,0.6s
FCC Fort Churchill 77.26 26 *e*P **P** **00 15 50.6 -0.5**
comp=Z,3.2nm,0.6s
A20A Cobblestone Ra 77.27 40 ⇑P **P** **00 15 52.1 +0.6**
baz=77
A21A Bergtoll Ranch 77.74 39 ⇑P **P** **00 15 54.6 +0.5**
baz=78
C20A Veseth Ranch, 77.92 41 ⇓P **P** **00 15 56.0 +0.9**
baz=78,SNR=5.9
B21A Ellsworth Farm 78.03 40 ⇓P **P** **00 15 56.0 +0.3**
baz=78,SNR=5.7
AKASG Malin Array Be 78.03 323 P **P** **00 15 55.4 -0.1**
comp=Z,6.8nm,0.6s,baz=46,slow=5.9,SNR=36
AKASG Malin Array Be 78.03 323 P **P** **00 15 55.4 -0.1**
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AK01 Malin Array Si 78.04 323 *e*P **P** **00 15 55.1 -0.5**
KIEV Kiev 78.05 323 *e*P **P** **00 15 55.5 -0.1**
KIEV pmax pmax
comp=Z,12nm,0.6s
KIEV Kiev 78.05 323 *e*P **P** **00 15 55.5 -0.1**
comp=Z,12nm,0.6s
AK02 Malin Array Si 78.07 323 *e*P **P** **00 15 56.0 +0.3**
AK11 Malin Array Si 78.08 323 *e*P **P** **00 15 56.0 +0.2**
GCMT Greycliff 78.10 43 *e*P P 00 15 52.6 -3.7
HFS Hagfors 78.13 336 P **P** **00 15 55.8 -0.1**
comp=Z,4.7nm,0.5s,baz=77,slow=3.2,SNR=41
HFS Hagfors 78.13 336 P **P** **00 15 55.8 -0.1**
HFS pmax pmax
comp=Z,5.0nm,0.5s
BSC Santa Cruz Isl 78.17 57 ⇓P **P** **00 15 57.4 +0.7**
baz=78
NB2 NORSAR Subarra 78.25 338 P **P** **00 15 56.5 -0.2**
comp=Z,24nm,1.2s,baz=40,slow=5.6
NB2 NORSAR Subarra 78.25 338 P **P** **00 15 56.5 -0.2**
baz=40,slow=5.6
NOA NORSAR Array B 78.25 338 P **P** **00 15 56.8 +0.1**
comp=Z,8.1nm,0.8s,baz=39,slow=5.6,SNR=28
NOA NORSAR Array B 78.25 338 P **P** **00 15 56.8 +0.1**
NOA pmax pmax
comp=Z,8.0nm,0.8s
A22A Carney Farms, 78.27 39 ⇓P **P** **00 15 57.3 +0.3**
baz=78,SNR=8.2
C21A Desert Coulee 78.34 40 ⇑P **P** **00 15 58.3 +0.9**
baz=78
NBO02 NORSAR Array S 78.36 338 *e*P **P** **00 15 57.4 +0.1**
NBO02 *ep*P **PcP** **00 16 06.0 -0.4**
DAC Darwin (Calif) 78.38 54 *e*P **P** **00 16 00.0 +2.0**
DAC pmax pmax
comp=Z,3.0nm,0.8s
DAC Darwin (Calif) 78.38 54 *e*P **P** **00 16 00.0 +2.0**
comp=Z,3.0nm,0.8s
BLG Laguna Peak, P 78.51 57 ⇓P **P** **00 15 59.5 +0.9**
baz=78
HVU Hansel Valley 78.52 48 *e*P **P** **00 16 00.8 +2.1**
HVU pmax pmax
comp=Z,3.0nm,0.9s
HVU Hansel Valley 78.52 48 *e*P **P** **00 16 00.8 +2.1**
comp=Z,3.2nm,0.9s
MPMC Manual Prospec 78.57 54 ⇑P **P** **00 15 59.6 +0.5**
baz=78
STTC Scott Ranch 78.57 56 *e*P **P** **00 15 57.1 -1.9**
RLMT Red Lodge 78.72 43 ⇓P **P** **00 16 00.7 +0.9**
baz=78
SUW Suwalki 78.77 328 *e*P **P** **00 15 59.7 +0.2**
SUW LMZ LR 00 41 48.1
SUW Suwalki 78.77 328 *e*P P **00 15 59.7 +0.2**
SIM Simferopol' 78.83 317 *e*P P 00 16 07.0 +6.9
SIM pmax pmax
comp=Z,16nm,0.7s
A23A Redstone 78.84 38 ⇓P **P** **00 16 00.8 +0.7**
baz=79
C22A Vida 79.05 40 ⇓P **P** **00 16 01.7 +0.4**
baz=79
B23A Brockton 79.08 39 ⇑P **P** **00 16 02.2 +0.8**
baz=79,SNR=11
D22A Cohagen 79.25 40 ⇑P **P** **00 16 03.1 +0.7**
baz=79,SNR=5.1
A24A Westby 79.31 38 ⇓P **P** **00 16 02.9 +0.1**
baz=79
CIS Catalina Islan 79.35 57 ⇑P **P** **00 16 04.4 +1.2**
baz=79
C23A Lambert 79.38 39 ⇑P **P** **00 16 03.4 +0.3**
baz=79,SNR=5.4
D23A Lindsay 79.76 40 ⇓P **P** **00 16 06.2 +1.0**
baz=80
E22A Miles City 79.80 41 ⇑P **P** **00 16 06.4 +0.9**
baz=80
G21A Lodge Grass 79.83 42 ⇓P **P** **00 16 06.4 +0.7**
baz=80
BW06 Boulder Array 79.92 45 *e*P **P** **00 16 05.4 -0.9**
PDAR Pinedale Array 79.92 45 P **P** **00 16 05.9 -0.5**
comp=Z,1.0nm,0.6s,baz=298,slow=3.2,SNR=7.2
J19A Crowheart 79.93 45 ⇑P **P** **00 16 07.0 +0.6**
baz=80
C24A Savage 79.96 39 ⇑P **P** **00 16 07.1 +0.9**
baz=80
MALT Malatya 79.96 309 ⇑*i* P **P** **00 16 08.0 +1.5**
F22A Rosebud 80.03 41 ⇑P **P** **00 16 07.3 +0.6**
baz=80
I20A Worland 80.07 44 ⇑P **P** **00 16 07.7 +0.7**
baz=80
E23A Ismay 80.12 40 ⇑P **P** **00 16 08.0 +0.8**
baz=80,SNR=6.0
D24A Glendive 80.27 40 ⇑P **P** **00 16 08.7 +0.7**
baz=80
H21A Big Horn, Sher 80.29 43 ⇑P **P** **00 16 08.8 +0.6**
baz=80
A26A Wade Farm, Ken 80.34 37 ⇓P **P** **00 16 09.1 +0.8**
baz=80
G22A Birney 80.35 42 ⇓P **P** **00 16 09.2 +0.7**
baz=80
J20A Shoshoni 80.45 44 ⇑P **P** **00 16 09.8 +0.7**
baz=80
FRB Frobisher Bay 80.53 13 P **P** **00 16 08.0 -0.9**
comp=Z,3.2nm,0.5s,baz=351,slow=7.3,SNR=4.9
FRB Frobisher Bay 80.53 13 P **P** **00 16 08.0 -0.9**
FRB pmax pmax
comp=Z,3.0nm,0.5s
F23A Volborg 80.54 41 ⇓P **P** **00 16 10.4 +0.9**
baz=80
PFO Pinyon Flats O 80.61 56 *e*P **P** **00 16 09.2 -0.9**
PFO Pinyon Flats O 80.61 56 ⇑P **P** **00 16 10.6 +0.5**
baz=80
PFO Pinyon Flats O 80.61 56 *e*P **P** **00 16 09.2 -0.9**
I21A Big Trails, Te 80.63 43 ⇑P **P** **00 16 10.8 +0.7**
baz=80
J21A Lysite 80.82 44 ⇑P **P** **00 16 11.6 +0.4**
baz=81
I22A 9 Mile Ranch, 81.05 43 ⇑P **P** **00 16 12.8 +0.5**
baz=81
LVV L'vov 81.16 325 *e*P **P** **00 16 13.5 +0.9**
BC3 Big Chuckawall 81.28 56 ⇓P **P** **00 16 14.6 +0.9**
baz=81
BEL Belsk 81.31 328 *e*P **P** **00 16 14.2 +1.0**
BEL LMZ LR 00 44 39.9
BEL Belsk 81.31 328 *e*P **P** **00 16 14.3 +1.0**
D26A Manning 81.32 39 ⇓P **P** **00 16 14.6 +1.0**
baz=81
J22A Midwest 81.34 43 ⇓P **P** **00 16 14.5 +0.6**
baz=81,SNR=12
SRU San Rafael Swe 81.45 49 *e*P **P** **00 16 15.4 +0.8**
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU San Rafael Swe 81.45 49 *e*P **P** **00 16 15.4 +0.8**
comp=Z,6.9nm,0.8s
H24A Dirks Ranch, A 81.62 42 ⇑P **P** **00 16 15.7 +0.5**
baz=81
A29A Manning Farm, 81.72 36 ⇓P **P** **00 16 16.4 +0.8**
baz=82
K22A Casper 81.78 44 ⇓P **P** **00 16 16.1 -0.2**
baz=82
K22A Casper 81.78 44 *e*P **P** **00 16 16.9 +0.7**
comp=Z,42nm,2.2s
GKP Gorka Klasztor 81.83 330 *e*P **P** **00 16 16.2 +0.2**
GKP LMZ LR 00 45 42.4
GKP Gorka Klasztor 81.83 330 *e*P **P** **00 16 16.3 +0.2**
N20A Spence Gulch, 81.84 46 ⇑P **P** **00 16 17.4 +0.7**
baz=82,SNR=7.5
KWP Kalwaria Pacla 81.92 325 *e*P **P** **00 16 17.5 +0.9**
KWP LMZ LR 00 40 51.6
KWP Kalwaria Pacla 81.92 325 *e*P **P** **00 16 17.5 +0.9**
F26A Lodgepole 81.95 40 ⇑P **P** **00 16 17.3 +0.4**
baz=82
TESR Tescani 82.00 321 ⇓*i* P **P** **00 16 17.8 +0.7**
BUR08 Bucovina Ar. S 82.02 323 *e*P **P** **00 16 16.7 -0.6**
BUR04 Bucovina Ar. S 82.03 323 *e*P **P** **00 16 17.9 +0.5**
BURAR Bucovina Array 82.03 323 ⇓*i* P **P** **00 16 17.8 +0.5**
CFR Carcaliu 82.05 319 ⇓*i* P **P** **00 16 17.1 -0.2**
A30A Hoort Farm, 82.17 35 ⇑P **P** **00 16 18.7 +0.7**
baz=82
E27A Carson 82.17 39 ⇑P **P** **00 16 18.6 +0.5**
baz=82
BR131 Keskin Array S 82.19 313 *e*P **P** **00 16 17.5 -0.9**
comp=Z,3.9nm,0.6s
BRTR Keskin Array B 82.19 313 P **P** **00 16 18.9 +0.4**
comp=Z,4.9nm,0.6s,baz=122,slow=4.2,SNR=38
BRTR Keskin Array B 82.19 313 *ce*P **P** **00 16 18.8 +0.4**
BRTR pmax pmax
comp=Z,5.0nm,0.6s
O20A White River Ci 82.27 47 ⇓P **P** **00 16 19.6 +0.7**
baz=82
F27A Lemmon 82.29 40 ⇑P **P** **00 16 19.2 +0.6**
baz=82
G26A Maurine 82.35 40 ⇓P **P** **00 16 19.7 +0.7**
baz=82
TIRR Tirgusor 82.36 319 *e*P **P** **00 16 19.2 +0.2**
TIRR pmax pmax
comp=Z,14nm,1.4s
TIRR Tirgusor 82.36 319 ⇑*i* P **P** **00 16 18.9 0.0**
TIRR Tirgusor 82.36 319 *e*P **P** **00 16 19.2 +0.2**
comp=Z,14nm,1.4s
VRI Vrincioaia 82.37 321 ⇑*i* P **P** **00 16 19.7 +0.6**
PLOR Plostina 82.42 321 ⇑*i* P **P** **00 16 20.2 +0.8**
TLB Topalu 82.48 319 ⇑*i* P **P** **00 16 20.4 +0.8**
KOLS Kolonicke sedl 82.61 325 *e*P **P** **00 16 20.7 +0.5**
KOLS pmax pmax
comp=Z,7.0nm,0.9s
KOLS Kolonicke sedl 82.61 325 *e*P **P** **00 16 20.7 +0.5**
ANTO Ankara 82.62 313 *e*P **P** **00 16 20.2 -0.3**
ANTO pmax pmax
comp=Z,14nm,1.1s
ANTO Ankara 82.62 313 *e*P **P** **00 16 20.2 -0.3**
comp=Z,14nm,1.1s
BR231 Keskin MP Arra 82.65 313 *e*P **P** **00 16 19.5 -1.3**
STHS Stebnicka Huta 82.77 326 *e*P **P** **00 16 22.2 +1.1**
STHS pmax pmax
comp=Z,8.0nm,0.9s
STHS Stebnicka Huta 82.77 326 *e*P **P** **00 16 22.2 +1.1**
OJC Ojcow 82.88 327 *e*P **P** **00 16 22.0 +0.4**
OJC LMZ LR 00 45 46.4
OJC Ojcow 82.88 327 *e*P **P** **00 16 22.0 +0.4**
OJC Ojcow 82.88 327 *e*P **P** **00 16 22.2 +0.6**
comp=Z,23nm,1.2s
MSAB Monastry St. A 82.92 319 ⇓*i* P **P** **00 16 23.0 +1.1**
RAYN Ar Rayn 83.00 293 *e*P **P** **00 16 23.1 +0.4**
comp=Z,21nm,1.6s
DOPR Dopca 83.02 321 ⇓*i* P **P** **00 16 24.0 +1.6**
TRPA Tarpa 83.02 324 ⇑*i* P **P** **00 16 23.2 +0.9**
MLR Muntele Rosu 83.03 321 ⇑*i* P **P** **00 16 23.3 +0.6**
D30A Buchanan 83.17 37 ⇑P **P** **00 16 23.8 +0.6**
baz=83
N23A Red Feather La 83.20 45 ⇓P **P** **00 16 25.0 +1.2**
baz=83,SNR=6.3
N23A Red Feather La 83.20 45 *e*P **P** **00 16 25.3 +1.5**
comp=Z,6.5nm,0.8s
NIE Niedzica 83.20 326 *e*P **P** **00 16 24.4 +1.1**
NIE LMZ LR 00 42 15.0
NIE Niedzica 83.20 326 *e*P **P** **00 16 24.4 +1.1**
O22A Kremmling 83.29 46 ⇑P **P** **00 16 24.8 +0.5**
baz=83
G28A Parade 83.40 40 ⇑P **P** **00 16 25.0 +0.6**
baz=83
SULR 83.40 320 ⇓*i* P **P** **00 16 25.0 +0.7**
CJR Cluj-Napoca 83.45 323 ⇑*i* P **P** **00 16 26.1 +1.4**
P22A Eagle 83.51 47 ⇑P **P** **00 16 25.8 +0.5**
baz=83,SNR=8.0
VOIR 83.55 321 ⇑*i* P **P** **00 16 26.1 +0.9**
O23A Lake Granby, G 83.64 46 ⇑P **P** **00 16 26.8 +0.7**
baz=83
KECS Kecovo 83.78 325 *e*P **P** **00 16 27.2 +1.0**
KECS pmax pmax
comp=Z,6.0nm,1.0s
KECS Kecovo 83.78 325 *e*P **P** **00 16 27.2 +1.0**
AGMN Agassiz Nation 83.79 35 ⇑P **P** **00 16 26.6 +0.3**
baz=84
DRGR 83.85 323 ⇓*i* P **P** **00 16 27.5 +0.8**
MVCO Mesa Verde 83.86 49 ⇓P **P** **00 16 27.8 +0.5**
baz=84
OKC Ostrava-Krasne 83.91 327 *e*P **P** **00 16 27.3 +0.4**
OKC *ex* x 00 16 34.8
OKC *ex* x 00 16 38.1
OKC Ostrava-Krasne 83.91 327 *e*P **P** **00 16 27.3 +0.4**
OKC *e* 00 16 38.1
KSP Ksiaz 84.00 329 *e*P **P** **00 16 28.0 +0.7**
KSP LMZ LR 00 45 50.8
KSP Ksiaz 84.00 329 *e*P **P** **00 16 28.0 +0.7**
BSEG Bad Segeberg 84.06 334 *e*P **P** **00 16 27.7 +0.2**
comp=Z,8.0nm,0.9s
214A Organ Pipe Nat 84.07 56 ⇓P **P** **00 16 29.1 +1.0**
baz=84
ISCO Idaho Springs 84.08 46 *e*P **P** **00 16 29.7 +1.3**
ISCO pmax pmax
comp=Z,2.0nm,0.8s
ISCO Idaho Springs 84.08 46 ⇓P **P** **00 16 28.9 +0.5**
baz=84
ISCO Idaho Springs 84.08 46 *e*P **P** **00 16 29.6 +1.3**
comp=Z,2.3nm,0.8s
P23A Jefferson 84.20 46 ⇓P **P** **00 16 30.2 +1.1**
baz=84
LOT Lotru 84.21 322 ⇑*i* P **P** **00 16 29.3 +0.6**
DPC Dobruska-Polom 84.35 329 *i* P **P** **00 16 30.0 +0.8**
DPC Dobruska-Polom 84.35 329 *i* P **P** **00 16 30.0 +0.8**
UPC Upice 84.37 329 *e*P **P** **00 16 29.9 +0.7**
UPC Upice 84.37 329 *e*P **P** **00 16 29.9 +0.7**
PSZ Piszkesteto 84.45 325 *e*P **P** **00 16 30.5 +0.7**
PSZ pmax pmax
comp=Z,35nm,1.0s
PSZ Piszkesteto 84.45 325 ⇓*i* P **P** **00 16 30.3 +0.5**
PSZ Piszkesteto 84.45 325 *e*P **P** **00 16 30.5 +0.7**
comp=Z,35nm,1.0s
SZH Strazhica 84.50 319 *e*P **P** **00 16 29.8 -0.2**
S22A 4UR Ranch, Cre 84.59 48 ⇑P **P** **00 16 31.8 +0.8**
baz=84
S22A 4UR Ranch, Cre 84.59 48 *e*P **P** **00 16 32.3 +1.3**
comp=Z,8.1nm,1.3s
GZR Gura Zlata 84.76 322 ⇓*i* P **P** **00 16 31.8 +0.4**
Q24A Divide 84.88 46 ⇓P **P** **00 16 33.0 +0.6**
baz=85
R23A Moffat 84.94 47 ⇓P **P** **00 16 33.8 +1.0**
baz=85
PVCC Panska Ves 84.97 330 *e*P **P** **00 16 32.9 +0.6**
PVCC *ex* x 00 16 40.3
PVCC Panska Ves 84.97 330 *e*P **P** **00 16 32.9 +0.6**
PVCC *e**PP **pP** **00 16 40.3 -4.3**
BRG Berggiesshubel 84.98 330 *e*P **P** **00 16 32.5 +0.2**
comp=Z,9.2nm,0.8s
comp=N,2μm,21.6s
comp=E,2μm,22.8s
comp=Z,2μm,23.7s
BRG Berggiesshubel 84.98 330 *e*P **P** **00 16 32.4 +0.2**
comp=Z,9.0nm,0.8s
BRG Berggiesshubel 84.98 330 *e*P **P** **00 16 32.5 +0.2**
BRG pmax pmax
comp=Z,9.0nm,0.8s
BRG MLR MLR
comp=N,2μm,21.6s
BRG MLR MLR
comp=E,2μm,22.8s
BRG MLR MLR
comp=Z,2μm,23.7s
VRAC Vranov 84.99 328 P P **00 16 33.0 +0.6**
comp=Z,5.3nm,0.5s,baz=53,slow=4.9,SNR=15
VRAC Vranov 84.99 328 P **P** **00 16 33.0 +0.6**
VRAC pmax pmax
comp=Z,5.0nm,0.5s
CLL Collm 85.04 331 *e*P **P** **00 16 32.6 0.0**
comp=Z,21nm,0.9s
CLL Collm 85.04 331 ⇓*i* P **P** **00 16 32.5 0.0**
comp=Z,21nm,0.9s
CLL *e* 00 16 43.0
CLL *e*PP **PP** **00 19 48.0 -1.1**
CLL Collm 85.04 331 *e*P **P** **00 16 32.5 0.0**
CLL Collm 85.04 331 *e*P **P** **00 16 32.5 0.0**
CSS Prodhromos 85.24 309 *e*P **P** **00 16 33.4 -0.5**
comp=Z,2.6nm,0.8s
GOPC GO Pecny, Ondr 85.34 329 *e*P **P** **00 16 34.4 +0.3**
PRA Prague 85.37 329 *e*P **P** **00 16 34.7 +0.5**
PRA *ex* x 00 16 45.5
PRA Prague 85.37 329 *e*P **P** **00 16 34.7 +0.5**
PRA *e* 00 16 45.5
PRU Pruhonice 85.39 329 *e*P **P** **00 16 34.7 +0.4**
PRU *ex* x 00 16 42.3
PRU *ex* x 00 16 45.4
PRU Pruhonice 85.39 329 *e*P **P** **00 16 34.7 +0.4**
PRU *e* 00 16 45.4
SDCO Great Sand Dun 85.42 47 ⇓P **P** **00 16 35.7 +0.6**
baz=85
TREC Trest 85.49 328 *e*P **P** **00 16 35.3 +0.4**
TREC Trest 85.49 328 *e*P **P** **00 16 35.3 +0.4**
CLZ Clausthal 85.67 332 *e*P **P** **00 16 36.1 +0.3**
comp=Z,21nm,1.3s
TANN Tannenbergstha 85.94 331 *e*P **P** **00 16 37.2 0.0**
comp=Z,7.0nm,1.5s
NKC Novy Kostel 86.08 330 *e*P **P** **00 16 38.7 +0.9**
NKC *ex* x 00 16 47.2
NKC Novy Kostel 86.08 330 *e*P **P** **00 16 38.7 +0.9**
NKC *e**PP **pP** **00 16 47.2 -3.0**
MOX Moxa 86.11 331 *e*P **P** **00 16 38.1 +0.2**
comp=Z,15nm,1.4s
PKSM Moragy 86.27 325 ⇑*i* P **P** **00 16 38.8 0.0**
IBBN Ibbenburen 86.30 334 *e*P **P** **00 16 39.0 +0.2**
comp=Z,22nm,1.0s
R26A Arlington 86.33 46 ⇓P **P** **00 16 39.9 +0.4**
baz=86
CONA Conrad Observa 86.33 327 ⇓*i* PcP **P** **00 16 39.8 +0.6**
comp=Z,11nm,1.2s
VTS Vitosha 86.44 320 *e*P **P** **00 16 37.2 -2.7**
KHC Kasperske Hory 86.44 329 *e*P **P** **00 16 40.0 +0.3**
KHC *ep*P **PcP** **00 16 45.1 +3.0**
KHC *ex* x 00 16 49.2
KHC Kasperske Hory 86.44 329 *e*P **P** **00 16 40.0 +0.3**
KHC *e* 00 16 49.2
ROTZ Rotzenmuhle 86.54 330 *e*P **P** **00 16 40.7 +0.6**
comp=Z,14nm,1.3s
ANMO Albuquerque 86.55 50 P **P** **00 16 39.9 -0.8**
comp=Z,1.1nm,0.8s,baz=267,slow=6.8,SNR=3.8
ANMO Albuquerque 86.55 50 ⇑*i* P **P** **00 16 39.0 -1.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANMO				pmax	pmax		
	comp=Z,11nm,1.7s						
ECSD	EROS Data Cent	86.58	39	⇑P	P	00 16 40.6	+0.2
	baz=86						
GEC2	GERESS Array S	86.61	329	eP	P	00 16 40.3	-0.2
	comp=Z,5.0nm,1.3s						
GERES	GERESS Array B	86.61	329	P	P	00 16 40.5	0.0
	comp=Z,0.7nm,0.5s,baz=30,slow=7.0,SNR=8.9						
GERES	GERESS Array B	86.61	329	P	P	00 16 40.5	0.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WET	Wettzell	86.73	330	eP	P	00 16 41.3	+0.2
	comp=Z,9.0nm,1.5s						
MMB	Musomiste	86.83	319	⇓iP	P	00 16 41.7	0.0
MMB	Musomiste	86.83	319	eP	P	00 16 40.0	-1.7
GRF	Grafenberg Arr	87.01	331	eP	P	00 16 42.8	+0.4
	comp=Z,14nm,1.2s						
GRFO	Grafenberg	87.01	331	eP	P	00 16 43.2	+0.9
GRFO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GRFO	Grafenberg	87.01	331	eP	P	00 16 43.2	+0.9
	comp=Z,7.3nm,0.9s						
MOA	Molln	87.11	328	⇑iPcP	P	00 16 43.4	+0.5
	comp=Z,3.8nm,0.9s						
PERS	Pernice	87.63	327	iP	P	00 16 45.3	-0.1
SOKA	Soboth	87.64	327	⇓iPcP	P	00 16 45.6	+0.1
	comp=Z,10nm,1.5s						
TNS	Taunus Mts	87.70	332	eP	P	00 16 45.8	+0.1
	comp=Z,6.0nm,1.0s						
KBA	Koelnbreinsper	88.10	328	⇓ipP	P	00 16 48.8	+0.9
	comp=Z,3.7nm,0.9s						
VISS	Visnje	88.38	326	iP	P	00 16 48.4	-0.6
BOJS	Bojanci	88.41	326	eP	P	00 16 49.0	-0.2
STU	Stuttgart	88.56	331	eP	P	00 16 49.8	0.0
	comp=Z,15nm,0.8s						
JAVS	Javornik	88.67	327	iP	P	00 16 49.5	-0.9
ABTA	Abfaltersbach	88.72	328	⇑iP	P	00 16 50.0	-0.7
	comp=Z,5.8nm,1.2s						
BFO	Black Forest	89.26	331	eP	P	00 16 52.8	-0.3
	comp=Z,5.0nm,1.1s						
BFO	Black Forest	89.26	331	iP	P	00 16 53.6	+0.5
CDF	Champ du Feu	89.61	332	eP	P	00 16 55.0	+0.2
	comp=Z,3.9nm,0.8s						
CDF	Champ du Feu	89.61	332	eP	P	00 16 55.0	+0.2
CDF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CDF	Champ du Feu	89.61	332	eP	P	00 16 55.0	+0.2
	comp=Z,3.9nm,0.8s						
FUORN	Ofenpass-Fuorn	89.80	329	eP	P	00 16 56.5	+0.5
DAVOX	Davos/Dischmat	89.84	330	P	P	00 16 56.3	+0.2
	comp=Z,3.2nm,0.7s,baz=68,slow=5.2,SNR=5.2						
DAVOX	Davos/Dischmat	89.84	330	P	P	00 16 56.3	+0.2
DAVOX				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SFTF	Sexfontaines	90.65	333	eP	P	00 17 00.3	+0.7
SFTF	Sexfontaines	90.65	333	eP	P	00 17 00.3	+0.7
329A	Wagon Wheel Ra	91.64	50	⇑P	P	00 17 05.0	+0.4
	baz=91						
AQU	L'Aquila	91.65	325	eP	P	00 17 04.6	+0.2
AQU	L'Aquila	91.65	325	eP	P	00 17 04.6	+0.2
TX31	Lajitas Ar. Si	91.91	53	eP	P	00 17 06.2	+0.3
TXAR	Lajitas Array	91.92	53	P	P	00 17 06.3	+0.4
	comp=Z,1.2nm,0.7s,baz=308,slow=3.1,SNR=7.8						
TXAR	Lajitas Array	91.92	53	P	P	00 17 06.3	+0.4
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
Z32A	Haskell	92.03	48	⇓P	P	00 17 06.4	+0.1
	baz=92						
T37A	Cheneyville 18	92.12	42	⇓P	P	00 17 06.5	-0.1
	baz=92						
LPL	La Plagne	92.17	331	eP	P	00 17 06.5	-0.5
	comp=Z,7.7nm,0.7s						
LPL	La Plagne	92.17	331	eP	P	00 17 06.5	-0.5
LPL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LPL	La Plagne	92.17	331	eP	P	00 17 06.5	-0.5
	comp=Z,7.7nm,0.7s						
SSF	Saint Saulge	92.18	333	eP	P	00 17 06.2	-0.5
SSF	Saint Saulge	92.18	333	eP	P	00 17 06.2	-0.5
SSF	Saint Saulge	92.18	333	eP	P	00 17 06.2	-0.5
LPG	La Plagne	92.18	331	eP	P	00 17 06.6	-0.5
LPG	La Plagne	92.18	331	eP	P	00 17 06.6	-0.5
LPG	La Plagne	92.18	331	eP	P	00 17 06.6	-0.5
LDF	La Druitiere	92.18	336	eP	P	00 17 06.6	0.0
LDF	La Druitiere	92.18	336	eP	P	00 17 06.6	0.0
LDF	La Druitiere	92.18	336	eP	P	00 17 06.6	0.0
330A	Mertzon	92.22	50	⇓P	P	00 17 07.3	+0.1
	baz=92						
AVF	Avril sur Loir	92.46	333	eP	P	00 17 07.6	-0.4
	comp=Z,16nm,0.9s						
AVF	Avril sur Loir	92.46	333	eP	P	00 17 07.6	-0.4
AVF				pmax	pmax		
	comp=Z,16nm,0.9s						
AVF	Avril sur Loir	92.46	333	eP	P	00 17 07.6	-0.4
	comp=Z,16nm,0.9s						
GRR	Gorron	92.61	336	eP	P	00 17 08.3	-0.3
	comp=Z,6.6nm,0.6s						
GRR	Gorron	92.61	336	eP	P	00 17 08.3	-0.3
GRR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
GRR	Gorron	92.61	336	eP	P	00 17 08.3	-0.3
	comp=Z,6.6nm,0.6s						
MBDF	Montbardon	92.79	330	eP	P	00 17 09.3	-0.5
MBDF	Montbardon	92.79	330	eP	P	00 17 09.3	-0.5
MBDF	Montbardon	92.79	330	eP	P	00 17 09.3	-0.5
232A	Coleman	92.87	49	⇓P	P	00 17 10.6	+0.3
	baz=93						
530A	J-C Ranch, Com	92.93	51	⇓P	P	00 17 11.1	+0.5
	baz=93						
ORIF	Oris-en-Rattie	93.01	331	eP	P	00 17 10.8	+0.1
	comp=Z,6.9nm,0.7s						
ORIF	Oris-en-Rattie	93.01	331	eP	P	00 17 10.8	+0.1
ORIF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ORIF	Oris-en-Rattie	93.01	331	eP	P	00 17 10.8	+0.1
	comp=Z,6.9nm,0.7s						
X36A	Centrahoma	93.07	45	⇑P	P	00 17 10.7	-0.4
	baz=93						
332A	Millersview	93.15	49	⇑P	P	00 17 12.1	+0.6
	baz=93						
233A	Rising Star	93.26	48	⇑P	P	00 17 12.2	+0.2
	baz=93						
531A	Rocksprings	93.44	51	⇓P	P	00 17 13.1	+0.2
	baz=93						
VIVF	Saint-Julien-l	93.55	331	eP	P	00 17 12.6	-0.5
VIVF	Saint-Julien-l	93.55	331	eP	P	00 17 12.6	-0.5
VIVF	Saint-Julien-l	93.55	331	eP	P	00 17 12.6	-0.5
532A	Rocksprings	93.88	50	⇓P	P	00 17 15.1	+0.2
	baz=94						
334A	Lometa	94.13	48	⇑P	P	00 17 16.2	+0.2
	baz=94						
632A	Uvalde	94.37	51	⇓P	P	00 17 17.1	0.0
	baz=94						
TORD	Torodi Ar. Bea	120.77	314	PKP	PKPdf	00 22 49.2	-0.5
	comp=Z,0.6nm,0.5s,baz=34,slow=1.5,SNR=18						
TORD				PP	PP	00 24 15.4	-1.9
	comp=Z,4.6nm,1.2s,baz=33,slow=6.2,SNR=6.9						
QSPA	South Pole Qui	122.72	180	PKP	PKPdf	00 22 51.7	-0.2
	comp=Z,1.8nm,0.6s,baz=335,slow=1.8,SNR=6.2						
DBIC	Dimbokro	129.80	316	PKP	PKPdf	00 23 06.7	-0.3
	comp=Z,4.4nm,0.9s,baz=191,slow=16,SNR=3.8						
DBIC	Dimbokro	129.80	316	PKIKP	PKPdf	00 23 06.7	-0.3
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SAML	Samuel	146.37	50	eP	PKPdf	00 23 36.9	-0.3
LPAZ	La Paz	147.79	66	PKPbc	PKPbc	00 23 43.5	+0.4
	comp=Z,3.4nm,0.6s,baz=4.3,slow=5.2,SNR=23						
LPAZ	La Paz	147.79	66	PKP2	PKPbc	00 23 43.6	+0.4
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LPAZ	La Paz	147.79	66	ePKPdf	PKPdf	00 23 40.7	+0.5
LPAZ				PKPbc	PKPbc	00 23 43.5	+0.4
LVC	Limon Verde	150.51	78	PKPbc	PKPbc	00 23 49.2	-0.3
	comp=Z,12nm,0.8s,baz=297,slow=4.0,SNR=4.4						
SIV	San Ignacio	152.84	57	PKPbc	PKPbc	00 23 54.2	-0.4
	comp=Z,2.7nm,0.6s,baz=315,slow=16,SNR=7.5						
SIV				PKPab	PKPab	00 24 04.7	-1.0
	comp=Z,4.0nm,0.8s,baz=330,slow=2.5,SNR=8.6						
CFAA	Coronel Fontan	154.08	95	PKPab	PKPab	00 24 07.6	-3.1
	comp=Z,0.4nm,0.6s,baz=202,slow=2.5,SNR=4.4						

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*ISCJB **10** 00:09:11.7±0.4, 6°.31S±0°.06×154°.85E±0°.05, h100km, mb4.2/18, Error ellipse: s-maj=8.6km s-min=7.2km az=7.3*
*NEIC **10** 00:09:11.9±1.2, 6°.29S×154°.84E, h91km±11km, mb4.2/3, Error ellipse: s-maj=10.3km s-min=7.0km az=188.0*
*IDC **10** 00:09:12.7±5.6, 6°.25S×154°.86E, h97km±50km, mb4.0/17, mb1 4.2/18, mb1mx4.1/22, mbtmp4.3/18, Error ellipse: s-maj=20.8km s-min=14.2km az=69.0*
ISC 10 00:09:12.9±0.5**, 6°.30S**±0°.08×**154°.85E**±0°.07**, h100km, n39, σ0s.84**/38**, mb4.2**/18**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.93	122	P	Pn	00 10 39.0	+0.7
HNR				eS	Sn	00 11 52.0	+7.1
HNR	Honiara	5.93	122	eSn	Sn	00 11 44.4	-0.5
PMG	Port Moresby	8.22	247	ePn	Pn	00 11 08.2	-1.3
	124nm,0.8s						
PMG				eSn	Sn	00 12 41.7	+0.9
COEN	Coen	13.78	236	ePn	Pn	00 12 23.5	-0.7
	14nm,1.0s						
DZM	Mont Dzumac	19.27	146	P	Pn	00 13 30.9	-1.0
	1.7nm,0.3s,baz=272,slow=24,SNR=15						
WRAB	Tennant Creek	24.09	234	eP	P	00 14 18.9	-0.5
	6.4nm,0.6s						
WRA	Warramunga Arr	24.10	234	P	P	00 14 20.1	+0.6
	9.3nm,0.8s,baz=57,slow=9.4,SNR=12						
SIJI	Sorong	24.14	282	P	P	00 14 19.7	-0.2
	3.2nm,0.3s,baz=142,slow=19,SNR=3.8						
ASAR	Alice Springs	26.53	227	P	P	00 14 41.4	-0.1
	3.2nm,0.7s,baz=55,slow=8.5,SNR=12						
ASAR				PcP	PcP	00 18 02.8	-1.1
	0.9nm,0.8s,baz=46,slow=2.7,SNR=4.3						
H11S3	WAKE ISLAND Hy	27.27	25	T	T	00 43 20.3	
	baz=203,slow=75,SNR=20						
H11S2	WAKE ISLAND Hy	27.27	25	T	T	00 43 17.1	
	baz=203,slow=75,SNR=15						
H11S1	WAKE ISLAND Hy	27.28	25	T	T	00 43 17.4	
	baz=203,slow=75,SNR=8.0						
STKA	Stephens Creek	28.30	204	P	P	00 14 56.5	-0.7
	2.7nm,0.7s,baz=13,slow=15,SNR=3.4						
URZ	Urewera	37.68	151	P	P	00 16 19.1	+0.5
	5.3nm,0.5s,baz=187,slow=2.6,SNR=5.5						
KSRS	Korea Array	50.27	332	P	P	00 17 58.6	-0.6
	0.7nm,0.3s,baz=154,slow=6.2,SNR=2.8						
KSAR	Wonju Array Be	50.27	332	P	P	00 17 58.6	-0.6
PETK	Petropavlovsk-	59.23	2	P	P	00 19 04.0	+0.3
	3.9nm,0.6s,baz=167,slow=8.1,SNR=3.3						
CMAR	Chiang Mai Arr	60.36	295	P	P	00 19 13.7	+1.6
	7.8nm,0.7s,baz=122,slow=5.5,SNR=22						
SONM	Songino Array	68.68	327	P	P	00 20 05.0	-0.8
	0.7nm,0.6s,baz=126,slow=5.2,SNR=7.6						
VNDA	Vanda	71.27	178	P	P	00 20 21.8	+0.8
	0.9nm,0.7s,baz=322,slow=5.2,SNR=6.1						
VNDA	Vanda	71.27	178	eP	P	00 20 20.5	-0.5
	1.3nm,0.7s						
TAPN	Taplejung	72.93	301	eP	P	00 20 33.9	+1.7
	5.8nm,0.6s						
ODAN	Odare	73.06	300	eP	P	00 20 33.8	+0.9
	11nm,0.6s						
RAMN	Ramite	73.76	300	eP	P	00 20 37.7	+0.6
JIRN	Jiri	74.31	301	eP	P	00 20 41.7	+1.3
	10nm,0.9s						
GUN	Gumba	74.64	301	eP	P	00 20 43.0	+0.7
	14nm,0.7s						
PKI	Pulchoki	74.95	301	eP	P	00 20 44.5	+0.4
	3.0nm,0.4s						
GKN	Gorkha	75.72	301	eP	P	00 20 48.8	+0.5
	6.0nm,0.6s						
KOLN	Koldanda	76.55	300	eP	P	00 20 53.2	+0.2
	6.8nm,0.6s						
ILAR	Eielson Array	82.79	22	P	P	00 21 24.3	-1.4
	0.5nm,0.7s,baz=245,slow=6.5,SNR=4.2						
MK31	Makanchi Array	82.80	319	eP	P	00 21 26.3	+0.2
MKAR	Makanchi Array	82.80	319	P	P	00 21 26.4	+0.3
	2.0nm,0.7s,baz=99,slow=5.8,SNR=23						
ZALV	Zalesovo Beam	83.53	326	P	P	00 21 28.6	-1.1
	1.8nm,0.6s,baz=117,slow=5.5,SNR=6.6						
QSPA	South Pole Qui	83.67	180	P	P	00 21 31.2	+0.8
	5.8nm,0.8s,baz=17,slow=0.6,SNR=54						
QSPA	South Pole Qui	83.67	180	eP	P	00 21 30.8	+0.3
	5.2nm,0.7s						
MAW	Mawson	84.98	203	P	P	00 21 37.5	+0.7
	4.4nm,0.6s,baz=102,slow=6.4,SNR=20						
NVAR	Mina Array Bea	91.41	52	P	P	00 22 08.8	+0.4
	1.6nm,0.9s,baz=248,slow=6.2,SNR=3.6						
YKA	Yellowknife Ar	95.80	28	P	P	00 22 28.5	+0.8
	0.5nm,0.7s,baz=260,slow=4.8,SNR=3.6						
TORD	Torodi Ar. Bea	152.70	286	PKPbc	PKPbc	00 28 58.5	-0.6
	0.8nm,0.7s,baz=81,slow=2.7,SNR=6.8						

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*NOU **10** 00:25:14.2±4.0, 17°.36S×167°.35E, h30km, MD4.1, MS3.8*
*ISCJB **10** 00:25:16.1±0.5, 18°.57S±0°.04×169°.20E±0°.08, h10km, mb4.5/21, Error ellipse: s-maj=11.3km s-min=5.7km az=18.9*
*IDC **10** 00:25:16.9±0.7, 18°.61S×169°.17E, h0km, mb4.4/16, mb1 4.5/17, mb1mx4.5/22, mbtmp4.4/17, ML3.4/1, MS4.1/4, Ms1 4.1/4, ms1mx3.6/30, Error ellipse: s-maj=20.5km s-min=15.5km az=100.0*
*NEIC **10** 00:25:16.3±0.4, 18°.48S×169°.47E, h15km, mb4.6/7, Error ellipse: s-maj=10.2km s-min=9.1km az=203.0*
ISC 10 00:25:16.3±0.5**, 18°.53S**±0°.07×**169°.43E**±0°.08**, h10km, n173, σ1s.98**/144**, mb4.6**/21**, 3C-2D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	3.05	222	eP	Pn	00 26 01.7	-2.8
LIFNC				eS	Sn	00 26 43.2	+2.2
LIFNC				AMP		00 28 31.2	
	comp=Z,1437µm,37.5s						
BAYA	Yate Dam	4.33	213	eP	Pn	00 26 24.1	+1.9
BAYA				eS	Sn	00 27 11.7	-1.1
DZM	Mont Dzumac	4.50	218	Pn	Pn	00 26 23.2	-1.5
	comp=Z,2.0nm,0.3s,baz=90,slow=20,SNR=15						
DZM				Sn	Sn	00 27 16.0	-1.2
	comp=Z,5.6nm,0.3s,baz=270,slow=20,SNR=2.4						
DZM				LR	LR	00 27 55.5	
	comp=Z,2µm,19.2s,baz=0.0,slow=37						
DZM	Mont Dzumac	4.50	218	eP	Pn	00 26 23.2	-1.5
NOUC	Port Laguerre	4.61	219	eP	Pn	00 26 22.1	-4.0
NOUC				AMP		00 27 24.7	
	comp=Z,34nm,15.8s						
MVNO	Noumea	4.66	216	eP	Pn	00 26 28.1	+1.3
MVNO				eS	Sn	00 27 18.6	-2.3
MSVF	Nonsavu	8.23	86	ePn	Pn	00 27 13.2	-2.8
	comp=Z,131nm,1.0s						
HNR	Honiara	12.90	313	ePn	Pn	00 28 18.7	-1.1
RAO	Raoul Island	15.73	135	LR	LR	00 33 29.0	
	comp=Z,534nm,19.9s,baz=249,slow=31						
URZ	Urewera	20.77	163	P	Pn	00 29 59.9	0.0
	comp=Z,9.0nm,0.8s,baz=320,slow=7.1,SNR=4.6						
URZ				LR	LR	00 36 04.8	
	comp=Z,509nm,20.5s,baz=336,slow=31						
URZ	Urewera	20.77	163	ePn	Pn	00 29 59.4	-0.4
	comp=Z,9.1nm,0.6s						
CTA	Charters Tower	21.93	262	P	P	00 30 11.1	+1.0
	comp=Z,4.5nm,0.5s,baz=96,slow=12,SNR=10.0						
CTAO	Charters Tower	21.93	262	ePn	P	00 30 10.2	+0.1
	comp=Z,10nm,0.7s						
RPZ	Rata Peaks	25.15	177	P	P	00 30 42.5	+0.8
	comp=Z,14nm,0.9s,baz=160,slow=12,SNR=2.5						
STKA	Stephens Creek	28.38	237	P	P	00 31 10.6	-0.3
	comp=Z,14nm,0.7s,baz=71,slow=9.3,SNR=27						
STKA				LR	LR	00 41 05.7	
	comp=Z,473nm,20.5s,baz=49,slow=34						
STKA	Stephens Creek	28.38	237	eP	P	00 31 10.5	-0.4
	comp=Z,2.8nm,0.7s						
WRAB	Tennant Creek	33.12	262	eP	P	00 31 51.6	-1.2
	comp=Z,3.7nm,0.6s						
WRA	Warramunga Arr	33.13	262	P	P	00 31 51.5	-1.5
	comp=Z,5.9nm,0.7s,baz=97,slow=8.5,SNR=10.0						
AS31	Alice Springs	33.48	255	eP	P	00 31 55.0	-1.1
AS31				e		00 31 59.7	
ASAR	Alice Springs	33.48	255	P	P	00 31 55.1	-0.9
	comp=Z,68nm,0.5s,baz=84,slow=8.8,SNR=203						
H11S2	WAKE ISLAND Hy	36.88	356	T	T	01 11 28.6	
	baz=181,slow=76						
H11S3	WAKE ISLAND Hy	36.89	356	T	T	01 11 30.0	
	baz=181,slow=76						
H11S1	WAKE ISLAND Hy	36.90	356	T	T	01 11 31.3	
	baz=181,slow=76						
H11N1	WAKE ISLAND Hy	38.09	356	T	T	01 12 59.4	
	baz=181,slow=77						
H11N3	WAKE ISLAND Hy	38.09	356	T	T	01 12 57.7	
	baz=181,slow=77						
H11N2	WAKE ISLAND Hy	38.10	356	T	T	01 12 59.6	
	baz=181,slow=77						
SIJI	Sorong	41.35	291	P	P	00 33 03.5	+0.7
	comp=Z,13nm,0.7s,baz=75,slow=8.8,SNR=7.8						
MBWA	Marble Bar	46.67	258	eP	P	00 33 44.3	-1.2
	comp=Z,8.4nm,0.5s						
KAPI	Kappang	50.28	279	P	P	00 34 13.9	+0.5
	comp=Z,8.0nm,0.8s,baz=242,slow=18,SNR=1.9						
VNDA	Vanda	59.14	182	P	P	00 35 18.6	+1.9
	comp=Z,0.7nm,0.6s,baz=14,slow=11,SNR=4.3						
VNDA	Vanda	59.14	182	eP	P	00 35 17.2	+0.5
SBA	Scott Base	59.37	181	eP	P	00 35 19.4	+1.2
	comp=Z,13nm,1.1s						
MJAR	Matsushiro Arr	62.21	332	P	P	00 35 40.3	+2.1
	comp=Z,1.1nm,0.4s,baz=169,slow=6.3,SNR=5.1						
JNU	Nakatsue	63.20	324	P	P	00 35 48.0	+3.2
	comp=Z,9.4nm,1.0s,baz=131,slow=8.8,SNR=3.9						
KSRS	Korea Array	68.03	325	P	P	00 36 16.9	+1.0
	comp=Z,5.4nm,0.3s,baz=150,slow=5.5,SNR=7.2						
KSAR	Wonju Array Be	68.04	325	P	P	00 36 16.9	+0.9
USRK	Ussuriysk Ar.	71.19	332	P	P	00 36 38.6	+3.3
	comp=Z,2.3nm,0.8s,baz=96,slow=5.8,SNR=4.2						
QSPA	South Pole Qui	71.52	180	eP	P	00 36 36.4	-0.9
	comp=Z,9.3nm,1.0s						
CMAR	Chiang Mai Arr	78.38	294	P	P	00 37 21.4	+3.8
	comp=Z,2.1nm,0.6s,baz=128,slow=4.4,SNR=11						
MAW	Mawson	79.16	202	P	P	00 37 22.9	+1.9
	comp=Z,1.9nm,0.8s,baz=98,slow=10.0,SNR=3.6						
MAW	Mawson	79.16	202	eP	P	00 37 22.3	+1.3
SONM	Songino Array	86.76	323	P	P	00 38 00.7	-0.1
	comp=Z,4.5nm,1.0s,baz=138,slow=3.6,SNR=20						
NVAR	Mina Array Bea	88.19	48	P	P	00 38 10.9	+2.8
	comp=Z,0.5nm,0.5s,baz=230,slow=6.9,SNR=4.6						
ILAR	Eielson Array	89.50	17	P	P	00 38 16.2	+3.0
	comp=Z,0.8nm,0.9s,baz=235,slow=4.6,SNR=5.7						
SNAA	Sanae	89.88	182	P	P	00 38 08.6	-6.7
VNA1	Neumayer--Stat	91.04	181	P	P	00 38 20.2	-0.3
YKA	Yellowknife Ar	99.96	27	P	Pdif	00 39 04.6	+3.5
	comp=Z,0.3nm,0.6s,baz=248,slow=4.1,SNR=3.0						
MKAR	Makanchi Array	101.36	316	P	Pdif	00 39 10.2	+2.4
	comp=Z,0.2nm,0.5s,baz=115,slow=7.3,SNR=3.2						
ARCES	ARCESS Array B	124.43	345	PKP	PKPdf	00 44 16.6	+1.5
	comp=Z,2.8nm,0.9s,baz=66,slow=2.3,SNR=4.2						
ARG	Arkhangelos	141.69	305	eP	PKPdf	00 44 48.5	+0.1
SMTH	Samothraki Isl	142.10	313	eP	PKPdf	00 45 01.0	+12
SMG	Samos	142.20	308	eP	PKPdf	00 44 54.0	+4.7
KAVA	Kavala	142.57	314	eP	PKPdf	00 45 04.5	+15
KARP	Karpathos	142.63	305	eP	PKPdf	00 44 47.5	-2.7
NVR	Nevrokopi	142.85	315	eP	PKPdf	00 44 39.0	-11
SRS	Serrai	143.14	315	eP	PKPbc	00 44 48.5	+0.8
OUR	Ouranopolis	143.23	314	eP	PKPbc	00 44 48.5	+0.6
APE	Apeiranthos	143.40	308	eP	PKPbc	00 44 49.0	+0.4
SOH	Sokhos	143.44	315	eP	PKPab	00 44 44.5	-3.1
PLG	Polygyros	143.58	314	eP	PKPab	00 44 47.0	-1.1
KNT	Kendrikon	143.58	315	eP	PKPdf	00 44 51.5	-0.1
PAIG	Paliouri	143.61	313	eP	PKPab	00 44 48.5	+0.3
CONA	Conrad Observa	143.63	330	⇓iPKPdf	PKPdf	00 44 50.9	-0.7
	comp=Z,5.7nm,1.4s						
HORT	Hortiatis	143.71	315	eP	PKPbc	00 44 50.0	+0.5
THE	Thessaloniki	143.78	315	eP	PKPab	00 44 45.0	-3.8
AOS	Alonnisos	143.79	312	eP	PKPdf	00 44 56.5	+4.5
NPS	Neapolis	143.93	305	eP	PKPdf	00 44 52.5	+0.1
GERES	GERESS Array B	143.95	333	PKhKP	PKPpre	00 44 49.2	
	comp=Z,1.3nm,0.9s,baz=35,slow=3.3,SNR=3.0						
GERES				PKP	PKPdf	00 44 52.8	+0.7
	comp=Z,1.3nm,0.9s,baz=40,slow=3.8,SNR=9.0						
LAST	Lasithi	144.06	305	P	PKPbc	00 44 50.9	+0.2
LAST	Lasithi	144.06	305	eP	PKPdf	00 44 52.5	-0.2
LAST	Lasithi	144.06	305	P	PKPbc	00 44 50.9	+0.2
MRKA	Markates	144.19	311	eP	PKPab	00 44 49.0	-1.5
XOR	Xorichti	144.19	313	P	PKPab	00 44 46.9	-3.6
XOR	Xorichti	144.19	313	eP	PKPab	00 44 47.0	-3.6
XOR	Xorichti	144.19	313	P	PKPab	00 44 46.9	-3.6
NEO	Neokhori	144.20	312	P	PKPab	00 44 49.2	-1.3
NEO	Neokhori	144.20	312	eP	PKPab	00 44 48.5	-2.0
NEO	Neokhori	144.20	312	P	PKPab	00 44 49.2	-1.3
PTL	Penteli	144.26	310	eP	PKPab	00 44 49.5	-1.3
LIT	Litokhoron	144.35	314	eP	PKPab	00 44 47.0	-4.1
MHLO	Agia Marina, M	144.38	308	eP	PKPab	00 44 46.0	-5.2
SMIA	Simia	144.39	312	eP	PKPdf	00 44 52.5	-0.6
ATH	Athens Observa	144.40	310	eP	PKPab	00 44 51.0	-0.2
SIVA	Sivas	144.63	305	P	PKPab	00 44 45.9	-6.3
SIVA	Sivas	144.63	305	eP	PKPab	00 44 45.5	-6.7
SIVA	Sivas	144.63	305	P	PKPab	00 44 45.9	-6.3
VIL2	Platees	144.63	311	eP	PKPbc	00 44 52.5	+0.2
LKR	Lokris	144.64	312	eP	PKPab	00 44 49.5	-2.6
NAIG	Nisos Aigina	144.65	310	eP	PKPab	00 44 52.0	-0.2
FNA	Florina	144.77	316	P	PKPab	00 44 48.5	-4.1
FNA	Florina	144.77	316	eP	PKPdf	00 44 54.0	+0.2
FNA	Florina	144.77	316	P	PKPab	00 44 48.5	-4.1
AXAR	Agios Charalam	144.83	312	eP	PKPab	00 44 49.5	-3.3
SOKA	Soboth	144.91	329	⇑iPKPdf	PKPab	00 44 52.5	-0.5
	comp=Z,9.5nm,1.0s						
LTK	Loutraki	144.92	311	eP	PKPab	00 44 50.5	-2.7
PHP	Peshkopia	144.92	318	P	PKPab	00 44 52.2	-0.9
PHP	Peshkopia	144.92	318	P	PKPab	00 44 52.2	-0.9
THL	Klokotos Trika	144.92	314	eP	PKPab	00 44 52.0	-1.1
DID	Didima	144.93	310	P	PKPab	00 44 49.8	-3.5
DID	Didima	144.93	310	eP	PKPab	00 44 53.0	-0.3
DID	Didima	144.93	310	P	PKPab	00 44 49.8	-3.5
AGG	Agios Georgios	144.95	313	P	PKPab	00 44 50.3	-3.0
AGG	Agios Georgios	144.95	313	eP	PKPab	00 44 53.0	-0.3
AGG	Agios Georgios	144.95	313	P	PKPab	00 44 50.3	-3.0
VAM	Vamos	144.97	306	eP	PKPdf	00 44 55.5	+1.3
KRND	KRANIDI	145.04	309	P	PKPbc	00 44 50.0	-3.6
KRND	KRANIDI	145.04	309	eP	PKPbc	00 44 53.0	-0.6
DSF	Desfina	145.07	311	P	PKPbc	00 44 53.5	-0.3
DSF	Desfina	145.07	311	eP	PKPab	00 44 54.0	+0.2
DSF	Desfina	145.07	311	P	PKPbc	00 44 53.5	-0.3
MAKR	Makrakomi, Fth	145.09	313	P	PKPbc	00 44 50.3	-3.5
MAKR	Makrakomi, Fth	145.09	313	eP	PKPbc	00 44 51.0	-2.8
MAKR	Makrakomi, Fth	145.09	313	P	PKPbc	00 44 50.3	-3.5
NEST	Nestorio	145.17	316	P	PKPbc	00 44 53.1	-1.0
NEST	Nestorio	145.17	316	eP	PKPbc	00 44 54.0	-0.1
KBN	Korca	145.24	316	P	PKPbc	00 44 53.8	-0.5
KBN	Korca	145.24	316	P	PKPbc	00 44 53.8	-0.5
GVD	Gavdhos	145.25	305	eP	PKPdf	00 44 55.5	+0.8
KALE	Kalithea	145.36	312	P	PKPbc	00 44 50.0	-4.7
KALE	Kalithea	145.36	312	eP	PKPbc	00 44 50.5	-4.2
KALE	Kalithea	145.36	312	P	PKPbc	00 44 50.0	-4.7
EVR	Evrytania	145.36	313	P	PKPbc	00 44 52.4	-2.3
EVR	Evrytania	145.36	313	eP	PKPdf	00 44 55.5	+0.6
EVR	Evrytania	145.36	313	P	PKPbc	00 44 52.4	-2.3
GUR	Goura	145.41	311	P	PKPbc	00 44 50.9	-4.0
GUR	Goura	145.41	311	P	PKPbc	00 44 50.9	-4.0
KBA	Koelnbreinsper	145.42	331	⇑iPKiKP	PKiKP	00 44 57.5	-1.3
	comp=Z,12nm,1.1s						
VLI	Veliai	145.46	309	P	PKPbc	00 44 51.5	-3.5
VLI	Veliai	145.46	309	eP	PKPbc	00 44 54.0	-1.0
VLI	Veliai	145.46	309	P	PKPbc	00 44 51.5	-3.5
ANKY	Antikythira Is	145.50	307	P	PKPdf	00 44 53.4	-1.7
ANKY	Antikythira Is	145.50	307	eP	PKPab	00 44 56.0	+0.6
ANKY	Antikythira Is	145.50	307	P	PKPdf	00 44 53.4	-1.7
EFP	Efpalio	145.51	312	P	PKPdf	00 44 54.7	-0.3
EFP	Efpalio	145.51	312	eP	PKPdf	00 44 53.5	-1.5
MYKA	Terra Mystica	145.61	330	⇑iPKPab	PKPdf	00 44 54.6	-0.5
	comp=Z,10.0nm,1.0s						
VLX	Vlachokerasia	145.61	310	P	PKPdf	00 44 55.4	0.0
VLX	Vlachokerasia	145.61	310	eP	PKPab	00 44 56.0	+0.1
VLX	Vlachokerasia	145.61	310	P	PKPdf	00 44 55.4	0.0
JAN	Janina	145.67	314	eP	PKPdf	00 44 54.0	-1.3
DSL	Palaion Diasel	145.75	313	P	PKPdf	00 44 55.7	+0.2
DSL	Palaion Diasel	145.75	313	eP	PKPab	00 44 57.0	+0.7
DSL	Palaion Diasel	145.75	313	P	PKPdf	00 44 55.7	+0.2
DRO	Drossia	145.85	311	P	PKPdf	00 44 54.9	-0.8
DRO	Drossia	145.85	311	eP	PKPab	00 45 00.0	+3.4
PDO	Prodromos	145.94	313	P	PKPdf	00 44 54.7	-1.1
PDO	Prodromos	145.94	313	eP	PKPdf	00 44 54.5	-1.3
RLS	Riolos of Patr	145.98	312	P	PKPdf	00 44 55.6	-0.2
RLS	Riolos of Patr	145.98	312	eP	PKPab	00 44 58.0	+0.9
RLS	Riolos of Patr	145.98	312	P	PKPdf	00 44 55.6	-0.2
ITM	Ithomi	146.02	310	P	PKPdf	00 44 55.7	-0.3
ITM	Ithomi	146.02	310	eP	PKPbc	00 44 57.0	+0.2
ITM	Ithomi	146.02	310	P	PKPdf	00 44 55.7	-0.3
AMT	Artemida-Makis	146.03	311	P	PKPab	00 44 57.6	+0.3
AMT	Artemida-Makis	146.03	311	eP	PKPab	00 44 59.5	+2.2
ABTA	Abfaltersbach	146.05	331	⇓iPKPab	PKPdf	00 44 55.6	-0.3
	comp=Z,12nm,1.2s						
IGT	Igoumenitsa	146.08	315	P	PKPdf	00 44 54.5	-1.5
IGT	Igoumenitsa	146.08	315	eP	PKPbc	00 44 56.5	-0.4
IGT	Igoumenitsa	146.08	315	P	PKPdf	00 44 54.5	-1.5
SGD	Sagiada	146.11	315	P	PKPdf	00 44 56.4	+0.4
SGD	Sagiada	146.11	315	eP	PKPab	00 44 57.5	0.0
LKD2	Lefkada island	146.22	313	P	PKPdf	00 44 55.0	-1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKD2	Lefkada island	146.22	313	eP	PKPdf	00 44 56.5	+0.2
LKD2	Lefkada island	146.22	313	P	PKPdf	00 44 55.0	-1.3
PYL	PYLOS	146.27	309	P	PKPdf	00 44 55.6	-0.8
PYL	PYLOS	146.27	309	eP	PKPbc	00 44 57.5	0.0
PYL	PYLOS	146.27	309	P	PKPdf	00 44 55.6	-0.8
VLS	Valsamata	146.54	312	eP	PKPab	00 45 02.0	+2.7
ZKS	Zakynthos	146.62	311	P	PKPbc	00 44 58.2	-0.3
ZKS	Zakynthos	146.62	311	eP	PKPbc	00 44 58.0	-0.5
TIP	Timpagrande	148.64	317	P	PKPbc	00 45 02.3	-1.8
TIP	Timpagrande	148.64	317	P	PKPbc	00 45 02.3	-1.8
TORD	Torodi Ar. Bea	167.05	247	PKP	PKPdf	00 45 26.0	+2.7
	comp=Z,1.0nm,1.0s,baz=180,slow=1.5,SNR=3.7						
TORD				PKPab	PKPab	00 46 28.2	+0.9
	comp=Z,1.5nm,1.2s,baz=92,slow=3.8,SNR=3.2						

MEX 10 00:29:52.2±0.4, **15°.56N**×**93°.77W**, **h24**km±165km, **MD3.8**, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		1.36	27	iP	Pn	00 30 13.3	-2.5
TGIG				iS	Sn	00 30 29.2	-4.0
CMIG	Matias Romero	1.86	325	iP	Pn	00 30 19.8	-2.9
CMIG				eS	Sn	00 30 42.4	-3.0
HUIG	Huatulco	2.26	276	iP	Pn	00 30 26.2	-2.0
HUIG				iS	Sn	00 30 52.6	-2.7

JMA 10 01:12:02.1, **37°.08N**×**139°.38E**, **h9**km±1km, **M0.6**, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKT	Katashina	0.33	199	S	Sg	01 12 13.3	0.0
JHK	Hiroka	0.34	300	P	Pg	01 12 09.0	+0.2
JHK				S	Sg	01 12 13.4	+0.2

*BJI **10** 01:12:25.4, 47°.63N×153°.27E, h124km, mb4.5/10, mB4.6/5*
*MOS **10** 01:12:27.6±0.9, 47°.97N×152°.57E, h99km, mb4.5/39, Error ellipse: s-maj=8.4km s-min=6.1km az=103.5*
*ISCJB **10** 01:12:28.7±0.3, 47°.78N±0°.04×152°.63E±0°.05, h117km, mb4.4/74, Error ellipse: s-maj=7.1km s-min=3.2km az=142.0*
*SKHL **10** 01:12:29.5±0.2, 47°.93N×152°.56E, h111km±5km, mb4.3/1, msh4.5/1*
*NEIC **10** 01:12:30.7±0.6, 47°.72N×152°.69E, h126km±5km, mb4.4/32, Error ellipse: s-maj=7.6km s-min=3.9km az=143.0*
*IDC **10** 01:12:31.1±2.2, 47°.69N×152°.73E, h131km±20km, mb3.8/22, mb1 4.0/26, mb1mx3.9/31, mbtmp4.2/26, Error ellipse: s-maj=16.5km s-min=10.4km az=139.0*
*SZGRF **10** 01:12:31.1, 48°.98N×151°.43E, h33km, mb4.7, Kuril Islands, Russia*

ISC 10 01:12:30.3±0.5, **47°.89N**±0°.06×**152°.63E**±0°.05, **h117**km, **n361**, σ1s**12**/354, **mb4.4**/84, **22C-11D**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.61	38	ePN	Pn	01 13 14.5	-10
SKR				eS	Sn	01 13 57.2	-9.2
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax	smax		
	comp=N,310nm,0.3s						
SKR				smax	smax		
	comp=E,180nm,0.3s						
SKR	Severo-Kuril's	3.61	38	eP	Pn	01 13 24.0	-0.4
SKR				AMB	AMB	01 13 28.6	
	comp=E,205nm,0.6s						
SKR				eS	Sn	01 14 04.8	-1.6
SKR				A	A	01 14 12.5	
	comp=E,312nm,0.2s						
KUR	Kuril'sk	4.22	233⇓	iPN	Pn	01 13 34.1	+1.5
KUR				eS	Sn	01 14 21.2	+0.2
KUR				pmax	pmax		
	comp=Z,35nm,0.7s						
KUR				pmax	pmax		
	comp=N,23nm,0.1s						
KUR				pmax	pmax		
	comp=E,25nm,0.1s						
KUR				smax	smax		
	comp=E,28nm,0.2s						
KUR				smax	smax		
	comp=N,79nm,0.6s						
KUR	Kuril'sk	4.22	233	eP	Pn	01 13 33.0	+0.4
KUR				AMB	AMB	01 13 38.9	
	comp=N,35nm,0.7s						
KUR				AMB	AMB	01 13 39.7	
	comp=N,60nm,3.2s						
KUR				eS	Sn	01 14 20.6	-0.4
KUR				A	A	01 14 25.9	
	comp=N,139nm,3.5s						
KUR				A	A	01 14 25.9	
	comp=N,365nm,3.5s						
KUR				A	A	01 14 26.9	
	comp=N,28nm,0.2s						
KUR				A	A	01 14 26.9	
	comp=N,79nm,0.2s						
PAU	Pauzhetka	4.50	36	eP	Pn	01 13 36.0	-0.2
PAU				AMB	AMB	01 13 57.0	
	comp=N,194nm,0.7s						
PAU				eS	Sn	01 14 26.0	-1.5
PAU				A	A	01 14 35.5	
	comp=N,290nm,0.4s						
YUK	Yuzh-Kuril'sk	6.09	233d	iPN	Pn	01 13 57.4	-0.4
YUK				eS	Sn	01 15 06.0	-0.1
YUK				pmax	pmax		
	comp=N,54nm,0.4s						
YUK				pmax	pmax		
	comp=E,23nm,0.4s						
YUK				pmax	pmax		
	comp=Z,109nm,0.4s						
YUK				smax	smax		
	comp=N,63nm,0.6s						
YUK				smax	smax		
	comp=E,67nm,0.6s						
YUK	Yuzh-Kuril'sk	6.09	233	eP	Pn	01 13 57.4	-0.4
YUK				AMB	AMB	01 14 03.6	
	comp=E,110nm,0.4s						
YUK				eS	Sn	01 15 04.6	-1.5
YUK				A	A	01 15 10.3	
	comp=E,63nm,0.6s						
YUK				A	A	01 15 10.3	
	comp=E,67nm,0.6s						
PEA0B	Petropavlovsk-	6.14	30	ePn	Pn	01 14 01.3	+2.8
PETK	Petropavlovsk-	6.14	30	P	Pn	01 14 00.9	+2.5
	comp=E,2.4nm,0.3s,baz=180,slow=13,SNR=30						
PETK	Petropavlovsk-	6.14	30	PN	Pn	01 14 01.0	+2.5
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PET	Petropavlovsk	6.42	35	ePN	Pn	01 14 00.6	-1.6
NEM2	Nemuro 2	6.61	229	P	Pn	01 14 01.3	-3.6
NEM2				eS	Sn	01 15 10.1	-8.7
YSS	Yuzh-Sakhalins	6.76	266	ePN	Pn	01 14 04.7	-2.2
YSS	Yuzh-Sakhalins	6.76	266	eP	Pn	01 14 06.2	-0.7
UGL	Uglegorsk	7.12	284	ePN	Pn	01 14 09.5	-2.2
UGL				eS	Sn	01 15 30.4	-0.6
JAK	Akkeshi	7.42	232	P	Pn	01 14 12.2	-3.5
JAK				eS	Sn	01 15 30.7	-7.5
JAR	Ashorobuto	7.72	237	P	Pn	01 14 19.6	-0.3
ASAJ	Asahikawa	7.94	245	P	Pn	01 14 25.0	+2.2
ASAJ	Asahikawa	7.94	245	P	Pn	01 14 23.4	+0.6
	comp=Z,2.1nm,0.3s,baz=81,slow=14,SNR=13						
ASAJ	Asahikawa	7.94	245	PN	Pn	01 14 23.4	+0.6
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	Asahikawa	7.94	245	ePn	Pn	01 14 22.6	-0.2
JOB	Onbets	7.94	234	P	Pn	01 14 20.9	-2.0
JOB				eS	Sn	01 15 45.6	-5.4
JKK2	Kamakawa 2	7.97	243	P	Pn	01 14 24.5	+1.2
JCH	Churui	8.39	234	P	Pn	01 14 26.5	-2.5
JCH				eS	Sn	01 15 54.6	-7.4
MYR	Moyori	8.66	233	erx	rx	01 14 29.3	
ERM	Erimo	8.92	232	ePN	Pn	01 14 34.2	-1.8
ERM	Erimo	8.92	232	eP	Pn	01 14 34.2	-1.8
ERM	Erimo	8.92	232	ePn	Pn	01 14 33.6	-2.4
JNBK	Urakawa-nobuka	8.95	235	P	Pn	01 14 33.0	-3.5
JNBK				eS	Sn	01 16 05.8	-10
JKB	Kayabe	10.18	238	eS	Sn	01 16 35.3	-10
JANG	Nango	10.96	231	P	Pn	01 14 57.2	-6.4
JANG				eS	Sn	01 16 50.2	-14
GRNR	Gornyy	10.96	291	eP	Pn	01 15 01.0	-2.6
JOSM	Okushiri--Mats	10.97	243	P	Pn	01 15 01.5	-2.2
HABR	Khabarovsk	11.75	279	ePN	Pn	01 15 11.9	-2.1
HABR				eS	Sn	01 17 22.5	-0.7
HABR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HABR				pmax	pmax		
	comp=E,4.0nm,0.4s						
HABR				pmax	pmax		
	comp=N,4.0nm,0.6s						
HABR	Khabarovsk	11.75	279	eP	Pn	01 15 11.9	-2.1
EKMR	Ekimchan	13.54	300	erx	rx	01 15 42.5	
KLR	Kul'dur	13.89	283	eP	P	01 15 45.3	-0.9
USRK	Ussuriysk Ar.	14.79	263	P	Pn	01 15 54.4	+1.0
	comp=N,0.4nm,0.3s,baz=74,slow=14,SNR=6.2						
SEY	Seymchan	15.08	360	P	P	01 15 59.9	+0.6
	comp=N,0.8nm,0.3s,baz=179,slow=11,SNR=14						
SEY	Seymchan	15.08	360	eP	Pn	01 15 56.7	-0.2
MAJO	Matsushiro	15.55	228	eP	P	01 16 04.4	-0.3
MAJO				pmax	pmax		
	comp=Z,40nm,2.0s						
MAJO	Matsushiro	15.55	228	eP	Pn	01 16 00.5	-2.5
MAJO	Matsushiro	15.55	228	ePn	P	01 16 04.4	-0.3
	comp=Z,40nm,2.0s						
BMKR	Bomnak	16.32	304	erx	rx	01 16 15.6	
CLNS	Chul'man	19.04	308	eP	Pn	01 16 44.8	-0.2
CLNS				pmax	pmax		
	comp=N,4.0nm,0.6s						
CLNS				pmax	pmax		
	comp=Z,15nm,1.1s						
YAK	Yakutsk	19.19	326	eP	P	01 16 45.2	+0.8
YAK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
YAK	Yakutsk	19.19	326	eP	P	01 16 45.2	+0.8
KSRS	Korea Array	20.86	249	P	P	01 17 02.6	-0.1
	comp=Z,7.7nm,0.9s,baz=53,slow=11,SNR=34						
KSRS	Korea Array	20.86	249	P	P	01 17 02.6	-0.1
KSRS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KSAR	Wonju Array Be	20.89	249	P	P	01 17 02.6	-0.4
KSAR	Wonju Array Be	20.89	249	P	P	01 17 02.6	-0.4
TJN	Taejon	21.88	248	iP	P	01 17 13.6	0.0
JNU	Nakatsue	22.05	236	P	P	01 17 15.8	+0.3
	comp=Z,2.5nm,0.7s,baz=152,slow=5.8,SNR=3.9						
BOD	Bodaibo	25.02	308	eP	P	01 17 42.8	-0.2
BOD				pmax	pmax		
	comp=Z,4.0nm,0.5s						
TIK	Tiksi	26.27	343	eP	P	01 17 53.2	-0.9
TIXI	Tiksi	26.28	343⇓	iP	P	01 17 53.2	-1.0
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.4s						
TIXI	Tiksi	26.28	343	eP	P	01 17 54.6	+0.4
	comp=Z,18nm,1.7s						
HHC	Hu-ho-hao-te	29.90	272	eP	P	01 18 26.7	-0.2
HHC				S	S	01 23 13.2	-2.4
HHC				PMZ			
	comp=Z,11nm,0.7s						
HHC				PMZ			
	comp=Z,55nm,4.6s						
H11N2	WAKE ISLAND Hy	30.38	153	T	T	01 50 19.2	
	baz=340,slow=76,SNR=443						
H11N1	WAKE ISLAND Hy	30.40	153	T	T	01 50 18.4	
	baz=340,slow=76,SNR=259						
H11N3	WAKE ISLAND Hy	30.40	153	T	T	01 50 18.0	
	baz=340,slow=76,SNR=384						
SONM	Songino Array	30.66	287	P	P	01 18 33.9	+0.4
	comp=Z,0.4nm,0.5s,baz=67,slow=7.3,SNR=5.1						
TLY	Talaya	31.38	296	eP	P	01 18 41.3	+1.6
TLY				e		01 19 15.1	
TLY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TLY	Talaya	31.38	296	eP	P	01 18 40.7	+1.1
H11S1	WAKE ISLAND Hy	31.48	154	T	T	01 51 49.6	
	baz=342,slow=76,SNR=869						
H11S3	WAKE ISLAND Hy	31.48	154	T	T	01 51 57.4	
	baz=342,slow=76,SNR=768						
H11S2	WAKE ISLAND Hy	31.49	154	T	T	01 51 44.9	
	baz=342,slow=76,SNR=739						
IM04	Indian Mountai	33.04	37	eP	P	01 18 54.5	+0.5
KTH	Kantishna Hill	34.12	42	eP	P	01 19 03.9	+0.4
	comp=Z,8.1nm,1.1s						
COLD	Coldfoot	34.58	35	eP	P	01 19 07.5	+0.1
MCK	McKinley	35.01	41	eP	P	01 19 11.5	+0.5
MCK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MCK	McKinley	35.01	41	eP	P	01 19 11.5	+0.5
MCK	McKinley	35.01	41	eP	P	01 19 11.5	+0.5
	comp=Z,2.4nm,0.8s						
COLA	College	35.46	39	eP	P	01 19 14.2	-0.6
COLA				pmax	pmax		
	comp=Z,26nm,1.1s						
COLA	College	35.46	39	eP	P	01 19 14.2	-0.6
COLA	College	35.46	39	eP	P	01 19 14.6	-0.2
	comp=Z,7.5nm,0.9s						
ILAR	Eielson Array	35.87	40	P	P	01 19 18.9	+0.5
	comp=Z,2.0nm,0.9s,baz=270,slow=8.8,SNR=18						
ILAR	Eielson Array	35.87	40	P	P	01 19 18.9	+0.5
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
EGAK	Eagle	38.32	39	eP	P	01 19 39.3	+0.3
	comp=Z,2.8nm,0.8s						
GTA	Gaotai	38.48	277	eP	P	01 19 41.6	+0.7
GTA				pP	pP	01 20 10.0	+2.9
GTA				sP	sP	01 20 24.5	+4.1
GTA				PcP	PcP	01 21 52.5	+1.0
GTA				PMZ			
	comp=Z,3.0nm,1.1s						
CD2	Chengdu	40.66	263	eP	P	01 19 57.6	-1.3
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
INK	Inuvik	40.87	33	P	P	01 20 00.5	+0.4
	comp=Z,2.1nm,0.3s,baz=282,slow=4.1,SNR=8.2						
INK	Inuvik	40.87	33	P	P	01 20 00.5	+0.4
INK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAA0	Zalesovo Array	41.68	305	eP	P	01 20 06.8	-0.2
ZALV	Zalesovo Beam	41.68	305	P	P	01 20 07.2	+0.3
	comp=Z,4.2nm,0.5s,baz=61,slow=6.6,SNR=13						
ZALV	Zalesovo Beam	41.68	305	P	P	01 20 07.2	+0.3
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WMQ	Urumqi	44.22	290	eP	P	01 20 29.9	+2.3
WMQ				pP	pP	01 20 58.5	+4.1
WMQ				sP	sP	01 21 13.0	+5.4
WMQ				PMZ			
	comp=Z,2.0nm,0.4s						
WMQ				PMZ			
	comp=Z,12nm,4.3s						
WMQ				LN			
	comp=Z,11nm,6.8s						
WMQ				LE			
	comp=Z,12nm,7.2s						
WMQ				LZ			
	comp=Z,21nm,9.6s						
MK31	Makanchi Array	46.13	296	eP	P	01 20 42.2	-0.4
MK31	Makanchi Array	46.13	296	eP	P	01 20 42.2	-0.4
MKAR	Makanchi Array	46.13	296	P	P	01 20 42.6	0.0
	comp=Z,1.9nm,0.7s,baz=70,slow=7.9,SNR=22						
MKAR	Makanchi Array	46.13	296c	eP	P	01 20 42.5	-0.1
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	46.13	296	eP	P	01 20 42.5	-0.1
KURK	Kurchatov	46.46	303	eP	P	01 20 44.8	-0.3
KURK				pmax	pmax		
	comp=Z,14nm,0.8s						
KURK	Kurchatov	46.46	303	eP	P	01 20 45.1	0.0
KURK	Kurchatov	46.46	303	eP	P	01 20 44.8	-0.3
	comp=Z,14nm,0.8s						
RES	Resolute Bay	49.86	19	P	P	01 21 11.5	+0.7
	comp=Z,2.1nm,0.6s,baz=324,slow=7.6,SNR=6.9						
RES	Resolute Bay	49.86	19	P	P	01 21 11.5	+0.7
RES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	Borovoye	49.92	309	eP	P	01 21 12.1	+0.5
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BRVK	Borovoye	49.92	309	eP	P	01 21 12.1	+0.5
BRVK	Borovoye	49.92	309	eP	P	01 21 12.6	+0.9
	comp=Z,9.2nm,0.8s						
YKA	Yellowknife Ar	50.21	37	P	P	01 21 14.4	+0.7
	comp=Z,1.1nm,0.6s,baz=299,slow=7.1,SNR=6.5						
YKA	Yellowknife Ar	50.21	37	P	P	01 21 14.4	+0.7
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHTO	Chiang Mai	52.07	255	eP	P	01 21 28.9	+0.7
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHTO	Chiang Mai	52.07	255	eP	P	01 21 28.9	+0.7
	comp=Z,3.3nm,0.6s						
TKM2	Tokmak 2	52.21	295	eP	P	01 21 27.4	-1.7
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TKM2	Tokmak 2	52.21	295	eP	P	01 21 27.4	-1.7
	comp=Z,2.8nm,0.9s						
CMAR	Chiang Mai Arr	52.33	255	P	P	01 21 29.8	-0.3
	comp=Z,1.1nm,0.4s,baz=32,slow=8.6,SNR=5.0						
CMAR	Chiang Mai Arr	52.33	255	P	P	01 21 29.8	-0.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	Ala-Archa	53.04	295c	iP	P	01 21 35.6	+0.4
AAK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
AAK	Ala-Archa	53.04	295	eP	P	01 21 35.6	+0.4
AAK	Ala-Archa	53.04	295	eP	P	01 21 35.5	+0.4
	comp=Z,4.4nm,0.9s						
EKS2	Erkin-Say	53.46	296	eP	P	01 21 38.6	+0.4
EKS2				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EKS2	Erkin-Say	53.46	296	eP	P	01 21 38.6	+0.4
	comp=Z,1.3nm,0.6s						
TAPN	Taplejung	53.72	272	eP	P	01 21 41.5	+1.0
	comp=Z,18nm,0.7s						
ARU	Arti	53.95	317	eP	P	01 21 41.4	-0.1
ARU				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ARU	Arti	53.95	317	eP	P	01 21 40.8	-0.6
ARU	Arti	53.95	317	eP	P	01 21 41.4	-0.1
	comp=Z,7.9nm,0.5s						
ODAN	Odare	54.25	272	eP	P	01 21 45.4	+1.1
	comp=Z,20nm,0.3s						
JIRN	Jiri	54.54	273	eP	P	01 21 47.4	+0.9
	comp=Z,33nm,0.9s						
GUN	Gumba	54.58	274	eP	P	01 21 47.5	+0.7
	comp=Z,11nm,0.5s						
RAMN	Ramite	54.72	272	eP	P	01 21 48.4	+0.7
	comp=Z,47nm,0.7s						
KKN	Kakani	55.06	274	eP	P	01 21 50.6	+0.5
PKI	Pulchoki	55.12	274	eP	P	01 21 51.4	+0.7
	comp=Z,14nm,0.7s						
PKIN	Phulchoki	55.12	274	eP	P	01 21 51.1	+0.5
	comp=Z,15nm,0.8s						
KKAR	Karatay Array	55.17	298	eP	P	01 21 50.7	+0.3
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KKAR	Karatay Array	55.17	298	eP	P	01 21 50.7	+0.3
	comp=Z,0.9nm,0.4s						
DMN	Daman	55.30	274	eP	P	01 21 53.1	+1.2
	comp=Z,15nm,0.6s						
GKN	Gorkha	55.35	275	eP	P	01 21 52.9	+0.7
	comp=Z,31nm,1.0s						
KOLN	Koldanda	56.20	275	eP	P	01 21 59.1	+0.8
	comp=Z,20nm,0.8s						
PRGR	Permogore	56.23	327	eP	P	01 21 56.6	-1.1
PRGR				pmax	pmax		
	comp=Z,14nm,0.9s						
ARCES	ARCESS Array B	56.67	340	P	P	01 22 01.1	+0.4
	comp=Z,2.5nm,0.7s,baz=34,slow=7.8,SNR=12						
ARCES	ARCESS Array B	56.67	340	P	P	01 22 01.1	+0.4
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NEW	Newport	56.75	53	eP	P	01 22 00.8	-0.9
NEW				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NEW	Newport	56.75	53	eP	P	01 22 00.8	-0.9
	comp=Z,2.8nm,1.0s						
ABKAR	Akbulak array	57.45	309	eP	P	01 22 06.9	+0.4
KLMR	Klimovskoe	58.96	328	eP	P	01 22 16.5	-0.3
KLMR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SUMG	Summit	59.59	4	iP	P	01 22 22.8	+1.4
	comp=Z,24nm,0.8s						
SUMG	Summit	59.59	4	eP	P	01 22 22.8	+1.4
SUMG				pmax	pmax		
	comp=Z,33nm,1.0s						
SUMG	Summit	59.59	4	eP	P	01 22 22.8	+1.4
	comp=Z,33nm,1.0s						
FCC	Fort Churchill	60.49	33	eP	P	01 22 27.1	-0.2
FCC	Fort Churchill	60.49	33	eP	P	01 22 27.1	-0.2
KBL	Kabul	61.34	291	eP	P	01 22 33.2	-0.6
KBL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KBL	Kabul	61.34	291	eP	P	01 22 33.1	-0.6
	comp=Z,6.2nm,0.9s						
NVAR	Mina Array Bea	62.20	63	P	P	01 22 38.7	-0.8
	comp=Z,0.4nm,0.4s,baz=305,slow=6.4,SNR=3.0						
FINES	FINESS Array B	62.87	334	P	P	01 22 43.4	+0.2
	comp=Z,4.0nm,0.4s,baz=40,slow=6.4,SNR=72						
FINES	FINESS Array B	62.87	334	P	P	01 22 43.4	+0.2
FINES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
OBN	Obninsk	64.18	325	eP	P	01 22 51.7	-0.2
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
OBN	Obninsk	64.18	325	eP	P	01 22 51.7	-0.2
MDND	Maddock	65.90	45	eP	P	01 23 05.3	+2.0
	comp=Z,21nm,0.4s						
NB2	NORSAR Subarra	67.04	341	P	P	01 23 10.9	+0.7
	comp=Z,7.8nm,0.8s,baz=27,slow=6.2						
NOA	NORSAR Array B	67.04	341	P	P	01 23 11.0	+0.7
	comp=Z,7.1nm,0.8s,baz=27,slow=6.3,SNR=23						
NOA	NORSAR Array B	67.04	341	P	P	01 23 11.0	+0.7
NOA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NAO01	NORSAR Array S	67.29	341	eP	P	01 23 12.2	+0.3
	comp=Z,4.6nm,0.7s						
WRA	Warramunga Arr	69.49	198	P	P	01 23 23.2	-2.7
	comp=Z,0.8nm,0.6s,baz=22,slow=6.8,SNR=3.6						
WRA	Warramunga Arr	69.49	198	P	P	01 23 23.2	-2.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KIV	Kislovodsk	69.77	314	eP	P	01 23 26.7	-0.9
KIV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KIV	Kislovodsk	69.77	314	eP	P	01 23 26.7	-0.9
KBZ	Khabaz	69.83	313	P	P	01 23 29.2	+1.3
	comp=Z,4.8nm,0.8s,baz=102,slow=4.3,SNR=11						
KBZ	Khabaz	69.83	313	P	P	01 23 29.2	+1.3
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AKASG	Malin Array Be	70.42	326	P	P	01 23 31.3	0.0
	comp=Z,1.4nm,0.3s,baz=34,slow=6.2,SNR=14						
AKASG	Malin Array Be	70.42	326c	eP	P	01 23 31.1	-0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKBB	Malin Array Si	70.42	326	eP	P	01 23 31.0	-0.3
AKBB	Malin Array Si	70.42	326	eP	P	01 23 31.0	-0.3
KIEV	Kiev	70.43	326	eP	P	01 23 31.5	+0.1
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KIEV	Kiev	70.43	326	eP	P	01 23 29.6	-1.8
KIEV	Kiev	70.43	326	eP	P	01 23 31.5	+0.1
	comp=Z,3.5nm,0.8s						
AK01	Malin Array Si	70.43	326	eP	P	01 23 31.9	+0.6
AK02	Malin Array Si	70.46	326	eP	P	01 23 31.4	-0.2
KSCO	Kaye Shedlock'	70.72	53	eP	P	01 23 32.6	-1.0
	comp=Z,16nm,0.5s						
ANN	Anapa	71.61	317	eP	P	01 23 32.8	-5.8
ANN				pmax	pmax		
	comp=Z,32nm,1.1s						
SCHQ	Schefferville	72.39	23	P	P	01 23 43.0	-0.1
	comp=Z,1.4nm,0.7s,baz=289,slow=7.5,SNR=3.2						
AS31	Alice Springs	73.19	198	eP	P	01 23 46.6	-1.5
ASAR	Alice Springs	73.19	198	P	P	01 23 46.5	-1.6
	comp=Z,3.4nm,0.8s,baz=15,slow=5.4,SNR=23						
ASAR	Alice Springs	73.19	198	P	P	01 23 46.5	-1.6
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BSEG	Bad Segeberg	73.65	338	eP	P	01 23 52.0	+1.5
	comp=Z,7.0nm,1.0s						
OJC	Ojcow	74.16	331	eP	P	01 23 54.5	+0.9
OJC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
OJC	Ojcow	74.16	331	eP	P	01 23 54.5	+0.9
	comp=Z,8.2nm,1.0s						
BUR08	Bucovina Ar. S	74.44	326	eP	P	01 23 55.8	+0.4
BURAR	Bucovina Array	74.46	326⇑	iP	P	01 23 56.0	+0.5
TESR	Tescani	74.82	325⇓	iP	P	01 23 58.1	+0.6
TRPA	Tarpa	75.00	328⇑	iP	P	01 23 59.9	+1.4

NRDL	Niedersach Rie	75.01	337	eP	P	01 23 59.7 +1.4
	comp=Z,4.0nm,1.1s					
OKC	Ostrava-Krasne	75.03	331	eP	P	01 23 59.4 +0.8
OKC	Ostrava-Krasne	75.03	331	eP	P	01 23 59.4 +0.8
UPC	Upice	75.11	333	eP	P	01 23 59.9 +0.8
UPC	Upice	75.11	333	eP	P	01 23 59.9 +0.8
DPC	Dobruska-Polom	75.16	333	eP	P	01 24 00.5 +1.1
DPC				ex	x	01 24 04.4
DPC	Dobruska-Polom	75.16	333	eP	P	01 24 00.5 +1.1
CLL	Collm	75.29	335	eP	P	01 24 00.9 +0.8
	comp=Z,15nm,0.9s					
CLL	Collm	75.29	335	⇑iP	P	01 24 00.6 +0.5
	comp=Z,15nm,0.9s					
CLL	Collm	75.29	335	⇑iP	P	01 24 00.6 +0.5
CLL				pmax	pmax	
	comp=Z,15nm,0.9s					
CLL	Collm	75.29	335	eP	P	01 24 00.6 +0.5
CLL	Collm	75.29	335	eP	P	01 24 00.1 +0.1
VRI	Vrincioaia	75.33	324	⇑iP	P	01 24 01.2 +0.8
CFR	Carcaliu	75.33	323	⇓iP	P	01 24 00.8 +0.4
PLOR	Plostina	75.37	324	⇓iP	P	01 24 01.3 +0.6
BRG	Berggiesshubel	75.41	334	eP	P	01 24 01.2 +0.4
	comp=Z,6.7nm,1.3s					
BRG	Berggiesshubel	75.41	334	eP	P	01 24 01.6 +0.8
	comp=Z,7.0nm,1.3s					
BRG	Berggiesshubel	75.41	334	eP	P	01 24 01.2 +0.4
BRG				pmax	pmax	
	comp=Z,7.0nm,1.3s					
DOPR	Dopca	75.76	325	⇑iP	P	01 24 04.4 +1.5
TIRR	Tirgusor	75.81	322	⇑iP	P	01 24 03.7 +0.6
CJR	Cluj-Napoca	75.81	327	⇓iP	P	01 24 04.0 +0.8
TLB	Topalu	75.85	323	⇓iP	P	01 24 04.2 +0.8
MLR	Muntele Rosu	75.94	324	⇑iP	P	01 24 04.8 +0.7
PRA	Prague	75.98	334	eP	P	01 24 05.1 +1.1
PRA	Prague	75.98	334	eP	P	01 24 05.1 +1.1
VRAC	Vranov	75.99	332	⇑iP	P	01 24 04.7 +0.6
GOPC	GO Pecny, Ondr	76.01	333	eP	P	01 24 05.2 +1.0
PRU	Pruhonice	76.02	334	eP	P	01 24 05.2 +1.0
PRU	Pruhonice	76.02	334	eP	P	01 24 05.2 +1.0
DRGR		76.08	327	⇑iP	P	01 24 05.5 +0.8
PSZ	Piszkesteto	76.11	329	eP	P	01 24 06.4 +1.5
PSZ				pmax	pmax	
	comp=Z,4.0nm,0.8s					
PSZ	Piszkesteto	76.11	329	eP	P	01 24 06.4 +1.5
	comp=Z,4.3nm,0.8s					
MALT	Malatya	76.14	312	⇑iP	P	01 24 06.9 +1.6
TANN	Tannenbergstha	76.24	335	eP	P	01 24 06.7 +1.1
	comp=Z,12nm,1.7s					
MOX	Moxa	76.28	336	eP	P	01 24 06.9 +1.2
	comp=Z,6.0nm,0.9s					
VOIR		76.34	325	⇓iP	P	01 24 07.7 +1.5
TREC	Trest	76.34	333	eP	P	01 24 06.7 +0.6
TREC	Trest	76.34	333	eP	P	01 24 06.7 +0.6
MSAB	Monastry St. A	76.35	322	⇓iP	P	01 24 07.4 +1.2
NKC	Novy Kostel	76.41	335	eP	P	01 24 07.4 +0.9
NKC				ex	x	01 24 11.3
NKC	Novy Kostel	76.41	335	eP	P	01 24 07.4 +0.9
SULR		76.50	324	⇓iP	P	01 24 08.4 +1.4
ROTZ	Rotzenmuhle	76.90	335	eP	P	01 24 10.9 +1.7
	comp=Z,6.0nm,1.0s					
KHC	Kasperske Hory	77.07	334	eP	P	01 24 11.3 +1.0
KHC				ePCP	PcP	01 24 18.4 -2.3
KHC	Kasperske Hory	77.07	334	eP	P	01 24 11.2 +1.0
KHC				pmax	pmax	
	comp=Z,3.0nm,1.0s					
KHC	Kasperske Hory	77.07	334	eP	P	01 24 11.2 +1.0
KHC	Kasperske Hory	77.07	334	eP	P	01 24 11.2 +1.0
	comp=Z,3.0nm,1.0s					
TXAR	Lajitas Array	77.22	60	P	P	01 24 10.7 -0.8
	comp=Z,0.5nm,0.4s,baz=308,slow=5.2,SNR=4.5					
TXAR	Lajitas Array	77.22	60	P	P	01 24 10.7 -0.8
TXAR				pmax	pmax	
	comp=Z,1.0nm,0.4s					
GZR	Gura Zlata	77.24	326	⇑iP	P	01 24 12.0 +0.7
GRF	Grafenberg Arr	77.24	335	eP	P	01 24 12.9 +1.7
	comp=Z,7.0nm,0.8s					
WET	Wettzell	77.26	334	eP	P	01 24 13.0 +1.7
	comp=Z,72nm,2.8s					
GEC2	GERESS Array S	77.29	334	eP	P	01 24 12.6 +1.1
	comp=Z,2.0nm,0.8s					
GERES	GERESS Array B	77.29	334	P	P	01 24 12.4 +0.9
	comp=Z,1.6nm,0.7s,baz=28,slow=6.0,SNR=16					
GERES	GERESS Array B	77.29	334	P	P	01 24 12.4 +0.9
GERES				pmax	pmax	
	comp=Z,2.0nm,0.7s					
BR131	Keskin Array S	77.33	316	eP	P	01 24 12.6 +0.5
	comp=Z,3.7nm,0.8s					
BRTR	Keskin Array B	77.33	316	P	P	01 24 12.9 +0.9
	comp=Z,4.2nm,0.8s,baz=65,slow=4.3,SNR=31					
BRTR	Keskin Array B	77.33	316	ceP	P	01 24 12.8 +0.8
BRTR				pmax	pmax	
	comp=Z,4.0nm,0.8s					
CONA	Conrad Observa	77.43	332	⇑iP	P	01 24 13.9 +1.6
	comp=Z,5.1nm,0.7s					
TNS	Taunus Mts	77.51	337	eP	P	01 24 14.1 +1.4
	comp=Z,7.0nm,1.0s					
MEM	Membach	77.76	339	P	P	01 24 15.4 +1.4
SZH	Strazhica	77.80	323	eP	P	01 24 14.5 +0.1
PKSM	Moragy	78.02	329	⇑iP	P	01 24 15.3 -0.2
GIVF	Givet	78.52	340	eP	P	01 24 18.8 +0.6
GIVF	Givet	78.52	340	eP	P	01 24 18.8 +0.6
GIVF	Givet	78.52	340	eP	P	01 24 18.8 +0.6
MPEP	Malo Peshtene	78.59	325	eP	P	01 24 19.2 +0.5
STU	Stuttgart	78.64	336	eP	P	01 24 20.3 +1.4
	comp=Z,10.0nm,0.8s					
KBA	Koelnbreinsper	78.97	333	⇑iP	P	01 24 23.2 +2.2
	comp=Z,9.2nm,0.9s					
BFO	Black Forest	79.28	337	eP	P	01 24 23.8 +1.4
	comp=Z,4.0nm,1.0s					
BFO	Black Forest	79.28	337	ceP	P	01 24 23.9 +1.5
WTTA	Wattenberg	79.32	334	⇑iP	P	01 24 24.0 +1.1
	comp=Z,4.7nm,0.5s					
VTS	Vitosha	79.45	325	eP	P	01 24 24.0 +0.4
CDF	Champ du Feu	79.48	337	eP	P	01 24 24.1 +0.5
CDF	Champ du Feu	79.48	337	eP	P	01 24 24.1 +0.5
CDF	Champ du Feu	79.48	337	eP	P	01 24 24.1 +0.5
RDO	Rodhopi	79.73	322	eP	P	01 24 26.0 +1.1
PAGF	Fort de Pagny	79.74	338	eP	P	01 24 24.7 -0.2
	comp=Z,1.8nm,0.6s					
PAGF	Fort de Pagny	79.74	338	eP	P	01 24 24.7 -0.2
	comp=Z,1.8nm,0.6s					
MEZF	Maizieres J'vi	79.95	339	eP	P	01 24 26.3 +0.3
MEZF	Maizieres J'vi	79.95	339	eP	P	01 24 26.3 +0.3
MMB	Musomiste	80.09	324	⇑iP	P	01 24 27.8 +0.8
MMB	Musomiste	80.09	324	eP	P	01 24 28.1 +1.1
SFTF	Sexfontaines	80.23	339	eP	P	01 24 27.7 +0.2
SFTF	Sexfontaines	80.23	339	eP	P	01 24 27.7 +0.2
NVR	Nevrokopi	80.24	323	eP	P	01 24 29.0 +1.2
KAVA	Kavala	80.28	323	eP	P	01 24 29.0 +1.1
SMTH	Samothraki Isl	80.30	322	eP	P	01 24 30.0 +1.9
SRS	Serrai	80.55	323	eP	P	01 24 30.0 +0.6
KNT	Kendrikon	80.78	324	eP	P	01 24 26.0 -4.6
SOH	Sokhos	80.89	323	eP	P	01 24 29.0 -2.3
FLN	La Foliniere	80.95	342	eP	P	01 24 32.2 +0.9
FLN	La Foliniere	80.95	342	eP	P	01 24 32.2 +0.9
FLN	La Foliniere	80.95	342	eP	P	01 24 32.2 +0.9
OUR	Ouranopolis	81.05	323	eP	P	01 24 33.5 +1.5
HORT	Hortiatis	81.18	324	eP	P	01 24 33.0 +0.2
SIGR	SIGRI	81.22	321	eP	P	01 24 41.0 +8.1
PLG	Polygyros	81.23	323	eP	P	01 24 34.0 +0.9
CSS	Prodhromos	81.29	314	eP	P	01 24 34.0 +0.6
	comp=Z,1.6nm,0.7s					
GRR	Gorron	81.38	342	eP	P	01 24 34.8 +1.2
GRR	Gorron	81.38	342	eP	P	01 24 34.8 +1.2
GRR	Gorron	81.38	342	eP	P	01 24 34.8 +1.2
LOR	Lormes	81.39	339	eP	P	01 24 33.7 -0.1
	comp=Z,19nm,1.1s					
LOR	Lormes	81.39	339	eP	P	01 24 33.7 -0.1
LOR				pmax	pmax	
	comp=Z,19nm,1.1s					
LOR	Lormes	81.39	339	eP	P	01 24 33.7 -0.1
	comp=Z,19nm,1.1s					
CABF	La Chapelle	81.45	337	eP	P	01 24 35.0 +0.8
CABF	La Chapelle	81.45	337	eP	P	01 24 35.0 +0.8
CABF	La Chapelle	81.45	337	eP	P	01 24 35.0 +0.8
PAIG	Paliouri	81.52	323	eP	P	01 24 35.0 +0.5
SSF	Saint Saulge	81.67	339	eP	P	01 24 35.3 +0.1
	comp=Z,9.7nm,0.8s					
SSF	Saint Saulge	81.67	339	eP	P	01 24 35.3 +0.1
SSF				pmax	pmax	
	comp=Z,10.0nm,0.8s					
SSF	Saint Saulge	81.67	339	eP	P	01 24 35.3 +0.1
	comp=Z,9.7nm,0.8s					
FNA	Florina	81.70	325	eP	P	01 24 35.5 -0.1
CHOS	Chios island	81.82	320	eP	P	01 24 34.0 -2.2
SGMF	Saint Gilles	81.84	344	eP	P	01 24 37.2 +1.2
SGMF	Saint Gilles	81.84	344	eP	P	01 24 37.2 +1.2
SGMF	Saint Gilles	81.84	344	eP	P	01 24 37.2 +1.2
LIT	Litokhoron	81.85	324	eP	P	01 24 28.0 -8.3
AVF	Avril sur Loir	81.96	339	eP	P	01 24 36.9 +0.2
	comp=Z,11nm,0.9s					
AVF	Avril sur Loir	81.96	339	eP	P	01 24 36.9 +0.2
AVF				pmax	pmax	
	comp=Z,11nm,0.9s					
AVF	Avril sur Loir	81.96	339	eP	P	01 24 36.9 +0.2
	comp=Z,11nm,0.9s					
SMF	Signal de Mont	81.98	339	eP	P	01 24 37.8 +1.0
SMF	Signal de Mont	81.98	339	eP	P	01 24 37.8 +1.0
SMF	Signal de Mont	81.98	339	eP	P	01 24 37.8 +1.0
AOS	Alonnisos	82.08	322	eP	P	01 24 38.0 +0.5
NEST	Nestorio	82.15	325	eP	P	01 24 37.5 -0.4
XOR	Xorichti	82.19	323	eP	P	01 24 31.5 -6.6
LPL	La Plagne	82.29	337	eP	P	01 24 38.5 -0.3
LPL	La Plagne	82.29	337	eP	P	01 24 38.5 -0.3
LPL	La Plagne	82.29	337	eP	P	01 24 38.5 -0.3
BGF	Bois d'Agland	82.30	339	eP	P	01 24 38.6 +0.1
BGF	Bois d'Agland	82.30	339	eP	P	01 24 38.6 +0.1
BGF	Bois d'Agland	82.30	339	eP	P	01 24 38.6 +0.1
LPG	La Plagne	82.31	337	eP	P	01 24 39.0 +0.1
LPG	La Plagne	82.31	337	eP	P	01 24 39.0 +0.1
LPG	La Plagne	82.31	337	eP	P	01 24 39.0 +0.1
MRKA	Markates	82.59	322	eP	P	01 24 39.0 -1.2
SMIA	Simia	82.60	323	eP	P	01 24 39.0 -1.2
TCF	Toulx Ste Croi	82.70	340	eP	P	01 24 41.8 +1.2
TCF	Toulx Ste Croi	82.70	340	eP	P	01 24 41.8 +1.2
TCF	Toulx Ste Croi	82.70	340	eP	P	01 24 41.8 +1.2
ARG	Arkhangelos	82.72	318	eP	P	01 24 37.0 -3.8
BNI	Bardonecchia	82.74	336	eP	P	01 24 40.4 -0.6
BNI				pmax	pmax	
	comp=Z,20nm,1.5s					
BNI	Bardonecchia	82.74	336	eP	P	01 24 40.4 -0.6
	comp=Z,20nm,1.5s					
AGG	Agios Georgios	82.84	323	eP	P	01 24 40.0 -1.4
MAKR	Makrakomi, Fth	82.92	323	eP	P	01 24 42.0 +0.1
MFF	Saint Martin d	82.93	341	eP	P	01 24 43.2 +1.5
	comp=Z,7.9nm,0.7s					
MFF	Saint Martin d	82.93	341	eP	P	01 24 43.2 +1.5
MFF				pmax	pmax	
	comp=Z,8.0nm,0.7s					
MFF	Saint Martin d	82.93	341	eP	P	01 24 43.2 +1.5
	comp=Z,7.9nm,0.7s					
EVR	Evrytania	83.14	324	eP	P	01 24 42.5 -0.6
VIL2	Platees	83.14	322	eP	P	01 24 42.0 -1.0
APE	Apeiranthos	83.15	320	eP	P	01 24 35.5 -7.6
SGD	Sagiada	83.16	325	eP	P	01 24 44.0 +1.0
AQU	L'Aquila	83.19	331	eP	P	01 24 44.4 +1.2
AQU				pmax	pmax	
	comp=Z,10.0nm,1.1s					
AQU	L'Aquila	83.19	331	eP	P	01 24 44.4 +1.2
	comp=Z,9.9nm,1.1s					
DSL	Palaion Diasel	83.23	324	eP	P	01 24 44.5 +1.0
DSF	Desfina	83.28	323	eP	P	01 24 42.5 -1.3
LTK	Loutraki	83.43	322	eP	P	01 24 46.0 +1.5
KALE	Kalithea	83.45	323	eP	P	01 24 43.5 -1.2
SBF	Sospel	83.63	335	eP	P	01 24 45.8 +0.3
SBF	Sospel	83.63	335	eP	P	01 24 45.8 +0.3
SBF	Sospel	83.63	335	eP	P	01 24 45.8 +0.3
PDO	Prodromos	83.66	324	eP	P	01 24 45.5 -0.1
DID	Didima	83.76	322	eP	P	01 24 44.5 -1.7
GUR	Goura	83.76	323	eP	P	01 24 45.5 -0.8
DRO	Drossia	84.00	323	eP	P	01 24 47.5 +0.1
CAF	Calviac	84.02	339	eP	P	01 24 47.5 +0.1
CAF	Calviac	84.02	339	eP	P	01 24 47.5 +0.1
CAF	Calviac	84.02	339	eP	P	01 24 47.5 +0.1
VLX	Vlachokerasia	84.23	322	eP	P	01 24 48.0 -0.7
VLS	Valsamata	84.26	324	eP	P	01 24 48.0 -0.7
AMT	Artemida-Makis	84.36	323	eP	P	01 24 49.0 -0.3
ITM	Ithomi	84.58	323	eP	P	01 24 50.0 -0.3
ZKS	Zakynthos	84.59	324	eP	P	01 24 50.0 -0.4
LAST	Lasithi	84.78	319	eP	P	01 24 52.0 +0.5
PYL	PYLOS	84.90	323	eP	P	01 24 51.0 -0.9
SIVA	Sivas	85.19	319	eP	P	01 24 53.5 +0.1
EPF	Esparros	86.22	340	eP	P	01 25 00.4 +2.0
EPF	Esparros	86.22	340	eP	P	01 25 00.4 +2.0
EPF	Esparros	86.22	340	eP	P	01 25 00.4 +2.0

MEX 10 01:20:40.0±0.4, 15°23N×96°74W, h10km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	0.81	49	iP	Pg	01 20 53.4	-2.2
HUIG				iS	Sg	01 21 04.3	-1.9
PNIG	Pinotepa	1.77	311	eP	Pn	01 21 07.6	-3.1
PNIG				iS	Sn	01 21 28.6	-4.7
VHO	Vista Hermosa	1.83	0	iP	Pn	01 21 07.9	-3.9
VHO				eS	Sn	01 21 30.0	-5.3
CMIG	Matias Romero	2.57	44	iP	Pn	01 21 18.3	-3.4
CMIG				eS	Sn	01 21 48.7	-4.4
TLIG	Tlapa	2.91	323	iP	Pn	01 21 23.3	-3.2
TLIG				iS	Sn	01 21 58.3	-3.4

MEX 10 01:31:31.6±0.6, 14°90N×96°88W, h17km±18km, MD3.9, Off coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	1.14	41	iP	Pn	01 31 49.3	-3.5
HUIG				iS	Sb	01 32 03.0	-4.5
PNIG	Pinotepa	1.91	321	iP	Pn	01 32 00.4	-3.1
PNIG				iS	Sn	01 32 22.9	-4.3
VHO	Vista Hermosa	2.17	4	iP	Pn	01 32 03.1	-4.1
VHO				iS	Sn	01 32 28.7	-5.2
CMIG	Matias Romero	2.90	41	iP	Pn	01 32 14.3	-2.8
CMIG				eS	Sn	01 32 48.4	-3.2
TLIG	Tlapa	3.11	329	iP	Pn	01 32 16.8	-3.3
TLIG				iS	Sn	01 32 52.5	-4.5

*IDC **10** 01:59:12.2±10.0, 13°37N×90°09W, h33km±64km, mb3.6/11, mb1 3.9/13, mb1mx3.8/27, mbtmp3.9/13, ML4.3/2, MS3.2/2, Ms1 3.2/2, ms1mx2.9/30, Error ellipse: s-maj=53.7km s-min=26.7km az=174.0*

*ISCJB **10** 01:59:14.5±0.6, 13°52N±0°06×90°60W±0°03, h38km, mb3.9/14, MS3.1/1, Error ellipse: s-maj=9.2km s-min=3.7km az=20.1*

*CASC **10** 01:59:16.2±1.2, 13°49N×90°47W, h29km±3km, MD3.9, ML4.1*

*NEIC **10** 01:59:16.4±1.1, 13°48N×90°31W, h69km±10km, mb4.1/5, MD4.2(MEX), MD4.3(SNET), Error ellipse: s-maj=17.7km s-min=10.6km az=218.0*

NEIC Felt [II] at Ahuachapan, El Salvador.

*MEX **10** 01:59:20.7±0.3, 14°10N×90°36W, h22km±25km, MD4.2*

ISC 10 01:59:15.2±0.8, 13°57N±0°07×90°50W±0°04, h38km, n50, σ1s96/57, mb4.0/14, 2C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONS	Sonsonate	0.78	78	⇓iP	Pn	01 59 30.7	+0.9
SONS				eS	Sn	01 59 41.5	+1.3
SONS				AML	AML	01 59 42.9	
	comp=Z,6μm,0.6s						
PCG	Pacaya	0.82	353	eP	Pn	01 59 33.1	+2.5
RTR	El Retiro	0.89	69	⇓iP	Pn	01 59 33.1	+1.7
RTR				eS	Sn	01 59 45.8	+2.6
SBLS	San Blas	0.89	73	⇓iP	Pn	01 59 32.9	+1.4
SNJE	San Jose	0.92	71	⇓eP	Pn	01 59 33.3	+1.5
RBDL	Robledal	0.96	56	eP	Pn	01 59 34.2	+1.9
NBG	Las Nubes	1.02	8	eP	Pn	01 59 37.1	+3.8
BOQS	Boqueron	1.20	82	⇓eP	Pn	01 59 36.9	+1.3
BOQS				eS	Sn	01 59 53.4	+2.6
SNET	Serv Nac Est T	1.24	84	eP	Pn	01 59 37.2	+1.1
SNET				eS	Sn	01 59 53.8	+2.2
SNET				AML	AML	01 59 55.3	
	comp=Z,6μm,0.3s						
JAT	Jato	1.33	304	eP	Pn	01 59 39.5	+2.2
LFU	La Fuente	1.36	82	eP	Pn	01 59 39.5	+1.7
LFRS	El Faro	1.40	88	eP	Pn	01 59 39.6	+1.3
LBRS	Las Brisas	1.43	83	⇓eP	Pn	01 59 40.3	+1.6
SNVI	San Vicente	1.62	88	eP	Pn	01 59 42.8	+1.4
MRL	Marmol	1.68	28	⇑iP	Pn	01 59 45.4	+3.2
VSM	San Miguel	2.17	93	eP	Pn	01 59 50.6	+1.5
CAHU	Cacaucatique	2.23	85	eP	Pn	01 59 51.1	+1.2
CNCH	Conchagua	2.61	96	eP	Pn	01 59 55.9	+0.9
COPN	Copaltepe	4.05	109	eP	Pn	02 00 15.3	+0.6
TGIG		4.07	322	iP	Pn	02 00 15.9	+0.9
TGIG				iS	Sn	02 00 57.5	-3.9
TGIG		4.07	322	iP	Pn	02 00 15.9	+0.9
TGIG				iS	Sn	02 00 57.5	-3.9
CMIG	Matias Romero	5.49	310	iP	Pn	02 00 36.9	+2.4
CMIG				iS	Sn	02 01 35.3	-1.1
CMIG	Matias Romero	5.49	310	Pn	Pn	02 00 37.0	+2.5
	comp=Z,4.3nm,0.3s,baz=104,slow=9.7,SNR=27						
CMIG				Sn	Sn	02 01 37.4	+1.0
	comp=Z,5.1nm,0.3s,baz=270,slow=20,SNR=4.1						
CMIG				LR	LR	02 03 08.0	
	comp=Z,185nm,19.8s,baz=161,slow=40						
HUIG	Huatulco	5.85	293	iP	Pn	02 00 44.9	+5.4
HUIG				iS	Sn	02 01 48.8	+3.5
HUIG	Huatulco	5.85	293	iP	Pn	02 00 44.9	+5.4
HUIG				iS	Sn	02 01 48.8	+3.5
JTS	JuntasAbangare	6.33	120	Pn	Pn	02 00 44.6	-1.5
	comp=Z,3.0nm,0.3s,baz=312,slow=20,SNR=12						
JTS				Lg	Lg	02 02 15.9	
	comp=Z,1.0nm,0.3s,baz=344,slow=17,SNR=4.3						
JTS	JuntasAbangare	6.33	120	ePn	Pn	02 00 44.8	-1.3
	comp=Z,23nm,0.7s						
JTS				Lg	Lg	02 02 15.9	
JCR	Jicaral	6.44	124	eP	Pn	02 00 50.2	+2.6
JCR				eS	Sn	02 02 24.8	+25
CGA2	Cerro Gallo 2	6.88	120	eP	Pn	02 00 58.0	+4.2
TEIG	Tepich	6.95	18	Pn	Pn	02 00 54.9	+0.3
	comp=Z,8.7nm,0.3s,baz=202,slow=9.1,SNR=63						
TEIG				Lg	Lg	02 02 56.5	
	baz=53,slow=20,SNR=2.6						
TEIG	Tepich	6.95	18	ePn	Pn	02 00 57.5	+2.9
	comp=Z,45nm,0.4s						
TEIG				eS	Sn	02 02 13.5	+1.1
TEIG				Lg	Lg	02 02 56.5	
URSC	Urasca	7.56	119	eP	Pn	02 01 05.7	+2.6
URSC				eS	Sn	02 02 29.1	+1.5
LRAL	Lakeview Retre	19.64	9	eP	P	02 03 39.5	-1.2
	comp=Z,4.3nm,0.6s						
TXAR	Lajitas Array	19.88	324	P	Pn	02 03 46.3	+1.1
	comp=Z,0.7nm,0.5s,baz=146,slow=11,SNR=6.9						
TXAR				PcP	PcP	02 08 00.4	+0.5
	comp=Z,0.3nm,0.5s,baz=153,slow=4.6,SNR=3.6						
MIAR	Mount Ida	21.07	353	eP	P	02 03 56.3	+0.2
	comp=Z,1.1nm,0.3s						
TUL1	Leonard	22.75	349	P	P	02 04 13.6	-0.5
	comp=Z,5.0nm,0.6s						
TKL	Tuckaleechee C	22.81	14	P	P	02 04 15.0	+0.1
	comp=Z,3.0nm,0.6s,baz=158,slow=15,SNR=5.8						
TKL				LR	LR	02 14 25.5	
	comp=Z,74nm,20.2s,baz=264,slow=40						
WCI	Wyandotte Cave	24.84	8	eP	P	02 04 33.2	-0.8
	comp=Z,10nm,0.6s						
ANMO	Albuquerque	25.71	329	P	P	02 04 42.9	+0.7
	comp=Z,0.5nm,0.7s,baz=113,slow=7.7,SNR=2.5						
SADO	Sadowa	32.57	15	P	P	02 05 40.8	-2.0
	comp=Z,1.4nm,0.3s,baz=240,slow=11,SNR=3.3						
NVAR	Mina Array Bea	34.92	320	P	P	02 06 05.9	+2.1
	comp=Z,2.4nm,0.6s,baz=134,slow=8.0,SNR=15						
NVAR				PcP	PcP	02 08 36.0	+0.2
	comp=Z,1.1nm,0.7s,baz=137,slow=4.6,SNR=5.9						
SAML	Samuel	35.16	128	eP	P	02 06 02.7	-2.9
	comp=Z,1.9nm,0.8s						
YBH	Yreka Blue Hor	39.60	321	P	P	02 06 42.5	-0.7
	comp=Z,1.1nm,0.7s,baz=90,slow=3.0,SNR=3.3						
SCHQ	Schefferville	45.13	19	P	P	02 07 25.4	-2.4
	comp=Z,2.1nm,0.7s,baz=216,slow=7.7,SNR=5.6						
YKA	Yellowknife Ar	51.78	346	P	P	02 08 17.2	-1.7
	comp=Z,0.6nm,0.7s,baz=140,slow=8.0,SNR=5.8						
INK	Inuvik	61.26	343	P	P	02 09 24.7	-1.5
	comp=Z,0.9nm,0.7s,baz=113,slow=6.3,SNR=4.8						
ILAR	Eielson Array	63.81	337	P	P	02 09 42.3	-1.0
	comp=Z,0.3nm,0.6s,baz=173,slow=4.9,SNR=6.3						
TORD	Torodi Ar. Bea	89.06	77	P	P	02 12 02.4	-4.7
	comp=Z,1.3nm,1.2s,baz=283,slow=5.6,SNR=3.6						
MKAR	Makanchi Array	119.57	6	PKP	PKPdf	02 17 57.0	-4.2
	comp=Z,0.1nm,0.5s,baz=345,slow=2.3,SNR=2.4						
CMAR	Chiang Mai Arr	146.84	343	PKPbc	PKPdf	02 18 52.8	+0.3
	comp=Z,2.7nm,0.6s,baz=338,slow=3.3,SNR=8.6						

*CSEM **10** 02:13:01.9±0.3, 38°70N×38°03E, h10km, MD2.7, Error ellipse: s-maj=7.2km s-min=5.4km az=163.0*

*ISK **10** 02:13:01.9, 38°70N×38°02E, h6km, MD2.3*

*DDA **10** 02:13:02.4, 38°71N×38°06E, h7km, MD2.7*

ISC 10 02:13:02.2±1.1, 38°72N±0°03×38°05E±0°03, h7km±11km, n15, σ1s95/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKCD	Akcadag	0.44	193	iP	Pg	02 13 10.4	-0.3
AKCD				iS	Sb	02 13 17.6	-1.6
AKCD	Akcadag	0.44	193	iP	Pg	02 13 10.4	-0.3
AKCD				iS	Sb	02 13 17.6	-1.6
DARE	Darende-Malaty	0.47	251	ePG	Pg	02 13 10.9	-0.4
DARE				eSG	Sg	02 13 17.4	0.0
DARE	Darende-Malaty	0.47	251	ePg	Pg	02 13 10.9	-0.4

*ISCJB **10** 02:13:21.1±0.4,7°.32N±0'.02×127°.03E±0'.03,h62km±3km, mb5.0/137, Error ellipse: s-maj=4.3km s-min=3.2km az=168.7*

*DJA **10** 02:13:24.2±0.3,7°N±2°×12°7E±°,h60km±3km,M5.1/89, mb5.1/89,mB5.6/46,MLv5.7/8,Mw(mB)5.1/46,Mwp5.8/3*

ISC 10 02:13:21.3±0.3,7°.31N±0.03×127°.02E±0'.04,h46km±1km, h46km:pP-P,n635,σ1§85/611,mb5.1/146,MS5.0/189, 47C-14D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.84**	**245**	*eP*		**Pn**	**02 13 34.1**	**-2.7**
MATI				*eS*		**Sn**	**02 13 47.2**	**-0.8**
BIPH	**Bislig**	**1.09**	**323**	*eP*		**Pn**	**02 13 38.6**	**-1.6**
BIPH				*i* S		**Sn**	**02 13 58.5**	**+4.4**
DAV	**Davao City (W)**	**1.45**	**261**	*e*Pn		**Pn**	**02 13 45.9**	**+0.8**
DAV				*e*Sn		**Sn**	**02 14 07.1**	**+4.2**
GSPH	**General Santos**	**2.39**	**240**	*e*S		**Sn**	**02 14 25.5**	**-0.7**
CGP	**Cagayan de Oro**	**2.57**	**296**⇓	*e*P		**Pn**	**02 14 02.8**	**+2.4**
CGP				*e*S		Sn	02 14 40.2	+10
CTBH	**Cotabato--PC H**	**2.75**	**268**	*e*P		**Pn**	**02 14 04.2**	**+1.3**
CTBH				*i* S		**Sn**	**02 14 38.7**	**+3.7**
SCPH	**Surigao**	**2.89**	**328**	*e*P		**Pn**	**02 14 07.4**	**+2.6**
MSLP	**Maasin**	**3.53**	**323**	*e*P		**Pn**	**02 14 16.4**	**+2.8**
PAGZ	**Pagadian**	**3.65**	**279**	*e*P		**Pn**	**02 14 16.3**	**+1.0**
PAGZ				*e*S		Sn	02 15 08.6	+12
DCPH	**Dipolog City**	**3.85**	**289**	*e*P		Pn	02 14 21.7	+3.7
SGSI	**Sangihe**	**3.89**	**202**	P		Pn	02 14 22.5	+3.9
SGSI				S		Sn	02 15 11.0	+7.9
TBP	**Tagbilaran**	**3.92**	**307**	*e*P		**Pn**	**02 14 19.9**	**+0.9**
TBP				*e*S		Sn	02 15 10.3	+6.5
SNPH	**Sibulan**	**4.25**	**299**⇓	*e*P		Pn	02 14 18.7	-5.0
SNPH				*e*S		**Sn**	**02 15 12.1**	**0.0**
PLP	**Palo**	**4.33**	**332**⇓	*e*P		**Pn**	**02 14 22.4**	**-2.3**
OCLP	**Ormoc**	**4.42**	**328**	*e*P		Pn	02 14 30.8	+5.0
ZMPH	**Zamboanga City**	**4.93**	**266**⇑	*e*P		**Pn**	**02 14 33.4**	**+0.6**
RCP	**Roxas**	**5.97**	**315**⇑	*e*P		**Pn**	**02 14 49.1**	**+1.9**
TNTI	**Ternate** 432nm,1.3s,8μm2.4nm	**6.50**	**177**	P		**Pn**	**02 14 54.6**	**+0.1**
TNTI	432nm,1.3s,8μm2.4nm			S		**Sn**	**02 16 10.6**	**+3.2**
TNTI	**Ternate**	**6.50**	**177**	*e*Pn		**Pn**	**02 14 54.8**	**+0.3**
TNTI				*e*S		**Sn**	**02 16 05.6**	**-1.7**
KMSI	**Cibinong** 920nm,1.0s,4.6nm	**7.34**	**205**	P		Pn	02 15 11.4	+5.4
GTOI	**Gorontalo** 1.1nm,1.0s,113nm0.0nm	**7.74**	**211**	P		Pn	02 15 16.8	+5.4
GTOI	1.1nm,1.0s,113nm0.0nm			S		Sn	02 16 45.4	+7.6
LBMI	**Labuha** 299nm,1.0s,4μm1.6nm	**7.91**	**176**	P		**Pn**	**02 15 14.5**	**+0.7**
MRSI	**Marisa** 337nm,0.7s,4μm	**8.47**	**217**	P		**Pn**	**02 15 24.3**	**+2.9**
MRSI	337nm,0.7s,4μm			S		Sn	02 17 04.7	+9.0
LQP	**Lukban**	**8.64**	**322**	*e*P		Pn	02 15 30.6	+6.6
TGY	**Tagaytay City** baz=211,slow=2.4,SNR=13	**9.02**	**319**	Pn		Pn	02 15 37.6	+8.6
SWI	**Sorong** 73nm,0.8s,1μm	**9.15**	**152**	P		**Pn**	**02 15 28.4**	**-2.4**
SIJI	**Sorong** 6.8nm,0.3s,baz=195,slow=23,SNR=27	**9.16**	**152**	Pn		**Pn**	**02 15 28.5**	**-2.5**
SIJI	4.4nm,0.3s,baz=171,slow=23,SNR=6.3			Sn		Sn	02 17 04.4	-8.4
SIJI	comp=Z,9μm,18.1s,baz=317,slow=46			LR		LR	02 20 22.9	
LUWI	**Luwuk** 443nm,1.1s,7μm	**9.31**	**207**	P		Pn	02 15 39.4	+6.4
LUWI	**Luwuk**	**9.31**	**207**	*e*Pn		**Pn**	**02 15 36.1**	**+3.1**
LUWI				*e*S		**Sn**	**02 17 18.2**	**+1.7**
SANI	**Sanana** 215nm,0.7s,2μm	**9.35**	**186**	P		**Pn**	**02 15 34.2**	**+0.7**
SANI	215nm,0.7s,2μm			S		**Sn**	**02 17 21.6**	**+4.2**
TSM	**Tawau**	**9.58**	**252**	⇓P		Pn	02 15 41.9	+5.3
APSI	**Ampana** 293nm,1.2s,4μm	**9.77**	**213**	P		Pn	02 15 45.3	+6.1
APSI	293nm,1.2s,4μm			S		Sn	02 17 36.5	+8.9
SDKM	**Sandakan**	**9.90**	**261**	⇑P		Pn	02 15 46.9	+5.8
MPSI	**Mapaga** 36nm,1.0s,902nm	**9.92**	**226**	P		Pn	02 15 46.7	+5.4
MPSI	36nm,1.0s,902nm			S		Sn	02 17 40.5	+9.2
NLAI	**Namlea** 166nm,1.0s,2μm	**10.48**	**180**	P		**Pn**	**02 15 48.5**	**-0.5**
KKM	**Kota Kinabalu**	**10.80**	**264**	⇓P		Pn	02 16 03.0	+9.4
KKM	**Kota Kinabalu**	**10.80**	**264**	*e*Pn		Pn	02 15 57.1	+3.6
PCI	**Palu** 83nm,1.0s,1μm	**10.86**	**222**	P		Pn	02 16 00.4	+6.2
AAI	**Ambon** 85nm,0.7s	**10.98**	**174**	P		**Pn**	**02 15 56.3**	**+0.4**
RKPI	**Ransiki, Papua** 128nm,1.1s,13μm10μm	**11.30**	**141**	P		**Pn**	**02 15 57.5**	**-2.8**
FAKI	**Fak Fak** 160nm,0.8s,2μm62μm	**11.42**	**153**	P		**Pn**	**02 16 02.0**	**+0.1**
FAKI	**Fak Fak**	**11.42**	**153**	*e*Pn		**Pn**	**02 16 01.9**	**0.0**
FAKI				*e*S		Sn	02 17 59.7	-8.5
TTSI	**Tana Toraja** 168nm,1.2s,3μm	**12.54**	**215**	P		**Pn**	**02 16 19.9**	**+2.7**
SPSI	**Sidrap Palu** 47nm,1.2s,2μm	**13.33**	**213**	P		P	02 16 32.9	-3.6
KAPI	**Kappang** 0.9nm,0.3s,baz=14,slow=7.9,SNR=15	**14.23**	**211**	Pn		**Pn**	**02 16 38.1**	**-2.0**
KAPI	**Kappang**	**14.23**	**211**	*e*Pn		**Pn**	**02 16 37.9**	**-2.2**
BKSI	**Bulukumba** 34nm,1.3s,1μm	**14.31**	**209**	P		**P**	**02 16 47.0**	**-0.3**
BTM	**Bintulu**	**14.46**	**254**	⇓P		**P**	**02 16 48.8**	**-0.3**
SMPI	**Sarmi** 150nm,1.4s	**14.88**	**128**	P		**Pn**	**02 16 49.0**	**+0.2**
KBKI	**Kotabaru** 85nm,1.1s,2μm	**15.11**	**226**	P		**P**	**02 16 58.1**	**+1.9**
SBUM	**Sibu**	**15.51**	**253**	⇑P		**P**	**02 17 01.7**	**+0.9**
BBKI	**Banjar Baru** 190nm,1.0s,9μm	**16.19**	**229**	P		**P**	**02 17 11.9**	**+3.6**
GENI	**Genyem** 160nm,1.9s,6μm	**16.40**	**126**	P		**Pn**	**02 17 07.6**	**-0.8**
MMRI	**Maumere** 135nm,1.2s	**16.54**	**197**	P		**P**	**02 17 14.3**	**+2.2**
MMRI	**Maumere** 156nm,0.9s	**16.54**	**197**	*e*Pn		**Pn**	**02 17 08.8**	**-1.4**
JAY	**Jayapura** 61nm,2.4s,5μm	**16.78**	**125**	P		**Pn**	**02 17 11.8**	**-1.5**
STKI	**Sintang** 95nm,1.0s	**17.09**	**246**	P		**P**	**02 17 22.6**	**+4.4**
SOEI	**Soe** 138nm,0.8s,2μm	**17.17**	**189**	P		**P**	**02 17 21.7**	**+2.5**
SOEI	**Soe**	**17.17**	**189**	*e*Pn		**Pn**	**02 17 18.1**	**0.0**
SSLB	**Suanglung**	**17.39**	**341**	*e*Pn		Pn	02 17 15.8	-4.9
KSM	**Kuching**	**17.63**	**252**	⇓P		**P**	**02 17 26.9**	**+2.6**
KSM	**Kuching** 70nm,1.0s	**17.63**	**252**	*e*Pn		**Pn**	**02 17 23.0**	**-0.8**
WBSI	**Waikabubak, Su** 96nm,0.8s,1μm	**18.47**	**204**	P		**Pn**	**02 17 38.3**	**+4.3**
BASI	**Baing, Sumba** 227nm,0.9s	**18.55**	**200**	P		**Pn**	**02 17 36.8**	**+1.8**
SRBI	**Singaraja** 81nm,0.8s	**19.30**	**218**	P		**Pn**	**02 17 46.7**	**+2.8**
QZH	**Quanzhou**	**19.30**	**336**⇑	*i* P		**P**	**02 17 40.2**	**-2.3**
QZH				S		S	02 21 11.0	-7.6
QZH	1μm,8.6s			PMZ				
QZH	2μm,10.6s			LN				
QZH	4μm,13.5s			LE				
QZH	9μm,20.4s			LZ				
HKC	**Hong Kong Obse**	**19.38**	**322**⇓	*i* P		**Pn**	**02 17 46.0**	**+1.2**
JOW	**Kunigami** 171nm,1.3s	**19.45**	**3**	*e*Pn		**P**	**02 17 43.8**	**-0.4**
ABJI	**Asem Bagus** 62nm,1.3s	**19.69**	**221**	P		**Pn**	**02 17 51.3**	**+2.8**
BLJI	**Banyuglugur** 64nm,0.7s,2μm	**20.07**	**222**	P		Pn	02 17 55.5	+2.5
JAGI	**Jajag, Banyuwa** 562nm,2.2s	**20.25**	**220**	*e*P		**P**	**02 17 51.6**	**-1.3**
QIZ	**Qiongzhong**	**20.36**	**307**	P		**P**	**02 17 53.6**	**-0.5**
QIZ				pP		**pP**	**02 18 03.7**	**-1.3**
QIZ				sP		**sP**	**02 18 08.8**	**-2.1**
QIZ				S		**S**	**02 21 38.8**	**-1.0**
QIZ				sS		**sS**	**02 21 54.7**	**-2.8**
QIZ	1μm,11.2s			PMZ				
QIZ	2μm,13.0s			LN				
QIZ	4μm,14.8s			LZ				
QIZ	**Qiongzhong** 117nm,0.9s	**20.36**	**307**	*e*P		**P**	**02 17 53.8**	**-0.2**
QIZ	comp=Z,2μm,20.0s			LR		LR		
GZH	**Guangzhou**	**20.47**	**322**	P		**P**	**02 17 55.4**	**+0.2**
GZH				PP		**PnPn**	**02 18 18.6**	**+4.6**
GZH	comp=Z,8μm,18.4s			LN				
GZH	comp=Z,8μm,18.2s			LE				
TBJI	**Tambak Boyo** comp=Z,158nm,1.3s,comp=Z,4μm	**20.64**	**228**	P		Pn	02 18 01.1	+1.3
PWJI	**Pagerwojo** comp=Z,60nm,1.6s	**21.50**	**225**	P		P	02 18 11.6	+5.3
WOJI	**Wonogiri, Jawa** comp=Z,79nm,1.1s	**22.00**	**227**	P		P	02 18 17.3	+5.6
UBPT	**Khong Chiam** comp=Z,129nm,1.1s,comp=Z,2μm	**22.55**	**292**	P		**P**	**02 18 18.8**	**+1.1**
KPJI	**Karang Pucung** comp=Z,77nm,0.9s	**23.17**	**232**	P		**P**	**02 18 25.6**	**+1.5**
MYKOM	**Kota Tinggi**	**23.73**	**258**	⇓P		**P**	**02 18 30.8**	**+1.4**
MYKOM	**Kota Tinggi** comp=Z,74nm,1.3s	**23.73**	**258**	*e*P		**P**	**02 18 30.3**	**+0.9**
KTGM	**Kuala Trenggan**	**23.82**	**267**	⇑P		**P**	**02 18 30.6**	**+0.3**
LEM	**Lembang**	**23.91**	**234**	P		sP	02 18 51.5	+2.6
LEM	**Lembang** comp=Z,28nm,0.6s,baz=342,slow=20,SNR=2.2	**23.91**	**234**	P		**P**	**02 18 29.5**	**-1.7**
LEM	comp=Z,2μm,21.4s,baz=24,slow=39			LR		LR	02 28 48.8	
CISI	**Cisompet, Garu**	**24.18**	**233**	P		sP	02 18 55.1	+3.8
KGM	**Kluang**	**24.19**	**259**	⇓P		**P**	**02 18 36.8**	**+3.1**
SSE	**Sheshan**	**24.29**	**348**	⇑P		**P**	**02 18 33.6**	**-0.7**
SSE				pP		**pP**	**02 18 46.0**	**-0.5**
SSE				sP		**sP**	**02 18 53.3**	**+1.2**
SSE				S		**S**	**02 22 51.4**	**+1.2**
SSE	comp=Z,23nm,0.8s			PMZ				
SSE	comp=Z,720nm,6.8s			PMZ				
SSE	comp=Z,2μm,19.9s			LN				
SSE	comp=Z,390nm,19.7s			LE				
SSE	comp=Z,3μm,19.0s			LZ				
CBJI	**Citeko** comp=Z,172nm,1.0s	**24.31**	**236**	P		**P**	**02 18 39.0**	**+4.3**
CBIJ	**Chichi jima**	**24.39**	**34**	P		**P**	**02 18 36.8**	**+1.5**
JCJ	**Chichijima** comp=Z,53nm,0.6s,baz=232,slow=9.6,SNR=4.9	**24.39**	**34**	P		**P**	**02 18 36.8**	**+1.5**
SKNT	**Sakolnakorn** comp=Z,141nm,0.9s,comp=Z,2μm	**24.46**	**295**	P		**P**	**02 18 36.7**	**+0.6**
CNJI	**Cibinong** comp=Z,107nm,1.1s	**24.58**	**234**	P		**P**	**02 18 40.8**	**+3.6**
CHBT	**CHBT** comp=Z,59nm,1.3s,comp=Z,5μm	**24.90**	**285**	P		**P**	**02 18 41.9**	**+1.8**
KLI	**Kotabumi** comp=Z,113nm,1.0s	**25.20**	**242**	P		**P**	**02 18 47.4**	**+4.5**
CGJI	**Cibinong** comp=Z,64nm,0.9s	**25.37**	**237**	P		**P**	**02 18 47.2**	**+2.8**
MDSI	**Maura Dua** comp=Z,37nm,0.9s	**25.63**	**243**	P		**P**	**02 18 48.9**	**+2.2**
NJ2	**Nanjing**	**25.77**	**344**	*e*P		**P**	**02 18 46.7**	**-1.1**
NJ2				pP		**pP**	**02 18 58.9**	**-1.0**
NJ2				sP		**sP**	**02 19 04.4**	**-1.1**
NJ2				S		**S**	**02 23 16.5**	**+2.7**
NJ2				sS		**sS**	**02 23 33.5**	**-0.8**
NJ2	comp=Z,50nm,0.6s			PMZ				
NJ2	comp=Z,1μm,11.0s			LN				
NJ2	comp=Z,4μm,18.6s			LE				
NJ2	comp=Z,4μm,22.0s			LZ				
KASI	**Kota Agung** comp=Z,1μm,18.1s	**25.84**	**241**	P		**P**	**02 18 51.6**	**+3.0**
LHSI	**Lahat** comp=Z,58nm,1.1s	**25.93**	**245**	P		**P**	**02 18 53.7**	**+4.3**
JNU	**Nakatsue** comp=Z,61nm,1.1s	**25.93**	**7**	P		**P**	**02 18 48.9**	**-0.5**
JNU	comp=Z,141nm,0.9s,baz=177,slow=3.9,SNR=50			LR		LR	02 28 31.4	
JNU	**Nakatsue** comp=Z,1μm,21.8s,baz=182,slow=35	**25.93**	**7**	*e*P		**P**	**02 18 48.3**	**-1.0**
LWLI	**Liwa** comp=Z,54nm,1.0s	**25.98**	**243**	P		**P**	**02 18 54.4**	**+4.4**
WHN	**Wuhan** comp=Z,84nm,0.8s	**25.99**	**334**	P		**P**	**02 18 46.6**	**-3.2**
WHN				S		**S**	**02 23 22.5**	**+5.1**
WHN	comp=Z,7μm,16.8s			LN				
WHN	comp=Z,6μm,17.3s			LE				
WHN	comp=Z,10μm,20.4s			LZ				
PMG	**Port Moresby**	**26.04**	**129**	*e*P		P	02 18 55.6	+5.1
PMG	comp=Z,107nm,1.1s			pmax	pmax			
PMG	**Port Moresby**	**26.04**	**129**	PFAKE			02 19 00.0	+10
PMG	comp=Z,2μm,20.0s			LR	LR			
KULM	**Kulim**	**26.28**	**267**	PFAKE			02 19 00.0	+7.3
KULM	comp=Z,3μm,20.0s			LR	LR			
COEN	**Coen** comp=Z,335nm,2.3s	**26.52**	**143**	*e*P		**P**	**02 18 55.1**	**+0.3**
BKNI	**Bangkinang** comp=Z,285nm,0.5s,comp=Z,9μm	**26.82**	**256**	P		**P**	**02 19 01.5**	**+4.0**
KSJDO	**Jindo** SNR=8.3	**27.04**	**359**	P		**P**	**02 19 00.3**	**+1.0**
KSJDO	**Jindo** SNR=8.3	**27.04**	**359**	P		**P**	**02 19 00.3**	**+1.0**
PBKT	**Sadao Pong** comp=Z,52nm,0.9s,comp=Z,1μm	**27.07**	**292**	P		**P**	**02 19 03.1**	**+3.4**
LOEI	**Loei** comp=Z,35nm,0.8s,comp=Z,1μm	**27.08**	**294**	P		**P**	**02 18 58.0**	**-1.9**
GYA	**Guiyang**	**27.16**	**317**	P		**P**	**02 19 00.8**	**+0.2**
GYA				pP		**pP**	**02 19 13.8**	**+1.0**
GYA				sP		**sP**	**02 19 20.0**	**+1.7**
GYA				PP		**PnPn**	**02 19 47.2**	**+1.6**
GYA				PcP		**PcP**	**02 22 21.4**	**+1.0**
GYA				S		**S**	**02 23 33.6**	**-2.7**
GYA				sS		**sS**	**02 23 55.3**	**-1.5**
GYA				SS		**SnSn**	**02 24 51.0**	**+4.1**
GYA	comp=Z,20nm,0.8s			PMZ				
GYA	comp=Z,120nm,4.8s			PMZ				
GYA	comp=Z,580nm,16.9s			LN				
GYA	comp=Z,470nm,17.2s			LE				
GYA	comp=Z,520nm,16.8s			LZ				
KSKWJ	**Gwangju** SNR=6.3	**27.72**	**360**	P		**P**	**02 19 05.9**	**+0.5**
KSKWJ	**Gwangju** SNR=6.3	**27.72**	**360**	P		**P**	**02 19 05.9**	**+0.5**
PDSI	**Padang** comp=Z,35nm,1.1s,comp=Z,6μm	**27.72**	**254**	P		**P**	**02 19 09.4**	**+3.7**
UTTA	**Uttaradit**	**27.80**	**294**	P		P	02 19 13.7	+7.4
KSBUS	**Busan** SNR=6.5	**27.88**	**4**	P		**P**	**02 19 07.1**	**+0.4**
KSBUS	**Busan** SNR=6.5	**27.88**	**4**	P		**P**	**02 19 07.1**	**+0.4**
WRAB	**Tennant Creek** comp=Z,146nm,1.2s,SNR=5.6	**28.01**	**165**	P		P	02 19 12.0	+3.9
WRAB	**Tennant Creek**	**28.01**	**165**	*i* P		**P**	**02 19 11.3**	**+3.2**
WRAB	comp=Z,101nm,1.7s			pmax	pmax			
WRAB	**Tennant Creek** comp=Z,35nm,1.1s	**28.01**	**165**	*e*P		**P**	**02 19 07.6**	**-0.5**
WRAB	comp=Z,2μm,19.0s			*e*S		**S**	**02 23 45.9**	**-3.6**
WRAB				LR	LR			
WRA	**Warramunga Arr** comp=Z,13nm,0.8s,baz=347,slow=10.0,SNR=12	**28.02**	**165**	P		**P**	**02 19 07.4**	**-0.8**
WRA	comp=Z,3.8nm,0.9s,baz=320,slow=21,SNR=4.4			S	S		02 23 58.6	+9.0
WRA	comp=Z,4.1nm,1.1s,baz=345,slow=3.4,SNR=4.6			ScP		**ScP**	**02 25 58.5**	**-1.2**
WRA				LR	LR		02 33 10.7	
WRA	**Warramunga Arr** comp=Z,9.9nm,0.8s,baz=200,slow=10,SNR=20	**28.02**	**165**	*i* P		**P**	**02 19 11.1**	**+2.9**
WRA	comp=Z,13nm,0.8s			pmax	pmax			
KSJEU	**Jeongeup** SNR=10	**28.05**	**360**	P		**P**	**02 19 08.1**	**-0.2**
KSJEU	**Jeongeup** SNR=10	**28.05**	**360**	P		**P**	**02 19 08.1**	**-0.2**
ENH	**Enshi**	**28.15**	**326**	PFAKE			02 19 20.0	+11
ENH	comp=Z,2μm,20.0s			LR	LR			
PSI	**Prapat** comp=Z,19nm,0.9s,baz=70,slow=1.6,SNR=13	**28.33**	**262**	P		**P**	**02 19 10.6**	**-0.6**
PSI	comp=Z,2μm,19.5s,baz=104,slow=41			LR	LR		02 32 31.0	
PSI	**Prapat**	**28.33**	**262**	*e*P		**P**	**02 19 11.0**	**-0.2**
PSI	**Prapat**	**28.33**	**262**	*e*P		**P**	**02 19 11.0**	**-0.2**
CRAI	**Chiangrai** comp=Z,14nm,1.0s	**28.83**	**299**	P		**P**	**02 19 17.3**	**+1.8**
LAMP	**Lampang**	**28.88**	**295**	P		P	02 19 23.3	+7.4
TJN	**Taejon**	**28.94**	**1**	*e*P		**P**	**02 19 16.8**	**+0.7**
KSBON	**Boeun** SNR=22	**29.07**	**1**	P		**P**	**02 19 17.7**	**+0.4**
KSBON	**Boeun** SNR=22	**29.07**	**1**	P		**P**	**02 19 17.7**	**+0.4**
MBWA	**Marble Bar**	**29.18**	**194**	*e*P		**P**	**02 19 17.8**	**-0.6**
MBWA	comp=Z,1μm,21.0s			LR	LR			
KMI	**Kunming**	**29.19**	**310**	P		**P**	**02 19 18.2**	**-0.6**
KMI				pP		pP	02 19 25.5	-5.5
KMI				S		**S**	**02 24 14.0**	**+5.6**
KMI	comp=Z,15nm,0.7s			PMZ				
KMI	comp=Z,400nm,10.6s			PMZ				
KMI	comp=Z,2μm,15.1s			LN				
KMI	comp=Z,2μm,14.8s			LE				
KMI	comp=Z,2μm,15.5s			LZ				
KSCEA	**Cheonan** SNR=5.5	**29.38**	**0**	P		**P**	**02 19 21.6**	**+1.6**
KSCEA	**Cheonan** SNR=5.5	**29.38**	**0**	P		**P**	**02 19 21.6**	**+1.6**
KSCHJ	**Chungju** SNR=5.9	**29.44**	**2**	P		**P**	**02 19 20.1**	**-0.6**
KSCHJ	**Chungju** SNR=5.9	**29.44**	**2**	P		**P**	**02 19 20.1**	**-0.6**
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.3s,baz=125,slow=7.8,SNR=8.2	**29.48**	**295**	P		**P**	**02 19 20.5**	**-0.8**
CMAR	comp=Z,4.8nm,0.8s,baz=118,slow=1.0,SNR=7.0			PcP		**PcP**	**02 22 26.3**	**+0.2**
CMAR	comp=Z,0.7nm,0.3s,baz=29,slow=2.1,SNR=4.3			ScP		**ScP**	**02 26 05.1**	**+0.7**
CMAR	comp=Z,6μm,18.1s,baz=143,slow=38			LR	LR		02 32 08.7	
CMAR	**Chiang Mai Arr**	**29.48**	**295**	*e*P		**P**	**02 19 22.5**	**+1.3**
CMMT	**Chiang Mai**	**29.59**	**295**	P		P	02 19 31.2	+9.0
CHTO	**Chiang Mai**	**29.59**	**295**	P		P	02 19 31.3	+9.1
CHTO	**Chiang Mai**	**29.59**	**295**	PFAKE			02 19 30.0	+7.8
CHTO	comp=Z,4μm,19.0s			LR	LR			
KSTBA	**Taebaek** SNR=24	**29.73**	**3**	P		**P**	**02 19 24.1**	**+0.8**
KSTBA	**Taebaek** SNR=24	**29.73**	**3**	P		**P**	**02 19 24.1**	**+0.8**
KSICN	**Icheon** SNR=5.7	**29.85**	**1**	P		**P**	**02 19 25.2**	**+0.9**
CMAI	**Hiengmai2** comp=Z,21nm,1.1s,comp=Z,504nm	**29.88**	**298**	P		**P**	**02 19 26.6**	**+1.6**
GSI	**Gunungsitoli** comp=Z,74nm,0.8s	**29.95**	**260**	P		**P**	**02 19 26.0**	**+0.6**
GSI	**Gunungsitoli** comp=Z,49nm,0.8s	**29.95**	**260**	*e*P		**P**	**02 19 25.0**	**-0.4**
KSAR	**Wonju Array Be**	**30.01**	**1**	P		**P**	**02 19 26.1**	**+0.5**
KSAR							02 22 27.0	
KSAR	**Wonju Array Be**	**30.01**	**1**	P		**P**	**02 19 26.1**	**+0.5**
KSAR				PcP		**PcP**	**02 22 27.0**	**-0.1**
KSRS	**Korea Array** comp=Z,23nm,0.9s,baz=177,slow=10,SNR=82	**30.02**	**1**	P		**P**	**02 19 26.1**	**+0.4**
KSRS	comp=Z,2.8nm,0.9s,baz=187,slow=4.6,SNR=4.6			PcP		**PcP**	**02 22 27.0**	**-0.1**
KSRS	comp=Z,2μm,18.0s,baz=188,slow=43			LR	LR		02 34 44.5	
INCN	**Inchon**	**30.04**	**359**	PFAKE			02 19 40.0	+14
INCN	comp=Z,2μm,20.0s			LR	LR			
TIA	**Tai'an**	**30.16**	**344**	*e*P		P	02 19 22.7	-4.3
TIA				S		**S**	**02 24 27.0**	**+4.0**
TIA	comp=Z,2μm,18.0s			LN				
TIA	comp=Z,1μm,22.0s			LE				
TIA	comp=Z,3μm,17.0s			LZ				
KSULL	**Ulleungdo** SNR=14	**30.24**	**6**	P		**P**	**02 19 28.2**	**+0.5**
KSULL	**Ulleungdo** SNR=14	**30.24**	**6**	P		**P**	**02 19 28.2**	**+0.5**
KSDGY	**Daegwallycong** SNR=15	**30.28**	**3**	P		**P**	**02 19 29.0**	**+0.8**
KSDGY	**Daegwallycong** SNR=15	**30.28**	**3**	P		**P**	**02 19 29.0**	**+0.8**
MHMT	**Maesarieng**	**30.31**	**294**	P		pP	02 19 43.5	+2.7
YNCB	**YEONCHEON** SNR=21	**30.59**	**360**	P		**P**	**02 19 31.5**	**+0.7**
YNCB	**YEONCHEON** SNR=21	**30.59**	**360**	P		**P**	**02 19 31.5**	**+0.7**
MAJO	**Matsushiro**	**30.84**	**18***c*	*i* P		**P**	**02 19 32.7**	**-0.4**
MAJO	comp=Z,59nm,0.8s			pmax	pmax			
MAJO	**Matsushiro** comp=Z,22nm,1.2s	**30.84**	**18**	*e*P		**P**	**02 19 32.4**	**-0.7**
MAJO	comp=Z,3μm,20.0s			LR	LR			
MAT	**Matsushiro**	**30.84**	**18**	P		**P**	**02 19 33.0**	**-0.1**
MAT				S		**S**	**02 24 32.8**	**-0.9**
MJAR	**Matsushiro Arr** comp=Z,9.9nm,0.8s,baz=200,slow=10,SNR=20	**30.84**	**18**	P		**P**	**02 19 32.8**	**-0.2**
MJAR	comp=Z,3μm,21.0s,baz=180,slow=34			LR	LR		02 30 58.9	
AS31	**Alice Springs**	**31.51**	**168**	*e*P		**P**	**02 19 39.1**	**0.0**
ASAR	**Alice Springs** comp=Z,1.0nm,0.3s,baz=344,slow=7.2,SNR=14	**31.51**	**168**	P		**P**	**02 19 37.4**	**-1.7**
ASAR	comp=Z,5.4nm,0.6s,baz=348,slow=2.5,SNR=9.9			PcP		**PcP**	**02 22 31.8**	**+0.4**
ASAR	comp=Z,1.5nm,0.9s,baz=351,slow=17,SNR=3.1			S		**S**	**02 24 41.1**	**-3.3**
ASAR	comp=Z,3.6nm,1.0s,baz=17,slow=2.6,SNR=6.5			ScP		**ScP**	**02 26 10.0**	**-0.9**
ASAR	comp=Z,1μm,18.1s,baz=332,slow=42			LR	LR		02 35 10.3	
CD2	**Chengdu**	**32.02**	**320**	⇑P		**P**	**02 19 41.5**	**-2.0**
CD2				pP		**pP**	**02 19 55.3**	**-0.5**
CD2				sP		**sP**	**02 20 01.4**	**+0.1**
CD2				S		**S**	**02 24 51.8**	**-0.5**
CD2				sS		**sS**	**02 25 13.6**	**+0.7**
CD2	comp=Z,20nm,0.6s			PMZ				
CD2	comp=Z,290nm,6.8s			PMZ				
CD2	comp=Z,6μm,17.6s			LN				
CD2	comp=Z,4μm,16.2s			LE				
CD2	comp=Z,5μm,18.1s			LZ				
TIY	**Taiyuan**	**33.04**	**339**	*e*P		**P**	**02 19 50.3**	**-2.1**
TIY				S		**S**	**02 25 08.9**	**+0.9**
TIY	comp=Z,310nm,11.4s			PMZ				
TIY	comp=Z,2μm,13.2s			LN				
TIY	comp=Z,710nm,13.4s			LE				
TIY	comp=Z,2μm,17.9s			LZ				
CTA	**Charters Tower** comp=Z,12nm,0.6s,baz=326,slow=11,SNR=21	**33.16**	**146**	P		**P**	**02 19 53.8**	**+0.2**
CTAO	**Charters Tower**	**33.16**	**146**	*e*P		**P**	**02 19 53.6**	**0.0**
CTAO	comp=Z,12nm,0.6s			pmax	pmax			
CTAO	comp=Z,2μm,19.0s			MLR	MLR			
CTAO	**Charters Tower** comp=Z,12nm,

CTAO LR LR
comp=Z,2μm,19.0s
BJT Baijiatuau 33.99 345 PFAKE 02 20 10.0 +9.4
BJT LR LR
comp=Z,1μm,20.0s
BJI Beijing 34.01 345 P **P** **02 20 01.6 +0.9**
BJI pP **pP** **02 20 12.7 -0.3**
BJI sP **sP** **02 20 17.5 -1.1**
BJI S **S** **02 25 23.8 +1.0**
BJI PMZ
comp=Z,10.0nm,0.9s
BJI PMZ
comp=Z,260nm,9.7s
BJI LN
comp=Z,500nm,10.4s
BJI LE
comp=Z,2μm,19.9s
BJI LZ
comp=Z,780nm,20.7s
SNY Shenyang 34.51 355 ⇓P **P** **02 20 05.2 +0.2**
SNY S **S** **02 25 33.2 +2.7**
SNY PMZ
comp=Z,42nm,1.0s
SNY PMZ
comp=Z,300nm,6.9s
SNY LN
comp=Z,2μm,19.4s
SNY LE
comp=Z,2μm,14.2s
SNY LZ
comp=Z,2μm,17.4s
LZH Lanzhou 35.63 327 *e*P P 02 20 18.7 +3.7
LZH pP pP 02 20 30.0 +2.6
LZH sP sP 02 20 36.7 +3.8
LZH PP **PP** **02 21 40.0 +3.4**
LZH S **S** **02 25 52.4 +4.1**
LZH PMZ
comp=Z,28nm,1.0s
LZH PMZ
comp=Z,280nm,7.7s
LZH LN
comp=Z,2μm,13.4s
LZH LE
comp=Z,2μm,13.3s
LZH LZ
comp=Z,3μm,16.1s
VLA Vladivostok 35.92 6*c i*P **P** **02 20 17.5 +0.3**
VLA pmax pmax
comp=Z,143nm,1.2s
HHC Hu-ho-hao-te 36.13 340 *e*P **P** **02 20 19.0 -0.2**
HHC PP **PP** **02 21 43.0 +1.0**
HHC S **S** **02 25 51.2 -4.6**
HHC sS **sS** **02 26 19.7 +3.2**
HHC PMZ
comp=Z,17nm,0.8s
HHC PMZ
comp=Z,300nm,5.0s
HHC LN
comp=Z,2μm,12.8s
HHC LE
comp=Z,2μm,12.3s
HHC LZ
comp=Z,2μm,12.4s
CN2 Changchun 36.38 358 *e*P **P** **02 20 21.7 +0.7**
CN2 *e*S **S** **02 26 04.3 +5.2**
CN2 PMZ
comp=Z,10.0nm,0.3s
CN2 PMZ
comp=Z,500nm,7.0s
CN2 LN
comp=Z,700nm,19.0s
CN2 LE
comp=Z,800nm,19.0s
CN2 LZ
comp=Z,1μm,20.0s
HNR Honiara 36.78 116 PFAKE 02 20 40.0 +15
HNR LR LR
comp=Z,1μm,21.0s
USRK Ussuriysk Ar. 37.01 6 P **P** **02 20 26.7 +0.4**
comp=Z,90nm,0.9s,baz=188,slow=7.8,SNR=74
USRK LR LR 02 34 09.8
comp=Z,1μm,21.4s,baz=180,slow=34
MDJ Mudanjiang 37.23 3 P **P** **02 20 28.9 +0.6**
MDJ pP **pP** **02 20 41.2 +0.5**
MDJ PP **PP** **02 21 53.9 0.0**
MDJ PcP **PcP** **02 22 48.8 +1.5**
MDJ S **S** **02 26 15.1 +2.9**
MDJ PMZ
comp=Z,53nm,1.5s
MDJ PMZ
comp=Z,520nm,6.9s
MDJ LN
comp=Z,630nm,17.8s
MDJ LE
comp=Z,740nm,15.4s
MDJ LZ
comp=Z,1μm,20.5s
MDJ Mudanjiang 37.23 3 *e*P **P** **02 20 29.1 +0.8**
comp=Z,44nm,1.0s
MDJ LR LR
comp=Z,2μm,20.0s
ERM Erimo 37.41 20 *i*P **P** **02 20 30.9 +1.1**
ERM pmax pmax
comp=Z,43nm,1.2s
ERM Erimo 37.41 20 *e*P **P** **02 20 30.6 +0.8**
comp=Z,57nm,1.2s
ERM LR LR
comp=Z,2μm,19.0s
FORT Forrest 37.88 179 *e*P **P** **02 20 34.0 +0.1**
ASAJ Asahikawa 39.11 18 *e*P **P** **02 20 45.3 +1.1**
comp=Z,20nm,0.8s
YUK Yuzh-Kuril'sk 40.12 21*d i*P **P** **02 20 55.4 +2.9**
YUK *e**PP **pP** **02 21 05.2 +0.1**
YUK *i* 02 22 28.2
YUK *i*PPP PPP 02 22 53.1
YUK *i*S **S** **02 26 58.1 +2.4**
YUK *i**SS **sS** **02 27 20.8 +4.1**
YUK pmax pmax
comp=Z,354nm,6.6s
YUK pmax pmax
comp=N,80nm,1.4s
YUK pmax pmax
comp=E,70nm,1.4s
YUK pmax pmax
comp=Z,90nm,1.4s
H11S3 WAKE ISLAND Hy 40.14 70 T T 03 04 33.9
baz=246,slow=74,SNR=58
H11S1 WAKE ISLAND Hy 40.15 70 T T 03 04 27.8
baz=246,slow=74,SNR=33
H11S2 WAKE ISLAND Hy 40.16 70 T T 03 04 44.2
baz=246,slow=74,SNR=35
GTA Gaotai 40.24 327 *e*P **P** **02 20 53.8 0.0**
GTA pP **pP** **02 21 05.5 -0.8**
GTA sP **sP** **02 21 10.8 -1.0**
GTA PcP **PcP** **02 22 58.5 +1.4**
GTA ScP **ScP** **02 26 44.0 +1.3**
GTA S **S** **02 26 57.6 -0.3**
GTA sS **sS** **02 27 18.0 -0.8**
GTA SS **SS** **02 29 51.0 -6.5**
GTA PMZ
comp=Z,6.0nm,0.9s
GTA PMZ
comp=Z,340nm,9.5s
GTA LN
comp=Z,2μm,18.5s
GTA LE
comp=Z,2μm,17.1s
GTA LZ
comp=Z,4μm,17.6s
WAKE Wake Island 40.26 69 PFAKE 02 21 10.0 +16
WAKE LR LR
comp=Z,1μm,20.0s
LSA Lhasa 40.39 308 P **P** **02 20 54.6 -0.9**
LSA PP **PP** **02 22 30.8 +1.7**
LSA LN
comp=Z,620nm,18.3s
LSA LE
comp=Z,930nm,16.5s
LSA LZ
comp=Z,2μm,17.6s
LSA Lhasa 40.39 308 PFAKE 02 21 10.0 +14
LSA LR LR
comp=Z,1μm,19.0s
H11N1 WAKE ISLAND Hy 40.57 68 T T 03 04 59.6
baz=265,slow=74,SNR=55
H11N2 WAKE ISLAND Hy 40.58 68 T T 03 05 14.4
baz=265,slow=74,SNR=42
H11N3 WAKE ISLAND Hy 40.59 68 T T 03 05 02.2
baz=265,slow=74,SNR=68
BBOO Buckleboo 40.81 168 *e*P **P** **02 20 59.0 +0.6**
NWAO Narrogin (SRO) 41.08 193 P **P** **02 20 59.5 -1.1**
comp=Z,50nm,0.8s,baz=330,slow=6.1,SNR=26
STKA Stephens Creek 41.38 161 P **P** **02 21 01.2 -1.8**
comp=Z,17nm,1.1s,baz=340,slow=7.5,SNR=11
STKA LR LR 02 41 46.2
comp=Z,919nm,19.4s,baz=332,slow=41
STKA Stephens Creek 41.38 161 *e*P **P** **02 21 02.0 -1.0**
STKA Stephens Creek 41.38 161 *e*P **P** **02 21 02.0 -1.0**
HABR Khabarovsk 41.59 8*c e*P **P** **02 21 04.9 +0.4**
HABR *e**PP **pP** **02 21 16.0 -1.1**
HABR *e**SP **sP** **02 21 22.0 -0.5**
HABR *e* 02 22 39.1
HABR *e* 02 22 59.6
HABR *e*PPP PPP 02 23 08.3
HABR *e*S **S** **02 27 17.6 +0.3**
HABR *e**SS **sS** **02 27 38.2 -0.1**
HABR *e*SS **SS** **02 30 21.8 -1.9**
HABR *e* 02 31 01.5
HABR pmax pmax
comp=E,32nm,1.5s
HABR pmax pmax
comp=N,46nm,1.5s
HABR pmax pmax
comp=Z,116nm,1.5s
HABR MLR MLR
comp=Z,1μm,19.0s
YSS Yuzh-Sakhalins 41.74 16 *e*P **P** **02 21 05.6 -0.2**
YSS *e**PP **pP** **02 21 19.0 +0.6**
YSS *e* 02 22 46.0
YSS *e*PPP PPP 02 23 13.0
YSS *e*S **S** **02 27 18.0 -1.7**
YSS *e*SS **SS** **02 30 22.0 -4.9**
YSS pmax pmax
comp=Z,50nm,1.2s
YSS pmax pmax
comp=Z,400nm,4.0s
YSS MLR MLR
comp=Z,1μm,17.0s
YSS MLR MLR
comp=N,1μm,18.0s
YSS Yuzh-Sakhalins 41.74 16 *e*P **P** **02 21 06.5 +0.6**
comp=N,21nm,0.8s
YSS LR LR
comp=Z,667nm,19.0s
KUR Kuril'sk 41.89 22 *i*P **P** **02 21 09.4 +2.4**
KUR *i*S **S** **02 27 20.0 -1.9**
KUR *i*SS **SS** **02 30 27.0 -2.8**
KUR pmax pmax
comp=Z,120nm,1.8s
KUR MLR MLR
comp=E,673nm,18.7s
KUR MLR MLR
comp=Z,710nm,18.7s
KUR MLR MLR
comp=N,695nm,18.7s
KLR Kul'dur 41.97 5 *e*P P 02 21 03.4 -4.3
KLR *e*S **S** **02 27 23.5 +0.4**
KLR pmax pmax
comp=Z,120nm,1.8s
KLR pmax pmax
comp=Z,2μm,10.0s
TAPN Taplejung 42.23 303 *e*P **P** **02 21 10.4 -0.1**
comp=Z,70nm,1.0s
HIA Hailar 42.27 353*c i*P **P** **02 21 10.1 0.0**
HIA pmax pmax
comp=Z,12nm,1.1s
HIA Hailar 42.27 353 *e*P **P** **02 21 11.1 +0.9**
HIA LR LR
comp=Z,2μm,19.0s
ODAN Odare 42.33 302 *e*P **P** **02 21 11.4 +0.1**
comp=Z,77nm,0.7s
RAMN Ramite 43.02 302 *e*P **P** **02 21 16.5 -0.4**
CHLP Challavanipeta 43.22 289 *e*P **P** **02 21 17.6 -0.7**
CHLP IAmb IAmb 02 21 23.5
comp=Z,18nm,0.9s
JIRN Jiri 43.60 303 *e*P **P** **02 21 21.6 -0.1**
ULN Ulaanbaatar 43.84 341 PFAKE 02 21 30.0 +6.9
ULN LR LR
comp=Z,2μm,20.0s
GUN Gumba 43.95 303 *e*P **P** **02 21 24.2 -0.3**
comp=Z,107nm,1.1s
SONM Songino Array 44.04 340 P **P** **02 21 23.5 -1.1**
comp=Z,2.7nm,0.8s,baz=156,slow=7.5,SNR=14
SONM PcP **PcP** **02 23 09.9 +0.4**
comp=Z,2.7nm,0.8s,baz=180,slow=3.3,SNR=4.0
SONM ScP **ScP** **02 26 58.8 +1.1**
comp=Z,1.1nm,0.9s,baz=138,slow=4.2,SNR=3.9
SONM LR LR 02 42 17.3
comp=Z,2μm,18.7s,baz=154,slow=40
PKI Pulchoki 44.23 302 *e*P **P** **02 21 25.9 -0.8**
comp=Z,24nm,0.8s
PKIN Phulchoki 44.24 302 *e*P **P** **02 21 27.1 +0.4**
KKN Kakani 44.41 303 *e*P **P** **02 21 27.9 -0.1**
DMN Daman 44.49 302 *e*P **P** **02 21 28.1 -0.6**
GKN Gorkha 45.02 303 *e*P **P** **02 21 31.5 -1.3**
comp=Z,27nm,0.8s
TYV Tymovskoe 45.32 14 *e*P P 02 21 38.0 +3.4
TYV pmax pmax
comp=Z,48nm,1.2s
PVM Polavaram 45.34 287 *e*P **P** **02 21 33.6 -1.7**
PVM IAmb IAmb 02 21 40.0
comp=Z,6.8nm,0.9s
KOLN Koldanda 45.81 302 *e*P **P** **02 21 38.8 -0.3**
comp=Z,54nm,0.9s
PALK Pallekele 45.93 273 P **P** **02 21 37.5 -2.5**
comp=Z,14nm,0.9s,baz=162,slow=9.6,SNR=2.4
PALK LR LR 02 43 05.3
comp=Z,797nm,19.7s,baz=47,slow=39
ADKI Addanki 46.78 285 *e*P **P** **02 21 45.0 -1.6**
ADKI IAmb IAmb 02 21 48.2
comp=Z,9.7nm,1.0s
SKHT Srikalahasti 46.89 282 *e*P **P** **02 21 47.2 -0.3**
SKHT IAmb IAmb 02 21 48.3
comp=Z,15nm,1.0s
NKL Nikolayevsk 47.04 11 *i*P **P** **02 21 48.0 -0.1**
NKL *e* 02 22 00.5
NKL *e* 02 23 22.0
NKL *e*S **S** **02 28 36.0 -0.5**
NKL pmax pmax
comp=Z,500nm,6.0s
NKL pmax pmax
comp=N,40nm,1.0s
NKL pmax pmax
comp=Z,86nm,1.0s
NKL smax smax
comp=N,500nm,11.0s
NKL smax smax
comp=E,500nm,11.0s
NKL MLR MLR
comp=N,1μm,18.0s
NKL MLR MLR
comp=Z,2μm,18.0s
NKL MLR MLR
comp=E,1μm,17.0s
CAN Canberra 47.19 155 PFAKE 02 22 00.0 +10
CAN LR LR
comp=Z,2μm,19.0s
ZAK Zakamensk 47.28 339 *e*P **P** **02 21 49.5 -0.6**
ZAK *e* 02 23 20.9
NJS Nagarjunasagar 47.48 286 *e*P **P** **02 21 51.0 -1.1**
RCLA Racherla 47.72 284 *e*P **P** **02 21 51.6 -2.4**
RCLA IAmb IAmb 02 22 06.5
comp=Z,18nm,0.9s
RPR Rampur 47.74 289 *e*P **P** **02 21 52.5 -1.5**
SRLM Srisailam 47.83 285 *e*P **P** **02 21 53.5 -1.4**
SRLM IAmb IAmb 02 21 55.6
comp=Z,13nm,0.9s
TLY Talaya 48.26 341 P **P** **02 21 56.4 -1.2**
baz=243,slow=2.7
TLY Talaya 48.26 341 *e*P **P** **02 21 57.0 -0.6**
TLY *e* 02 23 50.4
TLY *e*PPP PPP 02 24 41.2
TLY *e*S **S** **02 28 59.0 +5.1**
TLY pmax pmax
comp=Z,9.0nm,0.9s
TLY MLR MLR
comp=Z,1μm,19.0s
TLY Talaya 48.26 341 *e*P **P** **02 21 57.0 -0.6**
comp=Z,7.5nm,0.7s
TLY LR LR
comp=Z,2μm,20.0s
HYB Hyderabad 48.27 287 *i*P **P** **02 21 59.0 +0.7**
HYBB Hyderabad (bro 48.28 287 *e*P **P** **02 21 56.2 -2.1**
HYBB IAmb IAmb 02 21 58.5
comp=Z,12nm,0.9s
DZM Mont Dzumac 48.43 128 *e*P P 02 22 04.1 +4.7
comp=Z,52nm,1.5s
DZM *e*S **S** **02 28 59.8 +2.6**
comp=Z,2μm,25.2s
DZM *e*LR LR 02 35 56.5
comp=Z,2μm,23.1s
DZM Mont Dzumac 48.43 128 P **P** **02 22 00.3 +0.9**
comp=Z,8.9nm,0.8s,baz=270,slow=20,SNR=3.6
DZM LR LR 02 43 15.9
comp=Z,740nm,18.2s,baz=0.0,slow=37
SRSP Sriramsagar 48.64 289 *e*P **P** **02 22 00.3 -0.8**
SRSP IAmb IAmb 02 22 01.8
comp=Z,43nm,1.4s
MOY Mondy 49.16 339 *e*P **P** **02 22 06.4 +1.8**
URV Uravakonda 49.32 283 *e*P **P** **02 22 05.4 -1.0**
URV IAmb IAmb 02 22 10.9
comp=Z,12nm,0.4s
CLNS Chul'man 49.43 358 *e*P **P** **02 22 06.4 -0.1**
CLNS *e**PP **pP** **02 22 16.3 -3.0**
CLNS *e* 02 24 00.5
CLNS *e*PPP PPP 02 24 57.3
CLNS pmax pmax
comp=Z,25nm,1.1s
CLNS pmax pmax
comp=N,23nm,1.4s
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS pmax pmax
comp=Z,13nm,0.9s
CLNS MLR MLR
comp=E,331nm,15.0s
CLNS MLR MLR
comp=N,476nm,16.0s
CLNS MLR MLR
comp=Z,640nm,16.0s
WMQ Urumqi 50.01 323 P **P** **02 22 12.4 +1.2**
WMQ pP **pP** **02 22 28.0 +3.9**
WMQ sP sP 02 22 35.1 +5.6
WMQ PcP **PcP** **02 23 31.8 +1.1**
WMQ PP **PP** **02 24 08.8 +2.2**
WMQ S **S** **02 29 16.7 -2.2**
WMQ pmax pmax
comp=Z,13nm,0.3s
WMQ pmax pmax
comp=Z,420nm,5.2s
WMQ LR LR
comp=N,5μm,17.0s
WMQ LR LR
comp=E,3μm,17.0s
WMQ LR LR
comp=Z,2μm,19.7s
WMQ Urumqi 50.01 323 P **P** **02 22 12.0 +0.8**
WMQ pP **pP** **02 22 23.8 -0.3**
WMQ sP **sP** **02 22 29.7 +0.2**
WMQ PcP **PcP** **02 23 31.5 +0.8**
WMQ PP **PP** **02 24 08.2 +1.6**
WMQ S **S** **02 29 18.2 -0.7**
WMQ PMZ
comp=Z,18nm,1.2s
WMQ PMZ
comp=Z,430nm,5.8s
WMQ LN
comp=Z,5μm,17.0s
WMQ LE
comp=Z,3μm,20.0s
WMQ LZ
comp=Z,2μm,15.8s
KLRI Killari 50.19 287 *e*P **P** **02 22 11.7 -1.2**
KLRI IAmb IAmb 02 22 16.8
comp=Z,18nm,0.7s
BOD Bodaibo 51.39 351 *e*P **P** **02 22 20.2 -1.1**
BOD pmax pmax
comp=Z,17nm,0.9s
PETK Petropavlovsk- 52.04 23 P **P** **02 22 27.4 +1.3**
comp=Z,14nm,0.7s,baz=187,slow=6.8,SNR=13
PETK LR LR 02 44 41.6
comp=Z,531nm,19.6s,baz=208,slow=36
PET Petropavlovsk 52.35 24 *e*P **P** **02 22 30.1 +1.7**
PET *e**PP **pP** **02 22 44.0 +2.7**
PET *e* 02 23 40.2
PET *e*S **S** **02 29 51.5 +0.9**
PET pmax pmax
comp=Z,500nm,7.5s
PET pmax pmax
comp=Z,50nm,0.7s
PET pmax pmax
comp=Z,400nm,7.7s
PET MLR MLR
comp=Z,800nm,20.0s
PET MLR MLR
comp=Z,900nm,19.0s
PET Petropavlovsk 52.35 24 *e*P **P** **02 22 28.4 0.0**
PET LR LR
comp=Z,861nm,20.0s
YAK Yakutsk 54.65 2 *e*P **P** **02 22 45.3 +0.2**
YAK *e**PP **pP** **02 22 56.8 -1.3**
YAK *e* 02 23 45.7
YAK *e* 02 24 47.4
YAK *e*PPP PPP 02 26 01.6
YAK *e*S **S** **02 30 18.5 -3.0**
YAK *e* 02 32 28.0
YAK *e*SS **SS** **02 34 04.8 -0.1**
YAK pmax pmax
comp=Z,95nm,0.9s
YAK pmax pmax
comp=N,35nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,108nm,2.7s
YAK pmax pmax
comp=N,35nm,2.1s
YAK pmax pmax
comp=E,25nm,2.2s
YAK smax smax
comp=E,202nm,4.1s
YAK smax smax
comp=N,97nm,3.5s
YAK Yakutsk 54.65 2 *e*P **P** **02 22 45.5 +0.4**
YAK LR LR
comp=Z,1μm,19.0s
MK31 Makanchi Array 54.83 324 P **P** **02 22 45.1 -1.7**
MK31 pmax pmax
comp=Z,12nm,0.6s
MK31 Makanchi Array 54.83 324 *e*P **P** **02 22 45.4 -1.4**
MKAR Makanchi Array 54.83 324 P **P** **02 22 45.3 -1.6**
comp=Z,15nm,0.9s,baz=118,slow=7.4,SNR=57
MKAR ScP **ScP** **02 27 42.5 -1.1**
comp=Z,1.5nm,1.0s,baz=104,slow=6.1,SNR=4.1
MKAR LR LR 02 48 11.7
comp=Z,2μm,18.9s,baz=120,slow=38
MKAR Makanchi Array 54.83 324 *i*P **P** **02 22 45.0 -1.8**
MKAR pmax pmax
comp=Z,15nm,0.9s
KSH Kashi 55.77 313 *e*P **P** **02 22 54.8 +0.9**
KSH pP **pP** **02 23 07.8 +0.9**
KSH sP **sP** **02 23 13.1 +0.9**
KSH PcP **PcP** **02 23 52.5 -0.1**
KSH PP **PP** **02 25 02.8 +4.1**
KSH PcS **PcS** **02 27 54.4 +1.4**
KSH S **S** **02 30 38.8 +1.1**
KSH sS **sS** **02 31 00.0 +0.6**
KSH PMZ
comp=Z,8.0nm,0.8s
KSH PMZ
comp=Z,220nm,5.6s
KSH LN
comp=Z,720nm,14.0s
KSH LE
comp=Z,1μm,20.9s
KSH LZ
comp=Z,1μm,21.2s
MSVF Nonsavu 56.20 117 *e*P **P** **02 22 59.6 +2.5**
MSVF pmax pmax
comp=Z,14nm,1.1s
MSVF Nonsavu 56.20 117 *e*P **P** **02 22 59.6 +2.5**
comp=Z,14nm,1.1s
DGAR Diego Garcia 56.35 256 PFAKE 02 23 10.0 +12
DGAR LR LR
comp=Z,1μm,20.0s
MIDW Midway 56.37 61 PFAKE 02 23 10.0 +12

MIDW LR LR
comp=Z,889nm,19.0s
ULHL Ulahol 56.61 316 P **P 02 22 58.7 -1.2**
SNR=9.8
KZA Kyzart 57.22 316 P **P 02 23 03.9 -0.6**
SNR=19
TKM2 Tokmak 2 57.31 317 P **P 02 23 05.0 +0.2**
SNR=9.7
TKM2 Tokmak 2 57.31 317 P **P 02 23 04.1 -0.7**
TKM2 pmax pmax
comp=Z,10.0nm,0.9s
TKM2 Tokmak 2 57.31 317 *e*P **P 02 23 03.0 -1.8**
comp=Z,8.7nm,0.8s
TKM2 LR LR
comp=Z,1µm,22.0s
ZAA0 Zalesovo Array 57.57 332 *e*P **P 02 23 04.2 -2.0**
ZALV Zalesovo Beam 57.57 332 P **P 02 23 04.8 -1.3**
comp=Z,1.4nm,0.4s,baz=116,slow=6.8,SNR=8.1
ZALV LR LR 02 49 02.5
comp=Z,1µm,19.8s,baz=70,slow=37
KBK Karagaybulak 57.65 316 P **P 02 23 06.8 -0.4**
SNR=8.8
UCH Uchtor 57.79 316 P **P 02 23 07.9 -0.6**
SNR=27
AAK Ala-Archa 57.95 316 P **P 02 23 09.5 +0.2**
comp=Z,4.4nm,0.7s,baz=146,slow=12,SNR=7.5
AAK LR LR 02 50 15.3
comp=Z,1µm,20.0s,baz=82,slow=38
AAK Ala-Archa 57.95 316*c i*P **P 02 23 08.8 -0.5**
AAK pmax pmax
comp=Z,27nm,1.7s
AAK Ala-Archa 57.95 316 *e*P **P 02 23 09.3 +0.1**
comp=Z,4.1nm,0.6s
USP Ospenovka 58.18 317 P **P 02 23 10.3 -0.5**
SNR=15
AML Almayashu 58.32 315 P **P 02 23 12.8 +0.6**
SNR=9.3
EKS2 Erkin-Say 58.45 316 P **P 02 23 13.3 +0.5**
SNR=16
EKS2 Erkin-Say 58.45 316 *e*P **P 02 23 11.4 -1.4**
EKS2 pmax pmax
comp=Z,17nm,0.9s
EKS2 MLR MLR
comp=Z,3µm,22.0s
EKS2 Erkin-Say 58.45 316 *e*P **P 02 23 11.4 -1.4**
comp=Z,17nm,0.9s
EKS2 LR LR
comp=Z,3µm,22.0s
SEY Seymchan 58.51 13*c i*P **P 02 23 13.0 +0.4**
NVS Novosibirsk 58.85 332 *e*P **P 02 23 12.9 -2.2**
NVS pmax pmax
comp=Z,9.0nm,0.8s
NVS pmax pmax
comp=N,5.0nm,0.9s
KURK Kurchatov 58.92 326 P **P 02 23 15.4 -0.3**
comp=N,57nm,0.7s,SNR=7.8
KURK Kurchatov 58.92 326 P **P 02 23 14.1 -1.6**
KURK pmax pmax
comp=Z,14nm,1.0s
KURK Kurchatov 58.92 326 *e*P **P 02 23 14.5 -1.2**
comp=Z,26nm,0.9s
KURK LR LR
comp=Z,547nm,19.0s
MNAS Manas 59.27 316 P **P 02 23 17.0 -1.5**
MNAS pmax pmax
comp=Z,19nm,1.0s
KBL Kabul 59.63 306 *e*P **P 02 23 20.4 -0.8**
KBL pmax pmax
comp=Z,9.0nm,0.6s
KBL Kabul 59.63 306 *e*P **P 02 23 20.4 -0.8**
comp=Z,9.3nm,0.6s
KK31 Karatay Array 60.86 316 *i* P **P 02 23 28.0 -1.2**
KK31 pmax pmax
comp=Z,37nm,1.1s
KKAR Karatay Array 60.86 316 *e*P **P 02 23 27.6 -1.6**
KKAR pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 60.86 316 *e*P **P 02 23 27.6 -1.6**
comp=Z,9.4nm,0.6s
ADK Adak 63.88 35 PFAKE 02 24 00.0 +11
ADK LR LR
comp=Z,1µm,22.0s
TIXI Tiksi 64.28 1*c i*P **P 02 23 50.7 -0.7**
TIXI pmax pmax
comp=Z,48nm,1.0s
TIXI Tiksi 64.28 1 *e*P **P 02 23 50.5 -1.0**
comp=Z,47nm,1.0s
TIXI LR LR
comp=Z,1µm,19.0s
AFI Afiamalu 64.29 109 PFAKE 02 24 10.0 +17
AFI LR LR
comp=Z,2µm,19.0s
BVA0 Borovoye Array 64.52 326 P **P 02 23 51.1 -2.2**
BVA0 pmax pmax
comp=Z,71nm,2.1s
BVAR Borovoye Array 64.52 326 LR LR 02 54 24.5
comp=Z,1µm,18.3s,baz=116,slow=38
BRVK Borovoye 64.59 326*c i*P **P 02 23 52.4 -1.4**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 64.59 326 *e*P **P 02 23 53.0 -0.8**
comp=Z,12nm,0.8s
BRVK LR LR
comp=Z,1µm,19.0s
SNZO South Karori 65.17 142 PFAKE 02 24 10.0 +12
SNZO LR LR
comp=Z,2µm,22.0s
AB31 Akbulak array 69.60 320 *e*P **P 02 24 23.6 -2.0**
AB31 pmax pmax
comp=Z,4.0nm,0.7s
ABKAR Akbulak array 69.60 320 *e*P **P 02 24 23.4 -2.2**
comp=Z,3.1nm,0.6s
UNV Unalaska Valle 70.34 35 *e*P **P 02 24 31.6 +1.5**
comp=Z,38nm,0.9s
AKTO Aktyubinsk 71.07 321 P **P 02 24 32.6 -2.0**
AKTO pmax pmax
comp=Z,24nm,1.6s
SVE Sverdlovsk 71.09 328⇓ *e*P **P 02 24 34.5 -0.1**
SVE pmax pmax
comp=Z,34nm,1.1s
SVE MLR MLR
comp=Z,2µm,19.0s
ARU Arti 72.10 327*c i*P **P 02 24 38.3 -2.4**
ARU *PP **pP 02 24 50.7 -3.4**
ARU 02 27 20.8
ARU PPP PPP 02 29 03.7
ARU S **S 02 33 57.2 -2.0**
ARU pmax pmax
comp=Z,20nm,1.0s
ARU MLR MLR
comp=Z,1µm,17.0s
ARU Arti 72.10 327 *e*P **P 02 24 38.7 -1.9**
comp=Z,17nm,0.9s
ARU LR LR
comp=Z,979nm,20.0s
MSEY Mahe Island 72.37 263 PFAKE 02 24 50.0 +6.8
MSEY LR LR
comp=Z,530nm,22.0s
SDPT Sand Point 74.09 35 *e*P **P 02 24 53.8 +1.3**
comp=Z,118nm,1.6s
CASY Casey 74.38 187 PFAKE 02 25 10.0 +16
CASY LR LR
comp=Z,1µm,19.0s
XMAS Kiritimati 75.40 90 PFAKE 02 25 10.0 +9.1
XMAS LR LR
comp=Z,1µm,19.0s
RAR Rarotonga 77.18 114 PFAKE 02 25 20.0 +9.2
RAR LR LR
comp=Z,2.0nm,20.0s
MAK Makhachkala 77.39 312 *e*P **P 02 25 11.8 +0.2**
MAK *e* 02 28 04.0
MAK S **S 02 34 58.6 -0.2**
MAK *e* 02 35 28.3
MAK *e*SS **SS 02 39 58.0 0.0**
MAK pmax pmax
comp=Z,107nm,1.6s
MAK MLR MLR
comp=Z,897nm,19.0s
OHAK Old Harbor 78.31 33 *e*P **P 02 25 17.9 +1.5**
comp=Z,24nm,1.0s
KDAK Kodiak Island 78.74 33 *e*P **P 02 25 19.1 +0.4**
KDAK pmax pmax
comp=Z,28nm,1.0s
KDAK MLR MLR
comp=Z,623nm,21.0s
KDAK Kodiak Island 78.74 33 *e*P **P 02 25 19.1 +0.4**
comp=Z,28nm,1.0s
KDAK LR LR
comp=Z,623nm,21.0s
DGRG David-gareji 78.95 311 P **P 02 25 20.7 +0.3**
DGRG David-gareji 78.95 311 P **P 02 25 20.7 +0.3**
IM04 Indian Mountai 78.97 24 *e*P **P 02 25 20.1 +0.2**
PPLA Purkeypile 79.34 27 *e*P **P 02 25 23.6 +1.4**
comp=Z,34nm,1.4s
RAYN Ar Rayn 79.37 293 P **P 02 25 21.0 -2.0**
comp=Z,220nm,0.8s,SNR=19
RAYN Ar Rayn 79.37 293 *e*P **P 02 25 21.3 -1.7**
comp=Z,36nm,0.9s
TBLG Delisi 79.42 311 P **P 02 25 22.5 -0.4**
TBLG Delisi 79.42 311 P **P 02 25 22.5 -0.4**
GNI Garni 79.44 309*c i*P **P 02 25 21.7 -1.5**
GNI pmax pmax
comp=Z,21nm,1.4s
GNI Garni 79.44 309 *e*P **P 02 25 23.2 0.0**
comp=Z,34nm,1.2s
GNI LR LR
comp=Z,331nm,19.0s
DUS Dusheti 79.45 311 P **P 02 25 24.0 +0.8**
DUS Dusheti 79.45 311 P **P 02 25 23.9 +0.8**
PRGR Permogore 79.52 331 *e*P **P 02 25 20.3 -2.6**
PRGR pmax pmax
comp=Z,25nm,1.1s
KTH Kantishna Hill 79.96 27 *e*P **P 02 25 26.2 +0.8**
comp=Z,13nm,0.9s
BPAW Bear Paw Mtn. 79.97 26 *e*P **P 02 25 26.1 +0.7**
comp=Z,7.7nm,1.0s
ZEI Tsey 80.04 312 *e*P **P 02 25 24.8 -1.6**
ZEI pmax pmax
comp=Z,28nm,1.0s
TRF Thorofare Moun 80.24 27 *e*P **P 02 25 26.4 -0.6**
comp=Z,37nm,1.0s
NCK Nalchik 80.25 313 *e*P **P 02 25 26.7 -0.6**
ONI Oni 80.37 312 P **P 02 25 28.2 +0.1**
ONI Oni 80.37 312 P **P 02 25 28.1 +0.1**
RC01 Rabbit Creek A 80.38 29 *e*P **P 02 25 29.1 +1.5**
comp=Z,19nm,0.9s
SEW Seward 80.48 30 *e*P **P 02 25 27.6 -0.6**
comp=Z,16nm,1.1s
COLD Coldfoot 80.51 23 *e*P **P 02 25 28.4 +0.2**
comp=Z,18nm,1.0s
PMR Palmer 80.69 29 *e*P **P 02 25 29.5 +0.3**
PMR pmax pmax
comp=Z,21nm,1.0s
PMR Palmer 80.69 29 *e*P **P 02 25 29.5 +0.3**
comp=Z,21nm,1.0s
KARS Kars 80.70 310 P **P 02 25 28.9 -1.1**
KBZ Khabaz 80.75 313 P **P 02 25 29.4 -0.6**
comp=Z,9.8nm,1.0s,baz=132,slow=4.4,SNR=13
MCK McKinley 80.86 27 *e*P **P 02 25 30.5 +0.3**
MCK pmax pmax
comp=Z,52nm,1.0s
MCK McKinley 80.86 27 *e*P **P 02 25 30.5 +0.3**
comp=Z,52nm,1.0s
KIV Kislovodsk 80.90 313 *e*P **P 02 25 29.9 -1.0**
KIV *e*S **S 02 35 33.1 -3.2**
KIV pmax pmax
comp=Z,25nm,0.9s
KIV MLR MLR
comp=Z,1µm,19.0s
KIV Kislovodsk 80.90 313 *e*P **P 02 25 31.3 +0.4**
comp=Z,20nm,0.9s
KIV LR LR
comp=Z,1µm,19.0s
COLA College 81.36 25*c i*P **P 02 25 32.7 0.0**
COLA pmax pmax
comp=Z,27nm,1.0s
COLA College 81.36 25 *e*P **P 02 25 33.8 +1.0**
comp=Z,26nm,0.9s
COLA LR LR
comp=Z,374nm,20.0s
ILAR Eielson Array 81.77 26 P **P 02 25 34.7 -0.3**
comp=Z,3.6nm,0.9s,baz=247,slow=4.5,SNR=28
ILAR LR LR 03 00 46.2
comp=Z,403nm,21.3s,baz=286,slow=35
DIV Divide 82.30 29 *e*P **P 02 25 39.7 +1.8**
comp=Z,36nm,1.0s
PAX Paxson 82.41 27 *e*P **P 02 25 40.2 +1.7**
PAX pmax pmax
comp=Z,13nm,0.9s
PAX Paxson 82.41 27 *e*P **P 02 25 40.2 +1.7**
comp=Z,13nm,0.9s
KLMR Klimovskoe 82.45 330*c i*P **P 02 25 37.2 -1.4**
KLMR *e*PP **PcP 02 25 47.8 +4.2**
KLMR pmax pmax
comp=Z,38nm,1.4s
ABPO Ambohimpanom 82.80 250 PFAKE 02 25 50.0 +8.6
ABPO LR LR
comp=Z,391nm,19.0s
BMRM Bremner River 82.88 29 *e*P **P 02 25 42.3 +1.4**
comp=Z,38nm,1.2s
VORD Divnogorie 82.95 320 *e*P **P 02 25 39.7 -1.7**
VORD pmax pmax
comp=Z,20nm,1.0s
VORD pmax pmax
comp=N,20nm,0.3s
VORD pmax pmax
comp=E,110nm,0.8s
VORD MLR MLR
comp=Z,410nm,16.0s
VORD MLR MLR
comp=N,170nm,17.0s
VORD MLR MLR
comp=E,290nm,21.0s
VSR Storozhevoye 83.02 321 *e*P **P 02 25 38.6 -3.1**
VSR pmax pmax
comp=Z,30nm,1.1s
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,20nm,1.0s
VSR MLR MLR
comp=Z,730nm,20.0s
VSR MLR MLR
comp=N,390nm,16.0s
VSR MLR MLR
comp=E,330nm,15.0s
SOC Sochi 83.07 313 *e*P P 02 25 39.0 -3.2
SOC *e* 02 28 50.5
SOC *e*PPP PPP 02 30 40.9
SOC *i* S S 02 35 52.3 -6.1
SOC *e*SS **SS 02 41 18.2 -4.6**
SOC pmax pmax
comp=Z,18nm,0.9s
LPSR Galich'ya Gora 83.09 322 *e*P **P 02 25 40.8 -1.3**
LPSR pmax pmax
comp=Z,40nm,0.9s
LPSR pmax pmax
comp=N,5.0nm,0.6s
LPSR pmax pmax
comp=E,5.0nm,0.7s
LPSR MLR MLR
comp=Z,490nm,19.0s
LPSR MLR MLR
comp=N,410nm,24.0s
LPSR MLR MLR
comp=E,590nm,21.0s
MOS Moscow 83.68 325 *e*P **P 02 25 43.6 -1.4**
MOS *e* 02 25 57.2
MOS MLR MLR
comp=Z,2µm,19.0s
MOS MLR MLR
comp=E,1µm,18.0s
LVZ Lovozero 84.18 338 PFAKE 02 26 00.0 +13
LVZ LR LR
comp=Z,848nm,19.0s
EGAK Eagle 84.22 25 *e*P **P 02 25 48.3 +0.7**
comp=Z,32nm,1.0s
EGAK LR LR
comp=Z,329nm,20.0s
OBN Obninsk 84.32 325*c i*P **P 02 25 46.8 -1.5**
OBN *e* 02 25 58.7
OBN pmax pmax
comp=Z,50nm,1.7s
OBN MLR MLR
comp=Z,2µm,19.0s
OBN Obninsk 84.32 325 PFAKE 02 26 00.0 +12
OBN LR LR
comp=Z,2µm,19.0s
ANN Anapa 84.62 314 *e*P **P 02 25 47.6 -2.4**
ANN *e*PP **pP 02 26 02.1 -1.6**
ANN *e*S S 02 36 05.7 -8.2
ANN *e*SS **SS 02 41 44.9 -0.7**
ANN pmax pmax
comp=Z,62nm,1.2s
APA Apatity 84.68 337⇑ *i*P P 02 25 54.0 +4.1
APA *i* S **S 02 36 14.0 +0.3**
APA *i* PS **PnS 02 37 04.0 -8.9**
APA pmax pmax
comp=Z,11nm,0.5s
DAWY Dawson 85.06 26 *e*P **P 02 25 52.8 +0.8**
comp=Z,24nm,1.0s
PPT Papeete 85.94 108 LR LR 02 59 57.0
comp=Z,447nm,18.4s,baz=270,slow=32
PPT2 Papeete2 85.94 108 *e*S **S 02 36 27.7 -0.4**
comp=Z,878nm,26.2s
PPT2 *e*SS **SS 02 42 02.1 -4.7**
comp=Z,336nm,26.0s
PPT2 Papeete2 85.94 108 *e*LR LR 02 53 09.0
comp=Z,1µm,24.2s,baz=297
HYT Haines Junctio 86.34 29 *e*P **P 02 25 59.9 +1.4**
comp=Z,15nm,0.9s
KEV Kevo 86.65 340 PFAKE 02 26 10.0 +10
KEV LR LR
comp=Z,684nm,19.0s
INK Inuvik 86.75 22 P **P 02 25 59.5 -0.6**
comp=Z,2.3nm,0.3s,baz=280,slow=8.8,SNR=6.3
VNDA Vanda 86.92 173 P **P 02 26 00.3 -0.4**
comp=Z,2.9nm,0.9s,baz=301,slow=5.1,SNR=9.5
VNDA LR LR 03 05 47.7
comp=Z,288nm,19.1s,baz=342,slow=36
VNDA Vanda 86.92 173 *e*P **P 02 25 59.8 -0.9**
VNDA pmax pmax
comp=Z,5.0nm,0.8s
VNDA Vanda 86.92 173 *e*P **P 02 25 59.8 -0.9**
comp=Z,4.9nm,0.8s
SIM Simferopol' 86.94 315*ce*P **P 02 26 00.0 -1.6**
SIM *e* 02 29 21.0
SIM *e*S **S 02 36 33.0 -3.8**
SIM pmax pmax
comp=Z,17nm,0.9s
SIM pmax pmax
comp=Z,30nm,12.3s
TBI Tubuai 86.96 114 *e*S **S 02 36 38.0 +0.4**
comp=Z,1µm,27.8s
TBI *e*SS **SS 02 42 15.6 -5.7**
comp=Z,438nm,27.0s
TBI Tubuai 86.96 114 *e*LR LR 02 53 40.2
comp=Z,1µm,27.8s,baz=294
PMOR Pomariorio Ree 87.16 105 *e*T T 04 02 43.9
comp=Z,3.1nm,0.3s
MAW Mawson 87.19 200 P **P 02 25 59.1 -3.1**
comp=Z,3.8nm,1.1s,baz=81,slow=16,SNR=2.7
MAW LR LR 03 05 01.8
comp=Z,112nm,19.0s,baz=64,slow=36
ARCES ARCESS Array B 87.21 340 P **P 02 26 00.7 -1.7**
comp=Z,4.4nm,0.8s,baz=91,slow=3.9,SNR=15
ARCES LR LR 03 10 36.7
comp=Z,628nm,18.4s,baz=94,slow=39
BR131 Keskin Array S 87.98 310 *e*P **P 02 26 04.7 -2.1**
comp=Z,3.4nm,0.8s
BRTR Keskin Array B 87.98 310 P **P 02 26 05.5 -1.3**
comp=Z,2.2nm,0.8s,baz=105,slow=4.7,SNR=16
BRTR LR LR 03 10 43.5
comp=Z,227nm,20.7s,baz=46,slow=39
BRTR Keskin Array B 87.98 310*ce*P **P 02 26 05.3 -1.6**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
ANTO Ankara 88.60 310 PFAKE 02 26 20.0 +10
ANTO LR LR
comp=Z,197nm,21.0s
FIA1 FINESS Array S 88.83 332 *e*P **P 02 26 09.2 -1.0**
FINES FINESS Array B 88.83 332 P **P 02 26 08.3 -1.9**
comp=Z,6.0nm,0.9s,baz=108,slow=6.2,SNR=17
FINES LR LR 03 09 34.4
comp=Z,971nm,18.5s,baz=84,slow=38
FINES FINESS Array B 88.83 332 *i* P **P 02 26 09.3 -0.9**
FINES pmax pmax
comp=Z,6.0nm,0.9s
CSS Prodhromos 88.87 305 *e*P **P 02 26 10.5 -0.6**
comp=Z,2.1nm,0.7s
CSS LR LR
comp=Z,82nm,20.0s
VSU Vasula 89.17 329⇑ *i*P **P 02 26 10.6 -1.3**
VSU pmax pmax
comp=Z,75nm,1.0s
AKASG Malin Array Be 89.31 321 P **P 02 26 10.8 -1.9**
comp=Z,8.2nm,0.9s,baz=66,slow=4.4,SNR=25
AKASG LR LR 03 09 49.9
comp=Z,629nm,18.7s,baz=55,slow=38
AKBB Malin Array Si 89.31 321 *e*P **P 02 26 11.5 -1.2**
AKBB Malin Array Si 89.31 321 *e*P **P 02 26 11.5 -1.2**
AK01 Malin Array Si 89.32 321 *e*P **P 02 26 11.5 -1.2**
KIEV Kiev 89.33 321 *e*P **P 02 26 10.9 -1.8**
KIEV pmax pmax
comp=Z,13nm,0.9s
KIEV MLR MLR
comp=Z,573nm,20.0s
KIEV Kiev 89.33 321 *e*P **P 02 26 10.9 -1.8**
comp=Z,14nm,0.9s
KIEV LR LR
comp=Z,573nm,20.0s
AK02 Malin Array Si 89.33 321 *e*P **P 02 26 11.9 -0.9**
WRAK Wrangell Islan 89.81 33 PFAKE 02 26 30.0 +15
WRAK LR LR
comp=Z,442nm,19.0s
KMBO Kilima Mbogo 89.91 269 P **P 02 26 15.9 -0.7**
comp=Z,1.4nm,0.4s,baz=44,slow=8.6,SNR=5.5
KMBO Kilima Mbogo 89.91 269*ce*P **P 02 26 16.8 +0.2**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 89.91 269 P **P 02 26 15.9 -0.7**
KMBO LR LR
comp=Z,378nm,20.0s
TIRR Tirgusor 91.04 315 ⇑P **P 02 26 19.2 -1.7**
TIRR Tirgusor 91.04 315⇑ *i*P **P 02 26 19.2 -1.7**
TIRR Tirgusor 91.04 315 *e*P **P 02 26 19.2 -1.7**
comp=Z,22nm,1.7s
CFR Carcaliu 91.09 316 ⇑P **P 02 26 19.6 -1.5**
CFR Carcaliu 91.09 316⇑ *i*P **P 02 26 19.6 -1.5**
TLB Topalu 91.27 315 ⇑P **P 02 26 19.8 -2.2**
TLB Topalu 91.27 315⇑ *i*P **P 02 26 19.8 -2.2**
MSAB Monastry St. A 91.52 315⇑ *i*P **P 02 26 23.0 -0.2**
TESR Tescani 91.83 317⇑ *i*P **P 02 26 24.0 -0.6**
VRI Vrincioaia 91.92 317 ⇑P **P 02 26 25.3 +0.3**
VRI Vrincioaia 91.92 317⇑ *i*P **P 02 26 25.3 +0.3**
PLOR Plostina 91.97 317 ⇑P **P 02 26 25.4 +0.1**
PLOR Plostina 91.97 317⇑ *i*P **P 02 26 25.4 +0.1**
MLR Muntele Rosu 92.53 316 ⇑P P 02 26 24.8 -3.2
MLR Muntele Rosu 92.53 316⇑ *i*P P 02 26 24.8 -3.2
BURAR Bucovina Array 92.53 318 ⇑P **P 02 26 28.1 +0.2**
BURAR Bucovina Array 92.53 318⇑ *i*P **P 02 26 28.1 +0.2**
BUR08 Bucovina Ar. S 92.54 319 *e*P **P 02 26 27.8 -0.2**
KWP Kalwaria Pacla 93.64 321 *e*P **P 02 26 32.0 -0.8**
KWP Kalwaria Pacla 93.64 321 *e*P **P 02 26 32.0 -0.8**
KOLS Kolonicke sedl 94.10 320 *e*P **P 02 26 35.5 +0.5**
KOLS pmax pmax
comp=Z,8.0nm,1.5s
KOLS Kolonicke sedl 94.10 320 *e*P **P 02 26 35.5 +0.5**
RES Resolute Bay 94.26 10 *e*P **P 02 26 35.9 +0.7**
RES pmax pmax
comp=Z,13nm,1.1s
RES Resolute Bay 94.26 10 *e*P **P 02 26 35.9 +0.7**
comp=Z,13nm,1.1s
DRGR 94.39 318 ⇑P **P 02 26 34.7 -1.8**
DRGR 94.39 318⇑ *i*P **P 02 26 34.7 -1.8**
MPEP Malo Peshtene 94.58 315 *e*P **P 02 26 36.7 -0.6**
STHS Stebnicka Huta 94.61 321 *e*P **P 02 26 38.3 +1.0**
STHS pmax pmax
comp=Z,3.0nm,0.8s
STHS Stebnicka Huta 94.61 321 *e*P **P 02 26 38.3 +1.0**
comp=Z,3.1nm,0.8s
STHS Stebnicka Huta 94.61 321 *e*P **P 02 26 38.3 +1.0**
SANT Santorini 94.92 307 PFAKE 02 26 50.0 +11
SANT LR LR
comp=Z,267nm,19.0s
NVR Nevrokopi 94.98 313 *e*P **P 02 26 37.2 -2.0**
MMB Musomiste 95.02 313 ⇑P **P 02 26 37.5 -1.9**
MMB Musomiste 95.02 313⇑ *i*P **P 02 26 37.5 -1.9**
MMB Musomiste 95.02 313 *e*P **P 02 26 36.5 -2.9**
MMB Musomiste 95.02 313 *e*P **P 02 26 36.5 -2.9**
VTS Vitosha 95.14 314 *e*P **P 02 26 38.5 -1.6**
LAST Lasithi 95.17 306 *e*P **P 02 26 39.5 -0.8**
NIE Niedzica 95.19 321 *e*P **P 02 26 39.3 -0.7**
NIE Niedzica 95.19 321 *e*P **P 02 26 39.3 -0.7**
OJC Ojcow 95.27 322 *e*P **P 02 26 40.3 0.0**
OJC Ojcow 95.27 322 *e*P **P 02 26 40.4 +0.1**
KECS Kecovo 95.36 320 *e*P **P 02 26 42.1 +1.3**

KECS pmax pmax
comp=Z,2.0nm,0.6s
KECS Kecovo 95.36 320 *e*P **P** **02 26 42.1 +1.3**
KKB Krupnik 95.42 313 *e*P **P** **02 26 39.5 -1.7**
PAIG Paliouri 95.46 311 *e*P **P** **02 26 38.4 -3.0**
NB2 NORSAR Subarra 95.73 334 P **P** **02 26 40.1 -2.1**
comp=Z,2.4nm,0.9s,baz=67,slow=4.6
NOA NORSAR Array B 95.73 334 P **P** **02 26 40.7 -1.5**
comp=Z,1.2nm,0.8s,baz=63,slow=4.7,SNR=6.1
NOA LR LR 03 13 23.1
comp=Z,904nm,20.6s,baz=60,slow=38
HORT Hortiatis 95.73 312 *e*P **P** **02 26 40.9 -1.8**
KNT Kendrikon 95.73 313 *e*P **P** **02 26 39.8 -2.8**
SYO Syowa Base 95.84 201 ||*e*X **P** **02 26 40.2 -2.2**
PSZ Piszkesteto 95.91 320 PFAKE 02 26 50.0 +6.6
PSZ LR LR
comp=Z,512nm,20.0s
YKA Yellowknife Ar 96.14 24 P **P** **02 26 44.4 +0.4**
comp=Z,1.9nm,0.8s,baz=301,slow=5.0,SNR=12
YKA PP **PP** **02 30 35.0 -1.8**
comp=Z,0.2nm,0.5s,baz=306,slow=7.4,SNR=3.1
MBAR Mbarara 96.31 270 PFAKE 02 27 00.0 +14
MBAR LR LR
comp=Z,372nm,21.0s
OKC Ostrava-Krasne 96.40 322 *e*PP PP 02 30 42.0 +2.7
OKC *e*SKS **SKSac** **02 37 20.3 +1.9**
OKC *e*SP **SP** **02 39 15.7 -5.8**
OKC AMS AMS 03 13 40.0
comp=Z,500nm,18.1s
GUR Goura 96.97 310 *e*P **P** **02 26 45.3 -3.1**
KONO Kongsberg 97.07 333 PFAKE 02 27 00.0 +12
KONO LR LR
comp=Z,901nm,19.0s
KSP Ksiaz 97.17 323 *e*P Pdif 02 26 49.2 +0.2
KSP Ksiaz 97.17 323 *e*P Pdif 02 26 49.2 +0.2
QSPA South Pole Qui 97.19 180 LR LR 03 13 18.6
comp=Z,249nm,18.2s,baz=2.5,slow=37
DPC Dobruska-Polom 97.33 323 *e*P **P** **02 26 49.6 -0.1**
DPC *e*PP **PP** **02 30 49.4 +2.9**
DPC AMS AMS 03 14 10.0
comp=Z,1μm,18.2s
DPC Dobruska-Polom 97.33 323 *e*P **P** **02 26 49.6 -0.1**
DPC *e* 02 30 49.4
DPC MLR MLR
comp=Z,1μm,18.2s
NLWA Neilton Lookou 97.35 40 PFAKE 02 27 00.0 +10
NLWA LR LR
comp=Z,372nm,21.0s
DRO Drossia 97.45 310 *e*P **P** **02 26 48.5 -2.0**
UPC Upice 97.46 323 *e*P Pdif 02 26 50.4 +0.1
UPC *ex* x 02 27 01.5
UPC Upice 97.46 323 *e*P Pdif 02 26 50.4 +0.1
UPC *e**PP pP 02 27 01.5 -2.6
PDO Prodromos 97.68 310 *e*P **P** **02 26 49.1 -2.4**
TIR Tirane 97.88 313 PFAKE 02 27 00.0 +7.6
TIR LR LR
comp=Z,440nm,20.0s
IGT Igoumenitsa 98.06 312 *e*P P 02 26 49.8 -3.4
TREC Trest 98.21 322 *e*P **P** **02 26 52.8 -0.9**
TREC *ep*P Pdif 02 26 58.3 +4.6
TREC *ex* x 02 27 05.2
TREC *e*PP **PP** **02 30 56.2 +3.0**
TREC *e*SKS **SKSac** **02 37 28.0 +0.1**
TREC AMS AMS 03 14 40.0
comp=Z,800nm,19.2s
TREC Trest 98.21 322 *e*P **P** **02 26 52.8 -0.9**
TREC *e**PP **pP** **02 27 05.2 -2.3**
TREC *e* 02 30 56.2
TREC *e* 02 37 28.0
TREC MLR MLR
comp=Z,800nm,19.2s
PVCC Panska Ves 98.31 323 AMS AMS 03 14 50.0
comp=Z,1μm,19.9s
GOPC GO Pecny, Ondr 98.41 323 *e*P **P** **02 26 54.1 -0.4**
GOPC *e*PP **PP** **02 30 56.1 +1.4**
GOPC *e*SKS **SKSac** **02 37 32.0 +3.2**
GOPC *e*PS **PS** **02 39 48.4 -1.3**
GOPC AMS AMS 03 14 50.0
comp=Z,1μm,19.4s
PRU Pruhonice 98.53 323 *e*PDIFF Pdif 02 26 55.1 +0.1
PRU *ex* x 02 27 06.2
PRU *e*PP PP 02 30 46.0 -10
PRU *e*SKS **SKSac** **02 37 31.5 +2.1**
PRU *e*PS **PS** **02 39 46.6 -4.3**
PRU AMS AMS 03 15 00.0
comp=Z,1μm,18.6s
PRU Pruhonice 98.53 323 *e*P Pdif 02 26 55.1 +0.1
PRU *e**PP pP 02 27 06.2 -2.7
PRU *e* 02 37 31.5
PRU *e*PS **PS** **02 39 46.6 -4.3**
PRU MLR MLR
comp=Z,1μm,18.6s
BRG Berggiesshubel 98.55 324 *e*PDIF **P** **02 26 55.1 0.0**
comp=Z,8.1nm,1.4s
BRG PP **PP** **02 30 59.0 +3.3**
BRG SKS **SKSac** **02 37 36.0 +6.6**
BRG SDIFF **Sdif** **02 38 28.0 +7.4**
BRG SS SS 02 45 26.0 +21
comp=N,573nm,16.5s
comp=E,951nm,18.0s
comp=Z,1μm,17.5s
BRG Berggiesshubel 98.55 324 *e*P **P** **02 26 55.1 0.0**
BRG 02 30 59.0
BRG pmax pmax
comp=Z,8.0nm,1.4s
BRG MLR MLR
comp=N,573nm,16.5s
BRG MLR MLR
comp=E,951nm,18.0s
BRG MLR MLR
comp=Z,1μm,17.5s
PRA Prague 98.56 323 AMS AMS 03 15 00.0
comp=Z,1μm,17.8s
CLL Collm 98.92 325 *e*PS PS 02 39 50.0 -5.0
CLL *e*PPS PPS 02 40 35.0
CLL *e*SS SS 02 45 06.0 -4.7
CLL *e* 02 53 18.0
CLL Lm MLR 03 15 00.0
comp=N,600nm,20.5s
CLL Lm MLR 03 15 00.0
comp=E,900nm,19.3s
CLL Lm MLR 03 15 00.0
comp=Z,1μm,19.5s
KHC Kasperske Hory 99.44 322 *e*PDIFF **Pdif** **02 26 58.8 -0.4**
KHC *ex* x 02 27 10.1
KHC *e*SKS **SKSac** **02 37 37.7 +3.7**
KHC *e*SP **SP** **02 39 51.2 -3.2**
KHC AMS AMS 03 15 20.0
comp=Z,900nm,18.4s
KHC Kasperske Hory 99.44 322 *e*P **Pdif** **02 26 58.8 -0.4**
KHC *e* 02 27 10.1
KHC *e* 02 37 37.7
KHC *e*SP SP 02 39 51.2 -3.3
KHC MLR MLR
comp=Z,900nm,18.4s
GERES GERESS Array B 99.47 322 P **Pdif** **02 26 58.0 -1.4**
comp=Z,2.0nm,0.8s,baz=66,slow=4.8,SNR=14
GERES LR LR 03 15 56.6
comp=Z,753nm,18.9s,baz=64,slow=38
NKC Novy Kostel 99.67 324 AMS AMS 03 15 20.0
comp=Z,1μm,17.9s
RKT Rikitea 100.17 112 *e*LR LR 02 59 42.2
comp=Z,682nm,27.0s
HAWA Hanford 100.49 40 PFAKE 02 27 20.0 +16
HAWA LR LR
comp=Z,500nm,19.0s
TIP Timpagrande 100.81 312 PFAKE 02 27 20.0 +14
TIP LR LR
comp=Z,304nm,22.0s
CUC Castrocucco 101.23 313 PFAKE 02 27 20.0 +13
CUC LR LR
comp=Z,231nm,20.0s
NEW Newport 101.25 38 PFAKE 02 27 20.0 +13
NEW LR LR
comp=Z,410nm,20.0s
CEL Celeste 101.74 311 PFAKE 02 27 20.0 +10
CEL LR LR
comp=Z,364nm,19.0s
AQU L'Aquila 102.11 316 PFAKE 02 27 20.0 +8.8
AQU LR LR
comp=Z,519nm,19.0s
BMO Blue Mountains 102.53 41 PFAKE 02 27 20.0 +6.9
BMO LR LR
comp=Z,417nm,19.0s

WVOR Wild Horse Val 102.58 44 PFAKE 02 27 30.0 +17
WVOR LR LR
comp=Z,622nm,20.0s
BFO Black Forest 102.93 323 PFAKE 02 27 30.0 +15
BFO LR LR
comp=Z,973nm,19.0s
TUE Stuetta 103.12 321 PFAKE 02 27 30.0 +14
TUE LR LR
comp=Z,1μm,19.0s
VLC Villacollemand 103.43 319 PFAKE 02 27 30.0 +13
VLC LR LR
comp=Z,764nm,21.0s
WDD Wield Dalam 103.57 309 PFAKE 02 27 30.0 +12
WDD LR LR
comp=Z,183nm,20.0s
WLF Walferdange 103.57 325 PFAKE 02 27 30.0 +13
WLF LR LR
comp=Z,1μm,20.0s
ECH Echery 103.67 323 PFAKE 02 27 30.0 +12
ECH LR LR
comp=Z,1μm,19.0s
CLTB Caltabellotta 103.97 311 PFAKE 02 27 30.0 +10
CLTB LR LR
comp=Z,237nm,19.0s
BORG Borgarnes 104.36 347 PFAKE 02 27 30.0 +9.4
BORG LR LR
comp=Z,936nm,20.0s
HLID Hailey 104.95 41 PFAKE 02 27 40.0 +16
HLID LR LR
comp=Z,437nm,19.0s
ESK Eskdalemuir 105.22 333 PFAKE 02 31 50.0
ESK LR LR
comp=Z,908nm,20.0s
BNI Bardonecchia 105.43 321 PFAKE 02 31 50.0
BNI LR LR
comp=Z,1μm,22.0s
EGMT Eagleton 105.74 36 PFAKE 02 31 50.0
EGMT LR LR
comp=Z,511nm,20.0s
SFJD Kangerlussuaq 105.86 359 PFAKE 02 31 50.0
SFJD LR LR
comp=Z,433nm,21.0s
FFC Flin Flon 105.94 27 PFAKE 02 31 50.0
FFC LR LR
comp=Z,468nm,20.0s
SSB Saint Sauveur 106.65 322 PFAKE 02 31 50.0
SSB LR LR
comp=Z,562nm,20.0s
LKWY Lake 107.07 39 PFAKE 02 31 50.0
LKWY LR LR
comp=Z,551nm,19.0s
PFO Pinyon Flats O 107.46 52 PFAKE 02 32 00.0
PFO LR LR
comp=Z,558nm,19.0s
AHID Auburn Hatcher 107.48 41 PFAKE 02 32 00.0
AHID LR LR
comp=Z,313nm,19.0s
RLMT Red Lodge 107.49 38 PFAKE 02 32 00.0
RLMT LR LR
comp=Z,433nm,22.0s
DUG Dugway, Tooele 107.50 44 PFAKE 02 32 00.0
DUG LR LR
comp=Z,410nm,20.0s
HWUT Hardware Ranch 107.71 42 PFAKE 02 32 00.0
HWUT LR LR
comp=Z,453nm,20.0s
BW06 Boulder Array 108.47 40 PFAKE 02 32 00.0
BW06 LR LR
comp=Z,534nm,19.0s
LAO LASA Array 108.48 36 PFAKE 02 32 00.0
LAO LR LR
comp=Z,368nm,20.0s
DGMT Dagmar 108.62 33 PFAKE 02 32 00.0
DGMT LR LR
comp=Z,344nm,20.0s
WUAZ Wupatki 110.55 48 PFAKE 02 32 00.0
WUAZ LR LR
comp=Z,627nm,20.0s
MVCO Mesa Verde 111.86 45 PFAKE 02 32 00.0
MVCO LR LR
comp=Z,499nm,21.0s
TUC Tucson 112.36 51 PFAKE 02 32 00.0
TUC LR LR
comp=Z,332nm,20.0s
ISCO Idaho Springs 112.54 42 PFAKE 02 32 10.0
ISCO LR LR
comp=Z,471nm,19.0s
AGMN Agassiz Nation 113.04 30 PFAKE 02 32 10.0
AGMN LR LR
comp=Z,415nm,20.0s
SDCO Great Sand Dun 113.67 43 PFAKE 02 32 10.0
SDCO LR LR
comp=Z,438nm,19.0s
OGNE Ogallala 114.20 39 PFAKE 02 32 10.0 +14
OGNE LR LR
comp=Z,409nm,19.0s
ANMO Albuquerque 114.39 46 PFAKE 02 32 10.0 +13
ANMO LR LR
comp=Z,310nm,20.0s
R26A Arlington 114.76 42 P PKPdf 02 31 57.2 -0.2
baz=115
PAB San Pablo 115.26 320 PFAKE 02 32 10.0 +12
PAB LR LR
comp=Z,672nm,19.0s
EYMN Ely 115.36 28 PFAKE 02 32 10.0 +12
EYMN LR LR
comp=Z,400nm,20.0s
TAM Tamanrasset 115.44 299 PFAKE 02 32 10.0 +11
TAM LR LR
comp=Z,475nm,20.0s
ECSD EROS Data Cent 115.68 34 P **PKPdf** **02 31 59.7 +0.9**
baz=116
ECSD EROS Data Cent 115.68 34 PFAKE 02 32 10.0 +11
ECSD LR LR
comp=Z,362nm,20.0s
SCHQ Schefferville 117.01 9 PKP **PKPdf** **02 32 00.5 -0.6**
comp=Z,2.1nm,0.9s,baz=12,slow=9.3,SNR=3.2
V29A Stinnett 117.37 43 P **PKPdf** **02 32 03.4 +1.0**
baz=117
U30A WK&E Inc. Balk 117.59 42 P **PKPdf** **02 32 03.7 +0.9**
baz=118
Y28A McKinney Farm, 117.92 45 P **PKPdf** **02 32 04.6 +1.0**
baz=118
P34A Walnut Farm, R 118.23 37 P **PKPdf** **02 32 04.3 +0.4**
baz=118
R33A Olander Ranch, 118.28 39 P **PKPdf** **02 32 05.3 +1.3**
baz=118
Y29A Porterfield Fa 118.35 45 P **PKPdf** **02 32 05.1 +0.7**
baz=118
128A Castleberry Fa 118.41 47 P **PKPdf** **02 32 05.0 +0.4**
baz=118
KSU1 Kansas State U 118.64 38 PFAKE 02 32 20.0 +15
KSU1 LR LR
comp=Z,478nm,20.0s
SCIA State Center 118.76 33 PFAKE 02 32 20.0 +15
SCIA LR LR
comp=Z,283nm,20.0s
Z30A Sanderson Ranc 119.04 46 P **PKPdf** **02 32 06.1 +0.5**
baz=119
Q35A Mercer Eighty, 119.14 38 P **PKPdf** **02 32 05.9 +0.2**
baz=119
TXAR Lajitas Array 119.16 51 PKP **PKPdf** **02 32 06.0 0.0**
comp=Z,0.5nm,0.6s,baz=212,slow=1.1,SNR=7.3
TXAR PKKPbc **PKKPbc** **02 42 20.7 +0.7**
comp=Z,0.2nm,0.6s,baz=151,slow=2.1,SNR=2.8
JFWS Jewell Farm 119.62 31 PFAKE 02 32 20.0 +14
JFWS LR LR
comp=Z,466nm,19.0s
S35A Otter Creek Ra 119.70 39 P **PKPdf** **02 32 07.6 +0.8**
baz=120
R36A Gordon, Harris 119.80 38 P **PKPdf** **02 32 07.4 +0.5**
baz=120
WMOK Wichita Mounta 119.86 43 PFAKE 02 32 20.0 +13
WMOK LR LR
comp=Z,435nm,20.0s
429A Davenport Ranc 119.86 49 P **PKPdf** **02 32 08.5 +1.1**
baz=120
529A Stev Forest Ra 119.87 49 P **PKPdf** **02 32 08.6 +1.2**
baz=120
131A Roby 119.89 46 P **PKPdf** **02 32 08.5 +1.2**
baz=120
X33A Lawton 120.16 43 P **PKPdf** **02 32 08.6 +0.9**
baz=120
R37A Teagarden Farm 120.22 37 P **PKPdf** **02 32 08.0 +0.3**
baz=120
430A Baggett Ranch, 120.27 48 P **PKPdf** **02 32 09.0 +0.9**
baz=120
T36A Boggs Farm, Ca 120.36 39 P **PKPdf** **02 32 08.6 +0.6**
baz=120
530A J-C Ranch, Com 120.52 49 P **PKPdf** **02 32 10.1 +1.5**
baz=120
X34A Smith Ranch, M 120.58 43 P **PKPdf** **02 32 09.6 +1.1**
baz=120
331A San Angelo 120.59 47 P **PKPdf** **02 32 09.7 +1.0**
baz=120
431A Sonora 120.78 48 P **PKPdf** **02 32 10.0 +0.9**
baz=121
GLMI Grayling 120.81 26 PFAKE 02 32 20.0 +11
GLMI LR LR
comp=Z,288nm,20.0s
T37A Cheneyville 18 120.92 39 P **PKPdf** **02 32 10.3 +1.2**
baz=121
332A Millersview 121.05 47 P **PKPdf** **02 32 10.6 +1.1**
baz=121
TUL1 Leonard 121.13 40 P **PKPdf** **02 32 11.0 +1.4**
baz=121
W36A Wetumka 121.32 41 P **PKPdf** **02 32 11.3 +1.3**
baz=121
JCT Junction City 121.48 48 *e*PKIKP **PKPdf** **02 32 11.6 +1.2**
JCT MLR MLR
comp=Z,433nm,19.0s
JCT Junction City 121.48 48 P **PKPdf** **02 32 11.6 +1.2**
baz=121
JCT Junction City 121.48 48 *e*PKPdf **PKPdf** **02 32 11.6 +1.2**
JCT LR LR
comp=Z,433nm,19.0s
X36A Centrahoma 121.58 42 P **PKPdf** **02 32 11.4 +1.0**
baz=122
532A Rocksprings 121.59 48 P **PKPdf** **02 32 10.9 +0.2**
baz=122
333A Richland Sprin 121.62 46 P **PKPdf** **02 32 10.8 +0.2**
baz=122
W37A Quinton 121.84 41 P **PKPdf** **02 32 11.7 +0.8**
baz=122
234A Clairette 121.85 45 P **PKPdf** **02 32 12.0 +1.0**
baz=122
433A Art 121.85 47 P **PKPdf** **02 32 12.1 +1.0**
baz=122
TOA0 Torodi Ar. Sit 122.02 290 *e*PKPdf **PKPdf** **02 32 10.8 -0.9**
TORD Torodi Ar. Bea 122.02 290 PKP **PKPdf** **02 32 10.3 -1.5**
comp=Z,5.7nm,0.7s,baz=69,slow=1.2,SNR=41
TORD PKKPbc **PKKPab** **02 42 09.5 -0.4**
comp=Z,0.2nm,0.7s,baz=299,slow=5.1,SNR=6.1
Y36A Durant 122.03 42 P **PKPdf** **02 32 12.5 +1.2**
baz=122
334A Lometa 122.15 46 P **PKPdf** **02 32 12.6 +1.0**
baz=122
X37A Clayton 122.21 41 P **PKPdf** **02 32 12.9 +1.2**
baz=122
434A Burnet 122.41 46 P **PKPdf** **02 32 12.9 +0.7**
baz=122
W38A Poteau 122.47 40 P **PKPdf** **02 32 11.9 -0.2**
baz=122
832A Faith Ranch, C 122.49 50 P **PKPdf** **02 32 13.1 +0.7**
baz=122
X38A Whitesboro 122.52 41 P **PKPdf** **02 32 13.2 +0.9**
baz=122
534A Blanco 122.69 47 P **PKPdf** **02 32 13.4 +0.7**
baz=123
833A Chaparral WMA, 122.91 50 P **PKPdf** **02 32 14.0 +0.9**
baz=123
AAM Ann Arbor 123.24 27 PFAKE 02 32 30.0 +17
AAM LR LR
comp=Z,393nm,21.0s
MIAR Mount Ida 123.40 40 *e*PKIKP **PKPdf** **02 32 15.2 +1.3**
MIAR MLR MLR
comp=Z,495nm,19.0s
MIAR Mount Ida 123.40 40 *e*PKPdf **PKPdf** **02 32 15.2 +1.3**
MIAR LR LR
comp=Z,495nm,19.0s
636A Smothers Creek 124.02 47 P **PKPdf** **02 32 16.6 +1.3**
baz=124
835A Beeville 124.10 49 P **PKPdf** **02 32 16.1 +0.7**
baz=124
NATX Nacogdoches 124.40 43 PFAKE 02 32 30.0 +14
NATX LR LR
comp=Z,465nm,19.0s
KVTX Kingsville 124.45 49 PFAKE 02 32 30.0 +14
KVTX LR LR
comp=Z,551nm,20.0s
LONY Lake Ozonia 124.77 19 PFAKE 02 32 30.0 +14
LONY LR LR
comp=Z,334nm,20.0s
ACSO Alum Creek Sta 125.20 28 PFAKE 02 32 30.0 +13
ACSO LR LR
comp=Z,399nm,19.0s
NCB Newcomb 125.46 19 PFAKE 02 32 30.0 +12
NCB LR LR
comp=Z,729nm,22.0s
PKME Peaks-Kenny Pk 125.66 14 PFAKE 02 32 30.0 +12
PKME LR LR
comp=Z,399nm,19.0s
BINY Binghamton 126.44 21 PFAKE 02 32 30.0 +10
BINY LR LR
comp=Z,286nm,20.0s
BLA Blacksburg 128.81 28 PFAKE 02 32 40.0 +16
BLA LR LR
comp=Z,519nm,19.0s
CBN Corbin Frederi 129.34 25 PFAKE 02 32 40.0 +15
CBN LR LR
comp=Z,571nm,20.0s
BRAL Brewton 129.84 39 PFAKE 02 32 40.0 +14
BRAL LR LR
comp=Z,457nm,19.0s
DBIC Dimbokro 130.03 285 PKP **PKPdf** **02 32 25.9 -1.2**
comp=Z,12nm,1.1s,baz=311,slow=3.7,SNR=4.1
DBIC SKPbc **SKPab** **02 35 44.3 -1.6**
comp=Z,7.2nm,0.8s,baz=297,slow=3.2,SNR=3.5
USHA Ushuaia 131.01 168 SKP **SKPdf** **02 36 03.6 +4.2**
comp=Z,17nm,1.0s,baz=207,slow=4.8,SNR=4.5
NHSC New Hope 132.21 31 PFAKE 02 32 40.0 +9.3
NHSC LR LR
comp=Z,457nm,19.0s
TEIG Tepich 135.80 51 PFAKE 02 32 50.0 +12
TEIG LR LR
comp=Z,290nm,21.0s
BBSR BB Station 138.99 15 PFAKE 02 33 00.0 +17
BBSR LR LR
comp=Z,395nm,20.0s
ASCN Ascension 141.72 266 PFAKE 02 33 00.0 +11
ASCN LR LR
comp=Z,977nm,21.0s
PAYG Puerto Ayora 142.23 82 PFAKE 02 33 00.0 +10
PAYG LR LR
comp=Z,249nm,21.0s
PLCA Paso Flores 143.21 157 PKP PKPbc 02 32 49.0 +1.2
comp=Z,3.9nm,0.8s,baz=302,slow=0.7,SNR=4.4
JTS JuntasAbangare 143.68 62 PFAKE 02 33 00.0 +7.7
JTS LR LR
comp=Z,280nm,21.0s
MTDJ Mount Denham 144.91 43 PFAKE 02 33 10.0 +16
MTDJ LR LR
comp=Z,321nm,19.0s
GTBY Guantanamo Bay 145.26 38 *e*PKPdf **PKPdf** **02 32 59.5 +4.6**
GTBY LR LR
comp=Z,352nm,20.0s
GRTK Grand Turk 146.27 31 *e*PKPbc **PKPbc** **02 32 57.6 -0.1**
GRTK LR LR
comp=Z,417nm,21.0s
SDDR Presa de Saban 148.25 34 *e*PKPbc **PKPbc** **02 33 04.4 +1.1**
SDDR LR LR
comp=Z,549nm,19.0s
TRQA Tornquist 148.32 166 *e*PKPbc **PKPbc** **02 33 03.3 +0.3**
BCIP Isla Barro Col 148.63 59 PFAKE 02 33 10.0 +2.0
BCIP LR LR
comp=Z,342nm,19.0s
SJG San Juan 151.59 27 PFAKE 02 33 20.0 +0.1
SJG LR LR
comp=Z,332nm,20.0s
CFAA Coronel Fontan 151.94 151 PKPbc **PKPbc** **02 33 11.0 -1.0**
comp=Z,1.1nm,0.6s,baz=242,slow=3.0,SNR=15
CFAA PKPab **PKPab** **02 33 21.4 +0.2**
comp=Z,1.4nm,0.5s,baz=230,slow=2.7,SNR=10
OTAV Otavalo 153.51 75 *e*PKPdf **PKPdf** **02 33 10.8 +2.0**
OTAV LR LR
comp=Z,285nm,20.0s
ANWB Willy Bob 153.70 19 PFAKE 02 33 20.0 +3.9
ANWB LR LR
comp=Z,339nm,19.0s
NNA Nana 156.03 103 PFAKE 02 33 20.0 +8.3
NNA LR LR
comp=Z,452nm,19.0s
SDV Santo Domingo 156.16 48 PKPdf **PKPdf** **02 33 11.9 -0.2**

SDV				LR	LR			
	comp=Z,322nm,20.0s							
LVC	**Limon Verde**	**158.39**	**136**	PFAKE			02 33 30.0	+15
LVC				LR	LR			
	comp=Z,366nm,20.0s							
GRGR	**Grenville**	**158.85**	**24**	PFAKE			02 33 30.0	+15
GRGR				LR	LR			
	comp=Z,371nm,19.0s							
LPAZ	**La Paz**	**162.70**	**122**	PKP	**PKPdf**		**02 33 20.8**	**+0.8**
	comp=Z,2.3nm,0.9s,baz=342,slow=0.3,SNR=7.7							
LPAZ				PKPab	**PKPab**		**02 34 09.6**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=252,slow=3.2,SNR=3.0							
LPAZ	**La Paz**	**162.70**	**122**	*e*PKIKP	**PKPdf**		**02 33 20.5**	**+0.5**
LPAZ							02 34 09.6	
LPAZ	**La Paz**	**162.70**	**122**	*e*PKPdf	**PKPdf**		**02 33 20.5**	**+0.5**
LPAZ				PKP	**PKPdf**		**02 33 20.8**	**+0.8**
LPAZ				PKPab	**PKPab**		**02 34 09.6**	**+0.9**
RCBR	**Riachuelo**	**162.97**	**274**	PFAKE			02 33 30.0	+10
RCBR				LR	LR			
	comp=Z,612nm,19.0s							
SIV	**San Ignacio**	**168.29**	**138**	PKP	**PKPdf**		**02 33 22.7**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=337,slow=2.5,SNR=4.1							
SAML	**Samuel**	**169.77**	**100**	*e*PKPdf	**PKPdf**		**02 33 25.4**	**+0.5**
SAML				LR	LR			
	comp=Z,574nm,21.0s							

CSEM ***10*** *02:24:39.7±0.2, 43.57N×12.98E, h10km, ML2.8/14, Error ellipse: s-maj=3.4km s-min=2.9km az=9.0*

ROM 10 02:24:39.1±0.1, 43.59N×12.96E, h7km, Ml2.1/20, 6C-4D, Error ellipse: s-maj=1.1km s-min=0.9km az=24.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARVD	**Arcevia**	**0.09**	**191**	⇓*i*Pg	Pg	02 24 42.0	+0.7
ARVD				Sg	Sg	02 24 43.9	+1.1
	1µm,0.2s						
ARVD	**Arcevia**	**0.09**	**191**	⇓*i*Pg	Pg	02 24 42.0	+0.7
ARVD				Sg	Sg	02 24 43.9	+1.1
	1µm,0.2s						
FSSB	**Fossombrone**	**0.17**	**308**	⇑*i*Pg	Pg	02 24 43.3	+0.6
FSSB				Sg	Sg	02 24 46.4	+1.2
	1µm,0.2s						
FSSB	**Fossombrone**	**0.17**	**308**	⇑*i*Pg	Pg	02 24 43.3	+0.6
FSSB				Sg	Sg	02 24 46.4	+1.2
	1µm,0.2s						
SENI	**Senigallia**	**0.23**	**58**	Pg	Pg	02 24 44.8	+1.1
SENI				Sg	Sg	02 24 49.2	+2.4
SENI	**Senigallia**	**0.23**	**58**	Pg	Pg	02 24 44.8	+1.1
SENI				Sg	Sg	02 24 49.2	+2.4
CING	**Cingoli**	**0.27**	**141**	Pg	Pg	02 24 45.0	+0.5
CING				Sg	Sg	02 24 49.6	+1.5
	216nm,0.2s						
CING	**Cingoli**	**0.27**	**141**	Pg	Pg	02 24 45.0	+0.5
CING				Sg	Sg	02 24 49.6	+1.5
	216nm,0.2s						
PIEI	**Pieia**	**0.32**	**261**	⇑*i*Pg	Pg	02 24 46.0	+0.6
PIEI				Sg	Sb	02 24 51.4	-1.1
	236nm,0.2s						
PIEI	**Pieia**	**0.32**	**261**	⇑*i*Pg	Pg	02 24 46.0	+0.6
PIEI				Sg	Sb	02 24 51.4	-1.1
	236nm,0.2s						
SNTG	**Esanatoglia**	**0.33**	**183**	⇓*i*Pg	Pg	02 24 46.2	+0.5
SNTG				Sg	Sb	02 24 52.1	-0.8
	102nm,0.3s						
SNTG	**Esanatoglia**	**0.33**	**183**	⇓*i*Pg	Pg	02 24 46.2	+0.5
SNTG				Sg	Sb	02 24 52.1	-0.8
	102nm,0.3s						
ATFO	**Monte Foce - G**	**0.36**	**233**	Pg	Pg	02 24 47.0	+0.7
ATFO				Sg	Sb	02 24 53.3	-0.6
	314nm,0.3s						
ATFO	**Monte Foce - G**	**0.36**	**233**	Pg	Pg	02 24 47.0	+0.7
ATFO				Sg	Sb	02 24 53.3	-0.6
	314nm,0.3s						
ATPC	**Poggio Castell**	**0.38**	**254**	⇑*i*Pg	Pb	02 24 47.5	-0.8
ATPC				Sg	Sb	02 24 54.1	-0.4
	246nm,0.3s						
ATPC	**Poggio Castell**	**0.38**	**254**	⇑*i*Pg	Pb	02 24 47.5	-0.8
ATPC				Sg	Sb	02 24 54.1	-0.4
	246nm,0.3s						
ATVO	**AVT- Monte Val**	**0.45**	**244**	Pg	Pg	02 24 48.5	+0.5
ATVO				Sg	Sb	02 24 56.1	-0.4
	183nm,0.2s						
ATVO	**AVT- Monte Val**	**0.45**	**244**	Pg	Pg	02 24 48.5	+0.5
ATVO				Sg	Sb	02 24 56.1	-0.4
	183nm,0.2s						
MURB	**Monte Urbino**	**0.45**	**225**	Pg	Pb	02 24 49.0	-0.5
MURB				Sg	Sb	02 24 56.8	+0.2
	584nm,0.3s						
MURB	**Monte Urbino**	**0.45**	**225**	Pg	Pb	02 24 49.0	-0.5
MURB				Sg	Sb	02 24 56.8	+0.2
	584nm,0.3s						
AOI	**Ancona**	**0.47**	**94**	Pg	Pg	02 24 48.3	+0.1
AOI				Sg	Sb	02 24 55.9	-0.9
	66nm,0.3s						
AOI	**Ancona**	**0.47**	**94**	Pg	Pg	02 24 48.3	+0.1
AOI				Sg	Sb	02 24 55.9	-0.9
	66nm,0.3s						
RSM	**Repubblica di**	**0.51**	**313**	Pg	Pb	02 24 49.9	-0.5
	55nm,0.7s						
RSM	**Repubblica di**	**0.51**	**313**	Pg	Pb	02 24 49.9	-0.5
	55nm,0.7s						
PARC	**Parchiule**	**0.53**	**277**	Pg	Pg	02 24 49.9	+0.5
	31nm,0.3s						
PARC	**Parchiule**	**0.53**	**277**	Pg	Pg	02 24 49.9	+0.5
	31nm,0.3s						
FDMO	**Fiordimonte**	**0.56**	**171**	Pg	Pg	02 24 50.0	+0.1
FDMO				Sg	Sb	02 24 59.2	-0.2
	71nm,0.2s						
FDMO	**Fiordimonte**	**0.56**	**171**	Pg	Pg	02 24 50.0	+0.1
FDMO				Sg	Sb	02 24 59.2	-0.2
	71nm,0.2s						
CESI	**CESI - Serrava**	**0.58**	**184**	Pg	Pg	02 24 50.6	+0.2
CESI				Sg	Sb	02 25 00.6	+0.4
	18nm,0.2s						
CESI	**CESI - Serrava**	**0.58**	**184**	Pg	Pg	02 24 50.6	+0.2
CESI				Sg	Sb	02 25 00.6	+0.4
	18nm,0.2s						
NRCA	**Norcia**	**0.76**	**172**	Pg	Pg	02 24 53.7	-0.1
NRCA				Sg	Sb	02 25 05.7	+0.3
NRCA	**Norcia**	**0.76**	**172**	Pg	Pg	02 24 53.7	-0.1
NRCA				Sg	Sb	02 25 05.7	+0.3
CAFI	**Castiglion Fio**	**0.77**	**251**	Pg	Pb	02 24 54.6	-0.3
CAFI				Sg	Sb	02 25 05.1	-0.5
	43nm,0.4s						
CAFI	**Castiglion Fio**	**0.77**	**251**	Pg	Pb	02 24 54.6	-0.3
CAFI				Sg	Sb	02 25 05.1	-0.5
	43nm,0.4s						
ASQU	**Asqua**	**0.88**	**284**	Pg	Pg	02 24 56.1	0.0
	21nm,0.4s						
ASQU	**Asqua**	**0.88**	**284**	Pg	Pg	02 24 56.1	0.0
	21nm,0.4s						
GUMA	**Gualdo di Mace**	**0.88**	**126**	Pg	Pg	02 24 51.0	-5.1
GUMA				Sg	Sg	02 25 01.0	-6.6
	298nm,0.3s						
MGAB	**Montegabbione**	**0.92**	**223**	Pg	Pb	02 24 57.1	-0.3
MGAB	**Montegabbione**	**0.92**	**223**	Pg	Pb	02 24 57.1	-0.3
LNSS	**Leonessa**	**0.98**	**177**	Pg	Pg	02 24 57.8	-0.4
	34nm,0.4s						
LNSS	**Leonessa**	**0.98**	**177**	Pg	Pg	02 24 57.8	-0.4
	34nm,0.4s						
SMA1	**SAN MARTINO**	**0.99**	**164**	Pg	Pg	02 24 57.9	-0.4
SMA1				Sg	Sg	02 25 11.7	+0.4
	44nm,0.3s						
SMA1	**SAN MARTINO**	**0.99**	**164**	Pg	Pg	02 24 57.9	-0.4
SMA1				Sg	Sg	02 25 11.7	+0.4
	44nm,0.3s						
TERO	**Teramo**	**1.07**	**154**	Pg	Pg	02 24 59.2	-0.5
	33nm,0.3s						
TERO	**Teramo**	**1.07**	**154**	Pg	Pg	02 24 59.2	-0.5
	33nm,0.3s						
CAMP	**Campotosto**	**1.10**	**163**	Pg	Pg	02 24 59.9	-0.5
	32nm,0.6s						
CAMP	**Campotosto**	**1.10**	**163**	Pg	Pg	02 24 59.9	-0.5
	32nm,0.6s						
UDBI	**Udbina**	**2.23**	**64**	*e*Pn	Pb	02 25 19.6	-0.2
UDBI				Sn	Sn	02 25 45.7	+1.4
UDBI	**Udbina**	**2.23**	**64**	*e*Pn	Pb	02 25 19.5	-0.3
UDBI				Sn	Sn	02 25 45.7	+1.4

ISCJB ***10*** *02:28:23.2±0.7, 24.16S±0.05×66.88W±0.09, h181km, mb3.8/2, Error ellipse: s-maj=12.0km s-min=7.0km az=174.3*

IDC ***10*** *02:28:24.2±1.6, 24.08S×66.84W, h169km±27km, mb3.8/2, mb1 3.6/6, mb1mx3.4/18, mbtmp4.0/6, MS3.5/2, Ms1 3.5/2, ms1mx2.9/37, Error ellipse: s-maj=32.9km s-min=19.2km az=93.0*

ISC 10 02:28:24.2±0.9, 24.15S±0.06×66.9W±0.1, h181km, n8, σ1s66/10, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.38**	**310**	P	**Pn**	**02 29 06.6**	**+0.7**
	457nm,0.3s,baz=126,slow=6.6,SNR=182						
LVC				S	**Sn**	**02 29 37.4**	**-0.7**
	640nm,0.3s,baz=7.5,slow=20,SNR=26						
CFAA	**Coronel Fontan**	**7.52**	**189**	P	**Pn**	**02 30 11.7**	**+0.5**
	0.1nm,0.3s,baz=15,slow=14,SNR=14						
CFAA				S	**Sn**	**02 31 33.8**	**-2.1**
	0.2nm,0.3s,baz=126,slow=20,SNR=4.2						
LPAZ	**La Paz**	**7.90**	**352**	P	**Pn**	**02 30 16.5**	**-0.3**
	0.8nm,0.3s,baz=162,slow=8.0,SNR=28						
LPAZ				S	**Sn**	**02 31 44.5**	**-1.3**
	0.1nm,0.3s,baz=292,slow=16,SNR=3.4						
LPAZ				LR	LR	02 34 06.2	
	comp=Z,106nm,18.8s,baz=56,slow=44						
SIV	**San Ignacio**	**9.80**	**35**	P	**Pn**	**02 30 39.2**	**-2.1**
	0.3nm,0.3s,baz=228,slow=12,SNR=3.6						
BDFB	**Brasilia**	**19.68**	**68**	P	**P**	**02 32 39.8**	**+0.1**
	0.4nm,0.3s,baz=241,slow=10,SNR=9.2						
PCRV	**Puerto La Cruz**	**34.18**	**4**	LR	LR	02 50 05.8	
	comp=Z,246nm,18.4s,baz=301,slow=38						
DBIC	**Dimbokro**	**67.78**	**71**	P	**P**	**02 39 05.7**	**+2.8**
	12nm,1.1s,baz=225,slow=5.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**76.56**	**69**	P	**P**	**02 39 54.9**	**-0.1**
	0.2nm,0.4s,baz=243,slow=7.5,SNR=9.5						

CASC 10 02:34:35.0±2.0, 9.34N×84.15W, h17km±7km, MD3.8, 2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	**Quepos**	**0.09**	**346**	⇓*i*P	Pg	02 34 38.8	+0.4
QCR				*e*S	Sg	02 34 41.5	+0.9
URSC	**Urasca**	**0.61**	**36**	⇓*i*P	Pg	02 34 47.3	-0.1
CGA2	**Cerro Gallo 2**	**0.74**	**335**	*e*P	Pb	02 34 48.4	-1.3
CGA2				*e*S	Sb	02 34 59.3	-0.4
JCR	**Jicaral**	**1.08**	**298**	*e*P	Pb	02 34 52.6	-2.7
JCR				*e*S	Sn	02 35 10.0	-0.2
ACR	**Cerro Adams**	**1.18**	**125**	*e*P	Pn	02 34 55.5	-1.4
ACR				*e*S	Sn	02 35 12.4	-0.2
FORC	**Fortuna**	**1.23**	**335**	*i*P	Pn	02 34 57.1	-0.4
CEDE	**Laguna Cedeˆ–o**	**1.27**	**334**	*i*P	Pb	02 34 58.4	-0.1
CHPA	**Chiripa**	**1.33**	**326**	*i*P	Pn	02 34 58.2	-0.8
CHPA				*i*S	Sb	02 35 16.8	+0.2
AMAS	**Alto Masis**	**1.51**	**327**	*i*P	Pn	02 35 01.2	-0.3
VCR	**Vista de Mar**	**1.66**	**298**	*e*P	Pb	02 35 04.9	-0.4
LIM1	**Limonal**	**1.73**	**321**	*i*P	Pn	02 35 03.8	-0.7

IDC ***10*** *02:36:23.8±0.8, 7.21N×126.53E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.9/26, mbtmp3.9/12, MS3.6/2, Ms1 3.6/2, ms1mx2.8/44, Error ellipse: s-maj=40.2km s-min=15.8km az=79.0*

ISCJB ***10*** *02:36:29.2±0.6, 7.26N±0.09×127.22E±0.08, h50km, mb3.8/12, MS4.7/1, Error ellipse: s-maj=14.6km s-min=7.5km az=38.7*

ISC 10 02:36:30.9±0.8, 7.3N±0.1×127.1E±0.1, h50km, n18, σ1s63/16, mb3.9/12, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**2.66**	**297**	⇓*e*P	**Pn**	**02 37 11.9**	**+0.6**
CGP				*e*S	Sn	02 37 46.1	+3.8
SCPH	**Surigao**	**2.98**	**328**	*e*P	Pn	02 37 17.2	+1.6
TBP	**Tagbilaran**	**4.01**	**307**	*e*P	**Pn**	**02 37 29.5**	**-0.4**
TBP				*e*S	**Sn**	**02 38 18.7**	**+3.0**
JOW	**Kunigami**	**19.51**	**3**	LR	LR	02 46 24.4	
	comp=Z,19nm,21.5s,baz=282,slow=31						
JNU	**Nakatsue**	**25.99**	**7**	P	**P**	**02 41 58.5**	**-0.5**
	9.5nm,0.9s,baz=189,slow=2.7,SNR=6.9						
WRA	**Warramunga Arr**	**27.94**	**165**	P	**P**	**02 42 16.6**	**-0.2**
	0.7nm,1.0s,baz=349,slow=10,SNR=2.7						
KSRS	**Korea Array**	**30.08**	**1**	P	**P**	**02 42 35.9**	**+0.4**
	1.9nm,0.7s,baz=177,slow=9.8,SNR=10						
ASAR	**Alice Springs**	**31.43**	**168**	P	**P**	**02 42 48.8**	**+1.1**
	0.2nm,0.4s,baz=349,slow=9.6,SNR=3.1						
USRK	**Ussuriysk Ar.**	**37.06**	**6**	P	**P**	**02 43 36.6**	**+0.5**
	9.9nm,0.9s,baz=186,slow=8.2,SNR=11						
STKA	**Stephens Creek**	**41.30**	**161**	P	**P**	**02 44 12.6**	**+1.0**
	2.2nm,0.9s,baz=326,slow=11,SNR=2.2						
SONM	**Songino Array**	**44.12**	**340**	P	**P**	**02 44 33.4**	**-1.1**
	0.3nm,0.6s,baz=167,slow=13,SNR=1.9						
PETK	**Petropavlovsk-**	**52.07**	**23**	P	**P**	**02 45 37.8**	**+2.2**
	5.8nm,0.9s,baz=212,slow=5.1,SNR=3.7						
MKAR	**Makanchi Array**	**54.92**	**324**	P	**P**	**02 45 54.9**	**-1.8**
	1.0nm,0.8s,baz=122,slow=8.2,SNR=7.7						
KURBB	**Kurchatov Arra**	**59.02**	**326**	P	**P**	**02 46 23.6**	**-1.9**
	0.6nm,0.6s,baz=127,slow=6.2,SNR=10						
ILAR	**Eielson Array**	**81.80**	**26**	P	**P**	**02 48 45.3**	**+1.1**
	0.2nm,0.6s,baz=214,slow=6.3,SNR=4.1						
OBN	**Obninsk**	**84.41**	**325**	LR	LR	03 28 55.2	
	comp=Z,344nm,21.4s,baz=351,slow=38						
AKASG	**Malin Array Be**	**89.41**	**321**	P	**P**	**02 49 19.7**	**-2.6**
	0.3nm,0.3s,baz=64,slow=4.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**122.11**	**290**	PKP	**PKPdf**	**02 55 19.9**	**-1.2**
	0.9nm,0.8s,baz=54,slow=1.3,SNR=3.9						

MOS ***10*** *02:39:45.5±0.9, 19.79N×76.61W, h10km, mb5.1/56, Error ellipse: s-maj=6.1km s-min=4.7km az=81.5*

IDC ***10*** *02:39:45.6±0.4, 19.82N×76.58W, h0km, mb4.7/25, mb1 4.8/31, mb1mx4.8/34, mbtmp4.7/31, ML4.2/5, MS3.9/7, Ms1 3.9/7, ms1mx3.6/38, Error ellipse: s-maj=13.7km s-min=9.8km az=78.0*

ISCJB ***10*** *02:39:47.0±0.1, 19.76N±0.02×76.61W±0.01, h22km, mb4.8/216, MS4.3/5, Error ellipse: s-maj=2.9km s-min=1.7km az=21.5*

BJI ***10*** *02:39:46.8, 19.80N×76.60W, h18km, mB5.5/3, Ms5.1/3, Ms7 5.1/1*

JSN ***10*** *02:39:47.6±1.1, 19.79N×76.61W, h49km±443km, MD5.0*

NEIC ***10*** *02:39:49.6±2.8, 19.80N×76.61W, h27km±3km, mb4.8/152, Error ellipse: s-maj=10.5km s-min=7.7km az=155.0*

SZGRF ***10*** *02:39:56.5, 20.11N×75.56W, h33km, mb4.9, Cuba region*

ISC 10 02:39:48.8±0.6, 19.80N±0.03×76.65W±0.04, h26km±4km, n990, σ1s22/1019, mb4.9/215, MS4.3/5, 187C-185D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTBY	**Guantanamo Bay**	**1.46**	**85**	*e*Pn	**Pn**	**02 40 11.0**	**-2.4**
GTBY				*e*Sn	**Sn**	**02 40 29.3**	**-2.4**
BNJ	**Bonny Gate**	**1.50**	**191**	*i*P	**Pn**	**02 40 11.8**	**-2.4**
BBJ	**Bamboo Saint A**	**1.53**	**202**	*i*P	**Pn**	**02 40 12.0**	**-2.6**
GWJ	**Greenwich**	**1.72**	**182**	*i*P	**Pn**	**02 40 14.4**	**-2.9**
STH	**Stony Hill**	**1.73**	**185**	*i*P	**Pn**	**02 40 14.4**	**-2.8**
STH				*i*S	**Sn**	**02 40 34.8**	**-3.7**
CVJ	**Coleyville**	**1.78**	**208**	*i*P	**Pn**	**02 40 15.8**	**-2.3**
MTDJ	**Mount Denham**	**1.78**	**208**	*e*Pn	**Pn**	**02 40 15.6**	**-2.5**
MTDJ				*e*Sn	**Sn**	**02 40 34.8**	**-5.1**
HOJ	**Hope**	**1.79**	**183**	*i*P	Pn	02 40 14.5	-3.7
MBJ	**Montego Bay**	**1.80**	**220**	*i*P	**Pn**	**02 40 15.8**	**-2.5**
MBJ				*i*S	**Sn**	**02 40 36.7**	**-3.8**
MCJ	**Malvern**	**2.11**	**208**	*i*P	**Pn**	**02 40 20.7**	**-1.9**
WSYH	**La Gonave Hosp**	**3.71**	**104**	*e*Pn	**Pn**	**02 40 43.0**	**-1.5**
WSYH				*e*Sn	**Sn**	**02 41 24.0**	**-3.3**
LGNH	**LØogne**	**4.04**	**108**	*e*Pn	**Pn**	**02 40 46.5**	**-2.4**
LGNH				*e*Sn	Sn	02 41 28.6	-6.8
JAKH	**Jacmel**	**4.21**	**111**	*e*Pn	**Pn**	**02 40 49.3**	**-2.1**
JAKH				*e*Sn	Sn	02 41 33.5	-6.2
SDDR	**Presa de Saban**	**5.13**	**98**	*e*Pn	**Pn**	**02 41 01.9**	**-2.2**
SDDR				*e*Sn	**Sn**	**02 41 59.1**	**-3.4**
GRTK	**Grand Turk**	**5.44**	**71**	*e*Pn	**Pn**	**02 41 05.9**	**-2.4**
GRTK				*e*Sn	**Sn**	**02 42 06.2**	**-3.8**
SDD	**Santo Domingo**	**6.51**	**101**	*e*Pn	**Pn**	**02 41 23.1**	**+0.1**
SDD				*e*Sn	Sn	02 42 43.2	+6.7
SMN1	**Samana, DR**	**6.99**	**94**	*e*Pn	**Pn**	**02 41 27.4**	**-2.2**
SMN1				*e*Sn	**Sn**	**02 42 45.4**	**-2.9**
PCDR	**Punta Cana, DR**	**7.92**	**98**	*e*Pn	**Pn**	**02 41 41.4**	**-1.0**
PCDR				*e*Sn	**Sn**	**02 43 13.2**	**+1.9**
AGP	**Aguadilla**	**9.10**	**97**	*e*Pn	**Pn**	**02 41 56.0**	**-2.6**
AGP				*e*Sn	**Sn**	**02 43 38.8**	**-1.5**

MPR	**Mayaguez**	**9.14**	**98**	*e*Pn	**Pn**	**02 41 58.2**	**-0.9**
LSP	**Las Mesas**	**9.19**	**99**	*e*Pn	**Pn**	**02 41 57.7**	**-2.2**
CRPR	**Cabo Rojo, PR**	**9.21**	**100**	*e*Pn	**Pn**	**02 41 58.9**	**-1.1**
AOPR	**Arecibo Observ**	**9.47**	**97**	*e*Pn	**Pn**	**02 42 02.4**	**-1.3**
AOPR				*e*Sn	Sn	02 43 35.4	-14
OBIP	**Obispado Ponce**	**9.67**	**99**	*e*Pn	**Pn**	**02 42 05.6**	**-0.8**
CELP	**Cerrillos**	**9.69**	**99**	*e*Pn	**Pn**	**02 42 04.6**	**-2.0**
TEIG	**Tepich**	**10.94**	**274**	Pn	**Pn**	**02 42 23.6**	**-0.2**
	6.8nm,0.3s,baz=98,slow=9.3,SNR=40						
TEIG				Sn	**Sn**	**02 44 21.9**	**-3.4**
	2.3nm,0.3s,baz=162,slow=23,SNR=5.7						
TEIG				LR	LR	02 46 13.2	
	comp=Z,972nm,19.6s,baz=126,slow=35						
TEIG	**Tepich**	**10.94**	**274**	*e*Pn	**Pn**	**02 42 23.5**	**-0.2**
TEIG				*e*Sn	**Sn**	**02 44 20.5**	**-4.9**
BCIP	**Isla Barro Col**	**11.02**	**197**	*e*Pn	**Pn**	**02 42 26.5**	**+1.6**
BCIP				*e*Sn	**Sn**	**02 44 24.1**	**-3.2**
SDV	**Santo Domingo**	**12.32**	**151**	*e*Pn	**Pn**	**02 42 40.5**	**-2.4**
JTS	**JuntasAbangare**	**12.39**	**221**	Pn	**Pn**	**02 42 45.6**	**+1.8**
	1.0nm,0.3s,baz=27,slow=11,SNR=4.2						
JTS				LR	LR	02 47 23.8	
	comp=Z,623nm,20.8s,baz=38,slow=37						
JTS	**JuntasAbangare**	**12.39**	**221**	*e*P	**Pn**	**02 42 45.2**	**+1.5**
JTS				pmax	pmax		
	comp=Z,42nm,1.1s						
JTS	**JuntasAbangare**	**12.39**	**221**	*e*Pn	**Pn**	**02 42 43.9**	**+0.1**
JTS				*e*Sn	Sn	02 44 50.2	-11
TIGA	**Tifton**	**13.16**	**333**	*e*Pn	**Pn**	**02 42 52.0**	**-2.2**
ROSC	**El Rosal**	**15.03**	**171**	Pn	**Pn**	**02 43 21.8**	**+1.8**
	comp=Z,0.6nm,0.3s,baz=142,slow=7.2,SNR=6.9						
ROSC				LR	LR	02 50 34.5	
	comp=Z,284nm,18.6s,baz=16,slow=43						
ROSC	**El Rosal**	**15.03**	**171**	*e*Pn	**Pn**	**02 43 20.7**	**+0.7**
ROSC				*e*Sn	**Sn**	**02 46 09.7**	**+3.7**
PCRV	**Puerto La Cruz**	**15.04**	**128**	Pn	**Pn**	**02 43 19.2**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=263,slow=9.2,SNR=4.9						
KMSC	**Kings Mountain**	**15.83**	**346**	⇑P	**P**	**02 43 32.0**	**-1.6**
	baz=16,SNR=7.8						
KMSC	**Kings Mountain**	**15.83**	**346**	*e*Pn	**Pn**	**02 43 25.9**	**-4.1**
	comp=Z,33nm,0.9s						
LRAL	**Lakeview Retre**	**16.09**	**327**	*e*Pn	**Pn**	**02 43 31.0**	**-2.4**
	comp=Z,28nm,1.1s						
LRAL				*e*Sn	Sn	02 46 22.2	-8.9
BBSR	**BB Station**	**16.47**	**38**	*e*Pn	**Pn**	**02 43 35.0**	**-3.2**
	comp=Z,44nm,0.9s						
BBSR				*e*Sn	Sn	02 46 22.8	-17
TKL	**Tuckaleechee C**	**17.00**	**340**	Pn	**Pn**	**02 43 42.4**	**-2.4**
	comp=Z,0.6nm,0.3s,baz=158,slow=14,SNR=13						
TKL				Sn	**Sn**	**02 46 48.0**	**-5.0**
	comp=Z,0.4nm,0.3s,baz=53,slow=20,SNR=2.6						
TKL	**Tuckaleechee C**	**17.00**	**340**	*e*P	**Pn**	**02 43 42.5**	**-2.4**
TKL				*e*		02 46 51.0	
TKL	**Tuckaleechee C**	**17.00**	**340**	*e*Pn	**Pn**	**02 43 42.5**	**-2.3**
TKL				*e*Sn	**Sn**	**02 46 51.0**	**-2.1**
CPCT	**Cooper Cave**	**17.06**	**338**	*e*Pn	**Pn**	**02 43 43.8**	**-1.9**
CMIG	**Matias Romero**	**17.51**	**264**	P	**P**	**02 43 52.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=66,slow=16,SNR=6.1						
CMIG				LR	LR	02 50 10.8	
	comp=Z,343nm,21.3s,baz=28,slow=36						
VWCC	**Virginia Weste**	**17.62**	**351**	*e*Pn	**Pn**	**02 43 50.8**	**-1.7**
BLA	**Blacksburg**	**17.65**	**350**	*e*P	**Pn**	**02 43 51.9**	**-1.1**
BLA				*e*		02 47 01.3	
BLA				pmax	pmax		
	comp=Z,96nm,1.1s						
BLA	**Blacksburg**	**17.65**	**350**	*e*Pn	**Pn**	**02 43 51.9**	**-1.1**
	comp=Z,96nm,1.1s						
BLA				*e*Sn	Sn	02 47 01.3	-7.7
URVA	**University of**	**17.72**	**358**	*e*Pn	**Pn**	**02 43 49.9**	**-3.9**
URVA				*e*Sn	Sn	02 46 54.6	-16
TZTN	**Tazewell**	**17.74**	**341**	*e*Pn	**Pn**	**02 43 52.8**	**-1.3**
	comp=Z,43nm,1.1s						
TZTN				*e*Sn	**Sn**	**02 47 10.7**	**-0.4**
JSRW	**J. Sargeant Re**	**17.86**	**357**	*e*Pn	**Pn**	**02 43 51.4**	**-4.1**
JSRW				*e*Sn	Sn	02 47 00.7	-13
CBN	**Corbin Frederi**	**18.35**	**358**	*e*P	**P**	**02 43 59.7**	**-1.7**
	comp=Z,64nm,0.8s						
OXF	**Oxford**	**18.51**	**325**	*e*P	**P**	**02 44 02.2**	**-1.0**
OXF				pmax	pmax		
	comp=Z,119nm,0.9s						
OXF	**Oxford**	**18.51**	**325**	*e*P	**P**	**02 44 02.2**	**-1.0**
	comp=Z,119nm,0.9s						
440A	**Kirbyville**	**19.04**	**308**	⇑P	**Pn**	**02 44 11.4**	**+1.5**
	baz=19						
340A	**Bronson**	**19.34**	**310**	⇓P	**Pn**	**02 44 14.7**	**+1.0**
	baz=19						
OTAV

236A	Katherine and baz=22	21.57	308	⇑P		P		02 44 38.8	+2.2
YLE	Yale comp=Z,83nm,0.9s	21.68	8	*e*P		P		02 44 39.0	+1.5
435B	Jarrell baz=22,SNR=10	21.82	304	⇑P		P		02 44 40.4	+1.2
634A	China Grove, S baz=22	21.88	300	⇑P		P		02 44 41.2	+1.2
335A	Moody baz=22,SNR=6.8	21.91	306	⇑P		P		02 44 41.5	+1.2
W38A	Poteau baz=22	21.92	318	⇓P		P		02 44 42.0	+1.8
933A	Laredo baz=22	22.10	295	⇑P		P		02 44 43.9	+1.6
X37A	Clayton baz=22,SNR=15	22.17	315	⇓P		P		02 44 44.6	+1.6
534A	Blanco baz=22,SNR=7.8	22.22	302	⇑P		P		02 44 44.6	+0.9
WHTX	Lake Whitney, baz=22,SNR=9.8	22.26	307	⇑P		P		02 44 45.3	+1.4
WHTX	Lake Whitney, comp=Z,68nm,1.0s	22.26	307	*e*P		P		02 44 46.3	+2.3
BINY	Binghamton comp=Z,62nm,1.2s	22.33	1	*e*P		P		02 44 42.6	-2.1
434A	Burnet baz=22,SNR=7.7	22.37	304	⇑P		P		02 44 45.9	+0.7
SFIN	Lafayette baz=22,SNR=17	22.38	339	⇑P		P		02 44 46.0	+0.9
SFIN	Lafayette comp=Z,212nm,1.8s	22.38	339	*e*P		P		02 44 45.0	-0.1
833A	Chaparral WMA, baz=22	22.40	297	⇓P		P		02 44 46.8	+1.2
733A	Divot King Ran baz=22	22.44	298	⇓P		P		02 44 47.4	+1.5
135A	Vickery Place, baz=22	22.50	309	⇑P		P		02 44 47.1	+0.6
W37A	Quinton baz=23,SNR=17	22.54	317	⇓P		P		02 44 47.9	+0.9
334A	Lometa baz=23,SNR=20	22.56	305	⇓P		P		02 44 48.2	+1.0
633A	Saathoff Ranch baz=23	22.59	300	⇑P		P		02 44 49.0	+1.5
533A	Kerrville baz=23	22.69	301	⇑P		P		02 44 50.1	+1.5
QUA2	Belchertown comp=Z,72nm,1.5s	22.70	8	*e*P		P		02 44 48.1	-0.5
QUA2				*e*S		S		02 48 51.1	-4.3
Z35A	Perchaven, San baz=23	22.77	310	⇓P		P		02 44 51.2	+1.8
234A	Clairette baz=23,SNR=12	22.78	307	⇑P		P		02 44 50.8	+1.3
X36A	Centrahoma baz=23	22.82	314	⇓P		P		02 44 51.5	+1.6
832A	Faith Ranch, C baz=23,SNR=18	22.88	296	⇓P		P		02 44 51.4	+0.7
MMNY	Mt. Morris Dam comp=Z,109nm,1.0s	22.88	358	*e*P		P		02 44 50.1	-0.3
433A	Art baz=23,SNR=15	22.99	303	⇓P		P		02 44 53.2	+1.5
TRY	Troy comp=Z,42nm,1.0s	23.00	6	*e*P		P		02 44 51.6	0.0
TRY				*e*Sn		Sn		02 49 15.3	-2.0
134A	White-Moore Ra baz=23	23.00	308	⇓P		P		02 44 53.3	+1.5
732A	Laxson Ranch, baz=23,SNR=8.0	23.01	297	⇓P		P		02 44 53.0	+1.0
HRV	Adam Dziewonsk	23.04	10	*e*P		P		02 44 54.0	+2.0
HRV	comp=Z,74nm,1.4s			pmax		pmax			
HRV	Adam Dziewonsk comp=Z,74nm,1.4s	23.04	10	*e*P		P		02 44 54.0	+2.0
W36A	Wetumka baz=23	23.07	316	⇑P		P		02 44 53.9	+1.5
632A	Uvalde baz=23,SNR=11	23.10	299	⇑P		P		02 44 53.6	+0.7
333A	Richland Sprin baz=23,SNR=21	23.14	304	⇓P		P		02 44 54.8	+1.6
X35A	Drake baz=23	23.14	313	⇓P		P		02 44 54.8	+1.5
AAM	Ann Arbor	23.20	347	*e*P		P		02 44 53.9	+0.2
AAM	comp=Z,32nm,0.8s			pmax		pmax			
AAM	Ann Arbor comp=Z,32nm,0.8s	23.20	347	*e*P		P		02 44 53.9	+0.2
TUL1	Leonard baz=23,SNR=24	23.25	318	⇑P		P		02 44 55.4	+1.1
TUL1	Leonard comp=Z,91nm,1.1s	23.25	318	*e*P		P		02 44 54.9	+0.6
Z34A	Collier Ranch, baz=23	23.27	310	⇑P		P		02 44 56.0	+1.5
HDIL	Hopedale comp=Z,37nm,0.8s	23.34	335	*e*P		P		02 44 55.5	+0.3
233A	Rising Star baz=23	23.36	306	⇓P		P		02 44 57.0	+1.5
532A	Rocksprings baz=23,SNR=21	23.41	301	⇓P		P		02 44 57.4	+1.3
JCT	Junction City	23.45	301	*e*P		P		02 44 57.5	+1.1
JCT	comp=Z,37nm,1.0s			pmax		pmax			
JCT	Junction City baz=24	23.45	301	⇓P		P		02 44 58.0	+1.5
JCT	Junction City comp=Z,37nm,1.0s	23.45	301	*e*P		P		02 44 57.5	+1.1
Y34A	Reagan Ranch, baz=24,SNR=7.1	23.45	311	⇑P		P		02 44 58.1	+1.8
T37A	Cheneyville 18 baz=24,SNR=11	23.50	321	⇓P		P		02 44 57.6	+0.8
W35A	Tecumseh baz=24,SNR=9.0	23.50	315	⇓P		P		02 44 57.8	+0.9
432A	Menard baz=24	23.59	302	⇑P		P		02 44 58.8	+1.0
133A	Hamilton Ranch baz=24,SNR=5.8	23.64	307	⇓P		P		02 44 59.3	+1.1
ACCN	Adirondack Com comp=Z,29nm,1.1s	23.64	5	*e*P		P		02 44 58.5	+0.4
631A	Perdido Creek baz=24,SNR=9.9	23.72	298	⇓P		P		02 44 60.0	+1.0
332A	Millersview baz=24,SNR=24	23.75	304	⇑P		P		02 45 00.3	+1.1
V35A	Meyer Ranch, C baz=24	23.84	316	⇓P		P		02 45 00.6	+0.6
Z33A	Whitaker Ranch baz=24	23.84	309	⇑P		P		02 45 00.9	+0.8
X34A	Smith Ranch, M baz=24,SNR=8.3	23.85	313	⇓P		P		02 45 01.6	+1.5
232A	Coleman baz=24,SNR=12	23.88	305	⇓P		P		02 45 01.7	+1.1
531A	Rocksprings baz=24	23.94	300	⇓P		P		02 45 01.5	+0.4
T36A	Boggs Farm, Ca baz=24,SNR=9.7	24.04	320	⇑P		P		02 45 03.1	+1.2
Y33A	Hilltop Ranch, baz=24	24.10	310	⇓P		P		02 45 02.5	0.0
HNH	Hanover comp=Z,141nm,1.8s	24.11	8	*e*P		P		02 45 03.5	+1.0
W34A	Bridge Creek, baz=24	24.16	314	⇓P		P		02 45 04.1	+1.1
W34A	Bridge Creek, comp=Z,25nm,0.8s	24.16	314	*e*P		P		02 45 03.4	+0.4
431A	Sonora baz=24,SNR=9.3	24.18	301	⇓P		P		02 45 04.7	+1.4
ABTX	Abilene, Hawle baz=24	24.20	306	⇓P		P		02 45 04.4	+1.0
ABTX	Abilene, Hawle comp=Z,31nm,0.9s	24.20	306	*e*P		P		02 45 05.0	+1.6
331A	San Angelo baz=24,SNR=8.4	24.26	303	⇓P		P		02 45 05.5	+1.4
R37A	Teagarden Farm baz=24	24.26	323	⇑P		P		02 45 05.1	+1.1
X33A	Lawton baz=24,SNR=9.0	24.28	312	⇑P		P		02 45 05.7	+1.5
S36A	Lake Cedric, C baz=24,SNR=14	24.30	321	⇓P		P		02 45 05.4	+1.1
V34A	Guthrie baz=24,SNR=6.5	24.32	315	⇑P		P		02 45 05.8	+1.2
V34A	Guthrie comp=Z,41nm,0.9s	24.32	315	*e*P		P		02 45 05.6	+1.0
T35A	Sooner Cattle baz=24	24.33	319	⇓P		P		02 45 05.1	+0.5
Z32A	Haskell baz=24,SNR=10	24.38	308	⇓P		P		02 45 06.6	+1.5
231A	Bronte baz=24,SNR=14	24.42	304	⇑P		P		02 45 06.5	+0.9
Q37A	Longview Farm, baz=24	24.45	325	⇓P		P		02 45 06.5	+0.8
WMOK	Wichita Mounta	24.58	312	*e*P		P		02 45 08.2	+1.3
WMOK	comp=Z,19nm,1.2s			pmax		pmax			
WMOK	Wichita Mounta comp=Z,18nm,1.2s	24.58	312	*e*P		P		02 45 08.2	+1.3
530A	J-C Ranch, Com baz=25,SNR=24	24.59	300	⇓P		P		02 45 07.8	+0.7
W33A	Caddo, Fort Co baz=25	24.59	313	⇓P		P		02 45 07.6	+0.7
R36A	Gordon, Harris baz=25,SNR=8.6	24.65	322	⇑P		P		02 45 08.9	+1.4
Y32A	R-V Farms, Ver baz=25	24.68	310	⇑P		P		02 45 08.8	+1.0
U34A	Anderson Ranch baz=25	24.69	317	⇑P		P		02 45 08.5	+0.6
S35A	Otter Creek Ra baz=25,SNR=11	24.70	320	⇓P		P		02 45 09.1	+1.1
430A	Baggett Ranch, baz=25	24.72	301	⇑P		P		02 45 08.7	+0.5
X32A	Elmer baz=25	24.78	311	⇓P		P		02 45 09.3	+0.6
131A	Roby baz=25,SNR=6.2	24.78	306	⇑P		P		02 45 09.5	+0.7
LONY	Lake Ozonia comp=Z,38nm,1.1s	24.81	4	*e*P		P		02 45 09.6	+0.7
T34A	McClaskey Farm baz=25,SNR=9.5	24.82	318	⇓P		P		02 45 10.3	+1.3
V33A	Lossen Ranch, baz=25	24.83	314	⇑P		P		02 45 09.7	+0.6
Z31A	Sharp Cattle R baz=25,SNR=18	24.88	308	⇑P		P		02 45 10.9	+1.3
330A	Mertzon baz=25,SNR=15	24.89	303	⇓P		P		02 45 10.3	+0.5
SADO	Sadowa comp=Z,30nm,0.9s,baz=192,slow=9.0,SNR=20	24.98	356	P		P		02 45 11.1	+0.7
230A	Sterling City baz=25	25.02	304	⇑P		P		02 45 11.6	+0.6
R35A	Emporia Munici baz=25	25.06	322	⇑P		P		02 45 11.8	+0.6
U33A	Lingo Farm, Me baz=25	25.06	316	⇓P		P		02 45 11.5	+0.3
Q36A	Arnold C. Orve baz=25	25.07	324	⇑P		P		02 45 11.9	+0.7
W32A	Sentinel baz=25	25.11	312	⇓P		P		02 45 12.6	+0.9
130A	Snyder baz=25	25.19	305	⇑P		P		02 45 13.4	+0.9
429A	Davenport Ranc baz=25	25.20	300	⇓P		P		02 45 13.6	+1.0
S34A	Willow Spring baz=25	25.20	319	⇓P		P		02 45 13.2	+0.7
Y31A	Rekieta Farm, baz=25,SNR=9.4	25.26	309	⇓P		P		02 45 14.2	+1.1
V32A	Arapaho baz=25	25.29	313	⇓P		P		02 45 14.2	+0.9
529A	Stev Forest Ra baz=25	25.30	299	⇓P		P		02 45 13.8	+0.2
Q35A	Mercer Eighty, baz=25	25.32	323	⇑P		P		02 45 14.6	+1.0
WVL	Waterville comp=Z,283nm,2.3s	25.37	12	*e*P		P		02 45 15.2	+1.3
X31A	McDonald Ranch baz=25	25.38	310	⇓P		P		02 45 14.6	+0.5
P36A	Good Intent, A baz=26,SNR=5.6	25.39	325	⇓P		P		02 45 15.4	+1.2
T33A	Patterson Ranc baz=26	25.53	317	⇑P		P		02 45 16.1	+0.7
329A	Wagon Wheel Ra baz=26,SNR=19	25.56	302	⇓P		P		02 45 16.7	+0.8
229A	Bryant Ranch, baz=26,SNR=5.5	25.60	303	⇓P		P		02 45 16.9	+0.7
Z30A	Sanderson Ranc baz=26	25.61	307	⇓P		P		02 45 17.1	+0.9
U32A	Winter Ranch, baz=26	25.62	315	⇑P		P		02 45 17.2	+0.8
W31A	Holland Ranch, baz=26	25.63	312	⇓P		P		02 45 17.0	+0.5
O36A	Bolckow baz=26	25.64	326	⇓P		P		02 45 17.0	+0.6
R34A	Isabella, Hill baz=26	25.66	320	⇓P		P		02 45 16.9	+0.2
S33A	Kaszmaul Farm, baz=26	25.68	318	⇓P		P		02 45 17.4	+0.5
Y30A	Stafford Cattl baz=26,SNR=6.3	25.69	308	⇓P		P		02 45 18.0	+0.9
JFWS	Jewell Farm	25.73	337	*e*P		P		02 45 18.1	+0.9
JFWS	comp=Z,32nm,0.8s			pmax		pmax			
JFWS	Jewell Farm comp=Z,32nm,0.8s	25.73	337	*e*P		P		02 45 18.1	+0.9
P35A	Duane Minner, baz=26	25.77	324	⇑P		P		02 45 18.3	+0.7
GLMI	Grayling comp=Z,83nm,0.9s	25.82	347	*e*P		P		02 45 20.3	+2.3
KSU1	Kansas State U baz=26	25.82	322	⇑P		P		02 45 18.7	+0.7
KSU1	Kansas State U comp=Z,41nm,0.8s	25.82	322	*e*P		P		02 45 19.3	+1.3
V31A	Spring Creek L baz=26	25.86	313	⇓P		P		02 45 19.0	+0.4
Q34A	Chapman baz=26,SNR=6.0	25.89	322	⇑P		P		02 45 19.8	+1.1
X30A	Coker Ranch, T baz=26,SNR=11	25.94	309	⇑P		P		02 45 20.2	+0.9
T32A	Huddler Ranch, baz=26	26.03	316	⇑P		P		02 45 21.0	+1.0
Z29A	Hungry Hill Ra baz=26,SNR=16	26.03	306	⇑P		P		02 45 21.1	+0.9
R33A	Olander Ranch, baz=26	26.12	319	⇓P		P		02 45 21.8	+1.1
SCIA	State Center comp=Z,29nm,0.7s	26.13	331	*e*P		P		02 45 21.9	+1.1
U31A	Nine Bar Ranch baz=26	26.19	314	⇑P		P		02 45 22.5	+1.0
O35A	Humboldt baz=26	26.23	325	⇓P		P		02 45 22.0	+0.2
P34A	Walnut Farm, R baz=26,SNR=8.8	26.24	323	⇓P		P		02 45 23.0	+1.1
Y29A	Porterfield Fa baz=26,SNR=8.2	26.26	307	⇓P		P		02 45 23.3	+1.1
228A	UT Block 9, Go baz=26	26.27	303	⇑P		P		02 45 22.6	+0.3
LTX	Lajitas	26.28	296	*e*P		P		02 45 24.2	+1.7
LTX				*e*				02 48 49.9	
LTX	Lajitas	26.28	296	*e*P		P		02 45 24.2	+1.7
LTX				*e*PcP		PcP		02 48 49.9	+1.4
TXAR	Lajitas Array comp=Z,8.8nm,0.9s,baz=117,slow=7.8,SNR=40	26.28	296	P		P		02 45 24.2	+1.7
TXAR				PcP		PcP		02 48 49.9	+1.4
TXAR	comp=Z,1.2nm,0.8s,baz=116,slow=4.0,SNR=7.3			LR		LR		02 57 32.1	
TX31	comp=Z,103nm,20.3s,baz=0.0,slow=40 Lajitas Ar. Si	26.29	296	*e*P		P		02 45 24.2	+1.7
TX31				*e*PcP		PcP		02 48 49.6	+1.0
S32A	Newby Ranch, P baz=26	26.34	317	⇓P		P		02 45 23.2	+0.4
128A	Castleberry Fa baz=26,SNR=26	26.38	304	⇑P		P		02 45 24.2	+0.9
Q33A	Connelly Farm, baz=26,SNR=13	26.46	321	⇑P		P		02 45 25.2	+1.3
X29A	Tulia baz=27	26.55	308	⇓P		P		02 45 25.6	+0.9
Z28A	Tucker Farm, M baz=27	26.57	306	⇑P		P		02 45 25.7	+0.7
R32A	Long Quarter, baz=27	26.64	319	⇓P		P		02 45 26.1	+0.7
S31A	Mullinville baz=27	26.65	317	⇓P		P		02 45 26.4	+0.8
Y28A	McKinney Farm, baz=27	26.72	307	⇑P		P		02 45 27.2	+0.8
AMTX	Amarillo baz=27	26.73	309	⇑P		P		02 45 27.2	+0.7
AMTX	Amarillo comp=Z,18nm,0.9s	26.73	309	*e*P		P		02 45 27.4	+0.9
W29A	Amarillo baz=27	26.82	310	⇑P		P		02 45 27.6	+0.4
U30A	WK&E Inc. Balk baz=27	26.82	313	⇓P		P		02 45 27.7	+0.5
ATAH	Atahualpa comp=Z,27nm,1.1s,baz=338,slow=4.8,SNR=8.0	26.82	184	P		P		02 45 30.5	+2.7
Q32A	Meitler Ranch, baz=27	26.89	320	⇓P		P		02 45 28.4	+0.6
N34A	Lincoln baz=27	26.96	325	⇓P		P		02 45 28.8	+0.4
T30A	Plains baz=27	27.02	315	⇑P		P		02 45 29.0	0.0
O33A	Hebron baz=27	27.03	323	⇑P		P		02 45 29.5	+0.5
R31A	Burdett baz=27,SNR=8.4	27.07	318	⇓P		P		02 45 30.5	+1.1
V29A	Stinnett baz=27	27.09	311	⇑P		P		02 45 29.8	+0.2
MSTX	Muleshoe baz=27	27.14	307	⇓P		P		02 45 30.6	+0.4
MSTX	Muleshoe comp=Z,12nm,0.9s	27.14	307	*e*P		P		02 45 31.1	+1.0
S30A	Montezuma baz=27	27.30	316	⇑P		P		02 45 32.2	+0.7
P32A	Huiting Farm, baz=27	27.32	321	⇑P		P		02 45 32.5	+0.8
Q31A	Ellis baz=28	27.41	319	⇑P		P		02 45 33.5	+1.0
M34A	Aspy Farms, Fr baz=28	27.47	326	⇑P		P		02 45 33.7	+0.7
R30A	Dighton baz=28	27.54	317	⇓P		P		02 45 34.2	+0.6
O32A	Brockman Farm, baz=28	27.55	322	⇓P		P		02 45 34.3	+0.6
L34A	Svendsen Farm, baz=28	27.70	327	⇑P		P		02 45 35.7	+0.7
S29A	Ulysses baz=28	27.72	315	⇓P		P		02 45 35.5	+0.3
P31A	Stockton baz=28,SNR=7.0	27.72	320	⇓P		P		02 45 36.7	+1.4
U28A	Mallet baz=28	27.83	312	⇓P		P		02 45 37.0	+0.6
N32A	Stulken Farm, baz=28	27.89	323	⇑P		P		02 45 37.5	+0.7
Q30A	Quinter baz=28	27.91	318	⇑P		P		02 45 38.2	+1.2
T28A	Walsh baz=28	28.13	313	⇑P		P		02 45 40.3	+1.3
R29A	Marienthal baz=28	28.18	316	⇑P		P		02 45 41.3	+1.9
S28A	Manter baz=28	28.23	314	⇓P		P		02 45 41.4	+1.6
BGNE	Belgrade baz=28	28.25	324	⇓P		P		02 45 41.8	+1.9
P30A	Selden baz=28,SNR=7.2	28.27	319	⇑P		P		02 45 41.4	+1.2
U27A	Thompson Grove baz=28	28.28	311	⇓P		P		02 45 41.4	+1.1
Q29A	Oakley baz=28,SNR=12	28.34	317	⇓P		P		02 45 41.7	+0.9
O30A	MW Ranch, Wils baz=29	28.54	320	⇓P		P		02 45 44.1	+1.5
R28A	Tribune baz=29,SNR=13	28.57	316	⇑P		P		02 45 43.8	+0.9
M31A	Lambtecht Ranc baz=29	28.66	323	⇓P		P		02 45 45.1	+1.5
P29A	Atwood baz=29	28.73	319	⇓P		P		02 45 45.2	+1.0
O29A	4D Ranch, Culb baz=29	28.95	320	⇑P		P		02 45 47.5	+1.2
Q28A	Sharon Springs baz=29	28.98	317	⇑P		P		02 45 47.6	+1.0
ECSD	EROS Data Cent baz=29,SNR=9.8	29.13	329	⇓P		P		02 45 48.1	+0.4
ECSD	EROS Data Cent comp=Z,7.6nm,0.8s	29.13	329	*e*P		P		02 45 47.9	+0.2
L31A	Butterfield Fa baz=29	29.15	325	⇓P		P		02 45 49.0	+1.1
T26A	Comanche Natio baz=29	29.18	312	⇑P		P		02 45 49.5	+1.0
R27A	Eads baz=29	29.20	315	⇓P		P		02 45 49.5	+1.1
P28A	Saint Francis baz=29	29.23	318	⇑P		P		02 45 49.7	+1.0
N29A	Votaw Ranch, W baz=29	29.28	321	⇑P		P		02 45 50.2	+1.1
M30A	Dale-Ortello V baz=29	29.30	323	⇑P		P		02 45 50.7	+1.4
L30A	Spencer Herefo baz=30	29.48	324	⇑P		P		02 45 52.5	+1.6
O28A	Krutsinger Ran baz=30	29.56	319	⇑P		P		02 45 52.9	+1.3
R26A	Arlington baz=30	29.64	314	⇓P		P		02 45 53.6	+1.2
M29A	Burnside Ranch baz=30	29.71	322	⇑P		P		02 45 54.3	+1.4
T25A	Trinidad baz=30	29.74	311	⇓P		P		02 45 54.1	+0.7
P27A	Ficken Ranch, baz=30	29.74	317	⇑P		P		02 45 55.3	+2.0
N28A	Pribbeno Ranch baz=30	29.75	320	⇑P		P		02 45 54.1	+0.8
K30A	Basset baz=30	29.91	325	⇑P		P		02 45 55.6	+1.0
L29A	Maesberg Ranch baz=30	29.98	323	⇓P		P		02 45 56.4	+1.0
Q26A	Hugo baz=30	30.01	315	⇑P		P		02 45 56.4	+0.6
M28A	Bar X Bar Ranc baz=30	30.08	321	⇓P		P		02 45 56.9	+0.7
BNM	Barren Site	30.16	304	*e*P		P		02 45 58.8	+1.6
OGNE	Ogallala baz=30	30.20	320	⇓P		P		02 45 57.9	+0.6
P26A	Davis Ranch, A baz=30	30.24	316	⇑P		P		02 45 58.4	+0.7
J30A	Dallas baz=30	30.29	326	⇓P		P		02 45 58.4	+0.4
ANMO	Albuquerque	30.32	306	*i* P		P		02 45 59.5	+0.9
ANMO	comp=Z,21nm,1.7s			pmax		pmax			
ANMO	Albuquerque comp=Z,5.3nm,1.3s	30.32	306	*e*P		P		02 46 00.5	+1.9
LENM	Lemitar	30.44	304	*e*P		P		02 45 59.6	0.0
EYMN	Ely comp=Z,33nm,1.3s	30.55	340	*e*P		P		02 46 00.7	+0.6
LAZ	Ladron	30.65	305	*e*P		P		02 46 03.8	+2.4
M27A	Reverse DX Ran baz=31	30.76	320	⇓P		P		02 46 02.9	+0.6
J29A	Okreek baz=31	30.79	325	⇑P		P		02 46 02.9	+0.5
SDCO	Great Sand Dun comp=Z,7.1nm,1.3s	30.79	312	*e*P		P		02 46 03.5	+0.8
BRSD	Miller baz=31	30.80	328	⇓P		P		02 46 02.8	+0.3
K28A	Ten Mile Ranch baz=31	30.91	323	⇓P		P		02 46 03.9	+0.4
Q24A	Divide baz=31,SNR=5.8	31.12	314	⇓P		P		02 46 06.8	+1.0
Q24A	Divide comp=Z,9.9nm,1.1s	31.12	314	*e*P		P		02 46 06.5	+0.8
I29A	Vivian Onida baz=31	31.19	326	⇓P		P		02 46 06.5	+0.5
J28A	Allard Ranch, baz=31	31.29	324	⇑P		P		02 46 07.9	+1.1
G30A	Faulkton baz=31	31.38	329	⇑P		P		02 46 08.4	+0.8
SAML	Samuel comp=Z,36nm,1.1s	31.50	154	*e*P		P		02 46 09.2	+0.3
H29A	Onida baz=32	31.56	327	⇑P		P		02 46 09.3	+0.2
NNA	Nana comp=Z,18nm,0.7s,baz=350,slow=7.7,SNR=12	31.59	180	P		P		02 46 11.0	+1.3
NNA	Nana	31.59	180	*e*P		P		02 46 09.8	+0.1
NNA	comp=Z,23nm,0.8s			pmax		pmax			
NNA	Nana comp=Z,23nm,0.8s	31.59	180	*e*P		P		02 46 09.8	+0.1
J27A	Elkhorn Farm, baz=32	31.61	323	⇓P		P		02 46 10.1	+0.4
I28A	Midland baz=32	31.64	325	⇓P		P		02 46 10.6	+0.7
M25A	Palm-Egli Farm baz=32	31.73	319	⇑P		P		02 46 11.7	+0.8
S22A	4UR Ranch, Cre baz=32	31.73	311	⇓P		P		02 46 11.7	+0.6
S22A	4UR Ranch, Cre comp=Z,7.7nm,1.3s	31.73	311	*e*P		P		02 46 12.2	+1.1
P23A	Jefferson baz=32	31.79	314	⇓P		P		02 46 12.9	+1.2
ISCO	Idaho Springs	31.85	315	*e*P		P		02 46 13.9	+1.7
ISCO	comp=Z,20nm,1.3s			pmax		pmax			
ISCO	Idaho Springs baz=32,SNR=8.7	31.85	315	⇓P		P		02 46 13.4	+1.3
ISCO	Idaho Springs comp=Z,20nm,1.3s	31.85	315	*e*P		P		02 46 13.9	+1.7
K26A	Motz Farm, Whi baz=32	31.94	322	⇓P		P		02 46 13.7	+1.1
H28A	Mission Ridge baz=32	32.01	326	⇓P		P		02 46 14.9	+1.7
L25A	Engebretsen Ra baz=32	32.08	320	⇑P		P		02 46 15.1	+1.1
I27A	Quinn baz=32	32.16	324	⇓P		P		02 46 15.1	+0.5
F29A	Eureka	32.22	329	⇑P		P		02 46 15.2	+0.2

baz=32
G28A **Parade** 32.23 327 ⇓P P 02 46 15.9 +0.7
baz=32
J26A **Sides Ranch, S** 32.26 323 ⇓P P 02 46 16.1 +0.7
baz=32
O23A **Lake Granby, G** 32.26 315 ⇓P P 02 46 16.8 +1.0
baz=32
E30A **Jud** 32.28 331 ⇓P P 02 46 15.3 -0.2
baz=32
AGMN **Agassiz Nation** 32.39 336 ⇓P P 02 46 16.8 +0.5
baz=32
AGMN **Agassiz Nation** 32.39 336 *e*P P 02 46 17.2 +0.8
comp=Z,12nm,1.1s
SMCO **Snowmass** 32.47 313 *e*P P 02 46 19.4 +1.6
comp=Z,21nm,1.1s
PHWY **Pilot Hill** 32.53 318 *e*P P 02 46 19.2 +1.1
comp=Z,12nm,1.1s
H27A **Howes** 32.55 325 ⇓P P 02 46 18.4 +0.6
baz=33
I26A **New Underwood** 32.58 324 ⇑P P 02 46 18.9 +0.6
baz=33
N23A **Red Feather La** 32.63 317 ⇑P P 02 46 19.1 +0.2
baz=33
O22A **Kremmling** 32.66 315 ⇑P P 02 46 19.3 +0.1
baz=33
D30A **Buchanan** 32.66 332 ⇑P P 02 46 19.3 +0.5
baz=33,SNR=6.2
E29A **Napoleon** 32.67 330 ⇑P P 02 46 19.1 +0.2
baz=33
F28A **McLaughlin** 32.71 328 ⇓P P 02 46 19.9 +0.6
baz=33
MVCO **Mesa Verde** 32.72 309 *e*P P 02 46 21.3 +1.6
comp=Z,14nm,1.3s
J25A **Sunshine Ranch** 32.72 322 ⇓P P 02 46 20.2 +0.7
baz=33
H26A **Fairpoint** 32.91 325 ⇑P P 02 46 21.4 +0.3
baz=33
N22A **Wattenberg Ran** 32.91 316 ⇑P P 02 46 22.5 +1.1
baz=33,SNR=5.7
TUC **Tucson** 32.95 299 *e*P P 02 46 24.2 +2.6
TUC pmax pmax
comp=Z,3.0nm,0.9s
TUC **Tucson** 32.95 299 *e*P P 02 46 24.2 +2.6
comp=Z,3.3nm,0.9s
G27A **Dupree** 32.97 326 ⇑P P 02 46 22.5 +0.9
baz=33,SNR=9.1
C30A **Mose, Pekin** 32.99 333 ⇓P P 02 46 22.3 +0.6
baz=33
D29A **Pettibone, Tap** 33.01 331 ⇓P P 02 46 22.2 +0.3
baz=33
I25A **Rochford** 33.07 323 ⇓P P 02 46 23.7 +1.1
baz=33,SNR=11
PV01 **Paradox Valley** 33.14 310 *e*P P 02 46 24.5 +1.2
E28A **Huff** 33.17 329 ⇓P P 02 46 23.6 +0.3
baz=33
J24A **Dixon Ranch, L** 33.19 321 ⇓P P 02 46 24.6 +1.0
baz=33
G26A **Maurine** 33.26 326 ⇓P P 02 46 24.4 +0.3
baz=33,SNR=7.0
F27A **Lemmon** 33.35 327 ⇓P P 02 46 26.0 +1.2
baz=33,SNR=6.7
H25A **Fruitdale** 33.37 324 ⇓P P 02 46 25.4 +0.3
baz=33
I24A **Kuemmerle Ranc** 33.48 322 ⇓P P 02 46 26.6 +0.5
baz=34
PV04 **Paradox Valley** 33.49 311 *e*P P 02 46 27.8 +1.5
PV05 **Paradox Valley** 33.50 310 *e*P P 02 46 27.9 +1.4
E27A **Carson** 33.50 328 ⇑P P 02 46 27.1 +1.0
baz=34
B30A **Myrvik Farm, E** 33.51 334 ⇓P P 02 46 26.8 +0.6
baz=34
D28A **Regan** 33.56 330 ⇓P P 02 46 27.1 +0.4
baz=34
MDND **Maddock** 33.60 332 ⇓P P 02 46 27.4 +0.4
baz=34
G25A **Newell** 33.63 325 ⇓P P 02 46 28.1 +0.7
baz=34,SNR=7.8
F26A **Lodgepole** 33.67 326 ⇓P P 02 46 28.1 +0.4
baz=34
PV09 **Paradox Valley** 33.69 311 *e*P P 02 46 29.2 +1.0
O20A **White River Cl** 33.78 314 *e*P P 02 46 31.3 +2.4
comp=Z,125nm,2.7s
C28A **Hausauer Farms** 33.85 331 ⇓P P 02 46 30.1 +0.9
baz=34
RWWY **Rawlins** 33.86 317 *e*P P 02 46 31.5 +1.9
comp=Z,11nm,0.9s
A30A **Hoffart Farm,** 33.88 334 ⇑P P 02 46 30.0 +0.6
baz=34
B29A **Wagenman Farm,** 33.95 333 ⇓P P 02 46 30.0 0.0
baz=34
E26A **Carlson Angus** 33.98 327 ⇑P P 02 46 30.6 +0.3
baz=34
H24A **Dirks Ranch, A** 33.98 323 ⇑P P 02 46 30.8 +0.4
baz=34,SNR=6.1
N20A **Spence Gulch,** 34.12 315 ⇑P P 02 46 33.5 +1.5
baz=34,SNR=6.4
F25A **Bowman** 34.13 326 ⇑P P 02 46 32.3 +0.6
baz=34
A29A **Manning Farm,** 34.25 333 ⇓P P 02 46 33.7 +1.1
baz=34
G24A **Alzada** 34.26 324 ⇑P P 02 46 33.2 +0.3
baz=34
WUAZ **Wupatki** 34.30 304 ⇑P P 02 46 34.4 +1.0
baz=34,SNR=17
WUAZ **Wupatki** 34.30 304 *e*P P 02 46 36.0 +2.6
comp=Z,26nm,0.8s
J22A **Midwest** 34.32 320 ⇑P P 02 46 34.0 +0.5
baz=34
D26A **Manning** 34.35 328 ⇑P P 02 46 34.0 +0.4
baz=34
C27A **Sayler Ranch,** 34.37 330 ⇓P P 02 46 33.7 0.0
baz=34
B28A **Dugan Ranch, T** 34.38 332 ⇓P P 02 46 34.1 +0.3
baz=34
E25A **Miller Ranch,** 34.48 327 ⇑P P 02 46 35.0 +0.3
baz=34
I22A **9 Mile Ranch,** 34.59 321 ⇓P P 02 46 35.7 -0.1
baz=35
F24A **Ekalaka** 34.60 325 ⇓P P 02 46 35.9 +0.1
baz=35
G23A **Biddle** 34.73 323 ⇑P P 02 46 36.8 -0.1
baz=35
J21A **Lysite** 34.88 319 ⇓P P 02 46 39.0 +0.7
baz=35,SNR=13
SRU **San Rafael Swe** 34.93 311 *e*P P 02 46 40.5 +1.6
SRU pmax pmax
comp=Z,9.0nm,1.1s
SRU **San Rafael Swe** 34.93 311 *e*P P 02 46 40.5 +1.6
comp=Z,9.0nm,1.1s
I21A **Big Trails, Te** 35.03 320 ⇑P P 02 46 40.5 +0.8
baz=35,SNR=7.4
ROA **Roan Cliffs** 35.05 312 *e*P P 02 46 41.8 +1.8
F23A **Volborg** 35.05 324 ⇓P P 02 46 39.9 +0.2
baz=35
B26A **Jensen Ranch,** 35.19 330 ⇓P P 02 46 41.1 +0.3
baz=35
C25A **Freed Ranch, W** 35.22 328 ⇓P P 02 46 41.5 +0.4
baz=35
G22A **Birney** 35.25 323 ⇑P P 02 46 42.0 +0.6
baz=35
J20A **Shoshoni** 35.27 319 ⇑P P 02 46 41.9 +0.2
baz=35
D24A **Glendive** 35.36 327 ⇑P P 02 46 43.2 +0.9
baz=35
A26A **Wade Farm, Ken** 35.47 331 ⇓P P 02 46 44.0 +0.9
baz=36
E23A **Ismay** 35.48 325 ⇓P P 02 46 43.9 +0.6
baz=36
F22A **Rosebud** 35.56 324 ⇓P P 02 46 44.6 +0.5
baz=36
I20A **Worland** 35.62 320 ⇑P P 02 46 45.5 +0.9
baz=36,SNR=7.6
SCHQ **Schefferville** 35.76 10 P P 02 46 46.2 +0.7
comp=Z,7.5nm,0.8s,baz=195,slow=6.3,SNR=16
SCHQ PcP PcP 02 49 13.7 +0.6
comp=Z,5.3nm,0.6s,baz=203,slow=1.6,SNR=14
SCHQ LR LR 03 00 37.4
comp=Z,234nm,19.2s,baz=170,slow=35
SCHQ **Schefferville** 35.76 10 *e*P P 02 46 46.1 +0.5
G21A **Lodge Grass** 35.78 322 ⇓P P 02 46 46.2 +0.2
baz=36,SNR=5.9
E22A **Miles City** 35.79 325 ⇓P P 02 46 46.2 +0.2
baz=36
H20A **Greybull** 35.83 320 ⇑P P 02 46 46.6 +0.1
baz=36
J19A **Crowheart** 35.83 318 ⇑P P 02 46 47.1 +0.5
baz=36
D23A **Lindsay** 35.86 326 ⇑P P 02 46 47.3 +0.7
baz=36
KNB **Kanab** 35.88 306 *e*P P 02 46 49.9 +2.9
KNB pmax pmax
comp=Z,19nm,1.0s
KNB **Kanab** 35.88 306 *e*P P 02 46 49.9 +2.9
comp=Z,19nm,1.0s
BW06 **Boulder Array** 35.91 317 *e*P P 02 46 48.0 +0.7
PD31 **Pinedale Array** 35.91 317 *e*P P 02 46 47.2 0.0
PD31 *e*PcP PcP 02 49 14.2 +0.2
PDAR **Pinedale Array** 35.91 317 P P 02 46 48.1 +0.9
comp=Z,2.9nm,0.9s,baz=107,slow=13,SNR=13
PDAR PcP PcP 02 49 14.2 +0.2
comp=Z,1.3nm,0.8s,baz=98,slow=6.6,SNR=3.0
I19A **Meeteetse** 36.19 319 ⇑P P 02 46 50.6 +1.0
baz=36
C23A **Lambert** 36.25 327 ⇓P P 02 46 50.9 +1.0
baz=36
D22A **Cohagen** 36.36 325 ⇓P P 02 46 51.8 +0.9
baz=36
G20A **Bridger** 36.36 321 ⇓P P 02 46 51.1 +0.1
baz=36
NLU **North Lily Min** 36.37 311 *e*P P 02 46 51.3 +0.1
comp=Z,13nm,1.4s
CCUT **Cedar City** 36.45 307 *e*P P 02 46 54.0 +1.9
comp=Z,7.6nm,1.1s
C22A **Vida** 36.58 326 ⇑P P 02 46 53.4 +0.7
baz=37
HWUT **Hardare Ranch** 36.70 314 *e*P P 02 46 54.4 +0.4
comp=Z,8.4nm,0.9s
LPAZ **La Paz** 36.83 166 P P 02 46 56.2 +0.5
comp=Z,19nm,1.2s,baz=353,slow=9.1,SNR=22
LPAZ **La Paz** 36.83 166 *e*P P 02 46 55.5 -0.3
LPAZ pmax pmax
comp=Z,35nm,1.4s
LPAZ **La Paz** 36.83 166 *e*P P 02 46 55.5 -0.3
comp=Z,35nm,1.4s
RLMT **Red Lodge** 36.93 321 ⇑P P 02 46 56.8 +0.9
baz=37,SNR=8.8
DUG **Dugway, Tooele** 36.98 311 *e*P P 02 46 58.0 +1.6
DUG pmax pmax
comp=Z,16nm,0.9s
DUG **Dugway, Tooele** 36.98 311 ⇑P P 02 46 57.4 +1.0
baz=37,SNR=19
DUG **Dugway, Tooele** 36.98 311 *e*P P 02 46 58.0 +1.6
comp=Z,16nm,0.9s
LOHW **Long Hollow** 36.99 318 *e*P P 02 46 57.3 +0.8
comp=Z,11nm,0.9s
B22A **Reddig Ranch S** 36.99 327 ⇓P P 02 46 57.2 +1.0
baz=37
SNOW **Snow King Moun** 37.01 317 *e*P P 02 46 57.8 +1.1
comp=Z,10.0nm,0.8s
REDW **Red Top Meadow** 37.02 317 *e*P P 02 46 57.9 +1.1
comp=Z,26nm,1.1s
BC3 **Big Chuckawall** 37.08 300 ⇑P P 02 46 58.5 +1.3
baz=37
MOOW **Moose Ponds** 37.14 318 *e*P P 02 46 58.4 +0.6
comp=Z,12nm,1.0s
TPAW **Teton Pass** 37.15 317 *e*P P 02 46 58.5 +0.6
comp=Z,20nm,1.3s
SWSC **Sam W. Stewart** 37.22 299 ⇓P P 02 46 59.7 +1.4
baz=37
C21A **Desert Coulee** 37.27 326 ⇓P P 02 47 00.3 +1.8
baz=37
FXWY **Fox Creek** 37.27 317 *e*P P 02 46 59.8 +0.9
FXWY *e*PcP PcP 02 49 18.5 +0.3
FLWY **Flagg Ranch** 37.28 318 *e*P P 02 47 00.1 +1.2
comp=Z,27nm,1.4s
IMW **Indian Meadow** 37.34 318 *e*P P 02 47 00.5 +1.0
comp=Z,9.4nm,0.8s
H17A **Grant Village** 37.35 319 *e*P P 02 46 59.5 -0.1
comp=Z,9.9nm,1.1s
A22A **Carney Farms,** 37.40 328 ⇑P P 02 47 01.9 +2.2
baz=37
BGU **Big Grassy Mou** 37.42 312 *e*P P 02 47 00.8 +0.7
comp=Z,20nm,1.1s
GMRC **Granite Mounta** 37.49 302 ⇑P P 02 47 02.5 +1.8
baz=38
SHPR **Sheep Range** 37.52 305 *e*P P 02 47 02.5 +1.4
HVU **Hansel Valley** 37.59 314 *e*P P 02 47 02.4 +0.9
HVU pmax pmax
comp=Z,7.0nm,1.1s
HVU **Hansel Valley** 37.59 314 *e*P P 02 47 02.4 +0.9
comp=Z,7.0nm,1.1s
C20A **Veseth Ranch,** 37.68 325 ⇓P P 02 47 03.6 +1.5
baz=38,SNR=9.7
A21A **Bergtoll Ranch** 37.91 327 ⇑P P 02 47 05.0 +1.1
baz=38
B20A **Solberg Farm,** 38.13 326 ⇓P P 02 47 06.8 +0.9
baz=38
A20A **Cobblestone Ra** 38.35 326 ⇑P P 02 47 09.4 +1.6
baz=38
R11A **Troy Canyon, C** 38.37 307 ⇓P P 02 47 09.6 +1.4
baz=38,SNR=5.9
R11A **Troy Canyon, C** 38.37 307 *e*P P 02 47 09.4 +1.2
comp=Z,9.4nm,1.2s
R11A *e*PcP PcP 02 49 21.9 +0.3
TPNV **Topopah Spring** 38.48 305 *e*P P 02 47 10.3 +1.1
TPNV pmax pmax
comp=Z,10.0nm,1.0s
TPNV **Topopah Spring** 38.48 305 ⇑P P 02 47 10.5 +1.4
baz=38,SNR=6.5
TPNV **Topopah Spring** 38.48 305 *e*P P 02 47 10.3 +1.1
comp=Z,10.0nm,1.0s
MURC **Murrieta** 38.50 299 ⇑P P 02 47 10.4 +1.3
baz=38
GSC **Goldstone, Bar** 38.52 302 *e*P P 02 47 10.9 +1.5
GSC pmax pmax
comp=Z,6.0nm,0.9s
GSC **Goldstone, Bar** 38.52 302 ⇓P P 02 47 10.7 +1.3
baz=38
GSC **Goldstone, Bar** 38.52 302 *e*P P 02 47 10.9 +1.5
comp=Z,5.6nm,0.9s
BOZ **Bozeman (W)** 38.63 320 ⇓P P 02 47 11.0 +0.8
baz=39,SNR=9.4
B19A **Brinkman Farms** 38.63 325 ⇓P P 02 47 11.5 +1.4
baz=39,SNR=6.1
SIV **San Ignacio** 38.73 156 P P 02 47 12.0 +0.8
SIV LR LR 03 06 14.8
comp=Z,32nm,1.0s
comp=Z,472nm,18.0s,baz=19,slow=41
A19A **Klindworth Far** 38.81 326 ⇑P P 02 47 12.9 +1.4
baz=39
EGMT **Eagleton** 38.82 324 ⇑P P 02 47 12.6 +0.9
baz=39,SNR=8.9
EGMT **Eagleton** 38.82 324 *e*P P 02 47 12.8 +1.0
comp=Z,17nm,1.1s
ELK **Elko** 38.91 311 *e*P P 02 47 13.9 +1.2
ELK pmax pmax
comp=Z,6.0nm,0.9s
ELK **Elko** 38.91 311 *e*P P 02 47 13.9 +1.2
comp=Z,6.0nm,0.9s
MCMT **McKenzie Canyo** 38.98 318 *e*P P 02 47 14.9 +1.6
DLMT **Dillon** 39.08 319 *e*P P 02 47 15.6 +1.5
comp=Z,15nm,1.3s
MPMC **Manual Prospec** 39.23 303 ⇓P P 02 47 16.5 +1.0
baz=39
GRAC **Grapevine Rang** 39.36 305 ⇑P P 02 47 17.7 +1.3
baz=39
DAC **Darwin (Calif)** 39.36 303 *e*P P 02 47 17.3 +0.8
DAC pmax pmax
comp=Z,35nm,2.0s
DAC **Darwin (Calif)** 39.36 303 *e*P P 02 47 17.3 +0.8
comp=Z,34nm,2.0s
EDW2 **Edwards Air Fo** 39.38 301 ⇑P P 02 47 17.6 +1.1
baz=39
HLID **Hailey** 39.43 316 ⇓P P 02 47 17.9 +0.8
baz=40,SNR=11
HLID **Hailey** 39.43 316 *e*P P 02 47 18.4 +1.4
comp=Z,10.0nm,1.1s
FFC **Flin Flon** 39.82 337 *e*P P 02 47 20.5 +0.7
FFC *e* 02 48 52.5
FFC pmax pmax
comp=Z,8.0nm,0.9s
FFC **Flin Flon** 39.82 337 *e*P P 02 47 20.5 +0.7
comp=Z,8.0nm,0.9s
FFC *e*PP PP 02 48 52.5 +1.0
CHMT **Chamberlain Mo** 40.23 321 *e*P P 02 47 24.2 +0.5
MFID **Camas Ranch** 40.31 315 *e*P P 02 47 24.7 +0.5
comp=Z,9.3nm,1.0s
NV01 **Mina Array Sit** 40.45 306 *e*P P 02 47 27.5 +1.9
NVAR **Mina Array Bea** 40.45 306 P P 02 47 27.9 +2.3
comp=Z,7.5nm,0.9s,baz=114,slow=7.6,SNR=20
SLMT **Seeley Lake** 40.54 321 *e*P P 02 47 27.3 +1.1
MSO **Missoula** 40.61 320 ⇑P P 02 47 27.6 +1.0
baz=41
MSO **Missoula** 40.61 320 *e*P P 02 47 27.6 +1.0
comp=Z,17nm,1.8s
FCC **Fort Churchill** 40.92 346 *e*P P 02 47 28.5 -0.4
FCC **Fort Churchill** 40.92 346 *e*P P 02 47 28.5 -0.4
comp=Z,2µm,1.6s
SWMT **Swartz Lake** 40.97 321 *e*P P 02 47 30.6 +1.0
JTMT **Jette** 41.26 321 *e*P P 02 47 33.1 +1.1
BLMT **Blacktail Moun** 41.43 322 *e*P P 02 47 34.8 +1.3
BSMT **Bassoo Peak** 41.60 321 *e*P P 02 47 36.4 +1.5
WVOR **Wild Horse Val** 41.88 312 *e*P P 02 47 37.7 +0.5
WVOR pmax pmax
comp=Z,9.0nm,1.0s
WVOR **Wild Horse Val** 41.88 312 *e*P P 02 47 37.7 +0.5
comp=Z,9.1nm,1.0s
F10A **Beach Ranch, E** 42.26 318 *e*P P 02 47 40.6 +0.4
comp=Z,9.1nm,0.9s
LVC **Limon Verde** 42.83 169 P P 02 47 45.4 +0.2
comp=Z,23nm,0.6s,baz=357,slow=5.6,SNR=9.2
LVC **Limon Verde** 42.83 169 *e*P P 02 47 44.8 -0.4
comp=Z,19nm,1.4s
G08A **Pilot Rock** 43.11 316 *e*P P 02 47 47.1 0.0
comp=Z,14nm,1.1s
NEW **Newport** 43.18 321 *e*P P 02 47 47.6 0.0
NEW pmax pmax
comp=Z,11nm,1.0s
NEW **Newport** 43.18 321 ⇓P P 02 47 48.6 +1.0
baz=43
NEW **Newport** 43.18 321 *e*P P 02 47 47.5 0.0
comp=Z,11nm,1.0s
C09A **Chrisman Ranch** 43.67 320 *e*P P 02 47 52.4 +0.9
comp=Z,8.2nm,0.8s
EDM **Edmonton** 43.69 329 *e*P P 02 47 51.9 +0.3
EDM **Edmonton** 43.69 329 *e*P P 02 47 51.9 +0.3
M04C **Macdoel** 43.96 310 ⇓P P 02 47 54.8 +0.8
baz=44
J05D **Fort Rock, OR** 43.96 312 ⇑P P 02 47 54.4 +0.3
baz=44
K04D **Chiloquin, OR** 44.13 311 ⇓P P 02 47 56.1 +0.7
baz=44
I05D **Terrebonne, OR** 44.36 314 ⇓P P 02 47 58.1 +1.0
baz=44
B08A **Colville Reser** 44.55 320 *e*P P 02 47 59.2 +0.6
comp=Z,17nm,1.2s
J04D **Umpqua Nationa** 44.56 312 ⇑P P 02 48 00.0 +1.1
baz=45
I04A **Tendick Farm,** 44.93 313 ⇑P P 02 48 02.9 +1.2
baz=45
LTY **Liberty** 44.95 318 *e*P P 02 48 02.7 +0.9
comp=Z,18nm,1.2s
H04A **Detroit Lake** 45.05 314 *e*P P 02 48 03.9 +1.3
BDFB **Brasilia** 45.09 139 P P 02 48 03.7 +0.4
comp=Z,4.6nm,0.6s,baz=320,slow=10,SNR=9.2
BDFB **Brasilia** 45.09 139 *e*P P 02 48 03.5 +0.2
BDFB **Brasilia** 45.09 139 *e*P P 02 48 03.5 +0.2
L02D **Cave Junction,** 45.32 310 ⇑P P 02 48 05.8 +1.0
baz=45
LON **Longmire** 45.49 317 *e*P P 02 48 06.2 +0.1
LON pmax pmax
comp=Z,14nm,1.2s
LON **Longmire** 45.49 317 *e*P P 02 48 06.2 +0.1
comp=Z,14nm,1.2s
I03D **Drain, OR** 45.55 312 ⇑P P 02 48 07.5 +1.0
baz=46
CPUP **Villa Florida** 49.55 157 *e*P P 02 48 36.6 -1.0
CPUP **Villa Florida** 49.55 157 *e*P P 02 48 36.6 -1.0
YKA **Yellowknife Ar** 49.98 338 P P 02 48 41.4 +0.8
comp=Z,3.7nm,0.7s,baz=130,slow=8.7,SNR=41
YKB5 **Yellowknife Ar** 49.98 338 *e*P P 02 48 41.0 +0.4
YKB5 *e*PcP PcP 02 50 00.5 +0.1
SFJD **Kangerlussuaq** 50.04 13 *i* P P 02 48 41.1 +0.1
comp=Z,16nm,0.8s
comp=Z,370nm,27.0s
SFJD **Kangerlussuaq** 50.04 13 P P 02 48 41.0 +0.1
comp=Z,14nm,0.7s,baz=212,slow=8.2,SNR=5.3
SFJD **Kangerlussuaq** 50.04 13 *i* P P 02 48 41.1 +0.1
SFJD pmax pmax
comp=Z,16nm,0.8s
SFJD **Kangerlussuaq** 50.04 13 *e*P P 02 48 41.0 0.0
comp=Z,17nm,0.8s
CFAA **Coronel Fontan** 51.75 171 P P 02 48 54.3 0.0
comp=Z,0.9nm,0.7s,baz=331,slow=6.9,SNR=20
DLBC **Dease Lake** 54.42 329 *e*P P 02 49 15.8 +2.1
RES **Resolute Bay** 55.78 354 *e*P P 02 49 23.1 -0.1
RES pmax pmax
comp=Z,8.0nm,0.8s
RES **Resolute Bay** 55.78 354 *e*P P 02 49 23.1 -0.1
comp=Z,7.8nm,0.8s
SUMG **Summit** 57.04 13⇑ *i*P P 02 49 33.0 +0.3
comp=Z,51nm,1.3s
comp=Z,560nm,19.0s
SUMG **Summit** 57.04 13⇑ *i*P P 02 49 33.0 +0.3
SUMG pmax pmax
comp=Z,51nm,1.3s
SUMG MLR MLR
comp=Z,570nm,19.0s
SUMG **Summit** 57.04 13 *e*P P 02 49 33.1 +0.5
comp=Z,51nm,1.3s
HYT **Haines Junctio** 58.78 330 *e*P P 02 49 44.0 -0.8
TRQA **Tornquist** 59.18 167 *e*P P 02 49 47.5 -0.1
comp=Z,13nm,1.1s
TRQA *e*PP PP 02 52 01.0 +2.2
INK **Inuvik** 59.74 339 *e*P P 02 49 51.7 +0.6
INK **Inuvik** 59.74 339 *e*P P 02 49 51.7 +0.6
DAWY **Dawson** 60.52 333 *e*P P 02 49 57.4 +0.8
comp=Z,5.8nm,1.0s
PTOM **Tomar** 61.09 55 *e*P P 02 50 02.3 +1.5
PTOM **Tomar** 61.09 55 *e*P P 02 50 02.3 +1.5
PGAV **Gavieira, Arco** 61.11 52 *e*P P 02 50 01.6 +0.5
PGAV **Gavieira, Arco** 61.11 52 A A 03 32 15.2
comp=Z,537nm,18.0s
PGAV **Gavieira, Arco** 61.11 52 *e*P P 02 50 01.6 +0.5
PGAV **Gavieira, Arco** 61.11 52 A A 03 32 15.2
comp=Z,537nm,18.0s
PCAB **Cabril** 61.30 53 *e*P P 02 50 03.1 +0.8
PCAB **Cabril** 61.30 53 *e*P P 02 50 03.1 +0.8
MESJ **Messejana** 61.33 57 *e*P P 02 50 02.7 +0.2
MESJ **Messejana** 61.33 57 *e*P P 02 50 02.7 +0.2
PVIS **Viseu** 61.43 54 *e*P P 02 50 03.8 +0.6
PVIS **Viseu** 61.43 54 *e*P P 02 50 03.8 +0.6
EGAK **Eagle** 61.45 334 *e*P P 02 50 03.8 +1.0
comp=Z,6.6nm,1.0s
EVO **Evora** 61.45 56 *e*P P 02 50 04.2 +0.9
EVO **Evora** 61.45 56 *e*P P 02 50 04.2 +0.9
POLO **Lamas de Olo** 61.49 53 *e*P P 02 50 04.5 +0.9
POLO **Lamas de Olo** 61.49 53 *e*P P 02 50 04.5 +0.9
PVRL **Vila Real** 61.55 53 *e*P P 02 50 04.7 +0.7
PVRL **Vila Real** 61.55 53 *e*P P 02 50 04.7 +0.7
PBDV **Barranco-do-Ve** 61.60 58 *e*P P 02 50 04.5 +0.1
PBDV **Barranco-do-Ve** 61.60 58 *e*P P 02 50 04.5 +0.1
PVAQ **Vaqueiros** 61.76 58 *e*P P 02 50 06.1 +0.7
PVAQ A A 03 27 50.0
comp=Z,386nm,20.0s
PVAQ **Vaqueiros** 61.76 58 *e*P P 02 50 06.1 +0.7
PVAQ A A 03 27 50.0
comp=Z,386nm,20.0s
PESTR **Estremoz** 61.76 56 *e*P P 02 50 06.1 +0.7
PESTR **Estremoz** 61.76 56 *e*P P 02 50 06.1 +0.7
PCBR **Castelo Branco** 61.79 55 *e*P P 02 50 06.5 +0.9
PCBR **Castelo Branco** 61.79 55 *e*P P 02 50 06.5 +0.9
PMRV **Marv??o** 61.88 55 *e*P P 02 50 06.8 +0.6
PMRV A A 03 27 07.7
comp=Z,383nm,20.0s
PMRV **Marv??o** 61.88 55 *e*P P 02 50 06.8 +0.6
PMRV A A 03 27 07.7
comp=Z,383nm,20.0s
MVO **Moncorvo** 62.07 53 *e*P P 02 50 08.1 +0.6
MVO **Moncorvo** 62.07 53 *e*LR LR 03 21 35.1
comp=Z,523nm,20.0s
MVO **Moncorvo** 62.07 53 *e*P P 02 50 08.1 +0.6
MVO **Moncorvo** 62.07 53 *e*LR LR 03 21 35.1
comp=Z,523nm,20.0s
BMRM **Bremner River** 62.20 329 *e*P P 02 50 10.1 +2.1
comp=Z,13nm,0.8s
PBAR **Barrancos** 62.24 57 *e*P P 02 50 09.8 +1.2
PBAR **Barrancos** 62.24 57 *e*P P 02 50 09.8 +1.2
PBRG **Braganca** 62.26 52 *e*P P 02 50 09.5 +0.7
PBRG **Braganca** 62.26 52 *e*P P 02 50 09.5 +0.7
DIV **Divide** 62.78 329 *e*P P 02 50 13.1 +1.2
comp=Z,29nm,1.0s
PAX **Paxson** 62.93 331 *e*P P 02 50 14.0 +1.0
PAX pmax pmax
comp=Z,9.0nm,0.9s
PAX **Paxson** 62.93 331 *e*P P 02 50 14.0 +1.0
comp=Z,9.1nm,0.9s
DDM **Donnelly Dome** 63.25 332 *e*P P 02 50 16.4 +1.4
comp=Z,51nm,0.9s

SCM **Sheep Creek Mo** 63.62 330 *e*P P 02 50 19.0 +1.5
SCM pmax pmax
comp=Z,19nm,0.9s
SCM Sheep Creek Mo 63.62 330 *e*P P 02 50 19.0 +1.5
comp=Z,19nm,0.9s
DAG Danmarks Havn 63.73 13⇑ *i*P P 02 50 17.4 -0.4
comp=Z,22nm,1.2s
comp=Z,450nm,17.0s
DAG Danmarks Havn 63.73 13⇑ *i*P P 02 50 17.4 -0.4
DAG pmax pmax
comp=Z,34nm,1.2s
DAG MLR MLR
comp=Z,460nm,17.0s
HDA Harding Lake 63.82 333 *e*P P 02 50 19.2 +0.6
comp=Z,6.9nm,1.0s
IL1 Eielson Array 63.85 333 *e*P P 02 50 19.2 +0.4
ILAR Eielson Array 63.85 333 P P 02 50 19.5 +0.6
comp=Z,3.3nm,1.0s,baz=107,slow=4.4,SNR=29
ILB Eielson Array 63.85 333 *e*P P 02 50 19.1 +0.3
CCB Clear Creek Bu 64.22 333 *e*P P 02 50 21.2 0.0
comp=Z,3.7nm,0.9s
PAB San Pablo 64.22 55 *e*P P 02 50 21.3 -0.6
PAB pmax pmax
comp=Z,19nm,1.1s
PAB San Pablo 64.22 55 *e*P P 02 50 21.3 -0.6
comp=Z,19nm,1.1s
COLA College 64.27 333 *e*P P 02 50 22.3 +0.7
COLA pmax pmax
comp=Z,22nm,1.1s
WRH Wood River Hil 64.32 333 *e*P P 02 50 22.7 +0.8
comp=Z,6.3nm,1.2s
MDM Murphy Dome 64.44 333 *e*P P 02 50 23.7 +1.0
comp=Z,9.9nm,1.1s
PMR Palmer 64.45 330 *e*P P 02 50 24.0 +1.2
PMR pmax pmax
comp=Z,14nm,1.0s
PMR Palmer 64.45 330 *e*P P 02 50 24.0 +1.2
comp=Z,14nm,1.0s
ESDC Sonseca Array 64.51 55 P P 02 50 24.4 +0.7
comp=Z,9.6nm,1.1s,baz=277,slow=6.3,SNR=20
RND Reindeer 64.51 332 *e*P P 02 50 24.5 +1.2
RND pmax pmax
comp=Z,30nm,0.8s
RND Reindeer 64.51 332 *e*P P 02 50 24.5 +1.2
comp=Z,30nm,0.8s
ES19 SONSECA Array 64.55 55 *e*P P 02 50 24.2 +0.2
QUIF Quistinic 64.58 46 *e*P P 02 50 24.7 +0.8
comp=Z,24nm,0.8s
QUIF Quistinic 64.58 46 *e*P P 02 50 24.7 +0.8
QUIF Quistinic 64.58 46 *e*P P 02 50 24.7 +0.8
MCK McKinley 64.59 332 *e*P P 02 50 24.9 +1.2
MCK pmax pmax
comp=Z,12nm,1.0s
MCK McKinley 64.59 332 *e*P P 02 50 24.9 +1.2
comp=Z,12nm,1.0s
RC01 Rabbit Creek A 64.69 329 *e*P P 02 50 25.6 +1.2
comp=Z,16nm,0.9s
SGMF Saint Gilles 64.98 45 *e*P P 02 50 27.0 +0.5
comp=Z,16nm,0.7s
SGMF Saint Gilles 64.98 45 *e*P P 02 50 27.0 +0.5
SGMF Saint Gilles 64.98 45 *e*P P 02 50 27.0 +0.5
TRF Thorofare Moun 65.16 332 *e*P P 02 50 28.9 +1.2
comp=Z,14nm,0.8s
BRLK Bradley Lake 65.17 328 *e*P P 02 50 28.3 +0.7
comp=Z,21nm,1.2s
KTH Kantishna Hill 65.45 332 *e*P P 02 50 30.4 +1.0
comp=Z,24nm,1.1s
MLY Manley 65.51 333 *e*P P 02 50 30.6 +0.8
comp=Z,5.2nm,1.0s
BPAW Bear Paw Mtn. 65.53 332 *e*P P 02 50 30.9 +1.0
COLD Coldfoot 65.54 336 *e*P P 02 50 31.2 +1.3
comp=Z,6.6nm,0.7s
SPU Mount Spurr 65.82 329 *e*P P 02 50 32.9 +1.1
PPLA Purkeypile 65.98 331 *e*P P 02 50 33.6 +0.7
comp=Z,14nm,1.1s
GRR Gorron 66.10 45 *e*P P 02 50 34.5 +0.7
comp=Z,35nm,1.0s
GRR Gorron 66.10 45 *e*P P 02 50 34.5 +0.7
GRR Gorron 66.10 45 *e*P P 02 50 34.5 +0.7
RSO Redoubt South 66.13 328 *e*P P 02 50 35.1 +1.0
SJPF Ste Jean 66.24 51 *e*P P 02 50 36.0 +1.2
comp=Z,71nm,1.2s
SJPF Ste Jean 66.24 51 *e*P P 02 50 36.0 +1.2
SJPF Ste Jean 66.24 51 *e*P P 02 50 36.0 +1.2
FLN La Foliniere 66.33 45 *e*P P 02 50 36.0 +0.8
comp=Z,17nm,0.5s
FLN La Foliniere 66.33 45 *e*P P 02 50 36.0 +0.8
FLN La Foliniere 66.33 45 *e*P P 02 50 36.0 +0.8
LDF La Druitiere 66.58 45 *e*P P 02 50 37.6 +0.8
comp=Z,28nm,0.6s
LDF La Druitiere 66.58 45 *e*P P 02 50 37.6 +0.8
LDF La Druitiere 66.58 45 *e*P P 02 50 37.6 +0.8
MFF Saint Martin d 66.71 47 *e*P P 02 50 38.3 +0.6
MFF Saint Martin d 66.71 47 *e*P P 02 50 38.3 +0.6
MFF Saint Martin d 66.71 47 *e*P P 02 50 38.3 +0.6
ETSF Etsaut 66.75 51 *e*P P 02 50 39.2 +1.0
ETSF Etsaut 66.75 51 *e*P P 02 50 39.2 +1.0
ETSF Etsaut 66.75 51 *e*P P 02 50 39.2 +1.0
IM04 Indian Mountai 66.85 334 *e*P P 02 50 38.8 +0.5
IM04 *e*PP PP 02 53 03.0 -2.4
EPF Esparros 67.39 51 *e*P P 02 50 43.3 +1.1
comp=Z,45nm,1.2s
EPF Esparros 67.39 51 *e*P P 02 50 43.3 +1.1
EPF Esparros 67.39 51 *e*P P 02 50 43.3 +1.1
LFF La Frestale 67.48 49 *e*P P 02 50 43.3 +0.7
comp=Z,49nm,1.0s
LFF La Frestale 67.48 49 *e*P P 02 50 43.3 +0.7
LFF La Frestale 67.48 49 *e*P P 02 50 43.3 +0.7
RJF Les Rejaudoux 67.98 48 *e*P P 02 50 46.3 +0.5
comp=Z,35nm,1.1s
RJF Les Rejaudoux 67.98 48 *e*P P 02 50 46.3 +0.5
RJF Les Rejaudoux 67.98 48 *e*P P 02 50 46.3 +0.5
TCF Toulx Ste Croi 68.36 47 *e*P P 02 50 48.5 +0.3
comp=Z,30nm,1.1s
TCF Toulx Ste Croi 68.36 47 *e*P P 02 50 48.5 +0.3
TCF Toulx Ste Croi 68.36 47 *e*P P 02 50 48.5 +0.3
CAF Calviac 68.41 49 *e*P P 02 50 49.1 +0.5
comp=Z,35nm,1.1s
CAF Calviac 68.41 49 *e*P P 02 50 49.1 +0.5
CAF Calviac 68.41 49 *e*P P 02 50 49.1 +0.5
HYF Humbligny 68.54 46 *e*P P 02 50 50.1 +0.8
HYF Humbligny 68.54 46 *e*P P 02 50 50.1 +0.8
MTLF Montolieu 68.72 50 *e*P P 02 50 51.1 +0.6
MTLF Montolieu 68.72 50 *e*P P 02 50 51.1 +0.6
MTLF Montolieu 68.72 50 *e*P P 02 50 51.1 +0.6
BGF Bois d'Agland 68.77 47 *e*P P 02 50 51.0 +0.3
comp=Z,17nm,0.7s
BGF Bois d'Agland 68.77 47 *e*P P 02 50 51.0 +0.3
BGF Bois d'Agland 68.77 47 *e*P P 02 50 51.0 +0.3
AVF Avril sur Loir 69.08 46 *e*P P 02 50 52.7 +0.1
comp=Z,47nm,1.3s
AVF Avril sur Loir 69.08 46 *e*P P 02 50 52.7 +0.1
AVF Avril sur Loir 69.08 46 *e*P P 02 50 52.7 +0.1
SSF Saint Saulge 69.16 46 *e*P P 02 50 53.3 +0.2
comp=Z,33nm,1.0s
SSF Saint Saulge 69.16 46 *e*P P 02 50 53.3 +0.2
SSF Saint Saulge 69.16 46 *e*P P 02 50 53.3 +0.2
CHGN Chignik 69.22 324 *e*P P 02 50 53.4 +0.1
BAIF Baives 69.27 43 *e*P P 02 50 54.4 +0.7
comp=Z,26nm,1.4s
BAIF Baives 69.27 43 *e*P P 02 50 54.4 +0.7
BAIF Baives 69.27 43 *e*P P 02 50 54.4 +0.7
UCC Uccle 69.29 42 P P 02 50 53.3 -0.5
comp=Z,16nm,1.2s
LOR Lormes 69.37 46 *e*P P 02 50 54.7 +0.2
comp=Z,35nm,1.1s
LOR Lormes 69.37 46 *e*P P 02 50 54.7 +0.2
LOR Lormes 69.37 46 *e*P P 02 50 54.7 +0.2
SMF Signal de Mont 69.44 47 *e*P P 02 50 55.0 +0.1
comp=Z,21nm,0.9s
SMF Signal de Mont 69.44 47 *e*P P 02 50 55.0 +0.1
SMF Signal de Mont 69.44 47 *e*P P 02 50 55.0 +0.1
DOU Dourbes 69.52 43 P P 02 50 56.1 +0.8
GIVF Givet 69.66 43 *e*P P 02 50 56.7 +0.5
comp=Z,41nm,1.1s
GIVF Givet 69.66 43 *e*P P 02 50 56.7 +0.5
GIVF Givet 69.66 43 *e*P P 02 50 56.7 +0.5
BCLA Clavier 69.93 42 P P 02 50 58.6 +0.8
comp=Z,11nm,1.3s
MEZF Maizieres J'vi 70.01 44 *e*P P 02 50 59.0 +0.7
comp=Z,93nm,1.1s
MEZF Maizieres J'vi 70.01 44 *e*P P 02 50 59.0 +0.7
SFTF Sexfontaines 70.04 45 *e*P P 02 50 59.0 +0.5
comp=Z,61nm,1.1s
SFTF Sexfontaines 70.04 45 *e*P P 02 50 59.0 +0.5

VIVF Saint-Julien-l 70.26 48 *e*P P 02 51 01.3 +1.3
comp=Z,35nm,1.1s
VIVF Saint-Julien-l 70.26 48 *e*P P 02 51 01.3 +1.3
VIVF Saint-Julien-l 70.26 48 *e*P P 02 51 01.3 +1.3
MEM Membach 70.35 42 P P 02 51 01.3 +0.9
comp=Z,7.2nm,1.4s
MEM Membach 70.35 42 *e*P P 02 51 00.4 0.0
MEM pmax pmax
comp=Z,12nm,1.0s
MEM Membach 70.35 42 *e*P P 02 51 00.4 0.0
comp=Z,12nm,1.0s
PAGF Fort de Pagny 70.44 44 *e*P P 02 51 01.6 +0.6
comp=Z,20nm,1.3s
PAGF Fort de Pagny 70.44 44 *e*P P 02 51 01.6 +0.6
SDPT Sand Point 70.47 323 *e*P P 02 51 01.2 +0.2
WLF Walferdange 70.57 43 P P 02 51 02.3 +0.6
comp=Z,11nm,1.3s
WLF Walferdange 70.57 43 *e*P P 02 51 02.8 +1.1
comp=Z,18nm,1.1s
WLF Walferdange 70.57 43 *e*P P 02 51 01.5 -0.3
WLF pmax pmax
comp=Z,14nm,1.0s
WLF Walferdange 70.57 43 *e*P P 02 51 01.5 -0.3
comp=Z,14nm,1.0s
DBIC Dimbokro 70.67 90 P P 02 51 02.7 -0.2
comp=Z,3.8nm,0.8s,baz=304,slow=3.6,SNR=4.4
DBIC Dimbokro 70.67 90 *e*P P 02 51 02.7 -0.2
DBIC pmax pmax
comp=Z,120nm,1.9s
DBIC Dimbokro 70.67 90 *e*P P 02 51 02.7 -0.2
comp=Z,120nm,1.9s
HAU Haudompre 70.94 45 *e*P P 02 51 04.4 +0.3
comp=Z,22nm,1.1s
HAU Haudompre 70.94 45 *e*P P 02 51 04.4 +0.3
HAU Haudompre 70.94 45 *e*P P 02 51 04.4 +0.3
CABF La Chapelle 70.97 46 *e*P P 02 51 04.8 +0.4
comp=Z,38nm,1.1s
CABF La Chapelle 70.97 46 *e*P P 02 51 04.8 +0.4
CABF La Chapelle 70.97 46 *e*P P 02 51 04.8 +0.4
BUG Bochum-Univer 71.03 41 *e*P P 02 51 05.0 +0.5
comp=Z,42nm,2.0s
SMRF Simiane la Rot 71.03 49 *e*P P 02 51 05.9 +1.2
comp=Z,50nm,1.2s
SMRF Simiane la Rot 71.03 49 *e*P P 02 51 05.9 +1.2
ORIF Oris-en-Rattie 71.10 48 *e*P P 02 51 06.3 +1.1
ORIF Oris-en-Rattie 71.10 48 *e*P P 02 51 06.3 +1.1
ORIF Oris-en-Rattie 71.10 48 *e*P P 02 51 06.3 +1.1
IBBN Ibbenburen 71.21 40 *e*P P 02 51 06.5 +1.0
comp=Z,40nm,1.1s
HINF Hinteralfeld 71.30 45 *e*P P 02 51 06.4 +0.1
HINF Hinteralfeld 71.30 45 *e*P P 02 51 06.4 +0.1
HINF Hinteralfeld 71.30 45 *e*P P 02 51 06.4 +0.1
MUD Monsted U'grnd 71.45 36 *i* P P 02 51 08.3 +1.4
comp=Z,34nm,1.3s
comp=Z,940nm,21.0s
MUD Monsted U'grnd 71.45 36 *i* P P 02 51 08.3 +1.4
MUD pmax pmax
comp=Z,34nm,1.3s
MUD MLR MLR
comp=Z,940nm,21.0s
CDF Champ du Feu 71.49 44 *e*P P 02 51 07.9 +0.4
comp=Z,8.7nm,0.9s
CDF Champ du Feu 71.49 44 *e*P P 02 51 07.9 +0.4
CDF Champ du Feu 71.49 44 *e*P P 02 51 07.9 +0.4
LPL La Plagne 71.59 47 *e*P P 02 51 09.3 +1.0
comp=Z,17nm,0.9s
LPL La Plagne 71.59 47 *e*P P 02 51 09.3 +1.0
LPL La Plagne 71.59 47 *e*P P 02 51 09.3 +1.0
LPG La Plagne 71.61 47 *e*P P 02 51 09.6 +1.1
comp=Z,25nm,1.1s
LPG La Plagne 71.61 47 *e*P P 02 51 09.6 +1.1
LPG La Plagne 71.61 47 *e*P P 02 51 09.6 +1.1
NBO02 NORSAR Array S 71.69 31 *e*P P 02 51 09.2 +0.9
MBDF Montbardon 71.75 48 *e*P P 02 51 10.1 +0.9
MBDF Montbardon 71.75 48 *e*P P 02 51 10.1 +0.9
MBDF Montbardon 71.75 48 *e*P P 02 51 10.1 +0.9
SENIN Lac Senin/Sane 71.84 46 *e*P P 02 51 10.8 +1.0
NB2 NORSAR Subarra 71.86 31 P P 02 51 10.3 +0.9
comp=Z,44nm,1.2s,baz=281,slow=6.2
NB2 NORSAR Subarra 71.86 31 P P 02 51 10.3 +0.9
baz=281,slow=6.2
NB200 NORSAR Array S 71.86 31 *e*P P 02 51 10.9 +1.5
NOA NORSAR Array B 71.86 31 P P 02 51 10.9 +1.5
comp=Z,14nm,0.9s,baz=279,slow=6.0,SNR=17
TNS Taunus Mts 71.95 42 *e*P P 02 51 10.8 +0.6
comp=Z,23nm,1.4s
BFO Black Forest 72.19 44 *e*P P 02 51 12.0 +0.4
comp=Z,9.0nm,1.4s
SBF Sospel 72.38 49 *e*P P 02 51 12.4 -0.5
comp=Z,127nm,1.2s
SBF Sospel 72.38 49 *e*P P 02 51 12.4 -0.5
SBF Sospel 72.38 49 *e*P P 02 51 12.4 -0.5
BSEG Bad Segeberg 72.48 38 *e*P P 02 51 14.0 +0.9
comp=Z,22nm,1.5s
NRDL Niedersach Rie 72.60 40 *e*P P 02 51 14.8 +1.0
comp=Z,20nm,1.2s
UBBA Unterbreizbach 72.83 42 *e*P P 02 51 15.8 +0.6
comp=Z,8.0nm,1.3s
FUORN Ofenpass-Fuorn 73.80 46 *e*P P 02 51 22.6 +1.1
comp=Z,38nm,1.4s
GRF Grafenberg Arr 73.81 43 *e*P P 02 51 22.0 +0.8
comp=Z,10.0nm,1.1s
MOX Moxa 73.87 41 *e*P P 02 51 22.2 +0.7
comp=Z,13nm,1.3s
RETA Reutte 73.96 45 *i* P P 02 51 23.2 +1.0
comp=Z,19nm,1.4s,SNR=5.9
FETA Feichten 74.03 45⇑ *i*P P 02 51 23.8 +1.1
comp=Z,13nm,0.9s,SNR=6.6
UNV Unalaska Valle 74.17 322 *e*P P 02 51 24.0 +0.9
comp=Z,31nm,1.1s
ROTZ Rotzenmuhle 74.42 42 *e*P P 02 51 25.8 +1.1
comp=Z,16nm,1.3s
TANN Tannenbergstha 74.44 42 *e*P P 02 51 25.8 +0.9
comp=Z,14nm,1.2s
NKC Novy Kostel 74.47 42 *e*P P 02 51 26.1 +1.1
NKC *ep*P pP 02 51 31.1 -2.1
NKC Novy Kostel 74.47 42 *e*P P 02 51 26.1 +1.1
NKC *e* 02 51 31.1
CLL Collm 74.59 41 *e*P P 02 51 26.3 +0.6
comp=Z,10.0nm,1.2s
CLL Collm 74.59 41 *i* P P 02 51 26.2 +0.6
comp=Z,10.0nm,1.2s
CLL Collm 74.59 41 *i* P P 02 51 26.2 +0.6
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 74.59 41 *e*P P 02 51 26.3 +0.6
comp=Z,7.5nm,1.0s
TOA0 Torodi Ar. Sit 74.85 81 *e*P P 02 51 27.1 -0.7
TORD Torodi Ar. Bea 74.85 81 P P 02 51 27.7 0.0
comp=Z,10nm,0.9s,baz=288,slow=6.0,SNR=86
WET Wettzell 74.98 43 *e*P P 02 51 29.0 +1.0
comp=Z,17nm,1.2s
RJOB Jochberg 75.25 44 *e*P P 02 51 30.1 +0.5
comp=Z,9.0nm,1.3s
BRG Berggiesshubel 75.26 41 *e*P P 02 51 30.3 +0.8
comp=Z,12nm,1.4s
BRG Berggiesshubel 75.26 41 *e*P P 02 51 30.5 +1.0
comp=Z,12nm,1.4s
BRG Berggiesshubel 75.26 41 *e*P P 02 51 30.3 +0.8
BRG pmax pmax
comp=Z,12nm,1.4s
ABTA Abfaltersbach 75.29 45⇑ *i*P P 02 51 30.3 +0.4
comp=Z,8.0nm,1.1s
KHC Kasperske Hory 75.44 43 *e*P P 02 51 31.6 +1.0
KHC Kasperske Hory 75.44 43 *e*P P 02 51 31.6 +1.0
KHC Kasperske Hory 75.44 43 *e*P P 02 51 31.1 +0.5
comp=Z,5.9nm,1.4s
KEST Kesra 75.56 57 P P 02 51 32.9 +1.2
comp=Z,7.1nm,1.0s,baz=176,slow=2.4,SNR=13
KEST Kesra 75.56 57 *e*P P 02 51 32.3 +0.6
GEC2 GERESS Array S 75.58 43 *e*P P 02 51 32.4 +0.8
comp=Z,10.0nm,1.2s
GEC2 GERESS Array S 75.58 43 *e*P P 02 51 32.3 +0.8
GEC2 GERESS Array S 75.58 43 *e*P P 02 51 32.3 +0.8
GERES GERESS Array B 75.58 43 P P 02 51 32.3 +0.8
comp=Z,4.2nm,1.1s,baz=255,slow=4.0,SNR=26
PRA Prague 75.75 42 *e*P P 02 51 33.9 +1.5
PRA *ep*P pP 02 51 40.7 +0.2
PRA Prague 75.75 42 *e*P P 02 51 33.9 +1.5
PRA *e* 02 51 40.7
KBA Koelnbreinsper 75.77 45⇑ *i*P P 02 51 34.2 +1.5
comp=Z,16nm,1.4s
ARCES ARCESS Array B 75.79 21 P P 02 51 32.7 +0.5
comp=Z,13nm,0.8s,baz=284,slow=4.3,SNR=60
ARA0 ARCESS Array S 75.79 21 *e*P P 02 51 32.1 -0.1
PRU Pruhonice 75.84 42 *e*P P 02 51 33.8 +0.9

PRU *ep*P pP 02 51 41.5 +0.4
PRU Pruhonice 75.84 42 *e*P P 02 51 33.8 +0.9
PRU *e**PP pP 02 51 41.5 +0.4
MYKA Terra Mystica 76.07 45⇑ *i*P P 02 51 34.6 +0.3
comp=Z,13nm,1.3s
MOA Molln 76.19 44⇑ *i*P P 02 51 35.2 +0.3
comp=Z,7.3nm,0.6s,SNR=5.8
TREC Trest 76.61 42 *e*P P 02 51 38.0 +0.7
TREC *ep*P pP 02 51 45.6 +0.1
TREC *es*P sP 02 51 49.7 +1.2
TREC Trest 76.61 42 *e*P P 02 51 38.0 +0.7
TREC *e* 02 51 45.6
TREC *e* 02 51 49.7
UPC Upice 76.63 41 *e*P P 02 51 38.4 +1.0
UPC *ep*P pP 02 51 46.5 +1.0
UPC Upice 76.63 41 *e*P P 02 51 38.4 +1.0
UPC *e**PP pP 02 51 46.5 +1.0
GKP Gorka Klasztor 76.65 38 *e*P P 02 51 38.7 +1.4
GKP Gorka Klasztor 76.65 38 *e*P P 02 51 38.8 +1.4
OBKA Obir 76.71 45⇓ *i*P P 02 51 38.9 +1.0
comp=Z,16nm,1.5s,SNR=6.0
KSP Ksiaz 76.72 41 *e*P P 02 51 39.1 +1.3
KSP Ksiaz 76.72 41 *e*P P 02 51 39.2 +1.4
DPC Dobruska-Polom 76.86 41 *e*P P 02 51 39.7 +1.0
DPC *ep*P pP 02 51 45.8 -1.1
DPC Dobruska-Polom 76.86 41 *e*P P 02 51 39.7 +1.0
DPC *e**PP pP 02 51 45.8 -1.1
SOKA Soboth 76.99 45 *i* P P 02 51 40.0 +0.5
comp=Z,17nm,1.3s,SNR=8.0
CONA Conrad Observa 77.20 44⇑ *i*P P 02 51 41.5 +0.8
comp=Z,5.3nm,0.9s,SNR=5.3
OKC Ostrava-Krasne 78.13 41 *e*P P 02 51 47.2 +1.4
OKC Ostrava-Krasne 78.13 41 *e*P P 02 51 47.2 +1.4
FIA0 FINESS Array S 78.72 29 *e*P P 02 51 49.8 +1.1
FIA0 FINESS Array S 78.72 29 *e*P P 02 51 49.8 +1.1
FINES FINESS Array B 78.72 29 P P 02 51 49.8 +1.1
comp=Z,11nm,0.7s,baz=257,slow=3.3,SNR=78
CUC Castrocucco 79.37 51 *e*P P 02 51 52.9 +0.1
comp=Z,14nm,0.9s
LVZ Lovozero 79.50 21 *e*P P 02 51 52.8 -0.2
LVZ pmax pmax
comp=Z,32nm,1.1s
LVZ Lovozero 79.50 21 *e*P P 02 51 52.8 -0.2
comp=Z,32nm,1.1s
PKSM Moragy 79.51 45 ⇓P P 02 51 54.7 +1.3
PKSM Moragy 79.51 45⇓ *i*P P 02 51 54.7 +1.3
NIE Niedzica 79.60 41 *e*P P 02 51 55.9 +2.0
NIE Niedzica 79.60 41 *e*P P 02 51 55.9 +2.0
PSZ Piszkesteto 79.81 43 ⇓P P 02 51 57.4 +2.3
PSZ Piszkesteto 79.81 43⇓ *i*P P 02 51 57.4 +2.3
PSZ Piszkesteto 79.81 43 *e*P P 02 51 56.3 +1.3
comp=Z,19nm,1.3s
SUW Suwalki 79.81 36 *e*P P 02 51 54.6 -0.2
SUW Suwalki 79.81 36 *e*P P 02 51 54.6 -0.2
KECS Kecovo 80.00 42 *e*P P 02 51 57.4 +1.4
KECS pmax pmax
comp=Z,4.0nm,1.1s
KECS Kecovo 80.00 42 *e*P P 02 51 57.4 +1.4
VSU Vasula 80.10 31 *e*P P 02 51 56.5 +0.2
VSU pmax pmax
comp=Z,81nm,1.0s
STHS Stebnicka Huta 80.18 41 *e*P P 02 51 59.2 +2.2
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 80.18 41 *e*P P 02 51 59.2 +2.2
TIP Timpagrande 80.31 52 P P 02 51 57.4 -0.6
TIP Timpagrande 80.31 52 *e*P P 02 51 57.3 -0.7
comp=Z,4.1nm,0.8s
KOLS Kolonicke sedl 80.97 41 *e*P P 02 52 03.1 +1.8
KOLS pmax pmax
comp=Z,7.0nm,1.2s
KOLS Kolonicke sedl 80.97 41 *e*P P 02 52 03.1 +1.8
KWP Kalwaria Pacla 81.01 41 *e*P P 02 52 03.3 +1.9
KWP Kalwaria Pacla 81.01 41 *e*P P 02 52 03.4 +2.0
BILL Bilibino 81.32 340 *c* P P 02 52 03.6 +0.9
BILL *i* 02 52 10.6
BILL pmax pmax
comp=Z,16nm,1.2s
BILL Bilibino 81.32 340 *e*P P 02 52 02.7 -0.1
comp=Z,25nm,1.3s
TRPA Tarpa 81.41 42⇓ *i*P P 02 52 05.0 +1.4
LVV L'vov 81.75 40 *e*P P 02 52 06.3 +1.0
DRGR 81.98 43⇑P P 02 52 07.8 +1.1
DRGR 81.98 43⇑ *i*P P 02 52 07.8 +1.1
KEK Kerkira 82.37 51 *e*P P 02 52 09.8 +1.0
TMCR Tamitsa 82.51 24 *e*P P 02 52 08.7 -0.3
TMCR pmax pmax
comp=Z,18nm,0.8s
GZR Gura Zlata 82.51 45⇑P P 02 52 10.7 +1.2
GZR Gura Zlata 82.51 45⇑ *i*P P 02 52 10.7 +1.2
SKO Skopje 82.79 48 *i* P P 02 52 11.9 +1.0
IGT Igoumenitsa 82.82 51 P P 02 52 12.7 +1.5
IGT Igoumenitsa 82.82 51 *e*P P 02 52 12.6 +1.4
NEST Nestorio 83.04 50 P P 02 52 13.8 +1.4
NEST Nestorio 83.04 50 *e*P P 02 52 14.4 +2.0
LOT Lotru 83.15 44⇑ *i*P P 02 52 13.3 +0.4
FNA Florina 83.15 49 P P 02 52 14.0 +1.1
FNA Florina 83.15 49 *e*P P 02 52 14.2 +1.3
BUR04 Bucovina Ar. S 83.28 42 *e*P P 02 52 14.6 +1.1
BURAR Bucovina Array 83.28 42⇑P P 02 52 15.3 +1.8
BURAR Bucovina Array 83.28 42⇑ *i*P P 02 52 15.3 +1.8
LKD2 Lefkada island 83.31 51 P P 02 52 14.2 +0.5
LKD2 Lefkada island 83.31 51 *e*P P 02 52 15.2 +1.5
DSL Palaion Diasel 83.51 51 P P 02 52 15.6 +0.8
KZN Kozani 83.59 50 *e*P P 02 52 17.0 +1.7
KFL Anninata 83.64 52 P P 02 52 15.8 +0.4
PDO Prodromos 83.76 51 P P 02 52 17.4 +1.4
PDO Prodromos 83.76 51 *e*P P 02 52 17.6 +1.6
ZKS Zakynthos 83.78 52 P P 02 52 15.4 -0.8
VTS Vitosha 83.80 47 P P 02 52 17.0 +0.7
VTS Vitosha 83.80 47 *e*P P 02 52 16.7 +0.4
VAY Valandovo 83.81 48 *i* P P 02 52 16.5 +0.3
MPEP Malo Peshtene 83.89 46 *e*P P 02 52 17.4 +0.8
KKB Krupnik 83.97 48 *e*P P 02 52 18.9 +1.8
VOIR 83.99 44⇑P P 02 52 18.9 +1.7
VOIR 83.99 44⇑ *i*P P 02 52 18.9 +1.7
DOPR Dopca 84.01 43⇑ *i*P P 02 52 18.6 +1.4
THL Klokotos Trika 84.03 50 P P 02 52 18.4 +1.0
THL Klokotos Trika 84.03 50 *e*P P 02 52 16.7 -0.7
KNT Kendrikon 84.09 48 P P 02 52 18.2 +0.5
KNT Kendrikon 84.09 48 *e*P P 02 52 18.9 +1.2
EVR Evrytania 84.11 51 P P 02 52 19.8 +1.9
EVR Evrytania 84.11 51 *e*P P 02 52 19.8 +1.9
LIT Litokhoron 84.18 50 *e*P P 02 52 18.9 +0.7
MAKR Makrakomi, Fth 84.31 51 P P 02 52 19.6 +0.7
MAKR Makrakomi, Fth 84.31 51 *e*P P 02 52 20.4 +1.5
EFP Efpalio 84.35 51 P P 02 52 20.1 +1.1
EFP Efpalio 84.35 51 *e*P P 02 52 20.4 +1.4
DRO Drossia 84.38 52 P P 02 52 21.2 +2.0
DRO Drossia 84.38 52 *e*P P 02 52 21.2 +2.0
HORT Hortiatis 84.44 49 *e*P P 02 52 21.2 +1.6
AGG Agios Georgios 84.45 51 P P 02 52 20.8 +1.2
AGG Agios Georgios 84.45 51 *e*P P 02 52 20.9 +1.3
AGG Agios Georgios 84.45 51 *e*P P 02 52 20.6 +1.0
AGG pmax pmax
comp=Z,22nm,1.0s
AGG Agios Georgios 84.45 51 *e*P P 02 52 20.6 +1.0
comp=Z,22nm,1.0s
AK11 Malin Array Si 84.46 38 *e*P P 02 52 19.2 -0.1
KIEV Kiev 84.48 38 *e*P P 02 52 19.4 0.0
AKASG Malin Array Be 84.48 38 P P 02 52 19.6 +0.2
comp=Z,1.8nm,0.5s,baz=291,slow=3.9,SNR=16
AKASG Malin Array Be 84.48 38 *ce*P P 02 52 19.6 +0.2
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 84.48 38 *e*P P 02 52 19.6 +0.2
AKBB Malin Array Si 84.48 38 *e*P P 02 52 19.6 +0.2
AMT Artemida-Makis 84.52 52 P P 02 52 21.6 +1.6
AMT Artemida-Makis 84.52 52 *e*P P 02 52 21.9 +1.9
MMB Musomiste 84.52 48 ⇓P P 02 52 21.4 +1.5
MMB Musomiste 84.52 48⇓ *i*P P 02 52 21.4 +1.5
MMB Musomiste 84.52 48 *e*P P 02 52 20.7 +0.8
SOH Sokhos 84.54 49 P P 02 52 21.2 +1.2
SOH Sokhos 84.54 49 *e*P P 02 52 21.2 +1.2
MLR Muntele Rosu 84.55 44⇑P P 02 52 22.4 +2.3
MLR Muntele Rosu 84.55 44⇑ *i*P P 02 52 22.4 +2.3
SRS Serrai 84.60 48 P P 02 52 21.1 +0.8
SRS Serrai 84.60 48 *e*P P 02 52 21.1 +0.8
TESR Tescani 84.61 42⇑ *i*P P 02 52 17.5 -2.7
NVR Nevrokopi 84.70 48 P P 02 52 21.1 +0.3
NVR Nevrokopi 84.70 48 *e*P P 02 52 21.6 +0.8
PLG Polygyros 84.77 49 P P 02 52 22.5 +1.3

PLG	**Polygyros**	**84.77**	**49**	*e*P		**P**	**02 52 22.4**	**+1.3**
PYL	**PYLOS**	**84.77**	**53**	P		**P**	**02 52 21.8**	**+0.6**
PYL	**PYLOS**	**84.77**	**53**	*e*P		**P**	**02 52 21.8**	**+0.6**
AXAR	**Agios Charalam**	**84.78**	**51**	P		**P**	**02 52 22.2**	**+1.0**
ITM	**Ithomi**	**84.81**	**52**	P		**P**	**02 52 22.5**	**+1.1**
ITM	**Ithomi**	**84.81**	**52**	*e*P		**P**	**02 52 22.2**	**+0.8**
DSF	**Desfina**	**84.81**	**51**	P		**P**	**02 52 22.0**	**+0.5**
KLMR	**Klimovskoe**	**84.81**	**26**	*e*P		**P**	**02 52 21.6**	**+0.7**
KLMR				pmax	pmax			
	comp=Z,62nm,1.1s							
GUR	**Goura**	**84.85**	**52**	P		**P**	**02 52 22.6**	**+0.9**
GUR	**Goura**	**84.85**	**52**	*e*P		**P**	**02 52 22.6**	**+0.9**
PLOR	**Plostina**	**84.87**	**43**	⇑P		**P**	**02 52 23.7**	**+2.1**
PLOR	**Plostina**	**84.87**	**43**	⇑*i*P		**P**	**02 52 23.7**	**+2.1**
VRI	**Vrincioaia**	**84.91**	**43**	⇓P		**P**	**02 52 23.7**	**+2.0**
VRI	**Vrincioaia**	**84.91**	**43**	⇓*i*P		**P**	**02 52 23.7**	**+2.0**
XOR	**Xorichti**	**84.95**	**50**	P		**P**	**02 52 22.6**	**+0.5**
XOR	**Xorichti**	**84.95**	**50**	*e*P		**P**	**02 52 22.9**	**+0.8**
NEO	**Neokhori**	**85.00**	**50**	*e*P		**P**	**02 52 23.2**	**+0.9**
LKR	**Lokris**	**85.07**	**51**	*e*P		**P**	**02 52 23.6**	**+0.9**
VLX	**Vlachokerasia**	**85.08**	**52**	P		**P**	**02 52 24.6**	**+1.7**
VLX	**Vlachokerasia**	**85.08**	**52**	*e*P		**P**	**02 52 24.9**	**+2.0**
PAIG	**Paliouri**	**85.10**	**49**	P		**P**	**02 52 23.5**	**+0.7**
PAIG	**Paliouri**	**85.10**	**49**	*e*P		**P**	**02 52 23.5**	**+0.7**
OUR	**Ouranopolis**	**85.16**	**49**	*e*P		**P**	**02 52 24.2**	**+1.1**
MRKA	**Markates**	**85.48**	**51**	*e*P		**P**	**02 52 25.5**	**+0.8**
KRND	**KRANIDI**	**85.64**	**52**	P		**P**	**02 52 25.4**	**-0.1**
DID	**Didima**	**85.66**	**52**	*e*P		**P**	**02 52 26.4**	**+0.7**
KDZ	**Kurdzhali**	**85.67**	**47**	*e*P		**P**	**02 52 25.8**	**+0.2**
CFR	**Carcaliu**	**86.09**	**43**	⇑P		**P**	**02 52 28.4**	**+0.8**
CFR	**Carcaliu**	**86.09**	**43**	⇑*i*P		**P**	**02 52 28.4**	**+0.8**
OBN	**Obninsk**	**86.42**	**32***c*	*i*P		**P**	**02 52 29.3**	**+0.3**
OBN				pmax	pmax			
	comp=Z,54nm,1.2s							
OBN	**Obninsk**	**86.42**	**32**	*e*P		**P**	**02 52 29.4**	**+0.5**
	comp=Z,74nm,1.4s							
TIRR	**Tirgusor**	**86.57**	**44**	⇑P		**P**	**02 52 30.7**	**+0.8**
TIRR	**Tirgusor**	**86.57**	**44**	⇑*i*P		**P**	**02 52 30.7**	**+0.8**
MOS	**Moscow**	**86.63**	**31**	*e*P		**P**	**02 52 29.8**	**-0.2**
PRGR	**Permogore**	**86.80**	**24**	*e*P		**P**	**02 52 29.2**	**-1.5**
PRGR				pmax	pmax			
	comp=Z,38nm,1.4s							
TIXI	**Tiksi**	**87.12**	**352**	⇑*i*P		**P**	**02 52 32.4**	**+0.3**
TIXI				pmax	pmax			
	comp=Z,8.0nm,1.0s							
LPSR	**Galich'ya Gora**	**88.92**	**33**	*e*P		**P**	**02 52 41.6**	**+0.6**
LPSR				pmax	pmax			
	comp=E,10.0nm,0.8s							
LPSR				pmax	pmax			
	comp=Z,40nm,0.8s							
LPSR				pmax	pmax			
	comp=N,10.0nm,1.1s							
SEY	**Seymchan**	**89.02**	**340**	*i*P		**P**	**02 52 41.1**	**-0.2**
VSR	**Storozhevoye**	**89.78**	**34**	*e*P		**P**	**02 52 45.2**	**+0.1**
VSR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
VSR				pmax	pmax			
	comp=N,7.0nm,0.8s							
VSR				pmax	pmax			
	comp=E,10.0nm,0.9s							
VORD	**Divnogorie**	**89.97**	**35**	*e*P		**P**	**02 52 45.7**	**-0.3**
VORD				pmax	pmax			
	comp=Z,10.0nm,0.9s							
VORD				pmax	pmax			
	comp=N,50nm,0.7s							
VORD				pmax	pmax			
	comp=E,40nm,0.6s							
BR231	**Keskin MP Arra**	**91.50**	**47**	*e*P		**P**	**02 52 54.8**	**+1.2**
BR101	**Keskin Array S**	**92.14**	**46**	*e*P		**P**	**02 52 57.2**	**+0.7**
BRTR	**Keskin Array B**	**92.14**	**46**	P		**P**	**02 52 57.2**	**+0.7**
	comp=E,3.5nm,1.0s,baz=270,slow=3.7,SNR=19							
BRTR	**Keskin Array B**	**92.14**	**46***ce*	P		**P**	**02 52 57.2**	**+0.7**
BRTR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
ARU	**Arti**	**95.23**	**23***d*	*i*P		**P**	**02 53 11.3**	**+1.1**
ARU							02 57 03.2	
ARU				S		**SKSac**	**03 03 44.7**	**+0.3**
ARU				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KIV	**Kislovodsk**	**95.75**	**39**	*e*P		**P**	**02 53 13.0**	**0.0**
KIV				pmax	pmax			
	comp=Z,5.0nm,1.1s							
KBZ	**Khabaz**	**96.01**	**39**	P		**P**	**02 53 15.2**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=336,slow=12,SNR=3.4							
GNI	**Garni**	**99.19**	**42**	*i*P		**Pdif**	**02 53 27.6**	**-1.0**
GNI				pmax	pmax			
	comp=Z,5.0nm,1.3s							
WMQ	**Urumqi**	**115.08**	**12**	PKP		**PKPdf**	**02 58 29.4**	**+1.4**
WMQ	**Urumqi**	**115.08**	**12**	PKP		**PKPdf**	**02 58 29.3**	**+1.3**
WMQ				PP		PP	02 59 34.1	+7.7
WMQ				PPMZ				
	comp=Z,150nm,9.8s							
WMQ				LN				
	comp=Z,280nm,15.0s							
WMQ				LE				
	comp=Z,250nm,16.0s							
KSH	**Kashi**	**115.68**	**23**	*e*PKP		**PKPdf**	**02 58 28.7**	**-0.7**
KSH				PP		PP	02 59 36.3	+5.3
HHC	**Hu-ho-hao-te**	**119.18**	**353**	*e*PKP		**PKPdf**	**02 58 31.2**	**-4.9**
HHC				PP		**PP**	**02 59 59.1**	**+4.1**
HHC				PPMZ				
	comp=Z,78nm,9.4s							
HHC				LN				
	comp=Z,160nm,20.0s							
HHC				LE				
	comp=Z,140nm,20.0s							
CD2	**Chengdu**	**129.58**	**360**	PKP		**PKPdf**	**02 58 55.5**	**-0.7**
CD2				sPKP			02 59 03.7	
CD2				PP		**PP**	**03 01 04.7**	**0.0**
CD2				SKS		**SKSdf**	**03 06 06.2**	**-0.3**
CD2				SKKS		**SKKSac**	**03 07 59.5**	**-2.3**
CD2				SS		**SS**	**03 18 26.6**	**+1.7**
CM31	**Chiang Mai Arr**	**141.73**	**7**	*e*PKPdf		**PKPdf**	**02 59 19.0**	**0.0**
CMAR	**Chiang Mai Arr**	**141.73**	**7**	PKP		**PKPdf**	**02 59 19.0**	**0.0**
	comp=Z,1.1nm,0.3s,baz=307,slow=3.3,SNR=5.0							
CMAR	**Chiang Mai Arr**	**141.73**	**7***c*	*i*PKIKP		**PKPdf**	**02 59 19.7**	**+0.7**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CM01	**Chiang Mai Arr**	**141.77**	**7**	*e*PKPdf		**PKPdf**	**02 59 16.2**	**-2.8**
STKA	**Stephens Creek**	**143.72**	**243**	PKP		PKPbc	02 59 20.4	+0.8
	comp=Z,4.3nm,0.8s,baz=25,slow=3.4,SNR=5.7							
STKA	**Stephens Creek**	**143.72**	**243**	*e*PKIKP		PKPbc	02 59 19.3	-0.3
STKA	**Stephens Creek**	**143.72**	**243**	*e*PKPpre		PKPab	02 59 19.3	+0.4
WRAB	**Tennant Creek**	**150.86**	**264**	*e*PKIKP		**PKPdf**	**02 59 31.9**	**-2.4**
WRAB				*e*			02 59 39.9	
WRAB	**Tennant Creek**	**150.86**	**264**	*e*PKPdf		**PKPdf**	**02 59 31.9**	**-2.4**
WRAB				*e*PKPbc		**PKPbc**	**02 59 39.9**	**0.0**
WRA	**Warramunga Arr**	**150.87**	**264**	PKP		**PKPdf**	**02 59 35.4**	**+1.1**
	comp=Z,3.4nm,0.6s,baz=86,slow=2.7,SNR=22							
WRA				PKPbc		**PKPbc**	**02 59 39.6**	**-0.4**
	comp=Z,12nm,0.7s,baz=81,slow=2.2,SNR=38							
AS01	**Alice Springs**	**151.34**	**257**	*e*PKPdf		**PKPdf**	**02 59 34.4**	**-0.6**
AS01				*e*PKPbc		**PKPbc**	**02 59 40.6**	**-0.4**
AS12	**Alice Springs**	**151.39**	**257**	*e*PKPdf		**PKPdf**	**02 59 34.8**	**-0.3**
AS12				*e*PKPbc		**PKPbc**	**02 59 40.7**	**-0.4**
ASAR	**Alice Springs**	**151.39**	**257**	PKP		**PKPdf**	**02 59 34.8**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=122,slow=1.5,SNR=12							
ASAR				PKPbc		**PKPbc**	**02 59 40.7**	**-0.4**
	comp=Z,10nm,0.8s,baz=99,slow=2.4,SNR=44							

*ISCJB **10** 02:49:40.1±0.6,37°.25S±0°.06×73°.6W±0°.1, h10km, mb4.1/12, MS4.0/1, Error ellipse: s-maj=14.0km s-min=8.4km az=16.6*
*IDC **10** 02:49:40.4±0.7,37°.22S×73°.69W, h0km, mb4.1/11, mb1 4.2/14, mb1mx4.0/33, mbtmp4.0/14, ML3.5/2, MS3.4/2, Ms1 3.4/2, ms1mx3.2/26, Error ellipse: s-maj=24.2km s-min=13.9km az=89.0*
*NEIC **10** 02:49:45.4±0.5, 37°.24S×73°.60W, h35km, mb4.3/3, Error ellipse: s-maj=14.4km s-min=9.7km az=89.0*

ISC 10 02:49:41.7±0.7, 37°.25S±0°.06×73°.7W±0°.1, h10km, n25, σ0s65/26, mb4.1/12, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLCA	**Paso Flores**	**4.27**	**146**	Pn		**Pn**	**02 50 45.8**	**-1.0**
	1.0nm,0.3s,baz=358,slow=3.1,SNR=3.3							
PLCA				Lg		Lg	02 51 58.7	
	7.8nm,0.3s,baz=30,slow=22,SNR=5.5							
PLCA	**Paso Flores**	**4.27**	**146**	*e*Pn		Pn	02 50 44.8	-2.0
PLCA				Lg		Lg	02 51 58.7	
PLCA				*e*S		**Sg**	**02 51 58.8**	**0.0**
CFAA	**Coronel Fontan**	**7.23**	**40**	Pn		**Pn**	**02 51 27.0**	**-0.5**
	0.3nm,0.3s,baz=211,slow=14,SNR=24							
CFAA				Sn		**Sn**	**02 52 50.0**	**+0.3**
	0.3nm,0.3s,baz=199,slow=15,SNR=2.5							
CFAA				LR		LR	02 54 42.9	
	comp=Z,73nm,21.6s,baz=225,slow=42							
TRQA	**Tornquist**	**9.35**	**98**	*e*Pn		**Pn**	**02 51 57.5**	**+0.9**
	20nm,1.0s							
TRQA				*e*S		Sn	02 53 57.5	+16
LVC	**Limon Verde**	**15.17**	**17**	Pn		**Pn**	**02 53 15.5**	**-0.8**
	4.9nm,0.3s,baz=127,slow=5.1,SNR=2.1							
LPAZ	**La Paz**	**21.46**	**15**	P		**P**	**02 54 31.8**	**+0.9**
	6.6nm,1.0s,baz=167,slow=6.9,SNR=11							
LPAZ	**La Paz**	**21.46**	**15**	*e*P		**P**	**02 54 31.9**	**+0.9**
	11nm,1.1s							
SIV	**San Ignacio**	**23.96**	**31**	P		**P**	**02 54 55.8**	**-0.5**
	2.8nm,1.0s,baz=246,slow=10.0,SNR=3.9							
BDFB	**Brasilia**	**31.34**	**53**	P		**P**	**02 56 01.8**	**-0.8**
	1.8nm,0.7s,baz=190,slow=9.8,SNR=3.0							
BDFB				LR		LR	03 10 05.5	
	comp=Z,291nm,18.5s,baz=254,slow=39							
SNAA	**Sanae**	**49.12**	**157**	P		**P**	**02 58 29.4**	**+0.4**
	2.9nm,0.9s,baz=283,slow=6.7,SNR=14							
SNAA	**Sanae**	**49.12**	**157**	*e*P		P	02 58 21.1	-8.0
	9.6nm,1.0s							
QSPA	**South Pole Qui**	**52.99**	**180**	P		**P**	**02 58 57.7**	**-0.7**
	4.2nm,1.0s,baz=150,slow=4.5,SNR=5.5							
QSPA	**South Pole Qui**	**52.99**	**180**	*e*P		**P**	**02 58 58.4**	**0.0**
	3.5nm,0.9s							
VNDA	**Vanda**	**60.65**	**192**	P		**P**	**02 59 53.6**	**+1.3**
	1.4nm,1.2s,baz=100,slow=6.1,SNR=2.5							
TXAR	**Lajitas Array**	**71.94**	**333**	P		**P**	**03 01 05.1**	**-0.2**
	0.5nm,0.9s,baz=154,slow=8.8,SNR=5.9							
DBIC	**Dimbokro**	**77.52**	**72**	P		**P**	**03 01 38.4**	**+0.5**
	4.4nm,0.9s,baz=254,slow=7.4,SNR=2.6							
BOSA	**Boshof**	**79.77**	**118**	P		**P**	**03 01 50.5**	**+0.1**
	5.4nm,1.1s,baz=313,slow=19,SNR=2.7							
ECSD	**EROS Data Cent**	**83.24**	**344**	*e*P		P	03 02 06.3	-1.7
	4.1nm,1.0s							
PDAR	**Pinedale Array**	**86.06**	**334**	P		**P**	**03 02 23.2**	**+0.7**
	0.2nm,0.3s,baz=222,slow=1.2,SNR=2.3							
TORD	**Torodi Ar. Bea**	**86.59**	**71**	P		**P**	**03 02 25.3**	**-0.3**
	1.3nm,0.8s,baz=220,slow=4.9,SNR=10							
BRTR	**Keskin Array B**	**124.57**	**63**	PKP		**PKPdf**	**03 08 40.9**	**-0.4**
	0.5nm,0.7s,baz=74,slow=0.9,SNR=4.0							
ABKAR	**Akbulak array**	**144.72**	**55**	*e*PKPdf		**PKPab**	**03 09 16.9**	**-0.1**
BVAR	**Borovoye Array**	**150.56**	**46**	PKPbc		**PKPbc**	**03 09 33.5**	**+0.4**
	2.1nm,0.8s,baz=291,slow=4.1,SNR=9.7							
ZALV	**Zalesovo Beam**	**157.69**	**35**	PKP		**PKPdf**	**03 09 36.7**	**-1.0**
	0.3nm,0.3s,baz=318,slow=1.9,SNR=3.2							
ZALV				PKPab		**PKPab**	**03 10 10.0**	**-0.1**
	0.7nm,0.5s,baz=330,slow=5.5,SNR=2.4							
MKAR	**Makanchi Array**	**159.86**	**54**	PKP		**PKPdf**	**03 09 40.5**	**-0.1**
	0.2nm,0.6s,baz=288,slow=1.4,SNR=2.8							
MKAR				PKPab		**PKPab**	**03 10 19.4**	**-0.4**
	0.9nm,0.8s,baz=280,slow=3.4,SNR=5.6							

PRU 10 02:50:48.2, 50°.38N×18°.89E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHZP	**Chorzow**	**0.11**	**144**	*e*Pg		Pg	02 50 50.4	+0.1
CHZP				*e*Sg		Sg	02 50 52.1	+0.3
CHZP				e			02 50 52.5	
OJC	**Ojcow**	**0.60**	**105**	*e*Pg		Pg	02 50 59.8	0.0
OJC				*e*Sg		Sg	02 51 08.9	+1.2
OKC	**Ostrava-Krasne**	**0.72**	**222**	*e*SG		Sg	02 51 10.8	-0.7
	comp=Z,4.1nm,0.5s							
NIE	**Niedzica**	**1.33**	**136**	*e*Pg		Pg	02 51 13.9	+0.1
NIE				*e*Sg		Sg	02 51 31.3	+0.2
DPC	**Dobruska-Polom**	**1.65**	**270**	*e*PG		Pn	02 51 18.0	-0.4
DPC				*e*SG		Sn	02 51 40.5	+0.2

MEX 10 02:53:21.3±0.6, 16°.25N×98°.11W, h6km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.14**	**354**	*i*P		Pg	02 53 23.6	-0.7
PNIG				*i*S		Sg	02 53 26.4	+0.1
TLIG	**Tlapa**	**1.38**	**342**	*i*P		Pn	02 53 44.1	-3.3
TLIG				*i*S		Sb	02 54 00.5	-5.2
VHO	**Vista Hermosa**	**1.55**	**58**	*i*P		Pn	02 53 46.3	-3.6
VHO				*e*S		Sn	02 54 04.9	-5.7
HUIG	**Huatulco**	**1.98**	**104**	*i*P		Pn	02 53 51.7	-3.8
HUIG				*i*S		Sn	02 54 16.9	-3.9
CMIG	**Matias Romero**	**3.21**	**74**	*i*P		Pn	02 54 09.4	-2.9
CMIG				*i*S		Sn	02 54 47.8	-3.2

*ISCJB **10** 02:56:58.6±1.0, 12°.9S±0°.2×75°.0W±0°.1, h96km, mb3.7/4, Error ellipse: s-maj=25.1km s-min=8.3km az=33.5*
*IDC **10** 02:57:00.1±1.7, 12°.93S×75°.11W, h101km±17km, mb3.5/4, mb1 3.7/6, mb1mx3.5/20, mbtmp3.9/6, MS4.4/1, Ms1 4.4/1, ms1mx3.3/19, Error ellipse: s-maj=45.7km s-min=15.9km az=33.0*

ISC 10 02:56:59.4±1.1, 13°.0S±0°.2×75°.2W±0°.1, h96km, n9, σ1s25/10, mb3.6/4, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNA	**Nana**	**1.94**	**302**	P		**Pn**	**02 57 31.2**	**+0.1**
	50nm,0.3s,baz=122,slow=12,SNR=74							
NNA				S		**Sn**	**02 57 56.6**	**+1.3**
	198nm,0.3s,baz=16,slow=6.0,SNR=38							
ATAH	**Atahualpa**	**6.66**	**331**	P		**Pn**	**02 58 36.5**	**+1.4**
	2.4nm,0.3s,baz=150,slow=5.0,SNR=13							
ATAH				S		**Sn**	**02 59 49.8**	**0.0**
	2.8nm,0.3s,baz=352,slow=13,SNR=5.1							
LPAZ	**La Paz**	**7.53**	**116**	P		**Pn**	**02 58 48.4**	**+1.3**
	0.5nm,0.3s,baz=297,slow=9.5,SNR=11							
TKL	**Tuckaleechee C**	**49.09**	**351**	LR		LR	03 30 07.2	
	comp=Z,368nm,19.5s,baz=291,slow=40							
TXAR	**Lajitas Array**	**50.31**	**327**	P		**P**	**03 05 46.0**	**-0.6**
	0.3nm,0.7s,baz=144,slow=7.8,SNR=4.6							
DBIC	**Dimbokro**	**72.51**	**79**	P		**P**	**03 08 15.6**	**-0.8**
	5.5nm,1.1s,baz=252,slow=6.4,SNR=3.1							
TORD	**Torodi Ar. Bea**	**80.48**	**74**	P		**P**	**03 09 01.3**	**-0.1**
	1.1nm,0.7s,baz=252,slow=4.5,SNR=13							
YKA	**Yellowknife Ar**	**81.31**	**343**	P		**P**	**03 09 02.8**	**-1.9**
	0.3nm,0.6s,baz=144,slow=5.4,SNR=3.1							
SONM	**Songino Array**	**145.27**	**358**	PKPbc		**PKPdf**	**03 16 27.1**	**+0.9**
	3.7nm,1.0s,baz=335,slow=2.7,SNR=17							

*ISK **10** 02:57:03.8, 37°.83N×32°.21E, h2km, ML3.5*
*DDA **10** 02:57:03.9, 37°.82N×32°.31E, h3km, MD3.7*
*NIC **10** 02:57:06.0, 37°.84N×31°.98E, h25km, mb4.1, ML3.7*
*CSEM **10** 02:57:05.1±0.1, 37°.83N×32°.24E, h2km, ML3.5, Error ellipse: s-maj=3.7km s-min=3.1km az=67.0*

ISC 10 02:57:04.8±1.1, 37°.80N±0°.02×32°.23E±0°.02, h1km±10km, n107, σ0s67/134, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KONT	**Konya--Tatoy**	**0.17**	**35**	PG		**Pg**	**02 57 08.0**	**-0.2**
KONT				*e*SG		**Sg**	**02 57 11.4**	**+1.0**
KONT	**Konya--Tatoy**	**0.17**	**35**	*i*Pg		**Pg**	**02 57 08.0**	**-0.2**
KONT				*e*Sg		**Sg**	**02 57 11.4**	**+1.0**
LADK	**Ladik-KONYA**	**0.41**	**15**	*e*PG		**Pg**	**02 57 11.9**	**-0.7**
LADK				*e*SG		**Sg**	**02 57 18.4**	**+0.4**
LADK	**Ladik-KONYA**	**0.41**	**15**	*e*Pg		**Pg**	**02 57 11.9**	**-0.7**
LADK				*e*Sg		**Sg**	**02 57 18.4**	**+0.4**
KDHN	**Kadinhani**	**0.72**	**353**	*i*P		**Pg**	**02 57 17.7**	**-1.0**
KDHN				*i*S		**Sg**	**02 57 28.8**	**+0.8**
KDHN	**Kadinhani**	**0.72**	**353**	*i*P		**Pg**	**02 57 17.7**	**-1.0**
KDHN				*i*S		**Sg**	**02 57 28.8**	**+0.8**
HDMB	**Hadim**	**0.86**	**166**	*e*PG		**Pg**	**02 57 20.4**	**-0.9**
HDMB	**Hadim**	**0.86**	**166**	*e*Pg		**Pg**	**02 57 20.4**	**-0.9**
SUTC	**Sutiuce-Ispart**	**1.03**	**252**	*e*PG		**Pg**	**02 57 24.2**	**-0.4**
SUTC	**Sutiuce-Ispart**	**1.03**	**252**	*e*Pg		**Pg**	**02 57 24.2**	**-0.4**
SULT	**Sultanhani-AKS**	**1.09**	**68**	*e*PN		**Pg**	**02 57 25.3**	**-0.3**
SULT	**Sultanhani-AKS**	**1.09**	**68**	*e*Pn		**Pg**	**02 57 25.3**	**-0.3**
KIZT	**Kizilcal**	**1.11**	**346**	*e*PN		**Pg**	**02 57 24.9**	**-1.2**
KIZT	**Kizilcal**	**1.11**	**346**	*e*Pn		**Pg**	**02 57 24.9**	**-1.2**
ERMK	**Ermenek**	**1.28**	**155**	*i*P		**Pg**	**02 57 28.9**	**-0.4**
ERMK				*i*S		**Sg**	**02 57 46.6**	**+0.7**
ERMK	**Ermenek**	**1.28**	**155**	*i*P		**Pg**	**02 57 28.9**	**-0.4**
ERMK				*i*S		**Sg**	**02 57 46.6**	**+0.7**
BCK	**Bucak**	**1.35**	**256**	*e*PN		**Pg**	**02 57 30.1**	**-0.6**
BCK				*e*SN		**Sn**	**02 57 49.9**	**+0.4**
BCK	**Bucak**	**1.35**	**256**	*e*Pn		**Pg**	**02 57 30.1**	**-0.6**
BCK				*e*Sn		**Sn**	**02 57 49.9**	**+0.4**
BOLV	**Bolvadin**	**1.36**	**313**	*i*P		**Pg**	**02 57 29.9**	**-1.0**
BOLV				*i*S		**Sn**	**02 57 50.9**	**+1.1**
BOLV	**Bolvadin**	**1.36**	**313**	*i*P		**Pg**	**02 57 29.9**	**-1.0**
BOLV				*i*S		**Sn**	**02 57 50.9**	**+1.1**
ANTB	**Antalya**	**1.55**	**235**	*e*PN		**Pg**	**02 57 35.8**	**+1.4**
ANTB	**Antalya**	**1.55**	**235**	*e*Pn		**Pg**	**02 57 35.8**	**+1.4**
GAZI	**Gazipasa**	**1.57**	**178**	*i*P		**Pn**	**02 57 33.2**	**-0.6**
GAZI				*i*S		**Sn**	**02 57 52.9**	**-1.8**
GAZI	**Gazipasa**	**1.57**	**178**	*i*P		**Pn**	**02 57 33.2**	**-0.6**
GAZI				*i*S		**Sn**	**02 57 52.9**	**-1.8**
KORT	**Korkueli**	**1.70**	**242**	*i*P		**Pb**	**02 57 36.9**	**0.0**
KORT				*i*S		**Sn**	**02 57 58.5**	**+0.3**
KORT	**Korkueli**	**1.70**	**242**	*i*P		**Pb**	**02 57 36.9**	**0.0**
KORT				*i*S		**Sn**	**02 57 58.5**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.73**	**341**	*e*PN		**Pn**	**02 57 35.5**	**-0.7**
SVRH	**Sivrihisar-ESK**	**1.73**	**341**	*e*Pn		**Pn**	**02 57 35.5**	**-0.7**
BBAL	**Bala**	**1.87**	**22**	*i*P		**Pn**	**02 57 37.6**	**-0.5**
BBAL				*i*S		**Sn**	**02 58 02.9**	**+0.5**
BBAL	**Bala**	**1.87**	**22**	*i*P		**Pn**	**02 57 37.6**	**-0.5**
BBAL				*i*S		**Sn**	**02 58 02.9**	**+0.5**
NIG	**Nigde**	**1.90**	**80**	*e*PN		**Pn**	**02 57 38.7**	**+0.1**
NIG	**Nigde**	**1.90**	**80**	*e*Pn		**Pn**	**02 57 38.7**	**+0.1**
KAMT	**Kaman**	**1.95**	**36**	*e*PN		**Pn**	**02 57 38.8**	**-0.3**
KAMT	**Kaman**	**1.95**	**36**	*e*Pn		**Pn**	**02 57 38.8**	**-0.3**
KIZK	**Mersin**	**2.02**	**130**	*i*P		**Pb**	**02 57 42.0**	**-0.3**
KIZK				*i*S		**Sb**	**02 58 07.6**	**-0.3**
KIZK	**Mersin**	**2.02**	**130**	*i*P		**Pb**	**02 57 42.0**	**-0.3**
KIZK				*i*S		**Sb**	**02 58 07.6**	**-0.3**
ESKT	**Eskisehir**	**2.03**	**328**	*e*PN		**Pn**	**02 57 39.7**	**-0.5**
ESKT	**Eskisehir**	**2.03**	**328**	*e*Pn		**Pn**	**02 57 39.7**	**-0.5**
SEYT	**Eskypehyr**	**2.03**	**328**	*i*P		**Pn**	**02 57 39.7**	**-0.5**
SEYT	**Eskypehyr**	**2.03**	**328**	*i*P		**Pn**	**02 57 39.7**	**-0.5**
MERS	**Mersin**	**2.05**	**116**	*e*PN		**Pn**	**02 57 41.1**	**+0.6**
MERS	**Mersin**	**2.05**	**116**	*e*Pn		**Pn**	**02 57 41.1**	**+0.6**
ALT	**Altintas**	**2.08**	**308**	*e*PN		**Pn**	**02 57 40.9**	**-0.1**
ALT	**Altintas**	**2.08**	**308**	*e*Pn		**Pn**	**02 57 40.9**	**-0.1**
ANTO	**Ankara**	**2.11**	**12**	*e*PN		**Pn**	**02 57 41.4**	**+0.1**
ANTO	**Ankara**	**2.11**	**12**	*e*Pn		**Pn**	**02 57 41.4**	**+0.1**
LOD	**Lodumlu**	**2.12**	**11**	*e*PN		**Pn**	**02 57 41.4**	**-0.1**
LOD	**Lodumlu**	**2.12**	**11**	*e*Pn		**Pn**	**02 57 41.4**	**-0.1**
ELL	**Elmali**	**2.13**	**241**	*e*PN		**Pn**	**02 57 41.6**	**-0.1**
ELL	**Elmali**	**2.13**	**241**	*e*Pn		**Pn**	**02 57 41.6**	**-0.1**
GOLH	**Golhisar**	**2.20**	**256**	*i*P		**Pb**	**02 57 45.5**	**+0.1**
GOLH				*i*S		**Sn**	**02 58 10.8**	**+0.4**
GOLH	**Golhisar**	**2.20**	**256**	*i*P		**Pb**	**02 57 45.5**	**+0.1**
GOLH				*i*S		**Sn**	**02 58 10.8**	**+0.4**
KHL	**Karahalli**	**2.20**	**284**	*e*PN		**Pn**	**02 57 42.4**	**-0.2**
KHL	**Karahalli**	**2.20**	**284**	*e*Pn		**Pn**	**02 57 42.4**	**-0.2**
KARA	**Karaisali**	**2.31**	**103**	*e*PN		**Pn**	**02 57 44.8**	**+0.8**
KARA	**Karaisali**	**2.31**	**103**	*e

2.6nm,0.6s,baz=178,slow=5.5,SNR=4.9
PDAR Pinedale Array 38.17 332 P **P** 03 05 34.9 **0.0**
0.4nm,0.5s,baz=120,slow=8.9,SNR=3.2
NVAR Mina Array Bea 40.05 320 P **P** 03 05 53.1 **+2.4**
0.9nm,0.7s,baz=129,slow=8.2,SNR=5.6
SCHQ Schefferville 46.96 15 P **P** 03 06 43.5 **-2.3**
1.4nm,0.7s,baz=212,slow=8.9,SNR=3.7
ILAR Eielson Array 68.41 336 P **P** 03 09 15.8 **-0.5**
0.2nm,0.7s,baz=131,slow=4.2,SNR=4.4
TORD Torodi Ar. Bea 85.71 77 P **P** 03 10 54.9 **+0.5**
0.3nm,0.7s,baz=279,slow=3.9,SNR=2.8

*IDC **10** 03:08:24.9±0.5,30.42S×177.55W,h0km,mb4.4/14, mb1 4.6/16,mb1mx4.5/21,mbtmp4.5/16,ML4.0/2,MS4.2/10, Ms1 4.2/10,ms1mx3.9/24,Error ellipse: s-maj=19.1km s-min=13.9km az=89.0*
*ISCJB **10** 03:08:28.9±0.3,30.79S±0.04×177.73W±0.07,h33km, mb4.8/26,MS4.2/8,Error ellipse: s-maj=9.6km s-min=4.4km az=25.5*
*NEIC **10** 03:08:29.7±0.3,30.68S×177.52W,h35km,mb5.0/14, Error ellipse: s-maj=10.4km s-min=7.0km az=116.0*
ISC 10 03:08:29.1±0.6,30.69S±0.05×177.48W±0.08,h28km±3km, h27km:pP-P,n137,σ1$41/131,mb4.9/26,MS4.4/8,1C-2D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.48**	**345**	Pn	Pn	03 08 50.4	-3.5
	2μm,0.3s,baz=101,slow=7.9,SNR=122						
RAO				Sn	Sn	03 09 06.3	-6.0
	1μm,0.3s,baz=45,slow=19,SNR=28						
RAO				LR	LR	03 09 17.2	
	comp=Z,4μm,20.5s,baz=140,slow=43						
RAO	**Raoul Island**	**1.48**	**345**	*e*Pn	Pn	03 08 50.1	-3.7
RAO				*e*S	**Sn**	**03 09 07.2**	**-5.1**
HAZ	**Te Kaha**	**8.07**	**208**	PN	**Pn**	**03 10 22.0**	**-2.4**
HAZ				*e*SN	**Sn**	**03 11 55.2**	**+0.5**
PUZ	**Puketiti**	**8.17**	**204**	*e*PN	Pn	03 10 22.4	-3.4
PUZ				*e*SN	**Sn**	**03 11 53.9**	**-3.3**
MWZ	**Matawai**	**8.67**	**207**	*e*PN	Pn	03 10 27.9	-4.9
MWZ				*e*SN	**Sn**	**03 12 07.8**	**-1.8**
OUZ	**Omahuta**	**8.76**	**237**	*e*Pn	**Pn**	**03 10 34.2**	**+0.3**
URZ	**Urewera**	**8.78**	**209**	Pn	Pn	03 10 30.0	-4.2
	0.7nm,0.3s,baz=72,slow=6.4,SNR=10.0						
URZ				Sn	**Sn**	**03 12 12.9**	**+0.7**
	16nm,0.3s,baz=204,slow=20,SNR=9.8						
URZ	**Urewera**	**8.78**	**209**	*e*PN	Pn	03 10 30.2	-3.9
URZ				*e*SN	**Sn**	**03 12 10.0**	**-2.2**
URZ	**Urewera**	**8.78**	**209**	*e*Pn	**Pn**	**03 10 31.2**	**-3.0**
URZ				*e*S	Sn	03 12 02.2	-10
BKZ	**Black Stump Fm**	**9.80**	**209**	*e*Pn	**Pn**	**03 10 46.5**	**-1.7**
BFZ	**Birch Farm**	**11.20**	**205**	*e*SN	Sn	03 13 02.9	-8.7
MRZ	**Mangatainoka R**	**11.44**	**208**	*e*PN	Pn	03 11 05.3	-5.3
MRZ				*e*SN	Sn	03 13 10.1	-7.3
THZ	**Tophouse**	**13.50**	**212**	*e*SN	Sn	03 13 57.5	-10
MSVF	**Nonsavu**	**13.52**	**341**	*e*Pn	**Pn**	**03 11 40.1**	**+0.9**
KHZ	**Kahutara**	**13.75**	**209**	*e*Pn	**Pn**	**03 11 40.1**	**-1.9**
KHZ				*e*S	Sn	03 14 02.6	-11
MQZ	**McQueen's Vall**	**15.18**	**208**	*e*SN	Sn	03 14 33.0	-16
RPZ	**Rata Peaks**	**15.88**	**212**	Pn	**Pn**	**03 12 10.3**	**-0.3**
	3.5nm,0.3s,baz=41,slow=2.3,SNR=12						
RPZ				Sn	Sn	03 14 54.3	-11
	1.9nm,0.3s,baz=9.0,slow=21,SNR=6.3						
RPZ	**Rata Peaks**	**15.88**	**212**	Pn	**Pn**	**03 12 08.6**	**-2.0**
	25nm,0.6s						
RPZ				*e*S	Sn	03 14 49.8	-16
DZM	**Mont Dzumac**	**16.76**	**297**	*e*P	**P**	**03 12 25.9**	**+1.9**
	188nm,1.6s						
DZM				*e*LR	LR	03 16 12.0	
	2μm,23.2s						
DZM	**Mont Dzumac**	**16.76**	**297**	Pn	**P**	**03 12 24.0**	**0.0**
	0.8nm,0.3s,baz=270,slow=20,SNR=13						
DZM				LR	LR	03 17 36.5	
	comp=Z,2μm,18.5s,baz=180,slow=33						
RAR	**Rarotonga**	**18.48**	**63**	P	**P**	**03 12 40.8**	**-2.1**
	0.9nm,0.3s,baz=259,slow=8.0,SNR=2.8						
RAR				LR	LR	03 18 00.7	
	comp=Z,338nm,21.9s,baz=232,slow=31						
TBI	**Tubuai**	**25.96**	**80**	*e*LQ	LQ	03 19 00.4	
	834nm,26.5s						
TBI				*e*LR	LR	03 20 25.7	
	891nm,25.5s,baz=252						
TBI	**Tubuai**	**25.96**	**80**	*e*T	T	03 40 40.5	
	19nm,0.3s						
EIDS	**Eidsvold**	**28.20**	**273**	*e*P	**P**	**03 14 18.8**	**-0.8**
	19nm,0.8s						
PAE	**Paea**	**28.47**	**69**	*e*T	T	03 43 55.4	
	6.5nm,0.3s						
PPT2	**Papeete2**	**28.51**	**69**	*e*LQ	LQ	03 19 55.8	
	614nm,25.5s						
PPT2				*e*LR	LR	03 21 31.8	
	587nm,24.5s,baz=226						
PPT	**Papeete**	**28.52**	**69**	LR	LR	03 22 38.6	
	comp=Z,238nm,21.5s,baz=220,slow=30						
PMOR	**Pomariorio Ree**	**31.28**	**67**	*e*T	T	03 47 28.3	
	2.0nm,0.4s						
VAH	**Vaihoa**	**31.36**	**67**	*e*T	T	03 47 33.6	
	34nm,0.3s						
CTA	**Charters Tower**	**34.29**	**279**	LR	LR	03 28 18.4	
	comp=Z,1μm,18.1s,baz=81,slow=35						
CTAO	**Charters Tower**	**34.29**	**279**	*e*P	**P**	**03 15 13.8**	**+0.6**
	34nm,1.1s						
STKA	**Stephens Creek**	**34.86**	**257**	P	**P**	**03 15 19.6**	**+1.6**
	29nm,0.6s,baz=98,slow=9.9,SNR=80						
STKA				LR	LR	03 28 31.7	
	comp=Z,590nm,18.1s,baz=64,slow=35						
STKA	**Stephens Creek**	**34.86**	**257**	*e*P	**P**	**03 15 19.1**	**+1.1**
	12nm,0.9s						
RKT	**Rikitea**	**38.47**	**89**	*e*LR	LR	03 26 11.8	
	555nm,28.8s,baz=253						
BBOO	**Buckleboo**	**39.33**	**254**	*e*P	**P**	**03 15 56.3**	**+0.4**
	26nm,0.8s						
AS31	**Alice Springs**	**43.55**	**267**	*e*P	**P**	**03 16 29.7**	**-1.0**
ASAR	**Alice Springs**	**43.55**	**267**	P	**P**	**03 16 29.7**	**-1.0**
	7.7nm,0.6s,baz=106,slow=7.7,SNR=66						
ASAR				ScP	**ScP**	**03 22 09.8**	**+1.9**
	1.3nm,0.7s,baz=110,slow=3.9,SNR=5.1						
ASAR				LR	LR	03 34 15.9	
	comp=Z,694nm,18.3s,baz=102,slow=36						
WRAB	**Tennant Creek**	**44.55**	**272**	P	**P**	**03 16 37.3**	**-1.5**
	203nm,0.7s,SNR=9.2						
WRAB	**Tennant Creek**	**44.55**	**272**	*e*P	**P**	**03 16 37.6**	**-1.2**
	28nm,0.8s						
WRA	**Warrumunga Arr**	**44.56**	**272**	P	**P**	**03 16 37.8**	**-1.1**
	22nm,0.7s,baz=112,slow=7.8,SNR=63						
FORT	**Forrest**	**46.41**	**255**	*e*P	**P**	**03 16 52.7**	**-0.7**
	20nm,0.6s						
SBA	**Scott Base**	**47.79**	**184**	*e*P	**P**	**03 17 05.0**	**+1.6**
	42nm,1.5s						
VNDA	**Vanda**	**47.86**	**186**	P	**P**	**03 17 06.3**	**+2.3**
	0.4nm,0.5s,baz=25,slow=7.0,SNR=1.8						
VNDA				LR	LR	03 38 16.8	
	comp=Z,70nm,18.3s,baz=32,slow=37						
CASY	**Casey**	**55.10**	**208**	*e*P	**P**	**03 17 58.8**	**+0.5**
	33nm,0.8s						
MBWA	**Marble Bar**	**56.64**	**264**	P	**P**	**03 18 07.8**	**-2.2**
SIJI	**Sorong**	**56.86**	**291**	P	**P**	**03 18 09.8**	**-1.8**
	11nm,0.8s,baz=75,slow=6.8,SNR=7.2						
QSPA	**South Pole Qui**	**59.43**	**180**	P	P	03 18 32.1	+3.1
	7.2nm,0.9s,baz=20,slow=2.0,SNR=30						
MAW	**Mawson**	**72.20**	**200**	P	**P**	**03 19 52.8**	**+1.8**
	5.8nm,1.0s,baz=118,slow=8.7,SNR=5.8						
MAW	**Mawson**	**72.20**	**200**	*e*P	**P**	**03 19 51.3**	**+0.3**
	11nm,2.0s						
KKM	**Kota Kinabalu**	**73.08**	**288**	P	**P**	**03 19 56.2**	**-1.1**
	13nm,0.6s						
SYO	**Syowa Base**	**76.94**	**193**	*e*P	**P**	**03 20 18.5**	**0.0**
SYO	**Syowa Base**	**76.94**	**193**	*e*sP	sP	03 20 33.4	+2.8
SNAA	**Sanae**	**77.86**	**178**	P	P	03 20 17.1	-6.6
VNA1	**Neumayer--Stat**	**78.66**	**176**	P	**P**	**03 20 29.9**	**+1.8**
MJAR	**Matsushiro Arr**	**78.73**	**325**	P	**P**	**03 20 27.1**	**-1.8**
	1.0nm,0.7s,baz=158,slow=5.9,SNR=3.3						
JNU	**Nakatsue**	**80.07**	**318**	LR	LR	03 51 23.6	
	comp=Z,58nm,21.2s,baz=79,slow=32						
ASAJ	**Asahikawa**	**82.90**	**332**	*e*P	**P**	**03 20 50.9**	**-0.1**
	5.9nm,1.3s						
KSRS	**Korea Array**	**84.86**	**319**	P	**P**	**03 21 00.9**	**-0.2**
	0.7nm,0.5s,baz=126,slow=5.2,SNR=4.6						
KSAR	**Wonju Array Be**	**84.87**	**319**	P	**P**	**03 21 00.9**	**-0.3**
PETK	**Petropavlovsk-**	**86.20**	**345**	P	**P**	**03 21 07.4**	**-0.1**
	6.2nm,0.8s,baz=156,slow=8.1,SNR=3.8						
BELC	**Belle Mtn. Jos**	**86.61**	**47**	P	**P**	**03 21 11.8**	**+1.7**
	baz=87						
BC3	**Big Chuckawall**	**86.73**	**48**	P	**P**	**03 21 12.4**	**+1.8**
	baz=87						
IRM	**Iron Mountain**	**87.25**	**47**	P	**P**	**03 21 15.1**	**+2.0**
	baz=88						
GMRC	**Granite Mounta**	**87.33**	**47**	P	**P**	**03 21 15.0**	**+1.4**
	baz=88						
Y12C	**Blythe**	**87.39**	**48**	P	**P**	**03 21 15.1**	**+1.4**
	baz=88						
USRK	**Ussuriysk Ar.**	**87.65**	**326**	P	**P**	**03 21 14.8**	**+0.1**
	3.1nm,0.7s,baz=145,slow=3.9,SNR=5.5						
GRAC	**Grapevine Rang**	**87.74**	**44**	P	**P**	**03 21 16.8**	**+1.4**
	baz=88						
NVAR	**Mina Array Bea**	**88.14**	**42**	P	**P**	**03 21 18.2**	**+0.7**
	0.7nm,0.7s,baz=223,slow=9.1,SNR=5.0						
TPNV	**Topopah Spring**	**88.38**	**45**	P	**P**	**03 21 19.8**	**+1.2**
	baz=89						
TUC	**Tucson**	**88.94**	**51**	*e*P	**P**	**03 21 23.2**	**+1.9**
	2.7nm,0.9s						
J05D	**Fort Rock, OR**	**89.85**	**37**	P	**P**	**03 21 27.5**	**+2.2**
	baz=90						
CN2	**Changchun**	**90.64**	**323**	*e*P	**P**	**03 21 28.4**	**-0.4**
CN2				PMZ			
	10.0nm,1.0s						
GYA	**Guiyang**	**92.08**	**300**	*e*P	**P**	**03 21 38.0**	**+1.9**
GYA				pP	**pP**	**03 21 46.4**	**+1.4**
GYA				PP	**PP**	**03 25 20.8**	**+4.3**
GYA				SKS	**SKSac**	**03 32 08.2**	**+0.6**
GYA				S	**S**	**03 32 37.0**	**+0.2**
GYA				PMZ			
	20nm,1.0s						
GYA				PMZ			
	120nm,5.8s						
GYA				LN			
	520nm,21.0s						
GYA				LE			
	490nm,22.2s						
GYA				LZ			
	500nm,20.4s						
TXAR	**Lajitas Array**	**92.16**	**57**	P	**P**	**03 21 36.5**	**+0.1**
	0.3nm,0.8s,baz=201,slow=6.7,SNR=4.1						
TXAR				LR	LR	03 56 12.5	
	comp=Z,148nm,19.1s,baz=266,slow=32						
529A	**Stev Forest Ra**	**93.65**	**57**	P	**P**	**03 21 43.8**	**+0.6**
	baz=94						
HLID	**Hailey**	**93.73**	**40**	P	**P**	**03 21 44.2**	**+0.8**
	baz=94						
429A	**Davenport Ranc**	**94.16**	**57**	P	**P**	**03 21 46.0**	**+0.5**
	baz=94						
KMI	**Kunming**	**94.35**	**297**	P	**P**	**03 21 48.9**	**+2.2**
PDAR	**Pinedale Array**	**96.03**	**43**	P	**P**	**03 21 53.4**	**-0.6**
	0.3nm,0.5s,baz=232,slow=4.4,SNR=2.5						
PDAR				LR	LR	03 59 36.4	
	comp=Z,110nm,19.3s,baz=266,slow=32						
LRM	**Limekiln Ridge**	**96.23**	**40**	*e*P	P	03 22 00.7	+5.9
	34nm,0.7s						
HARP	**HAARP**	**96.34**	**15**	*e*P	**P**	**03 21 53.8**	**-0.8**
	51nm,0.6s						
CD2	**Chengdu**	**96.62**	**302**	*e*P	**P**	**03 21 57.0**	**+0.3**
CD2				PP	**PP**	**03 25 52.3**	**+0.5**
CD2				SKS	**SKSac**	**03 32 31.9**	**+0.1**
CD2				S	**ScS**	**03 33 17.3**	**+0.6**
CD2				sS	**sS**	**03 33 32.1**	**+0.9**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.2s						
HHC	**Hu-ho-hao-te**	**96.76**	**314**	*e*P	**P**	**03 21 59.2**	**+2.0**
HHC				PP	**PP**	**03 25 56.1**	**+3.4**
HHC				SKS	**SKSac**	**03 32 32.3**	**+0.2**
HHC				S	**ScS**	**03 33 20.7**	**+3.2**
HHC				sS	**sS**	**03 33 29.9**	**-2.1**
HHC				PMZ			
	14nm,1.4s						
HHC				PMZ			
	130nm,8.8s						
HHC				LN			
	150nm,17.9s						
HHC				LE			
	210nm,17.1s						
HHC				LZ			
	110nm,17.7s						
LZH	**Lanzhou**	**99.25**	**306**	*e*P	**Pdif**	**03 22 09.8**	**+1.2**
LZH				pP	**pP**	**03 22 18.0**	**+0.4**
LZH				sP	**sP**	**03 22 22.1**	**+1.3**
WMQ	**Urumqi**	**113.76**	**308**	PKP	**PKiKP**	**03 27 05.3**	**+0.3**
WMQ				PP	PP	03 28 03.6	+5.1
WMQ				PPMZ			
	31nm,10.1s						
WMQ				LN			
	24nm,12.2s						
WMQ				LE			
	21nm,14.5s						
WMQ				LZ			
	35nm,16.7s						
ZALV	**Zalesovo Beam**	**118.55**	**318**	PKP	**PKPdf**	**03 27 12.0**	**-1.8**
	0.3nm,0.3s,baz=126,slow=2.5,SNR=2.6						
KSH	**Kashi**	**120.77**	**300**	*e*PKP	**PKPdf**	**03 27 19.1**	**+0.4**
KSH				*es*PKP		03 27 32.9	
KSH				PP	PP	03 28 54.7	+7.1
KURK	**Kurchatov**	**121.57**	**314**	PKP	**PKPdf**	**03 27 18.1**	**-1.5**
KURK				*e*PKPdf	**PKiKP**	**03 27 18.3**	**-1.5**
KURBB	**Kurchatov Arra**	**121.61**	**313**	PKP	**PKPdf**	**03 27 18.1**	**-1.6**
	1.4nm,0.7s,baz=105,slow=2.0,SNR=16						
TKM2	**Tokmak 2**	**121.92**	**304**	*e*PKPdf	**PKPdf**	**03 27 20.1**	**-0.8**
KBL	**Kabul**	**124.75**	**293**	*e*PKPdf	**PKPdf**	**03 27 27.3**	**+0.7**
KKAR	**Karatay Array**	**125.61**	**303**	*e*PKPdf	**PKPdf**	**03 27 27.4**	**-0.4**
SPITS	**Spitsbergen Ar**	**132.02**	**356**	PKP	**PKPdf**	**03 27 39.0**	**+0.1**
	2.1nm,0.8s,baz=108,slow=4.7,SNR=2.5						
H10S2	**ASCENSION HYDR**	**137.28**	**155**	T	T	06 02 11.0	
	baz=204,slow=74,SNR=26						
H10S3	**ASCENSION HYDR**	**137.28**	**155**	T	T	06 02 13.0	
	baz=204,slow=74,SNR=23						
H10S1	**ASCENSION HYDR**	**137.29**	**155**	T	T	06 02 22.4	
	baz=204,slow=74,SNR=20						
H10N3	**ASCENSION HYDR**	**138.36**	**154**	T	T	06 03 44.3	
	baz=203,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**138.36**	**154**	T	T	06 03 46.2	
	baz=203,slow=75,SNR=13						
H10N2	**ASCENSION HYDR**	**138.38**	**154**	T	T	06 03 45.6	
	baz=203,slow=75,SNR=12						
ARCES	**ARCESS Array B**	**138.96**	**348**	PKhKP	PKPpre	03 27 47.5	
	3.1nm,0.9s,baz=38,slow=1.6,SNR=4.2						
ARCES				PKP	**PKPdf**	**03 27 51.4**	**-0.7**
	3.2nm,0.9s,baz=45,slow=1.4,SNR=5.0						
DGRG	**David-gareji**	**144.06**	**299**	P	PKPbc	03 28 00.2	0.0
GNI	**Garni**	**144.60**	**297**	*e*PKPdf	PKPbc	03 28 02.0	0.0
ONI	**Oni**	**145.39**	**302**	P	**PKPab**	**03 28 04.3**	**-0.2**
FIA1	**FINESS Array S**	**145.56**	**340**	*e*PKPdf	**PKPdf**	**03 28 02.9**	**-1.0**
FINES	**FINESS Array B**	**145.57**	**340**	PKPbc	**PKPdf**	**03 28 02.9**	**-1.0**
	18nm,0.7s,baz=53,slow=2.3,SNR=64						
KBZ	**Khabaz**	**145.65**	**304**	PKPbc	**PKPdf**	**03 28 04.4**	**-0.2**
	7.2nm,0.9s,baz=56,slow=3.6,SNR=12						
OBN	**Obninsk**	**145.66**	**325**	PKPbc	**PKPdf**	**03 28 03.8**	**-0.5**
	47nm,0.7s,baz=89,slow=1.0,SNR=18						
OBN	**Obninsk**	**145.66**	**325**	PKPbc	**PKPdf**	**03 28 03.8**	**-0.5**
OBN				*e*PKPdf	**PKPbc**	**03 28 04.2**	**-0.5**
KIV	**Kislovodsk**	**145.76**	**304**	*e*PKPdf	**PKPdf**	**03 28 04.6**	**-0.4**
MSKU	**Masuku**	**146.15**	**200**	PKPbc	**PKPab**	**03 28 08.1**	**0.0**
	9.0nm,0.6s,baz=135,slow=1.4,SNR=8.0						
NB2	**NORSAR Subarra**	**149.10**	**352**	PKP	**PKPbc**	**03 28 12.7**	**-1.4**
	comp=Z,7.8nm,0.8s,baz=13,slow=2.8						
NOA	**NORSAR Array B**	**149.10**	**352**	PKPbc	**PKPbc**	**03 28 13.4**	**-0.7**
	comp=Z,4.7nm,0.8s,baz=15,slow=4.3,SNR=16						
NAO01	**NORSAR Array S**	**149.33**	**352**	*e*PKPbc	**PKPbc**	**03 28 13.8**	**-0.9**
HFS	**Hagfors**	**149.61**	**349**	PKPbc	**PKPbc**	**03 28 14.1**	**-1.2**
	comp=Z,7.4nm,0.7s,baz=48,slow=2.1,SNR=17						
MICGM	**Minsk**	**150.06**	**330**	*e*	**PKPbc**	**03 28 15.0**	**-1.6**
KONO	**Kongsberg**	**150.64**	**353**	*e*PKPdf	**PKPdf**	**03 28 10.7**	**-1.7**
KONO				*e*PKPbc	**PKPbc**	**03 28 17.2**	**-0.6**
AKASG	**Malin Array Be**	**151.80**	**323**	PKPbc	**PKPbc**	**03 28 19.9**	**-0.9**
	comp=Z,4.4nm,0.6s,baz=48,slow=2.8,SNR=17						
AKASG				PKPab	**PKPab**	**03 28 28.4**	**-1.4**
	comp=Z,14nm,0.8s,baz=47,slow=3.0,SNR=20						
AKBB	**Malin Array Si**	**151.80**	**323**	*e*PKPbc	**PKPbc**	**03 28 20.3**	**-0.5**
AK01	**Malin Array Si**	**151.81**	**323**	*e*PKPbc	**PKPbc**	**03 28 20.1**	**-0.7**
KIEV	**Kiev**	**151.81**	**323**	*e*PKPbc	**PKPbc**	**03 28 20.2**	**-0.6**
AK02	**Malin Array Si**	**151.84**	**323**	*e*PKPbc	**PKPbc**	**03 28 20.3**	**-0.5**
BR131	**Keskin Array S**	**153.13**	**298**	*e*PKPbc	**PKPbc**	**03 28 23.6**	**-0.7**
BRTR	**Keskin Array B**	**153.13**	**298**	PKPbc	**PKPbc**	**03 28 23.6**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=146,slow=4.5,SNR=16						
ANTO	**Ankara**	**153.75**	**299**	*e*PKPbc	**PKPbc**	**03 28 26.3**	**+0.7**
CSS	**Prodhromos**	**153.82**	**288**	*e*PKPbc	**PKPbc**	**03 28 25.3**	**-0.5**
DBIC	**Dimbokro**	**155.13**	**162**	PKPab	**PKPab**	**03 28 44.5**	**-0.3**
	comp=Z,15nm,1.1s,baz=163,slow=5.0,SNR=5.1						
KWP	**Kalwaria Pacla**	**155.72**	**327**	*e*PKP	**PKPab**	**03 28 45.9**	**-0.6**
UPC	**Upice**	**157.77**	**337**	*e*PKPAB	**PKPab**	**03 28 55.0**	**-0.3**
UPC				*ex*	x	03 29 01.6	
DPC	**Dobruska-Polom**	**157.80**	**336**	*e*PKPAB	**PKPab**	**03 28 55.2**	**-0.2**
DPC				*ex*	x	03 29 00.9	
DPC				*ep*PKP	**pPKPab**	**03 29 04.4**	**0.0**
DPC				*es*PKP		03 29 11.7	
CLL	**Collm**	**157.97**	**342**	*i*PKPab	**PKPab**	**03 28 55.1**	**-1.0**
	comp=Z,5.0nm,1.1s						
BRG	**Berggiesshubel**	**158.11**	**340**	*e*P	**PKPab**	**03 28 56.0**	**-0.7**
	comp=Z,6.4nm,1.0s						
PRU	**Pruhonice**	**158.70**	**338**	*e*PKPAB	**PKPab**	**03 28 58.6**	**-0.7**
TREC	**Trest**	**158.98**	**336**	*e*PKPAB	**PKPab**	**03 28 59.8**	**-0.8**
TREC				*ex*	x	03 29 06.7	
NKC	**Novy Kostel**	**159.10**	**342**	*e*PKPAB	**PKPab**	**03 29 00.9**	**-0.1**
KHC	**Kasperske Hory**	**159.76**	**339**	*e*PKPAB	**PKPab**	**03 29 03.3**	**-0.7**
KHC				*ex*	x	03 29 10.2	
GERES	**GERESS Array B**	**159.97**	**338**	PKPab	**PKPab**	**03 29 04.0**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=20,slow=3.1,SNR=8.4						
TORD	**Torodi Ar. Bea**	**162.53**	**177**	PKPab	**PKPab**	**03 29 17.9**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=172,slow=3.3,SNR=6.3						

*NIED **10** 03:10:00,33.00N×142.30E,h5km,Mw4.7 Best double couple: M0 1.24000×10^16 NP1:φs6.00000°,δ29.00000°, λ-94.00000°. NP2:φs191.00000°,δ61.00000°, λ-88.00000°.*
*BJI **10** 03:10:10.4,32.94N×142.41E,h5km,mb4.8/58,mB5.0/43, Ms4.6/54,Ms7 4.4/53*
*IDC **10** 03:10:11.5±0.5,32.89N×142.51E,h0km,mb4.5/24, mb1 4.7/30,mb1mx4.6/35,mbtmp4.5/30,ML4.1/3,MS3.8/20, Ms1 3.8/20,ms1mx3.7/36,Error ellipse: s-maj=14.4km s-min=10.7km az=94.0*
*JMA **10** 03:10:12.3±0.3,33.02N×142.32E,h0km,M4.6*
*MOS **10** 03:10:14.9±0.9,32.89N×142.40E,h33km,mb5.0/52,Error ellipse: s-maj=9.8km s-min=5.1km az=120.2*
*ISCJB **10** 03:10:15.9±0.2,32.92N±0.03×142.35E±0.03,h38km, mb4.8/88,MS4.1/22,Error ellipse: s-maj=4.0km s-min=3.2km az=23.8*
*NEIC **10** 03:10:17.2±0.9,32.91N×142.41E,h38km±7km,mb4.9/34, MW4.7(NIED),Error ellipse: s-maj=7.6km s-min=5.1km az=108.0*
ISC 10 03:10:13.8±0.5,32.98N±0.04×142.49E±0.04,h15km±2km, h14km:pP-P,n342,σ1$36/383,mb4.9/100,MS4.0/22, 13C-20D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.09**	**323**	P	**Pn**	**03 10 47.8**	**0.0**
BSO1				S	**Sn**	**03 11 13.0**	**-0.3**
JHJ2	**Mitsune**	**2.25**	**274**	P	**Pn**	**03 10 49.9**	**-0.5**
JHJ2				S	**Sn**	**03 11 17.4**	**-0.5**
JHJ2	**Mitsune**	**2.25**	**274**	*e*Pn	**Pn**	**03 10 49.6**	**-0.8**
JHJ2				*e*S	**Sn**	**03 11 16.5**	**-1.4**
JHCJ	**Hachijojimakas**	**2.26**	**273**	P	**Pn**	**03 10 49.5**	**-1.1**
JHCJ				S	**Sn**	**03 11 17.4**	**-0.9**
BSO2	**Boso 2**	**2.28**	**321**	S	**Sn**	**03 11 19.3**	**+1.0**
BSO3	**Boso 3**	**2.45**	**318**	P	**Pn**	**03 10 53.1**	**+0.1**
BSO3				S	**Sn**	**03 11 24.0**	**+1.4**
BSO4	**Boso 4**	**2.68**	**319**	P	**Pn**	**03 10 56.9**	**+0.5**
BSO4				S	**Sn**	**03 11 29.1**	**+0.5**
JOD2	**Odawara 2**	**3.62**	**310**	P	**Pn**	**03 11 08.4**	**-1.0**
MJAR	**Matsushiro Arr**	**5.00**	**316**	Pn	**Pn**	**03 11 29.2**	**+0.9**
	18nm,0.3s,baz=154,slow=12,SNR=138						
MJAR				Sn	**Sn**	**03 12 27.0**	**+1.1**
	8.0nm,0.3s,baz=159,slow=18,SNR=5.4						
MJAR				LR	LR	03 13 44.8	
	comp=Z,828nm,19.3s,baz=125,slow=42						
MJAR	**Matsushiro Arr**	**5.00**	**316**	P	**Pn**	**03 11 29.2**	**+0.9**
MJAR						03 12 27.0	
MJAR				pmax	pmax		
	comp=Z,18nm,0.3s						
MJAR				smax	smax		
	comp=N,8.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,828nm,19.3s						
MAJO	**Matsushiro**	**5.00**	**316**	*d i*P	**Pn**	**03 11 28.9**	**+0.5**
MAJO	**Matsushiro**	**5.00**	**316**	*e*Pn	**Pn**	**03 11 29.4**	**+1.1**
MAJO				*e*Sn	Sn	**03 12 26.3**	**+0.3**
MAT	**Matsushiro**	**5.00**	**316**	P	**Pn**	**03 11 28.7**	**+0.3**
MAT				S	**Sn**	**03 12 24.7**	**-1.3**
CBIJ	**Chichi jima**	**5.87**	**183**	*e*Pn	Pn	03 11 36.9	-3.4
CBIJ				*e*S	Sn	03 12 41.2	-6.2
JCJ	**Chichijima**	**5.87**	**183**	Pn	**Pn**	**03 11 37.6**	**-2.7**
	comp=Z,58nm,0.3s,baz=74,slow=23,SNR=34						
JCJ				Sn	Sn	03 12 39.9	-7.5
	comp=Z,125nm,0.3s,baz=

	comp=Z,700nm,15.0s							
CN2				LE				
	comp=Z,700nm,15.0s							
CN2				LZ				
	comp=Z,800nm,14.0s							
SNY	**Shenyang**	**17.40**	**306**	⇑P	**Pn**	**03**	**14**	**16.4 +0.4**
SNY				S	**Sn**	**03**	**17**	**23.3 -6.0**
SNY				PMZ				
	comp=Z,29nm,0.6s							
SNY				PMZ				
	comp=Z,170nm,6.3s							
SNY				LN				
	comp=Z,460nm,15.0s							
SNY				LE				
	comp=Z,500nm,18.1s							
SNY				LZ				
	comp=Z,660nm,16.2s							
DL2	**Dalian**	**17.88**	**295**	*e*P	**Pn**	**03**	**14**	**21.2 -0.7**
DL2				S	**Sn**	**03**	**17**	**39.2 -1.8**
DL2				PMZ				
	comp=Z,30nm,0.7s							
DL2				PMZ				
	comp=Z,180nm,6.5s							
DL2				LE				
	comp=Z,930nm,14.7s							
DL2				LZ				
	comp=Z,1μm,13.7s							
KLR	**Kul'dur**	**18.11**	**337**	*e*P	Pn	03	14	18.0 -6.7
YOJ	**Yonaguni jima**	**19.05**	**249**	P	**P**	**03**	**14**	**34.3 -1.2**
YOJ				pmax	pmax			
	comp=Z,57nm,1.0s							
YOJ	**Yonaguni jima**	**19.05**	**249**	P	**P**	**03**	**14**	**34.3 -1.2**
	comp=Z,56nm,1.0s							
GUMO	**Guam**	**19.43**	**173**	P	**P**	**03**	**14**	**39.3 -0.3**
	comp=Z,7.6nm,0.3s,baz=14,slow=24,SNR=4.4							
GUMO	**Guam**	**19.43**	**173**	*e*P	**Pn**	**03**	**14**	**41.6 +0.7**
GUMO				pmax	pmax			
	comp=Z,29nm,1.1s							
GUMO	**Guam**	**19.43**	**173**	*e*P	**Pn**	**03**	**14**	**41.6 +0.7**
	comp=Z,29nm,1.1s							
NJ2	**Nanjing**	**19.95**	**274**	*e*P	**Pn**	**03**	**14**	**47.1 +0.1**
NJ2				PMZ				
	comp=Z,150nm,1.2s							
NKL	**Nikolayevsk**	**20.20**	**357**	*e*P	Pn	03	14	51.0 +1.2
NKL				*e*		03	18	38.0
YHNB	**Yeheng**	**20.24**	**251**	*e*P	**P**	**03**	**14**	**46.6 -2.1**
	comp=Z,20nm,0.7s							
YULB	**Yu-li**	**20.94**	**248**	*e*P	**P**	**03**	**14**	**54.0 -2.2**
	comp=Z,8.6nm,0.8s							
SSLB	**Suanglung**	**21.01**	**250**	*e*P	**P**	**03**	**14**	**54.3 -2.6**
	comp=Z,17nm,0.8s							
TIA	**Tai'an**	**21.11**	**286**	⇑P	**P**	**03**	**14**	**56.5 -1.4**
TIA				PMZ				
	comp=Z,20nm,0.7s							
TIA				LN				
	comp=Z,790nm,14.0s							
TIA				LE				
	comp=Z,1μm,16.0s							
TIA				LZ				
	comp=Z,1μm,15.0s							
BJI	**Beijing**	**22.24**	**296**	P	**P**	**03**	**15**	**09.9 -0.1**
BJI				S	**S**	**03**	**19**	**14.8 +0.5**
BJI				PMZ				
	comp=Z,15nm,0.7s							
BJI				LN				
	comp=Z,530nm,15.6s							
BJI				LE				
	comp=Z,630nm,13.5s							
BJI				LZ				
	comp=Z,290nm,15.8s							
PETK	**Petropavlovsk-**	**22.89**	**24**	LR	LR	03	26	56.5
	comp=Z,121nm,18.5s,baz=205,slow=44							
HIA	**Hailar**	**23.49**	**321**	*e*P	**P**	**03**	**15**	**23.0 +0.1**
HIA				pmax	pmax			
	comp=Z,15nm,1.2s							
WHN	**Wuhan**	**24.02**	**272**	P	**P**	**03**	**15**	**26.4 -1.7**
WHN				LZ				
	comp=Z,1μm,12.9s							
H11N2	**WAKE ISLAND Hy**	**25.47**	**115**	T	T	03	42	21.5
	baz=306,slow=76,SNR=27							
H11N1	**WAKE ISLAND Hy**	**25.48**	**115**	T	T	03	42	21.5
	baz=306,slow=76,SNR=30							
H11N3	**WAKE ISLAND Hy**	**25.49**	**115**	T	T	03	42	22.7
	baz=306,slow=76,SNR=27							
HHC	**Hu-ho-hao-te**	**25.84**	**297**	*e*P	**P**	**03**	**15**	**44.4 -0.4**
HHC				PP	**PnPn**	**03**	**16**	**26.3 +4.5**
HHC				S	**S**	**03**	**20**	**12.9 -1.1**
HHC				sS	**sS**	**03**	**20**	**18.8 -2.5**
HHC				SS	**SnSn**	**03**	**21**	**18.0 +8.1**
HHC				ScP	**ScP**	**03**	**22**	**49.4 -3.6**
HHC				PMZ				
	comp=Z,19nm,0.7s							
HHC				PMZ				
	comp=Z,380nm,4.7s							
HHC				LN				
	comp=Z,400nm,10.1s							
HHC				LE				
	comp=Z,840nm,10.4s							
HHC				LZ				
	comp=Z,720nm,10.4s							
H11S3	**WAKE ISLAND Hy**	**26.06**	**118**	T	T	03	43	05.5
	baz=311,slow=76,SNR=9.3							
H11S1	**WAKE ISLAND Hy**	**26.06**	**118**	T	T	03	43	07.1
	baz=311,slow=76,SNR=8.4							
H11S2	**WAKE ISLAND Hy**	**26.07**	**118**	T	T	03	43	08.1
	baz=311,slow=76,SNR=9.8							
CLNS	**Chul'man**	**26.75**	**338**	*e*P	**P**	**03**	**15**	**52.9 +0.1**
CLNS				pmax	pmax			
	comp=N,11nm,0.9s							
CLNS				pmax	pmax			
	comp=E,7.0nm,0.9s							
CLNS				pmax	pmax			
	comp=Z,17nm,1.0s							
XAN	**Xi'an**	**27.94**	**282**	P	**P**	**03**	**16**	**02.3 -1.4**
XAN				S	**S**	**03**	**20**	**40.1 -7.0**
XAN				PMZ				
	comp=Z,5.0nm,0.8s							
XAN				PMZ				
	comp=Z,25nm,7.2s							
XAN				LN				
	comp=Z,310nm,15.6s							
XAN				LE				
	comp=Z,77nm,14.4s							
XAN				LZ				
	comp=Z,290nm,13.8s							
SEY	**Seymchan**	**30.62**	**9**	P	**P**	**03**	**16**	**28.1 +1.0**
	comp=Z,5.6nm,0.7s,baz=193,slow=7.3,SNR=20							
SEY	**Seymchan**	**30.62**	**9**	*e*P	**P**	**03**	**16**	**26.1 -1.0**
SONM	**Songino Array**	**30.91**	**309**	P	**P**	**03**	**16**	**31.6 +1.6**
	comp=Z,3.7nm,0.9s,baz=114,slow=8.9,SNR=22							
SONM				LR	LR	03	29	15.9
	comp=Z,278nm,18.2s,baz=100,slow=37							
SONM	**Songino Array**	**30.91**	**309**	P	**P**	**03**	**16**	**31.6 +1.6**
SONM				pmax	pmax			
	comp=Z,4.0nm,0.9s							
SONM				MLR	MLR			
	comp=Z,278nm,18.2s							
GYA	**Guiyang**	**31.67**	**268**	P	**P**	**03**	**16**	**38.7 +1.8**
GYA				PP	**PnPn**	**03**	**17**	**43.2 +2.5**
GYA				S	**S**	**03**	**21**	**47.0 +1.0**
GYA				ScP	**ScP**	**03**	**23**	**11.8 +0.3**
GYA				SS	**SnSn**	**03**	**23**	**37.6 +5.2**
GYA				PMZ				
	comp=Z,20nm,0.8s							
GYA				PMZ				
	comp=Z,120nm,4.9s							
GYA				LN				
	comp=Z,580nm,16.8s							
GYA				LE				
	comp=Z,520nm,17.2s							
GYA				LZ				
	comp=Z,560nm,16.6s							
LZH	**Lanzhou**	**31.84**	**287**	*e*P	**P**	**03**	**16**	**39.1 +0.7**
LZH				PMZ				
	comp=Z,41nm,1.2s							
LZH				PMZ				
	comp=Z,200nm,4.5s							
LZH				LN				
	comp=Z,550nm,13.2s							
LZH				LE				
	comp=Z,1μm,14.0s							
LZH				LZ				
	comp=Z,1μm,14.0s							
QIZ	**Qiongzhong**	**32.31**	**253**	P	**P**	**03**	**16**	**42.6 +0.2**
QIZ				pP	**pP**	**03**	**16**	**45.1 -1.8**
QIZ				S	**S**	**03**	**21**	**57.9 +2.1**
QIZ				PMZ				
	comp=Z,10.0nm,1.5s							
QIZ				LZ				
	comp=Z,300nm,24.4s							
CD2	**Chengdu**	**32.81**	**277**	⇑P	**P**	**03**	**16**	**45.2 -1.5**
CD2				pP	**pP**	**03**	**16**	**48.2 -3.0**
CD2				PP	**PP**	**03**	**17**	**59.4 -1.5**
CD2				PcP	**PcP**	**03**	**19**	**29.8 -1.9**
CD2				S	**S**	**03**	**22**	**03.3 -0.2**
CD2				sS	**sS**	**03**	**22**	**08.6 -2.2**
CD2				PMZ				
	comp=Z,30nm,0.6s							
CD2				PMZ				
	comp=Z,180nm,5.2s							
CD2				LN				
	comp=Z,950nm,13.2s							
CD2				LE				
	comp=Z,1μm,14.7s							
CD2				LZ				
	comp=Z,1μm,14.2s							
ZAK	**Zakamensk**	**33.57**	**313**	*e*P	**P**	**03**	**16**	**53.4 +0.1**
ZAK				pmax	pmax			
	comp=Z,8.0nm,2.3s							
TLY	**Talaya**	**33.74**	**315**	*e*P	**P**	**03**	**16**	**55.4 +0.8**
TLY				pmax	pmax			
	comp=Z,12nm,1.0s							
TLY				MLR	MLR			
	comp=Z,277nm,17.0s							
TLY	**Talaya**	**33.74**	**315**	*e*P	**P**	**03**	**16**	**55.4 +0.8**
	comp=Z,10nm,1.0s							
GTA	**Gaotai**	**34.78**	**293**	*e*P	**P**	**03**	**17**	**04.2 +0.3**
GTA				pP	**pP**	**03**	**17**	**08.9 +0.5**
GTA				sP	**sP**	**03**	**17**	**11.3 +1.1**
GTA				PcP	**PcP**	**03**	**19**	**38.3 +1.1**
GTA				S	**S**	**03**	**22**	**33.4 -0.6**
GTA				sS	**sS**	**03**	**22**	**40.6 -0.8**
GTA				SS	**SnSn**	**03**	**24**	**46.2 -1.3**
GTA				PMZ				
	comp=Z,8.0nm,0.9s							
GTA				PMZ				
	comp=Z,160nm,5.7s							
GTA				LN				
	comp=Z,300nm,12.8s							
GTA				LE				
	comp=Z,460nm,13.3s							
GTA				LZ				
	comp=Z,560nm,13.8s							
SIJI	**Sorong**	**35.29**	**200**	P	**P**	**03**	**17**	**08.2 -0.1**
	comp=Z,4.0nm,0.4s,baz=3.2,slow=8.8,SNR=4.2							
SIJI				LR	LR	03	29	44.3
	comp=Z,103nm,19.1s,baz=105,slow=33							
KMI	**Kunming**	**35.45**	**268**	P	**P**	**03**	**17**	**09.5 -0.5**
KMI				PMZ				
	comp=Z,15nm,0.7s							
UBPT	**Khong Chiam**	**37.85**	**251**	P	**P**	**03**	**17**	**29.9 -0.3**
	comp=Z,18nm,2.6s							
SKNT	**Sakolnakorn**	**38.12**	**255**	P	**P**	**03**	**17**	**31.6 -0.9**
	comp=Z,23nm,0.8s							
TIXI	**Tiksi**	**39.41**	**353**	*i* P	**P**	**03**	**17**	**41.7 -0.9**
TIXI				pmax	pmax			
	comp=Z,13nm,2.5s							
TIXI	**Tiksi**	**39.41**	**353**	*e*P	**P**	**03**	**17**	**42.9 +0.3**
	comp=Z,3.2nm,0.7s							
LOEI	**Loei**	**40.07**	**258**	P	P	03	17	44.8 -4.0
	comp=Z,13nm,1.1s							
PBKT	**Sadao Pong**	**40.79**	**257**	P	**P**	**03**	**17**	**54.0 -0.7**
	comp=Z,20nm,1.0s,comp=Z,1μm							
CMAR	**Chiang Mai Arr**	**41.51**	**261**	P	**P**	**03**	**17**	**59.7 -1.0**
	comp=Z,2.5nm,0.6s,baz=54,slow=8.0,SNR=6.1							
CMAR				LR	LR	03	35	26.5
	comp=Z,102nm,19.2s,baz=123,slow=36							
CMAR	**Chiang Mai Arr**	**41.51**	**261**	*c*eP	**P**	**03**	**18**	**01.2 +0.5**
CMAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KAPI	**Kappang**	**43.51**	**214**	P	**P**	**03**	**18**	**16.2 -0.7**
	comp=Z,17nm,0.8s,baz=346,slow=2.6,SNR=11							
KAPI	**Kappang**	**43.51**	**214**	*e*P	**P**	**03**	**18**	**16.2 -0.7**
	comp=Z,3.6nm,0.9s							
KSM	**Kuching**	**43.53**	**231**	*e*P	**P**	**03**	**18**	**17.1 0.0**
	comp=Z,15nm,0.8s							
WMQ	**Urumqi**	**43.56**	**301**	P	**P**	**03**	**18**	**18.4 +1.2**
WMQ				pP	**pP**	**03**	**18**	**24.1 +2.4**
WMQ				sP	**sP**	**03**	**18**	**25.4 +1.9**
WMQ				PP	**PP**	**03**	**20**	**01.5 +3.1**
WMQ				PcP	**PcP**	**03**	**20**	**05.5 +0.8**
WMQ				S	**S**	**03**	**24**	**46.9 +1.0**
WMQ				sS	**sS**	**03**	**24**	**55.8 +2.4**
WMQ				SS	**SS**	**03**	**27**	**56.4 -4.1**
WMQ				ScS	**ScS**	**03**	**28**	**15.2 -1.3**
WMQ				PMZ				
	comp=Z,27nm,1.3s							
WMQ				PMZ				
	comp=Z,220nm,4.1s							
WMQ				LN				
	comp=Z,370nm,15.0s							
WMQ				LE				
	comp=Z,98nm,8.2s							
WMQ				LZ				
	comp=Z,73nm,21.0s							
ZAA0	**Zalesovo Array**	**45.35**	**315**	*e*P	**P**	**03**	**18**	**31.6 +0.3**
ZAA0				*e*PcP	**PcP**	**03**	**20**	**10.4 -0.2**
ZALV	**Zalesovo Beam**	**45.35**	**315**	P	**P**	**03**	**18**	**31.6 +0.4**
	comp=Z,1.4nm,0.5s,baz=101,slow=7.7,SNR=8.7							
ZALV				PcP	**PcP**	**03**	**20**	**10.6 +0.1**
	comp=Z,5.2nm,0.8s,baz=96,slow=3.7,SNR=6.7							
ZALV				LR	LR	03	37	35.3
	comp=Z,136nm,21.6s,baz=68,slow=36							
ZALV	**Zalesovo Beam**	**45.35**	**315**	P	**P**	**03**	**18**	**31.7 +0.4**
ZALV						03	20	10.6
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZALV				MLR	MLR			
	comp=Z,136nm,21.6s							
NVS	**Novosibirsk**	**46.33**	**317**	*e*P	**P**	**03**	**18**	**39.3 +0.4**
NVS				pmax	pmax			
	comp=Z,30nm,1.0s							
NVS				pmax	pmax			
	comp=E,19nm,0.8s							
MK31	**Makanchi Array**	**47.10**	**306**	*i* P	**P**	**03**	**18**	**45.6 +0.4**
MK31				pmax	pmax			
	comp=Z,7.0nm,0.5s							
MK31	**Makanchi Array**	**47.10**	**306**	*e*P	**P**	**03**	**18**	**45.8 +0.6**
MKAR	**Makanchi Array**	**47.10**	**306**	P	**P**	**03**	**18**	**46.0 +0.8**
	comp=Z,7.1nm,0.5s,baz=90,slow=9.7,SNR=100							
MKAR				PcP	**PcP**	**03**	**20**	**17.0 +0.1**
	comp=Z,1.9nm,0.7s,baz=88,slow=4.9,SNR=2.4							
MKAR				LR	LR	03	40	17.6
	comp=Z,126nm,18.0s,baz=58,slow=38							
MKAR	**Makanchi Array**	**47.10**	**306**	P	**P**	**03**	**18**	**46.0 +0.8**
MKAR						03	20	17.0
MKAR				pmax	pmax			
	comp=Z,7.0nm,0.5s							
MKAR				MLR	MLR			
	comp=Z,126nm,18.0s							
TAPN	**Taplejung**	**47.25**	**278**	*e*P	**P**	**03**	**18**	**46.6 -0.3**
	comp=Z,41nm,0.9s							
KULM	**Kulim**	**47.68**	**244**	*e*P	**P**	**03**	**18**	**49.9 -0.1**
	comp=Z,17nm,0.8s							
ODAN	**Odare**	**47.69**	**278**	*e*P	**P**	**03**	**18**	**49.8 -0.5**
	comp=Z,37nm,0.8s							
MYKOM	**Kota Tinggi**	**47.70**	**238**	*e*P	**P**	**03**	**18**	**50.3 +0.2**
	comp=Z,16nm,0.9s							
RAMN	**Ramite**	**48.32**	**278**	*e*P	**P**	**03**	**18**	**54.7 -0.4**
	comp=Z,118nm,0.8s							
JIRN	**Jiri**	**48.40**	**279**	*e*P	**P**	**03**	**18**	**56.2 +0.3**
	comp=Z,89nm,0.8s							
GUN	**Gumba**	**48.57**	**280**	*e*P	**P**	**03**	**18**	**57.2 0.0**
	comp=Z,87nm,0.9s							
PKI	**Pulchoki**	**49.08**	**280**	*e*P	**P**	**03**	**19**	**00.8 -0.3**
	comp=Z,52nm,1.0s							
KKN	**Kakani**	**49.11**	**280**	*e*P	**P**	**03**	**19**	**01.0 -0.2**
	comp=Z,64nm,0.9s							
KURK	**Kurchatov**	**49.19**	**311**	P	**P**	**03**	**19**	**01.5 +0.3**
	comp=Z,143nm,0.8s,SNR=21							
KURK	**Kurchatov**	**49.19**	**311**	P	**P**	**03**	**19**	**01.1 -0.1**
KURK				pmax	pmax			
	comp=Z,17nm,0.8s							
KURK	**Kurchatov**	**49.19**	**311**	*e*P	**P**	**03**	**19**	**01.0 -0.1**
	comp=Z,35nm,0.7s							
KURBB	**Kurchatov Arra**	**49.25**	**311**	P	**P**	**03**	**19**	**01.9 +0.3**
	comp=Z,20nm,0.8s,baz=86,slow=7.5							
DMN	**Daman**	**49.32**	**280**	*e*P	**P**	**03**	**19**	**02.7 -0.1**
GKN	**Gorkha**	**49.57**	**280**	*e*P	**P**	**03**	**19**	**04.5 -0.1**
	comp=Z,87nm,1.0s							
KDAK	**Kodiak Island**	**49.59**	**40**	*i* P	**P**	**03**	**19**	**05.5 +1.4**
KOLN	**Koldanda**	**50.51**	**281**	*e*P	**P**	**03**	**19**	**11.9 +0.1**
	comp=Z,28nm,0.8s							
PSI	**Prapat**	**50.61**	**243**	P	**P**	**03**	**19**	**12.1 -0.4**
	comp=Z,15nm,0.9s,baz=21,slow=4.7,SNR=13							
PSI	**Prapat**	**50.61**	**243**	P	**P**	**03**	**19**	**12.1 -0.4**
PSI				pmax	pmax			
	comp=Z,15nm,0.9s							
PSI	**Prapat**	**50.61**	**243**	*e*P	**P**	**03**	**19**	**12.1 -0.4**
	comp=Z,17nm,0.9s							
LEM	**Lembang**	**51.62**	**226**	P	**P**	**03**	**19**	**20.5 +0.3**
	comp=Z,136nm,0.8s,baz=45,slow=8.8,SNR=11							
TKM2	**Tokmak 2**	**52.41**	**302**	*e*P	**P**	**03**	**19**	**26.8 +0.9**
TKM2				pmax	pmax			
	comp=Z,4.0nm,0.5s							
TKM2	**Tokmak 2**	**52.41**	**302**	*e*P	**P**	**03**	**19**	**26.8 +0.9**
	comp=Z,4.0nm,0.5s							
ILAR	**Eielson Array**	**52.48**	**31**	P	**P**	**03**	**19**	**25.9 +0.1**
	comp=Z,1.2nm,0.7s,baz=262,slow=5.8,SNR=20							
ILAR	**Eielson Array**	**52.48**	**31**	P	**P**	**03**	**19**	**25.9 +0.1**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
GSI	**Gunungsitoli**	**52.60**	**243**	*e*P	**P**	**03**	**19**	**27.2 -0.1**
	comp=Z,58nm,0.6s							
KSH	**Kashi**	**52.95**	**297**	P	P	03	19	34.0 +4.2
KSH				sP	sP	03	19	40.8 +4.6
KSH				PcP	**PcP**	**03**	**20**	**40.9 +2.3**
KSH				PP	PP	03	21	38.7 +9.4
KSH				PcS	**PcS**	**03**	**24**	**40.4 +3.0**
KSH				S	**S**	**03**	**27**	**00.8 +1.9**
KSH				ScS	**ScS**	**03**	**29**	**17.7 -1.6**
KSH				SS	**SS**	**03**	**30**	**41.0 +3.4**
KSH				PMZ				
	comp=Z,10.0nm,0.8s							
KSH				PMZ				
	comp=Z,130nm,3.8s							
KSH				LN				
	comp=Z,120nm,6.3s							
KSH				LE				
	comp=Z,100nm,4.8s							
KSH				LZ				
	comp=Z,49nm,7.6s							
WRAB	**Tennant Creek**	**53.19**	**190**	*i* P	**P**	**03**	**19**	**29.3 -2.1**
WRAB				pmax	pmax			
	comp=Z,23nm,0.8s							
WRAB	**Tennant Creek**	**53.19**	**190**	*e*P	**P**	**03**	**19**	**29.9 -1.5**
	comp=Z,5.3nm,0.5s							
WRA	**Warramunga Arr**	**53.20**	**190**	P	**P**	**03**	**19**	**30.2 -1.3**
	comp=Z,6.2nm,0.6s,baz=8.1,slow=7.7,SNR=16							
WRA	**Warramunga Arr**	**53.20**	**190**	P	**P**	**03**	**19**	**30.2 -1.3**
WRA				pmax	pmax			
	comp=Z,6.0nm,0.6s							
AAK	**Ala-Archa**	**53.27**	**301**	*i* P	**P**	**03**	**19**	**31.0 -1.2**
AAK				pmax	pmax			
	comp=Z,25nm,2.5s							
BMRM	**Bremner River**	**53.60**	**35**	*e*P	**P**	**03**	**19**	**35.5 +1.3**
	comp=Z,5.6nm,0.9s							
CHLP	**Challavanipeta**	**53.95**	**270**	*e*P	**P**	**03**	**19**	**36.2 -1.0**
CHLP				IAmb	IAmb	03	19	38.3
	comp=Z,14nm,0.9s							
BVA0	**Borovoye Array**	**54.00**	**315**	*i* P	**P**	**03**	**19**	**37.2 +0.1**
BVA0				pmax	pmax			
	comp=Z,14nm,1.2s							
BRVK	**Borovoye**	**54.05**	**315**	*d* iP	**P**	**03**	**19**	**37.7 +0.2**
BRVK				pmax	pmax			
	comp=Z,35nm,2.5s							
BRVK	**Borovoye**	**54.05**	**315**	*e*P	**P**	**03**	**19**	**37.9 +0.4**
	comp=Z,11nm,1.0s							
SFK	**Sufi-Kurgan**	**54.66**	**298**	P	**P**	**03**	**19**	**43.0 +0.6**
SFK				pmax	pmax			
	comp=Z,11nm,0.9s							
MNAS	**Manas**	**54.73**	**302**	P	**P**	**03**	**19**	**43.3 +0.5**
MNAS				pmax	pmax			
	comp=Z,10.0nm,1.4s							
DAWY	**Dawson**	**55.76**	**31**	*e*P	**P**	**03**	**19**	**50.3 +0.5**
KK31	**Karatay Array**	**55.99**	**303**	*i* P	**P**	**03**	**19**	**51.6 -0.1**
KK31				pmax	pmax			
	comp=Z,6.0nm,0.6s							
KKAR	**Karatay Array**	**55.99**	**303**	*e*P	**P**	**03**	**19**	**52.5 +0.8**
KKAR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KKAR	**Karatay Array**	**55.99**	**303**	*e*P	**P**	**03**	**19**	**52.5 +0.8**
	comp=Z,10nm,0.8s							
PVM	**Polavaram**	**56.58**	**270**	*e*P	**P**	**03**	**19**	**56.4 +0.2**
ASAR	**Alice Springs**	**56.92**	**189**	P	**P**	**03**	**19**	**57.4 -1.1**
	comp=Z,1.7nm,0.7s,baz=358,slow=6.4,SNR=7.0							
ASAR				PcP	**PcP**	**03**	**20**	**54.7 +1.0**
	comp=Z,1.8nm,0.9s,baz=19,slow=5.9,SNR=3.1							
ASAR	**Alice Springs**	**56.92**	**189**	P	**P**	**03**	**19**	**57.4 -1.1**
ASAR						03	20	54.7
ASAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
INK	**Inuvik**	**57.61**	**26**	P	**P**	**03**	**20**	**03.8 +1.0**
	comp=Z,2.7nm,0.3s,baz=257,slow=6.5,SNR=4.9							
INK	**Inuvik**	**57.61**	**26**	P	**P**	**03**	**20**	**03.8 +1.0**
INK				pmax	pmax			
	comp=Z,3.0nm,0.3s							
RPR	**Rampur**	**57.79**	**273**	*e*P	**P**	**03**	**20**	**04.3 -0.5**
RPR				IAmb	IAmb	03	20	05.8
	comp=Z,34nm,0.9s							
SRSP	**Sriramsagar**	**58.55**	**273**	*e*P	**P**	**03**	**20**	**09.5 -0.6**
SRSP				IAmb	IAmb	03	20	11.0
	comp=Z,78nm,1.3s							
ADKI	**Addanki**	**58.65**	**269**	*e*P	**P**	**03**	**20**	**10.0 -0.8**
ADKI				IAmb	IAmb	03	20	13.3
	comp=Z,14nm,1.0s							
NJS	**Nagarjunasagar**	**58.86**	**270**	*e*P	**P**	**03**	**20**	**12.3 0.0**
HYB	**Hyderabad**	**59.08**	**272**	*i* P	**P**	**03**	**20**	**15.0 +1.1**
HYBB	**Hyderabad (bro**	**59.08**	**272**	*e*P	**P**	**03**	**20**	**13.9 0.0**
HYBB				IAmb	IAmb	03	20	14.6
	comp=Z,27nm,0.9s							
SRLM	**Srisailam**	**59.43**	**270**	*e*P	**P**	**03**	**20**	**15.5 -0.8**
SRLM				IAmb	IAmb	03	20	17.2
	comp=Z,16nm,0.9s							
RCLA	**Racherla**	**59.69**	**269**	*e*P	**P**	**03**	**20**	**17.9 -0.1**
RCLA				IAmb	IAmb	03	20	18.6
	comp=Z,9.3nm,0.8s							
SKHT	**Srikalahasti**	**59.90**	**267**	*e*P	**P**	**03**	**20**	**19.3 -0.2**
SKHT				IAmb	IAmb	03	20	21.2
	comp=Z,36nm,0.9s							
ARU	**Arti**	**60.01**	**320**	*d* iP	**P**	**03**	**20**	**19.6 0.0**
ARU				S	**S**	**03**	**28**	**35.1 +3.6**
ARU				SS	**SS**	**03**	**32**	**24.3 -3.3**
ARU				pmax	pmax			
	comp=Z,25nm,1.2s							
ARU	**Arti**	**60.01**	**320**	*e*P	**P**	**03**	**20**	**20.0 +0.4**
	comp=Z,14nm,0.7s							
KLRI	**Killari**	**60.42**	**273**	*e*P	**P**	**03**	**20**	**22.4 -0.6**
KLRI				IAmb	IAmb	03	20	23.1
	comp=Z,31nm,0.8s							
AB31	**Akbulak array**	**61.26**	**312**	P	**P**	**03**	**20**	**28.1 -0.2**
AB31				pmax	pmax			
	comp=Z,9.0nm,0.6s							
ABKAR	**Akbulak array**	**61.26**	**312**	*e*P	**P**	**03**	**20**	**28.7 +0.4**
	comp=Z,7.1nm,0.6s							
AKTO	**Aktyubinsk**	**62.07**	**314**	P	**P**	**03**	**20**	**33.4 -0.4**
AKTO				pmax	pmax			
	comp=Z,10.0nm,0.8s							
COCO	**West Island**	**62.56**	**232**	*i* P	**P**	**03**	**20**	**37.7 +0.3**
STKA	**Stephens Creek**	**

OBN						pmax	pmax			
	comp=Z,33nm,2.5s									
LPSR	**Galich'ya Gora**	**71.99**	**321**	*e*P		**P**		**03**	**21**	**36.6 -0.1**
LPSR					pmax	pmax				
	comp=Z,10.0nm,0.8s									
LPSR					pmax	pmax				
	comp=N,1.0nm,0.4s									
LPSR					pmax	pmax				
	comp=E,4.0nm,0.5s									
VSR	**Storozhevoye**	**72.58**	**320**	*e*P		**P**		**03**	**21**	**40.0 -0.3**
VSR					pmax	pmax				
	comp=E,10.0nm,0.7s									
VSR					pmax	pmax				
	comp=Z,10.0nm,0.7s									
VSR					pmax	pmax				
	comp=N,10.0nm,1.0s									
VORD	**Divnogorie**	**72.64**	**320**	*e*P		**P**		**03**	**21**	**39.1 -1.5**
VORD					pmax	pmax				
	comp=Z,6.0nm,0.9s									
VORD					pmax	pmax				
	comp=N,30nm,0.6s									
VORD					pmax	pmax				
	comp=E,20nm,0.5s									
FIA1	**FINESS Array S**	**72.81**	**333**	*e*P		**P**		**03**	**21**	**41.7 +0.3**
FINES	**FINESS Array B**	**72.81**	**333**	P		**P**		**03**	**21**	**42.1 +0.7**
	comp=E,9.1nm,0.7s,baz=73,slow=6.6,SNR=41									
FINES					LR	LR		03	57	43.1
	comp=E,77nm,18.6s,baz=50,slow=39									
FINES	**FINESS Array B**	**72.81**	**333**	P		**P**		**03**	**21**	**42.2 +0.7**
FINES					pmax	pmax				
	comp=Z,9.0nm,0.7s									
FINES					MLR	MLR				
	comp=Z,77nm,18.6s									
IGZV	**Ghazvin**	**72.95**	**303**	*e*P		**P**		**03**	**21**	**44.3 +1.2**
IZEF	**Zefreh**	**73.09**	**298**	*e*P		**P**		**03**	**21**	**44.1 +0.1**
IKLH	**Kolahrood**	**73.44**	**299**	*e*P		**P**		**03**	**21**	**46.0 0.0**
ISRB	**Sarab**	**74.04**	**305**	*e*P		**P**		**03**	**21**	**50.3 +0.8**
ZEI	**Tsey**	**74.08**	**311**	*e*P		**P**		**03**	**21**	**48.6 -1.0**
ZEI					pmax	pmax				
	comp=Z,6.0nm,0.5s									
KBZ	**Khabaz**	**74.23**	**312**	P		**P**		**03**	**21**	**51.4 +1.2**
	comp=Z,12nm,0.8s,baz=83,slow=3.1,SNR=26									
KBZ					LR	LR		04	00	35.3
	comp=Z,91nm,18.5s,baz=66,slow=41									
KIV	**Kislovodsk**	**74.25**	**312**	*e*P		**P**		**03**	**21**	**49.6 -0.8**
KIV					pmax	pmax				
	comp=Z,16nm,0.9s									
KIV	**Kislovodsk**	**74.25**	**312**	*e*P		**P**		**03**	**21**	**51.4 +0.9**
	comp=Z,13nm,0.7s									
VSU	**Vasula**	**74.40**	**331**	*d i*P		**P**		**03**	**21**	**51.2 +0.4**
VSU					pmax	pmax				
	comp=Z,56nm,1.2s									
GNI	**Garni**	**74.86**	**308**	*i* P		**P**		**03**	**21**	**54.8 +0.7**
GNI					pmax	pmax				
	comp=Z,10.0nm,1.2s									
IMRD	**Marand**	**74.94**	**306**	*e*P		**P**		**03**	**21**	**55.0 +0.3**
SOC	**Sochi**	**76.28**	**313**	*e*P		**P**		**03**	**22**	**01.4 -0.5**
SOC					pmax	pmax				
	comp=Z,13nm,0.9s									
FFC	**Flin Flon**	**76.64**	**33**	*e*P		**P**		**03**	**22**	**04.4 +0.6**
FFC					pmax	pmax				
	comp=Z,3.0nm,0.8s									
FFC	**Flin Flon**	**76.64**	**33**	*e*P		**P**		**03**	**22**	**04.3 +0.6**
	comp=Z,3.5nm,0.8s									
EGMT	**Eagleton**	**76.73**	**41**	*e*P		**P**		**03**	**22**	**04.5 -0.1**
	comp=Z,32nm,1.6s									
A19A	**Klindworth Far**	**76.77**	**40**	P		**P**		**03**	**22**	**05.3 +0.6**
	baz=77									
B19A	**Brinkman Farms**	**76.93**	**40**	P		**P**		**03**	**22**	**06.4 +0.8**
	baz=77									
ANN	**Anapa**	**76.99**	**315**	*e*P		P		03	22	01.3 -4.6
ANN				*e**PP		pP		03	22	06.7 -4.0
ANN				*e*				03	22	14.4
ANN				*e*				03	24	56.6
ANN				*e*S		**S**		**03**	**31**	**48.5 -5.3**
ANN					pmax	pmax				
	comp=Z,85nm,1.5s									
RAR	**Rarotonga**	**77.07**	**126**	LR		LR		03	49	27.2
	comp=Z,73nm,19.6s,baz=308,slow=31									
FCC	**Fort Churchill**	**77.23**	**26**	*e*P		**P**		**03**	**22**	**06.7 -0.3**
FCC					pmax	pmax				
	comp=Z,7.0nm,1.1s									
FCC	**Fort Churchill**	**77.23**	**26**	*e*P		**P**		**03**	**22**	**06.7 -0.3**
	comp=Z,6.5nm,1.1s									
A20A	**Cobblestone Ra**	**77.24**	**40**	P		**P**		**03**	**22**	**07.9 +0.5**
	baz=77									
B20A	**Solberg Farm,**	**77.44**	**40**	P		**P**		**03**	**22**	**09.2 +0.7**
	baz=77									
C20A	**Veseth Ranch,**	**77.88**	**41**	P		**P**		**03**	**22**	**11.8 +0.8**
	baz=78									
B21A	**Ellsworth Farm**	**77.99**	**40**	P		**P**		**03**	**22**	**12.4 +0.9**
	baz=78									
AKASG	**Malin Array Be**	**78.05**	**323**	P		**P**		**03**	**22**	**11.8 +0.1**
	comp=Z,2.9nm,0.5s,baz=45,slow=5.7,SNR=23									
AKASG					LR	LR		04	02	10.2
	comp=Z,129nm,18.0s,baz=60,slow=40									
AK01	**Malin Array Si**	**78.06**	**323**	*e*P		**P**		**03**	**22**	**12.0 +0.2**
KIEV	**Kiev**	**78.06**	**323**	*d i*P		**P**		**03**	**22**	**11.6 -0.2**
A22A	**Carney Farms,**	**78.24**	**39**	P		**P**		**03**	**22**	**13.5 +0.5**
	baz=78									
NB2	**NORSAR Subarra**	**78.26**	**338**	P		**P**		**03**	**22**	**12.7 -0.1**
	comp=Z,9.3nm,0.9s,baz=39,slow=5.9									
NOA	**NORSAR Array B**	**78.26**	**338**	P		**P**		**03**	**22**	**13.4 +0.6**
	comp=Z,4.7nm,0.8s,baz=39,slow=5.6,SNR=18									
NOA					LR	LR		04	01	59.6
	comp=Z,57nm,19.3s,baz=65,slow=40									
NOA	**NORSAR Array B**	**78.26**	**338**	P		**P**		**03**	**22**	**13.4 +0.6**
NOA					pmax	pmax				
	comp=Z,5.0nm,0.8s									
NOA					MLR	MLR				
	comp=Z,57nm,19.3s									
C21A	**Desert Coulee**	**78.31**	**40**	P		**P**		**03**	**22**	**14.2 +0.8**
	baz=78									
B23A	**Brockton**	**79.04**	**39**	P		**P**		**03**	**22**	**17.9 +0.5**
	baz=79									
D22A	**Cohagen**	**79.21**	**40**	P		**P**		**03**	**22**	**18.8 +0.5**
	baz=79									
D23A	**Lindsay**	**79.72**	**40**	P		**P**		**03**	**22**	**22.4 +1.3**
	baz=80									
PDAR	**Pinedale Array**	**79.88**	**45**	P		**P**		**03**	**22**	**23.0 +0.7**
	comp=Z,1.0nm,0.8s,baz=318,slow=2.0,SNR=5.8									
I20A	**Worland**	**80.03**	**44**	P		**P**		**03**	**22**	**23.0 +0.1**
	baz=80									
E23A	**Ismay**	**80.08**	**40**	P		**P**		**03**	**22**	**23.7 +0.7**
	baz=80									
J20A	**Shoshoni**	**80.41**	**44**	P		**P**		**03**	**22**	**26.0 +1.0**
	baz=80									
I22A	**9 Mile Ranch,**	**81.01**	**43**	P		**P**		**03**	**22**	**28.0 -0.2**
	baz=81									
J22A	**Midwest**	**81.31**	**43**	P		**P**		**03**	**22**	**29.7 -0.1**
	baz=81									
SRU	**San Rafael Swe**	**81.41**	**49**	*e*P		**P**		**03**	**22**	**31.5 +1.0**
SRU					pmax	pmax				
	comp=Z,6.0nm,0.7s									
SRU	**San Rafael Swe**	**81.41**	**49**	*e*P		**P**		**03**	**22**	**31.5 +1.0**
	comp=Z,5.8nm,0.7s									
A29A	**Manning Farm,**	**81.69**	**36**	P		**P**		**03**	**22**	**32.3 +0.7**
	baz=82									
D27A	**Center**	**81.71**	**38**	P		**P**		**03**	**22**	**32.4 +0.7**
	baz=82									
K22A	**Casper**	**81.74**	**44**	P		**P**		**03**	**22**	**32.8 +0.6**
	baz=82									
PMOR	**Pomariorio Ree**	**81.75**	**114**	*e*T		T		04	51	10.0
	comp=Z,2.1nm,0.2s									
N20A	**Spence Gulch,**	**81.80**	**46**	P		**P**		**03**	**22**	**33.4 +0.8**
	baz=82									
KWP	**Kalwaria Pacla**	**81.94**	**325**	*e*P		**P**		**03**	**22**	**33.9 +1.1**
KWP	**Kalwaria Pacla**	**81.94**	**325**	*e*P		**P**		**03**	**22**	**34.0 +1.1**
TESR	**Tescani**	**82.02**	**321**	⇓ *i*P		**P**		**03**	**22**	**33.7 +0.4**
PPT	**Papeete**	**82.03**	**117**	LR		LR		03	54	51.9
	comp=Z,77nm,20.1s,baz=341,slow=33									
BUR08	**Bucovina Ar. S**	**82.03**	**323**	*e*P		**P**		**03**	**22**	**34.3 +0.8**
BURAR	**Bucovina Array**	**82.04**	**323**	⇓ *i*P		**P**		**03**	**22**	**34.0 +0.4**
PPT2	**Papeete2**	**82.05**	**117**	*e*LR		LR		03	47	47.1
	comp=Z,207nm,24.8s									
CFR	**Carcaliu**	**82.07**	**319**	⇓ *i*P		**P**		**03**	**22**	**34.0 +0.4**
BR131	**Keskin Array S**	**82.21**	**313**	*e*P		**P**		**03**	**22**	**34.9 +0.2**
	comp=Z,1.2nm,0.5s									
BRTR	**Keskin Array B**	**82.21**	**313**	P		**P**		**03**	**22**	**35.3 +0.6**
	comp=Z,3.2nm,0.7s,baz=120,slow=4.3,SNR=27									
BRTR					LR	LR		04	03	13.3
	comp=Z,41nm,18.7s,baz=20,slow=39									
BRTR	**Keskin Array B**	**82.21**	**313**	*ce*P		**P**		**03**	**22**	**35.2 +0.6**
BRTR					pmax	pmax				
	comp=Z,4.0nm,0.7s									
TIRR	**Tirgusor**	**82.38**	**319**	⇑ *i*P		**P**		**03**	**22**	**35.6 +0.4**
VRI	**Vrincioaia**	**82.39**	**321**	⇑ *i*P		**P**		**03**	**22**	**37.0 +1.7**
TLB	**Topalu**	**82.50**	**319**	⇓ *i*P		**P**		**03**	**22**	**36.6 +0.8**
KOLS	**Kolonicke sedl**	**82.62**	**325**	*e*P		**P**		**03**	**22**	**37.0 +0.6**
KOLS					pmax	pmax				
	comp=Z,4.0nm,0.8s									
KOLS	**Kolonicke sedl**	**82.62**	**325**	*e*P		**P**		**03**	**22**	**37.0 +0.6**
STHS	**Stebnicka Huta**	**82.78**	**326**	*e*P		**P**		**03**	**22**	**38.6 +1.3**
STHS					pmax	pmax				
	comp=Z,4.0nm,0.9s									
STHS	**Stebnicka Huta**	**82.78**	**326**	*e*P		**P**		**03**	**22**	**38.6 +1.3**
OJC	**Ojcow**	**82.90**	**327**	*e*P		**P**		**03**	**22**	**38.2 +0.4**
OJC	**Ojcow**	**82.90**	**327**	*e*P		**P**		**03**	**22**	**38.9 +1.1**
OJC					pmax	pmax				
	comp=Z,122nm,2.6s									
OJC	**Ojcow**	**82.90**	**327**	*e*P		**P**		**03**	**22**	**38.9 +1.1**
	comp=Z,122nm,2.6s									
MSAB	**Monastry St. A**	**82.94**	**319**	⇓ *i*P		**P**		**03**	**22**	**39.2 +1.1**
RAYN	**Ar Rayn**	**83.04**	**293**	*e*P		**P**		**03**	**22**	**39.3 +0.2**
	comp=Z,3.7nm,0.9s									
DOPR	**Dopca**	**83.04**	**321**	⇑ *i*P		**P**		**03**	**22**	**40.2 +1.5**
TRPA	**Tarpa**	**83.04**	**324**	⇓ *i*P		**P**		**03**	**22**	**39.6 +1.0**
MLR	**Muntele Rosu**	**83.06**	**321**	⇓ *i*P		**P**		**03**	**22**	**39.3 +0.4**
N23A	**Red Feather La**	**83.16**	**45**	P		**P**		**03**	**22**	**39.9 +0.2**
	baz=83									
NIE	**Niedzica**	**83.22**	**326**	*e*P		**P**		**03**	**22**	**40.5 +1.0**
NIE	**Niedzica**	**83.22**	**326**	*e*P		**P**		**03**	**22**	**40.6 +1.0**
O22A	**Kremmling**	**83.25**	**46**	P		**P**		**03**	**22**	**40.8 +0.5**
	baz=83									
VOIR		**83.57**	**321**	⇓ *i*P		**P**		**03**	**22**	**42.1 +0.6**
O23A	**Lake Granby, G**	**83.60**	**46**	P		**P**		**03**	**22**	**42.4 +0.4**
	baz=83									
KECS	**Kecovo**	**83.79**	**325**	*e*P		**P**		**03**	**22**	**43.3 +0.8**
KECS					pmax	pmax				
	comp=Z,3.0nm,0.7s									
KECS	**Kecovo**	**83.79**	**325**	*e*P		**P**		**03**	**22**	**43.3 +0.8**
OKC	**Ostrava-Krasne**	**83.92**	**327**	*e*P		**P**		**03**	**22**	**43.9 +0.8**
OKC				*e*pP		pP		03	22	55.9 +8.0
OKC					AMS	AMS		04	04	40.0
	comp=Z,200nm,14.4s									
OKC	**Ostrava-Krasne**	**83.92**	**327**	*e*P		**P**		**03**	**22**	**43.9 +0.8**
OKC				*e*				03	22	55.9
OKC					MLR	MLR				
	comp=Z,200nm,14.4s									
KSP	**Ksiaz**	**84.01**	**329**	*e*P		**P**		**03**	**22**	**44.2 +0.7**
KSP	**Ksiaz**	**84.01**	**329**	*e*P		**P**		**03**	**22**	**44.3 +0.7**
ISCO	**Idaho Springs**	**84.04**	**46**	P		**P**		**03**	**22**	**44.9 +0.6**
	baz=84									
BSEG	**Bad Segeberg**	**84.07**	**334**	*e*P		**P**		**03**	**22**	**44.3 +0.6**
	comp=Z,6.0nm,0.8s									
P23A	**Jefferson**	**84.16**	**46**	P		**P**		**03**	**22**	**45.8 +0.8**
	baz=84									
LOT	**Lotru**	**84.23**	**322**	⇑ *i*P		**P**		**03**	**22**	**45.7 +0.8**
DPC	**Dobruska-Polom**	**84.36**	**329**	*e*P		**P**		**03**	**22**	**46.5 +1.1**
DPC				*e*pP		pP		03	22	58.0 +7.8
DPC				*e*sP		sP		03	23	01.9 +10
DPC	**Dobruska-Polom**	**84.36**	**329**	*e*P		**P**		**03**	**22**	**46.5 +1.1**
DPC				*e*				03	22	58.0
DPC				*e*				03	23	01.9
UPC	**Upice**	**84.38**	**329**	*e*P		**P**		**03**	**22**	**46.1 +0.7**
UPC				*e*pP		pP		03	22	58.4 +8.1
UPC	**Upice**	**84.38**	**329**	*e*P		**P**		**03**	**22**	**46.1 +0.7**
UPC				*e*				03	22	58.4
PSZ	**Piszkesteto**	**84.47**	**325**	*e*P		**P**		**03**	**22**	**46.7 +0.6**
PSZ					pmax	pmax				
	comp=Z,22nm,1.0s									
PSZ	**Piszkesteto**	**84.47**	**325**	⇓ *i*P		**P**		**03**	**22**	**46.7 +0.6**
PSZ	**Piszkesteto**	**84.47**	**325**	*e*P		**P**		**03**	**22**	**46.6 +0.6**
	comp=Z,22nm,1.0s									
PSZ	**Piszkesteto**	**84.47**	**325**	⇑ *e*SKKPbc		**P**		**03**	**22**	**47.1 +1.1**
S22A	**4UR Ranch, Cre**	**84.55**	**48**	P		**P**		**03**	**22**	**47.8 +0.9**
	baz=84									
GZR	**Gura Zlata**	**84.78**	**322**	⇓ *i*P		**P**		**03**	**22**	**48.0 +0.3**
R23A	**Moffat**	**84.90**	**47**	P		**P**		**03**	**22**	**49.9 +1.2**
	baz=85									
PVCC	**Panska Ves**	**84.98**	**330**	*e*P		**P**		**03**	**22**	**49.5 +1.0**
PVCC				*e*pP		pP		03	23	01.4 +8.1
PVCC				*e*sP		sP		03	23	04.3 +9.3
PVCC	**Panska Ves**	**84.98**	**330**	*e*P		**P**		**03**	**22**	**49.5 +1.0**
PVCC				*e*				03	23	01.4
PVCC				*e*				03	23	04.3
BRG	**Berggiesshubel**	**84.99**	**330**	*e*PKP		**P**		**03**	**22**	**48.5 +0.1**
	comp=Z,8.1nm,0.9s									
BRG	**Berggiesshubel**	**84.99**	**330**	*e*P		**P**		**03**	**22**	**48.6 +0.1**
	comp=Z,8.0nm,0.9s									
BRG	**Berggiesshubel**	**84.99**	**330**	*e*P		**P**		**03**	**22**	**48.5 +0.1**
BRG					pmax	pmax				
	comp=Z,8.0nm,0.9s									
VRAC	**Vranov**	**85.00**	**328**	⇓ *i*P		**P**		**03**	**22**	**49.4 +0.8**
CLL	**Collm**	**85.05**	**331**	*e*P		**P**		**03**	**22**	**48.9 +0.1**
	comp=Z,14nm,0.9s									
CLL	**Collm**	**85.05**	**331**	⇓ *i*P		**P**		**03**	**22**	**48.7 -0.1**
	comp=Z,14nm,0.9s									
CLL				*e*pP		pP		03	23	01.0 +7.4
CLL	**Collm**	**85.05**	**331**	⇓ *i*P		**P**		**03**	**22**	**48.7 -0.1**
CLL				*e*				03	23	01.0
CLL					pmax	pmax				
	comp=Z,14nm,0.9s									
NRDL	**Niedersach Rie**	**85.28**	**333**	*e*P		**P**		**03**	**22**	**49.7 -0.1**
	comp=Z,30nm,2.1s									
GOPC	**GO Pecny, Ondr**	**85.35**	**329**	*e*P		**P**		**03**	**22**	**51.2 +0.9**
GOPC					AMS	AMS		04	06	20.0
	comp=Z,200nm,14.7s									
SDCO	**Great Sand Dun**	**85.38**	**48**	P		**P**		**03**	**22**	**52.0 +0.9**
	baz=85									
SDCO	**Great Sand Dun**	**85.38**	**48**	*e*P		**P**		**03**	**22**	**51.9 +0.9**
	comp=Z,8.1nm,1.5s									
PRU	**Pruhonice**	**85.40**	**329**	*e*P		**P**		**03**	**22**	**51.0 +0.4**
PRU				*e*PCP		**pP**		**03**	**22**	**54.6 -0.8**
PRU					AMS	AMS		04	05	40.0
	comp=Z,100nm,14.6s									
PRU	**Pruhonice**	**85.40**	**329**	*e*P		**P**		**03**	**22**	**51.0 +0.4**
PRU					MLR	MLR				
	comp=Z,100nm,14.6s									
TREC	**Trest**	**85.50**	**328**	*e*P		**P**		**03**	**22**	**51.9 +0.8**
TREC				*e*pP		pP		03	23	03.8 +7.8
TREC					AMS	AMS		04	06	40.0
	comp=Z,200nm,13.5s									
TREC	**Trest**	**85.50**	**328**	*e*P		**P**		**03**	**22**	**51.9 +0.8**
TREC				*e*				03	23	03.8
TREC					MLR	MLR				
	comp=Z,200nm,13.5s									
TBI	**Tubuai**	**85.69**	**121**	*e*LR		LR		03	49	29.4
	comp=Z,179nm,24.2s									
NKC	**Novy Kostel**	**86.10**	**330**	*e*P		**P**		**03**	**22**	**54.4 +0.3**
NKC					AMS	AMS		04	06	40.0
	comp=Z,200nm,13.1s									
NKC	**Novy Kostel**	**86.10**	**330**	*e*P		**P**		**03**	**22**	**54.4 +0.3**
NKC					MLR	MLR				
	comp=Z,200nm,13.1s									
R26A	**Arlington**	**86.29**	**46**	P		**P**		**03**	**22**	**55.5 +0.1**
	baz=86									
IBBN	**Ibbenburen**	**86.31**	**334**	*e*P		**P**		**03**	**22**	**55.3 +0.3**
	comp=Z,13nm,0.8s									
CONA	**Conrad Observa**	**86.35**	**327**	⇑ *i*PcP		**P**		**03**	**22**	**56.5 +1.1**
	comp=Z,7.1nm,1.2s									
KHC	**Kasperske Hory**	**86.46**	**329**	*e*P		**P**		**03**	**22**	**56.4 +0.5**
KHC					AMS	AMS		04	07	10.0
	comp=Z,200nm,14.9s									
KHC	**Kasperske Hory**	**86.46**	**329**	*e*P		**P**		**03**	**22**	**56.4 +0.5**
KHC					MLR	MLR				
	comp=Z,200nm,14.9s									
ANMO	**Albuquerque**	**86.51**	**50**	*e*P		**P**		**03**	**22**	**55.5 -1.1**
ANMO					pmax	pmax				
	comp=Z,4.0nm,1.0s									
ROTZ	**Rotzenmuhle**	**86.56**	**330**	*e*P		**P**		**03**	**22**	**57.1 +0.8**
	comp=Z,21nm,1.7s									
GERES	**GERESS Array B**	**86.62**	**329**	P		**P**		**03**	**22**	**57.2 +0.5**
	comp=Z,0.4nm,0.6s,baz=32,slow=6.3,SNR=5.7									
GERES					LR	LR		04	05	35.3
	comp=Z,89nm,18.5s,baz=16,slow=38									
MMB	**Musomiste**	**86.85**	**319**	⇓ *i*P		**P**		**03**	**22**	**57.9 -0.1**
T26A	**Comanche Natio**	**86.92**	**47**	P		**P**		**03**	**22**	**58.3 -0.3**
	baz=87									
GRF	**Grafenberg Arr**	**87.02**	**331**	*e*P		**P**		**03**	**22**	**59.2 +0.6**
	comp=Z,16nm,1.5s									
BUG	**Bochum--Univer**	**87.18**	**334**	*e*P		**P**		**03**	**22**	**59.3 0.0**
SOKA	**Soboth**	**87.65**	**327**	⇑ *i*PcP		**P**		**03**	**23**	**01.9 +0.1**
	comp=Z,6.6nm,1.5s									
TNS	**Taunus Mts**	**87.71**	**332**	*e*P		**P**		**03**	**23**	**02.0 0.0**
	comp=Z,10.0nm,1.4s									
WLF	**Walferdange**	**89.04**	**333**	*e*P		**P**		**03**	**23**	**08.3 +0.1**
	comp=Z,36nm,1.7s									
TXAR	**Lajitas Array**	**91.87**	**53**	P		**P**		**03**	**23**	**22.8 +0.9**
	comp=Z,1.3nm,0.8s,baz=304,slow=3.1,SNR=15									
TXAR	**Lajitas Array**	**91.87**	**53**	P		**P**		**03**	**23**	**22.8 +0.9**
TXAR					pmax	pmax				
	comp=Z,1.0nm,0.8s									
LOR	**Lormes**	**91.88**	**333**	*e*P		**P**		**03**	**23**	**21.0 -0.5**
LOR	**Lormes**	**91.88**	**333**	*e*P		**P**		**03**	**23**	**21.0 -0.5**
LOR	**Lormes**	**91.88**	**333**	*e*P		**P**		**03**	**23**	**21.0 -0.5**
LPG	**La Plagne**	**92.19**	**331**	*e*P		**P**		**03**	**23**	**22.9 -0.4**
	comp=Z,12nm,0.8s									
LPG	**La Plagne**	**92.19**	**331**	*e*P		**P**		**03**	**23**	**22.9 -0.4**
LPG					pmax	pmax				
	comp=Z,12nm,0.8s									
LPG	**La Plagne**	**92.19**	**331**	*e*P		**P**		**03**	**23**	**22.9 -0.4**
	comp=Z,12nm,0.8s									
SMF	**Signal de Mont**	**92.41**	**333**	*e*P		**P**		**03**	**23**	**23.2 -0.7**
SMF	**Signal de Mont**	**92.41**	**333**	*e*P		**P**		**03**	**23**	**23.2 -0.7**
SMF	**Signal de Mont**	**92.41**	**333**	*e*P		**P**		**03**	**23**	**23.2 -0.7**
AVF	**Avril sur Loir**	**92.47**	**333**	*e*P		**P**		**03**	**23**	**24.0 -0.2**
	comp=Z,10nm,0.8s									
AVF	**Avril sur Loir**	**92.47**	**333**	*e*P		**P**		**03**	**23**	**24.0 -0.2**
AVF					pmax	pmax				
	comp=Z,10.0nm,0.8s									
AVF	**Avril sur Loir**	**92.47**	**333**	*e*P		**P**		**03**	**23**	**24.0 -0.2**
	comp=Z,10nm,0.8s									
MBDF	**Montbardon**	**92.81**	**330**	*e*P		**P**		**03**	**23**	**25.7 -0.3**
MBDF	**Montbardon**	**92.81**	**330**	*e*P		**P**		**03**	**23**	**25.7 -0.3**
MBDF	**Montbardon**	**92.81**	**330**	*e*P		**P**		**03**	**23**	**25.7 -0.3**
TCF	**Toulx Ste Croi**	**93.32**	**334**	*e*P		**P**		**03**	**23**	**27.9 -0.3**
	comp=Z,5.8nm,0.7s									
TCF	**Toulx Ste Croi**	**93.32**	**334**	*e*P		**P**		**03**	**23**	**27.9 -0.3**
TCF					pmax	pmax				
	comp=Z,6.0nm,0.7s									
TCF	**Toulx Ste Croi**	**93.32**	**334**	*e*P		**P**		**03**	**23**	**27.9 -0.3**
	comp=Z,5.8nm,0.7s									
SAML	**Samuel**	**146.32**	**51**	*e*PKPbc		**PKPbc**		**03**	**29**	**54.2 -0.4**
LPAZ	**La Paz**	**147.75**	**66**	PKPbc		**PKPdf**		**03**	**29**	**57.9 +1.4**
	comp=Z,3.4nm,0.7s,baz=329,slow=5.2,SNR=16									
LPAZ	**La Paz**	**147.75**	**66**	PKP2		**PKPdf**		**03**	**29**	**57.9 +1.4**
LPAZ					pmax	pmax				
	comp=Z,3.0nm,0.7s									
LPAZ	**La Paz**	**147.75**	**66**	*e*PKPbc		**PKPbc**		**03**	**29**	**59.5 +0.1**
LVC	**Limon Verde**	**150.47**	**78**	PKPbc		**PKPbc**		**03**	**30**	**06.6 +1.0**
	comp=Z,7.5nm,0.8s,baz=318,slow=2.6,SNR=3.1									
SIV	**San Ignacio**	**152.79**	**57**	PKPbc		**PKPbc**		**03**	**30**	**11.1 +0.3**
	comp=Z,2.4nm,0.8s,baz=289,slow=3.1,SNR=6.3									
SIV				PKPab		**PKPab**		**03**	**30**	**20.6 -1.1**
	comp=Z,3.4nm,0.9s,baz=325,slow=2.8,SNR=6.3									

CASC ***10*** *03:23:28.1±8.9,9.°15N×85.°93W, h35km±999km, MD4.4*
ISCJB ***10*** *03:23:39.1±0.7,10.°16N±0.°09×86.°32W±0.°03, h24km, mb4.1/22, Error ellipse: s-maj=12.6km s-min=4.7km az=2.2*
IDC ***10*** *03:23:42.7±0.9, 11.°36N×85.°46W, h0km, mb3.8/9, mb1 4.2/10, mb1mx4.0/21, mbtmp3.9/10, ML3.8/1, Error ellipse: s-maj=36.5km s-min=14.1km az=54.0*
NEIC ***10*** *03:23:45.2±1.1, 10.°66N×85.°95W, h35km, mb4.4/11, Error ellipse: s-maj=28.3km s-min=10.9km az=211.0*
NEIC Felt at Liberia and Sardinal.

**ISC 10 03:23:41.8±0.9, 10.

UALR	University of 16nm,0.9s	25.02	348	*e*P	P	03 29 03.2	-0.8
MIAR	Mount Ida 11nm,0.9s	25.08	346	*e*P	P	03 29 03.6	-0.9
133A	Hamilton Ranch baz=25	25.12	334	⇓P	P	03 29 04.0	-1.0
KMSC	Kings Mountain baz=25,SNR=6.5	25.15	9	⇓P	P	03 29 04.8	-0.4
330A	Mertzon baz=25	25.19	329	⇑P	P	03 29 05.4	-0.3
231A	Bronte baz=25	25.19	331	⇑P	P	03 29 05.1	-0.6
TKL	Tuckaleechee C 7.4nm,0.7s,baz=173,slow=10,SNR=11	25.37	5	P	P	03 29 06.7	-0.5
TKL	Tuckaleechee C	25.37	5	*e*P	P	03 29 06.5	-0.6
Z34A	Collier Ranch, baz=25	25.38	337	⇓P	P	03 29 06.4	-0.9
ABTX	Abilene, Hawle baz=25	25.46	333	⇓P	P	03 29 07.4	-0.6
230A	Sterling City baz=25	25.54	330	⇓P	P	03 29 09.2	+0.3
X37A	Clayton baz=25	25.61	342	⇓P	P	03 29 07.9	-1.5
Z33A	Whitaker Ranch baz=26,SNR=6.0	25.64	335	⇑P	P	03 29 10.3	+0.5
329A	Wagon Wheel Ra baz=26,SNR=7.0	25.67	328	⇑P	P	03 29 10.2	+0.1
W38A	Poteau baz=26,SNR=5.6	25.82	344	⇑P	P	03 29 10.3	-0.9
Y34A	Reagan Ranch, baz=26	25.84	338	⇓P	P	03 29 10.8	-0.6
131A	Roby baz=26	25.84	332	⇑P	P	03 29 11.0	-0.6
X36A	Centrahoma baz=26	25.90	341	⇓P	P	03 29 11.2	-0.8
X35A	Drake baz=26	25.95	339	⇑P	P	03 29 11.6	-0.9
Z32A	Haskell baz=26,SNR=9.1	25.96	334	⇑P	P	03 29 13.3	+0.6
W37A	Quinton baz=26,SNR=5.3	26.14	343	⇑P	P	03 29 12.8	-1.3
Y33A	Hilltop Ranch, baz=26	26.22	336	⇓P	P	03 29 14.2	-0.7
Z31A	Sharp Cattle R baz=26	26.27	333	⇑P	P	03 29 16.0	+0.6
228A	UT Block 9, Go baz=26	26.49	328	⇑P	P	03 29 17.6	+0.1
129A	Stewart Farms, baz=26	26.52	329	⇓P	P	03 29 18.0	+0.3
X33A	Lawton baz=26,SNR=6.7	26.64	337	⇓P	P	03 29 17.8	-0.9
Z30A	Sanderson Ranc baz=27	26.69	331	⇓P	P	03 29 19.2	0.0
128A	Castleberry Fa baz=27	26.83	328	⇓P	P	03 29 20.5	0.0
X32A	Elmer baz=27	26.84	336	⇓P	P	03 29 19.9	-0.6
Y31A	Rekieta Farm, baz=27	26.86	334	⇑P	P	03 29 20.7	-0.1
WMOK	Wichita Mounta 9.7nm,1.0s	26.92	337	*e*P	P	03 29 22.1	+0.9
Z29A	Hungry Hill Ra baz=27	26.95	330	⇓P	P	03 29 20.9	-0.7
TUL1	Leonard baz=27	26.96	343	⇓P	P	03 29 20.2	-1.3
W34A	Bridge Creek, baz=27	26.98	339	⇓P	P	03 29 21.2	-0.6
Y30A	Stafford Cattl baz=27	27.07	332	⇑P	P	03 29 22.2	-0.5
Z28A	Tucker Farm, M baz=27	27.31	329	⇓P	P	03 29 24.4	-0.5
X31A	McDonald Ranch baz=27	27.31	335	⇑P	P	03 29 24.7	-0.1
WCI	Wyandotte Cave 14nm,0.8s	27.84	360	*e*P	P	03 29 27.7	-1.7
T37A	Cheneyville 18 baz=28,SNR=7.7	27.86	345	⇑P	P	03 29 28.7	-0.9
MSTX	Muleshoe baz=28	28.04	330	⇑P	P	03 29 32.2	+0.7
T36A	Boggs Farm, Ca baz=28	28.06	343	⇑P	P	03 29 30.1	-1.3
AMTX	Amarillo baz=28	28.27	332	⇑P	P	03 29 32.9	-0.6
S36A	Lake Cedric, C baz=28	28.60	344	⇓P	P	03 29 35.0	-1.3
S35A	Otter Creek Ra baz=29	28.76	343	⇓P	P	03 29 36.5	-1.2
S34A	Willow Spring baz=29	29.01	342	⇑P	P	03 29 39.8	-0.2
R36A	Gordon, Harris baz=29	29.14	345	⇓P	P	03 29 39.5	-1.6
R34A	Isabella, Hill baz=29	29.61	342	⇓P	P	03 29 44.4	-0.8
SFIN	Lafayette baz=30	29.99	359	⇓P	P	03 29 46.8	-1.7
SFIN	Lafayette 7.1nm,0.8s	29.99	359	*e*P	P	03 29 46.3	-2.2
HDIL	Hopedale 20nm,0.9s	30.28	355	*e*P	P	03 29 48.9	-2.2
P35A	Duane Minner, baz=30	30.41	345	⇑P	P	03 29 50.5	-1.8
P34A	Walnut Farm, R baz=30	30.64	344	⇑P	P	03 29 52.9	-1.4
ANMO	Albuquerque 1.7nm,0.8s,baz=138,slow=5.5,SNR=7.8	30.72	326	P	P	03 29 56.6	+1.3
O35A	Humboldt baz=31	31.08	346	⇑P	P	03 29 56.8	-1.4
R28A	Tribune baz=31	31.25	336	⇑P	P	03 29 59.1	-0.7
O33A	Hebron baz=31	31.35	343	⇑P	P	03 29 59.8	-0.7
P31A	Stockton baz=31	31.40	340	⇓P	P	03 30 00.1	-1.0
Q29A	Oakley baz=31	31.40	338	⇓P	P	03 30 00.7	-0.4
SDCO	Great Sand Dun baz=32,SNR=5.3	32.39	331	⇓P	P	03 30 10.0	0.0
SDCO	Great Sand Dun 2.2nm,0.8s	32.39	331	*e*P	P	03 30 10.8	+0.7
JFWS	Jewell Farm 6.0nm,0.9s	32.70	355	*e*P	P	03 30 10.9	-1.5
R23A	Moffat baz=33	32.90	331	⇓P	P	03 30 14.1	-0.4
S22A	4UR Ranch, Cre baz=33	33.04	329	⇑P	P	03 30 15.3	-0.5
ECSD	EROS Data Cent baz=34	34.53	347	⇑P	P	03 30 26.3	-2.1
O22A	Kremmling baz=35	34.80	332	⇑P	P	03 30 30.5	-0.6
J29A	Okreek baz=35	35.22	342	⇑P	P	03 30 33.5	-0.8
SPMN	Marine on St. baz=35	35.28	352	⇓P	P	03 30 33.0	-1.8
I28A	Midland baz=36	36.01	342	⇓P	P	03 30 40.6	-0.5
N20A	Spence Gulch, baz=36	36.13	331	⇑P	P	03 30 42.3	-0.2
H27A	Howes baz=37	36.87	341	⇓P	P	03 30 47.5	-0.9
G26A	Maurine baz=38	37.62	341	⇓P	P	03 30 54.3	-0.5
J21A	Lysite baz=38	37.77	334	⇓P	P	03 30 56.2	0.0
H24A	Dirks Ranch, A baz=38	37.81	339	⇑P	P	03 30 56.5	0.0
I22A	9 Mile Ranch, baz=38	37.82	336	⇓P	P	03 30 55.7	-0.9
J20A	Shoshoni baz=38	38.05	334	⇑P	P	03 30 58.4	-0.2
E28A	Huff baz=38	38.22	344	⇓P	P	03 30 58.8	-1.0
PDAR	Pinedale Array 0.9nm,0.7s,baz=121,slow=9.7,SNR=5.1	38.25	332	P	P	03 31 00.8	+0.5
E27A	Carson baz=38	38.33	343	⇑P	P	03 30 59.7	-1.1
H22A	Clearmont baz=38	38.35	337	⇑P	P	03 31 00.6	-0.5
I20A	Worland baz=38	38.55	334	⇑P	P	03 31 03.0	+0.3
E24A	Baker baz=39	39.30	340	⇓P	P	03 31 07.1	-1.9
REDW	Red Top Meadow 2.4nm,0.6s	39.31	331	*e*P	P	03 31 09.1	-0.2
B29A	Wagenman Farm, baz=39	39.63	346	⇓P	P	03 31 10.2	-1.4
A29A	Manning Farm, baz=40	40.03	347	⇑P	P	03 31 13.4	-1.5
F20A	Billings baz=40	40.06	336	⇓P	P	03 31 14.2	-1.2
NVAR	Mina Array Bea 3.8nm,0.9s,baz=130,slow=8.3,SNR=15	40.13	320	P	P	03 31 19.2	+3.1
D22A	Cohagen baz=40	40.45	339	⇑P	P	03 31 18.0	-0.5
C22A	Vida baz=41	40.87	340	⇑P	P	03 31 21.3	-0.6
B23A	Brockton baz=41	41.20	341	⇓P	P	03 31 24.1	-0.5
HLID	Hailey baz=41	41.21	329	⇓P	P	03 31 25.2	+0.2
A24A	Westby baz=41	41.29	342	⇑P	P	03 31 24.5	-0.9
BOZ	Bozeman (W) baz=41	41.42	333	⇑P	P	03 31 26.6	0.0
C20A	Veseth Ranch, baz=41	41.59	338	⇑P	P	03 31 27.5	-0.3
B20A	Solberg Farm, baz=42	42.21	338	⇑P	P	03 31 32.4	-0.5
EGMT	Eagleton baz=42	42.52	337	⇓P	P	03 31 34.4	-1.0
A20A	Cobblestone Ra baz=42	42.54	339	⇓P	P	03 31 35.1	-0.5
B19A	Brinkman Farms baz=42	42.56	338	⇑P	P	03 31 35.2	-0.6
MSO	Missoula baz=43	43.36	332	⇑P	P	03 31 41.8	-0.5
M04C	Macdoel baz=44	44.27	321	⇑P	P	03 31 50.2	+0.4
SCHQ	Schefferville 3.7nm,0.8s,baz=211,slow=8.9,SNR=6.7	47.03	15	P	P	03 32 09.1	-2.1
YKA	Yellowknife Ar 0.4nm,0.3s,baz=136,slow=7.8,SNR=11	56.02	345	P	P	03 33 15.5	-2.7
ILAR	Eielson Array 1.3nm,1.0s,baz=111,slow=4.3,SNR=11	68.48	336	P	P	03 34 41.6	-0.2
BPAW	Bear Paw Mtn. 0.7nm,1.0s	69.91	335	*e*P	P	03 34 49.7	-1.0
ESDC	Sonseca Array 0.6nm,0.7s,baz=289,slow=8.0,SNR=3.4	77.59	52	P	P	03 35 34.8	-1.4
TORD	Torodi Ar. Bea 0.3nm,0.8s,baz=290,slow=5.6,SNR=5.6	85.71	77	P	P	03 36 18.1	-1.4
GERES	GERESS Array B 0.2nm,0.5s,baz=266,slow=19,SNR=2.3	88.80	41	P	P	03 36 33.7	-0.3
ASAR	Alice Springs 0.2nm,0.4s,baz=108,slow=3.6,SNR=2.5	139.53	246	PKhKP	PKPpre	03 43 10.0	
WRA	Warramunga Arr 0.2nm,0.3s,baz=92,slow=2.5,SNR=5.9	139.77	251	PKhKP	PKPpre	03 43 10.7	
WRA	0.5nm,0.6s,baz=89,slow=1.9,SNR=7.6			PKP	**PKiKP**	**03 43 15.7**	**+4.5**

NNC 10 03:39:36.6±7.7, 36.93N×70.84E, h0km, mb3.7, mpv3.3, 5C-2D, Error ellipse: s-maj=63.2km s-min=26.9km az=177.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	Dzherino 12nm,0.5s	2.46	320	⇑Pn	Pn	03 40 18.0	-0.1
DZET	19nm,0.4s			⇑Sn	Sb	03 40 51.2	-1.7
SFK	Sufi-Kurgan 3.8nm,0.3s	3.72	33	⇑Pn	Pn	03 40 35.4	-0.2
SFK	7.2nm,0.3s			⇑Sn	Sn	03 41 23.6	+3.2
MNAS	Manas 1.4nm,0.3s	5.70	12	⇑Pn	Pn	03 41 00.8	-1.9
MNAS	5.7nm,0.6s			⇓Sn	Sn	03 42 07.9	-1.1
KK31	Karatay Array 0.5nm,0.3s,baz=176,slow=14,SNR=35	6.18	358	Pn	Pn	03 41 06.6	-2.4
KK31	0.8nm,0.3s,baz=186,slow=23,SNR=11			⇓Sn	Sn	03 42 17.2	-3.2

IDC 10 03:41:16.4±4.0, 0.49S×29.13E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.3/25, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=136.8km s-min=30.8km az=6.0, Zaire

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	Kilima Mbogo 0.3nm,0.3s,baz=278,slow=14,SNR=3.2	8.14	95	Pn	Pn	03 43 16.1	-0.1
KMBO	0.5nm,0.3s,baz=204,slow=20,SNR=3.0			Sn	Sn	03 44 41.2	-8.2
KMBO	1.6nm,0.3s,baz=180,slow=23,SNR=14			Lg	Lg	03 45 24.8	
TORD	Torodi Ar. Bea 0.6nm,0.8s,baz=110,slow=8.0,SNR=12	30.39	297	P	P	03 47 30.5	0.0
MKAR	Makanchi Array 0.2nm,0.5s,baz=231,slow=7.1,SNR=4.2	66.06	37	P	P	03 52 05.2	0.0

IDC 10 03:41:55.4±6.5, 49.03S×166.12E, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/21, mbtmp4.3/4, MS4.0/3, Ms1 3.9/3, ms1mx3.3/24, Error ellipse: s-maj=615.2km s-min=95.2km az=41.0, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek 5.6nm,0.9s,baz=143,slow=10,SNR=6.6	25.16	304	P	P	03 47 23.5	+1.2
STKA	comp=Z,170nm,18.0s,baz=207,slow=36			LR	LR	03 56 58.8	
ASAR	Alice Springs 4.0nm,0.7s,baz=148,slow=8.2,SNR=42	35.80	303	P	P	03 48 55.2	-1.2
ASAR	comp=Z,131nm,18.0s,baz=128,slow=35			LR	LR	04 03 01.6	
WRA	Warramunga Arr 2.2nm,1.0s,baz=137,slow=6.8,SNR=5.0	38.59	307	P	P	03 49 20.1	-0.1
PLCA	Paso Flores comp=Z,226nm,21.4s,baz=61,slow=31	77.61	139	LR	LR	04 21 34.9	
CMAR	Chiang Mai Arr 1.7nm,0.6s,baz=177,slow=3.9,SNR=8.3	89.69	299	P	P	03 54 55.5	+0.1

IDC 10 03:48:30.2±2.1, 14.80S×173.98W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.6/5, Error ellipse: s-maj=124.2km s-min=25.5km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	WAKE ISLAND Hy baz=149,slow=76,SNR=4.5	38.16	329	T	T	04 36 49.5	
H11S3	WAKE ISLAND Hy baz=149,slow=76,SNR=5.4	38.17	329	T	T	04 36 44.7	
H11S1	WAKE ISLAND Hy baz=149,slow=76,SNR=5.1	38.18	329	T	T	04 36 51.1	
H11N3	WAKE ISLAND Hy baz=150	39.12	331	T	T	04 37 54.4	
H11N1	WAKE ISLAND Hy baz=150,slow=74	39.12	331	T	T	04 37 59.8	
H11N2	WAKE ISLAND Hy baz=150,slow=74	39.13	331	T	T	04 38 05.2	
WRA	Warramunga Arr 0.3nm,0.3s,baz=87,slow=8.4,SNR=5.7	49.43	256	P	P	03 57 22.0	-0.4
ASAR	Alice Springs 2.7nm,0.6s,baz=86,slow=8.0,SNR=22	49.76	251	P	P	03 57 24.9	-0.1
NVAR	Mina Array Bea 0.4nm,0.7s,baz=246,slow=8.8,SNR=2.5	74.27	42	P	P	04 00 10.1	+0.4
TXAR	Lajitas Array 0.1nm,0.6s,baz=232,slow=3.0,SNR=3.4	80.75	56	P	P	04 00 45.9	-0.1
ILAR	Eielson Array 0.2nm,0.6s,baz=206,slow=5.9,SNR=2.6	81.97	11	P	P	04 00 51.1	-0.4
BRTR	Keskin Array B 0.8nm,0.7s,baz=99,slow=1.5,SNR=7.3	145.34	321	PKPbc	PKPdf	04 08 10.9	+0.3
GERES	GERESS Array B 0.2nm,0.3s,baz=357,slow=2.0,SNR=4.8	145.47	351	PKPbc	PKPbc	04 08 08.5	-2.0

KRSC 10 04:02:33.9±1.2, 55.71N×160.91E, h168km±10km, ML3.9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BZGR	Bezymyannyi-Gr	0.26	333	*e*P	Pn	04 02 58.2	+1.7
BZGR				*e*S	Sn	04 03 15.9	+1.9
BZMR	Bezymyannaya	0.33	314	*e*P	Pn	04 02 58.0	+1.2
BZMR				*e*S	Sn	04 03 15.7	+1.3
BZWR	Bezymyannyi-We	0.34	318	*e*P	Pn	04 02 58.3	+1.4
BZWR				*e*S	Sn	04 03 15.9	+1.3
KMNR	Kamenistaya	0.38	277	*e*P	Pn	04 02 58.6	+1.7
KMNR				*e*S	Sn	04 03 16.5	+1.9
KIRR	Kirishev	0.40	308	*e*S	Sn	04 03 15.0	+0.2
TUMR	Tumrok	0.61	226	*e*P	Pn	04 02 59.9	+2.0
TUMR				*e*S	Sn	04 03 18.6	+2.3
KLY	Klyuchi	0.62	347	*e*P	Pn	04 02 58.8	+1.0
KLY				*e*S	Sn	04 03 17.2	+0.9
KOZ	Kozyrevsk	0.68	301	*e*P	Pn	04 02 59.0	+0.9
KOZ				*e*S	Sn	04 03 17.2	+0.3
KZV	Kizimen	0.69	211	*e*P	Pn	04 03 00.0	+1.5
BDR	Baidarnaya	0.88	11	*e*P	Pn	04 03 00.7	+1.2
BDR				*e*S	Sn	04 03 20.0	+0.7
SRDR	Sredinnyy	0.90	313	*e*P	Pn	04 03 00.1	+0.4
SRDR				*e*S	Sn	04 03 18.8	-0.8
SMKR	Semkarok	0.93	20	*e*P	Pn	04 03 01.1	+1.2
SMKR				*e*S	Sn	04 03 20.2	+0.2
SRKR	Sorokina	0.96	9	*e*P	Pn	04 03 01.4	+1.3
SRKR				*e*S	Sn	04 03 20.7	+0.3
KBTR	Krutoberegovo	1.19	64	*e*P	Pn	04 03 03.0	+1.2
KBTR				*e*S	Sn	04 03 23.7	+0.3
MKZ	Mys Kozlova	1.25	157	*e*P	Pn	04 03 03.6	+1.2
MKZ				*e*S	Sn	04 03 24.8	+0.5
ESO	Esso	1.26	281	*e*P	Pn	04 03 03.2	+0.6
KII	Karymskiy	1.88	207	*e*P	Pn	04 03 11.0	+2.2
GNL	Ganaly	2.65	222	*e*P	Pn	04 03 19.8	+2.0
SPN	Mys Shipunski	2.67	192	*e*P	Pn	04 03 17.9	0.0
SPN				*e*S	Sn	04 03 49.5	-2.5
KRX	Arik	2.70	210	*e*P	Pn	04 03 20.4	+2.0
NLC	Nalytchevo	2.70	200	*e*S	Sn	04 03 53.2	+0.5
SDLR	Sedlovina	2.71	207	*e*P	Pn	04 03 19.6	+1.1
SDLR				*e*S	Sn	04 03 53.0	-0.1
KRER	Koryakskii	2.72	208	*e*P	Pn	04 03 19.0	+0.2
SMAR	Somma	2.74	207	*e*P	Pn	04 03 21.4	+2.3
AVH	Avacha	2.76	208	*e*P	Pn	04 03 21.8	+2.7
KOK	Koryaka	2.76	210	*e*P	Pn	04 03 19.7	+0.6
UGLR	Uglovaya	2.79	207	*e*P	Pn	04 03 21.5	+2.1
BKI	Bering	2.93	98	*e*P	Pn	04 03 23.6	+2.7
BKI				*e*S	Sn	04 03 59.1	+1.5
PET	Petropavlovsk	3.00	207	*e*S	Sn	04 04 01.2	+2.1
RUS	Russkaya	3.57	204	*e*P	Pn	04 03 29.9	+0.8
RUS				*e*S	Sn	04 04 11.0	-1.1
MTVR	Mutnovka	3.61	208	*e*S	Sn	04 04 13.6	+0.3
OSSR	Ossora	3.73	17	*e*P	Pn	04 03 32.8	+1.8

MAN 10 04:06:34, 11.18N×124.82E, h16km, mb4.3, ML3.2, MS3.0, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	Palo	0.16	94	⇑*i*P	Pb	04 06 40.3	+1.6
OCLP	Ormoc	0.24	239	*e*P	Pb	04 06 41.4	+1.5
OCLP				*e*S	Sb	04 06 45.0	+1.0
MSLP	Maasin	1.04	178	*e*P	Pg	04 06 55.0	+0.9
MSLP				*e*S	Sn	04 07 10.1	+2.0
RCP	Roxas	2.07	281	⇓*e*P	Sb	04 07 27.9	-8.8
LQP	Lukban	4.33	313	*e*P	Pn	04 07 32.9	-6.6

ISCJB ***10*** *04:22:31.4±0.5, 0.75N±0.05×97.00E±0.04, h25km, mb4.1/18, MS3.6/1, Error ellipse: s-maj=7.8km s-min=4.3km az=40.4*

DJA ***10*** *04:22:33.6±0.5, 1.1N±4.3×9.7E±, h47km±10km, M4.6/14, mb4.9/5, mB5.3/2, MLv4.5/14, Mw(mB)4.7/2*

NEIC ***10*** *04:22:36.1±2.2, 0.85N×97.16E, h45km±17km, mb4.4/3, Error ellipse: s-maj=24.7km s-min=9.4km az=53.0*

IDC ***10*** *04:22:36.1±4.5, 0.81N×97.13E, h44km±39km, mb3.8/15, mb1 3.9/16, mb1mx3.8/25, mbtmp4.1/16, ML3.5/1, MS3.3/3, Ms1 3.4/3, ms1mx3.0/29, Error ellipse: s-maj=34.6km s-min=15.8km az=55.0*

ISC 10 04:22:33.6±0.6, 0.79N±0.06×97.00E±0.06, h25km, n51, σ1.503/47, mb4.2/20, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	Gunungsitoli	0.77	48	P	**Pb**	**04 22 48.1**	**-0.2**
GSI				S	**Sn**	**04 23 00.5**	**+0.8**
GSI	Gunungsitoli	0.77	48	*e*Pg	**Pb**	**04 22 48.1**	**-0.2**
SNSI	Sinabang, Aceh	1.75	337	P	**Pn**	**04 23 01.0**	**-1.3**
MNSI	Mandailing Nat	2.58	90	P	**Pn**	**04 23 13.4**	**-0.4**
MNSI				S	**Sn**	**04 23 44.0**	**-0.4**
PSI	Prapat 9.2nm,0.3s,baz=217,slow=10,SNR=20	2.77	44	P	**Pn**	**04 23 15.6**	**-1.0**
PSI	comp=Z,359nm,20.4s,baz=288,slow=42			LR	LR	04 24 25.9	
TSI	Tuntungan	3.12	30	P	**Pn**	**04 23 20.8**	**-0.3**
PDSI	Padang	3.85	116	P	**Pn**	**04 23 30.4**	**-0.9**
PDSI				S	**Sn**	**04 24 15.3**	**-0.5**
BKNI	Bangkinang	4.07	96	P	**Pn**	**04 23 32.9**	**-1.3**
BKNI				S	**Sn**	**04 24 22.0**	**+0.9**
LHMI	Lhok Sumawe	4.41	359	P	**Pn**	**04 23 38.4**	**-0.6**
LHMI				S	**Sn**	**04 24 29.0**	**-0.6**
SDSI	Sungai Dareh	4.75	111	P	**Pn**	**04 23 42.3**	**-1.3**
BSI	Banda Aceh	4.98	340	P	**Pn**	**04 23 45.0**	**-1.8**
BSI				S	**Sn**	**04 24 41.6**	**-2.0**
IPM	Ipoh 38nm,0.4s	5.44	48	*e*Pn	**Pn**	**04 23 53.4**	**+0.3**
KULM	Kulim 35nm,0.4s	5.77	39	*e*Pn	**Pn**	**04 23 56.9**	**-0.8**
MNAI	Manna 254nm,1.4s,1.3nm	7.85	131	P	**Pn**	**04 24 24.5**	**-1.7**
LHSI	Lahat 83nm,0.7s,5μm0.3nm	7.97	125	P	**Pn**	**04 24 27.2**	**-0.7**
MDSI	Maura Dua	8.88	126	P	**Pn**	**04 24 39.0**	**-1.4**
CMAR	Chiang Mai Arr comp=Z,108nm,18.6s,baz=255,slow=40	17.66	6	LR	LR	04 34 25.1	
H08S2	Diego Garcia H baz=71,slow=76,SNR=1640	25.84	251	T	T	04 54 48.3	
H08S3	Diego Garcia H baz=71,slow=76,SNR=2158	25.84	251	T	T	04 54 56.7	
H08S1	Diego Carcia H baz=71,slow=76,SNR=1861	25.86	251	T	T	04 54 57.8	
TAPN	Taplejung	27.88	342	*e*P	**P**	**04 28 23.2**	**+1.3**
JIRN	Jiri 15nm,0.6s	28.66	340	*e*P	**P**	**04 28 31.3**	**+2.4**
PKI	Pulchoki	28.86	338	*e*P	P	04 28 35.6	+4.9
GUN	Gumba	29.00	339	*e*P	**P**	**04 28 33.2**	**+1.3**
KKN	Kakani	29.10	338	*e*P	P	04 28 37.2	+4.5
LSA	Lhasa 4.0nm,0.4s	29.29	350	*e*P	**P**	**04 28 34.7**	**+0.1**
GKN	Gorkha 5.4nm,0.3s	29.54	337	*e*P	P	04 28 40.3	+3.8
H01W3	Cape Leeuwin H baz=334,slow=76,SNR=474	38.94	157	T	T	05 11 09.1	
H01W2	Cape Leeuwin H baz=334,slow=76,SNR=568	38.96	157	T	T	05 11 10.1	
H01W1	Cape Leeuwin H baz=334,slow=76,SNR=440	38.96	157	T	T	05 11 10.3	
WRA	Warramunga Arr 1.5nm,0.5s,baz=303,slow=9.0,SNR=14	41.99	121	P	**P**	**04 30 22.1**	**-1.0**
WRAB	Tennant Creek 2.7nm,0.8s	41.99	121	*e*P	**P**	**04 30 22.4**	**-0.7**
ASAR	Alice Springs 0.8nm,0.4s,baz=303,slow=7.7,SNR=12	43.31	127	P	**P**	**04 30 33.2**	**-0.6**
KSAR	Wonju Array Be	46.27	34	P	**P**	**04 30 57.0**	**-0.1**
KSRS	Korea Array 2.4nm,0.8s,baz=220,slow=8.6,SNR=12	46.30	34	P	**P**	**04 30 57.0**	**-0.4**
SONM	Songino Array 1.1nm,0.5s,baz=192,slow=7.9,SNR=12	47.56	9	P	**P**	**04 31 07.1**	**-0.2**
SONM	1.4nm,0.7s,baz=184,slow=4.9,SNR=4.3			PcP	**PcP**	**04 32 36.6**	**-0.4**
MK31	Makanchi Array	47.59	346	*e*P	**P**	**04 31 07.3**	**0.0**
MKAR	Makanchi Array 3.5nm,0.7s,baz=160,slow=9.0,SNR=40	47.59	346	P	**P**	**04 31 07.4**	**+0.1**
MKAR	comp=Z,54nm,18.0s,baz=246,slow=44			LR	LR	04 57 13.8	
USRK	Ussuriysk Ar. 5.8nm,0.8s,baz=232,slow=5.4,SNR=12	53.22	31	P	**P**	**04 31 50.1**	**+0.1**
STKA	Stephens Creek 4.7nm,1.1s,baz=292,slow=12,SNR=3.5	53.23	132	P	**P**	**04 31 50.4**	**+0.1**
ZAA0	Zalesovo Array	53.93	351	*e*P	**P**	**04 31 54.9**	**0.0**
ZALV	Zalesovo Beam 5.3nm,0.4s,baz=183,slow=6.1,SNR=19	53.93	351	P	**P**	**04 31 54.8**	**-0.1**
ABKAR	Akbulak array 3.2nm,0.8s	57.78	332	*e*P	**P**	**04 32 21.7**	**-1.0**
BRTR	Keskin Array B 0.6nm,0.6s,baz=123,slow=7.7,SNR=5.3	69.24	313	P	**P**	**04 33 41.0**	**+2.2**
AKASG	Malin Array Be 0.3nm,0.4s,baz=91,slow=4.9,SNR=3.4	75.46	323	P	**P**	**04 34 14.4**	**-1.1**
FINES	FINESS Array B 1.1nm,0.7s,baz=108,slow=7.5,SNR=4.4	80.27	333	P	**P**	**04 34 41.4**	**-0.7**
ARCES	ARCESS Array B 2.3nm,0.8s,baz=108,slow=4.0,SNR=7.1	82.85	340	P	**P**	**04 34 54.8**	**-0.8**
GERES	GERESS Array B 0.1nm,0.3s,baz=167,slow=41,SNR=2.4	84.99	319	P	**P**	**04 35 07.7**	**+0.7**
NOA	NORSAR Array B 0.9nm,0.8s,baz=98,slow=5.0,SNR=2.8	87.27	331	P	**P**	**04 35 19.8**	**+1.8**
TORD	Torodi Ar. Bea 0.2nm,0.6s,baz=86,slow=6.1,SNR=3.1	94.99	283	P	**P**	**04 35 55.7**	**+0.8**

TXAR	**Lajitas Array**	**144.12**	**32**	PKP	PKPbc	04 42 06.0	0.0
	0.3nm,0.6s,baz=191,slow=0.9,SNR=6.2						

*IDC **10** 04:26:40.9±0.9, 30.°38S×177.°49W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/19, mbtmp4.1/5, MS3.1/1, Ms1 3.1/1, ms1mx2.8/24, Error ellipse: s-maj=29.9km s-min=17.0km az=78.0*

*NEIC **10** 04:26:48.4±1.5, 30.°23S×177.°48W, h57km±11km, mb4.5/5, Error ellipse: s-maj=18.3km s-min=11.8km az=105.0*

ISC 10 04:26:45.7±0.9, 30.°35S±0.°09×177.°4W±0.°2, h33km, n27, σ0°77/23, mb4.4/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.18**	**338**	Pn	**Pn**	**04 27 06.3**	**+0.5**
	659nm,0.3s,baz=102,slow=13,SNR=29						
RAO				Sn	**Sb**	**04 27 22.4**	**0.0**
	971nm,0.3s,baz=90,slow=20,SNR=16						
RAO				LR	LR	04 27 33.2	
	comp=Z,416nm,21.7s,baz=94,slow=44						
OUZ	**Omahuta**	**8.98**	**235**	*e*Pn	Pn	04 28 57.0	+4.0
URZ	**Urewera**	**9.09**	**208**	Pn	Pn	04 28 47.9	-6.6
	0.7nm,0.3s,baz=252,slow=4.9,SNR=5.1						
URZ				Sn	Sn	04 30 27.9	-7.8
	4.1nm,0.3s,baz=90,slow=20,SNR=10.0						
DZM	**Mont Dzumac**	**16.65**	**296**	*e*LR	LR	04 34 41.5	
	393nm,29.6s						
TBI	**Tubuai**	**25.86**	**81**	*e*LR	LR	04 38 43.1	
	121nm,27.5s						
PPT2	**Papeete2**	**28.35**	**70**	*e*LR	LR	04 39 49.5	
	106nm,25.0s						
PPT	**Papeete**	**28.36**	**70**	LR	LR	04 42 50.5	
	comp=Z,38nm,18.6s,baz=172,slow=34						
CTAO	**Charters Tower**	**34.28**	**279**	*e*P	**P**	**04 33 30.0**	**+1.0**
	5.0nm,0.7s						
STKA	**Stephens Creek**	**34.97**	**257**	P	**P**	**04 33 35.7**	**+0.8**
	5.1nm,0.5s,baz=89,slow=9.9,SNR=14						
STKA	**Stephens Creek**	**34.97**	**257**	*e*P	**P**	**04 33 35.6**	**+0.8**
	1.5nm,0.7s						
ASAR	**Alice Springs**	**43.61**	**267**	P	**P**	**04 34 46.0**	**-1.1**
	1.4nm,0.5s,baz=103,slow=7.1,SNR=14						
WRAB	**Tennant Creek**	**44.59**	**272**	*e*P	**P**	**04 34 54.3**	**-0.6**
	4.4nm,0.7s						
WRA	**Warramunga Arr**	**44.59**	**272**	P	**P**	**04 34 53.5**	**-1.5**
	4.9nm,0.7s,baz=112,slow=7.8,SNR=14						
CASY	**Casey**	**55.41**	**208**	*e*P	**P**	**04 36 15.2**	**-1.2**
	4.2nm,0.5s						
QSPA	**South Pole Qui**	**59.76**	**180**	P	**P**	**04 36 48.0**	**+0.8**
	1.4nm,0.8s,baz=295,slow=2.4,SNR=10						
QSPA	**South Pole Qui**	**59.76**	**180**	*e*P	**P**	**04 36 48.2**	**+1.1**
	5.2nm,0.9s						
SNAA	**Sanae**	**78.19**	**178**	P	**P**	**04 38 41.9**	**+0.5**
	0.4nm,1.0s,baz=180,slow=12,SNR=3.8						
MKAR	**Makanchi Array**	**118.12**	**310**	PKP	**PKPdf**	**04 45 29.5**	**+0.5**
	0.2nm,0.8s,baz=72,slow=4.7,SNR=2.7						
FIA1	**FINESS Array S**	**145.27**	**340**	*e*PKPdf	**PKPbc**	**04 46 18.9**	**-0.1**
FINES	**FINESS Array B**	**145.27**	**340**	PKPbc	**PKPbc**	**04 46 18.9**	**-0.1**
	3.2nm,0.5s,baz=72,slow=4.5,SNR=24						
KBZ	**Khabaz**	**145.50**	**304**	PKPbc	**PKPdf**	**04 46 19.4**	**-0.8**
	2.0nm,0.8s,baz=112,slow=5.4,SNR=3.5						
NB2	**NORSAR Subarra**	**148.78**	**352**	PKP	**PKPbc**	**04 46 29.0**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.78**	**352**	PKPbc	**PKPbc**	**04 46 28.6**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=14,slow=4.2,SNR=5.2						
AKASG	**Malin Array Be**	**151.56**	**323**	PKPbc	**PKPbc**	**04 46 35.9**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=49,slow=2.9,SNR=4.1						
AKASG				PKPab	**PKPab**	**04 46 44.2**	**-0.4**
	comp=Z,3.9nm,0.7s,baz=49,slow=3.0,SNR=8.9						
BRTR	**Keskin Array B**	**153.01**	**299**	PKPbc	**PKPbc**	**04 46 39.1**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=132,slow=1.8,SNR=4.7						
GERES	**GERESS Array B**	**159.68**	**338**	PKPab	**PKPab**	**04 47 19.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=48,slow=1.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**162.86**	**177**	PKPab	**PKPab**	**04 47 34.2**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=181,slow=3.9,SNR=4.5						

*NEIC **10** 04:44:52.5, 15.°31N×96.°70W, h5km, MD4.0(MEX), After MEX.*

MEX 10 04:44:52.5±0.4, 15.°31N×96.°70W, h5km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.73**	**51**	*e*P	Pg	04 45 05.3	-1.2
HUIG				*e*S	Sg	04 45 15.7	-0.4
HUIG	**Huatulco**	**0.73**	**51**	*e*P	Pg	04 45 05.3	-1.2
HUIG				*e*S	Sg	04 45 15.7	-0.4
PNIG	**Pinotepa**	**1.75**	**308**	*i* P	Pn	04 45 20.0	-3.5
PNIG				*e*S	Sn	04 45 41.8	-4.5
PNIG	**Pinotepa**	**1.75**	**308**	*i* P	Pn	04 45 20.0	-3.5
PNIG				*e*S	Sn	04 45 41.8	-4.5
VHO	**Vista Hermosa**	**1.75**	**359**	*i* P	Pn	04 45 19.7	-4.2
VHO				*i* S	Sn	04 45 41.8	-5.0
VHO	**Vista Hermosa**	**1.75**	**359**	*i* P	Pn	04 45 19.7	-4.2
VHO				*i* S	Sn	04 45 41.8	-5.0
CMIG	**Matias Romero**	**2.48**	**44**	*i* P	Pn	04 45 30.1	-3.6
CMIG				*i* S	Sn	04 46 00.8	-3.7
CMIG	**Matias Romero**	**2.48**	**44**	*i* P	Pn	04 45 30.1	-3.6
CMIG				*i* S	Sn	04 46 00.8	-3.7
TEIG	**Tepich**	**9.39**	**57**	*e*Pn	Pn	04 47 05.3	-3.3
TEIG				*e*S	Sn	04 48 40.8	-14

*IDC **10** 04:52:36.3±0.7, 7.°17N×126.°77E, h0km, mb3.9/13, mb1 4.0/13, mb1mx3.9/25, mbtmp3.9/13, MS3.3/3, Ms1 3.4/3, ms1mx2.9/38, Error ellipse: s-maj=42.7km s-min=15.3km az=81.0*

*ISCJB **10** 04:52:42.5±0.6, 7.°16N±0.°09×127.°0E±0.°1, h60km, mb3.8/13, MS3.5/2, Error ellipse: s-maj=17.6km s-min=8.6km az=142.5*

ISC 10 04:52:44.3±0.7, 7.°1N±0.°1×127.°0E±0.°1, h60km, n19, σ0°93/18, mb3.8/13, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**3.02**	**331**	*e*P	**Pn**	**04 53 31.8**	**+2.1**
TBP	**Tagbilaran**	**4.00**	**310**	*e*P	**Pn**	**04 53 43.3**	**+0.2**
TBP				*e*S	**Sn**	**04 54 29.5**	**+0.7**
SIJI	**Sorong**	**9.02**	**152**	LR	LR	04 57 58.2	
	comp=Z,86nm,21.2s,baz=215,slow=35						
JNU	**Nakatsue**	**26.11**	**7**	P	**P**	**04 58 11.0**	**-1.7**
	9.1nm,0.8s,baz=147,slow=4.3,SNR=7.3						
WRA	**Warramunga Arr**	**27.86**	**165**	P	**P**	**04 58 28.8**	**+0.3**
	1.5nm,0.7s,baz=352,slow=9.8,SNR=10.0						
CMAR	**Chiang Mai Arr**	**29.52**	**295**	LR	LR	05 10 54.4	
	comp=Z,68nm,18.4s,baz=200,slow=38						
KSRS	**Korea Array**	**30.20**	**1**	P	**P**	**04 58 48.8**	**-0.2**
	1.2nm,0.6s,baz=175,slow=9.3,SNR=7.6						
ASAR	**Alice Springs**	**31.35**	**168**	P	**P**	**04 58 59.8**	**+0.4**
	0.3nm,0.6s,baz=348,slow=7.2,SNR=4.8						
ASAR				PcP	**PcP**	**05 01 52.8**	**+0.6**
	0.4nm,0.5s,baz=356,slow=2.5,SNR=5.7						
USRK	**Ussuriysk Ar.**	**37.18**	**6**	P	**P**	**04 59 49.5**	**-0.1**
	3.9nm,0.9s,baz=178,slow=6.6,SNR=7.0						
STKA	**Stephens Creek**	**41.22**	**161**	P	**P**	**05 00 23.9**	**+0.4**
	1.6nm,0.5s,baz=322,slow=7.2,SNR=2.5						
SONM	**Songino Array**	**44.19**	**340**	P	**P**	**05 00 47.6**	**+0.1**
	0.2nm,0.3s,baz=148,slow=8.5,SNR=2.8						
PETK	**Petropavlovsk-**	**52.21**	**23**	P	**P**	**05 01 49.6**	**+0.6**
	2.2nm,0.7s,baz=200,slow=12,SNR=2.4						
MKAR	**Makanchi Array**	**54.95**	**324**	P	**P**	**05 02 07.5**	**-1.8**
	0.7nm,0.7s,baz=125,slow=7.1,SNR=8.7						
ZALV	**Zalesovo Beam**	**57.71**	**332**	P	**P**	**05 02 28.2**	**-0.5**
	0.4nm,0.4s,baz=143,slow=5.0,SNR=2.6						
ILAR	**Eielson Array**	**81.94**	**26**	P	**P**	**05 04 57.4**	**+0.1**
	0.3nm,0.6s,baz=269,slow=4.5,SNR=5.0						
FINES	**FINESS Array B**	**88.97**	**332**	LR	LR	05 47 07.3	
	comp=Z,26nm,18.4s,baz=128,slow=37						
AKASG	**Malin Array Be**	**89.43**	**321**	P	**P**	**05 05 33.8**	**-0.8**
	0.4nm,0.3s,baz=77,slow=4.1,SNR=5.0						
YKA	**Yellowknife Ar**	**96.31**	**24**	P	**P**	**05 06 06.2**	**+0.1**
	0.2nm,0.7s,baz=301,slow=5.0,SNR=2.8						
TORD	**Torodi Ar. Bea**	**122.05**	**290**	PKP	**PKPdf**	**05 11 33.0**	**-0.2**
	0.6nm,0.7s,baz=108,slow=2.8,SNR=4.2						

DJA 10 05:00:34.9±1.1, 1.°N±4.°×9.°9E±.°, h10km±8km, M4.0/8, MLv4.0/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**1.05**	**80**	P	Pg	05 00 50.2	-5.0
MNSI				S	Sg	05 01 08.2	-0.7
GSI	**Gunungsitoli**	**1.18**	**305**	P	Pb	05 00 49.3	-8.1
PDSI	**Padang**	**2.45**	**128**	P	Pn	05 01 13.7	-1.3
PDSI				S	Sn	05 01 45.9	+0.8
BKNI	**Bangkinang**	**2.52**	**97**	P	Pn	05 01 16.9	+1.0
BKNI				S	Sn	05 01 47.7	+1.0
SNSI	**Sinabang, Aceh**	**2.84**	**309**	P	Pn	05 01 19.4	-0.9
SNSI				S	Sn	05 01 56.6	+2.0
TSI	**Tuntungan**	**2.86**	**0**	P	Pn	05 01 21.3	+0.7
TSI				S	Sn	05 01 55.6	+0.4
KCSI	**Kotacane, Aceh**	**2.98**	**345**	P	Pn	05 01 22.0	-0.3
SDSI	**Sungai Dareh**	**3.27**	**118**	P	Pn	05 01 26.1	-0.2

*IDC **10** 05:16:50.2±1.4, 16.°02S×174.°29W, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.0/18, mbtmp4.1/6, Error ellipse: s-maj=61.2km s-min=26.4km az=129.0*

*ISCJB **10** 05:16:51.2±1.5, 15.°9S±0.°3×174.°5W±0.°3, h10km, mb4.1/6, Error ellipse: s-maj=53.3km s-min=24.6km az=36.4*

ISC 10 05:16:51.7±1.5, 16.°0S±0.°3×174.°3W±0.°4, h10km, n8, σ1°26/10, mb4.2/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.98**	**240**	P	**P**	**05 24 51.7**	**+0.3**
	1.3nm,0.7s,baz=84,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**48.85**	**257**	P	**P**	**05 25 38.1**	**+0.2**
	0.5nm,0.4s,baz=84,slow=8.2,SNR=13						
WRA				PcP	**PcP**	**05 27 01.1**	**-1.4**
	0.9nm,0.8s,baz=92,slow=4.6,SNR=4.5						
ASAR	**Alice Springs**	**49.09**	**252**	P	**P**	**05 25 40.4**	**+0.7**
	2.8nm,0.5s,baz=86,slow=8.2,SNR=27						
ASAR				PcP	**PcP**	**05 27 01.5**	**-1.9**
	0.3nm,0.6s,baz=95,slow=6.0,SNR=3.2						
PETK	**Petropavlovsk-**	**72.89**	**343**	P	**P**	**05 28 21.5**	**+0.7**
	3.0nm,0.8s,baz=153,slow=9.7,SNR=2.9						
ILAR	**Eielson Array**	**83.16**	**11**	P	**P**	**05 29 18.6**	**+1.0**
	0.5nm,0.8s,baz=222,slow=5.9,SNR=8.2						
MAW	**Mawson**	**86.98**	**199**	P	**P**	**05 29 37.4**	**+0.5**
	2.3nm,0.7s,baz=210,slow=17,SNR=5.2						
BRTR	**Keskin Array B**	**146.01**	**320**	PKPbc	**PKPab**	**05 36 31.9**	**-0.9**
	1.6nm,0.7s,baz=89,slow=2.4,SNR=11						
GERES	**GERESS Array B**	**146.54**	**350**	PKPbc	**PKPab**	**05 36 33.0**	**-1.5**
	0.4nm,0.2s,baz=17,slow=1.0,SNR=4.6						

MEX 10 05:24:44.8±0.6, 15.°38N×96.°73W, h5km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.71**	**57**	*i* P	Pg	05 24 57.2	-1.4
HUIG				*i* S	Sg	05 25 07.7	-0.2
PNIG	**Pinotepa**	**1.68**	**307**	*i* P	Pn	05 25 12.0	-2.9
PNIG				*i* S	Sn	05 25 31.8	-5.0
VHO	**Vista Hermosa**	**1.68**	**360**	*i* P	Pn	05 25 10.9	-4.3
VHO				*i* S	Sn	05 25 32.2	-5.1
CMIG	**Matias Romero**	**2.46**	**46**	*i* P	Pn	05 25 22.4	-3.2
CMIG				*e*S	Sn	05 25 52.7	-3.3

*SJA **10** 05:27:13.2±0.7, 33.°90S×73.°45W, h45km, ML3.8, MW4.0*

*GUC **10** 05:27:21.0±0.6, 34.°08S×72.°38W, h15km±1km, ML3.9*

ISC 10 05:27:20.0±3.6, 34.°11S±0.°05×72.°4W±0.°1, h8km±25km, n24, σ1°50/35, 3C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.81**	**80**	⇓*i* P	**Pb**	**05 27 36.1**	**-0.2**
LNV				*i* S	**Sb**	**05 27 47.0**	**-0.5**
IHA	**Instituto Hidr**	**1.24**	**30**	⇑*i* P	**Pn**	**05 27 42.3**	**-1.3**
IHA				*i* S	**Sb**	**05 27 58.0**	**-1.7**
TACH	**Talagante**	**1.28**	**70**	⇓*i* P	**Pn**	**05 27 42.9**	**-1.2**
TACH				*i* S	**Sb**	**05 27 59.6**	**-1.3**
NICH	**Los Niches**	**1.30**	**134**	⇓*i* P	**Pn**	**05 27 44.1**	**-0.3**
NICH				*i* S	**Sn**	**05 28 01.3**	**-0.7**
TALC	**Talca**	**1.43**	**155**	⇑*i* P	**Pn**	**05 27 46.1**	**-0.1**
TALC				*i* S	**Sn**	**05 28 04.7**	**-0.5**
CHCH	**Chadas Angostu**	**1.44**	**84**	⇓*i* P	**Pn**	**05 27 45.9**	**-0.5**
SAN	**Santiago**	**1.57**	**66**	*e*P	**Pn**	**05 27 47.6**	**-0.5**
SAN				*i* S	**Sn**	**05 28 08.1**	**-0.6**
PCH	**Pirque**	**1.62**	**73**	⇓*i* P	**Pn**	**05 27 48.4**	**-0.6**
LACH	**Col Las Americ**	**1.67**	**68**	*e*P	**Pn**	**05 27 48.5**	**-1.0**
LACH				*i* S	**Sn**	**05 28 11.0**	**-0.1**
PEL	**Peldehue**	**1.70**	**56**	⇓*i* P	**Pn**	**05 27 50.0**	**-0.1**
PEL				*i* S	**Sn**	**05 28 11.4**	**-0.7**
PEL				AML	AML	05 28 18.4	
	comp=E,2µm,0.4s						
SJCH	**San Jose de Ma**	**1.74**	**75**	⇓*i* P	**Pn**	**05 27 49.5**	**-1.1**
SJCH				*i* S	**Sn**	**05 28 11.9**	**-1.2**
LNCH	**Linares**	**1.85**	**160**	⇑*i* P	**Pn**	**05 27 52.5**	**+0.5**
LNCH				*i* S	**Sn**	**05 28 16.5**	**+0.8**
AAGR	**Agrelo**	**3.13**	**72**	*e*P	**Pn**	**05 28 12.5**	**+2.8**
AUSP	**Uspallata**	**3.13**	**54**	*e*P	**Pn**	**05 28 13.0**	**+3.2**
AUSP				*e*S	**Sb**	**05 28 56.5**	**+2.0**
ARCO	**CERRO ARCO**	**3.14**	**67**	*e*P	**Pb**	**05 28 15.2**	**-1.0**
ASAL	**Salagasta**	**3.32**	**64**	*e*P	Pn	05 28 16.0	+3.6
ASAL				*e*S	**Sb**	**05 29 02.7**	**+2.8**
RTLS	**Leoncito**	**3.46**	**49**	*e*P	**Pn**	**05 28 17.4**	**+2.9**
RTCV	**Cerro Valdivia**	**3.92**	**56**	*e*P	**Pn**	**05 28 22.9**	**+2.3**
CFAA	**Coronel Fontan**	**4.28**	**56**	*e*P	**Pn**	**05 28 26.2**	**+0.7**
RTLL	**Cerro Villicun**	**4.30**	**51**	*e*P	**Pn**	**05 28 27.8**	**+2.1**
AMOG	**MOGNA**	**4.55**	**47**	*e*P	**Pn**	**05 28 30.2**	**+1.0**
ACAN	**Cantantal**	**4.71**	**69**	*e*P	**Pn**	**05 28 33.2**	**+1.7**
AVFE	**Valle Fertil**	**5.39**	**52**	*e*P	**Pn**	**05 28 42.0**	**+1.2**
AVFE				*e*S	Sn	05 29 48.7	+5.5
AVFE				AML	AML	05 29 59.1	
	comp=Z,29nm,0.6s						
ACLC	**CERRO LA CRUZ**	**6.56**	**46**	*e*P	**Pn**	**05 28 56.9**	**-0.1**

*ISCJB **10** 05:35:30.6±0.4, 12.°74N±0.°07×143.°11E±0.°06, h100km, mb4.0/19, Error ellipse: s-maj=9.5km s-min=8.2km az=153.9*

*IDC **10** 05:35:33.0±1.3, 12.°78N×143.°25E, h107km±12km, mb3.8/16, mb1 3.9/17, mb1mx3.7/42, mbtmp4.1/17, MS3.5/2, Ms1 3.6/2, ms1mx2.8/32, Error ellipse: s-maj=15.0km s-min=12.3km az=90.0*

*NEIC **10** 05:35:33.1±1.1, 12.°75N×143.°25E, h108km±11km, mb4.4/1, Error ellipse: s-maj=13.9km s-min=8.0km az=82.0*

ISC 10 05:35:32.3±0.6, 12.°8N±0.°1×143.°18E±0.°09, h100km, n36, σ0°70/38, mb4.4/27, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.84**	**63**	P	**Pn**	**05 36 03.2**	**+0.3**
	72nm,0.3s,baz=183,slow=14,SNR=22						
GUMO				S	**Sn**	**05 36 26.0**	**-0.1**
	256nm,0.3s,baz=60,slow=20,SNR=38						
JOW	**Kunigami**	**19.78**	**317**	P	**Pn**	**05 39 57.0**	**-0.1**
	0.3nm,0.3s,baz=138,slow=10,SNR=3.5						
JNU	**Nakatsue**	**23.17**	**333**	P	**P**	**05 40 30.9**	**+0.6**
	7.7nm,0.7s,baz=119,slow=4.6,SNR=9.6						
JNU				LR	LR	05 48 27.9	
	comp=Z,52nm,18.0s,baz=178,slow=33						
MJAR	**Matsushiro Ar**	**24.09**	**350**	P	**P**	**05 40 40.0**	**+1.4**
	1.4nm,0.6s,baz=165,slow=8.8,SNR=4.7						
MJAR				ScP	**ScP**	**05 47 45.3**	**-1.7**
	0.6nm,0.3s,baz=149,slow=1.5,SNR=4.6						
KSRS	**Korea Array**	**28.12**	**334**	P	**P**	**05 41 13.9**	**-0.8**
	0.7nm,0.4s,baz=137,slow=9.8,SNR=5.7						
KSAR	**Wonju Array Be**	**28.12**	**334**	P	**P**	**05 41 13.9**	**-0.9**
WRAB	**Tennant Creek**	**33.63**	**195**	*e*P	**P**	**05 42 03.5**	**0.0**
	3.4nm,0.5s						
WRA	**Warramunga Arr**	**33.64**	**195**	P	**P**	**05 42 03.7**	**+0.1**
	3.0nm,0.5s,baz=18,slow=9.6,SNR=28						
AS31	**Alice Springs**	**37.32**	**194**	*e*P	**P**	**05 42 35.2**	**+0.1**
ASAR	**Alice Springs**	**37.32**	**194**	P	**P**	**05 42 35.2**	**+0.1**
	1.9nm,0.4s,baz=21,slow=12,SNR=30						
CMAR	**Chiang Mai Arr**	**42.90**	**283**	P	**P**	**05 43 22.7**	**+1.4**
	4.5nm,0.8s,baz=89,slow=6.3,SNR=13						
CMAR				LR	LR	05 59 45.9	
	comp=Z,94nm,19.1s,baz=221,slow=34						
STKA	**Stephens Creek**	**44.41**	**182**	P	**P**	**05 43 32.5**	**-0.6**
	1.4nm,0.7s,baz=338,slow=9.8,SNR=3.6						
SONM	**Songino Array**	**46.48**	**326**	P	**P**	**05 43 49.9**	**+0.5**
	0.8nm,0.5s,baz=146,slow=7.8,SNR=11						
SONM				ScP	**ScP**	**05 49 06.9**	**-0.1**
	0.3nm,0.5s,baz=121,slow=5.6,SNR=3.0						
TAPN	**Taplejung**	**53.68**	**295**	*e*P	**P**	**05 44 44.7**	**+0.2**
	5.3nm,0.5s						
ODAN	**Odare**	**53.93**	**294**	*e*P	**P**	**05 44 45.7**	**-0.5**
	10nm,0.7s						
RAMN	**Ramite**	**54.64**	**294**	*e*P	**P**	**05 44 50.9**	**-0.5**
JIRN	**Jiri**	**55.05**	**295**	*e*P	**P**	**05 44 54.6**	**+0.1**
	19nm,0.5s						
GUN	**Gumba**	**55.34**	**295**	*e*P	**P**	**05 44 56.3**	**-0.2**
	31nm,0.7s						
PKI	**Pulchoki**	**55.74**	**295**	*e*P	**P**	**05 44 58.7**	**-0.6**
	8.2nm,0.5s						
KKN	**Kakani**	**55.86**	**295**	*e*P	**P**	**05 45 00.1**	**0.0**
DMN	**Daman**	**56.01**	**295**	*e*P	**P**	**05 45 00.8**	**-0.4**
	20nm,0.8s						
GKN	**Gorkha**	**56.44**	**295**	*e*P	**P**	**05 45 03.5**	**-0.7**
	14nm,0.5s						
KOLN	**Koldanda**	**57.35**	**295**	*e*P	**P**	**05 45 10.2**	**-0.4**
	14nm,0.7s						
MK31	**Makanchi Array**	**60.95**	**317**	*e*P	**P**	**05 45 34.6**	**-0.3**
MKAR	**Makanchi Array**	**60.95**	**317**	P	**P**	**05 45 35.1**	**+0.3**
	1.6nm,0.6s,baz=92,slow=8.7,SNR=18						
ZALV	**Zalesovo Beam**	**61.34**	**325**	P	**P**	**05 45 36.7**	**-0.7**
	1.6nm,0.4s,baz=115,slow=7.3,SNR=7.8						
KURK	**Kurchatov**	**64.16**	**320**	P	**P**	**05 45 56.3**	**+0.2**
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**64.19**	**320**	P	**P**	**05 45 56.3**	**-0.1**
	9.0nm,0.6s,baz=104,slow=7.2,SNR=59						
BVAR	**Borovoye Array**	**69.55**	**322**	P	**P**	**05 46 30.1**	**-0.3**
	3.5nm,0.5s,baz=96,slow=8.0,SNR=17						
ILAR	**Eielson Array**	**70.02**	**25**	P	**P**	**05 46 31.4**	**-1.6**
	0.3nm,0.4s,baz=256,slow=5.5,SNR=8.8						
AKTO	**Aktyubinsk**	**77.21**	**319**	P	**P**	**05 47 14.8**	**-0.5**
	0.6nm,0.4s,baz=82,slow=7.1,SNR=3.6						
YKA	**Yellowknife Ar**	**84.34**	**27**	P	**P**	**05 47 53.1**	**+0.1**
	0.2nm,0.4s,baz=286,slow=5.1,SNR=5.0						
NVAR	**Mina Array Bea**	**88.72**	**51**	P	**P**	**05 48 16.4**	**+1.2**
	0.6nm,0.6s,baz=253,slow=7.4,SNR=4.5						
FINES	**FINESS Array B**	**91.20**	**335**	P	P	05 48 23.3	-2.7
	0.6nm,0.4s,baz=88,slow=4.4,SNR=7.3						
TORD	**Torodi Ar. Bea**	**133.94**	**303**	PKP	**PKPdf**	**05 54 39.5**	**+0.7**
	0.3nm,0.5s,baz=46,slow=2.0,SNR=2.8						
LPAZ	**La Paz**	**149.51**	**100**	PKPbc	**PKPbc**	**05 55 12.1**	**+0.4**
	1.2nm,0.7s,baz=235,slow=3.5,SNR=7.1						

*IDC **10** 05:35:40.4±6.4, 35.°80N×71.°05E, h236km±55km, mb3.1/2, mb1 3.0/6, mb1mx2.7/49, mbtmp3.7/6, MS2.5/1, Ms1 2.5/1, ms1mx2.1/16, Error ellipse: s-maj=99.7km s-min=34.6km az=137.0*

*ISCJB **10** 05:35:43.9±0.8, 36.°44N±0.°05×70.°57E±0.°10, h204km, mb3.4/1, Error ellipse: s-maj=11.6km s-min=5.1km az=158.5*

*NNC **10** 05:35:49.0±1.3, 36.°77N×70.°46E, h213km±11km, mb2.3, mpv3.5, Error ellipse: s-maj=14.0km s-min=7.3km az=158.0*

ISC 10 05:35:44.6±1.1, 36.°45N±0.°08×70.°57E±0.°09, h204km, n23, σ1°33/27, 9C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.73**	**330**	⇑P	**Pn**	**05 36 32.8**	**+1.5**
	9.6nm,0.2s						
DZET				⇑S	**S**	**05 37 07.5**	**+0.1**
	95nm,0.3s						
SFK	**Sufi-Kurgan**	**4.24**	**32**	⇑P	**Pn**	**05 36 51.4**	**+1.7**
	3.2nm,0.2s						
SFK				⇓S	**S**	**05 37 42.2**	**+1.7**
	73nm,0.4s						
MNAS	**Manas**	**6.21**	**13**	⇑P	**Pn**	**05 37 15.9**	**+1.3**
	1.1nm,0.3s						
MNAS				⇑S	**S**	**05 38 25.1**	**-0.8**
	13nm,0.5s						
KK31	**Karatay Array**	**6.64**	**360**	P	**Pn**	**05 37 20.3**	**+0.2**
	0.5nm,0.3s,baz=180,slow=12,SNR=28						
KK31				⇑S	**S**	**05 38 32.9**	**-2.9**
	2.2nm,0.4s,baz=178,slow=27,SNR=5.8						
AAK	**Ala-Archa**	**6.88**	**25**	⇑P	**Pn**	**05 37 25.5**	**+2.2**
	2.9nm,0.5s						
AAK				⇓S	**S**	**05 38 41.1**	**-0.5**
	12nm,0.7s						
AAK	**Ala-Archa**	**6.88**	**25**	P	**Pn**	**05 37 24.8**	**+1.5**
	1.9nm,0.3s,baz=220,slow=17,SNR=9.0						
AAK				S	**S**	**05 38 41.2**	**-0.4**
	1.9nm,0.3s,baz=354,slow=23,SNR=19		

ARG	**Arkhangelos**	**0.74**	**35**	*e*PN	**Pn**	**05 59 53.7**	**+0.7**
ARG				*e*SN	**Sn**	**06 00 05.3**	**+1.9**
ARG	**Arkhangelos**	**0.74**	**35**	P	**Pn**	**05 59 53.4**	**+0.4**
ARG	**Arkhangelos**	**0.74**	**35**	*e*Pn	**Pn**	**05 59 53.7**	**+0.7**
ARG				S	**Sn**	**06 00 05.4**	**+2.0**
DAT	**Datca**	**1.11**	**359**	*e*PN	**Pn**	**05 59 58.2**	**-0.1**
DAT				*e*SN	**Sn**	**06 00 14.2**	**+1.3**
DAT	**Datca**	**1.11**	**359**	*e*Pn	**Pn**	**05 59 58.3**	**-0.1**
DAT				*e*Sn	**Sn**	**06 00 14.2**	**+1.3**
ZKR	**Zakros**	**1.24**	**247**	P	**Pn**	**05 59 59.7**	**-0.2**
ZKR				S	**Sb**	**06 00 18.3**	**+1.7**
ZKR	**Zakros**	**1.24**	**247**	P	**Pn**	**05 59 59.7**	**-0.2**
ZKR				S	**Sb**	**06 00 18.3**	**+1.7**
BDRM	**Kayabasi**	**1.46**	**355**	*i* P	**Pn**	**06 00 02.4**	**-0.5**
BDRM				*i* S	**Sn**	**06 00 22.0**	**+0.8**
BDRM	**Kayabasi**	**1.46**	**355**	*i* P	**Pn**	**06 00 02.4**	**-0.5**
BDRM				*i* S	**Sn**	**06 00 22.0**	**+0.8**
BODT	**Bodrum**	**1.47**	**351**	*e*PN	**Pn**	**06 00 02.8**	**-0.3**
BODT				*e*SN	**Sb**	**06 00 23.0**	**-0.2**
BODT	**Bodrum**	**1.47**	**351**	*e*Pn	**Pn**	**06 00 02.8**	**-0.3**
BODT				*e*Sn	**Sb**	**06 00 23.0**	**-0.2**
DALY	**Dalyan (Mu˘la**	**1.47**	**35**	*e*PN	**Pn**	**06 00 03.9**	**+0.8**
DALY				*e*SN	**Sb**	**06 00 23.8**	**+0.5**
DALY	**Dalyan (Mu˘la**	**1.47**	**35**	*e*Pn	**Pn**	**06 00 03.9**	**+0.8**
DALY				*e*Sn	**Sb**	**06 00 23.8**	**+0.5**
TURN	**Turunc**	**1.50**	**32**	*i* P	**Pn**	**06 00 01.4**	**-2.1**
TURN				*i* S	**Sn**	**06 00 20.7**	**-1.4**
TURN	**Turunc**	**1.50**	**32**	*i* P	**Pn**	**06 00 01.4**	**-2.1**
TURN				*i* S	**Sn**	**06 00 20.7**	**-1.4**
YER	**Yerkesik**	**1.61**	**20**	*e*PN	**Pn**	**06 00 05.9**	**+0.7**
YER				*e*SN	**Sb**	**06 00 27.0**	**-0.5**
YER	**Yerkesik**	**1.61**	**20**	*e*Pn	**Pn**	**06 00 05.9**	**+0.7**
YER				*e*Sn	**Sb**	**06 00 27.0**	**-0.5**
NPS	**Neapolis**	**1.66**	**258**	P	**Pb**	**06 00 06.9**	**-1.4**
NPS				S	**Sb**	**06 00 27.9**	**-0.9**
NPS	**Neapolis**	**1.66**	**258**	*e*PB	**Pn**	**06 00 06.6**	**+0.8**
NPS	**Neapolis**	**1.66**	**258**	*e*Pb	**Pn**	**06 00 06.6**	**+0.8**
NPS	**Neapolis**	**1.66**	**258**	P	**Pb**	**06 00 06.9**	**-1.4**
NPS				S	**Sb**	**06 00 27.9**	**-0.9**
AKAS	**Kas**	**1.74**	**69**	*i* P	**Pn**	**06 00 06.8**	**-0.1**
AKAS	**Kas**	**1.74**	**69**	*i* P	**Pn**	**06 00 06.8**	**-0.1**
LAST	**Lasithi**	**1.79**	**256**	P	**Pb**	**06 00 09.1**	**-1.5**
LAST				S	**Sb**	**06 00 31.9**	**-0.8**
LAST	**Lasithi**	**1.79**	**256**	*e*PN	**Pb**	**06 00 09.0**	**-1.5**
LAST	**Lasithi**	**1.79**	**256**	*e*Pn	**Pb**	**06 00 09.0**	**-1.5**
LAST				S	**Sb**	**06 00 31.9**	**-0.8**
THR6	**Thira Island,**	**1.94**	**293**	P	**Pn**	**06 00 09.1**	**-0.4**
THR6	**Thira Island,**	**1.94**	**293**	P	**Pn**	**06 00 09.1**	**-0.4**
THR2	**Thira Island,**	**1.94**	**296**	P	**Pn**	**06 00 09.1**	**-0.6**
THR2	**Thira Island,**	**1.94**	**296**	P	**Pn**	**06 00 09.1**	**-0.6**
THR3	**Thira Island,**	**1.96**	**295**	P	**Pn**	**06 00 09.3**	**-0.5**
THR3	**Thira Island,**	**1.96**	**295**	P	**Pn**	**06 00 09.3**	**-0.5**
THR5	**Thira Island,**	**2.00**	**294**	*e*PN	**Pn**	**06 00 10.8**	**+0.4**
THR5	**Thira Island,**	**2.00**	**294**	P	**Pn**	**06 00 09.8**	**-0.6**
THR5	**Thira Island,**	**2.00**	**294**	P	**Pn**	**06 00 09.8**	**-0.6**
THR5	**Thira Island,**	**2.00**	**294**	*e*Pn	**Pn**	**06 00 10.8**	**+0.4**
AYDN	**Tasoluk**	**2.06**	**6**	*i* P	**Pn**	**06 00 12.4**	**+1.1**
AYDN				*i* S	**Sn**	**06 00 37.8**	**+1.8**
AYDN	**Tasoluk**	**2.06**	**6**	*i* P	**Pn**	**06 00 12.4**	**+1.1**
AYDN				*i* S	**Sn**	**06 00 37.8**	**+1.8**
SMG	**Samos**	**2.18**	**344**	P	**Pn**	**06 00 12.8**	**-0.1**
SMG				S	**Sn**	**06 00 39.8**	**+0.7**
SMG	**Samos**	**2.18**	**344**	*e*PN	**Pn**	**06 00 13.5**	**+0.6**
SMG	**Samos**	**2.18**	**344**	P	**Pn**	**06 00 12.8**	**-0.1**
SMG	**Samos**	**2.18**	**344**	*e*Pn	**Pn**	**06 00 13.5**	**+0.6**
SMG				S	**Sn**	**06 00 39.8**	**+0.7**
ELL	**Elmali**	**2.18**	**58**	*e*PN	**Pn**	**06 00 13.8**	**+0.7**
ELL	**Elmali**	**2.18**	**58**	*e*Pn	**Pn**	**06 00 13.8**	**+0.7**
APE	**Apeiranthos**	**2.22**	**312**	*e*PN	**Pn**	**06 00 13.4**	**-0.1**
APE	**Apeiranthos**	**2.22**	**312**	P	**Pn**	**06 00 12.7**	**-0.7**
APE				S	**Sn**	**06 00 38.9**	**-1.1**
APE	**Apeiranthos**	**2.22**	**312**	*e*PN	**Pn**	**06 00 13.0**	**-0.4**
APE	**Apeiranthos**	**2.22**	**312**	P	**Pn**	**06 00 12.7**	**-0.7**
APE	**Apeiranthos**	**2.22**	**312**	*e*Pn	**Pn**	**06 00 13.4**	**-0.1**
APE				S	**Sn**	**06 00 38.9**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**2.34**	**6**	*e*PN	**Pn**	**06 00 16.4**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**2.34**	**6**	*e*Pn	**Pn**	**06 00 16.4**	**+1.2**
SIVA	**Sivas**	**2.36**	**256**	P	**Pn**	**06 00 15.9**	**+0.5**
SIVA				S	**Sn**	**06 00 45.3**	**+1.8**
SIVA	**Sivas**	**2.36**	**256**	P	**Pn**	**06 00 15.9**	**+0.5**
SIVA				S	**Sn**	**06 00 45.3**	**+1.8**
DENT	**Denizli**	**2.43**	**28**	*e*PN	**Pn**	**06 00 17.5**	**+1.2**
DENT	**Denizli**	**2.43**	**28**	*e*Pn	**Pn**	**06 00 17.5**	**+1.2**
GVD	**Gavdhos**	**2.98**	**256**	P	**Pn**	**06 00 26.3**	**+2.4**
GVD	**Gavdhos**	**2.98**	**256**	P	**Pn**	**06 00 26.3**	**+2.4**
KULA	**Kula-Manisa**	**3.02**	**16**	*e*PN	**Pn**	**06 00 25.9**	**+1.4**
KULA	**Kula-Manisa**	**3.02**	**16**	P	**Pn**	**06 00 25.3**	**+0.8**
KULA	**Kula-Manisa**	**3.02**	**16**	P	**Pn**	**06 00 25.3**	**+0.8**
KULA	**Kula-Manisa**	**3.02**	**16**	*e*Pn	**Pn**	**06 00 25.9**	**+1.4**
CHOS	**Chios island**	**3.03**	**336**	*e*PN	**Pn**	**06 00 25.6**	**+0.9**
CHOS	**Chios island**	**3.03**	**336**	P	**Pn**	**06 00 24.8**	**+0.1**
CHOS	**Chios island**	**3.03**	**336**	P	**Pn**	**06 00 24.8**	**+0.1**
CHOS	**Chios island**	**3.03**	**336**	*e*Pn	**Pn**	**06 00 25.6**	**+0.9**
ANKY	**Antikythira Is**	**3.51**	**275**	P	**Pn**	**06 00 31.4**	**+0.2**
ANKY				S	**Sn**	**06 01 12.2**	**+0.4**
ANKY	**Antikythira Is**	**3.51**	**275**	P	**Pn**	**06 00 31.4**	**+0.2**
ANKY				S	**Sn**	**06 01 12.2**	**+0.4**
KYTH	**Kithira**	**3.77**	**282**	P	**Pn**	**06 00 35.0**	**+0.3**
KYTH	**Kithira**	**3.77**	**282**	*e*PN	**Pn**	**06 00 35.4**	**+0.7**
KYTH	**Kithira**	**3.77**	**282**	P	**Pn**	**06 00 35.0**	**+0.3**
KYTH	**Kithira**	**3.77**	**282**	*e*Pn	**Pn**	**06 00 35.4**	**+0.7**
GAZI	**Gazipasa**	**3.87**	**79**	*i* P	**Pn**	**06 00 34.2**	**-2.0**
GAZI				*i* S	**Sn**	**06 01 15.1**	**-5.0**
GAZI	**Gazipasa**	**3.87**	**79**	*i* P	**Pn**	**06 00 34.2**	**-2.0**
VLI	**Veliai**	**3.93**	**288**	P	**Pn**	**06 00 36.7**	**-0.3**
VLI				S	**Sn**	**06 01 22.2**	**-0.1**
VLI	**Veliai**	**3.93**	**288**	*e*PN	**Pn**	**06 00 37.1**	**+0.1**
VLI	**Veliai**	**3.93**	**288**	P	**Pn**	**06 00 36.7**	**-0.3**
VLI	**Veliai**	**3.93**	**288**	*e*Pn	**Pn**	**06 00 37.1**	**+0.1**
VLI				S	**Sn**	**06 01 22.2**	**-0.1**
DID	**Didima**	**3.99**	**300**	P	**Pn**	**06 00 38.5**	**+0.7**
DID	**Didima**	**3.99**	**300**	P	**Pn**	**06 00 38.5**	**+0.7**

GUC ***10*** *06:10:04.8±0.8,22˚.67S×69˚.11W,h120km±5km,ML5.0*
SJA ***10*** *06:10:04.9±0.7,22˚.71S×69˚.00W,h112km±10km,ML4.6, MW5.1*
ISCJB ***10*** *06:10:04.5±0.3,22˚.65S±0˚.03×68˚.94W±0˚.04,h115km±2km, mb4.6/73,Error ellipse: s-maj=6.8km s-min=4.4km az=146.9*
NEIC ***10*** *06:10:05.4±0.2,22˚.70S×68˚.68W,mb4.6/57,Error ellipse: s-maj=8.4km s-min=4.9km az=72.0*
NEIC Felt [IV] at Sierra Gorda. Also felt at Antofagasta, Calama and Tocopilla.
IDC ***10*** *06:10:05.5±0.3,22˚.64S×68˚.86W,h110km±2km,mb4.2/17, mb1 4.2/20,mb1mx4.2/23,mbtmp4.5/20,MS3.1/5, Ms1 3.2/5,ms1mx3.0/21,Error ellipse: s-maj=12.4km s-min=9.1km az=55.0*
BJI ***10*** *06:10:07.1,22˚.80S×68˚.60W,h113km,mB5.1/6*
ISC 10 06:10:05.8±0.3,22˚.69S±0˚.04×69˚.01W±0˚.05,h113km±2km, h113km:pP-P,n466,σ0s87/519,mb4.6/74,146C-152D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.12**	**48**	P		**Pn**	**06 10 21.2**	**-0.6**
	250μm,0.3s,baz=266,slow=1.2							
LVC				S		**Sn**	**06 10 33.0**	**-0.7**
	140μm,0.3s,baz=319,slow=19,SNR=74							
LVC	**Limon Verde**	**0.12**	**48**	*e*P		**Pn**	**06 10 21.3**	**-0.5**
LVC				*e*S		**Sn**	**06 10 33.7**	**0.0**
LVC				AML	AML		06 10 34.2	
	comp=Z,161μm,0.1s							
PB06	**IPOC Station P**	**0.52**	**268**	⇓*i* P		**Pn**	**06 10 23.0**	**-0.3**
PB06				*i* S		**Sn**	**06 10 36.4**	**-0.2**
PB06				AML	AML		06 10 37.2	
	comp=N,69μm,0.1s							
PB04	**IPOC Station P**	**0.61**	**314**	⇑*i* P		Pn	06 10 28.4	+4.6
PB04				*i* S		Sn	06 10 46.0	+8.7
PB04				AML	AML		06 10 49.6	
	comp=E,26μm,1.2s							
PB07	**IPOC Station P**	**1.26**	**320**	⇑*i* P		**Pn**	**06 10 30.1**	**-0.1**
PB07				*i* S		**Sn**	**06 10 48.5**	**-0.2**
PB07				AML	AML		06 10 49.6	
	comp=E,61μm,0.3s							
ANCH	**Antofagasta**	**1.62**	**232**	⇑*i* P		**Pn**	**06 10 33.1**	**-1.2**
ANCH				*i* S		**Sn**	**06 10 55.0**	**-0.9**
PB10	**IPOC Station P**	**1.64**	**240**	⇑*i* P		**Pn**	**06 10 33.9**	**-0.7**
PB10				*i* S		**Sn**	**06 10 55.5**	**-0.9**
PB10				AML	AML		06 11 01.2	
	comp=E,21μm,0.3s							
PB01	**IPOC Station P**	**1.70**	**345**	⇓*i* P		**Pn**	**06 10 35.0**	**-0.4**
PB01				*i* S		**Sn**	**06 10 57.5**	**-0.4**
PB01				AML	AML		06 10 58.9	
	comp=E,30μm,0.5s							
PATCX	**Punta Patache**	**2.15**	**330**	⇓*i* P		**Pn**	**06 10 39.9**	**-1.0**
PATCX				*i* S		**Sn**	**06 11 06.9**	**-0.9**
PATCX				AML	AML		06 11 07.9	
	comp=N,8μm,0.6s							
YJA	**Yavi**	**3.27**	**82**	*e*P		**Pn**	**06 10 57.2**	**+1.3**
HJA	**Humahuaca**	**3.36**	**99**	*e*P		**Pn**	**06 10 57.8**	**+0.8**
AZAP	**Zapla**	**3.93**	**114**	*e*P		**Pn**	**06 11 04.6**	**+0.1**
ASTB	**Santa Barbara**	**4.34**	**108**	*e*P		**Pn**	**06 11 10.0**	**0.0**
FSA	**Cafayete**	**4.35**	**142**	*e*P		**Pn**	**06 11 11.2**	**+1.1**
AHML	**Horco Molle**	**5.27**	**141**	*e*P		**Pn**	**06 11 22.6**	**+0.3**
AHML					AML	AML	06 12 08.8	
	comp=Z,36nm,0.6s							
LPAZ	**La Paz**	**6.42**	**8**	P		**Pn**	**06 11 38.1**	**-0.5**
	comp=Z,7.5nm,0.3s,baz=179,slow=9.9,SNR=231							
LPAZ					LR	LR	06 14 33.2	
	comp=Z,140nm,21.3s,baz=166,slow=42							
LPAZ	**La Paz**	**6.42**	**8**	*e*Pn		**Pn**	**06 11 38.3**	**-0.3**
LCO	**Las Campanas**	**6.47**	**193**	*e*Pn		Pn	06 11 33.8	-5.0
ARE	**Arequipa**	**6.62**	**339**	*e*P		**Pn**	**06 11 39.0**	**-2.0**
ARE				*e*S		Sn	06 12 47.0	-8.3
CFAA	**Coronel Fontan**	**8.90**	**176**	P		Pn	06 12 08.2	-3.4
	comp=Z,0.5nm,0.3s,baz=354,slow=15,SNR=87							
CFAA					LR	LR	06 16 03.3	
	comp=Z,18nm,21.8s,baz=359,slow=40							
SIV	**San Ignacio**	**10.03**	**50**	P		Pn	06 12 21.7	-5.2
	comp=Z,21nm,0.3s,baz=252,slow=13,SNR=178							
SIV					LR	LR	06 16 22.8	
	comp=Z,82nm,19.7s,baz=353,slow=38							
CPUP	**Villa Florida**	**11.23**	**111**	*e*Pn		Pn	06 12 39.1	-3.9
NNA	**Nana**	**13.01**	**324**	P		**Pn**	**06 13 07.9**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=131,slow=11,SNR=2.1							
NNA					S	Sn	06 15 22.0	-7.8
	comp=Z,2.3nm,0.3s,baz=185,slow=12,SNR=4.1							
SAML	**Samuel**	**14.77**	**23**	*e*Pn		Pn	06 13 24.6	-4.5
TRQA	**Tornquist**	**16.46**	**160**	*e*Pn		**Pn**	**06 13 48.7**	**-1.4**
	comp=Z,21nm,0.8s							
PLCA	**Paso Flores**	**18.03**	**184**	P		**P**	**06 14 07.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=357,slow=12,SNR=8.7							
PLCA					PcP	**PcP**	**06 14 38.0**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=21,slow=3.0,SNR=6.9							
PLCA	**Paso Flores**	**18.03**	**184**	*e*P		**P**	**06 14 07.3**	**-0.8**
	comp=Z,12nm,0.8s							
PLCA					PcP	**PcP**	**06 18 38.0**	**+0.4**
BDFB	**Brasilia**	**21.02**	**74**	P		**P**	**06 14 38.1**	**-2.7**
	comp=Z,31nm,0.4s,baz=250,slow=11,SNR=102							
BDFB					LR	LR	06 24 08.6	
	comp=Z,155nm,18.7s,baz=231,slow=40							
BDFB	**Brasilia**	**21.02**	**74**	*e*P		**P**	**06 14 38.4**	**-2.4**
OTAV	**Otavalo**	**24.58**	**337**	*e*P		**P**	**06 15 16.8**	**+0.9**
	comp=Z,8.0nm,0.8s							
ROSC	**El Rosal**	**27.87**	**349**	P		**P**	**06 15 45.5**	**0.0**
	comp=Z,1.7nm,0.5s,baz=86,slow=19,SNR=3.5							
ROSC	**El Rosal**	**27.87**	**349**	*e*P		**P**	**06 15 46.2**	**+0.8**
USHA	**Ushuaia**	**32.10**	**179**	P		**P**	**06 16 22.2**	**+0.3**
	comp=Z,4.5nm,0.9s,baz=349,slow=10.0,SNR=5.1							
RCBR	**Riachuelo**	**36.07**	**67**	P		**P**	**06 16 54.8**	**-2.0**
	comp=Z,17nm,0.8s,baz=234,slow=10,SNR=8.9							
JTS	**JuntasAbangare**	**36.31**	**333**	P		**P**	**06 16 59.4**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=0.0,slow=5.1,SNR=4.2							
JTS	**JuntasAbangare**	**36.31**	**333**	*e*P		**P**	**06 17 01.2**	**+2.4**
CELP	**Cerrillos**	**40.59**	**4**	*e*P		**P**	**06 17 33.3**	**-1.2**
PMSA	**Palmer Station**	**42.20**	**177**	P		**P**	**06 17 47.3**	**+0.3**
	comp=Z,11nm,0.5s,baz=344,slow=7.4,SNR=3.5							
933A	**Laredo**	**57.93**	**328**	⇓P		**P**	**06 19 47.0**	**+0.6**
	baz=58							
834A	**Tilden**	**58.01**	**329**	⇑P		**P**	**06 19 47.4**	**+0.5**
	baz=58							
LRAL	**Lakeview Retre**	**58.02**	**342**	*e*P		**P**	**06 19 45.9**	**-0.9**
	comp=Z,5.3nm,0.6s							
736A	**Circle Diamond**	**58.03**	**331**	⇓P		**P**	**06 19 48.3**	**+1.3**
	baz=58							
636A	**Smothers Creek**	**58.48**	**331**	⇑P		**P**	**06 19 50.8**	**+0.7**
	baz=59							
833A	**Chaparral WMA,**	**58.58**	**328**	⇓P		**P**	**06 19 51.4**	**+0.5**
	baz=59							
KMSC	**Kings Mountain**	**58.70**	**348**	*e*P		**P**	**06 19 51.4**	**-0.1**
KMSC				*e*PcP		PcP	06 20 45.8	+5.5
635A	**Leesville**	**58.72**	**331**	⇑P		**P**	**06 19 51.6**	**-0.1**
	baz=59							
832A	**Faith Ranch, C**	**58.83**	**328**	⇑P		**P**	**06 19 52.9**	**+0.3**
	baz=59,SNR=6.8							
340A	**Bronson**	**58.85**	**335**	⇑P		**P**	**06 19 53.0**	**+0.4**
	baz=59							
733A	**Divot King Ran**	**58.86**	**329**	⇓P		**P**	**06 19 53.1**	**+0.3**
	baz=59							
536A	**Bastrop**	**58.99**	**332**	⇑P		**P**	**06 19 53.6**	**-0.1**
	baz=59							
339A	**Huntington**	**59.04**	**335**	⇓P		**P**	**06 19 53.9**	**0.0**
	baz=60							
535A	**Dale**	**59.18**	**331**	⇓P		**P**	**06 19 54.8**	**-0.1**
	baz=60							
VNA1	**Neumayer--Stat**	**59.20**	**160**	P		**P**	**06 19 55.2**	**+0.7**
732A	**Laxson Ranch,**	**59.20**	**328**	⇑P		**P**	**06 19 55.2**	**+0.1**
	baz=60,SNR=5.3							
437A	**Phantom Ranch,**	**59.24**	**333**	⇓P		**P**	**06 19 55.5**	**+0.1**
	baz=60							
338A	**Crockett**	**59.36**	**334**	⇑P		**P**	**06 19 55.2**	**-1.0**
	baz=60							
633A	**Saathoff Ranch**	**59.43**	**329**	⇓P		**P**	**06 19 56.5**	**-0.2**
	baz=60,SNR=5.2							
NATX	**Nacogdoches**	**59.45**	**335**	⇑P		**P**	**06 19 56.8**	**0.0**
	baz=60							
534A	**Blanco**	**59.58**	**330**	⇑P		**P**	**06 19 57.4**	**-0.4**
	baz=60							
239A	**Gary**	**59.61**	**335**	⇓P		**P**	**06 19 58.5**	**+0.7**
	baz=60							
CPCT	**Cooper Cave**	**59.67**	**345**	*e*P		**P**	**06 19 58.0**	**-0.2**
TKL	**Tuckaleechee C**	**59.70**	**346**	*e*P		**P**	**06 19 57.8**	**-0.6**
632A	**Uvalde**	**59.76**	**329**	⇓P		**P**	**06 19 59.2**	**+0.2**
	baz=60							
SWET	**Sewanee**	**59.79**	**344**	*e*P		**P**	**06 19 58.5**	**-0.6**
	comp=Z,20nm,0.4s							
435B	**Jarrell**	**59.83**	**332**	⇓P		**P**	**06 19 59.6**	**+0.2**
	baz=60							
533A	**Kerrville**	**59.88**	**330**	⇑P		**P**	**06 19 59.4**	**-0.4**
	baz=60							
336A	**Riesel**	**60.03**	**333**	⇑P		**P**	**06 20 00.7**	**0.0**
	baz=60							
631A	**Perdido Creek**	**60.06**	**328**	⇑P		**P**	**06 20 00.7**	**-0.3**
	baz=60,SNR=7.7							
OXF	**Oxford**	**60.10**	**341**	*e*P		**P**	**06 20 00.6**	**-0.6**
	comp=Z,38nm,1.1s							
335A	**Moody**	**60.19**	**332**	⇑P		**P**	**06 20 01.6**	**-0.3**
	baz=61							
532A	**Rocksprings**	**60.33**	**329**	⇓P		**P**	**06 20 03.1**	**+0.2**
	baz=61,SNR=7.3							
138A	**Matatall Enter**	**60.42**	**335**	⇑P		**P**	**06 20 04.0**	**+0.6**
	baz=61							
433A	**Art**	**60.48**	**330**	⇓P		**P**	**06 20 03.2**	**-0.7**
	baz=61							
JCT	**Junction City**	**60.58**	**330**	⇑P		**P**	**06 20 04.4**	**-0.1**
	baz=61,SNR=6.6							
JCT	**Junction City**	**60.58**	**330**	*e*P		**P**	**06 20 04.9**	**+0.3**
	comp=Z,8.3nm,0.7s							
JCT				*e*pP		**pP**	**06 20 32.8**	**+0.7**
JCT				*e*sP		**sP**	**06 20 45.2**	**+0.7**
334A	**Lometa**	**60.59**	**331**	⇓P		**P**	**06 20 04.3**	**-0.3**
	baz=61							
137A	**Heron Place, G**	**60.63**	**334**	⇑P		**P**	**06 20 05.5**	**+0.7**
	baz=61							
531A	**Rocksprings**	**60.67**	**329**	⇑P		**P**	**06 20 05.5**	**+0.3**
	baz=61,SNR=9.1							
WHTX	**Lake Whitney,**	**60.81**	**332**	⇓P		**P**	**06 20 05.8**	**-0.2**
	baz=61							
432A	**Menard**	**60.91**	**330**	⇓P		**P**	**06 20 06.5**	**-0.3**
	baz=61,SNR=8.8							
333A	**Richland Sprin**	**60.91**	**331**	⇓P		**P**	**06 20 06.5**	**-0.3**
	baz=61,SNR=6.4							
530A	**J-C Ranch, Com**	**61.04**	**328**	⇓P		**P**	**06 20 07.8**	**+0.1**
	baz=62,SNR=9.4							
234A	**Clairette**	**61.11**	**332**	⇓P		**P**	**06 20 08.0**	**-0.1**
	baz=62,SNR=9.8							
431A	**Sonora**	**61.13**	**329**	⇑P		**P**	**06 20 08.2**	**-0.2**
	baz=62,SNR=5.5							
SNAA	**Sanae**	**61.19**	**161**	P		P	06 20 00.1	-8.1
SNAA	**Sanae**	**61.19**	**161**	PcP		pP	06 20 28.0	-7.8
SNAA	**Sanae**	**61.19**	**161**	P		**P**	**06 20 08.1**	**-0.2**
	comp=Z,3.4nm,0.6s,baz=286,slow=8.3,SNR=82							
SNAA				pP		**pP**	**06 20 35.7**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=280,slow=8.0,SNR=3.0							
SNAA	**Sanae**	**61.19**	**161**	P		**P**	**06 20 08.1**	**-0.2**
	comp=Z,0.6nm,0.8s							
SNAA				*e*pP		pP	06 20 28.2	-7.6
SNAA				pP		**pP**	**06 20 35.7**	**-0.1**
332A	**Millersview**	**61.31**	**330**	⇓P		**P**	**06 20 09.3**	**-0.2**
	baz=62,SNR=6.2							
233A	**Rising Star**	**61.46**	**331**	⇑P		**P**	**06 20 10.2**	**-0.3**
	baz=62							
430A	**Baggett Ranch,**	**61.51**	**329**	⇑P		**P**	**06 20 10.9**	**0.0**
	baz=62,SNR=6.1							
MIAR	**Mount Ida**	**61.52**	**337**	*e*P		**P**	**06 20 10.7**	**-0.2**
	comp=Z,9.1nm,0.6s							
MIAR				*e*pP		**pP**	**06 20 38.4**	**-0.1**
MIAR				*e*			06 20 50.7	
TXAR	**Lajitas Array**	**61.55**	**326**	P		**P**	**06 20 11.6**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=152,slow=8.4,SNR=18							
TXAR				sP		**sP**	**06 20 52.0**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=152,slow=8.2,SNR=3.6							
TX31	**Lajitas Ar. Si**	**61.55**	**326**	*e*P		**P**	**06 20 11.6**	**+0.3**
331A	**San Angelo**	**61.56**	**330**	⇓P		**P**	**06 20 10.9**	**-0.3**
	baz=62,SNR=6.2							
134A	**White-Moore Ra**	**61.58**	**332**	⇓P		**P**	**06 20 10.8**	**-0.5**
	baz=62							
232A	**Coleman**	**61.69**	**330**	⇓P		**P**	**06 20 11.9**	**-0.2**
	baz=62							
429A	**Davenport Ranc**	**61.70**	**328**	⇓P		**P**	**06 20 12.5**	**+0.3**
	baz=62,SNR=8.7							
Z35A	**Perchaven, San**	**61.88**	**333**	⇓P		**P**	**06 20 13.1**	**-0.2**
	baz=62							
133A	**Hamilton Ranch**	**61.97**	**332**	⇑P		**P**	**06 20 13.7**	**-0.2**
	baz=62							
330A	**Mertzon**	**62.00**	**329**	⇑P		**P**	**06 20 13.7**	**-0.5**
	baz=62							
231A	**Bronte**	**62.03**	**330**	⇓P		**P**	**06 20 13.7**	**-0.7**
	baz=62							
Z34A	**Collier Ranch,**	**62.19**	**333**	⇓P		**P**	**06 20 15.4**	**+0.1**
	baz=63							
X37A	**Clayton**	**62.23**	**336**	⇓P		**P**	**06 20 15.8**	**+0.2**
	baz=63,SNR=7.6							
ABTX	**Abilene, Hawle**	**62.31**	**331**	⇑P		**P**	**06 20 16.2**	**0.0**
	baz=63							
W38A	**Poteau**	**62.34**	**336**	⇓P		**P**	**06 20 16.6**	**+0.3**
	baz=63,SNR=7.5							
230A	**Sterling City**	**62.37**	**329**	⇑P		**P**	**06 20 16.8**	**+0.2**
	baz=63							
329A	**Wagon Wheel Ra**	**62.45**	**328**	⇓P		**P**	**06 20 16.9**	**-0.3**
	baz=63							
Z33A	**Whitaker Ranch**	**62.48**	**332**	⇓P		**P**	**06 20 17.2**	**-0.1**
	baz=63,SNR=5.0							
PBMO	**Poplar Bluff**	**62.51**	**341**	*e*P		**P**	**06 20 16.6**	**-0.7**
	comp=Z,14nm,0.6s							
X36A	**Centrahoma**	**62.60**	**335**	⇓P		**P**	**06 20 17.2**	**-0.8**
	baz=63							
Y34A	**Reagan Ranch,**	**62.63**	**333**	⇓P		**P**	**06 20 18.1**	**-0.1**
	baz=63							
131A	**Roby**

baz=67
121A Cookes Peak, D 66.24 325 ⇓P P 06 20 43.2 +1.2
baz=67,SNR=5.5
121A Cookes Peak, D 66.24 325 eP P 06 20 43.3 +1.3
comp=Z,1.7nm,0.4s
121A epP PcP 06 21 12.0 +0.7
Q35A Mercer Eighty, 66.26 337 ⇑P P 06 20 41.3 -0.5
baz=67
S32A Newby Ranch, P 66.34 334 ⇑P P 06 20 41.4 -1.0
baz=67
V27A Dan Oppiter Fa 66.37 330 ⇑P P 06 20 42.9 +0.2
baz=67
S31A Mullinville 66.49 334 ⇑P P 06 20 43.3 -0.1
baz=67
R33A Olander Ranch, 66.50 335 ⇓P P 06 20 43.1 -0.3
baz=67
Q34A Chapman 66.64 337 ⇑P P 06 20 44.0 -0.2
baz=67
T29A Hugoton 66.86 332 ⇑P P 06 20 45.9 +0.2
baz=67
R32A Long Quarter, 66.88 335 ⇓P P 06 20 45.8 +0.1
baz=67
BNM Barren Site 66.90 327 eP P 06 20 47.8 +1.5
O36A Bolckow 67.02 339 ⇓P P 06 20 45.8 -0.8
baz=67
P34A Walnut Farm, R 67.15 337 ⇑P P 06 20 47.1 -0.3
baz=68,SNR=6.0
S29A Ulysses 67.17 333 ⇓P P 06 20 48.0 +0.3
baz=68
T28A Walsh 67.18 332 ⇓P P 06 20 47.6 -0.2
baz=68
Q32A Meitler Ranch, 67.31 335 ⇑P P 06 20 48.6 +0.1
baz=68
LAZ Ladron 67.36 326 eP P 06 20 51.6 +2.5
R30A Dighton 67.39 334 ⇑P P 06 20 49.2 +0.1
baz=68
T27A Campo 67.40 331 ⇑P P 06 20 49.5 +0.2
baz=68
ANMO Albuquerque 67.45 327 eP P 06 20 50.5 +0.9
comp=Z,4.9nm,0.6s
ANMO epP pP 06 21 18.4 +0.7
ANMO esP sP 06 21 31.0 +1.1
S28A Manter 67.48 332 ⇑P P 06 20 49.9 +0.2
baz=68,SNR=6.6
QSPA South Pole Qui 67.50 180 eP P 06 20 50.3 +0.8
comp=Z,14nm,0.5s
QSPA epP pP 06 21 18.5 +0.9
QSPA esP sP 06 21 31.3 +1.3
Q31A Ellis 67.65 335 ⇓P P 06 20 51.1 +0.4
baz=68
TUC Tucson 67.72 322 eP P 06 20 52.9 +1.6
comp=Z,9.5nm,1.1s
TUC epP pP 06 21 19.0 -0.3
TUC esP sP 06 21 33.0 +1.4
T26A Comanche Natio 67.88 331 ⇑P P 06 20 53.0 +0.6
baz=68
O33A Hebron 67.89 337 ⇑P P 06 20 52.0 -0.1
baz=68,SNR=5.0
N35A Tabor 67.91 338 ⇑P P 06 20 51.4 -0.8
baz=68
Q30A Quinter 67.95 334 ⇑P P 06 20 53.1 +0.5
baz=68,SNR=7.0
SCIA State Center 68.07 341 eP P 06 20 52.8 -0.3
comp=Z,17nm,0.9s
SCIA epP pP 06 21 21.0 -0.3
SCIA esP sP 06 21 33.9 +0.4
R28A Tribune 68.07 333 ⇓P P 06 20 53.2 -0.2
baz=68
P31A Stockton 68.09 335 ⇓P P 06 20 53.6 +0.2
baz=68
JFWS Jewell Farm 68.15 343 eP P 06 20 52.9 -0.8
comp=Z,12nm,0.6s
JFWS ePcP PcP 06 21 19.7 +0.9
N34A Lincoln 68.18 338 ⇑P P 06 20 53.4 -0.5
baz=69
Q29A Oakley 68.19 334 ⇑P P 06 20 54.0 -0.1
baz=69,SNR=5.1
T25A Trinidad 68.23 330 ⇓P P 06 20 54.9 +0.4
baz=69
O32A Brockman Farm, 68.31 336 ⇓P P 06 20 54.7 -0.1
baz=69
P30A Selden 68.45 334 ⇓P P 06 20 56.2 +0.6
baz=69
R27A Eads 68.45 332 ⇑P P 06 20 55.8 +0.1
baz=69
214A Organ Pipe Nat 68.62 321 ⇑P P 06 20 58.4 +1.5
baz=69,SNR=7.3
Q28A Sharon Springs 68.69 333 ⇑P P 06 20 57.3 +0.1
baz=69
R26A Arlington 68.75 331 ⇑P P 06 20 58.0 +0.4
baz=69,SNR=9.0
KSCO Kaye Shedlock' 68.98 332 ⇓P P 06 20 59.4 +0.3
baz=69
PQI Presque Isle 69.04 1 P P 06 20 59.3 +0.3
N31A Bailey Ranch, 69.06 336 ⇑P P 06 20 59.7 +0.3
baz=70
L34A Svendsen Farm, 69.14 338 ⇓P P 06 20 59.1 -0.7
baz=70,SNR=6.2
DBIC Dimbokro 69.16 73 P P 06 20 59.4 -1.1
comp=Z,2.8nm,0.5s,baz=219,slow=6.3,SNR=4.3
O29A 4D Ranch, Culb 69.17 334 ⇑P P 06 21 00.8 +0.7
baz=70
SDCO Great Sand Dun 69.22 330 ⇓P P 06 21 01.3 +0.5
baz=70,SNR=13
SDCO Great Sand Dun 69.22 330 eP P 06 21 01.8 +1.0
comp=Z,6.5nm,1.0s
SDCO epP pP 06 21 30.0 +1.0
SDCO esP sP 06 21 42.7 +1.4
BGNE Belgrade 69.27 337 ⇑P P 06 21 00.5 -0.2
baz=70
BGNE Belgrade 69.27 337 eP P 06 21 00.5 -0.2
comp=Z,72nm,0.8s
Q26A Hugo 69.29 332 ⇑P P 06 21 00.4 -0.6
baz=70
O28A Krutsinger Ran 69.56 334 ⇓P P 06 21 03.6 +1.1
baz=70
N29A Votaw Ranch, W 69.69 335 ⇑P P 06 21 04.1 +0.7
baz=70
R23A Moffat 69.73 330 ⇓P P 06 21 04.9 +0.9
baz=70
P26A Davis Ranch, A 69.75 332 ⇑P P 06 21 04.6 +0.8
baz=70
S22A 4UR Ranch, Cre 69.85 329 ⇑P P 06 21 05.4 +0.8
baz=70
S22A 4UR Ranch, Cre 69.85 329 eP P 06 21 05.8 +1.2
comp=Z,2.5nm,0.8s
O27A Beecher Island 69.91 333 ⇓P P 06 21 05.6 +0.9
baz=70
Q24A Divide 70.05 331 ⇑P P 06 21 06.9 +1.1
baz=70,SNR=5.1
Q24A Divide 70.05 331 eP P 06 21 07.2 +1.3
comp=Z,8.0nm,0.8s
MVCO Mesa Verde 70.24 327 ⇓P P 06 21 08.2 +1.2
baz=71,SNR=6.9
MVCO Mesa Verde 70.24 327 eP P 06 21 08.2 +1.2
comp=Z,6.3nm,0.8s
MVCO epP pP 06 21 36.4 +1.1
MVCO esP sP 06 21 49.0 +1.6
O26A Horse Wrangler 70.30 333 ⇑P P 06 21 07.5 +0.4
baz=71
L30A Spencer Herefo 70.32 336 ⇓P P 06 21 07.8 +0.7
baz=71
WUAZ Wupatki 70.44 324 ⇓P P 06 21 10.1 +1.9
baz=71,SNR=6.8
WUAZ Wupatki 70.44 324 eP P 06 21 09.7 +1.6
comp=Z,13nm,1.0s
P23A Jefferson 70.70 331 ⇓P P 06 21 10.5 +0.7
baz=71
ECSD EROS Data Cent 70.79 339 ⇓P P 06 21 09.5 -0.4
baz=71,SNR=6.2
ECSD EROS Data Cent 70.79 339 eP P 06 21 09.4 -0.4
comp=Z,8.8nm,1.2s
ECSD epP pP 06 21 38.8 +0.6
ECSD esP sP 06 21 50.4 0.0
K30A Basset 70.91 337 ⇑P P 06 21 11.1 +0.5
baz=71
Y12C Blythe 70.91 321 ⇓P P 06 21 12.1 +1.3
baz=71
ISCO Idaho Springs 70.94 331 ⇓P P 06 21 12.1 +0.9
baz=71
ISCO Idaho Springs 70.94 331 eP P 06 21 12.2 +0.9
comp=Z,4.8nm,1.0s
SPMN Marine on St. 70.99 342 eP P 06 21 10.4 -0.6
SPMN ePcP pP 06 21 38.2 -1.1
PV01 Paradox Valley 71.00 328 eP P 06 21 13.2 +1.6
IBP Imperial Bould 71.07 319 ⇓P P 06 21 12.6 +0.6
baz=72
K29A Lazy Trails An 71.24 336 ⇓P P 06 21 13.5 +0.8
baz=72
BC3 Big Chuckawall 71.39 320 ⇑P P 06 21 15.2 +1.4
baz=72,SNR=6.9
O23A Lake Granby, G 71.41 331 ⇓P P 06 21 15.4 +1.4
baz=72,SNR=8.2
J30A Dallas 71.43 337 ⇑P P 06 21 14.3 +0.5
baz=72
PV09 Paradox Valley 71.56 328 eP P 06 21 18.1 +3.1
IRM Iron Mountain 71.57 321 ⇓P P 06 21 16.2 +1.4
baz=72,SNR=6.4
K28A Ten Mile Ranch 71.60 335 ⇓P P 06 21 15.5 +0.7
baz=72
O22A Kremmling 71.65 331 ⇑P P 06 21 16.3 +0.7
baz=72,SNR=6.0
J29A Okreek 71.80 336 ⇓P P 06 21 16.5 +0.5
baz=72,SNR=9.1
PFO Pinyon Flats O 71.95 320 ⇑P P 06 21 18.3 +1.0
baz=72
BELC Belle Mtn. Jos 71.95 320 ⇓P P 06 21 18.6 +1.4
baz=72
N23A Red Feather La 71.97 331 ⇓P P 06 21 18.6 +1.2
baz=72
N22A Wattenberg Ran 72.13 331 ⇑P P 06 21 19.6 +1.3
baz=73,SNR=5.6
J28A Allard Ranch, 72.16 336 ⇓P P 06 21 19.0 +0.9
baz=73,SNR=12
GMRC Granite Mounta 72.30 321 ⇑P P 06 21 20.8 +1.4
baz=73,SNR=9.9
J27A Elkhorn Farm, 72.30 335 ⇑P P 06 21 20.2 +1.2
baz=73,SNR=10
I29A Vivian Onida 72.32 337 ⇓P P 06 21 19.2 +0.1
baz=73
KNB Kanab 72.34 324 eP P 06 21 21.8 +2.3
comp=Z,18nm,1.1s
O20A White River Ci 72.42 329 ⇓P P 06 21 20.9 +1.0
baz=73,SNR=5.0
O20A White River Ci 72.42 329 eP P 06 21 21.4 +1.5
comp=Z,11nm,0.8s
I28A Midland 72.62 336 ⇓P P 06 21 20.9 0.0
baz=73
SRU San Rafael Swe 72.72 327 eP P 06 21 23.1 +1.3
comp=Z,9.1nm,0.7s
SRU esP sP 06 22 03.6 +1.2
H29A Onida 72.81 337 ⇓P P 06 21 21.8 -0.2
baz=73
N20A Spence Gulch, 72.98 330 ⇑P P 06 21 24.0 +0.7
baz=73
I27A Quinn 73.01 336 ⇑P P 06 21 23.7 +0.5
baz=73
CCUT Cedar City 73.02 324 eP P 06 21 25.5 +1.8
CCUT ePcP pP 06 21 54.3 +2.3
CCUT esP sP 06 22 06.3 +2.1
MVU Marysvale 73.12 326 eP P 06 21 25.6 +1.3
comp=Z,3.4nm,0.8s
J25A Sunshine Ranch 73.12 334 ⇑P P 06 21 24.5 +0.5
baz=74
EYMN Ely 73.16 344 eP P 06 21 22.4 -1.5
SHPR Sheep Range 73.25 323 eP P 06 21 26.9 +2.0
I26A New Underwood 73.29 335 ⇓P P 06 21 25.5 +0.6
baz=74
K23A Bowen Ranch, D 73.35 333 ⇓P P 06 21 26.0 +0.7
baz=74
J24A Dixon Ranch, L 73.42 334 ⇑P P 06 21 27.1 +1.4
baz=74
F30A Leola 73.45 339 ⇑P P 06 21 27.1 +1.4
baz=74
H27A Howes 73.50 336 ⇓P P 06 21 26.5 +0.4
baz=74,SNR=5.8
I25A Rochford 73.62 335 ⇑P P 06 21 28.3 +1.3
baz=74,SNR=13
K22A Casper 73.65 332 ⇓P P 06 21 28.2 +1.0
baz=74
F29A Eureka 73.73 338 ⇑P P 06 21 27.7 +0.4
baz=74
EDW2 Edwards Air Fo 73.74 320 ⇑P P 06 21 28.5 +0.8
baz=74
RSSD Black Hills 73.83 335 eP P 06 21 29.1 +0.9
comp=Z,6.9nm,0.8s
I24A Kuemmerle Ranc 73.85 334 ⇑P P 06 21 29.7 +1.5
baz=74
G27A Dupree 74.08 337 ⇑P P 06 21 29.8 +0.3
baz=74,SNR=6.3
TPNV Topopah Spring 74.18 322 ⇓P P 06 21 31.8 +1.5
baz=75
FURC Furnace Creek, 74.19 322 ⇓P P 06 21 31.7 +1.6
baz=75
J22A Midwest 74.25 333 ⇓P P 06 21 30.9 +0.3
baz=75,SNR=5.9
G26A Maurine 74.26 336 ⇓P P 06 21 30.6 +0.2
baz=75,SNR=6.8
MPMC Manual Prospec 74.26 321 ⇓P P 06 21 32.0 +1.1
baz=75
DAC Darwin (Calif) 74.47 321 eP P 06 21 33.5 +1.4
comp=Z,7.1nm,0.9s
D30A Buchanan 74.48 339 ⇑P P 06 21 32.1 +0.5
baz=75
G25A Newell 74.48 336 ⇑P P 06 21 32.1 +0.3
baz=75
F27A Lemmon 74.54 337 ⇑P P 06 21 32.5 +0.5
baz=75,SNR=5.8
H24A Dirks Ranch, A 74.55 335 ⇑P P 06 21 33.0 +0.7
baz=75,SNR=7.4
ISA Isabella, Lake 74.57 320 ⇓P P 06 21 34.5 +2.0
baz=75
J21A Lysite 74.61 332 ⇑P P 06 21 32.9 +0.1
baz=75
I22A 9 Mile Ranch, 74.64 333 ⇓P P 06 21 33.4 +0.6
baz=75,SNR=7.3
AGMN Agassiz Nation 74.66 342 ⇓P P 06 21 32.3 -0.3
baz=75
AGMN Agassiz Nation 74.66 342 eP P 06 21 32.4 -0.3
comp=Z,9.3nm,1.0s
E28A Huff 74.67 338 ⇑P P 06 21 32.9 +0.2
baz=75
DUG Dugway, Tooele 74.70 327 eP P 06 21 34.5 +1.2
comp=Z,6.9nm,1.3s
F26A Lodgepole 74.76 336 ⇑P P 06 21 34.2 +0.8
baz=75,SNR=11
R11A Troy Canyon, C 74.81 324 ⇓P P 06 21 35.5 +1.5
baz=75,SNR=7.6
R11A Troy Canyon, C 74.81 324 eP P 06 21 35.6 +1.6
comp=Z,9.5nm,1.5s
E27A Carson 74.85 337 ⇑P P 06 21 34.5 +0.6
baz=75
J20A Shoshoni 74.90 332 ⇓P P 06 21 35.0 +0.7
baz=75
C30A Mose, Pekin 74.92 340 ⇓P P 06 21 34.4 +0.2
baz=75
I21A Big Trails, Te 74.92 332 ⇑P P 06 21 34.9 +0.5
baz=75,SNR=10
G24A Alzada 74.98 335 ⇓P P 06 21 34.9 +0.2
baz=75
VES Vestal, Richgr 75.05 320 ⇑P P 06 21 36.3 +1.2
baz=76
BW06 Boulder Array 75.09 330 eP P 06 21 35.7 +0.1
PDAR Pinedale Array 75.09 330 P P 06 21 35.8 +0.2
comp=Z,1.3nm,0.5s,baz=128,slow=6.6,SNR=8.8
F25A Bowman 75.12 336 ⇓P P 06 21 36.0 +0.6
baz=76
HWUT Hardware Ranch 75.14 328 eP P 06 21 36.5 +0.7
comp=Z,5.8nm,0.6s
E26A Carlson Angus 75.21 337 ⇓P P 06 21 37.0 +1.1
baz=76
SMMC Simmler 75.25 319 ⇓P P 06 21 36.9 +0.6
baz=76
J19A Crowheart 75.26 331 ⇓P P 06 21 37.0 +0.5
baz=76
G23A Biddle 75.26 334 ⇑P P 06 21 37.0 +0.7
baz=76,SNR=11
I20A Worland 75.39 332 ⇓P P 06 21 38.0 +0.9
baz=76,SNR=5.3
MDND Maddock 75.41 339 ⇑P P 06 21 37.6 +0.6
baz=76
MDND Maddock 75.41 339 eP P 06 21 37.9 +0.9
comp=Z,32nm,0.7s
SYO Syowa Base 75.42 159⇑eP P 06 21 35.2 -1.6
F24A Ekalaka 75.43 335 ⇓P P 06 21 37.6 +0.4
baz=76,SNR=6.6
RCTC Recor, Farmer 75.46 320 ⇓P P 06 21 37.9 +0.4
baz=76
H21A Big Horn, Sher 75.47 333 ⇓P P 06 21 37.7 +0.2
baz=76
B30A Myrvik Farm, E 75.53 340 ⇓P P 06 21 37.8 +0.1
baz=76,SNR=7.1
C28A Hausauer Farms 75.55 339 ⇑P P 06 21 38.0 +0.2
baz=76
E25A Miller Ranch, 75.58 336 ⇓P P 06 21 38.6 +0.6
baz=76
G22A Birney 75.64 334 ⇑P P 06 21 39.0 +0.5
baz=76
VNDA Vanda 75.67 190 P P 06 21 39.1 +1.0
comp=Z,1.5nm,0.8s,baz=134,slow=3.8,SNR=7.9
VNDA Vanda 75.67 190 eP P 06 21 39.7 +1.6
comp=Z,34nm,2.3s
D26A Manning 75.67 337 ⇑P P 06 21 39.1 +0.5
baz=76
F23A Volborg 75.70 335 ⇑P P 06 21 39.4 +0.7
baz=76,SNR=7.1
H20A Greybull 75.77 332 ⇑P P 06 21 39.6 +0.4
baz=76,SNR=5.6
I19A Meeteetse 75.84 331 ⇑P P 06 21 40.9 +1.1
baz=76,SNR=6.6
HVU Hansel Valley 75.87 328 eP P 06 21 41.4 +1.5
comp=Z,3.2nm,0.7s
B29A Wagenman Farm, 75.87 340 ⇓P P 06 21 39.8 +0.2
baz=76
A30A Hoffart Farm, 75.96 341 ⇓P P 06 21 40.5 +0.4
baz=76
E24A Baker 75.97 336 ⇑P P 06 21 41.3 +1.1
baz=76,SNR=8.2
G21A Lodge Grass 76.03 333 ⇓P P 06 21 41.4 +0.7
baz=76
F22A Rosebud 76.09 334 ⇑P P 06 21 41.5 +0.5
baz=76,SNR=10.0
D25A Fairfield 76.10 337 ⇓P P 06 21 41.8 +0.9
baz=76
REDW Red Top Meadow 76.15 330 eP P 06 21 42.1 +0.5
comp=Z,6.6nm,0.8s
B28A Dugan Ranch, T 76.18 339 ⇓P P 06 21 41.8 +0.5
baz=77
SNOW Snow King Moun 76.19 330 eP P 06 21 43.1 +1.3
comp=Z,8.0nm,0.7s
A29A Manning Farm, 76.23 340 ⇓P P 06 21 41.6 0.0
baz=77,SNR=11
LOHW Long Hollow 76.23 330 eP P 06 21 43.0 +0.9
comp=Z,5.8nm,0.6s
TPAW Teton Pass 76.30 330 eP P 06 21 43.8 +1.3
comp=Z,7.8nm,0.7s
E23A Ismay 76.30 335 ⇓P P 06 21 42.5 +0.3
baz=77,SNR=5.2
H19A Powell 76.34 332 ⇑P P 06 21 43.3 +0.7
baz=77
ELK Elko 76.35 326 eP P 06 21 44.0 +1.2
comp=Z,2.9nm,0.8s
NV01 Mina Array Sit 76.37 322 eP P 06 21 43.6 +0.7
NVAR Mina Array Bea 76.37 322 P P 06 21 43.7 +0.7
comp=Z,2.0nm,0.8s,baz=160,slow=6.8,SNR=13
NVAR pP pP 06 22 12.4 +0.8
comp=Z,1.5nm,0.8s,baz=153,slow=6.1,SNR=4.2
NVAR sP sP 06 22 24.9 +1.2
comp=Z,2.8nm,0.9s,baz=156,slow=6.4,SNR=6.1
MOOW Moose Ponds 76.40 330 eP P 06 21 43.7 +0.7
comp=Z,3.0nm,0.8s
D24A Glendive 76.44 336 ⇑P P 06 21 44.1 +1.2
baz=77
G20A Bridger 76.44 333 ⇑P P 06 21 43.2 +0.2
baz=77
FXWY Fox Creek 76.45 330 eP P 06 21 44.4 +1.1
comp=Z,9.1nm,0.5s
F21A Absaloka Mine, 76.47 334 ⇓P P 06 21 44.0 +0.9
baz=77
E22A Miles City 76.50 335 ⇑P P 06 21 43.6 +0.3
baz=77
C25A Freed Ranch, W 76.55 337 ⇓P P 06 21 44.5 +1.0
baz=77
IMW Indian Meadow 76.61 330 eP P 06 21 45.4 +1.2
comp=Z,6.3nm,0.8s
FLWY Flagg Ranch 76.64 330 eP P 06 21 45.8 +1.4
comp=Z,13nm,0.8s
LAO LASA Array 76.82 335 ⇑P P 06 21 46.2 +1.2
baz=77
RLMT Red Lodge 76.82 332 ⇑P P 06 21 46.3 +1.0
baz=77,SNR=6.8
RLMT Red Lodge 76.82 332 eP P 06 21 44.8 -0.5
comp=Z,4.7nm,0.5s
D23A Lindsay 76.82 336 ⇓P P 06 21 46.2 +1.1
baz=77
C24A Savage 76.82 336 ⇓P P 06 21 46.4 +1.4
baz=77,SNR=8.5
F20A Billings 76.88 333 ⇓P P 06 21 46.3 +0.8
baz=77
A27A Ledoux Ranch, 76.91 339 ⇓P P 06 21 46.9 +1.5
baz=77
E21A Keefer Ranch, 77.04 334 ⇑P P 06 21 47.2 +0.9
baz=78,SNR=5.6
D22A Cohagen 77.18 335 ⇓P P 06 21 48.6 +1.6
baz=78,SNR=6.7
SCHQ Schefferville 77.23 1 P P 06 21 46.7 -0.4
comp=Z,4.4nm,0.7s,baz=189,slow=5.9,SNR=9.0
SCHQ Schefferville 77.23 1 eP P 06 21 47.0 -0.1
SCHQ ePcP PcP 06 22 06.3 +9.1
C23A Lambert 77.34 336 ⇓P P 06 21 48.5 +0.6
baz=78
D21A La Casta Ranch 77.43 334 ⇑P P 06 21 49.7 +1.2
baz=78,SNR=13
GCMT Greycliff 77.52 332 eP P 06 21 50.1 +1.0
DGMT Dagmar 77.53 337 ⇑P P 06 21 49.9 +0.9
baz=78
DGMT Dagmar 77.53 337 eP P 06 21 50.2 +1.3
comp=Z,17nm,0.9s
A25A Svangstu Ranch 77.54 338 ⇑P P 06 21 49.7 +0.7
baz=78
C22A Vida 77.55 335 ⇓P P 06 21 49.7 +0.6
baz=78
B23A Brockton 77.81 336 ⇑P P 06 21 51.7 +1.2
baz=78
A24A Westby 77.84 337 ⇓P P 06 21 51.7 +1.1
baz=78
TOA0 Torodi Ar. Sit 77.84 70 eP P 06 21 50.0 -1.3
TORD Torodi Ar. Bea 77.84 70 P P 06 21 50.2 -1.2
comp=Z,6.1nm,0.5s,baz=253,slow=5.2,SNR=127
TORD pP pP 06 22 18.2 -2.0
comp=Z,8.5nm,0.8s,baz=249,slow=5.5,SNR=6.1
HLID Hailey 78.00 328 ⇑P P 06 21 53.7 +1.9
baz=78,SNR=17
HLID Hailey 78.00 328 eP P 06 21 53.3 +1.4
comp=Z,9.9nm,0.8s
B22A Reddig Ranch S 78.05 336 ⇑P P 06 21 52.8 +0.9
baz=78
C21A Desert Coulee 78.09 335 ⇑P P 06 21 52.8 +0.7
baz=78
MCMT McKenzie Canyo 78.20 330 eP P 06 21 54.5 +1.4
BOZ Bozeman (W) 78.27 331 ⇑P P 06 21 53.8 +0.5
baz=79
C20A Veseth Ranch, 78.36 334 ⇑P P 06 21 54.2 +0.6
baz=79,SNR=5.3
DLMT Dillon 78.49 330 eP P 06 21 56.0 +1.5
comp=Z,12nm,1.3s
B21A Ellsworth Farm 78.55 335 ⇑P P 06 21 55.6 +1.0
baz=79
MFID Camas Ranch 78.59 327 eP P 06 21 56.2 +1.2
comp=Z,15nm,1.5s
A22A Carney Farms, 78.59 336 ⇓P P 06 21 55.6 +0.8
baz=79
LRM Limekiln Ridge 78.77 331 eP P 06 21 57.5 +1.3
B20A Solberg Farm, 78.95 335 ⇓P P 06 21 57.2 +0.4
baz=79
A21A Bergtoll Ranch 78.97 336 ⇑P P 06 21 57.3 +0.4
baz=79
A20A Cobblestone Ra 79.27 335 ⇑P P 06 21 59.4 +0.9
baz=80,SNR=11
EGMT Eagleton 79.32 334 ⇓P P 06 21 59.0 +0.2
baz=80
EGMT Eagleton 79.32 334 eP P 06 21 58.2 -0.7
comp=Z,8.2nm,1.0s
B19A Brinkman Farms 79.33 334 ⇑P P 06 21 59.6 +0.7
baz=80,SNR=7.9
A19A Klindworth Far 79.63 335 ⇑P P 06 22 01.0 +0.5
baz=80,SNR=6.4
MSO Missoula 80.21 331 ⇓P P 06 22 04.6 +0.8
baz=81
MSO Missoula 80.21 331 eP P 06 22 05.1 +1.3
comp=Z,11nm,1.6s
SLMT Seeley Lake 80.32 331 eP P 06 22 05.1 +0.7
N02D Trinity Center 80.59 322 ⇑P P 06 22 06.2 +0.3
baz=81
M04C Macdoel 80.64 323 ⇑P P 06 22 06.9 +0.7
baz=81
J05D Fort Rock, OR 81.31 324 ⇓P P 06 22 10.6 +0.8
baz=82
BSMT Bassoo Peak 81.36 331 eP P 06 22 11.1 +1.2
J04D Umpqua Nationa 81.76 324 ⇑P P 06 22 13.3 +1.1
baz=82
WALA Waterton Lakes 81.87 332 eP P 06 22 13.3 +0.8
I05D Terrebonne, OR 82.08 325 ⇓P P 06 22 15.5 +1.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=82,SNR=5.8						
FFC	**Flin Flon**	**82.13**	**341**	eP	**P**	**06 22 13.5**	**-0.1**
	comp=Z,7.6nm,1.1s						
I04A	**Tendick Farm,**	**82.29**	**324**	⇓P	**P**	**06 22 15.0**	**+0.2**
	baz=83						
G05D	**Wamic, OR**	**82.68**	**326**	⇓P	**P**	**06 22 17.9**	**+1.2**
	baz=83						
NEW	**Newport**	**82.73**	**330**	⇑P	**P**	**06 22 16.9**	**0.0**
	baz=83						
C09A	**Chrisman Ranch**	**82.94**	**329**	eP	**P**	**06 22 18.9**	**+1.0**
	comp=Z,20nm,0.6s						
BOSA	**Boshof**	**82.97**	**118**	P	**P**	**06 22 18.0**	**-0.9**
	comp=Z,6.1nm,0.8s,baz=238,slow=4.6,SNR=5.9						
BOSA				pP	**pP**	**06 22 47.3**	**-0.6**
	comp=Z,5.2nm,0.8s,baz=236,slow=7.0,SNR=3.3						
MAW	**Mawson**	**83.22**	**163**	P	**P**	**06 22 19.2**	**0.0**
	comp=Z,6.7nm,0.8s,baz=208,slow=7.5,SNR=15						
MAW				pP	**pP**	**06 22 48.4**	**+0.2**
	comp=Z,5.0nm,0.8s,baz=220,slow=6.3,SNR=5.2						
MAW	**Mawson**	**83.22**	**163**	eP	**P**	**06 22 19.7**	**+0.5**
MAW				pP	**pP**	**06 22 48.4**	**+0.2**
LTY	**Liberty**	**83.72**	**327**	eP	**P**	**06 22 22.6**	**+0.5**
	comp=Z,38nm,2.0s						
FCC	**Fort Churchill**	**83.77**	**347**	eP	**P**	**06 22 21.9**	**0.0**
EDM	**Edmonton**	**84.80**	**335**	eP	**P**	**06 22 26.0**	**-1.3**
	comp=Z,7.1nm,0.6s						
EDM				epP	**pP**	**06 22 55.6**	**-0.9**
EDM				esP	**sP**	**06 23 09.1**	**+0.6**
YKA	**Yellowknife Ar**	**92.28**	**341**	P	**P**	**06 23 02.5**	**-0.1**
	comp=Z,4.6nm,0.8s,baz=136,slow=4.5,SNR=60						
YKA				pP	**pP**	**06 23 31.7**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=133,slow=4.5,SNR=10						
YKB5	**Yellowknife Ar**	**92.28**	**341**	eP	**P**	**06 23 02.0**	**-0.6**
RAO	**Raoul Island**	**94.31**	**236**	LR	LR	07 00 34.4	
	comp=Z,46nm,18.1s,baz=114,slow=32						
H11S2	**WAKE ISLAND Hy**	**127.93**	**276**	T	T	08 49 18.6	
	baz=113						
H11S1	**WAKE ISLAND Hy**	**127.94**	**276**	T	T	08 49 18.0	
	baz=113						
H11S3	**WAKE ISLAND Hy**	**127.94**	**276**	T	T	08 49 18.6	
	baz=113						
H11N3	**WAKE ISLAND Hy**	**128.04**	**278**	T	T	08 49 24.2	
	baz=103						
H11N2	**WAKE ISLAND Hy**	**128.05**	**278**	T	T	08 49 23.6	
	baz=103						
H11N1	**WAKE ISLAND Hy**	**128.06**	**278**	T	T	08 49 22.4	
	baz=103						
ASAR	**Alice Springs**	**128.82**	**207**	PKP	**PKPdf**	**06 29 00.4**	**-0.4**
	comp=Z,3.7nm,0.7s,baz=138,slow=2.2,SNR=34						
ASAR				pPKP	**pPKPdf**	**06 29 31.5**	**0.0**
	comp=Z,1.5nm,0.7s,baz=138,slow=1.8,SNR=4.9						
WRA	**Warramunga Arr**	**131.88**	**210**	PKP	**PKPdf**	**06 29 06.5**	**-0.1**
	comp=Z,2.9nm,0.6s,baz=157,slow=1.8,SNR=36						
WRA				pPKP	**pPKPdf**	**06 29 37.6**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=160,slow=1.7,SNR=5.3						
PETK	**Petropavlovsk-**	**133.46**	**323**	PKP	**PKPdf**	**06 29 09.6**	**+1.1**
	comp=Z,1.8nm,0.6s,baz=90,slow=3.0,SNR=3.7						
BVAR	**Borovoye Array**	**136.82**	**35**	PKP	**PKPdf**	**06 29 14.5**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=250,slow=2.9,SNR=7.1						
BVAR				pPKP	**pPKPdf**	**06 29 45.0**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=321,slow=2.1,SNR=3.0						
KURK	**Kurchatov**	**142.37**	**34**	PKPpre	PKPpre	06 29 20.5	
KURK				PKP	**PKPdf**	**06 29 25.2**	**+0.3**
KURK				pPKP	pPKPdf	06 29 54.9	-0.7
KURBB	**Kurchatov Arra**	**142.38**	**34**	PKhKP	PKPpre	06 29 20.5	
	comp=Z,0.8nm,0.7s,baz=316,slow=3.4,SNR=9.2						
KURBB				PKP	**PKPdf**	**06 29 25.2**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=312,slow=2.7,SNR=10						
KURBB				pPKP	pPKPdf	06 29 54.9	-0.8
	comp=Z,0.8nm,0.8s,baz=290,slow=2.9,SNR=2.9						
ZAA0	**Zalesovo Array**	**143.06**	**26**	ePKPdf	PKPbc	06 29 23.4	+0.2
ZAA0				epPKPdf	pPKPdf	06 29 57.2	+0.4
ZALV	**Zalesovo Beam**	**143.06**	**26**	PKhKP	PKPpre	06 29 22.8	
	comp=Z,2.9nm,0.4s,baz=298,slow=2.7,SNR=10						
ZALV				PKP	**PKPdf**	**06 29 26.6**	**+0.6**
	comp=Z,2.9nm,0.4s,baz=291,slow=1.7,SNR=13						
ZALV				pPKP	pPKPdf	06 29 54.9	-1.9
	comp=Z,2.3nm,0.6s,baz=276,slow=2.3,SNR=2.9						
AAK	**Ala-Archa**	**143.78**	**48**	PKP	PKPbc	06 29 26.2	+0.4
	comp=Z,1.3nm,0.5s,baz=259,slow=5.2,SNR=3.6						
KSH	**Kashi**	**145.91**	**52**	PKPbc	**PKPbc**	**06 29 32.4**	**-0.1**
KSH				PP	**PP**	**06 32 56.2**	**+1.4**
KSH				PKS	**PKSdf**	**06 33 07.5**	**+0.4**
KSH				PPMZ			
	comp=Z,64nm,5.1s						
KSH				LN			
	comp=Z,57nm,4.3s						
KSH				LE			
	comp=Z,70nm,6.3s						
KSH				LZ			
	comp=Z,160nm,5.0s						
ASAJ	**Asahikawa**	**146.37**	**317**	PKPbc	**PKPdf**	**06 29 33.0**	**+0.9**
	baz=18,slow=20						
GUMO	**Guam**	**146.63**	**260**	PKPbc	**PKPbc**	**06 29 35.1**	**0.0**
	comp=Z,36nm,0.6s,baz=215,slow=12,SNR=3.0						
MK31	**Makanchi Array**	**146.64**	**37**	ePKPbc	**PKPdf**	**06 29 32.9**	**+0.4**
MK31				ePKPab	**PKPbc**	**06 29 34.3**	**0.0**
MKAR	**Makanchi Array**	**146.64**	**37**	PKPbc	**PKPdf**	**06 29 32.8**	**+0.3**
	comp=Z,5.6nm,0.7s,baz=329,slow=2.0,SNR=50						
MKAR				pPKPbc	pPKPbc	06 30 03.4	-1.3
	comp=Z,3.3nm,0.7s,baz=316,slow=3.3,SNR=5.4						
SIJI	**Sorong**	**149.36**	**223**	PKPbc	**PKPbc**	**06 29 42.5**	**0.0**
	comp=Z,14nm,0.8s,baz=45,slow=2.9,SNR=6.2						
LEM	**Lembang**	**150.48**	**173**	PKPbc	**PKPbc**	**06 29 45.2**	**-0.1**
	comp=Z,48nm,0.7s,baz=62,slow=11,SNR=3.5						
KAPI	**Kappang**	**151.16**	**198**	PKPbc	**PKPbc**	**06 29 46.9**	**+0.2**
	comp=Z,13nm,0.7s,baz=203,slow=2.5,SNR=8.0						
KAPI				PKPab	**PKPab**	**06 29 54.2**	**-0.5**
	comp=Z,8.3nm,0.3s,baz=188,slow=4.4,SNR=3.8						
KAPI	**Kappang**	**151.16**	**198**	ePKPbc	**PKPbc**	**06 29 47.7**	**+0.9**
KAPI				PKPab	**PKPab**	**06 29 54.2**	**-0.5**
WMQ	**Urumqi**	**151.48**	**37**	PKPbc	**PKPdf**	**06 29 39.0**	**-1.4**
WMQ				PP	**PP**	**06 33 27.2**	**+0.7**
WMQ				PPMZ			
	comp=Z,17nm,9.4s						
WMQ				LN			
	comp=Z,12nm,12.2s						
WMQ				LE			
	comp=Z,11nm,12.3s						
WMQ				LZ			
	comp=Z,15nm,14.1s						
USRK	**Ussuriysk Ar.**	**152.45**	**326**	PKPbc	**PKPbc**	**06 29 47.8**	**-0.9**
	comp=Z,3.0nm,0.6s,baz=245,slow=3.0,SNR=6.8						
USRK				PKPab	**PKPab**	**06 29 58.7**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=38,slow=4.6,SNR=3.7						
MJAR	**Matsushiro Arr**	**152.72**	**307**	PKPbc	**PKPbc**	**06 29 48.8**	**-0.8**
	comp=Z,2.5nm,0.5s,baz=118,slow=1.6,SNR=6.3						
MJAR				PKPab	**PKPab**	**06 30 00.6**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=88,slow=2.9,SNR=6.8						
MJAR				pPKPbc	**pPKPbc**	**06 30 20.1**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=58,slow=4.6,SNR=1.5						
MAT	**Matsushiro**	**152.72**	**307**	PKP	**PKPbc**	**06 29 49.4**	**-0.2**
SONM	**Songino Array**	**154.64**	**7**	PKP	**PKPdf**	**06 29 44.9**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=321,slow=1.7,SNR=7.4						
SONM				PKPbc	**PKPbc**	**06 29 53.3**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=183,slow=0.3,SNR=7.8						
SONM				PKPab	**PKPab**	**06 30 08.4**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=331,slow=4.4,SNR=8.2						
KSRS	**Korea Array**	**159.29**	**319**	PKP	**PKPdf**	**06 29 51.1**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=57,slow=1.1,SNR=9.6						
KSRS				pPKP	**pPKPdf**	**06 30 22.0**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=50,slow=0.8,SNR=3.3						
KSRS				PKPab	**PKPab**	**06 30 29.6**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=55,slow=4.7,SNR=5.0						
KSAR	**Wonju Array Be**	**159.32**	**319**	PKP	**PKPdf**	**06 29 51.1**	**0.0**
KSAR				pPKP	**pPKPdf**	**06 30 22.0**	**+0.1**
KSAR				PKPab	**PKPab**	**06 30 29.6**	**+0.7**
GTA	**Gaotai**	**160.81**	**27**	ePKP	**PKPdf**	**06 29 53.8**	**+0.9**
GTA				PKPab	**PKPab**	**06 30 35.8**	**+0.2**
HHC	**Hu-ho-hao-te**	**161.89**	**359**	ePKP	**PKPdf**	**06 29 52.8**	**-1.1**
HHC				PP	PP	06 34 29.4	+6.2
HHC				PPMZ			
	comp=Z,65nm,9.6s						
LZH	**Lanzhou**	**165.28**	**23**	ePKP	**PKPdf**	**06 29 57.9**	**+0.6**
LZH				pPKP	**pPKPdf**	**06 30 24.7**	**-3.5**
LZH				sPKP		06 30 37.4	
NJ2	**Nanjing**	**168.36**	**325**	ePKP	**PKPdf**	**06 30 01.2**	**+1.7**
CD2	**Chengdu**	**169.58**	**37**	PKP	**PKPdf**	**06 30 00.5**	**+0.1**
CD2				PP	**PP**	**06 35 04.0**	**+0.3**
CD2				PPMZ			
	comp=Z,120nm,5.2s						

ISCJB ***10*** *06:16:01.0±0.3, 43°.48N±0°.01×18°.59E±0°.02, h5km±2km, Error ellipse: s-maj=2.6km s-min=1.9km az=164.3*
PDG ***10*** *06:16:01.7±0.4, 43°.44N×18°.59E, h11km, MD3.4/7, ML3.4/11, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
CSEM ***10*** *06:16:01.9±0.1, 43°.47N×18°.61E, h2km, ML3.4, Error ellipse: s-maj=3.4km s-min=2.4km az=73.0*
BEO ***10*** *06:16:02.3±0.3, 43°.45N×18°.60E, h10km±2km, ML3.3/1*
PRU ***10*** *06:16:03.1, 43°.45N×18°.61E, h4km*
SKO ***10*** *06:16:03.9, 43°.45N×18°.79E, h0km*
VIE ***10*** *06:16:07.3±0.6, 43°.84N×18°.56E, h10km, mb3.1/2, ML2.9/2, Error ellipse: s-maj=8.2km s-min=4.9km az=36.0 11 km E of Sarajevo*

ISC 10 06:16:01.7±1.1**, 43°.47N**±0°.01×**18°.60E**±0°.02**, h4**km±9km**, n182, σ1.28**/270**, 47C-23D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.35**	**139**	⇑iPg	**Pg**	**06 16 08.4**	**-0.1**
UPM				eSg	**Sg**	**06 16 13.7**	**+0.7**
UPM	**Unac-Piva**	**0.35**	**139**	⇑iPg	**Pg**	**06 16 08.4**	**-0.1**
UPM				eSg	**Sg**	**06 16 13.7**	**+0.7**
BRY	**Bratogost**	**0.56**	**184**	⇑iPg	**Pg**	**06 16 11.5**	**-1.1**
BRY				eSg	**Sg**	**06 16 20.1**	**+0.2**
BRY	**Bratogost**	**0.56**	**184**	⇑iPg	**Pg**	**06 16 11.5**	**-1.1**
BRY				eSg	**Sg**	**06 16 20.1**	**+0.2**
PLE	**Pljevlja**	**0.59**	**103**	⇑iPg	**Pg**	**06 16 13.5**	**+0.4**
PLE				eSg	**Sb**	**06 16 22.6**	**-0.9**
PLE	**Pljevlja**	**0.59**	**103**	⇑iPg	**Pg**	**06 16 13.5**	**+0.4**
PLE				eSg	**Sb**	**06 16 22.6**	**-0.9**
HAPS	**Han Pijesak,Bl**	**0.67**	**22**	ePg	**Pb**	**06 16 16.4**	**+0.3**
HAPS	**Han Pijesak,Bl**	**0.67**	**22**	ePg	**Pb**	**06 16 16.4**	**+0.3**
BBLS	**Lazići**	**0.71**	**55**	⇓iPg	**Pg**	**06 16 15.7**	**+0.3**
BBLS				eSg	**Sg**	**06 16 25.6**	**+1.0**
BBLS	**Lazići**	**0.71**	**55**	⇓iPg	**Pg**	**06 16 15.7**	**+0.3**
BBLS				eSg	**Sg**	**06 16 25.6**	**+1.0**
NKY	**Niksic**	**0.71**	**156**	⇑iPg	**Pg**	**06 16 14.3**	**-1.1**
NKY				eSg	**Sg**	**06 16 26.1**	**+1.4**
NKY	**Niksic**	**0.71**	**156**	⇑iPg	**Pg**	**06 16 14.3**	**-1.1**
NKY				eSg	**Sg**	**06 16 26.1**	**+1.4**
NKME	**Niksic**	**0.75**	**159**	⇑iPg	**Pg**	**06 16 14.7**	**-1.3**
NKME				eSg	**Sg**	**06 16 26.9**	**+1.2**
NKME	**Niksic**	**0.75**	**159**	⇑iPg	**Pg**	**06 16 14.7**	**-1.3**
NKME				eSg	**Sg**	**06 16 26.9**	**+1.2**
STON	**Ston**	**0.88**	**228**	iPg	**Pg**	**06 16 17.1**	**-1.6**
STON				Sg	**Sg**	**06 16 30.9**	**+0.8**
STON	**Ston**	**0.88**	**228**	⇓iPg	**Pg**	**06 16 16.7**	**-2.0**
STON				eSg	**Sg**	**06 16 31.2**	**+1.1**
STON	**Ston**	**0.88**	**228**	⇓iPg	**Pg**	**06 16 16.7**	**-2.0**
STON				eSg	**Sg**	**06 16 31.2**	**+1.1**
HCY	**Herceg Novi**	**1.02**	**184**	⇑iPg	**Pg**	**06 16 20.2**	**-1.1**
HCY				eSg	**Sb**	**06 16 36.3**	**+0.7**
HCY	**Herceg Novi**	**1.02**	**184**	⇑iPg	**Pg**	**06 16 20.2**	**-1.1**
HCY				eSg	**Sb**	**06 16 36.3**	**+0.7**
SJES	**Sjenica**	**1.03**	**101**	ePg	**Pg**	**06 16 20.6**	**-0.8**
SJES				eSg	**Sg**	**06 16 34.5**	**-0.2**
BEY	**Berane**	**1.12**	**122**	⇑iPg	**Pg**	**06 16 22.5**	**-0.7**
IVA	**Berane**	**1.12**	**122**	⇑iPg	**Pg**	**06 16 22.5**	**-0.7**
IVA				eSg	**Sn**	**06 16 40.5**	**+0.4**
IVAS	**Ivanjica**	**1.14**	**84**	iPg	**Pg**	**06 16 23.1**	**-0.4**
IVAS				eSg	**Sg**	**06 16 36.9**	**-1.4**
IVAS	**Ivanjica**	**1.14**	**84**	iPg	**Pg**	**06 16 23.1**	**-0.4**
IVAS				eSg	**Sg**	**06 16 36.9**	**-1.4**
BUM	**Brajici-Budva**	**1.19**	**169**	⇑iPg	**Pg**	**06 16 23.1**	**-1.3**
BUM				eSg	**Sn**	**06 16 42.1**	**+0.5**
BUM	**Brajici-Budva**	**1.19**	**169**	⇑iPg	**Pg**	**06 16 23.1**	**-1.3**
BUM				eSg	**Sn**	**06 16 42.1**	**+0.5**
TEKS	**Tekeris**	**1.28**	**32**	iPg	**Pb**	**06 16 26.5**	**+0.2**
TEKS				eSg	**Sn**	**06 16 44.7**	**+0.8**
TEKS	**Tekeris**	**1.28**	**32**	iPg	**Pb**	**06 16 26.5**	**+0.2**
TEKS				eSg	**Sn**	**06 16 44.7**	**+0.8**
PVY	**Plav**	**1.33**	**131**	⇑iPg	**Pn**	**06 16 25.9**	**-1.2**
PVY				eSg	**Sn**	**06 16 46.6**	**+1.4**
PVY	**Plav**	**1.33**	**131**	⇑iPg	**Pn**	**06 16 25.9**	**-1.2**
PVY				eSg	**Sn**	**06 16 46.6**	**+1.4**
DRME	**Dracevica, Mon**	**1.35**	**161**	⇓iPg	**Pn**	**06 16 25.7**	**-1.6**
DRME				eSg	**Sn**	**06 16 47.4**	**+1.8**
DRME	**Dracevica, Mon**	**1.35**	**161**	⇓iPg	**Pn**	**06 16 25.7**	**-1.6**
DRME				eSg	**Sn**	**06 16 47.4**	**+1.8**
TRUS	**Trudelj**	**1.51**	**59**	⇓iPn	**Pn**	**06 16 28.6**	**-1.0**
TRUS				eSg	**Sg**	**06 16 51.7**	**+1.4**
TRUS	**Trudelj**	**1.51**	**59**	⇓iPn	**Pn**	**06 16 28.6**	**-1.0**
TRUS				eSg	**Sg**	**06 16 51.7**	**+1.4**
ULC	**Ulcinj**	**1.57**	**162**	⇑iPg	**Pn**	**06 16 30.2**	**-0.2**
ULC				eSg	**Sg**	**06 16 53.9**	**+1.6**
ULC	**Ulcinj**	**1.57**	**162**	⇑iPg	**Pn**	**06 16 30.2**	**-0.2**
ULC				eSg	**Sg**	**06 16 53.9**	**+1.6**
GRUS	**Gruza**	**1.59**	**74**	⇓iPg	**Pn**	**06 16 30.9**	**+0.2**
GRUS				eSg	**Sb**	**06 16 51.8**	**-0.4**
GRUS	**Gruza**	**1.59**	**74**	⇓iPg	**Pn**	**06 16 30.9**	**+0.2**
GRUS				eSg	**Sb**	**06 16 51.8**	**-0.4**
BLY	**Banja Luka**	**1.64**	**322**	⇑iPn	**Pb**	**06 16 32.2**	**-0.2**
BLY				eSg	**Sb**	**06 16 54.1**	**+0.7**
BLY	**Banja Luka**	**1.64**	**322**	⇑iPn	**Pb**	**06 16 32.2**	**-0.2**
BLY				eSg	**Sb**	**06 16 54.1**	**+0.7**
SELS	**Selova**	**1.86**	**97**	⇑iPn	**Pn**	**06 16 34.3**	**0.0**
SELS				eSn	**Sn**	**06 16 56.8**	**-1.4**
SELS	**Selova**	**1.86**	**97**	⇑iPn	**Pn**	**06 16 34.3**	**0.0**
SELS				eSn	**Sn**	**06 16 56.8**	**-1.4**
FGSL	**Fruska Gora**	**1.90**	**27**	⇓iPn	**Pn**	**06 16 34.5**	**-0.4**
FGSL				eSn	**Sn**	**06 16 59.7**	**+0.4**
FRGS	**Fruska Gora**	**1.90**	**27**	⇓iPn	**Pn**	**06 16 34.5**	**-0.4**
FRGS				eSn	**Sn**	**06 16 59.7**	**+0.4**
PHP	**Peshkopia**	**2.24**	**142**	P	**Pb**	**06 16 42.4**	**-0.4**
PHP				S	**Sb**	**06 17 10.7**	**-0.1**
PHP	**Peshkopia**	**2.24**	**142**	P	**Pb**	**06 16 42.4**	**-0.4**
PHP				S	**Sb**	**06 17 10.7**	**-0.1**
UDBI	**Udbina**	**2.30**	**298**	ePn	**Pb**	**06 16 42.6**	**-1.2**
UDBI				Sg	**Sg**	**06 17 17.9**	**+2.2**
UDBI	**Udbina**	**2.30**	**298**	ePn	**Pb**	**06 16 42.6**	**-1.2**
UDBI				Sg	**Sg**	**06 17 17.8**	**+2.2**
TIR	**Tirane**	**2.32**	**156**	P	**Pb**	**06 16 42.6**	**-1.4**
TIR				S	**Sn**	**06 17 10.6**	**+1.2**
TIR	**Tirane**	**2.32**	**156**	ePn	**Pn**	**06 16 40.8**	**+0.2**
TIR	**Tirane**	**2.32**	**156**	ePn	**Pn**	**06 16 40.8**	**+0.2**
TIR	**Tirane**	**2.32**	**156**	P	**Pb**	**06 16 42.6**	**-1.4**
TIR				S	**Sn**	**06 17 10.6**	**+1.2**
BARS	**Barje**	**2.44**	**104**	⇑iPn	**Pn**	**06 16 42.7**	**+0.4**
BARS				eSn	**Sn**	**06 17 12.5**	**-0.1**
BARS	**Barje**	**2.44**	**104**	⇑iPn	**Pn**	**06 16 42.7**	**+0.4**
BARS				eSn	**Sn**	**06 17 12.5**	**-0.1**
BOLS	**Boljevac**	**2.46**	**80**	ePn	**Pn**	**06 16 41.3**	**-1.3**
BOLS				eSn	**Sn**	**06 17 12.5**	**-0.6**
BOLS	**Boljevac**	**2.46**	**80**	ePn	**Pn**	**06 16 41.3**	**-1.3**
BOLS				eSn	**Sn**	**06 17 12.5**	**-0.6**
SKO	**Skopje**	**2.57**	**124**	P	**Pn**	**06 16 44.6**	**+0.5**
SKO	**Skopje**	**2.57**	**124**	ePn	**Pn**	**06 16 45.3**	**+1.2**
SKO				iSg	**Sb**	**06 17 20.7**	**+0.3**
SKO	**Skopje**	**2.57**	**124**	P	**Pn**	**06 16 44.6**	**+0.5**
SKO	**Skopje**	**2.57**	**124**	ePn	**Pn**	**06 16 45.3**	**+1.2**
SKO				iSg	**Sb**	**06 17 20.6**	**+0.3**
MS1	**Monte Sant'Ang**	**2.63**	**229**	ePn	**Pb**	**06 16 47.5**	**-1.9**
PKSM	**Moragy**	**2.75**	**1**	⇓iPn	**Pn**	**06 16 46.4**	**-0.1**
PKSM	**Moragy**	**2.75**	**1**	⇓iP	**Pn**	**06 16 46.4**	**-0.1**
PKSM	**Moragy**	**2.75**	**1**	S	**Sn**	**06 17 16.7**	**-3.4**
PKSM	**Moragy**	**2.75**	**1**	⇓iP	**Pn**	**06 16 46.4**	**-0.1**
PKSM				eSn	**Sn**	**06 17 19.6**	**-0.5**
PKSM	**Moragy**	**2.75**	**1**	⇓epn	**Pn**	**06 16 46.5**	**-0.1**
PKSM				esn	**Sn**	**06 17 19.6**	**-0.5**
OHR	**Ohrid**	**2.87**	**144**	ePn	**Pb**	**06 16 51.8**	**-1.6**
OHR				iSg	**Sb**	**06 17 31.4**	**+2.6**
OHR	**Ohrid**	**2.87**	**144**	ePn	**Pb**	**06 16 51.8**	**-1.6**
OHR				iSg	**Sb**	**06 17 31.4**	**+2.6**
CDT	**Castel del Mon**	**2.94**	**217**	ePn	**Pn**	**06 16 50.8**	**+1.6**
SG1	**Sgolgore (BA)**	**2.98**	**209**	ePn	**Pb**	**06 16 55.2**	**-0.2**
BZS	**Buzias**	**3.05**	**44**	⇓iPn	**Pn**	**06 16 50.1**	**-0.5**
BZS	**Buzias**	**3.05**	**44**	⇑iP	**Pn**	**06 16 50.2**	**-0.4**
BZS	**Buzias**	**3.05**	**44**	S	**Sn**	**06 17 25.9**	**-1.6**
BZS	**Buzias**	**3.05**	**44**	⇑iP	**Pn**	**06 16 50.2**	**-0.4**
PKS9	**Tamasi**	**3.13**	**356**	ePn	**Pn**	**06 16 50.6**	**-1.1**
PKS9	**Tamasi**	**3.13**	**356**	e	**Pn**	**06 16 50.6**	**-1.1**
PKS9				e		06 17 44.7	
BOJS	**Bojanci**	**3.14**	**312**	iPn	**Pn**	**06 16 52.8**	**+0.9**
BOJS	**Bojanci**	**3.14**	**312**	Pn	**Pn**	**06 16 52.8**	**+0.9**
CRES	**Cresnjev**	**3.25**	**318**	iPn	**Pn**	**06 16 54.6**	**+1.1**
CRES	**Cresnjev**	**3.25**	**318**	iPn	**Pn**	**06 16 54.6**	**+1.1**
BEHE	**Becsehely**	**3.27**	**337**	⇑ePn	**Pn**	**06 16 53.9**	**+0.2**
BEHE	**Becsehely**	**3.27**	**337**	⇑epn	**Pn**	**06 16 53.9**	**+0.2**
FNA	**Florina**	**3.38**	**141**	P	**Pn**	**06 16 58.2**	**+2.9**
FNA				S	**Sn**	**06 17 39.5**	**+3.6**
FNA	**Florina**	**3.38**	**141**	eP	**Pn**	**06 16 58.0**	**+2.7**
FNA	**Florina**	**3.38**	**141**	P	**Pn**	**06 16 58.2**	**+2.9**
FNA				S	**Sn**	**06 17 39.5**	**+3.6**
KOGS	**Kog**	**3.42**	**332**	iPn	**Pn**	**06 16 56.4**	**+0.7**
KOGS				iSn	**Sn**	**06 17 35.7**	**-0.9**
KOGS	**Kog**	**3.42**	**332**	iPn	**Pn**	**06 16 56.4**	**+0.7**
KOGS				iSn	**Sn**	**06 17 35.7**	**-0.9**
DOBS	**Dobrina**	**3.49**	**321**	iPn	**Pn**	**06 16 57.8**	**+1.1**
DOBS				iSn	**Sn**	**06 17 38.3**	**-0.1**
DOBS	**Dobrina**	**3.49**	**321**	iPn	**Pn**	**06 16 57.8**	**+1.1**
DOBS				iSn	**Sn**	**06 17 38.3**	**-0.1**
VTS	**Vitosha**	**3.49**	**103**	P	**Pn**	**06 16 57.2**	**+0.3**
VTS				S	**Sn**	**06 17 38.8**	**+0.1**
VTS	**Vitosha**	**3.49**	**103**	ePn	**Pn**	**06 16 57.4**	**+0.5**
VTS	**Vitosha**	**3.49**	**103**	⇓iP	**Pn**	**06 16 57.4**	**+0.5**
VTS	**Vitosha**	**3.49**	**103**	iP	**Pn**	**06 16 57.2**	**+0.3**
VTS	**Vitosha**	**3.49**	**103**	ePn	**Pn**	**06 16 57.4**	**+0.5**
VTS				S	**Sn**	**06 17 38.8**	**+0.1**
NEST	**Nestorio**	**3.56**	**148**	P	**Pn**	**06 17 00.0**	**+2.3**
NEST				S	**Sb**	**06 17 45.6**	**-3.1**
NEST	**Nestorio**	**3.56**	**148**	eP	**Pn**	**06 17 00.1**	**+2.3**
NEST	**Nestorio**	**3.56**	**148**	P	**Pn**	**06 17 00.0**	**+2.3**
NEST				S	**Sb**	**06 17 45.6**	**-3.1**
GZR	**Gura Zlata**	**3.56**	**56**	⇑iP	**Pn**	**06 16 57.8**	**0.0**
GZR	**Gura Zlata**	**3.56**	**56**	⇑iP	**Pn**	**06 16 57.8**	**0.0**
VAY	**Valandovo**	**3.64**	**125**	ePn	**Pn**	**06 17 01.2**	**+2.4**
VAY	**Valandovo**	**3.64**	**125**	ePn	**Pn**	**06 17 01.2**	**+2.4**
KKB	**Krupnik**	**3.67**	**114**	iP	**Pn**	**06 17 00.6**	**+1.3**
KKB	**Krupnik**	**3.67**	**114**	iP	**Pn**	**06 17 00.6**	**+1.3**
SRN	**Sarande**	**3.73**	**163**	P	**Pn**	**06 17 02.4**	**+2.4**
SRN				S	**Sn**	**06 17 44.8**	**+0.4**
SRN	**Sarande**	**3.73**	**163**	P	**Pn**	**06 17 02.4**	**+2.4**
SRN				S	**Sn**	**06 17 44.8**	**+0.4**
MPEP	**Malo Peshtene**	**3.75**	**90**	iP	**Pb**	**06 17 07.1**	**-1.3**
PKST	**Tˆ's**	**3.81**	**354**	ePn	**Pn**	**06 17 01.6**	**+0.4**
PKST	**Tˆ's**	**3.81**	**354**	e	**Pn**	**06 17 01.6**	**+0.4**
KEK	**Kerkira**	**3.86**	**166**	P	**Pn**	**06 17 02.2**	**+0.5**
KEK				S	**Sn**	**06 17 48.8**	**+1.3**
KEK	**Kerkira**	**3.86**	**166**	eP	**Pn**	**06 17 02.9**	**+1.2**
KEK	**Kerkira**	**3.86**	**166**	P	**Pn**	**06 17 02.2**	**+0.5**
KEK				S	**Sn**	**06 17 48.8**	**+1.3**
PKSG		**3.93**	**358**	⇑ePn	**Pn**	**06 17 03.3**	**+0.6**
PKSG				eSn	**Sn**	**06 17 50.7**	**+1.5**
PKSG		**3.93**	**358**	⇑epn	**Pn**	**06 17 03.3**	**+0.6**
PKSG				esn	**Sn**	**06 17 50.7**	**+1.5**
KNT	**Kendrikon**	**3.93**	**124**	P	**Pn**	**06 17 03.4**	**+0.6**
KNT	**Kendrikon**	**3.93**	**124**	eP	**Pn**	**06 17 03.6**	**+0.8**
KNT	**Kendrikon**	**3.93**	**124**	P	**Pn**	**06 17 03.4**	**+0.6**
SGD	**Sagiada**	**4.04**	**162**	P	**Pn**	**06 17 04.8**	**+0.5**
SGD				S	**Sn**	**06 17 52.7**	**+0.7**
SGD	**Sagiada**	**4.04**	**162**	P	**Pn**	**06 17 04.8**	**+0.5**
SGD				S	**Sn**	**06 17 52.7**	**+0.7**
SOKA	**Soboth**	**4.08**	**323**	⇑iPn	**Pn**	**06 17 05.8**	**+0.8**
SOKA				⇑iSn	**Sn**	**06 17 50.3**	**-2.9**
SOKA	**Soboth**	**4.08**	**323**	Pn	**Pn**	**06 17 05.8**	**+0.8**
SOKA				Sn	**Sn**	**06 17 50.3**	**-2.9**
LOT	**Lotru**	**4.20**	**60**	⇑iP	**Pn**	**06 17 07.5**	**+0.9**
LOT	**Lotru**	**4.20**	**60**	⇑iP	**Pn**	**06 17 07.5**	**+0.9**
MMB	**Musomiste**	**4.23**	**115**	⇓iP	Pn	06 17 10.1	+3.2
MMB	**Musomiste**	**4.23**	**115**	⇓iP	Pn	06 17 10.1	+3.2
HORT	**Hortiatis**	**4.41**	**129**	P	**Pn**	**06 17 10.5**	**+1.1**
HORT	**Hortiatis**	**4.41**	**129**	eP	**Pn**	**06 17 10.6**	**+1.1**
HORT	**Hortiatis**	**4.41**	**129**	P	**Pn**	**06 17 10.5**	**+1.1**
DRGR		**4.42**	**40**	⇑iP	**Pn**	**06 17 09.5**	**-0.1**
DRGR		**4.42**	**40**	⇑iP	**Pn**	**06 17 09.5**	**-0.1**
LIT	**Litokhoron**	**4.45**	**138**	P	**Pn**	**06 17 12.2**	**+2.3**
LIT	**Litokhoron**	**4.45**	**138**	eP	**Pn**	**06 17 12.4**	**+2.5**
LIT	**Litokhoron**	**4.45**	**138**	P	**Pn**	**06 17 12.2**	**+2.3**
TIP	**Timpagrande**	**4.50**	**199**	P	**Pn**	**06 17 10.3**	**-0.4**
TIP				S	**Sn**	**06 18 03.8**	**+0.3**
TIP	**Timpagrande**	**4.50**	**199**	P	**Pn**	**06 17 10.3**	**-0.4**
TIP				S	**Sn**	**06 18 03.8**	**+0.3**
PSZ	**Piszkesteto**	**4.54**	**11**	⇓iP	**Pn**	**06 17 11.2**	**-0.1**
PSZ	**Piszkesteto**	**4.54**	**11**	⇓iP	**Pn**	**06 17 11.2**	**-0.1**
THL	**Klokotos Trika**	**4.67**	**145**	P	**Pn**	**06 17 14.3**	**+1.4**
THL				S	**Sn**	**06 18 08.6**	**+1.2**
THL	**Klokotos Trika**	**4.67**	**145**	eP	**Pn**	**06 17 14.9**	**+2.0**
THL	**Klokotos Trika**	**4.67**	**145**	P	**Pn**	**06 17 14.3**	**+1.4**
THL				S	**Sn**	**06 18 08.6**	**+1.2**
PLG	**Polygyros**	**4.76**	**129**	eP	**Pn**	**06 17 15.7**	**+1.5**
RZN	**Rozhen**	**4.86**	**109**	iP	**Pn**	**06 17 17.0**	**+1.3**
RZN	**Rozhen**	**4.86**	**109**	iP	**Pn**	**06 17 17.0**	**+1.3**
LKD2	**Lefkada island**	**4.92**	**161**	P	**Pn**	**06 17 16.4**	**-0.1**
LKD2				S	**Sn**	**06 18 12.4**	**-1.5**
LKD2	**Lefkada island**	**4.92**	**161**	eP	**Pn**	**06 17 16.6**	**+0.1**
LKD2	**Lefkada island**	**4.92**	**161**	P	**Pn**	**06 17 16.4**	**-0.1**
LKD2				S	**Sn**	**06 18 12.4**	**-1.5**
VOIR		**5.02**	**65**	⇑iP	**Pn**	**06 17 17.5**	**-0.4**
VOIR		**5.02**	**65**	⇑iP	**Pn**	**06 17 17.5**	**-0.4**
KBA	**Koelnbreinsper**	**5.17**	**316**	⇓iPn	**Pn**	**06 17 21.0**	**+1.0**
KBA				⇑iSn	**Sn**	**06 18 19.5**	**-0.7**
KBA	**Koelnbreinsper**	**5.17**	**316**	Pn	**Pn**	**06 17 21.0**	**+1.0**
KBA				Sn	**Sn**	**06 18 19.5**	**-0.7**
MAKR	**Makrakomi, Fth**	**5.18**	**148**	eP	**Pn**	**06 17 22.3**	**+2.3**
KECS	**Kecovo**	**5.19**	**14**	eP	Pn	06 17 15.7	-4.3
KECS	**Kecovo**	**5.19**	**14**	eP	Pn	06 17 15.7	-4.3
KECS	**Kecovo**	**5.19**	**14**	eSN	Sn	06 18 05.8	-15
PAIG	**Paliouri**	**5.19**	**131**	eP	**Pn**	**06 17 21.5**	**+1.4**
PDO	**Prodromos**	**5.24**	**157**	P	**Pn**	**06 17 21.3**	**+0.5**
PDO				S	**Sn**	**06 18 21.5**	**-0.1**
PDO	**Prodromos**	**5.24**	**157**	P	**Pn**	**06 17 21.3**	**+0.5**
PDO				S	**Sn**	**06 18 21.5**	**-0.1**
AGG	**Agios Georgios**	**5.26**	**146**	P	**Pn**	**06 17 22.6**	**+1.6**
AGG				S	**Sn**	**06 18 23.5**	**+1.5**
AGG	**Agios Georgios**	**5.26**	**146**	eP	**Pn**	**06 17 22.6**	**+1.6**
AGG	**Agios Georgios**	**5.26**	**146**	P	**Pn**	**06 17 22.6**	**+1.6**
AGG				S	**Sn**	**06 18 23.5**	**+1.5**
XOR	**Xorichti**	**5.36**	**138**	P	**Pn**	**06 17 24.5**	**+2.1**
XOR				S	**Sn**	**06 18 24.9**	**+0.4**
XOR	**Xorichti**	**5.36**	**138**	P	**Pn**	**06 17 24.5**	**+2.1**
XOR				S	**Sn**	**06 18 24.9**	**+0.4**
DOPR	**Dopca**	**5.45**	**60**	⇑iP	**Pn**	**06 17 25.1**	**+1.5**
DOPR	**Dopca**	**5.45**	**60**	⇑iP	**Pn**	**06 17 25.1**	**+1.5**
VLS	**Valsamata**	**5.50**	**163**	P	**Pn**	**06 17 24.5**	**+0.2**
VLS				S	**Sn**	**06 18 24.9**	**-3.0**
VLS	**Valsamata**	**5.50**	**163**	P	**Pn**	**06 17 24.5**	**+0.2**
KFL	**Anninata**	**5.60**	**162**	P	**Pn**	**06 17 24.6**	**-1.2**
KFL	**Anninata**	**5.60**	**162**	P	**Pn**	**06 17 24.6**	**-1.2**
MLR	**Muntele Rosu**	**5.63**	**66**	⇑iP	**Pn**	**06 17 27.2**	**+0.9**
MLR	**Muntele Rosu**	**5.63**	**66**	⇑iP	**Pn**	**06 17 27.2**	**+0.9**
KALE	**Kalithea**	**5.74**	**151**	eP	**Pn**	**06 17 29.8**	**+2.2**
KOLS	**Kolonicke sedl**	**6.03**	**24**	eSN	Sn	06 18 19.2	-22
VIL2	**Platees**	**6.33**	**144**	eP	**Pn**	**06 17 38.3**	**+2.5**
VILL	**Villia**	**6.39**	**144**	P	**Pn**	**06 17 37.5**	**+0.9**
VILL	**Villia**	**6.39**	**144**	P	**Pn**	**06 17 37.5**	**+0.9**
KHC	**Kasperske Hory**	**6.65**	**330**	ePN	**Pn**	**06 17 41.2**	**+1.1**
KHC				ex	x	06 17 44.7	
KHC				ex	x	06 17 54.1	
KHC				eSN	**Sn**	**06 18 53.7**	**-2.5**
KHC				ex	x	06 19 07.8	
KHC				ex	x	06 19 33.9	
KHC	**Kasperske Hory**	**6.65**	**330**	Pn	**Pn**	**06 17 41.2**	**+1.1**
KHC				Sg	**Sg**	**06 19 33.9**	**-1.1**
DID	**Didima**	**6.92**	**148**	P	**Pn**	**06 17 45.6**	**+1.7**
DID				S	**Sn**	**06 19 02.3**	**-0.8**
DID	**Didima**	**6.92**	**148**	P	**Pn**	**06 17 45.6**	**+1.7**
DID				S	**Sn**	**06 19 02.3**	**-0.8**
BRG	**Berggiesshubel**	**8.06**	**338**	SG	Sb	06 19 47.6	-10
	2.0nm,0.4s						
ANKY	**Antikythira Is**	**8.41**	**153**	P	**Pn**	**06 18 05.3**	**+1.0**
ANKY	**Antikythira Is**	**8.41**	**153**	P	**Pn**	**06 18 05.3**	**+1.0**
CLL	**Collm**	**8.71**	**336**	eSb	Sb	06 20 18.0	
CLL				eSg	Sg	06 20 34.0	-7.2

IDC 10 06:17:32.0±3.2**, 6°.09S**×**147°.36E, h0**km**, mb3.8**/2**, mb1 4.0**/3**, mb1mx3.5**/31**, mbtmp3.8**/3**, ML3.8**/1**, Error ellipse: s-maj=93.9km s-min=46.3km az=101.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.70**	**221**	P	P	06 21 52.1	0.0
	0.3nm,0.3s,baz=42,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**21.75**	**215**	P	P	06 22 25.4	+0.1
	1.3nm,0.5s,baz=46,slow=9.2,SNR=16						
STKA	**Stephens Creek**	**26.21**	**191**	P	P	06 23 08.4	-0.3
	2.2nm,0.7s,baz=11,slow=13,SNR=5.2						
TORD	**Torodi Ar. Bea**	**145.46**	**284**	PKPbc	PKPbc	06 37 12.5	-0.7
	0.1nm,0.4s,baz=68,slow=2.8,SNR=4.9						

DJA 10 06:26:21.9±0.5, 4°N±2°×9°6E±°, h9km, M3.6/6, MLv3.6/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**1.53**	**159**	P	Pn	06 26 49.0	-0.4
SNSI				S	Sn	06 27 08.6	-0.8
BSI	**Banda Aceh**	**1.71**	**343**	P	Pn	06 26 50.8	-1.1
BSI				S	Sn	06 27 14.1	+0.2
LHMI	**Lhok Sumawe**	**1.79**	**40**	P	Pn	06 26 52.3	-0.7
LHMI				S	Sn	06 27 16.4	+0.5
KCSI	**Kotacane, Aceh**	**2.00**	**99**	P	Pn	06 26 55.5	-0.5
KCSI				S	Sn	06 27 21.9	+0.7
GSI	**Gunungsitoli**	**3.10**	**145**	P	Pn	06 27 10.5	-0.5
GSI				S	Sn	06 27 49.7	+1.6

SZGRF ***10*** *06:38:00.3, 38°.78N×75°.44E, h33km, mb5.5, MS5.1, Southern Xinjiang, China*

LDG ***10*** *06:38:02.3±0.1, 39°.78N×74°.98E, h30km, Mb5.3/44, Ms4.5/13, Error ellipse: s-maj=8.0km s-min=5.1km az=38.0*

BJI ***10*** *06:38:02.2, 39°.89N×74°.70E, h9km, mb4.9/56, mB4.9/39, ML5.3/7, Ms4.9/70, Ms7 4.7/60*

ISCJB ***10*** *06:38:03.6±0.5, 39°.85N±0°.01×74°.86E±0°.01, h26km±3km, mb5.4/323, MS4.8/190, Error ellipse: s-maj=2.5km s-min=1.8km az=15.1*

NNC ***10*** *06:38:04.1±1.6, 39°.76N×74°.85E, h0km, mb6.0, mpv5.8, Error ellipse: s-maj=14.1km s-min=6.6km az=153.0*

IDC ***10*** *06:38:05.7±2.0, 39°.82N×74°.90E, h33km±14km, mb5.0/35, mb1 5.1/41, mb1mx5.1/41, mbtmp5.2/41, ML4.6/6, MS4.6/25, Ms1 4.6/25, ms1mx4.5/31, Error ellipse: s-maj=10.6km s-min=7.7km az=178.0*

KRNET ***10*** *06:38:05.6±0.1, 39°.96N×74°.76E, mb5.6*

MOS ***10*** *06:38:05.5±0.9, 39°.91N×74°.87E, h42km, mb5.7/121, MS4.8/69, Error ellipse: s-maj=4.9km s-min=3.1km az=133.3*

GCMT ***10*** *06:38:05.4±0.2, 39°.75N×74°.93E, h42km, MW5.2/84, Moment Tensor Solution. s72,c102; s84,c137; Duration: 0 Moment tensor: Scale 10^17 Nm; Mrr 0.59±.02; Mθθ 0.76±.02; Mϕϕ 0.17±.02; Mrθ 0.23±.02; Mθϕ -0.27±.01; Mϕr 0.10±.02; Best double couple: M0 0.75500×10^17 NP1: ϕs 70.00000°, δ55.00000°, λ84.00000°. NP2: ϕs 261.00000°, δ35.00000°, λ99.00000°. Principal axes: T 0.6350, Plg79.0000°, Azm316.0000°; N 0.2390, Plg5.0000°, Azm74.0000°; P -0.8740, Plg10.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***10*** *06:38:05.4±0.1, 39°.87N×74°.85E, mb5.5/123, MS4.8/127, MW5.1 Error ellipse: s-maj=3.2km s-min=2.3km az=181.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^16 Nm; Mrr 3.53; Mθθ -5.37; Mϕϕ 1.83; Mrθ 0.84; Mθϕ -0.44; Mϕr 0.93; Best double couple: M0 4.90000×10^16 NP1: ϕs 289.00000°, δ44.00000°, λ123.00000°. NP2: ϕs 67.00000°, δ54.00000°, λ62.00000°. Principal axes: T 3.9700, Plg67.0000°, Azm279.0000°; N 1.5000, Plg22.0000°, Azm83.0000°; P -5.4900, Plg5.0000°, Azm175.0000°;*

ISC 10 06:38:05.7±0.2, 39°.86N±0°.02×74°.84E±0°.02, h30km±1km, h30km:pP-P, n1556, σ1s22/1744, mb5.5/335, MS4.9/194, 405C-137D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**0.94**	**111**	Pg	**Pn**	**06 38 22.0**	**-1.0**
KSH				Sg	**Sn**	**06 38 33.7**	**-1.8**
KSH				SMN			
	35μm,0.7s						
KSH				SME			
	24μm,0.8s						
SFK	**Sufi-Kurgan**	**1.04**	**279**	⇓P	**Pn**	**06 38 24.9**	**+0.6**
SFK				⇓S	**Sn**	**06 38 38.6**	**+0.6**
SFK	**Sufi-Kurgan**	**1.04**	**279**	P	**Pn**	**06 38 24.7**	**+0.3**
SFK				S	**Sb**	**06 38 38.8**	**+0.2**
SFK				pmax	pmax		
	comp=Z,7μm,0.4s						
SFK	**Sufi-Kurgan**	**1.04**	**279**	⇑*i*P	**Pn**	**06 38 25.0**	**+0.6**
	baz=274						
SFK				⇑*i*S	**Sn**	**06 38 37.5**	**-0.5**
	baz=274						
NRN	**Naryn**	**1.81**	**29**	*i* P	**Pn**	**06 38 37.0**	**+1.9**
	baz=32						
NRN				⇓*i*S	**Sb**	**06 39 00.2**	**-0.6**
	baz=32						
KZA	**Kyzart**	**2.24**	**8**	P	**Pb**	**06 38 44.1**	**-1.7**
KZA	**Kyzart**	**2.24**	**8**	⇑*i*P	**Pb**	**06 38 44.0**	**-1.8**
	baz=10.0						
KZA				⇑*i*S	**Sb**	**06 39 16.1**	**+2.8**
	baz=10.0						
UCH	**Uchtor**	**2.38**	**354**	P	**Pb**	**06 38 46.6**	**-1.7**
	SNR=9520						
UCH	**Uchtor**	**2.38**	**354**	*e*P	**Pb**	**06 38 46.5**	**-1.7**
	baz=355						
UCH				*i* S	**Sb**	**06 39 19.8**	**+2.5**
	baz=355						
AML	**Almayashu**	**2.43**	**340**	P	**Pb**	**06 38 46.9**	**-2.1**
	SNR=1245						
AML	**Almayashu**	**2.43**	**340**	⇓*i*P	**Pb**	**06 38 46.9**	**-2.1**
	baz=340						
AML				⇓*i*S	**Sb**	**06 39 19.5**	**+0.8**
	baz=340						
ULHL	**Ulahol**	**2.61**	**24**	P	**Pn**	**06 38 48.9**	**+2.8**
	SNR=491						
ULHL	**Ulahol**	**2.61**	**24**	⇑*i*P	**Pn**	**06 38 48.9**	**+2.8**
	baz=25						
ULHL				⇑*i*S	**Sb**	**06 39 24.3**	**+0.5**
	baz=25						
AAK	**Ala-Archa**	**2.79**	**355**	P	**Pb**	**06 38 52.5**	**-2.4**
	SNR=2031						
AAK	**Ala-Archa**	**2.79**	**355**	⇓Pn	**Pb**	**06 38 52.7**	**-2.2**
	comp=Z,6μm,0.6s						
AAK				⇓Sn	**Sb**	**06 39 28.6**	**-0.1**
	comp=Z,10μm,0.9s						
AAK	**Ala-Archa**	**2.79**	**355**	Pn	**Pb**	**06 38 52.5**	**-2.4**
	comp=Z,608nm,0.3s,baz=163,slow=9.3,SNR=3254						
AAK				Sn	**Sb**	**06 39 27.8**	**-0.9**
	comp=Z,659nm,0.3s,baz=324,slow=19,SNR=7.3						
AAK				LR	LR	06 40 13.8	
	comp=Z,20μm,21.2s,baz=113,slow=45						
AAK	**Ala-Archa**	**2.79**	**355**	⇓*i*PN	**Pb**	**06 38 52.3**	**-2.6**
AAK	**Ala-Archa**	**2.79**	**355**	Pn	**Pb**	**06 38 52.8**	**-2.2**
	SNR=3755						
AAK	**Ala-Archa**	**2.79**	**355**	Pn	**Pb**	**06 38 52.5**	**-2.4**
AAK				*e*Sn	**Sb**	**06 39 27.5**	**-1.2**
AAK				Sn	**Sb**	**06 39 27.8**	**-0.9**
AAK	**Ala-Archa**	**2.79**	**355**	⇑*i*P	**Pb**	**06 38 52.6**	**-2.4**
	baz=356						
AAK				⇑*i*S	**Sb**	**06 39 28.6**	**-0.1**
	baz=356						
KBK	**Karagaybulak**	**2.80**	**2**	P	**Pb**	**06 38 52.6**	**-2.6**
	SNR=2444						
KBK	**Karagaybulak**	**2.80**	**2**	⇓*i*P	**Pb**	**06 38 52.5**	**-2.6**
	baz=3.0						
KBK				⇓*i*S	**Sb**	**06 39 29.1**	**0.0**
	baz=3.0						
KDJ	**Kajisay**	**2.88**	**37**	*i* P	**Pn**	**06 38 49.3**	**-0.4**
	baz=39						
KDJ				*e*S	**Sn**	**06 39 24.3**	**+0.8**
	baz=39						
EKS2	**Erkin-Say**	**2.92**	**344**	P	**Pb**	**06 38 54.2**	**-2.9**
	SNR=155						
EKS2	**Erkin-Say**	**2.92**	**344**	*e*PN	**Pb**	**06 38 54.3**	**-2.8**
EKS2				*e*		06 39 32.8	
EKS2	**Erkin-Say**	**2.92**	**344**	*e*Pn	**Pb**	**06 38 54.3**	**-2.8**
EKS2				*e*Sn	**Sb**	**06 39 32.8**	**+0.5**
EKS2	**Erkin-Say**	**2.92**	**344**	*e*P	**Pb**	**06 38 54.1**	**-2.9**
	baz=345						
EKS2				*i* S	**Sb**	**06 39 32.0**	**-0.3**
	baz=345						
ARK	**Arkit**	**2.92**	**313**	*e*P	**Pb**	**06 38 54.3**	**-2.8**
	baz=312						
ARK				*e*S	**Sb**	**06 39 30.6**	**-1.8**
	baz=312						
EKS	**Erkin-Say**	**2.92**	**345**	⇑*e*P	**Pb**	**06 38 55.1**	**-2.0**
	baz=345						
EKS				⇑*i*S	**Sb**	**06 39 34.0**	**+1.6**
	baz=345						
FRU	**Bishkek**	**2.98**	**357**	⇑*i*PN	**Pn**	**06 38 54.0**	**+3.1**
FRU				*i* S	**Sn**	**06 39 28.0**	**+2.3**
FRU				pmax	pmax		
	comp=E,4μm,1.4s						
FRU				smax	smax		
	comp=E,48μm,1.8s						
FRU	**Bishkek**	**2.98**	**357**	*e*P	**Pn**	**06 38 54.0**	**+3.1**
	baz=358						
FRU				*e*S	**Sn**	**06 39 28.0**	**+2.3**
	baz=358						
BTK	**Batken**	**3.09**	**275**	⇑*e*P	**Pb**	**06 38 57.8**	**-2.3**
	baz=273						
BTK				⇑*i*S	**Sn**	**06 39 33.2**	**+4.7**
	baz=273						
TKM2	**Tokmak 2**	**3.12**	**10**	P	Pn	06 38 56.8	+3.8
	SNR=5251						
TKM2	**Tokmak 2**	**3.12**	**10**	⇓Pn	Pn	06 38 56.8	+3.8
	comp=E,3μm,0.6s						
TKM2				⇓Sn	**Sn**	**06 39 34.1**	**+4.8**
	comp=E,5μm,0.7s						
TKM2	**Tokmak 2**	**3.12**	**10**	PN	Pn	06 38 56.7	+3.8
TKM2						06 39 34.7	
TKM2				pmax	pmax		
	comp=Z,3μm,0.6s						
TKM2	**Tokmak 2**	**3.12**	**10**	*e*Pn	Pn	06 38 56.8	+3.8
TKM2				*e*Sn	**Sn**	**06 39 32.5**	**+3.2**
TKM2	**Tokmak 2**	**3.12**	**10**	⇑*i*P	Pn	06 38 56.8	+3.8
	baz=12						
TKM2				⇑*i*S	**Sb**	**06 39 35.1**	**-3.1**
	baz=12						
CHMS	**Chumysh**	**3.14**	**359**	P	Pn	06 38 57.1	+4.0
	SNR=533						
CHMS	**Chumysh**	**3.14**	**359**	⇓*i*P	Pn	06 38 57.0	+3.9
	baz=360						
CHMS				⇓*i*S	**Sb**	**06 39 37.3**	**-1.4**
	baz=360						
MNAS	**Manas**	**3.16**	**327**	⇓Pn	Pn	06 38 57.0	+3.5
	comp=Z,8μm,0.6s						
MNAS				⇓Sn	**Sb**	**06 39 38.8**	**-0.7**
	comp=Z,10μm,0.9s						
MNAS	**Manas**	**3.16**	**327**	PN	**Pb**	**06 39 01.7**	**+0.4**
MNAS				pmax	pmax		
	comp=Z,8μm,0.6s						
USP	**Ospenovka**	**3.42**	**356**	P	Pn	06 39 00.6	+3.6
	SNR=1057						
USP	**Ospenovka**	**3.42**	**356**	⇑*i*P	Pn	06 39 00.4	+3.4
	baz=357						
USP				⇑*i*S	**Sb**	**06 39 41.9**	**-4.8**
	baz=357						
KNDC	**Almaty**	**3.72**	**25**	⇑Pn	Pn	06 39 04.9	+3.8
KNDC				⇓Pg	**Pb**	**06 39 12.6**	**+1.9**
KNDC				⇓Lg	Lg	06 40 00.9	
	comp=Z,19μm,0.9s						
AAA	**Alma-Ata**	**3.76**	**24**	*e*PN	**Pb**	**06 39 12.4**	**+0.9**
AAA				pmax	pmax		
	comp=Z,7μm,0.8s						
KK31	**Karatay Array**	**4.59**	**316**	⇑Pn	**Pn**	**06 39 15.6**	**+2.6**
	comp=Z,733nm,0.7s,baz=124,slow=12,SNR=6742						
KK31				⇓Pg	**Pb**	**06 39 27.9**	**+2.3**
	comp=Z,2μm,0.8s,baz=131,slow=14,SNR=19						
KK31				⇑Lg	Lg	06 40 29.5	
	comp=Z,2μm,0.5s,baz=140,slow=26,SNR=9.8						
KK31	**Karatay Array**	**4.59**	**316**	*i* PN	**Pb**	**06 39 27.8**	**+2.3**
KK31				pmax	pmax		
	comp=Z,502nm,0.3s						
KKAR	**Karatay Array**	**4.59**	**316**	*e*PN	**Pn**	**06 39 15.2**	**+2.1**
KKAR	**Karatay Array**	**4.59**	**316**	*e*Pn	**Pn**	**06 39 15.2**	**+2.1**
DZET	**Dzherino**	**4.78**	**259**	⇑Pn	**Pn**	**06 39 18.3**	**+2.6**
	comp=Z,2μm,0.6s						
DZET				⇓Sn	**Sn**	**06 40 14.8**	**+4.8**
	comp=Z,7μm,0.5s						
DZET				⇑Lg	Lg	06 40 36.1	
	comp=Z,11μm,0.5s						
DZET	**Dzherino**	**4.78**	**259**	PN	**Pn**	**06 39 18.2**	**+2.6**
DZET						06 40 14.2	
DZET				pmax	pmax		
	comp=Z,2μm,0.6s						
PDGK	**Podgornoye**	**4.92**	**44**	⇑Pn	**Pn**	**06 39 20.2**	**+2.7**
	comp=Z,360nm,1.0s						
PDGK				⇓Lg	Lg	06 40 39.8	
	comp=Z,4μm,0.8s						
CHCP	**Chirah Chowk**	**6.31**	**192**	P	Pn	06 39 41.5	+4.8
KBL	**Kabul**	**7.03**	**223**	*e*PN	Pn	06 39 50.6	+3.8
KBL				*e*		06 41 10.3	
KBL				pmax	pmax		
	comp=Z,412nm,0.8s						
KBL	**Kabul**	**7.03**	**223**	*e*Pn	Pn	06 39 50.6	+3.8
	comp=Z,412nm,0.8s						
KBL				*e*Sn	**Sn**	**06 41 10.3**	**+4.5**
JMU	**Jammu**	**7.12**	**180**	*ex*	Pn	06 39 54.0	+6.2
JMU				*ex*	Sn	06 41 00.0	-7.7
DLH	**Dalhousie**	**7.36**	**173**	*e*P	**Pn**	**06 39 53.0**	**+1.8**
DLH				*ex*	x	06 41 13.0	
DHRM	**DHARAMSHALA**	**7.68**	**171**	*e*P	**Pn**	**06 39 58.0**	**+2.3**
DHRM				*e*S	**Sn**	**06 41 20.1**	**-1.7**
PONG	**Pong**	**7.94**	**173**	*e*P	**Pn**	**06 40 00.0**	**+1.0**
PONG				*ex*	x	06 41 35.5	
SDNR	**Sundarnagar**	**8.52**	**168**	*e*P	**Pn**	**06 40 08.0**	**+1.0**
SDNR				*ex*	x	06 41 41.0	
BHK	**Bhakra**	**8.52**	**171**	*e*P	Pn	06 40 12.0	+5.0
BHK				*e*S	**Sn**	**06 41 45.4**	**+3.3**
OTUK	**Ortayu**	**8.58**	**349**	⇓Pn	Pn	06 40 12.8	+5.0
	comp=Z,155nm,0.8s						
OTUK				⇓Lg	Lg	06 42 35.3	
	comp=Z,918nm,0.9s						
MK31	**Makanchi Array**	**8.81**	**36**	⇑Pn	**Pn**	**06 40 12.9**	**+2.0**
	comp=Z,30nm,0.5s,baz=211,slow=15,SNR=204						
MK31				⇑Lg	Lg	06 42 46.2	
	comp=Z,197nm,0.8s,baz=221,slow=30,SNR=3.8						
MK31	**Makanchi Array**	**8.81**	**36**	*i* P	**Pn**	**06 40 12.5**	**+1.7**
MK31				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MK31	**Makanchi Array**	**8.81**	**36**	*e*Pn	**Pn**	**06 40 12.6**	**+1.7**
MKAR	**Makanchi Array**	**8.81**	**36**	Pn	**Pn**	**06 40 11.9**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=225,slow=14,SNR=54						
MKAR				Sn	**Sn**	**06 41 48.4**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=208,slow=24,SNR=2.3						
MKAR				Lg	Lg	06 42 39.7	
	comp=Z,6.3nm,0.3s,baz=219,slow=29,SNR=3.6						
MKAR				LR	LR	06 43 19.1	
	comp=Z,1μm,22.0s,baz=222,slow=36						
MKAR	**Makanchi Array**	**8.81**	**36**	⇑*e*P	**Pn**	**06 40 12.6**	**+1.7**
MKAR				pmax	pmax		
	comp=Z,22nm,0.9s						
SMLA	**Simla**	**8.91**	**167**	*i* P	**Pn**	**06 40 13.4**	**+1.1**
SMLA				*i* S	**Sn**	**06 41 48.0**	**-3.6**
SMLA				AML	AML	06 42 40.5	
	comp=E,1μm,0.5s						
SMLA				AML	AML	06 42 41.6	
	comp=N,2μm,0.5s						
DDI	**Dehra Dun**	**9.87**	**164**	*e*P	**Pn**	**06 40 24.6**	**-1.0**
DDI				*e*P	**Pn**	**06 40 26.0**	**+0.5**
DDI				*e*S	**Sn**	**06 42 11.0**	**-4.3**
KKR	**Kurukshetra**	**10.00**	**170**	*e*P	**Pn**	**06 40 27.2**	**-0.2**
WMQ	**Urumqi**	**10.38**	**63**	P	**Pn**	**06 40 33.7**	**+1.2**
WMQ				sP		06 40 41.4	
WMQ				PP	**PnPn**	**06 40 45.6**	**+5.5**
WMQ				S	**Sn**	**06 42 28.9**	**+1.1**
WMQ				PMZ			
	comp=N,35nm,1.0s						
WMQ				PMZ			
	comp=N,240nm,5.2s						
WMQ				LN			
	comp=N,610nm,5.0s						
WMQ				LE			
	comp=N,610nm,6.2s						
WMQ				LZ			
	comp=N,1μm,23.8s						
KALG	**Kalgarh**	**10.81**	**161**	*e*P	**Pn**	**06 40 39.4**	**+1.0**
KURBB	**Kurchatov Arra**	**11.08**	**12**	⇓Pn	**Pn**	**06 40 41.9**	**+1.0**
	comp=N,99nm,0.8s						
KURBB				⇑Lg	Lg	06 44 01.9	
	comp=N,2μm,0.9s						
KURBB	**Kurchatov Arra**	**11.08**	**12**	Pn	**Pn**	**06 40 41.6**	**-0.3**
	comp=N,0.9nm,0.3s,baz=198,slow=11,SNR=90						
KURBB				Lg	Lg	06 43 55.1	
	comp=N,3.1nm,0.3s,baz=205,slow=29,SNR=7.8						
KURK	**Kurchatov**	**11.18**	**12**	Pn	**Pn**	**06 40 43.8**	**+0.5**
	comp=N,325nm,1.0s,SNR=28						
KURK	**Kurchatov**	**11.18**	**12**	⇓Pn	**Pn**	**06 40 42.3**	**-1.0**
	comp=N,50nm,0.9s						
KURK				⇑Lg	Lg	06 44 06.8	
	comp=N,764nm,1.0s						
KURK	**Kurchatov**	**11.18**	**12**	P	**Pn**	**06 40 42.3**	**-1.0**
KURK				pmax	pmax		
	comp=Z,50nm,0.9s						
KURK	**Kurchatov**	**11.18**	**12**	Pn	**Pn**	**06 40 43.3**	**0.0**
	SNR=42						
KURK	**Kurchatov**	**11.18**	**12**	*e*Pn	**Pn**	**06 40 42.8**	**-0.5**
KURK				Lg	Lg	06 43 55.1	
BHGR	**Bahadurgarh**	**11.27**	**171**	*e*P	**Pn**	**06 40 45.0**	**+0.3**
LGTI	**Lohaghat**	**11.29**	**155**	*e*P	Pn	06 40 53.8	+8.9
LGTI				*e*S	Sn	06 42 56.9	+6.8
NDI	**New Delhi**	**11.32**	**169**	*e*P	**Pn**	**06 40 44.5**	**-0.8**
NDI				*ex*	x	06 42 40.5	
AYAN	**Aya Nagar**	**11.50**	**170**	*e*P	**Pn**	**06 40 46.9**	**-0.9**
SONA	**Sohna**	**11.72**	**170**	*e*P	**Pn**	**06 40 49.1**	**-1.7**
SONA				AML	AML	06 42 59.7	
	comp=N,366nm,1.0s						
SONA				AML	AML	06 43 02.3	
	comp=E,911nm,0.8s						
KHET	**Khetri**	**11.78**	**176**	*e*P	**Pn**	**06 40 50.8**	**-0.9**
KHET				*ex*	x	06 42 52.0	
KHET				AML	AML	06 43 00.3	
	comp=E,1μm,0.1s						
KHET				AML	AML	06 43 00.9	
	comp=N,1μm,0.3s						
AGRA	**Agra**	**12.85**	**167**	*ex*	**Pn**	**06 41 05.0**	**-1.3**
AGRA				*ex*	**Sn**	**06 43 22.9**	**-5.4**
AGRA				AML	AML	06 43 27.2	
	comp=N,271nm,0.4s						
AGRA				AML	AML	06 43 29.2	
	comp=E,366nm,0.7s						
IAKL	**Akhelmad**	**13.05**	**261**	*e*P	**Pn**	**06 41 06.9**	**-2.4**
ISFR	**Sfrayin**	**13.49**	**263**	*e*P	**Pn**	**06 41 12.6**	**-2.6**
BVA0	**Borovoye Array**	**13.52**	**348**	⇑P	**Pn**	**06 41 14.0**	**-1.4**
	comp=E,331nm,1.1s,baz=157,slow=15,SNR=953						
BVA0	**Borovoye Array**	**13.52**	**348**	*i* P	**Pn**	**06 41 13.9**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,316nm,1.0s						
BVAR	**Borovoye Array**	**13.52**	**348**	Pn	**Pn**	**06 41 13.4**	**-1.9**
	comp=Z,1.9nm,0.3s,baz=155,slow=13,SNR=97						
BVAR				Lg	Lg	06 45 10.8	
	comp=Z,5.4nm,0.3s,baz=168,slow=28,SNR=6.0						
BRVK	**Borovoye**	**13.57**	**348**	Pn	**Pn**	**06 41 15.2**	**-0.7**
	comp=Z,2μm,0.9s,SNR=5.6						
BRVK	**Borovoye**	**13.57**	**348**	*i* P	**Pn**	**06 41 14.9**	**-1.0**
BRVK	**Borovoye**	**13.57**	**348**	Pn	**Pn**	**06 41 15.5**	**-0.5**
	SNR=158						
BRVK	**Borovoye**	**13.57**	**348**	*e*Pn	**Pn**	**06 41 15.0**	**-0.9**
ISHV	**Shirvan**	**13.58**	**266**	*e*P	**Pn**	**06 41 13.8**	**-2.6**
IDAH	**Dahanechah**	**13.99**	**244**	*e*P	**Pn**	**06 41 21.4**	**-0.8**
KOLN	**Koldanda**	**14.07**	**146**	*e*P	**Pn**	**06 41 20.6**	**-2.6**
	comp=Z,137nm,0.5s						
AB31	**Akbulak array**	**14.16**	**316**	⇑P	**Pn**	**06 41 22.5**	**-1.4**
	comp=Z,497nm,0.7s,baz=116,slow=16,SNR=4287						
AB31	**Akbulak array**	**14.16**	**316**	P	**Pn**	**06 41 22.2**	**-1.8**
AB31				pmax	pmax		
	comp=Z,548nm,0.6s						
ABKAR	**Akbulak array**	**14.16**	**316**	*e*Pn	**Pn**	**06 41 22.1**	**-1.9**
GKN	**Gorkha**	**14.34**	**143**	*e*P	**Pn**	**06 41 23.9**	**-2.8**
	comp=Z,91nm,0.3s						
IKOO	**Kooshah**	**14.77**	**245**	*e*P	**Pn**	**06 41 31.6**	**-1.1**
KKN	**Kakani**	**14.82**	**141**	*e*P	Pn	06 41 29.7	-3.7
	comp=Z,102nm,0.5s						
DMN	**Daman**	**14.89**	**142**	*e*P	Pn	06 41 29.8	-4.5
GUN	**Gumba**	**15.02**	**139**	*e*P	**Pn**	**06 41 31.9**	**-4.2**
PKI	**Pulchoki**	**15.07**	**141**	*e*P	**Pn**	**06 41 32.9**	**-3.8**
	comp=Z,276nm,0.9s						
JIRN	**Jiri**	**15.38**	**139**	*e*P	**Pn**	**06 41 36.7**	**-4.2**
	comp=Z,223nm,0.4s						
ZAA0	**Zalesovo Array**	**15.64**	**22**	*e*Pn	**Pn**	**06 41 42.8**	**-0.9**
ZAA0				Sn	**Sn**	**06 44 36.8**	**+1.0**
ZALV	**Zalesovo Beam**	**15.64**	**22**	Pn	**Pn**	**06 41 43.2**	**-0.5**
	comp=Z,8.3nm,0.3s,baz=211,slow=13,SNR=228						
ZALV				Lg	Lg	06 46 21.1	
	comp=Z,1.0nm,0.3s,baz=214,slow=24,SNR=4.0						
ZALV				LR	LR	06 47 54.9	
	comp=Z,3μm,18.1s,baz=248,slow=38						
AKTO	**Aktyubinsk**	**15.86**	**317**	⇓P	**Pn**	**06 41 46.1**	**-0.5**
	comp=Z,222nm,0.8s						
AKTO	**Aktyubinsk**	**15.86**	**317**	Pn	**Pn**	**06 41 44.7**	**-1.9**
	comp=Z,14nm,0.3s,baz=125,slow=12,SNR=187						
AKTO	**Aktyubinsk**	**15.86**	**317**	P	**Pn**	**06 41 46.0**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,330nm,0.7s						
NVS	**Novosibirsk**	**16.02**	**18**	⇑*i*P	**Pn**	**06 41 47.6**	**-0.9**
NVS				pmax	pmax		
	comp=Z,443nm,1.9s						
NVS				pmax	pmax		
	comp=N,284nm,1.5s						
RAMN	**Ramite**	**16.17**	**139**	*e*P	Pn	06 41 46.0	-5.0
	comp=N,342nm,0.9s						
TAPN	**Taplejung**	**16.43**	**136**	*e*P	**Pn**	**06 41 50.1**	**-4.2**
	comp=N,236nm,0.8s						
ODAN	**Odare**	**16.65**	**137**	*e*P	**Pn**	**06 41 53.4**	**-3.6**
	comp=N,221nm,0.5s						
BHPL	**Bhopal**	**16.71**	**172**	*e*P	**Pn**	**06 41 57.0**	**-0.6**
LSA	**Lhasa**	**16.78**	**122**	P	**Pn**	**06 41 59.6**	**+0.8**
LSA				S	**Sn**	**06 45 08.2**	**+3.7**
LSA				LN			
	comp=N,2μm,16.8s						
LSA				LE			
	comp=N,3μm,17.9s						
LSA				LZ			
	comp=N,6μm,18.8s						
LSA	**Lhasa**	**16.78**	**122**	*e*P	**Pn**	**06 41 59.8**	**+1.0**
LSA				*e*		06 45 08.5	
LSA				pmax	pmax		
	comp=Z,59nm,0.9s						
LSA	**Lhasa**	**16.78**	**122**	*e*Pn	**Pn**	**06 41 59.8**	**+1.0**
	comp=Z,59nm,0.9s						
LSA				*e*Sn	**Sn**	**06 45 08.5**	**+4.0**
LSA				*e*PcP	**PcP**	**06 46 47.7**	**+1.4**
IKIA	**Kiasar**	**17.05**	**264**	*e*P	**Pn**	**06 42 01.0**	**-1.1**
BHJ	**Bhuj**	**17.12**	**196**	*ex*	Pn	06 41 56.1	-6.6
HVS	**Khovu-Aksy**	**17.33**	**43**	*c* *i*P	**P**	**06 42 07.2**	**+0.8**
HVS				pmax	pmax		
	comp=Z,537nm,1.2s						
IBAF	**Bafgh**	**17.66**	**248**	*e*P	**Pn**	**06 42 09.5**	**-0.1**
IALA	**Alasht**	**17.76**	**265**	*e*P	**Pn**	**06 42 10.6**	**-0.3**
IFIR	**Firoozkooh**	**17.95**	**263**	*e*P	**P**	**06 42 14.1**	**+0.4**
IPRN	**Peran**	**18.07**	**266**	*e*P	**Pn**	**06 42 13.5**	**-1.1**
ICHK	**Chekchek**	**18.16**	**252**	*e*P	**P**	**06 42 16.0**	**+0.1**
IDMV	**Damavand**	**18.53**	**264**	*e*P	**Pn**	**06 42

SRSP Sriramsagar 21.07 171 *e*P **P** **06 42 46.7 -0.8**
SRSP IAmb IAmb 06 43 04.0
comp=Z,98nm,1.0s
SRSP *e*S **S** **06 46 41.3 +0.8**
SRSP IVMs_BB IVMs_BB 06 51 02.8
comp=Z,2μm,9.3s
POO Poona 21.27 183 *e*P **P** **06 42 48.7 -0.9**
RPR Rampur 21.28 168 *e*P **P** **06 42 50.5 +0.9**
RPR IAmb IAmb 06 42 57.5
comp=Z,88nm,0.9s
RPR *e* 06 46 36.8
RPR *e*S **S** **06 46 44.8 +0.4**
RPR IVMs_BB IVMs_BB 06 51 18.7
comp=Z,4μm,10.9s
IKAZ Kazeroun 21.34 249 *e*P **P** **06 42 51.7 +1.1**
UOSS Wadi Hilu 21.58 232 *e*P **P** **06 42 50.5 -2.4**
comp=Z,102nm,1.1s
MOY Mondy 21.61 48 *e*P **P** **06 42 55.1 +2.0**
MOY pmax pmax
comp=Z,259nm,2.1s
HATD Hatta, Dubai 21.71 232 ⇓P **P** **06 42 54.1 -0.2**
HATD Hatta, Dubai 21.71 232 ⇓P **P** **06 42 54.1 -0.2**
KLRI Killari 21.76 175 *e*P **P** **06 42 55.2 +0.3**
KLRI IAmb IAmb 06 43 05.9
comp=Z,274nm,0.7s
KLRI *e* 06 46 48.9
KLRI *e*S **S** **06 46 55.0 +0.9**
KLRI IVMs_BB IVMs_BB 06 51 37.8
comp=Z,6μm,9.9s
WBK Wadi Bani Khal 21.84 223 P **P** **06 42 57.1 +1.4**
SNR=11
NAZ Nazwa, Dubai 21.88 233⇑ *i*P **P** **06 42 55.5 -0.6**
SNR=6.0
NAZ Nazwa, Dubai 21.88 233⇑ *i*P **P** **06 42 55.5 -0.6**
SNR=6.0
HOQ Hoqain 21.97 228 P **P** **06 42 56.0 -1.0**
SNR=20
SMDO Samad 21.97 225 P **P** **06 42 57.4 +0.2**
SNR=20
ASUD Al Ashush, Dub 22.35 233⇑ *i*P **P** **06 43 01.1 -0.1**
SNR=5.9
ASUD Al Ashush, Dub 22.35 233⇑ *i*P **P** **06 43 01.1 -0.1**
SNR=5.9
DGRG David-gareji 22.36 284 P **P** **06 43 02.4 +1.1**
DGRG David-gareji 22.36 284 P **P** **06 43 02.3 +1.1**
JMDO Jabal Madar 22.50 224 P **P** **06 43 03.1 +0.4**
SNR=14
ZAK Zakamensk 22.53 53⇑ *i*P **P** **06 43 03.5 +0.5**
ZAK pmax pmax
comp=Z,62nm,1.1s
HYBB Hyderabad (bro 22.59 171 *e*P **P** **06 43 04.0 +0.2**
HYBB IAmb IAmb 06 43 12.5
comp=Z,63nm,1.0s
HYBB *e*PnPn **PnPn** **06 43 27.6 -0.1**
HYBB *e*S **S** **06 47 09.0 -0.4**
HYBB IVMs_BB IVMs_BB 06 51 57.3
comp=Z,2μm,11.7s
HYB Hyderabad 22.59 171 *i* P **P** **06 43 03.0 -0.8**
comp=Z,69nm,0.8s
HYB *e*S **S** **06 47 08.0 -1.5**
HYB Hyderabad 22.59 171 *e*P **P** **06 43 03.2 -0.5**
ARQ Araqi 22.61 229 P **P** **06 43 06.5 +2.5**
SNR=39
CHLP Challavanipeta 22.72 157 *e*P **P** **06 43 04.6 -0.5**
CHLP IAmb IAmb 06 43 12.6
comp=Z,79nm,1.0s
CHLP *e*S **S** **06 47 13.1 +1.4**
CHLP IVMs_BB IVMs_BB 06 52 03.4
comp=Z,1μm,12.3s
SEAG Tbilisi Sea 22.76 285 P **P** **06 43 05.7 +0.3**
SOKR Solikamsk 22.80 336*c* *i*P **P** **06 43 06.2 +0.6**
SOKR pmax pmax
comp=Z,70nm,0.9s
SOKR MLR MLR
comp=Z,3μm,17.0s
DUS Dusheti 22.81 285 P **P** **06 43 07.6 +1.6**
DUS Dusheti 22.81 285 P **P** **06 43 07.6 +1.6**
TBLG Delisi 22.81 285 *e*P **P** **06 43 06.4 +0.4**
TBLG Delisi 22.81 285 P **P** **06 43 05.8 -0.1**
TBLG Delisi 22.81 285 P **P** **06 43 05.8 -0.1**
GNI Garni 23.01 280 P **P** **06 43 08.8 +0.6**
comp=Z,208nm,0.9s,baz=139,slow=4.2,SNR=86
GNI Garni 23.01 280*c* *i*P **P** **06 43 10.1 +1.9**
GNI pmax pmax
comp=Z,497nm,1.7s
GNI Garni 23.01 280 P **P** **06 43 10.4 +2.2**
SNR=107
GNI Garni 23.01 280 *i* P **P** **06 43 10.6 +2.4**
SNR=49
GNI Garni 23.01 280 *i* P **P** **06 43 10.6 +2.4**
SNR=49
GNI Garni 23.01 280 P **P** **06 43 08.8 +0.6**
GNI LR LR
comp=Z,783nm,21.0s
LZH Lanzhou 23.13 90 ⇓P **P** **06 43 10.5 +1.1**
LZH pP **pP** **06 43 19.5 +1.8**
LZH sP **sP** **06 43 23.3 +1.7**
LZH PP **PnPn** **06 43 40.5 +5.4**
LZH PcP **PcP** **06 46 58.4 +1.0**
LZH *e*S **S** **06 47 18.7 -0.2**
LZH sS **sS** **06 47 31.4 -2.0**
LZH PMZ
comp=Z,96nm,1.1s
LZH PMZ
comp=Z,420nm,6.1s
LZH LN
comp=Z,1μm,11.8s
LZH LE
comp=Z,2μm,14.0s
LZH LZ
comp=Z,3μm,16.0s
TLY Talaya 23.15 50 P **P** **06 43 10.9 +1.5**
comp=Z,361nm,1.0s,SNR=18
TLY Talaya 23.15 50 P **P** **06 43 09.4 0.0**
comp=Z,32nm,0.8s,baz=240,slow=9.2,SNR=67
TLY PcP **PcP** **06 46 55.7 -1.2**
comp=Z,6.3nm,0.6s,baz=196,slow=6.0,SNR=4.6
TLY Talaya 23.15 50*c* *i*P **P** **06 43 10.1 +0.7**
TLY *e* 06 43 25.7
TLY *e*PPP PPP 06 43 36.2
TLY pmax pmax
comp=Z,110nm,1.5s
TLY MLR MLR
comp=Z,1μm,16.0s
TLY Talaya 23.15 50 P **P** **06 43 10.7 +1.3**
SNR=48
TLY Talaya 23.15 50 P **P** **06 43 09.4 0.0**
TLY PcP **PcP** **06 46 55.7 -1.2**
TLY LR LR
comp=Z,1μm,20.0s
VIS Vishakhapatnam 23.25 159 *i* P **P** **06 43 11.6 +1.0**
VIS *i* S **S** **06 47 22.6 +1.9**
PVM Polavaram 23.28 163 *e*P **P** **06 43 11.3 +0.5**
PVM IAmb IAmb 06 43 18.6
comp=Z,52nm,1.1s
PVM *e*S **S** **06 47 22.5 +1.3**
PVM IVMs_BB IVMs_BB 06 52 21.2
comp=Z,2μm,10.6s
ZEI Tsey 23.35 287 *e*P **P** **06 43 09.5 -2.1**
ZEI pmax pmax
comp=Z,136nm,1.0s
NJS Nagarjunasagar 23.54 169 *e*P **P** **06 43 13.3 0.0**
NJS IAmb IAmb 06 43 30.8
comp=Z,60nm,1.0s
NJS *e* 06 47 00.6
NJS *e*S **S** **06 47 27.8 +2.3**
NJS IVMs_BB IVMs_BB 06 52 35.0
comp=Z,3μm,9.1s
NCK Nalchik 23.54 289⇓ *e*P **P** **06 43 13.1 -0.2**
ONI Oni 23.69 287 P **P** **06 43 16.6 +1.7**
ONI Oni 23.69 287 P **P** **06 43 16.5 +1.7**
IRK Irkutsk 23.71 49 *e*P **P** **06 43 15.6 +0.8**
IRK pmax pmax
comp=Z,245nm,1.4s
EAK Akyaka 23.78 282 *i* P **P** **06 43 19.3 +3.5**
CLDR Caldiran 23.81 278 *e*P **P** **06 43 18.4 +2.3**
SRLM Srisailam 23.93 170 *e*P **P** **06 43 16.7 -0.4**
SRLM IAmb IAmb 06 43 30.4
comp=Z,87nm,0.9s
SRLM *e*S **S** **06 47 30.9 -0.9**
SRLM IVMs_BB IVMs_BB 06 52 46.4
comp=Z,2μm,10.7s
GOF Gofitskoye 23.93 293 *e*P **P** **06 43 13.1 -3.8**
GOF pmax pmax
comp=Z,110nm,1.3s

SONM Songino Array 23.99 60 P **P** **06 43 17.3 -0.3**
comp=Z,26nm,0.9s,baz=265,slow=8.8,SNR=86
SONM PcP **PcP** **06 46 57.9 -1.1**
comp=Z,7.3nm,0.8s,baz=230,slow=3.8,SNR=8.0
SONM LR LR 06 53 39.3
comp=Z,3μm,21.4s,baz=263,slow=39
SONM P3KPbc 07 16 30.7
comp=Z,0.2nm,0.4s,baz=116,slow=3.4,SNR=2.9
KBZ Khabaz 24.04 290 P **P** **06 43 17.7 -0.2**
comp=Z,32nm,1.0s,baz=95,slow=7.8,SNR=38
KBZ LR LR 06 55 11.5
comp=Z,2μm,19.1s,baz=90,slow=43
KBZ Khabaz 24.04 290 P **P** **06 43 17.7 -0.2**
KBZ pmax pmax
comp=Z,32nm,1.0s
KBZ MLR MLR
comp=Z,2μm,19.1s
KARS Kars 24.19 282 *e*P **P** **06 43 22.5 +3.0**
KARS Kars 24.19 282 P **P** **06 43 22.2 +2.7**
KIV Kislovodsk 24.19 290 *e*P **P** **06 43 19.9 +0.4**
KIV Kislovodsk 24.19 290 P **P** **06 43 20.8 +1.4**
comp=Z,1μm,1.0s,SNR=18
KIV Kislovodsk 24.19 290 *e*P **P** **06 43 19.6 +0.2**
KIV *e*S **S** **06 47 36.1 +0.4**
KIV pmax pmax
comp=Z,115nm,3.7s
KIV pmax pmax
comp=Z,202nm,1.0s
KIV MLR MLR
comp=Z,1μm,14.0s
KIV Kislovodsk 24.19 290 P **P** **06 43 19.8 +0.4**
SNR=60
KIV Kislovodsk 24.19 290 *i* P **P** **06 43 20.0 +0.6**
SNR=47
KIV Kislovodsk 24.19 290 *i* P **P** **06 43 20.0 +0.6**
SNR=47
KIV Kislovodsk 24.19 290 *e*P **P** **06 43 20.1 +0.6**
KIV LR LR
comp=Z,1μm,19.0s
HKR Hakkari 24.31 275 *e*P **P** **06 43 23.7 +3.0**
VANB Van 24.33 277 *e*P **P** **06 43 23.3 +2.4**
ADKI Addanki 24.34 168 *e*P **P** **06 43 21.2 +0.4**
ADKI IAmb IAmb 06 43 31.2
comp=Z,65nm,0.9s
ADKI *e*S **S** **06 47 38.5 +0.3**
HAKT HAKKARI 24.34 275 *i* P **P** **06 43 23.2 +2.2**
AGRB Hanur-Agry 24.43 280 *e*P **P** **06 43 24.8 +3.0**
ULN Ulaanbaatar 24.43 60 PFAKE 06 43 30.0 +8.2
ULN LR LR
comp=Z,3μm,19.0s
CUKT Cukurca 24.50 274 *e*P **P** **06 43 24.3 +1.9**
RCLA Racherla 24.57 170 *e*P **P** **06 43 23.0 0.0**
RCLA IAmb IAmb 06 43 25.0
comp=Z,54nm,0.7s
RCLA *e*S **S** **06 47 41.4 -0.6**
RCLA IVMs_BB IVMs_BB 06 53 06.7
comp=Z,3μm,12.6s
TUTA Tutak 24.60 279 *i* P P 06 43 33.2 +10
CHVG Ch'k'valeri 24.69 287 P **P** **06 43 25.0 +1.1**
EATA Eleskirt 24.76 281 *i* P **P** **06 43 27.4 +2.4**
URV Uravakonda 24.91 174 *e*P **P** **06 43 25.7 -0.4**
URV IAmb IAmb 06 43 34.5
comp=Z,102nm,0.8s
URV *e*S **S** **06 47 45.4 -2.1**
URV IVMs_BB IVMs_BB 06 53 23.2
comp=Z,4μm,13.3s
DAGI Agillar 25.00 284 *i* P **P** **06 43 29.3 +2.5**
CD2 Chengdu 25.13 102 ⇑P **P** **06 43 29.1 +1.1**
CD2 pP **pP** **06 43 39.8 +3.0**
CD2 sP **sP** **06 43 44.0 +3.5**
CD2 PcP **PcP** **06 47 04.4 +2.7**
CD2 S **S** **06 47 50.1 -0.8**
CD2 sS **sS** **06 48 06.2 +0.7**
CD2 PMZ
comp=Z,80nm,0.9s
CD2 PMZ
comp=Z,220nm,4.6s
CD2 LN
comp=Z,980nm,9.9s
CD2 LE
comp=Z,1μm,9.9s
CD2 LZ
comp=Z,1μm,9.5s
DBOC Borcka 25.15 284 *i* P **P** **06 43 29.6 +1.5**
BCA Borcka 25.17 284 *e*P **P** **06 43 30.4 +2.2**
HOMI Horasan 25.17 281 *i* P **P** **06 43 31.3 +2.7**
EKAR Karacoban 25.20 279 *i* P **P** **06 43 31.5 +2.7**
EZM Erzurum 25.61 281 *e*P **P** **06 43 35.5 +2.9**
KOPT Kop Dagi 26.24 282 *i* P **P** **06 43 41.2 +3.0**
BNGB Bing˜ll 26.31 279 *e*P **P** **06 43 41.3 +2.5**
SOC Sochi 26.36 290*c* *i*P **P** **06 43 39.3 +0.3**
SOC *e**SP **sP** **06 43 51.3 -0.2**
SOC *e* 06 44 18.8
SOC *e*S **S** **06 48 12.8 +2.8**
SOC *e*SS **SnSn** **06 49 10.7 -0.8**
SOC pmax pmax
comp=Z,72nm,0.7s
SOC MLR MLR
comp=Z,1μm,12.0s
SKHT Srikalahasti 26.36 169 *e*P **P** **06 43 39.4 +0.2**
SKHT IAmb IAmb 06 43 50.4
comp=Z,40nm,0.8s
SKHT *e*S **S** **06 48 10.5 0.0**
SKHT IVMs_BB IVMs_BB 06 54 12.4
comp=Z,2μm,8.8s
BAYT Ayd˜–ntepe-Bay 26.44 282 *e*P **P** **06 43 42.4 +2.4**
MARD Mardin 26.65 276 *i* P **P** **06 43 43.2 +1.3**
MAZI Mazidag 26.86 276 *e*P **P** **06 43 45.7 +1.9**
GUMT Gumushane 26.92 283 *e*P **P** **06 43 46.7 +2.4**
DYBB Diyarbakir 26.97 277 *e*P **P** **06 43 47.0 +2.4**
KELT Kelkit 27.15 282 *i* P **P** **06 43 48.5 +2.1**
VSR Storozhevoye 27.18 307 *e*P **P** **06 43 46.0 -0.3**
VSR pmax pmax
comp=Z,320nm,1.1s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,120nm,0.8s
VSR MLR MLR
comp=Z,3μm,14.0s
VSR MLR MLR
comp=N,800nm,13.0s
VSR MLR MLR
comp=E,2μm,15.0s
VOR Voronezh 27.26 308 P **P** **06 43 46.0 -1.0**
VOR pmax pmax
comp=Z,500nm,1.2s
PTK Pertek 27.31 279 *e*P **P** **06 43 50.3 +2.4**
ESPY Espiye-Giresun 27.41 284 *e*P **P** **06 43 50.1 +1.6**
KMI Kunming 27.60 114 P **P** **06 43 52.1 +1.5**
KMI pP **pP** **06 44 01.8 +2.4**
KMI sP **sP** **06 44 06.6 +3.5**
KMI S **S** **06 48 32.4 +1.9**
KMI sS **sS** **06 48 47.6 +2.5**
KMI PMZ
comp=Z,16nm,0.9s
KMI PMZ
comp=Z,170nm,4.7s
KMI LN
comp=Z,690nm,12.7s
KMI LE
comp=Z,2μm,14.3s
KMI LZ
comp=Z,2μm,15.4s
LPSR Galich'ya Gora 27.61 309 *e*P **P** **06 43 50.3 +0.2**
LPSR pmax pmax
comp=N,10.0nm,0.7s
LPSR pmax pmax
comp=Z,160nm,0.7s
LPSR pmax pmax
comp=E,50nm,0.9s
LPSR MLR MLR
comp=Z,1μm,17.0s
LPSR MLR MLR
comp=N,1μm,19.0s
LPSR MLR MLR
comp=E,2μm,16.0s
ELZG Elazig 27.71 279 *i* P **P** **06 43 53.4 +2.0**
XAN Xi'an 27.74 91 P **P** **06 43 51.7 +0.1**
XAN pP **pP** **06 44 01.3 +0.9**
XAN PP **PnPn** **06 44 40.4 +2.4**
XAN S **S** **06 48 29.5 -2.7**
XAN PMZ
comp=E,4.0nm,0.9s
XAN PMZ
comp=E,37nm,13.3s
XAN LN
comp=E,1μm,24.8s
XAN LE
comp=E,380nm,26.0s
XAN LZ
comp=E,430nm,22.5s
HHC Hu-ho-hao-te 27.88 76 *e*P **P** **06 43 50.4 -2.4**
HHC sP **sP** **06 44 04.0 -1.4**
HHC PP **PnPn** **06 44 38.5 -1.4**
HHC S **S** **06 48 30.6 -3.8**
HHC sS sS 06 49 44.0 +55
HHC SS **SnSn** **06 49 49.3 +0.3**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC LR LR
comp=N,620nm,10.3s
HHC LR LR
comp=E,960nm,10.8s
HHC LR LR
comp=Z,670nm,10.7s
KEMA Kemaliye 27.91 281 *i* P **P** **06 43 55.4 +2.3**
ANN Anapa 27.92 293 *e*P **P** **06 43 48.5 -4.5**
ANN *e**PP **pP** **06 43 57.8 -4.0**
ANN *e* 06 47 02.5
ANN *e*S **S** **06 48 31.8 -2.8**
ANN pmax pmax
comp=Z,117nm,1.7s
ANN MLR MLR
comp=E,885nm,17.0s
ANN MLR MLR
comp=N,1μm,17.0s
ANN MLR MLR
comp=Z,1μm,17.0s
PRGR Permogore 28.15 330 *e*P **P** **06 43 53.5 -1.4**
PRGR pmax pmax
comp=Z,140nm,0.9s
AKCD Akcadag 28.57 279 *i* P **P** **06 44 01.2 +2.1**
CMAI Chiengmai2 28.73 127 P **P** **06 44 01.7 +1.0**
comp=Z,9.2nm,0.9s,comp=Z,719nm
SCER sogukcermik 28.81 282 *i* P P 06 44 04.4 +3.2
SVSK Karacayir 28.89 282 *e*P **P** **06 44 04.1 +2.5**
MOS Moscow 29.17 315 *e*P **P** **06 44 03.0 -1.0**
MOS *e* 06 44 15.1
MOS *e* 06 45 07.2
MOS pmax pmax
comp=Z,300nm,1.4s
MOS pmax pmax
comp=Z,174nm,1.2s
MOS MLR MLR
comp=Z,3μm,16.0s
CIT Chita 29.19 52 *e*P **P** **06 44 04.6 +0.3**
CIT *e* 06 44 18.9
CIT pmax pmax
comp=Z,92nm,1.5s
TIY Taiyuan 29.25 82 *e*P **P** **06 44 06.6 +1.6**
TIY S **S** **06 48 59.5 +3.6**
TIY PMZ
comp=Z,120nm,6.8s
TIY LN
comp=Z,650nm,8.3s
TIY LE
comp=Z,360nm,7.8s
TIY LZ
comp=Z,910nm,24.5s
CRAI Chiangrai 29.35 124 P **P** **06 44 03.3 -2.6**
comp=Z,81nm,0.8s,comp=Z,5μm
KVT Kavak 29.37 285 *e*P **P** **06 44 07.6 +1.6**
CHTO Chiang Mai 29.52 128 PFAKE 06 44 20.0 +13
CHTO LR LR
comp=Z,1μm,19.0s
KMRS Kahramanmaras 29.56 278 *e*P **P** **06 44 09.7 +2.0**
OBN Obninsk 29.58 314 P **P** **06 44 07.1 -0.5**
comp=Z,28nm,0.4s,baz=90,slow=4.2,SNR=20
OBN Obninsk 29.58 314*c* *i*P **P** **06 44 07.7 +0.1**
OBN *i* 06 44 16.9
OBN *i* 06 47 11.5
OBN *i* S **S** **06 49 02.1 +1.6**
OBN pmax pmax
comp=Z,108nm,1.2s
OBN MLR MLR
comp=Z,3μm,24.0s
OBN Obninsk 29.58 314 *e*P **P** **06 44 07.7 +0.1**
comp=Z,82nm,0.9s
OBN *e*pP **pP** **06 44 16.8 +0.4**
RAYN Ar Rayn 29.62 245 P **P** **06 44 09.6 +1.2**
comp=Z,788nm,0.7s,SNR=43
RAYN Ar Rayn 29.62 245 *e*P **P** **06 44 09.3 +1.0**
comp=Z,96nm,0.8s
RAYN *e*PcP **PcP** **06 47 13.3 +0.8**
RAYN LR LR
comp=Z,1μm,19.0s
PINB Pinarbasi 29.63 280 *i* P **P** **06 44 10.2 +1.6**
GYA Guiyang 29.64 107⇑ *i*P **P** **06 44 09.4 +0.8**
GYA pP **pP** **06 44 19.0 +1.6**
GYA PP **PnPn** **06 45 06.9 +2.8**
GYA PcP **PcP** **06 47 12.8 +0.2**
GYA S **S** **06 49 04.6 +2.3**
GYA sS **sS** **06 49 18.2 +1.3**
GYA SS **SnSn** **06 50 37.0 +4.9**
GYA ScP **ScP** **06 50 52.4 +0.1**
GYA ScS **ScS** **06 54 46.8 -0.6**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,110nm,5.6s
GYA LN
comp=Z,520nm,15.9s
GYA LE
comp=Z,660nm,14.7s
GYA LZ
comp=Z,530nm,15.0s
ENH Enshi 29.77 98 *e*P **P** **06 44 10.4 +0.7**
comp=Z,12nm,1.0s
ENH *e*PcP **PcP** **06 47 12.7 -0.1**
ENH *e*ScP **ScP** **06 50 53.6 +1.0**
ENH LR LR
comp=Z,415nm,20.0s
CMAR Chiang Mai Arr 29.80 129 P **P** **06 44 10.0 +0.1**
comp=Z,1.0nm,0.3s,baz=308,slow=10,SNR=3.1
CMAR PcP **PcP** **06 47 12.8 -0.2**
comp=Z,6.8nm,0.6s,baz=302,slow=4.6,SNR=10
CMAR ScP **ScP** **06 50 51.5 -1.2**
comp=Z,2.0nm,0.6s,baz=323,slow=4.7,SNR=6.8
CMAR LR LR 06 58 35.8
comp=Z,1μm,20.6s,baz=320,slow=41
BOYT Boyabat 30.16 286 *i* P **P** **06 44 14.1 +1.1**
LAMP Lampang 30.16 128 P **P** **06 44 14.8 +1.7**
comp=Z,9.0nm,1.0s,comp=Z,528nm
KLMR Klimovskoe 30.22 326*c* *i*P **P** **06 44 13.2 0.0**
KLMR *e* 06 45 21.9
KLMR pmax pmax
comp=Z,164nm,1.2s
KLMR MLR MLR
comp=Z,3μm,13.0s
BYBT Boyabat 30.25 286 *e*P **P** **06 44 15.2 +1.4**
SIM Simferopol' 30.26 293*c* *i*P **P** **06 44 14.8 +1.0**
SIM *i* 06 44 26.0
SIM S **S** **06 49 12.0 +0.5**
SIM *e*SS **SnSn** **06 50 50.0 +3.3**
SIM pmax pmax
comp=Z,169nm,0.8s
SIM MLR MLR
comp=N,530nm,16.9s
KOZT Kozan 30.39 278 *e*P **P** **06 44 17.2 +2.1**
CEYT Ceyhan 30.59 277 *e*P **P** **06 44 19.1 +2.4**
CORM Corum 30.61 284 *e*P **P** **06 44 18.7 +1.6**
BOD Bodaibo 30.84 41 *e*P **P** **06 44 18.8 +0.1**
BOD pmax pmax
comp=Z,59nm,1.1s
SUKH Sukhothai 30.96 129 P **P** **06 44 22.8 +2.6**
comp=Z,4.0nm,0.9s,comp=Z,51nm
KARA Karaisali 31.04 278 *e*P **P** **06 44 22.6 +1.8**
ILGA Ilgaz 31.11 286 *i* P **P** **06 44 22.1 +0.5**
NIG Nigde 31.14 280 *e*P **P** **06 44 24.2 +2.3**
CANT Cankiri 31.27 285 *e*P **P** **06 44 24.4 +1.5**
ELDT Eldivan 31.44 285 *i* P **P** **06 44 25.5 +1.1**
BR131 Keskin Array S 31.46 283 *e*P **P** **06 44 25.7 +1.1**
comp=Z,123nm,0.8s
BR131 *e*pP **pP** **06 44 34.4 +1.0**
BRTR Keskin Array B 31.46 283 P **P** **06 44 25.5 +0.9**
comp=Z,92nm,0.8s,baz=91,slow=7.9,SNR=373
BRTR PcP **PcP** **06 47 16.7 -0.5**
comp=Z,6.3nm,0.9s,baz=117,slow=4.6,SNR=3.5
BRTR LR LR 06 59 28.3

comp=Z,503nm,18.4s,baz=56,slow=41
BRTR Keskin Array B 31.46 283 P **P** **06 44 25.5 +0.9**
BRTR 06 47 16.7
BRTR pmax pmax
comp=Z,92nm,0.8s
BRTR MLR MLR
comp=Z,503nm,18.4s
KAMT Kaman 31.49 283 *e*P **P** **06 44 25.6 +0.8**
BJI Beijing 31.49 76 P **P** **06 44 24.0 -0.7**
BJI pP **pP** **06 44 32.8 -0.7**
BJI sP **sP** **06 44 36.7 -0.5**
BJI S **S** **06 49 29.8 -1.0**
BJI PMZ
comp=Z,11nm,0.5s
BJI LN
comp=Z,2µm,25.9s
BJI LZ
comp=Z,550nm,19.4s
BJT Baijiatuau 31.49 76 PFAKE 06 44 40.0 +15
BJT LR LR
comp=Z,876nm,19.0s
MERS Mersin 31.57 278 *e*P **P** **06 44 27.5 +2.0**
SULT Sultanhani-AKS 31.94 280 *e*P **P** **06 44 31.0 +2.2**
KIZK Mersin 31.98 277 *i* P **P** **06 44 29.4 +0.5**
ANTO Ankara 32.05 284 *e*P **P** **06 44 31.4 +1.6**
ANTO Ankara 32.05 284 *e*P **P** **06 44 31.2 +1.5**
ANTO *e**PP **pP** **06 44 40.4 +1.8**
ANTO pmax pmax
comp=Z,172nm,1.2s
ANTO MLR MLR
comp=Z,390nm,22.0s
ANTO Ankara 32.05 284⇑ *i*P **P** **06 44 31.3 +1.6**
ANTO Ankara 32.05 284 P **P** **06 44 31.5 +1.6**
SNR=41
ANTO Ankara 32.05 284 *e*P **P** **06 44 31.2 +1.5**
comp=Z,172nm,1.2s
ANTO *e*pP **pP** **06 44 40.4 +1.8**
ANTO LR LR
comp=Z,390nm,22.0s
LOD Lodumlu 32.07 284 *e*P **P** **06 44 31.4 +1.5**
UTHA Uthaitani 32.36 131 P **P** **06 44 35.2 +2.7**
comp=Z,6.6nm,0.7s
BCAM Yenicaga 32.38 286 *i* P **P** **06 44 33.6 +0.9**
TMCR Tamitsa 32.45 331⇑ *i*P **P** **06 44 33.5 +0.7**
TMCR pmax pmax
comp=Z,284nm,1.3s
PBKT Sadao Pong 32.47 128 P **P** **06 44 35.1 +1.7**
comp=Z,18nm,1.1s,comp=Z,1µm
MMLI Mount Malkishu 32.47 269 *e*P **P** **06 44 35.8 +2.3**
KHLT Khaolaem Dam 32.49 134 P P 06 44 38.3 +4.7
comp=Z,20nm,1.9s
LADK Ladik-KONYA 32.81 281 *e*P **P** **06 44 37.6 +1.2**
LFK Lefkose 32.84 275 *e*P **P** **06 44 36.9 +0.2**
ERMK Ermenek 32.86 278 *i* P **P** **06 44 36.7 -0.3**
PALK Pallekele 32.87 169 P P **06 44 36.6 -0.4**
comp=Z,20nm,0.9s,baz=337,slow=8.0,SNR=4.2
PALK Pallekele 32.87 169 P **P** **06 44 36.6 -0.4**
PALK pmax pmax
comp=Z,20nm,0.9s
KONT Konya--Tatoy 32.89 281 *e*P **P** **06 44 38.6 +1.6**
KDHN Kadinhani 32.91 282 *i* P **P** **06 44 37.5 +0.2**
HIA Hailar 32.92 58 *e*P **P** **06 44 36.8 -0.4**
HIA *e* 06 47 21.1
HIA MLR MLR
comp=Z,2µm,20.0s
HIA Hailar 32.92 58 *e*P **P** **06 44 36.8 -0.4**
HIA *e*PcP **PcP** **06 47 21.1 +0.2**
HIA LR LR
comp=Z,2µm,20.0s
HDMB Hadim 33.09 279 *e*P **P** **06 44 39.8 +0.9**
SVRH Sivrihisar-ESK 33.11 283 *e*P **P** **06 44 40.1 +1.1**
CSS Prodhromos 33.11 275 *e*P **P** **06 44 38.8 -0.2**
CSS Prodhromos 33.11 275 *e*P **P** **06 44 39.5 +0.5**
comp=Z,6.5nm,0.9s
TIA Tai'an 33.28 83 *e*P **P** **06 44 41.4 +1.0**
TIA S **S** **06 49 53.5 -5.3**
TIA PMZ
comp=Z,20nm,1.5s
TIA LN
comp=Z,970nm,19.0s
TIA LE
comp=Z,610nm,15.0s
TIA LZ
comp=Z,710nm,21.0s
WHN Wuhan 33.37 94 P **P** **06 44 42.3 +1.1**
WHN S **S** **06 50 00.6 +0.3**
WHN LN
comp=Z,950nm,9.7s
WHN LE
comp=Z,1µm,14.6s
WHN LZ
comp=Z,2µm,17.3s
AKASG Malin Array Be 33.38 304 P **P** **06 44 40.7 -0.4**
comp=Z,51nm,0.5s,baz=79,slow=7.8,SNR=161
AKASG PcP **PcP** **06 47 21.2 -0.9**
comp=Z,26nm,0.7s,baz=77,slow=3.1,SNR=14
AKASG LR LR 07 01 14.0
comp=Z,2µm,20.0s,baz=90,slow=42
AKASG Malin Array Be 33.38 304 P **P** **06 44 40.7 -0.4**
AKASG 06 47 21.3
AKASG pmax pmax
comp=Z,51nm,0.5s
AKASG MLR MLR
comp=Z,2µm,20.0s
AKBB Malin Array Si 33.38 304 *e*P **P** **06 44 40.9 -0.2**
AKBB *e* 06 47 21.5
AKBB Malin Array Si 33.38 304 *e*P **P** **06 44 40.9 -0.2**
AKBB *e*PcP **PcP** **06 47 21.5 -0.6**
AK01 Malin Array Si 33.39 304 *e*P **P** **06 44 41.0 -0.2**
AK01 *e*PcP **PcP** **06 47 21.5 -0.6**
KIEV Kiev 33.39 304 *e*P **P** **06 44 40.8 -0.3**
KIEV *e* 06 47 21.5
KIEV pmax pmax
comp=Z,105nm,0.8s
KIEV MLR MLR
comp=Z,2µm,21.0s
KIEV Kiev 33.39 304 *e*P **P** **06 44 40.8 -0.3**
comp=Z,105nm,0.8s
KIEV *e*PcP **PcP** **06 47 21.5 -0.6**
KIEV LR LR
comp=Z,2µm,21.0s
AK02 Malin Array Si 33.39 304 *e*P **P** **06 44 41.0 -0.1**
AK02 *e*PcP **PcP** **06 47 22.0 -0.1**
LEF Lefka 33.39 275 *e*P **P** **06 44 42.6 +1.2**
KIS Kishinev 33.77 298⇑ *i*P **P** **06 44 44.0 -0.6**
comp=Z,300nm,1.5s
KIS *i* pP **pP** **06 44 57.0 +3.5**
KIS Kishinev 33.77 298 *e*PP PP 06 46 11.0 +10
KIS Kishinev 33.77 298 *e*PPP PPP 06 46 24.0
KIS *e*L L 06 55 30.0
KIS LRM MLR 07 00 32.0
comp=Z,2µm,17.0s
KIS Kishinev 33.77 298⇑ *i*P **P** **06 44 44.0 -0.6**
KIS *i* *PP **pP** **06 44 57.0 +3.5**
KIS *e* 06 46 11.0
KIS *e* 06 47 23.0
KIS *e* 06 52 45.0
KIS pmax pmax
comp=Z,300nm,1.5s
KIS MLR MLR
comp=Z,2µm,17.0s
KIS MLR MLR
comp=Z,2µm,17.0s
HRFI Mount Harif 33.82 266 *e*P **P** **06 44 47.5 +2.2**
KZIT Kziot 33.92 268 *e*P **P** **06 44 48.3 +2.3**
SORM Soroca 34.01 300⇓ *i*P **P** **06 44 46.1 -0.5**
SKNT Sakolnakorn 34.05 124 P **P** **06 44 47.6 +0.4**
comp=Z,70nm,0.9s,comp=Z,923nm
SUTC Sutluce-Ispart 34.06 280 *e*P **P** **06 44 48.3 +1.0**
EIL Elat 34.06 265 *e*P **P** **06 44 49.2 +2.0**
EIL Elat 34.06 265 P **P** **06 44 48.5 +1.3**
comp=Z,42nm,0.9s,baz=55,slow=3.3,SNR=33
EIL PcP **PcP** **06 47 23.7 -0.7**
comp=Z,13nm,0.8s,baz=5.0,slow=3.4,SNR=3.7
PUL Pulkovo 34.08 321*d i*P **P** **06 44 48.0 +1.0**
PUL pmax pmax
comp=Z,176nm,0.7s
HRT Hereke 34.15 287 *e*P **P** **06 44 48.8 +0.8**
CAVI Cavuskoy 34.17 285 *e*P **P** **06 44 49.1 +1.0**
ADVT Abdulvahap 34.19 286 *e*P **P** **06 44 49.3 +1.0**
LEOM Leova 34.21 297 *e*P P 06 44 52.4 +4.0
ALT Altintas 34.27 283 P **P** **06 44 49.6 +0.5**
ALT Altintas 34.27 283 P **P** **06 44 49.6 +0.5**
GIUM Giurgiulesti 34.36 295⇑ *i*P **P** **06 44 50.7 +1.1**

TIRR Tirgusor 34.36 293 *e*P **P** **06 44 50.5 +0.9**
TIRR Tirgusor 34.36 293 *e*P **P** **06 44 50.2 +0.6**
TIRR *e**PP **pP** **06 44 58.8 +0.2**
TIRR pmax pmax
comp=Z,50nm,1.2s
TIRR Tirgusor 34.36 293⇑ *i*P **P** **06 44 50.3 +0.6**
TIRR Tirgusor 34.36 293 *e*P **P** **06 44 50.2 +0.6**
comp=Z,50nm,1.2s
TIRR *e*pP **pP** **06 44 58.8 +0.2**
IZI Iznik 34.41 286 *e*P **P** **06 44 51.4 +1.1**
MICGM Minsk 34.41 311 *e*P **P** **06 44 48.0 -2.0**
MNK Minsk 34.44 311 *e*P **P** **06 44 48.0 -2.3**
MNK *e*S **S** **06 50 13.0 -3.3**
MNK MLR MLR
comp=Z,4µm,14.0s
CFR Carcaliu 34.45 294⇑ *i*P **P** **06 44 51.1 +0.7**
KLYT Kilyos 34.51 287 *e*P **P** **06 44 52.2 +1.1**
ISK Istanbul-Kandi 34.55 287 *e*P **P** **06 44 52.4 +1.1**
ISK Istanbul-Kandi 34.55 287 P **P** **06 44 52.0 +0.7**
ISK Istanbul-Kandi 34.55 287 P **P** **06 44 52.0 +0.7**
ISK Istanbul-Kandi 34.55 287 P **P** **06 44 52.0 +0.7**
TLB Topalu 34.60 293⇓ *i*P **P** **06 44 52.5 +0.8**
PSN Preselentsi 34.65 292⇑ *i*P **P** **06 44 53.6 +1.4**
PSN Preselentsi 34.65 292 *i* P **P** **06 44 54.0 +1.8**
TVSB Tavsanli 34.65 284 *e*P **P** **06 44 53.3 +0.9**
ULDT Uludag 34.71 286 *i* P **P** **06 44 53.3 +0.3**
BGKT Bogazkoy 34.73 287 *e*P **P** **06 44 54.3 +1.4**
ARMT Armutlu 34.81 286 *e*P **P** **06 44 54.1 +0.5**
MSAB Monastry St. A 34.83 293⇓ *i*P **P** **06 44 55.0 +1.2**
CTKS Kestanelik-??a 34.91 288 *e*P **P** **06 44 55.6 +1.2**
PETR Petresti 35.01 296⇑ *i*P **P** **06 44 57.3 +2.1**
NACGM Naroch 35.09 312 *e*P **P** **06 44 53.0 -2.8**
SLVT Silivri 35.13 288 *e*P **P** **06 44 57.6 +1.2**
PRD Provadia 35.30 291 *i* P **P** **06 44 58.6 +0.8**
TESR Tescani 35.31 297⇑ *i*P **P** **06 44 58.5 +0.6**
VRI Vrincioaia 35.33 296 *e*P **P** **06 44 59.5 +1.4**
VRI Vrincioaia 35.33 296⇑ *i*P **P** **06 44 59.5 +1.4**
PLOR Plostina 35.39 296⇑ *i*P **P** **06 45 00.2 +1.6**
IIGN Ignalina 35.45 312 *e*P **P** **06 44 59.6 +0.6**
IIGN IAmb IAmb 06 45 01.1
comp=Z,35nm,1.1s
IZAR Zarasai 35.48 313 *e*P **P** **06 44 59.8 +0.7**
IZAR IAmb IAmb 06 45 01.3
comp=Z,58nm,1.0s
KULA Kula-Manisa 35.51 283 *e*P **P** **06 45 00.7 +0.9**
KULA Kula-Manisa 35.51 283 P **P** **06 45 00.3 +0.5**
KULA Kula-Manisa 35.51 283 P **P** **06 45 00.3 +0.5**
ISAL Salakas 35.52 313 *e*P **P** **06 45 00.2 +0.7**
ISAL IAmb IAmb 06 45 01.7
comp=Z,44nm,0.9s
LVZ Lovozero 35.57 335 P **P** **06 45 00.3 +0.4**
comp=Z,719nm,0.9s,SNR=12
LVZ Lovozero 35.57 335 *e*P **P** **06 44 59.9 0.0**
LVZ *PP **pP** **06 45 09.0 +0.2**
LVZ *e* 06 47 27.4
LVZ pmax pmax
comp=Z,134nm,1.0s
LVZ MLR MLR
comp=Z,2µm,21.0s
LVZ Lovozero 35.57 335 *e*P **P** **06 44 59.9 0.0**
comp=Z,134nm,1.0s
LVZ pP **pP** **06 45 09.0 +0.2**
LVZ *e*PcP **PcP** **06 47 27.4 -0.7**
LVZ LR LR
comp=Z,2µm,21.0s
VSU Vasula 35.59 318*c i*P **P** **06 45 00.3 +0.2**
VSU pmax pmax
comp=Z,438nm,1.1s
BALB Balikesir 35.78 285 *e*P **P** **06 45 03.1 +1.1**
APA Apatity 35.81 334⇑ *i*P **P** **06 45 02.5 +0.6**
APA *i* PPP PPP 06 47 23.5
APA *e*S **S** **06 50 42.0 +4.9**
APA pmax pmax
comp=Z,29nm,1.0s
APA MLR MLR
comp=Z,3µm,18.0s
MLR Muntele Rosu 35.93 295⇑ *i*P **P** **06 45 05.3 +1.9**
JMB Yambol 36.04 290 P **P** **06 45 05.3 +1.2**
JMB Yambol 36.04 290 P **P** **06 45 05.3 +1.2**
JMB Yambol 36.04 290⇑ *i*P **P** **06 45 05.9 +1.8**
JMB Yambol 36.04 290 *i* P **P** **06 45 05.6 +1.5**
JMB Yambol 36.04 290 P **P** **06 45 05.3 +1.2**
DALY Dalyan (Mu˘la 36.04 280 *e*P **P** **06 45 03.5 -0.7**
EDRB Edirne 36.06 289 P **P** **06 45 04.8 +0.5**
EDRB Edirne 36.06 289 P **P** **06 45 04.8 +0.5**
BURAR Bucovina Array 36.15 299⇑ *i*P **P** **06 45 05.8 +0.6**
BUR08 Bucovina Ar. S 36.16 299 *e*P **P** **06 45 05.8 +0.5**
BUR08 *e*PcP **PcP** **06 47 32.4 +1.9**
NJ2 Nanjing 36.18 88 *e*P **P** **06 45 06.1 +0.6**
NJ2 S **S** **06 50 43.5 0.0**
NJ2 PMZ
comp=Z,40nm,1.0s
NJ2 LN
comp=Z,130nm,15.2s
NJ2 LE
comp=Z,670nm,14.0s
NJ2 LZ
comp=Z,120nm,12.7s
DOPR Dopca 36.25 296⇑ *i*P **P** **06 45 07.3 +1.4**
UBPT Khong Chiam 36.26 124 P **P** **06 45 06.4 +0.2**
comp=Z,37nm,1.1s,comp=Z,638nm
AYDB Zeytinkoy-Aydi 36.26 282 *e*P **P** **06 45 06.9 +0.6**
SZH Strazhica 36.34 292 *i* P **P** **06 45 07.1 +0.4**
CLNS Chul'man 36.40 45 *e*P **P** **06 45 07.1 -0.1**
CLNS pmax pmax
comp=Z,35nm,0.9s
CLNS pmax pmax
comp=E,25nm,1.1s
CLNS pmax pmax
comp=N,7.0nm,1.0s
CLNS MLR MLR
comp=N,460nm,12.0s
CLNS MLR MLR
comp=Z,2µm,15.0s
CLNS MLR MLR
comp=E,1µm,16.0s
LPK Lapseki 36.41 287 *e*P **P** **06 45 07.2 -0.1**
ERIK Erikli-Kesan 36.51 287 *e*P **P** **06 45 09.5 +1.3**
FIA1 FINESS Array S 36.52 323 *e*P **P** **06 45 08.4 +0.4**
FIA1 *e*pP **pP** **06 45 17.2 +0.3**
FIA1 *e*PcP **PcP** **06 47 30.4 -0.6**
FINES FINESS Array B 36.52 323 P **P** **06 45 08.2 +0.2**
comp=E,95nm,0.4s,baz=118,slow=10,SNR=894
FINES PcP **PcP** **06 47 29.6 -1.5**
comp=E,28nm,0.7s,baz=103,slow=2.5,SNR=8.2
FINES LR LR 07 00 47.1
comp=E,3µm,19.9s,baz=106,slow=37
FINES FINESS Array B 36.52 323 P **P** **06 45 08.2 +0.2**
FINES 06 47 29.6
FINES pmax pmax
comp=Z,95nm,0.4s
FINES MLR MLR
comp=Z,3µm,19.9s
SNY Shenyang 36.54 71⇓ P **P** **06 45 10.0 +1.6**
SNY S **S** **06 50 47.1 -1.6**
SNY PMZ
comp=Z,90nm,13.0s
SNY LN
comp=Z,780nm,13.3s
SNY LE
comp=Z,930nm,17.1s
SNY LZ
comp=Z,860nm,19.2s
QIZ Qiongzhong 36.55 114 P **P** **06 45 09.3 +0.6**
QIZ sP **sP** **06 45 21.9 +0.5**
QIZ PP **PP** **06 46 32.8 +0.6**
QIZ S **S** **06 50 50.6 +1.3**
QIZ PMZ
comp=Z,10.0nm,1.5s
QIZ LN
comp=Z,670nm,14.2s
QIZ LE
comp=Z,400nm,15.2s
QIZ LZ
comp=Z,1µm,14.6s
QIZ Qiongzhong 36.55 114 PFAKE 06 45 20.0 +11
QIZ LR LR
comp=Z,593nm,19.0s
VOIR 36.56 296⇑ *i*P **P** **06 45 09.6 +0.9**
GELI Tayfur-Gelibol 36.61 287 *e*P **P** **06 45 10.4 +1.3**
ARG Arkhangelos 36.65 280 P **P** **06 45 09.2 -0.2**
ARG Arkhangelos 36.65 280 P **P** **06 45 09.2 -0.2**
ARG Arkhangelos 36.65 280 P **P** **06 45 09.2 -0.2**

DAMY Dhamar 36.66 235 *e*P **P** **06 45 12.3 +2.2**
comp=Z,113nm,1.3s
DAMY *e*pP **pP** **06 45 20.2 +1.2**
LVV L'vov 36.73 303 *e*P **P** **06 45 10.1 +0.1**
LVV *e* 06 46 34.3
LVV *e*PPP PPP 06 46 57.1
LVV *e*S **S** **06 50 49.7 -1.9**
LVV MLR MLR
comp=E,2µm,16.0s
LVV MLR MLR
comp=Z,2µm,16.0s
LVV MLR MLR
comp=N,500nm,17.0s
BODT Bodrum 36.98 281 *e*P **P** **06 45 12.5 +0.3**
KDZ Kurdzhali 37.07 289⇑ *i*P **P** **06 45 14.3 +1.3**
KDZ Kurdzhali 37.07 289 *i* P **P** **06 45 13.8 +0.8**
PRK Paraskevi 37.08 285 P **P** **06 45 14.2 +1.1**
PRK Paraskevi 37.08 285 P **P** **06 45 14.2 +1.1**
PRK Paraskevi 37.08 285 P **P** **06 45 14.2 +1.1**
SMG Samos 37.13 282 P **P** **06 45 15.2 +1.7**
SMG Samos 37.13 282 P **P** **06 45 15.2 +1.7**
SUW Suwalki 37.14 310 *e*P **P** **06 45 13.2 -0.2**
SUW *e*PP PP 06 46 28.3 -10
SUW Suwalki 37.14 310 *e*P **P** **06 45 13.3 -0.2**
SMTH Samothraki Isl 37.29 287 P **P** **06 45 15.5 +0.6**
SMTH Samothraki Isl 37.29 287 P **P** **06 45 15.5 +0.6**
CJR Cluj-Napoca 37.36 298⇑ *i*P **P** **06 45 17.0 +1.5**
SIGR SIGRI 37.40 285 P **P** **06 45 16.2 +0.4**
SIGR SIGRI 37.40 285 P **P** **06 45 16.2 +0.4**
CN2 Changchun 37.44 67 *e*P **P** **06 45 15.8 -0.3**
CN2 PMZ
comp=N,10.0nm,0.4s
CN2 PMZ
comp=N,60nm,4.0s
CN2 LN
comp=N,300nm,17.0s
CN2 LE
comp=N,1µm,17.0s
CN2 LZ
comp=N,1µm,17.0s
LOT Lotru 37.45 296⇑ *i*P **P** **06 45 17.3 +1.0**
PLD Plovdiv 37.48 290 *i* P **P** **06 45 16.8 +0.4**
CHOS Chios island 37.50 284 *e*P **P** **06 45 17.7 +1.0**
CHOS Chios island 37.50 284 P **P** **06 45 17.1 +0.4**
CHOS Chios island 37.50 284 P **P** **06 45 17.1 +0.4**
KWP Kalwaria Pacla 37.61 303 *e*P **P** **06 45 18.1 +0.7**
KWP Kalwaria Pacla 37.61 303 *e*P **P** **06 45 18.2 +0.8**
KARP Karpathos 37.62 279 P **P** **06 45 18.0 +0.3**
KARP Karpathos 37.62 279 P **P** **06 45 18.0 +0.3**
LIA Limnos Island 37.70 287 P **P** **06 45 18.2 -0.1**
LIA Limnos Island 37.70 287 P **P** **06 45 18.2 -0.1**
PGB Panagyurishte 37.76 291 *i* P **P** **06 45 20.4 +1.5**
MPEP Malo Peshtene 37.88 292 *i* P **P** **06 45 20.9 +1.1**
TRPA Tarpa 37.88 300⇓ *i*P **P** **06 45 20.7 +1.0**
TRPA Tarpa 37.88 300⇑ *e*P **P** **06 45 21.0 +1.3**
DRGR 37.95 298⇑ *i*P **P** **06 45 21.6 +1.1**
KOLS Kolonicke sedl 37.96 302 *e*P **P** **06 45 20.9 +0.5**
KOLS pmax pmax
comp=Z,30nm,1.2s
KOLS Kolonicke sedl 37.96 302 *e*P **P** **06 45 20.9 +0.5**
KOLS *e*PCP **PcP** **06 47 36.8 +1.1**
GZR Gura Zlata 38.15 296⇓ *i*P **P** **06 45 23.3 +1.2**
NVR Nevrokopi 38.27 289 P **P** **06 45 24.2 +1.0**
NVR Nevrokopi 38.27 289 P **P** **06 45 24.2 +1.0**
MMB Musomiste 38.31 290⇑ *i*P **P** **06 45 24.7 +1.2**
MMB Musomiste 38.31 290 *i* P **P** **06 45 24.0 +0.5**
APE Apeiranthos 38.32 282 P **P** **06 45 24.3 +0.7**
APE Apeiranthos 38.32 282 P **P** **06 45 24.3 +0.7**
APE Apeiranthos 38.32 282⇑ *i*P **P** **06 45 24.4 +0.8**
APE Apeiranthos 38.32 282 P **P** **06 45 24.3 +0.7**
SSE Sheshan 38.39 88 *e*P **P** **06 45 23.1 -1.1**
SSE S **S** **06 51 15.0 -2.0**
SSE PMZ
comp=Z,25nm,1.0s
SSE PMZ
comp=Z,72nm,3.5s
SSE LN
comp=Z,370nm,14.5s
SSE LE
comp=Z,710nm,14.5s
SSE LZ
comp=Z,1µm,15.1s
VTS Vitosha 38.44 291 P **P** **06 45 25.7 +1.0**
VTS Vitosha 38.44 291 P **P** **06 45 25.7 +1.0**
VTS Vitosha 38.44 291⇑ *i*P **P** **06 45 26.0 +1.3**
VTS Vitosha 38.44 291 *i* P **P** **06 45 26.0 +1.3**
VTS Vitosha 38.44 291 P **P** **06 45 25.7 +1.0**
OUR Ouranopolis 38.46 288 P **P** **06 45 25.3 +0.6**
OUR Ouranopolis 38.46 288 P **P** **06 45 25.3 +0.6**
OUR Ouranopolis 38.46 288 P **P** **06 45 25.3 +0.6**
ZKR Zakros 38.49 279 P **P** **06 45 25.3 +0.2**
ZKR Zakros 38.49 279 P **P** **06 45 25.3 +0.2**
SRS Serrai 38.53 289 P **P** **06 45 25.5 +0.1**
SRS Serrai 38.53 289 P **P** **06 45 25.5 +0.1**
SRS Serrai 38.53 289 P **P** **06 45 25.5 +0.1**
STHS Stebnicka Huta 38.58 303 *e*P **P** **06 45 26.0 +0.4**
STHS pmax pmax
comp=Z,23nm,0.6s
STHS Stebnicka Huta 38.58 303 *e*P **P** **06 45 26.0 +0.4**
STHS *e*PP **PP** **06 46 53.2 -0.8**
SANT Santorini 38.61 281 PFAKE 06 45 40.0 +14
SANT LR LR
comp=Z,380nm,21.0s
BEL Belsk 38.65 306 *e*P **P** **06 45 26.7 +0.6**
BEL Belsk 38.65 306 *e*P **P** **06 45 26.8 +0.6**
THRS Thira Island, 38.68 281 *e*P **P** **06 45 26.5 -0.2**
KKB Krupnik 38.71 290 *i* P **P** **06 45 27.3 +0.5**
SOH Sokhos 38.79 289 P **P** **06 45 27.4 -0.1**
SOH Sokhos 38.79 289 P **P** **06 45 27.4 -0.1**
SOH Sokhos 38.79 289 P **P** **06 45 27.4 -0.1**
PAIG Paliouri 38.80 287 P **P** **06 45 28.1 +0.5**
PAIG Paliouri 38.80 287 P **P** **06 45 28.1 +0.5**
PAIG Paliouri 38.80 287 P **P** **06 45 28.1 +0.5**
PLG Polygyros 38.84 288 P **P** **06 45 29.5 +1.5**
PLG Polygyros 38.84 288 P **P** **06 45 29.5 +1.5**
PLG Polygyros 38.84 288 P **P** **06 45 29.5 +1.5**
AOS Alonnisos 38.88 286 *e*P **P** **06 45 28.6 +0.4**
AOS Alonnisos 38.88 286 P **P** **06 45 28.6 +0.4**
AOS Alonnisos 38.88 286 P **P** **06 45 28.6 +0.4**
NPS Neapolis 38.90 279 P **P** **06 45 28.6 +0.1**
NPS Neapolis 38.90 279 P **P** **06 45 28.6 +0.1**
NPS Neapolis 38.90 279 P **P** **06 45 28.6 +0.1**
KEV Kevo 38.90 336 *e*P **P** **06 45 27.9 -0.1**
KEV *e**PP **pP** **06 45 36.3 -0.7**
KEV *e* 06 47 38.0
KEV pmax pmax
comp=Z,63nm,1.4s
KEV MLR MLR
comp=Z,2µm,19.0s
KEV Kevo 38.90 336 *e*P **P** **06 45 27.9 -0.1**
comp=Z,63nm,1.4s
KEV *e*pP **pP** **06 45 36.3 -0.7**
KEV *e*PcP **PcP** **06 47 38.0 -0.2**
KEV LR LR
comp=Z,2µm,19.0s
BZS Buzias 38.91 296 *e*P **P** **06 45 29.8 +1.4**
BZS Buzias 38.91 296⇑ *i*P **P** **06 45 29.6 +1.2**
KNT Kendrikon 39.03 289 P **P** **06 45 29.2 -0.3**
KNT Kendrikon 39.03 289 P **P** **06 45 29.2 -0.3**
KNT Kendrikon 39.03 289 P **P** **06 45 29.2 -0.3**
HORT Hortiatis 39.03 288 P **P** **06 45 29.2 -0.5**
HORT Hortiatis 39.03 288 P **P** **06 45 29.2 -0.5**
LAST Lasithi 39.03 279 P **P** **06 45 30.4 +0.7**
LAST Lasithi 39.03 279 P **P** **06 45 30.4 +0.7**
THE Thessaloniki 39.12 288 P **P** **06 45 30.1 -0.2**
THE Thessaloniki 39.12 288 P **P** **06 45 30.1 -0.2**
THE Thessaloniki 39.12 288 P **P** **06 45 30.1 -0.2**
NIE Niedzica 39.18 303 *e*P **P** **06 45 32.1 +1.4**
NIE Niedzica 39.18 303⇑ *e*P **P** **06 45 32.1 +1.4**
KECS Kecovo 39.19 301 *e*P **P** **06 45 31.6 +0.8**
KECS pmax pmax
comp=Z,28nm,1.1s
KECS Kecovo 39.19 301 *e*P **P** **06 45 31.6 +0.8**
KECS *e*pP **pP** **06 45 41.0 +1.2**
KECS *e* 06 45 46.0
KECS *e*PP **PP** **06 47 00.4 -0.4**
KECS *e*PCP **PcP** **06 47 38.8 -0.8**
VAY Valandovo 39.22 290 P **P** **06 45 31.6 +0.5**
VAY Valandovo 39.22 290 *i* P **P** **06 45 32.5 +1.5**
VAY Valandovo 39.22 290 P **P** **06 45 31.6 +0.5**
VAY Valandovo 39.22 290 P **P** **06 45 31.6 +0.5**
MRKA Markates 39.24 285 P **P** **06 45 31.3 0.0**

ARCES ARCESS Array B 39.29 335 P **P** **06 45 31.5 +0.2**
comp=Z,50nm,0.8s,baz=105,slow=8.1,SNR=178
ARCES PcP **PcP** **06 47 38.0 -1.5**
comp=Z,28nm,0.8s,baz=106,slow=4.3,SNR=7.3
ARCES LR LR 07 02 19.1
comp=Z,2µm,18.5s,baz=102,slow=37
ARCES ARCESS Array B 39.29 335 P **P** **06 45 31.5 +0.2**
ARCES 06 47 38.0
ARCES pmax pmax
comp=Z,50nm,0.8s
ARCES MLR MLR
comp=Z,2µm,18.5s
ARE0 ARCESS Array S 39.29 335 *e*P **P** **06 45 31.4 +0.1**
ARE0 *e*PcP **PcP** **06 47 39.7 +0.2**
NEO Neokhori 39.32 286 P **P** **06 45 32.3 +0.3**
NEO Neokhori 39.32 286 P **P** **06 45 32.3 +0.3**
XOR Xorichti 39.33 286 P **P** **06 45 31.7 -0.3**
XOR Xorichti 39.33 286 P **P** **06 45 31.7 -0.3**
ATHU Athens Univers 39.33 284 P **P** **06 45 31.8 -0.3**
ATHU Athens Univers 39.33 284 P **P** **06 45 31.8 -0.3**
ATH Athens Observa 39.38 284 P **P** **06 45 32.9 +0.5**
ATH Athens Observa 39.38 284 P **P** **06 45 32.9 +0.5**
ATH Athens Observa 39.38 284 P **P** **06 45 32.9 +0.5**
OJC Ojcow 39.42 304 *e*P **P** **06 45 32.8 +0.2**
OJC *e*PP **PP** **06 47 02.8 -0.4**
OJC Ojcow 39.42 304⇑ *e*P **P** **06 45 32.9 +0.3**
OJC *e* 06 47 02.8
QZH Quanzhou 39.43 99 P **P** **06 45 33.5 +0.5**
QZH S **S** **06 51 36.2 +3.4**
QZH LN
comp=Z,680nm,9.0s
QZH LE
comp=Z,620nm,11.3s
QZH LZ
comp=Z,1µm,18.7s
IDI Anoyia 39.44 280 P **P** **06 45 32.7 -0.4**
comp=Z,37nm,0.5s,baz=54,slow=7.0,SNR=49
SMIA Simia 39.47 286 P **P** **06 45 33.7 +0.5**
YAK Yakutsk 39.48 37 P **P** **06 45 32.5 -0.4**
comp=Z,12nm,0.5s,baz=78,slow=20,SNR=17
YAK Yakutsk 39.48 37 *e*P **P** **06 45 32.5 -0.4**
YAK *e* 06 47 02.0
YAK *e*S **S** **06 51 32.0 -0.7**
YAK pmax pmax
comp=Z,166nm,1.0s
YAK pmax pmax
comp=E,90nm,1.2s
YAK pmax pmax
comp=N,22nm,1.2s
YAK MLR MLR
comp=Z,3µm,16.0s
YAK MLR MLR
comp=E,2µm,14.0s
YAK MLR MLR
comp=N,442nm,16.0s
YAK Yakutsk 39.48 37 *e*P **P** **06 45 32.5 -0.4**
comp=N,148nm,0.6s
YAK LR LR
comp=Z,2µm,20.0s
FYTO Fytoko, Volos 39.50 287 P **P** **06 45 34.2 +0.8**
FYTO Fytoko, Volos 39.50 287 P **P** **06 45 34.2 +0.8**
SIVA Sivas 39.60 279 P **P** **06 45 34.4 +0.1**
SIVA Sivas 39.60 279 P **P** **06 45 34.4 +0.1**
VILL Villia 39.62 285 P **P** **06 45 33.6 -0.9**
LIT Litokhoron 39.62 288 P **P** **06 45 34.7 +0.2**
LIT Litokhoron 39.62 288 P **P** **06 45 34.7 +0.2**
LIT Litokhoron 39.62 288 P **P** **06 45 34.7 +0.2**
ATAL Atalanti 39.66 285 P **P** **06 45 34.9 +0.1**
ATAL Atalanti 39.66 285 P **P** **06 45 34.9 +0.1**
PSZ Piszkesteto 39.67 300 *e*P **P** **06 45 35.4 +0.6**
PSZ pmax pmax
comp=Z,48nm,1.3s
PSZ MLR MLR
comp=Z,982nm,20.0s
PSZ Piszkesteto 39.67 300⇑ *i*P **P** **06 45 35.7 +0.9**
PSZ Piszkesteto 39.67 300 *e*P **P** **06 45 35.4 +0.6**
comp=Z,48nm,1.3s
PSZ LR LR
comp=Z,982nm,20.0s
PSZ Piszkesteto 39.67 300⇑ *e*P **P** **06 45 35.9 +1.1**
LKR Lokris 39.69 285 P **P** **06 45 34.6 -0.5**
LKR Lokris 39.69 285 P **P** **06 45 34.6 -0.5**
PKSN Nyarlorinc 39.86 299⇑ *e*P **P** **06 45 37.9 +1.6**
SKO Skopje 39.86 291 P **P** **06 45 36.8 +0.3**
SKO Skopje 39.86 291 *i* P **P** **06 45 38.1 +1.7**
SKO Skopje 39.86 291 P **P** **06 45 36.8 +0.3**
SKO Skopje 39.86 291 P **P** **06 45 36.8 +0.3**
DID Didima 39.89 284 P **P** **06 45 35.0 -1.8**
DID Didima 39.89 284 P **P** **06 45 35.0 -1.8**
AXAR Agios Charalam 39.91 286 P **P** **06 45 37.5 +0.6**
AXAR Agios Charalam 39.91 286 P **P** **06 45 37.5 +0.6**
LTK Loutraki 39.92 285 P **P** **06 45 36.5 -0.5**
LTK Loutraki 39.92 285 P **P** **06 45 36.5 -0.5**
KRND KRANIDI 40.00 284 P **P** **06 45 35.5 -2.1**
INCN Inchon 40.05 76 PFAKE 06 45 50.0 +12
INCN LR LR
comp=Z,660nm,19.0s
AGG Agios Georgios 40.07 286 *e*P **P** **06 45 38.3 0.0**
AGG Agios Georgios 40.07 286 P **P** **06 45 37.2 -1.0**
AGG Agios Georgios 40.07 286 P **P** **06 45 37.2 -1.0**
AGG Agios Georgios 40.07 286 P **P** **06 45 37.2 -1.0**
KZN Kozani 40.09 288 P **P** **06 45 37.9 -0.5**
KZN Kozani 40.09 288 P **P** **06 45 37.9 -0.5**
KZN Kozani 40.09 288 P **P** **06 45 37.9 -0.5**
DSF Desfina 40.12 285 P **P** **06 45 37.6 -1.1**
DSF Desfina 40.12 285 P **P** **06 45 37.6 -1.1**
PKS6 Bocsa 40.12 298⇑ *e*P **P** **06 45 35.8 -2.7**
THL Klokotos Trika 40.13 287 P **P** **06 45 38.1 -0.6**
MDJ Mudanjiang 40.18 65 P **P** **06 45 39.1 +0.1**
MDJ PP **PnPn** **06 47 13.8 -1.5**
MDJ S S **06 51 42.3 -1.4**
MDJ SS **SS** **06 54 43.9 +1.9**
MDJ PMZ
comp=Z,8.0nm,0.6s
MDJ PMZ
comp=Z,83nm,5.8s
MDJ LN
comp=Z,330nm,13.0s
MDJ LE
comp=Z,640nm,13.4s
MDJ LZ
comp=Z,940nm,14.3s
MDJ Mudanjiang 40.18 65 PFAKE 06 45 50.0 +11
MDJ LR LR
comp=Z,942nm,21.0s
GVD Gavdhos 40.21 279 P **P** **06 45 40.0 +0.6**
GVD Gavdhos 40.21 279 *e*P **P** **06 45 39.5 +0.1**
comp=Z,549nm,0.6s
GVD *e*pP **pP** **06 45 47.8 -0.6**
MAKR Makrakomi, Fth 40.22 286 P **P** **06 45 39.1 -0.4**
MAKR Makrakomi, Fth 40.22 286 P **P** **06 45 39.1 -0.4**
FNA Florina 40.24 289 *e*P **P** **06 45 40.0 +0.4**
FNA Florina 40.24 289 P **P** **06 45 38.8 -0.8**
FNA Florina 40.24 289 P **P** **06 45 38.8 -0.8**
FNA Florina 40.24 289 P **P** **06 45 38.8 -0.8**
PKS7 Kunszentmiklos 40.31 299 *e*P **P** **06 45 41.5 +1.5**
BUD Budapest 40.32 300⇑ *e*P **P** **06 45 41.4 +1.2**
PKS2 Kecel 40.38 298⇑ *e*P **P** **06 45 41.8 +1.2**
VLI Veliai 40.39 283 P **P** **06 45 38.1 -2.8**
VLI Veliai 40.39 283 P **P** **06 45 38.1 -2.8**
GUR Goura 40.41 285 P **P** **06 45 40.7 -0.5**
GUR Goura 40.41 285 P **P** **06 45 40.7 -0.5**
KALE Kalithea 40.41 285 P **P** **06 45 40.2 -0.9**
KALE Kalithea 40.41 285 P **P** **06 45 40.2 -0.9**
ANKY Antikythira Is 40.42 281 P **P** **06 45 40.3 -0.8**
ANKY Antikythira Is 40.42 281 P **P** **06 45 40.3 -0.8**
KYTH Kithira 40.47 282 P **P** **06 45 40.8 -0.8**
KYTH Kithira 40.47 282 P **P** **06 45 40.8 -0.8**
EVR Evrytania 40.49 286 P **P** **06 45 41.7 -0.1**
EVR Evrytania 40.49 286 P **P** **06 45 41.7 -0.1**
OKC Ostrava-Krasne 40.52 304⇑ *e*P **P** **06 45 42.4 +0.6**
OKC *e*PP **PP** **06 47 16.8 +1.6**
OKC AMS AMS 07 05 50.0
comp=Z,1µm,13.3s
OKC Ostrava-Krasne 40.52 304 *e*P **P** **06 45 42.4 +0.6**
OKC *e* 06 47 16.8
OKC MLR MLR
comp=Z,1µm,13.3s
EFP Efpalio 40.58 286 P **P** **06 45 41.1 -1.3**
VLX Vlachokerasia 40.58 284 P **P** **06 45 41.3 -1.3**
VLX Vlachokerasia 40.58 284 P **P** **06 45 41.3 -1.3**
NEST Nestorio 40.58 289 P **P** **06 45 42.0 -0.6**
PHP Peshkopia 40.66 291 P **P** **06 45 42.5 -0.6**

PHP Peshkopia 40.66 291 P **P** **06 45 42.5 -0.6**
PHP Peshkopia 40.66 291 P **P** **06 45 42.5 -0.6**
GKP Gorka Klasztor 40.70 309 *e*P **P** **06 45 43.7 +0.5**
GKP Gorka Klasztor 40.70 309 *e*P **P** **06 45 43.8 +0.5**
IVA Berane 40.73 293⇑ *i*P **P** **06 45 45.0 +1.3**
KLR Kul'dur 40.76 57 *e*P P 06 45 39.8 -3.9
KLR *e*S **S** **06 51 52.5 +0.3**
KLR pmax pmax
comp=E,57nm,1.6s
KLR pmax pmax
comp=Z,62nm,1.6s
KLR MLR MLR
comp=E,1µm,12.0s
KLR MLR MLR
comp=Z,2µm,12.0s
PVY Plav 40.76 292⇑ *i*P **P** **06 45 45.1 +1.1**
PKSG 40.76 300⇑ *e*P **P** **06 45 44.9 +1.1**
PVO Paravola 40.80 286 P **P** **06 45 44.8 +0.6**
PKSM Moragy 40.82 298⇑ *i*P **P** **06 45 44.8 +0.5**
PKSM Moragy 40.82 298⇑ *e*P **P** **06 45 45.3 +1.0**
CSKK Cs'‡kako 40.85 300⇑ *e*P **P** **06 45 45.7 +1.1**
DRO Drossia 40.88 285 P **P** **06 45 44.0 -0.9**
JAN Janina 40.96 288 P **P** **06 45 45.5 -0.1**
JAN Janina 40.96 288 P **P** **06 45 45.5 -0.1**
JAN Janina 40.96 288 P **P** **06 45 45.5 -0.1**
PLE Pljevlja 40.97 294⇑ *i*P **P** **06 45 47.2 +1.5**
ITM Ithomi 40.98 284 P **P** **06 45 44.4 -1.4**
ITM Ithomi 40.98 284 P **P** **06 45 44.4 -1.4**
PKS9 Tamasi 40.99 299⇑ *e*P **P** **06 45 46.7 +1.0**
KSAR Wonju Array Be 41.00 76 P **P** **06 45 45.1 -0.8**
KSAR 06 47 44.4
KSAR Wonju Array Be 41.00 76 P **P** **06 45 45.1 -0.8**
KSAR PcP **PcP** **06 47 44.4 -1.1**
KSAR ScP **ScP** **06 51 31.6 -1.4**
KSRS Korea Array 41.02 76 P **P** **06 45 45.1 -1.0**
comp=Z,3.2nm,0.7s,baz=282,slow=8.3,SNR=14
KSRS PcP **PcP** **06 47 44.4 -1.2**
comp=Z,2.9nm,0.7s,baz=310,slow=3.4,SNR=4.4
KSRS ScP **ScP** **06 51 31.6 -1.4**
comp=Z,1.6nm,0.7s,baz=296,slow=3.0,SNR=4.7
AMT Artemida-Makis 41.02 284 P **P** **06 45 45.2 -0.9**
PKST T˜'s 41.02 300⇑ *e*P **P** **06 45 46.7 +0.7**
RLS Riolos of Patr 41.02 285 P **P** **06 45 45.7 -0.4**
RLS Riolos of Patr 41.02 285 P **P** **06 45 45.7 -0.4**
PDO Prodromos 41.05 286 P **P** **06 45 46.1 -0.2**
TIR Tirane 41.17 291 *e*P **P** **06 45 46.8 -0.4**
TIR pmax pmax
comp=Z,46nm,0.7s
TIR MLR MLR
comp=Z,670nm,19.0s
TIR Tirane 41.17 291 *e*P **P** **06 45 46.8 -0.4**
comp=Z,46nm,0.7s
TIR LR LR
comp=Z,670nm,19.0s
SMOL Smolenice 41.20 302 *e*P **P** **06 45 48.4 +1.0**
SMOL Smolenice 41.20 302 *e*P **P** **06 45 48.4 +1.0**
PYL PYLOS 41.22 283 P **P** **06 45 45.2 -2.5**
PYL PYLOS 41.22 283 P **P** **06 45 45.2 -2.5**
VTN Vitineika 41.28 285 P **P** **06 45 48.6 +0.4**
PDG Podgorica 41.30 292 P **P** **06 45 48.6 +0.3**
TTG Podgorica 41.30 292 P **P** **06 45 48.6 +0.3**
TTG Podgorica 41.30 292 P **P** **06 45 48.6 +0.3**
TTG Podgorica 41.30 292⇑ *i*P **P** **06 45 48.9 +0.6**
UPM Unac-Piva 41.34 294⇑ *i*P **P** **06 45 50.0 +1.1**
KRLC Kraliky 41.36 304⇑ *e*P **P** **06 45 49.3 +0.6**
KRLC *e*pP **pP** **06 45 57.4 -0.4**
KRLC *e*PP **PnPn** **06 47 31.4 +2.3**
KRLC Kraliky 41.36 304 *e*P **P** **06 45 49.3 +0.6**
KRLC *e**PP **pP** **06 45 57.4 -0.4**
KRLC *e* 06 47 31.4
IGT Igoumenitsa 41.38 288 P **P** **06 45 48.2 -0.8**
IGT Igoumenitsa 41.38 288 P **P** **06 45 48.2 -0.8**
IGT Igoumenitsa 41.38 288 P **P** **06 45 48.2 -0.8**
LKD2 Lefkada island 41.38 287 P **P** **06 45 48.3 -0.7**
LKD2 Lefkada island 41.38 287 P **P** **06 45 48.3 -0.7**
NKY Niksic 41.39 293⇑ *i*P **P** **06 45 50.0 +0.9**
DRME Dracevica, Mon 41.42 292⇑ *i*P **P** **06 45 49.9 +0.6**
SGD Sagiada 41.43 288 P **P** **06 45 48.7 -0.7**
NKME Niksic 41.43 293⇑ *i*P **P** **06 45 49.9 +0.5**
ULC Ulcinj 41.44 292⇑ *i*P **P** **06 45 49.5 0.0**
KFL Anninata 41.51 286 P **P** **06 45 48.9 -1.2**
SRN Sarande 41.51 288 P **P** **06 45 48.6 -1.4**
SRN Sarande 41.51 288 P **P** **06 45 48.6 -1.4**
TIXI Tiksi 41.53 23*c* *i*P **P** **06 45 49.6 -0.1**
TIXI pmax pmax
comp=Z,168nm,1.0s
TIXI Tiksi 41.53 23 *e*P **P** **06 45 49.6 -0.1**
comp=Z,119nm,0.8s
TIXI *e*pP **pP** **06 45 57.5 -1.3**
TIXI LR LR
comp=Z,2µm,20.0s
KULM Kulim 41.54 139 PFAKE 06 46 00.0 +10
KULM LR LR
comp=Z,553nm,19.0s
KSP Ksiaz 41.55 305 *e*P **P** **06 45 50.8 +0.5**
KSP *e* 06 47 41.8
KSP Ksiaz 41.55 305⇑ *e*P **P** **06 45 50.8 +0.5**
KSP *e* 06 47 41.8
BUM Brajici-Budva 41.60 292⇑ *i*P **P** **06 45 51.3 +0.5**
VRAC Vranov 41.60 303⇑ *i*P **P** **06 45 51.7 +1.0**
DPC Dobruska-Polom 41.61 305⇑ *i*P **P** **06 45 51.9 +1.1**
DPC *ex* x 06 45 55.5
DPC *e*pP **pP** **06 45 59.9 +0.1**
DPC *e*sP **sP** **06 46 04.6 +1.1**
DPC *e*PP **PP** **06 47 24.6 -2.4**
DPC *e*SS **SS** **06 55 08.5 -1.8**
DPC AMS AMS 07 04 20.0
comp=Z,2µm,14.7s
DPC Dobruska-Polom 41.61 305⇑ *i*P **P** **06 45 51.9 +1.1**
DPC *e* 06 46 04.6
DPC *e* 06 47 24.6
DPC *e*SS SS 06 55 08.5 -1.8
DPC MLR MLR
comp=Z,2µm,14.7s
TATO Taipei 41.62 96 PFAKE 06 46 00.0 +8.9
TATO LR LR
comp=Z,715nm,20.0s
VLS Valsamata 41.64 286 P **P** **06 45 49.5 -1.6**
VLS Valsamata 41.64 286 P **P** **06 45 49.5 -1.6**
VLS Valsamata 41.64 286 P **P** **06 45 49.5 -1.6**
SFS Strofades 41.64 284 P **P** **06 45 49.4 -1.7**
ZKS Zakynthos 41.66 285 P **P** **06 45 49.2 -2.1**
BRY Bratogost 41.68 293⇑ *i*P **P** **06 45 52.2 +0.6**
VLO Vlora 41.70 289 P **P** **06 45 51.4 -0.2**
VLO Vlora 41.70 289 P **P** **06 45 51.4 -0.2**
VLO Vlora 41.70 289 P **P** **06 45 51.4 -0.2**
YHNB Yeheng 41.70 97 *e*P **P** **06 45 52.4 +0.5**
comp=Z,23nm,1.0s
YHNB LR LR
comp=Z,436nm,19.0s
KEK Kerkira 41.71 288 P **P** **06 45 50.8 -0.9**
KEK Kerkira 41.71 288 P **P** **06 45 50.8 -0.9**
UPC Upice 41.78 305⇑ *e*P **P** **06 45 53.1 +1.0**
UPC *e*pP **pP** **06 46 01.6 +0.4**
UPC *e*PP **PnPn** **06 47 31.5 -2.4**
UPC Upice 41.78 305 *e*P **P** **06 45 53.1 +1.0**
UPC *e* 06 46 01.6
UPC *e* 06 47 31.5
HCY Herceg Novi 41.84 293⇑ *i*P **P** **06 45 52.9 +0.2**
SSLB Suanglung 41.86 98 *e*P **P** **06 45 54.9 +1.8**
comp=Z,80nm,1.1s
SSLB *e*pP **pP** **06 46 02.7 +0.5**
BSD Bornholm Skovb 41.92 312⇑ *i*P **P** **06 45 52.1 -1.0**
comp=Z,54nm,0.7s
BSD *i* 06 47 37.4
comp=Z,2µm,19.0s
BSD Bornholm Skovb 41.92 312⇑ *i*P **P** **06 45 52.1 -1.0**
BSD *i* 06 47 37.4
BSD pmax pmax
comp=Z,54nm,0.7s
BSD MLR MLR
comp=Z,2µm,19.0s
SOP Sopron 41.92 301⇑ *e*P **P** **06 45 54.5 +1.2**
USRK Ussuriysk Ar. 41.95 65 P **P** **06 45 52.8 -0.7**
comp=Z,3.3nm,0.8s,baz=312,slow=5.4,SNR=5.5
USRK PcP **PcP** **06 47 47.4 -1.1**
comp=Z,3.4nm,0.5s,baz=290,slow=3.4,SNR=7.4
BEHE Becsehely 42.03 299⇑ *e*P **P** **06 45 55.3 +1.1**
STON Ston 42.28 293 P **P** **06 45 56.3 0.0**
TREC Trest 42.32 303⇑ *e*P **P** **06 45 57.5 +0.9**
TREC *e*pP **pP** **06 46 06.5 +0.9**
TREC *e*PP PP 06 47 40.6 +5.9

TREC AMS AMS 07 07 20.0
comp=Z,2µm,14.1s
TREC Trest 42.32 303 *e*P **P** **06 45 57.5 +0.9**
TREC *e**PP **pP** **06 46 06.5 +0.9**
TREC *e* 06 47 40.6
TREC MLR MLR
comp=Z,2µm,14.1s
CONA Conrad Observa 42.33 301⇑ *i*P **P** **06 45 57.7 +0.9**
comp=Z,127nm,1.3s,SNR=58
YULB Yu-li 42.34 99 *e*P **P** **06 45 57.0 0.0**
comp=Z,22nm,1.3s
TWG Pinlang 42.49 99 *e*P **P** **06 46 00.6 +2.3**
comp=Z,310nm,1.1s
GOPC GO Pecny, Ondr 42.66 304⇑ *e*P **P** **06 46 00.0 +0.7**
GOPC *e*pP **pP** **06 46 06.2 -2.2**
GOPC *ex* x 06 46 08.9
GOPC *e*PP **PP** **06 47 40.6 +2.3**
GOPC *e*S S 06 52 27.9 +7.5
GOPC *e*SS **SS** **06 55 34.8 +3.9**
GOPC AMS AMS 07 05 00.0
comp=Z,2µm,14.2s
PVCC Panska Ves 42.69 305⇑ *e*P **P** **06 46 00.3 +0.8**
PVCC *e*PP **PcP** **06 47 49.9 -1.0**
PVCC *e*SS SS 06 55 35.7 +4.2
PVCC AMS AMS 07 05 00.0
comp=Z,2µm,15.4s
PVCC Panska Ves 42.69 305 *e*P **P** **06 46 00.3 +0.8**
PVCC *e* 06 47 49.9
PVCC MLR MLR
comp=Z,2µm,15.4s
PRU Pruhonice 42.80 304⇑ *e*P **P** **06 46 01.1 +0.7**
PRU *e*pP **pP** **06 46 08.3 -1.2**
PRU *e*PP **PP** **06 47 41.4 +1.6**
PRU *ex* x 06 51 45.3
PRU *e*S **S** **06 52 18.5 -3.9**
PRU *e*SS **SS** **06 55 36.5 +2.9**
PRU AMS AMS 07 05 10.0
comp=Z,2µm,14.1s
PRU Pruhonice 42.80 304 *e*P **P** **06 46 01.1 +0.7**
PRU *e* 06 46 08.3
PRU *e* 06 47 41.4
PRU *e*S **S** **06 52 18.5 -3.9**
PRU MLR MLR
comp=Z,2µm,14.1s
PRA Prague 42.85 305⇑ *e*P **P** **06 46 01.7 +0.9**
PRA *e*pP **pP** **06 46 09.6 -0.3**
PRA *e*PP **PcP** **06 47 46.9 -4.5**
PRA AMS AMS 07 05 10.0
comp=Z,2µm,14.1s
PRA Prague 42.85 305 *e*P **P** **06 46 01.7 +0.9**
PRA *e* 06 46 09.6
PRA *e* 06 47 46.9
PRA MLR MLR
comp=Z,2µm,14.1s
PSI Prapat 42.87 143 P **P** **06 46 00.3 -1.2**
comp=Z,1.9nm,0.3s,baz=23,slow=8.2,SNR=3.8
PSI PcP **PcP** **06 47 52.3 +0.2**
comp=Z,9.7nm,0.8s,baz=307,slow=4.2,SNR=4.8
PSI LR LR 07 07 25.9
comp=Z,531nm,18.8s,baz=308,slow=41
RUE Ruedersdorf 42.87 308 *e*P **P** **06 46 01.2 +0.3**
comp=Z,48nm,1.1s
RUE *e*PcP **PcP** **06 47 53.1 +1.7**
RGN Rugen 42.89 311 *e*P **P** **06 46 02.1 +1.1**
comp=Z,170nm,1.0s
BRG Berggiesshubel 43.02 306 *i* P **P** **06 46 02.9 +0.7**
comp=Z,63nm,1.2s
BRG *i* 06 47 52.5
comp=Z,35nm,0.9s
BRG S **S** **06 52 28.0 +2.3**
BRG SS **SS** **06 55 42.0 +4.0**
comp=N,792nm,22.7s
comp=E,1µm,14.3s
comp=Z,3µm,15.7s
BRG Berggiesshubel 43.02 306 *e*P **P** **06 46 03.0 +0.8**
comp=Z,47nm,0.8s
BRG *e*PcP **PcP** **06 47 53.0 +1.0**
BRG Berggiesshubel 43.02 306 *i* P **P** **06 46 02.9 +0.7**
BRG *i* 06 47 52.5
BRG S **S** **06 52 28.0 +2.3**
BRG pmax pmax
comp=Z,63nm,1.2s
BRG MLR MLR
comp=N,792nm,22.7s
BRG MLR MLR
comp=E,1µm,14.3s
BRG MLR MLR
comp=Z,3µm,15.7s
HABR Khabarovsk 43.04 58 *e*P **P** **06 46 01.0 -1.3**
HABR *e**SP **sP** **06 46 15.0 -0.1**
HABR *e* 06 47 41.2
HABR *e* 06 47 50.8
HABR *e*PPP PPP 06 48 14.4
HABR *e*S **S** **06 52 24.9 -1.0**
HABR *e**SS **sS** **06 52 41.9 +1.1**
HABR *e* 06 55 59.0
HABR *e*SSS SSS 06 56 15.5
HABR pmax pmax
comp=E,55nm,1.4s
HABR pmax pmax
comp=Z,38nm,1.4s
HABR pmax pmax
comp=N,18nm,0.7s
HABR MLR MLR
comp=Z,881nm,19.0s
SOKA Soboth 43.16 300 *i* P **P** **06 46 03.9 +0.4**
comp=Z,130nm,1.2s,SNR=76
COP Copenhagen 43.28 313 *i* P **P** **06 46 04.6 +0.4**
comp=Z,54nm,0.7s
comp=Z,1µm,13.0s
COP Copenhagen 43.28 313 *i* P **P** **06 46 04.6 +0.4**
COP pmax pmax
comp=Z,54nm,0.7s
COP MLR MLR
comp=Z,1µm,13.0s
BOJS Bojanci 43.29 298 *i* P **PcP** **06 47 53.4 +0.4**
FBE Freiberg 43.38 306 *e*P **P** **06 46 06.2 +1.1**
comp=Z,99nm,1.2s
FBE *e*PP **PP** **06 47 48.2 +2.2**
FBE *e*PcP **PcP** **06 47 54.3 +1.1**
MOA Molln 43.40 301⇑ *i*P **P** **06 46 05.7 +0.3**
comp=Z,54nm,1.1s,SNR=20
LLD Lille Linde 43.44 312 *i* P **P** **06 46 06.1 +0.6**
LLD Lille Linde 43.44 312 *i* P **P** **06 46 06.1 +0.6**
VISS Visnje 43.50 298 *i* P **PcP** **06 47 54.1 +0.4**
OBKA Obir 43.52 299⇓ *i*P **P** **06 46 07.1 +0.6**
comp=Z,94nm,1.2s,SNR=31
CLL Collm 43.53 307 *e*P **P** **06 46 06.6 +0.2**
comp=Z,64nm,1.2s
CLL *e*PP **PP** **06 47 49.2 +1.6**
CLL *e*PcP **PcP** **06 47 54.1 +0.4**
CLL Collm 43.53 307⇑ *i*P **P** **06 46 06.5 +0.2**
comp=Z,65nm,1.2s
CLL *i* PP **PP** **06 47 48.8 +1.2**
CLL *e*PcP **PcP** **06 47 53.0 -0.7**
CLL *e* 06 47 58.0
CLL *e*(S) S 06 52 48.0 +15
CLL *e*SS **SS** **06 55 48.0 +0.1**
CLL Lm MLR 07 05 00.0
comp=N,400nm,18.6s
CLL Lm MLR 07 05 00.0
comp=E,2µm,19.2s
CLL Lm MLR 07 05 00.0
comp=Z,2µm,18.8s
CLL Collm 43.53 307⇑ *i*P **P** **06 46 06.5 +0.2**
CLL *e* 06 47 53.0
CLL pmax pmax
comp=Z,65nm,1.2s
CLL MLR MLR
comp=Z,2µm,18.8s
GEC2 GERESS Array S 43.56 303 *e*P **P** **06 46 07.7 +1.0**
comp=Z,110nm,1.1s
GERES GERESS Array B 43.56 303 P **P** **06 46 06.7 0.0**
comp=Z,50nm,0.9s,baz=69,slow=7.6,SNR=230
GERES PcP **PcP** **06 47 52.7 -1.2**
comp=Z,11nm,0.9s,baz=62,slow=4.9,SNR=4.0
GERES LR LR 07 07 09.5
comp=Z,1µm,20.4s,baz=74,slow=40
GERES GERESS Array B 43.56 303 P **P** **06 46 06.7 0.0**
GERES 06 47 52.7
GERES pmax pmax
comp=Z,50nm,0.9s
GERES MLR MLR
comp=Z,1µm,20.4s
KHC Kasperske Hory 43.58 303⇑ *i*P **P** **06 46 07.7 +0.9**

KHC ePP **pP** **06 46 14.9 -1.0**
KHC esP **sP** **06 46 20.6 +1.1**
KHC ePP **PcP** **06 47 57.8 +3.8**
KHC ex x 06 51 51.8
KHC eS **S** **06 52 36.0 +2.1**
KHC eSS **SS** **06 55 54.4 +5.5**
KHC AMS AMS 07 05 40.0
comp=Z,2µm,14.6s
KHC Kasperske Hory 43.58 303⇑ *i*P **P** **06 46 07.7 +0.9**
KHC e 06 46 20.6
KHC e 06 47 57.8
KHC eS **S** **06 52 36.0 +2.1**
KHC eSS **SS** **06 55 54.4 +5.5**
KHC MLR MLR
comp=Z,2µm,14.6s
KHC Kasperske Hory 43.58 303 eP **P** **06 46 07.2 +0.4**
comp=Z,26nm,1.0s
KHC epP **pP** **06 46 15.2 -0.7**
NB2 NORSAR Subarra 43.61 321 P **P** **06 46 06.5 -0.4**
comp=Z,163nm,0.8s,baz=90,slow=8.6
NB2 NORSAR Subarra 43.61 321 P **P** **06 46 06.5 -0.4**
baz=90,slow=8.6
NOA NORSAR Array B 43.61 321 P **P** **06 46 06.7 -0.2**
comp=Z,123nm,0.8s,baz=90,slow=7.8,SNR=345
NOA PcP **PcP** **06 47 53.0 -0.9**
comp=Z,15nm,0.8s,baz=79,slow=4.2,SNR=4.3
NOA LR LR 07 04 58.3
comp=Z,2µm,21.3s,baz=90,slow=37
NOA NORSAR Array B 43.61 321 P **P** **06 46 06.7 -0.2**
NOA 06 47 53.0
NOA pmax pmax
comp=Z,123nm,0.8s
NOA pmax pmax
comp=Z,15nm,0.8s
NOA MLR MLR
comp=Z,2µm,21.3s
NAO01 NORSAR Array S 43.77 321 eP **P** **06 46 07.8 -0.4**
comp=Z,79nm,0.6s
JAVS Javornik 44.00 299 *i* P **PcP** **06 47 55.2 -0.3**
WET Wettzell 44.02 303 eP **P** **06 46 11.2 +0.8**
comp=Z,70nm,1.1s
WET ePcP **PcP** **06 47 56.2 +0.7**
TANN Tannenbergstha 44.03 305 eP **P** **06 46 11.1 +0.7**
comp=Z,50nm,1.3s
TANN ePcP **PcP** **06 47 56.3 +0.8**
NKC Novy Kostel 44.08 305⇑ eP **P** **06 46 11.4 +0.6**
NKC ePP PcP 06 48 01.9 +6.3
NKC eS **S** **06 52 39.4 -1.8**
NKC eSS **SS** **06 56 01.7 +3.0**
NKC AMS AMS 07 06 00.0
comp=Z,2µm,15.1s
NKC Novy Kostel 44.08 305 eP **P** **06 46 11.4 +0.6**
NKC e 06 48 01.9
NKC eS **S** **06 52 39.4 -1.8**
NKC eSS **SS** **06 56 01.7 +3.0**
NKC MLR MLR
comp=Z,2µm,15.1s
MYKA Terra Mystica 44.10 300 *i* P **P** **06 46 11.2 +0.2**
comp=Z,22nm,1.1s,SNR=9.3
TIP Timpagrande 44.11 289 P **P** **06 46 11.1 -0.1**
TIP Timpagrande 44.11 289 eP **P** **06 46 11.1 -0.1**
comp=Z,92nm,1.0s
TIP e 06 47 56.5
TIP LR LR
comp=Z,363nm,21.0s
KBA Koelnbreinsper 44.19 300 *i* P **P** **06 46 12.0 +0.2**
comp=Z,68nm,1.6s,SNR=19
PLN Plauen 44.21 306 eP **P** **06 46 12.4 +0.6**
comp=Z,45nm,1.3s
PLN ePcP **PcP** **06 47 57.0 +1.0**
TRI Trieste 44.25 298 eP **P** **06 46 12.5 +0.4**
TRI e*PP **pP** **06 46 20.4 -0.8**
TRI e 06 47 55.8
TRI pmax pmax
comp=Z,167nm,0.8s
TRI Trieste 44.25 298 eP **P** **06 46 12.5 +0.4**
comp=Z,167nm,0.8s
TRI epP **pP** **06 46 20.4 -0.8**
TRI e 06 47 55.8
NEUB Neuenburg 44.31 307 eP **P** **06 46 13.1 +0.6**
comp=Z,89nm,1.1s
NEUB ePcP **PcP** **06 47 57.1 +0.8**
ROTZ Rotzenmuhle 44.32 304 eP **P** **06 46 13.7 +1.0**
comp=Z,51nm,1.4s
ROTZ ePcP **PcP** **06 47 57.6 +1.2**
MANZ Manzenberg 44.34 305 eP **P** **06 46 13.8 +0.9**
comp=Z,37nm,1.2s
MANZ ePcP **PcP** **06 47 57.8 +1.3**
RJOB Jochberg 44.39 302 eP **P** **06 46 13.6 +0.2**
comp=Z,27nm,1.1s
KONO Kongsberg 44.47 319 eP **P** **06 46 13.6 -0.1**
KONO e 06 47 55.1
KONO pmax pmax
comp=Z,87nm,0.8s
KONO MLR MLR
comp=Z,2µm,19.0s
KONO Kongsberg 44.47 319 eP **P** **06 46 13.6 -0.1**
comp=Z,87nm,0.8s
KONO e 06 47 55.1
KONO LR LR
comp=Z,2µm,19.0s
MOX Moxa 44.52 306 eP **P** **06 46 14.9 +0.6**
comp=Z,45nm,1.2s
MOX ePcP **PP** **06 47 57.9 -0.3**
MOX eL L 07 06 18.5
comp=Z,3µm,18.5s
CUC Castrocucco 44.52 290 eP **P** **06 46 15.3 +0.8**
comp=Z,105nm,0.8s
CUC LR LR
comp=Z,807nm,19.0s
BSEG Bad Segeberg 44.72 311 eP **P** **06 46 16.9 +1.2**
comp=Z,90nm,0.8s
ABTA Abfaltersbach 44.82 300⇑ *i*P **P** **06 46 16.2 -0.6**
comp=Z,38nm,1.2s,SNR=9.4
JNU Nakatsue 44.93 80 P **P** **06 46 17.1 -0.7**
comp=Z,11nm,0.9s,baz=243,slow=4.7,SNR=4.6
JNU Nakatsue 44.93 80 eP **P** **06 46 18.1 +0.2**
comp=Z,5.0nm,1.0s
JNU epP **pP** **06 46 25.5 -1.4**
MNSI Mandailing Nat 44.94 144 P **P** **06 46 18.3 +0.4**
comp=Z,31nm,0.9s
GRF Grafenberg Arr 44.96 305 eP **P** **06 46 19.3 +1.5**
comp=Z,107nm,1.0s
GRF eL L 07 06 44.7
comp=Z,2µm,19.5s
GRFO Grafenberg 44.96 305 eP **P** **06 46 19.0 +1.2**
GRFO e*PP **pP** **06 46 27.5 +0.6**
GRFO pmax pmax
comp=Z,107nm,1.1s
GRFO Grafenberg 44.96 305 eP **P** **06 46 19.0 +1.2**
comp=Z,107nm,1.1s
GRFO epP **pP** **06 46 27.5 +0.6**
MUD Monsted U'grnd 45.01 314⇑ *i*P **P** **06 46 18.7 +0.7**
comp=Z,1µm,13.0s
MUD Monsted U'grnd 45.01 314⇑ *i*P **P** **06 46 18.7 +0.7**
MUD MLR MLR
comp=Z,1µm,13.0s
CEL Celeste 45.07 288 eP **P** **06 46 19.2 +0.3**
comp=Z,272nm,0.8s
CEL epP **pP** **06 46 27.7 -0.3**
CEL esP **sP** **06 46 31.9 +0.3**
CEL ePcP **PcP** **06 47 59.4 +0.1**
CEL LR LR
comp=Z,323nm,20.0s
NRDL Niedersach Rie 45.09 309 eP **P** **06 46 19.6 +1.0**
comp=Z,151nm,1.5s
NRDL ePcP **PcP** **06 48 00.3 +1.4**
WTTA Wattenberg 45.27 301⇑ *i*P **P** **06 46 20.3 -0.2**
comp=Z,68nm,0.9s,SNR=15
FUR Furstenfeldbru 45.28 302 eP **P** **06 46 21.6 +1.2**
comp=Z,131nm,1.0s
FUR ePcP **PcP** **06 48 00.4 +0.6**
WATA Walderalm 45.29 301⇑ *i*P **P** **06 46 20.3 -0.3**
comp=Z,59nm,1.3s,SNR=6.8
AQU L'Aquila 45.47 294 eP **P** **06 46 23.0 +1.0**
AQU e 06 48 01.1
AQU pmax pmax
comp=Z,89nm,0.9s
AQU MLR MLR
comp=Z,864nm,19.0s
AQU L'Aquila 45.47 294 eP **P** **06 46 23.0 +1.0**
comp=Z,89nm,0.9s
AQU ePcP **PcP** **06 48 01.1 +0.5**
AQU LR LR
comp=Z,864nm,19.0s

UBBA Unterbreizbach 45.48 306 eP **P** **06 46 22.2 +0.4**
comp=Z,36nm,1.2s
UBBA ePcP **PcP** **06 48 00.9 +0.6**
MOTA Moosalm 45.60 301⇑ *i*P **P** **06 46 22.6 -0.4**
comp=Z,35nm,0.9s
NKL Nikolayevsk 45.63 50 eP **P** **06 46 21.2 -1.8**
NKL pmax pmax
comp=Z,60nm,1.0s
NKL MLR MLR
comp=N,900nm,18.0s
NKL MLR MLR
comp=E,2µm,18.0s
NKL MLR MLR
comp=Z,2µm,18.0s
RETA Reutte 45.79 302⇑ *i*P **P** **06 46 24.4 0.0**
comp=Z,61nm,1.0s,SNR=16
FETA Feichten 45.93 301⇑ *i*P **P** **06 46 25.2 -0.5**
comp=Z,49nm,1.3s,SNR=12
KBS Kingsbay 46.05 346 PFAKE 06 46 40.0 +14
KBS LR LR
comp=Z,2µm,20.0s
DAVA Damuels 46.42 302⇑ *i*P **P** **06 46 29.6 +0.1**
comp=Z,141nm,1.3s,SNR=33
STU Stuttgart 46.47 304 eP **P** **06 46 30.4 +0.7**
comp=Z,76nm,1.1s
STU ePcP **PcP** **06 48 04.5 +0.6**
STU Stuttgart 46.47 304 eP **P** **06 46 30.6 +0.9**
STU e*PP **pP** **06 46 38.9 0.0**
STU e 06 48 04.4
STU pmax pmax
comp=Z,23nm,0.8s
STU Stuttgart 46.47 304 eP **P** **06 46 30.6 +0.9**
comp=Z,23nm,0.8s
STU epP **pP** **06 46 38.9 0.0**
STU ePcP **PcP** **06 48 04.3 +0.4**
IBBN Ibbenburen 46.54 309 eP **P** **06 46 30.6 +0.4**
comp=Z,54nm,0.7s
IBBN ePcP **PcP** **06 48 05.1 +1.1**
TNS Taunus Mts 46.59 306 eP **P** **06 46 31.3 +0.6**
comp=Z,38nm,1.4s
TNS ePcP **PcP** **06 48 05.3 +0.9**
PDSI Padang 46.85 144 P **P** **06 46 32.7 -0.4**
comp=Z,58nm,1.3s,comp=Z,6µm
VLC Villacollemand 46.99 297 eP **P** **06 46 34.4 +0.5**
comp=Z,84nm,0.8s
VLC epP **pP** **06 46 42.7 -0.4**
VLC LR LR
comp=Z,1µm,19.0s
TUE Stuetta 47.00 301 PFAKE 06 46 50.0 +16
TUE LR LR
comp=Z,2µm,21.0s
WDD Wield Dalam 47.00 285 PFAKE 06 46 50.0 +16
WDD LR LR
comp=Z,232nm,19.0s
BUG Bochum--Univer 47.02 308 eP **P** **06 46 34.7 +0.7**
comp=Z,70nm,1.2s
BUG ePcP **PcP** **06 48 06.6 +0.8**
BFO Black Forest 47.14 303 P **P** **06 46 35.8 +0.8**
comp=Z,146nm,1.2s,SNR=8.6
BFO Black Forest 47.14 303 eP **P** **06 46 35.4 +0.4**
comp=Z,54nm,1.4s
BFO ePcP **PcP** **06 48 06.5 +0.2**
BFO Black Forest 47.14 303 eP **P** **06 46 35.0 0.0**
BFO e*PP **pP** **06 46 43.6 -0.6**
BFO e 06 48 06.2
comp=Z,18nm,0.8s
BFO pmax pmax
comp=Z,1µm,21.0s
BFO MLR MLR
BFO Black Forest 47.14 303 eP **P** **06 46 35.0 0.0**
comp=Z,18nm,0.8s
BFO epP **pP** **06 46 43.6 -0.6**
BFO ePcP **PcP** **06 48 06.2 -0.1**
BFO LR LR
comp=Z,1µm,21.0s
WTSB Winterswijk 47.19 309 eP **P** **06 46 35.7 +0.5**
comp=Z,45nm,0.7s
CLTB Caltabellotta 47.29 288 PFAKE 06 46 50.0 +14
CLTB LR LR
comp=Z,272nm,19.0s
LANF Langenberg 47.30 304⇑ eP **P** **06 46 36.8 +0.5**
TGY Tagaytay City 47.75 109 P **P** **06 46 39.2 -0.9**
comp=Z,266nm,0.3s,baz=270,slow=10,SNR=3.4
CDF Champ du Feu 47.80 304⇑ *i*P **P** **06 46 40.2 0.0**
comp=Z,55nm,0.9s
CDF Champ du Feu 47.80 304⇑ *i*P **P** **06 46 40.2 0.0**
CDF pmax pmax
comp=Z,55nm,0.9s
CDF Champ du Feu 47.80 304⇑ *i*P **P** **06 46 40.2 0.0**
comp=Z,55nm,0.9s
ECH Echery 47.93 304⇑ eP **P** **06 46 41.2 +0.1**
ECH Echery 47.93 304 eP **P** **06 46 41.1 0.0**
ECH e*SP **sP** **06 46 53.7 -0.2**
ECH e 06 48 09.9
ECH pmax pmax
comp=Z,39nm,1.1s
ECH MLR MLR
comp=Z,1µm,20.0s
ECH Echery 47.93 304 eP **P** **06 46 41.1 0.0**
comp=Z,40nm,1.1s
ECH epP **pP** **06 46 49.6 -0.6**
ECH esP **sP** **06 46 53.7 -0.2**
ECH ePcP **PcP** **06 48 09.9 +0.7**
ECH LR LR
comp=Z,1µm,20.0s
MEM Membach 48.00 307 P **P** **06 46 42.2 +0.6**
comp=Z,22nm,1.4s
HGN Heimansgroeve 48.01 307 eP **P** **06 46 41.7 +0.1**
comp=Z,17nm,0.9s
HGN ePP PcP 06 47 50.6 -19
HGN eS S 06 53 29.1 -8.4
MOF Molkenrain 48.05 303⇑ eP **P** **06 46 42.3 +0.2**
BEBN Eben Emael 48.16 307 P **P** **06 46 43.5 +0.7**
WLF Walferdange 48.16 306 P **P** **06 46 43.8 +0.9**
comp=Z,47nm,1.5s
WLF Walferdange 48.16 306 eP **P** **06 46 43.9 +1.0**
comp=Z,119nm,1.4s
WLF Walferdange 48.16 306 eP **P** **06 46 43.8 +0.9**
WLF pmax pmax
comp=Z,69nm,1.0s
WLF MLR MLR
comp=Z,2µm,22.0s
WLF Walferdange 48.16 306 eP **P** **06 46 43.8 +0.9**
comp=Z,69nm,1.0s
WLF LR LR
comp=Z,2µm,22.0s
HINF Hinteralfeld 48.24 303⇑ *i*P **P** **06 46 43.5 0.0**
comp=Z,115nm,1.2s
HINF Hinteralfeld 48.24 303⇑ *i*P **P** **06 46 43.5 0.0**
HINF pmax pmax
comp=Z,115nm,1.2s
HINF Hinteralfeld 48.24 303⇑ *i*P **P** **06 46 43.5 0.0**
comp=Z,115nm,1.2s
LOMF Lomont 48.39 303⇑ eP **P** **06 46 44.5 -0.3**
YSS Yuzh-Sakhalins 48.45 58 eP **P** **06 46 44.0 -1.1**
YSS pmax pmax
comp=Z,50nm,1.2s
YSS MLR MLR
comp=E,800nm,14.0s
YSS MLR MLR
comp=Z,800nm,14.0s
YSS Yuzh-Sakhalins 48.45 58 PFAKE 06 47 00.0 +15
YSS LR LR
comp=Z,296nm,21.0s
PGF Pioggiola 48.48 296⇑ *i*P **P** **06 46 45.7 +0.2**
comp=Z,234nm,1.2s
PGF Pioggiola 48.48 296⇑ *i*P **P** **06 46 45.7 +0.2**
PGF pmax pmax
comp=Z,234nm,1.2s
PGF Pioggiola 48.48 296⇑ *i*P **P** **06 46 45.7 +0.2**
comp=Z,234nm,1.2s
BCLA Clavier 48.48 307 P **P** **06 46 46.1 +0.8**
comp=Z,14nm,1.3s
HAU Haudompre 48.51 303⇑ *i*P **P** **06 46 45.5 -0.1**
comp=Z,54nm,0.7s
HAU eR
comp=Z,2µm,21.0s
HAU Haudompre 48.51 303⇑ *i*P **P** **06 46 45.5 -0.1**
HAU pmax pmax
comp=Z,54nm,0.6s
HAU Haudompre 48.51 303⇑ *i*P **P** **06 46 45.5 -0.1**
comp=Z,54nm,0.6s
THEF They Montfort 48.67 304⇑ eP **P** **06 46 47.2 +0.3**
PAGF Fort de Pagny 48.74 304⇑ *i*P **P** **06 46 48.0 +0.6**
comp=Z,19nm,1.1s
PAGF Fort de Pagny 48.74 304⇑ *i*P **P** **06 46 48.0 +0.6**
comp=Z,19nm,1.1s
GIVF Givet 48.87 307⇑ *i*P **P** **06 46 48.8 +0.5**
comp=Z,59nm,0.8s
GIVF Givet 48.87 307⇑ *i*P **P** **06 46 48.8 +0.5**
GIVF pmax pmax
comp=Z,59nm,0.8s
GIVF Givet 48.87 307⇑ *i*P **P** **06 46 48.8 +0.5**
comp=Z,59nm,0.8s
SAOF Saorge 48.98 298⇑ eP **P** **06 46 49.9 +0.6**
MAJO Matsushiro 48.98 73 *i* P **P** **06 46 47.6 -1.8**
MAJO pmax pmax
comp=Z,65nm,1.1s
MAJO Matsushiro 48.98 73 PFAKE 06 47 00.0 +11
MAJO LR LR
comp=Z,1µm,19.0s
MAT Matsushiro 48.98 73 P **P** **06 46 47.8 -1.6**
MAT S **S** **06 53 52.2 +0.5**
MJAR Matsushiro Arr 48.99 73 P **P** **06 46 48.7 -0.7**
comp=Z,4.9nm,0.8s,baz=289,slow=9.9,SNR=12
DOU Dourbes 49.01 307 P **P** **06 46 50.0 +0.6**
comp=Z,16nm,1.2s
LPG La Plagne 49.02 300⇑ *i*P **P** **06 46 50.0 +0.1**
comp=Z,35nm,0.6s
LPG La Plagne 49.02 300⇑ *i*P **P** **06 46 50.0 +0.1**
LPG pmax pmax
comp=Z,35nm,0.6s
LPG La Plagne 49.02 300⇑ *i*P **P** **06 46 50.0 +0.1**
comp=Z,35nm,0.6s
LPL La Plagne 49.02 300⇑ *i*P **P** **06 46 49.9 +0.1**
comp=Z,55nm,0.5s
LPL La Plagne 49.02 300⇑ *i*P **P** **06 46 49.9 +0.1**
LPL pmax pmax
comp=Z,55nm,0.5s
LPL La Plagne 49.02 300⇑ *i*P **P** **06 46 49.9 +0.1**
comp=Z,55nm,0.5s
RSL Roselend 49.04 300⇑ eP **P** **06 46 50.1 +0.2**
AUTN L'Aution 49.06 298⇑ eP **P** **06 46 50.8 +0.7**
SNF Seneffe 49.09 307 P **P** **06 46 50.4 +0.4**
CABF La Chapelle 49.10 302⇑ *i*P **P** **06 46 50.1 -0.1**
comp=Z,34nm,0.7s
CABF La Chapelle 49.10 302⇑ *i*P **P** **06 46 50.1 -0.1**
CABF pmax pmax
comp=Z,35nm,0.7s
CABF La Chapelle 49.10 302⇑ *i*P **P** **06 46 50.1 -0.1**
comp=Z,34nm,0.7s
SBF Sospel 49.10 298⇑ *i*P **P** **06 46 50.6 +0.3**
comp=Z,284nm,1.1s
SBF Sospel 49.10 298⇑ *i*P **P** **06 46 50.6 +0.3**
SBF pmax pmax
comp=Z,285nm,1.1s
SBF Sospel 49.10 298⇑ *i*P **P** **06 46 50.6 +0.3**
comp=Z,284nm,1.1s
TOUF Mont Tournerai 49.18 298⇑ eP **P** **06 46 51.6 +0.6**
MEZF Maizieres J'vi 49.19 304⇑ *i*P **P** **06 46 51.3 +0.5**
comp=Z,154nm,1.0s
MEZF Maizieres J'vi 49.19 304⇑ *i*P **P** **06 46 51.3 +0.5**
comp=Z,154nm,1.0s
BNI Bardonecchia 49.21 300 eP **P** **06 46 51.2 0.0**
BNI pmax pmax
comp=Z,100nm,1.1s
BNI MLR MLR
comp=Z,1µm,19.0s
BNI Bardonecchia 49.21 300 eP **P** **06 46 51.2 0.0**
comp=Z,100nm,1.1s
BNI LR LR
comp=Z,1µm,19.0s
MBDF Montbardon 49.26 299⇑ *i*P **P** **06 46 51.1 -0.5**
comp=Z,42nm,0.6s
MBDF Montbardon 49.26 299⇑ *i*P **P** **06 46 51.1 -0.5**
MBDF pmax pmax
comp=Z,42nm,0.6s
MBDF Montbardon 49.26 299⇑ *i*P **P** **06 46 51.1 -0.5**
comp=Z,42nm,0.6s
BAIF Baives 49.26 307⇑ *i*P **P** **06 46 51.9 +0.6**
comp=Z,92nm,1.0s
BAIF Baives 49.26 307⇑ *i*P **P** **06 46 51.9 +0.6**
BAIF pmax pmax
comp=Z,92nm,1.0s
BAIF Baives 49.26 307⇑ *i*P **P** **06 46 51.9 +0.6**
comp=Z,92nm,1.0s
MVIF Mont Vial 49.28 298⇑ eP **P** **06 46 52.1 +0.4**
SFTF Sexfontaines 49.28 304⇑ *i*P **P** **06 46 51.7 +0.2**
comp=Z,116nm,1.0s
SFTF Sexfontaines 49.28 304⇑ *i*P **P** **06 46 51.7 +0.2**
comp=Z,116nm,1.0s
VSL Villasalto 49.33 292 PFAKE 06 47 00.0 +8.0
VSL LR LR
comp=Z,496nm,19.0s
CALN Calern 49.51 298⇑ eP **P** **06 46 53.8 +0.3**
MASI Maura Aman, Be 49.64 143 P **P** **06 46 55.3 +0.7**
comp=Z,201nm,1.1s,comp=Z,8µm
YEL1 Yell 49.65 321⇑ eP **P** **06 46 54.2 +0.1**
FRF La Foret Royal 49.74 298⇑ *i*P **P** **06 46 55.1 0.0**
comp=Z,87nm,0.9s
FRF La Foret Royal 49.74 298⇑ *i*P **P** **06 46 55.1 0.0**
FRF pmax pmax
comp=Z,87nm,0.9s
FRF La Foret Royal 49.74 298⇑ *i*P **P** **06 46 55.1 0.0**
comp=Z,87nm,0.9s
LRW Lerwick 49.78 321⇑ eP **P** **06 46 55.2 +0.1**
LRW AMB AMB 06 46 56.2
comp=Z,137nm,0.9s
ORIF Oris-en-Rattie 49.79 300⇑ *i*P **P** **06 46 55.0 -0.5**
comp=Z,29nm,0.8s
ORIF eR
comp=Z,2µm,21.0s
ORIF Oris-en-Rattie 49.79 300⇑ *i*P **P** **06 46 55.0 -0.5**
ORIF pmax pmax
comp=Z,29nm,0.8s
ORIF Oris-en-Rattie 49.79 300⇑ *i*P **P** **06 46 55.0 -0.5**
comp=Z,29nm,0.8s
SAN1 Sandwick 49.83 320⇑ *i*P **P** **06 46 55.3 -0.2**
LMR La Mourre 49.91 298 eP **P** **06 46 56.5 +0.1**
comp=Z,153nm,1.3s
LMR La Mourre 49.91 298 eP **P** **06 46 56.5 +0.1**
LMR pmax pmax
comp=Z,153nm,1.3s
LMR La Mourre 49.91 298 eP **P** **06 46 56.5 +0.1**
comp=Z,153nm,1.3s
SEY Seymchan 49.94 36*c* *i*P **P** **06 46 56.5 +0.2**
WAL1 Walls 49.97 321⇑ eP **P** **06 46 56.5 0.0**
KSM Kuching 49.98 131 eP **P** **06 46 57.7 +0.5**
comp=Z,26nm,0.9s
KSM epP **pP** **06 47 05.8 -0.6**
KKM Kota Kinabalu 50.12 121 eP **P** **06 46 59.1 +0.8**
comp=Z,40nm,1.0s
KKM LR LR
comp=Z,668nm,22.0s
SMRF Simiane la Rot 50.32 299⇑ *i*P **P** **06 46 59.7 +0.2**
comp=Z,45nm,0.7s
SMRF Simiane la Rot 50.32 299⇑ *i*P **P** **06 46 59.7 +0.2**
comp=Z,45nm,0.7s
LOR Lormes 50.34 303⇑ *i*P **P** **06 46 58.9 -0.7**
comp=Z,36nm,0.9s
LOR eR
comp=Z,2µm,21.2s
LOR Lormes 50.34 303⇑ *i*P **P** **06 46 58.9 -0.7**
LOR pmax pmax
comp=Z,36nm,0.9s
LOR Lormes 50.34 303⇑ *i*P **P** **06 46 58.9 -0.7**
comp=Z,36nm,0.9s
ERM Erimo 50.39 64 PFAKE 06 47 10.0 +10
ERM LR LR
comp=Z,577nm,19.0s
SMF Signal de Mont 50.55 302⇑ *i*P **P** **06 47 00.7 -0.5**
comp=Z,34nm,0.6s
SMF Signal de Mont 50.55 302⇑ *i*P **P** **06 47 00.7 -0.5**
SMF pmax pmax
comp=Z,34nm,0.6s
SMF Signal de Mont 50.55 302⇑ *i*P **P** **06 47 00.7 -0.5**
comp=Z,34nm,0.6s
SSB Saint Sauveur 50.56 301⇑ eP **P** **06 47 01.4 +0.1**
SSB Saint Sauveur 50.56 301 eP **P** **06 47 01.3 0.0**
SSB *e* 06 48 18.7
SSB pmax pmax
comp=Z,15nm,0.6s
SSB MLR MLR
comp=Z,638nm,22.0s
SSB Saint Sauveur 50.56 301 eP **P** **06 47 01.3 0.0**
comp=Z,15nm,0.6s
SSB ePcP **PcP** **06 48 18.7 -0.1**
SSB LR LR
comp=Z,638nm,22.0s
VIVF Saint-Julien-l 50.62 300⇑ *i*P **P** **06 47 01.8 +0.1**
comp=Z,46nm,0.6s
VIVF Saint-Julien-l 50.62 300⇑ *i*P **P** **06 47 01.8 +0.1**

VIVF pmax pmax
comp=Z,46nm,0.6s
VIVF Saint-Julien-I 50.62 300⇑*iP* P 06 47 01.8 +0.1
comp=Z,46nm,0.6s
SSF Saint Saulge 50.63 303⇑*iP* P 06 47 01.3 -0.5
comp=Z,51nm,1.0s
SSF Saint Saulge 50.63 303⇑*iP* P 06 47 01.3 -0.5
SSF pmax pmax
comp=Z,51nm,1.0s
SSF Saint Saulge 50.63 303⇑*iP* P 06 47 01.3 -0.5
comp=Z,51nm,1.0s
PPBI Pangkal Pinang 50.70 138 P P 06 47 03.0 +0.4
comp=Z,34nm,1.3s,comp=Z,7µm
AVF Avril sur Loir 50.82 303⇑*iP* P 06 47 02.9 -0.3
comp=Z,140nm,0.9s
AVF Avril sur Loir 50.82 303⇑*iP* P 06 47 02.9 -0.3
AVF pmax pmax
comp=Z,140nm,0.9s
AVF Avril sur Loir 50.82 303⇑*iP* P 06 47 02.9 -0.3
comp=Z,140nm,0.9s
KEST Kesra 50.88 287 P P 06 47 04.5 +0.6
comp=Z,13nm,0.7s,baz=340,slow=2.4,SNR=32
KEST LR LR 07 13 18.0
comp=Z,114nm,19.7s,baz=336,slow=42
KEST Kesra 50.88 287 *eP* P 06 47 04.6 +0.7
KEST *e*PcP **PcP 06 48 20.9 +0.7**
PLDF La Plantade 50.93 302⇑*eP* P 06 47 04.0 -0.1
COLF Collangettes 51.03 301⇑*eP* P 06 47 05.2 +0.3
HYF Humbligny 51.12 304⇑*iP* P 06 47 05.5 +0.1
HYF Humbligny 51.12 304⇑*iP* P 06 47 05.5 +0.1
DRUM Mains of Drumt 51.22 317⇑*eP* P 06 47 05.8 -0.1
DRUM AMB AMB 06 47 06.5
comp=Z,80nm,1.0s
DRUM AMS AMS 07 09 41.1
comp=Z,907nm,16.3s
AGO Saint Agoulin 51.22 302⇑*eP* P 06 47 06.4 +0.2
BGF Bois d'Agland 51.23 303⇑*iP* P 06 47 05.8 -0.5
comp=Z,65nm,1.1s
BGF Bois d'Agland 51.23 303⇑*iP* P 06 47 05.8 -0.5
BGF pmax pmax
comp=Z,65nm,1.1s
BGF Bois d'Agland 51.23 303⇑*iP* P 06 47 05.8 -0.5
comp=Z,65nm,1.1s
MLA1 Latheron 51.30 319⇑*iP* P 06 47 06.6 0.0
MME1 Meikle Cairn 51.36 317⇑*eP* P 06 47 06.8 -0.3
LBL Lubilhac 51.43 301⇑*eP* P 06 47 08.3 +0.4
MCD Coleburn Disti 51.44 318⇑*iP* P 06 47 07.7 0.0
LASF Ste Croix 51.44 299⇑*iP* P 06 47 08.3 +0.4
comp=Z,97nm,1.0s
LASF Ste Croix 51.44 299⇑*iP* P 06 47 08.3 +0.4
comp=Z,97nm,1.0s
YUK Yuzh-Kuril'sk 51.49 61 *iP* P 06 47 07.2 -1.0
YUK *e* 06 49 05.4
YUK S **S 06 54 26.9 +0.6**
YUK SSS SSS 06 59 42.7
YUK MLR MLR
comp=N,468nm,16.0s
YUK MLR MLR
comp=E,787nm,16.0s
YUK MLR MLR
comp=Z,630nm,16.0s
BIGH Upper Bighouse 51.53 319⇑*eP* P 06 47 08.6 +0.3
BIGH AMB AMB 06 47 09.2
comp=Z,410nm,0.7s
ESY Stoneypath 51.56 315⇑*eP* P 06 47 08.3 -0.3
HPK Haverah Park 51.58 313 *eP* P 06 47 08.8 0.0
HPK AMB AMB 06 47 09.3
comp=Z,86nm,1.2s
HPK AMS AMS 07 10 30.2
comp=Z,1µm,21.0s
EDU Dundee 51.59 316⇑*eP* P 06 47 08.6 -0.2
MDSI Maura Dua 51.73 142 P P 06 47 09.2 -1.1
TCF Toulx Ste Croi 51.73 303⇑*iP* P 06 47 10.1 0.0
comp=Z,73nm,1.0s
TCF Toulx Ste Croi 51.73 303⇑*iP* P 06 47 10.1 0.0
TCF pmax pmax
comp=Z,73nm,1.0s
TCF Toulx Ste Croi 51.73 303⇑*iP* P 06 47 10.1 0.0
comp=Z,73nm,1.0s
KBI1 Birley Grange 51.74 312⇑*eP* P 06 47 10.5 +0.6
STKI Sintang 51.80 131 P P 06 47 13.2 +2.3
comp=Z,62nm,0.8s
MVH1 Achvaich 51.82 318⇑*eP* P 06 47 10.0 -0.5
EBL Broad Law 51.83 315⇑*eP* P 06 47 10.4 -0.2
LHO Holmfirth 51.83 312 *eP* P 06 47 10.3 -0.4
CMAH Djebel Manchou 51.90 289 P P 06 47 11.0 -0.5
ABSA Djebel Ababsia 52.01 289 P P 06 47 12.2 -0.2
ECK Cauldkaine Hil 52.05 315⇑*eP* P 06 47 11.9 -0.4
MDO Dochfour 52.05 318⇑*iP* P 06 47 11.9 -0.3
ESK Eskdalemuir 52.05 315 P P 06 47 12.3 0.0
comp=Z,478nm,0.8s,SNR=7.7
ESK Eskdalemuir 52.05 315⇑*eP* P 06 47 11.9 -0.3
ESK AMS AMS 07 11 09.6
comp=Z,2µm,16.3s
ESK Eskdalemuir 52.05 315 *iP* P 06 47 12.4 +0.1
ESK Eskdalemuir 52.05 315 *eP* P 06 47 12.1 -0.3
comp=Z,90nm,1.0s
ESK *e*PcP **PcP 06 48 25.0 +1.0**
ESK LR LR
comp=Z,1µm,20.0s
SOFL Sornfelli, Far 52.06 324 *eP* P 06 47 12.7 +0.3
WOL Wolverton 52.17 310⇑*eP* P 06 47 13.0 -0.2
WOL AMB AMB 06 47 14.2
comp=Z,146nm,1.5s
KESW Keswick, Cumbr 52.22 314 *eP* P 06 47 13.5 0.0
KESW AMB AMB 06 47 14.8
comp=Z,110nm,1.1s
KESW AMS AMS 07 14 40.5
comp=Z,864nm,17.9s
CAEH 'Ain El Ouahch 52.25 290 P P 06 47 13.2 -0.9
CAF Calviac 52.32 301⇑*iP* P 06 47 14.8 +0.3
comp=Z,78nm,1.0s
CAF Calviac 52.32 301⇑*iP* P 06 47 14.8 +0.3
CAF pmax pmax
comp=Z,78nm,1.0s
CAF Calviac 52.32 301⇑*iP* P 06 47 14.8 +0.3
comp=Z,78nm,1.0s
DAG Danmarks Havn 52.38 343⇑*iP* P 06 47 14.4 0.0
comp=Z,63nm,0.7s
comp=Z,870nm,20.0s
DAG Danmarks Havn 52.38 343⇑*iP* P 06 47 14.4 0.0
DAG pmax pmax
comp=Z,43nm,0.7s
DAG MLR MLR
comp=Z,930nm,20.0s
EAB Aberfoyle 52.41 316⇑*eP* P 06 47 14.7 -0.2
LDF La Druitiere 52.41 306⇑*iP* P 06 47 14.6 -0.4
comp=Z,75nm,0.6s
LDF La Druitiere 52.41 306⇑*iP* P 06 47 14.6 -0.4
LDF pmax pmax
comp=Z,75nm,0.6s
LDF La Druitiere 52.41 306⇑*iP* P 06 47 14.6 -0.4
comp=Z,75nm,0.6s
CKFL Kef-Lekhel 52.51 289 P P 06 47 15.2 -0.9
KAC Achnashellach 52.52 318⇑*iP* P 06 47 15.2 -0.5
RJF Les Rejaudoux 52.54 302⇑*iP* P 06 47 16.6 +0.5
comp=Z,113nm,1.2s
RJF *e*R
comp=Z,494nm,21.2s
RJF Les Rejaudoux 52.54 302⇑*iP* P 06 47 16.6 +0.5
RJF pmax pmax
comp=Z,113nm,1.2s
RJF Les Rejaudoux 52.54 302⇑*iP* P 06 47 16.6 +0.5
comp=Z,113nm,1.2s
FLN La Foliniere 52.58 306⇑*iP* P 06 47 15.6 -0.7
comp=Z,39nm,0.8s
FLN *e*R
comp=Z,2µm,22.0s
FLN La Foliniere 52.58 306⇑*iP* P 06 47 15.6 -0.7
FLN pmax pmax
comp=Z,39nm,0.8s
FLN La Foliniere 52.58 306⇑*iP* P 06 47 15.6 -0.7
comp=Z,39nm,0.8s
GCD Castle Douglas 52.59 314⇑*iP* P 06 47 16.1 -0.2
PGBU Glenifferbraes 52.60 316⇑*eP* P 06 47 16.3 0.0
PGBU AMB AMB 06 47 16.9
comp=Z,95nm,0.8s
KSB Sheil Bridge 52.67 318⇑*iP* P 06 47 16.6 -0.2
CASM Ain Smara 52.74 289 P P 06 47 17.1 -0.6
HLM1 Long Mynd 52.75 311 *eP* P 06 47 16.9 -0.5
HLM1 AMB AMB 06 47 17.2
comp=Z,30nm,1.2s
HLM1 AMS AMS 07 13 36.2
comp=Z,656nm,15.4s
KPL Plockton 52.75 318⇑*eP* P 06 47 17.5 +0.2

KPL AMB AMB 06 47 18.1
comp=Z,96nm,0.8s
MTLF Montolieu 52.82 299⇑*iP* P 06 47 18.3 +0.1
comp=Z,29nm,0.7s
MTLF Montolieu 52.82 299⇑*iP* P 06 47 18.3 +0.1
MTLF pmax pmax
comp=Z,29nm,0.7s
MTLF Montolieu 52.82 299⇑*iP* P 06 47 18.3 +0.1
comp=Z,29nm,0.7s
CTEI Djebel Teioual 52.88 289 P P 06 47 18.9 0.0
MONM Monmouth 52.93 311 *eP* P 06 47 18.0 -0.8
MONM AMB AMB 06 47 19.5
comp=Z,74nm,1.2s
GRR Gorron 52.94 306⇑*iP* P 06 47 18.4 -0.6
comp=Z,77nm,0.7s
GRR Gorron 52.94 306⇑*iP* P 06 47 18.4 -0.6
GRR pmax pmax
comp=Z,77nm,0.7s
GRR Gorron 52.94 306⇑*iP* P 06 47 18.4 -0.6
comp=Z,77nm,0.7s
MCH1 Michaelchurch 52.99 311⇑*eP* P 06 47 18.0 -1.2
MCH1 AMB AMB 06 47 19.2
comp=Z,89nm,1.3s
GAL1 Galloway 53.02 315 *eP* P 06 47 19.0 -0.4
GAL1 AMB AMB 06 47 20.0
comp=Z,66nm,1.0s
GAL1 AMS AMS 07 11 38.9
comp=Z,2µm,17.1s
DFRA Djebel Bou Aff 53.06 290 P P 06 47 19.7 -0.5
MFF Saint Martin d 53.14 304⇑*iP* P 06 47 19.9 -0.6
comp=Z,69nm,1.0s
MFF Saint Martin d 53.14 304⇑*iP* P 06 47 19.9 -0.6
MFF pmax pmax
comp=Z,69nm,1.0s
MFF Saint Martin d 53.14 304⇑*iP* P 06 47 19.9 -0.6
comp=Z,69nm,1.0s
LFF La Frestale 53.19 301⇑*iP* P 06 47 21.1 +0.3
comp=Z,88nm,0.9s
LFF La Frestale 53.19 301⇑*iP* P 06 47 21.1 +0.3
LFF pmax pmax
comp=Z,89nm,0.9s
LFF La Frestale 53.19 301⇑*iP* P 06 47 21.1 +0.3
comp=Z,88nm,0.9s
KMBO Kilima Mbogo 53.31 230 *eP* P 06 47 23.0 +0.6
KMBO Kilima Mbogo 53.31 230 P P 06 47 23.2 +0.9
comp=Z,36nm,1.0s,baz=26,slow=9.6,SNR=54
KMBO Kilima Mbogo 53.31 230 P P 06 47 23.2 +0.9
KMBO pmax pmax
comp=Z,36nm,1.0s
KMBO Kilima Mbogo 53.31 230 P P 06 47 23.7 +1.4
SNR=14
KMBO Kilima Mbogo 53.31 230 *eP* P 06 47 23.2 +0.9
comp=Z,52nm,1.0s
KMBO *e*pP **pP 06 47 31.5 -0.1**
KMBO *e*PP **PP 06 49 23.9 +1.0**
KMBO LR LR
comp=Z,309nm,20.0s
WLF1 Llynfaes 53.36 313⇑*eP* P 06 47 21.6 -0.3
WLF1 AMB AMB 06 47 23.0
comp=Z,61nm,1.9s
JSA Saint Aubin 53.47 307 *eP* P 06 47 21.6 -1.1
JSA AMS AMS 07 12 28.2
comp=Z,962nm,16.4s
CKHR Kef el Ahmar 53.55 289 P P 06 47 23.6 -0.2
LPW Lampeter 53.57 311⇑*eP* P 06 47 23.4 -0.1
LPW AMB AMB 06 47 24.1
comp=Z,98nm,1.1s
MLS Moulis 53.73 299⇑*eP* P 06 47 24.6 -0.2
GMM Mts of Mourne 53.91 314⇑*iP* P 06 47 25.6 -0.3
SGMF Saint Gilles 54.05 306⇑*iP* P 06 47 26.8 -0.3
comp=Z,104nm,0.7s
SGMF Saint Gilles 54.05 306⇑*iP* P 06 47 26.8 -0.3
SGMF pmax pmax
comp=Z,104nm,0.7s
SGMF Saint Gilles 54.05 306⇑*iP* P 06 47 26.8 -0.3
comp=Z,104nm,0.7s
EPF Esparros 54.20 299⇑*iP* P 06 47 27.5 -0.9
comp=Z,50nm,1.1s
EPF Esparros 54.20 299⇑*iP* P 06 47 27.5 -0.9
EPF pmax pmax
comp=Z,50nm,1.1s
EPF Esparros 54.20 299⇑*iP* P 06 47 27.5 -0.9
comp=Z,50nm,1.1s
BILL Bilibino 54.26 28*c iP* P 06 47 28.8 +0.5
BILL *i* 06 48 33.0
BILL pmax pmax
comp=Z,116nm,1.0s
ROSF Rostrenen 54.46 307⇑*iP* P 06 47 29.7 -0.4
comp=Z,69nm,0.6s
ROSF Rostrenen 54.46 307⇑*iP* P 06 47 29.7 -0.4
ROSF pmax pmax
comp=Z,69nm,0.6s
ROSF Rostrenen 54.46 307⇑*iP* P 06 47 29.7 -0.4
comp=Z,69nm,0.6s
QUIF Quistinic 54.55 306⇑*iP* P 06 47 30.3 -0.4
comp=Z,77nm,0.8s
QUIF Quistinic 54.55 306⇑*iP* P 06 47 30.3 -0.4
QUIF pmax pmax
comp=Z,77nm,0.8s
QUIF Quistinic 54.55 306⇑*iP* P 06 47 30.3 -0.4
comp=Z,77nm,0.8s
ETSF Etsaut 54.86 300⇑*iP* P 06 47 33.4 +0.2
comp=Z,42nm,0.9s
ETSF Etsaut 54.86 300⇑*iP* P 06 47 33.4 +0.2
ETSF pmax pmax
comp=Z,42nm,0.9s
ETSF Etsaut 54.86 300⇑*iP* P 06 47 33.4 +0.2
comp=Z,42nm,0.9s
SJPF Ste Jean 55.22 300⇑*iP* P 06 47 36.1 +0.4
comp=Z,18nm,0.8s
SJPF Ste Jean 55.22 300⇑*iP* P 06 47 36.1 +0.4
SJPF pmax pmax
comp=Z,18nm,0.8s
SJPF Ste Jean 55.22 300⇑*iP* P 06 47 36.1 +0.4
comp=Z,18nm,0.8s
EMHD Djebel Mahouad 55.32 291 P P 06 47 36.0 -0.7
LEM Lembang 55.44 139 LR LR 07 15 50.7
comp=Z,363nm,18.6s,baz=324,slow=41
PETK Petropavlovsk- 55.47 47 P P 06 47 37.1 -0.2
comp=Z,7.5nm,0.9s,baz=274,slow=3.9,SNR=3.8
PETK LR LR 07 12 19.9
comp=Z,462nm,19.9s,baz=282,slow=37
PETK Petropavlovsk- 55.47 47 P P 06 47 37.1 -0.2
PETK pmax pmax
comp=Z,8.0nm,0.9s
PETK MLR MLR
comp=Z,462nm,19.9s
DAV Davao City (W) 55.84 112 PFAKE 06 47 50.0 +10
DAV LR LR
comp=Z,630nm,19.0s
PET Petropavlovsk 56.03 46 PFAKE 06 47 50.0 +8.7
PET LR LR
comp=Z,408nm,21.0s
ALE Alert 56.04 354 P P 06 47 41.0 0.0
comp=Z,316nm,0.6s,SNR=31
EBNR Beni Rached 56.30 292 P P 06 47 40.0 -3.6
ECHA Ech Chlef 56.48 291 P P 06 47 49.0 +4.2
EANR 'Ain N'Sour 56.77 291 P P 06 47 47.0 +0.1
ETRT Tiaret 56.89 291 P P 06 47 48.0 +0.1
MBAR Mbarara 56.90 236 *eP* P 06 47 47.4 -0.8
MBAR Mbarara 56.90 236 P P 06 47 47.2 -1.0
comp=Z,124nm,0.7s,SNR=7.7
MBAR Mbarara 56.90 236 P P 06 47 47.4 -0.8
MBAR Mbarara 56.90 236 P P 06 47 47.4 -0.8
VAL Valentia 57.17 313 *eP* P 06 47 48.2 -1.2
BORG Borgarnes 57.24 330 PFAKE 06 48 00.0 +10
BORG LR LR
comp=Z,1µm,22.0s
KBKI Kotabaru 57.28 128 P P 06 47 51.3 +0.7
comp=Z,83nm,0.9s
MRSI Marisa 58.05 120 P P 06 47 57.9 +1.8
comp=Z,74nm,1.2s,comp=Z,2µm
ESDC Sonseca Array 58.58 297 P P 06 47 59.4 -0.2
comp=Z,5.9nm,0.5s,baz=58,slow=7.4,SNR=50
ESDC LR LR 07 17 01.7
comp=Z,565nm,18.4s,baz=60,slow=40
ESLA Sonseca Array 58.58 297 *eP* P 06 47 59.2 -0.4
comp=Z,7.7nm,1.0s
SUMG Summit 58.87 341⇑*iP* P 06 48 01.9 +0.3
comp=Z,39nm,0.9s
SUMG Summit 58.87 341⇑*iP* P 06 48 01.9 +0.3
SUMG pmax pmax
comp=Z,39nm,0.9s
SUMG Summit 58.87 341 *eP* P 06 48 01.8 +0.3
comp=Z,44nm,0.9s
APSI Ampana 58.89 122 P P 06 48 03.5 +1.6
comp=Z,84nm,1.2s,comp=Z,1µm
PAB San Pablo 58.90 298 *eP* P 06 48 01.6 -0.3
PAB *e**PP **pP 06 48 10.4 -0.8**
PAB pmax pmax
comp=Z,169nm,2.0s
PAB MLR MLR
comp=Z,738nm,20.0s
PAB San Pablo 58.90 298 *eP* P 06 48 01.6 -0.3
comp=Z,169nm,2.0s
PAB *ep*P **pP 06 48 10.4 -0.8**
PAB LR LR
comp=Z,738nm,20.0s
TTSI Tana Toraja 59.33 125 P P 06 48 04.8 -0.2
comp=Z,32nm,0.9s,comp=Z,2µm
MVO Moncorvo 59.95 300 *eP* P 06 48 09.3 +0.2
comp=Z,60nm,1.3s
MVO Moncorvo 59.95 300 *eLQ* LQ 07 09 58.6
MVO *eLR* LR 07 13 41.9
comp=Z,316nm,16.0s
MVO Moncorvo 59.95 300 *eP* P 06 48 09.3 +0.2
comp=Z,60nm,1.3s
MVO Moncorvo 59.95 300 *eLQ* LQ 07 09 58.6
MVO *eLR* LR 07 13 41.9
comp=Z,316nm,16.0s
TAM Tamanrasset 60.21 276 *eP* P 06 48 11.4 +0.2
TAM pmax pmax
comp=Z,27nm,0.9s
TAM MLR MLR
comp=Z,172nm,20.0s
TAM Tamanrasset 60.21 276 *eP* P 06 48 11.4 +0.2
comp=Z,27nm,0.9s
TAM LR LR
comp=Z,172nm,20.0s
PCAB Cabril 60.35 301 *eP* P 06 48 12.4 +0.7
comp=Z,137nm,1.4s
PCAB Cabril 60.35 301 *eP* P 06 48 12.4 +0.7
comp=Z,137nm,1.4s
PVRL Vila Real 60.35 301 *eP* P 06 48 12.0 +0.2
PVRL Vila Real 60.35 301 *eP* P 06 48 12.0 +0.2
PGAV Gavieira, Arco 60.39 302 *eP* P 06 48 12.6 +0.5
comp=Z,77nm,2.1s
PGAV A A 07 18 38.8
comp=Z,333nm,18.0s
PGAV Gavieira, Arco 60.39 302 *eP* P 06 48 12.6 +0.5
comp=Z,77nm,2.1s
PGAV A A 07 18 38.8
comp=Z,333nm,18.0s
PVIS Viseu 60.74 300 *eP* P 06 48 15.0 +0.6
comp=Z,64nm,1.5s
PVIS Viseu 60.74 300 *eP* P 06 48 15.0 +0.6
comp=Z,64nm,1.5s
KAPI Kappang 60.81 126 PFAKE 06 48 30.0 +15
KAPI LR LR
comp=Z,484nm,22.0s
PMRV Marv??o 61.03 299 *eP* P 06 48 17.0 +0.6
comp=Z,63nm,1.4s
PMRV Marv??o 61.03 299 *eLR* LR 07 15 31.7
comp=Z,392nm,20.0s
PMRV Marv??o 61.03 299 *eP* P 06 48 17.0 +0.6
comp=Z,63nm,1.4s
PMRV Marv??o 61.03 299 *eLR* LR 07 15 31.7
comp=Z,392nm,20.0s
PBAR Barrancos 61.40 297 *eP* P 06 48 19.1 +0.2
comp=Z,142nm,1.7s
PBAR Barrancos 61.40 297 *eP* P 06 48 19.1 +0.2
comp=Z,142nm,1.7s
PESTR Estremoz 61.44 298 *eP* P 06 48 18.9 -0.3
comp=Z,60nm,1.7s
PESTR Estremoz 61.44 298 *eP* P 06 48 18.9 -0.3
comp=Z,60nm,1.7s
PCAS Casmilo, Conde 61.46 300 *eP* P 06 48 19.8 +0.5
PCAS Casmilo, Conde 61.46 300 *eP* P 06 48 19.8 +0.5
KULLO Kullorsuaq 61.51 347⇑*iP* P 06 48 18.9 -0.1
comp=Z,690nm,17.0s
TNTI Ternate 61.52 115 P P 06 48 21.4 +1.4
comp=Z,191nm,1.2s
TNTI Ternate 61.52 115 *eP* P 06 48 21.2 +1.2
comp=Z,178nm,1.1s
PTOM Tomar 61.62 299 *eP* P 06 48 20.9 +0.5
comp=Z,98nm,1.2s
PTOM Tomar 61.62 299 *eP* P 06 48 20.9 +0.5
comp=Z,98nm,1.2s
PMTG Montargil 61.77 299 *eP* P 06 48 21.3 -0.1
PMTG Montargil 61.77 299 *eP* P 06 48 21.3 -0.1
EVO Evora 61.89 298 *eP* P 06 48 21.9 -0.3
EVO Evora 61.89 298 *eP* P 06 48 21.9 -0.3
PVAQ Vaqueiros 62.26 297 *eP* P 06 48 24.9 +0.2
comp=Z,109nm,1.3s
PVAQ Vaqueiros 62.26 297 *eLQ* LQ 07 11 33.5
PVAQ *eLR* LR 07 16 09.2
comp=Z,500nm,20.0s
PVAQ Vaqueiros 62.26 297 *eP* P 06 48 24.9 +0.2
comp=Z,109nm,1.3s
PVAQ Vaqueiros 62.26 297 *eLQ* LQ 07 11 33.5
PVAQ *eLR* LR 07 16 09.2
comp=Z,500nm,20.0s
PCVE Castro Verde 62.36 297 *eP* P 06 48 25.4 0.0
PCVE Castro Verde 62.36 297 *eP* P 06 48 25.4 0.0
MESJ Messejana 62.38 298 *eP* P 06 48 25.5 0.0
MESJ AMS AMS 07 19 43.1
comp=Z,856nm,16.0s
MESJ Messejana 62.38 298 *eP* P 06 48 25.5 0.0
MESJ Messejana 62.38 298 *eP* P 06 48 25.8 +0.3
comp=Z,40nm,1.3s
MESJ Messejana 62.38 298 *eP* P 06 48 25.8 +0.3
comp=Z,40nm,1.3s
PBDV Barranco-do-Ve 62.48 297 *eP* P 06 48 26.9 +0.7
comp=Z,108nm,1.3s
PBDV Barranco-do-Ve 62.48 297 *eP* P 06 48 26.9 +0.7
comp=Z,108nm,1.3s
SANI Sanana 62.62 119 P P 06 48 28.7 +1.4
comp=Z,60nm,1.2s,comp=Z,717nm
LBMI Labuha 62.63 116 P P 06 48 28.8 +1.4
comp=Z,89nm,1.1s,comp=Z,1µm
MORF Marmelete 62.95 297 *eP* P 06 48 29.1 -0.2
MORF AMS AMS 07 20 08.4
comp=Z,813nm,18.8s
MORF Marmelete 62.95 297 *eP* P 06 48 29.1 -0.2
ABPO Ambohimpanom 63.98 209 *eP* P 06 48 36.5 +0.1
ABPO pmax pmax
comp=Z,10.0nm,0.8s
ABPO MLR MLR
comp=Z,575nm,21.0s
ABPO Ambohimpanom 63.98 209 *eP* P 06 48 36.5 +0.1
comp=Z,9.5nm,0.8s
ABPO LR LR
comp=Z,575nm,21.0s
ILULI Ilulissat 64.22 341⇑*iP* P 06 48 37.0 -0.1
comp=Z,710nm,21.0s
SWI Sorong 65.41 114 P P 06 48 46.4 +0.7
comp=Z,65nm,1.2s,comp=Z,1µm
RES Resolute Bay 65.54 357 *eP* P 06 48 45.1 -0.5
RES pmax pmax
comp=Z,7.0nm,0.5s
RES Resolute Bay 65.54 357 *eP* P 06 48 45.1 -0.5
comp=Z,6.7nm,0.5s
SFJD Kangerlussuaq 65.70 339 P P 06 48 46.3 -0.5
SFJD pmax pmax
comp=Z,15nm,0.7s
SFJD MLR MLR
comp=Z,493nm,20.0s
SFJD Kangerlussuaq 65.70 339 P P 06 48 46.3 -0.5
comp=Z,15nm,0.7s
SFJD LR LR
comp=Z,493nm,20.0s
GUMO Guam 66.13 92 LR LR 07 19 35.7
comp=Z,89nm,19.9s,baz=330,slow=38
SOEI Soe 67.29 126 P P 06 48 59.0 +1.2
comp=Z,77nm,1.1s
SOEI Soe 67.29 126 *eP* P 06 48 56.8 -1.0
comp=Z,41nm,1.1s
FAKI Fak Fak 67.56 114 P P 06 48 58.5 -0.9
comp=Z,75nm,1.1s,comp=Z,833nm
FAKI Fak Fak 67.56 114 *eP* P 06 49 00.1 +0.6
comp=Z,54nm,1.0s
COLD Coldfoot 67.90 17 *eP* P 06 49 00.7 -0.1
comp=Z,119nm,0.9s
COLD *ep*P **pP 06 49 10.4 +0.1**
IM04 Indian Mountai 68.04 19 *eP* P 06 49 00.9 -0.9
TOA0 Torodi Ar. Sit 68.79 270 *eP* P 06 49 05.3 -1.9
TOA0 Torodi Ar. Sit 68.79 270 *eP* P 06 49 06.6 -0.6
TOA0 *ep*P **pP 06 49 14.8 -1.9**
TORD Torodi Ar. Bea 68.79 270 P P 06 49 06.5 -0.7
comp=Z,60nm,0.5s,baz=48,slow=5.4,SNR=1210
TORD LR LR 07 24 16.1
comp=Z,188nm,19.1s,baz=60,slow=40
ADK Adak 69.53 39 PFAKE 06 49 20.0 +8.8

ADK LR LR
comp=Z,352nm,22.0s
LSZ Lusaka 69.95 228 *e*P **P** 06 49 14.4 +0.1
LSZ Lusaka 69.95 228 P **P** 06 49 14.4 +0.1
LSZ MLR MLR
comp=Z,398nm,19.0s
LSZ Lusaka 69.95 228 P **P** 06 49 14.4 +0.1
LSZ LR LR
comp=Z,398nm,19.0s
INK Inuvik 70.08 11 *e*P **P** 06 49 14.4 +0.1
INK pmax pmax
comp=Z,100nm,0.9s
INK Inuvik 70.08 11 *e*P **P** 06 49 14.4 +0.1
comp=Z,100nm,0.9s
BPAW Bear Paw Mtn. 70.25 20 *e*P **P** 06 49 15.0 -0.5
comp=Z,10nm,0.9s
COLA College 70.39 18 *e*P **P** 06 49 16.1 -0.2
COLA pmax pmax
comp=Z,92nm,0.9s
COLA MLR MLR
comp=Z,384nm,19.0s
COLA College 70.39 18 *e*P **P** 06 49 16.1 -0.2
comp=Z,92nm,0.9s
COLA LR LR
comp=Z,384nm,19.0s
ILAR Eielson Array 70.70 18 P **P** 06 49 17.2 -0.9
comp=Z,41nm,0.8s,baz=320,slow=5.0,SNR=453
ILAR LR LR 07 24 27.7
comp=Z,544nm,18.1s,baz=323,slow=39
ILAR Eielson Array 70.70 18 P **P** 06 49 17.3 -0.9
ILAR pmax pmax
comp=Z,41nm,0.8s
ILAR MLR MLR
comp=Z,544nm,18.2s
KTH Kantishna Hill 70.72 20 *e*P **P** 06 49 18.0 -0.4
comp=Z,100nm,1.1s
PPLA Purkeypile 70.91 21 *e*P **P** 06 49 19.3 -0.3
comp=Z,48nm,0.6s
TRF Thorofare Moun 70.97 20 *e*P **P** 06 49 18.9 -1.2
comp=Z,16nm,0.7s
MCK McKinley 71.08 19 *e*P **P** 06 49 19.5 -1.0
MCK *e* 06 49 40.0
MCK pmax pmax
comp=Z,21nm,0.6s
MCK McKinley 71.08 19 *e*P **P** 06 49 19.5 -1.0
comp=Z,21nm,0.6s
MCK *e*PcP **PcP** 06 49 40.0 -0.6
PMAR Madeira 71.12 297 *e*P **P** 06 49 22.0 +0.5
PMAR Madeira 71.12 297 *e*P **P** 06 49 22.0 +0.5
PMOZ Porto Moniz, M 71.25 297 *e*LR LR 07 21 32.0
comp=Z,242nm,22.0s
PMOZ Porto Moniz, M 71.25 297 *e*LR LR 07 21 32.0
comp=Z,242nm,22.0s
SMPI Sarmi 71.53 109 P **P** 06 49 24.4 +0.4
comp=Z,88nm,1.0s
EGAK Eagle 71.95 15 *e*P **P** 06 49 25.1 -0.6
comp=Z,51nm,1.2s
EGAK LR LR
comp=Z,572nm,20.0s
PAX Paxson 72.57 18 *e*P **P** 06 49 28.8 -0.8
PAX pmax pmax
comp=Z,75nm,0.9s
PAX Paxson 72.57 18 *e*P **P** 06 49 28.8 -0.8
comp=Z,75nm,0.9s
RSO Redoubt South 72.71 23 *e*P **P** 06 49 30.6 0.0
comp=Z,87nm,0.8s
DAWY Dawson 72.94 15 *e*P **P** 06 49 31.2 -0.5
comp=Z,54nm,0.9s
GENI Genyem 73.01 108 P **P** 06 49 34.5 +1.7
comp=Z,225nm,1.1s,comp=Z,3µm
RC01 Rabbit Creek A 73.06 21 *e*P **P** 06 49 31.5 -0.9
comp=Z,38nm,0.4s
SEW Seward 73.96 21 *e*P **P** 06 49 36.6 -1.0
comp=Z,30nm,0.6s
DIV Divide 74.07 19 *e*P **P** 06 49 38.2 -0.3
comp=Z,23nm,0.6s
BMRM Bremner River 74.50 19 *e*P **P** 06 49 40.9 0.0
comp=Z,66nm,0.9s
MSNA Messina 74.67 223 *e*P **P** 06 49 43.5 +1.1
MSNA AMB AMB 06 49 44.1
comp=Z,70nm,1.3s
MSNA Messina 74.67 223 P **P** 06 49 43.5 +1.1
comp=Z,70nm,1.3s
KDAK Kodiak Island 74.93 24 P **P** 06 49 43.0 -0.3
comp=Z,589nm,0.6s,SNR=30
KDAK Kodiak Island 74.93 24 *e*P **P** 06 49 43.2 -0.2
KDAK pmax pmax
comp=Z,61nm,0.6s
KDAK MLR MLR
comp=Z,719nm,20.0s
KDAK Kodiak Island 74.93 24 *e*P **P** 06 49 43.2 -0.2
comp=Z,61nm,0.6s
KDAK LR LR
comp=Z,719nm,20.0s
HYT Haines Junctio 76.25 16 *e*P **P** 06 49 51.5 +0.4
comp=Z,98nm,0.7s
YKA Yellowknife Ar 77.72 4 P **P** 06 49 58.5 -0.5
comp=Z,60nm,0.7s,baz=349,slow=5.7,SNR=619
YKA PP **PP** 06 52 52.5 -1.2
comp=Z,4.8nm,0.9s,baz=351,slow=8.0,SNR=5.3
YKA PKKPbc **PKKPbc** 07 08 59.2 -1.6
comp=Z,0.5nm,0.6s,baz=166,slow=2.2,SNR=8.0
YKA PKPPKP P'P'df 07 17 04.3 -6.0
comp=Z,0.5nm,0.8s,baz=146,slow=2.2,SNR=3.9
DBIC Dimbokro 77.85 269 ⇑*i*P **P** 06 50 00.3 -0.3
DBIC Dimbokro 77.85 269 P **P** 06 50 00.0 -0.6
comp=Z,47nm,0.7s,baz=11,slow=8.1,SNR=46
DBIC LR LR 07 29 20.2
comp=Z,342nm,18.0s,baz=33,slow=40
DBIC Dimbokro 77.85 269 P **P** 06 50 00.0 -0.6
DBIC pmax pmax
comp=Z,47nm,0.7s
DBIC MLR MLR
comp=Z,343nm,18.0s
DBIC Dimbokro 77.85 269 *e*P **P** 06 50 00.3 -0.3
comp=Z,74nm,1.0s
KIC Kosan Boka 77.95 268 ⇑*i*P **P** 06 50 00.9 -0.3
comp=Z,348nm,1.2s
TIC Toumodi 77.99 269 ⇑*i*P **P** 06 50 01.0 -0.4
comp=Z,122nm,0.9s
LIC Lamto 78.26 268 ⇑*i*P **P** 06 50 02.5 -0.4
comp=Z,101nm,1.0s
LIC *e*R
comp=Z,414nm,19.2s
LIC Lamto 78.26 268 ⇑*i*P **P** 06 50 02.4 -0.4
comp=Z,161nm,1.2s
LIC Lamto 78.26 268 ⇑*i*P **P** 06 50 02.5 -0.4
comp=Z,101nm,1.0s
ERPM east rand prop 78.88 222 *e*P **P** 06 50 05.4 -0.8
ERPM AMB AMB 06 50 07.0
comp=Z,53nm,1.2s
ERPM east rand prop 78.88 222 P **P** 06 50 05.4 -0.8
comp=Z,53nm,1.2s
KSR Koster 79.17 223 *e*P **P** 06 50 07.7 -0.1
KSR AMB AMB 06 50 09.2
comp=Z,66nm,1.0s
KSR Koster 79.17 223 P **P** 06 50 07.7 -0.1
comp=Z,66nm,1.0s
LBTB Lobatse 79.19 224 ⇑*i*P **P** 06 50 08.6 +0.8
LBTB AMB AMB 06 50 09.5
comp=Z,100nm,1.1s
LBTB AMS AMS 07 25 09.3
comp=Z,509nm,4.8s
LBTB Lobatse 79.19 224 *e*P **P** 06 50 08.6 +0.8
LBTB pmax pmax
comp=Z,80nm,1.1s
LBTB Lobatse 79.19 224 *e*P **P** 06 50 08.6 +0.8
comp=Z,80nm,1.1s
TSUM Tsumeb 79.35 234 *e*P **P** 06 50 08.2 -0.6
TSUM Tsumeb 79.35 234 P **P** 06 50 08.2 -0.6
TSUM LR LR
comp=Z,380nm,22.0s
PRYS Parys 79.80 222 *e*P **P** 06 50 11.2 0.0
PRYS AMB AMB 06 50 12.0
comp=Z,25nm,1.2s
PRYS Parys 79.80 222 P **P** 06 50 11.2 0.0
comp=Z,25nm,1.2s
DLBC Dease Lake 79.89 13 *e*P **P** 06 50 11.3 +0.1
comp=Z,70nm,1.4s
SCHQ Schefferville 80.14 339 P **P** 06 50 11.7 -0.8
comp=Z,6.8nm,0.5s,baz=28,slow=5.7,SNR=26
SCHQ LR LR 07 25 22.8
comp=Z,631nm,21.8s,baz=45,slow=35
SCHQ Schefferville 80.14 339 P **P** 06 50 11.7 -0.8
comp=Z,5.3nm,1.0s
SEK Senekal 80.81 221 *e*P **P** 06 50 16.5 -0.1
SEK AMB AMB 06 50 21.3
comp=Z,45nm,0.9s
SEK Senekal 80.81 221 P **P** 06 50 16.5 -0.1
comp=Z,45nm,0.9s
FCC Fort Churchill 81.31 354 *e*P **P** 06 50 18.3 -0.4
FCC pmax pmax
comp=Z,31nm,1.0s
FCC Fort Churchill 81.31 354 *e*P **P** 06 50 18.3 -0.4
comp=Z,31nm,1.0s
WRA Warramunga Arr 81.31 125 P **P** 06 50 18.7 -0.5
comp=Z,38nm,0.7s,baz=326,slow=5.1,SNR=290
WRA PKKPbc **PKKPbc** 07 08 53.8 +0.3
comp=Z,2.2nm,0.5s,baz=139,slow=2.0,SNR=25
WRAB Tennant Creek 81.31 125 P **P** 06 50 19.9 +0.7
comp=Z,496nm,0.7s,SNR=46
WRAB Tennant Creek 81.31 125*c* *i*P **P** 06 50 19.1 -0.1
WRAB pmax pmax
comp=Z,233nm,1.2s
WRAB Tennant Creek 81.31 125 *e*P **P** 06 50 19.0 -0.1
FCC comp=Z,41nm,0.6s
WRAK Wrangell Islan 81.36 15 *e*P **P** 06 50 19.4 +0.4
comp=Z,50nm,0.8s
WRAK LR LR
comp=Z,354nm,20.0s
BOSA Boshof 82.26 222 *e*P **P** 06 50 24.2 0.0
BOSA AMB AMB 06 50 25.1
comp=Z,67nm,1.4s
BOSA AMS AMS 07 25 57.0
comp=Z,1µm,4.8s
BOSA Boshof 82.26 222 P **P** 06 50 24.1 0.0
comp=Z,23nm,1.0s,baz=26,slow=3.8,SNR=21
BOSA LR LR 07 28 15.3
comp=Z,130nm,20.3s,baz=28,slow=37
BOSA Boshof 82.26 222 P **P** 06 50 24.1 0.0
BOSA pmax pmax
comp=Z,23nm,1.0s
BOSA MLR MLR
comp=Z,130nm,20.3s
BOSA Boshof 82.26 222 *e*P **P** 06 50 24.1 0.0
comp=Z,46nm,1.2s
AS31 Alice Springs 83.80 128 *e*P **P** 06 50 31.6 -0.6
ASAR Alice Springs 83.80 128 P **P** 06 50 31.6 -0.6
comp=Z,28nm,0.7s,baz=314,slow=5.0,SNR=277
ASAR PKiKP **PKiKP** 06 55 47.5 -0.9
comp=Z,0.6nm,0.6s,baz=325,slow=1.1,SNR=6.5
ASAR PKKPbc **PKKPbc** 07 08 48.2 +0.3
comp=Z,1.3nm,0.5s,baz=122,slow=1.7,SNR=10
UPI Upington 84.20 225 *e*P **P** 06 50 34.2 +0.1
UPI AMB AMB 06 50 36.2
comp=Z,33nm,0.9s
UPI Upington 84.20 225 P **P** 06 50 34.2 +0.1
comp=Z,33nm,0.9s
FFC Flin Flon 85.75 358 P **P** 06 50 41.3 -0.3
comp=Z,286nm,0.8s,SNR=26
FFC Flin Flon 85.75 358 *e*P **P** 06 50 41.1 -0.5
FFC pmax pmax
comp=Z,43nm,0.9s
FFC MLR MLR
comp=Z,814nm,21.0s
FFC Flin Flon 85.75 358 *e*P **P** 06 50 41.1 -0.5
comp=Z,43nm,0.9s
FFC LR LR
comp=Z,814nm,21.0s
EDM Edmonton 87.03 5 *e*P **P** 06 50 47.6 -0.4
EDM pmax pmax
comp=Z,75nm,0.8s
EDM Edmonton 87.03 5 *e*P **P** 06 50 47.6 -0.4
comp=Z,75nm,0.8s
SUR Sutherland 87.57 223 P **P** 06 50 52.1 +1.2
comp=Z,305nm,1.0s,SNR=9.2
SUR Sutherland 87.57 223 PFAKE 06 51 00.0 +9.1
SUR LR LR
comp=Z,294nm,19.0s
PQI Presque Isle 87.69 335 *e*P **P** 06 50 51.2 +0.1
comp=Z,90nm,1.3s
PKME Peaks-Kenny Pk 89.35 336 *e*P **P** 06 50 59.5 +0.5
comp=Z,60nm,1.4s
PKME LR LR
comp=Z,379nm,20.0s
PGC Sidney 90.40 12 *e*P **P** 06 51 03.5 -0.3
comp=Z,20nm,0.9s
OBC Olympics--Boni 90.89 13 P **P** 06 51 07.6 +1.3
JCW Jim Creek 91.08 11 P **P** 06 51 07.0 -0.1
WALA Waterton Lakes 91.13 6 *e*P **P** 06 51 06.9 -0.6
comp=Z,39nm,1.0s
WALA *e*PP **PP** 06 54 42.5 -0.7
OOW Octopus West 91.16 13 P **P** 06 51 09.0 +1.4
A30A Hoffart Farm, 91.38 355 ⇓P **P** 06 51 08.1 -0.4
baz=91,SNR=37
A29A Manning Farm, 91.45 356 ⇓P **P** 06 51 08.2 -0.6
baz=91,SNR=10
A27A Ledoux Ranch, 91.50 357 ⇑P **P** 06 51 08.9 -0.1
baz=91
A28A Rude Farm, Bot 91.51 357 ⇓P **P** 06 51 08.8 -0.3
baz=91
LONY Lake Ozonia 91.52 339 *e*P **P** 06 51 09.3 +0.1
comp=Z,55nm,1.4s
LONY LR LR
comp=Z,345nm,21.0s
A21A Bergtoll Ranch 91.52 1 ⇓P **P** 06 51 09.1 -0.1
baz=91,SNR=9.8
A22A Carney Farms, 91.53 0 ⇑P **P** 06 51 09.0 -0.2
baz=91
A19A Klindworth Far 91.54 2 ⇑P **P** 06 51 09.1 -0.2
baz=91,SNR=15
NLWA Neilton Lookou 91.55 13 *e*P **P** 06 51 09.8 +0.5
comp=Z,27nm,1.1s
NLWA LR LR
comp=Z,354nm,20.0s
A23A Redstone 91.56 360 ⇑P **P** 06 51 09.6 +0.2
baz=91
A25A Svangstu Ranch 91.57 359 ⇑P **P** 06 51 09.6 +0.2
baz=91
A26A Wade Farm, Ken 91.58 358 ⇑P **P** 06 51 09.5 +0.1
baz=91
A24A Westby 91.59 359 ⇑P **P** 06 51 10.1 +0.6
baz=91
A20A Cobblestone Ra 91.61 2 ⇑P **P** 06 51 09.3 -0.3
baz=91,SNR=19
NEW Newport 91.62 8 *e*P **P** 06 51 09.3 -0.4
NEW *e**PP **pP** 06 51 20.4 +1.0
NEW pmax pmax
comp=Z,29nm,0.8s
NEW MLR MLR
comp=Z,430nm,20.0s
NEW Newport 91.62 8 ⇑P **P** 06 51 09.5 -0.2
baz=91
NEW Newport 91.62 8 *e*P **P** 06 51 09.3 -0.4
comp=Z,29nm,0.8s
NEW *e*pP **pP** 06 51 20.4 +1.0
NEW LR LR
comp=Z,430nm,20.0s
EYMN Ely 91.74 351 *e*P **P** 06 51 09.7 -0.5
comp=Z,45nm,1.1s
EYMN LR LR
comp=Z,518nm,22.0s
AGMN Agassiz Nation 91.84 354 ⇓P **P** 06 51 09.7 -0.9
baz=92,SNR=12
AGMN Agassiz Nation 91.84 354 *e*P **P** 06 51 10.0 -0.6
comp=Z,22nm,1.1s
AGMN *e*PP **PP** 06 54 49.0 +0.2
AGMN LR LR
comp=Z,952nm,22.0s
B30A Myrvik Farm, E 91.87 355 ⇑P **P** 06 51 10.2 -0.5
baz=92,SNR=20
SAW Saint Andrews 91.91 10 P **P** 06 51 10.7 -0.3
B29A Wagenman Farm, 91.91 356 ⇑P **P** 06 51 10.5 -0.4
baz=92
B28A Dugan Ranch, T 91.97 357 ⇑P **P** 06 51 11.0 -0.3
baz=92
B19A Brinkman Farms 92.01 3 ⇓P **P** 06 51 11.0 -0.5
baz=92,SNR=7.1
NCB Newcomb 92.01 338 PFAKE 06 51 20.0 +8.5
NCB LR LR
comp=Z,350nm,20.0s
B20A Solberg Farm, 92.05 2 ⇓P **P** 06 51 11.4 -0.2
baz=92
DGMT Dagmar 92.05 359 ⇑P **P** 06 51 11.8 +0.2
baz=92,SNR=11
DGMT Dagmar 92.05 359 *e*P **P** 06 51 11.9 +0.3
comp=Z,59nm,1.1s
DGMT LR LR
comp=Z,620nm,19.0s
B27A Peters Farms, 92.05 357 ⇓P **P** 06 51 11.8 +0.2
baz=92
B23A Brockton 92.06 360 ⇓P **P** 06 51 11.7 0.0
baz=92,SNR=14
B21A Ellsworth Farm 92.08 1 ⇑P **P** 06 51 12.0 +0.2
baz=92,SNR=20
B26A Jensen Ranch, 92.11 358 ⇓P **P** 06 51 12.0 +0.1
baz=92
B22A Reddig Ranch S 92.22 1 ⇓P **P** 06 51 12.9 +0.4
baz=92,SNR=18
B25A Knox Farm, Ray 92.24 359 ⇑P **P** 06 51 12.3 -0.2
baz=92
BSMT Bassoo Peak 92.26 6 *e*P **P** 06 51 13.2 +0.4
comp=Z,40nm,0.9s
FMW Mount Fremont 92.35 11 P **P** 06 51 12.9 -0.4
EGMT Eagleton 92.41 3 ⇓P **P** 06 51 13.0 -0.4
baz=92,SNR=17
EGMT Eagleton 92.41 3 *e*P **P** 06 51 13.0 -0.4
comp=Z,30nm,1.0s
EGMT LR LR
comp=Z,369nm,20.0s
LON Longmire 92.50 11 *e*P **P** 06 51 13.6 -0.2
LON pmax pmax
comp=Z,21nm,0.8s
LON Longmire 92.50 11 *e*P **P** 06 51 13.6 -0.2
comp=Z,21nm,0.8s
MDND Maddock 92.54 356 ⇑P **P** 06 51 13.4 -0.4
baz=92
C30A Mose, Pekin 92.62 355 P P 06 51 10.6 -3.6
baz=92
C26A Wahner Farm, P 92.66 358 ⇓P **P** 06 51 13.9 -0.6
baz=92
SWMT Swartz Lake 92.66 6 *e*P **P** 06 51 14.3 -0.2
comp=Z,7.8nm,0.9s
C21A Desert Coulee 92.68 1 ⇑P **P** 06 51 14.6 0.0
baz=92,SNR=41
C28A Hausauer Farms 92.71 357 ⇓P **P** 06 51 14.7 +0.1
baz=92
C23A Lambert 92.72 0 ⇓P **P** 06 51 15.4 +0.7
baz=92,SNR=19
C27A Sayler Ranch, 92.75 358 ⇑P **P** 06 51 15.2 +0.3
baz=92
C20A Veseth Ranch, 92.78 2 ⇓P **P** 06 51 14.7 -0.4
baz=92,SNR=16
C22A Vida 92.78 0 ⇓P **P** 06 51 15.3 +0.3
baz=92,SNR=9.2
C25A Freed Ranch, W 92.80 359 ⇑P **P** 06 51 16.3 +1.2
baz=92
TDL Tradedollar La 92.83 12 P **P** 06 51 15.2 -0.2
F04D Rainier, OR 92.96 12 ⇓P **P** 06 51 16.1 +0.3
baz=93
SLMT Seeley Lake 92.97 6 *e*P **P** 06 51 15.7 -0.4
comp=Z,32nm,0.8s
C24A Savage 92.99 359 ⇑P **P** 06 51 16.2 +0.1
baz=93,SNR=7.9
ASR Mount Adams--S 93.12 11 P **P** 06 51 17.1 +0.4
HAWA Hanford 93.18 10 PFAKE 06 51 30.0 +13
HAWA LR LR
comp=Z,446nm,21.0s
D30A Buchanan 93.23 356 ⇑P **P** 06 51 16.6 -0.4
baz=93,SNR=9.6
D28A Regan 93.24 357 ⇑P **P** 06 51 17.7 +0.5
baz=93
CHMT Chamberlain Mo 93.31 6 *e*P **P** 06 51 17.1 -0.7
comp=Z,17nm,0.8s
D29A Pettibone, Tap 93.32 356 ⇓P **P** 06 51 17.1 -0.5
baz=93
D23A Lindsay 93.35 0 ⇓P **P** 06 51 18.3 +0.6
baz=93,SNR=17
D27A Center 93.36 358 ⇓P **P** 06 51 18.3 +0.6
baz=93
D25A Fairfield 93.36 359 ⇑P **P** 06 51 18.6 +0.9
baz=93,SNR=5.3
D22A Cohagen 93.37 1 ⇑P **P** 06 51 18.3 +0.5
baz=93,SNR=17
D24A Glendive 93.41 359 ⇓P **P** 06 51 18.6 +0.6
baz=93
D21A La Casta Ranch 93.44 1 ⇓P **P** 06 51 18.5 +0.3
baz=93,SNR=10
D26A Manning 93.46 358 ⇓P **P** 06 51 18.8 +0.6
baz=93
GLMI Grayling 93.70 346 PFAKE 06 51 30.0 +11
GLMI LR LR
comp=Z,364nm,20.0s
E29A Napoleon 93.82 356 ⇑P **P** 06 51 19.3 -0.5
baz=93
LAO LASA Array 93.83 1 ⇓P **P** 06 51 20.5 +0.6
baz=93,SNR=17
LAO LASA Array 93.83 1 *e*P **P** 06 51 20.7 +0.7
comp=Z,38nm,1.0s
LAO LR LR
comp=Z,1µm,19.0s
E30A Jud 93.84 356 ⇓P **P** 06 51 19.4 -0.5
baz=94
E28A Huff 93.86 357 ⇑P **P** 06 51 20.1 +0.1
baz=94
E24A Baker 93.96 359 ⇑P **P** 06 51 20.5 0.0
baz=94,SNR=5.8
E21A Keefer Ranch, 93.97 1 ⇓P **P** 06 51 20.5 0.0
baz=94
E25A Miller Ranch, 94.01 359 ⇓P **P** 06 51 21.3 +0.6
baz=94,SNR=10
E26A Carlson Angus 94.02 358 ⇑P **P** 06 51 21.0 +0.2
baz=94,SNR=7.2
E23A Ismay 94.03 0 ⇓P **P** 06 51 21.4 +0.6
baz=94,SNR=17
E27A Carson 94.04 358 ⇓P **P** 06 51 21.1 +0.2
baz=94
E22A Miles City 94.08 1 ⇓P **P** 06 51 21.4 +0.4
baz=94
BINY Binghamton 94.14 339 PFAKE 06 51 30.0 +8.6
BINY LR LR
comp=Z,324nm,20.0s
CROR Criterion Ridg 94.35 11 P **P** 06 51 22.7 +0.4
ASCN Ascension 94.41 263 PFAKE 06 51 30.0 +7.1
ASCN LR LR
comp=Z,770nm,19.0s
STKA Stephens Creek 94.42 128 P **P** 06 51 21.8 -0.8
comp=Z,4.0nm,0.6s,baz=319,slow=4.9,SNR=15
STKA PKKPbc **PKKPbc** 07 08 21.5 -0.1
comp=Z,2.1nm,0.8s,baz=106,slow=6.2,SNR=3.8
STKA LR LR 07 39 34.4
comp=Z,205nm,18.1s,baz=315,slow=39
LRM Limekiln Ridge 94.45 5 *e*P **P** 06 51 22.8 -0.2
comp=Z,104nm,0.9s
F30A Leola 94.51 356 ⇑P **P** 06 51 22.8 -0.2
baz=94
F29A Eureka 94.56 356 ⇓P **P** 06 51 22.6 -0.6
baz=94
SPMN Marine on St. 94.58 351 ⇓P **P** 06 51 22.6 -0.7
baz=94
SPMN Marine on St. 94.58 351 *e*P **P** 06 51 22.7 -0.5
comp=Z,19nm,0.9s
F25A Bowman 94.59 359 ⇑P **P** 06 51 23.6 +0.2
baz=94,SNR=5.2
F28A McLaughlin 94.59 357 ⇓P **P** 06 51 23.1 -0.3
baz=94
F27A Lemmon 94.61 358 ⇑P **P** 06 51 23.7 +0.2
baz=94,SNR=10.0
GCMT Greycliff 94.64 3 *e*P **P** 06 51 23.9 +0.2
comp=Z,20nm,0.9s
F26A Lodgepole 94.65 358 ⇑P **P** 06 51 24.0 +0.3
baz=94,SNR=8.0
F24A Ekalaka 94.68 359 ⇑P **P** 06 51 24.1 +0.3
baz=94,SNR=8.2
BOZ Bozeman (W) 94.68 5 ⇑P **P** 06 51 24.0 +0.1
baz=94,SNR=28
F20A Billings 94.68 2 ⇓P **P** 06 51 23.9 0.0
baz=94
F22A Rosebud 94.74 1 ⇓P **P** 06 51 23.8 -0.3
baz=94
F23A Volborg 94.81 0 ⇓P **P** 06 51 24.5 +0.1
baz=94,SNR=7.0
DLMT Dillon 94.90 5 *e*P **P** 06 51 25.2 +0.2
comp=Z,16nm,1.0s
I05D Terrebonne, OR 94.93 12 ⇓P **P** 06 51 25.0 0.0
baz=94
BMO Blue Mountains 94.97 9 PFAKE 06 51 40.0 +15
BMO LR LR
comp=Z,372nm,20.0s
G27A Dupree 95.10 358 ⇑P **P** 06 51 25.7 0.0
baz=95,SNR=8.6
G24A Alzada 95.20 359 ⇑P **P** 06 51 26.1 -0.1
baz=95
G26A Maurine 95.20 358 ⇑P **P** 06 51 26.3 +0.1
baz=95,SNR=7.6
G29A Hoven 95.20 356 ⇑P **P** 06 51 25.9 -0.3
baz=95
I03D Drain, OR 95.22 13 ⇓P **P** 06 51 26.2 0.0
baz=95
G30A Faulkton 95.22 356 ⇑P **P** 06 51 25.8 -0.5
baz=95,SNR=6.7
G20A Bridger 95.26 2 ⇓P **P** 06 51 26.3 -0.3

baz=95,SNR=6.9
G21A Lodge Grass 95.28 1 ⇑P P 06 51 26.6 0.0
baz=95
I04A Tendick Farm, 95.29 12 ⇓P P 06 51 26.9 +0.2
baz=95
G22A Birney 95.30 1 ⇓P P 06 51 26.4 -0.4
baz=95
G25A Newell 95.32 359 ⇑P P 06 51 26.8 0.0
baz=95,SNR=5.4
RLMT Red Lodge 95.32 3 ⇑P P 06 51 27.1 +0.1
baz=95,SNR=11
RLMT Red Lodge 95.32 3 *e*P P 06 51 27.1 +0.1
comp=Z,24nm,1.2s
RLMT LR LR
comp=Z,457nm,20.0s
G23A Biddle 95.33 0 ⇑P P 06 51 26.7 -0.1
baz=95,SNR=7.7
G28A Parade 95.36 357 ⇓P P 06 51 27.0 +0.1
baz=95
MCMT McKenzie Canyo 95.42 5 *e*P P 06 51 27.1 -0.3
comp=Z,6.8nm,1.2s
H28A Mission Ridge 95.77 357 ⇓P P 06 51 28.6 -0.2
baz=95
H24A Dirks Ranch, A 95.78 360 ⇓P P 06 51 28.4 -0.5
baz=95
H29A Onida 95.78 356 ⇑P P 06 51 28.3 -0.5
baz=95
H19A Powell 95.79 3 ⇑P P 06 51 28.9 -0.1
baz=95,SNR=8.6
LKWY Lake 95.83 4 PFAKE 06 51 40.0 +11
LKWY LR LR
comp=Z,832nm,20.0s
H27A Howes 95.85 358 ⇓P P 06 51 28.7 -0.4
baz=96,SNR=6.2
J04D Umpqua Nationa 95.88 12 ⇑P P 06 51 29.5 0.0
baz=96
H21A Big Horn, Sher 95.88 1 ⇑P P 06 51 29.9 +0.4
baz=96
H26A Fairpoint 95.88 358 ⇓P P 06 51 29.4 0.0
baz=96
H25A Fruitdale 95.89 359 ⇓P P 06 51 29.2 -0.2
baz=96
BRSD Miller 95.90 356 ⇑P P 06 51 28.7 -0.7
baz=96
BRSD Miller 95.90 356 *e*P P 06 51 29.0 -0.3
comp=Z,34nm,0.9s
H22A Clearmont 95.93 1 ⇓P P 06 51 29.4 -0.2
baz=96
AAM Ann Arbor 95.93 344 PFAKE 06 51 40.0 +11
AAM LR LR
comp=Z,336nm,19.0s
H23A Clabaugh Cattl 95.96 0 ⇓P P 06 51 29.2 -0.5
baz=96
J05D Fort Rock, OR 95.97 12 ⇑P P 06 51 29.8 -0.1
baz=96
H17A Grant Village 95.99 4 ⇓P P 06 51 31.7 +1.6
baz=96,SNR=8.9
H17A Grant Village 95.99 4 *e*P P 06 51 31.6 +1.5
comp=Z,18nm,1.1s
H20A Greybull 96.00 2 ⇑P P 06 51 29.8 -0.2
baz=96,SNR=10
FLWY Flagg Ranch 96.30 4 *e*P P 06 51 32.0 +0.6
comp=Z,9.4nm,0.9s
I29A Vivian Onida 96.39 356 ⇑P P 06 51 31.3 -0.3
baz=96,SNR=6.6
RSSD Black Hills 96.40 359 *e*P P 06 51 31.8 -0.1
RSSD *e* 06 55 20.6
RSSD pmax pmax
comp=Z,14nm,1.1s
RSSD Black Hills 96.40 359 *e*P P 06 51 31.8 -0.1
comp=Z,14nm,1.1s
RSSD *e*PP PP 06 55 20.6 -4.0
I27A Quinn 96.41 358 ⇑P P 06 51 31.3 -0.5
baz=96,SNR=5.3
I19A Meeteetse 96.42 3 ⇓P P 06 51 32.2 +0.2
baz=96,SNR=6.0
ECSD EROS Data Cent 96.44 354 ⇑P P 06 51 31.6 -0.2
baz=96,SNR=21
ECSD EROS Data Cent 96.44 354 *e*P P 06 51 31.4 -0.4
comp=Z,31nm,1.2s
ECSD LR LR
comp=Z,681nm,22.0s
I28A Midland 96.45 357 ⇑P P 06 51 31.8 -0.1
baz=96
I30A Oacoma 96.45 356 ⇓P P 06 51 31.6 -0.3
baz=96
IMW Indian Meadow 96.47 4 *e*P P 06 51 33.3 +1.0
comp=Z,24nm,1.4s
I26A New Underwood 96.47 358 ⇓P P 06 51 31.8 -0.3
baz=96
I25A Rochford 96.50 359 ⇓P P 06 51 32.0 -0.3
baz=96,SNR=5.3
JFWS Jewell Farm 96.51 349 *e*P P 06 51 31.2 -1.0
JFWS pmax pmax
comp=Z,20nm,0.7s
JFWS MLR MLR
comp=Z,716nm,19.0s
JFWS Jewell Farm 96.51 349 *e*P P 06 51 31.1 -1.0
comp=Z,20nm,0.7s
JFWS LR LR
comp=Z,716nm,19.0s
I20A Worland 96.53 2 ⇓P P 06 51 32.7 +0.3
baz=96,SNR=9.5
HLID Hailey 96.54 7 ⇓P P 06 51 32.1 -0.4
baz=96,SNR=5.8
HLID Hailey 96.54 7 *e*P P 06 51 32.2 -0.3
comp=Z,2.8nm,0.8s
HLID *e*pP pP 06 51 42.0 -0.3
HLID LR LR
comp=Z,441nm,21.0s
MFID Camas Ranch 96.55 8 *e*P P 06 51 32.3 -0.1
comp=Z,6.7nm,0.8s
I23A Meade Ranch, G 96.57 0 ⇓P P 06 51 32.3 -0.2
baz=96
MOOW Moose Ponds 96.62 4 *e*P P 06 51 33.0 0.0
comp=Z,2.8nm,0.8s
I22A 9 Mile Ranch, 96.63 1 ⇑P P 06 51 32.7 -0.1
baz=96,SNR=6.1
I24A Kuemmerle Ranc 96.67 360 ⇑P P 06 51 32.8 -0.2
baz=96
I21A Big Trails, Te 96.69 2 ⇓P P 06 51 32.9 -0.3
baz=96,SNR=21
LOHW Long Hollow 96.77 4 *e*P P 06 51 33.9 +0.3
comp=Z,3.2nm,0.8s
REDW Red Top Meadow 97.00 4 *e*P Pdif 06 51 35.0 +0.2
comp=Z,17nm,1.8s
J29A Okreek 97.00 356 ⇓P P 06 51 34.2 -0.2
baz=97,SNR=16
J28A Allard Ranch, 97.03 357 ⇑P P 06 51 34.5 0.0
baz=97,SNR=5.7
J30A Dallas 97.04 356 ⇑P P 06 51 34.5 -0.1
baz=97,SNR=5.5
J22A Midwest 97.11 1 ⇓P P 06 51 34.1 -0.9
baz=97,SNR=9.5
J20A Shoshoni 97.13 2 ⇓P Pdif 06 51 35.4 +0.2
baz=97,SNR=5.4
J21A Lysite 97.16 2 ⇓P P 06 51 35.4 +0.1
baz=97
WVOR Wild Horse Val 97.19 10 PFAKE 06 51 50.0 +15
WVOR LR LR
comp=Z,420nm,21.0s
J19A Crowheart 97.19 3 ⇓P Pdif 06 51 35.6 +0.1
baz=97,SNR=16
J24A Dixon Ranch, L 97.19 360 ⇓P P 06 51 35.0 -0.3
baz=97
M04C Macdoel 97.34 12 ⇑P P 06 51 36.1 0.0
baz=97
AHID Auburn Hatcher 97.58 4 PFAKE 06 51 50.0 +13
AHID LR LR
comp=Z,441nm,22.0s
BW06 Boulder Array 97.66 3 PFAKE 06 51 50.0 +12
BW06 LR LR
comp=Z,385nm,20.0s
PDAR Pinedale Array 97.66 3 P P 06 51 37.0 -0.7
comp=Z,2.4nm,0.8s,baz=35,slow=5.4,SNR=13
PDAR LR LR 07 40 52.3
comp=Z,330nm,18.2s,baz=10,slow=39
K30A Basset 97.70 356 ⇑P Pdif 06 51 37.9 +0.3
baz=97
ACSO Alum Creek Sta 97.76 343 PFAKE 06 51 50.0 +12
ACSO LR LR
comp=Z,303nm,19.0s
K23A Bowen Ranch, D 97.77 0 ⇑P P 06 51 37.3 -0.8
baz=97
K22A Casper 97.87 1 ⇓P Pdif 06 51 38.7 +0.1
baz=98
K22A Casper 97.87 1 *e*P P 06 51 38.0 -0.5
comp=Z,4.2nm,0.9s

SCIA State Center 97.90 351 PFAKE 06 51 50.0 +12
SCIA LR LR
comp=Z,521nm,21.0s
K25A Mack Ranch, Ha 97.91 359 ⇑P Pdif 06 51 39.0 +0.3
baz=98
L34A Svendsen Farm, 98.17 353 ⇑P P 06 51 39.7 0.0
baz=98
CBN Corbin Frederi 98.24 338 PFAKE 06 51 50.0 +10
CBN LR LR
comp=Z,471nm,21.0s
M34A Aspy Farms, Fr 98.65 353 ⇑P Pdif 06 51 42.2 +0.4
baz=98
HDIL Hopedale 98.67 348 PFAKE 06 51 50.0 +8.1
HDIL LR LR
comp=Z,657nm,22.0s
HWUT Hardware Ranch 98.71 5 *e*P Pdif 06 51 42.6 +0.2
comp=Z,14nm,0.9s
HWUT LR LR
comp=Z,501nm,20.0s
BBSR BB Station 98.94 326 PFAKE 06 51 50.0 +6.7
BBSR LR LR
comp=Z,238nm,22.0s
N35A Tabor 99.20 353 ⇑Pdiff **Pdif** 06 51 43.8 -0.5
baz=99
PHWY Pilot Hill 99.22 0 *e*P **Pdif** 06 51 44.7 -0.1
N34A Lincoln 99.30 353 ⇑Pdiff **Pdif** 06 51 44.2 -0.5
baz=99
N32A Stulken Farm, 99.52 355 ⇓Pdiff **Pdif** 06 51 44.7 -1.1
baz=99
OGNE Ogallala 99.53 358 PFAKE 06 52 00.0 +14
OGNE LR LR
comp=Z,841nm,19.0s
N29A Votaw Ranch, W 99.60 357 ⇓Pdiff **Pdif** 06 51 45.5 -0.6
baz=99
N23A Red Feather La 99.63 1 ⇑Pdiff **Pdif** 06 51 45.9 -0.6
baz=99
N27A Anderson Farm, 99.68 358 ⇓Pdiff **Pdif** 06 51 46.1 -0.4
baz=99
JLU Jordanelle 99.72 5 *e*Pdif **Pdif** 06 51 46.6 -0.3
comp=Z,5.3nm,1.2s
O35A Humboldt 99.81 353 ⇑Pdiff **Pdif** 06 51 46.2 -0.8
baz=99
BLA Blacksburg 100.01 340 PFAKE 06 52 00.0 +12
BLA LR LR
comp=Z,632nm,20.0s
DUG Dugway, Tooele 100.02 6 *e*P **Pdif** 06 51 47.9 -0.3
DUG pmax pmax
comp=Z,4.0nm,0.8s
DUG MLR MLR
comp=Z,233nm,20.0s
DUG Dugway, Tooele 100.02 6 ⇑Pdiff **Pdif** 06 51 48.0 -0.1
baz=100
DUG Dugway, Tooele 100.02 6 *e*Pdif **Pdif** 06 51 47.9 -0.3
comp=Z,4.4nm,0.8s
DUG LR LR
comp=Z,233nm,20.0s
O33A Hebron 100.15 354 ⇑Pdiff **Pdif** 06 51 47.7 -0.8
baz=100
O30A MW Ranch, Wils 100.21 356 ⇑Pdiff **Pdif** 06 51 47.9 -1.0
baz=100
O27A Beecher Island 100.30 358 ⇓Pdiff **Pdif** 06 51 48.9 -0.4
baz=100
O22A Kremmling 100.35 1 ⇓Pdiff **Pdif** 06 51 48.6 -1.2
baz=100
P36A Good Intent, A 100.38 352 ⇑Pdiff **Pdif** 06 51 48.6 -0.9
baz=100
P35A Duane Skinner, 100.55 353 ⇑Pdiff **Pdif** 06 51 49.8 -0.6
baz=100
P34A Walnut Farm, R 100.61 353 ⇓Pdiff **Pdif** 06 51 50.0 -0.6
baz=100
ISCO Idaho Springs 100.72 0 ⇑Pdiff **Pdif** 06 51 50.1 -1.3
baz=100
ISCO Idaho Springs 100.72 0 PFAKE 06 52 00.0 +8.5
ISCO LR LR
comp=Z,718nm,22.0s
P27A Ficken Ranch, 100.93 358 ⇓Pdiff **Pdif** 06 51 51.3 -0.8
baz=100
P26A Davis Ranch, A 100.94 359 ⇑Pdiff **Pdif** 06 51 51.6 -0.6
baz=101
KSU1 Kansas State U 101.03 353 ⇓Pdiff **Pdif** 06 51 51.5 -0.9
baz=101
KSU1 Kansas State U 101.03 353 PFAKE 06 52 00.0 +7.5
KSU1 LR LR
comp=Z,650nm,22.0s
Q37A Longview Farm, 101.03 351 ⇓Pdiff **Pdif** 06 51 51.9 -0.5
baz=101
Q36A Arnold C. Orve 101.06 352 ⇑Pdiff **Pdif** 06 51 51.9 -0.7
baz=101
P23A Jefferson 101.15 1 ⇓Pdiff **Pdif** 06 51 52.8 -0.6
baz=101
NVAR Mina Array Bea 101.17 10 P **Pdif** 06 51 52.5 -0.8
comp=Z,1.7nm,0.8s,baz=336,slow=3.5,SNR=11
NVAR PP **PP** 06 56 04.3 +3.2
comp=Z,0.7nm,0.8s,baz=323,slow=5.4,SNR=3.9
NVAR PKKPbc **PKKPbc** 07 08 02.8 -0.1
comp=Z,0.9nm,0.8s,baz=199,slow=5.3,SNR=5.9
Q30A Quinter 101.42 356 ⇓Pdiff **Pdif** 06 51 53.7 -0.5
baz=101
R11A Troy Canyon, C 101.59 8 ⇓Pdiff **Pdif** 06 51 54.8 -0.4
baz=101
R37A Teagarden Farm 101.63 352 ⇑Pdiff **Pdif** 06 51 54.5 -0.7
baz=101
R32A Long Quarter, 101.88 355 ⇓Pdiff **Pdif** 06 51 55.6 -0.6
baz=102
R33A Olander Ranch, 101.94 354 ⇑Pdiff **Pdif** 06 51 55.9 -0.6
baz=102
R30A Dighton 102.11 356 ⇑Pdiff **Pdif** 06 51 56.9 -0.4
baz=102
R28A Tribune 102.12 357 ⇑Pdiff **Pdif** 06 51 57.3 -0.1
baz=102
S36A Lake Cedric, C 102.30 352 ⇓Pdiff **Pdif** 06 51 58.3 +0.2
baz=102
PV01 Paradox Valley 102.32 3 *e*Pdif **Pdif** 06 51 56.9 -1.7
SDCO Great Sand Dun 102.77 0 ⇓Pdiff **Pdif** 06 51 59.9 -0.7
baz=102
SDCO Great Sand Dun 102.77 0 PFAKE 06 52 10.0 +9.4
SDCO LR LR
comp=Z,758nm,22.0s
T36A Boggs Farm, Ca 102.98 352 ⇑Pdiff **Pdif** 06 52 01.3 +0.2
baz=103
T35A Sooner Cattle 103.19 353 ⇓Pdiff **Pdif** 06 52 02.6 +0.5
baz=103
MVCO Mesa Verde 103.25 3 PFAKE 06 52 10.0 +7.3
MVCO LR LR
comp=Z,537nm,21.0s
NHSC New Hope 103.81 339 PFAKE 06 52 20.0 +15
NHSC LR LR
comp=Z,643nm,20.0s
POHA Pohakuloa 104.36 48 PFAKE 06 52 20.0 +12
POHA LR LR
comp=Z,665nm,19.0s
WUAZ Wupatki 104.78 5 PFAKE 06 52 20.0 +11
WUAZ LR LR
comp=Z,339nm,20.0s
MIAR Mount Ida 105.20 350 PFAKE 06 56 40.0
MIAR LR LR
comp=Z,466nm,19.0s
WMOK Wichita Mounta 105.54 355 PFAKE 06 56 40.0
WMOK LR LR
comp=Z,379nm,20.0s
ANMO Albuquerque 105.56 1 PFAKE 06 56 40.0
ANMO LR LR
comp=Z,672nm,21.0s
Z32A Haskell 107.01 355 ⇑PKiKP **PKiKP** 06 56 28.4 -0.2
baz=107
Z31A Sharp Cattle R 107.04 356 ⇑PKiKP **PKiKP** 06 56 28.4 -0.4
baz=107
Z29A Hungry Hill Ra 107.18 357 ⇑PKiKP **PKiKP** 06 56 28.5 -0.6
baz=107
BRAL Brewton 107.52 344 PFAKE 06 56 40.0
BRAL LR LR
comp=Z,683nm,20.0s
MAW Mawson 107.52 185 PKiKP **PKiKP** 06 56 27.7 -0.5
comp=Z,1.9nm,0.7s,baz=336,slow=3.7,SNR=4.1
121A Cookes Peak, D 107.94 2 ⇓PKiKP **PKiKP** 06 56 29.9 -0.7
baz=108
TUC Tucson 108.01 5 PFAKE 06 56 40.0
TUC LR LR
comp=Z,369nm,20.0s
NATX Nacogdoches 108.08 351 PFAKE 06 56 40.0
NATX LR LR
comp=Z,521nm,20.0s
234A Clairette 108.21 354 ⇓PKiKP **PKiKP** 06 56 30.4 -0.5
baz=108
233A Rising Star 108.25 354 ⇑PKiKP **PKiKP** 06 56 30.6 -0.4
baz=108
334A Lometa 108.88 354 ⇓PKiKP **PKiKP** 06 56 31.5 -0.6
baz=108
333A Richland Sprin 108.95 354 ⇑PKiKP **PKiKP** 06 56 31.7 -0.6
baz=109
329A Wagon Wheel Ra 108.96 357 ⇑PKiKP **PKiKP** 06 56 31.9 -0.5
baz=109
330A Mertzon 109.00 356 ⇑PKiKP **PKiKP** 06 56 31.5 -0.9
baz=109
331A San Angelo 109.06 356 ⇓PKiKP **PKiKP** 06 56 31.9 -0.7
baz=109
CASY Casey 109.32 166 PFAKE 06 56 40.0
CASY LR LR
comp=Z,614nm,20.0s
434A Burnet 109.40 354 ⇑PKiKP **PKiKP** 06 56 32.3 -0.9
baz=109
540A Vidor 109.52 350 ⇑PKiKP **PKiKP** 06 56 33.0 -0.3
baz=109
431A Sonora 109.69 356 ⇑PKiKP **PKiKP** 06 56 33.2 -0.6
baz=109
429A Davenport Ranc 109.81 357 ⇓PKiKP **PKiKP** 06 56 33.0 -1.0
baz=109
JCT Junction City 109.84 355 ⇓PKiKP **PKiKP** 06 56 33.6 -0.4
baz=110
JCT Junction City 109.84 355 PKPdf **PKiKP** 06 56 33.3 -0.7
JCT LR LR
comp=Z,462nm,22.0s
ANWB Willy Bob 109.93 316 PFAKE 06 56 50.0
ANWB LR LR
comp=Z,363nm,20.0s
534A Blanco 110.19 354 ⇓PKiKP **PKiKP** 06 56 33.9 -0.8
baz=110
532A Rocksprings 110.20 355 ⇓PKiKP **PKiKP** 06 56 34.0 -0.7
baz=110
531A Rocksprings 110.20 356 ⇓PKiKP **PKiKP** 06 56 33.9 -0.8
baz=110
530A J-C Ranch, Com 110.26 356 ⇓PKiKP **PKiKP** 06 56 34.3 -0.6
baz=110
529A Stev Fest Ra 110.32 357 ⇓PKiKP **PKiKP** 06 56 34.5 -0.5
baz=110
632A Uvalde 110.81 355 ⇑PKiKP **PKiKP** 06 56 35.6 -0.3
baz=110
633A Saathoff Ranch 110.81 354 ⇓PKiKP **PKiKP** 06 56 35.6 -0.3
baz=110
TXAR Lajitas Array 111.15 359 Pdiff **Pdif** 06 52 36.7 -1.0
comp=Z,0.3nm,0.8s,baz=33,slow=2.2,SNR=2.9
TXAR PKiKP **PKiKP** 06 56 35.9 -0.7
comp=Z,0.4nm,0.5s,baz=192,slow=0.6,SNR=12
TXAR PKKPbc **PKKPbc** 07 07 30.9 -1.2
comp=Z,0.6nm,0.8s,baz=181,slow=5.3,SNR=7.2
GRTK Grand Turk 111.18 326 PFAKE 06 56 50.0
GRTK LR LR
comp=Z,302nm,19.0s
733A Divot King Ran 111.56 354 ⇓PKiKP **PKiKP** 06 56 37.0 -0.3
baz=111
SJG San Juan 111.81 320 PFAKE 06 56 50.0
SJG LR LR
comp=Z,184nm,21.0s
833A Chaparral WMA, 111.96 355 ⇓PKiKP **PKiKP** 06 56 37.5 -0.5
baz=112
FDF Fort de France 111.98 314 PFAKE 06 56 50.0
FDF LR LR
comp=Z,394nm,20.0s
834A Tilden 112.09 354 ⇑PKiKP **PKiKP** 06 56 37.5 -0.8
baz=112
KVTX Kingsville 112.60 353 PFAKE 06 56 50.0
KVTX LR LR
comp=Z,433nm,19.0s
933A Laredo 112.66 354 ⇑PKiKP **PKiKP** 06 56 39.2 -0.2
baz=112
034A Hebbronville 113.15 354 ⇑PKiKP **PKiKP** 06 56 40.1 -0.2
baz=113
SDDR Presa de Saban 113.48 325 PFAKE 06 56 50.0
SDDR LR LR
comp=Z,385nm,20.0s
035Z Hargill 113.69 353 ⇓PKiKP **PKiKP** 06 56 40.8 -0.5
baz=113
GTBY Guantanamo Bay 114.24 329 PFAKE 06 56 50.0 +7.5
GTBY LR LR
comp=Z,290nm,19.0s
MTDJ Mount Denham 116.73 330 PFAKE 06 57 00.0 +13
MTDJ LR LR
comp=Z,218nm,21.0s
TEIG Tepich 118.19 342 PKP **PKPdf** 06 56 49.2 -0.9
comp=Z,9.5nm,0.8s,baz=301,slow=1.5,SNR=6.1
TEIG Tepich 118.19 342 PKP **PKPdf** 06 56 49.2 -0.9
TEIG LR LR
comp=Z,356nm,21.0s
NVL N'lazarevskaya 119.11 200 *e*PKiKP **PKPdf** 06 56 50.3 +0.1
NVL pmax pmax
comp=Z,16nm,0.8s
RPZ Rata Peaks 120.00 124 PKP **PKPdf** 06 56 51.9 -0.9
comp=Z,17nm,0.9s,baz=346,slow=4.2,SNR=5.3
URZ Urewera 121.50 116 PKP **PKPdf** 06 56 53.5 -2.4
comp=Z,19nm,0.6s,baz=356,slow=2.1,SNR=9.7
URZ Urewera 121.50 116 PcP **PKPdf** 06 56 53.4 -2.4
MWZ Matawai 121.82 115 PcP **PKPdf** 06 56 54.8 -1.7
SDV Santo Domingo 121.92 319 *e*PKPdf **PKPdf** 06 56 56.5 -1.1
SDV LR LR
comp=Z,320nm,21.0s
CMIG Matias Romero 122.54 348 PKP **PKPdf** 06 56 57.3 -1.3
comp=Z,3.5nm,0.5s,baz=342,slow=1.2,SNR=8.3
SNAA Sanae 123.61 202 P PKPpre 06 56 51.3
SNAA Sanae 123.61 202 *e*PKiKP PKPpre 06 56 50.2
SNAA Sanae 123.61 202 *e*PKPdf PKPpre 06 56 50.2
VNA1 Neumayer--Stat 124.82 204 P **PKPdf** 06 57 02.4 +1.2
BDFB Brasilia 124.98 279 PKP **PKPdf** 06 57 02.2 -1.1
comp=Z,2.4nm,0.5s,baz=45,slow=1.4,SNR=7.8
BDFB PP **PP** 06 58 49.8 -2.4
comp=Z,5.3nm,0.9s,baz=73,slow=3.8,SNR=6.2
BDFB Brasilia 124.98 279 PKiKP **PKPdf** 06 57 02.2 -1.1
BDFB 06 58 49.8
BDFB pmax pmax
comp=Z,2.0nm,0.5s
BDFB pmax pmax
comp=Z,5.0nm,0.9s
BCIP Isla Barro Col 125.87 329 PFAKE 06 57 20.0 +15
BCIP LR LR
comp=Z,205nm,20.0s
JTS JuntasAbangare 126.70 335 PFAKE 06 57 20.0 +13
JTS LR LR
comp=Z,538nm,21.0s
ROSC El Rosal 127.22 320 PKP **PKPdf** 06 57 07.3 -0.8
comp=Z,37nm,0.8s,baz=100,slow=2.9,SNR=45
ROSC El Rosal 127.22 320 PKP **PKPdf** 06 57 07.3 -0.8
ROSC *e*PKPdf **PKiKP** 06 57 08.8 +0.1
VNDA Vanda 127.90 164 PKP **PKPdf** 06 57 06.3 -0.6
comp=Z,6.3nm,0.9s,baz=273,slow=3.4,SNR=24
VNDA Vanda 127.90 164 PKiKP **PKPdf** 06 57 06.4 -0.6
VNDA pmax pmax
comp=Z,6.0nm,0.9s
SBA Scott Base 129.00 164 *e*PKiKP **PKPdf** 06 57 09.6 +0.6
SBA Scott Base 129.00 164 *e*PKPdf **PKPdf** 06 57 09.6 +0.6
QSPA South Pole Qui 129.64 180 *e*PKPdf **PKPdf** 06 57 10.2 -0.4
QSPA LR LR
comp=Z,451nm,19.0s
SAML Samuel 131.60 298 *e*PKPdf **PKPdf** 06 57 15.9 0.0
SAML LR LR
comp=Z,264nm,21.0s
OTAV Otavalo 133.23 322 *e*PKPdf **PKPdf** 06 57 20.3 +0.7
OTAV LR LR
comp=Z,228nm,20.0s
SIV San Ignacio 134.95 289 PKP **PKPdf** 06 57 21.7 -0.4
comp=Z,7.5nm,0.7s,baz=86,slow=2.8,SNR=20
PPT Papeete 135.73 73 PKP **PKPdf** 06 57 24.9 +1.4
comp=Z,38nm,0.8s,baz=100,slow=0.1,SNR=4.9
PPT Papeete 135.73 73 PKiKP **PKPdf** 06 57 24.9 +1.4
PPT pmax pmax
comp=Z,38nm,0.8s
CPUP Villa Florida 138.19 274 *e*PKiKP **PKPdf** 06 57 27.2 -0.6
CPUP Villa Florida 138.19 274 *e*PKPdf **PKPdf** 06 57 27.2 -0.6
LPAZ La Paz 140.18 295 PKhKP PKPpre 06 57 23.4
comp=Z,1.5nm,0.6s,baz=49,slow=2.9,SNR=9.0
LPAZ PKP **PKPdf** 06 57 32.4 -0.1
comp=Z,3.7nm,0.9s,baz=12,slow=8.4,SNR=9.2
LPAZ PP **PP** 07 00 29.6 -0.5
comp=Z,4.2nm,1.2s,baz=26,slow=5.1,SNR=4.0
LPAZ La Paz 140.18 295 PKP **PKPdf** 06 57 32.4 -0.1
LPAZ *e*PKPdf **PKiKP** 06 57 32.5 -2.5
LPAZ PP **PP** 07 00 29.6 -0.5
LPAZ *e*PP PP 07 00 29.7 -0.3
NNA Nana 142.63 310 PKhKP PKPpre 06 57 30.9
comp=Z,5.2nm,0.5s,baz=313,slow=3.8,SNR=4.2
NNA PKP **PKPdf** 06 57 36.8 +0.6
comp=Z,5.0nm,0.5s,baz=347,slow=4.2,SNR=4.2
NNA Nana 142.63 310 PKHKP PKPpre 06 57 30.9
NNA 06 57 36.8
NNA pmax pmax

comp=Z,5.0nm,0.5s
LVC Limon Verde 144.85 288 PKP PKPbc 06 57 39.4 +0.1
comp=Z,409nm,0.7s,baz=28,slow=2.2,SNR=128
LVC Limon Verde 144.85 288 PKP PKPbc 06 57 39.4 +0.1
LVC *e*PKPdf **PKPdf 06 57 39.9 -0.3**
LVC *e*PP **PP 07 00 55.4 -2.6**
LVC LR LR
comp=Z,254nm,21.0s
PMSA Palmer Station 145.61 210 PKPbc **PKPdf 06 57 39.2 -0.6**
comp=Z,102nm,0.8s,baz=41,slow=3.2,SNR=11
PMSA Palmer Station 145.61 210 *e*PKPbc **PKPab 06 57 40.4 -0.1**
TRQA Tornquist 146.61 259 *e*PKPdf **PKPdf 06 57 42.9 +0.4**
TRQA *e*PKPbc **PKPbc 06 57 44.4 +0.3**
CFAA Coronel Fontan 149.09 274 PKP **PKPdf 06 57 46.1 -0.6**
comp=Z,4.3nm,1.1s,baz=8.5,slow=1.7,SNR=1.5
CFAA PKPbc **PKPbc 06 57 50.4 -0.5**
comp=Z,8.2nm,0.8s,baz=52,slow=2.8,SNR=9.3
LCO Las Campanas 149.76 280 *e*PKPbc **PKPbc 06 57 53.2 +0.3**
LCO *e*PKPab **PKPab 06 57 58.0 -0.4**
USHA Ushuaia 151.35 226 PKPbc **PKPbc 06 57 55.6 +0.1**
comp=Z,38nm,0.7s,baz=91,slow=5.2,SNR=37
USHA PKPab **PKPab 06 58 02.8 -1.0**
comp=Z,21nm,0.8s,baz=232,slow=1.5,SNR=5.9
PLCA Paso Flores 153.68 257 PKP **PKPdf 06 57 53.1 -0.4**
comp=Z,3.9nm,1.0s,baz=160,slow=3.1,SNR=2.5
PLCA PKPbc **PKPbc 06 58 01.3 0.0**
comp=Z,9.8nm,0.6s,baz=75,slow=0.4,SNR=13
PLCA PKPab **PKPab 06 58 13.9 -0.3**
comp=Z,23nm,1.0s,baz=89,slow=4.3,SNR=9.7
PLCA Paso Flores 153.68 257 PKP **PKPdf 06 57 53.1 -0.4**
PLCA *e*PKPbc **PKPbc 06 58 01.4 0.0**
PLCA PKPab **PKPab 06 58 13.9 -0.3**
PLCA *e*PKPab **PKPab 06 58 14.2 0.0**
PTCN Pitcairn Islan 154.43 62 PFAKE 06 58 10.0 +6.7
PTCN LR LR
comp=Z,3µm,20.0s

SZGRF ***10*** *06:47:52.4, 18.˚20S×175.˚65W, h33km, Tonga Islands*
ISCJB ***10*** *06:48:56.0±0.3, 18.˚24S±0.˚07×177.˚82W±0.˚07, h600km, mb4.3/29, Error ellipse: s-maj=11.0km s-min=6.7km az=135.5*
IDC ***10*** *06:48:58.8±2.1, 18.˚11S×177.˚92W, h621km±25km, mb3.7/17, mb1 3.9/18, mb1mx3.8/22, mbtmp4.6/18, Error ellipse: s-maj=14.2km s-min=10.5km az=150.0*
NEIC ***10*** *06:48:58.1±0.5, 18.˚24S×177.˚74W, h610km±6km, mb4.7/12, Error ellipse: s-maj=14.8km s-min=6.9km az=142.0*
BJI ***10*** *06:49:00.5, 17.˚72S×178.˚26W, h610km, mb4.8/10, mB5.0/4*

ISC 10 06:48:57.1±0.4, 18˚31S±0.˚08×177˚74W±0.˚08, h600km, n91, σ1ᵗ40/105, mb4.3/29, 4C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.05**	**278**	*e*P		**P**		**06 50 25.9**	**+2.8**
MSVF				*e*S		S		06 51 40.0	+6.9
AFI	**Afiamalu**	**7.21**	**53**	*e*P		**P**		**06 50 48.9**	**-0.4**
DZM	**Mont Dzumac**	**15.31**	**253**	P		**P**		**06 52 08.4**	**0.0**
	1.4nm,0.3s,baz=90,slow=20,SNR=18								
MWZ	**Matawai**	**20.37**	**191**	*e*PN		**P**		**06 52 52.7**	**-1.4**
MWZ				*e*SN		**S**		**06 56 01.2**	**-4.2**
URZ	**Urewera**	**20.38**	**192**	P		**P**		**06 52 52.5**	**-1.6**
	10nm,0.4s,baz=288,slow=1.5,SNR=16								
URZ	**Urewera**	**20.38**	**192**	*e*PN		**P**		**06 52 52.5**	**-1.6**
URZ	**Urewera**	**20.38**	**192**	*e*P		**P**		**06 52 54.1**	**0.0**
	14nm,0.7s								
THZ	**Tophouse**	**24.70**	**197**	*e*PN		**P**		**06 53 32.7**	**+0.1**
THZ				*e*SN		**S**		**06 57 10.5**	**-3.1**
RPZ	**Rata Peaks**	**27.03**	**198**	P		**P**		**06 53 53.7**	**+0.7**
	8.1nm,0.4s,baz=293,slow=4.0,SNR=5.2								
RPZ	**Rata Peaks**	**27.03**	**198**	*e*P		**P**		**06 53 54.9**	**+1.9**
JCZ	**Jackson Bay**	**28.08**	**201**	*e*PN		**P**		**06 54 02.8**	**+0.5**
EIDS	**Eidsvold**	**29.73**	**251**	*e*P		**P**		**06 54 17.0**	**+0.4**
	17nm,0.8s								
CAN	**Canberra**	**33.97**	**233**	*e*P		**P**		**06 54 53.7**	**+1.2**
	63nm,1.0s								
TAOE	**Nuku Hiva Isla**	**37.66**	**81**	*e*P		P		06 55 28.0	+4.9
	129nm,0.6s								
STKA	**Stephens Creek**	**39.00**	**242**	P		**P**		**06 55 33.5**	**-0.1**
	21nm,0.6s,baz=85,slow=10,SNR=2.9								
STKA	**Stephens Creek**	**39.00**	**242**	*e*P		**P**		**06 55 34.8**	**+1.2**
	5.5nm,0.9s								
BBOO	**Buckleboo**	**43.77**	**241**	*e*P		**P**		**06 56 11.9**	**+0.7**
	21nm,0.7s								
WRAB	**Tennant Creek**	**45.18**	**260**	*e*P		**P**		**06 56 21.7**	**-0.5**
	17nm,0.6s								
WRA	**Warramunga Arr**	**45.19**	**260**	P		**P**		**06 56 21.4**	**-0.8**
	13nm,0.4s,baz=97,slow=6.9,SNR=252								
WRA				PcP		**PcP**		**06 57 48.7**	**-0.7**
	1.1nm,0.3s,baz=92,slow=3.4,SNR=4.1								
WRA				S		**S**		**07 02 15.7**	**-4.0**
	0.9nm,0.7s,baz=91,slow=14,SNR=3.6								
AS31	**Alice Springs**	**45.30**	**255**	*e*P		**P**		**06 56 23.0**	**-0.1**
ASAR	**Alice Springs**	**45.30**	**255**	P		**P**		**06 56 22.9**	**-0.2**
	26nm,0.5s,baz=92,slow=7.7,SNR=232								
ASAR				PcP		**PcP**		**06 57 49.2**	**-0.6**
	2.7nm,0.5s,baz=96,slow=3.9,SNR=5.7								
ASAR				S		**S**		**07 02 19.3**	**-1.9**
	3.5nm,0.7s,baz=90,slow=15,SNR=22								
FORT	**Forrest**	**50.41**	**245**	*e*P		**P**		**06 57 00.7**	**-0.2**
SIJI	**Sorong**	**52.95**	**283**	P		**P**		**06 57 17.8**	**-1.6**
	17nm,0.4s,baz=56,slow=4.3,SNR=10								
SOEI	**Soe**	**56.71**	**270**	*e*P		**P**		**06 57 46.0**	**+0.3**
	65nm,1.0s								
VNDA	**Vanda**	**60.10**	**185**	P		**P**		**06 58 08.7**	**+1.6**
	2.4nm,0.6s,baz=26,slow=6.4,SNR=6.5								
MJAR	**Matsushiro Arr**	**68.61**	**323**	P		**P**		**06 58 59.8**	**-1.7**
	2.4nm,0.6s,baz=162,slow=6.1,SNR=5.2								
MAT	**Matsushiro**	**68.61**	**323**	P		**P**		**06 58 59.9**	**-1.6**
QSPA	**South Pole Qui**	**71.74**	**180**	P		**P**		**06 59 20.9**	**+1.2**
	8.2nm,0.6s,baz=16,slow=2.7,SNR=19								
QSPA	**South Pole Qui**	**71.74**	**180**	*e*P		**P**		**06 59 20.5**	**+0.9**
	5.1nm,0.6s								
KSM	**Kuching**	**73.37**	**277**	*e*P		**P**		**06 59 29.6**	**-0.2**
	16nm,0.9s								
PETK	**Petropavlovsk-**	**74.23**	**345**	P		**P**		**06 59 32.4**	**-1.3**
	5.9nm,0.9s,baz=167,slow=7.2,SNR=3.6								
KSRS	**Korea Array**	**75.43**	**318**	P		**P**		**06 59 40.1**	**-0.6**
	0.5nm,0.4s,baz=138,slow=6.3,SNR=5.3								
NJ2	**Nanjing**	**78.69**	**309**	*e*P		**P**		**06 59 59.4**	**+0.9**
NJ2				PMZ					
	150nm,1.0s								
NVAR	**Mina Array Bea**	**79.27**	**43**	P		**P**		**07 00 01.4**	**-0.5**
	2.5nm,0.8s,baz=228,slow=9.4,SNR=14								
K05A	**Summer Lake**	**80.11**	**39**	*e*P		**P**		**07 00 06.0**	**0.0**
	298nm,2.9s								
RSO	**Redoubt South**	**81.06**	**12**	*e*P		**P**		**07 00 08.2**	**-2.4**
	43nm,0.7s								
BMN	**Battle Mountai**	**81.07**	**42**	*e*P		**P**		**07 00 11.2**	**+0.2**
TUC	**Tucson**	**81.44**	**52**	*e*P		**P**		**07 00 13.8**	**+0.7**
	7.8nm,1.1s								
MSU	**Marysvale**	**83.41**	**46**	*e*P		**P**		**07 00 22.9**	**0.0**
	3.9nm,1.3s								
MFID	**Camas Ranch**	**83.56**	**40**	*e*P		**P**		**07 00 23.5**	**0.0**
MAW	**Mawson**	**83.69**	**200**	P		**P**		**07 00 24.4**	**+0.8**
	1.2nm,0.4s,baz=151,slow=7.3,SNR=6.2								
HLID	**Hailey**	**84.52**	**41**	*e*P		**P**		**07 00 28.4**	**+0.3**
TXAR	**Lajitas Array**	**85.67**	**57**	P		**P**		**07 00 34.3**	**+0.3**
	3.6nm,0.8s,baz=222,slow=6.4,SNR=27								
GYA	**Guiyang**	**85.79**	**299**	*e*P		**P**		**07 00 35.0**	**+0.4**
GYA				P		**pP**		**07 02 43.8**	**+0.9**
GYA				PP		**PP**		**07 04 08.2**	**+2.4**
GYA				SKS		**SKSac**		**07 10 02.6**	**-1.5**
GYA				S		**S**		**07 10 18.0**	**-0.8**
GYA				PMZ					
	10.0nm,1.0s								
MCMT	**McKenzie Canyo**	**86.13**	**40**	*e*P		**P**		**07 00 36.2**	**+0.2**
ILAR	**Eielson Array**	**86.14**	**13**	P		**P**		**07 00 32.9**	**-2.3**
	1.0nm,0.4s,baz=214,slow=5.3,SNR=19								
REDW	**Red Top Meadow**	**86.66**	**42**	*e*P		**P**		**07 00 38.5**	**+0.1**
PDAR	**Pinedale Array**	**87.21**	**43**	P		**P**		**07 00 40.3**	**-0.8**
	1.8nm,0.9s,baz=242,slow=3.2,SNR=9.0								
EGAK	**Eagle**	**87.44**	**15**	*e*P		**P**		**07 00 40.2**	**-1.1**
	2.0nm,1.0s								
HHC	**Hu-ho-hao-te**	**88.01**	**314**	*e*P		**P**		**07 00 44.8**	**+0.1**
HHC				S		**S**		**07 10 40.5**	**+1.6**
HHC				PMZ					
	17nm,1.2s								
HHC				PMZ					
	150nm,7.7s								
CMAR	**Chiang Mai Arr**	**89.62**	**289**	P		**P**		**07 00 51.7**	**-0.8**
	2.4nm,1.0s,baz=107,slow=2.8,SNR=9.5								
CD2	**Chengdu**	**89.83**	**303**	*e*P		**P**		**07 00 53.8**	**+0.5**
CD2				pP		**pP**		**07 03 04.9**	**+2.0**
CD2				PP		**PP**		**07 04 37.8**	**+0.4**
CD2				SKS		**SKSac**		**07 10 26.2**	**-1.3**
CD2				S		**S**		**07 10 55.4**	**-0.3**
CD2				PMZ					
	10.0nm,0.5s								
SNAA	**Sanae**	**90.18**	**178**	P		P		07 00 46.1	-8.1
LZH	**Lanzhou**	**91.64**	**307**	*e*P		**P**		**07 01 03.2**	**+1.5**
LZH				pP		**pP**		**07 03 14.3**	**+2.7**
LZH				PMZ					
	20nm,1.0s								
LZH				PMZ					
	110nm,5.0s								
YKA	**Yellowknife Ar**	**94.43**	**25**	P		**P**		**07 01 12.1**	**-1.5**
	0.7nm,0.8s,baz=240,slow=4.2,SNR=6.4								
MKAR	**Makanchi Array**	**109.88**	**314**	PKiKP		**PKiKP**		**07 06 19.1**	**-2.0**
	0.3nm,0.5s,baz=56,slow=1.6,SNR=5.7								
KSH	**Kashi**	**113.83**	**306**	*e*PKP		**PKiKP**		**07 06 31.2**	**+2.2**
KSH				sPKP				07 09 49.3	
KSH				PKS		**PKSdf**		**07 10 08.1**	**+2.3**
KSH				SKS		**SKSdf**		**07 12 48.9**	**+3.8**
ARCES	**ARCESS Array B**	**126.83**	**350**	PKP		**PKPdf**		**07 06 52.2**	**-0.7**
	4.3nm,1.0s,baz=302,slow=1.1,SNR=9.2								
AKASG	**Malin Array Be**	**141.21**	**333**	PKhKP		PKPpre		07 07 13.6	
	0.4nm,0.2s,baz=43,slow=3.9,SNR=5.2								
AKASG				PKP		**PKPdf**		**07 07 19.9**	**-0.3**
	0.3nm,0.3s,baz=41,slow=1.7,SNR=5.0								
BSEG	**Bad Segeberg**	**143.91**	**352**	*e*PKPbc		PKPbc		07 07 23.0	-1.3
BUR08	**Bucovina Ar. S**	**145.25**	**332**	*e*PKPbc		**PKPdf**		**07 07 28.6**	**+1.0**
NRDL	**Niedersach Rie**	**145.34**	**352**	*e*PKPbc		**PKPdf**		**07 07 27.5**	**+0.2**
BR131	**Keskin Array S**	**145.52**	**315**	*e*PKPdf		**PKPdf**		**07 07 28.0**	**-0.3**
BRTR	**Keskin Array B**	**145.52**	**315**	PKPbc		**PKPdf**		**07 07 28.4**	**0.0**
	3.4nm,0.8s,baz=131,slow=3.4,SNR=16								
CLL	**Collm**	**146.00**	**348**	*e*PKPbc		**PKPdf**		**07 07 29.4**	**+0.9**
CLL	**Collm**	**146.00**	**348**	⇓*i*PKPbc		**PKPdf**		**07 07 29.4**	**+0.9**
	comp=Z,20nm,1.2s								
UPC	**Upice**	**146.05**	**344**	*e*PKP		**PKPdf**		**07 07 30.2**	**+1.5**
UPC				*ex*		x		07 07 32.3	
DPC	**Dobruska-Polom**	**146.12**	**344**	*e*PKP		**PKPdf**		**07 07 29.8**	**+0.9**
DPC				*ex*		x		07 07 33.0	
BRG	**Berggiesshubel**	**146.21**	**347**	*e*PKP		**PKPdf**		**07 07 30.2**	**+1.2**
	comp=Z,8.4nm,1.1s								
BRG	**Berggiesshubel**	**146.21**	**347**	*e*PKPbc		**PKPdf**		**07 07 30.3**	**+1.4**
KRLC	**Kraliky**	**146.24**	**343**	*e*PKP		**PKPdf**		**07 07 30.8**	**+1.7**
MOX	**Moxa**	**146.89**	**349**	*e*PKPbc		**PKPdf**		**07 07 32.1**	**+2.0**
PRU	**Pruhonice**	**146.90**	**345**	*e*PKP		**PKPdf**		**07 07 31.9**	**+1.8**
PRU				*ex*		x		07 07 35.3	
GOPC	**GO Pecny, Ondr**	**146.91**	**345**	*e*PKP		**PKPdf**		**07 07 31.3**	**+1.1**
HMNX	**Herstmonceux**	**147.48**	**2**	AMS		AMS		07 10 45.2	
	comp=Z,1µm,22.3s								
HGN	**Heimansgroeve**	**147.49**	**356**	*e*L		L		07 10 17.8	
	comp=Z,1µm,18.6s								
ROTZ	**Rotzenmuhle**	**147.62**	**348**	*e*PKPbc		**PKPbc**		**07 07 34.3**	**-0.7**
TNS	**Taunus Mts**	**147.78**	**353**	*e*PKPbc		**PKPbc**		**07 07 34.4**	**-1.0**
KHC	**Kasperske Hory**	**147.93**	**346**	*e*PKP		**PKPbc**		**07 07 35.0**	**-0.8**
KHC				*ex*		x		07 07 40.4	
GEC2	**GERESS Array S**	**148.16**	**346**	*e*PKPbc		**PKPbc**		**07 07 35.5**	**-1.0**
GERES	**GERESS Array B**	**148.16**	**346**	PKPbc		**PKPbc**		**07 07 35.2**	**-1.3**
	comp=Z,2.2nm,0.7s,baz=29,slow=3.0,SNR=14								
CONA	**Conrad Observa**	**148.44**	**342**	⇑*i*PKPbc		**PKPbc**		**07 07 36.8**	**-0.4**
	comp=Z,12nm,1.2s								
BFO	**Black Forest**	**149.66**	**352**	*e*PKPbc		**PKPbc**		**07 07 39.0**	**-1.1**
BFO	**Black Forest**	**149.66**	**352**	*e*PKPbc		**PKPbc**		**07 07 38.9**	**-1.1**
SOKA	**Soboth**	**149.82**	**342**	⇑*i*PKPbc		**PKPbc**		**07 07 38.8**	**-1.8**
	comp=Z,6.5nm,1.0s								
WTTA	**Wattenberg**	**150.12**	**347**	⇑*i*PKPbc		**PKPbc**		**07 07 39.9**	**-1.5**
	comp=Z,4.3nm,0.5s								
ABTA	**Abfaltersbach**	**150.41**	**346**	⇑*i*PKPbc		**PKPbc**		**07 07 40.5**	**-1.4**
	comp=Z,9.0nm,0.7s								
VISS	**Visnje**	**150.67**	**342**	*i* PKPbc		**PKPbc**		**07 07 41.6**	**-0.9**
JAVS	**Javornik**	**150.81**	**343**	*i* PKPbc		**PKPbc**		**07 07 41.8**	**-1.1**
BOJS	**Bojanci**	**150.81**	**341**	*i* PKPdf		**PKPdf**		**07 07 35.7**	**-0.8**
BOJS				*i* PKPbc		**PKPbc**		**07 07 41.7**	**-1.0**
TORD	**Torodi Ar. Bea**	**174.83**	**174**	PKPab		**PKPab**		**07 09 38.9**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=183,slow=2.6,SNR=2.9								

IDC ***10*** *06:50:01.9±0.6, 21.˚70N×143.˚60E, h0km, mb4.2/19, mb1 4.4/22, mb1mx4.3/40, mbtmp4.2/22, ML4.2/3, MS4.0/11, Ms1 4.0/11, ms1mx3.7/36, Error ellipse: s-maj=20.8km s-min=14.2km az=86.0*
ISCJB ***10*** *06:50:05.3±0.4, 21.˚75N±0.˚04×143.˚53E±0.˚10, h33km, mb4.2/24, MS4.0/9, Error ellipse: s-maj=12.9km s-min=5.7km az=170.7*
NEIC ***10*** *06:50:07.4±1.0, 21.˚72N×143.˚56E, h35km±9km, mb4.7/8, Error ellipse: s-maj=10.5km s-min=6.2km az=81.0*

ISC 10 06:50:07.4±0.6, 21.˚73N±0.˚07×143˚5E±0.˚1, h35km, n54, σ0ᵗ74/40, mb4.2/23, MS4.0/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.48**	**347**	Pn		**Pn**		**06 51 25.7**	**-0.9**
	42nm,0.3s,baz=122,slow=23,SNR=22								
JCJ				Sn		**Sn**		**06 52 28.1**	**-0.3**
	27nm,0.3s,baz=315,slow=19,SNR=4.6								
CBIJ	**Chichi jima**	**5.48**	**347**	*e*Pn		**Pn**		**06 51 26.1**	**-0.5**
CBIJ				Sn		**Sn**		**06 52 28.1**	**-0.3**
CBIJ				*e*Sn		Sn		06 52 28.9	+0.5
GUMO	**Guam**	**8.20**	**171**	Pn		**Pn**		**06 52 04.2**	**+0.3**
	2.6nm,0.3s,baz=88,slow=7.5,SNR=3.7								
GUMO				LR		LR		06 54 42.4	
	comp=Z,1µm,19.8s,baz=12,slow=34								
MJAR	**Matsushiro Arr**	**15.47**	**344**	Pn		**Pn**		**06 53 40.9**	**-2.0**
	0.9nm,0.3s,baz=166,slow=9.7,SNR=7.8								
MJAR				LR		LR		06 59 03.5	
	comp=Z,1µm,21.0s,baz=170,slow=35								
JNU	**Nakatsue**	**15.95**	**318**	Pn		**Pn**		**06 53 50.5**	**+1.2**
	0.4nm,0.3s,baz=210,slow=6.0,SNR=3.6								
ERM	**Erimo**	**20.23**	**359**	P		P		06 54 32.3	-7.0
	38nm,1.1s								
KSRS	**Korea Array**	**20.69**	**323**	P		**P**		**06 54 44.8**	**+0.4**
	4.0nm,0.5s,baz=148,slow=9.1,SNR=3.9								
KSAR	**Wonju Array Be**	**20.70**	**323**	P		**P**		**06 54 44.8**	**+0.2**
SSLB	**Suanglung**	**20.93**	**280**	*e*P		Pn		06 54 49.3	-0.5
	30nm,0.9s								
H11N1	**WAKE ISLAND Hy**	**21.93**	**91**	T		T		07 17 32.6	
	baz=279,slow=75,SNR=58								
H11N2	**WAKE ISLAND Hy**	**21.93**	**91**	T		T		07 17 33.4	
	baz=279,slow=75,SNR=56								
H11N3	**WAKE ISLAND Hy**	**21.95**	**91**	T		T		07 17 33.8	
	baz=279,slow=75,SNR=45								
H11S3	**WAKE ISLAND Hy**	**21.97**	**94**	T		T		07 17 36.0	
	baz=282,slow=75,SNR=214								
H11S1	**WAKE ISLAND Hy**	**21.98**	**94**	T		T		07 17 34.6	
	baz=282,slow=75,SNR=93								
H11S2	**WAKE ISLAND Hy**	**21.99**	**94**	T		T		07 17 36.2	
	baz=282,slow=75,SNR=104								
ASAJ	**Asahikawa**	**22.34**	**358**	P		**P**		**06 55 02.8**	**+0.7**
	1.8nm,0.3s,baz=167,slow=7.7,SNR=6.1								
ASAJ				LR		LR		07 04 49.7	
	comp=Z,185nm,19.9s,baz=226,slow=40								
ASAJ	**Asahikawa**	**22.34**	**358**	*e*P		**P**		**06 55 04.2**	**+2.1**
USRK	**Ussuriysk Ar.**	**24.36**	**340**	P		**P**		**06 55 22.7**	**+0.7**
	6.2nm,0.9s,baz=152,slow=8.6,SNR=14								
SONM	**Songino Array**	**39.52**	**320**	P		**P**		**06 57 34.6**	**-0.3**
	1.5nm,0.8s,baz=114,slow=6.5,SNR=6.7								
SONM				LR		LR		07 14 06.6	
	comp=Z,110nm,19.1s,baz=104,slow=36								
CMAR	**Chiang Mai Arr**	**41.90**	**274**	P		**P**		**06 57 55.3**	**+0.6**
	1.5nm,0.4s,baz=48,slow=8.6,SNR=4.3								
CMAR				LR		LR		07 15 19.6	
	comp=Z,88nm,18.1s,baz=118,slow=36								
WRAB	**Tennant Creek**	**42.37**	**193**	*e*P		**P**		**06 57 58.1**	**-0.3**
	20nm,1.3s								
WRA	**Warramunga Arr**	**42.38**	**193**	P		**P**		**06 57 58.1**	**-0.4**
	8.6nm,0.8s,baz=15,slow=8.9,SNR=13								
AS31	**Alice Springs**	**46.09**	**192**	*e*P		**P**		**06 58 28.0**	**-0.2**
ASAR	**Alice Springs**	**46.09**	**192**	P		**P**		**06 58 27.7**	**-0.5**
	5.1nm,0.7s,baz=11,slow=8.6,SNR=20								
ASAR				LR		LR		07 16 37.6	
	comp=Z,184nm,20.6s,baz=329,slow=35								
DZM	**Mont Dzumac**	**48.93**	**151**	*e*LR		LR		07 11 56.0	
	252nm,23.4s								
STKA	**Stephens Creek**	**53.34**	**182**	P		**P**		**06 59 22.1**	**-1.1**
	2.3nm,0.8s,baz=349,slow=7.1,SNR=3.6								
ZAA0	**Zalesovo Array**	**54.39**	**322**	*e*P		**P**		**06 59 29.9**	**-0.8**
ZALV	**Zalesovo Beam**	**54.39**	**322**	P		**P**		**06 59 30.1**	**-0.5**
	2.9nm,0.8s,baz=101,slow=7.7,SNR=7.0								
MKAR	**Makanchi Array**	**54.92**	**313**	P		**P**		**06 59 34.6**	**-0.1**
	1.7nm,1.1s,baz=92,slow=8.7,SNR=3.7								
MKAR				LR		LR		07 25 07.2	
	comp=Z,133nm,19.1s,baz=74,slow=38								
KURK	**Kurchatov**	**57.68**	**317**	*e*P		**P**		**06 59 53.9**	**-0.3**
BPAW	**Bear Paw Mtn.**	**59.99**	**27**	*e*P		**P**		**07 00 10.9**	**+0.8**
	2.6nm,1.5s								
TRF	**Thorofare Moun**	**60.16**	**28**	*e*P		**P**		**07 00 11.7**	**+0.2**
	5.2nm,0.8s								
ILAR	**Eielson Array**	**61.86**	**27**	P		**P**		**07 00 22.0**	**-0.8**
	2.4nm,0.9s,baz=255,slow=5.6,SNR=19								
BRVK	**Borovoye**	**62.92**	**320**	*e*P		**P**		**07 00 30.0**	**-0.2**
	22nm,1.2s								
INK	**Inuvik**	**67.41**	**24**	P		**P**		**07 00 59.0**	**+0.1**
	2.1nm,0.3s,baz=239,slow=5.5,SNR=3.7								
H02N1	**VAN INLET T-PH**	**69.30**	**40**	T		T		08 17 10.0	
H02S1	**DAWSON INLET T**	**69.35**	**40**	T		T		08 17 16.3	
	SNR=9.6								
ABKAR	**Akbulak array**	**69.75**	**316**	*e*P		**P**		**07 01 13.4**	**-0.6**
	5.3nm,1.0s								
PPT	**Papeete**	**76.25**	**115**	LR		LR		07 31 46.3	
	comp=Z,138nm,18.2s,baz=316,slow=33								
PPT2	**Papeete2**	**76.25**	**115**	*e*LR		LR		07 24 45.5	
	266nm,23.5s								
YKA	**Yellowknife Ar**	**76.27**	**28**	P		**P**		**07 01 52.4**	**+0.2**
	2.4nm,0.9s,baz=291,slow=5.4,SNR=17								
PMOR	**Pomariorio Ree**	**76.49**	**112**	*e*T		T		08 25 24.9	
	2.4nm,0.2s								
ARCES	**ARCESS Array B**	**78.99**	**342**	P		**P**		**07 02 07.7**	**+0.4**
	1.5nm,0.8s,baz=60,slow=5.3,SNR=2.7								
ARCES				LR		LR		07 41 20.7	
	comp=Z,149nm,20.4s,baz=88,slow=39								
TBI	**Tubuai**	**79.12**	**121**	*e*LR		LR		07 26 00.5	
	70nm,23.5s								
KBZ	**Khabaz**	**82.58**	**314**	P		**P**		**07 02 27.1**	**+0.2**
	2.0nm,0.7s,baz=80,slow=4.3,SNR=3.9								
NVAR	**Mina Array Bea**	**82.86**	**52**	P		**P**		**07 02 29.0**	**+0.2**
	1.0nm,0.7s,baz=283,slow=4.8,SNR=7.7								
FINES	**FINESS Array B**	**83.29**	**335**	P		**P**		**07 02 29.6**	**-0.7**
	0.5nm,0.5s,baz=92,slow=4.4,SNR=5.4								
FINES				LR		LR		07 43 01.1	
	comp=Z,95nm,18.5s,baz=49,slow=38								
FFC	**Flin Flon**	**85.62**	**32**	*e*P		**P**		**07 02 42.9**	**+0.7**
	8.5nm,1.0s								
NOA	**NORSAR Array B**	**89.03**	**339**	LR		LR		07 46 32.7	
	comp=Z,100nm,21.1s,baz=65,slow=38								
BRTR	**Keskin Array B**	**90.56**	**314**	P		**P**		**07 03 07.5**	**+1.2**
	0.3nm,0.7s,baz=71,slow=5.2,SNR=2.2								
TXAR	**Lajitas Array**	**97.77**	**54**	P		Pdif		07 03 40.2	+0.7
	0.8nm,1.2s,baz=289,slow=2.8,SNR=3.0								
LPAZ	**La Paz**	**149.61**	**85**	PKPbc		**PKPbc**		**07 09 54.6**	**-0.2**
	2.2nm,1.0s,baz=351,slow=4.0,SNR=3.8								
LPAZ	**La Paz**	**149.61**	**85**	*e*PKPdf		**PKPdf**		**07 09 50.5**	**+0.3**
LPAZ				PKPbc		**PKPbc**		**07 09 54.6**	**-0.2**
SAML	**Samuel**	**151.33**	**68**	*e*PKPbc		**PKPbc**		**07 09 58.0**	**-0.3**

NNC 10 06:51:26.9±4.1, 36˚83N×70˚60E, h200km±41km, mb2.5, mpv3.7, 2C-5D, Error ellipse: s-maj=39.2km s-min=20.4km az=159.0, Hindu Kush region

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

ILAR	**Eielson Array**	**75.72**	**26**	P		**P**	**07 28 30.9**	**-0.5**
	0.2nm,0.8s,baz=289,slow=5.6,SNR=2.8							
FINES	**FINESS Array B**	**76.29**	**330**	P		**P**	**07 28 34.7**	**+0.1**
	0.5nm,0.5s,baz=38,slow=5.4,SNR=2.4							
YKA	**Yellowknife Ar**	**89.58**	**22**	P		**P**	**07 29 44.2**	**+0.9**
	0.3nm,0.6s,baz=314,slow=4.9,SNR=5.1							

ISCJB ***10*** *07:38:42.9±1.9, 14°.66N±0°.05×54°.36E±0°.04, h8km±11km, mb4.5/67, MS3.8/25, Error ellipse: s-maj=8.0km s-min=6.3km az=10.3*

IDC ***10*** *07:38:43.0±0.5, 14°.62N×54°.45E, h0km, mb4.2/28, mb1 4.3/28, mb1mx4.2/40, mbtmp4.2/28, MS3.8/23, Ms1 3.8/23, ms1mx3.7/44, Error ellipse: s-maj=13.2km s-min=12.5km az=116.0*

GCMT ***10*** *07:38:44.6±0.4, 14°.57N×54°.01E, h14km±1km, MW4.8/64, Moment Tensor Solution. s23,c24; s64,c79; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.63±.14; Mθθ 1.56±.10; Mϕϕ 0.07±.10; Mrθ -0.02±.19; Mϕθ -0.32±.06; Mrϕ 0.63±.30; Best double couple: M0 1.73500×10^16 NP1:ϕs 119.00000°, δ 50.00000°, λ -66.00000°. NP2: ϕs 264.00000°, δ 45.00000°, λ -116.00000°. Principal axes: T 1.6310, Plg3.0000°, Azm193.0000°; N 0.2090, Plg18.0000°, Azm283.0000°; P -1.8390, Plg72.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***10*** *07:38:44.0, 14°.60N×54°.30E, h10km, mb4.7/23, mB4.9/15, Ms4.6/7, Ms7 4.3/7*

NEIC ***10*** *07:38:44.6±0.4, 14°.61N×54°.37E, h10km, mb4.8/16, Error ellipse: s-maj=8.5km s-min=7.7km az=197.0*

CSEM ***10*** *07:38:44.8±0.2, 14°.63N×54°.41E, h10km, mb4.8/34, Error ellipse: s-maj=8.1km s-min=7.5km az=118.0*

MOS ***10*** *07:38:46.6±1.4, 14°.65N×54°.37E, h33km, mb4.9/28, Error ellipse: s-maj=9.9km s-min=5.2km az=100.2*

OMAN ***10*** *07:39:02.6±99.0, 16°.00N×54°.33E, h21km±26km, Error ellipse: s-maj=44.4km s-min=8.1km az=354.0*

ISC 10 07:38:46.2±0.6, 14°.73N±0°.06×54°.35E±0°.05, h18km±2km, h17km:pP-P, n281, σ1°31/275, mb4.6/78, MS3.8/25, 14C-12D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
RBK	**Rabkut**	**2.76**	**357**	P	**Pn**	**07 39 28.3**	**-1.4**
	SNR=30						
RBK	**Rabkut**	**2.76**	**357**	P	**Pn**	**07 39 28.3**	**-1.4**
	SNR=30						
ABTO	**Aybut**	**2.80**	**339**	P	**Pn**	**07 39 30.6**	**+0.4**
	SNR=8.9						
ABTO	**Aybut**	**2.80**	**339**	P	**Pn**	**07 39 30.6**	**+0.4**
	SNR=8.9						
ARQ	**Araqi**	**8.81**	**13**	P	**Pn**	**07 40 53.0**	**+0.3**
ARQ	**Araqi**	**8.81**	**13**	⇑P	**Pn**	**07 40 53.0**	**+0.3**
WBK	**Wadi Bani Khal**	**8.98**	**28**	P	**Pn**	**07 40 56.9**	**+1.7**
	SNR=10						
WBK	**Wadi Bani Khal**	**8.98**	**28**	⇓P	**Pn**	**07 40 56.9**	**+1.7**
	SNR=10						
SMDO	**Samad**	**9.00**	**22**	P	**Pn**	**07 40 54.8**	**-0.6**
SMDO	**Samad**	**9.00**	**22**	⇑P	**Pn**	**07 40 54.8**	**-0.6**
HOQ	**Hoqain**	**9.24**	**17**	P	**Pn**	**07 40 58.4**	**-0.3**
HOQ	**Hoqain**	**9.24**	**17**	⇑P	**Pn**	**07 40 58.4**	**-0.3**
RAYN	**Ar Rayn**	**12.09**	**318**	*e*Pn	Pn	07 41 35.0	-2.8
	11nm,0.7s						
RAYN				Sn	**Sn**	**07 43 48.6**	**-3.8**
RAYN	**Ar Rayn**	**12.09**	**318**	*e*Pn	Pn	07 41 35.0	-2.8
	11nm,0.7s						
RAYN				Sn	**Sn**	**07 43 48.6**	**-3.8**
IBAF	**Bafgh**	**16.82**	**4**	*e*P	**Pn**	**07 42 38.3**	**-2.8**
IBAF	**Bafgh**	**16.82**	**4**	*e*P	**Pn**	**07 42 38.3**	**-2.8**
ITEG	**Tejag**	**18.53**	**12**	*e*P	**Pn**	**07 43 02.2**	**0.0**
ITEG	**Tejag**	**18.53**	**12**	*e*P	**Pn**	**07 43 02.3**	**0.0**
IVRN	**Varamin**	**20.32**	**354**	*e*P	Pn	07 43 22.8	-0.8
IVRN	**Varamin**	**20.32**	**354**	*e*P	Pn	07 43 22.8	-0.8
IANJ	**Anjilo**	**20.66**	**359**	*e*P	**P**	**07 43 26.6**	**+1.3**
IANJ	**Anjilo**	**20.66**	**359**	*e*P	**P**	**07 43 26.6**	**+1.3**
IR3	**Iran Long-Peri**	**20.88**	**352**	*e*P	Pn	07 43 29.2	-0.9
IR3	**Iran Long-Peri**	**20.88**	**352**	*e*P	Pn	07 43 29.2	-0.9
IDHR	**Dehrash**	**21.14**	**342**	*e*P	**P**	**07 43 30.0**	**-0.6**
IDHR	**Dehrash**	**21.14**	**342**	*e*P	**P**	**07 43 30.0**	**-0.6**
IKIA	**Kiasar**	**21.40**	**359**	*e*P	**P**	**07 43 35.0**	**+1.7**
IKIA	**Kiasar**	**21.40**	**359**	*e*P	**P**	**07 43 35.0**	**+1.7**
KMBO	**Kilima Mbogo**	**23.12**	**228**	P	**P**	**07 43 51.5**	**-0.3**
	4.1nm,0.7s,baz=40,slow=13,SNR=12						
KMBO	**Kilima Mbogo**	**23.12**	**228**	*e*P	**P**	**07 43 52.7**	**+0.9**
EIL	**Elat**	**23.26**	**313**	P	**P**	**07 43 54.5**	**+1.6**
	4.9nm,0.8s,baz=166,slow=18,SNR=4.5						
EIL				LR	LR	07 53 26.0	
	comp=Z,274nm,18.4s,baz=112,slow=38						
ASF	**Jabal al Asfar**	**23.56**	**320**	P	**P**	**07 43 58.0**	**+2.1**
	1.1nm,0.4s,baz=126,slow=13,SNR=3.4						
KBL	**Kabul**	**23.77**	**31**	*e*P	**P**	**07 44 00.0**	**+1.9**
KBL				pmax	pmax		
	comp=Z,19nm,1.0s						
KBL	**Kabul**	**23.77**	**31**	*e*P	**P**	**07 44 00.0**	**+1.9**
	comp=Z,19nm,1.0s						
KBL	**Kabul**	**23.77**	**31**	*e*P	**P**	**07 43 60.0**	**+1.9**
	comp=Z,19nm,1.0s						
IBST	**Bostanabad**	**23.82**	**345**	*e*P	**P**	**07 43 58.9**	**+0.4**
IBST	**Bostanabad**	**23.82**	**345**	*e*P	**P**	**07 43 58.9**	**+0.4**
MMAI	**Mount Meron Ar**	**25.05**	**320**	P	**P**	**07 44 11.6**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=108,slow=9.4,SNR=3.8						
MMAI				LR	LR	07 54 42.0	
	comp=Z,168nm,20.0s,baz=115,slow=38						
H08N2	**Diego Garcia H**	**26.65**	**141**	T	T	08 12 01.8	
	baz=322,slow=76,SNR=14						
H08N3	**Diego Garcia H**	**26.66**	**141**	T	T	08 12 00.1	
	baz=322,slow=76,SNR=15						
H08N1	**Diego Garcia H**	**26.67**	**141**	T	T	08 12 04.0	
	baz=322,slow=76,SNR=9.9						
GNI	**Garni**	**26.69**	**343**	P	**P**	**07 44 26.7**	**+2.2**
	comp=Z,11nm,0.6s,baz=90,slow=3.0,SNR=7.8						
GNI				LR	LR	07 56 58.1	
	comp=Z,404nm,19.2s,baz=136,slow=41						
GNI	**Garni**	**26.69**	**343**	*ce*P	**P**	**07 44 27.5**	**+3.0**
GNI				pmax	pmax		
	comp=Z,60nm,1.7s						
GNI	**Garni**	**26.69**	**343**	*e*P	**P**	**07 44 27.5**	**+3.0**
	comp=Z,60nm,1.7s						
GNI	**Garni**	**26.69**	**343**	*e*P	**P**	**07 44 27.8**	**+3.3**
PALK	**Pallekele**	**26.89**	**103**	LR	LR	07 51 58.1	
	comp=Z,218nm,21.0s,baz=283,slow=30						
ZEI	**Tsey**	**29.37**	**344**	*e*P	**P**	**07 44 49.9**	**+1.3**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.4s						
KOLN	**Koldanda**	**30.11**	**60**	*e*P	**P**	**07 44 56.5**	**+1.3**
	comp=Z,38nm,1.1s						
KBZ	**Khabaz**	**30.52**	**344**	P	**P**	**07 45 00.9**	**+2.5**
	comp=Z,2.1nm,0.7s,baz=157,slow=4.7,SNR=4.8						
KBZ				LR	LR	07 59 18.7	
	comp=Z,336nm,20.9s,baz=164,slow=40						
KIV	**Kislovodsk**	**30.79**	**343**	*e*P	P	07 45 04.2	+3.3
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,234nm,16.0s						
KIV	**Kislovodsk**	**30.79**	**343**	*e*P	P	07 45 04.2	+3.3
	comp=Z,234nm,16.0s						
BRTR	**Keskin Array B**	**30.82**	**328**	P	**P**	**07 45 02.0**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=137,slow=8.0,SNR=5.3						
BRTR				LR	LR	07 58 05.0	
	comp=Z,134nm,20.3s,baz=111,slow=38						
BRTR	**Keskin Array B**	**30.82**	**328**	*ce*P	P	07 45 05.8	+4.5
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GKN	**Gorkha**	**31.05**	**60**	*e*P	**P**	**07 45 04.5**	**+1.0**
	comp=Z,36nm,1.0s						
KSH	**Kashi**	**31.15**	**33**	P	**P**	**07 45 01.1**	**-3.1**
KSH				pP	**pP**	**07 45 07.3**	**-2.3**
KSH				sP	**sP**	**07 45 09.8**	**-2.0**
KSH				PP	**PnPn**	**07 46 05.1**	**-0.8**
KSH				PcP	**PcP**	**07 47 58.8**	**-0.4**
KSH				S	**S**	**07 50 04.9**	**-4.5**
KSH				sS	sS	07 50 12.4	-5.9
KSH				PcS	**PcS**	**07 51 42.3**	**-1.1**
KSH				SS	**SnSn**	**07 51 47.9**	**-3.6**
KSH				PMZ			
	comp=Z,16nm,1.0s						
KSH				PMZ			
	comp=Z,100nm,4.1s						
KSH				LN			
	comp=Z,290nm,7.4s						
KSH				LE			
	comp=Z,330nm,7.3s						
KSH				LZ			
	comp=Z,290nm,7.6s						
DMN	**Daman**	**31.32**	**61**	*e*P	**P**	**07 45 06.7**	**+0.7**
	comp=Z,43nm,1.1s						
KKAR	**Karatay Array**	**31.50**	**23**	P	**P**	**07 45 09.3**	**+2.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
KKAR	**Karatay Array**	**31.50**	**23**	P	**P**	**07 45 09.3**	**+2.2**
	comp=Z,1.0nm,0.2s						
KKAR	**Karatay Array**	**31.50**	**23**	P	**P**	**07 45 09.3**	**+2.2**
	comp=Z,0.6nm,0.2s						
KKN	**Kakani**	**31.52**	**61**	*e*P	**P**	**07 45 09.1**	**+1.3**
	comp=Z,37nm,0.8s						
PKI	**Pulchoki**	**31.56**	**61**	*e*P	**P**	**07 45 08.9**	**+0.6**
	comp=Z,42nm,1.2s						
GUN	**Gumba**	**32.06**	**61**	*e*P	**P**	**07 45 13.9**	**+1.2**
	comp=Z,150nm,1.3s						
JIRN	**Jiri**	**32.25**	**61**	*e*P	**P**	**07 45 15.3**	**+0.9**
	comp=Z,31nm,0.8s						
RAMN	**Ramite**	**32.41**	**63**	*e*P	**P**	**07 45 16.3**	**+0.7**
	comp=Z,21nm,0.9s						
EKS2	**Erkin-Say**	**32.48**	**27**	*e*P	P	07 45 19.5	+3.7
EKS2				pmax	pmax		
	comp=Z,11nm,1.4s						
EKS2	**Erkin-Say**	**32.48**	**27**	*e*P	P	07 45 19.5	+3.7
	comp=Z,11nm,1.4s						
EKS2	**Erkin-Say**	**32.48**	**27**	*e*P	P	07 45 19.5	+3.7
	comp=Z,11nm,1.4s						
AAK	**Ala-Archa**	**32.77**	**28**	P	**P**	**07 45 18.9**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=219,slow=10.0,SNR=3.9						
AAK				PcP	**PcP**	**07 48 03.7**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=207,slow=2.3,SNR=4.2						
AAK	**Ala-Archa**	**32.77**	**28**	*e*P	**P**	**07 45 20.1**	**+1.5**
AAK						07 48 03.7	
AAK	**Ala-Archa**	**32.77**	**28**	*e*P	**P**	**07 45 20.0**	**+1.5**
AAK	**Ala-Archa**	**32.77**	**28**	*e*P	**P**	**07 45 20.1**	**+1.5**
AAK				PcP	**PcP**	**07 48 03.7**	**+0.1**
ODAN	**Odare**	**33.06**	**63**	*e*P	**P**	**07 45 22.2**	**+0.9**
	comp=Z,19nm,0.7s						
ANN	**Anapa**	**33.23**	**338**	*e*P	**P**	**07 45 22.5**	**+0.3**
ANN				*e**PP	pP	07 45 33.7	+6.0
ANN				*e*		07 46 35.6	
ANN				*e*S	**S**	**07 50 42.6**	**+1.2**
ANN				pmax	pmax		
	comp=Z,27nm,0.9s						
ANN	**Anapa**	**33.23**	**338**	*e*P	**P**	**07 45 22.5**	**+0.3**
	comp=Z,27nm,0.9s						
ANN				*e*S	**S**	**07 50 42.6**	**+1.2**
TAPN	**Taplejung**	**33.46**	**63**	*e*P	**P**	**07 45 25.7**	**+0.8**
	comp=Z,26nm,0.8s						
AB31	**Akbulak array**	**34.74**	**6**	*i* P	**P**	**07 45 36.0**	**+0.7**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AB31	**Akbulak array**	**34.74**	**6**	*i* P	**P**	**07 45 36.0**	**+0.7**
	comp=Z,3.0nm,0.5s						
ABKAR	**Akbulak array**	**34.74**	**6**	*e*P	**P**	**07 45 35.9**	**+0.6**
	comp=Z,21nm,1.2s						
ABKAR	**Akbulak array**	**34.74**	**6**	*e*P	**P**	**07 45 35.9**	**+0.6**
	comp=Z,21nm,1.2s						
AKTO	**Aktyubinsk**	**35.74**	**4**	LR	LR	08 03 52.4	
	comp=Z,193nm,18.1s,slow=42						
TIRR	**Tirgusor**	**36.92**	**329**	*e*P	**P**	**07 45 56.0**	**+1.9**
TIRR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TIRR	**Tirgusor**	**36.92**	**329**	*e*P	**P**	**07 45 56.0**	**+1.9**
	comp=Z,6.0nm,0.9s						
TIRR	**Tirgusor**	**36.92**	**329**	*e*P	**P**	**07 45 56.0**	**+1.9**
	comp=Z,5.8nm,0.9s						
TLB	**Topalu**	**37.20**	**328**	⇓P	**P**	**07 45 57.7**	**+1.3**
TLB	**Topalu**	**37.20**	**328**	⇓*i*P	**P**	**07 45 57.7**	**+1.3**
TLB	**Topalu**	**37.20**	**328**	P	**P**	**07 45 57.7**	**+1.3**
VORD	**Divnogorie**	**38.14**	**345**	*e*P	P	07 46 08.6	+4.3
VORD				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VORD				pmax	pmax		
	comp=N,7.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,7.0nm,1.0s						
VORD	**Divnogorie**	**38.14**	**345**	*e*P	P	07 46 08.6	+4.3
	comp=E,7.0nm,0.6s						
VSR	**Storozhevoye**	**38.40**	**345**	*e*P	**P**	**07 46 09.1**	**+2.6**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
VSR				pmax	pmax		
	comp=N,5.0nm,0.5s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.4s						
VSR	**Storozhevoye**	**38.40**	**345**	*e*P	**P**	**07 46 09.1**	**+2.6**
	comp=E,5.0nm,0.5s						
VRI	**Vrincioaia**	**38.76**	**329**	⇓P	**P**	**07 46 11.2**	**+1.5**
VRI	**Vrincioaia**	**38.76**	**329**	⇓*i*P	**P**	**07 46 11.2**	**+1.5**
VRI	**Vrincioaia**	**38.76**	**329**	P	**P**	**07 46 11.2**	**+1.5**
PLOR	**Plostina**	**38.79**	**329**	⇑P	**P**	**07 46 12.7**	**+2.8**
PLOR	**Plostina**	**38.79**	**329**	⇑*i*P	**P**	**07 46 12.7**	**+2.8**
PLOR	**Plostina**	**38.79**	**329**	P	**P**	**07 46 12.7**	**+2.8**
MLR	**Muntele Rosu**	**38.90**	**328**	⇓P	P	07 46 15.8	+4.8
MLR	**Muntele Rosu**	**38.90**	**328**	⇓*i*P	P	07 46 15.8	+4.8
MLR	**Muntele Rosu**	**38.90**	**328**	P	P	07 46 15.8	+4.8
MK31	**Makanchi Array**	**39.57**	**30**	*e*P	**P**	**07 46 17.3**	**+0.9**
MK31				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MK31	**Makanchi Array**	**39.57**	**30**	*e*P	**P**	**07 46 16.9**	**+0.5**
MK31	**Makanchi Array**	**39.57**	**30**	*e*P	**P**	**07 46 16.9**	**+0.5**
MKAR	**Makanchi Array**	**39.57**	**30**	P	**P**	**07 46 16.9**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=213,slow=9.1,SNR=30						
MKAR				PcP	**PcP**	**07 48 23.3**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=256,slow=2.3,SNR=5.8						
MKAR				LR	LR	08 04 59.0	
	comp=Z,94nm,18.3s,baz=218,slow=40						
MKAR	**Makanchi Array**	**39.57**	**30**	*ce*P	**P**	**07 46 17.5**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**39.57**	**30**	*e*P	**P**	**07 46 17.4**	**+1.0**
MKAR	**Makanchi Array**	**39.57**	**30**	*e*P	**P**	**07 46 17.4**	**+0.9**
MKAR				PcP	**PcP**	**07 48 23.3**	**-0.3**
LPSR	**Galich'ya Gora**	**39.73**	**345**	*e*P	P	07 46 21.1	+3.5
LPSR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LPSR				pmax	pmax		
	comp=N,7.0nm,0.6s						
LPSR				pmax	pmax		
	comp=E,7.0nm,0.6s						
LPSR	**Galich'ya Gora**	**39.73**	**345**	*e*P	P	07 46 21.1	+3.5
	comp=E,7.0nm,0.7s						
BVA0	**Borovoye Array**	**40.27**	**15**	*i* P	**P**	**07 46 22.4**	**+0.3**
BVA0				pmax	pmax		
	comp=Z,13nm,1.0s						
BVA0	**Borovoye Array**	**40.27**	**15**	*i* P	**P**	**07 46 22.4**	**+0.3**
	comp=Z,13nm,1.0s						
BVAR	**Borovoye Array**	**40.27**	**15**	P	**P**	**07 46 22.7**	**+0.6**
	comp=Z,3.8nm,0.7s,baz=188,slow=5.8,SNR=18						
BVAR				PcP	**PcP**	**07 48 25.7**	**0.0**
	comp=Z,2.5nm,0.6s,baz=191,slow=3.0,SNR=7.6						
BVAR				LR	LR	08 04 56.4	
	comp=Z,126nm,21.5s,baz=250,slow=39						
BRVK	**Borovoye**	**40.27**	**15**	⇓*e*P	**P**	**07 46 21.7**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BRVK	**Borovoye**	**40.27**	**15**	*e*P	**P**	**07 46 22.9**	**+0.8**
	comp=Z,3.8nm,0.7s						
BRVK	**Borovoye**	**40.27**	**15**	*e*P	**P**	**07 46 22.9**	**+0.8**
	comp=Z,3.8nm,0.7s						
WMQ	**Urumqi**	**40.59**	**38**	P	**P**	**07 46 27.5**	**+2.5**
WMQ				pP	**pP**	**07 46 32.0**	**+1.5**
WMQ				sP	**sP**	**07 46 34.5**	**+1.8**
WMQ				PP	**PnPn**	**07 48 05.1**	**+2.5**
WMQ				PMZ			
	comp=Z,42nm,0.4s						
WMQ				PMZ			
	comp=Z,13nm,4.7s						
WMQ				LN			
	comp=Z,18nm,7.8s						
WMQ				LE			
	comp=Z,15nm,8.6s						
WMQ				LZ			
	comp=Z,21nm,9.4s						
BURAR	**Bucovina Array**	**40.72**	**330**	⇓P	**P**	**07 46 28.7**	**+2.6**
BURAR	**Bucovina Array**	**40.72**	**330**	⇓*i*P	**P**	**07 46 28.7**	**+2.6**
BUR08	**Bucovina Ar. S**	**40.75**	**330**	*e*P	**P**	**07 46 28.0**	**+1.7**
BUR08	**Bucovina Ar. S**	**40.75**	**330**	*e*P	**P**	**07 46 28.0**	**+1.7**
KURBB	**Kurchatov Arra**	**40.80**	**24**	P	**P**	**07 46 27.1**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=224,slow=8.2,SNR=22						
KURBB				PcP	**PcP**	**07 48 27.3**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=226,slow=3.1,SNR=5.9						
KURK	**Kurchatov**	**40.91**	**24**	*e*P	**P**	**07 46 27.8**	**+0.4**
KURK						07 48 27.3	
KURK	**Kurchatov**	**40.91**	**24**	*e*P	**P**	**07 46 27.8**	**+0.4**
KURK	**Kurchatov**	**40.91**	**24**	P	P	07 46 34.1	+6.7
	SNR=7.9						
KURK	**Kurchatov**	**40.91**	**24**	*e*P	**P**	**07 46 27.8**	**+0.4**
KURK				PcP	**PcP**	**07 48 27.3**	**-0.5**
AK02	**Malin Array Si**	**41.20**	**336**	*e*P	**P**	**07 46 31.2**	**+1.4**
AK02	**Malin Array Si**	**41.20**	**336**	*e*P	**P**	**07 46 31.2**	**+1.4**
AK01	**Malin Array Si**	**41.23**	**336**	*e*P	**P**	**07 46 31.5**	**+1.5**
AK01	**Malin Array Si**	**41.23**	**336**	*e*P	**P**	**07 46 31.5**	**+1.5**
AKASG	**Malin Array Be**	**41.23**	**336**	P	**P**	**07 46 30.5**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=140,slow=7.6,SNR=10.0						
AKASG				PP	**PP**	**07 48 07.2**	**+1.9**
	comp=Z,1.7nm,0.8s,baz=137,slow=11,SNR=11						
AKASG				LR	LR	08 06 36.9	
	comp=Z,90nm,18.4s,baz=160,slow=40						
AKBB	**Malin Array Si**	**41.23**	**336**	*e*P	**P**	**07 46 31.2**	**+1.1**
AKBB	**Malin Array Si**	**41.23**	**336**	*e*P	**P**	**07 46 31.2**	**+1.1**
AKBB	**Malin Array Si**	**41.23**	**336**	*e*P	**P**	**07 46 31.2**	**+1.1**
KIEV	**Kiev**	**41.23**	**336**	*i* P	**P**	**07 46 31.1**	**+1.1**
KIEV	**Kiev**	**41.23**	**336**	*i* P	**P**	**07 46 31.1**	**+1.1**
KIEV	**Kiev**	**41.23**	**336**	*e*P	**P**	**07 46 29.1**	**-1.0**
	comp=Z,4.4nm,0.7s						
BSI	**Banda Aceh**	**41.28**	**99**	P	P	07 46 37.4	+6.4
	comp=Z,51nm,2.2s						
ARU	**Arti**	**41.74**	**4**	*d* iP	**P**	**07 46 34.7**	**+0.5**
ARU						07 48 12.4	
ARU				S	**S**	**07 52 51.2**	**+0.8**
ARU				SS	**SS**	**07 55 54.0**	**-2.3**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ARU	**Arti**	**41.74**	**4**	*i* P	**P**	**07 46 34.7**	**+0.5**
	comp=Z,6.0nm,1.2s						
ARU				S	**S**	**07 52 51.2**	**+0.8**
OBN	**Obninsk**	**42.60**	**345**	*i* P	**P**	**07 46 40.9**	**-0.2**
OBN				*i*		07 46 48.1	
OBN				*i*		07 48 21.7	
OBN				*i*		07 48 32.9	
OBN				*i* SS	SS	07 56 05.6	-7.6
OBN				pmax	pmax		
	comp=Z,35nm,1.7s						
OBN				MLR	MLR		
	comp=Z,228nm,23.0s						
OBN	**Obninsk**	**42.60**	**345**	*i* P	**P**	**07 46 40.9**	**-0.2**
	comp=Z,35nm,1.7s						
OBN	**Obninsk**	**42.60**	**345**	*i* PcP	**PcP**	**07 48 32.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**42.82**	**79**	P	**P**	**07 46 42.5**	**-1.1**
	comp=Z,5.9nm,0.9s,baz=276,slow=9.2,SNR=15						
CMAR	**Chiang Mai Arr**	**42.82**	**79**	*ce*P	**P**	**07 46 43.9**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MOS	**Moscow**	**42.91**	**346**	*e*P	**P**	**07 46 43.0**	**-0.7**
MOS	**Moscow**	**42.91**	**346**	*e*P	**P**	**07 46 43.0**	**-0.7**
MATP	**Matopo**	**43.19**	**217**	P	**P**	**07 46 45.9**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=37,slow=10,SNR=7.4						
SOKR	**Solikamsk**	**44.83**	**2**	*e*P	**P**	**07 46 57.0**	**-2.0**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KEST	**Kesra**	**45.29**	**306**	P	**P**	**07 47 04.3**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=19,slow=5.1,SNR=6.3						
KEST				LR	LR	08 06 58.1	
	comp=Z,43nm,18.7s,baz=332,slow=37						
PSI	**Prapat**	**45.52**	**101**	LR	LR	08 03 41.0	
	comp=Z,173nm,20.1s,baz=268,slow=33						
ZAA0	**Zalesovo Array**	**45.84**	**25**	*e*P	**P**	**07 47 06.7**	**-0.4**
ZAA0	**Zalesovo Array**	**45.84**	**25**	*e*P	**P**	**07 47 06.7**	**-0.4**
ZALV	**Zalesovo Beam**	**45.84**	**25**	P	**P**	**07 47 06.8**	**-0.3**
	comp=Z,5.7nm,0.7s,baz=231,slow=8.5,SNR=15						
ZALV				PcP	**PcP**	**07 48 43.6**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=250,slow=4.2,SNR=2.9						
ZALV				LR	LR	08 08 05.7	
	comp=Z,89nm,19.1s,baz=250,slow=38						
CSNA	**Conrad Observa**	**45.87**	**324**	⇑*i*pP	**P**	**07 47 10.0**	**+2.4**
	comp=Z,7.4nm,1.0s						
NVS	**Novosibirsk**	**45.88**	**23**	*e*P	**P**	**07 47 07.5**	**0.0**
NVS				pmax	pmax		
	comp=Z,45nm,1.0s						
NVS				pmax	pmax		
	comp=N,13nm,1.0s						
NVS	**Novosibirsk**	**45.88**	**23**	*e*P	**P**	**07 47 07.5**	**0.0**
	comp=N,13nm,1.0s						
GTA	**Gaotai**	**46.73**	**49**	*e*P	P	07 47 21.6	+7.0
GTA				pP	pP	07 47 26.3	+6.1
GTA				sP	sP	07 47 28.8	+6.5
GTA				PMZ			
	comp=N,3.0nm,1.2s						
MNSI	**Mandailing Nat**	**46.78**	**103**	P	P	07 47 21.6	+6.5
	comp=N,14nm,0.3s						
DPC	**Dobruska-Polom**	**46.98**	**327**	*e*P	**P**	**07 47 17.9**	**+1.7**
DPC				*ex*	x	07 47 24.4	
DPC	**Dobruska-Polom**	**46.98**	**327**	*e*P	**P**	**07 47 17.9**	**+1.7**
DPC				*e**PP	**pP**	**07 47 24.4**	**+2.6**
DPC	**Dobruska-Polom**	**46.98**	**327**	*e*P	**P**	**07 47 17.9**	**+1.7**
UPC	**Upice**	**

TMCR	**Tamitsa**	**50.66**	**351**	*eP*		**P**	07 47 48.9	**+4.8**
	comp=Z,31nm,0.5s								
FINES	**FINESS Array B**	**50.88**	**343**	P		**P**	**07 47 46.0**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=141,slow=9.0,SNR=16								
FINES				LR		LR	08 12 40.9		
	comp=Z,104nm,19.1s,baz=154,slow=40								
FINES	**FINESS Array B**	**50.88**	**343**	P		**P**	**07 47 46.0**	**+0.1**
FINES	**FINESS Array B**	**50.88**	**343**	P		**P**	**07 47 46.0**	**+0.1**
TOA0	**Torodi Ar. Sit**	**51.03**	**275**	*eP*		**P**	**07 47 47.8**	**0.0**
TOA0	**Torodi Ar. Sit**	**51.03**	**275**	*eP*		**P**	**07 47 47.8**	**0.0**
TORD	**Torodi Ar. Bea**	**51.03**	**275**	P		**P**	**07 47 47.7**	**-0.1**
	comp=Z,4.8nm,0.9s,baz=89,slow=7.1,SNR=24								
TORD				PcP		**PcP**	**07 49 03.4**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=86,slow=4.0,SNR=2.7								
TORD				LR		LR	08 08 39.5		
	comp=Z,80nm,19.1s,baz=210,slow=35								
CDF	**Champ du Feu**	**51.14**	**321**	*eP*		**P**	**07 47 49.5**	**+1.3**
CDF	**Champ du Feu**	**51.14**	**321**	*eP*		**P**	**07 47 49.5**	**+1.3**
CDF	**Champ du Feu**	**51.14**	**321**	*eP*		**P**	**07 47 49.5**	**+1.3**
CDF	**Champ du Feu**	**51.14**	**321**	*eP*		**P**	**07 47 49.5**	**+1.3**
BOSA	**Boshof**	**51.46**	**213**	P		**P**	**07 47 50.7**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=12,slow=7.1,SNR=2.5								
BOSA				LR		LR	08 08 47.8		
	comp=Z,60nm,20.0s,baz=20,slow=35								
SFTF	**Sexfontaines**	**52.43**	**320**	*eP*		**P**	**07 47 58.1**	**+0.4**
SFTF	**Sexfontaines**	**52.43**	**320**	*eP*		**P**	**07 47 58.1**	**+0.4**
SFTF	**Sexfontaines**	**52.43**	**320**	*eP*		**P**	**07 47 58.1**	**+0.4**
LOR	**Lormes**	**52.83**	**319**	*eP*		**P**	**07 48 00.9**	**+0.2**
LOR	**Lormes**	**52.83**	**319**	*eP*		**P**	**07 48 00.9**	**+0.2**
LOR	**Lormes**	**52.83**	**319**	*eP*		**P**	**07 48 00.9**	**+0.2**
LOR	**Lormes**	**52.83**	**319**	*eP*		**P**	**07 48 00.9**	**+0.2**
SSF	**Saint Saulge**	**52.98**	**318**	*eP*		**P**	**07 48 02.1**	**+0.3**
	comp=Z,15nm,0.9s								
SSF	**Saint Saulge**	**52.98**	**318**	*eP*		**P**	**07 48 02.1**	**+0.3**
SSF				pmax		pmax			
	comp=Z,15nm,0.9s								
SSF	**Saint Saulge**	**52.98**	**318**	*eP*		**P**	**07 48 02.1**	**+0.3**
	comp=Z,15nm,0.9s								
SSF	**Saint Saulge**	**52.98**	**318**	*eP*		**P**	**07 48 02.1**	**+0.3**
	comp=Z,15nm,0.9s								
ZAK	**Zakamensk**	**53.06**	**37**	*eP*		**P**	**07 48 03.0**	**+0.5**
ZAK				pmax		pmax			
	comp=Z,3.0nm,0.9s								
ZAK	**Zakamensk**	**53.06**	**37**	*eP*		**P**	**07 48 03.0**	**+0.5**
	comp=Z,3.0nm,0.9s								
BGF	**Bois d'Agland**	**53.24**	**318**	*eP*		**P**	**07 48 04.1**	**+0.3**
	comp=Z,33nm,0.8s								
BGF	**Bois d'Agland**	**53.24**	**318**	*eP*		**P**	**07 48 04.1**	**+0.3**
BGF				pmax		pmax			
	comp=Z,33nm,0.8s								
BGF	**Bois d'Agland**	**53.24**	**318**	*eP*		**P**	**07 48 04.1**	**+0.3**
	comp=Z,33nm,0.8s								
BGF	**Bois d'Agland**	**53.24**	**318**	*eP*		**P**	**07 48 04.1**	**+0.3**
	comp=Z,33nm,0.8s								
TCF	**Toulx Ste Croi**	**53.57**	**317**	*eP*		**P**	**07 48 06.3**	**+0.1**
TCF	**Toulx Ste Croi**	**53.57**	**317**	*eP*		**P**	**07 48 06.3**	**+0.1**
TCF	**Toulx Ste Croi**	**53.57**	**317**	*eP*		**P**	**07 48 06.3**	**+0.1**
TCF	**Toulx Ste Croi**	**53.57**	**317**	*eP*		**P**	**07 48 06.3**	**+0.1**
SONM	**Songino Array**	**54.01**	**41**	P		**P**	**07 48 09.9**	**+0.3**
	comp=Z,2.3nm,1.0s,baz=237,slow=8.9,SNR=13								
ETSF	**Etsaut**	**54.54**	**312**	*eP*		**P**	**07 48 13.5**	**+0.1**
	comp=Z,24nm,1.0s								
ETSF	**Etsaut**	**54.54**	**312**	*eP*		**P**	**07 48 13.5**	**+0.1**
ETSF				pmax		pmax			
	comp=Z,24nm,1.0s								
ETSF	**Etsaut**	**54.54**	**312**	*eP*		**P**	**07 48 13.5**	**+0.1**
	comp=Z,24nm,1.0s								
ETSF	**Etsaut**	**54.54**	**312**	*eP*		**P**	**07 48 13.5**	**+0.1**
	comp=Z,24nm,1.0s								
NB2	**NORSAR Subarra**	**55.64**	**336**	P		**P**	**07 48 20.5**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=123,slow=7.4								
NB2	**NORSAR Subarra**	**55.64**	**336**	P		**P**	**07 48 20.5**	**-0.5**
	comp=Z,2.6nm,0.7s,SNR=8.6								
NOA	**NORSAR Array B**	**55.64**	**336**	P		**P**	**07 48 20.5**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=122,slow=7.8,SNR=4.8								
NOA				LR		LR	08 15 21.0		
	comp=Z,100nm,19.9s,baz=130,slow=39								
HHC	**Hu-ho-hao-te**	**55.80**	**50**	*eP*		**P**	**07 48 22.0**	**-0.6**
HHC				PP		**PP**	**07 50 27.2**	**0.0**
HHC				S		**S**	**07 56 11.4**	**+2.2**
HHC				sS		**sS**	**07 56 17.8**	**-0.7**
HHC				PMZ					
	comp=Z,11nm,1.1s								
HHC				PMZ					
	comp=Z,92nm,6.4s								
HHC				LN					
	comp=Z,140nm,16.8s								
HHC				LE					
	comp=Z,280nm,16.8s								
HHC				LZ					
	comp=Z,140nm,17.0s								
ESDC	**Sonseca Array**	**56.43**	**308**	P		**P**	**07 48 26.6**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=84,slow=7.6,SNR=11								
ARCES	**ARCESS Array B**	**57.69**	**348**	P		**P**	**07 48 34.5**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=147,slow=7.1,SNR=18								
ARCES				LR		LR	08 17 07.3		
	comp=Z,97nm,18.5s,baz=97,slow=40								
ARE0	**ARCESS Array S**	**57.69**	**348**	*eP*		**P**	**07 48 35.7**	**+0.3**
ARE0	**ARCESS Array S**	**57.69**	**348**	*eP*		**P**	**07 48 35.7**	**+0.3**
NJ2	**Nanjing**	**60.85**	**61**	*eP*		**P**	**07 48 58.0**	**+0.1**
NJ2				PMZ					
	comp=Z,30nm,0.7s								
BOD	**Bodaibo**	**61.64**	**32**	*eP*		**P**	**07 49 01.1**	**-1.7**
BOD	**Bodaibo**	**61.64**	**32**	*eP*		**P**	**07 49 01.1**	**-1.7**
CN2	**Changchun**	**66.35**	**48**	*eP*		**P**	**07 49 34.4**	**+0.4**
CN2				*es*P		**sP**	**07 49 40.9**	**-1.0**
CN2				PMZ					
	comp=Z,20nm,0.6s								
CN2				PMZ					
	comp=Z,80nm,4.0s								
CN2				LN					
	comp=Z,200nm,20.0s								
CN2				LE					
	comp=Z,100nm,20.0s								
CN2				LZ					
	comp=Z,100nm,17.0s								
KAPI	**Kappang**	**67.71**	**102**	*eP*		**P**	**07 49 41.6**	**-1.6**
	comp=Z,15nm,1.1s								
KAPI	**Kappang**	**67.71**	**102**	*eP*		**P**	**07 49 41.6**	**-1.6**
	comp=Z,15nm,1.1s								
KSAR	**Wonju Array Be**	**68.21**	**55**	P		**P**	**07 49 44.2**	**-1.8**
KSAR	**Wonju Array Be**	**68.21**	**55**	P		**P**	**07 49 44.2**	**-1.8**
KSAR	**Wonju Array Be**	**68.21**	**55**	P		**P**	**07 49 44.2**	**-1.8**
KSRS	**Korea Array**	**68.24**	**55**	P		**P**	**07 49 44.2**	**-1.9**
	comp=Z,2.8nm,0.7s,baz=268,slow=6.4,SNR=14								
YAK	**Yakutsk**	**70.23**	**29**	*eP*		P	07 50 01.1	+3.1
YAK				pmax		pmax			
	comp=Z,39nm,0.8s								
YAK				pmax		pmax			
	comp=E,9.0nm,0.8s								
YAK	**Yakutsk**	**70.23**	**29**	*eP*		P	07 50 01.1	+3.1
	comp=E,39nm,0.8s								
KLR	**Kul'dur**	**70.79**	**43**	*eP*		P	07 49 57.8	-3.9
KLR	**Kul'dur**	**70.79**	**43**	*eP*		P	07 49 57.8	-3.9
TIXI	**Tiksi**	**71.25**	**19**	*ce*P		**P**	**07 50 02.9**	**-1.1**
TIXI				pmax		pmax			
	comp=Z,4.0nm,1.2s								
TIXI	**Tiksi**	**71.25**	**19**	*eP*		**P**	**07 50 02.9**	**-1.1**
	comp=Z,4.0nm,1.2s								
TIXI	**Tiksi**	**71.25**	**19**	*eP*		**P**	**07 50 02.7**	**-1.3**
	comp=Z,4.7nm,0.8s								
DAG	**Danmarks Havn**	**71.88**	**347**	*i* P		**P**	**07 50 07.4**	**-0.4**
	comp=Z,4.8nm,0.8s								
DAG				*i*			07 50 13.6		
DAG	**Danmarks Havn**	**71.88**	**347**	*i* P		**P**	**07 50 07.4**	**-0.4**
DAG				*i*			07 50 13.6		
DAG				pmax		pmax			
	comp=Z,4.0nm,0.8s								
H01W3	**Cape Leeuwin H**	**75.14**	**133**	T		T	09 12 33.3		
	baz=301,slow=75,SNR=19								
H01W2	**Cape Leeuwin H**	**75.15**	**133**	T		T	09 12 32.7		
	baz=301,slow=75,SNR=23								
H01W1	**Cape Leeuwin H**	**75.16**	**133**	T		T	09 12 34.5		
	baz=301,slow=75,SNR=22								
MJAR	**Matsushiro Arr**	**76.52**	**55**	LR		LR	08 25 23.3		
	comp=Z,28nm,20.4s,baz=200,slow=37								
SUMG	**Summit**	**76.90**	**342**	*i* P		**P**	**07 50 37.6**	**0.0**
	comp=Z,6.1nm,1.0s								
SUMG	**Summit**	**76.90**	**342**	*i* P		**P**	**07 50 37.6**	**0.0**
SUMG				pmax		pmax			
	comp=Z,6.0nm,1.0s								
SUMG	**Summit**	**76.90**	**342**	*i* P		**P**	**07 50 37.6**	**0.0**
	comp=Z,6.0nm,1.0s								
SEY	**Seymchan**	**80.63**	**27**	*eP*		**P**	**07 50 57.8**	**+0.1**
SEY	**Seymchan**	**80.63**	**27**	*eP*		**P**	**07 50 57.8**	**+0.1**
MAW	**Mawson**	**82.34**	**177**	P		**P**	**07 51 06.5**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=16,slow=7.4,SNR=2.6								
MAW				LR		LR	08 19 41.4		
	comp=Z,116nm,21.5s,baz=59,slow=30								
WRA	**Warramunga Arr**	**85.84**	**112**	P		**P**	**07 51 24.4**	**-1.0**
	comp=Z,5.3nm,0.7s,baz=297,slow=3.9,SNR=48								
WRAB	**Tennant Creek**	**85.85**	**112**	*ce*P		**P**	**07 51 24.1**	**-1.4**
WRAB				pmax		pmax			
	comp=Z,17nm,0.8s								
WRAB	**Tennant Creek**	**85.85**	**112**	*eP*		**P**	**07 51 24.1**	**-1.4**
	comp=Z,17nm,0.8s								
PETK	**Petropavlovsk-**	**86.17**	**36**	LR		LR	08 32 37.4		
	comp=Z,38nm,21.9s,baz=281,slow=38								
ASAR	**Alice Springs**	**86.56**	**115**	P		**P**	**07 51 27.9**	**-1.1**
	comp=Z,4.7nm,0.7s,baz=290,slow=4.6,SNR=56								
AS31	**Alice Springs**	**86.56**	**115**	*eP*		**P**	**07 51 27.7**	**-1.2**
AS31	**Alice Springs**	**86.56**	**115**	*eP*		**P**	**07 51 27.7**	**-1.2**
ILAR	**Eielson Array**	**99.11**	**9**	PP		PP	07 56 23.1	-4.6
	comp=Z,0.3nm,1.0s,baz=333,slow=9.9,SNR=4.9								
ILAR				LR		LR	08 41 12.1		
	comp=Z,42nm,21.7s,baz=337,slow=38								
YKA	**Yellowknife Ar**	**102.54**	**355**	PP		PP	07 56 52.1	-1.5	
	comp=Z,0.3nm,0.7s,baz=8.1,slow=7.2,SNR=3.8								
NVAR	**Mina Array Bea**	**126.68**	**353**	PKP		**PKPdf**	**07 57 49.6**	**+0.2**	
	comp=Z,2.4nm,0.9s,baz=355,slow=0.5,SNR=9.6								
TXAR	**Lajitas Array**	**131.32**	**334**	PKP		**PKPdf**	**07 57 57.6**	**-0.7**	
	comp=Z,0.5nm,0.9s,baz=105,slow=1.9,SNR=4.7								

NNC 10 07:46:50.7±7.6, 37.00N×71.30E, h0km, mb3.6, mpv3.2, 3C-5D, Error ellipse: s-maj=63.0km s-min=26.1km az=170.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZET	**Dzherino**	**2.66**	**313**	⇑Pn		Pn	07 47 33.9	-1.1
	12nm,0.3s							
DZET				⇓Sn		Sn	07 48 09.9	+1.9
	32nm,0.4s							
SFK	**Sufi-Kurgan**	**3.47**	**29**	⇓Pn		Pn	07 47 45.5	-0.9
	2.0nm,0.3s							
SFK				⇑Sn		Sn	07 48 31.7	+3.3
	12nm,0.4s							
MNAS	**Manas**	**5.56**	**9**	⇓Pn		Pn	07 48 11.9	-3.0
	1.2nm,0.4s							
MNAS				⇓Sn		Sn	07 49 18.2	-1.5
	7.3nm,0.7s							
KK31	**Karatay Array**	**6.12**	**355**	⇓Pn		Pn	07 48 27.7	+5.2
	0.3nm,0.3s,baz=175,slow=13,SNR=5.0							
KK31				⇑Sn		Sn	07 49 29.5	-3.8
	1.9nm,0.5s,baz=168,slow=21,SNR=8.2							

*IDC **10** 07:55:06.3±0.8, 35.49N×81.48E, h0km, mb3.7/12, mb1 3.9/17, mb1mx3.7/49, mbtmp3.7/17, ML3.4/5, Error ellipse: s-maj=21.3km s-min=15.6km az=54.0*
*ISCJB **10** 07:55:07.3±0.3, 35.70N±0.04×81.66E±0.08, h10km, mb3.6/12, Error ellipse: s-maj=9.5km s-min=4.0km az=157.0*
*BJI **10** 07:55:09.4, 35.64N×81.51E, h10km, ML4.0/6*
*NNC **10** 07:55:11.9±4.0, 35.86N×81.35E, h0km, mb4.0, mpv4.0, Error ellipse: s-maj=40.2km s-min=31.9km az=136.0*

ISC 10 07:55:09.1±0.6, 35.65N±0.07×81.58E±0.07, h10km, n40, σ1s53/41, mb3.7/12, 9C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**5.89**	**313**	Pn		**Pn**	**07 56 37.5**	**+0.9**
KSH				Sn		**Sn**	**07 57 47.8**	**+3.6**
KSH				SMN				
	390nm,0.9s							
KSH				SME				
	280nm,0.9s							
SFK	**Sufi-Kurgan**	**7.73**	**307**	⇑Pn		**Pn**	**07 57 04.1**	**+2.2**
	3.4nm,0.6s							
SFK				⇓Lg		Lg	07 59 05.5	
	38nm,0.6s							
PDGK	**Podgornoye**	**7.83**	**349**	⇑Pn		**Pn**	**07 57 05.1**	**+2.0**
	14nm,0.7s							
PDGK				⇓Lg		Lg	07 59 14.6	
	27nm,0.6s							
GKN	**Gorkha**	**8.06**	**160**	*eP*		**Pn**	**07 57 08.0**	**+1.6**
	13nm,0.4s							
KKN	**Kakani**	**8.45**	**157**	*eP*		**Pn**	**07 57 14.1**	**+2.3**
	24nm,0.6s							
GUN	**Gumba**	**8.54**	**153**	*eP*		Pn	07 57 16.7	+3.5
	27nm,0.7s							
DMN	**Daman**	**8.56**	**158**	*eP*		**Pn**	**07 57 14.0**	**+0.6**
	17nm,0.6s							
TKM2	**Tokmak 2**	**8.61**	**329**	⇓Pn		**Pn**	**07 57 15.9**	**+1.9**
	1.5nm,0.5s							
TKM2				⇑Lg		Lg	07 59 35.3	
	13nm,0.7s							
PKI	**Pulchoki**	**8.69**	**157**	*eP*		**Pn**	**07 57 16.4**	**+1.2**
	23nm,0.5s							
AAK	**Ala-Archa**	**8.88**	**324**	⇓Pg		Pg	07 57 47.5	-12
	7.6nm,0.7s							
AAK				⇑Lg		Lg	07 59 48.0	
	36nm,0.8s							
AAK	**Ala-Archa**	**8.88**	**324**	Pn		**Pn**	**07 57 19.6**	**+2.0**
	0.5nm,0.3s,baz=134,slow=10,SNR=4.3							
AAK				Pg		Pg	07 57 47.7	-12
	1.3nm,0.3s,baz=150,slow=11,SNR=5.0							
AAK				Lg		Lg	07 59 45.3	
	1.3nm,0.3s,baz=45,slow=16,SNR=4.2							
JIRN	**Jiri**	**8.88**	**152**	*eP*		**Pn**	**07 57 19.8**	**+1.9**
	55nm,0.4s							
RAMN	**Ramite**	**9.68**	**152**	*eP*		**Pn**	**07 57 27.7**	**-1.0**
	13nm,0.4s							
TAPN	**Taplejung**	**9.79**	**146**	*eP*		**Pn**	**07 57 31.1**	**+0.9**
MNAS	**Manas**	**9.81**	**317**	⇑Pn		Pn	07 57 34.9	+4.5
	0.7nm,0.5s							
MNAS				Lg		Lg	08 00 16.0	
	9.8nm,0.9s							
ODAN	**Odare**	**10.07**	**149**	*eP*		**Pn**	**07 57 32.4**	**-1.7**
	9.8nm,0.5s							
MK31	**Makanchi Array**	**11.15**	**3**	⇓Pn		**Pn**	**07 57 49.2**	**+0.7**
	1.9nm,0.5s,baz=189,slow=12,SNR=71							
MK31				⇑Sn		**Sn**	**07 59 53.4**	**+0.3**
	1.9nm,0.5s,baz=187,slow=24							
MKAR	**Makanchi Array**	**11.15**	**3**	Pn		**Pn**	**07 57 48.8**	**+0.3**
	1.4nm,0.3s,baz=181,slow=12,SNR=66							
MKAR				Sn		**Sn**	**07 59 53.4**	**+0.2**
	0.7nm,0.3s,baz=189,slow=23,SNR=5.2							
KK31	**Karatay Array**	**11.34**	**314**	⇓Pn		Pn	07 57 47.8	-3.4
	2.7nm,1.0s,baz=128,slow=13,SNR=4.8							
KK31				⇑Lg		Lg	08 01 09.0	
	5.3nm,0.8s,baz=130,slow=25							
KURBB	**Kurchatov Arra**	**15.13**	**353**	⇓P		**Pn**	**07 58 39.6**	**-3.1**
	3.7nm,1.0s							
KURBB	**Kurchatov Arra**	**15.13**	**353**	Pn		**Pn**	**07 58 40.6**	**-2.1**
	0.0nm,0.3s,baz=173,slow=12,SNR=21							
KURBB				Lg		Lg	08 03 07.2	
	0.0nm,0.3s,baz=166,slow=32,SNR=3.2							
KURK	**Kurchatov**	**15.21**	**353**	⇑P		**Pn**	**07 58 41.3**	**-2.6**
	3.8nm,1.3s							
ZALV	**Zalesovo Beam**	**18.44**	**6**	P		**P**	**07 59 24.9**	**+0.4**
	0.3nm,0.3s,baz=191,slow=12,SNR=6.2							
ZALV				Lg		Lg	08 04 57.8	
	0.8nm,0.3s,baz=172,slow=39,SNR=5.5							
BVAR	**Borovoye Array**	**19.08**	**339**	P		**P**	**07 59 31.9**	**+0.2**
	0.3nm,0.3s,baz=143,slow=10,SNR=7.1							
CD2	**Chengdu**	**19.12**	**98**	*eP*		**Pn**	**07 59 34.1**	**+0.9**
CD2				S		**Sn**	**08 03 09.0**	**+1.5**
CD2				sS		**sS**	**08 03 15.2**	**+1.4**
AB31	**Akbulak array**	**20.87**	**317**	⇑P		**P**	**07 59 50.4**	**-0.8**
	1.7nm,0.7s,baz=112,slow=15,SNR=16							
SONM	**Songino Array**	**22.05**	**49**	P		**P**	**08 00 05.2**	**+1.2**
	0.4nm,0.5s,baz=245,slow=9.4,SNR=4.4							
AKTO	**Aktyubinsk**	**22.56**	**318**	⇓P		**P**	**08 00 10.5**	**+1.3**
	2.4nm,0.7s							
AKTO	**Aktyubinsk**	**22.56**	**318**	P		**P**	**08 00 09.3**	**+0.1**
	1.2nm,0.6s,baz=100,slow=11,SNR=3.7							
BRTR	**Keskin Array B**	**37.80**	**291**	P		**P**	**08 02 24.7**	**-1.1**
	1.3nm,0.9s,baz=91,slow=6.2,SNR=6.5							
AKASG	**Malin Array Be**	**40.17**	**309**	P		**P**	**08 02 44.0**	**-1.3**
	0.7nm,0.6s,baz=83,slow=7.6,SNR=3.4							
FINES	**FINESS Array B**	**43.07**	**325**	P		**P**	**08 03 08.3**	**-0.6**
	2.0nm,0.6s,baz=104,slow=8.7,SNR=10.0							
ARCES	**ARCESS Array B**	**45.33**	**336**	P		**P**	**08 03 26.8**	**-0.1**
	2.6nm,0.8s,baz=90,slow=9.9,SNR=4.4							
NB2	**NORSAR Subarra**	**50.20**	**323**	P		**P**	**08 04 04.3**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=86,slow=7.4							
NOA	**NORSAR Array B**	**50.20**	**323**	P		**P**	**08 04 04.1**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=87,slow=7.3,SNR=4.9							
ILAR	**Eielson Array**	**72.97**	**20**	P		**P**	**08 06 38.4**	**0.0**
	comp=Z,0.9nm,1.1s,baz=306,slow=4.6,SNR=7.9							
TORD	**Torodi Ar. Bea**	**74.31**	**275**	P		**P**	**08 06 45.4**	**-1.7**
	comp=Z,1.4nm,0.6s,baz=49,slow=5.7,SNR=21							
WRA	**Warramunga Arr**	**74.52**	**129**	P		**P**	**08 06 46.4**	**-1.7**
	comp=Z,0.3nm,0.8s,baz=324,slow=5.4,SNR=2.8							
ASAR	**Alice Springs**	**77.01**	**132**	P		**P**	**08 07 01.3**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=323,slow=5.9,SNR=3.0							
YKA	**Yellowknife Ar**	**81.33**	**8**	P		**P**	**08 07 24.9**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=336,slow=4.8,SNR=4.7							

*NIED **10** 08:00:00,33.10N×142.20E, h8km, Mw4.0 Best double couple: M0 9.61000×10^14 NP1:ϕ0=27.00000°, δ18.00000°, λ-51.00000°. NP2:ϕ0=167.00000°, δ76.00000°, λ-102.00000°.*
*IDC **10** 08:00:42.8±0.9, 32.80N×142.70E, h0km, mb3.8/10, mb1 3.9/13, mb1mx3.8/41, mbtmp3.8/13, ML3.4/2, MS2.9/5, Ms1 2.9/5, ms1mx2.6/49, Error ellipse: s-maj=22.8km s-min=19.9km az=71.0*
*ISCJB **10** 08:00:45.8±0.7, 32.91N±0.08×142.54E±0.09, h33km, mb3.8/12, MS3.4/2, Error ellipse: s-maj=12.7km s-min=8.6km az=135.4*
*JMA **10** 08:00:45.9±0.5, 33.10N×142.22E, h0km, M3.8*
*NEIC **10** 08:00:47.5±0.6, 32.74N×142.64E, h35km, mb4.2/2, Error ellipse: s-maj=14.6km s-min=11.5km az=53.0*

ISC 10 08:00:46.8±0.7, 32.80N±0.06×142.57E±0.09, h33km, n36, σ2s39/37, mb3.9/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**2.28**	**325**	P		**Pn**	**08 01 19.3**	**-2.3**
JHJ2	**Mitsune**	**2.34**	**278**	P		**Pn**	**08 01 22.1**	**-0.8**
BSO3	**Boso 3**	**2.63**	**320**	P		**Pn**	**08 01 25.5**	**-1.2**
BSO4	**Boso 4**	**2.87**	**320**	P		**Pn**	**08 01 28.9**	**-1.2**
JOD2	**Odawara 2**	**3.80**	**311**	P		**Pn**	**08 01 40.4**	**-2.6**
JHU	**Hanno**	**4.08**	**319**	P		**Pn**	**08 01 46.3**	**-0.6**
JHO	**Hitachi**	**4.14**	**337**	P		**Pn**	**08 01 44.7**	**-3.0**
JHO				*e*S		Sn	08 02 28.8	-6.3
JYN	**Shimob**	**4.29**	**310**	P		**Pn**	**08 01 49.4**	**-0.4**
JYN				*e*S		**Sn**	**08 02 34.1**	**-4.6**
JRY	**Ryogami san**	**4.42**	**318**	P		**Pn**	**08 01 49.9**	**-1.6**
JRY				*e*S		**Sn**	**08 02 38.1**	**-3.7**
JFT	**Otama**	**5.05**	**339**	P		**Pn**	**08 01 58.5**	**-1.7**
MJAR	**Matsushiro Arr**	**5.18**	**317**	Pn		**Pn**	**08 02 01.5**	**-0.5**
	2.0nm,0.3s,baz=160,slow=13,SNR=15							
MJAR				Sn		**Sn**	**08 02 56.0**	**-4.7**
	1.5nm,0.3s,baz=38,slow=30,SNR=7.1							
MAJO	**Matsushiro**	**5.18**	**317**	*e*Pn		**Pn**	**08 02 01.8**	**-0.2**
	15nm,0.6s							
MAJO				*e*Sn		**Sn**	**08 03 03.7**	**+3.0**
MAT	**Matsushiro**	**5.18**	**317**	P		**Pn**	**08 02 01.7**	**-0.4**
MAT				S		**Sn**	**08 02 55.7**	**-5.0**
CBIJ	**Chichi jima**	**5.70**	**183**	Pn		**Pn**	**08 02 06.8**	**-2.3**
CBIJ				Sn		**Sn**	**08 03 08.9**	**-4.4**
JCJ	**Chichijima**	**5.70**	**183**	Pn		**Pn**	**08 02 06.8**	**-2.3**
	baz=287,slow=17							
JCJ				Sn		**Sn**	**08 03 08.9**	**-4.5**
	4.4nm,0.3s,baz=290,slow=18,SNR=1.4							
JNU	**Nakatsue**	**9.83**	**275**	Pn		**Pn**	**08 03 07.8**	**+1.9**
	0.2nm,0.3s,baz=52,slow=12,SNR=3.8							
JNU				LR		LR	08 07 10.6	
	comp=Z,88nm,18.0s,baz=82,slow=39							
ASAJ	**Asahikawa**	**11.30**	**0**	Pn		Pn	08 03 21.2	-4.7
	0.7nm,0.3s,baz=205,slow=14,SNR=3.7							
KSRS	**Korea Array**	**12.86**	**295**	Pn		Pn	08 03 51.5	+4.3
	0.4nm,0.3s,baz=124,slow=15,SNR=3.8							
KSRS				LR		LR	08 08 39.6	
	comp=Z,58nm,19.2s,baz=60,slow=37							
KSAR	**Wonju Array Be**	**12.88**	**295**	Pn		Pn	08 03 51.5	+3.9
JOW	**Kunigami**	**13.76**	**248**	LR		LR	08 09 42.4	
	comp=Z,5.6nm,19.7s,baz=86,slow=39					

KURBB Sn Sn 08 26 25.4 -3.0
0.0nm,0.3s,baz=350,slow=32,SNR=1.9
KURBB Lg Lg 08 27 08.7
0.0nm,0.3s,baz=328,slow=37,SNR=3.5
MKAR Makanchi Array 9.23 196 Pn Pn 08 25 44.1 +0.2
0.0nm,0.3s,baz=20,slow=13,SNR=3.1
MKAR Sn Sn 08 27 27.2 -1.1
0.1nm,0.3s,baz=83,slow=11,SNR=1.9

IDC 10 08:39:28.6±3.2, 54°60N×86°29E, h0km, mb1 2.6/2, mb1mx2.6/29, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=24.0km s-min=14.6km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**234**	*i*		08 46 38.1	
	baz=53,slow=320,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.08**	**234**	Pg	Pg	08 39 48.3	-1.1
	0.8nm,0.3s,baz=49,slow=18,SNR=6.8						
ZALV				Lg	Lg	08 40 04.5	
	4.1nm,0.3s,baz=54,slow=28,SNR=19						
ZALV				Rg	Rg	08 40 16.4	
	2.3nm,0.4s,baz=50,slow=53,SNR=1.3						
KURBB	**Kurchatov Arra**	**6.18**	**233**	Pn	Pn	08 41 01.3	+0.3
	0.1nm,0.3s,baz=52,slow=14,SNR=9.4						
KURBB				Lg	Lg	08 42 45.1	
	0.0nm,0.3s,baz=49,slow=31,SNR=6.4						
MKAR	**Makanchi Array**	**8.22**	**200**	Pn	Pn	08 41 30.2	+1.1
	0.1nm,0.3s,baz=13,slow=15,SNR=2.5						
MKAR				Sn	Sn	08 43 02.6	0.0
	0.1nm,0.3s,baz=16,slow=25,SNR=3.6						
MKAR				Lg	Lg	08 43 47.7	
	0.1nm,0.3s,baz=23,slow=27,SNR=3.3						

*KRNET **10** 08:43:11.3±0.1, 40°.98N×71°.54E, h20km, mb3.2*
*NNC **10** 08:43:13.1±1.0, 40°.99N×71°.55E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=9.8km s-min=7.9km az=110.0*
ISC 10 08:43:11.6±1.5, 40°.95N±0°.04×71°.46E±0°.03, h4km±13km, n32, σ1°09/42, 26C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.93**	**24**	*eP*	**Pg**	**08 43 29.2**	**-0.2**
	baz=21						
ARK				*eS*	**Sg**	**08 43 41.2**	**-0.3**
	baz=21						
BTK	**Batken**	**1.01**	**209**	⇑*iP*	**Pb**	**08 43 31.6**	**-0.1**
	baz=211						
BTK				⇑*eS*	**Sn**	**08 43 48.1**	**+0.8**
	baz=211						
TAS	**Tashkent**	**1.68**	**284**	*eP*	**Pb**	**08 43 44.0**	**+1.1**
	baz=282						
TAS				*eS*	**Sg**	**08 44 07.7**	**+2.3**
	baz=282						
MNAS	**Manas**	**1.73**	**27**	⇑P	**Pn**	**08 43 42.8**	**+0.3**
	11nm,0.3s						
MNAS				⇑S	**Sb**	**08 44 04.8**	**-1.2**
	72nm,0.3s						
SFK	**Sufi-Kurgan**	**1.82**	**120**	⇑Pn	**Pb**	**08 43 45.2**	**-0.3**
	39nm,0.8s						
SFK				⇑Sn	**Sb**	**08 44 08.9**	**+0.2**
	114nm,0.3s						
SFK	**Sufi-Kurgan**	**1.82**	**120**	⇑*iP*	**Pb**	**08 43 45.3**	**-0.2**
	baz=122						
SFK				⇑*iS*	**Sb**	**08 44 08.4**	**-0.3**
	baz=122						
AML	**Almayashu**	**2.06**	**54**	P	**Pn**	**08 43 47.6**	**+0.4**
SNR=37							
AML	**Almayashu**	**2.06**	**54**	⇑*iP*	**Pn**	**08 43 47.7**	**+0.5**
	baz=54						
AML				⇑*iS*	**Sb**	**08 44 14.5**	**-1.2**
	baz=54						
KK31	**Karatay Array**	**2.27**	**342**	⇑Pn	**Pn**	**08 43 51.4**	**+1.7**
	16nm,0.3s,baz=155,slow=12,SNR=476						
KK31				⇑Sn	**Sb**	**08 44 20.8**	**-0.6**
	124nm,0.4s,baz=151,slow=27,SNR=21						
EKS2	**Erkin-Say**	**2.44**	**45**	P	**Pb**	**08 43 55.8**	**-0.2**
SNR=8.6							
EKS2	**Erkin-Say**	**2.44**	**45**	⇑*iP*	**Pn**	**08 43 53.2**	**+1.0**
	baz=44						
EKS2				⇑*iS*	**Sb**	**08 44 26.0**	**-0.4**
	baz=44						
EKS	**Erkin-Say**	**2.45**	**45**	⇑*eP*	**Pn**	**08 43 53.7**	**+1.4**
	baz=44						
EKS				⇑*iS*	**Sb**	**08 44 25.4**	**-1.3**
	baz=44						
UCH	**Uchtor**	**2.63**	**60**	P	**Pn**	**08 43 55.9**	**+0.8**
SNR=7.0							
UCH	**Uchtor**	**2.63**	**60**	⇑*iP*	**Pn**	**08 43 55.5**	**+0.4**
	baz=60						
UCH				⇑*iS*	**Sb**	**08 44 32.5**	**+0.3**
	baz=60						
AAK	**Ala-Archa**	**2.83**	**52**	P	**Pn**	**08 43 58.6**	**+1.0**
SNR=14							
AAK	**Ala-Archa**	**2.83**	**52**	⇑Pn	**Pn**	**08 43 58.8**	**+1.2**
	9.4nm,0.4s						
AAK				⇓Sn	**Sb**	**08 44 37.7**	**0.0**
	21nm,0.3s						
AAK	**Ala-Archa**	**2.83**	**52**	⇑*iP*	**Pn**	**08 43 58.7**	**+1.1**
	baz=52						
AAK				⇑*iS*	**Sb**	**08 44 37.5**	**-0.2**
	baz=52						
DZET	**Dzherino**	**2.94**	**224**	⇓Pn	**Pb**	**08 44 02.8**	**-1.9**
	34nm,0.6s						
DZET				⇓Sn	**Sb**	**08 44 40.3**	**-0.7**
	147nm,0.5s						
FRU	**Bishkek**	**3.02**	**50**	*eP*	**Pb**	**08 44 06.0**	**+0.1**
	baz=50						
FRU				*eS*	**Sb**	**08 44 44.0**	**+0.9**
	baz=50						
KZA	**Kyzart**	**3.06**	**67**	P	**Pn**	**08 44 02.3**	**+1.2**
SNR=16							
KBK	**Karagaybulak**	**3.12**	**56**	P	**Pn**	**08 44 03.2**	**+1.6**
SNR=8.6							
CHMS	**Chumysh**	**3.20**	**49**	P	**Pn**	**08 44 03.6**	**+1.0**
SNR=5.2							
USP	**Ospenovka**	**3.24**	**43**	P	**Pn**	**08 44 03.9**	**+0.7**
SNR=5.3							
NRN	**Naryn**	**3.46**	**80**	⇑*eP*	**Pn**	**08 44 08.6**	**+2.1**
NRN	baz=81			⇑*iS*	**Sn**	**08 44 49.5**	**+1.4**
	baz=81						
TKM2	**Tokmak 2**	**3.67**	**56**	P	Pn	08 44 10.1	+0.9
SNR=5.8							
TKM2	**Tokmak 2**	**3.67**	**56**	⇓Pn	Pn	08 44 10.3	+1.1
	10nm,0.6s						
TKM2				⇑Lg	Lg	08 45 04.4	
	35nm,0.6s						
PDGK	**Podgornoye**	**6.42**	**66**	⇑Lg	Lg	08 46 33.0	
	7.3nm,0.6s						
MK31	**Makanchi Array**	**9.76**	**50**	⇑Pn	**Pn**	**08 45 32.0**	**-0.6**
	1.1nm,0.8s,baz=230,slow=13,SNR=5.2						
MK31				⇓Lg	Lg	08 48 16.7	
	2.8nm,0.7s,baz=233,slow=26,SNR=3.5						
KURBB	**Kurchatov Arra**	**10.86**	**25**	⇓Lg	Lg	08 48 54.9	
	19nm,0.8s						
KURK	**Kurchatov**	**10.97**	**25**	⇓Lg	Lg	08 48 58.9	
	8.6nm,1.0s						
AB31	**Akbulak array**	**11.62**	**319**	Pn	Pn	08 46 00.9	+3.0
	0.7nm,0.4s,baz=122,slow=17,SNR=19						
AKTO	**Aktyubinsk**	**13.33**	**320**	⇓Pn	**Pn**	**08 46 19.2**	**-2.1**
	1.5nm,0.7s						

IDC 10 08:45:39.1±0.3, 56°.53S×26°.44W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.8/15, mbtmp4.1/2, Error ellipse: s-maj=24.0km s-min=7.6km az=26.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**48.34**	**16**	T	T	09 47 07.6	
	baz=189,slow=75,SNR=38						
H10S3	**ASCENSION HYDR**	**48.34**	**16**	T	T	09 47 07.9	
	baz=189,slow=75,SNR=58						
H10S1	**ASCENSION HYDR**	**48.36**	**16**	T	T	09 47 09.0	
	baz=189,slow=75,SNR=42						
H10N1	**ASCENSION HYDR**	**49.46**	**16**	T	T	09 48 31.2	
	baz=196,slow=79,SNR=4.8						
H10N3	**ASCENSION HYDR**	**49.46**	**16**	T	T	09 48 33.0	
	baz=196,slow=79,SNR=64						
H10N2	**ASCENSION HYDR**	**49.47**	**16**	T	T	09 48 34.1	
	baz=196,slow=79,SNR=30						
LPAZ	**La Paz**	**50.99**	**305**	P	P	08 54 43.1	-0.2
	2.0nm,0.4s,baz=151,slow=7.3,SNR=20						
TORD	**Torodi Ar. Bea**	**73.27**	**29**	P	P	08 57 12.0	0.0
	0.4nm,0.5s,baz=201,slow=6.7,SNR=8.4						
YKA	**Yellowknife Ar**	**136.81**	**317**	PKP	PKPdf	09 05 01.1	-0.9
	0.2nm,0.5s,baz=127,slow=2.1,SNR=3.8						
ILAR	**Eielson Array**	**150.75**	**311**	PKPbc	PKPbc	09 05 31.4	-0.3
	0.7nm,0.6s,baz=122,slow=2.3,SNR=22						

IDC 10 08:54:42.9±3.2, 53°58N×87°73E, h0km, mb1 2.8/1, mb1mx2.7/28, mbtmp2.8/1, ML2.8/1, Error ellipse: s-maj=29.1km s-min=16.8km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**283**	*i*		09 06 08.5	
	baz=100,slow=319,SNR=8.3						
ZALV	**Zalesovo Beam**	**1.77**	**283**	Pn	Pn	08 55 15.1	+0.4
	2.1nm,0.3s,baz=98,slow=15,SNR=17						
ZALV				Lg	Lg	08 55 38.6	
	4.5nm,0.3s,baz=101,slow=26,SNR=14						
MKAR	**Makanchi Array**	**7.63**	**209**	Pn	Pn	08 56 36.6	+1.2
	0.1nm,0.3s,baz=32,slow=15,SNR=6.3						
MKAR				Lg	Lg	08 58 43.4	
	0.0nm,0.3s,baz=25,slow=31,SNR=5.8						

*IDC **10** 08:58:09.5±0.7, 20°.25N×144°.11E, h0km, mb3.7/11, mb1 4.0/11, mb1mx3.8/33, mbtmp3.8/11, MS2.5/2, Ms1 2.5/2, ms1mx2.3/37, Error ellipse: s-maj=31.7km s-min=17.7km az=88.0*
*ISCJB **10** 08:58:12.5±0.7, 20°.2N±0°.1×144°.0E±0°.2, h31km, mb3.8/11, Error ellipse: s-maj=27.1km s-min=14.4km az=174.8*
ISC 10 08:58:14.3±0.8, 20°.2N±0°.1×144°.1E±0°.2, h31km, n20, σ0°73/14, mb3.7/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**7.05**	**346**	LR	LR	09 01 26.2	
	comp=Z,23nm,20.9s,baz=338,slow=28						
JNU	**Nakatsue**	**17.42**	**320**	LR	LR	09 06 31.5	
	comp=Z,26nm,20.7s,baz=120,slow=29						
H11S3	**WAKE ISLAND Hy**	**21.39**	**91**	T	T	09 25 26.2	
	baz=278,slow=75,SNR=30						
H11S1	**WAKE ISLAND Hy**	**21.40**	**91**	T	T	09 25 27.9	
	baz=278,slow=75,SNR=39						
H11S2	**WAKE ISLAND Hy**	**21.41**	**91**	T	T	09 25 28.4	
	baz=278,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**21.44**	**87**	T	T	09 25 29.5	
	baz=275,slow=75,SNR=46						
H11N2	**WAKE ISLAND Hy**	**21.45**	**87**	T	T	09 25 29.0	
	baz=275,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy**	**21.46**	**87**	T	T	09 25 30.2	
	baz=275,slow=75,SNR=31						
KSRS	**Korea Array**	**22.19**	**324**	P	**P**	**09 03 08.4**	**+0.4**
	0.5nm,0.3s,baz=145,slow=8.6,SNR=5.1						
WRA	**Warramunga Arr**	**41.05**	**194**	P	**P**	**09 05 54.7**	**-0.4**
	0.5nm,0.6s,baz=12,slow=9.1,SNR=7.3						
ASAR	**Alice Springs**	**44.74**	**193**	P	**P**	**09 06 24.7**	**-0.3**
	0.3nm,0.7s,baz=21,slow=8.5,SNR=5.1						
STKA	**Stephens Creek**	**51.86**	**183**	P	**P**	**09 07 19.9**	**+0.2**
	2.0nm,0.7s,baz=348,slow=9.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**55.88**	**322**	P	**P**	**09 07 48.5**	**-0.4**
	0.6nm,0.3s,baz=57,slow=5.3,SNR=3.0						
ZALV				PcP	**PcP**	**09 08 47.8**	**+0.4**
	0.8nm,0.4s,baz=111,slow=2.6,SNR=3.1						
MKAR	**Makanchi Array**	**56.31**	**313**	P	**P**	**09 07 52.4**	**+0.2**
	0.4nm,0.6s,baz=94,slow=11,SNR=5.1						
MKAR				PcP	**PcP**	**09 08 49.2**	**-0.1**
	0.3nm,0.6s,baz=92,slow=4.9,SNR=3.5						
ILAR	**Eielson Array**	**62.96**	**27**	P	**P**	**09 08 36.3**	**-1.3**
	0.4nm,0.9s,baz=257,slow=5.0,SNR=5.8						
YKA	**Yellowknife Ar**	**77.36**	**28**	P	**P**	**09 10 06.8**	**+1.0**
	0.6nm,0.7s,baz=290,slow=5.6,SNR=5.1						
NVAR	**Mina Array Bea**	**83.39**	**52**	P	**P**	**09 10 39.7**	**+0.6**
	0.7nm,0.6s,baz=274,slow=6.2,SNR=4.8						
KBZ	**Khabaz**	**83.99**	**314**	P	**P**	**09 10 42.3**	**+0.6**
	1.5nm,0.6s,baz=139,slow=3.0,SNR=3.7						
FINES	**FINESS Array B**	**84.86**	**335**	P	**P**	**09 10 44.6**	**-1.2**
	0.9nm,0.6s,baz=104,slow=5.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**130.31**	**309**	PKP	**PKPdf**	**09 17 23.0**	**+0.5**
	0.4nm,1.0s,baz=4.0,slow=1.2,SNR=2.6						

*IDC **10** 08:58:29.6±0.8, 30°.41S×177°.51W, h0km, mb4.4/8, mb1 4.6/9, mb1mx4.3/19, mbtmp4.5/9, ML4.5/1, MS3.5/6, Ms1 3.5/6, ms1mx3.2/29, Error ellipse: s-maj=28.0km s-min=15.9km az=86.0*
*ISCJB **10** 08:58:32.0±0.6, 30°.88S±0°.05×177°.5W±0°.1, h33km, mb4.5/11, MS3.5/5, Error ellipse: s-maj=13.5km s-min=5.3km az=21.3*
*NEIC **10** 08:58:34.9±0.5, 30°.50S×177°.63W, h35km, mb4.9/4, Error ellipse: s-maj=16.0km s-min=9.0km az=103.0*
ISC 10 08:58:33.7±0.5, 30°.61S±0°.05×177°.5W±0°.1, h33km, n67, σ1°61/56, mb4.6/11, MS3.6/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.40**	**346**	Pn	**Pn**	**08 58 54.6**	**-2.3**
	1μm,0.3s,baz=87,slow=9.5,SNR=46						
RAO				Sn	**Sn**	**08 59 11.1**	**-3.1**
	1μm,0.3s,baz=87,slow=22,SNR=23						
RAO				LR	LR	08 59 21.3	
	comp=Z,977nm,19.9s,baz=58,slow=43						
RAO	**Raoul Island**	**1.40**	**346**	*e*Pn	**Pn**	**08 58 55.0**	**-2.0**
RAO				*e*Sn	**Sn**	**08 59 11.4**	**-2.9**
HAZ	**Te Kaha**	**8.11**	**207**	*e*PN	**Pn**	**09 00 26.6**	**-2.6**
HAZ				*e*SN	**Sn**	**09 01 59.6**	**-0.2**
PUZ	**Puketiti**	**8.22**	**204**	*e*PN	Pn	09 00 26.6	-4.0
PUZ				*e*SN	**Sn**	**09 01 59.2**	**-3.1**
TWGZ	**Tauwhareparae**	**8.41**	**205**	*e*PN	Pn	09 00 30.0	-3.2
TWGZ				*e*SN	**Sn**	**09 02 05.7**	**-1.4**
CNGZ	**Carnagh Statio**	**8.60**	**203**	*e*PN	Pn	09 00 32.6	-3.3
TKGZ	**Te Karaka**	**8.69**	**205**	*e*SN	**Sn**	**09 02 10.5**	**-3.3**
MWZ	**Matawai**	**8.72**	**207**	*e*PN	Pn	09 00 31.8	-5.7
MWZ				*e*SN	**Sn**	**09 02 12.3**	**-2.3**
OUZ	**Omahuta**	**8.76**	**236**	*e*Pn	Pn	09 00 45.4	+7.3
	21nm,0.5s						
OUZ				*e*Sn	Sn	09 02 20.8	+5.2
URZ	**Urewera**	**8.82**	**209**	Pn	**Pn**	**09 00 36.0**	**-2.9**
	1.4nm,0.3s,baz=270,slow=3.9,SNR=9.5						
URZ				Sn	**Sn**	**09 02 16.2**	**-0.9**
	11nm,0.3s,baz=211,slow=8.8,SNR=8.5						
URZ	**Urewera**	**8.82**	**209**	*e*PN	Pn	09 00 35.5	-3.3
URZ				*e*SN	**Sn**	**09 02 13.8**	**-3.2**
URZ	**Urewera**	**8.82**	**209**	*e*Pn	**Pn**	**09 00 39.0**	**+0.2**
MRZ	**Mangatainoka R**	**11.48**	**207**	*e*PN	Pn	09 01 08.8	-6.5
MRZ				*e*SN	Sn	09 03 13.7	-8.7
THZ	**Tophouse**	**13.54**	**212**	*e*SN	Sn	09 04 01.8	-11
OXZ	**Oxford**	**15.17**	**210**	*e*SN	Sn	09 04 37.0	-15
MQZ	**McQueen's Vall**	**15.22**	**208**	*e*SN	Sn	09 04 37.9	-16
RPZ	**Rata Peaks**	**15.91**	**212**	Pn	**Pn**	**09 02 15.8**	**+0.7**
	1.6nm,0.3s,baz=23,slow=7.7,SNR=6.2						
RPZ				Sn	Sn	09 04 56.2	-14
	0.8nm,0.3s,baz=128,slow=23,SNR=0.9						
DZM	**Mont Dzumac**	**16.68**	**297**	*eP*	P	09 02 32.0	+4.8
	65nm,1.5s						
DZM				*eLR*	LR	09 06 15.8	
	420nm,24.1s						
RAR	**Rarotonga**	**18.49**	**64**	LR	LR	09 09 07.4	
	comp=Z,90nm,18.9s,baz=276,slow=35						
TBI	**Tubuai**	**25.99**	**81**	*eS*	**S**	**09 08 31.2**	**-1.0**
	48nm,26.0s						
TBI				*eLQ*	LQ	09 09 16.6	
	410nm,35.0s						
TBI				*eLR*	LR	09 10 32.5	
	192nm,27.5s						
TBI	**Tubuai**	**25.99**	**81**	*eT*	T	09 30 30.2	
	15nm,0.4s						
PAE	**Paea**	**28.49**	**70**	*eT*	T	09 33 19.6	
	4.3nm,0.3s						
PPT2	**Papeete2**	**28.53**	**69**	*eS*	**S**	**09 09 10.9**	**-1.5**
	58nm,26.2s						
PPT2				*eLQ*	LQ	09 10 24.6	
	486nm,34.5s						
PPT2				*eLR*	LR	09 11 37.8	
	177nm,27.2s						
PPT2	**Papeete2**	**28.53**	**69**	*eT*	T	09 33 23.1	
	3.8nm,0.3s						
PPT	**Papeete**	**28.54**	**69**	LR	LR	09 12 43.9	
	comp=Z,40nm,20.7s,baz=216,slow=30						
VAH	**Vaihoa**	**31.38**	**68**	*eT*	T	09 36 52.6	
	14nm,0.2s						
CTAO	**Charters Tower**	**34.23**	**279**	*eP*	**P**	**09 05 18.6**	**+2.0**
	13nm,0.8s						
STKA	**Stephens Creek**	**34.83**	**257**	P	**P**	**09 05 24.1**	**+2.4**
	11nm,0.7s,baz=103,slow=12,SNR=45						
STKA				LR	LR	09 18 06.3	
	comp=Z,152nm,18.6s,baz=38,slow=34						
STKA	**Stephens Creek**	**34.83**	**257**	*eP*	**P**	**09 05 23.7**	**+2.1**
	3.7nm,0.9s						
AS31	**Alice Springs**	**43.50**	**267**	*eP*	**P**	**09 06 33.9**	**-0.4**
ASAR	**Alice Springs**	**43.51**	**267**	P	**P**	**09 06 34.4**	**+0.1**
	2.8nm,0.5s,baz=105,slow=7.3,SNR=50						
ASAR				PcP	**PcP**	**09 08 24.6**	**+2.6**
	0.9nm,0.7s,baz=127,slow=3.6,SNR=4.2						
ASAR				LR	LR	09 24 09.9	
	comp=Z,173nm,18.6s,baz=110,slow=35						
WRAB	**Tennant Creek**	**44.51**	**272**	*eP*	**P**	**09 06 42.1**	**-0.2**
	22nm,1.2s						
WRA	**Warramunga Arr**	**44.51**	**272**	P	**P**	**09 06 42.2**	**-0.2**
	10nm,0.8s,baz=111,slow=8.1,SNR=58						
CASY	**Casey**	**55.14**	**208**	*eP*	**P**	**09 08 03.5**	**+1.0**
	14nm,1.1s						
GUMO	**Guam**	**56.92**	**315**	LR	LR	09 32 58.8	
	comp=Z,23nm,18.0s,baz=146,slow=36						
QSPA	**South Pole Qui**	**59.50**	**180**	P	P	09 08 36.6	+3.2
	4.8nm,1.0s,baz=344,slow=0.8,SNR=16						
QSPA	**South Pole Qui**	**59.50**	**180**	*eP*	P	09 08 36.8	+3.3
MAW	**Mawson**	**72.25**	**200**	P	**P**	**09 09 57.5**	**+2.3**
	1.4nm,0.7s,baz=143,slow=10,SNR=3.6						
KSRS	**Korea Array**	**84.77**	**319**	P	**P**	**09 11 05.7**	**+1.1**
	0.5nm,0.3s,baz=135,slow=5.7,SNR=3.9						
KSAR	**Wonju Array Be**	**84.79**	**319**	P	**P**	**09 11 05.7**	**+1.0**
PETK	**Petropavlovsk-**	**86.12**	**345**	P	**P**	**09 11 11.7**	**+0.8**
	3.7nm,0.8s,baz=151,slow=13,SNR=3.5						
USRK	**Ussuriysk Ar.**	**87.56**	**326**	P	**P**	**09 11 18.7**	**+0.6**
	2.1nm,0.9s,baz=101,slow=8.0,SNR=4.4						
TXAR	**Lajitas Array**	**92.16**	**57**	LR	LR	09 44 29.5	
	comp=Z,22nm,21.6s,baz=0.0,slow=30						
MKAR	**Makanchi Array**	**118.22**	**310**	PKP	**PKPdf**	**09 17 17.3**	**+0.1**
	0.2nm,0.3s,baz=107,slow=4.8,SNR=5.5						
KURK	**Kurchatov**	**121.49**	**314**	PKP	**PKPdf**	**09 17 23.4**	**+0.1**
KURBB	**Kurchatov Arra**	**121.53**	**314**	PKP	**PKPdf**	**09 17 23.4**	**0.0**
	0.9nm,0.8s,baz=120,slow=2.7,SNR=6.3						
BVAR	**Borovoye Array**	**126.84**	**316**	PKP	**PKPdf**	**09 17 32.7**	**-0.9**
	0.5nm,0.4s,baz=144,slow=5.2,SNR=3.8						
H10S3	**ASCENSION HYDR**	**137.36**	**155**	T	T	11 52 24.8	
	baz=204,slow=74,SNR=11						
H10S2	**ASCENSION HYDR**	**137.36**	**155**	T	T	11 52 26.4	
	baz=204,slow=74,SNR=9.0						
H10S1	**ASCENSION HYDR**	**137.37**	**155**	T	T	11 52 26.0	
	baz=204,slow=74,SNR=9.1						
H10N3	**ASCENSION HYDR**	**138.44**	**154**	T	T	11 53 51.2	
	baz=203,slow=75,SNR=8.2						
H10N1	**ASCENSION HYDR**	**138.44**	**154**	T	T	11 53 50.6	
	baz=203,slow=75,SNR=8.1						
H10N2	**ASCENSION HYDR**	**138.46**	**154**	T	T	11 53 41.4	
	baz=203,slow=75,SNR=9.1						
ARCES	**ARCESS Array B**	**138.88**	**348**	PKP	**PKPdf**	**09 17 58.1**	**+2.4**
	15nm,1.4s,baz=326,slow=0.4,SNR=3.7						
FIA1	**FINESS Array S**	**145.48**	**340**	*e*PKPbc	**PKPdf**	**09 18 07.5**	**-0.1**
FINES	**FINESS Array B**	**145.49**	**340**	PKPbc	**PKPdf**	**09 18 07.5**	**-0.2**
	9.4nm,0.6s,baz=78,slow=3.3,SNR=53						
KBZ	**Khabaz**	**145.57**	**304**	PKPbc	**PKPab**	**09 18 09.3**	**+0.4**
	2.5nm,0.7s,baz=82,slow=4.3,SNR=4.5						
NB2	**NORSAR Subarra**	**149.02**	**352**	PKP	**PKPbc**	**09 18 17.7**	**0.0**
	comp=Z,5.8nm,1.0s,baz=12,slow=2.9						
NOA	**NORSAR Array B**	**149.02**	**352**	PKPbc	**PKPbc**	**09 18 18.0**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=15,slow=4.2,SNR=8.3						
AKASG	**Malin Array Be**	**151.72**	**323**	PKPbc	**PKPbc**	**09 18 24.6**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=47,slow=2.7,SNR=12						
AKASG				PKPab	**PKPab**	**09 18 32.4**	**-0.9**
	comp=Z,5.9nm,0.6s,baz=50,slow=3.0,SNR=22						
AKBB	**Malin Array Si**	**151.72**	**323**	*e*PKPdf	**PKPdf**	**09 18 19.2**	**+1.1**
AKBB				*e*PKPbc	**PKiKP**	**09 18 24.7**	**-0.1**
AKBB				*e*PKPab	**PKPab**	**09 18 32.5**	**-0.9**
AK01	**Malin Array Si**	**151.73**	**323**	*e*PKPbc	**PKPbc**	**09 18 25.0**	**+0.6**
AK01				*e*PKPab	**PKPab**	**09 18 32.9**	**-0.5**
AK02	**Malin Array Si**	**151.75**	**323**	*e*PKPbc	**PKPbc**	**09 18 24.8**	**+0.3**
AK02				*e*PKPab	**PKPab**	**09 18 32.4**	**-1.0**
BR131	**Keskin Array S**	**153.06**	**298**	*e*PKPbc	**PKPbc**	**09 18 29.1**	**+1.1**
BR131				*e*PKPab	**PKPab**	**09 18 38.7**	**-0.9**
BRTR	**Keskin Array B**	**153.06**	**298**	PKPbc	**PKPbc**	**09 18 27.6**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=128,slow=3.8,SNR=8.2						
BRTR				PKPab	**PKPab**	**09 18 41.9**	**+2.3**
	comp=Z,1.4nm,0.7s,baz=111,slow=4.8,SNR=5.7						
GERES	**GERESS Array B**	**159.89**	**338**	PKPab	**PKPab**	**09 19 09.0**	**+0.5**
	comp=Z,0.3nm,0.2s,baz=76,slow=4.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**162.60**	**177**	PKPab	**PKPab**	**09 19 22.5**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=167,slow=4.1,SNR=4.9						

*ISCJB **10** 09:05:56.8±0.8, 3°.50S±0°.04×127°.33E±0°.03, h11km±5km, mb3.9/6, Error ellipse: s-maj=6.5km s-min=3.9km az=18.1*
*IDC **10** 09:05:59.6±3.2, 3°.61S×127°.33E, h40km±34km, mb3.6/6, mb1 3.8/8, mb1mx3.5/35, mbtmp3.8/8, ML4.1/3, Error ellipse: s-maj=28.7km s-min=21.8km az=97.0*
*DJA **10** 09:05:59.1±0.2, 3°S±2°×12°7E±°, h13km, M4.5/20, mb4.8/11, mB5.2/4, MLv4.4/20, Mw(mB)4.5/4*
ISC 10 09:05:56.0±1.3, 3°.57S±0°.06×127°.36E±0°.04, h7km±9km, n27, σ1°49/36, mb4.0/5, Seram

| Code | Station Name |

Error ellipse: s-maj=16.0km s-min=14.6km az=18.0
*IDC **10** 09:26:53.0±2.8, 53.56N×87.71E, h0km, mb1 3.0/2, mb1mx2.9/39, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=23.6km s-min=15.2km az=61.0*
ISC 10 09:26:55.1±3.9, 53.6N±0.1×87.9E±0.2, h35km, n7, σ1§45/11, 2C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**281**	*i*				09 38 24.4	
	baz=99,slow=318,SNR=5.8								
ZALV	**Zalesovo Beam**	**1.85**	**281**	Pn		**Pn**		**09 27 24.3**	**0.0**
	0.9nm,0.3s,baz=104,slow=14,SNR=11								
ZALV				Lg		Lg		09 27 49.3	
	2.2nm,0.3s,baz=108,slow=25,SNR=15								
KURK	**Kurchatov**	**6.41**	**247**	⇑Pn		**Pn**		**09 28 25.5**	**-1.4**
	0.4nm,0.6s								
KURK				⇓Sn		**Sn**		**09 29 39.9**	**+1.1**
	0.6nm,0.6s								
KURK				⇓Lg		Lg		09 30 12.5	
	1.7nm,0.8s								
KURBB	**Kurchatov Arra**	**6.51**	**246**	⇓Pn		**Pn**		**09 28 28.1**	**-0.2**
	1.5nm,0.5s								
KURBB				⇓Sn		**Sn**		**09 29 43.1**	**+1.9**
	2.2nm,0.6s								
KURBB				⇓Lg		Lg		09 30 15.0	
	4.7nm,0.6s								
KURBB	**Kurchatov Arra**	**6.51**	**246**	Pn		**Pn**		**09 28 29.0**	**+0.7**
	0.1nm,0.3s,baz=62,slow=14,SNR=7.8								
KURBB				Sn		**Sn**		**09 29 39.2**	**-1.9**
	0.1nm,0.3s,baz=16,slow=18,SNR=1.7								
KURBB				Lg		Lg		09 30 16.0	
	0.0nm,0.3s,baz=64,slow=31,SNR=7.2								
MK31	**Makanchi Array**	**7.73**	**210**	⇑Pn		**Pn**		**09 28 44.6**	**-0.5**
	0.2nm,0.6s,baz=28,slow=13,SNR=9.1								
MK31				⇓Sn		**Sn**		**09 30 09.7**	**-1.8**
	0.4nm,0.7s								
MK31				⇓Lg		Lg		09 30 51.2	
	2.2nm,0.9s,baz=36,slow=27,SNR=6.3								
MKAR	**Makanchi Array**	**7.73**	**210**	Pn		**Pn**		**09 28 46.4**	**+1.3**
	0.2nm,0.3s,baz=27,slow=14,SNR=6.8								
MKAR				Sn		**Sn**		**09 30 12.2**	**+0.8**
	0.1nm,0.3s,baz=29,slow=25,SNR=5.0								
MKAR				Lg		Lg		09 30 53.7	
	0.1nm,0.3s,baz=36,slow=29,SNR=8.2								

SJA 10 09:30:01.1±0.8, 24.12S×65.00W, h14km±2km, ML3.6, MW3.5, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**0.13**	**211**	*i*	P		Pb	09 30 05.3	-0.3
AZAP				*i*	S		Sb	09 30 08.8	+0.1
AZAP					AML		AML	09 30 09.0	
	comp=Z,15μm,0.2s								
ASTB	**Santa Barbara**	**0.49**	**71**	*i*	P		Pb	09 30 11.8	0.0
SLA	**San Lorenzo**	**0.76**	**217**	*i*	P		Pb	09 30 16.6	+0.2
HJA	**Humahuaca**	**0.98**	**337**	*i*	P		Pb	09 30 20.3	-0.1
HJA				*i*	S		Sn	09 30 35.1	+0.1
ALOL	**LOMAS DE OLMED**	**0.98**	**73**	*i*	P		Pb	09 30 19.9	0.0
ALOL				*i*	P		Pb	09 30 19.9	0.0
YJA	**Yavi**	**1.99**	**346**	*i*	P		Pb	09 30 38.1	+0.4
YJA				*i*	S		Sg	09 31 04.7	-1.4
FSA	**Cafayete**	**2.17**	**205**	*i*	P		Pb	09 30 39.2	-1.3
AHML	**Horco Molle**	**2.68**	**187**	*i*	P		Pn	09 30 46.2	+2.3
AHML				*e*	S		Sg	09 31 27.3	0.0
AHML					IAML			09 31 28.7	
	comp=Z,302nm,0.3s								
CYA	**Choya**	**4.37**	**189**	*e*	P		Pn	09 31 08.8	+1.6
CYA				*e*	S		Sb	09 32 15.7	+5.3
CYA					IAML			09 32 30.0	
	comp=Z,69nm,0.5s								
ACLC	**CERRO LA CRUZ**	**5.57**	**198**	*e*	P		Pn	09 31 25.7	+1.8

*ISCJB **10** 09:38:28.0±0.4, 25.70S±0.03×69.08W±0.07, h103km, mb4.1/11, Error ellipse: s-maj=8.9km s-min=3.9km az=179.3*
*SJA **10** 09:38:28.7±0.9, 25.68S×68.96W, h148km±32km, ML5.5, MW5.6*
*IDC **10** 09:38:32.2±0.6, 25.54S×68.74W, h128km±4km, mb3.9/11, mb1 4.0/14, mb1mx3.9/19, mbtmp4.2/14, Error ellipse: s-maj=18.7km s-min=9.7km az=84.0*
ISC 10 09:38:29.2±0.5, 25.71S±0.04×69.00W±0.08, h103km, n38, σ2§00/51, mb4.2/11, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FSA	**Cafayete**	**2.71**	**99**	*e*	P		**Pn**	**09 39 13.6**	**+2.1**
LVC	**Limon Verde**	**3.08**	**1**	P			**Pn**	**09 39 17.6**	**+1.2**
	1μm,0.3s,baz=144,slow=4.8,SNR=549								
LVC				S			**Sn**	**09 39 52.6**	**-0.2**
	12μm,0.3s,baz=190,slow=9.3,SNR=17								
LVC	**Limon Verde**	**3.08**	**1**	*e*	P		**Pn**	**09 39 17.9**	**+1.4**
LVC					AML		AML	09 39 55.4	
	comp=Z,12μm,0.8s								
SLA	**San Lorenzo**	**3.31**	**73**	*e*	P		**Pn**	**09 39 21.3**	**+1.9**
AHML	**Horco Molle**	**3.46**	**109**	*e*	P		**Pn**	**09 39 23.0**	**+1.7**
AZAP	**Zapla**	**3.86**	**68**	*e*	P		**Pn**	**09 39 27.8**	**+1.0**
CYA	**Choya**	**3.94**	**134**	*e*	P		**Pn**	**09 39 29.2**	**+1.5**
HJA	**Humahuaca**	**4.11**	**53**	*e*	P		**Pn**	**09 39 32.3**	**+2.0**
ACLC	**CERRO LA CRUZ**	**4.12**	**154**	*e*	P		**Pn**	**09 39 32.2**	**+1.9**
ACLC				*e*	S		**Sn**	**09 40 18.3**	**+0.6**
ASTB	**Santa Barbara**	**4.46**	**68**	*e*	P		**Pn**	**09 39 35.1**	**+0.2**
ALOL	**LOMAS DE OLMED**	**4.94**	**69**	*e*	P		**Pn**	**09 39 41.2**	**-0.1**
AVFE	**Valle Fertil**	**5.12**	**165**	*e*	P		**Pn**	**09 39 44.9**	**+1.2**
AVFE				*e*	S		**Sn**	**09 40 40.3**	**-1.3**
APLL	**PUNTA DE LOS L**	**5.15**	**156**	*e*	P		**Pn**	**09 39 45.2**	**+1.1**
RTLL	**Cerro Villicun**	**5.62**	**175**	*e*	P		**Pn**	**09 39 52.1**	**+1.6**
RTLL				*e*	S		**Sn**	**09 40 52.8**	**-0.8**
CFAA	**Coronel Fontan**	**5.91**	**174**	P			**Pn**	**09 39 55.6**	**+1.2**
	comp=Z,1.9nm,0.3s,baz=4.0,slow=15,SNR=117								
CFAA				S			**Sn**	**09 40 58.0**	**-2.8**
	comp=Z,2.2nm,0.3s,baz=253,slow=18,SNR=20								
CFAA	**Coronel Fontan**	**5.91**	**174**	*e*	P		**Pn**	**09 39 56.0**	**+1.6**
RTLS	**Leoncito**	**6.08**	**182**	*e*	P		**Pn**	**09 39 58.3**	**+1.5**
RTCV	**Cerro Valdivia**	**6.14**	**176**	*e*	P		**Pn**	**09 39 58.9**	**+1.3**
RTCV				*e*	S		**Sn**	**09 41 04.2**	**-2.3**
ACAN	**Cantantal**	**6.73**	**167**	*e*	P		**Pn**	**09 40 06.2**	**+0.7**
LPAZ	**La Paz**	**9.41**	**5**	P			**Pn**	**09 40 42.1**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=204,slow=2.2,SNR=21								
LPAZ				S			**Sn**	**09 42 24.5**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=191,slow=12,SNR=1.3								
SIV	**San Ignacio**	**12.17**	**39**	P			**Pn**	**09 41 16.9**	**-2.4**
	comp=Z,1.0nm,0.3s,baz=233,slow=12,SNR=11								
BDFB	**Brasilia**	**22.01**	**67**	P			**P**	**09 43 14.4**	**-1.0**
	comp=Z,4.0nm,0.8s,baz=215,slow=7.3,SNR=4.2								
SNAA	**Sanae**	**58.36**	**160**	P			**P**	**09 48 12.9**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=298,slow=6.8,SNR=38								
TXAR	**Lajitas Array**	**64.05**	**326**	P			**P**	**09 48 52.8**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=155,slow=6.6,SNR=10								
TXAR				pP			**PcP**	**09 49 23.5**	**-3.3**
	comp=Z,0.4nm,0.6s,baz=146,slow=8.9,SNR=4.5								
DBIC	**Dimbokro**	**70.06**	**72**	P			**P**	**09 49 29.4**	**-1.2**
	comp=Z,6.8nm,0.7s,baz=209,slow=8.1,SNR=6.7								
SYO	**Syowa Base**	**72.61**	**159**	*e*P			**P**	**09 49 43.6**	**-1.4**
VNDA	**Vanda**	**72.71**	**190**	P			**P**	**09 49 46.6**	**+1.1**
	comp=Z,1.9nm,1.0s,baz=138,slow=3.6,SNR=6.7								
PDAR	**Pinedale Array**	**77.71**	**331**	P			**P**	**09 50 15.2**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=79,slow=7.7,SNR=3.7								
PDAR				pP			pP	09 50 48.7	+7.4
	comp=Z,0.3nm,0.3s,baz=74,slow=7.9,SNR=2.3								
NVAR	**Mina Array Bea**	**78.76**	**323**	P			**P**	**09 50 21.9**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=138,slow=7.4,SNR=3.9								
TORD	**Torodi Ar. Bea**	**78.87**	**70**	P			**P**	**09 50 20.2**	**-1.3**
	comp=Z,9.2nm,0.7s,baz=261,slow=5.5,SNR=111								
TORD				pP			**pP**	**09 50 52.2**	**+4.2**
	comp=Z,1.7nm,0.6s,baz=265,slow=5.3,SNR=3.2								
MAW	**Mawson**	**80.34**	**163**	P			**P**	**09 50 28.8**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=233,slow=8.9,SNR=4.4								
YKA	**Yellowknife Ar**	**95.11**	**341**	P			**P**	**09 51 39.5**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=138,slow=4.2,SNR=16								
YKA				pP			**pP**	**09 52 12.1**	**+4.9**
	comp=Z,1.1nm,0.8s,baz=139,slow=4.5,SNR=6.6								
KEST	**Kesra**	**95.89**	**53**	P			**P**	**09 51 42.8**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=123,slow=5.4,SNR=4.3								
ASAR	**Alice Springs**	**126.14**	**206**	PKP			**PKPdf**	**09 57 19.1**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=130,slow=1.8,SNR=16								
ASAR				pPKP			**pPKPdf**	**09 57 53.8**	**+5.3**
	comp=Z,0.5nm,0.8s,baz=116,slow=2.2,SNR=2.4								
WRA	**Warramunga Arr**	**129.27**	**209**	PKP			**PKPdf**	**09 57 25.6**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=162,slow=1.6,SNR=9.1								
ZALV	**Zalesovo Beam**	**145.74**	**28**	PKPbc			**PKPdf**	**09 57 55.2**	**0.0**
	comp=Z,6.7nm,0.4s,baz=300,slow=4.1,SNR=26								
ZALV				pPKPbc			pPKPbc	09 58 29.0	+5.3
	comp=Z,3.1nm,0.7s,baz=307,slow=3.5,SNR=4.0								
MKAR	**Makanchi Array**	**148.99**	**40**	PKPbc			**PKPbc**	**09 58 04.5**	**-0.6**
	comp=Z,4.3nm,0.7s,baz=306,slow=2.9,SNR=28								
MKAR				pPKPbc			**pPKPbc**	**09 58 38.7**	**+5.5**
	comp=Z,0.6nm,0.5s,baz=291,slow=2.5,SNR=2.9								
SONM	**Songino Array**	**157.62**	**8**	PKP			**PKPdf**	**09 58 12.3**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=48,slow=2.1,SNR=2.9								
SONM				PKPab			**PKPab**	**09 58 45.5**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=327,slow=2.5,SNR=6.0								

*ISCJB **10** 09:40:06.6±0.5, 38.11N±0.02×26.85E±0.03, h8km±4km, Error ellipse: s-maj=3.9km s-min=3.4km az=171.3*
*CSEM **10** 09:40:06.7±0.1, 38.12N×26.88E, h2km, MD2.9, Error ellipse: s-maj=2.6km s-min=2.0km az=78.0*
*DDA **10** 09:40:06.1, 38.11N×26.87E, h15km, MD2.9*
*ATH **10** 09:40:06.8, 38.05N×26.81E, h29km±2km, MD2.9/5*
*ISK **10** 09:40:06.4, 38.14N×26.87E, h7km, MD2.9*
ISC 10 09:40:06.7±0.9, 38.12N±0.02×26.86E±0.02, h11km±8km, n57, σ0§68/85, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.30**	**28**	PG			**Pg**	**09 40 12.5**	**-0.3**
BLCB				*e*SG			**Sg**	**09 40 16.5**	**-0.3**
BLCB	**Balcova**	**0.30**	**28**	*i* Pg			**Pg**	**09 40 12.5**	**-0.3**
BLCB				*e*Sg			**Sg**	**09 40 16.5**	**-0.3**
ZEY	**˜zmir**	**0.31**	**293**	*i* P			**Pg**	**09 40 13.1**	**+0.2**
ZEY				*i* S			**Sg**	**09 40 18.0**	**+1.0**
URLA	**Izmir**	**0.32**	**319**	*i* P			**Pg**	**09 40 13.0**	**-0.1**
URLA				*i* S			**Sg**	**09 40 18.1**	**+0.6**
URLA	**Izmir**	**0.32**	**319**	*i* P			**Pg**	**09 40 13.0**	**-0.1**
URLA				*i* S			**Sg**	**09 40 18.1**	**+0.6**
SMG	**Samos**	**0.41**	**183**	*e*PB			**Pb**	**09 40 15.5**	**-0.5**
SMG				*e*SB			**Sg**	**09 40 20.5**	**+0.2**
SMG	**Samos**	**0.41**	**183**	*e*Pb			**Pb**	**09 40 15.5**	**-0.5**
SMG				*e*Sb			**Sg**	**09 40 20.5**	**+0.2**
IZM	**Izmir**	**0.42**	**49**	PG			**Pg**	**09 40 14.9**	**-0.1**
IZM				*e*SG			**Sg**	**09 40 21.0**	**+0.4**
IZM	**Izmir**	**0.42**	**49**	*i* Pg			**Pg**	**09 40 14.9**	**-0.1**
IZM				*e*Sg			**Sg**	**09 40 21.0**	**+0.4**
CHOS	**Chios island**	**0.69**	**293**	*e*PG			**Pg**	**09 40 20.2**	**+0.2**
CHOS				*e*SG			**Sb**	**09 40 30.0**	**-0.3**
CHOS	**Chios island**	**0.69**	**293**	*e*PN			**Pg**	**09 40 20.2**	**+0.2**
CHOS				*e*SN			**Sb**	**09 40 30.8**	**+0.5**
CHOS	**Chios island**	**0.69**	**293**	*e*Pn			**Pg**	**09 40 20.2**	**+0.2**
CHOS				*e*Sg			**Sb**	**09 40 30.0**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.83**	**102**	*e*PG			**Pg**	**09 40 22.9**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.83**	**102**	*e*Pg			**Pg**	**09 40 22.9**	**+0.2**
AYDN	**Tasoluk**	**0.93**	**119**	*i* P			**Pg**	**09 40 24.7**	**+0.2**
AYDN				*i* S			**Sg**	**09 40 36.9**	**+0.3**
AYDN	**Tasoluk**	**0.93**	**119**	*i* P			**Pg**	**09 40 24.7**	**+0.2**
AYDN				*i* S			**Sg**	**09 40 36.9**	**+0.3**
AKHS	**Akhisar**	**1.06**	**44**	*i* P			**Pb**	**09 40 26.8**	**-0.3**
AKHS				*i* S			**Sn**	**09 40 41.9**	**-0.4**
AKHS	**Akhisar**	**1.06**	**44**	*i* P			**Pb**	**09 40 26.8**	**-0.3**
AKHS				*i* S			**Sn**	**09 40 41.9**	**-0.4**
BODT	**Bodrum**	**1.11**	**161**	*e*PN			**Pg**	**09 40 28.3**	**+0.2**
BODT				*e*SN			**Sn**	**09 40 44.7**	**+1.1**
BODT	**Bodrum**	**1.11**	**161**	*e*Pn			**Pg**	**09 40 28.3**	**+0.2**
BODT				*e*Sn			**Sn**	**09 40 44.7**	**+1.1**
BDRM	**Kayabasi**	**1.15**	**156**	*i* P			**Pn**	**09 40 28.3**	**-0.4**
BDRM				*i* S			**Sb**	**09 40 42.5**	**-1.0**
BDRM	**Kayabasi**	**1.15**	**156**	*i* P			**Pn**	**09 40 28.3**	**-0.4**
BDRM				*i* S			**Sb**	**09 40 42.5**	**-1.0**
AYVA	**Ayvalik**	**1.19**	**354**	*i* P			**Pn**	**09 40 28.3**	**-1.0**
AYVA				*i* S			**Sg**	**09 40 46.4**	**+1.2**
AYVA	**Ayvalik**	**1.19**	**354**	*i* P			**Pn**	**09 40 28.3**	**-1.0**
AYVA				*i* S			**Sg**	**09 40 46.4**	**+1.2**
PRK	**Paraskevi**	**1.22**	**338**	*e*PN			**Pg**	**09 40 30.2**	**+0.1**
SIGR	**SIGRI**	**1.34**	**324**	*e*PN			**Pb**	**09 40 32.0**	**+0.1**
SIGR	**SIGRI**	**1.34**	**324**	*e*PN			**Pg**	**09 40 32.2**	**-0.3**
SIGR	**SIGRI**	**1.34**	**324**	*e*Pn			**Pb**	**09 40 32.0**	**+0.1**
KULA	**Kula-Manisa**	**1.47**	**74**	*e*PN			**Pb**	**09 40 33.9**	**-0.1**
KULA	**Kula-Manisa**	**1.47**	**74**	*e*Pn			**Pb**	**09 40 33.9**	**-0.1**
APE	**Apeiranthos**	**1.49**	**226**	*e*PN			**Pg**	**09 40 35.0**	**-0.2**
APE	**Apeiranthos**	**1.49**	**226**	*e*PN			**Pn**	**09 40 32.5**	**-0.9**
APE	**Apeiranthos**	**1.49**	**226**	*e*Pn			**Pg**	**09 40 35.1**	**-0.2**
YER	**Yerkesik**	**1.50**	**131**	*e*PN			**Pb**	**09 40 34.5**	**0.0**
YER	**Yerkesik**	**1.50**	**131**	*e*Pn			**Pb**	**09 40 34.5**	**0.0**
DAT	**Datca**	**1.50**	**157**	*e*PN			**Pb**	**09 40 34.9**	**+0.3**
DAT	**Datca**	**1.50**	**157**	*e*Pn			**Pb**	**09 40 34.9**	**+0.3**
BALB	**Balikesir**	**1.71**	**27**	*e*PN			**Pb**	**09 40 37.0**	**-1.1**
BALB	**Balikesir**	**1.71**	**27**	*e*Pn			**Pb**	**09 40 37.1**	**-1.1**
DEMI	**Demirci**	**1.72**	**57**	*i* P			**Pb**	**09 40 38.4**	**+0.1**
DEMI				*i* S			**Sb**	**09 41 00.3**	**+0.3**
DEMI	**Demirci**	**1.72**	**57**	*i* P			**Pb**	**09 40 38.4**	**+0.1**
DEMI				*i* S			**Sb**	**09 41 00.3**	**+0.3**
BALY	**Balya**	**1.72**	**20**	*i* P			**Pb**	**09 40 38.1**	**-0.3**
BALY				*i* S			**Sb**	**09 40 58.9**	**-1.1**
BALY	**Balya**	**1.72**	**20**	*i* P			**Pb**	**09 40 38.1**	**-0.3**
BALY				*i* S			**Sb**	**09 40 58.9**	**-1.1**
EZN	**Ezine**	**1.75**	**346**	*e*PN			**Pb**	**09 40 37.7**	**-1.1**
EZN	**Ezine**	**1.75**	**346**	*e*Pn			**Pb**	**09 40 37.7**	**-1.1**
DALY	**Dalyan (Mu˘la**	**1.93**	**132**	*e*PN			**Pb**	**09 40 40.6**	**-1.2**
DALY	**Dalyan (Mu˘la**	**1.93**	**132**	*e*Pn			**Pb**	**09 40 40.7**	**-1.2**
DURS	**Dursunbey**	**1.94**	**40**	*i* P			**Pn**	**09 40 39.6**	**-0.1**
DURS				*i* S			**Sb**	**09 41 05.4**	**-1.0**
DURS	**Dursunbey**	**1.94**	**40**	*i* P			**Pn**	**09 40 39.6**	**-0.1**
DURS				*i* S			**Sb**	**09 41 05.4**	**-1.0**
KRBG	**Karabiga-Canak**	**2.29**	**8**	*e*PN			**Pn**	**09 40 45.3**	**+0.9**
KRBG	**Karabiga-Canak**	**2.29**	**8**	*e*Pn			**Pn**	**09 40 45.3**	**+0.9**
EDC	**Edincik**	**2.35**	**19**	*e*PN			**Pn**	**09 40 46.6**	**+1.3**
EDC	**Edincik**	**2.35**	**19**	*e*Pn			**Pn**	**09 40 46.6**	**+1.3**
TVSB	**Tavsanli**	**2.43**	**56**	*e*PN			**Pn**	**09 40 47.5**	**+1.1**
TVSB	**Tavsanli**	**2.43**	**56**	*e*Pn			**Pn**	**09 40 47.5**	**+1.1**
KCTX	**Karacabey (Bur**	**2.44**	**28**	*e*PN			**Pn**	**09 40 47.3**	**+0.9**
KCTX	**Karacabey (Bur**	**2.44**	**28**	*e*Pn			**Pn**	**09 40 47.3**	**+0.9**

*NIED **10** 09:40:00, 27.10N×128.00E, h8km, Mw3.7 Best double couple: M0=4.19000×10^14 NP1:φs=303.00000°, δ38.00000°, λ=-114.00000°. NP2:φs=153.00000°, δ56.00000°, λ=-72.00000°.*
*IDC **10** 09:40:10.4±1.1, 26.89N×127.52E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.6/26, mbtmp3.6/7, ML3.6/2, MS3.2/1, Ms1 3.4/1, ms1mx2.5/34, Error ellipse: s-maj=49.6km s-min=18.8km az=76.0*
*ISCJB **10** 09:40:11.5±0.4, 27.02N±0.03×128.03E±0.04, h23km±3km, mb3.4/5, MS3.0/1, Error ellipse: s-maj=6.5km s-min=3.9km az=136.2*
*JMA **10** 09:40:11.5±0.1, 27.06N×127.99E, h16km±1km, M4.1*
JMA Felt II J1.
ISC 10 09:40:11.7±0.8, 27.02N±0.04×128.03E±0.03, h15km±5km, n30, σ1§06/32, mb3.5/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.06**	**290**	P			**Pg**	**09 40 14.4**	**-0.1**
JIH				S			**Sg**	**09 40 16.1**	**-0.2**
JOW	**Kunigami**	**0.29**	**130**	P			**Pb**	**09 40 18.6**	**+0.1**
JOW				S			**Sb**	**09 40 23.2**	**+0.1**
JOW	**Kunigami**	**0.29**	**130**	Pn			**Pb**	**09 40 18.6**	**+0.1**
	89nm,0.3s,baz=117,slow=26,SNR=2400								
JNTH	**Nagotoyohara**	**0.49**	**181**	P			**Pb**	**09 40 21.9**	**-0.2**
JNTH				S			**Sb**	**09 40 29.0**	**-0.1**
JOKE	**Okinoerabujima**	**0.59**	**54**	P			**Pg**	**09 40 22.9**	**-0.4**
JOKE				S			**Sg**	**09 40 31.2**	**0.0**
JAGN	**Aguni-jima**	**0.82**	**239**	P			**Pb**	**09 40 26.9**	**-0.7**
JAGN				S			**Sg**	**09 40 38.4**	**0.0**
JJT2	**Tamagusuku 2**	**0.91**	**196**	P			**Pn**	**09 40 29.7**	**-0.2**
JTK	**Tokunoshima**	**1.12**	**47**	P			**Pn**	**09 40 32.5**	**-0.4**
JTK				S			**Sb**	**09 40 47.0**	**-0.3**
JKE	**Kume jima 2**	**1.31**	**239**	P			**Pn**	**09 40 32.5**	**-0.9**
JKE				S			**Sb**	**09 40 52.2**	**-0.3**
JAMN	**Amaminishikomi**	**1.59**	**39**	P			**Pn**	**09 40 38.9**	**-0.4**
JAMN				S			**Sn**	**09 40 57.5**	**-2.1**
JAM	**Amami Oshima**	**1.97**	**45**	P			**Pn**	**09 40 44.9**	**+0.3**
JAM				S			**Sn**	**09 41 08.3**	**-0.7**
JZK	**Kikaishima**	**2.16**	**53**	P			**Pb**	**09 40 49.5**	**-0.9**
JTAJ	**Takarajima**	**2.37**	**26**	P			**Pn**	**09 40 50.0**	**0.0**
JMZ	**Minamidaito 2**	**3.10**	**112**	P			**Pn**	**09 40 59.7**	**-0.4**
JMZ				S			**Sn**	**09 41 34.7**	**-2.2**
JIJ	**Ishigaki jima**	**4.39**	**234**	P			**Pn**	**09 41 18.3**	**+0.5**
JNU	**Nakatsue**	**6.57**	**21**	Pn		Pn		09 41 51.8	+4.0
	2.0nm,0.3s,baz=206,slow=11,SNR=15								
KSRS	**Korea Array**	**10.41**	**360**	Pn			**Pn**	**09 42 43.0**	**+2.6**
	0.1nm,0.3s,baz=181,slow=16,SNR=7.5								
MJAR	**Matsushiro Arr**	**12.84**	**40**	Pn			**P**	**09 43 27.0**	**+2.3**
	0.2nm,0.3s,baz=224,slow=10,SNR=12								
SONM	**Songino Array**	**26.80**	**327**	P			**P**	**09 45 52.2**	**+0.9**
	0.4nm,0.4s,baz=134,slow=12,SNR=4.1								
CMAR	**Chiang Mai Arr**	**28.09**	**258**	LR			LR	09 59 07.4	
	comp=Z,42nm,19.3s,baz=165,slow=41								
H11N2	**WAKE ISLAND Hy**	**36.30**	**93**	T			T	10 25 21.9	
	baz=290,slow=75,SNR=3.7								
H11N1	**WAKE ISLAND Hy**	**36.30**	**93**	T			T	10 25 24.7	
	baz=290,slow=75,SNR=4.2								
H11N3	**WAKE ISLAND Hy**	**36.31**	**93**	T			T	10 25 23.9	
	baz=290,slow=75,SNR=4.7								
H11S3	**WAKE ISLAND Hy**	**36.53**	**95**	T			T	10 25 52.3	
	baz=291								
H11S1	**WAKE ISLAND Hy**	**36.54**	**95**	T			T	10 25 48.4	
	baz=291								
H11S2	**WAKE ISLAND Hy**	**36.55**	**95**	T			T	10 25 52.5	
	baz=291								
MKAR	**Makanchi Array**	**40.88**	**311**	P			**P**	**09 47 51.3**	**-1.8**
	0.2nm,0.4s,baz=93,slow=10,SNR=3.2								
ZALV	**Zalesovo Beam**	**41.52**	**322**	P			**P**	**09 47 57.1**	**-1.1**
	0.9nm,0.6s,baz=132,slow=8.6,SNR=2.8								
WRA	**Warramunga Arr**	**47.08**	**172**	P			**P**	**09 48 43.7**	**+0.6**
	0.5nm,0.6s,baz=353,slow=8.4,SNR=7.3								
ASAR	**Alice Springs**	**50.70**	**173**	P			**P**	**09 49 11.4**	**+0.5**
	0.5nm,0.8s,baz=2.3,slow=15,SNR=17								

*IDC **10** 09:45:28.8±0.9, 30.45S×177.49W, h0km, mb4.6/8, mb1 4.7/8, mb1mx4.4/19, mbtmp4.6/8, MS3.7/9, Ms1 3.7/9, ms1mx3.4/25, Error ellipse: s-maj=25.2km s-min=20.4km az=109.0*
*ISCJB **10** 09:45:30.9±0.9, 30.89S±0.06×177.4W±0.2, h35km, mb4.6/11, MS3.7/7, Error ellipse: s-maj=22.6km s-min=5.9km az=14.7*
*NEIC **10** 09:45:30.7±4.4, 30.52S×177.52W, h14km±26km, mb4.9/4, Error ellipse: s-maj=16.7km s-min=9.8km az=95.0*
ISC 10 09:45:34.3±0.7, 30.81S±0.08×177.6W±0.1, h35km, n57, σ2§21/55, mb4.7/11, MS3.6/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.58**	**349**	Pn		Pn		09 45 54.0	-5.8
	1μm,0.3s,baz=101,slow=8.1,SNR=86								
RAO				Sn		Sn		09 46 10.5	-8.5
	2μm,0.3s,baz=89,slow=22,SNR=22		

comp=Z,1.4nm,0.6s,baz=129,slow=4.9,SNR=3.9
TORD Torodi Ar. Bea 162.41 178 PKPab **PKPab 10 06 21.8 +1.5**
comp=Z,0.5nm,0.5s,baz=174,slow=5.1,SNR=5.1

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*SJA **10** 09:46:49.6±1.4, 29°.22S×68°.34W, h7km±7km, ML4.8, MW4.9*
*GUC **10** 09:46:50.2±0.6, 29°.10S×68°.27W, h5km±5km, ML4.8*
*MOS **10** 09:46:51.3±1.2, 29°.21S×68°.27W, h33km, mb5.2/6, Error ellipse: s-maj=16.3km s-min=8.7km az=103.2*
*IDC **10** 09:46:52.6±3.1, 29°.17S×68°.21W, h33km±23km, mb4.4/13, mb1 4.5/19, mb1mx4.4/23, mbtmp4.5/19, ML4.2/5, MS3.6/6, Ms1 3.6/6, ms1mx3.4/19, Error ellipse: s-maj=20.4km s-min=11.7km az=83.0*
*ISCJB **10** 09:46:53.2±0.3, 29°.11S±0°.02×68°.20W±0°.03, h50km±3km, mb4.8/36, MS3.5/4, Error ellipse: s-maj=4.8km s-min=3.4km az=161.8*
*NEIC **10** 09:46:53.8±0.5, 29°.19S×68°.16W, h44km±4km, mb4.8/22, MD4.9(SJA), Error ellipse: s-maj=6.4km s-min=4.0km az=78.0*
NEIC Felt [VI] at Villa Castelli, Villa Union and Vinchina and [IV] at La Rioja.
*BJI **10** 09:46:55.2, 29°.20S×68°.20W, h38km, mB5.1/2, Ms5.1/1, Ms7 5.0/1*

ISC 10 09:46:54.1±0.6, 29°.13S±0°.04×68°.22W±0°.04, h46km±5km, n520, σ0°78/531, mb4.8/36, MS3.5/4, 142C-181D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACLC	**CERRO LA CRUZ**	**1.15**	**105**	*eP*	**Pn**	**09 47 13.9**	**-0.1**
AVFE	**Valle Fertil**	**1.66**	**156**	*eS*	**Sn**	**09 47 43.1**	**+2.0**
AMOG	**MOGNA**	**1.81**	**187**	*eP*	**Pn**	**09 47 21.1**	**-1.9**
APLL	**PUNTA DE LOS L**	**1.94**	**131**	*eP*	**Pn**	**09 47 25.0**	**+0.3**
LCO	**Las Campanas**	**2.17**	**273**	*eP*	**Pn**	**09 47 27.6**	**-0.5**
LCO				*i* S	**Sn**	**09 47 55.9**	**+2.0**
LCO				AML	AML	09 47 59.5	
	comp=E,6μm,0.6s						
LCO	**Las Campanas**	**2.17**	**273**	*eP*	**Pn**	**09 47 27.7**	**-0.3**
LCO	**Las Campanas**	**2.17**	**273**	*eP*	**Pn**	**09 47 27.8**	**-0.2**
LCO				AML	AML	09 48 04.0	
	comp=Z,2μm,0.5s						
RTLL	**Cerro Villicun**	**2.20**	**186**	*eP*	**Pn**	**09 47 27.4**	**-0.9**
CYA	**Choya**	**2.23**	**73**	*eP*	**Pn**	**09 47 31.4**	**+2.7**
CYA				*eS*	Sn	09 48 02.9	+7.8
CYA				AML	AML	09 48 11.2	
	comp=Z,4μm,0.7s						
VACH	**Vallenar**	**2.29**	**283**	⇓ *iP*	**Pn**	**09 47 30.2**	**+0.8**
VACH				*i* S	**Sn**	**09 47 59.2**	**+2.7**
SJA	**San Juan**	**2.40**	**187**	AML	AML	09 48 04.8	
	comp=Z,6μm,0.6s						
CFAA	**Coronel Fontan**	**2.46**	**180**	Pn	**Pn**	**09 47 31.5**	**-0.4**
	comp=Z,66nm,0.3s,baz=357,slow=14,SNR=2758						
CFAA				Sn	**Sn**	**09 48 02.5**	**+1.7**
	comp=Z,22nm,0.3s,baz=42,slow=7.5,SNR=5.1						
CFAA	**Coronel Fontan**	**2.46**	**180**	*eP*	**Pn**	**09 47 31.8**	**0.0**
CFAA				*eS*	**Sn**	**09 48 02.4**	**+1.7**
TLL	**Tololo Astrono**	**2.47**	**245**	⇑ *iP*	**Pn**	**09 47 32.3**	**+0.1**
TLL				*i* S	**Sn**	**09 48 04.7**	**+3.4**
TLL				AML	AML	09 48 17.3	
	comp=N,8μm,0.6s						
CPCH	**Copiapo**	**2.58**	**313**	*eP*	**Pn**	**09 47 32.8**	**-0.7**
CPCH				*i* S	**Sn**	**09 48 05.5**	**+1.9**
RTCV	**Cerro Valdivia**	**2.73**	**186**	*eP*	**Pn**	**09 47 35.2**	**-0.3**
LSCH	**La Serena**	**2.74**	**253**	*eP*	**Pn**	**09 47 35.2**	**-0.4**
LSCH				*i* S	**Sn**	**09 48 10.1**	**+2.5**
CDCH	**Caldera**	**3.08**	**311**	*eP*	**Pn**	**09 47 40.0**	**-0.3**
CDCH				*eS*	**Sn**	**09 48 17.2**	**+1.3**
AUSP	**Uspallata**	**3.24**	**198**	*eP*	**Pn**	**09 47 43.0**	**+0.2**
ACAN	**Cantantal**	**3.26**	**164**	*eP*	**Pn**	**09 47 43.5**	**+0.7**
AHML	**Horco Molle**	**3.46**	**48**	*eP*	**Pn**	**09 47 48.1**	**+2.5**
AHML				*eS*	Sn	09 48 32.6	+7.2
AHML				AML	AML	09 48 50.8	
	comp=Z,2μm,0.6s						
ASAL	**Salagasta**	**3.49**	**189**	*eP*	**Pn**	**09 47 45.9**	**0.0**
FSA	**Cafayete**	**3.61**	**33**	*eP*	Pn	09 47 51.9	+4.1
FSA				AML	AML	09 48 50.4	
	comp=Z,4μm,0.6s						
ARCO	**CERRO ARCO**	**3.75**	**189**	*eP*	**Pn**	**09 47 50.0**	**+0.4**
ARCO				AML	AML	09 48 58.6	
	comp=Z,2μm,0.5s						
AAGR	**Agrelo**	**3.97**	**187**	*eP*	**Pn**	**09 47 52.6**	**-0.1**
SLA	**San Lorenzo**	**5.02**	**30**	*eP*	Pn	09 48 10.8	+3.7
SLA				AML	AML	09 49 46.2	
	comp=Z,472nm,0.7s						
SUCO	**SUCO**	**5.08**	**147**	AML	AML	09 49 36.3	
	comp=Z,1μm,0.5s						
AZAP	**Zapla**	**5.64**	**31**	*eP*	**Pn**	**09 48 18.1**	**+2.3**
ANCH	**Antofagasta**	**5.77**	**340**	*eP*	**Pn**	**09 48 17.5**	**+0.3**
ANCH				*eS*	**Sn**	**09 49 22.9**	**+0.7**
PB10	**IPOC Station P**	**5.97**	**339**	*eP*	**Pn**	**09 48 19.8**	**-0.2**
PB10				*eS*	**Sn**	**09 49 28.1**	**+0.9**
ASTB	**Santa Barbara**	**6.15**	**34**	*eP*	**Pn**	**09 48 25.0**	**+2.3**
HJA	**Humahuaca**	**6.42**	**24**	*eP*	Pn	09 48 31.0	+4.5
PB06	**IPOC Station P**	**6.51**	**349**	*eP*	**Pn**	**09 48 28.1**	**+0.5**
LVC	**Limon Verde**	**6.52**	**354**	Pn	**Pn**	**09 48 28.8**	**+1.0**
	comp=Z,421nm,0.3s,baz=172,slow=12,SNR=73						
LVC				Lg	Lg	09 50 20.5	
	comp=Z,587nm,0.3s,baz=142,slow=22,SNR=3.0						
ALOL	**LOMAS DE OLMED**	**6.52**	**37**	*eP*	**Pn**	**09 48 29.7**	**+2.1**
PB04	**IPOC Station P**	**6.93**	**350**	*eP*	**Pn**	**09 48 33.5**	**+0.3**
YJA	**Yavi**	**7.35**	**20**	⇓ *eP*	Pn	09 48 43.1	+3.8
PB09	**IPOC Station P**	**7.36**	**353**	*eP*	**Pn**	**09 48 39.9**	**+0.6**
PB07	**IPOC Station P**	**7.53**	**348**	⇑ *iP*	**Pn**	**09 48 40.4**	**-1.1**
PB01	**IPOC Station P**	**8.13**	**352**	⇓ *iP*	**Pn**	**09 48 48.6**	**-1.1**
MNMC	**Minimini**	**10.04**	**353**	*eP*	**Pn**	**09 49 13.9**	**-2.1**
CPUP	**Villa Florida**	**10.05**	**76**	*eP*	**Pn**	**09 49 15.3**	**-0.6**
CPUP	**Villa Florida**	**10.05**	**76**	*ePn*	**Pn**	**09 49 15.2**	**-0.6**
TRQA	**Tornquist**	**10.31**	**151**	*ePn*	**Pn**	**09 49 17.6**	**-1.8**
PLCA	**Paso Flores**	**11.73**	**189**	Pn	**Pn**	**09 49 37.5**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=0.0,slow=7.1,SNR=3.4						
PLCA				Lg	Lg	09 53 01.5	
	comp=Z,0.8nm,0.3s,baz=304,slow=22,SNR=1.7						
PLCA				LR	LR	09 54 53.5	
	comp=Z,516nm,18.7s,baz=352,slow=41						
LPAZ	**La Paz**	**12.79**	**0**	Pn	**Pn**	**09 49 55.1**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=191,slow=9.5,SNR=15						
LPAZ				LR	LR	09 56 12.8	
	comp=Z,219nm,21.7s,baz=212,slow=44						
SIV	**San Ignacio**	**14.64**	**28**	Pn	Pn	09 50 16.4	-2.1
	comp=Z,0.5nm,0.3s,baz=218,slow=8.2,SNR=7.0						
NNA	**Nana**	**18.86**	**333**	P	**P**	**09 51 11.3**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=234,slow=8.7,SNR=2.7						
NNA	**Nana**	**18.86**	**333**	*eP*	**Pn**	**09 51 12.8**	**+1.3**
NNA				pmax	pmax		
	comp=Z,11nm,0.8s						
NNA	**Nana**	**18.86**	**333**	*eP*	**Pn**	**09 51 12.8**	**+1.3**
	comp=Z,11nm,0.8s						
SAML	**Samuel**	**20.63**	**14**	*eP*	**P**	**09 51 30.1**	**+0.3**
	comp=Z,17nm,0.7s						
BDFB	**Brasilia**	**22.96**	**59**	P	**P**	**09 51 53.1**	**-1.7**
	comp=Z,4.1nm,0.5s,baz=251,slow=9.5,SNR=5.5						
BDFB				LR	LR	10 01 30.8	
	comp=Z,166nm,18.9s,baz=222,slow=38						
BDFB	**Brasilia**	**22.96**	**59**	*eP*	**P**	**09 51 56.3**	**+1.4**
BDFB	**Brasilia**	**22.96**	**59**	*eP*	**P**	**09 51 56.3**	**+1.4**
EFI	**East Falkland**	**23.76**	**164**	*i* P	P	09 52 07.9	+5.7
USHA	**Ushuaia**	**25.68**	**180**	P	**P**	**09 52 19.5**	**-0.1**
	comp=Z,5.6nm,0.8s,baz=333,slow=6.8,SNR=4.7						
ROSC	**El Rosal**	**34.30**	**349**	LR	LR	10 07 29.5	
	comp=Z,82nm,20.4s,baz=46,slow=36						
SDV	**Santo Domingo**	**37.87**	**356**	*eP*	**P**	**09 54 05.6**	**-1.4**
	comp=Z,19nm,0.9s						
VNA1	**Neumayer--Stat**	**52.94**	**159**	P	**P**	**09 56 05.5**	**+0.1**
VNA2	**Neumayer--Watz**	**53.30**	**159**	P	**P**	**09 56 07.6**	**-0.5**
SNAA	**Sanae**	**54.92**	**159**	P	P	09 56 11.2	-8.7
SNAA	**Sanae**	**54.92**	**159**	P	**P**	**09 56 19.1**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=282,slow=6.8,SNR=50						
QSPA	**South Pole Qui**	**61.09**	**180**	*eP*	**P**	**09 57 02.9**	**-0.4**
	comp=Z,22nm,0.6s						
035A	**Encino**	**62.68**	**330**	⇑ P	**P**	**09 57 15.3**	**+1.1**
	baz=63						
034A	**Hebbronville**	**63.05**	**330**	⇑ P	**P**	**09 57 17.8**	**+1.1**
	baz=63						
934A	**Benavides**	**63.44**	**330**	⇑ P	**P**	**09 57 20.5**	**+1.2**
	baz=64						
835A	**Beeville**	**63.74**	**331**	⇓ P	**P**	**09 57 22.4**	**+1.3**
	baz=64						
933A	**Laredo**	**63.78**	**329**	⇓ P	**P**	**09 57 22.2**	**+0.6**
	baz=64						
834A	**Tilden**	**63.91**	**330**	⇑ P	**P**	**09 57 23.4**	**+1.1**
	baz=64,SNR=8.5						
736A	**Circle Diamond**	**64.00**	**332**	⇑ P	**P**	**09 57 24.4**	**+1.5**
	baz=64,SNR=7.8						
637A	**Eagle Lake**	**64.13**	**333**	⇑ P	**P**	**09 57 24.9**	**+1.1**
	baz=64						
735A	**Kenedy**	**64.22**	**331**	⇑ P	**P**	**09 57 25.4**	**+1.1**
	baz=65						
833A	**Chaparral WMA,**	**64.45**	**330**	⇓ P	**P**	**09 57 26.6**	**+0.7**
	baz=65,SNR=23						
636A	**Smothers Creek**	**64.46**	**332**	⇓ P	**P**	**09 57 26.7**	**+0.8**
	baz=65,SNR=5.6						
734A	**La Parita Cree**	**64.53**	**331**	⇓ P	**P**	**09 57 27.0**	**+0.5**
	baz=65,SNR=8.0						
832A	**Faith Ranch, C**	**64.67**	**329**	⇓ P	**P**	**09 57 27.8**	**+0.4**
	baz=65,SNR=22						
635A	**Leesville**	**64.67**	**332**	⇑ P	**P**	**09 57 27.5**	**+0.2**
	baz=65						
537A	**Green Hill Far**	**64.69**	**333**	⇓ P	**P**	**09 57 28.0**	**+0.5**
	baz=65						
439A	**Center Grove,**	**64.74**	**335**	⇓ P	**P**	**09 57 28.4**	**+0.7**
	baz=65						
733A	**Divot King Ran**	**64.74**	**330**	⇓ P	**P**	**09 57 28.1**	**+0.3**
	baz=65						
340A	**Bronson**	**64.98**	**336**	⇓ P	**P**	**09 57 29.6**	**+0.3**
	baz=65						
536A	**Bastrop**	**64.99**	**333**	⇓ P	**P**	**09 57 29.7**	**+0.3**
	baz=65						
732A	**Laxson Ranch,**	**65.05**	**329**	⇓ P	**P**	**09 57 30.3**	**+0.5**
	baz=65,SNR=8.9						
339A	**Huntington**	**65.14**	**335**	⇓ P	**P**	**09 57 31.0**	**+0.6**
	baz=66						
535A	**Dale**	**65.15**	**332**	⇓ P	**P**	**09 57 30.4**	**0.0**
	baz=66						
633A	**Saathoff Ranch**	**65.33**	**330**	⇑ P	**P**	**09 57 32.0**	**+0.4**
	baz=66,SNR=6.2						
338A	**Crockett**	**65.44**	**335**	⇓ P	**P**	**09 57 33.2**	**+0.9**
	baz=66						
436A	**Wall Ranch, Ga**	**65.50**	**333**	⇑ P	**P**	**09 57 33.1**	**+0.4**
	baz=66						
534A	**Blanco**	**65.53**	**331**	⇑ P	**P**	**09 57 32.5**	**-0.4**
	baz=66						
NATX	**Nacogdoches**	**65.57**	**335**	⇓ P	**P**	**09 57 33.4**	**+0.3**
	baz=66						
337A	**Centerville**	**65.63**	**334**	⇓ P	**P**	**09 57 34.6**	**+1.1**
	baz=66						
632A	**Uvalde**	**65.64**	**330**	⇑ P	**P**	**09 57 34.1**	**+0.5**
	baz=66,SNR=13						
533A	**Kerrville**	**65.80**	**331**	⇓ P	**P**	**09 57 34.9**	**+0.3**
	baz=66,SNR=9.6						
631A	**Perdido Creek**	**65.91**	**329**	⇓ P	**P**	**09 57 35.4**	**0.0**
	baz=66,SNR=11						
336A	**Riesel**	**66.06**	**333**	⇑ P	**P**	**09 57 36.4**	**+0.1**
	baz=66,SNR=5.1						
TKL	**Tuckaleechee C**	**66.09**	**346**	*eP*	**P**	**09 57 35.6**	**-0.8**
TKL	**Tuckaleechee C**	**66.09**	**346**	*eP*	**P**	**09 57 35.6**	**-0.8**
434A	**Burnet**	**66.13**	**332**	⇓ P	**P**	**09 57 36.6**	**-0.2**
	baz=66,SNR=8.8						
SWET	**Sewanee**	**66.15**	**344**	*eP*	**P**	**09 57 36.4**	**-0.4**
335A	**Moody**	**66.20**	**333**	⇑ P	**P**	**09 57 37.2**	**0.0**
	baz=67						
532A	**Rocksprings**	**66.23**	**330**	⇑ P	**P**	**09 57 37.8**	**+0.4**
	baz=67,SNR=15						
433A	**Art**	**66.42**	**331**	⇑ P	**P**	**09 57 38.6**	**0.0**
	baz=67,SNR=18						
JCT	**Junction City**	**66.48**	**330**	*eP*	**P**	**09 57 39.3**	**+0.2**
JCT				pmax	pmax		
	comp=Z,12nm,0.8s						
JCT	**Junction City**	**66.48**	**330**	⇑ P	**P**	**09 57 39.3**	**+0.2**
	baz=67,SNR=5.9						
JCT	**Junction City**	**66.48**	**330**	*eP*	**P**	**09 57 39.3**	**+0.2**
	comp=Z,12nm,0.8s						
531A	**Rocksprings**	**66.54**	**330**	⇓ P	**P**	**09 57 39.9**	**+0.4**
	baz=67,SNR=13						
334A	**Lometa**	**66.57**	**332**	⇓ P	**P**	**09 57 39.5**	**-0.1**
	baz=67,SNR=7.0						
137A	**Heron Place, G**	**66.72**	**335**	⇑ P	**P**	**09 57 40.4**	**0.0**
	baz=67						
432A	**Menard**	**66.82**	**331**	⇓ P	**P**	**09 57 41.1**	**-0.1**
	baz=67,SNR=6.7						
WHTX	**Lake Whitney,**	**66.83**	**333**	⇓ P	**P**	**09 57 41.1**	**-0.1**
	baz=67						
WHTX	**Lake Whitney,**	**66.83**	**333**	*eP*	**P**	**09 57 41.5**	**+0.3**
333A	**Richland Sprin**	**66.87**	**332**	⇓ P	**P**	**09 57 41.5**	**0.0**
	baz=67,SNR=17						
530A	**J-C Ranch, Com**	**66.88**	**329**	⇓ P	**P**	**09 57 42.1**	**+0.5**
	baz=67,SNR=9.6						
431A	**Sonora**	**67.01**	**330**	⇓ P	**P**	**09 57 42.3**	**-0.1**
	baz=67,SNR=5.5						
234A	**Clairette**	**67.12**	**333**	⇓ P	**P**	**09 57 43.0**	**0.0**
	baz=68,SNR=8.6						
332A	**Millersview**	**67.24**	**331**	⇑ P	**P**	**09 57 43.8**	**0.0**
	baz=68,SNR=10						
529A	**Stev Forest Ra**	**67.26**	**328**	⇑ P	**P**	**09 57 44.5**	**+0.4**
	baz=68,SNR=12						
TXAR	**Lajitas Array**	**67.28**	**327**	P	**P**	**09 57 44.4**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=152,slow=8.6,SNR=45						
TX31	**Lajitas Ar. Si**	**67.28**	**327**	*eP*	**P**	**09 57 44.3**	**+0.1**
135A	**Vickery Place,**	**67.32**	**333**	⇑ P	**P**	**09 57 43.7**	**-0.6**
	baz=68						
430A	**Baggett Ranch,**	**67.38**	**329**	⇓ P	**P**	**09 57 44.9**	**+0.1**
	baz=68,SNR=14						
233A	**Rising Star**	**67.44**	**332**	⇓ P	**P**	**09 57 44.9**	**-0.1**
	baz=68,SNR=11						
331A	**San Angelo**	**67.47**	**330**	⇑ P	**P**	**09 57 45.2**	**-0.1**
	baz=68,SNR=8.8						
429A	**Davenport Ranc**	**67.53**	**329**	⇑ P	**P**	**09 57 46.1**	**+0.4**
	baz=68,SNR=12						
134A	**White-Moore Ra**	**67.59**	**333**	⇓ P	**P**	**09 57 45.9**	**-0.1**
	baz=68						
232A	**Coleman**	**67.64**	**331**	⇓ P	**P**	**09 57 46.5**	**+0.1**
	baz=68,SNR=12						
MIAR	**Mount Ida**	**67.71**	**338**	*eP*	**P**	**09 57 46.8**	**+0.1**
MIAR				*ePP*	**pP**	**09 57 59.5**	**-0.3**
MIAR	**Mount Ida**	**67.71**	**338**	*eP*	**P**	**09 57 46.8**	**+0.1**
MIAR				*epP*	**pP**	**09 57 59.5**	**-0.3**
330A	**Mertzon**	**67.88**	**330**	⇑ P	**P**	**09 57 47.6**	**-0.3**
	baz=68,SNR=11						
Z35A	**Perchaven, San**	**67.94**	**334**	⇓ P	**P**	**09 57 48.1**	**-0.1**
	baz=68						
231A	**Bronte**	**67.96**	**331**	⇓ P	**P**	**09 57 48.1**	**-0.2**
	baz=68						
133A	**Hamilton Ranch**	**67.96**	**332**	⇑ P	**P**	**09 57 48.4**	**0.0**
	baz=68						
Z34A	**Collier Ranch,**	**68.23**	**333**	⇓ P	**P**	**09 57 49.9**	**-0.1**
	baz=69						
230A	**Sterling City**	**68.26**	**330**	⇓ P	**P**	**09 57 50.0**	**-0.3**
	baz=69						
ABTX	**Abilene, Hawle**	**68.27**	**332**	⇑ P	**P**	**09 57 50.0**	**-0.4**
	baz=69						
ABTX	**Abilene, Hawle**	**68.27**	**332**	*eP*	**P**	**09 57 50.6**	**+0.3**
ABTX				*epP*	**pP**	**09 58 03.5**	**0.0**
329A	**Wagon Wheel Ra**	**68.30**	**329**	⇑ P	**P**	**09 57 50.5**	**-0.1**
	baz=69,SNR=9.3						
X37A	**Clayton**	**68.37**	**336**	⇓ P	**P**	**09 57 50.7**	**-0.2**
	baz=69,SNR=5.4						
Z33A	**Whitaker Ranch**	**68.50**	**333**	⇓ P	**P**	**09 57 51.8**	**+0.2**
	baz=69,SNR=11						
W38A	**Poteau**	**68.51**	**337**	⇑ P	**P**	**09 57 52.0**	**+0.3**
	baz=69,SNR=6.3						
131A	**Roby**	**68.63**	**331**	⇓ P	**P**	**09 57 52.7**	**+0.1**
	baz=69,SNR=5.6						
229A	**Bryant Ranch,**	**68.64**	**330**	⇓ P	**P**	**09 57 52.5**	**-0.2**
	baz=69						
Y34A	**Reagan Ranch,**	**68.69**	**334**	⇓ P	**P**	**09 57 52.4**	**-0.4**
	baz=69						
X36A	**Centrahoma**	**68.71**	**335**	⇑ P	**P**	**09 57 52.3**	**-0.6**
	baz=69,SNR=12						
X35A	**Drake**	**68.78**	**335**	⇓ P	**P**	**09 57 52.7**	**-0.7**
	baz=69,SNR=5.6						
Z32A	**Haskell**	**68.80**	**332**	⇓ P	**P**	**09 57 53.3**	**-0.3**
	baz=69,SNR=6.3						
PBMO	**Poplar Bluff**	**68.80**	**341**	*eP*	**P**	**09 57 53.4**	**-0.1**
130A	**Snyder**	**68.81**	**331**	⇓ P	**P**	**09 57 53.2**	**-0.4**
	baz=69						
W37A	**Quinton**	**68.89**	**336**	⇑ P	**P**	**09 57 54.0**	**-0.1**
	baz=69,SNR=11						
Y33A	**Hilltop Ranch,**	**69.07**	**333**	⇓ P	**P**	**09 57 54.6**	**-0.6**
	baz=69						
Z31A	**Sharp Cattle R**	**69.08**	**332**	⇑ P	**P**	**09 57 55.3**	**-0.1**
	baz=70,SNR=7.8						
228A	**UT Block 9, Go**	**69.11**	**329**	⇓ P	**P**	**09 57 55.5**	**-0.1**
	baz=70,SNR=6.2						
W36A	**Wetumka**	**69.17**	**336**	⇓ P	**P**	**09 57 55.0**	**-0.8**
	baz=70,SNR=5.9						
SYO	**Syowa Base**	**69.19**	**158**	⇑ *eP*	P	09 57 50.5	-5.0
129A	**Stewart Farms,**	**69.23**	**330**	⇑ P	**P**	**09 57 55.7**	**-0.7**
	baz=70						
X34A	**Smith Ranch, M**	**69.29**	**334**	⇑ P	**P**	**09 57 56.5**	**-0.1**
	baz=70,SNR=7.3						
SIUC	**Southern Illin**	**69.35**	**342**	*eP*	**P**	**09 57 56.1**	**-0.7**
Y32A	**R-V Farms, Ver**	**69.39**	**333**	⇑ P	**P**	**09 57 57.3**	**0.0**
	baz=70						
W35A	**Tecumseh**	**69.42**	**335**	⇑ P	**P**	**09 57 56.3**	**-1.0**
	baz=70						
Z30A	**Sanderson Ranc**	**69.47**	**331**	⇑ P	**P**	**09 57 57.4**	**-0.4**
	baz=70,SNR=7.3						
VNDA	**Vanda**	**69.48**	**190**	P	**P**	**09 57 57.4**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=134,slow=2.6,SNR=7.1						
128A	**Castleberry Fa**	**69.49**	**330**	⇓ P	**P**	**09 57 57.8**	**-0.1**
	baz=70,SNR=7.3						
X33A	**Lawton**	**69.49**	**334**	⇓ P	**P**	**09 57 57.1**	**-0.8**
	baz=70						
Y31A	**Rekieta Farm,**	**69.69**	**332**	⇑ P	**P**	**09 57 58.9**	**-0.2**
	baz=70,SNR=5.1						
Z29A	**Hungry Hill Ra**	**69.69**	**330**	⇑ P	**P**	**09 57 58.7**	**-0.5**
	baz=70,SNR=7.9						
TUL1	**Leonard**	**69.71**	**336**	⇓ P	**P**	**09 57 58.7**	**-0.4**
	baz=70,SNR=6.0						
TUL1	**Leonard**	**69.71**	**336**	*eP*	**P**	**09 57 59.0**	**-0.1**
WMOK	**Wichita Mounta**	**69.78**	**334**	*eP*	**P**	**09 57 58.4**	**-1.2**
WMOK	**Wichita Mounta**	**69.78**	**334**	*eP*	**P**	**09 57 58.4**	**-1.2**
W34A	**Bridge Creek,**	**69.83**	**335**	⇓ P	**P**	**09 57 59.1**	**-0.7**
	baz=70						
Y30A	**Stafford Cattl**	**69.88**	**331**	⇑ P	**P**	**09 57 59.7**	**-0.6**
	baz=70						
V35A	**Meyer Ranch, C**	**69.95**	**336**	⇓ P	**P**	**09 57 59.9**	**-0.7**
	baz=70,SNR=6.4						
Z28A	**Tucker Farm, M**	**70.02**	**330**	⇑ P	**P**	**09 58 00.5**	**-0.7**
	baz=70						
W33A	**Caddo, Fort Co**	**70.02**	**334**	⇓ P	**P**	**09 58 01.4**	**+0.4**
	baz=70,SNR=9.5						
LIC	**Lamto**	**70.12**	**71**	*eP*	**P**	**09 58 02.3**	**+0.1**
	comp=Z,24nm,0.6s						
X31A	**McDonald Ranch**	**70.16**	**333**	⇓ P	**P**	**09 58 01.7**	**-0.3**
	baz=70,SNR=6.1						
Y29A	**Porterfield Fa**	**70.19**	**331**	⇓ P	**P**	**09 58 02.0**	**-0.2**
	baz=71,SNR=17						
V34A	**Guthrie**	**70.26**	**335**	⇓ P	**P**	**09 58 01.8**	**-0.7**
	baz=71						
V34A	**Guthrie**	**70.26**	**335**	*eP*	**P**	**09 58 02.2**	**-0.4**
W32A	**Sentinel**	**70.30**	**333**	⇑ P	**P**	**09 58 02.5**	**-0.2**
	baz=71,SNR=7.6						
TIC	**Toumodi**	**70.36**	**70**	*eP*	**P**	**09 58 04.3**	**+0.7**
X30A	**Coker Ranch, T**	**70.36**	**332**	⇓ P	**P**	**09 58 02.8**	**-0.4**
	baz=71,SNR=5.3						
KIC	**Kosan Boka**	**70.43**	**71**	*eP*	**P**	**09 58 04.3**	**+0.2**
	comp=Z,39nm,0.7s						
T37A	**Cheneyville 18**	**70.51**	**338**	⇓ P	**P**	**09 58 03.5**	**-0.5**
	baz=71,SNR=5.1						
DBIC	**Dimbokro**	**70.51**	**70**	P	**P**	**09 58 04.9**	**+0.4**
	comp=Z,21nm,0.6s,baz=209,slow=7.3,SNR=28						
DBIC				LR	LR	10 27 15.3	
	comp=Z,37nm,19.3s,baz=184,slow=34						
DBIC	**Dimbokro**	**70.51**	**70**	*eP*	**P**	**09 58 05.2**	**+0.7**
DBIC	**Dimbokro**	**70.51**	**70**	*eP*	**P**	**09 58 05.2**	**+0.7**
V33A	**Lossen Ranch,**	**70.54**	**334**	⇑ P	**P**	**09 58 04.0**	**-0.2**
	baz=71						
W31A	**Holland Ranch,**	**70.63**	**333**	⇑ P	**P**	**09 58 04.1**	**-0.7**
	baz=71						
X29A	**Tulia**	**70.71**	**331**	⇓ P	**P**	**09 58 05.0**	**-0.4**
	baz=71,SNR=6.3						
V32A	**Arapaho**	**70.74**	**334**	⇓ P	**P**	**09 58 05.4**	**-0.1**
	baz=71						
MSTX	**Muleshoe**	**70.76**	**330**	⇓ P	**P**	**09 58 05.5**	**-0.2**
	baz=71,SNR=15						
MSTX	**Muleshoe**	**70.76**	**330**	*eP*	**P**	**09 58 05.7**	**-0.1**
T36A	**Boggs Farm, Ca**	**70.78**	**337**	⇓ P	**P**	**09 58 05.0**	**-0.6**
	baz=71						
U34A	**Anderson Ranch**	**70.81**	**335**	⇑ P	**P**	**09 58 05.3**	**-0.5**
	baz=71						
T35A	**Sooner Cattle**	**70.87**	**336**	⇑ P	**P**	**09 58 05.9**	**-0.3**
	baz=71						
X28A	**Dimmitt**	**70.98**	**331**	⇑ P	**P**	**09 58 06.9**

baz=74,SNR=9.2
214A Organ Pipe Nat 74.07 322 ⇓P P 09 58 26.2 +0.8
baz=74,SNR=5.4
O33A Hebron 74.07 337 ⇑P P 09 58 25.0 -0.2
baz=74,SNR=6.1
R28A Tribune 74.11 333 ⇓P P 09 58 25.5 -0.1
baz=74
N35A Tabor 74.14 339 ⇑P P 09 58 24.9 -0.7
baz=74,SNR=5.5
T25A Trinidad 74.15 331 ⇓P P 09 58 26.8 +0.8
baz=74,SNR=8.1
T25A Trinidad 74.15 331 eP P 09 58 26.3 +0.3
P31A Stockton 74.21 335 ⇑P P 09 58 25.8 -0.2
baz=75
Q29A Oakley 74.25 334 ⇓P P 09 58 26.7 +0.3
baz=75
N34A Lincoln 74.39 338 ⇓P P 09 58 26.5 -0.5
baz=75,SNR=7.0
R27A Eads 74.45 332 ⇓P P 09 58 28.0 +0.4
baz=75
JFWS Jewell Farm 74.50 343 eP P 09 58 27.5 -0.1
JFWS Jewell Farm 74.50 343 eP P 09 58 27.5 -0.1
R26A Arlington 74.73 332 ⇑P P 09 58 29.6 +0.4
baz=75,SNR=6.1
Q28A Sharon Springs 74.73 333 ⇓P P 09 58 29.8 +0.6
baz=75
O31A Woolen Ranch, 74.75 336 ⇓P P 09 58 29.8 +0.6
baz=75
KSCO Kaye Shedlock' 75.00 333 eP P 09 58 31.8 +1.0
SDCO Great Sand Dun 75.13 330 ⇓P P 09 58 32.3 +0.6
baz=76,SNR=7.9
SDCO Great Sand Dun 75.13 330 eP P 09 58 32.5 +0.7
Q26A Hugo 75.29 332 ⇑P P 09 58 33.5 +1.0
baz=76
L34A Svendsen Farm, 75.37 339 ⇑P P 09 58 32.4 -0.3
baz=76
BGNE Belgrade 75.45 337 ⇑P P 09 58 34.0 +0.8
baz=76
BGNE Belgrade 75.45 337 eP P 09 58 33.5 +0.3
P27A Ficken Ranch, 75.45 333 ⇓P P 09 58 33.9 +0.6
baz=76
O28A Krutsinger Ran 75.63 334 ⇑P P 09 58 34.8 +0.5
baz=76
R23A Moffat 75.64 330 ⇑P P 09 58 35.4 +0.7
baz=76,SNR=7.4
M31A Lambtecht Ranc 75.68 337 ⇓P P 09 58 35.5 +1.0
baz=76
S22A 4UR Ranch, Cre 75.72 329 ⇓P P 09 58 35.8 +0.6
baz=76,SNR=5.4
S22A 4UR Ranch, Cre 75.72 329 eP P 09 58 36.2 +1.0
S22A epP PcP 09 58 46.5 -1.2
P26A Davis Ranch, A 75.76 333 ⇑P P 09 58 36.0 +0.8
baz=76
N29A Votaw Ranch, W 75.80 335 ⇓P P 09 58 36.2 +0.9
baz=76
O27A Beecher Island 75.96 334 ⇑P P 09 58 37.3 +1.1
baz=76
Q24A Divide 76.00 331 ⇓P P 09 58 37.3 +0.5
baz=76,SNR=11
N28A Pribbeno Ranch 76.03 335 ⇓P P 09 58 37.1 +0.5
baz=76
MVCO Mesa Verde 76.04 328 ⇓P P 09 58 37.5 +0.5
baz=76,SNR=7.3
MVCO Mesa Verde 76.04 328 eP P 09 58 37.6 +0.7
WUAZ Wupatki 76.08 325 ⇓P P 09 58 38.0 +0.9
baz=76,SNR=5.2
WUAZ Wupatki 76.08 325 eP P 09 58 38.5 +1.4
M30A Dale-Ortello V 76.16 336 ⇓P P 09 58 37.7 +0.4
baz=77
O26A Horse Wrangler 76.33 333 ⇑P P 09 58 39.3 +0.9
baz=77
L30A Spencer Herefo 76.47 336 ⇓P P 09 58 40.0 +0.9
baz=77
P23A Jefferson 76.64 331 ⇓P P 09 58 42.1 +1.7
baz=77
N26A Koester Ranch, 76.80 333 ⇑P P 09 58 41.9 +0.9
baz=77
BC3 Big Chuckawall 76.80 321 ⇑P P 09 58 41.9 +0.8
baz=77
PV01 Paradox Valley 76.82 328 eP P 09 58 42.3 +1.0
comp=Z,849nm,1.2s
MAW Mawson 76.88 163 P P 09 58 40.7 -0.3
comp=Z,7.6nm,0.9s,baz=202,slow=7.2,SNR=10.0
MAW Mawson 76.88 163 eP P 09 58 41.0 0.0
MAW Mawson 76.88 163 eP P 09 58 41.0 0.0
ISCO Idaho Springs 76.90 331 eP P 09 58 42.8 +1.0
ISCO Idaho Springs 76.90 331 ⇓P P 09 58 42.2 +0.4
baz=77,SNR=6.4
ISCO Idaho Springs 76.90 331 eP P 09 58 42.8 +1.0
SMCO Snowmass 76.96 330 eP P 09 58 43.8 +1.5
IRM Iron Mountain 77.01 322 ⇑P P 09 58 42.9 +0.7
baz=77
ECSD EROS Data Cent 77.04 339 ⇓P P 09 58 41.8 -0.3
baz=77,SNR=9.6
L28A Connealy Angus 77.17 335 ⇓P P 09 58 43.8 +0.8
baz=78
PV04 Paradox Valley 77.19 328 eP P 09 58 45.1 +1.8
P22A Eagle 77.21 330 ⇑P P 09 58 43.5 0.0
baz=78
SPMN Marine on St. 77.31 342 ⇓P P 09 58 42.9 -0.7
baz=78,SNR=8.6
SPMN Marine on St. 77.31 342 eP P 09 58 43.1 -0.5
O23A Lake Granby, G 77.37 331 ⇓P P 09 58 45.2 +0.8
baz=78,SNR=6.9
O22A Kremmling 77.59 331 ⇑P P 09 58 46.4 +0.7
baz=78
M25A Palm-Egli Farm 77.64 333 ⇑P P 09 58 46.9 +1.2
baz=78
GMRC Granite Mounta 77.75 322 ⇓P P 09 58 47.6 +1.1
baz=78
N23A Red Feather La 77.95 332 ⇓P P 09 58 48.4 +0.8
baz=78
N23A Red Feather La 77.95 332 eP P 09 58 48.6 +1.0
J29A Okreek 77.97 337 ⇓P P 09 58 47.5 +0.2
baz=78,SNR=5.6
KNB Kanab 77.98 325 eP P 09 58 49.3 +1.6
KNB Kanab 77.98 325 eP P 09 58 49.3 +1.6
N22A Wattenberg Ran 78.09 331 ⇓P P 09 58 50.0 +1.6
baz=78
L25A Engebretsen Ra 78.22 334 ⇑P P 09 58 50.1 +1.2
baz=79
J28A Allard Ranch, 78.30 336 ⇓P P 09 58 49.4 +0.2
baz=79,SNR=6.4
O20A White River Ci 78.31 330 ⇑P P 09 58 50.2 +0.7
baz=79,SNR=8.1
O20A White River Ci 78.31 330 eP P 09 58 50.6 +1.1
J27A Elkhorn Farm, 78.43 336 ⇑P P 09 58 50.7 +0.7
baz=79,SNR=6.1
SRU San Rafael Swe 78.51 328 eP P 09 58 51.5 +0.8
SRU San Rafael Swe 78.51 328 eP P 09 58 51.5 +0.8
CCUT Cedar City 78.66 325 eP P 09 58 53.0 +1.4
GSC Goldstone, Bar 78.77 321 ⇑P P 09 58 52.8 +0.8
baz=79
I28A Midland 78.78 336 ⇓P P 09 58 52.6 +0.8
baz=79
SHPR Sheep Range 78.79 323 eP P 09 58 53.4 +1.1
MSU Marysvale 78.83 326 eP P 09 58 53.3 +0.8
MSU pmax pmax
comp=Z,11nm,1.3s
MSU Marysvale 78.83 326 eP P 09 58 53.3 +0.8
comp=Z,11nm,1.3s
MVU Marysvale 78.84 326 eP P 09 58 53.3 +0.8
comp=Z,8.3nm,1.3s
J26A Sides Ranch, S 78.87 335 ⇑P P 09 58 53.1 +0.7
baz=79,SNR=6.1
N20A Spence Gulch, 78.89 330 ⇑P P 09 58 53.1 +0.4
baz=79,SNR=7.9
H29A Onida 79.00 337 ⇑P P 09 58 53.0 0.0
baz=79
K24A Anderson Ranch 79.03 333 ⇑P P 09 58 54.2 +0.8
baz=79
G30A Faulkton 79.09 338 ⇑P P 09 58 54.5 +1.0
baz=80
EDW2 Edwards Air Fo 79.11 320 ⇓P P 09 58 54.5 +0.6
baz=80
I27A Quinn 79.15 336 ⇓P P 09 58 54.6 +0.7
baz=80
J25A Sunshine Ranch 79.21 334 ⇑P P 09 58 55.1 +0.8
baz=80
K23A Bowen Ranch, D 79.38 333 ⇓P P 09 58 55.9 +0.6
baz=80,SNR=6.8
BOSA Boshof 79.39 117 P P 09 58 55.6 -0.2
comp=Z,5.3nm,0.8s,baz=308,slow=5.2,SNR=6.8
I26A New Underwood 79.41 335 ⇓P P 09 58 56.2 +0.8
baz=80
TOA0 Torodi Ar. Sit 79.45 69 eP P 09 58 56.5 +0.4
TORD Torodi Ar. Bea 79.45 69 P P 09 58 56.4 +0.3
comp=Z,16nm,0.7s,baz=278,slow=6.8,SNR=132
TORD LR LR 10 31 51.6
comp=Z,26nm,20.8s,baz=125,slow=34
J24A Dixon Ranch, L 79.49 334 ⇑P P 09 58 57.2 +1.4
baz=80
G28A Parade 79.64 337 ⇓P P 09 58 56.6 +0.1
baz=80
H27A Howes 79.65 336 ⇑P P 09 58 56.6 0.0
baz=80,SNR=8.9
K22A Casper 79.66 332 ⇓P P 09 58 57.3 +0.5
baz=80,SNR=8.1
K22A Casper 79.66 332 eP P 09 58 57.8 +1.0
FURC Furnace Creek, 79.67 322 ⇑P P 09 58 58.4 +1.6
baz=80
TPNV Topopah Spring 79.70 323 eP P 09 58 58.4 +1.2
TPNV Topopah Spring 79.70 323 ⇑P P 09 58 57.9 +0.7
baz=80,SNR=5.3
TPNV Topopah Spring 79.70 323 eP P 09 58 58.4 +1.2
MPMC Manual Prospec 79.70 321 ⇓P P 09 58 58.4 +1.1
baz=80
I25A Rochford 79.72 335 ⇓P P 09 58 57.7 +0.5
baz=80,SNR=13
H26A Fairpoint 79.89 336 ⇓P P 09 58 58.9 +1.0
baz=80
DAC Darwin (Calif) 79.92 321 eP P 09 58 59.3 +0.8
DAC Darwin (Calif) 79.92 321 eP P 09 58 59.2 +0.8
I24A Kuemmerle Ranc 79.92 334 ⇓P P 09 58 58.9 +0.7
baz=80
RSSD Black Hills 79.92 335 eP P 09 58 58.7 +0.4
RSSD Black Hills 79.92 335 eP P 09 58 58.7 +0.4
F29A Eureka 79.94 338 ⇓P P 09 58 58.4 +0.3
baz=80
ISA Isabella, Lake 79.95 321 ⇓P P 09 58 59.4 +0.9
baz=80
JLU Jordanelle 80.13 328 eP P 09 59 00.1 +0.5
comp=Z,6.0nm,0.7s
PKM Mcpherson Peak 80.16 319 ⇓P P 09 59 00.8 +1.0
baz=80
H25A Fruitdale 80.19 335 ⇑P P 09 58 59.8 +0.3
baz=81
G27A Dupree 80.25 337 ⇓P P 09 58 59.8 +0.1
baz=81
J22A Midwest 80.27 333 ⇑P P 09 59 00.0 -0.1
baz=81,SNR=10
F28A McLaughlin 80.28 338 ⇓P P 09 59 01.0 +1.1
baz=81
GRAC Grapevine Rang 80.33 322 ⇓P P 09 59 00.9 +0.5
baz=81
R11A Troy Canyon, C 80.40 324 ⇑P P 09 59 01.6 +0.6
baz=81
R11A Troy Canyon, C 80.40 324 eP P 09 59 01.6 +0.6
G26A Maurine 80.41 336 ⇑P P 09 59 00.4 -0.3
baz=81,SNR=8.0
VES Vestal, Richgr 80.42 320 ⇓P P 09 59 01.7 +0.9
baz=81
DUG Dugway, Tooele 80.45 327 eP P 09 59 02.1 +0.9
DUG Dugway, Tooele 80.45 327 ⇑P P 09 59 01.9 +0.8
baz=81
DUG Dugway, Tooele 80.45 327 eP P 09 59 02.0 +0.9
E29A Napoleon 80.53 339 ⇑P P 09 59 03.6 +2.3
baz=81
J21A Lysite 80.61 332 ⇓P P 09 59 02.2 +0.3
baz=81,SNR=10.0
G25A Newell 80.61 336 ⇑P P 09 59 01.9 +0.1
baz=81,SNR=7.7
H24A Dirks Ranch, A 80.65 335 ⇓P P 09 59 01.9 -0.1
baz=81,SNR=15
I22A 9 Mile Ranch, 80.67 333 ⇑P P 09 59 02.3 +0.1
baz=81,SNR=17
F27A Lemmon 80.71 337 ⇓P P 09 59 02.3 0.0
baz=81
D30A Buchanan 80.73 339 ⇓P P 09 59 02.5 +0.2
baz=81,SNR=8.2
J20A Shoshoni 80.88 332 ⇑P P 09 59 04.0 +0.7
baz=81,SNR=16
F26A Lodgepole 80.92 336 ⇓P P 09 59 03.3 -0.1
baz=81,SNR=6.3
I21A Big Trails, Te 80.93 332 ⇓P P 09 59 03.6 -0.1
baz=81,SNR=18
AGMN Agassiz Nation 80.97 342 ⇓P P 09 59 03.1 -0.4
baz=81,SNR=8.6
AGMN Agassiz Nation 80.97 342 eP P 09 59 03.2 -0.2
HWUT Hardware Ranch 80.98 329 eP P 09 59 04.1 +0.1
BW06 Boulder Array 81.02 331 eP P 09 59 04.1 -0.1
PDAR Pinedale Array 81.02 331 P P 09 59 04.1 -0.2
comp=Z,5.9nm,0.8s,baz=112,slow=6.7,SNR=28
G24A Alzada 81.09 335 ⇑P P 09 59 04.3 -0.1
baz=82,SNR=8.0
C30A Mose, Pekin 81.18 340 ⇓P P 09 59 04.8 +0.1
baz=82,SNR=5.5
H22A Clearmont 81.21 333 ⇑P P 09 59 05.1 0.0
baz=82
J19A Crowheart 81.21 331 ⇓P P 09 59 05.3 +0.1
baz=82,SNR=7.4
F25A Bowman 81.26 336 ⇓P P 09 59 05.4 +0.2
baz=82
G23A Biddle 81.35 334 ⇓P P 09 59 05.6 -0.1
baz=82,SNR=7.2
D28A Regan 81.38 338 ⇓P P 09 59 05.9 +0.1
baz=82
E26A Carlson Angus 81.38 337 ⇓P P 09 59 05.9 0.0
baz=82
I20A Worland 81.39 332 ⇑P P 09 59 06.1 +0.1
baz=82,SNR=5.7
H21A Big Horn, Sher 81.51 333 ⇓P P 09 59 06.3 -0.3
baz=82,SNR=7.3
F24A Ekalaka 81.55 335 ⇓P P 09 59 06.6 -0.2
baz=82,SNR=7.4
MDND Maddock 81.66 339 ⇓P P 09 59 07.3 +0.1
baz=82,SNR=6.1
MDND Maddock 81.66 339 eP P 09 59 07.8 +0.6
G22A Birney 81.71 334 ⇓P P 09 59 07.4 -0.3
baz=82
E25A Miller Ranch, 81.73 336 ⇑P P 09 59 07.8 +0.1
baz=82,SNR=7.3
H20A Greybull 81.78 332 ⇑P P 09 59 07.9 -0.1
baz=82,SNR=27
C28A Hausauer Farms 81.78 339 ⇑P P 09 59 08.2 +0.3
baz=82
F23A Volborg 81.80 335 ⇑P P 09 59 07.8 -0.3
baz=82,SNR=8.5
B30A Myrvik Farm, E 81.81 340 ⇓P P 09 59 07.9 -0.1
baz=82,SNR=19
I19A Meeteetse 81.81 332 ⇓P P 09 59 08.5 +0.1
baz=82,SNR=7.8
D26A Manning 81.86 337 ⇓P P 09 59 08.9 +0.5
baz=82
NVAR Mina Array Bea 81.89 323 P P 09 59 09.3 +0.4
comp=Z,2.1nm,0.9s,baz=163,slow=6.5,SNR=8.1
ELK Elko 82.05 326 eP P 09 59 10.2 +0.4
ELK Elko 82.05 326 eP P 09 59 10.2 +0.4
REDW Red Top Meadow 82.06 330 eP P 09 59 09.4 -0.3
comp=Z,10nm,1.1s
G21A Lodge Grass 82.07 333 ⇓P P 09 59 09.6 0.0
baz=82,SNR=11
SNOW Snow King Moun 82.10 330 eP P 09 59 10.0 +0.1
comp=Z,8.1nm,0.9s
E24A Baker 82.11 336 ⇓P P 09 59 09.5 -0.2
baz=82
B29A Wagenman Farm, 82.13 340 ⇓P P 09 59 09.6 0.0
baz=82
C27A Sayler Ranch, 82.14 338 ⇑P P 09 59 10.0 +0.2
baz=82
LOHW Long Hollow 82.16 330 eP P 09 59 10.5 +0.3
comp=Z,5.0nm,0.6s
F22A Rosebud 82.17 334 ⇑P P 09 59 09.9 -0.1
baz=82,SNR=12
TPAW Teton Pass 82.21 330 eP P 09 59 11.0 +0.5
A30A Hoffart Farm, 82.24 341 ⇑P P 09 59 10.2 0.0
baz=83
D25A Fairfield 82.27 337 ⇑P P 09 59 10.8 +0.3
baz=83,SNR=7.0
MOOW Moose Ponds 82.33 330 eP P 09 59 11.5 +0.4
H19A Powell 82.33 332 ⇑P P 09 59 11.1 +0.1
baz=83,SNR=9.7
E23A Ismay 82.42 335 ⇑P P 09 59 11.6 +0.3
baz=83
B28A Dugan Ranch, T 82.42 339 ⇓P P 09 59 11.8 +0.6
baz=83
G20A Bridger 82.47 333 ⇓P P 09 59 11.4 -0.2
baz=83,SNR=14
A29A Manning Farm, 82.50 340 ⇓P P 09 59 11.1 -0.5
baz=83,SNR=7.1
IMW Indian Meadow 82.53 330 eP P 09 59 12.5 +0.3
comp=Z,14nm,1.1s
FLWY Flagg Ranch 82.57 331 eP P 09 59 12.9 +0.5
comp=Z,6.7nm,0.7s
D24A Glendive 82.59 336 ⇓P P 09 59 12.3 +0.2
baz=83
C25A Freed Ranch, W 82.73 337 ⇑P P 09 59 13.2 +0.4
baz=83
H17A Grant Village 82.77 331 ⇓P P 09 59 14.0 +0.5
baz=83
H17A Grant Village 82.77 331 eP P 09 59 14.5 +1.1
A28A Rude Farm, Bot 82.80 339 ⇑P P 09 59 12.4 -0.8
baz=83
RLMT Red Lodge 82.81 332 ⇓P P 09 59 13.8 +0.2
baz=83,SNR=10
RLMT Red Lodge 82.81 332 eP P 09 59 13.6 0.0
comp=Z,9.1nm,0.6s
LAO LASA Array 82.92 335 ⇓P P 09 59 13.8 -0.1
baz=83,SNR=6.7
LAO LASA Array 82.92 335 eP P 09 59 13.3 -0.6
comp=Z,13nm,1.1s
D23A Lindsay 82.95 336 ⇓P P 09 59 14.4 +0.4
baz=83,SNR=12
C24A Savage 82.98 336 ⇑P P 09 59 14.4 +0.3
baz=83,SNR=13
E21A Keefer Ranch, 83.12 334 ⇑P P 09 59 15.0 +0.1
baz=84
YMR Madison River 83.16 331 eP P 09 59 16.0 +0.6
comp=Z,32nm,1.2s
B25A Knox Farm, Ray 83.18 337 ⇓P P 09 59 15.8 +0.7
baz=84
D22A Cohagen 83.29 335 ⇑P P 09 59 15.9 +0.1
baz=84,SNR=8.1
A26A Wade Farm, Ken 83.35 338 ⇓P P 09 59 16.1 +0.1
baz=84
C23A Lambert 83.48 336 ⇓P P 09 59 16.9 +0.1
baz=84,SNR=8.7
GCMT Greycliff 83.52 332 eP P 09 59 17.4 +0.3
D21A La Casta Ranch 83.52 334 ⇓P P 09 59 17.0 0.0
baz=84,SNR=9.9
SCHQ Scheferville 83.63 1 P P 09 59 16.9 -0.3
comp=Z,6.2nm,1.0s,baz=166,slow=4.1,SNR=4.6
C22A Vida 83.68 335 ⇓P P 09 59 17.7 -0.1
baz=84
DGMT Dagmar 83.70 337 ⇓P P 09 59 18.1 +0.2
baz=84,SNR=6.6
DGMT Dagmar 83.70 337 eP P 09 59 18.2 +0.4
A25A Svangstu Ranch 83.74 338 ⇓P P 09 59 18.0 0.0
baz=84
HLID Hailey 83.82 328 ⇓P P 09 59 19.2 +0.5
baz=84,SNR=7.9
HLID Hailey 83.82 328 eP P 09 59 19.7 +0.9
B23A Brockton 83.97 336 ⇓P P 09 59 19.5 +0.3
baz=84
A24A Westby 84.03 337 ⇓P P 09 59 19.8 +0.3
baz=84
MCMT McKenzie Canyo 84.10 330 eP P 09 59 20.9 +0.6
B22A Reddig Ranch S 84.19 336 ⇑P P 09 59 20.3 -0.1
baz=85,SNR=8.3
C21A Desert Coulee 84.20 335 ⇑P P 09 59 20.1 -0.3
baz=85,SNR=23
BOZ Bozeman (W) 84.22 331 ⇓P P 09 59 20.4 -0.4
baz=85
DLMT Dillon 84.41 330 eP P 09 59 21.5 -0.2
comp=Z,12nm,1.4s
C20A Veseth Ranch, 84.44 334 ⇑P P 09 59 21.0 -0.6
baz=85
B21A Ellsworth Farm 84.67 335 ⇓P P 09 59 22.7 -0.1
baz=85,SNR=19
LRM Limekiln Ridge 84.71 331 eP P 09 59 24.2 +0.9
A22A Carney Farms, 84.75 336 ⇑P P 09 59 23.1 -0.1
baz=85,SNR=10.0
CASY Casey 84.89 179 eP P 09 59 23.8 0.0
WVOR Wild Horse Val 85.00 325 eP P 09 59 29.2 +4.5
WVOR Wild Horse Val 85.00 325 eP P 09 59 29.2 +4.5
B20A Solberg Farm, 85.05 335 ⇑P P 09 59 24.2 -0.5
baz=85
A21A Bergtoll Ranch 85.11 336 ⇓P P 09 59 24.3 -0.6
baz=86
EGMT Eagleton 85.37 333 ⇓P P 09 59 25.8 -0.6
baz=86
A20A Cobblestone Ra 85.38 335 ⇓P P 09 59 26.1 -0.2
baz=86,SNR=15
B19A Brinkman Farms 85.41 334 ⇓P P 09 59 26.2 -0.3
baz=86,SNR=6.4
A19A Klindworth Far 85.72 335 ⇓P P 09 59 27.7 -0.3
baz=86
MSO Missoula 86.14 330 ⇓P P 09 59 30.7 +0.5
baz=86
MSO Missoula 86.14 330 eP P 09 59 30.9 +0.6
SLMT Seeley Lake 86.27 331 eP P 09 59 31.0 0.0
SWMT Swartz Lake 86.70 331 eP P 09 59 32.3 -0.6
comp=Z,3.1nm,0.9s
J05D Fort Rock, OR 86.93 324 ⇑P P 09 59 34.4 +0.2
baz=87
BSMT Bassoo Peak 87.30 331 eP P 09 59 35.7 -0.3
comp=Z,10nm,1.2s
I05D Terrebonne, OR 87.74 325 ⇑P P 09 59 38.6 +0.6
baz=88
WALA Waterton Lakes 87.87 332 eP P 09 59 38.1 -0.4
comp=Z,15nm,1.2s
I04A Tendick Farm, 87.90 324 ⇓P P 09 59 39.7 +0.9
baz=88
FFC Flin Flon 88.43 341 eP P 09 59 40.7 -0.2
FFC Flin Flon 88.43 341 eP P 09 59 40.7 -0.2
EDM Edmonton 90.91 335 eP P 09 59 50.9 -1.7
EDM pmax pmax
comp=Z,3.0nm,0.5s
EDM Edmonton 90.91 335 eP P 09 59 50.9 -1.7
comp=Z,3.3nm,0.5s
YKA Yellowknife Ar 98.55 340 P P 10 00 26.3 -0.9
comp=Z,1.2nm,0.7s,baz=141,slow=4.4,SNR=14
ASAR Alice Springs 123.35 204 PKP PKPdf 10 05 45.1 -1.6
comp=Z,1.8nm,0.6s,baz=133,slow=1.8,SNR=28
ASAR PKKPbc PKKPbc 10 15 36.0 0.0
comp=Z,0.3nm,0.7s,baz=314,slow=2.8,SNR=4.6
KLMR Klimovskoe 123.56 34 ePKIKP PKPdf 10 05 43.9 -1.9
KLMR pmax pmax
comp=Z,5.0nm,0.7s
WRA Warramunga Arr 126.57 207 PKP PKPdf 10 05 51.6 -1.4
comp=Z,3.8nm,0.5s,baz=156,slow=1.8,SNR=89
ABKAR Akbulak array 136.06 48 ePKPdf PKPdf 10 06 10.3 +0.4
SEY Seymchan 137.27 334 PKP PKPdf 10 06 12.6 +0.9
comp=Z,4.8nm,0.9s,baz=81,slow=1.1,SNR=9.8
SEY Seymchan 137.27 334 c iPKIKP PKPdf 10 06 13.1 +1.4
SIJI Sorong 144.82 215 PKP PKPab 10 06 25.2 -0.6
comp=Z,23nm,0.8s,baz=45,slow=8.6,SNR=7.6
YAK Yakutsk 145.05 345 PKPbc PKPbc 10 06 24.9 -0.2
comp=Z,3.0nm,0.5s,baz=213,slow=19,SNR=6.4
YAK Yakutsk 145.05 345 ePKP2 PKPbc 10 06 22.6 -2.6
YAK pmax pmax
comp=Z,26nm,0.7s
KURK Kurchatov 147.09 40 PKIKP PKPdf 10 06 29.8 +0.3
KURK pmax pmax
comp=Z,5.0nm,0.5s
NVS Novosibirsk 147.10 31 ePKIKP PKPdf 10 06 29.6 +0.2
NVS pmax pmax
comp=Z,81nm,0.7s
NVS pmax pmax
comp=N,5.0nm,0.9s
NVS pmax pmax
comp=E,8.0nm,0.9s
AAK Ala-Archa 147.20 56 c iPKP2 PKPdf 10 06 31.5 +1.3
AAK pmax pmax
comp=Z,42nm,1.2s
ZALV Zalesovo Beam 148.39 31 PKP PKPdf 10 06 31.6 +0.1
comp=Z,30nm,0.4s,baz=290,slow=2.8,SNR=60
ZALV PKPbc PKPbc 10 06 35.3 +0.2
comp=Z,30nm,0.4s,baz=303,slow=3.7,SNR=89
KSH Kashi 148.85 61 PKPbc PKPbc 10 06 36.9 -0.1
KSH pPKP pPKPdf 10 06 45.9 -1.2
KSH sPKP 10 06 50.5
KSH PP PP 10 10 09.2 +1.1
KSH SKS SKSdf 10 13 39.7 +2.0
KSH SKKS SKKSac 10 16 55.0 -0.5
KSH PPMZ
comp=Z,100nm,7.7s
YSS Yuzh-Sakhalins 150.07 315 ePKIKP PKPbc 10 06 39.7 +0.2
YSS pmax pmax
comp=Z,25nm,1.7s
MK31 Makanchi Array 151.06 44 i PKIKP PKPbc 10 06 41.8 -0.2
MK31 pmax pmax
comp=Z,12nm,0.5s
MKAR Makanchi Array 151.06 44 PKP PKPdf 10 06 35.8 -0.3
comp=Z,0.3nm,0.5s,baz=250,slow=1.6,SNR=4.5
MKAR PKPbc PKPbc 10 06 42.0 0.0
comp=Z,16nm,0.6s,baz=300,slow=2.0,SNR=137
MKAR Makanchi Array 151.06 44 c iPKIKP PKPdf 10 06 36.2 +0.1
BOD Bodaibo 151.28 358 ePKIKP PKPbc 10 06 40.8 -1.2
BOD pmax pmax
comp=Z,8.0nm,0.8s

MJAR	**Matsushiro Arr**	**156.64**	**295**	PKPab	**PKPab**	**10 07 13.5 -0.2**
	comp=Z,1.8nm,0.9s,baz=120,slow=3.0,SNR=3.9					
SONM	**Songino Array**	**160.87**	**11**	PKP	**PKPdf**	**10 06 49.1 0.0**
	comp=Z,0.5nm,0.6s,baz=346,slow=0.6,SNR=5.2					
SONM				PKPab	**PKPab**	**10 07 32.2 +0.5**
	comp=Z,1.0nm,0.6s,baz=322,slow=5.6,SNR=5.1					
KSRS	**Korea Array**	**164.17**	**306**	PKP	**PKPdf**	**10 06 52.2 -0.4**
	comp=Z,0.4nm,0.3s,baz=37,slow=0.6,SNR=6.5					
KSAR	**Wonju Array Be**	**164.20**	**306**	PKIKP	**PKPdf**	**10 06 52.2 -0.4**
KSAR	**Wonju Array Be**	**164.20**	**306**	PKP	**PKPdf**	**10 06 52.2 -0.4**
GTA	**Gaotai**	**165.77**	**41**	*e*PKP	**PKPdf**	**10 06 54.9 +0.8**
GTA				pPKP	**pPKPdf**	**10 07 05.7 -2.5**
GTA				sPKP		10 07 09.3
GTA				PKPab	**PKPab**	**10 07 55.2 +1.7**
CD2	**Chengdu**	**172.83**	**74**	PKP	**PKPdf**	**10 06 57.8 -0.8**
NJ2	**Nanjing**	**173.24**	**297**	*e*PKP	**PKPdf**	**10 06 59.4 +0.8**

GUC 10 09:57:26.4±0.5, 37.08S×72.68W, h34km±2km, ML3.8, 2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CCSP	**San Pedro de C**	**0.41**	**304**	⇓ *i*	P	Pb	09 57 35.5	-0.3
CCSP				*i*	S	Sn	09 57 42.4	0.0
LNCH	**Linares**	**1.50**	**36**	⇓ *i*	P	Pb	09 57 52.4	-1.3
LNCH				*i*	S	Sb	09 58 11.7	-0.8
LNCH					AML	AML	09 58 13.1	
	comp=N,1μm,0.4s							
TALC	**Talca**	**1.88**	**27**	*i*	P	Pn	09 57 57.2	+1.1
TALC				*i*	S	Sn	09 58 20.8	+2.3
TALC					AML	AML	09 58 24.3	
	comp=E,2μm,0.4s							
NICH	**Los Niches**	**2.38**	**30**	*i*	S	Sn	09 58 33.6	+2.6
NICH					AML	AML	09 58 45.1	
	comp=N,836nm,0.5s							

JMA 10 10:00:03.1±0.5, 46.56N×150.23E, h267km, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NEM2	**Nemuro 2**	**4.51**	**227**	P		Pn	10 01 13.8	+0.2
NEM2				*e*S		S	10 02 09.6	-0.3
JTKR	**Abashiri--Toko**	**5.16**	**242**	P		Pn	10 01 22.3	+1.0
JAK	**Akkeshi**	**5.31**	**230**	P		Pn	10 01 23.2	+0.1
JAK				*e*S		S	10 02 26.1	-1.1
JSE	**Soyaes**	**5.58**	**256**	P		Pn	10 01 26.1	-0.3
JAR	**Ashorobuto**	**5.63**	**237**	P		Pn	10 01 27.9	+0.9
JAR				*e*S		S	10 02 34.3	0.0
JOB	**Onbets**	**5.84**	**234**	P		Pn	10 01 29.9	+0.3
JOB				*e*S		S	10 02 37.8	-1.2
ASAJ	**Asahikawa**	**5.91**	**248**	P		Pn	10 01 31.2	+0.8
JKK2	**Kamakawa 2**	**5.93**	**246**	P		Pn	10 01 31.6	+0.9
JCH	**Churui**	**6.29**	**234**	P		Pn	10 01 34.9	-0.3
JCH				*e*S		S	10 02 46.4	-2.7
JBT2	**Biratori 2**	**6.76**	**239**	P		Pn	10 01 40.1	-0.9
JEM	**Erimo**	**6.81**	**231**	P		Pn	10 01 42.2	+0.6
JNBK	**Urakawa-nobuka**	**6.85**	**234**	P		Pn	10 01 40.9	-1.2
JNBK				*e*S		S	10 02 56.3	-5.5
JNB	**Noboribetsu**	**7.74**	**241**	P		Pn	10 01 51.8	-1.3
JKB	**Kayabe**	**8.09**	**238**	P		Pn	10 01 55.7	-1.8
JKB				*e*S		S	10 03 23.0	-6.9
JSH	**Shimam**	**8.25**	**245**	P		Pn	10 02 00.1	+0.5
JYM2	**Yakumo 2**	**8.35**	**241**	P		Pn	10 01 59.6	-1.1
JSR	**Shiriuchi**	**8.67**	**238**	P		Pn	10 02 03.9	-0.9
JTM	**Tenmabayashi**	**8.79**	**232**	P		Pn	10 02 04.7	-1.7
JANG	**Nango**	**8.85**	**229**	P		Pn	10 02 05.7	-1.4
JANG				*e*S		S	10 03 41.1	-6.5
JOSM	**Okushiri--Mats**	**8.91**	**244**	P		Pn	10 02 06.7	-1.1
JRG	**Rokugo**	**10.03**	**228**	P		Pn	10 02 21.5	-0.3

SJA 10 10:06:24.6±1.6, 31.46S×68.80W, h106km±7km, ML3.2, MW3.6, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SJA	**San Juan**	**0.21**	**109**	*e*P		Pn	10 06 40.6	+1.0
RTLL	**Cerro Villicun**	**0.30**	**65**	*e*P		Pn	10 06 40.7	+0.7
RTLL				*e*S		Sn	10 06 52.5	+1.0
RTCV	**Cerro Valdivia**	**0.46**	**152**	*e*P		Pn	10 06 41.8	+0.9
RTCV				⇓ *e*S		Sn	10 06 54.1	+1.1
CFAA	**Coronel Fontan**	**0.50**	**107**	*e*P		Pn	10 06 41.8	+0.8
CFAA				*e*S		Sn	10 06 54.7	+1.2
RTLS	**Leoncito**	**0.55**	**231**	*e*P		Pn	10 06 42.7	+1.0
RTLS				*e*S		Sn	10 06 55.2	+0.7
AUSP	**Uspallata**	**0.92**	**213**	*e*P		Pn	10 06 46.0	+1.0
AUSP				*e*S		Sn	10 07 01.3	+0.9
ASAL	**Salagasta**	**1.13**	**182**	*e*P		Pn	10 06 48.2	+1.1
ASAL				*e*S		Sn	10 07 06.2	+2.2
ARCO	**CERRO ARCO**	**1.39**	**185**	*e*P		Pn	10 06 51.1	+1.0
ARCO				*e*S		Sn	10 07 11.4	+2.1
AVFE	**Valle Fertil**	**1.40**	**56**	*e*P		Pn	10 06 51.0	+0.9
AVFE				*e*S		Sn	10 07 10.4	+1.0
AVFE					AML	AML	10 07 12.2	
	comp=Z,237nm,0.5s							
ACAN	**Cantantal**	**1.59**	**121**	*e*P		Pn	10 06 53.7	+1.4
ACAN				*e*S		Sn	10 07 13.1	-0.3
AAGR	**Agrelo**	**1.62**	**181**	*e*P		Pn	10 06 53.9	+1.0
AAGR				*e*S		Sn	10 07 14.9	+0.5
APLL	**PUNTA DE LOS L**	**2.22**	**62**	*e*P		Pn	10 07 01.3	+1.0

TIR ***10*** *10:10:35.1±0.8, 40.22N×21.80E, h4km±29km, ML3.2*
ATH ***10*** *10:10:35.9, 40.15N×21.67E, h16km±1km, MD3.1/27*
SKO ***10*** *10:10:36.2, 40.11N×21.63E, h4km, M2.5, ML2.8*
CSEM ***10*** *10:10:36.2±0.1, 40.16N×21.69E, h2km, MD3.1, Error ellipse: s-maj=2.5km s-min=2.3km az=89.0*
THE ***10*** *10:10:36.7, 40.15N×21.68E, h2km±1km, ML3.0/27, Error ellipse: s-maj=1.2km s-min=0.7km az=307.0*
SOF ***10*** *10:10:41.3, 40.92N×21.37E, h15km, MD2.9*

ISC 10 10:10:36.4±1.0, 40.14N±0.01×21.69E±0.01, h4km±9km, n179, σ0.76/265, 5C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KZN	**Kozani**	**0.17**	**22**	P		**Pg**	**10 10 40.1**	**+0.3**
KZN				S		**Sg**	**10 10 43.1**	**+0.9**
KZN	**Kozani**	**0.17**	**22**	*e*PB		**Pg**	**10 10 40.1**	**+0.3**
KZN				*e*SB		**Sg**	**10 10 43.6**	**+1.4**
KZN	**Kozani**	**0.17**	**22**	P		**Pg**	**10 10 40.1**	**+0.3**
KZN				S		**Sg**	**10 10 43.1**	**+0.9**
NEST	**Nestorio**	**0.56**	**299**	P		**Pg**	**10 10 46.0**	**-1.1**
NEST				S		**Sg**	**10 10 54.4**	**0.0**
NEST	**Nestorio**	**0.56**	**299**	*e*PN		**Pg**	**10 10 46.0**	**-1.1**
NEST				*e*SN		**Sg**	**10 10 54.8**	**+0.4**
NEST	**Nestorio**	**0.56**	**299**	P		**Pg**	**10 10 46.0**	**-1.1**
NEST				S		**Sg**	**10 10 54.4**	**0.0**
LIT	**Litokhoron**	**0.62**	**94**	P		**Pg**	**10 10 47.9**	**-0.3**
LIT				S		**Sb**	**10 10 58.5**	**-0.2**
LIT	**Litokhoron**	**0.62**	**94**	*e*PB		**Pg**	**10 10 47.8**	**-0.4**
LIT				*e*SN		**Sb**	**10 10 57.9**	**-0.8**
LIT	**Litokhoron**	**0.62**	**94**	*e*Pb		**Pg**	**10 10 47.8**	**-0.4**
LIT				S		**Sb**	**10 10 58.5**	**-0.2**
THL	**Klokotos Trika**	**0.63**	**156**	P		**Pg**	**10 10 47.7**	**-0.8**
THL				S		**Sg**	**10 10 57.7**	**+1.0**
THL	**Klokotos Trika**	**0.63**	**156**	*e*PB		**Pg**	**10 10 47.7**	**-0.8**
THL				*e*SN		**Sg**	**10 10 57.5**	**+0.8**
THL	**Klokotos Trika**	**0.63**	**156**	P		**Pg**	**10 10 47.7**	**-0.8**
THL				*e*Sn		**Sg**	**10 10 57.5**	**+0.8**
FNA	**Florina**	**0.68**	**340**	P		**Pg**	**10 10 48.6**	**-0.9**
FNA				S		**Sg**	**10 10 58.0**	**-0.3**
FNA	**Florina**	**0.68**	**340**	*e*PB		**Pg**	**10 10 48.6**	**-0.9**
FNA				*e*SN		**Sg**	**10 10 57.8**	**-0.5**
FNA	**Florina**	**0.68**	**340**	P		**Pg**	**10 10 48.6**	**-0.9**
FNA				*e*Sn		**Sg**	**10 10 57.8**	**-0.5**
JAN	**Janina**	**0.81**	**233**	P		**Pg**	**10 10 51.1**	**-0.7**
JAN				S		**Sg**	**10 11 03.4**	**+1.1**
JAN	**Janina**	**0.81**	**233**	P		**Pg**	**10 10 51.1**	**-0.7**
JAN				S		**Sg**	**10 11 03.4**	**+1.1**
KBN	**Korca**	**0.84**	**305**	*i* PG		**Pg**	**10 10 52.2**	**-0.3**
KBN				*i* SG		**Sb**	**10 11 05.3**	**+0.2**
KBN	**Korca**	**0.84**	**305**	P		**Pg**	**10 10 52.1**	**-0.3**
KBN				S		**Sg**	**10 11 03.7**	**+0.4**
KBN	**Korca**	**0.84**	**305**	*i* Pg		**Pg**	**10 10 52.2**	**-0.3**
	SNR=96							
KBN				S		**Sg**	**10 11 03.7**	**+0.4**
KBN				*i* Sg		**Sb**	**10 11 05.3**	**+0.2**
	SNR=96							
THE	**Thessaloniki**	**1.09**	**63**	P		**Pb**	**10 10 57.7**	**-0.1**
THE				S		**Sb**	**10 11 12.9**	**+0.6**
THE	**Thessaloniki**	**1.09**	**63**	*e*PN		**Pb**	**10 10 57.5**	**-0.2**
THE				*e*SN		**Sb**	**10 11 12.0**	**-0.3**
THE	**Thessaloniki**	**1.09**	**63**	*e*Pn		**Pb**	**10 10 57.5**	**-0.2**
THE				*e*Sn		**Sb**	**10 11 12.0**	**-0.3**
DSL	**Palaion Diasel**	**1.11**	**205**	P		**Pg**	**10 10 56.8**	**-0.8**
DSL				S		**Sb**	**10 11 12.8**	**0.0**
DSL	**Palaion Diasel**	**1.11**	**205**	*e*PN		**Pg**	**10 10 57.2**	**-0.4**
DSL				*e*SN		**Sg**	**10 11 12.4**	**+0.5**
DSL	**Palaion Diasel**	**1.11**	**205**	P		**Pg**	**10 10 56.8**	**-0.8**
DSL	**Palaion Diasel**	**1.11**	**205**	*e*Pn		**Pg**	**10 10 57.2**	**-0.4**
DSL				S		**Sb**	**10 11 12.8**	**0.0**
HORT	**Hortiatis**	**1.17**	**67**	P		**Pg**	**10 10 58.6**	**-0.2**
HORT				S		**Sn**	**10 11 15.6**	**+0.4**
HORT	**Hortiatis**	**1.17**	**67**	*e*PN		**Pg**	**10 10 58.9**	**+0.1**
HORT				*e*SN		**Sb**	**10 11 15.1**	**+0.4**
HORT	**Hortiatis**	**1.17**	**67**	P		**Pg**	**10 10 58.6**	**-0.2**
HORT	**Hortiatis**	**1.17**	**67**	*e*Pn		**Pg**	**10 10 58.9**	**+0.1**
HORT				*e*Sn		**Sb**	**10 11 15.1**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.18**	**163**	P		**Pg**	**10 10 58.0**	**-1.0**
MAKR				S		**Sn**	**10 11 16.9**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.18**	**163**	*e*PN		**Pg**	**10 10 58.3**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.18**	**163**	P		**Pg**	**10 10 58.0**	**-1.0**
MAKR	**Makrakomi, Fth**	**1.18**	**163**	*e*Pn		**Pg**	**10 10 58.3**	**-0.7**
MAKR				S		**Sn**	**10 11 16.9**	**+0.8**
IGT	**Igoumenitsa**	**1.21**	**240**	P		**Pg**	**10 10 59.6**	**+0.1**
IGT	**Igoumenitsa**	**1.21**	**240**	P		**Pg**	**10 10 59.6**	**+0.1**
FYTO	**Fytoko, Volos**	**1.21**	**127**	P		**Pg**	**10 10 59.0**	**-0.6**
FYTO				S		**Sn**	**10 11 17.0**	**+0.1**
FYTO	**Fytoko, Volos**	**1.21**	**127**	P		**Pg**	**10 10 59.0**	**-0.6**
FYTO				S		**Sn**	**10 11 17.0**	**+0.1**
AGG	**Agios Georgios**	**1.23**	**156**	P		**Pg**	**10 10 59.1**	**-0.8**
AGG				S		**Sn**	**10 11 18.5**	**+1.3**
AGG	**Agios Georgios**	**1.23**	**156**	*e*PN		**Pg**	**10 10 59.1**	**-0.8**
AGG	**Agios Georgios**	**1.23**	**156**	P		**Pg**	**10 10 59.1**	**-0.8**
AGG				S		**Sn**	**10 11 18.5**	**+1.3**
EVR	**Evrytania**	**1.23**	**176**	P		**Pg**	**10 10 58.6**	**-1.3**
EVR				S		**Sn**	**10 11 17.5**	**+0.1**
EVR	**Evrytania**	**1.23**	**176**	*e*PN		**Pg**	**10 10 59.0**	**-0.9**
EVR	**Evrytania**	**1.23**	**176**	P		**Pg**	**10 10 58.6**	**-1.3**
EVR	**Evrytania**	**1.23**	**176**	*e*Pn		**Pg**	**10 10 59.0**	**-0.9**
EVR				S		**Sn**	**10 11 17.5**	**+0.1**
SGD	**Sagiada**	**1.24**	**245**	P		**Pg**	**10 10 58.8**	**-1.3**
SGD				S		**Sn**	**10 11 18.0**	**+0.5**
SGD	**Sagiada**	**1.24**	**245**	*e*PN		**Pg**	**10 10 59.0**	**-1.1**
SGD	**Sagiada**	**1.24**	**245**	P		**Pg**	**10 10 58.8**	**-1.3**
SGD				S		**Sn**	**10 11 18.0**	**+0.5**
SRN	**Sarande**	**1.32**	**259**	*i* PG		**Pb**	**10 11 01.9**	**+0.2**
SRN				*i* SG		**Sn**	**10 11 21.4**	**+1.9**
SRN	**Sarande**	**1.32**	**259**	P		**Pn**	**10 11 01.1**	**-0.4**
SRN				S		**Sn**	**10 11 21.4**	**+1.9**
SRN	**Sarande**	**1.32**	**259**	P		**Pn**	**10 11 01.1**	**-0.4**
SRN	**Sarande**	**1.32**	**259**	*i* Pg		**Pb**	**10 11 01.9**	**+0.2**
	SNR=93							
SRN				S		**Sn**	**10 11 21.4**	**+1.9**
VAY	**Valandovo**	**1.35**	**29**	P		**Pn**	**10 11 01.4**	**-0.6**
VAY				S		**Sn**	**10 11 22.7**	**+2.3**
VAY	**Valandovo**	**1.35**	**29**	*i* Pn		**Pg**	**10 11 02.1**	**-0.2**
VAY				*i* Sn		**Sn**	**10 11 22.5**	**+2.1**
VAY				*i* Lg		Lg	10 11 24.6	
	comp=E,123nm,0.6s							
VAY				*i* Lg		Lg	10 11 26.0	
	comp=N,185nm,1.0s							
VAY	**Valandovo**	**1.35**	**29**	P		**Pn**	**10 11 01.4**	**-0.6**
VAY	**Valandovo**	**1.35**	**29**	*i* Pn		**Pg**	**10 11 02.1**	**-0.2**
VAY				*i* Sn		**Sn**	**10 11 22.5**	**+2.1**
VAY				*i* Lg		Lg	10 11 25.9	
	comp=N,185nm,1.0s							
PLG	**Polygyros**	**1.36**	**80**	*e*PN		**Pg**	**10 11 03.2**	**+0.7**
PLG	**Polygyros**	**1.36**	**80**	*e*Pn		**Pg**	**10 11 03.2**	**+0.7**
KNT	**Kendrikon**	**1.37**	**42**	P		**Pn**	**10 11 01.6**	**-0.7**
KNT				S		**Sb**	**10 11 20.2**	**-0.2**
KNT	**Kendrikon**	**1.37**	**42**	*e*PN		**Pn**	**10 11 01.7**	**-0.6**
KNT	**Kendrikon**	**1.37**	**42**	*e*Pn		**Pn**	**10 11 01.7**	**-0.6**
KNT				S		**Sb**	**10 11 20.2**	**-0.2**
XOR	**Xorichti**	**1.40**	**123**	P		**Pn**	**10 11 02.0**	**-0.6**
XOR				S		**Sn**	**10 11 21.7**	**+0.2**
XOR	**Xorichti**	**1.40**	**123**	*e*PN		**Pn**	**10 11 02.4**	**-0.2**
XOR	**Xorichti**	**1.40**	**123**	*e*Pn		**Pn**	**10 11 02.4**	**-0.2**
XOR				S		**Sn**	**10 11 21.7**	**+0.2**
SOH	**Sokhos**	**1.44**	**61**	P		**Pn**	**10 11 02.5**	**-0.7**
SOH				S		**Sg**	**10 11 23.7**	**+1.1**
SOH	**Sokhos**	**1.44**	**61**	*e*PN		**Pg**	**10 11 03.9**	**-0.1**
SOH	**Sokhos**	**1.44**	**61**	P		**Pn**	**10 11 02.5**	**-0.7**
SOH	**Sokhos**	**1.44**	**61**	*e*Pn		**Pg**	**10 11 03.9**	**-0.1**
SOH				S		**Sg**	**10 11 23.7**	**+1.1**
NEO	**Neokhori**	**1.45**	**125**	P		**Pn**	**10 11 03.0**	**-0.3**
NEO				S		**Sg**	**10 11 23.2**	**+0.2**
NEO	**Neokhori**	**1.45**	**125**	*e*PN		**Pn**	**10 11 03.2**	**-0.1**
NEO	**Neokhori**	**1.45**	**125**	*e*Pn		**Pn**	**10 11 03.2**	**-0.1**
NEO				S		**Sg**	**10 11 23.2**	**+0.2**
KEK	**Kerkira**	**1.51**	**254**	P		**Pn**	**10 11 04.5**	**+0.3**
KEK				S		**Sn**	**10 11 24.4**	**+0.1**
KEK	**Kerkira**	**1.51**	**254**	*e*PN		**Pb**	**10 11 04.9**	**-0.1**
KEK	**Kerkira**	**1.51**	**254**	P		**Pn**	**10 11 04.5**	**+0.3**
KEK	**Kerkira**	**1.51**	**254**	*e*Pn		**Pb**	**10 11 04.9**	**-0.1**
KEK				S		**Sn**	**10 11 24.4**	**+0.1**
PVO	**Paravola**	**1.53**	**185**	P		**Pg**	**10 11 06.0**	**+0.3**
PVO				S		**Sg**	**10 11 26.5**	**+1.0**
PVO	**Paravola**	**1.53**	**185**	P		**Pg**	**10 11 06.0**	**+0.3**
PVO				S		**Sg**	**10 11 26.5**	**+1.0**
PAIG	**Paliouri**	**1.54**	**97**	P		**Pn**	**10 11 04.0**	**-0.6**
PAIG				S		**Sb**	**10 11 25.5**	**+0.1**
PAIG	**Paliouri**	**1.54**	**97**	*e*PN		**Pn**	**10 11 04.3**	**-0.3**
PAIG	**Paliouri**	**1.54**	**97**	P		**Pn**	**10 11 04.0**	**-0.6**
PAIG	**Paliouri**	**1.54**	**97**	*e*Pn		**Pn**	**10 11 04.3**	**-0.3**
PAIG				S		**Sb**	**10 11 25.5**	**+0.1**
AXAR	**Agios Charalam**	**1.57**	**151**	P		**Pn**	**10 11 04.8**	**-0.1**
AXAR	**Agios Charalam**	**1.57**	**151**	*e*PN		**Pn**	**10 11 04.8**	**-0.1**
AXAR	**Agios Charalam**	**1.57**	**151**	P		**Pn**	**10 11 04.8**	**-0.1**
LKD2	**Lefkada island**	**1.57**	**211**	P		**Pn**	**10 11 05.2**	**+0.2**
LKD2				S		**Sg**	**10 11 28.1**	**+1.3**
LKD2	**Lefkada island**	**1.57**	**211**	P		**Pn**	**10 11 05.2**	**+0.2**
LKD2				S		**Sg**	**10 11 28.1**	**+1.3**
PDO	**Prodromos**	**1.59**	**194**	P		**Pn**	**10 11 05.8**	**+0.6**
PDO	**Prodromos**	**1.59**	**194**	*e*PN		**Pn**	**10 11 05.8**	**+0.6**
PDO	**Prodromos**	**1.59**	**194**	P		**Pn**	**10 11 05.8**	**+0.6**
EFP	**Efpalio**	**1.72**	**174**	P		**Pn**	**10 11 07.2**	**+0.2**
EFP				S		**Sb**	**10 11 30.9**	**+0.4**
EFP	**Efpalio**	**1.72**	**174**	*e*PN		**Pn**	**10 11 07.5**	**+0.5**
EFP	**Efpalio**	**1.72**	**174**	P		**Pn**	**10 11 07.2**	**+0.2**
EFP	**Efpalio**	**1.72**	**174**	*e*Pn		**Pn**	**10 11 07.5**	**+0.5**
EFP				S		**Sb**	**10 11 30.9**	**+0.4**
SMIA	**Simia**	**1.73**	**137**	P		**Pn**	**10 11 06.7**	**-0.4**
SMIA				S		**Sn**	**10 11 29.9**	**+0.3**
SMIA	**Simia**	**1.73**	**137**	*e*PN		**Pn**	**10 11 07.3**	**+0.2**
SMIA	**Simia**	**1.73**	**137**	*e*Pn		**Pn**	**10 11 07.3**	**+0.2**
SMIA				S		**Sn**	**10 11 29.9**	**+0.3**
SRS	**Serrai**	**1.75**	**56**	P		**Pn**	**10 11 08.4**	**-0.5**
SRS	**Serrai**	**1.75**	**56**	*e*PN		**Pn**	**10 11 08.4**	**-0.5**
SRS	**Serrai**	**1.75**	**56**	P		**Pn**	**10 11 08.4**	**-0.5**
OUR	**Ouranopolis**	**1.77**	**83**	P		**Pn**	**10 11 06.7**	**-0.9**
OUR				S		**Sb**	**10 11 31.4**	**-0.4**
OUR	**Ouranopolis**	**1.77**	**83**	*e*PB		**Pn**	**10 11 06.8**	**-0.9**
OUR	**Ouranopolis**	**1.77**	**83**	P		**Pn**	**10 11 06.7**	**-0.9**
OUR				S		**Sb**	**10 11 31.4**	**-0.4**
ATAL	**Atalanti**	**1.78**	**144**	P		**Pn**	**10 11 07.6**	**-0.2**
KALE	**Kalithea**	**1.79**	**168**	P		**Pn**	**10 11 07.6**	**-0.4**
KALE				S		**Sn**	**10 11 31.0**	**-0.1**
KALE	**Kalithea**	**1.79**	**168**	*e*PN		**Pn**	**10 11 07.8**	**-0.2**
KALE	**Kalithea**	**1.79**	**168**	*e*Pn		**Pn**	**10 11 07.8**	**-0.2**
KALE				S		**Sn**	**10 11 31.0**	**-0.1**
LKR	**Lokris**	**1.81**	**145**	P		**Pn**	**10 11 07.7**	**-0.5**
LKR	**Lokris**	**1.81**	**145**	*e*PB		**Pn**	**10 11 07.9**	**-0.3**
LKR	**Lokris**	**1.81**	**145**	*e*Pb		**Pn**	**10 11 07.9**	**-0.3**
PHP	**Peshkopia**	**1.81**	**329**	*i* PG		**Pn**	**10 11 08.4**	**+0.1**
PHP	**Peshkopia**	**1.81**	**329**	P		**Pn**	**10 11 07.8**	**-0.5**
PHP				S		**Sn**	**10 11 31.7**	**+0.1**
PHP	**Peshkopia**	**1.81**	**329**	P		**Pn**	**10 11 07.8**	**-0.5**
PHP	**Peshkopia**	**1.81**	**329**	*i* Pg		**Pn**	**10 11 08.4**	**+0.1**
	SNR=92							
PHP				S		**Sn**	**10 11 31.7**	**+0.1**
SKO	**Skopje**	**1.84**	**354**	*i* Pn		**Pb**	**10 11 10.4**	**-0.1**
SKO				*i* Sn		**Sg**	**10 11 34.3**	**-1.1**
SKO	**Skopje**	**1.84**	**354**	*i* Pn		**Pb**	**10 11 10.3**	**-0.1**
SKO				*i* Sn		**Sg**	**10 11 34.2**	**-1.1**
DSF	**Desfina**	**1.85**	**159**	P		**Pn**	**10 11 08.3**	**-0.5**
DSF				S		**Sn**	**10 11 32.7**	**0.0**
DSF	**Desfina**	**1.85**	**159**	*e*PB		**Pn**	**10 11 08.5**	**-0.3**
DSF	**Desfina**	**1.85**	**159**	P		**Pn**	**10 11 08.3**	**-0.5**
DSF				S		**Sn**	**10 11 32.7**	**0.0**
AOS	**Alonnisos**	**1.95**	**119**	P		**Pn**	**10 11 09.1**	**-1.1**
AOS				S		**Sb**	**10 11 36.8**	**-0.3**
AOS	**Alonnisos**	**1.95**	**119**	P		**Pn**	**10 11 09.1**	**-1.1**
AOS				S		**Sb**	**10 11 36.8**	**-0.3**
KKB	**Krupnik**	**2.02**	**31**	*i* Pg		**Pb**	**10 11 13.6**	**0.0**
KKB	**Krupnik**	**2.02**	**31**	*i* Pg		**Pb**	**10 11 13.6**	**0.0**
NVR	**Nevrokopi**	**2.04**	**53**	P		**Pb**	**10 11 12.8**	**-1.2**
NVR	**Nevrokopi**	**2.04**	**53**	*e*PN		**Pb**	**10 11 13.3**	**-0.8**
NVR	**Nevrokopi**	**2.04**	**53**	P		**Pb**	**10 11 12.8**	**-1.2**
NVR	**Nevrokopi**	**2.04**	**53**	*e*Pn		**Pb**	**10 11 13.3**	**-0.8**
MRKA	**Markates**	**2.06**	**134**	P		**Pn**	**10 11 11.6**	**-0.1**
MRKA				S		**Sn**	**10 11 38.7**	**+1.0**
MRKA	**Markates**	**2.06**	**134**	P		**Pn**	**10 11 11.6**	**-0.1**
MRKA				S		**Sn**	**10 11 38.7**	**+1.0**
MMB	**Musomiste**	**2.12**	**46**	⇑ *i* P		**Pb**	**10 11 14.1**	**-1.2**
MMB	**Musomiste**	**2.12**	**46**	*i* P		**Pb**	**10 11 13.8**	**-1.5**
MMB	**Musomiste**	**2.12**	**46**	*i* P		**Pb**	**10 11 13.8**	**-1.5**
VLS	**Valsamata**	**2.14**	**204**	P		**Pn**	**10 11 13.8**	**+1.0**
VLS	**Valsamata**	**2.14**	**204**	*e*PN		**Pb**	**10 11 14.5**	**-1.2**
VLS	**Valsamata**	**2.14**	**204**	P		**Pn**	**10 11 13.8**	**+1.0**
VLS	**Valsamata**	**2.14**	**204**	*e*Pn		**Pb**	**10 11 14.5**	**-1.2**
KFL	**Anninata**	**2.15**	**199**	P		**Pb**	**10 11 14.9**	**-0.9**
KFL				S		**Sb**	**10 11 42.1**	**-0.7**
KFL	**Anninata**	**2.15**	**199**	P		**Pb**	**10 11 14.9**	**-0.9**
KFL				S		**Sb**	**10 11 42.1**	**-0.7**
DRO	**Drossia**	**2.19**	**180**	P		**Pb**	**10 11 15.5**	**-1.0**
DRO	**Drossia**	**2.19**	**180**	*e*PN		**Pb**	**10 11 15.8**	**-0.7**
DRO	**Drossia**	**2.19**	**180**	P		**Pb**	**10 11 15.5**	**-1.0**
DRO	**Drossia**	**2.19**	**180**	*e*Pn		**Pb**	**10 11 15.8**	**-0.7**
GUR	**Goura**	**2.26**	**167**	P		**Pn**	**10 11 14.9**	**+0.3**
GUR	**Goura**	**2.26**	**167**	*e*PN		**Pn**	**10 11 15.5**	**+0.9**
GUR	**Goura**	**2.26**	**167**	*e*Pn		**Pn**	**10 11 15.5**	**+0.9**
VIL2	**Platees**	**2.29**	**147**	*e*PB		**Pn**	**10 11 15.4**	**+0.6**
KAVA	**Kavala**	**2.32**	**68**	P		**Pn**	**10 11 14.7**	**-0.5**
KAVA	**Kavala**	**2.32**	**68**	P		**Pn**	**10 11 14.7**	**-0.5**
PUK	**Puka**	**2.33**	**325**	*i* PG		**Pb**	**10 11 18.3**	**-0.7**
PUK	**Puka**	**2.33**	**325**	*i* Pg		**Pb**	**10 11 18.3**	**-0.7**
	SNR=92							
VILL	**Villia**	**2.35**	**147**	P		**Pn

VNDA				LR	LR	10 31 29.9		
	comp=Z,214nm,18.7s,baz=1.5,slow=32							
STKA	**Stephens Creek**	**25.99**	**325**	P	**P**	**10 24 56.9**	**+1.1**
	4.8nm,0.9s,baz=140,slow=13,SNR=7.1							
STKA				LR	LR	10 33 30.1		
	comp=Z,230nm,19.1s,baz=193,slow=33							
RAO	**Raoul Island**	**30.50**	**43**	LR	LR	10 36 27.0		
	comp=Z,191nm,21.4s,baz=216,slow=34							
DZM	**Mont Dzumac**	**33.15**	**13**	P	**P**	**10 25 59.9**	**+0.4**
	6.3nm,1.0s,baz=90,slow=20,SNR=20							
QSPA	**South Pole Qui**	**35.33**	**180**	P	**P**	**10 26 17.5**	**-0.7**
	2.0nm,0.8s,baz=343,slow=2.2,SNR=11							
CTA	**Charters Tower**	**35.95**	**339**	P	**P**	**10 26 24.2**	**+0.5**
	1.8nm,0.3s,baz=152,slow=15,SNR=3.6							
CTAO	**Charters Tower**	**35.95**	**339**	*eP*	**P**	**10 26 23.4**	**-0.3**
	3.6nm,0.7s							
ASAR	**Alice Springs**	**36.23**	**319**	P	**P**	**10 26 26.3**	**+0.2**
	9.0nm,0.9s,baz=157,slow=8.2,SNR=54							
ASAR				PcP	**PcP**	**10 28 53.6**	**+2.3**
	0.8nm,0.7s,baz=151,slow=4.5,SNR=4.4							
ASAR				LR	LR	10 40 05.8		
	comp=Z,133nm,18.0s,baz=141,slow=34							
AS31	**Alice Springs**	**36.23**	**319**	*eP*	**P**	**10 26 26.4**	**+0.3**
H01W1	**Cape Leeuwin H**	**36.65**	**284**	T	T	11 05 06.5		
	baz=136,slow=76,SNR=7105							
H01W2	**Cape Leeuwin H**	**36.66**	**284**	T	T	11 05 07.1		
	baz=136,slow=76,SNR=7046							
H01W3	**Cape Leeuwin H**	**36.67**	**284**	T	T	11 05 07.8		
	baz=136,slow=76,SNR=8094							
WRA	**Warramunga Arr**	**39.47**	**322**	P	**P**	**10 26 52.8**	**-0.7**
	7.1nm,0.9s,baz=156,slow=7.0,SNR=20							
WRA				PcP	**PcP**	**10 29 03.4**	**+2.2**
	1.0nm,0.8s,baz=154,slow=2.9,SNR=4.9							
WRAB	**Tennant Creek**	**39.48**	**322**	*eP*	**P**	**10 26 52.7**	**-0.8**
	4.5nm,0.8s							
MAW	**Mawson**	**43.15**	**214**	P	**P**	**10 27 23.2**	**0.0**
	2.3nm,0.8s,baz=68,slow=4.4,SNR=3.6							
MAW				LR	LR	10 44 33.3		
	comp=Z,138nm,18.1s,baz=74,slow=35							
SYO	**Syowa Base**	**48.84**	**205**	*eP*	**P**	**10 28 05.4**	**-2.6**
TBI	**Tubuai**	**49.33**	**72**	*e*LR	LR	10 42 22.7		
	178nm,32.0s							
SNAA	**Sanae**	**53.19**	**187**	P	P	10 28 32.1	-8.6	
PPT2	**Papeete2**	**53.93**	**67**	*e*LR	LR	10 44 28.8		
	298nm,27.8s,baz=216							
PPT	**Papeete**	**53.95**	**67**	LR	LR	10 47 17.7		
	comp=Z,99nm,19.5s,baz=194,slow=31							
VNA1	**Neumayer--Stat**	**54.53**	**185**	P	**P**	**10 28 50.3**	**-0.1**
RKT	**Rikitea**	**57.71**	**85**	*e*T	T	11 31 49.8		
	2.8nm,0.3s							
GUMO	**Guam**	**69.14**	**345**	LR	LR	10 57 29.7		
	comp=Z,27nm,20.8s,baz=162,slow=33							
H08S2	**Diego Garcia H**	**81.75**	**268**	T	T	12 01 30.0		
	baz=144,slow=76,SNR=1124							
H08S1	**Diego Garcia H**	**81.76**	**268**	T	T	12 01 30.4		
	baz=144,slow=76,SNR=828							
H08S3	**Diego Garcia H**	**81.77**	**268**	T	T	12 01 31.6		
	baz=144,slow=76,SNR=1079							
H08N1	**Diego Garcia H**	**83.66**	**268**	T	T	12 03 56.5		
	baz=142,slow=75,SNR=1216							
H08N3	**Diego Garcia H**	**83.67**	**268**	T	T	12 03 55.4		
	baz=142,slow=75,SNR=589							
H08N2	**Diego Garcia H**	**83.68**	**268**	T	T	12 03 57.6		
	baz=142,slow=75,SNR=913							
BOSA	**Boshof**	**87.89**	**220**	P	**P**	**10 32 11.7**	**-1.3**
	2.8nm,0.7s,baz=156,slow=6.1,SNR=4.3							
BOSA				LR	LR	11 08 19.4		
	comp=Z,53nm,18.4s,baz=152,slow=33							
CMAR	**Chiang Mai Arr**	**88.93**	**305**	P	**P**	**10 32 17.7**	**+0.1**
	0.5nm,0.3s,baz=169,slow=5.2,SNR=4.0							
CMAR				LR	LR	11 12 51.8		
	comp=Z,42nm,19.1s,baz=214,slow=36							
MJAR	**Matsushiro Arr**	**92.69**	**343**	LR	LR	11 12 50.1		
	comp=Z,26nm,19.3s,baz=230,slow=35							
KSRS	**Korea Array**	**95.65**	**336**	LR	LR	11 14 27.8		
	comp=Z,18nm,20.1s,baz=245,slow=35							
LPAZ	**La Paz**	**98.73**	**135**	LR	LR	11 07 13.8		
	comp=Z,39nm,21.3s,baz=165,slow=29							
MKAR	**Makanchi Array**	**120.02**	**309**	PKP	**PKPdf**	**10 38 15.0**	**+2.0**
	0.2nm,0.5s,baz=169,slow=1.5,SNR=2.9							
TRF	**Thorofare Moun**	**124.31**	**25**	*e*PKPdf	**PKPdf**	**10 38 20.2**	**-0.6**
KURBB	**Kurchatov Arra**	**124.53**	**310**	PKP	**PKPdf**	**10 38 20.8**	**-0.6**
	0.2nm,0.4s,baz=144,slow=1.7,SNR=2.7							
KURK	**Kurchatov**	**124.53**	**310**	PKP	**PKPdf**	**10 38 20.8**	**-0.6**
ILAR	**Eielson Array**	**126.25**	**26**	PKP	**PKPdf**	**10 38 24.2**	**-0.1**
	0.7nm,1.1s,baz=243,slow=4.0,SNR=3.0							
EDM	**Edmonton**	**129.61**	**51**	*e*PKPdf	**PKPdf**	**10 38 30.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**134.79**	**212**	PKP	**PKPdf**	**10 38 40.5**	**-1.5**
	0.7nm,0.8s,baz=175,slow=3.3,SNR=4.1							
YKA	**Yellowknife Ar**	**134.86**	**41**	PKhKP	PKPpre	10 38 34.8		
	0.2nm,0.7s,baz=229,slow=2.6,SNR=2.9							
AKASG	**Malin Array Be**	**149.81**	**283**	PKPbc	**PKPbc**	**10 39 10.9**	**-1.3**
	0.5nm,0.5s,baz=98,slow=2.4,SNR=3.1							
SPITS	**Spitsbergen Ar**	**153.18**	**344**	PKPbc	**PKPbc**	**10 39 22.2**	**+2.9**
	1.5nm,0.7s,baz=33,slow=3.4,SNR=2.2							
FINES	**FINESS Array B**	**154.71**	**304**	PKPbc	**PKPbc**	**10 39 25.1**	**+2.3**
	0.8nm,0.6s,baz=72,slow=0.6,SNR=4.7							
FINES				PKPab	**PKPab**	**10 39 37.8**	**-0.2**
	1.3nm,0.6s,baz=104,slow=8.0,SNR=4.9							

*HEL **10** 10:20:04.6±0.3,67.66N×33.75E,h0km,ML1.8,Explosion*
*IDC **10** 10:20:09.0±2.0,68.08N×33.66E,h0km,mb1 3.2/4, mb1mx3.0/28,mbtmp3.1/4,ML2.4/3,Error ellipse: s-maj=22.4km s-min=12.5km az=67.0*
ISC 10 10:20:06.3±2.6,67.76N±0.06×33.5E±0.1,h0km,n11, σ1s34/16,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VRF	**Varrio**	**1.49**	**271**	PG		**Pn**	**10 20 32.9**	**-1.3**
VRF				MSG			10 20 52.0	
	comp=Z,7.9nm,0.2s							
VRF				SN		**Sn**	**10 20 54.5**	**+0.1**
KU6	**Riekki**	**2.26**	**221**	PN		**Pn**	**10 20 42.3**	**-2.5**
KU6				MSG			10 21 10.9	
	comp=Z,3.3nm,0.2s							
KU6				SG		**Sn**	**10 21 13.6**	**+0.4**
MSF	**Maaselka**	**2.57**	**226**	SB		**Sn**	**10 21 22.9**	**+2.0**
SGF	**Sodankyl**	**2.70**	**266**	PG		**Pb**	**10 20 54.6**	**-0.7**
SGF				SG		**Sb**	**10 21 29.8**	**+0.8**
KEV	**Kevo**	**3.10**	**313**	PN		**Pn**	**10 20 56.4**	**0.0**
	baz=119							
KEV				SG		**Sg**	**10 21 44.1**	**-1.8**
RNF	**Rovaniemi**	**3.15**	**252**	PN		**Pn**	**10 20 56.5**	**-0.4**
	baz=75							
RNF				SN		**Sn**	**10 21 35.6**	**+0.4**
ARCES	**ARCESS Array B**	**3.43**	**305**	Pn		**Pn**	**10 21 00.3**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=114,slow=13,SNR=22							
ARCES				Pg		**Pb**	**10 21 08.3**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=114,slow=15,SNR=7.8							
ARCES				Sn		**Sn**	**10 21 41.6**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=116,slow=27,SNR=7.0							
ARCES				Lg	Lg		10 21 52.2	
	comp=Z,2.3nm,0.3s,baz=113,slow=29,SNR=16							
HEF	**Hetta**	**3.76**	**285**	PN		**Pn**	**10 21 05.0**	**-0.3**
	baz=94							
FINES	**FINESS Array B**	**7.10**	**210**	Pn		Pn	10 21 55.2	+3.9
	comp=Z,0.1nm,0.3s,baz=17,slow=12,SNR=3.0							
SPITS	**Spitsbergen Ar**	**11.52**	**342**	Pn		Pn	10 22 47.6	-4.1
	baz=147,slow=19,SNR=2.5							
NOA	**NORSAR Array B**	**11.71**	**246**	Pn		**Pn**	**10 22 56.7**	**+2.3**
	comp=Z,0.7nm,0.3s,baz=42,slow=14,SNR=10							

IDC 10 10:23:24.4±2.3,11.47S×118.46E,h0km,mb3.5/1, mb1 3.7/4,mb1mx3.5/20,mbtmp3.6/4,ML3.6/3,Error ellipse: s-maj=75.8km s-min=27.4km az=55.0,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KAPI	**Kappang**	**6.54**	**11**	Pn		Pn	10 25 02.6	+0.6
	1.6nm,0.3s,baz=187,slow=8.1,SNR=10							
KAPI				Sn		Sn	10 26 09.2	-8.1
	1.8nm,0.3s,baz=54,slow=19,SNR=2.7							
WRA	**Warramunga Arr**	**17.44**	**121**	P		Pn	10 27 27.4	-1.9
	0.2nm,0.3s,baz=295,slow=13,SNR=12							
WRA				S		Sn	10 30 26.2	-18
	0.1nm,0.3s,baz=304,slow=25,SNR=3.2							
ASAR	**Alice Springs**	**19.05**	**132**	P		Pn	10 27 49.7	+0.7
	0.2nm,0.3s,baz=312,slow=12,SNR=8.9							
ASAR				S		Sn	10 31 08.4	-15
	0.1nm,0.3s,baz=309,slow=22,SNR=3.9							
MKAR	**Makanchi Array**	**66.41**	**334**	P		P	10 34 15.1	-0.2
	0.2nm,0.3s,baz=136,slow=7.8,SNR=5.3							

KMA 10 10:31:37.7±0.2,37.33N×129.52E,h1km±2km,4C-4D, Error ellipse: s-maj=2.4km s-min=2.1km az=44.0,South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSTBA	**Taebaek**	**0.50**	**245**	⇓P		Pg	10 31 47.1	-0.2
	SNR=9.9							
KSTBA	**Taebaek**	**0.50**	**245**	⇓P		Pg	10 31 47.1	-0.2
	SNR=9.9							
KSULJ	**Uljin**	**0.63**	**188**	⇑P		Pg	10 31 49.9	+0.1
	SNR=23							
KSULJ	**Uljin**	**0.63**	**188**	⇑P		Pg	10 31 49.9	+0.1
	SNR=23							
KSDGY	**Daegwallycong**	**0.76**	**298**	P		Pg	10 31 52.3	-0.1
	SNR=30							
KSDGY	**Daegwallycong**	**0.76**	**298**	P		Pg	10 31 52.3	-0.1
	SNR=30							
KSJMJ	**Jumunjin**	**0.82**	**312**	P		Pg	10 31 53.6	+0.2
	SNR=28							
KSJMJ	**Jumunjin**	**0.82**	**312**	P		Pg	10 31 53.6	+0.2
	SNR=28							
KSULL	**Ulleungdo**	**1.11**	**82**	⇓P		Pg	10 31 59.3	+0.3
	SNR=10							
KSULL	**Ulleungdo**	**1.11**	**82**	⇓P		Pg	10 31 59.3	+0.3
	SNR=10							
KSCHJ	**Chungju**	**1.32**	**250**	P		Pg	10 32 02.8	-0.1
	SNR=9.1							
KSCHJ	**Chungju**	**1.32**	**250**	P		Pg	10 32 02.8	-0.1
	SNR=9.1							
SEHB	**SEOHWA**	**1.37**	**313**	P		Pn	10 32 03.8	-0.2
	SNR=39							
SEHB	**SEOHWA**	**1.37**	**313**	P		Pn	10 32 03.8	-0.2
	SNR=39							
KSCHC	**Chuncheon**	**1.43**	**289**	P		Pn	10 32 04.5	-0.2
	SNR=29							
KSCHC	**Chuncheon**	**1.43**	**289**	P		Pn	10 32 04.5	-0.2
	SNR=29							
KSBON	**Boeun**	**1.61**	**239**	⇑P		Pn	10 32 06.9	-0.4
	SNR=9.2							
KSBON	**Boeun**	**1.61**	**239**	⇑P		Pn	10 32 06.9	-0.4
	SNR=9.2							
KSDAG	**Daegu**	**1.64**	**198**	P		Pn	10 32 07.9	+0.2
	SNR=11							
KSDAG	**Daegu**	**1.64**	**198**	P		Pn	10 32 07.9	+0.2
	SNR=11							

IDC 10 10:33:40.1±3.0,53.62N×87.85E,h0km,mb1 2.8/2, mb1mx2.8/35,mbtmp2.8/2,ML2.4/2,Error ellipse: s-maj=24.0km s-min=15.3km az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**282**	*i*			10 45 29.7	
	baz=98,slow=322,SNR=3.2							
ZALV	**Zalesovo Beam**	**1.83**	**282**	Pg		Pn	10 34 12.6	-0.2
	0.7nm,0.3s,baz=100,slow=16,SNR=14							
ZALV				Lg		Lg	10 34 39.0	
	1.7nm,0.3s,baz=100,slow=31,SNR=10							
KURBB	**Kurchatov Arra**	**6.48**	**246**	Pn		Pn	10 35 17.5	+0.9
	0.1nm,0.3s,baz=61,slow=14,SNR=4.4							
KURBB				Sn		Sn	10 36 29.9	-1.3
	0.1nm,0.3s,baz=61,slow=25,SNR=3.5							
KURBB				Lg		Lg	10 37 05.3	
	baz=64,slow=33,SNR=4.3							
MKAR	**Makanchi Array**	**7.71**	**210**	Pn		Pn	10 35 34.7	+1.1
	0.1nm,0.3s,baz=28,slow=13,SNR=5.5							
MKAR				Sn		Sn	10 37 02.0	+0.5
	0.2nm,0.3s,baz=24,slow=25,SNR=5.0							
MKAR				Lg		Lg	10 37 42.5	
	baz=27,slow=32,SNR=3.3							

KMA 10 10:34:11.4±0.4,38.14N×128.72E,h1km±4km,9C-6D, Error ellipse: s-maj=4.9km s-min=1.4km az=66.0,North Korea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSSKC	**Sokcho**	**0.22**	**314**	⇓P		Pg	10 34 15.6	0.0
	SNR=7.7							
KSSKC	**Sokcho**	**0.22**	**314**	⇓P		Pg	10 34 15.6	0.0
	SNR=7.7							
KSSKC				⇑S		Sg	10 34 18.6	+0.1
KSSKC	**Sokcho**	**0.22**	**314**	⇓P		Pg	10 34 15.6	0.0
	SNR=7.7							
KSSKC				⇑S		Sg	10 34 18.6	+0.1
KSJMJ	**Jumunjin**	**0.26**	**174**	P		Pg	10 34 16.5	+0.1
	SNR=24							
KSJMJ	**Jumunjin**	**0.26**	**174**	P		Pg	10 34 16.5	+0.1
	SNR=24							
KSJMJ				⇓S		Sg	10 34 20.1	+0.4
KSJMJ	**Jumunjin**	**0.26**	**174**	P		Pg	10 34 16.5	+0.1
	SNR=24							
KSJMJ				⇓S		Sg	10 34 20.1	+0.4
SEHB	**SEOHWA**	**0.39**	**289**	P		Pg	10 34 18.9	-0.1
	SNR=24							
SEHB	**SEOHWA**	**0.39**	**289**	P		Pg	10 34 18.9	-0.1
	SNR=24							
SEHB	**SEOHWA**	**0.39**	**289**	P		Pg	10 34 18.9	-0.1
	SNR=24							
KSDGY	**Daegwallycong**	**0.45**	**185**	P		Pg	10 34 20.1	0.0
	SNR=7.7							
KSDGY	**Daegwallycong**	**0.45**	**185**	P		Pg	10 34 20.1	0.0
	SNR=7.7							
KSDGY	**Daegwallycong**	**0.45**	**185**	P		Pg	10 34 20.1	0.0
	SNR=7.7							
KSCHC	**Chuncheon**	**0.80**	**244**	P		Pg	10 34 26.8	0.0
	SNR=25							
KSCHC	**Chuncheon**	**0.80**	**244**	P		Pg	10 34 26.8	0.0
	SNR=25							
KSCHC	**Chuncheon**	**0.80**	**244**	P		Pg	10 34 26.8	0.0
	SNR=25							
KSTBA	**Taebaek**	**1.03**	**170**	⇑P		Pb	10 34 31.8	-0.4
	SNR=10							
KSTBA	**Taebaek**	**1.03**	**170**	⇑P		Pb	10 34 31.8	-0.4
	SNR=10							
KSTBA				⇓S		Sn	10 34 47.8	-0.4
KSTBA	**Taebaek**	**1.03**	**170**	⇑P		Pb	10 34 31.8	-0.4
	SNR=10							
YNCB	**YEONCHEON**	**1.42**	**267**	⇑P		Pn	10 34 38.3	0.0
	SNR=8.6							
YNCB	**YEONCHEON**	**1.42**	**267**	⇑P		Pn	10 34 38.3	0.0
	SNR=8.6							
YNCB				⇑S		Sn	10 34 58.5	+0.9
YNCB	**YEONCHEON**	**1.42**	**267**	⇑P		Pn	10 34 38.3	0.0
	SNR=8.6							

*CSEM **10** 10:44:21.9±0.2,38.03N×26.39E,h5km,MD2.7,Error ellipse: s-maj=4.6km s-min=4.0km az=47.0*
*DDA **10** 10:44:21.3,38.03N×26.38E,h7km,ML2.9*
*ISK **10** 10:44:21.6,38.06N×26.41E,h5km,MD2.7*
*ISCJB **10** 10:44:22.1±1.0,38.05N±0.05×26.40E±0.05,h7km±8km, Error ellipse: s-maj=9.4km s-min=6.1km az=14.0*
ISC 10 10:44:22.0±1.3,38.02N±0.04×26.39E±0.03,h3km±13km, n27,σ0s48/36,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZEY	**¯zmir**	**0.23**	**22**	*i* P		**Pg**	**10 44 26.0**	**-0.5**
ZEY				*i* S		**Sg**	**10 44 29.9**	**+0.3**
CHOS	**Chios island**	**0.45**	**324**	*e*PG		**Pg**	**10 44 31.1**	**+0.4**
CHOS				*e*SG		**Sg**	**10 44 37.2**	**+0.6**
CHOS	**Chios island**	**0.45**	**324**	*e*Pg		**Pg**	**10 44 31.1**	**+0.4**
CHOS				*e*Sg		**Sg**	**10 44 37.2**	**+0.6**
BLCB	**Balcova**	**0.63**	**54**	*e*PG		**Pg**	**10 44 33.7**	**-0.3**
BLCB				*e*SG		**Sg**	**10 44 42.5**	**+0.3**
BLCB	**Balcova**	**0.63**	**54**	*e*Pg		**Pg**	**10 44 33.7**	**-0.3**
BLCB				*e*Sg		**Sg**	**10 44 42.5**	**+0.3**
IZM	**Izmir**	**0.78**	**61**	*e*PG		**Pg**	**10 44 36.8**	**-0.2**
IZM				*e*SG		**Sg**	**10 44 47.8**	**+0.7**
IZM	**Izmir**	**0.78**	**61**	*e*Pg		**Pg**	**10 44 36.8**	**-0.2**
IZM				*e*Sg		**Sg**	**10 44 47.8**	**+0.7**
APE	**Apeiranthos**	**1.17**	**216**	*e*PN		**Pb**	**10 44 44.8**	**-0.1**
APE	**Apeiranthos**	**1.17**	**216**	*e*Pn		**Pb**	**10 44 44.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.19**	**93**	*e*PN		**Pg**	**10 44 44.6**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.19**	**93**	*e*Pn		**Pg**	**10 44 44.6**	**-0.1**
BODT	**Bodrum**	**1.20**	**142**	*e*Pn		**Pn**	**10 44 45.4**	**-0.4**
BODT				*e*SN		**Sn**	**10 45 03.0**	**+0.4**
BODT	**Bodrum**	**1.20**	**142**	*e*Pn		**Pn**	**10 44 45.4**	**-0.4**
BODT				*e*Sn		**Sn**	**10 45 03.0**	**+0.4**
AYDN	**Tasoluk**	**1.23**	**107**	*i* P		**Pg**	**10 44 45.2**	**-0.4**
AYDN	**Tasoluk**	**1.23**	**107**	*i* P		**Pg**	**10 44 45.2**	**-0.4**
SIGR	**SIGRI**	**1.26**	**341**	*e*PN		**Pg**	**10 44 44.9**	**-1.3**
SIGR	**SIGRI**	**1.26**	**341**	*e*Pn		**Pg**	**10 44 44.9**	**-1.3**
DAT	**Datca**	**1.60**	**143**	*e*PN		**Pb**	**10 44 52.1**	**-0.1**
DAT	**Datca**	**1.60**	**143**	*e*Pn		**Pb**	**10 44 52.1**	**-0.1**
KULA	**Kula-Manisa**	**1.85**	**74**	*e*PN		**Pn**	**10 44 54.5**	**-0.2**
KULA	**Kula-Manisa**	**1.85**	**74**	*e*Pn		**Pn**	**10 44 54.5**	**-0.2**
BALB	**Balikesir**	**1.99**	**35**	*e*PN		**Pn**	**10 44 56.4**	**-0.1**
BALB	**Balikesir**	**1.99**	**35**	*e*Pn		**Pn**	**10 44 56.4**	**-0.1**
GELI	**Tayfur-Gelibol**	**2.37**	**1**	*e*PN		**Pn**	**10 45 01.8**	**0.0**
GELI	**Tayfur-Gelibol**	**2.37**	**1**	*e*Pn		**Pn**	**10 45 01.8**	**0.0**
TVSB	**Tavsanli**	**2.79**	**58**	*e*PN		**Pn**	**10 45 07.8**	**+0.1**
TVSB	**Tavsanli**	**2.79**	**58**	*e*Pn		**Pn**	**10 45 07.8**	**+0.1**

*CSEM **10** 11:12:51.5,60.29N×24.96E,h0km,ML0.6,Mining explosion.*
*HEL **10** 11:12:51.5±0.0,60.29N×24.96E,h0km,ML0.6,Explosion*
HEL 10 11:12:48.5±0.9,59.98N×25.10E,h0km,Explosion,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MEF	**Metsahovi**	**0.43**	**304**	*e*P		Pg	11 12 56.7	0.0
MEF				*e*S		Sg	11 13 00.8	-1.4
MEF	**Metsahovi**	**0.43**	**304**	*e*P		Pg	11 12 56.7	0.0
MEF				*e*S		Sg	11 13 00.5	-1.8
MEF	**Metsahovi**	**0.43**	**304**	P		Pg	11 12 56.7	0.0
MEF				S		Sg	11 13 00.4	-1.8
PVF	**Pernaja**	**0.68**	**33**	*e*P		Pg	11 13 00.8	-0.8
PVF				*e*PB		Pb	11 13 01.1	-2.2
PVF				*e*S		Sg	11 13 09.9	-0.6
PVF	**Pernaja**	**0.68**	**33**	*e*P		Pg	11 13 00.7	-0.9
PVF				*e*S		Sg	11 13 07.2	-3.2
PVF	**Pernaja**	**0.68**	**33**	P		Pg	11 13 00.7	-0.9
PVF				S		Sg	11 13 07.2	-3.2
FIA0	**FINESS Array S**	**1.55**	**18**	*e*SB		Sn	11 13 36.2	-1.8
FIA0	**FINESS Array S**	**1.55**	**18**	*e*PN		Pn	11 13 16.5	-0.8
FIA0				*e*SN		Sn	11 13 36.4	-1.6
FIA0	**FINESS Array S**	**1.55**	**18**	Pn		Pn	11 13 16.4	-0.9
FIA0				Sn		Sn	11 13 36.4	-1.6
RAF	**Rauma**	**1.96**	**304**	*e*P		Pn	11 13 22.1	-0.8
RAF				*e*S		Sn	11 13 45.3	-2.8
RAF				MSG			11 13 46.2	
	comp=Z,0.3nm,0.1s							
RAF	**Rauma**	**1.96**	**304**	P		Pn	11 13 22.1	-0.8
RAF				S		Sn	11 13 45.3	-2.8

IDC 10 11:18:19.9±5.9,6.60S×128.18E,h169km±64km,mb3.2/1, mb1 3.8/4,mb1mx3.3/20,mbtmp4.1/4,Error ellipse: s-maj=103.2km s-min=17.5km az=72.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIJI	**Sorong**	**6.47**	**29**	P		Pn	11 19 52.9	-0.2
	4.1nm,0.3s,baz=235,slow=16,SNR=28							
SIJI				S		Sn	11 20 58.0	-8.3
	3.5nm,0.3s,baz=233,slow=20,SNR=13							
WRA	**Warramunga Arr**	**14.55**	**156**	P		Pn	11 21 37.2	-0.8
	1.1nm,0.3s,baz=334,slow=13,SNR=34							
WRA				S		Sn	11 24 13.6	-6.5
	0.2nm,0.3s,baz=328,slow=24,SNR=3.4							
ASAR	**Alice Springs**	**17.84**	**163**	P		Pn	11 22 17.2	-0.6
	2.4nm,0.3s,baz=342,slow=11,SNR=268							
ASAR				S		S	11 25 33.0	+0.2
	0.1nm,0.3s,baz=336,slow=18,SNR=3.7							
MKAR	**Makanchi Array**	**66.91**	**328**	P		P	11 28 54.0	0.0
	0.4nm,0.5s,baz=124,slow=7.9,SNR=3.7							

*IDC **10** 11:25:14.4±0.9,30.86S×178.03W,h0km,mb4.2/5, mb1 4.3/6,mb1mx4.0/20,mbtmp4.2/6,ML3.9/1,Error ellipse: s-maj=27.6km s-min=17.7km az=102.0*
*NEIC **10** 11:25:19.1±0.7,30.92S×178.04W,h35km,mb4.0/2,Error ellipse: s-maj=20.2km s-min=13.4km az=109.0*
ISC 10 11:25:20.2±1.1,31.18S±0.09×178.0W±0.2,h46km,n30, σ1s59/36,mb4.2/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**1.92**	**1**	Pn		Pn	11 25 45.2	-5.1
	152nm,0.3s,baz=232,slow=18,SNR=12							
RAO				Sn		Sn	11 26 04.9	-8.4
	502nm,0.3s,baz=108,slow=20,SNR=7.6							
RAO	**Raoul Island**	**1.92**	**1**	Pn		Pn	11 25 45.2	-5.1
RAO				*e*Pn		Pn	11 25 45.4	-5.0
RAO				Sn		Sn	11 26 04.9	-8.4
RAO				*e*Sn		Sn	11 26 05.6	-7.6
HAZ	**Te Kaha**	**7.45**	**207**	*e*PN		**Pn**

	SNR=18							
KSDGY	**Daegwallycong**	**0.73**	**309**	P	Pg	11 36 17.6	-0.1	
	SNR=18							
KSJMJ	**Jumunjin**	**0.82**	**323**	⇓P	Pg	11 36 19.5	+0.2	
	SNR=17							
KSJMJ	**Jumunjin**	**0.82**	**323**	⇓P	Pg	11 36 19.5	+0.2	
	SNR=17							
KSCHJ	**Chungju**	**1.18**	**253**	⇓P	Pg	11 36 25.7	-0.5	
	SNR=18							
KSCHJ	**Chungju**	**1.18**	**253**	⇓P	Pg	11 36 25.7	-0.5	
	SNR=18							
KSCHC	**Chuncheon**	**1.36**	**294**	⇓P	Pg	11 36 29.3	-0.4	
	SNR=37							
KSCHC	**Chuncheon**	**1.36**	**294**	⇓P	Pg	11 36 29.3	-0.4	
	SNR=37							
SEHB	**SEOHWA**	**1.37**	**319**	P	Pg	11 36 29.7	-0.2	
	SNR=27							
SEHB				⇑S	Sn	11 36 49.1	+0.2	
SEHB	**SEOHWA**	**1.37**	**319**	P	Pg	11 36 29.7	-0.2	
	SNR=27							
KSBON	**Boeun**	**1.47**	**241**	P	Pn	11 36 30.6	-0.6	
	SNR=12							
KSBON	**Boeun**	**1.47**	**241**	P	Pn	11 36 30.6	-0.6	
	SNR=12							
KSDAG	**Daegu**	**1.51**	**195**	P	Pn	11 36 31.3	-0.5	
	SNR=14							
KSDAG				⇓S	Sn	11 36 53.3	+1.1	
KSDAG	**Daegu**	**1.51**	**195**	P	Pn	11 36 31.3	-0.5	
	SNR=14							
KSCEA	**Cheonan**	**1.75**	**257**	P	Pb	11 36 36.0	-0.5	
	SNR=7.6							
KSCEA	**Cheonan**	**1.75**	**257**	P	Pb	11 36 36.0	-0.5	
	SNR=7.6							

MEX 10 11:39:45.3±0.3, 15°16N×92°76W, h85km±10km, MD3.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGIG		**1.65**	**348**	*i* P	Pn	11 40 12.0	-0.9
TGIG				*e*S	Sn	11 40 31.8	-2.0
CMIG	**Matias Romero**	**2.81**	**314**	*i* P	Pn	11 40 27.5	-0.7
CMIG				*i* S	Sn	11 40 59.7	-1.5

*ISCJB **10** 11:41:48.0±0.5, 36°23N±0°02×22°89E±0°03, h5km±3km, Error ellipse: s-maj=4.7km s-min=2.5km az=42.0*
*ATH **10** 11:41:47.7, 36°26N×22°82E, h16km±1km, MD3.5/28, ML3.0*
*CSEM **10** 11:41:49.4±0.2, 36°27N×22°93E, h8km, ML3.2, Error ellipse: s-maj=5.6km s-min=2.9km az=44.0*
*THE **10** 11:41:49.6, 36°27N×22°95E, h2km±1km, ML3.2/24, Error ellipse: s-maj=1.7km s-min=0.8km az=222.0*

ISC 10 11:41:48.9±1.0, 36°26N±0°02×22°87E±0°02, h10km±7km, n167, σ1§09/231, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**0.14**	**81**	P	**Pg**	**11 41 52.4**	**+0.3**
KYTH	**Kithira**	**0.14**	**81**	*e*PB	**Pg**	**11 41 52.5**	**+0.3**
KYTH	**Kithira**	**0.14**	**81**	*e*Pb	**Pg**	**11 41 52.5**	**+0.3**
VLI	**Veliai**	**0.46**	**7**	P	**Pg**	**11 41 57.6**	**-0.4**
VLI				S	**Sb**	**11 42 05.2**	**-0.9**
VLI	**Veliai**	**0.46**	**7**	*e*PB	**Pg**	**11 41 57.8**	**-0.2**
VLI	**Veliai**	**0.46**	**7**	P	**Pg**	**11 41 57.6**	**-0.4**
VLI				S	**Sb**	**11 42 05.2**	**-0.9**
ANKY	**Antikythira Is**	**0.53**	**138**	P	**Pg**	**11 41 58.3**	**-0.9**
ANKY				S	**Sg**	**11 42 06.1**	**0.0**
ANKY	**Antikythira Is**	**0.53**	**138**	*e*PN	**Pg**	**11 41 58.2**	**-0.9**
ANKY	**Antikythira Is**	**0.53**	**138**	*e*Pn	**Pg**	**11 41 58.2**	**-0.9**
PYL	**PYLOS**	**1.11**	**305**	P	**Pg**	**11 42 07.5**	**-2.7**
PYL				S	**Sg**	**11 42 24.6**	**0.0**
PYL	**PYLOS**	**1.11**	**305**	*e*PN	**Pg**	**11 42 08.0**	**-2.2**
PYL				*e*SN	**Sg**	**11 42 23.0**	**-1.6**
PYL	**PYLOS**	**1.11**	**305**	*e*Pn	**Pg**	**11 42 08.0**	**-2.2**
PYL				*e*Sn	**Sg**	**11 42 23.0**	**-1.6**
KRND	**KRANIDI**	**1.14**	**11**	P	**Pg**	**11 42 10.2**	**-0.7**
KRND				S	**Sb**	**11 42 26.1**	**+0.4**
KRND	**KRANIDI**	**1.14**	**11**	*e*PN	**Pg**	**11 42 10.4**	**-0.5**
KRND	**KRANIDI**	**1.14**	**11**	P	**Pg**	**11 42 10.2**	**-0.7**
KRND				S	**Sb**	**11 42 26.1**	**+0.4**
VLX	**Vlachokerasia**	**1.18**	**341**	P	**Pg**	**11 42 10.3**	**-1.2**
VLX				S	**Sn**	**11 42 29.5**	**+1.8**
VLX	**Vlachokerasia**	**1.18**	**341**	*e*PN	**Pg**	**11 42 09.7**	**-1.8**
VLX				*e*SN	**Sg**	**11 42 25.1**	**-1.7**
VLX	**Vlachokerasia**	**1.18**	**341**	*e*Pn	**Pg**	**11 42 10.2**	**-1.8**
VLX	**Vlachokerasia**	**1.18**	**341**	P	**Pg**	**11 42 10.3**	**-1.2**
VLX				*e*Sn	**Sg**	**11 42 25.1**	**-1.7**
VLX				S	**Sn**	**11 42 29.5**	**+1.8**
ITM	**Ithomi**	**1.19**	**321**	P	**Pg**	**11 42 10.1**	**-1.7**
ITM				S	**Sn**	**11 42 29.6**	**+1.7**
ITM	**Ithomi**	**1.19**	**321**	*e*PN	**Pg**	**11 42 10.4**	**-1.4**
ITM	**Ithomi**	**1.19**	**321**	*e*Pn	**Pg**	**11 42 10.4**	**-1.4**
ITM				S	**Sn**	**11 42 29.6**	**+1.7**
DID	**Didima**	**1.28**	**13**	P	**Pg**	**11 42 12.8**	**-0.7**
DID				S	**Sn**	**11 42 30.9**	**+0.8**
DID	**Didima**	**1.28**	**13**	*e*PN	**Pg**	**11 42 12.4**	**-1.1**
DID				*e*SN	**Sg**	**11 42 29.1**	**-1.0**
DID	**Didima**	**1.28**	**13**	*e*Pn	**Pg**	**11 42 12.4**	**-1.1**
DID	**Didima**	**1.28**	**13**	P	**Pg**	**11 42 12.8**	**-0.7**
DID				*e*Sn	**Sg**	**11 42 29.1**	**-1.0**
DID				S	**Sn**	**11 42 30.9**	**+0.8**
MHLO	**Agia Marina, M**	**1.31**	**70**	P	**Pg**	**11 42 13.1**	**-1.0**
MHLO				S	**Sb**	**11 42 30.7**	**+0.2**
MHLO	**Agia Marina, M**	**1.31**	**70**	P	**Pg**	**11 42 13.1**	**-1.0**
MHLO				S	**Sb**	**11 42 30.7**	**+0.2**
VAM	**Vamos**	**1.38**	**128**	*e*PN	**Pn**	**11 42 14.0**	**-0.2**
VAM	**Vamos**	**1.38**	**128**	*e*Pn	**Pn**	**11 42 14.0**	**-0.2**
AMT	**Artemida-Makis**	**1.57**	**324**	P	**Pn**	**11 42 17.5**	**+0.6**
AMT				S	**Sg**	**11 42 40.5**	**+1.0**
AMT	**Artemida-Makis**	**1.57**	**324**	*e*PN	**Pn**	**11 42 16.6**	**-0.3**
AMT				*e*SN	**Sn**	**11 42 37.6**	**+0.2**
AMT	**Artemida-Makis**	**1.57**	**324**	*e*Pn	**Pn**	**11 42 16.6**	**-0.3**
AMT	**Artemida-Makis**	**1.57**	**324**	P	**Pn**	**11 42 17.5**	**+0.6**
AMT				*e*Sn	**Sn**	**11 42 37.6**	**+0.2**
AMT				S	**Sg**	**11 42 40.5**	**+1.0**
NAIG	**Nisos Aigina**	**1.58**	**18**	*e*PB	**Pn**	**11 42 16.0**	**-1.0**
NAIG	**Nisos Aigina**	**1.58**	**18**	*e*Pb	**Pn**	**11 42 16.0**	**-1.0**
GUR	**Goura**	**1.73**	**346**	P	**Pn**	**11 42 19.7**	**+0.7**
GUR				S	**Sg**	**11 42 44.4**	**0.0**
GUR	**Goura**	**1.73**	**346**	*e*PN	**Pn**	**11 42 19.8**	**+0.7**
GUR	**Goura**	**1.73**	**346**	*e*Pn	**Pn**	**11 42 19.8**	**+0.7**
GVD	**Gavdhos**	**1.73**	**145**	P	**Pn**	**11 42 19.9**	**+0.8**
GVD	**Gavdhos**	**1.73**	**145**	*e*PN	**Pn**	**11 42 20.1**	**+1.0**
GVD	**Gavdhos**	**1.73**	**145**	P	**Pn**	**11 42 19.9**	**+0.8**
LTK	**Loutraki**	**1.76**	**3**	P	**Pn**	**11 42 20.4**	**+0.9**
LTK				S	**Sb**	**11 42 44.8**	**+1.3**
LTK	**Loutraki**	**1.76**	**3**	*e*PN	**Pn**	**11 42 20.4**	**+0.9**
LTK	**Loutraki**	**1.76**	**3**	P	**Pn**	**11 42 20.4**	**+0.9**
ATH	**Athens Observa**	**1.84**	**21**	*e*PN	**Pn**	**11 42 21.0**	**+0.4**
ATH	**Athens Observa**	**1.84**	**21**	*e*Pn	**Pn**	**11 42 21.0**	**+0.4**
ATHU	**Athens Univers**	**1.85**	**23**	P	**Pn**	**11 42 20.4**	**-0.4**
ATHU				S	**Sn**	**11 42 45.2**	**+0.9**
ATHU	**Athens Univers**	**1.85**	**23**	P	**Pn**	**11 42 20.4**	**-0.4**
ATHU				S	**Sn**	**11 42 45.2**	**+0.9**
DRO	**Drossia**	**1.93**	**332**	P	**Pb**	**11 42 25.0**	**+0.8**
DRO				S	**Sb**	**11 42 48.5**	**+0.2**
DRO	**Drossia**	**1.93**	**332**	*e*PN	**Pn**	**11 42 21.9**	**+0.1**
DRO	**Drossia**	**1.93**	**332**	*e*Pn	**Pn**	**11 42 21.9**	**+0.1**
DRO	**Drossia**	**1.93**	**332**	P	**Pb**	**11 42 25.0**	**+0.8**
DRO				S	**Sb**	**11 42 48.5**	**+0.2**
VILL	**Villia**	**1.93**	**10**	P	**Pn**	**11 42 22.0**	**+0.1**
VILL				S	**Sb**	**11 42 49.3**	**+0.8**
VILL	**Villia**	**1.93**	**10**	*e*Pn	**Pn**	**11 42 22.1**	**+0.1**
PTL	**Penteli**	**1.96**	**24**	P	**Pn**	**11 42 22.2**	**0.0**
PTL				S	**Sn**	**11 42 46.7**	**-0.1**
PTL	**Penteli**	**1.96**	**24**	*e*PN	**Pn**	**11 42 22.4**	**+0.2**
PTL	**Penteli**	**1.96**	**24**	*e*Pn	**Pn**	**11 42 22.4**	**+0.2**
PTL				S	**Sn**	**11 42 46.7**	**-0.1**
VIL2	**Platees**	**1.97**	**9**	*e*PN	**Pn**	**11 42 22.1**	**-0.4**
THR5	**Thira Island,**	**2.01**	**85**	P	**Pn**	**11 42 23.0**	**+0.1**
THR5	**Thira Island,**	**2.01**	**85**	P	**Pn**	**11 42 23.0**	**+0.1**
SIVA	**Sivas**	**2.01**	**128**	P	**Pn**	**11 42 23.9**	**+1.0**
SIVA	**Sivas**	**2.01**	**128**	*e*PN	**Pn**	**11 42 24.0**	**+1.0**
SIVA	**Sivas**	**2.01**	**128**	P	**Pn**	**11 42 23.9**	**+1.0**
THR6	**Thira Island,**	**2.05**	**87**	P	**Pn**	**11 42 24.2**	**+0.8**
THR6	**Thira Island,**	**2.05**	**87**	P	**Pn**	**11 42 24.2**	**+0.8**
THR3	**Thira Island,**	**2.05**	**85**	P	**Pn**	**11 42 24.4**	**+0.9**
THR3	**Thira Island,**	**2.05**	**85**	P	**Pn**	**11 42 24.4**	**+0.9**
RLS	**Riolos of Patr**	**2.12**	**328**	P	**Pn**	**11 42 26.1**	**+1.8**
RLS	**Riolos of Patr**	**2.12**	**328**	*e*PN	**Pn**	**11 42 24.5**	**+0.2**
RLS	**Riolos of Patr**	**2.12**	**328**	*e*Pn	**Pn**	**11 42 24.5**	**+0.2**
RLS	**Riolos of Patr**	**2.12**	**328**	P	**Pn**	**11 42 26.1**	**+1.8**
DSF	**Desfina**	**2.16**	**353**	P	**Pn**	**11 42 26.0**	**+0.8**
DSF				S	**Sb**	**11 42 55.7**	**+0.5**
DSF	**Desfina**	**2.16**	**353**	*e*PN	**Pn**	**11 42 25.9**	**+0.8**
DSF	**Desfina**	**2.16**	**353**	*e*Pn	**Pn**	**11 42 25.9**	**+0.8**
ZKS	**Zakynthos**	**2.20**	**311**	P	**Pn**	**11 42 25.8**	**+0.3**
ZKS				S	**Sn**	**11 42 55.0**	**+2.2**
ZKS	**Zakynthos**	**2.20**	**311**	*e*PB	**Pn**	**11 42 25.0**	**-0.5**
ZKS	**Zakynthos**	**2.20**	**311**	*e*Pb	**Pn**	**11 42 25.0**	**-0.5**
ZKS	**Zakynthos**	**2.20**	**311**	P	**Pn**	**11 42 25.8**	**+0.3**
ZKS				S	**Sn**	**11 42 55.0**	**+2.2**
KALE	**Kalithea**	**2.21**	**345**	P	**Pn**	**11 42 27.1**	**+1.4**
KALE				S	**Sb**	**11 42 57.0**	**+0.7**
KALE	**Kalithea**	**2.21**	**345**	*e*PN	**Pn**	**11 42 27.0**	**+1.4**
KALE	**Kalithea**	**2.21**	**345**	*e*Pn	**Pn**	**11 42 27.0**	**+1.4**
APE	**Apeiranthos**	**2.29**	**69**	P	**Pn**	**11 42 27.4**	**+0.6**
APE				S	**Sn**	**11 42 55.1**	**0.0**
APE	**Apeiranthos**	**2.29**	**69**	*e*PN	**Pn**	**11 42 27.5**	**+0.6**
APE	**Apeiranthos**	**2.29**	**69**	P	**Pn**	**11 42 27.4**	**+0.6**
APE				S	**Sn**	**11 42 55.1**	**0.0**
EFP	**Efpalio**	**2.29**	**341**	P	**Pb**	**11 42 29.8**	**-0.6**
EFP				S	**Sb**	**11 42 59.1**	**+0.3**
EFP	**Efpalio**	**2.29**	**341**	*e*PN	**Pn**	**11 42 26.8**	**0.0**
EFP	**Efpalio**	**2.29**	**341**	*e*Pn	**Pn**	**11 42 26.8**	**0.0**
EFP	**Efpalio**	**2.29**	**341**	P	**Pb**	**11 42 29.8**	**-0.6**
LKR	**Lokris**	**2.39**	**2**	P	**Pn**	**11 42 28.6**	**+0.5**
LKR				S	**Sn**	**11 42 59.1**	**+1.6**
LKR	**Lokris**	**2.39**	**2**	*e*PN	**Pn**	**11 42 28.7**	**+0.6**
LKR	**Lokris**	**2.39**	**2**	P	**Pn**	**11 42 28.6**	**+0.5**
LKR				S	**Sn**	**11 42 59.1**	**+1.6**
LAST	**Lasithi**	**2.39**	**117**	P	**Pn**	**11 42 28.3**	**+0.1**
LAST				S	**Sn**	**11 42 58.5**	**+0.9**
LAST	**Lasithi**	**2.39**	**117**	*e*PB	**Pn**	**11 42 27.6**	**-0.6**
LAST	**Lasithi**	**2.39**	**117**	*e*Pb	**Pn**	**11 42 27.6**	**-0.6**
LAST	**Lasithi**	**2.39**	**117**	P	**Pn**	**11 42 28.3**	**+0.1**
LAST				S	**Sn**	**11 42 58.5**	**+0.9**
ATAL	**Atalanti**	**2.43**	**3**	P	**Pn**	**11 42 29.2**	**+0.5**
ATAL				S	**Sn**	**11 43 00.3**	**+1.8**
ATAL	**Atalanti**	**2.43**	**3**	P	**Pn**	**11 42 29.2**	**+0.5**
NPS	**Neapolis**	**2.44**	**113**	P	**Pn**	**11 42 27.7**	**-1.2**
NPS				S	**Sn**	**11 42 58.6**	**-0.3**
NPS	**Neapolis**	**2.44**	**113**	*e*PN	**Pn**	**11 42 27.6**	**-1.3**
NPS	**Neapolis**	**2.44**	**113**	P	**Pn**	**11 42 27.7**	**-1.2**
NPS				S	**Sn**	**11 42 58.6**	**-0.3**
KFL	**Anninata**	**2.48**	**319**	P	**Pn**	**11 42 31.2**	**+1.8**
KFL	**Anninata**	**2.48**	**319**	P	**Pn**	**11 42 31.2**	**+1.8**
AXAR	**Agios Charalam**	**2.51**	**356**	P	**Pn**	**11 42 31.3**	**+1.5**
AXAR				S	**Sb**	**11 43 04.5**	**-0.5**
AXAR	**Agios Charalam**	**2.51**	**356**	*e*PB	**Pn**	**11 42 31.0**	**+1.2**
AXAR	**Agios Charalam**	**2.51**	**356**	*e*Pb	**Pn**	**11 42 31.0**	**+1.2**
AXAR	**Agios Charalam**	**2.51**	**356**	P	**Pn**	**11 42 31.3**	**+1.5**
MRKA	**Markates**	**2.51**	**13**	P	**Pn**	**11 42 29.5**	**-0.3**
MRKA				S	**Sn**	**11 43 01.6**	**+1.2**
MRKA	**Markates**	**2.51**	**13**	*e*PN	**Pn**	**11 42 29.5**	**-0.3**
MRKA	**Markates**	**2.51**	**13**	P	**Pn**	**11 42 29.5**	**-0.3**
MRKA				S	**Sn**	**11 43 01.6**	**+1.2**
SMIA	**Simia**	**2.63**	**6**	P	**Pn**	**11 42 32.0**	**+0.5**
SMIA	**Simia**	**2.63**	**6**	*e*PN	**Pn**	**11 42 32.0**	**+0.5**
SMIA	**Simia**	**2.63**	**6**	P	**Pn**	**11 42 32.0**	**+0.5**
VLS	**Valsamata**	**2.64**	**317**	P	**Pn**	**11 42 33.2**	**+1.6**
VLS				S	**Sn**	**11 43 06.0**	**+2.3**
VLS	**Valsamata**	**2.64**	**317**	*e*PB	**Pn**	**11 42 33.2**	**+1.6**
VLS	**Valsamata**	**2.64**	**317**	P	**Pn**	**11 42 33.2**	**+1.6**
VLS				S	**Sn**	**11 43 06.0**	**+2.3**
PDO	**Prodromos**	**2.69**	**331**	P	**Pn**	**11 42 36.7**	**-0.5**
PDO	**Prodromos**	**2.69**	**331**	*e*PB	**Pn**	**11 42 32.8**	**+0.5**
PDO	**Prodromos**	**2.69**	**331**	*e*Pb	**Pn**	**11 42 32.8**	**+0.5**
EVR	**Evrytania**	**2.78**	**343**	P	**Pn**	**11 42 36.1**	**+2.5**
EVR	**Evrytania**	**2.78**	**343**	*e*PN	**Pn**	**11 42 34.0**	**+0.4**
EVR	**Evrytania**	**2.78**	**343**	*e*Pn	**Pn**	**11 42 34.0**	**+0.4**
EVR	**Evrytania**	**2.78**	**343**	P	**Pn**	**11 42 36.1**	**+2.5**
AGG	**Agios Georgios**	**2.79**	**351**	P	**Pn**	**11 42 35.3**	**+1.6**
AGG				S	**Sn**	**11 43 10.0**	**+2.6**
AGG	**Agios Georgios**	**2.79**	**351**	*e*PN	**Pn**	**11 42 34.3**	**+0.6**
AGG	**Agios Georgios**	**2.79**	**351**	*e*Pn	**Pn**	**11 42 34.3**	**+0.6**
AGG	**Agios Georgios**	**2.79**	**351**	P	**Pn**	**11 42 35.3**	**+1.6**
MAKR	**Makrakomi, Fth**	**2.81**	**348**	P	**Pn**	**11 42 35.8**	**+1.8**
MAKR				S	**Sn**	**11 43 09.6**	**+1.7**
MAKR	**Makrakomi, Fth**	**2.81**	**348**	*e*PB	**Pn**	**11 42 35.8**	**+1.8**
MAKR	**Makrakomi, Fth**	**2.81**	**348**	P	**Pn**	**11 42 35.8**	**+1.8**
MAKR				S	**Sn**	**11 43 09.6**	**+1.7**
ZKR	**Zakros**	**2.96**	**112**	P	**Pn**	**11 42 36.1**	**+0.2**
ZKR				S	**Sn**	**11 43 14.4**	**+1.9**
ZKR	**Zakros**	**2.96**	**112**	P	**Pn**	**11 42 36.1**	**+0.2**
AOS	**Alonnisos**	**3.01**	**15**	P	**Pn**	**11 42 36.7**	**0.0**
AOS	**Alonnisos**	**3.01**	**15**	*e*PN	**Pn**	**11 42 36.6**	**-0.1**
AOS	**Alonnisos**	**3.01**	**15**	P	**Pn**	**11 42 36.7**	**0.0**
NEO	**Neokhori**	**3.06**	**5**	P	**Pn**	**11 42 37.8**	**+0.5**
NEO				S	**Sn**	**11 43 14.0**	**+0.1**
NEO	**Neokhori**	**3.06**	**5**	*e*PN	**Pn**	**11 42 38.0**	**+0.7**
NEO	**Neokhori**	**3.06**	**5**	P	**Pn**	**11 42 37.8**	**+0.5**
NEO				S	**Sn**	**11 43 14.0**	**+0.1**
LKD2	**Lefkada island**	**3.08**	**326**	P	**Pn**	**11 42 39.5**	**+1.9**
LKD2	**Lefkada island**	**3.08**	**326**	P	**Pn**	**11 42 39.5**	**+1.9**
XOR	**Xorichti**	**3.11**	**5**	P	**Pn**	**11 42 38.4**	**+0.3**
XOR	**Xorichti**	**3.11**	**5**	*e*PN	**Pn**	**11 42 38.6**	**+0.5**
XOR	**Xorichti**	**3.11**	**5**	*e*Pn	**Pn**	**11 42 38.6**	**+0.5**
FYTO	**Fytoko, Volos**	**3.14**	**1**	P	**Pn**	**11 42 38.7**	**+0.2**
FYTO	**Fytoko, Volos**	**3.14**	**1**	P	**Pn**	**11 42 38.7**	**+0.2**
DSL	**Palaion Diasel**	**3.19**	**334**	P	**Pn**	**11 42 41.9**	**+2.7**
DSL	**Palaion Diasel**	**3.19**	**334**	P	**Pn**	**11 42 41.9**	**+2.7**
CHOS	**Chios island**	**3.31**	**49**	P	**Pn**	**11 42 40.7**	**-0.2**
CHOS				S	**Sn**	**11 43 21.0**	**+0.7**
CHOS	**Chios island**	**3.31**	**49**	*e*PN	**Pn**	**11 42 40.7**	**-0.2**
CHOS	**Chios island**	**3.31**	**49**	P	**Pn**	**11 42 40.7**	**-0.2**
THL	**Klokotos Trika**	**3.37**	**349**	P	**Pn**	**11 42 43.0**	**+1.4**
THL	**Klokotos Trika**	**3.37**	**349**	*e*PN	**Pn**	**11 42 42.5**	**+0.9**
THL	**Klokotos Trika**	**3.37**	**349**	*e*Pn	**Pn**	**11 42 42.5**	**+0.9**
THL	**Klokotos Trika**	**3.37**	**349**	P	**Pn**	**11 42 43.0**	**+1.4**
KARP	**Karpathos**	**3.56**	**100**	P	**Pn**	**11 42 44.1**	**-0.1**
KARP				S	**Sn**	**11 43 26.9**	**+0.5**
KARP	**Karpathos**	**3.56**	**100**	P	**Pn**	**11 42 44.1**	**-0.1**
KARP				S	**Sn**	**11 43 26.9**	**+0.5**
PAIG	**Paliouri**	**3.72**	**10**	P	**Pn**	**11 42 46.5**	**+0.1**
PAIG	**Paliouri**	**3.72**	**10**	P	**Pn**	**11 42 46.5**	**+0.1**
SIGR	**SIGRI**	**3.78**	**38**	P	**Pn**	**11 42 46.4**	**-0.8**
SIGR	**SIGRI**	**3.78**	**38**	P	**Pn**	**11 42 46.4**	**-0.8**
SGD	**Sagiada**	**3.94**	**329**	P	**Pn**	**11 42 38.4**	**+1.3**
SGD				S	**Sn**	**11 43 36.2**	**+0.5**
SGD	**Sagiada**	**3.94**	**329**	*e*PN	**Pn**	**11 42 50.6**	**+1.1**
SGD	**Sagiada**	**3.94**	**329**	*e*Pn	**Pn**	**11 42 50.6**	**+1.1**
SGD				S	**Sn**	**11 43 36.2**	**+0.5**
OUR	**Ouranopolis**	**4.16**	**12**	P	**Pn**	**11 42 52.6**	**+0.1**
OUR	**Ouranopolis**	**4.16**	**12**	P	**Pn**	**11 42 52.6**	**+0.1**
KEK	**Kerkira**	**4.21**	**326**	P	**Pn**	**11 42 54.5**	**+1.3**
KEK				S	**Sn**	**11 43 39.6**	**-2.9**
KEK	**Kerkira**	**4.21**	**326**	P	**Pn**	**11 42 54.5**	**+1.3**

JMA 10 11:43:40.0±0.3, 32°93N×142°20E, h0km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**3.91**	**340**	P	Pn	11 44 42.4	+1.1
JHO				S	Sn	11 45 26.0	-1.9
JRY	**Ryogami san**	**4.11**	**319**	S	Sn	11 45 35.3	+2.3
JAG	**Ashikaga**	**4.16**	**328**	P	Pn	11 44 46.6	+1.9
JAG				S	Sn	11 45 36.1	+2.1

*IDC **10** 12:03:49.6±2.5, 5°73S×101°48E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/25, mbtmp3.8/8, ML4.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/36, Error ellipse: s-maj=88.3km s-min=18.9km az=54.0*
*ISCJB **10** 12:03:52.4±1.0, 5°6S±0°1×101°74E±0°08, h24km, mb3.8/7, MS3.4/1, Error ellipse: s-maj=18.1km s-min=9.2km az=22.3*
*DJA **10** 12:04:23.2±1.3, 4°S±7°×10°4E±1°3, h54km±18km, M2.7/3, MLv2.7/3*

ISC 10 12:03:54.1±1.1, 5°6S±0°1×101°7E±0°1, h24km, n25, σ1§46/14, mb4.2/11, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHSI	**Lahat**	**2.55**	**45**	P	**Pb**	**12 04 40.7**	**+1.5**
MDSI	**Maura Dua**	**2.71**	**65**	P	**Pn**	**12 04 36.3**	**+0.1**
MDSI				S	Sn	12 04 47.0	-21
KASI	**Kota Agung**	**2.78**	**88**	P	**Pb**	**12 04 41.9**	**-1.2**
KASI				S	**Sn**	**12 05 07.1**	**-2.8**
KLI	**Kotabumi**	**3.23**	**77**	P	Pn	12 04 40.2	-3.1
LEM	**Lembang**	**6.00**	**102**	Pn	**Pn**	**12 05 23.6**	**+2.0**
	6.5nm,0.3s,baz=143,slow=20,SNR=4.4						
LEM				Sn	**Sn**	**12 06 31.2**	**+1.6**
	4.6nm,0.3s,baz=197,slow=19,SNR=3.6						
CMAR	**Chiang Mai Arr**	**24.09**	**354**	P	**P**	**12 09 06.5**	**-1.5**
	1.0nm,0.6s,baz=184,slow=9.3,SNR=6.4						
H08S2	**Diego Garcia H**	**29.08**	**264**	T	T	12 40 09.8	
	baz=87,slow=75,SNR=39						
H08S3	**Diego Garcia H**	**29.09**	**264**	T	T	12 40 27.0	
	baz=87,slow=75,SNR=39						
H08S1	**Diego Carcia H**	**29.10**	**264**	T	T	12 40 22.9	
	baz=87,slow=75,SNR=31						
H01W3	**Cape Leeuwin H**	**31.30**	**160**	T	T	12 43 25.2	
	baz=341						
H01W2	**Cape Leeuwin H**	**31.31**	**160**	T	T	12 43 22.1	
	baz=341						
H01W1	**Cape Leeuwin H**	**31.31**	**160**	T	T	12 43 30.7	
	baz=341						
WRA	**Warramunga Arr**	**34.76**	**117**	P	**P**	**12 10 43.3**	**+0.4**
	2.2nm,0.9s,baz=292,slow=11,SNR=14						
ODAN	**Odare**	**35.15**	**337**	*e*P	P	12 10 55.1	+8.7
	8.8nm,0.6s						
TAPN	**Taplejung**	**35.47**	**338**	*e*P	P	12 10 56.1	+6.8
	15nm,0.7s						
RAMN	**Ramite**	**35.54**	**336**	*e*P	P	12 10 59.6	+10
	2.5nm,0.3s						
ASAR	**Alice Springs**	**35.80**	**123**	P	**P**	**12 10 51.0**	**-0.9**
	0.6nm,0.4s,baz=299,slow=8.1,SNR=6.3						
JIRN	**Jiri**	**36.33**	**336**	*e*P	P	12 11 05.9	+9.2
GUN	**Gumba**	**36.68**	**336**	*e*P	P	12 11 08.2	+8.5
	7.6nm,0.5s						
STKA	**Stephens Creek**	**45.50**	**130**	P	**P**	**12 12 12.6**	**+0.7**
	3.3nm,1.1s,baz=301,slow=12,SNR=2.9						
CTA	**Charters Tower**	**45.58**	**113**	P	**P**	**12 12 12.6**	**-0.1**
	3.7nm,1.1s,baz=309,slow=6.5,SNR=12						
KSRS	**Korea Array**	**49.34**	**28**	LR	LR	12 35 43.9	
	comp=Z,36nm,18.1s,baz=225,slow=39						
SONM	**Songino Array**	**53.40**	**4**	P	**P**	**12 13 12.6**	**+0.6**
	0.5nm,0.7s,baz=183,slow=9.0,SNR=4.0						
MKAR	**Makanchi Array**	**54.96**	**344**	P	**P**	**12 13 22.5**	**-0.8**
	0.3nm,0.7s,baz=160,slow=8.9,SNR=2.1						
TXAR	**Lajitas Array**	**146.38**	**43**	PKPbc	**PKPab**	**12 23 34.4**	**-0.3**
	0.3nm,0.6s,baz=323,slow=2.3,SNR=5.6						

*IDC **10** 12:09:29.4±1.5, 3°08S×128°71E, h0km, mb3.6/2, mb1 4.1/4, mb1mx3.6/22, mbtmp3.9/4, ML3.9/2, Error ellipse: s-maj=45.3km s-min=25.7km az=78.0*
*DJA **10** 12:09:33.7±0.9, 3°S±7°×12°9E±1°, h31km±5km, M3.4/

EQES	**Quesada**	**2.63**	**32**	P		**Pn**	**12 38 29.7**	**+1.9**
	1.9nm,0.4s,SNR=12								
EQES				S		**Sn**	**12 39 00.2**	**+1.6**
	1.0nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**2.65**	**326**	⇓P		**Pn**	**12 38 28.9**	**+1.0**
	4.9nm,0.1s,SNR=18								
EMIN				S		**Sn**	**12 38 57.4**	**-1.5**
	4.5nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**2.65**	**326**	P		**Pn**	**12 38 28.9**	**+1.0**
	4.9nm,0.1s,SNR=18								
EMIN				S		**Sn**	**12 38 57.9**	**-1.1**
	2.3nm,0.2s,SNR=7.9								
EBAN	**Banos Encina**	**2.72**	**17**	P		**Pn**	**12 38 29.6**	**+0.7**
	2.3nm,0.1s,SNR=7.9								
EBAN				S		**Sn**	**12 38 59.5**	**-1.1**
	2.6nm,0.1s,SNR=7.9								
EBAN	**Banos Encina**	**2.72**	**17**	P		**Pn**	**12 38 29.4**	**+0.5**
	2.3nm,0.1s,SNR=7.9								
EBAN				S		**Sn**	**12 38 59.3**	**-1.3**
	2.1nm,0.1s,SNR=7.9								
EGRO	**El Granado**	**2.91**	**313**	P		**Pn**	**12 38 32.5**	**+1.1**
	1.8nm,0.1s,SNR=43								
EGRO				S		**Sn**	**12 39 04.4**	**-0.8**
	10nm,0.1s,SNR=17								
EGRO	**El Granado**	**2.91**	**313**	P		**Pn**	**12 38 32.5**	**+1.1**
	2.7nm,0.3s,SNR=43								
EGRO				S		**Sn**	**12 39 04.4**	**-0.8**
	10nm,0.1s,SNR=17								
PVAQ	**Vaqueiros**	**2.97**	**309**	*e*P		**Pn**	**12 38 33.3**	**+1.0**
PVAQ				S		**Sn**	**12 39 06.4**	**-0.4**
PVAQ				A		A	12 39 07.1	
	36nm,0.2s								
PVAQ	**Vaqueiros**	**2.97**	**309**	*e*P		**Pn**	**12 38 33.3**	**+1.0**
PVAQ				S		**Sn**	**12 39 06.4**	**-0.4**
PVAQ				A		A	12 39 07.1	
	36nm,0.2s								
PBDV	**Barranco-do-Ve**	**3.02**	**304**	*e*P		**Pn**	**12 38 34.2**	**+1.2**
PBDV				S		**Sn**	**12 39 08.1**	**+0.1**
PBDV				A		A	12 39 08.7	
	12nm,0.1s								
PBDV	**Barranco-do-Ve**	**3.02**	**304**	*e*P		**Pn**	**12 38 34.2**	**+1.2**
PBDV				S		**Sn**	**12 39 08.1**	**+0.1**
PBDV				A		A	12 39 08.7	
	12nm,0.1s								
PBAR	**Barrancos**	**3.15**	**326**	*e*P		**Pn**	**12 38 35.7**	**+0.9**
PBAR				S		**Sn**	**12 39 09.7**	**-1.6**
PBAR				A		A	12 39 11.1	
	21nm,0.2s								
PBAR	**Barrancos**	**3.15**	**326**	*e*P		**Pn**	**12 38 35.7**	**+0.9**
PBAR				S		**Sn**	**12 39 09.7**	**-1.6**
PBAR				A		A	12 39 11.1	
	21nm,0.2s								
PCVE	**Castro Verde**	**3.31**	**309**	*e*P		**Pn**	**12 38 38.0**	**+1.0**
PCVE				S		**Sn**	**12 39 14.6**	**-0.6**
PCVE				A		A	12 39 15.5	
	0.7nm,0.4s								
PCVE	**Castro Verde**	**3.31**	**309**	*e*P		**Pn**	**12 38 38.0**	**+1.0**
PCVE				S		**Sn**	**12 39 14.6**	**-0.6**
PCVE				A		A	12 39 15.5	
	0.7nm,0.4s								
MORF	**Marmelete**	**3.54**	**300**	*e*P		**Pn**	**12 38 41.1**	**+0.9**
MORF				*e*S		**Sn**	**12 39 18.3**	**-2.7**
MORF				AML		AML	12 39 21.3	
	comp=E,21nm,0.3s								
MORF	**Marmelete**	**3.54**	**300**	P		**Pn**	**12 38 41.1**	**+0.9**
MORF				S		**Sn**	**12 39 18.3**	**-2.7**
	comp=E,21nm,0.3s								
MORF	**Marmelete**	**3.54**	**300**	*e*P		**Pn**	**12 38 41.5**	**+1.2**
MORF				S		**Sn**	**12 39 20.1**	**-1.0**
MORF				A		A	12 39 21.3	
	comp=E,17nm,0.2s								
MORF	**Marmelete**	**3.54**	**300**	*e*P		**Pn**	**12 38 41.5**	**+1.2**
MORF				S		**Sn**	**12 39 20.1**	**-1.0**
MORF				A		A	12 39 21.3	
	comp=E,17nm,0.2s								
MESJ	**Messejana**	**3.55**	**311**	*e*P		**Pn**	**12 38 41.3**	**+1.0**
MESJ				*e*S		**Sn**	**12 39 19.1**	**-2.0**
MESJ				AML		AML	12 39 20.7	
	comp=N,10nm,0.2s								
MESJ	**Messejana**	**3.55**	**311**	P		**Pn**	**12 38 41.3**	**+1.0**
MESJ				S		**Sn**	**12 39 19.1**	**-2.0**
	comp=N,10nm,0.2s								
MESJ	**Messejana**	**3.55**	**311**	*e*P		**Pn**	**12 38 41.6**	**+1.3**
MESJ				S		**Sn**	**12 39 20.2**	**-0.9**
MESJ				A		A	12 39 21.3	
	comp=N,13nm,0.2s								
MESJ	**Messejana**	**3.55**	**311**	*e*P		**Pn**	**12 38 41.6**	**+1.3**
MESJ				S		**Sn**	**12 39 20.2**	**-0.9**
MESJ				A		A	12 39 21.3	
	comp=N,13nm,0.2s								
EVIA	**Vianos**	**3.58**	**30**	P		**Pn**	**12 38 41.8**	**+1.0**
	comp=N,1.3nm,0.1s,SNR=7.9								
EVIA				S		**Sn**	**12 39 20.0**	**-1.9**
	comp=N,4.7nm,0.2s,SNR=7.9								
EVIA	**Vianos**	**3.58**	**30**	P		**Pn**	**12 38 41.8**	**+1.0**
	comp=N,1.3nm,0.1s,SNR=7.9								
EVIA				S		**Sn**	**12 39 20.0**	**-1.9**
	comp=N,4.7nm,0.2s,SNR=7.9								
PFVI	**Vila Bisbo**	**3.59**	**297**	P		**Pn**	**12 38 42.6**	**+1.6**
	comp=N,2.0nm,0.1s,SNR=7.9								
PFVI				S		**Sn**	**12 39 21.1**	**-1.1**
	comp=N,8.8nm,0.1s,SNR=7.9								
PFVI	**Vila Bisbo**	**3.59**	**297**	P		**Pn**	**12 38 42.5**	**+1.6**
	comp=N,2.0nm,0.1s,SNR=7.9								
PFVI				S		**Sn**	**12 39 20.9**	**-1.3**
	comp=N,2.1nm,0.1s,SNR=7.9								
PFVI	**Vila Bisbo**	**3.59**	**297**	*e*P		**Pn**	**12 38 42.5**	**+1.6**
PFVI				S		**Sn**	**12 39 21.1**	**-1.1**
PFVI				A		A	12 39 25.2	
	comp=N,7.2nm,0.2s								
PFVI	**Vila Bisbo**	**3.59**	**297**	*e*P		**Pn**	**12 38 42.5**	**+1.6**
PFVI				S		**Sn**	**12 39 21.1**	**-1.1**
PFVI				A		A	12 39 25.2	
	comp=N,7.2nm,0.2s								
EBAD	**Badajoz**	**3.63**	**332**	⇓P		**Pn**	**12 38 42.4**	**+1.0**
	comp=N,8.7nm,0.1s,SNR=18								
EBAD				S		**Sn**	**12 39 21.6**	**-1.5**
	comp=N,4.2nm,0.3s,SNR=9.6								
EBAD	**Badajoz**	**3.63**	**332**	P		**Pn**	**12 38 42.4**	**+1.0**
	comp=N,6.0nm,0.3s,SNR=18								
EBAD				S		**Sn**	**12 39 21.8**	**-1.3**
	comp=N,4.2nm,0.3s,SNR=9.6								
TZC	**Tazercounte**	**3.69**	**203**	P		**Pn**	**12 38 42.0**	**-0.4**
TZC				S		**Sn**	**12 39 24.0**	**-0.8**
TZC	**Tazercounte**	**3.69**	**203**	*e*P		**Pn**	**12 38 42.0**	**-0.4**
TZC				*i* S		**Sn**	**12 39 24.0**	**-0.8**
PTEO	**Sao Teotonio**	**3.71**	**303**	*e*P		**Pn**	**12 38 43.9**	**+1.4**
PTEO				S		**Sn**	**12 39 24.5**	**-0.6**
PTEO				A		A	12 39 25.7	
	comp=N,11nm,0.6s								
PTEO	**Sao Teotonio**	**3.71**	**303**	*e*P		**Pn**	**12 38 43.9**	**+1.4**
PTEO				S		**Sn**	**12 39 24.5**	**-0.6**
PTEO				A		A	12 39 25.7	
	comp=N,11nm,0.6s								
EVO	**Evora**	**3.91**	**320**	*e*P		**Pn**	**12 38 46.4**	**+1.2**
EVO				S		**Sn**	**12 39 28.7**	**-1.2**
EVO				A		A	12 39 29.8	
	comp=N,21nm,0.1s								
EVO	**Evora**	**3.91**	**320**	*e*P		**Pn**	**12 38 46.4**	**+1.2**
EVO				S		**Sn**	**12 39 28.7**	**-1.2**
EVO				A		A	12 39 29.8	
	comp=N,21nm,0.1s								
PNCL	**Nicolau / Gran**	**3.91**	**311**	*e*P		**Pn**	**12 38 46.4**	**+1.1**
PNCL				S		**Sn**	**12 39 28.9**	**-1.1**
PNCL				A		A	12 39 31.4	
	comp=N,9.0nm,0.2s								
PNCL	**Nicolau / Gran**	**3.91**	**311**	*e*P		**Pn**	**12 38 46.4**	**+1.1**
PNCL				S		**Sn**	**12 39 28.9**	**-1.1**
PNCL				A		A	12 39 31.4	
	comp=N,9.0nm,0.2s								
PESTR	**Estremoz**	**3.96**	**327**	*e*P		**Pn**	**12 38 47.2**	**+1.2**
PESTR				S		**Sn**	**12 39 29.6**	**-1.8**
PESTR				A		A	12 39 32.1	
	comp=N,5.1nm,0.1s								
PESTR	**Estremoz**	**3.96**	**327**	*e*P		**Pn**	**12 38 47.2**	**+1.2**
PESTR				S		**Sn**	**12 39 29.6**	**-1.8**
PESTR				A		A	12 39 32.1	
	comp=N,5.1nm,0.1s								
ETOB	**Tobarra**	**4.03**	**39**	P		**Pn**	**12 38 47.8**	**+0.9**
	comp=N,0.5nm,0.1s,SNR=7.9								
ETOB				S		**Sn**	**12 39 32.4**	**-0.6**
	comp=N,0.5nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**4.03**	**39**	P		**Pn**	**12 38 47.7**	**+0.8**
	SNR=7.9								
ESDC	**Sonseca Array**	**4.15**	**9**	P		**Pn**	**12 38 49.0**	**+0.4**
	comp=N,0.3nm,0.1s,baz=189,slow=12,SNR=7.9								
ESDC				S		**Sn**	**12 39 34.0**	**-2.0**
	comp=N,1.2nm,0.2s,baz=185,slow=24,SNR=7.9								
PMRV	**Marv??o**	**4.36**	**333**	*e*P		**Pn**	**12 38 52.4**	**+0.9**
PMRV				S		**Sn**	**12 39 39.3**	**-1.8**
PMRV				A		A	12 39 40.4	
	comp=N,3.2nm,0.2s								
PMRV	**Marv??o**	**4.36**	**333**	*e*P		**Pn**	**12 38 52.4**	**+0.9**
PMRV				S		**Sn**	**12 39 39.3**	**-1.8**
PMRV				A		A	12 39 40.4	
	comp=N,3.2nm,0.2s								
PMTG	**Montargil**	**4.42**	**323**	*e*P		**Pn**	**12 38 53.2**	**+0.9**
PMTG				S		**Sn**	**12 39 40.1**	**-2.5**
PMTG				A		A	12 39 43.8	
	comp=N,4.0nm,0.1s								
PMTG	**Montargil**	**4.42**	**323**	*e*P		**Pn**	**12 38 53.2**	**+0.9**
PMTG				S		**Sn**	**12 39 40.1**	**-2.5**
PMTG				A		A	12 39 43.8	
	comp=N,4.0nm,0.1s								
EPLA	**Plasencia**	**4.59**	**348**	S		**Sn**	**12 39 44.6**	**-2.3**
	comp=N,7.7nm,0.1s,SNR=7.9								
PCBR	**Castelo Branco**	**4.75**	**334**	*e*P		**Pn**	**12 38 57.9**	**+1.0**
PCBR				S		**Sn**	**12 39 48.0**	**-2.8**
PCBR	**Castelo Branco**	**4.75**	**334**	*e*P		**Pn**	**12 38 57.9**	**+1.0**
PCBR				S		**Sn**	**12 39 48.0**	**-2.8**
PMAFR	**Mafra**	**4.91**	**315**	P		**Pn**	**12 39 00.6**	**+1.6**
	comp=N,3.2nm,0.2s,SNR=7.9								
PMAFR				S		**Sn**	**12 39 53.6**	**-1.0**
	comp=N,2.8nm,0.3s,SNR=7.9								
PMAFR	**Mafra**	**4.91**	**315**	*e*P		**Pn**	**12 39 00.3**	**+1.3**
PMAFR				S		**Sn**	**12 39 53.5**	**-1.1**
PMAFR				A		A	12 40 07.8	
	comp=N,15nm,0.9s								
PMAFR	**Mafra**	**4.91**	**315**	*e*P		**Pn**	**12 39 00.3**	**+1.3**
PMAFR				S		**Sn**	**12 39 53.5**	**-1.1**
PMAFR				A		A	12 40 07.8	
	comp=N,15nm,0.9s								
PTOM	**Tomar**	**4.95**	**326**	*e*P		**Pn**	**12 39 01.1**	**+1.6**
PTOM	**Tomar**	**4.95**	**326**	*e*P		**Pn**	**12 39 01.1**	**+1.6**
GUD	**Guadarrama**	**5.09**	**6**	P		**Pn**	**12 39 02.4**	**+0.8**
	comp=N,0.5nm,0.2s,SNR=7.9								
PCAS	**Casmilo, Conde**	**5.34**	**328**	*e*P		**Pn**	**12 39 06.1**	**+1.2**
PCAS				S		**Sn**	**12 40 03.2**	**-2.0**
PCAS				A		A	12 40 27.4	
	comp=N,4.2nm,0.7s								
PCAS	**Casmilo, Conde**	**5.34**	**328**	*e*P		**Pn**	**12 39 06.1**	**+1.2**
PCAS				S		**Sn**	**12 40 03.2**	**-2.0**
PCAS				A		A	12 40 27.4	
	comp=N,4.2nm,0.7s								
PVIS	**Viseu**	**5.68**	**336**	*e*P		**Pn**	**12 39 10.2**	**+0.6**
PVIS				S		**Sn**	**12 40 11.4**	**-2.3**
PVIS	**Viseu**	**5.68**	**336**	*e*P		**Pn**	**12 39 10.2**	**+0.6**
PVIS				S		**Sn**	**12 40 11.4**	**-2.3**
MVO	**Moncorvo**	**5.85**	**343**	P		**Pn**	**12 39 12.8**	**+0.9**
	comp=N,4.7nm,0.1s,SNR=14								
MVO	**Moncorvo**	**5.85**	**343**	P		**Pn**	**12 39 12.8**	**+0.9**
	comp=N,2.0nm,0.3s,SNR=14								
ECAL	**Calabor**	**6.53**	**347**	P		**Pn**	**12 39 22.6**	**+1.2**
	comp=N,1.7nm,0.1s,SNR=7.9								
ECAL	**Calabor**	**6.53**	**347**	P		**Pn**	**12 39 22.2**	**+0.8**
	SNR=7.9								
ELOB	**Lobios**	**6.78**	**339**	P		**Pn**	**12 39 25.6**	**+0.9**
	comp=N,0.8nm,0.1s,SNR=4.0								
ELOB	**Lobios**	**6.78**	**339**	P		**Pn**	**12 39 25.7**	**+0.9**
	comp=N,8.7nm,1.0s,SNR=7.7								

BJI ***10*** *12:42:27.7,6°.30S×102°.50E,h10km,mb4.4/8,mB4.8/5, Ms4.5/4,Ms7 4.0/3*

IDC ***10*** *12:42:28.7±0.8,6°.10S×102°.67E,h0km,mb4.1/21, mb1 4.2/21,mb1mx4.0/42,mbtmp4.1/21,MS3.5/11, Ms1 3.5/11,ms1mx3.3/30,Error ellipse: s-maj=26.1km s-min=14.3km az=57.0*

ISCJB ***10*** *12:42:29.4±0.4,6°.31S±0°.05×102°.53E±0°.04,h21km, mb4.2/29,MS3.6/10,Error ellipse: s-maj=8.2km s-min=4.9km az=38.9*

NEIC ***10*** *12:42:36.6±1.6,6°.09S×102°.70E,h59km±12km,mb4.4/8, Error ellipse: s-maj=21.0km s-min=7.6km az=53.0*

DJA ***10*** *12:42:39.0±0.8,6°.S±8°×10°.3E±°,h91km±23km,M4.7/14, mb5.2/2,mB5.2/2,MLv4.5/14,Mw(mB)4.6/2*

ISC 10 12:42:31.9±0.6,6°.20S±0°.06×102°.69E±0°.06,h21km,n74,
σ1°27/64,mb4.4/35,MS3.7/10,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.85**	**8**	P	**Pb**	**12 43 05.4**	**+0.3**
MNAI				S	**Sb**	**12 43 28.2**	**+0.4**
MNAI	**Manna**	**1.85**	**8**	*e*Pn	**Pb**	**12 43 04.4**	**-0.6**
KASI	**Kota Agung**	**1.93**	**70**	P	**Pn**	**12 43 05.3**	**+1.9**
KASI				S	**Sn**	**12 43 25.3**	**-1.7**
MDSI	**Maura Dua**	**2.26**	**41**	P	**Pn**	**12 43 10.3**	**+2.2**
MDSI				S	**Sn**	**12 43 33.3**	**-2.1**
LHSI	**Lahat**	**2.50**	**20**	P	**Pn**	**12 43 13.7**	**+2.3**
KLI	**Kotabumi**	**2.54**	**58**	P	**Pn**	**12 43 13.1**	**+1.2**
BLSI	**Bandar Lampung**	**2.68**	**72**	P	**Pn**	**12 43 14.7**	**+0.9**
CGJI	**Cibinong**	**3.02**	**98**	P	**Pn**	**12 43 20.2**	**+1.7**
CGJI				S	**Sn**	**12 43 54.9**	**+0.9**
MASI	**Maura Aman, Be**	**3.08**	**352**	P	**Pb**	**12 43 24.3**	**-1.7**
MASI				S	**Sn**	**12 43 55.8**	**+0.3**
SKJI	**Sukabumi**	**3.93**	**102**	P	**Pn**	**12 43 32.9**	**+1.9**
CBJI	**Citeko**	**4.14**	**93**	P	Pn	12 43 39.4	+5.4
CNJI	**Cibinong**	**4.55**	**104**	P	**Pn**	**12 43 40.1**	**+0.6**
JMBI	**JAMBI**	**4.64**	**12**	P	**Pb**	**12 43 54.2**	**+1.6**
LEM	**Lembang**	**4.94**	**97**	P	Pn	12 43 50.1	+5.0
LEM	**Lembang**	**4.94**	**97**	Pn	Pn	12 43 50.4	+5.3
	14nm,0.3s,baz=321,slow=14,SNR=10						
LEM				Sn	**Sb**	**12 44 54.5**	**-2.3**
	baz=342,slow=20,SNR=2.8						
LEM				LR	LR	12 45 13.0	
	comp=Z,168nm,18.9s,baz=260,slow=33						
CISI	**Cisompet, Garu**	**5.27**	**105**	P	**Pn**	**12 43 50.7**	**+1.2**
	200nm,0.6s,3μm0.8nm						
CISI	**Cisompet, Garu**	**5.27**	**105**	*e*Pn	**Pn**	**12 43 51.1**	**+1.6**
	144nm,0.6s						
CMJI	**Cimerak**	**5.93**	**106**	P	**Pn**	**12 43 59.3**	**+0.7**
SOEI	**Soe**	**21.66**	**101**	*e*P	**P**	**12 47 23.7**	**+2.3**
	62nm,0.8s						
CM31	**Chiang Mai Arr**	**24.78**	**352**	*e*P	**P**	**12 47 52.7**	**+0.2**
	5.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**24.78**	**352**	P	**P**	**12 47 52.0**	**-0.5**
	2.9nm,0.6s,baz=182,slow=9.0,SNR=14						
CHTO	**Chiang Mai**	**25.13**	**352**	*e*P	**P**	**12 47 54.9**	**-0.8**
	13nm,0.8s						
PALK	**Pallekele**	**25.70**	**301**	LR	LR	12 55 54.5	
	comp=Z,200nm,20.6s,baz=108,slow=31						
H08S2	**Diego Garcia H**	**30.00**	**265**	T	T	13 19 43.2	
	baz=88,slow=74,SNR=508						
H08S3	**Diego Garcia H**	**30.01**	**266**	T	T	13 19 43.8	
	baz=88,slow=74,SNR=634						
H08S1	**Diego Garcia H**	**30.02**	**265**	T	T	13 19 44.5	
	baz=88,slow=74,SNR=436						
H01W3	**Cape Leeuwin H**	**30.43**	**161**	T	T	13 20 38.4	
	baz=338,slow=76,SNR=134						
H01W2	**Cape Leeuwin H**	**30.45**	**161**	T	T	13 20 39.4	
	baz=338,slow=76,SNR=163						
H01W1	**Cape Leeuwin H**	**30.45**	**161**	T	T	13 20 39.1	
	baz=338,slow=76,SNR=88						
WRA	**Warramunga Arr**	**33.63**	**117**	P	**P**	**12 49 12.2**	**+0.8**
	2.0nm,0.9s,baz=288,slow=12,SNR=9.8						
ASAR	**Alice Springs**	**34.67**	**123**	P	**P**	**12 49 21.8**	**+1.5**
	1.6nm,0.8s,baz=300,slow=8.4,SNR=12						
ASAR				LR	LR	13 05 58.5	
	comp=Z,83nm,18.1s,baz=298,slow=41						
ODAN	**Odare**	**36.05**	**336**	*e*P	**P**	**12 49 34.3**	**+1.9**
	28nm,0.7s						
TAPN	**Taplejung**	**36.37**	**337**	*e*P	**P**	**12 49 34.5**	**-0.6**
	38nm,0.9s						
RAMN	**Ramite**	**36.45**	**335**	*e*P	P	12 49 39.5	+3.7
JIRN	**Jiri**	**37.25**	**335**	*e*P	**P**	**12 49 43.8**	**+1.1**
	24nm,0.7s						
LSA	**Lhasa**	**37.38**	**343**	P	**P**	**12 49 42.4**	**-1.5**
LSA	**Lhasa**	**37.38**	**343**	*e*P	**P**	**12 49 43.0**	**-0.9**
	10nm,0.8s						
PKI	**Pulchoki**	**37.50**	**334**	*e*P	P	12 49 48.1	+3.3
	17nm,0.9s						
GUN	**Gumba**	**37.60**	**335**	*e*P	**P**	**12 49 46.5**	**+0.9**
	27nm,0.7s						
KKN	**Kakani**	**37.75**	**334**	*e*P	P	12 49 50.3	+3.6
	20nm,0.7s						
GKN	**Gorkha**	**38.21**	**334**	*e*P	P	12 49 54.5	+3.9
STKA	**Stephens Creek**	**44.39**	**130**	P	**P**	**12 50 42.2**	**+1.0**
	2.2nm,0.5s,baz=332,slow=13,SNR=4.2						
STKA				LR	LR	13 08 51.3	
	comp=Z,99nm,20.7s,baz=237,slow=36						
GTA	**Gaotai**	**45.46**	**357**	*e*P	**P**	**12 50 51.6**	**+1.9**
GTA				pP	**pP**	**12 50 56.4**	**+0.1**
GTA				sP	**sP**	**12 50 58.7**	**-0.2**
GTA				PMZ			
	4.0nm,0.9s						
GTA				PMZ			
	42nm,4.7s						
GTA				LN			
	210nm,15.2s						
GTA				LE			
	220nm,20.9s						
GTA				LZ			
	170nm,18.5s						
JNU	**Nakatsue**	**47.39**	**33**	P	**P**	**12 51 04.4**	**-0.4**
	3.6nm,0.9s,baz=243,slow=2.3,SNR=2.6						
JNU				LR	LR	13 10 50.3	
	comp=Z,30nm,21.3s,baz=306,slow=36						
KSAR	**Wonju Array Be**	**49.38**	**27**	P	**P**	**12 51 18.9**	**-1.2**
KSRS	**Korea Array**	**49.41**	**27**	P	**P**	**12 51 18.9**	**-1.4**
	0.7nm,0.6s,baz=229,slow=8.2,SNR=5.7						
SONM	**Songino Array**	**53.91**	**3**	P	**P**	**12 51 54.4**	**+0.5**
	3.3nm,0.7s,baz=180,slow=8.3,SNR=17						
MJAR	**Matsushiro Art**	**53.98**	**35**	P	**P**	**12 51 52.7**	**-1.8**
	0.4nm,0.5s,baz=218,slow=8.0,SNR=2.5						
TKM2	**Tokmak 2**	**54.73**	**336**	*e*P	**P**	**12 51 59.2**	**-0.9**
	1.9nm,0.6s						
EKS2	**Erkin-Say**	**55.28**	**334**	*e*P	**P**	**12 52 04.0**	**0.0**
	3.2nm,0.8s						
MK31	**Makanchi Array**	**55.79**	**343**	*e*P	**P**	**12 52 07.1**	**-0.3**
MKAR	**Makanchi Array**	**55.79**	**343**	P	**P**	**12 52 05.9**	**-1.5**
	2.9nm,0.6s,baz=150,slow=7.7,SNR=6.5						
USRK	**Ussuriysk Ar.**	**56.70**	**25**	P	**P**	**12 52 13.9**	**0.0**
	2.6nm,0.8s,baz=207,slow=5.7,SNR=5.2						
TLY	**Talaya**	**57.66**	**1**	P	**P**	**12 52 21.2**	**+0.5**
	1.6nm,0.7s,baz=265,slow=11,SNR=2.8						
KURBB	**Kurchatov Arra**	**60.33**	**343**	P	**P**	**12 52 39.3**	**+0.3**
	1.4nm,0.8s,baz=161,slow=6.3,SNR=9.5						
KURK	**Kurchatov**	**60.38**	**343**	*e*P	**P**	**12 52 39.1**	**-0.4**
	5.3nm,0.8s						
ASAJ	**Asahikawa**	**61.65**	**32**	P	**P**	**12 52 46.1**	**-2.2**
	1.7nm,0.6s,baz=230,slow=7.9						
ZAA0	**Zalesovo Array**	**61.79**	**348**	*e*P	**P**	**12 52 48.7**	**-0.2**
ZALV	**Zalesovo Beam**	**61.79**	**348**	P	**P**	**12 52 48.2**	**-0.8**
	2.5nm,0.5s,baz=165,slow=6.2,SNR=13						
BVAR	**Borovoye Array**	**65.03**	**339**	P	**P**	**12 53 10.3**	**-0.1**
	1.8nm,0.5s,baz=134,slow=6.4,SNR=11						
ABKAR	**Akbulak array**	**66.59**	**331**	*e*P	**P**	**12 53 20.2**	**-0.3**
	2.0nm,0.6s						
MAW	**Mawson**	**66.93**	**195**	LR	LR	13 15 47.7	
	comp=Z,58nm,22.0s,baz=59,slow=30						
AKTO	**Aktyubinsk**	**68.31**	**331**	P	**P**	**12 53 31.8**	**+0.4**
	0.9nm,0.7s,baz=169,slow=5.2,SNR=2.6						
KBZ	**Khabaz**	**73.22**	**319**	P	**P**	**12 54 00.9**	**-0.5**
	1.6nm,0.8s,baz=169,slow=5.2,SNR=3.2						
PETK	**Petropavlovsk-**	**75.05**	**31**	LR	LR	13 30 29.6	
	comp=Z,17nm,18.4s,baz=274,slow=38						
VNDA	**Vanda**	**77.55**	**169**	P	**P**	**12 54 25.6**	**-0.2**
	1.0nm,0.8s,baz=298,slow=7.0,SNR=4.4						
BRTR	**Keskin Array B**	**78.12**	**313**	P	**P**	**12 54 27.9**	**-2.0**
	0.4nm,0.5s,baz=145,slow=8.8,SNR=3.6						
BRTR				LR	LR	13 31 37.3	
	comp=Z,35nm,18.6s,baz=110,slow=38						
SEY	**Seymchan**	**78.54**	**21**	P	**P**	**12 54 29.6**	**-1.8**
	1.1nm,0.8s,baz=302,slow=15,SNR=2.5						
FINES	**FINESS Array B**	**89.06**	**332**	P	**P**	**12 55 25.8**	**+0.6**
	3.0nm,0.9s,baz=96,slow=3.8,SNR=5.3						
FINES				LR	LR	13 40 29.2	
	comp=Z,34nm,18.9s,baz=45,slow=39						
ARCES	**ARCESS Array B**	**91.31**	**340**	LR	LR	13 43 48.5	
	comp=Z,23nm,18.7s,baz=96,slow=40						
NOA	**NORSAR Array B**	**96.10**	**331**	LR	LR	13 43 54.0	
	comp=Z,29nm,20.2s,baz=105,slow=38						
PV04	**Paradox Valley**	**137.04**	**37**	*e*PKPdf	**PKPdf**	**13 01 53.0**	**-1.0**
TXAR	**Lajitas Array**	**146.12**	**44**	PKPbc	**PKPab**	**13 02 13.1**	**+1.2**
	1.8nm,0.8s,baz=318,slow=1.2,SNR=15						
JCT	**Junction City**	**147.91**	**38**	*e*PKPdf	**PKPdf**	**13 02 11.7**	**-1.6**

ISCJB ***10*** *12:44:45.5±0.7,26°.26N±0°.09×103°.2E±0°.2,h10km, mb3.6/11,Error ellipse: s-maj=23.4km s-min=12.5km az=173.0*

IDC ***10*** *12:44:45.9±0.9,26°.32N×103°.21E,h0km,mb3.6/11, mb1 3.8/12,mb1mx3.7/28,mbtmp3.6/12,ML3.7/1,Error ellipse: s-maj=36.7km s-min=17.3km az=66.0*

**ISC 10 12:44:47.5±0.8,26°.3N±0°.1×103°.2E±0°

ACLC eS Sn 12 56 21.2 +8.4

*ISCJB **10** 13:06:46.6±0.7, 59.77N±0.03×150.7E±0.1, h10km, Error ellipse: s-maj=7.4km s-min=4.9km az=3.2*
*MOS **10** 13:06:47.3±1.0, 59.76N×150.54E, h14km, mb4.3/1, Error ellipse: s-maj=43.9km s-min=14.9km az=96.8*
MOS Felt (III) at Magadan.
*NERS **10** 13:06:50.9, 59.77N×150.78E, h10km, Felt I–II MSK at Magadan(24km)*

ISC 10 13:06:49.4±0.8, 59.75N±0.05×150.60E±0.06, h10km, n12, σ1℘12/22, 2C, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGD	**Magadan 1**	**0.31**	**13**	*i* Pg	**Pb**	**13 06 57.5**	**+0.6**
MGD				Pgmax		13 06 57.7	
	510nm,0.3s						
MGD				*e*Sg	**Sb**	**13 07 02.0**	**0.0**
MGD				Sgmax		13 07 02.3	
	2μm,0.2s						
MGD				Sgmax		13 07 02.3	
	700nm,0.2s						
TLAR	**Talaya**	**1.65**	**32**	*e*Pg	**Pb**	**13 07 19.3**	**-0.6**
TLAR				Pgmax		13 07 19.7	
	20nm,0.2s						
TLAR				*e*Sg	**Sn**	**13 07 39.9**	**+0.2**
TLAR				Sgmax		13 07 42.5	
	740nm,0.3s						
SNGR	**Sinegor'e**	**2.33**	**358**	*e*Pg	**Pg**	**13 07 35.8**	**+1.9**
SNGR				Pgmax		13 07 36.4	
	50nm,0.3s						
SNGR				*e*Sg	**Sg**	**13 08 03.7**	**-0.3**
SNGR				Sgmax		13 08 06.9	
	200nm,0.4s						
OCHR	**Omchak**	**2.34**	**326**	*i* P	**Pb**	**13 07 30.8**	**-0.9**
OCHR				*e*Pg	**Pg**	**13 07 33.5**	**-0.8**
OCHR				Pgmax		13 07 34.5	
	40nm,0.2s						
OCHR				*e*Sg	**Sg**	**13 08 05.3**	**+0.7**
OCHR				Sgmax		13 08 06.7	
	310nm,0.3s						
SUUS	**Susuman**	**3.26**	**340**	*e*Pg	**Pg**	**13 07 51.9**	**+0.2**
SUUS				*e*Sg	**Sg**	**13 08 34.9**	**+1.0**
SUUS				Sgmax		13 08 36.3	
	180nm,0.3s						
SEY	**Seymchan**	**3.31**	**14**	*e*P	**Pn**	**13 07 43.5**	**+2.4**
SEY				*e*Pg	**Pg**	**13 07 52.0**	**-0.7**
SEY				Pgmax		13 07 54.4	
	10.0nm,0.2s						
SEY				*e*S	**Sn**	**13 08 22.1**	**+1.6**
SEY				*e*Sg	**Sg**	**13 08 33.4**	**-2.1**
SEY				Sgmax		13 08 34.6	
	70nm,0.3s						
SEY				Sgmax		13 08 34.6	
	90nm,0.3s						
SEY	**Seymchan**	**3.31**	**14**	*e*P	**Pn**	**13 07 40.9**	**-0.2**
SEY				*e*S	**Sn**	**13 08 19.4**	**-1.1**
PET	**Petropavlovsk**	**8.08**	**143**	*e*P	**Pn**	**13 08 46.1**	**-0.6**
YAK	**Yakutsk**	**10.43**	**292**	*i* P	**Pn**	**13 09 18.2**	**-0.6**
YSS	**Yuzh-Sakhalins**	**13.63**	**203**	*e*P	**Pn**	**13 10 03.4**	**+0.9**
YSS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TIXI	**Tiksi**	**14.78**	**333**	*e*P	**Pn**	**13 10 17.1**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.7s						
VLA	**Vladivostok**	**20.20**	**223**	*i* P	**P**	**13 11 24.3**	**+0.3**
VLA				pmax	pmax		
	comp=Z,10.0nm,0.9s						

*IDC **10** 13:07:21.8±1.3, 7.40S×111.77E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/31, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=58.3km s-min=21.4km az=41.0*
*ISCJB **10** 13:07:30.1±0.6, 8.60S±0.06×110.95E±0.04, h69km, mb3.4/4, Error ellipse: s-maj=9.4km s-min=5.4km az=14.9*
*DJA **10** 13:07:32.5±0.4, 8°S±6'×11°E±°, h67km±5km, M4.0/16, MLv4.0/16*

ISC 10 13:07:31.9±1.0, 8.40S±0.08×110.96E±0.04, h69km, n20, σ2℘07/24, mb3.2/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**0.29**	**46**	P	**Pn**	**13 07 45.6**	**+2.7**
PCJI				S	**Sn**	**13 07 54.8**	**+3.8**
UGM	**Wanagama**	**0.65**	**318**	P	**Pn**	**13 07 47.4**	**+1.2**
UGM				S	**Sn**	**13 07 57.0**	**+0.3**
PWJI	**Pagerwojo**	**0.92**	**66**	P	**Pn**	**13 07 50.5**	**+1.3**
PWJI				S	**Sn**	**13 08 04.2**	**+2.1**
SMRI	**Semarang**	**1.44**	**339**	P	**Pn**	**13 07 56.7**	**+0.7**
SMRI				S	**Sn**	**13 08 15.7**	**+1.5**
TBJI	**Tambak Boyo**	**1.80**	**29**	P	**Pn**	**13 08 01.5**	**+0.7**
UWJI	**Ujung Watu**	**1.97**	**360**	P	**Pn**	**13 08 00.5**	**-2.6**
GRJI	**Gresik**	**2.11**	**46**	P	**Pn**	**13 08 04.9**	**-0.1**
KPJI	**Karang Pucung**	**2.27**	**298**	P	**Pn**	**13 08 07.5**	**+0.3**
CMJI	**Cimerak**	**2.56**	**284**	P	**Pn**	**13 08 10.6**	**-0.5**
BLJI	**Banyuglugur**	**2.69**	**76**	P	**Pn**	**13 08 12.7**	**-0.1**
JAGI	**Jajag, Banyuwa**	**3.16**	**92**	P	**Pn**	**13 08 20.3**	**+1.1**
CISI	**Cisompet, Garu**	**3.23**	**285**	P	**Pn**	**13 08 20.2**	**0.0**
ABJI	**Asem Bagus**	**3.30**	**80**	P	**Pn**	**13 08 21.1**	**0.0**
LEM	**Lembang**	**3.67**	**295**	Pn	**Pn**	**13 08 28.4**	**+2.2**
	6.0nm,0.3s,baz=94,slow=14,SNR=3.8						
LEM					Sn	**Sn**	**13 09 13.2**	**+4.7**
	6.6nm,0.3s,baz=358,slow=16,SNR=5.6						
CNJI	**Cibinong**	**3.95**	**286**	P	**Pn**	**13 08 31.3**	**+1.3**
CBJI	**Citeko**	**4.53**	**295**	P	**Pn**	**13 08 35.3**	**-2.6**
WRA	**Warramunga Arr**	**25.36**	**119**	P	**P**	**13 12 50.5**	**-2.3**
	0.3nm,0.7s,baz=294,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**26.70**	**127**	P	**P**	**13 13 02.2**	**-2.7**
	0.3nm,0.6s,baz=304,slow=8.9,SNR=8.3						
STKA	**Stephens Creek**	**36.82**	**134**	P	**P**	**13 14 32.2**	**-1.1**
	2.9nm,0.8s,baz=303,slow=11,SNR=6.0						
MKAR	**Makanchi Array**	**60.59**	**338**	P	P	13 17 29.5	-5.8
	0.1nm,0.3s,baz=146,slow=8.0,SNR=2.9						

*IDC **10** 13:12:27.3±0.7, 12.12N×143.63E, h0km, mb4.0/14, mb1 4.2/14, mb1mx3.9/33, mbtmp4.0/14, MS3.5/3, Ms1 3.5/3, ms1mx2.9/36, Error ellipse: s-maj=22.7km s-min=15.3km az=91.0*
*NEIC **10** 13:12:28.8±0.5, 12.10N×143.59E, h10km, mb4.2/2, Error ellipse: s-maj=16.9km s-min=11.8km az=89.0*
*ISCJB **10** 13:12:29.4±0.6, 12.08N±0.08×143.56E±0.09, h25km, mb4.0/16, MS3.5/3, Error ellipse: s-maj=14.0km s-min=9.1km az=33.8*

ISC 10 13:12:31.2±0.7, 12.15N±0.10×143.7E±0.1, h25km, n24, σ1℘10/23, mb4.0/16, MS3.6/3, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.84**	**39**	Pn	**Pn**	**13 13 01.8**	**+0.6**
	68nm,0.3s,baz=190,slow=1.4,SNR=52						
GUMO					Sn	**Sb**	**13 13 26.0**	**-0.8**
	130nm,0.3s,baz=29,slow=23,SNR=15						
GUMO					LR	LR	13 13 56.9	
	comp=Z,178nm,21.1s,baz=228,slow=47						
GUMO	**Guam**	**1.84**	**39**	*e*Pn	**Pn**	**13 13 01.8**	**+0.6**
GUMO				Pn	**Pn**	**13 13 01.8**	**+0.6**
GUMO				*e*Sn	**Sb**	**13 13 25.6**	**-1.2**
GUMO				Sn	**Sb**	**13 13 26.0**	**-0.8**
H11N1	**WAKE ISLAND Hy**	**23.53**	**68**	T	T	13 42 20.2	
	baz=257						
H11N2	**WAKE ISLAND Hy**	**23.54**	**68**	T	T	13 42 11.0	
	baz=257,slow=74						
H11N3	**WAKE ISLAND Hy**	**23.55**	**68**	T	T	13 42 11.4	
	baz=257,slow=74						
JNU	**Nakatsue**	**23.94**	**333**	P	**P**	**13 17 44.1**	**+0.6**
	2.7nm,0.8s,baz=66,slow=12,SNR=3.8						
MJAR	**Matsushiro Arr**	**24.78**	**349**	LR	LR	13 26 58.4	
	comp=Z,37nm,18.7s,baz=180,slow=35						
KSRS	**Korea Array**	**28.88**	**333**	P	**P**	**13 18 29.8**	**+1.8**
	0.5nm,0.6s,baz=144,slow=8.7,SNR=3.9						
KSAR	**Wonju Array Be**	**28.89**	**333**	P	**P**	**13 18 29.8**	**+1.7**
WRA	**Warramunga Arr**	**33.19**	**196**	P	**P**	**13 19 04.3**	**-1.8**
	0.6nm,0.6s,baz=18,slow=9.8,SNR=8.9						
ASAR	**Alice Springs**	**36.86**	**195**	P	**P**	**13 19 38.1**	**+0.3**
	0.3nm,0.9s,baz=19,slow=12,SNR=2.6						
DZM	**Mont Dzumac**	**40.69**	**147**	P	**P**	**13 20 10.5**	**+0.6**
	1.6nm,0.5s,baz=90,slow=24,SNR=5.4						
SONM	**Songino Array**	**47.25**	**326**	P	**P**	**13 21 02.7**	**+0.2**
	0.8nm,0.7s,baz=150,slow=6.7,SNR=5.8						
SONM					LR	LR	13 40 54.4	
	comp=Z,69nm,18.6s,baz=208,slow=36						
MKAR	**Makanchi Array**	**61.73**	**317**	P	**P**	**13 22 48.1**	**+0.5**
	0.6nm,0.7s,baz=93,slow=9.0,SNR=6.9						
ZALV	**Zalesovo Beam**	**62.12**	**325**	P	**P**	**13 22 49.6**	**-0.4**
	1.2nm,0.5s,baz=113,slow=7.1,SNR=5.1						
KURK	**Kurchatov**	**64.94**	**320**	*e*P	**P**	**13 23 07.6**	**-1.1**
	5.1nm,0.9s						
ILAR	**Eielson Array**	**70.36**	**25**	P	**P**	**13 23 41.8**	**-0.9**
	1.1nm,0.7s,baz=248,slow=5.9,SNR=17						
PPT	**Papeete**	**72.21**	**113**	LR	LR	13 48 51.8	
	comp=Z,69nm,21.0s,baz=232,slow=30						
ABKAR	**Akbulak array**	**76.83**	**318**	*e*P	**P**	**13 24 20.0**	**-1.0**
	0.9nm,0.6s						
YKA	**Yellowknife Ar**	**84.66**	**27**	P	**P**	**13 25 03.2**	**+0.6**
	1.0nm,0.4s,baz=285,slow=5.0,SNR=11						
ARCES	**ARCESS Array B**	**88.09**	**342**	P	**P**	**13 25 19.7**	**+0.4**
	1.1nm,0.5s,baz=77,slow=7.6,SNR=11						
NVAR	**Mina Array Bea**	**88.72**	**51**	P	**P**	**13 25 24.8**	**+1.6**
	1.6nm,0.7s,baz=260,slow=4.9,SNR=8.1						
FINES	**FINESS Array B**	**91.97**	**335**	P	**P**	**13 25 35.8**	**-1.8**
	1.3nm,0.4s,baz=70,slow=4.4,SNR=15						
NOA	**NORSAR Array B**	**97.97**	**339**	P	**P**	**13 26 04.2**	**-0.8**
	0.4nm,0.8s,baz=48,slow=4.7,SNR=3.5						

IDC 10 13:27:34.9±1.9, 48.44N×152.16E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.1/25, mbtmp3.3/3, ML2.0/1, Error ellipse: s-maj=52.3km s-min=37.9km az=110.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.84**	**35**	Pn	Pn	13 29 02.8	0.0
	0.2nm,0.3s,baz=221,slow=14,SNR=4.1						
H11S1	**WAKE ISLAND Hy**	**32.11**	**153**	T	T	14 07 34.1	
	baz=347						
H11S3	**WAKE ISLAND Hy**	**32.12**	**153**	T	T	14 07 35.2	
	baz=347						
H11S2	**WAKE ISLAND Hy**	**32.13**	**153**	T	T	14 07 35.9	
	baz=347						
MKAR	**Makanchi Array**	**45.61**	**295**	P	P	13 35 56.6	-0.1
	0.3nm,0.5s,baz=62,slow=8.0,SNR=4.4						
ASAR	**Alice Springs**	**73.62**	**197**	P	P	13 39 10.0	0.0
	0.1nm,0.4s,baz=15,slow=5.7,SNR=4.5						

*ISCJB **10** 13:36:06.8±0.7, 13.03S±0.04×169.31E±0.03, h652km±9km, mb4.8/161, Error ellipse: s-maj=5.8km s-min=3.7km az=27.0*
*IDC **10** 13:36:07.6±0.5, 12.97S×169.40E, h645km±5km, mb4.2/35, mb1 4.3/35, mb1mx4.3/36, mbtmp5.2/35, Error ellipse: s-maj=7.9km s-min=6.6km az=100.0*
*GCMT **10** 13:36:07.5±0.5, 12.80S×169.32E, h665km±5km, MW5.2/44, Moment Tensor Solution. s44,c54; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.10±.32; $M_{\theta\theta}$-1.26±.59; $M_{\phi\phi}$5.36±.52; $M_{r\theta}$4.66±.56; $M_{\theta\phi}$0.50±.52; $M_{\phi r}$2.69±.43; Best double couple: $M_0$7.17700×10^{16} NP1:ϕ_{ϕ}218.00000°, δ71.00000°, λ-60.00000°. NP2: ϕ_{ϕ}338.00000°, δ35.00000°, λ-145.00000°. Principal axes: T 6.5290, Plg20.0000°, Azm286.0000°; N 1.2950, Plg28.0000°, Azm28.0000°; P -7.8240, Plg54.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **10** 13:36:07.5±0.1, 12.91S×169.37E, mb4.8/102 Error ellipse: s-maj=4.5km s-min=3.5km az=146.0*
*MOS **10** 13:36:07.2±0.9, 12.90S×169.35E, h651km, mb4.8/29, Error ellipse: s-maj=9.6km s-min=8.6km az=158.8*
*BJI **10** 13:36:10.5, 12.36S×169.27E, h664km, mb4.6/41, mB4.5/25*

ISC 10 13:36:08.0±0.3, 12.97S±0.04×169.41E±0.04, h653km±2km, h655km:pP-P, n544, σ1℘19/633, mb4.8/160, 68C-74D, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.48**	**197**	*e*P	**P**	**13 38 24.6**	**+1.7**
	36nm,0.6s						
DZM				*e*S	**S**	**13 40 13.2**	**-0.3**
	253nm,27.4s						
DZM	**Mont Dzumac**	**9.48**	**197**	P	**P**	**13 38 24.7**	**+1.8**
	1.9nm,0.3s,baz=270,slow=23,SNR=16						
MSVF	**Nonsavu**	**9.59**	**121**	*e*P	**P**	**13 38 24.9**	**+0.9**
MSVF	**Nonsavu**	**9.59**	**121**	*e*P	**P**	**13 38 24.9**	**+0.9**
HNR	**Honiara**	**9.92**	**290**	*e*P	**P**	**13 38 26.4**	**-0.8**
HNR				*e*S	**S**	**13 40 21.6**	**+0.3**
HNR	**Honiara**	**9.92**	**290**	*e*P	**P**	**13 38 27.0**	**-0.2**
HNR				*e*S	**S**	**13 40 27.0**	**+5.7**
HNR	**Honiara**	**9.92**	**290**	*e*P	**P**	**13 38 26.4**	**-0.8**
HNR				*e*S	**S**	**13 40 21.6**	**+0.3**
AFI	**Afiamalu**	**18.33**	**95**	*e*P	**P**	**13 39 43.6**	**-1.1**
AFI				pmax	pmax		
	comp=Z,15nm,0.7s						
AFI	**Afiamalu**	**18.33**	**95**	*e*P	**P**	**13 39 43.6**	**-1.1**
	comp=Z,15nm,0.7s						
EIDS	**Eidsvold**	**21.22**	**232**	*e*P	**P**	**13 40 11.5**	**+1.2**
	comp=Z,20nm,0.6s						
PMG	**Port Moresby**	**22.11**	**277**	*c i*P	**P**	**13 40 19.6**	**+1.2**
PMG	**Port Moresby**	**22.11**	**277**	*e*P	**P**	**13 40 19.2**	**+0.8**
	comp=Z,61nm,0.8s						
OUZ	**Omahuta**	**22.47**	**171**	*e*P	**P**	**13 40 22.0**	**+0.6**
CTA	**Charters Tower**	**23.28**	**249**	P	**P**	**13 40 29.8**	**+1.0**
	comp=Z,30nm,0.8s,baz=78,slow=12,SNR=32						
CTA				ScP	**ScP**	**13 46 31.1**	**+2.1**
	comp=Z,9.9nm,0.6s,baz=88,slow=3.8,SNR=11						
CTAO	**Charters Tower**	**23.28**	**249**	*e*P	**P**	**13 40 27.5**	**-1.3**
CTAO				pmax	pmax		
	comp=Z,19nm,0.5s						
CTAO	**Charters Tower**	**23.28**	**249**	*e*P	**P**	**13 40 27.5**	**-1.3**
	comp=Z,19nm,0.5s						
COEN	**Coen**	**25.52**	**265**	*e*P	**P**	**13 40 48.8**	**+0.3**
	comp=Z,112nm,0.8s						
HAZ	**Te Kaha**	**25.79**	**165**	PN	**P**	**13 40 49.9**	**-0.6**
TLZ	**Tolley Road**	**25.84**	**169**	*e*PN	**P**	**13 40 53.0**	**+2.0**
URZ	**Urewera**	**26.10**	**166**	P	**P**	**13 40 53.5**	**+0.2**
	comp=Z,46nm,0.6s,baz=350,slow=3.0,SNR=42						
URZ				S	**S**	**13 44 40.2**	**-1.1**
	comp=Z,13nm,1.0s,baz=21,slow=17,SNR=3.2						
URZ	**Urewera**	**26.10**	**166**	PN	**P**	**13 40 53.3**	**0.0**
URZ				*e*SN	**S**	**13 44 41.4**	**+0.1**
URZ	**Urewera**	**26.10**	**166**	P	**P**	**13 40 53.5**	**+0.2**
	comp=Z,24nm,0.7s						
URZ				S	**S**	**13 44 40.2**	**-1.1**
MWZ	**Matawai**	**26.27**	**165**	PN	**P**	**13 40 54.5**	**-0.3**
MWZ				SN	**S**	**13 44 42.1**	**-2.0**
RIGZ	**Rimuhau**	**26.68**	**165**	*e*PN	**P**	**13 40 57.6**	**-0.8**
RAHZ	**Arahi**	**26.72**	**167**	PN	**P**	**13 40 58.7**	**0.0**
BKZ	**Black Stump Fm**	**26.83**	**168**	PN	**P**	**13 40 59.7**	**0.0**
BKZ				SN	**S**	**13 44 52.0**	**-0.9**
BKZ	**Black Stump Fm**	**26.83**	**168**	*e*P	**P**	**13 40 59.6**	**-0.1**
	comp=Z,124nm,0.5s						
KNZ	**Kokohu**	**26.96**	**166**	PN	**P**	**13 41 00.1**	**-0.6**
ARHZ	**Aropaoanui**	**27.03**	**167**	PN	**P**	**13 41 01.3**	**0.0**
BHHZ	**Black Hill Sta**	**27.06**	**169**	PN	**P**	**13 41 01.7**	**0.0**
BHHZ				*e*SN	**S**	**13 44 54.9**	**-1.4**
MCHZ	**McNeill Hill**	**27.14**	**168**	PN	**P**	**13 41 02.4**	**+0.1**
KRHZ	**Kereru**	**27.27**	**168**	PN	**P**	**13 41 03.2**	**-0.3**
TSZ	**Takapari Road**	**27.59**	**169**	PN	**P**	**13 41 06.1**	**-0.2**
QRZ	**Quartz Range**	**27.88**	**175**	PN	**P**	**13 41 10.8**	**+2.1**
DUWZ	**Urville Isla**	**28.00**	**175**	PN	**P**	**13 41 10.9**	**+1.1**
MRZ	**Mangatainoka R**	**28.11**	**170**	PN	**P**	**13 41 09.8**	**-0.9**
MRZ				*e*SN	**S**	**13 45 07.5**	**-5.0**
OGWZ	**Otaki Gorge**	**28.20**	**171**	*e*PN	**P**	**13 41 11.3**	**-0.1**
KIW	**Kapiti Island**	**28.20**	**171**	*e*PN	**P**	**13 41 11.4**	**-0.1**
BFZ	**Birch Farm**	**28.25**	**169**	PN	**P**	**13 41 10.9**	**-0.9**
BFZ				*e*SN	**S**	**13 45 10.7**	**-3.8**
BFZ	**Birch Farm**	**28.25**	**169**	*e*P	**P**	**13 41 11.1**	**-0.8**
	comp=Z,80nm,1.0s						
TIWZ	**Tintock**	**28.27**	**170**	*e*PN	**P**	**13 41 11.1**	**-1.0**
HOWZ	**Holdsworth Sta**	**28.33**	**170**	*e*PN	**P**	**13 41 11.8**	**-0.8**
TCW	**Tory Channel**	**28.45**	**172**	PN	**P**	**13 41 14.0**	**+0.4**
CAW	**Cannon Point**	**28.46**	**171**	PN	**P**	**13 41 13.4**	**-0.3**
SNZO	**South Karori**	**28.61**	**172**	*e*P	**P**	**13 41 13.3**	**-1.6**
	comp=Z,167nm,0.6s						
TUWZ	**Tuamarina**	**28.63**	**173**	PN	**P**	**13 41 15.4**	**+0.3**
THZ	**Tophouse**	**28.84**	**175**	PN	**P**	**13 41 17.5**	**+0.5**
THZ				*e*SN	**S**	**13 45 20.8**	**-3.0**
KHZ	**Kahutara**	**29.56**	**174**	PN	**P**	**13 41 22.7**	**-0.3**
KHZ	**Kahutara**	**29.56**	**174**	*e*P	**P**	**13 41 22.6**	**-0.5**
	comp=Z,297nm,1.0s						
LTZ	**Lake Taylor**	**29.80**	**176**	PN	**P**	**13 41 25.9**	**+0.7**
JAY	**Jayapura**	**30.24**	**288**	P	**P**	**13 41 28.9**	**-0.5**
	comp=Z,145nm,0.9s						
RPZ	**Rata Peaks**	**30.67**	**178**	P	**P**	**13 41 32.5**	**0.0**
	comp=Z,60nm,0.7s,baz=318,slow=2.8,SNR=23						
RPZ	**Rata Peaks**	**30.67**	**178**	P	**P**	**13 41 32.5**	**0.0**
	comp=Z,22nm,0.7s						
GENI	**Genyem**	**30.71**	**287**	P	**P**	**13 41 33.1**	**-0.2**
	comp=Z,209nm,0.7s,comp=Z,2μm						
LBZ	**Lake Benmore**	**31.31**	**179**	PN	**P**	**13 41 37.5**	**-0.5**
STKA	**Stephens Creek**	**31.70**	**229**	P	**P**	**13 41 43.0**	**+1.4**
	comp=Z,11nm,0.5s,baz=55,slow=8.3,SNR=60						
STKA				PcP	**PcP**	**13 44 12.9**	**+0.9**
	comp=Z,4.2nm,0.6s,baz=48,slow=3.1,SNR=4.5						
STKA				ScP	**ScP**	**13 46 57.1**	**+2.2**
	comp=Z,21nm,0.7s,baz=63,slow=4.1,SNR=18						
STKA	**Stephens Creek**	**31.70**	**229**	*e*P	**P**	**13 41 41.8**	**+0.3**
STKA						13 44 12.9	
STKA	**Stephens Creek**	**31.70**	**229**	*e*P	**P**	**13 41 41.8**	**+0.3**
	comp=Z,2.7nm,0.8s						
STKA				PcP	**PcP**	**13 44 12.9**	**+0.9**
STKA				ScP	**ScP**	**13 46 57.1**	**+2.2**
WKZ	**Wanaka**	**31.75**	**181**	PN	**P**	**13 41 42.2**	**+0.5**
EAZ	**Earnscleugh**	**32.15**	**180**	PN	**P**	**13 41 45.3**	**+0.3**
SMPI	**Sarmi**	**32.28**	**287**	P	**P**	**13 41 47.2**	**+0.6**
	comp=Z,837nm,1.0s,comp=Z,7μm						
DCZ	**Deep Cove**	**32.45**	**183**	*e*P	**P**	**13 41 48.0**	**+0.5**
	comp=Z,76nm,0.9s						
TUZ	**Tuapeka**	**32.88**	**180**	PN	**P**	**13 41 51.8**	**+0.8**
WRAB	**Tennant Creek**	**34.27**	**254**	*c i*P	**P**	**13 42 03.1**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,379nm,1.2s						
WRAB	**Tennant Creek**	**34.27**	**254**	*e*P	**P**	**13 42 03.2**	**+0.1**
	comp=Z,109nm,0.5s						
WRA	**Warramunga Arr**	**34.29**	**254**	P	**P**	**13 42 03.4**	**+0.1**
	comp=Z,106nm,0.5s,baz=85,slow=8.7,SNR=562						
WRA				S	**S**	**13 46 43.6**	**-3.4**
	comp=Z,25nm,0.9s,baz=85,slow=14,SNR=14						
WRA				ScP	**ScP**	**13 47 06.9**	**+2.6**
	comp=Z,17nm,0.8s,baz=77,slow=4.2,SNR=13						
WRA				P3KPbc		14 12 47.1	
	comp=Z,1.2nm,1.2s,baz=257,slow=2.6,SNR=5.6						
SRPI	**Serui, Papua**	**34.63**	**286**	P	**P**	**13 42 05.2**	**-1.0**
	comp=Z,221nm,1.0s						
AS31	**Alice Springs**	**35.25**	**247**	*e*P	**P**	**13 42 11.5**	**+0.3**
ASAR	**Alice Springs**	**35.25**	**247**	P	**P**	**13 42 11.8**	**+0.7**
	comp=Z,161nm,0.7s,baz=73,slow=9.4,SNR=1995						
ASAR				PcP	**PcP**	**13 44 20.9**	**-1.6**
	comp=Z,9.5nm,0.8s,baz=77,slow=5.2,SNR=7.1						
ASAR				S	**S**	**13 47 00.0**	**-1.2**
	comp=Z,22nm,0.8s,baz=76,slow=16,SNR=25						
ASAR				ScP	**ScP**	**13 47 09.4**	**+1.6**
	comp=Z,17nm,0.6s,baz=85,slow=3.9,SNR=23						
ASAR				P3KPbc		14 12 42.8	
	comp=Z,0.4nm,0.6s,baz=262,slow=4.3,SNR=8.4						
GUMO	**Guam**	**35.89**	**316**	P	**P**	**13 42 16.6**	**+0.2**
	comp=Z,75nm,0.6s,baz=159,slow=9.2,SNR=13						
GUMO	**Guam**	**35.89**	**316**	P	**P**	**13 42 16.6**	**+0.2**
GUMO				pmax	pmax		
	comp=Z,28nm,0.8s						
GUMO	**Guam**	**35.89**	**316**	P	**P**	**13 42 16.6**	**+0.2**
	comp=Z,28nm,0.8s						
BBOO	**Buckleboo**	**36.29**	**231**	*e*P	**P**	**13 42 19.9**	**+0.4**
	comp=Z,32nm,0.8s						
RKPI	**Ransiki, Papua**	**36.69**	**285**	P	**P**	**13 42 24.2**	**+1.1**
	comp=Z,341nm,0.8s,comp=Z,5μm						
FAKI	**Fak Fak**	**38.08**	**282**	P	**P**	**13 42 34.0**	**-0.3**
	comp=Z,149nm,1.1s,comp=Z,1μm						
FAKI	**Fak Fak**	**38.08**	**282**	*e*P	**P**	**13 42 33.4**	**-0.8**
	comp=Z,84nm,0.7s						
SIJI	**Sorong**	**39.65**	**285**	P	**P**	**13 42 46.9**	**+0.1**
	comp=Z,128nm,0.7s,baz=107,slow=5.5,SNR=72						
PPT2	**Papeete2**	**39.78**	**102**	*e*S	**S**	**13 48 10.1**	**+2.3**
	comp=Z,131nm,24.5s						
BNDI	**Bandanaira**	**39.88**	**279**	P	**P**	**13 42 45.8**	**-2.9**
	comp=Z,563nm,0.9s						
TIAR	**Tiarei**	**40.00**	**102**	*e*P	**P**	**13 42 51.1**	**+1.6**
	comp=Z,7.4nm,0.9s						
TVO	**Taravao**	**40.09**	**102**	*e*P	**P**	**13 42 51.8**	**+1.5**
	comp=Z,7.0nm,1.0s						
TBI	**Tubuai**	**40.30**	**111**	*e*P	**P**	**13 42 53.5**	**+1.7**
	comp=Z,78nm,1.0s						
TBI				*e*S	**S**	**13 48 16.6**	**+1.6**
	comp=Z,113nm,25.2s						
PMOR	**Pomariorio Ree**	**41.44**	**98**	*e*P	**P**	**13 43 02.3**	**+1.4**
	comp=Z,57nm,1.1s						
VAH	**Vaihoa**	**41.69**	**98**	*e*P	**P**	**13 43 04.3**	**+1.5**
	comp=Z,52nm,1.1s						
AAI	**Ambon**	**41.75**	**279**	P	**P**	**13 43 02.8**	**-0.5**
	comp=Z,157nm,0.6s						
FORT	**Forrest**	**41.98**	**238**	*e*P	**P**	**13 43 05.8**	**+0.9**
	comp=Z,73nm,0.6s						
FITZ	**Fitzroy Crossi**	**42.40**	**257**	*e*P	**P**	**13 43 09.1**	**+0.7**
	comp=Z,165nm,1.6s						
NLAI	**Namlea**	**42.92**	**279**	P	**P**	**13 43 12.8**	**+0.4**
	comp=Z,159nm,0.8s,comp=Z,1μm					

comp=Z,24nm,1.0s
SBUM Sibu 58.78 281 *e*P **P 13 45 06.2 -0.3**
comp=Z,11nm,0.9s
TWG Pinlang 59.21 307 *e*P P 13 45 04.6 -4.5
comp=Z,198nm,0.4s
YULB Yu-li 59.34 307 *e*P **P 13 45 08.3 -1.7**
comp=Z,51nm,0.8s
TPUB Ta-pu 59.81 307 *e*P **P 13 45 11.3 -1.9**
comp=Z,59nm,0.7s
SSLB Suanglung 59.81 308 *e*P **P 13 45 12.6 -0.6**
comp=Z,50nm,0.7s
YHNB Yeheng 59.97 309 *e*P **P 13 45 14.0 -0.2**
comp=Z,36nm,0.6s
KSM Kuching 60.34 279 *e*P **P 13 45 16.1 -0.7**
comp=Z,16nm,0.8s
CISI Cisompet, Garu 60.73 269 *e*P **P 13 45 18.6 -0.8**
comp=Z,140nm,0.6s
LEM Lembang 61.06 269 P **P 13 45 22.6 +1.0**
comp=Z,140nm,0.6s,baz=66,slow=4.8,SNR=42
KSJJU Jeju 61.63 320 P **P 13 45 25.7 +0.9**
SNR=7.6
KSJJU Jeju 61.63 320 P **P 13 45 25.7 +0.9**
SNR=7.6
KSNAH Namhae 61.70 322 P **P 13 45 25.9 +0.7**
SNR=10
KSNAH Namhae 61.70 322 P **P 13 45 25.9 +0.7**
SNR=10
KSDAG Daegu 61.78 323 P **P 13 45 26.1 +0.5**
SNR=8.5
KSDAG Daegu 61.78 323 P **P 13 45 26.1 +0.5**
SNR=8.5
KSPHA Pohang 61.80 324 P **P 13 45 26.6 +0.8**
SNR=15
KSPHA Pohang 61.80 324 P **P 13 45 26.6 +0.8**
SNR=15
ASAJ Asahikawa 61.84 338 P **P 13 45 27.0 +1.1**
comp=Z,28nm,0.8s,baz=209,slow=6.4
ASAJ Asahikawa 61.84 338 *e*P **P 13 45 25.8 -0.1**
comp=Z,11nm,0.9s
KSULL Ulleungdo 61.85 326 P **P 13 45 26.8 +0.7**
SNR=9.7
KSULL Ulleungdo 61.85 326 P **P 13 45 26.8 +0.7**
SNR=9.7
KSULJ Ulljin 62.13 324 P **P 13 45 28.6 +0.7**
SNR=14
KSULJ Ulljin 62.13 324 P **P 13 45 28.6 +0.7**
SNR=14
KSTBA Taebaek 62.69 324 P **P 13 45 32.7 +1.1**
SNR=7.6
KSTBA Taebaek 62.69 324 P **P 13 45 32.7 +1.1**
SNR=7.6
KSJEU Jeongeup 62.76 322 P **P 13 45 32.3 +0.4**
SNR=18
KSJEU Jeongeup 62.76 322 P **P 13 45 32.3 +0.4**
SNR=16
KSBON Boeun 62.92 323 P **P 13 45 33.7 +0.7**
SNR=10.0
KSCHJ Chungju 63.08 323 P **P 13 45 34.4 +0.5**
SNR=10
TJN Taejon 63.09 323 *i* P **P 13 45 36.0 +1.9**
KSCEA Cheonan 63.46 323 P **P 13 45 36.9 +0.5**
SNR=7.3
KSRS Korea Array 63.51 324 P **P 13 45 37.4 +0.7**
comp=Z,11nm,0.8s,baz=136,slow=6.4,SNR=56
KSRS pP **pP 13 47 39.5 -2.9**
comp=Z,0.5nm,0.6s,baz=120,slow=7.1,SNR=2.3
KSRS PP **PP 13 48 05.1 -3.6**
comp=Z,3.0nm,0.9s,baz=142,slow=8.6,SNR=8.6
KSRS PKP2bc 14 14 27.6
comp=Z,0.2nm,0.4s,baz=282,slow=2.4,SNR=4.5
KSAR Wonju Array Be 63.52 324 P **P 13 45 37.4 +0.6**
KSAR *PP **pP 13 47 39.5 -3.0**
KSAR 13 48 05.1
KSAR Wonju Array Be 63.52 324 P **P 13 45 37.4 +0.6**
KSAR pP **pP 13 47 39.5 -3.0**
KSAR PP **PP 13 48 05.1 -3.7**
KSAR ⇑*e* 14 14 27.6
KSSES Seosan 63.91 322 P **P 13 45 39.6 +0.4**
SNR=9.0
YSS Yuzh-Sakhalins 64.26 340 ⇑*i*P **P 13 45 41.6 +0.4**
YSS *e* 13 47 46.0
YSS pmax pmax
comp=Z,30nm,0.9s
YSS Yuzh-Sakhalins 64.26 340 *e*P **P 13 45 42.1 +0.9**
comp=Z,27nm,1.0s
YSS *ep*P **pP 13 47 46.9 -0.5**
INCN Inchon 64.28 323 *e*P **P 13 45 40.8 -0.8**
comp=Z,28nm,0.8s
VNDA Vanda 64.66 182 P **P 13 45 44.4 +1.1**
comp=Z,12nm,0.7s,baz=354,slow=7.1,SNR=123
SBA Scott Base 64.89 181 *e*P **P 13 45 46.9 +2.1**
SBA pmax pmax
comp=Z,75nm,0.9s
SBA Scott Base 64.89 181 *e*P **P 13 45 46.9 +2.1**
comp=Z,75nm,0.9s
NJ2 Nanjing 65.91 314 *e*P **P 13 45 54.0 +2.2**
NJ2 PMZ
comp=Z,110nm,1.2s
CASY Casey 65.93 202 *e*P **P 13 45 50.6 -0.7**
comp=Z,37nm,0.7s
USRK Ussuriysk Ar. 66.30 331 P **P 13 45 54.6 +0.7**
comp=Z,13nm,0.7s,baz=116,slow=6.1,SNR=29
PETK Petropavlovsk- 66.58 352 P **P 13 45 55.5 0.0**
comp=Z,6.6nm,0.8s,baz=169,slow=9.0,SNR=8.1
PETK pP **pP 13 48 01.7 -1.4**
comp=Z,7.0nm,0.9s,baz=133,slow=10,SNR=4.7
PETK PP **PP 13 48 33.8 -1.0**
comp=Z,3.8nm,0.8s,baz=141,slow=2.8,SNR=2.8
QIZ Qiongzhong 66.74 297 P **P 13 45 58.4 +1.2**
QIZ PMZ
comp=Z,14nm,1.7s
MDJ Mudanjiang 67.75 330 P **P 13 46 03.7 +0.9**
MDJ S **S 13 54 12.2 +1.2**
MDJ sS **sS 13 57 59.5 -0.3**
MDJ SS **SS 13 58 52.5 +1.2**
MDJ PMZ
comp=Z,25nm,1.1s
MDJ PMZ
comp=Z,31nm,3.7s
MDJ Mudanjiang 67.75 330 *e*P **P 13 46 01.6 -1.2**
comp=Z,33nm,1.1s
HABR Khabarovsk 68.34 336 *de*P **P 13 46 05.8 -0.4**
HABR *e**PP **pP 13 48 13.3 -1.6**
HABR *e* 13 48 48.7
HABR *e**SP **sP 13 49 20.2 -2.0**
HABR *e*S **S 13 54 17.9 +0.3**
HABR *e* 13 55 03.5
HABR *e*SS **SS 13 58 59.9 -0.2**
HABR *e*SSS SSS 14 02 23.7
HABR pmax pmax
comp=Z,41nm,1.7s
HABR pmax pmax
comp=E,18nm,1.7s
HABR pmax pmax
comp=N,6.0nm,0.9s
HABR MLR MLR
comp=Z,49nm,20.0s
CN2 Changchun 69.25 327 *e*P **P 13 46 12.5 +0.7**
CN2 PMZ
comp=Z,30nm,0.8s
TIA Tai'an 69.45 317 ⇓P **P 13 46 13.6 +0.4**
TIA PMZ
comp=Z,30nm,0.8s
IPM Ipoh 70.08 280 *e*P **P 13 46 17.1 -0.2**
comp=Z,25nm,0.9s
KLR Kul'dur 70.28 335 *e*P P 13 46 14.2 -3.5
PSI Prapat 71.67 277 P **P 13 46 26.2 -0.5**
comp=Z,16nm,0.7s,baz=108,slow=6.0,SNR=14
PSI PP **PP 13 49 15.5 -3.1**
comp=Z,14nm,1.1s,baz=189,slow=5.8,SNR=7.9
ENH Enshi 71.89 308 *e*P **P 13 46 25.8 -1.8**
comp=Z,9.3nm,0.7s
BJI Beijing 72.24 320 P **P 13 46 30.0 +0.7**
BJI pP **pP 13 48 39.3 -0.8**
BJI sP **sP 13 49 45.4 -1.4**
BJI S **S 13 55 03.1 +1.3**
BJI PMZ
comp=Z,26nm,0.6s
TRTT Trang 72.26 283 P **P 13 46 31.7 +1.7**
comp=Z,36nm,1.1s
GYA Guiyang 72.46 303 P **P 13 46 32.0 +0.9**
GYA pP **pP 13 48 42.8 +0.9**
GYA sP **sP 13 49 48.2 -0.4**
GYA S **S 13 55 07.0 +1.9**
GYA SKS **SKSac 13 55 32.3 -2.7**
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,90nm,5.2s
GSI Gunungsitoli 72.61 276 *e*P **P 13 46 33.0 +0.9**
comp=Z,45nm,0.7s
XAN Xi'an 74.07 311 P **P 13 46 40.7 +0.8**
XAN PMZ
comp=Z,6.0nm,0.8s
XAN PMZ
comp=Z,16nm,5.6s
KMI Kunming 75.18 301 P **P 13 46 47.8 +1.3**
KMI PMZ
comp=Z,19nm,1.1s
HHC Hu-ho-hao-te 75.63 318 *e*P **P 13 46 49.6 +1.1**
HHC pP **pP 13 49 06.0 +5.0**
HHC sP **sP 13 50 10.7 +3.5**
HHC S **S 13 55 42.8 +4.0**
HHC sS **sS 13 59 33.0 -1.9**
HHC PMZ
comp=Z,20nm,1.1s
HHC PMZ
comp=Z,81nm,7.4s
HIA Hailar 75.83 329 ⇓*i*P **P 13 46 49.7 +0.4**
HIA pmax pmax
comp=Z,10.0nm,1.0s
CMAR Chiang Mai Arr 76.16 293 P **P 13 46 53.0 +1.3**
comp=Z,17nm,0.9s,baz=118,slow=4.1,SNR=55
CMAR PP **PP 13 49 54.3 -1.5**
comp=Z,1.5nm,0.8s,baz=128,slow=6.9,SNR=3.0
CMAR Chiang Mai Arr 76.16 293 *ce*P **P 13 46 53.2 +1.5**
CMAR pmax pmax
comp=Z,17nm,0.9s
CHTO Chiang Mai 76.27 293 P **P 13 46 53.5 +1.1**
comp=Z,126nm,0.9s
CHTO Chiang Mai 76.27 293 *e*P **P 13 46 52.4 0.0**
CHTO pmax pmax
comp=Z,18nm,0.9s
CHTO Chiang Mai 76.27 293 *e*P **P 13 46 52.4 0.0**
comp=Z,18nm,0.9s
OHAK Old Harbor 76.43 20 *e*P **P 13 46 51.2 -1.1**
CD2 Chengdu 76.62 306 P **P 13 46 55.1 +1.1**
CD2 pP **pP 13 49 07.3 +0.2**
CD2 PP **PP 13 50 00.1 +0.8**
CD2 sP **sP 13 50 13.3 +0.2**
CD2 S **S 13 55 51.5 +1.9**
CD2 SKS **SKSac 13 56 05.1 0.0**
CD2 sS **sS 13 59 47.8 +1.3**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
SEY Seymchan 76.82 352 ⇓*i*P **P 13 46 54.9 +0.6**
QSPA South Pole Qui 77.04 180 P **P 13 46 56.6 +0.8**
comp=Z,95nm,0.8s,baz=360,slow=0.9,SNR=383
QSPA South Pole Qui 77.04 180 *e*P **P 13 46 56.7 +0.9**
KDAK Kodiak Island 77.11 20 *i* P **P 13 46 56.3 +0.3**
KDAK Kodiak Island 77.11 20 *e*P **P 13 46 56.2 +0.2**
comp=Z,17nm,1.0s
KDAK *e*PcP **PcP 13 47 02.7 -0.8**
LZH Lanzhou 78.70 311 *e*P **P 13 47 06.8 +1.5**
LZH PMZ
comp=Z,23nm,1.0s
LZH PMZ
comp=Z,96nm,5.0s
BRLK Bradley Lake 79.22 19 *e*P **P 13 47 07.3 +0.1**
comp=Z,24nm,0.8s
SEW Seward 79.94 20 P **P 13 47 09.9 -1.0**
comp=Z,19nm,1.0s
SEW *e*PcP **PcP 13 47 16.3 +0.5**
RC01 Rabbit Creek A 80.60 19 *e*P **P 13 47 13.8 -0.6**
comp=Z,78nm,1.2s
YAK Yakutsk 80.98 342 *e*P **P 13 47 18.0 +1.8**
YAK pmax pmax
comp=Z,8.0nm,0.8s
PPLA Purkeypile 81.28 17 *e*P **P 13 47 17.7 -0.3**
comp=Z,10nm,0.8s
EYAK Cordova Ski Ar 81.51 21 *e*P **P 13 47 19.1 +0.2**
comp=Z,22nm,1.2s
KHMM Horse Mountain 81.66 45 *e*P **P 13 47 20.1 -0.3**
CAST Castle Rocks 81.73 16 *e*P P 13 47 16.4 -3.7
comp=Z,38nm,0.7s
DIV Divide 81.92 20 *e*P **P 13 47 20.1 -1.0**
PKM Mcpherson Peak 82.14 52 ⇓P **P 13 47 24.1 +1.1**
baz=82
BMRM Bremner River 82.20 21 *e*P **P 13 47 22.7 +0.1**
comp=Z,13nm,0.8s
TRF Thorofare Moun 82.25 17 *e*P **P 13 47 21.9 -1.0**
comp=Z,21nm,0.9s
L02D Cave Junction, 82.29 44 ⇓P **P 13 47 24.9 +1.5**
baz=82
KTRM Thompson Ridge 82.34 44 P **P 13 47 25.3 +1.5**
SONM Songino Array 82.34 323 P **P 13 47 24.0 +0.4**
comp=Z,2.2nm,0.6s,baz=136,slow=5.1,SNR=13
SONM pP **pP 13 49 38.8 -0.7**
comp=Z,1.9nm,1.1s,baz=134,slow=4.2,SNR=4.1
SONM S **S 13 56 43.3 -4.2**
comp=Z,0.2nm,0.5s,baz=150,slow=3.2,SNR=4.1
SONM PKKPbc **PKKPbc 14 05 45.6 -1.6**
comp=Z,1.0nm,0.7s,baz=257,slow=2.9,SNR=5.6
WDC Whiskeytown Da 82.36 45 *e*P **P 13 47 25.1 +1.3**
WDC pmax pmax
comp=Z,36nm,1.4s
WDC Whiskeytown Da 82.36 45 *e*P **P 13 47 25.1 +1.3**
comp=Z,36nm,1.4s
N02D Trinity Center 82.41 45 ⇓P **P 13 47 25.4 +1.3**
baz=82,SNR=8.1
M02C Callahan 82.48 45 ⇑P **P 13 47 25.9 +1.4**
baz=83,SNR=7.8
BPAW Bear Paw Mtn. 82.56 16 *e*P **P 13 47 23.6 -0.6**
comp=Z,2.2nm,1.1s
YBH Yreka Blue Hor 82.72 44 P **P 13 47 26.7 +1.1**
comp=Z,17nm,0.8s,baz=198,slow=0.9,SNR=23
YBH Yreka Blue Hor 82.72 44 *e*P **P 13 47 25.4 -0.2**
YBH pmax pmax
comp=Z,24nm,1.1s
YBH Yreka Blue Hor 82.72 44 *e*P **P 13 47 25.4 -0.2**
comp=Z,24nm,1.1s
DHY Denali Highway 82.83 18 *e*P **P 13 47 25.9 +0.1**
MCK McKinley 82.86 17 *e*P **P 13 47 25.8 0.0**
MCK pmax pmax
comp=Z,11nm,0.7s
MCK McKinley 82.86 17 *e*P **P 13 47 25.8 0.0**
comp=Z,11nm,0.7s
CMB Columbia Colle 82.89 48 *e*P **P 13 47 27.2 +0.7**
CMB pmax pmax
comp=Z,22nm,1.0s
CMB Columbia Colle 82.89 48 *e*P **P 13 47 27.2 +0.7**
comp=Z,22nm,1.0s
HUMO Hull Mountain 82.92 43 *e*P **P 13 47 26.7 +0.2**
comp=Z,30nm,0.9s
GTA Gaotai 82.98 313 *e*P **P 13 47 28.1 +1.1**
GTA pP **pP 13 49 43.7 +0.6**
GTA sP **sP 13 50 49.8 +1.4**
GTA SKS **SKSac 13 56 45.8 -2.2**
GTA S **S 13 56 53.9 -0.2**
GTA PMZ
comp=Z,26nm,0.8s
GTA PMZ
comp=Z,75nm,5.7s
VES Vestal, Richgr 83.04 51 ⇓P **P 13 47 27.9 +0.6**
baz=83
BWN Browne 83.04 17 *e*P **P 13 47 26.6 0.0**
comp=Z,33nm,0.7s
HARP HAARP 83.05 20 *e*P P 13 47 22.3 -4.4
comp=Z,18nm,0.6s
I03D Drain, OR 83.11 42 ⇑P **P 13 47 28.2 +0.8**
baz=83
PASC Pasadena Art C 83.14 53 *e*P **P 13 47 27.9 +0.2**
comp=Z,18nm,0.8s
MWC Mount Wilson 83.25 53 *e*P **P 13 47 29.1 +0.5**
MWC pmax pmax
comp=Z,45nm,1.2s
MWC Mount Wilson 83.25 53 *e*P **P 13 47 29.1 +0.5**
comp=Z,45nm,1.2s
M04C Macdoel 83.33 45 ⇑P **P 13 47 29.6 +0.8**
baz=84,SNR=6.8
IM04 Indian Mountai 83.34 14 *e*P **P 13 47 28.3 +0.2**
PAX Paxson 83.35 19 *e*P **P 13 47 27.5 -0.8**
PAX pmax pmax
comp=Z,3.0nm,1.0s
PAX Paxson 83.35 19 *e*P **P 13 47 27.5 -0.8**
comp=Z,3.2nm,1.0s
ISA Isabella, Lake 83.44 51 *e*P **P 13 47 30.5 +1.2**
ISA pmax pmax
comp=Z,27nm,1.1s
ISA Isabella, Lake 83.44 51 ⇓P **P 13 47 29.9 +0.6**
baz=84,SNR=6.2
ISA Isabella, Lake 83.44 51 *e*P **P 13 47 30.5 +1.2**
comp=Z,27nm,1.1s
EDW2 Edwards Air Fo 83.53 52 ⇓P **P 13 47 30.7 +0.9**
baz=84,SNR=11
BFSC Mount Baldy Ra 83.57 53 ⇑P **P 13 47 30.4 +0.3**
baz=84,SNR=8.0
MURC Murrieta 83.71 54 ⇓P **P 13 47 31.4 +0.7**
baz=84
J04D Umpqua Nationa 83.74 43 ⇓P **P 13 47 31.9 +1.0**
baz=84,SNR=5.0
WAKR Walker 83.76 48 *e*P **P 13 47 30.8 -0.2**
BAR Barrett 83.81 55 *e*P **P 13 47 32.2 +1.1**
comp=Z,12nm,0.8s
G03D McMinnville, O 83.81 41 ⇑P **P 13 47 31.6 +0.8**
baz=84
CCB Clear Creek Bu 83.88 17 *e*P **P 13 47 29.7 -0.9**
comp=Z,14nm,0.8s
HDA Harding Lake 83.94 18 *e*P **P 13 47 30.2 -0.8**
comp=Z,33nm,0.9s
LRMC Laurel Mtn Rad 83.97 52 ⇓P **P 13 47 32.6 +0.6**
baz=84
CWC Cottonwood Cre 84.02 51 ⇓P **P 13 47 32.9 +0.6**
baz=84
COLA College 84.03 17 *di*P **P 13 47 29.9 -1.5**
COLA pmax pmax
comp=Z,103nm,1.0s
COLA College 84.03 17 *e*P **P 13 47 32.3 +0.9**
MONP Monument Peak, 84.08 54 ⇓P **P 13 47 33.8 +1.1**
baz=84,SNR=10
ILAR Eielson Array 84.23 17 P **P 13 47 31.1 -1.3**
comp=Z,16nm,0.9s,baz=237,slow=4.9,SNR=174
ILAR pP **pP 13 49 46.6 -2.5**
comp=Z,1.1nm,0.7s,baz=236,slow=4.9,SNR=3.0
ILAR PP **PP 13 50 59.1 -1.1**
comp=Z,1.0nm,1.1s,baz=218,slow=6.9,SNR=2.5
ILAR S S 13 56 52.2 -13
comp=Z,0.7nm,1.0s,baz=232,slow=4.4,SNR=4.3
ILAR PKKPbc **PKKPbc 14 05 40.0 -3.4**
comp=Z,0.3nm,0.4s,baz=335,slow=2.3,SNR=5.5
ILAR PKPPKP **P'P'df 14 13 46.3 +1.9**
comp=Z,0.3nm,0.9s,baz=53,slow=3.5,SNR=4.7
MAW Mawson 84.28 202 P **P 13 47 33.7 +1.1**
comp=Z,23nm,0.7s,baz=103,slow=6.8,SNR=40
PFO Pinyon Flats O 84.29 54 *e*P **P 13 47 33.6 0.0**
PFO pmax pmax
comp=Z,21nm,1.1s
PFO Pinyon Flats O 84.29 54 ⇑P **P 13 47 34.4 +0.8**
baz=84,SNR=6.4
PFO Pinyon Flats O 84.29 54 *e*P **P 13 47 33.6 0.0**
comp=Z,21nm,1.1s
DAC Darwin (Calif) 84.33 51 *e*P **P 13 47 34.4 +0.6**
DAC pmax pmax
comp=Z,14nm,1.1s
DAC Darwin (Calif) 84.33 51 *e*P **P 13 47 34.4 +0.6**
comp=Z,14nm,1.1s
MPMC Manual Prospec 84.33 51 ⇑P **P 13 47 34.8 +1.0**
baz=84,SNR=11
OOW Octopus West 84.33 38 P **P 13 47 35.1 +1.8**
J05D Fort Rock, OR 84.35 43 ⇑P **P 13 47 34.9 +1.2**
baz=84
K05A Summer Lake 84.35 44 *e*P **P 13 47 34.7 +0.9**
comp=Z,25nm,0.7s
OSR Olympics--Salm 84.37 39 P **P 13 47 35.1 +1.6**
NVAR Mina Array Bea 84.56 49 P **P 13 47 35.8 +0.8**
comp=Z,11nm,0.8s,baz=231,slow=7.6,SNR=41
NVAR pP **pP 13 49 51.7 -0.1**
comp=Z,0.6nm,0.6s,baz=238,slow=10,SNR=2.7
NVAR PKKPbc **PKKPbc 14 05 41.5 -0.2**
comp=Z,0.7nm,0.7s,baz=91,slow=3.6,SNR=4.0
GSC Goldstone, Bar 84.59 52 *e*P **P 13 47 35.9 +0.9**
GSC pmax pmax
comp=Z,26nm,1.4s
GSC Goldstone, Bar 84.59 52 ⇓P **P 13 47 35.8 +0.9**
baz=85
GSC Goldstone, Bar 84.59 52 *e*P **P 13 47 35.9 +0.9**
comp=Z,26nm,1.4s
SWSC Sam W. Stewart 84.59 55 ⇓P **P 13 47 35.6 +0.7**
baz=85,SNR=7.3
I05D Terrebonne, OR 84.70 42 ⇓P **P 13 47 35.7 +0.4**
baz=85
LVP Lakeview Peak 84.72 40 P **P 13 47 36.2 +0.8**
SKAG Skagway 84.73 25 *e*P **P 13 47 36.4 +1.5**
comp=Z,11nm,1.1s
GRAC Grapevine Rang 84.75 50 ⇓P **P 13 47 36.6 +1.0**
baz=85,SNR=16
BELC Belle Mtn. Jos 84.78 54 ⇑P **P 13 47 37.1 +1.1**
baz=85,SNR=16
HEC Hector,Ludlow 84.80 53 ⇓P **P 13 47 36.7 +0.8**
baz=85
FL2 Flat Top 2 84.81 40 P **P 13 47 37.1 +1.3**
FURC Furnace Creek, 84.95 51 ⇑P **P 13 47 37.4 +0.9**
baz=85,SNR=15
TDL Tradedollar La 84.96 40 P **P 13 47 37.6 +1.0**
G05D Wamic, OR 85.08 42 ⇑P **P 13 47 37.7 +0.7**
baz=85
BC3 Big Chuckawall 85.10 54 ⇑P **P 13 47 38.6 +1.1**
baz=85,SNR=14
SHOC Shoshone, Teco 85.20 52 ⇑P **P 13 47 38.5 +0.8**
baz=85
COLD Coldfoot 85.21 15 *e*P **P 13 47 37.7 +0.7**
comp=Z,4.7nm,0.8s
GMRC Granite Mounta 85.30 53 ⇑P **P 13 47 39.1 +0.6**
baz=85,SNR=5.6
TUQ Turquoise Moun 85.31 52 ⇓P **P 13 47 39.0 +0.5**
baz=85,SNR=5.1
GLA Glamis 85.40 55 ⇑P **P 13 47 40.1 +1.3**
baz=86,SNR=9.5
D05A Enumclaw 85.45 40 *e*P **P 13 47 37.8 -0.9**
comp=Z,148nm,1.8s
IRM Iron Mountain 85.50 54 ⇑P **P 13 47 40.4 +1.1**
baz=86,SNR=18
FMW Mount Fremont 85.54 40 P **P 13 47 40.2 +0.8**
TPNV Topopah Spring 85.57 51 ⇓P **P 13 47 40.5 +0.8**
baz=86,SNR=17
TLY Talaya 85.72 325 P **P 13 47 39.1 -0.8**
comp=Z,0.9nm,0.4s,baz=239,slow=18,SNR=3.2
WVOR Wild Horse Val 85.78 45 *e*P **P 13 47 40.8 +0.3**
WVOR pmax pmax
comp=Z,26nm,1.4s
WVOR Wild Horse Val 85.78 45 *e*P **P 13 47 40.8 +0.3**
comp=Z,26nm,1.4s
I07A Izee 85.81 43 *e*P **P 13 47 42.1 +1.4**
Y12C Blythe 85.86 54 ⇓P **P 13 47 42.1 +1.1**
baz=86,SNR=8.9
EGAK Eagle 85.98 19 *e*P **P 13 47 40.1 -0.7**
comp=Z,6.6nm,0.8s
EGAK *ep*P **pP 13 49 58.3 -0.1**
BMN Battle Mountai 86.06 47 *e*P **P 13 47 42.5 +0.6**
BMN pmax pmax
comp=Z,55nm,1.8s
BMN Battle Mountai 86.06 47 *e*P **P 13 47 42.5 +0.6**
comp=Z,55nm,1.8s
SHPR Sheep Range 86.25 51 *e*P **P 13 47 44.1 +1.2**
PDMCI Parker Dam,Lak 86.34 54 ⇑P **P 13 47 44.2 +1.0**
baz=86,SNR=17
R11A Troy Canyon, C 86.54 50 ⇑P **P 13 47 44.8 +0.5**
baz=87,SNR=22
R11A Troy Canyon, C 86.54 50 *e*P **P 13 47 45.0 +0.7**
comp=Z,18nm,1.3s
HAWA Hanford 86.68 41 *e*P **P 13 47 44.8 +0.3**
comp=Z,33nm,1.1s
214A Organ Pipe Nat 86.68 56 ⇓P **P 13 47 46.2 +1.3**
baz=87
H2OWA Water 86.75 41 P **P 13 47 46.1 +1.3**
SLBS Sierra La Lagu 86.79 65 *e*P **P 13 47 45.5 -0.1**
comp=Z,15nm,0.8s
WTV Waterville 86.92 40 P **P 13 47 46.1 +0.5**
D08A Wollman Farm, 87.32 41 *e*P **P 13 47 47.9 +0.4**
comp=Z,24nm,0.9s
B08A Colville Reser 87.56 39 *e*P **P 13 47 48.5 -0.1**
BMO Blue Mountains 87.56 43 *e*P **P 13 47 48.1 -0.7**
BMO pmax pmax
comp=Z,19nm,1.0s
BMO Blue Mountains 87.56 43 *e*P **P 13 47 48.1 -0.7**
comp=Z,19nm,1.0s
ELK Elko 87.58 47 *e*P **P 13 47 49.1 -0.1**
ELK pmax pmax
comp=Z,14nm,1.1s
ELK Elko 87.58 47 *e*P **P 13 47 49.1 -0.1**
comp=Z,14nm,1.1s
CCUT Cedar City 87.95 51 P **P 13 47 52.3 +1.3**
comp=Z,17nm,0.9s
F10A Beach Ranch, E 88.01 42 P **P 13 47 51.3 +0.5**
MFID Camas Ranch 88.06 45 *e*P **P 13 47 52.0 +0.8**
comp=Z,16nm,0.9s
TUC Tucson 88.43 56 *e*P **P 13 47 54.4 +1.3**

TUC	Tucson	88.43	56	*e*P		P		13 47 54.4	+1.3
WUAZ	Wupatki	88.87	53	⇑P		P		13 47 56.4	+1.2
	baz=89								
WUAZ	Wupatki	88.87	53	*e*P		P		13 47 56.7	+1.5
	comp=Z,23nm,0.9s								
NEW	Newport	88.89	40	*e*P		P		13 47 55.3	+0.4
NEW				pmax		pmax			
	comp=Z,15nm,0.8s								
NEW	Newport	88.89	40	⇓P		P		13 47 55.3	+0.4
	baz=89								
NEW	Newport	88.89	40	*e*P		P		13 47 55.2	+0.4
	comp=Z,15nm,0.8s								
HLID	Hailey	89.08	45	⇑P		P		13 47 56.8	+0.8
	baz=89								
HLID	Hailey	89.08	45	*e*P		P		13 47 57.0	+1.0
	comp=Z,12nm,1.2s								
MVU	Marysvale	89.10	50	*e*P		P		13 47 57.0	+0.7
	comp=Z,16nm,1.0s								
DUG	Dugway, Tooele	89.16	48	*e*P		P		13 47 57.2	+0.8
DUG				pmax		pmax			
	comp=Z,5.0nm,0.8s								
DUG	Dugway, Tooele	89.16	48	⇓P		P		13 47 57.0	+0.6
	baz=89								
DUG	Dugway, Tooele	89.16	48	*e*P		P		13 47 57.2	+0.8
	comp=Z,5.5nm,0.8s								
NLU	North Lily Min	89.63	49	*e*P		P		13 47 58.6	-0.1
	comp=Z,9.6nm,0.9s								
HVU	Hansel Valley	89.67	47	*e*P		P		13 47 59.1	+0.4
HVU				pmax		pmax			
	comp=Z,8.0nm,0.8s								
HVU	Hansel Valley	89.67	47	*e*P		P		13 47 59.1	+0.4
	comp=Z,8.2nm,0.8s								
W18A	Petrified Fore	90.05	54	*e*P		P		13 48 00.1	-0.6
	comp=Z,27nm,1.0s								
CTU	Camp Tracy	90.08	48	*e*P		P		13 48 01.7	+1.0
	comp=Z,7.6nm,0.8s								
BSMT	Bassoo Peak	90.22	41	*e*P		P		13 48 00.8	-0.4
JLU	Jordanelle	90.28	48	*e*P		P		13 48 02.8	+1.1
	comp=Z,7.5nm,0.9s								
TCUT	Toone Canyon	90.46	48	*e*P		P		13 48 02.2	-0.3
	comp=Z,12nm,0.8s								
SRU	San Rafael Swe	90.54	50	*e*P		P		13 48 03.7	+0.9
SRU				pmax		pmax			
	comp=Z,6.0nm,0.7s								
SRU	San Rafael Swe	90.54	50	*e*P		P		13 48 03.7	+0.9
	comp=Z,6.1nm,0.7s								
DLMT	Dillon	90.88	44	*e*P		P		13 48 05.2	+1.0
	comp=Z,5.6nm,0.6s								
121A	Cookes Peak, D	90.94	57	⇓P		P		13 48 05.9	+1.0
	baz=91								
FXWY	Fox Creek	91.45	46	*e*P		P		13 48 07.5	+0.5
	comp=Z,11nm,1.8s								
IMW	Indian Meadow	91.58	45	*e*P		P		13 48 08.3	+0.6
BOZ	Bozeman (W)	91.61	44	⇓P		P		13 48 08.7	+1.1
	baz=92								
H17A	Grant Village	91.97	45	⇑P		P		13 48 10.7	+1.3
	baz=92								
PDAR	Pinedale Array	92.24	47	P		P		13 48 10.4	-0.3
	comp=Z,1.4nm,0.6s,baz=251,slow=4.5,SNR=7.8								
PDAR				pP		pP		13 50 28.0	-2.0
	comp=Z,0.6nm,0.6s,baz=268,slow=4.2,SNR=2.1								
O20A	White River Ci	92.51	50	⇓P		P		13 48 12.5	+0.6
	baz=93								
ANMO	Albuquerque	92.60	55	*ce*P		P		13 48 12.5	0.0
ANMO				pmax		pmax			
	comp=Z,22nm,1.0s								
ANMO	Albuquerque	92.60	55	*e*P		P		13 48 13.2	+0.7
	comp=Z,4.6nm,0.9s								
PMSA	Palmer Station	92.70	160	P		P		13 48 12.8	+0.8
	comp=Z,98nm,1.2s,baz=106,slow=7.4,SNR=2.2								
J19A	Crowheart	92.73	46	⇑P		P		13 48 12.9	0.0
	baz=93								
I19A	Meeteetse	92.97	46	⇓P		P		13 48 14.6	+0.7
	baz=93								
S22A	4UR Ranch, Cre	92.98	52	⇓P		P		13 48 14.8	+0.6
	baz=93								
WMQ	Urumqi	92.99	314	P		P		13 48 14.1	+0.2
WMQ				pP		pP		13 50 35.6	+2.4
WMQ				sP		sP		13 51 39.7	+2.3
WMQ				S		S		13 58 22.8	-2.8
WMQ				PMZ					
	comp=Z,11nm,0.4s								
WMQ				PMZ					
	comp=Z,120nm,5.2s								
P22A	Eagle	93.48	50	⇓P		P		13 48 17.0	+0.6
	baz=94								
TXAR	Lajitas Array	93.62	61	P		P		13 48 17.4	+0.4
	comp=Z,2.2nm,0.7s,baz=220,slow=5.4,SNR=30								
O22A	Kremmling	93.78	50	⇓P		P		13 48 18.1	+0.2
	baz=94								
R23A	Moffat	93.86	52	⇑P		P		13 48 18.5	+0.3
	baz=94								
J21A	Lysite	93.88	47	⇑P		P		13 48 18.4	+0.3
	baz=94								
N22A	Wattenberg Ran	93.99	49	⇓P		P		13 48 19.7	+0.9
	baz=94								
SDCO	Great Sand Dun	94.01	52	⇓P		P		13 48 19.3	+0.4
	baz=94								
I21A	Big Trails, Te	94.11	46	⇑P		P		13 48 19.1	0.0
	baz=94								
P23A	Jefferson	94.12	51	⇑P		P		13 48 20.0	+0.5
	baz=94								
B19A	Brinkman Farms	94.14	41	⇓P		P		13 48 20.5	+1.6
	baz=94								
O23A	Lake Granby, G	94.25	50	⇑P		P		13 48 20.6	+0.6
	baz=94								
K22A	Casper	94.38	47	⇓P		P		13 48 21.0	+0.7
	baz=94								
ISCO	Idaho Springs	94.39	50	⇑P		P		13 48 21.3	+0.7
	baz=94								
N23A	Red Feather La	94.39	49	⇑P		P		13 48 21.3	+0.8
	baz=94								
Q24A	Divide	94.55	51	⇑P		P		13 48 22.2	+0.8
	baz=95								
H22A	Clearmont	94.95	46	⇑P		P		13 48 22.9	+0.2
	baz=95								
529A	Stev Forest Ra	95.02	60	⇓P		P		13 48 23.5	+0.2
	baz=95								
YKA	Yellowknife Ar	95.05	27	P		P		13 48 21.9	-0.7
	comp=Z,8.5nm,0.8s,baz=254,slow=4.6,SNR=78								
YKA				PKiKP		PKiKP		13 52 58.7	-0.6
	comp=Z,0.4nm,0.5s,baz=256,slow=1.4,SNR=5.9								
YKA				S		SKSac		13 57 56.3	+0.1
	comp=Z,0.2nm,0.6s,baz=256,slow=5.0,SNR=3.9								
YKA				PKKPbc		PKKPdf		14 05 12.9	-2.6
	comp=Z,0.4nm,0.7s,baz=64,slow=2.8,SNR=4.1								
128A	Castleberry Fa	95.31	58	⇓P		P		13 48 24.9	+0.2
	baz=95								
SNAA	Sanae	95.39	182	P		P		13 48 15.9	-8.4
SNAA	Sanae	95.39	182	P		P		13 48 23.7	-0.5
	comp=Z,2.4nm,0.9s,baz=199,slow=6.3,SNR=18								
SNAA				PKiKP		PKiKP		13 52 59.1	-0.8
	comp=Z,0.6nm,0.8s,baz=144,slow=3.3,SNR=2.9								
429A	Davenport Ranc	95.39	60	⇓P		P		13 48 25.5	+0.4
	baz=96								
R26A	Arlington	95.71	52	⇑P		P		13 48 26.6	+0.2
	baz=96								
430A	Baggett Ranch,	95.98	60	⇓Pdiff		P		13 48 27.8	+0.1
	baz=96								
H24A	Dirks Ranch, A	96.23	46	⇓Pdiff		P		13 48 28.9	+0.4
	baz=96								
631A	Perdido Creek	96.27	61	⇓Pdiff		P		13 48 28.7	-0.2
	baz=96								
AMTX	Amarillo	96.42	56	⇓Pdiff		P		13 48 29.4	-0.2
	baz=96								
531A	Rocksprings	96.44	61	⇓Pdiff		P		13 48 30.2	+0.5
	baz=96								
431A	Sonora	96.49	60	⇓Pdiff		P		13 48 29.8	-0.1
	baz=97								
VNA1	Neumayer--Stat	96.56	181	P		P		13 48 24.6	-4.7
I25A	Rochford	96.66	46	⇓Pdiff		P		13 48 30.7	+0.1
	baz=97								
H25A	Fruitdale	96.87	46	⇑Pdiff		P		13 48 31.7	+0.4
	baz=97								
231A	Bronte	96.98	59	⇑Pdiff		P		13 48 32.4	+0.3
	baz=97								
532A	Rocksprings	96.98	61	⇓Pdiff		P		13 48 32.3	+0.1
	baz=97								
JCT	Junction City	97.14	60	⇓Pdiff		Pdif		13 48 32.8	0.0
	baz=97								
ZALV	Zalesovo Beam	97.21	324	P		Pdif		13 48 32.1	-0.4
	comp=Z,1.3nm,0.7s,baz=123,slow=5.5,SNR=5.2								
ZALV				PP		PP		13 52 40.0	-0.8
	comp=Z,0.5nm,0.3s,baz=103,slow=6.2,SNR=3.2								
ZALV				PKKPbc		PKKPbc		14 05 07.9	-2.4
	comp=Z,1.6nm,0.4s,baz=303,slow=2.7,SNR=7.5								
ZALV	Zalesovo Beam	97.21	324	*i* P		Pdif		13 48 32.2	-0.3
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.7s								
432A	Menard	97.22	60	⇑Pdiff		Pdif		13 48 32.9	-0.3
	baz=97								
MKAR	Makanchi Array	97.38	316	P		Pdif		13 48 32.6	-0.9
	comp=Z,1.1nm,0.5s,baz=82,slow=6.5,SNR=15								
MKAR				pP		pP		13 50 52.8	-0.6
	comp=Z,1.1nm,0.7s,baz=96,slow=6.8,SNR=4.4								
MKAR				PP		PP		13 52 40.4	-1.8
	comp=Z,0.6nm,0.7s,baz=100,slow=9.9,SNR=3.2								
MKAR				PKiKP		PKiKP		13 53 03.3	-0.7
	comp=Z,0.4nm,0.5s,baz=41,slow=2.1,SNR=3.8								
MKAR				S		SKSac		13 58 08.3	-0.7
	comp=Z,1.2nm,0.9s,baz=101,slow=6.4,SNR=6.8								
MKAR				PKKPbc		PKKPbc		14 05 07.5	-2.1
	comp=Z,1.6nm,0.6s,baz=264,slow=3.3,SNR=8.7								
MKAR	Makanchi Array	97.38	316	*ce*P		P		13 48 34.0	+0.5
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
Z31A	Sharp Cattle R	97.38	58	⇑Pdiff		Pdif		13 48 33.8	-0.1
	baz=97								
633A	Saathoff Ranch	97.48	62	⇑Pdiff		Pdif		13 48 34.2	-0.1
	baz=98								
G26A	Maurine	97.70	45	⇑Pdiff		P		13 48 35.9	+0.9
	baz=98								
433A	Art	97.79	60	⇑Pdiff		Pdif		13 48 35.7	0.0
	baz=98								
035Z	Hargill	97.90	65	⇓Pdiff		Pdif		13 48 36.0	-0.2
	baz=98								
H27A	Howes	97.94	46	⇑Pdiff		P		13 48 36.5	+0.4
	baz=98								
333A	Richland Sprin	97.98	60	⇓Pdiff		Pdif		13 48 36.6	0.0
	baz=98								
334A	Lometa	98.61	60	⇑Pdiff		Pdif		13 48 39.4	0.0
	baz=99								
G28A	Parade	98.83	46	⇓Pdiff		P		13 48 40.7	+0.6
	baz=99								
KURK	Kurchatov	100.41	320	PP		PP		13 53 01.3	-3.3
KURBB	Kurchatov Arra	100.45	320	PP		PP		13 53 01.3	-3.7
	comp=Z,1.6nm,0.8s,baz=100,slow=7.1,SNR=7.1								
AAK	Ala-Archa	102.25	311	PKKPbc		PKKPbc		14 04 55.5	-0.5
	comp=Z,2.4nm,0.5s,baz=225,slow=7.1,SNR=5.6								
BVAR	Borovoye Array	105.67	322	PKiKP		PKiKP		13 53 18.6	-0.2
	comp=Z,0.7nm,0.5s,baz=174,slow=1.4,SNR=4.3								
LPAZ	La Paz	116.12	116	PKP		PKPdf		13 53 40.5	0.0
	comp=Z,4.3nm,0.5s,baz=5.5,slow=1.4,SNR=17								
PRGR	Permogore	117.05	334	PKIKP		PKPdf		13 53 38.4	-1.7
PRGR				pmax		pmax			
	comp=Z,5.0nm,0.7s								
ARCES	ARCESS Array B	119.07	346	PKP		PKPdf		13 53 43.1	-0.8
	comp=Z,12nm,0.5s,baz=67,slow=1.5,SNR=132								
ARCES				PKKPbc		PKKPbc		14 03 59.9	-2.7
	comp=Z,1.0nm,0.4s,baz=197,slow=2.8,SNR=14								
SCHQ	Schefferville	119.69	34	PKP		PKPdf		13 53 44.0	-1.5
SCHQ				PKKPbc		PKKPbc		14 03 58.2	-1.8
	comp=Z,1.2nm,0.5s,baz=90,slow=5.1,SNR=3.6								
KLMR	Klimovskoe	120.03	334	*e*PKIKP		PKPdf		13 53 44.7	-1.2
KLMR				pmax		pmax			
	comp=Z,9.0nm,1.2s								
SDV	Santo Domingo	121.02	87	*e*PKPdf		PKPdf		13 53 48.6	-0.8
SAML	Samuel	123.41	110	*e*PKPdf		PKPdf		13 53 53.4	-0.4
FINES	FINESS Array B	124.84	340	PKP		PKPdf		13 53 55.0	-0.1
	comp=Z,2.9nm,0.4s,baz=110,slow=2.0,SNR=23								
FINES				SKPdbc		SKPbc		13 56 10.8	
	comp=Z,2.7nm,0.7s,baz=101,slow=1.9,SNR=6.8								
FINES				SKP		SKP		13 56 30.8	
	comp=Z,1.2nm,0.7s,baz=54,slow=7.1,SNR=2.4								
FINES				PKKPbc		PKKPab		14 03 39.2	-0.1
	comp=Z,3.5nm,0.6s,baz=202,slow=3.0,SNR=21								
FINES	FINESS Array B	124.84	340	PKIKP		PKPdf		13 53 55.0	-0.1
RAYN	Ar Rayn	125.99	290	*e*PKPdf		PKPdf		13 53 59.3	+0.8
BOSA	Boshof	126.04	220	PKP		PKPdf		13 53 58.9	+0.2
	comp=Z,6.8nm,0.8s,baz=148,slow=1.6,SNR=6.9								
NACGM	Naroch	129.01	333	*e*		SKPbc		13 56 25.0	0.0
NB2	NORSAR Subarra	129.45	346	PKPdf		PKPdf		13 54 03.5	-0.4
	comp=Z,2.1nm,0.5s,baz=31,slow=1.9								
NOA	NORSAR Array B	129.45	346	PKP		PKPdf		13 54 03.6	-0.4
	comp=Z,3.5nm,0.6s,baz=31,slow=2.0,SNR=19								
NOA				SKPbc		SKPbc		13 56 28.2	+1.8
	comp=Z,46nm,0.8s,baz=30,slow=3.0,SNR=153								
MALT	Malatya	129.84	309	⇑*i*P		SKPab		13 56 31.4	+2.5
AKASG	Malin Array Be	130.41	328	PKP		PKPdf		13 54 04.9	-1.1
	comp=Z,1.7nm,0.6s,baz=56,slow=2.0,SNR=11								
AKASG				SKPdbc		SKPab		13 56 31.9	+1.2
	comp=Z,19nm,0.8s,baz=46,slow=4.4,SNR=69								
AKASG	Malin Array Be	130.41	328	*ic i*PKIKP		PKPdf		13 54 06.4	+0.4
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.6s								
KMBO	Kilima Mbogo	130.52	257	PKP		PKPdf		13 54 06.5	-1.2
	comp=Z,2.0nm,0.6s,baz=358,slow=4.6,SNR=3.0								
KMBO				SKPdbc		SKPab		13 56 33.8	+1.0
	comp=Z,3.0nm,0.7s,baz=111,slow=4.0,SNR=8.1								
SUW	Suwalki	131.17	334	*e*PKP		PP		13 56 34.7	-0.3
KIS	Kishinev	132.70	324	*e*P		SKPbc		13 56 40.0	+1.7
	comp=Z,100nm,1.2s								
BRTR	Keskin Array B	132.90	313	PKhKP		PKPpre		13 54 05.8	
	comp=Z,0.3nm,0.4s,baz=109,slow=6.0,SNR=2.3								
BRTR				PKP		PKPdf		13 54 11.3	0.0
	comp=Z,1.9nm,0.8s,baz=134,slow=3.6,SNR=8.7								
BRTR				SKPdbc		SKPab		13 56 41.4	-0.7
	comp=Z,8.6nm,1.0s,baz=126,slow=5.3,SNR=19								
BRTR	Keskin Array B	132.90	313	*c i*PKIKP		PKPdf		13 54 12.0	+0.7
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
BDFB	Brasilia	133.32	126	PKP		PKPdf		13 54 12.5	-0.2
	comp=Z,7.3nm,0.7s,baz=203,slow=4.1,SNR=8.0								
ANTO	Ankara	133.44	313	⇑*i*P		SKPab		13 56 42.8	-1.6
BEL	Belsk	133.73	333	*e*PKP		SKPbc		13 56 43.7	+2.2
CFR	Carcaliu	134.07	322	⇓*i*P		SKPdf		13 56 47.8	+0.1
TESR	Tescani	134.21	324	⇓*i*P		SKPab		13 56 45.8	-1.6
BURAR	Bucovina Array	134.36	326	⇓*i*P		SKPdf		13 56 45.9	-2.4
VRI	Vrincioaia	134.53	324	⇓*i*P		SKPdf		13 56 47.2	-1.4
PLOR	Plostina	134.58	324	⇓*i*P		SKPdf		13 56 47.3	-1.4
KOLS	Kolonicke sedl	135.04	330	*e*PKIKP		PKPdf		13 54 16.2	+1.4
KOLS	Kolonicke sedl	135.04	330	*e*PKP		PKPdf		13 54 16.2	+1.4
MLR	Muntele Rosu	135.19	324	⇓*i*P		SKPdf		13 56 48.5	-1.5
STHS	Stebnicka Huta	135.22	331	*e*PKIKP		PKPdf		13 54 15.8	+0.6
STHS	Stebnicka Huta	135.22	331	*e*PKP		PKPdf		13 54 15.8	+0.6
DOPR	Dopca	135.24	324	⇑*i*P		SKPdf		13 56 49.4	-0.5
TRPA	Tarpa	135.44	329	⇓*i*P		SKPdf		13 56 49.1	-1.0
VOJP		135.74	324	⇑*i*P		SKPdf		13 56 50.4	-0.5
BSEG	Bad Segeberg	135.92	342	*e*PKPbc		SKPdf		13 56 50.3	-0.5
ARR	Arges	136.02	324	⇑*i*P		SKPdf		13 56 51.6	+0.2
DRGR		136.21	327	⇓*i*P		SKPdf		13 56 51.6	-0.1
KECS	Kecovo	136.22	330	*e*PKIKP		PKPdf		13 54 17.1	+0.1
KECS	Kecovo	136.22	330	*e*PKP		PKPdf		13 54 17.1	+0.1
OKC	Ostrava-Krasne	136.34	333	*e*SKP		SKPdf		13 56 51.9	+0.2
OKC				*ex*		SKPab		13 56 58.7	+2.1
LOT	Lotru	136.46	325	⇓*i*P		SKPdf		13 56 51.4	-0.8
DPC	Dobruska-Polom	136.73	335	*e*PKPdf		PKPdf		13 54 18.8	+0.8
DPC				*ex*		x		13 54 20.5	
DPC				*e*SKP				13 56 53.4	
DPC				*ex*		x		13 56 57.3	
DPC				*ex*		x		13 57 00.6	
DPC	Dobruska-Polom	136.73	335	*e*PKIKP		PKPdf		13 54 18.8	+0.8
UPC	Upice	136.74	335	*e*PKPdf		PKPdf		13 54 19.7	+1.8
UPC				*e*SKP				13 56 53.1	
UPC	Upice	136.74	335	*e*PKIKP		PKPdf		13 54 19.7	+1.8
KRLC	Kraliky	136.75	334	*e*SKP		SKPdf		13 56 53.2	+0.7
KRLC				*ex*		SKPab		13 57 00.5	+2.0
PSZ	Piszkesteto	136.90	330	⇓*i*P		SKPdf		13 56 53.9	+1.0
GZR	Gura Zlata	137.05	325	⇓*i*P		SKPdf		13 56 53.8	+0.6
NRDL	Niedersach Rie	137.23	341	*e*PKPbc		SKPdf		13 56 54.1	+1.0
CLL	Collm	137.25	338	*e*PKPbc		SKPdf		13 56 54.2	+0.9
CLL	Collm	137.25	338	*e*PKPdf		PKPdf		13 54 19.0	+0.2
CLL				*i* PKiKP		PKiKP		13 54 21.1	+0.2
	comp=Z,7.0nm,1.1s								
CLL				*i* SKPdf		SKPdf		13 56 53.5	+0.2
	comp=Z,22nm,1.1s								
CLL	Collm	137.25	338	*e*PKIKP		PKPdf		13 54 19.0	+0.2
CLL				pmax		pmax			
	comp=Z,7.0nm,1.1s								
BRG	Berggiesshubel	137.26	337	*e*P		PKPdf		13 54 21.1	+2.2
	comp=Z,5.0nm,0.8s								
BRG	Berggiesshubel	137.26	337	*i* PKP		SKPbc		13 56 54.4	+2.1
	comp=Z,18nm,1.1s								
BRG	Berggiesshubel	137.26	337	*e*PKPbc		SKPdf		13 56 54.4	+1.1
BRG	Berggiesshubel	137.26	337	*e*PKIKP		PKPdf		13 54 21.1	+2.2
BRG				pmax		pmax			
	comp=Z,5.0nm,0.8s								
VRAC	Vranov	137.41	334	⇓*i*P		SKPbc		13 56 53.2	+0.4
BZS	Buzias	137.54	326	⇑*i*P		SKPdf		13 56 54.7	+0.7
KDZ	Kurdzhali	137.62	319	⇑*i*P		SKPdf		13 56 55.3	+1.0
GOPC	GO Pecny, Ondr	137.69	336	*e*PKPdf		PKPdf		13 54 22.0	+2.3
GOPC				*e*SKP				13 56 56.0	
GOPC				*ex*		x		13 57 04.6	
CLZ	Clausthal	137.70	341	*e*PKPbc		SKPdf		13 56 55.8	+1.7
PRU	Pruhonice	137.73	336	*e*PKPdf		PKPdf		13 54 22.0	+2.3
PRU				*e*SKP				13 56 56.0	
PRU				*ex*		x		13 57 02.9	
PRU	Pruhonice	137.73	336	*e*PKIKP		PKPdf		13 54 22.0	+2.3
TREC	Trest	137.89	335	*e*SKP		SKiKP		13 56 56.5	-1.3
IBBN	Ibbenburen	138.09	343	*e*PKPbc		SKiKP		13 56 57.6	-0.5
TANN	Tannenbergstha	138.18	338	*e*PKPbc		SKiKP		13 56 57.1	-1.4
MOX	Moxa	138.30	339	*e*PKPbc		SKiKP		13 56 57.2	-1.4
NKC	Novy Kostel	138.34	338	*e*PKPdf		PKPdf		13 54 22.6	+1.7
NKC				*e*SKP				13 56 57.8	
NKC				*ex*		x		13 57 07.3	
NKC	Novy Kostel	138.34	338	*e*PKIKP		PKPdf		13 54 22.6	+1.7
VTS	Vitosha	138.47	322	⇑*i*P		SKiKP		13 56 57.6	-1.8
PKSM	Moragy	138.69	329	⇓*i*P		SKPbc		13 56 57.6	+1.2
UBBA	Unterbreizbach	138.70	340	*e*PKPbc		SKiKP		13 56 58.1	-1.2
MMB	Musomiste	138.71	320	⇓*i*P		SKiKP		13 56 58.2	-1.6
CONA	Conrad Observa	138.77	333	⇑*i*SKPbc		SKiKP		13 56 59.3	-0.5
	comp=Z,20nm,1.6s								
KHC	Kasperske Hory	138.79	336	*e*PKPdf		PKPdf		13 54 21.8	0.0
KHC				*ex*		x		13 54 23.6	
KHC				*e*SKP				13 56 58.9	
KHC				*ex*		x		13 57 07.9	
KHC	Kasperske Hory	138.79	336	*e*PKIKP		PKPdf		13 54 21.8	0.0
ROTZ	Rotzenmuhle	138.81	338	*e*PKPbc		SKiKP		13 56 58.9	-0.8
GEC2	GERESS Array S	138.97	336	*e*PKPbc		SKiKP		13 56 59.2	-1.0
GERES	GERESS Array B	138.97	336	PKhKP		PKPpre		13 54 13.7	
	comp=Z,0.3nm,0.3s,baz=15,slow=8.1,SNR=2.9								
GERES				PKP		PKPdf		13 54 22.2	0.0
	comp=Z,2.4nm,0.7s,baz=48,slow=2.0,SNR=13								
GERES				SKPbc		SKiKP		13 56 59.1	-1.1
	comp=Z,8.5nm,0.8s,baz=29,slow=3.0,SNR=29								
GERES				SKPab		SKPab		13 57 09.3	+0.9
	comp=Z,1.4nm,0.7s,baz=55,slow=3.7,SNR=4.1								
BUG	Bochum--Univer	139.00	343	*e*PKPbc		SKiKP		13 57 00.1	+0.1
WET	Wettzell	139.06	336	*e*PKPbc		SKiKP		13 56 59.4	-0.9
GRF	Grafenberg Arr	139.23	338	*e*PKPbc		SKiKP		13 56 59.9	-0.7
DIVS	Divibare	139.40	326	⇓*i*P		SKiKP		13 57 00.0	-1.2
TNS	Taunus Mts	139.72	341	*e*PKPbc		SKiKP		13 57 01.2	-0.4
PERS	Pernice	140.07	332	*i* PKPbc		SKPbc		13 57 01.6	+1.4
SOKA	Soboth	140.08	332	⇓*i*PKPdf		PKPdf		13 54 23.4	-0.9
	comp=Z,3.6nm,1.0s								
SOKA				*i* SKPbc		SKiKP		13 57 01.6	-0.9
	comp=Z,11nm,1.4s,SNR=5.2								
RJOB	Jochberg	140.22	335	*e*PKPbc		SKiKP		13 57 02.1	-0.6
OBKA	Obir	140.43	333	⇓*i*SKPbc		SKPbc		13 57 01.8	+0.6
	comp=Z,7.1nm,0.9s								
KBA	Koelnbreinsper	140.51	334	⇓*i*PKPdf		PKPdf		13 54 24.8	-0.4
	comp=Z,2.3nm,0.5s								
KBA				⇑*i*SKPbc		SKPbc		13 57 02.2	+0.7
	comp=Z,12nm,1.1s								
STU

THE 10 13:52:09.8, 40.10N×20.46E, h2$^{km}_{\pm}$42^{km}, ML1.9/5, Error ellipse: s-maj=42.5km s-min=0.7km az=272.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRN	**Sarande**	**0.41**	**238**	*i*	Pg	13 52 17.2	-0.6
SRN	**Sarande**	**0.41**	**238**	*i*	Pg	13 52 17.2	-0.6
SRN				*i*	Sg	13 52 24.5	+1.4
SRN	**Sarande**	**0.41**	**238**	P	Pg	13 52 17.5	-0.2
SRN				S	Sg	13 52 23.3	+0.2
SRN	**Sarande**	**0.41**	**238**	*i*	Pg	13 52 17.2	-0.5
SRN	**Sarande**	**0.41**	**238**	P	Pg	13 52 17.5	-0.2
SRN				S	Sg	13 52 23.3	+0.2
SRN				*i*	Sg	13 52 24.5	-2.0
SGD	**Sagiada**	**0.52**	**200**	P	Pg	13 52 19.2	-0.5
SGD				S	Sg	13 52 27.6	+1.2
SGD	**Sagiada**	**0.52**	**200**	P	Pg	13 52 19.2	-0.5
SGD				S	Sg	13 52 27.6	+1.2
JAN	**Janina**	**0.54**	**145**	P	Pg	13 52 20.0	-0.1
JAN				S	Sg	13 52 27.0	-0.1
JAN	**Janina**	**0.54**	**145**	*e*PB	Pg	13 52 20.0	-0.1
JAN				*e*SB	Sg	13 52 28.2	+1.1
JAN	**Janina**	**0.54**	**145**	P	Pg	13 52 20.0	-0.1
JAN				S	Sg	13 52 27.0	-0.1
JAN				*e*Sb	Sb	13 52 28.2	-2.0
NEST	**Nestorio**	**0.55**	**55**	P	Pg	13 52 20.1	-0.5
NEST				S	Sg	13 52 27.6	-0.3
NEST	**Nestorio**	**0.55**	**55**	*e*PB	Pg	13 52 20.2	-0.4
NEST				*e*SB	Sg	13 52 28.5	+0.6
NEST	**Nestorio**	**0.55**	**55**	*e*Pb	Pg	13 52 20.2	-0.4
NEST				S	Sg	13 52 27.6	-0.3
NEST				*e*Sb	Sb	13 52 28.5	-2.3
IGT	**Igoumenitsa**	**0.57**	**190**	P	Pg	13 52 19.9	-0.9
IGT				S	Sb	13 52 30.1	-1.1
IGT	**Igoumenitsa**	**0.57**	**190**	*e*PB	Pg	13 52 21.1	+0.3
IGT				*e*SB	Sg	13 52 29.2	+0.9
IGT	**Igoumenitsa**	**0.57**	**190**	P	Pg	13 52 19.9	-0.9
IGT	**Igoumenitsa**	**0.57**	**190**	*e*Pb	Pg	13 52 21.1	+0.3
IGT				*e*Sb	Sg	13 52 29.2	+0.9
IGT				S	Sb	13 52 30.1	-1.1
KEK	**Kerkira**	**0.64**	**233**	P	Pg	13 52 21.6	-0.4
KEK				S	Sg	13 52 31.1	+0.8
KEK	**Kerkira**	**0.64**	**233**	*e*PB	Pg	13 52 21.6	-0.4
KEK				*e*SB	Sg	13 52 31.4	+1.1
KEK	**Kerkira**	**0.64**	**233**	P	Pg	13 52 21.6	-0.4
KEK				S	Sg	13 52 31.1	+0.8
FNA	**Florina**	**0.98**	**45**	P	Pg	13 52 28.1	-0.6
FNA				S	Sb	13 52 43.5	+0.5
FNA	**Florina**	**0.98**	**45**	*e*PG	Pg	13 52 28.2	-0.5
FNA				*e*SB	Sb	13 52 43.2	+0.2
FNA	**Florina**	**0.98**	**45**	*e*Pg	Pg	13 52 28.2	-0.5
FNA				*e*Sb	Sb	13 52 43.2	+0.2
THL	**Klokotos Trika**	**1.31**	**113**	*e*PB	Pn	13 52 35.1	0.0
THL	**Klokotos Trika**	**1.31**	**113**	*e*Pb	Pn	13 52 35.1	0.0
LIT	**Litokhoron**	**1.56**	**89**	*e*PG	Pn	13 52 38.8	+0.2
LIT				*e*SB	Sg	13 53 01.1	+1.1
LIT	**Litokhoron**	**1.56**	**89**	*e*Pg	Pn	13 52 38.8	+0.2
LIT				*e*Sb	Sg	13 53 01.1	+1.1
EVR	**Evrytania**	**1.58**	**138**	*e*PB	Pg	13 52 40.3	+0.1
EVR				*e*SB	Sg	13 53 01.9	+1.1
EVR	**Evrytania**	**1.58**	**138**	*e*Pb	Pg	13 52 40.3	+0.1
EVR				*e*Sb	Sg	13 53 01.9	+1.1
PHP	**Peshkopia**	**1.58**	**360**	*i*	PG	13 52 40.7	+0.4
PHP	**Peshkopia**	**1.58**	**360**	*i*	PG	13 52 40.7	+0.4
PHP	**Peshkopia**	**1.58**	**360**	*i*	Pg	13 52 40.7	+0.4
PDO	**Prodromos**	**1.60**	**159**	*e*PB	Pg	13 52 40.5	0.0
PDO	**Prodromos**	**1.60**	**159**	*e*Pb	Pg	13 52 40.5	0.0
MAKR	**Makrakomi, Fth**	**1.69**	**129**	*e*PG	Pb	13 52 41.8	+0.2
MAKR	**Makrakomi, Fth**	**1.69**	**129**	*e*Pg	Pb	13 52 41.8	+0.2
AGG	**Agios Georgios**	**1.80**	**126**	*e*PG	Pg	13 52 44.3	-0.2
AGG	**Agios Georgios**	**1.80**	**126**	*e*Pg	Pg	13 52 44.3	-0.2
KNT	**Kendrikon**	**2.14**	**59**	*e*PN	Pb	13 52 48.2	-1.1
KNT	**Kendrikon**	**2.14**	**59**	*e*Pn	Pb	13 52 48.2	-1.1

DDA 10 13:54:19.0, 37.40N×37.07E, h7^{km}, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HCB	**Kahramanmara¯**	**0.14**	**245**	*i*	Pg	13 54 22.2	+0.2
HCB				*i*	Sg	13 54 24.6	+0.5
KAMA	**Osmaniye**	**0.38**	**236**	*i*	Pg	13 54 27.1	+0.4
KAMA				*i*	Sg	13 54 32.4	+0.6

KRSC 10 14:08:48.3±1.7, 49.79N×156.81E, h19$^{km}_{\pm}$23^{km}, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.00**	**334**	*e*P	Pb	14 09 05.8	-1.2
SKR				*e*S	Sb	14 09 19.1	-0.7
PAU	**Pauzhetka**	**1.68**	**0**	*e*S	Sb	14 09 40.6	+1.1
RUS	**Russkaya**	**2.86**	**21**	*e*P	Pn	14 09 34.4	+1.5
RUS				*e*S	Sn	14 10 09.4	+2.6
UGLR	**Uglovaya**	**3.65**	**19**	*e*P	Pn	14 09 48.1	+4.2
AVH	**Avacha**	**3.69**	**18**	*e*P	Pb	14 09 49.0	-4.0
KOK	**Koryaka**	**3.69**	**17**	*e*P	Pn	14 09 47.6	+3.1
SDLR	**Sedlovina**	**3.73**	**20**	*e*P	Pb	14 09 49.4	-4.3
KRX	**Arik**	**3.76**	**17**	*e*P	Pn	14 09 49.8	+4.3

*SJA **10** 14:13:32.8±0.5, 33.84S×73.91W, h40^{km}, ML4.3, MW4.4*
*ISCJB **10** 14:13:44.6±1.5, 34.25S±0.04×72.32W±0.09, h19$^{km}_{\pm}$11^{km}, mb3.8/2, Error ellipse: s-maj=12.6km s-min=5.7km az=10.0*
*NEIC **10** 14:13:46.0, 34.25S×72.20W, h22^{km}, mb3.8/2, ML4.0(GUC), After GUC.*
NEIC Felt [IV] at Pichilemu and [II] at Talca.
*GUC **10** 14:13:46.0±0.6, 34.26S×72.20W, h22$^{km}_{\pm}$4^{km}, ML4.0*

ISC 10 14:13:44.5±2.0, 34.29S±0.04×72.22W±0.09, h11$^{km}_{\pm}$12^{km}, n28, σ1.9 34/37, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.75**	**64**	⇓*i*	P	**14 13 59.5**	**0.0**
NICH	**Los Niches**	**1.08**	**131**	⇓*i*	P	**14 14 05.5**	**+0.2**
NICH				*i*	S	**14 14 20.0**	**+0.6**
TALC	**Talca**	**1.20**	**156**	⇑*i*	P	**14 14 07.6**	**0.0**
TALC				*i*	S	**14 14 23.4**	**+0.6**
TACH	**Talagante**	**1.25**	**59**	⇑*i*	P	**14 14 06.8**	**-1.0**
CHCH	**Chadas Angostu**	**1.35**	**75**	⇓*i*	P	**14 14 08.8**	**-0.5**
SAN	**Santiago**	**1.55**	**58**	⇓*i*	P	**14 14 11.8**	**-0.1**
SAN				*i*	S	**14 14 31.3**	**-0.7**
PCH	**Pirque**	**1.57**	**65**	⇓*i*	P	**14 14 12.5**	**+0.2**
PCH				*i*	S	**14 14 32.6**	**-0.1**
LNCH	**Linares**	**1.63**	**162**	*i*	P	**14 14 12.4**	**-0.7**
LNCH				*i*	S	**14 14 35.5**	**+0.3**
ROCH	**El Roble**	**1.66**	**38**	*e*P	Pn	**14 14 13.9**	**+0.2**
CLCH	**Cerro Calan**	**1.66**	**58**	⇓*i*	P	**14 14 10.7**	**+0.1**
CLCH				*i*	S	**14 14 35.2**	**+0.2**
CLCH				AML	AML	14 14 42.3	
	comp=N,3μm,0.7s						
SJCH	**San Jose de Ma**	**1.68**	**68**	*e*P	**Pn**	**14 14 14.1**	**+0.2**
PEL	**Peldehue**	**1.72**	**49**	⇑*i*	P	**14 14 15.1**	**-1.0**
PEL				*i*	S	**14 14 36.3**	**0.0**
PEL				AML	AML	14 14 48.6	
	comp=E,4μm,0.4s						
AAGR	**Agrelo**	**3.08**	**68**	*e*P	**Pb**	**14 14 37.9**	**-1.4**
ARCO	**CERRO ARCO**	**3.11**	**63**	*e*P	**Pb**	**14 14 38.7**	**-1.1**
AUSP	**Uspallata**	**3.15**	**50**	*e*P	**Pn**	**14 14 36.6**	**+2.4**
AUSP				*e*S	**Sb**	**14 15 22.0**	**+3.0**
ASAL	**Salagasta**	**3.30**	**60**	*e*P	**Pb**	**14 14 40.2**	**-2.9**
ASAL				*e*S	**Sg**	**14 15 30.7**	**+0.1**
RTLS	**Leoncito**	**3.50**	**45**	*e*P	**Pn**	**14 14 41.0**	**+2.0**
RTLS				*e*S	**Sb**	**14 15 31.1**	**+2.0**
CANA	**Caviahue**	**3.71**	**166**	*e*P	**Pn**	**14 14 44.2**	**+2.4**
RTCV	**Cerro Valdivia**	**3.93**	**53**	*e*P	**Pn**	**14 14 47.2**	**+2.5**
RTLL	**Cerro Villicun**	**4.32**	**48**	*e*P	**Pn**	**14 14 52.0**	**+1.9**
RTLL				*e*S	**Sb**	**14 15 51.2**	**-1.5**
AMOG	**MOGNA**	**4.59**	**44**	*e*P	**Pn**	**14 14 55.2**	**+1.3**
ACAN	**Cantantal**	**4.67**	**66**	*e*P	Pn	14 14 58.8	+3.9
AVFE	**Valle Fertil**	**5.42**	**49**	*e*P	**Pn**	**14 15 05.6**	**+0.3**
AVFE				*e*S	Sb	14 16 18.1	-6.1
AVFE				AML	AML	14 16 22.0	
	comp=Z,83nm,0.8s						
LCO	**Las Campanas**	**5.42**	**14**	*e*Pn	**Pn**	**14 15 04.7**	**-0.8**
TRQA	**Tornquist**	**9.09**	**117**	*e*Pn	**Pn**	**14 15 55.0**	**-0.6**
LPAZ	**La Paz**	**18.30**	**13**	*e*Pn	**Pn**	**14 17 58.0**	**-1.0**
SNAA	**Sanae**	**51.37**	**158**	*e*P	P	14 22 40.8	-7.9
	comp=Z,0.8nm,0.8s						
QSPA	**South Pole Qui**	**55.94**	**180**	*e*P	**P**	**14 23 22.3**	**-0.1**
	comp=Z,1.6nm,1.1s						

IDC 10 14:18:55.3±7.3, 19.25S×179.66W, h0^{km}, mb3.3/2, mb1 3.5/2, mb1mx3.4/19, mbtmp3.3/2, Error ellipse: s-maj=287.5km s-min=115.1km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.23**	**261**	P	P	14 26 58.7	0.0
	0.2nm,0.3s,baz=97,slow=7.7,SNR=9.3						
ASAR	**Alice Springs**	**43.29**	**256**	P	P	14 26 58.9	-0.3
	0.2nm,0.4s,baz=90,slow=7.4,SNR=7.5						
AKASG	**Malin Array Be**	**141.17**	**331**	PKP	PKPdf	14 38 27.2	-0.5
	0.2nm,0.4s,baz=64,slow=2.2,SNR=7.4						

IDC 10 14:27:34.2±2.1, 8.94S×127.35E, h0^{km}, mb3.4/1, mb1 3.4/3, mb1mx3.2/19, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=195.4km s-min=29.7km az=62.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.86**	**149**	Pn	Pn	14 30 38.8	+0.4
	0.2nm,0.3s,baz=328,slow=14,SNR=7.8						
WRA				Sn	Sn	14 32 59.0	-3.4
	0.5nm,0.3s,baz=330,slow=22,SNR=6.1						
ASAR	**Alice Springs**	**15.93**	**158**	Pn	Pn	14 31 20.0	0.0
	0.1nm,0.3s,baz=333,slow=13,SNR=7.1						
ASAR				Sn	Sn	14 34 17.2	-0.2
	0.1nm,0.3s,baz=337,slow=23,SNR=5.2						
MKAR	**Makanchi Array**	**68.45**	**328**	P	P	14 38 38.1	0.0
	0.3nm,0.6s,baz=121,slow=7.4,SNR=3.6						

IDC 10 14:34:40.9±31.0, 26.19S×174.84W, h0^{km}, mb3.9/4, mb1 4.0/4, mb1mx3.7/25, mbtmp3.9/4, Error ellipse: s-maj=567.7km s-min=153.5km az=81.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.19**	**271**	P	P	14 41 46.4	+0.8
	1.3nm,0.3s,baz=90,slow=13,SNR=5.3						
STKA	**Stephens Creek**	**38.32**	**251**	P	P	14 42 01.5	-2.0
	3.4nm,0.9s,baz=117,slow=6.8,SNR=3.1						
ASAR	**Alice Springs**	**46.31**	**262**	P	P	14 43 09.2	+0.4
	0.5nm,0.7s,baz=98,slow=8.0,SNR=15						
WRA	**Warramunga Arr**	**46.94**	**267**	P	P	14 43 13.6	-0.1
	0.7nm,0.8s,baz=104,slow=8.3,SNR=4.5						

*IDC **10** 14:47:21.1±0.8, 23.61N×121.18E, h0^{km}, mb3.6/12, mb1 3.7/15, mb1mx3.6/28, mbtmp3.5/15, ML3.1/3, Error ellipse: s-maj=23.9km s-min=17.4km az=68.0*
*BJI **10** 14:47:24.6, 23.86N×121.02E, h10^{km}, ML4.0/8*
*TAP **10** 14:47:26.7, 23.78N×121.05E, h31^{km}, ML4.3, B*
*JMA **10** 14:47:26.2±0.2, 23.80N×121.02E, h12^{km}, M4.2*
*ISCJB **10** 14:47:27.2±0.2, 23.77N±0.01×121.08E±0.01, h46$^{km}_{\pm}$2^{km}, mb3.4/12, Error ellipse: s-maj=2.7km s-min=1.8km az=141.4*

ISC 10 14:47:27.0±0.7, 23.78N±0.02×121.06E±0.02, h32$^{km}_{\pm}$5^{km}, n116, σ1.9 06/170, mb3.5/12, 14C-19D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMLT	**Sun Moon Lake**	**0.18**	**305**	⇓P	**Pn**	**14 47 34.0**	**+0.4**
	baz=315						
TYC	**Yuchr**	**0.22**	**303**	⇓*i*P	**Pb**	**14 47 33.6**	**-0.1**
	baz=313						
YUS	**Yu-Shan**	**0.31**	**198**	⇓*i*P	**Pb**	**14 47 35.3**	**+0.1**
	baz=202						
YUS				*i* S	**Sb**	**14 47 40.9**	**0.0**
	baz=202						
ESL	**Shilin**	**0.34**	**85**	⇑*i*P	**Pb**	**14 47 35.4**	**+0.1**
	baz=92						
ESL				S	**Sb**	**14 47 41.2**	**+0.2**
	baz=92						
WNT	**Mingjian**	**0.35**	**286**	⇑*i*P	**Pb**	**14 47 35.7**	**+0.3**
	baz=287						
WNT				S	**Sn**	**14 47 41.9**	**+0.1**
	baz=287						
ALS	**Alishan**	**0.36**	**221**	⇓*i*P	**Pb**	**14 47 35.6**	**-0.1**
	baz=227						
EHY	**Hungye**	**0.37**	**139**	⇑*i*P	**Pb**	**14 47 35.8**	**+0.2**
	baz=137						
EHY				*i* S	**Sb**	**14 47 41.5**	**+0.1**
	baz=137						
CHN5	**Tsauling**	**0.39**	**242**	⇓*i*P	**Pb**	**14 47 35.9**	**-0.1**
	baz=243						
WHF	**Hehuan Shan**	**0.41**	**28**	⇓*i*P	**Pb**	**14 47 36.5**	**0.0**
	baz=27						
WHF				S	**Sb**	**14 47 42.5**	**-0.6**
	baz=27						
ESF	**Shoufeng Towns**	**0.42**	**78**	*e*P	**Pb**	**14 47 37.1**	**+0.8**
	baz=77						
ESF				*e*S	**Sb**	**14 47 43.5**	**+0.8**
	baz=77						
TEGC	**Jichi Village**	**0.45**	**99**	*e*P	**Pn**	**14 47 38.0**	**+0.9**
	baz=99						
TEGC				*e*S	**Sn**	**14 47 46.2**	**+2.0**
	baz=99						
WGK	**Gukeng**	**0.46**	**258**	⇑*i*P	**Pb**	**14 47 37.1**	**+0.1**
	baz=259						
WGK				S	**Sn**	**14 47 44.8**	**+0.3**
	baz=259						
TWF1	**Yuli**	**0.48**	**153**	⇑*i*P	**Pb**	**14 47 37.4**	**+0.2**
	baz=146						
TWF1				*i* S	**Sb**	**14 47 44.1**	**-0.3**
	baz=146						
TWT	**Tachien**	**0.48**	**13**	⇓*i*P	**Pb**	**14 47 37.2**	**-0.2**
	baz=13						
TWT				*e*S	**Sb**	**14 47 44.1**	**-0.5**
	baz=13						
TCU	**Taichung**	**0.50**	**316**	⇑*i*P	**Pb**	**14 47 38.2**	**+0.6**
	baz=308						
TCU				*i* S	**Sn**	**14 47 45.9**	**+0.4**
	baz=308						
HWA	**Hwalien**	**0.54**	**69**	⇑*i*P	**Pb**	**14 47 38.6**	**+0.4**
	baz=69						
HWA				*i* S	**Sn**	**14 47 46.7**	**+0.4**
	baz=69						
TWD	**Chiawan**	**0.57**	**59**	⇑*i*P	**Pb**	**14 47 38.8**	**0.0**
	baz=59						
TWD				*i* S	**Sb**	**14 47 46.8**	**0.0**
	baz=59						
CHN2	**Minshiung**	**0.59**	**245**	*e*P	**Pb**	**14 47 39.0**	**+0.1**
	baz=246						
CHN2				*e*S	**Sn**	**14 47 48.3**	**+0.7**
	baz=246						
ELDTW	**Lidau**	**0.59**	**184**	⇓*i*P	**Pb**	**14 47 39.1**	**0.0**
	baz=178						
ELDTW				*e*S	**Sb**	**14 47 47.1**	**-0.3**
	baz=178						
CHN4	**Tsaushan**	**0.60**	**225**	⇓*i*P	**Pb**	**14 47 39.2**	**-0.1**
	baz=225						
CHN4				*i* S	**Sn**	**14 47 48.7**	**+0.6**
	baz=225						
TWQ1	**Liyutan**	**0.62**	**335**	⇑*i*P	**Pb**	**14 47 40.0**	**+0.5**
	baz=336						
TWQ1				S	**Sn**	**14 47 49.6**	**+1.1**
	baz=336						
CHY	**Chiayi**	**0.65**	**244**	⇑P	**Pb**	**14 47 39.9**	**0.0**
	baz=244						
CHY				*e*S	**Sn**	**14 47 49.4**	**+0.4**
	baz=244						
WTP	**Ta-pu**	**0.67**	**217**	P	**Pb**	**14 47 40.0**	**-0.4**
	baz=227						
WTP				*i* S	**Sn**	**14 47 50.3**	**+0.6**
	baz=227						
STYT	**Tauyuan**	**0.68**	**204**	⇓*i*P	**Pb**	**14 47 40.5**	**0.0**
	baz=208						
STYT				*i* S	**Sb**	**14 47 49.7**	**+0.1**
	baz=208						
NSY	**Sanyi**	**0.69**	**337**	⇑*i*P	**Pn**	**14 47 41.4**	**+0.9**
	baz=337						
NSY				*i* S	**Sn**	**14 47 52.1**	**+2.0**
	baz=337						
NNS	**Nan Shan**	**0.71**	**24**	⇓*i*P	**Pb**	**14 47 41.0**	**-0.2**
	baz=16						
NNS				S	**Sb**	**14 47 51.0**	**+0.2**
	baz=16						
WTCT	**Ta-ch'eng**	**0.72**	**277**	P	**Pb**	**14 47 40.6**	**-0.5**
	baz=277						
WTCT				*e*S	**Sn**	**14 47 51.6**	**+0.9**
	baz=277						
TWK	**Hsinying**	**0.73**	**226**	P	**Pb**	**14 47 41.4**	**0.0**
	baz=225						
TWK				S	**Sn**	**14 47 52.0**	**+0.7**
	baz=225						
CHKT	**Chengkung**	**0.74**	**157**	⇑*i*P	**Pb**	**14 47 41.7**	**+0.2**
	baz=144						
CHKT				S	**Sn**	**14 47 53.1**	**+1.8**
	baz=144						
CHN1	**Nanshi**	**0.77**	**219**	P	**Pb**	**14 47 41.8**	**-0.2**
	baz=220						
CHN1				*i* S	**Sn**	**14 47 53.1**	**+1.0**
	baz=220						
WSF	**Szhu**	**0.78**	**260**	*e*P	**Pb**	**14 47 41.7**	**-0.5**
	baz=260						
WSF				*e*S	**Sb**	**14 47 52.8**	**+0.4**
	baz=260						
SGST	**Jiashian**	**0.82**	**212**	*e*P	**Pn**	**14 47 42.6**	**+0.2**
	baz=221						
SGST				*e*S	**Sn**	**14 47 54.7**	**+1.3**
	baz=221						
NSTT	**Nanjuang**	**0.85**	**357**	P	**Pn**	**14 47 43.5**	**+0.8**
	baz=357						
NSTT				S	**Sn**	**14 47 55.2**	**+1.2**
	baz=357						
CHN8	**Yiju**	**0.89**	**241**	*e*P	**Pn**	**14 47 43.3**	**+0.1**
	baz=231						
CHN8				S	**Sn**	**14 47 56.8**	**+1.8**
	baz=231						
ENA	**Nanau**	**0.90**	**44**	⇓*i*P	**Pn**	**14 47 43.8**	**+0.5**
	baz=56						
NSK	**Sanguang**	**0.93**	**17**	⇓*i*P	**Pn**	**14 47 44.7**	**+0.8**
	baz=29						
NSK				S	**Sn**	**14 47 57.1**	**+0.9**
	baz=29						
CHN3	**Shinhua**	**0.95**	**222**	P	**Pb**	**14 47 45.5**	**+0.5**
	baz=222						
CHN3				*e*S	**Sb**	**14 48 00.5**	**+3.2**
	baz=222						
TWG	**Pinlang**	**0.96**	**179**	P	**Pn**	**14 47 45.0**	**+0.8**
	baz=172						
TWG				*e*S	**Sb**	**14 47 57.9**	**+0.4**
	baz=172						
ENTT	**Nioudou**	**0.97**	**28**	⇓*i*P	**Pb**	**14 47 45.5**	**+0.2**
	baz=28						
ENTT				*e*S	**Sb**	**14 48 00.1**	**+2.2**
	baz=28						
SCLT	**Jiali**	**1.00**	**233**	*e*P	**Pn**	**14 47 45.2**	**+0.4**
	baz=220						
SCLT				*e*S	**Sb**	**14 48 00.1**	**+1.5**
	baz=220						
HSN	**Hsinchu**	**1.02**	**355**	*e*P	**Pb**	**14 47 46.5**	**+0.3**
	baz=357						
HSN				*e*S	**Sb**	**14 48 01.7**	**+2.4**
	baz=357						
TTN	**Taitung**	**1.03**	**175**	*e*P	**Pn**	**14 47 45.1**	**-0.1**
	baz=175						
TAI1	**Yung-k'ang**	**1.06**	**226**	*e*P	**Pn**	**14 47 46.5**	**+0.9**
	baz=226						
TAI1				*e*S	**Sb**	**14 48 01.6**	**+1.2**
	baz=226						
TWE	**Neicheng**	**1.09**	**31**	⇓*i*P	**Pb**	**14 47 47.6**	**+0.3**
	baz=31						
TWE				*e*S	**Sb**	**14 48 02.7**	**+1.5**
	baz=31						
TWC	**Suao**	**1.09**	**41**	*e*P	**Pb**	**14 47 47.4**	**-0.1**
	baz=32						
TWC				*e*S	**Sb**	**14 48 02.0**	**+0.6**
	baz=32						
SSD	**Sandimen**	**1.10**	**201**	*e*P	**Pn**	**14 47 47.2**	**+1.0**
	baz=201						
TWM1	**Shoushan**	**1.12**	**212**	*e*P	**Pb**	**14 47 48.5**	**+0.7**
	baz=200						
ILA	**Ilan**	**1.16**	**33**	*e*P	**Pb**	**14 47 48.6**	**0.0**
	baz=48						
SGLT	**Jiouru**	**1.18**	**206**	*e*P	**Pb**	**14 47 51.1**	**+2.3**
	baz=206						
ECL	**Taimali**	**1.18**	**185**	*e*P	**Pb**	**14 47 48.8**	**-0.1**
	baz=172						
ECL				*e*S	**Sb**	**14 48 04.9**	**+0.9**
	baz=172						
NCU	**National Centr**	**1.19**	**6**	*e*P	**Pn**	**14 47 48.3**	**+0.9**
	baz=6.0						
TWA	**Mucha**	**1.28**	**22**	*e*P	**Pb**	**14 47 50.4**	**-0.3**
	baz=9.0						
TWA				*e*S	**Sb**	**14 48 09.7**	**+2.8**
	baz=9.0						
TAP	**Taipei**	**1.32**	**18**	*e*P	**Pn**	**14 47 49.6**	**+0.4**
	baz=5.0						
TAP1	**Taipei**	**1.32**	**19**	*e*P	**Pn**	**14 47 49.6**	**+0.4**
	baz=5.0						
EGS		**1.32**	**37**	⇓*i*P	**Pb**	**14 47 51.4**	**+0.1**
	baz=37						
EGS				*e*S	**Sb**	**14 48 10.8**	**+2.9**
	baz=37						
TWS1	**Kuangyinshan**	**1.35**	**14**	⇓*i*P	**Pn**	**14 47 50.9**	**+1.2**
	baz=359						
TWS1				*e*S	**Sb**	**14 48 09.1**	**+0.3**
	baz=359						
WDGT	**Dungji**	**1.38**	**248**	*e*P	**Pn**	**14 47 49.9**	**-0.2**
	baz=237						
WDGT				*e*S	**Sn**	**14 48 09.0**	**+1.7**
	baz=237						
PNG	**Penghu**	**1.39**	**261**	⇑*i*P	**Pb**	**14 47 50.3**	**+0.1**
	baz=274						
PNG				S	**Sn**	**14 48 09.0**	**+1.5**
	baz=274						
EAST	**Anshuo**	**1.41**	**188**	*e*P	**Pn**	**14 47 52.0**	**+1.6**
	baz=187						
TAW	**Tawu**	**1.43**	**186**	*e*P	**Pn**	**14 47 52.2**	**+1.5**
	baz=171						
NWF	**Wu-fen Shan**	**1.44**	**27**	*e*P	**Pn**	**14 47 52.5**	**+1.5**
	baz=14						
NWF				*e*S	**Sb**	**14 48 12.3**	**+1.0**
	baz=14						
SCZT	**Fangliau**	**1.46**	**196**	*e*P	**Pn**	**14 47 52.2**	**+1.0**
	baz=212						
TWB1	**Santiao Chiao**	**1.49**	**35**	*e*P	**Pb**	**14 47 53.8**	**-0.3**
	baz=48						
TWB1				*e*S	**Sb**	**14 48 14.4**	**+1.9**
	baz=48						
TWP	**Hsiaoliuchiu**	**1.57**	**204**	*e*P	**Pb**	**14 47 56.0**	**+0.6**
	baz=204						
TWY	**Chenhua**	**1.57**	**18**	*e*P	**Pn**	**14 47 53.7**	**+1.1**
	baz=19						
HEN	**Hengchun**	**1.79**	**190**	*e*P	**Pb**	**14 47 59.1**	**-0.1**
	baz=189			

JMJ	**Miyako jima 2**	**4.00**	**74**	S	**Sn**	14 49 12.3	**+0.5**
JOGS	**Gusukube**	**4.09**	**75**	P	**Pn**	14 48 28.5	**+1.3**
JOGS				S	**Sn**	14 49 15.4	**+1.4**
JKE	**Kume jima 2**	**5.78**	**63**	P	**Pn**	14 48 51.3	**+0.8**
JAGN	**Aguni-jima**	**6.26**	**62**	P	**Pn**	14 48 57.9	**+0.8**
JNTH	**Nagotoyohara**	**6.87**	**65**	P	**Pn**	14 49 05.6	**+0.1**
JIH	**Iheya**	**7.04**	**61**	P	**Pn**	14 49 08.2	**+0.4**
JOW	**Kunigami**	**7.20**	**64**	P	**Pn**	14 49 09.5	**-0.6**
JOW	**Kunigami**	**7.20**	**64**	Pn	**Pn**	14 49 09.2	**-0.9**
	0.5nm,0.3s,baz=150,slow=19,SNR=34						
JOKE	**Okinoerabujima**	**7.66**	**61**	P	**Pn**	14 49 14.8	**-1.6**
JTK	**Tokunoshima**	**8.15**	**59**	P	**Pn**	14 49 22.2	**-0.9**
JAMN	**Amaminishikomi**	**8.54**	**57**	P	**Pn**	14 49 27.2	**-1.3**
JAM	**Amami Oshima**	**8.96**	**57**	P	**Pn**	14 49 33.1	**-1.1**
KSRS	**Korea Array**	**14.85**	**22**	Pn	**Pn**	14 50 55.2	**+0.7**
	0.2nm,0.3s,baz=206,slow=11,SNR=14						
CD2	**Chengdu**	**16.92**	**299**	*e*P	**Pn**	14 51 22.0	**+0.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MJAR	**Matsushiro Arr**	**19.50**	**45**	P	**P**	14 51 51.2	**-0.2**
	comp=Z,0.1nm,0.3s,baz=228,slow=9.1,SNR=2.7						
CMAR	**Chiang Mai Arr**	**21.29**	**260**	P	**P**	14 52 11.0	**-0.1**
	comp=Z,0.4nm,0.4s,baz=62,slow=8.3,SNR=3.0						
SONM	**Songino Array**	**26.69**	**338**	P	**P**	14 53 05.1	**+1.8**
	comp=Z,0.6nm,0.8s,baz=148,slow=9.5,SNR=5.1						
MKAR	**Makanchi Array**	**38.55**	**316**	P	**P**	14 54 47.9	**+1.3**
	comp=Z,0.5nm,0.8s,baz=106,slow=11,SNR=6.9						
ZALV	**Zalesovo Beam**	**40.52**	**327**	P	**P**	14 55 03.7	**+0.8**
	comp=Z,0.7nm,0.5s,baz=125,slow=12,SNR=3.2						
KURBB	**Kurchatov Arra**	**42.34**	**320**	P	**P**	14 55 18.3	**+0.4**
	comp=Z,0.3nm,0.6s,baz=108,slow=9.8,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**42.63**	**86**	T	T	15 40 27.6	
	baz=285						
H11N2	**WAKE ISLAND Hy**	**42.63**	**86**	T	T	15 40 28.3	
	baz=285						
H11N3	**WAKE ISLAND Hy**	**42.64**	**86**	T	T	15 40 29.4	
	baz=285						
H11S3	**WAKE ISLAND Hy**	**42.75**	**88**	T	T	15 40 35.6	
	baz=287						
H11S1	**WAKE ISLAND Hy**	**42.76**	**88**	T	T	15 40 36.2	
	baz=287						
H11S2	**WAKE ISLAND Hy**	**42.76**	**88**	T	T	15 40 36.8	
	baz=287						
WRA	**Warramunga Arr**	**45.35**	**162**	P	P	14 55 39.5	-2.8
	comp=Z,0.5nm,0.8s,baz=347,slow=7.9,SNR=4.5						
ASAR	**Alice Springs**	**48.79**	**164**	P	**P**	14 56 07.3	**-1.9**
	comp=Z,0.3nm,0.8s,baz=338,slow=6.8,SNR=10.0						
ASAR				PcP	**PcP**	14 57 31.1	**-2.6**
	comp=Z,0.2nm,0.7s,baz=342,slow=3.1,SNR=4.7						
ILAR	**Eielson Array**	**69.62**	**27**	P	**P**	14 58 31.4	**-1.4**
	comp=Z,0.1nm,0.5s,baz=298,slow=4.7,SNR=3.0						
ARCES	**ARCESS Array B**	**69.87**	**338**	P	**P**	14 58 34.3	**+0.1**
	comp=Z,2.1nm,0.8s,baz=72,slow=8.7,SNR=3.8						
FINES	**FINESS Array B**	**71.73**	**330**	P	**P**	14 58 46.0	**+0.3**
	comp=Z,0.3nm,0.4s,baz=61,slow=7.0,SNR=4.7						
NOA	**NORSAR Array B**	**78.52**	**332**	P	**P**	14 59 23.9	**-1.1**
	comp=Z,0.7nm,0.8s,baz=60,slow=5.3,SNR=3.6						
YKA	**Yellowknife Ar**	**83.38**	**23**	P	**P**	14 59 50.0	**-0.7**
	comp=Z,0.3nm,0.5s,baz=311,slow=5.0,SNR=3.8						
SYO	**Syowa Base**	**108.97**	**202**	*ie*P	**Pdif**	15 01 43.8	**-4.3**

KRSC 10 14:49:37.5±1.8, 54°58N×159°58E, h210km±17km, ML3.5,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.68**	**37**	*e*P		Pn	14 50 07.5	+0.9
TUMR	**Tumrok**	**0.78**	**24**	*e*P		Pn	14 50 07.9	+0.9
MKZ	**Mys Kozlova**	**1.25**	**90**	*e*P		Pn	14 50 11.0	+1.1
MKZ				*e*S		S	14 50 36.0	+1.1
GNL	**Ganaly**	**1.31**	**228**	*e*P		Pn	14 50 10.2	-0.4
KRX	**Arik**	**1.34**	**205**	*e*P		Pn	14 50 12.7	+1.8
SDLR	**Sedlovina**	**1.36**	**198**	*e*P		Pn	14 50 11.8	+0.7
KRER	**Koryakskii**	**1.37**	**201**	*e*P		Pn	14 50 12.9	+1.7
SMAR	**Somma**	**1.40**	**200**	*e*P		Pn	14 50 12.8	+1.4
KOK	**Koryaka**	**1.40**	**204**	*e*P		Pn	14 50 12.8	+1.5
AVH	**Avacha**	**1.41**	**201**	*e*P		Pn	14 50 12.9	+1.6
UGLR	**Uglovaya**	**1.44**	**198**	*e*P		Pn	14 50 13.0	+1.3
SPN	**Mys Shipunski**	**1.50**	**170**	*e*P		Pn	14 50 12.9	+0.9
SPN				*e*S		S	14 50 39.0	+0.4
PET	**Petropavlovsk**	**1.65**	**200**	*e*P		Pn	14 50 14.2	+0.9
RUS	**Russkaya**	**2.24**	**197**	*e*P		Pn	14 50 19.2	+0.1

IDC 10 15:09:39.1±322.0, 53°07N×33°11E, h0km, Error ellipse:
s-maj=125.7km s-min=95.5km az=25.0, Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.36**	**31**	*i*			15 36 30.0	
	baz=216,slow=314,SNR=2.1							
I26DE	**FREYUNG INFRAS**	**12.92**	**259**	*i*			16 25 00.0	
	baz=65,slow=322,SNR=0.9							
I31KZ	**AKTYUBINSK INF**	**15.65**	**90**	*i*			16 47 00.0	
	baz=287,slow=300,SNR=0.3							
I48TN	**KESRA INFRASON**	**24.03**	**234**	*i*			17 39 10.0	
	baz=38,slow=313,SNR=0.3							

*IDC **10** 15:31:60.0±1.2, 7°09N×126°49E, h0km, mb3.4/4,*
mb1 3.6/4, mb1mx3.4/28, mbtmp3.4/4, Error ellipse:
s-maj=84.5km s-min=23.2km az=77.0
*ISCJB **10** 15:32:04.5±1.0, 7°2N±0°1×127°2E±0°2, h50km, mb3.3/4,*
Error ellipse: s-maj=32.6km s-min=9.8km az=146.0
ISC 10 15:32:06.6±1.1, 7°3N±0°2×127°2E±0°2, h50km, n6, σ1§49/8,
mb3.2/4, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.18**	**318**	*e*P		**Pn**	**15 32 24.8**	**-2.0**
BIPH				*i* S		**Sn**	**15 32 42.4**	**+0.7**
CGP	**Cagayan de Oro**	**2.70**	**295**	*ie*P		**Pn**	**15 32 48.1**	**+0.6**
CGP				*e*S		Sn	15 33 27.1	+8.1
WRA	**Warramunga Arr**	**27.98**	**165**	P		**P**	**15 37 51.6**	**-1.3**
	0.6nm,0.9s,baz=341,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**31.48**	**168**	P		**P**	**15 38 23.8**	**0.0**
	0.2nm,0.7s,baz=344,slow=8.4,SNR=4.1							
ASAR				PcP		**PcP**	**15 41 16.9**	**+0.7**
	0.2nm,0.6s,baz=353,slow=2.4,SNR=4.0							
USRK	**Ussuriysk Ar.**	**36.99**	**6**	P		**P**	**15 39 13.0**	**+1.8**
	0.8nm,0.5s,baz=208,slow=8.1,SNR=4.2							
MKAR	**Makanchi Array**	**54.91**	**324**	P		**P**	**15 41 31.2**	**-1.1**
	0.1nm,0.4s,baz=126,slow=7.3,SNR=4.2							

*CSEM **10** 15:37:10.7, 12°21N×44°07E, h10km, ML3.9*
DHMR 10 15:37:10.7±1.4, 12°21N×44°07E, h11km±14km, ML3.9,
Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.01**	**2**	*i* P		Pg	15 37 29.2	-1.4
TRBA				*i* S		Sb	15 37 44.2	-0.1
TRBA				AML		AML	15 37 47.0	
	comp=E,2μm,0.3s							
ADEN	**Aden**	**1.05**	**58**	*i* P		Pb	15 37 29.5	-1.5
ADEN				*i* S		Sn	15 37 45.9	-0.3
ADEN				AML		AML	15 37 56.4	
	comp=E,6μm,0.7s							
ADEN	**Aden**	**1.05**	**58**	*i* P		Pb	15 37 29.5	-1.5
ADEN				*i* S		Sn	15 37 45.9	-0.3
	comp=E,3μm,0.7s							
LBOS		**2.01**	**35**	*i* P		Pn	15 37 45.9	+0.9
LBOS				*i* S		Sb	15 38 13.7	+0.6
BDHA	**Al Bayda'**	**2.28**	**40**	*i* P		Pb	15 37 50.7	-1.6
BDHA				*i* S		Sb	15 38 21.1	+0.3
BDHA				AML		AML	15 38 36.0	
	comp=E,1μm,0.8s							
BDHA	**Al Bayda'**	**2.28**	**40**	*i* P		Pb	15 37 50.7	-1.6
BDHA				*i* S		Sb	15 38 21.1	+0.3
	comp=E,681nm,0.8s							
DHBB	**Dhamar BB**	**2.37**	**8**	*i* P		Pb	15 37 52.9	-1.0
DHBB				*i* S		Sb	15 38 24.3	+0.9
DHBB	**Dhamar BB**	**2.37**	**8**	*i* P		Pb	15 37 52.9	-0.9
DHBB				*i* S		Sb	15 38 24.3	+0.9

IDC 10 16:28:10.3±4.4, 27°84N×111°55W, h0km, mb1 4.0/3,
mb1mx3.6/35, mbtmp3.5/3, ML4.6/2, Error ellipse:
s-maj=60.7km s-min=15.0km az=18.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**7.09**	**76**	Pn		Pn	16 29 55.8	+0.4
	1.4nm,0.3s,baz=248,slow=12,SNR=115							
TXAR				Sn		Sn	16 31 17.9	+1.1
	baz=258,slow=23,SNR=2.8							
TXAR				Lg		Lg	16 31 51.5	
	0.6nm,0.3s,baz=253,slow=28,SNR=3.5							
NVAR	**Mina Array Bea**	**11.97**	**334**	Pn		Pn	16 31 04.6	+2.0
	0.1nm,0.3s,baz=158,slow=12,SNR=2.5							
PDAR	**Pinedale Array**	**14.98**	**6**	Pn		P	16 31 47.4	-2.0
	0.4nm,0.3s,baz=166,slow=8.2,SNR=5.3							

*IDC **10** 16:28:57.7±0.7, 40°09N×145°56E, h0km, mb3.8/17,*
mb1 4.0/20, mb1mx3.9/44, mbtmp3.9/20, ML2.9/2, MS2.8/4,
Ms1 2.8/4, ms1mx2.6/45, Error ellipse: s-maj=19.9km
s-min=16.2km az=83.0
*NIED **10** 16:29:00, 40°20N×145°30E, h8km, Mw3.9 Best double*
couple: M0 7.40000×10^14 NP1:φs48.00000°, δ30.00000°,
λ-100.00000°. NP2:φs240.00000°, δ61.00000°,
λ-84.00000°.
*ISCJB **10** 16:29:00.1±1.2, 40°21N±0°03×145°30E±0°04, h24km±9km,*
mb3.9/23, MS3.9/2, Error ellipse: s-maj=5.6km
s-min=3.9km az=30.7
*MOS **10** 16:29:00.2±1.2, 40°08N×145°48E, h33km, mb4.3/14, Error*
ellipse: s-maj=13.8km s-min=7.6km az=98.6
*JMA **10** 16:29:01.4±0.3, 40°17N×145°30E, h47km, M4.3*
*NEIC **10** 16:29:02.8±0.6, 40°12N×145°40E, h35km, mb4.2/5, Error*
ellipse: s-maj=13.5km s-min=10.1km az=110.0
ISC 10 16:29:00.3±3.4, 40°19N±0°05×145°38E±0°06, h14km±22km,
n85, σ1§28/94, mb3.9/23, 5C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERM	**Erimo**	**2.48**	**318**	*ce*P		**Pn**	**16 29 40.3**	**0.0**
ERM				pmax		pmax		
	comp=Z,24nm,0.7s							
ERM	**Erimo**	**2.48**	**318**	*e*Pn		**Pn**	**16 29 40.2**	**0.0**
JEM	**Erimo**	**2.48**	**318**	P		**Pn**	**16 29 40.2**	**0.0**
JEM				S		**Sn**	**16 30 09.7**	**-0.6**
JTH	**Tanohata**	**2.71**	**266**	P		**Pn**	**16 29 42.7**	**-0.7**
JTH				*e*S		Sn	16 30 12.6	-3.4
MIYJ	**Miyakonagasawa**	**2.81**	**259**	P		**Pn**	**16 29 44.4**	**-0.3**
MIYJ				*e*S		**Sn**	**16 30 16.0**	**-2.4**
JAK	**Akkeshi**	**2.85**	**350**	P		**Pn**	**16 29 43.6**	**-1.7**
JAK				*e*S		**Sn**	**16 30 16.7**	**-2.8**
JCH	**Churui**	**2.86**	**329**	P		**Pn**	**16 29 45.3**	**-0.2**
JCH				*e*S		**Sn**	**16 30 17.3**	**-2.4**
JNBK	**Urakawa-nobuka**	**2.88**	**317**	P		**Pn**	**16 29 46.3**	**+0.6**
JNBK				S		**Sn**	**16 30 20.3**	**+0.1**
JANG	**Nango**	**2.96**	**275**	P		**Pn**	**16 29 46.3**	**-0.6**
JANG				*e*S		Sn	16 30 19.3	-2.9
NEM2	**Nemuro 2**	**3.19**	**5**	P		**Pn**	**16 29 47.4**	**-2.5**
NEM2				*e*S		Sn	16 30 22.3	-5.4
JOM	**Ohasama**	**3.23**	**259**	P		**Pn**	**16 29 50.7**	**+0.2**
JOM				*e*S		**Sn**	**16 30 26.8**	**-1.9**
JAR	**Ashorobuto**	**3.33**	**339**	P		**Pn**	**16 29 50.8**	**-1.2**
JAR				*e*S		**Sn**	**16 30 29.0**	**-2.3**
JMK	**Ichinoseki**	**3.44**	**250**	P		**Pn**	**16 29 53.3**	**-0.2**
JMK				*e*S		**Sn**	**16 30 31.2**	**-2.9**
JOT	**Ohata**	**3.50**	**291**	P		**Pn**	**16 29 54.4**	**+0.2**
JOT				*e*S		**Sn**	**16 30 33.6**	**-1.8**
JFR	**Furan**	**3.63**	**326**	P		**Pn**	**16 29 55.8**	**-0.3**
JFR				*e*S		**Sn**	**16 30 36.8**	**-2.0**
JKB	**Kayabe**	**3.70**	**299**	P		**Pn**	**16 29 57.3**	**+0.3**
JKB				*e*S		**Sn**	**16 30 38.4**	**-2.0**
JRA	**Rausu**	**3.75**	**357**	P		**Pn**	**16 29 55.9**	**-1.8**
JRA				S		**Sn**	**16 30 37.9**	**-3.8**
YUK	**Yuzh-Kuril'sk**	**3.86**	**5**	*i* P		**Pn**	**16 29 57.2**	**-2.0**
JTKR	**Abashiri--Toko**	**3.94**	**344**	P		**Pn**	**16 29 59.6**	**-0.6**
JTKR				*e*S		**Sn**	**16 30 44.5**	**-1.7**
JEW	**Eniwo**	**3.97**	**313**	P		**Pn**	**16 30 02.1**	**+1.4**
JEW				*e*S		**Sn**	**16 30 47.1**	**+0.1**
JYK	**Kaneyama**	**4.08**	**254**	P		**Pn**	**16 30 02.6**	**+0.3**
JYK				*e*S		**Sn**	**16 30 48.1**	**-1.8**
JKK2	**Kamakawa 2**	**4.17**	**333**	P		**Pn**	**16 30 03.9**	**+0.4**
JKK2				*e*S		**Sn**	**16 30 52.0**	**-0.1**
ASAJ	**Asahikawa**	**4.44**	**333**	Pn		**Pn**	**16 30 07.7**	**+0.6**
	baz=159,slow=8.6							
ASAJ				Sn		**Sn**	**16 30 57.6**	**-0.9**
	comp=Z,7.0nm,0.3s,baz=30,slow=24,SNR=6.8							
ASAJ	**Asahikawa**	**4.44**	**333**	P		**Pn**	**16 30 07.7**	**+0.6**
ASAJ							16 30 57.7	
ASAJ				smax		smax		
	comp=N,7.0nm,0.3s							
ASAJ	**Asahikawa**	**4.44**	**333**	*e*Pn		**Pn**	**16 30 05.2**	**-2.0**
ASAJ				Sn		**Sn**	**16 30 57.6**	**-0.9**
KUR	**Kuril'sk**	**5.37**	**19**	*i*P		**Pn**	**16 30 17.8**	**-2.1**
KUR				*i* S		Sn	16 31 15.1	-6.3
KUR				pmax		pmax		
	comp=Z,21nm,0.9s							
KUR				pmax		pmax		
	comp=N,21nm,0.2s							
KUR				pmax		pmax		
	comp=E,17nm,0.2s							
KUR				smax		smax		
	comp=N,38nm,0.2s							
KUR				smax		smax		
	comp=E,15nm,0.2s							
MJAR	**Matsushiro Arr**	**6.71**	**239**	Pn		**Pn**	**16 30 38.9**	**+0.5**
	comp=E,1.5nm,0.3s,baz=65,slow=11,SNR=45							
MJAR				Sn		**Sn**	**16 31 55.3**	**+0.8**
	baz=49,slow=15,SNR=1.4							
MJAR				LR		LR	16 33 30.4	
	comp=E,61nm,18.3s,baz=85,slow=40							
MAJO	**Matsushiro**	**6.71**	**239**	*e*P		**Pn**	**16 30 36.9**	**-1.5**
MAJO				pmax		pmax		
	comp=Z,37nm,0.8s							
MAJO	**Matsushiro**	**6.71**	**239**	*e*Pn		**Pn**	**16 30 36.9**	**-1.5**
	comp=Z,37nm,0.8s							
MAT	**Matsushiro**	**6.71**	**239**	P		**Pn**	**16 30 38.8**	**+0.4**
MAT				S		**Sn**	**16 31 54.9**	**+0.3**
YSS	**Yuzh-Sakhalins**	**7.03**	**345**	*e*P		Pn	16 30 46.0	+3.3
USRK	**Ussuriysk Ar.**	**10.71**	**296**	Pn		**Pn**	**16 31 35.4**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=106,slow=13,SNR=7.7							
JNU	**Nakatsue**	**13.60**	**243**	LR		LR	16 37 40.9	
	comp=Z,47nm,20.4s,baz=16,slow=38							
PETK	**Petropavlovsk-**	**15.41**	**29**	LR		LR	16 37 51.9	
	comp=Z,18nm,19.9s,baz=241,slow=35							
SEY	**Seymchan**	**23.16**	**8**	P		**P**	**16 34 05.9**	**-0.1**
	comp=Z,7.7nm,0.8s,baz=187,slow=8.9,SNR=13							
SEY	**Seymchan**	**23.16**	**8**	P		**P**	**16 34 05.9**	**-0.1**
SEY				pmax		pmax		
	comp=Z,8.0nm,0.8s							
YAK	**Yakutsk**	**23.86**	**342**	P		**P**	**16 34 13.5**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=142,slow=19,SNR=5.1							
YAK	**Yakutsk**	**23.86**	**342**	*e*P		**P**	**16 34 12.5**	**-0.4**
YAK				pmax		pmax		
	comp=Z,12nm,0.8s							
YAK	**Yakutsk**	**23.86**	**342**	*e*P		**P**	**16 34 12.8**	**-0.1**
	comp=Z,16nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**27.49**	**132**	T		T	17 03 25.3	
	baz=323,slow=76,SNR=3.1							
H11N1	**WAKE ISLAND Hy**	**27.50**	**132**	T		T	17 03 26.1	
	baz=323,slow=76,SNR=4.4							
H11N3	**WAKE ISLAND Hy**	**27.51**	**132**	T		T	17 03 27.7	
	baz=323,slow=76,SNR=3.4							
H11S1	**WAKE ISLAND Hy**	**28.36**	**133**	T		T	17 04 33.2	
	baz=324,slow=76,SNR=6.2							
H11S3	**WAKE ISLAND Hy**	**28.36**	**133**	T		T	17 04 37.9	
	baz=324,slow=76,SNR=5.9							
H11S2	**WAKE ISLAND Hy**	**28.38**	**133**	T		T	17 04 34.1	
	baz=324,slow=76,SNR=6.1							
SONM	**Songino Array**	**28.82**	**298**	P		**P**	**16 34 59.8**	**+1.8**
	comp=Z,0.9nm,0.8s,baz=99,slow=8.6,SNR=5.5							
SONM	**Songino Array**	**28.82**	**298**	P		**P**	**16 34 59.8**	**+1.8**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.8s							
BILL	**Bilibino**	**30.14**	**15**	*c* P		**P**	**16 35 10.3**	**+0.9**
BILL				pmax		pmax		
	comp=Z,3.0nm,1.2s							
BILL	**Bilibino**	**30.14**	**15**	*e*P		**P**	**16 35 09.2**	**-0.2**
	comp=Z,2.9nm,0.9s							
ZAK	**Zakamensk**	**30.94**	**303**	*e*P		**P**	**16 35 16.4**	**-0.4**
ZAK				pmax		pmax		
	comp=Z,2.0nm,2.8s							
ZALV	**Zalesovo Beam**	**42.18**	**310**	P		**P**	**16 36 53.6**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=86,slow=9.1,SNR=2.9							
ZALV				PcP		**PcP**	**16 38 47.1**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=98,slow=1.9,SNR=7.0							
ZALV				LR		LR	16 54 55.2	
	comp=Z,23nm,19.4s,baz=72,slow=37							
MKAR	**Makanchi Array**	**45.15**	**300**	P		**P**	**16 37 17.1**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=82,slow=8.9,SNR=4.5							
MKAR	**Makanchi Array**	**45.15**	**300**	*ce*P		**P**	**16 37 17.7**	**+1.4**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
KURK	**Kurchatov**	**46.50**	**306**	P		**P**	**16 37 28.3**	**+1.4**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KURK	**Kurchatov**	**46.50**	**306**	*e*P		**P**	**16 37 27.0**	**+0.1**
	comp=Z,3.0nm,0.7s							
KURBB	**Kurchatov Arra**	**46.58**	**306**	P		**P**	**16 37 28.3**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=78,slow=8.4,SNR=9.1							
BVAR	**Borovoye Array**	**50.80**	**311**	P		**P**	**16 38 00.5**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=86,slow=10,SNR=3.8							
TKM2	**Tokmak 2**	**50.91**	**297**	P		**P**	**16 38 02.2**	**+1.1**
TKM2	**Tokmak 2**	**50.91**	**297**	P		**P**	**16 38 02.2**	**+1.1**
SPITS	**Spitsbergen Ar**	**58.03**	**349**	LR		LR	17 04 09.3	
	comp=Z,840nm,21.9s,baz=125,slow=36							
ABKAR	**Akbulak array**	**58.30**	**310**	*e*P		**P**	**16 38 55.3**	**+0.9**
	comp=Z,0.6nm,0.5s							
YKA	**Yellowknife Ar**	**59.51**	**32**	P		**P**	**16 39 02.2**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=300,slow=7.0,SNR=4.0							
YKA	**Yellowknife Ar**	**59.51**	**32**	P		**P**	**16 39 02.2**	**-0.4**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
WRAB	**Tennant Creek**	**60.69**	**192**	P		P	16 39 08.0	-3.1
WRAB				pmax		pmax		
	comp=Z,8.0nm,1.1s							
WRAB	**Tennant Creek**	**60.69**	**192**	P		P	16 39 08.0	-3.1
	comp=Z,7.7nm,1.1s							
WRA	**Warramunga Arr**	**60.70**	**192**	P		**P**	**16 39 10.2**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=10,slow=6.9,SNR=17							
WRA	**Warramunga Arr**	**60.70**	**192**	*i* P		**P**	**16 39 10.1**	**-1.1**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.6s							
ASAR	**Alice Springs**	**64.42**	**192**	P		**P**	**16 39 34.7**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=12,slow=7.1,SNR=11							
FINES	**FINESS Array B**	**67.45**	**333**	P		**P**	**16 39 55.3**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=60,slow=4.6,SNR=8.4							
FINES	**FINESS Array B**	**67.45**	**333**	*i* P		**P**	**16 39 55.5**	**+0.4**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
NVAR	**Mina Array Bea**	**70.63**	**56**	P		**P**	**16 40 15.7**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=287,slow=8.9,SNR=4.4							
KIV	**Kislovodsk**	**71.16**	**312**	*e*P		**P**	**16 40 18.7**	**+0.2**
KIV				pmax		pmax		
	comp=Z,6.0nm,1.1s							
NB2	**NORSAR Subarra**	**72.44**	**339**	P		**P**	**16 40 25.5**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=34,slow=6.2							
NOA	**NORSAR Array B**	**72.44**	**339**	P		**P**	**16 40 25.3**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=35,slow=6.0,SNR=4.0							
NOA	**NORSAR Array B**	**72.44**	**339**	P		**P**	**16 40 25.3**	**-0.5**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
HFS	**Hagfors**	**72.45**	**337**	P		**P**	**16 40 26.2**	**+0.3**
	comp=Z,2.6nm,1.0s,baz=49,slow=10.0,SNR=4.1							
HFS	**Hagfors**	**72.45**	**337**	P		**P**	**16 40 26.2**	**+0.3**
HFS				pmax		pmax		
	comp=Z,3.0nm,1.0s							
AKASG	**Malin Array Be**	**73.66**	**324**	P		**P**	**16 40 33.0**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=45,slow=5.8,SNR=6.3							
AKASG	**Malin Array Be**	**73.66**	**324**	*ce*P		**P**	**16 40 33.5**	**+0.3**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
BORG	**Borgarnes**	**74.88**	**354**	*i* P		**P**	**16 40 43.0**	**+3.0**
BRTR	**Keskin Array B**	**79.03**	**313**	P		**P**	**16 41 05.0**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=85,slow=4.7,SNR=3.1							
BRTR	**Keskin Array B**	**79.03**	**313**	P		**P**	**16 41 05.0**	**+0.9**
BRTR	**Keskin Array B**	**79.03**	**313**	P		**P**	**16 41 05.0**	**+0.9**
TXAR	**Lajitas Array**	**85.75**	**55**	P		**P**	**16 41 39.4**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=292,slow=2.7,SNR=9.2							
TXAR	**Lajitas Array**	**85.75**	**55**	P		**P**	**16 41 39.4**	**+0.1**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							

MEX 10 16:45:03.8±0.3, 14°74N×92°65W, h72km±15km, MD3.5,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.61**	**18**	*i* P		Pn	16 45 29.5

4.9nm,0.8s,baz=30,slow=3.0,SNR=18
HFS Hagfors 129.54 345 SKPbc SKPab 18 00 27.9 +0.8
6.8nm,0.8s,baz=81,slow=4.7,SNR=14
AKASG Malin Array Be 130.33 328 SKPbc **SKPab 18 00 31.2 +0.5**
1.0nm,0.5s,baz=47,slow=4.6,SNR=8.3
BRTR Keskin Array B 132.83 313 SKPbc **SKPbc 18 00 39.9 +0.3**
1.3nm,1.0s,baz=102,slow=3.0,SNR=3.4
GERES GERESS Array B 138.89 336 SKPbc **SKPbc 18 00 57.7 +0.3**
0.5nm,0.5s,baz=2.9,slow=2.7,SNR=5.2
ESDC Sonseca Array 152.68 349 PKPab **PKPab 17 59 06.6 -0.1**
0.5nm,0.6s,baz=344,slow=6.8,SNR=3.9

*ISCJB **10** 17:40:30.3±1.0, 12.7°S±0.1°×169.4°E±0.2, h645km, mb3.7/10, Error ellipse: s-maj=30.4km s-min=15.1km az=15.9*
*IDC **10** 17:40:31.4±3.3, 12.8°S×169.9°E, h652km±45km, mb3.3/10, mb1 3.5/11, mb1mx3.2/36, mbtmp4.3/11, Error ellipse: s-maj=34.8km s-min=28.4km az=126.0*

ISC 10 17:40:31.2±1.0, 12.8°S±0.1°×169.3°E±0.2, h645km, n19, σ1°12/18, mb3.8/10, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.63**	**196**	P	**P**	**17 42 48.0**	**+0.6**
	1.6nm,0.3s,baz=90,slow=20,SNR=3.9						
DZM	**Mont Dzumac**	**9.63**	**196**	*e*S	**P**	**17 42 47.3**	**-0.1**
NOUC	**Port Laguerre**	**9.69**	**197**	*e*S	**P**	**17 42 47.3**	**-0.6**
STKA	**Stephens Creek**	**31.77**	**229**	P	**P**	**17 46 06.8**	**+1.2**
	7.5nm,0.7s,baz=116,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**34.27**	**253**	P	**P**	**17 46 27.0**	**+0.3**
	2.6nm,0.4s,baz=83,slow=8.5,SNR=9.8						
WRA				S	**S**	**17 51 07.7**	**-2.9**
	1.8nm,0.7s,baz=84,slow=14,SNR=4.0						
MJAR	**Matsushiro Arr**	**57.18**	**330**	P	**P**	**17 49 19.4**	**+0.4**
	1.8nm,0.7s,baz=167,slow=8.8,SNR=6.6						
MAT	**Matsushiro**	**57.18**	**330**	P	**P**	**17 49 19.1**	**0.0**
JNU	**Nakatsue**	**58.57**	**322**	P	**P**	**17 49 29.0**	**+0.5**
	7.1nm,0.9s,baz=132,slow=5.3,SNR=4.6						
KSRS	**Korea Array**	**63.32**	**324**	P	**P**	**17 50 00.4**	**+1.1**
	1.6nm,0.8s,baz=134,slow=5.8,SNR=7.1						
CMAR	**Chiang Mai Arr**	**76.02**	**293**	P	**P**	**17 51 16.0**	**+1.2**
	3.4nm,0.9s,baz=121,slow=4.1,SNR=10						
SONM	**Songino Array**	**82.16**	**323**	P	**P**	**17 51 46.8**	**+0.2**
	0.6nm,0.6s,baz=121,slow=3.4,SNR=3.9						
ILAR	**Eielson Array**	**84.09**	**17**	P	**P**	**17 51 54.7**	**-0.9**
	0.9nm,0.7s,baz=237,slow=6.1,SNR=5.2						
YKA	**Yellowknife Ar**	**94.92**	**27**	P	**P**	**17 52 45.6**	**-0.4**
	0.5nm,0.7s,baz=257,slow=5.0,SNR=4.5						
MKAR	**Makanchi Array**	**97.20**	**316**	P	**P**	**17 52 57.0**	**+0.4**
	0.4nm,0.6s,baz=77,slow=6.7,SNR=5.6						
ARCES	**ARCESS Array B**	**118.88**	**346**	PKP	**PKPdf**	**17 58 06.7**	**-0.8**
	1.5nm,0.8s,baz=54,slow=2.1,SNR=6.4						
NOA	**NORSAR Array B**	**129.26**	**346**	SKPab	SKPbc	18 00 51.5	+1.1
	2.1nm,0.8s,baz=30,slow=2.9,SNR=5.7						
HFS	**Hagfors**	**129.44**	**344**	SKPbc	SKPbc	18 00 51.1	+0.1
	2.2nm,0.5s,baz=75,slow=6.3,SNR=10						
AKASG	**Malin Array Be**	**130.22**	**328**	SKPbc	**SKPbc**	**18 00 54.2**	**0.0**
	0.7nm,0.6s,baz=44,slow=4.8,SNR=4.7						
GERES	**GERESS Array B**	**138.78**	**336**	SKPbc	**SKPbc**	**18 01 19.5**	**-1.9**
	0.4nm,0.6s,baz=7.1,slow=4.0,SNR=3.1						

IDC 10 17:49:49.7±2.0, 27.99S×138.26E, h0km, mb1 3.6/4, mb1mx3.4/29, mbtmp3.5/4, ML3.3/4, Error ellipse: s-maj=40.7km s-min=14.7km az=54.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**4.83**	**144**	Pn	Pn	17 51 04.2	+0.4
	0.8nm,0.3s,baz=318,slow=12,SNR=15						
STKA				Pg	Pb	17 51 16.1	+0.7
	0.4nm,0.3s,baz=318,slow=16,SNR=5.0						
STKA				Sn	Sn	17 51 56.6	-3.9
	1.0nm,0.3s,baz=299,slow=6.2,SNR=4.0						
STKA				Lg	Lg	17 52 25.2	
	1.3nm,0.3s,baz=63,slow=20,SNR=3.7						
ASAR	**Alice Springs**	**5.83**	**317**	Pn	Pn	17 51 17.7	+0.2
	0.2nm,0.3s,baz=138,slow=12,SNR=4.6						
ASAR				Sn	Sn	17 52 20.1	-5.0
	0.6nm,0.3s,baz=140,slow=23,SNR=5.1						
ASAR				Lg	Lg	17 52 55.6	
	0.7nm,0.3s,baz=144,slow=25,SNR=5.5						
WRA	**Warramunga Arr**	**8.78**	**335**	Pn	Pn	17 51 57.0	-1.0
	0.6nm,0.3s,baz=152,slow=12,SNR=13						
WRA				Sn	Sn	17 53 30.3	-7.4
	0.4nm,0.3s,baz=151,slow=27,SNR=4.7						
WRA				Lg	Lg	17 54 29.7	
	0.2nm,0.3s,baz=155,slow=30,SNR=3.8						
CTA	**Charters Tower**	**10.73**	**45**	Pn	Pn	17 52 24.6	-0.1
	0.2nm,0.3s,baz=222,slow=12,SNR=3.2						
CTA				Sn	Sn	17 54 19.2	-6.5
	0.1nm,0.3s,baz=254,slow=18,SNR=2.0						

*IDC **10** 17:50:35.1±16.0, 22.33S×177.02W, h150km±137km, mb3.8/5, mb1 4.0/6, mb1mx3.5/31, mbtmp4.4/6, ML4.9/1, Error ellipse: s-maj=79.5km s-min=33.9km az=42.0*
*ISCJB **10** 17:50:36.5±16.0, 22.4S±0.9°×177.7W±°, h179km, mb4.1/5, Error ellipse: s-maj=291.4km s-min=24.6km az=153.6*

ISC 10 17:50:37.6±1.9, 22.4S±0.2°×177.0W±0.3, h179km, n10, σ0s76/10, mb3.8/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**16.62**	**197**	P	**P**	**17 54 19.4**	**-0.3**
	4.5nm,0.3s,baz=14,slow=4.2,SNR=15						
RPZ	**Rata Peaks**	**23.47**	**202**	P	**P**	**17 55 31.2**	**+0.2**
	13nm,1.1s,baz=25,slow=17,SNR=2.8						
CTA	**Charters Tower**	**34.32**	**267**	P	**P**	**17 57 08.1**	**+0.7**
	9.0nm,0.6s,baz=98,slow=10,SNR=16						
STKA	**Stephens Creek**	**37.89**	**247**	P	**P**	**17 57 38.0**	**+0.4**
	1.6nm,0.7s,baz=91,slow=8.8,SNR=3.0						
ASAR	**Alice Springs**	**45.07**	**258**	P	**P**	**17 58 35.3**	**-0.8**
	1.2nm,0.7s,baz=90,slow=8.5,SNR=15						
ASAR				PcP	**PcP**	**18 00 13.7**	**-0.1**
	0.2nm,0.6s,baz=106,slow=4.5,SNR=3.3						
WRA	**Warramunga Arr**	**45.34**	**264**	P	**P**	**17 58 37.2**	**-1.0**
	1.0nm,0.3s,baz=96,slow=8.1,SNR=37						
HFS	**Hagfors**	**141.55**	**351**	PKhKP	PKPpre	18 09 42.1	
	0.6nm,0.4s,baz=71,slow=5.2,SNR=6.2						
AKASG	**Malin Array Be**	**145.14**	**331**	PKPbc	**PKPab**	**18 09 53.3**	**-0.4**
	0.8nm,0.3s,baz=41,slow=3.5,SNR=7.6						
BRTR	**Keskin Array B**	**148.82**	**311**	PKPbc	**PKPbc**	**18 10 04.1**	**-0.3**
	0.4nm,0.6s,baz=136,slow=4.8,SNR=3.6						
MMAI	**Mount Meron Ar**	**149.58**	**297**	PKPbc	**PKPbc**	**18 10 07.5**	**+1.2**
	baz=81,slow=4.8						

*MOS **10** 18:18:21.0±1.1, 52.16N×173.43W, h33km, mb4.8/32, Error ellipse: s-maj=11.7km s-min=7.4km az=135.1*
*IDC **10** 18:18:25.7±0.8, 52.18N×173.41W, h59km±6km, mb4.0/17, mb1 4.2/18, mb1mx3.9/44, mbtmp4.2/18, MS3.2/14, Ms1 3.2/14, ms1mx3.0/37, Error ellipse: s-maj=18.9km s-min=10.1km az=166.0*
*BJI **10** 18:18:25.8, 52.21N×173.76W, h67km, mb4.6/16, mB4.8/12, Ms4.8/8, Ms7 4.6/9*
*NEIC **10** 18:18:25.3, 51.83N×173.22W, h32km, mb4.9/116, ML4.6(AEIC), After AEIC.*
*ISCJB **10** 18:18:26.5±0.3, 52.25N±0.04×173.42W±0.03, h84km±2km, mb4.7/115, Error ellipse: s-maj=7.3km s-min=2.5km az=167.0*

ISC 10 18:18:26.2±0.5, 52.04N±0.09×173.33W±0.03, h66km±2km, h66km:pP-P, n638, σ0s99/665, mb4.8/116, 154C-167D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.56**	**288**	P	**Pn**	**18 18 38.9**	**-0.4**
ATKA				S	**Sn**	**18 18 48.7**	**-0.2**
GSMY	**Great Sitkin M**	**1.69**	**271**	P	**Pn**	**18 18 54.1**	**+0.6**
GSTR	**Great Sitkin T**	**1.69**	**273**	P	**Pn**	**18 18 54.5**	**+0.9**
GSTD	**Great Sitkin T**	**1.74**	**272**	P	**Pn**	**18 18 55.0**	**+0.6**
GSTD				S	**Sn**	**18 19 17.5**	**+1.9**
GSCK	**Great Sitkin C**	**1.75**	**270**	P	**Pn**	**18 18 55.0**	**+0.5**
ETKA	**Kagalaska Isla**	**1.92**	**266**	P	**Pn**	**18 18 57.9**	**+1.3**
ADAG	**Mount Adagdak**	**2.03**	**270**	P	**Pn**	**18 18 59.4**	**+1.3**
KIRH	**Kanaga Island**	**2.33**	**268**	P	**Pn**	**18 19 03.4**	**+1.1**
KINC	**Kanaga Island**	**2.35**	**269**	P	**Pn**	**18 19 03.5**	**+0.9**
KIKV	**Kanaga Island**	**2.38**	**268**	P	**Pn**	**18 19 04.0**	**+1.0**
KICM	**Kanaga Island**	**2.40**	**269**	P	**Pn**	**18 19 04.1**	**+1.0**
TAPA	**Tanaga Point A**	**2.79**	**267**	P	**Pn**	**18 19 09.5**	**+1.0**
TAFL	**Tanaga Flats**	**2.85**	**266**	P	**Pn**	**18 19 10.3**	**+1.1**
TAFP	**Tanaga Falls P**	**2.88**	**269**	P	**Pn**	**18 19 10.7**	**+0.9**
TAFP				S	**Sn**	**18 19 47.7**	**+4.4**
NIKH	**Nikolski High**	**2.89**	**69**	P	**Pn**	**18 19 10.4**	**+0.6**
NIKH				S	**Sn**	**18 19 44.2**	**+0.8**
TASE	**Tanaga Southea**	**2.92**	**268**	P	**Pn**	**18 19 11.4**	**+1.1**
TANO	**Tanaga North**	**2.97**	**270**	P	**Pn**	**18 19 11.1**	**+0.2**
OKSP	**Okmok Steeple**	**3.30**	**66**	P	**Pn**	**18 19 16.9**	**+1.4**
GAEA	**Gareloi East**	**3.37**	**268**	P	**Pn**	**18 19 18.0**	**+1.7**
OKTU	**Okmok Mt. Tuli**	**3.49**	**65**	P	**Pn**	**18 19 19.6**	**+1.6**
OKFG	**Magazine Ridge**	**3.57**	**65**	P	**Pn**	**18 19 20.3**	**+1.3**
OKFG				S	**Sn**	**18 20 03.2**	**+3.3**
CERAA	**Semis' Rag'd T**	**4.33**	**271**	P	**Pn**	**18 19 30.0**	**+0.6**
MCIR	**Makushin Cirqu**	**4.33**	**61**	P	**Pn**	**18 19 31.3**	**+1.7**
MREP	**Makushin Rep't**	**4.36**	**63**	P	**Pn**	**18 19 31.5**	**+1.6**
MSW	**Makushin Switc**	**4.38**	**62**	P	**Pn**	**18 19 31.8**	**+1.6**
CEAP	**Semis' Anvil P**	**4.38**	**272**	P	**Pn**	**18 19 31.1**	**+0.9**
CESW	**Semis' Southwe**	**4.40**	**271**	P	**Pn**	**18 19 30.9**	**+0.5**
UNV	**Unalaska Valle**	**4.51**	**64**	P	**Pn**	**18 19 33.2**	**+1.3**
AMKA	**Amchitka**	**4.63**	**265**	P	**Pn**	**18 19 33.9**	**+0.3**
AKRB	**Akutan Reef Bi**	**4.85**	**62**	P	**Pn**	**18 19 38.3**	**+1.7**
ZRO	**Akutan Zero**	**4.89**	**62**	P	**Pn**	**18 19 38.9**	**+1.8**
AKGG	**Akutan Green G**	**4.92**	**61**	P	**Pn**	**18 19 39.2**	**+1.6**
LSPA	**Little Sitkin**	**5.01**	**272**	P	**Pn**	**18 19 40.3**	**+1.6**
AKUT	**Akutan**	**5.01**	**62**	P	**Pn**	**18 19 41.0**	**+2.2**
LSNW	**Little Sitkin**	**5.04**	**272**	P	**Pn**	**18 19 41.5**	**+2.3**
LSSA	**Little Sitkin**	**5.04**	**272**	P	**Pn**	**18 19 41.4**	**+2.1**
SPIA	**Saint Paul Isl**	**5.46**	**18**	P	**Pn**	**18 19 47.2**	**+2.4**
WESP	**Westdahl Peak**	**5.72**	**61**	P	**Pn**	**18 19 50.5**	**+1.9**
WESE	**West Dahl East**	**5.79**	**62**	P	**Pn**	**18 19 50.8**	**+1.4**
WESN	**West Dahl Nort**	**5.82**	**61**	P	**Pn**	**18 19 51.1**	**+1.2**
SSLN	**Shishaldin Nor**	**6.23**	**60**	P	**Pn**	**18 19 57.2**	**+1.7**
FALS	**False Pass**	**6.56**	**61**	P	**Pn**	**18 20 01.1**	**+1.2**
DT1	**Dutton Round H**	**7.26**	**61**	P	**Pn**	**18 20 10.0**	**+0.5**
DTNA	**Dutton South F**	**7.29**	**60**	P	**Pn**	**18 20 10.5**	**+0.6**
SDPT	**Sand Point**	**8.31**	**61**	P	**Pn**	**18 20 23.3**	**-0.6**
CHGN	**Chignik**	**9.73**	**58**	*e*Pn	**Pn**	**18 20 42.1**	**-1.1**
OHAK	**Old Harbor**	**12.70**	**58**	*e*Pn	Pn	18 21 19.1	-4.5
KDAK	**Kodiak Island**	**13.22**	**56**	*i* P	**Pn**	**18 21 29.6**	**-1.1**
KDAK	**Kodiak Island**	**13.22**	**56**	*e*Pn	Pn	18 21 26.8	-3.9
RSO	**Redoubt South**	**14.16**	**45**	*e*Pn	**Pn**	**18 21 44.0**	**+0.7**
BRLK	**Bradley Lake**	**14.71**	**50**	*e*Pn	**Pn**	**18 21 49.7**	**-0.8**
SPU	**Mount Spurr**	**14.80**	**43**	*e*Pn	**P**	**18 21 55.0**	**-0.9**
SEW	**Seward**	**15.51**	**49**	*e*Pn	**Pn**	**18 21 57.2**	**-3.4**
	31nm,0.6s						
PPLA	**Purkeypile**	**15.65**	**38**	*e*P	**P**	**18 22 04.8**	**-0.6**
	29nm,0.8s						
RC01	**Rabbit Creek A**	**15.76**	**46**	*e*Pn	**Pn**	**18 22 02.4**	**-1.5**
	28nm,0.9s						
CAST	**Castle Rocks**	**15.99**	**36**	*e*Pn	**P**	**18 22 09.0**	**0.0**
	38nm,0.4s						
CAST				*e*ScP	**ScP**	**18 30 30.9**	**+3.0**
TRF	**Thorofare Moun**	**16.67**	**38**	*e*P	**P**	**18 22 15.8**	**-0.9**
	22nm,0.5s						
TRF				*e*ScS	ScS	18 34 11.1	+2.5
BPAW	**Bear Paw Mtn.**	**16.78**	**35**	*e*Pn	**P**	**18 22 18.2**	**+0.4**
	8.8nm,0.8s						
IM04	**Indian Mountai**	**17.10**	**28**	*e*Pn	**P**	**18 22 22.0**	**+0.7**
IM04				*e*ScP	**ScP**	**18 30 29.4**	**-0.7**
SCM	**Sheep Creek Mo**	**17.12**	**45**	*e*P	**Pn**	**18 22 19.5**	**-1.4**
SCM				pmax	pmax		
	comp=Z,36nm,0.6s						
SCM	**Sheep Creek Mo**	**17.12**	**45**	*e*Pn	**Pn**	**18 22 19.5**	**-1.4**
	comp=Z,36nm,0.6s						
RND	**Reindeer**	**17.20**	**39**	*e*P	**Pn**	**18 22 21.2**	**-0.6**
RND				pmax	pmax		
	comp=Z,20nm,0.5s						
RND	**Reindeer**	**17.20**	**39**	*e*Pn	**Pn**	**18 22 21.2**	**-0.6**
	comp=Z,20nm,0.5s						
MCK	**McKinley**	**17.33**	**38**	*e*P	**Pn**	**18 22 22.8**	**-0.6**
MCK				pmax	pmax		
	comp=Z,29nm,0.7s						
MCK	**McKinley**	**17.33**	**38**	*e*Pn	**Pn**	**18 22 22.8**	**-0.6**
	comp=Z,29nm,0.7s						
BWN	**Browne**	**17.37**	**36**	*e*Pn	**P**	**18 22 24.4**	**+0.2**
	comp=Z,52nm,0.5s						
MLY	**Manley**	**17.42**	**33**	*e*Pn	**P**	**18 22 26.3**	**+1.4**
	comp=Z,119nm,1.4s						
DIV	**Divide**	**17.57**	**48**	*e*Pn	**Pn**	**18 22 26.0**	**-0.4**
	comp=Z,16nm,0.6s						
PETK	**Petropavlovsk-**	**17.60**	**285**	P	**Pn**	**18 22 25.3**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=92,slow=14,SNR=8.7						
PETK				LR	LR	18 29 03.9	
	comp=Z,26nm,18.1s,baz=70,slow=36						
RAGM	**Ragged Mountai**	**17.87**	**51**	*e*P	**P**	**18 22 28.4**	**-1.4**
	comp=Z,21nm,0.9s						
WRH	**Wood River Hil**	**18.04**	**37**	*e*P	**P**	**18 22 30.1**	**-1.5**
	comp=Z,20nm,0.8s						
BMRM	**Bremner River**	**18.06**	**49**	*e*P	**P**	**18 22 31.3**	**-0.6**
	comp=Z,27nm,1.1s						
CCB	**Clear Creek Bu**	**18.23**	**36**	*e*P	**P**	**18 22 32.0**	**-1.7**
	comp=Z,42nm,0.5s						
MDM	**Murphy Dome**	**18.25**	**35**	*e*P	**P**	**18 22 32.8**	**-1.2**
	comp=Z,23nm,1.1s						
COLA	**College**	**18.34**	**36**	*e*P	**P**	**18 22 34.1**	**-0.8**
COLA				pmax	pmax		
	comp=Z,22nm,0.8s						
COLA	**College**	**18.34**	**36**	*e*P	**P**	**18 22 34.1**	**-0.8**
	comp=Z,22nm,0.8s						
HDA	**Harding Lake**	**18.43**	**38**	*e*P	**P**	**18 22 34.2**	**-1.7**
	comp=Z,92nm,0.4s						
DDM	**Donnelly Dome**	**18.56**	**40**	*e*P	**P**	**18 22 37.1**	**-0.3**
	comp=Z,74nm,0.7s						
IL1	**Eielson Array**	**18.64**	**37**	*e*P	**P**	**18 22 35.2**	**-3.0**
IL1				*e*ScP	**ScP**	**18 30 32.3**	**-1.0**
ILAR	**Eielson Array**	**18.64**	**37**	P	**P**	**18 22 36.3**	**-1.9**
	comp=Z,10nm,0.3s,baz=234,slow=9.8,SNR=186						
ILAR				LR	LR	18 29 58.2	
	comp=Z,33nm,21.2s,baz=268,slow=37						
ILAR				ScP	**ScP**	**18 30 32.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=281,slow=3.8,SNR=5.1						
COLD	**Coldfoot**	**19.00**	**28**	*e*P	**Pn**	**18 22 43.8**	**+0.3**
	comp=Z,15nm,0.8s						
EGAK	**Eagle**	**20.84**	**40**	*e*P	**P**	**18 23 01.4**	**-0.7**
	comp=Z,146nm,0.6s						
DHAK	**Deception Hill**	**20.87**	**56**	*e*P	**P**	**18 23 03.3**	**+0.7**
	comp=Z,47nm,0.6s						
SEY	**Seychan**	**21.13**	**314**	P	**P**	**18 23 08.1**	**+2.8**
	comp=Z,6.4nm,0.9s,baz=121,slow=9.8,SNR=15						
SEY				ScP	**ScP**	**18 30 38.7**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=125,slow=2.8,SNR=9.3						
DAWY	**Dawson**	**21.31**	**42**	*e*P	P	18 23 00.6	-6.6
DAWY				*e*pP	**P**	**18 23 06.1**	**-1.0**
DAWY				*e*ScP	**ScP**	**18 30 40.2**	**+0.6**
HYT	**Haines Junctio**	**21.42**	**52**	*e*P	**P**	**18 23 07.2**	**-1.2**
SIT	**Sitka**	**22.39**	**62**	*e*P	**P**	**18 23 19.4**	**+0.6**
SIT	**Sitka**	**22.39**	**62**	*e*P	**P**	**18 23 19.4**	**+0.6**
WRAK	**Wrangell Islan**	**24.08**	**63**	*e*P	**P**	**18 23 37.6**	**+2.5**
	comp=Z,26nm,0.8s						
INK	**Inuvik**	**24.98**	**34**	P	**P**	**18 23 42.2**	**-0.9**
	comp=Z,14nm,0.5s,baz=242,slow=8.6,SNR=28						
INK				PcP	**PcP**	**18 27 16.4**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=312,slow=3.0,SNR=3.2						
INK				ScP	**ScP**	**18 30 49.1**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=210,slow=5.6,SNR=3.0						
INK				LR	LR	18 34 15.7	
	comp=Z,33nm,18.1s,baz=20,slow=38						
INK	**Inuvik**	**24.98**	**34**	*e*P	**P**	**18 23 41.9**	**-1.2**
	comp=Z,17nm,0.6s						
INK				PcP	**PcP**	**18 27 16.4**	**+0.1**
INK				ScP	**ScP**	**18 30 49.1**	**-0.1**
INK				*e*ScP	ScP	18 30 55.2	+6.0
DLBC	**Dease Lake**	**25.14**	**58**	P	**P**	**18 23 46.1**	**+1.4**
	comp=Z,8.7nm,0.5s,baz=276,slow=7.4,SNR=24						
DLBC				LR	LR	18 35 15.4	
	comp=Z,73nm,18.3s,baz=224,slow=40						
BBB	**Bella Bella**	**27.43**	**72**	LR	LR	18 33 12.9	
	comp=Z,34nm,18.8s,baz=282,slow=32						
ASAJ	**Asahikawa**	**30.10**	**272**	*e*P	**P**	**18 24 30.1**	**+0.9**
	comp=Z,11nm,0.9s						
ERM	**Erimo**	**30.88**	**269**	*ce*P	**P**	**18 24 36.9**	**+0.9**
ERM				pmax	pmax		
	comp=Z,75nm,2.5s						
ERM	**Erimo**	**30.88**	**269**	*e*P	**P**	**18 24 37.0**	**+0.9**
	comp=Z,25nm,0.7s						
YAK	**Yakutsk**	**31.55**	**311**	LR	LR	18 37 22.3	
	comp=Z,47nm,22.0s,baz=81,slow=36						
NLWA	**Neilton Lookou**	**31.81**	**78**	*e*P	P	18 24 40.8	-3.4
YKA	**Yellowknife Ar**	**32.28**	**48**	P	**P**	**18 24 47.3**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=278,slow=9.5,SNR=19						
YKA				PcP	**PcP**	**18 27 35.0**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=286,slow=2.8,SNR=6.9						
YKA				ScP	**ScP**	**18 31 12.5**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=284,slow=3.5,SNR=6.3						
YKB5	**Yellowknife Ar**	**32.28**	**48**	*e*P	**P**	**18 24 46.3**	**-1.9**
RPW	**Rockport**	**32.75**	**75**	P	**P**	**18 24 53.5**	**+0.9**
D05A	**Enumclaw**	**33.04**	**78**	*e*P	**P**	**18 24 57.4**	**+2.5**
GPW	**Glacier Peak**	**33.12**	**76**	*es*P	sP	18 25 20.0	+0.1
LON	**Longmire**	**33.35**	**78**	*e*P	**P**	**18 24 59.6**	**+1.8**
LON				pmax	pmax		
	comp=Z,32nm,1.6s						
LON	**Longmire**	**33.35**	**78**	*e*P	**P**	**18 24 59.6**	**+1.8**
	comp=Z,32nm,1.6s						
PNT	**Penticton**	**33.50**	**73**	P	**P**	**18 25 00.0**	**+1.0**
PNT	**Penticton**	**33.50**	**73**	P	**P**	**18 25 00.0**	**+1.0**
LTY	**Liberty**	**33.80**	**77**	*e*P	**P**	**18 25 02.9**	**+1.2**
	comp=Z,7.3nm,0.6s						
ETW	**Entiat**	**33.84**	**76**	P	**P**	**18 25 03.2**	**+1.1**
WTV	**Waterville**	**34.02**	**76**	P	**P**	**18 25 04.3**	**+0.8**
B08A	**Colville Reser**	**34.09**	**74**	P	**P**	**18 25 05.2**	**+1.1**
H04A	**Detroit Lake**	**34.15**	**82**	*e*P	**P**	**18 25 06.3**	**+1.6**
	comp=Z,21nm,0.9s						
SAW	**Saint Andrews**	**34.35**	**75**	P	**P**	**18 25 07.1**	**+0.7**
G05D	**Wamic, OR**	**34.39**	**80**	⇓P	**P**	**18 25 08.0**	**+1.3**
	baz=34						
I04A	**Tendick Farm,**	**34.48**	**83**	⇓P	**P**	**18 25 09.2**	**+1.7**
	baz=34						
I05D	**Terrebonne, OR**	**34.84**	**82**	⇓P	**P**	**18 25 11.6**	**+0.9**
	baz=35						
RSW	**Rattlesnake Hi**	**34.86**	**77**	P	**P**	**18 25 12.2**	**+1.3**
HAWA	**Hanford**	**34.90**	**77**	*e*P	**P**	**18 25 12.4**	**+1.4**
	comp=Z,33nm,0.7s						
HAWA				*e*ScS	ScS	18 35 25.0	-0.3
OD2	**Odessa Site #2**	**34.91**	**75**	P	**P**	**18 25 11.9**	**+0.7**
D08A	**Wollman Farm,**	**34.95**	**76**	*e*P	**P**	**18 25 12.2**	**+0.8**
	comp=Z,16nm,0.7s						
C09A	**Chrisman Ranch**	**34.98**	**75**	*e*P	**P**	**18 25 12.6**	**+0.8**
NEW	**Newport**	**35.45**	**73**	*e*P	**P**	**18 25 16.0**	**+0.2**
NEW				pmax	pmax		
	comp=Z,29nm,0.6s						
NEW	**Newport**	**35.45**	**73**	⇑P	**P**	**18 25 16.5**	**+0.7**
	baz=35,SNR=18						
NEW	**Newport**	**35.45**	**73**	*e*P	**P**	**18 25 16.0**	**+0.2**
	comp=Z,29nm,0.6s						
EDM	**Edmonton**	**35.49**	**64**	*e*P	**P**	**18 25 16.7**	**+0.6**
EDM	**Edmonton**	**35.49**	**64**	*e*P	**P**	**18 25 16.7**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**35.76**	**213**	T	T	19 03 13.1	
	baz=21,slow=76,SNR=318						
H11N3	**WAKE ISLAND Hy**	**35.77**	**213**	T	T	19 03 13.7	
	baz=21,slow=76,SNR=399						
H11N1	**WAKE ISLAND Hy**	**35.77**	**213**	T	T	19 03 14.5	
	baz=21,slow=76,SNR=247						
M04C	**Macdoel**	**35.93**	**86**	⇓P	**P**	**18 25 21.0**	**+0.9**
	baz=36						
F10A	**Beach Ranch, E**	**36.50**	**77**	*e*P	**P**	**18 25 25.8**	**+0.9**
WALA	**Waterton Lakes**	**36.96**	**70**	*e*P	**P**	**18 25 29.4**	**+0.6**
	comp=Z,23nm,1.4s						
H11S1	**WAKE ISLAND Hy**	**36.96**	**213**	T	T	19 04 33.5	
	baz=20,slow=76,SNR=654						
H11S2	**WAKE ISLAND Hy**	**36.98**	**213**	T	T	19 04 35.3	
	baz=20,slow=76,SNR=477						
H11S3	**WAKE ISLAND Hy**	**36.98**	**213**	T	T	19 04 34.4	
	baz=20,slow=76,SNR=201						
BSMT	**Bassoo Peak**	**37.02**	**73**	*e*P	**P**	**18 25 30.1**	**+0.7**
BLMT	**Blacktail Moun**	**37.19**	**72**	*e*P	**P**	**18 25 31.6**	**+0.7**
MJAR	**Matsushiro Arr**	**37.24**	**265**	P	**P**	**18 25 31.6**	**+0.4**
	comp=Z,7.9nm,0.8s,baz=50,slow=7.1,SNR=26						
MJAR				pP	**pP**	**18 25 45.3**	**-2.2**
	comp=Z,3.7

comp=Z,4.5nm,0.7s
RLMT **Red Lodge** 41.70 73 ⇓P P 18 26 09.4 +1.0
baz=42,SNR=24
REDW **Red Top Meadow** 41.73 76 eP P 18 26 10.1 +1.3
comp=Z,10nm,1.1s
LOHW **Long Hollow** 41.74 76 eP P 18 26 09.9 +1.1
comp=Z,6.8nm,0.8s
ISA **Isabella, Lake** 41.75 91 eP P 18 26 09.6 +0.8
ISA pmax pmax
comp=Z,8.0nm,0.9s
ISA **Isabella, Lake** 41.75 91 ⇑P P 18 26 09.8 +1.0
baz=42
ISA **Isabella, Lake** 41.75 91 eP P 18 26 09.6 +0.8
comp=Z,7.8nm,0.9s
R11A **Troy Canyon, C** 41.83 86 ⇑P P 18 26 10.3 +0.7
baz=42,SNR=7.7
R11A **Troy Canyon, C** 41.83 86 eP P 18 26 10.5 +1.0
comp=Z,4.4nm,0.9s
BGU **Big Grassy Mou** 41.83 81 eP P 18 26 10.8 +1.3
comp=Z,13nm,0.9s
B22A **Reddig Ranch S** 41.89 67 ⇓P P 18 26 10.0 +0.2
baz=42
D21A **La Casta Ranch** 41.97 69 ⇓P P 18 26 10.4 -0.1
baz=42
MPMC **Manual Prospec** 42.10 90 ⇓P P 18 26 12.6 +0.8
baz=42
H19A **Powell** 42.11 74 ⇑P P 18 26 12.5 +0.8
baz=42,SNR=9.8
A23A **Redstone** 42.19 66 ⇓P P 18 26 12.1 -0.1
baz=42,SNR=5.7
E21A **Keefer Ranch,** 42.21 70 ⇓P P 18 26 12.1 -0.3
baz=42
FURC **Furnace Creek,** 42.23 89 ⇓P P 18 26 14.2 +1.7
baz=42
G20A **Bridger** 42.26 72 ⇓P P 18 26 12.9 0.0
baz=42,SNR=15
TPNV **Topopah Spring** 42.30 88 eP P 18 26 14.3 +1.0
TPNV pmax pmax
comp=Z,12nm,0.8s
TPNV **Topopah Spring** 42.30 88 ⇑P P 18 26 14.0 +0.7
baz=42,SNR=12
TPNV **Topopah Spring** 42.30 88 eP P 18 26 14.3 +1.0
comp=Z,12nm,0.8s
HWUT **Hardware Ranch** 42.32 79 eP P 18 26 14.5 +1.0
comp=Z,6.6nm,0.8s
B23A **Brockton** 42.38 67 ⇓P P 18 26 13.5 -0.2
baz=42,SNR=5.7
D22A **Cohagen** 42.40 69 ⇑P P 18 26 14.1 +0.2
baz=42,SNR=12
DUG **Dugway, Tooele** 42.40 81 eP P 18 26 15.1 +1.0
DUG pmax pmax
comp=Z,12nm,0.8s
DUG **Dugway, Tooele** 42.40 81 ⇓P P 18 26 14.7 +0.6
baz=42,SNR=7.2
DUG **Dugway, Tooele** 42.40 81 eP P 18 26 15.1 +1.0
comp=Z,12nm,0.8s
I19A **Meeteetse** 42.46 74 ⇓P P 18 26 14.9 +0.3
baz=42
EDW2 **Edwards Air Fo** 42.56 91 ⇓P P 18 26 16.5 +1.1
baz=42
F21A **Absaloka Mine,** 42.57 71 ⇓P P 18 26 15.4 0.0
baz=42
C23A **Lambert** 42.62 68 ⇓P P 18 26 15.9 +0.3
baz=42,SNR=8.9
LAO **LASA Array** 42.62 69 ⇓P P 18 26 16.4 +0.6
baz=42,SNR=5.4
LAO **LASA Array** 42.62 69 eP P 18 26 16.3 +0.6
comp=Z,10nm,0.8s
A24A **Westby** 42.70 66 ⇓P P 18 26 16.3 0.0
baz=42,SNR=7.8
CTU **Camp Tracy** 42.75 80 eP P 18 26 17.8 +0.8
comp=Z,6.9nm,0.7s
H20A **Greybull** 42.80 73 ⇓P P 18 26 17.5 +0.3
baz=43
BW06 **Boulder Array** 42.85 76 eP P 18 26 18.2 +0.3
G21A **Lodge Grass** 42.85 72 ⇓P P 18 26 17.3 -0.4
baz=43,SNR=7.7
PDAR **Pinedale Array** 42.85 76 P P 18 26 18.3 +0.4
comp=Z,29nm,0.8s,baz=329,slow=5.2,SNR=124
PDAR LR LR 18 41 47.1
comp=Z,22nm,21.8s,baz=312,slow=33
J19A **Crowheart** 42.87 75 ⇓P P 18 26 18.6 +0.7
baz=43,SNR=6.2
E22A **Miles City** 42.92 70 ⇑P P 18 26 18.5 +0.4
baz=43,SNR=6.0
D23A **Lindsay** 42.94 68 ⇑P P 18 26 18.9 +0.6
baz=43,SNR=5.1
SHOC **Shoshone, Teco** 42.95 89 ⇓P P 18 26 19.7 +1.3
baz=43
JLU **Jordanelle** 42.99 80 eP P 18 26 19.6 +0.7
comp=Z,10nm,0.9s
NLU **North Lily Min** 43.00 81 eP P 18 26 19.5 +0.5
comp=Z,8.2nm,0.8s
FCC **Fort Churchill** 43.01 49 eP P 18 26 16.7 -1.8
FCC pmax pmax
comp=Z,5.0nm,0.7s
FCC **Fort Churchill** 43.01 49 eP P 18 26 16.7 -1.8
comp=Z,5.5nm,0.7s
KSRS **Korea Array** 43.01 274 P P 18 26 19.6 +0.7
comp=Z,1.3nm,0.5s,baz=52,slow=8.5,SNR=9.2
KSRS LR LR 18 42 34.9
comp=Z,21nm,21.4s,baz=81,slow=34
KSRS **Korea Array** 43.01 274 P P 18 26 19.6 +0.7
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS MLR MLR
comp=Z,21nm,21.4s
GSC **Goldstone, Bar** 43.02 90 eP P 18 26 20.2 +1.1
GSC **Goldstone, Bar** 43.02 90 ⇑P P 18 26 19.6 +0.5
baz=43,SNR=6.4
GSC **Goldstone, Bar** 43.02 90 eP P 18 26 20.2 +1.1
I20A **Worland** 43.03 74 ⇑P P 18 26 19.7 +0.6
baz=43,SNR=10
KSAR **Wonju Array Be** 43.04 274 P P 18 26 19.6 +0.4
KSAR **Wonju Array Be** 43.04 274 P P 18 26 19.6 +0.4
F22A **Rosebud** 43.10 71 ⇓P P 18 26 19.5 -0.1
baz=43,SNR=7.0
A25A **Svangstu Ranch** 43.19 65 ⇓P P 18 26 20.0 -0.2
baz=43,SNR=6.5
BFSC **Mount Baldy Ra** 43.19 92 ⇑P P 18 26 21.9 +1.3
baz=43
C24A **Savage** 43.20 67 ⇑P P 18 26 20.8 +0.5
baz=43
E23A **Ismay** 43.26 69 ⇑P P 18 26 21.1 +0.3
baz=43,SNR=6.0
H21A **Big Horn, Sher** 43.28 72 ⇑P P 18 26 21.5 +0.4
baz=43
G22A **Birney** 43.39 71 ⇓P P 18 26 21.9 -0.1
baz=43,SNR=5.4
J20A **Shoshoni** 43.40 75 ⇑P P 18 26 22.5 +0.4
baz=43,SNR=6.7
D24A **Glendive** 43.48 68 ⇓P P 18 26 23.4 +0.7
baz=43
B25A **Knox Farm, Ray** 43.52 66 ⇓P P 18 26 22.9 0.0
baz=43
I21A **Big Trails, Te** 43.60 74 ⇓P P 18 26 23.5 -0.3
baz=43,SNR=16
HEC **Hector,Ludlow** 43.62 90 ⇓P P 18 26 25.3 +1.4
baz=43
F23A **Volborg** 43.63 70 ⇑P P 18 26 23.8 0.0
baz=44,SNR=11
H22A **Clearmont** 43.71 72 ⇓P P 18 26 24.5 0.0
baz=44,SNR=6.4
J21A **Lysite** 43.78 74 ⇓P P 18 26 25.2 -0.1
baz=44,SNR=10.0
E24A **Baker** 43.80 69 ⇑P P 18 26 25.9 +0.7
baz=44,SNR=6.3
A26A **Wade Farm, Ken** 43.81 65 ⇑P P 18 26 25.4 +0.1
baz=44
G23A **Biddle** 43.93 71 ⇓P P 18 26 26.2 0.0
baz=44,SNR=7.4
TMUT **Trail Mountain** 43.93 81 eP P 18 26 27.8 +1.1
comp=Z,24nm,1.1s
JNU **Nakatsue** 44.02 267 P P 18 26 27.7 +0.6
comp=Z,19nm,0.9s,baz=44,slow=6.9,SNR=16
JNU **Nakatsue** 44.02 267 eP P 18 26 28.0 +0.9
comp=Z,20nm,0.9s
I22A **9 Mile Ranch,** 44.03 73 ⇓P P 18 26 27.4 +0.2
baz=44,SNR=9.6
GMRC **Granite Mounta** 44.07 90 ⇑P P 18 26 28.2 +0.6
baz=44,SNR=8.6
F24A **Ekalaka** 44.12 70 ⇑P P 18 26 28.3 +0.5
baz=44
J22A **Midwest** 44.31 74 ⇓P P 18 26 29.8 +0.3
baz=44,SNR=21
BELC **Belle Mtn. Jos** 44.38 91 ⇑P P 18 26 31.1 +1.0
baz=44
BELC **Belle Mtn. Jos** 44.38 91 eP P 18 26 28.0 -2.1
G24A **Alzada** 44.42 70 ⇓P P 18 26 29.9 -0.3
baz=44,SNR=8.5
SRU **San Rafael Swe** 44.46 81 eP P 18 26 31.5 +0.7
SRU pmax pmax
comp=Z,15nm,0.9s
SRU **San Rafael Swe** 44.46 81 eP P 18 26 31.5 +0.7
comp=Z,15nm,0.9s
DPP **Dos Picos Cty** 44.47 93 eP P 18 26 33.6 +2.9
B27A **Peters Farms,** 44.51 65 ⇓P P 18 26 30.5 -0.3
baz=44
F25A **Bowman** 44.64 69 ⇓P P 18 26 32.3 +0.4
baz=44
H24A **Dirks Ranch, A** 44.68 71 ⇑P P 18 26 31.7 -0.6
baz=44
K22A **Casper** 44.73 74 ⇓P P 18 26 32.4 -0.4
baz=45,SNR=11
K22A **Casper** 44.73 74 eP P 18 26 32.6 -0.2
comp=Z,18nm,0.8s
N20A **Spence Gulch,** 44.78 78 ⇓P P 18 26 33.6 +0.3
baz=45,SNR=7.1
A28A **Rude Farm, Bot** 44.79 64 ⇑P P 18 26 32.9 -0.2
baz=45,SNR=7.4
IRM **Iron Mountain** 44.79 90 ⇑P P 18 26 34.3 +1.0
baz=45
RWWY **Rawlins** 44.90 76 eP P 18 26 35.7 +1.4
comp=Z,20nm,0.9s
E26A **Carlson Angus** 44.90 68 ⇓P P 18 26 33.8 -0.2
baz=45,SNR=7.6
BC3 **Big Chuckawall** 44.94 91 ⇓P P 18 26 34.9 +0.4
baz=45
B28A **Dugan Ranch, T** 44.99 64 ⇓P P 18 26 34.8 +0.2
baz=45
G25A **Newell** 45.08 70 ⇓P P 18 26 35.7 +0.3
baz=45
I24A **Kuemmerle Ranc** 45.15 72 ⇑P P 18 26 35.9 -0.1
baz=45
K23A **Bowen Ranch, D** 45.21 74 ⇓P P 18 26 36.5 -0.1
baz=45
O20A **White River Ci** 45.22 78 ⇓P P 18 26 37.0 +0.2
baz=45,SNR=11
O20A **White River Ci** 45.22 78 eP P 18 26 37.1 +0.3
comp=Z,33nm,0.8s
H25A **Fruitdale** 45.30 70 ⇑P P 18 26 36.9 -0.3
baz=45
PDMCI **Parker Dam,Lak** 45.32 89 ⇓P P 18 26 38.2 +0.8
baz=45
RSSD **Black Hills** 45.34 71 eP P 18 26 37.4 -0.3
RSSD pmax pmax
comp=Z,6.0nm,0.6s
RSSD **Black Hills** 45.34 71 eP P 18 26 37.4 -0.3
comp=Z,6.3nm,0.6s
A29A **Manning Farm,** 45.35 63 ⇓P P 18 26 36.9 -0.5
baz=45,SNR=8.5
J24A **Dixon Ranch, L** 45.44 73 ⇓P P 18 26 37.7 -0.6
baz=45,SNR=5.1
Y12C **Blythe** 45.45 90 ⇑P P 18 26 39.6 +1.1
baz=45
G26A **Maurine** 45.49 69 ⇑P P 18 26 38.6 -0.1
baz=45,SNR=11
F27A **Lemmon** 45.50 68 ⇑P P 18 26 38.6 -0.1
baz=45,SNR=5.1
I25A **Rochford** 45.58 71 ⇓P P 18 26 38.9 -0.6
baz=45
PV09 **Paradox Valley** 45.69 81 eP P 18 26 38.2 -2.4
GLA **Glamis** 45.74 91 eP P 18 26 41.4 +0.7
GLA pmax pmax
comp=Z,10.0nm,0.8s
GLA **Glamis** 45.74 91 ⇓P P 18 26 41.5 +0.8
baz=46
GLA **Glamis** 45.74 91 eP P 18 26 41.4 +0.7
comp=Z,10.0nm,0.8s
MDND **Maddock** 45.74 65 ⇑P P 18 26 40.8 +0.2
baz=46
MDND **Maddock** 45.74 65 eP P 18 26 40.4 -0.2
comp=Z,35nm,0.9s
G27A **Dupree** 45.83 69 ⇓P P 18 26 41.0 -0.4
baz=46
E28A **Huff** 45.85 67 ⇑P P 18 26 41.4 -0.1
baz=46
A30A **Hoffart Farm,** 45.85 63 ⇓P P 18 26 41.4 -0.1
baz=46
N22A **Wattenberg Ran** 45.89 76 ⇑P P 18 26 42.2 +0.1
baz=46,SNR=18
J25A **Sunshine Ranch** 45.91 72 ⇓P P 18 26 41.7 -0.4
baz=46
I26A **New Underwood** 46.08 71 ⇑P P 18 26 43.7 +0.4
baz=46
B30A **Myrvik Farm, E** 46.11 63 ⇑P P 18 26 43.1 -0.3
baz=46,SNR=9.2
N23A **Red Feather La** 46.14 76 ⇓P P 18 26 43.7 -0.4
baz=46,SNR=12
N23A **Red Feather La** 46.14 76 eP P 18 26 44.3 +0.2
comp=Z,25nm,1.2s
N23A eScP ScP 18 32 03.4 -2.8
H27A **Howes** 46.18 70 ⇑P P 18 26 44.0 -0.1
baz=46
O22A **Kremmling** 46.22 77 ⇓P P 18 26 44.9 +0.1
baz=46,SNR=7.5
WUAZ **Wupatki** 46.23 86 ⇑P P 18 26 45.4 +0.7
baz=46
K25A **Mack Ranch, Ha** 46.33 73 ⇑P P 18 26 45.4 0.0
baz=46
J26A **Sides Ranch, S** 46.38 72 ⇑P P 18 26 45.3 -0.4
baz=46
C30A **Mose, Pekin** 46.45 64 ⇑P P 18 26 46.3 +0.1
baz=46
L25A **Engebretsen Ra** 46.55 73 ⇑P P 18 26 47.5 +0.4
baz=46
O23A **Lake Granby, G** 46.57 77 ⇑P P 18 26 48.1 +0.6
baz=46,SNR=18
G28A **Parade** 46.59 68 ⇓P P 18 26 47.7 +0.3
baz=46
D30A **Buchanan** 46.64 65 ⇓P P 18 26 47.7 +0.1
baz=46
H28A **Mission Ridge** 46.77 69 ⇓P P 18 26 48.8 +0.1
baz=47
F29A **Eureka** 46.77 67 ⇑P P 18 26 48.4 -0.3
baz=47
MVCO **Mesa Verde** 46.90 82 ⇑P P 18 26 51.2 +1.2
baz=47
M25A **Palm-Egli Farm** 46.93 74 ⇑P P 18 26 50.6 +0.5
baz=47,SNR=5.5
ISCO **Idaho Springs** 47.01 77 eP P 18 26 51.8 +0.8
ISCO pmax pmax
comp=Z,7.0nm,1.0s
ISCO **Idaho Springs** 47.01 77 ⇓P P 18 26 52.1 +1.2
baz=47,SNR=5.6
ISCO **Idaho Springs** 47.01 77 eP P 18 26 51.8 +0.8
comp=Z,6.6nm,1.0s
J27A **Elkhorn Farm,** 47.04 71 ⇓P P 18 26 51.5 +0.6
baz=47
I28A **Midland** 47.08 70 ⇑P P 18 26 50.5 -0.6
baz=47,SNR=9.1
P23A **Jefferson** 47.14 78 ⇓P P 18 26 53.8 +1.8
baz=47
K27A **Flueckinger Fa** 47.24 72 ⇑P P 18 26 53.0 +0.6
baz=47
H29A **Onida** 47.26 68 ⇑P P 18 26 52.8 +0.3
baz=47
J28A **Allard Ranch,** 47.39 70 ⇓P P 18 26 53.2 -0.3
baz=47,SNR=7.6
Q23A **Hartsel** 47.44 78 ⇑P P 18 26 55.2 +0.8
baz=47
AGMN **Agassiz Nation** 47.55 62 ⇑P P 18 26 53.7 -1.0
baz=47,SNR=12
AGMN **Agassiz Nation** 47.55 62 eP P 18 26 53.8 -0.9
comp=Z,18nm,0.8s
I29A **Vivian Onida** 47.57 69 ⇑P P 18 26 54.6 -0.3
baz=47
S22A **4UR Ranch, Cre** 47.57 80 ⇑P P 18 26 55.9 +0.6
baz=47,SNR=7.5
S22A **4UR Ranch, Cre** 47.57 80 eP P 18 26 56.6 +1.3
comp=Z,17nm,1.4s
G30A **Faulkton** 47.57 67 ⇓P P 18 26 54.6 -0.3
baz=47
214A **Organ Pipe Nat** 47.73 90 ⇑P P 18 26 57.2 +0.9
baz=48
K28A **Ten Mile Ranch** 47.74 71 ⇑P P 18 26 56.5 +0.2
baz=48
N26A **Koester Ranch,** 47.80 74 ⇓P P 18 26 57.6 +0.7
baz=48
Q24A **Divide** 47.81 78 ⇓P P 18 26 57.9 +0.7
baz=48
Q24A **Divide** 47.81 78 eP P 18 26 57.9 +0.7
comp=Z,6.8nm,1.0s
R23A **Moffat** 47.90 79 ⇑P P 18 26 58.7 +0.9
baz=48
J29A **Okreek** 47.93 70 ⇑P P 18 26 57.4 -0.3
baz=48,SNR=12
BRSD **Miller** 48.09 68 ⇓P P 18 26 58.7 -0.2
baz=48
S23A **Nye Farm, Mont** 48.10 79 ⇓P P 18 26 60.0 +0.6
baz=48
O26A **Horse Wrangler** 48.11 75 ⇓P P 18 26 59.9 +0.6
baz=48
I30A **Oacoma** 48.14 69 ⇑P P 18 26 59.3 -0.1
baz=48
N27A **Anderson Farm,** 48.22 74 ⇓P P 18 27 00.3 +0.2
baz=48
K29A **Lazy Trails An** 48.32 71 ⇑P P 18 27 01.3 +0.5
baz=48
SDCO **Great Sand Dun** 48.38 79 ⇓P P 18 27 02.3 +0.8
baz=48
SDCO **Great Sand Dun** 48.38 79 eP P 18 27 02.7 +1.1
comp=Z,10nm,0.9s
OGNE **Ogallala** 48.44 74 ⇓P P 18 27 01.8 +0.1
baz=48,SNR=5.5
OGNE **Ogallala** 48.44 74 eP P 18 27 02.1 +0.4
comp=Z,9.5nm,0.6s
J30A **Dallas** 48.46 69 ⇑P P 18 27 01.1 -0.7
baz=48,SNR=6.2
P26A **Davis Ranch, A** 48.52 76 ⇓P P 18 27 03.2 +0.7
baz=48,SNR=7.2
M28A **Bar X Bar Ranc** 48.55 73 ⇑P P 18 27 03.0 +0.4
baz=48
O27A **Beecher Island** 48.64 75 ⇓P P 18 27 03.6 +0.2
baz=48
L29A **Maesberg Ranch** 48.66 71 ⇓P P 18 27 03.7 +0.3
baz=48
TUC **Tucson** 48.74 88 eP P 18 27 04.9 +0.8
TUC pmax pmax
comp=Z,6.0nm,0.8s
TUC **Tucson** 48.74 88 eP P 18 27 04.9 +0.8
comp=Z,6.3nm,0.8s
K30A **Basset** 48.79 70 ⇑P P 18 27 04.7 +0.4
baz=49
Q26A **Hugo** 48.82 77 ⇓P P 18 27 05.3 +0.5
baz=49
M29A **Burnside Ranch** 48.92 72 ⇑P P 18 27 05.7 +0.3
baz=49
P27A **Ficken Ranch,** 48.98 75 ⇑P P 18 27 06.5 +0.5
baz=49
O28A **Krutsinger Ran** 49.10 74 ⇓P P 18 27 07.3 +0.5
baz=49
L30A **Spencer Herefo** 49.17 71 ⇓P P 18 27 07.3 0.0
baz=49
R26A **Arlington** 49.26 77 ⇓P P 18 27 08.2 +0.1
baz=49,SNR=15
KSCO **Kaye Shedlock'** 49.30 76 ⇓P P 18 27 08.9 +0.5
baz=49
KSCO **Kaye Shedlock'** 49.30 76 eP P 18 27 09.2 +0.7
comp=Z,23nm,0.8s
M30A **Dale-Ortello V** 49.34 72 ⇓P P 18 27 08.5 -0.1
baz=49
N29A **Votaw Ranch, W** 49.35 73 ⇑P P 18 27 09.0 +0.3
baz=49
SONM **Songino Array** 49.35 299 P P 18 27 08.7 0.0
comp=Z,0.9nm,0.7s,baz=47,slow=7.7,SNR=9.4
SONM PcP PcP 18 28 30.2 -0.1
comp=Z,0.7nm,0.7s,baz=62,slow=3.5,SNR=4.8
SONM ScP ScP 18 32 18.4 -1.0
comp=Z,0.9nm,0.7s,baz=60,slow=4.2,SNR=5.8
SONM LR LR 18 48 42.9
comp=Z,73nm,18.2s,baz=70,slow=37
T25A **Trinidad** 49.43 79 ⇑P P 18 27 10.0 +0.4
baz=49,SNR=13
T25A **Trinidad** 49.43 79 eP P 18 27 10.2 +0.7
comp=Z,34nm,0.9s
P28A **Saint Francis** 49.47 75 ⇓P P 18 27 10.1 +0.5
baz=49
ZAK **Zakamensk** 49.49 303 eP P 18 27 08.3 -1.4
ZAK pmax pmax
comp=Z,2.0nm,1.3s
L31A **Butterfield Fa** 49.55 70 ⇑P P 18 27 11.1 +1.0
baz=49
LAZ **Ladron** 49.57 84 eP P 18 27 11.7 +1.1
ANMO **Albuquerque** 49.63 83 ⇓P P 18 27 11.1 +0.1
ANMO pmax pmax
comp=Z,21nm,1.2s
ANMO **Albuquerque** 49.63 83 eP P 18 27 11.9 +0.8
comp=Z,12nm,1.7s
R27A **Eads** 49.66 77 ⇑P P 18 27 11.6 +0.4
baz=50,SNR=13
O29A **4D Ranch, Culb** 49.68 74 ⇑P P 18 27 11.3 +0.1
baz=50,SNR=5.8
Q28A **Sharon Springs** 49.74 75 ⇑P P 18 27 12.4 +0.6
baz=50
ECSD **EROS Data Cent** 49.86 67 ⇓P P 18 27 11.6 -0.9
baz=50
T26A **Comanche Natio** 49.90 78 ⇑P P 18 27 12.9 -0.2
baz=50,SNR=9.2
P29A **Atwood** 49.94 74 ⇑P P 18 27 13.4 +0.2
baz=50
S27A **Las Animas** 49.99 77 ⇑P P 18 27 14.0 +0.3
baz=50
BNM **Barren Site** 50.05 83 eP P 18 27 15.6 +1.2
O30A **MW Ranch, Wils** 50.09 73 ⇓P P 18 27 14.5 +0.2
baz=50
EYMN **Ely** 50.12 60 eP P 18 27 13.4 -0.9
comp=Z,12nm,0.8s
N31A **Bailey Ranch,** 50.33 72 ⇑P P 18 27 15.9 -0.2
baz=50
Q29A **Oakley** 50.36 75 ⇓P P 18 27 16.4 0.0
baz=50
P30A **Selden** 50.38 74 ⇑P P 18 27 16.8 +0.3
baz=50
BGNE **Belgrade** 50.43 71 ⇑P P 18 27 16.6 -0.2
baz=50
BGNE **Belgrade** 50.43 71 eP P 18 27 16.6 -0.2
comp=Z,47nm,0.8s
121A **Cookes Peak, D** 50.44 86 ⇓P P 18 27 18.2 +1.0
baz=50
O31A **Woolen Ranch,** 50.54 73 ⇑P P 18 27 18.0 +0.3
baz=50
R29A **Marienthal** 50.57 76 ⇓P P 18 27 18.5 +0.5
baz=50
S28A **Manter** 50.66 77 ⇑P P 18 27 19.0 +0.3
baz=50,SNR=10
HHC **Hu-ho-hao-te** 50.74 289 eP P 18 27 23.8 +4.5
HHC pP pP 18 27 36.5 +0.2
HHC PcP PcP 18 28 37.5 +2.0
HHC PP PP 18 29 21.6 +6.0
HHC S S 18 34 32.3 +2.6
HHC PMZ
comp=Z,17nm,1.0s
HHC PMZ
comp=Z,69nm,6.9s
HHC LN
comp=Z,130nm,15.8s
HHC LE
comp=Z,97nm,15.0s
HHC LZ
comp=Z,93nm,15.3s
N32A **Stulken Farm,** 50.75 71 ⇓P P 18 27 18.9 -0.3
baz=51
Q30A **Quinter** 50.76 74 ⇑P P 18 27 19.4 0.0
baz=51
T28A **Walsh** 50.83 77 ⇑P P 18 27 20.1 +0.1
baz=51,SNR=6.6
U27A **Thompson Grove** 50.86 79 ⇑P P 18 27 20.5 +0.2
baz=51,SNR=8.7
P31A **Stockton** 50.91 73 ⇑P P 18 27 20.2 -0.3
baz=51
O32A **Brockman Farm,** 51.08 72 ⇑P P 18 27 21.3 -0.5
baz=51
R30A **Dighton** 51.17 75 ⇓P P 18 27 22.4 -0.1
baz=51,SNR=7.2
Q31A **Ellis** 51.23 74 ⇓P P 18 27 22.7 -0.2
baz=51
U28A **Mallet** 51.25 78 ⇓P P 18 27 23.4 +0.2
baz=51
P32A **Huiting Farm,** 51.30 73 ⇑P P 18 27 22.8 -0.6
baz=51
T29A **Hugoton** 51.30 77 ⇓P P 18 27 23.9 +0.4
baz=51
R31A **Burdett** 51.62 75 ⇑P P 18 27 25.7 -0.1
baz=51,SNR=5.7
Q32A **Meitler Ranch,** 51.74 73 ⇓P P 18 27 26.6 0.0
baz=52,SNR=9.4
N34A **Lincoln** 51.75 70 ⇓P P 18 27 26.1 -0.6
baz=52
U29A **Oasis Ranch, S** 51.78 77 ⇑P P 18 27 27.2 +0.1
baz=52
T30A **Plains** 51.83 76 ⇑P P 18 27 27.1 -0.3
baz=52
S31A **Mullinville** 52.08 75 ⇓P P 18 27 28.9 -0.4

baz=52
U30A **WK&E Inc. Balk** 52.10 77 ⇓P P 18 27 29.2 -0.3
baz=52,SNR=5.3
Q33A **Connelly Farm,** 52.16 73 ⇓P P 18 27 29.2 -0.5
baz=52,SNR=11
NJ2 **Nanjing** 52.17 275 *e*P P 18 27 22.3 -7.6
NJ2 pmax pmax
comp=Z,50nm,1.1s
N35A **Tabor** 52.23 70 ⇓P P 18 27 30.1 -0.1
baz=52
P34A **Walnut Farm, R** 52.40 72 ⇓P P 18 27 31.0 -0.5
baz=52
O35A **Humboldt** 52.46 70 ⇑P P 18 27 31.2 -0.7
baz=52
X28A **Dimmitt** 52.51 80 ⇓P P 18 27 33.0 +0.5
baz=52
R33A **Olander Ranch,** 52.52 74 ⇓P P 18 27 31.9 -0.5
baz=52
MSTX **Muleshoe** 52.53 81 ⇓P P 18 27 33.4 +0.6
baz=52
MSTX **Muleshoe** 52.53 81 *e*P P 18 27 32.6 -0.1
comp=Z,34nm,1.4s
AMTX **Amarillo** 52.58 79 ⇓P P 18 27 33.2 +0.2
baz=52
T32A **Huddler Ranch,** 52.71 75 ⇓P P 18 27 33.1 -0.7
baz=52,SNR=5.3
Q34A **Chapman** 52.74 72 ⇑P P 18 27 33.7 -0.3
baz=53
KSU1 **Kansas State U** 52.81 72 ⇑P P 18 27 34.3 -0.3
baz=53
KSU1 **Kansas State U** 52.81 72 *e*P P 18 27 33.8 -0.8
comp=Z,25nm,0.8s
X29A **Tulia** 52.87 80 ⇓P P 18 27 35.2 +0.1
baz=53
P35A **Duane Minner,** 52.88 71 ⇑P P 18 27 33.8 -1.2
baz=53,SNR=5.5
Y28A **McKinney Farm,** 52.90 81 ⇓P P 18 27 35.3 -0.1
baz=53
R34A **Isabella, Hill** 52.96 73 ⇓P P 18 27 35.5 -0.2
baz=53
S33A **Kaszmaul Farm,** 52.98 74 ⇓P P 18 27 35.6 -0.3
baz=53
V31A **Spring Creek L** 53.09 77 ⇓P P 18 27 36.8 +0.1
baz=53
O36A **Bolckow** 53.10 70 ⇓P P 18 27 35.8 -0.9
baz=53,SNR=5.4
T33A **Patterson Ranc** 53.18 75 ⇑P P 18 27 37.3 0.0
baz=53
U32A **Winter Ranch,** 53.20 76 ⇑P P 18 27 37.3 -0.2
baz=53,SNR=5.1
Y29A **Porterfield Fa** 53.28 80 ⇑P P 18 27 38.9 +0.7
baz=53
P36A **Good Intent, A** 53.29 71 ⇑P P 18 27 36.9 -1.2
baz=53,SNR=5.8
Q35A **Mercer Eighty,** 53.31 72 ⇑P P 18 27 37.6 -0.6
baz=53
X30A **Coker Ranch, T** 53.37 79 ⇑P P 18 27 39.6 +0.8
baz=53
W31A **Holland Ranch,** 53.43 78 ⇓P P 18 27 39.8 +0.6
baz=53
S34A **Willow Spring** 53.44 74 ⇓P P 18 27 39.3 +0.1
baz=53
R35A **Emporia Munici** 53.57 72 ⇓P P 18 27 38.8 -1.3
baz=53,SNR=6.3
Q36A **Arnold C. Orve** 53.58 71 ⇓P P 18 27 39.7 -0.5
baz=53
128A **Castleberry Fa** 53.63 82 ⇑P P 18 27 40.6 -0.1
baz=53,SNR=5.5
Z29A **Hungry Hill Ra** 53.67 81 ⇑P P 18 27 40.9 -0.1
baz=54,SNR=7.4
U33A **Lingo Farm, Me** 53.69 75 ⇑P P 18 27 41.0 -0.1
baz=54
Y30A **Stafford Cattl** 53.74 80 ⇓P P 18 27 41.1 -0.4
baz=54,SNR=5.0
T34A **McClaskey Farm** 53.85 74 ⇑P P 18 27 41.4 -0.8
baz=54,SNR=13
228A **UT Block 9, Go** 53.91 82 ⇑P P 18 27 43.2 +0.4
baz=54
S35A **Otter Creek Ra** 53.92 73 ⇑P P 18 27 41.9 -0.8
baz=54,SNR=7.8
JFWS **Jewell Farm** 53.97 64 *e*P P 18 27 41.4 -1.6
JFWS pmax pmax
comp=Z,31nm,1.5s
JFWS **Jewell Farm** 53.97 64 *e*P P 18 27 41.4 -1.6
comp=Z,31nm,1.5s
R36A **Gordon, Harris** 53.98 72 ⇑P P 18 27 42.4 -0.7
baz=54,SNR=17
V33A **Lossen Ranch,** 54.00 76 ⇓P P 18 27 42.9 -0.4
baz=54
Z30A **Sanderson Ranc** 54.00 80 ⇑P P 18 27 43.2 -0.2
baz=54,SNR=8.9
U34A **Anderson Ranch** 54.03 75 ⇓P P 18 27 43.0 -0.6
baz=54,SNR=7.3
U34A **Anderson Ranch** 54.03 75 *e*P P 18 27 43.0 -0.6
comp=Z,45nm,0.6s
T35A **Sooner Cattle** 54.32 74 ⇓P P 18 27 45.5 -0.2
baz=54
W33A **Caddo, Fort Co** 54.34 77 ⇓P P 18 27 46.2 +0.3
baz=54
X32A **Elmer** 54.34 78 ⇑P P 18 27 46.3 +0.4
baz=54
R37A **Teagarden Farm** 54.38 71 ⇑P P 18 27 44.7 -1.4
baz=54
WMOK **Wichita Mounta** 54.43 77 *e*P P 18 27 46.6 +0.1
WMOK pmax pmax
comp=Z,16nm,0.8s
WMOK **Wichita Mounta** 54.43 77 *e*P P 18 27 46.6 +0.1
comp=Z,16nm,0.8s
V34A **Guthrie** 54.45 76 ⇑P P 18 27 46.5 -0.1
baz=54
V34A **Guthrie** 54.45 76 *e*P P 18 27 46.5 -0.1
comp=Z,20nm,0.8s
Y32A **R-V Farms, Ver** 54.53 78 ⇑P P 18 27 47.4 +0.2
baz=54
130A **Snyder** 54.58 81 ⇑P P 18 27 47.7 +0.1
baz=54
Z31A **Sharp Cattle R** 54.58 80 ⇓P P 18 27 47.8 +0.2
baz=54
T36A **Boggs Farm, Ca** 54.60 73 ⇓P P 18 27 46.8 -0.8
baz=54
W34A **Bridge Creek,** 54.70 76 ⇓P P 18 27 48.6 +0.2
baz=54
W34A **Bridge Creek,** 54.70 76 *e*P P 18 27 48.7 +0.2
comp=Z,20nm,0.7s
329A **Wagon Wheel Ra** 54.72 83 ⇑P P 18 27 48.9 +0.2
baz=54
X33A **Lawton** 54.74 77 ⇑P P 18 27 49.2 +0.5
baz=55
131A **Roby** 54.87 80 ⇑P P 18 27 50.0 +0.3
baz=55
V35A **Meyer Ranch, C** 54.90 75 ⇑P P 18 27 49.9 0.0
baz=55
230A **Sterling City** 54.98 82 ⇓P P 18 27 50.6 +0.1
baz=55
Z32A **Haskell** 54.99 79 ⇑P P 18 27 50.4 -0.1
baz=55,SNR=8.4
Y33A **Hilltop Ranch,** 55.02 78 ⇑P P 18 27 51.1 +0.3
baz=55
X34A **Smith Ranch, M** 55.10 77 ⇓P P 18 27 52.3 +1.0
baz=55
T37A **Cheneyville 18** 55.12 73 ⇓P P 18 27 50.6 -0.8
baz=55,SNR=18
TX31 **Lajitas Ar. Si** 55.19 86 *e*P P 18 27 52.1 0.0
TXAR **Lajitas Array** 55.20 86 P P 18 27 52.4 +0.2
comp=Z,7.6nm,0.7s,baz=295,slow=5.1,SNR=98
TXAR ScP ScP 18 32 44.7 -0.4
comp=Z,0.5nm,0.9s,baz=306,slow=3.2,SNR=3.6
330A **Mertzon** 55.27 82 ⇑P P 18 27 53.5 +0.9
baz=55
W35A **Tecumseh** 55.30 76 ⇑P P 18 27 52.5 -0.2
baz=55,SNR=6.6
ABTX **Abilene, Hawle** 55.36 80 ⇑P P 18 27 54.0 +0.8
baz=55
ABTX **Abilene, Hawle** 55.36 80 *e*P P 18 27 53.5 +0.3
comp=Z,16nm,0.8s
429A **Davenport Ranc** 55.38 83 ⇑P P 18 27 53.4 0.0
baz=55
TUL1 **Leonard** 55.43 74 ⇓P P 18 27 53.4 -0.3
baz=55
TUL1 **Leonard** 55.43 74 *e*P P 18 27 53.0 -0.6
comp=Z,17nm,0.8s
231A **Bronte** 55.43 81 ⇓P P 18 27 54.3 +0.6
baz=55
Z33A **Whitaker Ranch** 55.44 79 ⇓P P 18 27 54.1 +0.3
baz=55
529A **Stev Forest Ra** 55.53 84 ⇓P P 18 27 54.8 +0.3
baz=55
Y34A **Reagan Ranch,** 55.58 77 ⇓P P 18 27 54.7 -0.1
baz=55,SNR=11
430A **Baggett Ranch,** 55.67 83 ⇓P P 18 27 55.4 -0.1
baz=56,SNR=8.5
W36A **Wetumka** 55.69 75 ⇓P P 18 27 55.1 -0.5
baz=56,SNR=5.4
X35A **Drake** 55.75 76 ⇓P P 18 27 55.9 0.0
baz=56,SNR=9.8
331A **San Angelo** 55.80 82 ⇑P P 18 27 55.9 -0.5
baz=56
133A **Hamilton Ranch** 55.81 79 ⇓P P 18 27 56.7 +0.2
baz=56
232A **Coleman** 55.87 80 ⇑P P 18 27 57.2 +0.3
baz=56
Z34A **Collier Ranch,** 55.89 78 ⇓P P 18 27 57.7 +0.7
baz=56
X36A **Centrahoma** 56.01 76 ⇑P P 18 27 57.9 +0.1
baz=56,SNR=6.1
530A **J-C Ranch, Com** 56.05 83 ⇓P P 18 27 58.0 -0.2
baz=56,SNR=14
431A **Sonora** 56.12 82 ⇑P P 18 27 58.8 0.0
baz=56
332A **Millersview** 56.16 81 ⇓P P 18 27 58.6 -0.4
baz=56,SNR=9.2
W37A **Quinton** 56.17 75 ⇓P P 18 27 59.0 0.0
baz=56,SNR=14
233A **Rising Star** 56.23 80 ⇑P P 18 27 59.5 0.0
baz=56,SNR=7.3
Z35A **Perchaven, San** 56.32 78 ⇓P P 18 28 00.6 +0.5
baz=56
134A **White-Moore Ra** 56.34 79 ⇓P P 18 28 00.7 +0.5
baz=56
432A **Menard** 56.49 81 ⇓P P 18 28 01.7 +0.4
baz=56
531A **Rocksprings** 56.53 83 ⇓P P 18 28 01.4 -0.2
baz=56
X37A **Clayton** 56.58 75 ⇓P P 18 28 02.2 +0.3
baz=56,SNR=18
333A **Richland Sprin** 56.67 80 ⇓P P 18 28 02.6 +0.1
baz=56,SNR=5.4
234A **Clairette** 56.71 79 ⇑P P 18 28 02.8 0.0
baz=56,SNR=6.9
W38A **Poteau** 56.76 74 ⇑P P 18 28 02.6 -0.5
baz=57,SNR=12
JCT **Junction City** 56.76 82 *e*P P 18 28 02.4 -0.9
JCT pmax pmax
comp=Z,7.0nm,0.7s
JCT **Junction City** 56.76 82 ⇑P P 18 28 03.2 -0.1
baz=57
JCT **Junction City** 56.76 82 *e*P P 18 28 02.4 -0.9
comp=Z,7.4nm,0.7s
135A **Vickery Place,** 56.76 78 ⇓P P 18 28 03.9 +0.7
baz=57
SSLB **Suanglung** 56.77 267 *e*P P 18 28 03.2 -0.2
comp=Z,15nm,0.7s
532A **Rocksprings** 56.95 82 ⇑P P 18 28 04.1 -0.5
baz=57
433A **Art** 57.00 81 ⇑P P 18 28 04.7 -0.3
baz=57,SNR=7.3
631A **Perdido Creek** 57.04 83 ⇑P P 18 28 04.5 -0.7
baz=57
334A **Lometa** 57.12 80 ⇑P P 18 28 05.8 0.0
baz=57,SNR=13
WHTX **Lake Whitney,** 57.13 79 ⇑P P 18 28 06.3 +0.5
baz=57
WHTX **Lake Whitney,** 57.13 79 *e*P P 18 28 06.1 +0.3
comp=Z,22nm,0.8s
SCHQ **Schefferville** 57.32 41 LR LR 18 52 15.6
comp=Z,34nm,20.1s,baz=10.0,slow=36
Z37A **Pogue Cattle C** 57.39 77 ⇑P P 18 28 07.6 0.0
baz=57
SFIN **Lafayette** 57.42 65 ⇑P P 18 28 07.0 -0.7
baz=57,SNR=5.2
SFIN **Lafayette** 57.42 65 *e*P P 18 28 07.0 -0.7
comp=Z,15nm,0.8s
632A **Uvalde** 57.46 83 ⇑P P 18 28 07.9 -0.3
baz=57
434A **Burnet** 57.46 80 ⇑P P 18 28 07.9 -0.3
baz=57,SNR=9.4
335A **Moody** 57.64 79 ⇓P P 18 28 09.7 +0.3
baz=58
MIAR **Mount Ida** 57.68 74 *e*P P 18 28 09.5 -0.1
MIAR pmax pmax
comp=Z,26nm,0.8s
MIAR **Mount Ida** 57.68 74 *e*P P 18 28 09.5 -0.1
comp=Z,26nm,0.8s
236A **Katherine and** 57.68 78 ⇓P P 18 28 09.8 +0.1
baz=58,SNR=5.1
Z38A **Mt. Pleasant** 57.74 76 ⇑P P 18 28 10.3 +0.2
baz=58
534A **Blanco** 57.89 81 ⇑P P 18 28 11.3 +0.1
baz=58
435B **Jarrell** 57.90 80 ⇑P P 18 28 11.8 +0.6
baz=58
336A **Riesel** 57.92 79 ⇑P P 18 28 11.5 +0.1
baz=58,SNR=7.0
ARCES **ARCESS Array B** 57.96 352 P P 18 28 10.9 -0.2
comp=Z,1.6nm,0.7s,baz=11,slow=7.8,SNR=5.3
ARCES PcP PcP 18 29 01.4 -1.1
comp=Z,1.9nm,0.9s,baz=38,slow=2.2,SNR=3.5
ARCES ScP ScP 18 32 56.1 -0.3
comp=Z,3.0nm,0.9s,baz=26,slow=2.3,SNR=3.7
OLIL **Olney** 57.98 67 *e*P P 18 28 10.8 -0.8
comp=Z,23nm,0.8s
138A **Matatall Enter** 58.09 77 ⇓P P 18 28 13.2 +0.7
baz=58
237A **Washetta, Mont** 58.12 78 ⇑P P 18 28 13.4 +0.7
baz=58
832A **Faith Ranch, C** 58.21 84 ⇓P P 18 28 13.6 +0.1
baz=58
436A **Wall Ranch, Ga** 58.39 79 ⇑P P 18 28 15.4 +0.8
baz=58
LZH **Lanzhou** 58.43 289 *e*P P 18 28 15.8 +0.8
LZH pP pP 18 28 32.0 -0.4
LZH sP sP 18 28 40.2 +0.3
LZH PMZ
comp=Z,10.0nm,1.0s
535A **Dale** 58.44 81 ⇑P P 18 28 15.4 +0.4
baz=58
139A **Bunkhouse Ranc** 58.49 76 ⇑P P 18 28 15.7 +0.4
baz=58
833A **Chaparral WMA,** 58.54 83 ⇓P P 18 28 15.5 -0.2
baz=58
437A **Phantom Ranch,** 58.74 79 ⇑P P 18 28 18.2 +1.1
baz=59
USIN **University of** 58.76 67 *e*P P 18 28 16.2 -0.8
635A **Leesville** 58.77 81 ⇑P P 18 28 18.0 +0.7
baz=59
338A **Crockett** 58.87 78 ⇑P P 18 28 19.2 +1.2
baz=59
239A **Cary** 58.91 77 ⇓P P 18 28 18.9 +0.6
baz=59
NATX **Nacogdoches** 58.98 77 ⇑P P 18 28 19.1 +0.4
baz=59
933A **Laredo** 59.12 84 ⇓P P 18 28 20.3 +0.5
baz=59
WCI **Wyandotte Cave** 59.35 66 *e*P P 18 28 19.9 -1.3
WCI pmax pmax
comp=Z,12nm,0.8s
WCI **Wyandotte Cave** 59.35 66 *e*P P 18 28 19.9 -1.3
comp=Z,12nm,0.8s
934A **Benavides** 59.59 83 ⇑P P 18 28 24.1 +1.1
baz=59
637A **Eagle Lake** 59.61 80 ⇓P P 18 28 23.8 +0.7
baz=59
034A **Hebbronville** 59.88 84 ⇓P P 18 28 26.0 +1.0
baz=60
WVT **Waverly** 59.94 69 *e*P P 18 28 24.5 -0.7
WVT pmax pmax
comp=Z,6.0nm,0.7s
WVT **Waverly** 59.94 69 *e*P P 18 28 24.5 -0.7
comp=Z,6.0nm,0.7s
OXF **Oxford** 60.16 71 *e*P P 18 28 26.2 -0.6
OXF **Oxford** 60.16 71 *e*P P 18 28 26.2 -0.6
comp=Z,57nm,0.7s
035A **Encino** 60.33 83 ⇓P P 18 28 29.3 +1.3
baz=60
ALLY **Alegheny Colle** 60.33 59 *e*P P 18 28 27.5 -0.4
KURK **Kurchatov** 60.97 316 *e*P P 18 28 31.2 -0.9
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURK **Kurchatov** 60.97 316 *e*P P 18 28 31.2 -0.9
comp=Z,1.2nm,0.8s
SWET **Sewanee** 61.68 68 *e*P P 18 28 35.8 -1.3
WMQ **Urumqi** 61.78 306 P P 18 28 40.5 +2.7
WMQ pP pP 18 28 56.6 +1.3
WMQ sP sP 18 29 03.6 +0.9
WMQ PcP PcP 18 29 21.3 +3.0
WMQ PP PP 18 30 58.5 +4.6
WMQ PMZ
comp=Z,25nm,0.4s
WMQ PMZ
comp=Z,13nm,5.2s
WMQ LN
comp=Z,23nm,10.2s
WMQ LE
comp=Z,35nm,11.3s
WMQ LZ
comp=Z,41nm,14.5s
BINY **Binghamton** 62.12 56 *e*P P 18 28 40.2 +0.2
comp=Z,26nm,0.9s
CD2 **Chengdu** 62.13 285 *e*P P 18 28 38.4 -1.9
CD2 pP pP 18 28 56.5 -1.3
CD2 sP sP 18 29 04.4 -0.8
CD2 PP PP 18 30 55.2 -2.1
CD2 PcS PcS 18 33 21.7 -1.6
CD2 S S 18 36 57.3 -3.1
CD2 sS sS 18 37 28.6 -1.4
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
MKAR **Makanchi Array** 62.23 311 P P 18 28 38.9 -1.8
comp=Z,1.1nm,0.9s,baz=60,slow=6.0,SNR=7.8
MKAR **Makanchi Array** 62.23 311 P P 18 28 38.9 -1.8
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR **Makanchi Array** 62.23 311 *e*P P 18 28 38.5 -2.2
MK01 **Makanchi Array** 62.24 311 *e*P P 18 28 39.2 -1.5
SSPA **Standing Stone** 62.25 59 *e*P P 18 28 40.6 -0.2
comp=Z,16nm,0.9s
CPCT **Cooper Cave** 62.32 67 *e*P P 18 28 40.4 -0.9
BRVK **Borovoye** 62.53 322 *ce*P P 18 28 41.7 -0.8
BRVK pmax pmax
comp=Z,6.0nm,2.5s
TKL **Tuckaleechee C** 62.59 67 *e*P P 18 28 42.2 -1.0
TKL **Tuckaleechee C** 62.59 67 *e*P P 18 28 42.2 -1.0
LRAL **Lakeview Retre** 62.62 71 *e*P P 18 28 41.9 -1.5
comp=Z,14nm,0.6s
BLA **Blacksburg** 63.35 63 *e*P P 18 28 48.3 +0.1
BLA pmax pmax
comp=Z,24nm,1.0s
BLA **Blacksburg** 63.35 63 *e*P P 18 28 48.3 +0.1
comp=Z,24nm,1.0s
GYA **Guiyang** 63.61 280 *e*P P 18 28 51.0 +0.8
GYA pP pP 18 29 10.4 +2.7
GYA sP sP 18 29 17.0 +1.8
GYA PP PP 18 31 12.6 +2.2
GYA sS sS 18 37 48.2 -0.6
GYA SKS SKKSac 18 38 34.0 -3.7
GYA SS SS 18 41 25.8 -1.2
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,110nm,5.2s
GYA LN
comp=Z,450nm,19.9s
GYA LE
comp=Z,360nm,20.7s
GYA LZ
comp=Z,430nm,19.0s
ARU **Arti** 63.77 331 P pP 18 29 05.4 -2.8
KMSC **Kings Mountain** 64.34 65 ⇑P P 18 28 54.1 -0.7
baz=64,SNR=6.6
KMSC **Kings Mountain** 64.34 65 *e*P P 18 28 54.4 -0.4
comp=Z,19nm,0.8s
JSC **Jenkinsville** 65.01 66 *e*P P 18 28 58.9 -0.2
JSC pmax pmax
comp=Z,26nm,1.0s
JSC **Jenkinsville** 65.01 66 *e*P P 18 28 58.9 -0.2
comp=Z,26nm,1.0s
FINES **FINESS Array B** 65.82 350 P P 18 29 03.3 -0.5
comp=Z,0.8nm,0.7s,baz=32,slow=5.4,SNR=3.3
FINES **FINESS Array B** 65.82 350 P P 18 29 03.3 -0.5
FINES pmax pmax
comp=Z,1.0nm,0.7s
NOA **NORSAR Array B** 67.22 358 P P 18 29 12.1 -0.8
comp=Z,0.3nm,0.5s,baz=2.3,slow=6.3,SNR=2.8
AKTO **Aktyubinsk** 69.04 328 P P 18 29 23.7 -0.7
comp=Z,1.7nm,0.7s,baz=31,slow=5.1,SNR=11
AKTO **Aktyubinsk** 69.04 328 P P 18 29 23.7 -0.7
AKTO pmax pmax
comp=Z,2.0nm,0.7s
EKS2 **Erkin-Say** 69.29 313 *e*P P 18 29 25.2 -1.1
EKS2 pmax pmax
comp=Z,40nm,2.7s
EKS2 **Erkin-Say** 69.29 313 *e*P P 18 29 25.2 -1.1
comp=Z,40nm,2.7s
ABKAR **Akbulak array** 69.39 326 *e*P P 18 29 25.5 -1.1
ABKAR *ep*P pP 18 29 42.1 -2.3
KSH **Kashi** 70.77 310 *e*P P 18 29 38.5 +3.2
KSH pP PcP 18 29 57.6 +1.8
CMAR **Chiang Mai Arr** 74.30 280 P P 18 29 56.5 0.0
comp=Z,3.1nm,0.8s,baz=25,slow=6.9,SNR=21
CMAR **Chiang Mai Arr** 74.30 280 P P 18 29 56.5 0.0
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CM01 **Chiang Mai Arr** 74.31 280 *e*P P 18 29 56.5 -0.1
STHS **Stebnicka Huta** 78.17 350 *e*P P 18 30 15.6 -2.3
STHS pmax pmax
comp=Z,1.0nm,0.8s
STHS **Stebnicka Huta** 78.17 350 *e*P P 18 30 15.6 -2.3
KOLS **Kolonicke sedl** 78.53 350 *e*P P 18 30 16.2 -3.8
KOLS pmax pmax
comp=Z,5.0nm,1.8s
KOLS **Kolonicke sedl** 78.53 350 *e*P P 18 30 16.2 -3.8
KECS **Kecovo** 79.17 351 *e*P P 18 30 19.1 -4.3
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS **Kecovo** 79.17 351 *e*P P 18 30 19.1 -4.3
KAPI **Kappang** 80.04 249 P P 18 30 29.9 +1.4
baz=84,slow=10
WRA **Warramunga Arr** 84.92 228 P P 18 30 53.1 -0.7
comp=Z,0.8nm,0.8s,baz=32,slow=5.4,SNR=4.3
WRA pP pP 18 31 10.0 -2.1
comp=Z,0.7nm,0.5s,baz=33,slow=5.7,SNR=4.0
WRA **Warramunga Arr** 84.92 228 P P 18 30 53.1 -0.7
WRA *PP pP 18 31 10.0 -2.1
WRA pmax pmax
comp=Z,1.0nm,0.8s
PSI **Prapat** 86.42 270 *e*P P 18 31 01.5 -0.2
PSI pmax pmax
comp=Z,14nm,1.1s
PSI **Prapat** 86.42 270 *e*P P 18 31 01.4 -0.2
comp=Z,14nm,1.1s
AS01 **Alice Springs** 88.33 227 *e*P P 18 31 10.3 0.0
ASAR **Alice Springs** 88.35 227 P P 18 31 10.6 +0.1
comp=Z,1.8nm,1.0s,baz=23,slow=5.1,SNR=22
ASAR pP pP 18 31 27.6 -1.3
comp=Z,1.0nm,0.5s,baz=22,slow=4.7,SNR=3.6
ASAR **Alice Springs** 88.35 227 P P 18 31 10.6 +0.1
ASAR *PP pP 18 31 27.6 -1.3
ASAR pmax pmax
comp=Z,2.0nm,1.0s
ROSC **El Rosal** 91.72 80 LR LR 19 16 01.9
comp=Z,19nm,18.9s,baz=216,slow=38
TORD **Torodi Ar. Bea** 114.94 5 PKP PKPdf 18 36 58.6 -1.0
comp=Z,0.4nm,0.5s,baz=350,slow=2.6,SNR=5.0
BOSA **Boshof** 152.81 322 PKPbc PKPbc 18 38 15.1 -0.3
comp=Z,1.5nm,0.5s,baz=298,slow=2.4,SNR=8.3
BOSA **Boshof** 152.81 322 PKIKP PKPbc 18 38 15.1 -0.3
BOSA pmax pmax
comp=Z,2.0nm,0.5s

IDC ***10*** *18:33:43.4± 1.0, 8.˚84S× 158.˚16E, h0km, mb4.0/8, mb1 4.2/10, mb1mx3.9/35, mbtmp4.0/10, ML3.7/2, MS3.4/4, Ms1 3.3/4, ms1mx2.9/20, Error ellipse: s-maj=33.9km s-min=20.5km az=120.0*

ISCJB ***10*** *18:33:46.0± 0.6, 8.˚9S× 0.˚1 × 158.˚15E± 0.˚06, h29km, mb3.9/8, MS3.3/3, Error ellipse: s-maj=14.8km s-min=8.4km az=9.3*

ISC 10 18:33:46.8±0.7, 9.˚1S×0.˚1×158.˚29E±0.˚08, h29km, n13, σ1s30/13, mb3.9/8, MS3.3/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
HNR	**Honiara**	**1.68**	**103**	*i* P	**Pb**	**18 34 16.0**	**-1.0**
HNR				*i* S	**Sb**	**18 34 39.0**	**+1.2**
DZM	**Mont Dzumac**	**15.12**	**150**	Pn	**P**	**18 37 22.4**	**-1.0**
DZM	0.1nm,0.3s,baz=270,slow=20,SNR=19			LR	LR	18 42 18.4	
CTA	comp=Z,107nm,19.1s,baz=0.0,slow=34 **Charters Tower**	**15.98**	**225**	Pn	**P**	**18 37 31.3**	**-1.6**

0.5nm,0.3s,baz=51,slow=14,SNR=4.9
WRA Warramunga Arr 25.54 242 P **P** **18 39 12.7 -0.6**
1.9nm,0.6s,baz=66,slow=9.5,SNR=3.8
ASAR Alice Springs 27.46 235 P **P** **18 39 31.8 +1.2**
0.8nm,0.5s,baz=61,slow=9.6,SNR=4.1
ASAR LR LR 18 49 09.7
comp=Z,79nm,18.1s,baz=58,slow=34
STKA Stephens Creek 27.48 212 P **P** **18 39 33.3 +2.6**
7.2nm,0.8s,baz=36,slow=12,SNR=19
STKA LR LR 18 50 28.9
comp=Z,87nm,18.7s,baz=28,slow=36
CMAR Chiang Mai Arr 64.61 295 P **P** **18 44 21.6 -0.5**
0.3nm,0.7s,baz=110,slow=5.2,SNR=3.1
SONM Songino Array 72.84 326 P **P** **18 45 13.8 +0.7**
1.3nm,0.8s,baz=138,slow=5.9,SNR=9.9
YAK Yakutsk 74.29 346 LR LR 19 16 18.8
comp=Z,14nm,19.2s,baz=112,slow=34
ILAR Eielson Array 84.12 21 P **P** **18 46 14.2 -0.5**
0.4nm,0.5s,baz=243,slow=4.0,SNR=3.5
MKAR Makanchi Array 87.11 318 P **P** **18 46 29.6 -0.5**
0.7nm,0.5s,baz=94,slow=5.8,SNR=7.0
NVAR Mina Array Bea 90.45 51 P **P** **18 46 47.0 +0.8**
1.6nm,0.8s,baz=245,slow=7.5,SNR=6.9
ESDC Sonseca Array 145.65 335 PKPbc **PKPab** **18 53 23.6 +0.2**
0.2nm,0.4s,baz=57,slow=1.7,SNR=3.1

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*IDC **10** 18:34:32.8±2.8,6˚14.5S×129˚63.6E,h200km±27km,mb3.3/7, mb1 3.6/9,mb1mx3.3/34,mbtmp4.0/9,MS3.2/1,Ms1 3.4/1, ms1mx2.7/10,Error ellipse: s-maj=36.7km s-min=12.9km az=67.0*
*DJA **10** 18:34:40.3±4.4,6˚S±55˚×13˚0E±˚,h193km±38km,M4.6/7, mb5.0/3,mB5.0/3,MLv4.5/7,Mw(mB)4.3/3*
ISC 10 18:34:33.3±0.7,**6˚12S**±0.07×**129.70E**±0.09,**h209**km,**n27,** σ1**9**72/27,**mb3.5/7,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.44**	**139**	S	**S**	**18 35 51.0**	**+0.1**
MSAI	**Masohi**	**2.86**	**344**	P	**Pn**	**18 35 23.3**	**+1.5**
NLAI	**Namlea**	**3.86**	**318**	P	Pn	18 35 37.3	+3.6
FAKI	**Fak Fak**	**4.07**	**39**	P	**Pn**	**18 35 36.7**	**+0.4**
SIJI	**Sorong**	**5.44**	**17**	P	**Pn**	**18 35 53.6**	**-0.1**
	20nm,0.3s,baz=66,slow=9.7,SNR=178						
SIJI				S	**S**	**18 36 54.5**	**-2.5**
	12nm,0.3s,baz=70,slow=23,SNR=16						
SANI	**Sanana**	**5.48**	**317**	P	**Pn**	**18 35 55.5**	**+1.4**
	58nm,0.8s,698nm0.2nm						
RKPI	**Ransiki, Papua**	**6.40**	**44**	P	**Pn**	**18 36 08.0**	**+2.1**
	690nm,0.7s,12µm3.4nm						
WRA	**Warramunga Arr**	**14.46**	**162**	P	Pn	18 37 44.2	-4.4
	2.0nm,0.3s,baz=336,slow=14,SNR=35						
WRA				S		18 40 18.8	-10
	3.1nm,0.3s,baz=330,slow=22,SNR=8.9						
ASAR	**Alice Springs**	**17.91**	**167**	P	**P**	**18 38 27.6**	**0.0**
	3.4nm,0.3s,baz=340,slow=9.2,SNR=200						
ASAR				S	**S**	**18 41 37.7**	**-4.8**
	0.4nm,0.3s,baz=353,slow=24,SNR=13						
CTA	**Charters Tower**	**21.25**	**132**	P	**P**	**18 39 04.5**	**+1.2**
	8.0nm,0.8s,baz=325,slow=11,SNR=7.2						
STKA	**Stephens Creek**	**27.94**	**158**	P	**P**	**18 40 03.8**	**-0.5**
	2.3nm,0.8s,baz=344,slow=9.0,SNR=4.7						
CMAR	**Chiang Mai Arr**	**38.94**	**309**	P	**P**	**18 41 39.1**	**-0.2**
	0.4nm,0.6s,baz=134,slow=6.9,SNR=4.5						
CMAR				LR	LR	18 59 22.5	
	comp=Z,30nm,18.4s,baz=175,slow=38						
MJAR	**Matsushiro Arr**	**43.18**	**10**	P	**P**	**18 42 13.5**	**-0.1**
	0.5nm,0.4s,baz=193,slow=10.0,SNR=3.7						
ODAN	**Odare**	**52.46**	**311**	*eP*	**P**	**18 43 24.0**	**-1.2**
TAPN	**Taplejung**	**52.48**	**311**	*eP*	**P**	**18 43 22.9**	**-2.6**
	4.2nm,0.3s						
RAMN	**Ramite**	**53.10**	**310**	*eP*	**P**	**18 43 29.9**	**-0.1**
	8.0nm,0.4s						
JIRN	**Jiri**	**53.79**	**311**	*eP*	**P**	**18 43 33.5**	**-1.6**
	3.3nm,0.3s						
GUN	**Gumba**	**54.15**	**311**	*eP*	**P**	**18 43 35.7**	**-2.0**
	5.4nm,0.4s						
PKI	**Pulchoki**	**54.33**	**310**	*eP*	**P**	**18 43 38.2**	**-0.8**
KKN	**Kakani**	**54.54**	**310**	*eP*	**P**	**18 43 38.7**	**-1.6**
DMN	**Daman**	**54.58**	**310**	*eP*	**P**	**18 43 39.3**	**-1.4**
GKN	**Gorkha**	**55.14**	**310**	*eP*	**P**	**18 43 43.2**	**-1.3**
	4.6nm,0.4s						
SONM	**Songino Array**	**57.52**	**342**	P	**P**	**18 44 01.5**	**+0.6**
	0.2nm,0.5s,baz=159,slow=7.8,SNR=4.1						
MKAR	**Makanchi Array**	**67.33**	**327**	P	**P**	**18 45 06.5**	**+0.8**
	1.0nm,0.5s,baz=122,slow=8.1,SNR=14						
ZALV	**Zalesovo Beam**	**70.67**	**334**	P	**P**	**18 45 26.0**	**-0.1**
	0.5nm,0.5s,baz=120,slow=5.7,SNR=2.8						
PLCA	**Paso Flores**	**129.80**	**160**	PKP	**PKPdf**	**18 53 21.1**	**+2.9**
	1.1nm,0.4s,baz=205,slow=2.9,SNR=3.4						
LPAZ	**La Paz**	**151.59**	**142**	PKPbc	**PKPbc**	**18 54 05.3**	**+0.8**
	0.7nm,0.4s,baz=180,slow=1.0,SNR=5.1						

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*IDC **10** 18:38:41.7±0.7,56˚23N×162˚32E,h0km,mb3.8/16, mb1 4.0/16,mb1mx3.9/32,mbtmp3.8/16,MS3.3/10, Ms1 3.4/10,ms1mx3.1/32,Error ellipse: s-maj=21.5km s-min=15.0km az=146.0*
*ISCJB **10** 18:38:44.0±0.5,56˚34N±0˚02×162˚81E±0˚04,h28km±3km, mb4.0/24,MS3.3/9,Error ellipse: s-maj=4.2km s-min=3.4km az=37.9*
*MOS **10** 18:38:43.3±1.0,56˚35N×162˚83E,h21km,mb4.1/15,Error ellipse: s-maj=9.6km s-min=5.2km az=66.2*
*KRSC **10** 18:38:43.2±1.1,56˚23N×162˚82E,h22km±8km,ML4.7, FELT [IV] at Ust-Kamchatsk, Krutoberegovo; NO FELT at Kluchi.*
*NEIC **10** 18:38:49.1±1.2,56˚25N×162˚46E,h56km±11km,mb4.2/4, Error ellipse: s-maj=10.6km s-min=8.1km az=131.0*
ISC 10 18:38:44.4±0.8,**56˚34N**±0˚04×**162˚70E**±0˚03,**h20**km±3km, **n143,** σ1**9**26/172,**mb4.1**/29,**MS3.3**/9,**1C-2D,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.09**	**179**	*eP*	**Pg**	**18 38 47.9**	**-0.3**
KBG				*eS*	**Sg**	**18 38 50.5**	**-0.2**
KBTR	**Krutoberegovo**	**0.15**	**154**	*eP*	**Pg**	**18 38 48.3**	**-0.6**
KBTR	**Krutoberegovo**	**0.15**	**154**	PN	**Pg**	**18 38 48.3**	**-0.6**
SMKR	**Semkarok**	**0.73**	**290**	*eP*	**Pb**	**18 38 58.6**	**+0.2**
SMKR				*eS*	**Sg**	**18 39 09.0**	**+0.5**
SMKR	**Semkarok**	**0.73**	**290**	PN	**Pb**	**18 38 58.6**	**+0.2**
SMKR				S	**Sg**	**18 39 09.0**	**+0.5**
BDR	**Baidarnaya**	**0.86**	**286**	*eP*	**Pb**	**18 39 00.9**	**+0.2**
BDR				*eS*	**Sg**	**18 39 13.5**	**+0.8**
SRKR	**Sorokina**	**0.91**	**291**	*eP*	**Pb**	**18 39 01.8**	**+0.3**
SRKR	**Sorokina**	**0.91**	**291**	PN	**Pb**	**18 39 01.8**	**+0.3**
ZLN	**Zelenaya**	**1.11**	**254**	*eP*	**Pn**	**18 39 05.0**	**0.0**
ZLN	**Zelenaya**	**1.11**	**254**	PN	**Pn**	**18 39 05.0**	**0.0**
CIRR	**Tsirk**	**1.11**	**259**	*eP*	**Pn**	**18 39 04.9**	**-0.2**
CIRR	**Tsirk**	**1.11**	**259**	PN	**Pn**	**18 39 04.9**	**-0.2**
KLY	**Klyuchi**	**1.14**	**269**	*eP*	**Pn**	**18 39 03.1**	**-2.2**
KLY				*eS*	**Sb**	**18 39 16.7**	**-3.2**
LGNR	**Loginova**	**1.15**	**258**	*eP*	**Pn**	**18 39 05.6**	**-0.1**
LGNR				*eS*	**Sb**	**18 39 20.9**	**+0.4**
LGNR	**Loginova**	**1.15**	**258**	PN	**Pn**	**18 39 05.6**	**-0.1**
LGNR				S	**Sb**	**18 39 20.9**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**1.19**	**251**	*eP*	**Pn**	**18 39 05.9**	**-0.2**
BZGR				*eS*	**Sn**	**18 39 22.3**	**+0.5**
BZWR	**Bezymyannyi-We**	**1.29**	**254**	*eP*	**Pn**	**18 39 07.5**	**0.0**
BZWR				*eS*	**Sn**	**18 39 24.4**	**+0.1**
BZMR	**Bezymyannaya**	**1.30**	**253**	*eP*	**Pn**	**18 39 07.7**	**0.0**
BZMR				*eS*	**Sn**	**18 39 22.2**	**-2.4**
KPT	**Kopyto**	**1.44**	**256**	*eP*	Pn	18 39 01.0	-8.4
KPT				*eS*	**Sb**	**18 39 29.3**	**+0.8**
KPT	**Kopyto**	**1.44**	**256**	PN	**Pn**	**18 39 10.0**	**+0.6**
KPT				S	**Sb**	**18 39 29.3**	**+0.8**
KMNR	**Kamenistaya**	**1.50**	**248**	*eP*	**Pn**	**18 39 10.9**	**+0.6**
KMNR				*eS*	**Sb**	**18 39 31.7**	**+1.4**
KMNR	**Kamenistaya**	**1.50**	**248**	PN	**Pn**	**18 39 10.9**	**+0.6**
KMNR				S	**Sb**	**18 39 31.7**	**+1.4**
KOZ	**Kozyrevsk**	**1.61**	**261**	*eP*	**Pb**	**18 39 12.9**	**-0.5**
KOZ				*eS*	**Sb**	**18 39 34.1**	**+0.8**
KOZ	**Kozyrevsk**	**1.61**	**261**	PN	**Pb**	**18 39 12.9**	**-0.5**
KOZ				S	**Sb**	**18 39 34.1**	**+0.8**
SRDR	**Sredinnyy**	**1.66**	**270**	*eP*	**Pn**	**18 39 13.6**	**+1.1**
SRDR				*eS*	**Sb**	**18 39 35.3**	**+0.4**
SRDR	**Sredinnyy**	**1.66**	**270**	PN	**Pn**	**18 39 13.6**	**+1.1**
SRDR				S	**Sb**	**18 39 35.3**	**+0.4**
TUMR	**Tumrok**	**1.79**	**235**	*eP*	**Pn**	**18 39 15.1**	**+0.8**
TUMR				*eS*	**Sb**	**18 39 38.4**	**-0.3**
TUMR	**Tumrok**	**1.79**	**235**	PN	**Pn**	**18 39 15.1**	**+0.8**
TUMR				S	**Sb**	**18 39 38.4**	**-0.3**
KZV	**Kizimen**	**1.84**	**229**	*eP*	**Pn**	**18 39 15.6**	**+0.6**
KZV				*eS*	**Sn**	**18 39 38.6**	**+0.9**
MKZ	**Mys Kozlova**	**1.87**	**198**	*eP*	**Pn**	**18 39 15.8**	**+0.5**
MKZ				*eS*	**Sn**	**18 39 39.0**	**+0.7**
MKZ	**Mys Kozlova**	**1.87**	**198**	PN	**Pn**	**18 39 15.8**	**+0.5**
MKZ				S	**Sn**	**18 39 39.0**	**+0.7**
BKI	**Bering**	**2.17**	**120**	*eP*	**Pn**	**18 39 18.5**	**-0.9**
BKI				*eS*	**Sn**	**18 39 44.1**	**-1.6**
BKI	**Bering**	**2.17**	**120**	PN	**Pn**	**18 39 18.5**	**-0.9**
BKI				S	**Sn**	**18 39 44.1**	**-1.6**
ESO	**Esso**	**2.28**	**261**	*eP*	**Pb**	**18 39 23.5**	**-1.4**
ESO				*eS*	**Sb**	**18 39 52.5**	**-0.1**
ESO	**Esso**	**2.28**	**261**	PN	**Pb**	**18 39 23.5**	**-1.4**
ESO				S	**Sb**	**18 39 52.5**	**-0.1**
OSSR	**Ossora**	**2.92**	**4**	*eP*	**Pn**	**18 39 32.0**	**+2.3**
KII	**Karymskiy**	**2.97**	**220**	*eP*	**Pn**	**18 39 31.9**	**+1.4**
KII	**Karymskiy**	**2.97**	**220**	PN	**Pn**	**18 39 31.9**	**+1.4**
SPN	**Mys Shipunski**	**3.60**	**207**	*eP*	**Pn**	**18 39 39.4**	**+0.3**
SPN				*eS*	**Sn**	**18 40 20.2**	**-0.8**
SPN	**Mys Shipunski**	**3.60**	**207**	PN	**Pn**	**18 39 39.4**	**+0.3**
NLC	**Nalytchevo**	**3.72**	**213**	*eP*	**Pn**	**18 39 41.7**	**+0.9**
NLC				*eS*	**Sn**	**18 40 23.9**	**-0.1**
NLC	**Nalytchevo**	**3.72**	**213**	PN	**Pn**	**18 39 41.7**	**+0.9**
SDLR	**Sedlovina**	**3.78**	**217**	*eP*	**Pn**	**18 39 42.6**	**+0.9**
SDLR				*eS*	**Sn**	**18 40 26.4**	**+0.8**
SDLR	**Sedlovina**	**3.78**	**217**	PN	**Pn**	**18 39 42.6**	**+0.9**
KRX	**Arik**	**3.80**	**220**	*eP*	**Pn**	**18 39 43.3**	**+1.4**
KRX				*eS*	**Sn**	**18 40 27.9**	**+1.9**
KRER	**Koryakskii**	**3.81**	**219**	*eP*	**Pn**	**18 39 43.6**	**+1.5**
KRER				*eS*	**Sn**	**18 40 27.8**	**+1.4**
GNL	**Ganaly**	**3.81**	**228**	*eP*	**Pn**	**18 39 43.2**	**+1.1**
GNL	**Ganaly**	**3.81**	**228**	PN	**Pn**	**18 39 43.2**	**+1.1**
SMAR	**Somma**	**3.82**	**218**	*eP*	**Pn**	**18 39 43.5**	**+1.2**
SMAR				*eS*	**Sn**	**18 40 27.0**	**+0.2**
SMAR	**Somma**	**3.82**	**218**	PN	**Pn**	**18 39 43.5**	**+1.2**
AVH	**Avacha**	**3.84**	**218**	*eP*	**Pn**	**18 39 44.2**	**+1.7**
AVH				*eS*	**Sn**	**18 40 27.9**	**+0.8**
AVH	**Avacha**	**3.84**	**218**	PN	**Pn**	**18 39 44.2**	**+1.7**
KOK	**Koryaka**	**3.85**	**219**	*eP*	**Pn**	**18 39 44.7**	**+2.0**
KOK	**Koryaka**	**3.85**	**219**	PN	**Pn**	**18 39 44.7**	**+2.0**
UGLR	**Uglovaya**	**3.86**	**217**	*eP*	**Pn**	**18 39 44.3**	**+1.6**
UGLR				*eS*	**Sn**	**18 40 28.4**	**+0.9**
PET	**Petropavlovsk**	**4.07**	**217**	*eP*	**Pn**	**18 39 45.8**	**+0.3**
PET				*eS*	**Sn**	**18 40 33.0**	**+0.5**
PET	**Petropavlovsk**	**4.07**	**217**	*eP*N	**Pn**	**18 39 46.7**	**+1.2**
PET				*eS*	**Sn**	**18 40 35.1**	**+2.6**
PET				pmax	pmax		
	comp=Z,63nm,0.5s						
PET				smax	smax		
	comp=E,393nm,0.7s						
PET				smax	smax		
	comp=N,341nm,0.6s						
PET				MLR	MLR		
	comp=Z,600nm,13.0s						
PET				MLR	MLR		
	comp=Z,200nm,12.0s						
PET	**Petropavlovsk**	**4.07**	**217**	*eP*	**Pn**	**18 39 46.2**	**+0.7**
PETK	**Petropavlovsk-**	**4.35**	**224**	Pn	**Pn**	**18 39 50.1**	**+0.7**
	comp=Z,8.4nm,0.3s,baz=67,slow=15,SNR=105						
PETK				Lg	Lg	18 40 49.1	
	comp=Z,3.9nm,0.3s,baz=40,slow=27,SNR=3.8						
TILK	**Tilichiki**	**4.50**	**22**	*eP*	Pn	18 39 55.1	+3.7
RUS	**Russkaya**	**4.62**	**214**	*eP*	**Pn**	**18 39 54.3**	**+1.3**
RUS				*eS*	**Sn**	**18 40 47.0**	**+1.0**
RUS	**Russkaya**	**4.62**	**214**	PN	**Pn**	**18 39 54.3**	**+1.3**
MTVR	**Mutnovka**	**4.68**	**216**	*eP*	**Pn**	**18 39 55.5**	**+1.5**
MTVR				*eS*	**Sn**	**18 40 49.5**	**+1.7**
APC	**Apacha**	**4.70**	**226**	*eP*	**Pn**	**18 39 56.9**	**+2.7**
APC	**Apacha**	**4.70**	**226**	PN	**Pn**	**18 39 56.9**	**+2.7**
ASAK	**Asacha**	**4.86**	**217**	*eP*	**Pn**	**18 39 59.2**	**+2.8**
PAU	**Pauzhetka**	**6.00**	**218**	*eP*	Pn	18 40 15.8	+3.8
PAU	**Pauzhetka**	**6.00**	**218**	PN	Pn	18 40 15.8	+3.8
SKR	**Severo-Kuril's**	**6.89**	**217**	*eP*	**Pn**	**18 40 26.2**	**+1.9**
SKR	**Severo-Kuril's**	**6.89**	**217**	*e*PN	Pn	18 40 13.6	-11
SEY	**Seymchan**	**8.42**	**326**	LR	LR	18 44 21.6	
	comp=Z,137nm,19.6s,baz=174,slow=40						
UGL	**Uglegorsk**	**14.43**	**248**	P	**Pn**	**18 42 05.6**	**-1.7**
YSS	**Yuzh-Sakhalins**	**15.49**	**241**	*eP*	**P**	**18 42 24.0**	**-1.8**
ASAJ	**Asahikawa**	**17.67**	**235**	Pn	**P**	**18 42 51.2**	**+1.2**
	baz=51,slow=7.1						
ASAJ	**Asahikawa**	**17.67**	**235**	*eP*	**P**	**18 42 51.4**	**+1.4**
YAK	**Yakutsk**	**17.70**	**302**	*eP*	**Pn**	**18 42 51.1**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=90,slow=20,SNR=4.5						
YAK	**Yakutsk**	**17.70**	**302**	*eP*	**Pn**	**18 42 49.8**	**+0.3**
YAK				*eS*	**Sn**	**18 46 02.6**	**-3.3**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YAK				smax	smax		
	comp=N,69nm,3.7s						
YAK				smax	smax		
	comp=E,29nm,2.9s						
HABR	**Khabarovsk**	**18.52**	**257**	*eP*	P	18 42 53.7	-5.6
HABR				pmax	pmax		
	comp=Z,7.0nm,1.5s						
HABR				MLR	MLR		
	comp=Z,141nm,19.0s						
ERM	**Erimo**	**19.10**	**230**	*eP*	**P**	**18 43 03.9**	**-1.8**
KLR	**Kul'dur**	**19.90**	**262**	*eP*	**P**	**18 43 10.8**	**-3.6**
TIXI	**Tiksi**	**20.88**	**330**	*eP*	Pn	18 43 27.3	-0.1
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TIXI	**Tiksi**	**20.88**	**330**	*eP*	Pn	18 43 27.3	-0.1
	comp=Z,4.9nm,0.6s						
USRK	**Ussuriysk Ar.**	**22.87**	**251**	P	**P**	**18 43 48.4**	**+2.0**
	comp=Z,2.5nm,0.8s,baz=56,slow=11,SNR=4.8						
ILAR	**Eielson Array**	**25.50**	**50**	P	**P**	**18 44 12.4**	**+1.4**
	comp=Z,1.2nm,0.6s,baz=258,slow=6.5,SNR=9.4						
ILAR				LR	LR	18 55 17.2	
	comp=Z,41nm,18.4s,baz=294,slow=39						
ILAR	**Eielson Array**	**25.50**	**50**	P	**P**	**18 44 12.5**	**+1.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR				MLR	MLR		
	comp=Z,41nm,18.4s						
MAJO	**Matsushiro**	**25.78**	**230**	*eP*	**P**	**18 44 13.1**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAJO	**Matsushiro**	**25.78**	**230**	*eP*	**P**	**18 44 13.1**	**-0.7**
	comp=Z,5.4nm,0.8s						
MAT	**Matsushiro**	**25.78**	**230**	P	**P**	**18 44 12.7**	**-1.1**
MJAR	**Matsushiro Arr**	**25.78**	**230**	P	**P**	**18 44 12.5**	**-1.3**
	comp=Z,2.3nm,0.8s,baz=25,slow=8.1,SNR=12						
MJAR				LR	LR	18 55 32.8	
	comp=Z,90nm,19.1s,baz=0.0,slow=40						
MJAR	**Matsushiro Arr**	**25.78**	**230**	P	**P**	**18 44 12.5**	**-1.3**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,90nm,19.1s						
BOD	**Bodaibo**	**26.06**	**294**	*eP*	**P**	**18 44 18.2**	**+2.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.5s						
EGAK	**Eagle**	**27.94**	**49**	*eP*	**P**	**18 44 33.7**	**+0.7**
	comp=Z,173nm,1.2s						
KSRS	**Korea Array**	**29.89**	**246**	PcP	**PcP**	**18 47 53.7**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=14,slow=2.1,SNR=6.3						
KSRS				LR	LR	18 55 59.1	
	comp=Z,36nm,21.7s,baz=25,slow=35						
KSAR	**Wonju Array Be**	**29.92**	**246**	PcP	**PcP**	**18 47 53.7**	**+0.6**
SONM	**Songino Array**	**34.72**	**280**	P	**P**	**18 45 31.1**	**-1.8**
	comp=Z,1.3nm,0.7s,baz=57,slow=8.9,SNR=10						
SONM				PcP	**PcP**	**18 48 05.9**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=103,slow=1.7,SNR=4.6						
SONM				LR	LR	19 00 45.4	
	comp=Z,53nm,18.6s,baz=87,slow=38						
SONM	**Songino Array**	**34.72**	**280**	P	**P**	**18 45 31.1**	**-1.8**
SONM						18 48 05.9	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,53nm,18.6s						
H11N2	**WAKE ISLAND Hy**	**36.69**	**173**	T	T	19 24 38.7	
	baz=357,slow=76,SNR=359						
H11N3	**WAKE ISLAND Hy**	**36.70**	**173**	T	T	19 24 39.8	
	baz=357,slow=76,SNR=81						
H11N1	**WAKE ISLAND Hy**	**36.71**	**173**	T	T	19 24 42.6	
	baz=357,slow=76,SNR=98						
YKA	**Yellowknife Ar**	**39.78**	**46**	P	**P**	**18 46 17.4**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=300,slow=7.9,SNR=3.0						
ZALV	**Zalesovo Beam**	**42.35**	**301**	PcP	**PcP**	**18 48 28.5**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=48,slow=2.1,SNR=2.8						
GTA	**Gaotai**	**43.80**	**275**	*eP*	**P**	**18 46 48.8**	**+0.1**
GTA				PMZ			
	comp=Z,13nm,0.9s						
SPITS	**Spitsbergen Ar**	**44.17**	**351**	P	**P**	**18 46 52.6**	**+1.4**
	comp=Z,7.0nm,0.9s,baz=357,slow=9.4,SNR=7.6						
SPITS				LR	LR	19 04 53.7	
	comp=Z,83nm,19.4s,baz=70,slow=36						
SPITS	**Spitsbergen Ar**	**44.17**	**351**	P	**P**	**18 46 52.6**	**+1.4**
SPITS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SPITS				MLR	MLR		
	comp=Z,83nm,19.4s						
KURK	**Kurchatov**	**47.34**	**301**	*eP*	**P**	**18 47 15.7**	**-0.7**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KURK	**Kurchatov**	**47.34**	**301**	*eP*	**P**	**18 47 15.7**	**-0.7**
	comp=Z,6.5nm,0.9s						
MKAR	**Makanchi Array**	**48.14**	**295**	P	**P**	**18 47 21.3**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=59,slow=8.2,SNR=8.9						
MKAR	**Makanchi Array**	**48.14**	**295**	P	**P**	**18 47 21.3**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARU	**Arti**	**52.04**	**317**	*d iP*	**P**	**18 47 51.7**	**-0.5**
ARU						18 49 49.7	
ARU				S	S	18 55 07.4	-7.0
ARU				SS	**SS**	**18 58 48.1**	**-2.6**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.7s						
PDAR	**Pinedale Array**	**54.68**	**64**	P	**P**	**18 48 14.4**	**+2.3**
	comp=Z,0.3nm,0.5s,baz=335,slow=4.1,SNR=2.2						
AAK	**Ala-Archa**	**55.01**	**296**	*d iP*	**P**	**18 48 14.0**	**-0.4**
AAK				pmax	pmax		
	comp=Z,11nm,0.8s						
LSA	**Lhasa**	**55.75**	**273**	*eP*	**P**	**18 48 20.2**	**0.0**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LSA	**Lhasa**	**55.75**	**273**	*eP*	**P**	**18 48 20.2**	**0.0**
	comp=Z,3.2nm,0.9s						
AKTO	**Aktyubinsk**	**56.75**	**312**	LR	LR	19 15 36.7	
	comp=Z,54nm,18.4s,slow=39						
FINES	**FINESS Array B**	**57.73**	**337**	P	**P**	**18 48 33.9**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=40,slow=9.3,SNR=11						
FINES				LR	LR	19 18 51.3	
	comp=Z,19nm,18.7s,baz=71,slow=42						
FINES	**FINESS Array B**	**57.73**	**337**	P	**P**	**18 48 33.9**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,19nm,18.7s						
TAPN	**Taplejung**	**59.48**	**274**	*eP*	**P**	**18 48 44.8**	**-1.5**
	comp=Z,13nm,1.1s						
ODAN	**Odare**	**60.04**	**274**	*eP*	**P**	**18 48 49.1**	**-0.9**
	comp=Z,3.8nm,0.5s						
GUN	**Gumba**	**60.06**	**276**	*eP*	**P**	**18 48 49.4**	**-0.9**
JIRN	**Jiri**	**60.08**	**276**	*eP*	**P**	**18 48 49.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**60.32**	**258**	P	**P**	**18 48 50.4**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=33,slow=4.3,SNR=4.4						
CMAR				PcP	**PcP**	**18 49 35.9**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=7.5,slow=3.7,SNR=6.3						
CMAR				LR	LR	19 19 27.7	
	comp=Z,32nm,18.7s,baz=155,slow=41						
CMAR	**Chiang Mai Arr**	**60.32**	**258**	P	**P**	**18 48 50.4**	**-1.4**
CMAR						18 49 35.9	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,32nm,18.7s						
RAMN	**Ramite**	**60.41**	**275**	*eP*	**P**	**18 48 51.0**	**-1.6**
	comp=Z,16nm,1.0s						
KKN	**Kakani**	**60.48**	**276**	*eP*	**P**	**18 48 52.1**	**-1.0**
	comp=Z,10.0nm,0.9s						
PKI	**Pulchoki**	**60.58**	**276**	*eP*	**P**	**18 48 52.6**	**-1.3**
GKN	**Gorkha**	**60.67**	**277**	*eP*	**P**	**18 48 53.4**	**-0.9**
	comp=Z,11nm,1.0s						
DMN	**Daman**	**60.72**	**276**	*eP*	**P**	**18 48 54.2**	**-0.5**
NOA	**NORSAR Array B**	**60.83**	**345**	P	**P**	**18 48 56.3**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=18,slow=7.0,SNR=3.2						
NOA	**NORSAR Array B**	**60.83**	**345**	P	**P**	**18 48 56.3**	**+1.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ANMO	**Albuquerque**	**62.16**	**68**	*ceP*	P	18 49 13.6	+9.3
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.2s						
AKASG	**Malin Array Be**	**66.58**

0.7nm,0.3s,baz=161,slow=18,SNR=4.3
JCJ Chichijima 7.41 143 LR LR 19 10 31.1
comp=Z,26nm,20.3s,baz=326,slow=37
KSRS Korea Array 8.73 302 Pn **Pn 19 08 06.5 +0.8**
0.2nm,0.3s,baz=111,slow=13,SNR=4.3
SONM Songino Array 27.43 311 P **P 19 11 45.4 +0.4**
1.4nm,1.0s,baz=116,slow=8.7,SNR=7.2
H11N2 WAKE ISLAND Hy 29.61 109 T T 19 43 13.0
baz=308
H11N1 WAKE ISLAND Hy 29.62 109 T T 19 43 10.2
baz=308
H11N3 WAKE ISLAND Hy 29.63 109 T T 19 43 13.6
baz=308
H11S3 WAKE ISLAND Hy 30.14 112 T T 19 43 43.8
baz=301
H11S1 WAKE ISLAND Hy 30.14 112 T T 19 43 43.8
baz=301
H11S2 WAKE ISLAND Hy 30.15 112 T T 19 43 45.0
baz=301
MKAR Makanchi Array 43.40 305 P **P 19 14 01.8 +0.2**
0.4nm,0.6s,baz=92,slow=9.6,SNR=5.7
MKAR PcP **PcP 19 15 50.1 +0.4**
0.2nm,0.6s,baz=104,slow=3.0,SNR=3.0
KURBB Kurchatov Arra 45.80 311 P **P 19 14 21.8 +1.3**
0.5nm,0.8s,baz=93,slow=8.6,SNR=8.1
KURBB PcP **PcP 19 15 56.2 -1.6**
0.2nm,0.6s,baz=86,slow=4.5,SNR=3.1
WRA Warramunga Arr 52.88 183 P **P 19 15 15.1 +0.1**
0.2nm,0.3s,baz=1.1,slow=7.9,SNR=5.3
ILAR Eielson Array 54.57 31 P **P 19 15 26.6 -0.2**
0.4nm,0.9s,baz=282,slow=5.3,SNR=3.6
BRTR Keskin Array B 78.79 310 P **P 19 18 04.0 +2.1**
1.4nm,0.9s,baz=108,slow=2.7,SNR=8.5

*ISCJB **10** 19:46:07.6±0.6,24.°55S±0.°08×180.°0E±0.°1,h500km, mb3.7/9,Error ellipse: s-maj=14.3km s-min=10.6km az=10.5*
*IDC **10** 19:46:07.8±1.7,24.°39S×180.°00E,h492km±17km, mb3.4/10,mb1 3.6/12,mb1mx3.4/20,mbtmp4.2/12,Error ellipse: s-maj=22.0km s-min=15.8km az=155.0*
ISC 10 19:46:08.5±0.7,24.°6S±0.°1×179.°9W±0.°1,h500km,n17, σ1§37/20,mb3.8/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.77**	**279**	P		**P**	**19 48 56.5**	**+1.1**
	0.9nm,0.3s,baz=90,slow=24,SNR=10							
URZ	**Urewera**	**13.81**	**190**	P		**P**	**19 49 06.7**	**+0.7**
	1.8nm,0.3s,baz=277,slow=2.4,SNR=6.1							
URZ				S		**S**	**19 51 29.9**	**-2.5**
	0.4nm,0.3s,baz=339,slow=8.6,SNR=2.2							
RAR	**Rarotonga**	**18.88**	**84**	P		**P**	**19 49 57.6**	**+0.5**
	0.5nm,0.3s,baz=198,slow=24,SNR=3.2							
RPZ	**Rata Peaks**	**20.41**	**199**	P		**P**	**19 50 12.3**	**+1.6**
	4.5nm,0.4s,baz=84,slow=9.2,SNR=3.6							
STKA	**Stephens Creek**	**34.51**	**249**	P		**P**	**19 52 15.1**	**+0.7**
	5.1nm,0.6s,baz=97,slow=10,SNR=25							
ASAR	**Alice Springs**	**41.98**	**261**	P		**P**	**19 53 14.9**	**-0.5**
	4.5nm,1.0s,baz=93,slow=7.1,SNR=51							
ASAR				ScP		**ScP**	**19 58 02.1**	**+0.3**
	0.5nm,0.8s,baz=111,slow=5.2,SNR=5.3							
WRA	**Warramunga Arr**	**42.42**	**267**	P		**P**	**19 53 17.8**	**-1.1**
	6.3nm,0.5s,baz=102,slow=8.1,SNR=50							
WRA				ScP		**ScP**	**19 58 05.2**	**+1.5**
	2.5nm,0.8s,baz=101,slow=4.0,SNR=10.0							
MJAR	**Matsushiro Arr**	**72.54**	**326**	P		**P**	**19 56 42.5**	**-1.8**
	0.5nm,0.7s,baz=156,slow=7.6,SNR=5.4							
KSRS	**Korea Array**	**78.85**	**320**	P		**P**	**19 57 18.6**	**-0.7**
	1.0nm,0.7s,baz=142,slow=6.5,SNR=5.8							
USRK	**Ussuriysk Ar.**	**81.42**	**327**	P		**P**	**19 57 31.9**	**-0.6**
	1.1nm,0.5s,baz=167,slow=13,SNR=3.6							
CMAR	**Chiang Mai Arr**	**89.83**	**290**	P		**P**	**19 58 13.1**	**-0.8**
	1.0nm,0.8s,baz=144,slow=3.7,SNR=5.7							
TXAR	**Lajitas Array**	**90.77**	**58**	P		**P**	**19 58 18.4**	**+0.3**
	1.0nm,0.7s,baz=211,slow=5.9,SNR=13							
ILAR	**Eielson Array**	**92.73**	**14**	P		**P**	**19 58 25.1**	**-1.1**
	0.2nm,0.7s,baz=213,slow=6.5,SNR=3.6							
HFS	**Hagfors**	**143.28**	**349**	PKP		PKPab	20 04 41.6	-1.1
	1.2nm,0.4s,baz=54,slow=2.6,SNR=13							
AKASG	**Malin Array Be**	**145.62**	**327**	PKPbc		**PKPdf**	**20 04 48.5**	**-0.7**
	0.6nm,0.6s,baz=44,slow=4.1,SNR=4.0							
AKASG				SKPbc		**SKPbc**	**20 07 41.1**	**-0.5**
	0.1nm,0.3s,baz=41,slow=3.0,SNR=4.1							
BRTR	**Keskin Array B**	**148.06**	**306**	PKPbc		**PKPdf**	**20 04 57.0**	**+3.1**
	0.4nm,0.6s,baz=99,slow=3.2,SNR=3.0							
TORD	**Torodi Ar. Bea**	**168.46**	**188**	PKPab		**PKPab**	**20 06 31.3**	**+0.6**
	0.4nm,0.7s,baz=182,slow=4.7,SNR=3.0							

IDC 10 20:07:58.8±1.9,7.°55S×127.°08E,h0km,mb3.3/1, mb1 3.8/4,mb1mx3.5/20,mbtmp3.7/4,ML3.7/3,Error ellipse: s-maj=58.6km s-min=30.7km az=74.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**7.84**	**32**	Pn	Pn	Pn	20 09 54.5	+0.3
	2.9nm,0.3s,baz=163,slow=20,SNR=47							
SIJI				Sn		Sn	20 11 10.4	-13
	0.5nm,0.3s,baz=240,slow=20,SNR=2.1							
WRA	**Warramunga Arr**	**14.19**	**151**	Pn	Pn	Pn	20 11 19.4	-1.8
	0.2nm,0.3s,baz=330,slow=13,SNR=3.8							
WRA				Sn		Sn	20 13 43.1	-17
	0.9nm,0.3s,baz=332,slow=22,SNR=10.0							
ASAR	**Alice Springs**	**17.31**	**159**	P	P	P	20 12 03.3	-0.4
	0.4nm,0.3s,baz=339,slow=11,SNR=29							
ASAR				S		Sn	20 15 03.9	-12
	0.2nm,0.3s,baz=345,slow=25,SNR=4.7							
MKAR	**Makanchi Array**	**67.13**	**328**	P	P	P	20 18 54.4	-0.1
	0.1nm,0.3s,baz=119,slow=7.0,SNR=4.7							

NNC 10 20:19:09.7±6.4,37.°94N×71.°94E,h0km,mb3.6,mpv3.2, 6C-3D,Error ellipse: s-maj=60.2km s-min=19.2km az=157.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.40**	**30**	⇓Pn	Pn	Pn	20 19 50.0	-0.7
	1.5nm,0.3s							
SFK				⇓Sn		Sb	20 20 25.2	+0.6
	11nm,0.2s							
DZET	**Dzherino**	**2.60**	**290**	⇑Pn		Pn	20 19 52.4	-0.8
	16nm,0.3s							
DZET				⇑Sn		Sb	20 20 28.3	-1.6
	22nm,0.3s							
MNAS	**Manas**	**4.56**	**5**	⇑Pn		Pn	20 20 17.9	-2.4
	2.5nm,0.3s							
MNAS				⇑Sn		Sn	20 21 13.1	-1.0
	4.6nm,0.5s							
AAK	**Ala-Archa**	**5.08**	**22**	⇑Pn		Pn	20 20 23.7	-3.7
	1.9nm,0.5s							
AAK				⇑Sn		Sn	20 21 24.7	-2.2
	4.1nm,0.7s							
KK31	**Karatay Array**	**5.28**	**349**	Pn		Pn	20 20 27.3	-2.5
	0.3nm,0.3s,baz=172,slow=13,SNR=19							
KK31				⇓Sn		Sn	20 21 29.6	-1.8
	4.5nm,0.5s,baz=172,slow=24,SNR=4.0							

IDC 10 20:45:04.5±1.8,0.°83S×133.°37E,h0km,mb3.2/2, mb1 3.5/4,mb1mx3.3/26,mbtmp3.3/4,ML3.4/2,MS3.3/1, Ms1 3.3/1,ms1mx2.7/9,Error ellipse: s-maj=37.8km s-min=24.6km az=57.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.10**	**269**	Pn		Pn	20 45 42.3	+1.3
	14nm,0.3s,baz=87,slow=18,SNR=143							
SIJI				Sn		Sn	20 46 07.0	-0.9
	22nm,0.3s,baz=301,slow=24,SNR=12							
WRA	**Warramunga Arr**	**19.02**	**177**	P		P	20 49 28.0	-0.2
	0.1nm,0.3s,baz=354,slow=11,SNR=4.0							
ASAR	**Alice Springs**	**22.71**	**179**	P		P	20 50 08.1	0.0
	0.5nm,0.5s,baz=1.4,slow=11,SNR=7.4							
ASAR						LR	LR	21 00 44.1
	comp=Z,75nm,20.0s,baz=302,slow=41							
H11N1	**WAKE ISLAND Hy 38.69**	**56**		T		T	21 33 33.3	
	baz=243,slow=75,SNR=4.4							
H11N2	**WAKE ISLAND Hy 38.70**	**56**		T		T	21 33 35.5	
	baz=243,slow=75,SNR=5.5							
H11N3	**WAKE ISLAND Hy 38.71**	**56**		T		T	21 33 35.7	
	baz=243,slow=75,SNR=5.4							
MKAR	**Makanchi Array**	**65.09**	**324**	P		P	20 55 46.8	-0.2
	0.2nm,0.5s,baz=110,slow=7.4,SNR=3.3							

*SJA **10** 20:58:13.2±1.0,34.°80S×72.°81W,h30km,ML3.4,MW3.9*
*ISCJB **10** 20:58:21.1±1.6,34.°74S±0.°03×72.°0W±0.°1,h13km±15km, Error ellipse: s-maj=17.4km s-min=5.0km az=0.9*
*GUC **10** 20:58:22.6±0.5,34.°79S×71.°85W,h35km±1km,ML3.4*
ISC 10 20:58:20.3±3.7,34.°84S±0.°04×71.°9W±0.°1,h7km±27km,n21, σ1§18/31,3C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.55**	**108**	⇓*i*P		Pn	**20 58 34.0**	**-0.5**
NICH				*i* S		Sn	**20 58 42.5**	**-1.4**
TALC	**Talca**	**0.59**	**161**	⇓*i*P		Pn	**20 58 35.1**	**0.0**
TALC				*i* S		Sn	**20 58 44.4**	**-0.6**
LNV	**Longovilo**	**0.96**	**23**	⇓*i*P		Pb	**20 58 39.0**	**-0.2**
LNV				*i* S		Sb	**20 58 50.9**	**-1.1**
LNCH	**Linares**	**1.03**	**168**	⇑*i*P		Pn	**20 58 41.9**	**+0.8**
LNCH				*i* S		Sn	**20 58 56.5**	**+0.7**
CHCH	**Chadas Angostu**	**1.35**	**48**	⇑*i*P		Pn	**20 58 45.2**	**-0.4**
TACH	**Talagante**	**1.41**	**33**	⇑*i*P		Pn	**20 58 46.1**	**-0.3**
TACH				*i* S		Sn	**20 59 04.5**	**-0.7**
PCH	**Pirque**	**1.65**	**43**	*i* S		Sn	**20 59 11.3**	**0.0**
SAN	**Santiago**	**1.70**	**36**	*i* S		Sn	**20 59 11.6**	**-0.9**
CLCH	**Cerro Calan**	**1.81**	**38**	⇓*i*P		Pn	**20 58 52.1**	**+0.1**
CLCH				*i* S		Sn	**20 59 14.9**	**-0.3**
CLCH					AML	AML	20 59 19.0	
	comp=N,571nm,0.6s							
PEL	**Peldehue**	**1.95**	**30**	*e*P		Pn	**20 58 54.1**	**+0.2**
PEL				*e*S		Sn	**20 59 18.5**	**-0.2**
PEL					AML	AML	20 59 21.7	
	comp=E,533nm,0.4s							
ROCH	**El Roble**	**1.99**	**21**	*e*P		Pn	**20 58 54.9**	**+0.3**
ROCH					AML	AML	20 59 24.5	
	comp=N,414nm,0.3s							
AAGR	**Agrelo**	**3.07**	**56**	*e*P		Pn	**20 59 11.4**	**+2.1**
ARCO	**CERRO ARCO**	**3.15**	**52**	*e*P		Pn	**20 59 13.5**	**+3.0**
AUSP	**Uspallata**	**3.33**	**39**	*e*P		Pn	**20 59 14.6**	**+1.5**
ASAL	**Salagasta**	**3.38**	**49**	*e*P		Pn	**20 59 16.0**	**+2.5**
ASAL				*e*S		Sb	**21 00 01.8**	**-0.1**
RTLS	**Leoncito**	**3.72**	**36**	*e*P		Pn	**20 59 19.6**	**+1.3**
RTLS				*e*S		Sb	**21 00 11.1**	**-0.7**
RTCV	**Cerro Valdivia**	**4.07**	**44**	*e*P		Pn	**20 59 24.0**	**+1.0**
CFAA	**Coronel Fontan**	**4.43**	**44**	*e*P		Pn	**20 59 28.3**	**+0.3**
RTLL	**Cerro Villicun**	**4.51**	**40**	*e*P		Pn	**20 59 29.2**	**+0.1**
AMOG	**MOGNA**	**4.81**	**37**	*e*P		Pn	**20 59 33.2**	**0.0**
AVFE	**Valle Fertil**	**5.58**	**43**	*e*P		Pn	**20 59 43.0**	**-0.8**
AVFE				*e*S		Sn	**21 00 50.6**	**+2.3**
AVFE					AML	AML	21 00 58.9	
	comp=Z,12nm,0.5s							

*JMA **10** 21:08:39.6±0.1,23.°99N×121.°67E,h8km±2km,M3.0*
*ISCJB **10** 21:08:41.2±0.2,24.°02N±0.°01×121.°71E±0.°02,h17km±3km, Error ellipse: s-maj=3.1km s-min=1.9km az=39.5*
*TAP **10** 21:08:41.2,24.°06N×121.°62E,h16km,ML3.7,B*
ISC 10 21:08:40.9±0.8,24.°03N±0.°02×121.°66E±0.°02,h17km±4km, n70,σ0§68/112,9C-3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.07**	**308**	⇑*i*P		**Pg**	**21 08 44.3**	**+0.1**
	baz=338							
TWD				*i* S		**Sg**	**21 08 46.2**	**-0.1**
	baz=338							
HWA	**Hwalien**	**0.08**	**222**	⇑*i*P		**Pg**	**21 08 44.9**	**+0.7**
	baz=183							
HWA				S		**Sg**	**21 08 47.9**	**+1.5**
	baz=183							
ESF	**Shoufeng Towns**	**0.21**	**221**	*e*P		**Pb**	**21 08 47.0**	**+0.6**
	baz=215							
ESF				*e*S		**Sb**	**21 08 50.9**	**+0.9**
	baz=215							
EHP	**Heping Village**	**0.28**	**15**	*e*P		**Pb**	**21 08 47.7**	**+0.1**
	baz=26							
ESL	**Shilin**	**0.30**	**224**	⇑*i*P		**Pg**	**21 08 47.4**	**0.0**
	baz=219							
ESL				S		**Sg**	**21 08 51.9**	**0.0**
	baz=219							
TEGC	**Jichi Village**	**0.34**	**199**	*e*P		**Pb**	**21 08 49.6**	**+1.1**
	baz=190							
WHF	**Hehuan Shan**	**0.38**	**287**	⇑*i*P		**Pg**	**21 08 48.6**	**-0.3**
	baz=286							
WHF				*i* S		**Sg**	**21 08 53.7**	**-0.7**
	baz=286							
ENA	**Nanau**	**0.40**	**11**	⇑*i*P		**Pg**	**21 08 49.2**	**+0.1**
	baz=10.0							
ENA				S		**Sg**	**21 08 54.9**	**+0.3**
	baz=10.0							
NNS	**Nan Shan**	**0.48**	**327**	⇑*i*P		**Pb**	**21 08 50.6**	**-0.4**
	baz=330							
NNS				S		**Sg**	**21 08 56.8**	**-0.4**
	baz=330							
TWT	**Tachien**	**0.49**	**296**	⇑*i*P		**Pb**	**21 08 51.1**	**-0.1**
	baz=295							
TWT				*i* S		**Sb**	**21 08 58.0**	**-0.2**
	baz=295							
TWC	**Suao**	**0.60**	**17**	P		**Pb**	**21 08 53.1**	**+0.2**
	baz=16							
TWC				*i* S		**Sb**	**21 09 01.2**	**+0.1**
	baz=16							
ENTT	**Nioudou**	**0.61**	**352**	⇑*i*P		**Pg**	**21 08 52.9**	**0.0**
	baz=355							
ENTT				*i* S		**Sb**	**21 09 01.7**	**+0.3**
	baz=355							
EHY	**Hungye**	**0.61**	**211**	P		**Pg**	**21 08 51.8**	**-1.1**
	baz=216							
EHY				*e*S		**Sg**	**21 08 59.8**	**-1.3**
	baz=216							
TWE	**Neicheng**	**0.68**	**0**	P		**Pg**	**21 08 54.3**	**0.0**
	baz=4.0							
TWE				*e*S		**Sb**	**21 09 03.4**	**-0.2**
	baz=4.0							
NSK	**Sanguang**	**0.70**	**337**	⇑*i*P		**Pg**	**21 08 54.4**	**-0.2**
	baz=339							
NSK				*i* S		**Sg**	**21 09 03.2**	**-0.6**
	baz=339							
ILA	**Ilan**	**0.73**	**6**	*e*P		**Pb**	**21 08 55.3**	**+0.1**
	baz=10.0							
TYC	**Yuchr**	**0.75**	**260**	⇓*i*P		**Pg**	**21 08 55.0**	**-0.5**
	baz=258							
TYC				*e*S		**Sg**	**21 09 04.2**	**-1.2**
	baz=258							
TWF1	**Yuli**	**0.76**	**206**	*e*P		**Pb**	**21 08 54.1**	**-1.5**
	baz=210							
EGS		**0.84**	**17**	P		**Pg**	**21 08 57.5**	**+0.1**
	baz=20							
NSTT	**Nanjuang**	**0.85**	**315**	*e*P		**Pn**	**21 08 57.4**	**-0.7**
	baz=316							
YUS	**Yu-Shan**	**0.85**	**230**	⇓*i*P		**Pb**	**21 08 57.2**	**-0.2**
	baz=217							
YUS				*i* S		**Sb**	**21 09 08.4**	**-0.3**
	baz=217							
TWQ1	**Liyutan**	**0.87**	**291**	*e*P		**Pn**	**21 08 57.8**	**-0.5**
	baz=292							
NSY	**Sanyi**	**0.91**	**295**	*e*P		**Pn**	**21 08 59.0**	**+0.1**
	baz=304							
NSY				*e*S		**Sn**	**21 09 11.1**	**-0.4**
	baz=304							
TCU	**Taichung**	**0.91**	**277**	P		**Pn**	**21 08 59.1**	**+0.2**
	baz=277							
TCU				*e*S		**Sn**	**21 09 11.7**	**+0.1**
	baz=277							
WNT	**Mingjian**	**0.91**	**260**	*e*P		**Pn**	**21 08 58.9**	**0.0**
	baz=259							
WNT				*e*S		**Sn**	**21 09 11.8**	**+0.3**
	baz=259							
ALS	**Alishan**	**0.94**	**237**	⇓*i*P		**Pb**	**21 08 58.9**	**-0.1**
	baz=233							
TWA	**Mucha**	**0.94**	**356**	*e*P		**Pg**	**21 08 59.3**	**+0.1**
	baz=350							
TWA				S		**Sg**	**21 09 11.8**	**+0.1**
	baz=350							
CHKT	**Chengkung**	**0.97**	**196**	*e*P		**Pb**	**21 08 58.7**	**-0.6**
	baz=208							
HSN	**Hsinchu**	**0.99**	**321**	*e*P		**Pn**	**21 09 00.2**	**+0.1**
	baz=324							
HSN				*e*S		**Sn**	**21 09 15.4**	**+1.8**
	baz=324							
CHN5	**Tsauling**	**1.00**	**244**	*i* P		**Pn**	**21 09 00.3**	**+0.1**
	baz=243							
CHN5				*e*S		**Sn**	**21 09 14.7**	**+0.7**
	baz=243							
TAP1	**Taipei**	**1.01**	**353**	*i* P		**Pn**	**21 09 00.7**	**+0.5**
	baz=352							
TAP1				*e*S		**Sg**	**21 09 13.0**	**-0.7**
	baz=352							
TAP	**Taipei**	**1.01**	**352**	*e*P		**Pb**	**21 08 59.5**	**-0.4**
	baz=354							
TWB1	**Santiao Chiao**	**1.01**	**17**	*e*P		**Pb**	**21 09 00.2**	**+0.2**
	baz=10.0							
TWB1				*e*S		**Sg**	**21 09 13.8**	**-0.1**
	baz=10.0							
NCU	**National Centr**	**1.03**	**335**	*e*P		**Pg**	**21 09 01.2**	**+0.4**
	baz=342							
NCU				*e*S		**Sn**	**21 09 15.6**	**+1.0**
	baz=342							
ELDTW	**Lidau**	**1.03**	**215**	*e*P		**Pb**	**21 08 59.3**	**-1.0**
	baz=214							
ELDTW				*e*S		**Sb**	**21 09 13.7**	**+0.2**
	baz=214							
NWF	**Wu-fen Shan**	**1.04**	**6**	*e*P		**Pg**	**21 09 01.1**	**+0.1**
	baz=7.0							
WGK	**Gukeng**	**1.06**	**251**	*e*P		**Pg**	**21 09 01.4**	**-0.1**
	baz=250							
WGK				*e*S		**Sn**	**21 09 17.1**	**+1.6**
	baz=250							
TWS1	**Kuangyinshan**	**1.08**	**348**	P		**Pg**	**21 09 02.1**	**+0.2**
	baz=2.0							
TWS1				S		**Sn**	**21 09 17.5**	**+1.5**
	baz=2.0							
CHN4	**Tsaushan**	**1.19**	**235**	*i* P		**Pg**	**21 09 03.6**	**-0.3**
	baz=223							
CHN4				*e*S		**Sg**	**21 09 20.8**	**+1.3**
	baz=223							
CHN2	**Minshiung**	**1.20**	**246**	*e*P		**Pg**	**21 09 03.6**	**-0.4**
	baz=243							
STYT	**Tauyuan**	**1.20**	**224**	P		**Pn**	**21 09 02.7**	**-0.3**
	baz=223							
STYT				*e*S		**Sg**	**21 09 19.6**	**-0.1**
	baz=223							
TWY	**Chenhua**	**1.24**	**357**	*e*P		**Pg**	**21 09 04.6**	**-0.2**
	baz=346							
WTP	**Ta-pu**	**1.24**	**231**	*e*P		**Pn**	**21 09 03.8**	**+0.3**
	baz=219							
WTP				*e*S		**Sg**	**21 09 22.2**	**+1.1**
	baz=219							
JYNG	**Yonagunijimaku**	**1.24**	**70**	P		**Pn**	**21 09 03.3**	**-0.2**
JYNG				*e*S		**Sb**	**21 09 19.7**	**0.0**
CHY	**Chiayi**	**1.25**	**245**	*e*P		**Pg**	**21 09 05.2**	**+0.2**
	baz=242							
WTCT	**Ta-ch'eng**	**1.27**	**263**	*e*P		**Pb**	**21 09 04.5**	**+0.1**
	baz=262							
WTCT				*e*S		**Sg**	**21 09 22.4**	**+0.2**
	baz=262							
YOJ	**Yonaguni jima**	**1.30**	**71**	P		**Pn**	**21 09 03.8**	**-0.5**
YOJ				S		**Sn**	**21 09 22.1**	**+0.7**
YOJ	**Yonaguni jima**	**1.30**	**71**	*e*P		**Pn**	**21 09 04.1**	**-0.2**
	baz=72							
TWK	**Hsinying**	**1.32**	**235**	*e*P		**Pb**	**21 09 05.4**	**+0.1**
	baz=234							
TWK				*e*S		**Sg**	**21 09 24.2**	**+0.6**
	baz=234							
TWG	**Pinlang**	**1.32**	**204**	*e*P		**Pn**	**21 09 02.3**	**-2.3**
	baz=186							
CHN1	**Nanshi**	**1.34**	**231**	*e*P		**Pb**	**21 09 05.9**	**+0.3**
	baz=231							
CHN1				*e*S		**Sg**	**21 09 25.2**	**+1.0**
	baz=231							
TTN	**Taitung**	**1.36**	**200**	*e*P		**Pb**	**21 09 06.5**	**+0.6**
	baz=199							
SGST	**Jiashian**	**1.37**	**226**	*e*P		**Pn**	**21 09 05.5**	**+0.3**
	baz=224							
WSF	**Szhu**	**1.38**	**254**	*e*P		**Pb**	**21 09 05.8**	**-0.3**
	baz=251							
CHN3	**Shinhua**	**1.52**	**232**	*e*P		**Pb**	**21 09 09.2**	**+0.5**
	baz=231							
SSD	**Sandimen**	**1.59**	**217**	*e*P		**Pn**	**21 09 08.9**	**+0.6**
	baz=226							
PCYT	**Pengchaiyu**	**1.63**	**13**	*e*P		**Pn**	**21 09 08.7**	**-0.1**
	baz=12							
TWM1	**Shoushan**	**1.66**	**224**	*e*P		**Pb**	**21 09 10.3**	**-0.6**
	baz=223							
EAST	**Anshuo**	**1.81**	**205**	*e*P		**Pn**	**21 09 12.2**	**+0.9**
	baz=194							
TAW	**Tawu**	**1.81**	**203**	*e*P		**Pb**	**21 09 13.2**	**-0.4**
	baz=191							
SCZT	**Fangliau**	**1.91**	**210**	*e*P		**Pn**	**21 09 13.7**	**+1.0**
	baz=203							
IRIF	**Iriomote-Funau**	**1.91**	**81**	P		**Pn**	**21 09 12.7**	**0.0**
IRIF				S		**Sn**	**21 09 37.2**	**+0.8**
HATJ	**Hateruma jima**	**1.96**	**89**	P		**Pn**	**21 09 13.4**	**0.0**
HATJ				S		**Sn**	**21 09 37.9**	**+0.3**
PNG	**Penghu**	**1.98**	**257**	*e*P		**Pn**	**21 09 14.5**	**+0.8**
	baz=256							
PNG				*e*S		**Sb**	**21 09 41.1**	**+0.1**
	baz=256							
WDGT	**Dungji**	**1.99**	**248**	*e*P		**Pn**	**21 09 13.9**	**+0.1**
	baz=246							
JKRS	**Kuro-shima**	**2.15**	**84**	P		**Pn**	**21 09 16.4**	**+0.4**
JKRS				S		**Sn**	**21 09 43.7**	**+1.3**
TWK1	**Hengchun**	**2.23**	**201**	*e*P		**Pn**	**21 09 16.5**	**-0.5**
	baz=191							
JIJ	**Ishigaki jima**	**2.29**	**81**	P		**Pn**	**21 09 17.8**	**-0.1**
JIJ				S		**Sn**	**21 09 44.8**	**-0.9**
JISG	**Ishigakijimahi**	**2.48**	**77**	P		**Pn**	**21 09 20.4**	**-0.1**
JISG				S		**Sn**	**21 09 49.5**	**-0.9**
JTJ	**Tarama**	**2.84**	**77**	P		**Pn**	**21 09 25.9**	**+0.5**
JTJ				*e*S		**Sn**	**21 10 00.8**	**+1.5**

*ROM **10** 21:43:02.5±0.2,39.°27N×15.°77E,h234km±3km,Ml3.3/60, Error ellipse: s-maj=3.8km s-min=1.9km az=102.0*
*ISCJB **10** 21:43:03.4±0.2,39.°27N±0.°02×15.°75E±0.°03,h230km±2km, mb3.5/8,Error ellipse: s-maj=3.6km s-min=3.6km az=41.3*
*VIE **10** 21:43:04.7,39.°35N×15.°48E,h246km,mb3.4*
*CSEM **10** 21:43:04.5±0.1,39.°29N×15.°77E,h221km±1km,ML3.6/16, Error ellipse: s-maj=3.0km s-min=2.5km az=125.0*
*LDG **10** 21:43:04.2±0.1,39.°29N×15.°78E,h220km,Ml3.4/4,Error ellipse: s-maj=2.2km s-min=1.6km az=102.0*
*IDC **10** 21:43:07.1±3.5,39.°42N×15.°52E,h268km±39km,mb3.1/10, mb1 3.1/14,mb1mx3.0/31,mbtmp3.8/14,Error ellipse: s-maj=27.3km s-min=11.6km az=121.0*
*THE **10** 21:43:09.1,39.°17N×16.°20E,h189km±2km,ML2.9/2,Error ellipse: s-maj=5.0km s-min=2.6km az=176.0*
ISC 10 21:43:03.5±0.6,39.°27N±0.°04×15.°73E±0.°04,h227km±5km, n239,σ1§10/277,mb3.6/8,52C-32D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TDS	**Terranova Siba**	**0.61**	**50**	Pn		**

PIPA				Sn		S	21 44 00.4	+0.3
	422nm,0.4s							
PIPA	Pietrapaola	0.87	76⇑	*i*Pn		Pn	21 43 36.3	+1.0
PIPA				Sn		S	21 44 00.4	+0.3
	422nm,0.4s							
SIRI	Monte Sirino -	0.91	6⇑	*i*Pn		Pn	21 43 36.1	+0.5
	156nm,0.3s							
SIRI	Monte Sirino -	0.91	6⇑	*i*Pn		Pn	21 43 36.1	+0.5
	156nm,0.3s							
SCHR	S. Chirico Rap	0.96	16⇑	*i*Pn		Pn	21 43 37.0	+1.1
SCHR				Sn		S	21 44 02.7	+1.4
	90nm,0.7s							
ORI	Oriolo Calabro	0.96	35⇑	*i*Pn		Pn	21 43 36.7	+0.9
	708nm,0.4s							
ORI	Oriolo Calabro	0.96	35⇑	*i*Pn		Pn	21 43 36.7	+0.9
	708nm,0.4s							
LADO	San Nicola del	0.97	89	Pn		Pn	21 43 36.6	+0.7
	551nm,0.7s							
LADO	San Nicola del	0.97	89	Pn		Pn	21 43 36.6	+0.7
	551nm,0.7s							
PLAC	Placanica	0.99	146⇓	*i*Pn		Pn	21 43 36.6	+0.5
PLAC				Sn		S	21 44 00.6	-0.9
	248nm,0.3s							
PLAC	Placanica	0.99	146⇓	*i*Pn		Pn	21 43 36.6	+0.5
PLAC				Sn		S	21 44 00.6	-0.9
	248nm,0.3s							
MTSN	Montesano sull	0.99	1	Pn		Pn	21 43 36.4	+0.3
	34nm,0.2s							
MTSN	Montesano sull	0.99	1	Pn		Pn	21 43 36.4	+0.3
	34nm,0.2s							
CEL	Celeste	1.02	173⇓	*i*Pn		Pn	21 43 36.1	-0.2
CEL				Sn		S	21 44 00.1	-1.8
	228nm,0.6s							
CEL	Celeste	1.02	173⇓	*i*Pn		Pn	21 43 36.1	-0.2
CEL				Sn		S	21 44 00.1	-1.8
	228nm,0.6s							
MSRU	Castanea	1.02	190⇓	*i*Pn		Pn	21 43 36.0	-0.3
MSRU				Sn		S	21 44 00.4	-1.4
	352nm,0.4s							
MSRU	Castanea	1.02	190⇓	*i*Pn		Pn	21 43 36.0	-0.3
MSRU				Sn		S	21 44 00.4	-1.4
	352nm,0.4s							
LLI	Lipari	1.03	217⇓	*i*Pn		Pn	21 43 37.3	+1.0
	881nm,0.8s							
LLI	Lipari	1.03	217⇓	*i*Pn		Pn	21 43 37.3	+1.0
	881nm,0.8s							
MCEL	Monticello	1.05	3	Pn		Pn	21 43 37.3	+0.9
	157nm,0.2s							
MCEL	Monticello	1.05	3	Pn		Pn	21 43 37.3	+0.9
	157nm,0.2s							
VPL	Vulcano Piano	1.07	213	Pn		Pn	21 43 37.1	+0.6
VPL	Vulcano Piano	1.07	213	Pn		Pn	21 43 37.1	+0.6
MILZ	Milazzo	1.07	202⇓	*i*Pn		Pn	21 43 36.6	+0.1
MILZ				Sn		S	21 44 01.2	-1.1
	487nm,0.5s							
MILZ	Milazzo	1.07	202⇓	*i*Pn		Pn	21 43 36.6	+0.1
MILZ				Sn		S	21 44 01.2	-1.1
	487nm,0.5s							
CMPR	Campora	1.09	343⇑	*i*Pn		Pn	21 43 37.3	+0.6
CMPR				Sn		S	21 44 02.9	+0.2
	64nm,0.6s							
CMPR	Campora	1.09	343⇑	*i*Pn		Pn	21 43 37.3	+0.6
CMPR				Sn		S	21 44 02.9	+0.2
	64nm,0.6s							
CRAC	Craco	1.22	26⇑	*i*Pn		Pn	21 43 38.2	+0.8
	506nm,0.6s							
CRAC	Craco	1.22	26⇑	*i*Pn		Pn	21 43 38.2	+0.8
	506nm,0.6s							
SOI	Samo	1.23	168⇓	*i*Pn		Pn	21 43 38.0	+0.4
SOI				Sn		S	21 44 02.9	-1.3
	917nm,2.1s							
SOI	Samo	1.23	168⇓	*i*Pn		Pn	21 43 38.0	+0.4
SOI				Sn		S	21 44 02.9	-1.3
	917nm,2.1s							
CDRU	Civita di Ruta	1.26	345⇑	*i*Pn		Pn	21 43 38.4	+0.6
	30nm,0.3s							
CDRU	Civita di Ruta	1.26	345⇑	*i*Pn		Pn	21 43 38.4	+0.6
	30nm,0.3s							
MTTG	Motta San Giov	1.27	181⇓	*i*Pn		Pn	21 43 38.5	+0.6
MTTG				Sn		S	21 44 04.2	-0.6
	240nm,0.7s							
MTTG	Motta San Giov	1.27	181⇓	*i*Pn		Pn	21 43 38.5	+0.6
MTTG				Sn		S	21 44 04.2	-0.6
	240nm,0.7s							
IACL	Alicudi	1.30	236⇓	*i*Pn		Pn	21 43 38.7	+0.6
	85nm,0.4s							
IACL	Alicudi	1.30	236⇓	*i*Pn		Pn	21 43 38.7	+0.6
	85nm,0.4s							
SGO	Sicignano	1.33	346	Pn		Pn	21 43 39.1	+0.8
	115nm,0.2s							
SGO	Sicignano	1.33	346	Pn		Pn	21 43 39.1	+0.8
	115nm,0.2s							
MPAZ	Palizzi	1.34	171⇓	*i*Pn		Pn	21 43 38.9	+0.5
	301nm,0.3s							
MPAZ	Palizzi	1.34	171⇓	*i*Pn		Pn	21 43 38.9	+0.5
	301nm,0.3s							
PZUN	Potenza	1.37	2	Pn		Pn	21 43 39.5	+1.0
	97nm,0.4s							
PZUN	Potenza	1.37	2	Pn		Pn	21 43 39.5	+1.0
	97nm,0.4s							
MMME	Mongiuffi-Meli	1.39	196⇓	*i*Pn		Pn	21 43 39.5	+0.6
MMME				Sn		S	21 44 06.8	+0.4
	101nm,0.5s							
MMME	Mongiuffi-Meli	1.39	196⇓	*i*Pn		Pn	21 43 39.5	+0.6
MMME				Sn		S	21 44 06.8	+0.4
	101nm,0.5s							
MIGL	Miglionico	1.44	22⇑	*i*Pn		Pn	21 43 39.0	-0.1
MIGL				Sn		S	21 44 06.8	-0.2
	250nm,0.6s							
MIGL	Miglionico	1.44	22⇑	*i*Pn		Pn	21 43 39.0	-0.1
MIGL				Sn		S	21 44 06.8	-0.2
	250nm,0.6s							
MRLC	Muro Lucano	1.49	353⇑	*i*Pn		Pn	21 43 40.4	+0.9
	38nm,0.6s							
MRLC	Muro Lucano	1.49	353⇑	*i*Pn		Pn	21 43 40.4	+0.9
	38nm,0.6s							
ACER	Acerenza	1.52	6⇑	*i*Pn		Pn	21 43 39.9	+0.1
	161nm,0.5s							
ACER	Acerenza	1.52	6⇑	*i*Pn		Pn	21 43 39.9	+0.1
	161nm,0.5s							
MATE	Matera	1.56	28⇑	*i*Pn		Pn	21 43 39.8	-0.2
MATE				Sn		S	21 44 07.4	-1.3
	138nm,0.7s							
MATE	Matera	1.56	28⇑	*i*Pn		Pn	21 43 39.8	-0.2
MATE				Sn		S	21 44 07.4	-1.3
	138nm,0.7s							
MNO	Monte Soro	1.57	212	Pn		Pn	21 43 41.6	+1.2
	338nm,2.2s							
MNO	Monte Soro	1.57	212	Pn		Pn	21 43 41.6	+1.2
	338nm,2.2s							
LTRZ	Laterza	1.57	32	Pn		Pn	21 43 39.7	-0.4
	425nm,1.2s							
LTRZ	Laterza	1.57	32	Pn		Pn	21 43 39.7	-0.4
	425nm,1.2s							
MCRV	Calabrutti - M	1.57	344⇑	*i*Pn		Pn	21 43 41.0	+0.7
	54nm,0.6s							
MCRV	Calabrutti - M	1.57	344⇑	*i*Pn		Pn	21 43 41.0	+0.7
	54nm,0.6s							
CSSN	Cassano Irpino	1.68	341	Pn		Pn	21 43 41.9	+0.8
	28nm,0.4s							
CSSN	Cassano Irpino	1.68	341	Pn		Pn	21 43 41.9	+0.8
	28nm,0.4s							
PALZ	Palazzo San Ge	1.68	6⇑	*i*Pn		Pn	21 43 41.1	0.0
	161nm,0.9s							
PALZ	Palazzo San Ge	1.68	6⇑	*i*Pn		Pn	21 43 41.1	0.0
	161nm,0.9s							
VULT	Monte Vulture	1.68	357⇑	*i*Pn		Pn	21 43 41.6	+0.4
	90nm,0.5s							
VULT	Monte Vulture	1.68	357⇑	*i*Pn		Pn	21 43 41.6	+0.4
	90nm,0.5s							
SNAL	S. Angelo Dei	1.70	346	Pn		Pn	21 43 42.0	+0.7
	45nm,0.6s							
SNAL	S. Angelo Dei	1.70	346	Pn		Pn	21 43 42.0	+0.7
	45nm,0.6s							
SG1	Sgolgore (BA)	1.73	25	*e*P		Pn	21 43 41.3	-0.2
TAR1	Taranto	1.73	43	*e*P		Pn	21 43 40.9	-0.6
AMUR	Altamura	1.76	22⇑	*i*Pn		Pn	21 43 41.7	-0.1
	68nm,0.5s							
AMUR	Altamura	1.76	22⇑	*i*Pn		Pn	21 43 41.7	-0.1
	68nm,0.5s							
PLLN	Pollina	1.79	225	Pn		Pn	21 43 42.6	+0.4
	44nm,0.4s							
PLLN	Pollina	1.79	225	Pn		Pn	21 43 42.6	+0.4
	44nm,0.4s							
CAFE	Carife	1.79	348⇑	*i*Pn		Pn	21 43 43.2	+1.0
	37nm,0.5s							
CAFE	Carife	1.79	348⇑	*i*Pn		Pn	21 43 43.2	+1.0
	37nm,0.5s							
GALF	Gagliano Caste	1.81	211	Pn		Pn	21 43 43.5	+1.1
	154nm,0.7s							
GALF	Gagliano Caste	1.81	211	Pn		Pn	21 43 43.5	+1.1
	154nm,0.7s							
MRVN	Minervino Murg	1.82	11⇑	*i*Pn		Pn	21 43 42.2	-0.2
	63nm,0.8s							
MRVN	Minervino Murg	1.82	11⇑	*i*Pn		Pn	21 43 42.2	-0.2
	63nm,0.8s							
NOCI	Noci	1.83	34⇑	*i*Pn		Pn	21 43 41.9	-0.5
	88nm,0.7s							
NOCI	Noci	1.83	34⇑	*i*Pn		Pn	21 43 41.9	-0.5
	88nm,0.7s							
GIB	Gibilmanna	1.85	227	Pn		Pn	21 43 43.1	+0.3
	123nm,0.6s							
GIB	Gibilmanna	1.85	227	Pn		Pn	21 43 43.1	+0.3
	123nm,0.6s							
CDT	Castel del Mon	1.85	13	*e*P		Pn	21 43 42.5	-0.1
ECNV	Catenanuova	1.86	206	Pn		Pn	21 43 44.2	+1.4
	152nm,0.6s							
ECNV	Catenanuova	1.86	206	Pn		Pn	21 43 44.2	+1.4
	152nm,0.6s							
CAGR	Agira	1.91	211⇓	*i*Pn		Pn	21 43 45.4	+2.1
	444nm,1.2s							
CAGR	Agira	1.91	211⇓	*i*Pn		Pn	21 43 45.4	+2.1
	444nm,1.2s							
MRB1	Monte Rocchett	1.94	343	Pn		Pn	21 43 44.4	+0.9
	59nm,0.7s							
MRB1	Monte Rocchett	1.94	343	Pn		Pn	21 43 44.4	+0.9
	59nm,0.7s							
HCRL	Carlentini	2.06	196	Pn		Pn	21 43 45.0	+0.3
	95nm,0.4s							
HCRL	Carlentini	2.06	196	Pn		Pn	21 43 45.0	+0.3
	95nm,0.4s							
PSB1	Pescosannita	2.07	340	Pn		Pn	21 43 45.6	+0.9
	35nm,0.8s							
PSB1	Pescosannita	2.07	340	Pn		Pn	21 43 45.6	+0.9
	35nm,0.8s							
SOLUN	Solunto	2.09	236	Pn		Pn	21 43 45.5	+0.6
	23nm,0.7s							
SOLUN	Solunto	2.09	236	Pn		Pn	21 43 45.5	+0.6
	23nm,0.7s							
RESU	Resuttano	2.09	220	Pn		Pn	21 43 47.1	+2.1
RESU	Resuttano	2.09	220	Pn		Pn	21 43 47.1	+2.1
MESG	Mesagne	2.09	50	Pn		Pn	21 43 44.7	-0.2
	184nm,0.5s							
MESG	Mesagne	2.09	50	Pn		Pn	21 43 44.7	-0.2
	184nm,0.5s							
ALJA	Alia	2.17	226	Pn		Pn	21 43 47.4	+1.5
	55nm,0.7s							
ALJA	Alia	2.17	226	Pn		Pn	21 43 47.4	+1.5
	55nm,0.7s							
SSY	Sortino	2.18	194	Pn		Pn	21 43 45.8	-0.1
	68nm,0.4s							
SSY	Sortino	2.18	194	Pn		Pn	21 43 45.8	-0.1
	68nm,0.4s							
HVZN	Vizzini	2.24	201⇓	*i*Pn		Pn	21 43 47.3	+0.8
	230nm,0.5s							
HVZN	Vizzini	2.24	201⇓	*i*Pn		Pn	21 43 47.3	+0.8
	230nm,0.5s							
SCTE	Santa Cesarea	2.26	68⇑	*i*Pn		Pn	21 43 46.9	+0.4
SCTE	Santa Cesarea	2.26	68⇑	*i*Pn		Pn	21 43 46.9	+0.4
PTRJ	Pietraroja	2.28	337⇑	*i*Pn		Pn	21 43 47.9	+1.0
	92nm,0.6s							
PTRJ	Pietraroja	2.28	337⇑	*i*Pn		Pn	21 43 47.9	+1.0
	92nm,0.6s							
RAFF	Raffo Rosso	2.31	208	Pn		Pn	21 43 48.5	+1.3
	175nm,1.3s							
RAFF	Raffo Rosso	2.31	208	Pn		Pn	21 43 48.5	+1.3
	175nm,1.3s							
CORL	Corleone	2.35	235	Pn		Pn	21 43 48.7	+1.1
	42nm,1.1s							
CORL	Corleone	2.35	235	Pn		Pn	21 43 48.7	+1.1
	42nm,1.1s							
HAVL	Avola	2.36	192	Pn		Pn	21 43 47.5	-0.2
	86nm,0.3s							
HAVL	Avola	2.36	192	Pn		Pn	21 43 47.5	-0.2
	86nm,0.3s							
HMDC	Modica	2.43	198	Pn		Pn	21 43 49.1	+0.6
	93nm,0.6s							
HMDC	Modica	2.43	198	Pn		Pn	21 43 49.1	+0.6
	93nm,0.6s							
BSSO	Busso	2.43	339	Pn		Pn	21 43 49.7	+1.3
	30nm,0.6s							
BSSO	Busso	2.43	339	Pn		Pn	21 43 49.7	+1.3
	30nm,0.6s							
CERA	Filignano	2.67	331	Pn		Pn	21 43 51.8	+0.9
	23nm,0.5s							
CERA	Filignano	2.67	331	Pn		Pn	21 43 51.8	+0.9
	23nm,0.5s							
SDI	San Donato	2.84	330	Pn		Pn	21 43 53.6	+0.8
	4.0nm,0.4s							
SDI	San Donato	2.84	330	Pn		Pn	21 43 53.6	+0.8
	4.0nm,0.4s							
VLO	Vlora	3.13	66	P		Pn	21 43 57.6	+1.6
VLO	Vlora	3.13	66	P		Pn	21 43 57.6	+1.6
KEK	Kerkira	3.18	81	P		Pn	21 43 57.3	+0.8
KEK				S		S	21 44 35.0	-3.1
KEK	Kerkira	3.18	81	*e*P		Pn	21 43 57.3	+0.8
KEK	Kerkira	3.18	81	*i*Pn		Pn	21 43 57.3	+0.8
	38nm,0.9s							
KEK	Kerkira	3.18	81	P		Pn	21 43 57.3	+0.8
SRN	Sarande	3.35	78	P		Pn	21 43 59.4	+0.9
SRN	Sarande	3.35	78	P		Pn	21 43 59.4	+0.9
SGD	Sagiada	3.50	83	P		Pn	21 44 01.5	+1.2
SGD	Sagiada	3.50	83	P		Pn	21 44 01.5	+1.2
LKD2	Lefkada island	3.87	96	P		Pn	21 44 05.8	+1.1
LKD2				S		S	21 44 50.7	-2.1
LKD2	Lefkada island	3.87	96	*e*P		Pn	21 44 05.8	+1.1
LKD2	Lefkada island	3.87	96	P		Pn	21 44 05.8	+1.1
LKD2				S		S	21 44 50.7	-2.1
STON	Ston	3.89	22	P		Pn	21 44 05.2	+0.4
STON	Ston	3.89	22	*i* P		Pn	21 44 05.2	+0.4
VLS	Valsamata	3.95	105	P		Pn	21 44 06.5	+0.7
VLS	Valsamata	3.95	105	*e*P		Pn	21 44 06.4	+0.7
VLS	Valsamata	3.95	105	P		Pn	21 44 06.5	+0.7
NEST	Nestorio	4.25	73	P		Pn	21 44 11.7	+2.4
NEST	Nestorio	4.25	73	*e*P		Pn	21 44 11.4	+2.1
NEST	Nestorio	4.25	73	P		Pn	21 44 11.7	+2.4
ZKS	Zakynthos	4.26	110	P		Pn	21 44 10.4	+0.9
ZKS	Zakynthos	4.26	110	P		Pn	21 44 10.4	+0.9
OHR	Ohrid	4.29	63	*i* Pn		Pn	21 44 10.6	+0.7
OHR	Ohrid	4.29	63	*i* Pn		Pn	21 44 10.5	+0.7
FNA	Florina	4.59	69	*e*P		Pn	21 44 14.7	+1.2
EVR	Evrytania	4.74	92	*e*P		Pn	21 44 17.7	+2.3
AGG	Agios Georgios	5.13	91	*e*P		Pn	21 44 22.2	+1.9
LIT	Litokhoron	5.28	79	*e*P		Pn	21 44 23.1	+1.1
BBLS	Lazići	5.35	30⇑	*i*Pn		Pn	21 44 23.7	+0.8
HAPS	Han Pijesak,Bl	5.38	26	*e*Pn		Pn	21 44 24.5	+1.2
IVAS	Ivanjica	5.43	36	*e*Pn		Pn	21 44 23.7	-0.3
DIVS	Divibare	5.78	32	*e*Pn		Pn	21 44 28.8	+0.5
XOR	Xorichti	5.79	87	*e*P		Pn	21 44 30.1	+1.7
KNT	Kendrikon	5.80	69	*e*P		Pn	21 44 29.3	+0.7
GRUS	Gruza	5.93	37	*e*Pn		Pn	21 44 31.0	+0.8
PGF	Pioggiola	6.06	305	*e*P		Pn	21 44 33.7	+1.8
PGF	Pioggiola	6.06	305	*e*P		Pn	21 44 33.7	+1.8
AOS	Alonnisos	6.33	88	*e*P		Pn	21 44 36.0	+0.7
MMB	Musomiste	6.52	67⇑	*i*P		Pn	21 44 39.2	+1.4
MMB	Musomiste	6.52	67⇑	*i*P		Pn	21 44 39.2	+1.4
VTS	Vitosha	6.56	57⇓	*i*P		Pn	21 44 39.2	+0.9
VTS	Vitosha	6.56	57⇓	*i*P		Pn	21 44 39.2	+0.9
PKSM	Moragy	7.26	16⇓	*i*P		Pn	21 44 47.2	+0.2
PKSM	Moragy	7.26	16⇓	*i*P		Pn	21 44 47.2	+0.2
OBKA	Obir	7.28	354⇑	*i*Pn		Pn	21 44 48.4	+0.9
	2.1nm,0.4s							
OBKA	Obir	7.28	354	P		Pn	21 44 48.4	+0.9
	2.1nm,0.4s							
SOKA	Soboth	7.42	356⇑	*i*Pn		Pn	21 44 51.1	+1.9
	1.9nm,0.3s							
SOKA	Soboth	7.42	356	Pn		Pn	21 44 51.1	+1.9
	1.9nm,0.3s							
SBF	Sospel	7.73	309	*e*P		Pn	21 44 55.1	+1.9
SBF				*e*Sn		S	21 46 19.8	-1.2
	2.8nm,0.3s							
SBF	Sospel	7.73	309	*e*P		Pn	21 44 55.1	+1.9
ABTA	Abfaltersbach	7.83	344⇓	*i*Pn		Pn	21 44 54.9	+0.4
	3.9nm,0.6s							
ABTA	Abfaltersbach	7.83	344	P		Pn	21 44 54.9	+0.4
	3.9nm,0.6s							
LMR	La Mourre	8.04	303	*e*P		Pn	21 44 59.1	+2.0
LMR				*e*Sn		S	21 46 27.3	-0.9
	9.3nm,0.8s							
LMR	La Mourre	8.04	303	*e*P		Pn	21 44 59.1	+2.0
FRF	La Foret Royal	8.06	305	*e*P		Pn	21 44 59.5	+2.1
FRF				*e*Sn		S	21 46 27.2	-1.5
	5.4nm,0.6s							
FRF	La Foret Royal	8.06	305	*e*P		Pn	21 44 59.5	+2.1
MBDF	Montbardon	8.61	312	*e*Pn		Pn	21 45 07.9	+3.3
MBDF				*e*Sn		S	21 46 40.3	-1.6
	1.9nm,0.3s							
MBDF	Montbardon	8.61	312	*e*Pn		Pn	21 45 07.9	+3.3
DAVOX	Davos/Dischmat	8.64	332	P		Pn	21 45 07.5	+2.6
	0.3nm,0.3s,baz=180,slow=11,SNR=3.8							
MOA	Molln	8.64	353	*e*Pn		Pn	21 45 05.6	+0.8
MOA	Molln	8.64	353	*e*Pn		Pn	21 45 05.6	+0.8
LPG	La Plagne	9.10	316	*e*P		Pn	21 45 12.7	+1.7
LPG	La Plagne	9.10	316	*e*P		Pn	21 45 12.7	+1.7
LPL	La Plagne	9.12	316	*e*P		Pn	21 45 13.4	+2.2
LPL	La Plagne	9.12	316	*e*P		Pn	21 45 13.4	+2.2
ORIF	Oris-en-Rattie	9.24	311	*e*P		Pn	21 45 14.3	+1.7
ORIF	Oris-en-Rattie	9.24	311	*e*P		Pn	21 45 14.3	+1.7
FUR	Furstenfeldbru	9.45	342	*e*Pn		Pn	21 45 16.7	+1.5
FUR	Furstenfeldbru	9.45	342	*e*Pn		Pn	21 45 16.7	+1.5
GEC2	GERESS Array S	9.68	352	*e*Pn		Pn	21 45 18.2	0.0
GEC2	GERESS Array S	9.68	352	*e*Pn		Pn	21 45 18.2	0.0
GERES	GERESS Array B	9.68	352	P		Pn	21 45 18.1	-0.1
	0.3nm,0.3s,baz=166,slow=12,SNR=20							
VIVF	Saint-Julien-l	9.93	308	*e*P		Pn	21 45 23.2	+1.8
VIVF	Saint-Julien-l	9.93	308	*e*P		Pn	21 45 23.2	+1.8
WET	Wettzell	10.08	349	*e*Pn		Pn	21 45 22.9	-0.3
WET	Wettzell	10.08	349	*e*Pn		Pn	21 45 22.9	-0.3
LASF	Ste Croix	10.10	302	*e*P		Pn	21 45 22.9	-0.6
VRI	Vrincioaia	10.44	47⇓	*i*P		P	21 45 37.9	+3.9
BFO	Black Forest	10.51	332	*e*Pn		Pn	21 45 28.0	-0.7
BFO	Black Forest	10.51	332	*e*Pn		Pn	21 45 28.0	-0.7
GRA1	Grafenberg Arr	10.90	344	*e*Pn		Pn	21 45 33.7	+0.1
GRF	Grafenberg Arr	10.90	344	*e*Pn		Pn	21 45 33.7	+0.1
CFR	Carcaliu	10.92	53⇑	*i*P		P	21 45 40.9	+1.6
CDF	Champ du Feu	10.98	329	*e*P		Pn	21 45 35.2	+0.5
CDF	Champ du Feu	10.98	329	*e*P		Pn	21 45 35.2	+0.5
LDF	La Druitiere	14.71	314	*e*P		Pn	21 46 20.2	-0.7
AKASG	Malin Array Be	14.86	35	P		P	21 46 23.6	+0.7
	1.5nm,0.3s,baz=238,slow=10,SNR=3.4							
FLN	La Foliniere	15.01	314	*e*P		Pn	21 46 22.2	-2.3
	baz=136							
MDT	Midelt	17.66	255	P		P	21 46 54.4	+0.5
	0.1nm,0.3s,baz=78,slow=12,SNR=4.8							
EKA	Eskdalemuir Ar	20.44	328	P		P	21 47 22.4	-1.0
	0.3nm,0.3s,baz=144,slow=12,SNR=4.8							
HFS	Hagfors	20.92	357	P		P	21 47 27.5	-1.0
	1.4nm,0.5s,baz=170,slow=9.0,SNR=14							
NOA	NORSAR Array B	21.97	354	P		P	21 47 37.4	-1.4
	0.2nm,0.4s,baz=159,slow=8.9,SNR=3.3							
FINES	FINESS Array B	23.10	13	P		P	21 47 48.2	-0.8
	3.2nm,0.4s,baz=188,slow=9.9,SNR=45							
TORD	Torodi Ar. Bea	28.83	209	P		P	21 48 41.1	+0.2
	0.3nm,0.5s,baz=17,slow=9.3,SNR=5.9							
ARCES	ARCESS Array B	30.77	7	P		P	21 48 56.0	-1.3
	1.2nm,0.9s,baz=188,slow=9.5,SNR=8.1							
DBIC	Dimbokro	37.39	215	P		P	21 49 54.6	-0.2
	2.6nm,0.6s,baz=10,slow=8.2,SNR=7.6							
ZALV	Zalesovo Beam	47.75	48	P		P	21 51 17.3	-0.2
	0.9nm,0.3s,baz=282,slow=6.8,SNR=5.0							
MKAR	Makanchi Array	47.91	58	P		P	21 51 19.2	+0.3
	1.0nm,0.4s,baz=282,slow=7.2,SNR=24							
SONM	Songino Array	62.62	49	P		P	21 53 04.2	+0.5
	0.3nm,0.7s,baz=279,slow=9.5,SNR=3.3							

*ISCJB **10** 21:46:02.1±1.1,33.06N±0.07×142.5E±0.1,h31km, mb3.4/3, Error ellipse: s-maj=15.8km s-min=8.7km az=157.4*
*JMA **10** 21:46:04.1±0.7,33.04N×142.35E,h89km,M3.2*
*IDC **10** 21:46:04.8±3.5,32.33N×140.94E,h0km,mb3.4/3, mb1 3.5/4,mb1mx3.3/25,mbtmp3.4/4,ML3.3/1, Error ellipse: s-maj=122.2km s-min=24.3km az=70.0*

ISC 10 21:46:03.5±1.5,32.99N±0.08×142.5E±0.1,h31km,n17, σ0.96/19,mb3.4/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BSO1	**Boso 1**	2.10	323	P		Pn	21 46 36.3	+0.3
BSO1				*e*S		Sn	21 47 00.6	-0.2
JHJ2	**Mitsune**	2.27	274	P		Pn	21 46 38.4	-0.4
JHCJ	**Hachijojimakas**	2.28	273	P		Pn	21 46 38.8	-0.2
BSO3	**Boso 3**	2.46	318

SPX	San Pedro Mart	1.07 198	*i* P	Pb	22 07 33.4	-0.3
SPX			*i* S	Sg	22 07 47.8	+0.3
SPX	San Pedro Mart	1.07 198	⇓*e*P	Pb	22 07 33.4	-0.3
SPX			IAML		22 07 49.7	
	comp=E,3μm,0.5s					
SPX			*e*		22 07 49.7	
SPX			IAML		22 07 50.9	
	comp=N,3μm,0.6s					
SPX			⇑*e*		22 07 50.9	
ZAX	**El Zacaton**	**1.16 242**	⇑*e*P	**Pb**	**22 07 34.5**	**-0.5**
ECNX	**Esteban Cantu**	**1.35 253**	*e*P	**Pn**	**22 07 37.6**	**-0.3**
CBX	**Cerro Bola**	**1.36 281**	*i* P	**Pn**	**22 07 37.1**	**-0.9**
CBX			*i* S	**Sb**	**22 07 55.5**	**-0.5**
CBX	**Cerro Bola**	**1.36 281**	*i* P	**Pn**	**22 07 37.1**	**-0.9**
CBX			*i* S	**Sb**	**22 07 55.5**	**-0.5**
CBX	**Cerro Bola**	**1.36 281**	IAML		22 07 57.1	
	comp=N,7μm,0.4s					
CBX			*e*		22 07 57.1	
MONP	**Monument Peak,**	**1.40 306**	P	**Pn**	**22 07 37.0**	**-1.5**
	baz=1.4					
MONP			S	**Sn**	**22 07 56.7**	**-0.4**
	baz=1.4					
PBX	**Punta Banda**	**1.44 257**	⇑*e*P	**Pn**	**22 07 38.5**	**-0.4**
BAR	**Barrett**	**1.48 295**	*e*Pn	**Pn**	**22 07 38.3**	**-1.2**
BAR			*e*Sn	**Sn**	**22 07 58.3**	**-0.5**
BC3	**Big Chuckawall**	**1.61 349**	P	**Pn**	**22 07 39.6**	**-1.8**
	baz=1.6					
Y12C	**Blythe**	**1.74 16**	P	**Pn**	**22 07 41.6**	**-1.5**
	baz=1.7					
109C	**Camp Elliot, M**	**1.89 296**	Sb	**Sb**	**22 08 10.9**	**-0.3**
	baz=1.9					
PFO	**Pinyon Flats O**	**1.92 323**	P	**Pn**	**22 07 43.9**	**-1.8**
	baz=1.9					
PFO	**Pinyon Flats O**	**1.92 323**	*e*Pn	**Pn**	**22 07 43.6**	**-2.0**
214A	**Organ Pipe Nat**	**1.93 93**	P	**Pn**	**22 07 44.2**	**-1.5**
	baz=1.9					
214A	**Organ Pipe Nat**	**1.93 93**	*e*Pn	**Pn**	**22 07 44.0**	**-1.7**
IRM	**Iron Mountain**	**2.08 358**	P	**Pn**	**22 07 46.3**	**-1.6**
	baz=2.1					
MURC	**Murrieta**	**2.35 311**	Sb	**Sb**	**22 08 25.2**	**+1.0**
	baz=2.3					
GMRC	**Granite Mounta**	**2.74 350**	P	**Pn**	**22 07 55.6**	**-1.4**
	baz=2.7					
CIS	**Catalina Islan**	**3.10 296**	Sb	**Sb**	**22 08 46.8**	**+0.9**
	baz=3.1					
FMP	**Fort Macarthur**	**3.16 302**	Sb	**Sb**	**22 08 49.0**	**+1.5**
	baz=3.1					
PASC	**Pasadena Art C**	**3.34 310**	*e*Pg	**Pg**	**22 08 18.6**	**+1.8**
DECC	**Green Verdugo**	**3.48 309**	Sb	**Sb**	**22 08 59.3**	**+2.3**
	baz=3.5					
GSC	**Goldstone, Bar**	**3.53 336**	*e*Pb	**Pb**	**22 08 16.2**	**+0.9**
TUC	**Tucson**	**3.65 85**	*e*Pn	**Pn**	**22 08 07.8**	**-1.6**
TUC			*i* S	Sn	22 08 46.5	-6.1
OSI	**Osito Audit: C**	**3.96 311**	*e*Pb	**Pb**	**22 08 22.1**	**-0.7**
SHPR	**Sheep Range**	**4.42 359**	*e*Pn	**Pn**	**22 08 20.6**	**+0.4**
ISA	**Isabella, Lake**	**4.56 323**	*e*Pg	**Pg**	**22 08 40.4**	**+0.3**
WUAZ	**Wupatki**	**4.62 41**	P	**Pn**	**22 08 23.9**	**+1.1**
	baz=4.6					
WUAZ	**Wupatki**	**4.62 41**	*e*Pn	**Pn**	**22 08 23.9**	**+1.1**
DAC	**Darwin (Calif)**	**4.68 334**	*e*Pn	**Pn**	**22 08 25.1**	**+1.4**
W18A	**Petrified Fore**	**5.40 54**	P	**Pn**	**22 08 34.8**	**+1.2**
	baz=5.4					
W18A	**Petrified Fore**	**5.40 54**	*e*Pn	**Pn**	**22 08 34.5**	**+1.0**
CCUT	**Cedar City**	**5.65 14**	*e*Pn	**Pn**	**22 08 38.1**	**+1.1**
121A	**Cookes Peak, D**	**6.20 84**	P	**Pn**	**22 08 44.0**	**-0.5**
	baz=6.2					
121A	**Cookes Peak, D**	**6.20 84**	*e*Pn	**Pn**	**22 08 43.7**	**-0.7**
R11A	**Troy Canyon, C**	**6.28 356**	*e*Pb	Pb	22 09 06.2	+3.9
MVU	**Marysvale**	**6.83 19**	*e*Pb	**Pb**	**22 09 13.2**	**+1.4**
MSU	**Marysvale**	**6.85 19**	*e*Pn	Pn	22 08 57.0	+3.5
LENM	**Lemitar**	**7.12 71**	*e*Pn	**Pn**	**22 08 57.5**	**+0.4**
MVCO	**Mesa Verde**	**7.46 45**	*e*Pn	**Pn**	**22 09 03.5**	**+1.6**
SRU	**San Rafael Swe**	**7.94 27**	*e*Pn	**Pn**	**22 09 09.5**	**+1.0**

NEIC 10 22:08:16.4, 32°.22N×115°.33W, h10km, ML3.4(PAS)**, After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAR	**Barrett**	**1.22**	**292**	*e*Pn	Pn	22 08 38.3	-1.3
BAR				*e*Sn	Sb	22 08 53.7	-1.8
GSC	**Goldstone, Bar**	**3.31**	**339**	*e*Pn	Pn	22 09 08.0	-0.4
OSI	**Osito Audit: C**	**3.71**	**311**	Sb	Pn	22 09 12.1	-1.7
	baz=3.9						
OSI	**Osito Audit: C**	**3.71**	**311**	*e*Pn	Pn	22 09 11.8	-2.0
TUC	**Tucson**	**3.85**	**87**	*e*Pn	Pn	22 09 15.1	-0.8
WUAZ	**Wupatki**	**4.65**	**44**	*e*Pn	Pn	22 09 26.5	-0.5

*JMA **10** 22:21:07.9±0.9, 32°.89N×142°.60E, h61km, M3.4*
*ISCJB **10** 22:21:09.9±1.1, 33°.04N±0°.09×142°.6E±0°.1, h39km, mb3.6/4, Error ellipse: s-maj=19.6km s-min=9.7km az=149.7*
*IDC **10** 22:21:09.9±9.6, 32°.57N×141°.65E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/34, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=358.8km s-min=27.4km az=68.0*

ISC 10 22:21:11.8±1.5, 33°.00N±0°.09×142°.5E±0°.1, h39km, n13, σ1§35/17, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.09**	**322**	P	**Pn**	**22 21 43.0**	**-0.9**
JHJ2	**Mitsune**	**2.28**	**273**	P	**Pn**	**22 21 45.0**	**-2.0**
BSO3	**Boso 3**	**2.46**	**317**	P	**Pn**	**22 21 48.6**	**-0.6**
BSO3				*e*S	**Sn**	**22 22 19.1**	**+1.3**
BSO4	**Boso 4**	**2.69**	**318**	P	**Pn**	**22 21 52.4**	**-0.1**
JRY	**Ryogami san**	**4.24**	**316**	P	**Pn**	**22 22 13.9**	**-0.1**
JRY				*e*S	**Sn**	**22 23 02.3**	**0.0**
JAG	**Ashikaga**	**4.25**	**324**	P	**Pn**	**22 22 13.2**	**-0.9**
JFT	**Otama**	**4.85**	**339**	P	**Pn**	**22 22 21.4**	**-0.9**
JFT				*e*S	**Sn**	**22 23 13.8**	**-3.4**
MJAR	**Matsushiro Arr**	**5.01**	**316**	Pn	**Pn**	**22 22 24.5**	**0.0**
	1.2nm,0.3s,baz=158,slow=13,SNR=12						
MJAR				Sn	**Sn**	**22 23 20.0**	**-1.1**
	baz=152,slow=15,SNR=1.5						
JMK	**Ichinoseki**	**6.03**	**350**	P	**Pn**	**22 22 37.8**	**-0.7**
SONM	**Songino Array**	**30.93**	**309**	P	**P**	**22 27 26.4**	**+1.4**
	0.2nm,0.3s,baz=107,slow=9.5,SNR=3.6						
MKAR	**Makanchi Array**	**47.12**	**306**	P	**P**	**22 29 41.0**	**+0.9**
	0.2nm,0.5s,baz=88,slow=8.3,SNR=4.1						
KURBB	**Kurchatov Arra**	**49.27**	**311**	P	**P**	**22 29 57.6**	**+1.1**
	0.5nm,0.3s,baz=85,slow=7.7,SNR=1.7						
WRA	**Warramunga Arr**	**53.23**	**190**	P	**P**	**22 30 25.9**	**-0.6**
	0.3nm,0.3s,baz=7.6,slow=7.8,SNR=1.7						

*NEIC **10** 22:28:40.7±0.6, 15°.49S×70°.75W, h162km±6km, mb4.6/14, Error ellipse: s-maj=9.2km s-min=6.6km az=58.0*
*ISCJB **10** 22:28:42.1±0.4, 15°.43S±0°.06×70°.63W±0°.06, h193km, mb4.3/29, Error ellipse: s-maj=9.3km s-min=5.9km az=43.7*
*IDC **10** 22:28:43.0±1.0, 15°.48S×70°.66W, h179km±8km, mb4.0/15, mb1 4.1/17, mb1mx3.9/33, mbtmp4.4/17, MS2.5/1, Ms1 2.6/1, ms1mx2.4/23, Error ellipse: s-maj=13.8km s-min=10.9km az=48.0*

ISC 10 22:28:44.0±0.4, 15°.43S±0°.07×70°.54W±0°.07, h193km, n63, σ1§21/62, mb4.5/29, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**1.37**	**222**	⇑*i*P	Pn	22 29 08.0	-8.3
ARE				*i* S	Sn	22 29 27.0	-15
LPAZ	**La Paz**	**2.47**	**110**	P	**Pn**	**22 29 27.9**	**+0.1**
	32nm,0.3s,baz=308,slow=8.7,SNR=689						
LPAZ				S	**Sn**	**22 30 02.4**	**+0.6**
	16nm,0.3s,baz=191,slow=24,SNR=29						
LPAZ				LR	LR	22 30 12.2	
	comp=Z,85nm,19.5s,baz=146,slow=35						
LPAZ	**La Paz**	**2.47**	**110**	*e*Pn	**Pn**	**22 29 27.8**	**0.0**
LPAZ				*e*Sn	**Sn**	**22 30 00.7**	**-1.2**
NNA	**Nana**	**7.01**	**298**	P	Pn	22 30 18.5	-6.0
	12nm,0.3s,baz=127,slow=12,SNR=14						
NNA				S	Sn	22 31 30.4	-14
	14nm,0.3s,baz=40,slow=6.2,SNR=10						
NNA	**Nana**	**7.01**	**298**	*e*Pn	Pn	22 30 18.1	-6.5
NNA				*e*Sn	Sn	22 31 30.7	-13
LVC	**Limon Verde**	**7.31**	**168**	P	Pn	22 30 23.7	-4.8
	729nm,0.3s,baz=2.4,slow=9.0,SNR=73						
LVC				S	Sn	22 31 40.0	-12
	378nm,0.3s,baz=175,slow=19,SNR=28						
LVC	**Limon Verde**	**7.31**	**168**	*e*Pn	Pn	22 30 23.0	-5.5
LVC				*e*Sn	Sn	22 31 42.6	-8.7

SIV	**San Ignacio**	**9.14**	**95**	P	**Pn**	**22 30 51.4**	**-0.8**
	4.9nm,0.3s,baz=285,slow=12,SNR=43						
SIV				S	**Sn**	**22 32 31.5**	**-3.1**
	0.6nm,0.3s,baz=254,slow=13,SNR=3.2						
SAML	**Samuel**	**9.65**	**49**	*e*Pn	**Pn**	**22 30 57.9**	**-1.1**
CFAA	**Coronel Fontan**	**16.24**	**173**	P	**P**	**22 32 19.7**	**-1.3**
	0.1nm,0.3s,baz=353,slow=11,SNR=5.8						
CPUP	**Villa Florida**	**16.42**	**133**	*e*P	**Pn**	**22 32 23.5**	**-0.2**
OTAV	**Otavalo**	**17.42**	**333**	*e*P	**Pn**	**22 32 35.3**	**-0.9**
	9.0nm,0.6s						
BDFB	**Brasília**	**21.71**	**94**	P	**P**	**22 33 20.4**	**+0.2**
	6.8nm,0.4s,baz=260,slow=8.9,SNR=13						
TRQA	**Tornquist**	**23.77**	**163**	*e*P	**P**	**22 33 39.0**	**0.0**
	4.2nm,0.7s						
PLCA	**Paso Flores**	**25.21**	**180**	P	**P**	**22 33 50.8**	**-1.2**
	10nm,0.8s,baz=350,slow=9.7,SNR=17						
PLCA	**Paso Flores**	**25.21**	**180**	*e*P	**P**	**22 33 50.3**	**-1.7**
	6.5nm,0.7s						
BCIP	**Isla Barro Col**	**26.12**	**339**	*e*P	**P**	**22 34 01.1**	**+0.8**
	18nm,0.7s						
RCBR	**Riachuelo**	**35.31**	**78**	P	**P**	**22 35 22.5**	**+1.5**
	13nm,0.8s,baz=245,slow=8.9,SNR=5.3						
RCBR	**Riachuelo**	**35.31**	**78**	*e*P	**P**	**22 35 22.8**	**+1.7**
	8.5nm,0.6s						
USHA	**Ushuaia**	**39.35**	**178**	P	**P**	**22 35 54.2**	**-0.2**
	4.4nm,0.5s,baz=333,slow=12,SNR=3.8						
TEIG	**Tepich**	**39.49**	**333**	P	**P**	**22 35 56.8**	**+0.8**
	5.4nm,0.4s,baz=248,slow=1.2,SNR=4.7						
TEIG	**Tepich**	**39.49**	**333**	*e*P	**P**	**22 35 56.3**	**+0.4**
CMIG	**Matias Romero**	**40.26**	**322**	P	**P**	**22 36 02.3**	**-0.1**
	1.1nm,0.5s,baz=67,slow=13,SNR=2.8						
LRAL	**Lakeview Retre**	**50.70**	**342**	*e*P	**P**	**22 37 22.9**	**-1.1**
	2.8nm,0.4s						
TKL	**Tuckaleechee C**	**52.33**	**346**	*e*P	**P**	**22 37 34.7**	**-1.4**
WVT	**Waverly**	**53.83**	**343**	*e*P	**P**	**22 37 44.8**	**-2.2**
	11nm,0.7s						
TXAR	**Lajitas Array**	**54.80**	**324**	P	**P**	**22 37 53.6**	**-0.7**
	0.5nm,0.6s,baz=151,slow=8.8,SNR=7.1						
SIUC	**Southern Illin**	**55.70**	**342**	*e*P	**P**	**22 37 59.7**	**-0.7**
	80nm,0.7s						
JFWS	**Jewell Farm**	**60.82**	**344**	*e*P	**P**	**22 38 34.6**	**-1.2**
	6.3nm,0.4s						
EYMN	**Ely**	**65.81**	**345**	*e*P	**P**	**22 39 07.2**	**-1.2**
	6.8nm,0.8s						
AGMN	**Agassiz Nation**	**67.34**	**342**	*e*P	**P**	**22 39 17.7**	**-0.4**
	14nm,0.8s						
PDAR	**Pinedale Array**	**68.11**	**330**	P	**P**	**22 39 22.8**	**-0.5**
	0.6nm,0.5s,baz=109,slow=9.1,SNR=4.1						
MDND	**Maddock**	**68.14**	**339**	*e*P	**P**	**22 39 23.4**	**+0.3**
	18nm,0.5s						
LIC	**Lamto**	**68.35**	**77**	*e*P	**P**	**22 39 25.2**	**+0.1**
	27nm,0.9s						
SNAA	**Sanae**	**68.49**	**162**	*e*P	P	22 39 17.1	-8.0
	7.7nm,0.8s						
TIC	**Toumodi**	**68.50**	**76**	*e*P	**P**	**22 39 26.4**	**+0.3**
DBIC	**Dimbokro**	**68.66**	**76**	P	**P**	**22 39 27.2**	**+0.1**
	11nm,0.6s,baz=238,slow=6.1,SNR=30						
DBIC	**Dimbokro**	**68.66**	**76**	*e*P	**P**	**22 39 27.0**	**0.0**
KIC	**Kosan Boka**	**68.67**	**77**	*e*P	**P**	**22 39 27.0**	**-0.1**
	28nm,0.6s						
SCHQ	**Schefferville**	**70.06**	**2**	P	**P**	**22 39 35.6**	**+0.8**
	1.5nm,0.7s,baz=235,slow=12,SNR=2.9						
QSPA	**South Pole Qui**	**74.73**	**180**	*e*P	**P**	**22 40 02.4**	**-0.1**
	7.0nm,0.8s						
TOA0	**Torodi Ar. Sit**	**76.89**	**72**	*e*P	**P**	**22 40 15.4**	**-0.1**
TOA0	**Torodi Ar. Sit**	**76.89**	**72**	*e*P	**P**	**22 40 15.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**76.89**	**72**	P	**P**	**22 40 15.4**	**0.0**
	13nm,0.4s,baz=267,slow=4.6,SNR=467						
VNDA	**Vanda**	**82.53**	**190**	P	**P**	**22 40 45.2**	**+0.5**
	2.1nm,0.7s,baz=130,slow=5.2,SNR=10						
ESDC	**Sonseca Array**	**82.66**	**46**	P	**P**	**22 40 46.8**	**+0.7**
	0.2nm,0.4s,baz=242,slow=3.2,SNR=5.1						
TAM	**Tamanrasset**	**83.54**	**64**	*e*P	**P**	**22 40 52.3**	**+1.3**
	1.6nm,0.6s						
YKA	**Yellowknife Ar**	**84.98**	**341**	P	**P**	**22 40 57.4**	**+0.3**
	4.8nm,0.6s,baz=135,slow=5.1,SNR=36						
MAW	**Mawson**	**90.56**	**164**	P	**P**	**22 41 24.5**	**+0.7**
	2.1nm,0.5s,baz=223,slow=7.7,SNR=4.8						
ABKAR	**Akbulak array**	**127.59**	**39**	*e*PKPdf	**PKPdf**	**22 47 27.9**	**+1.8**
ASAR	**Alice Springs**	**134.38**	**212**	PKP	**PKPdf**	**22 47 39.1**	**-0.7**
	0.7nm,0.8s,baz=136,slow=3.6,SNR=5.0						
KURBB	**Kurchatov Arra**	**136.95**	**29**	SKP	**SKPdf**	**22 51 02.7**	**+2.3**
	0.6nm,0.7s,baz=303,slow=3.5,SNR=6.7						
ZAA0	**Zalesovo Array**	**137.01**	**21**	*e*PKPdf	**PKPdf**	**22 47 44.6**	**+0.9**
ZALV	**Zalesovo Beam**	**137.01**	**21**	PKP	**PKPdf**	**22 47 45.2**	**+1.5**
	4.6nm,0.5s,baz=292,slow=2.1,SNR=22						
ZALV				SKP		22 51 02.9	
	1.8nm,0.8s,baz=305,slow=3.1,SNR=7.0						
MKAR	**Makanchi Array**	**141.41**	**30**	PKhKP	PKPpre	22 47 47.4	
	0.7nm,0.6s,baz=346,slow=2.9,SNR=7.5						
MKAR				SKPbc	**SKiKP**	**22 51 14.0**	**+1.2**
	1.3nm,0.7s,baz=336,slow=2.7,SNR=11						
USRK	**Ussuriysk Ar.**	**145.53**	**331**	PKPbc	**PKPab**	**22 48 00.7**	**+0.4**
	3.2nm,0.8s,baz=49,slow=4.3,SNR=8.0						
MJAR	**Matsushiro Arr**	**146.90**	**315**	PKPbc	**PKPbc**	**22 48 04.6**	**+0.5**
	5.5nm,0.7s,baz=117,slow=1.8,SNR=17						
MAJO	**Matsushiro**	**146.90**	**315**	*e*PKPdf	**PKPbc**	**22 48 03.9**	**-0.2**
MAT	**Matsushiro**	**146.90**	**315**	P	**PKPbc**	**22 48 04.0**	**-0.1**
SONM	**Songino Array**	**147.59**	**4**	PKPbc	**PKPab**	**22 48 07.1**	**-1.2**
	4.8nm,0.6s,baz=326,slow=1.9,SNR=43						
KSRS	**Korea Array**	**152.63**	**327**	PKPbc	**PKPbc**	**22 48 18.9**	**+0.9**
	1.6nm,0.6s,baz=31,slow=2.2,SNR=7.6						
KSRS				pPKPbc	**pPKPbc**	**22 49 04.5**	**-3.6**
	1.5nm,0.9s,baz=23,slow=1.2,SNR=2.4						
KSAR	**Wonju Array Be**	**152.66**	**327**	PKPbc	**PKPbc**	**22 48 18.9**	**+0.8**
KSAR				pPKPbc	**pPKPbc**	**22 49 04.5**	**-3.6**
CMAR	**Chiang Mai Arr**	**169.50**	**72**	PKPab	**PKPab**	**22 49 44.4**	**+0.9**
	0.5nm,0.3s,baz=262,slow=4.7,SNR=4.3						

*ISCJB **10** 22:36:55.3±0.6, 12°.99S±0°.09×169°.5E±0°.1, h645km, mb4.2/13, Error ellipse: s-maj=14.8km s-min=9.5km az=146.8*
*IDC **10** 22:36:58.0±1.5, 12°.94S×169°.31E, h658km±18km, mb3.5/13, mb1 3.6/14, mb1mx3.3/43, mbtmp4.5/14, Error ellipse: s-maj=17.6km s-min=12.4km az=161.0*

ISC 10 22:36:57.0±0.7, 12°.9S±0°.1×169°.4E±0°.1, h645km, n36, σ1§14/40, mb4.2/13, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.55**	**197**	P	**P**	**22 39 13.5**	**+1.1**
	0.7nm,0.3s,baz=90,slow=24,SNR=3.2						
CTA	**Charters Tower**	**23.27**	**249**	P	**P**	**22 41 18.6**	**+0.6**
	4.2nm,0.6s,baz=72,slow=10,SNR=2.3						
URZ	**Urewera**	**26.19**	**166**	P	**P**	**22 41 42.7**	**-0.6**
	27nm,1.0s,baz=270,slow=3.0,SNR=2.2						
URZ	**Urewera**	**26.19**	**166**	*e*PN	**P**	**22 41 42.5**	**-0.8**
OTVZ	**Oturere**	**26.76**	**169**	*e*PN	**P**	**22 41 49.9**	**+1.4**
BKZ	**Black Stump Fm**	**26.92**	**168**	*e*PN	**P**	**22 41 48.8**	**-1.0**
BHHZ	**Black Hill Sta**	**27.15**	**169**	PN	**P**	**22 41 50.8**	**-0.9**
TSZ	**Takapari Road**	**27.68**	**169**	*e*PN	**P**	**22 41 55.0**	**-1.3**
QRZ	**Quartz Range**	**27.97**	**175**	*e*PN	**P**	**22 42 00.1**	**+1.4**
DUWZ	**D'Urville Isla**	**28.09**	**173**	*e*PN	**P**	**22 42 00.3**	**+0.4**
MRZ	**Mangatainoka R**	**28.20**	**170**	*e*PN	**P**	**22 41 59.1**	**-1.7**
OGWZ	**Otaki Gorge**	**28.28**	**171**	PN	**P**	**22 42 00.4**	**-1.1**
KIW	**Kapiti Island**	**28.29**	**171**	*e*PN	**P**	**22 42 00.4**	**-1.1**
BFZ	**Birch Farm**	**28.34**	**169**	*e*PN	**P**	**22 42 00.0**	**-1.9**
TCW	**Tory Channel**	**28.54**	**172**	*e*PN	**P**	**22 42 03.3**	**-0.4**
CAW	**Cannon Point**	**28.55**	**171**	*e*PN	**P**	**22 42 02.5**	**-1.3**
MTW	**Mount Morrison**	**28.67**	**170**	*e*PN	**P**	**22 42 03.2**	**-1.7**
TUWZ	**Tuamarina**	**28.71**	**173**	PN	**P**	**22 42 04.7**	**-0.4**
THZ	**Tophouse**	**28.93**	**175**	PN	**P**	**22 42 06.9**	**-0.3**
KHZ	**Kahutara**	**29.64**	**174**	PN	**P**	**22 42 11.7**	**-1.4**
LTZ	**Lake Taylor**	**29.89**	**176**	*e*PN	**P**	**22 42 14.5**	**-0.8**
RPZ	**Rata Peaks**	**30.75**	**178**	P	**P**	**22 42 21.8**	**-0.8**
	15nm,0.8s,baz=225,slow=1.4,SNR=2.4						
LBZ	**Lake Benmore**	**31.40**	**179**	*e*PN	**P**	**22 42 27.2**	**-0.9**
STKA	**Stephens Creek**	**31.73**	**229**	P	**P**	**22 42 32.0**	**+0.9**
	4.1nm,0.5s,baz=56,slow=7.9,SNR=13						
STKA				ScP	**ScP**	**22 47 46.0**	**+0.5**
	2.4nm,0.7s,baz=45,slow=1.4,SNR=4.5						
WRA	**Warramunga Arr**	**34.27**	**254**	P	**P**	**22 42 52.5**	**0.0**
	16nm,0.4s,baz=85,slow=8.7,SNR=72						
WRA				S	**S**	**22 47 33.5**	**-2.9**
	2.3nm,0.9s,baz=84,slow=14,SNR=5.1						
ASAR	**Alice Springs**	**35.24**	**247**	P	**P**	**22 43 00.8**	**+0.2**
	22nm,0.5s,baz=74,slow=9.4,SNR=303						
ASAR				S	**S**	**22 47 49.4**	**-1.5**
	2.5nm,0.8s,baz=77,slow=16,SNR=13						
ASAR				ScP	**ScP**	**22 47 58.8**	**+0.6**
	1.4nm,0.6s,baz=83,slow=3.9,SNR=8.6						
SIJI	**Sorong**	**39.59**	**285**	P	**P**	**22 43 36.5**	**+0.7**
	7.1nm,0.4s,baz=111,slow=17,SNR=3.8						
NWAO	**Narrogin (SRO)**	**51.44**	**238**	P	**P**	**22 45 05.0**	**-0.1**
	7.0nm,0.8s,baz=146,slow=5.1						

VNDA	**Vanda**	**64.75**	**182**	P	**P**	**22 46 33.4**	**0.0**
	1.0nm,0.5s,baz=350,slow=6.3,SNR=10						
CMAR	**Chiang Mai Arr**	**76.09**	**293**	P	**P**	**22 47 42.0**	**+1.1**
	1.5nm,0.6s,baz=111,slow=3.9,SNR=5.4						
ILAR	**Eielson Array**	**84.17**	**17**	P	**P**	**22 48 20.4**	**-1.3**
	1.0nm,0.7s,baz=234,slow=5.6,SNR=8.7						
NVAR	**Mina Array Bea**	**84.53**	**49**	P	**P**	**22 48 26.0**	**+1.6**
	0.7nm,0.3s,baz=227,slow=7.9,SNR=4.5						
YKA	**Yellowknife Ar**	**94.99**	**27**	P	**P**	**22 49 11.3**	**-0.7**
	0.5nm,0.6s,baz=255,slow=5.3,SNR=4.2						
ARCES	**ARCESS Array B**	**118.98**	**346**	PKP	**PKPdf**	**22 54 32.6**	**-0.8**
	1.1nm,0.4s,baz=62,slow=1.9,SNR=18						
FINES	**FINESS Array B**	**124.75**	**340**	PKP	**PKPdf**	**22 54 43.9**	**-0.8**
	0.3nm,0.4s,baz=96,slow=1.9,SNR=4.9						
NOA	**NORSAR Array B**	**129.35**	**346**	PKP	**PKPdf**	**22 54 52.8**	**-0.7**
	1.0nm,1.0s,baz=352,slow=7.8,SNR=3.0						
NOA				SKPbc	SKPab	22 57 16.9	+0.5
	2.6nm,0.8s,baz=29,slow=3.0,SNR=12						

*IDC **10** 22:43:26.1±3.5, 10°.28N×126°.73E, h0km, mb3.9/4, mb1 3.9/4, mb1mx3.5/46, mbtmp3.9/4, MS2.2/1, Ms1 2.2/1, ms1mx2.1/28, Error ellipse: s-maj=437.7km s-min=29.4km az=64.0*
*ISCJB **10** 22:43:30.0±1.3, 10°.3N±0°.1×126°.6E±0°.2, h42km, mb3.9/4, Error ellipse: s-maj=23.2km s-min=19.3km az=43.4*

ISC 10 22:43:32.2±1.5, 10°.2N±0°.2×126°.5E±0°.2, h42km, n7, σ0§61/6, mb4.0/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.11**	**248**	*e*P	**Pn**	**22 43 51.9**	**+0.6**
TBP	**Tagbilaran**	**2.68**	**259**	*e*P	**Pn**	**22 44 12.1**	**-0.7**
GUMO	**Guam**	**18.25**	**78**	LR	LR	22 54 03.2	
	comp=Z,8.5nm,20.4s,baz=72,slow=35						
STKA	**Stephens Creek**	**44.26**	**162**	P	**P**	**22 51 37.4**	**-0.2**
	3.0nm,0.9s,baz=338,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**52.24**	**323**	P	**P**	**22 52 39.5**	**+0.3**
	0.8nm,0.6s,baz=109,slow=9.1,SNR=6.8						
ZALV	**Zalesovo Beam**	**54.81**	**331**	P	**P**	**22 52 58.0**	**+0.1**
	0.9nm,0.6s,baz=128,slow=6.5,SNR=3.8						
KURBB	**Kurchatov Arra**	**56.28**	**325**	P	**P**	**22 53 08.5**	**+0.1**
	0.6nm,0.5s,baz=124,slow=7.0,SNR=11						

*MOS **10** 22:53:08.8±2.5, 47°.85N×156°.54E, h15km, mb4.2/1, Error ellipse: s-maj=80.7km s-min=8.2km az=81.2*

KRSC 10 22:53:08.9±2.8, 47°.85N×156°.54E, h15km±7km, ML4.2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.85**	**355**	*e*P	Pn	22 53 54.6	+0.9
SKR				*e*S	Sn	22 54 27.8	+0.1
SKR	**Severo-Kuril's**	**2.85**	**355**	*e*Pn	Pn	22 53 41.6	-12
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
PAU	**Pauzhetka**	**3.62**	**3**	*e*P	Pn	22 54 06.9	+2.5
PAU				*e*S	Sn	22 54 50.7	+3.8
PAU	**Pauzhetka**	**3.62**	**3

SPX	San Pedro Mart	1.35	190	*i* P	Pn	23 58 59.0	+0.5	
SPX				*i* S	Sb	23 59 18.1	+1.8	
SPX	San Pedro Mart	1.35	190	*e*P	Pn	23 58 59.0	+0.5	
SPX				IAML		23 59 22.5		
	comp=N,129nm,0.6s							
PFO	Pinyon Flats O	1.63	319	*e*Pn	Pn	23 59 00.1	-2.1	
214A	Organ Pipe Nat	2.05	101	*e*Pg	Pg	23 59 15.2	+1.6	
MWC	Mount Wilson	3.03	308	*e*Pb	Pb	23 59 29.3	+1.5	
GSC	Goldstone, Bar	3.22	336	*e*Pn	Pn	23 59 26.7	+2.7	
TUC	Tucson	3.72	90	*e*P	Pn	23 59 30.2	-0.7	
TUC				*e*Pb	Pg	23 59 43.3	-2.2	
TUC				*i* S	Sn	00 00 13.0	-1.4	
SHPR	Sheep Range	4.12	0	*e*Pn	Pn	23 59 37.5	+1.0	
DAC	Darwin (Calif)	4.37	334	*e*Pg	Pg	23 59 59.6	+1.7	

MEX 10 23:59:26.0±0.7, 32°.47N×115°.02W, h5km, MD3.8, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.17**	**246**	*i* P	Pg	23 59 28.4	-0.9
MBIG				*e*S	Sg	23 59 31.0	-0.5
CBX	**Cerro Bola**	**1.40**	**264**	*i* P	Pn	23 59 49.5	-2.9
CBX				*i* S	Sb	00 00 06.4	-4.7

IDC ***11*** *00:04:56.9±0.5, 15°.21S×173°.11W, h0km, mb4.3/14, mb1 4.5/15, mb1mx4.3/37, mbtmp4.3/15, ML3.5/1, MS3.6/17, Ms1 3.6/17, ms1mx3.5/30, Error ellipse: s-maj=23.5km s-min=15.6km az=126.0*
SZGRF ***11*** *00:05:01.5, 17°.22S×178°.72E, h33km, Fiji Islands*
ISCJB ***11*** *00:05:02.8±0.3, 14°.86S±0°.08×172°.95W±0°.06, h33km, mb4.7/52, MS3.6/16, Error ellipse: s-maj=12.2km s-min=7.0km az=156.7*
NEIC ***11*** *00:05:02.8±0.2, 15°.12S×172°.83W, h35km, mb4.9/38, Error ellipse: s-maj=8.7km s-min=6.5km az=112.0*
NEIC Felt at Apia.
BJI ***11*** *00:05:02.7, 15°.06S×172°.34W, h46km, mb5.2/9, mB5.1/8, Ms4.7/5, Ms7 4.3/4*
ISC 11 00:05:03.5±0.4, 15°.13S±0°.08×172°.67W±0°.07, h35km, n293, σ1°30/285, mb4.8/52, MS3.6/16, 91C-90D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.49**	**35**	*e*Pn	**Pn**	**00 05 28.4**	**+0.6**
AFI				*e*Sn	**Sn**	**00 05 46.3**	**+0.2**
MSVF	**Nonsavu**	**9.28**	**253**	*e*Pn	**Pn**	**00 07 16.4**	**+1.5**
KNTN	**Kanton**	**12.32**	**4**	*e*Pn	**Pn**	**00 07 53.8**	**-2.7**
KNTN				*e*Sn	Sn	00 10 05.0	-7.5
RAR	**Rarotonga**	**13.66**	**118**	Pn	**Pn**	**00 08 14.7**	**0.0**
	2.2nm,0.3s,baz=266,slow=14,SNR=4.6						
RAR				LR	LR	00 12 35.1	
	comp=Z,104nm,18.9s,baz=302,slow=33						
DZM	**Mont Dzumac**	**20.95**	**248**	*e*LR	LR	00 14 46.6	
	501nm,26.2s						
DZM	**Mont Dzumac**	**20.95**	**248**	LR	LR	00 16 17.4	
	comp=Z,399nm,19.9s,baz=179,slow=33						
PPT	**Papeete**	**22.29**	**99**	LR	LR	00 17 39.4	
	comp=Z,32nm,18.9s,baz=217,slow=34						
PAE	**Paea**	**22.29**	**100**	*e*T	T	00 33 15.6	
	2.5nm,0.2s						
PPT2	**Papeete2**	**22.29**	**99**	*e*LR	LR	00 15 10.5	
	168nm,28.0s						
TBI	**Tubuai**	**23.36**	**114**	*e*LQ	LQ	00 14 51.2	
	283nm,27.0s						
TBI				*e*LR	LR	00 15 44.1	
	128nm,27.8s						
TBI	**Tubuai**	**23.36**	**114**	*e*T	T	00 34 37.0	
	5.4nm,0.3s						
PMOR	**Pomariorio Ree**	**23.92**	**93**	*e*T	T	00 35 17.1	
	1.8nm,0.2s						
URZ	**Urewera**	**24.75**	**200**	P	**P**	**00 10 18.6**	**-3.1**
	16nm,0.5s,baz=317,slow=2.5,SNR=11						
URZ				LR	LR	00 18 41.3	
	comp=Z,157nm,21.7s,baz=20,slow=34						
TAOE	**Nuku Hiva Isla**	**32.39**	**83**	*e*T	T	00 45 49.8	
	114nm,0.3s						
RKT	**Rikitea**	**36.41**	**108**	*e*T	T	00 50 54.6	
	3.0nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**39.11**	**328**	T	T	00 53 04.8	
	baz=146,slow=76,SNR=8.1						
H11S3	**WAKE ISLAND Hy**	**39.12**	**328**	T	T	00 53 15.3	
	baz=146,slow=76,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**39.12**	**328**	T	T	00 53 13.0	
	baz=146,slow=76,SNR=9.7						
H11N3	**WAKE ISLAND Hy**	**40.04**	**329**	T	T	00 55 00.4	
	baz=150,slow=76,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**40.04**	**329**	T	T	00 55 21.2	
	baz=150,slow=76,SNR=6.8						
H11N2	**WAKE ISLAND Hy**	**40.05**	**329**	T	T	00 55 07.4	
	baz=150,slow=76,SNR=7.3						
STKA	**Stephens Creek**	**44.78**	**240**	P	P	00 13 08.5	-5.5
	1.1nm,0.6s,baz=65,slow=14,SNR=3.2						
STKA				LR	LR	00 28 17.0	
	comp=Z,65nm,19.4s,baz=31,slow=32						
WRA	**Warramunga Arr**	**50.59**	**256**	P	P	00 13 53.4	-5.8
	0.6nm,0.5s,baz=90,slow=6.9,SNR=3.1						
GUMO	**Guam**	**50.79**	**302**	LR	LR	00 30 10.6	
	comp=Z,20nm,20.3s,baz=212,slow=30						
AS01	**Alice Springs**	**50.82**	**252**	*e*P	**P**	**00 14 00.7**	**-0.3**
ASAR	**Alice Springs**	**50.87**	**252**	P	P	00 13 55.0	-6.4
	1.6nm,0.5s,baz=87,slow=8.0,SNR=19						
ASAR				LR	LR	00 33 33.5	
	comp=Z,176nm,20.8s,baz=89,slow=34						
SBA	**Scott Base**	**63.57**	**185**	*e*P	**P**	**00 15 31.0**	**+0.9**
	43nm,2.4s						
VNDA	**Vanda**	**63.71**	**186**	P	**P**	**00 15 30.9**	**-0.2**
	2.0nm,0.7s,baz=12,slow=6.9,SNR=11						
VNDA				LR	LR	00 41 52.9	
	comp=Z,30nm,18.5s,baz=338,slow=35						
MJAR	**Matsushiro Arr**	**69.19**	**319**	LR	LR	00 40 49.7	
	comp=Z,36nm,21.9s,baz=170,slow=31						
EDW2	**Edwards Air Fo**	**71.86**	**45**	⇑P	P	00 16 26.2	+3.1
	baz=72						
PETK	**Petropavlovsk-**	**72.60**	**342**	P	**P**	**00 16 26.0**	**-1.0**
	4.5nm,0.7s,baz=133,slow=11,SNR=5.8						
PETK				LR	LR	00 43 37.0	
	comp=Z,16nm,22.0s,baz=116,slow=32						
IRM	**Iron Mountain**	**73.44**	**47**	⇓P	**P**	**00 16 34.4**	**+2.0**
	baz=74						
M04C	**Macdoel**	**73.50**	**37**	⇓P	**P**	**00 16 34.6**	**+1.8**
	baz=74						
NVAR	**Mina Array Bea**	**73.66**	**42**	P	**P**	**00 16 33.5**	**-0.4**
	1.4nm,0.8s,baz=229,slow=9.1,SNR=4.7						
214A	**Organ Pipe Nat**	**74.00**	**50**	⇓P	**P**	**00 16 37.5**	**+1.7**
	baz=74						
TPNV	**Topopah Spring**	**74.18**	**44**	⇓P	**P**	**00 16 39.2**	**+2.3**
	baz=74						
J05D	**Fort Rock, OR**	**74.78**	**36**	⇓P	**P**	**00 16 42.5**	**+2.2**
	baz=75						
YULB	**Yu-li**	**75.05**	**300**	*e*P	**P**	**00 16 43.5**	**+1.4**
	33nm,0.3s						
R11A	**Troy Canyon, C**	**75.38**	**43**	⇓P	**P**	**00 16 45.2**	**+1.3**
	baz=76						
I05D	**Terrebonne, OR**	**75.38**	**35**	⇓P	**P**	**00 16 45.4**	**+1.8**
	baz=76						
G05D	**Wamic, OR**	**75.96**	**35**	⇑P	**P**	**00 16 48.8**	**+2.0**
	baz=76						
KSRS	**Korea Array**	**76.47**	**315**	P	**P**	**00 16 49.0**	**-0.7**
	0.5nm,0.3s,baz=126,slow=6.5,SNR=5.7						
KSRS				LR	LR	00 47 51.3	
	comp=Z,28nm,18.3s,baz=208,slow=34						
KSAR	**Wonju Array Be**	**76.49**	**315**	P	**P**	**00 16 49.0**	**-0.9**
G08A	**Pilot Rock**	**77.31**	**36**	*e*P	**P**	**00 16 55.4**	**+0.8**
	11nm,1.0s						
USRK	**Ussuriysk Ar.**	**77.60**	**323**	LR	LR	00 45 00.6	
	comp=Z,62nm,21.6s,baz=106,slow=31						
SPU	**Mount Spurr**	**77.82**	**10**	*e*P	**P**	**00 16 56.2**	**-0.7**
121A	**Cookes Peak, D**	**78.03**	**51**	⇓P	**P**	**00 17 00.3**	**+1.3**
	baz=78						
DUG	**Dugway, Tooele**	**78.19**	**43**	⇓P	**P**	**00 17 01.3**	**+1.7**
	baz=78						
F10A	**Beach Ranch, E**	**78.69**	**36**	*e*P	**P**	**00 17 02.5**	**+0.3**
	9.6nm,1.0s						
HLID	**Hailey**	**78.97**	**39**	⇑P	**P**	**00 17 05.6**	**+1.7**
	baz=79						
HLID	**Hailey**	**78.97**	**39**	*e*P	**P**	**00 17 04.8**	**+0.9**
	7.3nm,1.0s						
DIV	**Divide**	**78.98**	**13**	*e*P	**P**	**00 17 02.5**	**-0.9**
	16nm,0.8s						
BMRM	**Bremner River**	**79.09**	**14**	*e*P	**P**	**00 17 03.3**	**-0.7**
	21nm,0.9s						
SCM	**Sheep Creek Mo**	**79.29**	**12**	*e*P	**P**	**00 17 04.4**	**-0.7**
	14nm,0.7s						
PV09	**Paradox Valley**	**79.81**	**46**	*e*P	**P**	**00 17 09.9**	**+1.2**
TX31	**Lajitas Ar. Si**	**79.88**	**56**	*e*P	**P**	**00 17 10.2**	**+1.2**
TXAR	**Lajitas Array**	**79.88**	**56**	P	**P**	**00 17 10.8**	**+1.8**
	3.4nm,1.1s,baz=228,slow=4.9,SNR=20						
TXAR				LR	LR	00 45 19.8	
	comp=Z,44nm,20.0s,baz=0.0,slow=30						
CAST	**Castle Rocks**	**79.92**	**9**	*e*P	**P**	**00 17 06.6**	**-1.8**
	3.2nm,0.9s						
ANMO	**Albuquerque**	**80.09**	**50**	*e*P	**P**	**00 17 10.8**	**+0.5**
	8.4nm,1.4s						
NEW	**Newport**	**80.09**	**34**	⇓P	**P**	**00 17 11.0**	**+1.3**
	baz=80						
TRF	**Thorofare Moun**	**80.24**	**10**	*e*P	**P**	**00 17 09.5**	**-0.8**
	13nm,0.8s						
RND	**Reindeer**	**80.44**	**11**	*e*P	**P**	**00 17 10.2**	**-1.1**
	11nm,0.8s						
NJ2	**Nanjing**	**80.57**	**307**	*e*P	**P**	**00 17 13.5**	**+0.9**
NJ2				PMZ			
	30nm,1.0s						
MCMT	**McKenzie Canyo**	**80.61**	**39**	*e*P	**P**	**00 17 13.3**	**+0.5**
MCK	**McKinley**	**80.73**	**10**	*e*P	**P**	**00 17 11.7**	**-1.1**
	20nm,0.9s						
HYT	**Haines Junctio**	**80.75**	**17**	*e*P	**P**	**00 17 13.0**	**-0.1**
DLMT	**Dillon**	**81.04**	**38**	*e*P	**P**	**00 17 14.8**	**-0.2**
	7.8nm,1.1s						
MSO	**Missoula**	**81.05**	**36**	⇓P	**P**	**00 17 15.9**	**+0.9**
	baz=81						
MSO	**Missoula**	**81.05**	**36**	*e*P	**P**	**00 17 14.0**	**-0.9**
	9.4nm,1.1s						
BWN	**Browne**	**81.05**	**10**	*e*P	**P**	**00 17 13.7**	**-0.7**
	71nm,1.0s						
S22A	**4UR Ranch, Cre**	**81.07**	**47**	⇑P	**P**	**00 17 16.9**	**+1.4**
	baz=81						
S22A	**4UR Ranch, Cre**	**81.07**	**47**	*e*P	**P**	**00 17 15.4**	**-0.1**
	16nm,1.4s						
TPAW	**Teton Pass**	**81.08**	**40**	*e*P	**P**	**00 17 14.3**	**-1.1**
	12nm,1.2s						
FXWY	**Fox Creek**	**81.10**	**40**	*e*P	**P**	**00 17 15.6**	**+0.1**
	8.6nm,1.4s						
BSMT	**Bassoo Peak**	**81.14**	**35**	*e*P	**P**	**00 17 14.3**	**-1.2**
O20A	**White River Ci**	**81.19**	**44**	⇓P	**P**	**00 17 17.0**	**+0.9**
	baz=82						
CN2	**Changchun**	**81.34**	**320**	*e*P	**P**	**00 17 18.9**	**+2.5**
529A	**Stev Forest Ra**	**81.34**	**56**	⇑P	**P**	**00 17 17.8**	**+1.0**
	baz=82						
DDM	**Donnelly Dome**	**81.35**	**12**	*e*P	**P**	**00 17 15.4**	**-0.7**
	17nm,0.9s						
LOHW	**Long Hollow**	**81.35**	**40**	*e*P	**P**	**00 17 16.8**	**0.0**
	9.3nm,1.4s						
CHMT	**Chamberlain Mo**	**81.49**	**37**	*e*P	**P**	**00 17 17.4**	**0.0**
FLWY	**Flagg Ranch**	**81.53**	**40**	*e*P	**P**	**00 17 18.0**	**+0.2**
	11nm,1.1s						
WRH	**Wood River Hil**	**81.56**	**10**	*e*P	**P**	**00 17 16.6**	**-0.6**
	24nm,1.0s						
BW06	**Boulder Array**	**81.60**	**42**	*e*P	**P**	**00 17 18.1**	**-0.1**
PDAR	**Pinedale Array**	**81.60**	**42**	P	**P**	**00 17 18.7**	**+0.6**
	1.7nm,0.8s,baz=279,slow=2.9,SNR=11						
PDAR				LR	LR	00 48 36.0	
	comp=Z,48nm,18.3s,baz=244,slow=32						
MLY	**Manley**	**81.64**	**9**	*e*P	**P**	**00 17 16.7**	**-0.9**
	8.6nm,0.9s						
HDA	**Harding Lake**	**81.70**	**11**	*e*P	**P**	**00 17 17.2**	**-0.7**
	10.0nm,0.8s						
H17A	**Grant Village**	**81.77**	**40**	⇑P	**P**	**00 17 20.4**	**+1.4**
	baz=82						
BOZ	**Bozeman (W)**	**81.77**	**38**	⇓P	**P**	**00 17 20.1**	**+1.2**
	baz=82						
CCB	**Clear Creek Bu**	**81.77**	**11**	*e*P	**P**	**00 17 17.0**	**-1.2**
	17nm,0.9s						
429A	**Davenport Ranc**	**81.80**	**55**	⇑P	**P**	**00 17 20.2**	**+0.9**
	baz=82						
228A	**UT Block 9, Go**	**81.83**	**54**	⇑P	**P**	**00 17 20.6**	**+1.2**
	baz=82						
P22A	**Eagle**	**81.96**	**45**	⇑P	**P**	**00 17 21.2**	**+1.1**
	baz=82						
COLA	**College**	**81.97**	**10**	*e*P	**P**	**00 17 18.7**	**-0.5**
	26nm,0.9s						
R23A	**Moffat**	**81.98**	**47**	⇓P	**P**	**00 17 21.6**	**+1.3**
	baz=82						
MDM	**Murphy Dome**	**81.98**	**10**	*e*P	**P**	**00 17 18.2**	**-1.1**
	9.9nm,1.0s						
SDCO	**Great Sand Dun**	**82.01**	**48**	⇑P	**P**	**00 17 21.3**	**+0.8**
	baz=82						
IL1	**Elelson Array**	**82.05**	**11**	*e*P	**P**	**00 17 18.5**	**-1.2**
ILAR	**Elelson Array**	**82.05**	**11**	P	**P**	**00 17 18.9**	**-0.9**
	3.3nm,0.8s,baz=218,slow=6.0,SNR=28						
ILAR				LR	LR	00 46 05.6	
	comp=Z,44nm,21.9s,baz=192,slow=30						
530A	**J-C Ranch, Com**	**82.06**	**56**	⇑P	**P**	**00 17 21.6**	**+1.0**
	baz=82						
329A	**Wagon Wheel Ra**	**82.06**	**54**	⇓P	**P**	**00 17 22.2**	**+1.6**
	baz=82						
128A	**Castleberry Fa**	**82.12**	**53**	⇑P	**P**	**00 17 22.1**	**+1.2**
	baz=82						
J19A	**Crowheart**	**82.16**	**41**	⇓P	**P**	**00 17 21.8**	**+0.7**
	baz=82						
O22A	**Kremmling**	**82.36**	**45**	⇓P	**P**	**00 17 23.4**	**+1.1**
	baz=83						
430A	**Baggett Ranch,**	**82.38**	**55**	⇓P	**P**	**00 17 23.8**	**+1.4**
	baz=83						
229A	**Bryant Ranch,**	**82.39**	**54**	⇑P	**P**	**00 17 23.8**	**+1.5**
	baz=83						
631A	**Perdido Creek**	**82.39**	**57**	⇓P	**P**	**00 17 23.6**	**+1.2**
	baz=83						
MSTX	**Muleshoe**	**82.44**	**52**	⇑P	**P**	**00 17 24.0**	**+1.4**
	baz=83						
MSTX	**Muleshoe**	**82.44**	**52**	*e*P	**P**	**00 17 22.7**	**+0.1**
	17nm,1.3s						
832A	**Faith Ranch, C**	**82.47**	**58**	⇑P	**P**	**00 17 23.7**	**+1.0**
	baz=83						
P23A	**Jefferson**	**82.49**	**46**	⇓P	**P**	**00 17 24.1**	**+1.1**
	baz=83						
T25A	**Trinidad**	**82.53**	**48**	⇑P	**P**	**00 17 24.5**	**+1.3**
	baz=83						
T25A	**Trinidad**	**82.53**	**48**	*e*P	**P**	**00 17 23.8**	**+0.7**
	7.9nm,0.9s						
I19A	**Meeteetse**	**82.58**	**41**	⇓P	**P**	**00 17 24.5**	**+1.3**
	baz=83,SNR=5.3						
RWWY	**Rawlins**	**82.61**	**43**	*e*P	**P**	**00 17 23.8**	**+0.2**
	18nm,1.2s						
531A	**Rocksprings**	**82.70**	**56**	⇓P	**P**	**00 17 24.8**	**+0.8**
	baz=83,SNR=7.3						
N22A	**Wattenberg Ran**	**82.71**	**44**	⇑P	**P**	**00 17 25.4**	**+1.3**
	baz=83						
Q24A	**Divide**	**82.79**	**47**	⇑P	**P**	**00 17 25.8**	**+1.2**
	baz=83						
Q24A	**Divide**	**82.79**	**47**	*e*P	**P**	**00 17 24.8**	**+0.2**
	16nm,1.1s						
933A	**Laredo**	**82.80**	**59**	⇑P	**P**	**00 17 25.9**	**+1.5**
	baz=83						
O23A	**Lake Granby, G**	**82.81**	**45**	⇑P	**P**	**00 17 25.8**	**+1.1**
	baz=83						
ISCO	**Idaho Springs**	**82.84**	**46**	⇑P	**P**	**00 17 25.9**	**+1.1**
	baz=83						
ISCO	**Idaho Springs**	**82.84**	**46**	*e*P	**P**	**00 17 24.4**	**-0.3**
	18nm,1.8s						
H19A	**Powell**	**82.89**	**40**	⇓P	**P**	**00 17 25.8**	**+1.0**
	baz=83,SNR=10						
RLMT	**Red Lodge**	**82.94**	**40**	⇑P	**P**	**00 17 25.9**	**+0.8**
	baz=83,SNR=7.1						
833A	**Chaparral WMA,**	**82.96**	**58**	⇑P	**P**	**00 17 26.1**	**+0.9**
	baz=83						
Z29A	**Hungry Hill Ra**	**82.97**	**53**	⇑P	**P**	**00 17 26.4**	**+1.1**
	baz=83						
DAWY	**Dawson**	**82.99**	**14**	*e*P	**P**	**00 17 24.0**	**-0.7**
GCMT	**Greycliff**	**83.03**	**39**	*e*P	**P**	**00 17 25.3**	**-0.2**
632A	**Uvalde**	**83.07**	**57**	⇑P	**P**	**00 17 26.9**	**+1.1**
	baz=83						
I20A	**Worland**	**83.08**	**41**	⇑P	**P**	**00 17 26.6**	**+0.9**
	baz=83,SNR=6.0						
X28A	**Dimmitt**	**83.09**	**52**	⇓P	**P**	**00 17 26.9**	**+0.9**
	baz=83						
V27A	**Dan Oppiter Fa**	**83.11**	**50**	⇓P	**P**	**00 17 26.7**	**+0.7**
	baz=83						
T26A	**Comanche Natio**	**83.14**	**49**	⇑P	**P**	**00 17 26.8**	**+0.5**
	baz=83						
532A	**Rocksprings**	**83.20**	**56**	⇑P	**P**	**00 17 27.0**	**+0.4**
	baz=83,SNR=5.5						
EGAK	**Eagle**	**83.20**	**13**	*e*P	**P**	**00 17 25.0**	**-0.6**
	5.5nm,0.9s						
J21A	**Lysite**	**83.23**	**42**	⇑P	**P**	**00 17 27.0**	**+0.4**
	baz=84,SNR=23						
Y29A	**Porterfield Fa**	**83.23**	**52**	⇑P	**P**	**00 17 28.1**	**+1.4**
	baz=84						
U27A	**Thompson Grove**	**83.39**	**50**	⇑P	**P**	**00 17 28.4**	**+0.9**
	baz=84						
JCT	**Junction City**	**83.41**	**56**	⇑P	**P**	**00 17 28.3**	**+0.7**
	baz=84						
H20A	**Greybull**	**83.42**	**41**	⇓P	**P**	**00 17 27.6**	**+0.2**
	baz=84,SNR=6.6						
Z30A	**Sanderson Ranc**	**83.43**	**53**	⇓P	**P**	**00 17 28.6**	**+1.0**
	baz=84						
K22A	**Casper**	**83.51**	**43**	⇓P	**P**	**00 17 29.2**	**+1.2**
	baz=84						
K22A	**Casper**	**83.51**	**43**	*e*P	**P**	**00 17 26.8**	**-1.2**
	21nm,1.5s						
633A	**Saathoff Ranch**	**83.55**	**57**	⇓P	**P**	**00 17 29.5**	**+1.2**
	baz=84						
231A	**Bronte**	**83.55**	**55**	⇑P	**P**	**00 17 29.2**	**+1.0**
	baz=84						
I21A	**Big Trails, Te**	**83.55**	**41**	⇑P	**P**	**00 17 28.5**	**+0.4**
	baz=84,SNR=15						
V28A	**Channing**	**83.56**	**50**	⇓P	**P**	**00 17 29.7**	**+1.3**
	baz=84						
432A	**Menard**	**83.57**	**56**	⇓P	**P**	**00 17 29.7**	**+1.3**
	baz=84						
834A	**Tilden**	**83.58**	**59**	⇓P	**P**	**00 17 30.1**	**+1.6**
	baz=84						
AMTX	**Amarillo**	**83.63**	**51**	⇓P	**P**	**00 17 29.9**	**+1.2**
	baz=84						
R26A	**Arlington**	**83.72**	**48**	⇑P	**P**	**00 17 30.1**	**+0.9**
	baz=84						
T27A	**Campo**	**83.73**	**49**	⇑P	**P**	**00 17 30.4**	**+1.2**
	baz=84						
W29A	**Amarillo**	**83.75**	**51**	⇓P	**P**	**00 17 30.7**	**+1.4**
	baz=84						
131A	**Roby**	**83.77**	**54**	⇑P	**P**	**00 17 30.4**	**+1.0**
	baz=84						
COLD	**Coldfoot**	**83.77**	**9**	*e*P	**P**	**00 17 27.9**	**-0.7**
	9.8nm,1.2s						
332A	**Millersview**	**83.79**	**55**	⇑P	**P**	**00 17 30.5**	**+0.9**
	baz=84						
Y30A	**Stafford Cattl**	**83.83**	**53**	⇓P	**P**	**00 17 30.9**	**+1.2**
	baz=84						
533A	**Kerrville**	**83.88**	**57**	⇑P	**P**	**00 17 30.5**	**+0.4**
	baz=84,SNR=5.5						
J22A	**Midwest**	**83.89**	**42**	⇑P	**P**	**00 17 30.4**	**+0.5**
	baz=84,SNR=11						
Q26A	**Hugo**	**83.92**	**47**	⇑P	**P**	**00 17 31.1**	**+0.9**
	baz=84						
F20A	**Billings**	**83.96**	**39**	⇓P	**P**	**00 17 31.3**	**+1.2**
	baz=84						
232A	**Coleman**	**84.06**	**55**	⇑P	**P**	**00 17 31.8**	**+0.9**
	baz=84						
X30A	**Coker Ranch, T**	**84.07**	**52**	⇓P	**P**	**00 17 31.9**	**+1.0**
	baz=84						
433A	**Art**	**84.08**	**56**	⇓P	**P**	**00 17 31.4**	**+0.3**
	baz=84,SNR=6.9						
H21A	**Big Horn, Sher**	**84.09**	**41**	⇓P	**P**	**00 17 32.0**	**+1.1**
	baz=84						
EGMT	**Eagleton**	**84.09**	**37**	⇑P	**P**	**00 17 31.7**	**+1.0**
	baz=84						
EGMT	**Eagleton**	**84.09**	**37**	*e*P	**P**	**00 17 30.8**	**0.0**
	28nm,1.3s						
I22A	**9 Mile Ranch,**	**84.10**	**42**	⇑P	**P**	**00 17 31.4**	**+0.4**
	baz=84,SNR=6.7						
K23A	**Bowen Ranch, D**	**84.15**	**43**	⇓P	**P**	**00 17 32.3**	**+1.1**
	baz=84						
Z31A	**Sharp Cattle R**	**84.20**	**53**	⇑P	**P**	**00 17 31.9**	**+0.3**
	baz=84,SNR=5.1						
835A	**Beeville**	**84.23**	**59**	⇑P	**P**	**00 17 33.3**	**+1.5**
	baz=84						
P26A	**Davis Ranch, A**	**84.31**	**47**	⇑P	**P**	**00 17 33.4**	**+1.3**
	baz=85						
534A	**Blanco**	**84.32**	**57**	⇓P	**P**	**00 17 33.1**	**+0.8**
	baz=85,SNR=7.4						
ABTX	**Abilene, Hawle**	**84.33**	**54**	⇓P	**P**	**00 17 33.2**	**+1.0**
	baz=85,SNR=5.1						
ABTX	**Abilene, Hawle**	**84.33**	**54**	*e*P	**P**	**00 17 32.1**	**-0.1**
	19nm,0.8s						
Y31A	**Rekieta Farm,**	**84.35**	**53**	⇓P	**P**	**00 17 33.7**	**+1.3**
	baz=85						
333A	**Richland Sprin**	**84.38**	**56**	⇓P	**P**	**00 17 34.8**	**+2.3**
	baz=85						
H22A	**Clearmont**	**84.51**	**41**	⇑P	**P**	**00 17 35.3**	**+2.3**
	baz=85						
O26A	**Horse Wrangler**	**84.62**	**46**	⇓P	**P**	**00 17 35.1**	**+1.4**
	baz=85						
233A	**Rising Star**	**84.69**	**55**	⇑P	**P**	**00 17 35.4**	**+1.3**
	baz=85						
Z32A	**Haskell**	**84.71**	**54**	⇑P	**P**	**00 17 34.9**	**+0.7**
	baz=85,SNR=12						
V30A	**Spur Ranch, Mi**	**84.72**	**51**	⇓P	**P**	**00 17 35.0**	**+0.8**
	baz=85						
434A	**Burnet**	**84.77**	**56**	⇓P	**P**	**00 17 34.9**	**+0.4**
	baz=85,SNR=8.2						
B19A	**Brinkman Farms**	**84.78**	**37**	⇑P	**P**	**00 17 35.2**	**+1.0**
	baz=85						
X31A	**McDonald Ranch**	**84.82**	**52**	⇑P	**P**	**00 17 35.8**	**+1.1**
	baz=85						
G22A	**Birney**	**84.83**	**41**	⇓P	**P**	**00 17 35.8**	**+1.1**
	baz=85						
EDM	**Edmonton**	**84.89**	**31**	*e*P	**P**	**00 17 34.0**	**-0.7**
133A	**Hamilton Ranch**	**84.90**	**54**	⇑P	**P**	**00 17 36.7**	**+1.6**
	baz=85						
R28A	**Tribune**	**84.91**	**48**	⇓P	**P**	**00 17 36.4**	**+1.3**
	baz=85						
C20A	**Veseth Ranch,**	**84.97**	**38**	⇓P	**P**	**00 17 36.6**	**+1.5**
	baz=85						
334A	**Lometa**	**84.97**	**56**	⇓P	**P**	**00 17 36.1**	**+0.6

F24A	**Ekalaka**	**86.28**	**41**	⇑P		**P**		**00 17 42.8**	**+1.0**
	baz=86								
Y34A	**Reagan Ranch,**	**86.29**	**54**	⇓P		**P**		**00 17 43.4**	**+1.5**
	baz=86								
Q30A	**Quinter**	**86.30**	**48**	⇑P		**P**		**00 17 43.1**	**+1.1**
	baz=86								
B22A	**Reddig Ranch S**	**86.43**	**38**	⇓P		**P**		**00 17 43.7**	**+1.3**
	baz=87								
X34A	**Smith Ranch, M**	**86.46**	**53**	⇑P		**P**		**00 17 44.1**	**+1.3**
	baz=87								
Z35A	**Perchaven, San**	**86.46**	**54**	⇓P		**P**		**00 17 44.0**	**+1.2**
	baz=87								
437A	**Phantom Ranch,**	**86.49**	**57**	⇓P		**P**		**00 17 44.8**	**+1.8**
	baz=87								
236A	**Katherine and**	**86.57**	**56**	⇑P		**P**		**00 17 45.2**	**+1.8**
	baz=87								
C23A	**Lambert**	**86.69**	**39**	⇓P		**P**		**00 17 45.1**	**+1.5**
	baz=87								
J27A	**Elkhorn Farm,**	**86.76**	**44**	⇑P		**P**		**00 17 45.5**	**+1.3**
	baz=87								
337A	**Centerville**	**86.86**	**57**	⇑P		**P**		**00 17 46.5**	**+1.7**
	baz=87								
C24A	**Savage**	**87.03**	**39**	⇓P		**P**		**00 17 46.7**	**+1.3**
	baz=87								
X35A	**Drake**	**87.05**	**53**	⇓P		**P**		**00 17 47.4**	**+1.7**
	baz=87								
B23A	**Brockton**	**87.10**	**38**	⇓P		**P**		**00 17 47.1**	**+1.4**
	baz=87								
R32A	**Long Quarter,**	**87.19**	**49**	⇑P		**P**		**00 17 47.6**	**+1.3**
	baz=87								
338A	**Crockett**	**87.33**	**57**	⇑P		**P**		**00 17 48.9**	**+1.8**
	baz=88								
DGMT	**Dagmar**	**87.58**	**38**	⇑P		**P**		**00 17 49.3**	**+1.3**
	baz=88								
INK	**Inuvik**	**87.84**	**14**	P		**P**		**00 17 48.7**	**+0.1**
	1.9nm,0.3s,baz=232,slow=5.6,SNR=3.5								
MAW	**Mawson**	**88.27**	**198**	P		**P**		**00 17 49.2**	**-1.7**
	2.4nm,0.7s,baz=265,slow=2.0,SNR=4.2								
MAW				LR		LR		00 53 32.0	
	comp=Z,49nm,21.9s,baz=65,slow=33								
T35A	**Sooner Cattle**	**88.28**	**51**	⇓P		**P**		**00 17 52.2**	**+0.7**
	baz=88								
W37A	**Quinton**	**88.50**	**53**	⇑P		**P**		**00 17 52.8**	**+0.1**
	baz=89								
GYA	**Guiyang**	**88.55**	**298**	*e*P		**P**		**00 17 54.0**	**+0.8**
GYA				pP		**pP**		**00 18 05.8**	**+1.5**
GYA				PP		**PP**		**00 21 23.4**	**+1.5**
GYA				S		**S**		**00 28 33.3**	**-4.0**
GYA				PMZ					
	10.0nm,1.0s								
GYA				PMZ					
	90nm,5.4s								
C26A	**Wahner Farm, P**	**88.58**	**39**	⇓P		**P**		**00 17 53.4**	**+0.6**
	baz=89								
C27A	**Sayler Ranch,**	**88.90**	**40**	⇑P		**P**		**00 17 55.4**	**+1.1**
	baz=89								
W38A	**Poteau**	**89.18**	**53**	⇑P		**P**		**00 17 56.2**	**+0.4**
	baz=89								
HHC	**Hu-ho-hao-te**	**89.37**	**313**	*e*P		**P**		**00 17 56.0**	**-0.7**
HHC				PP		**PP**		**00 21 29.7**	**+1.5**
HHC				SKS		**SKSac**		**00 28 22.8**	**-1.6**
HHC				S		**S**		**00 28 41.4**	**-3.0**
HHC				SS		**SS**		**00 34 37.9**	**-2.3**
HHC				PMZ					
	19nm,1.3s								
HHC				PMZ					
	94nm,7.2s								
HHC				LN					
	110nm,17.6s								
HHC				LE					
	110nm,17.0s								
HHC				LZ					
	62nm,17.2s								
T37A	**Cheneyville 18**	**89.55**	**51**	⇑P		**P**		**00 17 58.6**	**+1.2**
	baz=90								
YKA	**Yellowknife Ar**	**89.57**	**23**	P		**P**		**00 17 57.0**	**0.0**
	1.9nm,0.8s,baz=234,slow=4.5,SNR=14								
YKA	**Yellowknife Ar**	**89.57**	**23**	*e*P		**P**		**00 17 57.0**	**0.0**
YKB5	**Yellowknife Ar**	**89.57**	**23**	*e*P		**P**		**00 17 56.0**	**-1.0**
R37A	**Teagarden Farm**	**90.01**	**50**	⇓P		**P**		**00 18 00.4**	**+0.8**
	baz=90								
ECSD	**EROS Data Cent**	**90.57**	**45**	⇑P		**P**		**00 18 02.5**	**+0.3**
	baz=91								
CD2	**Chengdu**	**92.28**	**301**	*e*P		**P**		**00 18 10.7**	**+0.3**
CD2				pP		**pP**		**00 18 22.6**	**+1.1**
CD2				sP		**sP**		**00 18 27.3**	**+1.8**
CD2				PP		**PP**		**00 21 50.7**	**-0.7**
CD2				SKS		**SKSac**		**00 28 40.1**	**-1.3**
CD2				S		**S**		**00 29 10.2**	**-1.2**
CD2				sS		**sS**		**00 29 30.7**	**+0.8**
CD2				PMZ					
	10.0nm,0.5s								
CD2				PMZ					
	120nm,5.2s								
LZH	**Lanzhou**	**93.64**	**306**	*e*P		**P**		**00 18 18.7**	**+2.0**
LZH				pP		**pP**		**00 18 31.7**	**+3.8**
LZH				sP		**sP**		**00 18 35.3**	**+3.4**
LZH				PMZ					
	12nm,1.0s								
SONM	**Songino Array**	**95.12**	**318**	LR		LR		00 55 55.6	
	comp=Z,27nm,21.9s,baz=132,slow=32								
WMQ	**Urumqi**	**107.22**	**312**	Pdif		**Pdif**		**00 19 19.1**	**+1.8**
WMQ				PP		**PP**		**00 23 49.0**	**+4.3**
WMQ				PPMZ					
	16nm,9.8s								
WMQ				LN					
	82nm,8.7s								
WMQ				LE					
	76nm,9.2s								
MALT	**Malatya**	**144.17**	**316**	⇓*i*P		PKPbc		00 24 34.3	+0.1
BUR04	**Bucovina Ar. S**	**144.38**	**339**	*e*PKPdf		PKPbc		00 24 33.8	-0.8
VRAC	**Vranov**	**145.09**	**349**	⇓P		**PKPbc**		**00 24 35.7**	**-1.0**
GRF	**Grafenberg Arr**	**145.39**	**356**	*e*PKPbc		**PKPab**		**00 24 37.3**	**-0.5**
KHC	**Kasperske Hory**	**145.71**	**353**	*e*PKP		**PKPdf**		**00 24 37.5**	**-0.8**
KHC	**Kasperske Hory**	**145.71**	**353**	*e*PKPdf		**PKPdf**		**00 24 37.4**	**-1.0**
DOPR	**Dopca**	**145.72**	**337**	⇑*i*P		**PKPbc**		**00 24 38.0**	**-0.8**
TIRR	**Tirgusor**	**145.73**	**333**	⇓*i*P		**PKPdf**		**00 24 34.0**	**-4.4**
TIRR	**Tirgusor**	**145.73**	**333**	*e*PKPdf		**PKPdf**		**00 24 37.2**	**-1.2**
HARR	**Harsova**	**145.76**	**334**	⇓*i*P		**PKPbc**		**00 24 38.2**	**-0.7**
TLB	**Topalu**	**145.79**	**333**	⇓*i*P		**PKPdf**		**00 24 38.0**	**-0.5**
MLR	**Muntele Rosu**	**145.91**	**336**	⇑*i*P		**PKPbc**		**00 24 38.6**	**-1.0**
DRGR		**145.93**	**341**	⇑*i*P		**PKPdf**		**00 24 38.2**	**-0.6**
GEC2	**GERESS Array S**	**145.98**	**352**	*e*PKPdf		**PKPdf**		**00 24 38.2**	**-0.6**
GERES	**GERESS Array B**	**145.98**	**352**	PKPbc		**PKPbc**		**00 24 38.8**	**-0.8**
	3.2nm,0.9s,baz=20,slow=4.3,SNR=19								
ISR	**Istrita**	**145.99**	**335**	⇑*i*P		**PKPbc**		**00 24 38.8**	**-0.9**
MSAB	**Monastry St. A**	**146.28**	**333**	⇓*i*P		**PKPbc**		**00 24 39.5**	**-1.0**
VOIR		**146.30**	**337**	⇓*i*P		**PKPbc**		**00 24 40.2**	**-0.5**
BRTR	**Keskin Array B**	**146.39**	**322**	PKPbc		**PKPbc**		**00 24 40.0**	**-1.2**
	5.9nm,1.0s,baz=107,slow=1.8,SNR=29								
ARR	**Arges**	**146.51**	**338**	⇑*i*P		**PKPab**		**00 24 41.4**	**-0.9**
CONA	**Conrad Observa**	**146.54**	**350**	⇓*i*PKPab		**PKPbc**		**00 24 40.2**	**-1.1**
	4.2nm,0.9s								
LOT	**Lotru**	**146.75**	**339**	⇑*i*P		**PKPdf**		**00 24 39.2**	**-1.1**
BR231	**Keskin MP Arra**	**146.82**	**323**	*e*PKPdf		**PKPdf**		**00 24 40.4**	**-0.2**
BFO	**Black Forest**	**146.89**	**359**	*e*PKPdf		**PKPbc**		**00 24 41.1**	**-1.1**
HUMR	**Humele**	**147.09**	**336**	⇓*i*P		**PKPab**		**00 24 46.4**	**+2.0**
GZR	**Gura Zlata**	**147.14**	**340**	⇓*i*P		**PKPab**		**00 24 43.4**	**-1.3**
BZS	**Buzias**	**147.32**	**341**	⇑*i*P		**PKPbc**		**00 24 42.3**	**-1.2**
PKSM	**Moragy**	**147.60**	**345**	⇓*i*P		**PKPbc**		**00 24 42.8**	**-1.4**
FUORN	**Ofenpass-Fuorn**	**148.51**	**356**	*e*PKPdf		**PKPdf**		**00 24 41.8**	**-1.6**
DIVS	**Divibre**	**149.18**	**342**	⇓*i*P		**PKPbc**		**00 24 47.2**	**-1.3**
MMB	**Musomiste**	**150.06**	**335**	⇓*i*P		**PKPbc**		**00 24 48.7**	**-2.0**
ESDC	**Sonseca Array**	**153.62**	**20**	PKPbc		**PKPbc**		**00 24 58.2**	**-0.7**
	0.2nm,0.5s,baz=320,slow=3.8,SNR=2.7								
ESDC				PKPab		**PKPab**		**00 25 11.0**	**-0.5**
	1.7nm,0.9s,baz=328,slow=5.3,SNR=6.6								
TORD	**Torodi Ar. Bea**	**174.19**	**109**	PKPab		**PKPab**		**00 26 40.9**	**-1.4**
	1.0nm,1.1s,baz=261,slow=4.2,SNR=3.3								

*ISCJB **11** 00:10:22.8±0.6,40.°97N±0.°04×39.°86E±0.°04,h8km±4km, Error ellipse: s-maj=8.0km s-min=4.4km az=153.9*
*ISK **11** 00:10:22.9,40.°94N×39.°77E,h5km,MD2.3*
*CSEM **11** 00:10:23.6±0.2,40.°94N×39.°75E,h8km,MD2.6,Error ellipse: s-maj=5.7km s-min=4.9km az=139.0*
*DDA **11** 00:10:24.0,40.°93N×39.°73E,h7km,MD2.6*

ISC 11 00:10:22.9±0.9,40.°97N±0.°04×39.°81E±0.°04,h13km±5km, n26,σ0°88/40,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTUT	**Trabzon**	**0.04**	**292**	*e*PG	**Pg**	**00 10 24.8**	**-0.6**
KTUT	**Trabzon**	**0.04**	**292**	*e*Pg	**Pg**	**00 10 24.8**	**-0.6**
MACK	**Trabzon**	**0.04**	**225**	*i* P	**Pg**	**00 10 25.4**	**-0.1**
MACK				*i* S	**Sg**	**00 10 27.2**	**0.0**
MACK	**Trabzon**	**0.04**	**225**	*i* P	**Pg**	**00 10 25.4**	**-0.1**
MACK				*i* S	**Sg**	**00 10 27.2**	**0.0**
GUMT	**Gumushane**	**0.57**	**206**	*e*PG	**Pg**	**00 10 33.4**	**-0.8**
GUMT				*e*SG	**Sg**	**00 10 41.1**	**-0.7**
GUMT	**Gumushane**	**0.57**	**206**	*e*Pg	**Pg**	**00 10 33.4**	**-0.8**
GUMT				*e*Sg	**Sg**	**00 10 41.1**	**-0.7**
BAYT	**Ayd¯–ntepe-Bay**	**0.63**	**156**	*e*PG	**Pg**	**00 10 35.1**	**-0.1**
BAYT				*e*SG	**Sg**	**00 10 44.1**	**+0.4**
BAYT	**Ayd¯–ntepe-Bay**	**0.63**	**156**	*e*Pg	**Pg**	**00 10 35.2**	**-0.1**
BAYT				*e*Sg	**Sg**	**00 10 44.1**	**+0.4**
ESPY	**Espiye-Giresun**	**0.82**	**266**	*e*PG	**Pg**	**00 10 38.4**	**-0.5**
ESPY	**Espiye-Giresun**	**0.82**	**266**	*e*Pg	**Pg**	**00 10 38.4**	**-0.5**
KELT	**Kelkit**	**0.93**	**207**	*i* P	**Pg**	**00 10 40.4**	**-0.5**
KELT				*i* S	**Sb**	**00 10 53.2**	**0.0**
KELT	**Kelkit**	**0.93**	**207**	*i* P	**Pg**	**00 10 40.4**	**-0.5**
KELT				*i* S	**Sb**	**00 10 53.2**	**0.0**
DBAD	**Bademkaya**	**1.43**	**88**	*i* P	Pn	00 10 47.4	-1.2
DBAD				*i* S	**Sn**	**00 11 05.8**	**-1.5**
DBAD	**Bademkaya**	**1.43**	**88**	*i* P	Pn	00 10 47.4	-1.2
DBAD				*i* S	**Sn**	**00 11 05.8**	**-1.5**
SUSE	**Susehri**	**1.44**	**239**	*i* P	**Pb**	**00 10 50.2**	**+0.4**
SUSE				*i* S	**Sg**	**00 11 10.4**	**+0.9**
SUSE	**Susehri**	**1.44**	**239**	*i* P	**Pb**	**00 10 50.2**	**+0.4**
BCA	**Borcka**	**1.45**	**70**	*e*PN	**Pn**	**00 10 51.0**	**+2.2**
BCA	**Borcka**	**1.45**	**70**	*e*Pn	**Pn**	**00 10 51.0**	**+2.2**
DBOC	**Borcka**	**1.45**	**75**	*i* S	**Sn**	**00 11 06.1**	**-1.7**
DBOC	**Borcka**	**1.45**	**75**	*i* S	**Sn**	**00 11 06.1**	**-1.7**
DDEM	**Demirkent**	**1.47**	**93**	*i* P	**Pn**	**00 10 49.0**	**-0.2**
DDEM				*i* S	**Sn**	**00 11 08.5**	**+0.1**
DDEM	**Demirkent**	**1.47**	**93**	*i* P	**Pn**	**00 10 49.0**	**-0.2**
DDEM				*i* S	**Sn**	**00 11 08.5**	**+0.1**
EZM	**Erzurum**	**1.59**	**132**	*e*PN	**Pn**	**00 10 52.5**	**+1.4**
DAGI	**Agillar**	**1.60**	**86**	*i* P	**Pn**	**00 10 50.4**	**-0.5**
DAGI				*i* S	**Sn**	**00 11 11.4**	**-0.1**
ARTV	**Artvin**	**1.61**	**82**	*i* P	**Pn**	**00 10 51.5**	**+0.2**
ARTV				*i* S	**Sn**	**00 11 11.7**	**-0.4**
ARTV	**Artvin**	**1.61**	**82**	*i* P	**Pn**	**00 10 51.5**	**+0.2**
ARTV				*i* S	**Sn**	**00 11 11.7**	**-0.4**

*ISCJB **11** 00:14:37.7±0.9,10.°13N±0.°04×126.°20E±0.°08,h61km±9km, mb3.8/12,Error ellipse: s-maj=14.0km s-min=6.4km az=163.9*
*MAN **11** 00:14:38,10.°16N×126.°15E,h31km,mb4.9,ML3.8,MS3.9*
*IDC **11** 00:14:40.0±6.8,10.°08N×126.°04E,h68km±63km,mb3.6/12, mb1 3.7/12,mb1mx3.6/35,mbtmp3.8/12,MS2.6/1, Ms1 2.6/1,ms1mx2.3/23,Error ellipse: s-maj=34.2km s-min=15.2km az=70.0*

ISC 11 00:14:38.1±1.5,10.°14N±0.°05×126.°23E±0.°08,h50km±14km, n31,σ1°22/32,mb3.7/12,3C-3D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.81**	**244**	⇓*e*P	**Pn**	**00 14 52.8**	**-0.6**
SCPH				*e*S	**Sn**	**00 15 03.5**	**-1.0**
BUTP	**Butuan**	**1.31**	**207**	*e*P	**Pn**	**00 14 59.7**	**-0.4**
MSLP	**Maasin**	**1.35**	**270**	*e*P	**Pn**	**00 14 60.0**	**-0.7**
MSLP				*e*S	**Sn**	**00 15 15.8**	**-1.6**
PLP	**Palo**	**1.60**	**310**	⇓*e*P	**Pn**	**00 15 02.7**	**-1.3**
PLP				*i* S	**Sn**	**00 15 25.1**	**+1.6**
BIPH	**Bislig**	**1.95**	**176**	⇑*i*P	**Pn**	**00 15 10.0**	**+1.2**
BIPH				*i* S	**Sn**	**00 15 31.9**	**-0.2**
CGP	**Cagayan de Oro**	**2.26**	**222**	⇑*e*P	**Pn**	**00 15 12.8**	**-0.2**
CGP				*e*S	**Sn**	**00 15 40.7**	**+1.0**
TBP	**Tagbilaran**	**2.38**	**259**	⇓*e*P	**Pn**	**00 15 15.9**	**+1.2**
TBP				*i* S	**Sn**	**00 15 46.3**	**+3.6**
CNP	**Catarman**	**2.81**	**327**	*e*P	**Pn**	**00 15 20.6**	**0.0**
DCPH	**Dipolog City**	**3.23**	**242**	*e*P	**Pn**	**00 15 27.4**	**+1.0**
PAGZ	**Pagadian**	**3.62**	**231**	*e*P	**Pn**	**00 15 33.1**	**+1.4**
RCP	**Roxas**	**3.70**	**293**	⇑*e*P	**Pn**	**00 15 34.3**	**+1.5**
PVCP	**Virac**	**3.99**	**330**	*e*P	**Pn**	**00 15 38.5**	**+1.6**
KSRS	**Korea Array**	**27.24**	**3**	P	**P**	**00 20 18.5**	**+1.0**
	0.6nm,0.3s,baz=186,slow=9.8,SNR=3.8						
KSRS				LR	LR	00 33 25.1	
	comp=Z,12nm,18.4s,baz=145,slow=41						
CMAR	**Chiang Mai Arr**	**27.68**	**290**	P	**P**	**00 20 21.6**	**-0.2**
	0.7nm,0.4s,baz=105,slow=7.9,SNR=4.7						
WRA	**Warramunga Arr**	**30.94**	**165**	P	**P**	**00 20 50.4**	**-0.2**
	0.6nm,0.8s,baz=346,slow=9.5,SNR=4.9						
ASAR	**Alice Springs**	**34.43**	**167**	P	**P**	**00 21 20.6**	**-0.5**
	0.3nm,0.4s,baz=354,slow=6.9,SNR=6.0						
H11S3	**WAKE ISLAND Hy**	**39.99**	**73**	T	T	01 05 10.1	
	baz=270,slow=70,SNR=21						
H11S1	**WAKE ISLAND Hy**	**40.01**	**73**	T	T	01 05 05.2	
	baz=270,slow=70,SNR=12						
H11S2	**WAKE ISLAND Hy**	**40.01**	**73**	T	T	01 05 04.4	
	baz=270,slow=70,SNR=16						
H11N1	**WAKE ISLAND Hy**	**40.33**	**72**	T	T	01 05 31.6	
	baz=264,slow=74,SNR=85						
H11N2	**WAKE ISLAND Hy**	**40.34**	**71**	T	T	01 05 28.0	
	baz=264,slow=74,SNR=48						
H11N3	**WAKE ISLAND Hy**	**40.35**	**72**	T	T	01 05 28.7	
	baz=264,slow=74,SNR=90						
SONM	**Songino Array**	**41.13**	**340**	P	**P**	**00 22 17.5**	**0.0**
	0.4nm,0.4s,baz=154,slow=8.3,SNR=6.2						
STKA	**Stephens Creek**	**44.29**	**161**	P	**P**	**00 22 43.5**	**+0.3**
	0.7nm,0.4s,baz=327,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**52.11**	**323**	P	**P**	**00 23 42.8**	**-0.5**
	1.6nm,0.8s,baz=124,slow=8.2,SNR=14						
MKAR				PcP	**PcP**	**00 24 54.5**	**-0.3**
	0.6nm,0.7s,baz=138,slow=5.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**54.72**	**331**	P	**P**	**00 24 00.7**	**-1.7**
	0.5nm,0.3s,baz=145,slow=5.3,SNR=2.7						
ILAR	**Eielson Array**	**79.57**	**26**	P	**P**	**00 26 40.5**	**+0.8**
	0.4nm,0.8s,baz=248,slow=4.8,SNR=4.3						
BRTR	**Keskin Array B**	**85.58**	**309**	P	**P**	**00 27 10.8**	**-0.9**
	0.3nm,0.5s,baz=108,slow=4.7,SNR=2.8						
FINES	**FINESS Array B**	**85.99**	**332**	P	**P**	**00 27 12.2**	**-0.7**
	0.5nm,0.5s,baz=86,slow=6.1,SNR=7.0						
YKA	**Yellowknife Ar**	**93.89**	**24**	P	**P**	**00 27 50.9**	**+0.8**
	0.9nm,0.7s,baz=303,slow=4.6,SNR=6.4						
TORD	**Torodi Ar. Bea**	**120.28**	**292**	PKP	**PKPdf**	**00 33 24.0**	**-0.8**
	0.2nm,0.4s,baz=55,slow=1.8,SNR=8.9						

TAP 11 00:16:33.5,22.°96N×121.°06E,h11km±1km,ML2.0,B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWG	**Pinlang**	**0.14**	**174**	P	Pb	00 16 37.9	-0.2
	baz=171						
TWG				S	Sg	00 16 40.0	+0.9
	baz=171						
TWG	**Pinlang**	**0.14**	**174**	*e*P	Sg	00 16 40.5	+1.4
	909nm,0.4s						
TTN	**Taitung**	**0.22**	**157**	*e*S	Sg	00 16 43.8	+2.6
	baz=156						
ELDTW	**Lidau**	**0.23**	**351**	P	Pb	00 16 39.4	-0.4
	baz=352						
ELDTW				S	Sg	00 16 42.9	+0.9
	baz=352						
CHKT	**Chengkung**	**0.32**	**64**	*e*P	Pg	00 16 39.6	-0.3
	baz=64						
STYT	**Tauyuan**	**0.34**	**307**	P	Pb	00 16 41.6	-0.1
	baz=307						
STYT				S	Sg	00 16 46.1	+1.0
	baz=307						
SSD	**Sandimen**	**0.44**	**242**	P	Pg	00 16 42.5	+0.3
	baz=241						
SSD				*e*S	Sg	00 16 48.3	+0.1
	baz=241						
TWF1	**Yuli**	**0.45**	**29**	P	Pb	00 16 43.9	+0.4
	baz=30						
TWF1				S	Sb	00 16 49.8	-0.4
	baz=30						
SGST	**Jiashian**	**0.45**	**286**	*e*P	Pg	00 16 42.9	+0.5
	baz=285						
SGST				*e*S	Sb	00 16 50.6	+0.4
	baz=285						
WTP	**Ta-pu**	**0.50**	**305**	*e*P	Pb	00 16 45.0	+0.7
	baz=305						
WTP				*e*S	Sb	00 16 52.4	+0.8
	baz=305						
CHN1	**Nanshi**	**0.54**	**295**	*e*P	Pb	00 16 46.0	+1.1
	baz=294						
CHN1				*e*S	Sb	00 16 54.0	+1.3
	baz=294						
CHN4	**Tsaushan**	**0.58**	**313**	*e*P	Pb	00 16 46.0	+0.4
	baz=312						
CHN4				*e*S	Sn	00 16 56.3	-0.8
	baz=312						
ALS	**Alishan**	**0.60**	**337**	*e*S	Sb	00 16 55.4	+0.3
	baz=337						
EHY	**Hungye**	**0.60**	**24**	*e*P	Pb	00 16 46.6	+0.7
	baz=24						
EHY				*e*S	Sb	00 16 54.5	+0.1
	baz=24						
EAST	**Anshuo**	**0.60**	**199**	P	Pb	00 16 45.9	-0.1
	baz=197						
EAST				*e*S	Sb	00 16 54.2	-0.4
	baz=197						
TWK	**Hsinying**	**0.61**	**301**	*e*P	Pb	00 16 47.0	+0.8
	baz=300						
TWK				*e*S	Sn	00 16 56.8	-1.1
	baz=300						
SCZT	**Fangliau**	**0.71**	**215**	*e*P	Pb	00 16 47.8	0.0
	baz=214						
SCZT				*e*S	Sb	00 16 58.0	+0.5
	baz=214						
TYC	**Yuchr**	**0.96**	**349**	*e*P	Pn	00 16 55.1	+2.3
	baz=349						
TYC				*e*S	Sn	00 17 09.7	+3.2
	baz=349						
WHF	**Hehuan Shan**	**1.20**	**9**	*e*P	Pg	00 16 58.2	+1.1
	baz=9.0						

*ISCJB **11** 00:52:38.2±0.6,34.°80S±0.°03×71.°72W±0.°09,h63km±4km, mb4.6/17,Error ellipse: s-maj=13.3km s-min=4.3km az=12.3*
*NEIC **11** 00:52:38.0,34.°76S×71.°74W,h43km,mb4.7/8,After GUC.*
NEIC Felt [IV] at Curico, Llico, Romeral, San Fernando and Santa Cruz; [III] at Chimbarongo, Pencahue, Pichilemu, Rancagua, Rio Claro, Talca, Teno and Villa Alegre; [II] at Cauquenes, Constitucion, Linares, Los Quenes, Navidad, Paredones, San Antonio and Santiago.
*GUC **11** 00:52:38.5±0.6,34.°76S×71.°74W,h43km±1km,ML4.4*
*IDC **11** 00:52:41.3±2.4,34.°75S×71.°50W,h66km±20km,mb4.1/8, mb1 4.2/12,mb1mx4.0/26,mbtmp4.4/12,MS3.6/9, Ms1 3.6/9,ms1mx3.4/19,Error ellipse: s-maj=31.6km s-min=14.3km az=93.0*

ISC 11 00:52:39.2±0.9,34.°79S±0.°04×71.°68W±0.°09,h55km±8km, n63,σ1°00/62,mb4.6/18,MS3.7/7,3C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.42**	**120**	⇓*i*P	**Pn**	**00 52 49.5**	**-0.4**
NICH				*i* S	**Sn**	**00 52 57.6**	**0.0**
TALC	**Talca**	**0.61**	**177**	⇑*i*P	**Pn**	**00 52 51.6**	**-0.4**
TALC				*i* S	**Sn**	**00 53 00.9**	**-0.4**
LNV	**Longovilo**	**0.86**	**15**	*e*P	**Pn**	**00 52 54.4**	**-0.8**
LNCH	**Linares**	**1.06**	**177**	*i* P	**Pn**	**00 52 57.9**	**+0.1**
LNCH				*i* S	**Sn**	**00 53 12.8**	**+1.2**
CHCH	**Chadas Angostu**	**1.20**	**45**	⇑*i*P	**Pn**	**00 52 59.7**	**-0.1**
TACH	**Talagante**	**1.29**	**29**	*e*P	**Pn**	**00 53 00.9**	**0.0**
PCH	**Pirque**	**1.51**	**40**	*e*P	**Pn**	**00 53 04.2**	**+0.2**
PCH				*i* S	**Sn**	**00 53 24.3**	**+1.6**
SAN	**Santiago**	**1.58**	**33**	⇓*i*P	**Pn**	**00 53 05.0**	**+0.1**
SAN				*i* S	**Sn**	**00 53 25.0**	**+0.8**
SJCH	**San Jose de Ma**	**1.59**	**44**	*i* P	**Pn**	**00 53 04.5**	**-0.5**
SJCH				*i* S	**Sn**	**00 53 25.0**	**+0.6**
SJCH				AML	AML	00 53 31.6	
	comp=E,6μm,0.5s						
FSR	**Penalolen**	**1.62**	**36**	*i* P	**Pn**	**00 53 06.6**	**+1.2**
FSR				*i* S	**Sn**	**00 53 27.5**	**+2.3**
LACH	**Col Las Americ**	**1.64**	**36**	⇓*i*P	**Pn**	**00 53 05.6**	**-0.1**
LACH				*i* S	**Sn**	**00 53 26.8**	**+1.0**
LACH				AML	AML	00 53 31.5	
	comp=N,4μm,0.3s						
CLCH	**Cerro Calan**	**1.68**	**35**	AML	AML	00 53 36.9	
	comp=N,12μm,0.5s						
PEL	**Peldehue**	**1.84**	**27**	*e*P	**Pn**	**00 53 08.7**	**+0.3**
PEL				*i* S	**Sn**	**00 53 31.4**	**+0.9**
PEL				AML	AML	00 53 38.7	
	comp=N,13μm,0.8s						
ROCH	**El Roble**	**1.90**	**17**	*e*P	**Pn**	**00 53 09.4**	**0.0**
ROCH				*i* S	**Sn**	**00 53 33.5**	**+1.2**
ROCH				AML	AML	00 53 40.1	
	comp=E,6μm,0.3s						
CFAA	**Coronel Fontan**	**4.29**	**43**	P	**Pn**	**00 53 43.1**	**+1.2**
	comp=E,1.5nm,0.3s,baz=216,slow=16,SNR=109						
CFAA				S	Sn	00 54 37.8	+7.0
	comp=E,6.0nm,0.3s,baz=326,slow=18,SNR=9.7						
CFAA

H11S2	**WAKE ISLAND Hyd**	**26.05**	**268**	T	T	03 30 11.7	
	baz=118,slow=75,SNR=9.5						
H11S1	**WAKE ISLAND Hyd**	**26.07**	**268**	T	T	03 30 11.9	
	baz=118,slow=75,SNR=9.8						
H11S3	**WAKE ISLAND Hyd**	**26.07**	**268**	T	T	03 30 05.4	
	baz=118,slow=75,SNR=6.8						
H11N3	**WAKE ISLAND Hyd**	**26.49**	**270**	T	T	03 30 38.9	
	baz=116,slow=78,SNR=4.1						
H11N1	**WAKE ISLAND Hyd**	**26.50**	**270**	T	T	03 30 43.5	
	baz=116,slow=78,SNR=9.1						
H11N2	**WAKE ISLAND Hyd**	**26.50**	**270**	T	T	03 30 41.6	
	baz=116,slow=78,SNR=6.4						
BVAR	**Borovoye Array**	**147.65**	**44**	PKPbc	**PKPbc**	**01 12 17.5**	**+0.5**
	comp=E,2.8nm,0.8s,baz=290,slow=4.3,SNR=16						
AAK	**Ala-Archa**	**152.60**	**63**	PKPbc	**PKPbc**	**01 12 30.0**	**+0.5**
	comp=E,5.1nm,0.7s,baz=231,slow=2.8,SNR=9.2						
KURBB	**Kurchatov Arra**	**153.23**	**45**	PKPbc	**PKPbc**	**01 12 30.5**	**+0.1**
	comp=E,1.1nm,0.8s,baz=300,slow=2.3,SNR=10						
KURBB				PKPab	**PKPab**	**01 12 43.5**	**+1.1**
	comp=E,0.4nm,0.5s,baz=298,slow=3.2,SNR=4.7						
KURK	**Kurchatov**	**153.24**	**44**	PKPbc	**PKPbc**	**01 12 30.5**	**0.0**
KURK				PKPab	**PKPab**	**01 12 43.5**	**+1.0**
ZALV	**Zalesovo Beam**	**154.72**	**34**	PKPbc	**PKPbc**	**01 12 33.2**	**-0.3**
	comp=E,0.4nm,0.3s,baz=208,slow=5.9,SNR=3.5						
ZALV				PKPab	**PKPab**	**01 12 48.6**	**0.0**
	comp=E,0.9nm,0.5s,baz=305,slow=5.2,SNR=3.8						
MKAR	**Makanchi Array**	**157.04**	**51**	PKPab	**PKPab**	**01 12 59.2**	**+0.3**
	comp=E,0.9nm,0.8s,baz=305,slow=4.3,SNR=7.0						

BYKL ***11*** *01:13:55.7±0.7, 57°.43N×120°.75E*
MOS ***11*** *01:13:55.5±1.6, 57°.39N×120°.71E, h8km, mb4.1/1, Error ellipse: s-maj=23.2km s-min=15.7km az=53.3*
YARS ***11*** *01:13:55.4±0.3, 57°.45N±0°.02×120°.75E±0°.02, h10km, MSV3.4*
IDC ***11*** *01:14:00.6±8.9, 58°.16N×120°.03E, h0km, mb3.5/2, mb1 3.4/4, mb1mx3.2/35, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=160.7km s-min=44.9km az=110.0*

ISC 11 01:13:55.6±0.7, 57°.43N±0°.03×120°.73E±0°.02, h10km, n52, σ1.9 90/72, 7C-7D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KHNR	**Khani**	**0.65**	**219**	⇑*i*	Pg	**Pg**		**01 14 07.6**	**-0.6**
KHNR				*e*	Sg	**Sg**		**01 14 15.8**	**-1.0**
KHN	**Khani**	**0.72**	**225**	*e*	P	**Pg**		**01 14 07.6**	**-1.9**
KHN					Pm			01 14 07.6	
	comp=Z,158nm,0.3s								
KHN				*e*	S	**Sg**		**01 14 15.6**	**-3.3**
KHN					Sm			01 14 15.6	
	comp=N,885nm,0.4s								
YKLR	**Yuktali**	**0.98**	**148**	⇓*i*	Pg	**Pg**		**01 14 13.9**	**-0.6**
YKLR				*e*	Sg	**Sg**		**01 14 27.1**	**-0.1**
YKLR	**Yuktali**	**0.98**	**148**	*e*	P	**Pg**		**01 14 13.9**	**-0.6**
YKLR					Pm			01 14 13.9	
	comp=Z,327nm,0.3s								
YKLR				*e*	S	**Sg**		**01 14 26.7**	**-0.5**
YKLR					Sm			01 14 26.7	
	comp=N,404nm,0.3s								
CRS	**Chara**	**1.44**	**249**	⇓*i*	Pg	**Pn**		**01 14 22.0**	**+0.2**
CRS				*i*	Sg	**Sn**		**01 14 40.0**	**-0.7**
CRS				*e*				01 14 48.8	
CRS					Pmax				
	comp=N,250nm,0.9s								
CRS					Smax				
	comp=N,763nm,1.4s								
CRS	**Chara**	**1.44**	**249**	⇑*i*	P	**Pn**		**01 14 21.9**	**+0.2**
CRS				*e*				01 14 39.9	
CRS					pmax	pmax			
	comp=Z,247nm,0.9s								
CRS					smax	smax			
	comp=N,772nm,1.5s								
CRS	**Chara**	**1.44**	**249**	*i*	P	**Pn**		**01 14 21.9**	**+0.2**
CRS					Pm			01 14 21.9	
	comp=Z,245nm,0.8s								
CRS				*e*	S	**Sn**		**01 14 40.1**	**-0.7**
CRS					Sm			01 14 40.1	
	comp=N,623nm,0.0s								
CLNS	**Chul'man**	**2.35**	**103**	*e*	Pn	**Pn**		**01 14 35.5**	**+1.3**
CLNS				*i*	Pg	**Pb**		**01 14 38.3**	**+0.3**
CLNS				*e*				01 14 41.8	
CLNS				*e*	Sg	**Sg**		**01 15 09.2**	**-1.8**
CLNS	**Chul'man**	**2.35**	**103**	*e*	P	**Pb**		**01 14 36.9**	**-1.1**
CLNS				*e*				01 15 06.3	
CLNS					pmax	pmax			
	comp=E,13nm,0.3s								
CLNS					pmax	pmax			
	comp=Z,17nm,0.2s								
CLNS					pmax	pmax			
	comp=N,12nm,0.3s								
CLNS					smax	smax			
	comp=E,337nm,0.4s								
CLNS					smax	smax			
	comp=Z,178nm,0.5s								
CLNS					smax	smax			
	comp=N,421nm,0.4s								
CLNS	**Chul'man**	**2.35**	**103**	*e*	P	**Pn**		**01 14 35.5**	**+1.3**
CLNS				*e*	P	**Pb**		**01 14 38.2**	**+0.3**
CLNS					Pm			01 14 38.2	
	comp=Z,14nm,0.2s								
CLNS				*e*	S	**Sb**		**01 15 06.1**	**-0.9**
CLNS					Sm			01 15 06.1	
	comp=N,453nm,0.4s								
IENR	**lengra**	**2.57**	**116**	⇑*i*	Pn	**Pn**		**01 14 38.7**	**+1.4**
IENR				⇑*i*	Pg	**Pb**		**01 14 41.8**	**-0.1**
IENR				*e*	PgPg	**PbPb**		**01 14 45.2**	**+0.2**
IENR				*i*	Sg	**Sb**		**01 15 15.5**	**+2.0**
IENR	**lengra**	**2.57**	**116**	*e*	P	**Pn**		**01 14 38.7**	**+1.4**
IENR				*e*	P	**Pb**		**01 14 41.7**	**-0.1**
IENR					Pm			01 14 41.7	
	comp=Z,79nm,0.3s								
IENR				*e*	S	**Sb**		**01 15 15.2**	**+1.7**
IENR					Sm			01 15 15.2	
	comp=N,277nm,0.0s								
ALDR	**Aldan**	**2.76**	**63**	*e*	P	**Pg**		**01 14 46.8**	**-1.6**
ALDR					Pm			01 14 46.8	
	comp=Z,32nm,0.1s								
ALDR				*e*	S	**Sb**		**01 15 19.6**	**+0.8**
ALDR					Sm			01 15 19.6	
	comp=N,444nm,0.5s								
NLYR	**Nelyaty**	**2.91**	**253**	⇓*i*	Pn	**Pn**		**01 14 43.1**	**+1.2**
NLYR				⇓*i*	Pg	**Pb**		**01 14 47.9**	**+0.4**
NLYR				⇓*i*	PgPg	**PbPb**		**01 14 50.7**	**+0.1**
NLYR				*e*	Sg	**Sb**		**01 15 24.5**	**+1.4**
NLYR					max				
	comp=N,70nm,0.8s								
NLYR					Smax				
	comp=N,391nm,0.9s								
TUP	**Tupik**	**3.04**	**189**	⇓*i*	Pn	**Pn**		**01 14 44.2**	**+0.4**
TUP				⇓*i*	Pg	**Pb**		**01 14 49.1**	**-0.7**
TUP				*e*				01 15 14.7	
TUP				*e*	Sg	**Sb**		**01 15 28.3**	**+1.3**
TUP				*e*	SgSg	**SbSb**		**01 15 32.8**	**+0.7**
TUP				*e*				01 15 36.7	
TUP					Pmax				
	comp=N,157nm,0.8s								
TUP					Smax				
	comp=N,614nm,0.8s								
TUP	**Tupik**	**3.04**	**189**	*e*	P	**Pn**		**01 14 43.9**	**+0.1**
TUP				*e*				01 15 27.9	
TUP					pmax	pmax			
	comp=Z,156nm,0.8s								
TUP					smax	smax			
	comp=E,616nm,0.9s								
TUP	**Tupik**	**3.04**	**189**	*e*	P	**Pb**		**01 14 48.2**	**-1.6**
TUP					Pm			01 14 48.2	
	comp=Z,132nm,0.6s								
TUP				*e*	S	**Sb**		**01 15 27.9**	**+0.9**
TUP					Sm			01 15 27.9	
	comp=E,614nm,0.8s								
TNDR	**Tynda**	**3.19**	**134**	⇑*i*	Pn	**Pn**		**01 14 47.1**	**+1.3**
TNDR				*e*	Pg	**Pb**		**01 14 51.3**	**-1.1**
TNDR				*e*				01 15 24.7	
TNDR				*e*	Sg	**Sb**		**01 15 33.2**	**+1.9**
TNDR	**Tynda**	**3.19**	**134**	*e*	P	**Pn**		**01 14 46.9**	**+1.1**
TNDR				*e*	S	**Sb**		**01 15 32.8**	**+1.5**
TNDR					Sm			01 15 32.8	
	comp=E,373nm,0.4s								
BOD	**Bodaibo**	**3.64**	**279**	⇑*i*	Pn	**Pn**		**01 14 53.1**	**+1.2**
BOD				*e*				01 14 56.8	
BOD				*e*	Pg	**Pb**		**01 15 00.7**	**+0.8**
BOD				*e*	PgPg	**PbPb**		**01 15 02.9**	**-0.1**
BOD				*e*	Sg	**Sb**		**01 15 47.4**	**+3.4**
BOD				*e*	SgSg	**SbSb**		**01 15 50.6**	**+1.5**
BOD					max				
	comp=E,17nm,0.5s								
BOD					max				
	comp=E,205nm,1.2s								
BOD	**Bodaibo**	**3.64**	**279**	*e*	P	**Pn**		**01 14 52.4**	**+0.5**
BOD				*e*				01 15 46.2	
BOD					pmax	pmax			
	comp=Z,15nm,0.4s								
BOD					smax	smax			
	comp=E,154nm,0.5s								
SVKR	**Severomuysk**	**4.16**	**255**	*e*	Pg	**Pb**		**01 15 11.3**	**+2.5**
SVKR				*e*	Sg	**Sg**		**01 16 05.3**	**-3.7**
SVKR					Pmax				
	comp=E,47nm,0.2s								
SVKR					Smax				
	comp=E,230nm,0.7s								
UKT	**Uakit**	**4.39**	**247**	⇑*i*	Pn	**Pn**		**01 15 03.4**	**+1.0**
UKT				*e*	Pg	**Pb**		**01 15 14.1**	**+1.3**
UKT				*e*				01 15 21.4	
UKT				*e*				01 15 40.5	
UKT				*i*	Sg	**Sb**		**01 16 10.3**	**+4.4**
UKT					Pmax				
	comp=E,20nm,1.3s								
UKT					Smax				
	comp=E,93nm,1.0s								
UKT	**Uakit**	**4.39**	**247**	*e*	P	**Pn**		**01 15 02.5**	**+0.1**
UKT				*e*	S	**Sn**		**01 15 52.6**	**-1.0**
UKT					pmax	pmax			
	comp=Z,13nm,0.6s								
UKT					smax	smax			
	comp=N,62nm,0.6s								
VTMR	**Vitim**	**4.75**	**299**	*e*	S	**Sg**		**01 16 23.6**	**-4.2**
VTMR					Sm			01 16 23.6	
	comp=N,322nm,0.5s								
YOA	**Uoyan**	**5.12**	**259**	*e*	Pg	Pb		01 15 29.2	+4.0
YOA				*e*	Sg	**Sg**		**01 16 36.1**	**-3.7**
YOA					Smax				
	comp=N,650nm,1.4s								
BMKR	**Bomnak**	**5.30**	**118**	*e*	P	**Pn**		**01 15 16.5**	**+1.8**
BMKR				*e*	Pg			01 15 32.7	-4.3
BMKR					Pm			01 15 32.7	
	comp=Z,10.0nm,0.5s								
BMKR				*e*	S	**Sn**		**01 16 16.1**	**+0.3**
BMKR				*e*	S	**Sg**		**01 16 42.0**	**-3.6**
BMKR					Sm			01 16 42.0	
	comp=E,90nm,0.5s								
CGD	**Chagda**	**5.41**	**72**	*e*	P	**Pn**		**01 15 19.1**	**+2.9**
CGD				*e*	S	**Sb**		**01 16 40.4**	**+5.4**
CGD					Sm			01 16 40.4	
	comp=N,206nm,0.5s								
YLYR	**Ulyunkhan**	**5.93**	**248**	*e*	Pn	**Pn**		**01 15 24.1**	**+0.7**
YLYR				*e*				01 15 34.0	
YLYR				*e*	Pg	Pb		01 15 42.5	+3.6
YLYR				*i*	Sg	Sg		01 16 58.8	-6.9
YLYR					Pmax				
	comp=N,2.0nm,0.4s								
YLYR					Smax				
	comp=N,69nm,1.1s								
NIZ	**Nizh Angarsk**	**6.40**	**260**	*e*	Sg	Sb		01 17 12.2	+8.8
NIZ					Smax				
	comp=N,59nm,1.0s								
NIZ	**Nizh Angarsk**	**6.40**	**260**	*e*	P	Pb		01 15 51.7	+4.8
NIZ					pmax	pmax			
	comp=Z,4.0nm,0.8s								
YAK	**Yakutsk**	**6.46**	**41**	*e*	P	**Pn**		**01 15 30.1**	**-0.5**
YAK				*e*				01 16 39.8	
YAK					pmax	pmax			
	comp=Z,18nm,0.4s								
YAK					pmax	pmax			
	comp=Z,17nm,0.4s								
YAK					smax	smax			
	comp=N,11nm,0.5s								
YAK					smax	smax			
	comp=E,11nm,0.4s								
YAK					smax	smax			
	comp=N,97nm,0.5s								
YAK					smax	smax			
	comp=E,90nm,0.7s								
YAK					smax	smax			
	comp=Z,24nm,7.3s								
YAK	**Yakutsk**	**6.46**	**41**	*e*	S	**Sn**		**01 16 39.9**	**-4.4**
YAK				*e*	S	Sb		01 17 12.5	+7.3
YAK					Sm			01 17 12.5	
	comp=E,114nm,0.6s								
CIT	**Chita**	**6.83**	**220**	*e*	Sg	**Sg**		**01 17 30.4**	**-4.1**
CIT					Smax				
	comp=E,158nm,0.3s								
SYVR	**Suvo**	**7.16**	**243**	*e*	Pg	Pb		01 16 04.8	+4.9
SYVR				*e*				01 17 20.2	
SYVR				*e*	Sg	Sg		01 17 37.8	-7.5
SYVR					Pmax				
	comp=E,1.0nm,0.5s								
SYVR					Smax				
	comp=E,117nm,1.6s								
USMR	**Ust'-Maya**	**7.75**	**61**	*e*	S	Sb		01 17 52.6	+10
USMR					Sm			01 17 52.6	
	comp=N,61nm,0.9s								
OGRR	**Ongureny**	**8.36**	**249**	*e*	Pg	Pb		01 16 25.9	+5.7
OGRR				*e*	Sg	Sg		01 18 15.2	-8.3
OGRR					Pmax				
	comp=N,3.0nm,0.9s								
OGRR					Smax				
	comp=N,37nm,1.9s								
KPC	**Khapcheranga**	**9.19**	**216**	*e*				01 18 38.2	
KPC				*e*	Sg	Sn		01 18 40.0	+48
KPC					Smax				
	comp=N,42nm,1.3s								
TRG	**Tyrgan**	**9.47**	**247**	*e*				01 17 45.6	
TRG				*e*	Sn	Sn		01 18 15.6	+17
TRG				*e*	Sg			01 18 51.7	
TRG					Smax				
	comp=N,29nm,2.1s								
KAB	**Kabansk**	**9.75**	**242**	*e*	Sg	Sn		01 18 58.2	+53
HRMR	**Khuramsha**	**9.88**	**240**	*e*				01 18 38.6	
HRMR				*i*	Sg	Sn		01 19 02.9	+54
HRMR					Smax				
	comp=N,141nm,0.9s								
LSTR	**Listvyanka**	**10.75**	**246**	*e*	Sg	Sn		01 19 26.1	+56
LSTR					Smax				
	comp=N,22nm,1.1s								
TLY	**Talaya**	**11.45**	**247**	*e*	Sg			01 19 52.1	
ARS	**Arshan**	**11.93**	**250**	*e*	Sg			01 20 04.3	
ARS					Smax				
	comp=N,43nm,1.5s								
ZAK	**Zakamensk**	**12.45**	**243**	*e*	Sg			01 20 22.3	
ZAK					Smax				
	comp=N,12nm,1.1s								
MOY	**Mondy**	**12.80**	**252**	*e*				01 20 06.5	
MOY				*e*	Sg			01 20 31.8	
MOY					Smax				
	comp=N,23nm,1.4s								
SONM	**Songino Array**	**12.94**	**228**	Pn	Pn			01 17 11.1	+12
	comp=N,0.1nm,0.3s,baz=29,slow=13,SNR=2.9								
ORL	**Orlik**	**12.95**	**257**	*e*				01 19 44.8	
ORL				*e*	Sg			01 20 36.9	
ORL					Smax				
	comp=N,16nm,1.7s								
ZALV	**Zalesovo Beam**	**20.38**	**276**	P	Pn			01 18 34.9	+0.7
	comp=N,0.2nm,0.3s,baz=64,slow=11,SNR=3.9								
MKAR	**Makanchi Array**	**25.55**	**262**	P	**P**			**01 19 26.9**	**+2.6**
	comp=N,0.3nm,0.6s,baz=60,slow=8.2,SNR=4.1								
FINES	**FINESS Array B**	**44.23**	**317**	P	**P**			**01 22 04.8**	**+0.5**
	comp=N,1.0nm,0.6s,baz=52,slow=9.0,SNR=6.7								
FINES	**FINESS Array B**	**44.23**	**317**	P	**P**			**01 22 04.9**	**+0.5**
FINES					pmax	pmax			
	comp=Z,1.0nm,0.6s								

KRSC 11 01:43:52.7±1.3, 52°.40N×162°.33E, h41km±24km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SPN	**Mys Shipunski**	**1.56**	**297**	*e*	P	Pn		01 44 19.7	+1.7
NLC	**Nalytchevo**	**1.97**	**294**	*e*	P	Pn		01 44 25.8	+2.3
NLC				*e*	S	Sn		01 44 49.6	+2.7
MKZ	**Mys Kozlova**	**2.19**	**351**	*e*	P	Pn		01 44 29.0	+2.5
MKZ				*e*	S	Sn		01 44 55.0	+2.7
SDLR	**Sedlovina**	**2.27**	**294**	*e*	P	Pn		01 44 30.3	+2.5
SDLR				*e*	S	Sn		01 44 57.2	+2.6
UGLR	**Uglovaya**	**2.27**	**292**	*e*	P	Pn		01 44 29.8	+1.9
SMAR	**Somma**	**2.31**	**293**	*e*	P	Pn		01 44 31.7	+3.3
RUS	**Russkaya**	**2.33**	**272**	*e*	P	Pn		01 44 30.6	+2.1
RUS				*e*	S	Sn		01 44 57.8	+1.9
AVH	**Avacha**	**2.34**	**293**	P		Pn		01 44 31.8	+3.0
KRER	**Koryakskii**	**2.35**	**294**	*e*	P	Pn		01 44 31.9	+2.9
KOK	**Koryaka**	**2.41**	**293**	*e*	P	Pn		01 44 32.7	+3.0
KOK					S	Sn		01 45 01.4	+3.4
KRX	**Arik**	**2.43**	**295**	*e*	P	Pn		01 44 32.7	+2.7
KRX					S	Sn		01 45 01.3	+2.7
MTVR	**Mutnovka**	**2.54**	**273**	*e*	P	Pn		01 44 33.6	+2.1
MTVR				*e*	S	Sn		01 45 02.9	+1.6
ASAK	**Asacha**	**2.71**	**271**	*e*	P	Pn		01 44 36.7	+2.9
GNL	**Ganaly**	**2.95**	**298**	*e*	P	Pn		01 44 41.3	+4.2
GNL					S	Sn		01 45 16.1	+4.8
KZV	**Kizimen**	**2.97**	**337**	*e*	P	Pn		01 44 41.4	+3.9
KZV				*e*	S	Sn		01 45 16.2	+4.1
TUMR	**Tumrok**	**3.16**	**337**	*e*	P	Pn		01 44 44.3	+4.2
TUMR				*e*	S	Sn		01 45 21.4	+4.7
APC	**Apacha**	**3.19**	**282**	P		Pn		01 44 44.1	+3.8
MIPR	**Malaya Ipel'ka**	**3.42**	**270**	P		Pn		01 44 47.7	+4.3
KBTR	**Krutoberegovo**	**3.83**	**4**	P		Pn		01 44 51.1	+2.1

IDC 11 01:57:26.0±15.0, 15°.30S×177°.99W, h430km±164km, mb3.0/4, mb1 3.4/4, mb1mx3.0/26, mbtmp3.8/4, Error ellipse: s-maj=112.7km s-min=45.1km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**45.56**	**257**	P		P		02 05 05.3	-0.6
	0.3nm,0.5s,baz=96,slow=7.1,SNR=3.0								
ASAR	**Alice Springs**	**45.94**	**252**	P		P		02 05 09.1	+0.2
	1.6nm,0.4s,baz=85,slow=8.4,SNR=20								
ILAR	**Eielson Array**	**83.27**	**13**	P		P		02 09 05.6	0.0
	0.6nm,0.7s,baz=219,slow=6.1,SNR=6.9								
TXAR	**Lajitas Array**	**84.26**	**58**	P		P		02 09 11.6	0.0
	0.6nm,0.9s,baz=231,slow=7.9,SNR=4.3								
BRTR	**Keskin Array B**	**143.19**	**318**	PKP		PKPdf		02 16 09.8	-0.6
	1.1nm,0.8s,baz=48,slow=2.1,SNR=6.9								

WEL 11 02:03:03.9±0.4, 37°.84S×176°.19E, h159km±3km, ML3.7/9, 10C-2D, Error ellipse: s-maj=3.3km s-min=3.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
URZ	**Urewera**	**0.84**	**120**	⇑	PN	Pn		02 03 28.7	+0.4
URZ					SN	Sn		02 03 47.1	+0.1
URZ					AML	AML		02 03 48.0	
MWZ	**Matawai**	**1.17**	**116**	⇑	PN	Pn		02 03 31.1	+0.1
MWZ					SN	Sn		02 03 51.7	-0.2
MWZ					AML	AML		02 03 52.5	
MWZ					AML	AML		02 03 54.3	
MWZ					AML	AML		02 03 54.3	
HAZ	**Te Kaha**	**1.27**	**87**		PN	Pn		02 03 31.4	-0.5
HAZ					SN	Sn		02 03 52.7	-0.6
RAHZ	**Arahi**	**1.29**	**147**		PN	Pn		02 03 32.6	+0.5
SNGZ	**Shannon Statio**	**1.31**	**136**	⇑	PN	Pn		02 03 32.6	+0.4
SNGZ					SN	Sn		02 03 53.9	-0.2
BKZ	**Black Stump Fm**	**1.35**	**170**	⇑	PN	Pn		02 03 32.6	-0.1
BKZ					SN	Sn		02 03 53.9	-1.1
BKZ					AML	AML		02 03 54.7	
NMHZ	**Naumai**	**1.35**	**159**		PN	Pn		02 03 33.5	+0.8
TKGZ	**Te Karaka**	**1.44**	**115**		PN	Pn		02 03 33.8	+0.3
TWCZ	**Tauwhareparae**	**1.45**	**104**		PN	Pn		02 03 34.0	+0.2
WPVZ	**Whakapapa**	**1.46**	**200**		PN	Pn		02 03 34.1	+0.2
WHHZ	**Waihua**	**1.48**	**147**		PN	Pn		02 03 34.2	+0.2
TUVZ	**Tukino**	**1.49**	**196**		PN	Pn		02 03 34.6	+0.4
FWVZ	**Far West T-bar**	**1.50**	**199**		PN	Pn		02 03 35.2	+0.7
RIGZ	**Rimuhau**	**1.51**	**125**		PN	Pn		02 03 34.5	+0.2
WHVZ	**Whangaehu Hut**	**1.52**	**198**	⇓	PN	Pn		02 03 35.1	+0.4
TRVZ	**Turoa**	**1.54**	**199**		PN	Pn		02 03 35.2	+0.3
ARHZ	**Aropaoanui**	**1.56**	**156**	⇑	PN	Pn		02 03 35.0	+0.2
WNVZ	**Wahianoa**	**1.56**	**197**		PN	Pn		02 03 35.1	+0.2
KWHZ	**Kaweka Forest**	**1.59**	**173**		PN	Pn		02 03 35.2	0.0
MOVZ	**Moawhango**	**1.60**	**192**		PN	Pn		02 03 35.0	-0.4
BHHZ	**Black Hill Sta**	**1.65**	**183**	⇑	PN	Pn		02 03 35.4	-0.4
MCHZ	**McNeill Hill**	**1.65**	**166**		PN	Pn		02 03 36.0	+0.3
PUZ	**Puketiti**	**1.65**	**99**		PN	Pn		02 03 35.2	-0.6
PUZ					AML	AML		02 04 00.9	
KNZ	**Kokohu**	**1.66**	**136**		PN	Pn		02 03 35.5	-0.2
CNGZ	**Carnagh Statio**	**1.72**	**113**		PN	Pn		02 03 36.9	+0.5
PRGZ	**Paritu Road**	**1.72**	**130**		PN	Pn		02 03 36.2	-0.2
WMGZ	**Waiomatatini S**	**1.76**	**90**	⇓	PN	Pn		02 03 36.6	-0.3
KRHZ	**Kereru**	**1.81**	**176**		PN	Pn		02 03 36.9	-0.5
CKHZ	**Cape Kidnapper**	**1.95**	**159**		PN	Pn		02 03 38.7	-0.2
KAHZ	**Kahuranaki**	**2.03**	**165**		PN	Pn		02 03 39.5	-0.4
PNHZ	**Pukenui**	**2.07**	**180**		PN	Pn		02 03 39.4	-1.1
WAZ	**Wanganui**	**2.13**	**206**		PN	Pn		02 03 41.0	-0.1
TSZ	**Takapari Road**	**2.23**	**185**		PN	Pn		02 03 41.0	-1.2
WPHZ	**Waipukurau**	**2.23**	**175**		PN	Pn		02 03 41.1	-1.1
PXZ	**Pawanui**	**2.25**	**167**	⇑	PN	Pn		02 03 41.4	-1.0
PRHZ	**Porangahau**	**2.45**	**172**		PN	Pn		02 03 43.4	-1.5
DVHZ	**Dannevirke**	**2.46**	**180**		PN	Pn		02 03 43.2	-1.7
POWZ	**Post Office Ro**	**2.57**	**187**		PN	Pn		02 03 44.5	-1.8
PRWZ	**Pori Road**	**2.72**	**184**		PN	Pn		02 03 46.4	-1.7
BFZ	**Birch Farm**	**2.84**	**179**		PN	Pn		02 03 47.4	-2.2
MRZ	**Mangatainoka R**	**2.86**	**189**	⇑	PN	Pn		02 03 47.5	-2.3
MRZ					SN	Sn		02 04 21.0	-4.6
MRZ					AML	AML		02 04 24.1	
TIWZ	**Tintock**	**2.94**	**184**		PN	Pn		02 03 48.6	-2.4
TIWZ					AML	AML		02 04 25.6	
TIWZ					AML	AML		02 04 26.8	
CPWZ	**Castlepoint**	**3.07**	**180**		PN	Pn		02 03 49.6	-2.8
OGWZ	**Otaki Gorge**	**3.08**	**195**		PN	Pn		02 03 49.9	-2.6
HOWZ	**Holdsworth Sta**	**3.10**	**189**	⇑	PN	Pn		02 03 50.0

M_W2.40; Best double couple: $M_0$6.40000×10^{16} NP1: ϕ_S325.00000°,δ41.00000°,λ-134.00000°. NP2: ϕ_S196.00000°,δ62.00000°,λ-59.00000°. Principal axes: T 5.2800, Plg11.0000°, Azm264.0000°; N 1.8800, Plg26.0000°, Azm0.0000°; P -7.1500, Plg60.0000°, Azm153.0000°;

NEIC Felt at Baguio, Luzon.

MOS ***11*** *02:25:15.7±0.9, 17°.76N×119°.46E, h33km, mb5.2/57, MS4.4/28 Error ellipse: s-maj=9.1km s-min=4.9km az=114.9*

GCMT ***11*** *02:25:16.0±0.2, 17°.73N×119°.22E, h12km, MW5.0/89, Moment Tensor Solution. s39,c53; s89,c152; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.58±.09; $M_{\theta\theta}$0.86±.07; $M_{\phi\phi}$2.72±.08; $M_{r\theta}$-0.67±.28; $M_{\theta\phi}$1.76±.06; $M_{\phi r}$2.85±.28; Best double couple: M_W4.68100×10^{16} NP1:ϕ_S187.00000°,δ64.00000°,λ-112.00000°. NP2: ϕ_S51.00000°,δ34.00000°,λ-52.00000°. Principal axes: T 4.4020, Plg16.0000°, Azm294.0000°; N 0.5630, Plg20.0000°, Azm198.0000°; P -4.9600, Plg64.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MAN ***11*** *02:25:18, 17°.78N×119°.61E, h22km, mb4.5, ML3.4, MS3.3*

DJA ***11*** *02:25:28.2±1.4, 17°.N±6°.×11°.9E±°, h127km±14km, M4.9/55, mb4.9/55, mB5.4/41, Mw(mB)4.9/41, Mwp6.5/1*

SZGRF ***11*** *02:25:49.8, 19°.05N×118°.58E, h244km, mb5.3, Philippine Islands region*

ISC 11 02:25:16.0±0.3, 17°.74N±0°.03×119°.45E±0°.03, h22km±2km, h22km:pP-P, n635, σ1s40/704, mb5.2/195, MS4.5/44, 37C-50D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res	ISC
SZP	**Santa**	**0.98**	**101**	*e*Pn	**Pb**	**02 25 34.0**	**-0.3**	
ABRA	**Dolores**	**1.21**	**94**	*e*P	**Pn**	**02 25 37.8**	**+0.1**	
PIP	**Pasuquin**	**1.25**	**62**	⇑*i*P	**Pn**	**02 25 37.3**	**-1.0**	
PIP				*e*S	**Sn**	**02 25 53.5**	**-1.0**	
APYP	**Conner**	**1.71**	**86**	*e*P	**Pn**	**02 25 45.3**	**+0.7**	
BCPH	**Baguio City Da**	**1.73**	**141**	⇑*i*P	**Pn**	**02 25 45.1**	**+0.1**	
BCPH				*i*S	Sb	02 26 40.8	+32	
CVP	**Callao Caves**	**2.26**	**91**	⇑*i*P	**Pn**	**02 25 53.7**	**+1.6**	
CVP				*i*S	**Sb**	**02 26 23.2**	**-0.6**	
BALP	**Baler**	**2.85**	**134**	*e*P	**Pn**	**02 26 03.0**	**+2.8**	
BALP				*e*S	**Sn**	**02 26 35.6**	**+1.7**	
TWG	**Pinlang**	**5.28**	**17**	*e*Pn	**Pn**	**02 26 32.4**	**-1.3**	
	121nm,0.4s							
TPUB	**Ta-pu**	**5.64**	**11**	*e*Pn	**Pn**	**02 26 36.8**	**-1.8**	
	177nm,1.3s							
YULB	**Yu-li**	**5.88**	**17**	*e*Pn	**Pn**	**02 26 40.9**	**-1.1**	
	48nm,0.8s							
SSLB	**Suanglung**	**6.18**	**13**	*e*Pn	**Pn**	**02 26 44.0**	**-2.0**	
HKC	**Hong Kong Obse**	**6.72**	**313**	P	Pn	02 26 50.0	-3.5	
YHNB	**Yeheng**	**7.12**	**14**	*e*Pn	**Pn**	**02 26 59.1**	**0.0**	
	140nm,1.3s							
QZH	**Quanzhou**	**7.21**	**354**	⇑P	Pn	02 27 03.8	+3.6	
QZH				S	**Sn**	**02 28 26.4**	**+5.0**	
QZH				LR	LR			
	comp=N,4μm,10.4s							
QZH				LR	LR			
	comp=E,3μm,9.9s							
QZH				LR	LR			
	comp=Z,6μm,11.1s							
GZH	**Guangzhou**	**7.81**	**314**	Pn	**Pn**	**02 27 06.6**	**-1.8**	
GZH				LN				
	comp=Z,5μm,11.7s							
GZH				LE				
	comp=Z,6μm,12.6s							
QIZ	**Qiongzhong**	**9.21**	**279**	P	Pn	02 27 24.0	-3.7	
QIZ				PMZ				
	comp=Z,30nm,0.6s							
QIZ				LN				
	comp=Z,2μm,10.3s							
QIZ				LZ				
	comp=Z,3μm,19.1s							
QIZ	**Qiongzhong**	**9.21**	**279**	*e*Pn	Pn	02 27 23.2	-4.4	
	comp=Z,47nm,0.7s							
KKM	**Kota Kinabalu**	**12.05**	**196**	*e*Pn	**Pn**	**02 28 06.6**	**0.0**	
JOW	**Kunigami**	**12.18**	**41**	Pn	**Pn**	**02 28 07.3**	**-1.0**	
	comp=Z,0.3nm,0.3s,baz=259,slow=10,SNR=4.2							
JOW				LR	LR	02 32 13.8		
	comp=Z,25nm,18.0s,baz=208,slow=35							
SSE	**Sheshan**	**13.39**	**6**	P	**Pn**	**02 28 24.4**	**-0.4**	
SSE				S	**Sn**	**02 30 56.7**	**+3.7**	
SSE				PMZ				
	comp=Z,37nm,0.7s							
SSE				PMZ				
	comp=Z,79nm,3.2s							
SSE				LN				
	comp=Z,820nm,12.8s							
SSE				LE				
	comp=Z,1μm,12.8s							
SSE				LZ				
	comp=Z,1μm,9.7s							
WHN	**Wuhan**	**13.56**	**341**	P	Pn	02 28 23.3	-3.9	
WHN				LN				
	comp=Z,4μm,11.5s							
WHN				LE				
	comp=Z,7μm,9.1s							
WHN				LZ				
	comp=Z,4μm,10.2s							
NJ2	**Nanjing**	**14.26**	**358**	*e*P	**Pn**	**02 28 36.0**	**-0.7**	
NJ2				S	**Sn**	**02 31 14.5**	**+0.3**	
NJ2				PMZ				
	comp=Z,20nm,0.6s							
NJ2				LN				
	comp=Z,3μm,10.7s							
NJ2				LE				
	comp=Z,3μm,10.8s							
NJ2				LZ				
	comp=Z,3μm,10.2s							
GYA	**Guiyang**	**14.68**	**308**	⇑*i*P	**Pn**	**02 28 39.7**	**-2.8**	
GYA				PP	**PnPn**	**02 28 55.0**	**+4.4**	
GYA				S	**Sn**	**02 31 25.5**	**+0.9**	
GYA				SS	**S**	**02 31 44.0**	**+0.7**	
GYA				PcP	**PcP**	**02 33 55.5**	**+0.7**	
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,240nm,11.2s							
GYA				LN				
	comp=Z,2μm,12.0s							
GYA				LE				
	comp=Z,2μm,13.3s							
GYA				LZ				
	comp=Z,2μm,14.6s							
SKNT	**Sakolnakorn**	**14.79**	**269**	P	P	02 28 53.8	+4.0	
SGSI	**Sangihe**	**15.19**	**156**	P	**P**	**02 28 55.3**	**+1.1**	
	comp=Z,311nm,1.3s,comp=Z,9μm							
NONG	**Nongkai**	**15.52**	**274**	P	**P**	**02 28 56.2**	**-1.7**	
	comp=Z,62nm,0.7s							
TOLI	**Toli-Toli**	**16.57**	**175**	*e*Pn	**Pn**	**02 29 06.2**	**-1.0**	
	comp=Z,269nm,0.6s							
KMI	**Kunming**	**17.19**	**298**	P	**P**	**02 29 19.6**	**+2.9**	
KMI				pP	**pP**	**02 29 22.8**	**+0.1**	
KMI				S	**S**	**02 32 30.9**	**-4.1**	
KMI				PMZ				
	comp=Z,36nm,1.3s							
KMI				PMZ				
	comp=Z,460nm,11.5s							
KMI				LN				
	comp=Z,470nm,11.0s							
KMI				LE				
	comp=Z,3μm,10.0s							
KMI				LZ				
	comp=Z,3μm,10.4s							
CHBT	**CHBT**	**17.24**	**256**	P	**P**	**02 29 17.9**	**+0.9**	
	comp=Z,41nm,1.8s,comp=Z,4μm							
MPSI	**Mapaga**	**17.30**	**178**	P	**Pn**	**02 29 15.8**	**-0.6**	
	comp=Z,44nm,1.3s,comp=Z,756nm							
MRSI	**Marisa**	**17.33**	**172**	P	**Pn**	**02 29 16.4**	**-0.3**	
	comp=Z,60nm,1.4s,comp=Z,1μm							
KMSI	**Cibinong**	**17.63**	**165**	P	**P**	**02 29 21.0**	**-0.3**	
	comp=Z,475nm,1.2s							
PBKT	**Sadao Pong**	**17.70**	**269**	P	**P**	**02 29 21.8**	**-0.3**	
	comp=Z,35nm,1.5s,comp=Z,795nm							
UTTA	**Uttaradit**	**18.00**	**273**	P	**P**	**02 29 27.2**	**+1.8**	
	comp=Z,4.8nm,0.9s,comp=Z,81nm							
CRAI	**Chiangrai**	**18.21**	**281**	P	**Pn**	**02 29 25.4**	**-2.2**	
	comp=Z,43nm,1.0s,comp=Z,647nm							
JNU	**Nakatsue**	**18.45**	**32**	P	**P**	**02 29 30.2**	**0.0**	
	comp=Z,0.3nm,0.3s,baz=185,slow=7.8,SNR=13							
JNU	**Nakatsue**	**18.45**	**32**	*e*P	**Pn**	**02 29 32.0**	**+1.6**	
TIA	**Tai'an**	**18.51**	**354**	⇓P	**Pn**	**02 29 31.2**	**0.0**	
TIA				sP	**sP**	**02 29 42.6**	**+2.8**	
TIA				PMZ				
	comp=Z,50nm,1.2s							
TIA				PMZ				
	comp=Z,650nm,3.2s							
TIA				LN				
	comp=Z,410nm,10.1s							
TIA				LE				
	comp=Z,3μm,14.8s							
TIA				LZ				
	comp=Z,410nm,14.3s							
PCI	**Palu**	**18.53**	**179**	P	**P**	**02 29 30.5**	**-0.8**	
	comp=Z,74nm,1.8s,comp=Z,2μm							
TNTI	**Ternate**	**18.57**	**154**	P	**P**	**02 29 31.2**	**-0.5**	
	comp=Z,159nm,1.1s,comp=Z,2μm							
TNTI	**Ternate**	**18.57**	**154**	*e*P	**P**	**02 29 30.7**	**-1.0**	
	comp=Z,216nm,1.2s							
APSI	**Ampana**	**18.66**	**173**	P	**P**	**02 29 32.0**	**-0.7**	
	comp=Z,144nm,1.2s,comp=Z,2μm							
XAN	**Xi'an**	**18.77**	**332**	P	**P**	**02 29 33.9**	**+0.1**	
XAN				sP	**sP**	**02 29 40.9**	**-1.8**	
XAN				PP	**PnPn**	**02 29 51.5**	**+4.8**	
XAN				S	**S**	**02 33 06.0**	**-0.3**	
XAN				PMZ				
	comp=Z,60nm,5.8s							
XAN				LN				
	comp=Z,1μm,9.7s							
XAN				LE				
	comp=Z,570nm,10.4s							
XAN				LZ				
	comp=Z,900nm,9.7s							
LAMP	**Lampang**	**18.85**	**275**	P	Pn	02 29 40.5	+5.1	
	comp=Z,7.0nm,1.2s							
LUWI	**Luwuk**	**18.95**	**170**	P	**P**	**02 29 35.2**	**-0.6**	
	comp=Z,214nm,1.3s,comp=Z,3μm							
LUWI	**Luwuk**	**18.95**	**170**	*e*P	**Pn**	**02 29 36.4**	**-0.2**	
BKB	**Balikpapan**	**19.05**	**188**	P	**P**	**02 29 34.9**	**-2.0**	
	comp=Z,121nm,1.3s,comp=Z,15μm							
STKI	**Sintang**	**19.24**	**205**	P	**P**	**02 29 39.0**	**0.0**	
	comp=Z,46nm,1.4s,comp=Z,21μm							
UTHA	**Uthaitani**	**19.29**	**266**	P	**Pn**	**02 29 42.8**	**+2.1**	
	comp=Z,24nm,0.9s,comp=Z,182nm							
CD2	**Chengdu**	**19.37**	**315**	P	**P**	**02 29 39.8**	**-0.6**	
CD2				pP	**pP**	**02 29 44.2**	**-2.3**	
CD2				sP	**sP**	**02 29 46.3**	**-3.0**	
CD2				S	**Sn**	**02 33 17.9**	**-0.4**	
CD2				PMZ				
	comp=Z,60nm,1.0s							
CD2				PMZ				
	comp=Z,760nm,7.4s							
CD2				LN				
	comp=Z,2μm,12.7s							
CD2				LE				
	comp=Z,3μm,12.2s							
CD2				LZ				
	comp=Z,2μm,17.1s							
CMAI	**Chiengmai2**	**19.43**	**280**	P	**Pn**	**02 29 43.1**	**+0.5**	
	comp=Z,23nm,1.3s,comp=Z,911nm							
CMMT	**Chiang Mai**	**19.50**	**276**	P	**Pn**	**02 29 44.1**	**+0.9**	
	comp=Z,22nm,1.2s,comp=Z,807nm							
CHTO	**Chiang Mai**	**19.50**	**276**	P	**Pn**	**02 29 44.2**	**+0.9**	
	comp=Z,72nm,1.8s,comp=Z,3μm							
CHTO	**Chiang Mai**	**19.50**	**276**	*e*P	**Pn**	**02 29 42.6**	**-0.7**	
	comp=Z,17nm,1.1s							
CMAR	**Chiang Mai Arr**	**19.51**	**275**	P	**Pn**	**02 29 43.1**	**-0.2**	
	comp=Z,1.2nm,0.3s,baz=89,slow=9.1,SNR=13							
CMAR				PcP	**PcP**	**02 34 03.5**	**+1.0**	
	baz=95,slow=0.8,SNR=6.9							
CMAR				LR	LR	02 36 52.2		
	comp=Z,869nm,20.4s,baz=98,slow=36							
SRDT	**SRDT**	**19.82**	**263**	P	**Pn**	**02 29 50.9**	**+3.8**	
	comp=Z,156nm,1.9s,comp=Z,12μm							
TJN	**Taejon**	**19.84**	**19**	*d i*P	**P**	**02 29 45.2**	**-0.2**	
LBMI	**Labuha**	**19.91**	**156**	P	**P**	**02 29 45.9**	**-0.5**	
	comp=Z,103nm,1.2s,comp=Z,2μm							
MHMT	**Maesarieng**	**20.48**	**275**	P	Pn	02 29 57.0	+2.2	
	comp=Z,29nm,1.0s,comp=Z,763nm							
TTSI	**Tana Toraja**	**20.66**	**179**	P	Pn	02 29 57.3	+0.4	
	comp=Z,84nm,1.3s,comp=Z,1μm							
SANI	**Sanana**	**20.70**	**161**	P	**P**	**02 29 52.5**	**-2.4**	
	comp=Z,116nm,1.1s,comp=Z,1μm							
TIY	**Taiyuan**	**20.83**	**344**	*e*P	**P**	**02 29 57.0**	**+0.7**	
TIY				PMZ				
	comp=Z,260nm,3.7s							
TIY				LN				
	comp=Z,1μm,10.8s							
TIY				LE				
	comp=Z,800nm,12.0s							
TIY				LZ				
	comp=Z,530nm,11.6s							
KSAR	**Wonju Array Be**	**20.98**	**19**	P	**P**	**02 29 57.6**	**-0.2**	
KSRS	**Korea Array**	**21.00**	**19**	P	**P**	**02 29 57.6**	**-0.4**	
	comp=Z,49nm,1.2s,baz=200,slow=11,SNR=61							
KSRS				LR	LR	02 38 54.6		
	comp=Z,252nm,19.6s,baz=206,slow=39							
KSRS	**Korea Array**	**21.00**	**19**	P	**P**	**02 29 57.7**	**-0.4**	
KSRS				pmax	pmax			
	comp=Z,49nm,1.2s							
KSRS				MLR	MLR			
	comp=Z,252nm,19.6s							
SKLT	**Songkhla**	**21.15**	**243**	P	**P**	**02 30 01.9**	**+2.0**	
	comp=Z,55nm,1.3s,comp=Z,4μm							
KBKI	**Kotabaru**	**21.16**	**189**	P	**P**	**02 29 59.4**	**-0.5**	
	comp=Z,46nm,1.0s							
DL2	**Dalian**	**21.17**	**5**	⇓P	**P**	**02 29 59.4**	**-0.5**	
DL2				S	**S**	**02 33 56.1**	**+1.8**	
DL2				PMZ				
	comp=Z,26nm,1.1s							
DL2				PMZ				
	comp=Z,200nm,2.9s							
DL2				LE				
	comp=Z,710nm,12.9s							
DL2				LZ				
	comp=Z,890nm,10.5s							
BBKI	**Banjar Baru**	**21.55**	**193**	P	**P**	**02 30 04.1**	**0.0**	
	comp=Z,216nm,0.8s							
SPSI	**Sidrap Palu**	**21.57**	**179**	P	**P**	**02 30 03.6**	**-0.7**	
	comp=Z,51nm,1.6s,comp=Z,852nm							
TRTT	**Trang**	**21.61**	**245**	P	**P**	**02 30 06.7**	**+1.9**	
	comp=Z,33nm,1.8s							
PBKI	**Pangkalan Bun**	**21.72**	**201**	P	**P**	**02 30 06.3**	**+0.4**	
	comp=Z,156nm,0.7s							
KDI	**Kendari**	**21.79**	**171**	P	**P**	**02 30 05.9**	**-0.7**	
	comp=Z,46nm,1.7s,comp=Z,886nm							
SWI	**Sorong**	**21.84**	**147**	P	**P**	**02 30 07.5**	**+0.3**	
	comp=Z,51nm,1.1s,comp=Z,1μm							
SIJI	**Sorong**	**21.85**	**147**	P	**P**	**02 30 07.9**	**+0.5**	
	comp=Z,14nm,0.9s,baz=340,slow=13,SNR=11							
SIJI				LR	LR	02 41 11.2		
	comp=Z,303nm,18.4s,baz=324,slow=44							
SURT	**Suratani**	**21.89**	**249**	P	**P**	**02 30 10.5**	**+2.7**	
	comp=Z,19nm,1.1s							
MYKOM	**Kota Tinggi**	**22.05**	**226**	*e*P	**P**	**02 30 10.0**	**+0.6**	
KULM	**Kulim**	**22.16**	**238**	*e*P	**P**	**02 30 11.5**	**+0.8**	
	comp=Z,66nm,1.3s							
NLAI	**Namlea**	**22.17**	**159**	P	**P**	**02 30 10.3**	**-0.5**	
	comp=Z,193nm,1.2s,comp=Z,2μm							
IPM	**Ipoh**	**22.34**	**236**	*e*P	**P**	**02 30 12.5**	**-0.2**	
	comp=Z,32nm,0.9s							
BJT	**Baijiatuau**	**22.38**	**353**	*e*P	**P**	**02 30 13.2**	**+0.4**	
	comp=Z,218nm,1.5s							
BJI	**Beijing**	**22.40**	**353**	P	**P**	**02 30 12.8**	**-0.2**	
BJI				S	**S**	**02 34 19.6**	**+1.6**	
BJI				PMZ				
	comp=Z,64nm,1.6s							
BJI				LN				
	comp=Z,490nm,23.0s							
BJI				LE				
	comp=Z,1μm,18.3s							
KAPI	**Kappang**	**22.61**	**179**	P	**P**	**02 30 18.2**	**+2.7**	
	comp=Z,207nm,1.1s,SNR=5.5							
KAPI	**Kappang**	**22.61**	**179**	P	**P**	**02 30 16.2**	**+0.7**	
	comp=Z,9.2nm,0.8s,baz=30,slow=8.1,SNR=6.1							
KAPI	**Kappang**	**22.61**	**179**	P	**P**	**02 30 18.9**	**+3.4**	
	SNR=9.0							
KAPI	**Kappang**	**22.61**	**179**	*e*P	**P**	**02 30 15.9**	**+0.4**	
	comp=Z,88nm,1.3s							
LZH	**Lanzhou**	**22.91**	**326**	⇑P	**P**	**02 30 19.2**	**+0.5**	
LZH				pP	**pP**	**02 30 24.5**	**-0.4**	
LZH				sP	**sP**	**02 30 26.8**	**-0.9**	
LZH				PP	**PnPn**	**02 30 49.0**	**+5.5**	
LZH				S	**S**	**02 34 25.0**	**-2.6**	
LZH				sS	**sS**	**02 34 33.5**	**-4.8**	
LZH				SS	**SnSn**	**02 35 09.4**	**+10**	
LZH				PMZ				
	comp=Z,320nm,2.0s							
LZH				PMZ				
	comp=Z,410nm,4.0s							
LZH				LN				
	comp=Z,2μm,14.7s							
LZH				LE				
	comp=Z,2μm,15.0s							
LZH				LZ				
	comp=Z,3μm,16.3s							
BKSI	**Bulukumba**	**22.93**	**178**	P	**P**	**02 30 18.2**	**-0.6**	
	comp=Z,38nm,1.6s,comp=Z,639nm							
MSAI	**Masohi**	**22.95**	**155**	P	**P**	**02 30 18.7**	**-0.3**	
	comp=Z,44nm,1.3s,comp=Z,2μm							
CBIJ	**Chichi jima**	**22.95**	**62**	P	**P**	**02 30 18.4**	**-0.6**	
JCJ	**Chichijima**	**22.95**	**62**	P	**P**	**02 30 18.4**	**-0.6**	
	comp=Z,74nm,0.9s,baz=17,slow=14,SNR=3.9							
JCJ				LR	LR	02 37 25.0		
	comp=Z,128nm,20.8s,baz=262,slow=32							
AAI	**Ambon**	**22.98**	**157**	P	**P**	**02 30 18.4**	**-0.9**	
	comp=Z,161nm,1.3s							
DSRI	**Dabo**	**23.28**	**220**	P	**P**	**02 30 23.9**	**+1.4**	
	comp=Z,90nm,1.1s,comp=Z,6μm							
TPI	**Tanjungpandan**	**23.45**	**211**	P	**P**	**02 30 22.7**	**-1.4**	
	comp=Z,61nm,0.9s							
PPBI	**Pangkal Pinang**	**23.73**	**215**	P	**P**	**02 30 26.8**	**-0.1**	
	comp=Z,30nm,0.9s,comp=Z,4μm							
BSSI	**Bau Bau, Buton**	**23.75**	**177**	P	**P**	**02 30 26.3**	**-0.7**	
	comp=Z,81nm,2.0s,comp=Z,2μm							
HHC	**Hu-ho-hao-te**	**24.01**	**345**	*e*P	**P**	**02 30 30.0**	**+0.6**	
HHC				sP	**sP**	**02 30 37.6**	**-1.1**	
HHC				S	**S**	**02 34 46.8**	**+1.5**	
HHC				PMZ				
	comp=Z,95nm,0.9s							
HHC				PMZ				
	comp=Z,470nm,4.9s							
HHC				LN				
	comp=Z,630nm,10.7s							
HHC				LE				
	comp=Z,730nm,11.0s							
HHC				LZ				
	comp=Z,630nm,11.0s							
RKPI	**Ransiki, Papua**	**24.01**	**141**	P	**P**	**02 30 30.1**	**+0.6**	
	comp=Z,52nm,1.3s,comp=Z,26μm							
FAKI	**Fak Fak**	**24.10**	**147**	P	**P**	**02 30 29.2**	**-1.1**	
	comp=Z,82nm,1.4s,comp=Z,1μm							
FAKI	**Fak Fak**	**24.10**	**147**	*e*P	**P**	**02 30 29.7**	**-0.7**	
BTO	**Baotou**	**24.19**	**342**	*e*P	**P**	**02 30 31.4**	**+0.3**	
BNDI	**Bandanaira**	**24.41**	**154**	P	**P**	**02 30 32.9**	**-0.3**	
	comp=Z,340nm,1.2s							
GUMO	**Guam**	**24.81**	**96**	LR	LR	02 38 22.8		
	comp=Z,786nm,21.0s,baz=288,slow=32							
MAJO	**Matsushiro**	**25.00**	**38**	⇓*e*P	**P**	**02 30 39.1**	**+0.7**	
MAJO				pmax	pmax			
	comp=Z,106nm,1.6s							
MAT	**Matsushiro**	**25.00**	**38**	P	**P**	**02 30 38.2**	**-0.2**	
MAT				S	**S**	**02 34 57.8**	**-3.5**	
MJAR	**Matsushiro Arr**	**25.00**	**38**	P	**P**	**02 30 37.4**	**-1.0**	
	comp=Z,1.4nm,0.3s,baz=222,slow=10,SNR=8.6							
MJAR	**Matsushiro Arr**	**25.00**	**38**	P	**P**	**02 30 37.4**	**-1.0**	
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PSI	**Prapat**	**25.02**	**236**	P	**P**	**02 30 38.9**	**+0.1**	
	comp=Z,26nm,0.8s,baz=77,slow=4.5,SNR=12							
PSI	**Prapat**	**25.02**	**236**	P	**P**	**02 30 38.9**	**+0.1**	
PSI				pmax	pmax			
	comp=Z,26nm,0.8s							
BKNI	**Bangkinang**	**25.05**	**228**	*e*P	**P**	**02 30 38.5**	**-0.4**	
	comp=Z,130nm,0.9s							
MNSI	**Mandailing Nat**	**25.79**	**231**	P	**P**	**02 30 44.6**	**-1.1**	
	comp=Z,53nm,0.9s,comp=Z,4μm							
CN2	**Changchun**	**26.47**	**10**	*e*P	**P**	**02 30 51.5**	**-0.1**	
CN2				*es*P	**sP**	**02 31 00.3**	**-0.5**	
CN2				*e*S	**S**	**02 35 22.5**	**-1.7**	
CN2				PMZ				
	comp=Z,10.0nm,1.2s							
CN2				PMZ				
	comp=Z,160nm,5.0s							
CN2				LN				
	comp=Z,940nm,11.0s							
CN2				LE				
	comp=Z,700nm,11.0s							
CN2				LZ				
	comp=Z,640nm,12.0s							
SHL	**Shillong**	**26.74**	**292**	*e*P	**P**	**02 30 52.0**	**-2.4**	
SHL				*e*S	**ScP**	**02 37 56.0**	**-0.6**	
VLA	**Vladivostok**	**27.41**	**20**	⇑*i*P	**P**	**02 30 58.3**	**-1.7**	
VLA				*e*		02 34 16.0		
VLA				S	**S**	**02 35 36.8**	**-2.3**	
VLA				pmax	pmax			
	comp=Z,18nm,0.6s							
MDJ	**Mudanjiang**	**28.11**	**15**	P	**P**	**02 31 06.9**	**+0.6**	
MDJ				pP	**pP**	**02 31 09.9**	**-3.0**	
MDJ				S	**S**	**02 35 52.7**	**+2.5**	
MDJ				PMZ				
	comp=Z,28nm,1.4s							
MDJ				PMZ				
	comp=Z,59nm,2.9s							
MDJ				LN				
	comp=Z,350nm,12.6s							
MDJ				LE				
	comp=Z,290nm,11.9s							
MDJ				LZ				
	comp=Z,420nm,13.2s							
MDJ	**Mudanjiang**	**28.11**	**15**	*e*P	**P**	**02 31 06.8**	**+0.4**	
	comp=Z,12nm,0.7s							
USRK	**Ussuriysk Ar.**	**28.41**	**19**	P	**P**	**02 31 09.2**	**+0.2**	
	comp=Z,2.5nm,0.6s,baz=221,slow=5.6,SNR=6.9							
USRK				LR	LR	02 43 08.9		
	comp=Z,109nm,20.4s,baz=193,slow=38							
LSA	**Lhasa**	**28.43**	**300**	*e*P	**P**	**02 31 10.6**	**+0.7**	
	comp=Z,42nm,1.3s							
TAPN	**Taplejung**	**30.76**	**294**	*e*P	**P**	**02 31 30.6**	**+0.2**	
	comp=Z,51nm,1.0s							
ODAN	**Odare**	**30.95**	**293**	*e*P	**P**	**02 31 32.3**	**+0.3**	
	comp=Z,169nm,1.2s							
RAMN	**Ramite**	**31.66**	**293**	*e*P	**P**	**02 31 38.7**	**+0.5**	
	comp=Z,204nm,1.2s							
SONM	**Songino Array**	**31.86**	**343**	P	**P**	**02 31 40.0**	**+0.3**	
	comp=Z,6.5nm,1.0s,baz=162,slow=9.3,SNR=38							
SONM				PcP	**PcP**	**02 34 30.4**	**+0.3**	
	comp=Z,1.0nm,0.5s,baz=172,slow=2.5,SNR=4.7							
SONM				LR	LR	02 44 14.9		
	comp=Z,649nm,21.7s,baz=159,slow=36							
SONM	**Songino Array**	**31.86**	**343**	P	**P**	**02 31 40.0**	**+0.3**	
SONM						02 34 30.4		
SONM				pmax	pmax			
	comp=Z,7.0nm,1.0s							
SONM				pmax	pmax			
	comp=Z,1.0nm,0.5s							
SONM				MLR	MLR			
	comp=Z,649nm,21.7s							
JIRN	**Jiri**	**32.14**	**294**	*e*P	**P**	**02 31 42.8**	**+0.2**	
	comp=Z,210nm,1.4s							
GUN	**Gumba**	**32.46**	**294**	*e*P	**P**	**02 31 45.5**	**+0.1**	
	comp=Z,195nm,1.1s							
PKI	**Pulchoki**	**32.81**	**293**	*e*P	**P**	**02 31 47.9**	**-0.5**	
	comp=Z,197nm,1.5s							
KLR	**Kul'dur**

KOLN	**Koldanda**	**34.42**	**293**	*e*P		**P**		**02 32 02.2**	**-0.2**
	comp=Z,82nm,1.2s								
YSS	**Yuzh-Sakhalins**	**34.89**	**28**⇑	*e*P		**P**		**02 32 06.0**	**+0.1**
YSS				*e*				02 32 13.6	
ZAK	**Zakamensk**	**35.05**	**342**	*e*P		**P**		**02 32 06.0**	**-1.3**
ZAK					pmax	pmax			
	comp=Z,10.0nm,1.4s								
TLY	**Talaya**	**36.10**	**343**	P		**P**		**02 32 17.2**	**+0.9**
	comp=Z,2.2nm,0.5s,baz=167,slow=7.3,SNR=8.9								
TLY	**Talaya**	**36.10**	**343**	*e*P		**P**		**02 32 16.8**	**+0.5**
TLY				*e*				02 33 37.4	
TLY					pmax	pmax			
	comp=Z,18nm,1.3s								
TLY					MLR	MLR			
	comp=Z,396nm,16.0s								
TLY	**Talaya**	**36.10**	**343**	P		**P**		**02 32 17.2**	**+0.9**
	SNR=7.0								
WMQ	**Urumqi**	**37.29**	**321**	P		**P**		**02 32 28.3**	**+1.7**
WMQ				pP		**pP**		**02 32 32.7**	**-0.6**
WMQ				sP		**sP**		**02 32 35.3**	**-0.6**
WMQ				PP		**PnPn**		**02 33 55.8**	**+3.4**
WMQ				PcP		**PcP**		**02 34 46.9**	**+1.1**
WMQ				S		**S**		**02 38 14.9**	**+1.9**
WMQ				sS		**sS**		**02 38 22.2**	**-1.7**
WMQ				PcS		**PcS**		**02 38 35.3**	**+1.2**
WMQ				ScS		**ScS**		**02 42 39.9**	**+0.2**
WMQ				PMZ					
	comp=Z,7.0nm,0.5s								
WMQ				PMZ					
	comp=Z,110nm,4.5s								
WMQ				LN					
	comp=Z,1μm,16.2s								
WMQ				LE					
	comp=Z,1μm,16.4s								
WMQ				LZ					
	comp=Z,740nm,19.0s								
PMG	**Port Moresby**	**38.43**	**132**	*e*P		**P**		**02 32 36.6**	**+0.2**
	comp=Z,37nm,0.6s								
PALK	**Pallekele**	**39.15**	**260**	P		**P**		**02 32 41.6**	**-1.0**
	comp=Z,13nm,0.8s,baz=60,slow=8.1,SNR=3.5								
PALK	**Pallekele**	**39.15**	**260**	P		**P**		**02 32 41.6**	**-1.0**
PALK					pmax	pmax			
	comp=Z,13nm,0.8s								
PALK	**Pallekele**	**39.15**	**260**	*e*P		**P**		**02 32 42.7**	**+0.2**
	comp=Z,18nm,0.8s								
CLNS	**Chul'man**	**39.24**	**5***d*	*i*P		**P**		**02 32 43.8**	**+1.0**
CLNS				*e*				02 32 59.9	
CLNS				*e*PPP		PPP		02 34 58.9	
CLNS				*e*SS		SS		02 42 03.2	+28
CLNS					pmax	pmax			
	comp=Z,69nm,1.6s								
CLNS					pmax	pmax			
	comp=E,22nm,1.9s								
CLNS					pmax	pmax			
	comp=N,54nm,1.5s								
CLNS					pmax	pmax			
	comp=N,11nm,1.2s								
CLNS					pmax	pmax			
	comp=Z,35nm,1.7s								
CLNS					pmax	pmax			
	comp=E,8.0nm,0.9s								
COEN	**Coen**	**39.24**	**142**	*e*P		P		02 32 47.3	+4.1
WRAB	**Tennant Creek**	**40.20**	**158**	P		**P**		**02 32 49.9**	**-1.2**
	comp=E,118nm,1.1s,SNR=8.6								
WRAB	**Tennant Creek**	**40.20**	**158**	*d* *i*P		**P**		**02 32 49.7**	**-1.4**
WRAB					pmax	pmax			
	comp=Z,90nm,1.4s								
WRAB	**Tennant Creek**	**40.20**	**158**	*e*P		**P**		**02 32 49.4**	**-1.7**
	comp=Z,43nm,1.3s								
WRA	**Warramunga Arr**	**40.20**	**158**	P		**P**		**02 32 49.6**	**-1.5**
	comp=Z,23nm,1.2s,baz=339,slow=9.2,SNR=18								
WRA	**Warramunga Arr**	**40.20**	**158**	P		**P**		**02 32 49.6**	**-1.5**
WRA					pmax	pmax			
	comp=Z,23nm,1.2s								
BOD	**Bodaibo**	**40.22**	**355**	*e*P		**P**		**02 32 50.9**	**+0.1**
BOD					pmax	pmax			
	comp=Z,18nm,1.7s								
MK31	**Makanchi Array**	**42.10**	**322**	*i* P		**P**		**02 33 07.1**	**+0.5**
MK31					pmax	pmax			
	comp=Z,33nm,1.0s								
MK31	**Makanchi Array**	**42.10**	**322**	*e*P		**P**		**02 33 06.8**	**+0.3**
MK31				*e*PcP		**PcP**		**02 35 00.6**	**-0.4**
MKAR	**Makanchi Array**	**42.10**	**322**	P		**P**		**02 33 07.2**	**+0.7**
	comp=Z,12nm,0.9s,baz=122,slow=9.1,SNR=76								
MKAR				PcP		**PcP**		**02 35 00.9**	**-0.1**
	comp=Z,12nm,0.7s,baz=107,slow=4.2,SNR=25								
MKAR				LR		LR		02 51 50.8	
	comp=Z,586nm,19.9s,baz=120,slow=38								
MKAR	**Makanchi Array**	**42.10**	**322**	P		**P**		**02 33 07.3**	**+0.7**
MKAR								02 35 00.9	
MKAR					pmax	pmax			
	comp=Z,12nm,0.9s								
MKAR					pmax	pmax			
	comp=Z,12nm,0.7s								
MKAR					MLR	MLR			
	comp=Z,587nm,19.9s								
KSH	**Kashi**	**43.37**	**309**	P		**P**		**02 33 19.7**	**+2.6**
KSH				sP		**sP**		**02 33 27.9**	**+1.4**
KSH				PP		**PcP**		**02 35 06.6**	**+1.1**
KSH				PcS		**PcS**		**02 39 01.8**	**+3.6**
KSH				S		**S**		**02 39 49.3**	**+5.3**
KSH				sS		**sS**		**02 39 56.3**	**+1.2**
KSH				ScS		**ScS**		**02 43 17.6**	**+1.4**
KSH				PMZ					
	comp=Z,24nm,1.1s								
KSH				PMZ					
	comp=Z,110nm,4.0s								
KSH				LN					
	comp=Z,530nm,11.5s								
KSH				LE					
	comp=Z,360nm,11.6s								
KSH				LZ					
	comp=Z,470nm,11.0s								
AS31	**Alice Springs**	**43.51**	**161**	*e*P		**P**		**02 33 18.1**	**0.0**
ASAR	**Alice Springs**	**43.51**	**161**	P		**P**		**02 33 17.4**	**-0.8**
	comp=Z,11nm,0.6s,baz=338,slow=6.5,SNR=91								
ASAR				PcP		**PcP**		**02 35 06.5**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=345,slow=2.7,SNR=6.2								
ASAR				LR		LR		02 56 32.1	
	comp=Z,47nm,18.8s,baz=344,slow=43								
ASAR	**Alice Springs**	**43.51**	**161**	P		**P**		**02 33 17.4**	**-0.8**
ASAR								02 35 06.5	
ASAR					pmax	pmax			
	comp=Z,11nm,0.6s								
ASAR					pmax	pmax			
	comp=Z,2.0nm,0.5s								
ULHL	**Ulahol**	**44.06**	**313**	P		**P**		**02 33 23.8**	**+1.1**
	SNR=23								
KZA	**Kyzart**	**44.69**	**312**	P		**P**		**02 33 30.0**	**+2.0**
	SNR=27								
TKM2	**Tokmak 2**	**44.74**	**314**	P		**P**		**02 33 29.5**	**+1.4**
	SNR=8.0								
TKM2	**Tokmak 2**	**44.74**	**314**	*e*P		**P**		**02 33 28.3**	**+0.3**
	comp=Z,60nm,1.8s								
TKM2				*e*PcP		**PcP**		**02 35 09.6**	**-0.6**
YAK	**Yakutsk**	**44.83**	**7**	*i* P		**P**		**02 33 27.8**	**-0.4**
YAK				*e**PP		**pP**		**02 33 34.7**	**-0.2**
YAK				*e*				02 35 06.5	
YAK				*e*				02 35 12.9	
YAK				*e*S		**S**		**02 40 08.5**	**+4.3**
YAK				*e**SS		sS		02 40 24.2	+8.9
YAK				*e*				02 43 18.9	
YAK				*e*SSS		SSS		02 44 18.1	
YAK					pmax	pmax			
	comp=N,29nm,1.4s								
YAK					pmax	pmax			
	comp=Z,52nm,0.9s								
YAK					pmax	pmax			
	comp=E,8.0nm,1.0s								
YAK					pmax	pmax			
	comp=Z,12nm,0.5s								
YAK					smax	smax			
	comp=N,22nm,2.2s								
YAK					smax	smax			
	comp=E,47nm,3.3s								
YAK	**Yakutsk**	**44.83**	**7**	*e*P		**P**		**02 33 28.1**	**-0.1**
	comp=E,20nm,0.5s								
ZAA0	**Zalesovo Array**	**44.94**	**332**	*e*P		**P**		**02 33 28.6**	**-0.6**
ZAA0				*e*PcP		**PcP**		**02 35 09.0**	**-1.3**
ZALV	**Zalesovo Beam**	**44.94**	**332**	P		**P**		**02 33 28.9**	**-0.3**
	comp=E,7.4nm,0.9s,baz=121,slow=7.1,SNR=27								
ZALV				PcP		**PcP**		**02 35 09.4**	**-1.0**
	comp=E,3.1nm,0.7s,baz=106,slow=4.3,SNR=5.8								
ZALV				LR		LR		02 52 35.4	
	comp=E,315nm,19.1s,baz=70,slow=37								
ZALV	**Zalesovo Beam**	**44.94**	**332**	P		**P**		**02 33 29.0**	**-0.3**
ZALV					pmax	pmax		02 35 09.4	
ZALV					pmax	pmax			
	comp=Z,7.0nm,0.9s								
ZALV					pmax	pmax			
	comp=Z,3.0nm,0.7s								
ZALV					MLR	MLR			
	comp=Z,315nm,19.2s								
KBK	**Karagaybulak**	**45.10**	**313**	P		**P**		**02 33 32.1**	**+1.2**
	SNR=14								
UCH	**Uchtor**	**45.26**	**312**	P		**P**		**02 33 34.0**	**+1.5**
	SNR=30								
CHMS	**Chumysh**	**45.35**	**313**	P		**P**		**02 33 33.9**	**+1.2**
	SNR=6.3								
FRU	**Bishkek**	**45.38**	**313**	*e*P		**P**		**02 33 32.0**	**-1.0**
FRU					pmax	pmax			
	comp=Z,60nm,1.6s								
FRU					pmax	pmax			
	comp=E,700nm,16.0s								
AAK	**Ala-Archa**	**45.40**	**313**	*de*P		**P**		**02 33 34.5**	**+1.1**
AAK					pmax	pmax			
	comp=Z,95nm,2.5s								
AAK	**Ala-Archa**	**45.40**	**313**	P		**P**		**02 33 35.3**	**+1.9**
	SNR=10								
AAK	**Ala-Archa**	**45.40**	**313**	*e*P		**P**		**02 33 34.3**	**+0.9**
	comp=Z,18nm,1.4s								
AAK				*e*PcP		**PcP**		**02 35 12.4**	**0.0**
USP	**Ospenovka**	**45.61**	**314**	P		**P**		**02 33 36.0**	**+1.2**
	SNR=13								
AML	**Almayashu**	**45.81**	**312**	P		**P**		**02 33 38.6**	**+1.8**
	SNR=17								
CTA	**Charters Tower**	**45.89**	**144**	P		**P**		**02 33 37.8**	**+0.6**
	comp=Z,28nm,1.2s,baz=322,slow=8.7,SNR=7.6								
CTA					LR	LR		02 53 02.4	
	comp=Z,200nm,20.6s,baz=280,slow=36								
CTA	**Charters Tower**	**45.89**	**144**	P		**P**		**02 33 37.8**	**+0.6**
CTA					pmax	pmax			
	comp=Z,28nm,1.2s								
CTA					MLR	MLR			
	comp=Z,200nm,20.7s								
EKS2	**Erkin-Say**	**45.91**	**313**	P		**P**		**02 33 39.0**	**+1.6**
	SNR=12								
EKS2	**Erkin-Say**	**45.91**	**313**	*e*P		**P**		**02 33 38.4**	**+1.0**
	comp=Z,42nm,1.4s								
EKS2				*e*PcP		**PcP**		**02 35 14.4**	**+0.2**
PETK	**Petropavlovsk-**	**46.14**	**31**	P		**P**		**02 33 39.6**	**+0.8**
	comp=Z,5.6nm,0.8s,baz=236,slow=9.3,SNR=4.2								
PETK					LR	LR		02 55 06.0	
	comp=Z,73nm,18.2s,baz=222,slow=39								
PETK	**Petropavlovsk-**	**46.14**	**31**	P		**P**		**02 33 39.6**	**+0.8**
PETK					pmax	pmax			
	comp=Z,6.0nm,0.9s								
PETK					MLR	MLR			
	comp=Z,73nm,18.2s								
KURK	**Kurchatov**	**46.19**	**325**	P		**P**		**02 33 39.1**	**-0.1**
	comp=Z,376nm,1.0s,SNR=74								
KURK	**Kurchatov**	**46.19**	**325**	P		**P**		**02 33 38.8**	**-0.4**
KURK					pmax	pmax			
	comp=Z,95nm,1.2s								
KURK	**Kurchatov**	**46.19**	**325**	P		**P**		**02 33 40.1**	**+0.9**
	SNR=58								
KURK	**Kurchatov**	**46.19**	**325**	*e*P		**P**		**02 33 39.8**	**+0.6**
	comp=Z,166nm,1.1s								
NVS	**Novosibirsk**	**46.22**	**332**	*e*P		**P**		**02 33 38.8**	**-0.6**
NVS					pmax	pmax			
	comp=N,30nm,1.5s								
NVS					pmax	pmax			
	comp=E,40nm,1.5s								
NVS					pmax	pmax			
	comp=Z,55nm,1.5s								
KBL	**Kabul**	**47.75**	**301**	*e*P		**P**		**02 33 52.0**	**+0.1**
	comp=Z,55nm,1.5s								
KBL				*e*PcP		**PcP**		**02 35 20.4**	**-0.5**
KK31	**Karatay Array**	**48.34**	**312**	P		**P**		**02 33 55.6**	**-0.5**
KK31					pmax	pmax			
	comp=Z,47nm,1.1s								
KKAR	**Karatay Array**	**48.34**	**312**	*e*P		**P**		**02 33 56.4**	**+0.3**
	comp=Z,33nm,1.1s								
KKAR				*e*PcP		**PcP**		**02 35 22.7**	**+0.1**
NWAO	**Narrogin (SRO)**	**50.43**	**182**	P		**P**		**02 34 12.0**	**0.0**
	comp=Z,13nm,0.7s,baz=328,slow=6.7,SNR=8.7								
NWAO	**Narrogin (SRO)**	**50.43**	**182**	P		**P**		**02 34 12.0**	**0.0**
NWAO					pmax	pmax			
	comp=Z,13nm,0.7s								
SEY	**Seymchan**	**50.56**	**19**⇓	*e*P		**P**		**02 34 13.6**	**+0.9**
BVA0	**Borovoye Array**	**51.79**	**324**	*i* P		**P**		**02 34 21.9**	**-0.2**
BVA0					pmax	pmax			
	comp=Z,41nm,1.3s								
BVAR	**Borovoye Array**	**51.79**	**324**	PcP		**PcP**		**02 35 34.3**	**-0.7**
	comp=Z,8.3nm,0.7s,baz=114,slow=4.0,SNR=9.7								
BRVK	**Borovoye**	**51.86**	**325**	P		**P**		**02 34 23.8**	**+1.2**
	comp=Z,316nm,0.9s,SNR=13								
BRVK	**Borovoye**	**51.86**	**325**	*ce*P		**P**		**02 34 23.2**	**+0.5**
BRVK					pmax	pmax			
	comp=Z,119nm,1.7s								
BRVK	**Borovoye**	**51.86**	**325**	P		**P**		**02 34 23.1**	**+0.5**
	SNR=34								
BRVK	**Borovoye**	**51.86**	**325**	*e*P		**P**		**02 34 23.1**	**+0.5**
	comp=Z,124nm,1.4s								
BRVK				*e*PcP		**PcP**		**02 35 34.4**	**-0.9**
STKA	**Stephens Creek**	**53.71**	**157**	P		**P**		**02 34 36.7**	**+0.2**
	comp=Z,9.9nm,1.0s,baz=335,slow=7.1,SNR=15								
STKA					LR	LR		03 01 00.4	
	comp=Z,176nm,18.1s,baz=4.2,slow=40								
STKA	**Stephens Creek**	**53.71**	**157**	P		**P**		**02 34 36.7**	**+0.2**
STKA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
STKA					MLR	MLR			
	comp=Z,176nm,18.1s								
STKA	**Stephens Creek**	**53.71**	**157**	*e*P		**P**		**02 34 36.5**	**0.0**
	comp=Z,5.4nm,1.2s								
TIXI	**Tiksi**	**54.19**	**4***d*	*i*P		**P**		**02 34 38.3**	**-1.2**
TIXI					pmax	pmax			
	comp=Z,56nm,1.2s								
TIXI	**Tiksi**	**54.19**	**4**	*e*P		**P**		**02 34 38.3**	**-1.2**
	comp=Z,47nm,1.1s								
IMYA	**Miami**	**55.18**	**302**	*e*P		**P**		**02 34 47.1**	**-0.4**
ISRO	**Mashad**	**55.69**	**302**	*e*P		**P**		**02 34 50.7**	**-0.3**
IMOG	**Moghan**	**55.78**	**302**	*e*P		**P**		**02 34 52.2**	**+0.2**
IPAY	**Payeh**	**56.08**	**302**	*e*P		**P**		**02 34 53.8**	**-0.3**
ITEG	**Tejag**	**56.21**	**298**	*e*P		**P**		**02 34 55.1**	**+0.1**
IAKL	**Akhelmad**	**56.27**	**302**	*e*P		**P**		**02 34 54.8**	**-0.7**
IKRD	**Kardeh**	**56.48**	**303**	*e*P		P		02 34 51.5	-5.4
ISFR	**Sfrayin**	**56.90**	**303**	*e*P		**P**		**02 35 00.4**	**+0.4**
AB31	**Akbulak array**	**56.93**	**318**	*i* P		**P**		**02 34 59.2**	**-0.4**
AB31					pmax	pmax			
	comp=Z,16nm,0.7s								
ABKAR	**Akbulak array**	**56.93**	**318**	*e*P		**P**		**02 34 59.5**	**0.0**
	comp=Z,21nm,0.8s								
ABKAR				*e*PcP		**PcP**		**02 35 53.8**	**-1.0**
ISHV	**Shirvan**	**57.15**	**304**	*e*P		**P**		**02 35 02.8**	**+1.2**
BILL	**Bilibino**	**58.27**	**19***d*	*i*P		**P**		**02 35 08.3**	**-0.4**
BILL				*e*				02 35 59.4	
BILL					pmax	pmax			
	comp=Z,25nm,2.5s								
BILL					MLR	MLR			
	comp=Z,122nm,17.0s								
SVE	**Sverdlovsk**	**58.38**	**326**	*ce*P		**P**		**02 35 09.8**	**+0.2**
SVE					pmax	pmax			
	comp=Z,66nm,1.5s								
SVE					MLR	MLR			
	comp=Z,350nm,14.0s								
AKTO	**Aktyubinsk**	**58.38**	**319**	P		**P**		**02 35 09.9**	**+0.1**
	comp=Z,22nm,1.0s,baz=97,slow=7.0,SNR=65								
AKTO	**Aktyubinsk**	**58.38**	**319**	P		**P**		**02 35 09.2**	**-0.6**
AKTO					pmax	pmax			
	comp=Z,41nm,1.2s								
IBAF	**Bafgh**	**58.94**	**297**	*e*P		**P**		**02 35 14.0**	**-0.2**
ARU	**Arti**	**59.37**	**326**	P		**P**		**02 35 16.3**	**-0.2**
	comp=Z,121nm,1.3s,SNR=6.7								
ARU	**Arti**	**59.37**	**326**	*d* *i*P		**P**		**02 35 15.9**	**-0.6**
ARU								02 36 03.3	
ARU								02 37 29.3	
ARU						S		**02 43 24.6**	**+0.6**
ARU						SS		**02 47 21.1**	**+2.3**
ARU					pmax	pmax			
	comp=Z,44nm,1.7s								
ARU					MLR	MLR			
	comp=Z,340nm,19.0s								
ARU	**Arti**	**59.37**	**326**	*e*P		**P**		**02 35 15.9**	**-0.6**
	comp=Z,142nm,1.9s								
IMEH	**Mehriz**	**59.77**	**296**	*e*P		**P**		**02 35 18.5**	**-1.5**
IGLO	**Ghaloghah**	**60.24**	**302**	*e*P		**P**		**02 35 23.3**	**+0.1**
ISAD	**Sadrabad**	**60.52**	**297**	*e*P		**P**		**02 35 23.2**	**-2.1**
DZM	**Mont Dzumac**	**60.67**	**129**	*e*P		**P**		**02 35 27.5**	**+1.5**
	comp=Z,70nm,1.3s								
DZM	**Mont Dzumac**	**60.67**	**129**	*e*LR		LR		02 53 18.5	
	comp=Z,342nm,24.2s								
DZM	**Mont Dzumac**	**60.67**	**129**	P		**P**		**02 35 25.9**	**-0.1**
	comp=Z,23nm,1.1s,baz=88,slow=23,SNR=4.2								
ILAS	**Lasjerd**	**60.97**	**301**	*e*P		**P**		**02 35 26.7**	**-1.5**
IFIR	**Firoozkooh**	**61.13**	**301**	*e*P		**P**		**02 35 28.6**	**-0.7**
IPRN	**Peran**	**61.45**	**302**	*e*P		**P**		**02 35 30.6**	**-0.7**
IZEF	**Zefreh**	**61.61**	**298**	*e*P		**P**		**02 35 31.5**	**-1.1**
IKAZ	**Kazeroun**	**62.27**	**295**	*e*P		**P**		**02 35 36.0**	**-1.2**
IPIR	**Pirpir**	**62.83**	**298**	*e*P		**P**		**02 35 38.7**	**-2.1**
MAK	**Makhachkala**	**65.01**	**310**	*e*P		**P**		**02 35 53.9**	**-0.6**
MAK				*e*				02 36 32.9	
MAK				*e*S		**S**		**02 44 33.2**	**-2.3**
MAK					pmax	pmax			
	comp=Z,108nm,1.5s								
MAK					MLR	MLR			
	comp=Z,468nm,18.0s								
DGRG	**David-gareji**	**66.65**	**308**	P		**P**		**02 36 05.9**	**+0.6**
DGRG	**David-gareji**	**66.65**	**308**	P		**P**		**02 36 05.9**	**+0.6**
TBLG	**Delisi**	**67.11**	**308**	P		**P**		**02 36 07.8**	**-0.4**
TBLG	**Delisi**	**67.11**	**308**	P		**P**		**02 36 07.8**	**-0.4**
GNI	**Garni**	**67.22**	**307**	P		**P**		**02 36 10.3**	**+1.3**
	comp=Z,2.6nm,0.3s,baz=106,slow=1.5,SNR=13								
GNI	**Garni**	**67.22**	**307**	*d* *i*P		**P**		**02 36 09.7**	**+0.6**
GNI					pmax	pmax			
	comp=Z,48nm,1.2s								
GNI	**Garni**	**67.22**	**307**	P		**P**		**02 36 10.7**	**+1.7**
	SNR=11								
GNI	**Garni**	**67.22**	**307**	*e*P		**P**		**02 36 10.1**	**+1.0**
	comp=Z,44nm,1.3s								
MSVF	**Nonsavu**	**67.57**	**118**	P		P		02 36 15.0	+3.6
	comp=Z,169nm,1.0s,SNR=5.3								
MSVF	**Nonsavu**	**67.57**	**118**	*e*P		**P**		**02 36 14.0**	**+2.5**
	comp=Z,49nm,1.2s								
ZEI	**Tsey**	**67.66**	**310**	*e*P		**P**		**02 36 09.3**	**-2.6**
ZEI					pmax	pmax			
	comp=Z,53nm,1.5s								
ONI	**Oni**	**68.00**	**309**	P		**P**		**02 36 13.9**	**+0.1**
ONI	**Oni**	**68.00**	**309**	P		**P**		**02 36 13.9**	**+0.1**
KBZ	**Khabaz**	**68.33**	**311**	P		**P**		**02 36 15.6**	**-0.1**
	comp=Z,19nm,1.0s,baz=90,slow=4.6,SNR=35								
KBZ					LR	LR		03 09 26.1	
	comp=Z,299nm,19.3s,baz=85,slow=39								
KBZ	**Khabaz**	**68.33**	**311**	P		**P**		**02 36 15.6**	**-0.1**
KBZ					pmax	pmax			
	comp=Z,19nm,1.0s								
KBZ					MLR	MLR			
	comp=Z,299nm,19.3s								
KIV	**Kislovodsk**	**68.46**	**311**	P		**P**		**02 36 16.5**	**-0.2**
	comp=Z,264nm,0.8s,SNR=9.9								
KIV	**Kislovodsk**	**68.46**	**311**	*d* *i*P		**P**		**02 36 16.8**	**0.0**
KIV					pmax	pmax			
	comp=Z,60nm,1.0s								
KIV					MLR	MLR			
	comp=Z,356nm,18.0s								
KIV	**Kislovodsk**	**68.46**	**311**	P		**P**		**02 36 17.2**	**+0.5**
	SNR=15								
KIV	**Kislovodsk**	**68.46**	**311**	*e*P		**P**		**02 36 16.7**	**0.0**
	comp=Z,49nm,1.0s								
NEY	**Neytrino**	**68.49**	**310**⇓	*i*P		**P**		**02 36 17.4**	**+0.4**
NEY					pmax	pmax			
	comp=Z,4.0nm,1.2s								
RAYN	**Ar Rayn**	**68.77**	**289**	P		**P**		**02 36 18.6**	**-0.4**
	comp=Z,247nm,1.0s,SNR=22								
RAYN	**Ar Rayn**	**68.77**	**289**	*e*P		**P**		**02 36 18.6**	**-0.4**
	comp=Z,51nm,1.0s								
VORD	**Divnogorie**	**70.27**	**319**	*e*P		**P**		**02 36 26.9**	**-0.7**
VORD					pmax	pmax			
	comp=Z,10.0nm,0.8s								
VORD					pmax	pmax			
	comp=N,3.0nm,0.4s								
VORD					pmax	pmax			
	comp=E,20nm,0.9s								
VSR	**Storozhevoye**	**70.33**	**319**	*e*P		**P**		**02 36 27.0**	**-1.0**
VSR					pmax	pmax			
	comp=Z,30nm,1.1s								
VSR					pmax	pmax			
	comp=N,10.0nm,0.9s								
VSR					pmax	pmax			
	comp=E,20nm,1.2s								
LPSR	**Galich'ya Gora**	**70.38**	**320**	*e*P		**P**		**02 36 27.4**	**-0.9**
LPSR					pmax	pmax			
	comp=Z,20nm,0.7s								
LPSR					pmax	pmax			
	comp=N,6.0nm,1.5s								
LPSR					pmax	pmax			
	comp=E,10.0nm,1.3s								
SOC	**Sochi**	**70.64**	**311**	*e*P		P		02 36 26.6	-3.4
SOC				*e*S		**S**		**02 45 38.7**	**-4.3**
SOC					MLR	MLR			
	comp=Z,255nm,16.0s								
MOS	**Moscow**	**70.95**	**324**	*e*P		**P**		**02 36 29.7**	**-2.0**
MOS					pmax	pmax			
	comp=Z,53nm,1.0s								
OBN	**Obninsk**	**71.59**	**323**	P		**P**		**02 36 35.1**	**-0.5**
	comp=Z,8.4nm,0.6s,baz=20,slow=3.3,SNR=11								
OBN	**Obninsk**	**71.59**	**323**	*d* *i*P		**P**		**02 36 34.7**	**-0.9**
OBN					pmax	pmax			
	comp=Z,53nm,1.7s								
OBN					MLR	MLR			
	comp=Z,319nm,19.0s								
OBN	**Obninsk**	**71.59**	**323**	*e*P		**P**		**02 36 34.4**	**-1.1**
	comp=Z,8.2nm,0.7s								
DAMY	**Dhamar**	**71.72**	**280**	*e*P		**P**		**02 36 37.7**	**+0.2**
	comp=Z,55nm,1.1s								
ANN	**Anapa**	**72.12**	**312**	*e*P		**P**		**02 36 37.5**	**-1.5**
ANN				*e*PPP		PPP		02 41 00.2	
ANN				*e*S		**S**		**02 46 02.3**	**+2.2**
ANN					pmax	pmax			
	comp=Z,58nm,1.4s								
ANN					MLR	MLR			
	comp=Z,273nm,23.0s								
APA	**Apatity**	**72.25**	**336**⇓	*i*P		P		02 36 35.5	-3.8
APA				*e*				02 37 05.0	
APA				*i* S		S		02 45 54.0	-6.7
APA					pmax	pmax			
	comp=Z,29nm,1.2s								
APA					MLR	MLR			
	comp=Z,600nm,20.0s								
MALT	**Malatya**	**72.30**	**305**⇓	*i*P		**P**		**02 36 40.9**	**+0.6**
IM04	**Indian Mountai**	**72.64**	**25**	*e*P		**P**		**02 36 42.0**	**+0.3**
PPLA	**Purkeypile**	**73.64**	**28**	*e*

BRTR **Keskin Array B** 75.73 307 P **P** 02 36 59.4 -1.0
comp=Z,1.7nm,0.8s,baz=116,slow=5.6,SNR=17
BRTR PP **PP** 02 39 55.0 +4.8
comp=Z,1.8nm,1.1s,baz=72,slow=7.9,SNR=3.9
BRTR LR LR 03 15 37.7
comp=Z,111nm,18.7s,baz=66,slow=40
BRTR **Keskin Array B** 75.73 307 *ce*P **P** 02 37 00.0 -0.4
BRTR pmax pmax
comp=Z,1.0nm,0.6s
FINES **FINESS Array B** 76.19 330 P **P** 02 37 01.9 -0.5
comp=Z,1.9nm,0.6s,baz=58,slow=5.2,SNR=20
FINES LR LR 03 12 17.1
comp=Z,378nm,19.1s,baz=81,slow=37
FINES **FINESS Array B** 76.19 330 P **P** 02 37 01.9 -0.5
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES MLR MLR
comp=Z,378nm,19.1s
ANTO **Ankara** 76.34 308 ⇓*i*P **P** 02 37 03.0 -0.8
ANTO **Ankara** 76.34 308 *e*P **P** 02 37 03.1 -0.6
comp=Z,16nm,1.4s
VSU **Vasula** 76.47 327 *d i*P **P** 02 37 03.2 -0.8
VSU pmax pmax
comp=Z,146nm,1.5s
AKASG **Malin Array Be** 76.62 319 P **P** 02 37 04.2 -0.8
comp=Z,10nm,0.9s,baz=65,slow=5.7,SNR=38
AKASG **Malin Array Be** 76.62 319 *ce*P **P** 02 37 04.1 -0.9
AKASG pmax pmax
comp=Z,10.0nm,0.9s
AKBB **Malin Array Si** 76.62 319 *e*P **P** 02 37 03.8 -1.2
AK01 **Malin Array Si** 76.63 319 *e*P **P** 02 37 03.7 -1.4
KIEV **Kiev** 76.63 319 *c i*P **P** 02 37 04.5 -0.6
KIEV **Kiev** 76.63 319 *e*P **P** 02 37 03.4 -1.8
comp=Z,51nm,1.5s
AK02 **Malin Array Si** 76.64 319 *e*P **P** 02 37 04.2 -1.0
PAX **Paxson** 76.65 28 *e*P **P** 02 37 03.6 -1.5
comp=Z,29nm,1.3s
EIL **Elat** 76.78 297 P **P** 02 37 05.7 -0.7
comp=Z,34nm,1.1s,baz=60,slow=2.9,SNR=17
DIV **Divide** 76.92 30 *e*P **P** 02 37 06.8 +0.1
comp=Z,100nm,1.7s
CSS **Prodhromos** 76.95 303 P **P** 02 37 05.3 -2.0
CSS **Prodhromos** 76.95 303 *e*P **P** 02 37 06.5 -0.8
comp=Z,8.0nm,0.8s
IZAR **Zarasai** 77.31 325 *e*P **P** 02 37 08.1 -0.7
IZAR IAmb IAmb 02 37 09.5
comp=Z,7.4nm,0.7s
IIGN **Ignalina** 77.41 324 *e*P **P** 02 37 08.7 -0.7
IIGN IAmb IAmb 02 37 10.0
comp=Z,9.9nm,1.1s
ISAL **Salakas** 77.41 324 *e*P **P** 02 37 08.7 -0.7
ISAL IAmb IAmb 02 37 09.9
comp=Z,27nm,1.6s
BMRM **Bremner River** 77.51 30 *e*P **P** 02 37 10.5 +0.5
comp=Z,22nm,1.2s
KIS **Kishinev** 77.67 316 *e*P **P** 02 37 10.0 -1.0
KIS LRM MLR 03 14 43.0
comp=Z,300nm,20.0s
KIS **Kishinev** 77.67 316 *e*P **P** 02 37 10.0 -1.0
KIS *e* 02 37 18.0
KIS MLR MLR
comp=Z,300nm,20.0s
SORM **Soroca** 77.72 317 ⇓*i*P P 02 37 07.6 -3.7
EGAK **Eagle** 78.05 26 *e*P **P** 02 37 12.7 -0.2
comp=Z,13nm,0.9s
TIRR **Tirgusor** 78.52 313 ⇓*i*P **P** 02 37 15.1 -0.7
TIRR **Tirgusor** 78.52 313 *e*P **P** 02 37 15.3 -0.4
comp=Z,6.1nm,1.0s
CFR **Carcaliu** 78.54 314 ⇑*i*P **P** 02 37 15.3 -0.6
ALT **Altintas** 78.54 307 P P 02 37 12.4 -3.8
ALT **Altintas** 78.54 307 P P 02 37 12.4 -3.8
TLB **Topalu** 78.75 313 ⇑*i*P **P** 02 37 16.7 -0.3
ISK **Istanbul-Kandi** 78.85 310 P **P** 02 37 17.1 -0.6
ISK **Istanbul-Kandi** 78.85 310 P **P** 02 37 17.1 -0.6
PSN **Preselentsi** 78.86 312 ⇑*i*P **P** 02 37 17.4 -0.2
PSN **Preselentsi** 78.86 312 P **P** 02 37 17.5 -0.2
DAWY **Dawson** 78.99 26 *e*P **P** 02 37 18.2 +0.1
comp=Z,28nm,1.4s
MSAB **Monastry St. A** 79.02 313 ⇓*i*P **P** 02 37 17.8 -0.7
PETR **Petresti** 79.03 315 ⇓*i*P **P** 02 37 19.9 +1.4
TESR **Tescani** 79.23 315 ⇓*i*P **P** 02 37 19.1 -0.6
VRI **Vrincioaia** 79.34 315 ⇓*i*P **P** 02 37 20.2 -0.1
PLOR **Plostina** 79.39 315 ⇓*i*P **P** 02 37 21.0 +0.4
SUW **Suwalki** 79.45 323 *e*P **P** 02 37 19.9 -0.8
SUW **Suwalki** 79.45 323 *e*P **P** 02 37 19.9 -0.8
ISR **Istrita** 79.65 314 ⇓*i*P **P** 02 37 23.0 +1.0
INK **Inuvik** 79.78 21 *e*P **P** 02 37 22.2 0.0
comp=Z,15nm,1.1s
BURAR **Bucovina Array** 79.89 317 ⇓*i*P **P** 02 37 23.9 +0.5
BUR08 **Bucovina Ar. S** 79.90 317 *e*P **P** 02 37 22.8 -0.6
MLR **Muntele Rosu** 79.96 315 P **P** 02 37 23.5 -0.3
comp=Z,2.7nm,0.8s,baz=41,slow=2.5,SNR=28
MLR **Muntele Rosu** 79.96 315 P **P** 02 37 23.5 -0.3
MLR pmax pmax
comp=Z,3.0nm,0.8s
MLR **Muntele Rosu** 79.96 315 ⇓*i*P **P** 02 37 23.8 0.0
SECR 80.00 314 ⇑*i*P **P** 02 37 23.3 -0.6
PLAR **PLOIESTI** 80.06 314 ⇑*i*P P 02 37 33.0 +8.8
LVV **L'vov** 80.07 319 *e*P **P** 02 37 23.0 -1.2
DOPR **Dopca** 80.21 315 ⇑*i*P **P** 02 37 25.4 +0.3
JMB **Yambol** 80.30 311 ⇑*i*P **P** 02 37 25.3 -0.2
EDRB **Edirne** 80.35 311 P **P** 02 37 23.9 -1.9
EDRB **Edirne** 80.35 311 P **P** 02 37 23.9 -1.9
SZH **Strazhica** 80.55 312 P **P** 02 37 26.9 0.0
VOIR 80.58 315 ⇓*i*P **P** 02 37 27.0 -0.1
HYT **Haines Junctio** 80.87 29 *e*P **P** 02 37 29.3 +0.9
comp=Z,19nm,1.4s
HUMR **Humele** 80.88 314 ⇑*i*P **P** 02 37 28.7 +0.1
ARR **Arges** 80.89 315 ⇓*i*P **P** 02 37 29.4 +0.7
KWP **Kalwaria Pacla** 80.95 319 *e*P **P** 02 37 28.8 -0.1
KWP **Kalwaria Pacla** 80.95 319 *e*P **P** 02 37 28.8 -0.1
CJR **Cluj-Napoca** 81.20 316 ⇓*i*P **P** 02 37 29.9 -0.5
KDZ **Kurdzhali** 81.36 311 ⇑*i*P **P** 02 37 31.6 +0.4
KDZ **Kurdzhali** 81.36 311 P **P** 02 37 31.4 +0.2
KOLS **Kolonicke sedl** 81.42 319 *e*P **P** 02 37 30.9 -0.5
KOLS pmax pmax
comp=Z,5.0nm,1.3s
KOLS **Kolonicke sedl** 81.42 319 *e*P **P** 02 37 30.9 -0.5
KOLS *ep*P **pP** 02 37 39.2 +0.6
BEL **Belsk** 81.46 322 *e*P **P** 02 37 30.4 -1.1
BEL *e* 02 37 31.8
BEL **Belsk** 81.46 322 *e*P **P** 02 37 30.5 -1.1
TRPA **Tarpa** 81.49 318 ⇑*i*P **P** 02 37 32.2 +0.5
TRPA **Tarpa** 81.49 318 ⇓*e*P **P** 02 37 31.7 0.0
SMTH **Samothraki Isl** 81.60 310 P **P** 02 37 30.5 -2.0
SMTH **Samothraki Isl** 81.60 310 P **P** 02 37 30.5 -2.0
PLD **Plovdiv** 81.74 311 P **P** 02 37 31.7 -1.5
PLD **Plovdiv** 81.74 311 P **P** 02 37 31.7 -1.5
DRGR 81.77 316 ⇓*i*P **P** 02 37 33.1 -0.3
STHS **Stebnicka Huta** 81.92 319 *e*P **P** 02 37 34.1 0.0
STHS pmax pmax
comp=Z,7.0nm,1.2s
STHS **Stebnicka Huta** 81.92 319 *e*P **P** 02 37 34.1 0.0
STHS *e*PCP **PcP** 02 37 40.4 +0.7
PGB **Panagyurishte** 82.00 312 P **P** 02 37 34.8 +0.1
MPEP **Malo Peshtene** 82.06 313 P **P** 02 37 35.4 +0.5
KAVA **Kavala** 82.19 310 P **P** 02 37 34.2 -1.4
KAVA **Kavala** 82.19 310 P **P** 02 37 34.2 -1.4
HFS **Hagfors** 82.37 331 P **P** 02 37 35.0 -1.2
comp=Z,4.0nm,0.8s,baz=104,slow=4.9,SNR=13
HFS **Hagfors** 82.37 331 P **P** 02 37 35.0 -1.2
HFS pmax pmax
comp=Z,4.0nm,0.8s
DAG **Danmarks Havn** 82.45 351 ⇓*i*P **P** 02 37 35.1 -1.2
comp=Z,48nm,1.1s
DAG **Danmarks Havn** 82.45 351 ⇓*i*P **P** 02 37 35.1 -1.2
DAG pmax pmax
comp=Z,61nm,1.1s
NIE **Niedzica** 82.50 319 *e*P **P** 02 37 37.4 +0.3
NIE **Niedzica** 82.50 319 *e*P **P** 02 37 37.4 +0.3
NVR **Nevrokopi** 82.56 311 P **P** 02 37 35.7 -1.9
NVR **Nevrokopi** 82.56 311 P **P** 02 37 35.7 -1.9
OJC **Ojcow** 82.56 320 *e*P **P** 02 37 37.0 -0.4
OJC **Ojcow** 82.56 320 *e*P **P** 02 37 37.0 -0.4
MMB **Musomiste** 82.59 311 ⇑*i*P **P** 02 37 36.5 -1.2
VTS **Vitosha** 82.66 312 P **P** 02 37 37.7 -0.6
VTS **Vitosha** 82.66 312 ⇓*i*P **P** 02 37 37.9 -0.4
VTS **Vitosha** 82.66 312 P **P** 02 37 37.9 -0.4
VTS **Vitosha** 82.66 312 P **P** 02 37 37.7 -0.6
KECS **Kecovo** 82.69 319 *e*P **P** 02 37 37.8 -0.3
KECS pmax pmax
comp=Z,8.0nm,1.3s
KECS **Kecovo** 82.69 319 *e*P **P** 02 37 37.8 -0.3

OUR **Ouranopolis** 82.77 310 P **P** 02 37 36.8 -1.8
OUR **Ouranopolis** 82.77 310 P **P** 02 37 36.8 -1.8
SRS **Serrai** 82.82 311 P P 02 37 31.7 -7.2
SRS **Serrai** 82.82 311 P P 02 37 31.7 -7.2
KMBO **Kilima Mbogo** 82.91 267 P **P** 02 37 41.4 +1.2
comp=Z,12nm,0.9s,baz=56,slow=8.0,SNR=21
KMBO **Kilima Mbogo** 82.91 267 P **P** 02 37 41.4 +1.2
KMBO pmax pmax
comp=Z,12nm,0.9s
KMBO **Kilima Mbogo** 82.91 267 P **P** 02 37 42.1 +2.0
SNR=6.3
KMBO **Kilima Mbogo** 82.91 267 *e*P **P** 02 37 41.4 +1.2
comp=Z,27nm,1.1s
KKB **Krupnik** 82.97 312 P **P** 02 37 39.3 -0.4
GKP **Gorka Klasztor** 83.05 324 *e*P **P** 02 37 39.2 -0.5
GKP **Gorka Klasztor** 83.05 324 *e*P **P** 02 37 39.3 -0.5
SOH **Sokhos** 83.08 311 P **P** 02 37 38.7 -1.6
SOH **Sokhos** 83.08 311 P **P** 02 37 38.7 -1.6
PAIG **Paliouri** 83.11 310 P **P** 02 37 38.7 -1.7
PAIG **Paliouri** 83.11 310 P **P** 02 37 38.7 -1.7
NB2 **NORSAR Subarra** 83.14 332 P **P** 02 37 38.6 -1.6
comp=Z,13nm,1.1s,baz=66,slow=5.6
NOA **NORSAR Array B** 83.14 332 P **P** 02 37 39.0 -1.2
comp=Z,5.3nm,0.9s,baz=65,slow=4.7,SNR=16
NOA LR LR 03 17 12.0
comp=Z,334nm,18.6s,baz=80,slow=38
NOA **NORSAR Array B** 83.14 332 P **P** 02 37 39.0 -1.2
NOA pmax pmax
comp=Z,5.0nm,0.9s
NOA MLR MLR
comp=Z,334nm,18.6s
PLG **Polygyros** 83.15 310 P **P** 02 37 37.7 -3.0
PLG **Polygyros** 83.15 310 P **P** 02 37 37.7 -3.0
PSZ **Piszkesteto** 83.24 318 ⇓*i*P **P** 02 37 40.7 -0.3
PSZ **Piszkesteto** 83.24 318 *e*P **P** 02 37 40.0 -1.1
comp=Z,23nm,1.4s
PSZ **Piszkesteto** 83.24 318 ⇑*e*P **P** 02 37 40.8 -0.3
KNT **Kendrikon** 83.31 311 P **P** 02 37 39.7 -1.8
KNT **Kendrikon** 83.31 311 P **P** 02 37 39.7 -1.8
NAO01 **NORSAR Array S** 83.37 332 *e*P **P** 02 37 39.6 -1.8
comp=Z,5.2nm,0.9s
VAY **Valandovo** 83.50 311 P **P** 02 37 40.0 -2.4
VAY **Valandovo** 83.50 311 *i* P **P** 02 37 41.6 -0.8
VAY **Valandovo** 83.50 311 P **P** 02 37 40.0 -2.4
MRKA **Markates** 83.54 308 P P 02 37 49.1 +6.4
IDI **Anoyia** 83.56 305 P **P** 02 37 42.7 -0.2
comp=Z,5.4nm,0.8s,baz=60,slow=8.1,SNR=3.0
PKSN **Nyarlorinc** 83.59 317 ⇑*e*P **P** 02 37 43.7 +1.0
NEO **Neokhori** 83.63 309 P P 02 37 40.0 -3.2
NEO **Neokhori** 83.63 309 P P 02 37 40.0 -3.2
BSD **Bornholm Skovb** 83.66 326 *i* P **P** 02 37 41.8 -1.1
comp=Z,122nm,1.5s
BSD **Bornholm Skovb** 83.66 326 *i* P **P** 02 37 41.8 -1.1
BSD pmax pmax
comp=Z,120nm,1.5s
OKC **Ostrava-Krasne** 83.69 320 *e*P **P** 02 37 42.6 -0.6
OKC *ep*P **pP** 02 37 50.4 0.0
OKC AMS AMS 03 16 50.0
comp=Z,200nm,20.7s
OKC **Ostrava-Krasne** 83.69 320 *e*P **P** 02 37 42.6 -0.6
OKC *e**PP **pP** 02 37 50.4 0.0
OKC MLR MLR
comp=Z,200nm,20.7s
PKS6 **Bocsa** 83.88 317 ⇑*e*P P 02 37 40.5 -3.7
LIT **Litokhoron** 83.93 310 P **P** 02 37 42.0 -2.7
LIT **Litokhoron** 83.93 310 P **P** 02 37 42.0 -2.7
BUD **Budapest** 83.94 318 ⇑*e*P **P** 02 37 45.5 +1.0
PKS7 **Kunszentmiklos** 84.00 317 ⇑*e*P **P** 02 37 45.1 +0.3
LKR **Lokris** 84.00 309 P P 02 37 37.2 -7.8
LKR **Lokris** 84.00 309 P P 02 37 37.2 -7.8
SKO **Skopje** 84.10 312 *i* P **P** 02 37 45.6 +0.1
PKS2 **Kecel** 84.15 317 ⇑*e*P **P** 02 37 46.2 +0.6
DID **Didima** 84.17 307 P P 02 37 45.5 -2.5
DID **Didima** 84.17 307 P P 02 37 43.5 -2.5
PKSG 84.37 318 ⇑*e*P **P** 02 37 47.1 +0.4
AGG **Agios Georgios** 84.38 309 P P 02 37 44.0 -3.0
AGG **Agios Georgios** 84.38 309 P P 02 37 44.0 -3.0
KZN **Kozani** 84.39 310 P P 02 37 44.6 -2.5
KZN **Kozani** 84.39 310 P P 02 37 44.6 -2.5
DIVS **Divibare** 84.42 314 P P 02 37 45.9 -1.3
DIVS **Divibare** 84.42 314 ⇓*i*P P 02 37 46.4 -0.8
KRLC **Kraliky** 84.44 321 *e*P P 02 37 46.8 -0.3
KRLC *ep*P **pP** 02 37 56.2 +1.9
KRLC **Kraliky** 84.44 321 *e*P **P** 02 37 46.8 -0.3
KRLC *e**PP **pP** 02 37 56.2 +1.9
KSP **Ksiaz** 84.45 322 *e*P **P** 02 37 47.1 0.0
KSP **Ksiaz** 84.45 322 *e*P **P** 02 37 47.2 +0.1
FNA **Florina** 84.52 311 P P 02 37 45.3 -2.4
FNA **Florina** 84.52 311 P P 02 37 45.3 -2.4
SMOL **Smolenice** 84.59 319 *e*P **P** 02 37 48.8 +0.9
SMOL **Smolenice** 84.59 319 *e* **P** 02 37 48.8 +0.9
DPC **Dobruska-Polom** 84.61 321 *e*P **P** 02 37 48.3 +0.3
DPC *ep*P **pP** 02 37 55.8 +0.7
DPC AMS AMS 03 17 30.0
comp=Z,300nm,18.8s
DPC **Dobruska-Polom** 84.61 321 *e*P **P** 02 37 48.3 +0.3
DPC *e**PP **pP** 02 37 55.8 +0.7
DPC MLR MLR
comp=Z,300nm,18.8s
PKSM **Moragy** 84.61 317 ⇓*i*P **P** 02 37 47.2 -0.8
PKSM **Moragy** 84.61 317 ⇓*e*P **P** 02 37 48.0 0.0
PKST **T``s** 84.65 318 ⇓*e*P **P** 02 37 48.4 +0.2
GUR **Goura** 84.71 308 P P 02 37 46.0 -2.8
GUR **Goura** 84.71 308 P P 02 37 46.0 -2.8
PKS9 **Tamasi** 84.72 317 ⇑*e*P **P** 02 37 48.9 +0.4
UPC **Upice** 84.74 321 *e*P **P** 02 37 48.3 -0.3
UPC *ep*P **pP** 02 37 56.6 +0.9
UPC **Upice** 84.74 321 *e*P **P** 02 37 48.3 -0.3
UPC *e**PP **pP** 02 37 56.6 +0.9
EVR **Evrytania** 84.80 309 P P 02 37 45.6 -3.6
EVR **Evrytania** 84.80 309 P P 02 37 45.6 -3.6
VRAC **Vranov** 84.82 320 P **P** 02 37 49.7 +0.7
comp=Z,15nm,1.0s,baz=67,slow=5.9,SNR=25
VRAC **Vranov** 84.82 320 P **P** 02 37 49.7 +0.7
VRAC pmax pmax
comp=Z,15nm,1.0s
VRAC **Vranov** 84.82 320 ⇓*i*P **P** 02 37 49.2 +0.2
OHR **Ohrid** 84.83 311 *i* P **P** 02 37 46.6 -2.7
VLX **Vlachokerasia** 84.86 307 P P 02 37 46.5 -3.1
VLX **Vlachokerasia** 84.86 307 P P 02 37 46.5 -3.1
NEST **Nestorio** 84.88 311 P P 02 37 40.3 -9.3
PHP **Peshkopia** 84.90 312 P **P** 02 37 47.8 -1.8
PHP **Peshkopia** 84.90 312 P **P** 02 37 47.8 -1.8
KBN **Korca** 85.00 311 P **P** 02 37 47.6 -2.6
KBN **Korca** 85.00 311 P **P** 02 37 47.6 -2.6
DRO **Drossia** 85.18 308 P **P** 02 37 49.6 -1.4
RES **Resolute Bay** 85.25 9 *e*P **P** 02 37 50.1 -0.5
comp=Z,63nm,1.6s
DSL **Palaion Diasel** 85.26 309 P **P** 02 37 49.1 -2.3
DSL **Palaion Diasel** 85.26 309 P **P** 02 37 49.1 -2.3
ITM **Ithomi** 85.26 307 P P 02 37 49.1 -2.4
ITM **Ithomi** 85.26 307 P P 02 37 49.1 -2.4
RUE **Ruedersdorf** 85.28 324 *e*P **P** 02 37 51.6 +0.4
comp=Z,16nm,0.6s
DLBC **Dease Lake** 85.31 30 *e*P **P** 02 37 52.3 +1.0
comp=Z,71nm,1.7s
AMT **Artemida-Makis** 85.31 308 P **P** 02 37 49.9 -1.8
RLS **Riolos of Patr** 85.33 308 P **P** 02 37 49.8 -1.9
RLS **Riolos of Patr** 85.33 308 P **P** 02 37 49.8 -1.9
PDO **Prodromos** 85.36 309 P **P** 02 37 49.3 -2.6
TIR **Tirane** 85.42 312 P **P** 02 37 50.6 -1.5
TIR **Tirane** 85.42 312 *e*P **P** 02 37 50.7 -1.5
comp=Z,15nm,0.4s
SOP **Sopron** 85.43 319 ⇓*e*P **P** 02 37 52.2 +0.1
PDG **Podgorica** 85.48 313 P **P** 02 37 51.5 -0.9
TTG **Podgorica** 85.48 313 P **P** 02 37 51.5 -0.9
PYL **PYLOS** 85.49 307 P **P** 02 37 50.0 -2.6
PYL **PYLOS** 85.49 307 P **P** 02 37 50.0 -2.6
TREC **Trest** 85.50 320 *e*P **P** 02 37 52.2 -0.2
TREC *ep*P **pP** 02 38 00.5 +0.9
TREC AMS AMS 03 19 40.0
comp=Z,200nm,21.3s
TREC **Trest** 85.50 320 *e*P **P** 02 37 52.2 -0.2
TREC *e**PP **pP** 02 38 00.5 +0.9
TREC MLR MLR
comp=Z,200nm,21.3s
DRV **Dumont d'Urvil** 85.55 172 SS SS 02 53 38.0 -21
DRV R 03 08 00.0
PVCC **Panska Ves** 85.59 322 *e*P **P** 02 37 52.6 -0.2
PVCC **Panska Ves** 85.59 322 *e*P **P** 02 37 52.6 -0.2
GOPC **GO Pecny, Ondr** 85.69 321 *e*P **P** 02 37 53.3 -0.1
GOPC AMS AMS 03 18 10.0

comp=Z,200nm,16.4s
SGD **Sagiada** 85.73 310 P **P** 02 37 51.6 -2.1
BEHE **Becsehely** 85.73 317 ⇑*e*P **P** 02 37 54.6 +1.0
CONA **Conrad Observa** 85.78 319 *i* PcP **P** 02 37 54.3 +0.4
comp=Z,28nm,1.5s,SNR=15
PRU **Pruhonice** 85.81 321 *e*P **P** 02 37 53.6 -0.3
PRU *ep*P **pP** 02 37 59.2 -1.9
PRU *e*SKS **S** 02 48 22.8 -3.0
PRU AMS AMS 03 18 10.0
comp=Z,200nm,18.8s
PRU **Pruhonice** 85.81 321 *e*P **P** 02 37 53.6 -0.3
PRU *e**PP **pP** 02 37 59.2 -1.9
PRU *e*S **S** 02 48 22.8 -3.0
PRU MLR MLR
comp=Z,200nm,18.8s
KFL **Anninata** 85.82 309 P **P** 02 37 52.6 -1.6
BRG **Berggiesshubel** 85.82 322 *i* P **P** 02 37 53.4 -0.5
comp=Z,42nm,1.3s
BRG *e* 02 38 01.5
comp=Z,45nm,1.8s
comp=N,239nm,27.2s
comp=E,173nm,17.3s
comp=Z,189nm,11.8s
BRG **Berggiesshubel** 85.82 322 *e*P **P** 02 37 53.6 -0.3
comp=Z,42nm,1.3s
BRG *ep*P Px 02 38 53.0
BRG **Berggiesshubel** 85.82 322 *i* P **P** 02 37 53.4 -0.5
BRG *e* 02 38 01.5
BRG pmax pmax
comp=Z,42nm,1.3s
BRG pmax pmax
comp=Z,45nm,1.8s
BRG MLR MLR
comp=N,239nm,27.2s
BRG MLR MLR
comp=E,173nm,17.3s
BRG MLR MLR
comp=Z,189nm,11.8s
PRA **Prague** 85.84 321 *e*P **P** 02 37 53.9 -0.1
PRA **Prague** 85.84 321 *e*P **P** 02 37 53.9 -0.1
VLS **Valsamata** 85.94 309 P P 02 37 52.3 -2.5
VLS **Valsamata** 85.94 309 P P 02 37 52.3 -2.5
ZKS **Zakynthos** 85.95 308 P **P** 02 37 52.5 -2.4
KEK **Kerkira** 86.01 310 P P 02 37 53.1 -2.0
KEK **Kerkira** 86.01 310 P **P** 02 37 53.1 -2.0
KOGS **Kog** 86.08 318 *i* P **P** 02 37 55.0 -0.4
CLL **Collm** 86.19 323 *e*P **P** 02 37 55.1 -0.6
comp=Z,33nm,1.3s
CLL **Collm** 86.19 323 ⇓*i*P **P** 02 37 54.8 -0.9
comp=Z,33nm,1.3s
CLL *ep*P **pP** 02 38 02.0 -0.9
CLL *e**PP **PP** 02 41 15.0 -1.0
CLL *e*S **S** 02 48 28.0 -1.4
CLL *e*PS **PnS** 02 49 32.0 +3.6
CLL *e**PPS PPS 02 50 06.0
CLL *e*SS **SS** 02 54 03.0 -4.7
CLL *e*SSS SSS 02 57 36.0
CLL *e*SSSS 03 00 24.0
CLL Lm MLR 03 18 00.0
comp=Z,200nm,20.5s
CLL **Collm** 86.19 323 ⇓*i*P **P** 02 37 54.8 -0.9
CLL *e* 02 38 02.0
CLL *e*S **S** 02 48 28.0 -1.4
CLL pmax pmax
comp=Z,33nm,1.3s
CLL MLR MLR
comp=Z,200nm,20.5s
BSEG **Bad Segeberg** 86.58 326 *e*P **P** 02 37 57.4 -0.2
comp=Z,43nm,1.7s
KHC **Kasperske Hory** 86.72 321 *e*P **P** 02 37 58.0 -0.5
KHC *ep*P **pP** 02 38 03.6 -2.1
KHC *e*S **S** 02 48 31.5 -3.3
KHC AMS AMS 03 18 40.0
comp=Z,300nm,19.0s
KHC **Kasperske Hory** 86.72 321 *e*P **P** 02 37 58.0 -0.5
KHC *e* 02 38 03.6
KHC *e* 02 48 31.5
KHC MLR MLR
comp=Z,300nm,19.0s
KHC **Kasperske Hory** 86.72 321 *e*P **P** 02 37 58.2 -0.3
comp=Z,8.5nm,1.5s
GEC2 **GERESS Array S** 86.76 320 *e*P **P** 02 37 58.5 -0.2
comp=Z,31nm,1.5s
GEC2 *ep*P Px 02 38 57.6
GERES **GERESS Array B** 86.76 320 P **P** 02 37 58.7 0.0
comp=Z,3.9nm,0.9s,baz=60,slow=5.4,SNR=33
GERES LR LR 03 19 10.4
comp=Z,237nm,19.5s,baz=81,slow=37
GERES **GERESS Array B** 86.76 320 P **P** 02 37 58.7 0.0
GERES pmax pmax
comp=Z,4.0nm,0.9s
GERES MLR MLR
comp=Z,237nm,19.5s
SOKA **Soboth** 86.77 318 *i* PcP **P** 02 37 58.3 -0.6
comp=Z,15nm,1.2s,SNR=11
MOA **Molln** 86.80 319 *i* PcP **P** 02 37 59.0 +0.1
comp=Z,40nm,1.3s,SNR=13
TANN **Tannenbergstha** 86.87 322 *e*P **P** 02 37 58.2 -1.0
comp=Z,25nm,1.5s
NKC **Novy Kostel** 86.95 322 *e*P **P** 02 37 59.5 0.0
NKC AMS AMS 03 18 40.0
comp=Z,200nm,13.3s
NKC **Novy Kostel** 86.95 322 *e*P **P** 02 37 59.5 0.0
NKC MLR MLR
comp=Z,200nm,13.3s
BOJS **Bojanci** 87.08 317 *i* P **P** 02 38 00.1 -0.2
WET **Wettzell** 87.14 321 *e*P **P** 02 38 00.5 0.0
comp=Z,30nm,1.6s
WET *ep*P Px 02 38 58.4
OBKA **Obir** 87.15 318 *i* PcP **P** 02 38 00.6 -0.1
comp=Z,14nm,1.2s,SNR=6.7
MOX **Moxa** 87.26 323 *e*P **P** 02 38 00.7 -0.3
comp=Z,28nm,1.6s
ROTZ **Rotzenmuhle** 87.28 322 *e*P **P** 02 38 01.3 +0.2
comp=Z,35nm,1.6s
NRDL **Niedersach Rie** 87.32 325 *e*P **P** 02 38 01.2 0.0
comp=Z,44nm,1.7s
CLZ **Clausthal** 87.46 324 *e*P **P** 02 38 01.9 -0.1
comp=Z,50nm,1.8s
KBA **Koelnbreinsper** 87.68 319 ⇓*i* PcP **P** 02 38 02.4 -1.0
comp=Z,9.5nm,1.3s
RJOB **Jochberg** 87.76 320 *e*P **P** 02 38 03.2 -0.4
comp=Z,15nm,1.3s
GRF **Grafenberg Arr** 87.89 322 *e*P **P** 02 38 04.1 0.0
comp=Z,38nm,1.7s
ABTA **Abfaltersbach** 88.34 319 *i* PcP **P** 02 38 05.5 -0.9
comp=Z,15nm,1.3s,SNR=7.2
TIP **Timpagrande** 88.41 311 P **P** 02 38 05.8 -1.0
TIP **Timpagrande** 88.41 311 *e*P **P** 02 38 06.3 -0.6
comp=Z,23nm,1.6s
FUR **Furstenfeldbru** 88.51 320 *e*P **P** 02 38 07.1 0.0
comp=Z,51nm,1.4s
WTTA **Wattenberg** 88.67 320 ⇓*i* PcP **P** 02 38 07.2 -0.8
comp=Z,34nm,1.5s,SNR=9.0
SUMG **Summit** 88.69 353 ⇓*i*P **P** 02 38 07.4 -0.5
comp=Z,25nm,1.2s
SUMG **Summit** 88.69 353 ⇓*i*P **P** 02 38 07.4 -0.5
SUMG pmax pmax
comp=Z,25nm,1.2s
SUMG **Summit** 88.69 353 *e*P **P** 02 38 07.3 -0.6
comp=Z,20nm,1.1s
MOTA **Moosalm** 88.96 320 ⇓*i* PcP **P** 02 38 08.4 -1.0
comp=Z,15nm,1.1s,SNR=5.3
FETA **Feichten** 89.33 320 ⇑*i* PcP **P** 02 38 10.8 -0.3
comp=Z,21nm,1.2s,SNR=7.6
YKA **Yellowknife Ar** 89.51 22 P **P** 02 38 11.4 0.0
comp=Z,3.9nm,0.7s,baz=315,slow=4.4,SNR=36
YKA **Yellowknife Ar** 89.51 22 P **P** 02 38 11.4 0.0
YKA pmax pmax
comp=Z,4.0nm,0.7s
AQU **L'Aquila** 89.54 315 *e*P **P** 02 38 11.9 -0.2
comp=Z,18nm,1.1s
DAVA **Damuels** 89.74 320 ⇑*i* PcP **P** 02 38 12.7 -0.3
comp=Z,12nm,1.2s
DAVOX **Davos/Dischmat** 89.96 320 P **P** 02 38 14.1 0.0
comp=Z,11nm,1.0s,baz=45,slow=2.7,SNR=13
DAVOX LR LR 03 22 08.2
comp=Z,246nm,21.4s,baz=90,slow=38
DAVOX **Davos/Dischmat** 89.96 320 P **P** 02 38 14.1 0.0
DAVOX pmax pmax
comp=Z,11nm,1.0s
DAVOX MLR MLR
comp=Z,246nm,21.4s
BFO **Black Forest** 90.20 322 *e*P **P** 02 38 14.3 -0.7
comp=Z,20nm,1.5s
CDF **Champ du Feu** 90.79 322 *e*P **P** 02 38 16.6 -1.2

	comp=Z,67nm,1.4s								
CDF	**Champ du Feu**	**90.79**	**322**	*e*P		**P**		**02 38 16.6**	**-1.2**
	comp=Z,67nm,1.4s								
HINF	**Hinteralfeld**	**91.32**	**322**	*e*P		**P**		**02 38 18.7**	**-1.5**
	comp=Z,72nm,1.5s								
HINF	**Hinteralfeld**	**91.32**	**322**	*e*P		**P**		**02 38 18.7**	**-1.5**
	comp=Z,72nm,1.5s								
GIVF	**Givet**	**91.38**	**324**	*e*P		**P**		**02 38 19.2**	**-1.2**
GIVF	**Givet**	**91.38**	**324**	*e*P		**P**		**02 38 19.2**	**-1.2**
PAGF	**Fort de Pagny**	**91.63**	**323**	*e*P		**P**		**02 38 20.7**	**-0.9**
	comp=Z,22nm,1.4s								
PAGF	**Fort de Pagny**	**91.63**	**323**	*e*P		**P**		**02 38 20.7**	**-0.9**
	comp=Z,22nm,1.4s								
MEZF	**Maizieres J'vi**	**92.04**	**323**	*e*P		**P**		**02 38 22.5**	**-1.0**
	comp=Z,114nm,1.6s								
MEZF	**Maizieres J'vi**	**92.04**	**323**	*e*P		**P**		**02 38 22.5**	**-1.0**
	comp=Z,114nm,1.6s								
SFTF	**Sexfontaines**	**92.20**	**322**	*e*P		**P**		**02 38 23.0**	**-1.2**
	comp=Z,36nm,1.2s								
SFTF	**Sexfontaines**	**92.20**	**322**	*e*P		**P**		**02 38 23.0**	**-1.2**
	comp=Z,36nm,1.2s								
LPG	**La Plagne**	**92.48**	**319**	*e*P		**P**		**02 38 25.2**	**-0.8**
	comp=Z,82nm,1.2s								
LPG	**La Plagne**	**92.48**	**319**	*e*P		**P**		**02 38 25.2**	**-0.8**
	comp=Z,82nm,1.2s								
LPL	**La Plagne**	**92.49**	**320**	*e*P		**P**		**02 38 25.1**	**-0.8**
	comp=Z,104nm,1.2s								
LPL	**La Plagne**	**92.49**	**320**	*e*P		**P**		**02 38 25.1**	**-0.8**
	comp=Z,104nm,1.2s								
EKA	**Eskdalemuir Ar**	**92.57**	**331**	P		**P**		**02 38 25.9**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=72,slow=5.6,SNR=6.5								
EKA	**Eskdalemuir Ar**	**92.57**	**331**	P		**P**		**02 38 25.9**	**+0.1**
EKA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ESK	**Eskdalemuir**	**92.60**	**331**	*e*P		**P**		**02 38 25.1**	**-0.8**
	comp=Z,31nm,1.3s								
BNI	**Bardonecchia**	**92.74**	**319**	*e*P		**P**		**02 38 26.5**	**-0.5**
	comp=Z,26nm,1.4s								
ORIF	**Oris-en-Rattie**	**93.30**	**319**	*e*P		**P**		**02 38 28.6**	**-0.9**
	comp=Z,139nm,1.7s								
ORIF	**Oris-en-Rattie**	**93.30**	**319**	*e*P		**P**		**02 38 28.6**	**-0.9**
	comp=Z,139nm,1.7s								
LOR	**Lormes**	**93.36**	**322**	*e*P		**P**		**02 38 28.1**	**-1.5**
	comp=Z,70nm,1.6s								
LOR	**Lormes**	**93.36**	**322**	*e*P		**P**		**02 38 28.1**	**-1.5**
	comp=Z,70nm,1.6s								
SSF	**Saint Saulge**	**93.67**	**322**	*e*P		**P**		**02 38 29.6**	**-1.4**
	comp=Z,88nm,1.8s								
SSF	**Saint Saulge**	**93.67**	**322**	*e*P		**P**		**02 38 29.6**	**-1.4**
	comp=Z,88nm,1.8s								
AVF	**Avril sur Loir**	**93.90**	**322**	*e*P		**P**		**02 38 30.6**	**-1.5**
	comp=Z,17nm,1.2s								
AVF	**Avril sur Loir**	**93.90**	**322**	*e*P		**P**		**02 38 30.6**	**-1.5**
	comp=Z,17nm,1.2s								
MAW	**Mawson**	**94.51**	**199**	P		**P**		**02 38 34.0**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=67,slow=11,SNR=4.0								
MAW	**Mawson**	**94.51**	**199**	P		**P**		**02 38 34.0**	**-0.2**
MAW				pmax		pmax			
	comp=Z,1.0nm,0.3s								
KEST	**Kesra**	**95.19**	**310**	LR		LR		03 28 01.4	
	comp=Z,24nm,20.2s,baz=252,slow=40								
PPT2	**Papeete2**	**96.11**	**106**	*e*LR		LR		03 09 43.7	
	comp=Z,354nm,26.8s								
NEW	**Newport**	**97.21**	**34**	*e*P		Pdif		02 38 48.0	+0.7
	comp=Z,2.6nm,0.9s								
TBI	**Tubuai**	**97.82**	**112**	*e*LR		LR		03 10 32.1	
	comp=Z,311nm,35.0s								
VNDA	**Vanda**	**98.19**	**171**	P		Pdif		02 38 51.4	+0.6
	comp=Z,0.4nm,0.7s,baz=311,slow=6.2,SNR=3.9								
VNDA				LR		LR		03 26 12.7	
	comp=Z,49nm,18.0s,baz=336,slow=37								
VNDA	**Vanda**	**98.19**	**171**	*e*P		Pdif		02 38 51.7	+0.9
	comp=Z,2.3nm,1.1s								
TORD	**Torodi Ar. Bea**	**111.34**	**292**	PKiKP		**PKiKP**		**02 43 47.9**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=29,slow=2.5,SNR=4.8								
TORD				PP		**PP**		**02 44 25.8**	**-3.5**
	comp=Z,1.1nm,0.8s,baz=61,slow=6.6,SNR=6.7								
TORD				PKKPbc		**PKKPbc**		**02 54 46.0**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=273,slow=2.9,SNR=9.6								
TORD				PKKPab		**PKKPab**		**02 54 55.3**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=245,slow=4.1,SNR=7.8								
V35A	**Meyer Ranch, C**	**116.65**	**33**	P		**PKPdf**		**02 43 59.0**	**0.0**
	baz=116								
Z32A	**Haskell**	**117.09**	**36**	P		**PKPdf**		**02 43 59.4**	**-0.5**
	baz=117								
SFIN	**Lafayette**	**117.12**	**23**	P		**PKPdf**		**02 43 59.6**	**-0.2**
	baz=117								
TXAR	**Lajitas Array**	**117.38**	**42**	PKP		**PKPdf**		**02 44 01.1**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=295,slow=0.8,SNR=15								
TXAR	**Lajitas Array**	**117.38**	**42**	PKIKP		**PKPdf**		**02 44 01.2**	**+0.5**
TXAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
429A	**Davenport Ranc**	**117.60**	**40**	P		**PKPdf**		**02 44 00.2**	**-0.8**
	baz=117								
331A	**San Angelo**	**118.00**	**38**	P		**PKPdf**		**02 44 01.7**	**-0.1**
	baz=118								
530A	**J-C Ranch, Com**	**118.27**	**40**	P		**PKPdf**		**02 44 02.9**	**+0.5**
	baz=118								
332A	**Millersview**	**118.34**	**38**	P		**PKPdf**		**02 44 02.7**	**+0.2**
	baz=118								
Y36A	**Durant**	**118.38**	**34**	P		**PKPdf**		**02 44 01.8**	**-0.6**
	baz=118								
134A	**White-Moore Ra**	**118.42**	**36**	P		**PKPdf**		**02 44 01.8**	**-0.8**
	baz=118								
X38A	**Whitesboro**	**118.53**	**32**	P		**PKPdf**		**02 44 02.6**	**0.0**
	baz=118								
234A	**Clairette**	**118.81**	**36**	P		**PKPdf**		**02 44 02.9**	**-0.4**
	baz=119								
333A	**Richland Sprin**	**118.83**	**37**	P		**PKPdf**		**02 44 03.4**	**0.0**
	baz=119								
JCT	**Junction City**	**118.96**	**39**	P		**PKPdf**		**02 44 04.2**	**+0.6**
	baz=119								
631A	**Perdido Creek**	**119.26**	**40**	P		**PKPdf**		**02 44 04.3**	**+0.1**
	baz=119								
WCI	**Wyandotte Cave**	**119.30**	**23**	*e*PKPdf		**PKPdf**		**02 44 03.9**	**-0.2**
434A	**Burnet**	**119.62**	**37**	P		**PKPdf**		**02 44 04.7**	**-0.2**
	baz=119								
533A	**Kerrville**	**119.71**	**38**	P		**PKPdf**		**02 44 05.0**	**-0.1**
	baz=120								
DBIC	**Dimbokro**	**119.91**	**289**	PKP		**PKPdf**		**02 44 05.4**	**-0.4**
	comp=Z,4.9nm,1.1s,baz=106,slow=8.6,SNR=3.7								
DBIC	**Dimbokro**	**119.91**	**289**	PKIKP		**PKPdf**		**02 44 05.4**	**-0.4**
DBIC				pmax		pmax			
	comp=Z,5.0nm,1.1s								
633A	**Saathoff Ranch**	**120.08**	**39**	P		**PKPdf**		**02 44 06.0**	**+0.2**
	baz=120								
534A	**Blanco**	**120.08**	**38**	P		**PKPdf**		**02 44 05.1**	**-0.7**
	baz=120								
832A	**Faith Ranch, C**	**120.43**	**41**	P		**PKPdf**		**02 44 06.9**	**+0.4**
	baz=120								
WVT	**Waverly**	**120.53**	**26**	*e*PKPdf		**PKPdf**		**02 44 05.8**	**-0.7**
535A	**Dale**	**120.60**	**37**	P		**PKPdf**		**02 44 07.3**	**+0.5**
	baz=120								
634A	**China Grove, S**	**120.62**	**38**	P		**PKPdf**		**02 44 06.5**	**-0.4**
	baz=120								
833A	**Chaparral WMA,**	**120.76**	**40**	P		**PKPdf**		**02 44 07.7**	**+0.6**
	baz=121								
933A	**Laredo**	**121.34**	**41**	P		**PKPdf**		**02 44 10.1**	**+1.8**
	baz=121								
834A	**Tilden**	**121.42**	**40**	P		**PKPdf**		**02 44 09.8**	**+1.4**
	baz=121								
SDV	**Santo Domingo**	**151.73**	**21**	*e*PKPbc		**PKPbc**		**02 45 10.0**	**-0.2**
SAML	**Samuel**	**170.89**	**17**	*e*PKPdf		**PKPdf**		**02 45 23.5**	**-0.1**
SAML				*e*PKPab		**PKPab**		**02 46 40.4**	**-1.3**
LPAZ	**La Paz**	**172.61**	**80**	PKP		**PKPdf**		**02 45 25.5**	**+0.4**
	comp=Z,2.0nm,1.0s,baz=10,slow=5.1,SNR=6.6								
LPAZ				PKPab		**PKPab**		**02 46 51.5**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=310,slow=4.4,SNR=5.6								
LPAZ	**La Paz**	**172.61**	**80**	PKIKP		**PKPdf**		**02 45 25.5**	**+0.4**
LPAZ				pmax		pmax			
	comp=Z,2.0nm,1.0s								
LPAZ				pmax		pmax			
	comp=Z,2.0nm,0.8s								

ISCJB ***11*** *02:29:45.8±0.4,6°.55S±0°.06×153°.56E±0°.06,h29km, mb4.6/24,Error ellipse: s-maj=10.0km s-min=6.7km az=37.9*

IDC ***11*** *02:29:51.1±4.7,6°.60S×153°.53E,h64km±41km,mb4.2/13, mb1 4.3/15,mb1mx4.1/34,mbtmp4.5/15,ML3.9/2,Error ellipse: s-maj=24.5km s-min=15.3km az=75.0*

BJI ***11*** *02:29:51.9,6°.17S×153°.59E,h72km, mb5.0/25,mB4.9/13, Ms4.8/8,Ms7 4.6/7*

NEIC ***11*** *02:29:52.3±1.2,6°.63S×153°.45E,h74km±10km,mb4.7/11, Error ellipse: s-maj=7.9km s-min=6.6km az=79.0*

ISC 11 02:29:47.2±0.5,**6°.50S**±0°.07×**153°.57E**±0°.08,**h29**km,**n66,**
σ1ᵖ31/74,mb4.7/24,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.98**	**245**	*e*Pn			**Pn**	**02 31 29.3**	**+1.8**
PMG				*e*Sn			**Sn**	**02 32 47.5**	**+1.6**
CTA	**Charters Tower**	**15.27**	**207**	P			**Pn**	**02 33 22.0**	**+1.2**
	0.4nm,0.3s,baz=27,slow=9.3,SNR=8.7								
CTAO	**Charters Tower**	**15.27**	**207**	*e*Pn			**Pn**	**02 33 21.3**	**+0.4**
DZM	**Mont Dzumac**	**19.86**	**143**	P			**P**	**02 34 16.7**	**+0.6**
	0.3nm,0.3s,baz=91,slow=24,SNR=7.0								
SIJI	**Sorong**	**22.94**	**283**	P			**P**	**02 34 49.6**	**+0.2**
	8.5nm,0.3s,baz=14,slow=7.7,SNR=3.7								
WRAB	**Tennant Creek**	**22.95**	**233**	*e*P			**P**	**02 34 49.4**	**0.0**
	14nm,0.9s								
WRA	**Warramunga Arr**	**22.97**	**233**	P			**P**	**02 34 49.6**	**+0.1**
	13nm,1.0s,baz=58,slow=10,SNR=11								
WRA				PcP			**PcP**	**02 38 38.9**	**-0.3**
	1.5nm,0.9s,baz=34,slow=1.9,SNR=4.5								
AS31	**Alice Springs**	**25.47**	**226**	*e*P			**P**	**02 35 12.4**	**-0.6**
ASAR	**Alice Springs**	**25.48**	**226**	P			**P**	**02 35 12.2**	**-0.9**
	3.6nm,0.6s,baz=61,slow=8.6,SNR=14								
LUWI	**Luwuk**	**31.20**	**279**	*e*P			**P**	**02 36 04.5**	**+0.3**
	17nm,0.6s								
KAPI	**Kappang**	**33.68**	**271**	*e*P			**P**	**02 36 25.5**	**-0.5**
FORT	**Forrest**	**34.00**	**222**	*e*P			**P**	**02 36 26.5**	**-2.1**
	12nm,0.6s								
KSRS	**Korea Array**	**49.85**	**333**	P			**P**	**02 38 38.1**	**+0.4**
	4.4nm,0.8s,baz=150,slow=8.7,SNR=15								
KSAR	**Wonju Array Be**	**49.86**	**333**	P			**P**	**02 38 38.1**	**+0.3**
NJ2	**Nanjing**	**50.64**	**321**	*e*P			**P**	**02 38 45.1**	**+1.2**
NJ2				PMZ					
	20nm,0.7s								
USRK	**Ussuriysk Ar.**	**54.09**	**341**	P			**P**	**02 39 09.6**	**+0.3**
	3.8nm,0.8s,baz=177,slow=8.3,SNR=12								
GYA	**Guiyang**	**56.03**	**308**	*e*P			**P**	**02 39 26.0**	**+2.2**
GYA				PMZ					
	10.0nm,1.0s								
KMI	**Kunming**	**58.57**	**305**	P			**P**	**02 39 43.4**	**+1.5**
KMI				PMZ					
	10.0nm,1.1s								
CMAR	**Chiang Mai Arr**	**59.30**	**296**	P			**P**	**02 39 47.9**	**+1.1**
	4.3nm,0.5s,baz=124,slow=5.9,SNR=21								
CHTO	**Chiang Mai**	**59.41**	**296**	*e*P			**P**	**02 39 47.6**	**+0.1**
	7.9nm,1.1s								
PETK	**Petropavlovsk-**	**59.48**	**3**	P			**P**	**02 39 48.9**	**+1.5**
	5.1nm,0.7s,baz=183,slow=8.9,SNR=6.0								
CD2	**Chengdu**	**60.42**	**311**	*e*P			**P**	**02 39 54.4**	**+0.1**
CD2				pP			pP	02 40 13.8	+10
CD2				sP			sP	02 40 22.6	+16
CD2				PP			**PP**	**02 42 08.5**	**+0.6**
CD2				PcS			**PcS**	**02 44 40.9**	**-0.8**
CD2				S			**S**	**02 48 04.7**	**-3.2**
CD2				sS			sS	02 48 38.3	+16
CD2				SS			**SS**	**02 52 05.1**	**-1.2**
CD2				PMZ					
	10.0nm,0.5s								
CD2				PMZ					
	120nm,5.2s								
HHC	**Hu-ho-hao-te**	**60.86**	**324**	*e*P			**P**	**02 39 58.6**	**+1.3**
HHC				S			**S**	**02 48 11.0**	**-2.3**
HHC				PMZ					
	19nm,1.1s								
HHC				PMZ					
	190nm,7.0s								
HHC				LN					
	150nm,13.2s								
HHC				LE					
	140nm,13.2s								
HHC				LZ					
	120nm,15.7s								
LZH	**Lanzhou**	**62.98**	**316**	*e*P			P	02 40 16.3	+4.7
LZH				pP			pP	02 40 35.0	+14
LZH				sP			sP	02 40 45.3	+21
LZH				PMZ					
	26nm,1.0s								
LZH				PMZ					
	12nm,4.3s								
GTA	**Gaotai**	**67.42**	**317**	*e*P			**P**	**02 40 41.4**	**+1.1**
GTA				pP			PcP	02 41 01.2	-6.5
GTA				sP			sP	02 41 09.7	+17
GTA				ScP				02 45 02.8	
GTA				PMZ					
	4.0nm,1.1s								
SONM	**Songino Array**	**68.16**	**328**	P			**P**	**02 40 45.6**	**+0.8**
	3.3nm,0.6s,baz=132,slow=5.8,SNR=25								
VNDA	**Vanda**	**71.12**	**178**	P			**P**	**02 41 01.2**	**-1.3**
	1.8nm,0.7s,baz=333,slow=5.5,SNR=11								
VNDA	**Vanda**	**71.12**	**178**	*e*P			**P**	**02 41 01.9**	**-0.6**
	2.3nm,0.8s								
BILL	**Bilibino**	**74.90**	**5**	*e*P			**P**	**02 41 26.4**	**+1.5**
WMQ	**Urumqi**	**77.50**	**317**	P			**P**	**02 41 42.0**	**+1.7**
WMQ				pP			PcP	02 42 02.2	+12
WMQ				sP			sP	02 42 10.6	+18
WMQ				PMZ					
	25nm,0.4s								
WMQ				PMZ					
	14nm,5.3s								
WMQ				LN					
	21nm,10.2s								
WMQ				LE					
	18nm,11.3s								
CAST	**Castle Rocks**	**80.78**	**22**	*e*P			**P**	**02 41 58.8**	**+1.0**
IM04	**Indian Mountai**	**81.70**	**19**	*e*P			**P**	**02 42 03.6**	**+1.0**
MK31	**Makanchi Array**	**82.10**	**319**	*e*P			**P**	**02 42 05.1**	**0.0**
MKAR	**Makanchi Array**	**82.10**	**319**	P			**P**	**02 42 05.0**	**-0.1**
	3.1nm,0.8s,baz=106,slow=5.9,SNR=24								
MKAR	**Makanchi Array**	**82.10**	**319**	*e*P			**P**	**02 42 05.3**	**+0.2**
MCK	**McKinley**	**82.13**	**22**	*e*P			**P**	**02 42 05.7**	**+0.9**
	7.7nm,0.7s								
ZAA0	**Zalesovo Array**	**82.98**	**326**	*e*P			**P**	**02 42 08.3**	**-1.1**
ZALV	**Zalesovo Beam**	**82.98**	**326**	P			**P**	**02 42 08.5**	**-1.0**
	3.2nm,0.6s,baz=114,slow=5.5,SNR=14								
CCB	**Clear Creek Bu**	**83.03**	**22**	*e*P			**P**	**02 42 09.9**	**+0.4**
COLA	**College**	**83.13**	**22**	*e*P			**P**	**02 42 10.9**	**+0.9**
ILAR	**Eielson Array**	**83.43**	**22**	P			**P**	**02 42 11.4**	**-0.2**
	3.2nm,0.7s,baz=244,slow=5.1,SNR=36								
QSPA	**South Pole Qui**	**83.48**	**180**	*e*P			**P**	**02 42 11.0**	**-1.0**
	8.5nm,0.8s								
COLD	**Coldfoot**	**83.60**	**19**	*e*P			**P**	**02 42 13.7**	**+1.3**
KSH	**Kashi**	**84.62**	**311**	P			**P**	**02 42 20.1**	**+1.7**
KSH				pP			pP	02 42 41.0	+13
KSH				sP			sP	02 42 50.2	+19
KSH				PP			PP	02 45 42.2	+7.8
KSH				SKS			**SKSac**	**02 52 35.1**	**-5.7**
KSH				S			**S**	**02 52 40.8**	**-3.2**
KSH				sS			sS	02 53 18.3	+19
KSH				PMZ					
	5.0nm,1.1s								
KSH				PMZ					
	61nm,4.5s								
KSH				LN					
	91nm,6.8s								
KSH				LE					
	100nm,8.5s								
KSH				LZ					
	98nm,7.2s								
ULHL	**Ulahol**	**85.03**	**313**	P			**P**	**02 42 21.1**	**+0.5**
	SNR=9.3								
KURK	**Kurchatov**	**85.57**	**322**	*e*P			**P**	**02 42 22.1**	**-0.5**
	9.4nm,1.1s								
EGAK	**Eagle**	**85.61**	**23**	*e*P			**P**	**02 42 23.9**	**+1.4**
	6.1nm,0.9s								
TKM2	**Tokmak 2**	**85.65**	**314**	P			**P**	**02 42 23.7**	**+0.1**
	SNR=5.1								
TKM2	**Tokmak 2**	**85.65**	**314**	*e*P			**P**	**02 42 23.4**	**-0.2**
	8.7nm,1.2s								
KZA	**Kyzart**	**85.72**	**313**	P			**P**	**02 42 25.1**	**+0.9**
	SNR=16								
UCH	**Uchtor**	**86.28**	**313**	P			**P**	**02 42 28.1**	**+1.1**
	SNR=8.4								
AAK	**Ala-Archa**	**86.38**	**313**	*e*P			**P**	**02 42 26.3**	**-0.9**
AML	**Almayashu**	**86.86**	**313**	P			**P**	**02 42 30.6**	**+0.8**
	SNR=7.1								
EKS2	**Erkin-Say**	**86.91**	**313**	*e*P			**P**	**02 42 29.8**	**+0.1**
	4.5nm,0.8s								
BVAR	**Borovoye Array**	**91.05**	**323**	P			**P**	**02 42 47.5**	**-1.3**
	2.8nm,0.8s,baz=106,slow=5.3,SNR=11								
NVAR	**Mina Array Bea**	**92.52**	**52**	P			P	02 43 00.3	+4.1
	2.0nm,0.7s,baz=264,slow=5.3,SNR=7.0								
GERES	**GERESS Array B**	**125.89**	**328**	PKP			**PKPdf**		
	0.7nm,0.8s,baz=79,slow=2.9,SNR=5.7								
LPAZ	**La Paz**	**132.93**	**119**	PKP			**PKPdf**	**02 49 01.4**	**-0.1**
	1.9nm,1.0s,baz=247,slow=3.6,SNR=4.0								
LPAZ	**La Paz**	**132.93**	**119**	PKP			**PKPdf**	**02 49 01.4**	**-0.1**
LPAZ				*e*PKPdf			**PKiKP**	**02 49 01.9**	**-0.8**
SDV	**Santo Domingo**	**136.15**	**84**	*e*PKPdf			**PKPdf**	**02 49 07.3**	**+0.2**
SAML	**Samuel**	**140.28**	**112**	*e*PKPdf			**PKPdf**	**02 49 14.3**	**-0.1**
ESDC	**Sonseca Array**	**141.28**	**332**	PKP			**PKPdf**	**02 49 15.6**	**0.0**
	0.2nm,0.5s,baz=148,slow=2.1,SNR=2.7								
TAM	**Tamanrasset**	**145.22**	**301**	*e*PKPbc			**PKPbc**	**02 49 22.6**	**-0.3**
BDFB	**Brasilia**	**149.32**	**136**	PKPbc			**PKPbc**	**02 49 34.2**	**-0.2**
	5.7nm,0.8s,baz=299,slow=3.3,SNR=7.1								
TOA0	**Torodi Ar. Sit**	**151.53**	**286**	*e*PKPbc			**PKPbc**	**02 49 38.4**	**-1.2**
TORD	**Torodi Ar. Bea**	**151.53**	**286**	PKPbc			**PKPbc**	**02 49 38.5**	**-1.1**
	10nm,0.7s,baz=33,slow=2.6,SNR=55								

ISCJB ***11*** *02:35:47.5±0.6,21°.16S±0°.03×70°.30W±0°.08,h76km±5km, mb3.7/4,Error ellipse: s-maj=12.6km s-min=5.2km az=167.1*

IDC ***11*** *02:35:47.9±4.4,21°.03S×70°.24W,h61km±37km,mb3.6/3, mb1 3.9/5,mb1mx3.6/19,mbtmp4.0/5,ML4.2/2,MS2.5/2, Ms1 2.5/2,ms1mx2.3/20,Error ellipse: s-maj=39.4km s-min=24.5km az=98.0*

NEIC ***11*** *02:35:48.8±1.3,21°.06S×70°.13W,h69km±13km,mb4.0/2, Error ellipse: s-maj=19.3km s-min=10.8km az=87.0*

GUC ***11*** *02:35:48.0±0.7,21°.21S×70°.27W,h58km±8km,ML3.8*

ISC 11 02:35:48.1±1.0,**21°.20S**±0°.04×**70°.31W**±0°.09,**h68**km±8km,
n29,σ1ᵖ32/29,mb4.0/4,3C-5D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PATCX	**Punta Patache**	**0.40**	**22**	⇓*i*P			**Pn**	**02 36 00.5**	**+0.5**
PATCX				*i*S			**Sn**	**02 36 08.8**	**+0.2**
PATCX				AML			AML	02 36 09.2	
	comp=E,11μm,0.6s								
PB07	**IPOC Station P**	**0.66**	**143**	⇓*i*P			**Pn**	**02 36 03.1**	**+0.5**
PB07				*i*S			**Sn**	**02 36 13.3**	**0.0**
PB07				AML			AML	02 36 15.2	
	comp=E,5μm,0.7s								
PB01	**IPOC Station P**	**0.79**	**79**	⇑*i*P			**Pn**	**02 36 04.0**	**0.0**
PB01				*i*S			**Sn**	**02 36 14.9**	**-0.8**
PB09	**IPOC Station P**	**1.16**	**121**	⇑*i*P			**Pn**	**02 36 09.4**	**+0.7**
PB09				*i*S			**Sn**	**02 36 24.6**	**+0.5**
PB04	**IPOC Station P**	**1.31**	**144**	⇓*i*P			**Pn**	**02 36 08.9**	**-1.6**
PB04				*i*S			**Sn**	**02 36 23.9**	**-3.4**
PB04				AML			AML	02 36 26.6	
	comp=E,3μm,0.8s								
PSGC	**Pisagua**	**1.60**	**6**	⇓*i*P			**Pn**	**02 36 14.8**	**+0.4**
PSGC				AML			AML	02 36 35.1	
	comp=N,2μm,0.4s								
PB06	**IPOC Station P**	**1.65**	**156**	⇑*i*P			**Pn**	**02 36 15.2**	**0.0**
PB06				*i*S			**Sn**	**02 36 35.7**	**0.0**
PB06				AML			AML	02 36 37.1	
	comp=N,2μm,0.2s								
LVC	**Limon Verde**	**1.92**	**138**	P			**Pn**	**02 36 20.3**	**+1.4**
	comp=N,3μm,0.3s,baz=4.1,slow=8.4,SNR=1176								
LVC				S			**Sn**	**02 36 44.0**	**+1.8**
	baz=86,slow=19								
LVC				LR			LR	02 37 03.9	
	comp=N,538nm,21.0s,baz=285,slow=38								
LVC	**Limon Verde**	**1.92**	**138**	*e*Pn			**Pn**	**02 36 20.0**	**+1.2**
LVC				*e*Sn			**Sn**	**02 36 43.5**	**+1.3**
MNMC	**Minimini**	**2.16**	**18**	⇓*i*P			**Pn**	**02 36 22.9**	**+0.7**
ARE	**Arequipa**	**4.84**	**346**	*e*P			**Pn**	**02 36 59.0**	**+0.3**
ARE				*e*S			**Sn**	**02 37 53.0**	**-0.6**
LPAZ	**La Paz**	**5.30**	**23**	P			Pn	02 37 08.8	+3.5
	comp=N,1.2nm,0.3s,baz=201,slow=5.2,SNR=48								
LPAZ	**La Paz**	**5.30**	**23**	*e*Pn			**Pn**	**02 37 08.1**	**+2.8**
SIV	**San Ignacio**	**10.17**	**61**	P			**Pn**	**02 38 09.1**	**-2.3**
	comp=N,1.8nm,0.3s,baz=257,slow=12,SNR=26								
SIV				LR			LR	02 42 41.4	
	comp=N,57nm,20.5s,baz=46,slow=41								
CFAA	**Coronel Fontan**	**10.53**	**170**	P			Pn	02 38 13.6	-2.7
	comp=N,0.1nm,0.3s,baz=7.0,slow=18,SNR=9.5								
CFAA				LR			LR	02 42 35.4	
	comp=N,15nm,19.8s,baz=300,slow=38								
SAML	**Samuel**	**13.98**	**30**	*e*Pn			Pn	02 38 59.6	-3.5
	comp=N,4.2nm,1.3s								
TRQA	**Tornquist**	**18.28**	**159**	*e*P			**P**

PLG					S	Sg	02 48 55.4	+0.5
OUR	**Ouranopolis**	**0.97**	**24**		P	Pg	02 48 43.6	0.0
OUR					S	Sn	02 48 58.1	0.0
OUR	**Ouranopolis**	**0.97**	**24**	*e*PN		Pg	02 48 43.6	0.0
OUR				*e*SN		Sn	02 48 58.1	0.0
OUR	**Ouranopolis**	**0.97**	**24**	P		Pg	02 48 43.6	0.0
OUR					S	Sn	02 48 58.1	0.0
AGG	**Agios Georgios**	**0.98**	**245**	P		Pb	02 48 43.4	-0.5
AGG					S	Sn	02 48 58.1	-0.4
AGG	**Agios Georgios**	**0.98**	**245**	*e*PN		Pb	02 48 43.6	-0.3
AGG				*e*SN		Sn	02 48 58.2	-0.3
AGG	**Agios Georgios**	**0.98**	**245**	P		Pb	02 48 43.4	-0.5
AGG					S	Sn	02 48 58.1	-0.4
LIT	**Litokhoron**	**1.00**	**311**	P		Pb	02 48 43.9	-0.3
LIT					S	Sn	02 48 58.8	-0.1
LIT	**Litokhoron**	**1.00**	**311**	*e*PN		Pb	02 48 43.9	-0.3
LIT				*e*SN		Sg	02 48 57.9	+0.6
LIT	**Litokhoron**	**1.00**	**311**	P		Pb	02 48 43.9	-0.3
LIT				*e*Sn		Sg	02 48 57.9	+0.6
LIT					S	Sn	02 48 58.8	-0.1
MAKR	**Makrakomi, Fth**	**1.13**	**248**	P		Pn	02 48 46.6	0.0
MAKR					S	Sg	02 49 02.9	+1.6
MAKR	**Makrakomi, Fth**	**1.13**	**248**	*e*PN		Pg	02 48 46.8	+0.2
MAKR				*e*SN		Sn	02 49 01.7	-0.4
MAKR	**Makrakomi, Fth**	**1.13**	**248**	*e*Pn		Pg	02 48 46.8	+0.2
MAKR				*e*Sn		Sn	02 49 01.7	-0.4
MAKR					S	Sg	02 49 02.9	+1.6
THL	**Klokotos Trika**	**1.13**	**276**	*e*PN		Pg	02 48 47.3	+0.6
THL	**Klokotos Trika**	**1.13**	**276**	*e*Pn		Pg	02 48 47.3	+0.6
HORT	**Hortiatis**	**1.19**	**346**	*e*Pn		Pn	02 48 46.7	-0.8
HORT				*e*SN		Sb	02 49 02.6	-0.2
HORT	**Hortiatis**	**1.19**	**346**	*e*Pn		Pn	02 48 46.7	-0.8
HORT				*e*Sn		Sb	02 49 02.6	-0.2
VIL2	**Platees**	**1.24**	**187**	*e*PN		Pb	02 48 48.4	+0.1
DSF	**Desfina**	**1.27**	**216**	P		Pn	02 48 47.7	-0.9
DSF					S	Sn	02 49 05.7	+0.1
DSF	**Desfina**	**1.27**	**216**	*e*PN		Pn	02 48 48.2	-0.4
DSF	**Desfina**	**1.27**	**216**	P		Pn	02 48 47.7	-0.9
DSF	**Desfina**	**1.27**	**216**	*e*Pn		Pn	02 48 48.2	-0.4
DSF					S	Sn	02 49 05.7	+0.1
VILL	**Villia**	**1.28**	**186**	P		Pn	02 48 48.3	-0.5
VILL	**Villia**	**1.28**	**186**	P		Pn	02 48 48.3	-0.5
SOH	**Sokhos**	**1.38**	**356**	P		Pn	02 48 49.8	-0.3
SOH					S	Sb	02 49 08.7	+0.4
SOH	**Sokhos**	**1.38**	**356**	*e*PN		Pb	02 48 50.4	-0.3
SOH	**Sokhos**	**1.38**	**356**	P		Pn	02 48 49.8	-0.3
SOH	**Sokhos**	**1.38**	**356**	*e*Pn		Pb	02 48 50.4	-0.3
SOH					S	Sb	02 49 08.7	+0.4
LIA	**Limnos Island**	**1.40**	**71**	P		Pn	02 48 49.1	-1.1
LIA	**Limnos Island**	**1.40**	**71**	*e*PB		Pn	02 48 49.1	-1.1
LIA	**Limnos Island**	**1.40**	**71**	P		Pn	02 48 49.1	-1.1
EVR	**Evrytania**	**1.40**	**248**	*e*PN		Pb	02 48 51.5	+0.5
EVR	**Evrytania**	**1.40**	**248**	*e*Pn		Pb	02 48 51.5	+0.5
LTK	**Loutraki**	**1.47**	**196**	P		Pb	02 48 51.8	-0.5
LTK	**Loutraki**	**1.47**	**196**	P		Pb	02 48 51.8	-0.5
KALE	**Kalithea**	**1.48**	**225**	P		Pn	02 48 51.7	+0.2
KALE					S	Sb	02 49 11.1	-0.1
KALE	**Kalithea**	**1.48**	**225**	*e*PN		Pn	02 48 51.7	+0.2
KALE				*e*SN		Sn	02 49 10.6	-0.2
KALE	**Kalithea**	**1.48**	**225**	P		Pn	02 48 51.7	+0.2
KALE				*e*Sn		Sn	02 49 10.6	-0.2
KALE					S	Sb	02 49 11.1	-0.1
EFP	**Efpalio**	**1.59**	**231**	*e*PN		Pn	02 48 53.1	+0.2
EFP	**Efpalio**	**1.59**	**231**	*e*Pn		Pn	02 48 53.1	+0.2
SRS	**Serrai**	**1.67**	**3**	*e*PN		Pn	02 48 54.4	+0.3
SRS	**Serrai**	**1.67**	**3**	*e*Pn		Pn	02 48 54.4	+0.3
GUR	**Goura**	**1.75**	**211**	P		Pn	02 48 55.2	0.0
GUR	**Goura**	**1.75**	**211**	*e*PN		Pn	02 48 55.2	0.0
GUR	**Goura**	**1.75**	**211**	P		Pn	02 48 55.2	0.0
KNT	**Kendrikon**	**1.77**	**346**	*e*PB		Pn	02 48 55.6	+0.2
KNT	**Kendrikon**	**1.77**	**346**	*e*Pb		Pn	02 48 55.6	+0.2
DID	**Didima**	**1.94**	**186**	P		Pn	02 48 57.7	-0.1
DID	**Didima**	**1.94**	**186**	*e*PN		Pn	02 48 57.8	-0.1
DID	**Didima**	**1.94**	**186**	P		Pn	02 48 57.7	-0.1
PDO	**Prodromos**	**1.97**	**245**	*e*PN		Pn	02 48 58.5	+0.3
PDO	**Prodromos**	**1.97**	**245**	*e*Pn		Pn	02 48 58.5	+0.3
DRO	**Drossia**	**2.03**	**223**	*e*PB		Pb	02 49 00.6	-1.2
DRO	**Drossia**	**2.03**	**223**	*e*Pb		Pb	02 49 00.6	-1.2
FNA	**Florina**	**2.09**	**310**	*e*PB		Pb	02 49 01.2	-1.6
FNA	**Florina**	**2.09**	**310**	*e*Pb		Pb	02 49 01.2	-1.6
NEST	**Nestorio**	**2.10**	**298**	*e*PB		Pn	02 49 01.0	+1.0
NEST	**Nestorio**	**2.10**	**298**	*e*Pb		Pn	02 49 01.0	+1.0
LKD2	**Lefkada island**	**2.29**	**254**	*e*PB		Pb	02 49 04.6	-1.5
LKD2	**Lefkada island**	**2.29**	**254**	*e*Pb		Pb	02 49 04.6	-1.5

*DDA **11** 02:49:25.2, 37°.93N×28°.99E, h7km, MD2.7*
*ISCJB **11** 02:49:26.7±0.6, 37°.96N±0°.03×28°.96E±0°.04, h11km±6km, Error ellipse: s-maj=5.9km s-min=4.7km az=178.1*
*CSEM **11** 02:49:26.8±0.2, 37°.99N×28°.95E, h2km, MD2.7, Error ellipse: s-maj=4.6km s-min=3.6km az=98.0*
*ISK **11** 02:49:26.9, 37°.98N×28°.94E, h5km, MD2.7*

ISC 11 02:49:26.6±1.1, 37°.97N±0°.02×28°.98E±0°.03, h8km±12km, n24, σ0s93/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.22**	**168**	*e*PG	**Pg**	**02 49 31.6**	**+0.5**
DENT	**Denizli**	**0.22**	**168**	*e*Pg	**Pg**	**02 49 31.6**	**+0.5**
KHL	**Karahalli**	**0.56**	**51**	*e*PG	**Pb**	**02 49 38.7**	**+0.1**
KHL	**Karahalli**	**0.56**	**51**	*e*Pg	**Pb**	**02 49 38.7**	**+0.1**
KULA	**Kula-Manisa**	**0.59**	**335**	*e*PG	**Pg**	**02 49 38.5**	**+0.4**
KULA				*e*SG	**Sb**	**02 49 47.1**	**-0.8**
KULA	**Kula-Manisa**	**0.59**	**335**	*e*Pg	**Pg**	**02 49 38.5**	**+0.4**
KULA				*e*Sg	**Sb**	**02 49 47.1**	**-0.8**
MANT	**Manisa**	**0.61**	**328**	*i* P	**Pg**	**02 49 38.0**	**-0.5**
MANT	**Manisa**	**0.61**	**328**	*i* P	**Pg**	**02 49 38.0**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.86**	**269**	*e*PG	**Pg**	**02 49 43.1**	**0.0**
AYDB				*e*SG	**Sb**	**02 49 55.2**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.86**	**269**	*e*Pg	**Pg**	**02 49 43.1**	**0.0**
AYDB				*e*Sg	**Sb**	**02 49 55.2**	**-0.3**
GOLH	**Golhisar**	**0.87**	**148**	*i* P	**Pg**	**02 49 40.7**	**-2.7**
GOLH				*i* S	**Sg**	**02 49 53.7**	**-1.0**
GOLH	**Golhisar**	**0.87**	**148**	*i* P	**Pg**	**02 49 40.7**	**-2.6**
AYDN	**Tasoluk**	**0.92**	**251**	*i* P	**Pg**	**02 49 43.6**	**-0.7**
AYDN				*i* S	**Sg**	**02 49 56.0**	**-0.3**
AYDN	**Tasoluk**	**0.92**	**251**	*i* P	**Pg**	**02 49 43.6**	**-0.7**
AYDN				*i* S	**Sg**	**02 49 56.0**	**-0.3**
YER	**Yerkesik**	**1.00**	**214**	*e*PG	**Pb**	**02 49 46.9**	**+0.6**
YER	**Yerkesik**	**1.00**	**214**	*e*Pg	**Pb**	**02 49 46.9**	**+0.6**
DEMI	**Demirci**	**1.09**	**349**	*i* P	**Pg**	**02 49 46.6**	**-0.9**
DEMI				*i* S	**Sg**	**02 50 01.4**	**-0.2**
DEMI	**Demirci**	**1.09**	**349**	*i* P	**Pg**	**02 49 46.6**	**-0.9**
DEMI				*i* S	**Sg**	**02 50 01.4**	**-0.2**
GDZ	**Gediz**	**1.18**	**19**	*i* P	**Pg**	**02 49 48.8**	**-0.5**
GDZ				*i* S	**Sg**	**02 50 04.8**	**+0.1**
GDZ	**Gediz**	**1.18**	**19**	*i* P	**Pg**	**02 49 48.8**	**-0.5**
GDZ				*i* S	**Sg**	**02 50 04.8**	**+0.1**
DALY	**Dalyan (Mu˘la**	**1.18**	**193**	*e*PN	**Pn**	**02 49 50.4**	**+1.0**
DALY	**Dalyan (Mu˘la**	**1.18**	**193**	*e*Pn	**Pn**	**02 49 50.4**	**+1.0**
BCK	**Bucak**	**1.38**	**111**	*e*PN	**Pg**	**02 49 54.2**	**+1.2**
BCK	**Bucak**	**1.38**	**111**	*e*Pn	**Pg**	**02 49 54.2**	**+1.2**

*IDC **11** 03:07:13.8±0.9, 17°.72N×119°.42E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/35, mbtmp3.7/8, ML4.2/1, MS3.0/2, Ms1 3.2/2, ms1mx2.6/36, Error ellipse: s-maj=42.1km s-min=18.3km az=73.0*
*ISCJB **11** 03:07:16.6±0.8, 17°.74N±0°.10×119°.39E±0°.09, h32km, mb3.5/7, MS3.0/1, Error ellipse: s-maj=14.9km s-min=11.0km az=154.4*

ISC 11 03:07:18.5±1.0, 17°.8N±0°.1×119°.5E±0°.1, h32km, n10, σ0s67/11, mb3.6/6, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**1.20**	**61**	⇑*i*P	**Pn**	**03 07 39.0**	**-0.1**
PIP				*e*S	**Sb**	**03 07 55.5**	**-0.4**
JNU	**Nakatsue**	**18.41**	**32**	P	**Pn**	**03 11 31.9**	**+0.6**
	0.6nm,0.3s,baz=189,slow=9.2,SNR=6.4						
CMAR	**Chiang Mai Arr**	**19.56**	**275**	LR	LR	03 19 02.7	
	comp=Z,45nm,18.3s,baz=0.0,slow=36						
KSRS	**Korea Array**	**20.98**	**19**	P	**P**	**03 11 59.5**	**+0.4**
	0.5nm,0.4s,baz=193,slow=16,SNR=4.3						
SONM	**Songino Array**	**31.87**	**343**	P	**P**	**03 13 40.2**	**-0.6**
	0.3nm,0.3s,baz=159,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**40.19**	**158**	P	**P**	**03 14 51.7**	**-0.4**
	0.8nm,0.9s,baz=328,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**42.13**	**322**	P	**P**	**03 15 07.0**	**-0.9**
	0.9nm,0.8s,baz=116,slow=8.4,SNR=8.2						
MKAR				PcP	**PcP**	**03 17 02.6**	**+0.6**
	0.8nm,0.7s,baz=106,slow=3.9,SNR=7.6						
ASAR	**Alice Springs**	**43.50**	**161**	P	**P**	**03 15 19.6**	**+0.4**
	0.9nm,0.8s,baz=335,slow=6.0,SNR=7.9						
ASAR				LR	LR	03 35 05.5	
	comp=Z,20nm,19.2s,baz=10.0,slow=38						
ZALV	**Zalesovo Beam**	**44.96**	**332**	P	**P**	**03 15 31.4**	**+0.9**
	0.4nm,0.3s,baz=119,slow=9.0,SNR=2.7						
YKA	**Yellowknife Ar**	**89.48**	**22**	P	**P**	**03 20 12.1**	**-0.2**
	0.2nm,0.5s,baz=314,slow=4.7,SNR=4.5						

*SJA **11** 03:09:57.0±1.0, 23°.53S×67°.18W, h203km±18km, ML2.9, MW3.2*
*ISCJB **11** 03:09:58.4±0.3, 23°.58S±0°.03×67°.18W±0°.03, h175km±3km, mb4.0/23, Error ellipse: s-maj=6.0km s-min=4.3km az=44.2*
*IDC **11** 03:09:58.8±0.9, 23°.57S×67°.02W, h163km±8km, mb4.0/11, mb1 4.1/15, mb1mx3.9/29, mbtmp4.5/15, Error ellipse: s-maj=13.2km s-min=12.2km az=21.0*
*NEIC **11** 03:09:58.5±0.6, 23.63S×66.99W, h162km±5km, mb4.2/19, Error ellipse: s-maj=7.7km s-min=5.5km az=71.0*
*GUC **11** 03:10:00.4±0.4, 23°.45S×67°.61W, h210km±10km*

ISC 11 03:09:59.3±0.7, 23°.58S±0°.05×67°.15W±0°.05, h171km±6km, n68, σ1s24/87, mb4.1/23, 9C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.89**	**300**	P	**Pn**	**03 10 35.3**	**+0.6**
	10μm,0.3s,baz=112,slow=6.8,SNR=1802						
LVC				S	**Sn**	**03 11 03.0**	**+0.8**
	6μm,0.3s,baz=255,slow=23,SNR=18						
LVC	**Limon Verde**	**1.89**	**300**	*e*P	**Pn**	**03 10 35.4**	**+0.6**
LVC				*e*S	**Sn**	**03 11 03.0**	**+0.8**
AZAP	**Zapla**	**2.01**	**109**	*e*P	**Pn**	**03 10 36.8**	**+0.7**
YJA	**Yavi**	**2.05**	**48**	*e*P	**Pn**	**03 10 38.2**	**+1.4**
YJA				*e*S	**Sn**	**03 11 08.3**	**+2.5**
PB06	**IPOC Station P**	**2.39**	**291**	⇑*i*P	**Pn**	**03 10 40.8**	**+0.4**
PB06				*e*S	**Sn**	**03 11 11.0**	**-1.2**
ASTB	**Santa Barbara**	**2.47**	**99**	*e*P	**Pn**	**03 10 42.3**	**+1.0**
PB04	**IPOC Station P**	**2.52**	**301**	⇑*i*P	Pn	03 10 47.8	+6.1
PB04				*i* S	Sn	03 11 23.8	+9.2
PB09	**IPOC Station P**	**2.62**	**312**	⇑*i*P	**Pn**	**03 10 44.1**	**+0.9**
PB09				*e*S	**Sn**	**03 11 16.8**	**-0.3**
FSA	**Cafayete**	**2.71**	**158**	*e*P	**Pn**	**03 10 45.1**	**+1.0**
CEN1	**Los Morros**	**2.81**	**273**	⇓*i*P	**Pn**	**03 10 47.3**	**+2.0**
CEN1				*i* S	**Sn**	**03 11 20.1**	**-0.9**
ANCH	**Antofagasta**	**2.99**	**267**	⇑*i*P	**Pn**	**03 10 46.5**	**-0.9**
ANCH				*i* S	**Sn**	**03 11 22.8**	**-2.1**
PB10	**IPOC Station P**	**3.13**	**270**	⇑*i*P	**Pn**	**03 10 48.7**	**-0.4**
PB10				*i* S	**Sn**	**03 11 25.7**	**-2.1**
PB07	**IPOC Station P**	**3.13**	**306**	⇑*i*P	**Pn**	**03 10 49.2**	**-0.1**
PB07				*e*S	**Sn**	**03 11 26.6**	**-1.6**
PB01	**IPOC Station P**	**3.33**	**319**	⇑*i*P	**Pn**	**03 10 51.6**	**0.0**
PB01				*i* S	**Sn**	**03 11 31.3**	**-1.2**
AHML	**Horco Molle**	**3.59**	**153**	*e*P	**Pn**	**03 10 55.5**	**+0.6**
AHML				*e*S	**Sn**	**03 11 39.1**	**+0.7**
AHML				AML	AML	03 11 41.8	
	comp=Z,15nm,0.8s						
PATCX	**Punta Patache**	**3.91**	**314**	⇑*i*P	**Pn**	**03 10 57.9**	**-1.2**
PATCX				*e*S	**Sn**	**03 11 42.5**	**-3.2**
PSGC	**Pisagua**	**4.83**	**324**	*e*P	**Pn**	**03 11 08.6**	**-2.4**
MNMC	**Minimini**	**4.98**	**332**	⇑*e*P	**Pn**	**03 11 12.3**	**-0.8**
MNMC				*i* S	**Sn**	**03 12 08.4**	**-2.4**
LPAZ	**La Paz**	**7.31**	**353**	P	**Pn**	**03 11 45.1**	**+1.0**
	comp=Z,4.1nm,0.3s,baz=154,slow=6.7,SNR=128						
LPAZ				S	**Sn**	**03 13 04.9**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=35,slow=18,SNR=2.8						
LPAZ	**La Paz**	**7.31**	**353**	*e*Pn	**Pn**	**03 11 44.6**	**+0.5**
	comp=Z,18nm,0.7s						
LPAZ				S	**Sn**	**03 13 04.9**	**-1.8**
CFAA	**Coronel Fontan**	**8.05**	**187**	P	**Pn**	**03 11 51.4**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=4.9,slow=14,SNR=8.3						
CFAA				S	Sn	03 13 15.8	-7.7
	comp=Z,0.8nm,0.3s,baz=263,slow=22,SNR=9.3						
CPUP	**Villa Florida**	**9.32**	**109**	*e*Pn	**Pn**	**03 12 08.3**	**-1.7**
SIV	**San Ignacio**	**9.47**	**38**	P	**Pn**	**03 12 10.0**	**-2.1**
	comp=Z,6.3nm,0.3s,baz=253,slow=10.0,SNR=74						
SIV				S	**Sn**	**03 13 54.4**	**-3.1**
	comp=Z,0.8nm,0.3s,baz=155,slow=2.5,SNR=6.1						
SAML	**Samuel**	**15.03**	**15**	*e*Pn	**Pn**	**03 13 21.8**	**-1.5**
	comp=Z,9.4nm,0.7s						
TRQA	**Torquist**	**15.10**	**164**	*e*Pn	**Pn**	**03 13 21.6**	**-2.2**
	comp=Z,7.9nm,0.8s						
PLCA	**Paso Flores**	**17.34**	**189**	P	**P**	**03 13 49.9**	**0.0**
	comp=Z,0.4nm,0.3s,baz=10,slow=14,SNR=11						
PLCA	**Paso Flores**	**17.34**	**189**	*e*P	**P**	**03 13 49.4**	**-0.5**
	comp=Z,8.5nm,0.6s						
BDFB	**Brasilia**	**19.66**	**70**	P	**P**	**03 14 15.4**	**0.0**
	comp=Z,9.2nm,0.3s,baz=244,slow=11,SNR=145						
OTAV	**Otavalo**	**26.10**	**334**	*e*P	**P**	**03 15 18.6**	**+0.7**
	comp=Z,2.5nm,0.9s						
BCIP	**Isla Barro Col**	**34.83**	**338**	*e*P	**P**	**03 16 35.9**	**+1.9**
GRGR	**Grenville**	**35.90**	**9**	*e*P	**P**	**03 16 42.9**	**-0.3**
HKT	**Hockley**	**59.93**	**331**	*e*P	**P**	**03 19 49.2**	**+1.8**
	comp=Z,3.6nm,0.9s						
TXAR	**Lajitas Array**	**63.26**	**324**	P	**P**	**03 20 10.3**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=148,slow=6.9,SNR=5.1						
QSPA	**South Pole Qui**	**66.62**	**180**	*e*P	**P**	**03 20 31.7**	**+0.5**
	comp=Z,12nm,0.6s						
KIC	**Kosan Boka**	**67.75**	**72**	*e*P	**P**	**03 20 38.3**	**-0.6**
DBIC	**Dimbokro**	**67.80**	**72**	P	**P**	**03 20 38.3**	**-0.9**
	comp=Z,3.9nm,0.7s,baz=210,slow=4.1,SNR=8.6						
DBIC	**Dimbokro**	**67.80**	**72**	*e*P	**P**	**03 20 38.6**	**-0.5**
	comp=Z,4.1nm,0.5s						
ANMO	**Albuquerque**	**69.12**	**326**	*e*P	**P**	**03 20 48.6**	**+1.4**
	comp=Z,2.0nm,0.8s						
SDCO	**Great Sand Dun**	**70.86**	**329**	*e*P	**P**	**03 20 59.0**	**+1.2**
	comp=Z,1.0nm,0.6s						
ISCO	**Idaho Springs**	**72.55**	**330**	*e*P	**P**	**03 21 09.0**	**+1.0**
	comp=Z,1.3nm,0.6s						
CCUT	**Cedar City**	**74.74**	**324**	*e*P	**P**	**03 21 22.7**	**+2.1**
	comp=Z,4.1nm,0.9s						
TOA0	**Torodi Ar. Sit**	**76.54**	**69**	*e*P	**P**	**03 21 30.3**	**-0.8**
TOA0	**Torodi Ar. Sit**	**76.54**	**69**	*e*P	**P**	**03 21 29.9**	**-1.3**
TOA1	**Torodi Ar. Sit**	**76.54**	**69**	*e*P	**P**	**03 21 30.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**76.54**	**69**	P	**P**	**03 21 30.2**	**-0.9**
	comp=Z,6.4nm,0.6s,baz=258,slow=5.9,SNR=218						
PDAR	**Pinedale Array**	**76.72**	**329**	P	**P**	**03 21 32.5**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=119,slow=7.1,SNR=4.7						
HWUT	**Hardware Ranch**	**76.80**	**327**	*e*P	**P**	**03 21 33.3**	**+1.1**
	comp=Z,2.9nm,0.7s						
HLID	**Hailey**	**79.66**	**327**	*e*P	**P**	**03 21 49.0**	**+1.1**
	comp=Z,2.3nm,0.8s						
MCMT	**McKenzie Canyo**	**79.83**	**329**	*e*P	**P**	**03 21 50.4**	**+1.5**
	comp=Z,0.7nm,0.6s						
MSKU	**Masuku**	**80.87**	**88**	P	**P**	**03 21 55.5**	**+0.7**
	comp=Z,3.5nm,0.6s,baz=311,slow=4.8,SNR=3.8						
BOSA	**Boshof**	**81.05**	**117**	P	**P**	**03 21 55.1**	**-0.6**
	comp=Z,3.4nm,0.5s,baz=259,slow=3.8,SNR=14						
BOSA	**Boshof**	**81.05**	**117**	*e*P	**P**	**03 21 54.6**	**-1.1**
	comp=Z,7.4nm,0.9s						
MAW	**Mawson**	**81.88**	**163**	P	**P**	**03 21 59.8**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=207,slow=6.0,SNR=8.5						
LBTB	**Lobatse**	**82.68**	**114**	P	**P**	**03 22 04.5**	**+0.2**
	comp=Z,3.9nm,0.6s,baz=252,slow=7.5,SNR=11						
LBTB	**Lobatse**	**82.68**	**114**	*e*P	**P**	**03 22 03.9**	**-0.3**
	comp=Z,3.3nm,0.6s						
TAM	**Tamanrasset**	**84.32**	**62**	*e*P	**P**	**03 22 13.0**	**+0.4**
	comp=Z,1.2nm,0.8s						
FCC	**Fort Churchill**	**85.02**	**346**	*e*P	**P**	**03 22 15.7**	**+0.7**
ESDC	**Sonseca Array**	**86.19**	**44**	P	**P**	**03 22 20.7**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=140,slow=32,SNR=4.6						
MATP	**Matopo**	**86.94**	**111**	P	**P**	**03 22 26.3**	**+0.6**
	comp=Z,5.2nm,0.8s,baz=250,slow=6.1,SNR=12						
LSZ	**Lusaka**	**88.75**	**106**	*e*P	**P**	**03 22 33.7**	**-0.6**
	comp=Z,3.8nm,0.9s						
YKA	**Yellowknife Ar**	**93.68**	**340**	P	**P**	**03 22 56.2**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=132,slow=4.7,SNR=12						
ASAR	**Alice Springs**	**128.78**	**205**	PKP	**PKPdf**	**03 28 46.8**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=142,slow=1.8,SNR=5.6						
WRA	**Warramunga Arr**	**131.94**	**208**	PKP	**PKPdf**	**03 28 53.0**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=162,slow=1.3,SNR=4.6						
WRA				SKPbc	**SKPbc**	**03 32 03.3**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=149,slow=3.6,SNR=4.4						
WRAB	**Tennant Creek**	**131.94**	**208**	*e*PKPdf	**PKPdf**	**03 28 53.4**	**+0.3**
ZALV	**Zalesovo Beam**	**143.08**	**28**	PKP	PKPbc	03 29 09.9	+0.1
	comp=Z,0.7nm,0.4s,baz=281,slow=4.1,SNR=5.0						
ZALV				SKPbc	**SKPbc**	**03 32 35.6**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=226,slow=3.9,SNR=4.0						
MK31	**Makanchi Array**	**146.28**	**39**	*e*PKPbc	**PKPbc**	**03 29 19.8**	**0.0**
MKAR	**Makanchi Array**	**146.28**	**39**	PKPbc	**PKPbc**	**03 29 20.0**	**+0.3**
	comp=Z,3.0nm,0.6s,baz=326,slow=2.6,SNR=37						
MKAR				SKPbc	**SKPbc**	**03 32 42.8**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=325,slow=1.9,SNR=3.9						
KAPI	**Kappang**	**150.80**	**194**	*e*PKPdf	**PKPdf**	**03 29 26.5**	**-0.1**
KAPI				*e*PKPbc	**PKiKP**	**03 29 32.9**	**0.0**
KAPI				*e*PKPab	**PKPab**	**03 29 38.9**	**-0.9**

JMA 11 03:17:59.4, 38°.96N×140°.59E, h3km±1km, M0.4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYK	**Kaneyama**	**0.18**	**257**	P	Pg	03 18 03.3	+0.3
JYK				*e*S	Sg	03 18 05.7	+0.2

*NIED **11** 03:18:00, 39°.00N×140°.60E, h5km, Mw3.7 Best double couple: M0=4.31000×10^14 NP1:φs=339.00000°, δ56.00000°, λ41.00000°. NP2:φs=223.00000°, δ57.00000°, λ138.00000°.*
*ISCJB **11** 03:18:46.5±0.5, 38°.96N±0°.03×140°.59E±0°.04, h12km±4km, mb3.9/10, Error ellipse: s-maj=5.7km s-min=4.3km az=139.7*
*JMA **11** 03:18:46.8, 38°.96N×140°.58E, h2km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φs=344.00000°, δ84.00000°, λ-9.00000°. NP2:φs=76.00000°, δ81.00000°, λ-174.00000°. Principal axes: T Plg2.0000°, Azm30.0000°; N Plg79.0000°, Azm130.0000°; P Plg11.0000°, Azm300.0000°;*
JMA Felt III J1.
*IDC **11** 03:18:52.8±2.7, 38°.95N×140°.37E, h46km±26km, mb3.6/10, mb1 3.7/13, mb1mx3.5/31, mbtmp3.8/13, ML3.0/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/30 Error ellipse: s-maj=26.0km s-min=16.2km az=95.0*

ISC 11 03:18:46.1±1.3, 38°.92N±0°.03×140°.66E±0°.04, h0km±9km, n23, σ0s91/32, mb3.9/10, 4C-2D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYK	**Kaneyama**	**0.23**	**269**	⇓P	**Pg**	**03 18 50.5**	**-0.1**
JYK				*e*S	**Sg**	**03 18 53.1**	**-0.6**
JMK	**Ichinoseki**	**0.44**	**86**	⇓P	**Pg**	**03 18 56.3**	**-0.4**
JMK				S	**Sb**	**03 19 03.0**	**-0.8**
JRG	**Rokugo**	**0.47**	**358**	⇑P	**Pg**	**03 18 55.6**	**+0.4**
JRG				S	**Sg**	**03 19 02.5**	**+1.1**
JOU	**Okura**	**0.56**	**180**	⇑P	**Pb**	**03 18 58.2**	**-0.6**
JOU				S	**Sb**	**03 19 06.3**	**-1.0**
JIO	**Ouri**	**0.71**	**131**	P	**Pb**	**03 19 01.3**	**-0.1**
JOM	**Ohasama**	**0.74**	**42**	P	**Pb**	**03 19 01.3**	**-0.6**
JYA	**Atsumi**	**0.81**	**246**	⇑P	**Pg**	**03 19 01.4**	**-0.2**
JYA				S	**S

PRA eSG Sg 03 47 10.0 +1.6
comp=Z,149nm,0.5s
PRA Prague 1.76 217 Pn Pb 03 46 44.7 -0.3
GOPC GO Pecny, Ondr 1.77 208 ePN Pn 03 46 44.6 +0.8
GOPC ePG Pg 03 46 46.6 +0.8
GOPC eSG Sg 03 47 10.4 +1.6
comp=Z,106nm,0.6s
GOPC GO Pecny, Ondr 1.77 208 Pn Pn 03 46 44.6 +0.8
PRU Pruhonice 1.79 214 ePN Pn 03 46 44.7 +0.7
PRU ePG Pg 03 46 46.5 +0.4
PRU eSG Sg 03 47 09.7 +0.4
comp=Z,135nm,0.5s
PRU Pruhonice 1.79 214 Pn Pn 03 46 44.7 +0.7
FBE Freiberg 1.81 253 ePn Pb 03 46 46.2 +0.3
FBE eSg Sg 03 47 12.1 +2.0
FBE Freiberg 1.81 253 Pn Pb 03 46 46.2 +0.3
FBE Sg Sg 03 47 12.1 +2.0
GKP Gorka Klasztor 1.93 21 ePn Pb 03 46 47.9 0.0
GKP ePb Pg 03 46 49.4 +0.5
GKP ePg Pn 03 46 51.2 +5.2
GKP ePP PnPn 03 46 53.4 +0.1
GKP eSn Sg 03 47 19.2 +5.3
GKP Gorka Klasztor 1.93 21 ePn Pb 03 46 48.0 0.0
RAC Raciborz 1.93 135 ePg Pg 03 46 49.8 +0.9
RAC eSg Sg 03 47 14.1 +0.2
MORC Moravsky Berou 1.94 151 ePn Pn 03 46 46.7 +0.6
MORC eSg Sb 03 47 13.7 +0.9
171nm,0.6s
CLL Collm 1.94 266 ePn Pn 03 46 46.7 +0.5
CLL eSg Sg 03 47 14.9 +0.6
CLL Collm 1.94 266 ePn Pn 03 46 47.0 +0.8
CLL ePg Pg 03 46 50.0 +0.8
CLL *i* 03 46 54.0
CLL *e* 03 47 05.0
CLL eSg Sg 03 47 16.0 +1.7
comp=Z,148nm,0.5s
CLL Collm 1.94 266 Pn Pn 03 46 46.7 +0.5
CLL Sg Sg 03 47 14.9 +0.6
OKC Ostrava-Krasne 2.10 141 ePn Pn 03 46 49.0 +0.7
OKC Ostrava-Krasne 2.10 141 ePN Pn 03 46 48.0 0.0
OKC ePG Pg 03 46 52.6 +0.5
OKC eSG Sg 03 47 18.7 -0.6
comp=Z,182nm,0.6s
OKC Ostrava-Krasne 2.10 141 Pn Pn 03 46 49.0 +0.7
CHZP Chorzow 2.19 122 Pn Pn 03 46 49.0 -0.5
CHZP ePg Pg 03 46 54.7 +0.9
CHZP eSg Sg 03 47 29.8 +7.7
VRAC Vranov 2.19 171 Pn Pb 03 46 51.3 -1.2
comp=Z,11nm,0.3s,baz=334,slow=13,SNR=44
VRAC Lg Lg 03 47 22.7
comp=Z,16nm,0.3s,baz=258,slow=21,SNR=9.8
VRAC Vranov 2.19 171 ⇓*i*P Pn 03 46 50.7 +1.1
VRAC Vranov 2.19 171 S Sg 03 47 22.8 +0.5
VRAC Vranov 2.19 171 ePn Pn 03 46 50.6 +1.0
VRAC eSg Sg 03 47 22.8 +0.5
comp=Z,188nm,1.0s
TREC Trest 2.22 190 ePN Pn 03 46 51.2 +1.2
TREC Trest 2.22 190 Pn Pn 03 46 51.2 +1.2
KRUC Moravsky 2.42 175 ePn Pn 03 46 53.8 +1.0
KRUC eSg Sg 03 47 30.1 +0.3
comp=Z,122nm,0.6s
TANN Tannenbergstha 2.53 247 ePn Pn 03 46 55.8 +1.5
TANN eSg Sg 03 47 33.5 +0.3
TANN Tannenbergstha 2.53 247 Pn Pn 03 46 55.8 +1.5
TANN Sg Sg 03 47 33.5 +0.3
WERD Werda 2.61 248 ePn Pn 03 46 56.8 +1.4
WERD Werda 2.61 248 Pn Pn 03 46 56.8 +1.4
NKC Novy Kostel 2.62 243 ePN Pn 03 46 57.0 +1.4
NKC ePG Pg 03 47 03.7 +1.5
NKC eSG Sg 03 47 39.3 +3.1
comp=Z,137nm,0.3s
NKC Novy Kostel 2.62 243 Pn Pn 03 46 57.0 +1.4
OJC Ojcow 2.66 117 ePn Pn 03 46 55.4 -0.7
OJC eSg Sg 03 47 39.7 +2.2
OJC Ojcow 2.66 117 ePn Pn 03 46 55.4 -0.7
OJC ePg Pg 03 47 04.2 +1.2
OJC eSg Sg 03 47 39.1 +1.6
OJC Ojcow 2.66 117 Pn Pn 03 46 55.4 -0.7
KHC Kasperske Hory 2.85 215 ePN Pn 03 46 59.6 +0.9
KHC ePG Pg 03 47 05.8 -0.7
KHC ePN Sn 03 47 33.6 0.0
KHC eSG Sg 03 47 42.9 -0.5
comp=Z,97nm,0.5s
KHC Kasperske Hory 2.85 215 Pn Pn 03 46 59.6 +0.9
MANZ Manzenberg 2.94 241 ePn Pn 03 47 01.4 +1.5
MANZ Manzenberg 2.94 241 Pn Pn 03 47 01.4 +1.5
MOX Moxa 2.94 255 ePn Pn 03 47 01.2 +1.2
MOX Moxa 2.94 255 Pn Pn 03 47 01.2 +1.2
ROTZ Rotzenmuhle 3.01 237 ePn Pn 03 47 02.3 +1.5
ROTZ Rotzenmuhle 3.01 237 Pn Pn 03 47 02.3 +1.5
GEC2 GERESS Array S 3.05 211 ePn Pn 03 47 02.7 +1.2
GEC2 GERESS Array S 3.05 211 Pn Pn 03 47 02.7 +1.2
GERES GERESS Array B 3.05 211 Pn Pn 03 47 03.0 +1.5
comp=Z,6.6nm,0.3s,baz=26,slow=12,SNR=120
GERES Pg Pg 03 47 09.8 -0.6
comp=Z,20nm,0.3s,baz=28,slow=17,SNR=64
GERES Sn Sn 03 47 38.0 -0.7
comp=Z,9.2nm,0.3s,baz=29,slow=28,SNR=5.9
GERES Lg Lg 03 47 48.8
comp=Z,19nm,0.3s,baz=37,slow=28,SNR=9.4
SMOL Smolenice 3.09 163 ePn Pn 03 47 01.1 -0.8
SMOL Smolenice 3.09 163 ePN Pn 03 47 01.1 -0.8
SMOL ePG Pg 03 47 12.1 +1.0
SMOL eSG Sg 03 47 52.5 +1.4
WET Wettzell 3.11 223 ePn Pn 03 47 03.5 +1.2
WET Wettzell 3.11 223 Pn Pn 03 47 03.5 +1.2
NIE Niedzica 3.39 126 ePn Pn 03 47 07.3 +1.2
NIE ePg Pg 03 47 17.4 +0.5
NIE eSg Sg 03 48 01.8 +0.9
NIE Niedzica 3.39 126 ePn Pn 03 47 07.3 +1.2
CONA Conrad Observa 3.55 183 ⇑*i*Pn Pn 03 47 09.1 +0.7
SNR=14
CONA ⇑*i*Pg Pg 03 47 19.8 -0.2
CONA ⇑*i*Sg Sg 03 48 07.0 +0.9
comp=Z,62nm,0.4s
CONA Conrad Observa 3.55 183 Pn Pn 03 47 09.1 +0.7
SNR=14
CONA Conrad Observa 3.55 183 Pg Pg 03 47 19.8 -0.2
CONA Sg Sg 03 48 07.0 +0.9
comp=Z,62nm,0.4s
GRA1 Grafenberg Arr 3.58 242 Pn Pn 03 47 10.2 +1.5
GRF Grafenberg Arr 3.58 242 ePn Pn 03 47 10.2 +1.5
CLZ Clausthal 3.58 278 ePn Pn 03 47 10.5 +1.8
CLZ Clausthal 3.58 278 Pn Pn 03 47 10.5 +1.8
BSD Bornholm Skovb 3.71 349 *i*P Pn 03 47 10.5 0.0
BSD eS Sn 03 47 51.9 -3.0
BSD Bornholm Skovb 3.71 349 *i*P Pn 03 47 10.5 0.0
BSD eS Sn 03 47 51.9 -3.0
MOA Molln 3.82 199 ⇑*i*Pn Pn 03 47 13.5 +1.5
SNR=12
MOA ⇑*i*Sg Sg 03 48 15.9 +1.4
comp=Z,92nm,0.7s
MOA Molln 3.82 199 Pn Pn 03 47 13.5 +1.5
SNR=12
MOA Sg Sg 03 48 15.9 +1.4
comp=Z,92nm,0.7s
NRDL Niedersach Rie 3.84 288 ePn Pn 03 47 14.1 +2.0
NRDL Niedersach Rie 3.84 288 Pn Pn 03 47 14.1 +2.0
STHS Stebnicka Huta 3.88 120 ePn Pn 03 47 14.1 +1.2
STHS Stebnicka Huta 3.88 120 ePN Pn 03 47 14.1 +1.2
STHS ePG Pg 03 47 27.6 +1.3
STHS eSG Sg 03 48 20.7 +4.1
UBBA Unterbreizbach 3.89 263 ePn Pn 03 47 14.4 +1.5
UBBA Unterbreizbach 3.89 263 Pn Pn 03 47 14.4 +1.5
KECS Kecovo 4.12 135 ePn Pn 03 47 15.9 -0.2
KECS Kecovo 4.12 135 ePN Pn 03 47 15.9 -0.2
KECS ePG Pg 03 47 31.8 +0.9
KECS eSG Sg 03 48 23.3 -1.0
BSEG Bad Segeberg 4.29 307 ePn Pn 03 47 19.0 +0.6
BSEG Bad Segeberg 4.29 307 Pn Pn 03 47 19.0 +0.6
PSZ Piszkesteto 4.33 144 ⇑*i*P Pn 03 47 20.5 +1.4
KWP Kalwaria Pacla 4.60 111 ePn Pn 03 47 23.5 +0.8
KWP ePg Pg 03 47 42.9 +2.8
KWP eSg Sg 03 48 43.2 +3.5
KWP Kalwaria Pacla 4.60 111 ePn Pn 03 47 23.5 +0.8
KOLS Kolonicke sedl 4.71 120 ePn Pn 03 47 24.7 +0.4
KOLS Kolonicke sedl 4.71 120 ePN Pn 03 47 24.7 +0.4
KOLS ePG Pg 03 47 44.1 +1.9
KOLS eSG Sg 03 48 41.6 -1.7
KBA Koelnbreinsper 4.75 203 ⇑*i*Pn Pn 03 47 26.6 +1.6
SNR=8.9
KBA ⇓*i*Sg Sg 03 48 46.5 +1.9
comp=Z,45nm,0.7s
KBA Koelnbreinsper 4.75 203 Pn Pn 03 47 26.6 +1.6
SNR=8.9
KBA Sg Sg 03 48 46.5 +1.9
comp=Z,45nm,0.7s
BLEU Blekinge 4.84 358 P Pn 03 47 26.3 +0.3
BLEU S Sn 03 48 18.7 -4.0
BLEU Blekinge 4.84 358 P Pn 03 47 26.3 +0.3
BLEU S Sn 03 48 18.7 -4.0
SOKA Soboth 4.85 189 ⇓*i*Pn Pn 03 47 27.5 +1.3
SNR=5.8
SOKA ⇑*i*Pg Pg 03 47 44.4 -0.5
SOKA Soboth 4.85 189 Pn Pn 03 47 27.5 +1.3
SNR=5.8
BJUU Bjuv 4.95 340 P Pn 03 47 26.6 -0.9
BJUU Bjuv 4.95 340 P Pn 03 47 26.6 -0.9
SUW Suwalki 5.00 57 ePn Pn 03 47 28.6 +0.5
SUW ePg Pg 03 47 53.0 +5.3
SUW eSg Sg 03 48 57.1 +4.7
SUW Suwalki 5.00 57 ePn Pn 03 47 28.7 +0.6
SUW eSg Sg 03 48 57.1 +4.7
TNS Taunus Mts 5.00 258 ePn Pn 03 47 29.5 +1.2
TNS Taunus Mts 5.00 258 Pn Pn 03 47 29.5 +1.2
WATA Walderalm 5.08 217 ⇑*i*Pn Pn 03 47 30.8 +1.3
SNR=5.7
WATA Walderalm 5.08 217 Pn Pn 03 47 30.8 +1.3
SNR=5.7
WTTA Wattenberg 5.12 216 ⇓*i*Pn Pn 03 47 31.7 +1.7
WTTA ⇑*i*Sg Sg 03 48 59.1 +2.7
comp=Z,29nm,0.5s
WTTA Wattenberg 5.12 216 Pn Pn 03 47 31.7 +1.7
WTTA Sg Sg 03 48 59.1 +2.7
comp=Z,29nm,0.5s
DEL Delary 5.17 346 P Pn 03 47 30.0 -0.5
DEL Delary 5.17 346 P Pn 03 47 30.0 -0.5
MOTA Moosalm 5.26 220 ⇑*i*Pn Pn 03 47 33.5 +1.5
SNR=10
MOTA ⇓*i*Sg Sg 03 49 03.3 +2.4
comp=Z,19nm,0.5s
MOTA Moosalm 5.26 220 Pn Pn 03 47 33.5 +1.5
SNR=10
MOTA Sg Sg 03 49 03.3 +2.4
comp=Z,19nm,0.5s
ABTA Abersbach 5.28 208 ⇓*i*Pn Pn 03 47 34.6 +2.4
SNR=8.0
ABTA ⇑*i*Sg Sg 03 49 03.2 +1.6
comp=Z,33nm,0.8s
ABTA Abfaltersbach 5.28 208 Pn Pn 03 47 34.6 +2.4
SNR=8.0
ABTA Sg Sg 03 49 03.2 +1.6
comp=Z,33nm,0.8s
RETA Reutte 5.29 223 ⇓*i*Pn Pn 03 47 33.2 +0.9
RETA ⇓*i*Sg Sg 03 49 04.4 +2.6
comp=Z,32nm,0.6s
RETA Reutte 5.29 223 Pn Pn 03 47 33.2 +0.9
RETA Sg Sg 03 49 04.4 +2.6
comp=Z,32nm,0.6s
TRPA Tarpa 5.35 126 ⇑*i*P Pn 03 47 34.3 +1.3
TRPA Tarpa 5.35 126 ⇑*i*P Pn 03 47 34.3 +1.3
KOE Koeppel 5.39 262 ePn Pn 03 47 35.4 +1.8
KOE Koeppel 5.39 262 Pn Pn 03 47 35.4 +1.8
VXJU Vaexsjoe 5.50 353 P Pn 03 47 35.3 +0.3
VXJU Vaexsjoe 5.50 353 P Pn 03 47 35.4 +0.3
PKSM Moragy 5.53 161 ⇓*i*P Pn 03 47 37.3 +1.9
PKSM Moragy 5.53 161 ⇓*i*P Pn 03 47 37.3 +1.9
FETA Feichten 5.67 220 ⇑*i*Pn Pn 03 47 38.7 +1.1
FETA Feichten 5.67 220 Pn Pn 03 47 38.7 +1.1
BGG Burgeitz 5.69 261 ePn Pn 03 47 39.7 +2.0
BGG eSn Sn 03 48 43.5 -0.1
comp=Z,6.7nm,0.7s
BGG Burgeitz 5.69 261 Pn Pn 03 47 39.7 +2.0
BGG Sn Sn 03 48 43.5 -0.1
comp=Z,6.7nm,0.7s
OSKU Oskarshamn 5.73 0 P Pn 03 47 38.5 +0.3
OSKU Oskarshamn 5.73 0 P Pn 03 47 38.5 +0.3
DAVA Damuels 5.83 226 ⇑*i*Pn Pn 03 47 40.7 +0.9
DAVA ⇑*i*Sg Sg 03 49 22.6 +3.4
comp=Z,21nm,0.5s
DAVA Damuels 5.83 226 Pn Pn 03 47 40.7 +0.9
DAVA Sg Sg 03 49 22.6 +3.4
comp=Z,21nm,0.5s
FABU Falkenberg 5.88 342 P Pn 03 47 39.8 -0.4
FABU Falkenberg 5.88 342 P Pn 03 47 39.8 -0.4
STB Steinbach 5.91 265 ePn Pn 03 47 42.6 +2.0
STB Steinbach 5.91 265 Pn Pn 03 47 42.6 +2.0
ASPU Aespoe 5.96 3 P Pn 03 47 41.8 +0.5
ASPU Aespoe 5.96 3 P Pn 03 47 41.9 +0.5
GNOU Gnosjoe 5.99 348 P Pn 03 47 41.8 +0.1
GNOU Gnosjoe 5.99 348 P Pn 03 47 41.8 +0.1
VSTU Vaestervik 6.20 2 P Pn 03 47 45.2 +0.5
VSTU Vaestervik 6.20 2 P Pn 03 47 45.2 +0.5
DAVOX Davos/Dischmat 6.22 223 Pn Pn 03 47 46.5 +1.4
comp=Z,1.3nm,0.3s,baz=63,slow=15,SNR=7.6
DAVOX Sn Sn 03 49 06.0 +9.0
comp=Z,1.0nm,0.3s,baz=294,slow=20,SNR=2.0
DAVOX Lg Lg 03 49 30.1
comp=Z,1.2nm,0.3s,baz=158,slow=22,SNR=3.2
KLL Kalltalsperre 6.22 266 ePn Pn 03 47 47.2 +2.2
KLL Kalltalsperre 6.22 266 Pn Pn 03 47 47.2 +2.2
DREG Dreilaegerbach 6.27 266 ePn Pn 03 47 47.6 +2.0
DREG Dreilaegerbach 6.27 266 Pn Pn 03 47 47.6 +2.0
DRGR 6.39 135 ⇓*i*P Pn 03 47 48.4 +1.1
DRGR 6.39 135 ⇓*i*P Pn 03 47 48.4 +1.1
HGN Heimansgroeve 6.44 268 eP Pn 03 47 50.6 +2.7
HGN eS Sg 03 49 37.1 -1.5
CDF Champ du Feu 6.46 245 ePn Pn 03 47 48.2 -0.2
CDF eSg Sg 03 49 35.9 -3.5
comp=Z,46nm,0.9s
CDF Champ du Feu 6.46 245 ePn Pn 03 47 48.2 -0.2
HINF Hinteralfeld 7.03 242 ePn Pn 03 47 53.8 -2.3
HINF eSg Sg 03 49 53.4 -4.1
comp=Z,41nm,0.9s
BURAR Bucovina Array 7.08 120 ⇑*i*P Pn 03 47 58.4 +1.5
BURAR Bucovina Array 7.08 120 ⇑*i*P Pn 03 47 58.4 +1.5
HAU Haudompre 7.21 245 ePn Pn 03 47 56.9 -1.6
HAU eSg Sg 03 49 58.7 -4.5
comp=Z,33nm,0.7s
GIVF Givet 7.28 264 eP Pn 03 48 02.5 +3.1
GIVF Givet 7.28 264 eP Pn 03 48 02.5 +3.1
PAGF Fort de Pagny 7.29 250 ePn Pn 03 47 57.5 -2.1
baz=67
PAGF eSg Sg 03 50 02.1 -3.9
comp=Z,33nm,1.4s
GZR Gura Zlata 7.53 141 ⇑*i*P Pn 03 48 05.3 +2.3
GZR Gura Zlata 7.53 141 ⇑*i*P Pn 03 48 05.3 +2.3
SFTF Sexfontaines 7.86 250 ePn Pn 03 48 05.4 -2.0
baz=72
CABF La Chapelle 8.18 237 eSg Sg 03 50 29.5 -4.8
comp=Z,65nm,1.2s
AKASG Malin Array Be 8.31 90 Pn Pn 03 48 12.8 -0.8
comp=Z,2.4nm,0.3s,baz=278,slow=12,SNR=11
AKASG Sn Sn 03 49 44.1 -3.8
comp=Z,2.4nm,0.3s,baz=264,slow=24,SNR=3.8
AKASG Lg Lg 03 50 43.0
comp=Z,1.0nm,0.3s,baz=267,slow=27,SNR=4.3
LPG La Plagne 8.61 230 ePn Pn 03 48 16.1 -1.9
LPG eSg Sg 03 50 44.0 -4.4
comp=Z,31nm,1.1s
HFS Hagfors 8.78 352 Pn Pn 03 48 19.5 -0.6
comp=Z,0.7nm,0.3s,baz=174,slow=14,SNR=27
HFS Sn Sn 03 49 54.3 -5.3
comp=Z,0.6nm,0.3s,baz=163,slow=26,SNR=3.8
BEY Berane 8.99 162 eSg Sn 03 50 04.1 -0.8
LOR Lormes 9.02 247 ePn Pn 03 48 22.2 -1.2
baz=63
LOR Lormes 9.02 247 ePn Pn 03 48 22.2 -1.2
MBDF Montbardon 9.19 226 eP Pn 03 48 29.3 +3.5
MBDF Montbardon 9.19 226 eP Pn 03 48 29.3 +3.5
SBF Sospel 9.59 221 ePn Pn 03 48 28.8 -2.4
NOA NORSAR Array B 9.96 346 Pn Pn 03 48 34.7 -1.5
comp=Z,0.6nm,0.3s,baz=168,slow=12,SNR=13
NOA Sn Sn 03 50 23.3 -5.3
comp=Z,0.4nm,0.3s,baz=48,slow=19,SNR=4.0
FRF La Foret Royal 10.17 223 ePn Pn 03 48 37.3 -1.8
FINES FINESS Array B 11.40 25 Pn Pn 03 48 54.5 -1.3
comp=Z,0.7nm,0.3s,baz=205,slow=12,SNR=20
FINES Sn Sn 03 50 56.2 -7.5
comp=Z,1.1nm,0.3s,baz=216,slow=20,SNR=6.8
EKA Eskdalemuir Ar 12.11 296 Pn Pn 03 49 02.9 -2.7
baz=102,slow=13,SNR=14
ARCES ARCESS Array B 18.66 10 Pn P 03 50 28.5 -2.5
comp=Z,1.5nm,0.3s,baz=192,slow=12,SNR=27
AKTO Aktyubinsk 26.17 76 P P 03 51 49.0 +1.2
comp=Z,1.3nm,0.6s,baz=287,slow=11,SNR=5.9
TORD Torodi Ar. Bea 39.96 202 P P 03 53 49.0 +0.9
comp=Z,0.8nm,0.7s,baz=11,slow=8.4,SNR=13
MKAR Makanchi Array 42.24 69 P P 03 54 08.5 +1.9
comp=Z,0.2nm,0.4s,baz=302,slow=7.3,SNR=3.5
SONM Songino Array 54.94 55 P P 03 55 46.1 +1.6
comp=Z,0.3nm,0.4s,baz=298,slow=3.1,SNR=3.6
YKA Yellowknife Ar 59.88 336 P P 03 56 20.7 +1.8
comp=Z,0.9nm,0.6s,baz=28,slow=6.9,SNR=8.9

SJA ***11*** *04:09:26.5±0.6, 29°.66S×71°.71W, h30km±18km, ML3.3, MW4.2*
ISCJB ***11*** *04:09:30.3±1.1, 29°.78S±0°.04×71°.6W±0°.1, h42km±10km, mb4.1/2, Error ellipse: s-maj=15.4km s-min=7.0km az=178.3*
NEIC ***11*** *04:09:31.0, 29°.88S×71°.35W, h48km, mb4.1/2, After GUC. NEIC Felt [III] at Coquimbo and La Serena and [II] at La Higuera.*
GUC ***11*** *04:09:31.3±0.5, 29°.88S×71°.35W, h48km±2km, ML3.9*
ISC 11 04:09:30.5±1.3, 29°.83S±0°.05×71°.64W±0°.08, h36km±2km, n27, σ1°.962/31, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.35**	**103**	⇑*i*P	**Pn**	**04 09 38.8**	**-0.1**
LSCH				*i* S	**Sn**	**04 09 44.6**	**-0.8**
TLL	**Tololo Astrono**	**0.80**	**115**	⇓*i*P	**Pn**	**04 09 43.9**	**-1.5**
TLL				*i* S	**Sn**	**04 09 53.6**	**-2.7**
TLL				AML	AML	04 09 54.1	
	comp=N,5μm,0.3s						
LCO	**Las Campanas**	**1.16**	**45**	*e*Pn	**Pn**	**04 09 49.6**	**-0.7**
LCO				*e*Sn	**Sn**	**04 10 03.0**	**-2.0**
LCO	**Las Campanas**	**1.16**	**45**	*e*P	**Pn**	**04 09 50.0**	**-0.4**
LCO				*e*S	**Sn**	**04 10 03.9**	**-1.1**
LCO				AML	AML	04 10 05.1	
	comp=Z,674nm,0.2s						
VACH	**Vallenar**	**1.47**	**32**	⇓*i*P	**Pn**	**04 09 54.9**	**+0.5**
VACH				*i* S	**Sn**	**04 10 13.0**	**+0.6**
CPCH	**Copiapo**	**2.71**	**25**	*e*P	**Pn**	**04 10 11.9**	**+0.4**
RTLS	**Leoncito**	**2.81**	**135**	*e*P	**Pn**	**04 10 15.1**	**+2.0**
AMOG	**MOGNA**	**2.93**	**113**	*e*P	**Pn**	**04 10 16.9**	**+2.2**
AUSP	**Uspallata**	**3.07**	**142**	*e*P	**Pn**	**04 10 18.8**	**+2.1**
RTLL	**Cerro Villicun**	**3.11**	**120**	*e*P	**Pn**	**04 10 18.5**	**+1.5**
ROCH	**El Roble**	**3.18**	**170**	AML	AML	04 11 08.5	
	comp=E,229nm,0.5s						
RTCV	**Cerro Valdivia**	**3.35**	**128**	*e*P	**Pn**	**04 10 22.0**	**+1.7**
PEL	**Peldehue**	**3.40**	**166**	*e*P	**Pn**	**04 10 21.6**	**+0.5**
PEL				AML	AML	04 11 13.0	
	comp=E,284nm,0.2s						
CFAA	**Coronel Fontan**	**3.42**	**122**	*e*P	**Pn**	**04 10 22.6**	**+1.3**
ASAL	**Salagasta**	**3.65**	**140**	*e*P	**Pn**	**04 10 26.7**	**+2.1**
CLCH	**Cerro Calan**	**3.68**	**165**	*e*P	**Pn**	**04 10 24.6**	**-0.2**
CLCH				AML	AML	04 11 21.1	
	comp=E,263nm,0.6s						
AVFE	**Valle Fertil**	**3.71**	**104**	*e*P	**Pn**	**04 10 26.0**	**+0.7**
AVFE				*e*S	**Sn**	**04 11 10.9**	**+3.0**
ARCO	**CERRO ARCO**	**3.79**	**143**	*e*P	**Pn**	**04 10 29.3**	**+2.8**
AAGR	**Agrelo**	**4.04**	**144**	*e*P	Pn	04 10 33.1	+3.2
ACLC	**CERRO LA CRUZ**	**4.10**	**86**	*e*P	**Pn**	**04 10 31.2**	**+0.5**
ACAN	**Cantantal**	**4.53**	**124**	*e*P	**Pn**	**04 10 36.8**	**+0.3**
CYA	**Choya**	**5.29**	**76**	*e*P	**Pn**	**04 10 47.0**	**0.0**
TRQA	**Tornquist**	**11.47**	**138**	*e*Pn	**Pn**	**04 12 12.2**	**+0.6**
LPAZ	**La Paz**	**13.86**	**14**	*e*Pn	**Pn**	**04 12 45.1**	**+0.1**
WMOK	**Wichita Mounta**	**69.14**	**336**	*e*P	**P**	**04 20 34.0**	**+0.9**
	comp=E,2.5nm,0.9s						
SUR	**Sutherland**	**76.56**	**120**	*e*P	**P**	**04 21 14.5**	**-3.1**
DUG	**Dugway, Tooele**	**79.47**	**329**	*e*P	**P**	**04 21 34.1**	**+0.9**
	comp=E,1.5nm,0.7s						

MEX 11 04:22:16.6±0.8, 17°.10N×94°.60W, h150km±8km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.28**	**268**	*i* P	Pn	04 22 35.4	-1.7
CMIG				*i* S	Sn	04 22 50.6	-2.0
TGIG		**1.45**	**103**	*i* P	Pn	04 22 44.9	-0.8
TGIG				*i* S	Sn	04 23 05.9	-2.0
HUIG	**Huatulco**	**1.96**	**228**	*i* P	Pn	04 22 49.8	-1.5
HUIG				*i* S	Sn	04 23 16.3	-1.7
VHO	**Vista Hermosa**	**2.04**	**270**	*e*P	Pn	04 22 50.9	-1.7
VHO				*e*S	Sn	04 23 18.6	-1.5

ISCJB ***11*** *04:50:50.9±0.4, 5°.61N±0°.10×32°.73W±0°.06, h12km, mb4.2/39, MS3.7/19, Error ellipse: s-maj=14.1km s-min=8.1km az=4.0*
IDC ***11*** *04:50:50.6±0.8, 5°.63N×32°.78W, h0km, mb4.0/16, mb1 4.2/16, mb1mx4.0/42, mbtmp4.0/16, MS3.7/20, Ms1 3.7/20, ms1mx3.6/25, Error ellipse: s-maj=25.9km s-min=17.0km az=2.0*
NEIC ***11*** *04:50:52.2±0.3, 5°.58N×32°.78W, h10km, mb4.5/25, Error ellipse: s-maj=10.0km s-min=6.0km az=184.0*
ISC 11 04:50:52.5±0.5, 5°.6N±0°.1×32°.80W±0°.08, h12km, n66, σ0°.979/52, mb4.3/39, MS3.7/19, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**11.75**	**195**	LR	LR	04 57 10.5	
	comp=Z,352nm,20.6s,baz=14,slow=32						
H10N3	**ASCENSION HYDR**	**22.60**	**126**	T	T	05 19 16.2	
	baz=305,slow=75,SNR=41						
H10N2	**ASCENSION HYDR**	**22.60**	**126**	T	T	05 19 16.6	
	baz=305,slow=75,SNR=55						
H10N1	**ASCENSION HYDR**	**22.62**	**126**	T	T	05 19 17.7	
	baz=305,slow=75,SNR=60						
H10S3	**ASCENSION HYDR**	**23.13**	**128**	T	T	05 19 56.2	
	baz=307,slow=74,SNR=36						
H10S1	**ASCENSION HYDR**	**23.14**	**128**	T	T	05 19 56.4	
	baz=307,slow=74,SNR=38						
H10S2	**ASCENSION HYDR**	**23.15**	**128**	T	T	05 20 03.3	
	baz=307,slow=74,SNR=41						
BDFB	**Brasilia**	**25.92**	**215**	LR	LR	05 05 25.8	
	comp=Z,366nm,21.9s,baz=39,slow=34						
DBIC	**Dimbokro**	**27.80**	**86**	P	**P**	**04 56 40.6**	**-1.2**
	4.6nm,1.0s,baz=288,slow=6.4,SNR=2.6						
DBIC				LR	LR	05 06 43.8	
	comp=Z,146nm,18.3s,baz=250,slow=34						
DBIC	**Dimbokro**	**27.80**	**86**	*e*P	**P**	**04 56 41.9**	**+0.1**
	91nm,2.0s						
SAML	**Samuel**	**33.56**	**245**	*e*P	**P**	**04 57 32.7**	**0.0**
	5.3nm,1.3s						
TOA0	**Torodi Ar. Sit**	**34.82**	**75**	*e*P	**P**	**04 57 43.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**34.82**	**75**	P	**P**	**04 57 43.6**	**-0.1**
	2.1nm,0.8s,baz=264,slow=9.4,SNR=12						
TORD				LR	LR	05 10 08.6	
	comp=Z,238nm,20.8s,baz=265,slow=33						
TAM	**Tamanrasset**	**40.72**	**61**	*e*P	**P**	**04 58 35.7**	**+2.0**
	1.0nm,0.8s						
LPAZ	**La Paz**	**41.16**	**238**	P	**P**	**04 58 38.0**	**+0.1**
	1.6nm,1.0s,baz=38,slow=8.7,SNR=4.5						
LPAZ				LR	LR	05 15 10.0	
	comp=Z,253nm,19.1s,baz=54,slow=35						
LPAZ	**La Paz**	**41.16**	**238**	*e*P	**P**	**04 58 38.1**	**+0.2**
	3.5nm,1.1s						
ROSC	**El Rosal**	**41.36**	**271**	LR	LR	05 16 26.4	
	comp=Z,99nm,18.4s,baz=92,slow=37						
ESDC	**Sonseca Array**	**42.74**	**33**	LR	LR	05 13 30.1	
	comp=Z,65nm,21.6s,baz=230,slow=32						
OTAV	**Otavalo**	**45.89**	**265**	*e*P	**P**	**04 59 16.6**	**+0.8**
	5.8nm,1.4s						
MSKU	**Masuku**	**46.90**	**97**	P	**P**	**04 59 23.8**	**+0.5**
	3.1nm,0.6s,baz=297,slow=11,SNR=3.8						
KEST	**Kesra**	**48.96**	**46**	LR	LR	05 20 35.8	
	comp=Z,93nm,19.1s,baz=274,slow=36						
ESK	**Eskdalemuir**	**54.97**	**20**	*e*P	**P**	**05 00 23.2**	**-0.2**
	27nm,1.3s						
TSUM	**Tsumeb**	**55.37**	**118**	*e*P	**P**	**05 00 27.0**	**-0.1**
	8.4nm,1.1s						
SCHQ	**Schefferville**	**56.22**	**337**	LR	LR	05 20 06.0	
	comp=Z,20nm,18.9s,baz=109,slow=31						
GERES	**GERESS Array B**	**58.32**	**34**	P	**P**	**05 00 47.6**	**+0.1**
	1.2nm,0.8s,baz=224,slow=5.6,SNR=8.0						
GERES				LR	LR	05 23 36.2	
	comp=Z,84nm,19.8s,baz=262,slow=34						
WVT	**Waverly**	**58.77**	**309**	*e*P	**P**	**05 00 51.4**	**+0.6**
	2.8nm,0.8s						
PSZ	**Piszkesteto**	**61.49**	**38**	*e*P	**P**	**05 01 09.5**	**+0.2**
	5.1nm,0.7s						
NATX	**Nacogdoches**	**63.23**	**303**	*e*P	**P**	**05 01 22.4**	**+1.2**
	13nm,0.7s						
LSZ	**Lusaka**	**63.85**	**110**	*e*P	**P**	**05 01 25.1**	**-0.6**
	4.9nm,1.1s						

NAO01	**NORSAR Array S**	**64.11**	**22**	*e*P		**P**	**05 01 26.5**	**+0.1**
	4.2nm,0.9s							
NB2	**NORSAR Subarra**	**64.36**	**22**	P		**P**	**05 01 28.6**	**+0.5**
	comp=Z,2.7nm,1.0s,baz=230,slow=6.9							
NOA	**NORSAR Array B**	**64.36**	**22**	P		**P**	**05 01 28.8**	**+0.7**
	comp=Z,1.7nm,1.0s,baz=229,slow=6.2,SNR=4.3							
NOA				LR		LR	05 27 28.8	
	comp=Z,70nm,18.8s,baz=235,slow=34							
LBTB	**Lobatse**	**64.36**	**121**	*e*P		**P**	**05 01 28.9**	**+0.1**
	comp=Z,14nm,1.4s							
BOSA	**Boshof**	**65.35**	**125**	P		**P**	**05 01 35.5**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=311,slow=9.3,SNR=3.3							
BOSA				LR		LR	05 23 55.4	
	comp=Z,65nm,21.8s,baz=312,slow=30							
BOSA	**Boshof**	**65.35**	**125**	*e*P		**P**	**05 01 35.2**	**0.0**
	comp=Z,14nm,1.3s							
KIEV	**Kiev**	**68.18**	**37**	*e*P		**P**	**05 01 52.9**	**+0.2**
	comp=Z,2.2nm,0.6s							
AKASG	**Malin Array Be**	**68.19**	**37**	P		**P**	**05 01 53.2**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=252,slow=5.7,SNR=7.1							
AKASG				LR		LR	05 31 32.5	
	comp=Z,34nm,19.6s,baz=245,slow=36							
BRTR	**Keskin Array B**	**68.38**	**49**	P		**P**	**05 01 55.0**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=263,slow=5.9,SNR=3.5							
BRTR				LR		LR	05 34 14.0	
	comp=Z,29nm,18.2s,baz=239,slow=38							
FINES	**FINESS Array B**	**70.61**	**26**	P		**P**	**05 02 06.5**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=224,slow=5.3,SNR=7.4							
FINES				LR		LR	05 33 11.3	
	comp=Z,31nm,18.1s,baz=200,slow=36							
TXAR	**Lajitas Array**	**70.62**	**299**	P		**P**	**05 02 08.5**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=111,slow=4.9,SNR=3.1							
TXAR				LR		LR	05 34 09.8	
	comp=Z,19nm,18.3s,baz=0.0,slow=37							
FCC	**Fort Churchill**	**70.63**	**331**	*e*P		**P**	**05 02 07.0**	**-0.7**
SDCO	**Great Sand Dun**	**72.94**	**308**	*e*P		**P**	**05 02 21.4**	**-1.1**
	comp=Z,1.3nm,0.9s							
ANMO	**Albuquerque**	**73.44**	**305**	*e*P		**P**	**05 02 25.7**	**+0.4**
	comp=Z,1.0nm,0.8s							
FFC	**Flin Flon**	**73.51**	**326**	*e*P		**P**	**05 02 24.8**	**-0.3**
	comp=Z,4.3nm,1.1s							
ARCES	**ARCESS Array B**	**74.08**	**18**	LR		LR	05 34 05.7	
	comp=Z,20nm,18.6s,baz=224,slow=35							
KBZ	**Khabaz**	**75.83**	**46**	P		**P**	**05 02 37.2**	**-1.5**
	comp=Z,1.8nm,0.8s,baz=146,slow=3.6,SNR=3.0							
PDAR	**Pinedale Array**	**76.52**	**313**	P		**P**	**05 02 41.8**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=69,slow=5.7,SNR=3.7							
PDAR				LR		LR	05 31 46.1	
	comp=Z,50nm,21.7s,baz=105,slow=32							
SPITS	**Spitsbergen Ar**	**76.78**	**9**	LR		LR	05 29 33.1	
	comp=Z,38nm,19.4s,baz=270,slow=30							
TUC	**Tucson**	**76.89**	**302**	*e*P		**P**	**05 02 43.9**	**-1.3**
	comp=Z,1.5nm,0.9s							
GNI	**Garni**	**76.90**	**50**	*e*P		**P**	**05 02 43.6**	**-1.6**
LOHW	**Long Hollow**	**77.35**	**313**	*e*P		**P**	**05 02 49.1**	**+1.4**
	comp=Z,2.5nm,0.9s							
SNOW	**Snow King Moun**	**77.44**	**313**	*e*P		**P**	**05 02 48.2**	**0.0**
	comp=Z,2.2nm,0.7s							
HWUT	**Hardware Ranch**	**77.92**	**311**	*e*P		**P**	**05 02 50.8**	**-0.1**
	comp=Z,3.0nm,0.8s							
MSU	**Marysvale**	**78.24**	**308**	*e*P		**P**	**05 02 54.0**	**+1.2**
	comp=Z,2.9nm,1.1s							
DUG	**Dugway, Tooele**	**78.80**	**310**	*e*P		**P**	**05 02 55.9**	**+0.2**
	comp=Z,3.6nm,1.1s							
HLID	**Hailey**	**80.11**	**313**	*e*P		**P**	**05 03 03.0**	**+0.2**
ELK	**Elko**	**80.66**	**310**	*e*P		**P**	**05 03 06.7**	**+0.7**
	comp=Z,2.9nm,1.1s							
YKA	**Yellowknife Ar**	**81.29**	**332**	P		**P**	**05 03 08.1**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=94,slow=5.7,SNR=6.6							
NEW	**Newport**	**82.09**	**318**	*e*P		**P**	**05 03 12.4**	**-0.8**
	comp=Z,4.7nm,1.2s							
NVAR	**Mina Array Bea**	**83.05**	**308**	P		**P**	**05 03 19.9**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=102,slow=4.2,SNR=3.1							
ABKAR	**Akbulak array**	**87.60**	**41**	*e*P		**P**	**05 03 41.4**	**+0.7**
ILAR	**Eielson Array**	**94.98**	**337**	P		**P**	**05 04 14.3**	**-0.5**
	comp=Z,0.5nm,1.0s,baz=39,slow=5.9,SNR=4.5							
ILAR				LR		LR	05 44 02.5	
	comp=Z,37nm,20.0s,baz=87,slow=34							
CHTO	**Chiang Mai**	**126.63**	**62**	*e*PKPdf		**PKPdf**	**05 09 57.0**	**+0.2**
ASAR	**Alice Springs**	**157.92**	**146**	PKP		**PKPdf**	**05 10 49.9**	**-0.3**
	comp=Z,1.4nm,1.1s,baz=150,slow=2.7,SNR=5.8							
AS31	**Alice Springs**	**157.92**	**146**	*e*PKPdf		**PKPdf**	**05 10 50.4**	**+0.2**
WRAB	**Tennant Creek**	**161.03**	**140**	*e*PKPdf		**PKPdf**	**05 10 52.4**	**-1.4**

*IDC **11** 05:09:48.6±0.8, 1°.38N×126°.29E, h0km, mb4.1/9, mb1 4.3/9, mb1mx3.9/38, mbtmp4.1/9, MS3.3/2, Ms1 3.3/2, ms1mx2.6/34, Error ellipse: s-maj=56.1km s-min=15.3km az=72.0*

*ISCJB **11** 05:09:53.9±0.5, 1°.56N±0°.05×126°.69E±0°.06, h47km, mb4.2/11, MS3.4/2, Error ellipse: s-maj=9.4km s-min=5.9km az=142.7*

*DJA **11** 05:09:55.1±0.8, 2°N±3°×12°.7E±°, h15km±7km, M4.2/11, mb4.3/3, mB4.9/2, MLv4.1/11, Mw(mB)4.1/2*

*NEIC **11** 05:09:57.4±0.9, 1°.47N×126°.69E, h72km±9km, mb4.3/3, Error ellipse: s-maj=15.0km s-min=8.1km az=51.0*

ISC 11 05:09:55.6±0.6, 1°.59N±0°.06×126°.68E±0°.07, h47km, n27, σ1s70/30, mb4.3/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.06**	**139**	P		**Pn**	**05 10 13.6**	**-0.5**
TNTI				S		**Sn**	**05 10 28.7**	**+0.9**
TNTI	**Ternate**	**1.06**	**139**	*e*Pn		**Pn**	**05 10 14.1**	**-0.1**
TNTI				*e*Sn		**Sn**	**05 10 31.5**	**+3.7**
LBMI	**Labuha**	**2.36**	**160**	P		**Pn**	**05 10 32.9**	**+1.0**
LBMI				S		**Sn**	**05 11 02.6**	**+3.0**
SGSI	**Sangihe**	**2.38**	**331**	P		**Pn**	**05 10 33.2**	**+1.1**
SGSI				S		**Sn**	**05 11 02.9**	**+2.8**
KMSI	**Cibinong**	**2.88**	**250**	P		**Pn**	**05 10 38.5**	**-0.4**
SANI	**Sanana**	**3.68**	**191**	P		**Pn**	**05 10 49.5**	**-0.4**
LUWI	**Luwuk**	**4.70**	**236**	*e*Pn		**Pn**	**05 11 05.9**	**+2.0**
MRSI	**Marisa**	**4.86**	**257**	P		**Pn**	**05 11 07.6**	**+1.4**
APSI	**Ampana**	**5.61**	**244**	P		**Pn**	**05 11 16.9**	**+0.5**
	58nm,0.7s,792nm0.2nm							
MPSI	**Mapaga**	**6.89**	**260**	P		**Pn**	**05 11 34.5**	**+0.4**
FAKI	**Fak Fak**	**7.15**	**129**	*e*Pn		**Pn**	**05 11 39.6**	**+2.0**
KKM	**Kota Kinabalu**	**11.34**	**293**	*e*Pn		**Pn**	**05 12 37.6**	**+2.5**
	6.5nm,0.6s							
WRAB	**Tennant Creek**	**22.67**	**161**	*e*P		**P**	**05 14 51.0**	**-2.2**
	13nm,0.4s							
WRA	**Warramunga Arr**	**22.68**	**161**	P		**P**	**05 14 51.1**	**-2.1**
	14nm,0.5s,baz=339,slow=11,SNR=69							
AS31	**Alice Springs**	**26.07**	**165**	*e*P		**P**	**05 15 23.6**	**-1.3**
ASAR	**Alice Springs**	**26.07**	**165**	P		**P**	**05 15 23.2**	**-1.6**
	6.2nm,0.4s,baz=350,slow=15,SNR=76							
STKA	**Stephens Creek**	**36.16**	**158**	P		**P**	**05 16 52.3**	**-1.3**
	1.2nm,0.3s,baz=348,slow=6.4,SNR=8.1							
MJAR	**Matsushiro Arr**	**36.38**	**16**	P		**P**	**05 16 56.8**	**+1.3**
	0.9nm,0.5s,baz=187,slow=8.2,SNR=4.0							
SONM	**Songino Array**	**49.30**	**342**	P		**P**	**05 18 41.6**	**+1.6**
	0.3nm,0.3s,baz=162,slow=7.9,SNR=4.4							
MK31	**Makanchi Array**	**59.28**	**326**	*e*P		**P**	**05 19 51.0**	**-1.5**
MKAR	**Makanchi Array**	**59.28**	**326**	P		**P**	**05 19 51.4**	**-1.2**
	1.1nm,0.4s,baz=120,slow=7.6,SNR=27							
MKAR				LR		LR	05 49 36.7	
	comp=Z,22nm,18.6s,baz=290,slow=40							
ZALV	**Zalesovo Beam**	**62.47**	**334**	LR		LR	05 48 24.3	
	comp=Z,32nm,20.5s,baz=250,slow=37							
KURK	**Kurchatov**	**63.51**	**328**	*e*P		**P**	**05 20 19.8**	**-1.1**
	3.3nm,0.4s							
AKTO	**Aktyubinsk**	**75.30**	**322**	P		**P**	**05 21 32.6**	**-1.2**
	1.3nm,0.7s,baz=130,slow=8.5,SNR=6.2							
VNDA	**Vanda**	**81.32**	**173**	P		**P**	**05 22 05.8**	**-0.8**
	0.9nm,0.5s,baz=324,slow=6.5,SNR=11							
VNDA	**Vanda**	**81.32**	**173**	*e*P		**P**	**05 22 05.5**	**-1.0**
	1.1nm,0.6s							
AKASG	**Malin Array Be**	**93.51**	**321**	P		**P**	**05 23 06.1**	**-0.2**
	0.1nm,0.2s,baz=74,slow=1.3,SNR=3.3							

IDC 11 05:25:59.8±4.5, 4°.50S×147°.63E, h0km, mb3.8/2, mb1 4.2/2, mb1mx3.5/29, mbtmp3.9/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/22, Error ellipse: s-maj=153.6km s-min=49.4km az=107.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**16.73**	**282**	LR		LR	05 35 50.0	
	comp=Z,104nm,21.8s,baz=124,slow=35							
WRA	**Warramunga Arr**	**20.08**	**219**	P		P	05 30 35.5	+0.4
	1.7nm,0.4s,baz=43,slow=11,SNR=13							
ASAR	**Alice Springs**	**23.21**	**214**	P		P	05 31 08.0	-0.6
	2.8nm,0.8s,baz=47,slow=8.3,SNR=28							
TORD	**Torodi Ar. Bea**	**145.29**	**287**	PKPbc		PKPbc	05 45 40.0	-0.5
	0.5nm,0.6s,baz=106,slow=3.5,SNR=3.6							
KURBB				Lg		Lg	06 31 11.8	
	0.0nm,0.3s,baz=66,slow=35,SNR=3.6							
MKAR	**Makanchi Array**	**7.46**	**207**	Pn		Pn	06 29 49.1	+0.9
	0.2nm,0.3s,baz=27,slow=15,SNR=9.6							

IDC 11 05:33:43.5±1.3, 25°.39N×141°.77E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/37, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=63.4km s-min=23.2km az=102.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**1.73**	**12**	Pn		Pn	05 34 13.6	-1.3
	28nm,0.3s,baz=174,slow=23,SNR=25							
JCJ				Sn		Sn	05 34 35.6	-2.1
	56nm,0.3s,baz=302,slow=22,SNR=25							
KSRS	**Korea Array**	**16.83**	**319**	Pn		P	05 37 41.9	-0.9
	0.1nm,0.3s,baz=131,slow=11,SNR=7.3							
H11N2	**WAKE ISLAND Hy**	**23.86**	**99**	T		T	06 04 16.2	
	baz=289,slow=75,SNR=19							
H11N1	**WAKE ISLAND Hy**	**23.86**	**99**	T		T	06 04 14.6	
	baz=289,slow=75,SNR=19							
H11N3	**WAKE ISLAND Hy**	**23.88**	**99**	T		T	06 04 15.7	
	baz=289,slow=75,SNR=21							
H11S3	**WAKE ISLAND Hy**	**24.09**	**102**	T		T	06 04 31.6	
	baz=291,slow=75,SNR=127							
H11S1	**WAKE ISLAND Hy**	**24.09**	**102**	T		T	06 04 32.1	
	baz=291,slow=75,SNR=135							
H11S2	**WAKE ISLAND Hy**	**24.10**	**102**	T		T	06 04 32.9	
	baz=291,slow=75,SNR=198							
WRA	**Warramunga Arr**	**45.64**	**190**	P		P	05 42 05.4	-0.5
	1.7nm,0.8s,baz=8.8,slow=8.5,SNR=8.7							
ILAR	**Eielson Array**	**59.38**	**28**	P		P	05 43 47.4	+0.1
	0.5nm,0.9s,baz=261,slow=6.0,SNR=4.2							
YKA	**Yellowknife Ar**	**73.81**	**28**	P		P	05 45 20.1	+0.6
	0.3nm,0.7s,baz=298,slow=6.3,SNR=2.7							

*SJA **11** 05:37:31.9±1.8, 34°.41S×72°.78W, h40km±28km, ML3.8, MW3.8*

*ISCJB **11** 05:37:39.8±1.3, 34°.70S±0°.03×71°.99W±0°.07, h14km±9km, Error ellipse: s-maj=9.8km s-min=4.0km az=12.0*

*GUC **11** 05:37:41.2±0.6, 34°.75S×71°.87W, h40km±1km, ML3.9*

ISC 11 05:37:39.4±1.8, 34°.79S±0°.03×71°.91W±0°.07, h9km±13km, n30, σ1s53/47, 6C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NICH	**Los Niches**	**0.60**	**111**	↓*i*P		**Pn**	**05 37 53.2**	**-1.0**
NICH				*i* S		**Sn**	**05 38 02.0**	**-2.1**
TALC	**Talca**	**0.65**	**160**	↓*i*P		**Pn**	**05 37 54.6**	**-0.2**
TALC				*i* S		**Sn**	**05 38 04.4**	**-0.9**
LNV	**Longovilo**	**0.93**	**27**	↑*i*P		**Pg**	**05 37 57.5**	**+0.3**
LNCH	**Linares**	**1.09**	**167**	*e*P		**Pb**	**05 38 00.9**	**+0.5**
LNCH				*i* S		**Sn**	**05 38 16.5**	**+0.4**
CHCH	**Chadas Angostu**	**1.35**	**51**	↑*i*P		**Pn**	**05 38 03.9**	**-0.5**
CHCH				*i* S		**Sb**	**05 38 21.5**	**-0.7**
TACH	**Talagante**	**1.39**	**36**	↑*i*P		**Pn**	**05 38 04.6**	**-0.4**
TACH				*i* S		**Sb**	**05 38 22.1**	**-1.3**
COCH	**Cobquecura**	**1.52**	**208**	*e*P		**Pn**	**05 38 07.2**	**+0.4**
COCH				*i* S		**Sn**	**05 38 27.5**	**+0.8**
PCH	**Pirque**	**1.64**	**45**	↓*i*P		**Pn**	**05 38 08.1**	**-0.4**
SAN	**Santiago**	**1.69**	**38**	↓*i*P		**Pn**	**05 38 08.6**	**-0.5**
SAN				*i* S		**Sn**	**05 38 29.2**	**-1.6**
SJCH	**San Jose de Ma**	**1.73**	**49**	*e*P		**Pn**	**05 38 08.8**	**-0.9**
SJCH				*i* S		**Sn**	**05 38 30.4**	**-1.5**
FSR	**Penalolen**	**1.74**	**42**	*e*P		**Pn**	**05 38 10.6**	**+0.8**
FSR				*i* S		**Sb**	**05 38 32.6**	**-0.9**
LACH	**Col Las Americ**	**1.76**	**41**	↑*i*P		**Pn**	**05 38 09.5**	**-0.6**
LACH				*i* S		**Sn**	**05 38 31.1**	**-1.5**
IHA	**Instituto Hidr**	**1.77**	**7**	↑*i*P		**Pn**	**05 38 09.4**	**-0.8**
CLCH	**Cerro Calan**	**1.80**	**40**	↑*i*P		**Pn**	**05 38 10.2**	**-0.4**
CLCH				*i* S		**Sn**	**05 38 32.3**	**-1.3**
CLCH				AML		AML	05 38 37.9	
	comp=E,2μm,0.3s							
PEL	**Peldehue**	**1.93**	**32**	*e*P		**Pn**	**05 38 12.2**	**-0.2**
PEL				*i* S		**Sn**	**05 38 35.7**	**-1.1**
PEL				AML		AML	05 38 42.6	
	comp=N,2μm,0.3s							
ROCH	**El Roble**	**1.96**	**23**	*e*P		**Pn**	**05 38 12.9**	**-0.1**
ROCH				*i* S		**Sn**	**05 38 37.0**	**-0.8**
ROCH				AML		AML	05 38 44.8	
	comp=N,1μm,0.2s							
AAGR	**Agrelo**	**3.08**	**57**	*e*P		**Pn**	**05 38 30.5**	**+2.2**
ARCO	**CERRO ARCO**	**3.15**	**53**	*e*P		**Pn**	**05 38 32.3**	**+3.0**
ARCO				*e*S		**Sb**	**05 39 15.9**	**+1.7**
CANA	**Caviahue**	**3.17**	**168**	*e*P		**Pn**	**05 38 34.9**	**-1.2**
AUSP	**Uspallata**	**3.31**	**40**	*e*P		**Pn**	**05 38 33.2**	**+1.5**
AUSP				*e*S		**Sb**	**05 39 19.1**	**0.0**
ASAL	**Salagasta**	**3.37**	**50**	*e*P		**Pn**	**05 38 34.1**	**+1.8**
ASAL				*e*S		**Sb**	**05 39 21.8**	**+1.2**
RTLS	**Leoncito**	**3.70**	**37**	*e*P		**Pn**	**05 38 38.5**	**+1.5**
RTCV	**Cerro Valdivia**	**4.06**	**45**	*e*P		**Pn**	**05 38 42.4**	**+0.7**
CFAA	**Coronel Fontan**	**4.42**	**45**	*e*P		**Pn**	**05 38 47.0**	**+0.3**
RTLL	**Cerro Villicun**	**4.50**	**41**	*e*P		**Pn**	**05 38 48.1**	**+0.3**
RTLL				*e*S		**Sn**	**05 39 45.1**	**+4.9**
ACAN	**Cantantal**	**4.67**	**59**	*e*P		**Pn**	**05 38 51.2**	**+1.0**
AMOG	**MOGNA**	**4.79**	**38**	*e*P		**Pn**	**05 38 51.7**	**-0.2**
AVFE	**Valle Fertil**	**5.57**	**44**	*e*P		**Pn**	**05 39 01.2**	**-1.3**
AVFE				*e*S		**Sn**	**05 40 10.6**	**+3.8**
AVFE				AML		AML	05 40 19.1	
	comp=Z,35nm,0.7s							
ACLC	**CERRO LA CRUZ**	**6.80**	**40**	*e*P		**Pn**	**05 39 16.9**	**-2.6**
CYA	**Choya**	**8.19**	**41**	*e*P		Pn	05 39 34.3	-4.2

IDC 11 05:40:48.5±54.0, 18°.37S×179°.84W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/27, mbtmp4.2/3, Error ellipse: s-maj=977.5km s-min=144.1km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**37.21**	**241**	P		P	05 48 02.5	+0.6
	1.2nm,0.5s,baz=98,slow=8.9,SNR=6.2							
WRA	**Warramunga Arr**	**43.21**	**260**	P		P	05 48 51.5	-0.3
	1.7nm,0.4s,baz=97,slow=7.7,SNR=39							
ASAR	**Alice Springs**	**43.35**	**255**	P		P	05 48 52.2	-0.6
	2.7nm,0.7s,baz=89,slow=7.9,SNR=28							

*IDC **11** 06:15:38.2±1.9, 13°.49N×125°.52E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/30, mbtmp3.8/6, MS2.7/1, Ms1 2.7/1, ms1mx2.3/41, Error ellipse: s-maj=168.5km s-min=18.1km az=67.0*

ISC 11 06:15:41.7±1.1, 13°.34N±0°.09×125°.3E±0°.1, h24km, n11, σ1s34/10, mb3.9/6, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLP	**Palo**	**2.18**	**187**	↓*e*P		**Pb**	**06 16 18.4**	**-2.1**
GQP	**Guinayangan**	**2.79**	**282**	↓*e*P		**Pn**	**06 16 23.8**	**-1.2**
GQP				*e*S		**Sb**	**06 17 05.0**	**+0.3**
RCP	**Roxas**	**3.03**	**235**	↓*e*P		**Pn**	**06 16 29.9**	**+1.7**
LQP	**Lukban**	**3.70**	**282**	*e*P		Pb	06 16 50.9	+4.5
GUMO	**Guam**	**19.07**	**87**	LR		LR	06 26 45.9	
	comp=Z,23nm,19.3s,baz=90,slow=36							
WRA	**Warramunga Arr**	**34.26**	**165**	P		**P**	**06 22 25.6**	**-0.5**
	0.2nm,0.4s,baz=345,slow=8.9,SNR=2.6							
ASAR	**Alice Springs**	**37.74**	**167**	P		**P**	**06 22 57.6**	**+1.7**
	0.7nm,0.6s,baz=348,slow=7.6,SNR=11							
SONM	**Songino Array**	**37.81**	**339**	P		**P**	**06 22 56.1**	**-0.3**
	0.8nm,0.5s,baz=145,slow=10,SNR=4.9							
MKAR	**Makanchi Array**	**49.01**	**322**	P		**P**	**06 24 27.1**	**+0.5**
	2.4nm,1.0s,baz=115,slow=9.2,SNR=15							
KURBB	**Kurchatov Arra**	**53.01**	**325**	P		**P**	**06 24 56.5**	**0.0**
	4.4nm,1.0s,baz=122,slow=7.5,SNR=16							
BVAR	**Borovoye Array**	**58.60**	**325**	P		**P**	**06 25 37.2**	**+0.6**
	1.2nm,0.8s,baz=134,slow=8.3,SNR=4.4							

IDC 11 06:27:58.1±3.1, 53°.54N×87°.25E, h0km, mb1 2.8/2, mb1mx2.7/29, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=30.7km s-min=16.4km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**1.50**	**287**	Pg		Pn	06 28 25.7	-0.6
	1.0nm,0.3s,baz=91,slow=17,SNR=5.2							
ZALV				Lg		Lg	06 28 45.1	
	1.4nm,0.3s,baz=95,slow=16,SNR=9.7							
I46RU	**ZALESOVO INFRA**	**1.50**	**287**	*i*			06 38 24.9	
	baz=105,slow=317,SNR=4.4							
KURBB	**Kurchatov Arra**	**6.11**	**245**	Pn		Pn	06 29 31.0	+1.3
	0.1nm,0.3s,baz=63,slow=14,SNR=3.1							

MEX 11 06:49:36.2±0.5, 16°.85N×100°.15W, h10km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAIG	**El Cayaco**	**0.23**	**329**	*i* P		Pg	06 49 40.4	-0.6
CAIG				*i* S		Sg	06 49 44.1	-0.1
ACX	**Acapulco**	**0.28**	**86**	*i* P		Pn	06 49 45.0	-1.4
ACX				*i* S		Sb	06 49 47.7	-0.3
MEIG	**Mezcala**	**1.18**	**25**	*i* P		Pb	06 49 54.9	-3.9
MEIG				*i* S		Sb	06 50 09.9	-4.4
ARIG	**Puente Sto Nin**	**1.44**	**352**	*i* P		Pn	06 49 59.4	-3.0
ARIG				*i* S		Sn	06 50 15.8	-5.5
PLIG	**Platanillo**	**1.65**	**22**	*i* P		Sn	06 50 02.4	-3.0
PLIG				*e*S		Sn	06 50 21.9	-4.9
TLIG	**Tlapa**	**1.67**	**65**	*i* P		Pn	06 50 01.8	-3.9
TLIG				*e*S		Sn	06 50 22.1	-5.2

JMA 11 07:07:46.5±0.3, 42°.13N×147°.82E, h13km, M3.7, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.97**	**310**	P		Pn	07 08 20.1	+0.6
NEM2				*e*S		Sn	07 08 45.2	+1.2
JAK	**Akkeshi**	**2.46**	**292**	P		Pn	07 08 27.6	+1.3
JAK				*e*S		Sn	07 08 57.2	+0.9
JRA	**Rausu**	**2.68**	**313**	P		Pn	07 08 30.6	+1.3
JRA				*e*S		Sn	07 09 03.4	+1.8
JAR	**Ashorobuto**	**3.21**	**293**	P		Pn	07 08 38.2	+1.7
JAR				*e*S		Sn	07 09 16.1	+1.5
JCH	**Churui**	**3.34**	**280**	P		Pn	07 08 39.7	+1.3
JCH				*e*S		Sn	07 09 18.3	+0.4
JTKR	**Abashiri--Toko**	**3.41**	**304**	P		Pn	07 08 41.2	+1.9
JTKR				*e*S		Sn	07 09 21.5	+2.0
JNBK	**Urakawa-nobuka**	**3.77**	**274**	P		Pn	07 08 46.0	+1.7
JKB	**Kayabe**	**5.06**	**270**	*e*S		Sn	07 09 59.3	-1.1
JANG	**Nango**	**5.07**	**252**	*e*S		Sn	07 09 57.0	-3.5

IDC 11 07:07:49.0±3.1, 54°.54N×86°.29E, h0km, mb1 2.8/2, mb1mx2.7/29, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=23.0km s-min=14.2km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**236**	*i*			07 15 12.2	
	baz=54,slow=315,SNR=4.1							
ZALV	**Zalesovo Beam**	**1.05**	**236**	Pg		Pg	07 08 07.4	-1.8
	0.7nm,0.3s,baz=57,slow=16,SNR=6.7							
ZALV				Lg		Lg	07 08 23.9	
	3.9nm,0.3s,baz=56,slow=27,SNR=15							
KURBB	**Kurchatov Arra**	**6.14**	**233**	Pn		Pn	07 09 21.8	+0.8
	0.0nm,0.3s,baz=51,slow=14,SNR=6.7							
KURBB				Lg		Lg	07 11 04.6	
	0.0nm,0.3s,baz=54,slow=33,SNR=6.7							
MKAR	**Makanchi Array**	**8.16**	**200**	Pn		Pn	07 09 49.6	+0.8
	0.1nm,0.3s,baz=19,slow=11,SNR=5.1							
MKAR				Sn		Sn	07 11 21.4	-0.2
	0.1nm,0.3s,baz=18,slow=28,SNR=5.7							
MKAR				Lg		Lg	07 12 09.7	
	0.1nm,0.3s,baz=27,slow=27,SNR=6.0							

*NNC **11** 07:25:17.6±6.1, 54°.06N×86°.67E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=49.2km s-min=37.6km az=4.0*

**IDC 11 07:25:15.6±2.9, 54°.35N×86°.55E, h0km, mb1 3.1/2, mb1mx2.9/29, mbtmp3.1/2, ML2

comp=Z,171nm,21.1s,baz=308,slow=34
KEST Kesra 35.24 101 P **P** 07 44 35.4 +1.0
1.9nm,0.9s,baz=296,slow=7.1,SNR=4.0
AKASG Malin Array Be 38.57 66 P **P** 07 45 02.0 -0.4
AKASG 0.2nm,0.3s,baz=300,slow=8.6,SNR=4.3
LR LR 08 00 27.0
comp=Z,84nm,19.9s,baz=335,slow=36
YKA Yellowknife Ar 41.19 316 P **P** 07 45 25.6 +1.6
0.5nm,0.8s,baz=66,slow=9.1,SNR=3.3
BRTR Keskin Array B 47.35 77 P **P** 07 46 14.2 +0.4
1.6nm,1.0s,baz=308,slow=6.2,SNR=5.8
BRTR LR LR 08 07 47.7
comp=Z,59nm,18.0s,baz=297,slow=38
TORD Torodi Ar. Bea 48.99 130 P **P** 07 46 26.7 +0.2
1.4nm,0.8s,baz=330,slow=7.7,SNR=8.2
PDAR Pinedale Array 49.12 290 LR LR 08 05 32.4
comp=Z,56nm,20.8s,baz=52,slow=34
ILAR Eielson Array 51.79 330 P **P** 07 46 47.0 -0.1
1.3nm,1.1s,baz=32,slow=5.5,SNR=9.1
DBIC Dimbokro 52.00 141 LR LR 08 07 22.3
comp=Z,28nm,18.1s,baz=100,slow=34
AKTO Aktyubinsk 53.79 52 LR LR 08 08 25.1
comp=Z,105nm,21.6s,slow=34
TXAR Lajitas Array 54.67 273 LR LR 08 08 46.4
comp=Z,46nm,21.3s,baz=0.0,slow=34
ROSC El Rosal 57.68 229 LR LR 08 14 13.7
comp=Z,18nm,18.1s,baz=23,slow=38
ROSC El Rosal 57.68 229 *eP* P 07 47 34.0 +3.2
KURK Kurchatov 62.71 41 *eP* **P** 07 48 04.5 +0.2
4.0nm,1.3s
SEY Seymchan 64.60 356 LR LR 08 14 40.1
comp=Z,46nm,21.0s,baz=62,slow=34
AAK Ala-Archa 67.24 49 LR LR 08 17 32.3
comp=Z,102nm,18.3s,baz=4.0,slow=36
MK31 Makanchi Array 67.30 42 *eP* **P** 07 48 34.5 +0.1
MKAR Makanchi Array 67.30 42 P **P** 07 48 34.7 +0.3
1.2nm,0.8s,baz=330,slow=7.0,SNR=12
MKAR LR LR 08 17 01.6
comp=Z,33nm,21.3s,baz=294,slow=35
BDFB Brasilia 68.98 194 LR LR 08 14 30.6
comp=Z,21nm,21.1s,baz=340,slow=32
PETK Petropavlovsk- 74.07 352 LR LR 08 22 22.7
comp=Z,21nm,18.6s,baz=79,slow=36
LPAZ La Paz 74.48 213 P **P** 07 49 19.1 +0.3
1.2nm,0.9s,baz=75,slow=8.8,SNR=3.8
SONM Songino Array 74.55 26 P **P** 07 49 18.3 -0.2
1.8nm,0.9s,baz=330,slow=5.5,SNR=6.4
CMAR Chiang Mai Arr 98.63 44 LR LR 08 36 57.5
comp=Z,29nm,19.1s,baz=285,slow=36
WRAB Tennant Creek 146.25 19 *e*PKPbc **PKPbc** 07 57 20.6 +0.3
WRA Warramunga Arr 146.26 19 PKPbc **PKPbc** 07 57 19.9 -0.3
1.9nm,0.8s,baz=342,slow=3.0,SNR=11
ASAR Alice Springs 149.78 21 PKPbc **PKPbc** 07 57 28.9 -0.8
1.4nm,0.9s,baz=356,slow=2.4,SNR=12

NNC 11 07:40:40.0±29.0, 36.64N×69.48E, h156km, mb2.5, mpv3.5, 2C-5D, Error ellipse: s-maj=235.9km s-min=151.0km az=12.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.23**	**347**	⇓P		Pn	07 41 17.8	-0.4
	12nm,0.3s							
DZET				⇑S		Sn	07 41 47.9	0.0
	45nm,0.4s							
SFK	**Sufi-Kurgan**	**4.62**	**42**	⇓P		Pn	07 41 49.2	+0.4
	2.4nm,0.5s							
SFK				⇓S		Sn	07 42 44.6	+2.2
	3.1nm,0.4s							
MNAS	**Manas**	**6.29**	**21**	⇓P		Pn	07 42 11.1	+0.3
	1.5nm,0.3s							
MNAS				⇑S		Sn	07 43 23.1	+1.2
	1.2nm,0.5s							
KK31	**Karatay Array**	**6.51**	**7**	P		Pn	07 42 13.5	+0.1
	0.7nm,0.1s,baz=44,slow=16,SNR=21							
KK31				⇓S		Sn	07 43 26.0	-0.7
	0.7nm,0.3s,baz=48,slow=31,SNR=4.9							

IDC 11 07:57:25.5±9.2, 15.78S×174.08W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.6/27, mbtmp3.5/3, Error ellipse: s-maj=405.5km s-min=38.4km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.12**	**257**	P		P	08 06 15.8	+0.4
	0.2nm,0.4s,baz=91,slow=7.4,SNR=2.4							
ASAR	**Alice Springs**	**49.37**	**252**	P		P	08 06 16.7	-0.6
	0.9nm,0.6s,baz=88,slow=8.0,SNR=15							
ILAR	**Eielson Array**	**82.95**	**11**	P		P	08 09 52.0	0.0
	0.3nm,0.9s,baz=218,slow=5.7,SNR=4.2							

*ISCJB **11** 08:00:25.9±0.4, 37.64N±0.05×96.22E±0.04, h12km, mb4.0/20, MS2.9/1, Error ellipse: s-maj=6.9km s-min=4.3km az=21.7*
*IDC **11** 08:00:25.7±0.6, 37.60N×96.11E, h0km, mb4.0/16, mb1 4.1/22, mb1mx4.0/41, mbtmp4.0/22, ML3.8/6, MS3.0/4, Ms1 3.0/4, ms1mx2.7/34, Error ellipse: s-maj=19.7km s-min=12.1km az=35.0*
*BJI **11** 08:00:26.3, 37.65N×95.96E, h10km, mb4.3/5, mB4.2/4, ML3.9/11, Ms3.7/7, Ms7 3.6/7*
*NEIC **11** 08:00:29.8±2.7, 37.61N×96.12E, h26km±19km, mb4.1/9, Error ellipse: s-maj=10.4km s-min=6.4km az=216.0*
ISC 11 08:00:27.9±0.5, 37.70N±0.06×96.13E±0.04, h12km, n40, σ1§69/47, mb4.0/20, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.35**	**58**	Pn		**Pb**	**08 01 25.0**	**-2.4**
GTA				Pg		**Pg**	**08 01 31.5**	**-0.7**
GTA				Sn		**Sb**	**08 02 06.4**	**-1.8**
GTA				Sg		**Sg**	**08 02 15.9**	**+0.2**
GTA				SMN				
	210nm,0.7s							
GTA				SME				
	170nm,0.7s							
GTA				LN				
	2µm,10.0s							
GTA				LE				
	1µm,6.2s							
GTA				LZ				
	640nm,9.0s							
LZH	**Lanzhou**	**6.39**	**102**	*e*Pg		**Pg**	**08 02 28.2**	**-2.1**
LZH				Sn		**Sn**	**08 03 20.7**	**+5.7**
LZH				Sg		**Sg**	**08 03 55.0**	**+1.9**
LZH				smax	smax			
	comp=N,140nm,0.6s							
LZH				smax	smax			
	comp=E,120nm,1.0s							
LZH				LR	LR			
	comp=N,490nm,8.5s							
LZH				LR	LR			
	comp=E,480nm,7.7s							
LZH				LR	LR			
	comp=Z,380nm,9.1s							
WMQ	**Urumqi**	**8.85**	**316**	P		**Pn**	**08 02 38.3**	**+2.7**
WMQ				S		**Sn**	**08 04 13.1**	**-2.1**
WMQ				SMN				
	comp=Z,86nm,1.0s							
WMQ				SME				
	comp=Z,53nm,0.9s							
CD2	**Chengdu**	**9.26**	**135**	*e*P		**Pn**	**08 02 40.0**	**-1.3**
CD2				S		**Sn**	**08 04 25.9**	**+0.5**
CD2				PMZ				
	comp=Z,10.0nm,0.9s							
CD2				LN				
	comp=Z,460nm,9.5s							
CD2				LE				
	comp=Z,260nm,6.0s							
CD2				LZ				
	comp=Z,610nm,9.6s							
SONM	**Songino Array**	**12.61**	**33**	Pn		**Pn**	**08 03 29.0**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=218,slow=15,SNR=17							
SONM				LR		LR	08 08 43.4	
	comp=Z,102nm,18.6s,baz=99,slow=39							
ENH	**Enshi**	**13.32**	**120**	*e*Pn		**Pn**	**08 03 37.0**	**+0.1**
	comp=Z,4.5nm,0.5s							
MKAR	**Makanchi Array**	**13.68**	**316**	Pn		**Sn**	**08 03 39.2**	**-2.5**
	comp=Z,1.0nm,0.3s,baz=125,slow=14,SNR=9.7							
MKAR				Sn		**Sn**	**08 06 12.0**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=127,slow=26,SNR=4.1							
TLY	**Talaya**	**14.95**	**18**	LR		LR	08 10 36.9	
	comp=Z,28nm,20.9s,baz=186,slow=41							
TKM2	**Tokmak 2**	**16.49**	**295**	*e*P		**Pn**	**08 04 16.6**	**-2.6**
	comp=Z,13nm,0.8s							
AAK	**Ala-Archa**	**17.24**	**293**	P		**Pn**	**08 04 27.6**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=123,slow=2.8,SNR=5.4							
AAK	**Ala-Archa**	**17.24**	**293**	*e*P		**Pn**	**08 04 28.6**	**0.0**
	comp=Z,5.0nm,0.8s							
KURBB	**Kurchatov Arra**	**18.00**	**321**	P		**P**	**08 04 38.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=132,slow=11,SNR=13							
KURK	**Kurchatov**	**18.02**	**322**	*e*P		**P**	**08 04 40.0**	**+1.5**
	comp=Z,5.0nm,0.8s							
ZALV	**Zalesovo Beam**	**18.02**	**338**	P		**P**	**08 04 38.9**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=151,slow=18,SNR=5.6							
CMAR	**Chiang Mai Arr**	**19.33**	**172**	P		**P**	**08 04 51.2**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=339,slow=12,SNR=3.8							
CMAR				LR		LR	08 12 53.9	
	comp=Z,47nm,21.6s,baz=220,slow=39							
KBL	**Kabul**	**22.08**	**270**	*e*P		**P**	**08 05 26.2**	**+3.2**
	comp=Z,3.0nm,0.5s							
BVAR	**Borovoye Array**	**23.52**	**319**	P		**P**	**08 05 37.1**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=98,slow=11,SNR=6.9							
BRVK	**Borovoye**	**23.59**	**319**	*e*P		**P**	**08 05 38.8**	**+0.4**
	comp=Z,4.9nm,0.7s							
KSAR	**Wonju Array Be**	**25.11**	**81**	P		**P**	**08 05 53.5**	**+0.9**
KSRS	**Korea Array**	**25.14**	**81**	P		**P**	**08 05 53.5**	**+0.7**
	comp=Z,15nm,0.6s,baz=275,slow=9.9,SNR=44							
KSRS				LR		LR	08 16 48.5	
	comp=Z,37nm,20.8s,baz=270,slow=39							
AKTO	**Aktyubinsk**	**29.86**	**308**	P		**P**	**08 06 34.4**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=99,slow=8.5,SNR=15							
MJAR	**Matsushiro Arr**	**33.37**	**79**	P		**P**	**08 07 05.1**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=225,slow=3.0,SNR=2.9							
ASAJ	**Asahikawa**	**35.32**	**65**	P		**P**	**08 07 24.0**	**+1.2**
	comp=Z,3.3nm,0.6s,baz=13,slow=17							
KBZ	**Khabaz**	**40.21**	**296**	P		**P**	**08 08 05.9**	**+1.8**
	comp=Z,1.6nm,0.7s,baz=79,slow=6.1,SNR=3.9							
BR131	**Keskin Array S**	**47.92**	**293**	*e*P		**P**	**08 09 08.0**	**+1.7**
	comp=Z,2.2nm,0.8s							
BRTR	**Keskin Array B**	**47.92**	**293**	P		**P**	**08 09 05.8**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=103,slow=7.5,SNR=14							
AKASG	**Malin Array Be**	**48.10**	**308**	P		**P**	**08 09 08.1**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=70,slow=6.8,SNR=4.7							
ARCES	**ARCESS Array B**	**48.50**	**334**	P		**P**	**08 09 11.4**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=90,slow=7.2,SNR=3.7							
NOA	**NORSAR Array B**	**55.51**	**324**	P		**P**	**08 10 01.4**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=72,slow=7.1,SNR=3.1							
COLD	**Coldfoot**	**64.09**	**23**	*e*P		**P**	**08 11 01.6**	**+0.3**
	comp=Z,3.0nm,0.7s							
COLA	**College**	**66.29**	**25**	*e*P		**P**	**08 11 16.2**	**+0.6**
	comp=Z,4.3nm,1.1s							
ILAR	**Eielson Array**	**66.67**	**25**	P		**P**	**08 11 18.2**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=297,slow=5.7,SNR=17							
WRAB	**Tennant Creek**	**67.67**	**141**	*e*P		**P**	**08 11 24.5**	**-0.5**
WRA	**Warramunga Arr**	**67.68**	**141**	P		**P**	**08 11 24.1**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=328,slow=5.6,SNR=9.2							
ASAR	**Alice Springs**	**70.62**	**143**	P		**P**	**08 11 42.9**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=325,slow=6.1,SNR=11							
YKA	**Yellowknife Ar**	**77.12**	**14**	P		**P**	**08 12 19.7**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=337,slow=5.4,SNR=4.8							
STKA	**Stephens Creek**	**81.19**	**142**	P		**P**	**08 12 42.4**	**-1.0**
	comp=Z,2.0nm,0.5s,baz=331,slow=6.3,SNR=10							
STKA	**Stephens Creek**	**81.19**	**142**	*e*P		**P**	**08 12 42.7**	**-0.7**
	comp=Z,0.9nm,0.9s							
TORD	**Torodi Ar. Bea**	**85.53**	**283**	P		**P**	**08 13 06.7**	**+0.4**
	comp=Z,2.0nm,0.4s,baz=45,slow=4.8,SNR=7.8							
LPAZ	**La Paz**	**154.54**	**323**	*e*PKPbc		**PKPdf**	**08 20 23.8**	**+2.4**

*SJA **11** 08:22:58.7±1.0, 34.06S×73.89W, h40km, ML3.5, MW3.8*
*GUC **11** 08:23:11.6±0.7, 34.39S×72.21W, h24km±3km, ML3.3*
ISC 11 08:23:11.6±2.3, 34.42S±0.04×72.1W±0.1, h10km±12km, n22, σ1§26/32, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.73**	**52**	⇓*i*P		**Pg**	**08 23 26.1**	**+0.3**
NICH	**Los Niches**	**0.93**	**129**	⇑*i*P		**Pb**	**08 23 30.0**	**+0.2**
NICH				*i* S		**Sn**	**08 23 43.5**	**-0.6**
TALC	**Talca**	**1.05**	**159**	*e*P		**Pb**	**08 23 31.5**	**-0.4**
TALC				*i* S		**Sb**	**08 23 45.7**	**0.0**
TACH	**Talagante**	**1.23**	**52**	⇑*i*P		**Pn**	**08 23 33.5**	**-1.3**
LNCH	**Linares**	**1.49**	**164**	⇑*i*P		**Pn**	**08 23 38.5**	**+0.1**
LNCH				*e*S		**Sb**	**08 23 58.1**	**-0.2**
SAN	**Santiago**	**1.54**	**52**	*e*P		**Pn**	**08 23 38.7**	**-0.4**
SAN				*e*S		**Sn**	**08 23 59.3**	**+0.2**
LACH	**Col Las Americ**	**1.62**	**54**	*e*P		**Pn**	**08 23 39.6**	**-0.7**
LACH				*e*S		**Sn**	**08 24 01.2**	**-0.1**
SJCH	**San Jose de Ma**	**1.65**	**62**	*e*P		**Pn**	**08 23 39.9**	**-0.7**
SJCH				*i* S		**Sn**	**08 24 02.2**	**+0.3**
CLCH	**Cerro Calan**	**1.65**	**52**	⇑*i*P		**Pn**	**08 23 40.4**	**-0.3**
CLCH				*e*S		**Sn**	**08 24 02.6**	**+0.6**
CLCH				AML		AML	08 24 10.9	
	comp=E,464nm,0.4s							
ROCH	**El Roble**	**1.70**	**33**	⇑*i*P		**Pn**	**08 23 41.0**	**-0.5**
ROCH				*i* S		**Sb**	**08 24 04.2**	**-0.4**
ROCH				AML		AML	08 24 12.7	
	comp=E,358nm,0.3s							
PEL	**Peldehue**	**1.73**	**43**	⇑*i*P		**Pn**	**08 23 41.8**	**0.0**
PEL				*e*S		**Sn**	**08 24 04.8**	**+0.8**
PEL				AML		AML	08 24 12.1	
	comp=N,723nm,0.5s							
AAGR	**Agrelo**	**3.03**	**65**	*e*P		**Pb**	**08 24 04.8**	**-1.0**
ARCO	**CERRO ARCO**	**3.08**	**60**	*e*P		**Pb**	**08 24 05.7**	**-0.8**
AUSP	**Uspallata**	**3.15**	**47**	*e*P		Pn	08 24 04.0	+2.4
ASAL	**Salagasta**	**3.28**	**57**	*e*P		**Pb**	**08 24 07.7**	**-2.3**
ASAL				*e*S		**Sg**	**08 24 57.6**	**+0.5**
RTLS	**Leoncito**	**3.52**	**43**	*e*P		**Pn**	**08 24 08.2**	**+1.7**
RTLS				*e*S		**Sb**	**08 25 01.2**	**+4.3**
RTCV	**Cerro Valdivia**	**3.93**	**51**	*e*P		**Pn**	**08 24 13.9**	**+2.0**
CFAA	**Coronel Fontan**	**4.29**	**50**	*e*P		**Pn**	**08 24 18.0**	**+1.0**
RTLL	**Cerro Villicun**	**4.33**	**46**	*e*S		**Sb**	**08 25 17.9**	**-2.4**
AMOG	**MOGNA**	**4.61**	**42**	*e*P		**Pn**	**08 24 21.7**	**+0.2**
AVFE	**Valle Fertil**	**5.42**	**48**	*e*P		**Pn**	**08 24 32.5**	**0.0**
AVFE				*e*S		Sb	08 25 43.6	-8.0
AVFE				AML		AML	08 25 49.4	
	comp=Z,11nm,0.8s							
ACLC	**CERRO LA CRUZ**	**6.63**	**43**	*e*P		**Pn**	**08 24 49.0**	**-0.2**
ACLC				*e*S		Sn	08 26 13.3	+8.4

*SJA **11** 08:54:05.5±0.8, 35.04S×73.14W, h33km, ML4.5, MW4.6*
*IDC **11** 08:54:13.0±0.4, 34.70S×71.94W, h0km, mb4.6/15, mb1 4.8/17, mb1mx4.7/23, mbtmp4.7/17, ML4.7/2, MS3.9/17, Ms1 3.9/17, ms1mx3.8/23, Error ellipse: s-maj=20.4km s-min=12.7km az=88.0*
*GUC **11** 08:54:13.3±0.8, 34.73S×72.08W, h18km±3km, ML5.1*
*ISCJB **11** 08:54:16.7±0.1, 34.78S±0.02×72.05W±0.03, h33km, mb4.9/102, MS3.9/13, Error ellipse: s-maj=3.7km s-min=3.4km az=26.1*
*NEIC **11** 08:54:19.5±1.0, 34.75S×71.82W, h40km±8km, mb5.0/86, Error ellipse: s-maj=9.8km s-min=5.4km az=77.0*
NEIC Felt [V] at Iloca and Llico; [IV] at Cauquenes, El Retiro, Paredones and Parral; [III] at Constitucion, Curico, Linares, Navidad, San Clemente, San Javier and Talca; [II] at Rancagua, San Antonio, San Fernando and Santiago. Also felt at Chillan, Longavi and Vina del Mar.
ISC 11 08:54:18.4±0.7, 34.75S±0.04×72.03W±0.04, h34km±2km, n541, σ1§02/534, mb5.0/103, MS3.9/13, 150C-166D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.71**	**111**	*e*P		Pb	08 54 28.6	-3.9
NICH				*e*S		**Sb**	**08 54 39.1**	**-2.9**
TALC	**Talca**	**0.72**	**153**	⇑*e*P		Pb	08 54 28.4	-4.3
TALC				*e*S		**Sb**	**08 54 38.3**	**-4.2**
LNV	**Longovilo**	**0.94**	**33**	⇓*i*P		Pn	08 54 31.6	-3.7
LNCH	**Linares**	**1.15**	**162**	⇓*e*P		**Pn**	**08 54 35.8**	**-2.3**
LNCH				*e*S		**Sn**	**08 54 51.6**	**-1.0**
CHCH	**Chadas Angostu**	**1.40**	**55**	⇑*e*P		**Pn**	**08 54 39.7**	**-2.0**
SAN	**Santiago**	**1.72**	**42**	*e*P		**Pn**	**08 54 44.4**	**-1.7**
IHA	**Instituto Hidr**	**1.75**	**11**	*e*P		**Pn**	**08 54 43.7**	**-2.7**
IHA				*e*S		**Sn**	**08 55 07.7**	**+0.2**
SJCH	**San Jose de Ma**	**1.78**	**52**	*e*P		**Pn**	**08 54 44.9**	**-1.9**
SJCH				*e*S		**Sn**	**08 55 08.8**	**+0.5**
FSR	**Penalolen**	**1.78**	**45**	*e*P		**Pn**	**08 54 46.5**	**-0.3**
LACH	**Col Las Americ**	**1.80**	**44**	*e*P		**Pn**	**08 54 45.7**	**-1.4**
LACH				*e*S		**Sb**	**08 55 09.8**	**-3.2**
CLCH	**Cerro Calan**	**1.83**	**43**	⇓*e*P		**Pn**	**08 54 46.2**	**-1.4**
CLCH				*e*S		**Sb**	**08 55 11.7**	**-2.4**
CLCH				AML		AML	08 55 16.2	
	comp=N,18µm,0.7s							
PEL	**Peldehue**	**1.96**	**35**	⇑*e*P		**Pn**	**08 54 47.8**	**-1.4**
PEL				*e*S		**Sb**	**08 55 14.2**	**-3.3**
PEL				AML		AML	08 55 19.8	
	comp=E,16µm,0.5s							
CCSP	**San Pedro de C**	**2.27**	**202**	*e*P		**Pn**	**08 54 52.3**	**-1.1**
CCSP				AML		AML	08 55 30.4	
	comp=N,26µm,0.6s							
AAGR	**Agrelo**	**3.14**	**59**	*e*P		Pb	08 55 08.3	-5.3
ARCO	**CERRO ARCO**	**3.21**	**54**	*e*P		Pb	08 55 10.4	-4.5
ARCO				*e*S		**Sb**	**08 55 57.2**	**+3.7**
ARCO				AML		AML	08 56 05.4	
	comp=Z,538nm,0.5s							
AUSP	**Uspallata**	**3.35**	**42**	*e*P		Pn	08 55 11.4	+2.8
ASAL	**Salagasta**	**3.43**	**52**	*e*P		Pb	08 55 13.4	-5.2
ASAL				*e*S		**Sb**	**08 56 02.4**	**+2.6**
RTLS	**Leoncito**	**3.73**	**39**	*e*P		**Pn**	**08 55 15.9**	**+2.1**
RTCV	**Cerro Valdivia**	**4.10**	**46**	*e*P		**Pn**	**08 55 21.0**	**+2.2**
SJA	**San Juan**	**4.34**	**43**	⇓*e*P		Pn	08 55 24.9	+2.9
CFAA	**Coronel Fontan**	**4.47**	**46**	Pn		**Pn**	**08 55 24.6**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=223,slow=13,SNR=22							
CFAA				Sn		Sn	08 56 19.8	+5.1
	comp=Z,2.2nm,0.3s,baz=213,slow=4.0,SNR=4.1							
CFAA				LR		LR	08 57 19.4	
	comp=Z,194nm,20.2s,baz=224,slow=43							
CFAA	**Coronel Fontan**	**4.47**	**46**	*e*P		**Pn**	**08 55 24.9**	**+1.1**
RTLL	**Cerro Villicun**	**4.53**	**42**	*e*P		**Pn**	**08 55 25.4**	**+0.7**
ACAN	**Cantantal**	**4.74**	**60**	*e*P		**Pn**	**08 55 29.2**	**+1.7**
AMOG	**MOGNA**	**4.83**	**39**	*e*P		**Pn**	**08 55 29.2**	**+0.4**
LSCH	**La Serena**	**4.87**	**8**	*e*P		**Pn**	**08 55 27.1**	**-2.2**
VLCH	**Valdivia**	**5.14**	**190**	*e*P		**Pn**	**08 55 30.9**	**-2.1**
AVFE	**Valle Fertil**	**5.61**	**45**	*e*P		**Pn**	**08 55 39.7**	**+0.1**
LCO	**Las Campanas**	**5.83**	**12**	*e*Pn		**Pn**	**08 55 40.2**	**-2.5**
LCO	**Las Campanas**	**5.83**	**12**	*e*P		**Pn**	**08 55 40.2**	**-2.5**
OSCH	**Osorno**	**5.88**	**188**	*e*P		Pn	08 55 39.6	-3.4
PLCA	**Paso Flores**	**6.09**	**169**	Pn		**Pn**	**08 55 46.1**	**+0.1**
	comp=Z,7.8nm,0.3s,baz=336,slow=13,SNR=132							
PLCA				Lg		Lg	08 57 20.3	
	comp=Z,6.5nm,0.3s,baz=72,slow=19,SNR=3.0							
PLCA				LR		LR	08 58 16.3	
	comp=Z,1µm,19.7s,baz=356,slow=40							
PLCA	**Paso Flores**	**6.09**	**169**	*e*P		**Pn**	**08 55 46.2**	**+0.1**
VACH	**Vallenar**	**6.25**	**10**	*e*P		**Pn**	**08 55 46.0**	**-2.3**
ACLC	**CERRO LA CRUZ**	**6.84**	**40**	*e*P		**Pn**	**08 55 55.5**	**-1.0**
CPCH	**Copiapo**	**7.51**	**12**	*e*P		Pn	08 56 01.6	-3.9
CYA	**Choya**	**8.23**	**42**	*e*P		Pn	08 56 11.8	-3.7
TRQA	**Tornquist**	**8.75**	**115**	*e*Pn		**Pn**	**08 56 22.4**	**-0.1**
AHML	**Horco Molle**	**9.81**	**38**	*e*P		Pn	08 56 32.8	-4.3
FSA	**Cafayete**	**10.07**	**33**	*e*P		**Pn**	**08 56 38.1**	**-2.7**
LVC	**Limon Verde**	**12.40**	**14**	LR		LR	09 01 59.1	
	comp=Z,4µm,18.8s,baz=210,slow=38							
LPAZ	**La Paz**	**18.71**	**12**	P		**P**	**08 58 34.1**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=173,slow=9.3,SNR=29							
LPAZ				LR		LR	09 06 44.8	
	comp=Z,281nm,18.7s,baz=164,slow=40							
LPAZ	**La Paz**	**18.71**	**12**	*e*P		**P**	**08 58 34.6**	**-0.2**
	comp=Z,40nm,0.9s							
USHA	**Ushuaia**	**20.24**	**174**	P		**P**	**08 58 50.5**	**+0.1**
	comp=Z,41nm,0.8s,baz=319,slow=5.9,SNR=9.4							
USHA				LR		LR	09 06 53.1	
	comp=Z,703nm,21.4s,baz=304,slow=38							
SIV	**San Ignacio**	**21.11**	**31**	P		**P**	**08 58 58.9**	**-1.3**
	comp=Z,14nm,0.7s,baz=226,slow=12,SNR=34							
SIV				LR		LR	09 08 32.1	
	comp=Z,261nm,18.1s,baz=222,slow=41							
NNA	**Nana**	**23.08**	**348**	P		**P**	**08 59 20.6**	**-0.6**
	comp=Z,23nm,0.8s,baz=191,slow=12,SNR=7.7							
NNA				LR		LR	09 06 32.8	
	comp=Z,449nm,19.5s,baz=178,slow=32							
NNA	**Nana**	**23.08**	**348**	*e*P		**P**	**08 59 21.5**	**+0.3**
	comp=Z,29nm,0.8s							
SAML	**Samuel**	**26.93**	**20**	*e*P		**P**	**08 59 56.3**	**-0.3**
	comp=Z,6.5nm,0.9s							
ATAH	**Atahualpa**	**28.10**	**346**	LR		LR	09 09 56.5	
	comp=Z,281nm,19.2s,baz=196,slow=34							
BDFB	**Brasilia**	**28.76**	**55**	P		**P**	**09 00 12.6**	**-0.5**
	comp=Z,6.0nm,0.8s,baz=207,slow=11,SNR=2.8							
BDFB				LR		LR	09 12 25.0	
	comp=Z,323nm,20.8s,baz=222,slow=38							
BDFB	**Brasilia**	**28.76**	**55**	*e*P		**P**	**09 00 12.9**	**-0.2**
OTAV	**Otavalo**	**35.32**	**349**	*e*P		**P**	**09 01 13.2**	**+2.2**
	comp=Z,16nm,1.3s							
ROSC	**El Rosal**	**39.45**	**356**	*e*P		P	09 01 49.5	+3.6
	comp=Z,4.3nm,0.5s,baz=270,slow=20,SNR=4.6							
ROSC				LR		LR	09 18 24.8	
	comp=Z,187nm,19.4s,baz=230,slow=37							
ROSC	**El Rosal**	**39.45**	**356**	*e*P		**P**	**09 01 46.4**	**+0.5**
SDV	**Santo Domingo**	**43.42**	**2**	*e*P		**P**	**09 02 19.7**	**+1.6**
	comp=Z,9.5nm,0.9s							
GRGR	**Grenville**	**47.65**	**14**	*e*P		**P**	**09 02 52.2**	**+0.7**
	comp=Z,140nm,1.2s							
VNA1	**Neumayer--Stat**	**48.98**	**157**	P		**P**	**09 03 01.5**	**+0.4**
PTCN	**Pitcairn Islan**	**50.64**	**264**	*e*P		**P**	**09 03 17.2**	**+2.8**
	comp=Z,699nm,1.3s		

631A **Perdido Creek** 69.27 334 ⇑P P 09 05 22.1 0.0
baz=70
533A **Kerrville** 69.32 335 ⇑P P 09 05 22.3 -0.1
baz=70,SNR=5.5
337A **Centerville** 69.45 338 ⇓P P 09 05 23.2 +0.1
baz=70
NATX **Nacogdoches** 69.50 340 ⇑P P 09 05 23.9 +0.5
baz=70
532A **Rocksprings** 69.68 334 ⇓P P 09 05 24.9 +0.2
baz=70,SNR=15
434A **Burnet** 69.74 336 ⇓P P 09 05 24.8 -0.2
baz=70
TVO **Taravao** 69.77 262 *e*T T 10 21 14.6
comp=Z,2.6nm,0.2s
336A **Riesel** 69.81 338 ⇑P P 09 05 25.0 -0.2
baz=70
335A **Moody** 69.90 337 ⇓P P 09 05 25.2 -0.6
baz=70
531A **Rocksprings** 69.94 334 ⇓P P 09 05 26.0 -0.3
baz=70
TIAR **Tiarei** 69.96 262 *e*P P 09 05 26.7 0.0
comp=Z,7.1nm,1.0s
TIAR **Tiarei** 69.96 262 *e*T T 10 21 28.9
comp=Z,8.8nm,0.2s
JCT **Junction City** 69.96 335 ⇑P P 09 05 26.2 -0.1
baz=70,SNR=7.2
JCT **Junction City** 69.96 335 *e*P P 09 05 26.8 +0.5
comp=Z,17nm,0.9s
433A **Art** 69.97 335 ⇑P P 09 05 26.0 -0.3
baz=70,SNR=16
KMSC **Kings Mountain** 70.07 352 ⇓P P 09 05 26.5 -0.3
baz=70
KMSC **Kings Mountain** 70.07 352 *e*P P 09 05 28.5 +1.7
comp=Z,11nm,0.9s
PAE **Paea** 70.10 262 *e*P P 09 05 28.0 +0.5
comp=Z,4.9nm,1.0s
PAE **Paea** 70.10 262 *e*T T 10 21 39.4
comp=Z,1.0nm,0.2s
PPT2 **Papeete2** 70.13 262 *e*P P 09 05 28.0 +0.2
comp=Z,27nm,1.1s
PPT2 **Papeete2** 70.13 262 *e*LR LR 09 26 38.4
comp=Z,91nm,32.0s
PPT2 **Papeete2** 70.13 262 *e*T T 10 21 17.1
comp=Z,2.0nm,0.2s
PPT **Papeete** 70.14 262 P P 09 05 29.0 +1.1
comp=Z,21nm,0.9s,baz=308,slow=0.5,SNR=4.8
PPT **Papeete** 70.14 262 *e*P P 09 05 28.7 +0.9
334A **Lometa** 70.21 336 ⇑P P 09 05 27.4 -0.4
baz=71
530A **J-C Ranch, Com** 70.22 333 ⇓P P 09 05 28.2 +0.2
baz=71,SNR=17
432A **Menard** 70.32 335 ⇑P P 09 05 28.0 -0.5
baz=71
TXAR **Lajitas Array** 70.39 331 P P 09 05 29.1 +0.1
comp=Z,4.0nm,0.8s,baz=155,slow=9.3,SNR=32
TXAR LR LR 09 31 56.1
comp=Z,91nm,18.5s,baz=0.0,slow=32
TX31 **Lajitas Ar. Si** 70.39 331 *e*P P 09 05 28.9 -0.1
431A **Sonora** 70.44 334 ⇑P P 09 05 28.5 -0.7
baz=71
333A **Richland Sprin** 70.45 336 ⇑P P 09 05 28.8 -0.4
baz=71
529A **Stev Forest Ra** 70.53 332 ⇓P P 09 05 30.3 +0.5
baz=71,SNR=15
WHTX **Lake Whitney,** 70.56 337 ⇓P P 09 05 30.0 +0.1
baz=71
WHTX **Lake Whitney,** 70.56 337 *e*P P 09 05 32.7 +2.8
comp=Z,26nm,0.9s
137A **Heron Place, G** 70.60 339 ⇓P P 09 05 30.3 +0.2
baz=71
430A **Baggett Ranch,** 70.76 334 ⇑P P 09 05 31.6 +0.4
baz=71,SNR=14
332A **Millersview** 70.77 335 ⇓P P 09 05 30.7 -0.4
baz=71
234A **Clairette** 70.79 337 ⇑P P 09 05 30.8 -0.5
baz=71
OXF **Oxford** 70.80 345 *e*P P 09 05 33.3 +2.1
comp=Z,37nm,0.9s
CPCT **Cooper Cave** 70.81 349 *e*P P 09 05 31.0 -0.3
SWET **Sewanee** 70.81 348 *e*P P 09 05 31.0 -0.4
429A **Davenport Ranc** 70.86 333 ⇑P P 09 05 32.0 +0.2
baz=71,SNR=8.0
TKL **Tuckaleechee C** 70.90 350 *e*P P 09 05 31.2 -0.7
331A **San Angelo** 70.94 334 ⇑P P 09 05 32.0 -0.2
baz=71,SNR=6.3
Z38A **Mt. Pleasant** 70.99 340 ⇓P P 09 05 32.5 +0.1
baz=71
233A **Rising Star** 71.06 336 ⇓P P 09 05 32.4 -0.6
baz=72
232A **Coleman** 71.19 335 ⇓P P 09 05 33.2 -0.6
baz=72
330A **Mertzon** 71.29 334 ⇑P P 09 05 33.9 -0.5
baz=72,SNR=5.7
134A **White-Moore Ra** 71.30 337 ⇓P P 09 05 34.4 0.0
baz=72
231A **Bronte** 71.47 335 ⇓P P 09 05 34.9 -0.6
baz=72,SNR=9.9
133A **Hamilton Ranch** 71.61 336 ⇑P P 09 05 36.2 0.0
baz=72
329A **Wagon Wheel Ra** 71.66 333 ⇑P P 09 05 36.3 -0.4
baz=72,SNR=7.6
230A **Sterling City** 71.71 334 ⇑P P 09 05 36.7 -0.2
baz=72
Z35A **Perchaven, San** 71.74 338 ⇓P P 09 05 36.6 -0.3
baz=72
MIAR **Mount Ida** 71.82 341 *e*P P 09 05 39.8 +2.4
comp=Z,57nm,2.2s
ABTX **Abilene, Hawle** 71.86 336 ⇓P P 09 05 37.6 -0.2
baz=72
ABTX **Abilene, Hawle** 71.86 336 *e*P P 09 05 38.0 +0.2
comp=Z,18nm,0.9s
Z34A **Collier Ranch,** 71.98 337 ⇑P P 09 05 38.2 -0.2
baz=72
VWCC **Virginia Weste** 72.01 353 *e*P P 09 05 40.9 +2.4
229A **Bryant Ranch,** 72.03 334 ⇓P P 09 05 38.9 0.0
baz=72
WVT **Waverly** 72.04 347 *e*P P 09 05 37.9 -0.9
comp=Z,52nm,0.9s
URVA **University of** 72.14 355 *e*P P 09 05 40.1 +0.8
131A **Roby** 72.16 335 ⇓P P 09 05 39.2 -0.4
baz=73
Z33A **Whitaker Ranch** 72.18 337 ⇓P P 09 05 39.4 -0.2
baz=73
JSRW **J. Sargeant Re** 72.28 355 *e*P P 09 05 41.2 +1.1
130A **Snyder** 72.30 335 ⇑P P 09 05 40.0 -0.5
baz=73
X37A **Clayton** 72.36 340 ⇑P P 09 05 40.2 -0.4
baz=73
Z32A **Haskell** 72.43 336 ⇑P P 09 05 40.7 -0.5
baz=73
228A **UT Block 9, Go** 72.45 333 ⇓P P 09 05 41.3 -0.2
baz=73,SNR=5.6
MAW **Mawson** 72.46 163 P P 09 05 41.3 +0.3
comp=Z,12nm,0.8s,baz=209,slow=7.6,SNR=21
MAW LR LR 09 37 14.3
comp=Z,191nm,19.9s,baz=239,slow=36
Y34A **Reagan Ranch,** 72.47 338 ⇓P P 09 05 40.9 -0.5
baz=73
W38A **Poteau** 72.57 341 ⇑P P 09 05 41.4 -0.5
baz=73
X36A **Centrahoma** 72.62 339 ⇑P P 09 05 41.7 -0.6
baz=73
X35A **Drake** 72.64 339 ⇓P P 09 05 42.1 -0.3
baz=73
129A **Stewart Farms,** 72.65 334 ⇑P P 09 05 41.9 -0.6
baz=73
Z31A **Sharp Cattle R** 72.67 336 ⇓P P 09 05 42.0 -0.5
baz=73
Y33A **Hilltop Ranch,** 72.80 337 ⇓P P 09 05 42.3 -1.0
baz=73
128A **Castleberry Fa** 72.87 333 ⇓P P 09 05 43.3 -0.5
baz=73,SNR=6.7
W37A **Quinton** 72.89 340 ⇑P P 09 05 43.4 -0.4
baz=73
PARMO **Parma** 72.94 345 *e*P P 09 05 46.2 +2.1
Z30A **Sanderson Ranc** 72.98 335 ⇓P P 09 05 43.8 -0.7
baz=73,SNR=5.3
Y32A **R-V Farms, Ver** 73.06 336 ⇓P P 09 05 44.4 -0.5
baz=74
X34A **Smith Ranch, M** 73.09 338 ⇓P P 09 05 44.6 -0.5
baz=74
W36A **Wetumka** 73.11 339 ⇓P P 09 05 44.5 -0.7
baz=74
Z29A **Hungry Hill Ra** 73.16 334 ⇓P P 09 05 44.8 -0.7
baz=74,SNR=8.2
PBMO **Poplar Bluff** 73.20 345 *e*P P 09 05 44.8 -0.8
comp=Z,11nm,0.9s
GDL2 **Guadalupe Moun** 73.20 332 *e*P P 09 05 47.2 +1.3

X33A **Lawton** 73.25 337 ⇓P P 09 05 45.0 -1.0
baz=74
Y31A **Rekieta Farm,** 73.29 336 ⇑P P 09 05 45.8 -0.5
baz=74
W35A **Tecumseh** 73.32 339 ⇑P P 09 05 45.4 -0.9
baz=74
X32A **Elmer** 73.39 337 ⇓P P 09 05 46.3 -0.5
baz=74
Z28A **Tucker Farm, M** 73.43 334 ⇓P P 09 05 46.5 -0.6
baz=74
WMOK **Wichita Mounta** 73.52 337 *e*P P 09 05 47.5 -0.1
comp=Z,9.9nm,1.3s
W34A **Bridge Creek,** 73.66 338 ⇑P P 09 05 47.9 -0.5
baz=74
W34A **Bridge Creek,** 73.66 338 *e*P P 09 05 49.8 +1.4
comp=Z,11nm,0.8s
Y29A **Porterfield Fa** 73.69 335 ⇑P P 09 05 48.2 -0.5
baz=74
TUL1 **Leonard** 73.71 340 ⇓P P 09 05 48.0 -0.7
baz=74
TUL1 **Leonard** 73.71 340 *e*P P 09 05 48.4 -0.3
comp=Z,20nm,0.9s
USIN **University of** 73.79 347 *e*P P 09 05 50.6 +1.5
comp=Z,31nm,1.0s
W33A **Caddo, Fort Co** 73.80 338 ⇓P P 09 05 49.0 -0.2
baz=74
WCI **Wyandotte Cave** 73.81 348 *e*P P 09 05 49.8 +0.6
comp=Z,6.6nm,0.7s
X31A **McDonald Ranch** 73.81 336 ⇑P P 09 05 49.0 -0.3
baz=74,SNR=5.3
SIUC **Southern Illin** 73.85 346 *e*P P 09 05 50.5 +1.1
comp=Z,16nm,0.8s
V35A **Meyer Ranch, C** 73.87 339 ⇓P P 09 05 48.9 -0.7
baz=74
Y28A **McKinney Farm,** 73.94 334 ⇑P P 09 05 49.4 -0.8
baz=74
X30A **Coker Ranch, T** 73.94 335 ⇑P P 09 05 50.1 -0.1
baz=74
W32A **Sentinel** 74.02 337 ⇑P P 09 05 50.5 0.0
baz=74
V34A **Guthrie** 74.14 339 ⇓P P 09 05 51.0 -0.2
baz=74
V34A **Guthrie** 74.14 339 *e*P P 09 05 50.6 -0.5
comp=Z,18nm,0.9s
MSTX **Muleshoe** 74.18 334 ⇓P P 09 05 51.6 0.0
baz=75,SNR=5.7
MSTX **Muleshoe** 74.18 334 *e*P P 09 05 51.6 0.0
comp=Z,15nm,0.8s
X29A **Tulia** 74.23 335 ⇓P P 09 05 51.6 -0.2
baz=75
W31A **Holland Ranch,** 74.31 337 ⇓P P 09 05 51.9 -0.3
baz=75
V33A **Lossen Ranch,** 74.36 338 ⇓P P 09 05 51.9 -0.6
baz=75
X28A **Dimmitt** 74.47 334 ⇑P P 09 05 52.9 -0.4
baz=75
V32A **Arapaho** 74.50 337 ⇓P P 09 05 53.0 -0.4
baz=75
T37A **Cheneyville 18** 74.61 341 ⇓P P 09 05 53.5 -0.4
baz=75
AMTX **Amarillo** 74.62 335 ⇓P P 09 05 53.5 -0.6
baz=75
AMTX **Amarillo** 74.62 335 *e*P P 09 05 54.0 0.0
comp=Z,24nm,1.1s
U34A **Anderson Ranch** 74.70 339 ⇓P P 09 05 54.0 -0.4
baz=75
BLO **Bloomington** 74.77 348 *e*P P 09 05 56.1 +1.4
comp=Z,7.7nm,0.7s
V31A **Spring Creek L** 74.81 337 ⇑P P 09 05 54.7 -0.4
baz=75
T36A **Boggs Farm, Ca** 74.81 340 ⇓P P 09 05 54.6 -0.4
baz=75
W29A **Amarillo** 74.82 335 ⇑P P 09 05 54.6 -0.6
baz=75
T35A **Sooner Cattle** 74.86 340 ⇑P P 09 05 55.1 -0.2
baz=75
U33A **Lingo Farm, Me** 74.87 338 ⇓P P 09 05 55.4 -0.1
baz=75
121A **Cookes Peak, D** 74.88 329 ⇑P P 09 05 55.7 -0.1
baz=75
121A **Cookes Peak, D** 74.88 329 *e*P P 09 05 56.9 +1.1
comp=Z,15nm,0.9s
SLM **Saint Louis** 74.94 345 *e*P P 09 05 56.9 +1.2
comp=Z,31nm,0.7s
U32A **Winter Ranch,** 75.10 338 ⇓P P 09 05 57.1 +0.4
baz=76
T34A **McClaskey Farm** 75.15 339 ⇓P P 09 05 56.9 -0.1
baz=76
SSPA **Standing Stone** 75.21 355 *e*P P 09 05 57.2 0.0
comp=Z,16nm,1.1s
ACSO **Alum Creek Sta** 75.29 351 *e*P P 09 05 57.0 -0.7
comp=Z,28nm,0.8s
S36A **Lake Cedric, C** 75.36 341 ⇑P P 09 05 58.0 -0.2
baz=76
U31A **Nine Bar Ranch** 75.36 337 ⇓P P 09 05 58.1 -0.1
baz=76
DBIC **Dimbokro** 75.42 71 P P 09 05 58.9 -0.2
comp=Z,3.2nm,0.7s,baz=259,slow=21,SNR=3.5
DBIC LR LR 09 34 46.7
comp=Z,43nm,20.9s,baz=200,slow=32
T33A **Patterson Ranc** 75.52 339 ⇑P P 09 05 59.0 -0.1
baz=76
S35A **Otter Creek Ra** 75.52 340 ⇑P P 09 05 58.8 -0.3
baz=76
V28A **Channing** 75.59 335 ⇑P P 09 05 59.6 -0.1
baz=76
R37A **Teagarden Farm** 75.71 342 ⇓P P 09 06 00.1 0.0
baz=76
U30A **WKE Inc. Balk** 75.76 337 ⇓P P 09 05 59.8 -0.8
baz=76
T32A **Huddler Ranch,** 75.81 338 ⇑P P 09 06 00.6 -0.2
baz=76
BNM **Barren Site** 75.81 331 *e*P P 09 06 02.8 +1.6
TUC **Tucson** 76.00 327 *e*P P 09 06 04.0 +1.9
comp=Z,9.3nm,1.1s
R35A **Emporia Munici** 76.08 341 ⇑P P 09 06 03.0 +0.7
baz=76
LAZ **Ladron** 76.24 331 *e*P P 09 06 05.1 +1.5
S32A **Newby Ranch, P** 76.30 338 ⇓P P 09 06 03.8 +0.3
baz=77
R34A **Isabella, Hill** 76.35 340 ⇓P P 09 06 03.2 -0.7
baz=77
S31A **Mullinville** 76.39 338 ⇓P P 09 06 04.0 -0.1
baz=77
U27A **Thompson Grove** 76.40 335 ⇑P P 09 06 04.3 0.0
baz=77
ANMO **Albuquerque** 76.44 331 *e*P P 09 06 05.5 +0.8
comp=Z,8.4nm,1.0s
Q35A **Mercer Eighty,** 76.54 341 ⇓P P 09 06 04.6 -0.3
baz=77
T29A **Hugoton** 76.55 336 ⇓P P 09 06 04.9 -0.2
baz=77
R33A **Olander Ranch,** 76.57 339 ⇑P P 09 06 05.2 +0.1
baz=77
214A **Organ Pipe Nat** 76.63 325 ⇓P P 09 06 06.4 +0.8
baz=77
214A **Organ Pipe Nat** 76.63 325 *e*P P 09 06 08.7 +3.1
comp=Z,11nm,1.1s
S30A **Montezuma** 76.72 337 ⇓P P 09 06 06.3 +0.3
baz=77
T28A **Walsh** 76.79 336 ⇑P P 09 06 06.7 +0.3
baz=77,SNR=12
Q34A **Chapman** 76.85 340 ⇑P P 09 06 06.5 -0.2
baz=77
R32A **Long Quarter,** 76.89 339 ⇑P P 09 06 07.2 +0.3
baz=77
S29A **Ulysses** 76.91 337 ⇓P P 09 06 07.3 +0.2
baz=77
KSU1 **Kansas State U** 76.92 341 ⇑P P 09 06 06.9 -0.2
baz=77
T27A **Campo** 76.94 335 ⇓P P 09 06 07.0 -0.4
baz=77
R31A **Burdett** 77.02 338 ⇑P P 09 06 07.7 0.0
baz=77
P36A **Good Intent, A** 77.04 342 ⇑P P 09 06 07.7 0.0
baz=77
TRY **Troy** 77.12 359 *e*P P 09 06 11.7 +3.6
comp=Z,26nm,1.0s
S28A **Manter** 77.14 336 ⇑P P 09 06 08.8 +0.4
baz=78,SNR=5.1
P35A **Duane Minner,** 77.16 341 ⇑P P 09 06 08.1 -0.3
baz=78
Q33A **Connelly Farm,** 77.17 340 ⇑P P 09 06 08.3 -0.2
baz=78
R30A **Dighton** 77.25 338 ⇓P P 09 06 08.8 -0.1
baz=78
MMNY **Mt. Morris Dam** 77.30 356 *e*P P 09 06 10.2 +1.2
comp=Z,49nm,1.0s

T26A **Comanche Natio** 77.35 335 ⇑P P 09 06 10.0 +0.3
baz=78,SNR=5.8
Q32A **Meitler Ranch,** 77.37 339 ⇓P P 09 06 09.9 +0.3
baz=78
P34A **Walnut Farm, R** 77.40 341 ⇑P P 09 06 09.9 +0.2
baz=78
O36A **Bolckow** 77.46 342 ⇓P P 09 06 09.5 -0.5
baz=78
T25A **Trinidad** 77.61 334 ⇑P P 09 06 12.1 +0.9
baz=78,SNR=17
T25A **Trinidad** 77.61 334 *e*P P 09 06 12.2 +0.9
comp=Z,23nm,0.9s
Q31A **Ellis** 77.64 338 ⇑P P 09 06 11.7 +0.6
baz=78
R28A **Tribune** 77.79 336 ⇓P P 09 06 12.0 -0.1
baz=78,SNR=9.8
O35A **Humboldt** 77.83 342 ⇑P P 09 06 12.1 0.0
baz=78
Q30A **Quinter** 77.86 338 ⇑P P 09 06 12.5 +0.1
baz=78,SNR=13
W18A **Petrified Fore** 77.93 329 ⇓P P 09 06 13.2 +0.2
baz=78
W18A **Petrified Fore** 77.93 329 *e*P P 09 06 14.4 +1.4
comp=Z,18nm,1.1s
P32A **Huiting Farm,** 77.97 339 ⇑P P 09 06 13.5 +0.5
baz=78
Q29A **Oakley** 78.02 337 ⇑P P 09 06 13.1 -0.2
baz=78
R27A **Eads** 78.07 336 ⇓P P 09 06 13.4 -0.2
baz=78,SNR=12
O33A **Hebron** 78.10 340 ⇓P P 09 06 13.6 -0.1
baz=78
P31A **Stockton** 78.11 339 ⇑P P 09 06 13.5 -0.2
baz=78
R26A **Arlington** 78.31 335 ⇓P P 09 06 14.4 -0.5
baz=79
N35A **Tabor** 78.32 342 ⇓P P 09 06 14.1 -0.6
baz=79
O32A **Brockman Farm,** 78.47 340 ⇑P P 09 06 15.3 -0.3
baz=79
N34A **Lincoln** 78.52 341 ⇑P P 09 06 15.7 -0.2
baz=79
SDCO **Great Sand Dun** 78.54 334 ⇑P P 09 06 16.7 +0.2
baz=79
SDCO **Great Sand Dun** 78.54 334 *e*P P 09 06 16.9 +0.4
comp=Z,4.9nm,0.9s
P29A **Atwood** 78.66 338 ⇑P P 09 06 16.9 +0.1
baz=79,SNR=12
KSCO **Kaye Shedlock'** 78.67 336 ⇑P P 09 06 17.3 +0.4
baz=79
KSCO **Kaye Shedlock'** 78.67 336 *e*P P 09 06 18.0 +1.1
comp=Z,14nm,0.8s
SCIA **State Center** 78.72 344 *e*P P 09 06 19.4 +2.4
comp=Z,34nm,1.1s
Q26A **Hugo** 78.89 335 ⇑P P 09 06 18.6 +0.4
baz=79
P28A **Saint Francis** 78.89 337 ⇓P P 09 06 18.8 +0.7
baz=79
WUAZ **Wupatki** 78.97 328 ⇑P P 09 06 19.5 +0.8
baz=79
WUAZ **Wupatki** 78.97 328 *e*P P 09 06 20.0 +1.2
comp=Z,9.4nm,1.0s
LONY **Lake Ozonia** 79.03 358 *e*P P 09 06 19.2 +0.6
comp=Z,22nm,1.0s
S22A **4UR Ranch, Cre** 79.04 333 ⇑P P 09 06 19.6 +0.3
baz=79
S22A **4UR Ranch, Cre** 79.04 333 *e*P P 09 06 19.9 +0.7
comp=Z,5.6nm,1.2s
R23A **Moffat** 79.06 333 ⇑P P 09 06 19.6 +0.4
baz=80
JFWS **Jewell Farm** 79.07 346 *e*P P 09 06 18.5 -0.3
comp=Z,19nm,1.0s
P27A **Ficken Ranch,** 79.14 336 ⇑P P 09 06 20.3 +0.7
baz=80
MVCO **Mesa Verde** 79.22 331 ⇑P P 09 06 20.9 +0.8
baz=80
MVCO **Mesa Verde** 79.22 331 *e*P P 09 06 20.7 +0.6
comp=Z,7.0nm,0.9s
CASY **Casey** 79.27 181 *e*P P 09 06 20.0 +0.2
comp=Z,25nm,0.9s
BC3 **Big Chuckawall** 79.29 324 ⇑P P 09 06 21.2 +0.8
baz=80
O28A **Krutsinger Ran** 79.40 337 ⇓P P 09 06 21.5 +0.7
baz=80
P26A **Davis Ranch, A** 79.40 336 ⇓P P 09 06 21.4 +0.4
baz=80
Q24A **Divide** 79.50 334 ⇓P P 09 06 21.8 +0.1
baz=80
Q24A **Divide** 79.50 334 *e*P P 09 06 22.6 +0.8
comp=Z,8.2nm,0.8s
BGNE **Belgrade** 79.50 340 *e*P P 09 06 23.1 +1.8
comp=Z,48nm,1.3s
O27A **Beecher Island** 79.68 337 ⇓P P 09 06 23.2 +0.8
baz=80
BOSA **Boshof** 79.72 118 P P 09 06 23.1 0.0
comp=Z,14nm,0.9s,baz=232,slow=3.5,SNR=17
BOSA LR LR 09 38 34.5
comp=Z,38nm,18.2s,baz=176,slow=33
BOSA **Boshof** 79.72 118 *e*P P 09 06 22.8 -0.3
N28A **Pribbeno Ranch** 79.84 338 ⇑P P 09 06 23.8 +0.6
baz=80
O26A **Horse Wrangler** 80.00 336 ⇑P P 09 06 24.6 +0.3
baz=80
PV01 **Paradox Valley** 80.05 332 *e*P P 09 06 25.5 +0.9
PV15 **Paradox Valley** 80.19 332 *e*P P 09 06 26.0 +0.6
OGNE **Ogallala** 80.22 337 ⇑P P 09 06 26.1 +0.8
baz=81
N27A **Anderson Farm,** 80.26 337 ⇑P P 09 06 26.0 +0.5
baz=81
L31A **Butterfield Fa** 80.40 340 ⇑P P 09 06 27.7 +1.5
baz=81
ISCO **Idaho Springs** 80.40 334 ⇑P P 09 06 27.0 +0.5
baz=81
PV10 **Paradox Valley** 80.44 331 *e*P P 09 06 26.8 +0.1
P22A **Eagle** 80.64 334 ⇓P P 09 06 28.4 +0.7
baz=81
HEC **Hector,Ludlow** 80.66 324 ⇑P P 09 06 28.9 +1.1
baz=81
FMP **Fort Macarthur** 80.73 322 ⇑P P 09 06 28.8 +0.8
baz=81
KNB **Kanab** 80.86 328 *e*P P 09 06 30.3 +1.4
comp=Z,65nm,2.0s
O23A **Lake Granby, G** 80.87 334 ⇓P P 09 06 30.1 +1.0
baz=81
TUQ **Turquoise Moun** 80.96 325 ⇑P P 09 06 29.8 +0.4
baz=81
O22A **Kremmling** 81.06 334 ⇓P P 09 06 30.1 +0.1
baz=82
K30A **Basset** 81.08 340 ⇑P P 09 06 30.4 +0.6
baz=82
ECSD **EROS Data Cent** 81.26 342 ⇑P P 09 06 30.6 -0.1
baz=82
ECSD **EROS Data Cent** 81.26 342 *e*P P 09 06 30.3 -0.4
comp=Z,27nm,0.9s
GSC **Goldstone, Bar** 81.27 324 ⇓P P 09 06 31.3 +0.3
baz=82
M25A **Palm-Egli Farm** 81.32 336 ⇓P P 09 06 31.1 -0.2
baz=82
L27A **T5 Ranch, Ells** 81.35 338 ⇓P P 09 06 31.8 +0.5
baz=82
K29A **Lazy Trails An** 81.36 339 ⇓P P 09 06 31.8 +0.5
baz=82
SHPR **Sheep Range** 81.48 326 *e*P P 09 06 33.5 +1.3
N23A **Red Feather La** 81.49 335 ⇓P P 09 06 32.3 0.0
baz=82
N23A **Red Feather La** 81.49 335 *e*P P 09 06 34.0 +1.7
comp=Z,6.8nm,1.0s
CCUT **Cedar City** 81.54 328 *e*P P 09 06 34.4 +1.8
comp=Z,5.3nm,0.7s
N22A **Wattenberg Ran** 81.59 334 ⇓P P 09 06 32.6 -0.2
baz=82
K28A **Ten Mile Ranch** 81.63 339 ⇓P P 09 06 32.7 -0.1
baz=82
J30A **Dallas** 81.65 340 ⇑P P 09 06 32.9 +0.1
baz=82
O20A **White River Ci** 81.66 333 ⇑P P 09 06 32.3 -0.8
baz=82
O20A **White River Ci** 81.66 333 *e*P P 09 06 34.4 +1.2
comp=Z,58nm,2.0s
SRU **San Rafael Swe** 81.67 331 *e*P P 09 06 33.6 +0.4
comp=Z,4.4nm,0.8s
SPMN **Marine on St.** 81.80 345 *e*P P 09 06 32.8 -0.7
SPMN *e*pP pP 09 06 44.4 +0.1
MSU **Marysvale** 81.84 329 *e*P P 09 06 35.2 +1.1
K27A **Flueckinger Fa** 81.89 338 ⇓P P 09 06 34.6 +0.5
baz=82
J29A **Okreek** 81.96 340 ⇓P P 09 06 34.5 +0.1
baz=82,SNR=18

LBTB	Lobatse	81.99	115	*e*P		P	09 06 35.2	-0.1
	comp=Z,9.2nm,0.8s								
I30A	Oacoma	82.17	340	⇓P		P	09 06 35.4	-0.1
	baz=83								
MPMC	Manual Prospec	82.21	324	⇑P		P	09 06 36.1	0.0
	baz=83								
J28A	Allard Ranch,	82.24	339	⇓P		P	09 06 36.1	+0.2
	baz=83,SNR=6.4								
J27A	Elkhorn Farm,	82.31	338	⇑P		P	09 06 36.6	+0.3
	baz=83,SNR=7.3								
TPNV	Topopah Spring	82.35	326	⇑P		P	09 06 37.0	+0.2
	baz=83								
ISA	Isabella, Lake	82.37	323	⇑P		P	09 06 37.0	+0.1
	baz=83								
BRSD	Miller	82.53	341	⇓P		P	09 06 37.6	+0.3
	baz=83								
BRSD	Miller	82.53	341	*e*P		P	09 06 39.1	+1.7
	comp=Z,34nm,1.0s								
RWWY	Rawlins	82.64	334	*e*P		P	09 06 41.7	+3.4
	comp=Z,14nm,1.0s								
J26A	Sides Ranch, S	82.70	338	⇓P		P	09 06 38.6	+0.3
	baz=83								
I28A	Midland	82.75	339	⇓P		P	09 06 38.5	0.0
	baz=83,SNR=7.7								
VES	Vestal, Richgr	82.81	323	⇓P		P	09 06 39.3	+0.2
	baz=83								
J25A	Sunshine Ranch	83.00	337	⇓P		P	09 06 39.7	-0.3
	baz=83								
K23A	Bowen Ranch, D	83.03	336	⇑P		P	09 06 40.2	0.0
	baz=83								
H29A	Onida	83.05	340	⇑P		P	09 06 40.2	+0.1
	baz=84								
I27A	Quinn	83.07	339	⇓P		P	09 06 40.5	+0.3
	baz=84								
URZ	Urewera	83.16	228	LR		LR	09 35 08.3		
	comp=Z,117nm,20.0s,baz=169,slow=30								
R11A	Troy Canyon, C	83.19	327	⇑P		P	09 06 41.7	+0.6
	baz=84								
R11A	Troy Canyon, C	83.19	327	*e*P		P	09 06 42.1	+1.0
	comp=Z,5.1nm,0.8s								
G30A	Faulkton	83.22	341	⇑P		P	09 06 41.8	+0.9
	baz=84								
J24A	Dixon Ranch, L	83.22	337	⇓P		P	09 06 42.0	+1.0
	baz=84								
K22A	Casper	83.24	335	⇓P		P	09 06 41.7	+0.4
	baz=84								
K22A	Casper	83.24	335	*e*P		P	09 06 41.8	+0.5
	comp=Z,9.3nm,0.9s								
RCTC	Rector, Farmer	83.26	323	⇓P		P	09 06 41.5	+0.2
	baz=84								
I26A	New Underwood	83.28	338	⇓P		P	09 06 42.0	+0.7
	baz=84								
JLU	Jordanelle	83.31	331	*e*P		P	09 06 44.9	+3.1
	comp=Z,5.2nm,0.8s								
H28A	Mission Ridge	83.32	340	⇑P		P	09 06 41.3	-0.1
	baz=84,SNR=6.3								
G29A	Hoven	83.49	341	⇑P		P	09 06 42.4	+0.1
	baz=84								
DUG	Dugway, Tooele	83.52	330	⇑P		P	09 06 42.9	+0.2
	baz=84								
DUG	Dugway, Tooele	83.52	330	*e*P		P	09 06 43.5	+0.8
	comp=Z,29nm,1.6s								
I25A	Rochford	83.54	338	⇓P		P	09 06 42.9	+0.1
	baz=84								
H27A	Howes	83.59	339	⇑P		P	09 06 42.8	0.0
	baz=84,SNR=6.4								
G28A	Parade	83.66	340	⇑P		P	09 06 42.9	-0.3
	baz=84,SNR=5.8								
RSSD	Black Hills	83.73	337	*e*P		P	09 06 43.9	+0.1
	comp=Z,6.7nm,0.8s								
TCUT	Toone Canyon	83.73	331	*e*P		P	09 06 44.3	+0.4
	comp=Z,54nm,1.9s								
F30A	Leola	83.84	341	⇓P		P	09 06 44.1	0.0
	baz=84								
J22A	Midwest	83.90	336	⇓P		P	09 06 44.1	-0.5
	baz=84								
H25A	Fruitdale	84.04	338	⇑P		P	09 06 45.5	+0.3
	baz=84								
F29A	Eureka	84.05	341	⇓P		P	09 06 45.2	0.0
	baz=84								
J21A	Lysite	84.17	335	⇓P		P	09 06 45.7	-0.4
	baz=85								
HWUT	Hardware Ranch	84.21	331	*e*P		P	09 06 46.3	0.0
	comp=Z,9.2nm,0.9s								
BGU	Big Grassy Mou	84.22	330	*e*P		P	09 06 47.9	+1.6
	comp=Z,18nm,1.5s								
G27A	Dupree	84.23	339	⇑P		P	09 06 45.8	-0.3
	baz=85								
I22A	9 Mile Ranch,	84.33	336	⇓P		P	09 06 46.0	-0.7
	baz=85								
F28A	McLaughlin	84.33	340	⇓P		P	09 06 46.0	-0.6
	baz=85								
G26A	Maurine	84.34	339	⇓P		P	09 06 45.9	-0.8
	baz=85								
J20A	Shoshoni	84.41	334	⇓P		P	09 06 47.3	+0.1
	baz=85								
E30A	Jud	84.43	342	⇑P		P	09 06 47.1	0.0
	baz=85								
PDAR	Pinedale Array	84.43	333	P		P	09 06 47.0	-0.5
	comp=Z,2.1nm,0.7s,baz=123,slow=5.5,SNR=11								
PDAR				LR		LR	09 40 47.1		
	comp=Z,63nm,19.0s,baz=134,slow=33								
BW06	Boulder Array	84.43	333	*e*P		P	09 06 48.9	+1.4
	comp=Z,5.6nm,1.0s								
H24A	Dirks Ranch, A	84.45	337	⇑P		P	09 06 46.7	-0.6
	baz=85								
TOA0	Torodi Ar. Sit	84.46	70	*e*P		P	09 06 47.3	-0.6
TORD	Torodi Ar. Bea	84.46	70	P		P	09 06 47.6	-0.3
	comp=Z,3.8nm,0.9s,baz=274,slow=5.0,SNR=19								
G25A	Newell	84.50	338	⇑P		P	09 06 47.2	-0.3
	baz=85,SNR=12								
NV01	Mina Array Sit	84.50	325	*e*P		P	09 06 48.2	+0.3
NVAR	Mina Array Bea	84.50	325	P		P	09 06 48.8	+0.9
	comp=Z,2.0nm,0.7s,baz=162,slow=5.6,SNR=10								
I21A	Big Trails, Te	84.53	335	⇑P		P	09 06 47.7	-0.1
	baz=85								
J19A	Crowheart	84.68	334	⇑P		P	09 06 48.7	+0.1
	baz=85								
F27A	Lemmon	84.70	339	⇑P		P	09 06 48.4	-0.1
	baz=85,SNR=12								
HVU	Hansel Valley	84.84	331	*e*P		P	09 06 49.5	+0.1
	comp=Z,8.3nm,0.9s								
F26A	Lodgepole	84.87	339	⇓P		P	09 06 49.0	-0.3
	baz=85,SNR=5.2								
G24A	Alzada	84.93	338	⇓P		P	09 06 49.4	-0.3
	baz=85								
I20A	Worland	84.94	335	⇓P		P	09 06 49.6	-0.2
	baz=85								
D30A	Buchanan	84.95	342	⇓P		P	09 06 49.7	0.0
	baz=85,SNR=5.6								
ELK	Elko	85.00	329	*e*P		P	09 06 50.9	+0.5
	comp=Z,3.8nm,0.8s								
E27A	Carson	85.08	340	⇓P		P	09 06 50.3	-0.1
	baz=86								
G23A	Biddle	85.13	337	⇓P		P	09 06 50.5	-0.1
	baz=86								
I19A	Meeteetse	85.33	334	⇑P		P	09 06 51.9	0.0
	baz=86								
H20A	Greybull	85.37	335	⇑P		P	09 06 52.0	0.0
	baz=86								
E26A	Carlson Angus	85.37	339	⇑P		P	09 06 51.4	-0.5
	baz=86								
AGMN	Agassiz Nation	85.38	344	⇑P		P	09 06 51.3	-0.5
	baz=86								
AGMN	Agassiz Nation	85.38	344	*e*P		P	09 06 51.1	-0.6
	comp=Z,8.3nm,0.8s								
F24A	Ekalaka	85.40	338	⇑P		P	09 06 51.8	-0.3
	baz=86								
REDW	Red Top Meadow	85.43	333	*e*P		P	09 06 55.1	+2.7
	comp=Z,18nm,1.5s								
G22A	Birney	85.43	336	⇓P		P	09 06 51.7	-0.6
	baz=86								
C30A	Mose, Pekin	85.44	342	⇓P		P	09 06 51.8	-0.2
	baz=86,SNR=5.5								
MSKU	Masuku	85.48	89	*e*P		P	09 06 53.7	+0.5
	comp=Z,22nm,1.4s								
LOHW	Long Hollow	85.55	333	*e*P		P	09 06 52.4	-0.6
	comp=Z,2.5nm,0.8s								
F23A	Volborg	85.59	337	⇓P		P	09 06 52.6	-0.4
	baz=86								
E25A	Miller Ranch,	85.68	339	⇓P		P	09 06 53.8	+0.4
	baz=86,SNR=7.1								
FXWY	Fox Creek	85.73	333	*e*P		P	09 06 55.3	+1.4
	comp=Z,6.1nm,0.6s								
G21A	Lodge Grass	85.74	336	⇑P		P	09 06 53.3	-0.4
	baz=86								
MDND	Maddock	85.86	342	⇓P		P	09 06 53.5	-0.6
	baz=86								
H19A	Powell	85.87	335	⇓P		P	09 06 54.0	-0.5
	baz=86								
D26A	Manning	85.88	340	⇑P		P	09 06 54.1	-0.2
	baz=86								
F22A	Rosebud	85.92	337	⇓P		P	09 06 54.6	0.0
	baz=86								
IMW	Indian Meadow	85.92	333	*e*P		P	09 06 55.7	+0.7
	comp=Z,11nm,1.2s								
FLWY	Flagg Ranch	85.99	333	*e*P		P	09 06 55.8	+0.6
	comp=Z,9.4nm,0.8s								
E24A	Baker	86.00	338	⇓P		P	09 06 55.1	+0.1
	baz=86								
G20A	Bridger	86.08	335	⇓P		P	09 06 55.1	-0.4
	baz=86								
B30A	Myrvik Farm, E	86.09	343	⇑P		P	09 06 55.4	+0.1
	baz=86,SNR=16								
C27A	Sayler Ranch,	86.24	341	⇓P		P	09 06 56.0	0.0
	baz=87								
D25A	Fairfield	86.24	339	⇑P		P	09 06 56.7	+0.5
	baz=87,SNR=5.7								
E23A	Ismay	86.25	338	⇑P		P	09 06 55.9	-0.4
	baz=87								
B29A	Wagenman Farm,	86.36	342	⇓P		P	09 06 56.5	-0.1
	baz=87								
RLMT	Red Lodge	86.36	335	⇓P		P	09 06 56.8	-0.2
	baz=87								
RLMT	Red Lodge	86.36	335	*e*P		P	09 06 56.9	-0.1
	comp=Z,9.6nm,0.9s								
A30A	Hoffart Farm,	86.55	343	⇓P		P	09 06 57.4	-0.1
	baz=87								
YMR	Madison River	86.59	333	*e*P		P	09 06 59.1	+1.0
	comp=Z,20nm,1.0s								
B28A	Dugan Ranch, T	86.61	342	⇑P		P	09 06 58.1	+0.2
	baz=87								
LAO	LASA Array	86.71	337	⇓P		P	09 06 58.6	+0.1
	baz=87								
C25A	Freed Ranch, W	86.73	339	⇓P		P	09 06 58.7	+0.2
	baz=87								
A29A	Manning Farm,	86.76	342	⇑P		P	09 06 58.3	-0.3
	baz=87,SNR=12								
B27A	Peters Farms,	86.80	341	⇓P		P	09 06 58.9	+0.1
	baz=87								
D23A	Lindsay	86.83	338	⇓P		P	09 06 59.4	+0.4
	baz=87								
E21A	Keefer Ranch,	86.86	337	⇑P		P	09 06 59.5	+0.3
	baz=87								
C24A	Savage	86.91	339	⇑P		P	09 06 59.8	+0.4
	baz=87								
HLID	Hailey	86.99	331	⇓P		P	09 07 00.3	+0.2
	baz=87								
HLID	Hailey	86.99	331	*e*P		P	09 07 00.7	+0.6
	comp=Z,6.1nm,1.0s								
A28A	Rude Farm, Bot	87.01	342	⇑P		P	09 07 00.2	+0.4
	baz=87								
B26A	Jensen Ranch,	87.04	340	⇑P		P	09 06 59.9	-0.1
	baz=87								
D22A	Cohagen	87.11	337	⇓P		P	09 07 00.4	0.0
	baz=88								
B25A	Knox Farm, Ray	87.21	340	⇑P		P	09 07 00.6	-0.2
	baz=88								
D21A	La Casta Ranch	87.30	337	⇓P		P	09 07 00.9	-0.4
	baz=88								
A27A	Ledoux Ranch,	87.30	341	⇑P		P	09 07 01.2	0.0
	baz=88								
C23A	Lambert	87.38	338	⇓P		P	09 07 01.5	-0.1
	baz=88								
MCMT	McKenzie Canyo	87.43	332	*e*P		P	09 07 03.2	+0.9
MFID	Camas Ranch	87.45	330	*e*P		P	09 07 05.3	+3.1
	comp=Z,5.8nm,0.9s								
A26A	Wade Farm, Ken	87.46	341	⇓P		P	09 07 01.8	-0.2
	baz=88								
C22A	Vida	87.55	338	⇓P		P	09 07 02.2	-0.3
	baz=88								
BOZ	Bozeman (W)	87.67	333	⇓P		P	09 07 02.8	-0.5
	baz=88								
DGMT	Dagmar	87.69	339	⇑P		P	09 07 02.9	-0.2
	baz=88								
DGMT	Dagmar	87.69	339	*e*P		P	09 07 03.5	+0.4
	comp=Z,34nm,0.9s								
DLMT	Dillon	87.79	333	*e*P		P	09 07 04.9	+1.1
	comp=Z,16nm,1.4s								
A25A	Svangstu Ranch	87.80	340	⇓P		P	09 07 03.4	-0.2
	baz=88								
B23A	Brockton	87.92	339	⇓P		P	09 07 04.3	+0.1
	baz=88								
C21A	Desert Coulee	88.00	337	⇑P		P	09 07 03.3	-1.3
	baz=88								
A24A	Westby	88.04	340	⇓P		P	09 07 04.6	-0.1
	baz=88								
B22A	Reddig Ranch S	88.07	338	⇓P		P	09 07 04.8	-0.2
	baz=88								
LRM	Limekiln Ridge	88.12	333	*e*P		P	09 07 06.9	+1.4
C20A	Veseth Ranch,	88.19	337	⇑P		P	09 07 05.2	-0.3
	baz=89								
A22A	Carney Farms,	88.66	338	⇓P		P	09 07 07.3	-0.4
	baz=89								
M04C	Macdoel	88.81	325	⇓P		P	09 07 08.1	-0.6
	baz=89								
B20A	Solberg Farm,	88.83	337	⇑P		P	09 07 08.0	-0.6
	baz=89								
EGMT	Eagleton	89.04	336	⇑P		P	09 07 09.5	-0.1
	baz=89								
B19A	Brinkman Farms	89.15	336	⇓P		P	09 07 09.8	-0.2
	baz=90								
A20A	Cobblestone Ra	89.19	337	⇑P		P	09 07 10.0	-0.2
	baz=90								
SCHQ	Schefferville	89.33	3	LR		LR	09 50 15.8		
	comp=Z,26nm,18.9s,baz=282,slow=38								
K04D	Chiloquin, OR	89.42	326	⇓P		P	09 07 11.2	-0.4
	baz=90								
A19A	Klindworth Far	89.49	337	⇓P		P	09 07 11.5	-0.2
	baz=90								
I07A	Izee	89.56	328	*e*P		P	09 07 13.2	+1.1
	comp=Z,68nm,2.5s								
J05D	Fort Rock, OR	89.70	326	⇓P		P	09 07 12.8	-0.1
	baz=90								
WALA	Waterton Lakes	91.38	334	*e*P		P	09 07 23.1	+2.6
	comp=Z,128nm,3.0s								
FCC	Fort Churchill	94.96	349	*e*P		P	09 07 36.3	-0.2
	comp=Z,49nm,2.2s								
YKA	Yellowknife Ar	102.77	341	P		Pdif	09 08 10.6	-1.0
	comp=Z,0.4nm,0.7s,baz=143,slow=4.7,SNR=4.5								
KECS	Kecovo	116.59	48	*e*PKP		PKPdf	09 13 01.3	+2.9
ASAR	Alice Springs	116.90	207	PKP		PKPdf	09 12 58.0	-1.9
	comp=Z,0.3nm,0.8s,baz=116,slow=2.2,SNR=3.2								
WRA	Warramunga Arr	120.11	209	PKP		PKPdf	09 13 04.7	-1.5
	comp=Z,0.8nm,0.7s,baz=160,slow=1.6,SNR=13								
BRTR	Keskin Array B	122.19	61	PKP		PKPdf	09 13 09.1	-0.5
	comp=Z,0.9nm,0.7s,baz=318,slow=3.3,SNR=4.0								
AKASG	Malin Array Be	122.69	48	PKP		PKPdf	09 13 08.6	-1.4
	comp=Z,0.8nm,0.6s,baz=258,slow=2.2,SNR=4.7								
FINES	FINESS Array B	123.60	35	PKP		PKPdf	09 13 11.1	-0.3
	comp=Z,1.8nm,0.9s,baz=211,slow=4.9,SNR=3.4								
ARCES	ARCESS Array B	124.69	25	PKP		PKPdf	09 13 12.3	-1.0
	comp=Z,0.8nm,0.7s,baz=259,slow=2.5,SNR=5.7								
H11S2	WAKE ISLAND Hyl	25.76	269	T		T	11 31 30.6		
	baz=119,slow=76,SNR=77								
H11S1	WAKE ISLAND Hyl	25.77	269	T		T	11 31 31.4		
	baz=119,slow=76,SNR=84								
H11S3	WAKE ISLAND Hyl	25.78	269	T		T	11 31 30.2		
	baz=119,slow=76,SNR=57								
H11N3	WAKE ISLAND Hyl	26.19	270	T		T	11 32 00.4		
	baz=122,slow=76,SNR=71								
H11N1	WAKE ISLAND Hyl	26.21	270	T		T	11 31 56.9		
	baz=122,slow=76,SNR=210								
H11N2	WAKE ISLAND Hyl	26.21	270	T		T	11 31 58.0		
	baz=122,slow=76,SNR=94								
AKTO	Aktyubinsk	140.81	51	PKP		PKPdf	09 13 41.9	-2.3
	comp=Z,0.4nm,0.3s,baz=112,slow=5.4,SNR=3.6								
GSI	Gunungsitoli	145.34	162	*e*PKPbc		PKPdf	09 13 54.0	+0.7
KSM	Kuching	146.82	184	*e*PKPdf		PKPbc	09 13 57.5	-0.1
PSI	Prapat	147.12	163	*e*PKPdf		PKPdf	09 13 57.3	+0.8
SBUM	Sibu	147.62	188	*e*PKPdf		PKPbc	09 13 59.4	-0.4
BVAR	Borovoye Array	147.82	44	PKPbc		PKPdf	09 13 56.4	+0.2
	comp=Z,4.3nm,0.7s,baz=309,slow=3.1,SNR=13								
IPM	Ipoh	149.20	166	*e*PKPbc		PKPbc	09 14 03.2	-0.8
ASAJ	Asahikawa	151.84	300	*e*PKPbc		PKPbc	09 14 09.2	-0.1
AAK	Ala-Archa	152.85	63	*e*PKPbc		PKPbc	09 14 12.6	+0.7
KURBB	Kurchatov Arra	153.41	44	PKP		PKPdf	09 14 04.8	-0.2
	comp=Z,0.6nm,0.7s,baz=302,slow=2.7,SNR=2.0								
KURBB					PKPbc	PKiKP	09 14 12.6	-0.1
	comp=Z,4.2nm,0.8s,baz=302,slow=2.8,SNR=13								
KURK	Kurchatov	153.42	44	PKP		PKPdf	09 14 04.8	-0.2
KURK					*e*PKPbc	PKiKP	09 14 14.4	+1.7
KSH	Kashi	154.13	70	*e*PKPbc		PKPdf	09 14 06.5	-0.1
KSH					pPKP	PKPbc	09 14 14.2	-0.5
KSH					sPKP		09 14 17.7		
KSH					PP	PP	09 18 01.2	-2.8
KSH					SKS	SKSdf	09 21 03.2	-7.6
KSH					SKKS	SKKSac	09 24 45.4	-5.6
KSH					PPMZ			
	comp=Z,81nm,3.9s								
KSH					LN				
	comp=Z,65nm,4.7s								
KSH					LE				
	comp=Z,53nm,3.7s								
KSH					LZ				
	comp=Z,170nm,6.1s								
ZAA0	Zalesovo Array	154.85	33	*e*PKPdf		PKPdf	09 14 07.1	+0.2
ZAA0				*e*PKPbc		PKPbc	09 14 15.3	-0.2
ZALV	Zalesovo Beam	154.85	33	PKP		PKPdf	09 14 08.2	+1.3
	comp=Z,1.0nm,0.4s,baz=300,slow=2.8,SNR=2.5								
ZALV				PKPbc		PKPbc	09 14 15.3	-0.3
	comp=Z,1.6nm,0.4s,baz=282,slow=2.9,SNR=5.9								
ZALV				PKPab		PKPab	09 14 30.4	-0.5
	comp=Z,2.8nm,0.5s,baz=287,slow=5.7,SNR=4.5								
MKAR	Makanchi Array	157.25	50	PKP		PKPdf	09 14 09.9	-0.5
	comp=Z,0.6nm,0.8s,baz=280,slow=2.2,SNR=4.7								
MKAR				PKPab		PKPab	09 14 40.0	-1.6
	comp=Z,1.3nm,0.8s,baz=278,slow=8.5,SNR=5.9								
MKAR	Makanchi Array	157.25	50	*e*PKPdf		PKPdf	09 14 09.4	-0.9
MKAR				PKPab		PKPab	09 14 40.0	-1.6
MK01	Makanchi Array	157.26	50	*e*PKPdf		PKPdf	09 14 09.4	-1.0
WMQ	Urumqi	161.92	54	PKP		PKPdf	09 14 16.0	+0.1
WMQ				PP		PP	09 18 48.4	+2.2
WMQ				LN				
	comp=Z,57nm,13.6s								
WMQ				LE				
	comp=Z,85nm,12.5s								
KSRS	Korea Array	163.65	285	PKPab		PKPab	09 15 09.4	-0.2
	comp=Z,0.8nm,0.6s,baz=91,slow=5.0,SNR=4.2								
KSAR	Wonju Array Be	163.68	285	PKPab		PKPab	09 15 09.4	-0.4
CN2	Changchun	163.75	309	*e*PKP		PKPdf	09 14 14.3	-3.2
SONM	Songino Array	166.87	5	PKPab		PKPab	09 15 24.1	+0.5
	comp=Z,2.3nm,0.9s,baz=330,slow=4.4,SNR=9.2								
GYA	Guiyang	171.66	172	*e*PKP		PKPdf	09 14 23.0	-0.8
GYA				PKPab		PKPab	09 15 46.2	+1.0
GYA				PKS		PKSdf	09 17 54.6	-1.8
GYA				PP		PP	09 19 38.4	+3.2
GYA				PPMZ				
	comp=Z,120nm,8.0s								
GTA	Gaotai	172.00	52	*e*PKP		PKPdf	09 14 23.6	0.0
GTA				pPKP		pPKPdf	09 14 34.4	-0.5
GTA				sPKP			09 14 38.0		
GTA				PKPab		PKPab	09 15 47.6	+0.9
HHC	Hu-ho-hao-te	173.28	336	*e*PKP		PKPdf	09 14 23.1	-1.0
HHC				PP		PP	09 19 50.4	+7.0
HHC				SKKS			09 26 34.9		
HHC				PPMZ				
	comp=Z,55nm,9.5s								
HHC				LN				
	comp=Z,88nm,21.8s								
HHC				LE				
	comp=Z,160nm,21.7s								
HHC				LZ				
	comp=Z,72nm,21.7s								
CD2	Chengdu	174.78	136	PKP		PKPdf	09 14 24.5	-0.3
CD2				PP		PP	09 19 50.9	-0.3
CD2				SKS		SKSdf	09 21 27.8	+2.4
CD2				SS		SS	09 41 13.8	+2.6
CD2				PPMZ				
	comp=Z,120nm,5.2s								
LZH	Lanzhou	176.38	67	*e*PKP		PKPdf	09 14 21.6	-3.6

*ISCJB **11** 08:59:50.1±0.4,59°.86N±0°.02×24°.81E±0°.06,h0km, Error ellipse: s-maj=4.6km s-min=3.3km az=8.3*
*NAO **11** 08:59:51.9±1.0,59°.85N×24°.79E, ML2.1*
*CSEM **11** 08:59:51.0±0.2,59°.87N×24°.85E,h2km,ML2.5, Error ellipse: s-maj=6.3km s-min=4.3km az=106.0,Mining explosion.*
*BER **11** 08:59:52.3±3.4,59°.86N×24°.81E,h0km±18km, ML2.1(NAO)*
*HEL **11** 08:59:52.4±0.0,59°.86N×24°.84E,h0km, ML2.5, Explosion*
*IDC **11** 08:59:54.0±0.9,59°.96N×24°.86E,h0km,mb1 3.3/4, mb1mx3.0/39,mbtmp3.2/4,ML3.5/4, Error ellipse: s-maj=10.6km s-min=6.2km az=134.0*

ISC 11 08:59:51.0±0.7,59°.86N±0°.02×24°.82E±0°.03,h0km,n38, o0e65/58,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.42**	**330**	*e*P		**Pg 08 59 59.9**	**+0.8**
MEF				*e*S		**Sg 09 00 05.3**	**+0.8**
MEF	**Metsahovi**	**0.42**	**330**	P		**Pg 08 59 59.8**	**+0.8**
MEF				S		**Sg 09 00 05.2**	**+0.8**
SRPE	**Suurupi**	**0.45**	**209**	*e*P		**Pg 09 00 00.5**	**+0.8**
SRPE				*e*S		**Sg 09 00 05.7**	**+0.1**
SRPE	**Suurupi**	**0.45**	**209**	P		**Pg 09 00 00.5**	**+0.8**
SRPE				S		**Sg 09 00 05.6**	**+0.1**
PVF	**Pernaja**	**0.86**	**37**	*e*P		**Pg 09 00 07.8**	**+0.1**
PVF				*e*S		**Sg 09 00 18.6**	**-0.3**
PVF	**Pernaja**	**0.86**	**37**	P		**Pg 09 00 07.7**	**+0.1**
PVF				S		**Sg 09 00 18.5**	**-0.3**
MTSE	**Matsula**	**1.26**	**205**	*e*P		**Pg 09 00 14.9**	**-0.2**
MTSE				*e*S		**Sg 09 00 31.6**	**+0.2**
MTSE	**Matsula**	**1.26**	**205**	P		**Pg 09 00 14.8**	**-0.2**
MTSE				S		**Sg 09 00 31.5**	**+0.2**
VJF	**Virojoki**	**1.53**	**62**	*e*P		**Pn 09 00 19.4**	**-0.1**
VJF	**Virojoki**	**1.53**	**62**	P		**Pn 09 00 19.4**	**-0.1**
FIA0	**FINESS

HFS	**Hagfors**	**5.59**	**278**	Pn	**Pn**	**09 01 14.4**	**-0.9**
	SNR=50							
HFS				Sn	**Sn**	**09 02 18.5**	**-1.6**
	SNR=50							
HFS				Lg	Lg	09 02 42.1		
NB2	**NORSAR Subarra**	**6.83**	**286**	Pn	**Pn**	**09 01 31.8**	**-0.6**
	baz=94,slow=14							
NB2				Lg	Lg	09 03 23.0		
	baz=96,slow=37							
NB2	**NORSAR Subarra**	**6.83**	**286**	Pn	**Pn**	**09 01 31.8**	**-0.6**
	baz=94,slow=14							
NB2				Lg	Lg	09 03 23.0		
	baz=96,slow=37							
NB2	**NORSAR Subarra**	**6.83**	**286**	Pn	**Pn**	**09 01 31.8**	**-0.6**
	SNR=50							
NB2				Lg	Lg	09 03 23.0		
	SNR=2.7							
NOA	**NORSAR Array B**	**6.83**	**286**	Pn	**Pn**	**09 01 32.3**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=106,slow=19,SNR=18							
NOA				Sn	**Sn**	**09 02 50.7**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=158,slow=19,SNR=5.0							
NOA				Lg	Lg	09 03 27.5		
	comp=Z,1.2nm,0.3s,baz=78,slow=19,SNR=4.6							
AKASG	**Malin Array Be**	**9.51**	**163**	Pn	**Pn**	**09 02 09.1**	**0.0**
	comp=Z,1.1nm,0.3s,baz=342,slow=13,SNR=7.1							
ARA0	**ARCESS Array S**	**9.72**	**1**	Pn	**Pn**	**09 02 12.1**	**+0.2**
	baz=170,slow=16							
ARA0	**ARCESS Array S**	**9.72**	**1**	Pn	**Pn**	**09 02 12.1**	**+0.2**
	baz=170,slow=16							
ARA0	**ARCESS Array S**	**9.72**	**1**	Pn	**Pn**	**09 02 12.1**	**+0.2**
	SNR=5.2							
ARCES	**ARCESS Array B**	**9.72**	**1**	Pn	**Pn**	**09 02 12.0**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=182,slow=14,SNR=21							

*CSEM **11** 09:36:33.5, 39.25N×27.79E, h7km, MD2.6, Mining explosion.*

DDA 11 09:36:33.5, 39.25N×27.79E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.38**	**177**	*i* P	Pb	09 36 42.6	+0.1
AKHS				*i* S	Sb	09 36 49.6	+1.1
BALY	**Balya**	**0.50**	**345**	*i* P	Pg	09 36 43.0	-0.3
BALY				*i* S	Sg	09 36 51.1	+1.2
BALY	**Balya**	**0.50**	**345**	*i* P	Pg	09 36 43.0	-0.3
BALY				*i* S	Sg	09 36 50.9	+1.0
BALY	**Balya**	**0.50**	**345**	*i* P	Pg	09 36 43.0	-0.3
BALY				*i* S	Sg	09 36 51.1	+1.2
DURS	**Dursunbey**	**0.64**	**57**	*i* P	Pg	09 36 45.9	0.0
DURS				*i* S	Sb	09 36 55.3	-0.9
DURS	**Dursunbey**	**0.64**	**57**	*i* P	Pg	09 36 45.9	0.0
DURS				*i* S	Sb	09 36 55.3	-1.0
DEMI	**Demirci**	**0.75**	**106**	*i* P	Pb	09 36 48.7	-0.3
DEMI				*i* S	Sg	09 36 58.6	+0.6
DEMI	**Demirci**	**0.75**	**106**	*i* P	Pb	09 36 48.9	-0.1
DEMI				*i* S	Sg	09 36 58.4	+0.4
DEMI	**Demirci**	**0.75**	**106**	*i* P	Pb	09 36 48.7	-0.3
DEMI				*i* S	Sg	09 36 58.6	+0.6
ULDT	**Uludag**	**1.37**	**49**	*i* P	Pn	09 36 59.4	+0.1
ULDT				*i* S	Sg	09 37 19.1	+1.1
ULDT	**Uludag**	**1.37**	**49**	*i* P	Pn	09 36 59.4	+0.1
ULDT				*i* S	Sg	09 37 19.1	+1.1

*IDC **11** 09:41:35.9±0.7, 17.74N×119.50E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.0/38, mbtmp4.0/13, MS3.4/7, Ms1 3.4/7, ms1mx3.0/44, Error ellipse: s-maj=32.7km s-min=14.7km az=70.0*
*ISCJB **11** 09:41:39.1±0.4, 17.81N±0.04×119.40E±0.05, h32km, mb4.1/16, MS3.5/5, Error ellipse: s-maj=6.7km s-min=4.8km az=161.8*
*MAN **11** 09:41:41, 17.62N×119.52E, h13km, mb4.8, ML3.7, MS3.7*
*NEIC **11** 09:41:41.0±0.5, 17.82N×119.71E, h35km, mb4.6/4, Error ellipse: s-maj=16.4km s-min=9.0km az=70.0*

ISC 11 09:41:40.4±0.6, 17.71N±0.04×119.55E±0.06, h32km, n35, σ1§33/34, mb4.0/17, MS3.6/5, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SZP	**Santa**	**0.88**	**100**	*e*Pg	**Pn**	**09 41 53.9**	**-2.6**
SZP				*e*Sg	**Sn**	**09 42 05.4**	**-2.8**
ABRA	**Dolores**	**1.11**	**93**	*e*P	**Sn**	**09 42 18.2**	**+4.4**
PIP	**Pasuquin**	**1.19**	**59**	⇑*i*P	**Pn**	**09 42 00.7**	**-0.1**
PIP				*e*S	**Sn**	**09 42 16.9**	**+1.0**
BOLP	**Bolinao**	**1.36**	**165**	*e*P	**Pn**	**09 42 03.5**	**+0.3**
APYP	**Conner**	**1.62**	**84**	*e*P	**Pb**	**09 42 08.8**	**-0.9**
APYP				*e*S	**Sb**	**09 42 31.5**	**+1.7**
BCPH	**Baguio City Da**	**1.65**	**143**	⇑*i*P	**Pn**	**09 42 08.5**	**+1.2**
BCPH				*i* S	**Sb**	**09 42 29.9**	**-0.8**
CAUP	**Cauayan**	**2.30**	**109**	*e*P	**Pb**	**09 42 20.5**	**-0.7**
BALP	**Baler**	**2.75**	**135**	*e*P	**Pb**	**09 42 26.3**	**-2.7**
TPUB	**Ta-pu**	**5.66**	**10**	*e*Pn	Pn	09 42 58.7	-3.6
	72nm,1.3s						
TPUB				*e*Sn	**Sn**	**09 44 05.4**	**-0.8**
YULB	**Yu-li**	**5.89**	**16**	*e*Pn	**Pn**	**09 43 04.9**	**-0.5**
	13nm,0.6s						
YULB				*e*Sn	**Sn**	**09 44 11.8**	**-0.1**
JNU	**Nakatsue**	**18.42**	**31**	LR	LR	09 53 08.1	
	comp=Z,37nm,20.1s,baz=226,slow=38						
CMAR	**Chiang Mai Arr**	**19.61**	**275**	LR	LR	09 53 14.5	
	comp=Z,108nm,19.1s,baz=120,slow=36						
KSAR	**Wonju Array Be**	**20.98**	**19**	P	**P**	**09 46 21.1**	**+0.2**
KSRS	**Korea Array**	**21.00**	**19**	P	**P**	**09 46 21.1**	**-0.1**
	6.9nm,1.0s,baz=200,slow=12,SNR=26						
KSRS				LR	LR	09 54 09.4	
	comp=Z,32nm,20.5s,baz=234,slow=36						
USRK	**Ussuriysk Ar.**	**28.41**	**19**	P	**P**	**09 47 31.9**	**-0.2**
	0.9nm,0.5s,baz=190,slow=5.9,SNR=5.1						
SONM	**Songino Array**	**31.92**	**343**	P	**P**	**09 48 03.0**	**-0.2**
	1.2nm,0.7s,baz=166,slow=7.5,SNR=6.0						
FITZ	**Fitzroy Crossi**	**36.08**	**170**	*e*P	P	09 48 42.5	+3.2
	39nm,1.8s						
WRAB	**Tennant Creek**	**40.13**	**158**	*e*P	**P**	**09 49 13.0**	**-0.5**
	9.1nm,1.3s						
WRA	**Warramunga Arr**	**40.13**	**158**	P	**P**	**09 49 13.4**	**-0.1**
	1.6nm,0.7s,baz=339,slow=8.6,SNR=8.2						
MK31	**Makanchi Array**	**42.19**	**322**	*e*P	**P**	**09 49 30.3**	**+0.1**
MKAR	**Makanchi Array**	**42.19**	**322**	P	**P**	**09 49 30.7**	**+0.4**
	2.1nm,0.9s,baz=123,slow=8.8,SNR=16						
ASAR	**Alice Springs**	**43.44**	**161**	P	**P**	**09 49 41.5**	**+0.8**
	1.4nm,0.7s,baz=338,slow=6.8,SNR=14						
ZALV	**Zalesovo Beam**	**45.02**	**332**	P	**P**	**09 49 51.7**	**-1.1**
	0.6nm,0.4s,baz=108,slow=9.5,SNR=3.6						
AAK	**Ala-Archa**	**45.50**	**313**	LR	LR	10 09 42.7	
	comp=Z,84nm,21.7s,baz=76,slow=37						
KURK	**Kurchatov**	**46.28**	**325**	*e*P	**P**	**09 50 02.8**	**0.0**
	12nm,0.9s						
KURBB	**Kurchatov Arra**	**46.28**	**325**	P	**P**	**09 50 03.4**	**+0.5**
	13nm,1.1s,baz=122,slow=8.1,SNR=41						
STKA	**Stephens Creek**	**53.64**	**157**	P	**P**	**09 51 00.1**	**+1.1**
	2.0nm,0.9s,baz=318,slow=14,SNR=2.6						
STKA				LR	LR	10 18 19.6	
	comp=Z,56nm,18.8s,baz=218,slow=41						
ABKAR	**Akbulak array**	**57.02**	**318**	*e*P	**P**	**09 51 23.5**	**+0.4**
	1.7nm,0.5s						
AKTO	**Aktyubinsk**	**58.47**	**319**	LR	LR	10 18 20.1	
	comp=Z,62nm,18.5s,baz=37,slow=38						
KBZ	**Khabaz**	**68.42**	**311**	P	**P**	**09 52 39.0**	**-0.3**
	2.2nm,0.8s,baz=100,slow=5.8,SNR=5.0						
ILAR	**Eielson Array**	**75.66**	**26**	P	**P**	**09 53 22.5**	**+0.3**
	0.5nm,0.7s,baz=274,slow=5.2,SNR=4.2						
FINES	**FINESS Array B**	**76.27**	**330**	P	**P**	**09 53 25.2**	**-0.5**
	0.8nm,0.6s,baz=50,slow=13,SNR=4.5						
NOA	**NORSAR Array B**	**83.22**	**332**	LR	LR	10 33 11.4	
	comp=Z,25nm,19.5s,baz=55,slow=37						
YKA	**Yellowknife Ar**	**89.51**	**22**	P	**P**	**09 54 34.8**	**+0.6**
	0.8nm,0.7s,baz=319,slow=4.5,SNR=8.2						
TXAR	**Lajitas Array**	**117.34**	**42**	PKP	**PKPdf**	**10 00 24.1**	**+0.7**
	0.1nm,0.4s,baz=204,slow=2.0,SNR=3.6						

*IDC **11** 09:43:16.1±0.7, 17.77N×119.53E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/38, mbtmp3.9/10, Error ellipse: s-maj=39.4km s-min=16.7km az=69.0*
*ISCJB **11** 09:43:18.8±0.6, 17.78N±0.10×119.6E±0.2, h31km, mb3.9/11, Error ellipse: s-maj=24.9km s-min=11.9km az=161.8*
*NEIC **11** 09:43:21.2±0.4, 17.75N×119.53E, h35km, mb4.1/2, Error ellipse: s-maj=21.2km s-min=9.0km az=70.0*

ISC 11 09:43:20.9±0.8, 17.8N±0.1×119.6E±0.2, h31km, n16, σ0§71/18, mb3.8/11, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSAR	**Wonju Array Be**	**20.91**	**19**	P	**P**	**09 48 01.0**	**+0.3**
KSRS	**Korea Array**	**20.93**	**19**	P	**P**	**09 48 01.0**	**0.0**
	2.6nm,0.7s,baz=205,slow=11,SNR=6.3						
SONM	**Songino Array**	**31.85**	**343**	P	**P**	**09 49 43.1**	**0.0**
	0.9nm,0.6s,baz=161,slow=11,SNR=5.4						
WRAB	**Tennant Creek**	**40.20**	**158**	P	**P**	**09 50 54.5**	**-0.2**
	3.7nm,0.9s						
WRA	**Warramunga Arr**	**40.21**	**158**	P	**P**	**09 50 53.3**	**-1.4**
	0.8nm,0.8s,baz=341,slow=9.2,SNR=4.8						
WRA				PcP	**PcP**	**09 52 60.0**	**+1.4**
	0.2nm,0.7s,baz=337,slow=3.2,SNR=3.4						
MKAR	**Makanchi Array**	**42.13**	**322**	P	**P**	**09 51 10.5**	**+0.2**
	1.6nm,0.8s,baz=126,slow=8.7,SNR=8.1						
MKAR				PcP	**PcP**	**09 53 04.4**	**-0.1**
	1.0nm,0.7s,baz=86,slow=2.9,SNR=7.7						
ASAR	**Alice Springs**	**43.52**	**161**	P	**P**	**09 51 21.9**	**+0.1**
	0.9nm,0.6s,baz=336,slow=6.3,SNR=7.4						
ZALV	**Zalesovo Beam**	**44.95**	**332**	P	**P**	**09 51 31.5**	**-1.3**
	0.7nm,0.5s,baz=112,slow=3.9,SNR=2.9						
KURK	**Kurchatov**	**46.21**	**325**	P	**P**	**09 51 43.5**	**+0.5**
KURBB	**Kurchatov Arra**	**46.22**	**325**	P	**P**	**09 51 43.5**	**+0.5**
	5.5nm,0.8s,baz=122,slow=8.2,SNR=15						
ABKAR	**Akbulak array**	**56.96**	**318**	*e*P	**P**	**09 53 03.5**	**+0.1**
	1.0nm,0.5s						
ILAR	**Eielson Array**	**75.58**	**26**	P	**P**	**09 55 02.1**	**-0.2**
	0.5nm,0.9s,baz=258,slow=4.5,SNR=4.2						
NOA	**NORSAR Array B**	**83.14**	**332**	P	**P**	**09 55 43.0**	**-0.7**
	0.6nm,0.7s,baz=61,slow=4.6,SNR=2.7						
YKA	**Yellowknife Ar**	**89.43**	**22**	P	**P**	**09 56 15.1**	**+0.6**
	0.7nm,0.7s,baz=314,slow=4.5,SNR=9.7						
TXAR	**Lajitas Array**	**117.28**	**42**	PKP	**PKPdf**	**10 02 04.2**	**+0.3**
	0.1nm,0.6s,baz=215,slow=1.1,SNR=2.8						
DBIC	**Dimbokro**	**119.98**	**289**	PKP	**PKPdf**	**10 02 09.3**	**0.0**
	5.6nm,1.1s,baz=139,slow=4.8,SNR=3.1						

*IDC **11** 09:56:29.9±2.5, 54.23N×86.46E, h0km, mb1 3.3/2, mb1mx3.0/29, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=20.4km s-min=12.5km az=55.0*
*NNC **11** 09:56:30.2±4.0, 53.88N×86.83E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=34.8km s-min=28.8km az=66.0*

ISC 11 09:56:32.1±5.6, 54.4N±0.2×86.3E±0.3, h35km, n7, σ2§46/8, 5C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**246**	*i*		10 03 04.3	
	baz=74,slow=316,SNR=1.6						
ZALV	**Zalesovo Beam**	**0.98**	**246**	Pg	**Pn**	**09 56 47.3**	**-2.0**
	2.8nm,0.3s,baz=73,slow=17,SNR=21						
ZALV				Lg	Lg	09 57 03.5	
	5.6nm,0.3s,baz=76,slow=31,SNR=24						
KURK	**Kurchatov**	**5.95**	**235**	⇓Pn	**Pn**	**09 57 58.6**	**+1.0**
	0.5nm,0.6s						
KURK				⇑Lg	Lg	09 59 37.6	
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**6.06**	**235**	⇑Pn	**Pn**	**09 58 00.9**	**+1.9**
	1.3nm,0.4s						
KURBB				⇑Lg	Lg	09 59 41.8	
	3.3nm,0.6s						
KURBB	**Kurchatov Arra**	**6.06**	**235**	Pn	**Pn**	**09 58 01.1**	**+2.1**
	0.2nm,0.3s,baz=52,slow=13,SNR=12						
KURBB				Lg	Lg	09 59 43.7	
	0.1nm,0.3s,baz=49,slow=31,SNR=5.1						
MK31	**Makanchi Array**	**7.99**	**200**	⇓Pn	**Pn**	**09 58 24.3**	**-1.4**
	0.1nm,0.3s,baz=25,slow=13,SNR=19						
MK31				⇑Sn	**Sn**	**09 59 51.7**	**-3.0**
	0.2nm,0.5s,baz=22,slow=25						
MK31				⇑Lg	Lg	10 00 34.3	
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**7.99**	**200**	Pn	**Pn**	**09 58 27.2**	**+1.5**
	0.6nm,0.3s,baz=25,slow=14,SNR=25						
MKAR				Sn	**Sn**	**09 59 56.8**	**+2.0**
	0.1nm,0.3s,baz=22,slow=25,SNR=3.5						
MKAR				Lg	Lg	10 00 38.1	
	0.0nm,0.3s,baz=25,slow=32,SNR=5.5						

*IDC **11** 10:38:35.0±2.5, 30.76N×56.64E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.2/49, mbtmp3.5/5, ML3.4/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/37, Error ellipse: s-maj=63.2km s-min=26.9km az=147.0*
*THR **11** 10:38:35.3±0.4, 30.80N×56.74E, h6km±5km, ML3.5*
*ISCJB **11** 10:38:36.1±0.4, 30.76N±0.03×56.78E±0.05, h11km, mb3.4/4, Error ellipse: s-maj=6.4km s-min=4.6km az=9.3*
*CSEM **11** 10:38:36.2±0.3, 30.80N×56.74E, h2km, ML3.5, Error ellipse: s-maj=7.0km s-min=6.5km az=55.0*
*TEH **11** 10:38:37.7, 30.92N×56.72E, h1km, ML3.7*

ISC 11 10:38:36.4±0.7, 30.81N±0.04×56.73E±0.04, h11km, n40, σ1§44/43, mb3.4/4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHGB	**Koh Gabri**	**0.48**	**207**	*e*Pg	**Pg**	**10 38 44.2**	**-1.7**
TVBK	**TV Kerman**	**0.82**	**178**	*e*Pg	**Pg**	**10 38 51.4**	**-0.9**
KRBR	**Kerman**	**0.82**	**178**	*e*Pg	**Pg**	**10 38 51.3**	**-1.1**
KRBR				*e*Sg	**Sg**	**10 39 02.9**	**-0.2**
KRBR				AML	AML	10 39 04.1	
	comp=N,2μm,0.1s						
KRBR				AML	AML	10 39 05.6	
	comp=E,3μm,0.4s						
KRBR	**Kerman**	**0.82**	**178**	*e*Pg	**Pg**	**10 38 51.3**	**-1.1**
KRBR				*e*Sg	**Sg**	**10 39 02.9**	**-0.2**
	comp=E,3μm,0.4s						
CHMN	**Cheshme madani**	**1.17**	**143**	*e*Pg	**Pb**	**10 38 57.3**	**-1.7**
CHMN	**Cheshme madani**	**1.17**	**143**	*e*Pg	**Pb**	**10 38 57.3**	**-1.7**
IBAF	**Bafgh**	**1.27**	**308**	*e*Pg	**Pn**	**10 38 58.5**	**-1.8**
IBAF				*e*		10 39 21.5	
	comp=Z,24μm,0.1s						
IBAF	**Bafgh**	**1.27**	**308**	*e*Pg	**Pn**	**10 38 58.5**	**-1.8**
IMEH	**Mehriz**	**1.91**	**288**	*e*		10 39 12.4	
	comp=Z,16μm,0.1s						
IMEH				*e*Pn	**Pn**	**10 39 09.9**	**+0.8**
IMEH				*e*Sg	**Sb**	**10 39 35.8**	**+0.5**
ICHK	**Chekchek**	**2.45**	**306**	*e*Pn	**Pn**	**10 39 17.8**	**+1.2**
ICHK				*e*		10 40 00.0	
	comp=Z,4μm,0.2s						
ICHK	**Chekchek**	**2.45**	**306**	*e*Pn	**Pn**	**10 39 17.7**	**+1.2**
IKOO	**Kooshah**	**2.52**	**50**	*e*Pn	**Pn**	**10 39 18.5**	**+0.9**
IKOO				*e*		10 39 58.8	
	comp=Z,4μm,0.2s						
IKOO	**Kooshah**	**2.52**	**50**	*e*Pn	**Pn**	**10 39 18.5**	**+0.9**
ITEG	**Tejag**	**2.70**	**39**	*e*Pn	**Pn**	**10 39 20.6**	**+0.7**
ITEG				*e*		10 40 09.4	
	comp=Z,3μm,0.3s						
ITEG	**Tejag**	**2.70**	**39**	*e*Pn	**Pn**	**10 39 20.7**	**+0.7**
ISAD	**Sadrabad**	**2.83**	**294**	*e*Pn	**Pn**	**10 39 23.2**	**+1.4**
ISAD				*e*		10 40 08.1	
	comp=Z,4μm,0.2s						
ISAD	**Sadrabad**	**2.83**	**294**	*e*Pn	**Pn**	**10 39 23.2**	**+1.4**
TABS	**Tabas**	**2.85**	**7**	*e*Pn	**Pn**	**10 39 23.5**	**+1.5**
TABS	**Tabas**	**2.85**	**7**	*e*Pn	**Pn**	**10 39 23.5**	**+1.5**
IDAH	**Dahanechah**	**3.29**	**53**	*e*Pn	**Pn**	**10 39 29.9**	**+1.7**
IDAH				*e*		10 39 42.8	
	comp=Z,980nm,0.2s						
IDAH	**Dahanechah**	**3.29**	**53**	*e*Pn	**Pn**	**10 39 29.9**	**+1.7**
IPAR	**Pars**	**3.32**	**254**	*e*Pn	**Pn**	**10 39 31.1**	**+2.4**
IPAR				*e*		10 40 38.3	
	comp=Z,1μm,0.4s						
IPAR	**Pars**	**3.32**	**254**	*e*Pn	**Pn**	**10 39 31.1**	**+2.4**
BNDS	**Bandar-Abbas**	**3.43**	**188**	*e*Pn	**Pn**	**10 39 31.6**	**+1.6**
BNDS				AML	AML	10 40 37.4	
	comp=E,75nm,0.6s						
BNDS	**Bandar-Abbas**	**3.43**	**188**	*e*Pn	**Pn**	**10 39 31.6**	**+1.6**
	comp=E,75nm,0.6s						
NASN	**Na'in**	**3.88**	**302**	*e*Pn	**Pn**	**10 39 37.9**	**+1.5**
NASN	**Na'in**	**3.88**	**302**	*e*Pn	**Pn**	**10 39 37.9**	**+1.5**
GHIR	**Ghir-Karzin**	**4.12**	**233**	*e*Pn	**Pn**	**10 39 41.0**	**+1.6**
GHIR	**Ghir-Karzin**	**4.12**	**233**	*e*Pn	**Pn**	**10 39 41.0**	**+1.6**
SHRT	**Shahrakht**	**4.14**	**46**	*e*Pn	**Pn**	**10 39 41.0**	**+1.4**
SHRT	**Shahrakht**	**4.14**	**46**	*e*Pn	**Pn**	**10 39 41.0**	**+1.4**
IZEF	**Zefreh**	**4.29**	**300**	*e*Pn	**Pn**	**10 39 43.1**	**+1.3**
IZEF				*e*		10 40 55.0	
	comp=Z,493nm,0.2s						
IZEF	**Zefreh**	**4.29**	**300**	*e*Pn	**Pn**	**10 39 43.1**	**+1.3**
IKAZ	**Kazeroun**	**4.35**	**258**	*e*Pn	**Pn**	**10 39 44.9**	**+2.1**
IKAZ				*e*		10 41 16.1	
	comp=Z,589nm,0.5s						
IKAZ	**Kazeroun**	**4.35**	**258**	*e*Pn	**Pn**	**10 39 44.9**	**+2.1**
AKTO	**Aktyubinsk**	**19.63**	**2**	P	**P**	**10 43 05.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=174,slow=10,SNR=4.2						
AKTO				LR	LR	10 51 17.2	
	comp=Z,20nm,21.1s,baz=38,slow=39						
MKAR	**Makanchi Array**	**25.37**	**44**	P	**P**	**10 44 04.0**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=223,slow=7.3,SNR=4.0						
KURBB	**Kurchatov Arra**	**25.62**	**33**	P	**P**	**10 44 07.3**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=234,slow=9.1,SNR=5.1						
FINES	**FINESS Array B**	**36.62**	**336**	P	**P**	**10 45 42.7**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=134,slow=9.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**53.45**	**264**	P	**P**	**10 47 56.5**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=60,slow=7.6,SNR=9.8						

IDC 11 10:52:09.3±66.0, 20.76S×177.95W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/26, mbtmp3.5/3, Error ellipse: s-maj=1206.0km s-min=162.1km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.72**	**244**	P	P	10 59 26.5	-0.3
	0.8nm,0.6s,baz=111,slow=14,SNR=2.9						
ASAR	**Alice Springs**	**44.51**	**257**	P	P	11 00 22.8	-0.1
	0.4nm,0.6s,baz=96,slow=7.5,SNR=5.4						
WRA	**Warramunga Arr**	**44.61**	**262**	P	P	11 00 23.8	+0.1
	0.5nm,1.0s,baz=96,slow=8.3,SNR=6.5						

*MOS **11** 10:56:43.3±1.0, 40.43N×29.01E, h7km, mb4.2/10, Error ellipse: s-maj=11.9km s-min=6.8km az=63.5*
*IDC **11** 10:56:43.2±0.8, 40.38N×29.01E, h0km, mb3.8/13, mb1 3.9/18, mb1mx3.7/40, mbtmp3.7/18, ML3.4/5, MS3.0/15, Ms1 3.0/15, ms1mx2.8/43, Error ellipse: s-maj=15.1km s-min=10.3km az=33.0*
*DDA **11** 10:56:44.2, 40.43N×28.95E, h18km, ML4.3*
*NEIC **11** 10:56:44.0, 40.43N×28.93E, h12km, mb3.8/2, ML4.2(ISK), ML4.3(THE), After ISK.*
*ISCJB **11** 10:56:44.5±0.2, 40.45N±0.01×28.93E±0.01, h13km±2km, mb3.9/18, MS3.0/9, Error ellipse: s-maj=2.0km s-min=1.8km az=12.4*
*ISK **11** 10:56:44.4, 40.43N×28.94E, h14km, ML4.2*
*CSEM **11** 10:56:45.2±0.1, 40.43N×28.93E, h10km, mb4.0/11, Error ellipse: s-maj=1.7km s-min=1.5km az=15.0*
*THE **11** 10:56:45.0, 40.48N×28.89E, h0km±1km, ML4.3/4, Error ellipse: s-maj=1.1km s-min=0.9km az=79.0*
*SOF **11** 10:56:47.8, 40.73N×28.79E, h2km, MD3.8*

ISC 11 10:56:45.1±0.8, 40.43N±0.01×28.96E±0.01, h13km±5km, n449, σ1§23/512, mb3.9/18, MS2.9/9, 21C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARMT	**Armutlu**	**0.16**	**332**	PG	**Pg**	**10 56 48.5**	**-0.4**
ARMT	**Armutlu**	**0.16**	**332**	*i* Pg	**Pg**	**10 56 48.5**	**-0.4**
ARMT				*e*Sg	**Sg**	**10 56 51.6**	**0.0**
ARMT	**Armutlu**	**0.16**	**332**	*e*Pg	**Pg**	**10 56 48.6**	**-0.4**
ARMT				*e*Sg	**Sg**	**10 56 51.6**	**0.0**
ULDT	**Uludag**	**0.32**	**154**	*i* P	**Pg**	**10 56 51.9**	**+0.3**
ULDT	**Uludag**	**0.32**	**154**	*i* P	**Pg**	**10 56 51.9**	**+0.3**
ORLT	**Orhaneli**	**0.38**	**187**	PG	**Pg**	**10 56 53.0**	**+0.2**
ORLT	**Orhaneli**	**0.38**	**187**	*i* Pg	**Pg**	**10 56 53.0**	**+0.2**
ORLT	**Orhaneli**	**0.38**	**187**	*e*Pg	**Pg**	**10 56 53.0**	**+0.2**
IZI	**Iznik**	**0.40**	**103**	PG	**Pg**	**10 56 53.4**	**+0.2**
IZI				*e*SG	**Sg**	**10 56 59.3**	**+0.7**
IZI	**Iznik**	**0.40**	**103**	*i* Pg	**Pg**	**10 56 53.4**	**+0.2**
IZI				*e*Sg	**Sg**	**10 56 59.3**	**+0.7**
IZI	**Iznik**	**0.40**	**103**	*e*Pg	**Pg**	**10 56 53.3**	**+0.2**
BUY	**Buyukada**	**0.44**	**16**	*i* P	**Pg**	**10 56 54.0**	**+0.1**
BUY				*i* S	**Sg**	**10 56 59.8**	**0.0**
BUY	**Buyukada**	**0.44**	**16**	*i* P	**Pg**	**10 56 54.0**	**+0.1**
BUY				*i* S	**Sg**	**10 56 59.8**	**0.0**
KCTX	**Karacabey (Bur**	**0.49**	**251**	PG	**Pg**	**10 56 54.5**	**-0.2**
KCTX				*e*SG	**Sg**	**10 57 01.5**	**+0.4**
KCTX	**Karacabey (Bur**	**0.49**	**251**	*i* Pg	**Pg**	**10 56 54.5**	**-0.2**
KCTX				*e*Sg	**Sg**	**10 57 01.6**	**+0.4**
ADVT	**Abdulvahap**	**0.60**	**89**	PG	**Pg**	**10 56 56.8**	**+0.1**
ADVT	**Abdulvahap**	**0.60**	**89**	*i* Pg	**Pg**	**10 56 56.8**	**+0.1**
ISK	**Istanbul-Kandi**	**0.64**	**7**	PG	**Pg**	**10 56 57.5**	**-0.2**
ISK	**Istanbul-Kandi**	**0.64**	**7**	P	**Pg**	**10 56 57.4**	**-0.2**
ISK				S	**Sg**	**10 57 05.8**	**-0.4**
ISK	**Istanbul-Kandi**	**0.64**	**7**	*i* Pg	**Pg**	**10 56 57.5**	**-

ESKT	Eskisehir	1.71	121	ePn	Pn	10 57 15.3	+0.5
SEYT	Eskypehyr	1.71	121	iP	Pn	10 57 14.9	+0.1
SEYT	Eskypehyr	1.71	121	iP	Pn	10 57 14.9	+0.1
AKHS	Akhisar	1.78	210	iP	Pn	10 57 15.6	0.0
AKHS				iS	Sn	10 57 36.8	-1.3
AKHS	Akhisar	1.78	210	iP	Pn	10 57 15.6	0.0
AKHS				iS	Sn	10 57 36.8	-1.3
AKS	Akhisar	1.78	210	ePN	Pn	10 57 15.7	+0.1
AKS	Akhisar	1.78	210	ePn	Pn	10 57 15.7	+0.1
GELI	Tayfur-Gelibol	1.90	270	ePN	Pn	10 57 16.8	-0.4
GELI	Tayfur-Gelibol	1.90	270	ePn	Pn	10 57 16.8	-0.4
KULA	Kula-Manisa	1.92	187	ePN	Pn	10 57 17.9	+0.3
KULA	Kula-Manisa	1.92	187	P	Pn	10 57 17.7	+0.1
KULA	Kula-Manisa	1.92	187	ePn	Pn	10 57 17.9	+0.3
KULA	Kula-Manisa	1.92	187	P	Pn	10 57 17.7	+0.1
AYVA	Ayvalik	2.07	238	iP	Pn	10 57 19.9	+0.4
AYVA				iS	Sg	10 57 50.0	-1.7
AYVA	Ayvalik	2.07	238	iP	Pn	10 57 19.9	+0.4
AYVA				iS	Sg	10 57 50.0	-1.7
EZN	Ezine	2.10	254	ePN	Pn	10 57 20.1	+0.1
EZN	Ezine	2.10	254	ePn	Pn	10 57 20.2	+0.1
KHL	Karahalli	2.15	168	ePN	Pn	10 57 21.3	+0.6
KHL	Karahalli	2.15	168	ePn	Pn	10 57 21.3	+0.6
ENEZ	Enez	2.16	279	ePN	Pn	10 57 21.3	+0.5
ENEZ	Enez	2.16	279	ePn	Pn	10 57 21.3	+0.5
EDRB	Edirne	2.19	311	ePN	Pn	10 57 21.2	-0.1
EDRB	Edirne	2.19	311	P	Pn	10 57 20.9	-0.4
EDRB	Edirne	2.19	311	P	Pn	10 57 20.9	-0.4
EDRB	Edirne	2.19	311	ePn	Pn	10 57 21.2	-0.1
EDRB	Edirne	2.19	311	P	Pn	10 57 20.9	-0.4
SVRH	Sivrihisar-ESK	2.20	116	ePN	Pn	10 57 21.9	+0.4
SVRH	Sivrihisar-ESK	2.20	116	ePn	Pn	10 57 21.9	+0.4
ALN	Alexandroupoli	2.26	283	ePN	Pn	10 57 21.4	-0.9
ALN	Alexandroupoli	2.26	283	P	Pn	10 57 21.6	-0.6
ALN				S	Sn	10 57 49.4	-0.6
ALN	Alexandroupoli	2.26	283	eP	Pn	10 57 22.0	-0.2
ALN	Alexandroupoli	2.26	283	P	Pn	10 57 21.6	-0.6
ALN				S	Sn	10 57 49.4	-0.6
ALN	Alexandroupoli	2.26	283	P	Pn	10 57 21.6	-0.6
ALN				S	Sn	10 57 49.4	-0.6
BOLV	Bolvadin	2.30	137	iP	Pn	10 57 23.6	+0.8
BOLV				iS	Sb	10 57 57.1	+2.2
BOLV	Bolvadin	2.30	137	iP	Pn	10 57 23.6	+0.8
BOZC	Bozcaada	2.30	256	iP	Pn	10 57 22.0	-0.7
BOZC				iS	Sb	10 57 56.4	+1.6
GADA	Gvkgeada	2.35	265	ePN	Pn	10 57 23.6	+0.2
GADA	Gvkgeada	2.35	265	ePn	Pn	10 57 23.6	+0.2
PRK	Paraskevi	2.38	241	P	Pn	10 57 24.1	+0.3
PRK	Paraskevi	2.38	241	P	Pn	10 57 24.1	+0.3
PRK	Paraskevi	2.38	241	P	Pn	10 57 24.1	+0.3
BCAM	Yenicaga	2.40	80	iP	Pn	10 57 25.0	+0.8
BCAM				iS	Sg	10 58 01.3	-0.9
BCAM	Yenicaga	2.40	80	iP	Pn	10 57 25.0	+0.8
IZM	Izmir	2.41	213	ePN	Pn	10 57 23.6	-0.7
IZM	Izmir	2.41	213	ePn	Pn	10 57 23.7	-0.7
BLCB	Balcova	2.52	217	ePN	Pn	10 57 25.4	-0.3
BLCB	Balcova	2.52	217	ePn	Pn	10 57 25.4	-0.3
AYDB	Zeytinkoy-Aydi	2.61	199	ePN	Pn	10 57 26.9	-0.3
AYDB	Zeytinkoy-Aydi	2.61	199	ePn	Pn	10 57 26.9	-0.3
SMTH	Samothraki Isl	2.62	272	P	Pn	10 57 26.4	-0.7
SMTH				S	Sn	10 57 59.7	+1.0
SMTH	Samothraki Isl	2.62	272	P	Pn	10 57 26.4	-0.7
SMTH				S	Sn	10 57 59.7	+1.0
SMTH	Samothraki Isl	2.62	272	P	Pn	10 57 26.4	-0.7
SMTH				S	Sn	10 57 59.7	+1.0
DENT	Denizli	2.67	179	ePN	Pn	10 57 28.7	+0.8
DENT	Denizli	2.67	179	ePn	Pn	10 57 28.7	+0.8
SIGR	SIGRI	2.68	244	ePN	Pn	10 57 28.0	0.0
SIGR	SIGRI	2.68	244	P	Pn	10 57 27.9	0.0
SIGR				S	Sn	10 58 02.2	+2.0
SIGR	SIGRI	2.68	244	eP	Pn	10 57 28.1	+0.2
SIGR	SIGRI	2.68	244	ePn	Pn	10 57 28.0	0.0
SIGR				S	Sn	10 58 02.2	+2.0
SIGR	SIGRI	2.68	244	P	Pn	10 57 27.9	0.0
JMB	Yambol	2.71	320	P	Pn	10 57 29.5	+1.1
JMB	Yambol	2.71	320	⇓iP	Pn	10 57 29.2	+0.8
JMB	Yambol	2.71	320	S	Sg	10 58 14.5	+2.4
JMB	Yambol	2.71	320	eP	Pn	10 57 29.8	+1.4
JMB	Yambol	2.71	320	P	Pn	10 57 29.5	+1.1
JMB	Yambol	2.71	320	P	Pn	10 57 29.5	+1.1
KIZT	Kizilcal	2.73	123	ePN	Pn	10 57 29.5	+0.7
KIZT	Kizilcal	2.73	123	ePn	Pn	10 57 29.5	+0.7
ISP	Isparta	2.87	154	ePN	Pn	10 57 31.1	+0.4
ISP	Isparta	2.87	154	P	Pn	10 57 31.1	+0.4
ISP	Isparta	2.87	154	⇑iP	Pn	10 57 31.2	+0.5
ISP	Isparta	2.87	154	⇑iP	Pg	10 57 39.1	-1.0
ISP	Isparta	2.87	154	S	Sg	10 58 21.8	+4.5
ISP	Isparta	2.87	154	iP	Pn	10 57 31.2	+0.5
ISP	Isparta	2.87	154	P	Pn	10 57 31.1	+0.4
AYDN	Tasoluk	2.89	197	iP	Pn	10 57 32.0	+1.1
AYDN				iS	Sg	10 58 16.2	-1.6
AYDN	Tasoluk	2.89	197	iP	Pn	10 57 32.0	+1.1
LIA	Limnos Island	2.94	261	P	Pn	10 57 32.1	+0.6
LIA				S	Sn	10 58 06.7	0.0
LIA	Limnos Island	2.94	261	P	Pn	10 57 32.1	+0.6
LIA				S	Sn	10 58 06.7	0.0
LIA	Limnos Island	2.94	261	P	Pn	10 57 32.1	+0.6
KDZ	Kurdzhali	2.94	296	⇓iP	Pn	10 57 32.7	+1.1
KDZ	Kurdzhali	2.94	296	S	Sn	10 58 07.8	+1.0
KDZ	Kurdzhali	2.94	296	eP	Pb	10 57 34.8	-2.6
KDZ	Kurdzhali	2.94	296	⇓iP	Pn	10 57 32.7	+1.1
SAFT	Safranbolu	2.94	73	ePN	Pn	10 57 32.3	+0.7
SAFT	Safranbolu	2.94	73	ePn	Pn	10 57 32.3	+0.7
LOD	Lodumlu	2.97	99	ePN	Pn	10 57 32.4	+0.5
LOD	Lodumlu	2.97	99	ePn	Pn	10 57 32.4	+0.5
ANTO	Ankara	2.99	99	ePN	Pn	10 57 32.5	+0.1
ANTO	Ankara	2.99	99	⇓iP	Pg	10 57 41.5	-1.0
ANTO	Ankara	2.99	99	S	Sg	10 58 23.1	+1.9
ANTO	Ankara	2.99	99	ePn	Pn	10 57 31.9	-0.5
ANTO				eSn	Sn	10 58 04.1	-4.0
ANTO	Ankara	2.99	99	iP	Pn	10 57 31.9	-0.5
ANTO				eSn	Sn	10 58 04.1	-4.0
CHOS	Chios island	3.03	229	ePN	Pn	10 57 33.0	+0.1
CHOS	Chios island	3.03	229	P	Pn	10 57 32.9	+0.1
CHOS	Chios island	3.03	229	eP	Pn	10 57 33.0	+0.1
CHOS	Chios island	3.03	229	ePn	Pn	10 57 33.0	+0.1
CHOS	Chios island	3.03	229	P	Pn	10 57 32.9	+0.1
DIM	Dimitrovgrad	3.05	303	eP	Pn	10 57 33.6	+0.6
DIM	Dimitrovgrad	3.05	303	eP	Pn	10 57 33.6	+0.6
KDHN	Kadinhani	3.10	127	iP	Pn	10 57 34.4	+0.6
KDHN				iS	Sg	10 58 24.5	-0.1
KDHN	Kadinhani	3.10	127	iP	Pn	10 57 34.4	+0.6
GOLH	Golhisar	3.22	171	iP	Pn	10 57 37.9	+2.4
GOLH				iS	Sg	10 58 30.3	+1.8
GOLH	Golhisar	3.22	171	iP	Pn	10 57 37.9	+2.4
BCK	Bucak	3.22	156	ePN	Pn	10 57 36.1	+0.6
BCK	Bucak	3.22	156	ePn	Pn	10 57 36.1	+0.6
PSN	Preselentsi	3.30	350	⇑iP	Pn	10 57 37.3	+0.8
PSN	Preselentsi	3.30	350	S	Sn	10 58 17.4	+1.7
PSN	Preselentsi	3.30	350	iP	Pn	10 57 36.8	+0.3
PSN	Preselentsi	3.30	350	P	Pn	10 57 36.8	+0.3
AFSR	Af˘ar-Bala (A	3.31	106	ePN	Pn	10 57 37.6	+0.9
AFSR	Af˘ar-Bala (A	3.31	106	ePn	Pn	10 57 37.6	+0.9
BBAL	Bala	3.32	104	iP	Pn	10 57 37.4	+0.5
BBAL				iS	Sg	10 58 29.0	-2.7
BBAL	Bala	3.32	104	iP	Pn	10 57 37.4	+0.5
YER	Yerkesik	3.33	189	ePN	Pn	10 57 38.1	+1.1
YER	Yerkesik	3.33	189	ePn	Pn	10 57 38.1	+1.1
SUTC	Sutluce-Ispart	3.35	151	ePN	Pn	10 57 38.5	+1.2
SUTC	Sutluce-Ispart	3.35	151	ePn	Pn	10 57 38.5	+1.2
MANR	Mangalia	3.40	355	⇓iP	Pn	10 57 41.4	+3.6
MANR	Mangalia	3.40	355	⇓iP	Pn	10 57 41.4	+3.6
MANR				S	Sn	10 58 20.6	+2.6
ELDT	Eldivan	3.41	87	iP	Pn	10 57 38.9	+0.7
ELDT				iS	Sg	10 58 34.2	-0.5
ELDT	Eldivan	3.41	87	iP	Pn	10 57 38.9	+0.7
KAVA	Kavala	3.42	281	ePN	Pn	10 57 38.1	-0.1
KAVA	Kavala	3.42	281	eP	Pn	10 57 38.2	0.0
KAVA	Kavala	3.42	281	P	Pn	10 57 38.1	-0.1
KAVA	Kavala	3.42	281	P	Pn	10 57 38.1	-0.1
RZN	Rozhen	3.45	293	eP	Pb	10 57 44.5	-1.6
LADK	Ladik-KONYA	3.45	129	ePN	Pn	10 57 39.7	+1.0
LADK	Ladik-KONYA	3.45	129	ePn	Pn	10 57 39.7	+1.0
BDRM	Kayabasi	3.56	200	iP	Pn	10 57 39.8	-0.2
BDRM	Kayabasi	3.56	200	iP	Pn	10 57 39.8	-0.2
CANT	Cankiri	3.56	86	ePN	Pn	10 57 41.3	+1.2
TURN	Turunc	3.56	185	iP	Pn	10 57 42.0	+2.0
TURN	Turunc	3.56	185	iP	Pn	10 57 42.0	+2.0
BODT	Bodrum	3.60	201	ePN	Pn	10 57 40.8	+0.2
BODT	Bodrum	3.60	201	ePn	Pn	10 57 40.8	+0.2
DALY	Dalyan (Mu˘la	3.61	184	ePN	Pn	10 57 42.4	+1.6
DALY	Dalyan (Mu˘la	3.61	184	ePn	Pn	10 57 42.4	+1.6
KONT	Konya--Tatoy	3.62	132	ePN	Pn	10 57 42.1	+1.2
KONT	Konya--Tatoy	3.62	132	ePn	Pn	10 57 42.2	+1.2
SZH	Strazhica	3.63	322	eP	Pn	10 57 42.1	+1.1
SZH	Strazhica	3.63	322	eP	Pn	10 57 42.1	+1.1
BR131	Keskin Array S	3.66	100	ePn	Pn	10 57 42.0	+0.5
BR131	Keskin Array S	3.66	100	ePg	Pg	10 57 54.2	-1.0
BR131	Keskin Array S	3.66	100	ePn	Pn	10 57 42.0	+0.5
BR131				ePg	Pg	10 57 54.2	-1.0
BR131				eSn	Sn	10 58 26.1	+1.4
BRTR	Keskin Array B	3.66	100	Pn	Pn	10 57 42.0	+0.5
	5.9nm,0.3s,baz=266,slow=12,SNR=160						
BRTR				Pg	Pg	10 57 53.6	-1.6
	20nm,0.3s,baz=276,slow=15,SNR=45						
BRTR				Sn	Sn	10 58 24.0	-0.7
	6.8nm,0.3s,baz=279,slow=16,SNR=4.8						
BRTR	Keskin Array B	3.66	100	P	Pn	10 57 42.1	+0.5
BRTR						10 58 24.0	
BRTR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
BRTR				pmax	pmax		
	comp=Z,20nm,0.3s						
BRTR				smax	smax		
	comp=N,7.0nm,0.3s						
MSAB	Monastry St. A	3.76	347	⇑iP	Pn	10 57 43.6	+0.9
MSAB	Monastry St. A	3.76	347	S	Sb	10 58 38.3	+1.6
MSAB	Monastry St. A	3.76	347	⇑iP	Pn	10 57 43.6	+0.9
ANTB	Antalya	3.76	159	ePN	Pn	10 57 43.7	+0.9
ANTB	Antalya	3.76	159	ePn	Pn	10 57 43.7	+0.9
FETY	Fethiye	3.79	178	ePN	Pn	10 57 43.7	+0.5
FETY	Fethiye	3.79	178	ePn	Pn	10 57 43.7	+0.5
OUR	Ouranopolis	3.80	270	ePN	Pn	10 57 44.7	+1.4
OUR	Ouranopolis	3.80	270	P	Pn	10 57 42.6	-0.7
OUR	Ouranopolis	3.80	270	eP	Pn	10 57 42.7	-0.6
OUR	Ouranopolis	3.80	270	P	Pn	10 57 42.6	-0.7
OUR	Ouranopolis	3.80	270	ePn	Pn	10 57 44.7	+1.4
OUR	Ouranopolis	3.80	270	P	Pn	10 57 42.6	-0.7
DAT	Datca	3.85	197	ePN	Pn	10 57 44.9	+0.8
DAT	Datca	3.85	197	ePn	Pn	10 57 44.9	+0.8
NVR	Nevrokopi	3.97	285	P	Pn	10 57 45.8	+0.1
NVR	Nevrokopi	3.97	285	P	Pn	10 57 45.8	+0.1
NVR	Nevrokopi	3.97	285	P	Pn	10 57 45.8	+0.1
TIRR	Tirgusor	4.05	354	ePN	Pn	10 57 47.4	+0.6
TIRR	Tirgusor	4.05	354	⇑iP	Pn	10 57 47.4	+0.6
TIRR	Tirgusor	4.05	354	ePN	Pn	10 57 47.0	+0.3
TIRR	Tirgusor	4.05	354	⇑iP	Pn	10 57 47.4	+0.6
TIRR				eSn	Sn	10 58 33.3	-0.7
TIRR				S	Sn	10 58 34.6	+0.6
TIRR	Tirgusor	4.05	354	ePn	Pn	10 57 47.0	+0.3
TIRR				eSn	Sn	10 58 33.3	-0.7
PAIG	Paliouri	4.07	265	P	Pn	10 57 46.6	-0.5
PAIG	Paliouri	4.07	265	eP	Pn	10 57 46.6	-0.5
PAIG	Paliouri	4.07	265	P	Pn	10 57 46.6	-0.5
PAIG	Paliouri	4.07	265	P	Pn	10 57 46.6	-0.5
BZK	Bozkurt	4.10	66	ePN	Pn	10 57 48.8	+1.3
BZK	Bozkurt	4.10	66	ePn	Pn	10 57 48.8	+1.3
AOS	Alonnisos	4.11	254	eP	Pn	10 57 48.0	+0.4
MMB	Musomiste	4.12	288	⇓iP	Pn	10 57 47.6	-0.2
MMB	Musomiste	4.12	288	S	Sg	10 59 00.0	+2.5
MMB	Musomiste	4.12	288	eP	Pn	10 57 49.2	+1.4
MMB	Musomiste	4.12	288	eP	Pn	10 57 49.2	+1.4
SRS	Serrai	4.13	281	P	Pn	10 57 47.9	0.0
SRS	Serrai	4.13	281	eP	Pn	10 57 47.9	0.0
SRS	Serrai	4.13	281	P	Pn	10 57 47.9	0.0
SRS	Serrai	4.13	281	P	Pn	10 57 47.9	0.0
SULT	Sultanhani-AKS	4.18	121	ePN	Pn	10 57 49.9	+1.3
SULT	Sultanhani-AKS	4.18	121	ePn	Pn	10 57 49.9	+1.3
TLB	Topalu	4.21	351	⇑iP	Pn	10 57 50.0	+1.0
TLB	Topalu	4.21	351	⇑iP	Pn	10 57 50.1	+1.0
TLB				S	Sn	10 58 39.2	+1.2
AKAS	Kas	4.22	173	iP	Pn	10 57 51.2	+2.0
AKAS	Kas	4.22	173	iP	Pn	10 57 51.2	+2.0
CDAG	Cicekdag	4.23	99	iP	Pn	10 57 50.2	+0.8
CDAG				iS	Sn	10 58 36.6	-2.2
CDAG	Cicekdag	4.23	99	iP	Pn	10 57 50.2	+0.8
CDAG				iS	Sn	10 58 36.6	-2.2
SOH	Sokhos	4.28	277	eP	Pn	10 57 49.5	-0.5
APE	Apeiranthos	4.29	220	ePN	Pn	10 57 51.9	+1.7
APE	Apeiranthos	4.29	220	P	Pn	10 57 50.9	+0.7
APE	Apeiranthos	4.29	220	⇓iP	Pn	10 57 54.0	+3.8
APE	Apeiranthos	4.29	220	P	Pn	10 57 50.9	+0.7
APE	Apeiranthos	4.29	220	ePn	Pn	10 57 51.9	+1.7
CORM	Corum	4.34	91	ePN	Pn	10 57 52.0	+1.1
CORM	Corum	4.34	91	ePn	Pn	10 57 52.1	+1.1
HDMB	Hadim	4.42	140	ePN	Pn	10 57 53.2	+1.1
HDMB	Hadim	4.42	140	ePn	Pn	10 57 53.2	+1.1
HORT	Hortiatis	4.47	274	eP	Pn	10 57 52.3	-0.3
MRKA	Markates	4.49	249	P	Pn	10 57 53.3	+0.4
MRKA	Markates	4.49	249	eP	Pn	10 57 53.7	+0.8
MRKA	Markates	4.49	249	P	Pn	10 57 53.3	+0.4
BYBT	Boyabat	4.52	75	ePN	Pn	10 57 55.5	+2.3
BYBT	Boyabat	4.52	75	ePn	Pn	10 57 55.5	+2.3
NEO	Neokhori	4.55	258	P	Pn	10 57 53.5	-0.2
NEO	Neokhori	4.55	258	P	Pn	10 57 53.5	-0.2
NEO	Neokhori	4.55	258	P	Pn	10 57 53.5	-0.2
XOR	Xorichti	4.56	258	P	Pn	10 57 53.3	-0.5
XOR	Xorichti	4.56	258	eP	Pn	10 57 53.4	-0.4
XOR	Xorichti	4.56	258	P	Pn	10 57 53.3	-0.5
XOR	Xorichti	4.56	258	P	Pn	10 57 53.3	-0.5
KNT	Kendrikon	4.66	281	ePN	Pn	10 57 56.4	+1.2
KNT	Kendrikon	4.66	281	P	Pn	10 57 55.7	+0.6
KNT	Kendrikon	4.66	281	eP	Pn	10 57 55.8	+0.6
KNT	Kendrikon	4.66	281	P	Pn	10 57 55.7	+0.6
KNT	Kendrikon	4.66	281	ePn	Pn	10 57 56.4	+1.2
KNT	Kendrikon	4.66	281	P	Pn	10 57 55.7	+0.6
SULR		4.70	336	S	Sg	10 59 21.0	+5.2
SMIA	Simia	4.70	253	P	Pn	10 57 56.8	+1.1
CFR	Carcaliu	4.79	353	⇑iP	Pn	10 57 57.4	+0.5
CFR	Carcaliu	4.79	353	⇑iP	Pn	10 57 57.4	+0.5
CFR				S	Sn	10 58 54.8	+2.6
VTS	Vitosha	4.83	298	P	Pn	10 57 57.0	-0.6
VTS	Vitosha	4.83	298	⇑iP	Pn	10 57 58.5	+0.9
VTS	Vitosha	4.83	298	iP	Pn	10 57 59.2	+1.6
VTS	Vitosha	4.83	298	P	Pn	10 57 57.0	-0.6
VTS				S	Sn	10 58 52.3	-1.2
VTS	Vitosha	4.83	298	P	Pn	10 57 57.0	-0.6
MPEP	Malo Peshtene	4.87	309	eP	Pn	10 57 59.4	+1.5
DIKM	Dikmen	4.92	74	ePN	Pn	10 58 00.5	+1.8
DIKM	Dikmen	4.92	74	ePn	Pn	10 58 00.5	+1.8
VAY	Valandovo	4.92	283	iPn	Pb	10 58 07.9	-3.2
VILL	Villia	4.93	245	P	Pn	10 57 59.5	+0.6
VIL2	Platees	4.94	245	eP	Pn	10 57 59.5	+0.5
YOZ	Yozgat	4.95	97	ePN	Pn	10 58 01.2	+1.9
YOZ	Yozgat	4.95	97	ePn	Pn	10 58 01.2	+1.9
NIG	Nigde	4.96	116	ePN	Pn	10 58 00.9	+1.4
NIG	Nigde	4.96	116	ePn	Pn	10 58 00.9	+1.4
HUMR	Humele	5.04	326	⇑iP	Pn	10 58 01.1	+0.7
LTK	Loutraki	5.23	245	P	Pn	10 58 04.1	+1.0
LTK	Loutraki	5.23	245	eP	Pn	10 58 03.7	+0.6
LTK	Loutraki	5.23	245	P	Pn	10 58 04.1	+1.0
LTK	Loutraki	5.23	245	P	Pn	10 58 04.1	+1.0
AGG	Agios Georgios	5.30	257	eP	Pn	10 58 04.1	+0.1
DID	Didima	5.33	239	P	Pn	10 58 04.9	+0.5
DID	Didima	5.33	239	eP	Pn	10 58 05.2	+0.8
DID	Didima	5.33	239	P	Pn	10 58 04.9	+0.5
DID	Didima	5.33	239	P	Pn	10 58 04.9	+0.5
DSF	Desfina	5.37	250	P	Pn	10 58 05.5	+0.5
DSF	Desfina	5.37	250	eP	Pn	10 58 05.7	+0.7
DSF	Desfina	5.37	250	P	Pn	10 58 05.5	+0.5
DSF	Desfina	5.37	250	P	Pn	10 58 05.5	+0.5
SEV	Sevastopol'	5.39	39	eP	Pn	10 58 04.9	-0.3
SEV				eS	Sn	10 59 01.3	-5.8
SEV	Sevastopol'	5.39	39	eP	Pn	10 58 04.9	-0.3
MAKR	Makrakomi, Fth	5.45	257	P	Pn	10 58 06.9	+0.9
MAKR	Makrakomi, Fth	5.45	257	eP	Pn	10 58 06.9	+0.9
MAKR	Makrakomi, Fth	5.45	257	P	Pn	10 58 06.9	+0.9
MAKR	Makrakomi, Fth	5.45	257	P	Pn	10 58 06.9	+0.9
MLR	Muntele Rosu	5.52	337	Pn	Pn	10 58 08.9	+1.8
	comp=N,0.3nm,0.3s,baz=189,slow=4.6,SNR=11						
MLR				Lg	Lg	10 59 42.8	
	comp=N,0.4nm,0.3s,baz=248,slow=19,SNR=3.3						
MLR				LR	LR	11 00 16.4	
	comp=N,10nm,18.9s,baz=262,slow=38						
MLR	Muntele Rosu	5.52	337	⇓iP	Pn	10 58 09.3	+2.2
MLR	Muntele Rosu	5.52	337	⇓iP	Pn	10 58 09.3	+2.2
MLR				Lg	Lg	10 59 42.8	
YAL	Yalta	5.59	42	eP	Pn	10 58 08.9	+1.0
YAL				eS	Sn	10 59 07.8	-4.1
YAL	Yalta	5.59	42	eP	Pn	10 58 08.9	+1.0
KALE	Kalithea	5.66	251	eP	Pn	10 58 09.8	+0.9
VRI	Vrincioaia	5.68	344	ePN	Pn	10 58 10.6	+1.5
VRI	Vrincioaia	5.68	344	⇑iP	Pn	10 58 10.4	+1.3
VRI	Vrincioaia	5.68	344	ePn	Pn	10 58 10.6	+1.5
GUR	Goura	5.71	246	eP	Pn	10 58 10.6	+0.9
EVR	Evrytania	5.72	257	P	Pn	10 58 10.5	+0.7
EVR	Evrytania	5.72	257	P	Pn	10 58 10.5	+0.7
EVR	Evrytania	5.72	257	P	Pn	10 58 10.5	+0.7
VOIR		5.77	331	S	Pn	10 58 14.8	+4.3
EFP	Efpalio	5.81	252	eP	Pn	10 58 12.5	+1.5
ALU	Alushta	5.85	42	eP	Pn	10 58 13.4	+1.9
BARS	Barje	5.86	296	⇑iPn	Pn	10 58 12.1	+0.4
SIM	Simferopol'	5.91	38	P	Pn	10 58 14.8	+2.5
SIM				eS	Sn	10 59 16.7	-3.1
SIM				pmax	pmax		
	comp=Z,28nm,0.8s						
SIM				smax	smax		
	comp=N,72nm,0.9s						
SIM				smax	smax		
	comp=E,37nm,1.1s						
SIM	Simferopol'	5.91	38	P	Pn	10 58 14.8	+2.5
	comp=E,28nm,0.8s						
VLX	Vlachokerasia	5.97	241	P	Pn	10 58 14.1	+0.8
VLX	Vlachokerasia	5.97	241	eP	Pn	10 58 14.3	+1.0
VLX	Vlachokerasia	5.97	241	P	Pn	10 58 14.1	+0.8
VLX	Vlachokerasia	5.97	241	P	Pn	10 58 14.1	+0.8
IDI	Anoyia	6.05	213	Pn	Pn	10 58 14.1	-0.3
	comp=E,0.7nm,0.3s,baz=38,slow=16,SNR=4.2						
IDI				Sn	Sn	10 59 21.1	-2.5
	comp=E,2.0nm,0.3s,baz=210,slow=22,SNR=4.0						
IDI				LR	LR	11 01 16.6	
	comp=E,137nm,18.2s,baz=91,slow=45						
DOPR	Dopca	6.12	336	⇓iP	Pn	10 58 17.4	+2.2
DOPR	Dopca	6.12	336	⇓iP	Pn	10 58 17.4	+2.2
DRO	Drossia	6.15	249	P	Pn	10 58 16.0	+0.4
DRO	Drossia	6.15	249	eP	Pn	10 58 15.5	-0.1
DRO	Drossia	6.15	249	P	Pn	10 58 16.0	+0.4
SVSK	Karacayir	6.18	92	ePN	Pn	10 58 18.6	+2.6
SVSK	Karacayir	6.18	92	ePn	Pn	10 58 18.6	+2.6
BOLS	Boljevac	6.22	305	iPn	Pn	10 58 16.4	-0.2
SUDU	Sudak	6.30	43	eP	Pn	10 58 18.5	+0.8
SUDU				eS	Sn	10 59 25.5	-4.0
SUDU	Sudak	6.30	43	eP	Pn	10 58 18.5	+0.8
SELS	Selova	6.49	298	iPn	Pn	10 58 20.0	-0.3
PYL	PYLOS	6.66	240	eP	Pn	10 58 25.0	+2.4
GZR	Gura Zlata	6.72	320	⇑iP	Pn	10 58 24.3	+0.7
GZR	Gura Zlata	6.72	320	⇑iP	Pn	10 58 24.3	+0.7
GRUS	Gruza	7.03	302	iPn	Pn	10 58 29.0	+1.3
TRUS	Trudelj	7.38	304	iPn	Pn	10 58 32.8	+0.2
DIVS	Divibare	7.59	302	ePn	Pn	10 58 37.0	+1.5
ANN	Anapa	7.63	52	eP	Pn	10 58 33.8	-2.0
ANN				eS	Sn	10 59 56.3	-5.8
ANN				pmax	pmax		
	comp=Z,27nm,1.6s						
ANN	Anapa	7.63	52	eP	Pn	10 58 33.8	-2.0
	comp=Z,27nm,1.6s						
BURAR	Bucovina Array	7.67	341	⇑iP	Pn	10 58 38.2	+1.6
BURAR	Bucovina Array	7.67	341	⇑iP	Pn	10 58 38.2	+1.6
BUR08	Bucovina Ar. S	7.71	341	ePn	Pn	10 58 36.3	-0.8
BUR08				eSn	Sn	11 00 01.0	-3.3
BUR08	Bucovina Ar. S	7.71	341	ePn	Pn	10 58 36.3	-0.8
BUR08				eSn	Sn	11 00 01.0	-3.3
TEKS	Tekeris	8.09	304	iPn	Pn	10 58 43.7	+1.4
SVRC	Sivrice-ELAZID	8.27	101	ePN	Pn	10 58 47.5	+2.6
SVRC	Sivrice-ELAZID	8.27	101	ePn	Pn	10 58 47.5	+2.6
MMAI	Mount Meron Ar	9.02	143	Pn	Pn	10 58 55.9	+0.8
	comp=Z,0.4nm,0.3s,baz=346,slow=11,SNR=2.5						
KIEV	Kiev	10.27	1	⇑eP	Pn	10 59 13.9	+1.8
KIEV	Kiev	10.27	1	ePn	Pn	10 59 07.9	-4.2
	comp=Z,3.3nm,0.6s						
KIEV	Kiev	10.27	1	eP	Pn	10 59 13.9	+1.8
KIEV	Kiev	10.27	1	ePn	Pn	10 59 07.9	-4.2
	comp=Z,3.3nm,0.6s						
AKASG	Malin Array Be	10.28	1	Pn	Pn	10 59 10.7	-1.5
	comp=Z,1.8nm,0.3s,baz=243,slow=26,SNR=6.1						
AKASG				Sn	Sn	11 01 12.4	+5.2
	comp=Z,1.7nm,0.3s,baz=183,slow=25,SNR=6.9						
AKASG	Malin Array Be	10.28	1	P	Pn	10 59 10.7	-1.5
AKASG						11 01 12.4	
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG				smax	smax		
	comp=N,2.0nm,0.3s						
KIV	Kislovodsk	10.78	66	eP	Pn	10 59 21.0	+1.8
KIV				pmax	pmax		
	comp=Z,6.0nm,0.4s						
KIV	Kislovodsk	10.78	66	eP	Pn	10 59 21.0	+1.8
	comp=Z,6.0nm,0.4s						
KBZ	Khabaz	10.87	68	LR	LR	11 04 32.4	
	comp=Z,12nm,18.7s,baz=165,slow=43						
GNI	Garni	12.06	86	LR	LR	11 04 28.3	
	comp=Z,72nm,20.7s,baz=258,slow=39						
GNI	Garni	12.06	86	⇓P	Pn	10 59 37.4	+0.6
GNI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GNI	Garni	12.06	86	P	Pn	10 59 37.4	+0.6
	comp=Z,9.0nm,1.2s						
VRAC	Vranov	12.47	320	LR	LR	11 04 30.6	
	comp=Z,34nm,18.8s,baz=120,slow=37						
GERES	GERESS Array B	13.72	313	LR	LR	11 05 17.7	
	comp=Z,45nm,19.5s,baz=90,slow=37						
DAVOX	Davos/Dischmat	15.19	301	LR	LR	11 07 08.8	
	comp=Z,64nm,20.5s,baz=88,slow=41						
KEST	Kesra	16.13	259	Pn	P	11 00 34.6	-0.3
	comp=Z,0.0nm,0.3s,baz=45,slow=20,SNR=1.9						
KEST	Kesra	16.13	259	ePn	Pn	11 00 29.6	-2.0
KEST	Kesra	16.13	259	ePn	Pn	11 00 29.6	-2.0
FINES	FINESS Array B	21.12	356	P	P	11 01 29.3	0.0
	comp=Z,2.8nm,0.9s,baz=232,slow=14,SNR=3.8						
FINES				LR	LR	11 09 46.9	
	comp=Z,47nm,21.2s,baz=158,slow=37						
FINES	FINESS Array B	21.12	356	P	P	11 01 29.3	0.0
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES				MLR	MLR		
	comp=Z,47nm,21.2s						
RAYN	Ar Rayn	21.87	135	P	P	11 01 34.3	-3.4
	comp=Z,3.3nm,0.9s						
RAYN	Ar Rayn	21.87	135	P	P	11 01 34.3	-3.4
	comp=Z,3.3nm,0.9s						
HFS	Hagfors	21.90	339	LR	LR	11 11 23.5	
	comp=Z,48nm,19.1s,baz=112,slow=40						
AKTK	Aktyubinsk	22.58	54	P	P	11 01 45.7	+0.6
	comp=Z,49nm,18.8s						
AKTO	Aktyubinsk	22.58	54	P	P	11 01 45.7	+0.6
	comp=Z,1.2nm,0.6s,baz=263,slow=15,SNR=3.6						
AKTO				LR	LR	11 13 46.9	
	comp=Z,49nm,18.8s,baz=231,slow=45						
AKTO	Aktyubinsk	22.58	54	P	P	11 01 45.7	+0.6
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTO				MLR	MLR		
	comp=Z,49nm,18.8s						
KONO	Kongsberg	22.75	334	eP	P	11 01 48.2	+1.4
KONO				pmax	pmax		
	comp=Z,35nm,0.9s						
KONO	Kongsberg	22.75	334	eP	P	11 01 48.2	+1.4
	comp=Z,35nm,0.9s						
NOA	NORSAR Array B	23.34	338	P	P	11 01 52.7	-0.2
	comp=Z,1.5nm,0.9s,baz=126,slow=8.5,SNR=3.5						
NOA				LR	LR	11 11 36.1	
	comp=Z,31nm,19.0s,baz=25,slow=38						
NOA	NORSAR Array B	23.34	338	P	P	11 01 52.7	-0.2
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NOA				MLR	MLR		
	comp=Z,31nm,19.0s						
ARU	Arti	25.07	40	diP	P	11 02 10.0	+1.0
ARU						11 02 41.3	
ARU				S	S	11 06 34.0	+1.2
ARU				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ARU	Arti	25.07	40	iP	P	11 02 10.0	+1.0
	comp=Z,9.0nm,1.2s						
ARU				S	S	11 06 34.0	+1.2
ARU	Arti	25.07	40	eP	P	11 02 09.4	+0.4
	comp=Z,1.6nm,0.6s						
ESDC	Sonseca Array	25.14	279	P	P	11 02 09.9	0.0
	comp=Z,0.3nm,0.3s,baz=73,slow=9.3,SNR=3.9						
MDT	Midelt	27.87	265	LR	LR	11 16 03.9	
	comp=Z,25nm,19.5s,baz=30,slow=42						
ARCES	ARCESS Array B	29.23	358	LR	LR	11 14 14.6	
	comp=Z,26nm,19.4s,baz=96,slow=36						
AAK	Ala-Archa	33.85	71	⇑iP	P	11 03 29.2	+1.8

AAK						pmax	pmax			
	comp=Z,4.0nm,0.8s									
AAK	**Ala-Archa**	**33.85**	**71**	*i*	P	**P**		**11 03 29.2**	**+1.8**	
	comp=Z,4.0nm,0.8s									
KURBB	**Kurchatov Arra**	**35.58**	**56**		P	**P**		**11 03 43.2**	**+1.2**	
	comp=Z,2.2nm,0.8s,baz=279,slow=8.9,SNR=18									
KURK	**Kurchatov**	**35.63**	**56**		P	**P**		**11 03 43.2**	**+0.7**	
KURK						pmax	pmax			
	comp=Z,2.0nm,0.8s									
KURK	**Kurchatov**	**35.63**	**56**		P	**P**		**11 03 43.2**	**+0.7**	
	comp=Z,2.0nm,0.8s									
KURK	**Kurchatov**	**35.63**	**56**		P	**P**		**11 03 43.2**	**+0.7**	
TORD	**Torodi Ar. Bea**	**36.19**	**229**		P	**P**		**11 03 48.0**	**+0.4**	
	comp=Z,0.6nm,0.6s,baz=35,slow=8.5,SNR=6.1									
TORD	**Torodi Ar. Bea**	**36.19**	**229**		P	**P**		**11 03 48.0**	**+0.4**	
MK31	**Makanchi Array**	**38.51**	**62**	*eP*		**P**		**11 04 04.5**	**-2.4**	
MKAR	**Makanchi Array**	**38.51**	**62**		P	**P**		**11 04 07.8**	**+0.8**	
	comp=Z,1.4nm,0.5s,baz=278,slow=7.4,SNR=26									
MKAR						LR	LR	11 23 46.2		
	comp=Z,32nm,18.7s,baz=222,slow=42									
MKAR	**Makanchi Array**	**38.51**	**62**		P	**P**		**11 04 07.8**	**+0.8**	
MKAR						pmax	pmax			
	comp=Z,1.0nm,0.5s									
MKAR						MLR	MLR			
	comp=Z,32nm,18.7s									
ZALV	**Zalesovo Beam**	**39.26**	**51**		P	**P**		**11 04 13.2**	**0.0**	
	comp=Z,1.2nm,0.4s,baz=265,slow=9.3,SNR=5.0									
ZALV	**Zalesovo Beam**	**39.26**	**51**		P	**P**		**11 04 13.2**	**0.0**	
ZALV						pmax	pmax			
	comp=Z,1.0nm,0.4s									
SONM	**Songino Array**	**53.90**	**54**		P	**P**		**11 06 06.9**	**-1.2**	
	comp=Z,0.4nm,0.3s,baz=287,slow=7.1,SNR=4.6									
FRB	**Frobisher Bay**	**57.71**	**329**		LR	LR		11 35 19.4		
	comp=Z,23nm,19.1s,baz=218,slow=40									
RES	**Resolute Bay**	**59.36**	**345**		LR	LR		11 31 49.0		
	comp=Z,31nm,18.9s,baz=314,slow=35									
CMAR	**Chiang Mai Arr**	**63.17**	**88**		P	**P**		**11 07 13.1**	**0.0**	
	comp=Z,0.9nm,0.6s,baz=302,slow=8.0,SNR=4.9									
CMAR	**Chiang Mai Arr**	**63.17**	**88**		P	**P**		**11 07 13.1**	**0.0**	
CMAR						pmax	pmax			
	comp=Z,1.0nm,0.6s									
KSAR	**Wonju Array Be**	**72.74**	**55**		P	**P**		**11 08 12.9**	**0.0**	
KSAR	**Wonju Array Be**	**72.74**	**55**		P	**P**		**11 08 12.9**	**0.0**	
KSRS	**Korea Array**	**72.75**	**55**		P	**P**		**11 08 12.9**	**-0.1**	
	comp=Z,1.6nm,0.9s,baz=321,slow=6.0,SNR=6.1									
KSRS	**Korea Array**	**72.75**	**55**		P	**P**		**11 08 13.0**	**-0.1**	
KSRS						pmax	pmax			
	comp=Z,2.0nm,0.9s									
KSRS	**Korea Array**	**72.75**	**55**		P	**P**		**11 08 13.0**	**-0.1**	
	comp=Z,2.0nm,0.9s									
YKA	**Yellowknife Ar**	**73.32**	**343**		P	**P**		**11 08 16.2**	**+0.2**	
	comp=Z,0.9nm,0.9s,baz=28,slow=5.9,SNR=5.0									
YKA	**Yellowknife Ar**	**73.32**	**343**		P	**P**		**11 08 16.2**	**+0.2**	
YKA						pmax	pmax			
	comp=Z,1.0nm,0.9s									
TXAR	**Lajitas Array**	**97.85**	**320**		P	**P**		**11 10 20.1**	**-0.6**	
	comp=Z,0.3nm,0.9s,baz=51,slow=5.9,SNR=2.6									

DDA ***11*** *11:13:30.6,38.28N×26.58E,h7km,MD2.8*
ISCJB ***11*** *11:13:32.3±0.6,38.42N±0.06×26.46E±0.05,h12km, Error ellipse: s-maj=8.9km s-min=4.9km az=23.8*
ISK ***11*** *11:13:32.6,38.44N×26.39E,h22km, MD2.4*
CSEM ***11*** *11:13:32.3±0.6,38.37N×26.44E,h1km±6km,MD2.8, Error ellipse: s-maj=24.1km s-min=11.6km az=17.0*

IDC 11 11:13:31.7±0.9, 38.41N±0.06×26.40E±0.03, h12km, n17, σ1§49/20, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.16**	**110**	*i* P	Pg	11 13 33.0	-2.5
URLA				*i* S	**Sg**	**11 13 34.6**	**-3.5**
URLA	**Izmir**	**0.16**	**110**	*i* P	Pg	11 13 33.0	-2.5
URLA				*i* S	**Sg**	**11 13 34.6**	**-3.5**
ZEY	**˝zmir**	**0.19**	**156**	*i* P	Pg	11 13 32.7	-3.2
ZEY				*i* S	Sg	11 13 34.3	-4.5
CHOS	**Chios island**	**0.28**	**264**	*e*PG	**Pb**	**11 13 38.9**	**+0.2**
CHOS				*e*SG	**Sb**	**11 13 44.4**	**+1.1**
CHOS	**Chios island**	**0.28**	**264**	*e*Pg	**Pb**	**11 13 38.9**	**+0.2**
CHOS				*e*Sg	**Sb**	**11 13 44.4**	**+1.1**
BLCB	**Balcova**	**0.50**	**93**	*e*PG	**Pb**	**11 13 43.6**	**+1.1**
BLCB	**Balcova**	**0.50**	**93**	*e*Pg	**Pb**	**11 13 43.6**	**+1.1**
IZM	**Izmir**	**0.68**	**91**	*e*PG	**Pb**	**11 13 47.0**	**+1.5**
IZM	**Izmir**	**0.68**	**91**	*e*Pg	**Pb**	**11 13 47.0**	**+1.5**
SIGR	**SIGRI**	**0.90**	**332**	*e*PG	**Pb**	**11 13 50.1**	**+0.7**
SIGR				*e*SG	**Sn**	**11 14 02.8**	**-0.4**
SIGR	**SIGRI**	**0.90**	**332**	*e*Pg	**Pb**	**11 13 50.1**	**+0.7**
SIGR				*e*Sg	**Sn**	**11 14 02.8**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.26**	**111**	*e*PN	**Pn**	**11 13 55.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.26**	**111**	*e*Pn	**Pn**	**11 13 55.5**	**+0.2**
BODT	**Bodrum**	**1.53**	**152**	*e*PN	**Pn**	**11 13 59.9**	**+1.0**
BODT	**Bodrum**	**1.53**	**152**	*e*Pn	**Pn**	**11 13 59.9**	**+1.0**
KULA	**Kula-Manisa**	**1.77**	**86**	*e*PN	**Pn**	**11 14 02.8**	**+0.5**
KULA	**Kula-Manisa**	**1.77**	**86**	*e*Pn	**Pn**	**11 14 02.8**	**+0.5**

IDC ***11*** *11:14:05.1±1.2,5.25S×152.26E,h0km,mb4.0/8, mb1 4.2/8,mb1mx3.9/28,mbtmp4.0/8,MS3.5/3,Ms1 3.5/3, ms1mx3.0/22,Error ellipse: s-maj=39.5km s-min=20.5km az=107.0*
ISCJB ***11*** *11:14:09.5±1.1,5.3S±0.1×152.2E±0.2,h40km,mb3.9/8, MS3.1/4,Error ellipse: s-maj=31.7km s-min=18.0km az=14.4*

IDC 11 11:14:11.6±1.2, 5.3S±0.2×152.2E±0.2, h40km, n11, σ2§55/10, mb3.9/8, MS3.2/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**20.07**	**339**	LR	LR	11 26 04.3	
	comp=Z,6.4nm,19.1s,baz=164,slow=36						
SIJI	**Sorong**	**21.30**	**281**	P	**P**	**11 18 56.1**	**+0.9**
	1.9nm,0.3s,baz=117,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**22.66**	**228**	P	**P**	**11 19 08.5**	**-1.2**
	3.1nm,0.4s,baz=52,slow=11,SNR=53						
WRA				ScP	**ScP**	**11 26 42.6**	**+6.3**
	0.9nm,0.9s,baz=54,slow=2.4,SNR=4.5						
ASAR	**Alice Springs**	**25.38**	**222**	P	**P**	**11 19 34.8**	**-0.6**
	3.8nm,0.7s,baz=53,slow=9.3,SNR=34						
ASAR				LR	LR	11 28 46.3	
	comp=Z,55nm,18.8s,baz=86,slow=35						
STKA	**Stephens Creek**	**28.27**	**199**	P	**P**	**11 20 00.7**	**-0.5**
	1.5nm,0.8s,baz=26,slow=16,SNR=2.6						
STKA				LR	LR	11 30 45.2	
	comp=Z,82nm,18.7s,baz=32,slow=35						
RAR	**Rarotonga**	**49.19**	**113**	LR	LR	11 39 17.7	
	comp=Z,136nm,21.7s,baz=312,slow=31						
SONM	**Songino Array**	**66.37**	**328**	P	**P**	**11 24 56.7**	**+0.2**
	0.4nm,0.5s,baz=142,slow=4.9,SNR=3.4						
MKAR	**Makanchi Array**	**80.25**	**319**	P	**P**	**11 26 17.1**	**-1.2**
	0.4nm,0.6s,baz=117,slow=5.4,SNR=3.5						
ILAR	**Eielson Array**	**82.83**	**22**	P	**P**	**11 26 30.9**	**-0.5**
	0.9nm,0.8s,baz=243,slow=5.7,SNR=9.7						
MAW	**Mawson**	**84.90**	**203**	P	**P**	**11 26 42.3**	**+0.2**
	1.9nm,0.7s,baz=90,slow=8.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**149.83**	**287**	PKPbc	**PKPbc**	**11 33 57.7**	**-0.8**
	5.4nm,0.7s,baz=111,slow=2.7,SNR=66						

IDC 11 11:16:58.7±1.4, 3.79N×32.06W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/46, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=46.9km s-min=30.1km az=157.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**10.29**	**202**	Pn	Pn	11 19 27.6	-0.2
	0.3nm,0.3s,baz=39,slow=13,SNR=2.9						
TORD	**Torodi Ar. Bea**	**34.62**	**72**	P	P	11 23 50.0	+0.1
	2.3nm,1.1s,baz=261,slow=8.7,SNR=6.5						
AKASG	**Malin Array Be**	**69.17**	**37**	P	P	11 28 06.9	-0.2
	0.2nm,0.3s,baz=245,slow=7.9,SNR=5.2						
TXAR	**Lajitas Array**	**72.12**	**299**	P	P	11 28 25.8	+0.1
	0.2nm,0.7s,baz=99,slow=11,SNR=3.0						

IDC ***11*** *11:17:25.3±0.8,4.17N×32.56W,h0km,mb3.8/14, mb1 4.0/15,mb1mx3.9/45,mbtmp3.8/15,ML3.9/1,MS3.9/2, Ms1 3.9/2,ms1mx3.6/10,Error ellipse: s-maj=24.4km s-min=17.9km az=157.0*
ISCJB ***11*** *11:17:26.8±0.4,4.08N±0.08×32.48W±0.08,h19km, mb4.3/33,MS3.8/1,Error ellipse: s-maj=12.6km s-min=10.4km az=143.4*
GCMT ***11*** *11:17:27.2±0.3,4.28N×32.68W,h12km,MW4.9/80,*

2010 JUN

Moment Tensor Solution. s30,c34; s80,c111; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.18±.07; Mθθ0.02±.07; Mϕϕ2.16±.06; Mrθ-0.91±.29; Mrϕ-0.38±.06; Mθϕ0.65±.21; Best double couple: M◎2.46400×10¹⁶ NP1:ϕs153.00000°,δ57.00000°,λ-109.00000°. NP2: ϕs6.00000°,δ37.00000°,λ-63.00000°. Principal axes: T 2.3720, Plg10.0000°, Azm257.0000°; N 0.1870, Plg16.0000°, Azm164.0000°; P -2.5560, Plg71.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC ***11*** *11:17:27.2±0.4,4.16N×32.51W,h10km,mb4.8/19 Error ellipse: s-maj=12.2km s-min=10.5km az=144.0*

ISC 11 11:17:28.7±0.5, 4.12N±0.10×32.5W±0.1, h19km, n45, σ1§14/33, mb4.5/34, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**10.44**	**199**	Pn	**Pn**	**11 19 58.1**	**+0.6**
	1.0nm,0.3s,baz=359,slow=14,SNR=6.9						
RCBR				LR	LR	11 23 01.5	
	comp=Z,1µm,20.9s,baz=357,slow=32						
RCBR	**Riachuelo**	**10.44**	**199**	*e*Pn	**Pn**	**11 19 58.0**	**+0.5**
H10N3	**ASCENSION HYDR**	**21.56**	**123**	T	T	11 44 50.7	
	baz=302,slow=75,SNR=192						
H10N2	**ASCENSION HYDR**	**21.57**	**123**	T	T	11 44 51.1	
	baz=302,slow=75,SNR=256						
H10N1	**ASCENSION HYDR**	**21.58**	**123**	T	T	11 44 52.3	
	baz=302,slow=75,SNR=280						
H10S3	**ASCENSION HYDR**	**22.05**	**126**	T	T	11 45 21.8	
	baz=305,slow=75,SNR=177						
H10S1	**ASCENSION HYDR**	**22.05**	**126**	T	T	11 45 22.2	
	baz=305,slow=75,SNR=196						
H10S2	**ASCENSION HYDR**	**22.07**	**126**	T	T	11 45 24.6	
	baz=305,slow=75,SNR=134						
DBIC	**Dimbokro**	**27.67**	**84**	*e*P	**P**	**11 23 15.7**	**-0.1**
	16nm,1.2s						
H05S1	**Guadeloupe/Mar**	**29.71**	**292**	T	T	11 54 36.2	
	SNR=37						
H05N1	**Guadeloupe/Mar**	**30.52**	**295**	T	T	11 55 33.9	
	SNR=6.6						
SAML	**Sauel**	**33.20**	**247**	*e*P	**P**	**11 24 05.7**	**+1.1**
	12nm,1.3s						
SIV	**San Ignacio**	**34.59**	**234**	P	**P**	**11 24 18.2**	**+1.4**
	0.7nm,0.4s,baz=85,slow=12,SNR=3.7						
TORD	**Torodi Ar. Bea**	**34.97**	**73**	P	**P**	**11 24 18.9**	**-1.1**
	4.3nm,0.9s,baz=264,slow=9.1,SNR=6.7						
SDV	**Santo Domingo**	**38.13**	**279**	*e*P	**P**	**11 24 45.2**	**-2.1**
	4.7nm,0.8s						
LPAZ	**La Paz**	**40.62**	**239**	P	**P**	**11 25 07.8**	**-0.7**
	1.3nm,0.9s,baz=22,slow=5.5,SNR=3.6						
LPAZ	**La Paz**	**40.62**	**239**	*e*P	**P**	**11 25 08.5**	**0.0**
SCHQ	**Schefferville**	**57.66**	**337**	P	**P**	**11 27 16.6**	**-1.1**
	2.2nm,0.6s,baz=160,slow=11,SNR=3.5						
GERES	**GERESS Array B**	**59.38**	**34**	P	**P**	**11 27 30.0**	**+0.1**
	0.2nm,0.4s,baz=243,slow=6.4,SNR=5.2						
BRG	**Berggiesshubel**	**60.63**	**32**	*e*(P)	**P**	**11 27 40.4**	**+2.1**
	4.6nm,1.0s						
BRG				*e*		11 27 44.5	
	12nm,1.6s						
BOSA	**Boshof**	**64.32**	**124**	P	**P**	**11 28 01.9**	**-1.7**
	1.2nm,0.4s,baz=293,slow=7.7,SNR=3.6						
JCT	**Junction City**	**68.36**	**301**	*e*P	P	11 28 35.0	+5.6
	14nm,1.4s						
SUMG	**Summit**	**68.47**	**358**	*e*P	**P**	**11 28 30.8**	**+1.1**
	16nm,1.2s						
BRTR	**Keskin Array B**	**69.14**	**49**	P	**P**	**11 28 34.1**	**-0.1**
	1.0nm,0.8s,baz=254,slow=2.2,SNR=6.2						
AKASG	**Malin Array Be**	**69.19**	**37**	P	**P**	**11 28 35.1**	**+1.0**
	0.2nm,0.3s,baz=248,slow=7.6,SNR=13						
TXAR	**Lajitas Array**	**71.55**	**299**	P	**P**	**11 28 48.5**	**-0.5**
	0.2nm,0.5s,baz=124,slow=6.4,SNR=4.9						
SDCO	**Great Sand Dun**	**74.03**	**308**	*e*P	**P**	**11 29 04.2**	**+0.4**
	3.4nm,1.1s						
ISCO	**Idaho Springs**	**74.38**	**310**	*e*P	**P**	**11 29 07.3**	**+1.3**
	11nm,1.2s						
ANMO	**Albuquerque**	**74.47**	**305**	P	**P**	**11 29 05.1**	**-1.4**
	0.6nm,0.6s,baz=21,slow=8.6,SNR=2.8						
DGMT	**Dagmar**	**74.80**	**319**	*e*P	**P**	**11 29 07.2**	**-0.6**
	23nm,1.0s						
FFC	**Flin Flon**	**74.85**	**326**	*e*P	**P**	**11 29 10.0**	**+2.0**
	12nm,1.2s						
SMCO	**Snowmass**	**75.35**	**309**	*e*P	**P**	**11 29 12.3**	**+0.7**
	9.4nm,1.3s						
O20A	**White River Ci**	**76.43**	**310**	*e*P	**P**	**11 29 17.6**	**0.0**
	9.9nm,1.0s						
PDAR	**Pinedale Array**	**77.69**	**313**	P	**P**	**11 29 22.8**	**-1.8**
	0.4nm,0.5s,baz=108,slow=5.8,SNR=2.4						
SNAA	**Sanae**	**78.09**	**171**	*e*P	**P**	**11 29 26.6**	**+0.6**
	4.3nm,1.2s						
HWUT	**Hardware Ranch**	**79.07**	**311**	*e*P	**P**	**11 29 31.8**	**-0.5**
	5.5nm,0.8s						
HWUT				*e*PcP	**pP**	**11 29 39.3**	**+0.7**
MSU	**Marysvale**	**79.34**	**308**	*e*P	**P**	**11 29 35.5**	**+1.7**
	10nm,1.2s						
DLMT	**Dillon**	**80.09**	**315**	*e*P	P	11 29 44.8	+7.1
	15nm,1.4s						
EDM	**Edmonton**	**81.21**	**323**	*e*P	**P**	**11 29 42.4**	**-0.9**
	20nm,1.1s						
YKA	**Yellowknife Ar**	**82.70**	**332**	P	**P**	**11 29 50.0**	**-0.8**
	0.2nm,0.6s,baz=105,slow=5.7,SNR=3.4						
BMN	**Battle Mountai**	**83.30**	**310**	*e*P	P	11 30 01.4	+6.6
	59nm,3.0s						
NVAR	**Mina Array Bea**	**84.14**	**308**	P	**P**	**11 29 59.4**	**+0.2**
	0.4nm,0.6s,baz=126,slow=4.6,SNR=2.7						
ISA	**Isabella, Lake**	**84.32**	**305**	*e*P	P	11 30 07.4	+7.4
	13nm,1.2s						
WVOR	**Wild Horse Val**	**84.36**	**312**	*e*P	P	11 30 07.8	+7.7
	19nm,1.8s						
ILAR	**Eielson Array**	**96.42**	**337**	P	**P**	**11 30 57.0**	**+0.7**
	0.3nm,0.8s,baz=62,slow=6.3,SNR=3.2						
ILAR				LR	LR	12 10 42.3	
	comp=Z,33nm,20.8s,baz=118,slow=33						

IDC 11 11:22:05.2±2.1, 14.88S×176.76E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/28, mbtmp3.7/5, Error ellipse: s-maj=123.1km s-min=24.9km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.24**	**236**	P	P	11 29 08.4	-1.8
	1.2nm,0.7s,baz=96,slow=9.2,SNR=3.8						
WRA	**Warramunga Arr**	**40.71**	**257**	P	P	11 29 49.1	+1.1
	0.9nm,1.0s,baz=88,slow=8.4,SNR=3.0						
ASAR	**Alice Springs**	**41.26**	**251**	P	P	11 29 52.6	+0.1
	1.4nm,1.0s,baz=82,slow=9.1,SNR=6.9						
NVAR	**Mina Array Bea**	**80.58**	**46**	P	P	11 34 21.0	+0.9
	0.7nm,0.8s,baz=232,slow=8.7,SNR=3.7						
ILAR	**Eielson Array**	**84.08**	**15**	P	P	11 34 36.6	-0.9
	0.2nm,0.7s,baz=262,slow=4.5,SNR=3.0						

MEX 11 11:37:09.1±0.3, 14.23N×92.30W, h33km±66km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.72**	**329**	*e*P	Pn	11 37 34.9	-1.8
PCIG				*e*S	Sn	11 37 55.4	-2.1
TGIG		**2.66**	**343**	*i* P	Pn	11 37 48.5	-1.2
TGIG				*i* S	Sn	11 38 18.3	-2.6

PRE 11 11:46:16.9±1.9, 20.92S×32.59E, h5km, ML4.4, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLWY	**Bulawayo**	**3.81**	**281**	*i* P	Pn	11 47 04.4	-12
BLWY				*i*		11 47 04.5	
	baz=246,slow=18						
BLWY				*i* S	Sn	11 48 00.4	-1.4
LBTB	**Lobatse**	**7.62**	**236**	*e*P	Pn	11 48 10.0	+1.2
LBTB				*e*S	Sn	11 49 33.3	-2.5
LBTB				AML	AML	11 50 50.9	
	comp=Z,20nm,0.7s						
BOSA	**Boshof**	**10.15**	**220**	*e*P	Pn	11 48 45.7	+2.2
BOSA				*e*S	Sn	11 50 32.6	-5.4
BOSA				AML	AML	11 51 12.1	
	comp=Z,19nm,0.5s						
UPI	**Upington**	**12.69**	**232**	*e*P	Pn	11 49 18.6	+0.4
UPI				*e*S	Sn	11 51 32.5	-7.6

IDC ***11*** *11:50:15.9±2.8,54.17N×87.19E,h0km,mb1 3.1/2,*

mb1mx2.9/29,mbtmp3.1/2,ML2.7/2,Error ellipse: s-maj=22.7km s-min=16.5km az=59.0
NNC ***11*** *11:50:19.0±1.6,54.02N×86.96E,h0km,mb3.2,mpv2.9, Error ellipse: s-maj=13.3km s-min=10.6km az=179.0*

ISC 11 11:50:18.2±4.4, 54.3N±0.2×87.3E±0.2, h35km, n8, σ0§70/11, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.48**	**257**	*i*		11 59 30.0	
	baz=79,slow=316,SNR=6.3						
ZALV	**Zalesovo Beam**	**1.48**	**257**	Pg	**Pn**	**11 50 41.6**	**-0.7**
	3.6nm,0.3s,baz=80,slow=15,SNR=21						
ZALV				Lg	Lg	11 51 01.0	
	4.6nm,0.3s,baz=76,slow=28,SNR=10.0						
KURK	**Kurchatov**	**6.38**	**239**	⇓Pn	**Pn**	**11 51 50.0**	**+0.3**
	1.3nm,1.2s						
KURK				⇑Sn	**Sn**	**11 53 01.5**	**+0.2**
	0.5nm,0.6s						
KURK				⇑Lg	Lg	11 53 32.3	
	7.3nm,1.1s						
KURBB	**Kurchatov Arra**	**6.49**	**239**	⇓Pn	**Pn**	**11 51 51.3**	**+0.2**
	1.8nm,0.8s						
KURBB				⇑Sn	**Sn**	**11 53 04.4**	**+0.6**
	3.2nm,0.5s						
KURBB				⇓Lg	Lg	11 53 34.6	
	10nm,0.8s						
KURBB	**Kurchatov Arra**	**6.49**	**239**	Pn	**Pn**	**11 51 51.9**	**+0.8**
	0.1nm,0.3s,baz=55,slow=14,SNR=6.7						
KURBB				Sn	**Sn**	**11 53 03.8**	**-0.1**
	0.1nm,0.3s,baz=56,slow=22,SNR=4.1						
KURBB				Lg	Lg	11 53 38.5	
	0.1nm,0.3s,baz=60,slow=32,SNR=5.3						
MK31	**Makanchi Array**	**8.16**	**205**	⇑Pn	**Pn**	**11 52 14.4**	**+0.3**
	0.1nm,0.3s,baz=28,slow=14,SNR=9.5						
MK31				⇑Sn	**Sn**	**11 53 44.4**	**-0.7**
	0.7nm,0.6s,baz=24,slow=24,SNR=4.5						
MK31				⇓Lg	Lg	11 54 28.0	
	6.1nm,1.1s,baz=25,slow=35,SNR=3.8						
MKAR	**Makanchi Array**	**8.16**	**205**	Pn	**Pn**	**11 52 14.8**	**+0.7**
	0.1nm,0.3s,baz=28,slow=14,SNR=7.0						
MKAR				Sn	**Sn**	**11 53 44.1**	**-1.0**
	0.2nm,0.3s,baz=17,slow=20,SNR=4.3						
MKAR				Lg	Lg	11 54 29.3	
	0.1nm,0.3s,baz=25,slow=29,SNR=6.5						
TBI	**Tubuai**	**127.94**	**77**	*e*LR	LR	12 11 28.3	
	83nm,26.5s						

DDA 11 12:22:41.1, 38.72N×38.10E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKCD	**Akcadag**	**0.44**	**198**	*i* P	Pg	12 22 49.3	-0.6
AKCD				*i* S	Sg	12 22 56.4	+0.5
KEMA	**Kemaliye**	**0.63**	**29**	*i* P	Pg	12 22 53.4	-0.1
KEMA				*i* S	Sb	12 23 03.9	+0.1

IDC 11 12:35:02.3±0.9, 58.79S×122.94W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.9/23, mbtmp3.8/5, Error ellipse: s-maj=48.0km s-min=26.1km az=147.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**30.44**	**205**	P	P	12 41 16.7	+0.9
	0.6nm,0.8s,baz=67,slow=7.7,SNR=3.3						
PLCA	**Paso Flores**	**37.21**	**85**	P	P	12 42 14.4	-0.7
	2.4nm,0.8s,baz=15,slow=1.7,SNR=5.3						
ASAR	**Alice Springs**	**76.58**	**247**	P	P	12 46 54.4	-0.1
	0.5nm,0.8s,baz=124,slow=5.8,SNR=5.1						
WRA	**Warramunga Arr**	**79.54**	**249**	P	P	12 47 10.2	-0.7
	0.6nm,0.8s,baz=144,slow=5.0,SNR=7.6						
TXAR	**Lajitas Array**	**89.25**	**17**	P	P	12 48 00.6	+0.8
	0.5nm,0.8s,baz=186,slow=8.8,SNR=5.2						
ILAR	**Eielson Array**	**124.57**	**348**	PKP	PKPdf	12 54 02.0	+0.1
	0.5nm,0.6s,baz=200,slow=3.0,SNR=6.1						
SONM	**Songino Array**	**149.26**	**271**	PKPbc	PKPbc	12 54 51.1	-0.8
	1.0nm,0.9s,baz=143,slow=3.6,SNR=2.5						

CSEM ***11*** *12:40:02.1,39.88N×33.40E,h7km,MD2.6*

DDA 11 12:40:02.1, 39.88N×33.40E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBAL	**Bala**	**0.40**	**213**	*i* P	Pg	12 40 09.9	-0.1
BBAL				*i* S	Sg	12 40 16.2	+0.9
BBAL	**Bala**	**0.40**	**213**	*i* P	Pg	12 40 09.9	-0.1
BBAL				*i* S	Sg	12 40 16.2	+0.9
ELDT	**Eldivan**	**0.61**	**2**	*i* P	Pg	12 40 13.6	-0.6
ELDT				*i* S	Sb	12 40 23.5	-0.9
ELDT	**Eldivan**	**0.61**	**2**	*i* P	Pg	12 40 13.6	-0.6
ELDT				*i* S	Sb	12 40 23.5	-0.9
CDAG	**Cicekdag**	**0.79**	**108**	*i* P	Pg	12 40 17.0	-0.5
CDAG	**Cicekdag**	**0.79**	**108**	*i* P	Pg	12 40 17.0	-0.5
AVNT	**Avonos**	**1.57**	**134**	*i* P	Pg	12 40 32.2	-0.3
AVNT				*i* S	Sg	12 40 54.0	+1.0
AVNT	**Avonos**	**1.57**

comp=Z,9µm,19.3s,baz=176,slow=32
AIS Amsterdam Isla 20.32 99 P P 12 44 46.0 -10
AIS S S 12 48 29.0 -14
AIS R 12 49 00.0
BOSA Boshof 23.94 283 P **P** **12 45 33.3 -1.2**
9.8nm,0.8s,baz=115,slow=9.6,SNR=16
BOSA S **S** **12 49 54.0 +3.3**
0.5nm,0.3s,baz=136,slow=18,SNR=2.5
BOSA LR LR 12 53 31.8
comp=Z,3µm,19.0s,baz=120,slow=33
BOSA Boshof 23.94 283 P **P** **12 45 33.3 -1.2**
BOSA S **S** **12 49 54.0 +3.3**
BOSA pmax pmax
comp=Z,10.0nm,0.8s
BOSA smax smax
comp=N,1.0nm,0.3s
BOSA MLR MLR
comp=Z,3µm,19.0s
BOSA Boshof 23.94 283 *e*P **P** **12 45 33.3 -1.2**
comp=Z,12nm,0.6s
BOSA *e*S **S** **12 49 51.9 +1.2**
BOSA S **S** **12 49 54.0 +3.3**
LBTB Lobatse 25.55 291 P **P** **12 45 47.4 -1.8**
comp=Z,11nm,0.8s,baz=162,slow=10,SNR=6.9
LBTB S **S** **12 50 19.8 +3.3**
comp=Z,0.7nm,0.4s,baz=343,slow=20,SNR=1.6
LBTB LR LR 12 54 34.4
comp=Z,2µm,19.5s,baz=139,slow=34
LBTB Lobatse 25.55 291 P **P** **12 45 47.4 -1.8**
LBTB S **S** **12 50 19.8 +3.3**
LBTB pmax pmax
comp=Z,11nm,0.9s
LBTB smax smax
comp=N,1.0nm,0.4s
LBTB MLR MLR
comp=Z,2µm,19.5s
LBTB Lobatse 25.55 291 *e*P **P** **12 45 47.1 -2.1**
comp=Z,22nm,1.1s
LBTB S **S** **12 50 19.8 +3.3**
SUR Sutherland 25.95 271 P **P** **12 45 52.0 -0.9**
comp=Z,26nm,1.0s,baz=127,slow=4.5,SNR=9.5
SUR LR LR 12 54 07.5
comp=Z,2µm,19.2s,baz=114,slow=32
SUR Sutherland 25.95 271 *e*P **P** **12 45 52.2 -0.7**
comp=Z,89nm,2.2s
MATP Matopo 26.40 303 P **P** **12 45 55.0 -1.9**
comp=Z,4.8nm,0.7s,baz=131,slow=7.6,SNR=7.7
MATP LR LR 12 54 44.7
comp=Z,10µm,21.6s,baz=134,slow=33
LSZ Lusaka 30.39 310 PFAKE 12 46 40.0 +7.5
LSZ LR LR
comp=Z,4µm,22.0s
MAW Mawson 31.02 172 P **P** **12 46 36.5 -0.9**
comp=Z,19nm,1.1s,baz=336,slow=9.1,SNR=19
MAW LR LR 12 56 13.2
comp=Z,7µm,19.5s,baz=352,slow=31
MAW Mawson 31.02 172 *e*P **P** **12 46 36.9 -0.4**
comp=Z,20nm,1.6s
MSEY Mahe Island 32.59 7 PFAKE 12 47 00.0 +8.2
MSEY LR LR
comp=Z,3µm,21.0s
H08S1 Diego Carcia H 34.88 37 T T 13 23 27.1
baz=211,slow=76,SNR=14
H08S2 Diego Garcia H 34.89 37 T T 13 23 30.0
SNR=7.1
H08S3 Diego Garcia H 34.90 37 T T 13 23 28.9
baz=205,slow=76,SNR=14
TSUM Tsumeb 34.96 291 *e*P **P** **12 47 11.5 -1.1**
comp=Z,21nm,1.0s
TSUM LR LR
comp=Z,1µm,21.0s
DGAR Diego Garcia 35.07 37 PFAKE 12 47 30.0 +17
DGAR LR LR
comp=Z,3µm,22.0s
KMBO Kilima Mbogo 38.43 336 P **P** **12 47 41.5 -0.6**
comp=Z,5.0nm,0.9s,baz=159,slow=7.0,SNR=4.9
KMBO LR LR 13 01 38.2
comp=Z,7µm,21.4s,baz=134,slow=33
KMBO Kilima Mbogo 38.43 336 *e*P **P** **12 47 43.6 +1.5**
comp=Z,39nm,2.3s
NVL N'lazarevskaya 39.56 200 *e*P **P** **12 47 50.8 0.0**
NVL *e*S **S** **12 53 52.0 -0.6**
NVL pmax pmax
comp=Z,11nm,0.9s
MBAR Mbarara 41.40 327 PFAKE 12 48 20.0 +13
MBAR LR LR
comp=Z,565nm,20.0s
CASY Casey 43.99 150 *e*P **P** **12 48 26.9 -0.1**
comp=Z,25nm,1.1s
CASY LR LR
comp=Z,4µm,19.0s
SNAA Sanae 44.16 202 P P 12 48 19.7 -8.7
SNAA Sanae 44.16 202 P **P** **12 48 27.4 -1.1**
comp=Z,5.2nm,0.9s,baz=74,slow=3.9,SNR=37
SNAA Sanae 44.16 202 P **P** **12 48 27.4 -1.1**
SNAA pmax pmax
comp=Z,5.0nm,0.9s
VNA1 Neumayer--Stat 45.53 204 P **P** **12 48 39.3 0.0**
H01W2 Cape Leeuwin H 49.51 107 T T 13 42 18.8
baz=248,slow=75,SNR=1080
H01W3 Cape Leeuwin H 49.52 107 T T 13 42 19.3
baz=248,slow=75,SNR=1216
H01W1 Cape Leeuwin H 49.53 107 T T 13 42 20.0
baz=248,slow=75,SNR=1033
DAMY Dhamar 52.04 351 *e*P P 12 49 26.4 -3.9
comp=Z,186nm,1.8s
NWAO Narrogin (SRO) 52.65 106 PFAKE 12 49 50.0 +16
NWAO LR LR
comp=Z,1.0nm,21.0s
QSPA South Pole Qui 52.93 180 *e*P **P** **12 49 34.7 -1.5**
comp=Z,50nm,1.0s
QSPA LR LR
comp=Z,7µm,21.0s
DRV Dumont d'Urvil 55.69 151 P P 12 49 29.0 -27
DRV S S 12 57 26.0 -16
DRV L L 13 03 00.0
DRV R 13 05 00.0
KASI Kota Agung 57.28 70 P **P** **12 50 07.2 -0.8**
comp=Z,66nm,1.1s,comp=Z,2µm
LHSI Lahat 57.67 68 P P 12 50 14.5 +3.7
comp=Z,48nm,2.5s
MDSI Maura Dua 57.72 69 P **P** **12 50 11.0 -0.2**
comp=Z,20nm,1.9s
KLSI 58.00 69 P **P** **12 50 12.3 -0.8**
comp=Z,35nm,3.6s
VNDA Vanda 58.04 166 P **P** **12 50 12.1 -0.5**
comp=Z,4.2nm,1.1s,baz=249,slow=9.9,SNR=9.3
VNDA LR LR 13 12 50.9
comp=Z,3µm,19.5s,baz=243,slow=34
VNDA Vanda 58.04 166 *e*P **P** **12 50 11.5 -1.1**
comp=Z,39nm,1.5s
CBJI Citeko 58.48 73 P **P** **12 50 18.6 +2.1**
comp=Z,82nm,1.1s
SBA Scott Base 58.79 167 *e*P **P** **12 50 18.1 +0.4**
comp=Z,144nm,1.9s
SBA LR LR
comp=Z,3µm,20.0s
PSI Prapat 59.04 58 *e*P **P** **12 50 19.1 -1.4**
comp=Z,62nm,1.7s
MBWA Marble Bar 60.14 95 *e*P **P** **12 50 27.0 -0.9**
comp=Z,43nm,1.2s
MBWA LR LR
comp=Z,967nm,22.0s
ARQ Araqi 60.42 5 P **P** **12 50 31.1 +1.4**
SNR=8.9
DSRI Dabo 60.71 66 P **P** **12 50 31.5 -0.4**
comp=Z,58nm,1.6s
HOQ Hoqain 60.72 6 P **P** **12 50 32.2 +0.5**
SNR=9.7
RAYN Ar Rayn 60.76 353 *e*P **P** **12 50 31.6 -0.3**
comp=Z,159nm,2.3s
RAYN LR LR
comp=Z,1µm,21.0s
PWJI Pagerwojo 61.29 78 P **P** **12 50 36.0 +0.2**
comp=Z,68nm,1.7s
ASUD Al Ashush, Dub 61.63 4 ⇑P **P** **12 50 38.8 +1.0**
ASUD Al Ashush, Dub 61.63 4 ⇑P **P** **12 50 38.8 +1.0**
IPM Ipoh 61.69 59 *e*P **P** **12 50 38.6 +0.2**
comp=Z,60nm,1.3s
FAQ Al Faqa, Dubai 61.77 4⇑*i*P **P** **12 50 39.2 +0.5**
SNR=9.8
FAQ Al Faqa, Dubai 61.77 4⇑*i*P **P** **12 50 39.2 +0.5**
SNR=9.8
FORT Forrest 61.85 109 *e*P **P** **12 50 39.8 +0.4**
comp=Z,30nm,0.8s
UOSS Wadi Hilu 62.00 4 *e*P **P** **12 50 40.0 -0.3**
NAZ Nazwa, Dubai 62.01 4⇑*i*P **P** **12 50 42.0 +1.6**
SNR=10
NAZ Nazwa, Dubai 62.01 4⇑*i*P **P** **12 50 42.0 +1.6**
SNR=10
KULM Kulim 62.02 58 *e*P **P** **12 50 40.6 -0.1**
comp=Z,106nm,2.0s
KULM LR LR
comp=Z,435nm,20.0s
JAGI Jajag, Banyuwa 62.85 80 P **P** **12 50 45.9 -0.5**
comp=Z,69nm,1.1s
JAGI Jajag, Banyuwa 62.85 80 *e*P **P** **12 50 46.1 -0.2**
comp=Z,34nm,0.8s
TRTT Trang 63.26 55 P P 12 50 54.6 +5.6
SRBI Singaraja 63.92 80 P **P** **12 50 53.7 +0.3**
comp=Z,58nm,1.2s
STKI Sintang 66.18 70 P **P** **12 51 11.1 +3.0**
comp=Z,44nm,1.6s
KSM Kuching 66.23 68 *e*P **P** **12 51 08.6 +0.2**
comp=Z,76nm,1.6s
KSM LR LR
comp=Z,692nm,19.0s
WBSI Waikabubak, Su 66.29 84 P **P** **12 51 08.6 -0.3**
comp=Z,78nm,1.2s
ASCN Ascension 66.41 278 PFAKE 12 51 20.0 +10
ASCN LR LR
comp=Z,910nm,21.0s
IPAR Pars 66.76 1 *e*P **P** **12 51 11.7 0.0**
BBOO Buckleboo 66.80 114 *e*P **P** **12 51 11.4 -0.4**
comp=Z,22nm,0.9s
KBKI Kotabaru 67.61 76 P **P** **12 51 16.4 -0.8**
comp=Z,37nm,1.9s,comp=Z,967nm
SBUM Sibu 68.30 69 *e*P **P** **12 51 21.5 -0.1**
comp=Z,59nm,1.5s
KIC Kosan Boka 68.33 297 *e*P **P** **12 51 21.7 0.0**
comp=Z,222nm,2.2s
IMEH Mehriz 68.34 2 *e*P **P** **12 51 21.4 -0.2**
EIL Elat 68.46 344 P **P** **12 51 22.2 +0.1**
comp=Z,3.8nm,0.8s,baz=221,slow=4.2,SNR=5.2
IBAF Bafgh 68.57 3 *e*P **P** **12 51 23.0 +0.1**
DBIC Dimbokro 68.63 297 P **P** **12 51 23.6 0.0**
comp=Z,9.4nm,0.9s,baz=124,slow=7.3,SNR=3.0
DBIC LR LR 13 19 22.0
comp=Z,685nm,20.3s,baz=110,slow=34
DBIC Dimbokro 68.63 297 *e*P **P** **12 51 23.9 +0.4**
comp=Z,46nm,1.7s
TIC Toumodi 68.73 297 *e*P **P** **12 51 24.2 0.0**
ISAD Sadrabad 68.83 2 *e*P **P** **12 51 26.9 +2.2**
TOA0 Torodi Ar. Sit 68.86 307 *e*P **P** **12 51 24.4 -0.5**
TOA0 Torodi Ar. Sit 68.86 307 *e*P **P** **12 51 25.1 +0.2**
TORD Torodi Ar. Bea 68.86 307 P **P** **12 51 24.9 0.0**
comp=Z,7.7nm,0.9s,baz=126,slow=3.7,SNR=29
TORD LR LR 13 20 57.4
comp=Z,2µm,19.8s,baz=135,slow=35
MMRI Maumere 69.15 85 P **P** **12 51 26.3 -0.6**
comp=Z,108nm,1.2s
MMRI Maumere 69.15 85 *e*P **P** **12 51 26.3 -0.6**
comp=Z,33nm,0.5s
ICHK Chekchek 69.18 2 *e*P **P** **12 51 28.4 +1.5**
KAPI Kappang 69.35 80 *e*P **P** **12 51 27.0 -1.1**
comp=Z,11nm,0.7s
KAPI LR LR
comp=Z,408nm,19.0s
BKSI Bulukumba 69.46 81 P **P** **12 51 27.6 -1.2**
comp=Z,34nm,2.1s,comp=Z,883nm
IPIR Pirpir 69.59 359 *e*P **P** **12 51 28.5 -0.9**
IZEF Zefreh 69.79 0 *e*P **P** **12 51 30.9 +0.3**
ASAR Alice Springs 69.94 105 P **P** **12 51 31.1 -0.7**
comp=Z,15nm,0.7s,baz=233,slow=5.9,SNR=202
ASAR LR LR 13 17 36.0
comp=Z,2µm,20.6s,baz=233,slow=32
AS31 Alice Springs 69.94 105 *e*P **P** **12 51 31.1 -0.7**
AS31 *e*PcP **PcP** **12 51 54.3 +0.2**
IDAH Dahanechah 70.03 7 *e*P **P** **12 51 32.9 +0.8**
IKLH Kolahrood 70.22 360 *e*P **P** **12 51 35.7 +2.5**
ASF Jabal al Asfar 70.49 346 P **P** **12 51 34.8 +0.1**
comp=Z,11nm,1.2s,baz=137,slow=2.0,SNR=8.5
ASF Jabal al Asfar 70.49 346 P **P** **12 51 34.8 +0.1**
ASF pmax pmax
comp=Z,11nm,1.2s
TTSI Tana Toraja 70.61 79 P **P** **12 51 35.9 0.0**
comp=Z,61nm,1.7s,comp=Z,1µm
CM31 Chiang Mai Arr 70.92 47 *e*P **P** **12 51 37.6 0.0**
comp=Z,60nm,1.3s
CMAR Chiang Mai Arr 70.92 47 P **P** **12 51 37.2 -0.3**
comp=Z,18nm,1.1s,baz=231,slow=6.5,SNR=46
CMAR LR LR 13 18 47.2
comp=Z,564nm,19.4s,baz=229,slow=33
CHTO Chiang Mai 71.20 47 P **P** **12 51 39.3 +0.1**
SNR=9.0
CHTO Chiang Mai 71.20 47 *e*P **P** **12 51 38.9 -0.3**
comp=Z,46nm,1.4s
CHTO LR LR
comp=Z,727nm,21.0s
STKA Stephens Creek 71.28 116 P **P** **12 51 39.1 -0.5**
comp=Z,11nm,0.7s,baz=252,slow=4.4,SNR=31
STKA LR LR 13 15 51.8
comp=Z,899nm,21.3s,baz=234,slow=30
STKA Stephens Creek 71.28 116 *e*P **P** **12 51 39.2 -0.5**
comp=Z,26nm,1.8s
MMAI Mount Meron Ar 71.59 345 P **P** **12 51 41.1 -0.3**
comp=Z,4.2nm,0.8s,baz=228,slow=8.8,SNR=6.2
DMN Daman 71.65 31 *e*P **P** **12 51 41.0 -1.1**
comp=Z,159nm,1.4s
RAMN Ramite 71.69 32 *e*P **P** **12 51 41.8 -0.5**
comp=Z,557nm,1.8s
PKI Pulchoki 71.74 31 *e*P **P** **12 51 41.5 -1.2**
comp=Z,358nm,2.0s
GKN Gorkha 71.81 30 *e*P **P** **12 51 41.6 -1.3**
comp=Z,363nm,1.9s
KKN Kakani 71.88 31 *e*P **P** **12 51 42.7 -0.7**
comp=Z,304nm,1.7s
IVRN Varamin 71.89 360 *e*P **P** **12 51 43.4 +0.3**
ODAN Odare 71.95 33 *e*P **P** **12 51 43.3 -0.6**
comp=Z,541nm,1.9s
JIRN Jiri 72.14 32 *e*P **P** **12 51 44.3 -0.9**
comp=Z,75nm,1.1s
GUN Gumba 72.23 31 *e*P **P** **12 51 45.0 -0.7**
comp=Z,820nm,1.8s
WRA Warramunga Arr 72.32 102 P **P** **12 51 45.6 -0.5**
comp=Z,20nm,0.8s,baz=232,slow=5.3,SNR=94
WRA LR LR 13 20 32.3
comp=Z,649nm,18.2s,baz=225,slow=33
WRAB Tennant Creek 72.33 102 *d*/*i*P **P** **12 51 45.9 -0.3**
WRAB pmax pmax
comp=Z,300nm,2.5s
WRAB Tennant Creek 72.33 102 *e*P **P** **12 51 45.9 -0.3**
comp=Z,216nm,1.9s
WRAB LR LR
comp=Z,1µm,21.0s
IR3 Iran Long-Peri 72.37 359 *e*P **P** **12 51 46.6 +0.6**
IANJ Anjilo 72.38 2 *e*P **P** **12 51 47.0 +0.7**
TAPN Taplejung 72.52 33 *e*P **P** **12 51 46.8 -0.5**
comp=Z,462nm,2.0s
UBPT Khong Chiam 72.55 54 P **P** **12 51 47.7 +0.3**
comp=Z,91nm,1.6s
MPSI Mapaga 72.78 76 P **P** **12 51 48.4 -0.5**
comp=Z,22nm,2.1s,comp=Z,554nm
SHL Shillong 72.91 37 *e*P **P** **12 51 49.0 -0.6**
SHL *e*S **S** **13 01 17.0 +1.2**
IPRN Peran 73.13 0 *e*P **P** **12 51 51.5 +0.9**
KBL Kabul 73.18 15 *e*P **P** **12 51 51.4 +0.4**
comp=Z,142nm,1.9s
IMOG Moghan 73.32 6 *e*P **P** **12 51 53.0 +1.1**
IGLO Ghaloghah 73.41 2 *e*P **P** **12 51 53.3 +1.0**
IMYA Miami 73.62 7 *e*P **P** **12 51 54.4 +0.9**
KKM Kota Kinabalu 73.65 69 PFAKE 12 52 10.0 +16
KKM LR LR
comp=Z,476nm,20.0s
IAKL Akhelmad 73.76 6 *e*P **P** **12 51 54.3 -0.1**
CSS Prodhromos 73.91 344 *e*P **P** **12 51 54.0 -1.1**
comp=Z,16nm,1.4s
CSS LR LR
comp=Z,359nm,20.0s
TAM Tamanrasset 74.02 316 *e*P **P** **12 51 57.1 +1.0**
comp=Z,54nm,1.9s
TAM LR LR
comp=Z,2µm,20.0s
ISFR Sfrayin 74.15 5 *e*P **P** **12 51 58.8 +2.1**
LUWI Luwuk 74.16 79 *e*P **P** **12 51 57.1 +0.1**
comp=Z,160nm,1.6s
CAN Canberra 74.52 123 PFAKE 12 52 10.0 +11
CAN LR LR
comp=Z,2µm,22.0s
IBST Bostanabad 74.73 356 *e*P **P** **12 52 00.5 +0.5**
HAKT HAKKARI 74.83 353 *i* P P **12 52 00.9 +0.3**
SIRN S¯¯rnak 74.90 352 *i* P P **12 52 02.0 +1.2**
AYK Aydincik 75.06 344 *i* P P **12 52 04.6 +3.0**

KIZK Mersin 75.20 345 *i* P **P** **12 52 02.8 +0.4**
GAZI Gazipasa 75.36 344 *i* P **P** **12 52 01.6 -1.8**
ATAB Bozova 75.42 349 *i* P **P** **12 52 05.8 +2.0**
HCB Kahramanmara¯ 75.52 348 *i* P **P** **12 52 04.0 -0.4**
ERMK Ermenek 75.61 344 *i* P **P** **12 52 06.3 +1.2**
GEVA Gevas 75.64 353 *i* P **P** **12 52 07.2 +2.0**
IMRD Marand 75.82 355 *e*P **P** **12 52 07.0 +0.8**
ANDN Andirin 75.85 347 *i* P **P** **12 52 06.0 -0.3**
AKAS Kas 76.00 342 *i* P **P** **12 52 06.0 -1.2**
LSA Lhasa 76.07 35 *e*P **P** **12 52 08.6 +0.4**
comp=Z,214nm,1.8s
LSA LR LR
comp=Z,2µm,22.0s
SANI Sanana 76.08 82 P **P** **12 52 07.0 -1.1**
comp=Z,25nm,1.2s,comp=Z,807nm
MALT Malatya 76.23 349⇑*i*P **P** **12 52 10.1 +1.7**
ELZG Elazig 76.33 350 *i* P **P** **12 52 11.2 +2.1**
IDI Anoyia 76.43 337 P **P** **12 52 10.9 +1.3**
comp=Z,13nm,0.8s,baz=276,slow=1.7,SNR=5.2
BNGL BINGOL 76.49 351 *i* P **P** **12 52 12.1 +2.0**
KORT Korkueli 76.55 342 *i* P P 12 52 13.8 +3.5
EKAR Karacoban 76.68 352 *i* P **P** **12 52 13.5 +2.4**
PINB Pinarbasi 76.91 348 *i* P **P** **12 52 13.5 +1.0**
GOLH Golhisar 76.96 342 *i* P **P** **12 52 13.5 +0.9**
KEMA Kemaliye 77.15 349 *i* P **P** **12 52 12.8 -0.8**
EATA Eleskirt 77.23 353 *i* P **P** **12 52 14.7 +0.4**
SANT Santorini 77.26 338 PFAKE 12 52 30.0 +16
SANT LR LR
comp=Z,842nm,22.0s
AVNT Avonos 77.29 346 *i* P **P** **12 52 15.3 +0.8**
ISP Isparta 77.29 343 P **P** **12 52 15.1 +0.7**
ISP pmax pmax
comp=Z,15nm,0.7s
ISP Isparta 77.29 343 PFAKE 12 52 30.0 +16
ISP LR LR
comp=Z,1µm,22.0s
GNI Garni 77.31 354 P **P** **12 52 14.1 -0.5**
comp=Z,5.6nm,0.5s,baz=147,slow=6.0,SNR=9.6
GNI Garni 77.31 354*d* *i*P **P** **12 52 15.5 +0.9**
GNI pmax pmax
comp=Z,85nm,1.7s
GNI Garni 77.31 354 P **P** **12 52 16.3 +1.7**
SNR=24
GNI Garni 77.31 354⇑*i*P **P** **12 52 15.6 +0.9**
SNR=26
GNI Garni 77.31 354⇑*i*P **P** **12 52 15.6 +0.9**
SNR=26
GNI Garni 77.31 354 *e*P **P** **12 52 15.9 +1.3**
comp=Z,400nm,2.2s
GNI LR LR
comp=Z,1µm,20.0s
BDRM Kayabasi 77.35 340 *i* P **P** **12 52 14.2 -0.5**
HOMI Horasan 77.48 352 *i* P **P** **12 52 17.5 +1.9**
KDHN Kadinhani 77.59 344 *i* P **P** **12 52 14.4 -1.7**
KOPT Kop Dagi 77.62 351 *i* P **P** **12 52 17.6 +1.2**
DIGO Kars 77.70 353 *i* P **P** **12 52 17.6 +0.8**
AYDN Tasoluk 77.80 341 *i* P **P** **12 52 18.6 +1.4**
APE Apeiranthos 77.89 339⇑*e*P **P** **12 52 18.4 +0.7**
APE pmax pmax
comp=Z,52nm,1.3s
KELT Kelkit 77.91 350 *i* P **P** **12 52 17.5 -0.5**
EAK Akyaka 77.94 354 *i* P **P** **12 52 18.0 -0.1**
GCAM G?zelcaml? 78.00 340 *i* P **P** **12 52 19.1 +0.9**
BOLV Bolvadin 78.04 343 *i* P **P** **12 52 17.8 -0.8**
SUSE Susehri 78.12 349 *i* P **P** **12 52 18.4 -0.7**
QIZ Qiongzhong 78.13 55 P **P** **12 52 20.0 +0.6**
QIZ pP **pP** **12 52 23.4 -0.7**
QIZ S **S** **13 02 14.5 +1.1**
QIZ ScS **ScS** **13 02 39.9 +0.9**
QIZ SS **SS** **13 07 18.4 +2.6**
QIZ PMZ
comp=Z,210nm,4.9s
QIZ LN
comp=Z,460nm,17.7s
QIZ LZ
comp=Z,620nm,20.2s
QIZ Qiongzhong 78.13 55 PFAKE 12 52 30.0 +11
QIZ LR LR
comp=Z,658nm,20.0s
CDAG Cicekdag 78.19 346 *i* P **P** **12 52 18.8 -0.7**
KMI Kunming 78.31 46 P **P** **12 52 20.8 +0.2**
KMI pP **pP** **12 52 27.0 +1.8**
KMI PP **PP** **12 55 13.5 -4.5**
KMI S **S** **13 02 15.6 0.0**
KMI PMZ
comp=Z,25nm,1.8s
KMI PMZ
comp=Z,270nm,3.2s
KMI LN
comp=Z,660nm,23.7s
KMI LE
comp=Z,310nm,21.9s
KMI LZ
comp=Z,770nm,24.6s
DDEM Demirkent 78.33 352 *i* P **P** **12 52 20.3 +0.1**
BBAL Bala 78.36 345 *i* P **P** **12 52 18.6 -1.8**
KULA Kula-Manisa 78.40 342 P **P** **12 52 21.0 +0.4**
KULA Kula-Manisa 78.40 342 P **P** **12 52 21.0 +0.4**
BRTR Keskin Array B 78.44 346 P **P** **12 52 19.9 -0.9**
comp=Z,2.6nm,0.7s,baz=168,slow=2.4,SNR=6.3
BRTR LR LR 13 24 18.3
comp=Z,455nm,21.0s,baz=150,slow=34
DBAD Bademkaya 78.46 352 *i* P **P** **12 52 19.6 -1.3**
DAGI Agillar 78.50 352 *i* P **P** **12 52 21.0 -0.1**
DGRG David-gareji 78.56 355 P **P** **12 52 18.2 -3.2**
DGRG David-gareji 78.56 355 P **P** **12 52 18.2 -3.2**
ARTV Artvin 78.60 352 *i* P **P** **12 52 22.2 +0.4**
GDZ Gediz 78.74 342 *i* P **P** **12 52 22.2 -0.3**
ANTO Ankara 78.74 345 PFAKE 12 52 30.0 +7.6
ANTO LR LR
comp=Z,817nm,20.0s
ERBA Erbaa 78.80 348 *i* P **P** **12 52 22.5 -0.2**
GRSN GIRESUNGRSN 78.81 349 *i* P **P** **12 52 21.1 -1.6**
DEMI Demirci 78.88 342 *i* P **P** **12 52 23.9 +0.7**
PYL PYLOS 78.90 336 P **P** **12 52 23.2 -0.1**
PYL PYLOS 78.90 336 P **P** **12 52 23.2 -0.1**
AKHS Akhisar 78.96 341 *i* P **P** **12 52 22.5 -1.1**
DID Didima 78.99 337 P **P** **12 52 22.7 -1.1**
DID Didima 78.99 337 P **P** **12 52 22.7 -1.1**
CTKT Corum 79.09 347 *i* P **P** **12 52 26.6 +2.2**
ITM Ithomi 79.10 336 P **P** **12 52 23.7 -0.7**
ITM Ithomi 79.10 336 P **P** **12 52 23.7 -0.7**
ARMA Armidale 79.18 120 *e*P **P** **12 52 25.8 +0.4**
comp=Z,39nm,1.3s
ELDT Eldivan 79.22 346 *i* P **P** **12 52 25.5 +0.3**
ATHU Athens Univers 79.24 338 P P 12 52 31.2 +6.1
ATHU Athens Univers 79.24 338 P P 12 52 31.2 +6.1
BORA Eskisehir 79.26 343 *i* P **P** **12 52 24.3 -0.9**
HAVZ Havza 79.36 348 *i* P **P** **12 52 26.3 +0.6**
DURS Dursunbey 79.47 342 *i* P **P** **12 52 24.7 -1.8**
KSH Kashi 79.53 19 P **P** **12 52 24.6 -2.2**
KSH sP **sP** **12 52 34.8 +1.6**
KSH PcP **PcP** **12 52 36.3 +1.6**
KSH S **S** **13 02 24.7 -3.2**
KSH sS **sS** **13 02 33.6 -2.0**
KSH SKS **SKSac** **13 02 38.4 -4.4**
KSH ScS **SKKSac** **13 02 45.6 +1.2**
KSH PMZ
comp=Z,230nm,2.0s
KSH PMZ
comp=Z,340nm,2.8s
KSH LN
comp=Z,110nm,6.2s
KSH LE
comp=Z,98nm,7.0s
KSH LZ
comp=Z,280nm,12.6s
ILGA Ilgaz 79.70 346 *i* P **P** **12 52 27.3 -0.6**
SIGR SIGRI 79.80 340 P **P** **12 52 30.3 +2.2**
SIGR SIGRI 79.80 340 P **P** **12 52 30.3 +2.2**
BTAS Taskesti 79.80 344 *i* P **P** **12 52 28.2 +0.1**
BCAM Yenicaga 79.81 345 *i* P P 12 52 24.3 -4.0
BALY Balya 79.82 341 *i* P **P** **12 52 27.9 -0.4**
BOYT Boyabat 79.84 347 *i* P **P** **12 52 25.3 -3.0**
ONI Oni 79.85 354 P P **12 52 28.3 -0.1**
ONI Oni 79.85 354 P P **12 52 28.3 -0.1**
DRO Drossia 79.88 336 P P **12 52 29.6 +1.0**
MAK Makhachkala 79.94 357 *e*P **P** **12 52 28.0 -0.8**
MAK *e* 12 55 26.9
MAK *e*S **S** **13 02 32.3 +0.6**
MAK *e* 13 02 47.4
MAK *e*SSS SSS 13 11 13.0
MAK pmax pmax

comp=Z,254nm,1.6s
MAK MLR MLR
comp=Z,1μm,20.0s
MRKA Markates 79.98 338 P P 12 52 29.4 +0.3
ZEI Tsey 80.00 354 *eP* **P 12 52 28.9 -0.5**
ZEI pmax pmax
comp=Z,64nm,1.4s
DSF Desfina 80.04 337 P P 12 52 30.7 +1.2
DSF Desfina 80.04 337 P P 12 52 30.7 +1.2
RLS Riolos of Patr 80.05 336 P P 12 52 31.9 +2.4
RLS Riolos of Patr 80.05 336 P P 12 52 31.9 +2.4
ATAL Atalanti 80.14 337 P P 12 52 30.1 +0.1
ATAL Atalanti 80.14 337 P P 12 52 30.1 +0.1
AOS Alonnisos 80.32 338 P P 12 52 31.4 +0.5
AOS Alonnisos 80.32 338 P P 12 52 31.4 +0.5
BOZC Bozcaada 80.33 340 *i* P **P 12 52 28.4 -2.6**
VLS Valsamata 80.45 335 P P 12 52 32.2 +0.5
VLS Valsamata 80.45 335 P P 12 52 32.2 +0.5
NEY Neytrino 80.57 353⇓ *eP* **P 12 52 33.2 +0.8**
NEY pmax pmax
comp=Z,6.0nm,1.5s
WDD Wield Dalam 80.62 330 PFAKE 12 52 40.0 +7.4
WDD LR LR
comp=Z,2μm,19.0s
PDO Prodromos 80.64 336 P P 12 52 33.5 +0.9
NEO Neokhori 80.65 338 P P 12 52 33.9 +1.2
NEO Neokhori 80.65 338 P P 12 52 33.9 +1.2
AGG Agios Georgios 80.66 337 P P 12 52 34.2 +1.4
AGG Agios Georgios 80.66 337 *eP* **P 12 52 33.7 +0.9**
comp=Z,61nm,1.4s
XOR Xorichti 80.71 338 P P 12 52 33.0 -0.1
XOR Xorichti 80.71 338 P P 12 52 33.0 -0.1
EVR Evrytania 80.73 337 P P 12 52 35.7 +2.5
EVR Evrytania 80.73 337 P P 12 52 35.7 +2.5
NCK Nalchik 80.73 354 *eP* **P 12 52 34.1 +1.0**
SART Tekirdag 80.83 341 *i* P **P 12 52 33.0 -0.7**
ELBA Catalca 80.94 342 *i* P P 12 52 42.1 +7.8
KBZ Khabaz 81.03 353 P P **12 52 34.6 +0.1**
comp=Z,4.6nm,0.7s,baz=225,slow=4.5,SNR=18
KBZ LR LR 13 26 22.5
comp=Z,723nm,21.4s,baz=158,slow=34
SMTH Samothraki Isl 81.06 340 P P 12 52 35.2 +0.3
SMTH Samothraki Isl 81.06 340 P P 12 52 35.2 +0.3
PAIG Paliouri 81.08 338 P P 12 52 35.2 +0.2
PAIG Paliouri 81.08 338 P P 12 52 35.2 +0.2
SOC Sochi 81.23 351*c iP* **P 12 52 35.5 -0.1**
SOC *e*PPP PPP 12 57 27.6
SOC *e*S **S 13 02 46.1 +0.9**
SOC *e*SS **SS 13 07 57.8 -3.8**
SOC pmax pmax
comp=Z,18nm,0.9s
SOC MLR MLR
comp=Z,562nm,17.0s
THL Klokotos Trika 81.25 337 P P 12 52 36.2 +0.3
KIV Kislovodsk 81.27 353⇑ *iP* **P 12 52 36.7 +0.7**
KIV *e* 12 52 42.2
KIV *e* 12 55 45.8
KIV pmax pmax
comp=Z,89nm,1.2s
KIV Kislovodsk 81.27 353 P P 12 52 36.8 +0.7
SNR=19
KIV Kislovodsk 81.27 353⇑ *iP* **P 12 52 35.9 -0.1**
SNR=20
KIV Kislovodsk 81.27 353⇑ *iP* **P 12 52 35.9 -0.1**
SNR=20
KIV Kislovodsk 81.27 353 PFAKE 12 52 50.0 +14
KIV LR LR
comp=Z,669nm,22.0s
ALN Alexandroupoli 81.32 340 P P 12 52 35.2 -1.0
ALN Alexandroupoli 81.32 340 P P 12 52 35.2 -1.0
OUR Ouranopolis 81.37 339 P P 12 52 37.2 +0.7
OUR Ouranopolis 81.37 339 P P 12 52 37.2 +0.7
CTAO Charters Tower 81.40 109 *eP* **P 12 52 37.4 0.0**
comp=Z,53nm,1.4s
CTAO LR LR
comp=Z,855nm,22.0s
DAV Davao City (W) 81.41 74 PFAKE 12 52 50.0 +13
DAV LR LR
comp=Z,303nm,20.0s
PLG Polygyros 81.56 338 P P 12 52 38.8 +1.2
PLG Polygyros 81.56 338 P P 12 52 38.8 +1.2
GYA Guiyang 81.61 48⇑ *iP* **P 12 52 37.9 -0.4**
GYA PP **PP 12 55 48.2 +2.9**
GYA S **S 13 02 55.4 +5.2**
GYA PMZ
comp=Z,40nm,1.0s
GYA PMZ
comp=Z,160nm,6.2s
GYA LN
comp=Z,770nm,23.6s
GYA LE
comp=Z,670nm,24.2s
GYA LZ
comp=Z,530nm,25.0s
RDO Rodhopi 81.69 340 P P 12 52 38.8 +0.7
RDO Rodhopi 81.69 340 *eP* **P 12 52 38.1 0.0**
comp=Z,234nm,1.9s
KKAR Karatay Array 81.75 14 *eP* **P 12 52 38.9 +0.4**
comp=Z,1.4nm,0.4s
EIDS Eidsvold 81.82 116 *eP* **P 12 52 39.2 -0.3**
comp=Z,177nm,2.0s
SGD Sagiada 81.86 336 P P 12 52 40.4 +1.3
EKS2 Erkin-Say 81.99 16 PFAKE 12 52 50.0 +10
EKS2 LR LR
comp=Z,665nm,20.0s
EDRB Edirne 82.03 341 P P 12 52 39.8 -0.1
EDRB Edirne 82.03 341 P P 12 52 39.8 -0.1
AAK Ala-Archa 82.13 17 P P 12 52 41.3 +0.6
comp=Z,9.7nm,0.9s,baz=187,slow=4.2,SNR=27
AAK Ala-Archa 82.13 17*d iP* **P 12 52 41.8 +1.1**
AAK pmax pmax
comp=Z,231nm,2.5s
AAK Ala-Archa 82.13 17 P P 12 52 41.9 +1.2
SNR=40
AAK Ala-Archa 82.13 17 *eP* **P 12 52 41.6 +0.9**
comp=Z,123nm,1.5s
AAK LR LR
comp=Z,609nm,21.0s
CEL Celeste 82.18 332 PFAKE 12 52 50.0 +9.1
CEL LR LR
comp=Z,1μm,20.0s
KDZ Kurdzhali 82.19 340⇓ *iP* **P 12 52 41.6 +0.8**
GOF Gofitskoye 82.33 354 *eP* P 12 52 34.6 -6.9
NVR Nevrokopi 82.34 339 P P 12 52 42.0 +0.3
NVR Nevrokopi 82.34 339 P P 12 52 42.0 +0.3
FRU Bishkek 82.34 17⇑ *iP* **P 12 52 41.0 -0.6**
FRU pmax pmax
comp=Z,330nm,2.0s
RZN Rozhen 82.42 340 *eP* **P 12 52 42.0 -0.2**
MMB Musomiste 82.60 339 *eP* **P 12 52 42.3 -0.7**
CLTB Caltabellotta 82.62 330 PFAKE 12 52 50.0 +6.7
CLTB LR LR
comp=Z,743nm,20.0s
JMB Yambol 82.65 341⇑ *iP* **P 12 52 44.8 +1.6**
JMB Yambol 82.65 341 *eP* **P 12 52 42.9 -0.3**
TKM2 Tokmak 2 82.66 17 *eP* **P 12 52 43.6 +0.1**
comp=Z,60nm,1.6s
TKM2 LR LR
comp=Z,436nm,20.0s
TIP Timpagrande 82.67 333 *eP* **P 12 52 44.1 +0.7**
comp=Z,87nm,2.1s
TIP LR LR
comp=Z,736nm,20.0s
KEST Kesra 82.68 326 P P 12 52 45.4 +1.8
comp=Z,5.5nm,0.9s,baz=259,slow=6.5,SNR=8.9
KEST LR LR 13 29 23.3
comp=Z,824nm,20.2s,baz=88,slow=36
KEST Kesra 82.68 326 *eP* **P 12 52 45.6 +2.0**
VAY Valandovo 82.69 338 P P 12 52 44.1 +0.7
VAY Valandovo 82.69 338 P P 12 52 44.1 +0.7
ANN Anapa 82.73 350 *eP* **P 12 52 41.2 -2.3**
ANN *e* 12 55 54.1
ANN *e*S **S 13 03 00.3 -0.2**
ANN pmax pmax
comp=Z,56nm,1.7s
ANN MLR MLR
comp=Z,457nm,17.0s
PLD Plovdiv 82.81 340 P P 12 52 44.5 +0.5
PLD Plovdiv 82.81 340 *eP* **P 12 52 44.9 +0.9**
PLD Plovdiv 82.81 340 P P 12 52 44.5 +0.5
KKB Krupnik 83.04 339 *eP* **P 12 52 43.1 -2.2**
PRD Provadia 83.13 342 *eP* **P 12 52 45.5 -0.1**
CD2 Chengdu 83.35 43 P P 12 52 47.2 0.0
CD2 pP **PcP 12 52 50.5 -1.1**
CD2 sP **sP 12 52 51.8 -1.7**
CD2 PP **PP 12 55 59.2 -0.2**
CD2 S **SKSac 13 03 09.6 +0.6**
CD2 sS **sS 13 03 15.3 -0.1**
CD2 SS **SS 13 08 36.5 +2.8**
CD2 PMZ
comp=Z,50nm,0.8s
CD2 PMZ
comp=Z,440nm,4.5s
CD2 LN
comp=Z,570nm,19.6s
CD2 LE
comp=Z,470nm,21.5s
CD2 LZ
comp=Z,520nm,23.0s
PSN Preselentsi 83.40 343 *eP* **P 12 52 46.8 -0.2**
SIM Simferopol' 83.40 347*c iP* **P 12 52 47.3 +0.3**
SIM *e* 12 52 54.0
SIM *e* 12 56 08.0
SIM *e*S **S 13 03 12.3 +4.9**
SIM pmax pmax
comp=Z,18nm,1.3s
SIM pmax pmax
comp=Z,70nm,9.2s
TRQA Tornquist 83.42 227 *eP* **P 12 52 46.4 -1.3**
comp=Z,43nm,1.0s
TRQA LR LR
comp=Z,868nm,19.0s
TIR Tirane 83.55 336 PFAKE 12 53 00.0 +12
TIR LR LR
comp=Z,546nm,20.0s
SZH Strazhica 83.56 341 *eP* **P 12 52 48.0 +0.1**
PHP Peshkopia 83.68 337 P P 12 52 49.4 +0.8
PHP Peshkopia 83.68 337 P P 12 52 49.4 +0.8
VTS Vitosha 83.68 339 P P 12 52 49.1 +0.4
VTS Vitosha 83.68 339⇓ *iP* **P 12 52 49.2 +0.5**
VTS Vitosha 83.68 339 *eP* **P 12 52 49.1 +0.4**
VTS Vitosha 83.68 339 P P 12 52 49.1 +0.4
CUC Castrocucco 83.73 333 PFAKE 12 53 00.0 +11
CUC LR LR
comp=Z,542nm,20.0s
TIRR Tirgusor 84.08 343⇓ *iP* **P 12 52 50.0 -0.5**
TIRR Tirgusor 84.08 343 *eP* **P 12 52 50.0 -0.5**
comp=Z,54nm,1.5s
MPEP Malo Peshtene 84.23 340 *eP* **P 12 52 51.3 0.0**
TLB Topalu 84.29 343⇑ *iP* **P 12 52 51.2 -0.3**
SZP Santa 84.37 63 *eP* **P 12 52 51.8 -0.8**
comp=Z,34nm,0.9s
RCBR Riachuelo 84.80 267 PFAKE 12 53 10.0 +15
RCBR LR LR
comp=Z,445nm,20.0s
WAMI Wamena 85.10 91 P P 12 52 57.1 +0.6
MLR Muntele Rosu 85.64 342 P P 12 52 57.2 -1.3
comp=Z,11nm,1.3s,baz=301,slow=1.0,SNR=22
MLR Muntele Rosu 85.64 342 P P 12 52 57.2 -1.3
MLR pmax pmax
comp=Z,11nm,1.3s
MLR Muntele Rosu 85.64 342⇓ *iP* **P 12 52 58.0 -0.5**
VRI Vrincioaia 85.81 343⇓ *iP* **P 12 52 58.9 -0.3**
PLOR Plostina 85.81 343⇑ *iP* **P 12 52 59.1 -0.1**
VOIR 85.82 341⇑ *iP* **P 12 52 58.8 -0.5**
VSL Villasalto 85.83 328 PFAKE 12 53 10.0 +11
VSL LR LR
comp=Z,928nm,19.0s
SNZO South Karori 85.92 141 PFAKE 12 53 10.0 +10
SNZO LR LR
comp=Z,2μm,22.0s
DIVS Divibare 86.00 338⇓ *iP* **P 12 53 00.9 +0.6**
ENH Enshi 86.09 47 *eP* **P 12 53 01.2 +0.2**
comp=Z,82nm,1.6s
ENH LR LR
comp=Z,312nm,20.0s
LOT Lotru 86.16 341⇓ *iP* **P 12 53 01.3 +0.2**
PLCA Paso Flores 86.21 220 P P 12 53 00.9 -0.8
comp=Z,18nm,0.9s,baz=130,slow=4.7,SNR=19
PLCA LR LR 13 24 41.3
comp=Z,727nm,21.3s,baz=147,slow=31
DOPR Dopca 86.23 342⇓ *iP* **P 12 53 00.5 -0.8**
GZR Gura Zlata 86.38 340⇑ *iP* **P 12 53 02.0 -0.1**
KIS Kishinev 86.40 344 *eP* **P 12 53 01.0 -1.0**
comp=Z,200nm,2.0s
KIS Kishinev 86.40 344 *eP* PP 12 56 32.0 +8.0
KIS Kishinev 86.40 344 *e*PPP PPP 12 58 19.0
KIS *e*SKS S 13 03 26.0 -11
KIS *e*S **SKKSac 13 03 35.0 -0.5**
KIS Kishinev 86.40 344 *eP* **P 12 53 01.0 -1.0**
KIS *e* 12 56 32.0
KIS *e*PPP PPP 12 58 19.0
KIS *e* 13 03 26.0
KIS *e*S **SKKSac 13 03 35.0 -0.5**
KIS *e*PS **PnS 13 04 37.0 +0.5**
KIS pmax pmax
comp=Z,200nm,2.0s
KIS pmax pmax
comp=Z,400nm,4.0s
KIS MLR MLR
comp=Z,600nm,20.0s
KIS MLR MLR
comp=Z,600nm,20.0s
ABKAR Akbulak array 86.43 5 *eP* **P 12 53 02.2 +0.1**
comp=Z,2.1nm,0.6s
TESR Tescani 86.43 343⇑ *iP* **P 12 53 01.8 -0.4**
AQU L'Aquila 86.68 332 PFAKE 12 53 10.0 +6.4
AQU LR LR
comp=Z,870nm,20.0s
BZS Buzias 86.91 339⇓ *iP* **P 12 53 04.7 +0.1**
WMQ Urumqi 86.97 25 P P 12 53 05.0 0.0
WMQ pP **pP 12 53 09.8 0.0**
WMQ sP **sP 12 53 12.0 +0.6**
WMQ PP **PP 12 56 29.3 +0.5**
WMQ SKS **SKSac 13 03 28.7 -2.8**
WMQ S **SKKSac 13 03 40.7 +0.6**
WMQ SS **SS 13 09 25.6 -1.2**
WMQ PMZ
comp=Z,22nm,1.6s
WMQ PMZ
comp=Z,460nm,4.2s
LZH Lanzhou 87.40 40 *eP* **P 12 53 07.8 +0.3**
LZH pP **pP 12 53 12.6 +0.4**
LZH sP **sP 12 53 15.1 +1.3**
LZH PP **PP 12 56 34.0 +1.5**
LZH *e*SKS **SKSac 13 03 34.4 -0.3**
LZH *e*S **S 13 03 50.0 +2.3**
LZH sS **sS 13 03 59.0 +3.5**
LZH SS **SS 13 09 34.8 +1.3**
LZH PMZ
comp=Z,59nm,1.2s
LZH PMZ
comp=Z,280nm,4.0s
LZH LN
comp=Z,460nm,16.3s
LZH LE
comp=Z,300nm,14.7s
LZH LZ
comp=Z,770nm,18.6s
MDT Midelt 87.42 315 P P 12 53 08.2 +0.7
comp=Z,0.8nm,0.4s,baz=105,slow=6.4,SNR=5.2
AKTO Aktyubinsk 87.48 4 P P 12 53 06.2 -1.0
comp=Z,2.8nm,0.8s,baz=188,slow=6.5,SNR=14
AKTO Aktyubinsk 87.48 4 P P 12 53 06.2 -1.0
AKTO pmax pmax
comp=Z,3.0nm,0.8s
DRGR 87.68 340⇓ *iP* **P 12 53 08.6 +0.2**
BUR08 Bucovina Ar. S 87.84 342 *eP* **P 12 53 09.6 +0.5**
SACV Santiago Islan 87.84 291 PFAKE 12 53 20.0 +10
SACV LR LR
comp=Z,470nm,19.0s
MK31 Makanchi Array 87.99 20 *eP* **P 12 53 09.9 +0.1**
MKAR Makanchi Array 87.99 20 P P 12 53 09.7 -0.1
comp=Z,0.6nm,0.7s,baz=203,slow=4.5,SNR=6.7
MKAR LR LR 13 31 19.4
comp=Z,226nm,18.3s,baz=202,slow=35
MKAR Makanchi Array 87.99 20 P P 12 53 09.7 -0.1
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR MLR MLR
comp=Z,226nm,18.3s
MKAR Makanchi Array 87.99 20 *eP* **P 12 53 10.1 +0.3**
QZH Quanzhou 88.03 57⇓ *iP* **P 12 53 09.6 -0.9**
QZH S **S 13 03 57.8 +4.0**
QZH LZ
comp=Z,930nm,23.5s
GTA Gaotai 88.08 35⇑ *iP* **P 12 53 10.7 +0.1**
GTA pP **pP 12 53 15.5 +0.2**
GTA sP **sP 12 53 18.1 +1.1**
GTA PP PP 12 56 43.2 +5.4
GTA SKS **SKSac 13 03 37.9 -0.7**
GTA S **S 13 03 56.0 +2.0**
GTA sS **sS 13 04 04.0 +2.2**
GTA PMZ
comp=Z,16nm,2.5s
GTA PMZ
comp=Z,380nm,4.8s
GTA LN
comp=Z,310nm,20.4s
GTA LE
comp=Z,420nm,21.9s
GTA LZ
comp=Z,700nm,22.3s
PKSM Moragy 88.32 338⇓ *iP* **P 12 53 11.1 -0.2**
BDFB Brasilia 88.36 252 P P 12 53 12.7 +0.1
comp=Z,8.0nm,0.9s,baz=294,slow=0.6,SNR=5.1
BDFB LR LR 13 26 33.8
comp=Z,335nm,18.6s,baz=118,slow=31
PMG Port Moresby 88.49 101 PFAKE 12 53 20.0 +7.0
PMG LR LR
comp=Z,1μm,19.0s
VORD Divnogorie 88.55 352 *eP* **P 12 53 11.4 -0.9**
VORD pmax pmax
comp=Z,30nm,1.4s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,8.0nm,0.6s
XAN Xi'an 88.56 44 P P 12 53 10.8 -2.0
XAN pP **PcP 12 53 15.6 +1.1**
XAN sP **sP 12 53 17.8 -1.4**
XAN PP **PP 12 56 39.7 -1.9**
XAN SKS SKSac 13 03 33.6 -7.9
XAN S **SKKSac 13 03 52.0 -0.4**
XAN PMZ
comp=E,4.0nm,1.5s
XAN PMZ
comp=E,50nm,4.5s
XAN LN
comp=E,190nm,20.4s
XAN LE
comp=E,130nm,23.7s
XAN LZ
comp=E,130nm,22.6s
VSR Storozhevoye 88.81 352 *eP* **P 12 53 12.5 -1.0**
VSR pmax pmax
comp=Z,40nm,1.3s
VSR pmax pmax
comp=N,40nm,1.9s
VSR pmax pmax
comp=E,8.0nm,0.5s
WHN Wuhan 89.19 50 P P 12 53 08.3 -7.5
WHN Wuhan 89.19 50 SKS SKSac 13 03 44.3 -1.0
WHN Wuhan 89.19 50 S S 13 04 06.3 +1.7
WHN Wuhan 89.19 50 SS SS 13 10 03.3 +3.9
WHN LR LR
comp=Z,1μm,21.7s
KOGS Kog 89.28 336 *i* P **P 12 53 16.7 +0.8**
VLC Villacollemand 89.36 331 PFAKE 12 53 30.0 +14
VLC LR LR
comp=Z,535nm,19.0s
UZH Uzhgorod 89.49 341⇑ *iP* **P 12 53 17.5 +0.8**
UZH *e* 12 53 21.3
UZH *e* 12 56 52.9
UZH *e* 12 58 53.3
UZH *e*S **S 13 04 05.3 -1.2**
UZH *e* 13 05 16.3
UZH *e* 13 10 11.7
UZH *e* 13 13 44.5
PSZ Piszkesteto 89.49 339⇓ *iP* **P 12 53 15.5 -1.4**
PSZ Piszkesteto 89.49 339 *eP* **P 12 53 17.6 +0.7**
comp=Z,34nm,1.5s
PSZ LR LR
comp=Z,382nm,22.0s
YHNB Yeheng 89.72 58 PFAKE 12 53 30.0 +11
YHNB LR LR
comp=Z,325nm,20.0s
KOLS Kolonicke sedl 89.77 341 *eP* **P 12 53 18.7 +0.6**
KOLS pmax pmax
comp=Z,6.0nm,1.2s
KOLS Kolonicke sedl 89.77 341 *eP* **P 12 53 18.7 +0.6**
PERS Pernice 89.82 336 *eP* **P 12 53 19.3 +0.9**
KIEV Kiev 89.84 346⇑ *iP* **P 12 53 18.5 +0.2**
KIEV Kiev 89.84 346 *eP* **P 12 53 17.8 -0.5**
comp=Z,51nm,1.6s
KIEV LR LR
comp=Z,380nm,19.0s
KECS Kecovo 89.84 340 *eP* **P 12 53 19.5 +1.1**
KECS pmax pmax
comp=Z,7.0nm,1.6s
KECS Kecovo 89.84 340 *eP* **P 12 53 19.5 +1.1**
AKASG Malin Array Be 89.84 346 P P 12 53 17.6 -0.7
comp=Z,0.7nm,0.4s,baz=176,slow=4.4,SNR=20
AKASG LR LR 13 34 17.3
comp=Z,262nm,19.4s,baz=165,slow=36
AKASG Malin Array Be 89.84 346 P P 12 53 17.6 -0.7
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG MLR MLR
comp=Z,263nm,19.4s
AKBB Malin Array Si 89.84 346 *eP* **P 12 53 17.8 -0.6**
SOKA Soboth 89.88 336 *iP* **P 12 53 19.0 +0.3**
comp=Z,29nm,1.2s,SNR=14
OBKA Obir 89.89 335⇑ *iP* **P 12 53 19.0 +0.1**
comp=Z,36nm,1.3s,SNR=11
TATO Taipei 90.00 58 PFAKE 12 53 30.0 +10
TATO LR LR
comp=Z,278nm,20.0s
LPSR Galich'ya Gora 90.20 352 *eP* **P 12 53 20.9 +0.9**
LPSR pmax pmax
comp=Z,20nm,1.5s
LPSR pmax pmax
comp=N,10.0nm,1.7s
LPSR pmax pmax
comp=E,20nm,2.2s
MYKA Terra Mystica 90.31 335⇑ *eP* **P 12 53 21.7 +0.9**
comp=E,11nm,1.2s
STHS Stebnicka Huta 90.48 341 *eP* **P 12 53 22.5 +1.1**
STHS pmax pmax
comp=Z,1.0nm,0.6s
STHS Stebnicka Huta 90.48 341 *eP* **P 12 53 22.5 +1.1**
KURBB Kurchatov Arra 90.58 17 P P 12 53 21.4 -0.4
comp=Z,6.5nm,1.1s,baz=212,slow=5.1,SNR=19
KURK Kurchatov 90.69 17 P P 12 53 21.4 -0.9
KURK pmax pmax
comp=Z,7.0nm,1.1s
KURK Kurchatov 90.69 17 P P 12 53 22.7 +0.4
SNR=18
KURK Kurchatov 90.69 17 *eP* **P 12 53 21.9 -0.4**
comp=Z,38nm,1.4s
KURK LR LR
comp=Z,612nm,19.0s
CONA Conrad Observa 90.71 337 *i* P **P 12 53 23.2 +0.6**
comp=Z,30nm,1.6s,SNR=12
NIE Niedzica 90.74 340 *eP* **P 12 53 23.8 +1.2**
NIE Niedzica 90.74 340 *eP* **P 12 53 23.8 +1.2**
ABTA Abfaltersbach 90.80 334 *i* P **P 12 53 24.0 +0.9**
comp=Z,44nm,1.6s,SNR=16
KBA Koelnbreinsper 90.80 335⇑ *iP* **P 12 53 23.5 +0.3**
comp=Z,32nm,1.5s,SNR=6.8
MOA Molln 91.16 336 *i* P **P 12 53 25.0 +0.4**
comp=Z,23nm,1.3s,SNR=5.1
BVAR Borovoye Array 91.33 11 P P 12 53 24.8 -0.4
comp=Z,2.8nm,0.7s,baz=190,slow=6.4,SNR=15
BVAR Borovoye Array 91.33 11 P P 12 53 24.8 -0.4
BVAR pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 91.35 11*ce* **P 12 53 25.7 +0.4**
BRVK pmax pmax
comp=Z,26nm,1.7s
BRVK Borovoye 91.35 11 P P 12 53 25.5 +0.2
SNR=12
BRVK Borovoye 91.35 11 *eP* **P 12 53 25.1 -0.2**
comp=Z,30nm,1.5s
BRVK LR LR
comp=Z,578nm,21.0s
FUORN Ofenpass-Fuorn 91.49 333 *eP* P 12 53 30.6 +4.1
comp=Z,62nm,1.8s
WTTA Wattenberg 91.55 334⇓ *iP* **P 12 53 26.1 -0.6**
comp=Z,24nm,1.3s
BNI Bardonecchia 91.56 330 PFAKE 12 53 40.0 +13
BNI LR LR
comp=Z,865nm,20.0s
OJC Ojcow 91.61 340 *eP* **P 12 53 26.0 -0.6**

OJC Ojcow 91.61 340 *e*P **P** **12 53 26.1 -0.6**
TUE Stuetta 91.70 332 PFAKE 12 53 40.0 +13
TUE LR LR
comp=Z,974nm,21.0s
VRAC Vranov 91.71 338 P **P** **12 53 26.4 -0.7**
comp=Z,1.6nm,0.4s,baz=169,slow=6.2,SNR=6.0
VRAC Vranov 91.71 338 P **P** **12 53 26.4 -0.7**
VRAC pmax pmax
comp=Z,2.0nm,0.4s
OKC Ostrava-Krasne 91.72 339 *e*P **P** **12 53 29.3 +2.2**
OKC *e*SKS **SKSac** **13 04 02.6 +3.6**
OKC AMS AMS 13 33 10.0
comp=Z,500nm,21.7s
OKC Ostrava-Krasne 91.72 339 *e*P **P** **12 53 29.3 +2.2**
OKC *e* 13 04 02.6
OKC MLR MLR
comp=Z,500nm,21.7s
DAVOX Davos/Dischmat 91.77 333 P **P** **12 53 27.6 -0.1**
comp=Z,1.3nm,0.4s,baz=208,slow=6.0,SNR=3.6
DAVOX Davos/Dischmat 91.77 333 P **P** **12 53 27.6 -0.1**
DAVOX pmax pmax
comp=Z,1.0nm,0.4s
TREC Trest 92.04 337 *e*P **P** **12 53 28.5 -0.2**
TREC AMS AMS 13 31 20.0
comp=Z,800nm,25.3s
TREC Trest 92.04 337 *e*P **P** **12 53 28.5 -0.2**
TREC MLR MLR
comp=Z,800nm,25.3s
RETA Reutte 92.05 333⇑ *i*P **P** **12 53 29.5 +0.7**
comp=Z,17nm,1.3s
ESDC Sonseca Array 92.19 320 P **P** **12 53 30.2 +0.5**
comp=Z,2.2nm,1.0s,baz=139,slow=4.5,SNR=8.8
ESDC LR LR 13 36 45.1
comp=Z,903nm,18.1s,baz=125,slow=37
GEC2 GERESS Array S 92.21 336 *e*P **P** **12 53 30.0 +0.4**
GERES GERESS Array B 92.21 336 P **P** **12 53 29.3 -0.3**
comp=Z,1.8nm,0.9s,baz=145,slow=3.3,SNR=9.3
GERES LR LR 13 36 27.6
comp=Z,457nm,21.8s,baz=155,slow=36
GERES GERESS Array B 92.21 336 P **P** **12 53 29.3 -0.3**
GERES pmax pmax
comp=Z,2.0nm,0.9s
GERES MLR MLR
comp=Z,457nm,21.8s
PAB San Pablo 92.29 320 PFAKE 12 53 40.0 +10
PAB LR LR
comp=Z,1μm,19.0s
KHC Kasperske Hory 92.50 336 *e*P **P** **12 53 30.4 -0.5**
KHC *e*pP **pP** **12 53 37.8 +2.2**
KHC *e*PP PP 12 57 19.3 +6.6
KHC *e*SKS **SKSac** **13 04 02.8 -0.7**
KHC *e*S **S** **13 04 34.7 +0.6**
KHC *ex* x 13 05 34.0
KHC *ex* x 13 11 03.7
KHC AMS AMS 13 33 30.0
comp=Z,1μm,24.2s
KHC Kasperske Hory 92.50 336 *e*P **P** **12 53 30.4 -0.5**
KHC *e**PP **pP** **12 53 37.8 +2.2**
KHC *e* 12 57 19.3
KHC *e* 13 04 02.8
KHC *e*S **S** **13 04 34.7 +0.6**
KHC MLR MLR
comp=Z,1μm,24.2s
KHC Kasperske Hory 92.50 336 *e*P **P** **12 53 30.3 -0.5**
comp=Z,4.3nm,1.3s
SSB Saint Sauveur 92.61 329 PFAKE 12 53 40.0 +8.5
SSB LR LR
comp=Z,1μm,22.0s
DPC Dobruska-Polom 92.72 338 *e*P **P** **12 53 31.9 +0.1**
DPC *e*SKS **SKSac** **13 04 06.2 +1.6**
DPC *e*PS PnS 13 05 52.1 +1.1
DPC *ex* x 13 11 11.7
DPC AMS AMS 13 34 20.0
comp=Z,600nm,20.2s
DPC Dobruska-Polom 92.72 338 *e*P **P** **12 53 31.9 +0.1**
DPC *e* 13 04 06.2
DPC *e*PS PnS 13 05 52.1 +1.1
DPC MLR MLR
comp=Z,600nm,20.2s
GOPC GO Pecny, Ondr 92.80 337 *e*P **P** **12 53 33.2 +1.0**
GOPC *e*SKS **SKSac** **13 04 07.3 +2.2**
GOPC AMS AMS 13 31 30.0
comp=Z,700nm,23.5s
PRU Pruhonice 92.94 337 *e*P **P** **12 53 30.9 -1.9**
PRU *e*PP PP 12 57 22.1 +6.0
PRU *e*SKS **SKSac** **13 04 09.0 +3.2**
PRU *e*S **ScS** **13 04 38.9 -0.8**
PRU *ex* x 13 05 39.7
PRU *e*SS **SS** **13 10 47.8 -5.1**
PRU AMS AMS 13 31 40.0
comp=Z,200nm,23.6s
PRU Pruhonice 92.94 337 *e*P **P** **12 53 30.9 -1.9**
PRU *e* 12 57 22.1
PRU *e* 13 04 09.0
PRU *e*S **ScS** **13 04 38.9 -0.8**
PRU *e*SS **SS** **13 10 47.8 -5.1**
PRU MLR MLR
comp=Z,200nm,23.6s
OBN Obninsk 92.95 351 P **P** **12 53 33.7 +1.0**
comp=Z,20nm,0.5s,baz=149,slow=21,SNR=4.2
OBN Obninsk 92.95 351⇓ *i*P **P** **12 53 33.1 +0.5**
OBN 12 57 19.6
OBN pmax pmax
comp=Z,14nm,1.2s
OBN MLR MLR
comp=Z,569nm,22.0s
OBN Obninsk 92.95 351 P **P** **12 53 33.6 +1.0**
OBN LR LR
comp=Z,569nm,22.0s
UPC Upice 92.95 338 *e*P P 12 53 29.3 -3.5
UPC *e*pP **PcP** **12 53 35.5 +2.1**
UPC Upice 92.95 338 *e*P P 12 53 29.3 -3.5
UPC *e**PP **PcP** **12 53 35.5 +2.1**
MORF Marmelete 92.95 316 *e*P **P** **12 53 33.3 +0.1**
MORF AMS AMS 13 37 55.5
comp=Z,825nm,22.3s
MORF Marmelete 92.95 316 *e*P **P** **12 53 33.3 +0.1**
NJ2 Nanjing 93.02 51 *e*P **P** **12 53 33.6 0.0**
NJ2 PMZ
comp=Z,30nm,0.8s
MESJ Messejana 93.09 317 *e*P **P** **12 53 34.4 +0.6**
MESJ *e*SS SS 13 10 56.9 +1.4
MESJ AMS AMS 13 37 59.3
comp=E,650nm,25.0s
MESJ Messejana 93.09 317 *e*P **P** **12 53 34.4 +0.6**
MESJ *e*SS SS 13 10 56.9 +1.4
KSP Ksiaz 93.16 338 *e*P **P** **12 53 34.7 +1.0**
KSP Ksiaz 93.16 338 *e*P **P** **12 53 34.8 +1.0**
PVCC Panska Ves 93.41 337 *e*P **P** **12 53 36.4 +1.5**
PVCC AMS AMS 13 32 40.0
comp=E,700nm,23.8s
PVCC Panska Ves 93.41 337 *e*P **P** **12 53 36.4 +1.5**
PVCC MLR MLR
comp=Z,700nm,23.8s
MOS Moscow 93.44 352 *e*P **P** **12 53 35.4 +0.5**
ARU Arti 93.49 4 P **P** **12 53 34.6 -0.5**
ARU 12 57 18.7
ARU S **SKSac** **13 04 08.6 +0.1**
ARU SP **SP** **13 05 56.2 +0.3**
ARU Arti 93.49 4 *e*P **P** **12 53 35.0 -0.1**
comp=Z,66nm,1.9s
ARU LR LR
comp=Z,452nm,22.0s
BFO Black Forest 93.64 333 PFAKE 12 53 50.0 +14
BFO LR LR
comp=Z,515nm,20.0s
GRF Grafenberg Arr 93.77 335 *e*P **P** **12 53 37.2 +0.6**
comp=Z,52nm,1.8s
NKC Novy Kostel 93.82 336 *e*P **P** **12 53 37.2 +0.3**
NKC *e*SKS **SKSac** **13 04 13.7 +3.0**
NKC AMS AMS 13 34 30.0
comp=Z,600nm,19.9s
NKC Novy Kostel 93.82 336 *e*P **P** **12 53 37.2 +0.3**
NKC *e* 13 04 13.7
NKC MLR MLR
comp=Z,600nm,19.9s
BRG Berggiesshubel 93.90 337 *e*P **P** **12 53 37.6 +0.4**
comp=Z,37nm,1.6s
BRG PP **PP** **12 57 26.0 +2.4**
BRG S **SKSac** **13 04 16.0 +5.0**
BRG SS SS 13 10 33.0 -34
comp=N,719nm,27.7s
comp=E,289nm,20.7s
comp=Z,659nm,24.5s
BRG Berggiesshubel 93.90 337 *e*P **P** **12 53 37.6 +0.4**
BRG 12 57 26.0
BRG S **SKSac** **13 04 16.0 +5.0**
BRG pmax pmax
comp=Z,37nm,1.6s
BRG MLR MLR
comp=N,719nm,27.7s
BRG MLR MLR
comp=E,289nm,20.7s
BRG MLR MLR
comp=Z,659nm,24.5s
ECH Echery 93.98 332 PFAKE 12 53 50.0 +12
ECH LR LR
comp=Z,694nm,22.0s
SVE Sverdlovsk 94.01 5⇓ *i*P **P** **12 53 37.4 -0.1**
SVE *e*S **SKSac** **13 04 07.7 -3.6**
SVE *e* 13 11 04.8
SVE pmax pmax
comp=Z,33nm,1.8s
LIS Lisbon 94.23 317 *e*P **P** **12 53 39.4 +0.4**
LIS AMS AMS 13 40 51.5
comp=E,2μm,16.7s
LIS Lisbon 94.23 317 *e*P **P** **12 53 39.4 +0.4**
CLL Collm 94.57 337 *e*P **P** **12 53 40.0 -0.2**
comp=Z,62nm,2.1s
CLL *i* sP **sP** **12 53 46.3 -0.3**
CLL *e*PP **PP** **12 57 30.0 +1.2**
CLL *e*S **S** **13 04 48.0 -4.1**
CLL *e*PS **PS** **13 06 03.0 -7.0**
CLL *e*PPS PPS 13 06 48.0
CLL *e*SS **SS** **13 11 18.0 +1.8**
CLL *e*SSS SSS 13 15 06.0
CLL LmV 13 37 00.0
comp=Z,600nm,21.3s
CLL Collm 94.57 337 *e*P **P** **12 53 40.0 -0.2**
CLL *i* 12 53 46.3
CLL *e*S **S** **13 04 48.0 -4.1**
CLL pmax pmax
comp=Z,62nm,2.1s
CLL MLR MLR
comp=Z,600nm,21.3s
DZM Mont Dzumac 94.69 122 *e*SS SS 13 11 23.6 +6.0
comp=Z,331nm,23.5s
DZM Mont Dzumac 94.69 122 *e*LR LR 13 24 13.6
comp=Z,2μm,29.3s
LCO Las Campanas 94.94 228 PFAKE 12 53 50.0 +6.9
LCO LR LR
comp=Z,835nm,19.0s
HHC Hu-ho-hao-te 94.97 41 *e*P **P** **12 53 41.9 -0.6**
HHC sP **sP** **12 53 48.1 -0.8**
HHC PP **PP** **12 57 34.5 +2.2**
HHC S **S** **13 04 54.3 -2.1**
HHC sS **sS** **13 05 02.8 -1.4**
HHC PMZ
comp=Z,22nm,1.4s
HHC PMZ
comp=Z,140nm,8.3s
HHC LN
comp=Z,300nm,17.6s
HHC LE
comp=Z,320nm,17.5s
HHC LZ
comp=Z,290nm,17.5s
ZAA0 Zalesovo Array 95.17 19 *e*P **P** **12 53 41.7 -1.2**
ZALV Zalesovo Beam 95.17 19 P **P** **12 53 41.4 -1.5**
comp=Z,3.8nm,0.8s,baz=202,slow=4.6,SNR=8.6
ZALV LR LR 13 33 23.3
comp=Z,625nm,21.3s,baz=250,slow=34
WLF Walferdange 95.55 332 PFAKE 12 54 00.0 +15
WLF LR LR
comp=Z,515nm,22.0s
NVS Novosibirsk 95.58 18 *e*P **P** **12 53 43.3 -1.5**
BJT Baijiatuan 96.87 44 PFAKE 12 54 00.0 +9.0
BJT LR LR
comp=Z,629nm,21.0s
BJI Beijing 96.89 44 P **P** **12 53 51.8 +0.7**
BJI PP **PP** **12 57 47.0 0.0**
BJI S **S** **13 05 10.6 -2.1**
BJI SS **SS** **13 11 49.3 -0.2**
BJI PMZ
comp=Z,11nm,0.6s
BJI LN
comp=Z,250nm,21.3s
BJI LE
comp=Z,460nm,23.5s
BJI LZ
comp=Z,520nm,25.2s
SONM Songino Array 97.64 34 P **P** **12 53 53.5 -0.9**
comp=Z,1.0nm,0.8s,baz=347,slow=6.1,SNR=8.9
SONM LR LR 13 34 58.7
comp=Z,1μm,20.6s,baz=223,slow=34
ULN Ulaanbaatar 97.95 34 PFAKE 12 54 10.0 +14
ULN LR LR
comp=Z,1μm,21.0s
HNR Honiara 98.35 108 PFAKE 12 54 10.0 +12
HNR LR LR
comp=Z,980nm,20.0s
TLY Talaya 99.43 30 PFAKE 12 54 10.0 +7.7
TLY LR LR
comp=Z,320nm,19.0s
INCN Inchon 101.40 52 PFAKE 12 54 20.0 +8.6
INCN LR LR
comp=Z,354nm,20.0s
KONO Kongsberg 102.70 339 PFAKE 12 54 30.0 +13
KONO LR LR
comp=Z,456nm,20.0s
ESK Eskdalemuir 103.53 331 PFAKE 12 54 30.0 +10
ESK LR LR
comp=Z,1μm,19.0s
SAML Samuel 103.98 247 PFAKE 12 54 30.0 +6.5
SAML LR LR
comp=Z,1μm,22.0s
HIA Hailar 104.95 39 PFAKE 12 54 40.0 +13
HIA LR LR
comp=Z,423nm,20.0s
MSVF Nonsavu 105.40 127 PFAKE 12 58 50.0
MSVF LR LR
comp=Z,961nm,19.0s
LVZ Lovozero 105.65 353 PFAKE 12 58 50.0
LVZ LR LR
comp=Z,405nm,20.0s
MDJ Mudanjiang 107.46 47 PFAKE 12 59 00.0
MDJ LR LR
comp=Z,265nm,20.0s
KEV Kevo 108.26 351 PFAKE 12 59 00.0
KEV LR LR
comp=Z,649nm,22.0s
MAJO Matsushiro 108.39 58 PFAKE 12 59 00.0
MAJO LR LR
comp=Z,399nm,20.0s
NNA Nana 111.39 235 PFAKE 12 59 10.0
NNA LR LR
comp=Z,548nm,20.0s
ERM Erimo 114.49 55 PFAKE 12 59 10.0 +10
ERM LR LR
comp=Z,314nm,19.0s
GRGR Grenville 115.99 266 PFAKE 12 59 10.0 +6.4
GRGR LR LR
comp=Z,173nm,20.0s
TBI Tubuai 116.43 158 *e*SP SP 13 09 50.3 -0.2
comp=Z,286nm,28.0s
TBI *e*SS **SS** **13 16 16.9 +4.0**
comp=Z,595nm,28.0s
TBI Tubuai 116.43 158 *e*LR LR 13 34 19.5
comp=Z,2μm,22.8s,baz=196
TBI Tubuai 116.43 158 *e*T T 15 05 41.8
comp=Z,3.3nm,0.3s
BORG Borgarnes 116.49 333 PFAKE 12 59 10.0 +7.1
BORG LR LR
comp=Z,675nm,20.0s
YSS Yuzh-Sakhalins 116.54 50 PFAKE 12 59 20.0 +16
YSS LR LR
comp=Z,112nm,20.0s
YAK Yakutsk 116.85 31⇑ *e*PKIKP **PKPdf** **12 59 03.7 0.0**
YAK Yakutsk 116.85 31 PFAKE 12 59 20.0 +16
YAK LR LR
comp=Z,359nm,20.0s
FDF Fort de France 117.08 268 PFAKE 12 59 20.0 +14
FDF LR LR
comp=Z,202nm,21.0s
PTCN Pitcairn Islan 117.97 178 PFAKE 12 59 20.0 +13
PTCN LR LR
comp=Z,2μm,19.0s
KBS Kingsbay 118.25 352 PFAKE 12 59 20.0 +14
KBS LR LR
comp=Z,469nm,19.0s
ANWB Willy Bob 119.21 271 PFAKE 12 59 20.0 +10
ANWB LR LR
comp=Z,394nm,21.0s
RKT Rikitea 119.59 173 *e*T T 13 15 40.2
comp=Z,7.2nm,0.3s
RKT Rikitea 119.59 173 *e*LR LR 13 35 47.9
comp=Z,2μm,23.8s,baz=173
TIXI Tiksi 120.97 21⇑ *i*PKIKP **PKPdf** **12 59 11.1 -0.3**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
TIXI Tiksi 120.97 21 PFAKE 12 59 20.0 +8.6
TIXI LR LR
comp=Z,498nm,21.0s
SDV Santo Domingo 121.13 257 PFAKE 12 59 20.0 +6.3
SDV LR LR
comp=Z,745nm,21.0s
OTAV Otavalo 121.30 243 PFAKE 12 59 30.0 +16
OTAV LR LR
comp=Z,443nm,21.0s
PPT2 Papeete2 121.80 156 *e*SP SP 13 10 36.8 -2.1
comp=Z,404nm,25.2s
PPT2 *e*SS **SS** **13 17 28.4 +5.9**
comp=Z,587nm,26.0s
PPT2 Papeete2 121.80 156 *e*LR LR 13 36 47.6
comp=Z,1μm,24.0s,baz=204
SJG San Juan 122.93 268 PFAKE 12 59 30.0 +13
SJG LR LR
comp=Z,251nm,20.0s
SEY Seymchan 127.03 34⇑ *i*PKIKP **PKPdf** **12 59 23.6 +0.4**
SDDR Presa de Saban 127.50 266 PFAKE 12 59 40.0 +14
SDDR LR LR
comp=Z,240nm,20.0s
PET Petropavlovsk 128.24 47 PFAKE 12 59 40.0 +14
PET LR LR
comp=Z,346nm,21.0s
BCIP Isla Barro Col 128.34 250 PFAKE 12 59 40.0 +13
BCIP LR LR
comp=Z,429nm,21.0s
SFJD Kangerlussuaq 128.50 331 PFAKE 12 59 40.0 +14
SFJD LR LR
comp=Z,983nm,22.0s
BBSR BB Station 128.61 285 PFAKE 12 59 40.0 +13
BBSR LR LR
comp=Z,571nm,21.0s
GRTK Grand Turk 128.70 269 PFAKE 12 59 40.0 +12
GRTK LR LR
comp=Z,328nm,19.0s
GTBY Guantanamo Bay 131.04 265 PFAKE 12 59 40.0 +7.8
GTBY LR LR
comp=Z,290nm,19.0s
MTDJ Mount Denham 132.03 261 PFAKE 12 59 50.0 +16
MTDJ LR LR
comp=Z,412nm,21.0s
JTS JuntasAbangare 132.87 247 PFAKE 12 59 50.0 +14
JTS LR LR
comp=Z,307nm,21.0s
BILL Bilibino 133.01 28⇑ *i*PKIKP **PKPdf** **12 59 35.5 +1.0**
BILL *e* 13 01 59.0
BILL pmax pmax
comp=Z,23nm,2.5s
BILL Bilibino 133.01 28 PFAKE 12 59 50.0 +16
BILL LR LR
comp=Z,382nm,22.0s
PKME Peaks-Kenny Pk 135.97 300 PFAKE 12 59 50.0 +9.3
PKME LR LR
comp=Z,529nm,22.0s
NCB Newcomb 139.21 297 PFAKE 13 00 00.0 +13
NCB LR LR
comp=Z,806nm,20.0s
LONY Lake Ozonia 139.56 298 PFAKE 13 00 00.0 +13
LONY LR LR
comp=Z,663nm,20.0s
BINY Binghamton 140.16 294 PFAKE 13 00 00.0 +11
BINY LR LR
comp=Z,822nm,21.0s
CBN Corbin Frederi 140.31 287 PFAKE 13 00 00.0 +11
CBN LR LR
comp=Z,566nm,22.0s
NHSC New Hope 140.98 279 PFAKE 13 00 00.0 +10
NHSC LR LR
comp=Z,434nm,22.0s
TEIG Tepich 141.54 255 PFAKE 13 00 00.0 +8.3
TEIG LR LR
comp=Z,381nm,22.0s
BLA Blacksburg 142.40 285 PFAKE 13 00 00.0 +7.2
BLA LR LR
comp=Z,653nm,20.0s
TKL Tuckaleechee C 144.59 281 *e*PKPdf **PKPab** **12 59 54.2 -1.0**
ACSO Alum Creek Sta 145.00 289 *e*PKPbc **PKPbc** **12 59 55.8 -0.8**
ACSO LR LR
comp=Z,685nm,22.0s
CPCT Cooper Cave 145.12 280 *e*PKPab **PKPbc** **12 59 56.2 -0.9**
BRAL Brewton 145.70 272 PFAKE 13 00 10.0 +11
BRAL LR LR
comp=Z,471nm,19.0s
AAM Ann Arbor 145.81 293 PFAKE 13 00 10.0 +11
AAM LR LR
comp=Z,759nm,19.0s
LRAL Lakeview Retre 146.35 275 *e*PKPdf **PKPdf** **12 59 59.8 0.0**
LRAL *e*PKPbc **PKPbc** **13 00 01.1 +0.1**
LRAL *e*PKPab **PKPab** **13 00 01.9 +0.1**
GLMI Grayling 146.70 297 PFAKE 13 00 10.0 +7.1
GLMI LR LR
comp=Z,864nm,19.0s
WCI Wyandotte Cave 147.16 285 *e*PKPdf **PKPdf** **13 00 01.1 +0.1**
WCI *e*PKPbc **PKPbc** **13 00 02.8 -0.4**
WCI *e*PKPab **PKPab** **13 00 04.8 -0.1**
COLD Coldfoot 147.45 16 *e*PKPdf **PKPdf** **12 59 59.8 -0.7**
COLD *e*PKPbc **PKPbc** **13 00 03.6 +0.5**
COLD *e*PKPab **PKiKP** **13 00 05.4 +0.2**
BLO Bloomington 147.51 286 *e*PKPdf **PKPdf** **13 00 01.3 -0.2**
BLO *e*PKPbc **PKPbc** **13 00 03.6 -0.5**
BLO *e*PKPab **PKPab** **13 00 05.8 -0.5**
IM04 Indian Mountai 147.59 19 *e*PKPdf **PKPdf** **13 00 01.1 +0.3**
IM04 *e*PKPbc **PKPbc** **13 00 03.8 +0.3**
IM04 *e*PKPab **PKiKP** **13 00 05.4 -0.2**
WVT Waverly 147.89 280 *e*PKPdf **PKPdf** **13 00 01.4 -0.9**
WVT *e*PKPbc **PKPbc** **13 00 04.1 -1.1**
WVT *e*PKPab **PKPab** **13 00 07.6 -0.2**
SFIN Lafayette 148.14 288 *e*PKPdf **PKPdf** **13 00 01.9 -0.6**
SFIN *e*PKPbc **PKPbc** **13 00 05.0 -0.7**
SFIN *e*PKPab **PKiKP** **13 00 07.9 +0.5**
USIN University of 148.17 284 *e*PKPdf **PKPdf** **13 00 03.2 +0.6**
USIN *e*PKPbc **PKPbc** **13 00 05.5 -0.4**
USIN *e*PKPab **PKPab** **13 00 08.6 -0.3**
OLIL Olney 148.65 285 *e*PKPdf **PKPdf** **13 00 03.5 +0.1**
OLIL *e*PKPbc **PKPbc** **13 00 06.1 -1.0**
OLIL *e*PKPab **PKPab** **13 00 10.1 -0.7**
INK Inuvik 148.75 4 PKPbc **PKPbc** **13 00 05.3 -1.0**
comp=Z,2.9nm,0.4s,baz=341,slow=4.1,SNR=5.0
INK Inuvik 148.75 4 PKP2 **PKPbc** **13 00 05.4 -1.0**
INK pmax pmax
comp=Z,3.0nm,0.4s
INK Inuvik 148.75 4 *e*PKPdf **PKPdf** **13 00 02.5 0.0**
INK PKPbc **PKPbc** **13 00 05.3 -1.0**
INK *e*PKPbc **PKiKP** **13 00 06.1 -1.8**
INK *e*PKPab **PKPab** **13 00 10.2 0.0**
FYU Fort Yukon 149.02 13 *e*PKPdf **PKPbc** **13 00 08.4 +1.2**
FCC Fort Churchill 149.24 325 *e*PKPdf **PKPdf** **13 00 01.7 -2.0**
FCC *e*PKPbc **PKPbc** **13 00 07.3 -0.6**
FCC *e*PKPab **PKPab** **13 00 11.2 -1.3**
SIUC Southern Illin 149.33 283 *e*PKPbc **PKPbc** **13 00 08.3 -0.6**
SIUC *e*PKPab **PKPab** **13 00 12.9 -0.7**
BPAW Bear Paw Mtn. 149.80 20 *e*PKPbc **PKPbc** **13 00 08.8 -0.5**
BPAW *e*PKPab **PKPab** **13 00 13.7 -1.0**
HDIL Hopedale 149.82 288 *e*PKPdf **PKPdf** **13 00 04.7 -0.5**
HDIL *e*PKPbc **PKPbc** **13 00 09.6 -0.3**
HDIL *e*PKPab **PKPab** **13 00 15.4 -0.1**
HDIL LR LR
comp=Z,740nm,22.0s
COLA College 149.96 17 *e*PKPbc **PKPbc** **13 00 08.8 -0.7**
COLA LR LR
comp=Z,338nm,22.0s
CAST Castle Rocks 150.02 22 *e*PKPdf **PKPbc** **13 00 09.6 -0.2**
PBMO Poplar Bluff 150.08 281 *e*PKPdf **PKPbc** **13 00 10.2 -0.5**
BWN Browne 150.15 19 *e*PKPdf **PKPbc** **13 00 10.8 +0.8**
CCB Clear Creek Bu 150.16 17 *e*PKPdf **PKPdf** **13 00 06.1 +1.2**
ILAR Eielson Array 150.26 16 PKPbc **PKPbc** **13 00 08.9 -1.4**
comp=Z,16nm,1.0s,baz=303,slow=1.9,SNR=52
ILAR Eielson Array 150.26 16 PKIKP **PKPbc** **13 00 08.9 -1.4**
ILAR pmax pmax
comp=Z,16nm,1.0s
PPLA Purkeypile 150.39 22 *e*PKPdf **PKPdf** **13 00 05.7 +0.1**

PPLA ePKPbc **PKPbc** 13 00 10.4 -0.5
PPLA ePKPab **PKPab** 13 00 17.5 +0.2
TRF Thorofare Moun 150.51 20 ePKPdf **PKPdf** 13 00 07.1 +1.3
TRF ePKPbc **PKPbc** 13 00 10.7 -0.5
TRF ePKPab **PKPab** 13 00 18.3 +0.5
SVW2 Sparrevohn 150.53 27 ePKPdf **PKPbc** 13 00 11.7 +0.7
HDA Harding Lake 150.56 17 ePKPdf **PKPdf** 13 00 01.4 -4.2
MCK McKinley 150.64 19 ePKPdf **PKPdf** 13 00 05.0 -0.8
MCK ePKPbc **PKPbc** 13 00 10.8 -0.5
MCK ePKPab **PKPab** 13 00 18.3 +0.1
JFWS Jewell Farm 150.70 293 ePKPdf **PKPdf** 13 00 05.7 -0.9
JFWS ePKPab **PKPab** 13 00 19.6 +0.5
JFWS LR LR
comp=Z,612nm,22.0s
UALR University of 151.11 276 ePKPdf **PKPdf** 13 00 07.1 -0.2
UALR ePKPbc **PKPbc** 13 00 13.0 -0.2
UALR ePKPab **PKPab** 13 00 20.4 -0.6
EYMN Ely 151.30 304 ePKPdf **PKPdf** 13 00 05.8 -1.5
EYMN ePKPab **PKPab** 13 00 20.9 -0.5
EYMN LR LR
comp=Z,890nm,20.0s
EGAK Eagle 151.36 12 ePKPdf **PKPdf** 13 00 07.1 +0.3
EGAK ePKPbc **PKPbc** 13 00 12.7 -0.1
EGAK ePKPab **PKPab** 13 00 23.3 +2.2
EGAK LR LR
comp=Z,481nm,20.0s
MIAR Mount Ida 152.03 275 ePKPdf **PKPdf** 13 00 08.4 -0.4
MIAR ePKPbc **PKPbc** 13 00 15.2 -0.1
MIAR ePKPab **PKPab** 13 00 23.7 -1.2
MIAR LR LR
comp=Z,579nm,21.0s
NATX Nacogdoches 152.03 269 ePKPdf **PKPdf** 13 00 10.2 +1.3
NATX ePKPbc **PKiKP** 13 00 16.1 +0.3
NATX ePKPab **PKPab** 13 00 25.1 +0.2
NATX LR LR
comp=Z,558nm,20.0s
PAX Paxson 152.13 17 ePKPdf **PKPdf** 13 00 08.3 +0.1
PAX ePKPbc **PKiKP** 13 00 15.2 0.0
PAX ePKPab **PKPab** 13 00 24.0 -0.5
HKT Hockley 152.29 264 ePKPdf **PKPdf** 13 00 09.6 +0.4
HKT ePKPbc **PKPbc** 13 00 16.0 0.0
HKT ePKPab **PKPab** 13 00 27.4 +1.5
SPMN Marine on St. 152.50 298 ePKPbc **PKPbc** 13 00 15.2 -0.9
SPMN ePKPab **PKPab** 13 00 26.4 -0.1
RC01 Rabbit Creek A 152.52 23 ePKPbc **PKPbc** 13 00 15.7 +0.1
RC01 ePKPab **PKPab** 13 00 27.1 +1.1
KVTX Kingsville 152.85 258 PFAKE 13 00 20.0 +2.6
KVTX LR LR
comp=Z,697nm,19.0s
SCIA State Center 152.87 291 PFAKE 13 00 20.0 +3.0
SCIA LR LR
comp=Z,891nm,22.0s
W38A Poteau 152.91 276 P **PKPdf** 13 00 09.4 -0.7
baz=153
X38A Whitesboro 153.06 275 P **PKPdf** 13 00 09.4 -0.9
baz=153
YKA Yellowknife Ar 153.41 346 PKP **PKPdf** 13 00 08.4 -1.5
comp=Z,2.4nm,1.1s,baz=10,slow=1.5,SNR=13
YKA PKPbc **PKPbc** 13 00 16.9 -0.6
comp=Z,3.2nm,0.9s,baz=22,slow=2.1,SNR=15
YKA PKPab **PKPab** 13 00 29.2 -0.5
comp=Z,3.7nm,0.7s,baz=26,slow=4.4,SNR=13
YKA Yellowknife Ar 153.41 346 PKIKP **PKPdf** 13 00 08.4 -1.5
YKA 13 00 16.9
YKA 13 00 29.2
YKA pmax pmax
comp=Z,2.0nm,1.1s
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA pmax pmax
comp=Z,4.0nm,0.7s
X37A Clayton 153.47 274 P **PKPdf** 13 00 09.4 -1.5
baz=154
W37A Quinton 153.65 275 P **PKPdf** 13 00 11.1 -0.1
baz=154
T37A Cheneyville 18 153.67 280 P **PKPdf** 13 00 11.2 +0.1
baz=154
KDAK Kodiak Island 153.88 30 PFAKE 13 00 20.0 +1.4
KDAK LR LR
comp=Z,670nm,22.0s
AGMN Agassiz Nation 154.11 305 P **PKPdf** 13 00 10.5 -0.8
baz=154
AGMN Agassiz Nation 154.11 305 PFAKE 13 00 20.0 +0.5
AGMN LR LR
comp=Z,825nm,20.0s
V36A Jenks 154.21 277 P **PKPdf** 13 00 11.1 -0.8
baz=154
W36A Wetumka 154.29 275 P **PKPdf** 13 00 11.2 -0.9
baz=154
S36A Lake Cedric, C 154.30 281 P **PKPdf** 13 00 11.8 -0.2
baz=154
R36A Gordon, Harris 154.32 282 P **PKPdf** 13 00 12.7 +0.7
baz=154
534A Blanco 154.41 262 P **PKPdf** 13 00 12.5 +0.1
baz=154
T36A Boggs Farm, Ca 154.42 279 P **PKPdf** 13 00 11.8 -0.3
baz=154
733A Divot King Ran 154.49 259 P **PKPdf** 13 00 12.0 -0.6
baz=154
434A Burnet 154.56 264 P **PKPdf** 13 00 12.3 -0.3
baz=155
Y35A Marietta 154.61 272 P **PKPdf** 13 00 11.7 -0.8
baz=155
Z35A Perchaven, San 154.61 270 P **PKPdf** 13 00 12.7 +0.2
baz=155
X35A Drake 154.69 273 P **PKPdf** 13 00 11.2 -1.4
baz=155
633A Saathoff Ranch 154.73 261 P **PKPdf** 13 00 13.0 +0.1
baz=155
334A Lometa 154.73 265 P **PKPdf** 13 00 12.9 +0.1
baz=155
W35A Tecumseh 154.81 275 P **PKPdf** 13 00 12.0 -0.8
baz=155
832A Faith Ranch, C 154.82 257 P **PKPdf** 13 00 11.7 -1.4
baz=155
T35A Sooner Cattle 154.89 279 P **PKPdf** 13 00 12.2 -0.7
baz=155
732A Laxson Ranch, 155.03 258 P **PKPdf** 13 00 13.3 0.0
baz=155
FFC Flin Flon 155.06 323 PFAKE 13 00 20.0 +7.5
FFC LR LR
comp=Z,554nm,20.0s
433A Art 155.19 263 P **PKPdf** 13 00 12.5 -1.0
baz=155
Y34A Reagan Ranch, 155.20 272 P **PKPdf** 13 00 12.7 -0.7
baz=155
632A Uvalde 155.23 260 P **PKPdf** 13 00 13.1 -0.5
baz=155
KSU1 Kansas State U 155.27 284 PFAKE 13 00 20.0 +6.7
KSU1 LR LR
comp=Z,776nm,21.0s
333A Richland Sprin 155.32 265 P **PKPdf** 13 00 12.8 -0.8
baz=155
ECSD EROS Data Cent 155.33 295 P **PKPdf** 13 00 12.2 -1.0
baz=155
ECSD EROS Data Cent 155.33 295 ePKPdf **PKPdf** 13 00 13.2 -0.1
ECSD LR LR
comp=Z,548nm,20.0s
X34A Smith Ranch, M 155.43 273 P **PKPdf** 13 00 12.9 -0.8
baz=156
T34A McClaskey Farm 155.44 279 P **PKPdf** 13 00 13.1 -0.5
baz=156
V34A Guthrie 155.47 276 P **PKPdf** 13 00 13.2 -0.5
baz=156
P34A Walnut Farm, R 155.48 285 P **PKPdf** 13 00 12.9 -0.7
baz=156
Q34A Chapman 155.51 283 P **PKPdf** 13 00 12.9 -0.7
baz=156
W34A Bridge Creek, 155.54 274 P **PKPdf** 13 00 13.6 -0.2
baz=156
532A Rocksprings 155.58 261 P **PKPdf** 13 00 13.5 -0.6
baz=156
JCT Junction City 155.64 262 P **PKPdf** 13 00 13.6 -0.6
baz=156
JCT Junction City 155.64 262 PFAKE 13 00 20.0 +5.9
JCT LR LR
comp=Z,304nm,20.0s
HYT Haines Junctio 155.66 11 ePKPdf **PKPdf** 13 00 12.7 -0.5
HYT ePKPab **PKPab** 13 00 40.8 +1.3
432A Menard 155.79 263 P **PKPdf** 13 00 13.6 -0.8
baz=156
631A Perdido Creek 155.81 259 P **PKPdf** 13 00 13.9 -0.4
baz=156
Z33A Whitaker Ranch 155.81 269 P **PKPdf** 13 00 13.9 -0.3
baz=156
332A Millersview 155.94 264 P **PKPdf** 13 00 14.6 +0.1
baz=156
W33A Caddo, Fort Co 156.08 274 P **PKPdf** 13 00 15.1 +0.5
baz=156
531A Rocksprings 156.10 261 P **PKPdf** 13 00 14.5 -0.3
baz=156
WMOK Wichita Mounta 156.22 273 ePKPdf **PKPdf** 13 00 14.2 -0.5
WMOK ePKPbc PKPbc 13 00 25.8
WMOK ePKPab **PKPab** 13 00 42.9 +0.1
WMOK LR LR
comp=Z,617nm,20.0s
ABTX Abilene, Hawle 156.30 267 P **PKPdf** 13 00 14.8 -0.1
baz=156
431A Sonora 156.36 262 P **PKPdf** 13 00 14.7 -0.3
baz=156
Z32A Haskell 156.38 269 P **PKPdf** 13 00 15.1 +0.1
baz=156
331A San Angelo 156.46 264 P **PKPdf** 13 00 14.9 -0.3
baz=156
Y32A R-V Farms, Ver 156.56 271 P **PKPdf** 13 00 14.9 -0.3
baz=157
MDND Maddock 156.65 306 ePKPdf **PKPdf** 13 00 11.9 -3.0
MDND ePKPab **PKPab** 13 00 44.4 +0.2
530A J-C Ranch, Com 156.72 260 P **PKPdf** 13 00 15.5 0.0
baz=157
430A Baggett Ranch, 156.90 262 P **PKPdf** 13 00 15.5 -0.2
baz=157
Z31A Sharp Cattle R 156.92 269 P **PKPdf** 13 00 15.3 -0.4
baz=157
G30A Faulkton 156.96 299 P **PKPdf** 13 00 14.7 -0.6
baz=157
330A Mertzon 157.09 263 P **PKPdf** 13 00 15.6 -0.4
baz=157
X31A McDonald Ranch 157.15 272 P **PKPdf** 13 00 15.7 -0.3
baz=157
429A Davenport Ranc 157.35 261 P **PKPdf** 13 00 15.9 -0.5
baz=157
529A Stev Forest Ra 157.40 259 P **PKPdf** 13 00 16.2 -0.3
baz=158
Z30A Sanderson Ranc 157.69 268 P **PKPdf** 13 00 16.6 -0.1
baz=158
329A Wagon Wheel Ra 157.76 263 P **PKPdf** 13 00 16.4 -0.4
baz=158
229A Bryant Ranch, 157.80 264 P **PKPdf** 13 00 16.5 -0.4
baz=158
Q30A Quinter 158.06 283 P **PKPdf** 13 00 17.1 +0.1
baz=158
P30A Selden 158.12 285 P **PKPdf** 13 00 17.0 0.0
baz=158
Z29A Hungry Hill Ra 158.15 267 P **PKPdf** 13 00 17.2 -0.1
baz=158
TXAR Lajitas Array 158.18 256 PKP **PKPdf** 13 00 17.8 +0.3
comp=Z,1.9nm,0.9s,baz=132,slow=1.9,SNR=18
TXAR PKPab **PKPab** 13 00 50.9 -0.5
comp=Z,2.4nm,0.9s,baz=134,slow=7.3,SNR=7.0
TXAR Lajitas Array 158.18 256 PKIKP **PKPdf** 13 00 17.8 +0.3
TXAR 13 00 50.9
TXAR pmax pmax
comp=Z,2.0nm,0.9s
TXAR pmax pmax
comp=Z,2.0nm,0.9s
128A Castleberry Fa 158.56 265 P **PKPdf** 13 00 17.6 -0.2
baz=159
Z28A Tucker Farm, M 158.70 267 P **PKPdf** 13 00 18.0 0.0
baz=159
R29A Marienthal 158.73 281 P **PKPdf** 13 00 17.3 -0.5
baz=159
Y28A McKinney Farm, 158.77 269 P **PKPdf** 13 00 18.0 -0.1
baz=159
A24A Westby 159.01 311 P **PKPdf** 13 00 18.0 +0.2
baz=159
S28A Manter 159.24 279 P **PKPdf** 13 00 18.5 0.0
baz=159
J27A Elkhorn Farm, 159.28 295 P **PKPdf** 13 00 17.8 -0.6
baz=159
P28A Saint Francis 159.28 285 P **PKPdf** 13 00 18.2 -0.3
baz=159
G26A Maurine 159.31 301 P **PKPdf** 13 00 19.2 +1.0
baz=159
DGMT Dagmar 159.32 310 PFAKE 13 00 30.0 +12
DGMT LR LR
comp=Z,902nm,22.0s
OGNE Ogallala 159.50 288 P **PKPdf** 13 00 18.2 -0.4
baz=160
OGNE Ogallala 159.50 288 PFAKE 13 00 30.0 +11
OGNE LR LR
comp=Z,723nm,20.0s
H26A Fairpoint 159.59 299 P **PKPdf** 13 00 18.8 +0.2
baz=160
T27A Campo 159.82 277 P **PKPdf** 13 00 19.4 +0.1
baz=160
D24A Glendive 159.92 307 P **PKPdf** 13 00 17.5 -1.4
baz=160
I25A Rochford 160.38 298 P **PKPdf** 13 00 18.0 -1.7
baz=160
P26A Davis Ranch, A 160.51 284 P **PKPdf** 13 00 19.7 -0.2
baz=161
RSSD Black Hills 160.58 298 ePKPdf **PKPdf** 13 00 20.4 +0.4
RSSD ePKPbc PKPbc 13 00 32.4
RSSD ePKPab **PKPab** 13 01 05.5 +3.9
WRAK Wrangell Islan 160.61 7 PFAKE 13 00 30.0 +11
WRAK LR LR
comp=Z,541nm,20.0s
B21A Ellsworth Farm 161.02 313 P **PKPdf** 13 00 20.1 0.0
baz=161
T25A Trinidad 161.17 277 P **PKPdf** 13 00 20.5 -0.3
baz=161
LAO LASA Array 161.28 307 PFAKE 13 00 30.0 +10
LAO LR LR
comp=Z,858nm,22.0s
Q24A Divide 161.90 282 P **PKPdf** 13 00 21.3 -0.3
baz=162
PHWY Pilot Hill 162.06 290 ePKPdf **PKPdf** 13 00 20.4 -1.3
SDCO Great Sand Dun 162.10 278 P **PKPdf** 13 00 21.6 -0.2
baz=162
SDCO Great Sand Dun 162.10 278 ePKPdf **PKPdf** 13 00 21.5 -0.4
SDCO ePKPab **PKPab** 13 01 09.7 +1.2
SDCO LR LR
comp=Z,529nm,22.0s
ISCO Idaho Springs 162.26 285 P **PKPdf** 13 00 21.7 -0.3
baz=162
ISCO Idaho Springs 162.26 285 ePKPdf **PKPdf** 13 00 21.6 -0.3
ISCO LR LR
comp=Z,987nm,20.0s
I22A 9 Mile Ranch, 162.35 299 P **PKPdf** 13 00 21.1 -0.6
baz=162
R23A Moffat 162.39 280 P **PKPdf** 13 00 21.9 -0.2
baz=162
ANMO Albuquerque 162.40 269 ePKPdf **PKPdf** 13 00 22.4 +0.2
ANMO LR LR
comp=Z,936nm,22.0s
J22A Midwest 162.46 297 P **PKPdf** 13 00 20.3 -1.5
baz=162
N23A Red Feather La 162.46 289 P **PKPdf** 13 00 21.7 -0.4
baz=162
O23A Lake Granby, G 162.49 287 P **PKPdf** 13 00 21.9 -0.3
baz=162
K22A Casper 162.65 295 ePKPdf **PKPdf** 13 00 21.3 -0.8
K22A ePKPab **PKPab** 13 01 13.2 +2.5
EGMT Eagleton 162.81 315 ePKPdf **PKPdf** 13 00 22.6 +0.6
EGMT LR LR
comp=Z,701nm,22.0s
I21A Big Trails, Te 162.93 299 P **PKPdf** 13 00 20.7 -1.6
baz=163
G20A Bridger 163.12 304 P **PKPdf** 13 00 21.0 -1.4
baz=163
S22A 4U2 Ranch, Cre 163.15 278 P **PKPdf** 13 00 22.9 0.0
baz=163
I20A Worland 163.48 300 P **PKPdf** 13 00 21.9 -0.9
baz=164
J20A Shoshoni 163.61 298 P **PKPdf** 13 00 21.9 -1.0
baz=164
RLMT Red Lodge 163.84 305 P **PKPdf** 13 00 22.5 -0.7
baz=164
RLMT Red Lodge 163.84 305 ePKPdf **PKPdf** 13 00 22.5 -0.7
RLMT ePKPbc PKPbc 13 00 37.1
RLMT LR LR
comp=Z,1µm,20.0s
I19A Meeteetse 164.04 301 P **PKPdf** 13 00 22.5 -0.9
baz=164
MVCO Mesa Verde 164.42 276 P **PKPdf** 13 00 24.5 +0.5
baz=164
MVCO Mesa Verde 164.42 276 ePKPdf **PKPdf** 13 00 23.9 -0.1
MVCO LR LR
comp=Z,638nm,21.0s
PV01 Paradox Valley 164.55 279 ePKPdf **PKPdf** 13 00 25.0 +0.9
PV01 ePKPbc PKPbc 13 00 39.8
PV01 ePKPab **PKPab** 13 01 19.6 +0.4
LKWY Lake 164.80 304 PFAKE 13 00 30.0 +5.9
LKWY LR LR
comp=Z,1µm,21.0s
BW06 Boulder Array 164.81 297 PFAKE 13 00 30.0 +5.8
BW06 LR LR
comp=Z,942nm,22.0s
PDAR Pinedale Array 164.81 297 PKP **PKPdf** 13 00 22.6 -1.5
comp=Z,0.5nm,0.3s,baz=11,slow=3.0,SNR=9.7
PDAR PKPab **PKPab** 13 01 20.0 -0.1
comp=Z,0.8nm,0.7s,baz=61,slow=6.3,SNR=2.5
PV04 Paradox Valley 164.82 280 ePKPdf **PKPdf** 13 00 23.7 -0.5
PV04 ePKPab **PKPab** 13 01 21.6 +1.3
TUC Tucson 164.98 256 PFAKE 13 00 30.0 +5.6
TUC LR LR
comp=Z,573nm,20.0s
BOZ Bozeman (W) 165.12 309 P **PKPdf** 13 00 23.7 -0.5
baz=165
YBMT Yellow Bay 165.21 320 ePKPdf **PKPdf** 13 00 22.9 -1.3
YBMT ePKPab **PKPab** 13 01 24.2 +2.6
SLMT Seeley Lake 165.33 317 ePKPdf **PKPdf** 13 00 23.2 -1.1
SLMT ePKPab **PKPab** 13 01 21.5 -0.7
CHMT Chamberlain Mo 165.40 316 ePKPdf **PKPdf** 13 00 23.2 -1.3
CHMT ePKPbc PKPbc 13 00 46.5
CHMT ePKPab **PKPab** 13 01 22.1 -0.4
IMW Indian Meadow 165.41 302 ePKPdf **PKPdf** 13 00 24.3 -0.4
IMW ePKPbc PKPbc 13 00 43.2
IMW ePKPab **PKPab** 13 01 23.0 +0.1
JTMT Jette 165.43 320 ePKPdf **PKPdf** 13 00 23.2 -1.2
JTMT ePKPbc PKPbc 13 00 44.1
JTMT ePKPab **PKPab** 13 01 22.9 +0.3
SWMT Swartz Lake 165.43 319 ePKPdf **PKPdf** 13 00 22.9 -1.4
SWMT ePKPbc PKPbc 13 00 46.1
SWMT ePKPab **PKPab** 13 01 24.6 +2.0
LRM Limekiln Ridge 165.54 311 ePKPdf **PKPdf** 13 00 23.9 -0.8
LRM ePKPbc PKPbc 13 00 45.7
LRM ePKPab **PKPab** 13 01 25.9 +2.6
REDW Red Top Meadow 165.54 300 ePKPdf **PKPdf** 13 00 23.2 -1.5
REDW ePKPbc PKPbc 13 00 44.4
REDW ePKPab **PKPab** 13 01 23.9 +0.5
TPAW Teton Pass 165.56 301 ePKPdf **PKPdf** 13 00 24.1 -0.7
TPAW ePKPbc PKPbc 13 00 46.3
TPAW ePKPab **PKPab** 13 01 25.7 +2.1
MSO Missoula 165.83 317 P **PKPdf** 13 00 23.5 -1.2
baz=166
DLMT Dillon 165.85 310 ePKPdf **PKPdf** 13 00 24.3 -0.6
DLMT ePKPab **PKPab** 13 01 25.9 +1.4
AHID Auburn Hatcher 165.90 298 PFAKE 13 00 40.0 +15
AHID LR LR
comp=Z,724nm,20.0s
SRU San Rafael Swe 166.08 283 ePKPdf **PKPdf** 13 00 25.4 +0.1
SRU ePKPab **PKPab** 13 01 25.6 -0.3
MCMT McKenzie Canyo 166.27 308 ePKPdf **PKPdf** 13 00 24.9 -0.4
MCMT ePKPab **PKPab** 13 01 28.0 +1.4
NEW Newport 166.40 327 PFAKE 13 00 40.0 +15
NEW LR LR
comp=Z,632nm,20.0s
WUAZ Wupatki 166.45 268 P **PKPdf** 13 00 26.1 +0.4
baz=166
WUAZ Wupatki 166.45 268 PFAKE 13 00 40.0 +14
WUAZ LR LR
comp=Z,618nm,22.0s
TCUT Toone Canyon 166.53 292 ePKPdf **PKPdf** 13 00 25.7 +0.1
TCUT ePKPbc PKPbc 13 00 46.4
TCUT ePKPab **PKPab** 13 01 29.1 +1.3
HWUT Hardware Ranch 166.54 294 PFAKE 13 00 40.0 +14
HWUT LR LR
comp=Z,900nm,20.0s
JLU Jordanelle 166.65 290 ePKPdf **PKPdf** 13 00 25.5 -0.3
JLU ePKPbc PKPbc 13 00 47.2
JLU ePKPab **PKPab** 13 01 28.1 -0.3
NLU North Lily Min 167.21 287 ePKPdf **PKPdf** 13 00 26.8 +0.6
NLU ePKPab **PKPab** 13 01 34.7 +3.8
MSU Marysvale 167.39 281 ePKPdf **PKPdf** 13 00 27.6 +1.2
MSU ePKPbc PKPbc 13 00 45.6
MSU ePKPab **PKPab** 13 01 35.0 +3.3
MVU Marysvale 167.42 280 ePKPdf **PKPdf** 13 00 27.6 +1.2
MVU ePKPab **PKPab** 13 01 33.3 +1.4
DUG Dugway, Tooele 167.74 289 P **PKPdf** 13 00 27.4 +1.0
baz=168
DUG Dugway, Tooele 167.74 289 ePKPdf **PKPdf** 13 00 27.0 +0.6
DUG ePKPbc PKPbc 13 00 50.6
DUG ePKPab **PKPab** 13 01 36.7 +3.5
DUG LR LR
comp=Z,794nm,20.0s
HLID Hailey 167.85 305 P **PKPdf** 13 00 26.7 +0.3
baz=168
HLID Hailey 167.85 305 ePKPdf **PKPdf** 13 00 26.3 -0.1
HLID LR LR
comp=Z,638nm,21.0s
PDMCI Parker Dam,Lak 168.32 260 P **PKPdf** 13 00 27.7 +0.9
baz=168
HAWA Hanford 168.88 328 PFAKE 13 00 40.0 +13
HAWA LR LR
comp=Z,703nm,20.0s
BMO Blue Mountains 168.90 316 PFAKE 13 00 40.0 +13
BMO LR LR
comp=Z,500nm,20.0s
NLWA Neilton Lookou 169.41 344 PFAKE 13 00 40.0 +13
NLWA LR LR
comp=Z,2µm,19.0s
ELK Elko 169.44 293 ePKPdf **PKPdf** 13 00 28.5 +0.8
SHPR Sheep Range 169.64 270 ePKPdf **PKPdf** 13 00 29.3 +1.5
PFO Pinyon Flats O 169.86 252 PFAKE 13 00 40.0 +12
PFO LR LR
comp=Z,876nm,19.0s
R11A Troy Canyon, C 170.07 280 P **PKPdf** 13 00 28.8 +0.8
baz=170
HEC Hector,Ludlow 170.20 259 P **PKPdf** 13 00 29.3 +1.2
baz=170
GSC Goldstone, Bar 170.71 261 P **PKPdf** 13 00 29.6 +1.2
baz=171
WVOR Wild Horse Val 171.10 308 ePKPdf **PKPdf** 13 00 28.8 +0.5
WVOR LR LR
comp=Z,754nm,20.0s
MPMC Manual Prospec 171.43 265 P **PKPdf** 13 00 30.5 +1.7
baz=171
EDW2 Edwards Air Fo 171.51 257 P **PKPdf** 13 00 29.1 +0.4
baz=172
DAC Darwin (Calif) 171.55 266 ePKPdf **PKPdf** 13 00 30.5 +1.6
J05D Fort Rock, OR 172.04 321 P **PKPdf** 13 00 29.0 +0.1
baz=172
NVAR Mina Array Bea 172.20 282 PKP **PKPdf** 13 00 29.8 +0.6
comp=Z,2.6nm,0.9s,baz=203,slow=2.9,SNR=12
NVAR PKPab **PKPab** 13 01 53.0 0.0
comp=Z,1.3nm,0.8s,baz=130,slow=2.8,SNR=5.2
WAKR Walker 173.07 283 ePKPdf **PKPdf** 13 00 30.0 +0.5
WAKR ePKPab **PKPab** 13 01 58.0 +1.1

NEIC 11 12:43:26.2, 52°.33N×173°.97W, h68km, ML3.5(AEIC),
After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.19**	**229**	P		12 43 37.0	+0.5
ATKA				S		12 43 45.3	+1.3
GSTR	**Great Sitkin T**	**1.31**	**261**	P		12 43 49.5	+0.9
GSMY	**Great Sitkin M**	**1.32**	**258**	P		12 43 49.1	+0.5
GSTD	**Great Sitkin T**	**1.37**	**260**	P		12 43 49.8	+0.4
GSTD				S		12 44 08.1	+1.2
GSCK	**Great Sitkin C**	**1.39**	**258**	P		12 43 50.2	+0.6
ETKA	**Kagalaska Isla**	**1.58**	**254**	P		12 43 52.5	+0.5
ADAG	**Mount Adagdak**	**1.66**	**259**	P		12 43 54.5	+1.3
KINC	**Kanaga Island**	**1.99**	**260**	P		12 43 58.5	+0.9
TAPA	**Tanaga Point A**	**2.43**	**259**	P		12 44 04.8	+1.2
TAFP	**Tanaga Falls P**	**2.51**	**262**	P		12 44 05.5	+0.7
TAFP				S		12 44 35.8	+1.5
GAEA	**Gareloi East**	**3.00**	**261**	P		12 44 11.9	+0.6
NIKH	**Nikolski High**	**3.18**	**76**	P		12 44 15.2	+1.5
NIKH				S		12 44 53.8	+3.3
OKTU	**Okmok Mt. Tuli**	**3.74**	**71**	P		12 44 24.0	+2.5
OKFG	**Magazine Ridge**	**3.83**	**71**	P		12 44 25.3	+2.7
CESW	**Semis' Southwe**	**4.01**	**266**	P		12 44 26.9	+1.7
AMKA	**Amchitka**	**4.28**	**260**	P		12 44 30.1	+1.3
MREP	**Makushin Rep't**	**4.60**	**68**	P		12 44 35.4	+2.2
LSPA	**Little Sitkin**	**4.61**	**268**	P		12 44 35.1	+1.8
UNV	**Unalaska Valle**	**4.75**	**68**	P		12 44 38.1	+2.9

DJA 11 12:45:22.7±0.4, 1°S±4°×12°4E±°, h10km, M3.7/8, mb3.7/1,
MLv3.6/8, Sulawesi

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

LUWI	**Luwuk**	**0.89**	**287**	P	Pg	12 45 38.8	-1.0
LUWI				S	Sg	12 45 51.3	-0.1
KMSI	**Cibinong**	**1.90**	**11**	P	Pn	12 45 54.1	-1.1
APSI	**Ampana**	**2.01**	**281**	P	Pn	12 45 56.2	-0.5
APSI				S	Sb	12 46 24.6	+0.2
MRSI	**Marisa**	**2.44**	**316**	P	Pn	12 46 02.6	0.0
MRSI				S	Sn	12 46 34.0	+1.5
SANI	**Sanana**	**2.48**	**107**	P	Pn	12 46 02.7	-0.5
KDI	**Kendari**	**2.82**	**201**	P	Pb	12 46 14.7	+1.5
PCI	**Palu**	**3.80**	**276**	S	Sn	12 47 06.6	+0.3
MPSI	**Mapaga**	**4.06**	**294**	P	Pn	12 46 25.4	+0.5
TTSI	**Tana Toraja**	**4.17**	**245**	P	Pb	12 46 32.6	-3.7
SPSI	**Sidrap Palu**	**4.67**	**235**	P	Pn	12 46 32.6	-0.7

ROM 11 12:47:48.2±0.1, 42°.74N×13°.05E, h9km, Md1.6/2, Ml1.3/2, Error ellipse: s-maj=0.6km s-min=0.2km az=37.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.11**	**28**	Pg	Pg	12 47 51.4	+0.4
NRCA				Sg	Sg	12 47 53.4	+0.5
	1µm,2.1s						
LNSS	**Leonessa**	**0.14**	**181**	Pg	Pg	12 47 51.9	+0.5
LNSS				Sg	Sg	12 47 54.3	+0.7
	31nm,0.2s						
FDMO	**Fiordimonte**	**0.30**	**6**	Pg	Pg	12 47 54.9	+0.6
FDMO				Sg	Sb	12 48 00.0	-0.9

CSEM 11 12:50:10.2, 39°.48N×36°.67E, h4km, MD2.7
DDA 11 12:50:10.2, 39°.48N×36°.67E, h4km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCER	**sogukcermik**	**0.52**	**43**	*i* P	Pg	12 50 15.0	-5.5
SCER	**sogukcermik**	**0.52**	**43**	*i* P	Pg	12 50 15.0	-5.5
PINB	**Pinarbasi**	**0.83**	**195**	*i* P	Pg	12 50 26.0	-0.4
PINB				*i* S	Sg	12 50 38.4	+0.9
PINB	**Pinarbasi**	**0.83**	**195**	*i* P	Pg	12 50 26.0	-0.5
PINB				*i* S	Sb	12 50 38.4	-0.9
KEMA	**Kemaliye**	**1.43**	**98**	*i* P	Pn	12 50 37.1	0.0
KEMA				*i* S	Sg	12 50 57.6	+1.2
KEMA	**Kemaliye**	**1.43**	**98**	*i* P	Pn	12 50 37.1	0.0
KEMA				*i* S	Sg	12 50 57.6	+1.1
AKCD	**Akcadag**	**1.54**	**140**	*i* P	Pg	12 50 40.2	+0.3
AKCD	**Akcadag**	**1.54**	**140**	*i* P	Pg	12 50 40.2	+0.3
KELT	**Kelkit**	**2.10**	**71**	*i* P	Pb	12 50 49.3	+0.1
KELT				*i* S	Sb	12 51 16.6	+0.8
KELT	**Kelkit**	**2.10**	**71**	*i* P	Pb	12 50 49.3	+0.1
KELT				*i* S	Sb	12 51 16.6	+0.7

CSEM 11 13:03:18.8, 38°.71N×38°.08E, h7km, MD2.8
DDA 11 13:03:18.8, 38°.71N×38°.08E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.43**	**196**	*i* P	Pg	13 03 26.3	-1.2
AKCD				*i* S	Sg	13 03 34.0	+0.7
AKCD	**Akcadag**	**0.43**	**196**	*i* P	Pg	13 03 26.3	-1.1
AKCD				*i* S	Sg	13 03 34.0	+0.7
KEMA	**Kemaliye**	**0.64**	**30**	*i* P	Pg	13 03 30.8	-0.5
KEMA				*i* S	Sb	13 03 40.9	-0.8
KEMA	**Kemaliye**	**0.64**	**30**	*i* P	Pg	13 03 30.8	-0.5
KEMA				*i* S	Sb	13 03 40.9	-0.9
ELZG	**Elazig**	**0.74**	**107**	*i* P	Pg	13 03 33.0	-0.4
ELZG				*i* S	Sb	13 03 44.4	-0.4
ELZG	**Elazig**	**0.74**	**107**	*i* P	Pg	13 03 33.0	-0.3
ELZG				*i* S	Sb	13 03 44.4	-0.4
SUSE	**Susehri**	**1.50**	**4**	*i* P	Pb	13 03 47.2	0.0
SUSE				*i* S	Sg	13 04 08.6	+1.2
SUSE	**Susehri**	**1.50**	**4**	*i* P	Pb	13 03 47.2	+0.1
SUSE				*i* S	Sg	13 04 08.6	+1.3
KELT	**Kelkit**	**1.70**	**32**	*i* P	Pn	13 03 49.1	-0.1
KELT				*i* S	Sb	13 04 12.4	0.0
KELT	**Kelkit**	**1.70**	**32**	*i* P	Pn	13 03 49.1	0.0
KELT				*i* S	Sb	13 04 12.4	0.0

IDC 11 13:37:52.9±2.5, 54°.38N×86°.78E, h0km, mb1 3.3/3, mb1mx3.1/30, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=21.4km s-min=13.9km az=62.0
NNC 11 13:37:54.1±6.4, 54°.06N×86°.96E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=51.2km s-min=39.0km az=6.0
ISC 11 13:37:52.3±4.2, 54°.5N±0°.2×87°.2E±0°.2, h35km, n8, σ1s40/12, 2C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**248**	*i*		13 46 09.2	
	baz=65,slow=316						
ZALV	**Zalesovo Beam**	**1.50**	**248**	Pg	**Pn**	**13 38 14.7**	**-2.0**
	1.9nm,0.3s,baz=69,slow=17,SNR=39						
ZALV				Lg	Lg	13 38 31.1	
	1.6nm,0.3s,baz=71,slow=27,SNR=15						
ZALV				Rg	Rg	13 38 39.9	
	23nm,0.7s,baz=66,slow=26,SNR=15						
KURK	**Kurchatov**	**6.45**	**237**	⇓Pn	**Pn**	**13 39 25.0**	**+0.3**
	1.3nm,0.6s						
KURK				⇓Sn	**Sn**	**13 40 36.2**	**-0.8**
	1.5nm,1.0s						
KURK				⇓Lg	Lg	13 41 07.0	
	3.4nm,0.7s						
KURBB	**Kurchatov Arra**	**6.55**	**237**	⇓Pn	**Pn**	**13 39 26.6**	**+0.5**
	4.3nm,0.7s						
KURBB				⇑Sn	**Sn**	**13 40 38.9**	**-0.7**
	9.8nm,0.9s						
KURBB				⇑Lg	Lg	13 41 09.6	
	9.5nm,0.8s						
KURBB	**Kurchatov Arra**	**6.55**	**237**	Pn	**Pn**	**13 39 27.1**	**+1.0**
	0.1nm,0.3s,baz=54,slow=14,SNR=43						
KURBB				Sn	**Sn**	**13 40 41.2**	**+1.6**
	0.0nm,0.3s,baz=0.1,slow=23,SNR=5.4						
KURBB				Lg	Lg	13 41 12.5	
	0.0nm,0.3s,baz=48,slow=25,SNR=5.2						
MK31	**Makanchi Array**	**8.34**	**204**	⇓Pn	**Pn**	**13 39 51.4**	**+0.8**
	0.3nm,0.5s,baz=21,slow=12,SNR=8.9						
MK31				⇓Sn	**Sn**	**13 41 21.7**	**-1.8**
	2.5nm,0.8s,baz=27,slow=26,SNR=8.0						
MK31				⇓Lg	Lg	13 42 05.5	
	7.1nm,1.1s,baz=31,slow=32,SNR=4.1						
MKAR	**Makanchi Array**	**8.34**	**204**	Pn	**Pn**	**13 39 52.4**	**+1.7**
	0.3nm,0.3s,baz=24,slow=13,SNR=10						
MKAR				Sn	**Sn**	**13 41 23.6**	**+0.1**
	0.2nm,0.3s,baz=18,slow=24,SNR=16						
BVAR	**Borovoye Array**	**10.05**	**268**	Pn	**Pn**	**13 40 15.4**	**+1.4**
	0.2nm,0.3s,baz=72,slow=14,SNR=5.3						

ISCJB 11 14:20:10.8±0.2, 40°.24S±0°.02×173°.55E±0°.04, h171km±2km, mb4.2/11, Error ellipse: s-maj=5.7km s-min=2.9km az=32.0
IDC 11 14:20:10.8±0.6, 40°.39S×173°.87E, h165km±4km, mb4.1/8, mb1 4.2/11, mb1mx3.9/29, mbtmp4.5/11, MS3.3/2, Ms1 3.3/2, ms1mx2.9/19, Error ellipse: s-maj=17.8km s-min=8.6km az=134.0
NEIC 11 14:20:12.6, 40°.21S×173°.58E, h166km, mb4.5/2, After WEL.
NEIC Felt [IV] at Blenheim and Wellington. Felt widely in central New Zealand.
WEL 11 14:20:12.4±0.3, 40°.21S×173°.60E, h169km±2km, ML5.3/22, Error ellipse: s-maj=1.6km s-min=0.6km az=90.0, reported intensity MM 4. Good selection of 1st motions.
WEL Felt from Taranaki to Canterbury, and from West Coast to Manawatu, mauvam.
ISC 11 14:20:12.3±0.5, 40°.25S±0°.03×173°.54E±0°.04, h170km±4km, h169km: pP-P, n265, σ1s42/284, mb4.2/11, 48C-81D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.63**	**153**	⇑PN	**Pn**	**14 20 36.6**	**+0.1**
DUWZ				*e*SN	**Sn**	**14 20 53.6**	**-1.8**
DUWZ	**D'Urville Isla**	**0.63**	**153**	⇑Pn	**Pn**	**14 20 36.6**	**+0.1**
NMEZ	**Namu Road**	**0.87**	**17**	⇓PN	**Pn**	**14 20 37.7**	**-0.4**
NMEZ				SN	**Sn**	**14 20 56.6**	**-1.2**
QRZ	**Quartz Range**	**0.97**	**233**	⇓PN	**Pn**	**14 20 38.6**	**-0.1**
QRZ	**Quartz Range**	**0.97**	**233**	⇓Pn	**Pn**	**14 20 38.6**	**-0.1**
QRZ				Sn	**Sn**	**14 20 56.8**	**-2.4**
NNZ	**Nelson**	**0.98**	**187**	⇑PN	**Pn**	**14 20 38.9**	**+0.1**
NNZ	**Nelson**	**0.98**	**187**	⇑Pn	**Pn**	**14 20 38.9**	**+0.1**
NWEZ	**Newall Road**	**1.00**	**15**	⇓PN	**Pn**	**14 20 38.7**	**-0.3**
NWEZ				SN	**Sn**	**14 20 58.5**	**-1.0**
NWEZ	**Newall Road**	**1.00**	**15**	⇓Pn	**Pn**	**14 20 38.7**	**-0.3**
KHEZ	**Kahui Hut**	**1.02**	**21**	⇓PN	**Pn**	**14 20 38.9**	**-0.4**
PREZ	**Palmer Road**	**1.02**	**28**	⇓PN	**Pn**	**14 20 38.7**	**-0.5**
LREZ	**Lake Rotokare**	**1.03**	**40**	PN	**Pn**	**14 20 38.7**	**-0.5**
NEZ	**North Egmont**	**1.06**	**24**	⇓PN	**Pn**	**14 20 38.9**	**-0.7**
NEZ	**North Egmont**	**1.06**	**24**	⇓Pn	**Pn**	**14 20 38.9**	**-0.7**
PKE	**Pukeiti**	**1.10**	**18**	⇓PN	**Pn**	**14 20 39.4**	**-0.5**
PKE	**Pukeiti**	**1.10**	**18**	⇓Pn	**Pn**	**14 20 39.4**	**-0.5**
TCW	**Tory Channel**	**1.12**	**150**	⇑PN	**Pn**	**14 20 40.3**	**+0.4**
TCW				AML	AML	14 21 01.2	
TCW				AML	AML	14 21 01.4	
TCW	**Tory Channel**	**1.12**	**150**	⇑Pn	**Pn**	**14 20 40.3**	**+0.4**
DREZ	**Durham Road**	**1.17**	**26**	PN	**Pn**	**14 20 39.9**	**-0.5**
DREZ	**Durham Road**	**1.17**	**26**	Pn	**Pn**	**14 20 39.9**	**-0.5**
KIW	**Kapiti Island**	**1.21**	**121**	⇑PN	**Pn**	**14 20 40.7**	**-0.1**
KIW				AML	AML	14 21 00.5	
KIW				AML	AML	14 21 02.8	
KIW	**Kapiti Island**	**1.21**	**121**	⇑Pn	**Pn**	**14 20 40.7**	**-0.1**
WAZ	**Wanganui**	**1.21**	**67**	PN	**Pn**	**14 20 40.4**	**-0.3**
WAZ	**Wanganui**	**1.21**	**67**	Pn	**Pn**	**14 20 40.4**	**-0.3**
TUWZ	**Tuamarina**	**1.22**	**166**	⇑PN	**Pn**	**14 20 41.0**	**+0.2**
TUWZ				AML	AML	14 21 02.0	
TUWZ				AML	AML	14 21 02.8	
TUWZ	**Tuamarina**	**1.22**	**166**	⇑Pn	**Pn**	**14 20 41.0**	**+0.2**
MHEZ	**Mangahewa**	**1.31**	**28**	⇓PN	**Pn**	**14 20 41.2**	**-0.5**
MHEZ	**Mangahewa**	**1.31**	**28**	⇓Pn	**Pn**	**14 20 41.2**	**-0.5**
OGWZ	**Otaki Gorge**	**1.37**	**115**	⇑PN	**Pn**	**14 20 42.1**	**0.0**
OGWZ	**Otaki Gorge**	**1.37**	**115**	⇑Pn	**Pn**	**14 20 42.1**	**0.0**
SNZO	**South Karori**	**1.38**	**141**	ePN	**Sn**	**14 21 04.8**	**-0.6**
SNZO				*e*Sn	**Sn**	**14 21 04.8**	**-0.6**
WEL	**Wellington**	**1.40**	**139**	⇑PN	**Pn**	**14 20 42.5**	**+0.2**
WEL				AML	AML	14 21 05.7	
WEL				AML	AML	14 21 06.0	
WEL	**Wellington**	**1.40**	**139**	⇑Pn	**Pn**	**14 20 43.1**	**+0.8**
CAW	**Cannon Point**	**1.45**	**127**	⇑PN	**Pn**	**14 20 42.9**	**+0.1**
CAW				AML	AML	14 21 06.4	
CAW				AML	AML	14 21 09.8	
CAW	**Cannon Point**	**1.45**	**127**	⇑Pn	**Pn**	**14 20 42.9**	**+0.1**
VRZ	**Vera Road**	**1.46**	**40**	⇓PN	**Pn**	**14 20 42.0**	**-1.0**
VRZ				SN	**Sn**	**14 21 04.3**	**-2.4**
VRZ	**Vera Road**	**1.46**	**40**	⇓Pn	**Pn**	**14 20 42.0**	**-1.0**
BSWZ	**Blackbirch Sta**	**1.49**	**170**	⇑PN	**Pn**	**14 20 43.8**	**+0.5**
BSWZ				AML	AML	14 21 08.4	
BSWZ				AML	AML	14 21 09.0	
BSWZ	**Blackbirch Sta**	**1.49**	**170**	⇑Pn	**Pn**	**14 20 43.8**	**+0.5**
BHW	**Baring Head**	**1.54**	**139**	⇑PN	**Pn**	**14 20 43.7**	**0.0**
BHW				AML	AML	14 21 07.2	
BHW				AML	AML	14 21 07.8	
BHW	**Baring Head**	**1.54**	**139**	⇑Pn	**Pn**	**14 20 43.7**	**0.0**
CMWZ	**Cape Campbell**	**1.59**	**162**	⇑PN	**Pn**	**14 20 45.1**	**+0.8**
CMWZ				AML	AML	14 21 13.4	
CMWZ				AML	AML	14 21 16.6	
CMWZ	**Cape Campbell**	**1.59**	**162**	⇑Pn	**Pn**	**14 20 45.1**	**+0.8**
THZ	**Tophouse**	**1.59**	**197**	⇑PN	**Pn**	**14 20 44.5**	**+0.1**
THZ	**Tophouse**	**1.59**	**197**	⇑Pn	**Pn**	**14 20 44.5**	**+0.1**
MRZ	**Mangatainoka R**	**1.61**	**106**	PN	**Pn**	**14 20 43.8**	**-0.7**
MRZ				AML	AML	14 21 08.0	
MRZ				AML	AML	14 21 08.2	
MRZ	**Mangatainoka R**	**1.61**	**106**	Pn	**Pn**	**14 20 43.8**	**-0.7**
HOWZ	**Holdsworth Sta**	**1.64**	**114**	⇑PN	**Pn**	**14 20 44.6**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.64**	**114**	⇑Pn	**Pn**	**14 20 44.6**	**-0.2**
PKVZ	**Pokaka**	**1.69**	**56**	⇓PN	**Pn**	**14 20 44.5**	**-0.9**
PKVZ	**Pokaka**	**1.69**	**56**	⇓Pn	**Pn**	**14 20 44.5**	**-0.9**
POWZ	**Post Office Ro**	**1.71**	**96**	⇓PN	**Pn**	**14 20 45.0**	**-0.5**
POWZ	**Post Office Ro**	**1.71**	**96**	⇓Pn	**Pn**	**14 20 45.0**	**-0.5**
MTVZ	**Mangateitei**	**1.71**	**61**	PN	**Pn**	**14 20 44.7**	**-0.9**
MTVZ	**Mangateitei**	**1.71**	**61**	Pn	**Pn**	**14 20 44.8**	**-0.9**
MSWZ	**Moikau Station**	**1.75**	**133**	⇑PN	**Pn**	**14 20 45.9**	**0.0**
MSWZ				AML	AML	14 21 11.3	
MSWZ				AML	AML	14 21 11.5	
MSWZ	**Moikau Station**	**1.75**	**133**	⇑Pn	**Pn**	**14 20 45.9**	**0.0**
MTW	**Mount Morrison**	**1.75**	**122**	⇑PN	**Pn**	**14 20 45.8**	**-0.1**
MTW				AML	AML	14 21 09.5	
MTW				AML	AML	14 21 10.4	
MTW	**Mount Morrison**	**1.75**	**122**	⇑Pn	**Pn**	**14 20 45.8**	**-0.1**
TRVZ	**Turoa**	**1.81**	**59**	⇑PN	**Pn**	**14 20 45.7**	**-1.2**
TRVZ	**Turoa**	**1.81**	**59**	Pn	**Pn**	**14 20 45.7**	**-1.2**
PAWZ	**Paruwai Farm**	**1.83**	**129**	⇑PN	**Pn**	**14 20 46.7**	**-0.1**
PAWZ				AML	AML	14 21 12.8	
PAWZ				AML	AML	14 21 14.0	
PAWZ	**Paruwai Farm**	**1.83**	**129**	⇑Pn	**Pn**	**14 20 46.7**	**-0.1**
WNVZ	**Wahianoa**	**1.83**	**61**	⇓PN	**Pn**	**14 20 46.0**	**-1.0**
WNVZ	**Wahianoa**	**1.83**	**61**	⇓Pn	**Pn**	**14 20 46.0**	**-1.0**
DRZ	**Dome Shelter**	**1.83**	**59**	PN	**Pn**	**14 20 46.1**	**-1.1**
DRZ	**Dome Shelter**	**1.83**	**59**	Pn	**Pn**	**14 20 46.1**	**-1.1**
FWVZ	**Far West T-bar**	**1.84**	**58**	PN	**Pn**	**14 20 45.9**	**-1.2**
FWVZ	**Far West T-bar**	**1.84**	**58**	Pn	**Pn**	**14 20 46.0**	**-1.2**
WHVZ	**Whangaehu Hut**	**1.85**	**59**	⇓PN	**Pn**	**14 20 46.1**	**-1.2**
PLWZ	**Palliser**	**1.85**	**136**	⇑PN	**Pn**	**14 20 47.0**	**-0.1**
PLWZ	**Palliser**	**1.85**	**136**	⇑Pn	**Pn**	**14 20 47.0**	**-0.1**
WPVZ	**Whakapapa**	**1.86**	**57**	⇑PN	**Pn**	**14 20 46.1**	**-1.2**
WPVZ	**Whakapapa**	**1.86**	**57**	Pn	**Pn**	**14 20 46.1**	**-1.2**
COVZ	**Chateau Observ**	**1.86**	**57**	⇑PN	**Pn**	**14 20 46.0**	**-1.3**
TSZ	**Takapari Road**	**1.86**	**85**	⇑PN	**Pn**	**14 20 46.2**	**-1.0**
TSZ				AML	AML	14 21 13.9	
TSZ				AML	AML	14 21 15.6	
TSZ	**Takapari Road**	**1.86**	**85**	Pn	**Pn**	**14 20 46.2**	**-1.0**
TIWZ	**Tintock**	**1.86**	**107**	⇑PN	**Pn**	**14 20 46.9**	**-0.3**
TIWZ				AML	AML	14 21 13.0	
TIWZ				AML	AML	14 21 13.1	
TIWZ	**Tintock**	**1.86**	**107**	⇑Pn	**Pn**	**14 20 46.9**	**-0.3**
TWVZ	**Taurewa**	**1.87**	**52**	⇓PN	**Pn**	**14 20 46.1**	**-1.3**
TWVZ	**Taurewa**	**1.87**	**52**	⇓Pn	**Pn**	**14 20 46.1**	**-1.3**
PRWZ	**Pori Road**	**1.88**	**100**	PN	**Pn**	**14 20 47.2**	**-0.1**
MOVZ	**Moawhango**	**1.90**	**65**	⇓PN	**Pn**	**14 20 46.3**	**-1.3**
MOVZ	**Moawhango**	**1.90**	**65**	⇓Pn	**Pn**	**14 20 46.3**	**-1.3**
TUVZ	**Tukino**	**1.90**	**60**	⇓PN	**Pn**	**14 20 46.9**	**-0.8**
TUVZ	**Tukino**	**1.90**	**60**	⇓Pn	**Pn**	**14 20 46.9**	**-0.8**
NGZ	**Ngauruhoe**	**1.91**	**57**	⇓PN	**Pn**	**14 20 46.8**	**-1.1**
NGZ	**Ngauruhoe**	**1.91**	**57**	⇓Pn	**Pn**	**14 20 46.8**	**-1.1**
WTVZ	**West Tongariro**	**1.94**	**55**	PN	**Pn**	**14 20 46.9**	**-1.3**
WTVZ	**West Tongariro**	**1.94**	**55**	Pn	**Pn**	**14 20 46.9**	**-1.3**
OTVZ	**Oturere**	**1.96**	**57**	⇓PN	**Pn**	**14 20 47.5**	**-0.9**
OTVZ	**Oturere**	**1.96**	**57**	⇓Pn	**Pn**	**14 20 47.5**	**-0.9**
TMWZ	**Te Maipa**	**1.98**	**117**	⇑PN	**Pn**	**14 20 48.4**	**-0.1**
TMWZ	**Te Maipa**	**1.98**	**117**	Pn	**Pn**	**14 20 48.4**	**-0.1**
KRVZ	**Karewarewa**	**1.99**	**55**	⇓PN	**Pn**	**14 20 47.4**	**-1.2**
KRVZ	**Karewarewa**	**1.99**	**55**	⇓Pn	**Pn**	**14 20 47.4**	**-1.2**
DSZ	**Denniston Nort**	**2.00**	**221**	PN	**Pn**	**14 20 48.6**	**0.0**
DSZ	**Denniston Nort**	**2.00**	**221**	Pn	**Pn**	**14 20 48.6**	**0.0**
TRWZ	**Traveller**	**2.00**	**126**	⇑PN	**Pn**	**14 20 48.5**	**-0.1**
TRWZ				AML	AML	14 21 16.4	
TRWZ				AML	AML	14 21 17.5	
TRWZ	**Traveller**	**2.00**	**126**	⇑Pn	**Pn**	**14 20 48.5**	**-0.1**
HIZ	**Hauiti**	**2.01**	**31**	PN	**Pn**	**14 20 47.6**	**-1.1**
HIZ	**Hauiti**	**2.01**	**31**	Pn	**Pn**	**14 20 47.2**	**-1.5**
DVHZ	**Dannevirke**	**2.01**	**92**	⇓PN	**Pn**	**14 20 48.0**	**-0.7**
DVHZ	**Dannevirke**	**2.01**	**92**	⇓Pn	**Pn**	**14 20 48.0**	**-0.7**
PNHZ	**Pukenui**	**2.07**	**82**	⇓PN	**Pn**	**14 20 48.5**	**-0.9**
PNHZ	**Pukenui**	**2.07**	**82**	Pn	**Pn**	**14 20 48.5**	**-0.9**
BHHZ	**Black Hill Sta**	**2.08**	**70**	⇓PN	**Pn**	**14 20 48.1**	**-1.6**
BHHZ	**Black Hill Sta**	**2.08**	**70**	⇓Pn	**Pn**	**14 20 48.1**	**-1.6**
KATZ	**Kakaramea**	**2.09**	**53**	⇓PN	**Pn**	**14 20 48.8**	**-1.1**
KATZ	**Kakaramea**	**2.09**	**53**	Pn	**Pn**	**14 20 48.8**	**-1.1**
CPWZ	**Castlepoint**	**2.13**	**109**	⇓PN	**Pn**	**14 20 50.4**	**+0.3**
KHZ	**Kahutara**	**2.17**	**180**	⇑PN	**Pn**	**14 20 50.8**	**+0.3**
KHZ				AML	AML	14 21 19.8	
KHZ				AML	AML	14 21 20.2	
KHZ	**Kahutara**	**2.17**	**180**	⇑Pn	**Pn**	**14 20 50.8**	**+0.3**
KHZ				*e*PN	**Pn**	**14 20 50.8**	**+0.3**
KHZ				*e*Sn	**Sn**	**14 21 17.5**	**-2.8**
RITZ	**Rihia Road**	**2.19**	**55**	PN	**Pn**	**14 20 49.9**	**-0.9**
RITZ	**Rihia Road**	**2.19**	**55**	Pn	**Pn**	**14 20 50.0**	**-0.9**
RATZ	**Rangitukua**	**2.21**	**52**	PN	**Pn**	**14 20 49.9**	**-1.1**
RATZ	**Rangitukua**	**2.21**	**52**	Pn	**Pn**	**14 20 49.9**	**-1.1**
WPHZ	**Waipukurau**	**2.23**	**86**	PN	**Pn**	**14 20 50.6**	**-0.7**
WPHZ	**Waipukurau**	**2.23**	**86**	Pn	**Pn**	**14 20 50.6**	**-0.7**
ANWZ	**Angora Road**	**2.25**	**96**	PN	**Pn**	**14 20 51.2**	**-0.3**
KRHZ	**Kereru**	**2.25**	**75**	⇓PN	**Pn**	**14 20 50.5**	**-1.1**
WATZ	**Wairara**	**2.29**	**49**	⇓PN	**Pn**	**14 20 51.0**	**-1.0**
WATZ	**Wairara**	**2.29**	**49**	Pn	**Pn**	**14 20 51.0**	**-1.0**
KWHZ	**Kaweka Forest**	**2.37**	**71**	⇓PN	**Pn**	**14 20 51.8**	**-1.1**
PRHZ	**Porangahau**	**2.37**	**92**	PN	**Pn**	**14 20 52.2**	**-0.6**
PRHZ	**Porangahau**	**2.37**	**92**	Pn	**Pn**	**14 20 52.2**	**-0.6**
HATZ	**Hinemaiaia**	**2.39**	**56**	PN	**Pn**	**14 20 51.5**	**-1.7**
HATZ	**Hinemaiaia**	**2.39**	**56**	Pn	**Pn**	**14 20 51.5**	**-1.7**
WHTZ	**Whakaora**	**2.44**	**51**	⇓PN	**Pn**	**14 20 53.0**	**-0.8**
WHTZ	**Whakaora**	**2.44**	**51**	⇓Pn	**Pn**	**14 20 53.0**	**-0.8**
TLZ	**Tolley Road**	**2.46**	**40**	PN	**Pn**	**14 20 52.2**	**-1.9**
KUTZ	**Kaahu Road**	**2.49**	**46**	⇓PN	**Pn**	**14 20 53.4**	**-0.9**
BKZ	**Black Stump Fm**	**2.52**	**66**	⇓PN	**Pn**	**14 20 53.0**	**-1.7**
BKZ				AML	AML	14 21 26.5	
BKZ				AML	AML	14 21 38.1	
BKZ	**Black Stump Fm**	**2.52**	**66**	⇓Pn	**Pn**	**14 20 53.0**	**-1.7**
PXZ	**Pawanui**	**2.55**	**86**	PN	**Pn**	**14 20 53.8**	**-1.2**
PXZ				AML	AML	14 21 27.0	
PXZ				AML	AML	14 21 27.0	
PXZ				AML	AML	14 21 27.2	
PXZ				AML	AML	14 21 27.3	
PXZ	**Pawanui**	**2.55**	**86**	Pn	**Pn**	**14 20 53.8**	**-1.2**
MCHZ	**McNeill Hill**	**2.56**	**73**	⇓PN	**Pn**	**14 20 54.3**	**-0.8**
MCHZ	**McNeill Hill**	**2.56**	**73**	Pn	**Pn**	**14 20 54.3**	**-0.8**
KAHZ	**Kahuranaki**	**2.60**	**81**	⇓PN	**Pn**	**14 20 54.7**	**-1.0**
KAHZ	**Kahuranaki**	**2.60**	**81**	Pn	**Pn**	**14 20 54.7**	**-1.0**
MRHZ	**Matea Rd**	**2.63**	**59**	⇓PN	**Pn**	**14 20 54.0**	**-2.1**
WPRZ	**Whakapapatarin**	**2.66**	**51**	⇓PN	**Pn**	**14 20 54.9**	**-1.6**
LTZ	**Lake Taylor**	**2.71**	**200**	⇓PN	**Pn**	**14 20 56.5**	**-0.4**
LTZ	**Lake Taylor**	**2.71**	**200**	⇓Pn	**Pn**	**14 20 56.5**	**-0.4**
ALRZ	**Allen Road**	**2.74**	**53**	PN	**Pn**	**14 20 55.4**	**-2.0**
ALRZ	**Allen Road**	**2.74**	**53**	Pn	**Pn**	**14 20 55.4**	**-2.0**
GRRZ	**Galatos Road**	**2.75**	**47**	⇓PN	**Pn**	**14 20 56.2**	**-1.2**
NMHZ	**Naumai**	**2.77**	**67**	⇓PN	**Pn**	**14 20 56.7**	**-1.0**
NMHZ	**Naumai**	**2.77**	**67**	Pn	**Pn**	**14 20 56.7**	**-1.0**
CKHZ	**Cape Kidnapper**	**2.78**	**79**	PN	**Pn**	**14 20 56.7**	**-1.0**
CKHZ	**Cape Kidnapper**	**2.78**	**79**	Pn	**Pn**	**14 20 56.7**	**-1.0**
PRRZ	**Plateau Road**	**2.81**	**53**	PN	**Pn**	**14 20 56.2**	**-2.1**
PRRZ	**Plateau Road**	**2.81**	**53**	Pn	**Pn**	**14 20 56.2**	**-2.1**
HRRZ	**Handcock Road**	**2.82**	**50**	⇓PN	**Pn**	**14 20 56.9**	**-1.4**
HRRZ	**Handcock Road**	**2.82**	**50**	Pn	**Pn**	**14 20 56.9**	**-1.4**
ARHZ	**Aropaoanui**	**2.84**	**71**	⇓PN	**Pn**	**14 20 57.3**	**-1.2**
HSRZ	**Hossack Road**	**2.85**	**48**	⇓PN	**Pn**	**14 20 57.3**	**-1.4**
UTU	**Utuhina**	**2.92**	**46**	PN	**Pn**	**14 20 58.3**	**-1.2**
UTU	**Utuhina**	**2.92**	**46**	Pn	**Pn**	**14 20 58.3**	**-1.2**
TOZ	**Tahuroa Road**	**2.94**	**32**	⇓PN	**Pn**	**14 20 58.0**	**-1.7**
TOZ	**Tahuroa Road**	**2.94**	**32**	⇓Pn	**Pn**	**14 20 58.0**	**-1.7**
HLRZ	**Highlands Stat**	**2.95**

5.9nm,0.5s,baz=192,slow=0.8,SNR=5.1
QSPA South Pole Qui 49.88 180 *e*P **P 14 28 49.7 +1.6**
23nm,1.1s
QSPA P **P 14 28 50.2 +2.1**
QSPA pP **pP 14 29 29.1 +2.9**
SIJI Sorong 54.83 305 P **P 14 29 25.3 +0.3**
3.0nm,0.3s,baz=157,slow=5.2,SNR=6.7
JNU Nakatsue 82.97 325 P **P 14 32 17.5 -0.6**
5.9nm,0.9s,baz=30,slow=5.2,SNR=4.6
MJAR Matsushiro Arr 83.03 332 P **P 14 32 19.1 +0.8**
2.3nm,0.8s,baz=169,slow=5.8,SNR=10.0
MAT Matsushiro 83.03 332 P **P 14 32 18.9 +0.6**
KSRS Korea Array 87.92 325 P **P 14 32 43.7 +1.3**
6.5nm,0.8s,baz=146,slow=5.6,SNR=28
KSRS pP **pP 14 33 24.9 +0.1**
1.8nm,0.6s,baz=146,slow=5.3,SNR=4.8
KSRS LR LR 15 15 04.5
comp=Z,28nm,18.1s,baz=18,slow=37
KSAR Wonju Array Be 87.92 325 P **P 14 32 43.7 +1.3**
KSAR pP **pP 14 33 24.9 +0.1**
CMAR Chiang Mai Arr 90.55 294 P **P 14 32 56.8 +1.6**
1.6nm,0.6s,baz=153,slow=3.5,SNR=8.0
PETK Petropavlovsk- 93.98 351 P **P 14 33 10.6 +0.4**
2.6nm,0.8s,baz=123,slow=5.3,SNR=3.1
MKAR Makanchi Array 118.62 309 PKP **PKPdf 14 38 37.5 -1.9**
0.4nm,0.6s,baz=117,slow=1.6,SNR=7.4
MKAR PP **PP 14 40 02.9 +2.7**
0.7nm,0.6s,baz=127,slow=8.1,SNR=9.0
KBZ Khabaz 143.58 292 PKP PKPbc 14 39 24.1 -0.1
6.9nm,0.8s,baz=129,slow=3.6,SNR=20
ARCES ARCESS Array B 146.18 340 PKPbc **PKPbc 14 39 30.6 -0.8**
4.1nm,0.7s,baz=51,slow=2.6,SNR=27
ARCES pPKPbc pPKPbc 14 40 12.6 -2.8
2.5nm,0.7s,baz=33,slow=3.3,SNR=2.7
BRTR Keskin Array B 149.45 282 PKPbc **PKPbc 14 39 40.3 -0.9**
1.3nm,0.8s,baz=143,slow=4.3,SNR=6.1
BRTR PKPab **PKPab 14 39 47.0 +0.3**
3.7nm,0.7s,baz=146,slow=5.1,SNR=18
FINES FINESS Array B 150.98 328 PKPbc **PKPbc 14 39 42.7 -1.2**
1.8nm,0.7s,baz=151,slow=4.4,SNR=8.6
FINES PKPab **PKPab 14 39 51.4 -0.6**
4.9nm,0.7s,baz=98,slow=5.8,SNR=13
FINES pPKPbc **pPKPbc 14 40 25.7 -2.5**
1.7nm,0.9s,baz=172,slow=30,SNR=1.5
FINES pPKPab **pPKPab 14 40 34.2 -0.9**
2.0nm,0.6s,baz=86,slow=2.9,SNR=3.1
TORD Torodi Ar. Bea 152.07 197 PKPbc **PKPbc 14 39 46.6 -1.2**
0.6nm,0.4s,baz=159,slow=3.2,SNR=13
AKASG Malin Array Be 153.13 305 PKPbc **PKPbc 14 39 47.5 -1.6**
0.3nm,0.4s,baz=85,slow=1.9,SNR=2.9
AKASG PKPab **PKPab 14 40 01.1 -0.4**
4.0nm,0.6s,baz=65,slow=4.6,SNR=13
NB2 NORSAR Subarra156.51 338 PKP **PKPab 14 40 15.4 -0.2**
comp=Z,2.6nm,0.7s,baz=35,slow=4.4
NOA NORSAR Array B 156.51 338 PKPab **PKPab 14 40 15.6 0.0**
comp=Z,2.4nm,0.8s,baz=36,slow=4.6,SNR=7.6
GERES GERESS Array B 163.29 308 PKPab **PKPab 14 40 46.5 +0.7**
comp=Z,1.1nm,0.8s,baz=26,slow=3.4,SNR=7.9

*IDC **11** 14:37:11.0±1.6,9.°33S×112.°65E,h0km,mb3.5/5, mb1 3.7/6,mb1mx3.5/35,mbtmp3.6/6,ML3.8/1,MS2.5/1, Ms1 2.5/1,ms1mx2.4/25,Error ellipse: s-maj=58.2km s-min=20.8km az=48.0*
*ISCJB **11** 14:37:17.9±0.7,9.°40S±0.°06×113.°01E±0.°04,h36km, mb3.5/5,Error ellipse: s-maj=9.0km s-min=5.5km az=9.1*
*DJA **11** 14:37:19.0±1.2,9.°5S±4.°×11.°3E±.°,h23km±15km,M4.2/19, mb4.3/5,MLv4.1/19*
ISC 11 14:37:17.7±1.2,9.°4S±0.°1×112.°97E±0.°06,h36km,n22, σ1§52/21,mb3.5/5,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.50**	**51**	P		**Pn**	**14 37 42.2**	**+0.2**
JAGI				S		Sn	14 37 59.2	-1.1
BLJI	**Banyuglugur**	**1.77**	**20**	P		**Pn**	**14 37 47.0**	**+1.3**
BLJI				S		Sn	14 38 08.0	+1.0
PWJI	**Pagerwojo**	**1.80**	**320**	P		**Pn**	14 37 46.8	+0.6
PWJI				S		Sn	14 38 07.0	-0.8
ABJI	**Asem Bagus**	**2.04**	**38**	P		**Pn**	14 37 51.5	+2.1
PCJI	**Pacitan**	**2.15**	**304**	P		**Pn**	14 37 51.9	+1.0
IGBI	**Denpasar**	**2.23**	**75**	P		**Pn**	14 37 53.5	+1.5
DNP	**Denpasar**	**2.33**	**72**	P		**Pn**	14 37 53.5	+0.1
GRJI	**Gresik**	**2.53**	**349**	P		**Pn**	14 37 58.2	+2.0
SRBI	**Singaraja**	**2.58**	**59**	P		**Pn**	14 37 58.1	+1.2
TBJI	**Tambak Boyo**	**2.81**	**337**	P		Pn	14 38 03.6	+3.6
UGM	**Wanagama**	**2.84**	**301**	P		**Pn**	14 38 02.8	+2.3
CMJI	**Cimerak**	**4.76**	**290**	P		Pn	14 38 30.7	+3.9
CISI	**Cisompet, Garu**	**5.42**	**289**	P		**Pn**	14 38 38.0	+1.9
	54nm,0.9s,0.3nm							
LEM	**Lembang**	**5.89**	**295**	LR		LR	14 40 54.6	
	comp=Z,54nm,21.5s,baz=144,slow=40							
WBSI	**Waikabubak, Su**	**6.34**	**93**	P		**Pn**	14 38 50.3	+1.7
	47nm,1.1s,0.2nm							
KAPI	**Kappang**	**8.02**	**57**	Pn		**Pn**	14 39 11.5	-0.2
	1.3nm,0.3s,baz=229,slow=13,SNR=4.1							
BSSI	**Bau Bau, Buton**	**8.13**	**67**	P		**Pn**	14 39 14.6	+1.4
WRA	**Warramunga Arr**	**23.14**	**119**	P		**P**	14 42 22.1	+1.1
	0.5nm,0.8s,baz=295,slow=12,SNR=3.8							
ASAR	**Alice Springs**	**24.52**	**128**	P		**P**	14 42 35.5	+1.5
	0.8nm,0.7s,baz=300,slow=8.9,SNR=15							
SONM	**Songino Array**	**57.29**	**355**	P		**P**	14 47 00.5	-1.4
	0.5nm,0.5s,baz=180,slow=8.6,SNR=3.8							
MKAR	**Makanchi Array**	**62.29**	**337**	P		P	14 47 33.2	-3.0
	0.2nm,0.5s,baz=162,slow=6.1,SNR=3.2							
ZALV	**Zalesovo Beam**	**67.47**	**342**	P		**P**	**14 48 07.5**	**-2.1**
	0.4nm,0.4s,baz=156,slow=7.3,SNR=2.7							

GUC 11 14:52:42.1±0.3,35.°86S×73.°38W,h38km±2km,ML4.1,3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.55**	**120**	*i*P		Pn	14 52 53.4	-0.2
COCH				*i* S		Sn	14 53 01.7	+0.2
LNCH	**Linares**	**1.44**	**90**	*e*P		Pn	14 53 06.9	+1.2
LNCH				*i* S		Sn	14 53 25.7	+2.3
TALC	**Talca**	**1.49**	**72**	*i*P		Pn	14 53 07.6	+1.3
TALC				*i* S		Sn	14 53 26.9	+2.3
PEL	**Peldehue**	**3.51**	**40**	*i*P		Pn	14 53 35.3	+1.2
PEL				AML		AML	14 54 39.9	
	comp=N,239nm,0.6s							

*IDC **11** 14:59:15.5±1.3,6.°84S×155.°38E,h29km±4km,mb3.6/7, mb1 3.9/7,mb1mx3.6/21,mbtmp3.8/7,MS3.2/2,Ms1 3.2/2, ms1mx2.8/24,Error ellipse: s-maj=40.2km s-min=20.7km az=128.0*
*ISCJB **11** 14:59:16.2±1.3,6.°7S±0.°2×155.°3E±0.°2,h41km,mb3.7/7, MS3.1/2,Error ellipse: s-maj=39.2km s-min=19.5km az=135.2*
ISC 11 14:59:16.5±1.4,6.°9S±0.°2×155.°3E±0.°3,h41km,n14, σ1§88/13,mb3.7/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.28**	**119**	P		Pn	15 00 49.0	+16
GUMO	**Guam**	**22.81**	**333**	LR		LR	15 13 13.1	
	comp=Z,22nm,19.6s,baz=114,slow=37							
WRA	**Warramunga Arr**	**24.10**	**235**	P		**P**	**15 04 30.7**	**+2.2**
	1.5nm,0.6s,baz=58,slow=9.3,SNR=20							
WRA				pP		**pP**	**15 04 38.8**	**-0.8**
	1.3nm,0.6s,baz=59,slow=9.8,SNR=2.9							
SIJI	**Sorong**	**24.67**	**283**	P		**P**	**15 04 34.9**	**+1.2**
	1.5nm,0.5s,baz=127,slow=23,SNR=2.6							
ASAR	**Alice Springs**	**26.45**	**229**	P		**P**	**15 04 51.5**	**+1.6**
	0.8nm,0.7s,baz=58,slow=9.7,SNR=22							
ASAR				pP		**pP**	**15 04 58.0**	**-3.0**
	0.5nm,0.6s,baz=59,slow=9.1,SNR=3.1							
H11S3	**WAKE ISLAND Hy**	**27.62**	**24**	T		T	15 33 26.7	
	baz=203,slow=75,SNR=40							
H11S2	**WAKE ISLAND Hy**	**27.62**	**24**	T		T	15 33 26.6	
	baz=203,slow=75,SNR=43							
H11S1	**WAKE ISLAND Hy**	**27.64**	**24**	T		T	15 33 27.8	
	baz=203,slow=75,SNR=22							
STKA	**Stephens Creek**	**27.95**	**205**	LR		LR	15 15 31.6	
	comp=Z,131nm,20.0s,baz=29,slow=35							
CMAR	**Chiang Mai Arr**	**60.98**	**295**	P		**P**	**15 09 27.8**	**+1.6**
	1.3nm,0.7s,baz=125,slow=5.5,SNR=7.7							
CMAR				pP		**pP**	**15 09 37.2**	**-0.9**
	1.6nm,0.7s,baz=118,slow=5.3,SNR=6.8							
ILAR	**Eielson Array**	**83.17**	**21**	P		**P**	**15 11 38.9**	**+0.9**
	0.2nm,0.4s,baz=251,slow=5.6,SNR=3.7							
MKAR	**Makanchi Array**	**83.50**	**319**	P		**P**	**15 11 39.3**	**-0.8**
	0.1nm,0.4s,baz=98,slow=4.4,SNR=4.3							
MKAR				pP		**pP**	**15 11 49.3**	**-3.2**
	0.5nm,0.7s,baz=101,slow=6.3,SNR=4.2							
YKA	**Yellowknife Ar**	**96.11**	**28**	P		**P**	**15 12 40.2**	**+0.7**
	0.3nm,0.5s,baz=267,slow=4.4,SNR=5.0							
TORD	**Torodi Ar. Bea**	**153.25**	**286**	PKPbc		**PKPbc**	**15 19 11.1**	**-0.1**
	0.4nm,0.8s,baz=4.5,slow=2.3,SNR=3.4							
TORD				pPKPbc		**PKPab**	**15 19 22.0**	**-1.1**
	0.3nm,0.6s,baz=53,slow=2.8,SNR=4.6							

*ISCJB **11** 15:15:07.9±0.5,59.°67N±0.°03×25.°54E±0.°06,h0km,Error ellipse: s-maj=5.1km s-min=3.4km az=33.1*
*CSEM **11** 15:15:09.1±0.2,59.°63N×25.°70E,h2km,ML2.2,Error ellipse: s-maj=6.3km s-min=3.7km az=126.0,Mining explosion.*
*NAO **11** 15:15:09.8±1.0,59.°59N×25.°76E,ML2.1*
*HEL **11** 15:15:10.2±0.1,59.°59N×25.°66E,h0km,ML2.2,Explosion*
*BER **11** 15:15:10.4±4.3,59.°62N×25.°72E,h0km±25km, ML2.1(NAO)*
*IDC **11** 15:15:12.9±1.5,59.°73N×25.°62E,h0km,mb1 3.3/4, mb1mx3.0/35,mbtmp3.1/4,ML3.4/3,Error ellipse: s-maj=15.7km s-min=6.9km az=126.0*
*UPP **11** 15:15:21.3,59.°64N×23.°97E,h0km,ML1.6,Suspected Mining explosion.*
ISC 11 15:15:08.8±0.8,59.°60N±0.°03×25.°69E±0.°03,h0km,n55, σ1§01/68,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**0.68**	**259**	*e*P		**Pg**	**15 15 22.3**	**+0.5**
SRPE	**Suurupi**	**0.68**	**259**	P		**Pg**	**15 15 22.3**	**+0.5**
MEF	**Metsahovi**	**0.90**	**314**	*e*P		**Pg**	**15 15 26.3**	**+0.2**
MEF	**Metsahovi**	**0.90**	**314**	P		**Pg**	**15 15 26.3**	**+0.2**
PVF	**Pernaja**	**0.95**	**5**	*e*P		**Pg**	**15 15 27.5**	**+0.4**
PVF	**Pernaja**	**0.95**	**5**	P		**Pg**	**15 15 27.5**	**+0.4**
VSU	**Vasula**	**1.26**	**154**	Pg		**Pg**	**15 15 32.9**	**0.0**
VSU				Lg		Lg	15 15 50.5	
VSU	**Vasula**	**1.26**	**154**	Pg		**Pg**	**15 15 32.9**	**0.0**
VSU				Lg		Lg	15 15 50.5	
VSU	**Vasula**	**1.26**	**154**	*e*PB		**Pg**	**15 15 33.0**	**0.0**
VSU	**Vasula**	**1.26**	**154**	Pg		**Pg**	**15 15 32.9**	**0.0**
	SNR=90							
VSU				Lg		Lg	15 15 50.5	
VJF	**Virojoki**	**1.33**	**44**	*e*P		**Pg**	**15 15 33.9**	**-0.3**
VJF				*e*S		**Sg**	**15 15 51.4**	**-0.1**
VJF	**Virojoki**	**1.33**	**44**	P		**Pg**	**15 15 33.9**	**-0.3**
VJF				S		**Sg**	**15 15 51.3**	**-0.1**
FIA0	**FINESS Array S**	**1.86**	**6**	Pg		**Pb**	**15 15 43.5**	**-0.2**
	baz=181,slow=22							
FIA0				Lg		Lg	15 16 07.8	
	baz=179,slow=37							
FIA0	**FINESS Array S**	**1.86**	**6**	Pg		**Pb**	**15 15 43.5**	**-0.2**
	baz=181,slow=22							
FIA0				Lg		Lg	15 16 07.8	
	baz=179,slow=37							
FIA0	**FINESS Array S**	**1.86**	**6**	*e*PN		**Pn**	**15 15 43.3**	**+1.4**
FIA0				*e*SG		**Sb**	**15 16 07.9**	**+0.4**
FIA0	**FINESS Array S**	**1.86**	**6**	Pg		**Pb**	**15 15 43.5**	**-0.2**
	SNR=90							
FIA0				Lg		Lg	15 16 07.8	
	SNR=70							
FINES	**FINESS Array B**	**1.86**	**6**	Pg		**Pb**	**15 15 43.5**	**-0.2**
	1.9nm,0.3s,baz=187,slow=17,SNR=239							
FINES				Lg		Lg	15 16 07.8	
	3.2nm,0.3s,baz=184,slow=26,SNR=18							
RAF	**Rauma**	**2.42**	**308**	*e*PB		**Pb**	**15 15 51.8**	**-1.4**
RAF				*e*SG		**Sb**	**15 16 23.9**	**+0.4**
RAF				MSG			15 16 26.1	
	comp=Z,13nm,0.2s							
KAF	**Kangasniemi**	**2.54**	**7**	*e*P		**Pn**	**15 15 53.0**	**+1.7**
KAF				*e*SG		**Sb**	**15 16 28.5**	**+1.5**
KAF				MSG			15 16 30.1	
	comp=Z,8.2nm,0.1s							
KAF	**Kangasniemi**	**2.54**	**7**	P		**Pn**	**15 15 52.9**	**+1.7**
KAF				Sg		**Sb**	**15 16 28.5**	**+1.5**
KEF	**Keuruu**	**2.61**	**352**	*e*PB		**Pn**	**15 15 54.9**	**+2.7**
KEF				*e*SG		**Sb**	**15 16 30.6**	**+1.6**
KEF				MSG			15 16 32.0	
	comp=Z,6.1nm,0.1s							
AAL	**Aland**	**2.93**	**284**	*e*P		**Pn**	**15 15 57.5**	**+1.0**
AAL	**Aland**	**2.93**	**284**	P		**Pn**	**15 15 57.5**	**+1.0**
AAL	**Aland**	**2.93**	**284**	P		**Pn**	**15 15 57.5**	**+1.0**
AAL				S		Sn	15 16 19.5	-13
VIKU	**Vikbolandet**	**4.77**	**261**	P		**Pn**	**15 16 22.3**	**+0.4**
VIKU				S		**Sn**	**15 17 16.8**	**-1.0**
VIKU	**Vikbolandet**	**4.77**	**261**	P		**Pn**	**15 16 22.3**	**+0.4**
VIKU				S		**Sn**	**15 17 16.8**	**-1.0**
VSTU	**Vaestervik**	**5.16**	**252**	P		**Pn**	**15 16 28.2**	**+1.0**
VSTU	**Vaestervik**	**5.16**	**252**	P		**Pn**	**15 16 28.2**	**+1.0**
ASPU	**Aespoe**	**5.24**	**249**	P		**Pn**	**15 16 29.4**	**+1.1**
ASPU	**Aespoe**	**5.24**	**249**	P		**Pn**	**15 16 29.4**	**+1.1**
NRAU	**Nora**	**5.41**	**274**	P		**Pn**	**15 16 31.5**	**+0.9**
NRAU	**Nora**	**5.41**	**274**	P		**Pn**	**15 16 31.5**	**+0.9**
LNKU	**Linkoeping**	**5.46**	**260**	P		**Pn**	**15 16 32.2**	**+0.9**
LNKU	**Linkoeping**	**5.46**	**260**	P		**Pn**	**15 16 32.2**	**+0.9**
OSKU	**Oskarshamn**	**5.59**	**249**	P		**Pn**	**15 16 33.9**	**+0.8**
OSKU	**Oskarshamn**	**5.59**	**249**	P		**Pn**	**15 16 33.9**	**+0.8**
ASKU	**Askersund**	**5.62**	**267**	P		**Pn**	**15 16 34.2**	**+0.7**
ASKU	**Askersund**	**5.62**	**267**	P		**Pn**	**15 16 34.2**	**+0.7**
HFS	**Hagfors**	**6.07**	**280**	Pn		**Pn**	**15 16 39.3**	**-0.4**
	baz=108,slow=12							
HFS				Sn		**Sn**	**15 17 48.4**	**-1.3**
	baz=73,slow=37							
HFS				Lg		Lg	15 18 16.5	
	baz=94,slow=37							
HFS	**Hagfors**	**6.07**	**280**	Pn		**Pn**	**15 16 39.3**	**-0.4**
	baz=108,slow=12							
HFS				Sn		**Sn**	**15 17 48.4**	**-1.3**
	baz=73,slow=37							
HFS				Lg		Lg	15 18 16.5	
	baz=94,slow=37							
HFS	**Hagfors**	**6.07**	**280**	Pn		**Pn**	**15 16 40.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=113,slow=11,SNR=9.5							
HFS				Sn		**Sn**	**15 17 48.6**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=93,slow=26,SNR=4.1							
HFS				Lg		Lg	15 18 22.6	
	comp=Z,0.6nm,0.3s,baz=86,slow=32,SNR=6.4							
HFS	**Hagfors**	**6.07**	**280**	Pn		**Pn**	**15 16 39.3**	**-0.4**
	SNR=50							
HFS				Sn		**Sn**	**15 17 48.4**	**-1.3**
	SNR=50							
HFS				Lg		Lg	15 18 16.5	
BLEU	**Blekinge**	**6.21**	**242**	P		**Pn**	**15 16 41.5**	**0.0**
BLEU	**Blekinge**	**6.21**	**242**	P		**Pn**	**15 16 41.5**	**0.0**
VXJU	**Vaexsjoe**	**6.28**	**249**	P		**Pn**	**15 16 42.9**	**+0.4**
VXJU	**Vaexsjoe**	**6.28**	**249**	P		**Pn**	**15 16 42.9**	**+0.4**
NB2	**NORSAR Subarra**	**7.33**	**288**	Pn		**Pn**	**15 16 55.9**	**-1.1**
	baz=94,slow=14							
NB2	**NORSAR Subarra**	**7.33**	**288**	Pn		**Pn**	**15 16 55.9**	**-1.1**
	baz=94,slow=14							
NB2	**NORSAR Subarra**	**7.33**	**288**	Pn		**Pn**	**15 16 55.9**	**-1.1**
	SNR=50							
NOA	**NORSAR Array B**	**7.33**	**288**	Pn		**Pn**	**15 16 55.9**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=151,slow=12,SNR=6.0							
NOA				Lg		Lg	15 19 02.5	
	comp=Z,0.4nm,0.3s,baz=146,slow=11,SNR=3.0							
ARA0	**ARCESS Array S**	**9.98**	**360**	Pn		**Pn**	**15 17 32.0**	**-1.2**
	baz=174,slow=14							
ARA0	**ARCESS Array S**	**9.98**	**360**	Pn		**Pn**	**15 17 32.0**	**-1.2**
	baz=174,slow=14							
ARA0	**ARCESS Array S**	**9.98**	**360**	Pn		**Pn**	**15 17 32.0**	**-1.2**
	SNR=50							
ARCES	**ARCESS Array B**	**9.98**	**360**	Pn		**Pn**	**15 17 32.2**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=180,slow=13,SNR=29							
GERES	**GERESS Array B**	**12.83**	**218**	Pn		**Pn**	**15 18 15.0**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=213,slow=38,SNR=2.4							

*ISCJB **11** 15:46:08.6±0.9,8.°6S±0.°1×158.°75E±0.°08,h33km,mb3.6/6, MS3.0/1,Error ellipse: s-maj=20.1km s-min=9.1km az=22.8*
*IDC **11** 15:46:16.2±8.1,8.°78S×158.°67E,h86km±70km,mb3.5/6, mb1 3.7/8,mb1mx3.4/41,mbtmp3.9/8,ML3.6/2,MS3.1/1, Ms1 3.1/1,ms1mx2.6/16,Error ellipse: s-maj=38.6km s-min=29.2km az=66.0*
ISC 11 15:46:10.2±1.0,8.°7S±0.°1×158.°8E±0.°1,h35km,n15, σ1§16/11,mb3.8/6,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.39**	**124**	*i*P		**Pn**	**15 46 33.0**	**-0.2**
				i S		**Sn**	**15 46 49.0**	**-1.4**
DZM	**Mont Dzumac**	**15.24**	**152**	P		**Pn**	**15 49 45.8**	**+2.8**
	0.3nm,0.3s,baz=271,slow=24,SNR=3.0							
CTA	**Charters Tower**	**16.60**	**225**	P		**P**	**15 50 02.1**	**-0.5**
	0.2nm,0.3s,baz=68,slow=19,SNR=2.6							
WRA	**Warramunga Arr**	**26.16**	**242**	P		**P**	**15 51 41.3**	**-0.3**
	0.7nm,0.6s,baz=68,slow=9.5,SNR=11							
STKA	**Stephens Creek**	**28.08**	**212**	P		**P**	**15 51 58.3**	**-0.4**
	1.4nm,0.5s,baz=44,slow=15,SNR=7.4							
ASAR	**Alice Springs**	**28.09**	**235**	P		**P**	**15 51 58.6**	**-0.2**
	0.6nm,0.8s,baz=62,slow=9.9,SNR=11							
ASAR				LR		LR	16 01 57.1	
	comp=Z,38nm,18.1s,baz=146,slow=34							
H11S2	**WAKE ISLAND Hy**	**28.09**	**16**	T		T	16 20 51.8	
	baz=195							
H11S3	**WAKE ISLAND Hy**	**28.09**	**16**	T		T	16 20 51.9	
	baz=195							
H11S1	**WAKE ISLAND Hy**	**28.11**	**16**	T		T	16 20 52.5	
	baz=195							
H11N1	**WAKE ISLAND Hy**	**29.31**	**16**	T		T	16 22 24.0	
	baz=198							
H11N3	**WAKE ISLAND Hy**	**29.32**	**16**	T		T	16 22 22.5	
	baz=198							
H11N2	**WAKE ISLAND Hy**	**29.32**	**16**	T		T	16 22 25.5	
	baz=198							
VNDA	**Vanda**	**68.85**	**179**	P		**P**	**15 57 10.3**	**-0.4**
	1.3nm,0.8s,baz=345,slow=6.5,SNR=8.4							
SONM	**Songino Array**	**72.77**	**326**	P		**P**	**15 57 35.8**	**+0.6**
	0.8nm,0.7s,baz=116,slow=3.4,SNR=3.8							
SONM				PcP		**PcP**	**15 57 52.2**	**-0.2**
	1.3nm,0.6s,baz=132,slow=4.5,SNR=5.0							
MKAR	**Makanchi Array**	**87.13**	**318**	P		**P**	**15 58 52.5**	**-0.1**
	0.3nm,0.6s,baz=111,slow=3.7,SNR=3.2							

MEX 11 15:49:00.3±0.8,16.°86N×100.°18W,h5km,MD3.5,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.20**	**335**	*i*P		Pg	15 49 03.5	-0.8
CAIG				*i* S		Sg	15 49 07.1	+0.1
ACP2	**Acapulco**	**0.28**	**88**	*i*P		Pg	15 49 05.0	-0.8
ACP2				*e*S		Sg	15 49 09.7	+0.2
ACX	**Acapulco**	**0.30**	**89**	*i*P		Pb	15 49 09.5	+1.2
ACX				*e*S		Sb	15 49 13.9	+0.2
MEIG	**Mezcala**	**1.18**	**27**	*i*P		Pg	15 49 20.6	-2.5
MEIG				*e*S		Sg	15 49 35.2	-3.4
ARIG	**Puente Sto Nin**	**1.42**	**353**	*e*P		Pn	15 49 23.6	-3.2
ARIG				*i* S		Sb	15 49 40.3	-5.5
ZIIG	**Zihuatanejo**	**1.44**	**301**	*e*P		Pn	15 49 23.4	-3.6
ZIIG				*e*S		Sb	15 49 41.8	-4.3
TLIG	**Tlapa**	**1.69**	**65**	*e*P		Pn	15 49 27.9	-2.8
TLIG				*i* S		Sn	15 49 48.3	-4.5

*BJI **11** 15:53:32.8,51.°90N×174.°10W,h189km,mB4.5/1*
*NEIC **11** 15:53:38.7,52.°38N×174.°38W,h175km,mb4.3/7,After AEIC.*
*IDC **11** 15:53:44.0±7.2,52.°65N×174.°51W,h241km±71km,mb3.2/7, mb1 3.5/9,mb1mx3.0/67,mbtmp3.8/9,Error ellipse: s-maj=37.3km s-min=16.4km az=178.0*
ISC 11 15:53:36.9±0.7,52.°5N±0.°1×174.°36W±0.°06,h158km,n55, σ1§82/50,mb3.7/8,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.32**	**161**	*e*Pn		**Pn**	**15 54 01.2**	**+2.8**
GSTR	**Great Sitkin T**	**1.12**	**249**	*e*Pn		**Pn**	**15 54 05.6**	**+2.1**
GSMY	**Great Sitkin M**	**1.14**	**247**	P		**Pn**	**15 54 05.6**	**+2.0**
GSTD	**Great Sitkin T**	**1.18**	**248**	P		**Pn**	**15 54 06.0**	**+1.9**
GSTD				S		**Sn**	**15 54 27.2**	**+2.3**
GSCK	**Great Sitkin C**	**1.21**	**247**	P		**Pn**	**15 54 06.3**	**+2.0**
ETKA	**Kagalaska Isla**	**1.41**	**244**	P		**Pn**	**15 54 08.1**	**+1.9**
ADAG	**Mount Adagdak**	**1.47**	**250**	P		**Pn**	**15 54 08.9**	**+2.1**
KIRH	**Kanaga Island**	**1.79**	**251**	P		**Pn**	**15 54 11.9**	**+1.9**
KIKV	**Kanaga Island**	**1.84**	**251**	P		**Pn**	**15 54 12.3**	**+1.7**
KICM	**Kanaga Island**	**1.84**	**253**	P		**Pn**	**15 54 12.4**	**+1.8**
TAPA	**Tanaga Point A**	**2.23**	**253**	P		**Pn**	**15 54 16.7**	**+1.5**
TAFL	**Tanaga Flats**	**2.31**	**252**	P		**Pn**	**15 54 17.6**	**+1.6**
TAFP	**Tanaga Falls P**	**2.31**	**256**	P		**Pn**	**15 54 17.5**	**+1.4**
TAFP				S		**Sn**	**15 54 47.4**	**+1.0**
TASE	**Tanaga Southea**	**2.36**	**255**	P		**Pn**	**15 54 18.1**	**+1.4**
TANO	**Tanaga North**	**2.39**	**257**	P		**Pn**	**15 54 18.8**	**+1.8**
GAEA	**Gareloi East**	**2.80**	**257**	P		**Pn**	**15 54 23.3**	**+1.3**
GANE	**Gareloi Northe**	**2.81**	**258**	P		**Pn**	**15 54 23.5**	**+1.4**
CERB	**Semis' Cerberu**	**3.74**	**264**	P		**Pn**	**15 54 35.5**	**+1.6**
CESW	**Semis' Southwe**	**3.79**	**263**	P		**Pn**	**15 54 35.4**	**+0.9**
CETU	**Semis' Tuman**	**3.82**	**264**	P		**Pn**	**15 54 36.4**	**+1.5**
AMKA	**Amchitka**	**4.08**	**256**	P		**Pn**	**15 54 38.4**	**+0.1**
AMKA				S		**Sn**	**15 55 23.9**	**-2.

mb1 4.1/15,mb1mx3.9/29,mbtmp4.0/15,MS3.8/5, Ms1 3.8/5,ms1mx3.3/36,Error ellipse: s-maj=21.7km s-min=18.3km az=160.0

NEIC ***11*** *16:01:09.1±0.5,7.°90S×67.°96E,h10km,mb4.4/2, Error ellipse: s-maj=13.3km s-min=12.0km az=163.0*

ISC 11 16:01:09.9±0.8,7.°9S±0.°2×68.°0E±0.°1,h15km,n27, σ0s83/22,mb4.1/17,MS3.7/4,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**3.40**	**63**	T	T	16 05 31.0	
	baz=240,slow=75,SNR=1506						
H08N2	**Diego Garcia H**	**3.42**	**63**	T	T	16 05 33.5	
	baz=240,slow=75,SNR=1319						
H08N1	**Diego Carcia H**	**3.43**	**63**	T	T	16 05 32.6	
	baz=240,slow=75,SNR=1147						
PALK	**Pallekele**	**19.74**	**40**	LR	LR	16 11 25.7	
	comp=Z,266nm,21.3s,baz=259,slow=31						
OPO	**Ambohidratompo**	**22.78**	**240**	LR	LR	16 12 50.6	
	comp=Z,177nm,19.7s,baz=90,slow=31						
LSZ	**Lusaka**		**39.58 256**	P	**P**	**16 08 41.7**	**+0.5**
	4.9nm,0.8s,baz=78,slow=11,SNR=8.0						
CMAR	**Chiang Mai Arr**	**40.28**	**49**	P	**P**	**16 08 47.9**	**+1.1**
	1.5nm,0.7s,baz=246,slow=9.3,SNR=12						
CMAR				LR	LR	16 22 37.5	
	comp=Z,82nm,19.2s,baz=204,slow=32						
BOSA	**Boshof**	**45.14**	**237**	P	**P**	**16 09 25.7**	**-0.6**
	4.8nm,1.0s,baz=71,slow=6.2,SNR=5.2						
BOSA				LR	LR	16 25 50.5	
	comp=Z,100nm,18.1s,baz=107,slow=33						
AAK	**Ala-Archa**	**50.67**	**6**	P	**P**	**16 10 09.8**	**+0.9**
	1.1nm,0.3s,baz=229,slow=7.0,SNR=3.5						
MK31	**Makanchi Array**	**55.95**	**12**	*e*P	**P**	**16 10 45.6**	**-1.9**
MKAR	**Makanchi Array**	**55.95**	**12**	P	**P**	**16 10 47.0**	**-0.6**
	0.9nm,0.7s,baz=192,slow=7.5,SNR=12						
MKAR				PcP	**PcP**	**16 11 45.7**	**-0.3**
	0.4nm,0.8s,baz=197,slow=3.3,SNR=3.6						
BRTR	**Keskin Array B**	**57.05**	**329**	P	**P**	**16 10 55.8**	**+0.1**
	1.1nm,0.8s,baz=140,slow=9.7,SNR=6.1						
ABKAR	**Akbulak array**	**57.37**	**354**	*e*P	**P**	**16 10 57.5**	**-0.1**
	2.5nm,0.9s						
KURBB	**Kurchatov Arra**	**59.03**	**8**	P	**P**	**16 11 08.8**	**-0.3**
	2.2nm,0.9s,baz=206,slow=7.2,SNR=19						
KURK	**Kurchatov**	**59.13**	**8**	*e*P	**P**	**16 11 08.2**	**-1.6**
	4.7nm,0.9s						
MAW	**Mawson**		**59.69 182**	LR	LR	16 33 29.7	
	comp=Z,94nm,18.3s,baz=238,slow=32						
ZALV	**Zalesovo Beam**	**63.27**	**11**	P	**P**	**16 11 37.1**	**-0.7**
	0.6nm,0.4s,baz=216,slow=7.1,SNR=5.6						
ASAR	**Alice Springs**		**64.87 112**	P	**P**	**16 11 48.7**	**-0.4**
	0.7nm,0.8s,baz=278,slow=6.2,SNR=10.0						
AS31	**Alice Springs**		**64.87 112**	P	**P**	**16 11 49.1**	**0.0**
SONM	**Songino Array**	**65.07**	**28**	P	**P**	**16 11 50.4**	**+0.4**
	1.3nm,0.8s,baz=220,slow=5.2,SNR=6.7						
WRA	**Warramunga Arr**	**65.19**	**108**	P	**P**	**16 11 50.8**	**-0.4**
	1.4nm,1.0s,baz=284,slow=6.4,SNR=5.5						
AKASG	**Malin Array Be**	**67.31**	**334**	P	**P**	**16 12 03.7**	**-0.4**
	0.2nm,0.2s,baz=133,slow=5.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**69.05**	**287**	P	**P**	**16 12 16.8**	**+1.0**
	0.4nm,0.9s,baz=64,slow=3.4,SNR=2.7						
ESDC	**Sonseca Array**	**81.36**	**312**	P	**P**	**16 13 25.8**	**-0.5**
	0.9nm,0.7s,baz=115,slow=8.7,SNR=3.5						
ARCES	**ARCESS Array B**	**82.59**	**346**	P	**P**	**16 13 31.9**	**-0.2**
	3.7nm,1.0s,baz=121,slow=6.1,SNR=6.4						
PDAR	**Pinedale Array**	**145.23**	**357**	PKPbc	**PKPdf**	**16 20 47.7**	**-0.1**
	1.2nm,0.6s,baz=29,slow=3.4,SNR=7.2						
NVAR	**Mina Array Bea**	**149.11**	**10**	PKPbc	**PKPbc**	**16 20 59.5**	**+1.1**
	1.2nm,0.8s,baz=296,slow=1.7,SNR=5.7						

ROM ***11*** *16:37:36.5±0.1,46.°32N×13.°52E,h21km±2km,Md1.9/3, Ml1.1/3,Error ellipse: s-maj=1.7km s-min=0.5km az=67.0*

CSEM ***11*** *16:37:37.5±0.1,46.°31N×13.°63E,h2km, ML1.7/6, Error ellipse: s-maj=2.4km s-min=1.9km az=53.0*

LJU 11 16:37:37.5,46.°31N×13.°62E,h7km,ML1.2,2C-7D, Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROBS	**Robic**	**0.10**	**231**	⇑*i*	Pg	16 37 39.6	-0.1
ROBS				*i*	Sg	16 37 41.1	-0.1
	comp=Z,29nm,0.0s						
ROBS	**Robic**	**0.10**	**231**	⇑*i*	Pg	16 37 39.6	-0.1
ROBS				*i*	Sg	16 37 41.2	0.0
	comp=Z,29nm,0.0s						
CADS	**Cadrg**	**0.11**	**133**	⇓*i*	Pg	16 37 40.1	0.0
CADS				*i*	Sg	16 37 42.1	+0.2
	comp=Z,21nm,0.1s						
CADS	**Cadrg**	**0.11**	**133**	⇓*i*	Pg	16 37 40.1	0.0
CADS				*i*	Sg	16 37 42.1	+0.3
	comp=Z,21nm,0.1s						
DRE	**Drenchia**	**0.13**	**172**	⇓*e*	Pg	16 37 40.3	-0.1
DRE				*e*	Sg	16 37 42.5	+0.1
DRE	**Drenchia**	**0.13**	**172**	*e*	P	16 37 40.3	-0.1
DRE				*e*	Sg	16 37 42.5	+0.1
LSR	**Lussari**	**0.18**	**340**	⇓*e*	Pg	16 37 41.2	-0.3
LSR				*e*	Sg	16 37 44.4	+0.3
LSR	**Lussari**	**0.18**	**340**	*e*	P	16 37 41.2	-0.3
LSR	**Lussari**	**0.18**	**340**	*e*	Pg	16 37 44.4	+2.9
PTCC	**Patocco-Chiusa**	**0.21**	**299**	Pg	Pg	16 37 41.4	-0.4
PTCC					Sg	16 37 44.7	0.0
	comp=Z,12nm,0.1s						
COLI	**Coloredo**	**0.24**	**224**	⇓*e*	Pg	16 37 42.4	+0.1
COLI				*e*	Sg	16 37 46.3	+0.8
COLI	**Coloredo**	**0.24**	**224**	*e*	P	16 37 42.4	+0.1
COLI				*e*	Sg	16 37 46.3	+0.8
ACOM	**Acomizza, Ital**	**0.25**	**343**	⇓*e*	Pg	16 37 42.5	-0.3
ACOM				*e*	Sg	16 37 46.6	+0.3
ACOM	**Acomizza, Ital**	**0.25**	**343**	Pg	Pg	16 37 42.4	-0.4
ACOM					Sg	16 37 46.7	+0.3
	comp=Z,36nm,0.2s						
ACOM	**Acomizza, Ital**	**0.25**	**343**	*e*	Pg	16 37 42.5	-0.3
ACOM					Sg	16 37 46.7	+0.3
	comp=Z,36nm,0.2s						
GORS	**Gorjuse**	**0.26**	**87**	*i*	Pg	16 37 42.7	-0.1
GORS				*i*	Sg	16 37 47.0	+0.6
	comp=Z,11nm,0.1s						
GORS	**Gorjuse**	**0.26**	**87**	*i*	Pg	16 37 42.7	-0.1
GORS				*i*	Sg	16 37 47.0	+0.5
	comp=Z,11nm,0.1s						
SABO	**M.te Sabotino**	**0.33**	**182**	⇓*e*	Pg	16 37 44.0	0.0
SABO				*e*	Sg	16 37 49.2	+0.9
SABO	**M.te Sabotino**	**0.33**	**182**	Pg	Pg	16 37 44.0	0.0
SABO					Sg	16 37 49.7	+1.4
	comp=Z,22nm,0.5s						
SABO	**M.te Sabotino**	**0.33**	**182**	*e*	P	16 37 44.0	0.0
SABO				*e*	Sg	16 37 49.2	+0.9
VOJS	**Vojsko**	**0.33**	**146**	*i*	Pg	16 37 43.9	-0.3
VOJS				*i*	Sg	16 37 49.1	+0.5
	comp=Z,4.0nm,0.1s						
VOJS	**Vojsko**	**0.33**	**146**	*i*	Pg	16 37 43.9	-0.2
VOJS				*i*	Sg	16 37 49.2	+0.6
	comp=Z,4.0nm,0.1s						
JAVS	**Javornik**	**0.52**	**143**	*i*	Pg	16 37 47.0	-0.7
JAVS	**Javornik**	**0.52**	**143**	*i*	Pg	16 37 47.0	-0.6

NIED ***11*** *16:37:00,26.°60N×143.°20E,h14km,Mw5.6 Best double couple: M0 2.82000×10^17 NP1:φs183.00000°,δ34.00000°, λ71.00000°. NP2:φs26.00000°,δ58.00000°,λ103.00000°.*

JMA ***11*** *16:37:45.9,26.°65N×143.°16E,h56km,MS5.3*

JMA Felt II J1.

GCMT ***11*** *16:37:48.0±0.1,26.°58N×143.°04E,h15km,MW5.6/125, Moment Tensor Solution. s105,c194; s125,c320; Duration: 1s5 Moment tensor: Scale 10^17Nm; Mrr1.86±.03; Mθθ0.01±.02; Mφφ-1.87±.02; Mrθ0.58±.04; Mθφ0.06±.02; Mrf1.96±.07; Best double couple: M0 2.76700×10^17 NP1:φs11.00000°,δ69.00000°, λ100.00000°. NP2:φs166.00000°,δ23.00000°,λ66.00000°. Principal axes: T 2.8130, Plg65.0000°, Azm297.0000°; N -0.0880, Plg9.0000°, Azm188.0000°; P -2.7210, Plg24.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***11*** *16:37:48.0±0.1,26.°69N×142.°50E,h7km,mb5.5/150, MS5.4/157,MW5.7,MW5.6(NIED) Error ellipse: s-maj=4.7km s-min=3.7km az=140.0,Moment Tensor Solution. s53 Moment tensor: Scale 10^17Nm; Mrr1.91; Mθθ0.23; Mφφ-2.14; Mrθ1.69; Mθφ0.49; Mφr3.12; Best double couple: M0 4.10000×10^17 NP1:φs147.00000°, δ22.00000°,λ38.00000°. NP2:φs21.00000°,δ77.00000°, λ107.00000°. Principal axes: T 4.3300, Plg54.0000°, Azm312.0000°; N -0.4500, Plg16.0000°, Azm196.0000°; P -3.8700, Plg29.0000°, Azm96.0000°;*

NEIC Recorded [2 JMA] in the Chichijima-retto and [1 JMA] in the Hahajima-retto.

MOS ***11*** *16:37:49.8±0.9,26.°70N×142.°65E,h33km,mb5.6/58, MS5.5/36 Error ellipse: s-maj=10.1km s-min=4.4km az=112.5*

BJI ***11*** *16:37:49.0,26.°82N×142.°66E,h34km,mb5.3/69,mB5.7/60, Ms5.7/91,Ms7 5.6/84*

ISCJB ***11*** *16:37:50.3±0.1,26.°79N±0.°02×142.°52E±0.°02,h30km, mb5.4/284,MS5.4/218, Error ellipse: s-maj=2.5km s-min=2.2km az=41.2*

IDC ***11*** *16:37:52.1±1.8,26.°71N×142.°65E,h39km±15km,mb4.9/31, mb1 5.0/36,mb1mx5.0/38,mbtmp5.1/36,ML4.2/5,MS5.2/37, Ms1 5.2/37,ms1mx5.1/54,Error ellipse: s-maj=13.3km s-min=8.8km az=95.0*

SZGRF ***11*** *16:38:14.1,30.°81N×139.°62E,h17km,mb4.8,Southeast of Honshu, Japan*

ISC 11 16:37:50.9±0.3,26.°74N±0.°03×142.°65E±0.°03,h28km±1km, h28km:pP-P,n970,σ1s56/1015,mb5.4/304,MS5.4/222, 70C-36D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**0.44**	**256**	P	**Pn**	**16 38 02.4**	**+1.1**
CBIJ	**Chichi jima**	**0.55**	**311**	P	**Pn**	**16 38 03.8**	**+0.9**
CBIJ				S	**Sn**	**16 38 16.8**	**+5.6**
CBIJ	**Chichi jima**	**0.55**	**311**	*e*Pn	**Pn**	**16 38 03.9**	**+1.0**
CBIJ				*e*Sn	**Sb**	**16 38 09.2**	**-0.5**
JCJ	**Chichijima**	**0.55**	**311**	Pn	**Pn**	**16 38 03.9**	**+1.0**
	7μm,0.3s,baz=158,slow=0.8,SNR=4304						
JHCJ	**Hachijojimakas**	**6.78**	**339**	P	**Pn**	**16 39 27.0**	**-1.6**
JHCJ				S	**Sn**	**16 40 45.4**	**+0.5**
JHJ2	**Mitsune**	**6.81**	**340**	P	**Pn**	**16 39 30.1**	**+1.1**
JHJ2				S	**Sn**	**16 40 44.9**	**-0.7**
JHJ2	**Mitsune**	**6.81**	**340**	*e*Pn	**Pn**	**16 39 28.4**	**-0.6**
JHJ2				*e*Sn	**Sn**	**16 40 46.8**	**+1.2**
JKO	**Kozu shima**	**8.02**	**339**	P	**Pn**	**16 39 45.8**	**+0.2**
BSO1	**Boso 1**	**8.02**	**350**	P	**Pn**	**16 39 44.4**	**-0.7**
BSO2	**Boso 2**	**8.16**	**349**	P	**Pn**	**16 39 49.2**	**+2.1**
JIM2	**Oshima 3**	**8.43**	**342**	P	**Pn**	**16 39 50.7**	**-0.4**
JOD2	**Odawara 2**	**9.03**	**341**	P	**Pn**	**16 39 58.6**	**-0.9**
JOD2				S	**Sn**	**16 41 41.0**	**+0.8**
JIE	**Ise**	**9.19**	**328**	P	**Pn**	**16 40 04.0**	**+2.4**
JYZW	**Yoshizawa**	**9.25**	**334**	P	**Pn**	**16 40 02.1**	**-0.4**
JNY	**Yasuok**	**9.53**	**336**	P	**Pn**	**16 40 06.1**	**-0.2**
TSUJ	**Tsu 2**	**9.59**	**328**	P	**Pn**	**16 40 07.7**	**+0.7**
JAO	**Obara**	**9.68**	**333**	P	**Pn**	**16 40 08.1**	**-0.3**
JRY	**Ryogami san**	**9.79**	**342**	P	**Pn**	**16 40 08.6**	**-1.3**
JRY				S	**Sn**	**16 41 56.1**	**-2.8**
JNT	**Takato**	**9.89**	**338**	P	**Pn**	**16 40 12.4**	**+1.1**
JGF	**Kuroka**	**9.93**	**334**	P	**Pn**	**16 40 11.4**	**-0.4**
JHO	**Hitachi**	**10.00**	**350**	P	**Pn**	**16 40 09.8**	**-2.9**
JAG	**Ashikaga**	**10.04**	**345**	P	**Pn**	**16 40 10.6**	**-2.6**
JMZ	**Minamidaito 2**	**10.30**	**267**	P	Pn	16 40 22.7	+5.8
JFM	**Mihama**	**10.46**	**329**	P	**Pn**	**16 40 19.6**	**+0.6**
MJAR	**Matsushiro Arr**	**10.48**	**340**	Pn	**Pn**	**16 40 18.6**	**-0.7**
	12nm,0.3s,baz=168,slow=12,SNR=70						
MJAR				Sn	**Sn**	**16 42 15.9**	**+0.1**
	2.1nm,0.3s,baz=162,slow=21,SNR=4.0						
MJAR				LR	LR	16 44 11.9	
	comp=Z,16μm,18.3s,baz=175,slow=36						
MJAR	**Matsushiro Arr**	**10.48**	**340**	P	**Pn**	**16 40 18.6**	**-0.7**
MJAR						16 42 15.9	
MJAR				pmax	pmax		
	comp=Z,12nm,0.3s						
MJAR				smax	smax		
	comp=N,2.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,16μm,18.3s						
MAJO	**Matsushiro**	**10.48**	**340**	*c* *i*P	**Pn**	**16 40 19.9**	**+0.6**
MAJO	**Matsushiro**	**10.48**	**340**	*e*Pn	**Pn**	**16 40 18.8**	**-0.5**
MAJO				*e*Sn	**Sn**	**16 42 16.6**	**+0.8**
MAT	**Matsushiro**	**10.48**	**340**	P	**Pn**	**16 40 17.3**	**-2.0**
MAT				S	**Sn**	**16 42 13.6**	**-2.2**
JGN	**Niukaw**	**10.50**	**336**	P	**Pn**	**16 40 19.2**	**-0.3**
JTO	**Tosashimizu**	**10.51**	**308**	P	**Pn**	**16 40 21.1**	**+1.5**
JHK	**Hiroka**	**10.93**	**345**	P	**Pn**	**16 40 23.6**	**-1.7**
JJN	**Nakama**	**11.02**	**341**	P	**Pn**	**16 40 24.8**	**-1.8**
JHS	**Saijyo**	**11.61**	**317**	P	**Pn**	**16 40 37.9**	**+3.1**
JNU	**Nakatsue**	**12.03**	**305**	Pn	**Pn**	**16 40 42.5**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=98,slow=7.8,SNR=13						
JNU				Sn	**Sn**	**16 42 58.6**	**+4.8**
	comp=Z,0.2nm,0.3s,baz=98,slow=8.0,SNR=1.9						
JNU				LR	LR	16 45 14.6	
	comp=Z,18μm,18.3s,baz=114,slow=37						
JAMN	**Amaminishikomi**	**12.06**	**280**	P	P	16 40 47.2	-6.3
JMK	**Ichinoseki**	**12.24**	**355**	P	**Pn**	**16 40 40.4**	**-2.9**
JMK				S	Sn	16 42 49.2	-10
JOW	**Kunigami**	**12.85**	**274**	Pn	Pn	16 40 55.2	+3.5
	comp=Z,0.2nm,0.3s,baz=153,slow=11,SNR=3.6						
JOW				Sn	**Sn**	**16 43 17.1**	**+3.3**
	comp=Z,0.2nm,0.3s,baz=33,slow=17,SNR=2.4						
JOW				LR	LR	16 45 13.2	
	comp=Z,1μm,19.6s,baz=96,slow=34						
JOW	**Kunigami**	**12.85**	**274**	*e*Pn	**Pn**	**16 40 50.0**	**-1.7**
	comp=Z,24nm,0.9s						
GUMO	**Guam**	**13.24**	**171**	Pn	**Pn**	**16 40 56.5**	**-0.6**
	comp=Z,2.5nm,0.3s,baz=144,slow=1.3,SNR=13						
GUMO				Sn	Sn	16 43 32.0	+8.5
	comp=Z,0.8nm,0.3s,baz=30,slow=20,SNR=1.3						
GUMO				LR	LR	16 45 08.4	
	comp=Z,15μm,20.1s,baz=350,slow=33						
GUMO	**Guam**	**13.24**	**171**	P	**Pn**	**16 40 56.5**	**-0.6**
GUMO						16 43 32.0	
GUMO				pmax	pmax		
	comp=Z,3.0nm,0.3s						
GUMO				smax	smax		
	comp=N,1.0nm,0.3s						
GUMO				MLR	MLR		
	comp=Z,15μm,20.1s						
JTU	**Tsushima**	**13.79**	**307**	P	**P**	**16 41 13.8**	**+1.1**
KSULL	**Ulleungdo**	**14.61**	**320**	P	**P**	**16 41 21.2**	**-0.6**
	SNR=8.9						
KSULL	**Ulleungdo**	**14.61**	**320**	P	**P**	**16 41 21.2**	**-0.6**
	SNR=8.9						
JOT	**Ohata**	**14.67**	**355**	P	Pn	16 41 12.8	-3.7
JOT				*e*S	**Sn**	**16 43 52.9**	**-5.2**
KSPHA	**Pohang**	**14.73**	**313**	P	**P**	**16 41 23.5**	**+0.4**
	SNR=7.6						
KSPHA	**Pohang**	**14.73**	**313**	P	**P**	**16 41 23.5**	**+0.4**
	SNR=7.6						
KSNAH	**Namhae**	**14.99**	**306**	P	**P**	**16 41 28.3**	**+2.3**
	SNR=5.4						
KSNAH	**Namhae**	**14.99**	**306**	P	**P**	**16 41 28.3**	**+2.3**
	SNR=5.4						
ERM	**Erimo**	**15.25**	**1**	Pn	**Pn**	**16 41 20.7**	**-3.5**
	comp=Z,275nm,0.4s,SNR=7.0						
KSKOH	**Goheung**	**15.37**	**304**	P	**P**	**16 41 32.5**	**+2.2**
	SNR=9.4						
KSKOH	**Goheung**	**15.37**	**304**	P	**P**	**16 41 32.5**	**+2.2**
	SNR=9.4						
KSCPR	**CHUPUNGNYEONG**	**15.68**	**311**	P	**P**	**16 41 36.3**	**+2.6**
	SNR=7.6						
KSCPR	**CHUPUNGNYEONG**	**15.68**	**311**	P	**P**	**16 41 36.3**	**+2.6**
	SNR=7.6						
KSKWJ	**Gwangju**	**15.83**	**306**	P	**P**	**16 41 37.5**	**+2.1**
	SNR=5.8						
KSKWJ	**Gwangju**	**15.83**	**306**	P	**P**	**16 41 37.5**	**+2.1**
	SNR=5.8						
KSBON	**Boeun**	**15.95**	**311**	P	**P**	**16 41 39.1**	**+2.5**
	SNR=8.3						
KSBON	**Boeun**	**15.95**	**311**	P	**P**	**16 41 39.1**	**+2.5**
	SNR=8.3						
KSJEU	**Jeongeup**	**16.03**	**307**	P	**P**	**16 41 39.5**	**+1.9**
	SNR=9.1						
KSJEU	**Jeongeup**	**16.03**	**307**	P	**P**	**16 41 39.5**	**+1.9**
	SNR=9.1						
KSJMJ	**Jumunjin**	**16.15**	**317**	P	**P**	**16 41 39.0**	**+0.1**
	SNR=12						
KSJMJ	**Jumunjin**	**16.15**	**317**	P	**P**	**16 41 39.0**	**+0.1**
	SNR=12						
TJN	**Taejon**	**16.18**	**310**	*c* *i*P	**Pn**	**16 41 36.5**	**+0.3**
KSRS	**Korea Array**	**16.41**	**314**	Pn	**Pn**	**16 41 39.9**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=120,slow=10,SNR=37						
KSRS				LR	LR	16 47 44.6	
	comp=Z,9μm,19.3s,baz=122,slow=36						
KSRS	**Korea Array**	**16.41**	**314**	P	**Pn**	**16 41 39.9**	**+0.7**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,9μm,19.3s						
KSAR	**Wonju Array Be**	**16.43**	**314**	Pn	**Pn**	**16 41 39.9**	**+0.5**
KSCEA	**Cheonan**	**16.49**	**311**	P	**P**	**16 41 43.7**	**+1.1**
	SNR=8.7						
KSCEA	**Cheonan**	**16.49**	**311**	P	**P**	**16 41 43.7**	**+1.1**
	SNR=8.7						
SEHB	**SEOHWA**	**16.70**	**317**	P	**P**	**16 41 44.9**	**-0.1**
	SNR=15						
SEHB	**SEOHWA**	**16.70**	**317**	P	**P**	**16 41 44.9**	**-0.1**
	SNR=15						
KSCWO	**Cheorwon**	**17.05**	**315**	P	**P**	**16 41 49.9**	**+1.1**
	SNR=12						
INCN	**Inchon**	**17.27**	**312**	*e*Pn	**P**	**16 41 51.0**	**-0.2**
	comp=Z,160nm,1.3s						
ASAJ	**Asahikawa**	**17.34**	**360**	LR	LR	16 49 46.8	
	comp=Z,5μm,21.0s,baz=232,slow=41						
ASAJ	**Asahikawa**	**17.34**	**360**	*e*Pn	**Pn**	**16 41 50.1**	**-0.7**
	comp=Z,337nm,2.0s						
KSMUS	**Musan**	**17.41**	**314**	P	**P**	**16 41 53.1**	**+0.3**
	SNR=10.0						
YUK	**Yuzh-Kuril'sk**	**17.46**	**8**	*de*P	**Pn**	**16 41 51.9**	**-0.3**
YUK				*i* S	**Sn**	**16 45 04.8**	**-0.8**
YUK				pmax	pmax		
	comp=N,28nm,0.6s						
YUK				pmax	pmax		
	comp=E,34nm,0.6s						
YUK				pmax	pmax		
	comp=Z,37nm,0.6s						
YUK				pmax	pmax		
	comp=Z,979nm,9.7s						
YUK				MLR	MLR		
	comp=N,10μm,12.0s						
YUK				MLR	MLR		
	comp=E,9μm,12.0s						
YUK				MLR	MLR		
	comp=Z,7μm,12.0s						
VLA	**Vladivostok**	**18.55**	**335**	⇑*i*	P	**16 42 05.2**	**-0.1**
VLA				*e*S	**Sn**	**16 45 31.1**	**-1.1**
VLA				pmax	pmax		
	comp=Z,77nm,0.7s						
KUR	**Kuril'sk**	**18.93**	**11**	*d* *i*P	P	**16 42 06.0**	**-3.4**
KUR				*i* S	**Sn**	**16 45 38.6**	**-2.6**
KUR				pmax	pmax		
	comp=N,13nm,1.0s						
KUR				pmax	pmax		
	comp=E,8.0nm,1.0s						
KUR				pmax	pmax		
	comp=Z,12nm,1.0s						
KUR				pmax	pmax		
	comp=Z,6μm,3.7s						
KUR				smax	smax		
	comp=N,3μm,15.3s						
KUR				smax	smax		
	comp=E,13μm,15.3s						
KUR				MLR	MLR		
	comp=N,273nm,8.0s						
KUR				MLR	MLR		
	comp=E,2μm,8.0s						
KUR				MLR	MLR		
	comp=Z,2μm,8.0s						
TATO	**Taipei**	**19.13**	**269**	*e*P	**P**	**16 42 11.2**	**-0.6**
	comp=Z,732nm,1.8s						
NACB	**Ninganchiao**	**19.19**	**267**	*e*P	**P**	**16 42 11.4**	**-1.1**
	comp=Z,123nm,1.0s						
SSE	**Sheshan**	**19.28**	**288**	P	**P**	**16 42 13.6**	**+0.1**
SSE				S	**Sn**	**16 45 48.1**	**-1.9**
SSE				PMZ			
	comp=Z,34nm,0.7s						
SSE				PMZ			
	comp=Z,3μm,14.1s						
SSE				LN			
	comp=Z,9μm,15.1s						
SSE				LE			
	comp=Z,6μm,15.6s						
SSE				LZ			
	comp=Z,9μm,16.9s						
YHNB	**Yeheng**	**19.28**	**269**	*e*P	**P**	**16 42 13.1**	**-0.5**
	comp=Z,100nm,0.8s						
USRK	**Ussuriysk Ar.**	**19.44**	**336**	P	**P**	**16 42 14.7**	**-0.4**
	comp=Z,2.4nm,0.3s,baz=153,slow=12,SNR=30						
USRK				LR	LR	16 48 49.7	
	comp=Z,4μm,18.3s,baz=142,slow=34						
YULB	**Yu-li**	**19.63**	**265**	*e*P	**P**	**16 42 17.0**	**-0.3**
	comp=Z,210nm,1.1s						
SSLB	**Suanglung**	**19.84**	**266**	Pn	**Pn**	**16 42 20.9**	**-0.5**
	comp=Z,174nm,1.1s						
TWG	**Pinlang**	**19.98**	**263**	*e*P	**Pn**	**16 42 22.1**	**-0.8**
	comp=Z,224nm,0.8s						
YSS	**Yuzh-Sakhalins**	**20.18**	**0**	α *i*P	**P**	**16 42 23.8**	**+0.7**
YSS				*i* *PP	**pP**	**16 42 34.2**	**+3.4**
YSS				*e*SP	**sP**	**16 42 38.3**	**+3.9**
YSS				*e*		16 42 51.8	
YSS				*e*S	S	16 45 58.0	-10
YSS				*i*		16 46 14.0	
YSS				*e*SS	SnSn	16 46 44.0	+18
YSS				pmax	pmax		
	comp=N,80nm,0.9s						
YSS				pmax	pmax		
	comp=Z,110nm,0.9s						
YSS				pmax	pmax		
	comp=N,4μm,9.0s						
YSS				pmax	pmax		
	comp=Z,4μm,9.0s						
YSS				MLR	MLR		
	comp=N,10μm,15.0s						
YSS				MLR	MLR		
	comp=E,13μm,15.0s						
YSS				MLR	MLR		
	comp=Z,8μm,15.0s						
YSS	**Yuzh-Sakhalins**	**20.18**	**0**	*e*P	Pn	16 42 24.4	-0.8
	comp=Z,158nm,1.0s						
YSS				LR	LR		
	comp=Z,3μm,20.0s						
TPUB	**Ta-pu**	**20.25**	**265**	P	**P**	**16 42 22.7**	**-1.4**
	comp=Z,558nm,1.6s						
MDJ	**Mudanjiang**	**20.71**	**333**	P	**P**	**16 42 28.5**	**-0.4**
MDJ				pP	**pP**	**16 42 36.0**	**-0.6**
MDJ				sP	**sP**	**16 42 40.6**	**+0.4**
MDJ				S	**S**	**16 46 17.8**	**-0.9**
MDJ				sS	**sS**	**16 46 31.2**	**+0.2**
MDJ				PMZ			
	comp=

SNY PMZ
comp=Z,87nm,0.7s
SNY LN
comp=Z,15μm,12.8s
SNY LE
comp=Z,10μm,15.9s
SNY LZ
comp=Z,13μm,15.2s
CN2 Changchun 22.00 325 *e*P **P** **16 42 40.5 -2.3**
CN2 *es*P **sP** **16 42 55.0 +0.9**
CN2 *e*S S 16 46 35.6 -8.4
CN2 PMZ
comp=Z,40nm,0.8s
CN2 PMZ
comp=Z,2μm,9.0s
CN2 LN
comp=Z,12μm,16.0s
CN2 LE
comp=Z,14μm,16.0s
CN2 LZ
comp=Z,17μm,18.0s
HABR Khabarovsk 22.50 347 *c i*P **P** **16 42 48.0 0.0**
HABR *e**PP **pP** **16 42 55.4 -0.4**
HABR *e**SP **sP** **16 42 59.9 +0.5**
HABR *e*PPP PPP 16 43 18.8
HABR *e* 16 46 39.7
HABR *e*S **S** **16 46 54.3 +1.2**
HABR *e**SS Sn 16 47 07.8 +0.8
HABR *e*SSS SSS 16 47 37.5
HABR *e* 16 53 59.7
HABR pmax pmax
comp=E,29nm,2.3s
HABR pmax pmax
comp=N,39nm,1.1s
HABR pmax pmax
comp=Z,86nm,1.1s
HABR MLR MLR
comp=E,7μm,13.0s
HABR MLR MLR
comp=Z,10μm,14.0s
HABR MLR MLR
comp=N,6μm,14.0s
PLP Palo 22.74 230⇑ *i*P **P** **16 42 51.9 +1.0**
OCLP Ormoc 23.08 231 *e*P **P** **16 42 57.2 +2.8**
WAKE Wake Island 23.28 104 *e*P **P** **16 42 58.8 +2.4**
WAKE LR LR
comp=Z,7μm,19.0s
H11N2 WAKE ISLAND Hy 23.32 102 T T 17 07 14.2
baz=291,slow=75,SNR=6.3
H11N1 WAKE ISLAND Hy 23.32 102 T T 17 06 58.1
baz=291,slow=75,SNR=5.7
H11N3 WAKE ISLAND Hy 23.34 102 T T 17 06 51.8
baz=291,slow=75,SNR=5.6
SCPH Surigao 23.40 227⇑ *e*P **P** **16 42 59.0 +1.3**
MSLP Maasin 23.56 229 *e*P **P** **16 43 00.0 +0.8**
H11S3 WAKE ISLAND Hy 23.62 105 T T 17 07 15.5
baz=294,slow=75,SNR=8.4
H11S1 WAKE ISLAND Hy 23.63 105 T T 17 07 15.7
baz=294,slow=75,SNR=30
H11S2 WAKE ISLAND Hy 23.64 105 T T 17 07 16.9
baz=294,slow=75,SNR=9.9
TIA Tai'an 23.68 300 ⇑P **P** **16 42 57.9 -2.3**
TIA S **S** **16 47 13.5 +0.2**
TIA PMZ
comp=Z,110nm,0.6s
TIA PMZ
comp=Z,3μm,8.3s
TIA LN
comp=Z,8μm,14.9s
TIA LE
comp=Z,12μm,15.5s
TIA LZ
comp=Z,16μm,17.2s
TGY Tagaytay City 23.87 243 P **P** **16 43 02.6 +0.3**
comp=Z,220nm,0.7s,baz=310,slow=4.5,SNR=7.8
TGY LR LR 16 51 13.1
comp=Z,28nm,20.4s,baz=34,slow=34
TGY Tagaytay City 23.87 243 P **P** **16 43 02.6 +0.3**
TGY pmax pmax
comp=Z,220nm,0.7s
TGY MLR MLR
comp=Z,28nm,20.4s
BUTP Butuan 23.93 226 *e*P P 16 42 53.0 -10
KLR Kul'dur 24.00 342 *e*P **P** **16 42 59.0 -4.0**
KLR *e*S **S** **16 47 24.0 +5.9**
KLR pmax pmax
comp=Z,420nm,1.8s
KLR pmax pmax
comp=N,2μm,8.5s
KLR pmax pmax
comp=Z,5μm,8.5s
KLR smax smax
comp=N,3μm,15.5s
KLR smax smax
comp=E,8μm,15.5s
RCP Roxas 24.06 235⇓ *e*P **P** **16 43 05.0 +1.1**
TYV Tymovskoe 24.09 0 *e*P **P** **16 43 05.0 +1.1**
TYV *e*S S 16 47 12.0 -7.6
TYV pmax pmax
comp=N,2μm,6.0s
TYV smax smax
comp=E,2μm,12.0s
TYV MLR MLR
comp=N,14μm,14.0s
WHN Wuhan 25.10 285 P **P** **16 43 14.1 +0.8**
WHN S **S** **16 47 35.5 -0.7**
WHN LN
comp=N,10μm,11.1s
WHN LE
comp=N,14μm,11.5s
WHN LZ
comp=N,18μm,15.8s
BUKP Musuan 25.11 225 *e*P **P** **16 43 13.9 +0.4**
MATI Mati 25.11 221 *e*P **P** **16 43 13.4 -0.1**
DAV Davao City (W) 25.42 223 PFAKE 16 43 30.0 +14
DAV LR LR
comp=Z,7μm,19.0s
BJT Baijiatuan 25.67 308 PFAKE 16 43 30.0 +12
BJT LR LR
comp=Z,8μm,19.0s
BJI Beijing 25.67 308 P **P** **16 43 20.1 +1.7**
BJI S **S** **16 47 44.3 -0.8**
BJI PMZ
comp=Z,14nm,1.0s
BJI LN
comp=Z,9μm,15.8s
BJI LE
comp=Z,14μm,16.1s
BJI LZ
comp=Z,9μm,16.1s
SKR Severo-Kuril's 26.04 20 P P 16 43 16.0 -5.5
SKR *e* 16 43 56.0
SKR *e*PPP PPP 16 44 16.0
SKR *e*S S 16 47 40.0 -11
SKR pmax pmax
comp=Z,2μm,4.0s
SKR pmax pmax
comp=Z,220nm,1.0s
SKR smax smax
comp=N,2μm,10.0s
SKR smax smax
comp=E,3μm,10.0s
SKR MLR MLR
comp=Z,11μm,12.0s
SKR MLR MLR
comp=N,6μm,10.0s
SKR MLR MLR
comp=E,11μm,12.0s
CTBH Cotabato--PC H 26.13 225 *e*P **P** **16 43 23.9 +1.2**
PAGZ Pagadian 26.22 228 *e*P **P** **16 43 23.3 -0.3**
HKC Hong Kong Obse 26.26 267 ⇑P **P** **16 43 26.0 +2.2**
NKL Nikolayevsk 26.43 357 *i* P **P** **16 43 25.0 0.0**
NKL *e* 16 43 37.0
NKL *e*S **S** **16 47 58.0 +1.3**
NKL pmax pmax
comp=N,16nm,0.9s
NKL pmax pmax
comp=Z,37nm,0.9s
NKL pmax pmax
comp=Z,1μm,8.0s
NKL smax smax
comp=N,4μm,11.0s
NKL smax smax
comp=E,4μm,11.0s
NKL MLR MLR
comp=N,7μm,17.0s
NKL MLR MLR
comp=E,6μm,17.0s
NKL MLR MLR
comp=Z,8μm,17.0s
GZH Guangzhou 26.80 269 P **P** **16 43 25.6 -3.2**
GZH PcP **PcP** **16 46 46.4 -4.9**
GZH S **S** **16 47 59.7 -3.6**
GZH ScP **ScP** **16 50 22.3 -7.2**
GZH PcS PcS 16 50 26.2 -6.6
GZH PMZ
comp=Z,3μm,8.5s
GZH LN
comp=Z,5μm,16.8s
GZH LE
comp=Z,10μm,18.2s
TIY Taiyuan 27.70 301 *e*P **P** **16 43 35.4 -1.4**
TIY PP **PnPn** **16 44 26.5 +3.6**
TIY S **S** **16 48 17.9 +0.6**
TIY PMZ
comp=Z,940nm,6.9s
TIY LN
comp=Z,5μm,14.4s
TIY LE
comp=Z,7μm,12.2s
TIY LZ
comp=Z,12μm,15.9s
HIA Hailar 28.64 328⇑ *e*P **P** **16 43 45.9 +1.0**
HIA pmax pmax
comp=Z,57nm,1.0s
HIA Hailar 28.64 328 *e*P **P** **16 43 45.0 0.0**
comp=Z,74nm,0.9s
HIA LR LR
comp=Z,9μm,19.0s
PETK Petropavlovsk- 28.64 19 P **P** **16 43 46.2 +1.3**
comp=Z,14nm,1.0s,baz=186,slow=11,SNR=6.1
PETK LR LR 16 58 47.1
comp=Z,1μm,18.4s,baz=197,slow=44
PETK Petropavlovsk- 28.64 19 P **P** **16 43 46.2 +1.3**
PETK pmax pmax
comp=Z,15nm,1.0s
PETK MLR MLR
comp=Z,1μm,18.4s
PET Petropavlovsk 28.85 20 *e*P **P** **16 43 45.9 -0.8**
PET *e*S **S** **16 48 32.4 -2.5**
PET pmax pmax
comp=Z,51nm,1.0s
PET pmax pmax
comp=Z,700nm,15.1s
PET pmax pmax
comp=Z,600nm,12.2s
PET MLR MLR
comp=Z,4μm,13.0s
PET MLR MLR
comp=Z,5μm,12.0s
PET Petropavlovsk 28.85 20 *e*P **P** **16 43 47.6 +0.9**
comp=Z,93nm,1.4s
PET LR LR
comp=Z,5μm,19.0s
SRPI Serui, Papua 29.10 193 P **P** **16 43 50.5 +1.2**
comp=Z,69nm,1.1s
HHC Hu-ho-hao-te 29.25 307 *e*P **P** **16 43 48.8 -1.8**
HHC sP **sP** **16 44 01.8 -0.6**
HHC PP **PnPn** **16 44 43.1 -1.0**
HHC S **S** **16 48 38.8 -2.9**
HHC sS **sS** **16 48 55.0 -0.5**
HHC SS **SnSn** **16 50 11.9 +3.8**
HHC PMZ
comp=Z,15nm,0.7s
HHC PMZ
comp=Z,750nm,5.0s
HHC LN
comp=Z,7μm,11.7s
HHC LE
comp=Z,5μm,11.4s
HHC LZ
comp=Z,6μm,10.9s
GENI Genyem 29.25 185 P **P** **16 43 53.3 +2.6**
comp=Z,60nm,1.4s,comp=Z,2μm
ENH Enshi 29.30 285 *e*P **P** **16 43 50.5 -0.6**
comp=Z,14nm,0.8s
ENH LR LR
comp=Z,7μm,19.0s
SIJI Sorong 29.56 204 P **P** **16 43 52.5 -0.9**
comp=Z,9.5nm,0.7s,baz=13,slow=14,SNR=9.8
SIJI LR LR 16 53 45.4
comp=Z,9μm,19.0s,baz=27,slow=32
TNTI Ternate 29.71 212 P **P** **16 43 52.9 -1.8**
XAN Xi'an 29.90 292 P **P** **16 43 55.2 -1.2**
XAN pP **pP** **16 44 04.7 0.0**
XAN sP **sP** **16 44 08.8 +0.7**
XAN PP **PnPn** **16 44 48.0 -5.0**
XAN S S 16 48 45.2 -6.8
XAN sS **sS** **16 49 02.1 -3.6**
XAN PMZ
comp=Z,22nm,0.7s
XAN PMZ
comp=Z,270nm,8.1s
XAN LN
comp=Z,3μm,14.1s
XAN LE
comp=Z,4μm,16.2s
XAN LZ
comp=Z,4μm,15.5s
BTO Baotou 30.29 306 *e*P **P** **16 43 57.9 -1.9**
WAMI Wamena 30.68 188 P P 16 44 13.5 +10
QIZ Qiongzhong 31.12 263 P **P** **16 44 05.9 -1.3**
QIZ sP **sP** **16 44 18.5 -0.5**
QIZ PP **PnPn** **16 45 08.9 -0.3**
QIZ S **S** **16 49 05.4 -5.9**
QIZ PMZ
comp=Z,25nm,1.4s
QIZ PMZ
comp=Z,770nm,12.7s
QIZ LN
comp=Z,5μm,18.6s
QIZ LZ
comp=Z,6μm,17.5s
QIZ Qiongzhong 31.12 263 PFAKE 16 44 20.0 +13
QIZ LR LR
comp=Z,5μm,20.0s
KDM Kudat 31.49 236 ⇑P **P** **16 44 11.9 +1.4**
KMSI Cibinong 31.61 218 P P 16 44 16.8 +5.3
comp=Z,140nm,1.1s,comp=Z,4μm
SDKM Sandakan 32.08 234 ⇓P **P** **16 44 17.0 +1.3**
GYA Guiyang 32.12 276⇓ *i*P **P** **16 44 16.1 0.0**
GYA pP **pP** **16 44 26.0 +1.6**
GYA PP **PnPn** **16 45 25.3 +3.1**
GYA PcP **PcP** **16 47 05.6 +0.6**
GYA S **S** **16 49 22.8 -4.2**
GYA sS **sS** **16 49 40.0 -0.8**
GYA SS **SnSn** **16 51 16.2 -2.0**
GYA PMZ
comp=Z,40nm,0.8s
GYA PMZ
comp=Z,670nm,8.1s
GYA LN
comp=Z,5μm,17.0s
GYA LE
comp=Z,5μm,16.2s
GYA LZ
comp=Z,7μm,18.9s
KKM Kota Kinabalu 32.52 235 ⇓P **P** **16 44 20.8 +1.1**
KKM Kota Kinabalu 32.52 235 *e*P **P** **16 44 19.2 -0.5**
comp=Z,98nm,1.1s
KKM LR LR
comp=Z,4μm,20.0s
TSM Tawau 32.54 231 ⇓P **P** **16 44 21.1 +1.3**
SANI Sanana 32.83 212 P P 16 44 28.1 +5.9
MRSI Marisa 32.84 221 P **P** **16 44 22.2 -0.1**
comp=Z,68nm,0.9s,comp=Z,1μm
AAI Ambon 33.32 207 P P 16 44 30.0 +3.5
comp=Z,92nm,1.1s,comp=Z,2μm
NLAI Namlea 33.38 209 P **P** **16 44 28.6 +1.6**
comp=Z,24nm,0.6s
CIT Chita 33.42 327 *e*P **P** **16 44 27.4 +0.3**
CIT *e* 16 45 45.4
CIT *e* 16 45 59.8
CIT *e* 16 49 52.4
CIT pmax pmax
comp=Z,354nm,2.2s
LUWI Luwuk 33.62 218 P **P** **16 44 31.6 +2.5**
comp=Z,81nm,1.1s,comp=Z,1μm
LUWI Luwuk 33.62 218 *e*P **P** **16 44 27.9 -1.2**
comp=Z,123nm,1.2s
APSI Ampana 34.14 220 P **P** **16 44 32.6 -1.0**
comp=Z,64nm,1.0s,comp=Z,1μm
MPSI Mapaga 34.18 224 P **P** **16 44 31.4 -2.6**
CD2 Chengdu 34.21 286 ⇑P **P** **16 44 33.4 -0.9**
CD2 pP **pP** **16 44 43.3 +0.7**
CD2 sP **sP** **16 44 47.8 +1.7**
CD2 PP **PP** **16 45 50.7 -1.2**
CD2 S **S** **16 49 57.0 -2.3**
CD2 sS **sS** **16 50 14.0 +0.9**
CD2 PMZ
comp=Z,220nm,0.6s
CD2 PMZ
comp=Z,1μm,5.6s
CD2 LN
comp=Z,15μm,15.7s
CD2 LE
comp=Z,14μm,14.2s
CD2 LZ
comp=Z,18μm,13.2s
LZH Lanzhou 34.22 295 *e*P **P** **16 44 33.7 -0.7**
LZH pP **pP** **16 44 44.3 +1.5**
LZH sP **sP** **16 44 47.7 +1.5**
LZH PP **PnPn** **16 45 48.0 -0.8**
LZH S **S** **16 49 57.5 -2.1**
LZH sS **sS** **16 50 13.2 -0.2**
LZH PMZ
comp=Z,79nm,1.0s
LZH PMZ
comp=Z,810nm,8.2s
LZH LN
comp=Z,10μm,16.1s
LZH LE
comp=Z,9μm,14.1s
LZH LZ
comp=Z,13μm,16.2s
ULN Ulaanbaatar 34.87 317 PFAKE 16 44 50.0 +10
ULN LR LR
comp=Z,3μm,19.0s
PCI Palu 35.20 222 P **P** **16 44 41.8 -1.0**
comp=Z,68nm,1.1s,comp=Z,992nm
SONM Songino Array 35.26 316 P **P** **16 44 42.5 -0.7**
comp=Z,8.0nm,0.7s,baz=128,slow=9.5,SNR=29
SONM LR LR 17 00 11.8
comp=Z,5μm,18.4s,baz=114,slow=38
SONM Songino Array 35.26 316 P **P** **16 44 42.5 -0.7**
SONM pmax pmax
comp=Z,8.0nm,0.7s
SONM MLR MLR
comp=Z,5μm,18.4s
MIDW Midway 35.39 78 PFAKE 16 45 00.0 +16
MIDW LR LR
comp=Z,3μm,19.0s
KMI Kunming 35.83 277 P **P** **16 44 48.9 +0.4**
KMI PP **PP** **16 46 12.0 +1.9**
KMI S **S** **16 50 22.2 -2.5**
KMI PMZ
comp=Z,32nm,1.0s
KMI PMZ
comp=Z,850nm,7.2s
KMI LN
comp=Z,5μm,15.1s
KMI LE
comp=Z,5μm,15.1s
KMI LZ
comp=Z,4μm,17.7s
KDI Kendari 36.14 215 P **P** **16 44 51.2 +0.3**
comp=Z,46nm,1.0s,comp=Z,1μm
PMG Port Moresby 36.19 172 *e*P **P** **16 44 49.6 -1.7**
comp=Z,13nm,1.0s
PMG LR LR
comp=Z,3μm,19.0s
YAK Yakutsk 36.34 350 P **P** **16 44 52.2 +0.1**
comp=Z,3.1nm,0.7s,baz=341,slow=23,SNR=11
YAK Yakutsk 36.34 350 *i* P **P** **16 44 50.9 -1.2**
YAK *e**PP **pP** **16 45 01.6 +1.1**
YAK *e* 16 47 12.6
YAK *e*S **S** **16 50 27.6 -3.6**
YAK *e**SS **sS** **16 50 43.9 -1.1**
YAK *e* 16 55 05.1
YAK pmax pmax
comp=N,16nm,1.4s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,32nm,0.8s
YAK pmax pmax
comp=Z,65nm,1.6s
YAK pmax pmax
comp=N,146nm,2.0s
YAK pmax pmax
comp=E,75nm,1.9s
YAK smax smax
comp=E,881nm,7.3s
YAK smax smax
comp=N,603nm,4.2s
YAK MLR MLR
comp=Z,3μm,14.0s
YAK MLR MLR
comp=E,4μm,13.0s
YAK MLR MLR
comp=N,5μm,15.0s
YAK Yakutsk 36.34 350 P **P** **16 44 52.2 +0.1**
comp=N,5.4nm,0.8s
YAK LR LR
comp=Z,4μm,19.0s
UBPT Khong Chiam 36.41 259 P **P** **16 44 55.3 +2.1**
comp=Z,33nm,2.0s,comp=Z,2μm
BTM Bintulu 36.73 235 ⇑P **P** **16 44 57.9 +1.9**
SEY Seymchan 36.76 7 P **P** **16 44 56.0 +0.4**
comp=Z,22nm,0.9s,baz=187,slow=6.4,SNR=61
SEY Seymchan 36.76 7*c i*P **P** **16 44 56.3 +0.6**
SKNT Sakolnakorn 37.06 263 P **P** **16 44 59.9 +1.1**
comp=Z,153nm,1.2s,comp=Z,1μm
BOD Bodaibo 37.06 335 *e*P **P** **16 44 58.4 +0.1**
BOD pmax pmax
comp=Z,32nm,1.2s
BKB Balikpapan 37.30 226 P **P** **16 45 00.6 -0.2**
comp=Z,151nm,1.1s,comp=Z,2μm
SPSI Sidrap Palu 37.70 219 P **P** **16 45 03.8 -0.3**
comp=Z,52nm,1.0s,comp=Z,817nm
GTA Gaotai 37.73 301 ⇑P **P** **16 45 02.9 -1.4**
GTA pP **pP** **16 45 12.8 0.0**
GTA sP **sP** **16 45 16.4 +0.2**
GTA PP **PnPn** **16 46 34.1 +2.3**
GTA S **S** **16 50 50.8 -2.3**
GTA ScP **ScP** **16 51 03.2 -3.4**
GTA sS **sS** **16 51 07.1 +0.1**
GTA SS **SnSn** **16 53 28.4 -5.4**
GTA ScS **ScS** **16 55 15.0 -0.5**
GTA PMZ
comp=Z,890nm,7.1s
GTA LN
comp=Z,8μm,15.7s
GTA LE
comp=Z,11μm,15.7s
GTA LZ
comp=Z,12μm,16.2s
SBUM Sibu 37.87 236 ⇑P **P** **16 45 05.7 +0.1**
ZAK Zakamensk 38.16 319 *e*P **P** **16 45 06.8 -1.0**
ZAK *e* 16 50 56.2
ZAK pmax pmax
comp=Z,23nm,1.3s
IRK Irkutsk 38.38 322 *e*P **P** **16 45 09.3 -0.2**
IRK *e*S S 16 51 10.8 +8.4
IRK pmax pmax
comp=Z,88nm,1.7s
TLY Talaya 38.48 321 P **P** **16 45 11.0 +0.6**
comp=Z,281nm,0.9s,SNR=21
TLY Talaya 38.48 321 P **P** **16 45 10.4 0.0**
comp=Z,30nm,0.8s,baz=134,slow=1.7,SNR=23
TLY Talaya 38.48 321 *e*P **P** **16 45 09.7 -0.7**
TLY *e* 16 46 40.5
TLY *e*S **S** **16 51 08.9 +4.9**
TLY *e*SS SS 16 54 25.1 +31
TLY *e* 16 55 19.5
TLY pmax pmax
comp=Z,45nm,0.9s
TLY MLR MLR
comp=Z,8μm,17.0s
TLY Talaya 38.48 321 P **P** **16 45 10.4 0.0**
SNR=37
TLY Talaya 38.48 321 *e*P **P** **16 45 10.6 +0.2**
TLY LR LR
comp=Z,6μm,22.0s
KAPI Kappang 38.57 218 P **P** **16 45 11.7 +0.2**
comp=Z,10nm,0.8s,baz=65,slow=8.8,SNR=3.3
KAPI LR LR 16 59 39.4
comp=Z,2μm,21.5s,baz=49,slow=34

KAPI Kappang 38.57 218 P **P** 16 45 11.7 +0.2
comp=Z,4.5nm,1.7s
BKSI Bulukumba 38.62 218 P **P** 16 45 10.3 -1.6
comp=Z,36nm,0.9s,comp=Z,716nm
BSSI Bau Bau, Buton 39.11 216 P **P** 16 45 15.4 -0.6
comp=Z,84nm,1.2s,comp=Z,1μm
CRAI Chiangrai 39.18 270 P P 16 45 13.3 -3.3
comp=Z,79nm,0.9s,comp=Z,6μm
KBKI Kotabaru 39.33 225 P P 16 45 21.8 +4.0
comp=Z,54nm,1.6s,comp=Z,2μm
HNR Honiara 39.68 153 *e*P **P** 16 45 19.1 -1.6
comp=Z,3.3nm,0.8s
HNR LR LR
comp=Z,7μm,20.0s
UTTA Uttaradit 39.83 266 P **P** 16 45 23.2 +1.2
comp=Z,9.3nm,1.0s,comp=Z,102nm
PBKT Sadao Pong 39.89 264 P **P** 16 45 23.4 +0.9
comp=Z,157nm,0.9s,comp=Z,2μm
KSM Kuching 39.94 236 ⇓P **P** 16 45 23.6 +0.7
KSM Kuching 39.94 236 *e*P **P** 16 45 22.0 -1.0
comp=Z,18nm,0.9s
KSM LR LR
comp=Z,2μm,19.0s
MOY Mondy 39.99 320 *e*P **P** 16 45 23.1 0.0
MOY pmax pmax
comp=Z,64nm,3.4s
STKI Sintang 40.03 234 P **P** 16 45 24.8 +1.1
comp=Z,76nm,1.1s,comp=Z,2μm
CHBT CHBT 40.24 258 P **P** 16 45 26.1 +0.7
comp=Z,96nm,0.8s,comp=Z,3μm
MMRI Maumere 40.36 212 P **P** 16 45 29.3 +2.9
comp=Z,151nm,1.1s,comp=Z,2μm
MMRI Maumere 40.36 212 *e*P **P** 16 45 26.2 -0.1
comp=Z,155nm,1.1s
LAMP Lampang 40.39 268 P **P** 16 45 27.8 +1.1
comp=Z,9.4nm,0.7s,comp=Z,86nm
SOEI Soe 40.43 209 *e*P **P** 16 45 27.6 +0.5
comp=Z,88nm,0.8s
COEN Coen 40.45 179 *e*P **P** 16 45 27.2 +0.1
comp=Z,248nm,1.9s
CMAI Chiengmai2 40.46 270 P **P** 16 45 28.7 +1.2
comp=Z,115nm,1.0s,comp=Z,2μm
CMMT Chiang Mai 40.90 268 P **P** 16 45 31.2 +0.2
comp=Z,79nm,1.1s,comp=Z,1μm
CHTO Chiang Mai 40.91 268 P **P** 16 45 31.2 +0.2
comp=Z,258nm,1.2s,comp=Z,4μm
CHTO Chiang Mai 40.91 268 P **P** 16 45 31.9 +0.9
SNR=12
CHTO Chiang Mai 40.91 268 *e*P **P** 16 45 30.6 -0.3
comp=Z,101nm,1.6s
CHTO LR LR
comp=Z,2μm,22.0s
CM31 Chiang Mai Arr 41.03 268 *e*P **P** 16 45 32.5 +0.5
comp=Z,23nm,0.6s
CMAR Chiang Mai Arr 41.03 268 P **P** 16 45 32.4 +0.4
comp=Z,14nm,0.6s,baz=70,slow=5.5,SNR=131
CMAR LR LR 17 02 54.6
comp=Z,3μm,19.5s,baz=74,slow=37
CMAR Chiang Mai Arr 41.03 268 P **P** 16 45 32.4 +0.4
CMAR pmax pmax
comp=Z,14nm,0.6s
CMAR MLR MLR
comp=Z,3μm,19.5s
ATKA Atka Island 41.04 40 *e*P **P** 16 45 32.3 +0.7
comp=Z,16nm,1.0s
PATY Pattaya 41.45 259 P P 16 45 40.4 +5.0
comp=Z,16nm,0.9s
MHMT Maesarieng 42.03 268 P **P** 16 45 41.4 +1.3
comp=Z,44nm,0.7s,comp=Z,554nm
SRDT SRDT 42.39 262 P P 16 45 46.5 +3.4
comp=Z,183nm,1.4s
KTGM Kuala Trenggan 43.26 248 ⇓P **P** 16 45 52.0 +1.8
BILL Bilibino 43.71 13 PFAKE 16 46 10.0 +17
BILL LR LR
comp=Z,3μm,22.0s
ABJI Asem Bagus 44.02 223 P P 16 46 03.3 +7.0
HVS Khovu-Aksy 44.15 317 ⇓*e*P **P** 16 45 57.1 0.0
HVS pmax pmax
comp=Z,115nm,0.8s
BLJI Banyuglugur 44.37 223 P P 16 46 06.8 +7.7
SKLT Songkhla 44.39 252 P P 16 46 03.3 +4.0
comp=Z,56nm,1.1s,comp=Z,3μm
MYKOM Kota Tinggi 44.73 243 ⇓P **P** 16 46 03.4 +1.4
MYKOM Kota Tinggi 44.73 243 *e*P **P** 16 46 01.4 -0.5
comp=Z,48nm,0.9s
TPI Tanjungpandan 44.74 234 P P 16 46 06.1 +4.1
comp=Z,45nm,1.0s
TRTT Trang 44.84 253 P **P** 16 46 04.5 +1.6
comp=Z,72nm,1.2s,comp=Z,1μm
KGM Kluang 45.02 244 ⇑P **P** 16 46 06.2 +1.9
SURT Suratani 45.07 255 P **P** 16 46 06.3 +1.6
comp=Z,40nm,0.7s,comp=Z,586nm
LSA Lhasa 45.18 286 P **P** 16 46 06.6 +0.6
LSA PMZ
comp=Z,10.0nm,0.5s
LSA PMZ
comp=Z,960nm,11.5s
LSA LN
comp=Z,1μm,15.0s
LSA LE
comp=Z,4μm,20.0s
LSA LZ
comp=Z,6μm,19.0s
LSA Lhasa 45.18 286 *e*P **P** 16 46 05.8 -0.2
comp=Z,10nm,0.6s
LSA LR LR
comp=Z,4μm,20.0s
SHL Shillong 45.34 280 *e*P **P** 16 46 06.5 -0.5
SHL *e*S **S** 16 52 47.0 +0.7
KULM Kulim 45.35 249 ⇓P **P** 16 46 08.1 +1.2
KULM Kulim 45.35 249 *e*P **P** 16 46 06.4 -0.6
comp=Z,35nm,0.8s
KULM LR LR
comp=Z,2μm,20.0s
PPBI Pangkal Pinang 45.46 237 P **P** 16 46 09.0 +1.3
comp=Z,52nm,1.9s,comp=Z,1μm
IPM Ipoh 45.48 248 ⇓P **P** 16 46 08.6 +0.6
IPM Ipoh 45.48 248 *e*P **P** 16 46 07.7 -0.3
comp=Z,40nm,0.7s
TIXI Tiksi 45.61 354 ⇑*i*P **P** 16 46 08.2 0.0
TIXI pmax pmax
comp=Z,18nm,1.4s
TIXI Tiksi 45.61 354 *e*P **P** 16 46 07.8 -0.5
comp=Z,15nm,0.7s
TIXI LR LR
comp=Z,3μm,21.0s
FRIM Kepong 45.68 246 ⇓P **P** 16 46 11.6 +2.0
PWJI Pagerwojo 45.71 225 P P 16 46 13.5 +3.8
comp=Z,42nm,1.0s
UNV Unalaska Valle 45.97 40 *e*P **P** 16 46 12.0 +0.7
comp=Z,101nm,1.3s
PKDT Phuket 45.98 254 P **P** 16 46 13.4 +1.5
comp=Z,136nm,1.1s,comp=Z,2μm
CTA Charters Tower 46.68 175 P **P** 16 46 16.5 -0.7
comp=Z,21nm,1.0s,baz=0.1,slow=9.8,SNR=7.8
CTA LR LR 17 05 40.7
comp=Z,2μm,18.4s,baz=352,slow=36
CTA Charters Tower 46.68 175 P **P** 16 46 16.5 -0.7
CTA pmax pmax
comp=Z,21nm,1.0s
CTA MLR MLR
comp=Z,2μm,18.4s
CTAO Charters Tower 46.68 175 *e*P **P** 16 46 16.0 -1.2
comp=Z,40nm,1.1s
CTAO LR LR
comp=Z,2μm,20.0s
JMBI JAMBI 47.01 239 P **P** 16 46 22.6 +2.7
comp=Z,300nm,1.2s,comp=Z,4μm
KPJI Karang Pucung 47.07 229 P **P** 16 46 20.0 -0.4
comp=Z,154nm,1.0s,comp=Z,2μm
WRAB Tennant Creek 47.09 191 P **P** 16 46 19.0 -1.4
comp=Z,2μm,1.2s
WRAB Tennant Creek 47.09 191 *c i*P **P** 16 46 19.6 -0.8
WRAB pmax pmax
comp=Z,866nm,1.1s
WRAB Tennant Creek 47.09 191 *e*P **P** 16 46 19.4 -1.0
comp=Z,351nm,1.1s
WRAB LR LR
comp=Z,3μm,19.0s
WRA Warramunga Arr 47.10 191 P **P** 16 46 19.8 -0.7
comp=Z,77nm,0.7s,baz=12,slow=8.5,SNR=247
WRA LR LR 17 05 36.8
comp=Z,3μm,19.9s,baz=20,slow=35
WRA Warramunga Arr 47.10 191 P **P** 16 46 19.8 -0.7
WRA pmax pmax
comp=Z,77nm,0.7s
WRA MLR MLR
comp=Z,3μm,19.9s
WMQ Urumqi 47.12 306 P **P** 16 46 20.3 -0.3
WMQ pP **pP** 16 46 29.9 +0.7
WMQ sP **sP** 16 46 37.0 +4.4
WMQ PcP **PcP** 16 47 52.7 +0.6
WMQ PP **PP** 16 48 12.7 +1.2
WMQ ScP **ScP** 16 51 42.6 -1.5
WMQ S **S** 16 53 08.7 -2.6
WMQ sS **sS** 16 53 25.2 -0.2
WMQ ScS **ScS** 16 56 09.4 -3.6
WMQ SS SS 16 56 27.5 -11
WMQ PMZ
comp=Z,28nm,0.8s
WMQ PMZ
comp=Z,1μm,6.5s
GAMB Gambell 47.26 26 *e*P **P** 16 46 22.3 +1.0
comp=Z,39nm,1.0s
FITZ Fitzroy Crossi 47.53 202 *e*P **P** 16 46 24.3 +0.4
comp=Z,311nm,1.4s
LEM Lembang 47.60 231 P **P** 16 46 25.3 +0.6
comp=Z,227nm,1.0s,comp=Z,3μm
LEM Lembang 47.60 231 P **P** 16 46 25.3 +0.6
comp=Z,79nm,0.6s,baz=348,slow=8.2,SNR=33
LEM LR LR 17 06 15.9
comp=Z,1μm,20.2s,baz=48,slow=36
LEM Lembang 47.60 231 P **P** 16 46 25.3 +0.6
LEM pmax pmax
comp=Z,79nm,0.6s
LEM MLR MLR
comp=Z,1μm,20.3s
CBJI Citeko 47.85 232 P P 16 46 29.9 +3.5
comp=Z,140nm,1.3s
CISI Cisompet, Garu 47.99 230 P **P** 16 46 26.4 -1.2
comp=Z,98nm,1.0s
CISI Cisompet, Garu 47.99 230 *e*P P 16 46 24.3 -3.3
comp=Z,93nm,0.9s
PSI Prapat 48.15 248 P **P** 16 46 29.1 +0.1
comp=Z,22nm,0.5s,baz=48,slow=6.3,SNR=23
PSI LR LR 17 07 03.4
comp=Z,966nm,18.1s,baz=74,slow=36
PSI Prapat 48.15 248 P **P** 16 46 29.1 +0.1
PSI pmax pmax
comp=Z,22nm,0.5s
PSI MLR MLR
comp=Z,966nm,18.1s
KLSI 48.18 235 P **P** 16 46 32.0 +2.9
comp=Z,85nm,1.4s
DGPR DIGLIPUR 48.36 264 *e*P **P** 16 46 28.3 -2.1
DGPR AMB AMB 16 46 36.9
comp=Z,122nm,2.6s
MDSI Maura Dua 48.45 236 P **P** 16 46 30.5 -0.6
comp=Z,67nm,1.4s,comp=Z,2μm
LHSI Lahat 48.51 237 P **P** 16 46 32.1 +0.5
comp=Z,125nm,1.3s,comp=Z,2μm
LHMI Lhok Sumawe 48.51 252 P P 16 46 37.3 +5.7
LHMI Lhok Sumawe 48.51 252 *e*P **P** 16 46 30.6 -1.1
comp=Z,116nm,0.8s
TAPN Taplejung 48.59 284 *e*P **P** 16 46 32.7 +0.2
comp=Z,97nm,1.0s
MNSI Mandalilng Nat 48.75 245 P **P** 16 46 32.1 -1.3
comp=Z,58nm,1.3s,comp=Z,1μm
KASI Kota Agung 48.91 235 P P 16 46 41.7 +7.0
ODAN Odare 48.98 283 *e*P **P** 16 46 35.1 -0.3
comp=Z,71nm,0.7s
RAMN Ramite 49.65 284 *e*P **P** 16 46 40.1 -0.5
comp=Z,95nm,0.8s
JIRN Jiri 49.84 285 *e*P **P** 16 46 42.2 0.0
comp=Z,107nm,0.6s
ZAA0 Zalesovo Array 50.03 319 *e*P **P** 16 46 42.5 -0.3
ZALV Zalesovo Beam 50.03 319 P **P** 16 46 42.9 +0.1
comp=Z,21nm,0.6s,baz=95,slow=7.5,SNR=76
ZALV PcP **PcP** 16 48 02.1 -0.2
comp=Z,9.5nm,0.7s,baz=131,slow=3.7,SNR=3.8
ZALV ScP **ScP** 16 52 00.6 +4.5
comp=Z,1.8nm,0.7s,baz=174,slow=1.5,SNR=3.7
ZALV LR LR 17 08 54.8
comp=Z,7μm,18.5s,baz=70,slow=37
ZALV Zalesovo Beam 50.03 319 P **P** 16 46 42.9 +0.1
ZALV 16 48 02.1
ZALV pmax pmax
comp=Z,21nm,0.6s
ZALV pmax pmax
comp=Z,10.0nm,0.7s
ZALV pmax pmax
comp=N,2.0nm,0.7s
ZALV MLR MLR
comp=Z,7μm,18.5s
GUN Gumba 50.06 285 *e*P **P** 16 46 43.9 +0.1
comp=Z,350nm,1.1s
GSI Gunungsitoli 50.10 247 P **P** 16 46 43.4 -0.4
GSI Gunungsitoli 50.10 247 *e*P **P** 16 46 42.9 -0.9
comp=Z,54nm,0.8s
PKI Pulchoki 50.54 285 *e*P **P** 16 46 46.9 -0.5
comp=Z,64nm,0.9s
KKN Kakani 50.60 285 *e*P **P** 16 46 47.4 -0.3
comp=Z,75nm,0.9s
DMN Daman 50.79 285 *e*P **P** 16 46 48.9 -0.3
comp=Z,66nm,0.9s
AS31 Alice Springs 50.81 190 *e*P **P** 16 46 47.9 -1.0
ASAR Alice Springs 50.81 190 P **P** 16 46 47.8 -1.2
comp=Z,5.8nm,0.6s,baz=14,slow=6.6,SNR=57
ASAR LR LR 17 06 55.3
comp=Z,3μm,21.2s,baz=5.0,slow=34
ASAR Alice Springs 50.81 190 P **P** 16 46 47.8 -1.2
ASAR pmax pmax
comp=Z,6.0nm,0.6s
ASAR MLR MLR
comp=Z,3μm,21.2s
MK31 Makanchi Array 51.03 310 *e*P **P** 16 46 49.2 -1.3
MK31 pmax pmax
comp=Z,14nm,0.6s
MK31 Makanchi Array 51.03 310 *e*P **P** 16 46 49.1 -1.3
MKAR Makanchi Array 51.03 310 P **P** 16 46 49.3 -1.1
comp=Z,18nm,0.7s,baz=87,slow=9.2,SNR=102
MKAR PcP **PcP** 16 48 06.2 0.0
comp=Z,7.3nm,0.7s,baz=83,slow=3.1,SNR=4.0
MKAR ScP **ScP** 16 52 05.4 +4.8
comp=Z,2.1nm,0.8s,baz=87,slow=3.7,SNR=3.7
MKAR LR LR 17 10 22.9
comp=Z,6μm,18.3s,baz=88,slow=38
MKAR Makanchi Array 51.03 310 P **P** 16 46 49.3 -1.1
MKAR 16 48 06.2
MKAR pmax pmax
comp=Z,18nm,0.7s
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR pmax pmax
comp=N,2.0nm,0.8s
MKAR MLR MLR
comp=Z,6μm,18.3s
BOK Bokaro 51.06 280 *e*P **P** 16 46 51.0 0.0
BOK AMB AMB 16 46 57.4
comp=Z,53nm,1.2s
NVS Novosibirsk 51.08 320 ⇑*i*P **P** 16 46 50.9 +0.2
NVS *e*S **S** 16 54 10.9 +4.5
NVS *i* 16 56 37.3
NVS pmax pmax
comp=Z,87nm,1.6s
NVS pmax pmax
comp=N,24nm,1.8s
NVS pmax pmax
comp=E,71nm,1.8s
NVS smax smax
comp=N,129nm,3.7s
NVS smax smax
comp=E,88nm,2.7s
GKN Gorkha 51.11 286 *e*P **P** 16 46 51.0 -0.5
comp=E,78nm,0.9s
KOLN Koldanda 52.06 285 *e*P **P** 16 46 57.8 -0.8
comp=E,81nm,0.9s
EIDS Eidsvold 52.44 170 *e*P **P** 16 47 00.2 -0.8
comp=E,97nm,2.0s
MBWA Marble Bar 52.54 207 *e*P **P** 16 47 01.6 -0.3
MBWA LR LR
comp=Z,1μm,19.0s
KURK Kurchatov 53.53 315 P **P** 16 47 08.7 -0.2
comp=Z,195nm,1.2s,SNR=12
KURK Kurchatov 53.53 315 P **P** 16 47 08.2 -0.7
SNR=37
KURK Kurchatov 53.53 315 *e*P **P** 16 47 08.0 -0.9
KURK ⇑*e* 17 17 48.0
KURK LR LR
comp=Z,8μm,19.0s
KURBB Kurchatov Arra 53.59 315 PKP2bc **P'P'bc** 17 17 48.0 -1.8
comp=Z,0.1nm,0.3s,baz=290,slow=2.7,SNR=4.2
DZM Mont Dzumac 53.71 152 *e*P **P** 16 47 10.6 0.0
comp=Z,207nm,1.6s
DZM *e*S **S** 16 54 44.7 +1.6
comp=Z,3μm,24.9s
DZM *e*LR LR 17 02 46.8
comp=Z,6μm,21.6s
DZM Mont Dzumac 53.71 152 P **P** 16 47 10.5 0.0
comp=Z,63nm,1.2s,baz=270,slow=24,SNR=9.9
OHAK Old Harbor 53.97 37 *e*P **P** 16 47 11.7 -0.2
KIP Kipapa 54.02 82 PFAKE 16 47 30.0 +17
KIP LR LR
comp=Z,3μm,21.0s
CHLP Challavanipeta 54.31 274 *e*P **P** 16 47 15.5 +0.4
CHLP IAmb IAmb 16 47 18.7
comp=Z,53nm,1.2s
CHLP *e*S **S** 16 54 51.5 +0.1
CHLP *e*SS **SS** 16 58 36.8 +3.1
KDAK Kodiak Island 54.40 37 PFAKE 16 47 30.0 +15
KDAK LR LR
comp=Z,2μm,20.0s
RSO Redoubt South 54.63 33 *e*P **P** 16 47 17.6 +0.6
comp=Z,53nm,0.9s
JOSI Joshimath 54.87 290 *e*P **P** 16 47 18.7 -0.6
JOSI AMB AMB 16 47 25.0
comp=Z,681nm,0.9s
IM04 Indian Mountai 55.16 27 *e*P **P** 16 47 20.7 +0.1
PPLA Purkeypile 55.26 30 *e*P **P** 16 47 23.2 +1.7
comp=Z,108nm,1.5s
CAST Castle Rocks 55.39 30 *e*P **P** 16 47 22.5 +0.3
comp=Z,35nm,1.0s
BRLK Bradley Lake 55.48 34 *e*P **P** 16 47 24.0 +1.1
comp=Z,52nm,1.1s
ULHL Ulahol 55.57 304 P **P** 16 47 21.6 -2.5
SNR=6.6
KALG Kalgarh 55.79 289 *e*P **P** 16 47 25.2 -0.4
KALG AMB AMB 16 47 29.3
comp=Z,76nm,0.9s
TKM2 Tokmak 2 55.97 305 P **P** 16 47 27.2 +0.2
SNR=18
TKM2 Tokmak 2 55.97 305 P **P** 16 47 26.7 -0.3
TKM2 pmax pmax
comp=Z,25nm,0.8s
TKM2 Toknak 2 55.97 305 *e*P **P** 16 47 26.6 -0.3
comp=Z,29nm,0.8s
TKM2 LR LR
comp=Z,2μm,19.0s
BPAW Bear Paw Mtn. 55.98 29 *e*P **P** 16 47 27.6 +1.1
comp=Z,26nm,1.7s
MSVF Nonsavu 55.99 138 PFAKE 16 47 40.0 +13
MSVF LR LR
comp=Z,2μm,21.0s
KSH Kashi 56.12 301 P P 16 47 31.5 +3.5
KSH pP pP 16 47 41.6 +4.8
KSH sP sP 16 47 45.3 +5.1
KSH PP **PP** 16 49 36.9 +3.8
KSH PcS **PcS** 16 52 28.0 +1.6
KSH S **S** 16 55 16.5 +1.0
KSH sS sS 16 55 33.0 +3.2
KSH ScS **ScS** 16 57 15.0 -0.6
KSH PMZ
comp=Z,160nm,0.8s
KSH PMZ
comp=Z,810nm,6.0s
KSH LN
comp=Z,3μm,16.0s
KSH LE
comp=Z,3μm,15.4s
KSH LZ
comp=Z,2μm,17.1s
RC01 Rabbit Creek A 56.18 33 *e*P **P** 16 47 28.2 +0.3
comp=Z,84nm,1.4s
DDI Dehra Dun 56.19 290 *e*P **P** 16 47 26.2 -2.3
DDI AMB AMB 16 47 29.0
comp=Z,59nm,1.4s
TRF Thorofare Moun 56.19 30 *e*P **P** 16 47 28.1 -0.1
comp=Z,53nm,1.1s
SEW Seward 56.23 34 *e*P **P** 16 47 28.4 +0.1
comp=Z,110nm,1.3s
KZA Kyzart 56.32 304 P **P** 16 47 31.8 +2.0
SNR=6.8
KBK Karagaybulak 56.47 305 P **P** 16 47 30.9 +0.4
SNR=58
CHMS Chumysh 56.57 305 P **P** 16 47 32.5 +1.4
SNR=12
BWN Browne 56.65 29 *e*P P 16 47 34.8 +3.6
comp=Z,122nm,1.2s
FRU Bishkek 56.69 305 ⇑*e*P **P** 16 47 31.0 -0.9
FRU *e* 16 47 46.0
FRU *e* 16 55 30.0
FRU pmax pmax
comp=Z,80nm,1.6s
FRU pmax pmax
comp=E,6μm,14.0s
USP Ospenovka 56.72 306 P **P** 16 47 31.9 -0.2
SNR=12
SMLA Simla 56.74 291 *e*P **P** 16 47 31.8 -0.6
POHA Pohakuloa 56.76 83 PFAKE 16 47 50.0 +17
POHA LR LR
comp=Z,3μm,19.0s
AAK Ala-Archa 56.80 305 P **P** 16 47 32.0 -0.9
comp=Z,165nm,0.8s,SNR=7.8
AAK Ala-Archa 56.80 305 P **P** 16 47 32.8 -0.1
SNR=15
AAK Ala-Archa 56.80 305 P **P** 16 47 32.0 -0.9
comp=Z,165nm,0.8s,SNR=7.8
AAK Ala-Archa 56.80 305 LR LR 17 13 45.6
comp=Z,949nm,18.5s,baz=66,slow=38
AAK Ala-Archa 56.80 305 *c i*P **P** 16 47 33.5 +0.6
AAK pmax pmax
comp=Z,54nm,0.7s
AAK Ala-Archa 56.80 305 P **P** 16 47 33.6 +0.7
SNR=14
AAK Ala-Archa 56.80 305 *e*P **P** 16 47 32.7 -0.1
comp=Z,24nm,0.8s
COLD Coldfoot 56.81 25 *e*P **P** 16 47 33.1 +0.7
comp=Z,26nm,0.9s
MCK McKinley 56.83 30 *e*P **P** 16 47 32.9 +0.4
comp=Z,79nm,1.3s
UCH Uchtor 56.84 305 P **P** 16 47 34.5 +0.9
SNR=40
PVM Polavaram 56.92 274 *e*P **P** 16 47 34.1 +0.3
PVM IAmb IAmb 16 47 37.0
comp=Z,37nm,0.7s
PVM *e*S **S** 16 55 27.5 +1.3
PVM *e*SS **SS** 16 59 18.1 +3.2
AGRA Agra 57.05 286 *e*P **P** 16 47 34.5 -0.1
DHRM DHARAMSHALA 57.21 293 *e*P **P** 16 47 35.4 -0.6
NDI New Delhi 57.30 288 *e*P **P** 16 47 36.0 -0.4
KKR Kurukshetra 57.31 290 *e*P **P** 16 47 36.2 -0.3
KKR AMB AMB 16 47 38.8
comp=Z,143nm,0.9s
EKS2 Erkin-Say 57.33 305 P **P** 16 47 38.1 +1.5
SNR=14
EKS2 Erkin-Say 57.33 305 *e*P **P** 16 47 36.3 -0.2
comp=Z,29nm,0.9s
EKS2 LR LR
comp=Z,2μm,20.0s
CCB Clear Creek Bu 57.42 29 *e*P **P** 16 47 37.5 +0.8
comp=Z,56nm,1.8s
AYAN Aya Nagar 57.42 288 *e*P **P** 16 47 35.8 -1.5
AYAN AMB AMB 16 47 45.0
comp=Z,35nm,0.4s
COLA College 57.43 28 ⇓*i*P **P** 16 47 38.9 +2.2
COLA pmax pmax
comp=Z,63nm,1.3s
COLA College 57.43 28 *e*P **P** 16 47 39.7 +3.0
comp=Z,32nm,1.3s
COLA LR LR
comp=Z,1μm,20.0s
AML Almayashu 57.46 305 P **P** 16 47 38.5 +0.6
SNR=16
SONA Sohna 57.52 288 *e*P **P** 16 47 36.9 -1.0
SONA AMB AMB 16 47 43.2
comp=Z,51nm,0.7s
HDA Harding Lake 57.77 29 *e*P **P** 16 47 37.8 -1.3
comp=Z,34nm,1.2s
ILAR Eielson Array 57.83 28 P **P** 16 47 38.9 -0.6
comp=Z,16nm,0.9s,baz=259,slow=5.7,SNR=46
ILAR LR LR 17 13 31.5
comp=Z,661nm,19.4s,baz=270,slow=37
ILAR PKP2ab 17 17 49.9
comp=Z,1.4nm,1.1s,baz=90,slow=1.8,SNR=4.4
ILAR Eielson Array 57.83 28 P **P** 16 47 38.9 -0.6
ILAR pmax pmax
comp=Z,17nm,0.9s
ILAR MLR MLR
comp=Z,661nm,19.4s
ILAR pmax pmax

comp=Z,1.0nm,1.1s
NGP Nagpur 57.88 279 *e*P **P** **16 47 40.4 -0.2**
KUDL Kundal 58.05 288 *e*P **P** **16 47 40.6 -1.0**
KUDL AMB AMB 16 47 46.7
comp=Z,50nm,1.0s
EYAK Cordova Ski Ar 58.09 34 *e*P **P** **16 47 42.1 +0.7**
comp=Z,140nm,1.8s
DIV Divide 58.10 33 *e*P **P** **16 47 43.6 +2.0**
comp=Z,141nm,1.5s
STKA Stephens Creek 58.29 181 P **P** **16 47 42.2 -0.9**
comp=Z,16nm,0.7s,baz=356,slow=8.0,SNR=12
STKA LR LR 17 13 57.8
comp=Z,2µm,18.1s,baz=356,slow=37
STKA Stephens Creek 58.29 181 P **P** **16 47 42.2 -0.9**
STKA pmax pmax
comp=Z,16nm,0.7s
STKA MLR MLR
comp=Z,2µm,18.1s
STKA Stephens Creek 58.29 181 *e*P **P** **16 47 42.1 -0.9**
comp=Z,38nm,2.1s
PAX Paxson 58.32 31 *e*P **P** **16 47 44.4 +1.3**
comp=Z,111nm,1.6s
RPR Rampur 58.43 277 *e*P **P** **16 47 44.6 +0.1**
RPR IAmb IAmb 16 47 49.3
comp=Z,293nm,2.4s
RPR *e*S **S** **16 55 45.8 -0.3**
RPR *e*SS **SS** **16 59 41.5 +2.8**
HARP HAARP 58.44 31 *e*P **P** **16 47 44.9 +1.0**
comp=Z,83nm,1.2s
BVA0 Borovoye Array 58.59 318 *i* P **P** **16 47 44.9 -0.2**
BVA0 pmax pmax
comp=Z,63nm,0.9s
BVAR Borovoye Array 58.59 318 LR LR 17 14 32.7
comp=Z,6µm,18.2s,baz=80,slow=38
BRVK Borovoye 58.65 318 P **P** **16 47 45.3 -0.2**
comp=Z,460nm,0.7s,SNR=34
BRVK Borovoye 58.65 318*c i*P **P** **16 47 46.0 +0.5**
BRVK pmax pmax
comp=Z,55nm,0.8s
BRVK Borovoye 58.65 318 P **P** **16 47 45.8 +0.3**
SNR=39
BRVK Borovoye 58.65 318 *e*P **P** **16 47 45.4 -0.1**
BRVK LR LR
comp=Z,6µm,20.0s
BHPL Bhopal 58.65 282 *e*P **P** **16 47 43.2 -2.8**
KHET Khetri 58.66 288 *e*P **P** **16 47 45.1 -0.8**
BMRM Bremner River 58.67 33 *e*P **P** **16 47 46.4 +0.9**
comp=Z,98nm,1.0s
FORT Forrest 58.87 195 *e*P **P** **16 47 47.2 +0.1**
comp=Z,62nm,0.6s
ADKI Addanki 58.91 273 *e*P **P** **16 47 47.3 -0.5**
ADKI IAmb IAmb 16 47 51.4
comp=Z,165nm,2.0s
COCO West Island 58.97 235 PFAKE 16 48 00.0 +12
COCO LR LR
comp=Z,907nm,21.0s
NJS Nagarjunasagar 59.24 274 *e*P **P** **16 47 50.3 +0.2**
NJS IAmb IAmb 16 47 55.2
comp=Z,35nm,0.8s
NJS *e*S **S** **16 55 57.3 +0.7**
NJS *e*SS **SS** **16 59 53.9 +2.5**
SRSP Sriramsagar 59.25 277 *e*P **P** **16 47 49.4 -0.8**
SRSP IAmb IAmb 16 47 54.8
comp=Z,18nm,0.7s
SRSP *e*S **S** **16 55 58.3 +1.5**
BBOO Buckleboo 59.55 186 *e*P **P** **16 47 50.7 -1.1**
comp=Z,681nm,2.7s
HYB Hyderabad 59.60 275 *i* P **P** **16 47 53.0 +0.4**
HYB *e*S **S** **16 56 03.0 +1.7**
HYB Hyderabad 59.60 275 *e*P **P** **16 47 49.9 -2.7**
HYBB Hyderabad (bro 59.60 275 *e*P **P** **16 47 52.5 -0.2**
HYBB IAmb IAmb 16 47 57.3
comp=Z,30nm,1.0s
HYBB *e*PP **PP** **16 50 03.2 -1.2**
HYBB *e*S **S** **16 56 02.8 +1.4**
HYBB *e*SS **SS** **16 59 54.9 -2.2**
KK31 Karatay Array 59.63 306 *i* P **P** **16 47 51.8 -0.7**
KK31 pmax pmax
comp=Z,92nm,0.9s
KKAR Karatay Array 59.63 306 *e*P **P** **16 47 52.3 -0.2**
SRLM Srisailam 59.78 274 *e*P **P** **16 47 53.5 -0.3**
SRLM IAmb IAmb 16 47 58.2
comp=Z,51nm,1.0s
SRLM *e*S **S** **16 56 04.2 +0.6**
AFI Afiamalu 59.93 127 PFAKE 16 48 10.0 +15
AFI LR LR
comp=Z,2µm,19.0s
SKHT Srikalahasti 59.94 271 *e*P **P** **16 47 55.6 +0.7**
SKHT IAmb IAmb 16 48 00.5
comp=Z,40nm,0.8s
SKHT *e*S **S** **16 56 08.0 +2.3**
SKHT *e*SS **SS** **17 00 03.2 +0.8**
RCLA Racherla 59.96 273 *e*P **P** **16 47 54.9 -0.2**
RCLA IAmb IAmb 16 48 00.0
comp=Z,29nm,0.7s
RCLA *e*S **S** **16 56 07.7 +1.7**
RCLA *e*SS **SS** **17 00 03.2 +0.5**
EGAK Eagle 60.28 29 *e*P **P** **16 47 57.1 +0.6**
comp=Z,12nm,0.8s
EGAK LR LR
comp=Z,1µm,19.0s
DAWY Dawson 61.06 29 *e*P **P** **16 48 02.0 +0.1**
comp=Z,107nm,1.6s
KLRI Killari 61.10 277 *e*P **P** **16 48 02.2 -0.7**
KLRI IAmb IAmb 16 48 07.2
comp=Z,53nm,0.9s
KLRI *e*S **S** **16 56 21.2 +0.5**
KLRI *e*SS **SS** **17 00 19.3 -1.4**
URV Uravakonda 61.67 273 *e*P **P** **16 48 06.3 -0.4**
URV IAmb IAmb 16 48 20.3
comp=Z,43nm,1.0s
URV *e*S **S** **16 56 27.6 -0.2**
URV *e*SS **SS** **17 00 32.3 +2.8**
PALK Pallekele 61.74 264 P **P** **16 48 07.4 +0.1**
comp=Z,40nm,1.1s,baz=108,slow=5.5,SNR=5.2
PALK PKKP **PKKPdf** **17 09 02.2 +3.7**
comp=Z,37nm,1.0s,baz=242,slow=5.6,SNR=4.5
PALK LR LR 17 17 05.6
comp=Z,1µm,18.1s,baz=37,slow=38
PALK Pallekele 61.74 264 P **P** **16 48 07.4 +0.1**
PALK pmax pmax
comp=Z,40nm,1.1s
PALK pmax pmax
comp=Z,37nm,1.0s
PALK MLR MLR
comp=Z,1µm,18.1s
CAN Canberra 62.01 174 PFAKE 16 48 20.0 +11
CAN LR LR
comp=Z,2µm,20.0s
HYT Haines Junctio 62.14 33 *e*P **P** **16 48 10.5 +1.2**
XMAS Kiritimati 62.35 103 PFAKE 16 48 20.0 +8.7
XMAS LR LR
comp=Z,3µm,20.0s
KBL Kabul 62.56 297 *e*P **P** **16 48 12.4 -0.4**
comp=Z,65nm,0.8s
INK Inuvik 63.18 24 P **P** **16 48 17.4 +1.4**
comp=Z,18nm,0.8s,baz=273,slow=5.7,SNR=16
INK Inuvik 63.18 24 P **P** **16 48 17.4 +1.4**
INK pmax pmax
comp=Z,18nm,0.8s
INK Inuvik 63.18 24 *e*P **P** **16 48 16.3 +0.3**
comp=Z,29nm,0.8s
POO Poona 63.38 278 *e*P **P** **16 48 17.3 -0.9**
POO AMB AMB 16 48 21.8
comp=Z,53nm,2.7s
BESE Bessie Mountai 63.74 35 *e*P **P** **16 48 21.8 +1.8**
comp=Z,23nm,1.0s
SVE Sverdlovsk 63.77 323*d i*P **P** **16 48 20.6 +0.6**
SVE *e* 16 50 47.7
SVE *e*PPP PPP 16 52 18.0
SVE *e*S **S** **16 56 55.3 +2.4**
SVE *e* 16 58 08.8
SVE *e*SSS SSS 17 03 54.5
SVE pmax pmax
comp=Z,112nm,1.1s
SVE MLR MLR
comp=Z,5µm,16.0s
NWAO Narrogin (SRO) 64.07 204 PFAKE 16 48 30.0 +7.7
NWAO LR LR
comp=Z,1.0nm,20.0s
GOA Goa 64.52 275 AMB AMB 16 48 23.8
comp=Z,68nm,1.7s
GOA *e*P **P** **16 48 24.6 -1.1**
ARU Arti 64.96 322 P **P** **16 48 28.1 +0.2**
comp=Z,709nm,0.7s,SNR=31
ARU Arti 64.96 322*c i*P **P** **16 48 27.8 -0.1**
ARU 16 49 02.0
ARU 16 50 48.5
ARU PPP PPP 16 52 27.6
ARU S **S** **16 57 06.4 -1.3**
ARU 16 58 17.9
ARU SS **SS** **17 01 20.6 +1.4**
ARU SSS SSS 17 04 14.3
ARU pmax pmax
comp=Z,144nm,1.7s
ARU MLR MLR
comp=Z,4µm,16.0s
ARU Arti 64.96 322 *e*P **P** **16 48 28.1 +0.2**
comp=Z,263nm,1.4s
ARU LR LR
comp=Z,3µm,21.0s
SOKR Solikamsk 65.29 326*c i*P **P** **16 48 29.8 -0.1**
SOKR 16 50 54.1
SOKR S **S** **16 57 11.0 -0.5**
SOKR SS **SS** **17 01 26.5 +2.5**
SOKR pmax pmax
comp=Z,30nm,0.7s
SOKR MLR MLR
comp=Z,7µm,16.0s
WRAK Wrangell Islan 65.46 37 PFAKE 16 48 50.0 +19
WRAK LR LR
comp=Z,1µm,20.0s
AB31 Akbulak array 65.65 314 *i* P **P** **16 48 31.9 -0.5**
AB31 pmax pmax
comp=Z,28nm,0.6s
ABKAR Akbulak array 65.65 314 *e*P **P** **16 48 32.3 -0.1**
DLBC Dease Lake 66.26 35 LR LR 17 19 16.2
comp=Z,1µm,18.9s,baz=313,slow=38
DLBC Dease Lake 66.26 35 *e*P **P** **16 48 38.3 +2.0**
comp=Z,117nm,1.6s
AKTO Aktyubinsk 66.58 316 LR LR 17 19 10.3
comp=Z,4µm,18.0s,baz=72,slow=37
AKTO Aktyubinsk 66.58 316 P **P** **16 48 37.9 -0.5**
AKTO pmax pmax
comp=Z,56nm,0.8s
RAO Raoul Island 67.29 143 PFAKE 16 49 00.0 +17
RAO LR LR
comp=Z,2µm,19.0s
IMYA Miami 69.05 301 *e*P **P** **16 48 55.4 +0.9**
TAU Tasmania Unive 69.43 176 PFAKE 16 49 10.0 +14
TAU LR LR
comp=Z,2µm,19.0s
IMOG Moghan 69.70 301 *e*P **P** **16 49 00.6 +1.9**
IPAY Payeh 69.86 301 *e*P **P** **16 49 00.3 +0.8**
IAKL Akhelmad 69.99 302 *e*P **P** **16 49 01.3 +0.8**
PRGR Permogore 70.07 330 *e*P **P** **16 49 00.2 +0.2**
PRGR pmax pmax
comp=Z,57nm,0.9s
IKRD Kardeh 70.12 302 *e*P P 16 48 57.5 -3.7
IDAH Dahanechah 70.40 297 *e*P **P** **16 49 03.8 +0.8**
SPITS Spitsbergen Ar 70.81 350 LR LR 17 22 28.1
comp=Z,1µm,19.2s,baz=10.0,slow=38
KBS Kingsbay 70.96 351 PFAKE 16 49 20.0 +15
KBS LR LR
comp=Z,1µm,19.0s
ITEG Tejag 71.23 298 *e*P **P** **16 49 08.8 +0.9**
LVZ Lovozero 71.97 338⇓ *i*P **P** **16 49 12.9 +1.4**
LVZ pmax pmax
comp=Z,27nm,1.1s
LVZ Lovozero 71.97 338 *e*P **P** **16 49 13.3 +1.8**
comp=Z,146nm,1.9s
LVZ LR LR
comp=Z,3µm,20.0s
YKA Yellowknife Ar 72.26 28 P **P** **16 49 12.4 -0.9**
comp=Z,6.7nm,0.7s,baz=294,slow=5.9,SNR=34
YKA Yellowknife Ar 72.26 28 P **P** **16 49 12.4 -0.9**
YKA pmax pmax
comp=Z,7.0nm,0.7s
RES Resolute Bay 72.31 14 *e*P **P** **16 49 14.6 +1.2**
comp=Z,24nm,1.2s
TMCR Tamitsa 72.34 334 *e*P **P** **16 49 15.0 +1.3**
TMCR pmax pmax
comp=Z,104nm,1.5s
APA Apatity 72.54 338⇑ *i*P **P** **16 49 16.0 +1.1**
APA *i* 16 49 40.0
APA *i* PPP PPP 16 53 46.0
APA *i* S **S** **16 58 40.0 +2.8**
APA *i* 16 59 14.0
APA *i* SSS SSS 17 06 34.0
APA pmax pmax
comp=Z,40nm,0.8s
APA MLR MLR
comp=Z,4µm,18.0s
QRZ Quartz Range 72.72 157 *e*PN **P** **16 49 15.8 -0.4**
NLWA Neilton Lookou 73.06 45 P **P** **16 49 18.6 +0.2**
comp=Z,122nm,1.7s
NLWA LR LR
comp=Z,2µm,19.0s
RAR Rarotonga 73.35 125 PFAKE 16 49 30.0 +10
RAR LR LR
comp=Z,3.0nm,21.0s
NNZ Nelson 73.37 156 *e*PN **P** **16 49 19.0 -1.0**
KEV Kevo 73.46 341 *e*P **P** **16 49 20.9 +0.7**
comp=Z,40nm,0.8s
KEV LR LR
comp=Z,3µm,19.0s
IGLO Ghaloghah 73.75 303 *e*P **P** **16 49 22.9 0.0**
MBW Mount Baker 73.77 43 P **P** **16 49 25.9 +3.2**
CMW Cultus Mountai 73.77 44 P P 16 49 26.4 +3.7
SNZO South Karori 73.93 155 PFAKE 16 49 40.0 +17
SNZO LR LR
comp=Z,2µm,21.0s
JCW Jim Creek 73.97 44 P P 16 49 27.3 +3.5
ARCES ARCESS Array B 74.02 341 P **P** **16 49 23.9 +0.3**
comp=Z,25nm,0.7s,baz=60,slow=7.2,SNR=39
ARCES LR LR 17 26 33.6
comp=Z,3µm,18.5s,baz=70,slow=40
ARCES ARCESS Array B 74.02 341 P **P** **16 49 23.9 +0.3**
ARCES pmax pmax
comp=Z,25nm,0.7s
ARCES MLR MLR
comp=Z,3µm,18.5s
ARE0 ARCESS Array S 74.02 341 *e*P **P** **16 49 23.5 -0.1**
IANJ Anjilo 74.07 302 *e*P **P** **16 49 24.9 +0.1**
IBAF Bafgh 74.21 298 *e*P **P** **16 49 26.0 +0.3**
D05A Enumclaw 74.32 45 *e*P **P** **16 49 27.1 +1.3**
comp=Z,202nm,1.8s
ISHM Shahmirzad 74.41 302 *e*P **P** **16 49 30.0 +3.1**
FL2 Flat Top 2 74.47 46 P P 16 49 30.9 +4.1
KHZ Kahutara 74.48 157 *e*P **P** **16 49 26.8 +0.4**
comp=Z,44nm,0.8s
MTMW Mount Mitchell 74.62 46 P P 16 49 31.3 +3.7
IALA Alasht 74.67 303 *e*P **P** **16 49 30.4 +1.9**
I03D Drain, OR 74.76 49 P **P** **16 49 29.6 +1.2**
baz=75
RPZ Rata Peaks 74.80 159 LR LR 17 19 05.2
comp=Z,1µm,21.4s,baz=350,slow=33
RPZ Rata Peaks 74.80 159 *e*P **P** **16 49 27.9 -0.4**
comp=Z,244nm,1.6s
WBK Wadi Bani Khal 74.81 288 P **P** **16 49 30.7 +1.6**
SNR=15
ILAS Lasjerd 74.82 302 *e*P **P** **16 49 29.1 -0.1**
IFIR Firoozkooh 74.88 302 *e*P **P** **16 49 30.2 +0.6**
ICHK Chekchek 74.88 299 *e*P **P** **16 49 30.1 +0.5**
IBND Bandar-abas 74.99 293 *e*P **P** **16 49 32.7 +2.7**
IMEH Mehriz 75.04 298 *e*P **P** **16 49 29.3 -1.3**
L02D Cave Junction, 75.18 50 P **P** **16 49 31.6 +0.8**
baz=75
MQZ McQueen's Vall 75.31 158 *e*PN **P** **16 49 32.3 +1.1**
HUMO Hull Mountain 75.45 50 *e*P **P** **16 49 33.5 +1.1**
comp=Z,107nm,2.1s
IDMV Damavand 75.45 303 *e*P **P** **16 49 33.6 +0.8**
B08A Colville Reser 75.51 43 *e*P **P** **16 49 32.9 +0.2**
comp=Z,282nm,2.4s
ISAD Sadrabad 75.58 299 *e*P **P** **16 49 34.4 +0.7**
JMDO Jabal Madar 75.64 288 P **P** **16 49 34.9 +1.1**
SNR=12
J04D Umpqua Nationa 75.77 49 P **P** **16 49 34.9 +0.4**
baz=76
BANOM Banah 75.77 292⇓ P **P** **16 49 33.8 -0.8**
BANOM Banah 75.77 292⇓ P **P** **16 49 33.8 -0.8**
MAK Makhachkala 75.82 311 *e*P **P** **16 49 33.9 -0.6**
MAK *e* 16 49 47.8
MAK *e* 16 52 23.0
MAK *e*PPP PPP 16 54 14.6
MAK *e*S **S** **16 59 13.8 -1.1**
MAK *e* 16 59 47.0
MAK *e*SSS SSS 17 07 21.4
MAK pmax pmax
comp=Z,115nm,1.7s
MAK MLR MLR
comp=Z,13µm,16.0s
HOQ Hoqain 75.84 289 P **P** **16 49 35.5 +0.5**
SNR=25
I05D Terrebonne, OR 75.85 47 P **P** **16 49 35.3 +0.6**
baz=76
IVRN Varamin 75.90 302 *e*P **P** **16 49 36.0 +0.7**
DGAR Diego Garcia 75.93 254 PFAKE 16 49 50.0 +14
DGAR LR LR
comp=Z,1µm,21.0s
YBH Yreka Blue Hor 75.96 50 LR LR 17 19 34.1
comp=Z,812nm,19.4s,baz=296,slow=33
YBH Yreka Blue Hor 75.96 50 *e*P **P** **16 49 38.5 +3.1**
comp=Z,273nm,2.6s
VTHM Trough 76.02 46 P P 16 49 39.3 +3.6
GMO Grizzlie Mount 76.06 47 P P 16 49 39.6 +3.6
DAG Danmarks Havn 76.09 356⇑ *i*P **P** **16 49 35.0 -0.4**
DAG *i* S **S** **16 59 16.8 0.0**
DAG Danmarks Havn 76.09 356⇑ *i*P **P** **16 49 35.0 -0.4**
DAG *i* S **S** **16 59 16.8 0.0**
HAWA Hanford 76.18 45 PFAKE 16 49 50.0 +13
HAWA LR LR
comp=Z,2µm,19.0s
UOSS Wadi Hilu 76.23 291 P **P** **16 49 37.5 +0.3**
comp=Z,293nm,0.9s,SNR=5.2
MOS Moscow 76.24 326 *e*P **P** **16 49 36.0 -0.6**
MOS *e* 16 49 49.2
MOS *e*S **S** **16 59 17.7 -1.3**
MOS pmax pmax
comp=Z,125nm,1.1s
MOS pmax pmax
comp=Z,300nm,2.2s
MOS smax smax
comp=E,900nm,5.1s
MOS smax smax
comp=N,1µm,4.7s
MOS MLR MLR
comp=N,5µm,16.0s
MOS MLR MLR
comp=Z,11µm,16.0s
MOS MLR MLR
comp=E,8µm,15.0s
IZEF Zefreh 76.25 300 *e*P **P** **16 49 37.9 +0.4**
N02D Trinity Center 76.26 51 P **P** **16 49 37.9 +0.7**
baz=76
BSY Bisya 76.26 289 P **P** **16 49 37.6 +0.1**
SNR=20
D08A Wollman Farm, 76.29 44 *e*P **P** **16 49 38.3 +1.1**
comp=E,321nm,2.3s
J05D Fort Rock, OR 76.34 48 P **P** **16 49 38.4 +0.7**
baz=76
IMHD Mahdasht 76.43 303 *e*P **P** **16 49 39.5 +1.2**
WDC Whiskeytown Da 76.53 51 *e*P **P** **16 49 39.2 +0.6**
comp=E,42nm,1.4s
M04C Macdoel 76.53 50 P **P** **16 49 39.3 +0.5**
baz=76
ARQ Araqi 76.60 289 P **P** **16 49 40.1 +0.8**
SNR=30
IKLH Kolahrood 76.67 301 *e*P **P** **16 49 40.1 +0.2**
NAZ Nazwa, Dubai 76.67 291⇑ P **P** **16 49 39.1 -0.5**
NAZ Nazwa, Dubai 76.67 291⇑ P **P** **16 49 39.1 -0.5**
K05A Summer Lake 76.80 49 *e*P **P** **16 49 41.3 +1.0**
comp=E,126nm,1.3s
FAQ Al Faqa, Dubai 76.82 291 *i* P **P** **16 49 40.3 -0.2**
SNR=15
FAQ Al Faqa, Dubai 76.82 291 *i* P **P** **16 49 40.3 -0.2**
SNR=15
EDM Edmonton 76.85 37 *e*P **P** **16 49 41.4 +1.2**
IPAR Pars 76.89 297 *e*P **P** **16 49 41.2 0.0**
NEW Newport 76.89 42 P **P** **16 49 41.1 +0.6**
baz=77
NEW Newport 76.89 42 *e*P **P** **16 49 41.3 +0.8**
comp=E,310nm,2.3s
NEW LR LR
comp=Z,1µm,19.0s
LPSR Galich'ya Gora 76.99 323 *e*P **P** **16 49 41.2 +0.3**
LPSR *e*S **S** **16 59 28.0 +0.7**
LPSR pmax pmax
comp=Z,30nm,0.7s
LPSR pmax pmax
comp=N,20nm,1.7s
LPSR pmax pmax
comp=E,20nm,1.0s
LPSR smax smax
comp=N,40nm,1.6s
LPSR smax smax
comp=Z,5.0nm,0.5s
LPSR smax smax
comp=E,40nm,1.0s
LPSR MLR MLR
comp=Z,2µm,15.0s
LPSR MLR MLR
comp=N,1µm,17.0s
LPSR MLR MLR
comp=E,2µm,15.0s
G08A Pilot Rock 77.00 46 *e*P **P** **16 49 42.0 +0.7**
comp=E,26nm,1.1s
OBN Obninsk 77.06 325*c i*P **P** **16 49 41.4 +0.2**
OBN *e* 16 49 52.7
OBN *e* 16 52 41.3
OBN pmax pmax
comp=Z,75nm,1.0s
OBN MLR MLR
comp=Z,9µm,14.0s
OBN Obninsk 77.06 325 P **P** **16 49 41.1 -0.1**
comp=Z,374nm,0.9s,SNR=7.0
OBN Obninsk 77.06 325 *e*P **P** **16 49 41.7 +0.4**
OBN LR LR
comp=Z,9µm,19.0s
ASUD Al Ashush, Dub 77.09 291⇓ P **P** **16 49 42.0 0.0**
ASUD Al Ashush, Dub 77.09 291⇓ P **P** **16 49 42.0 0.0**
I07A Izee 77.16 47 *e*P **P** **16 49 45.3 +3.1**
VOR Voronezh 77.23 322 P **P** **16 49 45.0 +2.7**
VOR pmax pmax
comp=Z,300nm,1.4s
IPIR Pirpir 77.45 300 *e*P **P** **16 49 43.8 -0.5**
VSR Storozhevoye 77.48 321 *e*P **P** **16 49 43.7 0.0**
VSR *e*S **S** **16 59 33.0 +0.2**
VSR pmax pmax
comp=Z,50nm,0.6s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.8s
VSR smax smax
comp=E,50nm,1.7s
VSR smax smax
comp=N,40nm,1.5s
VSR smax smax
comp=Z,10.0nm,1.5s
VSR MLR MLR
comp=N,3µm,15.0s
VSR MLR MLR
comp=Z,3µm,15.0s
VSR MLR MLR
comp=E,1µm,14.0s
VORD Divnogorie 77.53 321 *e*P **P** **16 49 44.5 +0.6**
VORD *e*S **S** **16 59 32.8 -0.4**
VORD pmax pmax
comp=Z,40nm,0.7s
VORD pmax pmax
comp=N,10.0nm,0.4s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD smax smax
comp=E,50nm,0.9s
VORD smax smax
comp=Z,7.0nm,0.7s
VORD smax smax
comp=N,20nm,0.8s
VORD MLR MLR
comp=N,2µm,15.0s
VORD MLR MLR
comp=Z,3µm,15.0s
VORD MLR MLR
comp=E,2µm,16.0s
ISRB Sarab 77.78 306 *e*P **P** **16 49 46.2 +0.3**
IKAZ Kazeroun 77.87 297 *e*P **P** **16 49 46.7 0.0**
DGRG David-gareji 77.88 310 P **P** **16 49 47.1 +0.9**
DGRG Ş **S** **16 59 36.6 -1.0**
DGRG David-gareji 77.88 310 P **P** **16 49 47.1 +0.9**
DGRG Ş **S** **16 59 36.6 -1.0**
GOF Gofitskoye 77.89 314 *e*P **P** **16 49 43.2 -2.9**
KULLO Kullorsuaq 78.11 5 *i*P **P** **16 49 46.2 -0.5**
comp=Z,2µm,17.0s

TBLG Delisi 78.20 311 P **P** 16 49 47.9 0.0
TBLG S **S** 16 59 41.6 +0.7
TBLG Delisi 78.20 311 P **P** 16 49 47.9 0.0
TBLG S **S** 16 59 41.6 +0.7
BMO Blue Mountains 78.25 46 eP **P** 16 49 49.1 +0.8
comp=Z,277nm,2.3s
BMO LR LR
comp=Z,2µm,22.0s
ZEI Tsey 78.31 312 eP **P** 16 49 48.4 -0.3
ZEI pmax pmax
comp=Z,31nm,1.0s
WVOR Wild Horse Val 78.43 48 eP **P** 16 49 51.1 +1.7
comp=Z,146nm,2.1s
WVOR LR LR
comp=Z,1µm,21.0s
WALA Waterton Lakes 78.44 41 eP **P** 16 49 49.0 -0.3
comp=Z,76nm,1.3s
FIA1 FINESS Array S 78.45 334 eP **P** 16 49 48.8 -0.1
FINES FINESS Array B 78.45 334 P **P** 16 49 48.9 0.0
comp=Z,25nm,0.6s,baz=84,slow=4.3,SNR=99
FINES FINESS Array B 78.45 334 P **P** 16 49 48.9 0.0
FINES pmax pmax
comp=Z,25nm,0.6s
BSMT Bassoo Peak 78.48 42 eP **P** 16 49 50.1 +0.5
comp=Z,82nm,1.7s
KBZ Khabaz 78.56 313 P **P** 16 49 50.5 +0.7
comp=Z,40nm,0.8s,baz=108,slow=6.2,SNR=63
KBZ Khabaz 78.56 313 P **P** 16 49 50.5 +0.7
KBZ pmax pmax
comp=Z,40nm,0.8s
KIV Kislovodsk 78.60 313 P **P** 16 49 51.9 +1.7
comp=Z,272nm,1.1s,SNR=18
KIV Kislovodsk 78.60 313c iP **P** 16 49 50.6 +0.4
KIV e 16 50 04.2
KIV e 16 52 55.1
KIV pmax pmax
comp=Z,65nm,1.7s
KIV MLR MLR
comp=Z,3µm,16.0s
KIV Kislovodsk 78.60 313 P **P** 16 49 51.1 +1.0
SNR=33
KIV Kislovodsk 78.60 313⇓ iP **P** 16 49 51.0 +0.8
SNR=29
KIV Kislovodsk 78.60 313⇓ iP **P** 16 49 51.0 +0.8
SNR=29
KIV Kislovodsk 78.60 313 PFAKE 16 50 00.0 +10
KIV LR LR
comp=Z,3µm,20.0s
BLMT Blacktail Moun 78.66 42 eP **P** 16 49 52.1 +1.5
ONI Oni 78.69 312 P **P** 16 49 51.2 +0.5
ONI S **S** 16 59 48.4 +2.1
ONI Oni 78.69 312 P **P** 16 49 51.2 +0.5
ONI S **S** 16 59 48.4 +2.1
IMRD Marand 78.81 308 eP **P** 16 49 52.8 +1.2
JTMT Jette 78.83 42 eP **P** 16 49 51.9 +0.4
GNI Garni 78.87 309c iP **P** 16 49 52.7 +0.8
GNI pmax pmax
comp=Z,21nm,1.3s
GNI Garni 78.87 309 eP P 16 49 55.7 +3.9
YBMT Yellow Bay 78.94 42 eP **P** 16 49 52.4 +0.4
comp=Z,47nm,1.3s
IBZA Bozab 79.03 303 eP **P** 16 49 54.2 +1.2
IAZR Azarshahr 79.05 307 eP **P** 16 49 53.8 +0.8
CMB Columbia Colle 79.11 53 eP **P** 16 49 53.1 +0.1
comp=Z,84nm,1.3s
SWMT Swartz Lake 79.11 42 eP **P** 16 49 53.0 0.0
comp=Z,16nm,0.9s
PPT2 Papeete2 79.14 116 eP **P** 16 49 53.3 -0.2
comp=Z,29nm,1.4s
PPT2 eS **S** 16 59 53.0 +1.4
comp=Z,3µm,28.2s
PPT2 Papeete2 79.14 116 eLR LR 17 14 01.6
comp=Z,2µm,20.8s,baz=293
PMOR Pomariorio Ree 79.15 113 eT T 18 16 17.2
comp=Z,25nm,0.2s
MSO Missoula 79.46 43 P **P** 16 49 55.4 +0.5
baz=79
MSO Missoula 79.46 43 eP **P** 16 49 56.2 +1.3
comp=Z,54nm,1.6s
SLMT Seeley Lake 79.54 42 eP **P** 16 49 55.0 -0.3
comp=Z,72nm,1.3s
WAKR Walker 79.58 52 eP **P** 16 49 57.1 +1.3
CHMT Chamberlain Mo 79.84 42 P **P** 16 49 59.8 +2.7
MFID Camas Ranch 79.84 47 eP **P** 16 49 57.4 +0.3
comp=Z,45nm,1.1s
VSU Vasula 79.91 331c iP **P** 16 49 56.9 0.0
VSU pmax pmax
comp=Z,186nm,1.1s
IDHR Dehrash 80.03 304 eP **P** 16 49 57.8 -0.6
BMN Battle Mountai 80.27 50 eP **P** 16 50 00.2 +0.7
comp=Z,52nm,1.4s
NVAR Mina Array Bea 80.41 52 P **P** 16 50 00.5 +0.2
comp=Z,22nm,1.0s,baz=273,slow=4.7,SNR=21
SOC Sochi 80.68 314c iP **P** 16 50 01.4 0.0
SOC e*SP **sP** 16 50 13.0 -0.8
SOC eS **S** 17 00 06.7 -0.4
SOC eSSS SSS 17 08 37.5
SOC pmax pmax
comp=Z,35nm,0.8s
SOC MLR MLR
comp=Z,4µm,13.0s
HLID Hailey 80.69 46 P **P** 16 50 02.1 +0.5
baz=81
HLID Hailey 80.69 46 eP **P** 16 50 02.5 +0.8
HLID LR LR
comp=Z,1µm,21.0s
LRM Limekiln Ridge 80.84 43 eP **P** 16 50 02.2 -0.3
comp=Z,505nm,1.4s
PKM Mcpherson Peak 80.88 56 P **P** 16 50 03.4 +0.6
baz=81
SUMG Summit 80.95 0 iP **P** 16 50 04.7 +1.9
SUMG Summit 80.95 0 iS **S** 17 00 11.9 +2.2
SUMG Summit 80.95 0 eP **P** 16 50 04.7 +1.9
SUMG iS **S** 17 00 11.9 +2.2
DLMT Dillon 80.98 44 eP **P** 16 50 05.4 +2.2
comp=Z,114nm,1.9s
MCMT McKenzie Canyo 81.08 44 eP **P** 16 50 04.8 +0.9
LCCM Lewis and Clar 81.19 43 P P 16 50 07.6 +3.3
TPH Tonopah 81.33 52 eP **P** 16 50 05.4 +0.2
comp=Z,58nm,1.5s
EGMT Eagleton 81.36 40 P **P** 16 50 05.1 0.0
baz=81
EGMT Eagleton 81.36 40 eP **P** 16 50 05.0 -0.1
comp=Z,91nm,1.6s
EGMT LR LR
comp=Z,1µm,19.0s
BOZ Bozeman (W) 81.43 43 P **P** 16 50 05.7 +0.1
baz=81
BOZ Bozeman (W) 81.43 43 eP **P** 16 50 06.4 +0.8
comp=Z,127nm,1.9s
ELK Elko 81.47 49 eP **P** 16 50 06.9 +0.9
comp=Z,22nm,1.1s
A19A Klindworth Far 81.48 39 P **P** 16 50 06.3 +0.7
baz=81
ISA Isabella, Lake 81.52 54 P **P** 16 50 07.3 +1.2
baz=82
ISA Isabella, Lake 81.52 54 eP **P** 16 50 08.7 +2.6
comp=Z,40nm,1.6s
ANN Anapa 81.54 316c iP **P** 16 50 05.4 -0.5
ANN iS **S** 17 00 15.7 -0.3
ANN pmax pmax
comp=Z,81nm,1.1s
ANN MLR MLR
comp=Z,3µm,16.0s
B19A Brinkman Farms 81.61 40 P **P** 16 50 07.6 +1.3
baz=82
MICGM Minsk 81.67 328⇑ eP **P** 16 50 07.0 +0.6
MNK Minsk 81.69 328⇑ eP **P** 16 50 07.0 +0.5
MNK e 16 53 16.0
MNK ePPP PPP 16 55 06.0
MNK eS **S** 17 00 16.0 -1.2
MNK smax smax
comp=E,4µm,10.0s
MNK MLR MLR
comp=E,6µm,15.0s
MNK MLR MLR
comp=Z,9µm,14.0s
MNK MLR MLR
comp=N,5µm,14.0s
IZAR Zarasai 81.71 329 eP **P** 16 50 06.6 0.0
IZAR lAmb lAmb 16 50 09.0
comp=Z,34nm,1.0s
GRAC Grapevine Rang 81.72 53 P **P** 16 50 07.8 +0.7
baz=82
BLG Laguna Peak, P 81.78 56 P **P** 16 50 09.4 +1.9
baz=82

FFC Flin Flon 81.82 32 P **P** 16 50 07.0 -0.2
comp=Z,205nm,0.8s,SNR=9.1
FFC Flin Flon 81.82 32 eP **P** 16 50 07.5 +0.3
FFC LR LR
comp=Z,2µm,22.0s
ISAL Salakas 81.87 329 eP **P** 16 50 07.4 0.0
ISAL lAmb lAmb 16 50 11.1
comp=Z,34nm,0.9s
IIGN Ignalina 81.96 329 eP **P** 16 50 07.8 -0.1
IIGN lAmb lAmb 16 50 17.3
comp=Z,16nm,0.8s
A20A Cobblestone Ra 81.96 39 P **P** 16 50 08.4 +0.2
baz=82
MPMC Manual Prospec 82.06 54 P **P** 16 50 09.7 +0.6
baz=82
B20A Solberg Farm, 82.14 39 P **P** 16 50 11.0 +1.9
baz=82
EDW2 Edwards Air Fo 82.23 55 P **P** 16 50 10.6 +0.7
baz=82
R11A Troy Canyon, C 82.35 51 P **P** 16 50 11.6 +1.0
baz=82
TBI Tubuai 82.35 121 eP **P** 16 50 09.9 -0.5
comp=Z,69nm,1.4s
TBI Tubuai 82.35 121 eS **S** 17 00 26.3 +1.5
comp=Z,1µm,30.2s
TBI Tubuai 82.35 121 eLR LR 17 15 41.1
comp=Z,1µm,23.5s,baz=294
YNR Norris Junctio 82.48 44 eP P 16 50 17.1 +5.9
comp=Z,68nm,1.3s
C20A Veseth Ranch, 82.53 40 P **P** 16 50 12.0 +0.8
baz=82
TPNV Topopah Spring 82.53 52 P **P** 16 50 11.6 0.0
baz=82
H17A Grant Village 82.70 44 P **P** 16 50 14.2 +1.8
baz=83
H17A Grant Village 82.70 44 eP **P** 16 50 15.3 +2.9
comp=Z,87nm,1.5s
B21A Ellsworth Farm 82.71 39 P **P** 16 50 12.4 +0.4
baz=83
LKWY Lake 82.73 44 PFAKE 16 50 20.0 +7.5
LKWY LR LR
comp=Z,1µm,20.0s
IMW Indian Meadow 82.73 44 eP **P** 16 50 14.1 +1.5
comp=Z,26nm,1.1s
FCC Fort Churchill 82.75 26 eP **P** 16 50 12.2 +0.3
FXWY Fox Creek 82.80 45 eP **P** 16 50 14.3 +1.3
comp=Z,62nm,1.8s
BGU Big Grassy Mou 82.85 48 eP **P** 16 50 13.9 +0.8
comp=Z,16nm,1.4s
GSC Goldstone, Bar 82.90 54 eP P 16 50 16.6 +3.2
comp=Z,45nm,1.4s
MOOW Moose Ponds 82.92 44 eP **P** 16 50 15.0 +1.5
comp=Z,39nm,1.5s
TPAW Teton Pass 82.93 45 eP **P** 16 50 15.1 +1.5
comp=Z,22nm,1.1s
A22A Carney Farms, 83.02 38 P **P** 16 50 13.3 -0.4
baz=83
LOHW Long Hollow 83.08 44 eP **P** 16 50 15.4 +1.0
comp=Z,13nm,1.1s
RLMT Red Lodge 83.14 43 P **P** 16 50 15.3 +0.8
baz=83
RLMT Red Lodge 83.14 43 eP **P** 16 50 15.9 +1.4
comp=Z,26nm,1.0s
RLMT LR LR
comp=Z,1µm,19.0s
AKASG Malin Array Be 83.15 324 P **P** 16 50 13.7 -0.5
comp=Z,30nm,0.7s,baz=51,slow=5.1,SNR=78
AKASG Malin Array Be 83.15 324 P **P** 16 50 13.7 -0.5
AKASG pmax pmax
comp=Z,30nm,0.7s
AKBB Malin Array Si 83.15 324 eP **P** 16 50 13.6 -0.7
AK01 Malin Array Si 83.17 324 eP **P** 16 50 13.7 -0.6
KIEV Kiev 83.17 324c iP **P** 16 50 14.0 -0.3
KIEV Kiev 83.17 324 PFAKE 16 50 30.0 +16
KIEV LR LR
comp=Z,5µm,20.0s
AK02 Malin Array Si 83.19 324 eP **P** 16 50 13.7 -0.7
AHID Auburn Hatcher 83.20 45 PFAKE 16 50 30.0 +15
AHID LR LR
comp=Z,2µm,19.0s
DUG Dugway, Tooele 83.35 48 P **P** 16 50 16.1 +0.4
baz=83
DUG Dugway, Tooele 83.35 48 eP **P** 16 50 16.3 +0.6
comp=Z,37nm,1.4s
DUG LR LR
comp=Z,1µm,20.0s
B22A Reddig Ranch S 83.36 39 P **P** 16 50 15.9 +0.4
baz=83
HWUT Hardware Ranch 83.48 47 eP **P** 16 50 16.5 +0.1
comp=Z,197nm,2.3s
HWUT LR LR
comp=Z,1µm,19.0s
SIM Simferopol' 83.50 317c iP **P** 16 50 16.3 +0.1
SIM e 16 53 31.0
SIM iS **S** 17 00 35.9 -0.2
SIM iPS **PnS** 17 01 25.0 -4.8
SIM iSS **SS** 17 06 01.0 -0.4
SIM pmax pmax
comp=Z,73nm,0.9s
SIM pmax pmax
comp=Z,260nm,10.7s
SHPR Sheep Range 83.52 52 eP **P** 16 50 19.7 +3.1
CTU Camp Tracy 83.81 47 eP P 16 50 21.9 +3.9
comp=Z,39nm,1.3s
TCUT Toone Canyon 83.82 47 eP **P** 16 50 19.5 +1.3
comp=Z,9.7nm,0.8s
B23A Brockton 83.83 38 P **P** 16 50 18.3 +0.5
baz=84
PFO Pinyon Flats O 83.94 55 PFAKE 16 50 30.0 +11
PFO LR LR
comp=Z,2µm,22.0s
MALT Malatya 84.07 310⇑ iP **P** 16 50 20.6 +1.3
C23A Lambert 84.08 39 P **P** 16 50 19.7 +0.6
baz=84
NB2 NORSAR Subarra 84.10 338 P **P** 16 50 18.5 -0.4
comp=Z,20nm,0.8s,baz=43,slow=5.3
NB2 NORSAR Subarra 84.10 338 P **P** 16 50 18.5 -0.4
baz=43,slow=5.3
NOA NORSAR Array B 84.10 338 P **P** 16 50 18.2 -0.7
comp=Z,9.8nm,0.9s,baz=44,slow=5.1,SNR=26
NOA PP **PP** 16 53 35.1 +2.6
comp=Z,2.7nm,0.8s,baz=45,slow=7.6,SNR=4.4
NOA LR LR 17 32 15.9
comp=Z,2µm,19.2s,baz=40,slow=39
NOA NORSAR Array B 84.10 338 P **P** 16 50 18.3 -0.7
NOA 16 53 35.1
NOA pmax pmax
comp=Z,10.0nm,0.9s
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA MLR MLR
comp=Z,2µm,19.2s
LAO LASA Array 84.11 40 PFAKE 16 50 30.0 +11
LAO LR LR
comp=Z,1µm,20.0s
BW06 Boulder Array 84.17 45 PFAKE 16 50 30.0 +10
BW06 LR LR
comp=Z,2µm,20.0s
PDAR Pinedale Array 84.17 45 P **P** 16 50 19.6 -0.4
comp=Z,7.5nm,1.1s,baz=318,slow=2.0,SNR=15
PDAR PP **PP** 16 53 35.6 +1.7
comp=Z,1.8nm,1.0s,baz=298,slow=3.2,SNR=3.9
PDAR LR LR 17 22 20.0
comp=Z,1µm,20.5s,baz=318,slow=32
SUW Suwalki 84.17 329 eP **P** 16 50 18.8 -0.6
SUW ePcP **PcP** 16 50 20.6 -2.6
SUW epP **pP** 16 50 26.8 -1.7
SUW ePP **PP** 16 53 33.6 +0.4
SUW eS **S** 17 00 47.7 +5.3
SUW Suwalki 84.17 329 eP **P** 16 50 18.9 -0.5
SUW e*PP **pP** 16 50 26.8 -1.7
SUW e 16 53 33.6
SUW eS **S** 17 00 47.8 +5.3
BAR Barrett 84.22 56 eP P 16 50 24.3 +4.2
comp=Z,59nm,2.7s
J19A Crowheart 84.23 44 P **P** 16 50 20.5 +0.3
baz=84
DGMT Dagmar 84.26 38 PFAKE 16 50 30.0 +10
DGMT LR LR
comp=Z,1µm,19.0s
CCUT Cedar City 84.27 51 eP **P** 16 50 20.9 +0.4
comp=Z,45nm,1.7s
NAO01 NORSAR Array S 84.35 338 eP **P** 16 50 19.4 -0.8
comp=Z,20nm,0.9s
I20A Worland 84.44 43 P **P** 16 50 22.4 +1.2
baz=84

MVU Marysvale 84.59 50 eP **P** 16 50 22.2 +0.1
comp=Z,18nm,1.2s
MSU Marysvale 84.61 50 eP **P** 16 50 24.6 +2.3
comp=Z,61nm,1.7s
BC3 Big Chuckawall 84.66 55 P **P** 16 50 23.5 +1.1
baz=85
TMUT Trail Mountain 84.87 48 eP **P** 16 50 25.7 +2.1
comp=Z,20nm,1.2s
D24A Glendive 84.95 39 P **P** 16 50 24.0 +0.5
baz=85
SRU San Rafael Swe 85.42 48 eP **P** 16 50 28.1 +1.8
comp=Z,16nm,0.9s
KIS Kishinev 85.48 321 eP **P** 16 50 24.0 -2.1
comp=Z,800nm,8.0s
KIS Kishinev 85.48 321 ePP PP 16 53 43.0 -1.1
KIS eS **S** 17 00 50.0 -5.7
comp=Z,700nm,12.0s
KIS Kishinev 85.48 321 ePS 17 01 50.0
KIS eSS SS 17 06 12.0 -18
KIS eSSS SSS 17 09 40.0
KIS LRM MLR 17 32 30.0
comp=Z,5µm,16.0s
KIS Kishinev 85.48 321 eP **P** 16 50 24.0 -2.1
KIS e 16 53 43.0
KIS eS **S** 17 00 50.0 -5.7
KIS ePS **PnS** 17 01 50.0 -3.7
KIS pmax pmax
comp=Z,800nm,8.0s
KIS pmax pmax
comp=Z,1µm,14.0s
KIS pmax pmax
comp=N,700nm,12.0s
KIS pmax pmax
comp=E,3µm,12.0s
KIS MLR MLR
comp=Z,6µm,16.0s
KIS MLR MLR
comp=Z,7µm,16.0s
KIS MLR MLR
comp=N,5µm,16.0s
KIS MLR MLR
comp=E,4µm,16.0s
KONO Kongsberg 85.67 338 eP **P** 16 50 26.0 -0.8
comp=E,74nm,1.7s
KONO LR LR
comp=Z,2µm,19.0s
RAYN Ar Rayn 85.68 294 P **P** 16 50 28.5 +0.9
comp=Z,517nm,0.8s,SNR=20
RAYN Ar Rayn 85.68 294 eP **P** 16 50 27.3 -0.3
RAYN LR LR
comp=Z,1µm,19.0s
J22A Midwest 85.74 43 P **P** 16 50 28.1 +0.4
baz=86
SFJD Kangerlussuaq 86.02 5 iP P 16 50 36.2 +7.8
comp=Z,28nm,0.9s
SFJD Kangerlussuaq 86.02 5 iP P 16 50 36.2 +7.8
SFJD pmax pmax
comp=Z,28nm,0.9s
SFJD Kangerlussuaq 86.02 5 PFAKE 16 50 40.0 +12
SFJD LR LR
comp=Z,1µm,21.0s
D26A Manning 86.06 38 P **P** 16 50 29.6 +0.5
baz=86
H24A Dirks Ranch, A 86.16 41 P **P** 16 50 30.6 +0.9
baz=86
RWWY Rawlins 86.22 45 eP P 16 50 35.0 +4.8
comp=Z,401nm,2.9s
J23A Dilts Ranch, B 86.31 43 P **P** 16 50 31.1 +0.6
baz=86
LVV L'vov 86.36 325 eP **P** 16 50 29.4 -1.0
LVV e 16 53 51.4
LVV ePPP PPP 16 55 49.4
LVV eS **SKSac** 17 00 54.2 -0.7
LVV MLR MLR
comp=N,5µm,16.0s
LVV MLR MLR
comp=E,7µm,16.0s
LVV MLR MLR
comp=Z,8µm,16.0s
E26A Carlson Angus 86.37 39 P **P** 16 50 31.2 +0.6
baz=86
O20A White River Ci 86.39 47 eP **P** 16 50 34.1 +3.1
comp=Z,38nm,1.4s
TLCR 86.52 320⇑ iP **P** 16 50 32.4 +1.1
BR131 Keskin Array S 86.55 313 eP **P** 16 50 30.5 -1.3
comp=Z,8.5nm,0.8s
BRTR Keskin Array B 86.55 313 P **P** 16 50 30.9 -0.9
comp=Z,5.1nm,0.8s,baz=102,slow=3.1,SNR=24
BRTR LR LR 17 33 17.6
comp=Z,1µm,19.0s,baz=53,slow=38
BRTR Keskin Array B 86.55 313ceP **P** 16 50 30.8 -1.0
BRTR pmax pmax
comp=Z,5.0nm,0.8s
K23A Bowen Ranch, D 86.62 43 P **P** 16 50 32.5 +0.4
baz=86
A29A Manning Farm, 86.65 36 P **P** 16 50 32.3 +0.4
baz=86
WUAZ Wupatki 86.67 52 PFAKE 16 50 40.0 +7.5
WUAZ LR LR
comp=Z,1µm,21.0s
BEL Belsk 86.67 328 eP **P** 16 50 31.5 -0.4
BEL ePcP **PcP** 16 50 33.0 -1.2
BEL epP **pP** 16 50 41.0 0.0
BEL eS **S** 17 01 07.6 +0.4
BEL Belsk 86.67 328 eP **P** 16 50 31.5 -0.4
BEL e*PP **pP** 16 50 41.1 0.0
BEL eS **S** 17 01 07.7 +0.5
ANTO Ankara 87.03 314 PFAKE 16 50 50.0 +16
ANTO LR LR
comp=Z,1µm,20.0s
BSD Bornholm Skovb 87.03 333⇑ iP **P** 16 50 32.1 -1.5
BSD Bornholm Skovb 87.03 333 iS **SKSac** 17 00 57.4 -1.3
comp=Z,3µm,14.0s
BSD Bornholm Skovb 87.03 333⇑ iP **P** 16 50 32.1 -1.5
BSD iS **SKSac** 17 00 57.4 -1.3
BSD MLR MLR
comp=Z,3µm,14.0s
BUR08 Bucovina Ar. S 87.08 323 eP **P** 16 50 33.9 -0.3
BURAR Bucovina Array 87.09 323⇑ iP **P** 16 50 34.4 +0.2
MDND Maddock 87.12 37 eP P 16 50 37.8 +3.6
comp=Z,918nm,2.0s
A30A Hoffart Farm, 87.13 35 P **P** 16 50 34.5 +0.2
baz=87
KWP Kalwaria Pacla 87.15 326 eP **P** 16 50 34.2 -0.1
KWP ePcP **PcP** 16 50 35.6 -0.8
KWP epP **pP** 16 50 42.3 -1.2
KWP Kalwaria Pacla 87.15 326 eP **P** 16 50 34.2 -0.1
KWP e*PP **pP** 16 50 42.4 -1.1
TIRR Tirgusor 87.17 319⇑ iP **P** 16 50 34.4 -0.1
TIRR Tirgusor 87.17 319 eP **P** 16 50 34.7 +0.2
comp=Z,15nm,1.1s
PV01 Paradox Valley 87.24 48 eP **P** 16 50 37.0 +1.7
comp=Z,1µm,1.0s
H26A Fairpoint 87.27 41 P **P** 16 50 35.1 0.0
baz=87
TLB Topalu 87.31 319⇓ iP **P** 16 50 35.3 +0.2
VRI Vrincioaia 87.31 321⇓ iP **P** 16 50 35.2 0.0
HARR Harsova 87.32 320⇑ iP **P** 16 50 35.2 0.0
PLOR Plostina 87.36 321⇓ iP **P** 16 50 36.1 +0.6
B30A Myrvik Farm, E 87.42 36 P **P** 16 50 35.9 +0.3
baz=87
214A Organ Pipe Nat 87.43 55 eP **P** 16 50 37.5 +1.4
comp=Z,16nm,1.0s
GRER 87.46 321⇓ iP P 16 50 39.9 +4.0
PHWY Pilot Hill 87.53 44 eP **P** 16 50 39.6 +2.9
comp=Z,10nm,0.9s
COP Copenhagen 87.61 334 iP **P** 16 50 35.1 -1.2
COP Copenhagen 87.61 334 iS SKSac 17 00 54.8 -7.4
comp=Z,1µm,16.0s
COP Copenhagen 87.61 334 iP **P** 16 50 35.1 -1.2
COP iS SKSac 17 00 54.8 -7.4
COP MLR MLR
comp=Z,1µm,16.0s
MSAB Monastry St. A 87.73 319⇑ iP **P** 16 50 37.0 -0.2
SMCO Snowmass 87.73 47 eP P 16 50 41.4 +3.5
comp=Z,15nm,1.1s
PSN Preselentsi 87.75 319⇑ iP **P** 16 50 37.4 +0.1
MVCO Mesa Verde 87.78 49 eP P 16 50 41.6 +3.7
comp=Z,20nm,1.3s
MVCO LR LR
comp=Z,1µm,20.0s
C30A Mose, Pekin 87.80 36 P **P** 16 50 37.7 +0.2
baz=88
KOLS Kolonicke sedl 87.81 325 eP **P** 16 50 37.6 +0.1
KOLS pmax pmax
comp=Z,5.0nm,1.1s

KOLS Kolonicke sedl 87.81 325 *e*P **P** 16 50 37.6 +0.1
KOLS *e* 16 50 49.1
KOLS *e*PP **PP** 16 54 00.9 -2.0
BORG Borgarnes 87.97 353 PFAKE 16 50 50.0 +12
BORG LR LR
comp=Z,681nm,20.0s
MLR Muntele Rosu 87.98 321 ⇓*i*P **P** 16 50 38.9 +0.4
UZH Uzhgorod 88.00 325 *e*P **P** 16 50 36.7 -1.7
UZH *i* 16 50 43.9
UZH *e* 17 00 57.1
UZH *e*S S 17 01 11.1 -8.9
UZH MLR MLR
comp=N,4µm,15.5s
UZH MLR MLR
comp=E,6µm,15.5s
UZH MLR MLR
comp=Z,4µm,15.5s
DOPR Dopca 88.00 322 ⇓*i*P **P** 16 50 39.0 +0.5
STHS Stebnicka Huta 88.02 326 *e*P **P** 16 50 39.9 +1.4
STHS pmax pmax
comp=Z,6.0nm,0.8s
STHS Stebnicka Huta 88.02 326 *e*P **P** 16 50 39.9 +1.4
TRPA Tarpa 88.19 325 ⇓*i*P **P** 16 50 39.6 +0.3
OJC Ojcow 88.21 327 *e*P **P** 16 50 39.1 -0.3
OJC *e*PcP **PcP** 16 50 41.4 +0.3
OJC *e*pP **pP** 16 50 47.8 -0.7
OJC *e*PP **PP** 16 54 06.2 +0.2
OJC *e*S **S** 17 01 21.4 -0.6
OJC Ojcow 88.21 327 *e*P **P** 16 50 39.1 -0.3
OJC *e**PP **pP** 16 50 47.8 -0.7
OJC *e* 16 54 06.2
OJC *e*S **S** 17 01 21.5 -0.6
OJC Ojcow 88.21 327 *e*P **P** 16 50 39.3 -0.1
comp=Z,21nm,1.0s
F29A Eureka 88.22 38 P **P** 16 50 39.9 +0.4
baz=88
ISCO Idaho Springs 88.27 46 *e*P P 16 50 44.0 +3.8
comp=Z,153nm,3.0s
ISCO LR LR
comp=Z,2µm,21.0s
E30A Jud 88.32 37 P **P** 16 50 40.5 +0.6
baz=88
NIE Niedzica 88.48 326 *e*P **P** 16 50 40.6 -0.1
NIE *e*pP **pP** 16 50 48.9 -1.0
NIE *e*PP **PP** 16 54 06.8 -1.4
NIE Niedzica 88.48 326 *e*P **P** 16 50 40.7 0.0
NIE *e**PP **pP** 16 50 48.9 -1.0
NIE *e* 16 54 06.9
VOIR 88.51 321 ⇑*i*P P 16 50 34.7 -6.3
CJR Cluj-Napoca 88.52 323 ⇑*i*P **P** 16 50 41.0 0.0
MTUR Matau 88.63 321 ⇑*i*P P 16 50 35.2 -6.4
TUC Tucson 88.73 54 *e*P P 16 50 45.5 +3.3
comp=Z,32nm,1.5s
TUC LR LR
comp=Z,1µm,20.0s
H29A Onida 88.74 39 P **P** 16 50 42.9 +0.9
baz=89
AGMN Agassiz Nation 88.78 35 P **P** 16 50 42.6 +0.4
baz=89
AGMN Agassiz Nation 88.78 35 *e*P P 16 50 37.7 -4.4
comp=Z,172nm,2.5s
ARR Arges 88.78 322 ⇓*i*P **P** 16 50 42.7 +0.4
DRGR 88.94 323 ⇑*i*P **P** 16 50 43.0 0.0
KECS Kecovo 89.01 326 *e*P **P** 16 50 43.5 +0.3
KECS pmax pmax
comp=Z,7.0nm,0.9s
KECS Kecovo 89.01 326 *e*P **P** 16 50 43.5 +0.3
KECS *e* 16 50 53.7
KECS *e*PP **PP** 16 54 12.5 +0.1
G30A Faulkton 89.03 39 P **P** 16 50 43.7 +0.3
baz=89
LOT Lotru 89.21 322 ⇓*i*P **P** 16 50 44.0 -0.3
OKC Ostrava-Krasne 89.26 328 *e*P **P** 16 50 43.7 -0.6
OKC *e*PP **PP** 16 54 14.9 +0.6
OKC *e*SKS **SKSac** 17 01 11.6 -0.8
OKC *e*SP **SPn** 17 02 31.0 -3.7
OKC AMS AMS 17 34 50.0
comp=Z,4µm,14.9s
OKC Ostrava-Krasne 89.26 328 *e*P **P** 16 50 43.7 -0.6
OKC *e* 16 54 14.9
OKC *e* 17 01 11.6
OKC *e*SP **SPn** 17 02 31.0 -3.7
OKC MLR MLR
comp=Z,4µm,14.9s
CSS Prodhromos 89.30 309 *e*P **P** 16 50 46.8 +1.9
CSS LR LR
comp=Z,682nm,20.0s
J29A Okreek 89.41 40 P **P** 16 50 45.6 +0.4
baz=89
JMB Yambol 89.42 318 ⇑*i*P **P** 16 50 45.5 +0.3
KSP Ksiaz 89.43 329 *e*P **P** 16 50 44.7 -0.4
KSP *e*PcP **PcP** 16 50 46.3 -0.2
KSP *e*pP **pP** 16 50 52.9 -1.4
KSP *e*PP **PP** 16 54 16.5 +0.8
KSP Ksiaz 89.43 329 *e*P **P** 16 50 44.7 -0.4
KSP *e**PP **pP** 16 50 52.9 -1.4
KSP *e* 16 54 16.6
SDCO Great Sand Dun 89.49 47 PFAKE 16 51 00.0 +14
SDCO LR LR
comp=Z,1µm,20.0s
MSEY Mahe Island 89.56 265 PFAKE 16 51 00.0 +14
MSEY LR LR
comp=Z,937nm,22.0s
BRSD Miller 89.56 39 *e*P **P** 16 50 49.0 +3.1
comp=Z,34nm,1.0s
ISP Isparta 89.63 313 PFAKE 16 51 00.0 +14
ISP LR LR
comp=Z,1µm,20.0s
PSZ Piszkesteto 89.68 326 ⇑*i*P **P** 16 50 47.1 +0.7
PSZ Piszkesteto 89.68 326 *e*P **P** 16 50 46.1 -0.3
comp=Z,45nm,1.1s
PSZ LR LR
comp=Z,9µm,19.0s
PSZ Piszkesteto 89.68 326 *e*P **P** 16 50 45.9 -0.5
BSEG Bad Segeberg 89.73 334 *e*P **P** 16 50 47.2 +0.8
comp=Z,13nm,0.8s
DPC Dobruska-Polom 89.76 329 *e*P **P** 16 50 46.6 -0.1
DPC *e*PP **PP** 16 54 21.0 +2.6
DPC *e*SKS **SKSac** 17 01 14.7 -0.7
DPC *e*SP **SPn** 17 02 39.8 -0.9
DPC *ex* x 17 07 24.6
DPC AMS AMS 17 35 00.0
comp=Z,6µm,15.7s
DPC Dobruska-Polom 89.76 329 *e*P **P** 16 50 46.6 -0.1
DPC *e* 16 54 21.0
DPC *e* 17 01 14.7
DPC *e*SP SP 17 02 39.8 -1.4
DPC MLR MLR
comp=Z,6µm,15.7s
GZR Gura Zlata 89.79 322 ⇓*i*P **P** 16 50 47.7 +0.7
UPC Upice 89.80 329 *e*P **P** 16 50 46.3 -0.5
UPC Upice 89.80 329 *e*P **P** 16 50 46.3 -0.5
OGNE Ogallala 89.86 43 PFAKE 16 51 00.0 +13
OGNE LR LR
comp=Z,911nm,20.0s
BZS Buzias 90.28 323 ⇑*i*P **P** 16 50 48.9 -0.3
VRAC Vranov 90.36 328 ⇓*i*P **P** 16 50 49.2 -0.3
PKSN Nyarlorinc 90.37 325 *e*P **P** 16 50 51.8 +2.3
ANMO Albuquerque 90.39 50 LR LR 17 27 30.9
comp=Z,912nm,19.8s,baz=302,slow=33
ANMO Albuquerque 90.39 50⇑*e*P P 16 50 54.1 +3.9
ANMO pmax pmax
comp=Z,28nm,1.3s
ANMO Albuquerque 90.39 50 *e*P P 16 50 54.1 +3.9
comp=Z,16nm,1.3s
PVCC Panska Ves 90.44 330 *e*P **P** 16 50 49.2 -0.6
PVCC *e*SP SP 17 02 47.1 -1.4
PVCC *e*SS **SS** 17 07 41.5 -0.7
PVCC AMS AMS 17 36 50.0
comp=Z,4µm,15.4s
PVCC Panska Ves 90.44 330 *e*P **P** 16 50 49.2 -0.6
PVCC *e*SP SP 17 02 47.1 -1.4
PVCC *e*SS **SS** 17 07 41.5 -0.7
PVCC MLR MLR
comp=Z,4µm,15.4s
BRG Berggiesshubel 90.47 330 *e*P **P** 16 50 50.5 +0.6
comp=Z,10nm,0.9s
BRG PP PP 16 54 17.0 -6.9
BRG SKS **SKSac** 17 01 20.0 +0.6
BRG S **S** 17 01 40.0 -3.1
BRG SS SS 17 07 30.0 -13
BRG Berggiesshubel 90.47 330 *e*P **P** 16 50 50.6 +0.6
comp=Z,6.0nm,0.8s
BRG Berggiesshubel 90.47 330 *e*P **P** 16 50 50.5 +0.6
BRG 17 01 20.0
BRG S **S** 17 01 40.0 -3.1
BRG pmax pmax
comp=Z,111nm,0.9s
SMOL Smolenice 90.50 327 *e*P **P** 16 50 52.0 +1.8
SMOL Smolenice 90.50 327 *e*P **P** 16 50 52.0 +1.8
CLL Collm 90.57 331 *e*P **P** 16 50 50.3 -0.1
comp=Z,6.0nm,0.8s
CLL Collm 90.57 331 *e*P **P** 16 50 50.0 -0.4
comp=Z,53nm,2.1s
CLL *i* 16 50 57.7
CLL *e* 16 52 02.0
CLL *e*PP **PP** 16 54 22.0 -2.6
CLL *e* 16 55 28.0
CLL *e* 17 00 30.0
CLL *e*SKSac **SKSac** 17 01 22.0 +2.1
CLL *e*PS **PS** 17 02 54.0 0.0
CLL *e*SS **SS** 17 07 41.0 -3.0
CLL *e*SSS SSS 17 11 12.0
CLL *e*SSSS 17 14 42.0
CLL LmH 17 27 00.0
comp=N,2µm,21.0s
CLL LmH 17 27 00.0
comp=E,3µm,21.0s
CLL LmV 17 35 00.0
comp=Z,3µm,18.3s
CLL Collm 90.57 331 *e*P **P** 16 50 50.0 -0.4
CLL *i* 16 50 57.7
CLL *e*S **SKSac** 17 01 22.0 +2.1
CLL pmax pmax
comp=Z,53nm,2.1s
CLL MLR MLR
comp=Z,3µm,18.3s
CLL Collm 90.57 331 *e*P **P** 16 50 49.8 -0.6
comp=Z,21nm,1.1s
KDZ Kurdzhali 90.60 318 ⇑*i*P **P** 16 50 51.8 +1.0
121A Cookes Peak, D 90.77 53 *e*P **P** 16 50 54.4 +2.4
comp=Z,32nm,1.5s
GOPC GO Pecny, Ondr 90.77 329 *e*P **P** 16 50 50.4 -1.0
GOPC *e*PP **PP** 16 54 29.1 +2.7
GOPC *e*SKS **SKSac** 17 01 20.7 -0.6
GOPC *e*SP **SP** 17 02 48.8 -3.5
GOPC *e*SS **SS** 17 07 45.6 -1.5
GOPC AMS AMS 17 35 50.0
comp=Z,7µm,15.2s
PKSG 90.79 326 *e*P **P** 16 50 52.0 +0.5
PRA Prague 90.82 330 *e*P **P** 16 50 50.9 -0.7
PRA *e*SKS **SKSac** 17 01 18.9 -2.5
PRA *e*SP **SP** 17 02 47.6 -5.2
PRA *ex* x 17 07 33.0
PRA AMS AMS 17 35 40.0
comp=Z,6µm,15.1s
PRA Prague 90.82 330 *e*P **P** 16 50 50.9 -0.7
PRA *e* 17 01 18.9
PRA *e* 17 02 47.6
PRA MLR MLR
comp=Z,6µm,15.1s
PRU Pruhonice 90.83 329 *e*P **P** 16 50 51.6 0.0
PRU *e*PP PP 16 54 21.6 -5.2
PRU *e*SKS **SKSac** 17 01 20.3 -1.2
PRU *e*SP **SP** 17 02 48.4 -4.6
PRU *ex* x 17 07 27.5
PRU AMS AMS 17 35 40.0
comp=Z,2µm,15.1s
PRU Pruhonice 90.83 329 *e*P **P** 16 50 51.6 0.0
PRU *e* 17 01 20.3
PRU *e*SP SP 17 02 48.4 -4.6
PRU MLR MLR
comp=Z,2µm,15.1s
RDO Rodhopi 90.83 318 *e*P **P** 16 50 51.4 -0.4
comp=Z,29nm,1.0s
TREC Trest 90.89 329 *e*P **P** 16 50 51.8 -0.1
TREC *e*PP **PP** 16 54 29.3 +2.0
TREC *e*SKS **SKSac** 17 01 18.3 -3.6
TREC *e*SP **SP** 17 02 48.0 -5.6
TREC *ex* x 17 07 40.2
TREC Trest 90.89 329 *e*P **P** 16 50 51.8 -0.1
TREC *e* 16 54 29.3
TREC *e* 17 01 18.3
TREC *e*SP SP 17 02 48.0 -5.7
NRDL Niedersach Rie 90.90 333 *e*P **P** 16 50 52.4 +0.6
comp=Z,4.0nm,0.8s
NRDL *e*SP **sP** 16 50 59.8 -4.4
PKST T"s 91.06 326 *e*P **P** 16 50 52.7 -0.1
T26A Comanche Natio 91.06 47 P **P** 16 50 53.6 +0.3
baz=91
EYMN Ely 91.20 33 PFAKE 16 51 10.0 +17
EYMN LR LR
comp=Z,1µm,19.0s
CLZ Clausthal 91.28 333 *e*P **P** 16 50 55.1 +1.4
comp=Z,8.0nm,0.9s
VTS Vitosha 91.31 320 ⇑*i*P **P** 16 50 54.9 +0.7
ECSD EROS Data Cent 91.32 39 *e*P **P** 16 50 56.7 +2.6
comp=Z,38nm,1.6s
ECSD LR LR
comp=Z,1µm,19.0s
PKS9 Tamasi 91.39 325 *e*P **P** 16 50 54.2 -0.1
TANN Tannenbergstha 91.45 331 *e*P **P** 16 50 55.7 +1.1
comp=Z,3.0nm,0.9s
PKSM Moragy 91.45 325 ⇑*i*P **P** 16 50 53.6 -1.0
PKSM Moragy 91.45 325 *e*P **P** 16 50 53.5 -1.0
NKC Novy Kostel 91.59 331 *e*P **P** 16 50 54.9 -0.3
NKC *e*SKS **SKSac** 17 01 26.7 +0.8
NKC *e*SP **SPn** 17 03 02.6 +0.5
NKC AMS AMS 17 37 50.0
comp=Z,3µm,15.0s
NKC Novy Kostel 91.59 331 *e*P **P** 16 50 54.9 -0.3
NKC *e* 17 01 26.7
NKC *e*SP SP 17 03 02.6 +1.2
NKC MLR MLR
comp=Z,3µm,15.0s
MMB Musomiste 91.64 319 ⇑*i*P **P** 16 50 55.9 +0.3
MOX Moxa 91.65 331 *e*P **P** 16 50 56.2 +0.8
comp=Z,2.0nm,0.7s
MOX *e*SP **sP** 16 51 03.3 -4.6
CONA Conrad Observa 91.67 327 *i* PcP **P** 16 50 55.7 0.0
comp=Z,23nm,0.9s,SNR=14
KHC Kasperske Hory 91.88 329 *e*P **P** 16 50 55.8 -0.8
KHC *e*pP **pP** 16 51 02.0 -3.8
KHC *e*PP **PP** 16 54 32.5 -2.7
KHC *e*SKS **SKSac** 17 01 28.6 +0.9
KHC *e*SP **SP** 17 03 02.0 -2.7
KHC *ex* x 17 07 55.3
KHC AMS AMS 17 36 30.0
comp=Z,7µm,15.2s
KHC Kasperske Hory 91.88 329 *e*P **P** 16 50 55.8 -0.8
KHC *e**PP **pP** 16 51 02.0 -3.8
KHC *e* 16 54 32.5
KHC *e* 17 01 28.6
KHC *e*SP SP 17 03 02.0 -2.8
KHC MLR MLR
comp=Z,7µm,15.2s
KHC Kasperske Hory 91.88 329 *e*P **P** 16 50 56.1 -0.5
comp=Z,4.5nm,0.8s
IBBN Ibbenburen 91.97 334 *e*P **P** 16 50 57.3 +0.5
comp=Z,8.0nm,0.6s
IBBN *e*SP **sP** 16 51 05.0 -4.3
GEC2 GERESS Array S 92.03 329 *e*P **P** 16 50 57.9 +0.5
comp=Z,7.0nm,0.8s
GEC2 GERESS Array S 92.03 329 *e*P **P** 16 50 56.9 -0.5
GERES GERESS Array B 92.03 329 P **P** 16 50 56.4 -1.0
comp=Z,7.2nm,0.8s,baz=37,slow=5.2,SNR=44
GERES PP **PP** 16 54 39.4 +3.0
comp=Z,1.1nm,0.8s,baz=40,slow=7.0,SNR=3.7
GERES LR LR 17 36 34.3
comp=Z,3µm,18.8s,baz=40,slow=38
GERES GERESS Array B 92.03 329 P **P** 16 50 56.4 -1.0
GERES 16 54 39.4
GERES pmax pmax
comp=Z,7.0nm,0.8s
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES MLR MLR
comp=Z,3µm,18.8s
ROTZ Rotzenmuhle 92.04 330 *e*P **P** 16 50 58.2 +0.9
comp=Z,6.0nm,1.0s
DIVS Divibare 92.14 323 ⇑*i*P **P** 16 50 57.7 -0.3
WET Wettzell 92.19 330 *e*P **P** 16 50 59.7 +1.7
comp=Z,2.0nm,0.9s
WET *e*SP **sP** 16 51 05.7 -4.8
MOA Molln 92.48 328 ⇑*i*PcP **P** 16 50 58.9 -0.5
comp=Z,12nm,0.8s
KOGS Kog 92.51 326 *e*P **P** 16 50 58.4 -1.1
GRF Grafenberg Arr 92.53 331 *e*P **P** 16 51 01.5 +2.0
comp=Z,12nm,1.0s
GRFO Grafenberg 92.53 331 *e*P **P** 16 51 01.5 +2.0
comp=Z,29nm,1.2s
BUG Bochum--Univer 92.83 334 *e*P **P** 16 51 02.3 +1.5
comp=Z,6.0nm,0.8s
PERS Pernice 92.93 327 *i* P **P** 16 51 00.6 -0.9
SOKA Soboth 92.94 327 ⇓*i*PcP **P** 16 51 01.2 -0.4
comp=Z,16nm,1.0s,SNR=10
GOLS Golise 93.12 326 *e*P **P** 16 51 01.2 -1.1
DRV Dumont d'Urvil 93.13 181 S SKSac 17 01 19.0 -14
DRV SS SS 17 08 07.0 -15
DRV L L 17 13 00.0
DRV R 17 21 00.0
ESK Eskdalemuir 93.21 341 PFAKE 16 51 10.0 +7.5
ESK LR LR
comp=Z,1µm,19.0s
RJOB Jochberg 93.25 329 *e*P **P** 16 51 03.7 +0.7
comp=Z,5.0nm,0.8s
TNS Taunus Mts 93.30 333 *e*P **P** 16 51 04.6 +1.5
comp=Z,8.0nm,1.1s
FUR Furstenfeldbru 93.63 330 *e*P **P** 16 51 05.7 +1.0
comp=Z,13nm,0.8s
FUR *e*sP **sP** 16 51 12.8 -4.3
AMTX Amarillo 93.65 48 *e*P P 16 51 08.9 +3.8
comp=Z,62nm,1.6s
RKT Rikitea 93.75 114 *e*SKSac **SKSac** 17 01 35.6 -2.9
comp=Z,795nm,25.5s
RKT Rikitea 93.75 114 *e*PS PS 17 03 27.1 -3.6
comp=Z,865nm,25.2s
RKT *e*SS SS 17 08 35.9 +3.3
comp=Z,576nm,24.8s
RKT Rikitea 93.75 114 *e*LR LR 17 21 06.1
comp=Z,1µm,30.2s,baz=308
SANT Santorini 93.77 314 PFAKE 16 51 20.0 +14
SANT LR LR
comp=Z,1µm,19.0s
P34A Walnut Farm, R 93.86 42 P **P** 16 51 06.0 +0.1
baz=94
TIR Tirane 94.02 321 PFAKE 16 51 20.0 +13
TIR LR LR
comp=Z,3µm,20.0s
ABTA Abfaltersbach 94.11 328 ⇓*i*PcP **P** 16 51 06.0 -0.9
comp=Z,9.7nm,0.7s
KSU1 Kansas State U 94.28 42 PFAKE 16 51 20.0 +12
KSU1 LR LR
comp=Z,1µm,21.0s
SCIA State Center 94.41 38 PFAKE 16 51 20.0 +12
SCIA LR LR
comp=Z,1µm,20.0s
WLF Walferdange 94.67 333 PFAKE 16 51 20.0 +11
WLF LR LR
comp=Z,3µm,20.0s
Q35A Mercer Eighty, 94.78 42 P **P** 16 51 10.3 +0.2
baz=95
BFO Black Forest 94.80 331 *e*P **P** 16 51 11.2 +1.2
comp=Z,4.0nm,0.7s
BFO Black Forest 94.80 331 *ce*P **P** 16 51 11.3 +1.2
BFO Black Forest 94.80 331 PFAKE 16 51 20.0 +10
BFO LR LR
comp=Z,2µm,19.0s
SCHQ Schefferville 94.90 17 LR LR 17 38 35.4
comp=Z,675nm,19.7s,baz=328,slow=38
CDF Champ du Feu 95.19 332 *e*P **P** 16 51 09.1 -2.8
comp=Z,21nm,0.8s
CDF Champ du Feu 95.19 332 *e*P **P** 16 51 09.1 -2.8
comp=Z,21nm,0.8s
FUORN Ofenpass-Fuorn 95.24 329 *e*P **P** 16 51 11.7 -0.7
comp=Z,57nm,1.5s
JFWS Jewell Farm 95.32 36 PFAKE 16 51 20.0 +7.5
JFWS LR LR
comp=Z,1µm,20.0s
ECH Echery 95.39 332 PFAKE 16 51 20.0 +7.3
ECH LR LR
comp=Z,2µm,19.0s
TXAR Lajitas Array 95.48 53 P **P** 16 51 13.0 -0.6
comp=Z,1.5nm,0.7s,baz=306,slow=2.4,SNR=16
TXAR LR LR 17 30 50.7
comp=Z,400nm,19.7s,baz=0.0,slow=33
TXAR Lajitas Array 95.48 53 P **P** 16 51 13.0 -0.6
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR MLR MLR
comp=Z,401nm,19.7s
WMOK Wichita Mounta 95.64 47 PFAKE 16 51 30.0 +16
WMOK LR LR
comp=Z,2µm,20.0s
TUE Stuetta 95.77 330 PFAKE 16 51 30.0 +15
TUE LR LR
comp=Z,2µm,20.0s
HAU Haudompre 95.89 332 *e*P **P** 16 51 13.6 -1.4
comp=Z,12nm,0.8s
HAU Haudompre 95.89 332 *e*P **P** 16 51 13.6 -1.4
comp=Z,12nm,0.8s
CASY Casey 95.90 192 PFAKE 16 51 30.0 +16
CASY LR LR
comp=Z,1µm,19.0s
530A J-C Ranch, Com 96.67 52 P **P** 16 51 19.7 +0.8
baz=97
GLMI Grayling 96.75 32 PFAKE 16 51 30.0 +11
GLMI LR LR
comp=Z,1µm,20.0s
AQU L'Aquila 96.84 325 PFAKE 16 51 30.0 +11
AQU LR LR
comp=Z,3µm,19.0s
VLC Villacollemand 97.02 328 PFAKE 16 51 30.0 +10
VLC LR LR
comp=Z,4µm,21.0s
CUC Castrococco 97.21 322 PFAKE 16 51 30.0 +8.7
CUC LR LR
comp=Z,2µm,19.0s
TIP Timpagrande 97.24 321 *e*P **P** 16 51 19.9 -1.5
comp=Z,10nm,1.3s
TIP LR LR
comp=Z,2µm,20.0s
HDIL Hopedale 97.48 37 PFAKE 16 51 30.0 +7.6
HDIL LR LR
comp=Z,1µm,19.0s
JCT Junction City 97.54 51 PFAKE 16 51 40.0 +17
JCT LR LR
comp=Z,913nm,19.0s
LPG La Plagne 97.68 330 *e*P **P** 16 51 21.2 -2.3
comp=Z,18nm,0.9s
LPG La Plagne 97.68 330 *e*P **P** 16 51 21.2 -2.3
comp=Z,18nm,0.9s
BNI Bardonecchia 98.06 330 PFAKE 16 51 40.0 +15
BNI LR LR
comp=Z,3µm,20.0s
CEL Celeste 98.36 320 *e*P **P** 16 51 25.7 -0.7
comp=Z,27nm,0.9s
CEL LR LR
comp=Z,2µm,20.0s
ORIF Oris-en-Rattie 98.52 331 *e*P **P** 16 51 24.6 -2.4
ORIF Oris-en-Rattie 98.52 331 *e*P **P** 16 51 24.6 -2.4
PTCN Pitcairn Islan 98.61 114 PFAKE 16 51 40.0 +12
PTCN LR LR
comp=Z,2µm,19.0s
SSB Saint Sauveur 98.81 332 PFAKE 16 51 40.0 +12
SSB LR LR
comp=Z,1µm,20.0s
MIAR Mount Ida 99.08 44 PFAKE 16 51 40.0 +10
MIAR LR LR
comp=Z,2µm,20.0s
AAM Ann Arbor 99.10 33 PFAKE 16 51 40.0 +10
AAM LR LR
comp=Z,1µm,20.0s
NATX Nacogdoches 100.20 47 PFAKE 16 51 50.0 +15
NATX LR LR
comp=Z,2µm,20.0s
CLTB Caltabellotta 100.35 321 PFAKE 16 51 50.0 +15
CLTB LR LR
comp=Z,808nm,19.0s
KVTX Kingsville 100.64 52 PFAKE 16 51 50.0 +13
KVTX LR LR
comp=Z,956nm,19.0s
WDD Wield Dalam 100.81 319 PFAKE 16 51 50.0 +13
WDD LR LR
comp=Z,1µm,19.0s
ACSO Alum Creek Sta 101.00 34 PFAKE 16 51 50.0 +12
ACSO LR LR
comp=Z,1µm,19.0s
VSL Villasalto 101.00 325 PFAKE 16 51 50.0 +12
VSL LR LR
comp=Z,2µm,19.0s
LONY Lake Ozonia 101.26 26 PFAKE 16 51 50.0 +11
LONY LR LR

comp=Z,2µm,20.0s
NCB Newcomb 101.94 26 PFAKE 16 51 50.0 +7.8
NCB LR LR
comp=Z,2µm,19.0s
BINY Binghamton 102.69 28 PFAKE 16 52 00.0 +14
BINY LR LR
comp=Z,2µm,20.0s
ABPO Ambohimpanom 103.00 255 PFAKE 16 52 00.0 +13
ABPO LR LR
comp=Z,677nm,19.0s
KMBO Kilima Mbogo 104.25 276 PFAKE 16 52 00.0 +6.7
KMBO LR LR
comp=Z,866nm,21.0s
BLA Blacksburg 104.60 34 PFAKE 16 52 10.0 +16
BLA LR LR
comp=Z,1µm,19.0s
CBN Corbin Frederi 105.30 32 PFAKE 16 56 20.0
CBN LR LR
comp=Z,891nm,19.0s
SBA Scott Base 105.33 175 PFAKE 16 56 20.0
SBA LR LR
comp=Z,1µm,21.0s
BRAL Brewton 105.49 43 PFAKE 16 56 20.0
BRAL LR LR
comp=Z,1µm,19.0s
ESDC Sonseca Array 106.97 334 PP PP 16 56 27.4 -2.6
comp=Z,2.3nm,0.8s,baz=26,slow=7.3,SNR=6.2
PAB San Pablo 107.23 334 PFAKE 16 56 30.0
PAB LR LR
comp=Z,2µm,19.0s
NHSC New Hope 107.89 37 PFAKE 16 56 30.0
NHSC LR LR
comp=Z,1µm,20.0s
CRZF Crozet Islands 109.37 227 SP SP 17 06 21.0 +8.9
CRZF SS SS 17 12 17.0 +8.5
CRZF R 17 29 00.0
LIS Lisbon 109.75 337 *e*Pdif **Pdif** **16 52 16.6 -0.4**
LIS *e*PP **PP** **16 56 50.7 +0.7**
LIS *e*S **SKSac** **17 02 52.0 -2.8**
LIS AMS AMS 17 41 02.0
comp=E,3µm,22.5s
LIS Lisbon 109.75 337 *e*P **Pdif** **16 52 16.6 -0.4**
LIS *e* 16 56 50.7
LIS *e*S **SKSac** **17 02 52.0 -2.8**
MBAR Mbarara 109.78 280 PFAKE 16 56 30.0
MBAR LR LR
comp=Z,859nm,22.0s
MESJ Messejana 110.19 336 *e*PP PP 16 56 53.9 +0.6
MESJ *e*S **SKSac** **17 02 54.7 -2.1**
MESJ AMS AMS 17 42 49.8
comp=E,2µm,22.1s
MORF Marmelete 110.82 336 *e*PP PP 16 56 58.9 +1.0
MORF AMS AMS 17 40 17.0
comp=E,2µm,21.7s
TEIG Tepich 112.06 52 PFAKE 16 56 40.0
TEIG LR LR
comp=Z,1µm,21.0s
TAM Tamanrasset 115.63 316 PFAKE 16 56 40.0 +8.7
TAM LR LR
comp=Z,902nm,19.0s
BBSR BB Station 115.71 26 PFAKE 16 56 40.0 +9.1
BBSR LR LR
comp=Z,698nm,21.0s
QSPA South Pole Qui 116.51 180 *e*PKPdf **PKPdf** **16 56 31.8 +0.4**
QSPA LR LR
comp=Z,1µm,22.0s
LSZ Lusaka 118.33 266 PFAKE 16 56 50.0 +14
LSZ LR LR
comp=Z,822nm,19.0s
MTDJ Mount Denham 120.68 45 PFAKE 16 56 50.0 +9.0
MTDJ LR LR
comp=Z,745nm,19.0s
GTBY Guantanamo Bay 120.90 42 PFAKE 16 56 50.0 +8.8
GTBY LR LR
comp=Z,806nm,19.0s
JTS JuntasAbangare 120.93 58 PFAKE 16 56 50.0 +8.5
JTS LR LR
comp=Z,518nm,20.0s
GRTK Grand Turk 121.94 38 PFAKE 16 57 00.0 +17
GRTK LR LR
comp=Z,961nm,19.0s
PAYG Puerto Ayora 122.97 72 PFAKE 16 57 00.0 +15
PAYG LR LR
comp=Z,1µm,19.0s
SDDR Presa de Saban 123.88 40 PFAKE 16 57 00.0 +13
SDDR LR LR
comp=Z,1µm,19.0s
TOA0 Torodi Ar. Sit. 125.13 311 *e*PKPdf **PKPdf** **16 56 49.2 -0.3**
TORD Torodi Ar. Bea 125.13 311 PKP **PKPdf** **16 56 49.0 -0.5**
comp=Z,3.3nm,0.7s,baz=12,slow=2.7,SNR=19
TORD PP **PP** **16 58 38.1 0.0**
comp=Z,3.3nm,0.8s,baz=33,slow=6.1,SNR=4.6
MSKU Masuku 125.17 288 PFAKE 16 57 00.0 +10
MSKU LR LR
comp=Z,3.0nm,22.0s
BCIP Isla Barro Col 125.47 55 PFAKE 16 57 00.0 +10
BCIP LR LR
comp=Z,719nm,22.0s
SJG San Juan 127.38 35 PFAKE 16 57 10.0 +16
SJG LR LR
comp=Z,643nm,22.0s
NVL N'lazarevskaya 128.02 199 *e*PKIKP PKPdf 16 56 59.6 +6.3
NVL pmax pmax
comp=Z,6.0nm,0.6s
TSUM Tsumeb 129.19 266 PFAKE 16 57 10.0 +13
TSUM LR LR
comp=Z,673nm,20.0s
SUR Sutherland 129.62 249 PFAKE 16 57 10.0 +12
SUR LR LR
comp=Z,565nm,19.0s
ANWB Willy Bob 129.89 31 PFAKE 16 57 10.0 +12
ANWB LR LR
comp=Z,701nm,20.0s
SNAA Sanae 131.12 194 *e*PKPdf **PKPdf** **16 56 59.8 +0.5**
SDV Santo Domingo 132.07 47 *e*PKPdf **PKPdf** **16 57 03.9 +0.9**
SDV LR LR
comp=Z,707nm,21.0s
OTAV Otavalo 132.22 63 PFAKE 16 57 20.0 +16
OTAV LR LR
comp=Z,641nm,20.0s
FDF Fort de France 132.73 32 PFAKE 16 57 20.0 +16
FDF LR LR
comp=Z,767nm,20.0s
DBIC Dimbokro 134.24 312 PKP **PKPdf** **16 57 07.2 +0.4**
comp=Z,4.1nm,0.8s,baz=3.6,slow=6.0,SNR=5.5
DBIC Dimbokro 134.24 312 PKIKP **PKPdf** **16 57 07.2 +0.4**
DBIC pmax pmax
comp=Z,4.0nm,0.8s
GRGR Grenville 134.72 35 PFAKE 16 57 20.0 +12
GRGR LR LR
comp=Z,584nm,19.0s
BBGH Gun Hill 134.86 31 PFAKE 16 57 20.0 +12
BBGH LR LR
comp=Z,2µm,21.0s
SACV Santiago Islan 136.45 341 PFAKE 16 57 20.0 +9.1
SACV LR LR
comp=Z,576nm,20.0s
NNA Nana 140.14 76 PFAKE 16 57 30.0 +12
NNA LR LR
comp=Z,830nm,20.0s
PTGA Pitinga 146.21 44 PKPbc **PKPdf** **16 57 28.8 +0.4**
comp=Z,13nm,0.6s,baz=312,slow=3.7,SNR=11
PLCA Paso Flores 149.26 125 PKPbc **PKPbc** **16 57 36.0 -1.0**
comp=Z,8.6nm,0.8s,baz=209,slow=3.0,SNR=8.0
PLCA Paso Flores 149.26 125 PKP2 **PKPbc** **16 57 36.0 -1.0**
PLCA pmax pmax
comp=Z,9.0nm,0.8s
PLCA Paso Flores 149.26 125 *e*PKPbc **PKPbc** **16 57 37.9 +0.9**
LPAZ La Paz 149.61 76 PKPbc **PKPbc** **16 57 38.1 -1.2**
comp=Z,13nm,0.8s,baz=254,slow=3.8,SNR=15
LPAZ La Paz 149.61 76 PKP2 **PKPbc** **16 57 38.1 -1.2**
LPAZ pmax pmax
comp=Z,13nm,0.8s
LPAZ La Paz 149.61 76 PKPbc **PKPbc** **16 57 38.1 -1.2**
LPAZ *e*PKPab **PKPab** **16 57 45.5 +1.2**
SAML Samuel 149.81 59 PFAKE 16 57 50.0 +5.5
SAML LR LR
comp=Z,983nm,19.0s
LCO Las Campanas 150.48 102 *e*PKPbc **PKPbc** **16 57 41.7 +1.1**
LCO LR LR
comp=Z,2µm,19.0s
LVC Limon Verde 151.06 89 PKPbc **PKPbc** **16 57 42.9 +0.8**
comp=Z,59nm,0.9s,baz=303,slow=3.8,SNR=7.7
LVC Limon Verde 151.06 89 *e*PKPbc **PKPbc** **16 57 43.8 +1.6**
LVC LR LR
comp=Z,1µm,21.0s
ASCN Ascension 151.27 306 PFAKE 16 57 50.0 -0.5
ASCN LR LR
comp=Z,1µm,20.0s
CFAA Coronel Fontan 152.64 108 PKPbc **PKPbc** **16 57 45.1 -0.1**
comp=Z,0.6nm,0.6s,baz=308,slow=2.7,SNR=7.9
TRQA Tornquist 156.41 125 PFAKE 16 58 00.0 -12
TRQA LR LR
comp=Z,931nm,19.0s
RCBR Riachuelo 159.16 356 PFAKE 16 58 00.0 +13
RCBR LR LR
comp=Z,995nm,19.0s

*MAN **11** 16:38:33,6˚.00N×126˚.00E,h145km,mb4.9,ML3.9,MS3.9*
*ISCJB **11** 16:38:34.5±0.5,6˚.02N±0˚.04×125˚.98E±0˚.07,h136km±7km, mb3.9/3,Error ellipse: s-maj=10.7km s-min=6.2km az=178.6*
*DJA **11** 16:38:36.7±0.5,6˚N±4˚×12˚6E±˚,h58km±12km,M4.5/12, mb4.6/12,mB5.0/6,MLv4.5/8,Mw(mB)4.4/6*
*IDC **11** 16:38:42.2±10.0,4˚.34N×124˚.92E,h88km±87km,mb3.8/3, mb1 3.9/4,mb1mx3.5/24,mbtmp4.1/4,ML3.9/1,MS3.7/1, Ms1 3.7/1,ms1mx2.9/46,Error ellipse: s-maj=211.4km s-min=74.3km az=33.0*
ISC 11 16:38:35.4±0.7,6˚.03N±0˚.05×126˚.01E±0˚.07,h122km±9km, n25,σ1§65/25,mb4.0/3,3C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.94**	**15**	*e*P		**Pn**		**16 38 57.9**	**+0.8**
MATI				*e*S		**Sn**		**16 39 11.8**	**-1.6**
GSPH	**General Santos**	**1.06**	**273**	⇑*i*P		**Pn**		**16 38 57.7**	**-0.5**
GSPH				*i*S		**Sn**		**16 39 14.8**	**-0.7**
BUKP	**Musuan**	**2.07**	**333**	*e*P		**Pn**		**16 39 10.1**	**+0.3**
CTBH	**Cotabato--PC H**	**2.12**	**304**	*e*P		**Pn**		**16 39 09.9**	**-0.4**
CTBH				*e*S		**Sn**		**16 39 38.8**	**+1.6**
BIPH	**Bislig**	**2.17**	**9**	⇑*i*P		**Pn**		**16 39 12.6**	**+1.5**
BIPH				*i*S		**Sn**		**16 39 40.7**	**+2.3**
SGSI	**Sangihe**	**2.38**	**192**	P		**Pn**		**16 39 15.6**	**+1.9**
SGSI				S		**Sn**		**16 39 46.4**	**+3.4**
CGP	**Cagayan de Oro**	**2.74**	**332**	⇑*i*P		**Pn**		**16 39 19.4**	**+1.1**
CGP				*i*S		**Sn**		**16 39 53.7**	**+2.3**
PAGZ	**Pagadian**	**3.17**	**305**	*e*P		**Pn**		**16 39 23.9**	**-0.1**
TBP	**Tagbilaran**	**4.22**	**330**	*e*P		**Pn**		**16 39 37.2**	**-0.6**
MSLP	**Maasin**	**4.24**	**344**	*e*P		**Pn**		**16 39 37.5**	**-0.6**
TNTI	**Ternate**	**5.39**	**165**	P		**Pn**		**16 39 54.2**	**+0.5**
	66nm,0.5s,2µm0.5nm								
KMSI	**Cibinong**	**5.78**	**201**	P		**Pn**		**16 39 59.7**	**+0.8**
	107nm,0.9s,0.4nm								
MRSI	**Marisa**	**6.85**	**217**	P		Pn		16 40 16.9	+3.6
	28nm,0.5s,585nm0.2nm								
MRSI				S		Sn		16 41 27.9	-2.0
	28nm,0.5s,585nm0.2nm								
LUWI	**Luwuk**	**7.73**	**205**	P		Pn		16 40 30.7	+5.4
	37nm,1.0s,831nm0.3nm								
SANI	**Sanana**	**8.02**	**180**	P		Pn		16 40 26.3	-2.9
	122nm,0.3s,5µm								
APSI	**Ampana**	**8.15**	**212**	P		Pn		16 40 36.3	+5.4
	24nm,1.0s								
MPSI	**Mapaga**	**8.32**	**227**	P		Pn		16 40 38.8	+5.6
	4.2nm,1.4s								
SIJI	**Sorong**	**8.63**	**142**	P		**Pn**		**16 40 38.2**	**+0.8**
	1.4nm,0.3s,baz=217,slow=15,SNR=10.0								
SIJI				S		**Sn**		**16 42 09.7**	**-3.4**
	0.2nm,0.3s,baz=198,slow=20,SNR=3.1								
NLAI	**Namlea**	**9.27**	**173**	P		**Pn**		**16 40 45.0**	**-1.0**
	60nm,0.7s,1µm								
NLAI				S		Sn		16 42 19.9	-8.7
	60nm,0.7s,1µm								
KAPI	**Kappang**	**12.62**	**210**	LR		LR		16 45 44.8	
	comp=Z,373nm,18.0s,baz=315,slow=40								
BKSI	**Bulukumba**	**12.71**	**208**	P		Pn		16 41 36.9	+5.0
	9.9nm,1.1s								
SOEI	**Soe**	**15.78**	**186**	P		**P**		**16 42 14.4**	**+2.0**
WRA	**Warramunga Arr**	**27.08**	**163**	P		**P**		**16 44 05.5**	**-1.3**
	0.6nm,0.3s,baz=336,slow=11,SNR=8.7								
ASAR	**Alice Springs**	**30.50**	**166**	P		**P**		**16 44 36.6**	**-0.6**
	2.1nm,0.6s,baz=343,slow=6.9,SNR=64								
STKA	**Stephens Creek**	**40.52**	**159**	P		**P**		**16 46 02.2**	**-0.4**
	2.2nm,0.5s,baz=351,slow=7.6,SNR=10								

LJU 11 16:42:34.9,46˚.39N×15˚.07E,h0km Rockburst, Northwestern Balkan Peninsula

*JMA **11** 16:45:08.9,26˚.62N×142˚.35E,h100km,M3.8*
*ISCJB **11** 16:45:09.3±0.6,26˚.72N±0˚.06×143˚.01E±0˚.06,h35km, mb4.0/16,Error ellipse: s-maj=8.8km s-min=8.2km az=175.0*
*IDC **11** 16:45:12.2±2.9,26˚.62N×142˚.77E,h38km±23km,mb3.8/16, mb1 4.0/19,mb1mx3.9/26,mbtmp4.0/19,ML3.3/3,Error ellipse: s-maj=23.7km s-min=15.0km az=88.0*
ISC 11 16:45:11.7±0.7,26.76N±0˚.07×142.86E±0˚.08,h35km,n28, σ1§41/32,mb4.0/16,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.62**	**258**	P		**Pn**		**16 45 23.0**	**-1.0**
JHHJ				S		**Sn**		**16 45 33.7**	**+1.0**
CBIJ	**Chichi jima**	**0.69**	**300**	P		**Pn**		**16 45 24.8**	**-0.1**
JCJ	**Chichijima**	**0.69**	**300**	Pn		**Pn**		**16 45 25.0**	**+0.1**
	865nm,0.3s,baz=106,slow=23,SNR=51								
JCJ				Sn		**Sn**		**16 45 37.4**	**+3.0**
	2µm,0.3s,baz=288,slow=20,SNR=46								
JOD2	**Odawara 2**	**9.07**	**340**	P		**Pn**		**16 47 19.3**	**-0.9**
JOD2				*e*S		**Sn**		**16 48 58.0**	**-3.1**
JYT	**Yasato**	**9.71**	**347**	P		**Pn**		**16 47 27.0**	**-1.8**
JRY	**Ryogami san**	**9.83**	**341**	P		**Pn**		**16 47 30.5**	**0.0**
JRY				*e*S		**Sn**		**16 49 15.9**	**-3.7**
JHO	**Hitachi**	**10.02**	**349**	P		**Pn**		**16 47 32.0**	**-1.0**
MJAR	**Matsushiro Arr**	**10.53**	**339**	Pn		**Pn**		**16 47 41.0**	**+1.0**
	1.1nm,0.3s,baz=140,slow=15,SNR=10								
KSRS	**Korea Array**	**16.53**	**314**	Pn		**P**		**16 49 03.5**	**+0.5**
	0.1nm,0.3s,baz=122,slow=12,SNR=2.9								
USRK	**Ussuriysk Ar.**	**19.49**	**336**	P		**Pn**		**16 49 38.8**	**+1.7**
	0.2nm,0.3s,baz=161,slow=13,SNR=3.3								
SONM	**Songino Array**	**35.37**	**316**	P		**P**		**16 52 05.3**	**+1.3**
	1.0nm,0.7s,baz=97,slow=5.4,SNR=2.1								
CMAR	**Chiang Mai Arr**	**41.21**	**268**	P		**P**		**16 52 52.6**	**-0.7**
	1.0nm,0.6s,baz=67,slow=5.6,SNR=8.4								
WRA	**Warramunga Arr**	**47.15**	**191**	P		**P**		**16 53 39.9**	**-0.8**
	6.0nm,0.8s,baz=12,slow=8,SNR=11								
LEM	**Lembang**	**47.75**	**231**	P		**P**		**16 53 44.8**	**-0.9**
	7.2nm,0.3s,baz=324,slow=19,SNR=3.0								
ZALV	**Zalesovo Beam**	**50.14**	**319**	P		**P**		**16 54 03.5**	**+0.1**
	0.5nm,0.3s,baz=100,slow=6.9,SNR=3.1								
ASAR	**Alice Springs**	**50.87**	**191**	P		**P**		**16 54 08.2**	**-1.1**
	1.2nm,0.7s,baz=16,slow=8.6,SNR=3.6								
MKAR	**Makanchi Array**	**51.15**	**310**	P		**P**		**16 54 10.3**	**-0.9**
	0.7nm,0.6s,baz=91,slow=10,SNR=5.2								
ILAR	**Eielson Array**	**57.72**	**28**	P		**P**		**16 54 59.7**	**+1.1**
	0.6nm,0.8s,baz=271,slow=5.0,SNR=4.1								
STKA	**Stephens Creek**	**58.32**	**181**	P		**P**		**16 55 02.2**	**-0.9**
	1.5nm,0.8s,baz=0.7,slow=11,SNR=2.7								
YKA	**Yellowknife Ar**	**72.15**	**28**	P		**P**		**16 56 33.0**	**+0.5**
	1.0nm,0.6s,baz=298,slow=6.0,SNR=3.5								
ARCES	**ARCESS Array B**	**74.06**	**341**	P		**P**		**16 56 45.1**	**+1.5**
	2.9nm,0.9s,baz=6.3,slow=9.1,SNR=3.8								
FINES	**FINESS Array B**	**78.51**	**334**	P		**P**		**16 57 09.5**	**+0.5**
	2.5nm,0.7s,baz=82,slow=4.2,SNR=11								
KBZ	**Khabaz**	**78.68**	**313**	P		**P**		**16 57 10.3**	**+0.1**
	3.2nm,0.9s,baz=77,slow=4.3,SNR=4.0								
NVAR	**Mina Array Bea**	**80.26**	**52**	P		**P**		**16 57 20.3**	**+1.0**
	0.9nm,0.8s,baz=290,slow=5.6,SNR=3.6								
AKASG	**Malin Array Be**	**83.24**	**324**	P		**P**		**16 57 33.5**	**-1.0**
	0.3nm,0.3s,baz=48,slow=5.2,SNR=5.0								
NOA	**NORSAR Array B**	**84.14**	**339**	P		**P**		**16 57 39.6**	**+0.7**
	0.4nm,0.6s,baz=47,slow=4.5,SNR=2.6								
TORD	**Torodi Ar. Bea**	**125.26**	**312**	PKP		**PKPdf**		**17 04 09.8**	**+0.3**
	0.3nm,0.5s,baz=3.8,slow=4.1,SNR=2.7								
LPAZ	**La Paz**	**149.43**	**76**	PKPbc		**PKPbc**		**17 04 59.7**	**+1.1**
	2.4nm,0.9s,baz=338,slow=6.0,SNR=6.7								

JMA 11 16:45:47.9±0.1,33.67N×132.34E,h46km±1km,M0.2, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNA	**Nagahama**	**0.16**	**134**	P		Pn		16 45 55.2	-0.4
JNA				*e*S		Sn		16 46 00.8	-0.2
JHM	**Kurahashi**	**0.49**	**19**	*e*S		Sn		16 46 07.0	+0.4
JET	**Tanbara**	**0.60**	**79**	P		Pn		16 46 00.1	-0.1
JET				*e*S		Sn		16 46 09.2	+0.1

*NIED **11** 16:58:00,26˚.60N×142˚.90E,h5km,Mw5.6 Best double couple: M0 3.34000×10^17 NP1:φ=281.00000°,δ23.00000°, λ=-170.00000°. NP2:φ=183.00000°,δ86.00000°, λ=-67.00000°.*
*BJI **11** 16:58:35.1,26˚.67N×142˚.90E,h26km,mb5.3/72,mB5.8/27, Ms6.6/63,Ms7 5.4/59*
*JMA **11** 16:58:35.5±0.1,26˚.58N×142˚.87E,h93km,M5.0*
JMA Felt II J1.
*NEIC **11** 16:58:36.1±0.1,26˚.71N×142˚.69E,h10km,mb5.5/162, MS5.3/147,MW5.6(NIED),Error ellipse: s-maj=3.3km s-min=2.7km az=144.0*
NEIC Recorded [2 JMA] in the Chichijima-retto and [1 JMA] in the Hahajima-retto.
*GCMT **11** 16:58:36.1±0.1,26˚.62N×143˚.01E,h13km,MW5.5/125, Moment Tensor Solution. s86,c151; s125,c302; Duration: 1§4 Moment tensor: Scale 10^17Nm; Mrr 1.87±.04; Mθθ-0.02±.02; Mφφ-1.84±.03; Mrθ 0.47±.07; Mθφ-0.09±.02; Mφr 1.54±.08; Best double couple: M0 2.45600×10^17 NP1:φ§12.00000°,δ66.00000°, λ97.00000°. NP2:φ§174.00000°,δ25.00000°,λ74.00000°. Principal axes: T 2.4920, Plg69.0000°, Azm296.0000°; N -0.0640, Plg7.0000°, Azm189.0000°; P -2.4200, Plg20.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*ISCJB **11** 16:58:38.1±0.1,26˚.79N±0˚.02×142˚.68E±0˚.02,h30km, mb5.4/327,MS5.3/196 Error ellipse: s-maj=2.4km s-min=2.0km az=165.9*
*MOS **11** 16:58:38.5±0.9,26˚.74N×142˚.76E,h33km,mb5.5/56, MS5.4/22,Error ellipse: s-maj=8.9km s-min=4.0km az=112.3*
*IDC **11** 16:58:39.9±2.1,26˚.69N×142˚.77E,h34km±15km,mb5.0/49, mb1 5.0/55,mb1mx5.0/57,mbtmp5.1/55,ML4.2/5,MS5.0/30, Ms1 5.0/30,ms1mx5.0/42,Error ellipse: s-maj=10.7km s-min=7.8km az=103.0*
*SZGRF **11** 16:58:54.1,29˚.30N×141˚.52E,h34km,mb5.2,MS5.4, Southeast of Honshu, Japan*
ISC 11 16:58:39.5±0.3,26˚.76N±0˚.03×142˚.81E±0˚.04,h31km±1km, h30km:pP-P,n1218,σ1§10/1219,mb5.5/338,MS5.3/198, 224C-141D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.58**	**257**	P		**Pn**		**16 58 51.8**	**+0.2**
CBIJ	**Chichi jima**	**0.65**	**301**	P		**Pn**		**16 58 53.5**	**+0.9**
CBIJ				S		**Sn**		**16 59 06.6**	**+4.8**
CBIJ	**Chichi jima**	**0.65**	**301**	*e*Pn		**Pn**		**16 58 53.9**	**+1.3**
CBIJ				*e*Sn		**Sb**		**16 58 60.0**	**-1.2**
JCJ	**Chichijima**	**0.65**	**301**	Pn		**Pn**		**16 58 53.6**	**+1.1**
	6µm,0.3s,baz=111,slow=9.2,SNR=760								
JCJ				Sn		**Sn**		**16 59 04.9**	**+3.1**
	4µm,0.3s,baz=150,slow=20,SNR=22								
JCJ				LR		LR		16 59 18.1	
	comp=Z,73µm,20.1s,baz=312,slow=58								
JHCJ	**Hachijojimakas**	**6.81**	**338**	P		**Pn**		**17 00 17.1**	**-0.2**
JHCJ				S		Sn		17 01 27.1	-6.7
JHJ2	**Mitsune**	**6.84**	**338**	P		**Pn**		**17 00 18.2**	**+0.5**
JHJ2				S		**Sn**		**17 01 33.4**	**-1.1**
JHJ2	**Mitsune**	**6.84**	**338**	*e*Pn		**Pn**		**17 00 17.6**	**-0.1**
BSO1	**Boso 1**	**8.02**	**349**	P		**Pn**		**17 00 33.3**	**-0.1**
BSO1				*e*S		**Sn**		**17 02 00.8**	**-2.0**
JKO	**Kozu shima**	**8.05**	**338**	P		**Pn**		**17 00 35.3**	**+1.0**
JIM2	**Oshima 3**	**8.45**	**341**	P		**Pn**		**17 00 39.4**	**-0.3**
JIM2				S		**Sn**		**17 02 13.2**	**-0.8**
JIZS	**Izushimoda**	**8.62**	**338**	P		**Pn**		**17 00 42.1**	**0.0**
AJI	**Ajiro2**	**8.85**	**340**	P		**Pn**		**17 00 45.4**	**+0.1**
JOD2	**Odawara 2**	**9.06**	**340**	P		**Pn**		**17 00 47.9**	**-0.2**
HMMJ	**Hamamatsu 2**	**9.18**	**333**	P		**Pn**		**17 00 49.6**	**-0.1**
JIE	**Ise**	**9.24**	**327**	P		**Pn**		**17 00 50.5**	**-0.2**
JYZW	**Yoshizawa**	**9.29**	**333**	P		**Pn**		**17 00 51.1**	**-0.2**
JKN2	**Miekihoku**	**9.34**	**324**	P		**Pn**		**17 00 52.0**	**0.0**
JYN	**Shimob**	**9.44**	**338**	P		**Pn**		**17 00 53.8**	**+0.3**
JNY	**Yasuok**	**9.56**	**335**	P		**Pn**		**17 00 55.8**	**+0.7**
TSUJ	**Tsu 2**	**9.64**	**327**	P		**Pn**		**17 00 56.1**	**0.0**
JAO	**Obara**	**9.72**	**332**	P		**Pn**		**17 00 56.8**	**-0.5**
JRY	**Ryogami san**	**9.81**	**341**	P		**Pn**		**17 00 55.9**	**-2.6**
JGF	**Kuroka**	**9.97**	**333**	P		**Pn**		**17 01 01.2**	**+0.6**
JHO	**Hitachi**	**10.00**	**350**	S		**Sn**		**17 02 47.8**	**-4.4**
JAG	**Ashikaga**	**10.05**	**344**	P		**Pn**		**17 00 59.4**	**-2.3**
JGK	**Kuni**	**10.40**	**341**	P		**Pn**		**17 01 08.3**	**+1.8**
JNG	**Nsakai**	**10.42**	**339**	P		**Pn**		**17 01 06.4**	**-0.4**
JKT	**Katashina**	**10.43**	**344**	P		**Pn**		**17 01 05.7**	**-1.2**
JKT				S		**Sn**		**17 02 59.0**	**-3.7**
MJAR	**Matsushiro Arr**	**10.51**	**339**	Pn		**Pn**		**17 01 06.7**	**-1.3**
	8.6nm,0.3s,baz=164,slow=10,SNR=60								
MJAR				Sn		**Sn**		**17 03 04.2**	**-0.4**
	1.4nm,0.3s,baz=192,slow=24,SNR=3.7								
MJAR				LR		LR		17 05 09.5	
	comp=Z,11µm,18.1s,baz=205,slow=37								
MJAR	**Matsushiro Arr**	**10.51**	**339**	P		**Pn**		**17 01 06.7**	**-1.3**
MJAR								17 03 04.3	
MJAR				pmax		pmax			
	comp=Z,9.0nm,0.3s								
MJAR				smax		smax			
	comp=N,1.0nm,0.3s								
MJAR				MLR		MLR			
	comp=Z,11µm,18.1s								
MAJO	**Matsushiro**	**10.51**	**339**	⇓*i*P		**Pn**		**17 01 08.5**	**+0.5**
MAJO	**Matsushiro**	**10.51**	**339**	*e*Pn		**Pn**		**17 01 05.8**	**-2.2**
MAT	**Matsushiro**	**10.51**	**339**	P		**Pn**		**17 01 06.7**	**-1.3**
MAT				S		**Sn**		**17 03 03.3**	**-1.4**
MAT	**Matsushiro**	**10.51**	**339**	P		**Pn**		**17 01 07.5**	**-0.5**
JFM	**Mihama**	**10.51**	**328**	P		**Pn**		**17 01 08.4**	**+0.4**
JGN	**Niukaw**	**10.53**	**335**	P		**Pn**		**17 01 08.2**	**-0.2**
JHK	**Hiroka**	**10.94**	**344**	P		**Pn**		**17 01 12.4**	**-1.5**
JKG	**Kaga**	**10.97**	**331**	P		**Pn**		**17 01 14.4**	**+0.1**
JJN	**Nakama**	**11.04**	**340**	P		**Pn**		**17 01 13.6**	**-1.6**
JJH	**Hakui**	**11.35**	**335**	P		**Pn**		**17 01 19.5**	**0.0**
JNS	**Sasagawa**	**11.41**	**346**	P		**Pn**		**17 01 18.6**	**-1.7**
JHS	**Saijyo**	**11.69**	**317**	P		**Pn**		**17 01 24.7**	**+0.6**
JSD	**Sado**	**11.88**	**342**	P		Pn		17 01 23.4	-3.3
JNU	**Nakatsue**	**12.13**	**304**	Pn		**Pn**		**17 01 31.7**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=105,slow=9.1,SNR=19								
JNU				LR		LR		17 05 54.8	
	comp=Z,6µm,18.5s,baz=118,slow=36								
JNU	**Nakatsue**	**12.13**	**304**	Pn		**Pn**		**17 01 29.5**	**-0.7**
JMK	**Ichinoseki**	**12.23**	**354**	P		**Pn**		**17 01 28.4**	**-3.1**
JMK				*e*S		Sn		17 03 37.5	-9.2
JOW	**Kunigami**	**12.98**	**274**	Pn		**Pn**		**17 01 44.5**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=83,slow=7.4,SNR=4.2								
JOW				LR		LR		17 05 43.8	
	comp=Z,468nm,21.1s,baz=118,slow=33								
GUMO	**Guam**	**13.24**	**171**	Pn		**Pn**		**17 01 44.9**	**-0.6**
	comp=Z,2.7nm,0.3s,baz=34,slow=4.3,SNR=11								
GUMO				LR		LR		17 05 57.5	
	comp=Z,13µm,20.9s,baz=3.0,slow=33								
GUMO	**Guam**	**13.24**	**171**	P		**Pn**		**17 01 44.9**	**-0.6**
GUMO				pmax		pmax			
	comp=Z,3.0nm,0.3s								
GUMO				MLR		MLR			
	comp=Z,13µm,20.9s								
KSBUS	**Busan**	**14.46**	**309**	P		**P**		**17 02 11.3**	**+2.9**
	SNR=14								
KSULL	**Ulleungdo**	**14.68**	**320**	P		**P**		**17 02 10.3**	**-0.5**
	SNR=6.4								
KSULL	**Ulleungdo**	**14.68**	**320**	P		**Pn**		**17 02 07.3**	**+2.4**
	SNR=23								
KSPHA	**Pohang**	**14.81**	**313**	P		**P**		**17 02 13.7**	**+

SNR=7.4
KSKWJ **Gwangju** 15.93 306 P P 17 02 26.1 +1.4
SNR=9.7
KSKWJ **Gwangju** 15.93 306 P P 17 02 26.3 +1.6
SNR=8.2
KSBON **Boeun** 16.03 311 P P 17 02 28.3 +2.5
SNR=6.4
KSJEU **Jeongeup** 16.13 307 P P 17 02 28.2 +1.3
SNR=9.5
KSJEU **Jeongeup** 16.13 307 P P 17 02 28.2 +1.3
SNR=9.5
KSJDO **Jindo** 16.13 302 P P 17 02 28.7 +1.7
SNR=7.1
KSJDO **Jindo** 16.13 302 P P 17 02 28.7 +1.7
SNR=7.1
KSDGY **Daegwallycong** 16.16 316 P P 17 02 27.6 +0.3
SNR=11
KSDGY **Daegwallycong** 16.16 316 P P 17 02 27.6 +0.3
SNR=11
KSJMJ **Jumunjin** 16.23 317 P P 17 02 28.0 0.0
SNR=10
KSJMJ **Jumunjin** 16.23 317 P P 17 02 28.0 0.0
SNR=10
TJN **Taejon** 16.27 310 *e*P Pn 17 02 26.5 +0.9
KSRS **Korea Array** 16.49 314 Pn Pn 17 02 27.8 -0.7
comp=Z,1.1nm,0.3s,baz=122,slow=10,SNR=44
KSRS PcP PcP 17 07 20.1 +1.1
comp=Z,0.1nm,0.3s,baz=175,slow=1.4,SNR=6.6
KSRS LR LR 17 08 35.6
comp=Z,6μm,19.6s,baz=122,slow=36
KSGUS **GUNSAN** 16.50 308 P P 17 02 31.6 +0.6
SNR=7.1
KSAR **Wonju Array Be** 16.51 314 Pn Pn 17 02 27.8 -1.0
KSAR PcP PcP 17 07 20.1 +1.1
KSCEA **Cheonan** 16.57 311 P P 17 02 33.1 +1.2
SNR=7.2
KSSKC **Sokcho** 16.63 317 P P 17 02 32.2 -0.2
SNR=10.0
KSCHC **Chuncheon** 16.75 315 P P 17 02 33.9 +0.1
SNR=12
SEHB **SEOHWA** 16.78 317 P P 17 02 34.1 -0.1
SNR=20
KSSWO **Suwon** 17.01 312 P P 17 02 37.8 +1.1
SNR=7.1
KSCWO **Cheorwon** 17.12 315 P P 17 02 38.1 +0.1
SNR=15
ASAJ **Asahikawa** 17.32 359 P Pn 17 02 38.5 -0.3
baz=206,slow=13
ASAJ LR LR 17 09 16.1
comp=Z,3μm,22.0s,baz=198,slow=37
ASAJ **Asahikawa** 17.32 359 P Pn 17 02 38.5 -0.3
comp=Z,11nm,1.5s
INCN **Inchon** 17.35 312 Pn Pn 17 02 38.6 -0.8
comp=Z,26nm,0.6s
YUK **Yuzh-Kuril'sk** 17.41 7*c* *i*P Pn 17 02 38.6 -1.4
YUK *i* S Sn 17 05 46.2 -6.6
YUK pmax pmax
comp=Z,44nm,1.7s
YUK pmax pmax
comp=N,32nm,1.8s
YUK pmax pmax
comp=E,50nm,1.8s
YUK pmax pmax
comp=Z,752nm,2.6s
YUK MLR MLR
comp=N,8μm,13.0s
YUK MLR MLR
comp=E,6μm,13.0s
YUK MLR MLR
comp=Z,6μm,13.0s
YNCB **YEONCHEON** 17.48 314 P P 17 02 41.8 0.0
SNR=12
KSMUS **Musan** 17.50 313 P P 17 02 42.7 +0.7
SNR=11
KSGAH **Ganghwa** 17.60 312 P P 17 02 43.6 +0.5
SNR=6.0
VLA **Vladivostok** 18.59 334α *i*P P 17 02 53.1 -0.9
VLA *e*S Sn 17 06 19.9 -1.4
VLA pmax pmax
comp=Z,390nm,1.1s
KUR **Kuril'sk** 18.88 11 *e*P Pn 17 02 57.6 -0.3
KUR *i* S Sn 17 06 19.7 -8.5
KUR pmax pmax
comp=N,4.0nm,1.0s
KUR pmax pmax
comp=E,8.0nm,1.0s
KUR pmax pmax
comp=Z,13nm,1.0s
KUR pmax pmax
comp=Z,321nm,6.9s
TATO **Taipei** 19.27 269 *e*P P 17 03 00.3 -1.3
comp=Z,446nm,1.5s
NACB **Ninganchiao** 19.32 267 *e*P P 17 03 01.5 -0.8
YHNB **Yeheng** 19.42 269 *e*P P 17 03 01.1 -2.3
comp=Z,119nm,0.8s
USRK **Ussuriysk Ar.** 19.47 336 P P 17 03 03.7 0.0
comp=Z,2.0nm,0.3s,baz=149,slow=11,SNR=31
USRK LR LR 17 09 30.1
comp=Z,3μm,21.9s,baz=143,slow=33
YULB **Yu-li** 19.77 265 *e*P P 17 03 05.7 -1.5
comp=Z,218nm,1.1s
SSLB **Suanglung** 19.98 266 *e*Pn P 17 03 10.1 +0.6
comp=Z,260nm,1.1s
YSS **Yuzh-Sakhalins** 20.16 360 P P 17 03 10.1 -1.0
comp=Z,226nm,1.2s
YSS LR LR
comp=Z,2μm,20.0s
TPUB **Ta-pu** 20.39 265 *e*P P 17 03 12.6 -1.3
comp=Z,612nm,1.6s
MDJ **Mudanjiang** 20.75 333 P P 17 03 17.3 -0.3
MDJ pP pP 17 03 24.6 -1.3
MDJ sP sP 17 03 28.7 -1.1
MDJ S S 17 07 06.9 -0.7
MDJ PMZ
comp=Z,5μm,7.8s
MDJ LN
comp=Z,9μm,16.8s
MDJ LE
comp=Z,7μm,14.7s
MDJ LZ
comp=Z,17μm,15.5s
MDJ **Mudanjiang** 20.75 333 *e*P P 17 03 16.5 -1.1
comp=Z,153nm,1.1s
MDJ LR LR
comp=Z,6μm,20.0s
DL2 **Dalian** 21.47 310 P P 17 03 31.7 +6.3
DL2 pmax pmax
comp=Z,58nm,1.0s
NJ2 **Nanjing** 21.51 290 *e*P P 17 03 26.8 +1.0
NJ2 S S 17 07 24.0 +1.2
NJ2 PMZ
comp=Z,30nm,0.6s
NJ2 LN
comp=Z,5μm,12.1s
NJ2 LE
comp=Z,10μm,12.0s
NJ2 LZ
comp=Z,8μm,11.0s
SNY **Shenyang** 21.80 318 ⇓P P 17 03 27.8 -1.1
SNY S S 17 07 19.9 -8.3
SNY PMZ
comp=Z,22nm,0.8s
SNY PMZ
comp=Z,5μm,12.0s
SNY LN
comp=Z,10μm,13.5s
SNY LE
comp=Z,7μm,15.3s
SNY LZ
comp=Z,9μm,15.3s
QZH **Quanzhou** 21.86 271⇑ *i*P P 17 03 30.0 +0.3
QZH S S 17 07 29.4 -0.4
QZH PMZ
comp=Z,280nm,1.0s
QZH LN
comp=Z,4μm,11.5s
QZH LE
comp=Z,8μm,11.3s
QZH LZ
comp=Z,10μm,13.5s
CN2 **Changchun** 22.06 325 *e*P P 17 03 30.4 -1.3
CN2 *ep*P pP 17 03 40.0 0.0
CN2 *e*S S 17 07 27.8 -5.4
CN2 PMZ
comp=Z,30nm,0.8s
CN2 LN
comp=Z,9μm,16.0s
CN2 LE
comp=Z,12μm,16.0s
CN2 LZ
comp=Z,14μm,16.0s
HABR **Khabarovsk** 22.51 346 *e*P P 17 03 36.4 0.0
HABR *e**PP pP 17 03 43.5 -1.2
HABR *e**SP sP 17 03 47.9 -0.7
HABR *e*PPP PPP 17 04 06.9
HABR *e* 17 07 27.3
HABR *e*S S 17 07 42.7 +1.4
HABR *e**SS Sn 17 07 56.5 +1.1
HABR *e*SSS SSS 17 08 25.6
HABR *e* 17 14 48.4
HABR pmax pmax
comp=Z,131nm,1.3s
HABR pmax pmax
comp=N,65nm,1.3s
HABR pmax pmax
comp=E,20nm,1.3s
HABR MLR MLR
comp=Z,6μm,18.0s
WAKE **Wake Island** 23.15 104 PFAKE 17 03 50.0 +6.6
WAKE LR LR
comp=Z,5μm,19.0s
H11N2 **WAKE ISLAND Hy** 23.19 102 T T 17 27 43.6
baz=297,slow=75,SNR=14
H11N1 **WAKE ISLAND Hy** 23.19 103 T T 17 27 45.8
baz=297,slow=75,SNR=12
H11N3 **WAKE ISLAND Hy** 23.21 102 T T 17 27 43.6
baz=297,slow=75,SNR=11
H11S3 **WAKE ISLAND Hy** 23.50 106 T T 17 28 00.7
baz=294,slow=75,SNR=42
H11S1 **WAKE ISLAND Hy** 23.50 105 T T 17 28 01.2
baz=294,slow=75,SNR=22
H11S2 **WAKE ISLAND Hy** 23.52 106 T T 17 28 02.1
baz=294,slow=75,SNR=32
TIA **Tai'an** 23.79 300 ⇑P P 17 03 47.2 -2.2
TIA PMZ
comp=Z,140nm,0.7s
TGY **Tagaytay City** 24.01 243 P P 17 03 52.9 +1.2
comp=Z,1μm,1.1s,baz=94,slow=0.9,SNR=30
TGY LR LR 17 11 51.5
comp=Z,10nm,20.5s,baz=21,slow=33
KLR **Kul'dur** 24.02 342 *e*P P 17 03 48.0 -3.4
KLR pmax pmax
comp=N,80nm,1.6s
KLR pmax pmax
comp=E,110nm,1.6s
KLR pmax pmax
comp=Z,370nm,1.6s
WHN **Wuhan** 25.23 285 ⇓P P 17 04 02.1 -0.6
DAV **Davao City (W)** 25.53 223 PFAKE 17 04 20.0 +14
DAV LR LR
comp=Z,9μm,19.0s
BJT **Baijiatuau** 25.76 308 PFAKE 17 04 20.0 +13
BJT LR LR
comp=Z,3μm,21.0s
BJI **Beijing** 25.77 308 P P 17 04 07.9 +0.4
BJI S S 17 08 35.3 +0.7
BJI PMZ
comp=Z,21nm,0.9s
BJI LN
comp=Z,6μm,14.2s
BJI LE
comp=Z,9μm,14.9s
BJI LZ
comp=Z,5μm,16.1s
NKL **Nikolayevsk** 26.41 357 *i* P P 17 04 13.0 -0.1
NKL *e* 17 04 30.5
NKL pmax pmax
comp=N,43nm,1.0s
NKL pmax pmax
comp=Z,86nm,1.0s
PETK **Petropavlovsk-** 28.57 19 P P 17 04 32.9 +0.4
comp=Z,7.5nm,0.9s,baz=184,slow=10,SNR=3.8
PETK **Petropavlovsk-** 28.57 19 P P 17 04 32.9 +0.4
PETK pmax pmax
comp=Z,8.0nm,0.9s
HIA **Hailar** 28.69 328⇓ *e*P P 17 04 34.6 +1.0
HIA pmax pmax
comp=Z,98nm,1.0s
HIA **Hailar** 28.69 328 *e*P P 17 04 31.9 -1.7
comp=Z,90nm,1.0s
HIA LR LR
comp=Z,6μm,20.0s
PET **Petropavlovsk** 28.78 20 *e*P P 17 04 35.6 +1.3
PET *e*S S 17 09 20.3 -1.5
PET pmax pmax
comp=Z,14nm,0.8s
PET **Petropavlovsk** 28.78 20 PFAKE 17 04 50.0 +16
PET LR LR
comp=Z,4μm,21.0s
SMPI **Sarmi** 28.86 189 P *s*P 17 04 47.3 -0.7
comp=Z,54nm,1.3s
SRPI **Serui, Papua** 29.16 194 P P 17 04 40.2 +2.1
GENI **Genyem** 29.29 185 P *s*P 17 04 50.6 -1.3
comp=Z,64nm,1.4s
RKPI **Ransiki, Papua** 29.31 198 P P 17 04 39.1 -0.3
HHC **Hu-ho-hao-te** 29.34 307 *e*P P 17 04 38.7 -1.0
HHC S S 17 09 30.3 -1.0
HHC *s*S *s*S 17 09 47.8 +1.7
HHC SS SnSn 17 11 05.0 +6.4
HHC PMZ
comp=Z,24nm,0.9s
HHC PMZ
comp=Z,1μm,4.4s
HHC LN
comp=Z,6μm,11.3s
HHC LE
comp=Z,7μm,11.8s
HHC LZ
comp=Z,8μm,11.0s
ENH **Enshi** 29.43 285 *e*P P 17 04 38.3 -2.1
comp=Z,18nm,0.8s
ENH LR LR
comp=Z,3μm,19.0s
SIJI **Sorong** 29.64 204 P P 17 04 41.3 -1.0
comp=Z,14nm,0.7s,baz=60,slow=7.3,SNR=12
SIJI LR LR 17 14 24.8
comp=Z,7μm,19.0s,baz=29,slow=32
XAN **Xi'an** 30.02 292 P P 17 04 44.5 -1.1
XAN pP pP 17 04 54.1 -0.5
XAN *s*P *s*P 17 04 58.1 -0.2
XAN PP PnPn 17 05 40.3 -2.6
XAN S S 17 09 36.2 -5.7
XAN *s*S *s*S 17 09 52.1 -4.6
XAN PMZ
comp=Z,41nm,1.0s
XAN LN
comp=Z,2μm,14.7s
XAN LE
comp=Z,2μm,17.6s
XAN LZ
comp=Z,2μm,16.2s
FAKI **Fak Fak** 31.22 201 P P 17 04 58.6 +2.3
comp=Z,58nm,1.3s
FAKI **Fak Fak** 31.22 201 *e*P P 17 04 54.3 -2.0
comp=Z,63nm,1.1s
QIZ **Qiongzhong** 31.26 263 P P 17 04 56.7 0.0
QIZ *s*P *s*P 17 05 08.9 -0.5
QIZ S S 17 10 00.1 -1.4
QIZ PMZ
comp=Z,53nm,1.4s
QIZ LN
comp=Z,4μm,17.6s
QIZ LZ
comp=Z,5μm,14.9s
QIZ **Qiongzhong** 31.26 263 *e*P P 17 04 54.0 -2.6
comp=Z,78nm,1.1s
QIZ LR LR
comp=Z,2μm,19.0s
KDM **Kudat** 31.61 236 ⇑P P 17 05 01.0 +1.2
KMSI **Cibinong** 31.71 218 P P 17 04 59.4 -1.2
SDKM **Sandakan** 32.21 234 ⇑P P 17 05 05.3 +0.2
GYA **Guiyang** 32.25 278⇑ *i*P P 17 05 04.0 -1.5
GYA pP pP 17 05 16.0 +1.5
GYA PP PnPn 17 06 12.3 +0.1
GYA PcP PcP 17 07 53.2 -0.3
GYA S S 17 10 15.9 -1.2
GYA sS *s*S 17 10 31.8 -0.1
GYA ScP ScP 17 11 33.6 -1.4
GYA SS SnSn 17 12 10.0 +0.3
GYA PMZ
comp=Z,40nm,1.0s
GYA PMZ
comp=Z,470nm,8.5s
GYA LN
comp=Z,3μm,17.5s
GYA LE
comp=Z,4μm,16.6s
GYA LZ
comp=Z,3μm,18.0s
KKM **Kota Kinabalu** 32.65 236 *e*P P 17 05 05.2 -3.9
comp=Z,82nm,0.9s
KKM LR LR
comp=Z,3μm,19.0s
TSM **Tawau** 32.67 231 ⇑P P 17 05 09.8 +0.7
SANI **Sanana** 32.92 212 P P 17 05 10.3 -0.9
comp=Z,40nm,1.0s,comp=Z,1μm
MRSI **Marisa** 32.95 221 P P 17 05 11.1 -0.4
comp=Z,68nm,0.9s
AAI **Ambon** 33.40 207 P P 17 05 20.3 +4.9
comp=Z,105nm,0.9s
CIT **Chita** 33.47 327 *e*P P 17 05 17.3 +1.5
CIT *e* 17 05 30.0
CIT *e*S S 17 10 34.4 -1.0
CIT pmax pmax
comp=Z,369nm,1.2s
LUWI **Luwuk** 33.72 218 P P 17 05 18.3 +0.1
comp=Z,90nm,1.2s
LUWI **Luwuk** 33.72 218 *e*P P 17 05 16.0 -2.2
comp=Z,76nm,0.8s
APSI **Ampana** 34.24 220 P P 17 05 22.8 0.0
comp=Z,120nm,1.2s
MPSI **Mapaga** 34.29 224 P P 17 05 23.3 +0.1
comp=Z,30nm,1.2s
LZH **Lanzhou** 34.34 295 ⇑P P 17 05 22.6 -1.0
LZH pP pP 17 05 33.2 +0.6
LZH sP sP 17 05 36.6 +0.2
LZH PMZ
comp=Z,220nm,1.1s
LZH PMZ
comp=Z,810nm,4.3s
LZH LN
comp=Z,3μm,12.4s
LZH LE
comp=Z,5μm,13.1s
LZH LZ
comp=Z,6μm,13.3s
CD2 **Chengdu** 34.34 286 P P 17 05 23.0 -0.6
CD2 pP pP 17 05 33.0 +0.4
CD2 sP sP 17 05 37.5 +1.2
CD2 PP PP 17 06 41.1 -0.5
CD2 S S 17 10 48.4 -0.9
CD2 sS sS 17 11 05.5 +1.3
CD2 PMZ
comp=Z,40nm,0.5s
CD2 PMZ
comp=Z,580nm,5.2s
CD2 LN
comp=Z,8μm,12.2s
CD2 LZ
comp=Z,10μm,13.2s
ULN **Ulaanbaatar** 34.95 317 PFAKE 17 05 40.0 +11
ULN LR LR
comp=Z,3μm,20.0s
PCI **Palu** 35.31 222 P P 17 05 31.4 -0.6
comp=Z,112nm,1.2s
SONM **Songino Array** 35.34 316 P P 17 05 31.4 -0.7
comp=Z,13nm,0.7s,baz=122,slow=8.7,SNR=40
SONM PcP PcP 17 08 03.0 +1.1
comp=Z,14nm,1.1s,baz=132,slow=2.2,SNR=3.9
SONM ScP ScP 17 11 47.4 +1.8
comp=Z,8.8nm,1.4s,baz=174,slow=3.0,SNR=4.3
SONM LR LR 17 21 08.8
comp=Z,3μm,18.8s,baz=114,slow=38
SONM **Songino Array** 35.34 316 P P 17 05 31.4 -0.7
SONM 17 08 03.0
SONM pmax pmax
comp=Z,13nm,0.7s
SONM pmax pmax
comp=Z,14nm,1.2s
SONM pmax pmax
comp=N,9.0nm,1.4s
SONM MLR MLR
comp=Z,3μm,18.8s
KMI **Kunming** 35.97 277 P P 17 05 38.0 +0.1
KMI PMZ
comp=Z,61nm,1.3s
KMI LN
comp=Z,3μm,14.8s
KMI LE
comp=Z,3μm,14.8s
KMI LZ
comp=Z,2μm,12.6s
PMG **Port Moresby** 36.20 173 PFAKE 17 05 50.0 +10
PMG LR LR
comp=Z,2μm,21.0s
YAK **Yakutsk** 36.34 350 P P 17 05 40.2 -0.1
comp=Z,1.3nm,0.4s,baz=198,slow=18,SNR=21
YAK LR LR 17 20 44.6
comp=Z,2μm,19.4s,baz=162,slow=36
YAK **Yakutsk** 36.34 350*c* *i*P P 17 05 40.4 +0.1
YAK *e**PP pP 17 05 48.6 -0.8
YAK *e* 17 06 59.2
YAK *e*PPP PPP 17 07 19.4
YAK *e* 17 08 04.1
YAK *e*S S 17 11 20.7 +1.5
YAK *e**SS sS 17 11 36.4 +2.3
YAK *e*SS SnSn 17 13 50.0 +2.2
YAK *e* 17 15 52.4
YAK pmax pmax
comp=Z,73nm,1.2s
YAK pmax pmax
comp=N,42nm,1.1s
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=Z,919nm,7.3s
YAK smax smax
comp=E,926nm,6.9s
YAK smax smax
comp=N,807nm,8.2s
YAK **Yakutsk** 36.34 350 P P 17 05 40.2 -0.1
comp=N,5.0nm,1.1s
UBPT **Khong Chiam** 36.55 259 P P 17 05 43.3 +0.7
comp=N,78nm,1.0s
SEY **Seymchan** 36.72 7 P P 17 05 44.8 +1.3
comp=N,38nm,1.0s,baz=188,slow=6.5,SNR=93
SEY **Seymchan** 36.72 7*c* *i*P P 17 05 45.0 +1.5
BTM **Bintulu** 36.86 236 ⇓P P 17 05 46.4 +1.1
TTSI **Tana Toraja** 37.03 220 P *s*P 17 06 01.5 +2.0
BOD **Bodaibo** 37.10 335 *e*P P 17 05 47.1 +0.3
BOD pmax pmax
comp=Z,44nm,0.6s
SKNT **Sakolnakorn** 37.20 263 P P 17 05 48.4 +0.2
comp=Z,208nm,1.1s
BKB **Balikpapan** 37.42 226 P P 17 05 50.8 +0.8
comp=Z,191nm,1.2s
SPSI **Sidrap Palu** 37.80 220 P P 17 05 52.8 -0.4
GTA **Gaotai** 37.83 301 ⇑P P 17 05 51.9 -1.6
GTA pP pP 17 06 01.6 -0.9
GTA sP sP 17 06 05.3 -1.0
GTA PcP PcP 17 08 10.8 +1.2
GTA ScP ScP 17 11 53.7 -1.2
GTA PcS PcS 17 11 58.3 -0.1
GTA ScS ScS 17 16 02.1 -1.9
GTA PMZ
comp=Z,13nm,1.0s
SBUM **Sibu** 38.00 236 ⇑P P 17 05 55.1 +0.1
SBUM **Sibu** 38.00 236 *e*P P 17 05 55.2 +0.3
comp=Z,97nm,1.6s
ZAK **Zakamensk** 38.23 319 *e*P P 17 05 55.9 -0.7
ZAK *e* 17 11 56.2
ZAK pmax pmax
comp=Z,32nm,1.3s
IRK **Irkutsk** 38.44 322⇑ *i*P P 17 05 58.0 -0.3
IRK *e*S S 17 11 55.5 +4.1
IRK pmax pmax
comp=Z,62nm,1.2s
TLY **Talaya** 38.55 321 P P 17 05 59.7 +0.5
comp=Z,240nm,1.1s,SNR=5.9
TLY **Talaya** 38.55 321 P P 17 05 59.5 +0.3
comp=Z,13nm,0.6s,baz=116,slow=4.1,SNR=10
TLY LR LR 17 22 51.2
comp=Z,8μm,18.1s,baz=112,slow=38
TLY **Talaya** 38.55 321 *e*P P 17 05 59.4 +0.2
TLY *e*S S 17 11 55.1 +2.0
TLY pmax pmax
comp=Z,78nm,1.2s
TLY MLR MLR
comp=Z,7μm,17.0s

TLY Talaya 38.55 321 P **P** 17 05 59.5 +0.2
SNR=23
TLY Talaya 38.55 321 *e*P **P** 17 05 58.2 -1.0
comp=Z,58nm,1.0s
KAPI Kappang 38.67 219 P **P** 17 05 59.0 -1.6
comp=Z,17nm,0.9s,baz=21,slow=6.6,SNR=4.9
KAPI LR LR 17 20 17.6
comp=Z,1µm,21.7s,baz=50,slow=34
KAPI Kappang 38.67 219 P **P** 17 05 59.0 -1.6
comp=Z,4.4nm,1.3s
BKSI Bulukumba 38.72 218 P **P** 17 05 59.7 -1.3
BSSI Bau Bau, Buton 39.21 217 P sP 17 06 17.1 -0.8
CRAI Chiangrai 39.32 270 P P 17 06 02.2 -3.8
comp=Z,57nm,1.6s,comp=Z,4µm
KBKI Kotabaru 39.44 225 P **P** 17 06 07.2 +0.2
comp=Z,54nm,1.5s,comp=Z,1µm
HNR Honiara 39.64 153 PFAKE
HNR LR LR 17 06 20.0 +11
comp=Z,6µm,19.0s
UTTA Uttaradit 39.97 266 P **P** 17 06 11.6 +0.2
comp=Z,18nm,1.1s,comp=Z,147nm
PBKT Sadao Pong 40.02 264 P **P** 17 06 12.3 +0.4
comp=Z,266nm,1.1s
MOY Mondy 40.06 320 *e*P **P** 17 06 11.4 -0.5
MOY pmax pmax
comp=Z,47nm,1.6s
KSM Kuching 40.07 237 ⇑P **P** 17 06 11.7 -0.6
KSM Kuching 40.07 237 *e*P P 17 06 08.6 -3.7
comp=Z,30nm,1.1s
KSM LR LR
comp=Z,1µm,19.0s
STKI Sintang 40.16 234 P **P** 17 06 13.1 +0.1
comp=Z,90nm,1.5s
CHBT CHBT 40.38 258 P **P** 17 06 15.2 +0.4
comp=Z,123nm,0.9s
MMRI Maumere 40.45 212 P **P** 17 06 17.3 +1.9
comp=Z,142nm,1.3s,comp=Z,2µm
MMRI Maumere 40.45 212 P P 17 06 10.5 -4.9
comp=Z,309nm,1.5s
COEN Coen 40.48 179 *e*P **P** 17 06 14.9 -0.7
comp=Z,71nm,1.1s
SOEI Soe 40.52 209 P P 17 06 21.5 +5.5
comp=Z,140nm,0.9s
SOEI Soe 40.52 209 *e*P **P** 17 06 14.8 -1.2
comp=Z,102nm,0.8s
LAMP Lampang 40.53 268 P **P** 17 06 16.4 +0.3
comp=Z,20nm,0.9s,comp=Z,162nm
CMAI Chiengmai2 40.60 270 P **P** 17 06 17.1 +0.3
comp=Z,43nm,1.1s,comp=Z,5µm
CMMT Chiang Mai 41.04 268 P **P** 17 06 20.0 -0.3
comp=Z,171nm,1.2s
CHTO Chiang Mai 41.05 268 P **P** 17 06 20.1 -0.2
comp=Z,390nm,1.1s
CHTO Chiang Mai 41.05 268 P **P** 17 06 20.6 +0.3
SNR=19
CHTO Chiang Mai 41.05 268 *e*P **P** 17 06 19.2 -1.1
comp=Z,69nm,1.0s
CHTO LR LR
comp=Z,1µm,19.0s
CM31 Chiang Mai Arr 41.16 268 *e*P **P** 17 06 19.0 -2.4
comp=Z,21nm,0.7s
CMAR Chiang Mai Arr 41.16 268 P **P** 17 06 21.4 +0.1
comp=Z,23nm,0.9s,baz=56,slow=7.8,SNR=92
CMAR LR LR 17 23 32.9
comp=Z,2µm,19.3s,baz=78,slow=36
CMAR Chiang Mai Arr 41.16 268 P **P** 17 06 21.5 +0.1
CMAR pmax pmax
comp=Z,23nm,0.9s
CMAR MLR MLR
comp=Z,2µm,19.3s
PATY Pattaya 41.59 259 P **P** 17 06 26.0 +1.2
comp=Z,28nm,1.0s
PBKI Pangkalan Bun 41.97 231 P P 17 06 31.7 +3.8
comp=Z,156nm,1.3s
MHMT Maesarieng 42.16 268 P **P** 17 06 30.0 +0.5
comp=Z,46nm,0.9s
SRDT SRDT 42.53 262 P **P** 17 06 33.3 +0.8
comp=Z,326nm,1.2s
KHLT Khaolaem Dam 42.82 263 P **P** 17 06 36.4 +1.5
comp=Z,49nm,1.6s
BILL Bilibino 43.66 13*c i*P **P** 17 06 41.4 +0.5
BILL *e* 17 08 25.6
BILL pmax pmax
comp=Z,40nm,1.6s
BILL MLR MLR
comp=Z,2µm,14.0s
ABJI Asem Bagus 44.13 223 P **P** 17 06 46.6 +1.2
comp=Z,226nm,1.2s,comp=Z,3µm
HVS Khovu-Aksy 44.23 317*c i*P **P** 17 06 45.9 0.0
HVS pmax pmax
comp=Z,424nm,1.3s
BLJI Banyuglugur 44.49 224 P **P** 17 06 50.7 +2.5
comp=Z,72nm,1.2s
SKLT Songkhla 44.53 252 P **P** 17 06 49.4 +0.8
comp=Z,105nm,1.4s,comp=Z,11µm
MYKOM Kota Tinggi 44.86 243 *e*P **P** 17 06 52.3 +1.1
comp=Z,91nm,1.1s
TPI Tanjungpandan 44.86 235 P **P** 17 06 51.3 +0.1
comp=Z,61nm,0.9s
TRTT Trang 44.98 253 P **P** 17 06 53.0 +0.8
comp=Z,127nm,1.1s
SURT Suratani 45.20 255 P **P** 17 06 54.9 +0.9
comp=Z,50nm,1.0s
LSA Lhasa 45.30 286 *e*P **P** 17 06 52.8 -2.5
comp=Z,63nm,1.3s
LSA LR LR
comp=Z,2µm,22.0s
SHL Shillong 45.47 280 *e*P **P** 17 06 55.0 -1.2
SHL AMB AMB 17 06 58.2
comp=Z,37nm,0.8s
SHL *e*S **S** 17 13 37.0 +0.8
KULM Kulim 45.49 250 P **P** 17 06 53.8 -2.5
comp=Z,111nm,1.0s
KULM LR LR
comp=Z,2µm,21.0s
PPBI Pangkal Pinang 45.58 237 P **P** 17 06 57.3 +0.3
comp=Z,70nm,1.2s
TIXI Tiksi 45.60 354*c i*P **P** 17 06 56.8 +0.5
TIXI pmax pmax
comp=Z,38nm,1.2s
TIXI Tiksi 45.60 354 *e*P **P** 17 06 56.9 +0.5
comp=Z,58nm,1.2s
TIXI LR LR
comp=Z,3µm,22.0s
IPM Ipoh 45.62 248 *e*P **P** 17 06 57.5 +0.2
comp=Z,96nm,0.9s
PWJI Pagerwojo 45.82 225 P **P** 17 06 58.2 -0.6
comp=Z,72nm,0.9s
UNV Unalaska Valle 45.86 40 *e*P **P** 17 06 57.9 -0.7
comp=Z,124nm,1.3s
PKDT Phuket 46.12 254 P **P** 17 07 02.1 +0.9
comp=Z,245nm,0.8s,comp=Z,2µm
CTA Charters Tower 46.69 176 P **P** 17 07 03.5 -2.0
comp=Z,29nm,1.1s,baz=359,slow=11,SNR=6.9
CTA Charters Tower 46.69 176 P **P** 17 07 03.5 -2.0
CTA pmax pmax
comp=Z,20nm,1.1s
CTAO Charters Tower 46.69 176 *e*P P 17 07 01.2 -4.4
comp=Z,37nm,1.0s
PMBI Palembang 47.11 237 P **P** 17 07 11.9 +2.9
comp=Z,233nm,0.6s
WRAB Tennant Creek 47.13 191 P **P** 17 07 08.0 -1.0
comp=Z,1µm,0.8s,SNR=86
WRAB Tennant Creek 47.13 191*c i*P **P** 17 07 08.5 -0.5
WRAB pmax pmax
comp=Z,730nm,1.2s
WRAB Tennant Creek 47.13 191 *e*P **P** 17 07 08.5 -0.5
comp=Z,227nm,0.9s
WRAB LR LR
comp=Z,2µm,19.0s
JMBI JAMBI 47.14 239 P P 17 07 12.4 +3.2
comp=Z,352nm,1.3s
WRA Warramunga Arr 47.15 191 P **P** 17 07 08.0 -1.1
comp=Z,110nm,0.8s,baz=12,slow=8.6,SNR=114
WRA S **S** 17 13 58.3 -1.4
comp=Z,14nm,1.2s,baz=7.0,slow=14,SNR=9.9
WRA Warramunga Arr 47.15 191 P **P** 17 07 08.0 -1.1
WRA S **S** 17 13 58.3 -1.4
WRA pmax pmax
comp=Z,110nm,0.8s
WRA smax smax
comp=N,14nm,1.2s
KPJI Karang Pucung 47.19 229 P **P** 17 07 09.3 -0.3
comp=N,189nm,1.0s
WMQ Urumqi 47.22 306 P **P** 17 07 09.9 +0.3
WMQ pP **pP** 17 07 19.8 +0.9
WMQ sP **sP** 17 07 24.2 +1.6
WMQ PcP **PcP** 17 08 39.5 -1.2
WMQ PP **PP** 17 08 59.7 -1.0
WMQ SS SS 17 17 16.7 -11
WMQ PMZ
comp=N,33nm,1.5s
WMQ PMZ
comp=N,3µm,8.4s
WMQ LN
comp=N,4µm,12.4s
WMQ LE
comp=N,2µm,15.4s
WMQ LZ
comp=N,1µm,16.5s
FITZ Fitzroy Crossi 47.61 202 *e*P **P** 17 07 12.6 -0.1
comp=N,155nm,1.0s
LEM Lembang 47.72 231 P **P** 17 07 13.7 -0.2
comp=N,382nm,1.0s,comp=N,4µm
LEM Lembang 47.72 231 P **P** 17 07 13.8 -0.1
comp=N,242nm,0.9s,baz=43,slow=6.4,SNR=59
LEM LR LR 17 27 05.1
comp=N,679nm,20.5s,baz=52,slow=36
LEM Lembang 47.72 231 P **P** 17 07 13.8 -0.1
LEM pmax pmax
comp=Z,242nm,0.9s
LEM MLR MLR
comp=Z,679nm,20.5s
CBJI Citeko 47.97 232 P **P** 17 07 16.1 +0.5
comp=Z,156nm,1.0s,comp=Z,4µm
BKNI Bangkinang 47.98 244 P P 17 07 21.2 +5.5
comp=Z,83nm,1.4s
CISI Cisompet, Garu 48.11 230 P **P** 17 07 15.0 -1.8
comp=Z,168nm,1.1s,comp=Z,2µm
CISI Cisompet, Garu 48.11 230 *e*P **P** 17 07 14.5 -2.3
comp=Z,269nm,1.3s
TSI Tuntungan 48.20 249 P P 17 07 24.5 +7.0
comp=Z,83nm,1.0s
PSI Prapat 48.29 248 P **P** 17 07 18.6 +0.3
comp=Z,53nm,0.8s,baz=30,slow=3.1,SNR=44
PSI Prapat 48.29 248 P **P** 17 07 18.6 +0.3
PSI pmax pmax
comp=Z,53nm,0.8s
PSI Prapat 48.29 248 *e*P **P** 17 07 18.0 -0.3
comp=Z,90nm,1.0s
KLSI 48.31 235 P **P** 17 07 17.7 -0.6
comp=Z,127nm,1.4s
CNJI Cibinong 48.40 231 P **P** 17 07 18.4 -0.6
comp=Z,191nm,0.9s
SDSI Sungai Dareh 48.43 242 P sP 17 07 34.6 +2.5
DGPR DIGLIPUR 48.50 264 *e*P **P** 17 07 19.5 -0.3
DGPR AMB AMB 17 07 28.4
comp=Z,104nm,2.4s
MDSI Maura Dua 48.58 236 P **P** 17 07 19.6 -0.7
comp=Z,111nm,1.1s
LHSI Lahat 48.64 237 P **P** 17 07 21.1 +0.3
comp=Z,169nm,1.1s,comp=Z,2µm
LHMI Lhok Sumawe 48.65 252 P **P** 17 07 23.4 +2.5
comp=Z,220nm,1.0s
LHMI Lhok Sumawe 48.65 252 P **P** 17 07 18.7 -2.3
comp=Z,143nm,0.9s
TAPN Taplejung 48.72 284 *e*P **P** 17 07 21.3 -0.4
comp=Z,70nm,1.1s
MNSI Mandailing Nat 48.88 245 P **P** 17 07 22.7 0.0
comp=Z,67nm,1.4s
CGJI Cibinong 48.92 233 P **P** 17 07 25.0 +2.0
comp=Z,61nm,1.1s
LWLI Liwa 49.02 236 P **P** 17 07 22.8 -1.1
comp=Z,48nm,0.9s,comp=Z,3µm
ODAN Odare 49.11 283 *e*P **P** 17 07 24.3 -0.3
comp=Z,311nm,1.4s
RAMN Ramite 49.78 284 *e*P **P** 17 07 29.2 -0.5
comp=Z,101nm,0.9s
JIRN Jiri 49.97 285 *e*P **P** 17 07 31.6 +0.2
comp=Z,176nm,0.8s
ZAA0 Zalesovo Array 50.10 319 *e*P **P** 17 07 30.7 -0.9
ZALV Zalesovo Beam 50.10 319 P **P** 17 07 31.0 -0.5
comp=Z,25nm,0.8s,baz=101,slow=7.0,SNR=90
ZALV PcP **PcP** 17 08 50.4 -0.4
comp=Z,24nm,0.9s,baz=103,slow=3.9,SNR=5.8
ZALV LR LR 17 29 43.3
comp=Z,5µm,18.3s,baz=70,slow=37
ZALV Zalesovo Beam 50.10 319 P **P** 17 07 31.0 -0.5
ZALV 17 08 50.4
ZALV pmax pmax
comp=Z,25nm,0.8s
ZALV pmax pmax
comp=Z,24nm,0.9s
ZALV MLR MLR
comp=Z,6µm,18.3s
GUN Gumba 50.18 285 *e*P **P** 17 07 33.1 +0.1
comp=Z,162nm,0.8s
GSI Gunungsitoli 50.24 247 P **P** 17 07 32.6 -0.4
comp=Z,116nm,1.2s
GSI Gunungsitoli 50.24 247 *e*P **P** 17 07 32.2 -0.8
comp=Z,194nm,1.3s
CMBY CAMPBELL BAY 50.36 256 *e*P **P** 17 07 33.0 -1.0
CMBY AMB AMB 17 07 52.3
comp=Z,124nm,0.5s
PKI Pulchoki 50.67 285 *e*P **P** 17 07 36.0 -0.6
comp=Z,50nm,0.9s
KKN Kakani 50.73 285 *e*P **P** 17 07 36.6 -0.3
comp=Z,85nm,1.1s
AS31 Alice Springs 50.86 191 *e*P **P** 17 07 36.4 -1.2
ASAR Alice Springs 50.86 191 P **P** 17 07 36.5 -1.0
comp=Z,5.5nm,0.5s,baz=13,slow=14,SNR=37
ASAR PcP **PcP** 17 08 53.5 -0.5
comp=Z,6.1nm,1.0s,baz=12,slow=4.7,SNR=2.2
ASAR S **S** 17 14 50.9 -1.0
comp=Z,2.7nm,1.0s,baz=17,slow=19,SNR=5.2
ASAR LR LR 17 27 54.2
comp=Z,2µm,20.8s,baz=9.0,slow=34
ASAR Alice Springs 50.86 191 P **P** 17 07 36.6 -1.0
ASAR 17 08 53.5
ASAR S **S** 17 14 50.9 -1.0
ASAR pmax pmax
comp=Z,6.0nm,0.5s
ASAR pmax pmax
comp=Z,6.0nm,1.0s
ASAR smax smax
comp=N,3.0nm,1.0s
ASAR MLR MLR
comp=Z,2µm,20.8s
DMN Daman 50.92 285 *e*P **P** 17 07 38.0 -0.4
comp=Z,66nm,0.8s
MK31 Makanchi Array 51.12 310 *i* P **P** 17 07 38.3 -1.0
MK31 pmax pmax
comp=Z,12nm,0.6s
MK31 Makanchi Array 51.12 310 *e*P **P** 17 07 38.4 -1.0
MKAR Makanchi Array 51.12 310 P **P** 17 07 38.5 -0.8
comp=Z,16nm,0.7s,baz=92,slow=9.0,SNR=123
MKAR PcP **PcP** 17 08 55.2 +0.5
comp=Z,9.7nm,0.9s,baz=61,slow=5.7,SNR=5.0
MKAR LR LR 17 31 20.7
comp=Z,4µm,18.1s,baz=87,slow=38
MKAR Makanchi Array 51.12 310 P **P** 17 07 38.5 -0.8
MKAR 17 08 55.3
MKAR pmax pmax
comp=Z,16nm,0.7s
MKAR pmax pmax
comp=Z,10.0nm,0.9s
MKAR MLR MLR
comp=Z,4µm,18.1s
NVS Novosibirsk 51.15 320⇑*i*P **P** 17 07 39.2 -0.2
NVS *e*SS **S** 17 14 58.3 +3.0
NVS *e* 17 17 29.2
NVS pmax pmax
comp=Z,155nm,1.9s
NVS pmax pmax
comp=N,53nm,1.8s
NVS pmax pmax
comp=E,97nm,1.8s
BOK Bokaro 51.20 280 *e*P **P** 17 07 40.4 +0.1
BOK AMB AMB 17 07 46.5
comp=Z,46nm,1.8s
GKN Gorkha 51.23 286 *e*P **P** 17 07 40.4 -0.3
comp=Z,116nm,1.0s
KOLN Koldanda 52.18 286 *e*P **P** 17 07 47.7 -0.1
comp=Z,61nm,0.7s
MBWA Marble Bar 52.62 207 *e*P **P** 17 07 50.6 -0.1
MBWA comp=Z,62nm,1.0s LR LR
comp=Z,1µm,21.0s
SVW2 Sparrevohn 53.28 32 *e*P **P** 17 07 56.6 +1.5
KURK Kurchatov 53.62 315 P **P** 17 07 57.6 -0.2
comp=Z,327nm,1.1s,SNR=63
KURK Kurchatov 53.62 315 P **P** 17 07 57.5 -0.2
KURK pmax pmax
comp=Z,66nm,0.9s
KURK Kurchatov 53.62 315 P **P** 17 07 57.4 -0.3
SNR=71
KURK Kurchatov 53.62 315 *e*P **P** 17 07 56.6 -1.1
comp=Z,135nm,1.1s
KURK LR LR
comp=Z,6µm,19.0s
DZM Mont Dzumac 53.67 153 *e*P **P** 17 08 00.9 +2.4
comp=Z,159nm,1.4s
DZM *e*S **S** 17 15 34.4 +3.9
comp=Z,3µm,24.9s
DZM *e*LR LR 17 23 33.0
comp=Z,4µm,21.6s
DZM Mont Dzumac 53.67 153 LR LR 17 29 38.9
comp=Z,3µm,19.9s,baz=0.0,slow=35
KURBB Kurchatov Arra 53.67 315 P **P** 17 07 57.5 -0.6
comp=Z,66nm,0.9s,baz=92,slow=7.7,SNR=313
KIP Kipapa 53.88 82 PFAKE
KIP LR LR 17 08 10.0 +10
comp=Z,3µm,19.0s
KDAK Kodiak Island 54.30 37 P **P** 17 08 04.0 +1.4
comp=Z,429nm,1.3s,SNR=6.0
KDAK Kodiak Island 54.30 37*c e*P **P** 17 08 03.8 +1.2
KDAK Kodiak Island 54.30 37 *e*P **P** 17 08 04.1 +1.5
comp=Z,138nm,1.2s
KDAK LR LR
comp=Z,3µm,21.0s
CHLP Challavanipeta 54.45 274 *e*P **P** 17 08 04.1 -0.1
CHLP *e*S **S** 17 15 41.7 +0.5
RSO Redoubt South 54.54 33 *e*P **P** 17 08 05.4 +0.8
comp=Z,60nm,0.9s
JOSI Joshimath 54.99 290 *e*P **P** 17 08 08.2 -0.2
JOSI AMB AMB 17 08 11.4
comp=Z,1µm,0.7s
IM04 Indian Mountai 55.08 27 *e*P **P** 17 08 09.1 +0.9
PPLA Purkeypile 55.17 30 *e*P **P** 17 08 09.5 +0.5
comp=Z,36nm,1.0s
CAST Castle Rocks 55.30 30 *e*P **P** 17 08 11.1 +1.2
comp=Z,33nm,1.0s
BRLK Bradley Lake 55.38 34 *e*P **P** 17 08 11.2 +0.7
comp=Z,69nm,1.3s
ULHL Ulahol 55.67 304 P **P** 17 08 13.9 +0.8
SNR=5.8
BPAW Bear Paw Mtn. 55.89 29 *e*P **P** 17 08 15.0 +0.9
comp=Z,6.1nm,1.1s
KALG Kalgarh 55.91 289 *e*P **P** 17 08 13.7 -1.0
KALG AMB AMB 17 08 16.8
comp=Z,74nm,0.6s
MSVF Nonsavu 55.92 138 *e*P **P** 17 08 16.9 +2.0
comp=Z,61nm,1.3s
MSVF LR LR
comp=Z,2µm,19.0s
TKM2 Tokmak 2 56.06 305 P **P** 17 08 16.6 +0.8
SNR=35
TKM2 Tokmak 2 56.06 305 *e*P **P** 17 08 15.7 -0.2
comp=Z,61nm,1.1s
TKM2 LR LR
comp=Z,2µm,21.0s
RC01 Rabbit Creek A 56.08 33 P P 17 08 11.1 -4.3
TRF Thorofare Moun 56.10 30 *e*P **P** 17 08 15.9 +0.1
comp=Z,34nm,1.0s
SEW Seward 56.13 34 *e*P **P** 17 08 14.9 -0.9
comp=Z,88nm,1.2s
KSH Kashi 56.23 301 P P 17 08 20.3 +3.3
KSH sP sP 17 08 35.2 +5.1
KSH PcP **PcP** 17 09 16.6 +2.2
KSH PP PP 17 10 31.6 +9.3
KSH S **S** 17 16 06.3 +1.5
KSH sS sS 17 16 21.0 +0.6
KSH ScS **ScS** 17 18 04.8 +0.5
KSH PMZ
comp=Z,78nm,0.9s
KSH PMZ
comp=Z,540nm,3.4s
KSH LN
comp=Z,2µm,15.1s
KSH LE
comp=Z,3µm,14.1s
KSH LZ
comp=Z,1µm,14.6s
DDI Dehra Dun 56.31 290 *e*P **P** 17 08 15.1 -2.6
DDI AMB AMB 17 08 21.5
comp=Z,64nm,6.5s
KZA Kyzart 56.42 304 P **P** 17 08 20.3 +1.7
SNR=25
BWN Browne 56.56 29 *e*P **P** 17 08 19.9 +1.1
comp=Z,134nm,1.4s
KBK Karagaybulak 56.57 305 P **P** 17 08 19.9 +0.5
SNR=54
POHA Pohakuloa 56.62 83 PFAKE 17 08 30.0 +10
POHA LR LR
comp=Z,2µm,19.0s
CHMS Chumysh 56.67 305 P **P** 17 08 20.2 +0.2
SNR=26
COLD Coldfoot 56.73 25 *e*P **P** 17 08 20.8 +0.8
comp=Z,26nm,1.0s
MCK McKinley 56.74 30 *e*P **P** 17 08 20.2 +0.1
comp=Z,59nm,1.1s
FRU Bishkek 56.79 305⇓*i*P **P** 17 08 20.0 -0.8
FRU pmax pmax
comp=Z,200nm,1.4s
USP Ospenovka 56.82 306 P **P** 17 08 21.7 +0.6
SNR=15
SMLA Simla 56.87 291 *i* P **P** 17 08 21.0 -0.5
SMLA AMB AMB 17 08 23.2
comp=Z,88nm,1.5s
AAK Ala-Archa 56.90 305 P **P** 17 08 22.9 +1.0
comp=Z,183nm,0.8s,SNR=9.0
AAK Ala-Archa 56.90 305 P **P** 17 08 22.5 +0.6
SNR=16
AAK Ala-Archa 56.90 305 P **P** 17 08 22.2 +0.4
comp=Z,183nm,0.8s,SNR=9.0
AAK Ala-Archa 56.90 305 P **P** 17 08 22.4 +0.6
comp=Z,25nm,0.9s,baz=112,slow=4.8,SNR=31
AAK Ala-Archa 56.90 305*c i*P **P** 17 08 22.0 +0.2
AAK pmax pmax
comp=Z,114nm,1.2s
AAK Ala-Archa 56.90 305 P **P** 17 08 22.8 +1.0
SNR=16
AAK Ala-Archa 56.90 305 *e*P **P** 17 08 22.1 +0.4
comp=Z,30nm,0.9s
AAK LR LR
comp=Z,1µm,21.0s
UCH Uchtor 56.94 305 P **P** 17 08 23.9 +1.5
SNR=59
PVM Polavaram 57.06 274 *e*P **P** 17 08 22.4 -0.6
PVM *e*S **S** 17 16 17.8 +1.7
AGRA Agra 57.18 286 *e*P **P** 17 08 22.5 -1.3
AGRA AMB AMB 17 08 23.3
comp=Z,26nm,0.8s
DHRM DHARAMSHALA 57.33 293 *e*P **P** 17 08 24.1 -0.9
DHRM AMB AMB 17 08 26.2
comp=Z,60nm,1.1s
CCB Clear Creek Bu 57.33 29 *e*P **P** 17 08 24.9 +0.7
comp=Z,73nm,2.0s
COLA College 57.34 28⇓*e*P **P** 17 08 26.5 +2.2
COLA College 57.34 28 *e*P **P** 17 08 25.9 +1.6
comp=Z,27nm,1.2s
COLA LR LR
comp=Z,1µm,19.0s
EKS2 Erkin-Say 57.42 305 P **P** 17 08 26.0 +0.5
SNR=24
EKS2 Erkin-Say 57.42 305 *e*P **P** 17 08 25.9 +0.5
comp=Z,56nm,1.3s
EKS2 LR LR
comp=Z,2µm,19.0s
ARMA Armidale 57.48 171 *e*P **P** 17 08 24.9 -0.8
comp=Z,38nm,1.4s
AYAN Aya Nagar 57.55 288 *e*P **P** 17 08 26.0 -0.3
AYAN AMB AMB 17 08 27.5
comp=Z,36nm,0.8s
AML Almayashu 57.56 305 P **P** 17 08 28.2 +1.4
SNR=54
SONA Sohna 57.65 288 *e*P **P** 17 08 26.1 -0.9
SONA AMB AMB 17 08 27.5
comp=Z,42nm,0.7s
HDA Harding Lake 57.68 29 *e*P **P** 17 08 26.3 -0.4
comp=Z,31nm,1.1s
ILAR Eielson Array 57.74 29 P **P** 17 08 26.6 -0.5
comp=Z,17nm,0.8s,baz=260,slow=5.5,SNR=88
ILAR LR LR 17 33 59.4
comp=Z,456nm,19.5s,baz=266,slow=37
ILAR Eielson Array 57.74 29 P **P** 17 08 26.7 -0.5
ILAR pmax pmax
comp=Z,17nm,0.8s
ILAR MLR MLR
comp=Z,456nm,19.5s
OTUK Ortayu 57.80 312 P **P** 17 08 27.4 -0.5

OTUK pmax pmax
comp=Z,103nm,1.1s
EYAK Cordova Ski Ar 58.00 34 *e*P **P 17 08 29.9 +0.9**
comp=Z,61nm,1.2s
DIV Divide 58.01 33 *e*P **P 17 08 29.7 +0.5**
comp=Z,121nm,1.5s
NGP Nagpur 58.02 279 *e*P **P 17 08 28.4 -1.4**
NGP AMB AMB 17 08 30.3
comp=Z,47nm,0.9s
KUDL Kundal 58.18 288 *e*P **P 17 08 29.6 -1.2**
KUDL AMB AMB 17 08 32.2
comp=Z,60nm,1.2s
PAX Paxson 58.23 31 *e*P **P 17 08 30.9 +0.1**
comp=Z,45nm,1.2s
STKA Stephens Creek 58.32 181 P **P 17 08 30.4 -1.1**
comp=Z,14nm,0.8s,baz=344,slow=8.6,SNR=13
STKA LR LR 17 34 47.0
comp=Z,1µm,18.1s,baz=2.7,slow=37
STKA Stephens Creek 58.32 181 P **P 17 08 30.4 -1.1**
STKA pmax pmax
comp=Z,14nm,0.8s
STKA MLR MLR
comp=Z,1µm,18.1s
STKA Stephens Creek 58.32 181 *e*P **P 17 08 30.8 -0.7**
HARP HAARP 58.35 31 *e*P **P 17 08 32.4 +0.9**
comp=Z,55nm,1.0s
RPR Rampur 58.57 277 *e*P **P 17 08 32.4 -1.2**
BMRM Bremner River 58.57 33 *e*P **P 17 08 34.0 +0.9**
comp=Z,124nm,1.1s
BVA0 Borovoye Array 58.66 318 *i*P **P 17 08 34.0 +0.2**
BVA0 pmax pmax
comp=Z,144nm,1.2s
BVAR Borovoye Array 58.66 318 P **P 17 08 34.1 +0.3**
comp=Z,58nm,0.8s,baz=93,slow=7.7,SNR=256
BVAR Borovoye Array 58.66 318 P **P 17 08 34.1 +0.3**
BVAR pmax pmax
comp=Z,58nm,0.8s
BRVK Borovoye 58.73 318 P **P 17 08 34.8 +0.5**
comp=Z,668nm,1.0s,SNR=54
BRVK Borovoye 58.73 318*c i*P **P 17 08 34.7 +0.5**
BRVK pmax pmax
comp=Z,176nm,1.2s
BRVK Borovoye 58.73 318 P **P 17 08 35.0 +0.8**
SNR=72
BRVK Borovoye 58.73 318 *e*P **P 17 08 34.7 +0.5**
comp=Z,128nm,1.0s
BRVK LR LR
comp=Z,5µm,20.0s
KHET Khetri 58.78 288 *e*P **P 17 08 34.3 -0.7**
KHET AMB AMB 17 08 36.1
comp=Z,71nm,1.3s
BHPL Bhopal 58.78 282 *e*P **P 17 08 32.9 -2.2**
BHPL AMB AMB 17 08 40.4
comp=Z,30nm,3.2s
FORT Forrest 58.93 195 *e*P **P 17 08 35.0 -0.7**
comp=Z,80nm,0.9s
ADKI Addanki 59.05 273 *e*P **P 17 08 36.6 -0.3**
NJS Nagarjunasagar 59.38 274 *e*P **P 17 08 38.2 -1.0**
NJS *e*S **S 17 16 47.5 +1.2**
SRSP Sriramsagar 59.39 277 *e*P **P 17 08 37.8 -1.5**
SRSP IAmb IAmb 17 08 39.5
comp=Z,32nm,0.9s
SRSP *e*S **S 17 16 45.5 -1.0**
BBOO Buckleboo 59.59 187 *e*P **P 17 08 39.4 -0.9**
comp=Z,80nm,1.2s
KK31 Karatay Array 59.73 306 *i*P **P 17 08 41.2 -0.2**
KK31 pmax pmax
comp=Z,238nm,1.2s
KKAR Karatay Array 59.73 306 *e*P **P 17 08 41.3 0.0**
HYB Hyderabad 59.73 275 *i*P **P 17 08 42.5 +0.7**
HYB Hyderabad 59.73 275 *e*P **P 17 08 38.9 -2.9**
HYB AMB AMB 17 08 42.0
comp=Z,59nm,1.4s
HYBB Hyderabad (bro 59.73 275 *e*P **P 17 08 41.1 -0.6**
HYBB *e*S **S 17 16 50.3 -0.7**
AFI Afiamalu 59.84 127 PFAKE 17 08 50.0 +7.6
AFI LR LR
comp=Z,2µm,20.0s
SRLM Srisailam 59.91 274 *e*P **P 17 08 41.4 -1.6**
SRLM IAmb IAmb 17 08 44.0
comp=Z,96nm,1.0s
SRLM *e*S **S 17 16 53.4 +0.1**
AKL Akola 59.96 279 *e*P **P 17 08 42.4 -0.9**
AKL AMB AMB 17 08 45.9
comp=Z,82nm,1.1s
SKHT Srikalahasti 60.08 271 *e*P **P 17 08 42.8 -1.3**
SKHT IAmb IAmb 17 08 45.7
comp=Z,113nm,1.1s
SKHT *e*S **S 17 16 55.9 +0.5**
RCLA Racherla 60.09 273 *e*P **P 17 08 43.5 -0.7**
RCLA *e* 17 16 50.3
RCLA *e*S **S 17 16 57.3 +1.6**
RCLA *e*SS **SS 17 20 54.5 +1.6**
EGAK Eagle 60.19 29 *e*P **P 17 08 44.8 +0.6**
comp=Z,52nm,1.4s
EGAK LR LR
comp=Z,1µm,20.0s
DAWY Dawson 60.97 29 *e*P **P 17 08 48.9 -0.6**
comp=Z,64nm,1.3s
KLRI Killari 61.24 277 *e*P **P 17 08 50.5 -1.5**
KLRI *e*S **S 17 17 11.5 +1.2**
URV Uravakonda 61.80 273 *e*P **P 17 08 54.5 -1.3**
URV IAmb IAmb 17 08 56.7
comp=Z,107nm,1.1s
URV *e*S **S 17 17 16.7 -0.8**
DZET Dzherino 61.82 302 P **P 17 08 55.3 -0.5**
DZET pmax pmax
comp=Z,224nm,1.1s
PALK Pallekele 61.88 264 P **P 17 08 55.3 -1.1**
comp=Z,68nm,1.1s,baz=49,slow=5.4,SNR=7.3
PALK Pallekele 61.88 264 P **P 17 08 55.3 -1.1**
PALK pmax pmax
comp=Z,68nm,1.1s
PALK Pallekele 61.88 264 *i*P **P 17 08 57.1 +0.7**
SNR=6.8
PALK Pallekele 61.88 264 *e*P **P 17 08 55.0 -1.4**
comp=Z,56nm,1.2s
CAN Canberra 62.02 174 PFAKE 17 09 10.0 +13
CAN LR LR
comp=Z,1µm,20.0s
HYT Haines Junctio 62.04 33 *e*P **P 17 08 58.2 +1.3**
XMAS Kiritimati 62.22 103 PFAKE 17 09 10.0 +11
XMAS LR LR
comp=Z,4µm,20.0s
KBL Kabul 62.67 297 *e*P **P 17 09 00.4 -1.2**
comp=Z,124nm,1.1s
INK Inuvik 63.10 24 P **P 17 09 04.1 +0.5**
comp=Z,30nm,0.8s,baz=273,slow=7.7,SNR=18
INK Inuvik 63.10 24 P **P 17 09 04.1 +0.5**
INK pmax pmax
comp=Z,30nm,0.8s
POO Poona 63.51 278 *e*P **P 17 09 04.7 -2.5**
POO *e*P **P 17 09 05.0 -2.2**
POO AMB AMB 17 09 07.6
comp=Z,107nm,1.4s
BESE Bessie Mountai 63.65 35 *e*P **P 17 09 09.0 +1.5**
comp=Z,29nm,1.3s
SVE Sverdlovsk 63.83 323*d i*P **P 17 09 09.8 +1.1**
SVE pmax pmax
comp=Z,167nm,1.2s
SVE MLR MLR
comp=Z,4µm,16.0s
NWAO Narrogin (SRO) 64.15 204 PFAKE 17 09 20.0 +9.0
NWAO LR LR
comp=Z,1.0nm,22.0s
GOA Goa 64.66 275 *e*P **P 17 09 12.7 -2.0**
GOA AMB AMB 17 09 16.3
comp=Z,68nm,0.5s
ARU Arti 65.03 322 P **P 17 09 17.5 +1.0**
comp=Z,987nm,1.1s,SNR=77
ARU Arti 65.03 322*c i*P **P 17 09 17.0 +0.5**
ARU 17 09 50.4
ARU 17 11 40.7
ARU PPP PPP 17 13 12.1
ARU S **S 17 17 57.9 +1.4**
ARU 17 19 07.4
ARU pmax pmax
comp=Z,247nm,1.2s
ARU Arti 65.03 322 *e*P **P 17 09 17.1 +0.6**
comp=Z,174nm,1.0s
ARU LR LR
comp=Z,2µm,22.0s
SOKR Solikamsk 65.34 326*c i*P **P 17 09 19.2 +0.8**
SOKR pmax pmax
comp=Z,50nm,1.1s
SOKR MLR MLR
comp=Z,5µm,17.0s
WRAK Wrangell Islan 65.36 38 PFAKE 17 09 30.0 +11
WRAK LR LR
comp=Z,2µm,21.0s
BHJ Bhuj 65.54 285 *e*P **P 17 09 20.1 -0.3**
BHJ AMB AMB 17 09 21.6
comp=Z,101nm,1.2s
AB31 Akbulak array 65.73 315 *i*P **P 17 09 20.6 -0.6**
AB31 pmax pmax
comp=Z,66nm,0.8s
ABKAR Akbulak array 65.73 315 *e*P **P 17 09 21.5 +0.3**
DLBC Dease Lake 66.16 35 P **P 17 09 24.7 +0.8**
comp=Z,8.6nm,0.9s,baz=284,slow=7.1,SNR=10.0
DLBC LR LR 17 39 54.7
comp=Z,1µm,18.6s,baz=319,slow=37
DLBC Dease Lake 66.16 35 *e*P **P 17 09 24.7 +0.8**
comp=Z,56nm,1.3s
AKTO Aktyubinsk 66.66 316 P **P 17 09 27.2 0.0**
comp=Z,26nm,0.7s,baz=86,slow=7.1,SNR=53
AKTO Aktyubinsk 66.66 316 P **P 17 09 27.2 0.0**
AKTO pmax pmax
comp=Z,26nm,0.7s
RAO Raoul Island 67.22 143 LR LR 17 33 41.1
comp=Z,716nm,21.6s,baz=320,slow=31
BBB Bella Bella 68.79 41 P **P 17 09 40.8 +0.3**
comp=Z,8.8nm,0.9s,baz=304,slow=3.6,SNR=2.6
BBB LR LR 17 34 39.6
comp=Z,876nm,19.7s,baz=294,slow=31
IMYA Miami 69.15 301 *e*P **P 17 09 43.3 0.0**
TAU Tasmania Unive 69.45 176 PFAKE 17 10 00.0 +16
TAU LR LR
comp=Z,3µm,22.0s
ISRO Mashad 69.65 301 *e*P **P 17 09 46.1 -0.2**
IMOG Moghan 69.81 301 *e*P **P 17 09 48.3 +0.8**
IPAY Payeh 69.96 301 *e*P **P 17 09 48.8 +0.4**
IAKL Akhelmad 70.10 302 *e*P **P 17 09 49.2 -0.1**
PRGR Permogore 70.12 330 *e*P **P 17 09 49.0 +0.5**
PRGR pmax pmax
comp=Z,109nm,0.9s
IKRD Kardeh 70.22 302 *e*P P 17 09 46.2 -3.9
ALE Alert 70.26 3 P **P 17 09 50.0 +0.8**
comp=Z,124nm,1.2s,SNR=13
IDAH Dahanechah 70.51 297 *e*P **P 17 09 52.1 +0.3**
ISHV Shirvan 70.59 303 *e*P **P 17 09 52.5 +0.3**
SPITS Spitsbergen Ar 70.81 350 P **P 17 09 53.2 +0.7**
comp=Z,2.8nm,0.6s,baz=113,slow=11,SNR=8.3
SPITS Spitsbergen Ar 70.81 350 P **P 17 09 53.2 +0.7**
SPITS pmax pmax
comp=Z,3.0nm,0.6s
KBS Kingsbay 70.96 351 PFAKE 17 10 10.0 +17
KBS LR LR
comp=Z,854nm,19.0s
ITEG Tejag 71.34 298 *e*P **P 17 09 57.1 +0.3**
LVZ Lovozero 72.00 338 P **P 17 10 00.0 +0.2**
comp=Z,166nm,1.0s,SNR=5.0
LVZ Lovozero 72.00 338*c i*P **P 17 10 00.1 +0.2**
LVZ pmax pmax
comp=Z,43nm,1.2s
LVZ Lovozero 72.00 338 *e*P **P 17 10 00.6 +0.7**
comp=Z,77nm,1.3s
LVZ LR LR
comp=Z,1µm,20.0s
YKA Yellowknife Ar 72.17 28 P **P 17 10 01.1 +0.1**
comp=Z,17nm,0.7s,baz=294,slow=5.8,SNR=80
YKA Yellowknife Ar 72.17 28 P **P 17 10 01.1 +0.1**
YKA pmax pmax
comp=Z,17nm,0.7s
URZ Urewera 72.22 152 P **P 17 10 03.0 +1.5**
comp=Z,7.5nm,0.9s,baz=315,slow=16,SNR=3.2
URZ LR LR 17 38 33.8
comp=Z,1µm,20.4s,baz=0.5,slow=33
RES Resolute Bay 72.25 14 *e*P **P 17 10 01.2 0.0**
comp=Z,44nm,1.4s
TMCR Tamitsa 72.38 334⇓*i*P **P 17 10 03.7 +1.5**
TMCR pmax pmax
comp=Z,125nm,1.0s
NLWA Neilton Lookou 72.94 45 P **P 17 10 03.0 -2.9**
RAR Rarotonga 73.25 125 LR LR 17 35 57.7
comp=Z,715nm,20.3s,baz=295,slow=31
KEV Kevo 73.48 341 *e*P **P 17 10 10.0 +1.4**
comp=Z,67nm,1.2s
KEV LR LR
comp=Z,2µm,19.0s
MBW Mount Baker 73.66 43 P **P 17 10 11.3 +1.1**
IGLO Ghaloghah 73.85 303 *e*P **P 17 10 12.0 +0.3**
SNZO South Karori 73.90 156 PFAKE 17 10 20.0 +8.7
SNZO LR LR
comp=Z,1µm,22.0s
ARCES ARCESS Array B 74.04 341 P **P 17 10 13.0 +1.1**
comp=Z,23nm,0.7s,baz=57,slow=8.8,SNR=41
ARCES ARCESS Array B 74.04 341 P **P 17 10 13.0 +1.1**
ARCES pmax pmax
comp=Z,23nm,0.7s
ARE0 ARCESS Array S 74.04 341 *e*P **P 17 10 10.8 -1.1**
G03D McMinnville, O 74.13 47⇓P **P 17 10 13.0 +0.1**
baz=74
IANJ Anjilo 74.17 302 *e*P **P 17 10 12.7 -0.9**
D05A Enumclaw 74.20 45 *e*P **P 17 10 15.5 +2.2**
IBAF Bafgh 74.32 298 *e*P **P 17 10 13.7 -0.8**
KHZ Kahutara 74.45 157 *e*P **P 17 10 13.6 -0.9**
comp=Z,149nm,1.5s
LON Longmire 74.48 45 *e*P **P 17 10 15.1 +0.1**
comp=Z,11nm,0.9s
RCS Mount Rainier- 74.49 45 P **P 17 10 16.2 +0.8**
I03D Drain, OR 74.64 49⇑P **P 17 10 16.1 +0.2**
baz=75
RPZ Rata Peaks 74.77 159 P **P 17 10 15.2 -1.1**
comp=Z,42nm,0.7s,baz=114,slow=5.6,SNR=11
RPZ LR LR 17 39 53.2
comp=Z,914nm,21.6s,baz=9.5,slow=33
RPZ Rata Peaks 74.77 159 *e*P **P 17 10 15.8 -0.6**
TWW Teanaway 74.93 45 P **P 17 10 19.5 +1.8**
WBK Wadi Bani Khal 74.94 288 P **P 17 10 19.1 +1.1**
SNR=20
IFIR Pozokooh 74.98 303 *e*P **P 17 10 17.0 -1.4**
L02D Cave Junction, 75.06 50⇓P **P 17 10 18.7 +0.4**
baz=75
ETW Entiat 75.08 44 P **P 17 10 19.6 +1.0**
IMEH Mehriz 75.15 298 *e*P **P 17 10 17.8 -1.6**
I04A Tendick Farm, 75.23 48⇓P **P 17 10 19.0 -0.4**
baz=75
VFP Flag Point 75.26 47 P **P 17 10 20.9 +1.3**
HUMO Hull Mountain 75.33 50 *e*P **P 17 10 20.8 +0.9**
comp=Z,29nm,1.4s
G05D Wamic, OR 75.39 47⇑P **P 17 10 20.6 +0.4**
baz=75
B08A Colville Reser 75.39 43 *e*P **P 17 10 20.7 +0.5**
comp=Z,27nm,1.0s
SMDO Samad 75.54 289 P **P 17 10 22.2 +0.7**
SNR=16
IDMV Damavand 75.55 303 *e*P **P 17 10 20.1 -1.5**
J04D Umpqua Nationa 75.65 49⇓P **P 17 10 22.1 +0.1**
baz=76
I05D Terrebonne, OR 75.73 47⇓P **P 17 10 22.7 +0.5**
baz=76
JMDO Jabal Madar 75.77 288 P **P 17 10 22.9 +0.1**
SNR=14
YBH Yreka Blue Hor 75.84 50 P **P 17 10 24.1 +1.1**
comp=Z,14nm,0.9s,baz=295,slow=2.4,SNR=12
YBH LR LR 17 40 21.6
comp=Z,455nm,18.8s,baz=296,slow=33
YBH Yreka Blue Hor 75.84 50 P **P 17 10 24.1 +1.1**
YBH pmax pmax
comp=Z,14nm,0.9s
YBH MLR MLR
comp=Z,455nm,18.8s
YBH Yreka Blue Hor 75.84 50 *e*P **P 17 10 23.5 +0.6**
comp=Z,168nm,2.5s
M02C Callahan 75.87 51⇑P **P 17 10 23.5 +0.4**
baz=76
BANOM Banah 75.89 292⇑*i*P **P 17 10 24.0 +0.6**
SNR=6.5
VTHM Trough 75.90 46 P **P 17 10 23.4 +0.3**
HOQ Hoqain 75.96 289 P **P 17 10 24.2 +0.4**
SNR=47
HAWA Hanford 76.07 45 *e*P **P 17 10 24.1 0.0**
comp=Z,15nm,0.8s
HAWA LR LR
comp=Z,1µm,19.0s
DGAR Diego Garcia 76.07 254 PFAKE 17 10 40.0 +15
DGAR LR LR
comp=Z,862nm,19.0s
DAG Danmarks Havn 76.08 356⇑*i*P **P 17 10 24.0 +0.5**
comp=Z,22nm,1.1s
DAG Danmarks Havn 76.08 356⇑*i*P **P 17 10 24.0 +0.5**
DAG pmax pmax
comp=Z,27nm,1.1s
N02D Trinity Center 76.14 51⇓P **P 17 10 25.1 +0.4**
baz=76
D08A Wollman Farm, 76.18 44 *e*P **P 17 10 25.4 +0.8**
comp=Z,37nm,1.1s
J05D Fort Rock, OR 76.22 48⇑P **P 17 10 25.5 +0.3**
baz=76
MOS Moscow 76.30 326 *e*P **P 17 10 25.3 +0.2**
MOS *e* 17 10 37.6
MOS *e* 17 13 16.8
MOS *e*S **S 17 20 07.7 +0.1**
MOS pmax pmax
comp=Z,238nm,1.2s
MOS pmax pmax
comp=Z,400nm,1.4s
MOS MLR MLR
comp=Z,8µm,16.0s
MOS MLR MLR
comp=N,2µm,15.0s
MOS MLR MLR
comp=E,5µm,15.0s
UOSS Wadi Hilu 76.35 291 P **P 17 10 26.5 +0.4**
comp=E,400nm,1.2s,SNR=9.7
UOSS Wadi Hilu 76.35 291 *e*P **P 17 10 26.4 +0.4**
comp=E,88nm,1.1s
IZEF Zefreh 76.36 300 *e*P **P 17 10 24.1 -2.2**
BSY Bisya 76.39 289 P **P 17 10 26.6 +0.3**
SNR=23
M04C Macdoel 76.41 50⇑P **P 17 10 26.7 +0.5**
baz=76
IMHD Mahdasht 76.53 303 *e*P **P 17 10 26.5 -0.6**
IGZV Ghazvin 76.59 304 *e*P **P 17 10 26.8 -0.7**
K05A Summer Lake 76.67 49 *e*P **P 17 10 29.1 +1.3**
comp=E,60nm,1.0s
ARQ Araqi 76.72 290 P **P 17 10 28.9 +0.7**
SNR=45
EDM Edmonton 76.75 37 *e*P **P 17 10 28.3 +0.5**
IKLH Kolahrood 76.77 301 *e*P **P 17 10 28.1 -0.5**
NEW Newport 76.78 43 P **P 17 10 28.8 +0.7**
comp=E,29nm,1.0s,baz=300,slow=5.8,SNR=15
NEW Newport 76.78 43 P **P 17 10 28.8 +0.7**
NEW pmax pmax
comp=Z,29nm,1.0s
NEW Newport 76.78 43⇑P **P 17 10 28.5 +0.4**
baz=77
NEW Newport 76.78 43 P **P 17 10 28.8 +0.7**
NEW LR LR
comp=Z,952nm,19.0s
NAZ Nazwa, Dubai 76.79 291⇓*i*P **P 17 10 28.6 0.0**
SNR=21
G08A Pilot Rock 76.89 46 *e*P **P 17 10 28.9 0.0**
FAQ Al Faqa, Dubai 76.94 291 *i*P **P 17 10 29.4 0.0**
SNR=13
I07A Izee 77.04 47 *e*P **P 17 10 30.7 +1.0**
LPSR Galich'ya Gora 77.05 323 *e*P **P 17 10 30.3 +0.9**
LPSR pmax pmax
comp=Z,140nm,1.2s
LPSR pmax pmax
comp=N,20nm,1.6s
LPSR pmax pmax
comp=E,80nm,1.2s
LPSR MLR MLR
comp=Z,1µm,14.0s
LPSR MLR MLR
comp=N,820nm,15.0s
LPSR MLR MLR
comp=E,1µm,14.0s
OBN Obninsk 77.12 326 P **P 17 10 30.5 +0.8**
comp=E,164nm,1.1s,baz=127,slow=0.6,SNR=53
OBN Obninsk 77.12 326*c i*P **P 17 10 30.5 +0.8**
OBN *e* 17 10 45.2
OBN pmax pmax
comp=Z,218nm,1.2s
OBN MLR MLR
comp=Z,6µm,15.0s
OBN Obninsk 77.12 326 P **P 17 10 30.0 +0.2**
comp=Z,776nm,1.2s,SNR=12
OBN Obninsk 77.12 326 *e*P **P 17 10 30.6 +0.9**
OBN LR LR
comp=Z,5µm,19.0s
ASUD Al Ashush, Dub 77.21 291⇑*i*P **P 17 10 31.2 +0.3**
SNR=17
VOR Voronezh 77.30 322 *e*P **P 17 10 30.0 -0.9**
VOR pmax pmax
comp=Z,340nm,1.4s
VSR Storozhevoye 77.55 321 *e*P **P 17 10 33.0 +0.7**
VSR pmax pmax
comp=Z,180nm,1.3s
VSR pmax pmax
comp=N,110nm,1.1s
VSR pmax pmax
comp=E,160nm,1.1s
VSR MLR MLR
comp=N,2µm,14.0s
VSR MLR MLR
comp=Z,3µm,14.0s
VSR MLR MLR
comp=E,1µm,13.0s
IPIR Pirpir 77.56 300 *e*P **P 17 10 31.8 -1.3**
VORD Divnogorie 77.59 321 *e*P **P 17 10 33.0 +0.5**
VORD pmax pmax
comp=Z,100nm,1.3s
VORD pmax pmax
comp=N,90nm,0.8s
VORD pmax pmax
comp=E,160nm,0.6s
VORD MLR MLR
comp=N,1µm,15.0s
VORD MLR MLR
comp=E,2µm,15.0s
VORD MLR MLR
comp=Z,2µm,15.0s
PUL Pulkovo 77.69 331*c i*P **P 17 10 34.8 +1.9**
PUL pmax pmax
comp=Z,90nm,0.4s
GOF Gofitskoye 77.97 314 *e*P **P 17 10 34.9 +0.1**
GOF pmax pmax
comp=Z,40nm,1.0s
DGRG David-gareji 77.97 310 P **P 17 10 35.3 +0.4**
DGRG David-gareji 77.97 310 P **P 17 10 35.3 +0.4**
KULLO Kullorsuaq 78.07 5⇑*i*P **P 17 10 35.2 +0.5**
comp=Z,42nm,1.1s
BMO Blue Mountains 78.14 46 *e*P **P 17 10 36.8 +1.0**
comp=Z,40nm,1.1s
BMO LR LR
comp=Z,1µm,21.0s
TBLG Delisi 78.28 311 P **P 17 10 37.3 +0.7**
TBLG Delisi 78.28 311 P **P 17 10 37.3 +0.7**
NCK Nalchik 78.29 313⇑*i*P **P 17 10 37.1 +0.5**
WVOR Wild Horse Val 78.31 48 *e*P **P 17 10 37.7 +0.8**
comp=Z,110nm,2.1s
WVOR LR LR
comp=Z,1µm,19.0s
BSMT Bassoo Peak 78.37 42 *e*P **P 17 10 37.9 +0.7**
comp=Z,21nm,1.0s
ZEI Tsey 78.39 312 *e*P **P 17 10 36.5 -0.9**
ZEI pmax pmax
comp=Z,44nm,1.0s
FIA1 FINESS Array S 78.49 334 *e*P **P 17 10 37.9 +0.6**
FINES FINESS Array B 78.49 334 P **P 17 10 37.9 +0.6**
comp=Z,50nm,0.9s,baz=78,slow=3.9,SNR=84
FINES FINESS Array B 78.49 334 P **P 17 10 37.9 +0.6**
FINES pmax pmax
comp=Z,51nm,0.9s
BLMT Blacktail Moun 78.55 42 *e*P **P 17 10 39.2 +1.0**
KBZ Khabaz 78.64 313 P **P 17 10 39.5 +1.0**
comp=Z,71nm,0.9s,baz=89,slow=2.9,SNR=121
KBZ LR LR 17 48 28.1
comp=Z,2µm,18.9s,baz=58,slow=38
KBZ Khabaz 78.64 313 P **P 17 10 39.5 +1.0**
KBZ pmax pmax
comp=Z,71nm,0.9s
KBZ MLR MLR
comp=Z,2µm,18.9s
KIV Kislovodsk 78.68 314 P **P 17 10 39.0 +0.2**
comp=Z,447nm,1.1s,SNR=21
KIV Kislovodsk 78.68 314*c i*P **P 17 10 40.1 +1.3**
KIV *e* 17 10 48.0
KIV pmax pmax
comp=Z,80nm,1.0s
KIV MLR MLR
comp=Z,2µm,17.0s
KIV Kislovodsk 78.68 314 P **P 17 10 40.1 +1.3**
SNR=36
KIV Kislovodsk 78.68 314 *i*P **P 17 10 40.0 +1.3**

SNR=18
KIV Kislovodsk 78.68 314 *e*P **P 17 10 39.6 +0.7**
comp=Z,103nm,1.1s
KIV LR LR
comp=Z,2µm,20.0s
JTMT Jette 78.72 42 *e*P **P 17 10 39.9 +0.9**
ONI Oni 78.78 312 P **P 17 10 40.6 +1.2**
ONI Oni 78.78 312 P **P 17 10 40.6 +1.2**
GNI Garni 78.96 309 P **P 17 10 41.5 +0.9**
comp=Z,19nm,1.0s,baz=246,slow=2.5,SNR=8.2
GNI Garni 78.96 309 P **P 17 10 41.5 +0.9**
GNI pmax pmax
comp=Z,19nm,1.0s
GNI Garni 78.96 309 P **P 17 10 42.7 +2.1**
SNR=9.3
GNI Garni 78.96 309 *e*P **P 17 10 40.9 +0.3**
comp=Z,55nm,1.0s
GNI LR LR
comp=Z,928nm,20.0s
CMB Columbia Colle 78.98 53 *e*P **P 17 10 40.9 +0.3**
comp=Z,37nm,1.1s
SWMT Swartz Lake 79.00 42 *e*P **P 17 10 41.1 +0.6**
comp=Z,27nm,1.0s
PPT Papeete 79.02 116 LR LR 17 39 37.3
comp=Z,863nm,18.6s,baz=302,slow=31
PPT2 Papeete2 79.03 116 *e*LR LR 17 35 04.9
comp=Z,1µm,21.2s,baz=295
PMOR Pomariorio Ree 79.03 113 *e*T T 18 37 05.6
comp=Z,12nm,0.2s
MSO Missoula 79.35 43 ⇑P **P 17 10 42.7 +0.2**
baz=79
MSO Missoula 79.35 43 *e*P **P 17 10 43.3 +0.9**
comp=Z,10nm,0.9s
SLMT Seeley Lake 79.42 42 *e*P **P 17 10 43.0 0.0**
comp=Z,42nm,1.2s
WAKR Walker 79.45 52 *e*P **P 17 10 43.3 0.0**
CHMT Chamberlain Mo 79.72 43 *e*P **P 17 10 44.7 +0.1**
comp=Z,67nm,0.9s
MFID Camas Ranch 79.73 47 *e*P **P 17 10 45.0 +0.4**
comp=Z,32nm,1.0s
VSU Vasula 79.95 331 *c i*P **P 17 10 46.2 +0.9**
VSU pmax pmax
comp=Z,333nm,1.0s
BMN Battle Mountai 80.15 50 *e*P **P 17 10 47.5 +0.6**
comp=Z,24nm,1.3s
MLAC Mammoth, Mammo 80.26 53 ⇓P **P 17 10 47.6 -0.1**
baz=80
NVAR Mina Array Bea 80.29 52 P **P 17 10 48.7 +0.8**
comp=Z,13nm,1.0s,baz=272,slow=5.1,SNR=23
SMMC Simmler 80.44 55 ⇓P **P 17 10 48.9 +0.4**
baz=80
HLID Hailey 80.57 46 ⇑P **P 17 10 49.9 +0.7**
baz=80
HLID Hailey 80.57 46 PFAKE 17 11 00.0 +11
HLID LR LR
comp=Z,1µm,20.0s
LRM Limekiln Ridge 80.73 43 *e*P **P 17 10 50.6 +0.5**
comp=Z,356nm,1.0s
PKM Mcpherson Peak 80.75 56 ⇑P **P 17 10 50.7 +0.3**
baz=81
SOC Sochi 80.76 314 *e*P **P 17 10 48.5 -1.5**
SOC pmax pmax
comp=Z,57nm,1.0s
DLMT Dillon 80.86 44 *e*P **P 17 10 51.2 +0.4**
comp=Z,20nm,1.0s
VES Vestal, Richgr 80.87 55 ⇑P **P 17 10 51.2 +0.4**
baz=81
SUMG Summit 80.92 0 *i*P **P 17 10 52.2 +1.4**
SUMG Summit 80.92 0 *i*P **P 17 10 52.2 +1.4**
SUMG Summit 80.92 0 *e*P **P 17 10 51.2 +0.4**
comp=Z,36nm,1.3s
MCMT McKenzie Canyo 80.97 44 *e*P **P 17 10 51.5 +0.1**
LCCM Lewis and Clar 81.08 43 P **P 17 10 52.6 +0.7**
TPH Tonopah 81.21 52 *e*P **P 17 10 53.0 +0.2**
comp=Z,29nm,1.4s
EGMT Eagleton 81.25 40 ⇑P **P 17 10 53.0 +0.4**
baz=81,SNR=5.9
EGMT Eagleton 81.25 40 *e*P **P 17 10 53.3 +0.6**
comp=Z,29nm,1.0s
EGMT LR LR
comp=Z,731nm,19.0s
BOZ Bozeman (W) 81.32 43 ⇓P **P 17 10 53.4 +0.2**
baz=81
BOZ Bozeman (W) 81.32 43 *e*P **P 17 10 54.1 +1.0**
comp=Z,20nm,1.0s
A19A Klindworth Far 81.37 39 ⇑P **P 17 10 53.6 +0.3**
baz=81
ARVC Arvin 81.38 55 ⇑P **P 17 10 53.1 -0.4**
baz=81
ISA Isabella, Lake 81.40 54 ⇓P **P 17 10 53.7 0.0**
baz=81
ISA Isabella, Lake 81.40 54 *e*P **P 17 10 53.9 +0.2**
comp=Z,23nm,1.4s
B19A Brinkman Farms 81.50 40 ⇑P **P 17 10 54.3 +0.4**
baz=81,SNR=12
ANN Anapa 81.62 316 *c i*P **P 17 10 54.8 +0.3**
ANN *e*S **S 17 21 05.4 +0.7**
ANN pmax pmax
comp=Z,127nm,1.0s
MICGM Minsk 81.72 328 ⇑*i*P **P 17 10 54.0 -0.9**
FFC Flin Flon 81.73 32 P **P 17 10 55.0 +0.1**
comp=Z,242nm,1.1s,SNR=22
FFC Flin Flon 81.73 32 *e*P **P 17 10 55.2 +0.3**
comp=Z,49nm,1.1s
FFC LR LR
comp=Z,1µm,20.0s
MNK Minsk 81.75 328 *c i*P **P 17 10 54.0 -1.0**
MNK *e*S **S 17 21 06.0 +0.3**
MNK pmax pmax
comp=Z,190nm,1.0s
MNK MLR MLR
comp=Z,6µm,12.0s
MNK MLR MLR
comp=Z,6µm,14.0s
MNK MLR MLR
comp=E,4µm,14.0s
DAC Darwin (Calif) 81.76 54 *e*P **P 17 10 56.5 +0.7**
comp=E,13nm,1.0s
A20A Cobblestone Ra 81.86 39 ⇑P **P 17 10 56.2 +0.4**
baz=82,SNR=12
MPMC Manual Prospec 81.93 54 ⇑P **P 17 10 56.6 0.0**
baz=82,SNR=9.4
B20A Solberg Farm, 82.03 39 ⇑P **P 17 10 57.0 +0.3**
baz=82,SNR=12
LRMC Laurel Mtn Rad 82.05 54 ⇑P **P 17 10 57.4 +0.2**
baz=82
EDW2 Edwards Air Fo 82.10 55 ⇓P **P 17 10 58.2 +0.8**
baz=82
FURC Furnace Creek, 82.20 53 ⇓P **P 17 10 58.1 +0.4**
baz=82,SNR=21
R11A Troy Canyon, C 82.23 51 ⇑P **P 17 10 58.4 +0.3**
baz=82,SNR=21
R11A Troy Canyon, C 82.23 51 *e*P **P 17 10 58.6 +0.5**
comp=E,25nm,1.3s
TBI Tubuai 82.25 121 *e*LR LR 17 36 26.4
comp=E,2µm,23.2s,baz=296
A21A Bergtoll Ranch 82.36 39 ⇑P **P 17 10 58.9 +0.5**
baz=82,SNR=11
YNR Norris Junctio 82.37 44 *e*P **P 17 10 59.2 +0.4**
comp=E,40nm,1.2s
TPNV Topopah Spring 82.41 53 ⇓P **P 17 10 58.9 -0.2**
baz=82,SNR=15
C20A Veseth Ranch, 82.42 40 ⇑P **P 17 10 59.8 +1.0**
baz=82,SNR=22
H17A Grant Village 82.59 44 ⇑P **P 17 11 01.9 +1.9**
baz=82
B21A Ellsworth Farm 82.61 39 ⇑P **P 17 11 00.2 +0.5**
baz=82
LKWY Lake 82.61 44 *e*P **P 17 11 01.9 +1.8**
comp=E,31nm,0.9s
LKWY LR LR
comp=Z,1µm,19.0s
IMW Indian Meadow 82.61 44 *e*P **P 17 11 01.4 +1.2**
comp=Z,19nm,0.9s
FLWY Flagg Ranch 82.67 44 *e*P **P 17 11 00.4 0.0**
comp=Z,33nm,1.0s
FXWY Fox Creek 82.69 45 *e*P **P 17 11 00.7 +0.2**
comp=Z,30nm,1.3s
GSC Goldstone, Bar 82.77 54 ⇑P **P 17 11 01.3 +0.4**
baz=83
GSC Goldstone, Bar 82.77 54 *e*P **P 17 11 01.4 +0.5**
comp=Z,32nm,1.4s
MOOW Moose Ponds 82.81 44 *e*P **P 17 11 02.4 +1.3**
comp=Z,33nm,1.6s
TPAW Teton Pass 82.81 45 *e*P **P 17 11 00.4 -0.8**
comp=Z,17nm,0.9s
C21A Desert Coulee 82.88 40 ⇓P **P 17 11 01.5 +0.3**
baz=83
A22A Carney Farms, 82.92 38 ⇓P **P 17 11 01.4 0.0**
baz=83,SNR=32
REDW Red Top Meadow 82.94 45 *e*P **P 17 11 01.7 -0.1**
comp=Z,22nm,1.3s
RLMT Red Lodge 83.02 43 ⇓P **P 17 11 02.4 +0.2**
baz=83,SNR=20
RLMT Red Lodge 83.02 43 *e*P **P 17 11 03.2 +1.0**
comp=Z,17nm,0.8s
RLMT LR LR
comp=Z,1µm,19.0s
AHID Auburn Hatcher 83.08 45 PFAKE 17 11 10.0 +7.5
AHID LR LR
comp=Z,2µm,19.0s
AKASG Malin Array Be 83.22 324 P **P 17 11 02.7 0.0**
comp=Z,49nm,0.9s,baz=44,slow=5.5,SNR=186
AKASG Malin Array Be 83.22 324 P **P 17 11 02.7 0.0**
AKASG pmax pmax
comp=Z,49nm,0.9s
AKBB Malin Array Si 83.22 324 *e*P **P 17 11 02.6 -0.1**
KIEV Kiev 83.23 324 *c i*P **P 17 11 02.6 -0.2**
KIEV Kiev 83.23 324 *e*P **P 17 11 02.8 0.0**
comp=Z,90nm,1.1s
KIEV LR LR
comp=Z,4µm,20.0s
DUG Dugway, Tooele 83.23 48 ⇓P **P 17 11 03.3 0.0**
baz=83,SNR=12
DUG Dugway, Tooele 83.23 48 *e*P **P 17 11 03.5 +0.2**
comp=Z,17nm,0.9s
DUG LR LR
comp=Z,1µm,20.0s
B22A Reddig Ranch S 83.25 39 ⇓P **P 17 11 03.4 +0.3**
baz=83,SNR=8.4
MURC Murrieta 83.27 56 ⇑P **P 17 11 03.5 +0.1**
baz=83
HEC Hector,Ludlow 83.34 54 ⇓P **P 17 11 04.1 +0.2**
baz=83
F20A Billings 83.34 42 ⇓P **P 17 11 03.7 0.0**
baz=83
D21A La Casta Ranch 83.35 40 ⇑P **P 17 11 04.2 +0.6**
baz=83,SNR=7.8
HWUT Hardware Ranch 83.36 47 *e*P **P 17 11 03.9 -0.1**
comp=Z,19nm,1.0s
HWUT LR LR
comp=Z,1µm,19.0s
SHPR Sheep Range 83.39 52 *e*P **P 17 11 04.0 -0.2**
H19A Powell 83.43 43 ⇑P **P 17 11 04.2 +0.1**
baz=83
A23A Redstone 83.51 38 ⇑P **P 17 11 04.2 -0.2**
baz=83
SIM Simferopol' 83.58 317 *c i*P **P 17 11 05.3 +0.6**
SIM *e* 17 14 18.0
SIM *i*S **S 17 21 29.2 +4.4**
SIM pmax pmax
comp=Z,95nm,1.0s
SIM pmax pmax
comp=Z,160nm,9.7s
E21A Keefer Ranch, 83.58 41 ⇑P **P 17 11 05.0 +0.2**
baz=84
G20A Bridger 83.61 42 ⇓P **P 17 11 04.9 -0.2**
baz=84
C22A Vida 83.62 39 ⇑P **P 17 11 05.0 +0.1**
baz=84
TCUT Toone Canyon 83.71 47 *e*P **P 17 11 06.5 +0.7**
comp=Z,65nm,1.6s
B23A Brockton 83.72 38 ⇓P **P 17 11 05.7 +0.2**
baz=84,SNR=40
I19A Meeteetse 83.75 44 ⇓P **P 17 11 06.9 +0.9**
baz=84,SNR=7.0
D22A Cohagen 83.77 40 ⇓P **P 17 11 06.3 +0.5**
baz=84,SNR=12
PFO Pinyon Flats O 83.82 56 ⇑P **P 17 11 05.9 -0.5**
baz=84
PFO Pinyon Flats O 83.82 56 *e*P **P 17 11 06.3 0.0**
comp=Z,25nm,1.3s
PFO LR LR
comp=Z,2µm,22.0s
GMRC Granite Mounta 83.85 54 ⇓P **P 17 11 06.2 -0.3**
baz=84
JLU Jordanelle 83.94 47 *e*P **P 17 11 07.1 +0.1**
comp=Z,36nm,1.4s
HFS Hagfors 83.95 337 P **P 17 11 06.1 -0.2**
comp=Z,19nm,0.7s,baz=74,slow=5.1,SNR=9.6
HFS Hagfors 83.95 337 P **P 17 11 06.1 -0.2**
HFS pmax pmax
comp=Z,19nm,0.7s
C23A Lambert 83.98 39 ⇓P **P 17 11 07.0 +0.2**
baz=84,SNR=18
LAO LASA Array 84.00 40 ⇑P **P 17 11 07.4 +0.4**
baz=84
LAO LASA Array 84.00 40 PFAKE 17 11 20.0 +13
LAO LR LR
comp=Z,981nm,20.0s
A24A Westby 84.01 38 ⇑P **P 17 11 07.3 +0.3**
baz=84,SNR=11
BW06 Boulder Array 84.06 45 *e*P **P 17 11 07.0 -0.5**
comp=Z,12nm,1.1s
BW06 LR LR
comp=Z,2µm,21.0s
PDAR Pinedale Array 84.06 45 P **P 17 11 07.7 +0.1**
comp=Z,7.8nm,1.0s,baz=298,slow=3.2,SNR=18
PDAR LR LR 17 43 47.6
comp=Z,848nm,20.1s,baz=326,slow=32
J19A Crowheart 84.12 44 ⇓P **P 17 11 08.5 +0.7**
baz=84,SNR=11
H20A Greybull 84.12 43 ⇓P **P 17 11 08.2 +0.5**
baz=84
NB2 NORSAR Subarra 84.12 339 P **P 17 11 06.9 -0.4**
comp=Z,6.4nm,0.8s,baz=44,slow=5.3
NOA NORSAR Array B 84.12 339 P **P 17 11 07.2 -0.1**
comp=Z,12nm,0.8s,baz=43,slow=5.1,SNR=19
NOA PP **PP 17 14 21.6 +0.7**
comp=Z,17nm,1.1s,baz=45,slow=8.5,SNR=5.8
NOA NORSAR Array B 84.12 339 P **P 17 11 07.2 -0.1**
NOA 17 14 21.6
NOA pmax pmax
comp=Z,12nm,0.8s
NOA pmax pmax
comp=Z,17nm,1.1s
MALT Malatya 84.16 310 ⇑P **P 17 11 09.5 +1.5**
MALT Malatya 84.16 310 ⇑*i*P **P 17 11 09.5 +1.5**
DGMT Dagmar 84.16 38 ⇑P **P 17 11 08.0 +0.3**
baz=84
DGMT Dagmar 84.16 38 *e*P **P 17 11 06.8 -0.9**
comp=Z,29nm,1.0s
DGMT LR LR
comp=Z,1µm,19.0s
MONP Monument Peak, 84.18 56 ⇓P **P 17 11 08.6 +0.3**
baz=84
G21A Lodge Grass 84.21 42 ⇓P **P 17 11 08.3 +0.1**
baz=84,SNR=9.8
SUW Suwalki 84.22 329 *i*P **P 17 11 07.8 0.0**
SUW *e*PP **PP 17 14 22.5 +0.7**
SUW *e*S **S 17 21 31.5 +0.7**
SUW Suwalki 84.22 329 ⇑*i*P **P 17 11 07.8 0.0**
SUW *e* 17 14 22.5
SUW *e*S **S 17 21 31.6 +0.7**
E22A Miles City 84.29 40 ⇑P **P 17 11 08.7 +0.3**
baz=84,SNR=8.8
D23A Lindsay 84.31 39 ⇑P **P 17 11 09.1 +0.6**
baz=84,SNR=14
F22A Rosebud 84.47 41 ⇑P **P 17 11 09.5 +0.1**
baz=84,SNR=9.8
A25A Svangstu Ranch 84.48 37 ⇓P **P 17 11 09.6 +0.3**
baz=84
MSU Marysvale 84.49 50 *e*P **P 17 11 10.1 +0.2**
comp=Z,33nm,1.4s
IRM Iron Mountain 84.51 55 ⇓P **P 17 11 10.0 +0.2**
baz=84
BC3 Big Chuckawall 84.53 55 ⇑P **P 17 11 10.3 +0.3**
baz=84
C24A Savage 84.56 39 ⇑P **P 17 11 10.0 +0.3**
baz=84
SWSC Sam W. Stewart 84.62 56 ⇑P **P 17 11 10.7 +0.5**
baz=85
H21A Big Horn, Sher 84.63 42 ⇑P **P 17 11 10.8 +0.5**
baz=84
E23A Ismay 84.63 40 ⇓P **P 17 11 10.9 +0.8**
baz=84
J20A Shoshoni 84.67 44 ⇑P **P 17 11 10.8 +0.3**
baz=85
G22A Birney 84.76 42 ⇓P **P 17 11 10.8 0.0**
baz=85,SNR=10
B25A Knox Farm, Ray 84.84 38 ⇓P **P 17 11 11.3 +0.2**
baz=85
I21A Big Trails, Te 84.92 43 ⇓P **P 17 11 12.0 +0.2**
baz=85,SNR=13
F23A Volborg 85.00 41 ⇑P **P 17 11 12.4 +0.3**
baz=85,SNR=17
H22A Clearmont 85.06 42 ⇑P **P 17 11 12.5 +0.1**
baz=85
J21A Lysite 85.07 44 ⇑P **P 17 11 12.8 +0.2**
baz=85
A26A Wade Farm, Ken 85.08 37 ⇑P **P 17 11 12.7 +0.3**
baz=85
C25A Freed Ranch, W 85.11 38 ⇑P **P 17 11 12.7 +0.2**
baz=85
SORM Soroca 85.15 322 ⇑P sP 17 11 26.6 +0.6
SORM Soroca 85.15 322 ⇑*i*P sP 17 11 26.6 +0.6
Y12C Blythe 85.17 55 ⇓P **P 17 11 12.8 -0.2**
baz=85
E24A Baker 85.17 40 ⇑P **P 17 11 13.0 +0.1**
baz=85
PDMCI Parker Dam,Lak 85.18 54 ⇓P **P 17 11 13.1 +0.1**
baz=85
GLA Glamis 85.28 55 ⇑P **P 17 11 13.5 -0.1**
baz=85
B26A Jensen Ranch, 85.28 37 ⇓P **P 17 11 13.7 +0.3**
baz=85
G23A Biddle 85.30 41 ⇑P **P 17 11 13.2 -0.4**
baz=85
SRU San Rafael Swe 85.31 48 *e*P **P 17 11 14.1 +0.2**
I22A 9 Mile Ranch, 85.36 43 ⇑P **P 17 11 14.4 +0.4**
baz=85,SNR=8.8
D25A Fairfield 85.39 39 ⇓P **P 17 11 14.2 +0.3**
baz=85
A27A Ledoux Ranch, 85.48 36 ⇓P **P 17 11 14.6 +0.3**
baz=85
F24A Ekalaka 85.49 40 ⇑P **P 17 11 13.7 -0.8**
baz=85
KIS Kishinev 85.55 321 *e*P **P 17 11 14.0 -0.6**
comp=Z,700nm,8.0s
KIS Kishinev 85.55 321 *e*PP PP 17 14 31.0 -1.8
KIS *e*S **S 17 21 40.0 -4.3**
comp=Z,600nm,12.0s
KIS Kishinev 85.55 321 *e*PS 17 22 38.0
KIS LRM MLR 17 53 26.0
comp=Z,3µm,16.0s
KIS Kishinev 85.55 321 *e*P **P 17 11 14.0 -0.6**
KIS *e* 17 11 24.0
KIS *e* 17 14 31.0
KIS *e*S **S 17 21 40.0 -4.3**
KIS *e*PS **PnS 17 22 38.0 -4.8**
KIS pmax pmax
comp=Z,700nm,8.0s
KIS pmax pmax
comp=Z,700nm,14.0s
KIS smax smax
comp=N,600nm,12.0s
KIS smax smax
comp=E,2µm,12.0s
KIS MLR MLR
comp=Z,4µm,16.0s
KIS MLR MLR
comp=Z,5µm,16.0s
KIS MLR MLR
comp=N,3µm,16.0s
KIS MLR MLR
comp=E,3µm,16.0s
J22A Midwest 85.63 43 ⇓P **P 17 11 15.5 +0.2**
baz=86,SNR=36
H23A Clabaugh Cattl 85.65 42 ⇓P **P 17 11 15.0 -0.3**
baz=86
C26A Wahner Farm, P 85.68 38 ⇑P **P 17 11 15.9 +0.5**
baz=86
KONO Kongsberg 85.70 338 *e*P **P 17 11 15.6 +0.4**
comp=E,41nm,1.4s
KONO LR LR
comp=Z,2µm,19.0s
E25A Miller Ranch, 85.72 39 ⇓P **P 17 11 15.8 +0.2**
baz=86
RAYN Ar Rayn 85.79 294 P **P 17 11 16.0 -0.4**
comp=Z,458nm,1.0s,SNR=44
RAYN Ar Rayn 85.79 294 *e*P **P 17 11 16.8 +0.4**
comp=Z,56nm,1.0s
B27A Peters Farms, 85.79 37 ⇑P **P 17 11 16.2 +0.3**
baz=86
G24A Alzada 85.80 41 ⇓P **P 17 11 15.9 -0.2**
baz=86
D26A Manning 85.95 39 ⇓P **P 17 11 17.3 +0.5**
baz=86
SFJD Kangerlussuaq 85.99 5 *i*P **P 17 11 16.9 +0.5**
comp=Z,38nm,1.2s
SFJD Kangerlussuaq 85.99 5 *i*P **P 17 11 16.9 +0.5**
SFJD pmax pmax
comp=Z,38nm,1.2s
SFJD Kangerlussuaq 85.99 5 *e*P **P 17 11 17.0 +0.5**
comp=Z,122nm,1.7s
SFJD LR LR
comp=Z,948nm,21.0s
K22A Casper 86.02 44 ⇑P **P 17 11 17.3 0.0**
baz=86
K22A Casper 86.02 44 *e*P **P 17 11 16.0 -1.3**
comp=Z,40nm,1.4s
A28A Rude Farm, Bot 86.02 36 ⇓P **P 17 11 17.8 +0.8**
baz=86
H24A Dirks Ranch, A 86.05 41 ⇑P **P 17 11 17.0 -0.3**
baz=86,SNR=13
C27A Sayler Ranch, 86.07 38 ⇑P **P 17 11 17.8 +0.5**
baz=86
J23A Dilts Ranch, B 86.20 43 ⇑P **P 17 11 18.3 +0.1**
baz=86
B28A Dugan Ranch, T 86.25 37 ⇑P **P 17 11 18.3 +0.2**
baz=86
E26A Carlson Angus 86.27 39 ⇑P **P 17 11 18.5 +0.2**
baz=86
O20A White River Ci 86.28 47 ⇓P **P 17 11 18.7 0.0**
baz=86
O20A White River Ci 86.28 47 *e*P **P 17 11 19.0 +0.4**
comp=Z,21nm,1.0s
D27A Center 86.41 38 ⇓P **P 17 11 19.6 +0.6**
baz=86
LVV L'vov 86.42 325 *d i*P **P 17 11 18.2 -0.7**
LVV *e* 17 14 40.6
LVV *e*S **SKSac 17 21 43.2 0.0**
LVV *e*PS **PnS 17 22 53.6 +0.3**
LVV MLR MLR
comp=N,3µm,17.0s
LVV MLR MLR
comp=E,5µm,17.0s
LVV MLR MLR
comp=Z,6µm,17.0s
G25A Newell 86.46 40 ⇑P **P 17 11 19.3 0.0**
baz=86
I24A Kuemmerle Ranc 86.50 42 ⇑P **P 17 11 19.4 -0.2**
baz=86
F26A Lodgepole 86.51 40 ⇑P **P 17 11 19.7 +0.2**
baz=86
K23A Bowen Ranch, D 86.51 43 ⇑P **P 17 11 19.8 +0.1**
baz=86
WUAZ Wupatki 86.55 52 ⇓P **P 17 11 20.8 +0.7**
baz=86
WUAZ Wupatki 86.55 52 *e*P **P 17 11 20.7 +0.7**
comp=Z,20nm,1.1s
WUAZ LR LR
comp=Z,1µm,21.0s
A29A Manning Farm, 86.55 36 ⇓P **P 17 11 20.4 +0.8**
baz=86
TLCR 86.59 320 ⇓P **P 17 11 20.2 +0.4**
TLCR 86.59 320 ⇓*i*P **P 17 11 20.1 +0.3**
BR131 Keskin Array S 86.64 313 *e*P **P 17 11 20.0 -0.3**
comp=Z,0.1nm,0.6s
BRTR Keskin Array B 86.64 313 P **P 17 11 20.1 -0.3**
comp=Z,16nm,1.1s,baz=97,slow=3.2,SNR=27
BRTR Keskin Array B 86.64 313 P **P 17 11 20.1 -0.3**
BRTR pmax pmax
comp=Z,16nm,1.2s
C28A Hausauer Farms 86.67 37 ⇑P **P 17 11 20.3 0.0**
baz=86
H25A Fruitdale 86.68 41 ⇑P **P 17 11 20.7 +0.3**
baz=87
RSSD Black Hills 86.70 42 *e*P **P 17 11 21.2 +0.5**
comp=Z,25nm,1.3s
BEL Belsk 86.73 328 *e*P **P 17 11 20.9 +0.6**
BEL Belsk 86.73 328 ⇑*e*P **P 17 11 20.9 +0.6**
PV04 Paradox Valley 86.76 48 *e*P **P 17 11 18.7 -2.4**
B29A Wagenman Farm, 86.77 36 ⇓P **P 17 11 20.9 +0.2**
baz=87
J24A Dixon Ranch, L 86.78 42 ⇑P **P 17 11 20.7 -0.2**
baz=87
E27A Carson 86.79 39 ⇓P **P 17 11 21.2 +0.4**
baz=87
F27A Lemmon 86.86 39 ⇓P **P 17 11 21.5 +0.2**
baz=87
G26A Maurine 86.87 40 ⇓P **P 17 11 21.5 +0.2**

baz=87
D28A Regan 86.89 38 ⇓P P 17 11 21.7 +0.4
baz=87
I25A Rochford 86.94 42 ⇓P P 17 11 21.8 -0.1
baz=87
MDND Maddock 87.01 37 ⇓P P 17 11 22.0 +0.2
baz=87
K24A Anderson Ranch 87.03 43 ⇓P P 17 11 21.9 -0.3
baz=87
A30A Hoffart Farm, 87.03 35 ⇓P P 17 11 22.0 0.0
baz=87
BSD Bornholm Skovb 87.07 333 *i* P P 17 11 20.6 -1.4
BSD Bornholm Skovb 87.07 333 *e*P P 17 11 20.6 -1.4
ANTO Ankara 87.11 314 PFAKE 17 11 30.0 +7.4
ANTO LR LR
comp=Z,920nm,19.0s
BUR08 Bucovina Ar. S 87.15 323 *e*P P 17 11 22.8 +0.2
BURAR Bucovina Array 87.16 323 ⇑P P 17 11 22.9 +0.2
BURAR Bucovina Array 87.16 323 ⇑*i*P P 17 11 22.9 +0.2
H26A Fairpoint 87.16 41 ⇑P P 17 11 22.6 -0.2
baz=87
E28A Huff 87.19 38 ⇑P P 17 11 22.9 +0.1
baz=87
G27A Dupree 87.20 40 ⇑P P 17 11 23.3 +0.3
baz=87
KWP Kalwaria Pacla 87.21 326 *e*P P 17 11 23.0 +0.2
KWP *e*PP PP 17 14 47.6 +1.4
KWP *e*S S 17 22 01.7 +1.3
KWP Kalwaria Pacla 87.21 326⇑*e*P P 17 11 23.0 +0.2
KWP *e* 17 14 47.6
KWP *e*S S 17 22 01.8 +1.3
TIRR Tirgusor 87.24 319 ⇓P P 17 11 22.9 -0.1
TIRR Tirgusor 87.24 319 ⇓*i*P P 17 11 22.9 -0.1
TIRR Tirgusor 87.24 319 *e*P P 17 11 22.6 -0.3
comp=Z,23nm,1.1s
214A Organ Pipe Nat 87.30 56 ⇑P P 17 11 23.3 -0.3
baz=87
214A Organ Pipe Nat 87.30 56 *e*P P 17 11 23.4 -0.3
comp=Z,24nm,1.1s
B30A Myrvik Farm, E 87.32 36 ⇑P P 17 11 23.7 +0.4
baz=87
N23A Red Feather La 87.34 45 ⇓P P 17 11 24.0 0.0
baz=87,SNR=13
O22A Kremmling 87.36 46 ⇑P P 17 11 24.8 +0.7
baz=87
VRI Vrincioaia 87.38 321 ⇓P P 17 11 24.5 +0.8
VRI Vrincioaia 87.38 321 ⇓*i*P P 17 11 24.5 +0.8
TLB Topalu 87.38 319 ⇑P P 17 11 23.8 +0.1
TLB Topalu 87.38 319 ⇑*i*P P 17 11 23.8 +0.1
HARR Harsova 87.39 320 ⇑P P 17 11 24.4 +0.7
HARR Harsova 87.39 320 ⇑*i*P P 17 11 24.4 +0.7
PLOR Plostina 87.43 321 ⇑P P 17 11 24.4 +0.4
PLOR Plostina 87.43 321 ⇑*i*P P 17 11 24.4 +0.4
I26A New Underwood 87.45 41 ⇓P P 17 11 24.6 +0.4
baz=87
D29A Pettibone, Tap 87.50 37 ⇑P P 17 11 24.4 +0.1
baz=87
P22A Eagle 87.53 46 ⇓P P 17 11 25.4 +0.6
baz=87
H27A Howes 87.56 40 ⇑P P 17 11 25.5 +0.8
baz=87
F28A McLaughlin 87.56 39 ⇓P P 17 11 24.9 +0.2
baz=87
SMCO Snowmass 87.62 47 *e*P P 17 11 25.4 0.0
comp=Z,19nm,1.1s
MVCO Mesa Verde 87.66 49 ⇓P P 17 11 25.7 +0.2
baz=88
MVCO Mesa Verde 87.66 49 *e*P P 17 11 25.3 -0.2
comp=Z,19nm,1.4s
MVCO LR LR
comp=Z,1μm,20.0s
K25A Mack Ranch, Ha 87.66 43 ⇑P P 17 11 26.0 +0.7
baz=88
C30A Mose, Pekin 87.70 36 ⇓P P 17 11 25.7 +0.5
baz=88
O23A Lake Granby, G 87.73 46 ⇑P P 17 11 25.8 -0.1
baz=88
J26A Sides Ranch, S 87.74 42 ⇓P P 17 11 26.0 +0.4
baz=88
E29A Napoleon 87.77 38 ⇓P P 17 11 25.8 +0.2
baz=88
MSAB Monastry St. A 87.80 319 ⇑*i*P P 17 11 26.0 +0.3
PSN Preselentsi 87.83 319 ⇑P P 17 11 26.4 +0.6
PSN Preselentsi 87.83 319 ⇑*i*P P 17 11 26.4 +0.6
L25A Engebretsen Ra 87.86 43 ⇓P P 17 11 26.8 +0.6
baz=88
KOLS Kolonicke sedl 87.87 325 *e*P P 17 11 26.1 +0.1
KOLS pmax pmax
comp=Z,16nm,1.2s
KOLS Kolonicke sedl 87.87 325 *e*P P 17 11 26.1 +0.1
I27A Quinn 87.90 41 ⇑P P 17 11 27.0 +0.7
baz=88
W18A Petrified Fore 87.90 51 ⇓P P 17 11 26.7 0.0
baz=88
D30A Buchanan 87.92 37 ⇑P P 17 11 27.0 +0.7
baz=88
ISR Istrita 87.93 321 ⇓P P 17 11 27.3 +0.9
ISR Istrita 87.93 321 ⇓*i*P P 17 11 27.3 +0.9
BORG Borgarnes 87.96 353 PFAKE 17 11 40.0 +14
BORG LR LR
comp=Z,730nm,19.0s
G28A Parade 87.96 39 ⇓P P 17 11 26.9 +0.3
baz=88
K26A Motz Farm, Whi 88.03 42 ⇓P P 17 11 27.2 +0.2
baz=88
BMR Baia Mare 88.04 324 ⇑P P 17 11 28.0 +1.2
BMR Baia Mare 88.04 324 ⇑*i*P P 17 11 28.0 +1.2
MLR Muntele Rosu 88.04 321 P P 17 11 26.2 -0.8
comp=Z,2.6nm,1.1s,baz=25,slow=2.6,SNR=9.5
MLR PP PP 17 14 54.7 +1.6
comp=Z,2.5nm,1.1s,baz=20,slow=3.2,SNR=3.0
MLR Muntele Rosu 88.04 321 P P 17 11 26.2 -0.8
MLR 17 14 54.7
MLR pmax pmax
comp=Z,3.0nm,1.1s
MLR pmax pmax
comp=Z,3.0nm,1.1s
MLR Muntele Rosu 88.04 321 ⇑*i*P P 17 11 27.5 +0.5
UZH Uzhgorod 88.06 325 ⇓*i*P P 17 11 25.7 -1.1
UZH *e* 17 14 52.9
UZH *e* 17 16 50.1
UZH *e* 17 21 47.5
UZH *e*S S 17 22 02.5 -6.0
UZH MLR MLR
comp=N,2μm,15.5s
UZH MLR MLR
comp=E,4μm,15.5s
UZH MLR MLR
comp=Z,2μm,15.5s
DOPR Dopca 88.07 322 ⇓*i*P P 17 11 27.9 +0.9
STHS Stebnicka Huta 88.08 326 *e*P P 17 11 28.1 +1.1
STHS pmax pmax
comp=Z,16nm,1.1s
STHS Stebnicka Huta 88.08 326 *e*P P 17 11 28.1 +1.1
F29A Eureka 88.12 38 ⇑P P 17 11 28.0 +0.7
baz=88
H28A Mission Ridge 88.14 40 ⇓P P 17 11 27.4 0.0
baz=88
ISCO Idaho Springs 88.16 46 ⇑P P 17 11 28.1 +0.2
baz=88
ISCO Idaho Springs 88.16 46 *e*P P 17 11 28.2 +0.2
ISCO LR LR
comp=Z,2μm,21.0s
E30A Jud 88.21 37 ⇑P P 17 11 28.0 +0.3
baz=88
P23A Jefferson 88.25 46 ⇓P P 17 11 27.9 -0.5
baz=88
TRPA Tarpa 88.25 325 ⇑*i*P P 17 11 28.1 +0.4
TRPA Tarpa 88.25 325 ⇑*e*P P 17 11 28.5 +0.8
SECR 88.25 321 ⇑*i*P P 17 11 28.2 +0.3
OJC Ojcow 88.26 327 *e*P P 17 11 27.8 0.0
OJC *e*PP PP 17 14 55.7 +1.1
OJC *e*S S 17 22 01.1 -9.4
OJC Ojcow 88.26 327⇑*e*P P 17 11 27.9 +0.1
OJC *e* 17 14 55.8
OJC *e*S S 17 22 01.1 -9.4
OJC Ojcow 88.26 327 *e*P P 17 11 27.9 +0.1
comp=Z,40nm,1.1s
ASF Jabal al Asfar 88.31 305 P P 17 11 27.3 -1.2
comp=Z,13nm,1.1s,baz=17,slow=2.1,SNR=7.8
ASF Jabal al Asfar 88.31 305 P P 17 11 27.3 -1.2
ASF pmax pmax
comp=Z,13nm,1.1s
J27A Elkhorn Farm, 88.41 41 ⇑P P 17 11 29.3 +0.5
baz=88
G29A Hoven 88.45 39 ⇑P P 17 11 29.2 +0.3
baz=88
I28A Midland 88.46 40 ⇑P P 17 11 29.2 +0.3
baz=88
L26A Underwood Farm 88.47 43 ⇓P P 17 11 29.6 +0.5
baz=88
S22A 4UR Ranch, Cre 88.49 48 ⇑P P 17 11 30.0 +0.5
baz=88
NIE Niedzica 88.54 327 *e*P P 17 11 29.7 +0.6
NIE *e*PP PP 17 15 01.8 +4.9
NIE *e*S S 17 22 14.8 +1.6
NIE Niedzica 88.54 327⇑*e*P P 17 11 29.8 +0.6
NIE *e* 17 15 01.9
NIE *e*S S 17 22 14.9 +1.7
F30A Leola 88.56 38 ⇑P P 17 11 29.4 +0.1
baz=88
VOIR 88.58 321 ⇓P P 17 11 29.8 +0.3
VOIR 88.58 321 ⇓*i*P P 17 11 29.8 +0.3
CJR Cluj-Napoca 88.58 323 ⇑P P 17 11 30.7 +1.2
CJR Cluj-Napoca 88.58 323 ⇑*i*P P 17 11 30.7 +1.2
TUC Tucson 88.60 54 PFAKE 17 11 40.0 +10
TUC LR LR
comp=Z,1μm,20.0s
H29A Onida 88.63 40 ⇓P P 17 11 29.4 -0.3
baz=88
AGMN Agassiz Nation 88.69 35 ⇑P P 17 11 29.8 0.0
baz=88
AGMN Agassiz Nation 88.69 35 *e*P P 17 11 29.8 0.0
comp=Z,38nm,1.4s
AGMN LR LR
comp=Z,1μm,20.0s
J28A Allard Ranch, 88.76 41 ⇑P P 17 11 29.9 -0.5
baz=89
M26A McRoberts Ranc 88.76 43 ⇓P P 17 11 30.5 -0.1
baz=89
ARR Arges 88.85 322 ⇑*i*P P 17 11 31.7 +0.9
G30A Faulkton 88.93 39 ⇑P P 17 11 31.2 +0.1
baz=89
I29A Vivian Onida 88.94 40 ⇑P P 17 11 30.9 -0.3
baz=89
MMAI Mount Meron Ar 88.96 307 P P 17 11 30.2 -1.3
comp=Z,25nm,1.1s,baz=67,slow=6.4,SNR=9.6
DRGR 89.01 324 ⇓P P 17 11 32.0 +0.5
DRGR 89.01 324 ⇓*i*P P 17 11 32.0 +0.5
KECS Kecovo 89.07 326 *e*P P 17 11 32.0 +0.4
KECS pmax pmax
comp=Z,18nm,1.5s
KECS Kecovo 89.07 326 *e*P P 17 11 32.0 +0.4
LOT Lotru 89.28 322 ⇑*i*P P 17 11 32.8 0.0
ALT Altintas 89.29 314 P P 17 11 32.5 -0.5
ALT Altintas 89.29 314 P P 17 11 32.5 -0.5
J29A Okreek 89.30 41 ⇓P P 17 11 32.3 -0.6
baz=89
OKC Ostrava-Krasne 89.31 328 *e*P P 17 11 32.8 +0.1
OKC AMS AMS 17 55 30.0
comp=Z,3μm,14.4s
OKC Ostrava-Krasne 89.31 328 *e*P P 17 11 32.8 +0.1
OKC MLR MLR
comp=Z,3μm,14.4s
SDCO Great Sand Dun 89.37 47 PFAKE 17 11 50.0 +16
SDCO LR LR
comp=Z,897nm,20.0s
CSS Prodhromos 89.39 309 *e*P P 17 11 33.1 -0.4
comp=Z,9.9nm,1.4s
CSS LR LR
comp=Z,496nm,20.0s
BRSD Miller 89.45 39 ⇑P P 17 11 33.5 -0.1
baz=89
BRSD Miller 89.45 39 *e*P P 17 11 32.6 -1.0
comp=Z,36nm,0.8s
KSP Ksiaz 89.48 329 *e*P P 17 11 33.8 +0.3
KSP *e*PP PP 17 15 06.8 +2.5
KSP *e*S SKSac 17 21 56.2 -5.4
KSP Ksiaz 89.48 329⇑*e*P P 17 11 33.8 +0.3
KSP *e* 17 15 06.8
KSP *e*S SKSac 17 21 56.2 -5.4
JMB Yambol 89.49 318 P P 17 11 33.5 -0.2
JMB Yambol 89.49 318 ⇑P P 17 11 33.9 +0.2
JMB Yambol 89.49 318 ⇑*i*P P 17 11 33.9 +0.2
JMB Yambol 89.49 318 P P 17 11 33.5 -0.2
I30A Oacoma 89.51 40 ⇑P P 17 11 33.5 -0.3
baz=89
MSEY Mahe Island 89.70 265 PFAKE 17 11 50.0 +15
MSEY LR LR
comp=Z,507nm,19.0s
ISP Isparta 89.72 313 PFAKE 17 11 50.0 +15
ISP LR LR
comp=Z,1μm,22.0s
PSZ Piszkesteto 89.74 326 ⇓P P 17 11 34.5 -0.4
PSZ Piszkesteto 89.74 326 ⇓*i*P P 17 11 34.5 -0.4
PSZ Piszkesteto 89.74 326 *e*P P 17 11 34.4 -0.4
comp=Z,59nm,1.1s
PSZ LR LR
comp=Z,4μm,20.0s
PSZ Piszkesteto 89.74 326⇑*e*P P 17 11 35.1 +0.2
OGNE Ogallala 89.75 43 PFAKE 17 11 50.0 +15
OGNE LR LR
comp=Z,899nm,19.0s
EDRB Edirne 89.76 318 P P 17 11 35.1 +0.1
EDRB Edirne 89.76 318 P P 17 11 35.1 +0.1
BSEG Bad Segeberg 89.77 334 *e*P P 17 11 35.1 +0.4
comp=Z,29nm,1.0s
DPC Dobruska-Polom 89.81 329 *e*P P 17 11 35.4 +0.3
DPC *e*pP PcP 17 11 40.4 +4.0
DPC *e*SP SP 17 23 31.1 +1.4
DPC AMS AMS 17 55 50.0
comp=Z,5μm,15.0s
DPC Dobruska-Polom 89.81 329 *e*P P 17 11 35.4 +0.3
DPC *e* 17 11 40.4
DPC *e*SP SP 17 23 31.1 +1.4
DPC MLR MLR
comp=Z,5μm,15.0s
J30A Dallas 89.83 40 ⇓P P 17 11 35.4 0.0
baz=90
UPC Upice 89.84 329 *e*P P 17 11 35.5 +0.3
UPC *e*x x 17 11 49.9
UPC Upice 89.84 329 *e*P P 17 11 35.5 +0.3
UPC *e* 17 11 49.9
GZR Gura Zlata 89.86 322 ⇑P P 17 11 40.1 +4.6
GZR Gura Zlata 89.86 322 ⇑*i*P P 17 11 40.0 +4.6
ANMO Albuquerque 90.27 50 ⇑*i*P P 17 11 39.0 +1.2
ANMO pmax pmax
comp=Z,33nm,1.2s
ANMO Albuquerque 90.27 50 *e*P P 17 11 37.9 +0.1
ANMO LR LR
comp=Z,1μm,21.0s
BZS Buzias 90.34 323 ⇑P P 17 11 37.1 -0.5
BZS Buzias 90.34 323 ⇑*i*P P 17 11 37.1 -0.5
R26A Arlington 90.39 46 ⇓P P 17 11 37.9 -0.3
baz=90
VRAC Vranov 90.41 328 P P 17 11 38.0 +0.1
comp=Z,31nm,1.1s,baz=57,slow=4.4,SNR=28
VRAC PP PP 17 15 11.8 +0.1
comp=Z,2.3nm,0.4s,baz=67,slow=11,SNR=3.8
VRAC Vranov 90.41 328 ⇑P P 17 11 38.3 +0.4
VRAC Vranov 90.41 328 ⇑*i*P P 17 11 38.3 +0.4
T25A Trinidad 90.43 47 ⇑P P 17 11 38.2 -0.3
baz=90
PKSN Nyarlorinc 90.43 325 ⇓*e*P P 17 11 39.1 +1.1
BUD Budapest 90.47 326 ⇑*e*P P 17 11 38.7 +0.5
PVCC Panska Ves 90.48 330 *e*P P 17 11 38.4 +0.2
PVCC *ex* x 17 11 48.0
PVCC AMS AMS 17 57 40.0
comp=Z,3μm,15.4s
PVCC Panska Ves 90.48 330 *e*P P 17 11 38.4 +0.2
PVCC *e* 17 11 48.0
PVCC MLR MLR
comp=Z,3μm,15.4s
BRG Berggiesshubel 90.52 330 *e*P P 17 11 38.1 -0.2
comp=Z,18nm,1.1s
BRG PP PP 17 15 10.0 -2.5
BRG S S 17 22 31.0 -0.5
comp=N,2μm,14.1s
comp=E,2μm,15.5s
comp=Z,5μm,15.1s
BRG Berggiesshubel 90.52 330 *e*P P 17 11 38.5 +0.2
comp=Z,10.0nm,1.0s
BRG Berggiesshubel 90.52 330 *e*P P 17 11 38.1 -0.2
BRG 17 15 10.0
BRG S S 17 22 31.0 -0.5
BRG pmax pmax
comp=Z,18nm,1.1s
BRG MLR MLR
comp=N,2μm,14.1s
BRG MLR MLR
comp=E,2μm,15.5s
BRG MLR MLR
comp=Z,5μm,15.1s
SMOL Smolenice 90.56 327 *e*P P 17 11 39.4 +0.8
SMOL Smolenice 90.56 327 *e*P P 17 11 39.4 +0.8
CLL Collm 90.61 331 *e*P P 17 11 38.7 0.0
comp=Z,23nm,1.1s
CLL Collm 90.61 331⇑*i*P P 17 11 38.4 -0.4
comp=Z,34nm,1.2s
CLL *i* 17 11 53.0
CLL *e* 17 12 07.0
CLL *e* 17 15 06.0
CLL *i* PP PP 17 15 15.3 +2.1
CLL *i* 17 15 27.0
CLL LmH 17 48 00.0
comp=N,2μm,19.5s
CLL LmH 17 48 00.0
comp=E,2μm,18.9s
CLL Collm 90.61 331⇑*i*P P 17 11 38.4 -0.4
CLL pmax pmax
comp=Z,34nm,1.2s
CLL Collm 90.61 331 *e*P P 17 11 38.8 0.0
comp=Z,33nm,1.1s
121A Cookes Peak, D 90.65 53 ⇓P P 17 11 40.5 +1.0
baz=91
KDZ Kurdzhali 90.67 318 ⇓P P 17 11 40.1 +0.8
KDZ Kurdzhali 90.67 318 ⇓*i*P P 17 11 40.1 +0.8
PKS7 Kunszentmiklos 90.69 325 *e*P P 17 11 39.6 +0.4
ALN Alexandroupoli 90.75 317 P P 17 11 37.8 -1.8
ALN Alexandroupoli 90.75 317 P P 17 11 37.8 -1.8
PKS6 Bocsa 90.78 325 *e*P P 17 11 35.2 -4.4
GOPC GO Pecny, Ondr 90.82 329 *e*P P 17 11 39.9 +0.1
GOPC *e*PP PP 17 15 17.7 +2.7
GOPC AMS AMS 17 56 40.0
comp=Z,5μm,15.1s
PKSG 90.85 326⇓*e*P P 17 11 40.6 +0.7
PRA Prague 90.87 330 *e*P P 17 11 40.7 +0.7
PRA AMS AMS 17 57 00.0
comp=Z,3μm,14.7s
PRA Prague 90.87 330 *e*P P 17 11 40.7 +0.7
PRA MLR MLR
comp=Z,3μm,14.7s
PRU Pruhonice 90.88 330 *e*P P 17 11 39.8 -0.3
PRU *ex* x 17 11 47.2
PRU *ex* x 17 14 59.3
PRU AMS AMS 17 56 30.0
comp=Z,2μm,15.6s
PRU Pruhonice 90.88 330 *e*P P 17 11 39.8 -0.3
PRU *e**PP pP 17 11 47.2 -2.7
PRU MLR MLR
comp=Z,2μm,15.6s
RDO Rodhopi 90.91 318 *e*P P 17 11 39.5 -0.8
comp=Z,72nm,1.2s
L31A Butterfield Fa 90.92 41 ⇓P P 17 11 40.7 +0.2
baz=91
CSKK Cs˘t̨kako 90.93 326⇑*e*P P 17 11 40.4 +0.1
NRDL Niedersach Rie 90.94 333 *e*P P 17 11 40.3 +0.1
comp=Z,21nm,1.3s
TREC Trest 90.94 329 *e*P P 17 11 40.7 +0.3
TREC *e*PP PP 17 15 14.1 -1.8
TREC AMS AMS 17 57 40.0
comp=Z,2μm,15.4s
TREC Trest 90.94 329 *e*P P 17 11 40.7 +0.3
TREC *e* 17 15 14.1
TREC MLR MLR
comp=Z,2μm,15.4s
T26A Comanche Natio 90.94 47 ⇓P P 17 11 40.8 -0.1
baz=91
PKS2 Kecel 91.03 325⇓*e*P P 17 11 41.6 +0.8
EIL Elat 91.03 304 P P 17 11 40.6 -0.6
comp=Z,13nm,1.1s,baz=90,slow=7.4,SNR=3.5
EYMN Ely 91.10 33 PFAKE 17 11 50.0 +8.8
EYMN LR LR
comp=Z,1μm,20.0s
PKST T˘s 91.11 326⇓*e*P P 17 11 41.6 +0.4
ECSD EROS Data Cent 91.21 39 ⇓P P 17 11 42.0 +0.3
baz=91
ECSD EROS Data Cent 91.21 39 *e*P P 17 11 41.7 -0.1
comp=Z,50nm,1.6s
ECSD LR LR
comp=Z,914nm,19.0s
CLZ Clausthal 91.32 333 *e*P P 17 11 42.6 +0.5
comp=Z,25nm,1.1s
SMTH Samothraki Isl 91.32 317 P P 17 11 41.2 -1.1
SMTH Samothraki Isl 91.32 317 P P 17 11 41.2 -1.1
VTS Vitosha 91.38 320 P P 17 11 42.7 -0.1
VTS Vitosha 91.38 320 ⇓P P 17 11 43.2 +0.4
VTS Vitosha 91.38 320 ⇓*i*P P 17 11 43.2 +0.4
VTS Vitosha 91.38 320 P P 17 11 42.7 -0.1
PKS9 Tamasi 91.45 325⇓*e*P P 17 11 43.1 +0.4
TANN Tannenbergstha 91.50 331 *e*P P 17 11 43.1 +0.1
comp=Z,8.0nm,1.1s
TANN *e*sP sP 17 11 57.8 +1.4
PKSM Moragy 91.51 325 ⇑P P 17 11 42.7 -0.4
PKSM Moragy 91.51 325 ⇑*i*P P 17 11 42.7 -0.4
PKSM Moragy 91.51 325⇑*e*SKKPdf P 17 11 42.7 -0.4
SOP Sopron 91.55 327⇑*e*SKKPdf P 17 11 43.8 +0.6
T27A Campo 91.58 47 ⇓P P 17 11 44.4 +0.6
baz=92
KAVA Kavala 91.61 318 P P 17 11 43.1 -0.5
KAVA Kavala 91.61 318 P P 17 11 43.1 -0.5
Q29A Oakley 91.61 44 ⇑P P 17 11 44.4 +0.6
baz=92
NKC Novy Kostel 91.64 331 *e*P P 17 11 43.9 +0.3
NKC AMS AMS 17 58 50.0
comp=Z,2μm,14.4s
NKC Novy Kostel 91.64 331 *e*P P 17 11 43.9 +0.3
NKC MLR MLR
comp=Z,2μm,14.4s
P30A Selden 91.68 44 ⇓P P 17 11 44.4 +0.3
baz=92
MOX Moxa 91.69 331 *e*P P 17 11 44.1 +0.3
comp=Z,10.0nm,1.0s
MOX *e*L L 17 35 20.0
comp=Z,1μm,18.8s
MMB Musomiste 91.71 319 ⇑P P 17 11 44.0 -0.1
MMB Musomiste 91.71 319 ⇑*i*P P 17 11 44.0 -0.1
CONA Conrad Observa 91.72 327⇑*i*pP P 17 11 44.5 +0.4
comp=Z,48nm,1.2s,SNR=19
NVR Nevrokopi 91.78 319 P P 17 11 44.1 -0.4
NVR Nevrokopi 91.78 319 P P 17 11 44.1 -0.4
R29A Marienthal 91.79 45 ⇓P P 17 11 44.9 +0.3
baz=92
S28A Manter 91.80 46 ⇑P P 17 11 44.9 +0.2
baz=92
LIA Limnos Island 91.88 317 P P 17 11 43.9 -1.0
LIA Limnos Island 91.88 317 P P 17 11 43.9 -1.0
U27A Thompson Grove 91.88 47 ⇑P P 17 11 45.1 0.0
baz=92
KHC Kasperske Hory 91.93 329 *e*P P 17 11 44.6 -0.4
KHC *ex* x 17 11 52.1
KHC *ex* x 17 12 12.0
KHC *ex* x 17 14 55.4
KHC *e*PP PP 17 15 21.0 -2.8
KHC *e*PS PnS 17 23 58.5 +0.1
KHC AMS AMS 17 57 10.0
comp=Z,6μm,14.6s
KHC Kasperske Hory 91.93 329 *e*P P 17 11 44.6 -0.4
KHC *e**PP pP 17 11 52.1 -2.8
KHC *e* 17 15 21.0
KHC *e*PS PnS 17 23 58.5 +0.1
KHC MLR MLR
comp=Z,6μm,14.6s
KHC Kasperske Hory 91.93 329 *e*P P 17 11 44.5 -0.6
comp=Z,8.8nm,1.0s
T28A Walsh 91.94 46 ⇓P P 17 11 45.6 +0.3
baz=92
IBBN Ibbenburen 92.01 334 *e*P P 17 11 45.4 +0.2
comp=Z,14nm,0.9s
GEC2 GERESS Array S 92.08 329 *e*P P 17 11 45.8 0.0
comp=Z,11nm,0.9s
GERES GERESS Array B 92.08 329 P P 17 11 45.4 -0.4
comp=Z,8.5nm,0.9s,baz=38,slow=5.0,SNR=56
GERES PP PP 17 15 24.6 -0.5
comp=Z,3.6nm,1.0s,baz=51,slow=13,SNR=5.5
GERES GERESS Array B 92.08 329 P P 17 11 45.4 -0.4
GERES 17 15 24.6
GERES pmax pmax
comp=Z,9.0nm,0.9s
GERES pmax pmax
comp=Z,4.0nm,1.0s
SRS Serrai 92.08 319 P P 17 11 45.0 -0.8
SRS Serrai 92.08 319 P P 17 11 45.0 -0.8
ROTZ Rotzenmuhle 92.08 330 *e*P P 17 11 46.4 +0.7
comp=Z,23nm,1.1s

DIVS Divibare 92.21 323 ⇑*i*P P 17 11 46.2 -0.3
P31A Stockton 92.23 43 ⇑P P 17 11 47.4 +0.8
baz=92
WET Wettzell 92.24 330 *e*P P 17 11 46.8 +0.4
comp=Z,7.0nm,1.0s
UBBA Unterbreizbach 92.25 332 *e*P P 17 11 47.2 +1.0
comp=Z,19nm,1.5s
UBBA *es*P **sP** 17 12 01.1 +1.4
BEHE Becsehely 92.28 326⇑*e*SKKPdf P 17 11 46.9 +0.3
SPMN Marine on St. 92.29 36 ⇑P P 17 11 47.0 +0.3
baz=92
U28A Mallet 92.30 47 ⇓P P 17 11 47.1 0.0
baz=92
OUR Ouranopolis 92.34 318 P P 17 11 46.2 -0.8
OUR Ouranopolis 92.34 318 P P 17 11 46.2 -0.8
KNT Kendrikon 92.46 319 P P 17 11 46.9 -0.7
KNT Kendrikon 92.46 319 P P 17 11 46.9 -0.7
L34A Svendsen Farm, 92.48 40 ⇓P P 17 11 47.8 +0.1
baz=92
MOA Molln 92.53 328⇑*i*PcP P 17 11 48.1 +0.2
comp=Z,30nm,1.2s,SNR=14
VAY Valandovo 92.55 319 P P 17 11 47.5 -0.5
VAY Valandovo 92.55 319 *i*P P 17 11 48.5 +0.5
VAY Valandovo 92.55 319 P P 17 11 47.5 -0.5
GRF Grafenberg Arr 92.57 331 *e*P P 17 11 48.6 +0.7
comp=Z,30nm,1.1s
GRF *e*L L 17 35 13.1
comp=Z,2μm,20.4s
GRFO Grafenberg 92.57 331 *e*P P 17 11 48.2 +0.3
comp=Z,52nm,1.2s
PLG Polygyros 92.63 318 P P 17 11 47.6 -0.8
PLG Polygyros 92.63 318 P P 17 11 47.6 -0.8
V28A Channing 92.67 48 ⇑P P 17 11 49.1 +0.4
baz=93
PAIG Paliouri 92.77 318 P P 17 11 48.2 -0.8
PAIG Paliouri 92.77 318 P P 17 11 48.2 -0.8
SKO Skopje 92.79 320 *i*P P 17 11 49.8 +0.7
BUG Bochum--Univer 92.87 334 *e*P P 17 11 50.3 +1.1
comp=Z,31nm,1.2s
BUG *es*P **sP** 17 12 03.8 +1.1
R31A Burdett 92.89 44 ⇑P P 17 11 50.0 +0.3
baz=93
PERS Pernice 92.99 327 *i*P P 17 11 49.6 -0.4
SOKA Soboth 93.00 327 *i*PcP P 17 11 49.8 -0.2
comp=Z,35nm,1.2s,SNR=19
ESK Eskdalemuir 93.23 341 PFAKE 17 12 00.0 +9.2
ESK LR LR
comp=Z,1μm,20.0s
RJOB Jochberg 93.30 329 *e*P P 17 11 51.8 +0.4
comp=Z,18nm,0.9s
S31A Mullinville 93.32 45 ⇑P P 17 11 51.8 +0.2
baz=93
MSTX Muleshoe 93.33 49 ⇓P P 17 11 52.1 +0.2
baz=93
TNS Taunus Mts 93.34 333 *e*P P 17 11 51.7 +0.2
comp=Z,4.0nm,0.8s
OBKA Obir 93.36 327⇑*i*PcP P 17 11 51.1 -0.6
comp=Z,12nm,1.2s
LIT Litokhoron 93.37 318 P P 17 11 51.0 -0.8
LIT Litokhoron 93.37 318 P P 17 11 51.0 -0.8
XOR Xorichti 93.42 318 P P 17 11 49.1 -3.0
XOR Xorichti 93.42 318 P P 17 11 49.1 -3.0
Q33A Connelly Farm, 93.49 43 ⇑P P 17 11 52.2 -0.2
baz=93
KBA Koelnbreinsper 93.52 328⇑*i*PcP P 17 11 52.1 -0.5
comp=Z,20nm,1.1s
AMTX Amarillo 93.53 48 ⇓P P 17 11 52.5 -0.3
baz=93
AMTX Amarillo 93.53 48 *e*P P 17 11 54.2 +1.4
comp=Z,22nm,0.9s
RKT Rikitea 93.64 114 *e*LR LR 17 41 51.9
comp=Z,1μm,29.2s,baz=311
FUR Furstenfeldbru 93.68 330 *e*P P 17 11 54.1 +1.0
comp=Z,35nm,1.0s
LJU Ljubljana 93.70 327 *i*P P 17 11 52.4 -0.8
MYKA Terra Mystica 93.71 328 *i*PcP P 17 11 52.5 -0.8
comp=Z,12nm,1.1s,SNR=5.3
OHR Ohrid 93.71 320 *i*P P 17 11 51.6 -1.8
Y28A McKinney Farm, 93.72 49 ⇑P P 17 11 53.6 0.0
baz=94
P34A Walnut Farm, R 93.75 42 ⇑P P 17 11 53.4 -0.2
baz=94
X29A Tulia 93.78 48 ⇓P P 17 11 54.1 +0.2
baz=94
R33A Olander Ranch, 93.83 43 ⇓P P 17 11 54.3 +0.3
baz=94
SANT Santorini 93.85 314 PFAKE 17 12 00.0 +5.9
SANT LR LR
comp=Z,751nm,19.0s
ATAL Atalanti 93.94 317 P P 17 11 52.8 -1.6
ATAL Atalanti 93.94 317 P P 17 11 52.8 -1.6
CADS Cadrg 93.95 327 *i*P P 17 11 52.8 -1.6
Z28A Tucker Farm, M 93.99 50 ⇑P P 17 11 55.5 +0.6
baz=94
TIR Tirane 94.09 321 PFAKE 17 12 10.0 +15
TIR LR LR
comp=Z,2μm,19.0s
STU Stuttgart 94.14 331 *e*P P 17 11 55.0 -0.1
comp=Z,11nm,0.7s
Y29A Porterfield Fa 94.14 49 ⇑P P 17 11 55.8 +0.2
baz=94
AGG Agios Georgios 94.15 318 *e*P P 17 11 54.1 -1.3
comp=Z,44nm,1.5s
ABTA Abfaltersbach 94.16 328⇑*i*PcP P 17 11 54.0 -1.3
comp=Z,27nm,1.3s,SNR=13
KSU1 Kansas State U 94.17 42 ⇑P P 17 11 55.7 +0.2
baz=94
KSU1 Kansas State U 94.17 42 *e*P P 17 11 59.3 +3.8
comp=Z,22nm,0.9s
WTTA Wattenberg 94.19 329⇓*i*PcP P 17 11 55.3 -0.3
comp=Z,16nm,1.2s
V31A Spring Creek L 94.21 46 ⇑P P 17 11 56.1 +0.3
baz=94
P35A Duane Minner, 94.25 42 ⇑P P 17 11 56.3 +0.4
baz=94
S33A Kaszmaul Farm, 94.26 44 ⇑P P 17 11 56.6 +0.7
baz=94
R34A Isabella, Hill 94.29 43 ⇑P P 17 11 56.6 +0.6
baz=94
SCIA State Center 94.30 38 PFAKE 17 12 10.0 +14
SCIA LR LR
comp=Z,937nm,19.0s
128A Castleberry Fa 94.31 50 ⇓P P 17 11 56.1 -0.3
baz=94
RETA Reutte 94.42 330 *i*PcP P 17 11 56.4 -0.1
comp=Z,24nm,1.3s,SNR=11
DSF Desfina 94.42 317 P P 17 11 54.4 -2.3
DSF Desfina 94.42 317 P P 17 11 54.4 -2.3
Z29A Hungry Hill Ra 94.47 49 ⇑P P 17 11 57.8 +0.7
baz=94
W31A Holland Ranch, 94.50 47 ⇓P P 17 11 57.5 +0.4
baz=94
LANF Langenberg 94.57 332⇑*e*P P 17 11 57.0 -0.1
Q35A Mercer Eighty, 94.67 42 ⇑P P 17 11 58.3 +0.5
baz=94
P36A Good Intent, A 94.67 41 ⇓P P 17 11 57.7 -0.1
baz=94
WLF Walferdange 94.71 333 *e*P P 17 11 58.0 +0.3
comp=Z,3.0nm,0.9s
WLF Walferdange 94.71 333 *e*P P 17 11 59.0 +1.3
comp=Z,33nm,1.2s
WLF LR LR
comp=Z,2μm,19.0s
V32A Arapaho 94.76 46 ⇑P P 17 11 58.9 +0.6
baz=95
FETA Feichten 94.78 329⇑*i*PcP P 17 11 58.0 -0.4
comp=Z,22nm,1.3s,SNR=7.4
DSL Palaion Diasel 94.82 318 P P 17 11 57.6 -0.9
DSL Palaion Diasel 94.82 318 P P 17 11 57.6 -0.9
BFO Black Forest 94.85 331 P P 17 11 58.5 0.0
comp=Z,114nm,1.4s,SNR=7.3
BFO Black Forest 94.85 331 *e*P P 17 11 58.5 0.0
comp=Z,15nm,1.0s
BFO Black Forest 94.85 331 *i*P P 17 11 58.4 0.0
BFO Black Forest 94.85 331 *e*P P 17 11 57.6 -0.8
BFO LR LR
comp=Z,2μm,20.0s
DAVA Damuels 94.96 330⇑*i*PcP P 17 11 58.7 -0.4
comp=Z,29nm,1.1s,SNR=8.8
W32A Sentinel 94.99 47 ⇑P P 17 12 00.1 +0.8
baz=95
Y31A Rekieta Farm, 95.02 48 ⇑P P 17 11 59.6 0.0
baz=95
T34A McClaskey Farm 95.12 44 ⇓P P 17 12 00.6 +0.7
baz=95
JFWS Jewell Farm 95.22 36 PFAKE 17 12 10.0 +10
JFWS LR LR
comp=Z,1μm,20.0s
CDF Champ du Feu 95.23 332 *e*P P 17 11 56.8 -3.5
comp=Z,95nm,1.5s
CDF Champ du Feu 95.23 332 *e*P P 17 11 56.8 -3.5
comp=Z,95nm,1.5s
S35A Otter Creek Ra 95.25 43 ⇑P P 17 12 01.2 +0.8
baz=95
FUORN Ofenpass-Fuorn 95.29 329 *e*P P 17 12 01.1 +0.3
comp=Z,44nm,1.2s
329A Wagon Wheel Ra 95.31 51 ⇓P P 17 12 01.4 +0.5
baz=95
DAVOX Davos/Dischmat 95.35 330 P P 17 12 00.8 -0.1
comp=Z,5.6nm,0.8s,baz=43,slow=17,SNR=7.8
DAVOX PP PP 17 15 53.0 +2.4
comp=Z,5.9nm,0.9s,baz=16,slow=5.2,SNR=5.9
DAVOX Davos/Dischmat 95.35 330 P P 17 12 00.8 -0.1
DAVOX 17 15 53.0
DAVOX pmax pmax
comp=Z,6.0nm,0.8s
DAVOX pmax pmax
comp=Z,6.0nm,0.9s
TXAR Lajitas Array 95.36 54 P P 17 12 01.3 +0.1
comp=Z,3.2nm,1.0s,baz=306,slow=2.5,SNR=15
TXAR LR LR 17 51 09.1
comp=Z,304nm,20.2s,baz=0.0,slow=33
TXAR Lajitas Array 95.36 54 P P 17 12 01.3 +0.1
TXAR pmax pmax
comp=Z,3.0nm,1.0s
TXAR MLR MLR
comp=Z,304nm,20.2s
ECH Echery 95.43 332 *e*P P 17 12 00.3 -0.8
ECH Echery 95.43 332 *e*P P 17 11 59.8 -1.3
comp=Z,12nm,1.2s
ECH LR LR
comp=Z,1μm,19.0s
WMOK Wichita Mounta 95.53 47 PFAKE 17 12 10.0 +8.2
WMOK LR LR
comp=Z,2μm,20.0s
S36A Lake Cedric, C 95.66 43 ⇓P P 17 12 02.7 +0.4
baz=96
MOF Molkenrain 95.73 332⇑*e*P P 17 12 01.9 -0.6
PAGF Fort de Pagny 95.76 333 *e*P P 17 12 00.9 -1.6
comp=Z,28nm,1.4s
PAGF Fort de Pagny 95.76 333 *e*P P 17 12 00.9 -1.6
comp=Z,28nm,1.4s
TUE Stuetta 95.82 330 *e*P P 17 12 03.2 +0.1
comp=Z,429nm,0.5s
TUE LR LR
comp=Z,2μm,19.0s
HINF Hinteralfeld 95.87 332 *e*P P 17 12 02.2 -0.9
comp=Z,26nm,1.2s
HINF Hinteralfeld 95.87 332 *e*P P 17 12 02.2 -0.9
comp=Z,26nm,1.2s
429A Davenport Ranc 95.88 52 ⇓P P 17 12 03.5 -0.1
baz=96
T36A Boggs Farm, Ca 95.91 43 ⇓P P 17 12 03.7 +0.3
baz=96
THEF They Montfort 95.91 333 *e*P P 17 12 02.4 -0.9
HAU Haudompre 95.94 332 *e*P P 17 12 01.6 -1.8
HAU Haudompre 95.94 332 *e*P P 17 12 01.6 -1.8
CASY Casey 95.95 193 *e*P P 17 12 02.6 -0.1
comp=Z,35nm,1.7s
CASY LR LR
comp=Z,929nm,19.0s
SFTF Sexfontaines 96.31 333 *e*P P 17 12 03.9 -1.2
comp=Z,79nm,1.2s
SFTF Sexfontaines 96.31 333 *e*P P 17 12 03.9 -1.2
comp=Z,79nm,1.2s
530A J-C Ranch, Com 96.54 52 ⇓P P 17 12 06.6 +0.1
baz=96
GLMI Grayling 96.65 32 PFAKE 17 12 20.0 +13
GLMI LR LR
comp=Z,1μm,19.0s
SENIN Lac Senin/Sane 96.81 331 *e*P P 17 12 07.4 -0.2
AQU L'Aquila 96.90 325 *e*P P 17 12 11.9 +4.0
comp=Z,23nm,1.0s
VLC Villacollemand 97.08 328 PFAKE 17 12 20.0 +11
VLC LR LR
comp=Z,3μm,19.0s
531A Rocksprings 97.09 51 ⇑P P 17 12 09.1 0.0
baz=97
CABF La Chapelle 97.14 332 *e*P P 17 12 08.0 -1.0
CABF La Chapelle 97.14 332 *e*P P 17 12 08.0 -1.0
CUC Castrocucco 97.27 322 PFAKE 17 12 20.0 +10
CUC LR LR
comp=Z,2μm,19.0s
TIP Timpagrande 97.31 321 PFAKE 17 12 20.0 +10
TIP LR LR
comp=Z,2μm,20.0s
HDIL Hopedale 97.38 37 PFAKE 17 12 20.0 +10
HDIL LR LR
comp=Z,1μm,19.0s
JCT Junction City 97.42 51 *e*P P 17 12 05.5 -5.0
comp=Z,6.7nm,0.6s
LOR Lormes 97.54 333 *e*P P 17 12 09.3 -1.4
comp=Z,17nm,1.1s
LOR Lormes 97.54 333 *e*P P 17 12 09.3 -1.4
comp=Z,17nm,1.0s
532A Rocksprings 97.56 51 ⇓P P 17 12 10.8 -0.4
baz=98
LPG La Plagne 97.73 330 *e*P P 17 12 10.4 -1.5
comp=Z,36nm,1.4s
LPG La Plagne 97.73 330 *e*P P 17 12 10.4 -1.5
comp=Z,36nm,1.4s
SSF Saint Saulge 97.85 333 *e*P P 17 12 11.4 -0.7
comp=Z,23nm,1.2s
SSF Saint Saulge 97.85 333 *e*P P 17 12 11.4 -0.7
comp=Z,23nm,1.2s
SMF Signal de Mont 98.05 333 *e*P P 17 12 12.2 -0.8
SMF Signal de Mont 98.05 333 *e*P P 17 12 12.2 -0.8
BNI Bardonecchia 98.11 330 PFAKE 17 12 20.0 +6.5
BNI LR LR
comp=Z,2μm,19.0s
AVF Avril sur Loir 98.13 333 *e*P P 17 12 12.3 -1.0
comp=Z,23nm,1.1s
AVF Avril sur Loir 98.13 333 *e*P P 17 12 12.3 -1.0
comp=Z,23nm,1.1s
CEL Celeste 98.43 320 *e*P Pdif 17 12 15.0 +0.1
comp=Z,66nm,1.1s
CEL LR LR
comp=Z,919nm,21.0s
ORIF Oris-en-Rattie 98.56 331 *e*P P 17 12 13.4 -2.0
ORIF Oris-en-Rattie 98.56 331 *e*P P 17 12 13.4 -2.0
SSB Saint Sauveur 98.86 332 PFAKE 17 12 30.0 +13
SSB LR LR
comp=Z,1μm,20.0s
MIAR Mount Ida 98.97 44 PFAKE 17 12 30.0 +13
MIAR LR LR
comp=Z,2μm,20.0s
TCF Toulx Ste Croi 99.00 334 *e*P Pdif 17 12 16.4 -0.9
comp=Z,56nm,1.6s
TCF Toulx Ste Croi 99.00 334 *e*P Pdif 17 12 16.4 -0.9
comp=Z,56nm,1.6s
AAM Ann Arbor 99.01 33 PFAKE 17 12 30.0 +13
AAM LR LR
comp=Z,1μm,20.0s
NATX Nacogdoches 100.08 47 PFAKE 17 12 30.0 +7.7
NATX LR LR
comp=Z,2μm,22.0s
CLTB Caltabellotta 100.41 322 PFAKE 17 12 30.0 +6.2
CLTB LR LR
comp=Z,808nm,19.0s
KVTX Kingsville 100.52 52 PFAKE 17 12 40.0 +16
KVTX LR LR
comp=Z,1μm,19.0s
WDD Wield Dalam 100.88 320 PFAKE 17 12 40.0 +14
WDD LR LR
comp=Z,1μm,19.0s
ACSO Alum Creek Sta 100.91 34 PFAKE 17 12 40.0 +14
ACSO LR LR
comp=Z,1μm,21.0s
VSL Villasalto 101.06 325 PFAKE 17 12 40.0 +13
VSL LR LR
comp=Z,1μm,19.0s
LONY Lake Ozonia 101.18 26 PFAKE 17 12 40.0 +13
LONY LR LR
comp=Z,963nm,22.0s
NCB Newcomb 101.86 26 PFAKE 17 12 40.0 +10
NCB LR LR
comp=Z,2μm,19.0s
BINY Binghamton 102.60 28 PFAKE 17 12 40.0 +6.7
BINY LR LR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 103.14 255 PFAKE 17 12 50.0 +14
ABPO LR LR
comp=Z,571nm,21.0s
KMBO Kilima Mbogo 104.39 276 PFAKE 17 12 50.0 +7.9
KMBO LR LR
comp=Z,866nm,21.0s
BLA Blacksburg 104.50 34 PFAKE 17 12 50.0 +8.0
BLA LR LR
comp=Z,1μm,19.0s
CBN Corbin Frederi 105.21 32 PFAKE 17 17 10.0
CBN LR LR
comp=Z,862nm,19.0s
BRAL Brewton 105.38 43 PFAKE 17 17 10.0
BRAL LR LR
comp=Z,961nm,19.0s
PAB San Pablo 107.27 334 PFAKE 17 17 10.0
PAB LR LR
comp=Z,1μm,21.0s
NHSC New Hope 107.79 37 PFAKE 17 17 20.0
NHSC LR LR
comp=Z,1μm,20.0s
MBAR Mbarara 109.91 280 PFAKE 17 17 20.0
MBAR LR LR
comp=Z,1μm,22.0s
TEIG Tepich 111.93 52 PFAKE 17 17 20.0
TEIG LR LR
comp=Z,1μm,21.0s
BBSR BB Station 115.62 26 PFAKE 17 17 30.0 +11
BBSR LR LR
comp=Z,611nm,21.0s
TAM Tamanrasset 115.70 316 PFAKE 17 17 30.0 +10
TAM LR LR
comp=Z,721nm,19.0s
QSPA South Pole Qui 116.53 180 *e*PKPdf **PKPdf** **17 17 18.9 -0.7**
QSPA LR LR
comp=Z,903nm,19.0s
LSZ Lusaka 118.47 266 PFAKE 17 17 40.0 +15
LSZ LR LR
comp=Z,806nm,19.0s
MTDJ Mount Denham 120.56 46 PFAKE 17 17 40.0 +11
MTDJ LR LR
comp=Z,745nm,19.0s
GTBY Guantanamo Bay 120.79 42 PFAKE 17 17 40.0 +11
GTBY LR LR
comp=Z,806nm,19.0s
JTS JuntasAbangare 120.80 58 PFAKE 17 17 40.0 +11
JTS LR LR
comp=Z,518nm,20.0s
GRTK Grand Turk 121.83 38 PFAKE 17 17 40.0 +8.8
GRTK LR LR
comp=Z,961nm,19.0s
PAYG Puerto Ayora 122.83 72 PFAKE 17 17 40.0 +6.7
PAYG LR LR
comp=Z,676nm,19.0s
SDDR Presa de Saban 123.77 40 PFAKE 17 17 50.0 +15
SDDR LR LR
comp=Z,1μm,19.0s
LBTB Lobatse 124.00 257 *e*PKPdf **PKPdf** **17 17 35.4 +0.1**
TOA0 Torodi Ar. Sit 125.22 312 *e*PKPdf **PKPdf** **17 17 37.4 -0.5**
TORD Torodi Ar. Bea 125.22 312 PKP **PKPdf** **17 17 37.6 -0.2**
comp=Z,5.4nm,0.8s,baz=12,slow=2.4,SNR=29
BOSA Boshof 125.24 253 PKP **PKPdf** **17 17 37.9 +0.3**
comp=Z,3.0nm,1.0s,baz=68,slow=4.9,SNR=3.0
BOSA Boshof 125.24 253 PKIKP **PKPdf** **17 17 37.9 +0.3**
BOSA pmax pmax
comp=Z,3.0nm,1.0s
MSKU Masuku 125.29 288 PFAKE 17 17 50.0 +12
MSKU LR LR
comp=Z,1.0nm,19.0s
BCIP Isla Barro Col 125.35 55 PFAKE 17 17 50.0 +12
BCIP LR LR
comp=Z,582nm,20.0s
SJG San Juan 127.28 35 PFAKE 17 17 50.0 +8.3
SJG LR LR
comp=Z,557nm,19.0s
STVI Saint Thomas 127.68 34 *e*PKPdf **PKPdf** **17 17 42.3 -0.2**
NVL N'lazarevskaya 128.09 199 *e*PKIKP **PKPdf** **17 17 40.0 -1.6**
NVL pmax pmax
comp=Z,11nm,1.0s
TSUM Tsumeb 129.33 266 PFAKE 17 18 00.0 +14
TSUM LR LR
comp=Z,499nm,20.0s
SUR Sutherland 129.76 249 PFAKE 17 18 00.0 +14
SUR LR LR
comp=Z,502nm,20.0s
ANWB Willy Bob 129.79 31 PFAKE 17 18 00.0 +14
ANWB LR LR
comp=Z,701nm,20.0s
SNAA Sanae 131.18 194 P PKPdf 17 17 40.9 -6.6
SDV Santo Domingo 131.95 47 *e*PKPdf **PKPdf** **17 17 51.1 +0.1**
SDV LR LR
comp=Z,707nm,21.0s
OTAV Otavalo 132.09 63 PFAKE 17 18 00.0 +8.5
OTAV LR LR
comp=Z,470nm,20.0s
FDF Fort de France 132.64 32 PFAKE 17 18 00.0 +8.0
FDF LR LR
comp=Z,767nm,20.0s
VNA1 Neumayer--Stat 133.08 193 P **PKPdf** **17 17 51.5 +0.4**
DBIC Dimbokro 134.33 312 PKP **PKPdf** **17 17 53.5 -1.7**
comp=Z,5.0nm,0.8s,baz=22,slow=1.0,SNR=4.7
DBIC Dimbokro 134.33 312 PKIKP **PKPdf** **17 17 53.5 -1.7**
DBIC pmax pmax
comp=Z,5.0nm,0.8s
GRGR Grenville 134.62 35 PFAKE 17 18 10.0 +14
GRGR LR LR
comp=Z,541nm,20.0s
BBGH Gun Hill 134.77 31 PFAKE 17 18 10.0 +14
BBGH LR LR
comp=Z,2μm,20.0s
SACV Santiago Islan 136.47 341 PFAKE 17 18 10.0 +11
SACV LR LR
comp=Z,578nm,19.0s
NNA Nana 140.00 76 PFAKE 17 18 20.0 +14
NNA LR LR
comp=Z,644nm,19.0s
PTGA Pitinga 146.10 44 *e*PKPdf **PKPdf** **17 18 16.8 +0.4**
PLCA Paso Flores 149.16 125 PKPbc **PKPbc** **17 18 25.4 +0.4**
comp=Z,11nm,0.8s,baz=238,slow=3.3,SNR=13
PLCA Paso Flores 149.16 125 PKP2 **PKPbc** **17 18 25.4 +0.4**
PLCA pmax pmax
comp=Z,11nm,0.8s
PLCA Paso Flores 149.16 125 *e*PKPbc **PKPbc** **17 18 25.2 +0.2**
LPAZ La Paz 149.47 76 PKPbc **PKPbc** **17 18 27.9 +0.8**
comp=Z,12nm,0.7s,baz=350,slow=2.9,SNR=32
LPAZ La Paz 149.47 76 PKP2 **PKPbc** **17 18 27.9 +0.8**
LPAZ pmax pmax
comp=Z,12nm,0.7s
LPAZ La Paz 149.47 76 *e*PKPdf **PKPdf** **17 18 23.5 +0.9**
LPAZ PKPbc **PKPbc** **17 18 27.9 +0.8**
LPAZ *e*PKPbc **PKPbc** **17 18 28.1 +1.0**
SAML Samuel 149.68 59 *e*PKPdf **PKPdf** **17 18 22.7 +0.4**
SAML *e*PKPbc **PKPbc** **17 18 26.9 0.0**
SAML LR LR
comp=Z,846nm,20.0s
LCO Las Campanas 150.35 102 PFAKE 17 18 30.0 +1.5
LCO LR LR
comp=Z,1μm,20.0s
LVC Limon Verde 150.93 89 *e*PKPbc **PKPbc** **17 18 30.5 +0.5**
LVC LR LR
comp=Z,1μm,21.0s
ASCN Ascension 151.36 307 PFAKE 17 18 40.0 +0.9
ASCN LR LR
comp=Z,3μm,22.0s
TRQA Tornquist 156.31 125 PFAKE 17 18 40.0 +8.8
TRQA LR LR
comp=Z,931nm,19.0s
RCBR Riachuelo 159.15 356 PFAKE 17 18 50.0 +15
RCBR LR LR
comp=Z,995nm,19.0s

IDC ***11*** *16:59:20.7±6.2, 8°.51N×126°.84E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.9/24, mbtmp3.8/4, MS4.8/1, Ms1 4.8/1, ms1mx3.8/40, Error ellipse: s-maj=225.1km s-min=26.4km az=48.0*

ISCJB ***11*** *16:59:21.7±1.0, 8°.86N±0°.07×127°.33E±0°.07, h35km, mb3.5/4, MS4.7/1, Error ellipse: s-maj=11.3km s-min=8.0km az=35.8*

MAN ***11*** *16:59:23, 8°.77N×126°.36E, h240km, mb4.7, ML3.6, MS3.6*

ISC 11 16:59:24.1±1.3, 8°.83N±0°.08×127°.3E±0°.1, h35km, n12, σ1s07/14, mb3.6/4, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	Bislig	1.10	234	⇑*e*P	Pn	16 59 42.4	-0.6

BIPH				*e*S		**Sn**	**16 59 56.9**	**-0.2**
CGP	**Cagayan de Oro**	**2.57**	**262**⇓	*e*P		**Pn**	**17 00 04.4**	**+1.1**
CGP				*e*S		**Sn**	**17 00 33.7**	**+0.4**
MSLP	**Maasin**	**2.71**	**299**	*e*P		**Pn**	**17 00 04.8**	**-0.2**
MSLP				*e*S		**Sn**	**17 00 38.4**	**+1.7**
OCLP	**Ormoc**	**3.42**	**310**	*e*P		**Pn**	**17 00 14.6**	**-0.4**
TBP	**Tagbilaran**	**3.47**	**285**	*e*P		**Pn**	**17 00 15.2**	**-0.4**
TBP				*e*S		**Sn**	**17 00 54.2**	**-1.2**
PAGZ	**Pagadian**	**3.97**	**256**	*e*P		Pn	17 00 16.5	-5.9
RCP	**Roxas**	**5.21**	**302**⇑	*e*P		**Pn**	**17 00 39.3**	**-0.2**
PSI	**Prapat**	**28.81**	**260**	LR		LR	17 18 34.6	
	comp=Z,2µm,18.4s,baz=118,slow=41							
CMAR	**Chiang Mai Arr**	**29.10**	**292**	P		**P**	**17 05 21.2**	**-0.5**
	0.9nm,0.6s,baz=88,slow=7.8,SNR=8.8							
WRA	**Warramunga Arr**	**29.43**	**166**	P		**P**	**17 05 23.4**	**-1.2**
	0.9nm,0.7s,baz=343,slow=9.4,SNR=5.5							
ASAR	**Alice Springs**	**32.94**	**169**	P		**P**	**17 05 54.7**	**-0.9**
	0.1nm,0.3s,baz=349,slow=6.6,SNR=8.3							
STKA	**Stephens Creek**	**42.73**	**162**	P		**P**	**17 07 19.9**	**+1.9**
	0.8nm,0.6s,baz=336,slow=9.5,SNR=3.6							

*ISCJB **11** 16:59:40.9±0.4,32°.34N±0'.02×115°.29W±0'.02,h9km±3km, Error ellipse: s-maj=3.3km s-min=2.7km az=164.2*
*NEIC **11** 16:59:43.0,32°.35N×115°.30W,h4km,ML4.0(PAS), ML4.1(ECX), After ECX.*
NEIC Felt at Mexicali. Also felt at Somerton, Arizona and at Winterhaven, California.
*ECX **11** 16:59:43.5±0.5,32°.34N×115°.33W,h5km,MD4.0,ML4.2, Fault plane solution: NP1:φ≈206.57000°,δ75.52000°, λ-26.57000°.*
*MEX **11** 16:59:44.3±0.6,32°.38N×115°.23W,h14km±36km,MD3.8*
ISC 11 16:59:41.8±0.9,32°.32N±0'.02×115°.33W±0'.02,h10km±7km, n55,σ0°95/85,13C-10D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.14**	**51**	*e*P	**Pg**	**16 59 45.7**	**+0.6**
MBIG				*e*S	**Sg**	**16 59 48.0**	**+0.6**
SGL	**Mount Signal**	**0.47**	**315**⇓	*i*P	**Pg**	**16 59 51.4**	**+0.4**
DREC	**Desert Rsrch C**	**0.50**	**349**⇓	*e*P	**Pb**	**16 59 52.3**	**-0.4**
ERPC	**Ernies Place**	**0.51**	**327**⇓	*i*P	**Pb**	**16 59 52.5**	**-0.4**
EMSC	**East Mesa**	**0.51**	**35**⇑	*i*P	**Pb**	**16 59 52.5**	**-0.4**
WESC	**Westside Schoo**	**0.56**	**323**⇓	*e*P	**Pg**	**16 59 53.1**	**+0.5**
COA	**Coachella**	**0.57**	**18**⇑	*i*P	**Pg**	**16 59 53.2**	**+0.2**
YUH	**Yuha Desert**	**0.60**	**304**⇑	*i*P	**Pg**	**16 59 53.5**	**0.0**
COK	**Cook Ranch**	**0.63**	**328**⇓	*i*P	**Pg**	**16 59 54.1**	**+0.1**
RDX	**Rancho Dawling**	**0.65**	**233**⇑	*e*P	**Pb**	**16 59 55.3**	**0.0**
RDX				*e*S	**Sb**	**17 00 04.8**	**+0.3**
RDX				⇑*e*		17 00 06.0	
RDX				IAML		17 00 06.0	
	comp=N,7µm,0.4s						
RMX	**La Rumorosa**	**0.69**	**294**⇑	*e*P	**Pg**	**16 59 55.4**	**+0.1**
RMX				*e*S	**Sg**	**17 00 04.6**	**+0.2**
RMX				IAML		17 00 06.8	
	comp=N,11µm,0.5s						
RMX				⇑*e*		17 00 06.8	
IBP	**Imperial Bould**	**0.73**	**298**	P	**Pg**	**16 59 56.1**	**+0.1**
	baz=0.7						
IBP				S	**Sg**	**17 00 05.7**	**+0.2**
	baz=0.7						
SWSC	**Sam W. Stewart**	**0.74**	**328**	P	**Pg**	**16 59 55.4**	**-0.6**
	baz=0.7						
GLA	**Glamis**	**0.85**	**30**	P	**Pg**	**16 59 57.0**	**-1.2**
	baz=0.8						
GLA				S	**Sg**	**17 00 08.5**	**-0.7**
	baz=0.8						
GLA	**Glamis**	**0.85**	**30**	*e*Pg	**Pg**	**16 59 56.9**	**-1.3**
GLA				*e*Sg	**Sg**	**17 00 08.4**	**-0.9**
ECBX	**El Chinero**	**0.88**	**164**⇓	*e*P	**Pg**	**16 59 58.0**	**-0.7**
ECBX				*e*S	**Sg**	**17 00 10.0**	**-0.1**
MONP	**Monument Peak,**	**1.08**	**302**	P	**Pb**	**17 00 01.6**	**-1.2**
	baz=1.1						
MONP				S	**Sg**	**17 00 16.3**	**-0.5**
	baz=1.1						
CBX	**Cerro Bola**	**1.13**	**270**	*e*P	**Pb**	**17 00 03.2**	**-0.3**
CBX				*e*S	**Sb**	**17 00 17.9**	**-0.4**
CBX	**Cerro Bola**	**1.13**	**270**	*e*P	**Pb**	**17 00 03.2**	**-0.3**
CBX				*e*S	**Sb**	**17 00 17.9**	**-0.4**
CBX	**Cerro Bola**	**1.13**	**270**⇑	*e*P	**Pb**	**17 00 03.2**	**-0.3**
CBX				*e*S	**Sb**	**17 00 18.2**	**-0.1**
CBX				⇓*e*		17 00 22.3	
CBX				IAML		17 00 22.3	
	comp=N,7µm,0.4s						
ZAX	**El Zacaton**	**1.13**	**225**⇑	*e*P	**Pb**	**17 00 03.4**	**-0.1**
BAR	**Barrett**	**1.19**	**288**	*e*Pg	**Pb**	**17 00 04.1**	**-0.4**
BAR				*e*Sg	**Sb**	**17 00 19.2**	**-0.8**
BAR	**Barrett**	**1.19**	**288**⇑	*e*P	**Pb**	**17 00 04.0**	**-0.4**
ECNX	**Esteban Cantu**	**1.26**	**239**⇑	*e*P	**Pn**	**17 00 05.6**	**0.0**
SPIG	**San Pedro Mart**	**1.27**	**185**	*e*P	**Pn**	**17 00 05.5**	**-0.5**
SPIG				*e*S	**Sb**	**17 00 21.4**	**-1.2**
SPIG	**San Pedro Mart**	**1.27**	**185**	*e*P	**Pn**	**17 00 05.5**	**-0.5**
SPIG				*e*S	**Sb**	**17 00 21.4**	**-1.2**
SPIG	**San Pedro Mart**	**1.27**	**185**⇓	*e*P	**Pn**	**17 00 05.5**	**-0.5**
SPX	**San Pedro Mart**	**1.27**	**185**	*e*P	**Pn**	**17 00 05.5**	**-0.5**
SPX	**San Pedro Mart**	**1.27**	**185**⇓	*e*P	**Pn**	**17 00 05.5**	**-0.5**
SPX				IAML		17 00 27.5	
	comp=E,3µm,0.6s						
SPX				⇓*e*		17 00 27.5	
PBX	**Punta Banda**	**1.32**	**245**⇑	*e*P	**Pn**	**17 00 06.3**	**+0.1**
BC3	**Big Chuckawall**	**1.34**	**356**	P	**Pn**	**17 00 04.3**	**-2.4**
	baz=1.3						
SDRC	**San Diego Road**	**1.42**	**287**⇑	*e*P	**Pn**	**17 00 07.6**	**-0.1**
Y12C	**Blythe**	**1.58**	**25**	P	**Pn**	**17 00 08.0**	**-1.9**
	baz=1.5						
PFO	**Pinyon Flats O**	**1.60**	**324**	P	**Pn**	**17 00 08.1**	**-2.1**
	baz=1.6						
PFO	**Pinyon Flats O**	**1.60**	**324**	*e*Pn	**Pn**	**17 00 08.2**	**-2.1**
109C	**Camp Elliot, M**	**1.60**	**291**	Sb	**Sb**	**17 00 31.4**	**-0.4**
	baz=1.6						
IRM	**Iron Mountain**	**1.84**	**5**	P	**Pn**	**17 00 12.1**	**-1.4**
	baz=1.8						
MURC	**Murrieta**	**2.03**	**310**	P	**Pn**	**17 00 14.7**	**-1.4**
	baz=2.0						
MURC				Sb	**Sb**	**17 00 44.8**	**+0.7**
	baz=2.0						
214A	**Organ Pipe Nat**	**2.17**	**99**	P	**Pn**	**17 00 16.0**	**-2.0**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.17**	**99**	*e*Pn	**Pn**	**17 00 16.4**	**-1.6**
214A				*e*Sn	**Sn**	**17 00 46.6**	**+1.7**
PDMCI	**Parker Dam,Lak**	**2.21**	**26**	Sb	**Sb**	**17 00 50.1**	**+0.7**
	baz=2.2						
BFSC	**Mount Baldy Ra**	**2.73**	**315**	Sb	**Sb**	**17 01 06.1**	**+1.6**
	baz=2.7						
MWC	**Mount Wilson**	**2.97**	**311**	*e*Pn	**Pn**	**17 00 29.0**	**-0.2**
MWC				*e*Sg	**Sg**	**17 01 18.3**	**+1.0**
TUC	**Tucson**	**3.85**	**89**	*e*P	**Pn**	**17 00 41.5**	**+0.3**
SHPR	**Sheep Range**	**4.18**	**2**	*e*Pn	**Pn**	**17 00 46.1**	**+0.3**
SHPR				*e*Pg	**Pg**	**17 01 03.1**	**+1.2**
SHPR				*e*Sn	**Sn**	**17 01 35.5**	**+0.8**
SHPR				*e*Sg	**Sg**	**17 01 54.0**	**-2.1**
WUAZ	**Wupatki**	**4.58**	**45**	P	**Pn**	**17 00 52.2**	**+0.8**
	baz=4.5						
WUAZ	**Wupatki**	**4.58**	**45**	*e*Pn	**Pn**	**17 00 52.4**	**+1.0**
WUAZ				*e*Pg	**Pg**	**17 01 10.1**	**+0.4**
WUAZ				*e*Sg	**Sg**	**17 02 08.5**	**-0.6**
W18A	**Petrified Fore**	**5.43**	**58**	P	**Pn**	**17 01 04.1**	**+1.0**
	baz=5.4						
W18A	**Petrified Fore**	**5.43**	**58**	*e*Pn	**Pn**	**17 01 03.9**	**+0.8**
	comp=E,23nm,0.6s						
W18A				*e*Sn	**Sn**	**17 02 07.2**	**+1.5**
W18A				*e*Sg	**Sg**	**17 02 35.1**	**-1.2**
CCUT	**Cedar City**	**5.47**	**17**	*e*Pn	**Pn**	**17 01 03.8**	**+0.2**
	comp=E,29nm,0.9s						
CCUT				*e*Pg	**Pg**	**17 01 26.5**	**0.0**
121A	**Cookes Peak, D**	**6.38**	**86**	P	**Pn**	**17 01 15.9**	**-0.2**
	baz=6.3						
121A	**Cookes Peak, D**	**6.38**	**86**	*e*Pn	**Pn**	**17 01 15.9**	**-0.2**
	comp=E,12nm,0.5s						
121A				*e*Pg	**Pg**	**17 01 44.6**	**+0.5**
121A				*e*Sn	**Sn**	**17 02 30.1**	**+1.0**
121A				*e*Sg	**Sg**	**17 03 06.7**	**-0.1**
MVCO	**Mesa Verde**	**7.44**	**47**	Pn	**Pn**	**17 01 30.7**	**0.0**
	comp=E,21nm,0.7s						
MVCO				*e*Sn	**Sn**	**17 02 56.9**	**+1.6**
MVCO				*e*Sg	**Sg**	**17 03 39.4**	**-1.4**
ANMO	**Albuquerque**	**7.85**	**68**	*e*Pn	**Pn**	**17 01 37.6**	**+1.4**
	comp=E,1.5nm,0.6s						
MSTX	**Muleshoe**	**10.66**	**78**	Pn	**Pn**	**17 02 15.5**	**+0.9**
	comp=E,5.8nm,0.9s						

*JMA **11** 17:03:01.1±0.1,26°.51N×142°.88E,h89km,M4.3*
*ISCJB **11** 17:03:02.4±0.4,26°.79N±0°.03×143°.09E±0°.06,h33km, mb4.5/32, Error ellipse: s-maj=7.4km s-min=4.9km az=173.2*
*NEIC **11** 17:03:03.4±2.7,26°.69N×142°.89E,h24km±18km,mb4.9/7, Error ellipse: s-maj=10.9km s-min=6.5km az=88.0*
*IDC **11** 17:03:05.6±3.0,26°.66N×142°.83E,h37km±23km,mb4.3/25, mb1 4.3/28,mb1mx4.3/34,mbtmp4.4/28,ML3.6/3, Error ellipse: s-maj=20.5km s-min=13.3km az=89.0*
ISC 11 17:03:04.9±0.5,26°.73N±0°.06×142°.96E±0°.07,h35km,n66, σ1§45/72,mb4.6/32,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**0.70**	**262**	P	**Pn**	**17 03 17.2**	**-1.2**
JHHJ				*e*S	**Sn**	**17 03 28.7**	**+0.7**
CBIJ	**Chichi jima**	**0.78**	**298**	P	**Pn**	**17 03 19.3**	**-0.1**
CBIJ				*e*S	**Sn**	**17 03 33.1**	**+3.2**
CBIJ	**Chichi jima**	**0.78**	**298**	Pn	**Pn**	**17 03 19.4**	**0.0**
CBIJ				Sn	**Sn**	**17 03 33.1**	**+3.2**
JCJ	**Chichijima**	**0.78**	**298**	Pn	**Pn**	**17 03 19.4**	**0.0**
	952nm,0.3s,baz=346,slow=1.3,SNR=20						
JCJ				Sn	**Sn**	**17 03 33.1**	**+3.2**
	1µm,0.3s,baz=350,slow=22,SNR=13						
BSO4	**Boso 4**	**8.54**	**345**	P	**Pn**	**17 05 05.8**	**-0.1**
JOD2	**Odawara 2**	**9.13**	**340**	P	**Pn**	**17 05 13.2**	**-1.0**
JOD2				*e*S	**Sn**	**17 06 58.1**	**+2.4**
JHU	**Hanno**	**9.62**	**342**	P	**Pn**	**17 05 20.9**	**0.0**
JHU				*e*S	**Sn**	**17 07 06.9**	**-0.8**
JYT	**Yasato**	**9.76**	**347**	P	**Pn**	**17 05 21.8**	**-0.9**
JRY	**Ryogami san**	**9.88**	**340**	P	**Pn**	**17 05 23.6**	**-0.9**
JRY				*e*S	**Sn**	**17 07 11.0**	**-3.2**
JHO	**Hitachi**	**10.06**	**349**	P	**Pn**	**17 05 24.9**	**-2.0**
JHO				*e*S	**Sn**	**17 07 11.9**	**-6.5**
JAG	**Ashikaga**	**10.12**	**344**	P	**Pn**	**17 05 25.3**	**-2.3**
JAG				*e*S	**Sn**	**17 07 14.8**	**-5.1**
MJAR	**Matsushiro Arr**	**10.58**	**339**	Pn	**Pn**	**17 05 33.7**	**-0.4**
	1.9nm,0.3s,baz=162,slow=14,SNR=6.0						
MJAR				Sn	**Sn**	**17 07 33.6**	**+2.2**
	0.3nm,0.3s,baz=198,slow=27,SNR=3.7						
MAJO	**Matsushiro**	**10.59**	**339**	*e*Pn	**Pn**	**17 05 32.1**	**-2.0**
MAT	**Matsushiro**	**10.59**	**339**	P	**Pn**	**17 05 33.3**	**-0.8**
MAT				*e*S	**Sn**	**17 07 27.8**	**-3.6**
JFK	**Kawauchi**	**10.75**	**351**	P	**Pn**	**17 05 34.3**	**-2.1**
KSRS	**Korea Array**	**16.61**	**314**	Pn	**P**	**17 06 56.4**	**-0.7**
	0.2nm,0.3s,baz=125,slow=10,SNR=5.8						
KSAR	**Wonju Array Be**	**16.63**	**314**	Pn	**P**	**17 06 56.5**	**-0.9**
USRK	**Ussuriysk Ar.**	**19.55**	**336**	P	**Pn**	**17 07 31.0**	**0.0**
	0.4nm,0.3s,baz=155,slow=11,SNR=4.2						
KKM	**Kota Kinabalu**	**32.74**	**236**	*e*P	**P**	**17 09 34.8**	**+0.1**
	19nm,1.2s						
ULN	**Ulaanbaatar**	**35.06**	**317**	*e*Pn	P	17 09 47.2	-7.4
	6.1nm,1.0s						
SONM	**Songino Array**	**35.45**	**316**	P	**P**	**17 09 57.7**	**-0.2**
	1.8nm,0.7s,baz=98,slow=6.0,SNR=3.5						
SEY	**Seymchan**	**36.73**	**7**	P	**P**	**17 10 10.1**	**+1.6**
	3.5nm,0.8s,baz=197,slow=10,SNR=3.7						
CM31	**Chiang Mai Arr**	**41.30**	**268**	*e*P	**P**	**17 10 46.8**	**-0.5**
	2.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.30**	**268**	P	**P**	**17 10 47.0**	**-0.3**
	3.1nm,0.6s,baz=70,slow=5.6,SNR=19						
CTAO	**Charters Tower**	**46.65**	**176**	P	**P**	**17 11 29.9**	**-0.2**
WRAB	**Tennant Creek**	**47.13**	**191**	*e*P	**P**	**17 11 33.2**	**-0.7**
	56nm,1.2s						
WRA	**Warramunga Arr**	**47.14**	**191**	P	**P**	**17 11 33.4**	**-0.5**
	16nm,0.7s,baz=13,slow=8.6,SNR=14						
LEM	**Lembang**	**47.81**	**231**	P	**P**	**17 11 39.1**	**-0.3**
	19nm,0.7s,baz=109,slow=12,SNR=4.6						
ZALV	**Zalesovo Beam**	**50.22**	**319**	P	**P**	**17 11 57.7**	**+0.5**
	2.6nm,0.5s,baz=107,slow=7.4,SNR=6.3						
ASAR	**Alice Springs**	**50.86**	**191**	P	**P**	**17 12 01.6**	**-0.8**
	1.2nm,0.7s,baz=12,slow=7.7,SNR=4.5						
MKAR	**Makanchi Array**	**51.24**	**310**	P	**P**	**17 12 03.9**	**-1.2**
	2.3nm,0.8s,baz=100,slow=8.0,SNR=4.4						
MBWA	**Marble Bar**	**52.66**	**208**	P	P	17 12 08.6	-7.2
KURK	**Kurchatov**	**53.73**	**315**	P	**P**	**17 12 22.9**	**-0.6**
KURBB	**Kurchatov Arra**	**53.79**	**315**	P	**P**	**17 12 22.9**	**-1.0**
	3.5nm,0.4s,baz=91,slow=7.9,SNR=16						
TKM2	**Tokmak 2**	**56.19**	**305**	*e*P	**P**	**17 12 39.1**	**-2.5**
AAK	**Ala-Archa**	**57.03**	**305**	P	**P**	**17 12 47.5**	**-0.1**
ILAR	**Eielson Array**	**57.70**	**28**	P	**P**	**17 12 52.2**	**+0.5**
	2.4nm,0.8s,baz=257,slow=5.6,SNR=4.3						
STKA	**Stephens Creek**	**58.30**	**181**	P	**P**	**17 12 55.4**	**-0.8**
BVAR	**Borovoye Array**	**58.78**	**318**	P	**P**	**17 13 00.1**	**+0.7**
	6.8nm,0.5s,baz=92,slow=6.6,SNR=15						
BRVK	**Borovoye**	**58.84**	**318**	*e*P	**P**	**17 12 60.0**	**+0.1**
	9.9nm,0.8s						
PALK	**Pallekele**	**62.01**	**264**	P	P	17 13 15.8	-6.3
KBL	**Kabul**	**62.80**	**297**	*e*P	**P**	**17 13 27.5**	**+0.1**
	15nm,1.0s						
NWAO	**Narrogin (SRO)**	**64.18**	**204**	P	**P**	**17 13 35.6**	**-0.4**
	8.1nm,0.8s,baz=332,slow=8.0,SNR=3.5						
ARU	**Arti**	**65.13**	**322**	*e*P	**P**	**17 13 42.2**	**+0.2**
ABKAR	**Akbulak array**	**65.84**	**315**	*e*P	**P**	**17 13 46.2**	**-0.5**
AKTO	**Aktyubinsk**	**66.77**	**316**	P	**P**	**17 13 54.0**	**+1.3**
	3.2nm,0.6s,baz=100,slow=13,SNR=4.3						
SPITS	**Spitsbergen Ar**	**70.88**	**350**	P	**P**	**17 14 19.0**	**+1.3**
	2.8nm,0.8s,baz=106,slow=11,SNR=2.3						
KBS	**Kingsbay**	**71.01**	**351**	*e*P	**P**	**17 14 16.7**	**-1.9**
	13nm,1.0s						
YKA	**Yellowknife Ar**	**72.13**	**28**	P	**P**	**17 14 26.6**	**+1.1**
	2.7nm,0.6s,baz=292,slow=6.3,SNR=9.1						
ARCES	**ARCESS Array B**	**74.11**	**341**	P	**P**	**17 14 37.7**	**+0.6**
	5.0nm,0.8s,baz=66,slow=9.0,SNR=4.6						
ARE0	**ARCESS Array S**	**74.11**	**341**	*e*P	**P**	**17 14 36.7**	**-0.4**
RPZ	**Rata Peaks**	**74.69**	**159**	P	**P**	**17 14 41.1**	**+0.3**
	14nm,0.9s,baz=350,slow=12,SNR=2.7						
FIA1	**FINESS Array S**	**78.58**	**334**	*e*P	**P**	**17 15 02.7**	**+0.1**
FINES	**FINESS Array B**	**78.58**	**334**	P	**P**	**17 15 03.5**	**+0.9**
	2.4nm,0.4s,baz=85,slow=4.8,SNR=12						
KBZ	**Khabaz**	**78.76**	**313**	P	**P**	**17 15 05.2**	**+1.2**
	9.7nm,0.9s,baz=104,slow=4.5,SNR=5.1						
NVAR	**Mina Array Bea**	**80.20**	**52**	P	**P**	**17 15 13.0**	**+0.8**
	0.8nm,0.7s,baz=300,slow=6.1,SNR=2.6						
AKASG	**Malin Array Be**	**83.32**	**324**	P	**P**	**17 15 28.1**	**0.0**
	4.4nm,0.7s,baz=48,slow=5.0,SNR=8.2						
HFS	**Hagfors**	**84.03**	**337**	P	**P**	**17 15 31.4**	**-0.2**
	2.7nm,0.6s,baz=90,slow=1.5,SNR=6.8						
NOA	**NORSAR Array B**	**84.20**	**339**	P	**P**	**17 15 32.8**	**+0.3**
	2.1nm,0.9s,baz=44,slow=4.8,SNR=3.0						
BRTR	**Keskin Array B**	**86.75**	**313**	P	**P**	**17 15 45.7**	**-0.1**
	1.9nm,1.0s,baz=62,slow=4.3,SNR=2.5						
CLL	**Collm**	**90.70**	**331**	*e*(P)	P	17 16 08.0	+4.0
GERES	**GERESS Array B**	**92.18**	**329**	P	**P**	**17 16 11.4**	**+0.3**
	0.5nm,0.5s,baz=35,slow=3.6,SNR=2.2						
ESDC	**Sonseca Array**	**107.09**	**334**	Pdiff	**Pdif**	**17 17 18.8**	**+0.6**
	8.1nm,1.0s,baz=34,slow=6.9,SNR=9.8						
TORD	**Torodi Ar. Bea**	**125.34**	**312**	PKP	**PKPdf**	**17 22 02.8**	**0.0**
	0.7nm,0.7s,baz=52,slow=1.0,SNR=5.4						
PLCA	**Paso Flores**	**149.03**	**125**	PKPbc	**PKPbc**	**17 22 50.4**	**+0.9**
	3.2nm,0.8s,baz=239,slow=5.9,SNR=2.9						
LPAZ	**La Paz**	**149.34**	**77**	PKPbc	**PKPbc**	**17 22 53.1**	**+1.5**
	4.8nm,0.7s,baz=304,slow=1.7,SNR=9.6						

IDC 11 17:08:34.9±2.8,26°.68N×142°.93E,h0km,mb3.9/2, mb1 4.1/3,mb1mx3.5/23,mbtmp3.8/3,ML3.5/1,Error ellipse: s-maj=69.1km s-min=17.4km az=54.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**0.79**	**302**	Pn	Pn	17 08 53.7	+0.4
	76nm,0.3s,baz=277,slow=23,SNR=8.0						
JCJ				Sn	Sn	17 09 05.9	+0.1
	347nm,0.3s,baz=276,slow=22,SNR=19						
MJAR	**Matsushiro Arr**	**10.62**	**339**	Pn	Pn	17 11 07.6	-0.8
	0.3nm,0.3s,baz=151,slow=14,SNR=4.1						
WRA	**Warramunga Arr**	**47.09**	**191**	P	P	17 17 08.9	+0.2
	2.9nm,0.6s,baz=12,slow=8.6,SNR=7.1						
ASAR	**Alice Springs**	**50.81**	**191**	P	P	17 17 36.7	-0.6
	0.4nm,0.6s,baz=3.1,slow=5.1,SNR=2.8						

*BJI **11** 17:09:08.2,26°.80N×143°.10E,h10km,mb4.6/16,mB5.0/7, Ms5.4/4,Ms7 5.3/4*
*NEIC **11** 17:09:10.6±3.6,26°.70N×142°.95E,h12km±21km,mb4.7/12, Error ellipse: s-maj=10.3km s-min=6.9km az=110.0*
*ISCJB **11** 17:09:11.6±0.5,26°.68N±0°.06×142°.96E±0°.07,h33km, mb4.4/32,Error ellipse: s-maj=9.6km s-min=7.9km az=174.6*
*IDC **11** 17:09:14.4±3.3,26°.69N×142°.86E,h36km±24km,mb4.0/22, mb1 4.1/26,mb1mx4.1/32,mbtmp4.2/26,ML3.6/4,Error ellipse: s-maj=20.9km s-min=14.5km az=103.0*
ISC 11 17:09:13.9±0.6,26°.71N±0°.09×142°.94E±0°.08,h35km,n67, σ1§17/69,mb4.4/32,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**0.77**	**300**	Pn	**Pn**	**17 09 28.7**	**+0.3**
	532nm,0.3s,baz=64,slow=0.8,SNR=12						
JCJ				Sn	**Sn**	**17 09 41.2**	**+2.4**
	619nm,0.3s,baz=103,slow=23,SNR=14						
CBIJ	**Chichi jima**	**0.78**	**300**	*e*Pn	**Pn**	**17 09 28.2**	**-0.1**
CBIJ				*e*Sn	**Sn**	**17 09 41.5**	**+2.7**
MJAR	**Matsushiro Arr**	**10.60**	**339**	Pn	**Pn**	**17 11 42.0**	**-1.3**
	1.3nm,0.3s,baz=159,slow=11,SNR=9.3						
MAJO	**Matsushiro**	**10.60**	**339**	*e*Pn	Pn	17 11 39.8	-3.4
MAT	**Matsushiro**	**10.60**	**339**	P	**Pn**	**17 11 41.6**	**-1.7**
MAT				*e*S	Sn	17 13 33.7	-7.0
KSRS	**Korea Array**	**16.61**	**314**	Pn	**P**	**17 13 06.3**	**+0.2**
	0.2nm,0.3s,baz=122,slow=10,SNR=9.4						
KSAR	**Wonju Array Be**	**16.63**	**314**	Pn	**P**	**17 13 06.3**	**-0.1**
ASAJ	**Asahikawa**	**17.37**	**359**	P	**Pn**	**17 13 12.8**	**-0.7**
	0.5nm,0.3s,baz=208,slow=9.6,SNR=7.2						
YHNB	**Yeheng**	**19.54**	**269**	*e*P	**P**	**17 13 38.7**	**+0.1**
	11nm,0.7s						
USRK	**Ussuriysk Ar.**	**19.57**	**336**	P	**P**	**17 13 38.1**	**-0.5**
	0.4nm,0.3s,baz=154,slow=16,SNR=5.0						
SSLB	**Suanghung**	**20.09**	**267**	*e*P	**P**	**17 13 44.9**	**+0.3**
	12nm,0.7s						
YSS	**Yuzh-Sakhalins**	**20.21**	**360**	P	Pn	17 13 49.5	+1.9
	13nm,1.0s						
MDJ	**Mudanjiang**	**20.85**	**332**	P	**P**	**17 13 52.1**	**-0.5**
MDJ				PMZ			
	3.0nm,0.5s						
MDJ				PMZ			
	4µm,7.6s						
MDJ	**Mudanjiang**	**20.85**	**332**	P	**P**	**17 13 52.2**	**-0.5**
	7.3nm,0.8s						
HHC	**Hu-ho-hao-te**	**29.47**	**307**	*e*P	**P**	**17 15 13.1**	**-1.5**
HHC				S	**S**	**17 20 03.6**	**-3.1**
HHC				PMZ			
	10.0nm,0.9s						
HHC				PMZ			
	500nm,5.5s						
GYA	**Guiyang**	**32.37**	**278**	*e*P	**P**	**17 15 40.8**	**+0.4**
GYA				PMZ			
	10.0nm,0.8s						
CD2	**Chengdu**	**34.46**	**286**	P	**P**	**17 15 58.0**	**-0.5**
CD2				pP	pP	17 16 02.6	-6.1
CD2				sP	sP	17 16 04.6	-8.3
CD2				PP	**PP**	**17 17 16.3**	**-0.6**
CD2				S	**S**	**17 21 27.0**	**+2.3**
CD2				sS	sS	17 21 34.9	-6.5
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.2s						
SONM	**Songino Array**	**35.46**	**316**	P	**P**	**17 16 06.4**	**-0.6**
	1.3nm,0.6s,baz=102,slow=6.9,SNR=6.8						
SEY	**Seymchan**	**36.76**	**7**	P	**P**	**17 16 19.3**	**+1.6**
	1.9nm,0.8s,baz=208,slow=7.4,SNR=5.3						
CM01	**Chiang Mai Arr**	**41.28**	**268**	*e*P	**P**	**17 16 55.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**41.28**	**268**	P	**P**	**17 16 56.4**	**+0.2**
	2.1nm,0.6s,baz=71,slow=5.6,SNR=27						
KULM	**Kulim**	**45.58**	**250**	*e*P	**P**	**17 17 31.4**	**+0.5**
	6.9nm,0.7s						
WRAB	**Tennant Creek**	**47.11**	**191**	P	**P**	**17 17 42.6**	**0.0**
	122nm,1.1s,SNR=5.4						
WRAB	**Tennant Creek**	**47.11**	**191**	*e*P	**P**	**17 17 42.2**	**-0.4**

HNR	**Honiara**	**9.54**	**118**	*e*Pn	**Pn**	17 12 17.2	**+0.1**
	74nm,0.8s							
CTAO	**Charters Tower**	**15.88**	**198**	Pn	**P**	17 13 46.8	**+1.3**
SIJI	**Sorong**	**20.55**	**281**	P	**P**	17 14 36.5	**-0.5**
	12nm,1.0s,baz=96,slow=9.9,SNR=5.8							
SIJI				S	Sn	17 18 26.8	-3.9	
	2.0nm,0.7s,baz=107,slow=19,SNR=2.1							
WRAB	**Tennant Creek**	**22.34**	**227**	*e*P	**P**	17 14 55.2	**-0.9**
WRA	**Warramunga Arr**	**22.35**	**227**	P	**P**	17 14 55.7	**-0.6**
	2.7nm,0.6s,baz=58,slow=11,SNR=5.8							
ASAR	**Alice Springs**	**25.15**	**221**	P	**P**	17 15 22.6	**-0.4**
	2.5nm,0.4s,baz=56,slow=8.9,SNR=38							
STKA	**Stephens Creek**	**28.34**	**198**	P	**P**	17 15 51.5	**-0.1**
	6.3nm,1.1s,baz=358,slow=11,SNR=4.1							
STKA	**Stephens Creek**	**28.34**	**198**	P	**P**	17 15 51.2	**-0.4**
	2.8nm,1.3s							
MBWA	**Marble Bar**	**34.73**	**239**	P	P	17 16 43.6	-4.4	
JNU	**Nakatsue**	**42.59**	**334**	P	**P**	17 17 52.4	**-1.3**	
	9.6nm,1.0s,baz=89,slow=5.6,SNR=4.2							
MJAR	**Matsushiro Arr**	**43.09**	**344**	P	**P**	17 17 55.8	**-1.8**	
	0.8nm,0.6s,baz=167,slow=10,SNR=3.3							
KSRS	**Korea Array**	**47.53**	**334**	P	**P**	17 18 32.3	**-0.5**	
	0.6nm,0.7s,baz=151,slow=7.6,SNR=3.2							
KSAR	**Wonju Array Be**	**47.54**	**334**	P	**P**	17 18 32.3	**-0.5**	
USRK	**Ussuriysk Ar.**	**51.96**	**342**	P	**P**	17 19 06.9	**+0.6**	
	3.0nm,0.8s,baz=142,slow=7.3,SNR=6.5							
CM31	**Chiang Mai Arr**	**56.72**	**296**	*e*P	**P**	17 19 42.2	**+0.8**	
	6.1nm,1.0s							
CMAR	**Chiang Mai Arr**	**56.72**	**296**	P	**P**	17 19 42.4	**+1.0**	
	4.2nm,0.9s,baz=108,slow=5.2,SNR=12							
SONM	**Songino Array**	**65.73**	**328**	P	**P**	17 20 43.4	**+1.4**	
	1.4nm,0.6s,baz=151,slow=5.4,SNR=6.6							
LSA	**Lhasa**	**67.21**	**305**	P	**P**	17 20 54.5	**+2.2**	
	7.9nm,1.1s							
CASY	**Casey**	**67.48**	**197**	P	**P**	17 20 53.6	**+0.9**	
	5.1nm,1.0s							
MKAR	**Makanchi Array**	**79.55**	**319**	P	**P**	17 22 05.6	**+1.5**	
	0.4nm,0.8s,baz=85,slow=8.8,SNR=2.3							
ZALV	**Zalesovo Beam**	**80.53**	**327**	P	**P**	17 22 09.2	**+0.1**	
	0.3nm,0.3s,baz=112,slow=6.9,SNR=3.1							
ILAR	**Eielson Array**	**82.80**	**22**	P	**P**	17 22 19.4	**-1.5**	
	0.6nm,0.7s,baz=237,slow=4.2,SNR=3.7							
KURK	**Kurchatov**	**83.05**	**322**	P	**P**	17 22 20.8	**-1.7**	
TKM2	**Tokmak 2**	**83.06**	**314**	P	**P**	17 22 19.9	**-3.1**	
	2.7nm,1.0s							
KURBB	**Kurchatov Arra**	**83.08**	**322**	P	**P**	17 22 20.8	**-1.9**	
	0.6nm,0.8s,baz=102,slow=4.9,SNR=2.5							
QSPA	**South Pole Qui**	**85.02**	**180**	*e*P	**P**	17 22 32.2	**-0.2**	
	39nm,2.0s							
NVAR	**Mina Array Basa**	**93.24**	**52**	P	**P**	17 23 12.9	**+0.8**	
	0.4nm,0.3s,baz=263,slow=3.5,SNR=3.4							
TORD	**Torodi Ar. Bea**	**149.06**	**287**	PKPbc	**PKPbc**	17 29 44.9	**-1.3**	
	1.1nm,0.9s,baz=64,slow=3.0,SNR=4.5							

*ISCJB **11** 17:11:04.5±0.7,26.59N×0.09×143.0E±0.1,h33km, mb3.8/14, Error ellipse: s-maj=15.5km s-min=9.9km az=43.7*

*IDC **11** 17:11:05.8±7.0,26.61N×142.95E,h27km±47km, mb3.7/14, mb1 3.8/18,mb1mx3.7/31,mbtmp3.8/18,ML3.2/4, Error ellipse: s-maj=25.6km s-min=17.3km az=66.0*

ISC 11 17:11:06.7±0.9, 26.6N±0.1×142.9E±0.1, h35km, n19, σ0°68/20, mb3.8/14, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**0.83**	**305**	Pn	**Pn**	17 11 21.1	**-0.8**
	229nm,0.3s,baz=22,slow=12,SNR=6.4						
JCJ				Sn	**Sn**	17 11 33.8	**+0.8**
	802nm,0.3s,baz=269,slow=23,SNR=14						
MJAR	**Matsushiro Ar**	**10.69**	**339**	Pn	**Pn**	17 13 37.0	**-0.3**
	0.4nm,0.3s,baz=157,slow=14,SNR=3.5						
JOW	**Kunigami**	**13.17**	**274**	Pn	**Pn**	17 14 10.8	**+0.3**
	0.3nm,0.3s,baz=104,slow=17,SNR=3.4						
KSRS	**Korea Array**	**16.68**	**314**	Pn	**P**	17 14 59.0	**-0.8**
	0.1nm,0.3s,baz=118,slow=10,SNR=2.8						
USRK	**Ussuriysk Ar.**	**19.66**	**336**	P	**P**	17 15 32.6	**+0.2**
	0.2nm,0.3s,baz=133,slow=8.3,SNR=2.9						
SONM	**Songino Array**	**35.53**	**316**	P	**P**	17 18 01.6	**+1.2**
	0.6nm,0.6s,baz=126,slow=9.1,SNR=2.7						
CMAR	**Chiang Mai Arr**	**41.28**	**268**	P	**P**	17 18 48.6	**-0.4**
	0.4nm,0.6s,baz=64,slow=7.1,SNR=4.4						
WRA	**Warramunga Arr**	**47.03**	**191**	P	**P**	17 19 35.5	**+0.7**
	4.5nm,0.6s,baz=12,slow=8.7,SNR=5.6						
ZALV	**Zalesovo Beam**	**50.29**	**319**	P	**P**	17 19 59.1	**-0.6**
	0.5nm,0.5s,baz=98,slow=6.0,SNR=2.2						
ASAR	**Alice Springs**	**50.74**	**191**	P	**P**	17 20 02.8	**-0.5**
	0.5nm,0.7s,baz=6.4,slow=5.7,SNR=4.4						
KURBB	**Kurchatov Arra**	**53.86**	**315**	P	**P**	17 20 25.2	**-1.0**
	0.5nm,0.5s,baz=92,slow=7.6,SNR=4.8						
BVAR	**Borovoye Array**	**58.85**	**318**	P	**P**	17 21 01.9	**+0.1**
	0.9nm,0.5s,baz=83,slow=4.4,SNR=3.5						
AKTO	**Aktyubinsk**	**66.85**	**316**	P	**P**	17 21 55.8	**+0.8**
	0.9nm,0.7s,baz=68,slow=12,SNR=3.0						
YKA	**Yellowknife Ar**	**72.24**	**28**	P	**P**	17 22 28.2	**+0.2**
	0.4nm,0.6s,baz=294,slow=6.2,SNR=3.2						
ARCES	**ARCESS Array B**	**74.22**	**341**	P	**P**	17 22 40.0	**+0.4**
	2.6nm,0.9s,baz=339,slow=14,SNR=3.0						
FINES	**FINESS Array B**	**78.67**	**334**	P	**P**	17 23 05.6	**+0.7**
	1.2nm,0.5s,baz=56,slow=6.1,SNR=3.4						
ELK	**Elko**	**81.35**	**49**	P	**P**	17 23 19.9	**-0.3**
	0.6nm,0.7s,baz=333,slow=2.3,SNR=2.7						
AKASG	**Malin Array Be**	**83.40**	**324**	P	**P**	17 23 29.5	**-0.8**
	0.2nm,0.4s,baz=52,slow=4.8,SNR=2.8						
HFS	**Hagfors**	**84.13**	**337**	P	**P**	17 23 34.3	**+0.4**
	0.9nm,0.7s,baz=123,slow=5.3,SNR=3.5						

IDC 11 17:16:10.4±3.2, 32.13S×178.31W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=73.4km s-min=37.1km az=112.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.17**	**210**	Pn	Pn	17 17 57.0	**+0.6**
	0.5nm,0.3s,baz=269,slow=4.4,SNR=6.3						
URZ				Sn	Sn	17 19 17.1	-1.5
	0.7nm,0.3s,baz=148,slow=19,SNR=7.5						
ASAR	**Alice Springs**	**42.78**	**269**	P	P	17 24 10.2	**+0.2**
	0.3nm,0.5s,baz=105,slow=7.2,SNR=7.0						
WRA	**Warramunga Arr**	**43.92**	**274**	P	P	17 24 18.9	-0.3
	0.6nm,0.5s,baz=114,slow=7.8,SNR=7.0						
FINES	**FINESS Array B**	**146.67**	**339**	PKPbc	PKPdf	17 35 52.3	**+0.6**
	1.6nm,0.8s,baz=72,slow=4.5,SNR=4.1						

SJA 11 17:22:00.2±1.6, 28.61S×68.86W, h98km±35km, ML3.8, MW4.3, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**1.67**	**256**	*e*P	Pn	17 22 29.3	**+0.5**
LCO				*e*S	Sn	17 22 51.5	**+1.1**
ACLC	**CERRO LA CRUZ**	**1.86**	**117**	*e*P	Pn	17 22 33.5	**+2.4**
AMOG	**MOGNA**	**2.35**	**172**	*e*P	Pn	17 22 39.0	**+1.7**
AMOG				*e*S	Sn	17 23 07.5	**+1.7**
AVFE	**Valle Fertil**	**2.38**	**150**	*e*P	Pn	17 22 39.8	**+2.0**
AVFE				*e*S	Sn	17 23 08.1	**+1.4**
AVFE				AML	AML	17 23 11.2	
	comp=Z,405nm,0.5s						
CYA	**Choya**	**2.69**	**87**	*e*P	Pn	17 22 43.4	**+1.5**
CYA				*e*S	Sn	17 23 14.8	**+0.8**
APLL	**PUNTA DE LOS L**	**2.70**	**132**	*e*P	Pn	17 22 43.8	**+1.8**
APLL				*e*S	Sn	17 23 13.3	**-0.9**
RTLL	**Cerro Villicun**	**2.73**	**173**	*e*P	Pn	17 22 44.2	**+1.8**
RTLL				*e*S	Sn	17 23 16.6	**+1.7**
CFAA	**Coronel Fontan**	**3.04**	**170**	*e*P	Pn	17 22 48.0	**+1.5**
CFAA				*e*S	Sn	17 23 23.0	**+0.9**
ACHE	**Chepes**	**3.18**	**144**	*e*P	Pn	17 22 50.1	**+1.5**
ACHE				*e*S	Sn	17 23 26.5	**+0.6**
RTLS	**Leoncito**	**3.21**	**187**	*e*P	Pn	17 22 50.4	**+1.4**
RTCV	**Cerro Valdivia**	**3.26**	**175**	*e*P	Pn	17 22 51.1	**+1.6**
RTCV				*e*S	Sn	17 23 28.3	**+0.9**
FSA	**Cafayete**	**3.56**	**46**	*e*P	Pn	17 22 55.4	**+1.7**
AUSP	**Uspallata**	**3.63**	**187**	*e*P	Pn	17 22 55.8	**+1.0**
ASAL	**Salagasta**	**3.97**	**180**	*e*P	Pn	17 23 00.1	**+1.0**

IDC 11 17:32:26.5±8.3, 21.88S×172.73E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/18, mbtmp4.0/4, ML4.0/1, Error ellipse: s-maj=134.9km s-min=92.8km az=63.0, Southeast of Loyalty Islands

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

DZM	**Mont Dzumac**	**5.84**	**267**	Pn	Pn	17 33 54.0	**-0.5**
	3.6nm,0.3s,baz=90,slow=24,SNR=53						
DZM				Sn	Sn	17 34 52.5	-10
	3.3nm,0.3s,baz=75,slow=20,SNR=7.0						
DZM	**Mont Dzumac**	**5.84**	**267**	*e*P	Pn	17 33 53.9	**-0.6**
DZM				*e*S	Sn	17 34 52.1	-10
STKA	**Stephens Creek**	**29.41**	**244**	P	P	17 38 31.1	**-0.7**
	1.9nm,0.8s,baz=85,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**35.77**	**260**	P	P	17 39 27.9	**+0.3**
	2.6nm,0.8s,baz=86,slow=9.1,SNR=30						
WRA	**Warramunga Arr**	**35.85**	**266**	P	P	17 39 28.4	**+0.1**
	0.5nm,0.5s,baz=99,slow=8.3,SNR=5.6						
H11S2	**WAKE ISLAND Hy**	**40.55**	**351**	T	T	18 24 02.2	
	baz=169						
H11S3	**WAKE ISLAND Hy**	**40.56**	**351**	T	T	18 24 04.9	
	baz=169						
H11S1	**WAKE ISLAND Hy**	**40.57**	**351**	T	T	18 24 02.9	
	baz=169						
H11N1	**WAKE ISLAND Hy**	**41.73**	**352**	T	T	18 25 30.8	
	baz=174						
H11N3	**WAKE ISLAND Hy**	**41.73**	**352**	T	T	18 25 31.4	
	baz=174						
H11N2	**WAKE ISLAND Hy**	**41.74**	**352**	T	T	18 25 32.1	
	baz=174						

*NIED **11** 17:39:00,26.70N×143.10E,h14km,Mw4.1 Best double couple: M0 1.35000×10^15 NP1:φs221.00000°,δ50.00000°, λ-152.00000°. NP2:φs112.00000°,δ69.00000°, λ-43.00000°.*

*JMA **11** 17:39:06.5±0.3,26.66N×143.13E,h20km,M4.3*

*ISCJB **11** 17:39:09.6±0.5,26.98N±0.04×142.89E±0.07,h32km, mb4.1/23,MS4.6/2, Error ellipse: s-maj=8.4km s-min=5.1km az=11.0*

*MOS **11** 17:39:09.1±1.1,26.72N×142.67E,h33km,mb4.2/16, Error ellipse: s-maj=19.2km s-min=7.7km az=110.0*

*IDC **11** 17:39:11.1±3.0,26.69N×142.76E,h37km±23km, mb3.7/16, mb1 3.9/19,mb1mx3.8/26,mbtmp3.9/19,ML3.5/3, Error ellipse: s-maj=24.5km s-min=16.1km az=93.0*

ISC 11 17:39:10.5±0.6, 26.79N±0.06×142.91E±0.07, h32km, n63, σ1°33/77, mb4.1/23, 7C-6D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**0.67**	**257**	P	**Pn**	17 39 22.4	**-1.3**
JHHJ				*e*S	**Sn**	17 39 34.0	**+0.9**
CBIJ	**Chichi jima**	**0.71**	**296**	P	**Pn**	17 39 24.0	**-0.4**
CBIJ				S	**Sn**	17 39 37.5	**+3.2**
JCJ	**Chichijima**	**0.71**	**296**	Pn	**Pn**	17 39 24.2	**-0.2**
	738nm,0.3s,baz=276,slow=0.9,SNR=595						
JCJ				Sn	**Sn**	17 39 37.9	**+3.6**
	2μm,0.3s,baz=288,slow=20,SNR=38						
BSO1	**Boso 1**	**8.02**	**349**	P	**Pn**	17 41 03.1	**-1.1**
BSO1				*e*S	**Sn**	17 42 32.4	**-1.1**
BSO3	**Boso 3**	**8.25**	**346**	P	**Pn**	17 41 07.3	**-0.4**
BSO4	**Boso 4**	**8.47**	**346**	P	**Pn**	17 41 11.1	**+0.2**
BSO4				*e*S	**Sn**	17 42 45.2	**-0.1**
JOD2	**Odawara 2**	**9.06**	**340**	P	**Pn**	17 41 18.8	**-0.3**
JHU	**Hanno**	**9.55**	**342**	P	**Pn**	17 41 24.6	**-1.2**
JHU				*e*S	**Sn**	17 43 11.0	**-1.1**
JYT	**Yasato**	**9.69**	**347**	P	**Pn**	17 41 27.4	**-0.3**
JRY	**Ryogami san**	**9.82**	**341**	P	**Pn**	17 41 28.6	**-0.8**
JRY				*e*S	**Sn**	17 43 15.8	**-2.8**
JHO	**Hitachi**	**10.00**	**349**	P	**Pn**	17 41 29.8	**-2.1**
JAG	**Ashikaga**	**10.05**	**344**	P	**Pn**	17 41 30.6	**-2.0**
MJAR	**Matsushiro Arr**	**10.52**	**339**	Pn	**Pn**	17 41 39.2	**+0.2**
	1.7nm,0.3s,baz=160,slow=11,SNR=22						
MJAR	**Matsushiro Arr**	**10.52**	**339**	P	**Pn**	17 41 39.2	**+0.2**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MAJO	**Matsushiro**	**10.52**	**339**	⇓*i*P	**Pn**	17 41 39.4	**+0.4**
MAJO				pmax	pmax		
	comp=Z,32nm,0.7s						
MAT	**Matsushiro**	**10.52**	**339**	P	**Pn**	17 41 38.8	**-0.2**
MAT				*e*S	**Sn**	17 43 33.3	**-2.4**
JFK	**Kawauchi**	**10.69**	**351**	P	**Pn**	17 41 39.6	**-1.8**
KSRS	**Korea Array**	**16.54**	**314**	Pn	**Pn**	17 42 59.1	**-0.9**
	comp=Z,0.1nm,0.3s,baz=118,slow=10,SNR=4.6						
VLA	**Vladivostok**	**18.60**	**334**	⇓*e*P	**Pn**	17 43 26.3	**+0.8**
VLA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**19.49**	**336**	P	**P**	17 43 34.6	**-0.1**
	comp=Z,0.3nm,0.3s,baz=139,slow=13,SNR=5.1						
HABR	**Khabarovsk**	**22.50**	**346**	*e*P	**P**	17 44 07.7	**+0.5**
HABR				*e**PP	**pP**	17 44 14.5	**-1.3**
HABR				*e**SP	**sP**	17 44 19.0	**-0.9**
HABR				*e*PPP	PPP	17 44 37.9	
HABR				*e*		17 47 58.6	
HABR				*e*S	**S**	17 48 13.2	**+1.2**
HABR				*e**SS	Sn	17 48 26.5	+0.4
HABR				*e*SS	**SnSn**	17 48 42.4	**+0.3**
HABR				*e*		17 55 18.4	
HABR				pmax	pmax		
	comp=N,7.0nm,1.2s						
HABR				pmax	pmax		
	comp=Z,20nm,1.2s						
HABR				pmax	pmax		
	comp=E,7.0nm,0.7s						
HABR				MLR	MLR		
	comp=Z,1μm,15.0s						
KLR	**Kul'dur**	**24.02**	**342**	*e*P	**P**	17 44 19.2	**-3.1**
HIA	**Hailar**	**28.71**	**328**	⇓*e*P	**P**	17 45 05.3	**+0.6**
HIA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SONM	**Songino Array**	**35.38**	**316**	P	**P**	17 46 03.0	**-0.3**
	comp=Z,0.8nm,0.6s,baz=115,slow=9.7,SNR=5.2						
SONM	**Songino Array**	**35.38**	**316**	P	**P**	17 46 03.0	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SEY	**Seymchan**	**36.69**	**7**	P	**P**	17 46 14.3	**+0.3**
	comp=Z,1.4nm,0.8s,baz=187,slow=10,SNR=5.1						
SEY	**Seymchan**	**36.69**	**7**	⇑*e*P	**P**	17 46 16.3	**+2.2**
CMAR	**Chiang Mai Arr**	**41.25**	**268**	P	**P**	17 46 51.3	**-1.6**
	comp=Z,0.8nm,0.6s,baz=68,slow=5.6,SNR=11						
CMAR	**Chiang Mai Arr**	**41.25**	**268**	P	**P**	17 46 51.3	**-1.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TIXI	**Tiksi**	**45.59**	**354**	⇑P	**P**	17 47 28.3	**+1.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.2s						
WRAB	**Tennant Creek**	**47.18**	**191**	⇓*e*P	**P**	17 47 40.2	**0.0**
WRAB				pmax	pmax		
	comp=Z,33nm,1.2s						
WRA	**Warramunga Arr**	**47.19**	**191**	P	**P**	17 47 39.1	**-1.1**
	comp=Z,6.2nm,0.6s,baz=13,slow=8.7,SNR=29						
WRA	**Warramunga Arr**	**47.19**	**191**	P	**P**	17 47 39.2	**-1.1**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ZALV	**Zalesovo Beam**	**50.14**	**319**	P	**P**	17 48 02.2	**-0.5**
	comp=Z,1.2nm,0.5s,baz=94,slow=9.1,SNR=6.0						
ZALV	**Zalesovo Beam**	**50.14**	**319**	P	**P**	17 48 02.2	**-0.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**50.91**	**191**	P	**P**	17 48 07.2	**-1.6**
	comp=Z,0.5nm,0.6s,baz=4.2,slow=5.7,SNR=17						
ASAR	**Alice Springs**	**50.91**	**191**	P	**P**	17 48 07.2	**-1.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**51.17**	**310**	P	**P**	17 48 09.4	**-1.2**
	comp=Z,0.9nm,0.7s,baz=93,slow=9.5,SNR=13						
MKAR	**Makanchi Array**	**51.17**	**310**	*ce*P	**P**	17 48 10.1	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AAK	**Ala-Archa**	**56.96**	**305**	⇓P	**P**	17 48 51.9	**-1.2**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ILAR	**Eielson Array**	**57.68**	**29**	P	**P**	17 48 57.2	**-0.3**
	comp=Z,0.6nm,0.8s,baz=254,slow=5.8,SNR=5.0						
ILAR	**Eielson Array**	**57.68**	**29**	P	**P**	17 48 57.2	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRVK	**Borovoye**	**58.77**	**318**	⇓*e*P	**P**	17 49 06.0	**+0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	**Arti**	**65.06**	**322**	*d i*P	**P**	17 49 48.0	**+0.4**
ARU						17 50 19.7	
ARU						17 52 07.7	
ARU				S	**S**	17 58 30.1	**+2.5**
ARU						17 59 36.2	
ARU				SS	**SS**	18 02 36.0	**-3.5**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.7s						
YKA	**Yellowknife Ar**	**72.11**	**28**	P	**P**	17 50 31.8	**+0.4**
	comp=Z,0.8nm,0.7s,baz=290,slow=6.2,SNR=4.2						
YKA	**Yellowknife Ar**	**72.11**	**28**	P	**P**	17 50 31.8	**+0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**74.04**	**341**	P	**P**	17 50 44.5	**+1.7**
	comp=Z,1.6nm,0.7s,baz=60,slow=7.4,SNR=5.6						
ARCES	**ARCESS Array B**	**74.04**	**341**	P	**P**	17 50 44.5	**+1.7**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
OBN	**Obninsk**	**77.15**	**326**	⇑*i*P	**P**	17 51 01.3	**+0.5**
OBN				pmax	pmax		
	comp=Z,31nm,2.5s						
OBN				MLR	MLR		
	comp=Z,300nm,16.0s						
FINES	**FINESS Array B**	**78.51**	**334**	P	**P**	17 51 08.3	**0.0**
	comp=Z,2.2nm,0.8s,baz=76,slow=4.1,SNR=7.5						
FINES	**FINESS Array B**	**78.51**	**334**	*ce*P	**P**	17 51 08.6	**+0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	**Khabaz**	**78.69**	**313**	P	**P**	17 51 09.9	**+0.3**
	comp=Z,2.4nm,0.8s,baz=88,slow=5.5,SNR=6.1						
KBZ	**Khabaz**	**78.69**	**313**	P	**P**	17 51 09.9	**+0.3**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FFC	**Flin Flon**	**81.66**	**32**	⇑*e*P	**P**	17 51 27.1	**+1.7**
AKASG	**Malin Array Be**	**83.25**	**324**	P	**P**	17 51 33.1	**-0.6**
	comp=Z,0.5nm,0.4s,baz=46,slow=5.2,SNR=9.5						
AKASG	**Malin Array Be**	**83.25**	**324**	P	**P**	17 51 33.1	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**84.14**	**339**	P	**P**	17 51 37.7	**-0.5**
	comp=Z,2.7nm,1.2s,baz=42,slow=5.3						
NOA	**NORSAR Array B**	**84.14**	**339**	P	**P**	17 51 37.7	**-0.5**
	comp=Z,0.5nm,0.7s,baz=44,slow=5.0,SNR=2.9						
NOA	**NORSAR Array B**	**84.14**	**339**	P	**P**	17 51 37.7	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**86.68**	**313**	P	**P**	17 51 51.5	**0.0**
	comp=Z,0.4nm,0.7s,baz=116,slow=5.3,SNR=2.4						
TXAR	**Lajitas Array**	**95.27**	**54**	P	**P**	17 52 32.9	**+1.2**
	comp=Z,0.1nm,0.6s,baz=334,slow=11,SNR=2.1						
LPAZ	**La Paz**	**149.38**	**76**	PKPbc	**PKPbc**	17 58 58.9	**+1.2**
	comp=Z,1.1nm,0.9s,baz=309,slow=6.5,SNR=4.3						
LPAZ	**La Paz**	**149.38**	**76**	PKP2	**PKPbc**	17 58 58.9	**+1.2**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						

*JMA **11** 17:41:51.6±0.2,26.71N×143.12E,h12km*

*ISCJB **11** 17:41:52.6±0.8,26.81N±0.06×143.14E±0.07,h33km, mb3.8/7, Error ellipse: s-maj=9.5km s-min=7.9km az=147.4*

*IDC **11** 17:41:56.3±5.2,26.70N×142.78E,h34km±38km,mb3.6/7, mb1 3.8/9,mb1mx3.6/24,mbtmp3.8/9,ML3.7/2, Error ellipse: s-maj=37.9km s-min=20.4km az=90.0*

ISC 11 17:41:55.7±1.0, 26.71N±0.10×143.0E±0.1, h35km, n18, σ1°04/21, mb3.6/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**0.69**	**263**	P	**Pn**	17 42 07.8	**-1.2**
JHHJ				S	**Sn**	17 42 18.7	**+0.2**
JCJ	**Chichijima**	**0.78**	**300**	Pn	**Pn**	17 42 09.3	**-1.0**
	657nm,0.3s,baz=120,slow=1.6,SNR=14						
JCJ				Sn	**Sn**	17 42 22.1	**+1.4**
	994nm,0.3s,baz=289,slow=23,SNR=15						
CBIJ	**Chichi jima**	**0.78**	**300**	P	**Pn**	17 42 09.0	**-1.3**
CBIJ				*e*S	**Sn**	17 42 22.0	**+1.3**
BSO1	**Boso 1**	**8.10**	**348**	P	**Pn**	17 43 49.4	**-0.9**
BSO3	**Boso 3**	**8.33**	**346**	P	**Pn**	17 43 53.4	**-0.4**
JOD2	**Odawara 2**	**9.14**	**340**	P	**Pn**	17 44 04.3	**-0.9**
JHU	**Hanno**	**9.63**	**342**	P	**Pn**	17 44 11.2	**-0.7**
JRY	**Ryogami san**	**9.90**	**341**	P	**Pn**	17 44 14.5	**-1.0**
JHO	**Hitachi**	**10.07**	**349**	P	**Pn**	17 44 15.8	**-2.1**
MJAR	**Matsushiro Arr**	**10.60**	**339**	Pn	**Pn**	17 44 24.3	**-0.8**
	0.8nm,0.3s,baz=156,slow=13,SNR=6.1						
ASAJ	**Asahikawa**	**17.37**	**359**	P	**P**	17 45 56.7	**+0.4**
	0.4nm,0.3s,baz=204,slow=7.8,SNR=6.8						
CMAR	**Chiang Mai Arr**	**41.29**	**268**	P	**P**	17 49 37.6	**-0.4**
	0.5nm,0.7s,baz=66,slow=5.8,SNR=

TALC	**Talca**	**1.51**	**156**	⇑*iP*		**Pb**	**18 11 49.1**	**-0.1**
TALC				*i* S		**Sg**	**18 12 09.3**	**+0.1**
SAN	**Santiago**	**1.55**	**69**	*eP*		**Pb**	**18 11 49.6**	**-0.5**
SAN				*eS*		**Sg**	**18 12 10.2**	**-0.6**
ROCH	**El Roble**	**1.56**	**48**	⇑*iP*		**Pn**	**18 11 49.8**	**+0.3**
ROCH				*eS*		**Sg**	**18 12 11.2**	**+0.1**
ROCH				AML	AML		18 12 21.2	
	comp=N,2μm,0.4s							
PCH	**Pirque**	**1.62**	**76**	*eP*		**Pb**	**18 11 50.6**	**-0.6**
CLCH	**Cerro Calan**	**1.67**	**68**	⇑*iP*		**Pb**	**18 11 51.5**	**-0.6**
CLCH				*i* S		**Sg**	**18 12 13.8**	**-0.8**
CLCH				AML	AML		18 12 30.1	
	comp=E,2μm,0.7s							
PEL	**Peldehue**	**1.68**	**59**	*eP*		**Pb**	**18 11 51.7**	**-0.5**
PEL				*i* S		**Sb**	**18 12 13.7**	**+0.1**
PEL				AML	AML		18 12 22.9	
	comp=N,5μm,0.6s							
SJCH	**San Jose de Ma**	**1.74**	**78**	⇑*iP*		**Pn**	**18 11 52.2**	**+0.4**
LNCH	**Linares**	**1.93**	**160**	⇓*iP*		**Pb**	**18 11 55.7**	**-0.8**
LNCH				*i* S		**Sb**	**18 12 21.2**	**+0.3**
AUSP	**Uspallata**	**3.10**	**55**	*eP*		**Pb**	**18 12 15.2**	**-1.4**
ARCO	**CERRO ARCO**	**3.13**	**69**	*eP*		**Pb**	**18 12 17.8**	**+0.8**
ASAL	**Salagasta**	**3.31**	**65**	*eP*		**Pb**	**18 12 21.2**	**+1.2**
RTLS	**Leoncito**	**3.42**	**50**	*eP*		**Pb**	**18 12 19.5**	**-2.7**
RTLS				*eS*		**Sg**	**18 13 10.5**	**-0.4**
RTCV	**Cerro Valdivia**	**3.89**	**57**	*eP*		Pn	18 12 25.1	+3.7
RTCV				*eS*		**Sg**	**18 13 25.0**	**-0.9**
CANA	**Caviahue**	**4.00**	**165**	*eP*		**Pb**	**18 12 31.2**	**-0.7**
CFAA	**Coronel Fontan**	**4.25**	**57**	Pn		**Pn**	**18 12 27.1**	**+0.8**
	comp=N,0.6nm,0.3s,baz=232,slow=12,SNR=24							
CFAA				Lg	Lg		18 13 29.6	
	comp=N,0.6nm,0.3s,baz=303,slow=12,SNR=3.3							
CFAA	**Coronel Fontan**	**4.25**	**57**	*eP*		**Pn**	**18 12 29.0**	**+2.7**
RTLL	**Cerro Villicun**	**4.26**	**52**	*eP*		**Pn**	**18 12 29.3**	**+2.9**
RTLL				*eS*		**Sb**	**18 13 30.2**	**+2.2**
AMOG	**MOGNA**	**4.51**	**48**	*eP*		**Pn**	**18 12 31.8**	**+1.9**
AVFE	**Valle Fertil**	**5.36**	**53**	*eP*		**Pn**	**18 12 42.9**	**+1.3**
AVFE				AML	AML		18 14 01.9	
	comp=Z,85nm,0.7s							
PLCA	**Paso Flores**	**6.86**	**168**	Pn		**Pn**	**18 13 02.1**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=292,slow=1.8,SNR=3.1							
LPAZ	**La Paz**	**18.07**	**13**	P		**P**	**18 15 34.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=179,slow=8.8,SNR=8.9							
SIV	**San Ignacio**	**20.65**	**32**	P		**P**	**18 16 00.9**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=213,slow=12,SNR=9.2							
TXAR	**Lajitas Array**	**69.61**	**331**	P		**P**	**18 22 32.4**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=155,slow=9.0,SNR=3.7							
TORD	**Torodi Ar. Bea**	**84.50**	**70**	P		**P**	**18 23 53.9**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=268,slow=4.9,SNR=9.4							
ZALV	**Zalesovo Beam**	**154.41**	**32**	PKPbc		**PKPbc**	**18 31 22.2**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=306,slow=3.8,SNR=9.9							
ZALV				PKPab		**PKPab**	**18 31 36.1**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=306,slow=3.5,SNR=5.1							
MKAR	**Makanchi Array**	**157.00**	**49**	PKPab		**PKPab**	**18 31 47.2**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=295,slow=3.9,SNR=7.3							

GUC 11 18:18:44.5±0.7, 34°33S×72°19W, h51km±4km, ML3.7, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LNV	**Longovilo**	**0.75**	**60**	⇓*iP*		Pn	18 18 58.9	0.0
LNV				*i* S		Sn	18 19 09.9	+0.6
TALC	**Talca**	**1.16**	**157**	*eP*		Pn	18 19 09.8	+5.3
TACH	**Talagante**	**1.24**	**58**	*eP*		Pn	18 19 05.8	+0.3
TACH				*i* S		Sn	18 19 22.1	+0.9
CHCH	**Chadas Angostu**	**1.34**	**73**	*eP*		Pn	18 19 08.8	+1.9
PCH	**Pirque**	**1.56**	**64**	*eP*		Pn	18 19 11.1	+1.0
LNCH	**Linares**	**1.59**	**162**	*eP*		Pn	18 19 10.9	+0.7
ROCH	**El Roble**	**1.67**	**36**	*eP*		Pn	18 19 10.4	-1.4
ROCH				*eS*		Sn	18 19 32.1	-0.1
ROCH				AML	AML		18 19 45.4	
	comp=N,683nm,0.6s							
PEL	**Peldehue**	**1.73**	**47**	*eP*		Pn	18 19 12.8	+0.6
PEL				*eS*		Sn	18 19 34.4	+1.3
PEL				AML	AML		18 19 43.7	
	comp=E,2μm,0.5s							

*IDC **11** 18:19:45.4±1.0, 34°10S×72°09W, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.8/34, mbtmp3.7/8, ML3.4/3, Error ellipse: s-maj=27.4km s-min=17.2km az=104.0*
*ISCJB **11** 18:19:46.2±2.4, 34°07S±0.06×72°15W±0°.1, h24km±17km, mb3.8/4, Error ellipse: s-maj=17.3km s-min=8.2km az=21.0*
*GUC **11** 18:19:47.6±0.7, 34°08S×72°31W, h18km±2km, ML3.8*
ISC 11 18:19:46.3±2.1, 34°08S±0°.05×72°30W±0°.10, h10km±12km, n17, σ0s71/23, mb3.9/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LNV	**Longovilo**	**0.75**	**81**	*eP*		**Pn**	**18 20 02.8**	**-0.2**
LNV				*i* S		**Sn**	**18 20 13.6**	**-0.8**
TACH	**Talagante**	**1.21**	**70**	*eP*		**Pn**	**18 20 10.0**	**+0.6**
NICH	**Los Niches**	**1.28**	**136**	*eP*		**Pg**	**18 20 11.1**	**+0.3**
NICH				*eS*		**Sn**	**18 20 28.9**	**+1.5**
CHCH	**Chadas Angostu**	**1.38**	**84**	*eP*		**Pg**	**18 20 12.7**	**0.0**
TALC	**Talca**	**1.43**	**158**	*eP*		**Pb**	**18 20 13.1**	**+0.1**
TALC				*eS*		**Sg**	**18 20 32.6**	**+0.5**
PEL	**Peldehue**	**1.64**	**56**	*eP*		**Pb**	**18 20 16.8**	**+0.1**
PEL				*eS*		**Sg**	**18 20 39.0**	**0.0**
PEL				AML	AML		18 20 48.0	
	comp=E,2μm,0.5s							
LNCH	**Linares**	**1.85**	**162**	*eP*		**Pb**	**18 20 19.8**	**-0.5**
LNCH				*eS*		**Sg**	**18 20 46.3**	**+0.4**
CFAA	**Coronel Fontan**	**4.22**	**55**	Pn		**Pn**	**18 20 49.8**	**-1.0**
	comp=E,0.3nm,0.3s,baz=225,slow=13,SNR=3.3							
CFAA				Lg	Lg		18 21 54.1	
	comp=E,0.1nm,0.3s,baz=117,slow=19,SNR=3.2							
PLCA	**Paso Flores**	**6.79**	**169**	Pn		**Pn**	**18 21 25.5**	**-0.5**
	comp=E,0.1nm,0.3s,baz=330,slow=20,SNR=2.4							
PLCA				Lg	Lg		18 23 21.2	
	comp=E,0.2nm,0.3s,baz=89,slow=22,SNR=3.8							
LPAZ	**La Paz**	**18.11**	**13**	P		**P**	**18 23 59.9**	**+0.8**
	comp=E,0.3nm,0.3s,baz=180,slow=9.2,SNR=6.6							
SIV	**San Ignacio**	**20.66**	**32**	P		**P**	**18 24 26.0**	**-0.3**
	comp=E,1.7nm,0.8s,baz=220,slow=14,SNR=4.4							
BDFB	**Brasilia**	**28.56**	**56**	P		**P**	**18 25 42.2**	**-0.4**
	comp=E,1.7nm,0.5s,baz=261,slow=13,SNR=2.5							
SNAA	**Sanae**	**51.59**	**158**	P		**P**	**18 28 51.8**	**-0.6**
	comp=E,1.0nm,1.0s,baz=262,slow=7.0,SNR=5.3							
TXAR	**Lajitas Array**	**69.70**	**331**	P		**P**	**18 30 57.4**	**+1.1**
	comp=E,0.2nm,0.8s,baz=149,slow=7.4,SNR=2.2							
TORD	**Torodi Ar. Bea**	**84.44**	**70**	P		**P**	**18 32 19.0**	**-0.5**
	comp=E,1.4nm,0.8s,baz=264,slow=4.2,SNR=7.5							
ZALV	**Zalesovo Beam**	**154.41**	**32**	PKPbc		**PKPbc**	**18 39 46.9**	**+0.5**
	comp=E,1.4nm,0.7s,baz=302,slow=3.7,SNR=6.9							
ZALV				PKPab		**PKPab**	**18 40 01.9**	**+1.2**
	comp=E,1.1nm,0.7s,baz=290,slow=4.4,SNR=3.6							
MKAR	**Makanchi Array**	**156.98**	**49**	PKPab		**PKPab**	**18 40 12.2**	**+0.1**
	comp=E,0.4nm,0.7s,baz=279,slow=4.4,SNR=5.1							

IDC 11 18:52:10.7±7.7, 13°95S×70°22W, h200km±97km, mb3.4/1, mb1 3.4/2, mb1mx3.0/22, mbtmp3.8/2, MS4.0/1, Ms1 4.0/1, ms1mx3.2/7, Error ellipse: s-maj=225.6km s-min=88.1km az=28.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**3.08**	**139**	P		Pn	18 53 01.8	-0.3
	3.6nm,0.3s,baz=296,slow=12,SNR=79							
LPAZ				S		Sn	18 53 42.5	+0.2
	0.6nm,0.3s,baz=114,slow=16,SNR=4.3							
PLCA	**Paso Flores**	**26.68**	**181**	LR		LR	19 07 44.6	
	comp=Z,336nm,20.9s,baz=30,slow=35							
TORD	**Torodi Ar. Bea**	**76.15**	**73**	P		P	19 03 37.2	-0.1
	0.4nm,0.4s,baz=251,slow=5.3,SNR=10							
MKAR	**Makanchi Array**	**139.98**	**30**	PKP		PKPdf	19 11 16.5	+1.1
	0.1nm,0.5s,baz=298,slow=3.1,SNR=2.2							

*NIED **11** 19:01:00, 41°00N×143°20E, h32km, Mw3.6 Best double couple: M₀2.91000×10¹⁴ NP1:φs88.00000°, δ23.00000°, λ-92.00000°. NP2:φs270.00000°, δ67.00000°, λ-89.00000°.*
*IDC **11** 19:01:38.1±2.1, 40°94N×143°63E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/47, mbtmp3.5/5, ML2.8/1, Error ellipse: s-maj=61.2km s-min=22.5km az=76.0*
*ISCJB **11** 19:01:42.9±0.7, 40°99N±0°.04×143°27E±0°.07, h43km±10km, mb3.4/4, Error ellipse: s-maj=10.2km s-min=4.5km az=29.9*
*JMA **11** 19:01:42.9±0.1, 40°99N×143°19E, h34km, MJ3.6*
ISC 11 19:01:42.9±2.0, 41°01N±0°.04×143°25E±0°.06, h26km±16km, n20, σ0s83/29, mb3.5/4, 5C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JEM	**Erimo**	**1.01**	**356**	⇑P		**Pb**	**19 02 01.5**	**-0.3**
JNBK	**Urakawa-nobuka**	**1.33**	**344**	⇑P		**Pn**	**19 02 06.0**	**+0.2**
JANG	**Nango**	**1.46**	**245**	⇑P		**Pn**	**19 02 07.0**	**-0.6**
JANG				*eS*		**Sn**	**19 02 24.4**	**-1.5**
JCH	**Churui**	**1.61**	**3**	P		**Pn**	**19 02 09.9**	**+0.2**
JCH				*eS*		**Sn**	**19 02 29.8**	**+0.2**
JTM	**Tenmabayashi**	**1.67**	**263**	P		**Pn**	**19 02 10.5**	**+0.1**
JTM				*eS*		**Sn**	**19 02 30.3**	**-0.6**
JOT	**Ohata**	**1.70**	**283**	P		**Pn**	**19 02 10.6**	**-0.3**
JKB	**Kayabe**	**1.88**	**299**	P		**Pn**	**19 02 13.2**	**-0.2**
JKB				*eS*		**Sn**	**19 02 35.4**	**-0.9**
JBT2	**Biratori 2**	**1.89**	**340**	⇓P		**Pn**	**19 02 14.5**	**+1.0**
JOM	**Ohasama**	**2.14**	**225**	P		**Pn**	**19 02 17.7**	**+0.7**
JOM				*eS*		**Sn**	**19 02 43.2**	**+0.5**
JFR	**Furan**	**2.21**	**348**	P		**Pn**	**19 02 18.5**	**+0.6**
JAK	**Akkeshi**	**2.26**	**28**	⇑P		**Pn**	**19 02 18.9**	**+0.3**
JAK				*eS*		**Sn**	**19 02 44.9**	**-0.8**
JEW	**Eniwo**	**2.27**	**324**	P		**Pn**	**19 02 19.7**	**+1.0**
JEW				*eS*		**Sn**	**19 02 46.9**	**+1.0**
JAR	**Ashorobuto**	**2.32**	**9**	⇑P		**Pn**	**19 02 19.4**	**-0.1**
JAR				*eS*		**Sn**	**19 02 46.0**	**-1.2**
JMK	**Ichinoseki**	**2.58**	**218**	⇓P		**Pn**	**19 02 23.5**	**+0.6**
JMK				*eS*		**Sn**	**19 02 53.4**	**0.0**
ASAJ	**Asahikawa**	**3.15**	**351**	Pn		**Pn**	**19 02 31.4**	**+0.7**
	baz=221,slow=20							
MJAR	**Matsushiro Arr**	**5.95**	**223**	Pn		**Pn**	**19 03 10.6**	**+1.3**
	0.3nm,0.3s,baz=31,slow=12,SNR=4.7							
ZALV	**Zalesovo Beam**	**40.41**	**309**	P		**P**	**19 09 19.7**	**+1.1**
	0.3nm,0.6s,baz=92,slow=14,SNR=2.1							
MKAR	**Makanchi Array**	**43.33**	**299**	P		**P**	**19 09 43.5**	**+0.8**
	0.1nm,0.5s,baz=85,slow=6.1,SNR=3.7							
WRA	**Warramunga Arr**	**61.20**	**190**	P		**P**	**19 11 54.1**	**-1.3**
	0.6nm,0.8s,baz=7.1,slow=6.8,SNR=5.0							
ASAR	**Alice Springs**	**64.92**	**189**	P		**P**	**19 12 19.4**	**-0.8**
	0.4nm,0.6s,baz=359,slow=6.1,SNR=5.2							

IDC 11 19:07:37.1±29.0, 4°62N×32°28W, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/39, mbtmp3.5/4, MS3.6/5, Ms1 3.6/5, ms1mx3.3/17, Error ellipse: s-maj=649.5km s-min=77.8km az=33.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
H10N3	**ASCENSION HYDR**	**21.63**	**125**	T		T	19 34 51.4	
	baz=303,slow=75,SNR=186							
H10N2	**ASCENSION HYDR**	**21.63**	**125**	T		T	19 34 51.8	
	baz=303,slow=75,SNR=230							
H10N1	**ASCENSION HYDR**	**21.65**	**125**	T		T	19 34 52.9	
	baz=303,slow=75,SNR=202							
H10S3	**ASCENSION HYDR**	**22.14**	**128**	T		T	19 35 30.8	
	baz=305,slow=74,SNR=104							
H10S1	**ASCENSION HYDR**	**22.14**	**127**	T		T	19 35 31.3	
	baz=305,slow=74,SNR=106							
H10S2	**ASCENSION HYDR**	**22.16**	**127**	T		T	19 35 32.2	
	baz=305,slow=74,SNR=94							
BDFB	**Brasilia**	**25.46**	**217**	LR		LR	19 21 16.0	
	comp=Z,105nm,19.4s,baz=120,slow=32							
H05S1	**Guadeloupe/Mar**	**29.77**	**291**	T		T	19 44 42.9	
	SNR=9.0							
H05N1	**Guadeloupe/Mar**	**30.54**	**295**	T		T	19 45 29.2	
TORD	**Torodi Ar. Bea**	**34.58**	**74**	P		P	19 14 27.9	-0.1
	0.3nm,0.7s,baz=270,slow=9.6,SNR=3.2							
TORD				LR		LR	19 26 28.4	
	comp=Z,123nm,19.9s,baz=240,slow=33							
LPAZ	**La Paz**	**41.10**	**239**	LR		LR	19 30 50.3	
	comp=Z,110nm,19.5s,baz=71,slow=34							
ROSC	**El Rosal**	**41.91**	**272**	LR		LR	19 34 10.2	
	comp=Z,68nm,18.8s,baz=176,slow=38							
GERES	**GERESS Array B**	**58.82**	**34**	P		P	19 17 37.5	0.0
	0.3nm,0.6s,baz=224,slow=8.3,SNR=4.0							
MLR	**Muntele Rosu**	**64.78**	**41**	P		P	19 18 18.0	+0.2
	0.2nm,0.4s,baz=273,slow=5.6,SNR=3.8							
BRTR	**Keskin Array B**	**68.61**	**49**	LR		LR	19 48 29.0	
	comp=Z,33nm,21.7s,baz=200,slow=36							
AKASG	**Malin Array Be**	**68.64**	**37**	P		P	19 18 41.9	-0.2
	0.3nm,0.4s,baz=240,slow=8.5,SNR=4.4							

*ISCJB **11** 19:09:22.2±0.5, 59°68N±0°.03×25°67E±0°.07, h0km, Error ellipse: s-maj=5.2km s-min=3.8km az=27.5*
*CSEM **11** 19:09:23.5±0.2, 59°64N×25°75E, h2km, ML2.1, Error ellipse: s-maj=4.9km s-min=3.1km az=122.0, Mining explosion.*
*HEL **11** 19:09:24.6±0.1, 59°59N×25°68E, h0km, ML2.1, Explosion*
*NAO **11** 19:09:24.4±1.0, 59°60N×25°80E, ML2.3*
*BER **11** 19:09:25.0±3.4, 59°62N×25°71E, h0km±15km, ML2.3(NAO)*
*IDC **11** 19:09:25.7±2.0, 59°64N×25°63E, h0km, mb1 3.2/3, mb1mx2.9/38, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=18.8km s-min=7.3km az=136.0*
*UPP **11** 19:09:36.8, 59°62N×23°82E, h0km, ML1.7, Suspected Mining explosion.*
ISC 11 19:09:22.6±0.8, 59°63N±0°.03×25°71E±0°.03, h0km, n63, σ1s22/74, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SRPE	**Suurupi**	**0.70**	**257**	*eP*		**Pg**	**19 09 36.8**	**+0.8**
SRPE				*eS*		**Sg**	**19 09 45.4**	**+0.3**
SRPE	**Suurupi**	**0.70**	**257**	P		**Pg**	**19 09 36.8**	**+0.8**
SRPE				S		**Sg**	**19 09 45.3**	**+0.3**
MEF	**Metsahovi**	**0.89**	**312**	*eP*		**Pg**	**19 09 40.8**	**+1.2**
MEF	**Metsahovi**	**0.89**	**312**	P		**Pg**	**19 09 40.8**	**+1.2**
PVF	**Pernaja**	**0.92**	**5**	*eP*		**Pb**	**19 09 41.9**	**+0.5**
PVF	**Pernaja**	**0.92**	**5**	P		**Pb**	**19 09 41.9**	**+0.5**
VSU	**Vasula**	**1.28**	**155**	Pg		**Pg**	**19 09 47.6**	**+0.4**
VSU				Lg		Lg	19 10 05.0	
VSU	**Vasula**	**1.28**	**155**	Pg		**Pg**	**19 09 47.6**	**+0.4**
VSU				Lg		Lg	19 10 05.0	
VSU	**Vasula**	**1.28**	**155**	*e*PB		**Pg**	**19 09 47.5**	**+0.4**
VSU	**Vasula**	**1.28**	**155**	Pg		**Pg**	**19 09 47.6**	**+0.4**
	SNR=90							
VSU				Lg		Lg	19 10 05.0	
VJF	**Virojoki**	**1.30**	**45**	*eP*		**Pg**	**19 09 48.4**	**+1.0**
VJF	**Virojoki**	**1.30**	**45**	P		**Pg**	**19 09 48.4**	**+1.0**
MTSE	**Matsula**	**1.34**	**228**	*eP*		**Pg**	**19 09 47.9**	**-0.3**
MTSE	**Matsula**	**1.34**	**228**	P		**Pg**	**19 09 47.9**	**-0.3**
FIA0	**FINESS Array S**	**1.83**	**5**	Pg		**Pb**	**19 09 57.8**	**+0.9**
	baz=188,slow=18							
FIA0				Lg		Lg	19 10 22.0	
	baz=183,slow=28							
FIA0				Rg		Rg	19 10 33.9	
	baz=180,slow=56							
FIA0	**FINESS Array S**	**1.83**	**5**	Pg		**Pb**	**19 09 57.8**	**+0.9**
	baz=188,slow=18							
FIA0				Lg		Lg	19 10 22.0	
	baz=183,slow=28							
FIA0				Rg		Rg	19 10 33.9	
	baz=180,slow=56							
FIA0	**FINESS Array S**	**1.83**	**5**	*e*PN		**Pb**	**19 09 57.6**	**+0.7**
FIA0	**FINESS Array S**	**1.83**	**5**	Pg		**Pb**	**19 09 57.8**	**+0.9**
	SNR=90							
FIA0				Lg		Lg	19 10 22.0	
	SNR=90							
FINES	**FINESS Array B**	**1.83**	**5**	Pg		**Pb**	**19 09 57.9**	**+0.9**
	2.3nm,0.3s,baz=188,slow=17,SNR=439							
FINES				Lg		Lg	19 10 22.9	
	3.0nm,0.3s,baz=188,slow=27,SNR=18							
FINES				Rg		Rg	19 10 33.7	
	5.7nm,0.7s,baz=186,slow=32,SNR=5.8							
RAF	**Rauma**	**2.41**	**307**	*e*PB		**Pb**	**19 10 06.4**	**-0.4**
RAF				*e*SG		**Sb**	**19 10 38.8**	**+1.8**
RAF				MSG			19 10 41.0	
	comp=Z,9.8nm,0.1s							
KAF	**Kangasniemi**	**2.51**	**6**	*eP*		**Pb**	**19 10 07.5**	**-1.0**
KAF				*e*SG		**Sg**	**19 10 42.6**	**-0.5**
KAF				MSG			19 10 45.2	
	comp=Z,9.3nm,0.2s							
KEF	**Keuruu**	**2.58**	**351**	*e*PB		**Pb**	**19 10 09.3**	**-0.4**
KEF				*e*SG		**Sg**	**19 10 45.2**	**-0.1**
KEF				MSG			19 10 47.0	
	comp=Z,5.8nm,0.1s							
AAL	**Aland**	**2.93**	**283**	*eP*		**Pn**	**19 10 12.0**	**+1.5**
AAL				*e*SB		**Sb**	**19 10 52.1**	**+0.1**
AAL	**Aland**	**2.93**	**283**	P		**Pn**	**19 10 11.9**	**+1.5**
AAL	**Aland**	**2.93**	**283**	P		**Pn**	**19 10 12.2**	**+1.9**
AAL				S		Sn	19 10 34.3	-12
NRTU	**Norrtaelje**	**3.59**	**274**	P		**Pn**	**19 10 21.0**	**+1.6**
NRTU	**Norrtaelje**	**3.59**	**274**	P		**Pn**	**19 10 21.1**	**+1.6**
GRAU	**Graesoe**	**3.67**	**284**	P		**Pn**	**19 10 21.2**	**+0.6**
GRAU	**Graesoe**	**3.67**	**284**	P		**Pn**	**19 10 21.2**	**+0.6**
FLYU	**Flymyra**	**3.98**	**281**	P		**Pn**	**19 10 25.4**	**+0.6**
FLYU	**Flymyra**	**3.98**	**281**	P		**Pn**	**19 10 25.4**	**+0.6**
NYNU	**Nynaeshamn**	**4.00**	**264**	P		**Pn**	**19 10 26.7**	**+1.7**
NYNU	**Nynaeshamn**	**4.00**	**264**	P		**Pn**	**19 10 26.7**	**+1.7**
GOTU	**Gotland**	**4.21**	**246**	P		**Pn**	**19 10 28.8**	**+0.9**
GOTU	**Gotland**	**4.21**	**246**	P		**Pn**	**19 10 28.8**	**+0.9**
BACU	**Backbrunna**	**4.36**	**277**	P		**Pn**	**19 10 31.1**	**+1.1**
BACU	**Backbrunna**	**4.36**	**277**	P		**Pn**	**19 10 31.1**	**+1.1**
ESKU	**Eskilstuna**	**4.78**	**269**	P		**Pn**	**19 10 37.4**	**+1.7**
ESKU	**Eskilstuna**	**4.78**	**269**	P		**Pn**	**19 10 37.4**	**+1.7**
VIKU	**Vikbolandet**	**4.79**	**260**	P		**Pn**	**19 10 36.7**	**+0.8**
VIKU	**Vikbolandet**	**4.79**	**260**	P		**Pn**	**19 10 36.7**	**+0.8**
VSTU	**Vaestervik**	**5.18**	**252**	P		**Pn**	**19 10 42.7**	**+1.4**
VSTU	**Vaestervik**	**5.18**	**252**	P		**Pn**	**19 10 42.7**	**+1.4**
ASPU	**Aespoe**	**5.27**	**249**	P		**Pn**	**19 10 44.0**	**+1.6**
ASPU	**Aespoe**	**5.27**	**249**	P		**Pn**	**19 10 44.0**	**+1.6**
LNKU	**Linkoeping**	**5.47**	**259**	P		**Pn**	**19 10 46.7**	**+1.4**
LNKU	**Linkoeping**	**5.47**	**259**	P		**Pn**	**19 10 46.7**	**+1.4**
OSKU	**Oskarshamn**	**5.61**	**248**	P		**Pn**	**19 10 48.5**	**+1.3**
OSKU	**Oskarshamn**	**5.61**	**248**	P		**Pn**	**19 10 48.5**	**+1.3**
HFS	**Hagfors**	**6.07**	**280**	Pn		**Pn**	**19 10 54.5**	**+1.0**
	baz=96,slow=12							
HFS				Sn		**Sn**	**19 12 02.8**	**-0.9**
	baz=107,slow=22							
HFS				Lg	Lg		19 12 30.6	
HFS	**Hagfors**	**6.07**	**280**	Pn		**Pn**	**19 10 54.5**	**+1.0**
	baz=96,slow=12							
HFS				Sn		**Sn**	**19 12 02.8**	**-0.9**
	baz=107,slow=22							
HFS				Lg	Lg		19 12 30.6	
HFS	**Hagfors**	**6.07**	**280**	Pn		**Pn**	**19 10 53.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=119,slow=12,SNR=16							
HFS				Sn		**Sn**	**19 12 03.9**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=98,slow=29,SNR=5.3							
HFS				Lg	Lg		19 12 32.6	
	comp=Z,0.6nm,0.3s,baz=96,slow=29,SNR=4.3							
HFS	**Hagfors**	**6.07**	**280**	Pn		**Pn**	**19 10 54.5**	**+1.0**
	SNR=50							
VXJU	**Vaexsjoe**	**6.30**	**249**	P		**Pn**	**19 10 58.0**	**+1.4**
VXJU	**Vaexsjoe**	**6.30**	**249**	P		**Pn**	**19 10 58.0**	**+1.4**
NB2	**NORSAR Subarra**	**7.33**	**287**	Pn		**Pn**	**19 11 11.0**	**+0.1**
	baz=98,slow=14							
NB2	**NORSAR Subarra**	**7.33**	**287**	Pn		**Pn**	**19 11 11.0**	**+0.1**
	baz=98,slow=14							
NB2	**NORSAR Subarra**	**7.33**	**287**	Pn		**Pn**	**19 11 11.0**	**+0.1**
	SNR=50							
NOA	**NORSAR Array B**	**7.33**	**287**	Pn		**Pn**	**19 11 10.8**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=91,slow=9.2,SNR=7.5							
NOA				Sn		**Sn**	**19 12 31.4**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=136,slow=21,SNR=3.0							
NOA				Lg	Lg		19 13 10.6	
	comp=Z,0.4nm,0.3s,baz=247,slow=3.3,SNR=3.3							
ARA0	**ARCESS Array S**	**9.95**	**360**	Pn		**Pn**	**19 11 46.5**	**-0.1**
	baz=178,slow=12							
ARA0				Sn		Sn	19 13 32.6	-6.2
	baz=176,slow=28							
ARA0	**ARCESS Array S**	**9.95**	**360**	Pn		**Pn**	**19 11 46.5**	**-0.1**
	baz=178,slow=12							
ARA0				Sn		Sn	19 13 32.6	-6.2
	baz=176,slow=28							
ARA0	**ARCESS Array S**	**9.95**	**360**	Pn		**Pn**	**19 11 46.5**	**-0.1**
	SN

3.7nm,0.3s,baz=158,slow=23,SNR=4.4
AB31 Akbulak array 14.29 324 ||P **Pn 19 20 11.9 +0.1**
0.1nm,0.4s,baz=303,slow=13,SNR=2.5

IDC 11 19:41:57.3±1.8,7°.56S×124°.67E,h0km,mb3.2/1, mb1 3.4/3,mb1mx3.2/31,mbtmp3.2/3,ML3.5/2,Error ellipse: s-maj=225.7km s-min=30.3km az=59.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
WRA	**Warramunga Arr**	**15.47**	**144**	Pn		Pn	19 45 38.7	+1.6
	0.2nm,0.3s,baz=321,slow=14,SNR=7.9							
WRA				Sn		Sn	19 48 12.7	-17
	0.2nm,0.3s,baz=316,slow=24,SNR=7.9							
ASAR	**Alice Springs**	**18.30**	**152**	P		Pn	19 46 12.0	-0.9
	0.1nm,0.3s,baz=318,slow=13,SNR=7.1							
ASAR				S		Sn	19 49 20.3	-18
	0.1nm,0.3s,baz=316,slow=22,SNR=3.6							
MKAR	**Makanchi Array**	**65.91**	**330**	P		P	19 52 45.1	0.0
	0.2nm,0.6s,baz=131,slow=7.9,SNR=3.3							

*SZGRF **11** 19:57:08.0, 19°.53S×178°.29W,h618km, Fiji Islands region*
*IDC **11** 19:58:12.5±3.0, 18°.09S×178°.25W,h539km±34km, mb3.9/21,mb1 4.1/22,mb1mx4.0/34,mbtmp4.8/22,Error ellipse: s-maj=16.5km s-min=11.6km az=73.0*
*BJI **11** 19:58:14.9, 17°.92S×178°.01W,h587km,mb4.4/20, mB4.7/11*
*MOS **11** 19:58:14.1±1.1, 17°.63S×178°.61W,h541km,mb4.6/13, Error ellipse: s-maj=15.3km s-min=12.7km az=35.1*
*ISCJB **11** 19:58:15.5±0.7, 18°.03S±0°.06×178°.49W±0°.05, h579km±9km,mb4.5/88,Error ellipse: s-maj=10.6km s-min=5.4km az=152.3*
*NEIC **11** 19:58:16.8±0.8, 18°.01S×178°.46W,h583km±9km,mb4.5/61, Error ellipse: s-maj=8.9km s-min=5.2km az=145.0*
ISC 11 19:58:17.2±0.5,18°.06S±0°.07×178°.30W±0°.06, h595km±4km,h595km:pP-P,n336,σ1§15/352,mb4.5/88, 43C-33D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MSVF	**Nonsavu**	**3.49**	**275**	*e*Pn		**P**	**19 59 41.0**	**+2.0**
MSVF				*e*Sn		**S**	**20 00 49.1**	**+3.5**
AFI	**Afiamalu**	**7.51**	**58**	*e*P		**P**	**20 00 11.4**	**-0.5**
AFI				*e*S		**S**	**20 01 42.5**	**-3.3**
DZM	**Mont Dzumac**	**14.87**	**252**	P		P	20 01 20.5	-3.9
	2.1nm,0.3s,baz=90,slow=24,SNR=14							
OUZ	**Omahuta**	**18.54**	**201**	*e*P		**P**	**20 02 00.9**	**+3.1**
	392nm,2.0s							
URZ	**Urewera**	**20.52**	**190**	P		**P**	**20 02 12.5**	**-3.1**
	7.6nm,0.5s,baz=351,slow=1.2,SNR=6.5							
RPZ	**Rata Peaks**	**27.11**	**197**	P		**P**	**20 03 11.5**	**-2.4**
	6.6nm,0.5s,baz=153,slow=6.8,SNR=4.3							
EIDS	**Eidsvold**	**29.31**	**250**	*e*P		**P**	**20 03 32.7**	**-0.6**
	42nm,0.7s							
ARMA	**Armidale**	**29.95**	**240**	*e*P		**P**	**20 03 39.6**	**+0.7**
	45nm,0.8s							
CTA	**Charters Tower**	**33.52**	**261**	P		**P**	**20 04 08.3**	**-0.8**
	32nm,0.6s,baz=95,slow=11,SNR=52							
CTA	**Charters Tower**	**33.52**	**261**	P		**P**	**20 04 08.4**	**-0.8**
CTA				pmax		pmax		
	comp=Z,32nm,0.6s							
CTAO	**Charters Tower**	**33.52**	**261**	*e*P		**P**	**20 04 08.2**	**-1.0**
	comp=Z,21nm,0.5s							
CAN	**Canberra**	**33.69**	**233**	*e*P		**P**	**20 04 10.6**	**+0.1**
	comp=Z,69nm,0.9s							
PMG	**Port Moresby**	**34.58**	**280**	*d*iP		**P**	**20 04 18.4**	**+0.3**
PMG				pmax		pmax		
	comp=Z,314nm,0.9s							
PMG	**Port Moresby**	**34.58**	**280**	*e*P		**P**	**20 04 18.9**	**+0.8**
	comp=Z,20nm,0.8s							
COEN	**Coen**	**37.21**	**271**	*e*P		**P**	**20 04 40.2**	**+0.5**
	comp=Z,73nm,0.8s							
STKA	**Stephens Creek**	**38.64**	**241**	P		**P**	**20 04 50.7**	**-0.4**
	comp=Z,69nm,0.8s,baz=92,slow=9.4,SNR=118							
STKA	**Stephens Creek**	**38.64**	**241**	*e*P		**P**	**20 04 51.5**	**+0.4**
WAKE	**Wake Island**	**39.95**	**338**	*e*P		**P**	**20 05 00.7**	**-0.9**
JAY	**Jayapura**	**43.05**	**286**	P		**P**	**20 05 25.7**	**-0.5**
BBOO	**Buckleboo**	**43.42**	**241**	*e*P		**P**	**20 05 28.8**	**0.0**
	comp=Z,62nm,0.8s							
GENI	**Genyem**	**43.51**	**286**	P		**P**	**20 05 30.9**	**+1.2**
WRAB	**Tennant Creek**	**44.69**	**260**	*d*iP		**P**	**20 05 37.6**	**-1.2**
WRAB				pmax		pmax		
	comp=Z,69nm,1.0s							
WRAB	**Tennant Creek**	**44.69**	**260**	*e*P		**P**	**20 05 37.8**	**-1.0**
	comp=Z,31nm,0.6s							
WRA	**Warramunga Arr**	**44.70**	**260**	P		**P**	**20 05 37.7**	**-1.2**
	comp=Z,21nm,0.5s,baz=96,slow=7.2,SNR=331							
WRA	**Warramunga Arr**	**44.70**	**260**	P		**P**	**20 05 37.7**	**-1.2**
WRA				pmax		pmax		
	comp=Z,21nm,0.5s							
AS31	**Alice Springs**	**44.84**	**254**	*e*P		**P**	**20 05 39.2**	**-0.7**
AS31				*e*S		**S**	**20 11 32.1**	**-3.3**
ASAR	**Alice Springs**	**44.84**	**254**	P		**P**	**20 05 39.5**	**-0.4**
	comp=Z,123nm,0.6s,baz=87,slow=8.7,SNR=1766							
ASAR	**Alice Springs**	**44.84**	**254**	P		**P**	**20 05 39.6**	**-0.4**
ASAR				pmax		pmax		
	comp=Z,123nm,0.6s							
SMPI	**Sarmi**	**45.08**	**286**	P		**P**	**20 05 42.3**	**+0.5**
	comp=Z,26nm,1.7s,comp=Z,2μm							
GUMO	**Guam**	**48.05**	**308**	P		**P**	**20 06 03.5**	**-0.5**
	comp=Z,83nm,0.8s,baz=46,slow=23,SNR=6.1							
GUMO	**Guam**	**48.05**	**308**	P		**P**	**20 06 03.5**	**-0.5**
GUMO				pmax		pmax		
	comp=Z,83nm,0.8s							
FORT	**Forrest**	**50.03**	**245**	*e*P		**P**	**20 06 17.5**	**-1.0**
	comp=Z,68nm,0.7s							
FAKI	**Fak Fak**	**50.71**	**281**	P		**P**	**20 06 23.3**	**-0.3**
	comp=Z,23nm,1.3s							
FITZ	**Fitzroy Crossi**	**53.10**	**261**	*e*P		**P**	**20 06 40.4**	**-0.3**
	comp=Z,115nm,2.5s							
SOEI	**Soe**	**56.17**	**270**	P		**P**	**20 07 02.6**	**+0.3**
	comp=Z,94nm,0.9s							
SOEI	**Soe**	**56.17**	**270**	*e*P		**P**	**20 07 03.3**	**+1.0**
	comp=Z,50nm,0.7s							
SANI	**Sanana**	**56.87**	**280**	P		**P**	**20 07 05.5**	**-1.4**
MBWA	**Marble Bar**	**58.13**	**256**	*e*P		**P**	**20 07 14.3**	**-1.1**
LUWI	**Luwuk**	**60.23**	**279**	*e*P		**P**	**20 07 30.1**	**+0.6**
	comp=Z,43nm,1.3s							
SBA	**Scott Base**	**60.27**	**184**	*e*P		**P**	**20 07 30.8**	**+2.2**
	comp=Z,3.5nm,0.7s							
VNDA	**Vanda**	**60.30**	**185**	P		**P**	**20 07 29.5**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=344,slow=5.4,SNR=14							
VNDA	**Vanda**	**60.30**	**185**	P		**P**	**20 07 29.5**	**+0.6**
VNDA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
MPSI	**Mapaga**	**63.40**	**280**	P		**P**	**20 07 49.4**	**-0.6**
CASY	**Casey**	**66.04**	**205**	*e*P		**P**	**20 08 05.5**	**-0.2**
MJAR	**Matsushiro Arr**	**68.09**	**323**	P		**P**	**20 08 18.4**	**-0.3**
	comp=Z,11nm,0.6s,baz=157,slow=6.2,SNR=29							
MJAR	**Matsushiro Arr**	**68.09**	**323**	P		**P**	**20 08 18.4**	**-0.3**
MJAR				pmax		pmax		
	comp=Z,11nm,0.6s							
MAJO	**Matsushiro**	**68.09**	**323**	*c* iP		**P**	**20 08 18.7**	**-0.1**
MAJO				pmax		pmax		
	comp=Z,54nm,0.8s							
MAJO	**Matsushiro**	**68.09**	**323**	*e*P		**P**	**20 08 18.6**	**-0.1**
	comp=Z,17nm,0.5s							
MAT	**Matsushiro**	**68.09**	**323**	P		**P**	**20 08 18.5**	**-0.2**
KKM	**Kota Kinabalu**	**68.88**	**284**	*e*P		**P**	**20 08 23.2**	**-0.9**
UGM	**Wanagama**	**69.74**	**268**	P		**P**	**20 08 29.0**	**-0.1**
	comp=Z,97nm,1.5s							
ATKA	**Atka Island**	**70.06**	**3**	*e*P		**P**	**20 08 29.8**	**-0.3**
	comp=Z,17nm,1.0s							
JNU	**Nakatsue**	**70.32**	**316**	P		**P**	**20 08 31.9**	**-0.2**
	comp=Z,8.5nm,0.8s,baz=352,slow=5.0,SNR=7.0							
KPJI	**Karang Pucung**	**71.42**	**268**	P		**P**	**20 08 37.4**	**-1.5**
ASAJ	**Asahikawa**	**71.46**	**331**	*e*P		**P**	**20 08 40.2**	**+1.7**
	comp=Z,32nm,1.9s							
QSPA	**South Pole Qui**	**71.99**	**180**	*e*P		**P**	**20 08 42.0**	**+0.5**
	comp=Z,5.3nm,0.7s							
KSM	**Kuching**	**72.80**	**277**	*e*P		**P**	**20 08 46.8**	**-0.2**
	comp=Z,10nm,0.8s							
YSS	**Yuzh-Sakhalins**	**73.60**	**333**	*e*P		**P**	**20 08 50.7**	**0.0**
YSS	**Yuzh-Sakhalins**	**73.60**	**333**	*e*P		**P**	**20 08 51.1**	**+0.4**
	comp=Z,9.9nm,0.6s							
PEA0B	**Petropavlovsk-**	**73.86**	**345**	*e*P		**P**	**20 08 52.2**	**+0.1**
PETK	**Petropavlovsk-**	**73.86**	**345**	P		**P**	**20 08 52.2**	**+0.2**
	comp=Z,14nm,0.6s,baz=139,slow=8.7,SNR=18							
PETK	**Petropavlovsk-**	**73.86**	**345**	P		**P**	**20 08 52.2**	**+0.2**
PETK				pmax		pmax		
	comp=Z,14nm,0.6s							
CGJI	**Cibinong**	**74.70**	**268**	P		**P**	**20 08 56.5**	**-1.2**
KSRS	**Korea Array**	**74.88**	**318**	P		**P**	**20 08 59.3**	**+1.2**
	comp=Z,2.5nm,0.6s,baz=129,slow=6.4,SNR=14							
KSRS	**Korea Array**	**74.88**	**318**	P		**P**	**20 08 59.3**	**+1.2**
KSRS				pmax		pmax		
	comp=Z,3.0nm,0.6s							
KSAR	**Wonju Array Be**	**74.90**	**318**	P		**P**	**20 08 59.3**	**+1.1**
VLA	**Vladivostok**	**76.14**	**325**	P		**P**	**20 09 04.3**	**-0.6**
VLA				pmax		pmax		
	comp=Z,11nm,1.1s							
USRK	**Ussuriysk Ar.**	**76.80**	**326**	P		**P**	**20 09 10.2**	**+1.6**
	comp=Z,3.1nm,0.6s,baz=128,slow=4.5,SNR=9.4							
ISA	**Isabella, Lake**	**77.85**	**46**	*e*P		**P**	**20 09 16.8**	**+2.2**
	comp=Z,8.3nm,0.8s							
CMB	**Columbia Colle**	**77.88**	**43**	*e*P		**P**	**20 09 15.2**	**+0.5**
NJ2	**Nanjing**	**78.11**	**309**	*e*P		**P**	**20 09 17.5**	**+1.6**
NJ2				PMZ				
	comp=Z,10.0nm,0.7s							
HABR	**Khabarovsk**	**78.20**	**330**	*de*P		**P**	**20 09 15.1**	**-0.8**
HABR				*e*			20 09 21.8	
HABR				*e*			20 12 21.9	
HABR				*e*S		**S**	**20 18 20.9**	**-1.9**
HABR				*e*			20 18 39.3	
HABR				*e*SS		**SS**	**20 23 40.4**	**-2.7**
HABR				*e*SSS		SSS	20 27 11.5	
HABR				pmax		pmax		
	comp=N,5.0nm,0.9s							
HABR				pmax		pmax		
	comp=Z,25nm,1.3s							
HABR				pmax		pmax		
	comp=E,10.0nm,1.3s							
HABR				MLR		MLR		
	comp=Z,41nm,18.0s							
MDJ	**Mudanjiang**	**78.37**	**325**	*e*P		**P**	**20 09 18.0**	**+1.0**
	comp=Z,18nm,0.8s							
KDAK	**Kodiak Island**	**78.53**	**14**	*i* P		**P**	**20 09 19.0**	**+1.5**
YBH	**Yreka Blue Hor**	**78.58**	**39**	*e*P		**P**	**20 09 18.7**	**+0.4**
	comp=Z,7.2nm,0.8s							
WAKR	**Walker**	**78.77**	**43**	*e*P		**P**	**20 09 21.3**	**+1.8**
HUMO	**Hull Mountain**	**78.96**	**38**	*e*P		**P**	**20 09 21.8**	**+1.6**
NVAR	**Mina Array Bea**	**79.47**	**44**	P		**P**	**20 09 24.9**	**+1.7**
	comp=Z,4.3nm,0.7s,baz=223,slow=9.0,SNR=20							
TPH	**Tonopah**	**79.99**	**45**	*e*P		**P**	**20 09 27.4**	**+1.4**
CN2	**Changchun**	**80.20**	**322**	*e*P		**P**	**20 09 27.2**	**+0.5**
K05A	**Summer Lake**	**80.26**	**39**	*e*P		**P**	**20 09 29.1**	**+1.8**
	comp=Z,17nm,0.9s							
KLR	**Kul'dur**	**80.30**	**329**	*e*P		P	20 09 23.0	-4.0
RSO	**Redoubt South**	**80.93**	**12**	*e*P		**P**	**20 09 29.4**	**-0.9**
	comp=Z,20nm,0.5s							
R11A	**Troy Canyon, C**	**81.23**	**45**	*e*P		**P**	**20 09 33.4**	**+1.0**
	comp=Z,1.9nm,0.8s							
R11A				*e*PP		PP	20 12 58.1	+8.6
BMN	**Battle Mountai**	**81.25**	**43**	*e*P		**P**	**20 09 34.4**	**+2.0**
	comp=Z,10nm,0.9s							
WVOR	**Wild Horse Val**	**81.46**	**40**	*e*P		**P**	**20 09 35.1**	**+1.7**
	comp=Z,14nm,1.0s							
TUC	**Tucson**	**81.72**	**52**	*e*P		**P**	**20 09 37.2**	**+2.3**
	comp=Z,24nm,1.8s							
I07A	**Izee**	**81.87**	**39**	*e*P		**P**	**20 09 37.0**	**+1.7**
PMR	**Palmer**	**82.73**	**14**	*e*P		**P**	**20 09 38.9**	**-0.2**
G08A	**Pilot Rock**	**82.87**	**38**	*e*P		**P**	**20 09 42.2**	**+1.8**
DIV	**Divide**	**83.12**	**15**	*e*P		**P**	**20 09 41.7**	**+0.5**
	comp=Z,16nm,0.7s							
BMRM	**Bremner River**	**83.28**	**16**	*e*P		**P**	**20 09 42.6**	**+0.7**
	comp=Z,24nm,1.1s							
MFID	**Camp Ranch**	**83.73**	**41**	*e*P		**P**	**20 09 46.5**	**+1.8**
	comp=Z,14nm,1.4s							
MAW	**Mawson**	**83.75**	**200**	P		**P**	**20 09 44.2**	**0.0**
	comp=Z,2.0nm,0.6s,baz=122,slow=4.9,SNR=9.0							
MAW	**Mawson**	**83.75**	**200**	P		**P**	**20 09 44.2**	**0.0**
MAW				pmax		pmax		
	comp=Z,2.0nm,0.6s							
CAST	**Castle Rocks**	**83.76**	**12**	*e*P		**P**	**20 09 43.2**	**-1.0**
	comp=Z,18nm,0.7s							
SEY	**Seymchan**	**83.95**	**347**	*c* iP		**P**	**20 09 45.2**	**+0.1**
BJI	**Beijing**	**83.97**	**315**	P		**P**	**20 09 46.4**	**+0.7**
BJI				PMZ				
	comp=Z,18nm,0.7s							
TRF	**Thorofare Moun**	**84.14**	**12**	*e*P		**P**	**20 09 45.8**	**-0.5**
	comp=Z,33nm,0.7s							
HARP	**HAARP**	**84.37**	**15**	*e*P		**P**	**20 09 48.4**	**+1.1**
	comp=Z,21nm,0.8s							
B08A	**Colville Reser**	**84.41**	**35**	*e*P		**P**	**20 09 48.5**	**+0.7**
	comp=Z,7.5nm,0.8s							
ENH	**Enshi**	**84.44**	**304**	*e*P		**P**	**20 09 48.7**	**+0.3**
	comp=Z,28nm,1.4s							
BPAW	**Bear Paw Mtn.**	**84.59**	**12**	*e*P		**P**	**20 09 47.0**	**-1.3**
	comp=Z,8.7nm,2.2s							
MCK	**McKinley**	**84.67**	**13**	*e*P		**P**	**20 09 48.8**	**+0.1**
	comp=Z,14nm,0.8s							
HLID	**Hailey**	**84.68**	**41**	*e*P		**P**	**20 09 51.1**	**+1.7**
	comp=Z,6.5nm,0.8s							
PAX	**Paxson**	**84.78**	**14**	*e*P		**P**	**20 09 48.9**	**-0.4**
	comp=Z,5.5nm,0.8s							
SRU	**San Rafael Swe**	**85.05**	**46**	*e*P		**P**	**20 09 53.1**	**+1.7**
	comp=Z,4.6nm,0.7s							
GYA	**Guiyang**	**85.20**	**300**	*e*P		**P**	**20 09 53.0**	**+0.7**
GYA				pP		**pP**	**20 11 58.8**	**-0.6**
GYA				sP		**sP**	**20 12 55.6**	**-3.6**
GYA				PP		**PP**	**20 13 22.4**	**+1.0**
GYA				SKS		**SKSac**	**20 19 20.0**	**-1.3**
GYA				S		**S**	**20 19 33.8**	**-0.2**
GYA				PMZ				
	comp=Z,10.0nm,1.0s							
NEW	**Newport**	**85.58**	**36**	*e*P		**P**	**20 09 53.7**	**+0.2**
HDA	**Harding Lake**	**85.68**	**13**	*e*P		**P**	**20 09 53.4**	**-0.1**
	comp=Z,9.7nm,0.6s							
CCB	**Clear Creek Bu**	**85.71**	**13**	*e*P		**P**	**20 09 53.2**	**-0.4**
	comp=Z,13nm,0.5s							
IM04	**Indian Mountai**	**85.80**	**10**	*e*P		**P**	**20 09 54.0**	**-0.1**
COLA	**College**	**85.90**	**13**	*e*P		**P**	**20 09 54.2**	**-0.3**
	comp=Z,14nm,0.7s							
TXAR	**Lajitas Array**	**85.99**	**58**	P		**P**	**20 09 57.6**	**+1.6**
	comp=Z,5.4nm,0.7s,baz=220,slow=6.1,SNR=77							
TXAR	**Lajitas Array**	**85.99**	**58**	P		**P**	**20 09 57.6**	**+1.6**
TXAR				pmax		pmax		
	comp=Z,5.0nm,0.7s							
ILAR	**Eielson Array**	**86.02**	**13**	P		**P**	**20 09 54.6**	**-0.5**
	comp=Z,4.7nm,0.4s,baz=221,slow=4.9,SNR=59							
ILAR	**Eielson Array**	**86.02**	**13**	P		**P**	**20 09 54.6**	**-0.5**
ILAR				pmax		pmax		
	comp=Z,5.0nm,0.4s							
ANMO	**Albuquerque**	**86.12**	**51**	||*i* P		**P**	**20 09 58.4**	**+1.9**
ANMO				pmax		pmax		
	comp=Z,15nm,1.1s							
ANMO	**Albuquerque**	**86.12**	**51**	*e*P		**P**	**20 09 56.6**	**+0.1**
	comp=Z,3.5nm,1.0s							
MCMT	**McKenzie Canyo**	**86.29**	**40**	*e*P		**P**	**20 09 59.1**	**+1.9**
XAN	**Xi'an**	**86.43**	**307**	P		**P**	**20 09 58.9**	**+1.0**
XAN				PMZ				
	comp=Z,4.0nm,1.1s							
XAN				PMZ				
	comp=Z,17nm,6.4s							
HIA	**Hailar**	**86.55**	**325**	P		**P**	**20 09 58.5**	**+0.5**
DLMT	**Dillon**	**86.71**	**40**	*e*P		**P**	**20 10 00.6**	**+1.6**
	comp=Z,4.7nm,0.7s							
TPAW	**Teton Pass**	**86.83**	**42**	*e*P		**P**	**20 10 00.9**	**+1.1**
REDW	**Red Top Meadow**	**86.84**	**42**	*e*P		**P**	**20 10 01.7**	**+1.9**
	comp=Z,8.7nm,0.9s							
FXWY	**Fox Creek**	**86.86**	**42**	*e*P		**P**	**20 10 01.8**	**+1.9**
	comp=Z,4.1nm,0.8s							
LRM	**Limekiln Ridge**	**87.03**	**40**	*e*P		**P**	**20 10 02.0**	**+1.3**
	comp=Z,18nm,0.8s							
IMW	**Indian Meadow**	**87.03**	**42**	*e*P		**P**	**20 10 02.6**	**+1.9**
	comp=Z,8.5nm,0.8s							
MOOW	**Moose Ponds**	**87.09**	**42**	*e*P		**P**	**20 10 02.8**	**+1.8**
	comp=Z,3.4nm,1.0s							
CHMT	**Chimberlain Mo**	**87.09**	**38**	*e*P		**P**	**20 10 01.1**	**+0.2**
	comp=Z,1.4nm,0.5s							
DAWY	**Dawson**	**87.21**	**16**	*e*P		**P**	**20 10 01.2**	**+0.4**
	comp=Z,2.2nm,0.5s							
FLWY	**Flagg Ranch**	**87.28**	**42**	*e*P		**P**	**20 10 03.9**	**+2.1**
	comp=Z,4.0nm,0.8s							
EGAK	**Eagle**	**87.34**	**15**	*e*P		**P**	**20 10 02.0**	**+0.7**
	comp=Z,9.7nm,0.8s							
YMR	**Madison River**	**87.39**	**41**	P		**P**	**20 10 04.2**	**+1.9**
BW06	**Boulder Array**	**87.40**	**43**	*e*P		**P**	**20 10 03.1**	**+0.7**
	comp=Z,7.4nm,1.0s							
PDAR	**Pinedale Array**	**87.40**	**43**	P		**P**	**20 10 03.6**	**+1.2**
	comp=Z,3.8nm,0.6s,baz=229,slow=1.8,SNR=23							
BOZ	**Bozeman (W)**	**87.44**	**40**	*e*P		**P**	**20 10 04.2**	**+1.7**
	comp=Z,11nm,1.4s							
BOZ				*e*PP		PP	20 13 31.1	-7.7
HHC	**Hu-ho-hao-te**	**87.45**	**314**	*e*P		**P**	**20 10 00.5**	**-2.1**
HHC				sP		sP	20 13 02.2	-8.0
HHC				S		**SKKSac**	**20 19 49.3**	**+3.1**
HHC				PMZ				
	comp=Z,25nm,1.2s							
HHC				PMZ				
	comp=Z,80nm,7.2s							
H17A	**Grant Village**	**87.50**	**42**	*e*P		**P**	**20 10 05.3**	**+2.4**
	comp=Z,4.9nm,0.9s							
COLD	**Coldfoot**	**87.55**	**11**	*e*P		**P**	**20 10 03.0**	**+0.8**
	comp=Z,11nm,0.9s							
WALA	**Waterton Lakes**	**87.80**	**36**	*e*P		**P**	**20 10 04.7**	**+0.7**
RLMT	**Red Lodge**	**88.67**	**41**	*e*P		**P**	**20 10 10.3**	**+2.1**
	comp=Z,5.4nm,1.0s							
CMAR	**Chiang Mai Arr**	**89.03**	**290**	P		**P**	**20 10 09.0**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=118,slow=2.3,SNR=8.2							
CMAR	**Chiang Mai Arr**	**89.03**	**290**	*e*P		**P**	**20 10 11.7**	**+1.4**
CHTO	**Chiang Mai**	**89.15**	**290**	P		**P**	**20 10 11.3**	**+0.5**
CD2	**Chengdu**	**89.24**	**303**	*e*P		**P**	**20 10 11.4**	**+0.4**
YAK	**Yakutsk**	**89.76**	**338**	P		**P**	**20 10 12.6**	**0.0**
YAK				pmax		pmax		
	comp=Z,6.0nm,0.6s							
EDM	**Edmonton**	**90.23**	**33**	*e*P		**P**	**20 10 15.1**	**0.0**
SNAA	**Sanae**	**90.44**	**179**	P		**P**	**20 10 15.5**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=204,slow=12,SNR=12							
KSCO	**Kaye Shedlock'**	**90.56**	**49**	*e*P		**P**	**20 10 17.4**	**+0.3**
	comp=Z,16nm,0.6s							
LZH	**Lanzhou**	**91.06**	**308**	*e*P		**P**	**20 10 21.2**	**+1.7**
LZH				pP		**pP**	**20 12 27.4**	**-1.1**
LZH				sP		**sP**	**20 13 29.2**	**+1.5**
LZH				PMZ				
	comp=Z,13nm,1.0s							
INK	**Inuvik**	**92.01**	**15**	*e*P		**P**	**20 10 22.6**	**-0.2**
SONM	**Songino Array**	**93.73**	**319**	P		**P**	**20 10 30.7**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=130,slow=3.3,SNR=8.1							
SONM	**Songino Array**	**93.73**	**319**	P		**P**	**20 10 30.7**	**-0.7**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**94.43**	**25**	P		**P**	**20 10 34.3**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=243,slow=4.5,SNR=8.0							
YKA	**Yellowknife Ar**	**94.43**	**25**	P		**P**	**20 10 34.3**	**+0.3**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
GTA	**Gaotai**	**95.21**	**310**	*e*P		**P**	**20 10 38.9**	**+0.6**
GTA				pP		**pP**	**20 12 45.9**	**-1.8**
GTA				sP		**sP**	**20 13 44.4**	**-2.4**
GTA				PMZ				
	comp=Z,2.0nm,1.4s							
TIXI	**Tiksi**	**96.33**	**345**	⇑*i* P		**P**	**20 10 42.2**	**-0.2**
TIXI				pmax		pmax		
	comp=Z,2.0nm,1.0s							
WCI	**Wyandotte Cave**	**102.49**	**54**	*e*Pdif		**Pdif**	**20 11 08.4**	**-2.2**
ACSO	**Alum Creek Sta**	**105.42**	**52**	*e*Pdif		**Pdif**	**20 11 22.7**	**-0.9**
ZALV	**Zalesovo Beam**	**108.42**	**322**	PKiKP		**PKiKP**	**20 15 37.7**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=302,slow=1.4,SNR=3.7							
JSRW	**J. Sargeant Re**	**108.92**	**56**	*e*Pdif		**Pdif**	**20 11 36.5**	**-2.7**
MKAR	**Makanchi Array**	**109.31**	**314**	PKiKP		**PKiKP**	**20 15 39.6**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=182,slow=0.3,SNR=12							
KSH	**Kashi**	**113.25**	**306**	*e*PKP		**PKiKP**	**20 15 49.0**	**+0.6**
KSH				PP		**PP**	**20 16 55.1**	**+4.5**
KSH				SKS		**SKSdf**	**20 22 04.8**	**-0.1**
KSH				SKKS		**SKKSac**	**20 22 45.5**	**-5.0**
KSH				SS		**SS**	**20 31 54.7**	**+2.3**
KSH				PPMZ				
	comp=Z,51nm,6.4s							
ARU	**Arti**	**123.03**	**326**	*i* PKIKP		**PKPdf**	**20 16 05.9**	**-0.6**
ARU							20 17 57.5	
ARU							20 22 11.1	
ARU				SS		SS	20 33 51.3	-4.2
ARCES	**ARCESS Array B**	**126.49**	**350**	PKP		**PKPdf**	**20 16 12.6**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=29,slow=1.3,SNR=22							
ARCES	**ARCESS Array B**	**126.49**	**350**	PKIKP		**PKPdf**	**20 16 12.6**	**-0.2**
ARCES				pmax		pmax		
	comp=Z,3.0nm,0.5s							
FINES	**FINESS Array B**	**133.37**	**344**	PKhKP		PKPpre	20 16 18.6	
	comp=Z,1.7nm,0.9s,baz=35,slow=7.0,SNR=3.6							
FINES				PKP		**PKiKP**	**20 16 26.8**	**-0.6**
	comp=

PVCC			e			20 16 54.0	
MLR	**Muntele Rosu**	**146.02 329**	⇓PKIKP	**PKPbc**	**20 16 51.8**	**+0.3**	
MLR	**Muntele Rosu**	**146.02 329**	⇓*i*P	**PKPbc**	**20 16 51.8**	**+0.3**	
KECS	**Kecovo**	**146.03 337**	*e*PKIKP	**PKPbc**	**20 16 51.8**	**+0.5**	
KECS			e		20 16 56.0		
KECS	**Kecovo**	**146.03 337**	*e*PKP	**PKPbc**	**20 16 51.8**	**+0.5**	
KECS			e		20 16 56.0		
PSN	**Preselentsi**	**146.08 325**	⇑PKIKP	**PKPbc**	**20 16 52.3**	**+0.7**	
PSN	**Preselentsi**	**146.08 325**	⇑*i*P	**PKPbc**	**20 16 52.3**	**+0.7**	
CJR	**Cluj-Napoca**	**146.20 333**	⇑PKP2	**PKPab**	**20 16 53.1**	**-1.2**	
CJR	**Cluj-Napoca**	**146.20 333**	⇑*i*P	**PKPab**	**20 16 53.1**	**-1.2**	
SULR		**146.44 328**	⇑*i*P	**PKPab**	**20 16 56.1**	**+0.9**	
PRA	**Prague**	**146.47 345**	*i* PKP	**PKPbc**	**20 16 52.9**	**+0.5**	
PRA			ex	x	20 16 55.8		
PRA	**Prague**	**146.47 345**	*i* PKIKP	**PKPbc**	**20 16 52.9**	**+0.5**	
PRA			e		20 16 55.8		
VOIR		**146.49 330**	⇓PKIKP	**PKPbc**	**20 16 53.3**	**+0.6**	
VOIR		**146.49 330**	⇓*i*P	**PKPbc**	**20 16 53.3**	**+0.6**	
PRU	**Pruhonice**	**146.52 345**	*i* PKP	**PKPbc**	**20 16 53.0**	**+0.4**	
PRU			ex	x	20 16 55.7		
PRU	**Pruhonice**	**146.52 345**	*i* PKIKP	**PKPbc**	**20 16 53.0**	**+0.4**	
PRU			e		20 16 55.7		
DRGR		**146.52 333**	⇑PKIKP	**PKPbc**	**20 16 53.0**	**+0.2**	
DRGR		**146.52 333**	⇑*i*P	**PKPbc**	**20 16 53.0**	**+0.2**	
GOPC	**GO Pecny, Ondr**	**146.53 345**	*i* PKP	**PKPbc**	**20 16 53.1**	**+0.5**	
GOPC			ex	x	20 16 56.1		
MOX	**Moxa**	**146.54 349**	*e*PKPbc	**PKPbc**	**20 16 53.0**	**+0.4**	
VRAC	**Vranov**	**146.59 342**	⇑PKIKP	**PKPbc**	**20 16 53.3**	**+0.5**	
VRAC	**Vranov**	**146.59 342**	⇑*i*P	**PKPbc**	**20 16 53.3**	**+0.5**	
TANN	**Tannenbergstha**	**146.59 347**	*e*PKPbc	**PKPbc**	**20 16 53.3**	**+0.5**	
SIBR	**Sibiu**	**146.63 331**	⇑*i*P	**PKPab**	**20 16 57.5**	**+1.5**	
UBBA	**Unterbreizbach**	**146.66 350**	*e*PKPbc	**PKPbc**	**20 16 53.0**	**+0.2**	
PSZ	**Piszkesteto**	**146.72 337**	⇓PKIKP	**PKPbc**	**20 16 53.5**	**+0.2**	
PSZ	**Piszkesteto**	**146.72 337**	⇓*i*P	**PKPbc**	**20 16 53.5**	**+0.2**	
PSZ	**Piszkesteto**	**146.72 337**	*e*PKPbc	**PKPbc**	**20 16 53.3**	**0.0**	
ARR	**Arges**	**146.74 330**	⇓*i*P	**PKPbc**	**20 16 54.8**	**+1.4**	
NKC	**Novy Kostel**	**146.77 347**	*i* PKP	**PKPbc**	**20 16 53.6**	**+0.3**	
NKC	**Novy Kostel**	**146.77 347**	*i* PKIKP	**PKPbc**	**20 16 53.6**	**+0.3**	
TREC	**Trest**	**146.91 343**	*i* PKP	**PKPbc**	**20 16 54.0**	**+0.3**	
TREC			ex	x	20 16 57.3		
TREC	**Trest**	**146.91 343**	*i* PKIKP	**PKPbc**	**20 16 54.0**	**+0.3**	
TREC			e		20 16 57.3		
SMOL	**Smolenice**	**147.04 341**	*e*PKP2	**PKPbc**	**20 16 55.3**	**+1.3**	
SMOL	**Smolenice**	**147.04 341**	*e*PKP	**PKPbc**	**20 16 55.3**	**+1.3**	
ROTZ	**Rotzenmuhle**	**147.26 347**	*e*PKPbc	**PKPbc**	**20 16 55.3**	**+0.8**	
MEM	**Membach**	**147.35 355**	PKPbc	**PKPbc**	**20 16 55.2**	**+0.5**	
MEM	**Membach**	**147.35 355**	*e*PKPdf	**PKPbc**	**20 16 55.4**	**+0.7**	
TNS	**Taunus Mts**	**147.46 352**	*e*PKPbc	**PKPbc**	**20 16 55.5**	**+0.4**	
GRF	**Grafenberg Arr**	**147.53 348**	*e*PKPbc	**PKPbc**	**20 16 55.9**	**+0.7**	
GRFO	**Grafenberg**	**147.53 348**	*e*PKPbc	**PKPbc**	**20 16 55.4**	**+0.2**	
KHC	**Kasperske Hory**	**147.55 345**	*i* PKP	**PKPbc**	**20 16 55.8**	**+0.4**	
KHC			ex	x	20 17 00.3		
KHC	**Kasperske Hory**	**147.55 345**	*i* PKIKP	**PKPbc**	**20 16 55.8**	**+0.4**	
KHC			e		20 17 00.3		
KHC	**Kasperske Hory**	**147.55 345**	*e*PKPdf	**PKPdf**	**20 16 52.1**	**+0.4**	
KHC			*e*PKPbc	**PKPbc**	**20 16 55.6**	**+0.3**	
KHC			*e*PKPab	**PKPab**	**20 17 00.5**	**+0.9**	
GZR	**Gura Zlata**	**147.58 332**	⇑PKHKP	**PKPbc**	**20 16 55.7**	**+0.1**	
GZR	**Gura Zlata**	**147.58 332**	⇑*i*P	**PKPbc**	**20 16 55.7**	**+0.1**	
BCLA	**Clavier**	**147.59 356**	PKPbc	**PKPab**	**20 16 59.0**	**-0.7**	
WET	**Wettzell**	**147.70 346**	*e*PKPbc	**PKPbc**	**20 16 56.4**	**+0.7**	
WET			*e*pPKPbc	**pPKPbc**	**20 19 16.5**	**+4.8**	
JMB	**Yambol**	**147.76 324**	⇓PKIKP	**PKPbc**	**20 16 56.5**	**+0.4**	
JMB	**Yambol**	**147.76 324**	⇓*i*P	**PKPbc**	**20 16 56.5**	**+0.4**	
GEC2	**GERESS Array S**	**147.79 345**	*e*PKPbc	**PKPbc**	**20 16 56.4**	**+0.3**	
GERES	**GERESS Array B**	**147.79 345**	PKPbc	**PKPbc**	**20 16 56.4**	**+0.3**	
	comp=Z,9.4nm,0.7s,baz=24,slow=3.2,SNR=67						
GERES			PKPab	**PKPab**	**20 17 01.3**	**+0.6**	
	comp=Z,1.8nm,0.5s,baz=26,slow=5.0,SNR=9.0						
GERES	**GERESS Array B**	**147.79 345**	PKIKP	**PKPbc**	**20 16 56.4**	**+0.3**	
GERES					20 17 01.3		
GERES			pmax	pmax			
	comp=Z,9.0nm,0.7s						
GERES			pmax	pmax			
	comp=Z,2.0nm,0.5s						
BZS	**Buzias**	**147.92 333**	⇓PKHKP	**PKPdf**	**20 16 52.4**	**0.0**	
BZS	**Buzias**	**147.92 333**	⇓*i*P	**PKPdf**	**20 16 52.4**	**0.0**	
DOU	**Dourbes**	**147.96 356**	PKPbc	**PKPbc**	**20 16 56.8**	**+0.5**	
CONA	**Conrad Observa**	**148.04 342**	⇑*i*PKPbc	**PKPbc**	**20 16 57.2**	**+0.5**	
	comp=Z,16nm,1.2s,SNR=14						
WLF	**Walferdange**	**148.27 354**	PKPbc	**PKPbc**	**20 16 58.4**	**+1.3**	
WLF	**Walferdange**	**148.27 354**	*e*PKPbc	**PKPbc**	**20 16 58.1**	**+1.0**	
WLF	**Walferdange**	**148.27 354**	*e*PKPbc	**PKPbc**	**20 16 57.6**	**+0.5**	
PKSM	**Moragy**	**148.62 337**	⇑PKIKP	**PKPdf**	**20 16 52.1**	**-1.4**	
PKSM	**Moragy**	**148.62 337**	⇑*i*P	**PKPdf**	**20 16 52.1**	**-1.4**	
LANF	**Langenberg**	**148.77 352**	PKP	**PKPbc**	**20 16 58.9**	**+0.5**	
KDZ	**Kurdzhali**	**148.96 324**	⇓PKP2	**PKPab**	**20 17 07.2**	**+1.6**	
KDZ	**Kurdzhali**	**148.96 324**	⇓*i*P	**PKPab**	**20 17 07.2**	**+1.6**	
FUR	**Furstenfeldbru**	**148.97 348**	*e*PKPbc	**PKPbc**	**20 16 59.3**	**+0.4**	
RJOB	**Jochberg**	**149.04 345**	*e*PKPbc	**PKPbc**	**20 16 59.4**	**+0.3**	
ALN	**Alexandroupoli**	**149.09 323**	*e*P	**PKPbc**	**20 16 58.8**	**-0.6**	
RDO	**Rodhopi**	**149.22 323**	*e*PKPdf	**PKPbc**	**20 16 59.2**	**-0.4**	
BFO	**Black Forest**	**149.33 351**	*e*PKPbc	**PKPbc**	**20 17 00.1**	**+0.3**	
BFO			epPKPbc	**pPKPbc**	**20 19 20.0**	**+3.8**	
BFO	**Black Forest**	**149.33 351**	*e*PKPdf	**PKPbc**	**20 16 59.2**	**-0.6**	
SOKA	**Soboth**	**149.41 342**	⇓*i*PKPbc	**PKPbc**	**20 16 59.7**	**-0.3**	
	comp=Z,9.9nm,1.1s,SNR=7.7						
PERS	**Pernice**	**149.43 342**	*i* PKPbc	**PKPbc**	**20 16 59.7**	**-0.4**	
VTS	**Vitosha**	**149.47 328**	⇑PKHKP	**PKPbc**	**20 17 00.6**	**+0.2**	
VTS	**Vitosha**	**149.47 328**	⇑*i*P	**PKPbc**	**20 17 00.6**	**+0.2**	
KBA	**Koelnbreinsper**	**149.52 344**	⇑*i*PKPbc	**PKPbc**	**20 16 59.8**	**-0.6**	
	comp=Z,7.7nm,0.6s,SNR=7.3						
ECH	**Echery**	**149.60 353**	PKP	**PKPbc**	**20 17 00.3**	**-0.1**	
WATA	**Walderalm**	**149.70 347**	⇑*i*PKPbc	**PKPbc**	**20 17 00.7**	**-0.2**	
	comp=Z,7.5nm,0.5s,SNR=6.1						
THEF	**They Montfort**	**149.71 354**	PKP	**PKPbc**	**20 17 00.5**	**-0.1**	
WTTA	**Wattenberg**	**149.75 347**	⇑*i*PKPbc	**PKPbc**	**20 17 01.1**	**+0.1**	
	comp=Z,19nm,0.6s,SNR=8.3						
MOTA	**Moosalm**	**149.79 347**	⇑*i*PKPbc	**PKPbc**	**20 17 01.1**	**0.0**	
	comp=Z,12nm,0.9s,SNR=5.8						
DIVS	**Divibare**	**149.82 333**	⇑*i*P	**PKPbc**	**20 17 01.3**	**+0.2**	
MYKA	**Terra Mystica**	**149.85 344**	⇑*i*PKPbc	**PKPbc**	**20 17 00.5**	**-0.6**	
	comp=Z,9.7nm,0.6s,SNR=5.6						
MMB	**Musomiste**	**149.92 326**	⇑PKHKP	**PKPbc**	**20 17 01.2**	**-0.2**	
MMB	**Musomiste**	**149.92 326**	⇑*i*P	**PKPbc**	**20 17 01.1**	**-0.3**	
MOF	**Molkenrain**	**149.96 353**	PKP	**PKPbc**	**20 17 01.0**	**-0.3**	
ABTA	**Abfaltersbach**	**150.03 345**	⇑*i*PKPbc	**PKPbc**	**20 17 01.0**	**-0.6**	
	comp=Z,16nm,0.6s,SNR=11						
CRES	**Cresnjev**	**150.05 341**	*i* PKPbc	**PKPbc**	**20 17 01.5**	**0.0**	
DAVA	**Damuels**	**150.09 349**	⇓*i*PKPbc	**PKPbc**	**20 17 02.1**	**+0.3**	
	comp=Z,17nm,1.1s						
LJU	**Ljubljana**	**150.14 342**	*i* PKPbc	**PKPbc**	**20 17 01.8**	**+0.1**	
FETA	**Feichten**	**150.18 348**	⇑*i*PKPbc	**PKPbc**	**20 17 02.1**	**+0.1**	
	comp=Z,17nm,1.1s						
CHOS	**Chios island**	**150.65 319**	*e*P	**PKPbc**	**20 17 03.1**	**-0.1**	
FUORN	**Ofenpass-Fuorn**	**150.66 348**	*e*PKPdf	**PKPbc**	**20 17 03.7**	**+0.5**	
FNA	**Florina**	**151.73 327**	*e*P	**PKPbc**	**20 17 05.1**	**-0.5**	
XOR	**Xorichti**	**151.75 323**	*e*P	**PKPbc**	**20 17 04.1**	**-1.5**	
NEST	**Nestorio**	**152.17 327**	*e*P	**PKPbc**	**20 17 06.4**	**-0.2**	
VIL2	**Platees**	**152.47 321**	*e*P	**PKPbc**	**20 17 05.7**	**-1.5**	
AGG	**Agios Georgios**	**152.47 324**	*e*P	**PKPbc**	**20 17 06.2**	**-1.0**	
MAKR	**Makrakomi, Fth**	**152.59 324**	*e*P	**PKPbc**	**20 17 06.9**	**-0.6**	
DID	**Didima**	**152.94 320**	*e*P	**PKPbc**	**20 17 07.1**	**-1.2**	
GUR	**Goura**	**153.20 322**	*e*P	**PKPbc**	**20 17 08.5**	**-0.4**	
LKD2	**Lefkada island**	**153.56 325**	*e*P	**PKPbc**	**20 17 09.5**	**0.0**	
RLS	**Riolos of Patr**	**153.62 323**	*e*P	**PKPab**	**20 17 26.4**	**+1.0**	
ANKY	**Antikythira Is**	**153.92 317**	*e*P	**PKPab**	**20 17 27.5**	**+0.7**	
VLS	**Valsamata**	**154.03 324**	*e*P	**PKPab**	**20 17 27.1**	**-0.1**	
PYL	**PYLOS**	**154.25 321**	*e*P	**PKPbc**	**20 17 10.0**	**-1.0**	
ESDC	**Sonseca Array**	**157.91 12**	PKPab	**PKPab**	**20 17 42.4**	**-1.5**	
	comp=Z,0.2nm,0.3s,baz=343,slow=4.4,SNR=5.6						
KEST	**Kesra**	**161.14 340**	PKPab	**PKPab**	**20 17 57.6**	**-0.5**	
	comp=Z,0.5nm,0.5s,baz=292,slow=3.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**175.11 180**	PKP	**PKPdf**	**20 17 19.4**	**-1.0**	
	comp=Z,0.7nm,0.8s,baz=228,slow=1.3,SNR=4.2						
TORD			PKPab	**PKPab**	**20 19 00.5**	**+0.3**	
	comp=Z,0.2nm,0.5s,baz=163,slow=2.1,SNR=2.5						

IDC 11 20:01:03.1±10.0, 17°89S×178°07W, h498km±105km, mb3.4/6, mb1 3.6/6, mb1mx3.2/29, mbtmp4.2/6, Error ellipse: s-maj=101.9km s-min=36.4km az=122.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.92**	**241**	P	P	20 07 45.6	+0.1
	3.2nm,0.7s,baz=102,slow=9.3,SNR=3.0						
WRA	**Warramunga Arr**	**44.95**	**259**	P	P	20 08 32.9	-0.5
	1.5nm,0.5s,baz=95,slow=7.1,SNR=4.8						
ASAR	**Alice Springs**	**45.11**	**254**	P	P	20 08 34.2	-0.4
	7.7nm,0.8s,baz=86,slow=9.0,SNR=7.7						
ASAR				PcP	PcP	20 10 05.8	+0.8
	1.4nm,0.6s,baz=104,slow=3.9,SNR=4.3						
PETK	**Petropavlovsk-**	**73.75**	**345**	P	P	20 11 46.6	+0.9
	8.3nm,1.0s,baz=156,slow=15,SNR=3.6						
ILAR	**Eielson Array**	**85.80**	**13**	P	P	20 12 48.3	-0.6
	0.4nm,0.4s,baz=212,slow=4.1,SNR=5.7						
SONM	**Songino Array**	**93.75**	**319**	P	P	20 13 26.5	+0.1
	0.1nm,0.3s,baz=144,slow=0.5,SNR=4.1						
BRTR	**Keskin Array B**	**145.00**	**315**	PKPbc	PKPdf	20 19 42.4	-1.4
	0.7nm,0.7s,baz=123,slow=4.6,SNR=3.6						
GERES	**GERESS Array B**	**147.68**	**345**	PKPbc	PKPbc	20 19 50.7	-0.7
	1.2nm,0.6s,baz=20,slow=4.3,SNR=7.5						

ISCJB ***11*** *20:51:10.8±0.4, 32°.45N±0°.02×115°.20W±0°.02, h14km±2km, mb4.4/12, MS3.6/6, Error ellipse: s-maj=3.0km s-min=2.5km az=44.9*

IDC ***11*** *20:51:11.6±1.4, 32°.26N×115°.09W, h0km, mb4.1/5, mb1 4.1/11, mb1mx3.8/53, mbtmp3.8/11, ML3.6/6, MS3.6/12, Ms1 3.6/12, ms1mx3.3/35, Error ellipse: s-maj=25.1km s-min=11.1km az=52.0*

MEX ***11*** *20:51:11.6±0.4, 32°.52N×115°.10W, h5km, MD4.2*

NEIC ***11*** *20:51:12.6, 32°.41N×115°.19W, h7km, mb4.3/13, ML4.3(PAS), ML4.3(ECX), ML4.3(ECX), After ECX.*

ECX ***11*** *20:51:12.6±0.5, 32°.40N×115°.19W, h6km, MD4.1, ML4.3, Fault plane solution: NP1:φs30.00000°, δ90.00000°, λ0.00000°.*

ISC 11 20:51:12.4±0.5, 32°42N±0°.02×115°25W±0°.02, h13km±3km, n193, σ1°63/179, mb4.3/12, MS3.5/6, 15C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.04**	**102**	*e*P	**Pg**	**20 51 13.7**	**-1.1**
MBIG				*e*S	**Sg**	**20 51 16.1**	**-0.4**
CPBX	**Cerro Prieto**	**0.05**	**271**	⇑*e*P	**Pg**	**20 51 14.8**	**0.0**
CPBX				*e*S	**Sg**	**20 51 16.6**	**+0.1**
EMSC	**East Mesa**	**0.39**	**35**	*e*Pg	**Pg**	**20 51 19.4**	**-0.8**
EMSC	**East Mesa**	**0.39**	**35**	⇑*i*P	**Pg**	**20 51 19.5**	**-0.7**
DREC	**Desert Rsrch C**	**0.42**	**337**	⇑*e*P	**Pg**	**20 51 21.2**	**+0.4**
COA	**Coachella**	**0.46**	**13**	*e*Pg	**Pg**	**20 51 20.6**	**-0.9**
COA	**Coachella**	**0.46**	**13**	⇑*i*P	**Pg**	**20 51 20.9**	**-0.5**
SGL	**Mount Signal**	**0.46**	**300**	⇑*i*P	**Pg**	**20 51 21.4**	**-0.2**
ERPC	**Ernies Place**	**0.48**	**313**	*e*Pg	**Pg**	**20 51 21.9**	**+0.1**
ERPC	**Ernies Place**	**0.48**	**313**	⇑*i*P	**Pg**	**20 51 22.1**	**+0.3**
WESC	**Westside Schoo**	**0.53**	**310**	*e*Pg	**Pg**	**20 51 22.4**	**-0.4**
WESC	**Westside Schoo**	**0.53**	**310**	⇑*e*P	**Pg**	**20 51 22.9**	**+0.1**
COK	**Cook Ranch**	**0.59**	**317**	⇑*i*P	**Pg**	**20 51 23.7**	**-0.2**
BTCC	**Brunts Corner**	**0.59**	**2**	*e*Pg	**Pg**	**20 51 22.8**	**-1.2**
YMD	**Yuma Desert**	**0.61**	**77**	⇑*i*P	**Pg**	**20 51 22.2**	**-2.1**
YUH	**Yuha Desert**	**0.61**	**292**	*e*Pg	**Pg**	**20 51 23.8**	**-0.5**
YUH	**Yuha Desert**	**0.61**	**292**	⇑*i*P	**Pg**	**20 51 23.9**	**-0.5**
SWSC	**Sam W. Stewart**	**0.70**	**319**	P	**Pg**	**20 51 24.6**	**-1.3**
	baz=0.7						
SWSC	**Sam W. Stewart**	**0.70**	**319**	*e*Pn	**Pg**	**20 51 25.0**	**-0.9**
RMX	**La Rumorosa**	**0.72**	**285**	⇑*e*P	**Pg**	**20 51 26.0**	**-0.5**
RMX				⇓*e*		20 51 37.8	
RMX				IAML		20 51 37.8	
	comp=N,6μm,0.5s						
GLA	**Glamis**	**0.73**	**29**	P	**Pg**	**20 51 24.3**	**-2.2**
	baz=0.7						
GLA				S	**Sg**	**20 51 34.3**	**-1.8**
	baz=0.7						
GLA	**Glamis**	**0.73**	**29**	*e*Pg	**Pg**	**20 51 24.5**	**-2.0**
GLA				*e*Sg	**Sg**	**20 51 34.1**	**-2.0**
IBP	**Imperial Bould**	**0.75**	**289**	P	**Pg**	**20 51 26.3**	**-0.7**
	baz=0.8						
IBP				S	**Sg**	**20 51 37.9**	**+1.1**
	baz=0.8						
CLIC	**Calipatria**	**0.76**	**342**	*e*Pn	**Pg**	**20 51 26.3**	**-0.8**
RDX	**Rancho Dawling**	**0.76**	**230**	⇑*e*P	**Pg**	**20 51 27.0**	**-0.2**
RDX				*e*S	**Sg**	**20 51 37.4**	**+0.2**
RDX				*e*		20 51 40.5	
RDX				IAML		20 51 40.5	
	comp=N,11μm,0.8s						
CRR	**Carrizo Plain**	**0.77**	**308**	*e*Pn	**Pg**	**20 51 26.3**	**-1.0**
ERRC	**Elmore Ranch**	**0.85**	**325**	*e*Pn	**Pg**	**20 51 27.4**	**-1.4**
ECBX	**El Chinero**	**0.96**	**170**	⇓*e*P	**Pg**	**20 51 27.9**	**-2.9**
ECBX				*e*S	**Sg**	**20 51 40.9**	**-2.5**
CBKC	**Canebrake**	**0.97**	**300**	*e*Pn	**Pg**	**20 51 29.6**	**-1.6**
FRK	**Frink**	**1.03**	**342**	*e*Pg	Pb	20 51 29.5	-2.7
MONP	**Monument Peak,**	**1.09**	**296**	P	**Pb**	**20 51 31.3**	**-2.0**
	baz=1.1						
BATC	**Bat Cave Butte**	**1.15**	**335**	*e*Pg	**Pb**	**20 51 31.9**	**-2.3**
CBX	**Cerro Bola**	**1.20**	**265**	*e*P	**Pn**	**20 51 33.3**	**-1.7**
CBX				*i* S	**Sb**	**20 51 50.0**	**-0.6**
CBX	**Cerro Bola**	**1.20**	**265**	*e*P	**Pn**	**20 51 33.3**	**-1.7**
CBX				*i* S	**Sb**	**20 51 50.0**	**-0.6**
CBX	**Cerro Bola**	**1.20**	**265**	⇑*e*P	**Pn**	**20 51 33.9**	**-1.1**
CBX				*e*S	**Sb**	**20 51 51.0**	**+0.5**
CBX				⇓*e*		20 51 59.0	
CBX				IAML		20 51 59.0	
	comp=E,8μm,1.0s						
BAR	**Barrett**	**1.23**	**283**	*e*Pn	**Pn**	**20 51 33.8**	**-1.5**
BAR				*e*Sg	**Sb**	**20 51 51.5**	**+0.2**
BAR	**Barrett**	**1.23**	**283**	⇑*e*P	**Pn**	**20 51 33.7**	**-1.6**
BC3	**Big Chuckawall**	**1.25**	**352**	P	Pn	20 51 32.7	-2.9
	baz=1.3						
ZAX	**El Zacaton**	**1.25**	**224**	⇓*e*P	**Pn**	**20 51 34.6**	**-1.1**
BORC	**Borrego Spring**	**1.30**	**311**	*e*Pg	**Pn**	**20 51 34.0**	**-2.3**
HAY	**Hayfield**	**1.34**	**344**	*e*Pn	**Pn**	**20 51 34.2**	**-2.6**
ECNX	**Esteban Cantu**	**1.37**	**237**	⇑*e*P	**Pn**	**20 51 36.7**	**-0.7**
SPIG	**San Pedro Mart**	**1.38**	**188**	*e*P	**Pn**	**20 51 35.6**	**-2.0**
SPIG				*i* S	**Sb**	**20 51 55.2**	**-0.7**
SPIG	**San Pedro Mart**	**1.38**	**188**	*e*P	**Pn**	**20 51 35.6**	**-2.0**
SPIG				*i* S	**Sb**	**20 51 55.2**	**-0.7**
SPIG	**San Pedro Mart**	**1.38**	**188**	⇓*e*P	**Pn**	**20 51 35.7**	**-2.0**
SPX	**San Pedro Mart**	**1.38**	**188**	*e*P	**Pn**	**20 51 35.7**	**-2.0**
SPX				*i* S	**Sb**	**20 51 54.0**	**-1.9**
SPX	**San Pedro Mart**	**1.38**	**188**	⇓*e*P	**Pn**	**20 51 35.5**	**-2.2**
SPX				⇓*e*		20 52 06.8	
PBX	**Punta Banda**	**1.42**	**242**	⇓*e*P	**Pn**	**20 51 37.6**	**-0.3**
EML	**El Monte Cty P**	**1.43**	**290**	*e*Pn	**Pn**	**20 51 36.0**	**-2.0**
BLYC	**Blythe**	**1.46**	**24**	*e*Pn	Pn	20 51 35.5	-3.0
Y12C	**Blythe**	**1.46**	**24**	P	**Pn**	**20 51 35.6**	**-2.9**
	baz=1.5						
Y12C				Sb	**Sn**	**20 51 56.8**	**-0.7**
	baz=1.5						
DPP	**Dos Picos Cty**	**1.54**	**293**	*e*Pn	**Pn**	**20 51 37.6**	**-2.0**
PFO	**Pinyon Flats O**	**1.56**	**320**	P	Pn	20 51 37.1	-2.8
	baz=1.6						
PFO	**Pinyon Flats O**	**1.56**	**320**	*e*Pn	Pn	20 51 37.3	-2.7
FRD	**Ford Ranch, An**	**1.56**	**314**	*e*Pn	**Pn**	**20 51 37.8**	**-2.3**
HWB	**Hans Werner Br**	**1.56**	**293**	*e*Pn	**Pn**	**20 51 37.9**	**-2.0**
SNDA	**J Saunders Pla**	**1.61**	**315**	*e*Pn	**Pn**	**20 51 38.4**	**-2.3**
109C	**Camp Elliot, M**	**1.63**	**287**	P	**Pn**	**20 51 39.5**	**-1.3**
	baz=1.7						
109C				Sb	**Sb**	**20 52 03.8**	**+0.9**
	baz=1.7						
CPE	**Camp Elliot**	**1.63**	**287**	*e*Pn	**Pn**	**20 51 39.6**	**-1.2**
PLM	**Palomar**	**1.65**	**305**	*e*Pn	**Pn**	**20 51 39.3**	**-1.9**
BELC	**Belle Mtn. Jos**	**1.70**	**339**	P	**Pn**	**20 51 39.3**	**-2.6**
	baz=1.7						
IRM	**Iron Mountain**	**1.74**	**3**	P	**Pn**	**20 51 39.7**	**-2.7**
	baz=1.8						
IRM				Sb	**Sb**	**20 52 06.7**	**+0.7**
	baz=1.8						
IRM	**Iron Mountain**	**1.74**	**3**	*e*Pn	**Pn**	**20 51 39.7**	**-2.7**
TPC	**Twentynine Pal**	**1.81**	**339**	*e*Pn	**Pn**	**20 51 41.0**	**-2.4**
BACC	**Bachelor Mtn.**	**1.92**	**309**	*e*Pn	**Pn**	**20 51 42.9**	**-2.0**
DGR	**Domenigoni Val**	**1.92**	**310**	*e*Pn	**Pn**	**20 51 42.9**	**-2.0**
HMTC	**Hemet**	**1.96**	**312**	*e*Pn	**Pn**	**20 51 43.4**	**-2.0**
MURC	**Murrieta**	**2.02**	**306**	P	**Pn**	**20 51 44.3**	**-1.9**
	baz=2.1						
PDMCI	**Parker Dam,Lak**	**2.10**	**26**	Sb	**Sb**	**20 52 15.6**	**-0.6**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.12**	**102**	Pb	Pn	20 51 43.6	-3.9
	baz=2.1						
GMRC	**Granite Mounta**	**2.38**	**352**	P	**Pn**	**20 51 49.2**	**-2.0**
	baz=2.4						
HEC	**Hector,Ludlow**	**2.57**	**340**	P	**Pn**	**20 51 52.4**	**-1.4**
	baz=2.6						
BFSC	**Mount Baldy Ra**	**2.71**	**313**	Pb	**Pb**	**20 51 59.2**	**-1.7**
	baz=2.8						
MWC	**Mount Wilson**	**2.96**	**308**	*e*Pn	**Pn**	**20 52 00.2**	**+0.9**
PASC	**Pasadena Art C**	**3.02**	**306**	*e*Pn	**Pn**	**20 51 59.0**	**-0.9**
TUQ	**Turquoise Moun**	**3.06**	**350**	P	**Pn**	**20 51 59.7**	**-1.0**
	baz=3.1						
GSC	**Goldstone, Bar**	**3.15**	**336**	P	**Pn**	**20 52 04.2**	**+2.4**
	baz=3.2						
GSC	**Goldstone, Bar**	**3.15**	**336**	*e*Pn	**Pn**	**20 52 00.8**	**-1.0**
IR2C	**Iron Canyon**	**3.29**	**308**	*e*Pn	**Pn**	**20 52 02.3**	**-1.3**
EDW2	**Edwards Air Fo**	**3.35**	**318**	P	**Pn**	**20 52 05.8**	**+1.2**
	baz=3.4						
SHOC	**Shoshone, Teco**	**3.58**	**346**	P	**Pn**	**20 52 09.3**	**+1.7**
	baz=3.6						
OSI	**Osito Audit: C**	**3.64**	**308**	*e*Pn	**Pn**	**20 52 08.2**	**-0.3**
LRMC	**Laurel Mtn Rad**	**3.66**	**327**	P	**Pn**	**20 52 07.8**	**-1.1**
	baz=3.7						
TUC	**Tucson**	**3.78**	**90**	*e*Pn	Pn	20 52 06.9	-3.5
SHPR	**Sheep Range**	**4.08**	**1**	*e*Pn	**Pn**	**20 52 14.0**	**-0.7**
SHPR				*e*Sg	**Sg**	**20 53 19.9**	**-3.5**
ISA	**Isabella, Lake**	**4.20**	**321**	*e*Pn	**Pn**	**20 52 13.9**	**-2.3**
ISA				*e*Pg	**Pb**	**20 52 25.0**	**-1.2**
DAC	**Darwin (Calif)**	**4.31**	**334**	*e*Pn	**Pn**	**20 52 16.7**	**-1.2**
WUAZ	**Wupatki**	**4.46**	**45**	P	**Pn**	**20 52 20.1**	**+0.2**
	baz=4.4						
WUAZ	**Wupatki**	**4.46**	**45**	*e*Pn	**Pn**	**20 52 20.0**	**0.0**
TPNV	**Topopah Spring**	**4.59**	**350**	P	**Pn**	**20 52 21.2**	**-0.5**
	baz=4.6						
TPNV	**Topopah Spring**	**4.59**	**350**	*e*Pn	**Pn**	**20 52 21.3**	**-0.5**
SMMC	**Simmler**	**4.89**	**307**	P

AGMN	**Agassiz Nation**	**21.58**	**37**	*e*Pn		**P**		**20 56 02.4**	**+0.7**
	comp=E,12nm,1.0s								
BBB	**Bella Bella**	**21.86**	**338**	LR		LR		21 05 10.5	
	comp=E,140nm,19.1s,baz=152,slow=38								
CMIG	**Matias Romero**	**23.91**	**125**	P		**P**		**20 56 26.5**	**+0.4**
	comp=E,4.4nm,1.0s,baz=329,slow=12,SNR=2.9								
CMIG				LR		LR		21 06 31.6	
	comp=E,172nm,20.1s,baz=5.0,slow=39								
AAM	**Ann Arbor**	**26.85**	**59**	*e*P		**P**		**20 56 54.6**	**+2.0**
	comp=E,51nm,0.5s								
DLBC	**Dease Lake**	**27.88**	**343**	P		**P**		**20 57 04.9**	**+3.1**
	comp=E,4.5nm,0.8s,baz=148,slow=15,SNR=3.0								
DLBC				LR		LR		21 08 00.8	
	comp=E,132nm,18.0s,baz=280,slow=36								
YKA	**Yellowknife Ar**	**30.09**	**1**	P		**P**		**20 57 23.7**	**+2.5**
	comp=E,1.5nm,1.1s,baz=174,slow=7.4,SNR=2.9								
EGAK	**Eagle**	**36.09**	**341**	*e*P		P		20 58 17.2	+3.7
	comp=E,9.0nm,1.3s								
IL1	**Eielson Array**	**37.75**	**338**	*e*P		**P**		**20 58 30.4**	**+2.7**
ILAR	**Eielson Array**	**37.75**	**338**	P		**P**		**20 58 29.2**	**+1.5**
	comp=E,3.6nm,1.1s,baz=155,slow=6.8,SNR=11								
ILAR				LR		LR		21 12 28.1	
	comp=E,65nm,22.0s,baz=150,slow=34								
PPLA	**Purkeypile**	**38.38**	**334**	*e*P		**P**		**20 58 34.8**	**+1.6**
	comp=E,15nm,1.1s								
BPAW	**Bear Paw Mtn.**	**38.66**	**336**	*e*P		**P**		**20 58 38.4**	**+2.9**
	comp=E,3.7nm,1.3s								
IM04	**Indian Mountai**	**40.74**	**337**	*e*P		**P**		**20 58 54.3**	**+1.6**
BILL	**Bilibino**	**56.09**	**334**	*e*P		**P**		**21 00 51.9**	**+1.0**
	comp=E,8.3nm,1.2s								
LVC	**Limon Verde**	**70.39**	**135**	LR		LR		21 29 12.8	
	comp=E,324nm,18.1s,baz=194,slow=32								
ARCES	**ARCESS Array B**	**74.39**	**13**	P		**P**		**21 02 52.5**	**+2.9**
	comp=E,2.3nm,0.9s,baz=347,slow=7.8,SNR=3.8								
NOA	**NORSAR Array B**	**77.21**	**24**	LR		LR		21 36 41.9	
	comp=E,14nm,18.6s,baz=285,slow=35								
CN2	**Changchun**	**86.09**	**321**	*e*P		**P**		**21 03 52.0**	**-1.0**
HHC	**Hu-ho-hao-te**	**95.25**	**326**	*e*P		P		21 04 33.2	-2.9
HHC	**Hu-ho-hao-te**	**95.25**	**326**	S		S		21 15 44.3	-7.3
HHC				pmax		pmax			
	comp=Z,19nm,1.4s								
HHC				pmax		pmax			
	comp=Z,120nm,8.2s								
WMQ	**Urumqi**	**101.28**	**343**	*e*P		**Pdif**		**21 05 02.4**	**-0.7**
CD2	**Chengdu**	**106.99**	**326**	Pdif		**Pdif**		**21 05 25.8**	**-3.0**

IDC ***11*** *20:55:01.2±0.5,25°.21S×176°.11W,h0km,mb4.5/19, mb1 4.6/21,mb1mx4.5/38,mbtmp4.5/21,ML4.5/2,MS4.0/23, Ms1 4.0/23,ms1mx3.9/33,Error ellipse: s-maj=18.4km s-min=15.6km az=137.0*

GCMT ***11*** *20:55:02.7±0.3,25°.22S×175°.78W,h20km,MW5.0/70, Moment Tensor Solution. s35,c48; s70,c99; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-3.18±.19; Mθθ-0.68±.13; Mφφ3.86±.12; Mrθ0.40±.32; Mrφ0.61±.09; Mθφ-1.08±.21; Best double couple: Mo3.75700×10^16^ NP1:φs357.00000°,δ54.00000°,λ-104.00000°. NP2: φs199.00000°,δ38.00000°,λ-72.00000°. Principal axes: T 4.0840, Plg8.0000°, Azm27.0000°; N -0.6560, Plg11.0000°, Azm5.0000°; P -3.4300, Plg76.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***11*** *20:55:02.7±4.2,25°.08S×176°.23W,h8km±25km,mb5.0/19 Error ellipse: s-maj=9.9km s-min=9.1km az=114.0*

BJI ***11*** *20:55:03.4,25°.08S×176°.27W,h13km,mb5.1/26, mB5.4/17,Ms5.1/8,Ms7 4.7/10*

ISCJB ***11*** *20:55:05.1±0.3,25°.29S±0°.06×176°.18W±0°.05,h33km, mb4.8/43,MS4.0/21,Error ellipse: s-maj=9.0km s-min=6.5km az=158.5*

ISC 11 20:55:04.9±0.5,25°.19S±0°.07×176°.10W±0°.07,h23km±3km, h22km:pP-P,n186,σ1§53/182,mb4.9/43,MS4.0/21, 13C-11D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.36**	**201**	Pn		**Pn**	**20 56 09.4**	**-0.4**
	109nm,0.3s,baz=270,slow=20,SNR=3.2							
RAO	**Raoul Island**	**4.36**	**201**	*e*Pn		**Pn**	**20 56 09.8**	**0.0**
MSVF	**Nonsavu**	**9.20**	**323**	Pn		Pn	20 57 22.0	+5.7
	686nm,1.2s,SNR=5.7							
MSVF	**Nonsavu**	**9.20**	**323**	*e*Pn		Pn	20 57 12.2	-4.1
AFI	**Afiamalu**	**11.93**	**21**	*e*Pn		Pn	20 57 46.5	-7.3
URZ	**Urewera**	**14.25**	**202**	Pn		**Pn**	**20 58 25.2**	**-0.1**
	0.6nm,0.3s,baz=102,slow=20,SNR=2.9							
URZ				Sn		Sn	21 00 52.9	-10
	0.5nm,0.3s,baz=329,slow=18,SNR=2.6							
RAR	**Rarotonga**	**15.52**	**79**	Pn		Pn	20 58 34.6	-7.8
	10nm,0.3s,baz=246,slow=5.7,SNR=16							
RAR				LR		LR	21 04 38.7	
	comp=Z,425nm,18.6s,baz=256,slow=37							
DZM	**Mont Dzumac**	**16.29**	**277**	*e*Pn		**P**	**20 58 59.7**	**+4.4**
	35nm,0.7s							
DZM				*e*LR		LR	21 02 52.4	
	1μm,30.1s							
DZM	**Mont Dzumac**	**16.29**	**277**	Pn		**P**	**20 58 54.7**	**-0.6**
	0.2nm,0.3s,baz=96,slow=18,SNR=1.7							
DZM				LR		LR	21 04 25.1	
	comp=Z,775nm,18.4s,baz=180,slow=35							
KHZ	**Kahutara**	**19.20**	**204**	*e*P		P	20 59 20.6	-6.4
	28nm,0.8s							
TBI	**Tubuai**	**24.34**	**91**	*e*P		**P**	**21 00 20.6**	**-0.6**
	50nm,1.0s							
TBI				*e*LQ		LQ	21 04 58.5	
	893nm,28.5s							
TBI				*e*LR		LR	21 05 48.7	
	994nm,30.8s							
TBI	**Tubuai**	**24.34**	**91**	*e*T		T	21 25 14.9	
	20nm,0.3s							
PAE	**Paea**	**25.77**	**78**	*e*T		T	21 27 03.6	
	14nm,0.3s							
PPT2	**Papeete2**	**25.80**	**78**	*e*P		**P**	**21 00 34.0**	**-0.5**
	30nm,1.2s							
PPT2				*e*LQ		LQ	21 05 34.4	
	1μm,24.2s							
PPT2				*e*LR		LR	21 06 26.4	
	1μm,29.8s							
PPT2	**Papeete2**	**25.80**	**78**	*e*T		T	21 27 06.9	
	17nm,0.4s							
PPT	**Papeete**	**25.80**	**78**	LR		LR	21 09 24.8	
	comp=Z,276nm,18.2s,baz=241,slow=34							
TIAR	**Tiarei**	**26.01**	**78**	*e*P		**P**	**21 00 35.9**	**-0.5**
	11nm,0.8s							
TIAR	**Tiarei**	**26.01**	**78**	*e*T		T	21 27 22.7	
	1.9nm,0.3s							
TVO	**Taravao**	**26.02**	**79**	*e*P		**P**	**21 00 35.8**	**-0.7**
	7.5nm,1.0s							
MEH	**Mehetia**	**27.04**	**80**	*e*T		T	21 28 38.9	
	40nm,0.3s							
EIDS	**Eidsvold**	**29.64**	**263**	*e*P		**P**	**21 01 08.4**	**-0.4**
	10nm,0.8s							
CTA	**Charters Tower**	**35.03**	**271**	P		**P**	**21 01 57.0**	**+0.8**
	13nm,0.7s,baz=91,slow=11,SNR=22							
CTAO	**Charters Tower**	**35.03**	**271**	*e*P		**P**	**21 01 56.3**	**+0.1**
	21nm,0.9s							
RKT	**Rikitea**	**37.48**	**96**	*e*LR		LR	21 11 51.7	
	624nm,32.5s							
STKA	**Stephens Creek**	**37.58**	**250**	P		**P**	**21 02 18.0**	**+0.2**
	3.1nm,0.5s,baz=95,slow=9.6,SNR=18							
STKA				LR		LR	21 16 19.0	
	comp=Z,687nm,19.2s,baz=72,slow=34							
STKA	**Stephens Creek**	**37.58**	**250**	*e*P		**P**	**21 02 17.6**	**-0.2**
	1.6nm,0.8s							
PMG	**Port Moresby**	**38.27**	**288**	*e*P		**P**	**21 02 22.2**	**-1.5**
COEN	**Coen**	**39.82**	**278**	*e*P		**P**	**21 02 36.5**	**-0.2**
	120nm,2.1s							
AS01	**Alice Springs**	**45.29**	**261**	*e*P		**P**	**21 03 19.8**	**-1.4**
AS31	**Alice Springs**	**45.33**	**261**	*e*P		**P**	**21 03 19.5**	**-2.0**
ASAR	**Alice Springs**	**45.33**	**261**	P		**P**	**21 03 19.7**	**-1.9**
	1.5nm,0.5s,baz=95,slow=7.4,SNR=33							
ASAR				LR		LR	21 21 17.8	
	comp=Z,542nm,18.5s,baz=106,slow=35							
WRAB	**Tennant Creek**	**45.85**	**266**	P		**P**	**21 03 24.5**	**-1.2**
	63nm,1.3s,SNR=13							
WRAB	**Tennant Creek**	**45.85**	**266**	*e*P		**P**	**21 03 24.0**	**-1.7**
WRA	**Warramunga Arr**	**45.86**	**266**	P		**P**	**21 03 24.1**	**-1.7**
	4.9nm,0.6s,baz=99,slow=6.9,SNR=21							
WRA				LR		LR	21 22 08.1	
	comp=Z,506nm,18.1s,baz=110,slow=36							
FORT	**Forrest**	**49.20**	**250**	*e*P		**P**	**21 03 49.5**	**-2.0**
	28nm,0.6s							
SBA	**Scott Base**	**53.34**	**184**	*e*P		P	21 04 25.3	+3.4
	24nm,1.2s							
VNDA	**Vanda**	**53.43**	**186**	P		**P**	**21 04 22.8**	**+0.2**
	1.5nm,0.9s,baz=6.5,slow=10,SNR=6.9							
VNDA				LR		LR	21 24 07.9	
	comp=Z,85nm,20.1s,baz=39,slow=33							
VNDA	**Vanda**	**53.43**	**186**	*e*P		**P**	**21 04 25.0**	**+2.4**
	4.5nm,0.9s							
FITZ	**Fitzroy Crossi**	**54.26**	**265**	*e*P		**P**	**21 04 28.4**	**-1.1**
	12nm,1.0s							
SIJI	**Sorong**	**56.20**	**287**	P		**P**	**21 04 42.2**	**-1.4**
	9.0nm,0.6s,baz=94,slow=4.2,SNR=12							
SOEI	**Soe**	**58.48**	**274**	P		**P**	**21 04 59.3**	**-0.5**
CASY	**Casey**	**60.53**	**206**	*e*P		**P**	**21 05 13.5**	**+0.5**
	34nm,1.3s							
QSPA	**South Pole Qui**	**64.91**	**180**	*e*P		**P**	**21 05 43.4**	**+1.1**
	8.7nm,0.9s							
MPSI	**Mapaga**	**66.75**	**282**	P		**P**	**21 05 54.5**	**-0.4**
	10nm,0.6s							
KKM	**Kota Kinabalu**	**72.67**	**285**	*e*P		**P**	**21 06 30.3**	**-1.2**
	4.9nm,0.6s							
KPJI	**Karang Pucung**	**73.33**	**270**	P		P	21 06 29.0	-6.3
JOW	**Kunigami**	**74.51**	**310**	LR		LR	21 37 40.6	
	comp=Z,8.2nm,18.6s,slow=34							
LEM	**Lembang**	**74.73**	**270**	P		**P**	**21 06 44.5**	**+0.8**
	13nm,0.7s,baz=52,slow=17,SNR=3.2							
LEM				LR		LR	21 38 57.3	
	comp=Z,177nm,18.3s,baz=154,slow=35							
MAJO	**Matsushiro**	**75.00**	**323**	*e*P		**P**	**21 06 44.8**	**+0.3**
KSM	**Kuching**	**75.81**	**278**	*e*P		**P**	**21 06 49.5**	**-0.3**
	17nm,1.1s							
CGJI	**Cibinong**	**76.56**	**269**	P		**P**	**21 06 50.8**	**-3.2**
	32nm,0.8s							
JNU	**Nakatsue**	**76.87**	**316**	LR		LR	21 35 39.0	
	comp=Z,75nm,21.5s,baz=99,slow=32							
MAW	**Mawson**	**77.76**	**200**	P		**P**	**21 07 00.9**	**+1.1**
	2.0nm,0.5s,baz=114,slow=5.6,SNR=6.8							
MAW				LR		LR	21 40 46.8	
	comp=Z,200nm,18.1s,baz=71,slow=35							
KASI	**Kota Agung**	**78.09**	**269**	P		**P**	**21 07 00.6**	**-2.0**
ASAJ	**Asahikawa**	**78.66**	**331**	*e*P		**P**	**21 07 06.7**	**+1.8**
	9.8nm,0.8s							
LWLI	**Liwa**	**78.70**	**270**	P		**P**	**21 07 04.4**	**-1.7**
MDSI	**Maura Dua**	**78.81**	**270**	P		**P**	**21 07 06.4**	**-0.1**
	16nm,1.1s							
LPIG	**La Paz**	**80.35**	**58**	LR		LR	21 34 46.8	
	comp=Z,139nm,19.1s,baz=231,slow=30							
HOPS	**Hopland Field**	**80.83**	**39**	*e*P		P	21 07 11.7	-5.2
	14nm,0.6s							
PETK	**Petropavlovsk-**	**81.23**	**344**	P		**P**	**21 07 18.8**	**+0.1**
	4.4nm,0.7s,baz=116,slow=10,SNR=6.5							
PETK				LR		LR	21 37 07.7	
	comp=Z,57nm,20.7s,baz=143,slow=31							
SNDA	**J Saunders Pla**	**81.30**	**47**	*e*P		**P**	**21 07 20.6**	**+0.9**
KSRS	**Korea Array**	**81.54**	**318**	P		**P**	**21 07 21.8**	**+1.2**
	3.2nm,0.8s,baz=132,slow=6.9,SNR=11							
KSAR	**Wonju Array Be**	**81.55**	**318**	P		**P**	**21 07 21.8**	**+1.1**
KS01	**Wonju Array Si**	**81.57**	**318**	*e*P		**P**	**21 07 23.5**	**+2.7**
CMB	**Columbia Colle**	**81.76**	**41**	P		**P**	**21 07 19.7**	**-2.2**
WDC	**Whiskeytown Da**	**82.20**	**38**	*e*P		**P**	**21 07 25.7**	**+1.6**
	25nm,1.6s							
SYO	**Syowa Base**	**82.55**	**192**	*e*PcP		**PcP**	**21 07 31.8**	**+1.2**
YBH	**Yreka Blue Hor**	**82.89**	**37**	LR		LR	21 38 45.7	
	comp=Z,20nm,19.9s,baz=226,slow=32							
NV01	**Mina Array Sit**	**83.27**	**42**	*e*P		**P**	**21 07 30.5**	**+0.5**
NVAR	**Mina Array Bea**	**83.27**	**42**	P		**P**	**21 07 30.8**	**+0.8**
	0.7nm,0.6s,baz=229,slow=8.2,SNR=3.2							
SNAA	**Sanae**	**83.29**	**178**	P		P	21 07 22.1	-7.4
SNAA	**Sanae**	**83.29**	**178**	LR		LR	21 45 35.7	
	comp=Z,16nm,18.5s,baz=146,slow=36							
TPH	**Tonopah**	**83.70**	**43**	*e*P		**P**	**21 07 33.0**	**+0.8**
USRK	**Ussuriysk Ar.**	**83.80**	**325**	P		**P**	**21 07 33.5**	**+1.2**
	6.4nm,0.8s,baz=133,slow=3.4,SNR=13							
VNA1	**Neumayer--Stat**	**84.04**	**176**	P		**P**	**21 07 34.3**	**+1.1**
NJ2	**Nanjing**	**84.20**	**309**	*e*P		**P**	**21 07 34.6**	**0.0**
NJ2				PMZ				
	10.0nm,0.7s							
QIZ	**Qiongzhong**	**84.36**	**294**	P		**P**	**21 07 36.3**	**+0.6**
QIZ				sP		**sP**	**21 07 45.3**	**-0.5**
QIZ				S		**S**	**21 18 01.2**	**+0.5**
PLCA	**Paso Flores**	**84.81**	**133**	P		**P**	**21 07 36.5**	**-1.3**
	6.0nm,1.0s,baz=301,slow=0.8,SNR=9.5							
PLCA	**Paso Flores**	**84.81**	**133**	*e*P		**P**	**21 07 37.5**	**-0.3**
KULM	**Kulim**	**86.14**	**278**	*e*P		**P**	**21 07 47.5**	**+2.8**
PSI	**Prapat**	**86.63**	**275**	P		**P**	**21 07 46.6**	**-0.8**
	3.0nm,0.3s,baz=185,slow=5.2,SNR=3.7							
CN2	**Changchun**	**87.06**	**322**	*e*P		**P**	**21 07 51.6**	**+3.1**
GSI	**Gunungsitoli**	**87.22**	**273**	P		**P**	**21 07 51.7**	**+1.6**
GSI	**Gunungsitoli**	**87.22**	**273**	*e*P		**P**	**21 07 51.0**	**+0.9**
	59nm,1.6s							
TIA	**Tai'an**	**87.70**	**312**	P		**P**	**21 07 52.9**	**+1.0**
BBB	**Bella Bella**	**87.72**	**27**	LR		LR	21 39 09.1	
	comp=Z,57nm,21.4s,baz=184,slow=30							
TX31	**Lajitas Ar. Si**	**88.14**	**56**	*e*P		**P**	**21 07 54.1**	**-0.1**
TXAR	**Lajitas Array**	**88.14**	**56**	P		**P**	**21 07 54.3**	**+0.1**
	1.0nm,1.0s,baz=193,slow=5.1,SNR=5.5							
TXAR				LR		LR	21 40 59.8	
	comp=Z,93nm,19.0s,baz=0.0,slow=31							
ANMO	**Albuquerque**	**88.99**	**50**	LR		LR	21 39 58.0	
	comp=Z,156nm,19.8s,baz=234,slow=30							
ANMO	**Albuquerque**	**88.99**	**50**	*e*P		**P**	**21 07 58.8**	**+0.6**
	2.7nm,1.0s							
PV09	**Paradox Valley**	**89.10**	**46**	*e*P		**P**	**21 08 00.5**	**+1.7**
BJI	**Beijing**	**90.43**	**315**	P		**P**	**21 08 06.0**	**+1.4**
BJI				S		**S**	**21 18 57.0**	**-1.1**
BJI				PMZ				
	7.0nm,0.6s							
BJI				LN				
	110nm,6.9s							
BJI				LE				
	82nm,6.4s							
GYA	**Guiyang**	**90.46**	**299**	*e*P		**P**	**21 08 05.0**	**-0.2**
GYA				PP		**PP**	**21 11 41.8**	**+1.6**
GYA				SKS		**SKSac**	**21 18 35.0**	**-0.6**
GYA				S		**S**	**21 18 57.8**	**-1.5**
GYA				SS		**SS**	**21 25 01.2**	**+0.5**
GYA				PMZ				
	10.0nm,1.0s							
GYA				PMZ				
	120nm,5.3s							
GYA				LZ				
	520nm,20.0s							
RND	**Reindeer**	**90.88**	**12**	*e*P		**P**	**21 08 05.6**	**-0.7**
	54nm,2.1s							
PDAR	**Pinedale Array**	**91.19**	**43**	P		**P**	**21 08 08.8**	**+0.4**
	0.4nm,0.6s,baz=289,slow=2.8,SNR=2.9							
PDAR				LR		LR	21 48 54.2	
	comp=Z,36nm,18.2s,baz=244,slow=35							
SEY	**Seymchan**	**91.32**	**346**	P		**P**	**21 08 08.5**	**+0.4**
	0.8nm,0.3s,baz=146,slow=6.4,SNR=10							
XAN	**Xi'an**	**92.34**	**307**	P		**P**	**21 08 15.8**	**+2.1**
XAN				PMZ				
	2.0nm,0.8s							
XAN				PMZ				
	15nm,4.7s							
ILAR	**Eielson Array**	**92.49**	**12**	P		**P**	**21 08 13.5**	**-0.1**
	0.7nm,0.7s,baz=225,slow=5.5,SNR=4.1							
ILAR				LR		LR	21 44 33.1	
	comp=Z,37nm,21.0s,baz=207,slow=32							
GCMT	**Greycliff**	**92.80**	**40**	*e*P		**P**	**21 08 18.4**	**+2.7**
KMI	**Kunming**	**93.01**	**296**	P		**P**	**21 08 19.6**	**+2.4**
KMI				PMZ				
	10.0nm,1.2s							
NNA	**Nana**	**93.17**	**105**	LR		LR	21 41 53.7	
	comp=Z,65nm,19.0s,baz=238,slow=30							
CM01	**Chiang Mai Arr**	**93.27**	**289**	*e*P		**P**	**21 08 19.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**93.30**	**289**	P		**P**	**21 08 18.7**	**+0.3**
	2.7nm,0.7s,baz=128,slow=3.4,SNR=18							
CMAR				LR		LR	21 50 26.5	
	comp=Z,19nm,18.7s,baz=130,slow=36							
CHTO	**Chiang Mai**	**93.45**	**289**	*e*P		**P**	**21 08 20.7**	**+1.7**
	31nm,1.6s							
HHC	**Hu-ho-hao-te**	**93.85**	**314**	*e*P		**P**	**21 08 19.8**	**-0.8**
HHC				sP		**sP**	**21 08 31.0**	**+0.3**
HHC				PP		**PP**	**21 12 06.5**	**-0.2**
HHC				S		**S**	**21 19 28.2**	**-0.9**
HHC				sS		**sS**	**21 19 43.8**	**+2.2**
HHC				PMZ				
	12nm,1.5s							
HHC				PMZ				
	95nm,7.9s							
HHC				LN				
	96nm,17.3s							
HHC				LE				
	93nm,17.8s							
HHC				LZ				
	86nm,17.4s							
BILL	**Bilibino**	**93.86**	**353**	*e*P		**P**	**21 08 18.8**	**-1.0**
CD2	**Chengdu**	**94.76**	**302**	*e*P		**P**	**21 08 24.8**	**-0.1**
CD2				pP		**PcP**	**21 08 28.2**	**+3.0**
CD2				PP		**PP**	**21 12 12.9**	**-1.0**
CD2				SKS		**SKSac**	**21 19 00.1**	**+0.9**
CD2				S		**ScS**	**21 19 38.2**	**-0.2**
CD2				sS		sS	21 19 43.9	-5.9
CD2				PMZ				
	10.0nm,0.5s							
CD2				PMZ				
	140nm,5.2s							
LZH	**Lanzhou**	**96.97**	**307**	*e*P		**P**	**21 08 35.6**	**+0.6**
LZH				pP		**pP**	**21 08 42.2**	**-0.3**
LZH				sP		**sP**	**21 08 46.3**	**+1.1**
LZH				PMZ				
	12nm,1.0s							
LPAZ	**La Paz**	**98.66**	**112**	LR		LR	21 45 50.0	
	comp=Z,74nm,18.1s,baz=184,slow=31							
WMQ	**Urumqi**	**111.28**	**309**	PKP		**PKiKP**	**21 13 36.6**	**-0.4**
WMQ				PP		**PP**	**21 14 19.4**	**+2.1**
WMQ				PPMZ				
	19nm,9.5s							
WMQ				LN				
	130nm,11.8s							
WMQ				LE				
	56nm,12.3s							
WMQ				LZ				
	29nm,15.4s							
ZALV	**Zalesovo Beam**	**115.20**	**320**	PKP		**PKPdf**	**21 13 43.2**	**-0.8**
	0.5nm,0.5s,baz=82,slow=2.2,SNR=2.9							
MKAR	**Makanchi Array**	**115.64**	**312**	PKP		**PKPdf**	**21 13 44.5**	**-0.7**
	0.7nm,0.5s,baz=156,slow=0.7,SNR=11							
KURK	**Kurchatov**	**118.58**	**316**	PKP		**PKPdf**	**21 13 49.8**	**-0.9**
KURBB	**Kurchatov Arra**	**118.63**	**316**	PKP		**PKPdf**	**21 13 49.8**	**-1.0**
	0.7nm,0.6s,baz=103,slow=1.9,SNR=13							
KSH	**Kashi**	**118.94**	**303**	*e*PKP		**PKPdf**	**21 13 54.8**	**+2.9**
KSH				PP		PP	21 15 17.1	+5.5
KSH				PKS		**PKSdf**	**21 17 25.0**	**-3.7**
KSH				SKS		**SKSdf**	**21 20 58.5**	**-4.3**
KSH				SKKS		**SKKSac**	**21 22 05.0**	**-5.3**
KSH				SS		**SS**	**21 31 33.3**	**+2.7**
KSH				LZ				
	130nm,8.4s							
SUR	**Sutherland**	**120.53**	**197**	PKP		**PKPdf**	**21 13 54.3**	**-1.1**
	6.0nm,1.0s,baz=209,slow=6.1,SNR=3.8							
KKAR	**Karatay Array**	**123.47**	**306**	*e*PKPdf		**PKPdf**	**21 13 58.6**	**-1.7**
BVAR	**Borovoye Array**	**123.75**	**318**	PKP		**PKPdf**	**21 13 60.0**	**-0.6**
	1.0nm,0.5s,baz=122,slow=2.6,SNR=6.8							
SPITS	**Spitsbergen Ar**	**126.62**	**357**	PKP		**PKPdf**	**21 14 05.4**	**0.0**
	2.8nm,0.8s,baz=116,slow=10,SNR=3.2							
ARU	**Arti**	**130.02**	**324**	*e*PKPdf		**PKPdf**	**21 14 12.7**	**+0.3**
AKTO	**Aktyubinsk**	**131.68**	**316**	PKP		**PKPdf**	**21 14 16.7**	**+1.0**
	0.6nm,0.6s,baz=130,slow=6.9,SNR=3.2							
ARCES	**ARCESS Array B**	**133.82**	**350**	PKP		**PKPdf**	**21 14 20.2**	**+1.0**
	2.4nm,0.8s,baz=0.0,slow=1.2,SNR=6.3							
FINES	**FINESS Array B**	**140.74**	**343**	PKhKP		PKPpre	21 14 24.8	
	0.8nm,0.5s,baz=117,slow=2.1,SNR=9.8							
KBZ	**Khabaz**	**143.32**	**310**	PKP		**PKPdf**	**21 14 36.3**	**-1.0**
	0.6nm,0.5s,baz=49,slow=9.3,SNR=2.5							
NB2	**NORSAR Subarra**	**143.81**	**354**	PKP		PKPab	21 14 34.8	+0.1
	comp=Z,3.1nm,0.7s,baz=7.0,slow=3.5							
NOA	**NORSAR Array B**	**143.81**	**354**	PKP		PKPbc	21 14 35.4	-0.1
	comp=Z,0.8nm,0.5s,baz=9.4,slow=2.3,SNR=14							
HFS	**Hagfors**	**144.41**	**352**	PKP		**PKPab**	**21 14 36.6**	**-0.4**
	comp=Z,10nm,0.7s,baz=64,slow=3.4,SNR=22							
KONO	**Kongsberg**	**145.33**	**355**	*e*PKPbc		**PKPab**	**21 14 40.3**	**0.0**
IZAR	**Zarasai**	**145.37**	**338**	*e*P		**PKPbc**	**21 14 40.1**	**-0.3**
IZAR				IAmb		IAmb	21 14 43.2	
	comp=Z,15nm,0.6s							
ISAL	**Salakas**	**145.56**	**338**	*e*P		**PKPab**	**21 14 41.4**	**+0.1**
ISAL				IAmb		IAmb	21 14 43.9	
	comp=Z,9.7nm,0.7s							
IIGN	**Ignalina**	**145.70**	**337**	*e*P		**PKPab**	**21 14 41.8**	**-0.1**
IIGN				IAmb		IAmb	21 14 44.3	
	comp=Z,20nm,0.5s							
MICGM	**Minsk**	**145.75**	**335**	*e*		**PKPdf**	**21 14 40.0**	**-1.2**
AKASG	**Malin Array Be**	**147.93**	**329**	*e*PKPbc		**PKPbc**	**21 14 47.4**	**-0.6**
	comp=Z,2.8nm,0.5s,baz=42,slow=4.1,SNR=21							
AKBB	**Malin Array Si**	**147.93**	**329**	*e*PKPbc		**PKPbc**	**21 14 47.0**	**-1.0**
AK01	**Malin Array Si**	**147.94**	**329**	*e*PKPbc		**PKPbc**	**21 14 47.5**	**-0.6**
KIEV	**Kiev**	**147.94**	**329**	*e*PKPdf		**PKPbc**	**21 14 46.5**	**-1.5**
AK02	**Malin Array Si**	**147.97**	**329**	*e*PKPbc		**PKPbc**	**21 14 47.2**	**-0.9**
MALT	**Malatya**	**148.04**	**303**	*i*P		**PKPbc**	**21 14 49.6**	**+0.7**
EKA	**Eskdalemuir Ar**	**149.44**	**8**	PKPbc		**PKPbc**	**21 14 51.0**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=336,slow=2.7,SNR=5.5							
BR131	**Keskin Array S**	**151.18**	**307**	*e*PKPbc		**PKPbc**	**21 14 56.2**	**-0.4**
BRTR	**Keskin Array B**	**151.18**	**307**	PKPbc		**PKPbc**	**21 14 56.4**	**-0.3**
	comp=Z,2.4n

H08S2	**Diego Garcia H**	**25.41**	**252**	T		T		21 34 12.0	
	baz=72,slow=75,SNR=6.6								
H08S3	**Diego Garcia H**	**25.41**	**252**	T		T		21 34 12.0	
	baz=72,slow=75,SNR=7.7								
H08S1	**Diego Garcia H**	**25.43**	**252**	T		T		21 34 10.4	
	baz=72,slow=75,SNR=9.9								
GTA	**Gaotai**	**39.49**	**4**	*e*P		P		21 09 03.2	-4.8
GTA				pP				21 09 10.9	
GTA				sP				21 09 13.6	
GTA				pmax		pmax			
	comp=Z,3.0nm,1.4s								
WRA	**Warramunga Arr**	**41.61**	**120**	P		P		21 09 25.7	0.0
	comp=Z,0.7nm,0.8s,baz=304,slow=9.3,SNR=3.0								
MKAR	**Makanchi Array**	**48.49**	**347**	P		P		21 10 20.0	-0.1
	comp=Z,0.7nm,0.5s,baz=165,slow=9.1,SNR=12								
SONM	**Songino Array**	**48.53**	**9**	P		P		21 10 19.9	-0.6
	comp=Z,0.6nm,0.7s,baz=188,slow=9.8,SNR=4.6								
KURBB	**Kurchatov Arra**	**52.97**	**345**	P		P		21 10 53.5	-0.2
	comp=Z,0.3nm,0.6s,baz=165,slow=7.1,SNR=4.2								
ZALV	**Zalesovo Beam**	**54.85**	**351**	P		P		21 11 07.6	+0.1
	comp=Z,2.3nm,0.4s,baz=176,slow=7.2,SNR=12								
TXAR	**Lajitas Array**	**145.00**	**32**	PKPbc		PKPab		21 21 13.9	-1.0
	comp=Z,0.2nm,0.5s,baz=186,slow=2.5,SNR=3.5								

NEIC ***11*** *21:03:20.3,51.64N×173.36W,h26km, ML3.2(AEIC), After AEIC.*

ISCJB ***11*** *21:03:25.3±0.6,52.74N±0.06×174.1W±0.1, h35km, mb3.7/9, Error ellipse: s-maj=10.4km s-min=6.2km az=42.6*

IDC ***11*** *21:03:34.7±13.0, 53.09N×173.99W, h89km±123km, mb3.3/9, mb1 3.4/10, mb1mx3.2/51, mbtmp3.6/10, ML4.0/1, Error ellipse: s-maj=41.2km s-min=19.9km az=21.0*

ISC 11 21:03:27.5±0.8, 52.7N±0.1×174.00W±0.09, h35km, n22, σ1°68/23, mb3.7/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.50**	**194**	P	Pn	21 03 34.6	-3.6
ATKA				S	**Sn**	**21 03 44.9**	**-0.7**
GSTR	**Great Sitkin T**	**1.40**	**246**	P	**Pn**	**21 03 48.4**	**-2.1**
GSMY	**Great Sitkin M**	**1.42**	**244**	P	**Pn**	**21 03 49.0**	**-1.7**
GSTD	**Great Sitkin T**	**1.46**	**245**	P	**Pn**	**21 03 49.7**	**-1.7**
GSTD				S	**Sn**	**21 04 13.0**	**+3.6**
ETKA	**Kagalaska Isla**	**1.70**	**242**	P	Pn	21 03 51.1	-3.5
ADAG	**Mount Adagdak**	**1.75**	**247**	P	**Pn**	**21 03 54.1**	**-1.2**
ADK	**Adak**	**1.84**	**245**	P	**Pn**	**21 03 53.5**	**-3.0**
ADK				S	**Sn**	**21 04 19.1**	**+0.6**
KIKV	**Kanaga Island**	**2.11**	**249**	P	**Pn**	**21 03 58.4**	**-1.9**
TAPA	**Tanaga Point A**	**2.50**	**251**	P	**Pn**	**21 04 03.7**	**-2.0**
TASE	**Tanaga Southea**	**2.63**	**253**	P	**Pn**	**21 04 05.9**	**-1.5**
GANE	**Gareloi Northe**	**3.06**	**255**	P	**Pn**	**21 04 12.6**	**-0.8**
ILAR	**Eielson Array**	**18.37**	**38**	P	**P**	**21 07 38.5**	**-0.4**
	0.2nm,0.3s,baz=231,slow=8.9,SNR=7.6						
PDAR	**Pinedale Array**	**43.10**	**76**	P	**P**	**21 11 25.1**	**+0.9**
	0.4nm,0.4s,baz=300,slow=5.7,SNR=3.1						
SONM	**Songino Array**	**48.68**	**298**	P	**P**	**21 12 08.3**	**+0.3**
	0.4nm,0.6s,baz=50,slow=9.4,SNR=4.6						
TXAR	**Lajitas Array**	**55.55**	**86**	P	**P**	**21 13 00.4**	**+1.1**
	0.2nm,0.8s,baz=289,slow=3.6,SNR=3.0						
KURK	**Kurchatov**	**60.21**	**316**	P	**P**	**21 13 31.7**	**+0.2**
KURBB	**Kurchatov Arra**	**60.32**	**316**	P	**P**	**21 13 31.7**	**-0.6**
	0.2nm,0.5s,baz=44,slow=6.4,SNR=6.0						
MKAR	**Makanchi Array**	**61.49**	**311**	P	**P**	**21 13 39.7**	**-0.6**
	0.4nm,0.6s,baz=48,slow=6.4,SNR=3.4						
BVAR	**Borovoye Array**	**61.75**	**322**	P	**P**	**21 13 41.2**	**-0.8**
	0.7nm,0.5s,baz=51,slow=4.3,SNR=6.2						
FINES	**FINESS Array B**	**65.10**	**350**	P	**P**	**21 14 02.7**	**-1.2**
	0.3nm,0.4s,baz=35,slow=5.1,SNR=2.3						
HFS	**Hagfors**	**67.36**	**356**	P	**P**	**21 14 17.0**	**-1.4**
	1.7nm,0.9s,baz=49,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**88.50**	**226**	P	**P**	**21 16 18.2**	**+2.1**
	0.4nm,0.7s,baz=35,slow=4.6,SNR=5.5						

JMA 11 21:21:11.6±0.4, 25.44N×122.15E, h276km±4km, M3.9, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**1.22**	**144**	P	Pn	21 21 50.9	+0.2
JYNG				S	S	21 22 20.9	-0.7
YOJ	**Yonaguni jima**	**1.25**	**141**	P	Pn	21 21 50.1	-0.7
IRIF	**Iriomote-Funau**	**1.81**	**127**	P	Pn	21 21 54.9	+0.2
IRIF				*e*S	S	21 22 28.1	-0.8
HATJ	**Hateruma jima**	**2.04**	**132**	P	Pn	21 21 57.7	+1.1
HATJ				*e*S	S	21 22 32.9	+0.5
JKRS	**Kuro-shima**	**2.07**	**125**	P	Pn	21 21 57.6	+0.7
JKRS				*e*S	S	21 22 32.7	-0.1
JIJ	**Ishigaki jima**	**2.10**	**120**	P	Pn	21 21 57.3	+0.1
JIJ				S	S	21 22 32.2	-1.1
JISG	**Ishigakijimahi**	**2.14**	**113**	P	Pn	21 21 57.5	+0.1
JISG				*e*S	S	21 22 33.0	-0.8
JTJ	**Tarama**	**2.45**	**108**	P	Pn	21 22 00.6	+0.3
JTJ				*e*S	S	21 22 38.2	-0.7
JIRB	**Irabujima**	**2.81**	**102**	P	Pn	21 22 03.7	-0.1
JIRB				*e*S	S	21 22 43.4	-1.8
JIKM	**Ikemajima**	**2.85**	**100**	P	Pn	21 22 04.5	+0.3
JIKM				*e*S	S	21 22 44.5	-1.6
JMJ	**Miyako jima 2**	**2.92**	**102**	P	Pn	21 22 05.2	+0.3
JOGS	**Gusukube**	**3.03**	**102**	P	Pn	21 22 06.2	+0.2
JKE	**Kume jima 2**	**4.27**	**77**	P	Pn	21 22 17.7	-1.9
JKE				*e*S	S	21 23 09.2	-4.8
JJT2	**Tamagusuku 2**	**5.09**	**81**	P	Pn	21 22 27.2	-2.1
JNTH	**Nagotoyohara**	**5.39**	**77**	P	Pn	21 22 30.2	-2.7

IDC 11 21:38:49.4±2.4, 19.30S×179.33W, h699km±32km, mb3.2/10, mb1 3.5/10, mb1mx3.2/26, mbtmp4.3/10, Error ellipse: s-maj=44.0km s-min=12.2km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.38**	**263**	P	P	21 44 26.8	-0.1
	8.6nm,0.3s,baz=89,slow=10,SNR=20						
STKA	**Stephens Creek**	**37.21**	**242**	P	P	21 45 06.3	0.0
	2.9nm,1.1s,baz=78,slow=8.4,SNR=6.6						
WRA	**Warramunga Arr**	**43.54**	**261**	P	P	21 45 55.9	-0.3
	4.0nm,0.4s,baz=98,slow=7.7,SNR=64						
WRA				S	S	21 51 38.2	-0.3
	0.2nm,0.3s,baz=99,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**43.59**	**256**	P	P	21 45 56.4	-0.1
	5.3nm,0.4s,baz=87,slow=8.4,SNR=105						
ASAR				S	S	21 51 39.9	+0.7
	1.6nm,0.8s,baz=92,slow=16,SNR=12						
MJAR	**Matsushiro Arr**	**68.50**	**324**	P	P	21 48 45.7	+0.1
	0.7nm,0.5s,baz=158,slow=6.4,SNR=5.0						
NVAR	**Mina Array Bea**	**81.02**	**44**	P	P	21 49 55.0	-0.1
	1.6nm,0.7s,baz=219,slow=9.2,SNR=5.3						
ILAR	**Eielson Array**	**87.43**	**13**	P	P	21 50 24.8	-0.4
	0.7nm,0.6s,baz=224,slow=6.0,SNR=4.2						
TXAR	**Lajitas Array**	**87.47**	**58**	P	P	21 50 26.6	+0.2
	1.1nm,0.8s,baz=217,slow=5.6,SNR=13						
CMAR	**Chiang Mai Arr**	**88.53**	**290**	P	P	21 50 31.8	+0.3
	0.4nm,0.6s,baz=114,slow=4.4,SNR=3.1						
PDAR	**Pinedale Array**	**88.95**	**44**	P	P	21 50 33.0	-0.2
	0.9nm,0.6s,baz=158,slow=1.6,SNR=5.0						
ARCES	**ARCESS Array B**	**127.51**	**349**	PKP	PKPdf	21 56 36.7	-0.5
	2.1nm,0.9s,baz=324,slow=6.0,SNR=4.3						

IDC 11 22:02:55.6±8.1, 4.85S×151.87E, h320km±76km, mb3.4/4, mb1 3.6/4, mb1mx3.0/27, mbtmp4.0/4, Error ellipse: s-maj=48.1km s-min=23.2km az=96.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.73**	**227**	P	P	22 07 30.5	-0.3
	2.9nm,0.4s,baz=53,slow=10,SNR=33						
ASAR	**Alice Springs**	**25.50**	**221**	P	P	22 07 55.8	-0.1
	0.4nm,0.3s,baz=56,slow=9.2,SNR=12						
PETK	**Petropavlovsk-**	**57.95**	**4**	P	P	22 12 15.1	+0.1
	2.5nm,0.9s,baz=168,slow=7.6,SNR=4.2						
VNDA	**Vanda**	**72.82**	**178**	P	P	22 13 49.9	+0.6
	1.8nm,0.6s,baz=344,slow=7.0,SNR=17						
LPAZ	**La Paz**	**135.21**	**119**	PKP	PKPdf	22 21 37.9	-1.2
	1.2nm,0.7s,baz=208,slow=4.3,SNR=6.5						
TORD	**Torodi Ar. Bea**	**149.44**	**288**	PKPbc	PKPbc	22 22 08.1	-0.1
	0.5nm,0.4s,baz=73,slow=2.2,SNR=14						
BDFB	**Brasilia**	**151.68**	**136**	PKPbc	PKPbc	22 22 12.3	-1.2
	2.8nm,0.5s,baz=254,slow=3.2,SNR=5.9						

IDC 11 22:10:13.1±6.6, 17.55S×69.80W, h160km±55km, mb3.9/2, mb1 3.9/3, mb1mx3.4/18, mbtmp4.3/3, Error ellipse: s-maj=388.6km s-min=74.4km az=148.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.03**	**52**	P	Pn	22 10 49.9	-0.2
	47nm,0.3s,baz=227,slow=6.1,SNR=933						
LPAZ				S	Sn	22 11 18.5	+0.1
	baz=6.7,slow=17						
DBIC	**Dimbokro**	**68.49**	**75**	P	P	22 20 58.7	+0.1
	3.4nm,0.6s,baz=251,slow=5.8,SNR=6.6						
TORD	**Torodi Ar. Bea**	**76.87**	**72**	P	P	22 21 48.1	0.0
	1.1nm,0.6s,baz=258,slow=5.4,SNR=21						

IDC ***11*** *22:25:26.0±0.7, 55.89S×23.99W, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.1/21, mbtmp4.3/7, ML3.7/1, MS3.8/7, Ms1 3.7/7, ms1mx3.4/24, Error ellipse: s-maj=25.7km s-min=20.6km az=97.0*

ISCJB ***11*** *22:25:26.0±0.8, 55.9S±0.1×24.0W±0.2, h10km, mb4.3/6, MS3.8/7, Error ellipse: s-maj=22.7km s-min=14.9km az=180.0*

ISC 11 22:25:27.4±0.8, 55.9S±0.1×24.0W±0.2, h10km, n21, σ0°65/15, mb4.3/6, MS3.8/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.28**	**161**	P	**P**	**22 29 17.7**	**-1.1**
SNAA	**Sanae**	**18.16**	**159**	P	Pn	22 29 32.7	-6.6
SNAA	**Sanae**	**18.16**	**159**	P	**Pn**	**22 29 39.9**	**+0.3**
	0.2nm,0.3s,baz=328,slow=12,SNR=20						
PMSA	**Palmer Station**	**21.36**	**229**	LR	LR	22 37 55.7	
	comp=Z,642nm,19.0s,baz=130,slow=35						
USHA	**Ushuaia**	**24.97**	**254**	LR	LR	22 39 36.2	
	comp=Z,318nm,18.5s,baz=166,slow=34						
QSPA	**South Pole Qui**	**34.33**	**180**	P	**P**	**22 32 14.5**	**+0.6**
	3.1nm,0.6s,baz=208,slow=3.0,SNR=32						
MAW	**Mawson**	**39.16**	**143**	LR	LR	22 47 13.1	
	comp=Z,70nm,19.5s,baz=238,slow=33						
BOSA	**Boshof**	**44.18**	**73**	P	**P**	**22 33 37.2**	**+0.8**
	1.4nm,0.5s,baz=214,slow=12,SNR=3.3						
BOSA				LR	LR	22 48 11.1	
	comp=Z,66nm,19.4s,baz=190,slow=31						
VNDA	**Vanda**	**46.77**	**182**	P	**P**	**22 33 56.2**	**0.0**
	2.0nm,0.7s,baz=168,slow=5.4,SNR=8.6						
VNDA				LR	LR	22 52 32.7	
	comp=Z,64nm,18.2s,baz=147,slow=35						
LBTB	**Lobatse**	**47.24**	**70**	P	**P**	**22 34 00.1**	**-0.4**
	4.6nm,0.9s,baz=241,slow=11,SNR=6.5						
LPAZ	**La Paz**	**51.83**	**302**	P	**P**	**22 34 36.5**	**+0.2**
	9.0nm,0.8s,baz=132,slow=5.1,SNR=44						
TORD	**Torodi Ar. Bea**	**72.09**	**26**	P	**P**	**22 36 51.8**	**+0.1**
	2.3nm,0.9s,baz=202,slow=6.2,SNR=13						
STKA	**Stephens Creek**	**91.68**	**168**	LR	LR	23 18 22.6	
	comp=Z,53nm,18.1s,baz=199,slow=35						
PPT	**Papeete**	**93.72**	**231**	LR	LR	23 13 53.7	
	comp=Z,32nm,19.2s,baz=138,slow=31						
CMAR	**Chiang Mai Arr**	**123.39**	**107**	PKP	**PKPdf**	**22 44 24.7**	**+0.2**
	1.0nm,0.3s,baz=241,slow=3.7,SNR=9.4						
MKAR	**Makanchi Array**	**135.13**	**69**	PKP	**PKPdf**	**22 44 46.2**	**+0.2**
	0.2nm,0.6s,baz=67,slow=1.2,SNR=2.7						
KURBB	**Kurchatov Arra**	**135.61**	**63**	PKP	**PKPdf**	**22 44 45.3**	**-1.4**
	0.1nm,0.3s,baz=212,slow=3.3,SNR=3.6						
SONM	**Songino Array**	**148.90**	**84**	PKPbc	**PKPbc**	**22 45 14.6**	**+0.1**
	2.3nm,0.7s,baz=221,slow=2.4,SNR=14						
TLY	**Talaya**	**149.38**	**76**	PKPbc	**PKPbc**	**22 45 15.9**	**+0.4**
	1.5nm,0.6s,baz=209,slow=6.0,SNR=3.7						
JNU	**Nakatsue**	**151.29**	**132**	PKPbc	**PKPbc**	**22 45 20.4**	**-0.3**
	3.9nm,0.7s,baz=295,slow=1.3,SNR=3.8						
ILAR	**Eielson Array**	**151.39**	**311**	PKPbc	**PKPbc**	**22 45 19.2**	**-0.6**
	2.5nm,0.9s,baz=119,slow=1.4,SNR=15						

IDC 11 22:38:28.7±5.0, 20.49N×119.55E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/37, mbtmp3.7/4, Error ellipse: s-maj=562.5km s-min=22.8km az=60.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.05**	**320**	P	P	22 46 07.0	+1.3
	0.4nm,0.4s,baz=121,slow=8.4,SNR=6.7						
KURBB	**Kurchatov Arra**	**44.05**	**323**	P	P	22 46 36.7	-1.5
	0.3nm,0.6s,baz=129,slow=7.2,SNR=3.0						
ASAR	**Alice Springs**	**46.06**	**162**	P	P	22 46 53.1	-1.4
	0.6nm,0.7s,baz=347,slow=10,SNR=5.2						
STKA	**Stephens Creek**	**56.19**	**157**	P	P	22 48 11.9	+1.3
	2.9nm,1.0s,baz=351,slow=7.3,SNR=3.6						

ISCJB ***11*** *22:45:29.1±1.3, 21.91N±0.09×143.7E±0.3, h200km, mb3.7/8, Error ellipse: s-maj=33.7km s-min=12.3km az=173.0*

IDC ***11*** *22:45:33.5±3.0, 22.00N×143.59E, h224km±23km, mb3.5/9, mb1 3.5/11, mb1mx3.2/42, mbtmp4.1/11, Error ellipse: s-maj=50.6km s-min=18.4km az=78.0*

ISC 11 22:45:30.8±1.4, 21.9N±0.1×143.7E±0.2, h200km, n11, σ0°89/13, mb3.8/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.31**	**345**	P	**Pn**	**22 46 51.0**	**+1.7**
	8.0nm,0.3s,baz=86,slow=23,SNR=8.3						
JCJ				S	**Sn**	**22 47 50.4**	**-0.8**
	9.6nm,0.3s,baz=249,slow=23,SNR=5.8						
JOW	**Kunigami**	**14.87**	**292**	P	**Pn**	**22 48 51.9**	**+0.4**
	0.2nm,0.3s,baz=144,slow=19,SNR=3.4						
KSRS	**Korea Array**	**20.61**	**322**	P	**P**	**22 49 55.2**	**+0.6**
	2.2nm,0.6s,baz=143,slow=8.9,SNR=11						
SONM	**Songino Array**	**39.46**	**320**	P	**P**	**22 52 41.2**	**-0.5**
	0.8nm,0.4s,baz=119,slow=5.8,SNR=8.5						
WRA	**Warramunga Arr**	**42.62**	**193**	P	**P**	**22 53 08.2**	**+0.6**
	1.4nm,1.0s,baz=15,slow=9.3,SNR=2.9						
ZALV	**Zalesovo Beam**	**54.32**	**321**	P	**P**	**22 54 35.6**	**-0.8**
	1.8nm,0.5s,baz=104,slow=7.6,SNR=9.2						
MKAR	**Makanchi Array**	**54.88**	**312**	P	**P**	**22 54 40.0**	**-0.7**
	0.6nm,0.5s,baz=87,slow=8.4,SNR=9.3						
MKAR				PcP	**PcP**	**22 55 39.8**	**-0.4**
	0.2nm,0.4s,baz=81,slow=3.5,SNR=4.8						
KURBB	**Kurchatov Arra**	**57.67**	**317**	P	**P**	**22 54 59.3**	**-0.9**
	3.2nm,0.6s,baz=92,slow=7.5,SNR=16						
ARCES	**ARCESS Array B**	**78.84**	**342**	P	**P**	**22 57 11.6**	**+0.3**
	1.1nm,0.6s,baz=81,slow=7.7,SNR=5.1						
KBZ	**Khabaz**	**82.54**	**314**	P	**P**	**22 57 30.9**	**-0.4**
	2.1nm,0.8s,baz=101,slow=3.7,SNR=5.5						
FINES	**FINESS Array B**	**83.17**	**335**	P	**P**	**22 57 33.4**	**-0.8**
	0.7nm,0.3s,baz=80,slow=4.2,SNR=14						

IDC 11 22:50:28.5±3.7, 11.05S×13.64W, h0km, mb3.8/4, mb1 3.7/5, mb1mx3.5/38, mbtmp3.8/5, ML3.6/1, MS3.6/16, Ms1 3.6/16, ms1mx3.5/25, Error ellipse: s-maj=167.3km s-min=26.2km az=146.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**2.30**	**335**	T	T	22 53 58.5	
	baz=160,slow=74,SNR=397						
H10S3	**ASCENSION HYDR**	**2.32**	**334**	T	T	22 54 09.5	
	baz=160,slow=74,SNR=326						
H10S1	**ASCENSION HYDR**	**2.32**	**335**	T	T	22 54 11.5	
	baz=160,slow=74,SNR=283						
H10N1	**ASCENSION HYDR**	**3.29**	**345**	T	T	22 55 23.6	
	baz=165,slow=79,SNR=16						
H10N3	**ASCENSION HYDR**	**3.30**	**345**	T	T	22 55 29.7	
	baz=165,slow=79,SNR=29						
H10N2	**ASCENSION HYDR**	**3.31**	**345**	T	T	22 55 21.5	
	baz=165,slow=79,SNR=16						
DBIC	**Dimbokro**	**19.66**	**27**	P	Pn	22 55 00.9	+0.5
	0.2nm,0.3s,baz=218,slow=13,SNR=4.8						
DBIC				LR	LR	23 01 01.8	
	comp=Z,198nm,19.1s,baz=167,slow=32						
TORD	**Torodi Ar. Bea**	**28.46**	**33**	P	P	22 56 24.6	-0.8
	1.8nm,1.0s,baz=219,slow=10,SNR=7.3						
TORD				LR	LR	23 06 06.3	
	comp=Z,175nm,21.2s,baz=230,slow=33						
BDFB	**Brasilia**	**33.73**	**258**	P	P	22 57 12.2	+0.1
	1.8nm,0.5s,baz=127,slow=5.1,SNR=3.1						
BOSA	**Boshof**	**40.32**	**121**	LR	LR	23 11 39.8	
	comp=Z,153nm,20.3s,baz=296,slow=32						
PTGA	**Pitinga**	**47.13**	**279**	LR	LR	23 16 43.2	
	comp=Z,167nm,21.6s,baz=108,slow=33						

ESDC	**Sonseca Array**	**51.26**	**10**	LR		LR		23 20 54.3	
	comp=Z,63nm,18.2s,baz=160,slow=36								
KEST	**Kesra**	**51.35**	**24**	LR		LR		23 21 01.1	
	comp=Z,25nm,19.7s,baz=206,slow=36								
H05S1	**Guadeloupe/Mar**	**53.19**	**297**	T		T		23 57 18.0	
	SNR=30								
H05N1	**Guadeloupe/Mar**	**54.22**	**299**	T		T		23 58 43.4	
	SNR=6.5								
ROSC	**El Rosal**	**62.43**	**281**	LR		LR		23 27 35.6	
	comp=Z,57nm,19.0s,baz=108,slow=36								
GERES	**GERESS Array B**	**64.34**	**20**	LR		LR		23 28 46.7	
	comp=Z,70nm,20.7s,baz=237,slow=36								
BRTR	**Keskin Array B**	**66.90**	**38**	P		P		23 01 23.6	+0.7
	0.8nm,1.1s,baz=240,slow=4.8,SNR=2.7								
BRTR				LR		LR		23 30 42.0	
	comp=Z,18nm,21.9s,baz=240,slow=36								
AKASG	**Malin Array Be**	**71.91**	**27**	P		P		23 01 52.2	-1.2
	0.1nm,0.2s,baz=224,slow=6.6,SNR=4.0								
AKASG				LR		LR		23 35 09.6	
	comp=Z,38nm,19.5s,baz=230,slow=37								
NOA	**NORSAR Array B**	**74.51**	**12**	LR		LR		23 37 27.2	
	comp=Z,19nm,18.3s,baz=205,slow=38								
MAW	**Mawson**	**74.71**	**157**	LR		LR		23 29 41.2	
	comp=Z,65nm,19.4s,baz=242,slow=32								
BORG	**Borgarnes**	**75.80**	**357**	LR		LR		23 28 34.9	
	comp=Z,21nm,20.2s,baz=223,slow=30								
SCHO	**Schefferville**	**79.34**	**332**	LR		LR		23 34 03.6	
	comp=Z,23nm,18.7s,baz=107,slow=33								
ARCES	**ARCESS Array B**	**84.87**	**13**	LR		LR		23 40 53.1	
	comp=Z,28nm,18.2s,baz=228,slow=36								
VNDA	**Vanda**	**91.55**	**179**	LR		LR		23 41 52.0	
	comp=Z,36nm,19.0s,baz=160,slow=34								

NIED ***11*** *22:51:00, 33.00N×142.40E, h8km, Mw3.6 Best double couple: M0 2.95000×10^14 NP1:φs 19.00000°, δ 38.00000°, λ -109.00000°. NP2:φs 223.00000°, δ 55.00000°, λ -76.00000°.*

IDC ***11*** *22:51:20.4±2.0, 32.94N×142.73E, h0km, mb3.8/8, mb1 3.9/11, mb1mx3.7/49, mbtmp3.9/11, ML3.9/3, Error ellipse: s-maj=74.3km s-min=17.6km az=73.0*

JMA ***11*** *22:51:21.7±0.4, 33.02N×142.38E, h0km, M3.6*

ISCJB ***11*** *22:51:23.2±0.7, 32.97N±0.05×142.59E±0.08, h33km, mb3.8/8, Error ellipse: s-maj=10.7km s-min=5.8km az=148.7*

ISC 11 22:51:24.6±1.0, 32.94N±0.06×142.66E±0.10, h33km, n27, σ1°70/37, mb3.9/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.21**	**321**	P	**Pn**	**22 51 57.4**	**-1.0**
BSO1				S	**Sn**	**22 52 23.6**	**-0.7**
JHJ2	**Mitsune**	**2.39**	**275**	P	**Pn**	**22 52 00.1**	**-1.3**
JHJ2				*e*S	**Sn**	**22 52 27.6**	**-1.9**
JHCJ	**Hachijojimakas**	**2.40**	**274**	P	**Pn**	**22 51 59.3**	**-2.3**
BSO3	**Boso 3**	**2.58**	**317**	P	**Pn**	**22 52 02.8**	**-0.9**
BSO4	**Boso 4**	**2.81**	**317**	P	**Pn**	**22 52 06.5**	**-0.6**
BSO4				*e*S	**Sn**	**22 52 39.4**	**-0.3**
JHU	**Hanno**	**4.03**	**317**	*e*S	**Sn**	**22 53 09.4**	**-0.5**
JHO	**Hitachi**	**4.05**	**335**	P	**Pn**	**22 52 22.5**	**-1.7**
JYN	**Shimob**	**4.26**	**308**	P	**Pn**	**22 52 26.6**	**-0.5**
JYN				S	**Sn**	**22 53 15.2**	**-0.5**
JRY	**Ryogami san**	**4.36**	**316**	P	**Pn**	**22 52 28.3**	**-0.2**
JRY				S	**Sn**	**22 53 17.6**	**-0.7**
JAG	**Ashikaga**	**4.37**	**324**	P	**Pn**	**22 52 27.8**	**-0.7**
JNY	**Yasuok**	**4.65**	**303**	P	**Pn**	**22 52 33.8**	**+1.3**
JFK	**Kawauchi**	**4.65**	**342**	*e*S	**Sn**	**22 53 21.3**	**-4.1**
JFT	**Otama**	**4.95**	**338**	P	**Pn**	**22 52 36.2**	**-0.4**
JFT				*e*S	**Sn**	**22 53 28.7**	**-3.9**
MJAR	**Matsushiro Arr**	**5.13**	**316**	Pn	**Pn**	**22 52 39.5**	**+0.5**
	2.5nm,0.3s,baz=160,slow=13,SNR=23						
MJAR				Sn	**Sn**	**22 53 35.0**	**-2.1**
	0.8nm,0.3s,baz=154,slow=18,SNR=5.3						
MAT	**Matsushiro**	**5.13**	**316**	P	**Pn**	**22 52 39.0**	**-0.1**
MAT				S	**Sn**	**22 53 35.0**	**-2.2**
MAT	**Matsushiro**	**5.13**	**316**	P	**Pn**	**22 52 39.9**	**+0.8**
MAT				*e*S	**Sn**	**22 53 36.6**	**-0.6**
JIE	**Ise**	**5.17**	**288**	P	**Pn**	**22 52 39.3**	**-0.3**
JCJ	**Chichijima**	**5.84**	**184**	Pn	**Pn**	**22 52 47.5**	**-1.3**
	6.4nm,0.3s,baz=0.1,slow=18,SNR=14						
JCJ				Sn	**Sn**	**22 53 50.0**	**-4.6**
	9.5nm,0.3s,baz=100,slow=24,SNR=5.5						
ASAJ	**Asahikawa**	**11.16**	**360**	Pn	**Pn**	**22 54 00.5**	**-1.3**
	0.9nm,0.3s,baz=240,slow=14,SNR=6.1						
SONM	**Songino Array**	**31.05**	**309**	P	**P**	**22 57 40.5**	**+1.

SSLW				S		**Sb**	**23 43 04.9**	**+1.6**	
WESN	**West Dahl Nort**	**2.14**	**266**	P		**Pb**	**23 42 42.6**	**-2.6**	
WESE	**West Dahl East**	**2.15**	**264**	P		**Pn**	**23 42 42.4**	**+1.4**	
WESP	**Westdahl Peak**	**2.23**	**265**	P		**Pn**	**23 42 43.6**	**+1.6**	
WEBT	**Westdahl Beart**	**2.23**	**267**	P		**Pn**	**23 42 43.9**	**+1.8**	
AKGG	**Akutan Green G**	**3.01**	**261**	P		**Pn**	**23 42 54.3**	**+1.6**	
UNV	**Unalaska Valle**	**3.40**	**257**	P		**Pn**	**23 42 59.4**	**+1.4**	
MTBL	**Makushin Table**	**3.46**	**259**	P		**Pn**	**23 43 00.3**	**+1.4**	
MREP	**Makushin Rep't**	**3.54**	**257**	P		**Pn**	**23 43 01.9**	**+1.8**	
PLK1	**Peulik 1**	**3.88**	**36**	P		Pn	23 43 07.5	+2.9	
OKTU	**Okmok Mt. Tuli**	**4.42**	**255**	P		**Pn**	**23 43 13.9**	**+1.8**	
OKSP	**Okmok Steeple**	**4.60**	**254**	P		**Pn**	**23 43 16.0**	**+1.4**	
KABR	**Katmai Barrier**	**4.72**	**42**	P		**Pn**	**23 43 16.9**	**+0.6**	
ILAR	**Eielson Array**	**12.24**	**29**	Pn		Pn	23 44 56.7	-2.5	
	0.1nm,0.3s,baz=218,slow=11,SNR=3.0								
PETK	**Petropavlovsk-**	**24.17**	**283**	P		**P**	**23 47 18.6**	**-1.8**	
	2.4nm,0.7s,baz=90,slow=13,SNR=5.9								
H11N2	**WAKE ISLAND Hy**	**42.64**	**228**	T		T	00 35 34.1		
	baz=28								
H11N3	**WAKE ISLAND Hy**	**42.65**	**228**	T		T	00 35 32.9		
	baz=28								
H11N1	**WAKE ISLAND Hy**	**42.66**	**228**	T		T	00 35 08.6		
	baz=28								
SFJD	**Kangerlussuaq**	**47.91**	**30**	LR		LR	00 11 09.4		
	comp=Z,60nm,19.7s,baz=78,slow=36								
SONM	**Songino Array**	**54.28**	**304**	P		**P**	**23 51 29.1**	**-1.0**	
	0.5nm,0.7s,baz=70,slow=6.2,SNR=3.6								
FINES	**FINESS Array B**	**64.01**	**356**	P		P	23 52 34.9	-2.2	
	1.3nm,0.7s,baz=17,slow=8.6,SNR=7.3								
MKAR	**Makanchi Array**	**65.63**	**318**	P		P	23 52 45.4	-2.5	
	0.2nm,0.4s,baz=51,slow=7.7,SNR=4.1								
AKASG	**Malin Array Be**	**74.57**	**353**	P		P	23 53 39.6	-2.9	
	0.5nm,0.4s,baz=9.5,slow=5.8,SNR=4.7								

IDC 11 23:43:42.3±10.0, 5°55.5S×151°32.E, h319km±101km, mb3.3/6, mb1 3.6/6, mb1mx3.2/34, mbtmp3.9/6, Error ellipse: s-maj=50.2km s-min=30.9km az=91.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.84**	**228**	P	P	23 48 09.3	-0.2
	2.6nm,0.6s,baz=51,slow=9.8,SNR=4.9						
ASAR	**Alice Springs**	**24.61**	**221**	P	P	23 48 34.8	+0.1
	4.0nm,0.9s,baz=54,slow=7.9,SNR=20						
CMAR	**Chiang Mai Arr**	**56.87**	**296**	P	P	23 52 54.7	-0.3
	2.1nm,0.3s,baz=102,slow=3.9,SNR=9.8						
SONM	**Songino Array**	**66.18**	**329**	P	P	23 53 56.8	+0.3
	1.8nm,1.1s,baz=148,slow=6.2,SNR=7.4						
ZALV	**Zalesovo Beam**	**80.96**	**327**	P	P	23 55 21.6	0.0
	0.3nm,0.4s,baz=108,slow=4.7,SNR=2.9						
ILAR	**Eielson Array**	**83.41**	**22**	P	P	23 55 33.7	-0.2
	0.6nm,1.1s,baz=244,slow=6.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**149.12**	**286**	PKPbc	PKPbc	00 02 53.7	-0.4
	0.4nm,0.9s,baz=84,slow=1.5,SNR=2.5						

GUC 11 23:49:43.3±0.5, 35°59S×72°70W, h15km±5km, ML3.5, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.55**	**187**	↓*i*P	Pg	23 49 53.9	-0.2
COCH				*i* S	Sg	23 50 01.3	-0.1
TALC	**Talca**	**0.89**	**78**	↑*i*P	Pb	23 49 59.1	-1.4
TALC				*e*S	Sb	23 50 11.0	-1.2
LNCH	**Linares**	**0.93**	**106**	↑*i*P	Pb	23 49 59.8	-1.4
LNCH				*i* S	Sb	23 50 12.7	-0.7
NICH	**Los Niches**	**1.34**	**65**	*e*P	Pn	23 50 06.5	-0.9
NICH				*i* S	Sn	23 50 24.1	-1.0
CLCH	**Cerro Calan**	**2.83**	**40**	*e*P	Pn	23 50 29.3	+1.3
CLCH				AML	AML	23 51 16.8	
	comp=N,133nm,0.5s						
PEL	**Peldehue**	**2.95**	**35**	AML	AML	23 51 15.5	
	comp=E,183nm,0.5s						
ROCH	**El Roble**	**2.96**	**29**	*i* S	Sn	23 51 07.4	+1.8
ROCH				AML	AML	23 51 19.1	
	comp=N,97nm,0.3s						

*IDC **12** 00:14:06.8±0.8, 18°.09N×121°.03E, h0km, mb3.8/12, mb1 4.1/13, mb1mx3.9/35, mbtmp3.9/13, ML3.8/1, MS3.1/6, Ms1 3.1/6, ms1mx2.8/34, Error ellipse: s-maj=28.6km s-min=17.2km az=72.0*
*ISCJB **12** 00:14:12.7±0.4, 18°.35N±0°.03×120°.86E±0°.05, h40km±7km, mb3.9/12, MS2.9/5, Error ellipse: s-maj=8.6km s-min=4.2km az=11.5*
*NEIC **12** 00:14:12.1±2.1, 18°.15N×121°.06E, h35km±15km, mb4.3/2, Error ellipse: s-maj=12.2km s-min=7.2km az=105.0*
NEIC Felt [II PIVS] at Laoag and Pasuquin.
*MAN **12** 00:14:16, 17°.95N×121°.06E, h27km, mb4.8, ML3.7, MS3.7*
MAN INTENSITY II - LAOAG CITY & PASUQUIN ILOCOS NORTE.

ISC 12 00:14:13.8±1.0, 18°.29N±0°.03×120°.90E±0°.05, h41km±11km, n34, σ1°.27/41, mb3.9/12, MS3.0/5, 3C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.27**	**279**	↑*i*P	Pn	00 14 29.1	+7.3
APYP	**Conner**	**0.53**	**142**	*e*P	**Pn**	**00 14 24.1**	**-0.9**
APYP				*e*S	**Sn**	**00 14 32.8**	**-0.1**
SIPP	**Brgy, Tapao**	**0.55**	**229**	↑*i*P	Pn	00 14 31.2	+6.0
ABRA	**Dolores**	**0.66**	**196**	*e*P	**Pn**	**00 14 24.9**	**-1.8**
ABRA				*e*S	**Sn**	**00 14 35.0**	**-0.9**
SZP	**Santa**	**0.84**	**210**	*e*Pn	**Pn**	**00 14 28.0**	**-1.2**
SZP				*e*Sn	**Sn**	**00 14 42.0**	**+1.7**
SGCP	**Mt. Cagua**	**1.09**	**92**	*e*P	**Pn**	**00 14 32.7**	**+0.1**
SGCP				*e*S	**Sn**	**00 14 47.8**	**+1.3**
CAUP	**Cauayan**	**1.60**	**146**	*e*P	**Pn**	**00 14 41.9**	**+2.4**
BCPH	**Baguio City Da**	**1.92**	**189**	↑*i*P	**Pn**	**00 14 44.0**	**-0.1**
BOLP	**Bolinao**	**2.11**	**207**	*e*P	**Pn**	**00 14 48.0**	**+1.3**
BOLP				*e*S	**Sn**	**00 15 15.4**	**+3.7**
SCZP	**Santa Cruz**	**2.67**	**201**	*e*P	**Pn**	**00 14 54.8**	**+0.5**
TWG	**Pinlang**	**4.52**	**2**	*e*Pn	**Pn**	**00 15 19.6**	**-0.1**
TWG				*e*Sn	**Sn**	**00 16 12.8**	**+1.8**
TPUB	**Ta-pu**	**5.00**	**357**	*e*Pn	**Pn**	**00 15 25.9**	**-0.4**
YULB	**Yu-li**	**5.09**	**4**	*e*Pn	**Pn**	**00 15 26.6**	**-1.0**
YULB				*e*Sn	**Sn**	**00 16 26.4**	**+1.1**
SSLB	**Suanglung**	**5.47**	**1**	*e*Pn	**Pn**	**00 15 33.8**	**+0.9**
SSLB				*e*Sn	**Sn**	**00 16 33.3**	**-1.4**
NACB	**Ninganchiao**	**5.89**	**6**	*e*Pn	**Pn**	**00 15 38.9**	**+0.3**
NACB				*e*Sn	**Sn**	**00 16 44.6**	**-0.3**
YHNB	**Yeheng**	**6.37**	**4**	*e*Pn	**Pn**	**00 15 45.6**	**+0.5**
YHNB				*e*Sn	**Sn**	**00 16 57.9**	**+1.2**
JNU	**Nakatsue**	**17.28**	**29**	P	**Pn**	**00 18 12.1**	**0.0**
	0.3nm,0.3s,baz=202,slow=1.4,SNR=4.2						
JNU				LR	LR	00 24 37.2	
	comp=Z,53nm,19.4s,baz=236,slow=36						
KSAR	**Wonju Array Be**	**20.05**	**16**	P	**P**	**00 18 44.1**	**+0.7**
KSRS	**Korea Array**	**20.07**	**16**	P	**P**	**00 18 44.1**	**+0.5**
	2.7nm,0.7s,baz=200,slow=11,SNR=9.8						
KSRS				LR	LR	00 27 18.6	
	comp=Z,39nm,18.8s,baz=230,slow=39						
CMAR	**Chiang Mai Arr**	**20.84**	**274**	P	**P**	**00 18 52.8**	**+0.6**
	0.9nm,0.4s,baz=86,slow=9.0,SNR=6.0						
CMAR				LR	LR	00 25 52.8	
	comp=Z,21nm,20.8s,baz=100,slow=34						
USRK	**Ussuriysk Ar.**	**27.47**	**17**	LR	LR	00 31 07.5	
	comp=Z,43nm,21.8s,baz=160,slow=37						
SONM	**Songino Array**	**31.77**	**341**	P	**P**	**00 20 34.9**	**+0.6**
	1.7nm,0.7s,baz=161,slow=11,SNR=13						
SONM				LR	LR	00 34 36.2	
	comp=Z,45nm,18.7s,baz=156,slow=38						
WRA	**Warramunga Arr**	**40.22**	**160**	P	P	00 21 43.2	-3.4
	0.5nm,0.4s,baz=343,slow=8.9,SNR=4.6						
MK31	**Makanchi Array**	**42.55**	**321**	*e*P	**P**	**00 22 06.7**	**+1.1**
MKAR	**Makanchi Array**	**42.55**	**321**	P	**P**	**00 22 07.0**	**+1.4**
	3.8nm,0.8s,baz=118,slow=9.2,SNR=33						
MKAR				PcP	**PcP**	**00 23 57.2**	**-0.3**
	0.3nm,0.6s,baz=104,slow=4.9,SNR=3.0						
ASAR	**Alice Springs**	**43.59**	**163**	P	**P**	**00 22 11.2**	**-2.9**
	0.5nm,0.3s,baz=339,slow=6.5,SNR=12						
ZALV	**Zalesovo Beam**	**45.13**	**331**	P	**P**	**00 22 26.2**	**0.0**
	1.3nm,0.7s,baz=111,slow=8.1,SNR=6.6						
ZALV				LR	LR	00 40 50.5	
	comp=Z,29nm,18.7s,baz=256,slow=35						
KURK	**Kurchatov**	**46.56**	**324**	*e*P	**P**	**00 22 37.9**	**+0.5**
	10nm,1.0s						
ABKAR	**Akbulak array**	**57.46**	**317**	*e*P	**P**	**00 23 58.6**	**0.0**
	0.6nm,0.5s						
ILAR	**Eielson Array**	**74.57**	**26**	P	**P**	**00 25 47.1**	**-1.1**
	0.2nm,0.5s,baz=274,slow=3.9,SNR=3.6						
FINES	**FINESS Array B**	**76.40**	**330**	P	**P**	**00 25 58.3**	**-0.5**
	0.9nm,0.7s,baz=66,slow=3.5,SNR=3.5						
AKASG	**Malin Array Be**	**77.11**	**319**	P	**P**	**00 26 01.8**	**-1.1**
	0.1nm,0.2s,baz=63,slow=4.3,SNR=4.4						
NOA	**NORSAR Array B**	**83.30**	**333**	P	**P**	**00 26 36.9**	**+0.8**
	0.7nm,0.7s,baz=80,slow=3.9,SNR=2.6						
YKA	**Yellowknife Ar**	**88.49**	**23**	P	**P**	**00 27 02.5**	**+0.8**
	1.1nm,0.8s,baz=318,slow=4.1,SNR=6.1						

*IDC **12** 00:28:49.3±1.4, 34°.78S×71°.63W, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.7/19, mbtmp3.7/6, ML3.9/2, Error ellipse: s-maj=40.0km s-min=20.3km az=89.0*
*ISCJB **12** 00:28:54.9±0.6, 34°.83S±0°.04×71°.8W±0°.1, h60km±7km, mb3.6/4, Error ellipse: s-maj=15.6km s-min=5.1km az=20.7*
*GUC **12** 00:28:54.8±0.7, 34°.77S×71°.82W, h38km±2km, ML4.1*

ISC 12 00:28:55.4±1.1, 34°.81S±0°.04×71°.81W±0°.08, h47km±12km, n21, σ1°.26/30, mb3.6/4, 4C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.51**	**112**	↓*i*P	**Pn**	**00 29 06.2**	**-0.4**
NICH				*i* S	**Sn**	**00 29 14.6**	**0.0**
TALC	**Talca**	**0.60**	**167**	↓*i*P	**Pn**	**00 29 07.5**	**-0.3**
TALC				*i* S	**Sn**	**00 29 16.8**	**+0.2**
LNV	**Longovilo**	**0.92**	**21**	↓*i*P	**Pn**	**00 29 11.2**	**-0.7**
LNCH	**Linares**	**1.05**	**171**	↓*i*P	**Pn**	**00 29 13.9**	**+0.2**
LNCH				*i* S	**Sn**	**00 29 28.9**	**+1.7**
CHCH	**Chadas Angostu**	**1.30**	**48**	↑*i*P	**Pn**	**00 29 17.4**	**+0.3**
CHCH				*i* S	**Sn**	**00 29 34.4**	**+1.1**
TACH	**Talagante**	**1.36**	**32**	↓*i*P	**Pn**	**00 29 18.1**	**+0.2**
COCH	**Cobquecura**	**1.54**	**211**	*e*P	**Pn**	**00 29 20.3**	**-0.1**
COCH				*i* S	**Sn**	**00 29 41.2**	**+2.0**
PCH	**Pirque**	**1.60**	**42**	↑*i*P	**Pn**	**00 29 21.8**	**+0.5**
PCH				*i* S	**Sn**	**00 29 42.4**	**+1.6**
SAN	**Santiago**	**1.66**	**35**	*e*P	**Pn**	**00 29 22.2**	**+0.2**
SAN				*i* S	**Sn**	**00 29 43.3**	**+1.2**
SJCH	**San Jose de Ma**	**1.68**	**46**	*e*P	**Pn**	**00 29 22.0**	**-0.4**
LACH	**Col Las Americ**	**1.72**	**38**	*i* S	**Sn**	**00 29 44.9**	**+1.2**
CLCH	**Cerro Calan**	**1.76**	**37**	↑*i*P	**Pn**	**00 29 23.8**	**+0.3**
CLCH				*i* S	**Sn**	**00 29 46.4**	**+1.6**
CLCH				AML	AML	00 29 50.7	
	comp=N,3μm,0.8s						
IHA	**Instituto Hidr**	**1.79**	**4**	↑*i*P	**Pn**	**00 29 23.2**	**-0.6**
PEL	**Peldehue**	**1.91**	**30**	↓*i*P	**Pn**	**00 29 25.7**	**+0.2**
PEL				AML	AML	00 29 57.9	
	comp=N,3μm,0.4s						
CFAA	**Coronel Fontan**	**4.38**	**44**	Pn	**Pn**	**00 29 56.6**	**-2.7**
	comp=N,0.3nm,0.3s,baz=202,slow=16,SNR=40						
CFAA				Sn	**Sn**	**00 30 52.5**	**+3.4**
	comp=N,0.4nm,0.3s,baz=54,slow=19,SNR=2.3						
PLCA	**Paso Flores**	**5.99**	**171**	Pn	**Pn**	**00 30 21.4**	**-0.1**
	comp=N,0.8nm,0.3s,baz=340,slow=12,SNR=8.9						
PLCA				Sn	Sn	00 31 41.0	+12
	baz=74,slow=20,SNR=1.2						
PLCA				Lg	Lg	00 32 00.1	
	comp=N,0.3nm,0.3s,baz=60,slow=20,SNR=2.3						
LPAZ	**La Paz**	**18.74**	**11**	P	**Pn**	**00 33 11.4**	**-0.3**
	comp=N,0.1nm,0.3s,baz=169,slow=12,SNR=5.3						
SIV	**San Ignacio**	**21.07**	**30**	P	**P**	**00 33 34.3**	**-1.4**
	comp=N,1.9nm,0.6s,baz=223,slow=10,SNR=4.9						
TXAR	**Lajitas Array**	**70.54**	**331**	P	**P**	**00 40 06.2**	**+0.8**
	comp=N,0.1nm,0.4s,baz=162,slow=6.6,SNR=3.7						
DBIC	**Dimbokro**	**75.26**	**71**	P	**P**	**00 40 32.5**	**-1.1**
	comp=N,2.9nm,1.1s,baz=207,slow=5.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**84.31**	**70**	P	**P**	**00 41 22.2**	**-0.3**
	comp=N,0.6nm,0.9s,baz=222,slow=5.6,SNR=5.2						

IDC 12 00:35:52.9±3.7, 5°33S×150°.90E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.4/21, mbtmp3.6/3, Error ellipse: s-maj=99.5km s-min=39.4km az=101.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.69**	**226**	P	P	00 40 45.0	-0.7
	0.8nm,0.6s,baz=53,slow=9.9,SNR=3.2						
ASAR	**Alice Springs**	**24.50**	**220**	P	P	00 41 14.8	+0.6
	1.0nm,0.6s,baz=55,slow=9.1,SNR=11						
CMAR	**Chiang Mai Arr**	**56.40**	**296**	P	P	00 45 36.4	-0.2
	0.4nm,0.3s,baz=108,slow=5.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**148.65**	**287**	PKPbc	PKPbc	00 55 42.6	-0.7
	0.7nm,1.1s,baz=48,slow=2.1,SNR=2.6						

IDC 12 00:42:24.1±3.1, 25°.74S×68°.15W, h0km, mb3.9/2, mb1 3.9/3, mb1mx3.6/18, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=74.8km s-min=55.5km az=57.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**9.41**	**0**	Pn	Pn	00 44 41.3	-0.5
	0.4nm,0.3s,baz=191,slow=5.2,SNR=8.8						
BDFB	**Brasilia**	**21.33**	**66**	P	P	00 47 13.5	+0.6
	1.9nm,0.5s,baz=238,slow=9.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**78.17**	**69**	P	P	00 54 25.4	-0.4
	0.8nm,0.4s,baz=257,slow=5.8,SNR=40						
MKAR	**Makanchi Array**	**148.53**	**40**	PKPbc	PKPbc	01 02 12.7	-0.1
	0.5nm,0.7s,baz=319,slow=2.2,SNR=5.7						

*CSEM **12** 00:52:25.3±0.2, 38°.02N×21°.29E, h15km, ML1.7, Error ellipse: s-maj=4.0km s-min=3.3km az=12.0*
*ATH **12** 00:52:25.3, 38°.03N×21°.27E, h16km±4km, MD3.0/12*

THE 12 00:52:25.9, 38°.03N×21°.28E, h0km±2km, ML1.7/5, Error ellipse: s-maj=2.5km s-min=0.6km az=168.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.15**	**79**	P	Pg	00 52 29.0	+0.3
RLS				S	Sg	00 52 32.2	+1.6
RLS	**Riolos of Patr**	**0.15**	**79**	*e*PB	Pg	00 52 29.0	+0.3
RLS				*e*SB	Sg	00 52 32.2	+1.6
RLS	**Riolos of Patr**	**0.15**	**79**	P	Pg	00 52 29.0	+0.3
RLS				S	Sg	00 52 32.2	+1.6
DRO	**Drossia**	**0.34**	**103**	P	Pg	00 52 32.5	-0.1
DRO	**Drossia**	**0.34**	**103**	*e*PB	Pg	00 52 32.6	0.0
DRO				*e*SB	Sg	00 52 38.2	+1.1
DRO	**Drossia**	**0.34**	**103**	P	Pg	00 52 32.5	-0.1
DRO				*e*Sb	Sg	00 52 38.2	+1.1
KFL	**Anninata**	**0.40**	**282**	P	Pg	00 52 33.4	-0.2
KFL				S	Sg	00 52 40.6	+1.8
KFL	**Anninata**	**0.40**	**282**	P	Pg	00 52 33.4	-0.2
KFL				S	Sg	00 52 40.6	+1.8
ZKS	**Zakynthos**	**0.52**	**230**	P	Pg	00 52 35.2	-0.6
ZKS				S	Sb	00 52 44.4	-1.5
ZKS	**Zakynthos**	**0.52**	**230**	*e*PN	Pg	00 52 35.2	-0.6
ZKS				*e*SN	Sg	00 52 43.3	+0.7
ZKS	**Zakynthos**	**0.52**	**230**	P	Pg	00 52 35.2	-0.6
ZKS				*e*Sn	Sg	00 52 43.3	+0.7
ZKS				S	Sb	00 52 44.4	-1.5
VLS	**Valsamata**	**0.57**	**285**	P	Pg	00 52 36.4	-0.4
VLS				S	Sg	00 52 44.3	+0.1
VLS	**Valsamata**	**0.57**	**285**	*e*PN	Pg	00 52 35.5	-1.3
VLS				*e*SN	Sg	00 52 44.0	-0.2
VLS	**Valsamata**	**0.57**	**285**	*e*Pn	Pg	00 52 35.5	-1.3
VLS	**Valsamata**	**0.57**	**285**	P	Pg	00 52 36.4	-0.4
VLS				*e*Sn	Sg	00 52 44.0	-0.2
PDO	**Prodromos**	**0.57**	**352**	P	Pg	00 52 36.9	0.0
PDO				S	Sg	00 52 45.0	+0.6
PDO	**Prodromos**	**0.57**	**352**	*e*PN	Pg	00 52 36.3	-0.6
PDO				*e*SN	Sg	00 52 45.0	+0.6
PDO	**Prodromos**	**0.57**	**352**	*e*Pn	Pg	00 52 36.3	-0.6
PDO	**Prodromos**	**0.57**	**352**	P	Pg	00 52 36.9	0.0
PDO				S	Sg	00 52 45.0	+0.6
AMT	**Artemida-Makis**	**0.60**	**146**	P	Pg	00 52 36.9	-0.6
AMT				S	Sg	00 52 46.7	+1.4
AMT	**Artemida-Makis**	**0.60**	**146**	*e*PB	Pg	00 52 36.4	-1.1
AMT				*e*SN	Sg	00 52 45.7	+0.4
AMT	**Artemida-Makis**	**0.60**	**146**	*e*Pb	Pg	00 52 36.4	-1.1
AMT	**Artemida-Makis**	**0.60**	**146**	P	Pg	00 52 36.9	-0.6
AMT				*e*Sn	Sg	00 52 45.7	+0.4
AMT				S	Sb	00 52 46.7	-1.7
PVO	**Paravola**	**0.62**	**18**	P	Pg	00 52 36.9	-0.9
PVO				S	Sg	00 52 47.1	+1.3
PVO	**Paravola**	**0.62**	**18**	P	Pg	00 52 36.9	-0.9
PVO				S	Sg	00 52 47.1	+1.3
EFP	**Efpalio**	**0.63**	**51**	P	Pg	00 52 37.8	-0.2
EFP				S	Sg	00 52 47.6	+1.4
EFP	**Efpalio**	**0.63**	**51**	*e*PB	Pg	00 52 37.0	-1.0
EFP				*e*SN	Sg	00 52 47.4	+1.2
EFP	**Efpalio**	**0.63**	**51**	*e*Pb	Pg	00 52 37.0	-1.0
EFP	**Efpalio**	**0.63**	**51**	P	Pg	00 52 37.8	-0.2
EFP				*e*Sn	Sg	00 52 47.4	+1.2
KALE	**Kalithea**	**0.77**	**62**	P	Pg	00 52 40.0	-0.7
KALE				S	Sg	00 52 51.8	+1.1
KALE	**Kalithea**	**0.77**	**62**	*e*PB	Pg	00 52 39.4	-1.3
KALE				*e*SN	Sg	00 52 51.1	+0.4
KALE	**Kalithea**	**0.77**	**62**	*e*Pb	Pg	00 52 39.4	-1.3
KALE	**Kalithea**	**0.77**	**62**	P	Pg	00 52 40.0	-0.7
KALE				*e*Sn	Sg	00 52 51.1	+0.4
GUR	**Goura**	**0.84**	**96**	P	Pg	00 52 40.9	-1.3
GUR				S	Sg	00 52 53.8	+0.6
GUR	**Goura**	**0.84**	**96**	*e*PN	Pg	00 52 41.4	-0.8
GUR				*e*SN	Sg	00 52 54.1	+0.9
GUR	**Goura**	**0.84**	**96**	P	Pg	00 52 40.9	-1.3
GUR	**Goura**	**0.84**	**96**	*e*Pn	Pg	00 52 41.4	-0.8
GUR				S	Sg	00 52 53.8	+0.6
GUR				*e*Sn	Sb	00 52 54.1	-1.4
LKD2	**Lefkada island**	**0.90**	**327**	P	Pg	00 52 42.8	-0.5
LKD2				S	Sb	00 52 57.0	-0.2
LKD2	**Lefkada island**	**0.90**	**327**	P	Pg	00 52 42.8	-0.5
LKD2				S	Sb	00 52 57.0	-0.2
EVR	**Evrytania**	**0.98**	**25**	P	Pg	00 52 44.1	-0.7
EVR	**Evrytania**	**0.98**	**25**	*e*PB	Pg	00 52 43.5	-1.3
EVR				*e*SN	Sb	00 52 58.6	-0.8
EVR	**Evrytania**	**0.98**	**25**	*e*Pb	Pg	00 52 43.5	-1.3
EVR	**Evrytania**	**0.98**	**25**	P	Pg	00 52 44.1	-0.7
EVR				*e*Sn	Sb	00 52 58.6	-0.8
ITM	**Ithomi**	**0.99**	**149**	*e*PN	Pg	00 52 45.6	-0.5
ITM	**Ithomi**	**0.99**	**149**	*e*Pn	Pb	00 52 45.5	-0.5
MAKR	**Makrakomi, Fth**	**1.19**	**34**	*e*PN	Pg	00 52 48.9	+0.2
MAKR				*e*SN	Sb	00 53 04.9	-0.4
MAKR	**Makrakomi, Fth**	**1.19**	**34**	*e*Pn	Pg	00 52 48.9	+0.2
MAKR				*e*Sn	Sb	00 53 04.9	-0.4
ACOR	**Acrocorinthos**	**1.26**	**96**	P	Pg	00 52 49.9	-0.2
ACOR	**Acrocorinthos**	**1.26**	**96**	P	Pg	00 52 49.9	-0.2
AGG	**Agios Georgios**	**1.29**	**39**	P	Pg	00 52 50.1	-0.6
AGG	**Agios Georgios**	**1.29**	**39**	P	Pg	00 52 50.1	-0.6
LTK	**Loutraki**	**1.33**	**90**	P	Pg	00 52 51.2	-0.2
LTK	**Loutraki**	**1.33**	**90**	P	Pg	00 52 51.2	-0.2
ATHU	**Athens Univers**	**1.98**	**91**	P	Pn	00 52 59.8	-0.8
ATHU	**Athens Univers**	**1.98**	**91**	P	Pn	00 52 59.8	-0.8

*CSEM **12** 00:52:48.5, 38°.12N×23°.22E, h10km, MD2.9*

ATH 12 00:52:48.5, 38°.12N×23°.22E, h10km±5km, MD2.9/5, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VILL	**Villia**	**0.09**	**59**	P	Pg	00 52 51.1	+0.1
VILL	**Villia**	**0.09**	**59**	*e*Pg	Pg	00 52 51.1	+0.1
VILL	**Villia**	**0.09**	**59**	P	Pg	00 52 51.1	+0.1
VIL2	**Platees**	**0.10**	**22**	*e*PG	Pg	00 52 51.1	-0.1
LTK	**Loutraki**	**0.22**	**244**	*e*PG	Pg	00 52 52.9	-0.2
LTK				*e*SG	Sg	00 52 56.5	+0.2
LTK	**Loutraki**	**0.22**	**244**	*e*Pg	Pg	00 52 52.9	-0.2
LTK				*e*Sg	Sg	00 52 56.5	+0.2
LKR	**Lokris**	**0.56**	**342**	*e*PB	Pg	00 52 59.2	-0.2
LKR	**Lokris**	**0.56**	**342**	*e*Pb	Pg	00 52 59.2	-0.2
DID	**Didima**	**0.61**	**179**	*e*PB	Pg	00 52 59.6	-0.9
DID				*e*SB	Sb	00 53 09.6	-0.5
DID	**Didima**	**0.61**	**179**	*e*Pb	Pg	00 52 59.6	-0.9
DID				*e*Sb	Sb	00 53 09.6	-0.5
DSF	**Desfina**	**0.62**	**298**	*e*PB	Pb	00 53 01.1	-0.4
DSF	**Desfina**	**0.62**	**298**	*e*Pb	Pb	00 53 01.1	-0.4

*IDC **12** 01:03:45.8±0.6, 51°.03N×29°.88W, h0km, m

17nm,1.2s
AVF Avril sur Loir 22.15 88 *e*P **P 01 08 43.0 -0.2**
34nm,1.2s
LOR Lormes 22.29 86 *e*P **P 01 08 45.5 +0.8**
115nm,1.7s
LOR *e*R
254nm,20.2s
LOR Lormes 22.29 86 *e*P **P 01 08 45.5 +0.8**
58nm,1.7s
LOR Lormes 22.29 86 *e*P **P 01 08 45.5 +0.8**
115nm,1.7s
SCHQ Schefferville 22.40 294 P **P 01 08 44.0 -1.8**
3.2nm,0.8s,baz=148,slow=3.0,SNR=3.9
SCHQ LR LR 01 15 57.6
comp=Z,81nm,18.9s,baz=44,slow=33
SMF Signal de Mont 22.52 88 *e*P **P 01 08 48.0 +0.8**
34nm,1.3s
SMF Signal de Mont 22.52 88 *e*P **P 01 08 48.0 +0.8**
17nm,1.3s
SMF Signal de Mont 22.52 88 *e*P **P 01 08 48.0 +0.8**
34nm,1.3s
MEZF Maizieres J'vi 22.59 83 *e*P **P 01 08 47.6 -0.3**
52nm,1.3s
MEZF Maizieres J'vi 22.59 83 *e*P **P 01 08 47.6 -0.3**
26nm,1.3s
MEZF Maizieres J'vi 22.59 83 *e*P **P 01 08 47.6 -0.3**
52nm,1.3s
SFTF Sexfontaines 22.69 83 *e*P **P 01 08 49.6 +0.7**
26nm,1.0s
SFTF Sexfontaines 22.69 83 *e*P **P 01 08 49.6 +0.7**
13nm,1.0s
SFTF Sexfontaines 22.69 83 *e*P **P 01 08 49.6 +0.7**
26nm,1.0s
WLF Walferdange 22.91 79 *e*P **P 01 08 50.7 -0.6**
12nm,1.0s
WLF Walferdange 22.91 79 *e*P **P 01 08 50.7 -0.6**
12nm,1.0s
PAGF Fort de Pagny 23.00 82 *e*P **P 01 08 52.6 +0.4**
PAGF Fort de Pagny 23.00 82 *e*P **P 01 08 52.6 +0.4**
PAGF Fort de Pagny 23.00 82 *e*P **P 01 08 52.6 +0.4**
HAU Haudompre 23.58 83 *e*P **P 01 08 58.2 +0.2**
7.0nm,0.8s
HAU *e*R
80nm,20.2s
HAU Haudompre 23.58 83 *e*P **P 01 08 58.2 +0.2**
3.5nm,0.8s
HAU Haudompre 23.58 83 *e*P **P 01 08 58.2 +0.2**
7.0nm,0.8s
CABF La Chapelle 23.95 86 *e*P **P 01 09 01.5 -0.2**
CABF La Chapelle 23.95 86 *e*P **P 01 09 01.5 -0.2**
CABF La Chapelle 23.95 86 *e*P **P 01 09 01.5 -0.2**
FRB Frobisher Bay 23.95 317 LR LR 01 16 23.2
comp=Z,112nm,19.0s,baz=199,slow=32
HINF Hinteralfeld 23.96 83 *e*P **P 01 09 02.0 +0.2**
12nm,0.9s
HINF Hinteralfeld 23.96 83 *e*P **P 01 09 02.0 +0.2**
6.2nm,0.9s
HINF Hinteralfeld 23.96 83 *e*P **P 01 09 02.0 +0.2**
12nm,0.9s
CDF Champ du Feu 24.02 82 *e*P **P 01 09 02.5 +0.2**
CDF Champ du Feu 24.02 82 *e*P **P 01 09 02.5 +0.2**
CDF Champ du Feu 24.02 82 *e*P **P 01 09 02.5 +0.2**
NOA NORSAR Array B 24.64 50 LR LR 01 17 13.4
comp=Z,59nm,22.0s,baz=270,slow=33
BNI Bardonecchia 24.99 89 *e*P **P 01 09 11.5 +0.2**
36nm,1.9s
BNI Bardonecchia 24.99 89 *e*P **P 01 09 11.5 +0.2**
36nm,1.9s
HFS Hagfors 25.82 52 LR LR 01 18 11.0
comp=Z,110nm,21.2s,baz=290,slow=34
DAVOX Davos/Dischmat 26.26 84 LR LR 01 18 20.0
comp=Z,96nm,21.4s,baz=266,slow=33
CLL Collm 26.63 72 *e*P **P 01 09 26.0 +0.2**
GERES GERESS Array B 27.85 77 P **P 01 09 36.9 0.0**
0.6nm,0.7s,baz=300,slow=8.7,SNR=4.6
GERES LR LR 01 20 20.5
comp=Z,112nm,18.6s,baz=293,slow=36
VRAC Vranov 29.45 75 LR LR 01 21 33.0
comp=Z,122nm,18.6s,baz=290,slow=36
FINES FINESS Array B 31.81 49 P **P 01 10 11.3 -0.5**
1.0nm,0.7s,baz=270,slow=9.5,SNR=3.4
FINES LR LR 01 21 49.2
comp=Z,43nm,20.4s,baz=224,slow=34
KEST Kesra 31.93 103 LR LR 01 22 02.3
comp=Z,29nm,18.5s,baz=317,slow=34
PSZ Piszkesteto 32.01 76 *e*P **P 01 10 14.1 +0.3**
2.7nm,0.8s
PSZ Piszkesteto 32.01 76 *e*P **P 01 10 14.1 +0.3**
2.7nm,0.8s
FCC Fort Churchill 36.38 308 *e*P **P 01 10 51.5 +0.2**
FCC Fort Churchill 36.38 308 *e*P **P 01 10 51.5 +0.2**
AKASG Malin Array Be 36.44 67 P **P 01 10 51.5 -0.5**
0.3nm,0.4s,baz=285,slow=8.8,SNR=5.3
AKASG LR LR 01 26 36.3
comp=Z,87nm,18.2s,baz=320,slow=38
WCI Wyandotte Cave 41.14 274 *e*P **P 01 11 32.1 +0.5**
6.2nm,0.8s
WCI Wyandotte Cave 41.14 274 *e*P **P 01 11 32.1 +0.5**
6.2nm,0.8s
FFC Flin Flon 41.89 304 *e*P **P 01 11 37.5 0.0**
FFC Flin Flon 41.89 304 *e*P **P 01 11 37.5 0.0**
WVT Waverly 43.39 273 *e*P **P 01 11 49.8 -0.1**
4.2nm,0.9s
WVT Waverly 43.39 273 *e*P **P 01 11 49.8 -0.1**
4.2nm,0.9s
YKA Yellowknife Ar 44.45 319 P **P 01 11 58.6 +0.5**
0.8nm,0.8s,baz=62,slow=8.2,SNR=3.9
BRTR Keskin Array B 44.72 79 P **P 01 12 00.8 +0.1**
0.9nm,0.8s,baz=304,slow=2.8,SNR=5.6
BRTR LR LR 01 31 35.3
comp=Z,36nm,20.1s,baz=284,slow=37
TORD Torodi Ar. Bea 45.64 134 P **P 01 12 07.2 -0.9**
1.4nm,0.9s,baz=333,slow=7.5,SNR=7.2
TORD LR LR 01 29 08.5
comp=Z,48nm,19.7s,baz=335,slow=33
KBZ Khabaz 47.97 69 LR LR 01 34 23.9
comp=Z,56nm,18.3s,baz=298,slow=38
DBIC Dimbokro 48.88 146 LR LR 01 31 03.8
comp=Z,54nm,18.5s,baz=332,slow=34
ARU Arti 49.14 47 *e*P **P 01 12 34.9 0.0**
2.5nm,0.7s
ARU Arti 49.14 47 *e*P **P 01 12 34.9 0.0**
2.5nm,0.7s
NATX Nacogdoches 50.54 274 *e*P **P 01 12 46.8 +1.0**
NATX Nacogdoches 50.54 274 *e*P **P 01 12 46.8 +1.0**
CHMT Chamberlain Mo 52.07 300 *e*P **P 01 12 57.5 +0.1**
5.1nm,1.5s
CHMT Chamberlain Mo 52.07 300 *e*P **P 01 12 57.5 +0.1**
5.1nm,1.5s
BW06 Boulder Array 52.54 294 *e*P **P 01 12 59.9 -1.1**
1.1nm,0.7s
BW06 Boulder Array 52.54 294 *e*P **P 01 12 59.9 -1.1**
1.1nm,0.7s
PDAR Pinedale Array 52.54 294 P **P 01 13 00.5 -0.5**
1.8nm,0.8s,baz=60,slow=9.4,SNR=14
PDAR LR LR 01 33 06.9
comp=Z,36nm,18.6s,baz=66,slow=34
AMTX Amarillo 52.85 282 *e*P **P 01 13 03.4 +0.2**
14nm,0.9s
AMTX Amarillo 52.85 282 *e*P **P 01 13 03.4 +0.2**
14nm,0.9s
TPAW Teton Pass 52.89 296 *e*P **P 01 13 04.2 +0.6**
2.7nm,0.8s
TPAW Teton Pass 52.89 296 *e*P **P 01 13 04.2 +0.6**
2.7nm,0.8s
SDCO Great Sand Dun 53.33 287 *e*P **P 01 13 07.0 +0.1**
SDCO Great Sand Dun 53.33 287 *e*P **P 01 13 07.0 +0.1**
MSTX Muleshoe 54.13 281 *e*P **P 01 13 12.8 +0.2**
5.2nm,0.8s
MSTX Muleshoe 54.13 281 *e*P **P 01 13 12.8 +0.2**
5.2nm,0.8s
HWUT Hardware Ranch 54.43 294 *e*P **P 01 13 14.3 -0.5**
6.8nm,0.8s
HWUT Hardware Ranch 54.43 294 *e*P **P 01 13 14.3 -0.5**
6.8nm,0.8s
JCT Junction City 54.64 276 *e*P **P 01 13 15.2 -1.1**
JCT Junction City 54.64 276 *e*P **P 01 13 15.2 -1.1**
ILAR Eielson Array 54.70 332 P **P 01 13 17.1 +0.9**
0.4nm,0.8s,baz=43,slow=5.0,SNR=5.8
ILAR LR LR 01 35 19.1
comp=Z,49nm,18.4s,baz=82,slow=35
HLID Hailey 54.80 298 *e*P **P 01 13 18.2 +0.8**
3.1nm,1.1s
HLID Hailey 54.80 298 *e*P **P 01 13 18.2 +0.8**
3.1nm,1.1s
ANMO Albuquerque 55.75 285 *e*P **P 01 13 25.2 +0.8**
1.3nm,1.0s
DUG Dugway, Tooele 56.07 294 *e*P **P 01 13 26.9 +0.3**
3.1nm,0.8s
DUG Dugway, Tooele 56.07 294 *e*P **P 01 13 26.9 +0.3**
3.1nm,0.8s
ELK Elko 57.10 296 *e*P **P 01 13 34.2 +0.2**
1.5nm,0.8s
ELK Elko 57.10 296 *e*P **P 01 13 34.1 +0.2**
1.5nm,0.8s
PTGA Pitinga 57.55 216 P **P 01 13 36.5 -0.6**
3.7nm,1.0s,baz=27,slow=6.4,SNR=5.3
TXAR Lajitas Array 57.85 278 P **P 01 13 39.2 0.0**
1.2nm,0.8s,baz=66,slow=7.7,SNR=12
TXAR LR LR 01 38 40.1
comp=Z,97nm,18.5s,baz=0.0,slow=36
WVOR Wild Horse Val 57.88 299 *e*P **P 01 13 39.4 +0.1**
4.3nm,1.0s
WVOR Wild Horse Val 57.88 299 *e*P **P 01 13 39.4 +0.1**
4.3nm,1.0s
ROSC El Rosal 59.03 234 P **P 01 13 49.0 +1.1**
7.1nm,0.7s,baz=246,slow=22,SNR=5.9
ROSC LR LR 01 40 54.4
comp=Z,33nm,18.1s,baz=35,slow=38
ROSC El Rosal 59.03 234 *e*P **P 01 13 48.7 +0.7**
ROSC El Rosal 59.03 234 *e*P **P 01 13 48.7 +0.7**
KURK Kurchatov 61.90 43 *e*P **P 01 14 06.4 -0.2**
2.4nm,0.9s
KURK Kurchatov 61.90 43 *e*P **P 01 14 06.4 -0.2**
2.4nm,0.9s
ZALV Zalesovo Beam 62.01 37 LR LR 01 40 48.0
comp=Z,33nm,18.2s,baz=74,slow=36
MK31 Makanchi Array 66.45 44 *e*P **P 01 14 37.2 +0.6**
MK31 Makanchi Array 66.45 44 *e*P **P 01 14 37.2 +0.6**
MKAR Makanchi Array 66.45 44 P **P 01 14 37.0 +0.4**
0.5nm,0.8s,baz=343,slow=3.8,SNR=5.6
MKAR LR LR 01 44 34.5
comp=Z,32nm,18.1s,baz=300,slow=37
MKAR Makanchi Array 66.45 44 P **P 01 14 37.0 +0.4**
BDFB Brasilia 68.26 199 P **P 01 14 49.1 +0.7**
1.7nm,0.5s,baz=106,slow=11,SNR=3.2
SONM Songino Array 74.60 29 P **P 01 15 26.5 +0.1**
1.0nm,0.9s,baz=340,slow=3.9,SNR=4.9
NNA Nana 74.82 228 *e*P **P 01 15 27.5 -0.4**
NNA Nana 74.82 228 *e*P **P 01 15 27.5 -0.4**
LPAZ La Paz 74.92 218 P **P 01 15 29.3 +0.2**
1.1nm,0.9s,baz=246,slow=13,SNR=5.0
CPUP Villa Florida 80.74 205 *e*P **P 01 16 00.0 -0.5**
0.3nm,1.2s
CPUP Villa Florida 80.74 205 *e*P **P 01 16 00.0 -0.5**
0.4nm,1.2s
JNU Nakatsue 94.51 16 LR LR 02 02 24.4
comp=Z,37nm,18.5s,baz=76,slow=37
WRA Warramunga Arr 146.57 28 PKPbc **PKPbc 01 23 28.6 -0.4**
0.7nm,0.3s,baz=72,slow=6.1,SNR=4.6
AS31 Alice Springs 149.94 31 *e*PKPbc **PKPbc 01 23 37.1 -0.7**
AS31 Alice Springs 149.94 31 *e*PKPbc **PKPbc 01 23 37.1 -0.7**
ASAR Alice Springs 149.94 31 PKPbc **PKPbc 01 23 36.6 -1.2**
1.4nm,0.8s,baz=355,slow=2.4,SNR=11

IDC 12 01:14:29.4±2.3, 1°.81N×125°.72E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/27, mbtmp3.8/3, Error ellipse: s-maj=234.7km s-min=25.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.21**	**159**	P	P	01 19 37.9	-0.3
	1.1nm,0.3s,baz=338,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**26.54**	**163**	P	P	01 20 09.5	+0.4
	0.9nm,0.5s,baz=343,slow=7.3,SNR=5.5						
MKAR	**Makanchi Array**	**58.57**	**326**	P	P	01 24 27.8	-0.2
	0.2nm,0.4s,baz=123,slow=8.0,SNR=6.7						

IDC 12 01:41:16.5±2.5, 9°.07S×120°.55E, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.4/28, mbtmp3.5/3, ML3.9/2, Error ellipse: s-maj=242.5km s-min=28.6km az=52.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.16**	**131**	P	Pn	01 45 17.9	-0.1
	0.7nm,0.3s,baz=308,slow=14,SNR=5.1						
ASAR	**Alice Springs**	**19.34**	**140**	P	P	01 45 43.8	+0.1
	0.1nm,0.3s,baz=316,slow=10,SNR=7.6						
MKAR	**Makanchi Array**	**65.22**	**332**	P	P	01 51 59.8	0.0
	0.3nm,0.4s,baz=151,slow=6.4,SNR=7.3						

MAN 12 01:46:41, 10°.21N×126°.04E, h17km, mb4.7, ML3.6, MS3.5, 4C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.69**	**232**	*e*P	Pn	01 46 56.0	0.0
SCPH				*e*S	Sn	01 47 07.7	+1.4
MSLP	**Maasin**	**1.17**	**266**	*e*P	Pb	01 47 02.8	+0.1
MSLP				*e*S	Sg	01 47 20.1	+1.3
BUTP	**Butuan**	**1.30**	**199**	*e*P	Pn	01 47 03.4	-1.0
PLP	**Palo**	**1.41**	**312**	*e*P	Pn	01 47 05.8	-0.1
PLP				*i* S	Sg	01 47 26.1	-0.6
BIPH	**Bislig**	**2.04**	**171**	*i*P	Pb	01 47 16.1	-1.5
BIPH				*i* S	Sn	01 47 40.5	+0.9
CGP	**Cagayan de Oro**	**2.19**	**217**	*e*P	Sn	01 47 43.8	+0.4
BUKP	**Musuan**	**2.51**	**203**	*e*P	Pn	01 47 22.4	+1.2
DCPH	**Dipolog City**	**3.11**	**239**	*e*P	Pn	01 47 30.7	+1.4
DCPH				*e*S	Sn	01 48 05.3	-0.7
GUIM	**Jordan**	**3.42**	**277**	*e*P	Pn	01 47 35.0	+1.4
RCP	**Roxas**	**3.50**	**293**	*e*P	Pn	01 47 36.7	+1.9
PAGZ	**Pagadian**	**3.52**	**228**	*e*P	Pn	01 47 36.6	+1.6

*ISCJB **12** 01:48:38.2±1.1, 52°.7N±0°.2×35°.1W±0°.2, h14km, mb3.6/7, MS3.1/6, Error ellipse: s-maj=32.4km s-min=17.7km az=10.5*

*IDC **12** 01:48:38.1±1.4, 52°.68N×35°.02W, h0km, mb3.6/7, mb1 3.6/8, mb1mx3.4/39, mbtmp3.6/8, ML2.5/1, MS3.1/6, Ms1 3.1/6, ms1mx2.7/34, Error ellipse: s-maj=40.4km s-min=30.0km az=16.0*

ISC 12 01:48:40.0±1.3, 52°.6N±0°.3×35°.1W±0°.2, h14km, n15, σ0s59/10, mb3.7/7, MS3.1/6, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.81**	**289**	P	Pn	**01 52 59.7**	**+0.2**
	0.2nm,0.3s,baz=110,slow=12,SNR=3.3						
NOA	**NORSAR Array B**	**26.18**	**53**	LR	LR	02 03 30.2	
	comp=Z,14nm,18.2s,baz=280,slow=34						
TKL	**Tuckaleechee C**	**38.01**	**263**	LR	LR	02 10 46.1	
	comp=Z,18nm,21.4s,baz=342,slow=35						
BRTR	**Keskin Array B**	**47.54**	**77**	P	P	**01 57 15.7**	**+0.8**
	0.7nm,0.8s,baz=350,slow=6.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**49.11**	**129**	P	P	**01 57 26.8**	**-0.2**
	0.3nm,0.7s,baz=337,slow=8.0,SNR=4.6						
NEW	**Newport**	**49.73**	**300**	LR	LR	02 18 02.3	
	comp=Z,16nm,18.4s,baz=266,slow=36						
AKTO	**Aktyubinsk**	**53.97**	**52**	P	P	**01 58 03.1**	**+0.2**
	0.6nm,0.5s,baz=252,slow=6.4,SNR=2.5						
BVAR	**Borovoye Array**	**57.76**	**43**	P	P	**01 58 29.4**	**-0.7**
	1.0nm,0.8s,baz=316,slow=4.1,SNR=6.5						
JTS	**JuntasAbangare**	**58.16**	**242**	LR	LR	02 20 07.9	
	comp=Z,19nm,21.8s,baz=344,slow=32						
CMIG	**Matias Romero**	**58.33**	**256**	LR	LR	02 22 20.0	
	comp=Z,24nm,21.3s,baz=354,slow=35						
KURBB	**Kurchatov Arra**	**62.91**	**41**	P	P	**01 59 04.5**	**-0.8**
	0.3nm,0.5s,baz=324,slow=6.6,SNR=4.3						
MKAR	**Makanchi Array**	**67.46**	**41**	P	P	**01 59 34.5**	**-0.5**
	0.3nm,0.7s,baz=349,slow=3.7,SNR=3.8						
MKAR				LR	LR	02 30 49.7	
	comp=Z,23nm,18.3s,baz=270,slow=38						
SONM	**Songino Array**	**74.67**	**26**	P	P	**02 00 19.2**	**+0.4**
	0.3nm,0.5s,baz=335,slow=6.4,SNR=2.8						
WRA	**Warramunga Arr**	**146.36**	**18**	PKPbc	**PKPbc**	**02 08 20.0**	**-0.2**
	0.7nm,0.3s,baz=347,slow=3.0,SNR=3.7						
ASAR	**Alice Springs**	**149.89**	**20**	PKPbc	**PKPbc**	**02 08 29.2**	**-0.4**
	0.5nm,0.7s,baz=347,slow=3.1,SNR=3.8						

*IDC **12** 02:21:20.8±0.9, 22°.52S×171°.71E, h0km, mb4.4/11, mb1 4.6/13, mb1mx4.4/26, mbtmp4.5/13, ML4.5/2, MS4.3/21, Ms1 4.3/21, ms1mx4.2/27, Error ellipse: s-maj=24.0km s-min=19.9km az=149.0*

*ISCJB **12** 02:21:22.1±2.1, 22°.52S±0°.07×171°.78E±0°.05, h24km±14km, mb4.9/28, MS4.4/24, Error ellipse: s-maj=11.6km s-min=8.2km az=12.3*

*BJI **12** 02:21:23.4, 22°.525S×171°.50E, h33km, mb5.0/18, mB5.1/14, Ms4.8/10, Ms7 4.4/10*

*GCMT **12** 02:21:25.6±0.2, 22°.69S×172°.01E, h21km, MW5.3/101, Moment Tensor Solution. s83,c120; s101,c164; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr-0.24±.02; Mθθ-0.71±.02; Mφφ0.94±.02; Mrθ0.26±.04; Mθφ-0.42±.01; Mφr0.45±.04; Best double couple: M0 1.07400×10^17 NP1:φs208.00000°, δ83.00000°, λ-31.00000°. NP2:φs303.00000°, δ59.00000°, λ-171.00000°. Principal axes: T 1.1550, Plg16.0000°, Azm260.0000°; N -0.1610, Plg58.0000°, Azm16.0000°; P -0.9940, Plg27.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **12** 02:21:25.6±1.4, 22°.58S×171°.80E, h36km±14km, mb5.0/13 Error ellipse: s-maj=12.0km s-min=11.0km az=168.0*

ISC 12 02:21:25.2±0.5, 22°.59S±0°.08×171°.78E±0°.05, h33km±2km, h32km:pP-P, n105, σ1s36/104, mb5.0/28, MS4.3/24, 8C-10D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.97**	**275**	*e*Pn	**Pn**	**02 22 38.1**	**+0.5**
	493nm,0.4s						
DZM				*e*Sn	**Sn**	**02 23 34.9**	**+0.9**
	757nm,0.6s						
DZM				*e*LR	LR	02 23 47.9	
	9μm,25.2s						
DZM	**Mont Dzumac**	**4.97**	**275**	Pn	**Pn**	**02 22 38.0**	**+0.4**
	76nm,0.3s,baz=270,slow=24,SNR=369						
DZM				Sn	**Sn**	**02 23 36.3**	**+2.3**
	35nm,0.3s,baz=275,slow=22,SNR=8.8						
MSVF	**Nonsavu**	**7.62**	**52**	Pn	**Pn**	**02 23 14.0**	**0.0**
	847nm,0.8s,SNR=14						
MSVF	**Nonsavu**	**7.62**	**52**	*e*Pn	**Pn**	**02 23 13.7**	**-0.3**
RAO	**Raoul Island**	**11.39**	**128**	LR	LR	02 27 08.3	
	comp=Z,4μm,21.5s,baz=334,slow=30						
URZ	**Urewera**	**16.27**	**165**	Pn	**Pn**	**02 25 12.0**	**+0.7**
	0.4nm,0.3s,baz=17,slow=8.7,SNR=4.0						
URZ				LR	LR	02 30 30.1	
	comp=Z,1μm,19.2s,baz=11,slow=34						
URZ	**Urewera**	**16.27**	**165**	*e*Pn	**Pn**	**02 25 10.4**	**-0.9**
	1μm,2.8s						
BKZ	**Black Stump Fm**	**17.01**	**167**	*e*Pn	**Pn**	**02 25 21.1**	**+0.6**
	210nm,1.8s						
EIDS	**Eidsvold**	**19.11**	**258**	*e*P	**Pn**	**02 25 48.3**	**+1.8**
	124nm,1.1s						
ARMA	**Armidale**	**19.63**	**242**	*e*P	**Pn**	**02 25 54.4**	**+1.7**
	258nm,1.8s						
RPZ	**Rata Peaks**	**21.08**	**181**	P	**P**	**02 26 06.8**	**+0.2**
	22nm,1.0s,baz=349,slow=5.2,SNR=4.9						
RPZ				LR	LR	02 32 59.0	
	comp=Z,1μm,21.8s,baz=359,slow=33						
CAN	**Canberra**	**23.56**	**232**	*e*P	**P**	**02 26 34.6**	**+1.8**
	210nm,1.8s						
CTA	**Charters Tower**	**23.90**	**271**	P	**P**	**02 26 36.4**	**+0.2**
	11nm,0.7s,baz=103,slow=12,SNR=14						
CTA				LR	LR	02 35 52.9	
	comp=Z,684nm,20.7s,baz=89,slow=37						
CTAO	**Charters Tower**	**23.90**	**271**	*e*P	**P**	**02 26 37.0**	**+0.9**
	31nm,1.0s						
RAR	**Rarotonga**	**26.41**	**92**	LR	LR	02 37 17.6	
	comp=Z,456nm,18.4s,baz=266,slow=36						
STKA	**Stephens Creek**	**28.31**	**244**	P	**P**	**02 27 17.4**	**+1.4**
	12nm,0.9s,baz=84,slow=11,SNR=16						
STKA				LR	LR	02 37 54.7	
	comp=Z,944nm,18.1s,baz=70,slow=35						
STKA	**Stephens Creek**	**28.31**	**244**	*e*P	**P**	**02 27 16.8**	**+0.8**
	8.6nm,1.3s						
BBOO	**Buckleboo**	**33.09**	**244**	*e*P	**P**	**02 27 57.9**	**-0.2**
	63nm,1.0s						
AS31	**Alice Springs**	**34.78**	**261**	*e*P	**P**	**02 28 12.6**	**-0.4**
ASAR	**Alice Springs**	**34.78**	**261**	P	**P**	**02 28 12.5**	**-0.5**
	24nm,0.8s,baz=89,slow=9.3,SNR=175						
ASAR				LR	LR	02 42 41.9	
	comp=Z,878nm,18.2s,baz=94,slow=37						
WRAB	**Tennant Creek**	**34.92**	**267**	P	**P**	**02 28 12.0**	**-2.2**
	75nm,1.3s,SNR=10						
WRAB	**Tennant Creek**	**34.92**	**267**	*e*P	**P**	**02 28 13.1**	**-1.2**
	30nm,1.4s						
WRA	**Warramunga Arr**	**34.93**	**267**	P	**P**	**02 28 13.2**	**-1.1**
	4.0nm,0.6s,baz=98,slow=8.0,SNR=23						
WRA				LR	LR	02 41 58.7	
	comp=Z,1μm,21.7s,baz=115,slow=36						
TBI	**Tubuai**	**35.62**	**99**	*e*S	**S**	**02 33 54.7**	**+0.3**
	253nm,26.8s						
TBI				*e*LQ	LQ	02 36 06.1	
	2μm,27.8s						
TBI				*e*LR	LR	02 37 39.7	
	1μm,32.0s,baz=258						
PPT2	**Papeete2**	**36.56**	**89**	*e*S	**S**	**02 34 10.5**	**+1.5**
	397nm,26.2s						
PPT2				*e*LQ	LQ	02 36 25.5	
	2μm,27.5s						
PPT2				*e*LR	LR	02 38 07.6	
	1μm,28.5s,baz=240						
PPT	**Papeete**	**36.57**	**89**	LR	LR	02 42 45.2	
	comp=Z,309nm,18.5s,baz=261,slow=35						
FORT	**Forrest**	**39.70**	**249**	*e*P	**P**	**02 28 53.3**	**-1.3**
H11S2	**WAKE ISLAND Hy**	**41.13**	**353**	T	T	03 12 54.5	
	baz=167,slow=76						
H11S3	**WAKE ISLAND Hy**	**41.14**	**353**	T	T	03 12 56.5	
	baz=167,slow=76						
H11S1	**WAKE ISLAND Hy**	**41.15**	**353**	T	T	03 12 60.0	
	baz=167,slow=76						
H11N1	**WAKE ISLAND Hy**	**42.32**	**353**	T	T	03 14 27.7	
	baz=172,slow=76						
H11N3	**WAKE ISLAND Hy**	**42.32**	**353**	T	T	03 14 26.4	
	baz=172,slow=76						
H11N2	**WAKE ISLAND Hy**	**42.33**	**353**	T	T	03 14 29.0	
	baz=172,slow=76						
FAKI	**Fak Fak**	**43.01**	**291**	*e*P	**P**	**02 29 19.1**	**-2.9**
	27nm,1.3s						
SOEI	**Soe**	**47.19**	**278**	*e*P	**P**	**02 29 55.6**	**+0.3**
	40nm,1.0s						
MBWA	**Marble Bar**	**48.12**	**261**	*e*P	**P**	**02 30 02.0**	**-0.3**
	32nm,0.9s						
RKT	**Rikitea**	**48.83**	**102**	*e*S	**S**	**02 37 09.4**	**+0.2**
	306nm,27.5s						
RKT				*e*LQ	LQ	02 41 20.8	
	1μm,27.5s						
RKT				*e*LR	LR	02 43 46.4	
	542nm,29.0s						
SANI	**Sanana**	**48.89**	**288**	P	**P**	**02 30 09.0**	**+0.7**
	58nm,0.9s,682nm						
MMRI	**Maumere**	**49.46**	**278**	*e*P	**P**	**02 30 12.4**	**-0.3**
	58nm,0.7s						
LUWI	**Luwuk**	**52.19**	**287**	P	**P**	**02 30 31.5**	**-1.7**
	63nm,1.2s,2μm						
LUWI	**Luwuk**	**52.19**	**287**	*e*P	**P**	**02 30 34.0**	**+0.8**
BKSI	**Bulukumba**	**52.69**	**281**	P	**P**	**02 30 35.7**	**-1.3**
	23nm,0.8s						
KAPI	**Kappang**	**53.16**	**281**	*e*P	**P**	**02 30 41.0**	**+0.7**
	23nm,1.2s						
VNDA	**Vanda**	**55.19**	**183**	LR	LR	02 50 17.6	
	comp=Z,248nm,22.0s,baz=16,slow=31						
VNDA	**Vanda**	**55.19**	**183**	*e*P	**P**	**02 30 51.9**	**-2.4**
	14nm,1.6s						
MPSI	**Mapaga**	**55.37**	**287**	P	**P**	**02 30 55.9**	**-0.6**
	17nm,0.9s						
KKM	**Kota Kinabalu**	**61.33**	**291**	*e*P	**P**	**02 31 38.5**	**+0.2**
	18nm,0.7s						
KPJI	**Karang Pucung**	**62.17**	**274**	P	**P**	**02 31 43.5**	**-0.3**
STKI	**Sintang**	**62.78**	**282**	P	P	02 31 44.5	-3.4
KSM	**Kuching**	**64.44**	**283**	*e*P	**P**	**02 31 58.6**	**-0.3**
	29nm,0.8s						
MJAR	**Matsushiro Arr**	**66.82**	**331**	P	**P**	**02 32 12.7**	**-1.0**
	2.0nm,0.9s,baz=168,slow=10.0,SNR=5.2						
JNU	**Nakatsue**	**67.76**	**324**	LR	LR	02 59 36.8	
	comp=Z,38nm,20.1s,baz=130,slow=34						
KSRS	**Korea Array**	**72.60**	**325**	P	**P**	**02 32 49.2**	**0.0**
	2.4nm,0.9s,baz=135,slow=5.4,SNR=7.1						
KSRS				LR	LR	03 02 11.4	
	comp=Z,114nm,21.3s,baz=138,slow=34						
KSAR	**Wonju Array Be**	**72.61**	**325**	P	**P**	**02 32 49.2**	**-0.1**
IPM	**Ipoh**	**74.09**	**282**	*e*P	**P**	**02 32 57.9**	**-0.7**
	11nm,0.7s						
NJ2	**Nanjing**	**74.25**	**315**	*e*P	**P**	**02 32 57.2**	**-1.9**
NJ2				PMZ			
	30nm,0.8s						
KULM	**Kulim**	**74.77**	**282**	*e*P	**P**	**02 33 01.6**	**-1.0**
	6.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**75.80**	**332**	LR	LR	03 03 30.0	

comp=Z,151nm,21.1s,baz=136,slow=33
MAW Mawson 76.23 202 LR LR 03 02 27.5
comp=Z,84nm,18.2s,baz=70,slow=32
PETK Petropavlovsk- 76.37 351 LR LR 03 00 52.0
comp=Z,146nm,22.0s,baz=158,slow=31
TIA Tai'an 78.01 318 ⇓P **P 02 33 20.1 -0.4**
TIA PMZ
20nm,0.9s
GYA Guiyang 79.67 304 P **P 02 33 30.0 +0.1**
GYA pP **pP 02 33 40.4 +0.1**
GYA PP **PP 02 36 32.7 +1.3**
GYA S **S 02 43 30.5 +0.1**
GYA SKS **SKSac 02 43 39.9 -4.8**
GYA sS **sS 02 43 48.0 +0.5**
GYA PMZ
20nm,1.0s
GYA PMZ
120nm,5.0s
GYA LN
540nm,20.4s
GYA LE
490nm,21.6s
GYA LZ
540nm,20.2s
BJI Beijing 81.02 320 P **P 02 33 35.7 -1.0**
BJI S **S 02 43 44.4 +0.7**
BJI PMZ
6.0nm,0.7s
BJI LN
190nm,25.9s
BJI LE
130nm,25.2s
BJI LZ
220nm,27.4s
CMAR Chiang Mai Arr 82.03 294 P **P 02 33 43.5 +0.9**
1.5nm,0.4s,baz=132,slow=4.1,SNR=6.2
CMAR LR LR 03 12 41.6
comp=Z,109nm,19.1s,baz=152,slow=38
CD2 Chengdu 84.14 307 P **P 02 33 51.5 -1.8**
CD2 pP **pP 02 34 02.4 -1.3**
CD2 sP **sP 02 34 06.7 -0.8**
CD2 PP **PP 02 37 06.7 -1.4**
CD2 SKS **SKSac 02 44 11.6 -2.9**
CD2 S **S 02 44 15.8 -0.3**
CD2 sS **sS 02 44 34.4 +1.0**
CD2 PMZ
10.0nm,0.5s
CD2 PMZ
120nm,5.4s
HHC Hu-ho-hao-te 84.30 319 *eP* **P 02 33 53.4 -0.5**
HHC pP **pP 02 34 03.9 -0.4**
HHC sP **sP 02 34 07.4 -0.7**
HHC PP **PP 02 37 11.2 +2.0**
HHC S **S 02 44 16.6 -0.8**
HHC PMZ
28nm,1.3s
HHC PMZ
80nm,7.3s
HHC LN
130nm,17.1s
HHC LE
140nm,17.5s
HHC LZ
160nm,17.3s
LZH Lanzhou 86.72 311 *eP* **P 02 34 06.9 +0.7**
LZH pP **pP 02 34 15.6 -1.0**
LZH sP **sP 02 34 21.2 +0.8**
LZH PMZ
26nm,1.0s
LZH PMZ
130nm,4.3s
YBH Yreka Blue Hor 88.08 43 LR LR 03 09 23.8
comp=Z,121nm,18.0s,baz=252,slow=33
NVAR Mina Array Bea 89.27 48 P **P 02 34 20.8 +2.4**
0.3nm,0.4s,baz=221,slow=5.4,SNR=2.7
GTA Gaotai 91.14 313 *eP* **P 02 34 26.3 -0.6**
GTA pP **pP 02 34 37.0 -0.4**
GTA sP **sP 02 34 40.9 -0.3**
GTA S **S 02 45 23.0 +0.1**
GTA sS **sS 02 45 40.8 +0.5**
GTA PMZ
3.0nm,1.3s
GTA PMZ
61nm,5.4s
GTA LN
56nm,17.1s
GTA LE
110nm,22.3s
GTA LZ
140nm,20.6s
SONM Songino Array 91.31 322 P **P 02 34 28.1 +0.6**
0.7nm,0.8s,baz=134,slow=6.2,SNR=3.3
SONM LR LR 03 15 50.9
comp=Z,97nm,19.1s,baz=104,slow=36
ILAR Eielson Array 92.73 16 P **P 02 34 34.0 +0.5**
0.6nm,1.0s,baz=197,slow=9.0,SNR=4.0
ILAR LR LR 03 10 10.1
comp=Z,126nm,19.4s,baz=229,slow=32
TXAR Lajitas Array 96.29 61 LR LR 03 10 58.1
comp=Z,158nm,19.7s,baz=0.0,slow=31
PDAR Pinedale Array 97.16 47 LR LR 03 13 05.1
comp=Z,94nm,18.7s,baz=260,slow=32
WMQ Urumqi 101.22 313 P **Pdif 02 35 10.7 -1.9**
WMQ pP pP 02 35 24.4 +1.2
WMQ PMZ
5.0nm,0.7s
WMQ PMZ
130nm,5.0s
WMQ LN
75nm,9.2s
WMQ LE
81nm,8.4s
WMQ LZ
120nm,20.0s
VRI Vrincioaia 143.38 318 ⇑*i*P PKPbc 02 40 53.6 +0.2
MLR Muntele Rosu 144.04 318 ⇓*i*P **PKPab 02 40 55.1 +0.1**
DOPR Dopca 144.15 319 ⇑*i*P **PKPdf 02 40 57.0 -0.6**
KOLS Kolonicke sedl 144.32 325 *e*PKP PKPbc 02 40 56.5 +0.3
STHS Stebnicka Huta 144.56 326 *e*PKP **PKPab 02 40 56.2 -0.5**
VOIR 144.62 318 ⇑*i*P PKPdf 02 41 08.3 +10
ARR Arges 144.91 318 ⇓*i*P PKPdf 02 41 08.0 +9.0
JMB Yambol 144.93 313 ⇓*i*P PKPbc 02 40 58.4 +0.1
DRGR 145.31 322 ⇑*i*P **PKPdf 02 41 01.2 +1.5**
LOT Lotru 145.39 319 ⇓*i*P **PKPab 02 41 00.5 +0.5**
KECS Kecovo 145.53 326 *e*PKP **PKPdf 02 40 57.8 -2.1**
KECS *e* 02 41 01.4
OKC Ostrava-Krasne 145.81 329 AMS AMS 03 48 00.0
comp=Z,200nm,20.5s
GZR Gura Zlata 146.02 320 ⇓*i*P **PKPdf 02 41 00.8 -0.1**
SIRR Siria 146.20 322 ⇓*i*P PKPab 02 41 11.0 +8.1
DPC Dobruska-Polom 146.29 331 *e*PKP **PKPab 02 41 03.3 +0.1**
DPC *ep*PKP **pPKPdf 02 41 11.7 -0.3**
BZS Buzias 146.59 321 ⇓*i*P **PKPab 02 41 07.5 +3.1**
BRG Berggiesshubel 146.91 334 *e*PKP PKPab 02 41 13.0 +7.6
4.6nm,1.1s
comp=N,117nm,27.1s
comp=E,58nm,16.8s
comp=Z,132nm,18.1s
VRAC Vranov 146.91 330 ⇑*i*P **PKPab 02 41 08.9 +3.3**
CLL Collm 146.94 335 *e*(PKPbc) **PKPab 02 41 07.0 +1.4**
CLL *e* 02 41 33.0
VTS Vitosha 147.13 315 ⇓*i*P **PKPbc 02 41 04.4 -0.8**
MMB Musomiste 147.23 313 ⇓*i*P **PKPab 02 41 06.8 -0.3**
GOPC GO Pecny, Ondr 147.28 332 AMS AMS 03 41 30.0
comp=Z,200nm,21.1s
PRU Pruhonice 147.33 332 *e*PKP **PKPbc 02 41 05.5 +0.2**
PRU *ep*PKP **pPKPdf 02 41 14.4 +0.7**
PRU AMS AMS 03 41 00.0
comp=Z,200nm,21.8s
TREC Trest 147.43 331 AMS AMS 03 44 40.0
comp=Z,200nm,25.2s
PKSM Moragy 147.93 324 ⇑*i*P **PKPbc 02 41 05.7 -1.3**
DIVS Divibare 148.39 319 ⇑*i*P **PKPbc 02 41 08.0 -0.4**
KHC Kasperske Hory 148.39 332 *ep*PKP **pPKPdf 02 41 17.2 +1.7**
KHC *ex* x 02 41 30.5
KHC AMS AMS 03 51 40.0
comp=Z,100nm,18.5s
GERES GERESS Array B 148.55 332 PKPbc **PKPbc 02 41 07.7 -1.1**
comp=Z,0.7nm,0.9s,baz=41,slow=4.3,SNR=5.3
FETA Feichten 151.24 333 ⇑*i*pPKPdf **PKiKP 02 41 19.9 +4.0**
comp=Z,5.7nm,1.0s
TORD Torodi Ar. Bea 166.69 227 PKP **PKPdf 02 41 30.8 +2.5**
comp=Z,0.5nm,0.9s,baz=180,slow=0.4,SNR=2.9
TORD PKPab **PKPab 02 42 29.4 -1.4**
comp=Z,0.8nm,0.8s,baz=178,slow=4.1,SNR=5.3

KRSC 12 02:35:20.7±0.9, 51.84N×158.93E, h58km±11km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.64**	**337**	*i* P	Pn	02 35 34.7	+0.6
RUS				*i* S	Sn	02 35 45.2	+1.3
MTVR	**Mutnovka**	**0.79**	**325**	*e*P	Pn	02 35 36.8	+0.7
MTVR				*e*S	Sn	02 35 48.7	+1.3
ASAK	**Asacha**	**0.83**	**311**	*e*P	Pn	02 35 37.4	+0.8
ASAK				*e*S	Sn	02 35 49.9	+1.6
PET	**Petropavlovsk**	**1.19**	**352**	*e*P	Pn	02 35 42.4	+1.2
PET				*e*S	Sn	02 35 58.8	+2.4
UGLR	**Uglovaya**	**1.37**	**357**	*e*P	Pn	02 35 44.9	+1.2
SMAR	**Somma**	**1.42**	**357**	*e*P	Pn	02 35 46.4	+1.8
SPN	**Mys Shipunski**	**1.42**	**28**	*e*S	Sn	02 36 05.2	+3.2
AVH	**Avacha**	**1.43**	**355**	*e*P	Pn	02 35 46.0	+1.6
SDLR	**Sedlovina**	**1.44**	**359**	*e*P	Pn	02 35 45.3	+0.7
SDLR				*i* S	Sn	02 36 03.8	+1.2
KOK	**Koryaka**	**1.46**	**353**	*e*P	Pn	02 35 46.5	+1.6
KRER	**Koryakskii**	**1.47**	**356**	*e*P	Pn	02 35 46.5	+1.4
KRX	**Arik**	**1.53**	**354**	*e*P	Pn	02 35 47.2	+1.3
APC	**Apacha**	**1.53**	**316**	*e*P	Pn	02 35 47.8	+2.1
GNL	**Ganaly**	**1.95**	**342**	*e*P	Pn	02 35 53.6	+2.1

IDC 12 03:11:54.1±14.0, 14.18S×165.58E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/35, mbtmp3.7/4, ML3.7/1, MS4.0/1, Ms1 4.0/1, ms1mx2.9/20, Error ellipse: s-maj=246.1km s-min=37.3km az=55.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.89**	**174**	Pn	Pn	03 13 50.3	0.0
0.9nm,0.3s,baz=90,slow=24,SNR=7.7							
DZM				Sn	Sn	03 15 19.3	-1.2
0.3nm,0.3s,baz=90,slow=20,SNR=2.3							
RAO	**Raoul Island**	**21.41**	**137**	LR	LR	03 22 39.9	
comp=Z,410nm,20.0s,baz=334,slow=30							
STKA	**Stephens Creek**	**28.13**	**227**	P	P	03 17 48.8	+0.8
0.7nm,0.4s,baz=47,slow=8.7,SNR=5.0							
WRA	**Warramunga Arr**	**30.38**	**255**	P	P	03 18 07.6	-0.5
0.4nm,0.7s,baz=84,slow=7.7,SNR=3.1							
ASAR	**Alice Springs**	**31.35**	**248**	P	P	03 18 16.6	-0.1
0.2nm,0.5s,baz=72,slow=9.3,SNR=7.2							

NIED **12** *03:14:00, 25.80N×130.10E, h8km, Mw4.1 Best double couple: M₀1.35000×10¹⁵ NP1:φ₁72.00000°, δ31.00000°, λ-102.00000°. NP2:φ₂266.00000°, δ59.00000°, λ-83.00000°*
IDC **12** *03:14:48.9±0.7, 25.82N×130.30E, h0km, mb4.0/15, mb1 4.1/17, mb1mx3.9/45, mbtmp4.0/17, ML3.0/2, MS3.5/3, Ms1 3.5/3, ms1mx2.8/37, Error ellipse: s-maj=30.9km s-min=14.9km az=72.0*
ISCJB **12** *03:14:50.0±1.2, 25.88N±0.04×129.95E±0.04, h15km±9km, mb4.0/22, MS3.9/2, Error ellipse: s-maj=6.4km s-min=5.4km az=24.4*
JMA **12** *03:14:50.6±0.1, 25.81N×130.05E, h41km, M3.6*
NEIC **12** *03:14:50.7±0.4, 25.83N×130.18E, h10km, mb4.3/7, Error ellipse: s-maj=13.8km s-min=8.1km az=68.0*

ISC 12 03:14:49.8±3.7, 25.85N±0.06×130.05E±0.06, h5km±24km, n45, σ1=67/47, mb4.2/22, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMZ	**Minamidaito 2**	**1.05**	**91**	P	**Pb**	**03 15 09.4**	**-1.1**
JMZ				*e*S	**Sb**	**03 15 21.9**	**-2.7**
JOW	**Kunigami**	**1.87**	**302**	P	**Pn**	**03 15 21.6**	**-0.9**
JOW				*e*S	Sn	03 15 42.9	-3.6
JOW	**Kunigami**	**1.87**	**302**	Pn	**Pn**	**03 15 21.8**	**-0.7**
3.0nm,0.3s,baz=119,slow=22,SNR=50							
JOW				Sn	**Sn**	**03 15 43.2**	**-3.3**
4.9nm,0.3s,baz=131,slow=24,SNR=18							
JNTH	**Nagotoyohara**	**1.94**	**291**	P	**Pn**	**03 15 22.2**	**-1.2**
JNTH				*e*S	Sn	03 15 44.0	-4.2
JOKE	**Okinoerabujima**	**2.01**	**319**	P	**Pn**	**03 15 24.1**	**-0.2**
JOKE				*e*S	**Sn**	**03 15 46.5**	**-3.3**
JJT2	**Tamagusuku 2**	**2.09**	**278**	P	**Pn**	**03 15 24.7**	**-0.8**
JJT2				*e*S	**Sn**	**03 15 48.9**	**-3.0**
JTK	**Tokunoshima**	**2.17**	**333**	P	**Pn**	**03 15 26.4**	**-0.1**
JTK				*e*S	**Sn**	**03 15 50.4**	**-3.3**
JIH	**Iheya**	**2.21**	**303**	P	**Pn**	**03 15 26.6**	**-0.5**
JIH				*e*S	Sn	03 15 51.3	-3.5
JZK	**Kikaishima**	**2.46**	**358**	P	**Pn**	**03 15 30.9**	**+0.4**
JZK				*e*S	**Sn**	**03 15 58.5**	**-2.4**
JAMN	**Amaminishikomi**	**2.51**	**342**	P	**Pn**	**03 15 31.1**	**-0.1**
JAMN				*e*S	**Sn**	**03 15 58.6**	**-3.6**
JAM	**Amami Oshima**	**2.58**	**351**	P	**Pn**	**03 15 32.2**	**0.0**
JAM				*e*S	**Sn**	**03 16 00.1**	**-3.9**
JAGN	**Aguni-jima**	**2.63**	**287**	P	**Pn**	**03 15 32.2**	**-0.7**
JAGN				*e*S	Sn	03 16 01.5	-3.7
JKE	**Kume jima 2**	**2.98**	**280**	P	Pn	03 15 36.0	-1.6
JKE				*e*S	Sn	03 16 08.7	-5.0
JOGS	**Gusukube**	**4.34**	**257**	P	Pn	03 15 54.8	-1.7
JOGS				*e*S	Sn	03 16 43.4	-4.1
JNU	**Nakatsue**	**7.28**	**5**	Pn	**Pn**	**03 16 37.8**	**+0.9**
0.5nm,0.3s,baz=163,slow=8.4,SNR=4.4							
JNU				Sn	Sn	03 17 53.5	-6.5
0.1nm,0.3s,baz=252,slow=16,SNR=2.8							
KSRS	**Korea Array**	**11.71**	**352**	LR	LR	03 22 22.4	
comp=Z,75nm,18.3s,baz=194,slow=39							
USRK	**Ussuriysk Ar.**	**18.38**	**4**	P	**P**	**03 19 06.6**	**+1.2**
0.1nm,0.3s,baz=200,slow=14,SNR=4.3							
SONM	**Songino Array**	**28.77**	**326**	P	**P**	**03 20 51.2**	**+2.6**
0.2nm,0.5s,baz=143,slow=8.9,SNR=2.0							
MK31	**Makanchi Array**	**43.01**	**312**	*e*P	**P**	**03 22 51.4**	**+1.2**
MKAR	**Makanchi Array**	**43.01**	**312**	P	**P**	**03 22 51.6**	**+1.5**
3.2nm,0.7s,baz=101,slow=9.4,SNR=29							
ZALV	**Zalesovo Beam**	**43.54**	**322**	P	**P**	**03 22 55.8**	**+1.4**
2.8nm,0.6s,baz=115,slow=8.0,SNR=10.0							
WRAB	**Tennant Creek**	**45.70**	**174**	*e*P	**P**	**03 23 12.7**	**+0.8**
4.0nm,0.8s							
WRA	**Warramunga Arr**	**45.71**	**174**	P	**P**	**03 23 11.7**	**-0.2**
3.0nm,0.8s,baz=352,slow=8.6,SNR=10.0							
KURK	**Kurchatov**	**46.22**	**316**	*e*P	**P**	**03 23 16.8**	**+1.1**
1.6nm,0.9s							
KURBB	**Kurchatov Arra**	**46.26**	**316**	P	**P**	**03 23 16.6**	**+0.6**
2.0nm,0.9s,baz=103,slow=8.4,SNR=11							
TKM2	**Tokmak 2**	**47.23**	**305**	*e*P	**P**	**03 23 25.6**	**+1.6**
1.4nm,0.6s							
ASAR	**Alice Springs**	**49.37**	**175**	P	**P**	**03 23 40.6**	**+0.3**
1.2nm,0.8s,baz=8.3,slow=8.7,SNR=10.0							
BVAR	**Borovoye Array**	**51.65**	**318**	P	**P**	**03 23 58.6**	**+1.2**
2.0nm,0.7s,baz=96,slow=9.2,SNR=12							
BRVK	**Borovoye**	**51.72**	**318**	*e*P	**P**	**03 23 59.1**	**+1.2**
3.0nm,0.8s							
ABKAR	**Akbulak array**	**58.10**	**313**	*e*P	**P**	**03 24 44.8**	**+0.6**
STKA	**Stephens Creek**	**58.45**	**168**	P	**P**	**03 24 45.7**	**-1.0**
2.3nm,0.8s,baz=325,slow=7.4,SNR=4.5							
MCK	**McKinley**	**63.19**	**29**	*e*P	**P**	**03 25 17.9**	**-0.8**
8.1nm,1.0s							
ILAR	**Eielson Array**	**63.99**	**28**	P	**P**	**03 25 23.1**	**-0.9**
0.5nm,0.8s,baz=269,slow=5.9,SNR=5.6							
KBZ	**Khabaz**	**70.66**	**310**	P	**P**	**03 26 07.3**	**+0.8**
1.7nm,0.7s,baz=152,slow=3.5,SNR=4.5							
FINES	**FINESS Array B**	**74.00**	**331**	P	**P**	**03 26 27.1**	**+1.1**
2.4nm,1.0s,baz=44,slow=6.2,SNR=4.5							
AKASG	**Malin Array Be**	**76.88**	**320**	P	**P**	**03 26 43.1**	**+0.3**
0.9nm,0.6s,baz=52,slow=5.3,SNR=2.9							
YKA	**Yellowknife Ar**	**78.17**	**25**	P	**P**	**03 26 49.3**	**-0.5**
0.8nm,0.7s,baz=304,slow=5.2,SNR=4.7							
BRTR	**Keskin Array B**	**78.56**	**309**	P	**P**	**03 26 53.9**	**+1.2**
0.9nm,0.9s,baz=91,slow=5.5,SNR=5.2							
NB2	**NORSAR Subarra**	**80.37**	**334**	P	P	03 26 49.7	-12
comp=Z,3.1nm,1.0s,baz=50,slow=4.8							
NOA	**NORSAR Array B**	**80.37**	**334**	P	**P**	**03 27 01.5**	**-0.5**
comp=Z,1.4nm,0.8s,baz=49,slow=5.2,SNR=3.8							
CSS	**Prodhromos**	**80.75**	**304**	*e*P	**P**	**03 27 05.0**	**+0.5**
comp=Z,1.1nm,0.6s							
PSZ	**Piszkesteto**	**83.57**	**321**	*e*P	**P**	**03 27 20.6**	**+1.4**
comp=Z,2.8nm,0.8s							
IDI	**Anoyia**	**86.76**	**308**	LR	LR	04 11 33.0	
comp=Z,46nm,20.5s,baz=254,slow=39							
DAVOX	**Davos/Dischmat**	**89.78**	**324**	LR	LR	04 12 03.1	
comp=Z,41nm,19.1s,baz=259,slow=38							
TORD	**Torodi Ar. Bea**	**116.53**	**301**	PKP	**PKPdf**	**03 33 35.2**	**-0.4**
comp=Z,0.4nm,0.9s,baz=40,slow=2.5,SNR=2.8							

BJI **12** *03:49:55.7, 0.71N×120.21E, h45km, mb4.8/53, mB5.2/45, Ms4.6/56, Ms7 4.4/52*

MOS **12** *03:49:56.2±0.9, 1.03N×120.13E, h33km, mb5.0/44, MS4.3/11, Error ellipse: s-maj=10.8km s-min=6.3km az=111.4*
ISCJB **12** *03:49:56.9±0.4, 1.04N±0.02×120.08E±0.02, h35km±4km, mb4.8/85, MS4.4/27, Error ellipse: s-maj=4.3km s-min=3.7km az=28.7*
DJA **12** *03:49:57.7±0.3, 1.1N±3°×12.0E±°, h10km, M5.0/28, mb5.0/28, mB5.5/21, MLv5.0/2, MLv5.3/20, Mw(mB)4.9/21*
IDC **12** *03:49:57.5±0.6, 0.99N×120.09E, h28km±4km, mb4.3/31, mb1 4.4/34, mb1mx4.3/52, mbtmp4.5/34, ML4.2/3, MS4.3/19, Ms1 4.3/19, ms1mx4.2/32, Error ellipse: s-maj=14.9km s-min=8.7km az=71.0*
KLM **12** *03:49:58.8, 1.16N×120.11E, h47km, mb5.0, ML5.1, MS6.0*
GCMT **12** *03:49:59.0±0.2, 1.29N×120.05E, h29km±1km, MW5.1/85, Moment Tensor Solution. s55,c74; s85,c133; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.90±.17; Mθθ-2.66±.12; Mϕϕ-0.24±.14; Mrθ-5.05±.31; Mϕθ-2.08±.09; Mϕr-1.62±.23; Best double couple: M₀6.30400×10¹⁶ NP1:φ₁251.00000°, δ74.00000°, λ98.00000°. NP2: φ₂43.00000°, δ18.00000°, λ63.00000°. Principal axes: T 5.9050, Plg60.0000°, Azm173.0000°; N 0.7990, Plg8.0000°, Azm69.0000°; P -6.7040, Plg29.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC **12** *03:49:59.0±0.5, 1.02N×120.09E, h40km±5km, mb5.0/25 Error ellipse: s-maj=5.0km s-min=3.7km az=49.0*
ISC 12 03:49:59.2±0.3, 0.94N±0.03×120.11E±0.04, h42km±1km, h41km:pP-P, n273, σ1=68/330, mb4.8/85, MS4.3/27, 16C-16D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**0.64**	**199**	P	**Pn**	**03 50 11.0**	**-0.9**
MPSI				S	**Sn**	**03 50 20.7**	**-0.2**
TOLI	**Toli-Toli**	**0.71**	**75**	*e*Pn	**Pn**	**03 50 12.0**	**-0.8**
TOLI				*e*Sn	**Sn**	**03 50 21.3**	**-1.4**
PCI	**Palu**	**1.85**	**188**	P	**Pn**	**03 50 30.7**	**+2.1**
PCI				S	Sn	03 51 00.8	+10
MRSI	**Marisa**	**1.89**	**104**	P	Pn	03 50 33.5	+4.5
MRSI				S	Sn	03 50 59.4	+7.7
APSI	**Ampana**	**2.40**	**140**	P	**Pn**	**03 50 38.8**	**+2.7**
APSI				S	Sn	03 51 20.3	+16
LUWI	**Luwuk**	**3.31**	**126**	P	Pn	03 50 54.1	+5.5
LUWI	**Luwuk**	**3.31**	**126**	*e*Pn	**Pn**	**03 50 51.6**	**+3.0**
LUWI				*e*Sn	**Sn**	**03 51 28.7**	**+1.9**
BKB	**Balikpapan**	**3.89**	**236**	P	Pn	03 51 05.0	+8.5
KMSI	**Cibinong**	**3.89**	**95**	P	Pn	03 51 06.7	+10
TTSI	**Tana Toraja**	**3.97**	**184**	P	Pn	03 51 02.3	+4.6
TSM	**Tawau**	**4.01**	**326**	⇑P	Pn	03 50 54.5	-3.7
SPSI	**Sidrap Palu**	**4.89**	**184**	P	Pn	03 51 14.9	+4.7
352nm,0.8s,5μm2.5nm							
KDI	**Kendari**	**5.48**	**153**	P	**Pn**	**03 51 19.9**	**+1.5**
194nm,1.3s,3μm1.2nm							
SDKM	**Sandakan**	**5.50**	**328**	⇑P	Pn	03 51 15.5	-3.2
KBKI	**Kotabaru**	**5.77**	**223**	P	**Pn**	**03 51 20.2**	**-2.2**
108nm,0.7s,0.6nm							
KAPI	**Kappang**	**5.93**	**183**	Pn	**Pn**	**03 51 27.2**	**+2.6**
974nm,0.9s,SNR=12							
KAPI	**Kappang**	**5.93**	**183**	Pn	**Pn**	**03 51 24.7**	**+0.2**
2.2nm,0.3s,baz=9.7,slow=11,SNR=14							
KAPI				Lg	Lg	03 53 06.5	
0.9nm,0.3s,baz=193,slow=19,SNR=2.1							
KAPI				LR	LR	03 54 05.3	
comp=Z,11μm,21.2s,baz=17,slow=42							
KAPI	**Kappang**	**5.93**	**183**	*e*Pn	**Pn**	**03 51 25.9**	**+1.4**
KAPI				Lg	Lg	03 53 06.5	
SGSI	**Sangihe**	**6.06**	**63**	P	Pn	03 51 35.2	+8.8
BKSI	**Bulukumba**	**6.22**	**180**	P	**Pn**	**03 51 31.4**	**+2.8**
162nm,1.0s,2μm0.8nm							
KKM	**Kota Kinabalu**	**6.38**	**323**	⇓P	**Pn**	**03 51 28.3**	**-2.6**
KKM	**Kota Kinabalu**	**6.38**	**323**	*e*Pn	Pn	03 51 27.6	-3.4
94nm,0.4s							
SANI	**Sanana**	**6.59**	**117**	P	Pn	03 51 38.8	+5.2
102nm,0.9s,1μm1.5nm							
KDM	**Kudat**	**6.77**	**331**	⇓P	**Pn**	**03 51 33.4**	**-2.8**
BSSI	**Bau Bau, Buton**	**7.05**	**177**	P	Pn	03 51 45.1	+5.1
162nm,1.2s,2μm0.6nm0.6nm							
TNTI	**Ternate**	**7.26**	**91**	P	Pn	03 51 46.2	+3.3
153nm,1.1s,0.7nm							
TNTI	**Ternate**	**7.26**	**91**	*e*Pn	**Pn**	**03 51 42.1**	**-0.8**
135nm,0.9s							
BTM	**Bintulu**	**7.37**	**288**	⇑P	**Pn**	**03 51 43.2**	**-1.1**
SBUM	**Sibu**	**8.03**	**281**	⇑P	**Pn**	**03 51 52.8**	**-0.5**
SBUM	**Sibu**	**8.03**	**281**	*e*Pn	**Pn**	**03 51 53.6**	**+0.3**
NLAI	**Namlea**	**8.13**	**121**	P	**Pn**	**03 51 56.5**	**+1.7**
210nm,1.5s,2μm							
DCPH	**Dipolog City**	**8.25**	**23**	⇑*i*P	**Pn**	**03 51 53.9**	**-2.5**
MMRI	**Maumere**	**9.75**	**167**	P	Pn	03 52 30.1	+13
MSAI	**Masohi**	**9.79**	**116**	P	Pn	03 52 32.9	+15
KSM	**Kuching**	**9.81**	**273**	⇓P	**Pn**	**03 52 17.7**	**-0.2**
KSM	**Kuching**	**9.81**	**273**	*e*Pn	**Pn**	**03 52 17.4**	**-0.5**
97nm,1.6s							
RCP	**Roxas**	**10.87**	**14**	⇓*e*P	**Pn**	**03 52 32.6**	**+0.3**
JAGI	**Jajag, Banyuwa**	**11.07**	**212**	*e*Pn	**Pn**	**03 52 36.5**	**+1.3**
78nm,1.3s							
SWI	**Sorong**	**11.29**	**99**	P	**Pn**	**03 52 38.8**	**+0.6**
100nm,1.7s,2μm							
SIJI	**Sorong**	**11.30**	**99**	Pn	**Pn**	**03 52 38.5**	**+0.2**
0.7nm,0.3s,baz=288,slow=11,SNR=5.9							
SIJI				Sn	**Sn**	**03 54 49.0**	**+5.6**
0.6nm,0.3s,baz=287,slow=19,SNR=1.7							
SOEI	**Soe**	**11.41**	**159**	P	**Pn**	**03 52 40.8**	**+1.0**
159nm,1.5s,3μm							
SOEI	**Soe**	**11.41**	**159**	*e*Pn	**Pn**	**03 52 41.6**	**+1.8**
84nm,1.1s							
PWJI	**Pagerwojo**	**12.16**	**223**	P	Pn	03 52 53.4	+3.4
56nm,1.7s							
FAKI	**Fak Fak**	**12.73**	**108**	P	P	03 53 03.9	-4.2
50nm,1.2s,601nm							
FAKI	**Fak Fak**	**12.73**	**108**	*e*Pn	**Pn**	**03 52 58.4**	**+0.6**
46nm,1.0s							
TGY	**Tagaytay City**	**13.10**	**4**	LR	LR	03 58 21.8	
comp=Z,74nm,18.9s,baz=176,slow=39							
KPJI	**Karang Pucung**	**13.85**	**233**	P	**Pn**	**03 53 14.2**	**+1.1**
64nm,1.7s,3μm							
PPBI	**Pangkal Pinang**	**14.30**	**258**	P	P	03 53 38.9	+13
LEM	**Lembang**	**14.66**	**238**	Pn	**Pn**	**03 53 23.6**	**-0.6**
7.7nm,0.3s,baz=139,slow=19,SNR=2.7							
LEM				LR	LR	03 59 47.2	
comp=Z,1μm,18.1s,baz=58,slow=40							
LEM	**Lembang**	**14.66**	**238**	P	**Pn**	**03 53 23.6**	**-0.6**
LEM				pmax	pmax		
comp=Z,8.0nm,0.3s							
LEM				MLR	MLR		
comp=Z,1μm,18.1s							
CISI	**Cisompet, Garu**	**14.89**	**235**	P	**P**	**03 53 30.1**	**-2.0**
comp=Z,93nm,1.8s,comp=Z,3μm							
CISI	**Cisompet, Garu**	**14.89**	**235**	*e*Pn	**Pn**	**03 53 27.8**	**+0.7**
comp=Z,132nm,1.4s							
CNJI	**Cibinong**	**15.32**	**237**	P	**Pn**	**03 53 33.5**	**+0.7**
comp=Z,134nm,1.4s,comp=Z,3μm							
CGJI	**Cibinong**	**16.23**	**242**	P	Pn	03 53 39.3	-5.1
comp=Z,82nm,1.4s,comp=Z,2μm							
MYKOM	**Kota Tinggi**	**16.27**	**273**	⇓P	**Pn**	**03 53 43.9**	**-1.1**
KLSI		**16.35**	**250**	P	**Pn**	**03 53 44.9**	**-1.1**
comp=Z,74nm,1.8s							
SRPI	**Serui, Papua**	**16.37**	**100**	P	**P**	**03 53 51.4**	**+2.8**
MDSI	**Maura Dua**	**16.80**	**251**	P	**Pn**	**03 53 51.7**	**0.0**
comp=Z,35nm,1.6s,comp=Z,2μm							
KASI	**Kota Agung**	**16.86**	**247**	P	**P**	**03 53 56.2**	**+2.2**
comp=Z,42nm,1.6s							
LHSI	**Lahat**	**17.24**	**254**	P	sP	03

JAY Jayapura 20.88 100 P Pn 03 54 41.3 +0.4
CHBT CHBT 21.17 304 P **P** **03 54 40.5 -0.6**
comp=Z,59nm,1.0s,comp=Z,17μm
PSI Prapat 21.25 275 P **P** **03 54 40.5 -1.7**
comp=Z,2.3nm,0.4s,baz=170,slow=6.1,SNR=2.3
PSI LR LR 04 04 19.6
comp=Z,973nm,19.1s,baz=98,slow=41
PSI Prapat 21.25 275 P **P** **03 54 40.5 -1.7**
PSI pmax pmax
comp=Z,2.0nm,0.4s
PSI MLR MLR
comp=Z,973nm,19.1s
PSI Prapat 21.25 275 *e*P **P** **03 54 45.0 +2.8**
comp=Z,46nm,1.1s
PSI *e*Pn **pP** **03 54 52.3 -0.2**
TRTT Trang 21.47 289 P **P** **03 54 47.6 +3.2**
comp=Z,25nm,1.3s
MBWA Marble Bar 21.97 181 *e*P **P** **03 54 49.5 -0.2**
YULB Yu-li 22.35 3 *e*P **P** **03 54 52.4 -1.4**
comp=Z,18nm,0.8s
SKNT Sakolnakorn 22.49 316 P **P** **03 54 53.3 -2.0**
comp=Z,78nm,1.4s,comp=Z,1μm
GSI Gunungsitoli 22.53 271 *e*P **P** **03 54 54.7 -1.1**
SURT Suratani 22.66 291 P pP 03 55 09.4 +1.9
SSLB Suanglung 22.72 2 *e*P **P** **03 54 58.1 +0.3**
comp=Z,148nm,2.0s
PKDT Phuket 22.77 288 P pP 03 55 09.6 +0.9
QZH Quanzhou 23.91 357 ⇓*i*P **P** **03 55 07.6 -1.7**
QZH S **S** **03 59 18.5 -4.4**
QZH PMZ
comp=Z,740nm,3.6s
QZH LN
comp=Z,1μm,13.5s
QZH LE
comp=Z,1μm,17.8s
QZH LZ
comp=Z,2μm,17.5s
PBKT Sadao Pong 24.43 311 P **P** **03 55 13.7 -0.5**
comp=Z,36nm,1.4s,comp=Z,944nm
WRAB Tennant Creek 25.01 147 P **P** **03 55 18.8 -0.7**
comp=Z,803nm,1.3s,SNR=25
WRAB Tennant Creek 25.01 147 *c*i*e*P **P** **03 55 19.0 -0.5**
WRAB pmax pmax
comp=Z,455nm,1.2s
WRAB Tennant Creek 25.01 147 *e*P **P** **03 55 18.8 -0.7**
comp=Z,244nm,1.3s
WRA Warramunga Arr 25.01 147 P **P** **03 55 18.8 -0.7**
comp=Z,105nm,0.9s,baz=329,slow=9.8,SNR=127
WRA PcP **PcP** **03 58 53.6 -0.3**
comp=Z,2.0nm,0.5s,baz=322,slow=2.2,SNR=4.9
WRA Warramunga Arr 25.01 147 P **P** **03 55 18.8 -0.7**
WRA 03 58 53.7
WRA pmax pmax
comp=Z,105nm,0.9s
WRA pmax pmax
comp=Z,2.0nm,0.5s
CMAR Chiang Mai Arr 27.10 311 P **P** **03 55 37.1 -1.3**
comp=Z,1.4nm,0.4s,baz=129,slow=6.9,SNR=8.7
CMAR LR LR 04 07 54.8
comp=Z,1μm,19.2s,baz=132,slow=40
CMAR Chiang Mai Arr 27.10 311 *ce*P **P** **03 55 38.4 0.0**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMMT Chiang Mai 27.32 312 P **P** **03 55 40.4 0.0**
comp=Z,24nm,1.4s
CHTO Chiang Mai 27.32 312 P **P** **03 55 40.4 0.0**
comp=Z,82nm,1.1s
CHTO Chiang Mai 27.32 312 *e*P **P** **03 55 39.7 -0.7**
GUMO Guam 27.54 62 LR LR 04 05 48.9
comp=Z,504nm,20.9s,baz=234,slow=34
AS31 Alice Springs 27.90 152 *e*P **P** **03 55 45.4 -0.1**
ASAR Alice Springs 27.90 152 P **P** **03 55 45.7 +0.2**
comp=Z,21nm,0.4s,baz=337,slow=10,SNR=456
ASAR PcP **PcP** **03 59 00.7 0.0**
comp=Z,3.5nm,0.6s,baz=342,slow=2.6,SNR=7.9
ASAR ScP **ScP** **04 02 39.4 +1.0**
comp=Z,0.9nm,0.7s,baz=346,slow=2.6,SNR=4.8
ASAR LR LR 04 09 20.8
comp=Z,781nm,18.3s,baz=349,slow=42
ASAR Alice Springs 27.90 152 P **P** **03 55 45.7 +0.2**
ASAR 03 59 00.7
ASAR pmax pmax
comp=Z,21nm,0.4s
ASAR pmax pmax
comp=Z,4.0nm,0.6s
ASAR pmax pmax
comp=N,1.0nm,0.7s
ASAR MLR MLR
comp=Z,781nm,18.3s
GYA Guiyang 28.48 334 P **P** **03 55 52.8 +2.0**
GYA pP **pP** **03 56 04.0 +1.9**
GYA sP **sP** **03 56 10.4 +3.3**
GYA PP **PnPn** **03 56 45.2 +3.6**
GYA S **S** **04 00 37.8 +2.1**
GYA sS **sS** **04 00 55.6 +1.0**
GYA SS **SnSn** **04 02 04.3 +7.1**
GYA ScP **ScP** **04 02 40.0 -0.2**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,580nm,16.7s
GYA LE
comp=Z,520nm,17.0s
GYA LZ
comp=Z,590nm,16.8s
PMG Port Moresby 28.84 111 ⇓*i*P **P** **03 55 53.9 0.0**
PMG pmax pmax
comp=Z,103nm,1.0s
PMG Port Moresby 28.84 111 *e*P **P** **03 55 53.6 -0.3**
comp=Z,37nm,0.9s
KMI Kunming 29.32 326 P **P** **03 55 59.1 +0.8**
KMI pP **pP** **03 56 09.2 -0.5**
KMI sP **sP** **03 56 14.3 -0.4**
KMI S **S** **04 00 51.4 +2.3**
KMI PMZ
comp=Z,17nm,1.5s
KMI PMZ
comp=Z,170nm,5.1s
KMI LN
comp=Z,560nm,17.7s
KMI LE
comp=Z,290nm,12.9s
KMI LZ
comp=Z,650nm,16.0s
WHN Wuhan 29.94 350 P **P** **03 56 04.6 +1.1**
WHN S **S** **04 01 02.6 +4.2**
WHN LN
comp=Z,1μm,17.8s
WHN LE
comp=Z,880nm,11.3s
WHN LZ
comp=Z,2μm,16.8s
NJ2 Nanjing 30.96 358 *e*P **P** **03 56 13.1 +0.6**
NJ2 pP **pP** **03 56 24.2 +0.3**
NJ2 sP **sP** **03 56 29.4 +0.5**
NJ2 S **S** **04 01 14.0 -0.4**
NJ2 sS **sS** **04 01 33.0 -0.3**
NJ2 PMZ
comp=Z,20nm,0.8s
NJ2 PMZ
comp=Z,140nm,5.3s
NJ2 LN
comp=Z,240nm,15.8s
NJ2 LE
comp=Z,910nm,12.0s
NJ2 LZ
comp=Z,1μm,11.0s
FORT Forrest 32.44 167 *e*P **P** **03 56 24.7 -0.8**
CTA Charters Tower 33.07 131 P **P** **03 56 31.5 +0.3**
comp=Z,28nm,1.1s,baz=306,slow=11,SNR=10.0
CTA Charters Tower 33.07 131 P **P** **03 56 31.5 +0.3**
CTA pmax pmax
comp=Z,28nm,1.1s
CTAO Charters Tower 33.07 131 *e*P **P** **03 56 31.1 -0.1**
comp=Z,31nm,1.1s
JCJ Chichijima 33.55 37 LR LR 04 07 44.9
comp=Z,317nm,21.6s,baz=214,slow=32
JNU Nakatsue 33.57 16 P **P** **03 56 34.0 -1.4**
comp=Z,8.7nm,0.9s,baz=167,slow=8.7,SNR=3.7
JNU LR LR 04 09 21.6
comp=Z,341nm,21.6s,baz=182,slow=35
CD2 Chengdu 33.59 334 P **P** **03 56 36.0 +0.3**
CD2 pP **pP** **03 56 47.8 +0.7**
CD2 sP **sP** **03 56 53.3 +1.2**
CD2 PP **PP** **03 57 52.8 +0.5**
CD2 S **S** **04 01 56.7 +1.2**
CD2 sS **sS** **04 02 17.0 +2.4**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,170nm,5.2s
CD2 LN
comp=Z,560nm,19.6s
CD2 LE
comp=Z,730nm,16.6s
CD2 LZ
comp=Z,580nm,20.5s
NWAO Narrogin (SRO) 33.80 184 P **P** **03 56 37.9 +0.5**
comp=Z,39nm,0.7s,baz=331,slow=6.9,SNR=32
NWAO Narrogin (SRO) 33.80 184 P **P** **03 56 37.9 +0.5**
NWAO pmax pmax
comp=Z,39nm,0.7s
XAN Xi'an 34.55 343 P **P** **03 56 42.6 -1.4**
XAN sP **sP** **03 57 00.0 -0.4**
XAN PP **PnPn** **03 58 01.5 +1.2**
XAN S **S** **04 02 10.1 -0.1**
XAN sS **sS** **04 02 30.2 +0.9**
XAN SS **SnSn** **04 04 25.8 +1.3**
XAN PMZ
comp=Z,2.0nm,1.5s
XAN PMZ
comp=Z,38nm,4.7s
XAN LN
comp=Z,300nm,16.8s
XAN LE
comp=Z,180nm,18.8s
XAN LZ
comp=Z,160nm,18.8s
BBOO Buckleboo 36.80 157 *e*P **P** **03 57 03.1 -0.1**
comp=Z,108nm,1.7s
KSAR Wonju Array Be 37.02 10 P **P** **03 57 05.2 +0.2**
KSRS Korea Array 37.04 10 P **P** **03 57 05.2 0.0**
comp=Z,3.8nm,1.0s,baz=189,slow=4.7,SNR=15
KSRS LR LR 04 12 16.1
comp=Z,566nm,20.1s,baz=176,slow=36
KSRS Korea Array 37.04 10 P **P** **03 57 05.2 0.0**
KSRS pmax pmax
comp=Z,4.0nm,1.0s
KSRS MLR MLR
comp=Z,566nm,20.1s
TIY Taiyuan 37.27 350 *e*P **P** **03 57 07.4 +0.2**
TIY S **S** **04 02 54.4 +2.6**
TIY PMZ
comp=Z,170nm,6.3s
TIY LN
comp=Z,380nm,17.1s
TIY LE
comp=Z,190nm,13.0s
TIY LZ
comp=Z,380nm,18.7s
LZH Lanzhou 38.09 338 *e*P P 03 57 17.7 +3.4
LZH pP pP 03 57 28.6 +2.8
LZH sP sP 03 57 33.0 +2.2
LZH PP **PnPn** **03 58 49.0 +5.3**
LZH *e*S **S** **04 03 07.4 +2.9**
LZH sS sS 04 03 26.4 +2.7
LZH SS **SnSn** **04 05 47.3 -2.9**
LZH PMZ
comp=Z,20nm,1.0s
LZH PMZ
comp=Z,100nm,4.9s
LZH LN
comp=Z,490nm,14.4s
LZH LE
comp=Z,370nm,13.9s
LZH LZ
comp=Z,550nm,15.2s
STKA Stephens Creek 38.47 150 P **P** **03 57 17.8 +0.4**
comp=Z,60nm,1.0s,baz=325,slow=8.5,SNR=76
STKA LR LR 04 16 26.4
comp=Z,822nm,18.1s,baz=318,slow=41
STKA Stephens Creek 38.47 150 P **P** **03 57 17.8 +0.4**
STKA pmax pmax
comp=Z,60nm,1.0s
STKA MLR MLR
comp=Z,822nm,18.1s
STKA Stephens Creek 38.47 150 *e*P **P** **03 57 17.8 +0.4**
comp=Z,27nm,1.3s
BJI Beijing 39.08 355 P **P** **03 57 23.3 +1.0**
BJI pP **pP** **03 57 34.9 +1.0**
BJI sP **sP** **03 57 40.0 +1.2**
BJI PcP **PcP** **03 59 32.3 +0.7**
BJI S **S** **04 03 19.7 +0.8**
BJI PMZ
comp=Z,14nm,1.2s
BJI LN
comp=Z,620nm,18.2s
BJI LE
comp=Z,220nm,18.9s
BJI LZ
comp=Z,480nm,20.5s
MAJO Matsushiro 39.19 23 ⇑*e*P **P** **03 57 22.1 -1.3**
MAJO pmax pmax
comp=Z,103nm,1.1s
MAJO Matsushiro 39.19 23 *e*P **P** **03 57 21.2 -2.1**
MAT Matsushiro 39.19 23 P **P** **03 57 21.0 -2.4**
MAT S **S** **04 03 19.8 -1.0**
MJAR Matsushiro Arr 39.19 23 P **P** **03 57 21.6 -1.8**
comp=Z,12nm,1.0s,baz=192,slow=10
MJAR LR LR 04 13 24.8
comp=Z,364nm,20.5s,baz=205,slow=36
MJAR Matsushiro Arr 39.19 23 P **P** **03 57 21.6 -1.8**
MJAR pmax pmax
comp=Z,12nm,1.0s
MJAR MLR MLR
comp=Z,364nm,20.5s
LSA Lhasa 39.72 319 *e*P **P** **03 57 28.4 0.0**
comp=Z,22nm,0.8s
PALK Pallekele 39.78 280 LR LR 04 14 57.0
comp=Z,442nm,21.0s,baz=109,slow=38
HHC Hu-ho-hao-te 40.47 350 *e*P **P** **03 57 33.9 -0.1**
HHC pP **pP** **03 57 48.4 +2.7**
HHC sP **sP** **03 57 52.8 +2.2**
HHC PP **PnPn** **03 59 13.5 +1.6**
HHC S **S** **04 03 42.5 +2.5**
HHC PMZ
comp=Z,31nm,0.9s
HHC PMZ
comp=Z,200nm,5.3s
HHC LN
comp=Z,510nm,13.0s
HHC LE
comp=Z,260nm,13.5s
HHC LZ
comp=Z,550nm,13.2s
ODAN Odare 40.64 312 *e*P **P** **03 57 35.4 -0.4**
TAPN Taplejung 40.68 313 *e*P **P** **03 57 36.2 0.0**
comp=Z,22nm,0.6s
SNY Shenyang 40.82 4 ⇑P P 03 57 33.4 -3.3
SNY PP **PP** **03 59 12.0 +0.5**
SNY PMZ
comp=Z,20nm,1.0s
SNY PMZ
comp=Z,210nm,5.5s
SNY LN
comp=Z,340nm,19.8s
SNY LE
comp=Z,240nm,15.7s
SNY LZ
comp=Z,380nm,18.0s
RAMN Ramite 41.27 312 *e*P **P** **03 57 40.8 -0.3**
comp=Z,40nm,0.8s
JIRN Jiri 41.97 312 *e*P **P** **03 57 46.4 -0.5**
comp=Z,24nm,0.5s
GUN Gumba 42.34 312 *e*P **P** **03 57 49.1 -0.7**
PKI Pulchoki 42.50 312 *e*P **P** **03 57 50.8 -0.4**
comp=Z,13nm,0.4s
GTA Gaotai 42.54 337 *e*P **P** **03 57 51.3 +0.3**
GTA pP **pP** **03 58 03.6 +0.9**
GTA sP **sP** **03 58 09.0 +1.4**
GTA PP **PP** **03 59 33.4 +3.1**
GTA S **S** **04 04 11.4 +0.7**
GTA sS **sS** **04 04 33.1 +3.0**
GTA SS **SS** **04 07 18.0 -3.7**
GTA PMZ
comp=Z,20nm,1.4s
GTA PMZ
comp=Z,200nm,5.2s
GTA LN
comp=Z,250nm,17.0s
GTA LE
comp=Z,250nm,16.2s
GTA LZ
comp=Z,270nm,18.0s
KKN Kakani 42.72 312 *e*P **P** **03 57 52.9 +0.1**
DMN Daman 42.75 311 *e*P **P** **03 57 52.6 -0.5**
comp=Z,16nm,0.7s
CN2 Changchun 42.94 6 *e*P **P** **03 57 56.4 +2.4**
CN2 *e*S **S** **04 04 18.5 +2.3**
CN2 LN
comp=Z,460nm,18.0s
CN2 LE
comp=Z,220nm,18.0s
CN2 LZ
comp=Z,560nm,16.0s
ARMA Armidale 43.28 139 *e*P **P** **03 57 59.4 +2.2**
VLA Vladivostok 43.30 13 P **P** **03 57 56.8 -0.1**
VLA pmax pmax
comp=Z,35nm,1.4s
GKN Gorkha 43.31 312 *e*P **P** **03 57 56.9 -0.6**
comp=Z,18nm,0.5s
KOLN Koldanda 43.97 311 *e*P **P** **03 58 02.4 -0.5**
comp=Z,46nm,0.5s
MDJ Mudanjiang 44.30 10 P **P** **03 58 04.6 -0.3**
MDJ pP **pP** **03 58 14.1 -2.6**
MDJ sP **sP** **03 58 20.1 -1.5**
MDJ PcS **PcS** **04 03 42.7 +0.9**
MDJ S **S** **04 04 34.9 -1.1**
MDJ PMZ
comp=Z,39nm,1.4s
MDJ PMZ
comp=Z,99nm,4.6s
MDJ LN
comp=Z,230nm,20.2s
MDJ LE
comp=Z,230nm,18.6s
MDJ LZ
comp=Z,400nm,21.1s
MDJ Mudanjiang 44.30 10 *e*P **P** **03 58 04.6 -0.3**
comp=Z,57nm,1.3s
USRK Ussuriysk Ar. 44.35 12 P **P** **03 58 05.5 +0.2**
comp=Z,2.7nm,0.5s,baz=194,slow=7.3,SNR=15
USRK LR LR 04 17 23.1
comp=Z,155nm,19.9s,baz=145,slow=37
CAN Canberra 45.05 146 *e*P **P** **03 58 12.0 +0.8**
comp=Z,61nm,0.7s
ERM Erimo 45.85 24 P **P** **03 58 16.8 -0.5**
ASAJ Asahikawa 47.41 22 *e*P **P** **03 58 29.6 +0.1**
SONM Songino Array 48.20 348 P **P** **03 58 35.4 -0.3**
comp=Z,2.6nm,0.5s,baz=165,slow=7.7,SNR=28
SONM LR LR 04 20 35.4
comp=Z,373nm,18.7s,baz=134,slow=38
SONM Songino Array 48.20 348 P **P** **03 58 35.4 -0.3**
SONM pmax pmax
comp=Z,3.0nm,0.5s
SONM MLR MLR
comp=Z,373nm,18.7s
HABR Khabarovsk 49.08 13 *e*P **P** **03 58 39.6 -2.7**
HABR *e**PP **pP** **03 58 51.0 -3.1**
HABR *e**SP **sP** **03 58 56.1 -2.9**
HABR *e* 04 00 02.8
HABR 04 00 33.7
HABR *e*PPP PPP 04 01 25.3
HABR *e*S **S** **04 05 41.6 -2.6**
HABR *e**SS **sS** **04 06 01.4 -2.5**
HABR *e* 04 08 28.0
HABR *e*SS **SS** **04 09 14.9 -0.9**
HABR *e*SSS SSS 04 10 32.9
HABR pmax pmax
comp=Z,16nm,2.0s
HABR MLR MLR
comp=Z,283nm,19.0s
KLR Kul'dur 49.13 10 *e*P P 03 58 37.2 -5.5
KLR pmax pmax
comp=Z,50nm,1.6s
DZM Mont Dzumac 50.64 120 P **P** **03 58 55.0 +0.2**
comp=Z,14nm,1.0s,baz=89,slow=24,SNR=5.6
ZAK Zakamensk 51.30 346 *e*P **P** **03 58 57.3 -1.9**
ZAK pmax pmax
comp=Z,7.0nm,1.5s
WMQ Urumqi 51.52 330 P **P** **03 59 01.6 +0.6**
WMQ pP **pP** **03 59 14.1 +1.2**
WMQ sP **sP** **03 59 19.4 +1.6**
WMQ PcP **PcP** **04 00 15.9 +1.2**
WMQ PP **PP** **04 00 59.8 +1.1**
WMQ ScP **ScP** **04 04 06.9 -1.3**
WMQ S **S** **04 06 19.9 +1.3**
WMQ sS **sS** **04 06 37.7 -0.7**
WMQ ScS **ScS** **04 08 44.8 -3.3**
WMQ SS **SS** **04 09 50.5 -4.7**
WMQ PMZ
comp=Z,3.0nm,0.7s
WMQ PMZ
comp=Z,260nm,6.2s
WMQ LN
comp=Z,230nm,17.5s
WMQ LE
comp=Z,220nm,18.6s
WMQ LZ
comp=Z,280nm,21.0s
TLY Talaya 52.43 347 P **P** **03 59 07.3 -0.2**
comp=Z,4.4nm,0.7s,baz=147,slow=8.9,SNR=5.3
TLY Talaya 52.43 347 *d*i*e*P **P** **03 59 07.6 +0.1**
TLY *e*S **S** **04 06 32.7 +2.0**
TLY pmax pmax
comp=Z,21nm,1.5s
TLY Talaya 52.43 347 *e*P **P** **03 59 08.2 +0.7**
MOY Mondy 53.05 345 *e*P **P** **03 59 12.4 +0.2**
MOY pmax pmax
comp=Z,45nm,2.3s
NKL Nikolayevsk 54.77 15 *e*P **P** **03 59 23.0 -1.6**
KSH Kashi 55.57 319 P **P** **03 59 31.1 +0.3**
KSH pP **pP** **03 59 46.6 +3.8**
KSH PcP **PcP** **04 00 33.4 +3.1**
KSH PP **PP** **04 01 36.4 +1.1**
KSH PcS **PcS** **04 04 29.4 -1.2**
KSH S **S** **04 07 12.0 -1.8**
KSH sS sS 04 07 39.3 +5.6
KSH PMZ
comp=Z,16nm,1.4s
KSH PMZ
comp=Z,130nm,4.3s
KSH LN
comp=Z,170nm,8.1s
KSH LE
comp=Z,140nm,5.9s
KSH LZ
comp=Z,160nm,5.0s
MK31 Makanchi Array 56.32 330 P **P** **03 59 35.5 -0.4**
MK31 pmax pmax
comp=Z,15nm,0.8s
MK31 Makanchi Array 56.32 330 *e*P **P** **03 59 35.5 -0.4**
MKAR Makanchi Array 56.32 330 P **P** **03 59 35.8 -0.2**
comp=Z,4.8nm,0.4s,baz=129,slow=9.2,SNR=78
MKAR pP **pP** **03 59 44.7 -3.3**
comp=Z,8.2nm,0.6s,baz=131,slow=7.7,SNR=18
MKAR LR LR 04 25 48.9
comp=Z,200nm,21.2s,baz=114,slow=38
MKAR Makanchi Array 56.32 330 P **P** **03 59 35.8 -0.2**
MKAR *PP **pP** **03 59 44.7 -3.3**
MKAR pmax pmax
comp=Z,5.0nm,0.4s
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MKAR MLR MLR
comp=Z,200nm,21.2s
BOD Bodaibo 56.92 356 *e*P **P** **03 59 39.5 -0.4**
BOD pmax pmax
comp=Z,20nm,1.6s
TKM2 Tokmak 2 57.67 322 *e*P **P** **03 59 45.5 -0.3**
comp=Z,38nm,1.4s
KBL Kabul 58.13 311 *e*P **P** **03 59 48.3 -0.9**
comp=Z,10nm,0.5s
AAK Ala-Archa 58.19 322 *de*P **P** **03 59 49.6 +0.2**
AAK pmax pmax
comp=Z,71nm,2.5s
AAK Ala-Archa 58.19 322 *e*P **P** **03 59 50.0 +0.6**
comp=Z,19nm,1.1s
FRU Bishkek 58.22 322 *e*P **P** **03 59 50.0 +0.5**
FRU *i* 03 59 58.0
EKS2 Erkin-Say 58.65 321 *e*P **P** **03 59 52.0 -0.6**
comp=Z,28nm,1.3s
ZAA0 Zalesovo Array 60.29 337 *e*P **P** **04 00 01.8 -1.6**
ZALV Zalesovo Beam 60.29 337 P **P** **04 00 02.2 -1.2**
comp=Z,3.6nm,0.7s,baz=134,slow=4.3,SNR=26

ZALV pP **pP** **04 00 10.9 -4.6**
comp=Z,8.7nm,0.8s,baz=132,slow=6.2,SNR=14
ZALV LR LR 04 28 08.1
comp=Z,192nm,20.0s,baz=80,slow=38
ZALV Zalesovo Beam 60.29 337 P **P** **04 00 02.3 -1.2**
ZALV *PP **pP** **04 00 11.0 -4.6**
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV pmax pmax
comp=Z,9.0nm,0.8s
ZALV MLR MLR
comp=Z,192nm,20.0s
PETK Petropavlovsk- 60.61 25 P **P** **04 00 05.0 -0.7**
comp=Z,3.3nm,0.9s,baz=214,slow=4.9,SNR=3.0
PETK LR LR 04 25 37.8
comp=Z,121nm,20.4s,baz=225,slow=35
KURBB Kurchatov Arra 60.72 331 P **P** **04 00 06.0 -0.5**
comp=Z,3.8nm,0.5s,baz=122,slow=6.0,SNR=9.6
KURK Kurchatov 60.74 331 P **P** **04 00 06.9 +0.3**
comp=Z,56nm,0.6s,SNR=11
KURK Kurchatov 60.74 331 P **P** **04 00 06.0 -0.6**
KURK pmax pmax
comp=Z,4.0nm,0.5s
KURK Kurchatov 60.74 331 *eP* **P** **04 00 05.6 -1.0**
comp=Z,40nm,0.9s
KK31 Karatay Array 60.94 320 P **P** **04 00 07.8 -0.4**
KK31 pmax pmax
comp=Z,7.0nm,1.0s
KKAR Karatay Array 60.94 320 *eP* **P** **04 00 07.7 -0.4**
comp=Z,1.4nm,0.5s
PET Petropavlovsk 60.96 26 *eP* **P** **04 00 08.2 +0.2**
PET *eS* **S** **04 08 24.3 +1.0**
PET pmax pmax
comp=Z,100nm,13.4s
YAK Yakutsk 61.37 5 *eP* P 04 00 18.0 +7.4
YAK *e* 04 02 34.9
YAK *ePPP* PPP 04 04 03.6
YAK *eS* **S** **04 08 30.9 +2.8**
YAK *e* 04 09 56.1
YAK *eSS* **SS** **04 12 31.2 +1.9**
YAK pmax pmax
comp=Z,30nm,1.4s
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,20nm,0.6s
YAK pmax pmax
comp=N,3.0nm,0.6s
YAK pmax pmax
comp=E,7.0nm,0.8s
YAK smax smax
comp=N,37nm,2.5s
YAK smax smax
comp=E,44nm,2.4s
YAK MLR MLR
comp=Z,256nm,19.0s
YAK MLR MLR
comp=N,177nm,20.0s
YAK MLR MLR
comp=E,119nm,20.0s
NVS Novosibirsk 61.58 337⇓ *iP* **P** **04 00 10.7 -1.5**
NVS pmax pmax
comp=N,8.0nm,1.2s
NVS pmax pmax
comp=Z,20nm,1.2s
NVS pmax pmax
comp=E,12nm,1.3s
IMYA Miami 65.59 310 *eP* **P** **04 00 39.6 +0.2**
PAF Port-aux-Franc 65.87 213 P P 04 00 35.0 -5.5
PAF R 04 20 00.0
IMOG Moghan 66.11 309 *eP* **P** **04 00 42.8 0.0**
BVA0 Borovoye Array 66.20 330 P **P** **04 00 41.7 -1.0**
BVA0 pmax pmax
comp=Z,14nm,1.2s
BVAR Borovoye Array 66.20 330 P **P** **04 00 42.1 -0.6**
comp=Z,1.2nm,0.4s,baz=138,slow=7.1,SNR=9.2
BVAR Borovoye Array 66.20 330 P **P** **04 00 42.1 -0.6**
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BRVK Borovoye 66.27 330*d iP* **P** **04 00 43.0 -0.1**
BRVK pmax pmax
comp=Z,23nm,2.5s
BRVK Borovoye 66.27 330 *eP* **P** **04 00 41.8 -1.4**
comp=Z,12nm,0.8s
SEY Seymchan 66.34 15 P **P** **04 00 43.5 +0.1**
comp=Z,0.8nm,0.5s,baz=204,slow=10,SNR=2.9
SEY Seymchan 66.34 15⇑ *iP* **P** **04 00 44.1 +0.7**
IAKL Akhelmad 66.70 310 *eP* **P** **04 00 47.1 +0.4**
IKRD Kardeh 66.94 310 *eP* P 04 00 43.3 -4.8
ISFR Sfrayin 67.42 310 *eP* **P** **04 00 49.6 -1.5**
DRV Dumont d'Urvil 68.93 172 P P 04 00 52.0 -7.6
DRV PP **PP** **04 03 31.0 -1.2**
ISAD Sadrabad 69.59 304 *eP* **P** **04 01 03.7 -1.1**
IPAR Pars 69.71 301 *eP* **P** **04 01 05.9 +0.3**
AB31 Akbulak array 70.23 323 P **P** **04 01 07.9 -0.1**
AB31 pmax pmax
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 70.23 323 *eP* **P** **04 01 08.3 +0.3**
comp=Z,9.6nm,0.9s
IKAZ Kazeroun 70.73 301 *eP* **P** **04 01 11.2 -0.7**
TIXI Tiksi 70.82 3⇑ *iP* **P** **04 01 10.2 -0.9**
TIXI pmax pmax
comp=Z,17nm,2.5s
TIXI Tiksi 70.82 3 *eP* **P** **04 01 09.9 -1.3**
comp=Z,14nm,1.1s
AKTO Aktyubinsk 71.83 324 P **P** **04 01 17.8 +0.1**
comp=Z,1.5nm,0.4s,baz=104,slow=6.5,SNR=13
AKTO Aktyubinsk 71.83 324 P **P** **04 01 17.8 +0.1**
AKTO pmax pmax
comp=Z,2.0nm,0.4s
SVE Sverdlovsk 72.97 330⇓ *iP* **P** **04 01 24.2 -0.1**
SVE pmax pmax
comp=Z,33nm,1.4s
ARU Arti 73.84 329*d iP* **P** **04 01 28.3 -1.2**
ARU *PP **pP** **04 01 38.6 -3.3**
ARU 04 04 12.4
ARU S **S** **04 10 57.7 -0.3**
ARU SS **SS** **04 15 36.7 -5.9**
ARU pmax pmax
comp=Z,17nm,1.7s
ARU Arti 73.84 329 *eP* **P** **04 01 28.4 -1.1**
comp=Z,2.6nm,0.6s
BILL Bilibino 74.00 16⇓ *eP* **P** **04 01 29.2 -1.0**
BILL *e* 04 01 45.1
BILL *e* 04 04 12.6
BILL pmax pmax
comp=Z,4.0nm,1.5s
BILL MLR MLR
comp=Z,140nm,19.0s
RAYN Ar Rayn 75.51 294 *eP* **P** **04 01 39.0 -1.0**
comp=Z,9.0nm,1.0s
MAK Makhachkala 76.67 314 *eP* **P** **04 01 47.1 +1.1**
MAK *e* 04 04 37.4
MAK *eS* **S** **04 11 31.7 +1.9**
MAK *eSS* **SS** **04 16 31.6 +5.6**
MAK pmax pmax
comp=Z,14nm,0.3s
GNI Garni 78.22 311 P **P** **04 01 55.4 +0.4**
comp=Z,2.9nm,0.3s,baz=146,slow=3.6,SNR=2.4
GNI Garni 78.22 311 P **P** **04 01 55.4 +0.4**
GNI pmax pmax
comp=Z,3.0nm,0.3s
MAW Mawson 78.92 199 P **P** **04 01 58.2 +0.2**
comp=Z,3.2nm,0.7s,baz=38,slow=8.0,SNR=5.8
MAW Mawson 78.92 199 P **P** **04 01 58.2 +0.2**
MAW pmax pmax
comp=Z,3.0nm,0.7s
ZEI Tsey 79.25 313 *eP* **P** **04 01 59.5 -1.1**
ZEI pmax pmax
comp=Z,37nm,1.4s
KBZ Khabaz 80.11 314 P **P** **04 02 05.2 +0.2**
comp=Z,1.5nm,0.8s,baz=146,slow=3.6,SNR=4.2
KBZ Khabaz 80.11 314 P **P** **04 02 05.2 +0.2**
KBZ pmax pmax
comp=Z,2.0nm,0.8s
GOF Gofitskoye 80.20 315 *eP* **P** **04 02 05.4 -0.1**
GOF pmax pmax
comp=Z,10.0nm,0.7s
KIV Kislovodsk 80.30 314⇑ *eP* **P** **04 02 05.6 -0.6**
KIV *e* 04 02 15.2
KIV *e* 04 05 04.4
KIV *iS* **S** **04 12 07.4 -1.5**
KIV pmax pmax
comp=Z,10.0nm,1.7s
VNDA Vanda 81.58 172 P **P** **04 02 12.0 -0.2**
comp=Z,3.8nm,1.0s,baz=313,slow=5.0,SNR=16
VNDA Vanda 81.58 172 P **P** **04 02 12.0 -0.2**
VNDA pmax pmax
comp=Z,4.0nm,1.0s
PRGR Permogore 81.83 332 *eP* P 04 02 20.6 +6.8
PRGR pmax pmax
comp=Z,17nm,0.9s
KMBO Kilima Mbogo 82.88 269 P **P** **04 02 20.2 -0.4**
comp=Z,1.1nm,0.6s,baz=61,slow=17,SNR=3.3
KMBO Kilima Mbogo 82.88 269 P **P** **04 02 20.2 -0.4**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
VORD Divnogorie 83.48 321 *eP* **P** **04 02 24.6 +2.0**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,20nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 83.59 321 *eP* **P** **04 02 22.1 -1.0**
VSR pmax pmax
comp=N,3.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
ASF Jabal al Asfar 83.75 302 P **P** **04 02 25.5 +1.0**
comp=Z,1.8nm,0.5s,baz=27,slow=4.3,SNR=4.9
ASF Jabal al Asfar 83.75 302 P **P** **04 02 25.5 +1.0**
ASF pmax pmax
comp=Z,2.0nm,0.5s
LPSR Galich'ya Gora 83.89 323 *eP* **P** **04 02 25.1 +0.5**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR pmax pmax
comp=N,6.0nm,0.9s
LPSR pmax pmax
comp=E,10.0nm,1.0s
EIL Elat 85.32 300 P **P** **04 02 32.5 0.0**
comp=E,3.7nm,1.1s,baz=22,slow=19,SNR=1.7
OBN Obninsk 85.53 325 P **P** **04 02 34.2 +1.4**
comp=E,8.5nm,0.4s,baz=203,slow=20,SNR=2.2
OBN Obninsk 85.53 325⇑ *eP* **P** **04 02 32.4 -0.4**
OBN *e* 04 05 47.7
OBN *eS* **SKSac** **04 12 49.9 -4.8**
OBN pmax pmax
comp=Z,26nm,1.4s
OBN MLR MLR
comp=Z,156nm,20.0s
TMCR Tamitsa 85.69 334 *eP* P 04 02 39.3 +5.8
TMCR pmax pmax
comp=Z,30nm,1.2s
BR131 Keskin Array S 86.68 310 *eP* **P** **04 02 38.2 -1.0**
comp=Z,6.0nm,0.8s
BRTR Keskin Array B 86.68 310 P **P** **04 02 38.1 -1.0**
comp=Z,1.7nm,0.8s,baz=127,slow=5.2,SNR=9.1
BRTR pP **pP** **04 02 48.3 -3.5**
comp=Z,5.6nm,0.8s,baz=125,slow=6.1,SNR=14
SYO Syowa Base 87.47 201⇑ *eP* **P** **04 02 41.0 -1.1**
SYO Syowa Base 87.47 201⇓ *ePcP* **PcP** **04 02 45.6 +1.6**
AKASG Malin Array Be 89.84 321 P **P** **04 02 52.2 -1.5**
comp=Z,0.2nm,0.2s,baz=78,slow=4.4,SNR=6.2
ILAR Eielson Array 90.44 25 P **P** **04 02 54.6 -1.6**
comp=Z,0.2nm,0.6s,baz=303,slow=5.0,SNR=3.5
ARCES ARCESS Array B 90.74 339 P **P** **04 02 57.8 +0.3**
comp=Z,4.4nm,1.0s,baz=92,slow=7.3,SNR=8.3
ARCES pP **pP** **04 03 07.5 -2.7**
comp=Z,2.2nm,0.7s,baz=102,slow=5.6,SNR=2.8
ARCES ARCESS Array B 90.74 339 P **P** **04 02 57.8 +0.3**
ARCES *PP **pP** **04 03 07.5 -2.7**
ARCES pmax pmax
comp=Z,4.0nm,1.0s
ARCES pmax pmax
comp=Z,2.0nm,0.7s
BUR08 Bucovina Ar. S 92.62 318 *eP* **P** **04 03 06.6 -0.3**
KOLS Kolonicke sedl 94.45 319 *eP* **P** **04 03 14.8 -0.3**
KOLS pmax pmax
comp=Z,8.0nm,1.8s
KOLS Kolonicke sedl 94.45 319 *eP* **P** **04 03 14.8 -0.3**
STHS Stebnicka Huta 95.06 320 *eP* **P** **04 03 17.3 -0.6**
STHS pmax pmax
comp=Z,1.0nm,0.8s
STHS Stebnicka Huta 95.06 320 *eP* **P** **04 03 17.3 -0.6**
STHS *epP* **pP** **04 03 28.6 -2.0**
STHS *esP* **sP** **04 03 32.4 -2.9**
KECS Kecovo 95.68 319 *eP* **P** **04 03 18.4 -2.3**
KECS pmax pmax
comp=Z,3.0nm,1.2s
KECS Kecovo 95.68 319 *eP* **P** **04 03 18.4 -2.3**
KECS *epP* **pP** **04 03 31.5 -1.9**
DPC Dobruska-Polom 98.05 321 *ePS* PS 04 16 22.5 -1.8
DPC AMS AMS 04 53 10.0
comp=Z,300nm,21.0s
NOA NORSAR Array B 98.24 332 LR LR 04 53 34.9
comp=Z,98nm,19.3s,baz=75,slow=39
TREC Trest 98.79 320 AMS AMS 04 53 20.0
comp=Z,400nm,22.2s
GOPC GO Pecny, Ondr 99.11 321 AMS AMS 04 54 40.0
comp=Z,300nm,19.2s
PRU Pruhonice 99.25 321 *ePS* PS 04 16 40.1 +3.0
PRU AMS AMS 04 49 20.0
comp=Z,300nm,23.0s
GERES GERESS Array B 100.04 320 LR LR 04 52 49.7
comp=Z,169nm,21.1s,baz=215,slow=38
KHC Kasperske Hory 100.05 320 *eSP* SP 04 16 36.6 -3.5
KHC AMS AMS 04 50 50.0
comp=Z,400nm,25.2s
NKC Novy Kostel 100.50 322 AMS AMS 04 54 10.0
comp=Z,200nm,19.9s
TORD Torodi Ar. Bea 117.37 285 PKKPbc PKKPbc 04 19 07.0 +2.6
comp=Z,2.0nm,1.1s,baz=263,slow=4.0,SNR=5.6
O20A White River Ci 119.93 41 *ePKPdf* **PKPdf** **04 08 45.8 -0.1**
TXAR Lajitas Array 128.50 51 PKP **PKPdf** **04 09 02.4 -0.1**
comp=Z,0.4nm,0.9s,baz=304,slow=1.8,SNR=2.9
TKL Tuckaleechee C 137.31 29 PKP **PKPdf** **04 09 19.1 +0.3**
comp=Z,2.2nm,0.9s,baz=87,slow=18,SNR=2.7
TKL Tuckaleechee C 137.31 29 PKIKP **PKPdf** **04 09 19.1 +0.3**
TKL pmax pmax
comp=Z,2.0nm,0.9s
LCO Las Campanas 150.24 161 *ePKPbc* **PKPbc** **04 09 47.1 +0.2**
LPAZ La Paz 162.72 152 PKP **PKPdf** **04 09 59.4 +0.7**
comp=Z,1.4nm,0.8s,baz=240,slow=3.9,SNR=5.7
LPAZ La Paz 162.72 152 PKIKP **PKPdf** **04 09 59.4 +0.7**
LPAZ pmax pmax
comp=Z,1.0nm,0.8s

IDC ***12*** *03:51:49.3±0.4,28.37°S×71.07°W,h0km,mb4.9/18, mb1 4.9/22,mb1mx4.9/27,mbtmp4.8/22,ML4.4/3,MS4.8/16, Ms1 4.8/16,ms1mx4.6/20,Error ellipse: s-maj=17.0km s-min=12.1km az=87.0*

GUC ***12*** *03:51:53.5±0.6,28.39°S×71.35°W,h34km±4km,ML4.7*

GCMT ***12*** *03:51:53.0±0.2,28.43°S×71.59°W,h45km±1km,MW5.2/95, Moment Tensor Solution. s76,c106; s95,c141; Duration: 1ś0 Moment tensor: Scale 10¹⁶Nm; Mrr3.84±.20; Mθθ-1.95±.15; Mφφ-1.89±.19; Mrθ-4.23±.13; Mθφ-3.71±.14; Mφr4.70±.18; Best double couple: M₀7.43500×10¹⁶ NP1₍φs10.00000°,δ61.00000°, λ43.00000°. NP2₍φs256.00000°,δ54.00000°,λ143.00000°. Principal axes: T 9.2170, Plg50.0000°, Azm227.0000°; N -3.5640, Plg40.0000°, Azm38.0000°; P -5.6530, Plg4.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***12*** *03:51:53.0,28.38S×71.35W,h34km,mb5.1/111, ML4.7(GUC),After GUC.*

NEIC Felt [IV] at Copiapo, La Higuera and Vallenar; [III] at Alto del Carmen, Caldera, Coquimbo and La Serena; [II] at Andacollo, Chanaral and Diego de Almagro.

ISCJB ***12*** *03:51:54.4±0.6,28.2°S±0.03×70.96°W±0.05,h40km±5km, mb5.1/132,MS4.8/13,Error ellipse: s-maj=7.6km s-min=4.8km az=169.1*

BJI ***12*** *03:51:56.0,28.40S×71.30W,h34km,mB5.1/12,Ms5.2/10, Ms7 5.0/9*

ISC 12 03:51:54.5±0.7,28.35S±0.03×71.11W±0.05,h34km±2km, n608,ₛ19ₚ20/631,mb5.1/132,MS4.9/13,188C-186D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.38**	**126**	⇓ *iP*	**Pn**	**03 52 05.0**	**+1.2**
VACH				*i* S	**Sn**	**03 52 12.8**	**+3.1**
LCO	**Las Campanas**	**0.75**	**152**	*e*Pn	**Pb**	**03 52 10.0**	**+0.6**
LCO				*e*Sn	**Sb**	**03 52 21.0**	**+1.4**
CPCH	**Copiapo**	**1.19**	**34**⇓	*iP*	**Pb**	**03 52 17.3**	**+0.7**
CPCH				*i* S	**Sb**	**03 52 34.6**	**+2.8**
CDCH	**Caldera**	**1.30**	**11**	*e*P	**Pn**	**03 52 16.3**	**-0.1**
CDCH				*e*S	**Sb**	**03 52 34.5**	**-0.3**
LSCH	**La Serena**	**1.56**	**184**⇑	*i*P	**Pn**	**03 52 19.2**	**-0.7**
LSCH				*i* S	**Sn**	**03 52 39.2**	**+0.3**
LSCH				AML	AML	03 52 45.7	
comp=N,18μm,0.3s							
TLL	**Tololo Astrono**	**1.83**	**172**⇑	*i*P	**Pn**	**03 52 24.4**	**+0.5**
TLL				*i* S	**Sb**	**03 52 48.5**	**-1.8**
CFAA	**Coronel Fontan**	**4.09**	**143**	Pn	Pn	03 52 58.4	+3.6
comp=N,18nm,0.3s,baz=318,slow=3.7,SNR=761							
CFAA				Lg	Lg	03 53 56.9	
comp=N,63nm,0.3s,baz=61,slow=20,SNR=8.6							
CFAA				LR	LR	03 54 53.3	
comp=N,922nm,20.9s,baz=310,slow=45							
LVC	**Limon Verde**	**6.05**	**20**	Pn	**Pn**	**03 53 21.0**	**-0.9**
comp=N,445nm,0.3s,baz=180,slow=7.8,SNR=206							
LVC				Sn	**Sn**	**03 54 30.9**	**+0.9**
comp=N,3μm,0.3s,baz=189,slow=17,SNR=2.5							
LVC				LR	LR	03 55 45.5	
comp=N,50μm,19.4s,baz=207,slow=39							
LPAZ	**La Paz**	**12.31**	**14**	Pn	**Pn**	**03 54 46.4**	**-1.7**
comp=N,1.0nm,0.3s,baz=201,slow=6.5,SNR=36							
LPAZ				LR	LR	03 59 56.5	
comp=N,4μm,20.2s,baz=182,slow=40							
LPAZ	**La Paz**	**12.31**	**14**	*e*Pn	**Pn**	**03 54 45.8**	**-2.4**
comp=N,50nm,0.7s							
PLCA	**Paso Flores**	**12.36**	**178**	Pn	**Pn**	**03 54 46.1**	**-2.1**
comp=N,0.6nm,0.3s,baz=340,slow=12,SNR=14							
PLCA				LR	LR	04 00 01.2	
comp=N,6μm,19.4s,baz=358,slow=40							
PLCA	**Paso Flores**	**12.36**	**178**	*e*Pn	**Pn**	**03 54 47.0**	**-1.2**
comp=N,44nm,1.0s							
CPUP	**Villa Florida**	**12.41**	**84**	*e*Pn	**Pn**	**03 54 48.0**	**-0.8**
comp=N,0.2nm,1.1s							
SIV	**San Ignacio**	**15.40**	**39**	Pn	Pn	03 55 24.4	-5.1
comp=N,2.2nm,0.3s,baz=251,slow=12,SNR=32							
NNA	**Nana**	**17.14**	**341**	P	**P**	**03 55 52.4**	**-0.6**
comp=N,0.4nm,0.3s,baz=182,slow=17,SNR=3.3							
NNA				LR	LR	04 01 10.3	
comp=N,1μm,20.3s,baz=161,slow=33							
NNA	**Nana**	**17.14**	**341**	*e*Pn	**Pn**	**03 55 49.2**	**-2.4**
comp=N,82nm,1.5s							
SAML	**Samuel**	**20.69**	**23**	*e*P	**P**	**03 56 32.2**	**+0.3**
comp=N,32nm,1.0s							
ATAH	**Atahualpa**	**22.20**	**341**	P	**P**	**03 56 50.1**	**+1.6**
comp=N,21nm,0.8s,baz=179,slow=14,SNR=11							
ATAH				LR	LR	04 03 58.3	
comp=N,719nm,19.2s,baz=218,slow=33							
BDFB	**Brasilia**	**24.81**	**64**	P	**P**	**03 57 13.8**	**-0.1**
comp=N,32nm,0.9s,baz=229,slow=11,SNR=26							
BDFB				LR	LR	04 08 15.2	
comp=N,3μm,18.5s,baz=237,slow=40							
EFI	**East Falkland**	**25.27**	**161**	P	**P**	**03 57 18.9**	**+1.4**
comp=N,484nm,0.9s,SNR=6.1							
USHA	**Ushuaia**	**26.53**	**177**	P	**P**	**03 57 28.5**	**-0.4**
comp=N,32nm,0.8s,baz=344,slow=6.6,SNR=26							
USHA				LR	LR	04 08 50.0	
comp=N,3μm,19.1s,baz=344,slow=38							
OTAV	**Otavalo**	**29.28**	**345**	*e*P	**P**	**03 57 56.2**	**+1.9**
comp=N,17nm,1.1s							
PTGA	**Pitinga**	**29.46**	**23**	P	**P**	**03 57 55.0**	**-0.4**
comp=N,14nm,0.8s,baz=202,slow=9.5,SNR=30							
PTGA				LR	LR	04 10 38.5	
comp=N,3μm,19.7s,baz=197,slow=38							
ROSC	**El Rosal**	**33.16**	**354**	P	**P**	**03 58 28.4**	**0.0**
comp=N,6.7nm,0.4s,baz=158,slow=3.1,SNR=9.1							
ROSC				LR	LR	04 13 36.9	
comp=N,323nm,18.5s,baz=190,slow=39							
ROSC	**El Rosal**	**33.16**	**354**	*e*P	**P**	**03 58 30.3**	**+1.9**
SDV	**Santo Domingo**	**37.02**	**1**	*e*P	**P**	**03 59 00.4**	**-1.0**
comp=N,25nm,0.9s							
BCIP	**Isla Barro Col**	**38.24**	**346**	*e*P	**P**	**03 59 11.0**	**-0.5**
RCBR	**Riachuelo**	**40.17**	**63**	*e*P	**P**	**03 59 26.8**	**-1.0**
comp=N,75nm,1.2s							
JTS	**JuntasAbangare**	**40.68**	**339**	*e*P	**P**	**03 59 33.4**	**+1.4**
comp=N,21nm,1.2s							
CRPR	**Cabo Rojo, PR**	**46.24**	**5**	*e*P	**P**	**04 00 15.4**	**-1.3**
comp=N,37nm,0.8s							
OBIP	**Obispado Ponce**	**46.32**	**6**	*e*P	**P**	**04 00 15.8**	**-1.4**
comp=N,79nm,0.9s							
SJG	**San Juan**	**46.44**	**7**	*e*P	**P**	**04 00 16.5**	**-1.6**
comp=N,39nm,0.8s							
SMN1	**Samana, DR**	**47.29**	**2**	*e*P	**P**	**04 00 23.7**	**-1.2**
TEIG	**Tepich**	**51.06**	**339**	*e*P	**P**	**04 00 53.9**	**+0.2**
comp=N,57nm,0.9s							
VNA1	**Neumayer--Stat**	**54.59**	**159**	P	**P**	**04 01 19.6**	**+0.4**
SNAA	**Sanae**	**56.54**	**159**	P	P	04 01 24.2	-9.1
SNAA	**Sanae**	**56.54**	**159**	*e*P	P	04 01 24.2	-9.1
comp=N,35nm,0.9s							
RKT	**Rikitea**	**57.19**	**260**	*e*P	**P**	**04 01 40.1**	**+1.6**
comp=N,98nm,1.5s							
RKT				*eS*	**S**	**04 09 34.3**	**+2.2**
comp=N,196nm,27.8s							
RKT				*e*LQ	LQ	04 16 04.1	
comp=N,336nm,36.2s							
RKT				*e*LR	LR	04 18 22.6	
comp=N,770nm,22.5s,baz=109							
RKT	**Rikitea**	**57.19**	**260**	*eT*	T	05 02 55.3	
comp=N,13nm,0.2s							
035Z	**Hargill**	**60.34**	**332**	⇓P	**P**	**04 02 01.7**	**+1.6**
baz=61							
TIGA	**Tifton**	**60.63**	**348**	⇓P	**P**	**04 02 02.2**	**+0.1**
baz=61							
TIGA	**Tifton**	**60.63**	**348**	*e*P	**P**	**04 02 00.8**	**-1.2**
comp=N,27nm,0.8s							
035A	**Encino**	**60.77**	**332**	⇑P	**P**	**04 02 04.4**	**+1.3**
baz=61							
BRAL	**Brewton**	**60.96**	**344**	*e*P	**P**	**04 02 04.3**	**0.0**
comp=N,58nm,1.1s							
034A	**Hebbronville**	**61.12**	**332**	⇑P	**P**	**04 02 07.2**	**+1.7**
baz=61,SNR=7.6							
934A	**Benavides**	**61.53**	**332**	⇓P	**P**	**04 02 10.0**	**+1.7**
baz=62							
NHSC	**New Hope**	**61.72**	**351**	*e*P	**P**	**04 02 09.5**	**+0.1**
comp=N,128nm,1.4s							
933A	**Laredo**	**61.85**	**332**	⇑P	**P**	**04 02 11.9**	**+1.5**
baz=62,SNR=10							
835A	**Beeville**	**61.86**	**333**	⇓P	**P**	**04 02 12.1**	**+1.7**
baz=62							
QSPA	**South Pole Qui**	**61.87**	**180**	*e*P	**P**	**04 02 09.8**	**-0.5**
comp=N,29nm,0.8s							
834A	**Tilden**	**62.01**	**333**	⇑P	**P**	**04 02 13.0**	**+1.6**
baz=62							
736A	**Circle Diamond**	**62.16**	**334**	⇓P	**P**	**04 02 14.0**	**+1.5**
baz=62,SNR=7.6							
637A	**Eagle Lake**	**62.32**	**335**	⇓P	**P**	**04 02 15.8**	**+2.3**
baz=63							
539A	**Cross D Ranch,**	**62.35**	**337**	⇓P	**P**	**04 02 15.9**	**+2.2**
baz=63							
833A	**Chaparral WMA,**	**62.53**	**332**	⇑P	**P**	**04 02 16.3**	**+1.4**
baz=63,SNR=18							
HKT	**Hockley**	**62.60**	**336**	*e*P	**P**	**04 02 16.5**	**+1.2**
comp=N,19nm,1.1s							
636A	**Smothers Creek**	**62.63**	**335**	⇓P	**P**	**04 02 17.2**	**+1.6**
baz=63,SNR=8.6							
734A	**La Parita Cree**	**62.65**	**333**	⇑P	**P**	**04 02 16.9**	**+1.2**
baz=63,SNR=8.9							
440A	**Kirbyville**	**62.68**	**338**	⇓P	**P**	**04 02 17.6**	**+1.7**
baz=63							
538A	**Harpers Horsep**	**62.72**	**336**	⇓P	**P**	**04 02 17.7**	**+1.5**
baz=63							
832A	**Faith Ranch, C**	**62.74**	**331**	⇑P	**P**	**04 02 17.4**	**+1.0**
baz=63,SNR=45							
635A	**Leesville**	**62.82**	**334**	⇓P	**P**	**04 02 17.2**	**+0.4**
baz=63,SNR=6.4							
733A	**Divot King Ran**	**62.83**	**332**	⇓P	**P**	**04 02 18.0**	**+1.1**
baz=63,SNR=8.3							
LRAL	**Lakeview Retre**	**62.88**	**345**	*e*P	**P**	**04 02 16.2**	**-1.0**
comp=N,8.8nm,1.0s							
537A	**Green Hill Far**	**62.89**	**335**	⇓P	**P**	**04 02 18.6**	**+1.3**
baz=63							
439A	**Center Grove,**	**62.99**	**337**	⇓P	**P**	**04 02 19.7**	**+1.8**
baz=63,SNR=5.3							
JSC	**Jenkinsville**	**63.03**	**351**	*e*P	**P**	**04 02 18.0**	**-0.1**
comp=N,14nm,1.0s							
634A	**China Grove, S**	**63.04**	**333**	⇓P	**P**	**04 02 19.9**	**+1.6**
baz=63							
732A	**Laxson Ranch,**	**63.12**	**332**	⇓P	**P**	**04 02 20.0**	**+1.1**
baz=63,SNR=28							
536A	**Bastrop**	**63.16**	**335**	⇓P	**P**	**04 02 20.4**	**+1.2**
baz=63							
340A	**Bronson**	**63.27**	**338**	⇑P	**P**	**04 02 21.2**	**+1.4**
baz=64							

535A	Dale baz=64	63.31 334	⇑P	P	04 02 21.2	+1.1
339A	Huntington baz=64	63.42 338	⇓P	P	04 02 21.8	+1.0
633A	Saathoff Ranch baz=64,SNR=16	63.44 333	⇑P	P	04 02 22.3	+1.3
CNNC	Cliffs of the comp=N,23nm,0.9s	63.57 354	*eP*	P	04 02 22.6	+0.9
534A	Blanco baz=64	63.66 334	⇑P	P	04 02 23.2	+0.7
436A	Wall Ranch, Ga baz=64	63.69 335	⇑P	P	04 02 24.2	+1.6
338A	Crockett baz=64	63.69 337	⇓P	P	04 02 24.1	+1.5
632A	Uvalde baz=64,SNR=25	63.73 332	⇓P	P	04 02 23.8	+0.9
NATX	Nacogdoches baz=64	63.84 338	⇑P	P	04 02 25.0	+1.4
NATX	Nacogdoches comp=N,27nm,0.9s	63.84 338	*eP*	P	04 02 24.5	+0.9
337A	Centerville baz=64	63.86 336	⇓P	P	04 02 25.5	+1.8
KMSC	Kings Mountain baz=64	63.88 351	⇑P	P	04 02 24.2	+0.4
KMSC	Kings Mountain comp=N,13nm,0.9s	63.88 351	*eP*	P	04 02 23.5	-0.3
533A	Kerrville baz=64,SNR=11	63.92 333	⇓P	P	04 02 25.4	+1.2
631A	Perdido Creek baz=64,SNR=20	63.98 331	⇑P	P	04 02 25.5	+0.9
435B	Jarrell baz=64	63.99 335	⇑P	P	04 02 26.1	+1.5
239A	Gary baz=64	64.02 338	⇑P	P	04 02 26.2	+1.5
238A	Jacksonville baz=64	64.22 337	⇑P	P	04 02 27.7	+1.7
336A	Riesel baz=64,SNR=7.2	64.27 336	⇓P	P	04 02 27.5	+1.1
434A	Burnet baz=64,SNR=10.0	64.28 334	⇑P	P	04 02 27.2	+0.7
532A	Rocksprings baz=64,SNR=29	64.32 332	⇑P	P	04 02 28.0	+1.1
335A	Moody baz=65,SNR=7.3	64.38 335	⇑P	P	04 02 28.0	+0.9
237A	Washetta, Mont baz=65	64.45 337	⇑P	P	04 02 29.1	+1.5
433A	Art baz=65,SNR=24	64.55 333	⇑P	P	04 02 29.2	+0.9
JCT	Junction City baz=65,SNR=15	64.59 333	⇑P	P	04 02 29.5	+0.9
JCT	Junction City comp=N,31nm,0.8s	64.59 333	*eP*	P	04 02 28.8	+0.2
531A	Rocksprings baz=65	64.62 332	⇑P	P	04 02 30.1	+1.3
236A	Katherine and baz=65	64.71 336	⇓P	P	04 02 30.1	+0.9
CPCT	Cooper Cave	64.71 348	*eP*	P	04 02 28.2	-0.9
334A	Lometa baz=65,SNR=18	64.73 334	⇑P	P	04 02 30.2	+0.7
TKL	Tuckaleechee C comp=N,16nm,0.9s,baz=150,slow=20,SNR=16	64.78 349	P	P	04 02 28.5	-1.1
TKL	Tuckaleechee C	64.78 349	*eP*	P	04 02 28.4	-1.3
138A	Matatall Enter baz=65	64.81 338	⇓P	P	04 02 31.3	+1.4
OXF	Oxford comp=N,55nm,1.0s	64.87 343	*eP*	P	04 02 29.6	-0.7
432A	Menard baz=65,SNR=32	64.94 333	⇑P	P	04 02 31.7	+0.9
530A	J-C Ranch, Com baz=65	64.94 331	⇑P	P	04 02 32.3	+1.4
137A	Heron Place, G baz=65	64.98 337	⇑P	P	04 02 32.4	+1.4
333A	Richland Sprin baz=65,SNR=28	65.01 334	⇑P	P	04 02 31.9	+0.6
WHTX	Lake Whitney, baz=65	65.03 335	⇓P	P	04 02 32.8	+1.4
Z39A	Irene McRaven, baz=65	65.05 339	⇓P	P	04 02 33.1	+1.7
431A	Sonora baz=65,SNR=22	65.10 332	⇓P	P	04 02 32.7	+0.8
TXAR	Lajitas Array comp=N,16nm,0.9s,baz=151,slow=8.2,SNR=96	65.26 329	P	P	04 02 33.2	+0.1
234A	Clairette baz=66,SNR=22	65.30 335	⇑P	P	04 02 34.2	+1.0
529A	Stev Forest Ra baz=66,SNR=57	65.30 330	⇓P	P	04 02 34.3	+1.1
Z38A	Mt. Pleasant baz=66	65.32 338	⇓P	P	04 02 34.3	+1.2
332A	Millersview baz=66,SNR=20	65.36 333	⇑P	P	04 02 34.5	+0.9
430A	Baggett Ranch, baz=66,SNR=29	65.45 332	⇑P	P	04 02 35.0	+0.8
135A	Vickery Place, baz=66	65.53 336	⇓P	P	04 02 35.3	+0.7
331A	San Angelo baz=66,SNR=10	65.57 333	⇓P	P	04 02 35.8	+0.8
429A	Davenport Ranc baz=66,SNR=34	65.59 331	⇑P	P	04 02 35.7	+0.6
233A	Rising Star baz=66,SNR=21	65.60 334	⇑P	P	04 02 35.9	+0.8
232A	Coleman baz=66,SNR=19	65.77 334	⇑P	P	04 02 36.9	+0.7
134A	White-Moore Ra baz=66	65.78 335	⇓P	P	04 02 37.0	+0.7
BLA	Blacksburg comp=N,102nm,2.5s	65.80 352	*eP*	P	04 02 36.7	+0.4
UALR	University of comp=N,18nm,1.1s	65.91 341	*eP*	P	04 02 37.6	+0.6
330A	Mertzon baz=66,SNR=31	65.97 332	⇑P	P	04 02 38.1	+0.6
JSRW	J. Sargeant Re	66.00 354	*eP*	P	04 02 37.9	+0.4
WVT	Waverly comp=N,24nm,0.9s	66.04 345	*eP*	P	04 02 36.9	-0.9
MIAR	Mount Ida comp=N,26nm,0.9s	66.06 340	*eP*	P	04 02 38.3	+0.3
231A	Bronte baz=66,SNR=16	66.08 333	⇑P	P	04 02 38.8	+0.6
133A	Hamilton Ranch baz=66,SNR=16	66.13 334	⇑P	P	04 02 39.3	+0.8
Z35A	Perchaven, San baz=66,SNR=5.8	66.17 336	⇑P	P	04 02 39.7	+1.0
230A	Sterling City baz=67,SNR=7.9	66.36 332	⇓P	P	04 02 40.9	+0.9
329A	Wagon Wheel Ra baz=67,SNR=28	66.37 331	⇓P	P	04 02 40.6	+0.5
ABTX	Abilene, Hawle baz=67,SNR=17	66.42 334	⇓P	P	04 02 41.7	+1.3
ABTX	Abilene, Hawle comp=N,76nm,1.2s	66.42 334	*eP*	P	04 02 40.8	+0.5
Z34A	Collier Ranch, baz=67,SNR=5.0	66.44 336	⇑P	P	04 02 41.3	+0.9
X37A	Clayton baz=67,SNR=18	66.67 338	⇑P	P	04 02 43.3	+1.4
Z33A	Whitaker Ranch baz=67,SNR=13	66.68 335	⇑P	P	04 02 42.7	+0.7
229A	Bryant Ranch, baz=67,SNR=8.4	66.72 332	⇑P	P	04 02 43.4	+1.1
131A	Roby baz=67,SNR=5.2	66.76 333	⇑P	P	04 02 43.5	+0.9
W38A	Poteau baz=67,SNR=19	66.84 339	⇓P	P	04 02 43.6	+0.7
Y34A	Reagan Ranch, baz=67,SNR=10	66.91 336	⇑P	P	04 02 44.1	+0.6
130A	Snyder baz=67,SNR=8.1	66.92 333	⇑P	P	04 02 44.3	+0.7
Z32A	Haskell baz=67,SNR=10	66.97 334	⇑P	P	04 02 44.7	+0.9
X36A	Centrahoma baz=67,SNR=16	66.98 338	⇓P	P	04 02 44.1	+0.3
PARMO	Parma	67.00 344	*eP*	P	04 02 44.8	+0.9
X35A	Drake baz=67,SNR=6.3	67.03 337	⇑P	P	04 02 45.0	+0.8
228A	UT Block 9, Go baz=67,SNR=23	67.18 331	⇑P	P	04 02 45.6	+0.4
W37A	Quinton baz=68,SNR=22	67.19 339	⇑P	P	04 02 45.9	+0.7
Z31A	Sharp Cattle R baz=68,SNR=18	67.23 334	⇑P	P	04 02 46.7	+1.2
Y33A	Hilltop Ranch, baz=68	67.27 335	⇑P	P	04 02 47.1	+1.3
PBMO	Poplar Bluff comp=N,37nm,0.8s	67.28 343	*eP*	P	04 02 45.4	-0.3
129A	Stewart Farms, baz=68,SNR=12	67.32 332	⇓P	P	04 02 47.2	+1.0
W36A	Wetumka baz=68,SNR=13	67.45 338	⇓P	P	04 02 47.4	+0.5
X34A	Smith Ranch, M baz=68,SNR=20	67.52 336	⇓P	P	04 02 48.3	+1.0
128A	Castleberry Fa baz=68,SNR=15	67.57 332	⇓P	P	04 02 48.5	+0.7
Y32A	R-V Farms, Ver baz=68,SNR=9.0	67.57 335	⇑P	P	04 02 48.5	+0.8
Z30A	Sanderson Ranc baz=68,SNR=14	67.59 333	⇑P	P	04 02 48.4	+0.5
W35A	Tecumseh baz=68,SNR=5.5	67.69 337	⇓P	P	04 02 49.0	+0.7
X33A	Lawton baz=68	67.70 336	⇑P	P	04 02 49.3	+0.8
WCI	Wyandotte Cave comp=N,16nm,1.0s	67.74 347	*eP*	P	04 02 46.6	-2.0
Z29A	Hungry Hill Ra baz=68,SNR=11	67.80 333	⇓P	P	04 02 49.9	+0.7
Y31A	Rekieta Farm, baz=68,SNR=23	67.84 334	⇑P	P	04 02 50.2	+0.9
SIUC	Southern Illin comp=N,50nm,1.0s	67.88 345	*eP*	P	04 02 48.7	-0.7
X32A	Elmer baz=68	67.88 335	⇓P	P	04 02 50.5	+0.9
TUL1	Leonard baz=68,SNR=24	68.02 339	⇑P	P	04 02 51.4	+1.0
TUL1	Leonard comp=N,85nm,1.0s	68.02 339	*eP*	P	04 02 50.2	-0.2
Y30A	Stafford Cattl baz=68	68.02 334	⇑P	P	04 02 52.0	+1.4
W34A	Bridge Creek, baz=68	68.07 337	⇓P	P	04 02 51.4	+0.6
Z28A	Tucker Farm, M baz=68,SNR=7.7	68.10 332	⇓P	P	04 02 51.7	+0.6
V35A	Meyer Ranch, C baz=68,SNR=7.8	68.23 338	⇓P	P	04 02 52.1	+0.4
W33A	Caddo, Fort Co baz=68,SNR=13	68.24 336	⇑P	P	04 02 52.8	+1.0
Y29A	Porterfield Fa baz=68,SNR=29	68.31 333	⇓P	P	04 02 53.2	+0.8
X31A	McDonald Ranch baz=69,SNR=16	68.33 335	⇓P	P	04 02 52.7	+0.3
W32A	Sentinel baz=69,SNR=23	68.50 335	⇑P	P	04 02 54.2	+0.7
X30A	Coker Ranch, T baz=69,SNR=5.8	68.51 334	⇓P	P	04 02 54.5	+1.0
V34A	Guthrie baz=69	68.52 337	⇓P	P	04 02 54.4	+0.8
V34A	Guthrie comp=N,37nm,1.0s	68.52 337	*eP*	P	04 02 53.4	-0.2
Y28A	McKinney Farm, baz=69,SNR=12	68.59 332	⇓P	P	04 02 55.5	+1.4
BLO	Bloomington comp=N,9.5nm,0.6s	68.69 347	*eP*	P	04 02 53.7	-0.8
SBA	Scott Base	68.76 191	*eP*	P	04 02 55.7	+1.2
V33A	Lossen Ranch, baz=69,SNR=11	68.78 337	⇓P	P	04 02 55.9	+0.8
W31A	Holland Ranch, baz=69	68.81 335	⇓P	P	04 02 55.8	+0.4
X29A	Tulia baz=69,SNR=10	68.83 333	⇓P	P	04 02 56.3	+0.6
MSTX	Muleshoe baz=69,SNR=30	68.85 332	⇓P	P	04 02 56.6	+0.8
MSTX	Muleshoe comp=N,78nm,1.1s	68.85 332	*eP*	P	04 02 55.8	0.0
T37A	Cheneyville 18 baz=69,SNR=31	68.86 340	⇑P	P	04 02 55.9	+0.3
SSPA	Sting Stone comp=N,10.0nm,1.0s	68.92 354	*eP*	P	04 02 55.7	-0.2
V32A	Arapaho baz=69	68.95 336	⇓P	P	04 02 57.3	+1.0
SLM	Saint Louis comp=N,10nm,0.5s	69.00 344	*eP*	P	04 02 56.1	-0.3
W30A	Crocket Farms baz=69	69.04 334	⇓P	P	04 02 58.1	+1.2
U34A	Anderson Ranch baz=69,SNR=8.0	69.07 337	⇓P	P	04 02 58.0	+1.0
X28A	Dimmitt baz=69	69.10 333	⇓P	P	04 02 58.6	+1.3
T36A	Boggs Farm, Ca baz=69,SNR=12	69.10 339	⇑P	P	04 02 57.9	+0.8
ACSO	Alum Creek Sta comp=N,27nm,0.9s	69.12 350	*eP*	P	04 02 55.9	-1.2
T35A	Sooner Cattle baz=69,SNR=6.7	69.17 338	⇓P	P	04 02 58.4	+0.8
AMTX	Amarillo baz=70	69.21 333	⇓P	P	04 02 59.6	+1.7
AMTX	Amarillo comp=N,23nm,0.9s	69.21 333	*eP*	P	04 02 59.6	+1.7
U33A	Lingo Farm, Me baz=70	69.27 337	⇑P	P	04 02 58.8	+0.7
V31A	Spring Creek L baz=70	69.29 335	⇑P	P	04 02 59.2	+0.8
W29A	Amarillo baz=71,SNR=5.8	69.40 334	⇓P	P	04 02 59.6	+0.4
T34A	McCloskey Farm baz=70,SNR=9.4	69.49 338	⇑P	P	04 03 00.7	+1.1
TBI	Tubuai comp=N,89nm,1.4s	69.53 254	*eP*	P	04 02 59.2	-1.0
TBI			*eS*	S	04 12 08.7	+2.7
TBI	Tubuai comp=N,84nm,26.8s	69.53 254	*eLR*	LR	04 24 14.6	
TBI	Tubuai comp=N,674nm,29.0s,baz=117	69.53 254	*eT*	T	05 18 24.7	
U32A	Winter Ranch, baz=70	69.53 336	⇑P	P	04 03 00.9	+1.0
V30A	Spur Ranch, Mi baz=70	69.60 335	⇑P	P	04 03 02.4	+2.1
S36A	Lake Cedric, C baz=70,SNR=17	69.62 339	⇓P	P	04 03 00.9	+0.6
KSPA	Keystone Colle comp=N,88nm,2.2s	69.69 356	*eP*	P	04 03 01.9	+1.3
W28A	Vega baz=70	69.74 333	⇓P	P	04 03 02.6	+1.3
VNDA	Vanda comp=N,4.0nm,0.7s,baz=135,slow=6.5,SNR=6.3	69.78 191	P	P	04 03 01.9	+1.0
VNDA	Vanda comp=N,6.8nm,0.8s	69.78 191	*eP*	P	04 03 01.4	+0.5
S35A	Otter Creek Ra baz=70,SNR=11	69.81 339	⇓P	P	04 03 02.3	+0.8
U31A	Nine Bar Ranch baz=70	69.83 336	⇓P	P	04 03 03.1	+1.4
121A	Cookes Peak, D baz=70,SNR=8.9	69.86 327	⇓P	P	04 03 04.0	+1.9
121A	Cookes Peak, D comp=N,15nm,0.9s	69.86 327	*eP*	P	04 03 03.0	+0.9
T33A	Patterson Ranc baz=70,SNR=5.3	69.90 337	⇑P	P	04 03 03.8	+1.7
R37A	Teagarden Farm baz=70	69.93 340	⇑P	P	04 03 02.8	+0.6
SFIN	Lafayette baz=70	69.97 347	⇓P	P	04 03 02.9	+0.5
SFIN	Lafayette comp=N,28nm,1.4s	69.97 347	*eP*	P	04 03 00.7	-1.7
V29A	Stinnett baz=70	70.02 334	⇑P	P	04 03 04.7	+1.8
S34A	Willow Spring baz=70	70.08 338	⇑P	P	04 03 03.9	+0.8
R36A	Gordon, Harris baz=70	70.14 340	⇓P	P	04 03 04.4	+0.8
V28A	Channing baz=70,SNR=20	70.18 333	⇓P	P	04 03 05.1	+1.1
T32A	Huddler Ranch, baz=70,SNR=7.5	70.22 337	⇓P	P	04 03 05.5	+1.4
U30A	WK&E Inc. Balk baz=70	70.27 335	⇑P	P	04 03 06.1	+1.7
S33A	Kaszmaul Farm, baz=70	70.28 338	⇓P	P	04 03 05.4	+1.0
Q37A	Longview Farm, baz=71	70.34 341	⇑P	P	04 03 05.3	+0.6
R35A	Emporia Munici baz=71	70.36 339	⇑P	P	04 03 06.1	+1.3
U29A	Oasis Ranch, S baz=71	70.43 335	⇓P	P	04 03 06.7	+1.3
V27A	Dan Oppiter Fa baz=71,SNR=5.4	70.43 333	⇑P	P	04 03 06.5	+1.0
MEH	Mehetia comp=N,20nm,0.2s	70.52 260	*eT*	T	05 19 43.3	
HDIL	Hopedale comp=N,27nm,0.6s	70.61 345	*eP*	P	04 03 04.2	-2.1
R34A	Isabella, Hill baz=71	70.67 338	⇑P	P	04 03 08.0	+1.2
T30A	Plains baz=71	70.68 335	⇓P	P	04 03 08.4	+1.5
S32A	Newby Ranch, P baz=71	70.69 337	⇑P	P	04 03 08.4	+1.4
U28A	Mallet baz=71	70.73 334	⇓P	P	04 03 08.5	+1.2
Y22D	IRIS PASSCAL I baz=71	70.74 329	⇑P	P	04 03 08.8	+1.3
TRY	Troy	70.77 358	*eP*	P	04 03 08.3	+1.1
Q35A	Mercer Eighty, comp=N,32nm,1.0s baz=71	70.80 340	⇑P	P	04 03 08.3	+0.8
S31A	Mullinville baz=71	70.81 336	⇑P	P	04 03 08.5	+0.8
SYO	Syowa Base	70.83 159	⇑*eP*	P	04 03 05.2	-2.2
LENM	Lemitar	70.84 329	*eP*	P	04 03 10.1	+2.0
R33A	Olander Ranch, baz=71,SNR=6.1	70.92 338	⇓P	P	04 03 08.9	+0.7
U27A	Thompson Grove baz=71	71.00 333	⇓P	P	04 03 10.1	+1.1
MMNY	Mt. Morris Dam	71.00 355	*eP*	P	04 03 09.0	+0.4
T29A	Hugoton baz=71	71.06 335	⇓P	P	04 03 10.1	+0.8
LAZ	Ladron comp=N,7.6nm,1.0s	71.11 329	*eP*	P	04 03 10.5	+0.7
Q34A	Chapman baz=71	71.14 339	⇓P	P	04 03 10.1	+0.5
TUC	Tucson comp=N,7.6nm,1.1s	71.14 325	*eP*	P	04 03 11.0	+1.1
S30A	Montezuma baz=71	71.18 336	⇓P	P	04 03 10.9	+1.0
KSU1	Kansas State U baz=72	71.20 339	⇓P	P	04 03 10.7	+0.8
KSU1	Kansas State U comp=N,30nm,1.3s	71.20 339	*eP*	P	04 03 09.1	-0.8
P36A	Good Intent, A baz=72	71.25 341	⇑P	P	04 03 10.6	+0.4
ANMO	Albuquerque comp=N,15nm,1.2s	71.26 330	*eP*	P	04 03 11.6	+0.9
R32A	Long Quarter, baz=72	71.27 337	⇓P	P	04 03 11.6	+1.2
T28A	Walsh baz=72	71.34 334	⇑P	P	04 03 12.0	+1.0
S29A	Ulysses baz=72	71.40 335	⇑P	P	04 03 12.5	+1.2
P35A	Duane Minner, baz=72	71.41 340	⇓P	P	04 03 11.9	+0.7
R31A	Burdett baz=72	71.43 337	⇑P	P	04 03 12.3	+0.9
Q33A	Connelly Farm, baz=72	71.49 338	⇓P	P	04 03 12.3	+0.6
T27A	Campo baz=72,SNR=7.7	71.52 334	⇓P	P	04 03 13.1	+1.0
O36A	Bolckow baz=72,SNR=5.6	71.65 341	⇑P	P	04 03 13.1	+0.5
S28A	Manter baz=72,SNR=8.9	71.67 335	⇓P	P	04 03 13.7	+0.8
P34A	Walnut Farm, R baz=72,SNR=6.8	71.67 339	⇑P	P	04 03 13.6	+0.8
HNH	Hanover comp=N,14nm,1.1s	71.71 359	*eP*	P	04 03 13.9	+1.1
Q32A	Meitler Ranch, baz=72	71.73 338	⇑P	P	04 03 14.0	+0.8
TIAR	Tiarei comp=N,5.2nm,0.2s	71.76 260	*eT*	T	05 21 13.4	
214A	Organ Pipe Nat baz=72,SNR=7.7	71.91 323	⇑P	P	04 03 16.0	+1.6
214A	Organ Pipe Nat comp=N,42nm,1.3s	71.91 323	*eP*	P	04 03 14.0	-0.5
PPT2	Papeete2 comp=N,69nm,1.5s	71.94 259	*eP*	P	04 03 15.2	+0.1
PPT2	comp=N,189nm,25.2s		*eS*	S	04 12 36.3	+1.9
PPT2	Papeete2 comp=N,1µm,22.5s,baz=114	71.94 259	*eLR*	LR	04 25 16.2	
PPT	Papeete comp=N,22nm,0.9s,baz=239,slow=0.3,SNR=4.6	71.95 259	P	P	04 03 15.9	+0.8
PPT	comp=N,753nm,19.7s,baz=126,slow=29		LR	LR	04 26 38.8	
T26A	Comanche Natio baz=72,SNR=6.7	71.96 333	⇑P	P	04 03 16.0	+1.1
Q31A	Ellis baz=72	72.02 337	⇑P	P	04 03 16.2	+1.3
R29A	Marienthal baz=72	72.12 336	⇑P	P	04 03 17.2	+1.6
T25A	Trinidad baz=72,SNR=20	72.26 333	⇑P	P	04 03 18.5	+1.8
LIC	Lamto comp=N,52nm,0.8s	72.28 73	*eP*	P	04 03 17.2	+0.2
Q30A	Quinter baz=72,SNR=8.2	72.28 337	⇑P	P	04 03 17.8	+1.3
R28A	Tribune baz=72,SNR=8.2	72.30 335	⇑P	P	04 03 17.7	+1.1
O33A	Hebron baz=73,SNR=8.6	72.39 339	⇓P	P	04 03 18.0	+0.9
Q29A	Oakley baz=73	72.47 336	⇓P	P	04 03 18.4	+0.7
P31A	Stockton baz=73	72.48 337	⇑P	P	04 03 18.7	+1.0
TIC	Toumodi	72.51 72	*eP*	P	04 03 18.3	-0.1
N35A	Tabor baz=73,SNR=7.9	72.52 341	⇑P	P	04 03 18.0	+0.2
KIC	Kosan Boka comp=N,70nm,0.8s	72.59 73	*eP*	P	04 03 19.2	+0.3
R27A	Eads baz=73,SNR=8.9	72.62 334	⇓P	P	04 03 19.4	+0.8
DBIC	Dimbokro	72.66 72	⇓*iP*	P	04 03 19.7	+0.4
DBIC	Dimbokro comp=N,44nm,0.7s,baz=217,slow=6.4,SNR=60	72.66 72	P	P	04 03 19.7	+0.4
DBIC	comp=N,386nm,18.0s,baz=215,slow=36		LR	LR	04 35 59.4	
DBIC	Dimbokro comp=N,44nm,0.7s	72.66 72	*eP*	P	04 03 19.4	+0.1
LONY	Lake Ozonia comp=N,12nm,1.0s	72.68 357	*eP*	P	04 03 18.4	-0.3
N34A	Lincoln baz=73,SNR=5.6	72.76 340	⇓P	P	04 03 19.5	+0.2
P30A	Selden baz=73	72.80 337	⇑P	P	04 03 20.5	+0.9
R26A	Arlington baz=73,SNR=8.2	72.88 334	⇓P	P	04 03 21.6	+1.4
W18A	Petrified Fore baz=73	72.90 328	⇑P	P	04 03 22.5	+2.0
W18A	Petrified Fore comp=N,28nm,1.1s	72.90 328	*eP*	P	04 03 22.0	+1.5
JFWS	Jewell Farm comp=N,8.6nm,0.6s	73.07 345	*eP*	P	04 03 20.9	-0.1
P29A	Atwood baz=73	73.09 336	⇓P	P	04 03 23.3	+2.0
KSCO	Kaye Shedlock' baz=73	73.19 335	⇑P	P	04 03 23.7	+1.7
KSCO	Kaye Shedlock' comp=N,38nm,1.1s	73.19 335	*eP*	P	04 03 23.1	+1.1
SDCO	Great Sand Dun baz=74,SNR=22	73.22 332	⇑P	P	04 03 23.5	+1.0
SDCO	Great Sand Dun comp=N,9.4nm,0.9s	73.22 332	*eP*	P	04 03 22.7	+0.2
M34A	Aspy Farms, Fr baz=74	73.39 340	⇑P	P	04 03 24.5	+1.5
Q26A	Hugo baz=74	73.45 334	⇓P	P	04 03 25.0	+1.4
R23A	Moffat baz=74,SNR=13	73.74 332	⇓P	P	04 03 26.9	+1.4
L34A	Svendsen Farm, baz=74,SNR=5.5	73.76 341	⇓P	P	04 03 26.1	+0.9
S22A	4UR Ranch, Cre baz=74,SNR=8.0	73.78 331	⇑P	P	04 03 27.3	+1.5
BGNE	Belgrade baz=74	73.78 339	⇓P	P	04 03 26.7	+1.4
BGNE	Belgrade comp=N,82nm,1.2s	73.78 339	*eP*	P	04 03 25.8	+0.5
GLA	Glamis baz=74	73.82 323	⇑P	P	04 03 27.3	+1.5
O28A	Krutsinger Ran baz=74	73.85 336	⇑P	P	04 03 27.2	+1.3
P26A	Davis Ranch, A baz=74,SNR=6.1	73.94 335	⇑P	P	04 03 27.9	+1.5
M31A	Lambtecht Ranc baz=74	73.99 339	⇑P	P	04 03 28.3	+1.8
WUAZ	Wupatki baz=74,SNR=11	74.01 327	⇓P	P	04 03 28.7	+1.8
WUAZ	Wupatki comp=N,28nm,1.0s	74.01 327	*eP*	P	04 03 27.4	+0.4
MVCO	Mesa Verde baz=74,SNR=14	74.06 330	⇑P	P	04 03 28.4	+1.1
MVCO	Mesa Verde comp=N,15nm,0.9s	74.06 330	*eP*	P	04 03 27.7	+0.4
N29A	Votaw Ranch, W baz=74	74.07 337	⇓P	P	04 03 29.1	+2.0
Q24A	Divide baz=74,SNR=19	74.12 333	⇓P	P	04 03 29.2	+1.4
O27A	Beecher Island baz=74	74.17 336	⇓P	P	04 03 29.8	+2.1
Y12C	Blythe baz=74	74.20 323	⇑P	P	04 03 29.9	+1.9
N28A	Pribbeno Ranch baz=74	74.27 336	⇑P	P	04 03 30.8	+2.6

PDMCI **Parker Dam,Lak** 74.43 324 ⇑P P 04 03 31.3 +2.1
baz=75
O26A **Horse Wrangler** 74.52 335 ⇓P P 04 03 31.7 +1.9
baz=75
BC3 **Big Chuckawall** 74.62 323 ⇑P P 04 03 31.9 +1.4
baz=75,SNR=5.8
M29A **Burnside Ranch** 74.64 337 ⇑P P 04 03 32.7 +2.3
baz=75
L31A **Butterfield Fa** 74.70 339 ⇓P P 04 03 32.5 +1.8
baz=75,SNR=7.5
N27A **Anderson Farm,** 74.73 336 ⇑P P 04 03 33.3 +2.3
baz=75
P23A **Jefferson** 74.75 333 ⇓P P 04 03 33.7 +2.3
baz=75
IRM **Iron Mountain** 74.85 323 ⇑P P 04 03 33.7 +2.0
baz=75
PV01 **Paradox Valley** 74.86 330 eP P 04 03 33.2 +1.3
ISCO **Idaho Springs** 75.02 333 ⇑P P 04 03 34.4 +1.4
baz=75,SNR=11
ISCO **Idaho Springs** 75.02 333 eP P 04 03 33.6 +0.6
comp=N,8.7nm,1.0s
CER **Ceres** 75.32 120 eP P 04 03 34.3 -0.4
CER AMB AMB 04 03 46.2
comp=Z,28nm,1.2s
CER **Ceres** 75.32 120 P P 04 03 34.3 -0.4
comp=Z,28nm,1.2s
K30A **Basset** 75.39 339 ⇑P P 04 03 36.2 +1.6
baz=76,SNR=6.7
ECSD **EROS Data Cent** 75.45 341 ⇑P P 04 03 36.3 +1.4
baz=76,SNR=46
ECSD **EROS Data Cent** 75.45 341 eP P 04 03 34.4 -0.5
comp=Z,36nm,1.0s
O23A **Lake Granby, G** 75.50 333 ⇑P P 04 03 36.9 +1.3
baz=76,SNR=8.7
MURC **Murrieta** 75.52 322 ⇓P P 04 03 37.3 +1.7
baz=76
GMRC **Granite Mounta** 75.59 323 ⇓P P 04 03 37.5 +1.4
baz=76,SNR=6.2
K29A **Lazy Trails An** 75.70 338 ⇑P P 04 03 37.8 +1.4
baz=76,SNR=5.5
O22A **Kremmling** 75.71 333 ⇓P P 04 03 38.4 +1.5
baz=76,SNR=15
SPMN **Marine on St.** 75.84 344 ⇓P P 04 03 36.9 -0.2
baz=76,SNR=7.5
SPMN **Marine on St.** 75.84 344 eP P 04 03 36.9 -0.2
comp=Z,22nm,0.9s
J30A **Dallas** 75.94 339 ⇓P P 04 03 39.2 +1.4
baz=76
HEC **Hector,Ludlow** 75.99 323 ⇓P P 04 03 40.2 +2.0
baz=76,SNR=6.5
K28A **Ten Mile Ranch** 76.00 337 ⇓P P 04 03 40.3 +2.1
baz=76
N23A **Red Feather La** 76.09 334 ⇑P P 04 03 40.7 +1.7
baz=76
BFSC **Mount Baldy Ra** 76.25 322 ⇑P P 04 03 41.6 +1.7
baz=76
J29A **Okreek** 76.28 339 ⇑P P 04 03 40.7 +1.0
baz=77,SNR=25
K27A **Flueckinger Fa** 76.29 337 ⇓P P 04 03 41.6 +1.7
baz=77,SNR=6.0
O20A **White River Ci** 76.38 332 ⇑P P 04 03 42.2 +1.7
baz=77,SNR=16
O20A **White River Ci** 76.38 332 eP P 04 03 41.4 +0.8
comp=Z,38nm,1.0s
L25A **Engebretsen Ra** 76.43 335 ⇓P P 04 03 42.5 +1.8
baz=77
I30A **Oacoma** 76.45 339 ⇓P P 04 03 42.3 +1.7
baz=77
SRU **San Rafael Swe** 76.53 329 eP P 04 03 41.7 +0.3
comp=Z,20nm,0.9s
J28A **Allard Ranch,** 76.59 338 ⇑P P 04 03 42.8 +1.3
baz=77,SNR=21
CCUT **Cedar City** 76.59 327 eP P 04 03 43.4 +1.5
comp=Z,19nm,1.0s
GSC **Goldstone, Bar** 76.60 323 ⇓P P 04 03 43.6 +1.8
baz=77
K26A **Motz Farm, Whi** 76.62 336 ⇑P P 04 03 43.2 +1.5
baz=77
SHPR **Sheep Range** 76.67 325 eP P 04 03 42.8 +0.6
comp=Z,12nm,1.1s
BRSD **Miller** 76.78 340 ⇑P P 04 03 43.3 +0.8
baz=77
BRSD **Miller** 76.78 340 eP P 04 03 42.5 0.0
comp=Z,25nm,1.1s
MSU **Marysvale** 76.80 328 eP P 04 03 43.7 +0.7
comp=Z,11nm,0.9s
I29A **Vivian Onida** 76.82 339 ⇑P P 04 03 43.5 +0.8
baz=77,SNR=10
SUR **Sutherland** 76.89 120 eP P 04 03 43.2 -0.7
SUR AMB AMB 04 04 11.1
comp=Z,130nm,2.5s
SUR **Sutherland** 76.89 120 P P 04 03 45.5 +1.6
comp=Z,101nm,1.3s,SNR=6.5
SUR **Sutherland** 76.89 120 P P 04 03 43.2 -0.7
comp=Z,130nm,2.5s
EDW2 **Edwards Air Fo** 76.92 322 ⇑P P 04 03 44.7 +1.2
baz=77
I28A **Midland** 77.08 338 ⇑P P 04 03 45.6 +1.4
baz=77
J26A **Sides Ranch, S** 77.12 337 ⇓P P 04 03 46.2 +1.7
baz=77,SNR=8.8
H29A **Onida** 77.34 339 ⇑P P 04 03 46.4 +0.8
baz=78,SNR=9.9
I27A **Quinn** 77.44 338 ⇑P P 04 03 47.4 +1.1
baz=78,SNR=8.3
J25A **Sunshine Ranch** 77.44 336 ⇑P P 04 03 47.9 +1.6
baz=78
G30A **Faulkton** 77.46 340 ⇓P P 04 03 47.1 +0.8
baz=78,SNR=8.8
FURC **Furnace Creek,** 77.51 324 ⇓P P 04 03 48.6 +1.9
baz=78
MPMC **Manual Prospec** 77.53 323 ⇓P P 04 03 49.1 +1.9
baz=78
K23A **Bowen Ranch, D** 77.56 335 ⇓P P 04 03 48.7 +1.6
baz=78,SNR=12
TPNV **Topopah Spring** 77.56 324 ⇓P P 04 03 49.2 +2.0
baz=78,SNR=6.1
H28A **Mission Ridge** 77.64 339 ⇓P P 04 03 49.0 +1.7
baz=78
I26A **New Underwood** 77.68 337 ⇑P P 04 03 49.0 +1.4
baz=78,SNR=6.2
J24A **Dixon Ranch, L** 77.70 336 ⇑P P 04 03 49.9 +2.1
baz=78,SNR=11
G29A **Hoven** 77.76 340 ⇑P P 04 03 49.3 +1.4
baz=78,SNR=7.3
MPU **Maple Canyon** 77.76 329 eP P 04 03 48.7 +0.4
comp=Z,71nm,1.1s
ISA **Isabella, Lake** 77.76 322 ⇑P P 04 03 49.6 +1.3
baz=78
ISA **Isabella, Lake** 77.76 322 eP P 04 03 48.6 +0.3
comp=Z,6.5nm,0.8s
K22A **Casper** 77.81 334 ⇓P P 04 03 50.1 +1.6
baz=78,SNR=14
K22A **Casper** 77.81 334 eP P 04 03 49.0 +0.5
comp=Z,28nm,1.0s
NLU **North Lily Min** 77.91 329 eP P 04 03 49.6 +0.5
comp=Z,14nm,1.3s
PKM **Mcpherson Peak** 77.93 321 ⇓P P 04 03 50.8 +1.5
baz=78
H27A **Howes** 77.94 338 ⇓P P 04 03 50.2 +1.1
baz=78,SNR=12
G28A **Parade** 77.96 339 ⇓P P 04 03 50.7 +1.6
baz=78,SNR=7.0
I25A **Rochford** 77.97 337 ⇓P P 04 03 50.8 +1.4
baz=78,SNR=18
F30A **Leola** 78.07 340 ⇑P P 04 03 51.2 +1.6
baz=78
I24A **Kuemmerle Ranc** 78.15 336 ⇓P P 04 03 51.9 +1.7
baz=78,SNR=7.6
JLU **Jordanelle** 78.15 330 eP P 04 03 51.2 +0.7
comp=Z,17nm,0.8s
H26A **Fairpoint** 78.16 337 ⇓P P 04 03 52.0 +1.8
baz=78
RSSD **Black Hills** 78.16 336 eP P 04 03 50.8 +0.3
comp=Z,17nm,1.0s
GRAC **Grapevine Rang** 78.18 324 ⇓P P 04 03 52.2 +1.7
baz=78
VES **Vestal, Richgr** 78.23 322 ⇑P P 04 03 52.4 +1.7
baz=78
F29A **Eureka** 78.31 340 ⇓P P 04 03 52.4 +1.4
baz=79,SNR=9.2
R11A **Troy Canyon, C** 78.31 326 ⇑P P 04 03 53.2 +1.9
baz=78,SNR=7.7
R11A **Troy Canyon, C** 78.31 326 eP P 04 03 51.9 +0.5
comp=Z,5.7nm,1.0s
SMMC **Simmler** 78.34 321 ⇓P P 04 03 53.4 +2.0
baz=78
MAW **Mawson** 78.36 164 P P 04 03 51.2 +0.2
comp=Z,3.4nm,0.3s,baz=208,slow=6.1,SNR=13
MAW LR LR 04 39 09.6
comp=Z,536nm,19.6s,baz=232,slow=36
DUG **Dugway, Tooele** 78.44 329 ⇑P P 04 03 53.7 +1.7
baz=79,SNR=17
DUG **Dugway, Tooele** 78.44 329 eP P 04 03 52.4 +0.4
comp=Z,12nm,0.9s
J22A **Milford** 78.45 334 ⇑P P 04 03 53.1 +1.2
baz=79,SNR=24
H25A **Fruitdale** 78.45 337 ⇑P P 04 03 53.1 +1.2
baz=79
TCUT **Toone Canyon** 78.55 330 eP P 04 03 51.7 -1.1
comp=Z,22nm,1.0s
G27A **Dupree** 78.56 338 ⇑P P 04 03 53.3 +0.9
baz=79,SNR=11
F28A **McLaughlin** 78.62 339 ⇓P P 04 03 54.5 +1.8
baz=79,SNR=6.0
E30A **Jud** 78.64 341 ⇓P P 04 03 54.2 +1.4
baz=79
G26A **Maurine** 78.70 338 ⇑P P 04 03 54.2 +0.9
baz=79,SNR=14
J21A **Lysite** 78.76 334 ⇓P P 04 03 55.2 +1.5
baz=79,SNR=12
I22A **9 Mile Ranch,** 78.86 335 ⇓P P 04 03 55.6 +1.4
baz=79,SNR=22
G25A **Newell** 78.89 337 ⇓P P 04 03 55.7 +1.5
baz=79,SNR=12
H24A **Dirks Ranch, A** 78.89 336 ⇑P P 04 03 55.2 +0.9
baz=79,SNR=17
TPH **Tonopah** 78.92 325 eP P 04 03 54.6 -0.2
comp=Z,10nm,1.0s
UPI **Upington** 78.98 116 eP P 04 03 54.3 -1.0
UPI AMB AMB 04 04 06.8
comp=Z,31nm,1.0s
UPI **Upington** 78.98 116 P P 04 03 54.3 -1.0
comp=Z,31nm,1.0s
J20A **Shoshoni** 79.02 333 ⇑P P 04 03 57.0 +1.9
baz=79,SNR=5.6
HWUT **Hardware Ranch** 79.02 330 eP P 04 03 54.9 -0.3
comp=Z,46nm,1.0s
F27A **Lemmon** 79.03 339 ⇓P P 04 03 56.2 +1.2
baz=79,SNR=15
I21A **Big Trails, Te** 79.10 334 ⇑P P 04 03 56.6 +1.0
baz=79,SNR=29
BW06 **Boulder Array** 79.12 332 eP P 04 03 55.5 -0.3
comp=Z,14nm,1.1s
PDAR **Pinedale Array** 79.12 332 P P 04 03 55.8 0.0
comp=Z,7.4nm,0.9s,baz=111,slow=8.1,SNR=34
D30A **Buchanan** 79.15 341 ⇓P P 04 03 56.6 +1.1
baz=79,SNR=22
F26A **Lodgepole** 79.22 338 ⇓P P 04 03 57.3 +1.2
baz=80,SNR=16
E28A **Huff** 79.23 340 ⇑P P 04 03 57.4 +1.3
baz=80
J19A **Crowheart** 79.33 333 ⇑P P 04 03 57.8 +0.9
baz=80,SNR=20
D29A **Pettibone, Tap** 79.34 341 ⇓P P 04 03 58.5 +1.8
baz=80
G24A **Alzada** 79.35 337 ⇑P P 04 03 57.7 +0.9
baz=80,SNR=6.8
E27A **Carson** 79.38 339 ⇑P P 04 03 58.1 +1.3
baz=80
H22A **Clearmont** 79.41 335 ⇓P P 04 03 59.2 +2.1
baz=80
MLAC **Mammoth, Mammo** 79.42 323 ⇑P P 04 03 58.5 +0.9
baz=80
AGMN **Agassiz Nation** 79.46 343 ⇓P P 04 03 57.8 +0.6
baz=80,SNR=12
AGMN **Agassiz Nation** 79.46 343 eP P 04 03 56.3 -0.9
comp=Z,15nm,0.9s
I20A **Worland** 79.54 334 ⇓P P 04 03 59.0 +1.1
baz=80,SNR=12
F25A **Bowman** 79.54 338 ⇑P P 04 03 59.2 +1.4
baz=80,SNR=9.3
G23A **Biddle** 79.58 336 ⇑P P 04 03 59.1 +1.1
baz=80,SNR=10
C30A **Mose, Pekin** 79.61 342 ⇓P P 04 03 59.2 +1.2
baz=80,SNR=11
HVU **Hansel Valley** 79.69 330 eP P 04 03 59.0 +0.1
comp=Z,23nm,1.0s
H21A **Big Horn, Sher** 79.69 335 ⇓P P 04 04 00.0 +1.3
baz=80
E26A **Carlson Angus** 79.70 339 ⇑P P 04 03 59.5 +0.9
baz=80,SNR=6.5
NVAR **Mina Array Bea** 79.75 324 P P 04 04 00.0 +0.7
comp=Z,2.9nm,0.8s,baz=163,slow=6.2,SNR=16
D28A **Regan** 79.75 340 ⇓P P 04 03 59.9 +1.0
baz=80,SNR=6.5
F24A **Ekalaka** 79.81 337 ⇓P P 04 04 00.1 +0.8
baz=80,SNR=15
H20A **Greybull** 79.94 334 ⇓P P 04 04 00.8 +0.8
baz=80,SNR=22
I19A **Meeteetse** 79.95 333 ⇑P P 04 04 01.5 +1.3
baz=80,SNR=11
D27A **Center** 79.97 339 ⇑P P 04 04 02.2 +2.2
baz=80
ELK **Elko** 80.01 328 eP P 04 04 00.9 +0.2
comp=Z,12nm,1.0s
TSUM **Tsumeb** 80.01 106 eP P 04 04 00.3 -0.9
TSUM **Tsumeb** 80.01 106 eP P 04 04 01.3 +0.1
comp=Z,27nm,1.3s
E25A **Miller Ranch,** 80.03 338 ⇓P P 04 04 01.8 +1.4
baz=80,SNR=9.2
F23A **Volborg** 80.04 336 ⇓P P 04 04 01.3 +0.8
baz=80,SNR=13
MDND **Maddock** 80.06 341 ⇓P P 04 04 01.9 +1.4
baz=80
REDW **Red Top Meadow** 80.15 332 eP P 04 04 01.6 +0.3
comp=Z,19nm,1.1s
C28A **Hausauer Farms** 80.17 340 ⇓P P 04 04 02.3 +1.2
baz=80
D26A **Manning** 80.18 339 ⇓P P 04 04 02.2 +1.0
baz=80,SNR=7.8
B30A **Myrvik Farm, E** 80.25 342 ⇑P P 04 04 02.2 +0.7
baz=80,SNR=37
LOHW **Long Hollow** 80.25 332 eP P 04 04 01.6 -0.3
comp=Z,23nm,1.3s
G21A **Lodge Grass** 80.26 335 ⇑P P 04 04 02.9 +1.1
baz=80,SNR=7.5
E24A **Baker** 80.39 337 ⇓P P 04 04 03.7 +1.3
baz=81,SNR=11
F22A **Rosebud** 80.39 336 ⇓P P 04 04 03.5 +1.1
baz=81,SNR=18
H19A **Powell** 80.48 334 ⇑P P 04 04 04.1 +1.1
baz=81
C27A **Sayler Ranch,** 80.50 340 ⇓P P 04 04 04.2 +1.3
baz=81,SNR=7.6
B29A **Wagman Farm,** 80.55 341 ⇑P P 04 04 03.9 +0.8
baz=81,SNR=23
D25A **Fairfield** 80.58 338 ⇑P P 04 04 04.6 +1.2
baz=81,SNR=16
G20A **Bridger** 80.64 334 ⇑P P 04 04 04.3 +0.5
baz=81,SNR=16
E23A **Ismay** 80.67 337 ⇑P P 04 04 05.5 +1.6
baz=81
FLWY **Flagg Ranch** 80.68 332 eP P 04 04 04.5 +0.3
comp=Z,16nm,0.9s
A30A **Hoffart Farm,** 80.69 342 ⇓P P 04 04 04.4 +0.5
baz=81,SNR=5.7
B28A **Dugan Ranch, T** 80.82 341 ⇑P P 04 04 06.1 +1.6
baz=81,SNR=7.0
E22A **Miles City** 80.85 336 ⇓P P 04 04 06.0 +1.2
baz=81
D24A **Glendive** 80.88 338 ⇓P P 04 04 06.4 +1.5
baz=81,SNR=8.2
A29A **Manning Farm,** 80.93 342 ⇓P P 04 04 05.8 +0.7
baz=81,SNR=14
RLMT **Red Lodge** 80.96 334 ⇑P P 04 04 06.9 +1.2
baz=81,SNR=8.0
RLMT **Red Lodge** 80.96 334 eP P 04 04 06.2 +0.5
comp=Z,9.6nm,0.9s
YFT **Old Faithful** 81.03 332 eP P 04 04 06.8 +0.7
comp=Z,7.9nm,0.8s
B27A **Peters Farms,** 81.05 340 ⇑P P 04 04 07.1 +1.3
baz=81
C25A **Freed Ranch, W** 81.05 339 ⇓P P 04 04 06.8 +1.0
baz=81
F20A **Billings** 81.10 335 ⇓P P 04 04 07.3 +1.0
baz=81
LAO **LASA Array** 81.16 336 ⇑P P 04 04 07.6 +1.1
baz=81,SNR=11
LAO **LASA Array** 81.16 336 eP P 04 04 06.7 +0.2
comp=Z,28nm,1.0s
A28A **Rude Farm, Bot** 81.21 341 ⇓P P 04 04 07.7 +1.0
baz=82
D23A **Lindsay** 81.22 337 ⇑P P 04 04 08.5 +1.7
baz=82,SNR=11
HVD **Gariep Dam** 81.26 120 eP P 04 04 08.4 +0.7
HVD AMB AMB 04 04 19.1
comp=Z,21nm,0.9s
HVD **Gariep Dam** 81.26 120 P P 04 04 08.4 +0.7
comp=Z,21nm,0.9s
YMR **Madison River** 81.27 332 eP P 04 04 08.0 +0.7
comp=Z,27nm,1.0s
C24A **Savage** 81.27 338 ⇑P P 04 04 08.5 +1.5
baz=82,SNR=18
B26A **Jensen Ranch,** 81.31 340 ⇑P P 04 04 09.3 +2.0
baz=82
E21A **Keefer Ranch,** 81.34 336 ⇑P P 04 04 08.8 +1.3
baz=82,SNR=6.0
B25A **Knox Farm, Ray** 81.51 339 ⇑P P 04 04 09.8 +1.5
baz=82,SNR=8.0
D22A **Cohagen** 81.54 337 ⇓P P 04 04 09.8 +1.3
baz=82,SNR=9.2
TOA0 **Torodi Ar. Sit** 81.54 70 eP P 04 04 08.8 -0.4
TORD **Torodi Ar. Bea** 81.54 70 P P 04 04 09.3 +0.1
comp=Z,28nm,0.6s,baz=270,slow=4.8,SNR=219
TORD LR LR 04 38 48.0
comp=Z,460nm,20.4s,baz=240,slow=35
GCMT **Greycliff** 81.68 334 eP P 04 04 09.5 +0.1
comp=Z,14nm,1.3s
A26A **Wade Farm, Ken** 81.72 340 ⇑P P 04 04 10.1 +0.8
baz=82
D21A **La Casta Ranch** 81.75 336 ⇓P P 04 04 10.7 +1.1
baz=82,SNR=9.5
C23A **Lambert** 81.76 338 ⇓P P 04 04 11.1 +1.5
baz=82,SNR=7.4
HLID **Hailey** 81.84 330 ⇓P P 04 04 11.6 +1.2
baz=82,SNR=22
HLID **Hailey** 81.84 330 eP P 04 04 11.1 +0.8
comp=Z,15nm,1.0s
C22A **Vida** 81.95 337 ⇑P P 04 04 12.1 +1.5
baz=82
BOSA **Boshof** 82.00 118 eP P 04 04 11.9 +0.3
BOSA AMB AMB 04 04 22.0
comp=Z,14nm,0.8s
BOSA AMS AMS 04 39 30.1
comp=Z,665nm,5.5s
BOSA **Boshof** 82.00 118 P P 04 04 11.9 +0.3
comp=Z,6.5nm,0.4s,baz=250,slow=3.2,SNR=43
BOSA LR LR 04 36 10.1
comp=Z,412nm,20.6s,baz=210,slow=32
BOSA **Boshof** 82.00 118 eP P 04 04 11.3 -0.3
comp=Z,23nm,1.0s
DGMT **Dagmar** 82.02 338 ⇑P P 04 04 12.3 +1.4
baz=82,SNR=6.1
DGMT **Dagmar** 82.02 338 eP P 04 04 11.7 +0.8
comp=Z,67nm,1.1s
A25A **Svangstu Ranch** 82.08 339 ⇓P P 04 04 12.9 +1.6
baz=82
MCMT **McKenzie Canyo** 82.18 331 eP P 04 04 12.9 +0.8
comp=Z,7.9nm,1.2s
B23A **Brockton** 82.27 338 ⇑P P 04 04 13.6 +1.4
baz=82,SNR=5.9
BOZ **Bozeman (W)** 82.34 333 ⇑P P 04 04 13.6 +0.8
baz=83
A24A **Westby** 82.35 339 ⇑P P 04 04 14.0 +1.4
baz=83,SNR=5.7
MFID **Camas Ranch** 82.36 329 eP P 04 04 13.9 +0.9
comp=Z,16nm,1.4s
DRV **Dumont d'Urvil** 82.38 192 S S 04 14 19.0 -7.0
DRV SS x 04 17 37.0
DRV R 04 30 00.0
C21A **Desert Coulee** 82.44 336 ⇓P P 04 04 14.0 +0.8
baz=83,SNR=7.6
B22A **Reddig Ranch S** 82.47 337 ⇓P P 04 04 14.4 +1.1
baz=83,SNR=13
A23A **Redstone** 82.67 338 ⇓P P 04 04 16.1 +1.7
baz=83
C20A **Veseth Ranch,** 82.67 336 ⇓P P 04 04 14.7 +0.3
baz=83
LRM **Limekiln Ridge** 82.81 332 eP P 04 04 15.9 +0.4
comp=Z,84nm,1.0s
B21A **Ellsworth Farm** 82.92 337 ⇑P P 04 04 17.4 +1.7
baz=83
WVOR **Wild Horse Val** 82.93 327 eP P 04 04 15.8 -0.2
comp=Z,5.7nm,1.1s
A22A **Carney Farms,** 83.03 338 ⇓P P 04 04 17.3 +1.0
baz=83,SNR=18
B20A **Solberg Farm,** 83.29 336 ⇑P P 04 04 17.7 +0.2
baz=84,SNR=11
A21A **Bergtoll Ranch** 83.38 337 ⇓P P 04 04 18.5 +0.5
baz=84
EGMT **Eagleton** 83.57 335 ⇑P P 04 04 19.6 +0.5
baz=84
EGMT **Eagleton** 83.57 335 eP P 04 04 19.0 -0.1
comp=Z,9.0nm,1.1s
A20A **Cobblestone Ra** 83.63 337 ⇓P P 04 04 20.0 +0.7
baz=84,SNR=10
B19A **Brinkman Farms** 83.63 336 ⇑P P 04 04 20.3 +0.9
baz=84
A19A **Klindworth Far** 83.96 336 ⇓P P 04 04 22.2 +1.2
baz=84
LBTB **Lobatse** 83.96 115 eP P 04 04 22.0 +0.2
LBTB AMB AMB 04 04 32.6
comp=Z,65nm,1.4s
LBTB AMS AMS 04 40 07.1
comp=Z,624nm,20.5s
LBTB **Lobatse** 83.96 115 eP P 04 04 21.7 -0.2
comp=Z,14nm,0.5s
SEK **Senekal** 83.97 119 eP P 04 04 21.4 -0.5
SEK AMB AMB 04 04 32.7
comp=Z,51nm,1.4s
SEK **Senekal** 83.97 119 P P 04 04 21.4 -0.5
comp=Z,51nm,1.4s
M04C **Macdoel** 84.05 324 ⇓P P 04 04 23.2 +1.4
baz=84
MSO **Missoula** 84.24 332 ⇓P P 04 04 24.9 +2.4
baz=84
J05D **Fort Rock, OR** 84.84 326 ⇓P P 04 04 27.4 +1.7
baz=85
BSMT **Bassoo Peak** 85.40 332 eP P 04 04 26.2 -2.3
comp=Z,8.6nm,1.0s
I05D **Terrebonne, OR** 85.67 326 ⇑P P 04 04 31.0 +1.3
baz=86
CASY **Casey** 85.67 181 eP P 04 04 29.2 -0.2
comp=Z,30nm,0.8s
SLR **Silverton** 85.74 117 eP P 04 04 30.4 -0.4
SLR AMB AMB 04 04 47.2
comp=Z,212nm,2.8s
SLR **Silverton** 85.74 117 P P 04 04 30.4 -0.4
comp=Z,212nm,2.8s
WALA **Waterton Lakes** 86.01 333 eP P 04 04 31.1 -0.3
comp=Z,29nm,1.2s
G05D **Wamic, OR** 86.32 327 ⇓P P 04 04 35.5 +2.6
baz=86
FFC **Flin Flon** 86.90 343 eP P 04 04 35.0 -0.4
comp=Z,7.6nm,1.4s
MDT **Midelt** 87.64 51 P P 04 04 39.6 -0.2
comp=Z,2.0nm,0.7s,baz=120,slow=20,SNR=3.5
FCC **Fort Churchill** 88.87 348 ePKP P 04 04 44.4 -0.3
EDM **Edmonton** 89.14 336 eP P 04 04 45.2 -1.1
TAM **Tamanrasset** 89.65 64 eP P 04 04 49.9 +0.4
comp=Z,3.4nm,1.0s
ESDC **Sonseca Array** 92.07 45 P P 04 05 00.6 +0.4
comp=Z,0.9nm,0.9s,baz=225,slow=4.8,SNR=3.6
ESDC LR LR 04 44 00.9
comp=Z,463nm,21.1s,baz=215,slow=34
YKA **Yellowknife Ar** 96.98 341 P P 04 05 21.8 -0.3
comp=Z,1.8nm,0.9s,baz=144,slow=4.6,SNR=9.7
KEST **Kesra** 98.96 54 LR LR 04 51 29.1
comp=Z,486nm,20.7s,baz=194,slow=36
DZM **Mont Dzumac** 105.20 234 eLR LR 04 40 41.0
comp=Z,524nm,22.4s
ILAR **Eielson Array** 109.51 334 PP PP 04 10 53.4 +1.4
comp=Z,0.4nm,0.8s,baz=113,slow=5.8,SNR=4.7
NAO01 **NORSAR Array S** 110.59 31 ePKP PKiKP 04 10 19.4 -3.5
AKASG **Malin Array Be** 117.72 45 PKhKP PKPpre 04 10 33.3
comp=Z,0.2nm,0.2s,baz=270,slow=1.9,SNR=4.9
BR131 **Keskin Array S** 118.28 58 ePKPdf PKPdf 04 10 38.2 -0.3
BRTR **Keskin Array B** 118.28 58 PKP PKPdf 04 10 37.1 -1.4
comp=Z,0.6nm,0.6s,baz=214,slow=1.1,SNR=3.9
ARCES **ARCESS Array B** 118.55 23 PKKPbc PKKPbc 04 20 55.5 -1.2
comp=Z,1.1nm,0.6s,baz=64,slow=2.8,SNR=6.0
CTAO **Charters Tower** 119.81 221 ePKPdf PKPdf 04 10 41.2 -0.8
ASAR **Alice Springs** 122.94 208 PKP PKPdf 04 10 46.5 -1.4
comp=Z,4.0nm,0.5s,baz=132,slow=1.6,SNR=53
ASAR PKKPbc PKKPbc 04 20 39.1 -0.4
comp=Z,0.3nm,0.5s,baz=326,slow=3.3,SNR=4.6
AS31 **Alice Springs** 122.94 208 ePKPdf PKPdf 04 10 46.7 -1.3
KBZ **Khabaz** 125.83 55 PKP PKPdf 04 10 52.8 +0.1
comp=Z,1.4nm,0.8s,baz=236,slow=7.3,SNR=3.4
WRA **Warramunga Arr** 126.06 210 PKP PKPdf 04 10 53.2 -0.8
comp=Z,9.6nm,0.6s,baz=157,slow=1.7,SNR=45
WRAB **Tennant Creek** 126.06 210 ePKPdf PKPdf 04 10 52.6 -1.4
COEN **Coen** 126.43 223 ePKPdf PKPdf 04 10 53.8 -0.9

PMG	**Port Moresby**	**127.31**	**230**	*e*PKPdf	**PKPdf**	**04 10**	**56.4**	**0.0**
ARU	**Arti**	**134.86**	**37**	*e*PKPdf	**PKPdf**	**04 11**	**10.0**	**+0.6**
SEY	**Seymchan**	**135.44**	**333**	PKP	**PKPdf**	**04 11**	**10.0**	**-0.3**
	comp=Z,4.5nm,0.7s,baz=127,slow=2.4,SNR=22							
AKTO	**Aktyubinsk**	**135.96**	**46**	PKP	**PKPdf**	**04 11**	**12.1**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=141,slow=2.2,SNR=3.7							
ABKAR	**Akbulak array**	**137.40**	**47**	*e*PKPdf	**PKPdf**	**04 11**	**14.7**	**+0.3**
SOEI	**Soe**	**139.31**	**204**⇓	*e*PKP	**PKPdf**	**04 11**	**19.7**	**+0.6**
BVAR	**Borovoye Array**	**142.48**	**38**	PKhKP	PKPpre	04 11	19.4	
	comp=Z,1.2nm,0.6s,baz=251,slow=2.7,SNR=4.1							
BVAR				PKP	**PKPdf**	**04 11**	**24.3**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=270,slow=0.7,SNR=6.7							
SIJI	**Sorong**	**143.88**	**220**	PKP	PKPab	04 11	24.4	+0.2
	comp=Z,25nm,0.8s,baz=36,slow=4.6,SNR=14							
SMRI	**Semarang**	**144.78**	**183**	*e*PKPdf	PKPbc	04 11	28.1	+0.4
LEM	**Lembang**	**145.01**	**178**	PKP	**PKPab**	**04 11**	**28.4**	**-0.2**
	comp=Z,169nm,0.7s,baz=169,slow=4.0,SNR=10							
KAPI	**Kappang**	**145.22**	**199**	PKPbc	**PKPbc**	**04 11**	**29.1**	**0.0**
	comp=Z,85nm,0.7s,baz=202,slow=2.8,SNR=65							
KAPI	**Kappang**	**145.22**	**199**	*e*PKPbc	**PKPbc**	**04 11**	**28.7**	**-0.4**
KKAR	**Karatay Array**	**145.86**	**54**	*e*PKPbc	**PKPbc**	**04 11**	**30.3**	**-0.1**
LUWI	**Luwuk**	**147.89**	**207**	*e*PKPbc	**PKPbc**	**04 11**	**37.0**	**+0.1**
KURK	**Kurchatov**	**148.05**	**37**	*e*PKPdf	**PKPdf**	**04 11**	**32.7**	**-0.4**
KURK				*e*PKPbc	**PKPbc**	**04 11**	**36.7**	**+0.4**
KURBB	**Kurchatov Arra**	**148.06**	**37**	PKPbc	**PKPdf**	**04 11**	**34.0**	**+0.9**
	comp=Z,5.9nm,0.5s,baz=304,slow=3.3,SNR=37							
EKS2	**Erkin-Say**	**148.29**	**54**	*e*PKPbc	**PKPdf**	**04 11**	**35.6**	**+1.6**
AAK	**Ala-Archa**	**148.81**	**54**	*e*PKPdf	**PKPdf**	**04 11**	**34.7**	**-0.1**
AAK				*e*PKPbc	**PKPbc**	**04 11**	**39.3**	**+0.6**
ZAA0	**Zalesovo Array**	**148.95**	**28**	*e*PKPdf	**PKPdf**	**04 11**	**34.9**	**+0.5**
ZAA0				*e*PKPbc	**PKPbc**	**04 11**	**38.8**	**+0.4**
ZALV	**Zalesovo Beam**	**148.95**	**28**	PKPbc	**PKPbc**	**04 11**	**38.7**	**+0.2**
	comp=Z,14nm,0.5s,baz=298,slow=3.2,SNR=24							
TKM2	**Tokmak 2**	**149.51**	**53**	*e*PKPdf	**PKPdf**	**04 11**	**36.3**	**+0.3**
TKM2				*e*PKPbc	**PKiKP**	**04 11**	**41.2**	**-0.4**
KSH	**Kashi**	**150.66**	**59**	*e*PKPbc	**PKPdf**	**04 11**	**38.5**	**+0.7**
KSH				pPKP	**pPKPdf**	**04 11**	**48.5**	**-0.4**
KSH				sPKP		04 11	53.7	
KSH				PKS	**PKSdf**	**04 15**	**14.7**	**+2.1**
KSH				PP	**PP**	**04 15**	**19.1**	**-1.2**
KSH				SKS	**SKSdf**	**04 18**	**39.0**	**-4.2**
KSH				SKKS	**SKKSac**	**04 22**	**04.6**	**-4.0**
KSH				PPMZ				
	comp=Z,180nm,5.8s							
KSH				LN				
	comp=Z,79nm,6.2s							
KSH				LE				
	comp=Z,68nm,4.8s							
KSH				LZ				
	comp=Z,93nm,5.8s							
GSI	**Gunungsitoli**	**151.01**	**156**	*e*PKPdf	**PKPdf**	**04 11**	**38.9**	**0.0**
GSI				*e*PKPbc	**PKPbc**	**04 11**	**44.3**	**-0.5**
GSI				*e*PKPab	**PKPab**	**04 11**	**52.7**	**+0.6**
MK31	**Makanchi Array**	**152.21**	**41**	*e*PKPdf	**PKPdf**	**04 11**	**39.1**	**-0.7**
MK31				*e*PKPbc	**PKPbc**	**04 11**	**45.9**	**-0.6**
MK31				*e*PKPab	**PKPab**	**04 11**	**55.8**	**-0.6**
MKAR	**Makanchi Array**	**152.21**	**41**	PKP	**PKPdf**	**04 11**	**40.6**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=289,slow=3.7,SNR=5.8							
MKAR				PKPbc	**PKPbc**	**04 11**	**46.2**	**-0.3**
	comp=Z,4.6nm,0.5s,baz=298,slow=2.0,SNR=46							
MKAR				PKPab	**PKPab**	**04 11**	**56.3**	**-0.1**
	comp=Z,8.1nm,0.7s,baz=315,slow=1.7,SNR=14							
KSM	**Kuching**	**153.24**	**183**	*e*PKPbc	**PKPbc**	**04 11**	**49.5**	**-0.3**
KSM				*e*PKPab	**PKPab**	**04 12**	**01.4**	**0.0**
MJAR	**Matsushiro Arr**	**154.02**	**296**	PKPbc	**PKPbc**	**04 11**	**50.4**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=147,slow=2.9,SNR=7.7							
MJAR				PKPab	**PKPab**	**04 12**	**04.2**	**-0.2**
	comp=Z,6.0nm,0.8s,baz=143,slow=2.5,SNR=14							
MAJO	**Matsushiro**	**154.02**	**296**	*e*PKPab	**PKPab**	**04 12**	**04.7**	**+0.3**
USRK	**Ussuriysk Ar.**	**155.69**	**317**	PKPab	**PKPab**	**04 12**	**11.1**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=76,slow=6.7,SNR=3.3							
KKM	**Kota Kinabalu**	**156.76**	**199**	*e*PKPab	**PKPab**	**04 12**	**16.0**	**-0.5**
WMQ	**Urumqi**	**157.03**	**42**	PKP	**PKPdf**	**04 11**	**46.5**	**-0.1**
WMQ				PP	**PP**	**04 15**	**58.0**	**+2.4**
WMQ				PPMZ				
	comp=Z,31nm,9.5s							
WMQ				LN				
	comp=Z,130nm,18.5s							
WMQ				LE				
	comp=Z,190nm,19.4s							
WMQ				LZ				
	comp=Z,240nm,22.3s							
SONM	**Songino Array**	**160.45**	**5**	PKP	**PKPdf**	**04 11**	**50.6**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=180,slow=0.4,SNR=3.8							
SONM				PKPab	**PKPab**	**04 12**	**31.1**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=329,slow=1.7,SNR=3.7							
KSRS	**Korea Array**	**161.65**	**305**	PKP	**PKPdf**	**04 11**	**51.7**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=121,slow=2.3,SNR=3.8							
KSRS				PKPab	**PKPab**	**04 12**	**38.2**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=77,slow=5.3,SNR=3.6							
KSAR	**Wonju Array Be**	**161.68**	**305**	PKP	**PKPdf**	**04 11**	**51.7**	**-0.4**
KSAR				PKPab	**PKPab**	**04 12**	**38.2**	**+0.8**
HHC	**Hu-ho-hao-te**	**167.34**	**351**	*e*PKP	**PKPdf**	**04 11**	**55.9**	**-1.2**
HHC				sPKP		04 12	12.0	
HHC				PP	**PP**	**04 16**	**52.1**	**+2.5**
HHC				SKKS		04 23	35.0	
HHC				SS	**SS**	**04 37**	**32.8**	**0.0**
HHC				PPMZ				
	comp=Z,280nm,9.2s							
HHC				LN				
	comp=Z,190nm,21.8s							
HHC				LE				
	comp=Z,310nm,21.5s							
HHC				LZ				
	comp=Z,260nm,22.0s							
QIZ	**Qiongzhong**	**170.68**	**186**	PKP	**PKPdf**	**04 12**	**01.0**	**+1.3**
QIZ				PP	**PP**	**04 17**	**09.7**	**+3.4**
QIZ				SS	SS	04 38	12.1	+6.3
QIZ				PPMZ				
	comp=Z,310nm,15.4s							
QIZ				LN				
	comp=Z,190nm,20.0s							
QIZ				LZ				
	comp=Z,200nm,22.6s							
CD2	**Chengdu**	**174.85**	**59**	PKP	**PKPdf**	**04 12**	**00.7**	**-0.5**
CD2				pPKP	**pPKPdf**	**04 12**	**11.8**	**-0.5**
CD2				sPKP		04 12	15.9	
CD2				SKS	**SKSdf**	**04 19**	**01.0**	**-1.0**
CD2				SKKS	**SKKSac**	**04 24**	**10.3**	**-2.1**
CD2				SS	**SS**	**04 38**	**47.1**	**-2.3**
CD2				PPMZ				
	comp=Z,120nm,5.4s							
GYA	**Guiyang**	**177.27**	**133**	*e*PKP	**PKPdf**	**04 12**	**02.0**	**0.0**
GYA				sPKP		04 12	17.2	
GYA				PKPab	PKPab	04 13	49.6	+2.9
GYA				PKS	**PKSdf**	**04 15**	**33.8**	**-0.5**
GYA				PP	**PP**	**04 17**	**42.0**	**+2.4**
GYA				PPMZ				
	comp=Z,120nm,8.0s							

*HLW **12** 04:00:35.0,36°.62N×26°.60E,h17km±11km,Md3.6,Ml3.5*
*CSEM **12** 04:00:38.8±0.2,36°.23N×26°.75E,h129km±2km,MD3.0,*
Error ellipse: s-maj=4.3km s-min=3.0km az=10.0
*ATH **12** 04:00:39.0,36°.31N×26°.72E,h123km±2km*
*DDA **12** 04:00:46.7,36°.48N×27°.14E,h70km,MD3.0*
ISC 12 04:00:37.7±1.4,**36°.24N**±0°.06×**26.76E**±0°.05,**h140**km±9km,
n49,σ1°**39**/62,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.77**	**155**	*e*P		**Pn**		**04 01 00.6**	**+0.9**
KARP				*e*S		**Sn**		**04 01 15.9**	**-0.4**
KARP	**Karpathos**	**0.77**	**155**	*e*P		**Pn**		**04 01 00.6**	**+0.9**
KARP				*e*S		**Sn**		**04 01 15.9**	**-0.4**
BDRM	**Kayabasi**	**0.99**	**34**	*i* P		**Pn**		**04 01 01.6**	**+0.2**
BDRM				*i* S		**Sn**		**04 01 18.4**	**-1.2**
BDRM	**Kayabasi**	**0.99**	**34**	*i* P		**Pn**		**04 01 01.6**	**+0.2**
BDRM				*i* S		**Sn**		**04 01 18.4**	**-1.2**
SANT	**Santorini**	**1.06**	**277**	*e*P		**Pn**		**04 01 02.4**	**+0.3**
SANT	**Santorini**	**1.06**	**277**	*e*P		**Pn**		**04 01 02.4**	**+0.3**
ARG	**Arkhangelos**	**1.10**	**91**	*e*P		**Pn**		**04 01 03.8**	**+1.3**
ARG				*e*S		**Sn**		**04 01 20.9**	**-0.4**
ARG	**Arkhangelos**	**1.10**	**91**	*e*P		**Pn**		**04 01 03.8**	**+1.3**
ARG				*e*S		**Sn**		**04 01 20.9**	**-0.4**
APE	**Apeiranthos**	**1.29**	**310**	*e*P		**Pn**		**04 01 04.5**	**+0.2**
APE	**Apeiranthos**	**1.29**	**310**	*e*P		**Pn**		**04 01 04.5**	**+0.2**
NPS	**Neapolis**	**1.35**	**224**	*e*P		**Pn**		**04 01 05.8**	**+0.8**
NPS				*e*S		**Sn**		**04 01 24.9**	**-0.8**
NPS	**Neapolis**	**1.35**	**224**	*e*P		**Pn**		**04 01 05.8**	**+0.8**
NPS				*e*S		**Sn**		**04 01 24.9**	**-0.8**
TURN	**Turunc**	**1.61**	**66**	*i* P		Pn		04 01 05.2	-2.5
TURN				*i* S		Sn		04 01 23.8	-6.8
AYDN	**Tasoluk**	**1.68**	**32**	*i* P		**Pn**		**04 01 09.4**	**+0.9**
AYDN	**Tasoluk**	**1.68**	**32**	*i* P		**Pn**		**04 01 09.4**	**+0.9**
VAM	**Vamos**	**2.24**	**249**	*e*P		**Pn**		**04 01 16.1**	**+1.0**
VAM	**Vamos**	**2.24**	**249**	*e*P		**Pn**		**04 01 16.1**	**+1.0**
KSL	**Kastellorizon**	**2.29**	**91**	*e*P		**Pn**		**04 01 17.5**	**+1.9**
KSL	**Kastellorizon**	**2.29**	**91**	*e*P		**Pn**		**04 01 17.5**	**+1.9**
AKAS	**Kas**	**2.30**	**89**	*i* P		**Pn**		**04 01 17.5**	**+1.5**
AKAS				*i* S		**Sn**		**04 01 45.8**	**+0.4**
AKAS	**Kas**	**2.30**	**89**	*i* P		**Pn**		**04 01 17.5**	**+1.5**
AKAS				*i* S		**Sn**		**04 01 45.8**	**+0.4**
GOLH	**Golhisar**	**2.46**	**65**	*i* P		**Pn**		**04 01 19.5**	**+1.6**
GOLH				*i* S		**Sn**		**04 01 44.5**	**-4.4**
GOLH	**Golhisar**	**2.46**	**65**	*i* P		**Pn**		**04 01 19.5**	**+1.6**
ANKY	**Antikythira Is**	**2.83**	**263**	*e*P		**Pn**		**04 01 23.2**	**+0.8**
ANKY	**Antikythira Is**	**2.83**	**263**	*e*P		**Pn**		**04 01 23.2**	**+0.8**
KYTH	**Kithira**	**3.01**	**272**	*e*P		**Pn**		**04 01 25.8**	**+1.0**
KYTH	**Kithira**	**3.01**	**272**	*e*P		**Pn**		**04 01 25.8**	**+1.0**
GUR	**Goura**	**3.92**	**297**	*e*P		**Pn**		**04 01 38.2**	**+1.6**
GUR	**Goura**	**3.92**	**297**	*e*P		**Pn**		**04 01 38.2**	**+1.6**
ITM	**Ithomi**	**4.00**	**285**	*e*P		**Pn**		**04 01 39.1**	**+1.5**
ITM	**Ithomi**	**4.00**	**285**	*e*P		**Pn**		**04 01 39.1**	**+1.5**
PYL	**PYLOS**	**4.09**	**281**	*e*P		**Pn**		**04 01 39.1**	**+0.3**
PYL	**PYLOS**	**4.09**	**281**	*e*P		**Pn**		**04 01 39.1**	**+0.3**
SLUM		**4.91**	**196**	P		**Pn**		**04 01 51.0**	**+1.3**
	baz=194								
SLUM				S		**Sn**		**04 02 43.6**	**-2.2**
	baz=194								
SLUM		**4.91**	**196**	P		**Pn**		**04 01 51.0**	**+1.3**
SLUM				S		**Sn**		**04 02 43.6**	**-2.2**
HMAT	**Matruh**	**5.14**	**177**	S		**Sn**		**04 02 50.4**	**-1.0**
	baz=175								
HMAT	**Matruh**	**5.14**	**177**	S		**Sn**		**04 02 50.4**	**-1.0**
SWA2		**7.06**	**189**	P		**Pn**		**04 02 19.6**	**+1.0**
	baz=188								
SWA2				AMP				04 03 00.0	
	comp=E,20μm,0.3s,logA/T=4.8,baz=188								
SWA2		**7.06**	**189**	P		**Pn**		**04 02 19.6**	**+1.0**
GLL	**Jalalah**	**7.84**	**147**	P		**Pn**		**04 02 29.6**	**+0.6**
	baz=147								
GLL	**Jalalah**	**7.84**	**147**	P		**Pn**		**04 02 29.6**	**+0.6**
RSH		**7.84**	**130**	P		**Pn**		**04 02 29.3**	**+0.4**
	baz=131								
RSH				S		**Sn**		**04 03 51.3**	**-4.9**
	baz=131								
RSH		**7.84**	**130**	P		**Pn**		**04 02 29.3**	**+0.4**
SUZ		**8.17**	**140**	P		**Pn**		**04 02 34.0**	**+0.7**
	baz=140								
SUZ		**8.17**	**140**	P		**Pn**		**04 02 34.0**	**+0.7**
HNKL	**Nakhl**	**8.73**	**134**	P		**Pn**		**04 02 41.7**	**+0.7**
	baz=135								
HNKL	**Nakhl**	**8.73**	**134**	P		**Pn**		**04 02 41.7**	**+0.7**
HFRF	**Wahat Farafira**	**9.16**	**171**	P		**Pn**		**04 02 47.7**	**+1.0**
	baz=170								
HFRF				S		Sn		04 04 21.9	-6.3
	baz=170								
HFRF	**Wahat Farafira**	**9.16**	**171**	P		**Pn**		**04 02 47.7**	**+1.0**

*TIF **12** 04:25:13.2,43°.42N×45°.59E,h13km±2km*
*MOS **12** 04:25:13.9±1.1,43°.44N×45°.46E,h19km,mb3.9/1,Error*
ellipse: s-maj=8.3km s-min=7.1km az=178.2
*CSEM **12** 04:25:13.7±0.3,43°.40N×45°.55E,h5km,mb3.9,Error*
ellipse: s-maj=7.6km s-min=3.3km az=16.0
*ISCJB **12** 04:25:14.7±0.6,43°.49N±0°.05×45°.56E±0°.03,h28km±4km,*
Error ellipse: s-maj=7.8km s-min=3.4km az=14.0
ISC 12 04:25:14.9±1.0,**43°.37N**±0°.03×**45°.50E**±0°.02,**h14**km±9km,
n50,σ1°**09**/87,**3C-10D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.58**	**239**	⇓*i*PG		**Pg**		**04 25 25.3**	**-1.0**
SNJR				*e*S		**Sb**		**04 25 36.2**	**+1.1**
SNJR	**Sundja**	**0.58**	**239**	*i* Pg		**Pg**		**04 25 25.3**	**-1.0**
SNJR				*e*Sg		**Sb**		**04 25 36.2**	**+1.1**
TRKR	**Terskaya**	**0.66**	**303**	*e*PG		**Pg**		**04 25 26.9**	**-0.9**
TRKR				*e*S		**Sb**		**04 25 38.0**	**+0.8**
TRKR	**Terskaya**	**0.66**	**303**	*e*Pg		**Pg**		**04 25 26.9**	**-0.9**
TRKR				*e*Sg		**Sb**		**04 25 38.0**	**+0.8**
VLKR	**Vladikavkaz**	**0.68**	**242**	*e*PG		**Pg**		**04 25 28.1**	**-0.1**
VLKR				*e*S		**Sn**		**04 25 40.1**	**-0.5**
VLKR	**Vladikavkaz**	**0.68**	**242**	*e*Pg		**Pg**		**04 25 28.1**	**-0.1**
VLKR				*e*Sg		**Sn**		**04 25 40.1**	**-0.5**
BTKR	**Batakoyurt**	**0.70**	**271**	⇓*i*PG		**Pg**		**04 25 28.3**	**-0.2**
BTKR				*i* S		**Sn**		**04 25 40.6**	**-0.4**
BTKR	**Batakoyurt**	**0.70**	**271**	*i* Pg		**Pg**		**04 25 28.3**	**-0.2**
BTKR				*i* Sg		**Sn**		**04 25 40.6**	**-0.4**
BTLR	**Botlikh**	**0.88**	**143**	*e*PG		**Pb**		**04 25 30.5**	**-1.5**
BTLR				*e*S		**Sb**		**04 25 43.5**	**-0.1**
BTLR				pmax	pmax				
	comp=Z,49nm,0.3s								
BTLR	**Botlikh**	**0.88**	**143**	*e*Pg		**Pb**		**04 25 30.5**	**-1.5**
	comp=Z,49nm,0.3s								
BTLR				*e*Sg		**Sb**		**04 25 43.5**	**-0.1**
ARNR	**Ardon**	**0.91**	**258**	*e*PG		**Pb**		**04 25 32.2**	**-0.2**
ARNR				*e*S		**Sn**		**04 25 47.0**	**+0.9**
ARNR	**Ardon**	**0.91**	**258**	*e*Pg		**Pb**		**04 25 32.2**	**-0.2**
ARNR				*e*Sg		**Sn**		**04 25 47.0**	**+0.9**
PRTR	**Priterechnaya**	**0.96**	**294**	⇓*i*PG		**Pb**		**04 25 32.6**	**-0.7**
PRTR				*e*S		**Sn**		**04 25 47.8**	**+0.3**
PRTR	**Priterechnaya**	**0.96**	**294**	*i* Pg		**Pb**		**04 25 32.6**	**-0.7**
PRTR				*e*Sg		**Sn**		**04 25 47.8**	**+0.3**
LACR	**Lac**	**1.03**	**239**	⇓*i*PG		**Pb**		**04 25 32.8**	**-1.8**
LACR				*e*S		**Sn**		**04 25 49.4**	**0.0**
LACR	**Lac**	**1.03**	**239**	*i* Pg		**Pb**		**04 25 32.8**	**-1.8**
LACR				*e*Sg		**Sn**		**04 25 49.4**	**0.0**
STDR	**Stavd-Durt**	**1.05**	**271**	⇓*i*PG		**Pb**		**04 25 34.3**	**-0.5**
STDR				*e*S		**Sn**		**04 25 51.1**	**+1.5**
STDR	**Stavd-Durt**	**1.05**	**271**	*i* Pg		**Pb**		**04 25 34.3**	**-0.5**
STDR				*e*Sg		**Sn**		**04 25 51.1**	**+1.5**
KORR	**Kora**	**1.08**	**255**	⇓*i*PG		**Pb**		**04 25 34.6**	**-0.8**
KORR				*i* S		**Sn**		**04 25 52.0**	**+1.5**
KORR	**Kora**	**1.08**	**255**	*i* Pg		**Pb**		**04 25 34.6**	**-0.8**
KORR				*i* Sg		**Sn**		**04 25 52.0**	**+1.5**
UNCR	**Uncukul**	**1.15**	**124**	⇑*i*PG		**Pn**		**04 25 35.0**	**-1.6**
UNCR				*e*S		**Sg**		**04 25 54.0**	**+1.9**
UNCR				pmax	pmax				
	comp=Z,135nm,0.2s								
UNCR	**Uncukul**	**1.15**	**124**	*i* Pg		**Pn**		**04 25 35.0**	**-1.6**
	comp=Z,135nm,0.2s								
KRNR	**Karanay**	**1.16**	**117**	*e*PG		**Pn**		**04 25 35.5**	**-1.3**
KRNR				*e*S		**Sg**		**04 25 52.8**	**+0.3**
KRNR				pmax	pmax				
	comp=Z,57nm,0.2s								
KRNR	**Karanay**	**1.16**	**117**	*e*Pg		**Pn**		**04 25 35.5**	**-1.3**
	comp=Z,57nm,0.2s								
KRNR				*e*Sg		**Sg**		**04 25 52.8**	**+0.3**
LSNR	**Lesken**	**1.22**	**266**	⇓*i*PG		**Pn**		**04 25 36.7**	**-0.9**
LSNR				*e*S		**Sg**		**04 25 55.7**	**+1.3**
LSNR	**Lesken**	**1.22**	**266**	*i* Pg		**Pn**		**04 25 36.7**	**-0.9**
LSNR				*e*Sg		**Sg**		**04 25 55.7**	**+1.3**
BUJR	**Buynaksk**	**1.30**	**114**	⇓*i*PG		**Pg**		**04 25 39.8**	**0.0**
BUJR				*e*S		**Sg**		**04 25 59.0**	**+2.3**
BUJR				pmax	pmax				
	comp=Z,80nm,0.2s								
BUJR	**Buynaksk**	**1.30**	**114**	*i* Pg		**Pg**		**04 25 39.8**	**0.0**
	comp=Z,80nm,0.2s								
ZEI	**Tsey**	**1.31**	**244**	⇓*i*PG		**Pn**		**04 25 37.0**	**-1.9**
ZEI				*i* S		**Sn**		**04 25 56.2**	**0.0**
ARKR	**Arakani**	**1.34**	**124**	*e*PG		**Pn**		**04 25 38.5**	**-0.7**
ARKR				*e*S		**Sb**		**04 25 57.0**	**+0.2**
ARKR				pmax	pmax				
	comp=Z,34nm,0.1s								
ARKR	**Arakani**	**1.34**	**124**	*e*Pg		**Pn**		**04 25 38.5**	**-0.7**
	comp=Z,34nm,0.1s								
ARKR				*e*Sg		**Sb**		**04 25 57.0**	**+0.2**
NCK	**Nalchik**	**1.39**	**276**	*de*PG		Pn		04 25 34.0	-5.9
DIGR	**Digorskoe uzhe**	**1.48**	**252**	*e*PG		**Pn**		**04 25 39.4**	**-1.9**
DIGR				*i* S		**Sn**		**04 26 00.8**	**+0.3**
MAK	**Makhachkala**	**1.52**	**105**	*e*PG		**Sg**		**04 26 05.3**	**+1.4**
ONI	**Oni**	**1.69**	**243**	P		**Pn**		**04 25 43.4**	**-0.6**
ONI				S		**Sb**		**04 26 06.9**	**0.0**
ONI	**Oni**	**1.69**	**243**	PN		**Pn**		**04 25 43.4**	**-0.6**
ONI				S		**Sb**		**04 26 06.9**	**0.0**
ONI	**Oni**	**1.69**	**243**	Pn		**Pn**		**04 25 43.4**	**-0.6**
ONI				S		**Sb**		**04 26 06.9**	**0.0**
KMKR	**Kumukh**	**1.71**	**136**	*e*PN		**Pn**		**04 25 45.0**	**+0.6**
KMKR				pmax	pmax				
	comp=Z,42nm,0.2s								
KMKR	**Kumukh**	**1.71**	**136**	*e*Pn		**Pn**		**04 25 45.0**	**+0.6**
	comp=Z,42nm,0.2s								
TBLG	**Delisi**	**1.73**	**199**	P		**Pb**		**04 25 45.7**	**-0.7**
TBLG				S		**Sb**		**04 26 09.7**	**+1.7**
TBLG	**Delisi**	**1.73**	**199**	PN		**Pb**		**04 25 45.7**	**-0.7**
TBLG				S		**Sg**		**04 26 10.0**	**-0.5**
TBLG	**Delisi**	**1.73**	**199**	P		**Pb**		**04 25 45.7**	**-0.7**
TBLG				S		**Sb**		**04 26 09.7**	**+1.7**
TBLG				Sg		**Sg**		**04 26 10.0**	**-0.5**
DGRG	**David-gareji**	**1.92**	**183**	P		**Pn**		**04 25 48.2**	**+1.0**
DGRG				S		**Sg**		**04 26 17.5**	**+0.9**
DGRG	**David-gareji**	**1.92**	**183**	PN		**Pn**		**04 25 48.2**	**+1.0**
DGRG				S		**Sg**		**04 26 17.5**	**+0.9**
DGRG	**David-gareji**	**1.92**	**183**	P		**Pn**		**04 25 48.2**	**+1.0**
DGRG				Sg		**Sg**		**04 26 17.5**	**+0.9**
NEY	**Neytrino**	**2.03**	**268**	*e*PN		**Pn**		**04 25 46.3**	**-2.5**
KIV	**Kislovodsk**	**2.12**	**287**⇑	*e*PN		Pn		04 25 46.5	-3.5
KIV				pmax	pmax				
	comp=Z,6.0nm,0.7s								
GOF	**Gofitskoye**	**2.44**	**315**	*e*PN		Pg		04 26 06.6	+4.9
GOF				*e*S		**Sg**		**04 26 36.6**	**+3.2**
GOF				pmax	pmax				
	comp=Z,20nm,0.8s								
GOF				smax	smax				
	comp=N,160nm,1.2s								
GOF				smax	smax				
	comp=E,70nm,0.8s								
GNI	**Garni**	**3.27**	**190***c*	*e*PN		**Pg**		**04 26 17.7**	**+0.3**
ANN	**Anapa**	**5.98**	**287**	*e*P		Pn		04 26 37.1	-5.8

*MOS **12** 04:41:48.3±0.7,1°.00N×120°.12E,h36km,mb4.9/34,Error*
ellipse: s-maj=14.9km s-min=6.9km az=115.6
*DJA **12** 04:41:48.9±0.4,1°.N±3°×12°.0E±°,h10km,M4.6/16,mb4.9/9,*
mB4.9/8,MLv4.8/16,Mw(mB)4.2/8
*BJI **12** 04:41:49.7,0°.99N×120°.10E,h45km,mb4.8/37,mB4.9/27,*
Ms4.4/16,Ms7 4.1/16
*IDC **12** 04:41:50.0±0.5,0°.98N×120°.08E,h34km±3km,mb4.3/24,*
mb1 4.3/26,mb1mx4.2/42,mbtmp4.4/26,ML3.6/2,MS3.9/4,
Ms1 4.0/4,ms1mx3.3/32,Error ellipse: s-maj=16.4km
s-min=9.1km az=77.0
*ISCJB **12** 04:41:49.8±0.5,1°.03N±0°.03×120°.10E±0°.03,h46km±5km,*
mb4.7/69,MS3.9/3,Error ellipse: s-maj=5.9km
s-min=4.3km az=138.8
*NEIC **12** 04:41:50.2±0.2,1°.04N×120°.15E,mb4.8/32,Error ellipse:*
s-maj=6.7km s-min=4.2km az=65.0
*KLM **12** 04:41:51.3,1°.17N×120°.17E,h55km,mb4.8,ML5.0,MS6.0*
ISC 12 04:41:51.0±0.3,**0°.99N**±0°.03×**120°.06E**±0°.04,**h41**km±2km,
h41km:**pP-P,n179,**σ1°**60**/235,**mb4.8**/76,**MS4.0**/3,**9C-7D,**
Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.67**	**194**	P		**Pn**		**04 42 02.7**	**-1.3**
MPSI				S		**Sn**		**04 42 13.0**	**-0.4**
TOLI	**Toli-Toli**	**0.75**	**80**	*e*Pn		**Pn**		**04 42 03.6**	**-1.5**
PCI	**Palu**	**1.89**	**187**	P		**Pn

COEN Coen 27.29 124 eP P 04 47 33.1 +1.1
AS31 Alice Springs 27.96 152 eP P 04 47 37.4 -0.5
ASAR Alice Springs 27.96 152 P P 04 47 37.5 -0.3
comp=Z,14nm,0.5s,baz=338,slow=11,SNR=230
ASAR PcP PcP 04 50 52.6 0.0
comp=Z,3.9nm,0.6s,baz=345,slow=2.2,SNR=16
ASAR pPcP 04 51 04.0
comp=Z,1.6nm,0.4s,baz=340,slow=2.5,SNR=8.2
ASAR Alice Springs 27.96 152 P P 04 47 37.6 -0.3
ASAR 04 50 52.6
ASAR pmax pmax
comp=Z,14nm,0.5s
ASAR pmax pmax
comp=Z,4.0nm,0.6s
ASAR pmax pmax
comp=Z,2.0nm,0.4s
GYA Guiyang 28.42 334 eP P 04 47 43.8 +1.8
GYA pP pP 04 47 55.0 +1.7
GYA sP sP 04 48 01.2 +3.0
GYA PP PnPn 04 48 37.6 +5.1
GYA S S 04 52 28.4 +1.8
GYA sS sS 04 52 47.7 +2.3
GYA SS SnSn 04 53 55.0 +7.5
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,90nm,4.8s
GYA LN
comp=Z,460nm,16.8s
GYA LE
comp=Z,380nm,17.2s
GYA LZ
comp=Z,450nm,16.9s
PMG Port Moresby 28.90 112 eP P 04 47 45.6 -0.7
comp=Z,25nm,0.9s
NJ2 Nanjing 30.92 358 eP P 04 48 03.5 -0.5
NJ2 PMZ
comp=Z,20nm,0.7s
FORT Forrest 32.49 167 eP P 04 48 17.7 -0.1
comp=Z,31nm,0.8s
CTA Charters Tower 33.13 131 P P 04 48 21.8 -1.8
comp=Z,12nm,1.0s,baz=301,slow=10,SNR=6.4
CTA Charters Tower 33.13 131 P P 04 48 21.8 -1.8
CTA pmax pmax
comp=Z,12nm,1.0s
CTAO Charters Tower 33.13 131 eP P 04 48 23.0 -0.6
comp=Z,20nm,1.1s
CD2 Chengdu 33.53 334 eP P 04 48 28.1 +1.1
CD2 pP pP 04 48 39.4 +1.1
CD2 sP sP 04 48 44.5 +1.3
CD2 PP PP 04 49 44.8 +1.3
CD2 S S 04 53 48.9 +2.4
CD2 sS sS 04 54 08.2 +2.9
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
JNU Nakatsue 33.54 17 P P 04 48 26.8 -0.3
comp=Z,6.5nm,0.9s,baz=234,slow=14,SNR=2.6
NWAO Narrogin (SRO) 33.84 184 P P 04 48 29.8 +0.2
comp=Z,43nm,0.8s,baz=329,slow=6.5,SNR=24
NWAO Narrogin (SRO) 33.84 184 P P 04 48 29.8 +0.2
NWAO pmax pmax
comp=Z,43nm,0.8s
SHL Shillong 36.54 314 eP P 04 48 58.0 +4.8
BBOO Buckleboo 36.85 157 eP P 04 48 55.0 -0.5
comp=Z,21nm,0.8s
KSAR Wonju Array Be 36.99 10 P P 04 48 56.7 +0.1
KSRS Korea Array 37.01 10 P P 04 48 56.7 0.0
comp=Z,2.5nm,0.8s,baz=183,slow=10.0,SNR=9.3
KSRS Korea Array 37.01 10 P P 04 48 56.7 0.0
KSRS pmax pmax
comp=Z,3.0nm,0.8s
LZH Lanzhou 38.03 338 eP P 04 49 08.8 +3.2
LZH pP pP 04 49 20.3 +3.3
LZH sP sP 04 49 24.7 +2.8
LZH PMZ
comp=Z,12nm,1.0s
STKA Stephens Creek 38.53 150 P P 04 49 09.6 -0.1
comp=Z,33nm,0.9s,baz=321,slow=8.3,SNR=46
STKA LR LR 05 08 17.2
comp=Z,202nm,18.1s,baz=202,slow=41
STKA Stephens Creek 38.53 150 P P 04 49 09.6 -0.1
STKA pmax pmax
comp=Z,33nm,0.9s
STKA MLR MLR
comp=Z,202nm,18.1s
STKA Stephens Creek 38.53 150 eP P 04 49 09.9 +0.2
comp=Z,7.3nm,1.0s
BJI Beijing 39.03 355 P P 04 49 13.9 +0.2
BJI pP pP 04 49 25.7 +0.5
BJI sP sP 04 49 30.8 +0.7
BJI PP PP 04 50 44.5 +0.7
BJI S S 04 55 09.8 -0.3
BJI PMZ
comp=Z,12nm,0.6s
BJI PMZ
comp=Z,60nm,5.4s
BJI LN
comp=Z,130nm,23.1s
BJI LE
comp=Z,74nm,17.5s
BJI LZ
comp=Z,87nm,22.4s
MAJO Matsushiro 39.17 23 eP P 04 49 13.8 -1.2
MAJO pmax pmax
comp=Z,45nm,1.1s
MAJO Matsushiro 39.17 23 eP P 04 49 13.8 -1.2
comp=Z,6.1nm,0.8s
MAT Matsushiro 39.17 23 P P 04 49 13.3 -1.7
MJAR Matsushiro Arr 39.17 23 P P 04 49 13.4 -1.6
comp=Z,6.1nm,0.8s,baz=196,slow=9.5
MJAR Matsushiro Arr 39.17 23 P P 04 49 13.4 -1.6
MJAR pmax pmax
comp=Z,6.0nm,0.9s
LSA Lhasa 39.65 319 eP P 04 49 20.9 +1.3
comp=Z,20nm,0.7s
HHC Hu-ho-hao-te 40.42 350 eP P 04 49 26.3 +0.8
HHC pP pP 04 49 38.8 +1.9
HHC sP sP 04 49 44.2 +2.4
HHC PP PnPn 04 51 04.3 +1.2
HHC S S 04 55 28.5 -2.6
HHC PMZ
comp=Z,31nm,1.0s
HHC PMZ
comp=Z,83nm,5.7s
HHC LN
comp=Z,130nm,13.0s
HHC LE
comp=Z,240nm,13.4s
HHC LZ
comp=Z,110nm,13.8s
ODAN Odare 40.57 312 eP P 04 49 28.3 +1.2
TAPN Taplejung 40.61 313 eP P 04 49 27.9 +0.4
comp=Z,44nm,0.9s
RAMN Ramite 41.21 312 eP P 04 49 32.8 +0.4
comp=Z,29nm,0.9s
JIRN Jiri 41.90 312 eP P 04 49 38.2 0.0
comp=Z,18nm,0.6s
GUN Gumba 42.27 312 eP P 04 49 41.4 +0.2
comp=Z,26nm,0.6s
PKI Pulchoki 42.44 312 eP P 04 49 42.2 -0.3
comp=Z,8.0nm,0.5s
GTA Gaotai 42.48 337 eP P 04 49 43.0 +0.6
GTA pP pP 04 49 52.9 -1.0
GTA sP sP 04 49 56.8 -2.0
GTA S S 04 56 03.1 +1.4
GTA sS sS 04 56 19.3 -1.6
GTA SS SS 04 59 07.6 -4.7
GTA PMZ
comp=Z,13nm,1.0s
GTA PMZ
comp=Z,82nm,4.3s
GTA LN
comp=Z,120nm,16.6s
GTA LE
comp=Z,120nm,13.3s
GTA LZ
comp=Z,190nm,14.2s
DMN Daman 42.68 311 eP P 04 49 44.5 +0.1
GKN Gorkha 43.24 312 eP P 04 49 48.8 0.0
comp=Z,24nm,0.7s
ARMA Armidale 43.34 139 eP P 04 49 51.3 +1.8
KOLN Koldanda 43.90 311 eP P 04 49 54.6 +0.4
comp=Z,37nm,0.6s
MDJ Mudanjiang 44.26 10 eP P 04 49 57.0 +0.5
comp=Z,21nm,0.9s
USRK Ussuriysk Ar. 44.31 12 P P 04 49 56.6 -0.4
comp=Z,4.6nm,0.8s,baz=172,slow=5.8,SNR=8.5
CAN Canberra 45.12 146 eP P 04 50 04.2 +0.7
comp=Z,41nm,0.8s
ASAJ Asahikawa 47.39 22 P P 04 50 21.4 +0.2
comp=Z,12nm,0.7s,baz=222,slow=7.8
ASAJ Asahikawa 47.39 22 P P 04 50 21.4 +0.2
ASAJ pmax pmax
comp=Z,12nm,0.7s
ASAJ Asahikawa 47.39 22 eP P 04 50 21.5 +0.2
comp=Z,5.5nm,0.8s
SONM Songino Array 48.15 348 P P 04 50 27.3 +0.1
comp=Z,6.2nm,0.8s,baz=165,slow=8.6,SNR=26
SONM pP pP 04 50 37.6 -1.3
comp=Z,2.9nm,0.8s,baz=166,slow=7.5,SNR=6.4
SONM Songino Array 48.15 348 P P 04 50 27.3 +0.1
SONM *PP pP 04 50 37.6 -1.3
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM pmax pmax
comp=Z,3.0nm,0.8s
ZAK Zakamensk 51.24 346 eP P 04 50 49.1 -1.6
ZAK pmax pmax
comp=Z,2.0nm,1.3s
WMQ Urumqi 51.46 330 P P 04 50 53.4 +1.0
WMQ pP pP 04 51 05.9 +1.8
WMQ sP sP 04 51 11.2 +2.2
WMQ PcP PcP 04 52 07.7 +1.3
WMQ PP PP 04 52 51.6 +1.7
WMQ PMZ
comp=Z,24nm,0.8s
WMQ PMZ
comp=Z,35nm,4.8s
WMQ LN
comp=Z,29nm,11.2s
WMQ LE
comp=Z,38nm,12.3s
WMQ LZ
comp=Z,45nm,13.5s
TLY Talaya 52.37 347 P P 04 50 59.3 +0.3
comp=Z,4.3nm,0.7s,baz=218,slow=5.6,SNR=4.3
TLY Talaya 52.37 347 eP P 04 51 00.3 +1.3
TLY eS S 04 58 18.8 -3.0
TLY pmax pmax
comp=Z,5.0nm,0.6s
KSH Kashi 55.50 319 eP P 04 51 23.5 +1.3
KSH epP pP 04 51 37.3 +3.2
KSH PP PP 04 53 31.0 +4.4
KSH PcS PcS 04 56 21.2 -0.9
KSH S S 04 59 05.7 +0.9
KSH sS sS 04 59 27.1 +2.6
KSH ScS ScS 05 01 06.7 -1.7
KSH SS SS 05 02 51.7 +1.5
KSH PMZ
comp=Z,13nm,0.8s
KSH PMZ
comp=Z,52nm,3.6s
KSH LN
comp=Z,51nm,4.2s
KSH LE
comp=Z,66nm,4.8s
KSH LZ
comp=Z,91nm,4.1s
PDGK Podgornoye 55.53 325 P P 04 51 22.9 +0.7
PDGK pmax pmax
comp=Z,23nm,0.8s
MK31 Makanchi Array 56.26 330 i P P 04 51 27.8 +0.4
MK31 pmax pmax
comp=Z,7.0nm,0.6s
MK31 Makanchi Array 56.26 330 eP P 04 51 27.7 +0.4
MKAR Makanchi Array 56.26 330 P P 04 51 27.9 +0.5
comp=Z,6.4nm,0.7s,baz=131,slow=8.6,SNR=48
MKAR pP pP 04 51 38.2 -1.1
comp=Z,11nm,0.8s,baz=134,slow=8.6,SNR=25
MKAR Makanchi Array 56.26 330 P P 04 51 27.9 +0.5
MKAR *PP pP 04 51 38.2 -1.1
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR pmax pmax
comp=Z,11nm,0.8s
BOD Bodaibo 56.87 356 eP P 04 51 31.6 +0.2
BOD pmax pmax
comp=Z,9.0nm,0.9s
SFK Sufi-Kurgan 57.38 319 P P 04 51 36.8 +1.1
SFK pmax pmax
comp=Z,4.0nm,0.6s
TKM2 Tokmak 2 57.60 322 P P 04 51 37.0 -0.2
TKM2 pmax pmax
comp=Z,17nm,1.2s
TKM2 Tokmak 2 57.60 322 eP P 04 51 37.5 +0.3
comp=Z,1.7nm,0.8s
KBL Kabul 58.07 311 eP P 04 51 41.7 +1.0
comp=Z,8.0nm,0.6s
AAK Ala-Archa 58.12 322 P P 04 51 41.0 +0.2
comp=Z,1.3nm,0.4s,baz=189,slow=16,SNR=3.3
AAK pP pP 04 51 51.8 -1.0
comp=Z,6.8nm,0.6s,baz=138,slow=6.0,SNR=5.4
AAK Ala-Archa 58.12 322 P P 04 51 41.0 +0.2
AAK *PP pP 04 51 51.8 -1.0
AAK pmax pmax
comp=Z,1.0nm,0.4s
AAK pmax pmax
comp=Z,7.0nm,0.6s
AAK Ala-Archa 58.12 322 eP P 04 51 42.1 +1.3
comp=Z,18nm,1.3s
AAK pP pP 04 51 51.8 -1.0
EKS2 Erkin-Say 58.58 321 eP P 04 51 44.2 +0.2
comp=Z,4.6nm,0.6s
EKS2 epP pP 04 51 54.9 -1.1
MNAS Manas 59.29 321 P P 04 51 49.1 +0.2
MNAS pmax pmax
comp=Z,15nm,1.3s
DZET Dzherino 60.01 315 P P 04 51 54.1 +0.2
DZET pmax pmax
comp=Z,18nm,0.9s
ZAA0 Zalesovo Array 60.23 337 eP P 04 51 53.7 -1.2
ZAA0 epP pP 04 52 04.5 -2.4
ZALV Zalesovo Beam 60.23 337 P P 04 51 54.2 -0.6
comp=Z,5.8nm,0.8s,baz=128,slow=6.3,SNR=21
ZALV pP pP 04 52 04.5 -2.4
comp=Z,8.3nm,0.7s,baz=130,slow=6.4,SNR=13
ZALV Zalesovo Beam 60.23 337 P P 04 51 54.3 -0.6
ZALV *PP pP 04 52 04.5 -2.4
ZALV pmax pmax
comp=Z,6.0nm,0.8s
ZALV pmax pmax
comp=Z,8.0nm,0.7s
PETK Petropavlovsk- 60.59 25 P P 04 51 57.2 -0.2
comp=Z,3.1nm,0.8s,baz=206,slow=9.7,SNR=4.0
PETK Petropavlovsk- 60.59 25 P P 04 51 57.3 -0.2
PETK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 60.68 331 P P 04 51 57.8 -0.2
KURK pmax pmax
comp=Z,20nm,0.9s
KURK Kurchatov 60.68 331 eP P 04 51 58.2 +0.2
comp=Z,43nm,0.9s
KURK epP pP 04 52 08.3 -1.7
KK31 Karatay Array 60.87 320 i P P 04 51 59.5 -0.1
KK31 pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 60.87 320 eP P 04 52 00.5 +0.9
comp=Z,4.3nm,0.9s
IMYA Miami 65.53 310 eP P 04 52 32.2 +1.4
BVA0 Borovoye Array 66.14 330 i P P 04 52 34.2 +0.1
BVA0 pmax pmax
comp=Z,12nm,1.1s
BRVK Borovoye 66.21 330 c iP P 04 52 35.2 +0.6
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 66.21 330 eP P 04 52 34.8 +0.2
comp=Z,12nm,0.8s
BRVK epP pP 04 52 44.6 -2.1
IKRD Kardeh 66.88 310 eP P 04 52 35.4 -4.1
IPAR Pars 69.65 301 eP P 04 52 58.3 +1.2
AB31 Akbulak array 70.16 323 P P 04 52 59.5 +0.1
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 70.16 323 eP P 04 52 59.3 -0.1
comp=Z,8.1nm,0.9s
ABKAR epP pP 04 53 09.6 -2.1
IKAZ Kazeroun 70.67 301 eP P 04 53 01.8 -1.6
TIXI Tiksi 70.78 3 P P 04 53 01.5 -1.2
TIXI pmax pmax
comp=Z,2.0nm,0.8s
AKTO Aktyubinsk 71.77 324 P P 04 53 08.6 -0.6
AKTO pmax pmax
comp=Z,9.0nm,0.8s
SVE Sverdlovsk 72.91 330 i P P 04 53 26.2 +10
SVE pmax pmax
comp=Z,23nm,0.8s
ARU Arti 73.78 329 d iP P 04 53 20.5 -0.5
ARU *PP pP 04 53 30.8 -2.4
ARU 04 56 04.5
ARU S S 05 02 51.8 +2.6
ARU SS SS 05 07 28.7 -4.8
ARU pmax pmax
comp=Z,5.0nm,0.8s
ARU Arti 73.78 329 eP P 04 53 20.8 -0.2
comp=Z,24nm,1.4s
ARU epP pP 04 53 30.9 -2.4
RAYN Ar Rayn 75.45 294 eP P 04 53 30.7 -0.8
comp=Z,4.6nm,0.8s
RAYN epP pP 04 53 40.6 -3.1
MAW Mawson 78.94 199 P P 04 53 50.0 +0.1
comp=Z,2.1nm,0.8s,baz=30,slow=10,SNR=4.3
MAW Mawson 78.94 199 P P 04 53 50.0 +0.1
MAW pmax pmax
comp=Z,2.0nm,0.8s
ZEI Tsey 79.18 313 eP P 04 53 55.7 +3.6
ZEI pmax pmax
comp=Z,7.0nm,0.5s
VNDA Vanda 81.64 172 P P 04 54 04.1 -0.2
comp=Z,2.8nm,0.8s,baz=309,slow=6.8,SNR=20
VNDA LR LR 05 30 15.1
comp=Z,76nm,19.7s,baz=330,slow=36
VNDA Vanda 81.64 172 P P 04 54 04.1 -0.2
VNDA pmax pmax
comp=Z,3.0nm,0.8s
VNDA MLR MLR
comp=Z,76nm,19.7s
VNDA Vanda 81.64 172 eP P 04 54 03.8 -0.6
comp=Z,2.9nm,0.8s
PRGR Permogore 81.77 332 P P 04 54 04.2 -1.1
PRGR e*PP PcP 04 54 13.5 +2.6
PRGR pmax pmax
comp=Z,8.0nm,0.8s
KMBO Kilima Mbogo 82.83 269 P P 04 54 12.1 -0.1
comp=Z,0.5nm,0.3s,baz=232,slow=20,SNR=2.3
KMBO pP pP 04 54 23.2 -1.4
comp=Z,1.1nm,0.4s,baz=37,slow=7.4,SNR=2.9
KMBO Kilima Mbogo 82.83 269 P P 04 54 12.1 -0.1
KMBO *PP pP 04 54 23.3 -1.4
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO pmax pmax
comp=Z,1.0nm,0.4s
VORD Divnogorie 83.41 321 eP P 04 54 14.5 +0.4
VORD pmax pmax
comp=N,6.0nm,0.5s
VORD pmax pmax
comp=E,3.0nm,0.5s
VORD pmax pmax
comp=Z,3.0nm,0.5s
VSR Storozhevoye 83.52 321 eP P 04 54 13.5 -1.2
VSR pmax pmax
comp=N,4.0nm,0.7s
VSR pmax pmax
comp=E,3.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 83.82 323 eP P 04 54 20.4 +4.2
LPSR pmax pmax
comp=N,4.0nm,0.7s
LPSR pmax pmax
comp=E,6.0nm,0.7s
LPSR pmax pmax
comp=Z,10.0nm,0.7s
BR131 Keskin Array S 86.62 310 eP P 04 54 29.9 -0.8
comp=Z,3.7nm,0.7s
BR131 epP pP 04 54 40.2 -3.0
BRTR Keskin Array B 86.62 310 P P 04 54 29.9 -0.7
comp=Z,1.4nm,0.7s,baz=126,slow=5.7,SNR=12
BRTR pP pP 04 54 40.4 -2.8
comp=Z,5.5nm,0.8s,baz=129,slow=5.7,SNR=17
BRTR Keskin Array B 86.62 310 P P 04 54 30.0 -0.7
BRTR *PP pP 04 54 40.4 -2.8
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR pmax pmax
comp=Z,6.0nm,0.8s
SYO Syowa Base 87.50 201 eP P 04 54 34.0 0.0
AKASG Malin Array Be 89.78 321 P P 04 54 43.9 -1.3
comp=Z,0.2nm,0.3s,baz=61,slow=4.2,SNR=3.4
ILAR Eielson Array 90.42 25 P P 04 54 47.6 -0.4
comp=Z,0.3nm,0.8s,baz=282,slow=4.2,SNR=3.5
ARCES ARCESS Array B 90.68 339 P P 04 54 48.9 -0.2
comp=Z,1.1nm,0.7s,baz=88,slow=5.7,SNR=2.9
ARCES pP pP 04 54 59.4 -2.3
comp=Z,3.0nm,0.7s,baz=88,slow=7.0,SNR=4.2
ARCES ARCESS Array B 90.68 339 P P 04 54 48.9 -0.2
ARCES *PP pP 04 54 59.4 -2.3
ARCES pmax pmax
comp=Z,1.0nm,0.7s
ARCES pmax pmax
comp=Z,3.0nm,0.7s
KECS Kecovo 95.62 319 eP P 04 55 09.8 -2.5
KECS pmax pmax
comp=Z,1.0nm,0.8s
KECS Kecovo 95.62 319 e P 04 55 09.8 -2.5
KECS epP pP 04 55 22.7 -2.2
KECS e 04 55 28.4
TORD Torodi Ar. Bea 117.31 285 PKP PKPdf 05 00 31.6 -1.5
comp=Z,0.3nm,1.0s,baz=86,slow=2.8,SNR=2.7
TORD PKKPbc PKKPbc 05 10 58.5 +1.9
comp=Z,0.9nm,0.8s,baz=273,slow=3.9,SNR=5.5
TXAR Lajitas Array 128.50 50 PKP PKPdf 05 00 54.3 -0.1
comp=Z,0.1nm,0.4s,baz=280,slow=2.0,SNR=2.5

IDC **12** *04:48:11.9±0.6, 18°.42N×146°.15E, h118km±5km, mb3.7/14, mb1 3.9/16, mb1mx3.7/43, mbtmp4.1/16, MS3.5/1, Ms1 3.5/1, ms1mx2.7/27, Error ellipse: s-maj=18.0km s-min=10.2km az=94.0*

ISCJB **12** *04:48:13.4±0.6, 18°.36N±0°.06×146°.0E±0°.2, h145km, mb3.9/14, Error ellipse: s-maj=22.5km s-min=7.7km az=5.0*

ISC 12 04:48:13.7±0.6, 18°.39N±0°.08×146°.0E±0°.2, h145km, n20, σ2s 63/25, mb3.9/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.90**	**193**	P	**Pn**	**04 49 24.7**	**-1.0**
	18nm,0.3s,baz=110,slow=3.7,SNR=14						
GUMO				S	**Sn**	**04 50 22.0**	**+0.1**
	39nm,0.3s,baz=202,slow=22,SNR=7.1						
MJAR	**Matsushiro Arr**	**19.36**	**341**	P	**Pn**	**04 52 29.3**	**-1.4**
	baz=170,slow=10						
KSRS	**Korea Array**	**24.76**	**324**	P	**P**	**04 53 23.8**	**+2.0**
	1.2nm,0.7s,baz=146,slow=7.5,SNR=4.6						
ASAJ	**Asahikawa**	**25.82**	**354**	LR	LR	05 03 03.2	
	comp=Z,114nm,21.3s,baz=331,slow=35						
WRA	**Warramunga Arr**	**39.78**	**197**	P	**P**	**04 55 33.6**	**+1.0**
	1.2nm,0.5s,baz=21,slow=8.9,SNR=5.1						
WRA				PcP	**PcP**	**04 57 37.9**	**+1.8**
	0.2nm,0.3s,baz=18,slow=4.3,SNR=5.7						
ASAR	**Alice Springs**	**43.44**	**196**	P	**P**	**04 56 03.2**	**+0.8**
	0.7nm,0.6s,baz=17,slow=12,SNR=13						
ASAR				PcP	**PcP**	**04 57 49.8**	**+1.6**
	0.7nm,0.8s,baz=0.0,slow=3.9,SNR=4.7						
SONM	**Songino Array**	**43.59**	**321**	pP	pP	04 56 31.8	-4.0
	1.2nm,0.6s,baz=136,slow=7.4,SNR=4.5						
SEY	**Seymchan**	**44.72**	**4**	P	**P**	**04 56 14.0**	**+1.9**
	1.0nm,0.5s,baz=77,slow=22,SNR=4.0						
ZALV	**Zalesovo Beam**	**58.46**	**323**	P	**P**	**04 57 54.5**	**+0.3**
	1.3nm,0.5s,baz=120,slow=10,SNR=5.3						
ZALV				pP	**pP**	**04 58 24.1**	**-4.3**
	1.3nm,0.7s,baz=42,slow=4.6,SNR=2.1						
MKAR	**Makanchi Array**	**58.91**	**314**	P	P	04 58 00.5	+2.9
	0.9nm,0.6s,baz=94,slow=8.8,SNR=12						
KURBB	**Kurchatov Arra**	**61.77**	**318**	P	**P**	**04 58 17.7**	**+0.9**
	3.6nm,0.8s,baz=95,slow=7.3,SNR=35						
KURBB				pP	**pP**	**04 58 46.6**	**-4.7**
	1.3nm,0.5s,baz=91,slow=7.7,SNR=4.1						
ILAR	**Eielson Array**	**63.78**	**26**	P	**P**	**04 58 29.5**	**-0.5**
	0.7nm,0.4s,baz=249,slow=6.2,SNR=18						
BVAR	**Borovoye Array**	**66.92**	**320**	P	**P**	**04 58 51.5**	**+1.1**
	4.3nm,0.6s,baz=99,slow=7.7,SNR=22						
BVAR				pP	**pP**	**04 59 21.1**	**-4.2**
	0.8nm,0.4s,baz=103,slow=7.0,SNR=2.8						
YKA	**Yellowknife Ar**	**78.11**	**28**	P	P	**04 59 57.7**	**+1.4**

1.9nm,0.7s,baz=287,slow=5.6,SNR=10
ARCES ARCESS Array B 82.89 342 P P 05 00 23.5 +1.8
2.5nm,0.9s,baz=68,slow=6.7,SNR=3.9
ARCES pP pP 05 00 52.0 -6.1
4.8nm,1.0s,baz=38,slow=6.1,SNR=2.7
NVAR Mina Array Bea 83.08 52 P P 05 00 25.3 +1.7
1.2nm,0.6s,baz=262,slow=6.3,SNR=11
NVAR pP **pP 05 00 55.0 -5.0**
0.8nm,0.7s,baz=278,slow=5.4,SNR=3.2
FINES FINESS Array B 87.30 335 P P 05 00 44.0 +0.2
1.6nm,0.5s,baz=86,slow=4.0,SNR=12
PDAR Pinedale Array 87.81 46 P P 05 00 48.5 +1.4
0.3nm,0.4s,baz=280,slow=5.4,SNR=3.5
TORD Torodi Ar. Bea 132.90 309 PKP PKPdf 05 07 14.6 +1.9
0.4nm,1.0s,baz=126,slow=0.6,SNR=2.9
LPAZ La Paz 147.34 92 PKPbc **PKPbc 05 07 41.7 -0.3**
2.6nm,0.9s,baz=282,slow=0.7,SNR=8.7
LPAZ pPKPbc **pPKPbc 05 08 14.2 -5.9**
0.9nm,0.6s,baz=27,slow=2.9,SNR=2.4

*IDC **12** 04:55:11.8±0.8, 17.°69N×119.°44E, h0km, mb4.0/13, mb1 4.1/13, mb1mx3.9/41, mbtmp4.0/13, Error ellipse: s-maj=36.1km s-min=16.2km az=65.0*
*ISCJB **12** 04:55:15.0±0.4, 17.°79N±0.°04×119.°43E±0.°05, h32km, mb4.1/19, Error ellipse: s-maj=7.6km s-min=5.7km az=155.2*
*NEIC **12** 04:55:15.3±2.9, 17.°70N×119.°49E, h24km±20km, mb4.5/7, Error ellipse: s-maj=12.3km s-min=5.9km az=64.0*
*MAN **12** 04:55:15, 17.°78N×121.°86E, h33km, mb4.3, ML3.1, MS2.9*
ISC 12 04:55:16.5±0.6, 17.°74N±0.°06×119.°52E±0.°08, h32km, n32, σ0§66/33, mb4.2/19, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SZP	**Santa**	**0.91**	**102**	*e*Pn		**Pb**		**04 55 33.6**	**-0.3**
SIPP	**Brgy, Tapao**	**0.91**	**78**	⇑*i*P		Pb		04 55 38.7	+4.9
SIPP				*e*S		Sb		04 55 54.9	+9.2
PIP	**Pasuquin**	**1.20**	**61**	⇑*i*P		**Pn**		**04 55 36.9**	**-0.1**
PIP				*e*S		**Sn**		**04 55 53.1**	**+0.8**
BCPH	**Baguio City Da**	**1.69**	**143**	⇑*i*P		**Pn**		**04 55 44.9**	**+1.0**
BCPH				*i* S		**Sb**		**04 56 06.5**	**-1.4**
YULB	**Yu-li** 8.5nm,0.6s	**5.87**	**16**	*e*Pn		**Pn**		**04 56 41.1**	**-0.3**
YULB				*e*Sn		**Sn**		**04 57 47.9**	**+0.3**
YHNB	**Yeheng** 10nm,0.6s	**7.11**	**14**	*e*Pn		**Pn**		**04 56 58.0**	**-0.5**
KSAR	**Wonju Array Be**	**20.96**	**19**	P		**P**		**04 59 57.4**	**+0.5**
KSRS	**Korea Array** 6.4nm,1.0s,baz=201,slow=12,SNR=18	**20.99**	**19**	P		**P**		**04 59 57.4**	**+0.3**
IPM	**Ipoh** 31nm,0.8s	**22.39**	**236**	*e*P		P		05 00 18.6	+6.1
MAJO	**Matsushiro** 3.7nm,0.6s	**24.97**	**38**	*e*P		**P**		**05 00 37.6**	**+0.4**
SONM	**Songino Array** 0.8nm,0.6s,baz=161,slow=12,SNR=3.7	**31.89**	**343**	P		**P**		**05 01 39.2**	**+0.3**
WRAB	**Tennant Creek** 9.2nm,1.2s	**40.17**	**158**	*e*P		**P**		**05 02 48.2**	**-1.6**
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=339,slow=9.2,SNR=4.0	**40.17**	**158**	P		**P**		**05 02 49.7**	**-0.3**
MK31	**Makanchi Array**	**42.15**	**322**	*e*P		**P**		**05 03 06.7**	**+0.7**
MKAR	**Makanchi Array** 1.1nm,0.8s,baz=122,slow=9.1,SNR=11	**42.15**	**322**	P		**P**		**05 03 06.2**	**+0.2**
AS31	**Alice Springs**	**43.48**	**161**	*e*P		**P**		**05 03 17.3**	**+0.3**
ASAR	**Alice Springs** 1.5nm,0.8s,baz=338,slow=6.8,SNR=18	**43.48**	**161**	P		**P**		**05 03 17.1**	**+0.2**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=141,slow=7.1,SNR=3.6	**44.98**	**332**	P		**P**		**05 03 28.9**	**+0.3**
KURK	**Kurchatov** 22nm,1.1s	**46.24**	**325**	*e*P		**P**		**05 03 38.9**	**+0.3**
KURBB	**Kurchatov Arra** 6.8nm,0.8s,baz=121,slow=8.3,SNR=44	**46.24**	**325**	P		**P**		**05 03 39.3**	**+0.6**
BVAR	**Borovoye Array** 1.5nm,0.6s,baz=119,slow=11,SNR=8.3	**51.83**	**324**	P		**P**		**05 04 22.1**	**+0.6**
BRVK	**Borovoye** 4.3nm,0.7s	**51.90**	**324**	*e*P		**P**		**05 04 22.5**	**+0.5**
ABKAR	**Akbulak array**	**56.98**	**318**	*e*P		**P**		**05 04 59.1**	**+0.2**
BILL	**Bilibino** 1.3nm,0.6s	**58.25**	**19**	*e*P		**P**		**05 05 07.5**	**0.0**
AKTO	**Aktyubinsk** 1.8nm,0.6s,baz=109,slow=9.6,SNR=5.6	**58.43**	**319**	P		**P**		**05 05 09.2**	**+0.1**
MCK	**McKinley** 6.5nm,0.9s	**74.95**	**27**	*e*P		**P**		**05 06 54.4**	**+0.1**
ILAR	**Eielson Array** 0.6nm,0.9s,baz=282,slow=4.7,SNR=7.0	**75.64**	**26**	P		**P**		**05 06 59.1**	**+0.9**
FINES	**FINESS Array B** 2.2nm,1.0s,baz=72,slow=6.2,SNR=4.4	**76.23**	**330**	P		**P**		**05 07 00.4**	**-1.2**
AKASG	**Malin Array Be** 0.5nm,0.6s,baz=61,slow=6.7,SNR=4.5	**76.67**	**319**	P		**P**		**05 07 03.2**	**-1.0**
BUR08	**Bucovina Ar. S**	**79.95**	**317**	*e*P		**P**		**05 07 22.5**	**-0.2**
YKA	**Yellowknife Ar** 0.9nm,0.6s,baz=316,slow=4.5,SNR=7.3	**89.49**	**22**	P		**P**		**05 08 10.9**	**+0.6**
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=336,slow=2.0,SNR=3.0	**117.33**	**42**	PKP		**PKPdf**		**05 13 59.6**	**+0.1**

*ISCJB **12** 04:56:15.7±0.5, 0.°08S±0.°04×97.°18E±0.°05, h22km, mb4.2/18, Error ellipse: s-maj=8.0km s-min=5.4km az=146.0*
*IDC **12** 04:56:15.3±0.8, 0.°02N×96.°80E, h0km, mb4.1/13, mb1 4.1/15, mb1mx3.9/40, mbtmp4.1/15, ML3.9/2, MS3.1/1, Ms1 3.1/1, ms1mx2.6/33, Error ellipse: s-maj=30.3km s-min=16.7km az=60.0*
*DJA **12** 04:56:16.9±2.2, 0.°S±6.°×97.°7E±1.°2, h24km±24km, M4.5/8, mb4.6/4, MLv4.4/8*
*NEIC **12** 04:56:20.4±0.5, 0.°06N×97.°21E, h35km, mb4.3/7, Error ellipse: s-maj=12.4km s-min=8.7km az=61.0*
ISC 12 04:56:17.9±0.6, 0.°05S±0.°05×97.°21E±0.°07, h22km, n49, σ1§37/47, mb4.3/18, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.40**	**15**	P		**Pn**		**04 56 41.7**	**-0.4**
GSI	**Gunungsitoli**	**1.40**	**15**	P		**Pn**		**04 56 41.6**	**-0.5**
GSI				S		**Sn**		**04 56 58.9**	**-1.0**
GSI	**Gunungsitoli**	**1.40**	**15**	*e*Pn		**Pn**		**04 56 41.6**	**-0.5**
GSI				*e*Sn		**Sn**		**04 56 58.9**	**-1.0**
MNSI	**Mandailing Nat**	**2.52**	**70**	P		**Pn**		**04 56 58.1**	**+0.6**
MNSI				S		**Sn**		**04 57 27.4**	**-0.2**
MNSI	**Mandailing Nat** 333nm,0.3s,24µm4.4nm	**2.52**	**70**	P		**Pn**		**04 56 58.1**	**+0.6**
MNSI				S		**Sn**		**04 57 28.0**	**+0.4**
PSI	**Prapat** 2.1nm,0.3s,baz=174,slow=23,SNR=9.7	**3.31**	**31**	Pn		**Pn**		**04 57 07.7**	**-1.0**
PSI				Sn		**Sn**		**04 57 43.1**	**-4.3**
	3.7nm,0.3s,baz=158,slow=21,SNR=7.6								
PSI				LR		LR		04 58 47.8	
	comp=Z,266nm,19.9s,baz=253,slow=45								
PPSI	**Pulau Pagai**	**3.88**	**134**	P		**Pn**		**04 57 16.4**	**+0.1**
PPSI				S		**Sn**		**04 57 58.4**	**-2.9**
LHMI	**Lhok Sumawe** 200nm,1.1s,0.7nm	**5.25**	**357**	P		**Pn**		**04 57 34.1**	**-1.1**
IPM	**Ipoh**	**5.90**	**40**	*e*Pn		**Pn**		**04 57 45.1**	**+1.0**
KULM	**Kulim** 32nm,0.9s	**6.32**	**33**	*e*Pn		**Pn**		**04 57 49.3**	**-0.6**
MNAI	**Manna**	**7.16**	**127**	P		**Pn**		**04 58 01.8**	**+0.4**
MNAI	**Manna**	**7.16**	**127**	*e*Pn		**Pn**		**04 58 01.6**	**+0.1**
MNAI				*e*Sn		**Sn**		**04 59 18.8**	**-3.4**
LHSI	**Lahat** 46nm,0.8s	**7.34**	**121**	P		**Pn**		**04 58 04.7**	**+0.8**
MDSI	**Maura Dua** 19nm,0.8s	**8.24**	**122**	P		**Pn**		**04 58 16.3**	**+0.1**
KLSI		**8.81**	**122**	P		**Pn**		**04 58 21.9**	**-2.2**
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=197,slow=11,SNR=15	**18.47**	**5**	P		**Pn**		**05 00 33.2**	**+0.5**
CHTO	**Chiang Mai** 5.2nm,0.9s	**18.83**	**5**	*e*P		**P**		**05 00 34.8**	**-1.6**
KKM	**Kota Kinabalu**	**19.92**	**72**	*e*P		**Pn**		**05 00 49.8**	**-0.4**
H08S2	**Diego Garcia H** baz=73,slow=75,SNR=146	**25.77**	**252**	T		T		05 28 37.2	
H08S3	**Diego Garcia H** baz=73,slow=75,SNR=65	**25.77**	**252**	T		T		05 28 56.5	
H08S1	**Diego Carcia H** baz=73,slow=75,SNR=42	**25.79**	**252**	T		T		05 28 51.0	
SOEI	**Soe** 30nm,1.0s	**28.60**	**110**	*e*P		**P**		**05 02 12.8**	**-0.2**
MBWA	**Marble Bar** 64nm,1.5s	**30.40**	**135**	*e*P		**P**		**05 02 30.8**	**+2.0**
H01W3	**Cape Leeuwin H** baz=334,slow=76,SNR=8.5	**38.09**	**157**	T		T		05 43 57.9	
H01W2	**Cape Leeuwin H** baz=334,slow=76,SNR=10	**38.10**	**157**	T		T		05 44 03.4	
H01W1	**Cape Leeuwin H**	**38.11**	**157**	T		T		05 44 02.0	
	baz=334,slow=76,SNR=12								
WRA	**Warramunga Arr** 0.9nm,0.8s,baz=302,slow=8.9,SNR=4.6	**41.38**	**121**	P		P		05 04 06.4	+3.5
ASAR	**Alice Springs** 0.4nm,0.6s,baz=300,slow=7.5,SNR=3.2	**42.65**	**126**	P		P		05 04 18.3	+5.1
TKM2	**Tokmak 2** 5.3nm,1.3s	**46.98**	**338**	*e*P		**P**		**05 04 48.3**	**+0.7**
EKS2	**Erkin-Say** 4.1nm,0.8s	**47.45**	**337**	*e*P		**P**		**05 04 51.7**	**+0.5**
SONM	**Songino Array** 3.2nm,0.8s,baz=183,slow=9.6,SNR=11	**48.36**	**8**	P		**P**		**05 04 59.1**	**+0.9**
MK31	**Makanchi Array**	**48.45**	**346**	*e*P		**P**		**05 04 59.2**	**+0.5**
MKAR	**Makanchi Array** 7.4nm,0.7s,baz=158,slow=7.8,SNR=55	**48.45**	**346**	P		**P**		**05 04 59.4**	**+0.7**
KURBB	**Kurchatov Arra** 2.4nm,0.6s,baz=163,slow=6.7,SNR=18	**52.94**	**345**	P		**P**		**05 05 32.8**	**+0.3**
KURK	**Kurchatov** 2.9nm,0.8s	**53.00**	**345**	*e*P		**P**		**05 05 33.1**	**+0.2**
USRK	**Ussuriysk Ar.** 2.9nm,0.8s,baz=232,slow=6.0,SNR=6.5	**53.84**	**31**	P		**P**		**05 05 40.4**	**+1.2**
ZAA0	**Zalesovo Array**	**54.79**	**351**	*e*P		**P**		**05 05 46.2**	**+0.3**
ZALV	**Zalesovo Beam** 15nm,0.6s,baz=184,slow=6.5,SNR=48	**54.79**	**351**	P		**P**		**05 05 46.5**	**+0.6**
BVAR	**Borovoye Array** 1.7nm,0.7s,baz=146,slow=9.0,SNR=7.4	**57.43**	**341**	P		**P**		**05 06 03.9**	**-0.9**
ABKAR	**Akbulak array**	**58.62**	**332**	*e*P		**P**		**05 06 12.4**	**-0.8**
BRTR	**Keskin Array B** 0.8nm,0.8s,baz=141,slow=6.1,SNR=5.2	**69.96**	**313**	P		**P**		**05 07 27.2**	**-0.8**
AKASG	**Malin Array Be** 0.4nm,0.5s,baz=89,slow=5.2,SNR=6.0	**76.25**	**323**	P		**P**		**05 08 02.5**	**-2.3**
FINES	**FINESS Array B** 1.5nm,0.8s,baz=101,slow=7.2,SNR=2.9	**81.11**	**333**	P		**P**		**05 08 30.7**	**-0.6**
ARCES	**ARCESS Array B** 1.6nm,0.9s,baz=67,slow=3.2,SNR=7.5	**83.71**	**340**	P		**P**		**05 08 44.8**	**0.0**
VNDA	**Vanda** 0.3nm,0.4s,baz=266,slow=16,SNR=6.7	**84.60**	**169**	P		**P**		**05 08 50.8**	**+1.6**
VNDA	**Vanda** 0.6nm,0.7s	**84.60**	**169**	*e*P		**P**		**05 08 51.1**	**+1.9**
WVT	**Waverly**	**143.80**	**7**	*e*PKPdf		**PKPdf**		**05 15 54.5**	**+2.5**
TXAR	**Lajitas Array** 0.8nm,0.7s,baz=235,slow=1.0,SNR=12	**144.72**	**33**	PKP		PKPbc		05 15 53.4	+0.6
JCT	**Junction City**	**145.69**	**27**	*e*PKPbc		**PKPdf**		**05 15 55.8**	**+0.3**

IDC 12 05:17:25.1±1.3, 1.°45N×125.°88E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/26, mbtmp3.8/4, MS4.2/1, Ms1 4.2/1, ms1mx2.8/29, Error ellipse: s-maj=134.2km s-min=20.1km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 3.0nm,0.6s,baz=338,slow=11,SNR=8.9	**22.82**	**159**	P		P		05 22 29.4	-0.5
JOW	**Kunigami** comp=Z,548nm,21.4s,baz=57,slow=35	**25.34**	**5**	LR		LR		05 32 22.6	
ASAR	**Alice Springs** 1.4nm,0.7s,baz=351,slow=16,SNR=14	**26.16**	**163**	P		P		05 23 01.7	+0.3
SONM	**Songino Array** 0.5nm,0.5s,baz=168,slow=7.4,SNR=2.8	**49.19**	**343**	P		P		05 26 15.1	-0.1
MKAR	**Makanchi Array** 0.6nm,0.4s,baz=120,slow=8.4,SNR=17	**58.95**	**326**	P		P		05 27 26.4	-0.1

*CSEM **12** 05:20:07.4±2.3, 36.°18N×28.°08E, h10km, MD2.5, Error ellipse: s-maj=56.4km s-min=16.5km az=21.0*
*ISK **12** 05:20:14.6, 36.°87N×28.°05E, h6km, MD2.6*
*DDA **12** 05:20:14.3, 36.°82N×28.°81E, h7km, MD3.0*
ISC 12 05:20:07.9±1.5, 36.°37N±0.°07×28.°12E±0.°04, h9km±11km, n14, σ1§28/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.56**	**310**	*e*PG		**Pn**		**05 20 23.0**	**+0.8**
DAT				*e*SG		**Sg**		**05 20 28.9**	**+2.7**
DAT	**Datca**	**0.56**	**310**	*e*Pg		**Pn**		**05 20 23.0**	**+0.8**
DAT				*e*Sg		**Sb**		**05 20 28.9**	**+0.7**
DALY	**Dalyan (Mu¨la**	**0.62**	**44**	*e*PG		**Pn**		**05 20 24.6**	**+1.8**
DALY	**Dalyan (Mu¨la**	**0.62**	**44**	*e*Pg		**Pn**		**05 20 24.6**	**+1.8**
TURN	**Turunc**	**0.64**	**38**	*i* Pg		**Pn**		**05 20 22.5**	**-0.6**
TURN				*i* Sg		**Sb**		**05 20 31.2**	**+1.0**
BODT	**Bodrum**	**0.95**	**317**	*e*PG		**Pn**		**05 20 27.4**	**0.0**
BODT				*e*SG		**Sg**		**05 20 36.2**	**-2.2**
BODT	**Bodrum**	**0.95**	**317**	*e*Pg		**Pn**		**05 20 27.4**	**0.0**
BODT				*e*Sg		**Sg**		**05 20 36.2**	**-2.2**
AKAS	**Kas**	**1.21**	**96**	*e*P		**Pg**		**05 20 31.2**	**+0.1**
AKAS				*e*S		**Sb**		**05 20 45.4**	**-1.4**
AKAS	**Kas**	**1.21**	**96**	*e*P		**Pg**		**05 20 31.2**	**+0.1**
AKAS				*e*S		**Sb**		**05 20 45.4**	**-1.4**
AYDN	**Tasoluk**	**1.30**	**352**	*e*Pn		**Pn**		**05 20 31.9**	**-0.4**
AYDN				*i* Sn		**Sb**		**05 20 48.4**	**-1.0**
GOLH	**Golhisar**	**1.45**	**53**	*i* P		**Pg**		**05 20 36.0**	**+0.4**
GOLH				*i* S		**Sn**		**05 20 53.8**	**+0.3**
GOLH	**Golhisar**	**1.45**	**53**	*i* P		**Pg**		**05 20 36.0**	**+0.4**
GOLH				*i* S		**Sn**		**05 20 53.8**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.58**	**354**	*e*PN		**Pn**		**05 20 35.7**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.58**	**354**	*e*Pn		**Pn**		**05 20 35.7**	**-0.6**

KMA 12 05:25:04.2, 38.°72N×128.°13E, h2km, 4C-4D, North Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SEHB	**SEOHWA** SNR=20	**0.46**	**168**	⇓P		Pg		05 25 13.1	0.0
SEHB	**SEOHWA** SNR=20	**0.46**	**168**	⇓P		Pg		05 25 13.1	0.0
KSSKC	**Sokcho**	**0.53**	**144**	⇓P		Pg		05 25 14.2	-0.1
KSCWO	**Cheorwon** SNR=22	**0.80**	**217**	P		Pg		05 25 19.5	0.0
KSCWO	**Cheorwon** SNR=22	**0.80**	**217**	P		Pg		05 25 19.5	0.0
KSJMJ	**Jumunjin** SNR=21	**0.97**	**149**	⇑P		Pg		05 25 22.7	-0.2
KSJMJ	**Jumunjin** SNR=21	**0.97**	**149**	⇑P		Pg		05 25 22.7	-0.2
KSJMJ				⇓S		Sb		05 25 36.8	-0.3
KSCHC	**Chuncheon** SNR=17	**0.97**	**195**	⇑P		Pg		05 25 22.8	-0.1
KSCHC	**Chuncheon** SNR=17	**0.97**	**195**	⇑P		Pg		05 25 22.8	-0.1
KSDGY	**Daegwallycong** SNR=8.9	**1.11**	**157**	P		Pg		05 25 25.5	-0.2
KSDGY	**Daegwallycong** SNR=8.9	**1.11**	**157**	P		Pg		05 25 25.5	-0.2

*TIF **12** 05:32:34.7, 43.°51N×45.°45E, h19km±2km*
*CSEM **12** 05:32:35.8±0.3, 43.°47N×45.°55E, h5km, mb3.9, Error ellipse: s-maj=7.7km s-min=2.8km az=15.0*
*MOS **12** 05:32:37.6±0.5, 43.°36N×45.°46E, h18km, mb3.9/1, Error ellipse: s-maj=8.4km s-min=6.4km az=10.4*
ISC 12 05:32:36.9±1.2, 43.°45N±0.°04×45.°49E±0.°02, h14km±9km, n53, σ0§84/90, 9C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.62**	**233**	*e*PG		**Pg**		**05 32 48.7**	**-0.3**
SNJR				*e*S		**Sb**		**05 32 58.5**	**+0.3**
SNJR	**Sundja**	**0.62**	**233**	*e*Pg		**Pg**		**05 32 48.7**	**-0.3**
SNJR				*e*Sg		**Sb**		**05 32 58.5**	**+0.3**
BTKR	**Batakoyurt**	**0.69**	**264**	*e*PG		**Pb**		**05 32 51.1**	**+0.3**
BTKR				*e*S		**Sn**		**05 33 02.7**	**-0.2**
BTKR	**Batakoyurt**	**0.69**	**264**	*e*Pg		**Pb**		**05 32 51.1**	**+0.3**
VLKR	**Vladikavkaz**	**0.71**	**236**	*e*PG		**Pg**		**05 32 50.7**	**0.0**
VLKR				*e*S		**Sn**		**05 33 01.8**	**-1.7**
VLKR	**Vladikavkaz**	**0.71**	**236**	*e*Pg		**Pg**		**05 32 50.7**	**0.0**
VLKR				*e*Sg		**Sn**		**05 33 01.8**	**-1.7**
ARNR	**Ardon**	**0.92**	**254**	*e*PG		**Pn**		**05 32 54.8**	**-0.6**
ARNR				*i* S		**Sn**		**05 33 08.9**	**+0.5**
ARNR	**Ardon**	**0.92**	**254**	*e*Pg		**Pn**		**05 32 54.8**	**-0.6**
ARNR				*i* Sg		**Sn**		**05 33 08.9**	**+0.5**
PRTR	**Priterechnaya**	**0.93**	**290**	⇑*i*PG		**Pn**		**05 32 55.4**	**-0.1**
PRTR				*e*S		**Sn**		**05 33 10.5**	**+1.9**
PRTR	**Priterechnaya**	**0.93**	**290**	*i* Pg		**Pn**		**05 32 55.4**	**-0.1**
STDR	**Stavd-Durt**	**1.04**	**266**	*e*PG		**Pg**		**05 32 56.8**	**-0.1**
STDR				*e*S		**Sn**		**05 33 12.8**	**+1.3**
STDR	**Stavd-Durt**	**1.04**	**266**	*e*Pg		**Pg**		**05 32 56.8**	**-0.1**
STDR				*e*Sg		**Sn**		**05 33 12.8**	**+1.3**
LACR	**Lac**	**1.07**	**235**	⇑*i*PG		**Pb**		**05 32 55.8**	**-1.4**
LACR				*e*S		**Sg**		**05 33 11.4**	**0.0**
LACR	**Lac**	**1.07**	**235**	*i* Pg		**Pb**		**05 32 55.8**	**-1.4**
LACR				*e*Sg		**Sg**		**05 33 11.4**	**0.0**
KORR	**Kora**	**1.10**	**251**	⇑*i*PG		**Pn**		**05 32 57.5**	**-0.4**
KORR				*e*S		**Sn**		**05 33 13.8**	**+0.9**
KORR	**Kora**	**1.10**	**251**	*i* Pg		**Pn**		**05 32 57.5**	**-0.4**
KORR				*e*Sg		**Sn**		**05 33 13.8**	**+0.9**
UNCR	**Uncukul**	**1.21**	**127**	⇑*i*PG		**Pn**		**05 32 58.5**	**-0.9**
UNCR				*i* S		**Sg**		**05 33 16.2**	**+0.4**
UNCR				pmax		pmax			
	comp=Z,67nm,0.2s								
UNCR	**Uncukul** comp=Z,67nm,0.2s	**1.21**	**127**	*i* Pg		**Pn**		**05 32 58.5**	**-0.9**
UNCR				*i* Sg		**Sg**		**05 33 16.2**	**+0.4**
KRNR	**Karanay**	**1.21**	**120**	⇑*i*PG		**Pn**		**05 32 58.5**	**-1.0**
KRNR				*i* S		**Sg**		**05 33 16.8**	**+0.9**
KRNR				pmax		pmax			
	comp=Z,57nm,0.2s								
KRNR	**Karanay** comp=Z,57nm,0.2s	**1.21**	**120**	*i* Pg		**Pn**		**05 32 58.5**	**-1.0**
LSNR	**Lesken**	**1.22**	**263**	⇓*i*PG		**Pn**		**05 32 58.7**	**-0.9**
LSNR				*e*S		**Sg**		**05 33 17.4**	**+1.1**
LSNR	**Lesken**	**1.22**	**263**	*i* Pg		**Pn**		**05 32 58.7**	**-0.9**
LSNR				*e*Sg		**Sg**		**05 33 17.4**	**+1.1**
XNZR	**Khunzakh**	**1.27**	**135**	*i* PG		**Pn**		**05 32 59.0**	**-1.4**
XNZR				*i* S		**Sb**		**05 33 17.0**	**0.0**
XNZR				pmax		pmax			
	comp=Z,88nm,0.1s								
XNZR	**Khunzakh** comp=Z,88nm,0.1s	**1.27**	**135**	*i* Pg		**Pn**		**05 32 59.0**	**-1.4**
XNZR				*i* Sg		**Sb**		**05 33 17.0**	**0.0**
ZEI	**Tsey**	**1.33**	**241**	⇑*i*PG		**Pn**		**05 33 00.0**	**-1.3**
ZEI				*i* S		**Sn**		**05 33 18.5**	**-0.5**
NCK	**Nalchik**	**1.38**	**273**	⇓*e*PG		**Pg**		**05 33 02.8**	**-0.5**
NCK	**Nalchik**	**1.38**	**273**	*e*Pg		**Pg**		**05 33 02.8**	**-0.5**
ARKR	**Arakani**	**1.39**	**127**	*e*PG		**Pn**		**05 33 01.5**	**-0.5**
ARKR				*e*S		**Sg**		**05 33 22.9**	**+1.2**
ARKR	**Arakani**	**1.39**	**127**	*e*Pg		**Pn**		**05 33 01.5**	**-0.5**
DUS	**Dusheti**	**1.47**	**203**	P		**Pn**		**05 33 03.2**	**+0.1**
DUS				S		**Sg**		**05 33 24.4**	**+0.1**
DUS	**Dusheti**	**1.47**	**203**	PG		**Pn**		**05 33 03.2**	**+0.1**
DUS				S		**Sg**		**05 33 24.4**	**+0.1**
DUS	**Dusheti**	**1.47**	**203**	P		**Pn**		**05 33 03.2**	**+0.1**
DUS				S		**Sg**		**05 33 24.4**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.50**	**249**	*e*PG		**Pn**		**05 33 02.0**	**-1.6**
DIGR				*e*S		**Sn**		**05 33 22.9**	**-0.1**
GNBR	**Gunib**	**1.52**	**134**	*i* PG		**Pn**		**05 33 04.1**	**+0.4**
GNBR				*i* S		**Sg**		**05 33 25.0**	**-0.6**
GNBR	**Gunib**	**1.52**	**134**	*i* Pg		**Pn**		**05 33 04.1**	**+0.4**
GNBR				*i* Sg		**Sg**		**05 33 25.0**	**-0.6**
ONI	**Oni**	**1.72**	**241**	P		**Pn**		**05 33 06.4**	**-0.1**
ONI				S		**Sb**		**05 33 29.4**	**-0.4**
ONI	**Oni**	**1.72**	**241**	PN		**Pn**		**05 33 06.4**	**-0.1**
ONI				S		**Sb**		**05 33 29.4**	**-0.4**
SEAG	**Tbilisi Sea**	**1.75**	**197**	P		**Sb**		**05 33 31.4**	**+0.6**
KMKR	**Kumukh**	**1.77**	**137**	*e*PN		**Pn**		**05 33 08.0**	**+0.7**
KMKR				*e*S		**Sb**		**05 33 32.0**	**+0.6**
KMKR				pmax		pmax			
	comp=Z,35nm,0.2s								
KMKR	**Kumukh** comp=Z,35nm,0.2s	**1.77**	**137**	*e*Pn		**Pn**		**05 33 08.0**	**+0.7**
KMKR				*e*Sg		**Sb**		**05 33 32.0**	**+0.6**
TBLG	**Delisi**	**1.80**	**198**	P		**Sb**		**05 33 32.6**	**+0.5**
DGRG	**David-gareji**	**2.00**	**182**	P		**Pn**		**05 33 11.3**	**+1.0**
DGRG				S		**Sg**		**05 33 41.6**	**+0.6**
DGRG	**David-gareji**	**2.00**	**182**	PN		**Pn**		**05 33 11.3**	**+1.0**
DGRG				S		**Sg**		**05 33 41.6**	**+0.6**
DGRG	**David-gareji**	**2.00**	**182**	P		**Pn**		**05 33 11.3**	**+1.0**
DGRG				Sg		**Sg**		**05 33 41.6**	**+0.6**
NEY	**Neytrino**	**2.03**	**265**	*e*PN		**Pn**		**05 33 11.3**	**+0.5**
NEY	**Neytrino**	**2.03**	**265**	*e*Pn		**Pn**		**05 33 11.3**	**+0.5**
URKR	**Urkarakh**	**2.03**	**128**	*e*PN		**Pb**		**05 33 12.5**	**-1.2**
URKR				*e*S		**Sb**		**05 33 40.0**	**+1.1**
URKR	**Urkarakh**	**2.03**	**128**	*e*Pn		**Pb**		**05 33 12.5**	**-1.2**
URKR				*e*Sg		**Sb**		**05 33 40.0**	**+1.1**
KIV	**Kislovodsk**	**2.09**	**285**	⇑*e*PN		**Pn**		**05 33 12.3**	**+0.6**
KIV				pmax		pmax			
	comp=Z,6.0nm,0.4s								
KIV	**Kislovodsk** comp=Z,6.0nm,0.4s	**2.09**	**285**	*e*Pn		**Pn**		**05 33 12.3**	**+0.6**
GNI	**Garni**	**3.34**	**190**	⇓*e*PN		**Pg**		**05 33 43.1**	**+2.2**

baz=2.3
PKM **Mcpherson Peak** 2.46 141 P Pn 06 05 53.2 +0.7
baz=2.5
WAKR **Walker** 2.48 46 *e*Pn Pn 06 05 54.4 +1.7
WAKR *e*Sg Sb 06 06 27.9 +0.5
ISA **Isabella, Lake** 2.87 113 P Pn 06 05 58.0 +0.1
baz=2.8
ISA **Isabella, Lake** 2.87 113 *e*Pn Pn 06 05 58.2 +0.3
ARVC **Arvin** 2.89 125 P Pn 06 05 58.7 +0.6
baz=2.8
DAC **Darwin (Calif)** 3.37 98 *e*Pn Pn 06 06 06.3 +1.4
TPH **Tonopah** 3.80 69 *e*Pg Pb 06 06 18.9 -0.4
WDC **Whiskeytown Da** 3.81 351 *e*Pn Pn 06 06 12.5 +1.6
R11A **Troy Canyon, C** 5.11 71 *e*Pg Pg 06 06 46.0 -4.2
7.9nm,1.1s

IDC 12 06:07:55.8±16.0, 24°13'S×179°93'E, h450km±197km, mb3.0/4, mb1 3.2/5, mb1mx3.0/18, mbtmp3.9/5, Error ellipse: s-maj=155.2km s-min=29.1km az=3.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.29**	**189**	P	P	06 10 57.7	-1.5
	1.3nm,0.3s,baz=44,slow=18,SNR=5.5						
URZ				S	S	06 13 28.2	-2.6
	0.4nm,0.3s,baz=285,slow=19,SNR=3.2						
STKA	**Stephens Creek**	**34.58**	**248**	P	P	06 14 05.7	+0.2
	0.7nm,0.4s,baz=96,slow=9.2,SNR=3.6						
ASAR	**Alice Springs**	**41.93**	**261**	P	P	06 15 05.6	-0.3
	0.4nm,0.5s,baz=92,slow=6.6,SNR=9.8						
WRA	**Warramunga Arr**	**42.32**	**266**	P	P	06 15 08.8	-0.2
	1.0nm,0.3s,baz=97,slow=8.3,SNR=12						
TXAR	**Lajitas Array**	**90.61**	**58**	P	P	06 20 09.7	+0.3
	0.2nm,0.7s,baz=213,slow=6.5,SNR=3.2						
AKASG	**Malin Array Be**	**145.12**	**327**	PKPbc	PKPdf	06 26 40.4	-0.4
	0.4nm,0.3s,baz=46,slow=3.2,SNR=4.1						

MOS ***12*** *06:15:07.9±1.0, 51°.67N×173°.23W, h33km, mb4.8/34, Error ellipse: s-maj=12.4km s-min=6.8km az=99.9*
ISCJB ***12*** *06:15:09.1±0.4, 51°.66N±0°.05×173°.27W±0°.03, h41km±3km, mb4.5/95, MS3.6/17, Error ellipse: s-maj=7.9km s-min=2.8km az=175.3*
NEIC ***12*** *06:15:09.9, 51°.84N×173°.33W, h60km, mb4.6/64, ML4.1(AEIC), After AEIC.*
IDC ***12*** *06:15:10.9±0.5, 51°.71N×173°.23W, h44km±3km, mb4.1/27, mb1 4.3/29, mb1mx4.2/33, mbtmp4.3/29, MS3.5/18, Ms1 3.6/18, ms1mx3.3/44, Error ellipse: s-maj=16.6km s-min=9.6km az=167.0*
BJI ***12*** *06:15:11.2, 52°.32N×173°.66W, h46km, mb4.8/32, mB4.9/19, Ms4.4/6, Ms7 4.0/8*
ISC 12 06:15:10.9±0.4, 51°66N±0°07×173°31W±0°03, h45km±2km, h44km:pP-P, n324, σ1900/361, mb4.6/97, MS3.6/17, 46C-39D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.77**	**315**	P	Pn	06 15 24.0	-1.5
ATKA				S	Sn	06 15 34.1	-1.9
GSMY	**Great Sitkin M**	**1.75**	**284**	P	Pn	06 15 37.1	-1.6
GSTR	**Great Sitkin T**	**1.76**	**285**	*e*Pn	Pn	06 15 37.5	-1.5
GSTD	**Great Sitkin T**	**1.80**	**284**	P	Pn	06 15 37.7	-1.9
GSTD				S	Sn	06 16 01.1	-0.1
GSCK	**Great Sitkin C**	**1.81**	**282**	P	Pn	06 15 37.4	-2.2
ETKA	**Kagalaska Isla**	**1.94**	**277**	P	Pn	06 15 40.6	-0.7
ADAG	**Mount Adagdak**	**2.07**	**280**	P	Pn	06 15 42.7	-0.4
ADK	**Adak**	**2.11**	**277**	P	Pn	06 15 43.0	-0.7
ADK				S	Sn	06 16 09.8	+1.1
KIKV	**Kanaga Island**	**2.41**	**277**	P	Pn	06 15 47.3	-0.5
KICM	**Kanaga Island**	**2.43**	**278**	P	Pn	06 15 47.3	-0.7
TAPA	**Tanaga Point A**	**2.81**	**275**	P	Pn	06 15 53.3	0.0
TAFP	**Tanaga Falls P**	**2.92**	**277**	P	Pn	06 15 55.0	+0.2
TAFP				S	Sn	06 16 29.8	+1.3
NIKH	**Nikolski High**	**3.03**	**63**	P	Pn	06 15 55.3	-1.0
OKSP	**Okmok Steeple**	**3.46**	**61**	P	Pn	06 16 02.1	-0.1
OKTU	**Okmok Mt. Tuli**	**3.65**	**60**	P	Pn	06 16 05.2	+0.3
OKFG	**Magazine Ridge**	**3.73**	**60**	P	Pn	06 16 06.1	+0.1
CERAA	**Semis' Rag'd T**	**4.36**	**276**	P	Pn	06 16 14.4	-0.1
MSOM	**Makushin Julie**	**4.42**	**58**	P	Pn	06 16 15.1	-0.3
MSW	**Makushin Switc**	**4.56**	**58**	P	Pn	06 16 18.3	+1.1
AMKA	**Amchitka**	**4.63**	**269**	P	Pn	06 16 17.2	-1.0
UNV	**Unalaska Valle**	**4.68**	**59**	P	Pn	06 16 19.3	+0.4
ZRO	**Akutan Zero**	**5.06**	**58**	P	Pn	06 16 24.4	+0.2
LSSA	**Little Sitkin**	**5.08**	**276**	P	Pn	06 16 24.4	-0.1
AHB	**Akutan Harbor**	**5.16**	**59**	P	Pn	06 16 27.2	+1.7
SPIA	**Saint Paul Isl**	**5.81**	**17**	P	Pn	06 16 35.4	+1.0
GAMB	**Gambell**	**12.18**	**3**	*e*Pn	Pn	06 18 04.4	+2.9
OHAK	**Old Harbor**	**12.89**	**57**	*e*Pn	Pn	06 18 11.3	+0.1
KDAK	**Kodiak Island**	**13.42**	**55**	*e*P	Pn	06 18 17.0	-1.5
KDAK	**Kodiak Island**	**13.42**	**55**	*e*Pn	Pn	06 18 17.3	-1.2
TNA	**Tin City**	**14.21**	**9**	*e*Pn	P	06 18 32.9	-2.7
SEW	**Seward**	**15.75**	**48**	*e*P	Pn	06 18 46.0	-3.3
	16nm,0.5s						
PPLA	**Purkeypile**	**15.94**	**37**	*e*P	P	06 18 55.9	+1.0
	68nm,1.5s						
RC01	**Rabbit Creek A**	**16.02**	**45**	*e*P	Pn	06 18 52.1	-0.7
	6.0nm,0.4s						
CAST	**Castle Rocks**	**16.28**	**36**	*e*P	P	06 18 59.3	+0.7
	12nm,1.0s						
TRF	**Thorofare Moun**	**16.96**	**37**	*e*P	Pn	06 19 05.5	+0.6
	352nm,3.0s						
BPAW	**Bear Paw Mtn.**	**17.08**	**35**	*e*P	P	06 19 08.3	+0.9
	3.8nm,0.8s						
IM04	**Indian Mountai**	**17.43**	**27**	*e*P	P	06 19 11.7	+0.5
MCK	**McKinley**	**17.62**	**37**	*e*P	Pn	06 19 11.6	-1.3
	11nm,0.8s						
PETK	**Petropavlovsk-**	**17.71**	**286**	P	P	06 19 15.0	+0.6
	0.5nm,0.3s,baz=99,slow=13,SNR=6.9						
PETK				LR	LR	06 25 20.9	
	comp=Z,80nm,20.1s,baz=93,slow=34						
PETK	**Petropavlovsk-**	**17.71**	**286**	P	P	06 19 15.0	+0.6
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,80nm,20.2s						
BMRM	**Bremner River**	**18.30**	**48**	*e*P	P	06 19 20.4	-0.5
	comp=Z,13nm,0.7s						
CCB	**Clear Creek Bu**	**18.53**	**36**	*e*P	P	06 19 21.4	-1.9
	comp=Z,17nm,1.2s						
COLA	**College**	**18.64**	**35**⇓	*e*P	Pn	06 19 25.5	+0.4
COLA	**College**	**18.64**	**35**	*e*P	P	06 19 23.0	-1.5
	comp=Z,9.1nm,0.6s						
HDA	**Harding Lake**	**18.72**	**37**	*e*P	P	06 19 24.7	-0.7
	comp=Z,24nm,0.6s						
ILAR	**Eielson Array**	**18.93**	**36**	P	P	06 19 25.5	-2.2
	comp=Z,4.1nm,0.3s,baz=239,slow=10,SNR=109						
ILAR				LR	LR	06 27 10.3	
	comp=Z,167nm,18.4s,baz=244,slow=38						
ILAR	**Eielson Array**	**18.93**	**36**	P	P	06 19 25.5	-2.2
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ILAR				MLR	MLR		
	comp=Z,167nm,18.4s						
BILL	**Bilibino**	**19.19**	**336**	*d i*P	Pn	06 19 32.0	+0.2
BILL				pmax	pmax		
	comp=Z,36nm,1.0s						
BILL				MLR	MLR		
	comp=Z,150nm,22.0s						
BILL	**Bilibino**	**19.19**	**336**	*e*P	Pn	06 19 32.2	+0.4
	comp=Z,47nm,1.2s						
COLD	**Coldfoot**	**19.33**	**27**	*e*P	Pn	06 19 33.1	-0.3
	comp=Z,12nm,0.8s						
FYU	**Fort Yukon**	**20.47**	**33**	*e*P	P	06 19 44.9	+0.4
	comp=Z,24nm,0.7s						
EGAK	**Eagle**	**21.12**	**39**	*e*P	P	06 19 50.4	-1.0
	comp=Z,91nm,0.6s						
SEY	**Seymchan**	**21.41**	**315**	P	P	06 19 54.9	+0.3
	comp=Z,4.6nm,0.9s,baz=102,slow=13,SNR=13						
SEY				LR	LR	06 28 11.8	
	comp=Z,120nm,18.4s,baz=96,slow=36						
SEY	**Seymchan**	**21.41**	**315**⇑	*e*P	P	06 19 55.2	+0.7
DAWY	**Dawson**	**21.58**	**42**	*e*P	P	06 19 55.1	-1.3
HYT	**Haines Junctio**	**21.64**	**51**	*e*P	P	06 19 56.3	-0.9
INK	**Inuvik**	**25.28**	**34**	P	P	06 20 31.7	-0.9
	comp=Z,8.8nm,0.3s,baz=250,slow=9.3,SNR=4.6						
INK				LR	LR	06 31 37.1	
	comp=Z,168nm,18.2s,baz=246,slow=39						
INK	**Inuvik**	**25.28**	**34**	P	P	06 20 31.7	-0.9
INK				pmax	pmax		
	comp=Z,9.0nm,0.3s						
INK				MLR	MLR		
	comp=Z,169nm,18.3s						
INK	**Inuvik**	**25.28**	**34**	*e*P	P	06 20 32.0	-0.6
	comp=Z,19nm,0.9s						
DLBC	**Dease Lake**	**25.33**	**57**	P	P	06 20 34.3	+1.1
	comp=Z,8.1nm,0.8s,baz=270,slow=8.4,SNR=6.2						
DLBC				LR	LR	06 30 45.0	
	comp=Z,125nm,18.2s,baz=284,slow=37						
YSS	**Yuzh-Sakhalins**	**28.70**	**278**	*e*P	P	06 21 04.0	+0.5
YSS				*e*		06 21 16.0	
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS	**Yuzh-Sakhalins**	**28.70**	**278**	*e*P	P	06 21 04.8	+1.4
	comp=Z,17nm,0.8s						
ASAJ	**Asahikawa**	**30.13**	**273**	*e*P	P	06 21 17.6	+1.4
	comp=Z,13nm,1.1s						
TIXI	**Tiksi**	**32.10**	**330**⇑	*e*P	P	06 21 33.4	+0.1
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TIXI	**Tiksi**	**32.10**	**330**	*e*P	P	06 21 33.6	+0.3
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**32.53**	**48**	P	P	06 21 36.1	-1.0
	comp=Z,0.6nm,0.3s,baz=274,slow=9.1,SNR=15						
YKA				PcP	PcP	06 24 22.5	-0.1
	comp=Z,0.7nm,0.6s,baz=289,slow=2.9,SNR=5.3						
YKA				pPcP		06 24 36.1	
	comp=Z,2.1nm,0.6s,baz=286,slow=2.9,SNR=11						
YKA	**Yellowknife Ar**	**32.53**	**48**	P	P	06 21 36.1	-1.0
YKA						06 24 22.5	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HABR	**Khabarovsk**	**32.74**	**285**	*e*P	P	06 21 38.0	-1.0
HABR				*PP	pP	06 21 49.1	-1.9
HABR				*e*		06 22 47.3	
HABR				*e*		06 24 22.3	
HABR				*eS*	S	06 26 52.9	+0.6
HABR				*e*SS	sS	06 27 11.7	-0.6
HABR				SS	SnSn	06 28 50.5	-0.1
HABR				*e*		06 32 02.6	
HABR				MLR	MLR		
	comp=Z,45nm,17.0s						
B08A	**Colville Reser**	**34.18**	**74**	*e*P	P	06 21 52.2	+0.5
	comp=Z,9.2nm,0.6s						
KLR	**Kul'dur**	**34.38**	**288**	*e*P	P	06 21 49.2	-4.2
H11N2	**WAKE ISLAND Hy**	**35.45**	**213**	T	T	07 00 03.1	
	baz=21,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**35.46**	**213**	T	T	07 00 09.3	
	baz=21,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**35.47**	**213**	T	T	07 00 09.7	
	baz=21,slow=75,SNR=16						
NEW	**Newport**	**35.54**	**73**	*e*P	P	06 22 03.8	+0.3
	comp=Z,8.0nm,0.8s						
EDM	**Edmonton**	**35.65**	**63**	*e*P	P	06 22 05.3	+1.0
K05A	**Summer Lake**	**36.02**	**83**	*e*P	P	06 22 09.3	+1.6
I07A	**Izee**	**36.15**	**80**	*e*P	P	06 22 09.3	+0.5
USRK	**Ussuriysk Ar.**	**36.64**	**280**	P	P	06 22 12.5	-0.3
	comp=Z,4.4nm,0.8s,baz=42,slow=7.7,SNR=6.9						
USRK				pP	pP	06 22 25.3	+0.4
	comp=Z,4.9nm,0.6s,baz=60,slow=8.5,SNR=6.7						
H11S1	**WAKE ISLAND Hy**	**36.65**	**213**	T	T	07 01 20.3	
	baz=20,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**36.67**	**213**	T	T	07 01 24.4	
	baz=20,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**36.67**	**213**	T	T	07 01 22.5	
	baz=20,slow=76,SNR=10						
MAJO	**Matsushiro**	**37.23**	**265**⇓	*i*P	P	06 22 18.3	+0.4
MAJO				pmax	pmax		
	comp=Z,38nm,0.9s						
MAJO	**Matsushiro**	**37.23**	**265**	*e*P	P	06 22 18.6	+0.7
MAT	**Matsushiro**	**37.23**	**265**	P	P	06 22 20.8	+2.9
MJAR	**Matsushiro Arr**	**37.23**	**265**	P	P	06 22 17.8	-0.1
	comp=Z,0.9nm,0.6s,baz=42,slow=6.2,SNR=5.4						
MJAR	**Matsushiro Arr**	**37.23**	**265**	P	P	06 22 17.8	-0.1
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BLMT	**Blacktail Moun**	**37.30**	**72**	*e*P	P	06 22 19.4	+0.8
WVOR	**Wild Horse Val**	**37.57**	**82**	*e*P	P	06 22 21.6	+0.7
	comp=Z,4.9nm,0.8s						
RES	**Resolute Bay**	**38.05**	**25**	*e*P	P	06 22 23.7	-0.7
	comp=Z,2.2nm,1.0s						
MSO	**Missoula**	**38.12**	**73**	*e*P	P	06 22 26.6	+1.1
	comp=Z,4.4nm,0.8s						
HLID	**Hailey**	**39.54**	**78**	*e*P	P	06 22 37.4	-0.1
	comp=Z,4.5nm,1.0s						
MCMT	**McKenzie Canyo**	**39.81**	**75**	*e*P	P	06 22 39.8	0.0
EGMT	**Eagleton**	**40.00**	**69**⇑	P	P	06 22 42.6	+1.6
	baz=40,SNR=9.8						
EGMT	**Eagleton**	**40.00**	**69**	*e*P	P	06 22 41.8	+0.7
	comp=Z,8.9nm,0.8s						
BOZ	**Bozeman (W)**	**40.10**	**73**	*e*P	P	06 22 42.3	+0.2
	comp=Z,10nm,1.1s						
NVAR	**Mina Array Bea**	**40.11**	**87**	P	P	06 22 42.4	+0.1
	comp=Z,2.3nm,0.7s,baz=293,slow=8.4,SNR=11						
FFC	**Flin Flon**	**41.16**	**57**⇑	*e*P	P	06 22 51.1	+0.7
FFC	**Flin Flon**	**41.16**	**57**	*e*P	P	06 22 50.4	-0.1
	comp=Z,4.6nm,0.8s						
C20A	**Veseth Ranch,**	**41.17**	**69**⇓	P	P	06 22 53.1	+2.4
	baz=41						
GCMT	**Greycliff**	**41.20**	**72**	*e*P	P	06 22 52.4	+1.3
IMW	**Indian Meadow**	**41.46**	**75**	*e*P	P	06 22 54.5	+1.0
	comp=Z,8.8nm,1.0s						
C21A	**Desert Coulee**	**41.64**	**68**⇑	P	P	06 23 00.2	+5.6
	baz=41						
RLMT	**Red Lodge**	**41.79**	**73**	*e*P	P	06 22 56.6	+0.5
	comp=Z,11nm,0.8s						
R11A	**Troy Canyon, C**	**41.85**	**85**	*e*P	P	06 22 56.6	+0.1
	comp=Z,3.4nm,0.8s						
DAC	**Darwin (Calif)**	**41.89**	**89**	*e*P	P	06 22 57.2	+0.3
	comp=Z,25nm,1.8s						
D21A	**La Casta Ranch**	**42.09**	**69**⇓	P	P	06 23 02.8	+4.4
	baz=42						
DUG	**Dugway, Tooele**	**42.45**	**81**	*e*P	P	06 23 01.8	+0.4
	comp=Z,4.8nm,1.0s						
D22A	**Cohagen**	**42.52**	**69**⇑	P	P	06 23 07.4	+5.7
	baz=42,SNR=5.1						
PDAR	**Pinedale Array**	**42.93**	**76**	P	P	06 23 05.2	-0.2
	comp=Z,3.1nm,0.7s,baz=328,slow=4.8,SNR=21						
GSC	**Goldstone, Bar**	**43.01**	**90**	*e*P	P	06 23 06.2	+0.3
	comp=Z,17nm,1.3s						
NLU	**North Lily Min**	**43.04**	**81**	*e*P	P	06 23 06.8	+0.5
	comp=Z,5.0nm,0.9s						
KSRS	**Korea Array**	**43.05**	**275**	P	P	06 23 07.5	+1.5
	comp=Z,6.3nm,0.8s,baz=57,slow=7.9,SNR=15						
KSRS				pP	pP	06 23 19.4	+1.1
	comp=Z,3.6nm,0.8s,baz=53,slow=7.6,SNR=9.1						
KSRS				LR	LR	06 39 25.2	
	comp=Z,25nm,20.2s,baz=60,slow=34						
KSRS	**Korea Array**	**43.05**	**275**	P	P	06 23 07.5	+1.5
KSRS				*PP	pP	06 23 19.4	+1.1
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
D23A	**Lindsay**	**43.07**	**68**⇓	P	P	06 23 12.2	+5.9
	baz=43,SNR=5.6						
KSAR	**Wonju Array Be**	**43.08**	**275**	P	P	06 23 07.5	+1.2
KSAR				pP	pP	06 23 19.4	+0.8
FCC	**Fort Churchill**	**43.25**	**48**	*e*P	P	06 23 06.7	-0.7
	comp=Z,6.6nm,0.4s						
F23A	**Volborg**	**43.74**	**70**⇑	P	P	06 23 11.9	+0.3
	baz=44,SNR=5.7						
E24A	**Baker**	**43.92**	**68**⇓	P	P	06 23 19.2	+6.1
	baz=44						
JNU	**Nakatsue**	**44.02**	**268**	P	P	06 23 14.7	+0.7
	comp=Z,7.6nm,0.7s,baz=17,slow=9.2,SNR=3.6						
JNU				pP	pP	06 23 26.9	+0.6
	comp=Z,14nm,0.9s,baz=18,slow=6.4,SNR=4.7						
TJN	**Taejon**	**44.08**	**274**⇑	*i*P	P	06 23 14.7	+0.3
F24A	**Ekalaka**	**44.24**	**69**⇑	P	P	06 23 17.8	+2.2
	baz=44						
SRU	**San Rafael Swe**	**44.51**	**81**	*e*P	P	06 23 18.6	+0.5
	comp=Z,7.1nm,0.7s						
G24A	**Alzada**	**44.54**	**70**⇑	P	P	06 23 17.5	-0.5
	baz=44						
O20A	**White River Ci**	**45.28**	**78**	*e*P	P	06 23 24.0	-0.1
	comp=Z,9.5nm,0.8s						
RSSD	**Black Hills**	**45.45**	**71**	*e*P	P	06 23 25.6	+0.2
	comp=Z,2.9nm,0.6s						
H26A	**Fairpoint**	**45.90**	**70**⇑	P	P	06 23 30.9	+2.0
	baz=46						
WUAZ	**Wupatki**	**46.25**	**85**	*e*P	P	06 23 31.8	0.0
	comp=Z,6.2nm,0.9s						
L26A	**Underwood Farm**	**47.24**	**73**⇑	P	P	06 23 30.8	-8.7
	baz=47						
AGMN	**Agassiz Nation**	**47.72**	**62**	*e*P	P	06 23 42.8	-0.1
	comp=Z,68nm,2.3s						
SDCO	**Great Sand Dun**	**48.44**	**79**	*e*P	P	06 23 49.2	+0.2
	comp=Z,2.3nm,0.8s						
BJI	**Beijing**	**48.64**	**285**	P	P	06 23 50.0	-0.1
BJI				pP	pP	06 24 01.2	-1.3
BJI				sP	sP	06 24 06.2	-1.5
BJI				S	S	06 30 47.8	-1.0
BJI				PMZ			
	comp=Z,4.0nm,0.6s						
BJI				LN			
	comp=Z,120nm,17.6s						
BJI				LE			
	comp=Z,130nm,16.3s						
TLY	**Talaya**	**48.77**	**305**	P	P	06 23 51.5	+0.5
	comp=Z,1.2nm,0.4s,baz=51,slow=8.3,SNR=3.4						
TLY	**Talaya**	**48.77**	**305**	*e*P	P	06 23 52.4	+1.4
TLY				*e*S	S	06 30 52.8	+2.4
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SONM	**Songino Array**	**49.55**	**299**	P	P	06 23 57.8	+0.7
	comp=Z,1.7nm,0.4s,baz=51,slow=7.6,SNR=14						
SONM				pP	pP	06 24 09.9	+0.3
	comp=Z,3.1nm,0.6s,baz=47,slow=7.3,SNR=8.1						
SONM				pPcP		06 25 31.5	
	comp=Z,1.9nm,0.8s,baz=69,slow=1.2,SNR=4.7						
SONM				LR	LR	06 45 54.1	
	comp=Z,114nm,19.4s,baz=65,slow=37						
SONM	**Songino Array**	**49.55**	**299**	P	P	06 23 57.8	+0.7
SONM				*PP	pP	06 24 09.9	+0.3
SONM				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SONM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,114nm,19.5s						
ANMO	**Albuquerque**	**49.66**	**82**⇑	*e*P	P	06 23 58.4	+0.1
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ZAK	**Zakamensk**	**49.70**	**304**	*e*P	P	06 23 57.8	-0.4
ZAK				*e*		06 25 19.5	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ECSD	**EROS Data Cent**	**49.99**	**67**	*e*P	P	06 23 59.6	-0.8
	comp=Z,43nm,2.3s						
HHC	**Hu-ho-hao-te**	**50.88**	**289**	*e*P	P	06 24 06.6	-0.6
HHC				pP	pP	06 24 20.0	+0.3
HHC				sP	sP	06 24 24.7	-0.2
HHC				PP	PP	06 26 06.0	+2.5
HHC				S	S	06 31 17.0	-3.3
HHC				PMZ			
	comp=Z,25nm,1.0s						
HHC				PMZ			
	comp=Z,120nm,6.1s						
HHC				LZ			
	comp=Z,78nm,13.7s						
SUMG	**Summit**	**52.15**	**16**	*i* P	P	06 24 16.4	-0.2
	comp=Z,5.9nm,1.2s						
SUMG	**Summit**	**52.15**	**16**	*e*P	P	06 24 16.4	-0.2
SUMG				pmax	pmax		
	comp=Z,6.0nm,1.2s						
NJ2	**Nanjing**	**52.22**	**276**	*e*P	P	06 24 17.0	-0.2
NJ2				PMZ			
	comp=Z,10.0nm,0.6s						
Q33A	**Connelly Farm,**	**52.26**	**73**⇓	P	P	06 24 17.0	-0.5
	baz=52						
MSTX	**Muleshoe**	**52.58**	**81**	*e*P	P	06 24 19.3	-0.7
T34A	**McClaskey Farm**	**53.94**	**74**⇓	P	P	06 24 29.3	-0.6
	baz=54						
R36A	**Gordon, Harris**	**54.08**	**72**⇑	P	P	06 24 30.4	-0.4
	baz=54,SNR=5.3						
S36A	**Lake Cedric, C**	**54.42**	**72**⇑	P	P	06 24 32.4	-0.9
	baz=54						
T36A	**Boggs Farm, Ca**	**54.70**	**73**⇑	P	P	06 24 35.1	-0.2
	baz=54						
TXAR	**Lajitas Array**	**55.21**	**85**	P	P	06 24 38.5	-0.8
	comp=Z,2.1nm,0.6s,baz=295,slow=5.3,SNR=37						
TXAR	**Lajitas Array**	**55.21**	**85**	P	P	06 24 38.5	-0.8
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
T37A	**Cheneyville 18**	**55.23**	**72**⇑	P	P	06 24 38.6	-0.6
	baz=55,SNR=6.8						
TUL1	**Leonard**	**55.52**	**74**⇑	P	P	06 24 40.4	-0.8
	baz=55						
W36A	**Wetumka**	**55.78**	**75**⇑	P	P	06 24 41.7	-1.4
	baz=56						
W37A	**Quinton**	**56.26**	**74**⇓	P	P	06 24 46.8	+0.2
	baz=56,SNR=7.2						
ZALV	**Zalesovo Beam**	**56.27**	**316**	P	P	06 24 45.7	-0.7
	comp=Z,0.6nm,0.4s,baz=44,slow=6.4,SNR=2.3						
ZALV				PcP	PcP	06 25 43.6	+0.2
	comp=Z,2.3nm,0.8s,baz=35,slow=5.3,SNR=5.0						
ZALV				pPcP		06 25 56.6	
	comp=Z,4.1nm,0.6s,baz=38,slow=3.9,SNR=9.4						
ZALV				LR	LR	06 50 59.9	
	comp=Z,57nm,18.3s,baz=64,slow=38						
ZALV	**Zalesovo Beam**	**56.27**	**316**	P	P	06 24 45.7	-0.7
ZALV						06 25 43.6	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZALV				MLR	MLR		
	comp=Z,57nm,18.3s						
X37A	**Clayton**	**56.67**	**75**⇑	P	P	06 24 49.2	-0.3
	baz=56						
JCT	**Junction City**	**56.80**	**82**	*e*P	P	06 24 50.1	-0.5
	comp=Z,23nm,1.8s						
W38A	**Poteau**	**56.85**	**74**⇓	P	P	06 24 50.5	-0.3
	baz=57,SNR=6.7						
XAN	**Xi'an**	**56.95**	**284

KURK	**Kurchatov**	**61.25**	**316**	P	**P**	**06 25 20.6**	**-0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KURK	**Kurchatov**	**61.25**	**316**	*e*P	**P**	**06 25 20.6**	**-0.3**
	comp=Z,3.9nm,0.5s						
WMQ	**Urumqi**	**62.01**	**306**	P	**P**	**06 25 28.9**	**+2.5**
WMQ				pP	**pP**	**06 25 41.7**	**+2.5**
WMQ				sP	**sP**	**06 25 47.0**	**+2.7**
WMQ				PMZ			
	comp=Z,3.0nm,0.8s						
WMQ				PMZ			
	comp=Z,11nm,4.8s						
CD2	**Chengdu**	**62.24**	**285**	*e*P	**P**	**06 25 28.0**	**-0.1**
MKAR	**Makanchi Array**	**62.48**	**311**	P	**P**	**06 25 28.8**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=44,slow=6.8,SNR=29						
MKAR				LR	LR	06 54 29.9	
	comp=Z,42nm,18.1s,baz=39,slow=38						
MKAR	**Makanchi Array**	**62.48**	**311**	*c*e*P*	**P**	**06 25 28.7**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVA0	**Borovoye Array**	**62.82**	**323**	*i* P	**P**	**06 25 31.6**	**+0.1**
BVA0				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BRVK	**Borovoye**	**62.84**	**323**	⇑*i*P	**P**	**06 25 32.0**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,11nm,1.2s						
ARU	**Arti**	**64.10**	**331**	*c i*P	**P**	**06 25 39.7**	**-0.2**
ARU				*PP	**pP**	**06 25 51.4**	**-1.3**
ARU						06 27 57.0	
ARU				S	**S**	**06 34 14.9**	**+2.0**
ARU				SS	**SS**	**06 38 18.7**	**-2.7**
ARU				pmax	pmax		
	comp=Z,17nm,1.7s						
ARU	**Arti**	**64.10**	**331**	*e*P	**P**	**06 25 39.6**	**-0.2**
	comp=Z,9.0nm,0.5s						
EMMW	**East Machias**	**64.71**	**49**	*e*P	**P**	**06 25 43.3**	**-0.7**
	comp=Z,11nm,0.6s						
FINES	**FINESS Array B**	**66.19**	**350**	P	**P**	**06 25 52.3**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=1.9,slow=5.9,SNR=15						
FINES				LR	LR	06 59 43.1	
	comp=Z,38nm,18.3s,baz=342,slow=40						
FINES	**FINESS Array B**	**66.19**	**350**	*c*e*P*	**P**	**06 25 52.7**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PDGK	**Podgornoye**	**66.40**	**310**	P	**P**	**06 25 55.0**	**+0.1**
PDGK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NOA	**NORSAR Array B**	**67.59**	**358**	P	**P**	**06 26 02.0**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=4.6,slow=6.6,SNR=3.2						
NOA				LR	LR	06 56 39.0	
	comp=Z,17nm,18.1s,baz=220,slow=37						
NOA	**NORSAR Array B**	**67.59**	**358**	P	**P**	**06 26 02.0**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,17nm,18.1s						
HFS	**Hagfors**	**68.42**	**356**	LR	LR	06 52 38.9	
	comp=Z,30nm,21.7s,baz=306,slow=33						
TKM2	**Tokmak 2**	**68.52**	**313**	P	**P**	**06 26 08.6**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,9.0nm,1.2s						
USP	**Ospenovka**	**68.75**	**313**	P	**P**	**06 26 10.7**	**+0.8**
	SNR=8.4						
VSU	**Vasula**	**69.02**	**349**	⇑*e*P	**P**	**06 26 11.6**	**+0.4**
AAK	**Ala-Archa**	**69.25**	**313**	P	**P**	**06 26 13.7**	**+0.6**
	SNR=7.3						
AAK	**Ala-Archa**	**69.25**	**313**	*c i*P	**P**	**06 26 14.0**	**+0.8**
AAK				pmax	pmax		
	comp=Z,36nm,1.2s						
AAK	**Ala-Archa**	**69.25**	**313**	*e*P	**P**	**06 26 13.6**	**+0.4**
	comp=Z,13nm,1.0s						
KZA	**Kyzart**	**69.34**	**312**	P	**P**	**06 26 14.9**	**+0.8**
	SNR=5.7						
AKTO	**Aktyubinsk**	**69.36**	**328**	LR	LR	07 00 22.5	
	comp=Z,77nm,18.3s,slow=39						
EKS2	**Erkin-Say**	**69.55**	**314**	P	**P**	**06 26 15.5**	**+0.6**
	SNR=11						
EKS2	**Erkin-Say**	**69.55**	**314**	*e*P	**P**	**06 26 15.6**	**+0.6**
	comp=Z,5.9nm,0.6s						
UCH	**Uchtor**	**69.56**	**313**	P	**P**	**06 26 16.6**	**+1.1**
	SNR=5.6						
AB31	**Akbulak array**	**69.71**	**326**	*i* P	**P**	**06 26 15.3**	**-0.3**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ABKAR	**Akbulak array**	**69.71**	**326**	*e*P	**P**	**06 26 15.7**	**0.0**
	comp=Z,4.9nm,0.5s						
AML	**Almayashu**	**70.01**	**313**	P	**P**	**06 26 19.3**	**+1.2**
	SNR=5.8						
MNAS	**Manas**	**70.26**	**314**	P	**P**	**06 26 19.8**	**+0.4**
MNAS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
LSA	**Lhasa**	**70.53**	**293**	*e*P	**P**	**06 26 23.1**	**+1.5**
	comp=Z,30nm,0.8s						
KK31	**Karatay Array**	**70.65**	**316**	*i* P	**P**	**06 26 21.2**	**-0.4**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KSH	**Kashi**	**71.01**	**310**	P	P	06 26 27.6	+3.6
KSH				pP	**PcP**	**06 26 41.8**	**-2.3**
KSH				PcP	pP	06 26 46.5	+10
KSH				PP	**PP**	**06 29 03.9**	**+2.7**
KSH				S	**S**	**06 35 42.4**	**+5.8**
KSH				sS	**SKiKP**	**06 36 02.0**	**+0.7**
KSH				SKS	**SKSac**	**06 36 21.6**	**-1.2**
KSH				PMZ			
	comp=Z,16nm,0.7s						
KSH				PMZ			
	comp=Z,100nm,4.7s						
KSH				LZ			
	comp=Z,140nm,5.2s						
SFK	**Sufi-Kurgan**	**71.78**	**312**	P	**P**	**06 26 28.6**	**-0.1**
SFK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PPT	**Papeete**	**71.99**	**156**	LR	LR	06 51 15.1	
	comp=Z,35nm,21.5s,baz=246,slow=30						
LPSR	**Galich'ya Gora**	**72.63**	**340**	*e*P	**pP**	**06 26 48.1**	**+1.8**
LPSR				pmax	pmax		
	comp=N,7.0nm,0.8s						
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LPSR				pmax	pmax		
	comp=E,4.0nm,0.5s						
SHL	**Shillong**	**73.23**	**290**	*e*P	**P**	**06 26 37.5**	**0.0**
VSR	**Storozhevoye**	**73.88**	**339**	*e*P	**P**	**06 26 40.3**	**-0.3**
VSR				pmax	pmax		
	comp=N,9.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,4.0nm,0.6s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VORD	**Divnogorie**	**74.08**	**339**	*e*P	**P**	**06 26 41.4**	**-0.4**
VORD				pmax	pmax		
	comp=N,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TAPN	**Taplejung**	**74.28**	**294**	*e*P	**P**	**06 26 44.1**	**+0.4**
	comp=Z,6.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**74.37**	**280**	P	**P**	**06 26 44.2**	**+0.2**
	comp=Z,4.6nm,0.8s,baz=28,slow=7.0,SNR=14						
CMAR				LR	LR	07 03 57.8	
	comp=Z,21nm,18.1s,baz=250,slow=39						
CMAR	**Chiang Mai Arr**	**74.37**	**280**	P	**P**	**06 26 44.3**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,21nm,18.1s						
ODAN	**Odare**	**74.83**	**294**	*e*P	**P**	**06 26 47.4**	**+0.5**
GUN	**Gumba**	**74.88**	**296**	*e*P	**P**	**06 26 48.1**	**+0.8**
	comp=Z,42nm,0.5s						
DZET	**Dzherino**	**74.88**	**314**	P	**P**	**06 26 47.0**	**+0.1**
DZET				pmax	pmax		
	comp=Z,11nm,0.6s						
JIRN	**Jiri**	**74.90**	**295**	*e*P	**P**	**06 26 48.2**	**+0.8**
	comp=Z,67nm,0.9s						
RAMN	**Ramite**	**75.21**	**295**	*e*P	**P**	**06 26 49.5**	**+0.4**
	comp=Z,75nm,0.6s						
KKN	**Kakani**	**75.31**	**296**	*e*P	**P**	**06 26 50.2**	**+0.6**
	comp=Z,27nm,0.7s						
PKI	**Pulchoki**	**75.41**	**296**	*e*P	**P**	**06 26 50.6**	**+0.3**
	comp=Z,64nm,1.1s						
GKN	**Gorkha**	**75.50**	**297**	*e*P	**P**	**06 26 51.1**	**+0.5**
	comp=Z,45nm,0.6s						
DMN	**Daman**	**75.55**	**296**	*e*P	**P**	**06 26 51.7**	**+0.7**
	comp=Z,50nm,1.1s						
AKASG	**Malin Array Be**	**76.24**	**345**	P	**P**	**06 26 53.3**	**-0.9**
	comp=Z,4.2nm,0.4s,baz=17,slow=5.9,SNR=17						
AKASG				pP	**PcP**	**06 27 06.0**	**-0.1**
	comp=Z,3.7nm,0.5s,baz=17,slow=5.8,SNR=5.6						
AKASG				LR	LR	07 08 09.6	
	comp=Z,29nm,18.0s,baz=15,slow=42						
AKASG	**Malin Array Be**	**76.24**	**345**	P	**P**	**06 26 53.3**	**-0.9**
AKASG				*PP	**PcP**	**06 27 06.0**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.4s						
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KIEV	**Kiev**	**76.25**	**345**	*e*P	**P**	**06 26 53.1**	**-1.2**
	comp=Z,3.9nm,0.3s						
KOLN	**Koldanda**	**76.26**	**297**	*e*P	**P**	**06 26 54.7**	**-0.3**
	comp=Z,36nm,1.0s						
CLL	**Collm**	**77.27**	**356**	⇓*i*P	**P**	**06 26 59.2**	**-0.8**
	comp=Z,4.0nm,0.6s						
CLL				LmV		07 09 00.0	
	comp=Z,100nm,20.5s						
CLL	**Collm**	**77.27**	**356**	⇓*i*P	**P**	**06 26 59.2**	**-0.8**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRG	**Berggiesshubel**	**77.66**	**355**	*e*PKP	**P**	**06 27 02.2**	**0.0**
	comp=Z,9.3nm,1.1s						
BRG	**Berggiesshubel**	**77.66**	**355**	*e*P	**P**	**06 27 02.2**	**0.0**
BRG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GIVF	**Givet**	**78.60**	**1**	*e*P	**P**	**06 27 07.6**	**+0.1**
GIVF	**Givet**	**78.60**	**1**	*e*P	**P**	**06 27 07.6**	**+0.1**
BAIF	**Baives**	**78.63**	**2**	*e*P	**P**	**06 27 07.9**	**+0.3**
BAIF	**Baives**	**78.63**	**2**	*e*P	**P**	**06 27 07.9**	**+0.3**
GOF	**Gofitskoye**	**78.68**	**335**	*e*P	**P**	**06 27 04.9**	**-3.1**
VRAC	**Vranov**	**79.05**	**353**	⇓P	**P**	**06 27 10.6**	**+0.6**
VRAC	**Vranov**	**79.05**	**353**	⇓*i*P	**P**	**06 27 10.6**	**+0.6**
KHC	**Kasperske Hory**	**79.41**	**355**	*e*P	**P**	**06 27 12.3**	**+0.3**
	comp=Z,1.3nm,0.8s						
TRPA	**Tarpa**	**79.66**	**349**	⇓*i*P	**P**	**06 27 13.0**	**-0.3**
GERES	**GERESS Array B**	**79.69**	**355**	P	**P**	**06 27 13.5**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=23,slow=7.2,SNR=18						
GERES				pP	**pP**	**06 27 26.3**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=19,slow=6.2,SNR=6.4						
GERES	**GERESS Array B**	**79.69**	**355**	P	**P**	**06 27 13.5**	**-0.1**
GERES				*PP	**pP**	**06 27 26.3**	**-0.5**
GERES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KIV	**Kislovodsk**	**79.80**	**334**	⇓*e*P	**P**	**06 27 14.4**	**+0.2**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BUR08	**Bucovina Ar. S**	**79.81**	**347**	*e*P	**P**	**06 27 14.1**	**-0.2**
BURAR	**Bucovina Array**	**79.83**	**347**	⇓P	**P**	**06 27 14.4**	**0.0**
BURAR	**Bucovina Array**	**79.83**	**347**	⇓*i*P	**P**	**06 27 14.4**	**0.0**
KBZ	**Khabaz**	**79.95**	**334**	P	**P**	**06 27 15.4**	**+0.5**
	comp=Z,5.3nm,0.9s,baz=83,slow=2.0,SNR=13						
KBZ				LR	LR	07 09 03.0	
	comp=Z,60nm,18.1s,baz=46,slow=40						
LDF	**La Druitiere**	**79.95**	**5**	*e*P	**P**	**06 27 14.6**	**-0.3**
LDF	**La Druitiere**	**79.95**	**5**	*e*P	**P**	**06 27 14.6**	**-0.3**
PAGF	**Fort de Pagny**	**80.16**	**1**	⇑*i*P	**P**	**06 27 16.7**	**+0.7**
	comp=Z,6.2nm,0.9s						
PAGF	**Fort de Pagny**	**80.16**	**1**	⇑*i*P	**P**	**06 27 16.7**	**+0.7**
	comp=Z,6.2nm,0.9s						
CDF	**Champ du Feu**	**80.30**	**360**	⇑P	**P**	**06 27 17.0**	**+0.1**
CDF	**Champ du Feu**	**80.30**	**360**	⇑*i*P	**P**	**06 27 17.0**	**+0.1**
BFO	**Black Forest**	**80.38**	**359**	*c*e*P*	**P**	**06 27 18.4**	**+1.2**
SFTF	**Sexfontaines**	**80.50**	**1**	*e*P	**P**	**06 27 18.1**	**+0.3**
SFTF	**Sexfontaines**	**80.50**	**1**	*e*P	**P**	**06 27 18.1**	**+0.3**
ZEI	**Tsey**	**80.54**	**333**	*e*P	**P**	**06 27 17.8**	**-0.6**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.4s						
HAU	**Haudompre**	**80.71**	**0**	*e*P	**P**	**06 27 19.2**	**+0.2**
	comp=Z,4.5nm,0.5s						
HAU				*e*R			
	comp=Z,50nm,20.2s						
HAU	**Haudompre**	**80.71**	**0**	*e*P	**P**	**06 27 19.2**	**+0.2**
	comp=Z,4.5nm,0.5s						
HINF	**Hinteralfeld**	**80.90**	**360**	⇑*i*P	**P**	**06 27 20.0**	**0.0**
	comp=Z,5.8nm,0.6s						
HINF	**Hinteralfeld**	**80.90**	**360**	⇑*i*P	**P**	**06 27 20.0**	**0.0**
	comp=Z,5.8nm,0.6s						
DRGR		**80.96**	**349**	⇓P	**P**	**06 27 20.4**	**0.0**
DRGR		**80.96**	**349**	⇓*i*P	**P**	**06 27 20.4**	**0.0**
LOR	**Lormes**	**81.42**	**2**	*e*P	**P**	**06 27 22.9**	**+0.1**
	comp=Z,3.8nm,0.5s						
LOR				*e*R			
	comp=Z,43nm,18.2s						
LOR	**Lormes**	**81.42**	**2**	*e*P	**P**	**06 27 22.9**	**+0.1**
	comp=Z,3.8nm,0.5s						
DOPR	**Dopca**	**81.42**	**347**	⇓*i*P	**P**	**06 27 23.9**	**+1.1**
KBA	**Koelnbreinsper**	**81.47**	**355**	⇑*i*PcP	**P**	**06 27 24.2**	**+1.0**
	comp=Z,9.7nm,0.7s						
SSF	**Saint Saulge**	**81.62**	**2**	⇑*i*P	**P**	**06 27 23.9**	**+0.1**
	comp=Z,7.1nm,0.8s						
SSF	**Saint Saulge**	**81.62**	**2**	⇑*i*P	**P**	**06 27 23.9**	**+0.1**
	comp=Z,7.1nm,0.8s						
SOKA	**Soboth**	**81.78**	**354**	⇑*i*PcP	**P**	**06 27 24.9**	**+0.2**
	comp=Z,6.6nm,1.0s						
CFR	**Carcaliu**	**81.78**	**345**	⇓P	**P**	**06 27 25.0**	**+0.4**
CFR	**Carcaliu**	**81.78**	**345**	⇓*i*P	**P**	**06 27 25.0**	**+0.4**
MLR	**Muntele Rosu**	**81.81**	**346**	⇓P	**P**	**06 27 25.8**	**+0.8**
MLR	**Muntele Rosu**	**81.81**	**346**	⇓*i*P	**P**	**06 27 25.8**	**+0.8**
AVF	**Avril sur Loir**	**81.89**	**2**	*e*P	**P**	**06 27 25.1**	**-0.1**
AVF	**Avril sur Loir**	**81.89**	**2**	*e*P	**P**	**06 27 25.1**	**-0.1**
MFF	**Saint Martin d**	**81.94**	**5**	*e*P	**P**	**06 27 25.7**	**+0.2**
MFF	**Saint Martin d**	**81.94**	**5**	*e*P	**P**	**06 27 25.7**	**+0.2**
VOIR		**81.99**	**347**	⇓P	**P**	**06 27 27.6**	**+1.7**
VOIR		**81.99**	**347**	⇓*i*P	**P**	**06 27 27.6**	**+1.7**
SMF	**Signal de Mont**	**82.04**	**2**	⇑*i*P	**P**	**06 27 26.1**	**+0.1**
	comp=Z,6.5nm,0.7s						
SMF	**Signal de Mont**	**82.04**	**2**	⇑*i*P	**P**	**06 27 26.1**	**+0.1**
	comp=Z,6.5nm,0.7s						
CABF	**La Chapelle**	**82.11**	**0**	*e*P	**P**	**06 27 27.0**	**+0.5**
CABF	**La Chapelle**	**82.11**	**0**	*e*P	**P**	**06 27 27.0**	**+0.5**
TUE	**Stuetta**	**82.22**	**358**	*e*P	**P**	**06 27 27.9**	**+0.6**
	comp=Z,4.3nm,0.8s						
HARR	**Harsova**	**82.29**	**345**	⇑P	**P**	**06 27 27.6**	**+0.3**
HARR	**Harsova**	**82.29**	**345**	⇑*i*P	**P**	**06 27 27.6**	**+0.3**
GZR	**Gura Zlata**	**82.33**	**349**	⇓P	**P**	**06 27 27.8**	**+0.1**
GZR	**Gura Zlata**	**82.33**	**349**	⇓*i*P	**P**	**06 27 27.8**	**+0.1**
TLB	**Topalu**	**82.37**	**345**	⇑P	**P**	**06 27 28.3**	**+0.6**
TLB	**Topalu**	**82.37**	**345**	⇑*i*P	**P**	**06 27 28.3**	**+0.6**
TIRR	**Tirgusor**	**82.43**	**344**	⇑P	**P**	**06 27 28.6**	**+0.5**
TIRR	**Tirgusor**	**82.43**	**344**	⇑*i*P	**P**	**06 27 28.6**	**+0.5**
TIRR	**Tirgusor**	**82.43**	**344**	*e*P	**P**	**06 27 28.4**	**+0.3**
	comp=Z,12nm,0.6s						
RJF	**Les Rejaudoux**	**83.31**	**4**	*e*P	**P**	**06 27 32.6**	**-0.1**
RJF				*e*R			
	comp=Z,99nn,22.8s						
RJF	**Les Rejaudoux**	**83.31**	**4**	*e*P	**P**	**06 27 32.6**	**-0.1**
VIVF	**Saint-Julien-l**	**83.85**	**1**	*e*P	**P**	**06 27 35.3**	**-0.1**
VIVF	**Saint-Julien-l**	**83.85**	**1**	*e*P	**P**	**06 27 35.3**	**-0.1**
DIVS	**Divibare**	**83.93**	**350**	⇓*i*P	**P**	**06 27 36.0**	**+0.1**
JMB	**Yambol**	**84.67**	**345**	⇓P	**P**	**06 27 40.4**	**+0.8**
JMB	**Yambol**	**84.67**	**345**	⇓*i*P	**P**	**06 27 40.4**	**+0.8**
WRA	**Warramunga Arr**	**84.69**	**228**	P	**P**	**06 27 38.8**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=32,slow=5.8,SNR=4.3						
WRA				pP	**pP**	**06 27 52.5**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=32,slow=5.8,SNR=9.3						
WRA	**Warramunga Arr**	**84.69**	**228**	P	**P**	**06 27 38.8**	**-1.0**
WRA				*PP	**pP**	**06 27 52.6**	**-0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VTS	**Vitosha**	**85.03**	**348**	⇓P	**P**	**06 27 42.1**	**+0.5**
VTS	**Vitosha**	**85.03**	**348**	⇓*i*P	**P**	**06 27 42.1**	**+0.5**
KDZ	**Kurdzhali**	**85.65**	**346**	⇓P	**P**	**06 27 45.7**	**+1.2**
KDZ	**Kurdzhali**	**85.65**	**346**	⇓*i*P	**P**	**06 27 45.7**	**+1.2**
MMB	**Musomiste**	**85.95**	**347**	⇓P	**P**	**06 27 47.2**	**+1.1**
MMB	**Musomiste**	**85.95**	**347**	⇓*i*P	**P**	**06 27 47.2**	**+1.1**
BR131	**Keskin Array S**	**86.00**	**339**	*e*P	**P**	**06 27 47.2**	**+0.7**
	comp=Z,2.1nm,0.6s						
BRTR	**Keskin Array B**	**86.00**	**339**	P	**P**	**06 27 46.9**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=56,slow=1.9,SNR=19						
BRTR	**Keskin Array B**	**86.00**	**339**	P	**P**	**06 27 46.9**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PGF	**Pioggiola**	**86.15**	**358**	*e*P	**P**	**06 27 47.2**	**+0.1**
	comp=Z,9.1nm,0.7s						
PGF	**Pioggiola**	**86.15**	**358**	*e*P	**P**	**06 27 47.2**	**+0.1**
	comp=Z,9.1nm,0.7s						
ASAR	**Alice Springs**	**88.10**	**227**	P	**P**	**06 27 56.2**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=28,slow=5.0,SNR=13						
ASAR				pP	**pP**	**06 28 09.4**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=31,slow=4.9,SNR=12						
ASAR	**Alice Springs**	**88.10**	**227**	P	**P**	**06 27 56.3**	**-0.3**
ASAR				*PP	**pP**	**06 28 09.4**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ESDC	**Sonseca Array**	**88.56**	**8**	P	**P**	**06 27 58.4**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=1.6,slow=3.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**115.32**	**5**	PKP	**PKPdf**	**06 33 47.2**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=338,slow=1.7,SNR=3.6						
MATP	**Matopo**	**144.47**	**323**	PKP	PKPbc	06 34 41.0	0.0
	comp=Z,9.0nm,0.5s,baz=26,slow=4.8,SNR=27						
MATP				pPKP	pPKPdf	06 34 54.0	-2.2
	comp=Z,21nm,0.6s,baz=360,slow=3.3,SNR=16						
TSUM	**Tsumeb**	**146.49**	**341**	PKPbc	**PKPab**	**06 34 48.2**	**-0.1**
	comp=Z,7.1nm,0.6s,baz=7.4,slow=7.2,SNR=20						
TSUM				pPKPbc	pPKPbc	06 35 00.4	-0.5
	comp=Z,15nm,0.7s,baz=344,slow=5.2,SNR=12						
MAW	**Mawson**	**148.81**	**218**	PKPbc	**PKPbc**	**06 34 51.6**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=49,slow=9.3,SNR=3.9						
MAW	**Mawson**	**148.81**	**218**	PKP2	**PKPbc**	**06 34 51.6**	**-0.3**
MAW				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LBTB	**Lobatse**	**149.73**	**324**	PKPbc	**PKPbc**	**06 34 56.0**	**+0.3**
	comp=Z,3.1nm,0.4s,baz=352,slow=2.6,SNR=8.0						
LBTB				pPKPbc	**pPKPbc**	**06 35 09.2**	**-0.3**
	comp=Z,12nm,0.6s,baz=9.3,slow=1.5,SNR=11						
LBTB	**Lobatse**	**149.73**	**324**	PKP2	**PKPbc**	**06 34 56.0**	**+0.3**
LBTB				pmax	pmax		
	comp=Z,3.0nm,0.4s						
LBTB				pmax	pmax		
	comp=Z,12nm,0.6s						
BOSA	**Boshof**	**153.11**	**322**	PKPbc	**PKPbc**	**06 35 03.4**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=6.8,slow=2.3,SNR=9.4						
BOSA				PKPab	**PKPab**	**06 35 15.0**	**-0.1**
	comp=Z,3.6nm,0.6s,baz=14,slow=2.6,SNR=7.2						
BOSA	**Boshof**	**153.11**	**322**	PKIKP	**PKPbc**	**06 35 03.4**	**-0.1**
BOSA						06 35 15.0	
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.6s						

IDC ***12*** *06:17:01.4±1.3, 1°.72N×126°.77E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.8/22, mbtmp4.0/6, ML4.1/1, Error ellipse: s-maj=59.9km s-min=23.0km az=65.0*
ISCJB ***12*** *06:17:07.0±1.1, 1°.6N±0°.1×126°.54E±0°.06, h47km, mb3.9/5, Error ellipse: s-maj=18.2km s-min=9.0km az=5.3*
DJA ***12*** *06:17:09.0±1.1, 1°.N±9°×12°.7E±°, h75km±38km, M4.3/6, mb4.8/1, mB4.8/1, MLv4.0/6, Mw(mB)4.1/1*

ISC 12 06:17:08.7±1.2, 1°.5N±0°.1×126°.56E±0°.09, h47km, n12, σ0§99/13, mb4.0/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.09**	**133**	P	**Pn**	**06 17 28.2**	**+0.6**
KMSI	**Cibinong**	**2.75**	**250**	P	**Pn**	**06 17 51.7**	**+1.4**
KMSI				S	**Sn**	**06 18 20.8**	**-1.5**
SANI	**Sanana**	**3.59**	**189**	P	**Pn**	**06 18 02.3**	**+0.4**
MRSI	**Marisa**	**4.74**	**257**	P	**Pn**	**06 18 19.0**	**+1.4**
APSI	**Ampana**	**5.47**	**244**	P	**Pn**	**06 18 27.9**	**+0.1**
KAPI	**Kappang**	**9.40**	**226**	Pn	**Pn**	**06 19 22.3**	**+0.7**
	1.7nm,0.3s,baz=322,slow=5.9,SNR=4.2						
WRA	**Warramunga Arr**	**22.65**	**161**	P	**P**	**06 22 05.3**	**-0.7**
	5.4nm,0.6s,baz=339,slow=11,SNR=37						
ASAR	**Alice Springs**	**26.03**	**165**	P	**P**	**06 22 37.6**	**-0.1**
	1.2nm,0.5s,baz=346,slow=8.6,SNR=36						
STKA	**Stephens Creek**	**36.14**	**158**	P	**P**	**06 24 06.7**	**+0.1**
	1.8nm,0.5s,baz=340,slow=8.0,SNR=6.9						
MKAR	**Makanchi Array**	**59.28**	**326**	P	**P**	**06 27 04.6**	**-1.0**
	0.4nm,0.3s,baz=121,slow=8.2,SNR=4.5						
VNDA	**Vanda**	**81.27**	**173**	P	**P**	**06 29 20.5**	**+1.1**
	0.6nm,0.8s,baz=314,slow=6.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**123.42**	**287**	PKP	**PKPdf**	**06 36 01.5**	**-0.4**
	0.3nm,0.7s,baz=62,slow=2.5,SNR=3.0						

FUNV ***12*** *06:20:22.7, 10°.28N×62°.57W, h1km, MW3.1*
ISCJB ***12*** *06:20:23.2±0.7, 10°.40N±0°.04×62°.68W±0°.02, h8km±5km, Error ellipse: s-maj=7.0km s-min=3.2km az=159.4*
TRN ***12*** *06:20:24.0, 10°.43N×62°.61W, h1km, MD3.7*

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JHO				*e*S	**S**	**06 26 04.9**	**-4.0**
JMK	**Ichinoseki**	**8.41**	**13**	P	**P**	**06 25 21.5**	**+1.1**
KSRS	**Korea Array**	**11.28**	**309**	P	**P**	**06 25 52.0**	**-0.2**
	0.2nm,0.3s,baz=124,slow=11,SNR=2.8						
SONM	**Songino Array**	**30.09**	**314**	P	**P**	**06 28 54.7**	**-0.4**
	0.8nm,0.6s,baz=123,slow=9.2,SNR=3.6						
CMAR	**Chiang Mai Arr**	**38.12**	**261**	P	**P**	**06 30 02.8**	**-0.7**
	0.8nm,0.5s,baz=62,slow=6.3,SNR=3.7						
ZALV	**Zalesovo Beam**	**44.85**	**317**	P	**P**	**06 30 55.8**	**-1.0**
	0.6nm,0.5s,baz=101,slow=7.5,SNR=3.3						
ZALV				PcP	**PcP**	**06 32 30.7**	**+0.2**
	0.7nm,0.6s,baz=106,slow=5.1,SNR=3.3						
MKAR	**Makanchi Array**	**45.95**	**307**	P	**P**	**06 31 05.0**	**-0.5**
	1.5nm,0.6s,baz=90,slow=9.3,SNR=5.0						
MKAR				PcP	**PcP**	**06 32 34.6**	**0.0**
	0.3nm,0.5s,baz=108,slow=4.7,SNR=2.7						
WRA	**Warramunga Arr**	**50.58**	**186**	P	**P**	**06 31 40.6**	**0.0**
	2.9nm,0.5s,baz=2.0,slow=7.8,SNR=39						
WRA				PcP	**PcP**	**06 32 52.3**	**+0.6**
	0.6nm,1.1s,baz=359,slow=4.2,SNR=2.5						
BVAR	**Borovoye Array**	**53.41**	**316**	P	**P**	**06 32 00.9**	**+0.1**
	2.1nm,0.6s,baz=98,slow=8.3,SNR=12						
BVAR				PcP	**PcP**	**06 33 02.6**	**+0.6**
	1.1nm,0.6s,baz=73,slow=5.0,SNR=5.6						
ASAR	**Alice Springs**	**54.31**	**186**	P	**P**	**06 32 07.7**	**+0.1**
	1.0nm,0.5s,baz=14,slow=14,SNR=24						
ILAR	**Eielson Array**	**55.96**	**30**	P	**P**	**06 32 20.7**	**+2.1**
	0.3nm,0.7s,baz=255,slow=5.9,SNR=6.5						
STKA	**Stephens Creek**	**62.33**	**177**	P	**P**	**06 33 02.8**	**+0.7**
	1.0nm,0.6s,baz=339,slow=8.6,SNR=3.8						
FINES	**FINESS Array B**	**73.40**	**332**	P	**P**	**06 34 09.8**	**-0.1**
	1.1nm,0.9s,baz=64,slow=6.3,SNR=4.4						
KBZ	**Khabaz**	**73.42**	**311**	P	**P**	**06 34 10.8**	**+0.4**
	1.9nm,0.7s,baz=107,slow=4.8,SNR=5.6						
AKASG	**Malin Array Be**	**77.97**	**322**	P	**P**	**06 34 35.6**	**-0.1**
	0.8nm,0.5s,baz=52,slow=6.1,SNR=3.3						
BRTR	**Keskin Array B**	**81.42**	**311**	P	**P**	**06 34 54.6**	**+0.2**
	0.5nm,0.7s,baz=119,slow=1.5,SNR=4.4						

*HLW **12** 06:25:56.2±35.60N×28.53E, h29km±11km, Md3.2*
*ISK **12** 06:25:56.9±35.55N×28.64E, h7km, MD3.0*
*DDA **12** 06:25:59.9±35.87N×28.47E, h7km, MD3.4*

CSEM 12 06:25:56.2±0.2, 35.33N×28.61E, h20km, MD3.0, Error ellipse: s-maj=9.4km s-min=4.4km az=79.0, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**1.21**	**41**	*i* P	Pb	06 26 18.9	+0.2
AKAS				*i* S	Sb	06 26 32.2	-1.8
AKAS	**Kas**	**1.21**	**41**	*i* P	Pb	06 26 18.9	+0.3
AKAS				*i* S	Sb	06 26 32.2	-1.8
FETY	**Fethiye**	**1.36**	**16**	*e*PN	Pn	06 26 19.0	-1.1
FETY				*e*SN	Sn	06 26 35.3	-2.3
FETY	**Fethiye**	**1.36**	**16**	*e*Pn	Pn	06 26 19.0	-1.1
FETY				*e*Sn	Sn	06 26 35.3	-2.3
TURN	**Turunc**	**1.54**	**360**	*e*P	Pn	06 26 21.1	-1.5
TURN				*e*S	Sn	06 26 37.2	-4.7
TURN	**Turunc**	**1.54**	**360**	*e*P	Pn	06 26 21.1	-1.4
TURN				*e*S	Sn	06 26 37.2	-4.8
DAT	**Datca**	**1.63**	**329**	*e*PN	Pn	06 26 24.3	+0.4
DAT	**Datca**	**1.63**	**329**	*e*Pn	Pn	06 26 24.3	+0.4
YER	**Yerkesik**	**1.82**	**352**	*e*PN	Pn	06 26 26.7	+0.2
YER	**Yerkesik**	**1.82**	**352**	*e*Pn	Pn	06 26 26.7	+0.2
BODT	**Bodrum**	**2.03**	**329**	*e*PN	Pn	06 26 29.7	+0.4
BODT	**Bodrum**	**2.03**	**329**	*e*Pn	Pn	06 26 29.7	+0.4
GOLH	**Golhisar**	**2.05**	**22**	*i* P	Pb	06 26 31.4	-1.6
GOLH				*i* S	Sn	06 26 54.5	-0.4
GOLH	**Golhisar**	**2.05**	**22**	*i* P	Pb	06 26 31.4	-1.6
GOLH				*i* S	Sn	06 26 54.5	-0.4
AYDN	**Tasoluk**	**2.40**	**346**	*e*P	Pn	06 26 34.9	+0.4
AYDN				*e*S	Sn	06 26 58.8	-4.6
AYDN	**Tasoluk**	**2.40**	**346**	*e*P	Pn	06 26 34.9	+0.4
AYDN				*e*S	Sn	06 26 58.8	-4.6
AYDB	**Zeytinkoy-Aydi**	**2.68**	**348**	*e*PN	Pn	06 26 38.4	0.0
AYDB	**Zeytinkoy-Aydi**	**2.68**	**348**	*e*Pn	Pn	06 26 38.4	0.0
HMAT	**Matruh**	**4.41**	**197**	S	Sn	06 27 50.3	-2.5
	baz=196						
HMAT	**Matruh**	**4.41**	**197**	S	Sn	06 27 50.3	-2.5
KOT	**Kottamia**	**6.03**	**152**	S	Sn	06 28 28.0	-4.8
	baz=152						
KOT	**Kottamia**	**6.03**	**152**	S	Sn	06 28 28.0	-4.8
AMAG	**Maghara**	**6.06**	**139**	P	Pn	06 27 24.5	-0.2
	baz=140						
AMAG	**Maghara**	**6.06**	**139**	P	Pn	06 27 24.5	-0.3
RSH		**6.11**	**134**	P	Pn	06 27 25.4	+0.1
	baz=135						
RSH		**6.11**	**134**	P	Pn	06 27 25.4	0.0
HHAG	**Hagoal**	**6.11**	**150**	P	Pn	06 27 25.6	+0.1
	baz=150						
HHAG	**Hagoal**	**6.11**	**150**	P	Pn	06 27 25.6	+0.1
GLL	**Jalalah**	**6.30**	**155**	P	Pn	06 27 28.3	+0.3
	baz=155						
GLL				S	Sn	06 28 33.8	-5.7
	baz=155						
GLL	**Jalalah**	**6.30**	**155**	P	Pn	06 27 28.3	+0.2
GLL				S	Sn	06 28 33.8	-5.7
SUZ		**6.53**	**146**	P	Pn	06 27 31.4	+0.3
	baz=146						
SUZ		**6.53**	**146**	P	Pn	06 27 31.4	+0.3
SWA2		**6.63**	**205**	P	Pn	06 27 32.3	-0.2
	baz=204						
SWA2		**6.63**	**205**	P	Pn	06 27 32.3	-0.2
HNKL	**Nakhl**	**7.03**	**138**	P	Pn	06 27 38.1	0.0
	baz=139						
HNKL				S	Sn	06 28 50.4	-7.1
	baz=139						
HNKL	**Nakhl**	**7.03**	**138**	P	Pn	06 27 38.1	0.0
HNKL				S	Sn	06 28 50.4	-7.1
HFRF	**Wahat Farafira**	**8.16**	**182**	S	Sn	06 29 15.9	-9.3
	baz=182						
HFRF	**Wahat Farafira**	**8.16**	**182**	S	Sn	06 29 15.9	-9.2

*IDC **12** 06:31:27.0±1.0, 7.44S×13.61W, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.8/23, mbtmp4.0/8, ML3.2/1, MS3.5/13, Ms1 3.5/13, ms1mx3.3/36, Error ellipse: s-maj=44.9km s-min=10.9km az=135.0*

ISC 12 06:31:26.9±2.9, 7.57S±0.09×13.60W±0.10, h1km±19km, n26, σ0.91s/23, mb4.1/7, MS3.5/12, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10N1	**ASCENSION HYDR**	**0.92**	**253**	Pn	**Pn**	**06 31 47.3**	**+0.7**
H10N1				Sn	**Sb**	**06 31 57.1**	**-0.8**
H10N2	**ASCENSION HYDR**	**0.92**	**254**	Pn	**Pn**	**06 31 47.3**	**+0.7**
H10N2				Sn	**Sb**	**06 31 57.1**	**-0.9**
H10N3	**ASCENSION HYDR**	**0.93**	**253**	Pn	**Pn**	**06 31 47.3**	**+0.5**
H10N3				Sn	**Sg**	**06 31 57.1**	**+0.2**
H10S1	**ASCENSION HYDR**	**1.71**	**217**	Pn	**Pb**	**06 31 59.2**	**+0.3**
H10S1				Sn	**Sb**	**06 32 20.3**	**-0.6**
H10S1				T	T	06 34 04.8	
	baz=31,slow=79,SNR=2542						
H10S2	**ASCENSION HYDR**	**1.72**	**217**	Pn	**Pb**	**06 31 59.2**	**+0.1**
H10S2				Sn	**Sb**	**06 32 20.3**	**-1.0**
H10S2				T	T	06 34 02.6	
	baz=31,slow=79,SNR=3058						
H10S3	**ASCENSION HYDR**	**1.73**	**217**	Pn	**Pb**	**06 31 59.2**	**0.0**
H10S3				Sn	**Sn**	**06 32 20.3**	**-0.1**
H10S3				T	T	06 34 06.2	
	baz=31,slow=79,SNR=3197						
KIC	**Kosan Boka**	**16.42**	**33**	*e*P	**Pn**	**06 35 18.2**	**-0.5**
	38nm,1.2s						
TIC	**Toumodi**	**16.51**	**31**	*e*P	**P**	**06 35 23.5**	**+0.9**
DBIC	**Dimbokro**	**16.62**	**32**	Pn	**Pn**	**06 35 19.4**	**-1.9**
	0.1nm,0.3s,baz=196,slow=13,SNR=1.9						
DBIC				LR	LR	06 40 14.3	
	comp=Z,147nm,20.1s,baz=182,slow=32						
RCBR	**Riachuelo**	**22.22**	**273**	LR	LR	06 43 57.0	
	comp=Z,106nm,18.5s,baz=84,slow=34						
TOA0	**Torodi Ar. Sit**	**25.58**	**37**	*e*P	**P**	**06 36 58.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**25.58**	**37**	P	**P**	**06 36 55.9**	**-1.8**
	3.6nm,0.8s,baz=217,slow=11,SNR=19						
TORD				LR	LR	06 45 25.0	
	comp=Z,85nm,21.6s,baz=160,slow=33						
MSKU	**Masuku**	**27.74**	**79**	LR	LR	06 44 36.8	
	comp=Z,36nm,21.2s,baz=258,slow=28						
MDT	**Midelt**	**41.07**	**12**	LR	LR	06 55 47.1	
	comp=Z,66nm,18.5s,slow=36						
BOSA	**Boshof**	**42.17**	**125**	LR	LR	06 53 23.1	
	comp=Z,129nm,20.7s,baz=332,slow=31						
KMBO	**Kilima Mbogo**	**51.07**	**85**	LR	LR	07 00 17.4	
	comp=Z,62nm,18.8s,baz=248,slow=34						
IDI	**Anoyia**	**55.98**	**38**	LR	LR	07 06 40.5	
	comp=Z,23nm,19.2s,baz=263,slow=38						
GERES	**GERESS Array B**	**61.07**	**20**	P	**P**	**06 41 41.8**	**-0.7**
	1.0nm,0.7s,baz=201,slow=7.4,SNR=8.1						
GERES				LR	LR	07 08 55.0	
	comp=Z,39nm,19.0s,baz=284,slow=37						
ROSC	**El Rosal**	**61.84**	**280**	LR	LR	07 07 22.5	
	comp=Z,84nm,19.3s,baz=134,slow=35						
BRTR	**Keskin Array B**	**64.17**	**39**	P	**P**	**06 42 04.8**	**+1.4**
	0.6nm,0.7s,baz=200,slow=7.7,SNR=3.8						
AKASG	**Malin Array Be**	**68.82**	**28**	P	**P**	**06 42 32.5**	**-0.1**
	0.9nm,0.7s,baz=230,slow=6.8,SNR=6.9						
NOA	**NORSAR Array B**	**71.12**	**12**	LR	LR	07 15 53.7	
	comp=Z,24nm,18.1s,baz=220,slow=38						
FINES	**FINESS Array B**	**75.41**	**18**	P	**P**	**06 43 11.8**	**-0.2**
	1.7nm,0.6s,baz=232,slow=6.8,SNR=7.6						
FINES				LR	LR	07 17 49.4	
	comp=Z,46nm,19.6s,baz=196,slow=37						
ARCES	**ARCESS Array B**	**81.49**	**13**	P	**P**	**06 43 45.1**	**-0.3**
	1.7nm,0.8s,baz=172,slow=1.8,SNR=4.8						
TXAR	**Lajitas Array**	**93.72**	**299**	P	**P**	**06 44 46.7**	**+0.7**
	0.3nm,0.8s,baz=112,slow=5.8,SNR=3.9						
PDAR	**Pinedale Array**	**99.46**	**312**	LR	LR	07 24 01.2	
	comp=Z,57nm,18.5s,baz=70,slow=32						

MEX 12 07:00:46.1±0.6, 17.87N×103.60W, h16km±11km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.48**	**29**	*i* P	Pg	07 00 54.0	-1.8
MMIG				*e*S	Sg	07 01 00.6	-1.7
R15V		**1.35**	**344**	*e*P	Pn	07 01 06.2	-4.2
R15V				*i* S	Sn	07 01 22.6	-5.4
EZ5V		**1.60**	**360**	*e*P	Pn	07 01 11.2	-2.9
EZ5V				*i* S	Sn	07 01 29.7	-5.1
ZIIG	**Zihuatanejo**	**2.05**	**97**	*i* P	Pn	07 01 16.6	-3.2
ZIIG				*e*S	Sn	07 01 40.0	-5.1
ARIG	**Puente Sto Nin**	**3.12**	**82**	*e*P	Pn	07 01 32.4	-2.3
ARIG				*i* S	Sn	07 02 07.2	-4.5

MEX 12 07:08:11.1±0.3, 17.89N×103.62W, h7km±4km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.48**	**33**	*i* P	Pg	07 08 20.0	-0.5
MMIG				*i* S	Sg	07 08 26.9	+0.2
R15V		**1.32**	**345**	*e*P	Pn	07 08 32.1	-3.9
R15V				*e*S	Sb	07 08 48.5	-5.1
EZ5V		**1.58**	**1**	*e*P	Pn	07 08 36.4	-3.5
EZ5V				*i* S	Sn	07 08 55.8	-5.1
ARIG	**Puente Sto Nin**	**3.14**	**82**	*e*P	Pn	07 08 58.4	-2.7
ARIG				*i* S	Sn	07 09 34.7	-4.2

NNC 12 07:18:30.5±1.1, 50.02N×78.83E, h0km, mb3.5, mpv3.1, 7C-7D, Error ellipse: s-maj=16.9km s-min=6.0km az=74.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**0.71**	**349**	⇑P	Pg	07 18 45.0	+0.8
	12nm,0.4s						
KURK				⇑S	Sg	07 18 54.1	+0.7
	12nm,0.4s						
MK31	**Makanchi Array**	**3.97**	**143**	Pn	Pn	07 19 36.0	+3.4
	0.2nm,0.2s,baz=17,slow=3.9,SNR=69						
MK31				⇓Pg	Pb	07 19 43.9	+2.5
	2.9nm,0.5s,baz=328,slow=14,SNR=17						
MK31				⇑Sn	Sn	07 20 17.1	-2.8
	1.3nm,0.3s						
MK31				⇓Lg	Lg	07 20 36.8	
	13nm,0.6s,baz=325,slow=26,SNR=14						
OTUK	**Ortayu**	**4.61**	**250**	⇑Pn	Pn	07 19 43.1	+1.5
	2.6nm,0.3s						
OTUK				⇑Lg	Lg	07 20 53.6	
	10nm,0.5s						
BVA0	**Borovoye Array**	**6.07**	**303**	⇓Pn	Pn	07 20 01.0	-0.4
	3.2nm,1.6s,baz=117,slow=13,SNR=4.3						
BVA0				⇓Sn	Sn	07 21 12.2	+0.7
	2.9nm,0.5s,baz=119,slow=23,SNR=7.0						
BVA0				⇓Lg	Lg	07 21 43.0	
	2.6nm,0.5s,baz=116,slow=29,SNR=4.3						
BRVK	**Borovoye**	**6.14**	**303**	⇑Pn	Pn	07 20 02.9	+0.5
	4.0nm,0.9s						
BRVK				⇑Sn	Sn	07 21 11.4	-1.8
	5.1nm,0.6s						
BRVK				⇓Lg	Lg	07 21 43.4	
	4.3nm,0.5s						
PDGK	**Podgornoye**	**6.71**	**176**	⇓Lg	Lg	07 22 03.8	
	5.3nm,0.7s						

*NEIC **12** 07:22:09.8, 51.70N×173.25W, h20km, ML3.5(AEIC), After AEIC.*
*ISCJB **12** 07:22:10.2±0.5, 51.66N±0.08×173.21W±0.04, h37km, mb3.8/17, Error ellipse: s-maj=11.1km s-min=3.9km az=174.2*
*IDC **12** 07:22:12.0±0.7, 51.70N×173.26W, h40km±6km, mb3.6/17, mb1 3.8/19, mb1mx3.7/31, mbtmp3.8/19, ML3.8/2, Error ellipse: s-maj=22.0km s-min=13.6km az=178.0*

ISC 12 07:22:11.9±0.6, 51.68N±0.09×173.29W±0.04, h37km, n44, σ1.01s/46, mb3.8/17, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.77**	**313**	P	**Pn**	**07 22 25.6**	**-0.6**
ATKA				S	**Sn**	**07 22 36.0**	**-0.5**
GSMY	**Great Sitkin M**	**1.76**	**283**	P	**Pn**	**07 22 38.4**	**-1.4**
GSTD	**Great Sitkin T**	**1.81**	**283**	P	**Pn**	**07 22 39.3**	**-1.3**
GSTD				S	**Sn**	**07 23 04.7**	**+2.3**
GSCK	**Great Sitkin C**	**1.81**	**282**	P	**Pn**	**07 22 41.0**	**+0.4**
ETKA	**Kagalaska Isla**	**1.95**	**277**	P	**Pn**	**07 22 42.4**	**0.0**
ADAG	**Mount Adagdak**	**2.08**	**280**	P	**Pn**	**07 22 44.2**	**0.0**
KICM	**Kanaga Island**	**2.44**	**277**	P	**Pn**	**07 22 50.0**	**+0.9**
TAFP	**Tanaga Falls P**	**2.93**	**276**	P	**Pn**	**07 22 56.7**	**+0.9**
TAFP				S	**Sn**	**07 23 31.5**	**+1.8**
TASE	**Tanaga Southea**	**2.96**	**275**	P	**Pn**	**07 22 57.1**	**+0.8**
NIKH	**Nikolski High**	**3.01**	**63**	P	**Pn**	**07 22 56.4**	**-0.7**
OKSP	**Okmok Steeple**	**3.44**	**61**	P	**Pn**	**07 23 03.4**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**3.63**	**60**	P	**Pn**	**07 23 05.9**	**+0.4**
OKFG	**Magazine Ridge**	**3.71**	**60**	P	**Pn**	**07 23 06.0**	**-0.6**
OKFG				S	**Sn**	**07 23 52.2**	**+3.2**
MSOM	**Makushin Julie**	**4.40**	**58**	P	**Pn**	**07 23 16.2**	**+0.1**
CERB	**Semis' Cerberu**	**4.41**	**276**	P	**Pn**	**07 23 16.3**	**+0.1**
AMKA	**Amchitka**	**4.64**	**269**	P	**Pn**	**07 23 19.0**	**-0.3**
UNV	**Unalaska Valle**	**4.66**	**60**	P	**Pn**	**07 23 19.6**	**+0.1**
SPIA	**Saint Paul Isl**	**5.79**	**17**	P	**Pn**	**07 23 36.1**	**+1.0**
PETK	**Petropavlovsk-**	**17.72**	**286**	P	**Pn**	**07 26 15.5**	**0.0**
	0.2nm,0.3s,baz=96,slow=12,SNR=2.9						
ILAR	**Eielson Array**	**18.91**	**36**	P	**P**	**07 26 28.8**	**-0.2**
	0.6nm,0.3s,baz=228,slow=8.9,SNR=56						
SEY	**Seymchan**	**21.40**	**315**	P	**P**	**07 26 57.2**	**+1.2**
	0.5nm,0.3s,baz=101,slow=16,SNR=2.6						
INK	**Inuvik**	**25.26**	**34**	P	**P**	**07 27 34.8**	**+0.7**
	2.2nm,0.3s,baz=248,slow=10.0,SNR=3.4						
YKA	**Yellowknife Ar**	**32.51**	**48**	P	**P**	**07 28 38.3**	**-0.3**
	0.2nm,0.3s,baz=273,slow=9.2,SNR=5.9						
YKA				pPcP		07 31 37.6	
	0.5nm,0.6s,baz=290,slow=3.4,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**35.47**	**213**	T	T	08 07 02.6	
	baz=21,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**35.48**	**213**	T	T	08 07 03.2	
	baz=21,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**35.49**	**213**	T	T	08 07 03.8	
	baz=21,slow=76,SNR=15						
NEW	**Newport**	**35.52**	**73**	P	**P**	**07 29 04.7**	**-0.3**
	1.1nm,0.5s,baz=291,slow=8.6,SNR=2.7						
H11S1	**WAKE ISLAND Hy**	**36.67**	**213**	T	T	08 08 17.5	
	baz=20,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**36.69**	**213**	T	T	08 08 27.0	
	baz=20,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**36.69**	**213**	T	T	08 08 26.4	
	baz=20,slow=76,SNR=12						
NVAR	**Mina Array Bea**	**40.09**	**87**	P	**P**	**07 29 44.1**	**+0.2**
	0.7nm,0.8s,baz=278,slow=10,SNR=4.2						
PDAR	**Pinedale Array**	**42.91**	**76**	P	**P**	**07 30 07.0**	**0.0**
	1.4nm,0.7s,baz=329,slow=5.5,SNR=10						
KSRS	**Korea Array**	**43.06**	**275**	P	**P**	**07 30 09.7**	**+1.8**
	0.4nm,0.5s,baz=59,slow=7.9,SNR=2.4						
KSAR	**Wonju Array Be**	**43.09**	**275**	P	**P**	**07 30 09.7**	**+1.5**
SONM	**Songino Array**	**49.55**	**299**	P	**P**	**07 30 59.4**	**+0.5**
	0.4nm,0.4s,baz=69,slow=7.9,SNR=2.7						
TXAR	**Lajitas Array**	**55.20**	**85**	P	**P**	**07 31 40.1**	**-0.8**
	0.8nm,0.6s,baz=297,slow=4.9,SNR=12						
TXAR				pP	**pP**	**07 31 51.9**	**-0.1**
	0.6nm,0.7s,baz=290,slow=6.2,SNR=3.8						
ARCES	**ARCESS Array B**	**58.32**	**352**	P	**P**	**07 32 01.6**	**-0.8**
	1.9nm,0.9s,baz=9.4,slow=7.5,SNR=6.6						
MKAR	**Makanchi Array**	**62.48**	**311**	P	**P**	**07 32 30.4**	**-0.8**
	0.2nm,0.3s,baz=44,slow=6.0,SNR=8.8						
FINES	**FINESS Array B**	**66.17**	**350**	P	**P**	**07 32 54.2**	**-0.8**
	1.9nm,0.8s,baz=15,slow=5.8,SNR=4.4						
NOA	**NORSAR Array B**	**67.57**	**358**	P	**P**	**07 33 02.8**	**-1.3**
	0.9nm,0.8s,baz=36,slow=7.0,SNR=2.6						
AKASG	**Malin Array Be**	**76.22**	**345**	P	**P**	**07 33 54.7**	**-1.3**
	0.5nm,0.3s,baz=18,slow=5.7,SNR=2.6						
AKASG				pP	**pP**	**07 34 07.2**	**-0.2**
	0.6nm,0.4s,baz=17,slow=6.0,SNR=2.8						
WRA	**Warramunga Arr**	**84.71**	**228**	P	**P**	**07 34 40.4**	**-1.4**
	0.2nm,0.6s,baz=33,slow=6.1,SNR=3.0						
WRA				pP	**pP**	**07 34 53.9**	**+0.6**
	0.6nm,0.7s,baz=32,slow=6.1,SNR=2.5						
BRTR	**Keskin Array B**	**85.98**	**340**	P	**P**	**07 34 48.1**	**-0.2**
	0.3nm,0.5s,baz=34,slow=1.0,SNR=3.0						
ASAR	**Alice Springs**	**88.13**	**227**	P	**P**	**07 34 58.3**	**-0.2**
	0.3nm,0.6s,baz=29,slow=5.0,SNR=4.3						
ASAR				pP	**pP**	**07 35 10.8**	**+0.7**
	0.8nm,0.6s,baz=29,slow=4.9,SNR=5.6						

*IDC **12** 07:27:17.1±1.9, 5.23N×123.95E, h506km±21km, mb3.4/10, mb1 3.5/10, mb1mx3.2/24, mbtmp4.3/10, Error ellipse: s-maj=50.4km s-min=10.5km az=63.0*
*ISCJB **12** 07:27:19.2±0.7, 4.9N±0.1×123.3E±0.1, h550km, mb3.9/10, Error ellipse: s-maj=20.2km s-min=10.2km az=143.9*
*KLM **12** 07:27:30.3, 5.50N×122.69E, h458km, mb4.1, ML3.6, MS5.2*

ISC 12 07:27:21.3±0.7, 4.9N±0.1×123.3E±0.2, h550km, n17, σ2.97s/21, mb4.0/10, 2C-4D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MYLDM	**Lahad Datu**	**4.75**	**273**	⇓P	**P**	**07 28 48.7**	**-0.3**
TSM	**Tawau**	**5.40**	**264**	⇓P	**P**	**07 28 53.7**	**-0.9**
SDKM	**Sandakan**	**6.08**	**277**	⇓P	**P**	**07 28 57.6**	**-3.1**
KDM	**Kudat**	**6.69**	**288**	⇓P	**P**	**07 29 04.4**	**-1.9**
KKM	**Kota Kinabalu**	**7.10**	**279**	⇑P	**P**	**07 29 10.3**	**-0.1**
SBUM	**Sibu**	**11.28**	**258**	⇑P	P	07 29 56.9	+4.4
WRA	**Warramunga Arr**	**27.00**	**157**	P	**P**	**07 32 17.2**	**-2.6**
	1.4nm,0.4s,baz=339,slow=9.5,SNR=22						
WRA				PcP	**PcP**	**07 35 23.4**	**+0.3**
	0.6nm,0.8s,baz=326,slow=4.0,SNR=2.6						
CMAR	**Chiang Mai Arr**	**27.29**	**302**	P	**P**	**07 32 25.1**	**+2.7**
	1.7nm,0.4s,baz=115,slow=7.7,SNR=7.7						
ASAR	**Alice Springs**	**30.25**	**160**	P	**P**	**07 32 47.1**	**-0.9**
	2.2nm,0.3s,baz=340,slow=7.3,SNR=77						
ASAR				S	**S**	**07 37 10.1**	**+0.6**
	0.6nm,0.8s,baz=343,slow=16,SNR=6.4						
ASAR				ScP	**ScP**	**07 38 26.7**	**+4.6**
	0.4nm,0.8s,baz=339,slow=3.3,SNR=3.7						
STKA	**Stephens Creek**	**40.55**	**156**	P	**P**	**07 34 12.9**	**-0.3**
	2.2nm,0.4s,baz=337,slow=8.4,SNR=8.7						
SONM	**Songino Array**	**45.14**	**344**	P	**P**	**07 34 47.6**	**-1.4**
	1.7nm,0.7s,baz=165,slow=9.0,SNR=9.1						
MKAR	**Makanchi Array**	**54.63**	**326**	P	**P**	**07 35 59.1**	**+0.6**
	4.0nm,0.6s,baz=124,slow=8.4,SNR=40						
MKAR				PcP	**PcP**	**07 36 53.3**	**+0.4**
	1.2nm,0.4s,baz=125,slow=3.9,SNR=8.8						
MKAR				ScP	**ScP**	**07 40 03.4**	**+4.5**
	0.4nm,0.6s,baz=145,slow=4.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**57.99**	**334**	P	**P**	**07 36 20.4**	**-1.1**
	0.9nm,0.5s,baz=116,slow=8.2,SNR=6.2						
BRTR	**Keskin Array B**	**86.60**	**309**	P	**P**	**07 39 07.1**	**+0.1**
	1.4nm,0.7s,baz=113,slow=6.4,SNR=11						
ARCES	**ARCESS Array B**	**88.14**	**340**	P	**P**	**07 39 12.7**	**-0.7**
	2.0nm,0.9s,baz=72,slow=4.0,SNR=4.1						
FINES	**FINESS Array B**	**89.15**	**332**	P	**P**	**07 39 17.3**	**-0.9**
	3.6nm,1.0s,baz=97,slow=4.5,SNR=6.5						
TORD	**Torodi Ar. Bea**	**119.26**	**288**	PKP	**P

IDC ***12*** *08:21:02.3±0.5, 13°.25N×145°.92E, h0km, mb4.4/20, mb1 4.5/21,mb1mx4.5/27, mbtmp4.4/21, ML4.7/1, MS3.5/11, Ms1 3.5/11, ms1mx3.3/30, Error ellipse: s-maj=15.4km s-min=12.4km az=70.0*

BJI ***12*** *08:21:06.9, 13°.46N×145°.91E, h37km, mb4.8/27, mB5.0/19, Ms4.3/10, Ms7 4.0/10*

ISCJB ***12*** *08:21:07.9±0.3, 13°.23N±0°.04×145°.85E±0°.05, h50km, mb4.5/48, MS3.5/11, Error ellipse: s-maj=6.5km s-min=6.3km az=38.3*

NEIC ***12*** *08:21:07.8±0.2, 13°.20N×145°.87E, h35km, mb4.7/29, Error ellipse: s-maj=7.8km s-min=6.2km az=106.0*

NEIC Felt at Tamuning.

ISC 12 08:21:09.3±0.4, 13°.19N±0°.07×145°.84E±0°.06, h50km, n98, σ1§51/114, mb4.5/48, MS3.4/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.03**	**293**	Pn	**Pn**	**08 21 26.5**	**-0.9**
	994nm,0.3s,baz=316,slow=5.8,SNR=323						
GUMO				Sn	**Sn**	**08 21 40.6**	**-0.3**
	1um,0.3s,baz=229,slow=19,SNR=32						
GUMO	**Guam**	**1.03**	**293**	*e*Pn	**Pn**	**08 21 26.6**	**-0.9**
GUMO				Sn	**Sn**	**08 21 40.6**	**-0.3**
GUMO				*e*Sn	Sn	08 21 41.3	+0.5
CBIJ	**Chichi jima**	**14.25**	**347**	*e*Pn	**Pn**	**08 24 29.8**	**+1.4**
JCJ	**Chichijima**	**14.25**	**347**	Pn	**Pn**	**08 24 26.9**	**-1.5**
	3.8nm,0.3s,baz=103,slow=14,SNR=5.4						
SIJI	**Sorong**	**20.10**	**227**	P	Pn	08 25 41.5	+0.2
	13nm,0.7s,baz=42,slow=13,SNR=5.4						
SIJI				LR	LR	08 34 12.6	
	comp=Z,122nm,18.4s,baz=48,slow=39						
H11S3	**WAKE ISLAND Hy**	**20.73**	**73**	T	T	08 45 51.6	
	baz=254,slow=74						
H11S1	**WAKE ISLAND Hy**	**20.74**	**73**	T	T	08 46 01.1	
	baz=254						
H11S2	**WAKE ISLAND Hy**	**20.74**	**73**	T	T	08 45 53.0	
	baz=254,slow=74						
FAKI	**Fak Fak**	**20.93**	**221**	*e*P	Pn	08 25 50.0	-1.1
	69nm,1.0s						
JOW	**Kunigami**	**21.34**	**312**	*e*P	**P**	**08 25 52.7**	**+0.4**
JNU	**Nakatsue**	**24.09**	**328**	P	**P**	**08 26 18.4**	**-1.9**
	13nm,0.8s,baz=120,slow=7.7,SNR=9.7						
JNU	**Nakatsue**	**24.09**	**328**	*e*P	**P**	**08 26 20.7**	**+0.4**
	14nm,1.2s						
MJAR	**Matsushiro Arr**	**24.24**	**345**	P	**P**	**08 26 18.7**	**-2.9**
	4.1nm,0.8s,baz=168,slow=9.9,SNR=18						
MJAR				LR	LR	08 35 07.6	
	comp=Z,98nm,21.8s,baz=190,slow=35						
MAJO	**Matsushiro**	**24.25**	**345**	*e*P	**P**	**08 26 20.0**	**-1.6**
	14nm,0.7s						
MAT	**Matsushiro**	**24.25**	**345**	P	**P**	**08 26 19.0**	**-2.7**
YULB	**Yu-li**	**25.38**	**297**	*e*P	**P**	**08 26 32.5**	**+0.3**
	42nm,1.5s						
KSRS	**Korea Array**	**28.98**	**330**	P	**P**	**08 27 03.2**	**-1.0**
	4.6nm,0.7s,baz=142,slow=9.2,SNR=18						
KSAR	**Wonju Array Be**	**28.99**	**330**	P	**P**	**08 27 03.2**	**-1.1**
ASAJ	**Asahikawa**	**30.95**	**355**	*e*P	**P**	**08 27 20.6**	**-1.0**
	1.6nm,0.6s						
NJ2	**Nanjing**	**31.05**	**312**	*e*P	**P**	**08 27 24.8**	**+2.2**
NJ2				PMZ			
	20nm,0.9s						
SOEI	**Soe**	**31.28**	**224**	*e*P	**P**	**08 27 25.0**	**0.0**
	38nm,0.7s						
USRK	**Ussuriysk Ar.**	**33.11**	**342**	P	**P**	**08 27 40.4**	**-0.2**
	4.2nm,0.7s,baz=155,slow=5.5,SNR=10						
USRK				LR	LR	08 40 49.0	
	comp=Z,53nm,18.7s,baz=136,slow=36						
WHN	**Wuhan**	**33.78**	**306**	P	**P**	**08 27 44.7**	**-1.9**
WRAB	**Tennant Creek**	**34.80**	**199**	*e*P	**P**	**08 27 55.6**	**+0.2**
	6.1nm,0.7s						
WRA	**Warramunga Arr**	**34.82**	**199**	P	**P**	**08 27 55.4**	**-0.2**
	3.1nm,0.7s,baz=20,slow=9.3,SNR=24						
WRA				PcP	**PcP**	**08 30 26.9**	**-1.3**
	1.5nm,0.7s,baz=22,slow=3.7,SNR=5.9						
SBUM	**Sibu**	**34.92**	**255**	*e*P	**P**	**08 27 57.1**	**+0.4**
	4.9nm,0.8s						
AS31	**Alice Springs**	**38.44**	**198**	*e*P	**P**	**08 28 26.0**	**-0.5**
ASAR	**Alice Springs**	**38.45**	**198**	P	**P**	**08 28 26.6**	**0.0**
	1.2nm,0.7s,baz=24,slow=9.2,SNR=20						
ASAR				PcP	**PcP**	**08 30 38.9**	**-0.2**
	0.3nm,0.5s,baz=22,slow=4.5,SNR=2.6						
ASAR				LR	LR	08 45 18.1	
	comp=Z,58nm,18.0s,baz=5.0,slow=38						
GYA	**Guiyang**	**38.99**	**296**	*e*P	**P**	**08 28 32.0**	**+0.8**
GYA				PMZ			
	10.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**40.69**	**319**	*e*P	**P**	**08 28 45.1**	**-0.1**
HHC				sP	**sP**	**08 29 01.4**	**-2.9**
HHC				S	**S**	**08 34 55.3**	**+3.3**
HHC				SS	**SS**	**08 37 51.6**	**-2.4**
HHC				PMZ			
	29nm,0.9s						
HHC				PMZ			
	94nm,5.2s						
HHC				LN			
	100nm,13.6s						
HHC				LE			
	110nm,13.6s						
HHC				LZ			
	60nm,13.3s						
PETK	**Petropavlovsk-**	**40.93**	**11**	P	**P**	**08 28 46.0**	**-0.7**
	2.0nm,0.6s,baz=170,slow=8.8,SNR=4.8						
PETK				LR	LR	08 44 20.8	
	comp=Z,54nm,21.8s,baz=200,slow=34						
CD2	**Chengdu**	**42.51**	**302**	*e*P	**P**	**08 29 00.3**	**+0.2**
CD2				pP	**pP**	**08 29 10.4**	**-3.1**
CD2				sP	**sP**	**08 29 14.9**	**-4.4**
CD2				PP	**PP**	**08 30 39.3**	**-0.1**
CD2				PcS	**PcS**	**08 34 44.5**	**+0.1**
CD2				S	**S**	**08 35 20.8**	**+1.7**
CD2				sS	**sS**	**08 35 38.1**	**-3.3**
CD2				PMZ			
	20nm,0.5s						
CD2				PMZ			
	120nm,5.0s						
MBWA	**Marble Bar**	**42.70**	**217**	*e*P	**P**	**08 29 01.9**	**+0.2**
	26nm,1.0s						
LZH	**Lanzhou**	**44.01**	**309**	*e*P	P	08 29 17.8	+5.5
LZH				pP	pP	08 29 26.3	+0.6
LZH				sP	sP	08 29 30.6	-0.9
LZH				pmax	pmax		
	comp=Z,37nm,1.2s						
LZH				pmax	pmax		
	comp=Z,130nm,4.5s						
STKA	**Stephens Creek**	**44.99**	**185**	P	**P**	**08 29 19.1**	**-0.7**
	comp=Z,3.4nm,0.7s,baz=33,slow=8.3,SNR=7.8						
STKA				LR	LR	08 49 41.1	
	comp=Z,90nm,18.3s,baz=23,slow=38						
STKA	**Stephens Creek**	**44.99**	**185**	*e*P	**P**	**08 29 19.5**	**-0.3**
	comp=Z,1.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**45.33**	**283**	P	**P**	**08 29 23.8**	**+0.9**
	comp=Z,1.5nm,0.4s,baz=77,slow=7.3,SNR=6.7						
CMAR				LR	LR	08 48 24.0	
	comp=Z,22nm,18.5s,baz=190,slow=36						
SONM	**Songino Array**	**47.60**	**325**	P	**P**	**08 29 40.3**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=137,slow=8.5,SNR=5.9						
SONM				PcP	**PcP**	**08 31 11.2**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=140,slow=5.2,SNR=2.1						
GTA	**Gaotai**	**48.15**	**312**	*e*P	**P**	**08 29 45.1**	**+0.3**
GTA				pP	**pP**	**08 29 56.8**	**-1.5**
GTA				sP	**sP**	**08 30 01.7**	**-2.4**
GTA				S	**S**	**08 36 42.4**	**+2.0**
GTA				PMZ			
	comp=Z,4.0nm,1.1s						
GTA				PMZ			
	comp=Z,84nm,4.5s						
GTA				LN			
	comp=Z,76nm,14.7s						
GTA				LE			
	comp=Z,71nm,16.6s						
GTA				LZ			
	comp=Z,74nm,17.1s						
TLY	**Talaya**	**51.20**	**328**	*e*P	**P**	**08 30 09.5**	**+1.9**
	comp=Z,4.4nm,0.9s						
BILL	**Bilibino**	**56.40**	**9**	*e*P	**P**	**08 30 44.9**	**-0.5**
	comp=Z,8.2nm,0.7s						
WMQ	**Urumqi**	**58.10**	**314**	P	**P**	**08 31 00.5**	**+2.7**
WMQ				pP	**pP**	**08 31 10.6**	**-1.1**
WMQ				sP	**sP**	**08 31 14.5**	**-2.9**
WMQ				PcP	**PcP**	**08 31 52.1**	**+2.9**
WMQ				PP	**PP**	**08 33 10.7**	**+3.8**
WMQ				S	**S**	**08 38 57.5**	**+2.0**
WMQ				PMZ			
	comp=Z,13nm,0.4s						
WMQ				PMZ			
	comp=Z,46nm,5.9s						
WMQ				LN			
	comp=Z,54nm,8.9s						
WMQ				LZ			
	comp=Z,29nm,14.2s						
TIXI	**Tiksi**	**59.33**	**354**	*e*P	**P**	**08 31 05.4**	**-0.4**
	comp=Z,3.1nm,0.8s						
MK31	**Makanchi Array**	**62.44**	**316**	*e*P	**P**	**08 31 27.2**	**-0.2**
MKAR	**Makanchi Array**	**62.44**	**316**	P	**P**	**08 31 27.4**	**0.0**
	comp=Z,2.4nm,0.5s,baz=86,slow=8.6,SNR=38						
MKAR	**Makanchi Array**	**62.44**	**316**	*e*P	**P**	**08 31 27.5**	**+0.1**
ZAA0	**Zalesovo Array**	**62.50**	**324**	*e*P	**P**	**08 31 28.0**	**+0.4**
ZALV	**Zalesovo Beam**	**62.50**	**324**	P	**P**	**08 31 27.0**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=96,slow=6.5,SNR=8.6						
KURK	**Kurchatov**	**65.50**	**320**	*e*P	**P**	**08 31 46.3**	**-1.1**
	comp=Z,8.1nm,0.8s						
PPLA	**Purkeypile**	**65.72**	**26**	*e*P	**P**	**08 31 49.0**	**+0.2**
	comp=Z,26nm,1.4s						
CAST	**Castle Rocks**	**65.94**	**26**	*e*P	**P**	**08 31 50.5**	**+0.4**
	comp=Z,7.0nm,0.7s						
KSH	**Kashi**	**66.24**	**307**	P	P	08 31 55.3	+2.8
KSH				pP	pP	08 32 07.0	+0.4
KSH				PcP	**PcP**	**08 32 23.0**	**+0.6**
KSH				PP	PP	08 34 26.9	+8.2
KSH				PcS		08 36 26.9	
KSH				S	**S**	**08 40 43.7**	**+5.4**
KSH				sS	sS	08 40 56.7	-5.2
KSH				ScS	**ScS**	**08 41 47.9**	**+2.7**
KSH				PMZ			
	comp=Z,2.0nm,0.7s						
KSH				PMZ			
	comp=Z,85nm,4.7s						
KSH				LN			
	comp=Z,440nm,11.0s						
KSH				LE			
	comp=Z,220nm,7.1s						
KSH				LZ			
	comp=Z,120nm,4.6s						
PMR	**Palmer**	**66.69**	**28**	*e*P	**P**	**08 31 54.3**	**-0.4**
	comp=Z,4.8nm,0.6s						
BWN	**Browne**	**67.28**	**25**	*e*P	**P**	**08 32 00.6**	**+2.0**
	comp=Z,61nm,1.5s						
COLD	**Coldfoot**	**67.96**	**22**	*e*P	**P**	**08 32 03.5**	**+0.8**
	comp=Z,8.3nm,1.1s						
ILAR	**Eielson Array**	**68.52**	**25**	P	**P**	**08 32 04.8**	**-1.5**
	comp=Z,1.7nm,0.5s,baz=250,slow=5.6,SNR=30						
ILAR				LR	LR	08 59 57.4	
	comp=Z,58nm,21.4s,baz=262,slow=34						
KKAR	**Karatay Array**	**70.43**	**311**	*e*P	**P**	**08 32 19.2**	**+0.7**
	comp=Z,1.6nm,0.4s						
BRVK	**Borovoye**	**70.89**	**322**	*e*P	**P**	**08 32 21.2**	**+0.1**
DAWY	**Dawson**	**71.57**	**27**	Pn	**P**	**08 32 24.4**	**-0.7**
HYT	**Haines Junctio**	**72.07**	**30**	*e*P	**P**	**08 32 29.6**	**+1.3**
HYT	**Haines Junctio**	**72.07**	**30**	Pn	**P**	**08 32 29.1**	**+0.8**
DLBC	**Dease Lake**	**75.81**	**33**	*e*P	**P**	**08 32 50.9**	**+0.8**
DLBC	**Dease Lake**	**75.81**	**33**	Pn	**P**	**08 32 48.9**	**-1.2**
ABKAR	**Akbulak array**	**77.47**	**318**	*e*P	**P**	**08 32 58.8**	**-0.7**
	comp=Z,4.0nm,0.8s						
YBH	**Yreka Blue Hor**	**82.42**	**49**	P	**P**	**08 33 27.1**	**+0.6**
	comp=Z,3.5nm,0.9s,baz=349,slow=5.2,SNR=5.7						
YKR1	**Yellowknife Ar**	**82.62**	**28**	Pn	**P**	**08 33 25.6**	**-1.4**
YKW3	**Yellowknife Ar**	**82.75**	**27**	Pn	**P**	**08 33 26.9**	**-0.9**
YKA	**Yellowknife Ar**	**82.78**	**27**	P	**P**	**08 33 27.6**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=284,slow=5.1,SNR=33						
B08A	**Colville Reser**	**83.44**	**42**	*e*P	**P**	**08 33 32.0**	**+0.3**
	comp=Z,3.8nm,0.8s						
RES	**Resolute Bay**	**84.72**	**13**	*e*P	**P**	**08 33 37.7**	**+0.2**
	comp=Z,3.5nm,0.8s						
EDM	**Edmonton**	**85.91**	**36**	*e*P	**P**	**08 33 44.4**	**+0.4**
NVAR	**Mina Array Bea**	**86.43**	**52**	P	**P**	**08 33 48.0**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=271,slow=5.7,SNR=10						
BSMT	**Basoo Peak**	**86.52**	**42**	*e*P	**P**	**08 33 48.3**	**+1.0**
	comp=Z,6.5nm,0.8s						
WALA	**Waterton Lakes**	**86.74**	**40**	*e*P	**P**	**08 33 49.2**	**+0.9**
	comp=Z,2.6nm,0.7s						
MFID	**Camas Ranch**	**86.99**	**46**	*e*P	**P**	**08 33 50.3**	**+0.7**
	comp=Z,5.2nm,0.8s						
ARCES	**ARCESS Array B**	**87.75**	**342**	P	**P**	**08 33 52.9**	**+0.3**
	comp=Z,2.6nm,0.6s,baz=64,slow=5.5,SNR=13						
ARCES				LR	LR	09 15 35.7	
	comp=Z,30nm,21.9s,baz=75,slow=37						
CHMT	**Chamberlain Mo**	**87.78**	**42**	*e*P	**P**	**08 33 52.9**	**-0.6**
HLID	**Hailey**	**87.94**	**46**	*e*P	**P**	**08 33 55.0**	**+0.7**
	comp=Z,3.5nm,1.0s						
ELK	**Elko**	**88.13**	**49**	*e*P	**P**	**08 33 56.1**	**+0.8**
	comp=Z,5.1nm,1.0s						
DUG	**Dugway, Tooele**	**90.06**	**49**	*e*P	**P**	**08 34 05.4**	**+1.1**
	comp=Z,3.2nm,0.8s						
HWUT	**Hardware Ranch**	**90.53**	**47**	*e*P	**P**	**08 34 06.2**	**-0.3**
	comp=Z,3.1nm,1.0s						
VNDA	**Vanda**	**91.01**	**177**	P	**P**	**08 34 08.0**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=323,slow=4.4,SNR=4.2						
PDAR	**Pinedale Array**	**91.57**	**45**	P	**P**	**08 34 10.4**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=306,slow=2.1,SNR=4.2						
FINES	**FINESS Array B**	**91.92**	**335**	P	**P**	**08 34 10.9**	**-1.3**
	comp=Z,4.3nm,0.4s,baz=79,slow=4.5,SNR=64						
FINES				LR	LR	09 18 54.6	
	comp=Z,24nm,18.2s,baz=8.0,slow=38						
NOA	**NORSAR Array B**	**97.76**	**340**	LR	LR	09 22 28.6	
	comp=Z,26nm,19.5s,baz=265,slow=38						
STHS	**Stebnicka Huta**	**100.92**	**327**	PDIF	**Pdif**	**08 34 55.9**	**+2.5**
KECS	**Kecovo**	**101.87**	**326**	PDIF	**Pdif**	**08 34 59.7**	**+2.1**
TORD	**Torodi Ar. Bea**	**135.87**	**305**	PKP	**PKPdf**	**08 40 26.9**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=46,slow=1.0,SNR=6.9						
CFAA	**Coronel Fontan**	**143.76**	**126**	PKhKP	PKPpre	08 40 37.0	
	comp=Z,0.3nm,0.6s,baz=259,slow=2.5,SNR=6.5						
DBIC	**Dimbokro**	**144.84**	**302**	PKP	**PKPdf**	**08 40 41.5**	**-0.3**
	comp=Z,21nm,0.6s,baz=36,slow=3.9,SNR=39						
KIC	**Kosan Boka**	**144.91**	**302**	*e*PKIKP	**PKPdf**	**08 40 41.8**	**-0.2**
	comp=Z,30nm,0.5s						
TIC	**Toumodi**	**144.99**	**303**	*e*PKIKP	**PKPdf**	**08 40 41.9**	**-0.3**
LIC	**Lamto**	**145.23**	**302**	*e*PKIKP	**PKPdf**	**08 40 42.4**	**-0.1**
LVC	**Limon Verde**	**145.70**	**111**	PKPbc	**PKPab**	**08 40 44.9**	**+0.7**
	comp=Z,21nm,0.5s,baz=266,slow=4.4,SNR=10						
LPAZ	**La Paz**	**147.02**	**100**	PKPbc	**PKPab**	**08 40 49.0**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=262,slow=2.6,SNR=17						
LPAZ	**La Paz**	**147.02**	**100**	*e*PKPbc	**PKPab**	**08 40 48.9**	**-1.0**
SAML	**Samuel**	**151.21**	**85**	*e*PKPbc	**PKPbc**	**08 40 58.2**	**-0.1**
PTGA	**Pitinga**	**151.59**	**66**	PKPbc	**PKPbc**	**08 40 59.4**	**+0.3**
	baz=301,slow=5.9						

ISCJB ***12*** *08:21:50.1±0.6, 6°.87N±0°.06×73°.05W±0°.07, h161km, mb3.5/3, Error ellipse: s-maj=11.1km s-min=6.0km az=40.4*

FUNV ***12*** *08:21:50.5, 6°.75N×73°.14W, h163km, MW3.5*

IDC ***12*** *08:21:51.2±1.4, 6°.67N×73°.03W, h166km±15km, mb3.2/3, mb1 3.5/5, mb1mx3.1/35, mbtmp3.8/5, MS2.0/1, Ms1 2.0/1, ms1mx1.9/11, Error ellipse: s-maj=32.1km s-min=19.3km az=129.0*

ISC 12 08:21:50.9±0.9, 6°.84N±0°.07×73°.04W±0°.08, h161km, n22, σ1§08/27, mb3.8/3, 6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.24**	**35**	⇓*i*P	**Pn**	**08 22 19.7**	**+0.6**
CAPV				*e*S	**Sn**	**08 22 39.9**	**-0.8**
ROSC	**El Rosal**	**2.36**	**213**	P	**Pn**	**08 22 31.9**	**+0.6**
	62nm,0.3s,baz=332,slow=1.6,SNR=574						
ROSC				LR	LR	08 22 57.3	
	comp=Z,32nm,21.1s,baz=305,slow=30						
ROSC				S	**Sn**	**08 23 00.6**	**-1.8**
	85nm,0.3s,baz=99,slow=18,SNR=9.3						
VIGV	**El Vigia**	**2.58**	**40**	⇓*i*P	**Pn**	**08 22 34.2**	**+0.6**
VIGV				*e*S	**Sn**	**08 23 06.8**	**0.0**
SOCV	**Socops**	**2.59**	**56**	⇓*e*P	**Pn**	**08 22 34.6**	**+0.8**
SOCV				*e*S	**Sn**	**08 23 06.3**	**-0.6**
ELOV	**Elorza**	**3.53**	**87**	⇓*i*P	**Pn**	**08 22 46.0**	**+0.5**
VIRV	**Villa del Rosa**	**3.69**	**10**	*e*P	**Pn**	**08 22 46.6**	**-0.9**
VIRV				*e*S	**Sn**	**08 23 29.1**	**-2.4**
QARV	**Quebrada Arrib**	**4.17**	**36**	⇓*i*P	**Pn**	**08 22 54.2**	**+0.5**
SANV	**Sanarito**	**4.36**	**52**	*e*P	**Pn**	**08 22 56.1**	**-0.2**
CURV	**Curarigua**	**4.38**	**44**	⇓*e*P	**Pn**	**08 22 56.5**	**-0.1**
DABV	**Dabajuro**	**4.70**	**30**	*e*P	**Pn**	**08 23 00.9**	**+0.3**
SIQV	**Siquisique**	**4.95**	**40**	*e*P	**Pn**	**08 23 03.6**	**-0.3**
BAUV	**El Baul**	**5.37**	**67**	*e*P	**Pn**	**08 23 08.0**	**-1.4**
MONV	**Monteano**	**5.91**	**31**	*e*P	**Pn**	**08 23 16.1**	**-0.5**
TURV	**Turiamo**	**6.26**	**55**	*e*P	**Pn**	**08 23 20.0**	**-1.3**
MERV	**Las Mercedes**	**7.09**	**70**	*e*P	**Pn**	**08 23 30.6**	**-1.6**
BIRV	**Birongo**	**7.60**	**61**	*e*P	**Pn**	**08 23 37.7**	**-1.4**
PCRV	**Puerto La Cruz**	**8.94**	**68**	P	**Pn**	**08 23 58.0**	**+1.1**
	1.3nm,0.3s,baz=317,slow=4.7,SNR=6.3						
TXAR	**Lajitas Array**	**36.51**	**312**	P	**P**	**08 28 42.0**	**+0.9**
	0.1nm,0.5s,baz=115,slow=8.5,SNR=3.3						
SCHQ	**Schefferville**	**48.11**	**5**	P	**P**	**08 30 15.7**	**+1.4**
	2.6nm,0.7s,baz=207,slow=9.0,SNR=4.0						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**08 32 02.5**	**+0.4**
	0.6nm,0.5s,baz=134,slow=6.4,SNR=10						
ASAR	**Alice Springs**	**149.19**	**234**	PKPbc	**PKPbc**	**08 41 20.1**	**-1.2**
	0.4nm,0.7s,baz=109,slow=3.6,SNR=4.9						
WRA	**Warramunga Arr**	**150.42**	**241**	PKPbc	**PKPbc**	**08 41 23.7**	**-0.6**
	0.2nm,0.4s,baz=105,slow=3.1,SNR=7.5						

ISCJB ***12*** *08:28:55.3±0.6, 36°.51N±0°.04×10°.93W±0°.05, h10km, Error ellipse: s-maj=5.3km s-min=5.2km az=2.1*

CSEM ***12*** *08:28:56.3±0.5, 36°.53N×11°.02W, h10km, ML3.2, Error ellipse: s-maj=11.1km s-min=7.1km az=67.0*

MDD ***12*** *08:28:56.7±1.4, 36°.45N×11°.32W, h39km±46km, mbLg3.2/28, Error ellipse: s-maj=17.3km s-min=9.6km az=62.0, PRXIMO*

IGIL ***12*** *08:28:57.7, 36°.46N×11°.23W, h26km, ML2.6*

CNRM ***12*** *08:28:57.8, 36°.30N×11°.24W, h30km, MD3.6*

INMG ***12*** *08:28:58.5±1.9, 36°.57N×11°.06W, h5km, MD2.8, ML2.6, Error ellipse: s-maj=5.5km s-min=4.2km az=56.0*

ISC 12 08:28:55.3±2.1, 36°.58N±0°.06×10°.99W±0°.08, h10km, n111, σ1§98/193, 20C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.82**	**72**	⇑P	**Pn**	**08 29 29.1**	**+2.5**
	67nm,0.1s,SNR=18						
PFVI				S	**Sn**	**08 29 51.1**	**+1.3**
	84nm,0.1s,SNR=10						
PFVI	**Vila Bisbo**	**1.82**	**72**	P	**Pn**	**08 29 29.1**	**+2.5**
	67nm,0.1s,SNR=18						
PFVI				S	**Sn**	**08 29 51.4**	**+1.7**
	84nm,0.1s,SNR=10						
PFVI	**Vila Bisbo**	**1.82**	**72**	⇑*i*Pn	**Pn**	**08 29 29.1**	**+2.5**
PFVI				*e*Sn	**Sn**	**08 29 51.7**	**+2.0**
PFVI				A	A	08 29 52.9	
	71nm,0.1s						
PFVI	**Vila Bisbo**	**1.82**	**72**	⇑*i*Pn	**Pn**	**08 29 29.1**	**+2.5**
PFVI				*e*Sn	**Sn**	**08 29 51.7**	**+2.0**
PFVI				A	A	08 29 52.9	
	71nm,0.1s						
MORF	**Marmelete**	**2.01**	**68**	*e*P	**Pn**	**08 29 31.7**	**+2.5**
MORF				*e*S	**Sn**	**08 29 56.3**	**+1.9**
MORF				AML	AML	08 29 57.3	
	comp=N,63nm,0.5s						
MORF	**Marmelete**	**2.01**	**68**	P	**Pn**	**08 29 31.7**	**+2.5**
MORF				S	**Sn**	**08 29 56.3**	**+1.9**
	comp=N,63nm,0.5s						
MORF	**Marmelete**	**2.01**	**68**	⇑*i*Pn	**Pn**	**08 29 31.8**	**+2.5**
MORF				*e*Sn	**Sn**	**08 29 56.7**	**+2.2**
MORF				A	A	08 29 58.8	
	comp=N,49nm,0.3s						
MORF	**Marmelete**	**2.01**	**68**	⇑*i*Pn	**Pn**	**08 29 31.8**	**+2.5**
MORF				*e*Sn	**Sn**	**08 29 56.7**	**+2.2**
MORF				A	A	08 29 58.8	
	comp=N,49nm,0.3s						
PTEO	**Sao Teotonio**	**2.05**	**61**	*e*Pn	**Pn**	**08 29 32.4**	**+2.6**
PTEO				*e*Sn	**Sn**	**08 29 58.5**	**+3.0**
PTEO				A	A	08 30 02.5	
	comp=N,15nm,0.1s						
PTEO	**Sao Teotonio**	**2.05**	**61**	*e*Pn	**Pn**	**08 29 32.4**	**+2.6**
PTEO				*e*Sn	**Sn**	**08 29 58.5**	**+3.0**
PTEO				A	A	08 30 02.5	
	comp=N,15nm,0.1s						
PNCL	**Nicolau / Gran**	**2.49**	**51**	⇑*e*Pn	**Pn**	**08 29 38.4**	**+2.6**
PNCL				*e*Sn	**Sn**	**08 30 08.3**	**+2.1**
PNCL				A	A	08 30 11.2	
	comp=N,20nm,0.2s						
PNCL	**Nicolau / Gran**	**2.49**	**51**	⇑*e*Pn	**Pn**	**08 29 38.4**	**+2.6**
PNCL				*e*Sn	**Sn**	**08 30 08.3**	**+2.1**
PNCL				A	A	08 30 11.2	
	comp=N,20nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.54**	**74**	⇑*i*Pn	**Pn**	**08 29 39.3**	**+2.8**
PBDV				*e*Sn	**Sn**	**08 30 09.4**	**+1.9**
PBDV				A	A	08 30 13.0	
	comp=N,19nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.54**	**74**	⇑*i*Pn	**Pn**	**08 29 39.3**	**+2.8**
PBDV				*e*Sn	**Sn**	**08 30 09.4**	**+1.9**
PBDV				A	A	08 30 13.0	
	comp=N,19nm,0.2s						
MESJ	**Messejana**	**2.54**	**59**	*e*P	**Pn**	**08 29 39.0**	**+2.5**
MESJ				*e*S	**Sn**	**08 30 09.4**	**+1.8**
MESJ				AML	AML	08 30 11.5	
	comp=N,11nm,0.1s						
MESJ	**Messejana**	**2.54**	**59**	P	**Pn**	**08 29 39.0**	**+2.5**
MESJ				S	**Sn**	**08 30 09.4**	**+1.8**
	comp=N,11nm,0.1s						
MESJ	**Messejana**	**2.54**	**59**	*e*Pn	**Pn**	**08 29 39.1**	**+2.5**
MESJ				*e*Sn	**Sn**	**08 30 09.8**	**+2.2**
MESJ				A	A	08 30 19.7	
	comp=N,

PESTR *e*Sn **Sn** 08 30 33.3 +1.3
PESTR A A 08 30 39.4
comp=N,3.6nm,0.2s
EMIN Mina Concepcio 3.65 70 P **Pn** **08 29 53.9 +2.2**
comp=N,5.3nm,0.1s,SNR=47
EMIN S **Sn** **08 30 35.5 +0.7**
comp=N,9.6nm,0.1s,SNR=15
EMIN Mina Concepcio 3.65 70 P **Pn** **08 29 53.9 +2.2**
comp=N,5.3nm,0.1s,SNR=47
EMIN S **Sn** **08 30 35.3 +0.5**
comp=N,14nm,0.2s,SNR=15
PTOM Tomar 3.65 33 *e*Pn **Pn** **08 29 54.0 +2.2**
PTOM A A 08 30 41.7
comp=N,10nm,0.1s
PTOM Tomar 3.65 33 *e*Pn **Pn** **08 29 54.0 +2.2**
PTOM A A 08 30 41.7
comp=N,10nm,0.1s
EBAD Badajoz 3.83 54 P **Pn** **08 29 56.2 +1.9**
comp=N,6.1nm,0.1s,SNR=19
EBAD S **Sn** **08 30 40.4 +1.0**
comp=N,17nm,0.2s,SNR=6.3
EBAD Badajoz 3.83 54 P **Pn** **08 29 56.2 +1.9**
comp=N,6.1nm,0.1s,SNR=19
EBAD S **Sn** **08 30 40.0 +0.7**
comp=N,17nm,0.2s,SNR=6.3
PMRV Marv??o 4.02 44⇑ *e*Pn **Pn** **08 29 58.8 +1.9**
PMRV *e*Sn **Sn** **08 30 44.4 +0.3**
PMRV A A 08 30 47.6
comp=N,9.4nm,0.5s
PMRV Marv??o 4.02 44⇑ *e*Pn **Pn** **08 29 58.8 +1.9**
PMRV *e*Sn **Sn** **08 30 44.4 +0.3**
PMRV A A 08 30 47.6
comp=N,9.4nm,0.5s
ESPR Espera 4.13 84 P **Pn** **08 30 00.9 +2.5**
comp=N,12nm,0.1s,SNR=25
ESPR S **Sn** **08 30 47.3 +0.5**
comp=N,127nm,0.2s,SNR=11
ESPR Espera 4.13 84 P **Pn** **08 30 00.9 +2.5**
comp=N,12nm,0.1s,SNR=25
ESPR S **Sn** **08 30 47.0 +0.2**
comp=N,127nm,0.2s,SNR=11
ECAB El Cabril 4.68 70 P **Pn** **08 30 08.3 +2.3**
comp=N,4.1nm,0.1s,SNR=56
ECAB S **Sn** **08 31 00.8 +0.3**
comp=N,24nm,0.3s,SNR=9.6
ECAB El Cabril 4.68 70 P **Pn** **08 30 08.3 +2.3**
comp=N,4.1nm,0.1s,SNR=56
ECAB S **Sn** **08 31 00.8 +0.3**
comp=N,24nm,0.2s,SNR=9.6
EMIJ Mijas 5.00 88 P **Pn** **08 30 12.8 +2.4**
comp=N,0.5nm,0.1s,SNR=7.9
EMIJ S **Sn** **08 31 08.6 +0.3**
comp=N,2.4nm,0.3s,SNR=6.1
EMIJ Mijas 5.00 88 P **Pn** **08 30 12.8 +2.4**
comp=N,0.5nm,0.1s,SNR=7.9
EMIJ S **Sn** **08 31 08.4 +0.1**
comp=N,5.1nm,0.3s,SNR=6.1
EPLA Plasencia 5.20 46 P **Pn** **08 30 15.2 +2.2**
comp=N,1.5nm,0.1s,SNR=12
EPLA S **Sn** **08 31 14.1 +1.0**
comp=N,2.7nm,0.1s,SNR=4.0
EPLA Plasencia 5.20 46 P **Pn** **08 30 15.3 +2.2**
comp=N,1.5nm,0.1s,SNR=12
EPLA S **Sn** **08 31 13.6 +0.5**
comp=N,2.7nm,0.1s,SNR=5.5
EADA Adamuz 5.35 71 P **Pn** **08 30 17.5 +2.3**
comp=N,6.2nm,0.2s,SNR=21
EADA S **Sn** **08 31 16.7 -0.1**
comp=N,4.0nm,0.1s,SNR=7.2
EADA Adamuz 5.35 71 P **Pn** **08 30 17.4 +2.3**
comp=N,6.2nm,0.2s,SNR=21
EADA S **Sn** **08 31 16.7 -0.1**
comp=N,4.0nm,0.1s,SNR=7.2
MVO Moncorvo 5.52 33 P **Pn** **08 30 18.9 +1.3**
comp=N,2.2nm,0.1s,SNR=6.6
MVO S **Sn** **08 31 20.2 -1.0**
comp=N,3.4nm,0.1s,SNR=7.9
MVO Moncorvo 5.52 33 P **Pn** **08 30 18.7 +1.1**
comp=N,2.2nm,0.1s,SNR=6.6
MVO S **Sn** **08 31 19.4 -1.8**
comp=N,3.4nm,0.1s,SNR=7.9
KIB El Ksiba 5.71 133 P **Pn** **08 30 19.0 -1.2**
KIB S Sn 08 31 20.0 -5.8
KIB El Ksiba 5.71 133 *i* P **Pn** **08 30 19.0 -1.2**
KIB *i* S Sn 08 31 20.0 -5.8
ELOB Lobios 5.75 22 P **Pn** **08 30 21.8 +1.1**
comp=N,4.3nm,0.1s,SNR=24
ELOB S **Sn** **08 31 24.8 -2.0**
comp=N,3.7nm,0.1s,SNR=7.9
ELOB Lobios 5.75 22 P **Pn** **08 30 21.8 +1.1**
comp=N,4.3nm,0.1s,SNR=24
ELOB S **Sn** **08 31 24.8 -2.0**
comp=N,3.8nm,0.1s,SNR=7.9
TZC Tazercounte 5.77 139 P **Pn** **08 30 20.0 -1.2**
TZC S Sn 08 31 21.0 -6.6
TZC Tazercounte 5.77 139 *i* P **Pn** **08 30 20.0 -1.2**
TZC *i* S Sn 08 31 21.0 -6.6
SELV Sierra Elvira 5.85 81 P Pn 08 30 25.8 +3.6
comp=N,1.8nm,0.4s,SNR=7.9
SELV S **Sn** **08 31 31.4 +2.1**
comp=N,1.1nm,0.2s,SNR=7.9
SELV Sierra Elvira 5.85 81 P **Pn** **08 30 25.1 +3.0**
comp=N,1.8nm,0.4s,SNR=7.9
SELV S **Sn** **08 31 29.1 -0.2**
comp=N,1.7nm,0.2s,SNR=7.9
OUK Oukaimeden 5.95 153 P **Pn** **08 30 22.0 -1.7**
OUK S Sn 08 31 23.0 -9.3
OUK Oukaimeden 5.95 153 *i* P **Pn** **08 30 22.0 -1.7**
OUK *i* S Sn 08 31 23.0 -9.3
EBAN Banos Encina 5.95 72 P **Pn** **08 30 25.8 +2.3**
comp=N,3.7nm,0.2s,SNR=6.1
EBAN S **Sn** **08 31 30.7 -1.0**
comp=N,4.5nm,0.2s,SNR=7.9
EBAN Banos Encina 5.95 72 P **Pn** **08 30 25.7 +2.3**
comp=N,3.7nm,0.2s,SNR=6.1
EBAN S **Sn** **08 31 29.9 -1.8**
comp=N,4.5nm,0.2s,SNR=7.9
CZD Col de Zad 6.03 124 P **Pn** **08 30 25.0 +0.2**
CZD S **Sn** **08 31 30.0 -4.1**
CZD Col de Zad 6.03 124 *i* P **Pn** **08 30 25.0 +0.2**
CZD *i* S **Sn** **08 31 30.0 -4.1**
EQUE Quentar 6.08 82 P **Pn** **08 30 28.1 +2.8**
comp=N,0.6nm,0.2s,SNR=4.0
EQUE S **Sn** **08 31 36.3 +1.3**
comp=N,2.3nm,0.3s,SNR=4.0
EQUE Quentar 6.08 82 P **Pn** **08 30 28.1 +2.8**
comp=N,0.6nm,0.2s,SNR=7.9
EQUE S **Sn** **08 31 34.9 -0.1**
comp=N,1.4nm,0.2s,SNR=4.8
ECAL Calabor 6.29 30 P **Pn** **08 30 29.4 +1.3**
comp=N,2.5nm,0.2s,SNR=9.5
ECAL S **Sn** **08 31 38.5 -1.6**
comp=N,4.2nm,0.3s,SNR=5.8
ECAL Calabor 6.29 30 P **Pn** **08 30 29.5 +1.3**
comp=N,2.5nm,0.2s,SNR=9.5
ECAL S **Sn** **08 31 38.5 -1.6**
comp=N,4.2nm,0.3s,SNR=5.8
ESDC Sonseca Array 6.34 59 P **Pn** **08 30 30.7 +1.8**
comp=N,5.7nm,0.1s,baz=244,slow=13,SNR=27
ESDC S **Sn** **08 31 41.5 +0.2**
comp=N,3.4nm,0.1s,baz=243,slow=24,SNR=11
ESDC Sonseca Array 6.34 59 P **Pn** **08 30 30.8 +2.0**
comp=N,5.7nm,0.1s,SNR=27
ESDC S **Sn** **08 31 40.3 -1.0**
comp=N,3.4nm,0.1s,SNR=11
EQES Quesada 6.44 77 P **Pn** **08 30 31.2 +1.0**
comp=N,1.5nm,0.2s,SNR=7.9
EQES S **Sn** **08 31 43.5 -0.3**
comp=N,3.0nm,0.2s,SNR=10
EQES Quesada 6.44 77 P **Pn** **08 30 32.2 +2.0**
comp=N,1.5nm,0.2s,SNR=7.9
EQES S **Sn** **08 31 42.9 -0.9**
comp=N,5.6nm,0.2s,SNR=10
EBER Berja 6.51 85 P Pn 08 30 34.7 +3.5
comp=N,1.0nm,0.3s,SNR=7.9
EBER S **Sn** **08 31 47.0 +1.3**
comp=N,4.2nm,0.3s,SNR=7.9
EBER Berja 6.51 85 P Pn 08 30 34.6 +3.3
comp=N,1.0nm,0.3s,SNR=7.9
EBER S **Sn** **08 31 45.0 -0.7**
comp=N,4.2nm,0.3s,SNR=7.9
EMAZ Mazaricos 6.55 13 P **Pn** **08 30 31.7 +0.1**
comp=N,1.2nm,0.1s,SNR=7.9
EMAZ S Sn 08 31 41.3 -5.1
comp=N,5.1nm,0.1s,SNR=6.3
EMAZ Mazaricos 6.55 13 P **Pn** **08 30 32.2 +0.6**
comp=N,1.2nm,0.1s,SNR=7.9
EMAZ S **Sn** **08 31 39.4 -7.0**
comp=N,5.8nm,0.2s,SNR=6.3
EAGO Agolada(Pontev 6.61 19 P **Pn** **08 30 33.4 +1.0**
comp=N,2.2nm,0.1s,SNR=7.9
EAGO S **Sn** **08 31 45.0 -2.8**
comp=N,2.7nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 6.61 19 P **Pn** **08 30 33.2 +0.8**
comp=N,2.2nm,0.1s,SNR=7.9
EAGO S Sn 08 31 43.2 -4.6
comp=N,2.7nm,0.1s,SNR=7.9
GUD Guadarrama 6.71 51 P **Pn** **08 30 36.0 +2.0**
comp=N,1.0nm,0.3s,SNR=7.3
GUD S **Sn** **08 31 49.0 -1.7**
comp=N,0.6nm,0.6s,SNR=7.9
GUD Guadarrama 6.71 51 P **Pn** **08 30 36.0 +2.0**
comp=N,1.0nm,0.3s,SNR=7.3
GUD S **Sn** **08 31 49.0 -1.7**
comp=N,2.4nm,0.3s,SNR=7.9
EHUE Huescar 6.81 77 P **Pn** **08 30 37.2 +1.9**
comp=N,1.0nm,0.3s,SNR=7.9
EHUE S **Sn** **08 31 51.2 -1.8**
comp=N,2.8nm,0.1s,SNR=7.9
EHUE Huescar 6.81 77 P **Pn** **08 30 37.0 +1.7**
SNR=7.9
EHUE S **Sn** **08 31 51.2 -1.8**
comp=N,2.8nm,0.1s,SNR=7.9
SESP Santiago Espad 6.90 75 P **Pn** **08 30 39.1 +2.5**
comp=N,0.2nm,0.2s,SNR=7.9
SESP S **Sn** **08 31 54.4 -0.9**
comp=N,0.8nm,0.2s,SNR=7.9
SESP Santiago Espad 6.90 75 P **Pn** **08 30 39.1 +2.5**
comp=N,0.2nm,0.2s,SNR=7.9
SESP S **Sn** **08 31 54.3 -0.9**
comp=N,0.8nm,0.2s,SNR=7.9
EVIA Vianos 7.04 70 P **Pn** **08 30 40.6 +2.0**
comp=N,2.8nm,0.2s,SNR=7.9
EVIA S **Sn** **08 31 57.2 -1.5**
comp=N,5.6nm,0.2s,SNR=7.9
EVIA Vianos 7.04 70 P **Pn** **08 30 40.5 +2.0**
comp=N,2.8nm,0.2s,SNR=7.9
EVIA S **Sn** **08 31 57.2 -1.5**
comp=N,5.6nm,0.2s,SNR=7.9
ENIJ Nijar 7.06 84 S **Sn** **08 31 57.8 -1.1**
comp=N,3.6nm,0.3s,SNR=7.9
ENIJ Nijar 7.06 84 S **Sn** **08 31 56.8 -2.1**
comp=N,3.6nm,0.3s,SNR=7.9
EPON Pontenova 7.36 22 P **Pn** **08 30 43.8 +1.0**
comp=N,1.5nm,0.1s,SNR=7.9
EPON S **Sn** **08 32 04.5 -1.8**
comp=N,2.1nm,0.3s,SNR=7.9
EPON Pontenova 7.36 22 P **Pn** **08 30 43.7 +1.0**
comp=N,1.5nm,0.1s,SNR=7.9
EPON S **Sn** **08 32 04.4 -1.8**
comp=N,1.6nm,0.2s,SNR=7.9
ETOB Tobarra 7.77 72 P **Pn** **08 30 50.5 +2.0**
comp=N,1.6nm,0.2s,SNR=7.9
ETOB S **Sn** **08 32 16.1 -0.4**
comp=N,1.0nm,0.1s,SNR=7.9
ETOB Tobarra 7.77 72 P **Pn** **08 30 50.0 +1.5**
comp=N,1.6nm,0.2s,SNR=7.9
ETOB S **Sn** **08 32 16.4 -0.1**
comp=N,1.0nm,0.1s,SNR=7.9
EMUR La Murta 7.88 78 P **Pn** **08 30 51.0 +1.1**
comp=N,1.1nm,0.2s,SNR=7.9
EMUR S **Sn** **08 32 16.0 -3.2**
comp=N,1.0nm,0.3s,SNR=7.9
EARI Arriondas 8.05 32 P **Pn** **08 30 55.2 +3.0**
comp=N,0.9nm,0.3s,SNR=7.9
EARI Arriondas 8.05 32 P **Pn** **08 30 55.2 +3.0**
comp=N,0.9nm,0.3s,SNR=7.9
EARI S **Sn** **08 32 20.7 -2.6**
comp=N,0.5nm,0.2s,SNR=7.9
ELAN Lanestosa 8.82 39 P **Pn** **08 31 05.4 +2.7**
comp=N,0.5nm,0.2s,SNR=7.9
ELAN Lanestosa 8.82 39 P **Pn** **08 31 04.5 +1.8**
comp=N,0.5nm,0.2s,SNR=7.9
EMOS Mosqueruela 9.07 62 P Pn 08 31 10.1 +3.7
comp=N,0.6nm,0.3s,SNR=7.9
EMOS S **Sn** **08 32 48.3 -0.3**
comp=N,0.8nm,0.3s,SNR=7.9
EMOS Mosqueruela 9.07 62 P Pn 08 31 09.8 +3.4
comp=N,0.6nm,0.3s,SNR=7.9
EMOS S **Sn** **08 32 47.1 -1.5**
comp=N,0.9nm,0.2s,SNR=7.9
IELO Elcoad 9.77 47 P **Pn** **08 31 18.6 +2.7**
comp=N,1.4nm,0.2s,SNR=7.9
IELO Elcoad 9.77 47 P **Pn** **08 31 18.6 +2.7**
comp=N,1.4nm,0.2s,SNR=7.9
ELIZ Elizondo 9.80 45 P **Pn** **08 31 17.4 +1.1**
comp=N,0.6nm,0.2s,SNR=7.9
ELIZ Elizondo 9.80 45 P **Pn** **08 31 17.4 +1.1**
comp=N,0.6nm,0.2s,SNR=7.9
EALK Alkurruntz 9.85 45 P **Pn** **08 31 19.0 +2.2**
comp=N,1.0nm,0.3s,SNR=7.9
EALK Alkurruntz 9.85 45 P **Pn** **08 31 19.0 +2.2**
comp=N,1.0nm,0.3s,SNR=7.9

IDC ***12*** *09:05:01.7±0.5,35°.25S×106°.60W,h0km,mb4.7/16, mb1 4.8/17,mb1mx4.8/20,mbtmp4.7/17,ML4.5/1,MS4.4/10, Ms1 4.4/10,ms1mx4.3/15,Error ellipse: s-maj=16.8km s-min=14.9km az=103.0*
MOS ***12*** *09:05:01.9±1.6,35°.26S×106°.63W,h10km,mb4.9/13, Error ellipse: s-maj=20.9km s-min=13.9km az=88.5*
ISCJB ***12*** *09:05:02.1±0.3,35°.41S±0°.05×106°.48W±0°.07,h10km, mb4.8/93,MS4.5/10,Error ellipse: s-maj=8.5km s-min=7.3km az=159.1*
NEIC ***12*** *09:05:04.0±0.3,35°.39S×106°.38W,h10km,mb4.9/78, Error ellipse: s-maj=10.3km s-min=7.4km az=72.0*
GCMT ***12*** *09:05:04.0±0.1,35°.33S×106°.38W,h17km,MW5.3/118, Moment Tensor Solution. s86,c134; s118,c204; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr-0.10±.02; Mθθ-0.22±.02; Mϕϕ0.32±.02; Mrθ-0.05±.04; Mθϕ-0.98±.01; Mϕr-0.22±.04; Best double couple: M01.04400×1017 NP1:ϕs7.00000°,δ87.00000°, λ-13.00000°. NP2:ϕs98.00000°,δ77.00000°, λ-177.00000°. Principal axes: T 1.0870, Plg7.0000°, Azm53.0000°; N -0.0850, Plg77.0000°, Azm175.0000°; P -1.0020, Plg11.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 12 09:05:03.3±0.3,35°.30S±0°.07×106°.53W±0°.07,h10km, n206,σ1°68/191,mb4.9/94,MS4.5/10,5C-7D,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
RPN	**Rapa Nui**	**8.49**	**343**	Pn		**Pn**	**09 07 07.0**	**+0.6**
	5.4nm,0.3s,baz=158,slow=11,SNR=4.2							
RPN				LR		LR	09 09 22.3	
	comp=Z,2μm,18.6s,baz=153,slow=31							
RPN	**Rapa Nui**	**8.49**	**343**	P		**Pn**	**09 07 07.0**	**+0.6**
RPN				pmax		pmax		
	comp=Z,5.0nm,0.3s							
RPN				MLR		MLR		
	comp=Z,2μm,18.6s							
RPN	**Rapa Nui**	**8.49**	**343**	*e*Pn		**Pn**	**09 07 09.1**	**+2.7**
RKT	**Rikitea**	**27.53**	**288**	*e*S		**S**	**09 15 30.0**	**-1.4**
RKT	comp=Z,217nm,29.0s			*e*LQ		LQ	09 16 38.8	
RKT	comp=Z,1μm,28.5s			*e*LR		LR	09 17 46.3	
	comp=Z,480nm,31.0s							
RKT	**Rikitea**	**27.53**	**288**	*e*T		T	09 39 25.3	
	comp=Z,1.1nm,0.3s							
PLCA	**Paso Flores**	**28.73**	**112**	P		**P**	**09 11 01.5**	**+0.6**
	comp=Z,20nm,0.9s,baz=270,slow=8.9,SNR=25							
PLCA				LR		LR	09 19 07.0	
	comp=Z,614nm,18.7s,baz=282,slow=29							
PLCA	**Paso Flores**	**28.73**	**112**	*e*P		**P**	**09 11 00.4**	**-0.5**
	comp=Z,32nm,1.0s							
USHA	**Ushuaia**	**32.69**	**139**	P		**P**	**09 11 36.1**	**+0.5**
	comp=Z,26nm,0.9s,baz=286,slow=9.7,SNR=7.1							
LVC	**Limon Verde**	**35.05**	**79**	P		**P**	**09 11 57.0**	**+0.2**
	comp=Z,65nm,0.9s,baz=251,slow=8.7,SNR=14							
LVC	**Limon Verde**	**35.05**	**79**	*e*P		**P**	**09 11 57.1**	**+0.2**
	comp=Z,19nm,0.9s							
TRQA	**Tornquist**	**35.58**	**108**	*e*P		**P**	**09 12 01.0**	**+0.1**
	comp=Z,101nm,2.0s							
ATAH	**Atahualpa**	**38.11**	**49**	P		**P**	**09 12 23.7**	**+0.6**
	comp=Z,6.8nm,0.8s,baz=228,slow=12,SNR=6.5							
TBI	**Tubuai**	**39.00**	**276**	*e*S		**S**	**09 18 30.4**	**+1.4**
	comp=Z,48nm,31.5s							
TBI				*e*LQ		LQ	09 21 34.3	
	comp=Z,1μm,34.5s							
TBI				*e*LR		LR	09 23 12.9	
	comp=Z,724nm,26.0s							
TBI	**Tubuai**	**39.00**	**276**	*e*T		T	09 53 49.0	
	comp=Z,5.0nm,0.3s							
LPAZ	**La Paz**	**39.11**	**71**	P		**P**	**09 12 31.8**	**+0.1**
	comp=Z,6.0nm,0.6s,baz=246,slow=6.0,SNR=16							
LPAZ				LR		LR	09 25 15.9	
	comp=Z,376nm,21.6s,baz=240,slow=31							
LPAZ	**La Paz**	**39.11**	**71**	*e*P		**P**	**09 12 31.2**	**-0.5**
LPAZ	**La Paz**	**39.11**	**71**	*e*P		**P**	**09 12 31.2**	**-0.5**
	comp=Z,47nm,1.6s							
LPAZ				PP		**PnPn**	**09 14 04.3**	**+0.5**
MEH	**Mehetia**	**40.66**	**284**	*e*T		T	09 55 50.7	
	comp=Z,12nm,0.3s							
TVO	**Taravao**	**41.65**	**283**	*e*T		T	09 57 05.6	
	comp=Z,0.9nm,0.3s							
TIAR	**Tiarei**	**41.85**	**284**	*e*P		**P**	**09 12 52.3**	**-1.4**
	comp=Z,6.5nm,0.9s							
TIAR	**Tiarei**	**41.85**	**284**	*e*T		T	09 57 20.2	
	comp=Z,1.7nm,0.3s							
PPT2	**Papeete2**	**42.01**	**283**	*e*P		**P**	**09 12 54.7**	**-0.4**
	comp=Z,43nm,1.3s							
PPT2				*e*S		**S**	**09 19 11.2**	**-3.1**
	comp=Z,116nm,26.8s							
PPT2				*e*LQ		LQ	09 22 37.9	
PPT2	comp=Z,4μm,28.5s			*e*LR		LR	09 24 33.6	
	comp=Z,349nm,24.5s							
OTAV	**Otavalo**	**44.00**	**43**	*e*P		**P**	**09 13 11.1**	**-0.6**
	comp=Z,56nm,1.6s							
SAML	**Samuel**	**47.42**	**67**	*e*P		**P**	**09 13 36.6**	**-1.6**
	comp=Z,18nm,1.2s							
RAR	**Rarotonga**	**48.42**	**272**	P		**P**	**09 13 46.0**	**+0.1**
	comp=Z,7.9nm,0.4s,baz=141,slow=6.5,SNR=3.1							
RAR	**Rarotonga**	**48.42**	**272**	P		**P**	**09 13 46.0**	**+0.1**
RAR				pmax		pmax		
	comp=Z,8.0nm,0.4s							
JTS	**JuntasAbangare**	**49.72**	**28**	*d* iP		**P**	**09 13 56.1**	**+0.2**
JTS				pmax		pmax		
	comp=Z,59nm,1.7s							
JTS	**JuntasAbangare**	**49.72**	**28**	*e*P		**P**	**09 13 55.9**	**+0.1**
	comp=Z,30nm,1.3s							
ROSC	**El Rosal**	**50.11**	**44**	P		**P**	**09 13 59.7**	**+0.4**
	comp=Z,34nm,1.0s,baz=107,slow=9.2,SNR=22							
ROSC				LR		LR	09 31 06.2	
	comp=Z,621nm,21.9s,baz=210,slow=31							
QSPA	**South Pole Qui**	**54.91**	**180**	P		**P**	**09 14 35.0**	**+0.9**
	comp=Z,8.4nm,0.8s,baz=164,slow=1.8,SNR=25							
QSPA	**South Pole Qui**	**54.91**	**180**	*e*P		**P**	**09 14 34.9**	**+0.9**
	comp=Z,13nm,0.8s							
QSPA				*e*PcP		**PcP**	**09 15 39.7**	**+3.9**
SBA	**Scott Base**	**55.10**	**195**	*e*P		**P**	**09 14 35.5**	**+0.4**
	comp=Z,8.3nm,0.8s							
PTGA	**Pitinga**	**55.27**	**62**	*e*P		**P**	**09 14 34.4**	**-2.8**
	comp=Z,8.6nm,0.6s							
SDV	**Santo Domingo**	**55.49**	**45**	*e*P		**P**	**09 14 36.2**	**-2.7**
	comp=Z,11nm,0.8s							
BDFB	**Brasilia**	**55.55**	**85**	P		**P**	**09 14 38.5**	**-0.8**
	comp=Z,14nm,0.9s,baz=230,slow=7.9,SNR=10							
BDFB				LR		LR	09 36 44.2	
	comp=Z,431nm,18.3s,baz=232,slow=34							
VNDA	**Vanda**	**56.19**	**195**	P		**P**	**09 14 44.2**	**+1.3**
	comp=Z,3.0nm,1.1s,baz=109,slow=8.0,SNR=6.9							
VNDA				LR		LR	09 33 59.7	
	comp=Z,272nm,18.9s,baz=94,slow=31							
VNA1	**Neumayer--Stat**	**59.80**	**158**	P		**P**	**09 15 07.9**	**-0.3**
SNAA	**Sanae**	**61.03**	**159**	P		P	09 15 07.2	-9.5
SNAA	**Sanae**	**61.03**	**159**	*d* iP		P	09 15 06.9	-10
SNAA				pmax		pmax		
	comp=Z,22nm,1.7s							
SNAA	**Sanae**	**61.03**	**159**	*e*P		P	09 15 07.1	-10
	comp=Z,16nm,0.9s							
TXAR	**Lajitas Array**	**64.34**	**3**	P		**P**	**09 15 39.5**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=188,slow=8.4,SNR=25							
TXAR	**Lajitas Array**	**64.34**	**3**	P		**P**	**09 15 39.5**	**+0.2**
TXAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
TX31	**Lajitas Ar. Si**	**64.34**	**3**	*e*P		**P**	**09 15 40.6**	**+1.3**
SJG	**San Juan**	**65.49**	**43**	*e*P		**P**	**09 15 44.8**	**-2.1**
	comp=Z,52nm,1.3s							
NVL	**N'lazarevskaya**	**65.55**	**161**	*e*P		P	09 15 54.4	+7.8
NVL				pmax		pmax		
	comp=Z,9.0nm,0.6s							
HKT	**Hockley**	**65.68**	**10**	*e*P		**P**	**09 15 49.4**	**+1.7**
HKT				pmax		pmax		
	comp=Z,8.0nm,1.3s							
JCT	**Junction City**	**65.73**	**6**	*e*P		**P**	**09 15 48.6**	**+0.4**
	comp=Z,11nm,0.7s							
TUC	**Tucson**	**67.37**	**356**	*e*P		**P**	**09 15 59.1**	**+0.4**
	comp=Z,5.6nm,0.8s							
121A	**Cookes Peak, D**	**67.48**	**359**	P		P	09 16 06.3	+6.8
	comp=Z,4.5nm,0.8s							
MSTX	**Muleshoe**	**69.00**	**3**	*e*P		**P**	**09 16 09.1**	**+0.1**
LAZ	**Ladron**	**69.34**	**359**	*e*P		**P**	**09 16 12.0**	**+0.8**
ANMO	**Albuquerque**	**69.88**	**0**⇓	*e*P		**P**	**09 16 14.5**	**0.0**
ANMO				pmax		pmax		
	comp=Z,16nm,1.7s							
ANMO	**Albuquerque**	**69.88**	**0**	*e*P		**P**	**09 16 14.9**	**+0.4**
	comp=Z,3.6nm,1.1s							
AMTX	**Amarillo**	**69.96**	**4**	*e*P		**P**	**09 16 14.6**	**-0.3**
	comp=Z,9.3nm,1.1s							
LRAL	**Lakeview Retre**	**70.40**	**17**	*e*P		**P**	**09 16 18.3**	**+0.9**
	comp=Z,19nm,1.6s							
LEOC	**Leona Valley**	**70.43**	**350**	*e*P		P	09 16 24.2	+6.5
MIAR	**Mount Ida**	**70.53**	**11**	*e*P		**P**	**09 16 18.8**	**+0.6**
	comp=Z,20nm,1.4s							
WUAZ	**Wupatki**	**70.59**	**356**	*e*P		**P**	**09 16 18.3**	**-0.5**
	comp=Z,99nm,3.0s							
W34A	**Bridge Creek,**	**70.64**	**8**	*e*P		**P**	**09 16 21.9**	**+3.0**
	comp=Z,12nm,0.9s							
GSC	**Goldstone, Bar**	**70.89**	**351**	*e*P		**P**	**09 16 22.5**	**+2.0**
	comp=Z,15nm,1.3s							
UALR	**University of**	**70.96**	**12**	*e*P		**P**	**09 16 23.4**	**+2.6**
	comp=Z,92nm,2.5s							
ISA	**Isabella, Lake**	**71.47**	**350**	*e*P		**P**	**09 16 26.4**	**+2.4**
	comp=Z,4.4nm,1.8s							
TUL1	**Leonard**	**71.55**	**9**	*e*P		**P**	**09 16 24.8**	**+0.4**
	comp=Z,15nm,0.9s							
U34A	**Anderson Ranch**	**71.86**	**8**	*e*P		**P**	**09 16 28.1**	**+1.9**
	comp=Z,9.3nm,0.8s							
SHPR	**Sheep Range**	**71.89**	**353**	*e*P		**P**	**09 16 27.1**	**+0.5**
DAC	**Darwin (Calif)**	**71.95**	**351**	*e*P		**P**	**09 16 27.7**	**+0.7**
	comp=Z,18nm,1.6s							
T25A	**Trinidad**	**72.09**	**2**	*e*P		**P**	**09 16 29.6**	**+1.7**
	comp=Z,6.9nm,1.2s							
MVCO	**Mesa Verde**	**72.16**	**358**	*e*P		**P**	**09 16 28.7**	**+0.4**
	comp=Z,38nm,1.6s							
KNB	**Kanab**	**72.18**	**355**	*e*P		P	09 16 32.1	+3.7
	comp=Z,16nm,1.4s							
TPNV	**Topopah Spring**	**72.44**	**352**	*e*P		P	09 16 33.7	+3.8
	comp=Z,8.2nm,0.9s							
S22A	**4UR Ranch, Cre**	**72.67**	**360**	*e*P		**P**	**09 16 32.4**	**+0.9**
	comp=Z,12nm,1.3s							
SDCO	**Great Sand Dun**	**72.68**	**1**	*e*P		**P**	**09 16 33.0**	**+1.6**
	comp=Z,4.4nm,1.0s							
SWET	**Sewanee**	**72.74**	**18**	*e*P		**P**	**09 16 32.3**	**+0.8**
CCUT	**Cedar City**	**72.76**	**354**	*e*P		**P**	**09 16 32.3**	**+0.5**
	comp=Z,19nm,1.4s							
SYO	**Syowa Base**	**73.03**	**168**⇑	*e*P		**P**	**09 16 30.6**	**-2.3**
SYO	**Syowa Base**	**73.03**	**168**⇓	*es*P		sP	09 16 39.2	+1.8
PV01	**Paradox Valley**	**73.09**	**358**	*e*P		**P**	**09 16 34.4**	**+0.6**
JSC	**Jenkinsville**	**73.14**	**22**	*e*P		**P**	**09 16 36.4**	**+2.5**
WVT	**Waverly**	**73.17**	**16**	*e*P		**P**	**09 16 35.3**	**+1.3**
	comp=Z,27nm,2.0s							
PBMO	**Poplar Bluff**	**73.26**	**13**	*e*P		**P**	**09 16 35.3**	**+0.8**
	comp=Z,8.2nm,1.0s							
CPCT	**Cooper Cave**	**73.32**	**19**	*e*P		**P**	**09 16 36.2**	**+1.3**
PV04	**Paradox Valley**	**73.35**	**358**	*e*P		**P**	**09 16 36.5**	**+1.1**
PV09	**Paradox Valley**	**73.47**	**358**	*e*P		**P**	**09 16 38.8**	**+2.7**
PV09				*e*PcP		**PcP**	**09 16 48.9**	**-3.3**
MSU	**Marysvale**	**73.62**	**355**	*e*P		**P**	**09 16 38.9**	**+2.0**
TPH	**Tonopah**	**73.67**	**351**	*e*P		**P**	**09 16 37.8**	**+0.5**
	comp=Z,10nm,0.9s							
TKL	**Tuckaleechee C**	**73.71**	**19**	*e*P		**P**	**09 16 36.7**	**-0.6**
R11A	**Troy Canyon, C**	**73.75**	**353**	*e*P		**P**	**09 16 38.2**	**+0.5**
	comp=Z,14nm,1.4s							
**K

comp=Z,4.2nm,0.7s,baz=185,slow=6.3,SNR=13
TMUT Trail Mountain 74.35 356 *e*P **P 09 16 42.9 +1.6**
comp=Z,10nm,0.8s
WAKR Walker 74.40 350 *e*P **P 09 16 41.8 +0.3**
KSU1 Kansas State U 74.59 8 *e*P **P 09 16 43.5 +1.1**
comp=Z,10nm,0.8s
NLU North Lily Min 75.05 356 *e*P **P 09 16 45.8 +0.6**
comp=Z,9.5nm,1.1s
O20A White River Ci 75.08 359 *e*P P 09 16 48.8 +3.4
comp=Z,17nm,1.4s
DZM Mont Dzumac 75.27 253 *e*LR LR 09 40 04.5
comp=Z,559nm,23.8s
DUG Dugway, Tooele 75.34 355 *e*P **P 09 16 47.3 +0.5**
comp=Z,7.0nm,0.9s
OLIL Olney 75.61 15 *e*P **P 09 16 50.4 +2.2**
JLU Jordanelle 75.66 356 *e*P **P 09 16 50.2 +1.5**
comp=Z,13nm,1.1s
N23A Red Feather La 75.82 0 *e*P **P 09 16 52.0 +2.3**
comp=Z,14nm,1.3s
BMN Battle Mountai 76.00 352 *e*P **P 09 16 52.4 +1.8**
comp=Z,8.2nm,0.8s
ELK Elko 76.09 353 *e*P **P 09 16 53.1 +1.9**
comp=Z,6.6nm,1.2s
TCUT Toone Canyon 76.17 356 *e*P P 09 16 39.9 -12
WDC Whiskeytown Da 76.93 348 *e*P **P 09 16 57.7 +2.0**
comp=Z,17nm,1.2s
MAW Mawson 77.10 176 P **P 09 16 57.6 +1.2**
comp=Z,4.0nm,0.8s,baz=234,slow=3.2,SNR=5.8
MAW LR LR 09 49 06.4
comp=Z,137nm,18.9s,baz=234,slow=34
HDIL Hopedale 77.13 13 *e*P **P 09 16 57.8 +1.0**
comp=Z,13nm,0.7s
URVA University of 77.33 23 *e*P **P 09 16 59.8 +1.9**
K22A Casper 77.57 0 *e*P **P 09 17 01.8 +2.3**
comp=Z,52nm,1.7s
BW06 Boulder Array 77.74 358 *e*P **P 09 17 01.0 +0.5**
PDAR Pinedale Array 77.74 358 P **P 09 16 59.8 -0.6**
comp=Z,7.9nm,0.9s,baz=164,slow=4.7,SNR=32
WVOR Wild Horse Val 78.15 351 *e*P **P 09 17 04.0 +1.5**
comp=Z,11nm,1.0s
REDW Red Top Meadow 78.38 357 *e*P **P 09 17 04.7 +0.7**
comp=Z,12nm,1.1s
SNOW Snow King Moun 78.48 357 *e*P **P 09 17 05.2 +0.7**
comp=Z,7.4nm,0.9s
TPAW Teton Pass 78.52 357 *e*P **P 09 17 04.0 -0.8**
comp=Z,19nm,1.2s
LOHW Long Hollow 78.62 357 *e*P **P 09 17 07.8 +2.5**
comp=Z,9.3nm,1.2s
FXWY Fox Creek 78.67 357 *e*P **P 09 17 07.1 +1.5**
comp=Z,16nm,1.4s
K05A Summer Lake 78.75 349 *e*P **P 09 17 08.0 +2.0**
MOOW Moose Ponds 78.76 357 *e*P **P 09 17 06.8 +0.7**
comp=Z,27nm,1.9s
HLID Hailey 78.81 354 *e*P **P 09 17 08.1 +1.8**
comp=Z,13nm,0.9s
IMW Indian Meadow 78.92 357 *e*P **P 09 17 08.6 +1.6**
comp=Z,7.6nm,0.8s
RSSD Black Hills 79.08 2 *e*P **P 09 17 09.0 +1.3**
comp=Z,5.3nm,0.8s
FLWY Flagg Ranch 79.09 357 *e*P **P 09 17 09.1 +1.2**
comp=Z,12nm,0.8s
ECSD EROS Data Cent 79.17 7 *e*P **P 09 17 08.7 +0.6**
comp=Z,5.6nm,0.8s
MCMT McKenzie Canyo 79.95 355 *e*P **P 09 17 13.0 +0.4**
SSPA Standing Stone 80.03 22 *e*P **P 09 17 12.6 -0.2**
comp=Z,24nm,1.5s
RLMT Red Lodge 80.08 358 *e*P **P 09 17 15.5 +2.3**
comp=Z,7.8nm,1.1s
DLMT Dillon 80.47 356 *e*P **P 09 17 18.4 +3.1**
comp=Z,6.6nm,1.2s
SPMN Marine on St. 81.11 10 *e*P **P 09 17 18.7 +0.3**
comp=Z,90nm,2.1s
F10A Beach Ranch, E 81.47 352 *e*P **P 09 17 23.2 +2.7**
comp=Z,7.3nm,1.0s
LAO LASA Array 81.61 0 *e*P **P 09 17 23.3 +2.2**
comp=Z,9.1nm,0.9s
CHMT Chamberlain Mo 82.06 355 P **P 09 17 25.1 +1.4**
SLMT Seeley Lake 82.40 355 *e*P **P 09 17 27.7 +2.3**
SWMT Swartz Lake 82.70 355 *e*P **P 09 17 28.2 +1.3**
JTMT Jette 82.96 355 *e*P **P 09 17 29.9 +1.6**
EGMT Eagleton 83.00 358 *e*P **P 09 17 30.0 +1.6**
comp=Z,6.4nm,0.9s
LTY Liberty 83.16 350 *e*P P 09 17 32.6 +3.3
NEW Newport 83.72 353 *e*P **P 09 17 33.7 +1.6**
comp=Z,13nm,1.2s
NLWA Neilton Lookou 83.77 348 *e*P **P 09 17 34.8 +2.5**
comp=Z,18nm,1.0s
LONY Lake Ozonia 84.66 22 *e*P **P 09 17 38.8 +1.9**
comp=Z,23nm,1.3s
STKA Stephens Creek 87.53 232 LR LR 09 50 06.4
comp=Z,515nm,19.4s,baz=182,slow=31
EDM Edmonton 88.35 356 *e*P **P 09 17 55.4 +0.5**
FFC Flin Flon 89.74 3 *i* P P 09 18 07.9 +6.6
FFC Flin Flon 89.74 3 *e*P **P 09 18 03.0 +1.8**
comp=Z,34nm,2.3s
SCHQ Schefferville 96.03 22 LR LR 09 58 52.7
comp=Z,72nm,18.2s,baz=238,slow=34
YKA Yellowknife Ar 97.67 356 P **P 09 18 36.9 -0.6**
comp=Z,0.3nm,0.7s,baz=170,slow=4.1,SNR=4.0
AS01 Alice Springs 98.05 234 *e*P **P 09 18 38.7 -1.7**
ASAR Alice Springs 98.08 234 P **P 09 18 39.1 -1.5**
comp=Z,1.6nm,1.2s,baz=134,slow=4.3,SNR=4.0
ASAR PKKP **PKKPdf 09 35 18.2 +4.1**
comp=Z,0.6nm,0.7s,baz=321,slow=2.5,SNR=6.2
ASAR LR LR 09 58 33.7
comp=Z,444nm,18.1s,baz=135,slow=33
WRA Warramunga Arr 100.34 237 P **Pdif 09 18 48.7 -2.0**
comp=Z,0.6nm,0.9s,baz=155,slow=6.0,SNR=2.9
WRA Warramunga Arr 100.34 237 P **Pdif 09 18 48.7 -2.0**
WRA pmax pmax
comp=Z,1.0nm,0.9s
TORD Torodi Ar. Bea 112.29 89 PKiKP **PKiKP 09 23 40.2 +0.3**
comp=Z,0.5nm,1.0s,baz=287,slow=1.4,SNR=2.3
TORD PP **PP 09 24 23.5 -1.7**
comp=Z,1.4nm,0.9s,baz=240,slow=6.7,SNR=5.3
ESDC Sonseca Array 120.21 61 PKP **PKPdf 09 23 55.3 +0.8**
comp=Z,0.1nm,0.3s,baz=258,slow=2.0,SNR=2.5
SEY Seymchan 125.69 326⇑ *i*PKIKP **PKPdf 09 24 00.3 -3.9**
TIXI Tiksi 133.85 339⇑ *i*PKIKP **PKPdf 09 24 20.9 +1.5**
CLL Collm 134.50 50 *e*(PKPdf) **PKPdf 09 24 25.0 +3.8**
CLL *e*PPS PPS 09 39 01.0
CLL *e*SS SS 09 45 06.0 +20
CLL *e*SSS SSS 09 49 36.0
CLL *e*SSSS 09 53 12.0
GERES GERESS Array B 134.74 53 PKP **PKPdf 09 24 21.8 -0.2**
comp=Z,0.9nm,0.9s,baz=236,slow=0.4,SNR=2.5
GERES GERESS Array B 134.74 53 PKIKP **PKPdf 09 24 21.8 -0.2**
GERES pmax pmax
comp=Z,1.0nm,0.9s
BRG Berggiesshubel 135.06 51 *e*P PKPdf 09 24 29.5 +7.2
comp=Z,4.5nm,0.9s
BRG Berggiesshubel 135.06 51 *e*PKIKP PKPdf 09 24 29.5 +7.2
BRG pmax pmax
comp=Z,5.0nm,0.9s
YAK Yakutsk 136.20 326⇑ *i*PKIKP **PKPdf 09 24 23.2 -0.9**
KSRS Korea Array 136.62 289 PKP **PKPdf 09 24 24.8 -0.8**
comp=Z,0.7nm,0.8s,baz=101,slow=2.5,SNR=3.1
KSRS Korea Array 136.62 289 PKIKP **PKPdf 09 24 24.8 -0.8**
KSRS pmax pmax
comp=Z,1.0nm,0.8s
KSAR Wonju Array Be 136.64 289 PKP **PKPdf 09 24 24.8 -0.9**
KECS Kecovo 139.21 54 *e*PKIKP **PKPdf 09 24 29.6 -0.5**
KECS Kecovo 139.21 54 *e*PKP **PKPdf 09 24 29.6 -0.5**
STHS Stebnicka Huta 139.72 53 *e*PKIKP **PKPdf 09 24 31.9 +0.9**
STHS Stebnicka Huta 139.72 53 *e*PKP **PKPdf 09 24 31.9 +0.9**
KOLS Kolonicke sedl 140.40 54 *e*PKIKP **PKPdf 09 24 33.1 +0.8**
KOLS Kolonicke sedl 140.40 54 *e*PKP **PKPdf 09 24 33.1 +0.8**
FINES FINESS Array B 140.40 34 PKhKP PKPpre 09 24 26.7
comp=Z,3.2nm,1.0s,baz=160,slow=4.4,SNR=3.7
FINES FINESS Array B 140.40 34 PKIKP PKPpre 09 24 26.7
FINES pmax pmax
comp=Z,3.0nm,1.0s
HIA Hailar 143.61 307⇑ *i*PKIKP PKPab 09 24 34.2 -0.4
AKASG Malin Array Be 144.74 50 PKP **PKPdf 09 24 39.4 -0.4**
comp=Z,2.0nm,0.6s,baz=277,slow=3.9,SNR=6.3
AKASG Malin Array Be 144.74 50 PKIKP **PKPdf 09 24 39.4 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
KIS Kishinev 144.85 57⇓ *i*P **PKPdf 09 24 40.0 -0.2**
KIS Kishinev 144.85 57⇓ *i*PKIKP **PKPdf 09 24 40.0 -0.2**
KIS *i* 09 24 46.0
BOD Bodaibo 144.95 323 *e*PKIKP **PKPab 09 24 36.4 -2.9**
BOD pmax pmax
comp=Z,15nm,1.7s
WHN Wuhan 145.53 274 PKPbc **PKPdf 09 24 40.5 -1.4**
WHN LZ
comp=Z,240nm,17.0s
OBN Obninsk 147.85 40*d* *i*PKP2 **PKPab 09 24 49.8 -0.6**
OBN pmax pmax
comp=Z,83nm,1.4s
OBN MLR MLR
comp=Z,92nm,18.0s
BRTR Keskin Array B 148.28 70 PKPbc **PKPbc 09 24 48.3 -1.5**
comp=Z,6.2nm,1.0s,baz=216,slow=2.8,SNR=12
BRTR Keskin Array B 148.28 70 PKP2 **PKPbc 09 24 48.3 -1.5**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
PRGR Permogore 148.30 25 *e*PKIKP **PKPdf 09 24 46.5 +1.0**
PRGR pmax pmax
comp=Z,18nm,0.7s
HHC Hu-ho-hao-te 149.67 292 *e*PKPbc PKPdf 09 24 39.3 -9.3
HHC PP **PP 09 28 23.0 -4.1**
HHC SKS SKSdf 09 31 45.9 -11
LPSR Galich'ya Gora 150.09 44 *e*PKIKP **PKPbc 09 24 55.6 +1.9**
LPSR pmax pmax
comp=Z,30nm,1.0s
LPSR pmax pmax
comp=N,7.0nm,0.7s
LPSR pmax pmax
comp=E,10.0nm,0.9s
GYA Guiyang 150.29 262 *e*PKPbc **PKPdf 09 24 51.0 +1.0**
GYA PKPab **PKPab 09 25 05.6 +4.1**
GYA PKS **PKSdf 09 28 24.4 -0.7**
GYA PP **PP 09 28 35.8 +5.0**
GYA PPMZ
comp=E,90nm,7.8s
VSR Storozhevoye 150.72 46 *e*PKIKP **PKPbc 09 24 54.0 -1.2**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=Z,30nm,0.9s
VSR pmax pmax
comp=E,10.0nm,1.0s
VORD Divnogorie 150.87 47 *e*PKIKP **PKPbc 09 24 57.9 +2.3**
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
XAN Xi'an 150.91 278 PKPbc **PKPbc 09 24 55.4 -0.9**
ANN Anapa 151.03 60 *i* PKIKP **PKPbc 09 24 59.2 +3.0**
ANN pmax pmax
comp=Z,43nm,1.4s
CMAR Chiang Mai Arr 151.88 240 PKPbc **PKPbc 09 24 57.8 -1.1**
comp=Z,3.5nm,0.9s,baz=178,slow=1.6,SNR=14
CMAR Chiang Mai Arr 151.88 240 PKIKP **PKPbc 09 24 57.8 -1.1**
CMAR pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 152.58 307 PKPbc **PKPbc 09 24 58.5 -1.4**
comp=Z,3.9nm,0.6s,baz=106,slow=2.2,SNR=13
SONM Songino Array 152.58 307 PKIKP **PKPbc 09 24 58.5 -1.4**
SONM pmax pmax
comp=Z,4.0nm,0.6s
TLY Talaya 152.92 317 *e*PKIKP **PKPbc 09 25 00.1 -0.2**
TLY pmax pmax
comp=Z,9.0nm,1.1s
ZAK Zakamensk 153.67 314 *e*PKIKP **PKPbc 09 24 59.9 -2.2**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
CD2 Chengdu 154.30 269 PKPbc **PKPdf 09 24 56.0 +0.2**
KBZ Khabaz 155.06 61 PKP **PKPdf 09 24 59.4 +3.1**
comp=Z,3.4nm,0.9s,baz=286,slow=1.4,SNR=6.8
KBZ Khabaz 155.06 61 PKIKP **PKPdf 09 24 59.4 +3.1**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
LZH Lanzhou 155.36 281 *e*PKP **PKPdf 09 24 54.6 -2.6**
LZH pPKP **pPKPdf 09 24 57.6 -3.1**
LZH sPKP 09 24 59.7
ZALV Zalesovo Beam 159.72 340 PKP **PKPdf 09 24 59.3 -2.5**
comp=Z,0.6nm,0.3s,baz=5.7,slow=1.4,SNR=2.9
ZALV Zalesovo Beam 159.72 340 PKIKP **PKPdf 09 24 59.3 -2.5**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
WMQ Urumqi 166.12 312 *e*PKP **PKPdf 09 25 09.2 +0.7**
MKAR Makanchi Array 166.74 333 PKP **PKPdf 09 25 06.1 -2.7**
comp=Z,0.4nm,0.8s,baz=56,slow=1.0,SNR=2.5
KSH Kashi 175.34 335 *e*PKP PKPdf 09 25 21.4 +7.8
KSH PKS **PKSdf 09 28 48.9 +3.1**
KSH PP PP 09 30 53.9 +12
KSH SKS **SKSdf 09 32 18.0 +1.2**

ISCJB ***12*** *09:06:09.0±0.5, 6˚.69S±0˚.06×155˚.97E±0˚.09, h173km, mb4.3/22, Error ellipse: s-maj=12.3km s-min=8.4km az=10.1*
NEIC ***12*** *09:06:10.8±0.3, 6˚.64S×156˚.06E, mb4.5/4, Error ellipse: s-maj=12.0km s-min=8.1km az=97.0*
IDC ***12*** *09:06:11.3±0.8, 6˚.70S×156˚.01E, h181km±7km, mb4.1/20, mb1 4.2/21, mb1mx4.1/24, mbtmp4.6/21, MS3.8/1, Ms1 3.8/1, ms1mx2.6/24, Error ellipse: s-maj=15.5km s-min=9.3km az=82.0*
ISC 12 09:06:10.4±0.5, 6˚.74S±0˚.08×156˚.0E±0˚.1, h173km, n50, σ1°53/49, mb4.4/22, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.73**	**125**	P	Pn	09 07 35.0	+14
CTA	**Charters Tower**	**16.30**	**215**	P	**Pn**	**09 09 52.6**	**+2.8**
	1.6nm,0.3s,baz=39,slow=12,SNR=18						
CTAO	**Charters Tower**	**16.30**	**215**	*e*P	**Pn**	**09 09 52.5**	**+2.7**
	15nm,0.8s						
DZM	**Mont Dzumac**	**18.27**	**148**	P	**Pn**	**09 10 13.1**	**-0.2**
	4.6nm,0.3s,baz=270,slow=20,SNR=42						
WRAB	**Tennant Creek**	**24.77**	**236**	*e*P	**P**	**09 11 17.1**	**+0.6**
	9.5nm,0.6s						
WRA	**Warramunga Arr**	**24.79**	**236**	P	**P**	**09 11 17.1**	**+0.5**
	8.1nm,0.5s,baz=60,slow=9.0,SNR=35						
WRA				S	**S**	**09 15 22.3**	**-4.1**
	2.3nm,0.9s,baz=63,slow=16,SNR=4.9						
AS31	**Alice Springs**	**27.09**	**229**	*e*P	**P**	**09 11 37.3**	**0.0**
ASAR	**Alice Springs**	**27.09**	**229**	P	**P**	**09 11 37.3**	**0.0**
	5.0nm,0.3s,baz=60,slow=9.1,SNR=60						
ASAR				PcP	**PcP**	**09 14 53.0**	**-0.8**
	0.6nm,0.6s,baz=67,slow=2.8,SNR=5.6						
ASAR				S	**S**	**09 16 00.1**	**-2.6**
	0.9nm,0.9s,baz=38,slow=22,SNR=4.3						
H11S3	**WAKE ISLAND Hy**	**27.20**	**23**	T	T	09 40 23.7	
	baz=202,slow=76,SNR=147						
H11S2	**WAKE ISLAND Hy**	**27.20**	**23**	T	T	09 40 20.1	
	baz=202,slow=76,SNR=154						
H11S1	**WAKE ISLAND Hy**	**27.22**	**23**	T	T	09 40 25.0	
	baz=202,slow=76,SNR=80						
H11N1	**WAKE ISLAND Hy**	**28.39**	**22**	T	T	09 42 01.7	
	baz=202,slow=76,SNR=6.7						
STKA	**Stephens Creek**	**28.40**	**206**	P	**P**	**09 11 49.1**	**+0.3**
	1.3nm,0.4s,baz=71,slow=16,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**28.40**	**22**	T	T	09 42 09.5	
	baz=202,slow=76,SNR=15						
H11N2	**WAKE ISLAND Hy**	**28.41**	**22**	T	T	09 42 08.8	
	baz=202,slow=76,SNR=8.0						
KAPI	**Kappang**	**36.10**	**271**	P	**P**	**09 12 55.8**	**-0.2**
	5.9nm,0.3s,baz=108,slow=3.2,SNR=3.6						
URZ	**Urewera**	**36.74**	**152**	P	**P**	**09 13 01.9**	**+0.8**
	9.1nm,0.8s,baz=336,slow=20,SNR=2.8						
MBWA	**Marble Bar**	**37.89**	**244**	*e*P	**P**	**09 13 11.1**	**0.0**
	6.6nm,0.6s						
RPZ	**Rata Peaks**	**39.12**	**163**	P	**P**	**09 13 22.0**	**+1.0**
	31nm,0.6s,baz=1.5,slow=5.4,SNR=16						
RPZ	**Rata Peaks**	**39.12**	**163**	*e*P	**P**	**09 13 21.1**	**0.0**
	28nm,0.8s						
JOW	**Kunigami**	**42.85**	**322**	LR	LR	09 30 02.5	
	comp=Z,120nm,19.3s,slow=33						
NWAO	**Narrogin (SRO)**	**44.41**	**229**	P	**P**	**09 14 03.3**	**-0.8**
	4.1nm,0.8s,baz=149,slow=5.9,SNR=3.7						
MJAR	**Matsushiro Arr**	**46.18**	**340**	P	**P**	**09 14 17.2**	**-0.7**
	1.5nm,0.8s,baz=169,slow=9.1,SNR=7.9						
KSRS	**Korea Array**	**51.20**	**331**	P	**P**	**09 14 56.0**	**-0.1**
	1.0nm,0.6s,baz=151,slow=7.2,SNR=6.7						
KSRS				pP	**pP**	**09 15 37.2**	**+2.1**
	1.5nm,1.0s,baz=148,slow=9.7,SNR=3.3						
KSAR	**Wonju Array Be**	**51.20**	**331**	P	**P**	**09 14 56.0**	**-0.1**
KSAR				pP	**pP**	**09 15 37.2**	**+2.0**
USRK	**Ussuriysk Ar.**	**55.15**	**339**	P	**P**	**09 15 25.2**	**+0.4**
	0.7nm,0.4s,baz=134,slow=8.2,SNR=4.5						
PETK	**Petropavlovsk-**	**59.64**	**1**	P	**P**	**09 15 56.6**	**+0.5**
	1.6nm,0.4s,baz=165,slow=7.4,SNR=4.6						
CMAR	**Chiang Mai Arr**	**61.59**	**295**	P	**P**	**09 16 11.4**	**+1.4**
	2.0nm,0.3s,baz=111,slow=4.7,SNR=4.5						
SONM	**Songino Array**	**69.67**	**327**	P	**P**	**09 17 02.3**	**+0.9**
	4.5nm,0.8s,baz=132,slow=6.0,SNR=15						
SONM				pP	**pP**	**09 17 43.5**	**+0.8**
	0.4nm,0.5s,baz=243,slow=42,SNR=2.2						
VNDA	**Vanda**	**70.81**	**179**	P	**P**	**09 17 07.8**	**+0.2**
	3.2nm,0.8s,baz=333,slow=6.5,SNR=7.6						
ILAR	**Eielson Array**	**82.78**	**21**	P	**P**	**09 18 13.2**	**-1.5**
	1.4nm,0.5s,baz=245,slow=5.0,SNR=20						
ILAR				pP	**pP**	**09 18 58.6**	**+1.1**
	0.8nm,0.9s,baz=267,slow=4.3,SNR=3.1						
QSPA	**South Pole Qui**	**83.23**	**180**	P	**P**	**09 18 17.4**	**+0.1**
	3.9nm,0.6s,baz=206,slow=1.0,SNR=18						
MKAR	**Makanchi Array**	**83.88**	**318**	P	**P**	**09 18 21.1**	**+0.3**
	6.9nm,0.5s,baz=100,slow=6.2,SNR=77						
ZAA0	**Zalesovo Array**	**84.54**	**326**	*e*P	**P**	**09 18 23.2**	**-0.7**
ZALV	**Zalesovo Beam**	**84.54**	**326**	P	**P**	**09 18 23.2**	**-0.8**
	4.3nm,0.4s,baz=115,slow=5.8,SNR=16						
MAW	**Mawson**	**85.01**	**203**	P	**P**	**09 18 26.6**	**+0.5**
	7.4nm,0.8s,baz=108,slow=5.3,SNR=6.4						
YKA	**Yellowknife Ar**	**95.65**	**28**	P	**P**	**09 19 15.4**	**-0.6**
	0.5nm,0.6s,baz=265,slow=5.1,SNR=10						
ARCES	**ARCESS Array B**	**109.64**	**344**	PKiKP	**PKiKP**	**09 24 19.2**	**-0.9**
	1.1nm,0.7s,baz=5.7,slow=1.8,SNR=6.1						
AKASG	**Malin Array Be**	**117.92**	**325**	PKP	**PKPdf**	**09 24 34.7**	**-1.8**
	1.3nm,0.5s,baz=62,slow=2.3,SNR=5.5						
AKBB	**Malin Array Si**	**117.92**	**325**	*e*PKPdf	**PKPdf**	**09 24 36.2**	**-0.3**
AK01	**Malin Array Si**	**117.93**	**325**	*e*PKPdf	**PKPdf**	**09 24 36.0**	**-0.4**
KIEV	**Kiev**	**117.93**	**325**‖	*e*PKHKP	PKPpre	09 24 35.9	
KIEV	**Kiev**	**117.93**	**325**	*e*PKPdf	**PKPdf**	**09 24 35.6**	**-0.8**
AK02	**Malin Array Si**	**117.95**	**325**	PKPdf	**PKPdf**	**09 24 39.7**	**+3.2**
BRTR	**Keskin Array B**	**118.97**	**312**	PKP	**PKPdf**	**09 24 37.6**	**-1.4**
	0.5nm,0.6s,baz=126,slow=2.0,SNR=5.4						
TIRR	**Tirgusor**	**121.02**	**319**	*e*PKPdf	**PKPdf**	**09 24 38.7**	**-3.9**
BUR08	**Bucovina Ar. S**	**121.66**	**323**	*e*PKPdf	**PKPdf**	**09 24 40.5**	**-3.4**
GERES	**GERESS Array B**	**127.35**	**329**	PKP	**PKPdf**	**09 24 54.6**	**-0.1**
	1.1nm,0.5s,baz=54,slow=1.7,SNR=5.3						
BDFB	**Brasilia**	**147.43**	**133**	PKPbc	**PKPbc**	**09 25 33.9**	**-1.2**
	2.1nm,0.4s,baz=207,slow=2.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**153.93**	**286**	PKPbc	**PKPbc**	**09 25 49.5**	**-0.9**
	0.9nm,0.5s,baz=62,slow=1.9,SNR=14						
TORD				PKPab	**PKPab**	**09 26 03.3**	**-1.0**
	0.2nm,0.4s,baz=70,slow=4.4,SNR=6.6						

ISCJB ***12*** *09:31:28.5±0.3, 26˚.39N±0˚.06×125˚.87E±0˚.05, h146km±4km, mb3.6/9, Error ellipse: s-maj=11.4km s-min=3.2km az=143.4*
IDC ***12*** *09:31:28.9±2.7, 26˚.42N×125˚.67E, h134km±28km, mb3.5/8, mb1 3.5/10, mb1mx3.3/37, mbtmp3.8/10, MS3.0/1, Ms1 3.0/1, ms1mx2.3/31, Error ellipse: s-maj=37.2km s-min=13.3km az=66.0*
JMA ***12*** *09:31:29.8±0.3, 26˚.43N×125˚.79E, h135km, M3.5*
ISC 12 09:31:29.8±0.7, 26˚.40N±0˚.06×125˚.87E±0˚.05, h145km±7km, n34, σ1°32/54, mb3.7/9, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.83**	**95**	P	**Pn**	**09 31 52.7**	**+0.1**
JKE				*e*S	**Sn**	**09 32 09.6**	**-0.3**
JAGN	**Aguni-jima**	**1.25**	**81**	P	**Pn**	**09 31 56.5**	**+0.2**
JAGN				S	**Sn**	**09 32 15.8**	**-0.7**
JIKM	**Ikemajima**	**1.57**	**201**	P	**Pn**	**09 31 59.7**	**0.0**
JIKM				*e*S	**Sn**	**09 32 21.9**	**-0.6**
JMJ	**Miyako jima 2**	**1.66**	**198**	P	**Pn**	**09 32 00.9**	**+0.3**
JMJ				*e*S	**Sn**	**09 32 23.6**	**-0.7**
JOGS	**Gusukube**	**1.68**	**194**	P	**Pn**	**09 32 01.3**	**+0.4**
JOGS				*e*S	**Sn**	**09 32 24.5**	**-0.2**
JIRB	**Irabujima**	**1.68**	**202**	P	**Pn**	**09 31 59.5**	**-1.4**
JIRB				*e*S	**Sn**	**09 32 23.4**	**-1.3**
JJT2	**Tamagusuku 2**	**1.71**	**98**	P	**Pn**	**09 32 02.3**	**+1.1**
JJT2				S	**Sn**	**09 32 26.3**	**+1.1**
JNTH	**Nagotoyohara**	**1.94**	**86**	P	**Pn**	**09 32 04.3**	**+0.5**
JNTH				S	**Sn**	**09 32 28.8**	**-1.1**
JIH	**Iheya**	**1.98**	**71**	P	**Pn**	**09 32 04.8**	**+0.5**
JIH				S	**Sn**	**09 32 31.2**	**+0.3**
JTJ	**Tarama**	**2.04**	**211**	P	**Pn**	**09 32 04.7**	**-0.3**
JTJ				*e*S	**Sn**	**09 32 30.2**	**-1.9**
JOW	**Kunigami**	**2.20**	**78**	P	**Pn**	**09 32 07.1**	**+0.2**
JOW				*e*S	**Sn**	**09 32 34.4**	**-1.1**
JOW	**Kunigami**	**2.20**	**78**	P	**Pn**	**09 32 07.2**	**+0.3**
	baz=128,slow=18						
JISG	**Ishigakijimahi**	**2.29**	**218**	P	**Pn**	**09 32 07.4**	**-0.6**
JISG				*e*S	**Sn**	**09 32 35.3**	**-2.0**
JIJ	**Ishigaki jima**	**2.55**	**218**	P	**Pn**	**09 32 10.2**	**-1.1**
JIJ				*e*S	**Sn**	**09 32 39.8**	**-3.5**
JOKE	**Okinoerabujima**	**2.60**	**68**	P	**Pn**	**09 32 11.8**	**0.0**
JOKE				*e*S	**Sn**	**09 32 42.8**	**-1.5**
JKRS	**Kuro-shima**	**2.73**	**218**	P	**Pn**	**09 32 13.6**	**+0.1**
JKRS				*e*S	**Sn**	**09 32 45.5**	**-1.7**
IRIF	**Iriomote-Funau**	**2.82**	**224**	P	**Pn**	**09 32 13.6**	**-1.0**
JTK	**Tokunoshima**	**3.08**	**63**	P	**Pn**	**09 32 17.7**	**-0.2**
JTK				S	**Sn**	**09 32 53.5**	**-1.6**
YOJ	**Yonaguni jima**	**3.22**	**234**	P	**Pn**	**09 32 19.5**	**+0.2**
YOJ				*e*S	**Sn**	**09 32 59.4**	**+1.0**
JYNG	**Yonagunijimaku**	**3.27**	**234**	P	**Pn**	**09 32 20.7**	**+0.3**
JYNG				*e*S	**Sn**	**09 33 00.3**	**+0.7**
JAMN	**Amaminishikomi**	**3.47**	**57**	P	**Pn**	**09 32 22.3**	**-0.6**
JAMN				*e*S	**Sn**	**09 33 01.8**	**-2.3**
JAM	**Amami Oshima**	**3.88**	**58**	P	**Pn**	**09 32 27.6**	**-0.7**
JAM				*e*S	**Sn**	**09 33 11.6**	**-2.1**
JMZ	**Minamidaito 2**	**4.85**	**96**	P	**Pn**	**09 32 40.8**	**-0.2**
JMZ				S	**Sn**	**09 33 32.8**	**-3.8**
KSRS	**Korea Array**	**11.16**	**8**	P	**Pn**	**09 34 05.8**	**+0.6**
	0.2nm,0.3s,baz=190,slow=13,SNR=4.1						
SONM	**Songino Array**	**26.30**	**330**	P	**P**	**09 36 54.5**	**+2.6**
	1.4nm,0.4s,baz=144,slow=11,SNR=8.1						
KAPI	**Kappang**	**31.78**	**192**	LR	LR	09 52 30.3	
	comp=Z,23nm,18.4s,baz=190,slow=40						
MKAR	**Makanchi Array**	**39.85**	**312**	P	**P**	**09 38 48.1**	**-1.0**
	1.4nm,0.6s,baz=99,slow=9.9,SNR=21						
ZALV	**Zalesovo Beam**	**40.84**	**324**	P	**P**	**09 38 55.7**	**-1.3**
	0.6nm,0.3s,baz=101,slow=7.5,SNR=3.2						
KURBB	**Kurchatov Arra**	**43.28**	**317**	P	**P**	**09 39 15.8**	**-1.1**
	0.3nm,0.3s,baz=108,slow=8.4,SNR=6.5						
WRA	**Warramunga Arr**	**46.79**	**169**	P	**P**	**09 39 43.7**	**-1.2**
	0.9nm,0.7s,baz=11,slow=8.6,SNR=10						
ASAR	**Alice Springs**	**50.37**	**170**	P	**P**	**09 40 13.8**	**+1.6**
	0.7nm,0.7s,baz=357,slow=5.6,SNR=13						
STKA	**Stephens Creek**	**59.86**	**165**	P	**P**	**09 41 21.8**	**+1.7**
	1.1nm,0.6s,baz=3.6,slow=5.4,SNR=4.5						
FINES	**FINESS Array B**	**71.67**	**330**	P	**P**	**09 42 34.5**	**-0.9**
	4.0nm,1.0s,baz=62,slow=3.3,SNR=6.2						
YKA	**Yellowknife Ar**	**79.26**	**24**	P	**P**	**09 43 19.2**	**+0.6**
	0.3nm,0.5s,baz=302,slow=5.3,SNR=5.8						

NIED ***12*** *09:36:00, 43˚.30N×147˚.20E, h59km, Mw3.7 Best double couple: M0 4

comp=E,1μm,0.5s
YUK Yuzh-Kuril'sk 1.21 306 *e*P **Pn 09 36 29.0 -0.3**
YUK AMB AMB 09 36 29.2
comp=E,69nm,0.0s
YUK AMB AMB 09 36 29.2
comp=E,520nm,0.0s
YUK *e*S **Sn 09 36 44.0 -0.5**
YUK A A 09 36 46.8
comp=E,430nm,0.5s
YUK A A 09 36 46.8
comp=E,1μm,0.5s
JRA Rausu 1.64 292 P **Pn 09 36 35.2 +0.1**
JRA *e*S **Sn 09 36 55.5 +0.5**
JNK Nakash 1.84 279 P **Pn 09 36 37.8 -0.1**
JNK *e*S **Sn 09 36 59.2 -0.8**
JAK Akkeshi 1.88 261 P **Pn 09 36 38.3 0.0**
JAK *e*S **Sn 09 37 00.8 0.0**
KUR Kuril'sk 1.96 13 *e*PN **Pn 09 36 42.0 +2.6**
KUR *e*S **Sn 09 37 01.5 -1.3**
KUR pmax pmax
comp=N,32nm,0.1s
KUR pmax pmax
comp=E,18nm,0.1s
KUR pmax pmax
comp=Z,37nm,0.1s
KUR smax smax
comp=N,124nm,0.2s
KUR smax smax
comp=E,129nm,0.2s
KUR Kuril'sk 1.96 13 *e*P **Pn 09 36 40.0 +0.6**
KUR AMB AMB 09 36 43.5
comp=E,330nm,0.1s
KUR AMB AMB 09 36 43.5
comp=E,19nm,0.1s
KUR AMB AMB 09 36 43.5
comp=E,37nm,0.1s
KUR *e*S **Sn 09 37 01.5 -1.3**
KUR A A 09 37 05.0
comp=E,124nm,0.2s
KUR A A 09 37 05.0
comp=E,130nm,0.2s
JTKR Abashiri--Toko 2.49 286 P **Pn 09 36 47.0 +0.3**
JOB Onbets 2.52 261 P **Pn 09 36 47.6 +0.5**
JOB *e*S **Sn 09 37 17.0 +0.4**
JAR Ashorobuto 2.52 270 P **Pn 09 36 47.7 +0.5**
JAR *e*S **Sn 09 37 17.5 +0.8**
JMP Maruseppu 2.88 285 P **Pn 09 36 53.6 +1.4**
JCH Churui 2.92 257 P **Pn 09 36 52.9 +0.2**
JCH *e*S **Sn 09 37 25.6 -0.9**
HRK Horoka 2.99 274 *e*P **Pn 09 36 55.3 +1.7**
JKK2 Kamakawa 2 3.30 281 P **Pn 09 36 59.5 +1.7**
JFR Furan 3.39 269 P **Pn 09 37 00.6 +1.5**
JKA Kamikawa-asahi 3.44 285 *e*P **Pn 09 37 00.7 +0.9**
ASAJ Asahikawa 3.44 285 P **Pn 09 37 01.4 +1.6**
ASAJ Asahikawa 3.44 285 P **Pn 09 37 00.7 +0.9**
comp=E,2.6nm,0.3s,baz=84,slow=15,SNR=10
ASAJ Asahikawa 3.44 285 PN **Pn 09 37 00.7 +0.9**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
JNBK Urakawa-nobuka 3.45 254 P **Pn 09 37 00.3 +0.3**
JBT2 Biratori 2 3.60 263 P **Pn 09 37 02.7 +0.7**
YSS Yuzh-Sakhalins 4.81 320 *e*P **Pn 09 37 20.0 +1.5**
MJAR Matsushiro Arr 9.69 229 P Pn 09 38 34.7 +9.2
baz=42,slow=13,SNR=3.2
HHC Hu-ho-hao-te 26.46 277 SS 09 47 38.1
HHC AMB AMB
comp=Z,34nm,9.2s
HHC LR LR
comp=N,87nm,21.1s
HHC LR LR
comp=E,120nm,21.5s
HHC LR LR
comp=Z,79nm,21.4s
SONM Songino Array 28.68 293 P **P 09 42 01.4 +0.2**
comp=Z,1.0nm,0.7s,baz=87,slow=8.8,SNR=4.6
SONM Songino Array 28.68 293 P **P 09 42 01.4 +0.2**
SONM pmax pmax
comp=Z,1.0nm,0.7s
H11N2 WAKE ISLAND Hy 28.75 139 T T 10 12 47.8
baz=330,slow=76,SNR=38
H11N1 WAKE ISLAND Hy 28.76 139 T T 10 12 48.0
baz=330,slow=76,SNR=42
H11N3 WAKE ISLAND Hy 28.77 139 T T 10 12 48.0
baz=330,slow=76,SNR=43
H11S1 WAKE ISLAND Hy 29.71 140 T T 10 14 00.0
baz=331,slow=76,SNR=98
H11S3 WAKE ISLAND Hy 29.71 140 T T 10 14 02.2
baz=331,slow=76,SNR=60
H11S2 WAKE ISLAND Hy 29.73 140 T T 10 14 03.7
baz=331,slow=76,SNR=38
ILAR Eielson Array 41.80 36 P **P 09 43 52.8 -0.4**
comp=Z,0.1nm,0.4s,baz=254,slow=6.6,SNR=4.1
MKAR Makanchi Array 44.83 298 P **P 09 44 17.9 -0.1**
comp=Z,0.9nm,0.5s,baz=81,slow=8.7,SNR=12
MKAR Makanchi Array 44.83 298 P **P 09 44 17.9 -0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 65.27 333 P **P 09 46 44.2 -0.9**
comp=Z,2.3nm,1.0s,baz=45,slow=5.7,SNR=9.2
AKASG Malin Array Be 71.95 324 P **P 09 47 26.8 -0.1**
comp=Z,0.4nm,0.4s,baz=39,slow=7.3,SNR=2.9
TXAR Lajitas Array 82.84 56 P **P 09 48 28.8 +0.4**
comp=Z,0.3nm,0.6s,baz=284,slow=2.8,SNR=5.1

JMA ***12*** *09:47:52.5±0.3, 32.98N × 142.48E, h14km, M3.7*
ISCJB ***12*** *09:47:55.7±1.1, 33.11N±0.10 × 142.5E±0.1, h40km, mb3.5/3, MS3.4/1, Error ellipse: s-maj=20.7km s-min=8.2km az=145.0*
IDC ***12*** *09:48:01.1±3.4, 32.42N × 140.33E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/35, mbtmp3.3/4, ML3.1/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/20, Error ellipse: s-maj=136.2km s-min=22.1km az=72.0*
ISC 12 09:47:58.1±1.7, 33.04N±0.10 × 142.4E±0.2, h40km, n16, σ0 91/18, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.99**	**324**	P	**Pn**	**09 48 27.9**	**-0.8**
JHJ2	**Mitsune**	**2.16**	**273**	P	**Pn**	**09 48 30.3**	**-1.2**
BSO2	**Boso 2**	**2.18**	**322**	S	**Sn**	**09 48 58.9**	**+1.7**
BSO3	**Boso 3**	**2.35**	**319**	P	**Pn**	**09 48 33.1**	**-0.8**
BSO4	**Boso 4**	**2.58**	**319**	P	**Pn**	**09 48 36.9**	**-0.4**
JOD2	**Odawara 2**	**3.52**	**310**	P	**Pn**	**09 48 49.7**	**-0.5**
JOD2				S	Sn	09 49 32.0	+1.4
JYN	**Shimob**	**4.01**	**309**	P	**Pn**	**09 48 57.4**	**+0.3**
JYN				S	Sn	09 49 45.0	+2.1
JRY	**Ryogami san**	**4.13**	**317**	P	**Pn**	**09 48 58.3**	**-0.4**
JRY				S	**Sn**	**09 49 47.0**	**+1.2**
JAG	**Ashikaga**	**4.15**	**325**	P	**Pn**	**09 48 58.3**	**-0.6**
JAG				S	**Sn**	**09 49 44.5**	**-1.7**
JFT	**Otama**	**4.77**	**340**	P	**Pn**	**09 49 06.6**	**-0.8**
MJAR	**Matsushiro Arr**	**4.90**	**317**	Pn	**Pn**	**09 49 09.2**	**0.0**
	1.1nm,0.3s,baz=156,slow=12,SNR=17						
MJAR				Sn	**Sn**	**09 50 04.8**	**+0.1**
	0.6nm,0.3s,baz=175,slow=32,SNR=4.9						
MAT	**Matsushiro**	**4.90**	**317**	P	**Pn**	**09 49 08.9**	**-0.3**
MAT				*e*S	**Sn**	**09 50 04.1**	**-0.6**
SEY	**Seymchan**	**30.57**	**9**	LR	LR	10 08 28.4	
	comp=Z,77nm,19.6s,baz=22,slow=39						
MKAR	**Makanchi Array**	**47.00**	**305**	P	**P**	**09 56 25.6**	**+0.3**
	0.3nm,0.5s,baz=97,slow=7.0,SNR=3.6						
WRA	**Warramunga Arr**	**53.24**	**189**	P	**P**	**09 57 13.1**	**+0.4**
	0.2nm,0.4s,baz=5.5,slow=7.8,SNR=2.6						
ASAR	**Alice Springs**	**56.97**	**189**	P	P	09 57 44.2	+4.7
	0.4nm,0.8s,baz=16,slow=6.9,SNR=3.9						

MEX 12 09:48:03.1±1.0, 17.67N × 95.83W, h128km±15km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**1.05**	**235**	*i* P	Pn	09 48 25.0	-1.6
VHO				*i* S	Sn	09 48 43.1	-1.3
CMIG	**Matias Romero**	**1.07**	**122**	*i* P	Pn	09 48 26.0	-0.6
CMIG				*i* S	Sn	09 48 41.7	-2.7
HUIG	**Huatulco**	**1.91**	**188**	*e*P	Pn	09 48 34.0	-1.9
HUIG				*i* S	Sn	09 48 59.4	-1.7
PNIG	**Pinotepa**	**2.54**	**240**	*e*P	Pn	09 48 41.9	-1.8
PNIG				*e*S	Sn	09 49 14.2	-0.9
TLIG	**Tlapa**	**2.61**	**268**	*i* P	Pn	09 48 42.9	-1.9
TLIG				*i* S	Sn	09 49 15.2	-1.7

IDC 12 09:50:38.6±2.8, 1.07N × 127.85E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/39, mbtmp3.2/3, Error ellipse: s-maj=238.1km s-min=26.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.83**	**163**	P	P	09 55 33.1	+0.3
	0.4nm,0.7s,baz=343,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**25.28**	**167**	P	P	09 56 06.7	-0.2
	0.2nm,0.4s,baz=348,slow=8.8,SNR=6.8						
MKAR	**Makanchi Array**	**60.36**	**326**	P	P	10 00 49.5	-0.1
	0.2nm,0.3s,baz=110,slow=8.3,SNR=5.0						

IDC 12 09:53:19.7±7.1, 30.47S × 178.69W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/17, mbtmp3.3/2, Error ellipse: s-maj=293.2km s-min=58.2km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.51**	**267**	P	P	10 01 16.3	-0.8
	0.3nm,0.8s,baz=99,slow=7.8,SNR=3.1						
WRA	**Warramunga Arr**	**43.51**	**273**	P	P	10 01 24.3	-0.8
	0.5nm,1.1s,baz=110,slow=7.9,SNR=6.1						
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc	PKPdf	10 12 57.9	-0.3
	0.8nm,0.4s,baz=47,slow=2.5,SNR=8.3						

IDC ***12*** *10:01:07.4±2.9, 54.16N × 87.23E, h0km, mb1 3.0/2, mb1mx2.9/29, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=25.0km s-min=16.2km az=63.0*
NNC ***12*** *10:01:11.2±3.3, 53.97N × 87.05E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=27.0km s-min=21.8km az=178.0*
ISC 12 10:01:10.4±4.4, 54.3N±0.2 × 87.3E±0.2, h35km, n7, σ0 95/10, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.51**	**259**	*i*		10 10 20.0	
	baz=80,slow=321,SNR=3.3						
ZALV	**Zalesovo Beam**	**1.51**	**259**	Pg	**Pn**	**10 01 34.1**	**-0.8**
	3.1nm,0.3s,baz=84,slow=13,SNR=8.1						
ZALV				Lg	Lg	10 01 52.4	
	2.4nm,0.3s,baz=82,slow=25,SNR=5.4						
KURK	**Kurchatov**	**6.39**	**240**	⇑Pn	**Pn**	**10 02 43.2**	**+1.3**
	1.9nm,1.3s						
KURK				⇑Sn	**Sn**	**10 03 54.8**	**+1.2**
	0.8nm,1.4s						
KURK				⇓Lg	Lg	10 04 28.4	
	1.7nm,1.1s						
KURBB	**Kurchatov Arra**	**6.49**	**239**	⇑Pn	**Pn**	**10 02 43.8**	**+0.5**
	0.4nm,0.2s						
KURBB				⇓Sn	**Sn**	**10 03 55.2**	**-0.9**
	2.6nm,0.8s						
KURBB				⇑Lg	Lg	10 04 30.6	
	8.2nm,1.4s						
KURBB	**Kurchatov Arra**	**6.49**	**239**	Pn	**Pn**	**10 02 43.3**	**0.0**
	0.1nm,0.3s,baz=56,slow=14,SNR=4.1						
KURBB				Lg	Lg	10 04 31.5	
	0.0nm,0.3s,baz=59,slow=32,SNR=4.0						
MK31	**Makanchi Array**	**8.13**	**205**	⇑Pn	**Pn**	**10 03 06.2**	**+0.3**
	1.0nm,1.0s,baz=28,slow=14,SNR=15						
MK31				⇓Sn	**Sn**	**10 04 35.7**	**-0.8**
	0.4nm,0.8s						
MK31				⇓Lg	Lg	10 05 22.0	
	1.8nm,0.9s,baz=30,slow=28,SNR=3.8						
MKAR	**Makanchi Array**	**8.13**	**205**	Pn	**Pn**	**10 03 06.3**	**+0.4**
	0.1nm,0.3s,baz=26,slow=14,SNR=10						
MKAR				Sn	**Sn**	**10 04 35.8**	**-0.7**
	0.1nm,0.3s,baz=29,slow=21,SNR=2.6						
MKAR				Lg	Lg	10 05 24.0	
	0.0nm,0.3s,baz=28,slow=34,SNR=3.7						

NIED ***12*** *10:02:00, 23.70N × 122.00E, h47km, Mw3.8 Best double couple: M0 6.53000×10^14 NP1:φs 18.00000°, δ 34.00000°, λ -89.00000°. NP2:φs 197.00000°, δ 56.00000°, λ -91.00000°.*
JMA ***12*** *10:02:48.0±0.2, 23.71N × 122.01E, h0km, M3.5*
ISCJB ***12*** *10:02:49.8±0.4, 23.71N±0.02 × 122.06E±0.02, h16km±4km, Error ellipse: s-maj=3.2km s-min=1.9km az=139.5*
TAP ***12*** *10:02:50.9, 23.77N × 121.94E, h14km, ML3.7, D*
ISC 12 10:02:49.0±1.1, 23.72N±0.02 × 122.02E±0.02, h13km±9km, n65, σ0 73/128, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.44**	**269**	P	**Pn**	**10 03 00.7**	**-0.3**
	baz=260						
TEGC				S	**Sb**	**10 03 07.7**	**+2.5**
	baz=260						
HWA	**Hwalien**	**0.46**	**304**	P	**Pb**	**10 02 60.0**	**+1.0**
	baz=304						
HWA				S	**Sb**	**10 03 04.9**	**-0.9**
	baz=304						
TWD	**Chiawan**	**0.53**	**313**	P	**Pb**	**10 03 00.9**	**+0.7**
	baz=315						
TWD				S	**Sb**	**10 03 08.0**	**+0.2**
	baz=315						
ESL	**Shilin**	**0.55**	**280**	*i* P	**Pb**	**10 03 00.8**	**+0.3**
	baz=275						
ESL				*i* S	**Sb**	**10 03 08.1**	**-0.2**
	baz=275						
EHY	**Hungye**	**0.67**	**252**	*i* P	**Pb**	**10 03 03.3**	**+0.7**
	baz=245						
EHY				*i* S	**Sb**	**10 03 12.6**	**+0.7**
	baz=245						
ENA	**Nanau**	**0.75**	**340**	P	**Pb**	**10 03 04.6**	**+0.6**
	baz=344						
ENA				*e*S	**Sb**	**10 03 14.7**	**+0.5**
	baz=344						
TWF1	**Yuli**	**0.76**	**241**	*i* P	**Pn**	**10 03 05.0**	**-0.4**
	baz=234						
TWF1				*i* S	**Sb**	**10 03 15.2**	**+0.9**
	baz=234						
WHF	**Hehuan Shan**	**0.81**	**302**	P	**Pb**	**10 03 05.4**	**+0.1**
	baz=301						
WHF				*e*S	**Sb**	**10 03 15.6**	**-0.7**
	baz=301						
CHKT	**Chengkung**	**0.86**	**225**	*e*P	**Pg**	**10 03 05.4**	**-0.2**
	baz=218						
CHKT				*e*S	**Sg**	**10 03 16.2**	**-0.6**
	baz=218						
TWC	**Suao**	**0.90**	**350**	*e*P	**Pn**	**10 03 07.5**	**0.0**
	baz=354						
TWC				S	**Sb**	**10 03 19.2**	**+0.7**
	baz=354						
NNS	**Nan Shan**	**0.93**	**321**	P	**Pb**	**10 03 07.4**	**+0.3**
	baz=322						
NNS				S	**Sg**	**10 03 19.1**	**-0.1**
	baz=322						
TWT	**Tachien**	**0.94**	**305**	P	**Pn**	**10 03 07.8**	**-0.3**
	baz=303						
TWT				S	**Sg**	**10 03 19.2**	**-0.3**
	baz=303						
YUS	**Yu-Shan**	**1.00**	**257**	*e*P	**Pn**	**10 03 09.2**	**-0.1**
	baz=252						
YUS				S	**Sg**	**10 03 21.2**	**-0.4**
	baz=252						
ENTT	**Nioudou**	**1.01**	**336**	P	**Pn**	**10 03 08.8**	**-0.1**
	baz=338						
ENTT				S	**Sg**	**10 03 21.4**	**-0.3**
	baz=338						
SMLT	**Sun Moon Lake**	**1.04**	**279**	*e*P	**Pb**	**10 03 09.1**	**+0.2**
	baz=276						
SMLT				S	**Sb**	**10 03 22.8**	**+0.3**
	baz=276						
TWE	**Neicheng**	**1.05**	**342**	*e*P	**Pn**	**10 03 09.9**	**+0.5**
	baz=345						
TWE				*e*S	**Sb**	**10 03 23.1**	**+0.4**
	baz=345						
ELDTW	**Lidau**	**1.06**	**241**	*e*P	**Pg**	**10 03 09.1**	**-0.4**
	baz=235						
ELDTW				*e*S	**Sg**	**10 03 21.4**	**-1.9**
	baz=235						
TYC	**Yuchr**	**1.08**	**280**	P	**Pg**	**10 03 09.7**	**-0.2**
	baz=278						
TYC				*e*S	**Sb**	**10 03 23.8**	**+0.1**
	baz=278						
JYNG	**Yonagunijimaku**	**1.12**	**49**	P	**Pn**	**10 03 10.7**	**+0.3**
JYNG				S	**Sg**	**10 03 25.0**	**-0.1**
EGS		**1.13**	**356**	*e*P	**Pn**	**10 03 10.6**	**+0.1**
EGS				*e*S	**Sn**	**10 03 25.8**	**-0.1**
NSK	**Sanguang**	**1.13**	**328**	*e*P	**Pb**	**10 03 10.3**	**-0.2**
	baz=329						
NSK				*e*S	**Sb**	**10 03 23.6**	**-1.6**
	baz=329						
ALS	**Alishan**	**1.13**	**260**	*e*P	**Pn**	**10 03 11.3**	**+0.5**
	baz=256						
ALS				S	**Sg**	**10 03 25.9**	**+0.2**
	baz=256						
YOJ	**Yonaguni jima**	**1.17**	**50**	P	**Pg**	**10 03 11.8**	**+0.3**
YOJ				S	**Sb**	**10 03 26.4**	**+0.2**
WNT	**Mingjian**	**1.23**	**278**	*e*P	**Pg**	**10 03 13.2**	**+0.4**
	baz=275						
WNT				*e*S	**Sn**	**10 03 28.8**	**+0.3**
	baz=275						
CHN5	**Tsauling**	**1.24**	**265**	*e*P	**Pg**	**10 03 12.9**	**+0.2**
	baz=261						
CHN5				S	**Sn**	**10 03 29.0**	**+0.3**
	baz=261						
TWG	**Pinlang**	**1.25**	**225**	*e*P	**Pn**	**10 03 11.3**	**-0.8**
	baz=220						
TWG				*e*S	**Sb**	**10 03 25.6**	**-2.8**
	baz=220						
TTN	**Taitung**	**1.25**	**220**	*e*P	**Pn**	**10 03 11.8**	**-0.4**
	baz=215						
TTN				*e*S	**Sb**	**10 03 28.2**	**-0.3**
	baz=215						
STYT	**Tauyuan**	**1.28**	**245**	*e*P	**Pn**	**10 03 13.0**	**+0.3**
	baz=240						
STYT				*e*S	**Sb**	**10 03 28.6**	**-0.9**
	baz=240						
TWB1	**Santiao Chiao**	**1.29**	**359**	*e*P	**Pb**	**10 03 13.2**	**+0.2**
	baz=2.0						
TWB1				*e*S	**Sb**	**10 03 28.7**	**-0.9**
	baz=2.0						
NSTT	**Nanjuang**	**1.30**	**315**	*e*P	**Pb**	**10 03 13.4**	**0.0**
	baz=315						
NSTT				S	**Sb**	**10 03 30.0**	**0.0**
	baz=315						
TWQ1	**Liyutan**	**1.30**	**299**	*e*P	**Pg**	**10 03 14.1**	**+0.1**
	baz=298						
TWQ1				S	**Sg**	**10 03 30.6**	**-0.4**
	baz=298						
TCU	**Taichung**	**1.30**	**290**	*e*P	**Pg**	**10 03 14.4**	**+0.4**
	baz=288						
TCU				*e*S	**Sb**	**10 03 29.2**	**-0.8**
	baz=288						
TWA	**Mucha**	**1.32**	**343**	*e*P	**Pg**	**10 03 14.4**	**0.0**
	baz=345						
TWA				*e*S	**Sb**	**10 03 30.4**	**-0.1**
	baz=345						
WGK	**Gukeng**	**1.34**	**269**	*e*P	**Pg**	**10 03 15.9**	**+1.2**
	baz=266						
WGK				S	**Sn**	**10 03 31.5**	**+0.5**
	baz=266						
NSY	**Sanyi**	**1.34**	**301**	*e*P	**Pg**	**10 03 15.2**	**+0.3**
	baz=301						
NSY				*e*S	**Sg**	**10 03 32.4**	**0.0**
	baz=301						
CHN4	**Tsaushan**	**1.36**	**255**	*e*P	**Pg**	**10 03 15.5**	**+0.4**
	baz=251						
CHN4				*e*S	**Sg**	**10 03 33.4**	**+0.6**
	baz=251						
NWF	**Wu-fen Shan**	**1.37**	**351**	*e*P	**Pg**	**10 03 15.1**	**-0.2**
	baz=353						
NWF				*e*S	**Sn**	**10 03 32.4**	**+0.4**
	baz=353						
WTP	**Ta-pu**	**1.37**	**250**	*e*P	**Pg**	**10 03 15.1**	**-0.3**
	baz=246						
WTP				*e*S	**Sg**	**10 03 33.3**	**0.0**
	baz=246						
CHN2	**Minshiung**	**1.43**	**263**	*e*P	**Pn**	**10 03 14.4**	**-0.2**
	baz=260						
CHN2				*e*S	**Sg**	**10 03 34.8**	**-0.2**
	baz=260						
HSN	**Hsinchu**	**1.45**	**319**	*e*P	**Pb**	**10 03 16.0**	**+0.2**
	baz=321						
HSN				*e*S	**Sg**	**10 03 34.8**	**-0.7**
	baz=321						
NCU	**National Centr**	**1.46**	**329**	*e*P	**Pn**	**10 03 14.7**	**-0.4**
	baz=330						
NCU				*e*S	**Sn**	**10 03 34.4**	**+0.2**
	baz=330						
SGST	**Jiashian**	**1.46**	**245**	*e*P	**Pg**	**10 03 17.4**	**+0.3**
	baz=241						
SGST				*e*S	**Sg**	**10 03 35.6**	**-0.6**
	baz=241						
CHN1	**Nanshi**	**1.47**	**249**	*e*P	**Pg**	**10 03 17.5**	**+0.3**
	baz=245						
CHN1				*e*S	**Sb**	**10 03 35.6**	**+0.8**
	baz=245						
TWK	**Hsinying**	**1.48**	**253**	*e*P	**Pb**	**10 03 16.6**	**+0.2**
	baz=249						
TWK				*e*S	**Sb**	**10 03 35.8**	**+0.7**
	baz=249						
CHY	**Chiayi**	**1.48**	**262**	*e*P	**Pg**	**10 03 17.1**	**-0.3**
	baz=259						
CHY				*e*S	**Sg**	**10 03 36.0**	**-0.7**
	baz=259						
TWS1	**Kuangyinshan**	**1.48**	**338**	*e*P	**Pn**	**10 03 14.7**	**-0.7**
	baz=340						
TWS1				*e*S	**Sb**	**10 03 35.5**	**+0.3**
	baz=340						
WTCT	**Ta-ch'eng**	**1.60**	**276**	*e*P	**Pb**	**10 03 18.9**	**+0.5**
	baz=273						
WTCT				*e*S	**Sb**	**10 03 39.0**	**+0.4**
	baz=273						
SSD	**Sandimen**	**1.60**	**233**	*e*P	**Pb**	**10 03 18.7**	**+0.3**
	baz=229						
SSD				*e*S	**Sb**	**10 03 39.4**	**+0.8**
	baz=229						
CHN3	**Shinhua**	**1.65**	**248**	*e*P	**Pn**	**10 03 17.1**	**-0.6**
	baz=244						
CHN3				*e*S	**Sg**	**10 03 41.9**	**-0.2**
	baz=244						
WSF	**Szhu**	**1.65**	**268**	*e*P	**Pb**	**10 03 19.7**	**+0.4**
	baz=265						
WSF				*e*S	**Sb**	**10 03 39.6**	**-0.4**
	baz=265						
HATJ	**Hateruma jima**	**1.67**	**78**	P	**Pn**	**10 03 18.5**	**+0.5**
HATJ				*e*S	**Sn**	**10 03 38.7**	**-0.6**
IRIF	**Iriomote-Funau**	**1.68**	**68**	P	**Pn**	**10 03 18.9**	**+0.8**
IRIF				S	**Sn**	**10 03 39.6**	**0.0**
CHN8	**Yiju**	**1.70**	**258**	*e*P	**Pb**	**10 03 20.8**	**+0.6**
	baz=255						
CHN8				*e*S	**Sb**	**10 03 41.4**	**-0.1**
	baz=255						
EAST	**Anshuo**	**1.71**	**219**	*e*P	**Pn**	**10 03 19.2**	**+0.6**
	baz=215						
EAST				*e*S	**Sn**	**10 03 39.2**	**-1.1**
	baz=215						
TWM1	**Shoushan**	**1.72**	**239**	*e*P	**Pg**	**10 03 22.1**	**+0.1**
	baz=235						
TWM1				*e*S	**Sb**	**10 03 42.1**	**+0.2**
	baz=235						
LAY	**Lan-yu**	**1.73**	**195**	*e*P	**Pn**	**10 03 18.4**	**-0.4**
	baz=191						
SCZT	**Fangliau**	**1.86**	**224**	*e*P	**Pb**	**10 03 23.4**	**+0.6**
	baz=221						
SCZT				*e*S	**Sb**	**10 03 45.6**	**-0.5**
	baz=221						
JKRS	**Kuro-shima**	**1.89**	**74**	P	**Pn**	**10 03 21.9**	**+0.9**
JKRS				S	**Sn**	**10 03 45.1**	**+0.3**
JIJ	**Ishigaki jima**	**2.04**	**71**	P	**Pn**	**10 03 23.5**	**+0.4**
JIJ				S	**Sn**	**10 03 47.4**	**-1.2**
TSEB	**Hengchuen, Pin**	**2.08**	**210**	*e*P	**Pn**	**10 03 25.3**	**+1.6**
	baz=208						
TSEB				*e*S	**Sn**	**10 03 51.1**	**+1.6**
	baz=208						
WDGT	**Dungji**	**2.21**	**259**	*e*P	**Pn**	**10 03 26.1**	**+0.6**
	baz=256						
WDGT				*e*S	**Sn**	**10 03 50.8**	**-1.9**
	baz=256						
JISG	**Ishigakijimahi**	**2.27**	**67**	P	**Pn**	**10 03 26.4**	**+0.2**
JISG				*e*S	**Sn**	**10 03 52.3**	**-1.7**
PNG	**Penghu**	**2.27**	**267**	*e*P	**Pn**	**10 03 27.1**	**+0.9**
	baz=264						
PNG				*e*S	**Sn**	**10 03 52.7**	**-1.3**
	baz=264						
JTJ	**Tarama**	**2.62**	**69**	P	**Pn**	**10 03 31.8**	**+0.8**
JTJ				*e*S	**Sn**	**10 04 01.9**	**-0.8**
JIRB	**Irabujima**	**3.08**	**68**	*e*S	**Sn**	**10 04 12.4**	**-1.8**

IDC 12 10:07:40.0±2.6, 22.04S × 170.13E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.5/18, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=71.2km s-min=40.0km az=161.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.42**	**269**	Pn	Pn	10 08 36.0	+1.3
	4.0nm,0.3s,baz=90,slow=20,SNR=142						
DZM				Sn	Sn	10 09 15.8	-0.2
	11nm,0.3s,baz=90,slow=24,SNR=12						
STKA	**Stephens Creek**	**27.18**	**243**	P	P	10 13 25.5	+0.1
	1.2nm,0.8s,baz=90,slow=8.3,SNR=4.3						
ASAR	**Alice Springs**	**33.37**	**260**	P	P	10 14 20.2	-0.1
	0.2nm,0.7s,baz=102,slow=8.6,SNR=2.7						
WRA	**Warramunga Arr**	**33.43**	**267**	P	P	10 14 20.0	-0.8
	0.2nm,0.5s,baz=98,slow=8.2,SNR=4.2						
GERES	**GERESS Array B**	**147.34**	**331**	PKPbc	PKPbc	10 27 25.1	-0.5
	0.3nm,0.5s,baz=22,slow=5.4,SNR=3.7						

*IDC **12** 10:12:48.9±1.5,0.7°45N×122.0°02E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/23,mbtmp3.7/4, Error ellipse: s-maj=212.1km s-min=23.8km az=61.0*
*ISCJB **12** 10:13:09.6±0.8,0.2°2N±0.1°×121.6°6E±0.1°,h211km±5km, mb3.5/4,Error ellipse: s-maj=23.2km s-min=13.6km az=44.7*
*DJA **12** 10:13:15.2±0.9,0.7°N±5.5°×122.2°E±°,h177km±7km,M3.1/5, MLv3.1/5*
ISC 12 10:13:10.9±1.0,0.3°N±0.1°×121.7°E±0.1°,h207km±7km,n8, σ1ᵖ61/11,mb3.6/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.31**	**47**	P	**Pn**	**10 13 38.9**	**+0.6**
MRSI				S	**S**	**10 13 58.8**	**-0.8**
APSI	**Ampana**	**1.17**	**183**	P	**Pn**	**10 13 45.0**	**+2.4**
APSI				S	**S**	**10 14 06.7**	**-0.5**
LUWI	**Luwuk**	**1.67**	**141**	P	**Pn**	**10 13 47.6**	**+0.8**
LUWI				S	**S**	**10 14 13.6**	**-0.8**
MPSI	**Mapaga**	**1.82**	**272**	P	Pn	10 13 51.9	+3.7
MPSI				S	**S**	**10 14 14.5**	**-2.2**
WRA	**Warramunga Arr**	**23.59**	**149**	P	**P**	**10 18 01.6**	**-1.6**
	1.0nm,0.6s,baz=326,slow=11,SNR=20						
ASAR	**Alice Springs**	**26.57**	**154**	P	**P**	**10 18 29.3**	**-0.8**
	0.5nm,0.5s,baz=343,slow=10,SNR=9.4						
STKA	**Stephens Creek**	**37.09**	**151**	P	**P**	**10 20 01.0**	**-0.6**
	1.7nm,1.0s,baz=323,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**57.72**	**329**	P	**P**	**10 22 41.4**	**+1.3**
	0.5nm,0.5s,baz=126,slow=8.9,SNR=6.4						

IDC 12 10:21:44.5±2.3,5.1°3S×152.6°1E,h0km,mb3.2/3, mb1 3.6/3,mb1mx3.3/18,mbtmp3.2/3,Error ellipse: s-maj=152.6km s-min=30.4km az=127.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.08**	**229**	P	P	10 26 50.8	-1.2
	0.7nm,1.0s,baz=54,slow=10,SNR=3.9						
ASAR	**Alice Springs**	**25.78**	**223**	P	P	10 27 17.3	0.0
	0.4nm,0.8s,baz=50,slow=8.9,SNR=3.4						
ILAR	**Eielson Array**	**82.54**	**22**	P	P	10 34 07.9	-1.0
	0.2nm,0.7s,baz=257,slow=5.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**150.22**	**288**	PKPbc	PKPbc	10 41 39.9	+1.2
	0.5nm,0.9s,baz=104,slow=3.6,SNR=2.7						

*IDC **12** 10:24:56.6±1.3,30.1°11S×179.5°6W,h345km±13km,mb2.9/3, mb1 3.1/4,mb1mx2.9/19,mbtmp3.7/4,Error ellipse: s-maj=27.1km s-min=23.2km az=51.0*
ISC 12 10:25:00.2±1.6,30.5°5S±0.1°×180.0°0E±0.3°,h350km,n13, σ1ᵖ74/15,mb3.2/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.24**	**56**	P	Pn	10 25 45.4	-7.8
	63nm,0.3s,baz=252,slow=20,SNR=2.2						
RAO				S	S	10 26 17.1	-19
	40nm,0.3s,baz=210,slow=20,SNR=1.9						
WMGZ	**Waiomatatini S**	**7.40**	**189**	SN	**S**	**10 28 17.0**	**+2.9**
HAZ	**Te Kaha**	**7.44**	**193**	*e*PN	**Pn**	**10 26 49.1**	**+1.5**
HAZ				SN	**S**	**10 28 17.5**	**+2.4**
PUZ	**Puketiti**	**7.67**	**190**	*e*PN	**Pn**	**10 26 51.0**	**+0.7**
PUZ				SN	**S**	**10 28 17.8**	**-2.3**
URZ	**Urewera**	**8.08**	**196**	P	**P**	**10 26 56.7**	**-1.4**
	0.4nm,0.3s,baz=66,slow=12,SNR=12						
URZ				S	**S**	**10 28 28.6**	**-0.2**
	1.7nm,0.3s,baz=322,slow=23,SNR=10						
URZ	**Urewera**	**8.08**	**196**	*e*PN	**P**	**10 26 56.7**	**-1.4**
URZ				SN	**S**	**10 28 28.6**	**-0.2**
ARHZ	**Aropaoanui**	**9.06**	**195**	PN	**Pn**	**10 27 07.0**	**+0.2**
ASAR	**Alice Springs**	**41.34**	**268**	P	**P**	**10 32 13.0**	**-0.3**
	0.3nm,0.8s,baz=101,slow=7.2,SNR=5.0						
WRA	**Warramunga Arr**	**42.34**	**273**	P	**P**	**10 32 21.6**	**+0.3**
	1.3nm,0.7s,baz=111,slow=8.0,SNR=16						
QSPA	**South Pole Qui**	**59.59**	**180**	P	**P**	**10 34 28.1**	**+0.1**
	0.6nm,0.6s,baz=58,slow=0.6,SNR=6.5						
FINES	**FINESS Array B**	**144.62**	**339**	PKP	PKPbc	10 43 50.2	-4.2
	2.0nm,0.5s,baz=64,slow=3.1,SNR=14						
AKASG	**Malin Array Be**	**150.30**	**321**	PKPbc	**PKPdf**	**10 44 06.5**	**+2.1**
	0.5nm,0.6s,baz=55,slow=3.0,SNR=2.5						
TORD	**Torodi Ar. Bea**	**162.64**	**186**	PKPab	**PKPab**	**10 45 09.2**	**-2.3**
	0.2nm,0.5s,baz=186,slow=1.3,SNR=3.1						

*ISCJB **12** 10:43:37.7±0.5,25.8°89N±0.0°4×130.0°1E±0.0°3,h10km, mb3.8/8,Error ellipse: s-maj=5.7km s-min=4.2km az=21.9*
*IDC **12** 10:43:38.1±0.8,25.7°7N×130.0°8E,h0km,mb3.9/8, mb1 4.0/10,mb1mx3.8/25,mbtmp3.8/10,ML3.2/2,MS2.8/1, Ms1 2.8/1,ms1mx2.4/31,Error ellipse: s-maj=33.4km s-min=15.9km az=70.0*
*JMA **12** 10:43:39.3±0.1,25.8°3N×130.0°7E,h42km,M3.6*
ISC 12 10:43:38.5±0.7,25.8°8N±0.0°5×130.0°3E±0.0°4,h10km,n24, σ1ᵖ50/35,mb3.9/8,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**1.08**	**93**	P	**Pb**	**10 43 57.8**	**-1.4**
JMZ				S	**Sg**	**10 44 10.6**	**-2.6**
JOW	**Kunigami**	**1.84**	**302**	P	**Pn**	**10 44 10.3**	**+0.1**
JOW				*e*S	**Sn**	**10 44 32.2**	**-1.3**
JOW	**Kunigami**	**1.84**	**302**	Pn	**Pn**	**10 44 10.2**	**+0.1**
	baz=118,slow=17						
JOW				Sn	**Sn**	**10 44 32.0**	**-1.4**
	baz=128,slow=19						
JNTH	**Nagotoyohara**	**1.91**	**290**	P	**Pn**	**10 44 11.0**	**-0.1**
JNTH				*e*S	**Sn**	**10 44 33.2**	**-2.0**
JOKE	**Okinoerabujima**	**1.97**	**319**	P	**Pb**	**10 44 12.7**	**-1.8**
JOKE				S	**Sn**	**10 44 35.4**	**-1.4**
JJT2	**Tamagusuku 2**	**2.07**	**278**	P	**Pn**	**10 44 13.5**	**+0.2**
JJT2				S	**Sn**	**10 44 38.4**	**-0.7**
JTK	**Tokunoshima**	**2.13**	**333**	P	**Pn**	**10 44 14.9**	**+0.7**
JTK				*e*S	**Sn**	**10 44 39.3**	**-1.4**
JIH	**Iheya**	**2.18**	**302**	P	**Pn**	**10 44 15.3**	**+0.5**
JIH				S	**Sn**	**10 44 40.4**	**-1.4**
JZK	**Kikaishima**	**2.43**	**359**	*e*S	**Sn**	**10 44 48.4**	**+0.3**
JAMN	**Amaminishikomi**	**2.48**	**342**	P	**Pn**	**10 44 19.5**	**+0.6**
JAMN				S	**Sn**	**10 44 47.4**	**-1.8**
JAM	**Amami Oshima**	**2.55**	**352**	P	**Pn**	**10 44 20.5**	**+0.5**
JAM				S	**Sn**	**10 44 49.1**	**-2.0**
JAGN	**Aguni-jima**	**2.60**	**286**	P	**Pn**	**10 44 21.0**	**+0.4**
JAGN				S	**Sn**	**10 44 51.1**	**-1.1**
JKE	**Kume jima 2**	**2.95**	**279**	P	**Pn**	**10 44 24.7**	**-0.7**
JKE				S	**Sn**	**10 44 57.7**	**-3.1**
JTAJ	**Takarajima**	**3.35**	**348**	P	**Pn**	**10 44 32.0**	**+1.1**
JTAJ				*e*S	**Sn**	**10 45 08.4**	**-2.3**
JNU	**Nakatsue**	**7.26**	**6**	Pn	Pn	10 45 27.4	+2.8
	0.5nm,0.3s,baz=221,slow=2.7,SNR=4.5						
JNU				Sn	**Sn**	**10 46 45.0**	**-2.2**
	0.2nm,0.3s,baz=180,slow=20,SNR=3.4						
KSRS	**Korea Array**	**11.68**	**352**	Pn	Pn	10 46 28.3	+3.1
	0.1nm,0.3s,baz=170,slow=14,SNR=4.0						
KSRS				LR	LR	10 51 19.9	
	comp=Z,47nm,18.3s,baz=325,slow=39						
MKAR	**Makanchi Array**	**42.97**	**312**	P	**P**	**10 51 40.2**	**+2.4**
	2.2nm,0.7s,baz=100,slow=8.9,SNR=19						
ZALV	**Zalesovo Beam**	**43.51**	**322**	P	**P**	**10 51 44.2**	**+2.3**
	0.8nm,0.5s,baz=116,slow=6.8,SNR=5.4						
WRA	**Warramunga Arr**	**45.74**	**174**	P	**P**	**10 52 00.1**	**+0.1**
	2.2nm,0.8s,baz=354,slow=8.4,SNR=11						
ASAR	**Alice Springs**	**49.39**	**175**	P	**P**	**10 52 28.8**	**+0.3**
	0.8nm,0.8s,baz=351,slow=5.2,SNR=8.8						
STKA	**Stephens Creek**	**58.48**	**168**	P	**P**	**10 53 35.0**	**+0.3**
	1.2nm,0.6s,baz=356,slow=5.4,SNR=5.3						
ILAR	**Eielson Array**	**63.98**	**28**	P	**P**	**10 54 12.8**	**+1.0**
	0.3nm,0.8s,baz=265,slow=5.2,SNR=3.1						
KBZ	**Khabaz**	**70.63**	**310**	P	P	10 54 57.9	+3.7
	0.5nm,0.4s,baz=90,slow=4.0,SNR=3.8						
BRTR	**Keskin Array B**	**78.52**	**309**	P	**P**	**10 55 41.2**	**+0.8**
	0.7nm,0.8s,baz=85,slow=2.6,SNR=4.2						

*DJA **12** 10:56:39.6±1.0,2.7°S±6.1°×14.0°E±°,h10km,M3.8/3,MLv3.8/3*
*IDC **12** 10:56:39.6±1.8,2.6°4S×141.0°8E,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.5/17,mbtmp3.4/4,ML3.4/1,Error ellipse: s-maj=80.7km s-min=27.3km az=101.0*
*ISCJB **12** 10:56:40.3±1.3,2.1°S±0.1°×140.3°6E±0.0°8,h10km,mb3.4/3, Error ellipse: s-maj=16.1km s-min=9.7km az=26.3*
ISC 12 10:56:40.3±1.3,2.1°0S±0.1°0×140.3°6E±0.0°8,h10km,n7, σ2ᵖ30/8,mb3.5/3,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.53**	**201**	P	**Pb**	**10 56 51.0**	**-0.6**
GENI				S	**Sb**	**10 57 02.4**	**+3.1**
JAY	**Jayapura**	**0.54**	**140**	P	**Pb**	**10 56 51.7**	**-0.2**
SMPI	**Sarmi**	**1.65**	**274**	P	**Pn**	**10 57 08.8**	**-0.5**
SMPI				S	**Sn**	**10 57 31.4**	**+0.8**
WRA	**Warramunga Arr**	**18.69**	**198**	P	**P**	**11 00 56.1**	**-2.7**
	0.1nm,0.3s,baz=18,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**22.33**	**196**	P	**P**	**11 01 36.1**	**-2.3**
	1.2nm,0.7s,baz=31,slow=10.0,SNR=20						
MKAR	**Makanchi Array**	**70.32**	**322**	P	P	11 08 00.6	+6.4
	0.3nm,0.7s,baz=115,slow=6.5,SNR=3.1						
ILAR	**Eielson Array**	**84.60**	**24**	P	**P**	**11 09 15.3**	**+1.6**
	0.2nm,0.8s,baz=256,slow=3.6,SNR=2.5						

*NNC **12** 10:57:49.8±5.9,37.8°88N×71.4°8E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=45.7km s-min=32.6km az=173.0*
*KRNET **12** 10:57:50.1±0.1,37.7°9N×71.9°5E,mb2.0*
ISC 12 10:57:51.9±2.4,37.8°8N±0.1°×71.7°1E±0.0°6,h10km,n10, σ1ᵖ88/16,13C-6D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**2.36**	**343**	↑*e*P	**Pn**	**10 58 33.6**	**+2.7**
	baz=339						
BTK				↑*e*S	**Sg**	**10 59 07.6**	**-0.3**
	baz=339						
DZET	**Dzherino**	**2.48**	**295**	↑P	**Pn**	**10 58 32.6**	**+0.1**
	29nm,0.4s						
DZET				↑S	**Sn**	**10 59 02.6**	**-0.4**
	54nm,0.5s						
SFK	**Sufi-Kurgan**	**2.62**	**32**	↑P	**Pn**	**10 58 34.3**	**-0.2**
	5.2nm,0.3s						
SFK				↓S	**Sn**	**10 59 09.7**	**+3.3**
	32nm,0.5s						
SFK	**Sufi-Kurgan**	**2.62**	**32**	↓*e*P	**Pn**	**10 58 34.8**	**+0.3**
	baz=28						
SFK				↓*e*S	**Sn**	**10 59 09.2**	**+2.8**
	baz=28						
ARK	**Arkit**	**4.00**	**3**	↑*e*P	**Pn**	**10 58 53.5**	**+0.1**
	baz=0.0						
ARK				↑*e*S	**Sn**	**10 59 39.7**	**-0.7**
	baz=0.0						
MNAS	**Manas**	**4.72**	**7**	↑P	Pn	10 59 02.2	-1.2
	1.0nm,0.4s						
MNAS				↑S	**Sn**	**10 59 58.5**	**+0.2**
	9.8nm,0.5s						
NRN	**Naryn**	**4.91**	**41**	↓*e*P	**Pn**	**10 59 06.4**	**+0.3**
	baz=39						
NRN				↓*e*S	**Sn**	**11 00 00.8**	**-2.4**
	baz=39						
AAK	**Ala-Archa**	**5.28**	**23**	↑P	Pn	10 59 09.0	-2.1
	2.4nm,0.8s						
AAK				↓S	**Sn**	**11 00 08.5**	**-3.5**
	2.4nm,0.6s						
KK31	**Karatay Array**	**5.38**	**351**	↑P	**Pn**	**10 59 11.2**	**-1.0**
	0.5nm,0.2s,baz=161,slow=11,SNR=11						
KK31				S	**Sn**	**11 00 13.6**	**-0.6**
	1.8nm,0.3s,baz=168,slow=22,SNR=16						
AB31	**Akbulak array**	**14.26**	**327**	↑P	Pn	11 01 06.0	-7.9
	0.2nm,0.4s,baz=128,slow=54,SNR=7.3						
AB31				↑S	Sn	11 03 44.7	-7.3
	0.6nm,0.6s,baz=151,slow=22,SNR=2.9						

WEL 12 10:59:20.5±0.4,38.0°09S×176.2°4E,h156km±3km,ML3.8/8, 5C-4D,Error ellipse: s-maj=3.0km s-min=2.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRRZ	**Republican Roa**	**0.33**	**139**	↓PN	Pn	10 59 42.1	+0.2
PRRZ	**Plateau Road**	**0.42**	**163**	↓PN	Pn	10 59 42.4	+0.2
PRRZ				SN	Sn	10 59 58.8	-0.2
URZ	**Urewera**	**0.71**	**104**	↓PN	Pn	10 59 43.4	-0.2
URZ				SN	Sn	11 00 00.4	-1.0
URZ				AML	AML	11 00 01.8	
MRHZ	**Matea Rd**	**0.75**	**169**	PN	Pn	10 59 44.1	0.0
MWZ	**Matawai**	**1.04**	**104**	PN	Pn	10 59 46.2	-0.1
MWZ				AML	AML	11 00 05.5	
MWZ				AML	AML	11 00 05.6	
MWZ				AML	AML	11 00 06.6	
MWZ				AML	AML	11 00 06.7	
RAHZ	**Arahi**	**1.06**	**141**	PN	Pn	10 59 46.7	+0.4
RAHZ				SN	Sn	11 00 05.3	-1.0
BKZ	**Black Stump Fm**	**1.09**	**170**	↑PN	Pn	10 59 46.4	-0.3
BKZ				SN	Sn	11 00 04.7	-2.2
BKZ				AML	AML	11 00 06.8	
NMHZ	**Naumai**	**1.10**	**156**	PN	Pn	10 59 47.4	+0.6
SNGZ	**Shannon Statio**	**1.11**	**129**	↑PN	Pn	10 59 47.1	+0.3
SNGZ				SN	Sn	11 00 05.8	-1.2
WHHZ	**Waihua**	**1.26**	**142**	PN	Pn	10 59 48.2	+0.1
HAZ	**Te Kaha**	**1.27**	**75**	PN	Pn	10 59 47.8	-0.4
ARHZ	**Aropaoanui**	**1.31**	**153**	PN	Pn	10 59 48.8	+0.2
WNVZ	**Wahianoa**	**1.33**	**202**	PN	Pn	10 59 49.0	0.0
RIGZ	**Rimuhau**	**1.35**	**118**	PN	Pn	10 59 49.1	+0.1
MOVZ	**Moawhango**	**1.37**	**196**	PN	Pn	10 59 48.8	-0.5
MCHZ	**McNeill Hill**	**1.40**	**165**	PN	Pn	10 59 49.7	+0.3
BHHZ	**Black Hill Sta**	**1.40**	**186**	PN	Pn	10 59 49.2	-0.4
KNZ	**Kokohu**	**1.46**	**130**	PN	Pn	10 59 49.8	-0.2
PRGZ	**Paritu Road**	**1.54**	**123**	PN	Pn	10 59 50.7	-0.2
KRHZ	**Kereru**	**1.55**	**176**	PN	Pn	10 59 50.5	-0.6
PUZ	**Puketiti**	**1.59**	**90**	PN	Pn	10 59 51.2	-0.3
CNGZ	**Carnagh Statio**	**1.60**	**105**	↓PN	Pn	10 59 52.1	+0.5
CKHZ	**Cape Kidnapper**	**1.70**	**158**	↑PN	Pn	10 59 52.4	-0.2
WMGZ	**Waiomatatini S**	**1.74**	**82**	PN	Pn	10 59 53.1	0.0
KAHZ	**Kahuranaki**	**1.77**	**164**	PN	Pn	10 59 53.2	-0.3
PNHZ	**Pukenui**	**1.82**	**181**	PN	Pn	10 59 53.2	-0.8
WAZ	**Wanganui**	**1.93**	**210**	PN	Pn	10 59 55.0	-0.2
TSZ	**Takapari Road**	**1.98**	**186**	PN	Pn	10 59 54.7	-1.0
WPHZ	**Waipukurau**	**1.98**	**175**	PN	Pn	10 59 54.8	-1.0
PXZ	**Pawanui**	**2.00**	**166**	↑PN	Pn	10 59 55.1	-0.8
PXZ				AML	AML	11 00 22.6	
PXZ				AML	AML	11 00 23.5	
PXZ				AML	AML	11 00 23.5	
PRHZ	**Porangahau**	**2.19**	**172**	PN	Pn	10 59 57.2	-1.1
DVHZ	**Dannevirke**	**2.21**	**181**	PN	Pn	10 59 57.0	-1.4
PRWZ	**Pori Road**	**2.47**	**185**	PN	Pn	11 00 00.3	-1.2
BFZ	**Birch Farm**	**2.59**	**180**	PN	Pn	11 00 01.5	-1.5
MRZ	**Mangatainoka R**	**2.62**	**191**	PN	Pn	11 00 01.5	-1.8
MRZ				AML	AML	11 00 34.1	
MRZ				AML	AML	11 00 34.3	
TIWZ	**Tintock**	**2.70**	**186**	PN	Pn	11 00 02.4	-1.9
TIWZ				AML	AML	11 00 36.3	
TIWZ				AML	AML	11 00 38.2	
OGWZ	**Otaki Gorge**	**2.84**	**197**	PN	Pn	11 00 04.2	-1.9
HOWZ	**Holdsworth Sta**	**2.86**	**191**	PN	Pn	11 00 04.0	-2.3
KIW	**Kapiti Island**	**2.95**	**200**	PN	Pn	11 00 05.3	-2.2
KIW				AML	AML	11 00 42.6	
TMWZ	**Te Maipa**	**3.02**	**185**	PN	Pn	11 00 06.0	-2.4
CAW	**Cannon Point**	**3.15**	**196**	PN	Pn	11 00 07.5	-2.4
TRWZ	**Traveller**	**3.33**	**187**	PN	Pn	11 00 09.5	-2.7
WEL	**Wellington**	**3.38**	**199**	PN	Pn	11 00 10.4	-2.5
MSWZ	**Moikau Station**	**3.41**	**193**	PN	Pn	11 00 10.3	-2.9
TCW	**Tory Channel**	**3.46**	**205**	PN	Pn	11 00 11.4	-2.5
TCW				AML	AML	11 00 52.9	
BHW	**Baring Head**	**3.48**	**197**	PN	Pn	11 00 11.1	-2.9
PLWZ	**Palliser**	**3.56**	**192**	PN	Pn	11 00 12.0	-3.2
TUWZ	**Tuamarina**	**3.77**	**207**	PN	Pn	11 00 15.3	-2.6
THZ	**Tophouse**	**4.47**	**214**	PN	Pn	11 00 25.3	-1.8
KHZ	**Kahutara**	**4.79**	**205**	PN	Pn	11 00 28.0	-3.1
MQZ	**McQueen's Vall**	**6.23**	**205**	↑PN	Pn	11 00 45.2	-5.1
MQZ				SN	Sn	11 01 49.6	-11

MEX 12 11:16:34.0±0.4,17.9°9N×100.4°4W,h58km±5km,MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.30**	**16**	*i* P	Pn	11 16 42.4	-1.6
ARIG				*i* S	Sn	11 16 49.2	-1.9
MEIG	**Mezcala**	**0.78**	**95**	*e*P	Pn	11 16 47.4	-1.9
MEIG				*e*S	Sn	11 16 58.9	-1.5
CAIG	**El Cayaco**	**0.95**	**170**	*i* P	Pn	11 16 49.9	-1.5
CAIG				*i* S	Sn	11 17 02.3	-1.9
ZIIG	**Zihuatanejo**	**1.05**	**249**	*i* P	Pn	11 16 51.3	-1.4
ZIIG				*i* S	Sn	11 17 05.0	-1.6
YAIG	**Yautepec**	**1.56**	**56**	*e*P	Pn	11 16 58.6	-1.1
YAIG				*i* S	Sn	11 17 17.4	-1.7
TLIG	**Tlapa**	**1.83**	**103**	*i* P	Pn	11 17 01.8	-1.5
TLIG				*i* S	Sn	11 17 23.3	-2.2

*NNC **12** 11:24:57.4±3.5,37.5°95N×72.3°0E,h214km±26km,mb2.9, mpv4.1,Error ellipse: s-maj=34.0km s-min=28.8km az=67.0*
ISC 12 11:24:51.2±1.0,37.4°0N±0.0°6×72.1°7E±0.0°8,h130km,n21, σ1ᵖ77/24,8C-6D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.81**	**21**	↑P	Pn	11 25 39.3	+3.7
	55nm,0.4s						
SFK				↓S	**Sn**	**11 26 13.5**	**+3.6**
	57nm,0.2s						
DZET	**Dzherino**	**2.99**	**299**	↓P	Pn	11 25 41.2	+3.4
	166nm,0.3s						
DZET				↑S	**Sn**	**11 26 16.6**	**+3.0**
	163nm,0.4s						
AML	**Almayashu**	**4.87**	**13**	P	Pn	**11 26 03.9**	**+1.0**
	SNR=26						
MNAS	**Manas**	**5.09**	**3**	↑P	Pn	**11 26 07.2**	**+1.6**
	7.2nm,0.3s						
MNAS				↑S	**Sn**	**11 27 02.5**	**-1.0**
	61nm,0.7s						
UCH	**Uchtor**	**5.15**	**20**	P	Pn	**11 26 08.2**	**+1.5**
	SNR=33						
KZA	**Kyzart**	**5.25**	**26**	P	Pn	**11 26 08.8**	**+0.9**
	SNR=35						
EKS2	**Erkin-Say**	**5.40**	**13**	P	Pn	**11 26 11.9**	**+2.2**
	SNR=7.0						
AAK	**Ala-Archa**	**5.53**	**18**	P	Pn	**11 26 13.2**	**+1.8**
	SNR=21						
AAK	**Ala-Archa**	**5.53**	**18**	↑P	Pn	**11 26 13.1**	**+1.6**
	12nm,0.4s						
AAK				↑S	**Sn**	**11 27 14.0**	**0.0**
	23nm,0.6s						
DLH	**Dalhousie**	**5.76**	**146**	*e*P	Pn	**11 26 16.0**	**+1.3**
DLH				*e*S	**Sn**	**11 27 20.0**	**+0.2**
ULHL	**Ulahol**	**5.77**	**32**	P	Pn	**11 26 15.5**	**+0.8**
	SNR=27						
KK31	**Karatay Array**	**5.84**	**348**	P	Pn	**11 26 16.4**	**+0.8**
	3.9nm,0.5s,baz=156,slow=10,SNR=20						
KK31				↓S	**Sn**	**11 27 18.4**	**-2.9**
	16nm,0.3s,baz=166,slow=22,SNR=17						
CHMS	**Chumysh**	**5.94**	**19**	P	Pn	**11 26 17.6**	**+0.8**
	SNR=8.1						
TKM2	**Tokmak 2**	**6.11**	**24**	P	Pn	**11 26 20.5**	**+1.2**
	SNR=6.1						
TKM2	**Tokmak 2**	**6.11**	**24**	↑P	Pn	**11 26 20.2**	**+0.9**
	9.5nm,0.9s						
TKM2				↑S	Sn	11 27 21.2	-6.9
	3.6nm,0.7s						
USP	**Ospenovka**	**6.13**	**16**	P	Pn	**11 26 19.9**	**+0.5**
	SNR=5.5						
SMLA	**Simla**	**7.50**	**145**	*i* P	Pn	**11 26 38.3**	**+0.5**
SMLA				*i* S	Sn	11 27 57.6	-3.7
SMLA				*i* S	Sn	11 27 57.9	-3.4
JOSI	**Joshimath**	**9.17**	**136**	*e*P	Pn	**11 27 00.4**	**-0.2**
JOSI				*e*S	Sn	11 28 37.3	-5.0
JOSI				AML	AML	11 28 40.7	
	comp=E,61nm,0.3s						
JOSI				AML	AML	11 28 41.1	
	comp=N,30nm,0.2s						
KHET	**Khetri**	**9.79**	**161**	*e*P	Pn	11 27 05.1	-3.6
KHET				*e*S	Sn	11 28 47.9	-8.9
KHET				*e*S	Sn	11 28 48.4	-8.4
KHET				AML	AML	11 28 53.0	
	comp=E,37nm,0.4s						
KHET				AML	AML	11 28 53.8	
	comp=N,39nm,0.1s						
AB31	**Akbulak array**	**14.80**	**327**	P	**Pn**	**11 28 11.6**	**-2.2**
	comp=N,1.4nm,0.3s,baz=130,slow=11,SNR=28						
AB31				↓S	Sn	11 30 47.7	-10
	comp=N,0.5nm,0.3s,baz=146,slow=23,SNR=5.9						
AKTO	**Aktyubinsk**	**16.51**	**327**	↓P	**Pn**	**11 28 32.5**	**-2.5**
	comp=N,1.4nm,0.5s						
AKTO				↓S	Sn	11 31 25.9	-13
	comp=N,1.3nm,0.6s						

*AZER **12** 11:37:25.9±0.1,42.2°28N×42.9°2E,h3km,Error ellipse: s-maj=7.9km s-min=3.3km az=7.0*
*TIF **12** 11:37:26.7,42.3°3N×43.0°5E,h0km±1km*
*CSEM **12** 11:37:28.9±0.2,42.3°4N×42.9°9E,h2km,mb3.9,Error ellipse: s-maj=4.5

ARTV				*i* S		**Sg**		11 38 14.1	+1.4
DBOC	**Borcka**	**1.39**	**227**	*i* P		**Pn**		11 37 54.4	-0.4
DBOC				*i* S		**Sg**		11 38 13.8	+0.7
DBOC	**Borcka**	**1.39**	**227**	*i* P		**Pn**		11 37 54.4	-0.4
DBOC				*i* S		**Sg**		11 38 13.8	+0.7
TBLG	**Delisi**	**1.39**	**113**	*e*PN		**Pn**		11 37 54.0	-0.7
TBLG	**Delisi**	**1.39**	**113**	P		**Pn**		11 37 54.1	-0.7
TBLG				S		**Sg**		11 38 14.0	+0.9
TBLG	**Delisi**	**1.39**	**113**	PG		**Pn**		11 37 54.1	-0.7
TBLG				S		**Sg**		11 38 14.0	+0.9
TBLG	**Delisi**	**1.39**	**113**	P		**Pn**		11 37 54.1	-0.7
TBLG				S		**Sg**		11 38 14.0	+0.9
SEAG	**Tbilisi Sea**	**1.43**	**111**	P		**Pn**		11 37 54.1	-1.1
SEAG				S		**Sb**		11 38 14.2	**0.0**
SEAG	**Tbilisi Sea**	**1.43**	**111**	P		**Pn**		11 37 54.1	-1.1
SEAG				S		**Sb**		11 38 14.2	**0.0**
DAGI	**Agillar**	**1.47**	**215**	*i* P		**Pb**		11 37 56.3	-0.2
DAGI				*i* S		**Sg**		11 38 17.6	+1.9
KUBR	**Kubataba**	**1.53**	**10**	*i*PG		**Pg**		11 37 58.7	+1.0
KUBR				*i* S		**Sg**		11 38 22.8	+5.2
KUBR	**Kubataba**	**1.53**	**10**	*i* Pg		**Pg**		11 37 58.7	+1.0
DBAD	**Bademkaya**	**1.62**	**219**	*i* P		**Pb**		11 37 58.6	-0.4
DBAD				*i* S		**Sg**		11 38 20.4	**0.0**
DBAD	**Bademkaya**	**1.62**	**219**	*i* P		**Pb**		11 37 58.6	-0.4
DBAD				*i* S		**Sg**		11 38 20.4	**0.0**
EAK	**Akyaka**	**1.67**	**165**	*i* P		**Pb**		11 37 59.8	**0.0**
EAK				*i* S		**Sg**		11 38 23.4	+1.6
EAK	**Akyaka**	**1.67**	**165**	*i* P		**Pb**		11 37 59.8	**0.0**
EAK				*i* S		**Sg**		11 38 23.4	+1.6
KARS	**Kars**	**1.67**	**179**	*e*PN		**Pn**		11 37 58.4	-0.2
KARS	**Kars**	**1.67**	**179**	*e*Pn		**Pn**		11 37 58.4	-0.2
KIV	**Kislovodsk**	**1.68**	**352**	*e*PN		**Pg**		11 38 00.6	+0.1
KIV	**Kislovodsk**	**1.68**	**352**	*de*PN		**Pb**		11 37 59.0	-1.0
KIV				*e*S		**Sb**		11 38 20.5	-1.1
KIV				pmax		pmax			
	comp=Z,315nm,1.0s								
KIV	**Kislovodsk**	**1.68**	**352**	*e*Pn		**Pb**		11 37 59.0	-1.0
	comp=Z,315nm,1.0s								
KIV				*e*Sg		**Sb**		11 38 20.5	-1.1
DDEM	**Demirkent**	**1.70**	**215**	*i* P		**Pb**		11 38 00.1	-0.2
DDEM				*i* S		**Sg**		11 38 23.1	+0.2
DDEM	**Demirkent**	**1.70**	**215**	*i* P		**Pb**		11 38 00.1	-0.2
DDEM				*i* S		**Sg**		11 38 23.1	+0.2
PYA	**Pyatigorsk**	**1.74**	**1⇑**	*e*PN		**Pg**		11 38 02.0	+0.3
PYA				*e*S		**Sg**		11 38 26.9	+2.7
PYA	**Pyatigorsk**	**1.74**	**1**	*e*Pn		**Pg**		11 38 02.0	+0.3
TRKR	**Terskaya**	**1.90**	**41⇑**	*e*PN		**Pb**		11 38 03.7	**0.0**
TRKR	**Terskaya**	**1.90**	**41**	*e*Pn		**Pb**		11 38 03.7	**0.0**
DGRG	**David-gareji**	**1.94**	**115**	P		**Pb**		11 38 04.6	+0.1
DGRG				S		**Sg**		11 38 31.4	+0.6
DGRG	**David-gareji**	**1.94**	**115**	PN		**Pb**		11 38 04.6	+0.1
DGRG				S		**Sg**		11 38 31.4	+0.6
DGRG	**David-gareji**	**1.94**	**115**	P		**Pb**		11 38 04.6	+0.1
DGRG				S		**Sg**		11 38 31.4	+0.6
QZX	**Qazax, Azerbai**	**2.15**	**124**	⇓P		**Pb**		11 38 06.6	-1.4
	SNR=18								
QZX				⇑S		**Sg**		11 38 36.6	-0.7
QZX	**Qazax, Azerbai**	**2.15**	**124**	P		**Pb**		11 38 06.6	-1.4
	SNR=18								
QZX				S		**Sg**		11 38 36.6	-0.7
HOMI	**Horasan**	**2.40**	**201**	*e*P		**Pb**		11 38 12.1	-0.3
HOMI				*e*S		**Sb**		11 38 41.9	-0.7
EATA	**Eleskirt**	**2.46**	**190**	*e*P		**Pb**		11 38 13.1	-0.4
EATA	**Eleskirt**	**2.46**	**190**	*e*P		**Pb**		11 38 13.1	-0.4
GNI	**Garni**	**2.50**	**148**	*de*PN		**Pb**		11 38 14.9	+0.8
ERZM	**Erzurum**	**2.70**	**208**	*e*P		**Pb**		11 38 16.0	-1.5
ERZM				*e*S		**Sg**		11 38 54.4	-0.6
ERZM	**Erzurum**	**2.70**	**208**	*e*P		**Pb**		11 38 16.0	-1.5
EZM	**Erzurum**	**2.70**	**208**	*e*PN		**Pn**		11 38 14.3	+1.3
SOC	**Sochi**	**2.75**	**299**	*e*PN		**Pg**		11 38 20.4	-0.7
SOC				*e*				11 38 56.5	
SOC				pmax		pmax			
	comp=Z,44nm,0.6s								
SOC				smax		smax			
	comp=N,175nm,0.9s								
SOC				smax		smax			
	comp=E,114nm,0.9s								
SOC	**Sochi**	**2.75**	**299**	*e*Sb		**Sg**		11 38 56.5	-0.2
	comp=E,175nm,0.9s								
ZKTA	**Zakatala**	**2.76**	**103**	⇑P		**Pb**		11 38 15.9	-2.5
	SNR=11								
ZKTA				⇑S		**Sg**		11 38 55.6	-1.4
GOF	**Gofitskoye**	**2.76**	**0**	*e*PN		**Pg**		11 38 22.7	+1.4
GOF				*e*S		**Sg**		11 38 56.0	-1.1
GOF				pmax		pmax			
	comp=Z,140nm,1.0s								
GOF				smax		smax			
	comp=N,150nm,1.9s								
GOF				smax		smax			
	comp=E,440nm,1.3s								
GOF	**Gofitskoye**	**2.76**	**0**	*e*Sb		**Sg**		11 38 56.0	-1.1
	comp=E,150nm,1.9s								
BAYT	**Ayd¯–ntepe-Bay**	**2.89**	**230**	*e*PN		**Pn**		11 38 16.7	+1.2
BAYT	**Ayd¯–ntepe-Bay**	**2.89**	**230**	*e*Pn		**Pn**		11 38 16.7	+1.2
GANJ	**Ganja**	**2.97**	**123**	⇓P		**Pb**		11 38 19.2	-2.8
GANJ				⇑S		**Sb**		11 38 58.6	-0.2
GANJ	**Ganja**	**2.97**	**123**	P		**Pb**		11 38 19.2	-2.8
GANJ				S		**Sb**		11 38 58.6	-0.2
EKAR	**Karacoban**	**3.12**	**194**	*e*P		**Pb**		11 38 23.1	-1.6
EKAR	**Karacoban**	**3.12**	**194**	*e*P		**Pb**		11 38 23.1	-1.6
SEKA	**Sheki**	**3.30**	**108**	⇑P		**Pn**		11 38 23.2	+2.1
SEKA				⇑S		**Sb**		11 39 05.9	-2.4
SEKA	**Sheki**	**3.30**	**108**	P		**Pn**		11 38 23.2	+2.1
SEKA				S		**Sb**		11 39 05.9	-2.4
ANN	**Anapa**	**4.78**	**304**	*e*PN		**Pn**		11 38 39.9	-1.3
ANN				pmax		pmax			
	comp=Z,10.0nm,0.7s								
ANN	**Anapa**	**4.78**	**304**	*e*Pn		**Pn**		11 38 39.9	-1.3
	comp=Z,10.0nm,0.7s								
ARU	**Arti**	**17.33**	**30**	*e*P		**P**		11 41 31.8	-0.8
ARU				pmax		pmax			
	comp=Z,7.0nm,2.0s								
ARU	**Arti**	**17.33**	**30**	*e*P		**P**		11 41 31.8	-0.8
	comp=Z,7.0nm,2.0s								
VSU	**Vasula**	**19.14**	**333⇑**	*e*P		**Pn**		11 41 53.6	+0.3
VSU	**Vasula**	**19.14**	**333**	*e*P		**Pn**		11 41 53.6	+0.3
BRVK	**Borovoye**	**21.14**	**50⇓**	*e*P		**P**		11 42 14.8	+0.4
BRVK				pmax		pmax			
	comp=Z,17nm,5.0s								
BRVK	**Borovoye**	**21.14**	**50**	*e*P		**P**		11 42 14.8	+0.4
	comp=Z,17nm,5.0s								
AAK	**Ala-Archa**	**23.15**	**78**	*i*P		**P**		11 42 38.4	+2.3
AAK	**Ala-Archa**	**23.15**	**78**	*i* P		**P**		11 42 38.4	+2.3

DJA ***12*** *11:39:59.2±0.5, 1°S±6°×12°6E±°, h80km±19km, M3.4/6, MLv3.4/6*

IDC 12 11:38:31.5±2.3, 3°71N×125°32E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/22, mbtmp3.3/3, Error ellipse: s-maj=236.1km s-min=27.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**5.76**	**173**	P	Pb	11 40 15.3	+2.3
NLAI	**Namlea**	**7.13**	**165**	P	Pb	11 40 35.2	-1.1
NLAI				S	Pb	11 40 35.9	-0.4
WRA	**Warramunga Arr**	**25.12**	**160**	P	P	11 43 58.5	+0.1
	0.4nm,0.9s,baz=339,slow=9.9,SNR=3.7						
ASAR	**Alice Springs**	**28.47**	**163**	P	P	11 44 28.4	-0.2
	0.2nm,0.8s,baz=348,slow=6.8,SNR=3.5						
MKAR	**Makanchi Array**	**56.77**	**326**	P	P	11 48 17.5	0.0
	0.2nm,0.4s,baz=123,slow=7.2,SNR=6.8						

CSEM ***12*** *11:40:08.1±0.3, 37°06N×36°11E, h5km, MD2.5, Error ellipse: s-maj=7.4km s-min=6.4km az=115.0*
DDA ***12*** *11:40:09.4, 37°15N×36°16E, h7km, MD2.8*

ISK 12 11:40:07.5, 37°11N×36°11E, h5km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEYT	**Ceyhan**	**0.30**	**250**	*e*PG	Pb	11 40 14.6	-0.8
CEYT				*e*SG	Sb	11 40 19.8	-0.9
CEYT	**Ceyhan**	**0.30**	**250**	*e*Pg	Pb	11 40 14.6	-0.8
CEYT				*e*Sg	Sb	11 40 19.8	-0.9
KOZT	**Kozan**	**0.43**	**329**	*e*PG	Pb	11 40 16.9	-0.7
KOZT				*e*SG	Sb	11 40 24.0	-0.4
KOZT	**Kozan**	**0.43**	**329**	*e*Pg	Pb	11 40 16.9	-0.7
KOZT				*e*Sg	Sb	11 40 24.0	-0.4
ANDN	**Andirin**	**0.50**	**22**	*e*P	Pb	11 40 18.2	-0.8
ANDN				*e*S	Sg	11 40 24.8	+0.7
ANDN	**Andirin**	**0.50**	**22**	*e*P	Pg	11 40 18.2	+0.8
ANDN				*e*S	Sg	11 40 24.8	+0.7
HCB	**Kahramanmara¯**	**0.68**	**70**	*e*P	Pb	11 40 22.9	+0.9
HCB				*e*S	Sb	11 40 31.8	+0.1
KMRS	**Kahramanmaras**	**0.74**	**58**	*e*PG	Pb	11 40 23.2	+0.1
KMRS				*e*SG	Sb	11 40 34.2	+0.6
KMRS	**Kahramanmaras**	**0.74**	**58**	*e*Pg	Pb	11 40 23.2	+0.1
KMRS				*e*Sg	Sb	11 40 34.2	+0.6
KUZU	**Kuzuini**	**0.85**	**113**	*e*P	Pb	11 40 25.3	+0.5
KUZU				*e*S	Sb	11 40 36.5	0.0
KUZU	**Kuzuini**	**0.85**	**113**	*e*P	Pb	11 40 25.3	+0.5
KUZU	**Kuzuini**	**0.85**	**113**	*e*S	Sb	11 40 36.5	-0.1
YAYL	**Yayladag**	**1.08**	**180**	*e*P	Pg	11 40 26.8	-1.5
YAYL				*e*S	Sg	11 40 40.1	-2.3
YAYL	**Yayladag**	**1.08**	**180**	*e*P	Pg	11 40 26.8	-1.5
YAYL				*e*S	Sg	11 40 40.1	-2.3

DDA ***12*** *11:40:46.7, 36°89N×29°31E, h7km, MD3.0*
ISK ***12*** *11:40:47.0, 36°85N×29°31E, h5km, MD2.9*
CSEM ***12*** *11:40:48.2±0.2, 36°92N×29°32E, h2km, MD3.0, Error ellipse: s-maj=6.2km s-min=3.9km az=12.0*

ISC 12 11:40:47.5±1.2, 36°91N±0°03×29°32E±0°03, h1km±12km, n23, σ1°06/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOLH	**Golhisar**	**0.38**	**30**	*i* P	**Pg**	**11 40 54.8**	**+0.1**
GOLH				*i* S	**Sg**	**11 41 01.8**	**+2.1**
GOLH	**Golhisar**	**0.38**	**30**	*i* P	**Pg**	**11 40 54.8**	**+0.1**
ELL	**Elmali**	**0.50**	**109**	*e*PG	**Pg**	**11 40 57.4**	**+0.4**
ELL	**Elmali**	**0.50**	**109**	*e*Pg	**Pg**	**11 40 57.4**	**+0.4**
DALY	**Dalyan (Mu¯la**	**0.55**	**260**	*e*PG	**Pg**	**11 40 57.7**	**-0.2**
DALY				*e*SG	**Sb**	**11 41 06.7**	**-1.4**
DALY	**Dalyan (Mu¯la**	**0.55**	**260**	*e*Pg	**Pg**	**11 40 57.7**	**-0.2**
DALY				*e*Sg	**Sb**	**11 41 06.7**	**-1.4**
TURN	**Turunc**	**0.58**	**266**	*e*P	**Pn**	**11 41 03.5**	**+0.7**
TURN				*e*S	**Sn**	**11 41 15.7**	**+2.7**
AKAS	**Kas**	**0.72**	**161**	*e*P	**Pb**	**11 41 02.7**	**-0.1**
AKAS				*e*S	**Sg**	**11 41 10.3**	**-0.2**
AKAS	**Kas**	**0.72**	**161**	*e*P	**Pb**	**11 41 02.7**	**-0.1**
AKAS				*e*S	**Sg**	**11 41 10.3**	**-0.2**
YER	**Yerkesik**	**0.86**	**285**	*e*PG	**Pb**	**11 41 04.6**	**-0.7**
YER	**Yerkesik**	**0.86**	**285**	*e*Pg	**Pb**	**11 41 04.6**	**-0.7**
AYDN	**Tasoluk**	**1.37**	**303**	*e*P	**Pb**	**11 41 13.3**	**-0.7**
AYDN				*e*S	**Sn**	**11 41 32.2**	**-0.5**
AYDN	**Tasoluk**	**1.37**	**303**	*e*P	**Pb**	**11 41 13.3**	**-0.7**
AYDN				*e*S	**Sn**	**11 41 32.2**	**-0.5**
DAT	**Datca**	**1.41**	**263**	*e*PN	**Pg**	**11 41 15.3**	**+0.8**
DAT				*e*SN	**Sn**	**11 41 35.0**	**+1.3**
DAT	**Datca**	**1.41**	**263**	*e*Pn	**Pg**	**11 41 15.3**	**+0.8**
DAT				*e*Sn	**Sn**	**11 41 35.0**	**+1.3**
SUTC	**Sutluce-Ispart**	**1.45**	**67**	*e*PN	**Pg**	**11 41 15.6**	**+0.2**
SUTC	**Sutluce-Ispart**	**1.45**	**67**	*e*Pn	**Pg**	**11 41 15.6**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**313**	*e*PN	**Pg**	**11 41 17.3**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**313**	*e*Pn	**Pg**	**11 41 17.3**	**+0.3**
BODT	**Bodrum**	**1.62**	**276**	*e*PN	**Pg**	**11 41 17.7**	**-0.8**
BODT	**Bodrum**	**1.62**	**276**	*e*Pn	**Pg**	**11 41 17.7**	**-0.8**
HDMB	**Hadim**	**2.54**	**88**	*e*PN	**Pb**	**11 41 32.0**	**-1.9**
HDMB	**Hadim**	**2.54**	**88**	*e*Pn	**Pb**	**11 41 32.0**	**-1.9**

IDC 12 11:57:49.0±23.0, 16°23S×174°38W, h245km±225km, mb3.5/5, mb1 3.6/5, mb1mx3.3/18, mbtmp4.0/5, Error ellipse: s-maj=76.3km s-min=41.3km az=5.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**23.18**	**197**	P	P	12 02 34.2	0.0
	12nm,0.9s,baz=22,slow=11,SNR=4.2						
STKA	**Stephens Creek**	**42.80**	**240**	P	P	12 05 22.9	-0.2
	1.0nm,0.3s,baz=68,slow=5.4,SNR=3.5						
WRA	**Warramunga Arr**	**48.74**	**258**	P	P	12 06 09.3	-0.2
	0.4nm,0.3s,baz=94,slow=6.7,SNR=22						
ASAR	**Alice Springs**	**48.96**	**253**	P	P	12 06 11.1	-0.1
	1.7nm,0.4s,baz=88,slow=8.0,SNR=67						
ILAR	**Eielson Array**	**83.44**	**11**	P	P	12 09 48.6	-0.1
	0.4nm,0.9s,baz=208,slow=5.6,SNR=3.8						
BRTR	**Keskin Array B**	**146.19**	**319**	PKPbc	PKPdf	12 17 00.3	+0.7
	0.7nm,0.9s,baz=20,slow=2.9,SNR=3.0						

CSEM ***12*** *12:49:35.2±1.4, 37°85N×29°33E, h5km, MD2.8, Error ellipse: s-maj=34.5km s-min=13.0km az=35.0*
DDA ***12*** *12:49:37.4, 37°63N×29°14E, h7km, MD2.8*

ISC 12 12:49:34.4±3.1, 37°9N±0°1×29°4E±0°1, h7km±13km, n8, σ0°49/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.30**	**248**	*e*PG	**Pg**	**12 49 40.0**	**-0.3**
DENT				*e*SG	**Sg**	**12 49 44.9**	**+0.5**
DENT	**Denizli**	**0.30**	**248**	*e*Pg	**Pg**	**12 49 40.0**	**-0.3**
DENT				*e*Sg	**Sg**	**12 49 44.9**	**+0.5**
GOLH	**Golhisar**	**0.65**	**167**	*e*P	**Pg**	**12 49 47.1**	**+0.2**
GOLH				*e*S	**Sg**	**12 49 54.7**	**-0.6**
GOLH	**Golhisar**	**0.65**	**167**	*e*P	**Pg**	**12 49 47.1**	**+0.2**
GOLH				*e*S	**Sg**	**12 49 54.7**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.18**	**274**	*e*PN	**Pb**	**12 49 57.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.18**	**274**	*e*Pn	**Pb**	**12 49 57.3**	**+0.1**
AKAS	**Kas**	**1.64**	**174**	*e*P	**Pg**	**12 50 06.4**	**+0.5**
AKAS				*e*S	**Sn**	**12 50 24.9**	**-0.3**
AKAS	**Kas**	**1.64**	**174**	*e*P	**Pg**	**12 50 06.4**	**+0.5**
AKAS				*e*S	**Sn**	**12 50 24.9**	**-0.3**

WEL 12 12:58:09.8±0.9, 35°44S×178°21E, h33km, ML4.2/4, 1D, Error ellipse: s-maj=11.1km s-min=6.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.12**	**178**	P*	Pn	12 58 42.3	-0.7
MXZ				S*	Sn	12 59 06.3	-1.8
MXZ				AML	AML	12 59 13.5	
MXZ				AML	AML	12 59 28.5	
MXZ				AML	AML	12 59 45.9	
HAZ	**Te Kaha**	**2.33**	**188**	P*	Pn	12 58 46.5	+0.6
WMGZ	**Waiomatatini S**	**2.38**	**176**	⇓PN	Pn	12 58 46.4	-0.1
WMGZ				SN	Sn	12 59 13.3	-1.2
PUZ	**Puketiti**	**2.63**	**179**	*e*PN	Pn	12 58 47.6	-2.3
PUZ				SN	Sn	12 59 17.3	-3.4
PUZ				AML	AML	12 59 19.4	
TWGZ	**Tauwhareparae**	**2.73**	**184**	PN	Pn	12 58 51.3	-0.2
TWGZ				SN	Sn	12 59 21.5	-2.0
MWZ	**Matawai**	**2.94**	**191**	P*	Pn	12 58 54.6	+0.3
MWZ				AML	AML	12 59 43.5	
MWZ				AML	AML	12 59 43.9	
URZ	**Urewera**	**2.95**	**197**	P*	Pn	12 58 54.9	+0.5
URZ				S*	Sn	12 59 28.6	0.0
URZ				AML	AML	12 59 33.6	
CNGZ	**Carnagh Statio**	**3.04**	**180**	PN	Pn	12 58 54.3	-1.2
RIGZ	**Rimuhau**	**3.28**	**186**	PN	Pn	12 58 57.6	-1.4
SNGZ	**Shannon Statio**	**3.41**	**192**	PN	Pn	12 59 00.5	-0.2
PRGZ	**Paritu Road**	**3.48**	**184**	PN	Pn	12 58 59.8	-2.0
RAHZ	**Arahi**	**3.58**	**194**	PN	Pn	12 59 03.1	-0.1
KNZ	**Kokohu**	**3.60**	**187**	PN	Pn	12 59 01.1	-2.2
WHHZ	**Waihua**	**3.71**	**192**	PN	Pn	12 59 04.0	-0.8
NMHZ	**Naumai**	**3.82**	**197**	PN	Pn	12 59 06.4	0.0
ARHZ	**Aropaoanui**	**3.94**	**194**	PN	Pn	12 59 06.8	-1.2
BKZ	**Black Stump Fm**	**3.96**	**200**	P*	Pn	12 59 07.9	-0.5
BHHZ	**Black Hill Sta**	**4.39**	**202**	P*	Pn	12 59 14.3	0.0
KAHZ	**Kahuranaki**	**4.47**	**193**	PN	Pn	12 59 13.5	-1.9
PXZ	**Pawanui**	**4.71**	**193**	PN	Pn	12 59 14.9	-3.6
BFZ	**Birch Farm**	**5.46**	**196**	PN	Pn	12 59 24.9	-4.0
BFZ				SN	Sn	13 00 22.6	-7.9
MRZ	**Mangatainoka R**	**5.61**	**201**	SN	Sn	13 00 27.9	-6.3
CAW	**Cannon Point**	**6.17**	**203**	PN	Pn	12 59 35.0	-3.7
CTZ	**Chatham Island**	**9.19**	**156**	*e*PN	Pn	13 00 15.5	-4.6

DJA 12 13:00:54.9±0.7, 1°N±6°×12°0E±°, h10km, M3.7/4, MLv3.7/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**0.84**	**216**	P	Pg	13 01 11.1	0.0
MPSI				S	Sg	13 01 21.0	-1.0
MRSI	**Marisa**	**1.64**	**109**	P	Pn	13 01 22.6	-1.2
MRSI				S	Sn	13 01 41.0	-4.0
PCI	**Palu**	**1.99**	**196**	P	Pn	13 01 28.3	-0.4
APSI	**Ampana**	**2.29**	**147**	P	Pn	13 01 33.9	+1.1
APSI				S	Sn	13 02 02.1	+1.0
LUWI	**Luwuk**	**3.14**	**131**	P	Pn	13 01 40.4	-4.1
KMSI	**Cibinong**	**3.62**	**97**	P	Pn	13 01 50.2	-0.8
TTSI	**Tana Toraja**	**4.08**	**188**	P	Pn	13 01 57.2	-0.2

SJA ***12*** *13:25:46.3±1.0, 33°51S×73°98W, h40km, ML3.6, MW3.7*
GUC ***12*** *13:25:56.9±0.5, 33°81S×72°36W, h24km±3km, ML3.3*

ISC 12 13:25:56.6±3.6, 33°83S±0°05×72°4W±0°1, h4km±27km, n20, σ1°93/26, 2C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**1.04**	**39**	*e*P	**Pb**	**13 26 15.8**	**-1.4**
IHA				*e*S	**Sb**	**13 26 29.5**	**-1.6**
TACH	**Talagante**	**1.25**	**82⇑**	*i*P	**Pn**	**13 26 18.9**	**-2.0**
TACH				*i* S	**Sb**	**13 26 36.0**	**-1.3**
ROCH	**El Roble**	**1.46**	**54⇓**	*i*P	**Pn**	**13 26 22.2**	**-1.8**
ROCH				*i* S	**Sn**	**13 26 41.9**	**-1.9**
ROCH				AML	AML	13 26 52.2	
	comp=N,663nm,0.6s						
NICH	**Los Niches**	**1.53**	**140**	*e*P	**Pn**	**13 26 24.2**	**-0.6**
NICH				*i* S	**Sn**	**13 26 44.9**	**-0.2**
PEL	**Peldehue**	**1.61**	**65⇓**	*i*P	**Pn**	**13 26 25.0**	**-0.9**
PEL				*i* S	**Sn**	**13 26 45.9**	**-1.2**
PEL				AML	AML	13 27 05.1	
	comp=E,969nm,0.5s						
CLCH	**Cerro Calan**	**1.63**	**75⇑**	*i*P	**Pn**	**13 26 25.0**	**-1.3**
CLCH				AML	AML	13 26 53.0	
	comp=E,623nm,0.6s						
TALC	**Talca**	**1.69**	**158**	*e*P	**Pn**	**13 26 27.0**	**0.0**
TALC				*i* S	**Sn**	**13 26 49.6**	**+0.5**
AUSP	**Uspallata**	**3.01**	**59**	*e*P	**Pb**	**13 26 50.3**	**-0.8**
ARCO	**CERRO ARCO**	**3.08**	**72**	*e*P	**Pb**	**13 26 52.1**	**-0.1**
AAGR	**Agrelo**	**3.10**	**77**	*e*P	**Pb**	**13 26 52.4**	**0.0**
ASAL	**Salagasta**	**3.25**	**69**	*e*P	**Pb**	**13 26 54.6**	**-0.4**
RTLS	**Leoncito**	**3.32**	**53**	*e*P	**Pn**	**13 26 52.4**	**+2.7**
RTLS				⇓eS	**Sb**	**13 27 42.8**	**+5.5**
RTCV	**Cerro Valdivia**	**3.81**	**60**	*e*P	**Pn**	**13 26 59.0**	**-2.7**
RTCV				*e*S	**Sb**	**13 27 54.0**	**+2.8**
RTLL	**Cerro Villicun**	**4.16**	**54**	*e*P	**Pn**	**13 27 02.2**	**+1.1**
CFAA	**Coronel Fontan**	**4.17**	**59**	*e*P	**Pn**	**13 27 01.7**	**+0.6**
AMOG	**MOGNA**	**4.40**	**50**	*e*P	**Pn**	**13 27 05.1**	**+0.7**
ACAN	**Cantantal**	**4.66**	**72**	*e*P	Pn	13 27 13.1	+5.2
AVFE	**Valle Fertil**	**5.26**	**54**	*e*P	**Pn**	**13 27 18.0**	**+1.8**
AVFE				*e*S	Sb	13 28 27.9	-5.0
AVFE				AML	AML	13 28 48.2	
	comp=Z,18nm,0.8s						
ACHE	**Chepes**	**5.54**	**63**	*e*P	Pn	13 27 23.8	+3.7
ACLC	**CERRO LA CRUZ**	**6.41**	**48**	*e*P	**Pn**	**13 27 31.1**	**-0.9**

ISCJB ***12*** *13:31:56.3±0.5, 28°83N±0°04×128°57E±0°05, h10km, mb3.5/8, Error ellipse: s-maj=6.1km s-min=5.3km az=2.4*
IDC ***12*** *13:31:56.0±1.0, 28°80N×128°66E, h0km, mb3.4/8, mb1 3.6/8, mb1mx3.5/26, mbtmp3.4/8, Error ellipse: s-maj=37.3km s-min=15.2km az=76.0*
JMA ***12*** *13:31:57.0±0.3, 28°79N×128°57E, h9km±4km, M3.3*

ISC 12 13:31:57.5±0.8, 28°77N±0°05×128°61E±0°06, h10km, n18, σ0°47/22, mb3.4/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.65**	**54**	P	**Pg**	**13 32 09.7**	**-0.3**
JTAJ				S	**Sg**	**13 32 18.3**	**-0.2**
JAMN	**Amaminishikomi**	**0.72**	**136**	P	**Pg**	**13 32 11.6**	**+0.1**
JAM	**Amami Oshima**	**0.95**	**112**	P	**Pg**	**13 32 15.4**	**-0.3**
JAM				S	**Sg**	**13 32

LEM MLR MLR
comp=Z,3μm,18.9s
DSRI Dabo 5.45 21 P Pn 13 38 02.0 +1.1
comp=Z,730nm,1.2s,comp=Z,8μmcomp=Z,2.0nm
CISI Cisompet, Garu 5.47 111 P Pn 13 38 01.3 +0.1
comp=Z,555nm,0.8s,comp=Z,10μmcomp=Z,3.7nm
CISI Cisompet, Garu 5.47 111 *e*Pn **Pn 13 38 00.7 -0.6**
CISI *e*Sn **Sn 13 39 01.6 -1.4**
XMIS Christmas Isla 5.67 149 *e*Pn Pn 13 37 59.1 -4.8
TPI Tanjungpandan 5.73 61 P Pn 13 38 04.4 -0.4
comp=Z,41nm,1.4s,comp=Z,927nmcomp=Z,0.7nm
BKNI Bangkinang 6.12 345 P Pn 13 38 13.5 +3.4
comp=Z,215nm,0.7s,comp=Z,2μmcomp=Z,1.9nm
BKNI Bangkinang 6.12 345 *e*Pn **Pn 13 38 09.3 -0.8**
BKNI *e*Sn **Sn 13 39 19.2 +0.3**
CMJI Cimerak 6.14 111 P Pn 13 38 10.4 0.0
comp=Z,304nm,0.8s,comp=Z,4μmcomp=Z,1.5nm
KPJI Karang Pucung 6.46 106 P Pn 13 38 16.6 +1.8
comp=Z,192nm,0.7s,comp=Z,2μmcomp=Z,0.9nm
TPRI Tanjung Pinang 6.75 16 P Pn 13 38 18.9 +0.1
MNSI Mandailing Nat 7.07 334 P Pn 13 38 20.5 -2.7
comp=Z,77nm,0.7s,comp=Z,1μmcomp=Z,0.4nm
MYKOM **Kota Tinggi 7.45 9** ⇓P **Pn 13 38 29.2 +0.9**
KGM Kluang 7.61 5 ⇓P **Pn 13 38 31.7 +1.1**
SMRI Semarang 7.86 101 P Pn 13 38 37.3 +3.2
comp=Z,140nm,1.0s,comp=Z,0.9nm
SMRI Semarang 7.86 101 *e*Pn Pn 13 38 30.1 -4.0
comp=Z,37nm,0.6s
UGM Wanagama 8.13 107 P Pn 13 38 38.8 +1.0
comp=Z,274nm,0.8s,comp=Z,4μm
UGM Wanagama 8.13 107 *e*Pn **Pn 13 38 38.6 +0.8**
GSI Gunungsitoli 8.55 323 P Pn 13 38 42.2 -1.2
comp=Z,82nm,0.5s
GSI Gunungsitoli 8.55 323 *e*Pn **Pn 13 38 41.1 -2.3**
GSI *e*Sn **Sn 13 40 17.9 -0.7**
COCO West Island 8.71 221 Pn **Pn 13 38 46.2 +0.6**
comp=Z,8μm,0.7s,SNR=13
PCJI Pacitan 8.84 107 P Pn 13 38 47.6 +0.2
comp=Z,218nm,1.1s
FRIM Kepong 8.85 353 ⇓P **Pn 13 38 47.9 +0.3**
PSI Prapat 9.15 336 P Pn 13 38 48.4 -3.5
comp=Z,0.9nm,0.3s,baz=145,slow=18,SNR=3.2
PSI LR LR 13 42 41.5
comp=Z,2μm,21.5s,baz=142,slow=40
PSI Prapat 9.15 336 P Pn 13 38 48.4 -3.5
PSI pmax pmax
comp=Z,1.0nm,0.3s
PSI MLR MLR
comp=Z,2μm,21.5s
PWJI Pagerwojo 9.39 105 P Pn 13 38 55.8 +0.8
comp=Z,138nm,1.0s,comp=Z,2μm
PBKI Pangkalan Bun 9.44 73 P Pn 13 38 57.7 +2.0
GRJI Gresik 9.85 98 P Pn 13 39 03.8 +2.6
IPM Ipoh 10.16 351 ⇑P **Pn 13 39 06.0 +0.4**
IPM Ipoh 10.16 351 *e*Pn **Pn 13 39 04.0 -1.5**
KSM Kuching 10.39 48 ⇑P **Pn 13 39 10.6 +1.9**
KSM Kuching 10.39 48 *e*Pn **Pn 13 39 07.4 -1.3**
STKI Sintang 10.46 58 P Pn 13 39 11.8 +2.2
comp=Z,39nm,0.9s
KTGM Kuala Trenggan 10.88 2 ⇑P **Pn 13 39 15.7 +0.3**
KULM Kulim 11.02 349 ⇑P **Pn 13 39 17.5 +0.2**
KULM Kulim 11.02 349 *e*Pn **Pn 13 39 14.9 -2.3**
BLJI Banyuglugur 11.06 102 P Pn 13 39 20.3 +2.4
comp=Z,128nm,0.7s,comp=Z,2μm
ABJI Asem Bagus 11.70 101 P Pn 13 39 28.5 +1.9
comp=Z,175nm,0.6s,comp=Z,2μm
JAGI Jajag, Banyuwa 11.75 105 *e*Pn **Pn 13 39 25.3 -2.1**
SBUM Sibu 12.46 50 ⇓P **Pn 13 39 39.4 +2.3**
SBUM Sibu 12.46 50 *e*Pn **Pn 13 39 39.3 +2.3**
SRBI Singaraja 12.70 102 P Pn 13 39 42.3 +2.0
comp=Z,92nm,0.6s,comp=Z,1μm
IGBI Denpasar 12.79 105 P Pn 13 39 43.7 +2.2
comp=Z,121nm,1.0s,comp=Z,2μm
BKB Balikpapan 14.85 74 P Pn 13 40 11.6 +2.1
KAPI Kappang 17.03 89 P Pn 13 40 36.6 -0.9
comp=Z,1.5nm,0.3s,baz=45,slow=4.2,SNR=5.9
KAPI LR LR 13 47 47.3
comp=Z,656nm,18.6s,baz=274,slow=39
KAPI Kappang 17.03 89 *e*Pn **Pn 13 40 37.2 -0.3**
comp=Z,62nm,1.6s
SPSI Sidrap Palu 17.13 85 P Pn 13 40 38.2 -0.5
TTSI Tana Toraja 17.30 82 P P 13 40 41.6 -0.3
BKSI Bulukumba 17.39 90 P Pn 13 40 41.0 -0.9
PCI Palu 17.77 75 P P 13 40 47.8 +0.7
comp=Z,120nm,1.0s,comp=Z,2μm
KKM Kota Kinabalu 17.81 50 ⇑P **P 13 40 47.7 0.0**
KKM Kota Kinabalu 17.81 50 *e*Pn **Pn 13 40 44.1 -3.2**
comp=Z,33nm,1.0s
TSM Tawau 18.10 57 ⇑P **P 13 40 51.7 +0.9**
MPSI Mapaga 18.20 72 P Pn 13 40 53.0 +1.1
comp=Z,36nm,1.1s,comp=Z,610nm
CHBT CHBT 18.25 359 P P 13 40 51.4 -0.9
comp=Z,36nm,1.0s,comp=Z,2μm
SDKM Sandakan 18.32 53 ⇓P **Pn 13 40 53.4 0.0**
PATY Pattaya 18.50 354 P Pn 13 40 55.8 +0.3
comp=Z,11nm,0.6s
KDM Kudat 18.84 49 ⇑P **P 13 40 58.6 -0.2**
APSI Ampana 19.52 77 P P 13 41 06.5 +0.2
MMRI Maumere 19.66 100 P P 13 41 06.2 -1.6
MMRI Maumere 19.66 100 *e*P **P 13 41 04.6 -3.2**
comp=Z,89nm,0.9s
SRDT SRDT 20.14 350 P Pn 13 41 14.2 -0.9
comp=Z,56nm,1.5s,comp=Z,8μm
MRSI Marisa 20.18 73 P P 13 41 13.1 -0.4
comp=Z,127nm,0.8s,comp=Z,1μm
LUWI Luwuk 20.58 78 P Pn 13 41 19.3 -1.0
comp=Z,125nm,1.2s,comp=Z,1μm
LUWI Luwuk 20.58 78 *e*P **P 13 41 16.3 -1.5**
comp=Z,215nm,1.3s
KHLT Khaolaem Dam 20.68 349 P P 13 41 18.7 -0.2
comp=Z,16nm,1.3s
UBPT Khong Chiam 20.95 8 P P 13 41 19.5 -2.2
comp=Z,68nm,1.1s,comp=Z,634nm
SOEI Soe 21.80 102 P P 13 41 31.7 +0.6
SOEI Soe 21.80 102 *e*P **P 13 41 28.1 -3.1**
comp=Z,125nm,0.8s
KMSI Cibinong 22.16 75 P P 13 41 36.2 +1.3
SKNT Sakolnakorn 22.48 3 P P 13 41 38.7 +0.4
comp=Z,14nm,1.4s
MBWA Marble Bar 22.64 135 P P 13 41 40.3 +0.3
comp=Z,21nm,0.9s
SUKH Sukhothai 23.14 353 P P 13 41 44.1 -1.0
comp=Z,13nm,0.8s,comp=Z,96nm
SANI Sanana 23.54 82 P P 13 41 48.4 -0.7
MHMT Maesarieng 24.10 349 P pP 13 42 07.4 +2.3
CM31 Chiang Mai Arr 24.20 351 *e*P **P 13 41 54.0 -1.2**
comp=Z,16nm,0.5s
CMAR Chiang Mai Arr 24.20 351 P P 13 41 53.7 -1.4
comp=Z,21nm,0.6s,baz=181,slow=9.2,SNR=121
CMAR pP **pP 13 42 06.0 -0.1**
comp=Z,13nm,0.5s,baz=182,slow=9.1,SNR=8.2
CMAR PcP **PcP 13 45 36.6 +1.4**
comp=Z,1.2nm,0.8s,baz=197,slow=2.8,SNR=4.9
CMAR pPcP 13 45 49.1
comp=Z,3.0nm,0.9s,baz=209,slow=3.3,SNR=6.4
CMAR LR LR 13 51 40.9
comp=Z,507nm,21.5s,baz=188,slow=38
CMAR Chiang Mai Arr 24.20 351 P P 13 41 53.7 -1.4
CMAR *PP **pP 13 42 06.0 -0.1**
CMAR 13 45 36.6
CMAR pmax pmax
comp=Z,21nm,0.6s
CMAR pmax pmax
comp=Z,13nm,0.5s
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMAR MLR MLR
comp=Z,507nm,21.5s
CMMT Chiang Mai 24.55 352 P P 13 41 56.8 -1.5
comp=Z,44nm,0.8s,comp=Z,427nm
CHTO Chiang Mai 24.55 352 P P 13 41 56.8 -1.5
comp=Z,149nm,0.8s
CHTO Chiang Mai 24.55 352 *e*P **P 13 41 55.3 -3.0**
comp=Z,22nm,0.8s
SGSI Sangihe 24.64 68 P P 13 42 00.1 +0.9
PALK Pallekele 25.38 300 LR LR 13 51 44.6
comp=Z,375nm,18.4s,baz=122,slow=36
TNTI Ternate 25.47 76 P P 13 42 04.2 -2.6
TNTI Ternate 25.47 76 *e*P **P 13 42 06.0 -0.8**
comp=Z,178nm,1.8s
QIZ Qiongzhong 25.49 16 P P 13 42 08.1 +1.3
QIZ pP **pP 13 42 16.7 -1.1**
QIZ S **S 13 46 36.3 +4.7**
QIZ PMZ
comp=Z,17nm,1.9s
SIJI Sorong 28.94 82 P P 13 42 36.3 -1.6
comp=Z,5.1nm,0.7s,baz=135,slow=19,SNR=2.4
FAKI Fak Fak 29.62 86 P pP 13 42 56.7 +1.7
FAKI Fak Fak 29.62 86 *e*P **P 13 42 41.0 -3.0**
comp=Z,16nm,0.8s
H08S2 Diego Garcia H 30.03 264 T T 14 13 53.9
baz=88,slow=76,SNR=342
H08S3 Diego Garcia H 30.04 265 T T 14 13 56.6
baz=88,slow=76,SNR=348
H08S1 Diego Carcia H 30.05 264 T T 14 13 57.2
baz=88,slow=76,SNR=222
NWAO Narrogin (SRO) 30.38 155 P P 13 42 52.2 +1.7
comp=Z,4.3nm,0.8s,baz=329,slow=5.9,SNR=3.0
NWAO Narrogin (SRO) 30.38 155 P P 13 42 52.2 +1.7
NWAO pmax pmax
comp=Z,4.0nm,0.8s
KMI Kunming 30.55 0 P P 13 42 52.1 -0.2
KMI PP **PnPn 13 43 52.0 -0.5**
KMI S S 13 48 00.2 +8.5
KMI LN
comp=Z,1μm,15.1s
KMI LE
comp=Z,160nm,14.1s
KMI LZ
comp=Z,1μm,15.1s
H01W3 Cape Leeuwin H 31.00 161 T T 14 15 25.3
baz=338,slow=76,SNR=62
H01W2 Cape Leeuwin H 31.01 161 T T 14 15 26.4
baz=338,slow=76,SNR=74
H01W1 Cape Leeuwin H 31.01 161 T T 14 15 26.7
baz=338,slow=76,SNR=64
GYA Guiyang 32.12 7 P P 13 43 08.0 +2.0
GYA pP **pP 13 43 18.2 +1.2**
GYA PP **PP 13 44 16.8 -2.3**
GYA S **S 13 48 19.2 +3.3**
GYA sS **sS 13 48 36.7 +2.4**
GYA SS **SnSn 13 50 16.6 +7.9**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,4.9s
GYA LN
comp=Z,560nm,17.6s
GYA LE
comp=Z,510nm,18.0s
GYA LZ
comp=Z,590nm,17.4s
WRA Warramunga Arr 33.93 118 P P 13 43 21.9 +0.2
comp=Z,7.6nm,0.7s,baz=292,slow=10,SNR=32
WRA PcP **PcP 13 46 00.9 +1.1**
comp=Z,1.9nm,0.4s,baz=306,slow=2.0,SNR=4.7
WRA LR LR 13 58 28.7
comp=Z,275nm,21.5s,baz=260,slow=38
WRA Warramunga Arr 33.93 118 P P 13 43 22.0 +0.2
WRA 13 46 00.9
WRA pmax pmax
comp=Z,8.0nm,0.7s
WRA pmax pmax
comp=Z,2.0nm,0.4s
WRA MLR MLR
comp=Z,275nm,21.5s
WRAB Tennant Creek 33.93 118 P P 13 43 22.0 +0.2
comp=Z,280nm,0.8s,SNR=27
WRAB Tennant Creek 33.93 118*c i*P **P 13 43 19.5 -2.3**
WRAB pmax pmax
comp=Z,44nm,1.0s
WRAB Tennant Creek 33.93 118 *e*P **P 13 43 20.2 -1.6**
comp=Z,42nm,0.9s
AS31 Alice Springs 35.02 124 P P 13 43 29.7 -1.5
ASAR Alice Springs 35.02 124 P P 13 43 32.5 +1.3
comp=Z,5.0nm,0.6s,baz=304,slow=8.2,SNR=64
ASAR PcP **PcP 13 46 04.0 +1.1**
comp=Z,1.7nm,0.7s,baz=298,slow=2.0,SNR=3.4
ASAR pPcP 13 46 16.1
comp=Z,3.1nm,1.1s,baz=317,slow=3.8,SNR=4.7
ASAR S **S 13 49 00.2 -0.6**
comp=Z,3.0nm,1.1s,baz=298,slow=16,SNR=8.3
ASAR LR LR 13 58 47.4
comp=Z,396nm,20.4s,baz=288,slow=38
ASAR Alice Springs 35.02 124 P P 13 43 32.5 +1.3
ASAR 13 46 04.0
ASAR S **S 13 49 00.3 -0.6**
ASAR pmax pmax
comp=Z,5.0nm,0.6s
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR pmax pmax
comp=Z,3.0nm,1.1s
ASAR smax smax
comp=N,3.0nm,1.1s
ASAR MLR MLR
comp=Z,396nm,20.4s
ODAN Odare 35.51 336 *e*P **P 13 43 35.9 +0.3**
comp=Z,90nm,0.6s
TAPN Taplejung 35.82 337 *e*P **P 13 43 39.1 +0.8**
comp=Z,126nm,0.8s
RAMN Ramite 35.91 335 *e*P **P 13 43 40.0 +0.9**
comp=Z,43nm,0.6s
CD2 Chengdu 36.33 2 *e*P **P 13 43 43.2 +0.8**
CD2 pP **pP 13 43 53.1 -0.4**
CD2 sP **sP 13 43 57.6 -0.7**
CD2 PP **PP 13 45 07.1 +1.5**
CD2 S **S 13 49 24.7 +3.9**
CD2 sS **sS 13 49 41.8 +2.5**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.1s
CD2 LN
comp=Z,1μm,16.6s
CD2 LE
comp=Z,690nm,17.6s
CD2 LZ
comp=Z,1μm,17.6s
JIRN Jiri 36.71 335 *e*P **P 13 43 46.7 +0.7**
comp=Z,106nm,0.7s
LSA Lhasa 36.81 343 *e*P **P 13 43 45.4 -1.5**
comp=Z,18nm,0.8s
PKI Pulchoki 36.96 334 *e*P **P 13 43 48.5 +0.4**
comp=Z,14nm,0.5s
GUN Gumba 37.06 335 *e*P **P 13 43 49.6 +0.7**
comp=Z,117nm,0.6s
DMN Daman 37.13 334 *e*P **P 13 43 49.8 +0.4**
KKN Kakani 37.21 334 *e*P **P 13 43 50.6 +0.5**
comp=Z,43nm,0.6s
WHN Wuhan 37.66 17 P P 13 43 52.3 -1.2
WHN LN
comp=Z,1μm,16.9s
WHN LE
comp=Z,610nm,11.5s
WHN LZ
comp=Z,1μm,21.4s
GKN Gorkha 37.68 333 *e*P **P 13 43 54.5 +0.5**
comp=Z,30nm,0.4s
KOLN Koldanda 37.95 332 *e*P **P 13 43 57.1 +0.8**
comp=Z,31nm,0.6s
XAN Xi'an 39.88 8 P P 13 44 10.6 -1.6
XAN pP **pP 13 44 20.6 -2.8**
XAN sP **sP 13 44 24.6 -3.6**
XAN PP **PnPn 13 45 46.6 -1.4**
XAN S **S 13 50 11.7 -2.7**
XAN PMZ
comp=Z,8.0nm,0.6s
XAN PMZ
comp=Z,30nm,6.0s
XAN LN
comp=Z,390nm,15.0s
XAN LE
comp=Z,100nm,16.5s
XAN LZ
comp=Z,190nm,16.5s
NJ2 Nanjing 40.51 21 *e*P **P 13 44 17.2 -0.2**
NJ2 PMZ
comp=Z,20nm,0.6s
LZH Lanzhou 41.50 1 *e*P **P 13 44 26.3 +0.7**
LZH pP **pP 13 44 37.8 +0.9**
LZH sP **sP 13 44 42.6 +0.9**
LZH PMZ
comp=Z,20nm,1.0s
LZH PMZ
comp=Z,87nm,4.0s
NDI New Delhi 41.99 326 *e*P **P 13 44 30.5 +0.9**
PMG Port Moresby 44.25 98*c i*P **P 13 44 47.5 -0.7**
PMG pmax pmax
comp=Z,153nm,1.0s
PMG Port Moresby 44.25 98 *e*P **P 13 44 46.6 -1.5**
comp=Z,12nm,0.7s
STKA Stephens Creek 44.79 131 P P 13 44 54.0 +1.8
comp=Z,14nm,0.6s,baz=304,slow=7.2,SNR=48
STKA LR LR 14 05 08.8
comp=Z,348nm,20.1s,baz=315,slow=38
STKA Stephens Creek 44.79 131 P P 13 44 54.0 +1.8
STKA pmax pmax
comp=Z,14nm,0.6s
STKA MLR MLR
comp=Z,349nm,20.2s
STKA Stephens Creek 44.79 131 P P 13 44 49.6 -2.6
comp=Z,7.6nm,0.8s
GTA Gaotai 44.88 357 ⇓P **P 13 44 53.5 +0.6**
GTA pP **pP 13 45 02.5 -1.7**
GTA sP **sP 13 45 06.7 -2.3**
GTA S **S 13 51 30.6 +2.6**
GTA sS **sS 13 51 47.2 +0.3**
GTA SS **ScS 13 54 44.4 -2.8**
GTA PMZ
comp=Z,29nm,0.9s
GTA PMZ
comp=Z,160nm,5.5s
GTA LN
comp=Z,720nm,19.0s
GTA LE
comp=Z,230nm,20.9s
GTA LZ
comp=Z,910nm,19.0s
JNU Nakatsue 46.91 33 P P 13 45 07.3 -1.6
comp=Z,7.1nm,0.8s,baz=27,slow=0.2,SNR=5.1
HHC Hu-ho-hao-te 46.95 9 *e*P **P 13 45 09.5 +0.3**
HHC pP **pP 13 45 20.2 -0.4**
HHC sP **sP 13 45 23.9 -1.4**
HHC PP **PP 13 46 58.8 -1.4**
HHC S **S 13 52 01.0 +3.2**
HHC ScS **ScS 13 54 57.5 -3.1**
HHC PMZ
comp=Z,22nm,1.1s
HHC PMZ
comp=Z,100nm,6.2s
HHC LN
comp=Z,650nm,14.1s
HHC LE
comp=Z,320nm,14.7s
HHC LZ
comp=Z,510nm,14.7s
BJI Beijing 47.11 14 P P 13 45 10.0 -0.2
BJI pP **PP 13 47 02.4 +0.9**
BJI S **S 13 52 02.2 +2.5**
BJI PMZ
comp=Z,29nm,0.6s
BJI PMZ
comp=Z,100nm,5.6s
BJI LN
comp=Z,560nm,19.4s
BJI LE
comp=Z,240nm,16.6s
BJI LZ
comp=Z,370nm,18.9s
KSAR Wonju Array Be 48.87 27 P P 13 45 22.9 -1.0
KSRS Korea Array 48.90 27 P P 13 45 22.9 -1.2
comp=Z,1.3nm,0.5s,baz=213,slow=8.5,SNR=14
KSRS Korea Array 48.90 27 P P 13 45 22.9 -1.2
KSRS pmax pmax
comp=Z,1.0nm,0.5s
CBIJ Chichi jima 50.18 48 P P 13 45 30.8 -3.3
JCJ Chichijima 50.18 48 P P 13 45 30.8 -3.3
comp=Z,49nm,0.6s,baz=283,slow=23,SNR=5.4
EIDS Eidsvold 50.29 118 *e*P **P 13 45 34.1 -0.9**
comp=Z,25nm,1.3s
WMQ Urumqi 51.03 346 P P 13 45 41.1 +0.8
WMQ pP **pP 13 45 51.0 -0.9**
WMQ sP **sP 13 45 54.9 -1.7**
WMQ PP **PP 13 47 37.9 +0.6**
WMQ ScP **ScP 13 50 49.4 +0.1**
WMQ S **S 13 52 53.2 -1.8**
WMQ ScS **ScS 13 55 25.9 -1.9**
WMQ PMZ
comp=Z,49nm,0.8s
WMQ PMZ
comp=Z,110nm,4.3s
WMQ LN
comp=Z,170nm,16.0s
WMQ LE
comp=Z,130nm,17.2s
WMQ LZ
comp=Z,86nm,24.0s
KSH Kashi 51.23 334 P P 13 45 40.7 -1.3
KSH pP **pP 13 45 50.4 -3.1**
KSH PP **PP 13 47 41.8 +2.6**
KSH S **S 13 52 58.5 +0.6**
KSH sS **sS 13 53 14.0 -3.1**
KSH ScS **ScS 13 55 27.3 -2.2**
KSH PMZ
comp=Z,12nm,0.6s
KSH LN
comp=Z,110nm,6.3s
KSH LE
comp=Z,170nm,11.6s
KSH LZ
comp=Z,130nm,5.3s
SFK Sufi-Kurgan 52.75 332 P P 13 45 53.5 +0.1
SFK pmax pmax
comp=Z,24nm,1.1s
PDGK Podgornoye 53.04 339 P P 13 45 55.3 +0.1
PDGK pmax pmax
comp=Z,13nm,0.6s
SONM Songino Array 53.32 3 P P 13 45 57.6 +0.2
comp=Z,24nm,0.5s,baz=182,slow=9.0,SNR=116
SONM pP **pP 13 46 09.4 +0.4**
comp=Z,13nm,0.9s,baz=182,slow=9.4,SNR=7.8
SONM PcP **PcP 13 47 04.7 +0.2**
comp=Z,2.1nm,0.4s,baz=192,slow=4.0,SNR=6.2
SONM LR LR 14 10 53.2
comp=Z,228nm,19.4s,baz=190,slow=39
SONM Songino Array 53.32 3 P P 13 45 57.6 +0.2
SONM *PP **pP 13 46 09.4 +0.4**
SONM 13 47 04.7
SONM pmax pmax
comp=Z,24nm,0.5s
SONM pmax pmax
comp=Z,13nm,0.9s
SONM pmax pmax
comp=Z,2.0nm,0.4s
SONM MLR MLR
comp=Z,228nm,19.4s
ULHL Ulahol 53.37 336 P P 13 45 58.4 +0.5
SNR=6.6
MAJO Matsushiro 53.52 36⇑ *e*P **P 13 45 56.0 -2.9**
MAJO pmax pmax
comp=Z,91nm,2.5s
MJAR Matsushiro Arr 53.52 36 P P 13 45 56.2 -2.6
comp=Z,3.2nm,0.8s,baz=216,slow=8.1,SNR=19
MJAR Matsushiro Arr 53.52 36 P P 13 45 56.3 -2.6
MJAR pmax pmax
comp=Z,3.0nm,0.8s
KZA Kyzart 53.64 335 P P 13 46 00.6 +0.5
SNR=13
UCH Uchtor 54.08 334 P P 13 46 03.8 +0.4
SNR=7.0
TKM2 Tokmak 2 54.19 336 P P 13 46 04.1 +0.2
SNR=27
TKM2 Tokmak 2 54.19 336 P P 13 46 03.8 -0.1
TKM2 pmax pmax
comp=Z,16nm,0.7s
TKM2 Tokmak 2 54.19 336 *e*P **P 13 46 03.2 -0.7**
comp=Z,15nm,0.4s
KBK Karagaybulak 54.24 335 P P 13 46 05.0 +0.7
SNR=7.4
AML Almayashu 54.35 334 P P 13 46 05.8 +0.4
SNR=7.0
AAK Ala-Archa 54.41 335⇑ *i*P **P 13 46 05.8 +0.3**
AAK pmax pmax
comp=Z,15nm,1.1s
AAK Ala-Archa 54.41 335 *e*P **P 13 46 04.8 -0.7**
comp=Z,4.9nm,0.8s
EKS2 Erkin-Say 54.75 334 P P 13 46 08.6 +0.7
SNR=13
EKS2 Erkin-Say 54.75 334 *e*P **P 13 46 07.0 -0.9**
comp=Z,14nm,0.8s
USP Ospenovka 54.93 335 P P 13 46 08.4 -0.7
SNR=9.1
MNAS Manas 55.17 333 P P 13 46 10.8 -0.2
MNAS pmax pmax
comp=Z,17nm,0.8s

MK31	**Makanchi Array**	**55.22**	**343**	*i* P		**P**	**13 46 10.6**	**-0.5**
MK31					pmax	pmax			
	comp=Z,4.0nm,0.3s								
MKAR	**Makanchi Array**	**55.22**	**343**	P		**P**	**13 46 10.9**	**-0.2**
	comp=Z,11nm,0.4s,baz=150,slow=7.2,SNR=56								
MKAR					LR	LR	14 15 07.3		
	comp=Z,107nm,18.1s,baz=155,slow=42								
MKAR	**Makanchi Array**	**55.22**	**343**	P		**P**	**13 46 10.9**	**-0.2**
MKAR					pmax	pmax			
	comp=Z,11nm,0.4s								
MKAR					MLR	MLR			
	comp=Z,107nm,18.1s								
VLA	**Vladivostok**	**55.26**	**26**	*de*P		**P**	**13 46 10.7**	**-0.7**
VLA					pmax	pmax			
	comp=Z,19nm,1.2s								
ZAK	**Zakamensk**	**55.77**	**0⇓**	*i*P		**P**	**13 46 14.7**	**-0.4**
ZAK					pmax	pmax			
	comp=Z,6.0nm,0.8s								
USRK	**Ussuriysk Ar.**	**56.18**	**25**	P		**P**	**13 46 17.2**	**-0.8**
	comp=Z,15nm,0.6s,baz=218,slow=4.8,SNR=30								
USRK					LR	LR	14 11 23.8		
	comp=Z,159nm,19.3s,baz=210,slow=37								
KK31	**Karatay Array**	**56.56**	**332**	*i* P		**P**	**13 46 20.8**	**0.0**
KK31					pmax	pmax			
	comp=Z,2.0nm,0.5s								
KKAR	**Karatay Array**	**56.56**	**332**	*e*P		**P**	**13 46 18.8**	**-2.0**
MOY	**Mondy**	**57.08**	**359**	*e*P		**P**	**13 46 24.2**	**-0.1**
TLY	**Talaya**	**57.08**	**1**	P		**P**	**13 46 23.3**	**-0.9**
	comp=Z,9.5nm,0.5s,baz=149,slow=6.8,SNR=4.3								
TLY	**Talaya**	**57.08**	**1**	P		**P**	**13 46 23.3**	**-0.9**
TLY					pmax	pmax			
	comp=Z,10.0nm,0.5s								
IRK	**Irkutsk**	**57.65**	**1**	*e*P		**P**	**13 46 27.9**	**-0.4**
IRK					pmax	pmax			
	comp=Z,28nm,1.6s								
IBAF	**Bafgh**	**58.16**	**313**	*e*P		**P**	**13 46 33.4**	**+0.9**
IPAY	**Payeh**	**58.47**	**319**	*e*P		**P**	**13 46 36.0**	**+1.4**
IPAR	**Pars**	**59.19**	**310**	*e*P		**P**	**13 46 41.9**	**+2.1**
IPAR				*e*P		pP	13 46 43.2	-8.3
KURBB	**Kurchatov Arra**	**59.76**	**342**	P		**P**	**13 46 42.8**	**-0.1**
	baz=159,slow=6.7								
KURK	**Kurchatov**	**59.81**	**343**	P		**P**	**13 46 42.2**	**-1.1**
	comp=Z,35nm,1.0s,SNR=11								
KURK	**Kurchatov**	**59.81**	**343**	P		**P**	**13 46 42.8**	**-0.5**
KURK	**Kurchatov**	**59.81**	**343**	*e*P		**P**	**13 46 41.8**	**-1.5**
	comp=Z,17nm,1.1s								
IKAZ	**Kazeroun**	**60.09**	**309**	*e*P		**P**	**13 46 47.7**	**+1.7**
KLR	**Kul'dur**	**60.22**	**22**	*e*P		P	13 46 40.8	-5.3
ASAJ	**Asahikawa**	**61.17**	**32**	*e*P		**P**	**13 46 51.4**	**-1.3**
	comp=Z,3.8nm,0.9s								
ZAA0	**Zalesovo Array**	**61.21**	**348**	*e*P		**P**	**13 46 51.4**	**-1.4**
ZALV	**Zalesovo Beam**	**61.21**	**348**	P		**P**	**13 46 52.2**	**-0.6**
	comp=Z,28nm,0.4s,baz=164,slow=5.9,SNR=147								
ZALV					LR	LR	14 16 34.2		
	comp=Z,370nm,18.9s,baz=72,slow=39								
ZALV	**Zalesovo Beam**	**61.21**	**348**	P		**P**	**13 46 52.2**	**-0.6**
ZALV					pmax	pmax			
	comp=Z,28nm,0.4s								
ZALV					MLR	MLR			
	comp=Z,370nm,18.9s								
IPIR	**Pirpir**	**62.15**	**311**	*e*P		**P**	**13 47 00.1**	**+0.1**
NVS	**Novosibirsk**	**62.38**	**347⇑**	*i*P		**P**	**13 46 59.4**	**-1.2**
NVS					pmax	pmax			
	comp=Z,20nm,1.4s								
NVS					pmax	pmax			
	comp=N,17nm,1.6s								
NVS					pmax	pmax			
	comp=E,10.0nm,1.3s								
YSS	**Yuzh-Sakhalins**	**63.21**	**30**	*e*P		**P**	**13 47 04.5**	**-1.7**
YSS				*e*			13 47 15.0		
YSS	**Yuzh-Sakhalins**	**63.21**	**30**	*e*P		**P**	**13 47 04.6**	**-1.7**
	comp=E,36nm,1.3s								
BOD	**Bodaibo**	**63.89**	**7**	*e*P		**P**	**13 47 09.4**	**-1.2**
BOD					pmax	pmax			
	comp=Z,13nm,1.4s								
IRAZ	**Razeghan**	**64.13**	**314**	*e*P		**P**	**13 47 14.3**	**+1.4**
BVA0	**Borovoye Array**	**64.48**	**339**	*i* P		**P**	**13 47 13.7**	**-0.9**
BVA0					pmax	pmax			
	comp=Z,8.0nm,0.6s								
BVAR	**Borovoye Array**	**64.48**	**339**	P		**P**	**13 47 14.1**	**-0.5**
	comp=Z,9.1nm,0.5s,baz=146,slow=9.3,SNR=41								
BVAR	**Borovoye Array**	**64.48**	**339**	P		**P**	**13 47 14.1**	**-0.5**
BVAR					pmax	pmax			
	comp=Z,9.0nm,0.5s								
BRVK	**Borovoye**	**64.54**	**339**	*c* *i*P		**P**	**13 47 14.4**	**-0.6**
BRVK					pmax	pmax			
	comp=Z,5.0nm,0.6s								
BRVK	**Borovoye**	**64.54**	**339**	*e*P		**P**	**13 47 13.4**	**-1.5**
	comp=Z,9.8nm,0.6s								
KMBO	**Kilima Mbogo**	**65.42**	**271**	LR		LR	14 12 31.6		
	comp=Z,116nm,19.5s,baz=97,slow=33								
AB31	**Akbulak array**	**66.07**	**331**	*i* P		**P**	**13 47 24.4**	**-0.5**
AB31					pmax	pmax			
	comp=Z,10.0nm,0.5s								
ABKAR	**Akbulak array**	**66.07**	**331**	*e*P		**P**	**13 47 22.4**	**-2.5**
MAW	**Mawson**	**67.49**	**195**	P		**P**	**13 47 36.3**	**+2.6**
	comp=Z,2.7nm,0.7s,baz=321,slow=6.5,SNR=3.6								
MAW					LR	LR	14 10 42.3		
	comp=Z,379nm,21.1s,baz=58,slow=30								
AKTO	**Aktyubinsk**	**67.78**	**331**	P		**P**	**13 47 34.7**	**-1.1**
AKTO					pmax	pmax			
	comp=Z,15nm,1.5s								
GNI	**Garni**	**69.96**	**316**	*ce*P		**P**	**13 47 47.9**	**-1.9**
GNI					pmax	pmax			
	comp=Z,18nm,2.5s								
YAK	**Yakutsk**	**70.59**	**13**	P		**P**	**13 47 50.1**	**-2.8**
	comp=Z,2.1nm,0.5s,baz=23,slow=18,SNR=5.0								
YAK	**Yakutsk**	**70.59**	**13**	*e*P		P	13 47 49.5	-3.4
YAK				*e**PP		pP	13 48 03.6	-1.3
YAK				*e*			13 48 19.6		
YAK				*e*S		S	13 56 56.7	-6.9
YAK				*e*			13 57 42.9		
YAK					pmax	pmax			
	comp=Z,17nm,0.9s								
YAK					pmax	pmax			
	comp=E,4.0nm,1.1s								
YAK					pmax	pmax			
	comp=N,6.0nm,1.3s								
YAK					pmax	pmax			
	comp=Z,5.0nm,0.8s								
YAK					pmax	pmax			
	comp=N,1.0nm,0.8s								
YAK					pmax	pmax			
	comp=E,1.0nm,0.9s								
YAK					smax	smax			
	comp=N,15nm,3.3s								
YAK					smax	smax			
	comp=E,43nm,4.8s								
YAK					MLR	MLR			
	comp=Z,313nm,21.0s								
YAK					MLR	MLR			
	comp=N,184nm,17.0s								
YAK					MLR	MLR			
	comp=E,134nm,19.0s								
YAK	**Yakutsk**	**70.59**	**13**	*e*P		P	13 47 48.5	-4.4
	comp=E,23nm,0.7s								
SVE	**Sverdlovsk**	**71.02**	**337⇓**	*e*P		**P**	**13 47 56.2**	**+0.5**
SVE					pmax	pmax			
	comp=Z,33nm,1.2s								
ARU	**Arti**	**71.56**	**336**	P		**P**	**13 47 58.0**	**-1.0**
	comp=Z,113nm,0.6s,SNR=7.4								
ARU	**Arti**	**71.56**	**336**	*c* *i*P		**P**	**13 47 59.0**	**0.0**
ARU							13 50 35.9		
ARU					S		**S**	**13 57 18.9**	**+3.8**
ARU					pmax	pmax			
	comp=Z,37nm,1.7s								
ARU	**Arti**	**71.56**	**336**	*e*P		**P**	**13 47 57.4**	**-1.6**
	comp=Z,37nm,1.3s								
NCK	**Nalchik**	**72.20**	**319⇑**	*e*P		**P**	**13 48 03.5**	**+0.4**
NEY	**Neytrino**	**72.67**	**319**	*e*P		**P**	**13 48 05.6**	**-0.5**
NEY					pmax	pmax			
	comp=Z,2.0nm,1.0s								
KBZ	**Khabaz**	**72.76**	**319**	P		**P**	**13 48 06.7**	**+0.3**
	comp=Z,5.4nm,0.9s,baz=143,slow=4.7,SNR=12								
KBZ	**Khabaz**	**72.76**	**319**	P		**P**	**13 48 06.7**	**+0.3**
KBZ					pmax	pmax			
	comp=Z,5.0nm,0.9s								
ASF	**Jabal al Asfar**	**72.84**	**306**	P		**P**	**13 48 08.6**	**+1.3**
	comp=Z,4.4nm,1.0s,baz=80,slow=3.2,SNR=5.3								
ASF	**Jabal al Asfar**	**72.84**	**306**	P		**P**	**13 48 08.6**	**+1.3**
ASF					pmax	pmax			
	comp=Z,4.0nm,1.0s								
KIV	**Kislovodsk**	**73.00**	**319**	*ce*P		**P**	**13 48 08.4**	**+0.5**
KIV				*e*			13 50 49.7		
KIV				*e*S		S	13 57 25.2	-7.0
KIV				*e*SS		**SS**	**14 02 08.5**	**-5.2**
KIV					pmax	pmax			
	comp=Z,7.0nm,1.0s								
KIV					MLR	MLR			
	comp=Z,39nm,23.0s								
EIL	**Elat**	**73.70**	**303**	P		**P**	**13 48 13.5**	**+1.3**
	comp=Z,2.5nm,0.6s,baz=179,slow=3.9,SNR=2.5								
SOKR	**Solikamsk**	**74.41**	**338⇑**	*i*P		**P**	**13 48 16.4**	**+0.7**
SOKR					pmax	pmax			
	comp=Z,20nm,1.0s								
PETK	**Petropavlovsk-**	**74.56**	**31**	P		**P**	**13 48 14.8**	**-2.0**
	comp=Z,2.8nm,0.6s,baz=245,slow=6.1,SNR=5.2								
PETK					LR	LR	14 22 07.7		
	comp=Z,46nm,19.6s,baz=204,slow=37								
PETK	**Petropavlovsk-**	**74.56**	**31**	P		**P**	**13 48 14.8**	**-2.0**
PETK					pmax	pmax			
	comp=Z,3.0nm,0.6s								
PETK					MLR	MLR			
	comp=Z,46nm,19.6s								
PET	**Petropavlovsk**	**75.00**	**31⇓**	*i*P		**P**	**13 48 18.3**	**-1.0**
PET				*e*S		**S**	**13 57 54.0**	**-0.1**
PET					pmax	pmax			
	comp=Z,29nm,0.6s								
BOSA	**Boshof**	**76.28**	**242**	P		**P**	**13 48 29.1**	**+1.7**
	comp=Z,1.8nm,0.9s,baz=135,slow=21,SNR=2.2								
BOSA					LR	LR	14 16 52.6		
	comp=Z,193nm,18.9s,baz=156,slow=32								
CSS	**Prodhromos**	**76.52**	**308**	*e*P		**P**	**13 48 27.4**	**-1.0**
	comp=Z,3.9nm,1.0s								
BR131	**Keskin Array S**	**77.71**	**313**	*e*P		**P**	**13 48 34.2**	**-0.9**
	comp=Z,1.8nm,0.6s								
BRTR	**Keskin Array B**	**77.71**	**313**	P		**P**	**13 48 35.5**	**+0.4**
	comp=Z,3.8nm,0.9s,baz=132,slow=7.1,SNR=18								
BRTR					LR	LR	14 25 41.7		
	comp=Z,64nm,18.6s,baz=109,slow=38								
BRTR	**Keskin Array B**	**77.71**	**313**	P		**P**	**13 48 35.6**	**+0.4**
BRTR					pmax	pmax			
	comp=Z,4.0nm,0.9s								
BRTR					MLR	MLR			
	comp=Z,64nm,18.6s								
SEY	**Seymchan**	**78.00**	**21**	P		**P**	**13 48 35.0**	**-1.0**
	comp=Z,4.0nm,0.6s,baz=222,slow=5.2,SNR=18								
SEY	**Seymchan**	**78.00**	**21**	*c* *i*P		**P**	**13 48 35.7**	**-0.4**
VNDA	**Vanda**	**78.13**	**169**	P		**P**	**13 48 38.7**	**+2.1**
	comp=Z,0.7nm,0.6s,baz=308,slow=5.9,SNR=5.9								
VNDA					pP	**pP**	**13 48 52.2**	**+3.5**	
	comp=Z,1.1nm,0.6s,baz=328,slow=5.6,SNR=4.7								
VNDA					LR	LR	14 20 03.6		
	comp=Z,171nm,18.8s,baz=302,slow=33								
VNDA	**Vanda**	**78.13**	**169**	P		**P**	**13 48 38.7**	**+2.1**
VNDA					*PP	**pP**	**13 48 52.3**	**+3.5**	
VNDA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
VNDA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
TIXI	**Tiksi**	**79.01**	**8**	*d* *i*P		**P**	**13 48 40.1**	**-1.4**
TIXI					pmax	pmax			
	comp=Z,20nm,1.7s								
TIXI	**Tiksi**	**79.01**	**8**	*e*P		**P**	**13 48 39.8**	**-1.7**
	comp=Z,17nm,1.2s								
PRGR	**Permogore**	**80.02**	**336**	*e*P		**P**	**13 48 45.2**	**-2.0**
PRGR					pmax	pmax			
	comp=Z,15nm,0.6s								
OBN	**Obninsk**	**81.25**	**328**	*c* *i*P		**P**	**13 48 54.0**	**+0.2**
OBN				*e*			13 51 58.9		
OBN				*e*S		S	13 58 52.0	-9.2
OBN					pmax	pmax			
	comp=Z,7.0nm,0.6s								
TIRR	**Tirgusor**	**82.78**	**316**	⇓P		**P**	**13 49 03.3**	**+1.1**
TIRR	**Tirgusor**	**82.78**	**316**	⇓*i*P		**P**	**13 49 03.3**	**+1.1**
TIRR	**Tirgusor**	**82.78**	**316**	*e*P		**P**	**13 48 59.2**	**-2.9**
	comp=Z,9.3nm,1.2s								
TLB	**Topalu**	**83.07**	**316**	⇑P		**P**	**13 49 04.9**	**+1.2**
TLB	**Topalu**	**83.07**	**316**	⇑*i*P		**P**	**13 49 04.9**	**+1.2**
CFR	**Carcaliu**	**83.16**	**317**	⇑*i*P		**P**	**13 49 05.2**	**+1.1**
CFR	**Carcaliu**	**83.16**	**317**	⇑*i*P		**P**	**13 49 05.2**	**+1.1**
IDI	**Anoyia**	**83.31**	**306**	P		**P**	**13 49 06.2**	**+1.0**
	comp=Z,1.8nm,0.4s,baz=101,slow=10,SNR=5.2								
AKASG	**Malin Array Be**	**83.95**	**322**	P		**P**	**13 49 07.5**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=85,slow=4.7,SNR=18								
AKASG	**Malin Array Be**	**83.95**	**322**	*i* P		**P**	**13 49 08.3**	**+0.3**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.5s								
KIEV	**Kiev**	**83.96**	**322**	*ce*P		**P**	**13 49 07.9**	**-0.2**
VRI	**Vrincioaia**	**84.29**	**317**	⇑P		**P**	**13 49 11.7**	**+1.8**
VRI	**Vrincioaia**	**84.29**	**317**	⇑*i*P		**P**	**13 49 11.7**	**+1.8**
TESR	**Tescani**	**84.50**	**318**	⇑*i*P		**P**	**13 49 12.4**	**+1.4**
MLR	**Muntele Rosu**	**84.73**	**317**	⇑P		**P**	**13 49 14.7**	**+2.4**
MLR	**Muntele Rosu**	**84.73**	**317**	⇑*i*P		**P**	**13 49 14.7**	**+2.4**
BURAR	**Bucovina Array**	**85.71**	**319**	⇑P		**P**	**13 49 19.4**	**+2.3**
BURAR	**Bucovina Array**	**85.71**	**319**	⇑*i*P		**P**	**13 49 19.4**	**+2.3**
BUR08	**Bucovina Ar. S**	**85.73**	**319**	P		**P**	**13 49 15.3**	**-2.0**
PUL	**Pulkovo**	**86.05**	**331**	⇑*e*P		**P**	**13 49 16.3**	**-2.0**
GZR	**Gura Zlata**	**86.89**	**316**	⇓P		**P**	**13 49 25.0**	**+2.0**
GZR	**Gura Zlata**	**86.89**	**316**	⇓*i*P		**P**	**13 49 25.0**	**+2.0**
KOLS	**Kolonicke sedl**	**87.91**	**319**	*e*P		**P**	**13 49 29.8**	**+2.1**
KOLS					pmax	pmax			
	comp=Z,21nm,1.2s								
KOLS	**Kolonicke sedl**	**87.91**	**319**	*e*P		**P**	**13 49 29.8**	**+2.1**
KOLS				*e*pP		**pP**	**13 49 40.8**	**+0.8**
KOLS				*e*sP		**sP**	**13 49 46.7**	**+2.2**
KOLS				*e*PP		**PP**	**13 52 56.4**	**+2.1**
FINES	**FINESS Array B**	**88.53**	**332**	P		**P**	**13 49 30.1**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=115,slow=6.8,SNR=8.8								
FINES					LR	LR	14 34 38.1		
	comp=Z,78nm,18.8s,baz=12,slow=39								
DIVS	**Divibare**	**88.62**	**314**	⇑*i*P		**P**	**13 49 33.7**	**+2.4**
STHS	**Stebnicka Huta**	**88.66**	**320**	*e*P		**P**	**13 49 33.1**	**+1.8**
STHS					pmax	pmax			
	comp=Z,4.0nm,0.8s								
STHS	**Stebnicka Huta**	**88.66**	**320**	*e*P		**P**	**13 49 33.1**	**+1.8**
STHS				*e*pP		**pP**	**13 49 45.0**	**+1.4**
STHS				*e*sP		**sP**	**13 49 50.8**	**+2.7**
KECS	**Kecovo**	**88.99**	**319**	*e*P		**P**	**13 49 34.3**	**+1.5**
KECS					pmax	pmax			
	comp=Z,4.0nm,1.2s								
KECS	**Kecovo**	**88.99**	**319**	*e*P		**P**	**13 49 34.3**	**+1.5**
SNAA	**Sanae**	**89.54**	**198**	P		P	13 49 29.6	-5.4
LANS	**Liptovska Anna**	**89.76**	**319**	*e*P		**P**	**13 49 38.7**	**+2.2**
LANS				*e*			13 49 48.3		
PKSM	**Moragy**	**89.88**	**316**	⇓P		**P**	**13 49 37.9**	**+0.9**
PKSM	**Moragy**	**89.88**	**316**	⇓*i*P		**P**	**13 49 37.9**	**+0.9**
ARCES	**ARCESS Array B**	**90.75**	**340**	P		**P**	**13 49 41.1**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=108,slow=4.0,SNR=16								
ARCES					LR	LR	14 35 04.1		
	comp=Z,105nm,19.9s,baz=90,slow=39								
KRLC	**Kraliky**	**91.62**	**320**	*e*P		**P**	**13 49 47.2**	**+2.1**
KRLC	**Kraliky**	**91.62**	**320**	*e*P		**P**	**13 49 47.2**	**+2.1**
DPC	**Dobruska-Polom**	**91.94**	**320**	*e*P		**P**	**13 49 48.6**	**+2.0**
DPC				*e*pP		**pP**	**13 49 59.1**	**+0.2**
DPC	**Dobruska-Polom**	**91.94**	**320**	*e*P		**P**	**13 49 48.6**	**+2.0**
DPC				*e*			13 49 59.1		
GERES	**GERESS Array B**	**93.50**	**319**	P		**P**	**13 49 55.0**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=98,slow=7.4,SNR=5.7								
GERES	**GERESS Array B**	**93.50**	**319**	P		**P**	**13 49 55.0**	**+1.1**
GERES					pmax	pmax			
	comp=Z,1.0nm,0.8s								
KHC	**Kasperske Hory**	**93.60**	**319**	AMS		AMS	14 41 10.0		
	comp=Z,100nm,19.8s								
NOA	**NORSAR Array B**	**95.57**	**331**	LR		LR	14 37 22.5		
	comp=Z,25nm,20.6s,baz=40,slow=38								
NVAR	**Mina Array Bea**	**130.57**	**43**	PKP		**PKPdf**	**13 55 49.3**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=349,slow=3.9,SNR=2.9								
Z29A	**Hungry Hill Ra**	**144.36**	**36**	P		PKPbc	13 56 13.9	+0.8	
	baz=144								
T36A	**Boggs Farm, Ca**	**144.41**	**26**	P		**PKPab**	**13 56 12.8**	**+0.1**
	baz=144								
228A	**UT Block 9, Go**	**144.61**	**39**	P		PKPbc	13 56 14.4	+0.4	
	baz=144								
V34A	**Guthrie**	**144.66**	**29**	P		PKPbc	13 56 14.3	+0.4	
	baz=144								
Z30A	**Sanderson Ranc**	**144.68**	**36**	P		**PKPab**	**13 56 14.0**	**0.0**
	baz=144								
T37A	**Cheneyville 18**	**144.76**	**25**	P		**PKPab**	**13 56 13.6**	**-0.5**
	baz=144								
X32A	**Elmer**	**144.87**	**32**	P		**PKPab**	**13 56 14.1**	**-0.4**
	baz=144								
V35A	**Meyer Ranch, C**	**145.04**	**28**	P		**PKPbc**	**13 56 14.7**	**-0.4**
	baz=145								
ACSO	**Alum Creek Sta**	**145.16**	**8**	*e*PKPbc		**PKPbc**	**13 56 15.1**	**-0.3**
Z31A	**Sharp Cattle R**	**145.22**	**35**	P		**PKPbc**	**13 56 15.7**	**-0.1**
	baz=145								
130A	**Snyder**	**145.27**	**36**	P		**PKPab**	**13 56 16.1**	**0.0**
	baz=145								
TUL1	**Leonard**	**145.40**	**27**	P		**PKPbc**	**13 56 15.9**	**-0.3**
	baz=145								
329A	**Wagon Wheel Ra**	**145.42**	**39**	P		**PKPab**	**13 56 16.9**	**+0.1**
	baz=145								
V36A	**Jenks**	**145.44**	**27**	P		**PKPbc**	**13 56 16.4**	**0.0**
	baz=145								
X34A	**Smith Ranch, M**	**145.49**	**31**	P		**PKPbc**	**13 56 16.6**	**0.0**
	baz=145								
W35A	**Tecumseh**	**145.52**	**29**	P		**PKPbc**	**13 56 16.7**	**0.0**
	baz=145								
131A	**Roby**	**145.55**	**36**	P		**PKPab**	**13 56 17.4**	**+0.2**
	baz=145								
Z32A	**Haskell**	**145.60**	**34**	P		**PKPbc**	**13 56 17.1**	**+0.1**
	baz=145								
OLIL	**Olney**	**145.62**	**15**	*e*PKPab		**PKPdf**	**13 56 16.6**	**0.0**
230A	**Sterling City**	**145.68**	**37**	P		**PKPab**	**13 56 17.9**	**+0.2**
	baz=145								
V37A	**Hulbert**	**145.72**	**26**	P		**PKPdf**	**13 56 16.8**	**-0.1**
	baz=145								
TXAR	**Lajitas Array**	**145.72**	**43**	PKPbc		**PKPab**	**13 56 18.6**	**+0.6**
	comp=Z,11nm,0.8s,baz=286,slow=1.7,SNR=111								
TXAR					pPKPbc	pPKPbc	13 56 30.8	+0.6	
	comp=Z,4.7nm,0.5s,baz=272,slow=0.7,SNR=8.9								
TXAR	**Lajitas Array**	**145.72**	**43**	PKIKP		**PKPab**	**13 56 18.6**	**+0.6**
TXAR							13 56 30.8		
TXAR					pmax	pmax			
	comp=Z,11nm,0.8s								
TXAR					pmax	pmax			
	comp=Z,5.0nm,0.5s								
W36A	**Wetumka**	**145.84**	**28**	P		**PKPbc**	**13 56 17.7**	**+0.1**
	baz=146								
330A	**Mertzon**	**145.98**	**38**	P		**PKPbc**	**13 56 18.4**	**+0.1**
	baz=146								
Z33A	**Whitaker Ranch**	**146.01**	**33**	P		**PKPab**	**13 56 18.6**	**-0.2**
	baz=146								
ABTX	**Abilene, Hawle**	**146.01**	**35**	P		**PKPbc**	**13 56 18.5**	**+0.2**
	baz=146								
Y34A	**Reagan Ranch,**	**146.03**	**31**	P		**PKPbc**	**13 56 18.5**	**+0.2**
	baz=146								
429A	**Davenport Ranc**	**146.06**	**40**	P		**PKPab**	**13 56 19.3**	**+0.1**
	baz=146								
X35A	**Drake**	**146.08**	**30**	P		**PKPbc**	**13 56 18.6**	**+0.2**
	baz=146								
231A	**Bronte**	**146.12**	**37**	P		**PKPab**	**13 56 19.7**	**+0.4**
	baz=146								
529A	**Stev Forest Ra**	**146.18**	**41**	P		**PKPbc**	**13 56 19.2**	**+0.3**
	baz=146								
430A	**Baggett Ranch,**	**146.37**	**39**	P		**PKPbc**	**13 56 19.9**	**+0.4**
	baz=146								
133A	**Hamilton Ranch**	**146.44**	**34**	P		**PKPbc**	**13 56 20.0**	**+0.4**
	baz=146								
331A	**San Angelo**	**146.50**	**37**	P		**PKPbc**	**13 56 19.9**	**0.0**
	baz=146								
WCI	**Wyandotte Cave**	**146.53**	**13**	*e*PKPab		**PKPab**	**13 56 20.8**	**+0.1**
232A	**Coleman**	**146.55**	**36**	P		**PKPbc**	**13 56 20.3**	**+0.4**
	baz=146								
X37A	**Clayton**	**146.69**	**28**	P		**PKPbc**	**13 56 19.9**	**-0.3**
	baz=146								
530A	**J-C Ranch, Com**	**146.73**	**40**	P		**PKPab**	**13 56 21.7**	**0.0**
	baz=146								
Y36A	**Durant**	**146.82**	**30**	P		**PKPbc**	**13 56 20.5**	**-0.1**
	baz=146								
332A	**Millersview**	**146.86**	**37**	P		**PKPbc**	**13 56 21.2**	**+0.4**
	baz=146								
X38A	**Whitesboro**	**146.87**	**27**	P		**PKPbc**	**13 56 20.8**	**0.0**
	baz=146								
233A	**Rising Star**	**146.89**	**35**	P		**PKPbc**	**13 56 21.4**	**+0.5**
	baz=146								
531A	**Rocksprings**	**147.22**	**39**	P		**PKPbc**	**13 56 21.5**	**-0.4**
	baz=147								
234A	**Clairette**	**147.32**	**34**	P		**PKPbc**	**13 56 22.6**	**+0.5**
	baz=147								
333A	**Richland Sprin**	**147.35**	**36**	P		**PKPbc**	**13 56 21.8**	**-0.4**
	baz=147								
JCT	**Junction City**	**147.47**	**38**	P		**PKPbc**	**13 56 22.1**	**-0.5**
	baz=147								
JCT	**Junction City**	**147.47**	**38**	*e*PKPab		**PKPbc**	**13 56 23.1**	**+0.5**
MIAR	**Mount Ida**	**147.53**	**25**	*e*PKPab		**PKPab**	**13 56 24.4**	**-0.2**
532A	**Rocksprings**	**147.65**	**38**	P		**PKPdf**	**13 56 19.6**	**-0.8**
	baz=147								
433A	**Art**	**147.70**	**37**	P		**PKPdf**	**13 56 20.2**	**-0.2**
	baz=147								
631A	**Perdido Creek**	**147.72**	**40**	P		**PKPdf**	**13 56 21.2**	**+0.8**
	baz=147								
334A	**Lometa**	**147.77**	**35**	P		**PKPdf**	**13 56 21.5

KSAR	**Wonju Array Be**	**47.18**	**333**	P	**P**		**14 01 34.0**	**+0.1**
PETK	**Petropavlovsk-**	**57.08**	**4**	P	**P**		**14 02 46.5**	**-0.8**
	3.0nm,0.9s,baz=224,slow=5.8,SNR=3.0							
CMAR	**Chiang Mai Arr**	**57.27**	**295**	P	**P**		**14 02 49.5**	**+0.1**
	1.0nm,0.7s,baz=106,slow=5.1,SNR=6.2							
SONM	**Songino Array**	**65.51**	**328**	P	**P**		**14 03 44.0**	**-0.6**
	0.8nm,0.8s,baz=151,slow=3.3,SNR=3.3							
SONM				LR	LR		14 32 03.8	
	comp=Z,34nm,19.7s,baz=111,slow=36							
TLY	**Talaya**	**69.25**	**330**	LR	LR		14 34 25.7	
	comp=Z,25nm,18.4s,baz=140,slow=36							
VNDA	**Vanda**	**73.62**	**178**	P	**P**		**14 04 33.6**	**-0.4**
	0.6nm,0.5s,baz=97,slow=18,SNR=7.3							
MKAR	**Makanchi Array**	**79.54**	**319**	P	**P**		**14 05 08.4**	**+0.3**
	0.7nm,0.8s,baz=110,slow=5.8,SNR=5.9							
ZALV	**Zalesovo Beam**	**80.34**	**326**	P	**P**		**14 05 11.8**	**-0.4**
	0.7nm,0.6s,baz=100,slow=7.7,SNR=3.6							
ZALV				LR	LR		14 43 18.0	
	comp=Z,15nm,18.1s,baz=68,slow=38							
ILAR	**Eielson Array**	**81.55**	**22**	P	**P**		**14 05 19.2**	**+0.7**
	1.0nm,0.7s,baz=271,slow=4.2,SNR=14							
QSPA	**South Pole Qui**	**85.94**	**180**	P	**P**		**14 05 42.1**	**+1.0**
	0.9nm,0.9s,baz=343,slow=3.3,SNR=3.7							
MAW	**Mawson**	**86.17**	**203**	P	**P**		**14 05 41.1**	**-0.9**
	2.0nm,0.8s,baz=66,slow=20,SNR=3.9							
TORD	**Torodi Ar. Bea**	**149.77**	**289**	PKPbc	**PKPbc**		**14 12 52.4**	**+0.3**
	0.3nm,0.9s,baz=74,slow=3.4,SNR=2.3							

IDC ***12*** *14:01:01.6±1.7,3°.93S×152°.43E,h0km,mb3.7/7, mb1 3.9/7,mb1mx3.7/18,mbtmp3.7/7,Error ellipse: s-maj=57.5km s-min=24.3km az=107.0*

ISCJB ***12*** *14:01:05.1±1.4,4°.0S±0°.2×152°.4E±0°.3,h33km,mb3.6/7, Error ellipse: s-maj=46.9km s-min=19.4km az=16.1*

ISC 12 14:01:07.1±1.5,4°.0S±0°.2×152°.4E±0°.3,h35km,n7,σ0s44/7, mb3.6/7,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.72**	**226**	P		**P**	**14 06 15.4**	**-0.7**
	1.8nm,0.8s,baz=51,slow=9.7,SNR=8.5							
ASAR	**Alice Springs**	**26.51**	**221**	P		**P**	**14 06 41.5**	**-0.1**
	0.4nm,0.6s,baz=54,slow=8.4,SNR=5.8							
STKA	**Stephens Creek**	**29.57**	**199**	P		**P**	**14 07 09.1**	**+0.3**
	2.7nm,1.1s,baz=28,slow=14,SNR=2.3							
CMAR	**Chiang Mai Arr**	**57.17**	**295**	P		**P**	**14 10 51.2**	**+0.3**
	1.3nm,0.9s,baz=115,slow=5.8,SNR=4.5							
MKAR	**Makanchi Array**	**79.44**	**319**	P		**P**	**14 13 09.7**	**-0.2**
	0.3nm,0.7s,baz=106,slow=5.2,SNR=4.3							
ZALV	**Zalesovo Beam**	**80.24**	**326**	P		**P**	**14 13 14.2**	**+0.2**
	0.4nm,0.4s,baz=131,slow=5.9,SNR=3.0							
ILAR	**Eielson Array**	**81.53**	**22**	P		**P**	**14 13 20.5**	**-0.2**
	0.3nm,0.7s,baz=243,slow=5.4,SNR=3.4							

IDC 12 14:05:20.6±1.4,3°.57S×152°.02E,h0km,mb3.6/6, mb1 3.9/6,mb1mx3.6/21,mbtmp3.6/6,MS3.4/2,Ms1 3.4/2, ms1mx2.9/22,Error ellipse: s-maj=51.0km s-min=23.7km az=109.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**17.36**	**198**	LR		LR	14 15 14.1	
	comp=Z,243nm,20.2s,baz=49,slow=34							
WRA	**Warramunga Arr**	**23.71**	**225**	P		P	14 10 34.1	-0.4
	2.5nm,1.0s,baz=50,slow=9.6,SNR=7.2							
ASAR	**Alice Springs**	**26.57**	**220**	P		P	14 11 00.5	0.0
	0.5nm,0.4s,baz=50,slow=8.9,SNR=4.3							
STKA	**Stephens Creek**	**29.82**	**198**	P		P	14 11 29.4	0.0
	0.8nm,0.8s,baz=11,slow=14,SNR=2.9							
KSRS	**Korea Array**	**33.33**		LR		LR	14 32 31.0	
	comp=Z,20nm,18.6s,baz=161,slow=35							
CMAR	**Chiang Mai Arr**	**56.66**	**295**	P		P	14 15 06.0	-0.2
	0.2nm,0.3s,baz=108,slow=5.9,SNR=2.5							
MKAR	**Makanchi Array**	**78.90**	**319**	P		P	14 17 25.9	-0.1
	0.1nm,0.3s,baz=107,slow=4.8,SNR=2.5							
ILAR	**Eielson Array**	**81.32**	**22**	P		P	14 17 38.3	-0.3
	0.5nm,1.0s,baz=254,slow=5.6,SNR=3.0							
TORD	**Torodi Ar. Bea**	**149.18**	**290**	PKPbc		PKPbc	14 25 12.6	+0.4
	0.3nm,0.8s,baz=169,slow=2.9,SNR=2.8							

IDC 12 14:22:46.8±1.8,4°.17N×74°.13W,h58km±20km,mb3.2/2, mb1 3.4/2,mb1mx3.1/23,mbtmp3.5/2,Error ellipse: s-maj=43.0km s-min=30.8km az=80.0,Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ROSC	**El Rosal**	**0.71**	**344**	P		Pn	14 23 00.6	-1.0
	78nm,0.3s,baz=123,slow=8.5,SNR=97							
ROSC				S		Sn	14 23 13.6	+1.3
	165nm,0.3s,baz=93,slow=20,SNR=17							
LPAZ	**La Paz**	**21.18**	**164**	P		P	14 27 29.2	+0.9
	1.7nm,0.7s,baz=341,slow=13,SNR=6.9							
TORD	**Torodi Ar. Bea**	**75.27**	**78**	P		P	14 34 24.4	0.0
	0.2nm,0.6s,baz=274,slow=7.2,SNR=2.5							
ASAR	**Alice Springs**	**146.72**	**232**	PKPbc		PKPbc	14 42 22.5	-0.8
	0.4nm,0.7s,baz=120,slow=5.7,SNR=7.4							
WRA	**Warramunga Arr**	**148.14**	**238**	PKPbc		PKPbc	14 42 26.5	-0.7
	0.2nm,0.3s,baz=106,slow=3.5,SNR=4.6							

IDC ***12*** *14:48:40.1±0.6,55°.25N×165°.30E,h0km,mb4.2/25, mb1 4.4/27,mb1mx4.4/32,mbtmp4.2/27,ML3.3/2,MS3.3/17, Ms1 3.4/17,ms1mx3.2/48,Error ellipse: s-maj=17.3km s-min=11.3km az=154.0*

KRSC ***12*** *14:48:40.1±1.6,55°.08N×165°.42E,h49km±16km,ML4.8*

NEIC ***12*** *14:48:41.3±2.2,55°.18N×165°.36E,h11km±14km,mb4.8/78, Error ellipse: s-maj=7.0km s-min=3.6km az=164.0*

ISCJB ***12*** *14:48:42.3±0.5,55°.11N±0°.02×165°.35E±0°.02,h28km±3km, mb4.6/110,MS3.4/14,Error ellipse: s-maj=4.0km s-min=1.7km az=170.0*

MOS ***12*** *14:48:43.7±0.8,55°.14N×165°.31E,h41km,mb4.5/24,Error ellipse: s-maj=7.5km s-min=6.4km az=61.3*

BJI ***12*** *14:48:44.1,55°.10N×165°.30E,h40km,mb4.7/19,mB4.8/17, Ms4.4/11,Ms7 4.1/8*

ISC 12 14:48:44.0±0.7,55°.11N±0°.04×165°.48E±0°.04,h28km±4km, n527,σ1s36/580,mb4.7/110,MS3.4/14,137C-141D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKI	**Bering**	**0.30**	**71**	*e*P		**Pb**	**14 48 49.9**	**-1.3**
BKI				*e*S		**Sb**	**14 48 55.1**	**-1.0**
BKI	**Bering**	**0.30**	**71**	PN		**Pb**	**14 48 49.9**	**-1.3**
KBTR	**Krutoberegovo**	**1.87**	**307**	*e*P		Pn	14 49 10.8	-3.2
KBTR				*e*S		**Sn**	**14 49 32.4**	**-4.2**
KBTR	**Krutoberegovo**	**1.87**	**307**	PN		Pn	14 49 10.8	-3.2
KBTR				S		**Sn**	**14 49 32.4**	**-4.2**
KBG	**Krutoberegovo**	**1.95**	**307**	*e*P		**Pn**	**14 49 11.9**	**-3.2**
KBG				*e*S		**Sn**	**14 49 34.2**	**-4.4**
MKZ	**Mys Kozlova**	**2.24**	**257**	*e*P		**Pn**	**14 49 17.3**	**-1.8**
MKZ				*e*S		**Sn**	**14 49 42.9**	**-2.8**
MKZ	**Mys Kozlova**	**2.24**	**257**	PN		**Pn**	**14 49 17.3**	**-1.8**
MKZ				S		**Sn**	**14 49 42.9**	**-2.8**
SMKR	**Semkarok**	**2.70**	**305**	*e*P		**Pn**	**14 49 24.0**	**-1.6**
SMKR				*e*S		**Sn**	**14 49 54.6**	**-2.7**
SMKR	**Semkarok**	**2.70**	**305**	PN		**Pn**	**14 49 24.0**	**-1.6**
SMKR				S		**Sn**	**14 49 54.6**	**-2.7**
BDR	**Baidarnaya**	**2.82**	**303**	*e*P		**Pn**	**14 49 26.0**	**-1.2**
BDR				*e*S		**Sn**	**14 49 58.3**	**-1.9**
BZGR	**Bezymyannyi-Gr**	**2.84**	**289**	*e*P		**Pn**	**14 49 26.5**	**-1.0**
BZGR				*e*S		**Sn**	**14 49 59.0**	**-1.9**
SRKR	**Sorokina**	**2.88**	**304**	*e*P		**Pn**	**14 49 26.8**	**-1.2**
SRKR				*e*S		**Sn**	**14 50 00.8**	**-0.9**
SRKR	**Sorokina**	**2.88**	**304**	PN		**Pn**	**14 49 26.8**	**-1.2**
SRKR				S		**Sn**	**14 50 00.8**	**-0.9**
BZMR	**Bezymyannaya**	**2.96**	**288**	*e*P		**Pn**	**14 49 28.6**	**-0.5**
BZWR	**Bezymyannyi-We**	**2.96**	**289**	*e*P		**Pn**	**14 49 28.9**	**-0.3**
BZWR				*e*S		**Sn**	**14 50 03.6**	**-0.2**
KZV	**Kizimen**	**2.98**	**272**	*e*P		**Pn**	**14 49 28.2**	**-1.2**
KZV				*e*S		**Sn**	**14 50 02.0**	**-2.3**
KLY	**Klyuchi**	**2.99**	**296**	*e*P		**Pn**	**14 49 27.3**	**-2.1**
KLY				*e*S		**Sn**	**14 50 00.9**	**-3.3**
KIRR	**Kirishev**	**3.04**	**288**	*e*P		**Pn**	**14 49 30.4**	**+0.1**
KIRR				*e*S		**Sn**	**14 50 05.7**	**-0.1**
KMNR	**Kamenistaya**	**3.06**	**284**	*e*P		**Pn**	**14 49 30.4**	**-0.1**
KMNR				*e*S		**Sn**	**14 50 06.0**	**-0.1**
KMNR	**Kamenistaya**	**3.06**	**284**	PN		**Pn**	**14 49 30.4**	**-0.1**
KMNR				S		**Sn**	**14 50 06.0**	**-0.1**
TUMR	**Tumrok**	**3.06**	**275**	*e*P		**Pn**	**14 49 30.2**	**-0.3**
TUMR				*e*S		**Sn**	**14 50 06.1**	**-0.2**
TUMR	**Tumrok**	**3.06**	**275**	PN		**Pn**	**14 49 30.2**	**-0.3**
TUMR				S		**Sn**	**14 50 06.1**	**-0.2**
KPT	**Kopyto**	**3.11**	**288**	*e*P		**Pn**	**14 49 31.3**	**+0.1**
KPT				*e*S		**Sn**	**14 50 07.6**	**+0.2**
KPT	**Kopyto**	**3.11**	**288**	PN		**Pn**	**14 49 31.3**	**+0.1**
KPT				S		**Sn**	**14 50 07.6**	**+0.2**
KOZ	**Kozyrevsk**	**3.32**	**289**	*e*P		**Pn**	**14 49 33.9**	**-0.1**
KOZ				*e*S		**Sn**	**14 50 12.0**	**-0.5**
KOZ	**Kozyrevsk**	**3.32**	**289**	PN		**Pn**	**14 49 33.9**	**-0.1**
KOZ				S		**Sn**	**14 50 12.0**	**-0.5**
SRDR	**Sredinnyy**	**3.48**	**293**	*e*P		**Pn**	**14 49 36.2**	**0.0**
SRDR				*e*S		**Sn**	**14 50 15.9**	**-0.5**
SRDR	**Sredinnyy**	**3.48**	**293**	PN		**Pn**	**14 49 36.2**	**0.0**
SRDR				S		**Sn**	**14 50 15.9**	**-0.5**
KII	**Karymskiy**	**3.67**	**255**	*e*P		**Pn**	**14 49 38.5**	**-0.4**
KII	**Karymskiy**	**3.67**	**255**	PN		**Pn**	**14 49 38.5**	**-0.4**
SPN	**Mys Shipunski**	**3.79**	**240**	*e*P		**Pn**	**14 49 38.6**	**-1.8**
SPN				*e*S		**Sn**	**14 50 19.1**	**-4.9**
SPN	**Mys Shipunski**	**3.79**	**240**	PN		**Pn**	**14 49 38.6**	**-1.8**
ESO	**Esso**	**3.94**	**285**	*e*P		**Pn**	**14 49 42.7**	**+0.2**
ESO				*e*S		**Sn**	**14 50 27.0**	**-0.8**
ESO	**Esso**	**3.94**	**285**	PN		**Pn**	**14 49 42.7**	**+0.2**
ESO				S		**Sn**	**14 50 27.0**	**-0.8**
NLC	**Nalytchevo**	**4.10**	**244**	*e*P		**Pn**	**14 49 43.0**	**-1.6**
NLC				*e*S		**Sn**	**14 50 28.1**	**-3.4**
NLC	**Nalytchevo**	**4.10**	**244**	PN		**Pn**	**14 49 43.0**	**-1.6**
SDLR	**Sedlovina**	**4.29**	**247**	*e*P		**Pn**	**14 49 47.1**	**-0.2**
SDLR				*e*S		**Sn**	**14 50 34.3**	**-2.1**
SDLR	**Sedlovina**	**4.29**	**247**	PN		**Pn**	**14 49 47.1**	**-0.2**
SDLR				S		**Sn**	**14 50 34.3**	**-2.1**
SMAR	**Somma**	**4.34**	**248**	*e*P		**Pn**	**14 49 47.9**	**-0.2**
SMAR				*e*S		**Sn**	**14 50 34.9**	**-2.9**
SMAR	**Somma**	**4.34**	**248**	PN		**Pn**	**14 49 47.9**	**-0.2**
KRER	**Koryakskii**	**4.34**	**248**	*e*P		**Pn**	**14 49 47.8**	**-0.4**
KRER				*e*S		**Sn**	**14 50 36.0**	**-2.0**
UGLR	**Uglovaya**	**4.35**	**247**	*e*P		**Pn**	**14 49 47.5**	**-0.7**
UGLR				*e*S		**Sn**	**14 50 34.5**	**-3.5**
OSSR	**Ossora**	**4.36**	**343**	*e*P		**Pn**	**14 49 46.7**	**-1.5**
OSSR				*e*S		**Sn**	**14 50 34.6**	**-3.3**
AVH	**Avacha**	**4.37**	**248**	*e*P		**Pn**	**14 49 48.2**	**-0.3**
AVH				*e*S		**Sn**	**14 50 36.8**	**-1.6**
AVH	**Avacha**	**4.37**	**248**	PN		**Pn**	**14 49 48.2**	**-0.3**
AVH				S		**Sn**	**14 50 36.8**	**-1.6**
KRX	**Arik**	**4.37**	**249**	*e*P		**Pn**	**14 49 48.1**	**-0.5**
KRX				*e*S		**Sn**	**14 50 36.8**	**-1.8**
KOK	**Koryaka**	**4.41**	**248**	*e*P		**Pn**	**14 49 48.7**	**-0.3**
KOK				*e*S		**Sn**	**14 50 37.3**	**-2.2**
KOK	**Koryaka**	**4.41**	**248**	PN		**Pn**	**14 49 48.7**	**-0.3**
KOK				S		**Sn**	**14 50 37.3**	**-2.2**
PET	**Petropavlovsk**	**4.53**	**245**	*e*P		**Pn**	**14 49 50.0**	**-0.5**
PET				*e*S		**Sn**	**14 50 37.8**	**-4.4**
PET	**Petropavlovsk**	**4.53**	**245**	*e*PN		**Pn**	**14 49 50.1**	**-0.5**
PET				pmax	pmax			
	comp=Z,92nm,0.3s							
PET				MLR	MLR			
	comp=Z,500nm,13.0s							
PET				MLR	MLR			
	comp=Z,500nm,15.0s							
PET	**Petropavlovsk**	**4.53**	**245**	*e*Pn		**Pn**	**14 49 49.8**	**-0.8**
PET				*e*Sn		**Sn**	**14 50 39.0**	**-3.2**
GNL	**Ganaly**	**4.63**	**255**	*e*P		**Pn**	**14 49 52.1**	**+0.1**
GNL				*e*S		**Sn**	**14 50 43.6**	**-1.2**
GNL	**Ganaly**	**4.63**	**255**	PN		**Pn**	**14 49 52.1**	**+0.1**
GNL				S		**Sn**	**14 50 43.6**	**-1.2**
RUS	**Russkaya**	**4.92**	**240**	*e*P		**Pn**	**14 49 54.9**	**-1.1**
RUS				*e*S		**Sn**	**14 50 47.2**	**-4.7**
RUS	**Russkaya**	**4.92**	**240**	PN		**Pn**	**14 49 54.9**	**-1.1**
PALN	**Palana**	**5.00**	**325**	*e*P		**Pn**	**14 49 56.6**	**-0.3**
PEA0B	**Petropavlovsk-**	**5.00**	**250**	*e*Pn		**Pn**	**14 49 55.6**	**-1.4**
PEA0B				*e*Sn		**Sn**	**14 50 53.1**	**-0.7**
PETK	**Petropavlovsk-**	**5.00**	**250**	Pn		**Pn**	**14 49 56.0**	**-1.0**
	comp=Z,20nm,0.3s,baz=83,slow=18,SNR=206							
PETK				Sn		**Sn**	**14 50 52.1**	**-1.7**
	comp=Z,12nm,0.3s,baz=84,slow=39,SNR=7.4							
PETK				LR	LR		14 52 08.3	
	comp=Z,262nm,19.2s,baz=66,slow=42							
MTVR	**Mutnovka**	**5.06**	**242**	*e*P		**Pn**	**14 49 57.5**	**-0.5**
MTVR				*e*S		**Sn**	**14 50 51.3**	**-4.3**
GRL	**Gorelyy**	**5.08**	**243**	*e*S		**Sn**	**14 50 55.0**	**-1.0**
ASAK	**Asacha**	**5.26**	**242**	*e*P		**Pn**	**14 50 00.3**	**-0.4**
ASAK				*e*S		**Sn**	**14 50 57.9**	**-2.5**
TILK	**Tilichiki**	**5.37**	**4**	*e*P		**Pn**	**14 50 01.9**	**-0.1**
APC	**Apacha**	**5.37**	**249**	*e*P		**Pn**	**14 50 02.2**	**+0.1**
APC				*e*S		**Sn**	**14 51 01.1**	**-1.9**
APC	**Apacha**	**5.37**	**249**	PN		**Pn**	**14 50 02.2**	**+0.1**
MIPR	**Malaya Ipel'ka**	**5.91**	**245**	*e*P		**Pn**	**14 50 10.0**	**+0.5**
PAU	**Pauzhetka**	**6.35**	**239**	*e*P		**Pn**	**14 50 15.6**	**+0.1**
PAU	**Pauzhetka**	**6.35**	**239**	PN		**Pn**	**14 50 15.6**	**+0.1**
SKR	**Severo-Kuril's**	**7.19**	**236**	*e*P		**Pn**	**14 50 26.0**	**-1.1**
SKR	**Severo-Kuril's**	**7.19**	**236**	*e*PN		Pn	14 50 12.7	-14
SKR				pmax	pmax			
	comp=Z,80nm,0.5s							
SKR				MLR	MLR			
	comp=Z,2μm,14.0s							
SEY	**Seymchan**	**10.33**	**325**	Pn		**Pn**	**14 51 07.1**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=1.9							
SEY				LR	LR		14 54 40.9	
	comp=Z,72nm,21.4s,baz=177,slow=36							
SEY	**Seymchan**	**10.33**	**325**	*e*PN		**Pn**	**14 51 10.6**	**+0.6**
BILL	**Bilibino**	**12.98**	**1**	*e*PN		Pn	14 51 47.8	+1.5
BILL				pmax	pmax			
	comp=Z,3.0nm,0.7s							
BILL	**Bilibino**	**12.98**	**1**	Pn		**Pn**	**14 51 46.2**	**-0.1**
GAMB	**Gambell**	**14.41**	**44**	*e*Pn		**Pn**	**14 52 05.6**	**-0.2**
UGL	**Uglegorsk**	**15.56**	**257**	*e*P		P	14 52 30.9	+5.7
UGL				*e*S		**Sn**	**14 55 09.9**	**-2.6**
UNV	**Unalaska Valle**	**16.29**	**83**	*e*Pn		**Pn**	**14 52 30.4**	**-0.1**
	comp=Z,41nm,1.0s							
YUK	**Yuzh-Kuril'sk**	**16.81**	**237**	*e*P		**Pn**	**14 52 35.9**	**-1.1**
ASAJ	**Asahikawa**	**18.37**	**243**	P		**P**	**14 52 56.0**	**-0.2**
	baz=35,slow=12							
ASAJ	**Asahikawa**	**18.37**	**243**	*e*P		**P**	**14 52 53.6**	**-2.6**
	comp=Z,4.5nm,0.7s							
YAK	**Yakutsk**	**19.70**	**305**	LR		LR	15 00 44.8	
	comp=Z,54nm,20.9s,baz=100,slow=37							
YAK	**Yakutsk**	**19.70**	**305**	*e*P		**P**	**14 53 10.7**	**+0.1**
YAK				pmax	pmax			
	comp=Z,10.0nm,1.1s							
YAK				pmax	pmax			
	comp=N,2.0nm,1.6s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.2s							
HABR	**Khabarovsk**	**19.84**	**263**	*e*P		Pn	14 53 22.9	+8.8
HABR				*e*S		**S**	**14 56 51.1**	**-3.0**
HABR				pmax	pmax			
	comp=Z,9.0nm,1.5s							
HABR				MLR	MLR			
	comp=Z,79nm,19.0s							
KLR	**Kul'dur**	**21.36**	**268**	*e*P		**P**	**14 53 31.3**	**+2.6**
IM04	**Indian Mountai**	**22.34**	**45**	*e*P		**P**	**14 53 39.0**	**-0.2**
RSO	**Redoubt South**	**22.59**	**59**	*e*P		**P**	**14 53 42.4**	**+0.3**
	comp=Z,54nm,0.8s							
TIXI	**Tiksi**	**22.72**	**331**	*e*P		**P**	**14 53 42.7**	**-0.4**
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.7s							
PPLA	**Purkeypile**	**22.77**	**53**	*e*P		**P**	**14 53 43.8**	**0.0**
	comp=Z,57nm,1.5s							
KDAK	**Kodiak Island**	**23.07**	**66**	*i*P		**P**	**14 53 46.4**	**-0.4**
BPAW	**Bear Paw Mtn.**	**23.33**	**50**	*e*P		**P**	**14 53 49.2**	**-0.3**
	comp=Z,5.7nm,1.2s							
TRF	**Thorofare Moun**	**23.63**	**51**	*e*P		**P**	**14 53 51.0**	**-1.5**
	comp=Z,40nm,1.1s							
COLD	**Coldfoot**	**23.95**	**42**	*e*P		**P**	**14 53 54.2**	**-1.1**
	comp=Z,22nm,1.0s							
USRK	**Ussuriysk Ar.**	**24.04**	**257**	LR		LR	15 04 38.2	
	comp=Z,73nm,18.5s,baz=49,slow=40							
MCK	**McKinley**	**24.23**	**51**	P		**P**	**14 53 54.5**	**-3.5**
	comp=Z,28nm,1.1s							
COLA	**College**	**24.71**	**48**	*d*P		**P**	**14 54 02.9**	**+0.6**
COLA				pmax	pmax			
	comp=Z,124nm,1.2s							
COLA	**College**	**24.71**	**48**	*e*P		**P**	**14 54 01.9**	**-0.4**
	comp=Z,18nm,0.7s							
CCB	**Clear Creek Bu**	**24.73**	**49**	*e*P		**P**	**14 54 02.7**	**+0.3**
	comp=Z,85nm,1.5s							
DHY	**Denali Highway**	**24.96**	**52**	*e*P		**P**	**14 54 04.1**	**-0.7**
	comp=Z,7.1nm,0.8s							
HDA	**Harding Lake**	**25.10**	**49**	*e*P		**P**	**14 54 04.9**	**-0.9**
	comp=Z,10.0nm,1.0s							
ILAR	**Eielson Array**	**25.12**	**48**	P		**P**	**14 54 06.0**	**0.0**
	comp=Z,8.7nm,0.8s,baz=258,slow=8.7,SNR=109							
ILAR				LR		LR	15 04 25.8	
	comp=Z,82nm,18.5s,baz=292,slow=38							
ILAR	**Eielson Array**	**25.12**	**48**	P		**P**	**14 54 06.0**	**0.0**
ILAR				pmax	pmax			
	comp=Z,9.0nm,0.8s							
ILAR				MLR	MLR			
	comp=Z,82nm,18.5s							
MDJ	**Mudanjiang**	**25.13**	**260**	P		**P**	**14 54 06.0**	**-0.3**
MDJ				PMZ				
	comp=Z,2.0nm,0.5s							
MDJ				PMZ				
	comp=Z,18nm,3.1s							
PAX	**Paxson**	**25.83**	**52**	P		**P**	**14 54 11.2**	**-1.4**
	comp=Z,9.0nm,0.8s							
FYU	**Fort Yukon**	**25.84**	**44**	*e*P		**P**	**14 54 13.3**	**+0.8**
	comp=Z,103nm,1.6s							
MAJO	**Matsushiro**	**26.30**	**236**	*i*P		**P**	**14 54 17.7**	**+0.8**
MAJO				pmax	pmax			
	comp=Z,35nm,0.8s							
MAJO	**Matsushiro**	**26.30**	**236**	*e*P		**P**	**14 54 16.3**	**-0.6**
	comp=Z,15nm,1.0s							
MAT	**Matsushiro**	**26.30**	**236**	P		**P**	**14 54 17.9**	**+1.0**
MJAR	**Matsushiro Arr**	**26.30**	**236**	P		**P**	**14 54 17.6**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=30,slow=7.4,SNR=14							
MJAR	**Matsushiro Arr**	**26.30**	**236**	P		**P**	**14 54 17.6**	**+0.7**
MJAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
EGAK	**Eagle**	**27.57**	**48**	*e*P		**P**	**14 54 27.5**	**-0.6**
INK	**Inuvik**	**30.31**	**40**	P		**P**	**14 54 52.6**	**+0.3**
	comp=Z,4.1nm,0.4s,baz=276,slow=5.8,SNR=17							
INK	**Inuvik**	**30.31**	**40**	P		**P**	**14 54 52.6**	**+0.3**
INK				pmax	pmax			
	comp=Z,4.0nm,0.4s							
INK	**Inuvik**	**30.31**	**40**	*e*P		**P**	**14 54 50.8**	**-1.5**
	comp=Z,5.0nm,0.9s							
KSRS	**Korea Array**	**30.89**	**251**	P		**P**	**14 54 58.2**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=44,slow=9.4,SNR=5.0							
KSRS				LR		LR	15 07 01.4	
	comp=Z,55nm,19.6s,baz=52,slow=36							
KSRS	**Korea Array**	**30.89**	**251**	P		**P**	**14 54 58.2**	**+0.4**
KSRS				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KSRS				MLR	MLR			
	comp=Z,55nm,19.6s							
KSAR	**Wonju Array Be**	**30.92**	**251**	P		**P**	**14 54 58.2**	**+0.2**
DLBC	**Dease Lake**	**34.29**	**57**	*e*P		**P**	**14 55 25.0**	**-2.4**
	comp=Z,9.4nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**35.33**	**178**	T		T	15 33 16.5	
	baz=359,slow=76,SNR=994							
H11N3	**WAKE ISLAND Hy**	**35.35**	**178**	T		T	15 33 17.4	
	baz=359,slow=76,SNR=899							
H11N1	**WAKE ISLAND Hy**	**35.35**	**178**	T		T	15 33 16.5	
	baz=359,slow=76,SNR=680							
TLY	**Talaya**	**35.97**	**291**	LR		LR	15 11 18.7	
	comp=Z,100nm,20.1s,baz=44,slow=38							
SONM	**Songino Array**	**36.52**	**284**	P		**P**	**14 55 47.0**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=58,slow=9.1,SNR=7.9							
SONM				PcP		**PcP**	**14 58 10.1**	**+0.3**
	comp=Z,1.3nm,1.1s,baz=36,slow=2.7,SNR=3.3							
SONM				LR		LR	15 12 09.8	
	comp=Z,50nm,20.4s,baz=74,slow=39							
SONM	**Songino Array**	**36.52**	**284**	P		**P**	**14 55 47.0**	**+0.3**
SONM							14 58 10.1	
SONM				pmax	pmax			
	comp=Z,1.0nm,0.6s							
SONM				pmax	pmax			
	comp=Z,1.0nm,1.1s							
SONM				MLR	MLR			
	comp=Z,50nm,20.4s							
H11S1	**WAKE ISLAND Hy**	**36.55**	**178**	T		T	15 34 40.3	
	baz=359,slow=76,SNR=99							
H11S3	**WAKE ISLAND Hy**	**36.56**	**178**	T		T	15 34 42.7	
	baz=359,slow=76,SNR=19							
H11S2	**WAKE ISLAND Hy**	**36.56**	**178**	T		T	15 34 42.1	
	baz=359,slow=76,SNR=106							
ZAK	**Zakamensk**	**36.84**	**289**	*e*P		**P**	**14 55 50.9

JTMT **Jette** 47.96 64 *e*P P 14 57 20.1 +0.3
SWMT **Swartz Lake** 48.26 64 *e*P P 14 57 22.8 +0.7
comp=Z,11nm,1.1s
SLMT **Seeley Lake** 48.69 64 *e*P P 14 57 24.3 -1.3
comp=Z,16nm,1.1s
MSO **Missoula** 48.73 64 ⇓P P 14 57 26.6 +0.8
baz=49,SNR=8.8
MSO **Missoula** 48.73 64 *e*P P 14 57 26.2 +0.4
comp=Z,18nm,1.5s
CHMT **Chamberlain Mo** 49.03 64 *e*P P 14 57 28.4 +0.1
comp=Z,4.6nm,1.1s
WVOR **Wild Horse Val** 49.16 72 *e*P P 14 57 29.1 -0.1
comp=Z,4.9nm,0.8s
WMQ **Urumqi** 49.25 291 P P 14 57 31.1 +1.3
WMQ pP pP 14 57 41.0 +2.6
WMQ sP sP 14 57 44.9 +3.2
WMQ PcP **PcP** **14 58 55.1 +2.7**
WMQ PP **PP** **14 59 24.7 +1.2**
WMQ PMZ
comp=Z,7.0nm,0.4s
WMQ PMZ
comp=Z,93nm,5.9s
WMQ LN
comp=Z,170nm,14.0s
WMQ LE
comp=Z,81nm,9.8s
CD2 **Chengdu** 49.28 267 *e*P P 14 57 29.0 -1.1
CD2 pP pP 14 57 39.3 +0.6
CD2 sP sP 14 57 43.7 +1.6
CD2 PcP **PcP** **14 58 52.3 -0.3**
CD2 PcS **PcS** **15 02 48.7 -0.6**
CD2 S **S** **15 04 32.0 -2.5**
CD2 sS sS 15 04 49.6 +1.1
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.0s
FFC **Flin Flon** 49.32 50 *i*P P 14 57 30.8 +0.8
FFC **Flin Flon** 49.32 50 *e*P P 14 57 28.3 -1.8
comp=Z,8.1nm,0.9s
KURK **Kurchatov** 49.33 303 *e*P P 14 57 27.2 -2.9
comp=Z,8.8nm,0.6s
FCC **Fort Churchill** 49.89 42 *e*P P 14 57 32.7 -1.6
comp=Z,8.7nm,0.5s
A19A **Klindworth Far** 49.98 59 ⇓P P 14 57 35.9 +0.7
baz=50
EGMT **Eagleton** 50.08 61 ⇑P P 14 57 36.6 +0.6
baz=50,SNR=6.7
EGMT **Eagleton** 50.08 61 *e*P P 14 57 34.9 -1.2
comp=Z,8.2nm,0.8s
MKAR **Makanchi Array** 50.10 297 P P 14 57 35.2 -0.9
comp=Z,0.7nm,0.5s,baz=55,slow=6.5,SNR=7.5
MKAR LR LR 15 20 35.3
comp=Z,39nm,18.1s,baz=27,slow=38
MKAR **Makanchi Array** 50.10 297 P P 14 57 35.2 -0.9
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR MLR MLR
comp=Z,39nm,18.1s
B19A **Brinkman Farms** 50.19 60 ⇑P P 14 57 37.6 +0.7
baz=50
A20A **Cobblestone Ra** 50.41 59 ⇓P P 14 57 39.5 +0.9
baz=50,SNR=10
MCMT **McKenzie Canyo** 50.64 66 *e*P P 14 57 39.9 -0.6
B20A **Solberg Farm,** 50.66 59 ⇓P P 14 57 41.2 +0.8
baz=50,SNR=5.3
HLID **Hailey** 50.67 68 ⇑P P 14 57 41.6 +1.0
baz=50,SNR=5.9
HLID **Hailey** 50.67 68 *e*P P 14 57 39.6 -1.1
comp=Z,3.5nm,1.0s
BOZ **Bozeman (W)** 50.72 64 ⇑P P 14 57 42.3 +1.3
baz=50,SNR=10.0
BOZ **Bozeman (W)** 50.72 64 *e*P P 14 57 41.7 +0.7
comp=Z,6.8nm,0.9s
A21A **Bergtoll Ranch** 50.83 58 ⇑P P 14 57 42.8 +1.2
baz=51
GYA **Guiyang** 50.99 261 *e*P P 14 57 44.0 +0.8
GYA PMZ
comp=Z,10.0nm,1.0s
C20A **Veseth Ranch,** 51.16 60 ⇑P P 14 57 45.2 +1.1
baz=51,SNR=11
B21A **Ellsworth Farm** 51.16 59 ⇓P P 14 57 45.1 +1.0
baz=51
BMN **Battle Mountai** 51.31 73 *e*P P 14 57 43.8 -1.7
comp=Z,5.4nm,0.8s
A22A **Carney Farms,** 51.32 58 ⇑P P 14 57 46.4 +1.1
baz=51,SNR=11
WAKR **Walker** 51.43 76 *e*P P 14 57 47.4 +1.0
C21A **Desert Coulee** 51.53 59 ⇑P P 14 57 48.0 +1.1
baz=51
BRVK **Borovoye** 51.60 310 ⇓*e*P P 14 57 45.7 -1.6
BRVK pmax pmax
comp=Z,11nm,2.5s
GCMT **Greycliff** 51.63 63 *e*P P 14 57 48.9 +1.1
B22A **Reddig Ranch S** 51.75 58 ⇑P P 14 57 49.5 +0.9
baz=52
A23A **Redstone** 51.84 57 ⇓P P 14 57 50.1 +0.9
baz=52
D21A **La Casta Ranch** 52.10 60 ⇑P P 14 57 52.3 +1.1
baz=52,SNR=5.6
NVAR **Mina Array Bea** 52.11 75 P P 14 57 52.9 +1.3
comp=Z,3.8nm,0.7s,baz=297,slow=7.5,SNR=19
B23A **Brockton** 52.12 57 ⇓P P 14 57 52.3 +1.0
baz=52,SNR=9.9
C22A **Vida** 52.18 59 ⇓P P 14 57 52.6 +0.9
baz=52,SNR=6.0
FLWY **Flagg Ranch** 52.27 65 *e*P P 14 57 51.3 -1.4
comp=Z,20nm,1.2s
IMW **Indian Meadow** 52.27 65 *e*P P 14 57 53.5 +0.7
comp=Z,13nm,0.8s
A24A **Westby** 52.28 56 ⇑P P 14 57 53.6 +1.1
baz=52
RLMT **Red Lodge** 52.29 63 ⇓P P 14 57 54.3 +1.5
baz=52,SNR=20
RLMT **Red Lodge** 52.29 63 *e*P P 14 57 52.9 +0.1
comp=Z,24nm,0.8s
ARCES **ARCESS Array B** 52.31 343 P P 14 57 51.1 -1.3
comp=Z,1.7nm,0.8s,baz=12,slow=7.9,SNR=3.5
ARCES **ARCESS Array B** 52.31 343 P P 14 57 51.1 -1.3
ARCES pmax pmax
comp=Z,2.0nm,0.8s
MLAC **Mammoth, Mammo** 52.38 76 ⇑P P 14 57 55.4 +1.8
baz=52
F20A **Billings** 52.39 62 ⇓P P 14 57 54.8 +1.4
baz=52,SNR=6.9
FXWY **Fox Creek** 52.41 66 *e*P P 14 57 55.0 +1.3
comp=Z,6.8nm,0.9s
D22A **Cohagen** 52.45 59 ⇓P P 14 57 55.1 +1.4
baz=52,SNR=13
MOOW **Moose Ponds** 52.48 65 *e*P P 14 57 54.0 -0.3
comp=Z,6.0nm,0.9s
C23A **Lambert** 52.49 58 ⇓P P 14 57 55.3 +1.3
baz=52,SNR=11
DGMT **Dagmar** 52.51 57 ⇑P P 14 57 55.5 +1.4
baz=52
LOHW **Long Hollow** 52.64 65 *e*P P 14 57 55.0 -0.5
comp=Z,12nm,1.1s
LAO **LASA Array** 52.74 60 ⇑P P 14 57 57.5 +1.6
baz=52
LAO **LASA Array** 52.74 60 *e*P P 14 57 57.6 +1.6
comp=Z,22nm,0.9s
H19A **Powell** 52.75 63 ⇓P P 14 57 57.9 +1.8
baz=53,SNR=6.4
G20A **Bridger** 52.76 62 ⇓P P 14 57 57.3 +1.1
baz=53,SNR=17
F21A **Absaloka Mine,** 52.89 61 ⇓P P 14 57 58.7 +1.6
baz=53
D23A **Lindsay** 52.91 59 ⇑P P 14 57 58.7 +1.5
baz=53
C24A **Savage** 53.05 58 ⇑P P 14 57 59.1 +1.0
baz=53
E22A **Miles City** 53.05 60 ⇓P P 14 57 59.5 +1.2
baz=53,SNR=6.3
B25A **Knox Farm, Ray** 53.14 57 ⇓P P 14 58 00.1 +1.3
baz=53
I19A **Meeteetse** 53.18 64 ⇑P P 14 58 00.9 +1.4
baz=53
A26A **Wade Farm, Ken** 53.24 55 ⇑P P 14 58 00.5 +1.0
baz=53
G21A **Lodge Grass** 53.27 62 ⇓P P 14 58 00.9 +1.0
baz=53
E23A **Ismay** 53.33 59 ⇑P P 14 58 01.4 +1.1
baz=53
F22A **Rosebud** 53.36 61 ⇓P P 14 58 01.4 +0.9
baz=53
H20A **Greybull** 53.38 63 ⇓P P 14 58 01.5 +0.8
baz=53
D24A **Glendive** 53.38 58 ⇑P P 14 58 02.1 +1.5
baz=53,SNR=5.1
SMMC **Simmler** 53.39 79 ⇓P P 14 58 02.9 +2.1
baz=53
C25A **Freed Ranch, W** 53.48 57 ⇓P P 14 58 02.9 +1.5
baz=53
B26A **Jensen Ranch,** 53.51 56 ⇓P P 14 58 02.6 +1.0
baz=53
VES **Vestal, Richgr** 53.52 78 ⇓P P 14 58 04.9 +3.1
baz=53
HWUT **Hardware Ranch** 53.54 68 *e*P P 14 58 00.1 -2.0
comp=Z,6.8nm,0.9s
A27A **Ledoux Ranch,** 53.58 55 ⇓P P 14 58 03.3 +1.3
baz=53
GRAC **Grapevine Rang** 53.65 76 ⇑P P 14 58 06.0 +3.2
baz=54
R11A **Troy Canyon, C** 53.67 73 ⇓P P 14 58 04.5 +1.5
baz=54,SNR=11
R11A **Troy Canyon, C** 53.67 73 *e*P P 14 58 04.5 +1.5
comp=Z,8.3nm,1.2s
I20A **Worland** 53.69 63 ⇑P P 14 58 04.6 +1.5
baz=54,SNR=8.0
J19A **Crowheart** 53.70 65 ⇑P P 14 58 04.9 +1.7
baz=54,SNR=5.9
G22A **Birney** 53.73 61 ⇑P P 14 58 04.5 +1.2
baz=54,SNR=7.1
H21A **Big Horn, Sher** 53.77 62 ⇓P P 14 58 04.8 +1.1
baz=54
E24A **Baker** 53.78 59 ⇓P P 14 58 04.8 +1.2
baz=54
BW06 **Boulder Array** 53.78 65 *e*P P 14 58 04.4 +0.5
comp=Z,12nm,1.0s
PDAR **Pinedale Array** 53.78 65 P P 14 58 04.8 +1.0
comp=Z,8.7nm,0.9s,baz=343,slow=4.6,SNR=47
F23A **Volborg** 53.83 60 ⇓P P 14 58 05.1 +1.1
baz=54,SNR=7.5
D25A **Fairfield** 53.85 58 ⇓P P 14 58 05.4 +1.3
baz=54
DUG **Dugway, Tooele** 53.87 70 ⇓P P 14 58 06.0 +1.6
baz=54,SNR=6.2
DUG **Dugway, Tooele** 53.87 70 P P 14 58 03.9 -0.5
comp=Z,8.5nm,1.0s
B27A **Peters Farms,** 53.95 55 ⇑P P 14 58 06.1 +1.4
baz=54
C26A **Wahner Farm, P** 53.96 56 ⇓P P 14 58 06.3 +1.4
baz=54
ISA **Isabella, Lake** 53.99 78 ⇑P P 14 58 07.2 +1.9
baz=54
ARU **Arti** 54.01 319 *d i*P P 14 58 02.5 -2.5
ARU S S 15 05 35.0 -3.8
ARU pmax pmax
comp=Z,4.0nm,1.0s
A28A **Rude Farm, Bot** 54.06 54 ⇓P P 14 58 06.8 +1.2
baz=54
J20A **Shoshoni** 54.13 64 ⇑P P 14 58 08.3 +2.0
baz=54,SNR=11
H22A **Clearmont** 54.14 62 ⇑P P 14 58 08.1 +1.8
baz=54
SBC **Santa Barbara** 54.18 80 ⇑P P 14 58 09.3 +2.7
baz=54
G23A **Biddle** 54.20 61 ⇓P P 14 58 08.1 +1.4
baz=54
F24A **Ekalaka** 54.22 60 ⇓P P 14 58 07.7 +0.9
baz=54,SNR=5.9
I21A **Big Trails, Te** 54.22 63 ⇓P P 14 58 08.5 +1.5
baz=54
MPMC **Manual Prospec** 54.26 77 ⇓P P 14 58 09.0 +1.6
baz=54,SNR=5.2
E25A **Miller Ranch,** 54.27 58 ⇓P P 14 58 08.3 +1.1
baz=54,SNR=6.9
TPNV **Topopah Spring** 54.31 75 ⇑P P 14 58 09.4 +1.7
baz=54,SNR=11
FURC **Furnace Creek,** 54.31 76 ⇓P P 14 58 09.6 +2.1
baz=54,SNR=6.3
JLU **Jordanelle** 54.31 69 *e*P P 14 58 09.4 +1.6
comp=Z,12nm,1.2s
C27A **Sayler Ranch,** 54.33 56 ⇑P P 14 58 09.1 +1.6
baz=54
B28A **Dugan Ranch, T** 54.34 55 ⇑P P 14 58 08.7 +1.1
baz=54,SNR=7.0
D26A **Manning** 54.36 57 ⇓P P 14 58 09.2 +1.4
baz=54
NLU **North Lily Min** 54.44 70 *e*P P 14 58 09.9 +1.2
comp=Z,9.5nm,1.0s
J21A **Lysite** 54.47 64 ⇑P P 14 58 10.3 +1.5
baz=54,SNR=5.7
A29A **Manning Farm,** 54.53 54 ⇓P P 14 58 10.3 +1.3
baz=54,SNR=13
I22A **9 Mile Ranch,** 54.57 62 ⇑P P 14 58 10.9 +1.4
baz=54,SNR=11
G24A **Alzada** 54.60 60 ⇓P P 14 58 10.4 +0.8
baz=54,SNR=5.5
MPU **Maple Canyon** 54.63 69 *e*P P 14 58 08.7 -1.4
comp=Z,24nm,1.0s
F25A **Bowman** 54.65 59 ⇑P P 14 58 11.3 +1.4
baz=54
D27A **Center** 54.74 57 ⇓P P 14 58 11.1 +0.5
baz=54
E26A **Carlson Angus** 54.74 58 ⇓P P 14 58 11.4 +0.8
baz=54,SNR=10
B29A **Wagenman Farm,** 54.80 54 ⇓P P 14 58 11.9 +1.0
baz=55
EDW2 **Edwards Air Fo** 54.83 78 ⇓P P 14 58 12.8 +1.4
baz=55
C28A **Hausauer Farms** 54.85 55 ⇑P P 14 58 12.7 +1.4
baz=55
J22A **Midwest** 54.92 63 ⇓P P 14 58 13.2 +1.2
baz=55,SNR=12
H24A **Dirks Ranch, A** 54.94 61 ⇑P P 14 58 12.8 +0.7
baz=55,SNR=6.1
A30A **Hoffart Farm,** 54.95 53 ⇑P P 14 58 13.1 +1.1
baz=55
SHOC **Shoshone, Teco** 55.05 76 ⇑P P 14 58 14.9 +2.0
baz=55
F26A **Lodgepole** 55.09 58 ⇓P P 14 58 14.2 +1.2
baz=55,SNR=9.6
DECC **Green Verdugo** 55.10 79 ⇑P P 14 58 14.9 +1.6
baz=55
MDND **Maddock** 55.13 55 ⇓P P 14 58 14.8 +1.4
baz=55
MDND **Maddock** 55.13 55 *e*P P 14 58 14.7 +1.4
comp=Z,33nm,0.6s
D28A **Regan** 55.14 56 ⇓P P 14 58 15.0 +1.6
baz=55,SNR=5.6
G25A **Newell** 55.19 59 ⇑P P 14 58 14.4 +0.6
baz=55
GSC **Goldstone, Bar** 55.19 77 ⇓P P 14 58 15.8 +1.8
baz=55,SNR=8.0
GSC **Goldstone, Bar** 55.19 77 *e*P P 14 58 15.1 +1.1
comp=Z,13nm,1.0s
E27A **Carson** 55.21 57 ⇓P P 14 58 15.6 +1.6
baz=55
B30A **Myrvik Farm, E** 55.29 54 ⇑P P 14 58 15.2 +0.7
baz=55,SNR=8.4
TMUT **Trail Mountain** 55.38 69 *e*P P 14 58 15.9 +0.4
comp=Z,21nm,0.8s
F27A **Lemmon** 55.39 58 ⇑P P 14 58 16.1 +0.9
baz=55
J23A **Dilts Ranch, B** 55.40 62 ⇑P P 14 58 17.1 +1.7
baz=55
MVU **Marysvale** 55.41 71 P P 14 58 15.8 0.0
comp=Z,9.4nm,1.2s
MSU **Marysvale** 55.42 71 *e*P P 14 58 16.3 +0.6
comp=Z,14nm,1.4s
K22A **Casper** 55.44 64 ⇑P P 14 58 17.5 +1.7
baz=55
K22A **Casper** 55.44 64 *e*P P 14 58 16.4 +0.6
comp=Z,11nm,0.9s
CCUT **Cedar City** 55.47 72 *e*P P 14 58 15.8 -0.4
comp=Z,8.1nm,0.9s
H25A **Fruitdale** 55.51 60 ⇑P P 14 58 17.2 +1.1
baz=55
FMP **Fort Macarthur** 55.52 79 ⇓P P 14 58 18.4 +2.2
baz=55
G26A **Maurine** 55.52 59 ⇑P P 14 58 17.1 +0.9
baz=55,SNR=8.9
E28A **Huff** 55.52 57 ⇓P P 14 58 18.1 +1.9
baz=55
I24A **Kuemmerle Ranc** 55.54 61 ⇓P P 14 58 17.5 +1.0
baz=55
TUQ **Turquoise Moun** 55.59 76 ⇑P P 14 58 18.8 +1.9
baz=56
RSSD **Black Hills** 55.65 61 *e*P P 14 58 16.2 -1.2
comp=Z,9.7nm,0.7s
D29A **Pettibone, Tap** 55.70 56 ⇓P P 14 58 18.1 +0.6
baz=56
C30A **Mose, Pekin** 55.76 54 ⇓P P 14 58 19.3 +1.5
baz=56
G27A **Dupree** 55.79 58 ⇑P P 14 58 19.1 +1.0
baz=56
HEC **Hector,Ludlow** 55.80 77 ⇑P P 14 58 19.7 +1.3
baz=56
K23A **Bowen Ranch, D** 55.82 63 ⇓P P 14 58 19.2 +0.7
baz=56
I25A **Rochford** 55.87 61 ⇓P P 14 58 19.9 +0.9
baz=56,SNR=5.6
SRU **San Rafael Swe** 55.88 69 *e*P P 14 58 20.6 +1.6
comp=Z,28nm,0.8s
J24A **Dixon Ranch, L** 55.90 62 ⇑P P 14 58 20.0 +0.9
baz=56
SCI **San Clemente I** 55.91 80 ⇑P P 14 58 21.3 +2.2
baz=56
H26A **Fairpoint** 55.92 60 ⇑P P 14 58 19.9 +0.8
baz=56
E29A **Napoleon** 56.03 56 ⇑P P 14 58 20.7 +0.9
baz=56
D30A **Buchanan** 56.06 55 ⇑P P 14 58 21.0 +1.0
baz=56
GMRC **Granite Mounta** 56.21 76 ⇑P P 14 58 22.5 +1.1
baz=56,SNR=8.2
MURC **Murrieta** 56.22 78 ⇓P P 14 58 22.9 +1.6
baz=56
H27A **Howes** 56.25 59 ⇑P P 14 58 22.5 +1.1
baz=56
J25A **Sunshine Ranch** 56.29 61 ⇓P P 14 58 23.0 +1.2
baz=56
I26A **New Underwood** 56.30 60 ⇑P P 14 58 23.1 +1.3
baz=56
O20A **White River Ci** 56.35 67 ⇑P P 14 58 23.8 +1.4
baz=56,SNR=14
O20A **White River Ci** 56.35 67 *e*P P 14 58 23.6 +1.2
comp=Z,23nm,0.8s
E30A **Jud** 56.43 56 ⇓P P 14 58 23.8 +1.1
baz=56
F29A **Eureka** 56.48 57 ⇓P P 14 58 24.0 +1.0
baz=56
AGMN **Agassiz Nation** 56.53 52 ⇓P P 14 58 24.3 +0.9
baz=56,SNR=10
AGMN **Agassiz Nation** 56.53 52 *e*P P 14 58 23.5 +0.2
comp=Z,16nm,0.9s
PFO **Pinyon Flats O** 56.63 78 ⇑P P 14 58 25.7 +1.3
baz=56
I27A **Quinn** 56.67 60 ⇓P P 14 58 25.4 +0.9
baz=56,SNR=6.6
J26A **Sides Ranch, S** 56.71 61 ⇓P P 14 58 25.9 +1.1
baz=56
H28A **Mission Ridge** 56.74 58 ⇑P P 14 58 25.7 +0.8
baz=56
109C **Camp Elliot, M** 56.79 79 ⇓P P 14 58 27.1 +1.7
baz=57
K25A **Mack Ranch, Ha** 56.82 62 ⇓P P 14 58 26.4 +0.8
baz=57
G29A **Hoven** 56.90 57 ⇓P P 14 58 26.8 +0.8
baz=57
IRM **Iron Mountain** 56.95 76 ⇓P P 14 58 28.4 +1.8
baz=57
AAK **Ala-Archa** 56.98 298 ⇑*e*P P 14 58 26.2 -0.6
AAK pmax pmax
comp=Z,7.0nm,1.2s
N23A **Red Feather La** 57.01 65 ⇑P P 14 58 29.1 +1.9
baz=57,SNR=12
K26A **Motz Farm, Whi** 57.10 61 ⇓P P 14 58 28.2 +0.6
baz=57
L25A **Engebretsen Ra** 57.10 62 ⇑P P 14 58 28.0 +0.3
baz=57
BC3 **Big Chuckawall** 57.16 77 ⇑P P 14 58 29.3 +1.2
baz=57
I28A **Midland** 57.16 59 ⇑P P 14 58 28.6 +0.7
baz=57
H29A **Onida** 57.17 58 ⇓P P 14 58 28.6 +0.7
baz=57
O22A **Kremmling** 57.23 66 ⇑P P 14 58 28.8 +0.1
baz=57
PV04 **Paradox Valley** 57.27 69 *e*P P 14 58 30.0 +1.0
J27A **Elkhorn Farm,** 57.29 60 ⇓P P 14 58 30.7 +1.8
baz=57
G30A **Faulkton** 57.32 57 ⇑P P 14 58 29.6 +0.7
baz=57,SNR=5.8
PDMCI **Parker Dam,Lak** 57.41 76 ⇓P P 14 58 31.8 +2.0
baz=57
O23A **Lake Granby, G** 57.52 65 ⇑P P 14 58 33.2 +2.4
baz=57,SNR=12
P22A **Eagle** 57.53 66 ⇑P P 14 58 32.7 +1.9
baz=57,SNR=7.0
J28A **Allard Ranch,** 57.55 60 ⇑P P 14 58 32.5 +1.8
baz=57,SNR=6.7
K27A **Flueckinger Fa** 57.58 61 ⇑P P 14 58 32.0 +1.1
baz=57
M25A **Palm-Egli Farm** 57.59 63 ⇑P P 14 58 32.4 +1.3
baz=57
Y12C **Blythe** 57.61 76 ⇓P P 14 58 32.2 +1.1
baz=58
SMCO **Snowmass** 57.72 67 *e*P P 14 58 32.5 +0.1
comp=Z,7.3nm,0.9s
BRSD **Miller** 57.91 57 ⇓P P 14 58 34.1 +0.9
baz=58
GLA **Glamis** 57.95 77 ⇑P P 14 58 34.9 +1.3
baz=58
ISCO **Idaho Springs** 57.98 65 ⇑P P 14 58 36.2 +2.2
baz=58,SNR=11
ISCO **Idaho Springs** 57.98 65 *e*P P 14 58 35.2 +1.2
comp=Z,13nm,1.0s
K28A **Ten Mile Ranch** 58.01 60 ⇑P P 14 58 35.6 +1.7
baz=58
J29A **Okreek** 58.01 59 ⇑P P 14 58 35.2 +1.3
baz=58
M26A **McRoberts Ranc** 58.03 62 ⇓P P 14 58 36.1 +1.9
baz=58
WUAZ **Wupatki** 58.04 73 ⇓P P 14 58 36.6 +2.2
baz=58
WUAZ **Wupatki** 58.04 73 *e*P P 14 58 35.4 +1.0
comp=Z,11nm,1.3s
I30A **Oacoma** 58.08 58 ⇑P P 14 58 35.6 +1.3
baz=58
P23A **Jefferson** 58.17 66 ⇓P P 14 58 37.6 +2.1
baz=58
MVCO **Mesa Verde** 58.36 69 ⇑P P 14 58 37.8 +1.2
baz=58
MVCO **Mesa Verde** 58.36 69 *e*P P 14 58 37.4 +0.7
comp=Z,6.1nm,1.0s
N26A **Koester Ranch,** 58.46 63 ⇑P P 14 58 37.7 +0.6
baz=58
J30A **Dallas** 58.48 59 ⇓P P 14 58 37.9 +0.7
baz=58
KSH **Kashi** 58.50 295 *e*P P 14 58 41.5 +4.0
KSH pP pP 14 58 52.3 +6.1
KSH sP sP 14 58 55.2 +5.7
KSH PcP **PcP** **14 59 29.6 +1.9**
KSH PP **PP** **15 00 50.4 +3.8**
KSH PcS **PcS** **15 03 31.4 +1.9**
KSH S **S** **15 06 42.1 +3.1**
KSH sS sS 15 06 58.0 +4.6
KSH ScS **ScS** **15 08 26.9 +1.8**
KSH SS **SS** **15 10 34.0 +3.0**
KSH PMZ
comp=Z,83nm,4.7s
KSH LN
comp=Z,98nm,4.5s
KSH LE
comp=Z,78nm,5.4s
KSH LZ
comp=Z,95nm,4.9s
KKAR **Karatay Array** 58.62 301 *e*P P 14 58 37.7 -0.4
comp=Z,2.8nm,0.6s
EYMN **Ely** 58.75 50 *e*P P 14 58 39.4 +0.4
comp=Z,12nm,0.7s
N27A **Anderson Farm,** 58.82 62 ⇓P P 14 58 41.4 +1.7
baz=59
Q24A **Divide** 58.84 66 ⇓P P 14 58 41.6 +1.6
baz=59
ABKAR **Akbulak array** 58.84 312 *e*P P 14 58 39.2 -0.3
O26A **Horse Wrangler** 58.84 63 ⇑P P 14 58 41.1 +1.2
baz=59
S22A **4UR Ranch, Cre** 58.85 68 ⇑P P 14 58 42.4 +2.3
baz=59,SNR=7.6
K30A **Basset** 58.90 59 ⇑P P 14 58 40.8 +0.7
baz=59
L29A **Maesberg Ranch** 58.93 60 ⇓P P 14 58 41.7 +1.3
baz=59
M28A **Bar X Bar Ranc** 58.98 61 ⇓P P 14 58 41.9 +1.2
baz=59
OGNE **Ogallala** 58.98 62 ⇓P P 14 58 42.0 +1.2
baz=59
R23A **Moffat** 59.05 67 ⇓P P 14 58 43.4 +1.9
baz=59
W18A **Petrified Fore** 59.24 72 ⇑P P 14 58 44.6 +1.9

baz=59
M29A Burnside Ranch 59.28 61 ⇑P P 14 58 44.5 +1.7
baz=59
O27A Beecher Island 59.31 63 ⇑P P 14 58 44.9 +1.9
baz=59
S23A Nye Farm, Mont 59.32 67 ⇑P P 14 58 44.4 +1.1
baz=59
P26A Davis Ranch, A 59.33 64 ⇑P P 14 58 44.5 +1.2
baz=59
L30A Spencer Herefo 59.39 60 ⇑P P 14 58 44.6 +1.1
baz=59
FINES FINESS Array B 59.46 339 P P 14 58 42.6 -1.0
comp=Z,3.5nm,0.8s,baz=19,slow=6.5,SNR=6.7
FINES LR LR 15 28 08.9
comp=Z,27nm,18.3s,baz=51,slow=40
FINES FINESS Array B 59.46 339 P P 14 58 42.6 -1.0
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES MLR MLR
comp=Z,27nm,18.3s
SDCO Great Sand Dun 59.56 67 ⇓P P 14 58 47.1 +2.1
baz=59,SNR=6.0
SDCO Great Sand Dun 59.56 67 eP P 14 58 46.0 +1.0
comp=Z,12nm,1.3s
ECSD EROS Data Cent 59.57 56 ⇓P P 14 58 45.1 +0.4
baz=59
ECSD EROS Data Cent 59.57 56 eP P 14 58 44.4 -0.3
comp=Z,5.8nm,0.9s
L31A Butterfield Fa 59.66 59 ⇑P P 14 58 46.9 +1.6
baz=59
Q26A Hugo 59.72 65 ⇓P P 14 58 47.5 +1.6
baz=60
P27A Ficken Ranch, 59.73 63 ⇑P P 14 58 47.4 +1.4
baz=60
N29A Votaw Ranch, W 59.78 61 ⇑P P 14 58 47.4 +1.1
baz=60
214A Organ Pipe Nat 59.90 76 ⇑P P 14 58 48.7 +1.6
baz=60
P28A Saint Francis 60.14 63 ⇓P P 14 58 50.0 +1.3
baz=60
O29A 4D Ranch, Culb 60.21 62 ⇓P P 14 58 49.8 +0.5
baz=60
SPMN Marine on St. 60.23 53 ⇓P P 14 58 49.7 +0.6
baz=60
SPMN Marine on St. 60.23 53 eP P 14 58 49.5 +0.4
comp=Z,8.8nm,0.8s
O30A MW Ranch, Wils 60.55 61 ⇓P P 14 58 53.0 +1.5
baz=60
T25A Trinidad 60.59 67 ⇑P P 14 58 53.3 +1.4
baz=60
T26A Comanche Natio 60.99 66 ⇓P P 14 58 55.5 +0.8
baz=61
ANMO Albuquerque 61.14 70 ⇓eP P 14 58 57.4 +1.6
ANMO pmax pmax
comp=Z,10.0nm,1.2s
ANMO Albuquerque 61.14 70 eP P 14 58 56.4 +0.6
comp=Z,3.0nm,0.9s
Q30A Quinter 61.37 62 ⇓P P 14 58 58.2 +1.1
baz=61
P31A Stockton 61.39 61 ⇑P P 14 58 57.9 +0.7
baz=61
CMAR Chiang Mai Arr 61.66 262 P P 14 58 59.3 +0.1
comp=Z,0.9nm,0.8s,baz=22,slow=6.9,SNR=6.9
CMAR LR LR 15 28 28.6
comp=Z,51nm,19.3s,baz=63,slow=39
CMAR Chiang Mai Arr 61.66 262 P P 14 58 59.3 +0.1
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR MLR MLR
comp=Z,51nm,19.3s
P32A Huiting Farm, 61.70 61 ⇑P P 14 58 59.7 +0.4
baz=62
T28A Walsh 61.80 65 ⇑P P 14 59 00.9 +0.8
baz=62
O33A Hebron 61.86 60 ⇑P P 14 59 00.6 +0.3
baz=62
R30A Dighton 61.87 63 ⇑P P 14 59 01.0 +0.6
baz=62
S29A Ulysses 61.94 64 ⇑P P 14 59 01.6 +0.6
baz=62
U27A Thompson Grove 61.96 66 ⇓P P 14 59 01.8 +0.6
baz=62
N35A Tabor 62.22 58 ⇑P P 14 59 03.6 +0.9
baz=62
U28A Mallet 62.31 66 ⇓P P 14 59 04.2 +0.7
baz=62
SCHQ Schefferville 62.34 31 P P 14 59 02.9 -0.4
comp=Z,4.9nm,0.7s,baz=331,slow=8.7,SNR=12
NB2 NORSAR Subarra 62.42 346 P P 14 59 03.0 -0.8
comp=Z,1.6nm,0.6s,baz=17,slow=6.9
NOA NORSAR Array B 62.42 346 P P 14 59 02.9 -0.8
comp=Z,2.0nm,0.6s,baz=16,slow=6.9,SNR=5.4
NOA LR LR 15 29 08.0
comp=Z,5.9nm,18.2s,baz=30,slow=39
NOA NORSAR Array B 62.42 346 P P 14 59 02.9 -0.8
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA MLR MLR
comp=Z,6.0nm,18.2s
Q33A Connelly Farm, 62.56 61 ⇓P P 14 59 04.9 -0.2
baz=62
P34A Walnut Farm, R 62.64 60 ⇑P P 14 59 05.5 -0.1
baz=62
HFS Hagfors 62.93 345 P P 14 59 06.2 -0.9
comp=Z,1.7nm,0.4s,baz=43,slow=6.7,SNR=11
HFS Hagfors 62.93 345 P P 14 59 06.2 -0.9
HFS pmax pmax
comp=Z,2.0nm,0.4s
P35A Duane Minner, 63.06 59 ⇑P P 14 59 08.5 +0.2
baz=63
R34A Isabella, Hill 63.39 61 ⇓P P 14 59 10.2 -0.4
baz=63
Q35A Mercer Eighty, 63.56 60 ⇓P P 14 59 11.1 -0.5
baz=63
MSTX Muleshoe 63.86 68 ⇓P P 14 59 15.1 +1.3
baz=64
R36A Gordon, Harris 64.24 60 ⇑P P 14 59 15.6 -0.5
baz=64
S36A Lake Cedric, C 64.66 60 ⇑P P 14 59 18.6 -0.3
baz=64
128A Castleberry Fa 65.05 68 ⇓P P 14 59 22.5 +0.9
baz=65
Z30A Sanderson Ranc 65.25 67 ⇓P P 14 59 23.7 +0.8
baz=65
HDIL Hopedale 65.48 54 eP P 14 59 23.7 -0.4
comp=Z,33nm,0.8s
Y32A R-V Farms, Ver 65.59 65 ⇓P P 14 59 25.9 +0.9
baz=65
131A Roby 66.12 67 ⇓P P 14 59 29.6 +1.2
baz=66
329A Wagon Wheel Ra 66.19 69 ⇓P P 14 59 29.7 +0.7
baz=66
230A Sterling City 66.35 68 ⇑P P 14 59 30.9 +0.9
baz=66
W36A Wetumka 66.36 62 ⇑P P 14 59 30.7 +0.8
baz=66
Y34A Reagan Ranch, 66.50 64 ⇑P P 14 59 31.4 +0.6
baz=66
ABTX Abilene, Hawle 66.55 66 ⇑P P 14 59 31.9 +0.7
baz=66
X35A Drake 66.56 63 ⇓P P 14 59 31.8 +0.6
baz=66
SFIN Lafayette 66.63 53 ⇑P P 14 59 31.7 +0.2
baz=66
330A Mertzon 66.69 68 ⇑P P 14 59 32.1 0.0
baz=66
231A Bronte 66.73 67 ⇓P P 14 59 32.6 +0.2
baz=67
X36A Centrahoma 66.74 63 ⇓P P 14 59 32.8 +0.5
baz=66
W37A Quinton 66.77 62 ⇓P P 14 59 33.2 +0.7
baz=67
Z34A Collier Ranch, 66.87 65 ⇓P P 14 59 34.0 +0.8
baz=67
429A Davenport Ranc 66.91 69 ⇓P P 14 59 34.3 +0.7
baz=67
133A Hamilton Ranch 66.95 66 ⇑P P 14 59 34.4 +0.7
baz=67
TXAR Lajitas Array 66.96 72 P P 14 59 34.9 +1.0
comp=Z,2.6nm,0.6s,baz=301,slow=5.1,SNR=34
TXAR Lajitas Array 66.96 72 P P 14 59 34.9 +1.0
TXAR pmax pmax
comp=Z,3.0nm,0.6s
529A Stev Forest Ra 67.13 70 ⇑P P 14 59 36.3 +1.4
baz=67
430A Baggett Ranch, 67.14 69 ⇓P P 14 59 35.4 +0.3
baz=67
331A San Angelo 67.16 68 ⇓P P 14 59 35.9 +0.7
baz=67
X37A Clayton 67.22 62 ⇑P P 14 59 36.0 +0.6
baz=67
W38A Poteau 67.28 61 ⇓P P 14 59 36.3 +0.6
baz=67
332A Millersview 67.47 67 ⇓P P 14 59 37.8 +0.7
baz=67
431A Sonora 67.56 68 ⇑P P 14 59 38.2 +0.6
baz=67
530A J-C Ranch, Com 67.58 69 ⇑P P 14 59 38.6 +0.8
baz=67
234A Clairette 67.83 66 ⇓P P 14 59 40.1 +0.8
baz=68
432A Menard 67.84 68 ⇑P P 14 59 39.9 +0.5
baz=68
333A Richland Sprin 67.92 67 ⇓P P 14 59 40.2 +0.3
baz=68
PBMO Poplar Bluff 67.94 57 eP P 14 59 40.0 +0.1
comp=Z,13nm,0.8s
531A Rocksprings 68.00 69 ⇓P P 14 59 40.8 +0.4
baz=68
JCT Junction City 68.15 68 ⇑P P 14 59 42.2 +0.9
baz=68
JCT Junction City 68.15 68 eP P 14 59 42.0 +0.6
comp=Z,8.6nm,1.0s
MIAR Mount Ida 68.17 61 eP P 14 59 41.5 +0.1
comp=Z,9.1nm,0.9s
WHTX Lake Whitney, 68.19 65 ⇓P P 14 59 42.3 +0.7
baz=68
334A Lometa 68.30 66 ⇑P P 14 59 42.7 +0.5
baz=68
433A Art 68.31 67 ⇓P P 14 59 43.1 +0.7
baz=68
532A Rocksprings 68.37 68 ⇑P P 14 59 42.7 0.0
baz=68
AKASG Malin Array Be 68.43 332 P P 14 59 41.7 -1.0
comp=Z,0.4nm,0.3s,baz=26,slow=6.1,SNR=4.4
AKASG LR LR 15 33 16.9
comp=Z,32nm,18.2s,baz=25,slow=39
AKASG Malin Array Be 68.43 332 ceP P 14 59 42.7 0.0
631A Perdido Creek 68.57 69 ⇑P P 14 59 44.7 +0.7
baz=68
MMNY Mt. Morris Dam 68.67 45 eP P 14 59 43.5 -0.9
comp=Z,37nm,0.8s
434A Burnet 68.69 67 ⇑P P 14 59 45.1 +0.3
baz=68
632A Uvalde 68.92 69 ⇓P P 14 59 47.1 +0.9
baz=69
237A Washetta, Mont 69.04 64 ⇑P P 14 59 47.6 +0.8
baz=69
435B Jarrell 69.08 66 ⇓P P 14 59 48.0 +0.9
baz=69
534A Blanco 69.21 67 ⇑P P 14 59 48.8 +0.9
baz=69
633A Saathoff Ranch 69.28 68 ⇑P P 14 59 49.1 +0.7
baz=69
238A Jacksonville 69.40 64 ⇓P P 14 59 50.1 +1.0
baz=69
732A Laxson Ranch, 69.43 69 ⇑P P 14 59 51.0 +1.7
baz=69
EKA Eskdalemuir Ar 69.53 353 P P 14 59 49.3 -0.2
comp=Z,4.5nm,0.7s,baz=15,slow=5.4,SNR=12
EKA Eskdalemuir Ar 69.53 353 P P 14 59 49.3 -0.2
EKA pmax pmax
comp=Z,5.0nm,0.7s
337A Centerville 69.55 65 ⇓P P 14 59 50.9 +0.9
baz=69
WVT Waverly 69.71 56 eP P 14 59 51.2 +0.3
comp=Z,7.8nm,0.8s
832A Faith Ranch, C 69.78 70 ⇑P P 14 59 52.8 +1.4
baz=70
NATX Nacogdoches 69.83 63 ⇓P P 14 59 53.1 +1.4
baz=70
KIV Kislovodsk 70.04 320 ⇑eP P 14 59 51.8 -1.2
KIV *e* 15 02 29.1
KIV pmax pmax
comp=Z,2.0nm,0.6s
933A Laredo 70.69 69 ⇓P P 14 59 57.5 +0.5
baz=70
736A Circle Diamond 70.80 67 ⇑P P 14 59 57.7 +0.1
baz=71
CPCT Cooper Cave 71.81 54 eP P 15 00 04.0 +0.2
LRAL Lakeview Retre 72.62 57 eP P 15 00 07.0 -1.6
comp=Z,9.9nm,0.8s
VRAC Vranov 72.74 339 P P 15 00 09.2 +0.2
comp=Z,1.9nm,0.6s,baz=18,slow=6.3,SNR=3.7
VRAC Vranov 72.74 339 P P 15 00 09.2 +0.2
VRAC pmax pmax
comp=Z,2.0nm,0.6s
KMSC Kings Mountain 73.53 52 ⇑P P 15 00 13.6 -0.3
baz=73
GERES GERESS Array B 73.74 341 P P 15 00 14.9 -0.2
comp=Z,0.5nm,0.4s,baz=31,slow=5.4,SNR=7.5
GERES LR LR 15 36 14.2
comp=Z,29nm,19.0s,baz=302,slow=39
GERES GERESS Array B 73.74 341 P P 15 00 14.9 -0.2
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES MLR MLR
comp=Z,29nm,19.0s
FLN La Foliniere 75.83 350 eP P 15 00 26.4 -0.6
comp=Z,14nm,0.8s
FLN La Foliniere 75.83 350 eP P 15 00 26.4 -0.6
comp=Z,14nm,0.8s
GRR Gorron 76.24 351 eP P 15 00 29.1 -0.2
comp=Z,16nm,0.8s
GRR Gorron 76.24 351 eP P 15 00 29.1 -0.2
comp=Z,16nm,0.8s
BRTR Keskin Array B 76.98 324 P P 15 00 32.5 -1.3
comp=Z,0.4nm,0.6s,baz=41,slow=4.6,SNR=3.0
BRTR LR LR 15 37 04.3
comp=Z,15nm,18.5s,baz=40,slow=38
AVF Avril sur Loir 77.36 348 eP P 15 00 35.5 -0.2
AVF Avril sur Loir 77.36 348 eP P 15 00 35.5 -0.2
SMF Signal de Mont 77.44 347 eP P 15 00 35.9 -0.3
comp=Z,4.8nm,0.7s
SMF Signal de Mont 77.44 347 eP P 15 00 35.9 -0.3
comp=Z,4.8nm,0.7s
LPG La Plagne 78.16 345 eP P 15 00 41.5 +0.9
LPG La Plagne 78.16 345 eP P 15 00 41.5 +0.9
WRA Warramunga Arr 79.33 210 P P 15 00 46.7 -0.1
comp=Z,0.7nm,0.5s,baz=24,slow=6.0,SNR=4.3
WRA Warramunga Arr 79.33 210 P P 15 00 46.7 -0.1
WRA pmax pmax
comp=Z,1.0nm,0.5s
ETSF Etsaut 81.64 350 eP P 15 01 00.0 +0.8
comp=Z,9.4nm,0.8s
ETSF Etsaut 81.64 350 eP P 15 01 00.0 +0.8
comp=Z,9.4nm,0.8s
AS31 Alice Springs 82.98 209 eP P 15 01 04.6 -1.5
ASAR Alice Springs 82.98 209 P P 15 01 06.7 +0.5
comp=Z,1.4nm,0.8s,baz=18,slow=5.2,SNR=18
ASAR Alice Springs 82.98 209 P P 15 01 06.7 +0.5
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ESDC Sonseca Array 85.16 352 P P 15 01 17.4 +0.1
comp=Z,3.7nm,0.8s,baz=3.5,slow=5.0,SNR=17
EIL Elat 85.52 318 LR LR 15 45 16.3
comp=Z,24nm,18.9s,baz=56,slow=40

*ISCJB **12** 14:49:01.4±0.5, 23.°92S±0.°05×66.°92W±0.°04, h200km, mb3.4/5, Error ellipse: s-maj=6.8km s-min=5.1km az=34.4*
*IDC **12** 14:49:01.9±1.1, 23.°91S×66.°78W, h193km±10km, mb3.3/5, mb1 3.6/9, mb1mx3.4/27, mbtmp3.8/9, Error ellipse: s-maj=18.0km s-min=15.1km az=63.0*
*SJA **12** 14:49:02.0±0.3, 23.°98S×66.°88W, h201km±13km, ML3.9, MW3.8*
*GUC **12** 14:49:04.3±0.3, 23.°86S×67.°36W, h224km±22km, ML4.3*
ISC 12 14:49:02.3±0.7, 23.°90S±0.°07×66.°92W±0.°06, h200km, n26, σ1s23/35, mb3.6/5, 7C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.55**	**64**	*eP*		**Pn**		**14 49 37.7**	**+0.8**
HJA				*eS*		**Sn**		**14 50 04.1**	**+0.5**
LVC	**Limon Verde**	**2.24**	**305**	P		**Pn**		**14 49 44.5**	**+0.9**
	4µm,0.3s,baz=126,slow=6.2,SNR=714								
LVC				S		**Sn**		**14 50 17.0**	**+1.2**
	1µm,0.3s,baz=58,slow=24,SNR=11								
LVC	**Limon Verde**	**2.24**	**305**	*eP*		**Pn**		**14 49 44.8**	**+1.2**
PB06	**IPOC Station P**	**2.72**	**296**	⇑*iP*		**Pn**		**14 49 49.9**	**+1.0**
PB06				*iS*		**Sn**		**14 50 24.4**	**-0.7**
PB06					AML	AML		14 50 26.6	
	comp=E,773nm,0.3s								
PB09	**IPOC Station P**	**3.00**	**314**	⇑*iP*		**Pn**		**14 49 53.7**	**+1.5**
PB09				*iS*		**Sn**		**14 50 31.5**	**+0.4**
PB09					AML	AML		14 50 34.7	
	comp=E,615nm,0.6s								
AHML	**Horco Molle**	**3.21**	**154**	*eP*		**Pn**		**14 49 53.7**	**-0.7**
ANCH	**Antofagasta**	**3.21**	**273**	⇑*iP*		**Pn**		**14 49 54.5**	**+0.1**
ANCH				*iS*		**Sn**		**14 50 32.8**	**-2.2**
PB10	**IPOC Station P**	**3.36**	**276**	⇑*iP*		**Pn**		**14 49 56.8**	**+0.6**
PB10				*iS*		**Sn**		**14 50 36.1**	**-2.2**
PB04	**IPOC Station P**	**3.36**	**297**	⇑*iP*		**Pn**		**14 49 56.9**	**+0.5**
PB04				*iS*		**Sn**		**14 50 37.4**	**-1.3**
PB04					AML	AML		14 50 41.7	
	comp=N,361nm,0.4s								
PB01	**IPOC Station P**	**3.71**	**320**	⇑*iP*		**Pn**		**14 50 01.0**	**+0.4**
PB01				*iS*		**Sn**		**14 50 45.1**	**-1.2**
CYA	**Choya**	**4.63**	**168**	*eP*		**Pn**		**14 50 11.4**	**-0.6**
PB11	**IPOC Station P**	**4.84**	**328**	⇑*iP*		**Pn**		**14 50 14.5**	**-0.5**
PB11				*iS*		**Sn**		**14 51 09.9**	**-2.2**
AVFE	**Valle Fertil**	**6.75**	**184**		AML	AML		14 51 55.9	
	comp=Z,20nm,0.4s								
LPAZ	**La Paz**	**7.66**	**351**	P		**Pn**		**14 50 51.8**	**0.0**
	comp=Z,0.7nm,0.3s,baz=221,slow=3.2,SNR=16								
LPAZ				S		**Sn**		**14 52 15.4**	**-3.3**
	comp=Z,0.3nm,0.3s,baz=282,slow=20,SNR=2.7								
CFAA	**Coronel Fontan**	**7.76**	**188**	P		**Pn**		**14 50 51.1**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=6.1,slow=14,SNR=31								
CFAA				S		Sn		14 52 11.0	-9.1
	comp=Z,1.3nm,0.3s,baz=127,slow=20,SNR=26								
SIV	**San Ignacio**	**9.60**	**36**	P		**Pn**		**14 51 15.1**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=235,slow=11,SNR=8.1								
BDFB	**Brasilia**	**19.58**	**69**	P		**P**		**14 53 14.8**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=242,slow=12,SNR=7.3								
SNAA	**Sanae**	**59.41**	**161**	P		**P**		**14 58 44.0**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=278,slow=7.1,SNR=4.5								
TXAR	**Lajitas Array**	**63.65**	**324**	P		**P**		**14 59 13.5**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=160,slow=7.6,SNR=6.1								
TORD	**Torodi Ar. Bea**	**76.46**	**69**	P		**P**		**15 00 29.7**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=259,slow=5.0,SNR=7.4								
PDAR	**Pinedale Array**	**77.11**	**329**	P		**P**		**15 00 34.1**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=134,slow=7.7,SNR=2.3								
YKA	**Yellowknife Ar**	**94.06**	**340**	P		**P**		**15 01 58.3**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=137,slow=4.7,SNR=5.6								
ASAR	**Alice Springs**	**128.57**	**205**	PKP		**PKPdf**		**15 07 46.5**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=134,slow=1.6,SNR=7.5								
WRA	**Warramunga Arr**	**131.75**	**207**	PKP		**PKPdf**		**15 07 52.8**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=160,slow=1.7,SNR=3.1								
ZALV	**Zalesovo Beam**	**143.27**	**28**	PKP		**PKPdf**		**15 08 11.5**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=336,slow=3.3,SNR=5.6								
MKAR	**Makanchi Array**	**146.40**	**39**	PKPbc		**PKPdf**		**15 08 18.3**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=122,slow=1.6,SNR=18								

MEX 12 14:59:17.5±0.3, 16.°38N×98.°36W, h4km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.22**	**87**	*i* P		Pg		14 59 21.4	-0.4
PNIG				*e*S		Sg		14 59 24.8	0.0
TLIG	**Tlapa**	**1.19**	**350**	*eP*		Pg		14 59 37.4	-3.2
TLIG				*e*S		Sg		14 59 52.2	-4.0
ACX	**Acapulco**	**1.52**	**289**	*eP*		Pn		14 59 42.2	-3.3
ACX				*e*S		Sn		15 00 01.6	-4.1
VHO	**Vista Hermosa**	**1.70**	**66**	*i* P		Pn		14 59 44.7	-3.5
VHO				*i* S		Sn		15 00 05.0	-5.5
CAIG	**El Cayaco**	**1.95**	**290**	*eP*		Pn		14 59 48.0	-3.3
CAIG				*i* S		Sn		15 00 11.5	-4.7
HUIG	**Huatulco**	**2.25**	**105**	*i* P		Pn		14 59 52.5	-3.0
HUIG				*i* S		Sn		15 00 19.5	-4.1
PLIG	**Platanillo**	**2.28**	**331**	*i* P		Pn		14 59 53.0	-3.1
PLIG				*i* S		Sn		15 00 20.9	-3.7

*NIED **12** 15:19:00, 43.°30N×147.°20E, h50km, Mw3.9 Best double couple: M0 7.60000×10^14 NP1:ϕs184.00000°, δ24.00000°, λ43.00000°. NP2:ϕs54.00000°, δ74.00000°, λ108.00000°.*
*IDC **12** 15:19:41.6±1.0, 43.°57N×147.°19E, h0km, mb4.0/16, mb1 4.1/17, mb1mx4.0/28, mbtmp4.0/17, ML2.8/1, Error ellipse: s-maj=26.5km s-min=18.9km az=145.0*
*JMA **12** 15:19:46.9±0.2, 43.°30N×147.°20E, h46km±5km, M4.1*
*ISCJB **12** 15:19:47.2±0.7, 43.°39N±0.°05×147.°17E±0.°06, h61km±4km, mb4.0/25, Error ellipse: s-maj=9.5km s-min=5.1km az=44.0*
*SKHL **12** 15:19:47.7±0.2, 43.°42N×147.°23E, h71km±7km, mb4.5/4*
*MOS **12** 15:19:48.5±0.8, 43.°59N×147.°07E, h64km, mb4.4/19, Error ellipse: s-maj=15.2km s-min=8.6km az=117.0*
*NEIC **12** 15:19:48.5±1.5, 43.°48N×147.°16E, h55km±13km, mb4.4/2, Error ellipse: s-maj=16.5km s-min=13.1km az=112.0*
ISC 12 15:19:48.0±1.2, 43.°40N±0.°06×147.°20E±0.°06, h51km±9km, n85, σ1s00/98, mb4.2/25, 1C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.54**	**330**	*eP*		**Pn**		**15 19 59.7**	**0.0**
SHO					AMB	AMB		15 19 59.9	
	496nm,0.2s								
SHO				*e*S		**Sn**		**15 20 08.6**	**+0.4**
SHO				A		A		15 20 09.1	
	6µm,0.3s								
NEM2	**Nemuro 2**	**1.06**	**268**	P		**Pn**		**15 20 05.7**	**-0.8**
NEM2				*e*S		**Sn**		**15 20 20.1**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**1.16**	**304**	*d* iPN		**Pn**		**15 20 07.6**	**-0.2**
YUK				*i* S		**Sn**		**15 20 22.7**	**+0.2**
YUK					pmax	pmax			
	comp=Z,903nm,0.3s								
YUK					pmax	pmax			
	comp=N,62nm,0.2s								
YUK					pmax	pmax			
	comp=E,130nm,0.2s								
YUK					smax	smax			
	comp=N,1µm,0.5s								
YUK					smax	smax			
	comp=E,2µm,0.5s								
YUK	**Yuzh-Kuril'sk**	**1.16**	**304**	*eP*		**Pn**		**15 20 07.6**	**-0.2**
YUK					AMB	AMB		15 20 07.9	
	comp=E,62nm,0.3s								
YUK					AMB	AMB		15 20 07.9	
	comp=E,130nm,0.3s								
YUK					AMB	AMB		15 20 07.9	
	comp=E,903nm,0.3s								
YUK				*e*S		**Sn**		**15 20 22.7**	**+0.2**
YUK				A		A		15 20 25.6	
	comp=E,1µm,0.5s								
YUK				A		A		15 20 25.6	
	comp=E,2µm,0.5s								
JRA	**Rausu**	**1.60**	**290**	P		**Pn**		**15 20 13.9**	**+0.1**
JRA				*e*S		**Sn**		**15 20 34.1**	**+0.8**
JNK	**Nakash**	**1.81**	**277**	P		**Pn**		**15 20 16.4**	**-0.4**
JNK				*e*S		**Sn**		**15 20 38.1**	**-0.5**
JAK	**Akkeshi**	**1.88**	**258**	P		**Pn**		**15 20 16.9**	**-0.7**
JAK				*e*S		**Sn**		**15 20 38.8**	**-1.2**
KUR	**Kuril'sk**	**1.89**	**14**	⇓*i*PN		**Pn**		**15 20 18.2**	**+0.4**
KUR				*e*S		**Sn**		**15 20 40.9**	**+0.5**
KUR					pmax	pmax			
	comp=Z,26nm,0.3s								
KUR					pmax	pmax			
	comp=N,11nm,0.1s								
KUR					smax	smax			
	comp=N,127nm,0.2s								
KUR					smax	smax			
	comp=E,204nm,0.2s								
KUR	**Kuril'sk**	**1.89**	**14**	*eP*		**Pn**		**15 20 18.0**	**+0.2**
KUR					AMB	AMB		15 20 23.7	
	comp=E,27nm,0.3s								
KUR					AMB	AMB		15 20 23.7	
	comp=E,21nm,0.3s								
KUR				*e*S		**Sn**		**15 20 38.9**	**-1.5**
KUR				A		A		15 20 43.9	
	comp=E,360nm,0.3s								
KUR				A		A		15 20 43.9	
	comp=E,540nm,0.3s								
JTKR	**Abashiri--Toko**	**2.45**	**284**	P		**Pn**		**15 20 26.6**	**+1.1**
JTKR				*e*S		**Sn**		**15 20 55.4**	**+1.2**
JAR	**Ashorobuto**	**2.50**	**269**	P		**Pn**		**15 20 26.3**	**+0.1**
JOB	**Onbets**	**2.51**	**260**	P		**Pn**		**15 20 26.1**	**-0.2**
JOB				*e*S		**Sn**		**15 20 55.0**	**-0.7**
JMP	**Maruseppu**	**2.85**	**284**	P		**Pn**		**15 20 32.2**	**+1.2**
JCH	**Churui**	**2.92**	**256**	P		**Pn**		**15 20 31.4**	**-0.5**
JCH				*e*S		**Sn**		**15 21 03.9**	**-1.9**
HRK	**Horoka**	**2.96**	**273**	*eP*		**Pn**		**15 20 33.8**	**+1.2**
JKK2	**Kamakawa 2**	**3.27**	**280**	P		**Pn**		**15 20 38.1**	**+1.5**
ERM	**Erimo**	**3.29**	**246**	*d* iPN		**Pn**		**15 20 38.7**	**+1.8**
ERM	**Erimo**	**3.29**	**246**	*eP*		**Pn**		**15 20 38.7**	**+1.8**
ERM	**Erimo**	**3.29**	**246**	*eP*		**Pn**		**15 20 38.1**	**+1.2**

JFR	Furan	3.37	267	P	Pn	15 20 39.2	+1.1
ASAJ	Asahikawa	3.41	284	P	Pn	15 20 40.6	+2.0
ASAJ	Asahikawa	3.41	284	*e*P	Pn	15 20 40.6	+2.0
JNBK	Urakawa-nobuka	3.46	253	P	Pn	15 20 38.9	-0.4
JBT2	Biratori 2	3.60	262	P	Pn	15 20 41.4	+0.2
JBT2				*e*S	Sn	15 21 21.3	-1.1
JSE	Soyaes	3.67	297	P	Pn	15 20 43.2	+1.1
YSS	Yuzh-Sakhalins	4.74	320	*e*PN	Pn	15 20 58.0	+1.2
YSS				*e*S	Sn	15 21 53.0	+2.6
YSS	comp=Z,30nm,0.8s			pmax	pmax		
YSS	comp=E,50nm,1.0s			smax	smax		
YSS	Yuzh-Sakhalins	4.74	320	*e*P	Pn	15 20 58.0	+1.2
YSS	comp=E,30nm,0.8s			AMB	AMB	15 20 59.0	
YSS				*e*S	Sn	15 21 51.0	+0.6
YSS	Yuzh-Sakhalins	4.74	320	*e*P	Pn	15 20 55.7	-1.2
UGL	Uglegorsk	6.70	330	*e*PN	Pn	15 21 23.0	-0.6
UGL				*e*S	Sn	15 22 36.9	-1.6
MJAR	Matsushiro Arr	9.72	228	Pn	Pn	15 22 03.7	-1.4
MJAR	comp=E,0.1nm,0.3s,baz=28,slow=13,SNR=3.8			Sn	Sn	15 23 54.2	+1.3
HABR	Khabarovsk	9.86	305	*e*PN	Pn	15 22 05.8	-1.1
HABR	comp=Z,3.0nm,1.3s			pmax	pmax		
HABR	comp=N,7.0nm,1.3s			pmax	pmax		
HABR	comp=E,5.0nm,0.6s			pmax	pmax		
HABR	comp=Z,45nm,17.0s			MLR	MLR		
HABR	Khabarovsk	9.86	305	*e*P	Pn	15 22 05.8	-1.1
SONM	Songino Array	28.64	293	P	P	15 25 39.7	0.0
SONM	comp=Z,2.3nm,0.7s,baz=88,slow=8.4,SNR=17			P	P	15 25 39.7	0.0
SONM	comp=Z,2.0nm,0.7s			pmax	pmax		
H11N2	WAKE ISLAND Hy	28.82	139	T	T	15 56 30.6	
H11N1	baz=330,slow=75,SNR=56 WAKE ISLAND Hy	28.83	139	T	T	15 56 26.8	
H11N3	baz=330,slow=75,SNR=14 WAKE ISLAND Hy	28.83	139	T	T	15 56 26.5	
H11S1	baz=330,slow=76,SNR=65 WAKE ISLAND Hy	29.78	140	T	T	15 57 44.2	
H11S3	baz=330,slow=76,SNR=130 WAKE ISLAND Hy	29.78	140	T	T	15 57 35.1	
H11S2	baz=330,slow=76,SNR=103 WAKE ISLAND Hy	29.80	140	T	T	15 57 41.1	
TLY	baz=330,slow=76,SNR=101 Talaya	30.16	301	*e*P	P	15 25 51.8	-1.2
TLY	comp=Z,2.0nm,0.8s			pmax	pmax		
TLY	Talaya	30.16	301	*e*P	P	15 25 51.8	-1.2
ZALV	Zalesovo Beam	41.24	307	P	P	15 27 27.9	+0.3
ZALV	comp=Z,0.9nm,0.5s,baz=88,slow=7.6,SNR=3.7 Zalesovo Beam	41.24	307	P	P	15 27 27.9	+0.3
ZALV	comp=Z,1.0nm,0.5s			pmax	pmax		
ILAR	Eielson Array	41.75	36	P	P	15 27 31.7	0.0
ILAR	comp=Z,0.2nm,0.4s,baz=254,slow=6.4,SNR=5.6 Eielson Array	41.75	36	*e*P	P	15 27 33.7	+2.0
MK31	Makanchi Array	44.78	298	*e*P	P	15 27 56.5	+0.1
MK31	comp=Z,3.0nm,0.5s			pmax	pmax		
MK31	Makanchi Array	44.78	298	*e*P	P	15 27 56.0	-0.4
MKAR	Makanchi Array	44.78	298	P	P	15 27 56.7	+0.3
MKAR	comp=Z,2.6nm,0.5s,baz=81,slow=8.8,SNR=32 Makanchi Array	44.78	298	P	P	15 27 56.7	+0.3
MKAR	comp=Z,3.0nm,0.5s			pmax	pmax		
KURK	Kurchatov	45.75	304	P	P	15 28 03.2	-0.8
KURK	comp=Z,1.0nm,0.5s			pmax	pmax		
KURK	Kurchatov	45.75	304	*e*P	P	15 28 03.5	-0.5
KURK	Kurchatov	45.75	304	*e*P	P	15 28 01.1	-2.9
INK	comp=Z,2.2nm,0.4s Inuvik	46.69	30	P	P	15 28 10.9	-0.2
INK	comp=Z,1.7nm,0.5s,baz=299,slow=14,SNR=3.4 Inuvik	46.69	30	P	P	15 28 10.9	-0.2
INK	comp=Z,2.0nm,0.5s			pmax	pmax		
BRVK	Borovoye	49.80	310	*i*P	P	15 28 35.3	0.0
BRVK	comp=Z,3.0nm,1.2s			pmax	pmax		
BRVK	Borovoye	49.80	310	*e*P	P	15 28 35.3	0.0
AAK	Ala-Archa	51.54	296	*e*P	P	15 28 50.4	+1.6
AAK	comp=Z,2.0nm,0.7s			pmax	pmax		
AAK	Ala-Archa	51.54	296	*e*P	P	15 28 50.4	+1.6
KK31	Karatay Array	53.91	298	*i*P	P	15 29 06.2	+0.1
KK31	comp=Z,1.0nm,0.4s			pmax	pmax		
ARU	Arti	54.62	317	*d i*P	P	15 29 10.7	-0.3
ARU						15 31 09.7	
ARU				S	S	15 36 46.7	-0.1
ARU				SS	SS	15 40 29.8	+0.4
ARU	comp=Z,9.0nm,2.5s			pmax	pmax		
ARU	Arti	54.62	317	*e*P	P	15 29 10.7	-0.3
RES	Resolute Bay	55.29	17	P	P	15 29 14.8	-0.8
RES	comp=Z,2.4nm,0.6s,baz=350,slow=6.4,SNR=16 Resolute Bay	55.29	17	P	P	15 29 14.8	-0.8
RES	comp=Z,2.0nm,0.6s			pmax	pmax		
AB31	Akbulak array	57.31	309	*i*P	P	15 29 30.6	+0.3
AB31	comp=Z,1.0nm,0.2s			pmax	pmax		
ABKAR	Akbulak array	57.31	309	*e*P	P	15 29 28.8	-1.6
ARCES	comp=Z,1.4nm,0.3s ARCESS Array B	59.58	340	P	P	15 29 45.0	-0.9
ARCES	comp=Z,1.2nm,0.8s,baz=51,slow=6.7,SNR=5.1 ARCESS Array B	59.58	340	*e*P	P	15 29 44.8	-1.1
ARCES	ARCESS Array B	59.58	340	*e*P	P	15 29 44.8	-1.1
FINES	FINESS Array B	65.20	333	P	P	15 30 22.8	-0.7
FINES	comp=Z,2.2nm,0.6s,baz=46,slow=5.7,SNR=17 FINESS Array B	65.20	333	P	P	15 30 22.8	-0.7
FINES	comp=Z,2.0nm,0.6s			pmax	pmax		
ASAR	Alice Springs	67.85	193	P	P	15 30 42.8	+2.0
NB2	comp=Z,0.2nm,0.7s,baz=6.7,slow=6.3,SNR=3.8 NORSAR Subarra	69.94	339	P	P	15 30 53.1	-0.4
NOA	comp=Z,1.0nm,0.5s,baz=31,slow=6.5 NORSAR Array B	69.94	339	P	P	15 30 53.0	-0.4
NOA	comp=Z,1.9nm,0.7s,baz=24,slow=6.1,SNR=7.1 NORSAR Array B	69.94	339	P	P	15 30 53.0	-0.4
NOA	comp=Z,2.0nm,0.7s			pmax	pmax		
HFS	Hagfors	70.02	337	P	P	15 30 53.4	-0.5
HFS	comp=Z,2.4nm,0.4s,baz=46,slow=6.4,SNR=18 Hagfors	70.02	337	P	P	15 30 53.4	-0.5
HFS	comp=Z,2.0nm,0.4s			pmax	pmax		
KBZ	Khabaz	70.06	312	P	P	15 30 54.3	-0.1
KBZ	comp=Z,2.1nm,0.8s,baz=43,slow=4.0,SNR=5.9 Khabaz	70.06	312	P	P	15 30 54.3	-0.1
KBZ	comp=Z,2.0nm,0.8s			pmax	pmax		
AKASG	Malin Array Be	71.88	324	P	P	15 31 05.2	-0.1
AKASG	comp=Z,1.0nm,0.5s,baz=39,slow=6.1,SNR=11 Malin Array Be	71.88	324	P	P	15 31 05.2	-0.1
AKASG	comp=Z,1.0nm,0.5s			pmax	pmax		
BRTR	Keskin Array B	77.81	314	P	P	15 31 40.3	+0.3
EKA	comp=Z,0.4nm,0.6s,baz=108,slow=4.0,SNR=3.5 Eskdalemuir Ar	78.47	343	P	P	15 31 42.8	-0.3
EKA	comp=Z,1.1nm,0.8s,baz=34,slow=6.1,SNR=3.6 Eskdalemuir Ar	78.47	343	P	P	15 31 42.8	-0.3
EKA	comp=Z,1.0nm,0.8s			pmax	pmax		
TXAR	Lajitas Array	82.81	56	P	P	15 32 07.3	+0.3
	comp=Z,0.4nm,0.5s,baz=307,slow=3.5,SNR=7.4						

*IDC **12** 15:24:26.5±1.1,25°.65N×127°.46E,h0km,mb3.6/6, mb1 3.7/7,mb1mx3.6/24,mbtmp3.6/7,ML3.6/1,MS4.2/2, Ms1 4.2/2,ms1mx2.9/35,Error ellipse: s-maj=29.4km s-min=17.7km az=97.0*
*JMA **12** 15:24:29.8±0.2,25°.55N×127°.66E,h44km±3km,M3.3*
*ISCJB **12** 15:24:30.3±0.7,25°.59N±0°.06×127°.66E±0°.06,h48km±8km, mb3.5/6,MS4.1/2,Error ellipse: s-maj=11.7km s-min=6.1km az=43.8*
ISC 12 15:24:29.9±1.6,25°.53N±0°.06×127°.72E±0°.05,h31km±11km,
n28,σ1s29/31,mb3.4/6,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.61	2	P		P	Pb	15 24 41.9	-0.3
JJT2						*e*S	Sb	15 24 51.0	+0.4
JNTH	Nagotoyohara	1.02	15	P		P	Pn	15 24 47.8	-0.4
JNTH						*e*S	Sn	15 25 01.1	-0.4
JAGN	Aguni-jima	1.14	338	P		P	Pn	15 24 49.6	-0.2
JAGN						*e*S	Sn	15 25 03.3	-1.2
JKE	Kume jima 2	1.16	314	P		P	Pn	15 24 49.5	-0.6
JOW	Kunigami	1.39	21	P		P	Pn	15 24 53.3	0.0
JOW	Kunigami	1.39	21	P		Pn	Pn	15 24 53.4	+0.1
JOW	8.3nm,0.3s,baz=186,slow=14,SNR=8.7					Sn	Sn	15 25 11.7	+1.1
JIH	4.6nm,0.3s,baz=113,slow=27,SNR=7.7 Iheya	1.52	8	P		P	Pn	15 24 55.3	+0.3
JIH						*e*S	Sn	15 25 12.3	-1.4
JOKE	Okinoerabujima	1.98	22	P		P	Pn	15 25 02.2	+0.9
JOGS	Gusukube	2.23	251	P		P	Pn	15 25 06.0	+1.2
JIKM	Ikemajima	2.32	256	P		P	Pn	15 25 06.5	+0.5
JIRB	Irabujima	2.41	254	P		P	Pn	15 25 07.6	+0.3
JTK	Tokunoshima	2.50	26	P		P	Pn	15 25 09.5	+1.0
JTJ	Tarama	2.88	253	P		P	Pn	15 25 14.3	+0.6
JAMN	Amaminishikomi	3.00	25	P		P	Pn	15 25 16.8	+1.4
JMZ	Minamidaito 2	3.17	84	P		P	Pn	15 25 17.0	-0.7
JMZ						*e*S	Sn	15 25 50.6	-3.8
JISG	Ishigakijimahi	3.23	254	P		P	Pn	15 25 17.9	-0.7
JAM	Amami Oshima	3.33	30	P		P	Pn	15 25 20.6	+0.7
JZK	Kikaishima	3.43	35	P		P	Pn	15 25 22.4	+1.2
JNU	Nakatsue	8.05	19	Pn		Pn	Pn	15 26 25.4	+0.5
KSRS	0.8nm,0.3s,baz=191,slow=19,SNR=7.0 Korea Array	11.89	1	LR		LR		15 32 00.3	
ASAJ	comp=Z,26nm,21.5s,baz=145,slow=39 Asahikawa	22.14	29	LR		LR		15 37 39.9	
SONM	comp=Z,1μm,19.0s,slow=36 Songino Array	27.90	328	P		P	P	15 30 15.7	-1.6
MKAR	0.3nm,0.6s,baz=124,slow=9.0,SNR=2.4 Makanchi Array	41.67	313	P		P	P	15 32 14.4	-1.2
ZALV	0.4nm,0.7s,baz=93,slow=8.0,SNR=4.1 Zalevo Beam	42.53	323	P		P	P	15 32 21.5	-1.1
WRA	0.4nm,0.3s,baz=116,slow=6.6,SNR=2.7 Warramunga Arr	45.65	171	P		P	P	15 32 50.3	+2.5
ASAR	0.5nm,0.9s,baz=353,slow=8.4,SNR=3.1 Alice Springs	49.27	173	P		P	P	15 33 17.9	+2.0
FINES	0.3nm,0.7s,baz=355,slow=8.0,SNR=8.7 FINESS Array B	73.25	331	P		P	P	15 35 58.6	+0.7
MMAI	5.1nm,1.1s,baz=101,slow=5.9,SNR=3.8 Mount Meron Ar	78.37	301	LR		LR		16 16 25.0	
	comp=Z,49nm,18.6s,baz=355,slow=40								

*IDC **12** 15:29:24.4±1.4,37°.41N×117°.50W,h0km,mb1 3.5/5, mb1mx3.4/29,mbtmp3.3/5,ML3.6/5,Error ellipse: s-maj=13.2km s-min=8.3km az=22.0*
*NEIC **12** 15:29:25.4,37°.45N×117°.52W,h6km,ML4.5(REN),After REN.*
NEIC Felt [II] at Bishop, California.
ISC 12 15:29:24.8±1.1,37°.45N±0°.02×117°.50W±0°.02,h3km±10km,
n74,σ0s95/114,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GRAC	Grapevine Rang	0.46	167	P		P	Pg	15 29 34.7	+1.0
GRAC	baz=0.5			S		S	Sb	15 29 41.5	-1.3
TPH	baz=0.5 Tonopah	0.66	19	*e*Pg		Pg	Pg	15 29 38.1	+0.6
TPH				*e*Sg		Sg	Sg	15 29 47.2	+1.1
TIN	Tinemaha, Big	0.70	236	P		P	Pg	15 29 38.7	+0.5
TIN	baz=0.7			S		S	Sg	15 29 48.4	+1.0
MLAC	baz=0.7 Mammoth, Mammo	1.07	280	P		P	Pg	15 29 45.6	+0.2
FURC	baz=1.1 Furnace Creek,	1.11	152	P		P	Pb	15 29 46.4	0.0
FURC	baz=1.1			S		S	Sb	15 30 01.8	+0.6
CWC	baz=1.1 Cottonwood Cre	1.11	205	P		P	Pg	15 29 46.0	-0.1
TPNV	baz=1.1 Topopah Spring	1.12	116	P		P	Pb	15 29 46.9	+0.1
NVAR	baz=1.1 Mina Array Bea	1.16	327	Pg		Pg	Pg	15 29 46.7	-0.4
NVAR	2μm,0.3s,baz=152,slow=17			Lg		Lg		15 30 04.4	
DAC	439nm,0.3s,baz=154,slow=32,SNR=8.0 Darwin (Calif)	1.17	184	*e*Pg		Pg	Pg	15 29 46.8	-0.4
DAC				*e*Sg		Sg	Sg	15 30 02.1	-0.4
MPMC	Manual Prospec	1.39	180	P		P	Pn	15 29 50.7	-0.5
MPMC	baz=1.4			S		S	Sg	15 30 08.7	-0.7
R11A	baz=1.4 Troy Canyon, C	1.76	59	P		P	Pn	15 29 55.5	-0.8
R11A	baz=1.8 Troy Canyon, C	1.76	59	*e*Pn		Pn	Pn	15 29 55.6	-0.8
R11A				*e*Sn		Sn	Sn	15 30 19.3	-0.1
RCTC	Rector, Farmer	1.80	231	Sb		Sb	Sb	15 30 21.6	+0.3
SHOC	baz=1.8 Shoshone, Teco	1.83	147	Pb		Pg	Pg	15 29 59.7	-0.2
SHOC	baz=1.8			Sb		Sg	Sg	15 30 23.4	-0.2
WAKR	baz=1.8 Walker	1.86	305	*e*Pn		Pn	Pn	15 29 57.1	-0.5
ISA	Isabella, Lake	1.95	204	P		P	Pn	15 29 58.8	0.0
LRMC	baz=1.9 Laurel Mtn Rad	1.98	184	Sb		Sg	Sg	15 30 27.5	-0.8
VES	baz=2.0 Vestal, Richgr	2.05	219	Pb		Pb	Pb	15 30 02.9	+0.3
VES	baz=2.0			Sb		Sb	Sb	15 30 29.4	+1.0
SHPR	baz=2.0 Sheep Range	2.10	116	*e*Pn		Pn	Pn	15 30 01.2	+0.2
SHPR				*e*Sn		Sn	Sn	15 30 27.1	-0.5
GSC	Goldstone, Bar	2.22	165	P		P	Pn	15 30 02.4	-0.1
GSC	baz=2.2 Goldstone, Bar	2.22	165	*e*Pn		Pn	Pn	15 30 02.3	-0.1
GSC				*e*Sn		Sn	Sn	15 30 29.8	-0.7
TUQ	Turquoise Moun	2.38	147	P		P	Pn	15 30 04.6	-0.2
TUQ	baz=2.4			S		S	Sn	15 30 34.3	-0.2
EDW2	baz=2.4 Edwards Air Fo	2.60	189	P		P	Pn	15 30 07.9	+0.2
EDW2	baz=2.6			Sb		Sg	Sg	15 30 46.9	-1.3
RRX	baz=2.6 Edison Barstow	2.60	171	P		P	Pn	15 30 08.2	+0.5
HEC	baz=2.6 Hector,Ludlow	2.78	160	P		P	Pn	15 30 10.0	-0.2
SMMC	baz=2.8 Simmler	2.94	224	Pb		Pb	Pb	15 30 17.0	-0.8
SMMC	baz=2.9			Sb		Sb	Sb	15 30 55.6	+1.5
GMRC	baz=2.9 Granite Mounta	3.05	150	Pb		Pb	Pb	15 30 20.3	+0.5
MWC	baz=3.1 Mount Wilson	3.25	188	*e*Pn		Pn	Pn	15 30 16.8	0.0
MWC				*e*Sn		Sn	Sn	15 30 55.9	-0.2
CCUT	Cedar City	3.29	87	*e*Pn		Pn	Pn	15 30 17.4	0.0
CCUT				*e*Sn		Sn	Sn	15 30 57.8	+0.6
PASC	Pasadena Art C	3.32	190	*e*Pn		Pn	Pn	15 30 15.5	-2.1
BELC	Belle Mtn. Jos	3.65	160	P		P	Pn	15 30 22.4	+0.1
ELK	baz=3.7 Elko	3.73	27	Pn		Pn	Pn	15 30 23.7	+0.3
ELK	4.0nm,0.3s,baz=213,slow=12,SNR=68			Pg		Pb	Pb	15 30 31.6	+0.2
ELK	7.9nm,0.3s,baz=213,slow=14,SNR=26			Sn		Sn	Sn	15 31 07.7	-0.3
ELK	4.7nm,0.3s,baz=227,slow=18,SNR=3.2			Lg		Lg		15 31 21.4	
MURC	23nm,0.3s,baz=292,slow=23,SNR=12 Murrieta	3.85	176	P		P	Pn	15 30 25.7	+0.8
SAC	baz=3.9 San Andreas	3.91	273	*e*Pn		Pn	Pn	15 30 25.9	+0.2
PFO	Pinyon Flats O	3.93	167	P		Pn	Pn	15 30 26.3	+0.2
PFO	baz=3.9 Pinyon Flats O	3.93	167	*e*Pn		Sn	Pn	15 30 25.5	-0.6
PFO				*e*Sn		Sn	Sn	15 31 12.8	+0.1
BC3	Big Chuckawall	4.14	156	P		Pn	Pn	15 30 28.8	-0.2
MVU	baz=4.2 Marysvale	4.31	74	*e*Pn		Pn	Pn	15 30 32.0	+0.6
MVU				*e*Pg		Pg	Pg	15 30 48.0	+0.6
MVU				*e*Sn		Sn	Sn	15 31 21.8	-0.4
MVU				*e*Sg		Sg	Sg	15 31 43.2	0.0
MCCM	Marconi Confer	4.32	281	*e*Pn		Pn	Pn	15 30 29.4	-1.8
MSU	Marysvale	4.34	74	*e*Pn		Pn	Pn	15 30 32.5	+0.7
MSU				*e*Pg		Pg	Pg	15 30 48.4	+0.5
MSU				*e*Sn		Sn	Sn	15 31 23.1	+0.2
MSU				*e*Sg		Sg	Sg	15 31 44.6	+0.5
Y12C	Blythe	4.42	146	P		P	Pn	15 30 33.3	+0.6
SCI	baz=4.4 San Clemente I	4.54	191	P		P	Pn	15 30 34.5	+0.1
DUG	baz=4.6 Dugway, Tooele	4.57	52	*e*Pn		Pn	Pn	15 30 35.0	+0.1
DUG				*e*Pg		Pg	Pg	15 30 51.6	-0.8
DUG				*e*Sn		Sn	Sn	15 31 28.0	-0.6
DUG				*e*Sg		Sg	Sg	15 31 52.1	+0.5
MONP	Monument Peak,	4.64	169	P		P	Pn	15 30 36.3	+0.4
GLA	baz=4.6 Glamis	4.90	153	*e*Pn		Pn	Pn	15 30 38.4	-1.0
GLA				*e*Pg		Pg	Pg	15 30 58.9	+0.2
GLA				*e*Sn		Sn	Sn	15 31 36.6	-0.1
GLA				*e*Sg		Sg	Sg	15 32 03.0	+0.7
BGU	Big Grassy Mou	4.91	44	*e*Pn		Pn	Pn	15 30 39.8	+0.3
BGU				*e*Pg		Pg	Pg	15 30 57.8	-1.0
BGU				*e*Sn		Sn	Sn	15 31 37.3	+0.4
BGU				*e*Sg		Sg	Sg	15 32 01.8	-0.6
NLU	North Lily Min	4.93	58	*e*Pn		Pn	Pn	15 30 39.6	-0.2
WDC	Whiskeytown Da	5.02	310	*e*Pn		Pn	Pn	15 30 40.8	-0.1
WDC				*e*Pg		Pg	Pg	15 30 59.0	-1.8
WVOR	Wild Horse Val	5.05	350	Pn		Pn	Pn	15 30 44.1	+2.6
MPU	Maple Canyon	5.25	59	Pn		Pn	Pn	15 30 44.0	-0.4
MPU				*e*Pg		Pg	Pg	15 31 06.2	+0.8
TMUT	Trail Mountain	5.28	68	*e*Pn		Pn	Pn	15 30 47.5	+2.7
TMUT				*e*Pg		Pg	Pg	15 31 05.9	+0.1
WUAZ	Wupatki	5.30	110	*e*Pn		Pn	Pn	15 30 45.5	+0.5
WUAZ				*e*Pg		Pg	Pg	15 31 06.5	+0.2
WUAZ				*e*Sg		Sg	Sg	15 32 10.6	-4.4
HVU	Hansel Valley	5.66	39	*e*Pn		Pn	Pn	15 30 50.0	+0.2
JLU	Jordanelle	5.67	54	*e*Pn		Pn	Pn	15 30 49.9	-0.2
M02C	Callahan	5.71	315	P		Pn	Pn	15 30 52.3	+1.8
SRU	baz=5.7 San Rafael Swe	5.73	71	*e*Pn		Pn	Pn	15 30 52.4	+1.5
YBH	Yreka Blue Hor	5.87	318	Pn		Pn	Pn	15 30 54.1	+1.4
YBH	0.6nm,0.3s,baz=154,slow=13,SNR=10 Yreka Blue Hor	5.87	318	*e*Pn		Pn	Pn	15 30 53.4	+0.8
MFID	Camas Ranch	6.09	12	Pn		Pn	Pn	15 30 55.4	-0.3
MFID				*e*Pg		Pg	Pg	15 31 21.1	-0.3
HWUT	Hardware Ranch	6.19	46	*e*Pn		Pn	Pn	15 30 56.5	-0.6
HWUT				*e*Pg		Pg	Pg	15 31 22.0	-1.2
J05D	Fort Rock, OR	6.49	335	P		Pn	Pn	15 31 05.0	+3.8
HLID	baz=6.5 Hailey	6.54	20	Pn		Pn	Pn	15 31 01.5	-0.5
HLID				*e*Pg		Pg	Pg	15 31 29.8	-0.2
HUMO	Hull Mountain	6.63	323	Pn		Pn	Pn	15 30 58.0	-5.1
L02D	Cave Junction,	6.64	317	P		Pn	Pn	15 31 07.1	+3.9
214A	baz=6.6 Organ Pipe Nat	6.71	143	*e*Pn		Pn	Pn	15 31 05.2	+1.1
PV04	Paradox Valley	6.86	80	*e*Pn		Pn	Pn	15 31 07.1	+0.7
PV04				*e*Pg		Pg	Pg	15 31 36.4	+0.2
MVCO	Mesa Verde	7.18	89	Pn		Pn	Pn	15 31 12.0	+1.2
MVCO	13nm,1.8s			*e*Pg		Pg	Pg	15 31 43.2	+0.9
TUC	Tucson	7.53	131	*e*Pn		Pn	Pn	15 31 15.6	+0.1
TUC				*e*Sg		Sg	Sg	15 33 27.6	+0.9
O20A	White River Ci	7.71	67	P		Pn	Pn	15 31 22.1	+4.0
PDAR	baz=7.7 Pinedale Array	8.07	46	Pn		Pn	Pn	15 31 25.6	+2.6
PDAR	0.3nm,0.3s,baz=218,slow=13,SNR=5.2			Lg		Lg		15 33 40.1	
MCMT	0.2nm,0.3s,baz=233,slow=32,SNR=3.3 McKenzie Canyo	8.16	24	Pn		Pn	Pn	15 31 22.0	-2.3
ANMO	Albuquerque	9.27	102	Pn		Pn	Pn	15 31 40.9	+1.5
ANMO	0.1nm,0.3s,baz=322,slow=13,SNR=2.6			Lg		Lg		15 34 14.6	
121A	0.2nm,0.3s,baz=230,slow=15,SNR=5.6 Cookes Peak, D	9.36	119	*e*Pn		Pn	Pn	15 31 40.8	+0.2
TXAR	Lajitas Array	14.10	121	Pn		Pn	Pn	15 32 49.5	+4.1
	0.0nm,0.3s,baz=306,slow=11,SNR=2.4								

NEIC 12 15:44:29.8,61°.57N×150°.48W,h54km,ML3.6(AEIC), After AEIC.,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SUA	Susitna One	0.17	231	P		P	Pn	15 44 37.9	-0.6
SUA						S	Sn	15 44 45.1	+0.4
FIB	Fire Island	0.43	160	P		P	Pn	15 44 41.0	+0.6
FIB						S	Sn	15 44 50.3	+2.2
VOGL	Vogel Lake	0.57	178	P		P	Pn	15 44 42.7	+0.5
RC01	Rabbit Creek A	0.60	143	*e*Pn		Pn	Pn	15 44 41.7	-0.8
RC01				*e*Sn		Sn	Sn	15 44 51.7	0.0
PMR	Palmer	0.65	87	P		Pn	Pn	15 44 42.2	-0.8
PMR				S		S	Sn	15 44 52.5	-0.1
SKT	Skwentna	0.65	310	P		Pn	Pn	15 44 41.9	-1.2
SKT				S		S	Sn	15 44 52.4	-0.4
STLK	Strandline Lak	0.65	264	P		P	Pn	15 44 42.6	-0.6
TRAP	Trapper Creek	0.78	8	P		P	Pn	15 44 43.9	-0.8
SPCG	Spurr Capps Gl	0.79	250	P		P	Pn	15 44 44.4	-0.7
SPCG				S		S	Sn	15 44 55.9	-0.3
CUT	Chulitna	0.85	7	P		P	Pn	15 44 44.9	-0.7
CKN	Chakachatna No	0.89	248	P		P	Pn	15 44 45.7	-0.6
SPBG	Spurr Blockage	0.96	252	P		P	Pn	15 44 46.5	-0.8
SPBG				S		S	Sn	15 45 01.1	+1.1
BGL	Barrier Glacie	0.97	252	P		P	Pn	15 44 46.6	-0.8
CKL	Chakachamna La	0.97	248	P		P	Pn	15 44 46.4	-0.9
SLKM	Skilak Lake	1.07	173	P		P	Pn	15 44 47.6	-1.0
RDT	Redoubt	1.37	224	P		P	Pn	15 44 52.0	-0.7
DFR	Drift River	1.45	229	P		P	Pn	15 44 53.3	-0.6
SCM	Sheep Creek Mo	1.52	79	P		P	Pn	15 44 54.2	-0.6
RDN	Redoubt North	1.54	227	P		P	Pn	15 44 54.5	-0.6
SEW	Seward	1.55	161	*e*Pn		Pn	Pn	15 44 54.6	-0.5
SEW				*e*Sn		Sn	Sn	15 45 10.7	-3.4
PPLA	Purkeypile	1.56	330	*e*Pn		Pn	Pn	15 44 54.5	-0.8
PPLA				*e*Sn		Sn	Sn	15 45 12.2	-2.3
NCT	North Crescent	1.56	231	P		Pn	Pn	15 44 54.9	-0.4
RSO	Redoubt South	1

BAGL	**Bagley Icefiel**	**4.22**	**101**	P	Pn	15 45 30.8	-0.7
BARN	**Barnard Glacie**	**4.28**	**93**	P	Pn	15 45 32.7	0.0
GRNC	**Granite Creek**	**4.31**	**97**	P	Pn	15 45 32.0	-1.1
BCA3	**Beaver Creek A**	**4.33**	**66**	P	Pn	15 45 32.8	-0.3
OHAK	**Old Harbor**	**4.59**	**199**	P	Pn	15 45 34.8	-1.8
IM04	**Indian Mountai**	**4.66**	**343**	*e*Pn	Pn	15 45 35.7	-1.9
IM3	**Indian Mountai**	**4.66**	**343**	P	Pn	15 45 37.1	-0.5
COLD	**Coldfoot** 14nm,0.5s	**5.68**	**1**	Pn	Pn	15 45 50.0	-1.6
BM3	**Burnt Mountain**	**6.40**	**21**	P	Pn	15 46 00.4	-1.0
TNA	**Tin City** 24nm,0.6s	**8.74**	**305**	*e*Pn	Pn	15 46 29.7	-3.6

JMA 12 15:44:51.4,34.93N×135.38E,h8km±1km,M0.2,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.35**	**3**	S	Sg	15 45 03.1	+0.1
JHE	**Heguri**	**0.37**	**138**	S	Sg	15 45 03.8	+0.1
JKS	**Kasai**	**0.44**	**277**	S	Sg	15 45 05.9	0.0

IDC ***12*** *15:44:50.8±0.4,28.°81N×128.°65E,h0km,mb4.8/32, mb1 4.9/34,mb1mx4.9/37,mbtmp4.7/34,ML4.0/1,MS4.7/31, Ms1 4.7/31,ms1mx4.6/36,Error ellipse: s-maj=14.2km s-min=9.8km az=84.0*

JMA ***12*** *15:44:52.7±0.2,28.°82N×128.°65E,h17km±3km,M5.2 JMA Felt III J1.*

GCMT ***12*** *15:44:53.5±0.1,28.°78N×128.°56E,h12km,MW5.2/91, Moment Tensor Solution. s61,c99; s91,c170; Duration: 1!0 Moment tensor: Scale 10^16^Nm; Mrr=5.11±.14; Mθθ6.23±.10; Mϕϕ-1.13±.14; Mrθ2.07±.29; Mϕθ2.62±.10; Mϕr3.79±.37; Best double couple: M0 7.64500×10^16^ NP1:ϕ=227.00000°,δ64.00000°,λ-119.00000°. NP2: ϕ=99.00000°,δ38.00000°,λ-44.00000°. Principal axes: T 7.8760, Plg14.0000°, Azm338.0000°; N -0.4710, Plg26.0000°, Azm241.0000°; P -7.4150, Plg60.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***12*** *15:44:53.5±1.6,28.°83N×128.°60E,h17km±10km,mb5.4/94, MS4.8/122,MW5.1(NIED) Error ellipse: s-maj=4.7km s-min=3.1km az=119.0*

NEIC Recorded [3 JMA] on Amami-oshima, [2 JMA] on Yoron-jima and [1 JMA] on Akuseki-jima and Kikaiga-shima.

MOS ***12*** *15:44:54.5±1.1,28.°86N×128.°74E,h33km,mb5.3/54, MS4.9/35, Error ellipse: s-maj=7.7km s-min=4.5km az=108.1*

ISCJB ***12*** *15:44:55.9±0.1,28.°82N±0.°01×128.°61E±0.°02,h39km, mb5.2/206,MS4.8/180,Error ellipse: s-maj=2.4km s-min=1.9km az=26.4*

SZGRF ***12*** *15:44:55.4,28.°57N×130.°72E,h49km,mb5.3,Ryukyu Islands, Japan*

BJI ***12*** *15:44:58.8,28.°99N×128.°29E,h40km,mb5.1/66,mB5.3/47, Ms5.3/80,Ms7 5.0/76*

NIED ***12*** *15:45:00,28.°80N×128.°50E,h5km,Mw5.2 Best double couple: M0 6.31000×10^16^ NP1:ϕ=89.00000°,δ49.00000°, λ-60.00000°. NP2:ϕ=227.00000°,δ49.00000°, λ-120.00000°.*

ISC 12 15:44:56.3±0.3,28.°80N±0.°03×128.°80E±0.°03,h34km±1km, h35km:pP-P,n855,σ1$44/833,mb5.3/216,MS4.8/180, 129C-121D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.50**	**45**	P	**Pb**	**15 45 04.1**	**-2.9**
JTAJ				*e*S	**Sb**	**15 45 11.9**	**-2.5**
JAMN	**Amaminishikomi**	**0.64**	**149**	P	**Pn**	**15 45 06.7**	**-2.2**
JAMN				S	**Sb**	**15 45 16.8**	**-1.3**
JAM	**Amami Oshima**	**0.81**	**118**	⇓P	**Pn**	**15 45 09.6**	**-1.6**
JAM				*e*S	**Sn**	**15 45 22.0**	**+0.1**
JTK	**Tokunoshima**	**1.02**	**172**	⇑P	**Pn**	**15 45 12.1**	**-2.0**
JTK				S	**Sn**	**15 45 27.1**	**-0.1**
JZK	**Kikaishima**	**1.14**	**115**	⇓P	**Pn**	**15 45 16.6**	**+0.8**
JNN	**Nakanoshima**	**1.40**	**42**	⇓P	**Pn**	**15 45 18.2**	**-1.2**
JOKE	**Okinoerabujima**	**1.44**	**188**	P	**Pn**	**15 45 18.4**	**-1.6**
JOKE				*e*S	**Sn**	**15 45 37.3**	**-0.4**
JIH	**Iheya**	**1.90**	**203**	⇑P	**Pn**	**15 45 24.6**	**-1.7**
JOW	**Kunigami**	**2.01**	**193**	⇑P	**Pn**	**15 45 26.2**	**-1.6**
JOW	**Kunigami** 22nm,0.3s,baz=21,slow=12,SNR=69	**2.01**	**193**	Pn	**Pn**	**15 45 26.1**	**-1.6**
JOW	15nm,0.3s,baz=221,slow=27,SNR=8.0			Sn	**Sn**	**15 45 50.8**	**-1.0**
JOW	comp=Z,553nm,21.0s,baz=30,slow=36			LR	LR	15 46 02.1	
JKC	**Kuchinoerabu**	**2.06**	**36**	P	**Pn**	**15 45 28.0**	**-0.4**
JYAK	**Yakushimahirau**	**2.07**	**46**	P	**Pn**	**15 45 28.0**	**-0.6**
JNTH	**Nagotoyohara**	**2.37**	**197**	P	**Pn**	**15 45 31.1**	**-1.6**
JAGN	**Aguni-jima**	**2.60**	**212**	P	**Pn**	**15 45 34.6**	**-1.2**
JTN	**Tanegashima 3**	**2.65**	**45**	P	**Pn**	**15 45 36.5**	**-0.1**
JJT2	**Tamagusuku 2**	**2.81**	**200**	P	**Pn**	**15 45 38.8**	**+0.1**
JKE	**Kume jima 2**	**3.04**	**216**	P	**Pn**	**15 45 41.4**	**-0.5**
JNU	**Nakatsue** 16nm,0.3s,baz=200,slow=6.4,SNR=96	**4.67**	**22**	Pn	Pn	15 46 08.6	+4.3
JNU	comp=Z,9μm,18.4s,baz=214,slow=42			LR	LR	15 48 06.9	
JNU	**Nakatsue**	**4.67**	**22**	*e*Pn	**Pn**	**15 46 04.9**	**+0.6**
JNU				*e*Sn	**Sn**	**15 47 00.8**	**+3.5**
KSJJU	**Jeju** SNR=5.5	**5.01**	**338**	P	**Pn**	**15 46 07.4**	**-1.5**
KSJJU	**Jeju** SNR=5.5	**5.01**	**338**	P	**Pn**	**15 46 07.4**	**-1.5**
KSWAN	**Wando** SNR=14	**5.85**	**343**	P	**Pn**	**15 46 19.5**	**-1.1**
KSWAN	**Wando** SNR=14	**5.85**	**343**	P	**Pn**	**15 46 19.5**	**-1.1**
KSKOH	**Goheung** SNR=7.5	**5.94**	**348**	P	**Pn**	**15 46 20.8**	**-0.9**
KSKOH	**Goheung** SNR=7.5	**5.94**	**348**	P	**Pn**	**15 46 20.8**	**-0.9**
KSJDO	**Jindo** SNR=11	**6.04**	**340**	P	**Pn**	**15 46 22.1**	**-1.1**
KSJDO	**Jindo** SNR=11	**6.04**	**340**	P	**Pn**	**15 46 22.1**	**-1.1**
KSNAH	**Namhae** SNR=8.3	**6.05**	**353**	P	**Pn**	**15 46 23.3**	**+0.1**
KSNAH	**Namhae** SNR=8.3	**6.05**	**353**	P	**Pn**	**15 46 23.3**	**+0.1**
MRT2	**Murotomisaki 2**	**6.48**	**44**	P	**Pn**	**15 46 29.9**	**+0.8**
YOJ	**Yonaguni jima**	**6.74**	**232**	*e*Pn	**Pn**	**15 46 32.3**	**-0.5**
YOJ				*e*Sn	**Sn**	**15 47 46.4**	**-2.0**
SSE	**Sheshan**	**6.99**	**291**	P	**Pn**	**15 46 33.9**	**-2.3**
SSE				S	**Sn**	**15 47 49.8**	**-4.7**
SSE	12μm,12.1s			LN			
SSE	9μm,12.3s			LE			
SSE	9μm,10.9s			LZ			
KSCPR	**CHUPUNGNYEONG** SNR=10	**7.44**	**355**	P	**Pn**	**15 46 42.9**	**+0.6**
KSCPR	**CHUPUNGNYEONG** SNR=10	**7.44**	**355**	P	**Pn**	**15 46 42.9**	**+0.6**
TATO	**Taipei** SNR=8.3	**7.55**	**241**	P	Pn	15 46 50.7	+6.8
TATO	**Taipei**	**7.55**	**241**	*e*Pn	Pn	15 46 40.5	-3.4
TATO				*e*Sn	**Sn**	**15 48 05.3**	**-3.1**
JWZ	**Kozaga**	**7.58**	**50**	P	**Pn**	**15 46 44.6**	**+0.4**
TJN	**Taejon**	**7.66**	**351**	⇑*e*P	**Pn**	**15 46 45.2**	**-0.1**
KSBON	**Boeun** SNR=9.8	**7.73**	**354**	P	**Pn**	**15 46 47.9**	**+1.6**
KSBON	**Boeun** SNR=24	**7.73**	**354**	P	**Pn**	**15 46 47.4**	**+1.1**
YHNB	**Yeheng** 298nm,1.1s	**7.80**	**240**	*e*Pn	**Pn**	**15 46 45.0**	**-2.5**
NACB	**Ninganchiao**	**7.93**	**236**	*e*Pn	**Pn**	**15 46 46.6**	**-2.5**
JKS	**Kasai**	**8.03**	**38**	P	**Pn**	**15 46 51.5**	**+1.1**
KSCEA	**Cheonan** SNR=8.0	**8.11**	**351**	P	**Pn**	**15 46 52.0**	**+0.5**
KSCEA	**Cheonan** SNR=8.0	**8.11**	**351**	P	**Pn**	**15 46 52.0**	**+0.5**
JHE	**Heguri**	**8.28**	**43**	P	**Pn**	**15 46 54.7**	**+0.9**
JWT	**Wachi**	**8.55**	**39**	P	**Pn**	**15 46 58.9**	**+1.2**
YULB	**Yu-li** 57nm,1.1s	**8.62**	**233**	*e*Pn	**Pn**	**15 46 55.7**	**-3.0**
SSLB	**Suanglung**	**8.62**	**236**	*e*Pn	**Pn**	**15 46 56.0**	**-2.7**
SSLB				*e*Sn	**Sn**	**15 48 31.3**	**-3.6**
JKY	**Yasaka**	**8.65**	**36**	P	**Pn**	**15 47 00.5**	**+1.5**
KSAR	**Wonju Array Be**	**8.66**	**355**	Pn	**Pn**	**15 46 57.6**	**-1.4**
KSAR				Sn	**Sn**	**15 48 37.6**	**+2.2**
KSRS	**Korea Array** 1.7nm,0.3s,baz=178,slow=14,SNR=48	**8.66**	**355**	Pn	**Pn**	**15 46 57.6**	**-1.5**
KSRS	0.1nm,0.3s,baz=185,slow=27,SNR=2.9			Sn	**Sn**	**15 48 37.7**	**+2.0**
KSRS	comp=Z,6μm,20.3s,baz=174,slow=39			LR	LR	15 50 26.7	
KSRS	**Korea Array**	**8.66**	**355**	P	**Pn**	**15 46 57.6**	**-1.5**
KSRS						15 48 37.7	
KSRS	comp=Z,2.0nm,0.3s			pmax	pmax		
KSRS	comp=Z,6μm,20.3s			MLR	MLR		
KSULL	**Ulleungdo** SNR=17	**8.83**	**11**	P	Pn	15 47 09.0	+7.5
INCN	**Inchon**	**8.85**	**349**	*e*Pn	**Pn**	**15 46 59.0**	**-2.7**
TWG	**Pinlang**	**9.15**	**231**	*e*Pn	Pn	15 47 01.1	-4.9
TPUB	**Ta-pu** comp=Z,326nm,1.4s	**9.16**	**235**	*e*Pn	**Pn**	**15 47 03.8**	**-2.2**
NJ2	**Nanjing**	**9.18**	**293**	*e*P	**Pn**	**15 47 05.4**	**-0.8**
NJ2				S	**Sn**	**15 48 46.0**	**-2.2**
NJ2	comp=Z,30nm,0.6s			PMZ			
NJ2	comp=Z,27μm,10.3s			LN			
NJ2	comp=Z,25μm,10.5s			LE			
NJ2	comp=Z,24μm,10.4s			LZ			
KSIJA	**INJE** SNR=13	**9.18**	**357**	P	**Pn**	**15 47 09.3**	**+3.0**
KSMUS	**Musan** SNR=15	**9.22**	**350**	P	**Pn**	**15 47 06.9**	**+0.1**
KSMUS	**Musan** SNR=15	**9.22**	**350**	P	**Pn**	**15 47 06.9**	**+0.1**
YNCB	**YEONCHEON** SNR=5.2	**9.35**	**351**	P	**Pn**	**15 47 09.5**	**+0.9**
YNCB	**YEONCHEON** SNR=5.2	**9.35**	**351**	P	**Pn**	**15 47 09.5**	**+0.9**
KSSKC	**Sokcho** SNR=7.0	**9.47**	**359**	P	**Pn**	**15 47 13.0**	**+2.8**
QZH	**Quanzhou**	**9.89**	**250**	P	**Pn**	**15 47 18.2**	**+2.3**
QZH				S	**Sn**	**15 49 08.9**	**+3.2**
QZH	comp=Z,13μm,11.0s			LN			
QZH	comp=Z,11μm,9.6s			LE			
QZH	comp=Z,14μm,9.6s			LZ			
MAJO	**Matsushiro**	**11.06**	**43**	*c i*P	**Pn**	**15 47 33.8**	**+1.8**
MAJO	**Matsushiro**	**11.06**	**43**	*e*Pn	**Pn**	**15 47 32.2**	**+0.2**
MAT	**Matsushiro**	**11.06**	**43**	P	**Pn**	**15 47 33.8**	**+1.8**
MAT				S	**Sn**	**15 49 39.0**	**+4.4**
MJAR	**Matsushiro Arr** baz=238,slow=14	**11.06**	**43**	Pn	**Pn**	**15 47 33.0**	**+0.9**
MJAR	**Matsushiro Arr**	**11.06**	**43**	P	**Pn**	**15 47 33.0**	**+0.9**
MJAR	**Matsushiro Arr**	**11.06**	**43**	Pn	**Pn**	**15 47 33.0**	**+0.9**
DL2	**Dalian**	**11.71**	**331**	P	**Pn**	**15 47 40.9**	**+0.1**
DL2	comp=Z,78nm,1.3s			PMZ			
DL2	comp=Z,450nm,7.8s			PMZ			
DL2	comp=Z,4μm,12.8s			LE			
DL2	comp=Z,5μm,10.9s			LZ			
TIA	**Tai'an**	**12.31**	**310**	⇓P	**Pn**	**15 47 46.5**	**-2.6**
TIA				PP	**PnPn**	**15 47 57.1**	**+0.2**
TIA				sP		15 48 06.6	
TIA	comp=Z,40nm,0.9s			PMZ			
TIA	comp=Z,6μm,8.9s			LN			
TIA	comp=Z,7μm,11.3s			LE			
TIA	comp=Z,8μm,16.1s			LZ			
WHN	**Wuhan**	**12.68**	**281**	P	**Pn**	**15 47 53.3**	**-0.9**
WHN				S	Sn	15 50 00.9	-13
WHN	comp=Z,24μm,14.8s			LN			
WHN	comp=Z,10μm,16.8s			LE			
WHN	comp=Z,8μm,10.0s			LZ			
VLA	**Vladivostok**	**14.51**	**9**	⇑*i*P	**Pn**	**15 48 21.9**	**+2.9**
VLA				*e*S	**Sn**	**15 51 01.7**	**+3.1**
VLA	comp=Z,89nm,1.2s			pmax	pmax		
HKC	**Hong Kong Obse**	**14.69**	**247**	*e*P	**P**	**15 48 28.0**	**+0.6**
GZH	**Guangzhou**	**15.01**	**251**	P	Pn	15 48 21.4	-4.5
GZH				pP	**P**	**15 48 29.8**	**-1.1**
GZH				S	**Sn**	**15 51 14.7**	**+3.6**
GZH	comp=Z,7μm,10.8s			LN			
GZH	comp=Z,9μm,10.1s			LE			
CN2	**Changchun**	**15.21**	**351**	*e*P	**P**	**15 48 36.0**	**+3.0**
CN2				pmax	pmax		
BJT	**Baijiatuan** comp=Z,259nm,0.8s	**15.28**	**320**	Pn	**Pn**	**15 48 29.8**	**+0.5**
BJI	**Beijing**	**15.29**	**320**	P	**Pn**	**15 48 29.1**	**-0.3**
BJI				S	**Sn**	**15 51 17.3**	**-0.3**
BJI	comp=Z,25nm,1.3s			PMZ			
BJI	comp=Z,800nm,6.0s			PMZ			
BJI	comp=Z,5μm,18.8s			LN			
BJI	comp=Z,2μm,16.4s			LE			
BJI	comp=Z,3μm,18.8s			LZ			
USRK	**Ussuriysk Ar.** comp=Z,0.2nm,0.3s,baz=181,slow=9.5,SNR=32	**15.58**	**9**	Pn	**P**	**15 48 36.1**	**-1.0**
USRK	comp=Z,2μm,21.2s,baz=179,slow=35			LR	LR	15 53 53.2	
MDJ	**Mudanjiang**	**15.80**	**2**	P	**Pn**	**15 48 37.6**	**+1.5**
MDJ				S	**Sn**	**15 51 35.9**	**+5.8**
MDJ	comp=Z,450nm,6.4s			PMZ			
MDJ	comp=Z,2μm,15.4s			LN			
MDJ	comp=Z,3μm,12.3s			LE			
MDJ	comp=Z,4μm,12.7s			LZ			
MDJ	**Mudanjiang** comp=Z,259nm,1.3s	**15.80**	**2**	Pn	**Pn**	**15 48 34.8**	**-1.2**
TIY	**Taiyuan**	**16.30**	**307**	*e*P	**Pn**	**15 48 42.2**	**-0.4**
TIY	comp=Z,430nm,4.1s			PMZ			
TIY	comp=Z,5μm,10.6s			LN			
TIY	comp=Z,4μm,13.0s			LE			
TIY	comp=Z,6μm,12.4s			LZ			
TGY	**Tagaytay City** comp=Z,22nm,0.3s,baz=104,slow=8.0,SNR=5.2	**16.34**	**208**	Pn	**P**	**15 48 47.1**	**+1.3**
TGY	**Tagaytay City**	**16.34**	**208**	P	**P**	**15 48 47.1**	**+1.3**
TGY	comp=Z,23nm,0.3s			pmax	pmax		
ENH	**Enshi** comp=Z,72nm,1.4s	**16.87**	**280**	*e*Pn	**Pn**	**15 48 47.2**	**-2.6**
ERM	**Erimo**	**17.60**	**38**	*de*P	**Pn**	**15 48 58.5**	**-0.2**
ERM	comp=Z,160nm,1.7s			pmax	pmax		
ERM	**Erimo** comp=Z,98nm,1.1s	**17.60**	**38**	*e*Pn	**Pn**	**15 48 54.9**	**-3.8**
XAN	**Xi'an**	**17.74**	**292**	P	**Pn**	**15 48 59.0**	**-1.6**
XAN				pP	**pP**	**15 49 08.0**	**-2.2**
XAN				sP	**sP**	**15 49 14.0**	**-0.6**
XAN	comp=Z,190nm,5.0s			PMZ			
XAN	comp=Z,4μm,9.9s			LN			
XAN	comp=Z,2μm,10.9s			LE			
XAN	comp=Z,2μm,10.9s			LZ			
HHC	**Hu-ho-hao-te**	**18.53**	**315**	*e*P	**Pn**	**15 49 11.2**	**+1.0**
HHC				pP	**pP**	**15 49 21.2**	**+2.3**
HHC				sP	**sP**	**15 49 24.2**	**+0.9**
HHC				PP	**PnPn**	**15 49 26.9**	**+4.6**
HHC				S	**Sn**	**15 52 33.8**	**-2.5**
HHC				SS	**SnSn**	**15 52 52.3**	**+2.0**
HHC	comp=Z,73nm,0.9s			PMZ			
HHC	comp=Z,1μm,3.9s			PMZ			
HHC	comp=Z,3μm,9.2s			LN			
HHC	comp=Z,2μm,10.5s			LE			
HHC	comp=Z,2μm,9.3s			LZ			
ASAJ	**Asahikawa** baz=239,slow=5.9	**18.85**	**32**	P	**P**	**15 49 12.4**	**-0.9**
ASAJ	**Asahikawa** comp=Z,13nm,0.8s	**18.85**	**32**	*e*P	**P**	**15 49 11.2**	**-2.0**
BTO	**Baotou**	**19.37**	**312**	*e*P	**Pn**	**15 49 20.8**	**+0.4**
GYA	**Guiyang**	**19.75**	**268**	⇑*i*P	**Pn**	**15 49 23.9**	**-1.1**
GYA				pP	**pP**	**15 49 33.0**	**+0.6**
GYA				PP	**PnPn**	**15 49 42.8**	**+3.7**
GYA				S	S	15 52 56.4	-7.8
GYA				sS	**Sn**	**15 53 11.0**	**+5.0**
GYA				SS	**SnSn**	**15 53 24.2**	**+3.9**
GYA	comp=Z,110nm,1.2s			PMZ			
GYA	comp=Z,540nm,6.2s			PMZ			
GYA	comp=Z,4μm,13.4s			LN			
GYA	comp=Z,5μm,13.2s			LE			
GYA	comp=Z,5μm,13.8s			LZ			
HABR	**Khabarovsk**	**20.23**	**12**	*c*P	**P**	**15 49 27.1**	**-1.2**
HABR				*e**SP	**sP**	**15 49 40.1**	**-1.6**
HABR				*e*		15 49 44.0	
HABR				*e*S	**S**	**15 53 13.2**	**-0.1**
HABR				*e**SS	**sS**	**15 53 27.4**	**-0.3**
HABR				*e*		15 53 40.1	
HABR				*e*SSS	SSS	15 53 46.8	
HABR				*e*		16 00 56.4	
HABR	comp=N,2μm,13.0s			MLR	MLR		
HABR	comp=Z,3μm,13.0s			MLR	MLR		
HABR	comp=E,3μm,11.0s			MLR	MLR		
YUK	**Yuzh-Kuril'sk**	**20.43**	**37**	*d i*P	**P**	**15 49 29.6**	**-0.8**
YUK				*i*		15 49 50.0	
YUK				*i* S	**S**	**15 53 19.3**	**+2.0**
YUK	comp=Z,1μm,18.0s			MLR	MLR		
YUK	comp=N,773nm,18.0s			MLR	MLR		
YUK	comp=E,851nm,18.0s			MLR	MLR		
KLR	**Kul'dur**	**20.53**	**6**	*e*P	**P**	**15 49 27.0**	**-4.5**
KLR	comp=N,60nm,1.2s			pmax	pmax		
KLR	comp=Z,190nm,1.2s			pmax	pmax		
KLR	comp=N,1μm,10.0s			MLR	MLR		
KLR	comp=Z,4μm,10.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**21.15**	**27**	*e*P	**P**	**15 49 37.5**	**-0.8**
YSS				*e*		15 50 05.0	
YSS				*e*S	**S**	**15 53 30.0**	**-1.6**
YSS				*e*SS	SnSn	15 54 14.0	+19
YSS	comp=E,3μm,12.0s			MLR	MLR		
YSS	comp=Z,2μm,12.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins** comp=Z,220nm,2.0s	**21.15**	**27**	*e*P	**P**	**15 49 37.7**	**-0.6**
YSS	comp=Z,793nm,19.0s			LR	LR		
GUMO	**Guam** comp=Z,44nm,1.2s	**21.26**	**132**	*e*P	**P**	**15 49 40.9**	**+1.3**
GUMO	comp=Z,186nm,20.0s			LR	LR		
HIA	**Hailar** comp=Z,76nm,1.3s	**21.59**	**344**	*e*P	**P**	**15 49 41.6**	**-1.3**
HIA	comp=Z,2μm,19.0s			LR	LR		
CD2	**Chengdu**	**21.81**	**282**	⇑P	**P**	**15 49 44.2**	**-1.3**
CD2				pP	**pP**	**15 49 54.2**	**-0.5**
CD2				sP	**sP**	**15 49 59.4**	**+0.4**
CD2				S	**S**	**15 53 42.2**	**-2.7**
CD2				PcP	**PcP**	**15 53 44.5**	**-0.3**
CD2	comp=Z,190nm,1.0s			PMZ			
CD2	comp=Z,480nm,4.7s			PMZ			
CD2	comp=Z,14μm,14.2s			LN			
CD2	comp=Z,7μm,14.7s			LE			
CD2	comp=Z,4μm,14.2s			LZ			
DAV	**Davao City (W)**	**21.82**	**189**	PFAKE		15 50 00.0	+14
DAV	comp=Z,2μm,22.0s			LR	LR		
LZH	**Lanzhou**	**22.24**	**295**	⇓P	**P**	**15 49 50.4**	**+0.1**
LZH				pP	**pP**	**15 50 03.0**	**+3.6**
LZH				sP	**sP**	**15 50 05.8**	**+2.0**
LZH				PP	**PnPn**	**15 50 17.5**	**+4.3**
LZH				S	S	15 53 45.0	-8.2
LZH				sS	Sn	15 53 59.0	-6.9
LZH	comp=Z,350nm,1.5s			PMZ			
LZH	comp=Z,770nm,4.6s			PMZ			
LZH	comp=Z,10μm,13.8s			LN			
LZH	comp=Z,3μm,14.5s			LE			
LZH	comp=Z,7μm,14.8s			LZ			
KUR	**Kuril'sk**	**22.29**	**37**	*e*P	**P**	**15 49 49.6**	**-0.9**
KUR				*i* S	**S**	**15 53 47.3**	**-6.3**
KUR	comp=Z,111nm,1.3s			pmax	pmax		
KUR	comp=N,18nm,0.7s			pmax	pmax		
KUR	comp=E,99nm,1.3s			pmax	pmax		
KUR	comp=Z,43nm,0.1s			MLR	MLR		
KUR	comp=E,1μm,15.0s			MLR	MLR		
KUR	comp=Z,104nm,15.0s			MLR	MLR		
KMI	**Kunming**	**23.50**	**267**	P	**P**	**15 50 03.3**	**0.0**
KMI				S	**S**	**15 54 12.0**	**-3.0**
KMI				sS	sS	15 54 24.6	-6.7
KMI	comp=Z,43nm,1.0s			PMZ			
KMI	comp=Z,420nm,5.1s			PMZ			
KMI	comp=Z,4μm,10.5s			LN			
KMI	comp=Z,3μm,10.2s			LE			
KMI	comp=Z,3μm,11.1s			LZ			
TYV	**Tymovskoe**	**24.39**	**22**	*e*P	**P**	**15 50 12.2**	**+1.0**
TYV	comp=Z,40nm,1.0s			pmax	pmax		
TYV	comp=E,2μm,20.0s			MLR	MLR		
TYV	comp=N,2μm,18.0s			MLR	MLR		
KDM	**Kudat**	**24.52**	**210**	⇑P	**P**	**15 50 13.3**	**+0.6**
SGSI	**Sangihe**	**25.17**	**188**	P	**P**	**15 50 22.0**	**+3.5**
UBPT	**Khong Chiam** comp=N,37nm,1.7s,comp=N,743nm	**25.40**	**243**	P	**P**	**15 50 21.4**	**+0.7**
ULN	**Ulaanbaatar**	**25.41**	**324**	PFAKE		15 50 30.0	+9.3
ULN	comp=Z,1μm,21.0s			LR	LR		
SDKM	**Sandakan**	**25.52**	**208**	⇓P	**P**	**15 50 21.9**	**+0.2**
KKM	**Kota Kinabalu**	**25.57**	**210**	⇑P	**P**	**15 50 23.2**	**+0.9**

KKM Kota Kinabalu 25.57 210 P P 15 50 19.8 -2.5
comp=Z,57nm,1.3s
KKM LR LR
comp=Z,957nm,19.0s
SKNT Sakolnakorn 25.65 248 P P 15 50 23.5 +0.5
comp=Z,18nm,1.6s
SONM Songino Array 25.73 324 P P 15 50 23.0 -0.5
comp=Z,25nm,0.8s,baz=131,slow=8.5,SNR=55
SONM PcP PcP 15 53 53.5 +0.5
comp=Z,1.2nm,0.6s,baz=76,slow=1.9,SNR=3.8
SONM LR LR 16 01 28.1
comp=Z,2μm,18.8s,baz=126,slow=39
SONM Songino Array 25.73 324 P P 15 50 23.0 -0.5
SONM 15 53 53.5
SONM pmax pmax
comp=Z,25nm,0.8s
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM MLR MLR
comp=Z,2μm,18.8s
CIT Chita 25.84 338 eP P 15 50 25.5 +1.2
CIT e 15 50 36.5
CIT e 15 50 42.0
CIT e 15 51 06.3
CIT e 15 51 17.4
CIT pmax pmax
comp=Z,233nm,1.6s
NKL Nikolayevsk 25.86 17 eP P 15 50 20.0 -4.4
NKL pmax pmax
comp=N,300nm,7.0s
NKL pmax pmax
comp=Z,350nm,7.0s
NKL MLR MLR
comp=N,2μm,13.0s
NKL MLR MLR
comp=Z,3μm,13.0s
NKL MLR MLR
comp=E,1μm,17.0s
GTA Gaotai 26.13 302 ⇑P P 15 50 27.2 0.0
GTA pP pP 15 50 38.8 +1.7
GTA sP sP 15 50 44.5 +3.3
GTA PcP PcP 15 53 54.9 +0.9
GTA S S 15 54 58.4 +1.7
GTA PcS PcS 15 57 34.4 -0.6
GTA PMZ
comp=E,140nm,1.1s
GTA PMZ
comp=E,710nm,4.8s
GTA LN
comp=E,10μm,13.8s
GTA LE
comp=E,6μm,12.4s
GTA LZ
comp=E,7μm,14.2s
TSM Tawau 26.49 205 ⇓P P 15 50 30.9 +0.4
TNTI Ternate 27.90 183 P P 15 50 44.1 +0.9
comp=E,64nm,1.4s,comp=E,1μm
TNTI Ternate 27.90 183 eP P 15 50 41.1 -2.0
comp=E,392nm,2.1s
CLNS Chul'man 28.16 355 eP P 15 50 48.5 +3.3
CLNS e 15 51 41.1
CLNS e 15 53 58.7
CLNS eS S 15 55 27.5 -0.7
CLNS eSS SnSn 15 56 47.8 +2.1
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,11nm,1.0s
CLNS pmax pmax
comp=Z,18nm,0.9s
CLNS pmax pmax
comp=Z,7.0nm,0.8s
CLNS pmax pmax
comp=N,8.0nm,1.1s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS smax smax
comp=E,133nm,14.2s
CLNS smax smax
comp=N,836nm,14.6s
CLNS MLR MLR
comp=Z,2μm,15.0s
CLNS MLR MLR
comp=N,2μm,14.0s
CLNS MLR MLR
comp=E,761nm,10.0s
PBKT Sadao Pong 28.33 251 P P 15 50 51.1 +4.1
comp=E,12nm,1.4s,comp=E,701nm
KMSI Cibinong 28.44 190 P P 15 50 49.7 +1.8
comp=E,75nm,0.9s,comp=E,1μm
MRSI Marisa 28.91 194 P P 15 50 53.4 +1.2
comp=E,34nm,1.6s,comp=E,550nm
ZAK Zakamensk 28.93 325 eP P 15 50 51.5 -0.7
ZAK e 15 57 29.0
ZAK pmax pmax
comp=Z,24nm,1.1s
CMMT Chiang Mai 28.99 257 P P 15 50 52.7 -0.2
comp=Z,17nm,1.0s
CHTO Chiang Mai 28.99 257 P P 15 50 52.8 -0.1
comp=Z,61nm,1.0s
CHTO Chiang Mai 28.99 257 eP P 15 50 49.2 -3.8
comp=Z,13nm,1.0s
CHTO LR LR
comp=Z,1μm,20.0s
CMAR Chiang Mai Arr 29.15 256 P P 15 50 53.3 -1.0
comp=Z,2.2nm,0.8s,baz=50,slow=7.6,SNR=12
CMAR PcP PcP 15 54 01.8 +0.3
comp=Z,4.8nm,0.9s,baz=46,slow=1.5,SNR=18
CMAR LR LR 16 03 22.8
comp=Z,2μm,19.1s,baz=70,slow=38
CMAR Chiang Mai Arr 29.15 256 P P 15 50 53.3 -1.0
CMAR 15 54 01.8
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR pmax pmax
comp=Z,5.0nm,0.9s
CMAR MLR MLR
comp=Z,2μm,19.1s
CHBT CHBT 29.34 243 P P 15 50 56.6 +0.6
comp=Z,35nm,1.4s,comp=Z,528nm
TLY Talaya 29.58 328 P P 15 50 58.4 +0.5
comp=Z,330nm,1.4s,SNR=12
TLY Talaya 29.58 328 P P 15 50 58.0 +0.2
comp=Z,35nm,1.0s,baz=144,slow=6.8,SNR=7.5
TLY LR LR 16 04 11.1
comp=Z,3μm,18.6s,baz=130,slow=39
TLY Talaya 29.58 328 ci P P 15 50 58.6 +0.7
TLY e 15 51 53.1
TLY ePPP PPP 15 52 05.6
TLY eS S 15 55 53.7 +3.1
TLY pmax pmax
comp=Z,86nm,1.3s
TLY MLR MLR
comp=Z,3μm,14.0s
TLY Talaya 29.58 328 P P 15 50 59.2 +1.4
SNR=22
TLY Talaya 29.58 328 eP P 15 50 56.6 -1.3
comp=Z,125nm,1.4s
SIJI Sorong 29.59 175 P P 15 50 57.9 -0.3
comp=Z,5.9nm,0.8s,baz=76,slow=8.5,SNR=3.9
SIJI LR LR 16 02 02.6
comp=Z,1μm,20.1s,baz=2.0,slow=35
IRK Irkutsk 29.67 329 eP P 15 50 58.6 0.0
IRK pmax pmax
comp=Z,235nm,1.2s
APSI Ampana 30.32 194 P P 15 51 11.3 +6.7
comp=Z,36nm,1.4s,comp=Z,592nm
SBUM Sibu 30.59 214 ⇑P P 15 51 07.6 +0.5
SBUM Sibu 30.59 214 eP P 15 51 07.1 0.0
comp=Z,14nm,0.9s
PCI Palu 30.76 198 P P 15 51 10.4 +1.9
comp=Z,46nm,1.3s,comp=Z,971nm
SANI Sanana 30.79 185 P P 15 51 08.1 -0.7
comp=Z,38nm,1.0s,comp=Z,437nm
BOD Bodaibo 30.80 345 eP P 15 51 09.4 +0.9
BOD pmax pmax
comp=Z,30nm,1.1s
MOY Mondy 30.86 326 eP P 15 51 09.4 +0.2
FAKI Fak Fak 31.71 173 P P 15 51 17.8 +0.9
comp=Z,61nm,1.2s,comp=Z,725nm
FAKI Fak Fak 31.71 173 eP P 15 51 17.0 +0.1
comp=Z,48nm,1.0s
NLAI Namlea 31.89 183 P P 15 51 19.8 +1.3
comp=Z,32nm,1.0s
MSAI Masohi 31.96 180 P P 15 51 22.7 +3.6
comp=Z,22nm,1.1s,comp=Z,439nm
SMPI Sarmi 32.05 161 P P 15 51 22.1 +2.2
comp=Z,54nm,1.1s
PETK Petropavlovsk- 32.27 33 P P 15 51 21.4 0.0
comp=Z,12nm,0.9s,baz=223,slow=10.0,SNR=4.2
PETK LR LR 16 04 02.8
comp=Z,578nm,21.1s,baz=190,slow=36
PETK Petropavlovsk- 32.27 33 P P 15 51 21.5 0.0
PETK pmax pmax
comp=Z,12nm,1.0s
PETK MLR MLR
comp=Z,578nm,21.1s
KSM Kuching 32.40 216 ⇓P P 15 51 23.9 +0.9
KSM Kuching 32.40 216 eP P 15 51 20.3 -2.6
comp=Z,36nm,0.9s
KSM LR LR
comp=Z,372nm,21.0s
PET Petropavlovsk 32.68 34 eP P 15 51 28.1 +3.1
PET eS S 15 56 41.5 +2.7
PET pmax pmax
comp=Z,300nm,4.3s
PET pmax pmax
comp=Z,32nm,0.9s
PET pmax pmax
comp=Z,100nm,13.1s
PET MLR MLR
comp=Z,1μm,20.0s
PET MLR MLR
comp=Z,900nm,14.0s
PET MLR MLR
comp=Z,1μm,19.0s
PET Petropavlovsk 32.68 34 PFAKE 15 51 40.0 +15
PET LR LR
comp=Z,1μm,19.0s
LSA Lhasa 32.77 281 P P 15 51 27.0 +0.3
LSA PMZ
comp=Z,10.0nm,0.8s
LSA Lhasa 32.77 281 P P 15 51 25.4 -1.2
comp=Z,8.8nm,0.6s
LSA LR LR
comp=Z,1μm,21.0s
TTSI Tana Toraja 32.81 197 P P 15 51 29.1 +2.5
GENI Genyem 33.06 159 P P 15 51 38.5 +10
KDI Kendari 33.10 191 P P 15 51 31.4 +2.3
comp=Z,88nm,0.9s,comp=Z,896nm
YAK Yakutsk 33.24 1 P P 15 51 23.0 -6.9
comp=Z,0.3nm,0.3s,baz=221,slow=19,SNR=3.0
YAK Yakutsk 33.24 1 eP P 15 51 26.8 -3.0
YAK e 15 52 52.5
YAK e 15 54 11.1
YAK eS S 15 56 39.7 -7.7
YAK eSS SS 15 59 09.4 -2.0
YAK pmax pmax
comp=Z,57nm,1.3s
YAK pmax pmax
comp=N,29nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK pmax pmax
comp=Z,46nm,1.9s
YAK pmax pmax
comp=N,72nm,2.0s
YAK pmax pmax
comp=E,24nm,2.2s
YAK smax smax
comp=N,111nm,6.1s
YAK smax smax
comp=E,88nm,4.1s
YAK MLR MLR
comp=Z,2μm,16.0s
YAK MLR MLR
comp=N,2μm,14.0s
YAK MLR MLR
comp=E,491nm,11.0s
YAK Yakutsk 33.24 1 eP P 15 51 28.1 -1.7
YAK ePcP PcP 15 54 11.3 -0.3
YAK LR LR
comp=Z,1μm,20.0s
KTGM Kuala Trenggan 33.70 231 ⇓P P 15 51 34.6 +0.2
SPSI Sidrap Palu 33.71 196 P P 15 51 37.0 +2.6
SURT Suratani 34.40 241 P P 15 51 41.4 +0.9
comp=Z,14nm,1.1s
TRTT Trang 34.44 238 P P 15 51 41.7 +0.9
comp=Z,29nm,1.4s
HVS Khovu-Aksy 34.45 320 ceP P 15 51 40.9 +0.2
HVS pmax pmax
comp=Z,212nm,1.2s
KAPI Kappang 34.73 196 PFAKE 15 51 50.0 +6.8
KAPI LR LR
comp=Z,397nm,19.0s
BKSI Bulukumba 34.93 195 P P 15 51 46.5 +1.5
PKDT Phuket 35.43 240 P P 15 51 50.7 +1.4
comp=Z,43nm,1.0s
KULM Kulim 35.46 234 ⇓P P 15 51 49.7 +0.2
KULM Kulim 35.46 234 eP P 15 51 49.4 -0.2
KULM LR LR
comp=Z,410nm,20.0s
IPM Ipoh 35.76 233 ⇓P P 15 51 52.3 +0.1
IPM Ipoh 35.76 233 eP P 15 51 48.8 -3.4
comp=Z,21nm,0.9s
IPM ePcP PcP 15 54 20.4 +0.7
MYKOM Kota Tinggi 35.88 226 ⇓P P 15 51 54.4 +1.3
WMQ Urumqi 35.97 306 P P 15 51 53.9 +0.1
WMQ pP pP 15 52 06.0 +2.3
WMQ sP sP 15 52 11.4 +3.5
WMQ PP PP 15 53 15.9 +0.1
WMQ PcP PcP 15 54 21.1 +1.1
WMQ S S 15 57 29.7 -0.3
WMQ sS sS 15 57 43.5 -3.0
WMQ ScP ScP 15 58 00.7 -2.9
WMQ ScS ScS 16 02 06.0 -3.1
WMQ PMZ
comp=Z,26nm,1.3s
WMQ PMZ
comp=Z,230nm,4.2s
WMQ LN
comp=Z,3μm,15.0s
WMQ LE
comp=Z,2μm,13.6s
WMQ LZ
comp=Z,1μm,23.6s
KGM Kluang 36.04 227 ⇑P P 15 51 55.5 +1.0
TAPN Taplejung 36.16 278 eP P 15 51 55.6 -0.2
comp=Z,133nm,1.5s
FRIM Kepong 36.25 230 ⇓P P 15 51 56.5 +0.2
ODAN Odare 36.54 277 eP P 15 51 58.7 -0.4
comp=Z,86nm,0.8s
RAMN Ramite 37.21 277 eP P 15 52 04.1 -0.7
comp=Z,51nm,1.1s
KRAR Krasnoyarsk 37.28 327 ⇓eP P 15 52 05.5 +0.8
KRAR pmax pmax
comp=Z,114nm,1.2s
TPI Tanjungpandan 37.37 216 P P 15 52 08.1 +2.3
comp=Z,32nm,1.3s
JIRN Jiri 37.41 279 eP P 15 52 06.3 -0.3
SEY Seymchan 37.43 18 P P 15 52 05.1 -0.7
comp=Z,16nm,0.9s,baz=208,slow=6.2,SNR=19
SEY PcP PcP 15 54 23.8 -0.1
comp=Z,6.0nm,1.0s,baz=206,slow=5.7,SNR=3.2
SEY LR LR 16 07 19.6
comp=Z,1μm,19.9s,baz=196,slow=36
SEY Seymchan 37.43 18 ⇑eP P 15 52 05.4 -0.4
GUN Gumba 37.63 279 eP P 15 52 08.4 0.0
comp=Z,128nm,1.1s
MMRI Maumere 37.75 191 P P 15 52 08.9 -0.1
comp=Z,77nm,1.7s
MMRI Maumere 37.75 191 eP P 15 52 07.5 -1.5
comp=Z,100nm,1.2s
PKI Pulchoki 38.11 279 eP P 15 52 12.0 -0.5
comp=Z,202nm,1.3s
KKN Kakani 38.17 279 eP P 15 52 12.6 -0.3
comp=Z,209nm,1.3s
DMN Daman 38.36 279 eP P 15 52 14.3 -0.2
PSI Prapat 38.42 233 eP P 15 52 14.3 -0.6
comp=Z,12nm,1.0s
PSI ePcP PcP 15 54 27.8 -0.1
SOEI Soe 38.58 187 P P 15 52 19.6 +3.5
comp=Z,82nm,1.1s
SOEI Soe 38.58 187 eP P 15 52 13.7 -2.5
comp=Z,92nm,1.1s
GKN Gorkha 38.69 280 eP P 15 52 16.6 -0.5
comp=Z,187nm,1.3s
BKNI Bangkinang 38.80 228 P P 15 52 23.2 +5.3
comp=Z,99nm,0.9s
SRBI Singaraja 38.94 202 P P 15 52 15.5 -3.5
comp=Z,78nm,0.8s,comp=Z,1μm
PMBI Palembang 39.08 220 P P 15 52 28.3 +8.1
BLJI Banyuglugur 39.18 204 P P 15 52 21.9 +0.9
comp=Z,65nm,1.0s
WBSI Waikabubak, Su 39.28 195 P P 15 52 24.9 +3.0
comp=Z,62nm,1.1s
MNSI Mandailing Nat 39.41 230 P P 15 52 23.3 +0.2
comp=Z,25nm,1.0s
KOLN Koldanda 39.63 280 eP P 15 52 24.8 -0.3
comp=Z,85nm,1.3s
SMRI Semarang 39.79 209 P P 15 52 28.8 +2.6
comp=Z,64nm,1.0s
SMRI Semarang 39.79 209 eP P 15 52 25.0 -1.2
comp=Z,78nm,1.2s
PWJI Pagerwojo 40.11 207 P P 15 52 29.8 +1.0
comp=Z,66nm,1.0s
MK31 Makanchi Array 40.25 310 P P 15 52 28.8 -1.0
MK31 Makanchi Array 40.25 310 eP P 15 52 28.7 -1.0
MK31 ePcP PcP 15 54 32.5 -0.6
MKAR Makanchi Array 40.25 310 P P 15 52 28.6 -1.2
comp=Z,7.2nm,0.9s,baz=96,slow=10,SNR=44
MKAR PcP PcP 15 54 32.5 -0.6
comp=Z,9.3nm,1.0s,baz=104,slow=3.1,SNR=5.1
MKAR LR LR 16 10 48.3
comp=Z,830nm,19.8s,baz=96,slow=39
MKAR Makanchi Array 40.25 310 P P 15 52 28.6 -1.2
MKAR 15 54 32.6
MKAR pmax pmax
comp=Z,7.0nm,0.9s
MKAR pmax pmax
comp=Z,9.0nm,1.0s
MKAR MLR MLR
comp=Z,830nm,19.8s
GSI Gunungsitoli 40.43 233 P P 15 52 31.5 0.0
comp=Z,51nm,0.9s
GSI Gunungsitoli 40.43 233 eP P 15 52 30.9 -0.7
comp=Z,42nm,1.2s
GSI ePcP PcP 15 54 34.9 +0.7
LHSI Lahat 40.52 221 P P 15 52 33.8 +1.6
comp=Z,49nm,1.5s
UGM Wanagama 40.53 209 P P 15 52 33.8 +1.5
comp=Z,223nm,1.4s
ZAA0 Zalesovo Array 40.55 321 eP P 15 52 31.5 -0.6
ZALV Zalesovo Beam 40.55 321 P P 15 52 31.4 -0.7
comp=Z,51nm,0.8s,baz=109,slow=8.0,SNR=50
ZALV PcP PcP 15 54 33.0 -0.9
comp=Z,12nm,1.0s,baz=107,slow=4.8,SNR=4.3
ZALV LR LR 16 10 27.1
comp=Z,451nm,18.8s,baz=68,slow=38
ZALV Zalesovo Beam 40.55 321 P P 15 52 31.4 -0.7
ZALV 15 54 33.0
ZALV pmax pmax
comp=Z,51nm,0.8s
ZALV pmax pmax
comp=Z,12nm,1.0s
ZALV MLR MLR
comp=Z,451nm,18.8s
KLSI 40.55 219 P P 15 52 33.7 +1.2
comp=Z,71nm,2.2s,comp=Z,2μm
MDSI Maura Dua 40.69 220 P P 15 52 34.1 +0.5
comp=Z,44nm,1.2s
KPJI Karang Pucung 40.71 211 P P 15 52 35.0 +1.2
comp=Z,115nm,1.0s
LEM Lembang 40.88 213 P P 15 52 37.2 +1.8
comp=Z,113nm,1.1s
LWLI Liwa 41.19 219 P P 15 52 38.5 +0.6
comp=Z,49nm,0.7s,comp=Z,3μm
KASI Kota Agung 41.37 218 P P 15 52 40.5 +1.3
comp=Z,46nm,1.1s
CISI Cisompet, Garu 41.42 212 P P 15 52 42.7 +3.0
comp=Z,66nm,1.1s
CISI Cisompet, Garu 41.42 212 eP P 15 52 38.4 -1.3
comp=Z,42nm,0.9s
CGJI Cibinong 41.65 216 P P 15 52 40.6 -0.9
comp=Z,32nm,1.1s
NVS Novosibirsk 41.72 322 eP P 15 52 41.0 -0.7
NVS pmax pmax
comp=Z,83nm,1.2s
NVS pmax pmax
comp=N,29nm,1.4s
NVS pmax pmax
comp=E,59nm,1.2s
PDGK Podgornoye 41.82 304 P P 15 52 40.6 -2.1
PDGK pmax pmax
comp=Z,77nm,1.2s
PMG Port Moresby 41.91 152 deP P 15 52 44.6 +0.9
PMG pmax pmax
comp=Z,110nm,1.2s
PMG Port Moresby 41.91 152 PFAKE 15 53 00.0 +16
PMG LR LR
comp=Z,1μm,21.0s
TIXI Tiksi 42.90 0 deP P 15 52 49.0 -2.0
TIXI pmax pmax
comp=Z,11nm,1.2s
TIXI MLR MLR
comp=Z,2μm,18.0s
TIXI Tiksi 42.90 0 eP P 15 52 49.1 -1.9
comp=Z,89nm,2.0s
TIXI ePcP PcP 15 54 40.4 -0.9
TIXI LR LR
comp=Z,2μm,21.0s
KURK Kurchatov 43.34 315 P P 15 52 54.1 -0.8
comp=Z,268nm,1.0s,SNR=50
KURK Kurchatov 43.34 315 P P 15 52 53.4 -1.5
KURK pmax pmax
comp=Z,58nm,1.2s
KURK Kurchatov 43.34 315 P P 15 52 54.3 -0.6
SNR=60
KURK Kurchatov 43.34 315 eP P 15 52 53.7 -1.2
comp=Z,124nm,1.1s
KURK LR LR
comp=Z,3μm,20.0s
ULHL Ulahol 44.17 302 P P 15 53 02.0 0.0
SNR=16
KSH Kashi 44.44 298 P P 15 53 07.4 +3.3
KSH pP pP 15 53 19.2 +4.9
KSH sP sP 15 53 26.4 +8.0
KSH PcP PP 15 54 49.0 +1.0
KSH PP PcP 15 54 52.4 +5.1
KSH PcS PcS 15 58 42.2 +1.4
KSH S S 15 59 40.0 +3.1
KSH sS sS 16 00 00.6 +7.0
KSH ScS ScS 16 02 58.2 -1.5
KSH PMZ
comp=Z,49nm,1.1s
KSH LN
comp=Z,2μm,15.4s
KSH LE
comp=Z,2μm,12.7s
KSH LZ
comp=Z,2μm,13.7s
TKM2 Tokmak 2 44.65 303 P P 15 53 06.2 +0.3
SNR=20
TKM2 Tokmak 2 44.65 303 P P 15 53 04.8 -1.0
TKM2 pmax pmax
comp=Z,142nm,1.6s
TKM2 Tokmak 2 44.65 303 eP P 15 53 04.9 -1.0
comp=Z,119nm,1.3s
TKM2 LR LR
comp=Z,1μm,20.0s
KZA Kyzart 44.91 302 P P 15 53 08.8 +0.7
SNR=16
NDI New Delhi 44.92 283 eP P 15 53 08.0 +0.1
BILL Bilibino 45.09 19 ePcP PcP 15 54 49.6 +0.8
BILL LR LR
comp=Z,1μm,19.0s
KBK Karagaybulak 45.13 303 P P 15 53 09.1 -0.5
SNR=11
CHMS Chumysh 45.27 303 P P 15 53 10.5 -0.1
SNR=19
UCH Uchtor 45.46 302 P P 15 53 13.3 +0.8
SNR=21
USP Ospenovka 45.46 304 P P 15 53 12.2 +0.2
SNR=20
AAK Ala-Archa 45.47 303 P P 15 53 12.0 -0.3
comp=Z,132nm,1.1s,SNR=5.4
AAK Ala-Archa 45.47 303 P P 15 53 12.5 +0.3
SNR=7.3
AAK Ala-Archa 45.47 303 P P 15 53 12.0 -0.3
comp=Z,132nm,1.1s,SNR=5.4
AAK Ala-Archa 45.47 303 LR LR 16 12 59.1
comp=Z,1μm,18.9s,slow=37
AAK Ala-Archa 45.47 303 P P 15 53 11.8 -0.5
AAK pmax pmax
comp=Z,52nm,1.6s
AAK Ala-Archa 45.47 303 P P 15 53 12.9 +0.6
SNR=22
AAK Ala-Archa 45.47 303 eP P 15 53 11.3 -0.9
EKS2 Erkin-Say 45.99 303 P P 15 53 16.0 -0.3
SNR=14

EKS2 Erkin-Say 45.99 303 *e*P **P** 15 53 14.2 -2.2
comp=Z,57nm,1.4s
EKS2 LR LR
comp=Z,1µm,20.0s
AML Almayashu 46.07 302 P **P** 15 53 18.2 +0.9
SNR=9.4
SFK Sufi-Kurgan 46.31 299 P **P** 15 53 18.4 -0.7
SFK pmax pmax
comp=Z,26nm,1.2s
FITZ Fitzroy Crossi 46.72 184 *e*P **P** 15 53 22.4 +0.4
comp=Z,39nm,0.8s
MNAS Manas 46.94 303 P **P** 15 53 24.0 +0.2
MNAS pmax pmax
comp=Z,39nm,1.3s
OTUK Ortayu 47.11 310 P **P** 15 53 24.7 -0.2
OTUK pmax pmax
comp=Z,143nm,1.3s
KK31 Karatay Array 48.38 304 *i* P **P** 15 53 34.6 -0.2
KK31 pmax pmax
comp=Z,191nm,1.6s
KKAR Karatay Array 48.38 304 *e*P **P** 15 53 34.5 -0.3
BVA0 Borovoye Array 48.73 317 *i* P **P** 15 53 36.7 -0.6
BVA0 pmax pmax
comp=Z,212nm,1.1s
BVAR Borovoye Array 48.73 317 LR LR 16 15 49.1
comp=Z,2µm,19.1s,baz=96,slow=38
WRAB Tennant Creek 48.74 173 P **P** 15 53 38.0 +0.3
comp=Z,256nm,0.8s,SNR=16
WRAB Tennant Creek 48.74 173 *d i*P **P** 15 53 37.7 0.0
WRAB pmax pmax
comp=Z,93nm,0.8s
WRAB Tennant Creek 48.74 173 *e*P **P** 15 53 37.2 -0.5
comp=Z,38nm,0.9s
WRAB LR LR
comp=Z,616nm,20.0s
WRA Warramunga Arr 48.75 173 P **P** 15 53 37.8 0.0
comp=Z,27nm,0.8s,baz=350,slow=8.2,SNR=116
WRA PcP **PcP** 15 55 02.8 +0.4
comp=Z,1.6nm,0.7s,baz=350,slow=4.2,SNR=2.3
WRA LR LR 16 13 07.3
comp=Z,447nm,21.9s,baz=20,slow=35
WRA Warramunga Arr 48.75 173 P **P** 15 53 37.8 0.0
WRA 15 55 02.8
WRA pmax pmax
comp=Z,27nm,0.8s
WRA pmax pmax
comp=Z,2.0nm,0.7s
BRVK Borovoye 48.79 317 P **P** 15 53 37.8 0.0
comp=Z,2µm,1.0s,SNR=55
BRVK Borovoye 48.79 317 *d i*P **P** 15 53 36.8 -1.0
BRVK pmax pmax
comp=Z,146nm,1.2s
BRVK pmax pmax
comp=Z,536nm,1.1s
BRVK Borovoye 48.79 317 P **P** 15 53 37.4 -0.4
SNR=165
BRVK Borovoye 48.79 317 *e*P **P** 15 53 37.1 -0.7
BRVK LR LR
comp=Z,2µm,19.0s
DZET Dzherino 50.04 298 P **P** 15 53 47.5 -0.2
DZET pmax pmax
comp=Z,81nm,1.3s
MBWA Marble Bar 50.43 191 *e*P **P** 15 53 51.0 +0.4
MBWA LR LR
comp=Z,316nm,20.0s
KBL Kabul 50.55 293 *e*P **P** 15 53 51.2 -0.5
comp=Z,141nm,1.4s
CTAO Charters Tower 51.44 159 *e*P **P** 15 53 58.0 -0.2
comp=Z,150nm,1.7s
CTAO LR LR
comp=Z,551nm,21.0s
AS31 Alice Springs 52.39 174 *e*P **P** 15 54 05.5 +0.3
ASAR Alice Springs 52.39 174 P **P** 15 54 05.5 +0.2
comp=Z,7.7nm,0.9s,baz=355,slow=6.3,SNR=52
ASAR PcP **PcP** 15 55 16.0 +0.2
comp=Z,2.9nm,0.7s,baz=359,slow=3.8,SNR=5.6
ASAR LR LR 16 16 00.8
comp=Z,217nm,21.2s,baz=356,slow=36
ASAR Alice Springs 52.39 174 P **P** 15 54 05.5 +0.2
ASAR 15 55 16.0
ASAR pmax pmax
comp=Z,8.0nm,0.9s
ASAR pmax pmax
comp=Z,3.0nm,0.7s
ASAR MLR MLR
comp=Z,217nm,21.2s
UNV Unalaska Valle 52.53 42 *e*P **P** 15 54 06.1 +0.2
TNA Tin City 53.13 28 *e*P **P** 15 54 10.4 +0.2
comp=Z,49nm,1.0s
SVE Sverdlovsk 54.56 321⇓ *e*P **P** 15 54 20.3 -0.5
SVE pmax pmax
comp=Z,139nm,1.1s
SVE MLR MLR
comp=Z,2µm,15.0s
AB31 Akbulak array 55.29 312 *i* P **P** 15 54 25.2 -1.0
AB31 pmax pmax
comp=Z,113nm,1.2s
ABKAR Akbulak array 55.29 312 *e*P **P** 15 54 24.5 -1.6
ABKAR *e*PcP **PcP** 15 55 22.7 -4.0
ARU Arti 55.71 321 *c i*P **P** 15 54 28.0 -1.1
ARU 15 55 26.4
ARU 15 56 30.0
ARU S **S** **16 02 13.5 +0.4**
ARU SS **SS** **16 06 00.5 +2.2**
ARU pmax pmax
comp=Z,34nm,1.2s
ARU MLR MLR
comp=Z,2µm,17.0s
ARU Arti 55.71 321 *e*P **P** 15 54 28.1 -1.1
comp=Z,125nm,1.1s
ARU LR LR
comp=Z,2µm,22.0s
AKTO Aktyubinsk 56.41 314 LR LR 16 20 12.7
comp=Z,1µm,18.2s,slow=38
AKTO Aktyubinsk 56.41 314 P **P** 15 54 34.4 +0.1
AKTO pmax pmax
comp=Z,46nm,1.1s
SOKR Solikamsk 56.60 325 *c i*P P 15 54 39.9 +4.6
SOKR pmax pmax
comp=Z,60nm,1.3s
SOKR MLR MLR
comp=Z,2µm,16.0s
IMYA Miami 57.30 297 *e*P **P** 15 54 41.4 +0.4
EIDS Eidsvold 57.96 156 *e*P **P** 15 54 46.5 +1.1
comp=Z,31nm,1.0s
IPAY Payeh 58.14 297 *e*P **P** 15 54 47.7 +0.7
SVW2 Sparrevohn 58.35 34 *e*P **P** 15 54 49.3 +1.5
comp=Z,22nm,1.2s
ISFR Sfrayin 58.77 298 *e*P **P** 15 54 52.8 +1.4
IM04 Indian Mountai 58.97 28 *e*P **P** 15 54 51.3 -0.7
FORT Forrest 59.25 181 *e*P **P** 15 54 54.7 +0.5
RSO Redoubt South 59.78 34 *e*P **P** 15 54 58.1 +0.2
comp=Z,128nm,0.9s
PPLA Purkeypile 59.83 31 *e*P **P** 15 54 55.7 -2.4
CAST Castle Rocks 59.83 31 *e*P **P** 15 54 58.8 +0.8
KDAK Kodiak Island 60.17 37 P **P** 15 55 00.0 -0.3
comp=Z,393nm,0.9s,SNR=5.5
KDAK Kodiak Island 60.17 37 *i* P **P** 15 55 00.4 +0.1
KDAK Kodiak Island 60.17 37 *e*P **P** 15 55 00.4 +0.1
BPAW Bear Paw Mtn. 60.26 30 *e*P **P** 15 54 59.4 -1.6
BPAW *e*PcP **PcP** 15 55 46.8 +0.8
COLD Coldfoot 60.34 26 *e*P **P** 15 55 00.9 -0.5
TRF Thorofare Moun 60.63 31 *e*P **P** 15 55 01.9 -1.7
comp=Z,22nm,1.0s
TRF *e*PcP **PcP** 15 55 47.6 0.0
BRLK Bradley Lake 60.79 35 *e*P **P** 15 55 05.4 +0.8
BWN Browne 60.92 30 *e*P **P** 15 55 07.0 +1.6
comp=Z,131nm,1.2s
RC01 Rabbit Creek A 61.18 33 *e*P **P** 15 55 05.1 -2.1
comp=Z,59nm,1.2s
MCK McKinley 61.20 30 P **P** 15 55 06.5 -0.8
MCK *e*PcP **PcP** 15 55 49.9 +0.1
SEW Seward 61.46 34 *e*P **P** 15 55 06.8 -2.2
comp=Z,105nm,0.9s
SEW *e*PcP **PcP** 15 55 51.2 +0.4
COLA College 61.53 29 *d i*P **P** 15 55 09.6 +0.2
COLA pmax pmax
comp=Z,168nm,2.5s
COLA College 61.53 29 *e*P **P** 15 55 08.9 -0.5
comp=Z,24nm,0.9s
COLA *e*PcP **PcP** 15 55 51.9 +0.9
COLA LR LR
comp=Z,442nm,21.0s
STKA Stephens Creek 61.55 168 P **P** 15 55 10.4 +0.4
comp=Z,8.7nm,0.8s,baz=347,slow=8.5,SNR=12
STKA LR LR 16 19 40.1
comp=Z,118nm,20.6s,baz=359,slow=34
CCB Clear Creek Bu 61.58 29 *e*P **P** 15 55 10.2 +0.4
BBOO Buckleboo 61.66 173 *e*P **P** 15 55 11.1 +0.4
comp=Z,24nm,1.2s
BBOO *e*pP **pP** 15 55 18.9 -2.3
PRGR Permogore 61.91 327 P **P** 15 55 10.0 -2.0
PRGR *e**PP pP 15 55 16.0 -6.6
PRGR pmax pmax
comp=Z,10.0nm,0.8s
ILAR Eielson Array 61.95 29 P **P** 15 55 11.7 -0.6
comp=Z,5.6nm,0.9s,baz=277,slow=5.6,SNR=31
ILAR LR LR 16 24 33.4
comp=Z,357nm,18.3s,baz=291,slow=38
ILAR Eielson Array 61.95 29 P **P** 15 55 11.7 -0.6
ILAR pmax pmax
comp=Z,6.0nm,0.9s
ILAR MLR MLR
comp=Z,357nm,18.3s
DHY Denali Highway 61.99 31 *e*P **P** 15 55 15.5 +2.7
comp=Z,9.7nm,0.8s
IGLO Ghaloghah 62.14 298 *e*P **P** 15 55 14.4 0.0
DZM Mont Dzumac 62.25 140 *e*P P 15 55 11.3 -3.7
comp=Z,67nm,1.1s
DZM *e*S **S** **16 03 41.8 +3.0**
comp=Z,2µm,29.7s
DZM Mont Dzumac 62.25 140 *e*LR LR 16 14 00.7
comp=Z,1µm,22.2s
DZM Mont Dzumac 62.25 140 P **P** 15 55 14.6 -0.3
comp=Z,21nm,1.0s,baz=2.9,slow=8.4,SNR=3.4
DZM LR LR 16 18 57.3
comp=Z,654nm,21.2s,baz=0.0,slow=33
NWAO Narrogin (SRO) 62.36 191 PFAKE
NWAO LR LR 15 55 30.0 +15
comp=Z,1.0nm,20.0s
ARMA Armidale 62.78 158 *e*P **P** 15 55 20.3 +1.9
comp=Z,53nm,1.4s
PAX Paxson 62.86 31 *e*P **P** 15 55 18.0 -0.6
PAX *e*PcP **PcP** 15 55 56.7 0.0
DIV Divide 63.07 33 *e*P **P** 15 55 19.9 0.0
comp=Z,50nm,0.8s
DIV *e*PcP **PcP** 15 55 58.5 +1.0
HARP HAARP 63.11 31 *e*P **P** 15 55 21.4 +1.3
comp=Z,89nm,0.9s
MENT Mentasta 63.65 31 *e*P **P** 15 55 24.7 +0.9
BMRM Bremner River 63.66 33 P **P** 15 55 23.6 -0.2
IDMV Damavand 63.81 298 *e*P **P** 15 55 24.4 -1.2
EGAK Eagle 64.36 28 *e*P **P** 15 55 27.2 -1.1
comp=Z,20nm,0.8s
EGAK LR LR
comp=Z,332nm,19.0s
TMCR Tamitsa 64.81 331 *e*P **P** 15 55 33.4 +2.2
TMCR pmax pmax
comp=Z,92nm,1.3s
IPAR Pars 64.85 292 *e*P **P** 15 55 31.5 -0.9
LVZ Lovozero 65.19 335 PFAKE 15 55 40.0 +6.3
LVZ LR LR
comp=Z,750nm,20.0s
APA Apatity 65.74 335⇓ *i*P P 15 55 45.5 +8.3
APA *i* 15 56 06.0
APA *e* 16 04 50.0
APA pmax pmax
comp=Z,12nm,0.8s
APA MLR MLR
comp=Z,1µm,16.0s
INK Inuvik 66.34 24 P **P** 15 55 41.4 +0.4
comp=Z,12nm,0.8s,baz=285,slow=5.5,SNR=3.9
INK Inuvik 66.34 24 P **P** 15 55 41.4 +0.4
INK pmax pmax
comp=Z,13nm,0.8s
INK Inuvik 66.34 24 *e*P **P** 15 55 39.3 -1.8
comp=Z,24nm,1.0s
INK *e*PcP **PcP** 15 56 11.0 +0.4
MSVF Nonsavu 66.36 128 *e*P P 15 55 45.3 +3.3
comp=Z,45nm,1.1s
CAN Canberra 66.56 162 PFAKE 15 56 00.0 +17
CAN LR LR
comp=Z,594nm,21.0s
KBS Kingsbay 66.83 349 PFAKE 15 56 00.0 +16
KBS LR LR
comp=Z,758nm,20.0s
HYT Haines Junctio 67.05 32 *e*P **P** 15 55 46.0 +0.2
HYT *e*PcP **PcP** 15 56 14.3 +0.3
KEV Kevo 67.24 338 PFAKE 15 56 00.0 +13
KEV LR LR
comp=Z,657nm,21.0s
MOS Moscow 67.35 322 *e*P **P** 15 55 48.2 +0.5
MOS *e* 15 56 05.2
MOS pmax pmax
comp=Z,30nm,0.7s
MOS MLR MLR
comp=Z,2µm,17.0s
GOF Gofitskoye 67.41 310 *e*P **P** 15 55 50.4 +2.1
GOF pmax pmax
comp=Z,50nm,1.3s
NCK Nalchik 67.53 308⇓ *e*P **P** 15 55 51.0 +1.9
ZEI Tsey 67.55 308 *e*P P 15 55 46.1 -3.4
ZEI pmax pmax
comp=Z,49nm,1.4s
LPSR Galich'ya Gora 67.61 319 *e*P **P** 15 55 48.4 -0.9
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR pmax pmax
comp=N,5.0nm,0.8s
LPSR pmax pmax
comp=E,4.0nm,0.8s
LPSR MLR MLR
comp=N,510nm,17.0s
LPSR MLR MLR
comp=E,810nm,17.0s
LPSR MLR MLR
comp=Z,820nm,17.0s
ARCES ARCESS Array B 67.81 338 P **P** 15 55 50.1 -0.3
comp=Z,3.5nm,0.9s,baz=57,slow=8.8,SNR=5.2
ARCES PP **PP** 15 58 19.6 -0.1
comp=Z,6.2nm,1.0s,baz=37,slow=11,SNR=3.8
ARCES LR LR 16 29 42.9
comp=Z,724nm,19.2s,baz=66,slow=40
ARCES ARCESS Array B 67.81 338 P **P** 15 55 50.1 -0.3
ARCES 15 58 19.6
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES pmax pmax
comp=Z,6.0nm,1.0s
ARCES MLR MLR
comp=Z,724nm,19.2s
GNI Garni 67.82 305⇓ *e*P **P** 15 55 50.9 -0.3
GNI pmax pmax
comp=Z,14nm,1.2s
GNI Garni 67.82 305 PFAKE 15 56 00.0 +8.8
GNI LR LR
comp=Z,518nm,19.0s
VSR Storozhevoye 67.91 317 *e*P **P** 15 55 49.9 -1.4
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,20nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR MLR MLR
comp=N,550nm,18.0s
VSR MLR MLR
comp=E,780nm,18.0s
VSR MLR MLR
comp=Z,950nm,18.0s
VORD Divnogorie 67.91 317 *e*P **P** 15 55 50.2 -1.1
VORD pmax pmax
comp=N,9.0nm,0.6s
VORD pmax pmax
comp=E,7.0nm,0.6s
VORD pmax pmax
comp=Z,7.0nm,0.6s
VORD MLR MLR
comp=N,530nm,19.0s
VORD MLR MLR
comp=E,890nm,19.0s
VORD MLR MLR
comp=Z,980nm,19.0s
KBZ Khabaz 67.94 309 P **P** 15 55 50.9 -0.7
comp=Z,15nm,0.9s,baz=124,slow=3.5,SNR=20
KBZ LR LR 16 28 31.1
comp=Z,689nm,18.1s,baz=60,slow=39
KBZ Khabaz 67.94 309 P **P** 15 55 50.9 -0.7
KBZ pmax pmax
comp=Z,15nm,0.9s
KBZ MLR MLR
comp=Z,689nm,18.1s
KIV Kislovodsk 68.01 309 P **P** 15 55 52.0 -0.2
comp=Z,305nm,0.9s,SNR=6.8
KIV Kislovodsk 68.01 309 *c i*P **P** 15 55 51.6 -0.6
KIV *e* 15 56 17.5
KIV *i* 15 58 17.0
KIV *e*PPP PPP 15 59 53.9
KIV pmax pmax
comp=Z,40nm,1.2s
KIV MLR MLR
comp=Z,665nm,14.0s
KIV Kislovodsk 68.01 309 P **P** 15 55 52.1 -0.1
SNR=18
KIV Kislovodsk 68.01 309 *e*P **P** 15 55 51.7 -0.6
comp=Z,54nm,1.0s
KIV *e*PcP **PcP** 15 56 17.5 -0.8
KIV LR LR
comp=Z,718nm,20.0s
OBN Obninsk 68.12 322⇓ *e*P **P** 15 55 54.1 +1.6
OBN *e* 15 56 19.2
OBN *i* 15 58 20.6
OBN *e*PPP PPP 16 00 01.9
OBN *e*S **S** **16 04 49.9 +0.1**
OBN pmax pmax
comp=Z,26nm,1.2s
OBN MLR MLR
comp=Z,2µm,21.0s
OBN Obninsk 68.12 322 PFAKE 15 56 00.0 +7.5
OBN LR LR
comp=Z,1µm,22.0s
NEY Neytrino 68.22 308 *e*P **P** 15 55 53.2 -0.4
NEY pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 70.89 330 P **P** 15 56 07.9 -1.6
comp=Z,7.3nm,0.7s,baz=59,slow=7.4,SNR=8.0
FINES PP **PP** 15 58 44.5 -1.8
comp=Z,9.9nm,1.2s,baz=52,slow=2.3,SNR=2.9
FINES LR LR 16 29 59.0
comp=Z,869nm,20.3s,baz=44,slow=38
FINES FINESS Array B 70.89 330 P **P** 15 56 07.9 -1.6
FINES 15 58 44.5
FINES pmax pmax
comp=Z,7.0nm,0.7s
FINES pmax pmax
comp=Z,10.0nm,1.2s
FINES MLR MLR
comp=Z,869nm,20.3s
ANN Anapa 71.24 311 *e*P **P** 15 56 12.8 +0.9
ANN *e* 15 58 53.2
ANN *e*S **S** **16 05 29.1 +2.3**
ANN pmax pmax
comp=Z,28nm,0.9s
ANN MLR MLR
comp=E,1µm,20.0s
ANN MLR MLR
comp=Z,846nm,20.0s
ANN MLR MLR
comp=N,691nm,20.0s
DLBC Dease Lake 71.45 33 P **P** 15 56 13.8 +0.8
comp=N,18nm,1.1s,baz=292,slow=4.5,SNR=7.1
VSU Vasula 71.86 327⇑ *e*P **P** 15 56 17.5 +2.1
VSU pmax pmax
comp=Z,179nm,2.5s
DAG Danmarks Havn 72.78 353 *i* P **P** 15 56 17.8 -2.8
comp=Z,14nm,1.4s
DAG Danmarks Havn 72.78 353 *i* P **P** 15 56 17.8 -2.8
DAG pmax pmax
comp=Z,33nm,1.4s
MALT Malatya 73.06 305 ⇓P **P** 15 56 23.4 +0.3
MALT Malatya 73.06 305 ⇓ *i*P **P** 15 56 23.4 +0.3
SIM Simferopol' 73.35 312 *e*P **P** 15 56 27.5 +2.9
SIM *e*S **SKiKP** **16 05 53.0 -0.1**
SIM pmax pmax
comp=Z,10.0nm,0.9s
SIM MLR MLR
comp=Z,500nm,18.0s
RAYN Ar Rayn 73.48 288 *e*P P 15 56 22.4 -3.4
comp=Z,4.3nm,1.0s
RAYN *e*PcP **PcP** 15 56 40.9 -0.9
RAYN LR LR
comp=Z,375nm,19.0s
AKASG Malin Array Be 73.92 319 P **P** 15 56 25.6 -2.2
comp=Z,0.9nm,0.6s,baz=53,slow=5.7,SNR=5.4
AKASG LR LR 16 31 48.7
comp=Z,986nm,19.1s,baz=45,slow=38
AKASG Malin Array Be 73.92 319 P **P** 15 56 25.6 -2.2
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG MLR MLR
comp=Z,986nm,19.1s
KIEV Kiev 73.93 319⇑ *e*P **P** 15 56 30.4 +2.6
KIEV Kiev 73.93 319 PFAKE 15 56 40.0 +12
KIEV LR LR
comp=Z,991nm,21.0s
BR131 Keskin Array S 75.86 308 *e*P **P** 15 56 37.0 -2.4
comp=Z,6.5nm,0.9s
BRTR Keskin Array B 75.86 308 P **P** 15 56 38.0 -1.5
comp=Z,5.5nm,0.8s,baz=97,slow=5.1,SNR=19
BRTR LR LR 16 35 15.5
comp=Z,365nm,18.5s,baz=42,slow=40
BRTR Keskin Array B 75.86 308 P **P** 15 56 38.0 -1.5
BRTR pmax pmax
comp=Z,6.0nm,0.8s
BRTR MLR MLR
comp=Z,365nm,18.5s
YKA Yellowknife Ar 76.00 25 P **P** 15 56 39.7 +0.1
comp=Z,12nm,0.9s,baz=303,slow=5.5,SNR=34
YKA Yellowknife Ar 76.00 25 P **P** 15 56 39.7 +0.1
YKA pmax pmax
comp=Z,12nm,0.9s
ANTO Ankara 76.39 308 PFAKE 15 56 50.0 +7.7
ANTO LR LR
comp=Z,389nm,22.0s
KULLO Kullorsuaq 76.81 2 *i* P **P** 15 56 42.8 -1.1
comp=Z,29nm,0.9s
RAO Raoul Island 76.96 134 LR LR 16 25 15.5
comp=Z,330nm,19.6s,baz=262,slow=32
CFR Carcaliu 77.06 315 ⇑P **P** 15 56 49.0 +3.1
CFR Carcaliu 77.06 315 ⇑ *i*P **P** 15 56 49.0 +3.1
TIRR Tirgusor 77.22 314 ⇓P **P** 15 56 49.8 +3.0
TIRR Tirgusor 77.22 314 ⇓ *i*P **P** 15 56 49.8 +3.0
TIRR Tirgusor 77.22 314 P **P** 15 56 44.4 -2.4
comp=Z,7.7nm,1.2s
NB2 NORSAR Subarra 77.24 334 P **P** 15 56 44.7 -2.0
comp=Z,18nm,0.8s,baz=53,slow=5.9
NB2 NORSAR Subarra 77.24 334 P **P** 15 56 44.7 -2.0
baz=53,slow=5.9
NOA NORSAR Array B 77.24 334 P **P** 15 56 45.2 -1.5
comp=Z,14nm,0.8s,baz=52,slow=5.6,SNR=20
NOA NORSAR Array B 77.24 334 P **P** 15 56 45.2 -1.5
NOA pmax pmax
comp=Z,14nm,0.8s
TESR Tescani 77.35 316 ⇑ *i*P **P** 15 56 45.9 -1.6
VRI Vrincioaia 77.61 316 ⇑P P 15 56 52.9 +3.9
VRI Vrincioaia 77.61 316 ⇑ *i*P P 15 56 52.9 +3.9
BURAR Bucovina Array 77.67 318 ⇑P **P** 15 56 48.8 -0.7
BURAR Bucovina Array 77.67 318 ⇑ *i*P **P** 15 56 48.8 -0.7
PSN Preselentsi 77.73 313 ⇑P **P** 15 56 52.3 +2.6
PSN Preselentsi 77.73 313 ⇑ *i*P **P** 15 56 52.3 +2.6
MSEY Mahe Island 77.74 258 PFAKE 15 57 00.0 +10
MSEY LR LR
comp=Z,333nm,19.0s
MSAB Monastry St. A 77.77 314 ⇓ *i*P **P** 15 56 49.4 -0.5
CSS Prodhromos 78.19 303 PFAKE 15 57 00.0 +7.6
CSS LR LR
comp=Z,80nm,20.0s
MLR Muntele Rosu 78.27 316 P **P** 15 56 53.2 +0.4
baz=46,slow=6.4
MLR Muntele Rosu 78.27 316 ⇓P **P** 15 56 52.1 -0.7
MLR Muntele Rosu 78.27 316 ⇓ *i*P **P** 15 56 52.1 -0.7
DOPR Dopca 78.38 316 ⇑P P 15 56 59.8 +6.5
SUMG Summit 78.52 356 *i* P **P** 15 56 53.5 -0.5
comp=Z,20nm,1.2s
SUMG Summit 78.52 356 *i* P **P** 15 56 53.5 -0.5
SUMG pmax pmax
comp=Z,20nm,1.2s
SUMG Summit 78.52 356 *e*P **P** 15 56 52.4 -1.6
comp=Z,16nm,1.0s
KOLS Kolonicke sedl 78.72 320 *e*P **P** 15 56 54.0 -1.1
KOLS pmax pmax
comp=Z,11nm,2.1s
KOLS Kolonicke sedl 78.72 320 *e*P **P** 15 56 54.0 -1.1
KOLS *e* 15 57 12.5
VOIR 78.85 316 ⇓P **P** **15 56 58.6 +2.7**
VOIR 78.85 316 ⇓ *i*P **P** **15 56 58.6 +2.7**
UZH Uzhgorod 78.86 320 *e*P P 15 57 00.3 +4.5

UZH *e* 15 57 08.5
UZH *e* 15 57 11.1
UZH *eS* **S** **16 06 48.1 -3.4**
UZH MLR MLR
comp=N,170nm,17.0s
UZH MLR MLR
comp=E,1µm,17.0s
UZH MLR MLR
comp=Z,500nm,17.0s
ISP **Isparta** **78.89 307** PFAKE 15 57 10.0 +14
ISP LR LR
comp=Z,341nm,19.0s
TRPA **Tarpa** **78.98 319** ⇓*i*P P 15 57 05.4 +8.9
STHS **Stebnicka Huta** **79.05 321** *e*P **P** **15 56 56.7 -0.2**
STHS pmax pmax
comp=Z,4.0nm,1.2s
STHS **Stebnicka Huta** **79.05 321** *e*P **P** **15 56 56.7 -0.2**
STHS *e* 15 57 14.8
ARR **Arges** **79.14 316** ⇑*i*P P 15 57 03.8 +6.3
OJC **Ojcow** **79.41 322** *e*P **P** **15 56 58.8 -0.1**
OJC **Ojcow** **79.41 322** *e*P **P** **15 56 58.9 0.0**
OJC **Ojcow** **79.41 322** *e*P **P** **15 56 58.5 -0.4**
NIE **Niedzica** **79.56 321** *e*P **P** **15 57 00.6 +0.9**
NIE **Niedzica** **79.56 321** *e*P **P** **15 57 00.6 +0.9**
DRGR **79.57 318** ⇓P **P** **15 56 59.2 -0.6**
DRGR **79.57 318** ⇓*i*P **P** **15 56 59.2 -0.6**
LOT **Lotru** **79.62 316** ⇓*i*P P 15 57 04.2 +4.0
KECS **Kecovo** **79.96 320** *e*P **P** **15 57 03.7 +1.8**
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS **Kecovo** **79.96 320** *e* **P** **15 57 03.7 +1.8**
NLWA **Neilton Lookou** **79.98 41** *e*P **P** **15 57 02.7 +0.7**
comp=Z,36nm,1.3s
NLWA LR LR
comp=Z,152nm,20.0s
GZR **Gura Zlata** **80.25 317** ⇑P P 15 57 08.0 +4.4
GZR **Gura Zlata** **80.25 317** ⇑*i*P P 15 57 08.0 +4.4
MBW **Mount Baker** **80.36 39** P **P** **15 57 05.5 +1.3**
KDZ **Kurdzhali** **80.50 312** ⇓P **P** **15 57 04.6 -0.3**
KDZ **Kurdzhali** **80.50 312** ⇓*i*P **P** **15 57 04.6 -0.3**
OKC **Ostrava-Krasne** **80.52 322** *e*P **P** **15 57 04.9 +0.1**
OKC AMS AMS 16 37 50.0
comp=Z,800nm,17.4s
OKC **Ostrava-Krasne** **80.52 322** *e*P **P** **15 57 04.9 +0.1**
OKC MLR MLR
comp=Z,800nm,17.4s
URZ **Urewera** **80.56 143** LR LR 16 26 00.4
comp=Z,205nm,21.4s,baz=324,slow=31
PSZ **Piszkesteto** **80.60 320** PFAKE 15 57 20.0 +15
PSZ LR LR
comp=Z,854nm,20.0s
JCW **Jim Creek** **80.66 40** P **P** **15 57 06.9 +1.2**
RDO **Rodhopi** **80.67 312** *e*P **P** **15 57 05.0 -0.8**
B06A **Marblemount** **80.73 39** *e*P **P** **15 57 07.3 +1.4**
BMW **Boistfort Moun** **80.84 42** P **P** **15 57 08.1 +1.4**
KSP **Ksiaz** **80.93 324** *e*P **P** **15 57 07.5 +0.5**
KSP **Ksiaz** **80.93 324** *e*P **P** **15 57 07.5 +0.5**
D05A **Enumclaw** **81.17 41** *e*P **P** **15 57 11.0 +2.6**
comp=Z,44nm,1.3s
DPC **Dobruska-Polom** **81.20 323** *e*P **P** **15 57 08.9 +0.4**
DPC *ex* x 15 57 24.9
DPC AMS AMS 16 35 50.0
comp=Z,1µm,16.1s
DPC **Dobruska-Polom** **81.20 323** *e*P **P** **15 57 08.9 +0.4**
DPC *e* 15 57 24.9
DPC MLR MLR
comp=Z,1µm,16.1s
VTS **Vitosha** **81.43 314** ⇓P **P** **15 57 09.8 -0.2**
VTS **Vitosha** **81.43 314** ⇓*i*P **P** **15 57 09.8 -0.2**
G03D **McMinnville, O** **81.50 43** ⇑P **P** **15 57 10.2 0.0**
baz=81
TDL **Tradedollar La** **81.50 41** P **P** **15 57 11.8 +1.5**
LVP **Lakeview Peak** **81.54 42** P **P** **15 57 11.8 +1.3**
MMB **Musomiste** **81.62 313** ⇑P **P** **15 57 10.4 -0.5**
MMB **Musomiste** **81.62 313** ⇑*i*P **P** **15 57 10.4 -0.5**
VRAC **Vranov** **81.65 322** P **P** **15 57 10.7 -0.2**
comp=Z,1.3nm,0.5s,baz=62,slow=10,SNR=2.8
VRAC **Vranov** **81.65 322** P **P** **15 57 10.7 -0.2**
VRAC pmax pmax
comp=Z,1.0nm,0.5s
SNZO **South Karori** **81.67 147** PFAKE 15 57 20.0 +9.2
SNZO LR LR
comp=Z,587nm,20.0s
COR **Corvallis** **81.81 43** *e*P **P** **15 57 14.1 +2.3**
RPZ **Rata Peaks** **81.89 150** LR LR 16 26 48.6
comp=Z,367nm,21.9s,baz=318,slow=31
PVCC **Panska Ves** **82.01 324** AMS AMS 16 37 40.0
comp=Z,1µm,18.0s
B08A **Colville Reser** **82.01 39** *e*P **P** **15 57 13.6 +0.7**
comp=Z,40nm,1.3s
WTV **Waterville** **82.04 39** P **P** **15 57 13.8 +0.8**
NAC **Naches** **82.09 41** P **P** **15 57 14.7 +1.4**
BRG **Berggiesshubel** **82.12 325** *e*P **P** **15 57 15.7 +2.4**
comp=Z,3.7nm,1.1s
BRG **Berggiesshubel** **82.12 325** *e*P **P** **15 57 15.7 +2.4**
BRG pmax pmax
comp=Z,4.0nm,1.1s
EDM **Edmonton** **82.16 32** *e*P **P** **15 57 14.2 +0.7**
comp=Z,59nm,1.2s
EDM *e*PcP **PcP** **15 57 18.6 -0.2**
TREC **Trest** **82.25 323** *e*P **P** **15 57 14.6 +0.6**
TREC AMS AMS 16 38 40.0
comp=Z,1µm,13.6s
TREC **Trest** **82.25 323** *e*P **P** **15 57 14.6 +0.6**
TREC MLR MLR
comp=Z,1µm,13.6s
PKSM **Moragy** **82.25 319** ⇑P **P** **15 57 13.9 -0.2**
PKSM **Moragy** **82.25 319** ⇑*i*P **P** **15 57 13.9 -0.2**
GOPC **GO Pecny, Ondr** **82.26 323** AMS AMS 16 37 00.0
comp=Z,1µm,16.2s
I03D **Drain, OR** **82.26 44** ⇑P **P** **15 57 15.4 +1.3**
baz=82,SNR=6.1
ILULI **Ilulissat** **82.28 360** *i* P **P** **15 57 13.5 -0.3**
comp=Z,36nm,1.0s
CLL **Collm** **82.34 325** *e*P **P** **15 57 13.0 -1.4**
comp=Z,5.0nm,1.0s
CLL *e*pP **PcP** **15 57 18.0 -1.6**
comp=Z,7.0nm,0.8s
CLL *e*PP **PP** **16 00 24.0 +1.2**
CLL LmH 16 31 00.0
comp=N,2µm,18.1s
CLL LmH 16 31 00.0
comp=E,1µm,18.6s
CLL **Collm** **82.34 325** *e*P **P** **15 57 13.0 -1.4**
CLL *e* 15 57 18.0
CLL *e* 16 00 24.0
CLL pmax pmax
comp=Z,5.0nm,1.0s
PRU **Pruhonice** **82.34 324** *e*P **P** **15 57 13.5 -1.0**
PRU *eS* **S** **16 07 25.9 -2.0**
PRU AMS AMS 16 36 30.0
comp=Z,1µm,13.9s
PRU **Pruhonice** **82.34 324** *e*P **P** **15 57 13.5 -1.0**
PRU *eS* **S** **16 07 25.9 -2.0**
PRU MLR MLR
comp=Z,1µm,13.9s
TRW **Toppenish Ridg** **82.50 41** P **P** **15 57 16.9 +1.5**
VFP **Flag Point** **82.50 42** P **P** **15 57 17.0 +1.4**
DIVS **Divibare** **82.62 317** ⇓*i*P P 15 57 08.9 -7.3
G05D **Wamic, OR** **82.63 42** ⇓P **P** **15 57 17.4 +1.2**
baz=82
I04A **Tendick Farm,** **82.78 44** ⇓P **P** **15 57 18.4 +1.5**
baz=83,SNR=8.9
CONA **Conrad Observa** **82.84 321** ⇑*i*PcP **P** **15 57 18.2 +1.0**
comp=Z,18nm,1.3s
D08A **Wollman Farm,** **82.98 40** *e*P **P** **15 57 19.1 +1.3**
comp=Z,34nm,1.3s
HAWA **Hanford** **83.02 40** P **P** **15 57 17.6 -0.4**
comp=Z,35nm,1.2s
HAWA *e*PcP **PcP** **15 57 23.6 +0.9**
HUMO **Hull Mountain** **83.09 45** *e*P **P** **15 57 19.6 +1.1**
VTHM **Trough** **83.11 42** P **P** **15 57 20.2 +1.5**
I05D **Terrebonne, OR** **83.12 43** ⇑P **P** **15 57 20.3 +1.6**
baz=83
SANT **Santorini** **83.14 308** PFAKE 15 57 30.0 +11
SANT LR LR
comp=Z,273nm,21.0s
J04D **Umpqua Nationa** **83.26 44** ⇑P **P** **15 57 20.7 +1.0**
baz=83
NEW **Newport** **83.27 38** P **P** **15 57 20.3 +0.9**
comp=Z,14nm,1.0s,baz=308,slow=5.8,SNR=4.9
NEW **Newport** **83.27 38** P **P** **15 57 20.3 +0.9**
NEW pmax pmax
comp=Z,14nm,1.0s
NEW **Newport** **83.27 38** ⇑P **P** **15 57 20.3 +0.9**
baz=83
NEW **Newport** **83.27 38** *e*P **P** **15 57 19.5 +0.1**
NEW *e*PcP **PcP** **15 57 24.8 +0.9**
NEW LR LR
comp=Z,243nm,20.0s
NKC **Novy Kostel** **83.27 325** *e*P **P** **15 57 19.5 +0.2**
NKC AMS AMS 16 38 30.0
comp=Z,1µm,15.9s
NKC **Novy Kostel** **83.27 325** *e*P **P** **15 57 19.5 +0.2**
NKC MLR MLR
comp=Z,1µm,15.9s
KHC **Kasperske Hory** **83.36 323** *e*P **P** **15 57 18.9 -0.9**
KHC *ex* x 15 57 35.6
KHC *eS* **S** **16 07 39.7 +1.4**
KHC AMS AMS 16 39 40.0
comp=Z,1µm,13.2s
KHC **Kasperske Hory** **83.36 323** *e*P **P** **15 57 18.9 -0.9**
KHC *e* 15 57 35.6
KHC *eS* **S** **16 07 39.7 +1.4**
KHC MLR MLR
comp=Z,1µm,13.2s
KHC **Kasperske Hory** **83.36 323** *e*P **P** **15 57 19.1 -0.7**
comp=Z,1.7nm,1.3s
GERES **GERESS Array B** **83.46 323** P **P** **15 57 20.5 0.0**
comp=Z,1.7nm,0.7s,baz=45,slow=4.3,SNR=7.2
GERES PP **PP** **16 00 33.0 +0.8**
comp=Z,2.4nm,1.1s,baz=73,slow=8.3,SNR=6.5
GERES PKKPbc **PKKPbc** **16 15 39.5 +0.4**
comp=Z,0.2nm,0.3s,baz=225,slow=0.1,SNR=3.5
GERES LR LR 16 38 08.2
comp=Z,993nm,18.3s,baz=52,slow=38
GERES **GERESS Array B** **83.46 323** P **P** **15 57 20.5 0.0**
GERES 16 00 33.0
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES pmax pmax
comp=Z,2.0nm,1.1s
GERES MLR MLR
comp=Z,993nm,18.3s
YBH **Yreka Blue Hor** **83.72 46** P **P** **15 57 22.7 +0.8**
comp=Z,7.6nm,1.1s,baz=297,slow=4.5,SNR=3.3
YBH **Yreka Blue Hor** **83.72 46** P **P** **15 57 22.7 +0.8**
YBH pmax pmax
comp=Z,8.0nm,1.1s
YBH **Yreka Blue Hor** **83.72 46** *e*P **P** **15 57 21.4 -0.5**
J05D **Fort Rock, OR** **83.77 44** ⇓P **P** **15 57 23.7 +1.5**
baz=84,SNR=8.1
M02C **Callahan** **83.81 46** ⇑P **P** **15 57 23.7 +1.3**
baz=84
K04D **Chiloquin, OR** **83.82 44** ⇑P **P** **15 57 23.7 +1.3**
baz=84
PERS **Pernice** **84.01 321** *i* P P 15 57 26.5 +3.3
SOKA **Soboth** **84.03 321** ⇓*i*PcP **P** **15 57 24.3 +0.9**
comp=Z,16nm,1.4s
N02D **Trinity Center** **84.14 46** ⇑P **P** **15 57 24.9 +0.8**
baz=84
TIR **Tirane** **84.20 314** PFAKE 15 57 30.0 +5.8
TIR LR LR
comp=Z,518nm,21.0s
GRF **Grafenberg Arr** **84.23 325** *e*P **P** **15 57 24.1 -0.1**
comp=Z,27nm,1.4s
GRF *e*pP **pP** **15 57 38.3 +3.2**
GRFO **Grafenberg** **84.23 325** *e*P **P** **15 57 23.5 -0.7**
M04C **Macdoel** **84.23 45** ⇓P **P** **15 57 25.8 +1.2**
baz=84
K05A **Summer Lake** **84.29 44** *e*P **P** **15 57 26.4 +1.4**
I07A **Izee** **84.36 42** *e*P **P** **15 57 26.3 +1.2**
WDC **Whiskeytown Da** **84.45 46** *e*P **P** **15 57 25.7 +0.1**
WALA **Waterton Lakes** **84.48 36** P **P** **15 57 25.0 -0.7**
WALA *e*PcP **PcP** **15 57 29.6 +0.4**
SFJD **Kangerlussuaq** **84.51 360** *i* P P 15 57 28.7 +3.5
comp=Z,35nm,0.9s
SFJD **Kangerlussuaq** **84.51 360** *i* P P 15 57 28.7 +3.5
SFJD pmax pmax
comp=Z,35nm,0.9s
SFJD **Kangerlussuaq** **84.51 360** *e*P **P** **15 57 24.6 -0.6**
SFJD LR LR
comp=Z,494nm,19.0s
BOJS **Bojanci** **84.60 320** *i* P P 15 57 29.7 +3.5
VISS **Visnje** **84.66 320** *e*P P 15 57 30.0 +3.6
BSMT **Bassoo Peak** **84.77 37** *e*P **P** **15 57 28.4 +1.2**
comp=Z,17nm,0.9s
RAR **Rarotonga** **84.93 117** PFAKE 15 57 40.0 +12
RAR LR LR
comp=Z,2.0nm,20.0s
JAVS **Javornik** **85.04 320** *i* P **P** **15 57 28.2 -0.3**
JTMT **Jette** **85.10 37** *e*P **P** **15 57 29.8 +1.0**
BMO **Blue Mountains** **85.18 41** *e*P **P** **15 57 28.8 -0.5**
SWMT **Swartz Lake** **85.40 37** *e*P **P** **15 57 31.2 +0.9**
comp=Z,19nm,1.1s
FCC **Fort Churchill** **85.77 21** *e*P **P** **15 57 30.9 -0.8**
WVOR **Wild Horse Val** **85.82 43** *e*P **P** **15 57 32.3 -0.2**
WVOR LR LR
comp=Z,149nm,19.0s
SLMT **Seeley Lake** **85.83 37** *e*P **P** **15 57 33.0 +0.4**
comp=Z,44nm,1.0s
MSO **Missoula** **85.85 38** ⇑P **P** **15 57 32.7 +0.2**
baz=86
MSO **Missoula** **85.85 38** *e*P **P** **15 57 32.9 +0.3**
FFC **Flin Flon** **86.08 27** P **P** **15 57 33.0 -0.4**
comp=Z,408nm,0.8s,SNR=27
FFC **Flin Flon** **86.08 27** *i* P **P** **15 57 33.6 +0.2**
FFC **Flin Flon** **86.08 27** *e*P **P** **15 57 33.4 0.0**
FFC LR LR
comp=Z,230nm,20.0s
CHMT **Chamberlain Mo** **86.17 37** P **P** **15 57 34.7 +0.5**
BFO **Black Forest** **86.56 325** PFAKE 15 57 50.0 +14
BFO LR LR
comp=Z,1µm,19.0s
EKA **Eskdalemuir Ar** **86.67 335** P **P** **15 57 34.9 -1.4**
comp=Z,5.4nm,0.7s,baz=30,slow=5.8,SNR=9.7
EKA **Eskdalemuir Ar** **86.67 335** P **P** **15 57 34.9 -1.4**
EKA pmax pmax
comp=Z,5.0nm,0.7s
ESK **Eskdalemuir** **86.70 335** PFAKE 15 57 50.0 +14
ESK LR LR
comp=Z,729nm,19.0s
WLF **Walferdange** **86.75 327** PFAKE 15 57 50.0 +13
WLF LR LR
comp=Z,759nm,20.0s
DAVOX **Davos/Dischmat** **86.76 323** P **P** **15 57 36.8 -0.3**
comp=Z,2.7nm,0.6s,baz=46,slow=11,SNR=5.2
DAVOX **Davos/Dischmat** **86.76 323** P **P** **15 57 36.8 -0.3**
DAVOX pmax pmax
comp=Z,3.0nm,0.6s
CDF **Champ du Feu** **87.04 325** *e*P **P** **15 57 36.3 -2.0**
CDF **Champ du Feu** **87.04 325** *e*P **P** **15 57 36.3 -2.0**
A19A **Klindworth Far** **87.16 34** ⇑P **P** **15 57 39.9 +1.0**
baz=87
ECH **Echery** **87.23 325** PFAKE 15 57 50.0 +11
ECH LR LR
comp=Z,760nm,22.0s
TUE **Stuetta** **87.24 323** PFAKE 15 57 50.0 +10
TUE LR LR
comp=Z,1µm,20.0s
EGMT **Eagleton** **87.26 35** ⇓P **P** **15 57 39.8 +0.4**
baz=87
EGMT **Eagleton** **87.26 35** *e*P **P** **15 57 39.0 -0.4**
EGMT LR LR
comp=Z,258nm,20.0s
CMB **Columbia Colle** **87.26 48** *e*P **P** **15 57 39.7 +0.2**
LRM **Limekiln Ridge** **87.29 38** *e*P **P** **15 57 40.3 +0.5**
comp=Z,143nm,1.0s
B19A **Brinkman Farms** **87.38 34** ⇓P **P** **15 57 40.4 +0.4**
baz=87
TIP **Timpagrande** **87.39 314** PFAKE 15 57 50.0 +10
TIP LR LR
comp=Z,130nm,22.0s
DLMT **Dillon** **87.50 38** *e*P **P** **15 57 40.7 0.0**
CUC **Castrocucco** **87.51 315** PFAKE 15 57 50.0 +9.3
CUC LR LR
comp=Z,357nm,19.0s
AQU **L'Aquila** **87.56 318** PFAKE 15 57 50.0 +9.1
AQU LR LR
comp=Z,842nm,20.0s
A20A **Cobblestone Ra** **87.59 34** ⇓P **P** **15 57 40.8 -0.2**
baz=87
WAKR **Walker** **87.61 47** *e*P **P** **15 57 43.1 +1.7**
HLID **Hailey** **87.62 41** ⇓P **P** **15 57 42.7 +1.4**
baz=88,SNR=48
HLID **Hailey** **87.62 41** *e*P **P** **15 57 42.2 +0.8**
HLID LR LR
comp=Z,213nm,21.0s
MCMT **McKenzie Canyo** **87.70 39** *e*P **P** **15 57 42.6 +0.8**
PAGF **Fort de Pagny** **87.71 326** *e*P **P** **15 57 39.2 -2.2**
comp=Z,11nm,1.2s
PAGF **Fort de Pagny** **87.71 326** *e*P **P** **15 57 39.2 -2.2**
comp=Z,11nm,1.2s
BOZ **Bozeman (W)** **87.84 38** ⇑P **P** **15 57 43.7 +1.4**
baz=88,SNR=23
BOZ **Bozeman (W)** **87.84 38** *e*P **P** **15 57 43.4 +1.1**
B20A **Solberg Farm,** **87.84 34** ⇑P **P** **15 57 42.3 +0.2**
baz=88
BMN **Battle Mountai** **87.86 44** *e*P **P** **15 57 43.0 +0.5**
comp=Z,19nm,1.3s
A21A **Bergtoll Ranch** **88.00 33** ⇑P **P** **15 57 44.2 +1.3**
baz=88,SNR=9.9
VLC **Villacollemand** **88.16 321** PFAKE 15 57 50.0 +6.3
VLC LR LR
comp=Z,1µm,21.0s
SFTF **Sexfontaines** **88.28 326** *e*P **P** **15 57 43.1 -1.1**
SFTF **Sexfontaines** **88.28 326** *e*P **P** **15 57 43.1 -1.1**
B21A **Ellsworth Farm** **88.34 33** ⇑P **P** **15 57 45.5 +1.0**
baz=88,SNR=10
C20A **Veseth Ranch,** **88.34 34** ⇑P **P** **15 57 46.1 +1.6**
baz=88,SNR=26
NVAR **Mina Array Bea** **88.37 46** P **P** **15 57 45.9 +0.8**
comp=Z,3.8nm,1.0s,baz=286,slow=4.0,SNR=22
A22A **Carney Farms,** **88.47 33** ⇓P **P** **15 57 45.8 +0.7**
baz=88,SNR=37
CEL **Celeste** **88.47 313** PFAKE 15 58 00.0 +15
CEL LR LR
comp=Z,388nm,20.0s
C21A **Desert Coulee** **88.71 34** ⇓P **P** **15 57 47.5 +1.2**
baz=88,SNR=8.5
GCMT **Greycliff** **88.79 37** *e*P **P** **15 57 47.9 +1.1**
ELK **Elko** **88.88 43** *e*P **P** **15 57 48.4 +1.0**
comp=Z,37nm,1.8s
B22A **Reddig Ranch S** **88.92 33** ⇓P **P** **15 57 48.4 +1.2**
baz=89,SNR=8.8
A23A **Redstone** **88.98 32** ⇓P **P** **15 57 49.0 +1.4**
baz=89
LKWY **Lake** **89.21 38** PFAKE 15 58 00.0 +11
LKWY LR LR
comp=Z,420nm,19.0s
LPG **La Plagne** **89.25 323** *e*P P 15 57 44.3 -4.8
comp=Z,14nm,1.0s
LPG **La Plagne** **89.25 323** *e*P P 15 57 44.3 -4.8
comp=Z,14nm,1.0s
TPH **Tonopah** **89.27 46** *e*P **P** **15 57 48.4 -0.9**
comp=Z,40nm,1.4s
B23A **Brockton** **89.28 32** ⇑P **P** **15 57 50.1 +1.2**
baz=89,SNR=32
D21A **La Casta Ranch** **89.29 34** ⇑P **P** **15 57 50.2 +1.2**
baz=89,SNR=30
IMW **Indian Meadow** **89.35 39** *e*P **P** **15 57 51.6 +1.9**
comp=Z,31nm,1.3s
C22A **Vida** **89.36 33** ⇑P **P** **15 57 50.0 +0.7**
baz=89,SNR=7.1
FLWY **Flagg Ranch** **89.36 38** *e*P **P** **15 57 48.5 -1.2**
comp=Z,18nm,0.8s
A24A **Westby** **89.42 32** ⇓P **P** **15 57 50.8 +1.3**
baz=89,SNR=13
RLMT **Red Lodge** **89.44 37** ⇑P **P** **15 57 51.1 +1.1**
baz=89,SNR=18
RLMT **Red Lodge** **89.44 37** *e*P **P** **15 57 51.6 +1.6**
RLMT LR LR
comp=Z,287nm,20.0s
MOOW **Moose Ponds** **89.55 39** *e*P **P** **15 57 51.5 +0.9**
comp=Z,28nm,1.5s
F20A **Billings** **89.57 36** ⇓P **P** **15 57 50.4 0.0**
baz=89
BNI **Bardonecchia** **89.58 323** *e*P **P** **15 57 49.6 -0.9**
comp=Z,7.3nm,1.0s
BNI LR LR
comp=Z,967nm,20.0s
E21A **Keefer Ranch,** **89.61 35** ⇑P **P** **15 57 51.7 +1.2**
baz=89
TPAW **Teton Pass** **89.61 39** P **P** **15 57 52.0 +1.1**
comp=Z,14nm,1.1s
D22A **Cohagen** **89.63 34** ⇑P **P** **15 57 51.7 +1.1**
baz=89,SNR=13
DGMT **Dagmar** **89.65 32** ⇓P **P** **15 57 52.1 +1.4**
baz=89,SNR=7.7
DGMT **Dagmar** **89.65 32** *e*P **P** **15 57 51.8 +1.2**
DGMT LR LR
comp=Z,231nm,19.0s
C23A **Lambert** **89.66 33** ⇓P **P** **15 57 51.6 +0.9**
baz=90,SNR=16
HVU **Hansel Valley** **89.68 41** *e*P **P** **15 57 50.2 -0.9**
comp=Z,62nm,1.7s
LOHW **Long Hollow** **89.72 39** *e*P **P** **15 57 51.1 -0.2**
comp=Z,14nm,1.4s
REDW **Red Top Meadow** **89.75 39** *e*P **P** **15 57 50.7 -0.7**
comp=Z,28nm,1.5s
H19A **Powell** **89.89 37** ⇓P **P** **15 57 53.4 +1.4**
baz=90,SNR=13
G20A **Bridger** **89.93 36** ⇓P **P** **15 57 53.6 +1.5**
baz=90,SNR=8.4
LAO **LASA Array** **89.93 34** ⇓P **P** **15 57 53.1 +1.1**
baz=90,SNR=12
LAO **LASA Array** **89.93 34** P **P** **15 57 51.2 -0.9**
comp=Z,35nm,0.9s
LAO LR LR
comp=Z,256nm,19.0s
AHID **Auburn Hatcher** **90.00 40** PFAKE 15 58 00.0 +7.4
AHID LR LR
comp=Z,288nm,19.0s
D23A **Lindsay** **90.09 34** ⇓P **P** **15 57 53.7 +1.0**
baz=90,SNR=11
R11A **Troy Canyon, C** **90.13 45** ⇓P **P** **15 57 54.9 +1.6**
baz=90
R11A **Troy Canyon, C** **90.13 45** *e*P **P** **15 57 53.1 -0.2**
comp=Z,19nm,1.5s
C24A **Savage** **90.21 33** ⇓P **P** **15 57 55.0 +1.7**
baz=90
E22A **Miles City** **90.24 34** ⇓P **P** **15 57 54.6 +1.2**
baz=90,SNR=10.0
B25A **Knox Farm, Ray** **90.27 32** ⇓P **P** **15 57 53.9 +0.3**
baz=90
MPMC **Manual Prospec** **90.30 48** ⇓P **P** **15 57 55.9 +1.8**
baz=90,SNR=6.0
I19A **Meeteetse** **90.31 38** ⇑P **P** **15 57 55.7 +1.6**
baz=90
A26A **Wade Farm, Ken** **90.33 31** ⇑P **P** **15 57 55.6 +1.8**
baz=90
OSI **Osito Audit: C** **90.33 50** ⇓P **P** **15 57 55.3 +1.1**
baz=90
BLG **Laguna Peak, P** **90.40 50** ⇓P **P** **15 57 55.8 +1.4**
baz=90
G21A **Lodge Grass** **90.44 36** ⇓P **P** **15 57 55.7 +1.2**
baz=90
FURC **Furnace Creek,** **90.46 47** ⇑P **P** **15 57 56.5 +1.9**
baz=90
FLN **La Foliniere** **90.48 329** *e*P **P** **15 57 52.3 -2.1**
comp=Z,35nm,1.2s
FLN **La Foliniere** **90.48 329** *e*P **P** **15 57 52.3 -2.1**
comp=Z,35nm,1.2s
HWUT **Hardware Ranch** **90.49 41** *e*P **P** **15 57 54.8 -0.1**
comp=Z,64nm,1.4s
HWUT LR LR
comp=Z,248nm,20.0s
E23A **Ismay** **90.52 34** ⇑P **P** **15 57 56.4 +1.7**
baz=90,SNR=14
H20A **Greybull** **90.54 37** ⇑P **P** **15 57 56.2 +1.2**
baz=90,SNR=10
SSB **Saint Sauveur** **90.54 324** PFAKE 15 58 10.0 +15
SSB LR LR
comp=Z,451nm,21.0s
F22A **Rosebud** **90.55 35** ⇑P **P** **15 57 55.9 +1.0**
baz=90
D24A **Glendive** **90.55 33** ⇑P **P** **15 57 56.6 +1.6**
baz=90,SNR=9.0
TPNV **Topopah Spring** **90.56 47** ⇑P **P** **15 57 56.5 +1.1**
baz=90,SNR=8.8
CLTB **Caltabellotta** **90.58 314** PFAKE 15 58 10.0 +15
CLTB LR LR
comp=Z,185nm,19.0s
B26A **Jensen Ranch,** **90.62 31** ⇑P **P** **15 57 56.2 +1.0**
baz=90
C25A **Freed Ranch, W** **90.63 32** ⇑P **P** **15 57 55.6 +0.4**
baz=90
A27A **Ledoux Ranch,** **90.64 30** ⇓P **P** **15 57 56.6 +1.4**
baz=90
DUG **Dugway, Tooele** **90.66 42** ⇓P **P** **15 57 56.2 +0.5**
baz=90
DUG **Dugway, Tooele** **90.66 42** *e*P **P** **15 57 54.7 -0.9**
comp=Z,23nm,1.2s
DUG LR LR
comp=Z,126nm,20.0s
EDW2 **Edwards Air Fo** **90.67 49** ⇑P **P** **15 57 56.7 +1.0**

baz=91
WDD Wield Dalam 90.78 312 PFAKE 15 58 10.0 +14
WDD LR LR
comp=Z,320nm,21.0s
J19A Crowheart 90.80 38 ⇓P **P 15 57 56.7 +0.4**
baz=91,SNR=10
I20A Worland 90.83 37 ⇓P **P 15 57 57.6 +1.3**
baz=91
BW06 Boulder Array 90.85 39 *e*P **P 15 57 55.6 -1.0**
comp=Z,26nm,1.4s
BW06 LR LR
comp=Z,208nm,20.0s
PDAR Pinedale Array 90.85 39 P **P 15 57 57.1 +0.5**
comp=Z,14nm,1.2s,baz=341,slow=2.2,SNR=34
PDAR PKKPbc **PKKPbc 16 15 20.6 -0.9**
comp=Z,0.6nm,0.6s,baz=108,slow=4.1,SNR=3.7
G22A Birney 90.92 35 ⇓P **P 15 57 57.9 +1.2**
baz=91,SNR=7.2
GRR Gorron 90.92 329 *e*P **P 15 57 55.7 -0.8**
GRR Gorron 90.92 329 *e*P **P 15 57 55.7 -0.8**
H21A Big Horn, Sher 90.94 36 ⇓P **P 15 57 58.0 +1.2**
baz=91
E24A Baker 90.96 33 ⇓P **P 15 57 58.1 +1.2**
baz=91
D25A Fairfield 91.01 33 ⇓P **P 15 57 57.7 +0.7**
baz=91,SNR=5.9
F23A Volborg 91.01 35 ⇓P **P 15 57 58.5 +1.4**
baz=91,SNR=18
B27A Peters Farms, 91.04 31 ⇑P **P 15 57 58.1 +1.0**
baz=91
C26A Wahner Farm, P 91.09 32 ⇓P **P 15 57 58.4 +1.0**
baz=91
A28A Rude Farm, Bot 91.11 30 ⇑P **P 15 57 58.5 +1.1**
baz=91,SNR=6.4
GSC Goldstone, Bar 91.19 48 ⇑P **P 15 57 59.7 +1.5**
baz=91,SNR=8.4
JLU Jordanelle 91.20 41 *e*P **P 15 57 58.9 +0.6**
comp=Z,16nm,1.3s
PPT Papeete 91.25 109 LR LR 16 34 23.1
comp=Z,164nm,18.8s,baz=336,slow=32
NLU North Lily Min 91.25 42 *e*P **P 15 57 58.0 -0.5**
comp=Z,12nm,1.0s
CIS Catalina Islan 91.25 50 ⇑P **P 15 57 58.8 +0.3**
baz=91
J20A Shoshoni 91.26 38 ⇑P **P 15 57 59.2 +0.8**
baz=91
PPT2 Papeete2 91.26 109 *e*LR LR 16 27 13.3
comp=Z,430nm,24.5s
BFSC Mount Baldy Ra 91.26 49 ⇑P **P 15 57 59.7 +1.1**
baz=91
H22A Clearmont 91.32 36 ⇑P **P 15 57 59.4 +0.8**
baz=91
I21A Big Trails, Te 91.37 37 ⇑P **P 15 58 00.0 +1.1**
baz=91,SNR=9.1
G23A Biddle 91.39 35 ⇓P **P 15 57 60.0 +1.1**
baz=91,SNR=6.7
F24A Ekalaka 91.40 34 ⇑P **P 15 58 00.2 +1.3**
baz=91,SNR=13
B28A Dugan Ranch, T 91.41 30 ⇓P **P 15 58 00.2 +1.4**
baz=91
E25A Miller Ranch, 91.44 33 ⇓P **P 15 58 00.5 +1.5**
baz=91,SNR=5.7
C27A Sayler Ranch, 91.44 31 ⇑P **P 15 58 00.4 +1.4**
baz=91
MPU Maple Canyon 91.47 42 *e*P **P 15 57 58.8 -0.7**
comp=Z,99nm,1.3s
D26A Manning 91.51 32 ⇑P **P 15 58 00.2 +0.9**
baz=91
SHPR Sheep Range 91.53 46 *e*P **P 15 58 01.1 +1.3**
comp=Z,33nm,1.5s
A29A Manning Farm, 91.54 29 ⇓P **P 15 58 00.4 +1.0**
baz=91,SNR=9.3
J21A Lysite 91.61 37 ⇑P **P 15 58 00.9 +0.9**
baz=91,SNR=22
TUQ Turquoise Moun 91.69 48 ⇑P **P 15 58 02.2 +1.7**
baz=92,SNR=7.8
VSL Villasalto 91.72 318 PFAKE 15 58 10.0 +10
VSL LR LR
comp=Z,451nm,19.0s
I22A 9 Mile Ranch, 91.74 36 ⇑P **P 15 58 01.6 +1.0**
baz=92,SNR=6.4
G24A Alzada 91.78 34 ⇓P **P 15 58 01.9 +1.2**
baz=92
F25A Bowman 91.83 34 ⇓P **P 15 58 01.7 +0.8**
baz=92,SNR=6.7
B29A Wagenman Farm, 91.84 30 ⇑P **P 15 58 01.9 +1.1**
baz=92
KMBO Kilima Mbogo 91.89 270 PFAKE 15 58 10.0 +8.1
KMBO LR LR
comp=Z,227nm,20.0s
E26A Carlson Angus 91.91 33 ⇓P **P 15 58 01.9 +0.7**
baz=92,SNR=9.1
A30A Hoffart Farm, 91.93 29 ⇓P **P 15 58 01.9 +0.7**
baz=92,SNR=9.6
C28A Hausauer Farms 91.94 31 ⇑P **P 15 58 02.3 +1.0**
baz=92
MURC Murrieta 91.95 50 ⇑P **P 15 58 03.2 +1.6**
baz=92
ROSF Rostrenen 92.03 330 *e*P **P 15 58 00.9 -0.7**
ROSF Rostrenen 92.03 330 *e*P **P 15 58 00.9 -0.7**
J22A Midwest 92.07 37 ⇑P **P 15 58 03.0 +0.9**
baz=92,SNR=12
MVU Marysvale 92.10 43 *e*P **P 15 58 02.3 -0.2**
comp=Z,42nm,1.7s
MSU Marysvale 92.12 43 *e*P **P 15 58 03.4 +0.8**
comp=Z,56nm,1.6s
H24A Dirks Ranch, A 92.13 35 ⇑P **P 15 58 03.2 +0.9**
baz=92,SNR=11
MDND Maddock 92.19 30 ⇓P **P 15 58 03.3 +0.8**
baz=92
D28A Regan 92.25 31 ⇑P **P 15 58 03.9 +1.1**
baz=92
GMRC Granite Mounta 92.26 48 ⇑P **P 15 58 04.6 +1.4**
baz=92,SNR=6.5
F26A Lodgepole 92.26 33 ⇑P **P 15 58 04.4 +1.5**
baz=92
B30A Myrvik Farm, E 92.29 29 ⇓P **P 15 58 03.4 +0.5**
baz=92,SNR=22
E27A Carson 92.36 32 ⇓P **P 15 58 04.9 +1.6**
baz=92
G25A Newell 92.37 34 ⇑P **P 15 58 04.2 +0.8**
baz=92
PFO Pinyon Flats O 92.44 49 P **P 15 58 05.9 +1.9**
comp=Z,99nm,1.3s,SNR=7.0
PFO Pinyon Flats O 92.44 49 ⇑P **P 15 58 05.3 +1.3**
baz=92,SNR=8.7
PFO Pinyon Flats O 92.44 49 *e*P **P 15 58 04.1 +0.1**
comp=Z,39nm,1.4s
PFO LR LR
comp=Z,2835μm,20.0s
BELC Belle Mtn. Jos 92.51 49 ⇑P **P 15 58 05.6 +1.3**
baz=92
F27A Lemmon 92.55 33 ⇓P **P 15 58 05.5 +1.3**
baz=92,SNR=7.2
K22A Casper 92.58 37 ⇓P **P 15 58 05.7 +1.2**
baz=92
K22A Casper 92.58 37 *e*P **P 15 58 05.1 +0.6**
comp=Z,28nm,1.4s
H25A Fruitdale 92.69 34 ⇑P **P 15 58 06.0 +1.1**
baz=92
G26A Maurine 92.70 34 ⇓P **P 15 58 06.2 +1.3**
baz=92,SNR=18
SRU San Rafael Swe 92.71 42 *e*P **P 15 58 05.2 -0.1**
comp=Z,38nm,1.5s
I24A Kuemmerle Ranc 92.72 36 ⇓P **P 15 58 05.9 +0.8**
baz=92
D29A Pettibone, Tap 92.79 31 ⇓P **P 15 58 06.4 +1.1**
baz=93
C30A Mose, Pekin 92.80 30 ⇓P **P 15 58 06.2 +1.0**
baz=93
RSSD Black Hills 92.83 35 *e*P **P 15 58 06.0 +0.3**
comp=Z,31nm,1.3s
MONP Monument Peak, 92.90 50 ⇓P **P 15 58 06.6 +0.4**
baz=93
G27A Dupree 92.96 33 ⇑P **P 15 58 06.8 +0.7**
baz=93,SNR=6.1
IRM Iron Mountain 92.97 48 ⇓P **P 15 58 07.7 +1.4**
baz=93,SNR=12
K23A Bowen Ranch, D 92.98 37 ⇓P **P 15 58 07.2 +0.8**
baz=93
I25A Rochford 93.06 35 ⇑P **P 15 58 07.8 +1.0**
baz=93,SNR=19
J24A Dixon Ranch, L 93.08 36 ⇑P **P 15 58 07.8 +1.0**
baz=93
BC3 Big Chuckawall 93.08 49 ⇓P **P 15 58 08.1 +1.1**
baz=93,SNR=6.8
H26A Fairpoint 93.11 34 ⇑P **P 15 58 07.5 +0.7**
baz=93,SNR=11
D30A Buchanan 93.13 30 ⇓P **P 15 58 08.0 +1.2**
baz=93
E29A Napoleon 93.14 31 ⇑P **P 15 58 07.8 +0.9**
baz=93
F28A McLaughlin 93.15 32 ⇓P **P 15 58 07.9 +1.0**
baz=93
SWSC Sam W. Stewart 93.28 50 ⇓P **P 15 58 09.0 +1.2**
baz=93
O20A White River Ci 93.35 40 ⇑P **P 15 58 09.1 +0.9**
baz=93,SNR=6.4
K24A Anderson Ranch 93.43 36 ⇑P **P 15 58 09.4 +1.0**
baz=93
H27A Howes 93.43 34 ⇓P **P 15 58 09.6 +1.3**
baz=93
AGMN Agassiz Nation 93.45 28 ⇑P **P 15 58 08.5 +0.3**
baz=93
AGMN Agassiz Nation 93.45 28 *e*P **P 15 58 07.4 -0.8**
comp=Z,8.0nm,0.9s
AGMN LR LR
comp=Z,250nm,21.0s
J25A Sunshine Ranch 93.47 35 ⇑P **P 15 58 09.3 +0.8**
baz=93
I26A New Underwood 93.49 35 ⇓P **P 15 58 09.7 +1.1**
baz=93
E30A Jud 93.52 31 ⇑P **P 15 58 09.8 +1.2**
baz=93
PDMCI Parker Dam,Lak 93.54 48 ⇑P **P 15 58 10.3 +1.4**
baz=93
F29A Eureka 93.61 32 ⇓P **P 15 58 09.8 +0.7**
baz=93
Y12C Blythe 93.63 48 ⇓P **P 15 58 11.1 +1.8**
baz=94,SNR=5.8
G28A Parade 93.67 33 ⇑P **P 15 58 10.8 +1.5**
baz=94
I27A Quinn 93.86 34 ⇑P **P 15 58 11.0 +0.7**
baz=94
GLA Glamis 93.86 49 ⇑P **P 15 58 11.9 +1.4**
baz=94
GLA Glamis 93.86 49 *e*P **P 15 58 10.6 +0.1**
comp=Z,29nm,1.2s
J26A Sides Ranch, S 93.90 35 ⇑P **P 15 58 11.9 +1.4**
baz=94,SNR=7.0
G29A Hoven 94.05 32 ⇑P **P 15 58 12.0 +0.9**
baz=94
N23A Red Feather La 94.10 38 ⇓P **P 15 58 12.7 +1.0**
baz=94,SNR=6.5
PV04 Paradox Valley 94.14 42 *e*P **P 15 58 11.1 -0.7**
KEST Kesra 94.16 315 LR LR 16 45 06.2
comp=Z,64nm,18.0s,baz=306,slow=38
TBI Tubuai 94.19 114 *e*LR LR 16 28 19.4
comp=Z,273nm,23.5s
O22A Kremmling 94.28 39 ⇑P **P 15 58 13.7 +1.1**
baz=94,SNR=5.0
K26A Motz Farm, Whi 94.29 36 ⇑P **P 15 58 13.2 +0.9**
baz=94
H29A Onida 94.33 33 ⇓P **P 15 58 13.4 +1.0**
baz=94
I28A Midland 94.34 34 ⇑P **P 15 58 13.1 +0.7**
baz=94
G30A Faulkton 94.46 32 ⇓P **P 15 58 13.7 +0.8**
baz=94
J27A Elkhorn Farm, 94.48 35 ⇑P **P 15 58 14.5 +1.4**
baz=94
WUAZ Wupatki 94.53 45 ⇑P **P 15 58 13.9 +0.3**
baz=94
WUAZ Wupatki 94.53 45 PFAKE 15 58 30.0 +16
WUAZ LR LR
comp=Z,132nm,20.0s
O23A Lake Granby, G 94.59 39 ⇓P **P 15 58 14.9 +0.9**
baz=94
J28A Allard Ranch, 94.73 34 ⇓P **P 15 58 15.4 +1.1**
baz=94
M25A Palm-Egli Farm 94.74 37 ⇓P **P 15 58 14.8 +0.3**
baz=95
I29A Vivian Onida 94.74 33 ⇓P **P 15 58 14.9 +0.7**
baz=94
K27A Flueckinger Fa 94.76 35 ⇑P **P 15 58 15.0 +0.5**
baz=95
L26A Underwood Farm 94.82 36 ⇑P **P 15 58 15.0 +0.2**
baz=95
ISCO Idaho Springs 95.05 39 PFAKE 15 58 30.0 +14
ISCO LR LR
comp=Z,207nm,20.0s
BRSD Miller 95.06 32 ⇑P **P 15 58 16.2 +0.5**
baz=95
MVCO Mesa Verde 95.17 42 ⇑P **P 15 58 18.1 +1.4**
baz=95
MVCO Mesa Verde 95.17 42 PFAKE 15 58 30.0 +13
MVCO LR LR
comp=Z,228nm,20.0s
K28A Ten Mile Ranch 95.19 35 ⇓P **P 15 58 17.9 +1.5**
baz=95
M26A Mcroberts Ranc 95.19 36 ⇓P **P 15 58 17.2 +0.7**
baz=95
P23A Jefferson 95.22 39 ⇑P **P 15 58 17.9 +0.9**
baz=95
I30A Oacoma 95.24 33 ⇑P **P 15 58 17.2 +0.6**
baz=95
EYMN Ely 95.47 26 PFAKE 15 58 30.0 +13
EYMN LR LR
comp=Z,218nm,20.0s
DRV Dumont d'Urvil 95.54 176 SS SS 16 16 00.0 -0.3
DRV L L 16 25 00.0
DRV R 16 30 00.0
SCHQ Schefferville 95.63 9 P **P 15 58 19.9 +1.8**
comp=Z,6.5nm,0.8s,baz=349,slow=6.2,SNR=8.5
SCHQ LR LR 16 42 32.2
comp=Z,323nm,21.6s,baz=298,slow=36
K29A Lazy Trails An 95.68 34 ⇓P **P 15 58 19.3 +0.7**
baz=96
S22A 4UR Ranch, Cre 95.78 41 ⇑P **P 15 58 20.3 +0.8**
baz=96
N27A Anderson Farm, 95.99 37 ⇑P **P 15 58 21.0 +0.8**
baz=96
R23A Moffat 96.05 40 ⇑P **P 15 58 22.0 +1.3**
baz=96
OGNE Ogallala 96.15 36 PFAKE 15 58 30.0 +9.2
OGNE LR LR
comp=Z,273nm,20.0s
SDCO Great Sand Dun 96.54 40 PFAKE 15 58 30.0 +7.1
SDCO LR LR
comp=Z,283nm,20.0s
ECSD EROS Data Cent 96.69 31 *e*P **P 15 58 22.8 -0.3**
comp=Z,3.1nm,0.8s
ECSD LR LR
comp=Z,286nm,19.0s
MBAR Mbarara 97.36 273 PFAKE 15 58 40.0 +13
MBAR LR LR
comp=Z,465nm,20.0s
ANMO Albuquerque 97.91 43 ⇑*i*P Pdif Pdif 15 58 30.3 +1.2
ANMO pmax pmax
comp=Z,18nm,1.7s
ANMO Albuquerque 97.91 43 PFAKE 15 58 40.0 +11
ANMO LR LR
comp=Z,190nm,20.0s
ESDC Sonseca Array 98.93 325 P **P 15 58 32.0 -1.3**
comp=Z,0.4nm,0.7s,baz=19,slow=2.8,SNR=2.6
ESDC PP **PP 16 02 30.3 -4.1**
comp=Z,0.1nm,0.3s,baz=37,slow=8.6,SNR=4.9
PAB San Pablo 99.22 325 PFAKE 15 58 50.0 +15
PAB LR LR
comp=Z,538nm,20.0s
JFWS Jewell Farm 100.12 28 PFAKE 15 58 50.0 +12
JFWS LR LR
comp=Z,228nm,20.0s
KSU1 Kansas State U 100.28 34 PFAKE 15 58 50.0 +11
KSU1 LR LR
comp=Z,255nm,21.0s
GLMI Grayling 100.64 24 PFAKE 15 58 50.0 +9.2
GLMI LR LR
comp=Z,239nm,20.0s
WMOK Wichita Mounta 102.46 39 PFAKE 15 59 00.0 +11
WMOK LR LR
comp=Z,183nm,19.0s
HDIL Hopedale 102.47 29 PFAKE 15 59 00.0 +11
HDIL LR LR
comp=Z,239nm,22.0s
AAM Ann Arbor 103.19 24 PFAKE 15 59 00.0 +7.9
AAM LR LR
comp=Z,332nm,19.0s
TXAR Lajitas Array 103.50 45 Pdiff **Pdif 15 58 54.7 +0.8**
comp=Z,1.0nm,1.1s,baz=270,slow=4.5,SNR=4.9
TXAR PKIKP **PKiKP 16 03 11.9 -0.7**
comp=Z,1.9nm,1.0s,baz=298,slow=2.7,SNR=4.8
LONY Lake Ozonia 103.88 17 PFAKE 15 59 10.0 +15
LONY LR LR
comp=Z,356nm,22.0s
NCB Newcomb 104.58 17 PFAKE 15 59 10.0 +12
NCB LR LR
comp=Z,358nm,20.0s
JCT Junction City 105.02 42 PFAKE 16 03 30.0
JCT LR LR
comp=Z,268nm,20.0s
TAM Tamanrasset 105.06 307 PFAKE 15 59 10.0 +8.9
TAM LR LR
comp=Z,235nm,19.0s
ACSO Alum Creek Sta 105.24 25 PFAKE 16 03 30.0
ACSO LR LR
comp=Z,324nm,21.0s
MIAR Mount Ida 105.35 35 PFAKE 16 03 30.0
MIAR LR LR
comp=Z,263nm,20.0s
BINY Binghamton 105.75 19 PFAKE 16 03 30.0
BINY LR LR
comp=Z,323nm,21.0s
RKT Rikitea 105.95 108 *e*LR LR 16 34 02.5
comp=Z,270nm,26.0s
LSZ Lusaka 106.34 261 PFAKE 16 03 30.0
LSZ LR LR
comp=Z,260nm,20.0s
NATX Nacogdoches 106.96 38 PFAKE 16 03 30.0
NATX LR LR
comp=Z,354nm,19.0s
KVTX Kingsville 108.31 43 PFAKE 16 03 30.0
KVTX LR LR
comp=Z,385nm,20.0s
BLA Blacksburg 108.84 24 PFAKE 16 03 30.0
BLA LR LR
comp=Z,299nm,20.0s
CBN Corbin Frederi 108.99 22 PFAKE 16 03 30.0
CBN LR LR
comp=Z,294nm,21.0s
PTCN Pitcairn Islan 110.81 108 PFAKE 16 03 40.0
PTCN LR LR
comp=Z,2μm,21.0s
BRAL Brewton 111.41 33 PFAKE 16 03 40.0
BRAL LR LR
comp=Z,329nm,21.0s
CNNC Cliffs of the 111.51 23 PFAKE 16 03 40.0
CNNC LR LR
comp=Z,479nm,22.0s
NHSC New Hope 112.58 26 PFAKE 16 03 40.0
NHSC LR LR
comp=Z,256nm,22.0s
MSKU Masuku 112.77 281 PFAKE 16 03 40.0
MSKU LR LR
comp=Z,2.0nm,21.0s
TORD Torodi Ar. Bea 114.05 302 PKiKP PKPdf 16 03 31.0 -1.5
comp=Z,2.2nm,0.9s,baz=28,slow=2.6,SNR=11
TORD PP **PP 16 04 22.6 -3.9**
comp=Z,4.4nm,1.2s,baz=60,slow=4.6,SNR=3.6
TORD PKKPbc **PKKPbc 16 14 12.1 -0.7**
comp=Z,1.4nm,0.9s,baz=239,slow=2.6,SNR=7.2
BOSA Boshof 114.14 250 PKP PKPdf 16 03 31.8 -0.7
comp=Z,0.9nm,0.5s,baz=180,slow=1.0,SNR=2.5
BOSA Boshof 114.14 250 PKIKP PKPdf 16 03 31.8 -0.6
BOSA pmax pmax
comp=Z,1.0nm,0.5s
TSUM Tsumeb 117.18 262 PFAKE 16 03 50.0 +11
TSUM LR LR
comp=Z,189nm,20.0s
QSPA South Pole Qui 118.56 180 PKP **PKPdf 16 03 39.4 -0.3**
comp=Z,6.5nm,1.1s,baz=290,slow=1.7,SNR=18
QSPA South Pole Qui 118.56 180 PKP **PKPdf 16 03 39.4 -0.3**
QSPA LR LR
comp=Z,334nm,19.0s
TEIG Tepich 119.53 41 PFAKE 16 03 50.0 +7.0
TEIG LR LR
comp=Z,246nm,21.0s
DBIC Dimbokro 123.13 301 PKP **PKPdf 16 03 49.4 -0.6**
comp=Z,4.0nm,0.8s,baz=67,slow=4.2,SNR=4.7
DBIC Dimbokro 123.13 301 PKIKP **PKPdf 16 03 49.4 -0.6**
DBIC pmax pmax
comp=Z,4.0nm,0.8s
GRTK Grand Turk 126.42 23 PFAKE 16 04 10.0 +14
GRTK LR LR
comp=Z,278nm,20.0s
MTDJ Mount Denham 126.78 32 PFAKE 16 04 10.0 +13
MTDJ LR LR
comp=Z,240nm,21.0s
SDDR Presa de Saban 128.69 25 PFAKE 16 04 10.0 +9.4
SDDR LR LR
comp=Z,383nm,22.0s
SACV Santiago Islan 128.96 325 PFAKE 16 04 10.0 +8.8
SACV LR LR
comp=Z,166nm,21.0s
JTS JuntasAbangare 129.28 45 PFAKE 16 04 10.0 +8.2
JTS LR LR
comp=Z,210nm,20.0s
SNAA Sanae 129.72 198 P PKPpre 16 03 52.1
SJG San Juan 131.18 19 PFAKE 16 04 20.0 +15
SJG LR LR
comp=Z,183nm,20.0s
VNA1 Neumayer--Stat 131.76 198 P **PKPdf 16 04 05.5 +0.7**
ANWB Willy Bob 132.69 14 PFAKE 16 04 20.0 +12
ANWB LR LR
comp=Z,250nm,21.0s
BCIP Isla Barro Col 133.22 40 PFAKE 16 04 20.0 +11
BCIP LR LR
comp=Z,235nm,22.0s
FDF Fort de France 135.67 14 PFAKE 16 04 30.0 +16
FDF LR LR
comp=Z,162nm,22.0s
GRGR Grenville 138.08 15 PFAKE 16 04 30.0 +12
GRGR LR LR
comp=Z,268nm,20.0s
SDV Santo Domingo 138.10 29 *e*PKPdf **PKPdf 16 04 19.3 +0.7**
SDV LR LR
comp=Z,258nm,20.0s
ASCN Ascension 139.59 294 PFAKE 16 04 30.0 +8.9
ASCN LR LR
comp=Z,839nm,22.0s
ROSC El Rosal 139.82 37 PKP **PKPdf 16 04 20.9 -1.1**
comp=Z,4.0nm,0.4s,baz=88,slow=1.2,SNR=3.6
OTAV Otavalo 141.11 47 *e*PKPdf **PKPdf 16 04 25.6 +1.2**
OTAV LR LR
comp=Z,179nm,22.0s
NNA Nana 150.82 60 *e*PKPbc **PKPbc 16 04 46.4 +0.5**
SAML Samuel 157.27 32 *e*PKPdf **PKPdf 16 04 49.6 +0.3**
LPAZ La Paz 160.04 55 PKP **PKPdf 16 04 55.0 +1.7**
comp=Z,5.4nm,1.0s,baz=12,slow=4.2,SNR=7.6
LPAZ PKPab **PKPab 16 05 32.9 -0.2**
comp=Z,6.9nm,1.1s,baz=333,slow=4.5,SNR=4.1
LPAZ La Paz 160.04 55 PKIKP **PKPdf 16 04 55.0 +1.7**
LPAZ 16 05 32.9
LPAZ pmax pmax
comp=Z,5.0nm,1.0s
LPAZ pmax pmax
comp=Z,7.0nm,1.1s
PLCA Paso Flores 160.19 132 PKPab **PKPab 16 05 31.4 -1.0**
comp=Z,8.4nm,1.1s,baz=240,slow=6.0,SNR=3.8
PLCA Paso Flores 160.19 132 PKP2 **PKPab 16 05 31.4 -1.0**
PLCA pmax pmax
comp=Z,8.0nm,1.1s

ISCJB **12** *15:47:44.8±1.1,21°.2S±0°.1×68°.6W±0°.2,h117km,mb3.7/1, Error ellipse: s-maj=30.1km s-min=10.1km az=22.2*
IDC **12** *15:47:45.5±1.5,21°.10S×68°.59W,h99km±16km,mb3.6/2, mb1 3.5/4,mb1mx3.3/17,mbtmp3.9/4, Error ellipse: s-maj=43.9km s-min=16.5km az=108.0*
ISC 12 15:47:45.8±1.3,21°.18S±0°.08×68°.6W±0°.2,h117km,n6, σ1§64/7,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.46**	**192**	P	**Pn**	**15 48 12.3**	**-0.5**
	648nm,0.3s,baz=25,slow=12,SNR=310						
LVC				S	**Sn**	**15 48 32.8**	**-0.5**
	2μm,0.3s,baz=73,slow=23,SNR=31						
LPAZ	**La Paz**	**4.89**	**5**	P	**Pn**	**15 48 56.7**	**-1.1**
	0.5nm,0.3s,baz=185,slow=11,SNR=17						
SIV	**San Ignacio**	**8.80**	**55**	P	**Pn**	**15 49 48.5**	**-1.7**
	2.0nm,0.3s,baz=253,slow=13,SNR=22						
BDFB	**Brasilia**	**20.28**	**78**	P	**P**	**15 52 13.0**	**+0.6**
	2.3nm,0.5s,baz=262,slow=10,SNR=4.1						
TORD	**Torodi Ar. Bea**	**76.97**	**70**	P	**P**	**15 59 28.4**	**+2.4**
	0.7nm,0.4s,baz=253,slow=5.4,SNR=14						
MKAR	**Makanchi Array**	**145.20**	**36**	PKPbc	**PKPab**	**16 07 09.1**	**-0.5**
	0.5nm,0.7s,baz=309,slow=1.7,SNR=3.1						

IDC **12** *15:56:09.9±3.3,28.81S×177.74W,h41km±22km,mb3.7/3, mb1 4.0/3,mb1mx3.6/17,mbtmp4.0/3,Error ellipse: s-maj=58.1km s-min=34.7km az=35.0*

ISC 12 15:56:11.2±1.7,28.8S±0.2×177.7W±0.3,h57km,n7, σ1°66/7,mb4.0/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.53**	**203**	P	**Pn**	**15 56 21.4**	**-1.8**
	2μm,0.3s,baz=336,slow=20,SNR=112						
RAO				S	**Sn**	**15 56 34.2**	**+2.2**
	1μm,0.3s,baz=73,slow=19,SNR=8.7						
ASAR	**Alice Springs**	**43.50**	**265**	P	**P**	**16 04 08.3**	**-1.0**
	1.2nm,0.7s,baz=106,slow=7.5,SNR=40						
WRA	**Warramunga Arr**	**44.34**	**270**	P	**P**	**16 04 16.4**	**+0.4**
	2.3nm,0.7s,baz=109,slow=7.7,SNR=8.7						
QSPA	**South Pole Qui**	**61.34**	**180**	P	**P**	**16 06 20.8**	**0.0**
	0.9nm,0.7s,baz=296,slow=1.9,SNR=5.9						
FINES	**FINESS Array B**	**143.70**	**341**	PKP	PKPbc	16 15 37.6	+1.0
	2.0nm,0.7s,baz=32,slow=3.3,SNR=6.9						
AKASG	**Malin Array Be**	**150.15**	**325**	PKPbc	**PKPbc**	**16 15 55.5**	**+0.3**
	baz=43,slow=3.1,SNR=5.6						
MMAI	**Mount Meron Ar**	**151.36**	**287**	PKPbc	**PKPbc**	**16 16 00.1**	**+1.4**
	1.7nm,0.5s,baz=118,slow=5.7,SNR=4.1						

MOS **12** *15:56:48.6±0.9,54.72N×161.57W,h11km,mb5.4/60, MS4.1/13,Error ellipse: s-maj=11.1km s-min=4.9km az=96.5*

SZGRF **12** *15:56:48.6,54.84N×162.89W,h33km,mb5.0,Alaska Peninsula, United States*

BJI **12** *15:56:53.7,54.91N×161.92W,h46km,mb5.1/60, mB5.5/31,Ms4.8/22,Ms7 4.5/20*

ISCJB **12** *15:56:53.3±0.3,54.56N±0.02×161.46W±0.02,h47km±2km, mb5.0/233,MS4.1/19,Error ellipse: s-maj=3.6km s-min=1.8km az=1.8*

IDC **12** *15:56:53.6±2.0,54.56N×161.58W,h40km±16km,mb4.6/34, mb1 4.7/37,mb1mx4.7/40,mbtmp4.8/37,ML4.3/3,MS4.1/20, Ms1 4.1/20,ms1mx3.9/43,Error ellipse: s-maj=13.6km s-min=9.9km az=0.0*

NEIC **12** *15:56:54.9±0.2,54.54N×161.47W,h51km±1km,mb5.1/115, ML4.7(AEIC),Error ellipse: s-maj=3.5km s-min=1.7km az=161.0*

NEIC Felt at Sand Point.

ISC 12 15:56:54.2±0.4,54.53N±0.06×161.44W±0.03,h46km±2km, n1007,σ1°02/1041,mb5.1/236,MS4.1/19,230C-161D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRIA	**Deer Island**	**0.65**	**313**	P	**Pn**	**15 57 06.4**	**-0.8**
DT1	**Dutton Round H**	**0.76**	**320**	P	**Pn**	**15 57 08.0**	**-0.5**
DTNA	**Dutton South F**	**0.78**	**323**	P	**Pn**	**15 57 08.6**	**-0.3**
SDPT	**Sand Point**	**0.99**	**34**	*e*Pn	**Pn**	**15 57 11.0**	**-0.7**
FALS	**False Pass**	**1.19**	**287**	*e*Pn	**Pn**	**15 57 14.4**	**-0.1**
ISNN	**Isanotski Nort**	**1.39**	**284**	P	**Pn**	**15 57 18.2**	**+1.0**
SSLN	**Shishaldin Nor**	**1.51**	**282**	P	**Pn**	**15 57 20.1**	**+1.2**
SSLW	**Shishaldin Wes**	**1.58**	**280**	P	**Pn**	**15 57 20.5**	**+0.7**
WESN	**West Dahl Nort**	**1.83**	**273**	P	**Pn**	**15 57 24.5**	**+1.3**
WESE	**West Dahl East**	**1.84**	**270**	P	**Pn**	**15 57 24.5**	**+1.2**
WESP	**Westdahl Peak**	**1.92**	**270**	P	**Pn**	**15 57 25.3**	**+0.9**
WESP				S	**Sn**	**15 57 50.6**	**+3.3**
VNHG	**Veniaminof 1**	**2.13**	**36**	P	**Pn**	**15 57 29.2**	**+1.8**
CHGN	**Chignik**	**2.48**	**43**	P	**Pn**	**15 57 33.2**	**+1.2**
AKSA	**Akutan Strait**	**2.52**	**263**	P	**Pn**	**15 57 33.3**	**+0.6**
AKSA				S	**Sn**	**15 58 04.4**	**+2.3**
AKUT	**Akutan**	**2.57**	**263**	P	**Pn**	**15 57 33.8**	**+0.6**
AKUT				S	**Sn**	**15 58 05.2**	**+1.9**
AKGG	**Akutan Green G**	**2.69**	**265**	P	**Pn**	**15 57 35.6**	**+0.7**
AKGG				S	**Sn**	**15 58 08.9**	**+2.8**
ZRO	**Akutan Zero**	**2.70**	**262**	P	**Pn**	**15 57 35.6**	**+0.6**
LVA	**Lava Point**	**2.72**	**264**	P	**Pn**	**15 57 36.3**	**+1.0**
AKRB	**Akutan Reef Bi**	**2.74**	**263**	P	**Pn**	**15 57 36.4**	**+0.7**
UNV	**Unalaska Valle**	**3.05**	**259**	*e*Pn	**Pn**	**15 57 40.0**	**+0.1**
MTBL	**Makushin Table**	**3.12**	**262**	P	**Pn**	**15 57 41.5**	**+0.5**
MSW	**Makushin Switc**	**3.20**	**261**	P	**Pn**	**15 57 42.2**	**+0.2**
MREP	**Makushin Rep't**	**3.20**	**259**	P	**Pn**	**15 57 42.8**	**+0.7**
MCIR	**Makushin Cirqu**	**3.25**	**262**	P	**Pn**	**15 57 43.3**	**+0.5**
OKFG	**Magazine Ridge**	**3.98**	**256**	P	**Pn**	**15 57 53.2**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**4.07**	**256**	P	**Pn**	**15 57 54.1**	**+0.2**
PLK1	**Peulik 1**	**4.25**	**37**	P	**Pn**	**15 57 58.0**	**+1.7**
PLK3	**Peulik 3**	**4.29**	**40**	P	**Pn**	**15 57 59.1**	**+2.2**
NIKH	**Nikolski High**	**4.67**	**254**	*e*Pn	**Pn**	**15 58 01.9**	**-0.2**
KELA	**Mount Kelaz**	**5.03**	**37**	P	**Pn**	**15 58 08.4**	**+1.3**
KCE	**Katmai Mt Cerb**	**5.09**	**40**	P	**Pn**	**15 58 09.5**	**+1.6**
KABR	**Katmai Barrier**	**5.10**	**42**	P	**Pn**	**15 58 08.2**	**+0.2**
KBM	**Katmai Bkd Mtn**	**5.11**	**40**	P	**Pn**	**15 58 09.2**	**+1.1**
KVTA	**Katmai Vly 10**	**5.15**	**39**	P	**Pn**	**15 58 09.7**	**+1.0**
KAKN	**Katmai Knife C**	**5.18**	**41**	P	**Pn**	**15 58 10.4**	**+1.3**
OHAK	**Old Harbor**	**5.32**	**56**	*e*Pn	**Pn**	**15 58 09.8**	**-1.2**
SPIA	**Saint Paul Isl**	**5.63**	**302**	P	**Pn**	**15 58 17.1**	**+1.9**
KDAK	**Kodiak Island** 852nm,0.7s,SNR=28	**5.92**	**53**	Pn	**Pn**	**15 58 18.3**	**-1.0**
KDAK	**Kodiak Island**	**5.92**	**53**	*i* P	**Pn**	**15 58 17.7**	**-1.6**
KDAK	**Kodiak Island**	**5.92**	**53**	*e*Pn	**Pn**	**15 58 19.2**	**-0.1**
MCNL	**McNeil River**	**6.08**	**37**	P	**Pn**	**15 58 22.4**	**+1.0**
AUW	**Augustine West**	**6.52**	**39**	P	**Pn**	**15 58 28.9**	**+1.4**
SVW2	**Sparrevohn**	**7.29**	**23**	*e*Pn	**Pn**	**15 58 39.1**	**+1.1**
RSO	**Redoubt South**	**7.56**	**35**	P	**Pn**	**15 58 42.7**	**+0.8**
BRLK	**Bradley Lake**	**7.77**	**43**	*e*Pn	**Pn**	**15 58 44.0**	**-0.7**
ATKA	**Atka Island**	**7.98**	**258**	*e*Pn	**Pn**	**15 58 47.9**	**+0.5**
CKL	**Chakachamna La**	**8.25**	**32**	P	**Pn**	**15 58 52.0**	**+0.7**
SPBG	**Spurr Blockage**	**8.29**	**32**	P	**Pn**	**15 58 53.7**	**+1.9**
SLKM	**Skilak Lake**	**8.50**	**41**	P	**Pn**	**15 58 54.4**	**-0.2**
SEW	**Seward**	**8.55**	**44**	P	**Pn**	**15 58 55.4**	**+0.1**
STLK	**Strandline Lak**	**8.64**	**32**	P	**Pn**	**15 58 57.8**	**+1.2**
TT01	**Tatalina**	**8.86**	**16**	P	**Pn**	**15 59 00.2**	**+0.8**
SUA	**Susitna One**	**8.97**	**35**	P	**Pn**	**15 59 00.5**	**-0.5**
RC01	**Rabbit Creek A**	**9.06**	**39**	P	**Pn**	**15 59 01.9**	**-0.3**
GSMY	**Great Sitkin M**	**9.10**	**260**	P	**Pn**	**15 59 04.1**	**+1.2**
SKT	**Skwentna**	**9.11**	**31**	P	**Pn**	**15 59 04.0**	**+1.2**
GSCK	**Great Sitkin C**	**9.18**	**260**	P	**Pn**	**15 59 04.5**	**+0.6**
ETKA	**Kagalaska Isla**	**9.37**	**260**	P	**Pn**	**15 59 06.8**	**+0.3**
ADAG	**Mount Adagdak**	**9.44**	**261**	P	**Pn**	**15 59 08.5**	**+1.0**
PPLA	**Purkeypile**	**9.66**	**26**	*e*Pn	**Pn**	**15 59 13.3**	**+2.7**
KIKV	**Kanaga Island**	**9.81**	**261**	P	**Pn**	**15 59 11.9**	**-0.6**
GLI	**Glacier Island**	**9.96**	**44**	P	**Pn**	**15 59 13.2**	**-1.3**
CAST	**Castle Rocks**	**10.13**	**25**	*e*Pn	**Pn**	**15 59 18.0**	**+1.2**
EYAK	**Cordova Ski Ar**	**10.35**	**48**	*e*Pn	**Pn**	**15 59 17.4**	**-2.5**
TRF	**Thorofare Moun**	**10.62**	**28**	*e*Pn	**Pn**	**15 59 23.8**	**+0.2**
DIV	**Divide**	**10.63**	**45**	*e*Pn	**Pn**	**15 59 22.6**	**-1.3**
GAMB	**Gambell**	**10.65**	**335**	*e*Pn	**Pn**	**15 59 26.6**	**+2.8**
BPAW	**Bear Paw Mtn.**	**10.96**	**25**	*e*Pn	**Pn**	**15 59 29.5**	**+1.2**
BMRM	**Bremner River**	**11.05**	**48**	*e*Pn	**Pn**	**15 59 28.7**	**-0.8**
MCK	**McKinley**	**11.22**	**30**	*e*Pn	**Pn**	**15 59 33.9**	**+2.1**
DHY	**Denali Highway**	**11.22**	**35**	*e*Pn	**Pn**	**15 59 31.5**	**-0.5**
BWN	**Browne**	**11.41**	**27**	*e*Pn	**Pn**	**15 59 35.3**	**+1.0**
TNA	**Tin City** 63nm,0.6s	**11.52**	**346**	*e*Pn	**Pn**	**15 59 38.0**	**+2.2**
HARP	**HAARP**	**11.59**	**41**	*e*Pn	**Pn**	**15 59 36.3**	**-0.5**
PAX	**Paxson**	**11.81**	**38**	*e*Pn	**Pn**	**15 59 38.7**	**-1.2**
IM04	**Indian Mountai**	**12.08**	**15**	*e*Pn	**Pn**	**15 59 44.4**	**+0.9**
CCB	**Clear Creek Bu**	**12.24**	**29**	*e*Pn	Pn	15 59 42.1	-3.5
HDA	**Harding Lake**	**12.30**	**31**	*e*Pn	**Pn**	**15 59 43.6**	**-2.9**
COLA	**College**	**12.40**	**28**	⇓*e*P	**Pn**	**15 59 45.1**	**-2.7**
COLA	comp=Z,32nm,1.0s			pmax	pmax		
COLA	**College**	**12.40**	**28**	*e*Pn	**Pn**	**15 59 47.4**	**-0.4**
ILAR	**Eielson Array**	**12.59**	**30**	Pn	Pn	15 59 47.0	-3.4
	comp=Z,0.6nm,0.3s,baz=218,slow=14,SNR=20						
ILAR				LR	LR	16 05 09.1	
	comp=Z,1μm,19.8s,baz=239,slow=39						
ILAR	**Eielson Array**	**12.59**	**30**	P	Pn	15 59 47.0	-3.4
ILAR	comp=Z,1.0nm,0.3s			pmax	pmax		
ILAR	comp=Z,1μm,19.8s			MLR	MLR		
COLD	**Coldfoot**	**13.83**	**19**	*e*Pn	**Pn**	**16 00 08.0**	**+0.7**
HYT	**Haines Junctio**	**14.22**	**54**	*e*Pn	**Pn**	**16 00 13.9**	**+1.2**
EGAK	**Eagle**	**14.43**	**37**	*e*Pn	**Pn**	**16 00 13.0**	**-2.3**
SKAG	**Skagway** comp=Z,48nm,1.0s	**15.00**	**60**	*e*Pn	**Pn**	**16 00 23.6**	**+0.7**
BESE	**Bessie Mountai** comp=Z,20nm,0.9s	**15.16**	**64**	*e*Pn	**Pn**	**16 00 26.4**	**+1.4**
DLBC	**Dease Lake** comp=Z,0.3nm,0.3s,baz=274,slow=12,SNR=4.9	**17.69**	**64**	P	**Pn**	**16 00 57.2**	**+0.2**
DLBC	comp=Z,0.2nm,0.3s,baz=270,slow=1.0,SNR=3.1			PcP	**PcP**	**16 05 33.6**	**+0.7**
DLBC	comp=Z,346nm,20.7s,baz=262,slow=34			LR	LR	16 06 55.2	
DLBC	**Dease Lake** comp=Z,6.7nm,0.8s	**17.69**	**64**	P	**Pn**	**16 00 57.2**	**+0.2**
DLBC				PcP	**PcP**	**16 05 33.6**	**+0.7**
INK	**Inuvik** comp=Z,2.6nm,0.3s,baz=237,slow=9.6,SNR=27	**18.95**	**32**	P	**P**	**16 01 09.2**	**-1.8**
INK	comp=Z,0.4nm,0.3s,baz=239,slow=5.9,SNR=3.4			PcP	**PcP**	**16 05 34.8**	**0.0**
INK	comp=Z,932nm,19.8s,baz=234,slow=39			LR	LR	16 09 19.6	
INK	**Inuvik** comp=Z,41nm,1.0s	**18.95**	**32**	*e*P	**P**	**16 01 09.3**	**-1.8**
INK				PcP	**PcP**	**16 05 34.8**	**0.0**
BBB	**Bella Bella** comp=Z,483nm,19.0s,baz=278,slow=32	**19.92**	**83**	LR	LR	16 07 27.9	
BILL	**Bilibino**	**20.24**	**324**	*c i* P	**P**	**16 01 24.7**	**-0.5**
BILL				*e*		16 01 38.3	
BILL				*eS*	**S**	**16 05 04.7**	**-4.7**
BILL	comp=Z,14nm,1.1s			pmax	pmax		
BILL	comp=Z,2μm,21.0s			MLR	MLR		
BILL	**Bilibino** comp=Z,35nm,1.0s	**20.24**	**324**	*e*P	**P**	**16 01 24.3**	**-0.9**
PET	**Petropavlovsk**	**23.42**	**283**	*i* P	**P**	**16 01 58.5**	**-0.3**
PET	comp=Z,98nm,0.9s			pmax	pmax		
PET	**Petropavlovsk** comp=Z,108nm,1.1s	**23.42**	**283**	*e*P	**P**	**16 01 57.7**	**-1.1**
PEA0B	**Petropavlovsk-**	**23.93**	**283**	*e*P	**P**	**16 02 02.4**	**-1.2**
PETK	**Petropavlovsk-** comp=Z,63nm,0.5s,baz=91,slow=13,SNR=214	**23.93**	**283**	P	**P**	**16 02 02.5**	**-1.2**
PETK	**Petropavlovsk-**	**23.93**	**283**	P	**P**	**16 02 02.5**	**-1.2**
PETK	comp=Z,63nm,0.5s			pmax	pmax		
NLWA	**Neilton Lookou** comp=Z,19nm,1.0s	**24.48**	**91**	*e*P	**P**	**16 02 07.1**	**-1.7**
SEY	**Seymchan** comp=Z,8.1nm,0.8s,baz=102,slow=9.7,SNR=37	**24.88**	**308**	P	**P**	**16 02 10.8**	**-1.4**
SEY	comp=Z,3.9nm,0.8s,baz=138,slow=3.8,SNR=4.1			PcP	**PcP**	**16 05 46.6**	**-0.1**
YKA	**Yellowknife Ar** comp=Z,7.6nm,0.7s,baz=267,slow=7.7,SNR=30	**25.20**	**53**	P	**P**	**16 02 15.4**	**+0.3**
YKA				PcP	**PcP**	**16 05 47.4**	**0.0**
YKA	comp=Z,4.0nm,0.7s,baz=279,slow=2.1,SNR=9.8			ScP	**ScP**	**16 09 22.9**	**+0.4**
YKA	**Yellowknife Ar** comp=Z,1.5nm,0.9s,baz=268,slow=2.9,SNR=3.8	**25.20**	**53**	P	**P**	**16 02 15.4**	**+0.3**
YKA						16 05 47.4	
YKA	comp=Z,8.0nm,0.7s			pmax	pmax		
YKA	comp=Z,4.0nm,0.7s			pmax	pmax		
YKA	comp=N,2.0nm,0.9s			pmax	pmax		
D05A	**Enumclaw**	**25.68**	**90**	*e*P	**P**	**16 02 22.6**	**+2.9**
LON	**Longmire** comp=N,5.1nm,0.7s	**26.02**	**91**	*e*P	**P**	**16 02 23.9**	**+1.2**
G03D	**McMinnville, O** baz=26	**26.02**	**95**	⇑P	**P**	**16 02 23.9**	**+1.3**
B08A	**Colville Reser**	**26.64**	**86**	*e*P	**P**	**16 02 29.6**	**+1.3**
I03D	**Drain, OR** baz=27	**26.86**	**98**	⇑P	**P**	**16 02 31.8**	**+1.6**
I04A	**Tendick Farm,** baz=27	**27.34**	**97**	⇓P	**P**	**16 02 35.5**	**+0.8**
I05D	**Terrebonne, OR** baz=28	**27.64**	**95**	⇓P	**P**	**16 02 38.7**	**+1.4**
J04D	**Umpqua Nationa** baz=28	**27.85**	**98**	⇑P	**P**	**16 02 40.3**	**+0.9**
EDM	**Edmonton**	**27.95**	**73**	*e*P	**P**	**16 02 41.1**	**+1.1**
NEW	**Newport** comp=N,2.0nm,0.8s,baz=300,slow=20,SNR=2.2	**27.97**	**84**	P	**P**	**16 02 40.5**	**+0.3**
NEW	comp=N,1.6nm,0.5s,baz=37,slow=5.1,SNR=4.3			PcP	**PcP**	**16 05 53.5**	**-0.7**
NEW	comp=N,300nm,20.2s,baz=284,slow=32			LR	LR	16 12 06.5	
NEW	**Newport**	**27.97**	**84**	P	**P**	**16 02 40.5**	**+0.3**
NEW						16 05 53.5	
NEW	comp=Z,2.0nm,0.8s			pmax	pmax		
NEW	comp=Z,2.0nm,0.5s			pmax	pmax		
NEW	comp=Z,300nm,20.3s			MLR	MLR		
NEW	**Newport** baz=28,SNR=5.7	**27.97**	**84**	⇑P	**P**	**16 02 41.7**	**+1.5**
J05D	**Fort Rock, OR** baz=28	**28.33**	**97**	⇑P	**P**	**16 02 43.9**	**+0.3**
YBH	**Yreka Blue Hor** comp=Z,1.7nm,0.8s,baz=319,slow=9.3,SNR=2.8	**28.45**	**101**	P	**P**	**16 02 45.1**	**+0.4**
YBH	comp=Z,550nm,20.2s,baz=303,slow=31			LR	LR	16 11 32.4	
M02C	**Callahan** baz=28	**28.59**	**101**	⇓P	**P**	**16 02 47.6**	**+1.7**
I07A	**Izee**	**28.86**	**94**	*e*P	**P**	**16 02 50.6**	**+2.4**
K05A	**Summer Lake** comp=Z,13nm,1.1s	**28.87**	**97**	*e*P	**P**	**16 02 48.5**	**-0.1**
WVOR	**Wild Horse Val** comp=Z,25nm,1.7s	**30.36**	**96**	*e*P	**P**	**16 03 03.1**	**+1.5**
MSO	**Missoula** baz=30	**30.55**	**85**	⇑P	**P**	**16 03 04.3**	**+1.0**
MFID	**Camas Ranch** comp=Z,8.7nm,0.8s	**31.39**	**92**	*e*P	**P**	**16 03 10.7**	**0.0**
HLID	**Hailey** baz=32	**32.13**	**90**	⇓P	**P**	**16 03 18.9**	**+1.7**
HLID	**Hailey** comp=Z,39nm,2.0s	**32.13**	**90**	*e*P	**P**	**16 03 18.6**	**+1.3**
MCMT	**McKenzie Canyo**	**32.30**	**87**	*e*P	**P**	**16 03 19.9**	**+1.2**
RES	**Resolute Bay** comp=Z,5.2nm,0.6s,baz=265,slow=10,SNR=30	**32.33**	**27**	P	**P**	**16 03 17.7**	**-0.7**
RES	comp=Z,3.2nm,0.6s,baz=262,slow=2.3,SNR=5.4			PcP	**PcP**	**16 06 05.0**	**0.0**
RES	**Resolute Bay**	**32.33**	**27**	P	**P**	**16 03 17.7**	**-0.7**
RES						16 06 05.0	
RES	comp=Z,5.0nm,0.6s			pmax	pmax		
RES	comp=Z,3.0nm,0.6s			pmax	pmax		
EGMT	**Eagleton** baz=32	**32.34**	**80**	⇓P	**P**	**16 03 19.6**	**+0.7**
A19A	**Klindworth Far** baz=32	**32.46**	**78**	⇑P	**P**	**16 03 20.9**	**+0.9**
BOZ	**Bozeman (W)** baz=32	**32.55**	**85**	⇑P	**P**	**16 03 21.2**	**+0.4**
B19A	**Brinkman Farms** baz=32	**32.59**	**79**	⇑P	**P**	**16 03 22.0**	**+1.0**
A20A	**Cobblestone Ra** baz=33,SNR=7.1	**32.95**	**77**	⇑P	**P**	**16 03 25.4**	**+1.2**
B20A	**Solberg Farm,** baz=33	**33.12**	**78**	⇓P	**P**	**16 03 25.9**	**+0.3**
NVAR	**Mina Array Bea** comp=Z,2.3nm,0.8s,baz=294,slow=8.6,SNR=10	**33.17**	**101**	P	**P**	**16 03 27.3**	**+0.9**
NVAR	comp=Z,2.2nm,0.8s,baz=300,slow=2.8,SNR=5.8			PcP	**PcP**	**16 06 08.3**	**0.0**
NVAR	comp=Z,0.9nm,0.8s,baz=297,slow=4.0,SNR=4.4			ScP	**ScP**	**16 09 50.0**	**+1.5**
TYV	**Tymovskoe**	**33.32**	**287**	*e*P	**P**	**16 03 27.8**	**+0.5**
TYV	comp=E,13nm,0.8s			pmax	pmax		
TYV	comp=Z,31nm,0.8s			pmax	pmax		
TYV	comp=E,22nm,1.0s			pmax	pmax		
ELK	**Elko** comp=E,9.1nm,0.9s	**33.40**	**95**	*e*P	**P**	**16 03 29.4**	**+1.0**
TIXI	**Tiksi**	**33.41**	**327**	*de*P	**P**	**16 03 26.3**	**-1.5**
TIXI	comp=Z,10.0nm,1.0s			pmax	pmax		
TIXI	**Tiksi** comp=Z,12nm,1.0s	**33.41**	**327**	*e*P	**P**	**16 03 26.1**	**-1.7**
A21A	**Bergtoll Ranch** baz=33	**33.46**	**77**	⇑P	**P**	**16 03 29.6**	**+0.9**
C20A	**Veseth Ranch,** baz=33,SNR=5.5	**33.51**	**79**	⇑P	**P**	**16 03 30.4**	**+1.4**
FFC	**Flin Flon**	**33.52**	**65**	*i* P	**P**	**16 03 30.3**	**+1.3**
FFC	**Flin Flon** comp=Z,5.5nm,1.1s	**33.52**	**65**	*e*P	**P**	**16 03 29.9**	**+0.9**
B21A	**Ellsworth Farm** baz=34	**33.70**	**78**	⇑P	**P**	**16 03 31.6**	**+0.9**
C21A	**Desert Coulee** baz=34	**33.97**	**78**	⇑P	**P**	**16 03 33.3**	**+0.2**
A22A	**Carney Farms,** baz=34	**34.03**	**76**	⇓P	**P**	**16 03 34.5**	**+0.9**
TIN	**Tinemaha, Big** baz=34	**34.17**	**103**	⇓P	**P**	**16 03 34.1**	**-0.8**
RLMT	**Red Lodge** baz=34	**34.21**	**84**	⇓P	**P**	**16 03 36.3**	**+0.9**
RLMT	**Red Lodge**	**34.21**	**84**	*e*P	**P**	**16 03 35.2**	**-0.2**
	comp=Z,13nm,1.3s						
B22A	**Reddig Ranch S** baz=34	**34.34**	**77**	⇓P	**P**	**16 03 37.3**	**+1.0**
D21A	**La Casta Ranch** baz=34	**34.44**	**80**	⇓P	**P**	**16 03 38.6**	**+1.4**
VES	**Vestal, Richgr** baz=34	**34.55**	**105**	⇓P	**P**	**16 03 38.8**	**+0.7**
BGU	**Big Grassy Mou** comp=Z,8.8nm,0.8s	**34.57**	**93**	P	**P**	**16 03 40.0**	**+1.6**
A23A	**Redstone** baz=34	**34.63**	**75**	⇑P	**P**	**16 03 40.1**	**+1.3**
H19A	**Powell** baz=34	**34.64**	**84**	⇓P	**P**	**16 03 40.0**	**+1.0**
E21A	**Keefer Ranch,** baz=35	**34.68**	**80**	⇑P	**P**	**16 03 41.1**	**+1.9**
G20A	**Bridger** baz=35	**34.77**	**83**	⇑P	**P**	**16 03 41.6**	**+1.5**
R11A	**Troy Canyon, C** baz=35	**34.79**	**99**	⇓P	**P**	**16 03 42.2**	**+1.8**
R11A	**Troy Canyon, C** comp=Z,12nm,1.2s	**34.79**	**99**	*e*P	**P**	**16 03 42.1**	**+1.7**
R11A				*e*ScP	**ScP**	**16 09 56.7**	**+2.5**
PKM	**Mcpherson Peak** baz=35	**34.82**	**107**	⇓P	**P**	**16 03 42.5**	**+1.8**
B23A	**Brockton** baz=35,SNR=8.6	**34.83**	**76**	⇓P	**P**	**16 03 40.8**	**+0.3**
D22A	**Cohagen** baz=35	**34.86**	**79**	⇓P	**P**	**16 03 41.5**	**+0.8**
HWUT	**Hardware Ranch** comp=Z,4.1nm,0.9s	**34.99**	**91**	*e*P	**P**	**16 03 42.4**	**+0.2**
ISA	**Isabella, Lake** baz=35	**35.02**	**105**	⇓P	**P**	**16 03 43.5**	**+1.3**
C23A	**Lambert** baz=35,SNR=13	**35.07**	**77**	⇑P	**P**	**16 03 43.9**	**+1.3**
DAC	**Darwin (Calif)** comp=Z,4.5nm,0.7s	**35.08**	**103**	*e*P	**P**	**16 03 43.4**	**+0.5**
A24A	**Westby** baz=35	**35.15**	**75**	⇑P	**P**	**16 03 44.7**	**+1.5**
DUG	**Dugway, Tooele** baz=35	**35.17**	**94**	⇓P	**P**	**16 03 45.0**	**+1.4**
DUG	**Dugway, Tooele** comp=Z,16nm,1.0s	**35.17**	**94**	*e*P	**P**	**16 03 45.2**	**+1.6**
YSS	**Yuzh-Sakhalins** comp=Z,25nm,2.5s	**35.28**	**281**	*i* P	**P**	**16 03 46.1**	**+1.8**
YSS				pmax	pmax		
MPMC	**Manual Prospec** baz=35	**35.29**	**103**	⇓P	**P**	**16 03 46.3**	**+1.5**
H20A	**Greybull** baz=35	**35.32**	**84**	⇑P	**P**	**16 03 45.5**	**+0.7**
G21A	**Lodge Grass** baz=35	**35.35**	**82**	⇓P	**P**	**16 03 46.2**	**+1.1**
YAK	**Yakutsk** comp=Z,622nm,21.4s,baz=7.5,slow=37	**35.35**	**311**	LR	LR	16 18 35.2	
YAK	**Yakutsk**	**35.35**	**311**	*e*P	P	16 03 41.2	-3.5
YAK				*e*		16 04 59.8	
YAK				*e*		16 06 13.8	
YAK				*eS*	S	16 09 06.0	-10
YAK	comp=Z,60nm,1.1s			pmax	pmax		
YAK	comp=E,36nm,1.5s			pmax	pmax		
YAK	comp=N,7.0nm,1.1s			pmax	pmax		
YAK	comp=Z,5.0nm,0.7s			pmax	pmax		
YAK	comp=E,1.0nm,0.6s			pmax	pmax		
YAK	comp=N,210nm,8.6s			smax	smax		
YAK	comp=E,732nm,13.4s			smax	smax		
YAK	comp=Z,466nm,17.0s			MLR	MLR		
YAK	comp=N,201nm,14.0s			MLR	MLR		
YAK	comp=E,355nm,19.0s			MLR	MLR		
YAK	**Yakutsk** comp=E,49nm,0.6s	**35.35**	**311**	*e*P	**P**	**16 03 42.8**	**-2.0**
FURC	**Furnace Creek,** baz=35	**35.36**	**102**	⇑P	**P**	**16 03 45.8**	**+0.8**
TPNV	**Topopah Spring** baz=35	**35.37**	**101**	⇓P	**P**	**16 03 47.6**	**+2.2**
E22A	**Miles City** baz=35	**35.38**	**80**	⇑P	**P**	**16 03 47.1**	**+1.8**
PDAR	**Pinedale Array** comp=E,0.8nm,0.8s,baz=343,slow=4.6,SNR=4.2	**35.44**	**88**	P	**P**	**16 03 46.6**	**+0.5**
PDAR	comp=E,108nm,19.0s,baz=310,slow=34			LR	LR	16 17 03.9	
I20A	**Worland** baz=35	**35.56**	**85**	⇑P	**P**	**16 03 47.4**	**+0.4**
F22A	**Rosebud** baz=36	**35.58**	**81**	⇓P	**P**	**16 03 47.3**	**+0.3**
C24A	**Savage** baz=36,SNR=7.6	**35.65**	**77**	⇓P	**P**	**16 03 49.4**	**+1.8**
E23A	**Ismay** baz=36	**35.72**	**79**	⇓P	**P**	**16 03 50.1**	**+2.0**
FCC	**Fort Churchill** comp=E,13nm,0.9s	**35.86**	**55**	*e*P	**P**	**16 03 48.3**	**-0.8**
G22A	**Birney** baz=36	**35.88**	**82**	⇑P	**P**	**16 03 50.7**	**+1.1**
D24A	**Glendive** baz=36,SNR=18	**35.93**	**78**	⇓P	**P**	**16 03 51.4**	**+1.5**
J20A	**Shoshoni** baz=36	**35.94**	**86**	⇓P	**P**	**16 03 50.4**	**+0.2**
B25A	**Knox Farm, Ray** baz=36	**35.97**	**75**	⇓P	**P**	**16 03 50.1**	**-0.1**
F23A	**Volborg** baz=36	**36.10**	**80**	⇑P	**P**	**16 03 52.2**	**+0.7**
I21A	**Big Trails, Te** baz=36	**36.13**	**84**	⇑P	**P**	**16 03 52.5**	**+0.7**
DECC	**Green Verdugo** baz=36	**36.13**	**106**	⇓P	**P**	**16 03 52.0**	**+0.2**
H22A	**Clearmont** baz=36	**36.21**	**83**	⇑P	**P**	**16 03 52.7**	**+0.3**
C25A	**Freed Ranch, W** baz=36	**36.21**	**76**	⇓P	**P**	**16 03 52.9**	**+0.5**
GSC	**Goldstone, Bar** baz=36	**36.22**	**103**	⇑P	**P**	**16 03 53.4**	**+0.8**
E24A	**Baker** baz=36	**36.25**	**79**	⇑P	**P**	**16 03 53.3**	**+0.6**
A26A	**Wade Farm, Ken** baz=36,SNR=6.2	**36.26**	**74**	⇓P	**P**	**16 03 53.3**	**

comp=E,22nm,0.7s
A28A Rude Farm, Bot 37.24 73 ⇓P P 16 04 02.0 +0.9
baz=37
GMRC Granite Mounta 37.25 103 ⇑P P 16 04 02.2 +0.9
baz=37
K22A Casper 37.28 85 ⇑P P 16 04 02.3 +0.6
baz=37
E26A Carlson Angus 37.36 77 ⇓P P 16 04 03.1 +0.9
baz=37
J23A Dilts Ranch, B 37.38 84 ⇑P P 16 04 03.8 +1.3
baz=37
B28A Dugan Ranch, T 37.44 73 ⇓P P 16 04 04.1 +1.4
baz=37
ALE Alert 37.49 12 P P 16 04 02.6 -0.2
comp=E,129nm,1.0s,SNR=7.3
G25A Newell 37.55 80 ⇓P P 16 04 04.3 +0.6
baz=37
F26A Lodgepole 37.59 78 ⇑P P 16 04 05.6 +1.5
baz=38,SNR=6.5
BELC Belle Mtn. Jos 37.62 104 ⇑P P 16 04 05.8 +1.2
baz=38
I24A Kuemmerle Ranc 37.64 82 ⇓P P 16 04 06.2 +1.6
baz=38
K23A Bowen Ranch, D 37.74 85 ⇓P P 16 04 06.4 +0.9
baz=38
H25A Fruitdale 37.78 81 ⇓P P 16 04 07.4 +1.6
baz=38
A29A Manning Farm, 37.81 72 ⇓P P 16 04 06.9 +1.1
baz=38,SNR=15
RSSD Black Hills 37.83 82 *e*P P 16 04 05.8 -0.5
comp=E,4.5nm,0.7s
C28A Hausauer Farms 37.83 74 ⇑P P 16 04 07.8 +1.8
baz=38
O20A White River Ci 37.87 90 ⇓P P 16 04 07.6 +0.9
baz=38,SNR=5.5
O20A White River Ci 37.87 90 *e*P P 16 04 07.3 +0.6
comp=E,30nm,0.8s
E27A Carson 37.89 77 ⇑P P 16 04 08.2 +1.6
baz=38
J24A Dixon Ranch, L 37.94 83 ⇑P P 16 04 08.4 +1.2
baz=38
F27A Lemmon 37.95 78 ⇓P P 16 04 08.5 +1.4
baz=38,SNR=6.0
G26A Maurine 37.96 79 ⇑P P 16 04 08.6 +1.4
baz=38,SNR=8.6
ERM Erimo 37.96 274 P P 16 04 06.4 -0.7
comp=E,180nm,0.6s,SNR=11
ERM Erimo 37.96 274 *e*P P 16 04 04.6 -2.5
comp=E,21nm,0.8s
IRM Iron Mountain 37.99 103 ⇑P P 16 04 09.5 +2.0
baz=38
B29A Wagenman Farm, 37.99 73 ⇓P P 16 04 08.6 +1.2
baz=38,SNR=6.4
D28A Regan 38.02 75 ⇓P P 16 04 09.2 +1.5
baz=38
I25A Rochford 38.06 82 ⇑P P 16 04 08.8 +0.6
baz=38
BC3 Big Chuckawall 38.18 104 ⇑P P 16 04 11.3 +2.0
baz=38
MDND Maddock 38.20 74 ⇓P P 16 04 10.9 +1.8
baz=38,SNR=5.6
MDND Maddock 38.20 74 *e*P P 16 04 09.8 +0.7
comp=E,41nm,1.0s
H26A Fairpoint 38.26 80 ⇓P P 16 04 10.7 +1.0
baz=38
G27A Dupree 38.29 79 ⇓P P 16 04 11.1 +1.1
baz=38,SNR=6.0
E28A Huff 38.30 76 ⇓P P 16 04 11.4 +1.4
baz=38
A30A Hoffart Farm, 38.32 72 ⇑P P 16 04 11.2 +1.0
baz=38
J25A Sunshine Ranch 38.40 82 ⇓P P 16 04 12.1 +1.1
baz=38
PDMCI Parker Dam,Lak 38.46 102 ⇓P P 16 04 11.3 -0.2
baz=38
I26A New Underwood 38.56 81 ⇓P P 16 04 12.7 +0.4
baz=38
B30A Myrvik Farm, E 38.57 72 ⇑P P 16 04 13.3 +1.0
baz=38,SNR=13
Y12C Blythe 38.64 103 ⇓P P 16 04 14.4 +1.5
baz=39
F28A McLaughlin 38.66 77 ⇑P P 16 04 13.7 +0.7
baz=38
N23A Red Feather La 38.72 87 ⇑P P 16 04 14.8 +0.9
baz=39
HABR Khabarovsk 38.78 288 *e*P P 16 04 11.8 -2.2
HABR *e*PPP PPP 16 06 02.1
HABR *e* 16 06 23.0
HABR *e*S **S** **16 10 07.1 -0.8**
HABR *e* 16 10 12.3
HABR *e* 16 14 19.0
HABR pmax pmax
comp=Z,29nm,1.0s
HABR pmax pmax
comp=N,4.0nm,0.5s
HABR pmax pmax
comp=E,15nm,1.0s
HABR MLR MLR
comp=Z,262nm,20.0s
O22A Kremmling 38.84 89 ⇓P P 16 04 15.3 +0.4
baz=39
J26A Sides Ranch, S 38.87 82 ⇓P P 16 04 16.5 +1.6
baz=39
C30A Mose, Pekin 38.91 73 ⇓P P 16 04 16.7 +1.6
baz=39
I27A Quinn 39.00 80 ⇑P P 16 04 16.8 +0.8
baz=39
PV01 Paradox Valley 39.00 93 *e*P P 16 04 16.8 +0.5
comp=Z,1μm,0.7s
L25A Engebretsen Ra 39.07 84 ⇓P P 16 04 17.4 +0.8
baz=39
P22A Eagle 39.09 89 ⇑P P 16 04 18.2 +1.3
baz=39
D30A Buchanan 39.09 74 ⇓P P 16 04 17.8 +1.2
baz=39
O23A Lake Granby, G 39.17 88 ⇓P P 16 04 19.1 +1.3
baz=39
WUAZ Wupatki 39.18 98 ⇓P P 16 04 18.8 +1.1
baz=39,SNR=6.0
WUAZ Wupatki 39.18 98 *e*P P 16 04 16.9 -0.7
comp=Z,16nm,1.0s
K26A Motz Farm, Whi 39.19 83 ⇑P P 16 04 19.2 +1.6
baz=39
F29A Eureka 39.22 77 ⇑P P 16 04 17.8 +0.1
baz=39
H28A Mission Ridge 39.23 79 ⇓P P 16 04 19.0 +1.2
baz=39
G29A Hoven 39.54 77 ⇓P P 16 04 21.2 +0.8
baz=39
I28A Midland 39.55 80 ⇓P P 16 04 21.5 +1.0
baz=39
CLNS Chul'man 39.74 304 *e*P P 16 04 20.8 -1.2
CLNS pmax pmax
comp=Z,29nm,0.8s
CLNS pmax pmax
comp=N,18nm,0.9s
CLNS pmax pmax
comp=E,23nm,0.9s
P23A Jefferson 39.77 89 ⇑P P 16 04 23.1 +0.3
baz=40
J28A Allard Ranch, 39.86 81 ⇓P P 16 04 23.5 +0.4
baz=40
AGMN Agassiz Nation 40.02 71 ⇑P P 16 04 25.1 +0.8
baz=40,SNR=26
AGMN Agassiz Nation 40.02 71 *e*P P 16 04 24.1 -0.3
comp=E,30nm,0.8s
G30A Faulkton 40.02 77 ⇑P P 16 04 25.4 +0.9
baz=40,SNR=8.6
I29A Vivian Onida 40.03 79 ⇑P P 16 04 25.3 +0.8
baz=40
KLR Kul'dur 40.18 291 *e*P P 16 04 20.3 -5.3
K28A Ten Mile Ranch 40.23 82 ⇑P P **16 04 27.1 +0.9**
baz=40
S22A 4UR Ranch, Cre 40.28 92 ⇓P P 16 04 27.9 +1.0
baz=40
N26A Koester Ranch, 40.34 85 ⇓P P 16 04 28.6 +1.3
baz=40
M27A Reverse DX Ran 40.38 84 ⇑P P 16 04 28.4 +0.9
baz=40
J29A Okreek 40.40 80 ⇓P P 16 04 28.5 +1.0
baz=40,SNR=5.1
Q24A Divide 40.44 89 ⇑P P 16 04 29.5 +1.2
baz=40
BRSD Miller 40.54 78 ⇑P P 16 04 29.5 +0.8
baz=40
BRSD Miller 40.54 78 *e*P P 16 04 29.6 +0.8
comp=E,42nm,0.9s
R23A Moffat 40.56 90 ⇓P P 16 04 29.4 +0.1
baz=40
O26A Horse Wrangler 40.67 86 ⇓P P 16 04 31.3 +1.3
baz=41
N27A Anderson Farm, 40.76 85 ⇑P P 16 04 31.7 +1.1
baz=41
K29A Lazy Trails An 40.80 81 ⇓P P 16 04 31.8 +0.9
baz=41
J30A Dallas 40.92 79 ⇓P P 16 04 32.1 +0.3
baz=41
214A Organ Pipe Nat 40.93 103 ⇓P P 16 04 33.4 +1.3
baz=41
OGNE Ogallala 40.96 84 ⇑P P 16 04 33.0 +0.7
baz=41
SDCO Great Sand Dun 41.05 90 ⇓P P 16 04 33.4 +0.1
baz=41
P26A Davis Ranch, A 41.10 87 ⇓P P 16 04 33.7 +0.2
baz=41
K30A Basset 41.26 80 ⇑P P 16 04 35.9 +1.2
baz=41
Q26A Hugo 41.42 88 ⇓P P 16 04 36.9 +0.8
baz=41
P27A Ficken Ranch, 41.55 86 ⇓P P 16 04 37.8 +0.7
baz=41
R26A Arlington 41.87 88 ⇓P P 16 04 40.4 +0.5
baz=42
L31A Butterfield Fa 42.02 80 ⇓P P 16 04 41.8 +0.9
baz=42
T25A Trinidad 42.10 90 ⇑P P 16 04 42.1 +0.3
baz=42
R27A Eads 42.26 88 ⇓P P 16 04 42.5 -0.5
baz=42
H11N2 WAKE ISLAND Hy 42.27 227 T T 16 49 36.1
baz=27,slow=76,SNR=789
H11N3 WAKE ISLAND Hy 42.27 227 T T 16 49 36.6
baz=27,slow=76,SNR=803
H11N1 WAKE ISLAND Hy 42.28 227 T T 16 49 37.5
baz=27,slow=76,SNR=334
ECSD EROS Data Cent 42.31 77 ⇓P P 16 04 43.2 0.0
baz=42,SNR=8.2
ECSD EROS Data Cent 42.31 77 *e*P P 16 04 42.9 -0.3
comp=E,6.4nm,0.6s
ANMO Albuquerque 42.43 94 ⇓*e*P P 16 04 47.4 +2.9
ANMO pmax pmax
comp=Z,10.0nm,1.2s
EYMN Ely 42.62 69 *e*P P 16 04 46.0 +0.3
comp=Z,34nm,0.7s
P30A Selden 42.91 84 ⇓P P 16 04 49.0 +0.8
baz=43
USRK Ussuriysk Ar. 43.01 285 P P 16 04 47.2 -1.6
comp=Z,2.2nm,0.6s,baz=60,slow=8.8,SNR=6.4
USRK PcP **PcP** 16 06 37.6 -0.7
comp=Z,1.8nm,0.5s,baz=29,slow=3.3,SNR=5.1
USRK LR LR 16 22 31.9
comp=Z,278nm,21.6s,baz=64,slow=36
O31A Woolen Ranch, 43.04 83 ⇓P P 16 04 49.8 +0.6
baz=43
N32A Stulken Farm, 43.24 82 ⇓P P 16 04 51.3 +0.6
baz=43
Q30A Quinter 43.30 85 ⇑P P 16 04 51.9 +0.6
baz=43
P31A Stockton 43.43 84 ⇑P P 16 04 52.6 +0.3
baz=43
H11S1 WAKE ISLAND Hy 43.44 227 T T 16 51 07.9
baz=26,slow=76,SNR=307
H11S2 WAKE ISLAND Hy 43.45 227 T T 16 51 02.4
baz=26,slow=76,SNR=76
T28A Walsh 43.45 88 ⇑P P 16 04 52.7 +0.1
baz=43
H11S3 WAKE ISLAND Hy 43.45 227 T T 16 51 02.6
baz=26,slow=76,SNR=54
SPMN Marine on St. 43.53 73 ⇑P P 16 04 53.5 +0.5
baz=43
L34A Svendsen Farm, 43.56 79 ⇑P P 16 04 53.6 +0.3
baz=43
O32A Brockman Farm, 43.58 82 ⇑P P 16 04 53.7 +0.2
baz=43
M34A Aspy Farms, Fr 43.74 80 ⇓P P 16 04 55.3 +0.5
baz=44
VLA Vladivostok 43.75 284 ⇑*e*P P 16 04 54.3 -0.5
VLA pmax pmax
comp=Z,28nm,1.7s
Q31A Ellis 43.76 84 ⇑P P 16 04 55.2 +0.2
baz=44
P32A Huiting Farm, 43.81 83 ⇓P P 16 04 55.8 +0.4
baz=44
S30A Montezuma 44.06 87 ⇑P P 16 04 57.2 -0.3
baz=44
MDJ Mudanjiang 44.10 287 P P 16 04 56.0 -1.6
MDJ PMZ
comp=Z,6.0nm,0.8s
MDJ PMZ
comp=Z,120nm,4.9s
O33A Hebron 44.10 82 ⇑P P 16 04 57.2 -0.5
baz=44,SNR=5.9
R31A Burdett 44.16 85 ⇓P P 16 04 58.1 -0.1
baz=44
N34A Lincoln 44.22 80 ⇑P P 16 04 58.6 -0.1
baz=44
Q32A Meitler Ranch, 44.25 84 ⇑P P 16 04 59.6 +0.7
baz=44
BOD Bodaibo 44.27 310 *e*P P 16 04 57.4 -1.4
BOD pmax pmax
comp=Z,14nm,0.7s
MAJO Matsushiro 44.45 272 *c*i P P 16 05 00.1 -0.4
MAJO pmax pmax
comp=Z,303nm,0.8s
MAJO Matsushiro 44.45 272 *e*P P 16 04 59.8 -0.7
comp=Z,50nm,0.9s
MAT Matsushiro 44.45 272 P P 16 04 59.9 -0.6
P33A Williams Farm, 44.46 83 ⇓P P 16 05 01.5 +0.9
baz=44
R32A Long Quarter, 44.55 84 ⇓P P 16 05 02.0 +0.7
baz=44
S31A Mullinville 44.64 86 ⇓P P 16 05 02.7 +0.6
baz=44
V29A Stinnett 44.66 89 ⇑P P 16 05 02.9 +0.6
baz=44
Q33A Connelly Farm, 44.67 83 ⇓P P 16 05 02.8 +0.6
baz=44
N35A Tabor 44.70 80 ⇓P P 16 05 03.3 +0.9
baz=45,SNR=6.7
P34A Walnut Farm, R 44.88 82 ⇓P P 16 05 04.2 +0.2
baz=45
V30A Spur Ranch, Mi 45.22 89 ⇓P P 16 05 06.9 +0.2
baz=45
Q34A Chapman 45.24 83 ⇓P P 16 05 07.2 +0.5
baz=45
KSU1 Kansas State U 45.31 82 ⇑P P 16 05 07.4 +0.1
baz=45
P35A Dune Minner, 45.36 81 ⇑P P 16 05 07.6 -0.1
baz=45
R34A Isabella, Hill 45.48 83 ⇓P P 16 05 09.1 +0.5
baz=45
X29A Tulia 45.55 91 ⇓P P 16 05 09.7 +0.3
baz=45
O36A Bolckow 45.57 80 ⇑P P 16 05 09.4 +0.1
baz=45
Y28A McKinney Farm, 45.61 92 ⇓P P 16 05 10.4 +0.5
baz=46
P36A Good Intent, A 45.77 81 ⇓P P 16 05 11.0 0.0
baz=46,SNR=11
U32A Winter Ranch, 45.77 87 ⇓P P 16 05 11.3 +0.2
baz=46
Q35A Mercer Eighty, 45.80 82 ⇓P P 16 05 10.9 -0.3
baz=46
S34A Willow Spring 45.96 84 ⇑P P 16 05 12.5 0.0
baz=46
T34A McClaskey Farm 46.38 85 ⇑P P 16 05 15.3 -0.5
baz=46
JFWS Jewell Farm 46.42 74 *e*P P 16 05 15.4 -0.6
comp=Z,29nm,1.0s
X31A McDonald Ranch 46.42 89 ⇓P P 16 05 16.7 +0.5
baz=46
S35A Otter Creek Ra 46.44 83 ⇓P P 16 05 15.9 -0.3
baz=46
R36A Gordon, Harris 46.47 82 ⇓P P 16 05 16.3 -0.2
baz=46
HIA Hailar 46.53 298 ⇓*e*P P 16 05 15.7 -1.1
HIA pmax pmax
comp=Z,7.0nm,0.7s
U34A Anderson Ranch 46.59 86 ⇑P P 16 05 18.0 +0.6
baz=46
Z30A Sanderson Ranc 46.71 91 ⇓P P 16 05 18.6 +0.2
baz=47
KBS Kingsbay 46.74 2 *e*P P 16 05 17.5 -0.5
comp=Z,26nm,0.9s
S36A Lake Cedric, C 46.83 83 ⇑P P 16 05 19.1 -0.2
baz=47
T35A Sooner Cattle 46.85 84 ⇑P P **16 05 19.5 +0.1**
baz=47
DAG Danmarks Havn 46.86 11 *i* P P 16 05 18.6 -0.4
comp=Z,36nm,0.9s
DAG Danmarks Havn 46.86 11 *i* P P 16 05 18.6 -0.4
DAG pmax pmax
comp=Z,31nm,0.9s
R37A Teagarden Farm 46.87 82 ⇓P P 16 05 20.1 +0.5
baz=47
CN2 Changchun 46.92 288 *e*P P 16 05 19.6 -0.3
CN2 PMZ
comp=Z,40nm,0.9s
T36A Boggs Farm, Ca 47.12 84 ⇓P P 16 05 21.1 -0.4
baz=47
SUMG Summit 47.22 20 *i* P P 16 05 22.3 0.0
comp=Z,22nm,1.0s
SUMG Summit 47.22 20 *i* P P 16 05 22.3 0.0
SUMG pmax pmax
comp=Z,22nm,1.0s
SUMG Summit 47.22 20 *e*P P 16 05 21.7 -0.6
comp=Z,20nm,0.9s
V35A Meyer Ranch, C 47.46 86 ⇑P P 16 05 24.4 +0.2
baz=47
131A Roby 47.58 91 ⇓P P 16 05 25.6 +0.3
baz=48
T37A Cheneyville 18 47.63 83 ⇑P P 16 05 25.0 -0.5
baz=48,SNR=5.8
X34A Smith Ranch, M 47.70 88 ⇓P P 16 05 26.7 +0.6
baz=48
W35A Tecumseh 47.87 86 ⇓P P 16 05 28.0 +0.6
baz=48
TUL1 Leonard 47.96 85 ⇓P P 16 05 28.7 +0.6
baz=48
330A Mertzon 48.04 93 ⇑P P 16 05 29.0 +0.1
baz=48
KSULL Ulleungdo 48.05 278 P P 16 05 28.9 +0.2
SNR=6.6
KSULL Ulleungdo 48.05 278 P P 16 05 28.9 +0.2
SNR=6.6
ABTX Abilene, Hawle 48.05 91 ⇑P P 16 05 29.7 +0.8
baz=48
TXAR Lajitas Array 48.13 97 P P 16 05 30.0 +0.5
comp=Z,0.7nm,0.5s,baz=290,slow=5.6,SNR=10.0
TXAR PcP **PcP** **16 06 56.4 -0.1**
comp=Z,1.4nm,0.5s,baz=224,slow=1.2,SNR=9.6
TXAR LR LR 16 24 14.2
comp=Z,176nm,19.9s,baz=0.0,slow=34
TXAR Lajitas Array 48.13 97 P P 16 05 30.0 +0.5
TXAR 16 06 56.4
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR MLR MLR
comp=Z,176nm,19.9s
Y34A Reagan Ranch, 48.20 88 ⇑P P 16 05 30.6 +0.7
baz=48
W36A Wetumka 48.25 86 ⇑P P 16 05 30.8 +0.5
baz=48
SFJD Kangerlussuaq 48.26 29 *i* P P 16 05 30.7 +0.8
comp=Z,49nm,1.1s
SFJD Kangerlussuaq 48.26 29 *i* P P 16 05 30.7 +0.8
SFJD pmax pmax
comp=Z,49nm,1.1s
SFJD Kangerlussuaq 48.26 29 *e*P P 16 05 30.9 +1.0
comp=Z,39nm,0.9s
X35A Drake 48.34 87 ⇓P P 16 05 31.3 +0.3
baz=48
430A Baggett Ranch, 48.46 94 ⇑P P 16 05 32.1 0.0
baz=48
133A Hamilton Ranch 48.49 90 ⇓P P 16 05 32.8 +0.6
baz=48
HDIL Hopedale 48.51 75 *e*P P 16 05 31.7 -0.6
comp=Z,85nm,0.8s
KSSKC Sokcho 48.85 281 P P 16 05 35.3 +0.4
SNR=7.2
KSSKC Sokcho 48.85 281 P P 16 05 35.3 +0.4
SNR=7.2
530A J-C Ranch, Com 48.87 95 ⇑P P 16 05 36.2 +1.0
baz=49
332A Millersview 48.90 92 ⇓P P 16 05 36.2 +0.9
baz=49
431A Sonora 48.90 93 ⇓P P 16 05 37.0 +1.5
baz=49
233A Rising Star 48.92 91 ⇓P P 16 05 35.9 +0.3
baz=49
134A White-Moore Ra 49.00 90 ⇓P P 16 05 36.6 +0.5
baz=49
KSJMJ Jumunjin 49.00 280 P P 16 05 36.5 +0.5
SNR=18
KSJMJ Jumunjin 49.00 280 P P 16 05 36.5 +0.5
SNR=18
JCJ Chichijima 49.02 260 LR LR 16 22 27.4
comp=Z,99nm,21.2s,baz=96,slow=31
SEHB SEOHWA 49.02 281 P P 16 05 37.0 +0.8
SNR=11
SEHB SEOHWA 49.02 281 P P 16 05 37.0 +0.8
SNR=11
X37A Clayton 49.14 86 ⇓P P 16 05 37.9 +0.8
baz=49
KSDGY Daegwallycong 49.18 280 P P 16 05 37.7 +0.1
SNR=7.5
KSDGY Daegwallycong 49.18 280 P P 16 05 37.7 +0.1
SNR=7.5
432A Menard 49.24 93 ⇓P P 16 05 38.5 +0.5
baz=49
SNY Shenyang 49.25 288 ⇑P P 16 05 38.2 +0.3
SNY PMZ
comp=Z,43nm,1.0s
W38A Poteau 49.29 85 ⇓P P 16 05 38.7 +0.4
baz=49
KSIJA INJE 49.30 281 P P 16 05 38.7 +0.3
SNR=13
KSIJA INJE 49.30 281 P P 16 05 38.7 +0.3
SNR=13
531A Rocksprings 49.32 94 ⇓P P 16 05 39.3 +0.6
baz=49
234A Clairette 49.38 90 ⇑P P 16 05 39.5 +0.5
baz=49
KSTBA Taebaek 49.41 279 P P 16 05 40.0 +0.7
SNR=36
KSTBA Taebaek 49.41 279 P P 16 05 40.0 +0.7
SNR=36
KSULJ Uljin 49.44 279 P P 16 05 39.7 +0.3
SNR=34
KSULJ Uljin 49.44 279 P P 16 05 39.5 +0.1
SNR=20
JCT Junction City 49.52 93 ⇓P P 16 05 40.2 0.0
baz=49
JCT Junction City 49.52 93 *e*P P 16 05 40.3 0.0
comp=Z,8.4nm,0.9s
KSCWO Cheorwon 49.57 281 P P 16 05 41.1 +0.7
SNR=13
KSCWO Cheorwon 49.57 281 P P 16 05 41.1 +0.7
SNR=13
KSCHC Chuncheon 49.61 281 P P 16 05 41.3 +0.6
SNR=11
KSCHC Chuncheon 49.61 281 P P 16 05 41.3 +0.6
SNR=11
433A Ari 49.73 92 ⇓P P 16 05 42.3 +0.5
baz=50
KSRS Korea Array 49.77 280 P P 16 05 41.9 0.0
comp=Z,37nm,0.8s,baz=48,slow=7.1,SNR=174
KSRS PcP **PcP** **16 07 02.8 +0.6**
comp=Z,2.2nm,0.8s,baz=53,slow=3.5,SNR=2.6
KSRS LR LR 16 25 20.9
comp=Z,81nm,21.4s,baz=110,slow=34
KSRS Korea Array 49.77 280 P P **16 05 41.9 0.0**
KSRS 16 07 02.8
KSRS pmax pmax
comp=Z,37nm,0.8s
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS MLR MLR
comp=Z,81nm,21.4s
WHTX Lake Whitney, 49.78 90 ⇑P P **16 05 42.7 +0.6**
baz=50
KSAR Wonju Array Be 49.80 280 P P **16 05 41.9 -0.2**
KSAR PcP **PcP** **16 07 02.8 +0.5**
631A Perdido Creek 49.86 95 ⇑P P **16 05 43.3 +0.6**
baz=50
SFIN Lafayette 49.87 74 ⇑P P 16 05 43.0 +0.4
baz=50,SNR=7.5
SFIN Lafayette 49.87 74 *e*P P 16 05 42.5 -0.2
comp=Z,43nm,1.1s
Z37A Pogue Cattle C 49.98 87 ⇓P P 16 05 44.7 +1.1
baz=50
KSMUS Musan 50.14 282 P P 16 05 44.9 +0.2

KSCHJ **Chungju** 50.15 280 P P 16 05 45.1 +0.3
SNR=7.3
KSCHJ **Chungju** 50.15 280 P P 16 05 45.1 +0.3
SNR=7.3
434A **Burnet** 50.17 91 ⇓P P 16 05 45.9 +0.9
baz=50
KSICN **Icheon** 50.18 281 P P 16 05 45.6 +0.6
SNR=16
MIAR **Mount Ida** 50.21 84 eP P 16 05 44.1 -1.2
comp=Z,7.7nm,1.0s
533A **Kerrville** 50.27 93 ⇑P P 16 05 46.2 +0.4
baz=50
236A **Katherine and** 50.32 89 ⇑P P 16 05 46.7 +0.6
baz=50
KSSEO **Seoul** 50.32 281 P P 16 05 46.3 +0.2
SNR=12
KSSEO **Seoul** 50.32 281 P P 16 05 46.3 +0.2
SNR=12
137A **Heron Place, G** 50.34 88 ⇓P P 16 05 47.2 +0.9
baz=50
KSSAJ **Sangju** 50.37 279 P P 16 05 47.0 +0.5
SNR=9.2
KSGAH **Ganghwa** 50.44 282 P P 16 05 47.1 +0.1
SNR=13
KSSWO **Suwon** 50.45 281 P P 16 05 47.4 +0.3
SNR=15
KSSWO **Suwon** 50.45 281 P P 16 05 47.4 +0.3
SNR=6.3
SIUC **Southern Illin** 50.50 78 eP P 16 05 46.8 -0.6
comp=Z,16nm,0.6s
KSBON **Boeun** 50.51 280 P P 16 05 47.5 0.0
SNR=15
SCHQ **Schefferville** 50.53 48 P P 16 05 47.6 +0.2
comp=Z,14nm,0.8s,baz=309,slow=8.7,SNR=15
KSCEA **Cheonan** 50.59 280 P P 16 05 48.7 +0.6
SNR=9.4
KSCPR **CHUPUNGNYEONG** 50.60 279 P P 16 05 48.7 +0.5
SNR=10
138A **Matatall Enter** 50.68 87 ⇓P P 16 05 49.5 +0.7
baz=51
TJN **Taejon** 50.84 280 *i* P P 16 05 49.8 -0.2
KSTEJ **Daejeon** 50.85 280 P P 16 05 50.4 +0.3
SNR=6.7
KSKOJ **Gongju** 50.90 280 P P 16 05 50.9 +0.4
SNR=6.7
BLO **Bloomington** 51.02 75 eP P 16 05 50.4 -0.9
139A **Bunkhouse Ranc** 51.07 87 ⇑P P 16 05 52.5 +0.7
baz=51
JNU **Nakatsue** 51.12 274 P P 16 05 51.4 -0.9
comp=Z,35nm,1.0s,baz=55,slow=6.1,SNR=10
JNU LR LR 16 27 59.9
comp=Z,82nm,21.9s,baz=54,slow=37
JNU **Nakatsue** 51.12 274 eP P 16 05 52.7 +0.5
KSGUS **GUNSAN** 51.42 280 P P 16 05 54.5 +0.2
SNR=21
KSJEU **Jeongeup** 51.72 279 P P 16 05 56.6 0.0
SNR=11
WVT **Waverly** 52.40 79 eP P 16 06 01.3 -0.4
comp=Z,26nm,0.7s
TLY **Talaya** 52.79 309 LR LR 16 30 22.1
comp=Z,188nm,19.8s,baz=38,slow=38
TLY **Talaya** 52.79 309 eP P 16 06 04.8 +0.4
TLY pmax pmax
comp=Z,20nm,0.8s
PTN **Potsdam (NY)** 53.55 62 eP P 16 06 09.8 -0.2
comp=Z,16nm,0.8s
ZAK **Zakamensk** 53.85 308 eP P 16 06 12.0 -0.3
ZAK pmax pmax
comp=Z,4.0nm,1.3s
MOY **Mondy** 53.99 310 eP P 16 06 13.5 +0.2
SONM **Songino Array** 54.15 304 P P 16 06 14.1 -0.5
comp=Z,26nm,1.0s,baz=46,slow=6.1,SNR=117
SONM PcP PcP 16 07 18.5 -0.2
comp=Z,10nm,0.8s,baz=46,slow=2.3,SNR=8.4
SONM LR LR 16 31 39.9
comp=Z,386nm,18.1s,baz=44,slow=39
SONM **Songino Array** 54.15 304 P P 16 06 14.1 -0.5
SONM 16 07 18.5
SONM pmax pmax
comp=Z,26nm,1.0s
SONM pmax pmax
comp=Z,10.0nm,0.8s
SONM MLR MLR
comp=Z,386nm,18.1s
KRAR **Krasnoyarsk** 54.28 318⇑ eP P 16 06 15.0 -0.2
KRAR pmax pmax
comp=Z,37nm,0.5s
SSPA **Standing Stone** 54.76 68 eP P 16 06 18.4 -0.5
comp=Z,19nm,0.8s
CPCT **Cooper Cave** 54.77 77 eP P 16 06 18.4 -0.6
KSPA **Keystone Colle** 55.25 66 eP P 16 06 22.5 +0.1
comp=Z,7.0nm,0.7s
BLA **Blacksburg** 55.81 72 eP P 16 06 26.5 -0.1
comp=Z,20nm,0.8s
KEV **Kevo** 55.87 356 eP P 16 06 25.1 -1.3
comp=Z,18nm,0.7s
LUPA **Lehigh Univers** 56.14 66 eP P 16 06 29.0 +0.2
comp=Z,2.7nm,0.9s
ARCES **ARCESS Array B** 56.14 357 P P 16 06 26.9 -1.5
comp=Z,13nm,0.9s,baz=19,slow=7.7,SNR=17
ARCES PcP PcP 16 07 25.5 -0.3
comp=Z,7.2nm,0.8s,baz=5.3,slow=3.9,SNR=6.3
ARCES **ARCESS Array B** 56.14 357 P P 16 06 26.9 -1.5
ARCES 16 07 25.5
ARCES pmax pmax
comp=Z,13nm,0.9s
ARCES pmax pmax
comp=Z,7.0nm,0.8s
HHC **Hu-ho-hao-te** 56.45 295 eP P 16 06 31.7 +0.5
HHC sP sP 16 06 49.8 +0.5
HHC PP PP 16 08 39.5 +2.7
HHC S S 16 14 16.2 -2.6
HHC PMZ
comp=Z,20nm,1.1s
HHC PMZ
comp=Z,390nm,6.7s
HHC LN
comp=Z,270nm,15.3s
HHC LE
comp=Z,240nm,15.1s
HHC LZ
comp=Z,210nm,15.0s
TIA **Tai'an** 56.76 287 ⇑P P 16 06 32.8 -0.5
TIA PMZ
comp=Z,20nm,1.0s
KMSC **Kings Mountain** 56.79 75 ⇓P P 16 06 33.0 -0.5
baz=57
KMSC **Kings Mountain** 56.79 75 eP P 16 06 32.8 -0.7
comp=Z,20nm,0.8s
JSRW **J. Sargeant Re** 56.87 70 eP P 16 06 33.8 -0.2
EMMW **East Machias** 57.26 58 eP P 16 06 36.2 -0.5
comp=Z,17nm,0.8s
LVZ **Lovozero** 57.30 353 P P 16 06 36.8 +0.1
comp=Z,271nm,0.8s,SNR=7.2
LVZ **Lovozero** 57.30 353 *c* iP P 16 06 35.6 -1.1
LVZ pmax pmax
comp=Z,39nm,0.8s
LVZ **Lovozero** 57.30 353 eP P 16 06 36.0 -0.7
comp=Z,46nm,1.0s
HVS **Khovu-Aksy** 57.53 314 *d* iP P 16 06 38.7 +0.1
HVS pmax pmax
comp=Z,109nm,1.0s
APA **Apatity** 57.72 353 eP P 16 06 39.2 -0.3
APA *i* SSS SSS 16 20 38.0
APA pmax pmax
comp=Z,12nm,0.8s
NVS **Novosibirsk** 58.76 322 eP P 16 06 46.0 -1.0
NVS pmax pmax
comp=Z,24nm,1.1s
NVS pmax pmax
comp=N,7.0nm,1.0s
NVS pmax pmax
comp=E,8.0nm,1.0s
NJ2 **Nanjing** 58.83 282 eP P 16 06 48.0 +0.2
NJ2 PMZ
comp=E,20nm,0.6s
ZALV **Zalesovo Beam** 58.89 321 P P 16 06 47.4 -0.5
comp=E,4.7nm,0.5s,baz=31,slow=6.9,SNR=16
ZALV PcP PcP 16 07 36.0 -0.8
comp=E,3.7nm,0.7s,baz=24,slow=4.6,SNR=4.3
ZALV LR LR 16 34 38.6
comp=E,412nm,18.7s,baz=70,slow=38
ZALV **Zalesovo Beam** 58.89 321 *i* P P 16 06 48.0 +0.1
ZALV pmax pmax
comp=Z,5.0nm,0.4s
TMCR **Tamitsa** 60.68 350 eP P 16 06 58.9 -1.2
TMCR pmax pmax
comp=Z,80nm,1.1s
SOKR **Solikamsk** 62.18 339 *c* iP P 16 07 09.5 -0.7
SOKR pmax pmax
comp=Z,50nm,1.1s
PRGR **Permogore** 62.22 346 eP P 16 07 09.3 -1.2
PRGR pmax pmax
comp=Z,62nm,0.9s
XAN **Xi'an** 62.88 291 P P 16 07 14.8 -0.6
XAN PMZ
comp=Z,5.0nm,0.9s
GTA **Gaotai** 63.57 301 ⇓P P 16 07 20.0 0.0
GTA pP pP 16 07 33.3 +0.3
GTA sP sP 16 07 39.0 +0.7
GTA PcP PcP 16 07 57.4 +1.3
GTA S S 16 15 47.3 -2.9
GTA sS sS 16 16 09.1 -2.9
GTA SS SS 16 19 56.7 -0.6
GTA PMZ
comp=Z,28nm,1.2s
GTA PMZ
comp=Z,550nm,5.9s
GTA LN
comp=Z,220nm,15.7s
GTA LE
comp=Z,250nm,16.6s
GTA LZ
comp=Z,310nm,13.8s
KURK **Kurchatov** 63.75 322 P P 16 07 20.2 -0.6
comp=Z,78nm,0.7s,SNR=21
KURK **Kurchatov** 63.75 322 P P 16 07 20.1 -0.7
KURK pmax pmax
comp=Z,11nm,0.8s
KURK **Kurchatov** 63.75 322 eP P 16 07 20.3 -0.5
SVE **Sverdlovsk** 63.84 336 eP P 16 07 21.1 -0.2
SVE pmax pmax
comp=Z,51nm,1.0s
SSLB **Suanglung** 63.87 275 eP P 16 07 21.8 -0.2
comp=Z,17nm,0.7s
LZH **Lanzhou** 64.05 296 eP P 16 07 23.7 +0.5
LZH pP pP 16 07 37.2 +0.9
LZH sP sP 16 07 41.8 +0.3
LZH PMZ
comp=Z,72nm,1.2s
LZH PMZ
comp=Z,360nm,5.2s
FINES **FINESS Array B** 64.22 356 P P 16 07 23.2 -0.5
comp=Z,30nm,0.8s,baz=28,slow=6.7,SNR=88
FINES **FINESS Array B** 64.22 356 P P 16 07 23.2 -0.5
FINES pmax pmax
comp=Z,30nm,0.8s
BVA0 **Borovoye Array** 64.53 328 *i* P P 16 07 25.7 -0.2
BVA0 pmax pmax
comp=Z,47nm,0.7s
BRVK **Borovoye** 64.54 328 P P 16 07 26.4 +0.4
comp=Z,373nm,0.7s,SNR=27
BRVK **Borovoye** 64.54 328 *c* iP P 16 07 25.8 -0.2
BRVK pmax pmax
comp=Z,60nm,1.0s
BRVK **Borovoye** 64.54 328 eP P 16 07 26.1 +0.1
comp=Z,43nm,0.7s
NB2 **NORSAR Subarra** 64.63 4 P P 16 07 26.3 -0.2
comp=Z,20nm,0.7s,baz=357,slow=6.5
NB2 **NORSAR Subarra** 64.63 4 P P 16 07 26.3 -0.2
baz=357,slow=6.5
NOA **NORSAR Array B** 64.63 4 P P 16 07 26.3 -0.2
comp=Z,17nm,0.8s,baz=356,slow=6.5,SNR=36
NOA **NORSAR Array B** 64.63 4 P P 16 07 26.3 -0.2
NOA pmax pmax
comp=Z,17nm,0.8s
ARU **Arti** 64.69 337 P P 16 07 26.4 -0.5
comp=Z,338nm,0.5s,SNR=16
ARU **Arti** 64.69 337 *c* iP P 16 07 26.1 -0.8
ARU 16 07 57.8
ARU 16 09 46.5
ARU S S 16 16 05.0 +1.8
ARU SS SS 16 20 18.3 +4.8
ARU pmax pmax
comp=Z,47nm,1.0s
ARU **Arti** 64.69 337 eP P 16 07 25.6 -1.3
comp=Z,34nm,0.7s
MK31 **Makanchi Array** 65.60 317 *i* P P 16 07 32.0 -1.0
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MKAR **Makanchi Array** 65.60 317 P P 16 07 31.9 -1.1
comp=Z,1.7nm,0.5s,baz=40,slow=5.7,SNR=9.9
MKAR LR LR 16 38 09.1
comp=Z,258nm,18.1s,baz=39,slow=38
MKAR **Makanchi Array** 65.60 317 P P 16 07 31.9 -1.1
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR MLR MLR
comp=Z,259nm,18.1s
MKAR **Makanchi Array** 65.60 317 eP P 16 07 32.1 -0.9
HFS **Hagfors** 65.62 3 P P 16 07 32.5 -0.3
comp=Z,33nm,0.6s,baz=49,slow=4.4,SNR=137
HFS **Hagfors** 65.62 3 P P 16 07 32.6 -0.3
HFS pmax pmax
comp=Z,33nm,0.6s
WMQ **Urumqi** 65.77 312 P P 16 07 34.7 +0.5
WMQ pP pP 16 07 47.7 +0.4
WMQ sP sP 16 07 52.9 +0.4
WMQ PcP PcP 16 08 05.9 +0.8
WMQ PP PP 16 10 00.4 +1.6
WMQ ScP 16 12 03.8
WMQ PMZ
comp=Z,9.0nm,0.7s
WMQ LN
comp=Z,250nm,12.5s
WMQ LE
comp=Z,150nm,15.2s
WMQ LZ
comp=Z,130nm,23.0s
VSU **Vasula** 67.17 355 *d* iP P 16 07 42.9 +0.2
VSU pmax pmax
comp=Z,146nm,1.2s
CD2 **Chengdu** 68.08 293 eP P 16 07 48.1 -0.9
CD2 pP pP 16 08 01.0 -1.2
CD2 sP sP 16 08 06.3 -1.1
CD2 PcP PcP 16 08 14.2 -0.7
CD2 S S 16 16 43.8 -1.3
CD2 sS sS 16 17 05.8 -1.3
CD2 SS SS 16 21 07.0 -0.4
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
SZP **Santa** 69.01 271 eP P 16 07 55.5 +0.6
comp=Z,52nm,1.0s
EKA **Eskdalemuir Ar** 69.06 13 P P 16 07 55.0 +0.3
comp=Z,20nm,0.7s,baz=344,slow=4.7,SNR=46
EKA **Eskdalemuir Ar** 69.06 13 P P 16 07 55.0 +0.3
EKA pmax pmax
comp=Z,20nm,0.7s
ESK **Eskdalemuir** 69.07 13 *i* P P 16 07 55.6 +0.9
ESK **Eskdalemuir** 69.07 13 eP P 16 07 55.5 +0.8
comp=Z,7.7nm,0.9s
PDGK **Podgornoye** 69.58 317 P P 16 07 57.2 -0.9
PDGK pmax pmax
comp=Z,36nm,1.4s
OBN **Obninsk** 69.72 349 P P 16 07 58.0 -0.7
comp=Z,33nm,0.8s,baz=197,slow=3.3,SNR=9.9
OBN **Obninsk** 69.72 349 *c* iP P 16 07 57.8 -0.9
OBN pmax pmax
comp=Z,31nm,0.7s
OBN **Obninsk** 69.72 349 eP P 16 07 58.0 -0.7
comp=Z,36nm,0.9s
IZAR **Zarasai** 69.90 355 eP P 16 07 59.7 -0.2
IZAR IAmb IAmb 16 08 01.2
comp=Z,35nm,1.1s
GYA **Guiyang** 69.95 287 P P 16 08 01.0 +0.2
GYA pP pP 16 08 13.6 -0.4
GYA sP sP 16 08 20.4 +1.2
GYA PP PP 16 10 38.3 +2.7
GYA S S 16 17 05.4 -2.2
GYA sS sS 16 17 27.0 -2.7
GYA SKS SKSac 16 17 53.2 -4.9
GYA SS SS 16 21 36.0 -0.7
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,660nm,17.8s
GYA LE
comp=Z,580nm,18.0s
GYA LZ
comp=Z,610nm,17.3s
ISAL **Salakas** 70.09 355 eP P 16 08 00.8 -0.1
ISAL IAmb IAmb 16 08 03.4
comp=Z,22nm,1.1s
IIGN **Ignalina** 70.30 355 eP P 16 08 02.2 -0.1
IIGN IAmb IAmb 16 08 03.6
comp=Z,23nm,0.9s
AKTO **Aktyubinsk** 70.31 334 P P 16 08 01.8 -0.7
AKTO pmax pmax
comp=Z,39nm,0.8s
AB31 **Akbulak array** 70.89 333 *i* P P 16 08 05.8 -0.2
AB31 pmax pmax
comp=Z,25nm,0.6s
ABKAR **Akbulak array** 70.89 333 eP P 16 08 06.3 +0.3
MICGM **Minsk** 71.06 354 *e* P 16 08 06.0 -0.9
MNK **Minsk** 71.07 354 eP P 16 08 06.0 -1.0
TKM2 **Tokmak 2** 71.44 319 P P 16 08 10.2 +0.5
SNR=18
TKM2 **Tokmak 2** 71.44 319 P P 16 08 09.4 -0.3
TKM2 pmax pmax
comp=Z,33nm,1.4s
USP **Ospenovka** 71.55 320 P P 16 08 10.7 +0.6
SNR=12
BSEG **Bad Segeberg** 71.69 5 eP P 16 08 11.8 +1.1
comp=Z,26nm,1.0s
CHMS **Chumysh** 71.69 320 P P 16 08 11.8 +0.8
SNR=23
SUW **Suwalki** 71.76 357 eP P 16 08 10.4 -0.7
SUW **Suwalki** 71.76 357 eP P 16 08 10.5 -0.7
ULHL **Ulahol** 71.77 319 P P 16 08 12.1 +0.4
SNR=16
FRU **Bishkek** 71.88 320 eP P 16 08 12.0 -0.2
LPSR **Galich'ya Gora** 71.90 347 eP P 16 08 11.4 -0.6
LPSR pmax pmax
comp=N,10.0nm,0.9s
LPSR pmax pmax
comp=Z,30nm,0.9s
LPSR pmax pmax
comp=E,5.0nm,0.7s
KBK **Karagaybulak** 71.91 320 P P 16 08 13.1 +0.6
SNR=28
AAK **Ala-Archa** 72.10 320 P P 16 08 14.5 +0.9
comp=E,164nm,0.8s,SNR=9.0
AAK **Ala-Archa** 72.10 320 P P 16 08 14.1 +0.5
SNR=16
AAK **Ala-Archa** 72.10 320 P P 16 08 13.9 +0.3
AAK pmax pmax
comp=Z,37nm,1.2s
AAK **Ala-Archa** 72.10 320 eP P 16 08 14.1 +0.5
comp=Z,36nm,1.1s
KZA **Kyzart** 72.29 319 P P 16 08 15.6 +0.5
SNR=20
EKS2 **Erkin-Say** 72.34 321 P P 16 08 15.6 +0.6
SNR=19
UCH **Uchtor** 72.44 320 P P 16 08 17.0 +1.0
SNR=7.4
AML **Almayashu** 72.83 320 P P 16 08 19.3 +1.0
SNR=15
MNAS **Manas** 72.96 321 P P 16 08 18.5 -0.2
MNAS pmax pmax
comp=Z,30nm,1.1s
KK31 **Karatay Array** 73.14 323 *i* P P 16 08 19.4 -0.2
KK31 pmax pmax
comp=Z,26nm,1.0s
KKAR **Karatay Array** 73.14 323 eP P 16 08 19.4 -0.2
IBBN **Ibbenburen** 73.15 7 eP P 16 08 20.3 +0.8
comp=Z,22nm,0.8s
KMI **Kunming** 73.17 290 P P 16 08 21.7 +1.4
KMI PMZ
comp=Z,13nm,0.6s
VSR **Storozhevoye** 73.23 347 eP P 16 08 19.3 -0.6
VSR pmax pmax
comp=N,40nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,50nm,0.9s
WTSB **Winterswijk** 73.42 8 eP P 16 08 21.8 +0.7
comp=Z,39nm,0.8s
VORD **Divnogorie** 73.45 346 eP P 16 08 20.6 -0.7
VORD pmax pmax
comp=N,40nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,40nm,0.8s
BUG **Bochum--Univer** 73.98 7 eP P 16 08 24.9 +0.6
comp=Z,25nm,0.8s
KSH **Kashi** 74.21 317 P P 16 08 29.5 +3.4
KSH pP PcP 16 08 42.9 +2.0
KSH PcP pP 16 08 44.0 +4.6
KSH sP sP 16 08 47.2 +2.6
KSH PP PP 16 11 16.5 +5.0
KSH S S 16 17 59.9 +3.8
KSH sS sS 16 18 20.8 +2.5
KSH SS SS 16 22 47.8 +6.8
KSH PMZ
comp=Z,55nm,0.8s
KSH LN
comp=Z,72nm,5.8s
KSH LE
comp=Z,110nm,7.1s
KSH LZ
comp=Z,100nm,6.7s
CLL **Collm** 74.43 4 eP P 16 08 27.0 +0.1
comp=Z,11nm,0.7s
CLL **Collm** 74.43 4 ⇑ *i* P 16 08 27.1 +0.1
comp=Z,24nm,1.0s
CLL **Collm** 74.43 4 ⇑ *i* P P 16 08 27.1 +0.1
CLL pmax pmax
comp=Z,24nm,1.0s
CLL **Collm** 74.43 4 eP P 16 08 27.1 +0.1
comp=Z,24nm,0.9s
HGN **Heimansgroeve** 74.55 8 eP P 16 08 27.9 +0.2
comp=Z,21nm,1.0s
SNF **Seneffe** 74.65 9 P P 16 08 28.5 +0.2
MEM **Membach** 74.71 8 P P 16 08 29.0 +0.4
comp=Z,17nm,1.1s
MEM **Membach** 74.71 8 eP P 16 08 29.3 +0.8
comp=Z,24nm,0.8s
SFK **Sufi-Kurgan** 74.74 319 P P 16 08 28.4 -0.9
AKASG **Malin Array Be** 74.76 353 P P 16 08 28.3 -0.7
comp=Z,23nm,0.5s,baz=7.7,slow=5.6,SNR=51
AKASG **Malin Array Be** 74.76 353 *ce* P P 16 08 28.2 -0.7
AKASG pmax pmax
comp=Z,23nm,0.5s
KIEV **Kiev** 74.77 353 *c* iP P 16 08 28.1 -0.8
KIEV **Kiev** 74.77 353 eP P 16 08 28.1 -0.8
comp=Z,78nm,1.1s
UBBA **Unterbreizbach** 74.78 6 eP P 16 08 29.2 +0.3
comp=Z,2.0nm,0.7s
BCLA **Clavier** 74.83 9 P P 16 08 29.6 +0.3
SDDR **Presa de Saban** 74.85 79 eP P 16 08 30.1 +0.1
comp=Z,14nm,0.8s
BRG **Berggiesshubel** 74.90 3 *i* P P 16 08 29.8 +0.1
comp=Z,24nm,1.0s
BRG **Berggiesshubel** 74.90 3 eP P 16 08 29.9 +0.1
comp=Z,10.0nm,0.8s
BRG **Berggiesshubel** 74.90 3 *i* P P 16 08 29.8 +0.1
BRG pmax pmax
comp=Z,24nm,1.0s
KSP **Ksiaz** 74.98 1 eP P 16 08 30.4 +0.3
KSP **Ksiaz** 74.98 1 eP P 16 08 30.5 +0.3
MOX **Moxa** 75.04 5 eP P 16 08 30.5 0.0
comp=Z,16nm,0.7s
BAIF **Baives** 75.09 10 ⇑ iP P 16 08 31.2 +0.4
comp=Z,32nm,0.9s
BAIF **Baives** 75.09 10 ⇑ *i* P P 16 08 31.2 +0.4
comp=Z,32nm,0.9s
DOU **Dourbes** 75.09 9 P P 16 08 31.2 +0.4
GIVF **Givet** 75.10 9 ⇑ iP P 16 08 31.1 +0.2
GIVF **Givet** 75.10 9 ⇑ *i* P P 16 08 31.1 +0.2
PVCC **Panska Ves** 75.26 3 ⇑ *i* P P 16 08 32.4 +0.6
PVCC **Panska Ves** 75.26 3 ⇑ *i* P P 16 08 32.4 +0.6
TNS **Taunus Mts** 75.28 7 eP P 16 08 32.5 +0.5
comp=Z,10.0nm,0.8s
TANN **Tannenbergstha** 75.30 4 eP P 16 08 32.1 0.0
comp=Z,4.0nm,0.7s
UPC **Upice** 75.31 2 ⇑ iP P 16 08 32.5 +0.4
UPC **Upice** 75.31 2 ⇑ *i* P P 16 08 32.5 +0.4
DPC **Dobruska-Polom** 75.47 1 ⇑ iP P 16 08 33.8 +0.7
DPC ePCP PcP 16 08 43.3 -2.7
DPC **Dobruska-Polom** 75.47 1 ⇑ *i* P P 16 08 33.8 +0.7
DPC *e*PP PcP 16 08 43.3 -2.7

NKC **Novy Kostel** 75.48 4⇑*iP* P 16 08 33.5 +0.4
NKC **Novy Kostel** 75.48 4⇑*iP* P 16 08 33.5 +0.4
OJC **Ojcow** 75.62 359 *eP* P 16 08 33.9 +0.1
OJC **Ojcow** 75.62 359 *eP* P 16 08 34.0 +0.1
OJC **Ojcow** 75.62 359 *eP* P 16 08 34.0 +0.2
comp=Z,12nm,0.9s
WLF **Walferdange** 75.66 8 P P 16 08 34.9 +0.9
comp=Z,17nm,1.2s
WLF **Walferdange** 75.66 8 *eP* P 16 08 34.8 +0.7
comp=Z,11nm,0.8s
WLF **Walferdange** 75.66 8 *eP* P 16 08 35.0 +0.9
comp=Z,34nm,1.2s
PRA **Prague** 75.72 3⇑*iP* P 16 08 35.0 +0.6
PRA **Prague** 75.72 3⇑*iP* P 16 08 35.0 +0.6
PRU **Pruhonice** 75.80 3⇑*iP* P 16 08 35.3 +0.4
PRU **Pruhonice** 75.80 3⇑*iP* P 16 08 35.3 +0.4
FLN **La Foliniere** 75.84 13⇑*iP* P 16 08 35.0 -0.1
comp=Z,36nm,0.9s
FLN **La Foliniere** 75.84 13⇑*iP* P 16 08 35.0 -0.1
comp=Z,36nm,0.9s
ROSF **Rostrenen** 75.86 15 *eP* P 16 08 35.8 +0.5
ROSF **Rostrenen** 75.86 15 *eP* P 16 08 35.8 +0.5
GOPC **GO Pecny, Ondr** 75.88 3⇑*iP* P 16 08 35.7 +0.3
GOPC *ePCP* **PcP** 16 08 45.5 -2.2
LVV **L'vov** 75.92 356 *eP* P 16 08 34.9 -0.7
ROTZ **Rotzenmuhle** 75.94 4 *eP* P 16 08 36.5 +0.8
comp=Z,8.0nm,0.8s
GRF **Grafenberg Arr** 75.97 5 *eP* P 16 08 36.6 +0.7
comp=Z,14nm,0.8s
GRFO **Grafenberg** 75.97 5 *eP* P 16 08 37.1 +1.2
comp=Z,19nm,0.8s
OKC **Ostrava-Krasne** 76.00 0⇑*eP* P 16 08 36.4 +0.3
OKC **Ostrava-Krasne** 76.00 0 *eP* P 16 08 36.4 +0.3
LDF **La Druitiere** 76.05 13⇑*iP* P 16 08 36.3 0.0
comp=Z,29nm,1.0s
LDF **La Druitiere** 76.05 13⇑*iP* P 16 08 36.3 0.0
comp=Z,29nm,1.0s
SGMF **Saint Gilles** 76.05 14 *eP* P 16 08 36.0 -0.3
SGMF **Saint Gilles** 76.05 14 *eP* P 16 08 36.0 -0.3
KWP **Kalwaria Pacla** 76.15 357 *eP* P 16 08 37.5 +0.6
KWP **Kalwaria Pacla** 76.15 357 *eP* P 16 08 37.5 +0.6
GRR **Gorron** 76.16 13⇑*iP* P 16 08 37.1 +0.2
comp=Z,33nm,0.8s
GRR **Gorron** 76.16 13⇑*iP* P 16 08 37.1 +0.2
comp=Z,33nm,0.8s
STHS **Stebnicka Huta** 76.40 358 *eP* P 16 08 39.6 +1.2
STHS pmax pmax
comp=Z,30nm,0.6s
STHS **Stebnicka Huta** 76.40 358 *eP* P 16 08 39.6 +1.2
STHS *e* 16 11 25.4
NIE **Niedzica** 76.41 359 *eP* P 16 08 39.0 +0.5
NIE **Niedzica** 76.41 359 *eP* P 16 08 39.0 +0.5
LANF **Langenberg** 76.47 7⇑*eP* P 16 08 39.3 +0.6
TREC **Trest** 76.52 2⇑*iP* P 16 08 39.4 +0.4
TREC *ePCP* **PcP** 16 08 49.4 -1.1
TREC **Trest** 76.52 2⇑*iP* P 16 08 39.4 +0.4
TREC *e**PP **PcP** 16 08 49.4 -1.1
VRAC **Vranov** 76.52 1 P P 16 08 38.9 -0.1
baz=357,slow=7.0
VRAC **Vranov** 76.52 1⇓*iP* P 16 08 40.0 +1.0
WET **Wettzell** 76.59 4 *eP* P 16 08 40.0 +0.6
comp=Z,26nm,1.3s
KHC **Kasperske Hory** 76.63 3⇑*iP* P 16 08 40.4 +0.7
KHC **Kasperske Hory** 76.63 3⇑*iP* P 16 08 40.4 +0.7
KHC **Kasperske Hory** 76.63 3 *eP* P 16 08 40.4 +0.7
comp=Z,10nm,0.9s
MEZF **Maizieres J'vi** 76.71 9⇑*iP* P 16 08 40.6 +0.5
comp=Z,30nm,1.1s
MEZF **Maizieres J'vi** 76.71 9⇑*iP* P 16 08 40.6 +0.5
comp=Z,30nm,1.1s
PAGF **Fort de Pagny** 76.72 9⇑*iP* P 16 08 40.8 +0.6
comp=Z,16nm,0.8s
PAGF **Fort de Pagny** 76.72 9⇑*iP* P 16 08 40.8 +0.6
comp=Z,16nm,0.8s
STU **Stuttgart** 76.77 6 *eP* P 16 08 40.8 +0.4
comp=Z,15nm,0.8s
STU **Stuttgart** 76.77 6 *eP* P 16 08 41.2 +0.8
comp=Z,20nm,0.8s
KOLS **Kolonicke sedl** 76.86 357 *eP* P 16 08 41.4 +0.4
KOLS pmax pmax
comp=Z,18nm,1.3s
KOLS **Kolonicke sedl** 76.86 357 *eP* P 16 08 41.4 +0.4
GEC2 **GERESS Array S** 76.92 3 *eP* P 16 08 41.2 -0.2
comp=Z,8.0nm,0.9s
GERES **GERESS Array B** 76.92 3 P P 16 08 41.4 0.0
comp=Z,10.0nm,0.7s,baz=1.7,slow=4.9,SNR=84
GERES **GERESS Array B** 76.92 3 P P 16 08 41.4 0.0
GERES pmax pmax
comp=Z,10.0nm,0.7s
CDF **Champ du Feu** 76.99 8⇑*iP* P 16 08 42.0 +0.2
comp=Z,28nm,0.9s
CDF **Champ du Feu** 76.99 8⇑*iP* P 16 08 42.0 +0.2
comp=Z,28nm,0.9s
SFTF **Sexfontaines** 77.00 9⇑*iP* P 16 08 42.0 +0.2
comp=Z,60nm,1.1s
SFTF **Sexfontaines** 77.00 9⇑*iP* P 16 08 42.0 +0.2
comp=Z,60nm,1.1s
THEF **They Montfort** 77.07 9⇑*eP* P 16 08 42.7 +0.6
BFO **Black Forest** 77.15 7 *eP* P 16 08 42.8 +0.2
comp=Z,7.0nm,0.8s
BFO **Black Forest** 77.15 7 *i* P P 16 08 43.1 +0.5
BFO **Black Forest** 77.15 7 *eP* P 16 08 42.8 +0.2
comp=Z,9.0nm,0.8s
UZH **Uzhgorod** 77.17 357 *eP* P 16 08 42.3 -0.3
UZH *e* 16 08 45.1
UZH *e* 16 08 47.7
UZH *e* 16 08 54.9
ECH **Echery** 77.18 8⇑*eP* P 16 08 43.2 +0.4
HAU **Haudompre** 77.32 8⇑*iP* P 16 08 43.8 +0.2
comp=Z,36nm,0.9s
HAU **Haudompre** 77.32 8⇑*iP* P 16 08 43.8 +0.2
comp=Z,36nm,0.9s
SMOL **Smolenice** 77.33 1 *eP* P 16 08 44.8 +1.2
SMOL **Smolenice** 77.33 1 *eP* P 16 08 44.8 +1.2
KECS **Kecovo** 77.35 359 *eP* P 16 08 44.4 +0.7
KECS pmax pmax
comp=Z,18nm,1.3s
KECS **Kecovo** 77.35 359 *eP* P 16 08 44.4 +0.7
FUR **Furstenfeldbru** 77.49 5 *eP* P 16 08 45.8 +1.3
comp=Z,13nm,0.8s
DZET **Dzherino** 77.53 322 P P 16 08 44.9 -0.1
DZET pmax pmax
comp=Z,52nm,1.1s
MOF **Molkenrain** 77.54 8⇑*eP* P 16 08 45.1 +0.2
HINF **Hinteralfeld** 77.55 8⇑*iP* P 16 08 44.9 0.0
comp=Z,20nm,1.0s
HINF **Hinteralfeld** 77.55 8⇑*iP* P 16 08 44.9 0.0
comp=Z,20nm,1.0s
TRPA **Tarpa** 77.66 357⇑*iP* P 16 08 46.3 +0.9
HYF **Humbligny** 77.69 11 *eP* P 16 08 46.1 +0.5
HYF **Humbligny** 77.69 11 *eP* P 16 08 46.1 +0.5
LOR **Lormes** 77.82 10⇑*iP* P 16 08 46.5 +0.2
comp=Z,30nm,1.0s
LOR **Lormes** 77.82 10⇑*iP* P 16 08 46.5 +0.2
comp=Z,30nm,1.0s
CONA **Conrad Observa** 77.89 2⇑*iP* P 16 08 47.7 +0.9
comp=Z,29nm,0.7s,SNR=21
PSZ **Piszkesteto** 77.92 359⇓*iP* P 16 08 48.3 +1.3
PSZ **Piszkesteto** 77.92 359 *eP* P 16 08 47.9 +0.9
comp=Z,26nm,1.0s
MOA **Molln** 77.93 3⇑*iP* P 16 08 47.4 +0.4
comp=Z,7.4nm,0.7s
SSF **Saint Saulge** 77.98 10⇑*iP* P 16 08 47.5 +0.3
comp=Z,23nm,0.8s
SSF **Saint Saulge** 77.98 10⇑*iP* P 16 08 47.5 +0.3
comp=Z,23nm,0.8s
RJOB **Jochberg** 77.99 4 *eP* P 16 08 48.2 +0.8
comp=Z,26nm,0.7s
MFF **Saint Martin d** 78.00 13⇑*iP* P 16 08 47.8 +0.5
comp=Z,42nm,0.8s
MFF **Saint Martin d** 78.00 13⇑*iP* P 16 08 47.8 +0.5
comp=Z,42nm,0.8s
LOMF **Lomont** 78.01 8⇑*eP* P 16 08 43.1 -4.4
BURAR **Bucovina Array** 78.07 355⇑*iP* P 16 08 48.2 +0.3
BMR **Baia Mare** 78.09 357⇑*iP* P 16 08 48.5 +0.7
AVF **Avril sur Loir** 78.23 11⇑*iP* P 16 08 48.6 0.0
comp=Z,34nm,1.0s
AVF **Avril sur Loir** 78.23 11⇑*iP* P 16 08 48.6 0.0
comp=Z,34nm,1.0s
DAVA **Damuels** 78.29 6⇑*iP* P 16 08 49.5 +0.3
comp=Z,6.9nm,0.8s
MOTA **Moosalm** 78.30 5⇓*iP* P 16 08 49.6 +0.4
comp=Z,20nm,0.8s,SNR=11
WATA **Walderalm** 78.34 5⇓*iP* P 16 08 50.0 +0.6
comp=Z,25nm,1.0s,SNR=11

BGF **Bois d'Agland** 78.41 11⇑*iP* P 16 08 49.8 +0.2
comp=Z,25nm,1.0s
BGF **Bois d'Agland** 78.41 11⇑*iP* P 16 08 49.8 +0.2
comp=Z,25nm,1.0s
WTTA **Wattenberg** 78.41 5⇑*iP* P 16 08 50.6 +0.7
comp=Z,35nm,0.8s,SNR=17
SMF **Signal de Mont** 78.43 10⇑*iP* P 16 08 49.7 0.0
comp=Z,26nm,1.0s
SMF **Signal de Mont** 78.43 10⇑*iP* P 16 08 49.7 0.0
comp=Z,26nm,1.0s
TCF **Toulx Ste Croi** 78.60 11⇑*iP* P 16 08 50.8 +0.1
comp=Z,17nm,1.0s
TCF **Toulx Ste Croi** 78.60 11⇑*iP* P 16 08 50.8 +0.1
comp=Z,17nm,1.0s
FETA **Feichten** 78.61 5⇑*iP* P 16 08 51.6 +0.7
comp=Z,26nm,0.9s,SNR=11
GOF **Gofitskoye** 78.62 343⇑*iP* P 16 08 51.3 +0.5
GOF pmax pmax
comp=Z,120nm,0.8s
KBA **Koelnbreinsper** 78.67 4⇑*iP* P 16 08 52.3 +1.1
comp=Z,32nm,0.8s,SNR=16
CABF **La Chapelle** 78.68 9⇑*iP* P 16 08 51.8 +0.6
comp=Z,33nm,1.0s
CABF **La Chapelle** 78.68 9⇑*iP* P 16 08 51.8 +0.6
comp=Z,33nm,1.0s
AGO **Saint Agoulin** 78.94 11⇑*eP* P 16 08 53.2 +0.6
ABTA **Abfaltersbach** 78.97 4⇑*iP* P 16 08 53.0 +0.2
comp=Z,22nm,1.0s,SNR=10
SKNT **Sakolnakorn** 78.98 284 P P 16 08 52.8 -0.3
comp=Z,39nm,1.2s
FUORN **Ofenpass-Fuorn** 78.98 6 *eP* P 16 08 54.2 +1.1
comp=Z,19nm,1.0s
DRGR 78.99 357⇑*iP* P 16 08 53.4 +0.5
SENIN **Lac Senin/Sane** 79.03 8 *eP* P 16 08 53.5 +0.2
LEOM **Leova** 79.04 353⇓*iP* P 16 08 53.3 +0.3
CJR **Cluj-Napoca** 79.04 356⇑*iP* P 16 08 54.4 +1.3
PLDF **La Plantade** 79.08 11⇑*eP* P 16 08 53.9 +0.5
TESR **Tescani** 79.10 354⇓*iP* P 16 08 53.5 +0.1
SOKA **Soboth** 79.12 2⇓*iP* P 16 08 54.2 +0.6
comp=Z,36nm,1.1s,SNR=20
MYKA **Terra Mystica** 79.13 3⇑*iP* P 16 08 54.0 +0.3
comp=Z,10nm,0.7s,SNR=5.9
PERS **Pernice** 79.17 2 *eP* P 16 08 54.5 +0.6
OBKA **Obir** 79.28 3⇑*iP* P 16 08 55.2 +0.7
comp=Z,98nm,0.8s,SNR=38
UBPT **Khong Chiam** 79.49 281 P P 16 08 56.0 +0.1
comp=Z,24nm,1.0s
RJF **Les Rejaudoux** 79.49 12 *eP* P 16 08 55.6 0.0
comp=Z,9.6nm,0.9s
RJF **Les Rejaudoux** 79.49 12 *eP* P 16 08 55.6 0.0
comp=Z,9.6nm,0.9s
SIRR **Siria** 79.54 358⇑*iP* P 16 08 56.5 +0.7
PKSM **Moragy** 79.63 360⇓*iP* P 16 08 57.0 +0.7
DOPR **Dopca** 79.71 355⇓*iP* P 16 08 58.2 +1.4
VRI **Vrincioaia** 79.74 354⇓*iP* P 16 08 57.5 +0.6
ANN **Anapa** 79.75 346 *eP* P 16 08 48.4 -8.5
ANN pmax pmax
comp=Z,26nm,1.0s
LFF **La Frestale** 79.75 13⇑*iP* P 16 08 57.3 +0.3
comp=Z,19nm,0.7s
LFF **La Frestale** 79.75 13⇑*iP* P 16 08 57.3 +0.3
comp=Z,19nm,0.7s
KIV **Kislovodsk** 79.76 343 P P 16 08 57.4 +0.3
comp=Z,362nm,0.7s,SNR=7.6
KIV **Kislovodsk** 79.76 343*c iP* P 16 08 57.5 +0.3
KIV *i* 16 11 58.9
KIV *eS* **S** 16 18 50.7 -5.5
KIV pmax pmax
comp=Z,51nm,0.8s
KIV MLR MLR
comp=Z,208nm,23.0s
LBL **Lubilhac** 79.76 11 *eP* P 16 08 58.6 +1.5
LPL **La Plagne** 79.82 8 *eP* P 16 08 58.7 +1.1
LPL **La Plagne** 79.82 8 *eP* P 16 08 58.7 +1.1
LPG **La Plagne** 79.84 8⇑*iP* P 16 08 59.1 +1.3
comp=Z,18nm,1.0s
LPG **La Plagne** 79.84 8⇑*iP* P 16 08 59.1 +1.3
comp=Z,18nm,1.0s
JAVS **Javornik** 79.88 3 *i* P P 16 08 57.4 -0.4
CAF **Calviac** 79.93 12 *eP* P 16 08 58.1 +0.1
comp=Z,18nm,1.1s
CAF **Calviac** 79.93 12 *eP* P 16 08 58.1 +0.1
comp=Z,18nm,1.1s
KBZ **Khabaz** 79.94 342 P P 16 08 58.0 +0.1
comp=Z,33nm,0.9s,baz=346,slow=4.2,SNR=57
KBZ **Khabaz** 79.94 342 P P 16 08 58.1 +0.1
KBZ pmax pmax
comp=Z,33nm,0.9s
VISS **Visnje** 79.99 3 *i* P P 16 08 58.2 -0.1
NCK **Nalchik** 80.04 342*c iP* P 16 08 59.6 +1.0
MLR **Muntele Rosu** 80.16 355 P P 16 08 59.8 +0.5
comp=Z,1.0nm,0.5s,baz=11,slow=5.2,SNR=8.4
MLR **Muntele Rosu** 80.16 355 P P 16 08 59.8 +0.5
MLR pmax pmax
comp=Z,1.0nm,0.5s
MLR **Muntele Rosu** 80.16 355⇓*iP* P 16 09 00.5 +1.2
BZS **Buzias** 80.19 358⇓*iP* P 16 09 00.0 +0.7
VOIR 80.26 355⇓*iP* P 16 09 00.6 +0.8
TLCR 80.28 353⇓*iP* P 16 09 00.1 +0.3
BNI **Bardonecchia** 80.28 9 *eP* P 16 09 01.7 +1.7
comp=Z,26nm,1.3s
VIVF **Saint-Julien-l** 80.28 10⇑*iP* P 16 09 00.4 +0.5
comp=Z,30nm,1.1s
VIVF **Saint-Julien-l** 80.28 10⇑*iP* P 16 09 00.4 +0.5
comp=Z,30nm,1.1s
BOJS **Bojanci** 80.30 2 *i* P P 16 09 00.1 +0.2
CMMT **Chiang Mai** 80.31 289 P P 16 08 59.8 -0.6
comp=Z,20nm,0.8s
CHTO **Chiang Mai** 80.31 289 P P 16 08 59.9 -0.5
comp=Z,85nm,1.3s
CHTO **Chiang Mai** 80.31 289 *eP* P 16 08 59.8 -0.7
comp=Z,9.2nm,0.8s
CFR **Carcaliu** 80.33 353⇓*iP* P 16 09 00.5 +0.4
ORIF **Oris-en-Rattie** 80.34 9⇑*iP* P 16 09 01.0 +0.7
comp=Z,11nm,0.8s
ORIF **Oris-en-Rattie** 80.34 9⇑*iP* P 16 09 01.0 +0.7
comp=Z,11nm,0.8s
ARR **Arges** 80.34 356⇑*iP* P 16 09 01.2 +0.9
GZR **Gura Zlata** 80.39 357⇓*iP* P 16 09 01.3 +0.8
NEY **Neytrino** 80.44 342 *eP* P 16 09 02.4 +1.5
NEY pmax pmax
comp=Z,7.0nm,1.7s
CMAR **Chiang Mai Arr** 80.60 288 P P 16 09 01.9 0.0
comp=Z,34nm,0.9s,baz=18,slow=5.4,SNR=137
CMAR LR LR 16 46 49.5
comp=Z,34nm,20.3s,baz=360,slow=37
CMAR **Chiang Mai Arr** 80.60 288 P P 16 09 02.0 0.0
CMAR pmax pmax
comp=Z,34nm,1.0s
CMAR MLR MLR
comp=Z,34nm,20.3s
SOC **Sochi** 80.61 345*c iP* P 16 09 01.9 +0.3
SOC pmax pmax
comp=Z,34nm,0.7s
MBDF **Montbardon** 80.61 8⇑*iP* P 16 09 03.2 +1.4
comp=Z,19nm,0.7s
MBDF **Montbardon** 80.61 8⇑*iP* P 16 09 03.2 +1.4
comp=Z,19nm,0.7s
ZEI **Tsey** 80.67 341 *eP* P 16 09 01.7 -0.5
ZEI pmax pmax
comp=Z,38nm,1.0s
ONI **Oni** 80.94 342 P P 16 09 06.0 +2.5
ONI **Oni** 80.94 342 P P 16 09 06.0 +2.5
LASF **Ste Croix** 80.97 11 *eP* P 16 09 04.2 +0.6
LASF **Ste Croix** 80.97 11 *eP* P 16 09 04.2 +0.6
PBKT **Sadao Pong** 81.00 286 P P 16 09 03.7 -0.3
comp=Z,23nm,1.0s
TIRR **Tirgusor** 81.03 353⇑*iP* P 16 09 04.0 +0.2
TIRR **Tirgusor** 81.03 353 *eP* P 16 09 03.8 0.0
comp=Z,28nm,0.9s
DZM **Mont Dzumac** 81.12 210 P P 16 09 04.5 0.0
comp=Z,4.0nm,0.7s,baz=90,slow=20,SNR=3.9
PGAV **Gavieira, Arco** 81.17 20 *eP* P 16 09 05.8 +1.0
PGAV **Gavieira, Arco** 81.17 20 *eLR* LR 16 37 13.6
comp=Z,362nm,16.0s
PGAV **Gavieira, Arco** 81.17 20 *eP* P 16 09 05.8 +1.0
PGAV **Gavieira, Arco** 81.17 20 *eLR* LR 16 37 13.6
comp=Z,362nm,16.0s
SMRF **Simiane la Rot** 81.25 9⇑*iP* P 16 09 06.2 +1.1
SMRF **Simiane la Rot** 81.25 9⇑*iP* P 16 09 06.2 +1.1
SJPF **Ste Jean** 81.27 15 *eP* P 16 09 06.1 +0.9
comp=Z,41nm,1.2s
SJPF **Ste Jean** 81.27 15 *eP* P 16 09 06.1 +0.9
comp=Z,41nm,1.2s
TOUF **Mont Tournerai** 81.36 8 *eP* P 16 09 06.7 +0.9
MHMT **Maesarieng** 81.39 289 P P 16 09 06.4 +0.3

comp=Z,21nm,0.9s
AUTN **L'Aution** 81.39 8 *eP* P 16 09 05.2 -0.9
SAOF **Saorge** 81.41 8 *eP* P 16 09 06.4 +0.5
MSAB **Monastry St. A** 81.44 353⇓*iP* P 16 09 06.7 +0.7
SEAG **Tbilisi Sea** 81.48 340 P P 16 09 07.1 +0.7
MTLF **Montolieu** 81.51 12⇑*iP* P 16 09 06.8 +0.4
comp=Z,12nm,0.8s
MTLF **Montolieu** 81.51 12⇑*iP* P 16 09 06.8 +0.4
comp=Z,12nm,0.8s
SBF **Sospel** 81.52 8 *eP* P 16 09 06.8 +0.2
SBF **Sospel** 81.52 8 *eP* P 16 09 06.8 +0.2
TBLG **Delisi** 81.53 340 P P 16 09 07.7 +1.1
TBLG **Delisi** 81.53 340 P P 16 09 07.7 +1.1
EPF **Esparros** 81.58 13⇑*iP* P 16 09 06.5 -0.3
comp=Z,10nm,0.9s
EPF **Esparros** 81.58 13⇑*iP* P 16 09 06.5 -0.3
comp=Z,10nm,0.9s
ETSF **Etsaut** 81.58 14⇑*iP* P 16 09 07.7 +0.8
comp=Z,14nm,0.7s
ETSF **Etsaut** 81.58 14⇑*iP* P 16 09 07.7 +0.8
comp=Z,14nm,0.7s
REVF **Revere** 81.64 8 *eP* P 16 09 04.8 -2.4
DGRG **David-gareji** 81.67 340 P P 16 09 08.6 +1.3
DGRG **David-gareji** 81.67 340 P P 16 09 08.6 +1.3
DIVS **Divibare** 81.74 359 P P 16 09 08.3 +0.6
DIVS **Divibare** 81.74 359⇓*iP* P 16 09 08.5 +0.8
FRF **La Foret Royal** 81.76 9 *eP* P 16 09 08.2 +0.5
comp=Z,18nm,0.9s
FRF **La Foret Royal** 81.76 9 *eP* P 16 09 08.2 +0.5
comp=Z,18nm,0.9s
PSN **Preselentsi** 81.82 353⇓*iP* P 16 09 09.1 +1.1
POLO **Lamas de Olo** 81.84 20 *eP* P 16 09 09.5 +1.2
POLO **Lamas de Olo** 81.84 20 *eP* P 16 09 09.5 +1.2
PVRL **Vila Real** 81.95 20 *eP* P 16 09 10.1 +1.3
PVRL **Vila Real** 81.95 20 *eP* P 16 09 10.1 +1.3
MVO **Moncorvo** 82.19 19 *eP* P 16 09 11.3 +1.2
comp=Z,38nm,1.5s
MVO **Moncorvo** 82.19 19 *eLQ* LQ 16 37 30.3
MVO *eLR* LR 16 40 39.0
comp=Z,717nm,18.0s
MVO **Moncorvo** 82.19 19 *eP* P 16 09 11.3 +1.2
comp=Z,38nm,1.5s
MVO **Moncorvo** 82.19 19 *eLQ* LQ 16 37 30.3
MVO *eLR* LR 16 40 39.0
comp=Z,717nm,18.0s
PVIS **Viseu** 82.45 20 *eP* P 16 09 12.8 +1.3
comp=Z,40nm,1.2s
PVIS **Viseu** 82.45 20 *eP* P 16 09 12.8 +1.3
comp=Z,40nm,1.2s
LUWI **Luwuk** 82.62 258 *eP* P 16 09 11.6 -1.0
comp=Z,32nm,0.8s
IMYA **Miami** 82.69 327 *eP* P 16 09 14.7 +1.7
PGF **Pioggiola** 82.95 7⇑*iP* P 16 09 14.6 +0.5
comp=Z,42nm,0.9s
PGF **Pioggiola** 82.95 7⇑*iP* P 16 09 14.6 +0.5
comp=Z,42nm,0.9s
PCAS **Casmilo, Conde** 82.97 21 *eP* P 16 09 15.2 +1.1
comp=Z,48nm,1.2s
PCAS **Casmilo, Conde** 82.97 21 *eP* P 16 09 15.2 +1.1
comp=Z,48nm,1.2s
GNI **Garni** 83.05 340 P P 16 09 14.9 +0.2
comp=Z,14nm,0.7s,baz=350,slow=6.7,SNR=6.7
GNI **Garni** 83.05 340*c iP* P 16 09 16.2 +1.4
GNI pmax pmax
comp=Z,15nm,0.8s
JMB **Yambol** 83.13 354⇓*iP* P 16 09 15.5 +0.6
IMOG **Moghan** 83.15 328 *eP* P 16 09 17.4 +1.9
VTS **Vitosha** 83.17 357⇑*iP* P 16 09 15.1 -0.2
PCBR **Castelo Branco** 83.38 20 *eP* P 16 09 17.1 +0.9
comp=Z,36nm,1.5s
PCBR **Castelo Branco** 83.38 20 *eP* P 16 09 17.1 +0.9
comp=Z,36nm,1.5s
PTOM **Tomar** 83.41 21 *eP* P 16 09 17.4 +1.1
comp=Z,49nm,1.2s
PTOM **Tomar** 83.41 21 *eP* P 16 09 17.4 +1.1
comp=Z,49nm,1.2s
PMRV **Marv??o** 83.80 20 *eP* P 16 09 19.3 +0.9
comp=Z,33nm,1.2s
PMRV **Marv??o** 83.80 20 *eLQ* LQ 16 40 15.4
PMRV *eLR* LR 16 42 02.5
comp=Z,522nm,18.0s
PMRV **Marv??o** 83.80 20 *eP* P 16 09 19.3 +0.9
comp=Z,33nm,1.2s
PMRV **Marv??o** 83.80 20 *eLQ* LQ 16 40 15.4
PMRV *eLR* LR 16 42 02.5
comp=Z,522nm,18.0s
SRDT **SRDT** 83.83 286 P P 16 09 19.0 +0.2
comp=Z,60nm,0.8s,comp=Z,10µm
SKO **Skopje** 83.84 358 *i* P P 16 09 20.1 +1.5
PMAFR **Mafra** 83.86 21 *eP* P 16 09 19.9 +1.2
PMAFR **Mafra** 83.86 21 *eP* P 16 09 19.9 +1.2
KDZ **Kurdzhali** 84.01 355⇓*iP* P 16 09 20.5 +1.0
MMB **Musomiste** 84.15 356⇑*iP* P 16 09 21.5 +1.3
ESDC **Sonseca Array** 84.19 17 P P 16 09 20.7 +0.3
comp=Z,9.8nm,0.8s,baz=344,slow=4.9,SNR=45
PESTR **Estremoz** 84.30 20 *eP* P 16 09 22.0 +1.1
comp=Z,32nm,1.7s
PESTR **Estremoz** 84.30 20 *eP* P 16 09 22.0 +1.1
comp=Z,32nm,1.7s
ISK **Istanbul-Kandi** 84.35 352 P P 16 09 21.6 +0.5
ISK **Istanbul-Kandi** 84.35 352 P P 16 09 21.6 +0.5
NVR **Nevrokopi** 84.39 356 *eP* P 16 09 22.2 +0.8
IGLO **Ghaloghah** 84.39 332 *eP* P 16 09 22.9 +1.2
VAY **Valandovo** 84.46 357 *i* P P 16 09 23.1 +1.4
RDO **Rodhopi** 84.51 355 *eP* P 16 09 22.7 +0.7
RDO **Rodhopi** 84.51 355 *eP* P 16 09 22.6 +0.7
comp=Z,78nm,0.8s
EVO **Evora** 84.53 21 *eP* P 16 09 23.1 +1.0
comp=Z,32nm,1.5s
EVO **Evora** 84.53 21 *eP* P 16 09 23.1 +1.0
comp=Z,32nm,1.5s
KNT **Kendrikon** 84.61 357 *eP* P 16 09 23.2 +0.7
SRS **Serrai** 84.63 356 *eP* P 16 09 22.8 +0.2
KAVA **Kavala** 84.71 355 P P 16 09 23.6 +0.7
KAVA **Kavala** 84.71 355 *eP* P 16 09 22.7 -0.2
KAVA **Kavala** 84.71 355 P P 16 09 23.6 +0.7
OHR **Ohrid** 84.71 358 *i* P P 16 09 22.5 -0.6
ALN **Alexandroupoli** 84.73 354 P P 16 09 23.5 +0.5
ALN **Alexandroupoli** 84.73 354 *eP* P 16 09 23.1 +0.1
ALN **Alexandroupoli** 84.73 354 P P 16 09 23.5 +0.5
PNCL **Nicolau / Gran** 84.83 21 *eP* P 16 09 25.1 +1.5
comp=Z,41nm,1.1s
PNCL **Nicolau / Gran** 84.83 21 *eP* P 16 09 25.1 +1.5
comp=Z,41nm,1.1s
FNA **Florina** 85.03 358 P P 16 09 25.0 +0.3
FNA **Florina** 85.03 358 *eP* P 16 09 24.3 -0.3
FNA **Florina** 85.03 358 P P 16 09 25.0 +0.3
IPRN **Peran** 85.03 333 *eP* P 16 09 25.7 +0.9
IALA **Alasht** 85.06 333 *eP* P 16 09 26.0 +0.8
HORT **Hortiatis** 85.17 357 P P 16 09 26.5 +1.1
HORT **Hortiatis** 85.17 357 P P 16 09 26.5 +1.1
ANTO **Ankara** 85.18 349⇑*iP* P 16 09 26.2 +0.7
ANTO **Ankara** 85.18 349 *eP* P 16 09 25.9 +0.4
comp=Z,33nm,0.9s
SMTH **Samothraki Isl** 85.18 355 *eP* P 16 09 24.8 -0.6
ISHM **Shahmirzad** 85.19 332 *eP* P 16 09 27.3 +1.5
BRTR **Keskin Array B** 85.23 348 P P 16 09 26.1 +0.4
comp=Z,17nm,0.8s,baz=38,slow=2.7,SNR=86
BRTR PKKPbc **PKKPbc** 16 27 28.3 -0.2
comp=Z,0.2nm,0.5s,baz=187,slow=6.2,SNR=3.7
PLG **Polygyros** 85.38 356 P pP 16 09 39.9 0.0
PLG **Polygyros** 85.38 356 *eP* P 16 09 26.3 -0.1
OUR **Ouranopolis** 85.39 356 *eP* P 16 09 26.1 -0.3
NEST **Nestorio** 85.40 358 P P 16 09 27.3 +0.7
NEST **Nestorio** 85.40 358 *eP* P 16 09 26.4 -0.2
LIT **Litokhoron** 85.68 357 P P 16 09 28.1 +0.2
LIT **Litokhoron** 85.68 357 *eP* P 16 09 27.9 0.0
LIT **Litokhoron** 85.68 357 P P 16 09 28.1 +0.2
PVAQ **Vaqueiros** 85.68 21 *eP* P 16 09 28.5 +0.6
PVAQ **Vaqueiros** 85.68 21 *eLQ* LQ 16 40 46.9
PVAQ *eLR* LR 16 43 27.3
comp=Z,488nm,20.0s
PVAQ **Vaqueiros** 85.68 21 *eP* P 16 09 28.5 +0.6
PVAQ **Vaqueiros** 85.68 21 *eLQ* LQ 16 40 46.9
PVAQ *eLR* LR 16 43 27.3
comp=Z,488nm,20.0s
IDMV **Damavand** 85.74 333 *eP* P 16 09 29.7 +1.1
LIA **Limnos Island** 85.77 355 P P 16 09 28.6 +0.3
LIA **Limnos Island** 85.77 355 *eP* P 16 09 28.0 -0.3
LIA **Limnos Island** 85.77 355 P P 16 09 28.6 +0.3
PAIG **Paliouri** 85.81 356 *eP* P 16 09 27.7 -0.8
SBUM **Sibu** 85.89 268 *eP* P 16 09 29.8 +0.6
comp=Z,11nm,1.0s
SRN **Sarande** 85.95 359 P P 16 09 29.4 +0.2

SRN	Sarande	85.95	359	P	P	16 09 29.4	+0.2
MALT	Malatya	85.96	344	/P	P	16 09 31.1	+1.7
KEK	Kerkira	86.12	359	P	P	16 09 30.5	+0.5
KEK	Kerkira	86.12	359	eP	P	16 09 30.3	+0.3
KEK	Kerkira	86.12	359	P	P	16 09 30.5	+0.5
SGD	Sagiada	86.22	359	P	P	16 09 30.8	+0.3
SGD	Sagiada	86.22	359	eP	P	16 09 31.2	+0.7
THL	Klokotos Trika	86.23	357	P	P	16 09 30.1	-0.4
THL	Klokotos Trika	86.23	357	eP	P	16 09 29.6	-0.9
ALT	Altintas	86.26	351	P	P	16 09 34.2	+3.4
ALT	Altintas	86.26	351	P	P	16 09 34.2	+3.4
IGT	Igoumenitsa	86.30	359	P	P	16 09 31.5	+0.6
IGT	Igoumenitsa	86.30	359	eP	P	16 09 31.2	+0.3
IGT	Igoumenitsa	86.30	359	P	P	16 09 31.5	+0.6
XOR	Xorichti	86.39	356	P	P	16 09 31.4	0.0
XOR	Xorichti	86.39	356	eP	P	16 09 30.4	-1.0
XOR	Xorichti	86.39	356	P	P	16 09 31.4	0.0
IRAZ	Razeghan	86.44	335	eP	P	16 09 32.7	+0.8
AOS	Alonnisos	86.56	356	eP	P	16 09 31.9	-0.3
DSL	Palaion Diasel	86.68	358	P	P	16 09 33.5	+0.7
DSL	Palaion Diasel	86.68	358	P	P	16 09 33.5	+0.7
AGG	Agios Georgios	86.76	357	P	P	16 09 33.1	-0.2
AGG	Agios Georgios	86.76	357	eP	P	16 09 31.9	-1.3
AGG	Agios Georgios	86.76	357	eP	P	16 09 33.0	-0.2
	comp=Z,14nm,1.0s						
MAKR	Makrakomi, Fth	86.78	357	P	P	16 09 33.9	+0.6
MAKR	Makrakomi, Fth	86.78	357	eP	P	16 09 33.4	+0.1
MAKR	Makrakomi, Fth	86.78	357	P	P	16 09 33.9	+0.6
EVR	Evrytania	86.88	357	P	P	16 09 35.0	+1.1
EVR	Evrytania	86.88	357	eP	P	16 09 34.0	+0.1
EVR	Evrytania	86.88	357	P	P	16 09 35.0	+1.1
LKD2	Lefkada island	87.03	358	P	P	16 09 34.6	+0.1
LKD2	Lefkada island	87.03	358	P	P	16 09 34.6	+0.1
MRKA	Markates	87.03	356	P	P	16 09 34.9	+0.4
MRKA	Markates	87.03	356	eP	P	16 09 34.0	-0.5
DSF	Desfina	87.37	357	P	P	16 09 35.9	-0.3
DSF	Desfina	87.37	357	eP	P	16 09 34.3	-1.9
DSF	Desfina	87.37	357	P	P	16 09 35.9	-0.3
EFP	Efpalio	87.37	357	P	P	16 09 37.7	+1.6
EFP	Efpalio	87.37	357	eP	P	16 09 36.3	+0.2
VIL2	Platees	87.54	356	eP	P	16 09 35.0	-2.0
PMOZ	Porto Moniz, M	87.70	30	A	A	16 55 07.8	
	comp=Z,311nm,20.0s						
PMOZ	Porto Moniz, M	87.70	30	A	A	16 55 07.8	
	comp=Z,311nm,20.0s						
LTK	Loutraki	87.74	357	eP	P	16 09 36.4	-1.5
RLS	Riolos of Patr	87.75	358	P	P	16 09 37.8	-0.1
RLS	Riolos of Patr	87.75	358	P	P	16 09 37.8	-0.1
GUR	Goura	87.85	357	P	P	16 09 38.6	0.0
GUR	Goura	87.85	357	eP	P	16 09 38.0	-0.6
GUR	Goura	87.85	357	P	P	16 09 38.6	0.0
DRO	Drossia	87.85	358	eP	P	16 09 38.9	+0.4
IDHR	Dehrash	87.95	337	eP	P	16 09 39.1	-0.2
IZEF	Zefreh	88.19	332	eP	P	16 09 41.5	+1.0
DID	Didima	88.24	356	P	P	16 09 39.1	-1.3
DID	Didima	88.24	356	eP	P	16 09 38.6	-1.8
DID	Didima	88.24	356	P	P	16 09 39.1	-1.3
SURT	Suratani	88.39	283	P	P	16 09 42.9	+1.6
	comp=Z,9.8nm,0.9s						
IBAF	Bafgh	88.49	329	eP	P	16 09 42.2	+0.4
ITM	Ithomi	88.61	357	eP	P	16 09 41.5	-0.6
IPIR	Pirpir	88.78	333	eP	P	16 09 42.2	-1.1
TRTT	Trang	88.80	282	P	P	16 09 43.9	+0.7
	comp=Z,27nm,1.5s						
VLI	Velíai	89.04	356	eP	P	16 09 43.2	-0.9
KEST	Kesra	89.75	7	P	P	16 09 47.4	-0.2
	comp=Z,2.0nm,0.8s,baz=331,slow=2.4,SNR=4.7						
ANKY	Antikythira Is	89.88	356	eP	P	16 09 47.7	-0.3
IPM	Ipoh	90.75	279	eP	P	16 09 52.5	+0.1
	comp=Z,9.9nm,1.0s						
IPAR	Pars	90.87	331	eP	P	16 09 53.0	-0.1
IKAZ	Kazeroun	91.27	332	eP	P	16 09 55.0	-0.1
MMAI	Mount Meron Ar	91.61	346	P	P	16 09 55.5	-0.7
	comp=Z,2.9nm,0.9s,baz=19,slow=9.2,SNR=2.9						
WRA	Warramunga Arr	92.12	238	P	P	16 09 57.7	-0.8
	comp=Z,3.5nm,0.8s,baz=38,slow=5.6,SNR=19						
WRA	Warramunga Arr	92.12	238	P	P	16 09 57.7	-0.8
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ASF	Jabal al Asfar	92.21	345	P	P	16 09 58.6	-0.4
	comp=Z,1.7nm,0.4s,baz=279,slow=2.6,SNR=4.5						
ASF	Jabal al Asfar	92.21	345	P	P	16 09 58.6	-0.4
ASF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
PSI	Prapat	93.33	279	eP	P	16 10 04.1	-0.4
	comp=Z,7.4nm,0.8s						
ASAR	Alice Springs	95.48	236	P	P	16 10 13.3	-0.6
	comp=Z,2.4nm,0.8s,baz=33,slow=4.8,SNR=30						
ASAR				PKKPbc	PKKPbc	16 27 03.8	+0.1
	comp=Z,0.6nm,0.6s,baz=205,slow=2.2,SNR=13						
ASAR				LR	LR	16 45 40.4	
	comp=Z,66nm,21.2s,baz=80,slow=31						
ASAR	Alice Springs	95.48	236	P	P	16 10 13.3	-0.6
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR				MLR	MLR		
	comp=Z,66nm,21.2s						
STKA	Stephens Creek	99.02	226	LR	LR	16 51 26.1	
	comp=Z,84nm,19.4s,baz=25,slow=33						
TORD	Torodi Ar. Bea	111.08	18	PKKPbc	PKKPbc	16 26 15.9	-1.0
	comp=Z,0.2nm,0.5s,baz=161,slow=2.5,SNR=5.5						
KMBO	Kilima Mbogo	124.60	337	PKP	PKPdf	16 15 48.7	-0.3
	comp=Z,5.5nm,0.8s,baz=22,slow=3.2,SNR=10						
KMBO	Kilima Mbogo	124.60	337	PKIKP	PKPdf	16 15 48.7	-0.3
KMBO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BOSA	Boshof	153.65	347	PKPbc	PKPbc	16 16 47.1	-0.5
	comp=Z,4.7nm,0.7s,baz=335,slow=2.3,SNR=7.9						
BOSA	Boshof	153.65	347	PKIKP	PKPbc	16 16 47.2	-0.5
BOSA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MAW	Mawson	155.56	220	PKPab	PKPab	16 17 07.7	+0.3
	comp=Z,7.7nm,0.7s,baz=61,slow=7.1,SNR=8.6						
MAW	Mawson	155.56	220	PKP2	PKPab	16 17 07.7	+0.3
MAW				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SNAA	Sanae	160.48	160	PKPab	PKPab	16 17 27.1	-1.6
	comp=Z,1.0nm,0.9s,baz=240,slow=6.1,SNR=15						
SNAA	Sanae	160.48	160	PKP2	PKPab	16 17 27.1	-1.6
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.9s						

JMA 12 15:58:12.6±0.3, 32.94N×142.40E, h32km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	2.08	326	P	Pn	15 58 46.4	+1.9
BSO1				S	Sb	15 59 11.9	-2.0
BSO2	Boso 2	2.27	323	S	Sb	15 59 17.8	-2.1
BSO3	Boso 3	2.43	320	P	Pn	15 58 51.7	+1.9
BSO3				S	Sn	15 59 20.8	+2.6
BSO4	Boso 4	2.67	321	P	Pn	15 58 55.8	+2.6
JYT	Yasato	3.75	332	S	Sn	15 59 53.9	+2.6
JHU	Hanno	3.88	319	P	Pn	15 59 12.8	+2.7
JHU				S	Sn	15 59 56.4	+1.8
JHO	Hitachi	3.96	338	P	Pn	15 59 12.0	+0.9
MAT	Matsushiro	4.98	317	P	Pn	15 59 27.6	+2.4
MAT				eS	Sn	16 00 24.5	+2.7

ISK 12 16:08:44.7, 35.92N×27.10E, h10km, MD2.8, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	Datca	0.89	25	ePG	Pb	16 09 02.4	-0.1
DAT				eSG	Sb	16 09 15.2	+0.6
BODT	Bodrum	1.15	8	ePN	Pn	16 09 07.1	+0.2
BODT				eSN	Sn	16 09 23.7	+0.9
DALY	Dalyan (Mu˘la	1.54	54	ePN	Pb	16 09 13.0	-0.4
DALY				eSN	Sb	16 09 33.5	+0.6
YER	Yerkesik	1.54	38	ePN	Pb	16 09 13.0	-0.4
YER				eSN	Sb	16 09 33.5	+0.4
APE	Apeiranthos	1.71	313	ePN	Pn	16 09 15.3	+0.7
APE	Apeiranthos	1.71	313	P	Pb	16 09 16.7	+0.5

ISCJB 12 16:13:04.8±0.8, 23.38N±0.07×90.90E±0.06, h33km, mb3.8/5, Error ellipse: s-maj=10.8km s-min=7.1km az=34.1

IDC 12 16:13:04.8±1.1, 24.08N×92.49E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.5/29, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=65.2km s-min=19.2km az=55.0

DMN 12 16:13:05.2±0.4, 23.21N×90.98E, h10km, Ml4.5/4, Error ellipse: s-maj=18.8km s-min=7.8km az=48.0

ISC 12 16:13:06.7±1.3, 23.4N±0.1×90.98E±0.06, h35km, n18, σ1s17/23, mb3.8/5, Bangladesh

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGT	Agartala	0.53	29	eP	Sn	16 13 24.0	-1.5
AGT				eS	x	16 13 40.0	
SHL	Shillong	2.29	21	ePN	Pn	16 13 41.5	-0.8
SHL				eSN	Sn	16 14 10.0	+0.6
ODAN	Odare	4.72	317	ePn	Pn	16 14 16.2	+0.5
ODAN				eSn	Sn	16 15 09.7	+0.3
TAPN	Taplejung	4.90	324	ePn	Pn	16 14 19.2	+0.9
TAPN				eSn	Sn	16 15 14.2	+0.3
RAMN	Ramite	5.30	312	ePn	Pn	16 14 24.3	+0.7
JIRN	Jiri	6.04	315	ePn	Pn	16 14 34.4	+0.4
JIRN				eSn	Sn	16 15 41.0	-1.1
	97nm,0.4s						
GUN	Gumba	6.41	315	ePn	Pn	16 14 40.0	+0.9
GUN				eSn	Sn	16 15 50.7	-0.5
	91nm,0.4s						
PKI	Pulchoki	6.51	311	ePn	Pn	16 14 40.8	+0.4
KKN	Kakani	6.74	311	ePn	Pn	16 14 44.8	+1.4
DMN	Daman	6.75	309	ePn	Pn	16 14 43.7	+0.2
GKN	Gorkha	7.31	310	ePn	Pn	16 14 51.7	+0.5
GKN				eSn	Sn	16 16 11.0	-2.1
	35nm,0.2s						
KOLN	Koldanda	7.94	305	ePn	Pn	16 15 00.1	+0.2
KOLN				eSn	Sn	16 16 25.3	-3.4
	50nm,0.3s						
CMAR	Chiang Mai Arr	8.93	122	Pn	Pn	16 15 04.0	-9.4
	0.1nm,0.3s,baz=304,slow=13,SNR=3.0						
MKAR	Makanchi Array	24.35	345	P	P	16 18 21.8	+0.5
	1.4nm,0.5s,baz=164,slow=10.0,SNR=23						
KURBB	Kurchatov Arra	28.83	343	P	P	16 19 02.6	+1.0
	0.7nm,0.9s,baz=163,slow=8.9,SNR=5.3						
WRA	Warramunga Arr	60.38	132	P	P	16 23 12.4	-0.3
	2.1nm,0.5s,baz=322,slow=7.2,SNR=24						
ASAR	Alice Springs	62.68	135	P	P	16 23 28.1	-0.1
	0.4nm,0.3s,baz=315,slow=6.6,SNR=29						
TORD	Torodi Ar. Bea	84.23	282	P	P	16 25 45.4	+10
	0.5nm,0.7s,baz=76,slow=3.3,SNR=4.0						

IDC 12 16:29:33.1±3.2, 49.78N×28.88W, h0km, mb3.8/2, mb1 3.8/2, mb1mx3.2/31, mbtmp3.8/2, MS3.6/2, Ms1 3.6/2, ms1mx3.0/43, Error ellipse: s-maj=120.5km s-min=44.8km az=75.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	44.29	135	P	P	16 37 44.3	-0.2
	1.1nm,1.0s,baz=340,slow=8.5,SNR=3.6						
PDAR	Pinedale Array	53.67	296	LR	LR	17 00 37.9	
	comp=Z,38nm,18.1s,baz=9.5,slow=35						
ANMO	Albuquerque	56.72	286	LR	LR	17 02 52.8	
	comp=Z,71nm,18.2s,baz=5.0,slow=35						
H10N2	ASCENSION HYDR	58.72	163	T	T	17 42 18.8	
	baz=350						
H10N3	ASCENSION HYDR	58.73	163	T	T	17 42 19.4	
	baz=350						
H10N1	ASCENSION HYDR	58.74	163	T	T	17 42 18.2	
	baz=350						
H10S1	ASCENSION HYDR	59.78	164	T	T	17 43 39.7	
	baz=350,slow=75,SNR=6.3						
H10S3	ASCENSION HYDR	59.79	164	T	T	17 43 40.3	
	baz=350,slow=75,SNR=5.7						
H10S2	ASCENSION HYDR	59.80	164	T	T	17 43 41.1	
	baz=350,slow=75,SNR=6.3						
MKAR	Makanchi Array	66.90	44	P	P	16 40 27.0	+0.2
	1.1nm,0.9s,baz=331,slow=5.3,SNR=5.7						
ASAR	Alice Springs	150.66	34	PKPbc	PKPbc	16 49 26.8	-0.3
	1.0nm,0.9s,baz=358,slow=2.3,SNR=9.1						
ASAR				PKPab	PKPab	16 49 33.1	-0.7
	0.9nm,0.9s,baz=336,slow=1.8,SNR=8.9						

IDC 12 16:33:22.9±13.0, 24.10S×178.59W, h489km±66km, mb3.3/3, mb1 3.4/5, mb1mx3.1/20, mbtmp4.2/5, Error ellipse: s-maj=211.5km s-min=53.6km az=60.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.93	275	P	P	16 36 22.6	+0.4
	0.4nm,0.3s,baz=90,slow=20,SNR=5.2						
URZ	Urewera	14.59	194	P	P	16 36 28.9	+0.1
	1.1nm,0.3s,baz=350,slow=6.1,SNR=5.3						
URZ				S	S	16 38 49.8	-12
	0.4nm,0.3s,baz=299,slow=19,SNR=4.7						
STKA	Stephens Creek	35.85	248	P	P	16 39 39.8	-0.9
	1.0nm,0.3s,baz=100,slow=11,SNR=10.0						
ASAR	Alice Springs	43.28	260	P	P	16 40 40.9	0.0
	1.0nm,0.3s,baz=91,slow=7.4,SNR=88						
WRA	Warramunga Arr	43.68	266	P	P	16 40 44.2	+0.2
	2.0nm,0.3s,baz=102,slow=8.3,SNR=41						

SJA 12 16:33:26.1±0.4, 34.42S×74.17W, h40km, ML3.9, MW3.9

IDC 12 16:33:35.5±1.6, 34.72S×72.34W, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.8/16, mbtmp3.7/5, ML3.9/2, MS3.9/1, Ms1 3.9/1, ms1mx2.8/24, Error ellipse: s-maj=37.2km s-min=28.0km az=106.0

NEIC 12 16:33:39.0, 34.75S×72.32W, h15km, mb3.8/1, ML4.2(GUC), After GUC.

NEIC Felt [III] at Constitucion.

GUC 12 16:33:39.3±0.7, 34.76S×72.32W, h15km±5km, ML4.2

ISC 12 16:33:36.2±2.3, 34.73S±0.05×72.41W±0.09, h6km±13km, n41, σ1s29/42, mb3.7/4, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.92	137	↓iP	Pb	16 33 54.7	+0.1
TALC				iS	Sg	16 34 05.7	-0.2
NICH	Los Niches	1.00	106	↓iP	Pg	16 33 56.2	+0.7
NICH				iS	Sg	16 34 08.5	0.0
LNV	Longovilo	1.13	47	/iP	Pb	16 33 58.5	+0.3
LNV				iS	Sb	16 34 13.0	-0.1
TACH	Talagante	1.62	49	eP	Pn	16 34 06.0	+0.6
TACH				iS	Sn	16 34 26.1	-0.5
CHCH	Chadas Angostu	1.65	62	eP	Pb	16 34 06.9	-0.2
CHCH				iS	Sn	16 34 27.7	+0.2
PCH	Pirque	1.92	55	eP	Pb	16 34 11.3	-0.4
PCH				iS	Sb	16 34 35.7	-0.2
SAN	Santiago	1.93	49	eP	Pb	16 34 11.5	-0.3
SAN				iS	Sb	16 34 35.5	-0.6
SJCH	San Jose de Ma	2.02	58	eP	Pn	16 34 12.1	+1.1
SJCH				iS	Sb	16 34 37.7	-1.1
CLCH	Cerro Calan	2.04	50	eP	Pb	16 34 13.3	-0.5
CLCH				AML	AML	16 34 47.1	
	comp=N,3μm,0.8s						
ROCH	El Roble	2.10	34	eP	Pn	16 34 13.3	+1.1
ROCH				AML	AML	16 34 50.7	
	comp=N,2μm,0.4s						
PEL	Peldehue	2.13	43	eP	Pn	16 34 14.3	+1.8
PEL				iS	Sb	16 34 41.5	-0.5
PEL				AML	AML	16 34 50.8	
	comp=N,3μm,0.8s						
CANA	Caviahue	3.34	161	eP	Pn	16 34 31.9	+2.7
CANA				eS	Sg	16 35 20.4	-3.0
AAGR	Agrelo	3.40	62	eP	Pb	16 34 37.5	+0.6
ARCO	CERRO ARCO	3.45	58	eP	Pb	16 34 38.7	+0.9
ARCO				AML	AML	16 35 29.7	
	comp=Z,103nm,0.6s						
AUSP	Uspallata	3.55	46	eP	Pn	16 34 35.9	+3.7
ASAL	Salagasta	3.66	55	eP	Pb	16 34 39.4	-2.1
RTCV	Cerro Valdivia	4.32	50	eP	Pn	16 34 45.8	+3.2
CFAA	Coronel Fontan	4.68	49	Pn	Pn	16 34 48.4	+0.9
	comp=Z,0.2nm,0.3s,baz=233,slow=15,SNR=9.2						
CFAA				Sn	Sn	16 35 43.6	+1.4
	comp=Z,0.4nm,0.3s,baz=223,slow=19,SNR=3.3						
CFAA				Lg	Lg	16 35 55.4	
	comp=Z,0.8nm,0.3s,baz=356,slow=16,SNR=9.1						
CFAA	Coronel Fontan	4.68	49	eP	Pn	16 34 49.6	+2.0
RTLL	Cerro Villicun	4.73	45	eP	Pn	16 34 50.0	+1.8
ACAN	Cantantal	5.00	62	eP	Pn	16 34 56.4	+4.5
AMOG	MOGNA	5.01	42	eP	Pn	16 34 53.8	+1.7
AVFE	Valle Fertil	5.82	47	eP	Pn	16 35 04.3	+1.1
AVFE				eS	Sn	16 36 19.2	+8.9
ACHE	Chepes	5.99	55	eP	Pn	16 35 06.4	+0.8
PLCA	Paso Flores	6.17	167	Pn	Pn	16 35 09.1	+1.1
	comp=Z,1.0nm,0.3s,baz=345,slow=12,SNR=12						
PLCA				Lg	Lg	16 36 47.4	
	comp=Z,0.4nm,0.3s,baz=258,slow=18,SNR=3.3						
PLCA	Paso Flores	6.17	167	ePn	Pn	16 35 10.1	+2.0
PLCA				eSn	Sn	16 36 17.3	-1.7
PLCA				Lg	Lg	16 36 47.4	
ACLC	CERRO LA CRUZ	7.02	43	eP	Pn	16 35 19.1	-0.8
CYA	Choya	8.42	44	eP	Pn	16 35 35.6	-3.3
FSA	Cafayete	10.22	34	eP	Pn	16 36 01.9	-1.9
LVC	Limon Verde	12.45	15	LR	LR	16 41 25.2	
	comp=Z,561nm,19.1s,baz=190,slow=38						
LPAZ	La Paz	18.76	13	P	P	16 37 56.9	+0.2
	comp=Z,0.1nm,0.3s,baz=186,slow=10,SNR=6.7						
SIV	San Ignacio	21.25	31	P	P	16 38 22.6	-0.7
	comp=Z,2.1nm,0.7s,baz=208,slow=13,SNR=7.8						
QSPA	South Pole Qui	55.51	180	P	P	16 43 12.8	+0.9
	comp=Z,0.8nm,0.8s						
TXAR	Lajitas Array	70.22	331	P	P	16 44 50.7	+0.5
	comp=Z,0.6nm,0.5s,baz=154,slow=8.1,SNR=9.3						
TORD	Torodi Ar. Bea	84.74	70	P	P	16 46 10.0	-1.6
	comp=Z,0.2nm,0.6s,baz=251,slow=4.4,SNR=2.4						
H11S2	WAKE ISLAND Hyl	25.45	269	T	T	19 10 51.2	
	baz=115						
H11S1	WAKE ISLAND Hyl	25.47	269	T	T	19 10 50.6	
	baz=115						
H11S3	WAKE ISLAND Hyl	25.47	269	T	T	19 10 51.7	
	baz=115						
H11N3	WAKE ISLAND Hyl	25.89	270	T	T	19 11 21.8	
	baz=116						
H11N1	WAKE ISLAND Hyl	25.90	270	T	T	19 11 19.4	
	baz=116						
H11N2	WAKE ISLAND Hyl	25.90	270	T	T	19 11 19.8	
	baz=116						

IDC 12 16:37:01.3±1.7, 35.04N×28.24E, h0km, mb3.5/3, mb1 3.3/4, mb1mx3.2/23, mbtmp3.3/4, ML2.3/1, Error ellipse: s-maj=124.9km s-min=23.7km az=138.0

CSEM 12 16:37:04.9±0.1, 35.92N×27.16E, h5km, ML3.5, Error ellipse: s-maj=4.2km s-min=2.4km az=160.0

ATH 12 16:37:04.0, 35.94N×27.17E, h23km±3km, MD3.7/7

ISK 12 16:37:04.5, 35.94N×27.12E, h9km, ML3.3

THE 12 16:37:05.7, 35.88N×27.26E, h10km±3km, ML3.5/1, Error ellipse: s-maj=3.4km s-min=0.8km az=135.0

ISCJB 12 16:37:05.3±0.5, 35.88N±0.03×27.19E±0.03, h18km±5km, mb3.3/3, Error ellipse: s-maj=5.2km s-min=3.0km az=155.4

DDA 12 16:37:05.7, 36.00N×27.24E, h28km, MD3.1

ISC 12 16:37:05.3±0.9, 35.89N±0.03×27.26E±0.02, h24km±9km, n103, σ1s33/133, mb3.3/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.35	194	P	Pb	16 37 12.7	-0.3
KARP				S	Sb	16 37 18.2	0.0
KARP	Karpathos	0.35	194	ePB	Pb	16 37 12.6	-0.4
KARP				eSB	Sb	16 37 18.3	0.0
KARP	Karpathos	0.35	194	ePb	Pb	16 37 12.6	-0.4
KARP				S	Sb	16 37 18.2	0.0
ARG	Arkhangelos	0.77	65	P	Pb	16 37 20.1	0.0
ARG				S	Sn	16 37 32.7	+1.1
ARG	Arkhangelos	0.77	65	ePN	Pb	16 37 19.9	-0.2
ARG				eSN	Sn	16 37 32.0	+0.4
ARG	Arkhangelos	0.77	65	P	Pb	16 37 20.1	0.0
ARG				eSn	Sn	16 37 32.0	+0.4
DAT	Datca	0.88	17	ePG	Pb	16 37 21.7	-0.2
DAT				eSG	Sn	16 37 34.2	-0.1
DAT	Datca	0.88	17	ePg	Pb	16 37 21.7	-0.2
DAT				eSg	Sn	16 37 34.2	-0.1
BODT	Bodrum	1.17	2	ePN	Pb	16 37 26.5	-0.3
BODT				eSN	Sn	16 37 42.6	+1.1
BODT	Bodrum	1.17	2	ePn	Pb	16 37 26.5	-0.3
BODT				eSn	Sn	16 37 42.6	+1.1
BDRM	Kayabasi	1.18	7	iP	Pn	16 37 25.7	-0.7
BDRM				iS	Sn	16 37 41.2	-0.6
BDRM	Kayabasi	1.18	7	iP	Pn	16 37 25.7	-0.7
BDRM				iS	Sn	16 37 41.2	-0.6
DALY	Dalyan (Mu˘la	1.46	50	ePN	Pb	16 37 31.9	+0.2
DALY				eSN	Sb	16 37 53.1	+3.3
DALY	Dalyan (Mu˘la	1.46	50	ePn	Pb	16 37 31.9	+0.2
DALY				eSn	Sb	16 37 53.1	+3.3
TURN	Turunc	1.46	47	iP	Pn	16 37 26.5	-3.6
TURN				iS	Sn	16 37 42.9	-5.6
NPS	Neapolis	1.48	246	P	Pn	16 37 31.0	+0.5
NPS				S	Sn	16 37 49.6	+0.5
NPS	Neapolis	1.48	246	ePN	Pn	16 37 30.7	+0.2
NPS				eSN	Sn	16 37 49.0	0.0
NPS	Neapolis	1.48	246	ePn	Pn	16 37 30.7	+0.2
NPS	Neapolis	1.48	246	P	Pn	16 37 31.0	+0.5
NPS				eSn	Sn	16 37 49.1	0.0
YER	Yerkesik	1.49	33	ePN	Pn	16 37 31.6	+0.9
YER				eSN	Sb	16 37 53.0	+2.2
YER	Yerkesik	1.49	33	ePn	Pn	16 37 31.6	+0.9
YER				eSn	Sb	16 37 53.1	+2.2
SANT	Santorini	1.54	289	P	Pn	16 37 31.8	+0.6
SANT	Santorini	1.54	289	ePN	Pn	16 37 31.1	-0.1
SANT	Santorini	1.54	289	ePn	Pn	16 37 31.1	-0.1
SANT	Santorini	1.54	289	P	Pn	16 37 31.8	+0.6
THR6	Thira Island,	1.58	288	P	Pn	16 37 32.4	+0.6
THR6	Thira Island,	1.58	288	P	Pn	16 37 32.4	+0.6
THR3	Thira Island,	1.59	290	P	Pn	16 37 32.2	+0.2
THR3	Thira Island,	1.59	290	P	Pn	16 37 32.2	+0.2
THR5	Thira Island,	1.64	289	ePN	Pn	16 37 32.7	+0.1
THR5	Thira Island,	1.64	289	P	Pn	16 37 33.2	+0.6
THR5	Thira Island,	1.64	289	ePn

ANKY				S	**Sn**	**16 38 33.4**	**+1.5**
ISP	**Isparta**	**3.25**	**53**	*e*PN	Pn	16 37 58.6	+3.8
ISP	**Isparta**	**3.25**	**53**	*e*PN	Pn	16 37 58.6	+3.8
SUTC	**Sutluce-Ispart**	**3.40**	**61**	*e*PN	Pn	16 38 00.4	+3.5
SUTC	**Sutluce-Ispart**	**3.40**	**61**	*e*PN	Pn	16 38 00.4	+3.5
KYTH	**Kithira**	**3.44**	**278**	P	**Pn**	**16 37 58.5**	**+1.0**
KYTH	**Kithira**	**3.44**	**278**	*e*PN	**Pn**	**16 37 58.5**	**+1.0**
KYTH	**Kithira**	**3.44**	**278**	P	**Pn**	**16 37 58.5**	**+1.0**
SIGR	**SIGRI**	**3.50**	**342**	*e*PN	**Pn**	**16 37 59.8**	**+1.6**
SIGR	**SIGRI**	**3.50**	**342**	*e*Pn	**Pn**	**16 37 59.8**	**+1.6**
VLI	**Veliai**	**3.59**	**285**	P	**Pn**	**16 37 59.4**	**0.0**
VLI				S	**Sn**	**16 38 42.9**	**+1.8**
VLI	**Veliai**	**3.59**	**285**	*e*PN	**Pn**	**16 38 00.6**	**+1.2**
VLI	**Veliai**	**3.59**	**285**	P	**Pn**	**16 38 00.6**	**+1.2**
VLI	**Veliai**	**3.59**	**285**	*e*Pn	**Pn**	**16 38 00.6**	**+1.2**
VLI				S	**Sn**	**16 38 42.9**	**+1.8**
DID	**Didima**	**3.62**	**298**	P	**Pn**	**16 38 00.2**	**+0.4**
DID	**Didima**	**3.62**	**298**	*e*PN	**Pn**	**16 38 00.6**	**+0.8**
DID	**Didima**	**3.62**	**298**	P	**Pn**	**16 38 00.2**	**+0.4**
DID	**Didima**	**3.62**	**298**	*e*Pn	**Pn**	**16 38 00.6**	**+0.8**
GAZI	**Gazipasa**	**4.11**	**84**	*i* P	**Pn**	**16 38 07.5**	**+0.9**
GAZI				*i* S	Sn	16 38 48.3	-5.7
GAZI	**Gazipasa**	**4.11**	**84**	*i* P	**Pn**	**16 38 07.5**	**+0.9**
VLX	**Vlachokerasia**	**4.20**	**292**	P	**Pn**	**16 38 08.4**	**+0.5**
VLX	**Vlachokerasia**	**4.20**	**292**	*e*PN	**Pn**	**16 38 09.9**	**+2.0**
VLX	**Vlachokerasia**	**4.20**	**292**	P	**Pn**	**16 38 08.4**	**+0.5**
VLX	**Vlachokerasia**	**4.20**	**292**	*e*Pn	**Pn**	**16 38 09.9**	**+2.0**
GUR	**Goura**	**4.44**	**299**	P	**Pn**	**16 38 12.0**	**+0.8**
GUR	**Goura**	**4.44**	**299**	P	**Pn**	**16 38 12.0**	**+0.8**
DRO	**Drossia**	**4.90**	**296**	P	**Pn**	**16 38 18.7**	**+1.2**
DRO	**Drossia**	**4.90**	**296**	*e*PN	**Pn**	**16 38 17.8**	**+0.3**
DRO	**Drossia**	**4.90**	**296**	P	**Pn**	**16 38 18.7**	**+1.2**
BRTR	**Keskin Array B**	**6.34**	**51**	Pn	**Pn**	**16 38 38.4**	**+1.1**
	0.1nm,0.3s,baz=220,slow=13,SNR=4.6						
BRTR				Sn	**Sn**	**16 39 51.3**	**+2.3**
	0.1nm,0.3s,baz=224,slow=24,SNR=2.7						
TORD	**Torodi Ar. Bea**	**32.28**	**232**	P	**P**	**16 43 33.1**	**+0.9**
	0.2nm,0.5s,baz=31,slow=8.8,SNR=3.4						
MKAR	**Makanchi Array**	**41.94**	**57**	P	**P**	**16 44 52.2**	**-1.8**
	0.2nm,0.5s,baz=271,slow=7.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**43.26**	**47**	P	**P**	**16 45 03.6**	**-1.0**
	0.7nm,0.5s,baz=267,slow=8.1,SNR=3.0						

IDC ***12*** *16:49:34.4±1.1,32°.97S×178°.37W,h0km,mb4.4/2, mb1 4.6/3,mb1mx3.9/16,mbtmp4.4/3,ML4.2/1,Error ellipse: s-maj=40.6km s-min=29.6km az=131.0*

NEIC ***12*** *16:49:42.1±0.9,33°.38S×178°.62W,h55km,mb4.3/1,Error ellipse: s-maj=27.1km s-min=16.2km az=114.0*

ISC 12 16:49:39.2±1.1,33°.1S±0°.1×178°.4W±0°.2,h32km,n35,
σ1ş99/43,mb4.3/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**5.38**	**208**	*e*PN	**Pn**	**16 50 57.3**	**+0.1**
HAZ	**Te Kaha**	**5.60**	**213**	*e*Pn	**Pn**	**16 51 00.4**	**+0.3**
HAZ					SN	**Sn**	**16 52 09.0**	**+5.7**
PUZ	**Puketiti**	**5.66**	**208**	P	**Pn**	**16 51 00.0**	**-1.0**
PUZ					SN	**Sn**	**16 52 07.9**	**+2.9**
TWGZ	**Tauwhareparae**	**5.86**	**209**	PN	**Pn**	**16 51 03.8**	**-0.1**
TWGZ					SN	**Sn**	**16 52 13.6**	**+3.7**
CNGZ	**Carnagh Statio**	**6.04**	**206**	PN	**Pn**	**16 51 05.6**	**-0.6**
TKGZ	**Te Karaka**	**6.14**	**209**	PN	**Pn**	**16 51 08.7**	**+1.1**
MWZ	**Matawai**	**6.19**	**211**	PN	**Pn**	**16 51 07.8**	**-0.5**
URZ	**Urewera**	**6.32**	**214**	Pn	**Pn**	**16 51 10.4**	**+0.4**
	5.7nm,0.3s,baz=347,slow=4.9,SNR=40						
URZ					Sn	**Sn**	**16 52 24.6**	**+3.5**
	3.9nm,0.3s,baz=250,slow=22,SNR=7.3						
URZ	**Urewera**	**6.32**	**214**	*e*PN	**Pn**	**16 51 09.4**	**-0.6**
URZ				*e*SN	**Sn**	**16 52 23.2**	**+2.2**
URZ	**Urewera**	**6.32**	**214**	*e*Pn	**Pn**	**16 51 09.0**	**-1.0**
URZ				*e*Sn	**Sn**	**16 52 15.8**	**-5.3**
RAGZ	**Rawiri**	**6.37**	**211**	PN	**Pn**	**16 51 10.0**	**-0.7**
RIGZ	**Rimuhau**	**6.40**	**208**	*e*PN	**Pn**	**16 51 10.3**	**-1.0**
SNGZ	**Shannon Statio**	**6.64**	**210**	PN	**Pn**	**16 51 14.6**	**0.0**
KNZ	**Kokohu**	**6.71**	**207**	*e*PN	**Pn**	**16 51 13.4**	**-2.0**
WHHZ	**Waihua**	**6.93**	**210**	PN	**Pn**	**16 51 17.5**	**-1.1**
NMHZ	**Naumai**	**7.13**	**212**	PN	**Pn**	**16 51 21.6**	**+0.2**
ARHZ	**Aropaoanui**	**7.19**	**210**	PN	**Pn**	**16 51 20.7**	**-1.3**
BKZ	**Black Stump Fm**	**7.33**	**213**	*e*PN	**Pn**	**16 51 23.8**	**-0.2**
MCHZ	**McNeill Hill**	**7.47**	**211**	PN	**Pn**	**16 51 25.5**	**-0.4**
CKHZ	**Cape Kidnapper**	**7.49**	**208**	*e*PN	**Pn**	**16 51 23.9**	**-2.3**
PXZ	**Pawanui**	**7.90**	**208**	*e*PN	**Pn**	**16 51 28.8**	**-2.9**
PXZ				*e*SN	**Sn**	**16 52 57.7**	**-2.2**
MRZ	**Mangatainoka R**	**8.96**	**211**	*e*PN	Pn	16 51 42.8	-3.5
MRZ				*e*SN	**Sn**	**16 53 22.6**	**-3.4**
SNZO	**South Karori**	**9.87**	**212**	*e*P	Pn	16 51 54.6	-4.1
LTZ	**Lake Taylor**	**12.15**	**215**	*e*PN	**Pn**	**16 52 27.7**	**-2.2**
AS31	**Alice Springs**	**42.71**	**270**	*e*P	**P**	**16 57 31.9**	**-1.6**
ASAR	**Alice Springs**	**42.72**	**270**	P	**P**	**16 57 33.4**	**0.0**
	2.0nm,0.5s,baz=111,slow=7.7,SNR=48						
ASAR				PcP	**PcP**	**16 59 24.5**	**-0.4**
	0.3nm,0.7s,baz=116,slow=3.5,SNR=3.7						
WRAB	**Tennant Creek**	**43.94**	**275**	*e*P	**P**	**16 57 42.3**	**-1.1**
	3.0nm,0.5s						
WRA	**Warramunga Arr**	**43.95**	**275**	P	**P**	**16 57 43.4**	**0.0**
	3.6nm,0.4s,baz=116,slow=7.6,SNR=48						
KURK	**Kurchatov**	**122.66**	**313**	PKP	**PKPdf**	**17 08 31.3**	**+0.2**
KURBB	**Kurchatov Arra**	**122.70**	**313**	PKP	**PKPdf**	**17 08 31.3**	**+0.1**
	0.1nm,0.5s,baz=114,slow=2.8,SNR=2.8						
FINES	**FINESS Array B**	**147.55**	**338**	PKPbc	**PKPdf**	**17 09 18.8**	**+2.2**
	1.6nm,0.4s,baz=54,slow=2.9,SNR=23						
NOA	**NORSAR Array B**	**151.37**	**350**	PKPbc	**PKPbc**	**17 09 28.7**	**-0.2**
	1.6nm,0.8s,baz=16,slow=4.2,SNR=3.8						
AKASG	**Malin Array Be**	**153.19**	**319**	PKPbc	**PKPbc**	**17 09 33.4**	**+0.2**
	0.2nm,0.4s,baz=49,slow=3.0,SNR=3.0						
BRTR	**Keskin Array B**	**153.50**	**294**	PKPbc	**PKPbc**	**17 09 33.9**	**-0.5**
	0.7nm,0.5s,baz=143,slow=2.7,SNR=5.3						
BRTR				PKPab	**PKPab**	**17 09 47.1**	**+0.1**
	0.4nm,0.6s,baz=108,slow=4.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**160.13**	**180**	PKPab	**PKPab**	**17 10 16.7**	**+1.0**
	0.2nm,0.5s,baz=164,slow=5.7,SNR=2.6						

IDC 12 17:01:26.0±1.5,7°.55N×76°.78W,h0km,mb3.5/1,
mb1 3.4/2,mb1mx3.2/20,mbtmp3.5/2,ML2.0/1,MS3.4/1,
Ms1 3.4/1,ms1mx2.7/20,Error ellipse: s-maj=60.6km
s-min=34.7km az=32.0,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**3.62**	**138**	Pn	Pn	17 02 24.1	+0.1
	2.8nm,0.3s,baz=288,slow=20,SNR=4.1						
ROSC				Sn	Sn	17 03 08.9	+1.1
	2.8nm,0.3s,baz=101,slow=23,SNR=3.7						
TXAR	**Lajitas Array**	**33.30**	**314**	LR	LR	17 24 06.3	
	comp=Z,55nm,18.1s,baz=0.0,slow=41						
TORD	**Torodi Ar. Bea**	**77.15**	**78**	P	P	17 13 22.3	0.0
	0.2nm,0.6s,baz=277,slow=6.0,SNR=3.8						
ASAR	**Alice Springs**	**146.50**	**238**	PKPbc	PKPdf	17 21 08.9	+0.1
	0.7nm,0.8s,baz=122,slow=3.8,SNR=6.0						
WRA	**Warramunga Arr**	**147.43**	**245**	PKPbc	PKPbc	17 21 12.6	-0.3
	0.9nm,1.0s,baz=112,slow=2.7,SNR=4.6						

IDC 12 17:11:55.0±2.8,26°.59N×142°.12E,h0km,mb3.7/5,
mb1 3.8/5,mb1mx3.6/22,mbtmp3.7/5,Error ellipse:
s-maj=138.2km s-min=25.8km az=79.0,Bonin Islands
region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.87**	**190**	P	P	17 20 27.1	0.0
	1.2nm,0.6s,baz=11,slow=8.5,SNR=7.3						
ASAR	**Alice Springs**	**50.59**	**190**	P	P	17 20 55.5	-0.3
	0.3nm,0.8s,baz=2.3,slow=6.7,SNR=4.5						
MKAR	**Makanchi Array**	**50.76**	**310**	P	P	17 20 57.0	+0.1
	0.5nm,0.8s,baz=95,slow=7.1,SNR=3.6						
FINES	**FINESS Array B**	**78.38**	**334**	P	P	17 23 57.2	+0.1
	0.7nm,0.4s,baz=83,slow=5.7,SNR=5.8						
AKASG	**Malin Array Be**	**82.99**	**324**	P	P	17 24 21.8	-0.3
	0.1nm,0.3s,baz=56,slow=5.2,SNR=3.1						

IDC ***12*** *17:36:03.2±1.6,14°.83N×123°.79E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.2/27,mbtmp3.4/3,MS3.0/2,Ms1 3.1/2, ms1mx2.6/20,Error ellipse: s-maj=307.6km s-min=25.3km az=72.0*

ISCJB ***12*** *17:36:05.9±0.9,14°.71N±0°.07×123°.43E±0°.07,h34km, mb3.4/3,MS2.9/2,Error ellipse: s-maj=12.2km s-min=6.8km az=42.0*

ISC 12 17:36:06.5±1.1,14°.63N±0°.08×123°.44E±0°.08,h34km,n9,
σ1ş70/9,mb3.4/3,2C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GQP	**Guinayangan**	**1.20**	**233**	ǁ *e*P	**Pn**	**17 36 25.9**	**-1.0**
GQP				*e*S	**Sb**	**17 36 42.9**	**-1.2**
PVCP	**Virac**	**1.24**	**146**	ǁ *i*P	**Pb**	**17 36 28.4**	**-0.9**
PVCP				*i* S	**Sb**	**17 36 43.5**	**-1.5**
LQP	**Lukban**	**1.91**	**255**	*e*P	**Pn**	**17 36 38.2**	**+1.4**
BCPH	**Baguio City Da**	**3.26**	**303**	ǁ *i*P	**Pn**	**17 36 53.4**	**-1.9**
BCPH				*i* S	**Sn**	**17 37 32.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**23.78**	**283**	LR	LR	17 49 58.6	
	comp=Z,22nm,18.4s,baz=215,slow=35						
WRA	**Warramunga Arr**	**35.99**	**162**	P	P	17 43 07.1	+2.7
	0.4nm,0.8s,baz=345,slow=9.0,SNR=2.7						
SONM	**Songino Array**	**36.00**	**340**	P	**P**	**17 43 05.4**	**+1.0**
	1.1nm,0.8s,baz=160,slow=9.3,SNR=6.7						
ASAR	**Alice Springs**	**39.41**	**165**	P	**P**	**17 43 35.5**	**+2.2**
	0.2nm,0.7s,baz=341,slow=7.4,SNR=5.4						
ZALV	**Zalesovo Beam**	**49.50**	**331**	LR	LR	18 04 58.3	
	comp=Z,23nm,20.9s,baz=246,slow=35						

ISCJB ***12*** *17:48:38.9±1.0,37°.55N±0°.07×16°.60W±0°.07,h10km,Error ellipse: s-maj=10.9km s-min=5.2km az=146.1*

MDD ***12*** *17:48:38.5±2.6,37°.66N×17°.10W,h0km,mb3.9/2,Error ellipse: s-maj=33.9km s-min=17.5km az=139.0,PRXIMO SIN SOLUCIN*

INMG ***12*** *17:48:42.3±1.1,37°.48N×17°.23W,h0km,ML2.8,Error ellipse: s-maj=12.4km s-min=2.8km az=118.0*

ISC 12 17:48:38.7±2.3,37°.61N±0°.09×16°.9W±0°.1,h10km,n56,
σ1ş81/65,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMPST	**Porto Santo, M**	**4.54**	**174**	*e*Pn	**Pn**	**17 49 46.1**	**-1.4**
PMPST				*e*Sn	Sn	17 50 31.4	-9.0
PMPST				A	A	17 50 37.6	
	14nm,0.4s						
PMPST	**Porto Santo, M**	**4.54**	**174**	*e*Pn	**Pn**	**17 49 46.1**	**-1.4**
PMPST				*e*Sn	Sn	17 50 31.4	-9.0
PMPST				A	A	17 50 37.6	
	14nm,0.4s						
PMPS	**Porto Santo**	**4.56**	**174**	*e*Sn	Sn	17 50 32.0	-8.9
PMPS	**Porto Santo**	**4.56**	**174**	*e*Sn	Sn	17 50 32.0	-8.9
PMOZ	**Porto Moniz, M**	**4.78**	**183**	P	**Pn**	**17 49 51.2**	**+0.3**
	2.1nm,0.3s,SNR=4.0						
PMOZ				S	Sn	17 50 36.0	-10
	33nm,0.4s,SNR=7.9						
PMOZ	**Porto Moniz, M**	**4.78**	**183**	*e*Sn	Sn	17 50 36.3	-10
PMOZ				A	A	17 50 37.0	
	32nm,0.8s						
PMOZ	**Porto Moniz, M**	**4.78**	**183**	*e*Sn	Sn	17 50 36.3	-10
PMOZ				A	A	17 50 37.0	
	32nm,0.8s						
PMAR	**Madeira**	**4.88**	**181**	*e*Pn	**Pn**	**17 49 51.9**	**-0.4**
PMAR				*e*Sn	Sn	17 50 38.0	-11
PMAR				A	A	17 50 45.1	
	16nm,0.2s						
PMAR	**Madeira**	**4.88**	**181**	*e*Pn	**Pn**	**17 49 51.9**	**-0.4**
PMAR				*e*Sn	Sn	17 50 38.0	-11
PMAR				A	A	17 50 45.1	
	16nm,0.2s						
PMAFR	**Mafra**	**6.11**	**75**	P	**Pn**	**17 50 11.8**	**+2.7**
	1.6nm,0.4s,SNR=6.3						
PMAFR				S	**Sn**	**17 51 19.5**	**+0.3**
	7.6nm,0.2s,SNR=6.5						
PMAFR	**Mafra**	**6.11**	**75**	*e*Pn	**Pn**	**17 50 12.0**	**+2.9**
PMAFR				*e*Sn	**Sn**	**17 51 19.8**	**+0.7**
PMAFR				A	A	17 51 22.6	
	11nm,1.1s						
PMAFR	**Mafra**	**6.11**	**75**	*e*Pn	**Pn**	**17 50 12.0**	**+2.9**
PMAFR				*e*Sn	**Sn**	**17 51 19.8**	**+0.7**
PMAFR				A	A	17 51 22.6	
	11nm,1.1s						
PFVI	**Vila Bisbo**	**6.42**	**92**	S	**Sn**	**17 51 25.2**	**-1.4**
	3.5nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**6.42**	**92**	*e*Sn	**Sn**	**17 51 25.0**	**-1.6**
PFVI	**Vila Bisbo**	**6.42**	**92**	*e*Sn	**Sn**	**17 51 25.0**	**-1.6**
PACT	**Alcochete**	**6.43**	**77**	*e*Sn	**Sn**	**17 51 25.5**	**-1.4**
PACT	**Alcochete**	**6.43**	**77**	*e*Sn	**Sn**	**17 51 25.5**	**-1.4**
PTEO	**Sao Teotonio**	**6.46**	**88**	*e*Sn	**Sn**	**17 51 26.5**	**-1.3**
PTEO				A	A	17 51 34.4	
	5.2nm,0.5s						
PTEO	**Sao Teotonio**	**6.46**	**88**	*e*Sn	**Sn**	**17 51 26.5**	**-1.3**
PTEO				A	A	17 51 34.4	
	5.2nm,0.5s						
MORF	**Marmelete**	**6.54**	**90**	*e*Pn	**Pn**	**17 50 16.7**	**+1.7**
MORF				*e*Sn	**Sn**	**17 51 27.5**	**-2.2**
MORF				A	A	17 51 30.8	
	3.5nm,0.7s						
MORF	**Marmelete**	**6.54**	**90**	*e*Pn	**Pn**	**17 50 16.7**	**+1.7**
MORF				*e*Sn	**Sn**	**17 51 27.5**	**-2.2**
MORF				A	A	17 51 30.8	
	3.5nm,0.7s						
PNCL	**Nicolau / Gran**	**6.61**	**83**	*e*Pn	**Pn**	**17 50 18.1**	**+2.1**
PNCL				*e*Sn	**Sn**	**17 51 29.6**	**-1.8**
PNCL				A	A	17 51 35.6	
	3.1nm,0.6s						
PNCL	**Nicolau / Gran**	**6.61**	**83**	*e*Pn	**Pn**	**17 50 18.1**	**+2.1**
PNCL				*e*Sn	**Sn**	**17 51 29.6**	**-1.8**
PNCL				A	A	17 51 35.6	
	3.1nm,0.6s						
MESJ	**Messejana**	**6.86**	**85**	*e*Sn	**Sn**	**17 51 36.9**	**-0.5**
MESJ				A	A	17 51 41.0	
	2.5nm,0.2s						
MESJ	**Messejana**	**6.86**	**85**	*e*Sn	**Sn**	**17 51 36.9**	**-0.5**
MESJ				A	A	17 51 41.0	
	2.5nm,0.2s						
PCAS	**Casmilo, Conde**	**6.97**	**67**	*e*Sn	**Sn**	**17 51 38.0**	**-2.2**
PCAS	**Casmilo, Conde**	**6.97**	**67**	*e*Sn	**Sn**	**17 51 38.0**	**-2.2**
PCVE	**Castro Verde**	**7.00**	**87**	*e*Pn	**Pn**	**17 50 23.5**	**+2.1**
PCVE				*e*Sn	**Sn**	**17 51 39.5**	**-1.6**
PCVE	**Castro Verde**	**7.00**	**87**	*e*Pn	**Pn**	**17 50 23.5**	**+2.1**
PCVE				*e*Sn	**Sn**	**17 51 39.5**	**-1.6**
EVO	**Evora**	**7.04**	**80**	*e*Sn	**Sn**	**17 51 40.9**	**-1.1**
EVO	**Evora**	**7.04**	**80**	*e*Sn	**Sn**	**17 51 40.9**	**-1.1**
PBDV	**Barranco-do-Ve**	**7.12**	**90**	*e*Sn	**Sn**	**17 51 41.8**	**-2.1**
PBDV				A	A	17 51 51.6	
	2.4nm,0.6s						
PBDV	**Barranco-do-Ve**	**7.12**	**90**	*e*Sn	**Sn**	**17 51 41.8**	**-2.1**
PBDV				A	A	17 51 51.6	
	2.4nm,0.6s						
PVAQ	**Vaqueiros**	**7.27**	**89**	*e*Sn	**Sn**	**17 51 45.8**	**-1.9**
PVAQ				A	A	17 51 58.7	
	3.2nm,0.5s						
PVAQ	**Vaqueiros**	**7.27**	**89**	*e*Sn	**Sn**	**17 51 45.8**	**-1.9**
PVAQ				A	A	17 51 58.7	
	3.2nm,0.5s						
PESTR	**Estremoz**	**7.41**	**77**	*e*Sn	**Sn**	**17 51 49.1**	**-1.9**
PESTR				A	A	17 51 52.8	
	1.3nm,0.4s						
PESTR	**Estremoz**	**7.41**	**77**	*e*Sn	**Sn**	**17 51 49.1**	**-1.9**
PESTR				A	A	17 51 52.8	
	1.3nm,0.4s						
EGRO	**El Granado**	**7.45**	**88**	P	**Pn**	**17 50 30.2**	**+2.7**
	0.2nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**17 51 50.4**	**-1.7**
	2.2nm,0.2s,SNR=4.9						
PVIS	**Viseu**	**7.63**	**63**	*e*Sn	**Sn**	**17 51 54.3**	**-2.1**
PVIS	**Viseu**	**7.63**	**63**	*e*Sn	**Sn**	**17 51 54.3**	**-2.1**
PMRV	**Marv??o**	**7.64**	**73**	*e*Pn	**Pn**	**17 50 31.9**	**+1.7**
PMRV				*e*Sn	**Sn**	**17 51 55.7**	**-1.1**
PMRV				A	A	17 52 02.5	
	2.6nm,0.7s						
PMRV	**Marv??o**	**7.64**	**73**	*e*Pn	**Pn**	**17 50 31.9**	**+1.7**
PMRV				*e*Sn	**Sn**	**17 51 55.7**	**-1.1**
PMRV				A	A	17 52 02.5	
	2.6nm,0.7s						
PCBR	**Castelo Branco**	**7.67**	**70**	*e*Sn	**Sn**	**17 51 56.4**	**-1.0**
PCBR	**Castelo Branco**	**7.67**	**70**	*e*Sn	**Sn**	**17 51 56.4**	**-1.0**
PBAR	**Barrancos**	**7.79**	**83**	*e*Sn	**Sn**	**17 51 58.2**	**-2.2**
PBAR				A	A	17 52 06.9	
	2.4nm,0.6s						
PBAR	**Barrancos**	**7.79**	**83**	*e*Sn	**Sn**	**17 51 58.2**	**-2.2**
PBAR				A	A	17 52 06.9	
	2.4nm,0.6s						
EBAD	**Badajoz**	**7.84**	**79**	S	**Sn**	**17 52 00.6**	**-1.1**
	1.7nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**8.00**	**55**	P	**Pn**	**17 50 35.9**	**+0.7**
	0.6nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**8.08**	**86**	P	**Pn**	**17 50 38.9**	**+2.7**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**17 52 04.9**	**-2.7**
	0.7nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**8.40**	**62**	S	**Sn**	**17 52 13.6**	**-1.9**
	0.5nm,0.2s,SNR=7.9						
EAGO	**Agolada(Pontev**	**8.48**	**50**	P	**Pn**	**17 50 42.3**	**+0.7**
	0.4nm,0.1s,SNR=7.9						
ESPR	**Espera**	**8.81**	**91**	S	**Sn**	**17 52 25.6**	**+0.2**
	1.4nm,0.2s,SNR=4.0						
ECAL	**Calabor**	**8.91**	**58**	S	**Sn**	**17 52 25.4**	**-2.8**
	0.4nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**9.07**	**84**	S	**Sn**	**17 52 29.4**	**-2.4**
	0.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**9.73**	**83**	P	**Pn**	**17 51 01.1**	**+2.3**
	0.2nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**17 52 47.1**	**-1.1**
	0.4nm,0.1s,SNR=7.9						
EQES	**Quesada**	**10.93**	**85**	S	Sn	17 53 11.4	-6.3
	0.2nm,0.4s,SNR=7.9						

IDC ***12*** *17:48:55.9±1.1,2°.11S×140°.44E,h0km,mb3.7/7, mb1 3.9/9,mb1mx3.8/18,mbtmp3.7/9,ML3.7/2,MS3.2/8, Ms1 3.2/8,ms1mx3.0/22,Error ellipse: s-maj=34.8km s-min=14.2km az=91.0*

ISCJB ***12*** *17:48:59.3±0.7,2°.00S±0°.05×140°.45E±0°.05,h33km, mb3.6/7,MS3.2/6,Error ellipse: s-maj=7.8km s-min=5.9km az=138.8*

DJA ***12*** *17:49:00.9±0.7,2°.S±4°.×14°.0E±°,h13km±5km,M4.5/3, MLv4.5/3*

ISC 12 17:49:01.3±0.8,2°.08S±0°.06×140°.41E±0°.06,h35km,n19,
σ1ş70/22,mb3.7/7,MS3.2/6,Near north coast of Irian
Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.52**	**146**	P	**Pn**	**17 49 12.1**	**-0.3**
JAY				S	**Sn**	**17 49 20.6**	**+0.5**
GENI	**Genyem**	**0.57**	**206**	P	**Pn**	**17 49 10.8**	**-2.2**
GENI				S	**Sn**	**17 49 20.2**	**-0.9**
SMPI	**Sarmi**	**1.71**	**273**	P	**Pn**	**17 49 26.5**	**-2.1**
SMPI				S	**Sn**	**17 49 50.6**	**+1.4**
WAMI	**Wamena**	**2.47**	**223**	P	**Pn**	**17 49 41.5**	**+2.3**
WAMI				S	**Sn**	**17 50 10.9**	**+2.8**
SRPI	**Serui, Papua**	**4.18**	**273**	P	**Pn**	**17 50 03.3**	**+0.7**
SRPI				S	**Sn**	**17 50 52.0**	**+1.7**
RKPI	**Ransiki, Papua**	**6.26**	**275**	P	**Pn**	**17 50 31.6**	**+0.3**
SIJI	**Sorong**	**9.22**	**277**	Pn	**Pn**	**17 51 12.0**	**0.0**
	0.2nm,0.3s,baz=139,slow=20,SNR=1.9						
SIJI				LR	LR	17 55 29.4	
	comp=Z,70nm,21.4s,baz=84,slow=42						
WRA	**Warramunga Arr**	**18.72**	**198**	P	**P**	**17 53 15.7**	**-1.4**
	0.5nm,0.3s,baz=20,slow=12,SNR=13						
WRA				S	**Sn**	**17 56 42.7**	**-3.6**
	0.1nm,0.3s,baz=30,slow=22,SNR=4.6						
WRA				LR	LR	18 01 41.7	
	comp=Z,93nm,20.5s,baz=250,slow=41						
KAPI	**Kappang**	**20.83**	**261**	LR	LR	18 04 25.2	
	comp=Z,13nm,20.1s,baz=72,slow=45						
ASAR	**Alice Springs**	**22.37**	**196**	P	**P**	**17 53 55.5**	**-1.1**
	3.8nm,0.7s,baz=30,slow=9.8,SNR=58						
ASAR				S	**S**	**17 58 03.0**	**+2.4**
	0.6nm,0.7s,baz=13,slow=25,SNR=4.7						
ASAR				LR	LR	18 03 24.1	
	comp=Z,123nm,19.2s,baz=38,slow=39						
STKA	**Stephens Creek**	**29.66**	**178**	P	**P**	**17 55 03.7**	**-0.1**
	1.1nm,0.3s,baz=352,slow=14,SNR=4.8						
STKA				LR	LR	18 06 52.6	
	comp=Z,185nm,20.4s,baz=19,slow=36						
LEM	**Lembang**	**33.02**	**261**	LR	LR	18 12 37.0	
	comp=Z,46nm,18.5s,slow=43						
KSRS	**Korea Array**	**41.01**	**345**	LR	LR	18 11 10.1	
	comp=Z,32nm,19.3s,baz=169,slow=32						
CMAR	**Chiang Mai Arr**	**45.62**	**298**	P	**P**	**17 57 17.8**	**-0.9

JOW eS Sn 18 54 02.8 +0.4
JOW Kunigami 2.00 193 P Pb 18 53 38.9 -1.2
0.8nm,0.3s,baz=117,slow=27,SNR=13
JOW S Sn 18 54 02.2 -0.1
1.3nm,0.3s,baz=13,slow=20,SNR=4.3
JOW LR LR 18 54 41.3
comp=Z,21nm,20.1s,baz=340,slow=48
JNTH Nagotoyohara 2.36 197 P Pn 18 53 43.1 +0.8
JNU Nakatsue 4.68 22 P Pn 18 54 19.6 +5.2
0.9nm,0.3s,baz=223,slow=5.0,SNR=4.5
KSRS Korea Array 8.67 356 P Pn 18 55 10.7 +1.6
0.1nm,0.3s,baz=181,slow=14,SNR=2.3
KSRS LR LR 18 58 37.1
comp=Z,79nm,20.0s,baz=154,slow=38
USRK Ussuriysk Ar. 15.60 9 LR LR 19 01 39.4
comp=Z,46nm,21.3s,baz=214,slow=33
SONM Songino Array 25.72 324 P P 18 58 35.4 +1.2
0.7nm,0.8s,baz=133,slow=9.5,SNR=13
SONM LR LR 19 09 18.2
comp=Z,32nm,18.3s,baz=129,slow=38
CMAR Chiang Mai Arr 29.12 256 LR LR 19 12 13.7
comp=Z,24nm,18.2s,baz=340,slow=40
TLY Talaya 29.58 328 LR LR 19 12 13.2
comp=Z,30nm,18.5s,baz=156,slow=39
MKAR Makanchi Array 40.23 310 P P 19 00 39.2 -1.2
0.3nm,0.8s,baz=90,slow=10,SNR=2.8
ZALV Zalesovo Beam 40.54 321 P P 19 00 41.1 -1.6
0.5nm,0.5s,baz=105,slow=9.1,SNR=2.6
KURBB **Kurchatov Arra 43.37 315** P P 19 01 04.3 -1.6
0.5nm,0.2s,baz=110,slow=7.0,SNR=3.2
BVAR Borovoye Array 48.72 317 P P 19 01 47.8 -0.3
0.7nm,0.5s,baz=88,slow=8.8,SNR=3.3
WRA Warramunga Arr 48.74 173 P P 19 01 48.3 -0.2
0.8nm,0.7s,baz=352,slow=8.3,SNR=6.3
ASAR Alice Springs 52.39 174 P P 19 02 17.3 +1.3
0.2nm,0.6s,baz=351,slow=7.7,SNR=4.5

*SJA **12** 18:59:38.8±1.4,31°.96S×69°.27W,h128km±5km,ML3.6, MW3.5*
*ISCJB **12** 18:59:39.9±0.6,31°.97S±0°.05×69°.19W±0°.08,h128km±3km, mb3.6/5, Error ellipse: s-maj=12.2km s-min=6.0km az=29.7*
*IDC **12** 18:59:40.7±1.6,31°.95S×69°.19W,h120km±8km,mb3.5/5, mb1 3.7/7,mb1mx3.4/39,mbtmp4.0/7,Error ellipse: s-maj=30.3km s-min=23.4km az=78.0*
ISC 12 18:59:40.6±0.8,31°.94S±0°.06×69°.26W±0°.08,h122km±5km, n25,σ0°68/39,mb3.7/5,1D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.14**	**346**	*eP*			**Pn**	**18 59 56.8**	**-1.0**
RTLS				*eS*			**Sn**	**19 00 12.1**	**+1.5**
AUSP	**Uspallata**	**0.30**	**202**	*eP*			**Pn**	**18 59 57.2**	**-1.0**
AUSP				*eS*			**Sn**	**19 00 12.3**	**+0.8**
RTCV	**Cerro Valdivia**	**0.61**	**83**	*eP*			**Pn**	**18 59 59.3**	**-0.3**
RTCV				*eS*			**Sn**	**19 00 14.2**	**+0.2**
SJA	**San Juan**	**0.72**	**55**	*eP*			**Pn**	**19 00 00.5**	**+0.1**
SJA				*eS*			**Sn**	**19 00 16.1**	**+0.7**
ASAL	**Salagasta**	**0.74**	**151**	*eP*			**Pn**	**19 00 00.4**	**-0.2**
ASAL				*eS*			**Sn**	**19 00 14.2**	**-1.6**
RTLL	**Cerro Villicun**	**0.90**	**48**	*eP*			**Pn**	**19 00 01.8**	**-0.2**
RTLL				*eS*			**Sn**	**19 00 18.2**	**+0.1**
CFAA	**Coronel Fontan**	**0.93**	**69**	P			**Pn**	**19 00 01.6**	**-0.5**
	3.6nm,0.3s,baz=34,slow=2.9,SNR=240								
CFAA						S	**Sn**	**19 00 18.1**	**-0.5**
	10nm,0.3s,baz=270,slow=2.8,SNR=11								
CFAA	**Coronel Fontan**	**0.93**	**69**	*eP*			**Pn**	**19 00 02.0**	**-0.2**
CFAA					⇓	*eS*	**Sn**	**19 00 18.4**	**-0.1**
ARCO	**CERRO ARCO**	**0.94**	**163**	*eP*			**Pn**	**19 00 02.2**	**-0.3**
ARCO				*eS*			**Sn**	**19 00 18.9**	**0.0**
AAGR	**Agrelo**	**1.20**	**163**	*eP*			**Pn**	**19 00 04.8**	**-0.1**
AAGR				*eS*			**Sn**	**19 00 22.7**	**-0.8**
AVFE	**Valle Fertil**	**2.00**	**51**	*eP*			**Pn**	**19 00 14.2**	**-0.1**
AVFE				*eS*			**Sn**	**19 00 40.3**	**+0.3**
AVFE						AML	AML	19 00 42.0	
	comp=Z,301nm,0.4s								
ACHE	**Chepes**	**2.34**	**71**	*eP*			**Pn**	**19 00 18.9**	**+0.2**
ACHE				*eS*			**Sn**	**19 00 48.0**	**+0.2**
APLL	**PUNTA DE LOS L**	**2.80**	**57**	*eP*			**Pn**	**19 00 24.7**	**+0.3**
APLL				*eS*			**Sn**	**19 00 57.9**	**-0.2**
ACLC	**CERRO LA CRUZ**	**3.20**	**39**	*eP*			**Pn**	**19 00 29.4**	**-0.4**
ACLC				*eS*			**Sn**	**19 01 06.0**	**-1.7**
CYA	**Choya**	**4.59**	**41**	*eP*			**Pn**	**19 00 46.6**	**-1.6**
LPAZ	**La Paz**	**15.62**	**4**	P			**P**	**19 03 16.4**	**0.0**
	comp=Z,0.5nm,0.3s,baz=183,slow=9.7,SNR=6.6								
SIV	**San Ignacio**	**17.54**	**27**	P			**P**	**19 03 37.0**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=205,slow=10,SNR=10								
BDFB	**Brasilia**	**25.24**	**55**	P			**P**	**19 04 55.8**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=203,slow=7.7,SNR=3.1								
SNAA	**Sanae**	**52.62**	**159**	P			**P**	**19 08 42.1**	**+0.4**
	comp=Z,0.7nm,1.0s,baz=315,slow=10.0,SNR=4.9								
TXAR	**Lajitas Array**	**69.16**	**328**	P			**P**	**19 10 34.5**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=153,slow=8.1,SNR=3.5								
DBIC	**Dimbokro**	**72.29**	**70**	P			**P**	**19 10 53.2**	**0.0**
	comp=Z,4.2nm,0.9s,baz=251,slow=7.1,SNR=3.3								
TORD	**Torodi Ar. Bea**	**81.30**	**69**	P			**P**	**19 11 43.7**	**0.0**
	comp=Z,0.7nm,0.5s,baz=266,slow=5.8,SNR=5.9								
KURBB	**Kurchatov Arra**	**149.77**	**42**	PKPbc			**PKPbc**	**19 19 15.0**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=294,slow=3.1,SNR=5.7								
ZALV	**Zalesovo Beam**	**151.24**	**32**	PKPbc			**PKPbc**	**19 19 19.2**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=305,slow=3.8,SNR=6.2								
MKAR	**Makanchi Array**	**153.65**	**48**	PKPab			**PKPab**	**19 19 37.9**	**0.0**
	comp=Z,0.4nm,0.6s,baz=294,slow=3.9,SNR=4.3								

*IDC **12** 19:00:00.9±4.3,36°.11N×71°.22E,h112km±37km,mb3.5/13, mb1 3.6/18,mb1mx3.4/60,mbtmp4.0/18,MS2.8/2, Ms1 2.8/2,ms1mx2.3/34,Error ellipse: s-maj=27.8km s-min=16.2km az=17.0*
*ISCJB **12** 19:00:01.5±0.3,36°.30N±0°.02×71°.37E±0°.05,h114km, mb3.7/20,Error ellipse: s-maj=6.1km s-min=2.9km az=161.0*
*MOS **12** 19:00:05.0±1.6,36°.46N×71°.75E,h139km,mb3.9/14,Error ellipse: s-maj=14.9km s-min=7.5km az=99.7*
*NNC **12** 19:00:07.2±3.0,37°.10N×70°.54E,h0km,mb4.7,mpv4.5, Error ellipse: s-maj=27.4km s-min=17.2km az=159.0*
ISC 12 19:00:02.0±0.5,36°.29N±0°.04×71°.40E±0°.06,h114km,n93, σ1s86/100,mb3.9/20,14C-10D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.50**	**170**	P			**Pn**	**19 00 44.5**	**+2.9**
CEP				S			**Sn**	**19 01 15.0**	**+3.0**
CHCP	**Chirah Chowk**	**3.04**	**149**	P			Pn	19 00 52.4	+3.8
DZET	**Dzherino**	**3.24**	**322**	P	⇑		**Pn**	**19 00 50.3**	**-1.1**
	292nm,0.8s								
DZET					⇓	S	Sn	19 01 21.5	-7.9
	1µm,0.6s								
SFK	**Sufi-Kurgan**	**4.07**	**23**		⇓	P	Pn	19 01 06.5	+4.0
	66nm,0.3s								
SFK					⇑	S	**Sn**	**19 01 52.3**	**+2.9**
	58nm,0.3s								
KSH	**Kashi**	**4.84**	**47**	Pn			**Pn**	**19 01 11.7**	**-1.1**
KSH				Sn			Sn	19 01 49.3	-19
KSH				smax			smax		
	comp=N,270nm,0.3s								
KSH				smax			smax		
	comp=E,200nm,0.4s								
DLH	**Dalhousie**	**5.31**	**133**	*eP*			**Pn**	**19 01 22.0**	**+2.8**
DLH				*eS*			**Sn**	**19 02 21.0**	**+1.6**
AML	**Almayashu**	**6.10**	**16**	P			**Pn**	**19 01 31.9**	**+1.9**
	SNR=103								
MNAS	**Manas**	**6.25**	**7**		⇓	P	**Pn**	**19 01 33.2**	**+1.4**
	comp=E,33nm,1.2s								
MNAS					⇑	S	**Sn**	**19 02 39.8**	**-2.1**
	comp=E,219nm,0.7s								
UCH	**Uchtor**	**6.40**	**21**	P			**Pn**	**19 01 36.5**	**+2.3**
	SNR=21								
KZA	**Kyzart**	**6.51**	**26**	P			**Pn**	**19 01 37.8**	**+2.2**
	SNR=34								
EKS2	**Erkin-Say**	**6.62**	**15**	P			**Pn**	**19 01 38.8**	**+2.0**
	SNR=35								
SDNR	**Sundarnagar**	**6.65**	**134**	*eP*			Pn	19 01 41.0	+3.8
SDNR				*eS*			**Sn**	**19 02 49.0**	**-2.6**
AAK	**Ala-Archa**	**6.77**	**20**	P			**Pn**	**19 01 41.4**	**+2.5**
	SNR=36								
AAK	**Ala-Archa**	**6.77**	**20**		⇑	P	**Pn**	**19 01 41.2**	**+2.3**
	comp=E,16nm,0.4s								
AAK					⇑	S	**Sn**	**19 02 54.2**	**-0.3**
	comp=E,89nm,0.6s								
AAK	**Ala-Archa**	**6.77**	**20**	P			**Pn**	**19 01 41.7**	**+2.8**
	comp=E,12nm,0.3s,baz=178,slow=4.7,SNR=64								
AAK						S	**Sn**	**19 02 54.3**	**-0.3**
	comp=E,5.8nm,0.3s,baz=150,slow=23,SNR=12								
AAK	**Ala-Archa**	**6.77**	**20**	PN			**Pn**	**19 01 41.7**	**+2.8**
AAK				S			**Sn**	**19 02 54.3**	**-0.3**
AAK				pmax			pmax		
	comp=Z,13nm,0.3s								
AAK				smax			smax		
	comp=N,6.0nm,0.3s								
KK31	**Karatay Array**	**6.84**	**355**	P			**Pn**	**19 01 40.0**	**+0.3**
	comp=N,10nm,0.3s,baz=175,slow=12,SNR=564								
KK31					⇑	S	Sn	19 02 49.4	-6.7
	comp=N,52nm,0.5s,baz=197,slow=20,SNR=7.7								
KBK	**Karagaybulak**	**6.92**	**22**	P			Pn	19 01 44.2	+3.3
	SNR=15								
FRU	**Bishkek**	**6.99**	**20**	*e*PN			**Pn**	**19 01 42.0**	**+0.3**
FRU				*i* S			**Sn**	**19 02 58.0**	**-1.7**
FRU				pmax			pmax		
	comp=Z,100nm,2.0s								
FRU				smax			smax		
	comp=N,280nm,1.8s								
ULHL	**Ulahol**	**7.03**	**31**	P			**Pn**	**19 01 45.0**	**+2.5**
	SNR=12								
SMLA	**Simla**	**7.04**	**135**	*i* P			**Pn**	**19 01 44.0**	**+1.6**
SMLA				*i* S			**Sn**	**19 02 59.9**	**-1.0**
CHMS	**Chumysh**	**7.18**	**20**	P			**Pn**	**19 01 46.5**	**+2.2**
	SNR=25								
USP	**Ospenovka**	**7.37**	**18**	P			**Pn**	**19 01 48.9**	**+2.1**
	SNR=22								
TKM2	**Tokmak 2**	**7.37**	**25**	P			Pn	19 01 50.4	+3.3
	SNR=28								
TKM2	**Tokmak 2**	**7.37**	**25**		⇓	P	**Pn**	**19 01 49.4**	**+2.4**
	comp=N,21nm,0.6s								
TKM2					⇑	S	**Sn**	**19 03 09.7**	**+0.5**
	comp=N,30nm,0.8s								
JOSI	**Joshimath**	**8.89**	**128**	*eP*			**Pn**	**19 02 10.5**	**+2.8**
JOSI				*eS*			**Sn**	**19 03 44.6**	**-1.7**
JOSI				AML			AML	19 03 52.7	
	comp=E,159nm,0.4s								
JOSI				AML			AML	19 03 56.1	
	comp=N,203nm,0.9s								
KHET	**Khetri**	**9.00**	**154**	*eP*			**Pn**	**19 02 09.2**	**+0.2**
KHET				*eS*			Sn	19 03 42.1	-6.5
KHET				AML			AML	19 03 46.2	
	comp=E,247nm,0.1s								
KHET				AML			AML	19 03 46.8	
	comp=N,208nm,0.2s								
KUDL	**Kundal**	**9.19**	**151**	*eP*			**Pn**	**19 02 11.8**	**+0.2**
KUDL				*eS*			Sn	19 03 45.2	-8.0
KUDL				AML			AML	19 04 24.9	
	comp=E,28nm,0.9s								
KUDL				AML			AML	19 04 31.2	
	comp=N,25nm,0.7s								
SONA	**Sohna**	**9.34**	**147**	*eP*			**Pn**	**19 02 14.5**	**+0.9**
SONA				*eS*			Sn	19 03 49.9	-7.1
SONA				AML			AML	19 04 06.2	
	comp=E,52nm,0.3s								
SONA				AML			AML	19 04 07.6	
	comp=N,18nm,0.1s								
AJM	**Ajmer**	**10.16**	**163**	*eP*			**Pn**	**19 02 25.0**	**+0.2**
AJM				*ex*			**Sn**	**19 04 12.0**	**-4.9**
AGRA	**Agra**	**10.61**	**147**	*eS*			**Sn**	**19 04 22.2**	**-5.3**
AGRA				AML			AML	19 06 00.2	
	comp=N,73nm,0.3s								
AGRA				AML			AML	19 06 00.9	
	comp=E,63nm,0.4s								
OTUK	**Ortayu**	**11.97**	**3**		⇓	P	**Pn**	**19 02 47.9**	**-0.9**
	comp=E,9.0nm,1.1s								
MKAR	**Makanchi Array**	**13.28**	**34**	*ePn*			**P**	**19 03 07.3**	**+1.4**
	comp=E,0.1nm,0.3s,baz=221,slow=13,SNR=5.1								
MKAR	**Makanchi Array**	**13.28**	**34**	*ePn*			**P**	**19 03 11.8**	**+0.4**
MKAR						pmax	pmax		
	comp=Z,1.0nm,0.6s								
GKN	**Gorkha**	**13.92**	**123**	*eP*			**Pn**	**19 03 14.2**	**-0.2**
	comp=Z,34nm,0.4s								
DMN	**Daman**	**14.49**	**123**	*eP*			**Pn**	**19 03 21.7**	**-0.1**
KKN	**Kakani**	**14.49**	**122**	*eP*			**Pn**	**19 03 21.9**	**+0.1**
	comp=Z,21nm,0.5s								
PKI	**Pulchoki**	**14.72**	**122**	*eP*			**Pn**	**19 03 25.0**	**+0.2**
	comp=Z,22nm,0.5s								
GUN	**Gumba**	**14.83**	**120**	*eP*			**Pn**	**19 03 26.2**	**-0.1**
	comp=Z,28nm,0.4s								
JIRN	**Jiri**	**15.20**	**120**	*eP*			**Pn**	**19 03 31.3**	**+0.3**
	comp=Z,47nm,0.4s								
KURBB	**Kurchatov Arra**	**15.22**	**18**	P			**Pn**	**19 03 32.0**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=207,slow=10,SNR=8.7								
KURK	**Kurchatov**	**15.33**	**18**	P			**Pn**	**19 03 32.0**	**0.0**
AB31	**Akbulak array**	**15.43**	**331**		⇑	P	**Pn**	**19 03 31.3**	**-1.9**
	comp=Z,3.1nm,0.4s,baz=145,slow=12,SNR=99								
AB31					⇓	S	Sn	19 06 09.3	-14
	comp=Z,32nm,0.9s,baz=149,slow=21,SNR=19								
RAMN	**Ramite**	**15.93**	**122**	*eP*			**Pn**	**19 03 39.8**	**-0.1**
	comp=Z,15nm,0.3s								
TAPN	**Taplejung**	**16.46**	**118**	*eP*			**P**	**19 03 47.6**	**+0.4**
	comp=Z,25nm,0.5s								
ODAN	**Odare**	**16.53**	**120**	*eP*			**P**	**19 03 48.3**	**+0.4**
	comp=Z,52nm,1.1s								
BVA0	**Borovoye Array**	**16.75**	**358**	P			**Pn**	**19 03 48.8**	**-0.7**
	comp=Z,12nm,1.1s,baz=262,slow=41,SNR=27								
BVAR	**Borovoye Array**	**16.75**	**358**	P			**Pn**	**19 03 48.8**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=165,slow=12,SNR=16								
BVAR						S	**Sn**	**19 06 51.3**	**-4.3**
	comp=Z,0.2nm,0.3s,baz=166,slow=24,SNR=5.6								
BVAR	**Borovoye Array**	**16.75**	**358**	P			**Pn**	**19 03 48.8**	**-0.7**
BVAR				S			**Sn**	**19 06 51.3**	**-4.3**
BVAR				pmax			pmax		
	comp=Z,1.0nm,0.3s								
BRVK	**Borovoye**	**16.79**	**358**		⇓	P	**Pn**	**19 03 50.6**	**+0.6**
	comp=Z,27nm,1.5s								
BRVK	**Borovoye**	**16.79**	**358**		⇓	*eP*	**Pn**	**19 03 50.2**	**+0.2**
BRVK						pmax	pmax		
	comp=Z,18nm,1.7s								
AKTO	**Aktyubinsk**	**17.12**	**330**		⇑	P	**P**	**19 03 53.8**	**-0.2**
	comp=Z,17nm,0.8s								
AKTO					⇑	S	Sn	19 06 51.8	-13
	comp=Z,21nm,0.9s								
AKTO	**Aktyubinsk**	**17.12**	**330**	P			**P**	**19 03 53.9**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=150,slow=9.3,SNR=53								
AKTO						S	Sn	19 06 52.5	-12
	comp=Z,0.5nm,0.3s,baz=211,slow=23,SNR=8.2								
AKTO						LR	LR	19 11 16.0	
	comp=Z,22nm,20.3s,baz=131,slow=39								
AKTO	**Aktyubinsk**	**17.12**	**330**	P			**P**	**19 03 53.9**	**-0.1**
AKTO				S			Sn	19 06 52.5	-12
AKTO				pmax			pmax		
	comp=Z,1.0nm,0.3s								
AKTO				smax			smax		
	comp=N,1.0nm,0.3s								
AKTO				MLR			MLR		
	comp=Z,22nm,20.3s								
ZALV	**Zalesovo Beam**	**19.97**	**24**	P			**P**	**19 04 26.5**	**+1.4**
	comp=Z,2.6nm,0.3s,baz=229,slow=10,SNR=28								
ZALV	**Zalesovo Beam**	**19.97**	**24**	P			**P**	**19 04 26.5**	**+1.4**
ZALV				pmax			pmax		
	comp=Z,3.0nm,0.3s								
NVS	**Novosibirsk**	**20.27**	**20**	*eP*			**P**	**19 04 28.8**	**+0.6**
NVS				*e*				19 04 52.9	
NVS				pmax			pmax		
	comp=Z,12nm,1.7s								
SVE	**Sverdlovsk**	**21.79**	**344**	*eP*			**P**	**19 04 45.7**	**+1.3**
SVE				*eS*			**S**	**19 08 39.5**	**+1.3**
SVE				pmax			pmax		
	comp=Z,14nm,1.4s								
ARU	**Arti**	**21.94**	**341**	*d iP*			**P**	**19 04 47.3**	**+1.3**
ARU				PPP			PPP	19 05 25.3	
ARU				S			**S**	**19 08 36.5**	**-4.4**
ARU				pmax			pmax		
	comp=Z,27nm,1.7s								
NCK	**Nalchik**	**22.45**	**297**		⇑	*eP*	**P**	**19 04 54.3**	**+2.8**
KBZ	**Khabaz**	**22.99**	**298**	P			**P**	**19 04 54.3**	**-2.4**
	comp=Z,0.6nm,0.4s,baz=94,slow=14,SNR=2.2								
KBZ	**Khabaz**	**22.99**	**298**	P			**P**	**19 04 54.3**	**-2.4**
KBZ				pmax			pmax		
	comp=Z,1.0nm,0.4s								
NEY	**Neytrino**	**23.04**	**296**	*eP*			**P**	**19 04 59.6**	**+2.1**
NEY				pmax			pmax		
	comp=Z,1.0nm,1.3s								
KIV	**Kislovodsk**	**23.17**	**298**		⇑	*eP*	**P**	**19 05 02.1**	**+3.5**
KIV				*i* S			**S**	**19 09 04.9**	**+3.5**
KIV				pmax			pmax		
	comp=Z,5.0nm,1.0s								
KIV				MLR			MLR		
	comp=Z,23nm,22.0s								
SONM	**Songino Array**	**28.19**	**55**	P			**P**	**19 05 44.5**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=274,slow=9.5,SNR=4.8								
SONM	**Songino Array**	**28.19**	**55**	P			**P**	**19 05 44.5**	**+0.7**
SONM				pmax			pmax		
	comp=Z,1.0nm,0.8s								
OBN	**Obninsk**	**30.31**	**319**		⇓	*eP*	P	19 06 08.1	+5.9
OBN				*e*				19 06 57.1	
OBN				pmax			pmax		
	comp=Z,26nm,2.5s								
OBN				MLR			MLR		
	comp=Z,18nm,16.0s								
AKASG	**Malin Array Be**	**33.33**	**309**	P			**P**	**19 06 28.7**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=86,slow=7.2,SNR=4.2								
AKASG	**Malin Array Be**	**33.33**	**309**	*eP*			P	19 06 35.0	+6.2
AKASG				pmax			pmax		
	comp=Z,1.0nm,0.4s								
MLR	**Muntele Rosu**	**35.17**	**299**	P			**P**	**19 06 46.4**	**+1.5**
	comp=Z,0.5nm,1.0s,baz=112,slow=11,SNR=2.1								
MLR	**Muntele Rosu**	**35.17**	**299**	P			**P**	**19 06 46.4**	**+1.5**
MLR				pmax			pmax		
	comp=Z,1.0nm,1.0s								
KOLS	**Kolonicke sedl**	**37.66**	**305**	*eP*			P	19 07 12.2	+6.3
KOLS				pmax			pmax		
	comp=Z,5.0nm,1.5s								
KOLS	**Kolonicke sedl**	**37.66**	**305**	*eP*			P	19 07 12.2	+6.3
KOLS				*ep*			pP	19 07 19.2	-12
FINES	**FINESS Array B**	**37.84**	**326**	P			**P**	**19 07 07.5**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=125,slow=10.0,SNR=8.0								
FINES						LR	LR	19 22 12.9	
	comp=Z,25nm,20.9s,baz=35,slow=35								
FINES	**FINESS Array B**	**37.84**	**326**	P			**P**	**19 07 07.5**	**+0.3**
FINES				pmax			pmax		
	comp=Z,3.0nm,0.7s								
FINES				MLR			MLR		
	comp=Z,25nm,20.9s								
KECS	**Kecovo**	**38.85**	**305**	*eP*			P	19 07 19.9	+4.1
KECS				pmax			pmax		
	comp=Z,3.0nm,1.4s								
KECS	**Kecovo**	**38.85**	**305**	*eP*			P	19 07 19.9	+4.1
KECS				*ep*			pP	19 07 29.0	-13
ARCES	**ARCESS Array B**	**41.46**	**338**	P			**P**	**19 07 38.1**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=110,slow=7.0,SNR=8.0								
ARCES	**ARCESS Array B**	**41.46**	**338**	P			**P**	**19 07 38.1**	**+1.0**
ARCES				pmax			pmax		
	comp=Z,1.0nm,0.6s								
HFS	**Hagfors**	**43.43**	**322**	P			**P**	**19 07 53.6**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=89,slow=12,SNR=10								
HFS	**Hagfors**	**43.43**	**322**	P			**P**	**19 07 53.6**	**+0.4**
HFS				pmax			pmax		
	comp=Z,4.0nm,0.8s								
NB2	**NORSAR Subarra**	**44.74**	**323**	P			**P**	**19 08 03.1**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=95,slow=7.9								
NOA	**NORSAR Array B**	**44.74**	**323**	P			**P**	**19 08 02.3**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=96,slow=7.8,SNR=5.0								
NOA	**NORSAR Array B**	**44.74**	**323**	P			**P**	**19 08 02.3**	**-1.3**
NOA				pmax			pmax		
	comp=Z,2.0nm,0.6s								
SPITS	**Spitsbergen Ar**	**47.77**	**347**	P			**P**	**19 08 27.7**	**+0.6**
	comp=Z,2.6nm,0.9s,baz=117,slow=7.2,SNR=3.0								
SPITS	**Spitsbergen Ar**	**47.77**	**347**	P			**P**	**19 08 27.7**	**+0.6**
SPITS				pmax			pmax		
	comp=Z,3.0nm,0.9s								
TORD	**Torodi Ar. Bea**	**66.04**	**269**	P			**P**	**19 10 34.1**	**-2.7**
	comp=Z,0.7nm,0.6s,baz=50,slow=5.6,SNR=7.0								
ILAR	**Eielson Array**	**74.89**	**16**	P			**P**	**19 11 29.0**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=316,slow=7.5,SNR=3.5								
ILAR	**Eielson Array**	**74.89**	**16**	P			**P**	**19 11 29.0**	**-0.8**
WRA	**Warramunga Arr**	**81.60**	**122**	P			**P**	**19 12 07.4**	**0.0**
	comp=Z,0.6nm,0.9s,baz=324,slow=4.9,SNR=6.2								
WRA	**Warramunga Arr**	**81.60**	**122**	P			**P**	**19 12 07.4**	**0.0**
WRA				pmax			pmax		
	comp=Z,1.0nm,1.0s								
ASAR	**Alice Springs**	**83.87**	**125**	P			**P**	**19 12 18.9**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=311,slow=4.8,SNR=5.1								
ASAR	**Alice Springs**	**83.87**	**125**	P			**P**	**19 12 19.0**	**-0.1**

*ISK **12** 19:04:35.8,40°.87N×31°.02E,h6km,MD2.7*
*CSEM **12** 19:04:36.1±0.2,40°.87N×31°.04E,h8km,MD2.6,Error ellipse: s-maj=4.8km s-min=3.0km az=14.0*
DDA 12 19:04:36.0,40°.67N×31°.06E,h31km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BTAS	**Taskesti**	**0.11**	**206**	*i* P			Pb	19 04 42.2	+0.5
BTAS				*i* S			Sb	19 04 45.9	+0.4
BTAS	**Taskesti**	**0.11**	**206**	*i* P			Pb	19 04 42.2	+0.6
BTAS				*i* S			Sb	19 04 45.9	+0.4
GULT	**Gulveren**	**0.48**	**241**	*e*PG			Pn	19 04 47.5	+0.7
GULT				*e*SG			Sn	19 04 56.0	+1.9
GULT	**Gulveren**	**0.48**	**241**	*e*Pg			Pn	19 04 47.5	+0.7
GULT				*e*Sg			Sn	19 04 56.0	+1.8
BCAM	**Yenicaga**	**0.78**	**79**	*i* P			Pn	19 04 51.0	+0.1
BCAM				*i* S			Sb	19 05 01.1	-0.5
BCAM	**Yenic

baz=188,slow=76,SNR=8.1
H08S3 Diego Garcia H 18.58 12 T T 19 35 34.8
baz=188,slow=76,SNR=6.3
ASAR Alice Springs 58.64 103 P P 19 23 41.5 0.0
0.5nm,0.9s,baz=248,slow=6.3,SNR=4.9
WRA Warramunga Arr 60.17 99 P P 19 23 52.0 -0.1
1.1nm,0.9s,baz=249,slow=8.8,SNR=4.4
MKAR Makanchi Array 73.44 10 P P 19 25 15.9 -0.2
1.3nm,0.7s,baz=163,slow=5.5,SNR=10
ZALV Zalesovo Beam 80.79 10 P P 19 25 57.4 +0.3
0.8nm,0.5s,baz=197,slow=4.5,SNR=4.4
SONM Songino Array 80.89 25 P P 19 25 58.1 +0.1
0.5nm,0.8s,baz=224,slow=4.0,SNR=3.7

IDC 12 19:20:33.4±40.0, 29.°95S×177.°45W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/27, mbtmp3.8/3, Error ellipse: s-maj=726.5km s-min=173.9km az=97.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.04**	**256**	P	P	19 27 27.6	-0.4
	1.1nm,0.5s,baz=95,slow=9.5,SNR=4.6						
ASAR	**Alice Springs**	**43.61**	**266**	P	P	19 28 39.4	-0.3
	0.5nm,0.8s,baz=104,slow=8.5,SNR=8.3						
WRA	**Warramunga Arr**	**44.56**	**271**	P	P	19 28 47.6	+0.2
	0.6nm,0.3s,baz=111,slow=8.1,SNR=16						

*ISCJB **12** 19:23:05.6±0.4, 32.°75N±0.°03×115.°92W±0.°03, h10km±4km, Error ellipse: s-maj=5.4km s-min=4.0km az=0.7*
*ECX **12** 19:23:06.8±0.6, 32.°71N×115.°92W, h3km, MD2.8, ML3.0*
*NEIC **12** 19:23:06.5, 32.°69N×115.°92W, h3km, ML2.9(PAS), After PAS.*
*MEX **12** 19:23:07.4±1.0, 32.°92N×116.°00W, h16km±21km, MD3.6*
ISC 12 19:23:06.5±0.9, 32.°67N±0.°03×115.°90W±0.°02, h6km±7km, n29, σ1°15/41, 5C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.03**	**225**	⇓*i*	P	**19 23 07.7**	**-0.1**
SGL	**Mount Signal**	**0.15**	**99**	⇑*i*	P	**19 23 09.7**	**+0.3**
WESC	**Westside Schoo**	**0.16**	**58**	*e*	P	**19 23 10.1**	**+0.3**
ERPC	**Ernies Place**	**0.21**	**70**	⇑*i*	P	**19 23 11.2**	**+0.5**
CRR	**Carrizo Plain**	**0.22**	**344**	⇓*i*	P	**19 23 10.4**	**-0.5**
COK	**Cook Ranch**	**0.23**	**39**	⇑*i*	P	**19 23 11.1**	**+0.1**
SWSC	**Sam W. Stewart**	**0.28**	**17**	⇓*i*	P	**19 23 11.6**	**-0.4**
DREC	**Desert Rsrch C**	**0.40**	**70**	*e*	P	**19 23 15.0**	**+0.7**
CPBX	**Cerro Prieto**	**0.56**	**117**	*e*	Pn	**19 23 14.9**	**-2.4**
CPBX				*e*	S	**19 23 23.3**	**-1.3**
CPBX				IAML		19 23 25.7	
	comp=N,4μm,0.3s						
MBIG	**Mexicali**	**0.65**	**114**	*e*	P	**19 23 21.2**	**+1.1**
MBIG				*i*	S	**19 23 30.4**	**+1.0**
BAR	**Barrett**	**0.66**	**271**	*e*	Pg	**19 23 18.3**	**-0.7**
BAR				*e*	Sg	**19 23 26.8**	**-0.8**
BAR	**Barrett**	**0.66**	**271**	⇑*e*	P	**19 23 18.4**	**-0.6**
CBX	**Cerro Bola**	**0.74**	**241**	*e*	P	**19 23 20.2**	**-0.5**
CBX				*i*	S	**19 23 30.1**	**-0.2**
CBX	**Cerro Bola**	**0.74**	**241**	*e*	P	**19 23 20.2**	**-0.5**
CBX				*i*	S	**19 23 30.1**	**-0.2**
CBX	**Cerro Bola**	**0.74**	**241**	⇑*e*	P	**19 23 20.4**	**-0.3**
CBX				*e*	S	**19 23 30.4**	**0.0**
CBX				IAML		19 23 35.2	
	comp=E,669nm,0.5s						
SDRC	**San Diego Road**	**0.89**	**274**	*e*	P	**19 23 22.3**	**-1.2**
GLA	**Glamis**	**0.98**	**67**	*e*	Pg	**19 23 23.6**	**-1.6**
GLA				*e*	Sg	**19 23 36.3**	**-1.6**
PBX	**Punta Banda**	**1.16**	**217**	*e*	P	**19 23 27.5**	**-1.2**
ECNX	**Esteban Cantu**	**1.17**	**211**	*e*	P	**19 23 28.0**	**-1.0**
SPIG	**San Pedro Mart**	**1.66**	**167**	*e*	P	**19 23 37.2**	**+0.8**
SPIG				*i*	S	**19 23 59.5**	**+1.3**
SPIG	**San Pedro Mart**	**1.66**	**167**	*e*	P	**19 23 37.2**	**+0.8**
SPIG				*i*	S	**19 23 59.5**	**+1.3**
SPX	**San Pedro Mart**	**1.66**	**167**	*e*	P	**19 23 37.0**	**+0.5**
SPX				*i*	S	**19 23 58.9**	**+0.6**
214A	**Organ Pipe Nat**	**2.71**	**104**	*e*	Pn	**19 23 48.1**	**-2.5**
GSC	**Goldstone, Bar**	**2.73**	**344**	*e*	Pn	**19 23 48.0**	**-2.9**
GSC				*e*	Pg	**19 23 56.7**	**+1.0**
ISA	**Isabella, Lake**	**3.67**	**325**	Pn	Pn	**19 24 04.2**	**+0.4**
DAC	**Darwin (Calif)**	**3.86**	**339**	*e*	Pg	**19 24 16.4**	**+1.3**
SHPR	**Sheep Range**	**3.87**	**9**	*e*	Pn	**19 24 06.4**	**-0.3**
SHPR				*e*	Pg	**19 24 21.7**	**+1.1**
TUC	**Tucson**	**4.33**	**93**	*e*	Pn	**19 24 11.7**	**-1.2**
121A	**Cookes Peak, D**	**6.85**	**89**	*e*	Pn	**19 24 46.3**	**-1.3**

*IDC **12** 19:26:45.6±0.3, 7.°92N×91.°97E, h0km, mb6.1/34, mb1 6.2/35, mb1mx6.2/35, mbtmp6.1/35, ML6.5/2, MS7.3/35, Ms1 7.3/35, ms1mx7.0/45, Error ellipse: s-maj=11.2km s-min=7.6km az=42.0*
*ISCJB **12** 19:26:47.7±0.1, 7.°84N±0.°01×91.°93E±0.°01, h29km, mb6.8/455, MS7.5/416, Error ellipse: s-maj=2.2km s-min=1.3km az=25.1*
*MOS **12** 19:26:48.5±1.0, 7.°88N×91.°92E, h33km, mb6.7/50, MS7.4/65, Error ellipse: s-maj=6.6km s-min=3.9km az=121.1 Broadband fault plane solution: P waves. $M_0$1.00000×10^{20} NP1:ϕ_s232.00000°, δ75.00000°, λ52.00000°. NP2:ϕ_s123.00000°, δ40.00000°, λ156.00000°. Principal axes: T Plg47.0000°, Azm103.0000°; N Plg36.0000°, Azm243.0000°; P Plg20.0000°, Azm349.0000°;*
*BJI **12** 19:26:48.1, 7.°85N×91.°91E, h31km, mb6.6/77, mB7.3/67, Ms7.6/91, Ms7 7.5/82*
*KLM **12** 19:26:49.4, 7.°69N×92.°00E, h17km, mb7.3, MS7.6*
*DJA **12** 19:26:49.5±0.5, 8.°N±2.°×9.°2E±.°, h17km±4km, M7.4/164, mb6.8/164, mB7.5/163, MLv7.8/3, Mw(mB)7.5/163, Mwp7.0/143*
*NEIC **12** 19:26:50.5±0.1, 7.°88N×91.°94E, h35km, mb7.0/230, ME8.1, MS7.5/297, MW7.4, MW7.5, MW7.4, Error ellipse: s-maj=3.8km s-min=2.9km az=207.0, Moment Tensor Solution. s59 Moment tensor: Scale 10^{20}Nm; M_{rr}=0.27; $M_{\theta\theta}$-1.36; $M_{\phi\phi}$ 1.09; $M_{r\theta}$=0.45; $M_{\theta\phi}$ -0.92; $M_{\phi r}$-0.58; Best double couple: $M_0$1.70000×10^{20} NP1:ϕ_s114.00000°, δ78.00000°, λ156.00000°. NP2:ϕ_s209.00000°, δ66.00000°, λ13.00000°. Principal axes: T 1.7300, Plg25.0000°, Azm69.0000°; N -0.0300, Plg63.0000°, Azm268.0000°; P -1.7000, Plg7.0000°, Azm163.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s111.00000°, δ70.00000°, λ169.00000°. NP2:ϕ_s205.00000°, δ80.00000°, λ20.00000°. Principal axes: T Plg21.0000°, Azm70.0000°; N Plg0.0000°, Azm0.0000°; P Plg7.0000°, Azm337.0000°; Complex earthquake, with at least two events occurring about 7 seconds apart observed on broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [VI] at Port Blair; [III] at Abiramam, Ambattur, Chennamalai, Chepet, Madippakkam, Madras, Saint Thomas Mount and Visakhapatnam; [II] at Bangalore, Calcutta, Kolathur, Porur and Valasaravakkam. Felt [IV] at Banda Aceh, Indonesia. Felt [III] at Colombo, Dehiwala-Mount Lavinia, Galle and Kandy; [II] at Battaramulla, Matara and Moratuwa, Sri Lanka. Felt [III] at Dhaka, Bangladesh. Also felt at Dhamrai. Felt [II] at Male, Maldives. Felt at Perai, Malaysia and in Singapore. A 6 cm tsunami [peak-to-trough] was recorded at Trincomalee, Sri Lanka.
*GCMT **12** 19:26:50.5±0.1, 7.°85N×91.°65E, h33km, MW7.5/143, Moment Tensor Solution. s143,c368; s139,c672; Duration: 13s1 Moment tensor: Scale 10^{20}Nm; M_{rr}0.77±.01; $M_{\theta\theta}$-1.76±.01; $M_{\phi\phi}$0.99±.01; $M_{r\theta}$0.23±.03; $M_{\theta\phi}$-0.63±.01; $M_{\phi r}$-1.00±.04; Best double couple: $M_0$1.94500×10^{20} NP1:ϕ_s115.00000°, δ63.00000°, λ149.00000°. NP2:ϕ_s220.00000°, δ63.00000°, λ31.00000°. Principal axes: T 1.9920, Plg40.0000°, Azm78.0000°; N -0.0910, Plg50.0000°, Azm258.0000°; P -1.8990, Plg0.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s.*
*NEIC **12** 19:26:50.0±0.0, 7.°70N×91.°98E, h35km, Moment Tensor Solution. s47 Moment tensor: Scale 10^{20}Nm; M_{rr}0.82; $M_{\theta\theta}$-1.81; $M_{\phi\phi}$0.99; $M_{r\theta}$1.13; $M_{\theta\phi}$-0.75; $M_{\phi r}$-0.53; Best double couple: $M_0$2.10000×10^{20} NP1:ϕ_s111.00000°, δ75.00000°, λ134.00000°. NP2:ϕ_s216.00000°, δ46.00000°, λ20.00000°. Principal axes: T 1.9100, Plg42.0000°, Azm62.0000°; N 0.4100, Plg42.0000°, Azm277.0000°; P -2.3100, Plg18.0000°, Azm170.0000°;*
*SZGRF **12** 19:26:52.8, 8.°92N×91.°25E, h33km, mb6.2, MS7.4, Nicobar Islands, India, region*
*NEIC **12** 19:27:11.6±0.0, 7.°82N×91.°73E, h42km, Moment Tensor Solution. s156 Moment tensor: Scale 10^{20}Nm; M_{rr}0.81; $M_{\theta\theta}$-1.83; $M_{\phi\phi}$ 1.02; $M_{r\theta}$0.57; $M_{\theta\phi}$ -0.61; $M_{\phi r}$-0.43; Best double couple: $M_0$1.80000×10^{20} NP1:ϕ_s116.00000°, δ72.00000°, λ145.00000°. NP2:ϕ_s218.00000°, δ57.00000°, λ22.00000°. Principal axes: T 1.5600, Plg37.0000°, Azm72.0000°; N 0.4700, Plg50.0000°, Azm272.0000°; P -2.0400, Plg9.0000°, Azm170.0000°;*
ISC 12 19:26:50.1±0.2, 7.°85N±0.°02×91.°96E±0.°02, h31km±1km, h31km:pP-P,n2733,σ1°60/3016, mb7.0/469, MS7.5/434, 449C-634D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMBY	**CAMPBELL BAY**	**2.13**	**113**	⇑*i*	P	**19 27 23.1**	**-0.3**
CMBY					AMB	AMB	19 27 27.0
	comp=Z,141μm,1.2s						
CMBY				*e*	S	**Sn**	**19 27 49.1 +0.3**
PBA	**Port Blair**	**3.86**	**12**	*i*	P	Pn	19 27 46.4 -0.9
PBA					AMB	AMB	19 29 47.6
	comp=Z,7978μm,15.8s						
DGPR	**DIGLIPUR**	**5.38**	**10**	*e*	P	**Pn**	**19 28 07.5 -0.7**
DGPR					AMB	AMB	19 28 45.1
	comp=Z,47μm,1.8s						
LHMI	**Lhok Sumawe**	**5.60**	**117**		P	**Pn**	**19 28 12.4 +1.1**
	comp=Z,53μm,0.8s,comp=Z,796μm				comp=Z,310nm		
LHMI					S	**Sn**	**19 29 15.2 +0.6**
	comp=Z,53μm,0.8s,comp=Z,796μm				comp=Z,310nm		
LHMI	**Lhok Sumawe**	**5.60**	**117**	⇑*i*	Pn	**Pn**	**19 28 11.8 +0.5**
PKDT	**Phuket**	**6.32**	**89**		P	**Pn**	**19 28 21.7 +0.6**
	comp=Z,2μm,0.9s,comp=Z,461μm				comp=Z,115nm		
SURT	**Suratani**	**6.86**	**80**		P	**Pn**	**19 28 29.7 +1.2**
	comp=Z,7μm,1.1s,comp=Z,151μm				comp=Z,69nm		
SNSI	**Sinabang, Aceh**	**6.94**	**141**		P	**Pn**	**19 28 26.9 -2.8**
	comp=Z,27μm,1.3s,comp=Z,865μm				comp=Z,562nm		
SNSI					S	Sn	19 29 41.4 -6.2
	comp=Z,27μm,1.3s,comp=Z,865μm				comp=Z,562nm		
TRTT	**Trang**	**7.67**	**90**		P	**Pn**	**19 28 39.9 +0.3**
	comp=Z,7μm,1.1s,comp=Z,282μm				comp=Z,79nm		
TSI	**Tuntungan**	**7.87**	**123**		P	**Pn**	**19 28 42.7 +0.3**
	comp=Z,10μm,0.9s,comp=Z,358μm				comp=Z,287nm		
PSI	**Prapat**	**8.56**	**125**		Pn	**Pn**	**19 28 51.6 -0.4**
	comp=Z,237nm,0.3s,baz=299,slow=9.5,SNR=639						
PSI					Sn	**Sn**	**19 30 29.9 +2.2**
	comp=Z,280nm,0.3s,baz=294,slow=23,SNR=5.7						
PSI					P3KP		20 06 42.6
	comp=Z,1.0nm,0.3s,baz=238,slow=4.8,SNR=4.2						
PSI	**Prapat**	**8.56**	**125**		P	**Pn**	**19 28 51.6 -0.4**
PSI							19 30 29.9
PSI					pmax	pmax	
	comp=Z,237nm,0.3s						
PSI					smax	smax	
	comp=N,280nm,0.3s						
GSI	**Gunungsitoli**	**8.58**	**139**		P	Pn	19 28 49.1 -3.1
	comp=N,9μm,1.3s,comp=N,329μm						
GSI					S	**Sn**	**19 30 22.8 -5.2**
	comp=N,9μm,1.3s,comp=N,329μm						
GSI	**Gunungsitoli**	**8.58**	**139**	⇓*i*	Pn	Pn	19 28 48.5 -3.7
SKLT	**Songkhla**	**8.62**	**94**		P	**Pn**	**19 28 52.3 -0.4**
	comp=N,5μm,2.4s,comp=N,198μm				comp=N,50nm		
KULM	**Kulim**	**9.01**	**106**	⇓	P	**Pn**	**19 28 58.0 0.0**
KULM	**Kulim**	**9.01**	**106**	⇑*i*	Pn	**Pn**	**19 28 57.1 -0.9**
KHLT	**Khaolaem Dam**	**9.48**	**43**		P	**Pn**	**19 29 06.2 +1.6**
	comp=N,3μm,1.3s,comp=N,111μm						
SRDT	**SRDT**	**9.55**	**47**		P	**Pn**	**19 29 07.9 +2.5**
	comp=N,10μm,1.9s,comp=N,588μm						
IPM	**Ipoh**	**9.62**	**110**	⇑	P	**Pn**	**19 29 05.8 -0.7**
IPM	**Ipoh**	**9.62**	**110**	⇑*i*	Pn	**Pn**	**19 29 05.2 -1.2**
PATY	**Pattaya**	**10.11**	**59**		P	**Pn**	**19 29 14.2 +1.1**
	comp=N,1μm,0.7s,comp=N,18μm						
MNSI	**Mandailing Nat**	**10.34**	**132**		P	**Pn**	**19 29 14.1 -2.2**
	comp=N,4μm,1.3s,comp=N,156μm						
MNSI					S	Sn	19 31 05.0 -6.1
	comp=N,4μm,1.3s,comp=N,156μm						
FRIM	**Kepong**	**10.66**	**115**	⇓	P	**Pn**	**19 29 19.7 -1.0**
PALK	**Pallekele**	**11.17**	**268**		Pn	**Pn**	**19 29 25.0 -2.7**
	comp=N,62μm,0.4s						
PALK	**Pallekele**	**11.17**	**268**		Pn	**Pn**	**19 29 26.7 -1.0**
	comp=N,614nm,0.3s,baz=82,slow=12,SNR=386						
PALK					Sn	Sn	19 31 21.2 -10
	comp=N,3μm,0.3s,baz=174,slow=22,SNR=16						
PALK					LR	LR	19 33 32.1
	comp=N,3013μm,19.5s,baz=81,slow=36						
PALK	**Pallekele**	**11.17**	**268**		P	**Pn**	**19 29 25.5 -2.3**
	SNR=460						
PALK	**Pallekele**	**11.17**	**268**	⇓*i*	P	**Pn**	**19 29 25.4 -2.3**
	SNR=1408						
PALK	**Pallekele**	**11.17**	**268**	⇑*e*	Pn	Pn	19 29 24.5 -3.2
PALK				*e*	Sn	Sn	19 31 07.2 -25
PALK					Sn	Sn	19 31 21.2 -10
CHBT	**CHBT**	**11.31**	**64**		P	**Pn**	**19 29 30.4 +0.8**
	comp=N,8μm,2.1s,comp=N,219μm						
KTGM	**Kuala Trenggan**	**11.38**	**102**	⇓	P	**Pn**	**19 29 31.2 +0.5**
BKNI	**Bangkinang**	**11.74**	**129**		P	**Pn**	**19 29 33.5 -2.0**
	comp=N,4μm,1.2s,comp=N,123μm						
BKNI					S	**Sn**	**19 31 44.3 -1.3**
	comp=N,4μm,1.2s,comp=N,123μm						
BKNI	**Bangkinang**	**11.74**	**129**	⇑*i*	Pn	**Pn**	**19 29 32.5 -3.0**
MHMT	**Maesariang**	**11.80**	**29**		P	**Pn**	**19 29 37.4 +1.1**
	comp=N,8μm,0.8s,comp=N,92μm						
SUKH	**Sukhothai**	**12.15**	**37**		P	**Pn**	**19 29 42.7 +1.6**
	comp=N,1μm,0.9s,comp=N,12μm						
PBKT	**Sadao Pong**	**12.35**	**45**		P	**Pn**	**19 29 44.3 +0.4**
	comp=N,6μm,1.3s,comp=N,235μm						
CM01	**Chiang Mai Arr**	**12.52**	**32**	*e*	Pn	**Pn**	**19 29 45.9 -0.3**
CM31	**Chiang Mai Arr**	**12.54**	**32**	⇓*e*	Pn	**Pn**	**19 29 46.1 -0.4**
	comp=N,4.5nm,1.7s						
CM31				*e*	Sn	**Sn**	**19 32 04.4 -0.8**
CMAR	**Chiang Mai Arr**	**12.54**	**32**		Pn	**Pn**	**19 29 47.7 +1.2**
	comp=N,34nm,0.3s,baz=222,slow=13,SNR=391						
CMAR					Sn	Sn	19 32 17.6 +12
	comp=N,28nm,0.3s,baz=236,slow=28,SNR=3.3						
CMAR					LR	LR	19 34 52.6
	comp=N,1584μm,20.8s,baz=212,slow=39						
CMAR					P3KPbc		20 05 54.5
	comp=N,0.2nm,0.3s,baz=339,slow=4.5,SNR=4.6						
CMAR					P3KP		20 06 36.5
	baz=313,slow=2.5,SNR=5.1						
CMAR					PKP2ab		20 10 22.8
	baz=350,slow=5.1,SNR=5.3						
CMAR	**Chiang Mai Arr**	**12.54**	**32**		P	**Pn**	**19 29 47.7 +1.2**
CMAR					pmax	pmax	
	comp=Z,34nm,0.3s						
CMAR					MLR	MLR	
	comp=Z,584μm,20.8s						
MDRS	**Chennai**	**12.62**	**295**	*i*	P	**Pn**	**19 29 45.8 -1.8**
MDRS					AMB	AMB	19 29 50.7
	comp=Z,14μm,3.5s						
KGM	**Kluang**	**12.72**	**117**	⇓	P	**Pn**	**19 29 47.8 -1.0**
CHTO	**Chiang Mai**	**12.84**	**31**		P	**Pn**	**19 29 51.0 +0.5**
	comp=Z,13μm,1.3s,comp=Z,810μm						
CHTO	**Chiang Mai**	**12.84**	**31**		P	**Pn**	**19 29 51.2 +0.6**
	SNR=1202						
CHTO	**Chiang Mai**	**12.84**	**31**	⇓*e*	Pn	**Pn**	**19 29 50.4 -0.1**
	comp=Z,9μm,1.3s						
CHTO				*e*	Sn	**Sn**	**19 32 17.5 +5.0**
CMMT	**Chiang Mai**	**12.84**	**31**		P	**Pn**	**19 29 50.9 +0.3**
	comp=Z,8μm,1.1s,comp=Z,234μm						
SDSI	**Sungai Dareh**	**12.86**	**132**		P	**Pn**	**19 29 48.8 -2.0**
	comp=Z,2μm,1.0s,comp=Z,73μm						
VIS	**Vishakhapatnam**	**12.92**	**320**	*i*	P	**Pn**	**19 29 51.7 +0.1**
VIS					AMB	AMB	19 30 04.9
	comp=Z,42μm,2.8s						
VIS				*i*	x	Sn	19 32 02.0 -12
CHLP	**Challavanipeta**	**13.08**	**325**	*e*	Pn	Pn	19 29 49.1 -4.7
CHLP					IAmb	IAmb	19 30 07.3
	comp=Z,83μm,1.0s						
CHLP				*e*			19 32 06.1
CHLP					IVMs_BB	IVMs_BB	19 34 30.9
	comp=Z,1073μm,19.6s						
PPSI	**Pulau Pagai**	**13.26**	**142**		P	**Pn**	**19 29 53.7 -2.5**
	comp=Z,4μm,1.0s,comp=Z,110μm						
PPSI					S	Sn	19 32 12.6 -10
	comp=Z,4μm,1.0s,comp=Z,110μm						
MYKOM	**Kota Tinggi**	**13.29**	**116**	⇑	P	**Pn**	**19 29 55.0 -1.7**
MYKOM	**Kota Tinggi**	**13.29**	**116**	*e*	Pn	**Pn**	**19 29 54.7 -2.0**
SKHT	**Srikalahasti**	**13.37**	**297**	*e*	Pn	**Pn**	**19 29 57.3 -0.5**
SKHT					IAmb	IAmb	19 30 11.4
	comp=Z,42μm,1.4s						
SKHT				*e*			19 32 10.5
SKHT				*e*	Sn	**Sn**	**19 32 22.4 -3.1**
SKHT					IVMs_BB	IVMs_BB	19 34 43.7
	comp=Z,829μm,21.8s						
PVM	**Polavaram**	**13.74**	**314**	*e*	Pn	Pn	19 29 59.5 -3.2
PVM					IAmb	IAmb	19 30 15.6
	comp=Z,92μm,1.9s						
PVM				*e*			19 32 20.7
PVM				*e*	Sn	**Sn**	**19 32 34.3 -0.1**
PVM					IVMs_BB	IVMs_BB	19 34 30.6
	comp=Z,443μm,20.4s						
ADKI	**Addanki**	**14.16**	**305**	*e*	Pn	**Pn**	**19 30 05.6 -3.0**
ADKI					IAmb	IAmb	19 30 09.4
	comp=Z,6μm,1.0s						
ADKI				*e*			19 32 27.2
TPRI	**Tanjung Pinang**	**14.30**	**118**		P	**Pn**	**19 30 08.8 -1.6**
	comp=Z,4μm,0.9s,comp=Z,93μm						
RCLA	**Racherla**	**14.80**	**302**	*e*	Pn	Pn	19 30 14.1 -3.2
RCLA					IAmb	IAmb	19 30 21.9
	comp=Z,3μm,0.6s						
RCLA				*e*			19 32 43.1
RCLA				*e*	Sn	**Sn**	**19 32 58.5 -1.8**
RCLA					IVMs_BB	IVMs_BB	19 35 56.2
	comp=Z,835μm,18.5s						
SKNT	**Sakolnakorn**	**14.83**	**51**		P	**Pn**	**19 30 16.9 -0.8**
	comp=Z,11μm,1.3s,comp=Z,286μm						
TRD	**Trivandrum**	**14.86**	**274**	*i*	P	**Pn**	**19 30 17.6 -0.4**
TRD					AMB	AMB	19 30 37.2
	comp=Z,9μm,3.5s						
JMBI	**JAMBI**	**14.99**	**128**		P	**Pn**	**19 30 18.2 -1.6**
	comp=Z,26μm,1.3s,comp=Z,309μm						
DSRI	**Dabo**	**15.06**	**123**		P	**Pn**	**19 30 17.9 -2.9**
	comp=Z,37μm,1.1s,comp=Z,515μm						
NJS	**Nagarjunasagar**	**15.08**	**306**	*e*	Pn	**Pn**	**19 30 16.9 -4.1**
NJS					IAmb	IAmb	19 30 31.2
	comp=Z,49μm,2.3s						
NJS				*e*			19 32 52.6
NJS				*e*	Sn	**Sn**	**19 33 01.9 -5.2**
NJS					IVMs_BB	IVMs_BB	19 36 17.9
	comp=Z,700μm,18.9s						
UBPT	**Khong Chiam**	**15.15**	**60**		P	**Pn**	**19 30 22.1 +0.1**
	comp=Z,20μm,1.4s,comp=Z,493μm						
SRLM	**Srisailam**	**15.17**	**304**	*e*	Pn	**Pn**	**19 30 19.2 -3.1**
SRLM				*e*			19 32 52.8
SRLM				*e*	Sn	**Sn**	**19 33 08.6 -0.9**
URV	**Uravakonda**	**16.03**	**297**	*e*	Pn	**Pn**	**19 30 32.4 -1.0**
URV					IAmb	IAmb	19 30 48.8
	comp=Z,5μm,0.9s						
URV				*e*			19 33 12.3
URV				*e*	Sn	**Sn**	**19 33 29.7 -0.6**
URV					IVMs_BB	IVMs_BB	19 36 50.5
	comp=Z,541μm,16.6s						
HYB	**Hyderabad**	**16.16**	**307**	⇑*i*	P	**Pn**	**19 30 32.0 -3.0**
HYB				*e*	S	**Sn**	**19 33 36.0 +2.6**
HYB	**Hyderabad**	**16.16**	**307**	⇓*i*	x	**Pn**	**19 30 31.0 -4.0**
HYB					AMB	AMB	19 30 42.1
	comp=Z,8μm,1.2s						
HYBB	**Hyderabad (bro**	**16.16**	**307**	*e*	Pn	**Pn**	**19 30 31.4 -3.7**
HYBB				*e*	sP	**sP**	**19 30 51.2 +1.0**
HYBB					IAmb	IAmb	19 30 52.2
	comp=Z,5μm,0.9s						
HYBB				*e*			19 33 24.7
HYBB				*e*	Sn	**Sn**	**19 33 31.6 -1.8**
HYBB					IVMs_BB	IVMs_BB	19 36 41.9
	comp=Z,513μm,19.2s						
MNAI	**Manna**	**16.36**	**137**		P	**Pn**	**19 30 34.2 -3.4**
	comp=Z,9μm,0.7s,comp=Z,254μm						
MNAI	**Manna**	**16.36**	**137**	*e*	Pn	**Pn**	**19 30 34.0 -3.6**
	comp=Z,6μm,0.6s						
MNAI				*e*	Sn	Sn	19 33 22.1 -16
LHSI	**Lahat**	**16.36**	**135**		P	**Pn**	**19 30 34.5 -3.1**
	comp=Z,7μm,1.1s,comp=Z,168μm						
RPR	**Rampur**	**16.46**	**313**	*e*	Pn	**Pn**	**19 30 36.0 -2.8**
RPR					IAmb	IAmb	19 30 52.7
	comp=Z,31μm,1.6s						
RPR				*e*			19 33 26.3
RPR				*e*	Sn	**Sn**	**19 33 39.1 -1.6**
RPR					IVMs_BB	IVMs_BB	19 37 39.6
	comp=Z,534μm,20.7s						
PMBI	**Palembang**	**16.68**	**129**		P	**Pn**	**19 30 40.0 -1.6**
	comp=Z,10μm,1.3s,comp=Z,107μm						
BOK	**Bokaro**	**16.89**	**341**	*i*	x	**Pn**	**19 30 39.8 -4.4**
BOK					AMB	AMB	19 30 47.3
	comp=Z,13μm,2.1s						
SRSP	**Sriramsagar**	**17.21**	**311**	*e*	Pn	**Pn**	**19 30 46.1 -2.1**
SRSP					IAmb	IAmb	19 30 52.4
	comp=Z,4μm,0.8s						
SRSP				*e*			19 33 45.7
SRSP				*e*	Sn	**Sn**	**19 33 57.5 -1.3**
SRSP					IVMs_BB	IVMs_BB	19 39 18.7
	comp=Z,524μm,17.1s						
MDSI	**Maura Dua**	**17.29**	**135**		P	**Pn**	**19 30 46.4 -2.8**
	comp=Z,5μm,1.1s,comp=Z,171μm						
PPBI	**Pangkal Pinang**	**17.29**	**125**		P	**Pn**	**19 30 47.9 -1.4**
	comp=Z,5μm,1.6s,comp=Z,103μm						
LWLI	**Liwa**	**17.59**	**136**		P	**Pn**	**19 30 51.0 -2.0**
	comp=Z,8μm,0.7s,comp=Z,147μm						
LWLI					S	**Sn**	**19 34 11.0 +2.8**
	comp=Z,8μm,0.7s,comp=Z,147μm						
SHL	**Shillong**	**17.62**	**360**	*e*	P	**Pn**	**19 30 53.6 +0.1**
SHL					AMB	AMB	19 31 04.3
	comp=Z,14μm,4.7s						
KLSI		**17.82**	**134**		P	**Pn**	**19 30 53.4 -2.5**
	comp=Z,19μm,1.2s,comp=Z,350μm						
KLI	**Kotabumi**	**18.03**	**134**		P	**Pn**	**19 30 58.3 -0.1**
	comp=Z,10μm,1.2s,comp=Z,248μm						
KLRI	**Killari**	**18.07**	**306**	*e*	Pn	**Pn**	**19 30 57.2 -1.8**
KLRI			

comp=Z,85µm,1.1s
COCO West Island 20.49 166 P Pn 19 31 28.1 +0.2
SNR=201
COCO West Island 20.49 166⇓*e*P Pn 19 31 27.3 -0.6
comp=Z,6µm,0.8s
COCO *e*S **S** **19 35 11.7 -1.7**
COCO LR LR
comp=Z,567µm,20.0s
POO Poona 20.55 303⇓*i*P **P** **19 31 26.1 -0.2**
POO *e*S **S** **19 35 13.1 -1.7**
PKI Pulchoki 20.57 343 *e*P **P** **19 31 27.9 +1.2**
comp=Z,89µm,1.0s
QIZ Qiongzhong 20.62 56⇑*i*P **P** **19 31 27.8 +0.8**
comp=Z,17µm,1.1s
QIZ *e*S **S** **19 35 18.5 +2.5**
QIZ LR LR
comp=Z,917µm,20.0s
DMN Daman 20.70 343 *e*P **P** **19 31 29.2 +1.2**
comp=Z,62µm,0.8s
BHPL Bhopal 20.71 319⇑*i*P **P** **19 31 28.7 +0.7**
BHPL AMB AMB 19 31 35.3
comp=Z,10µm,1.7s
BHPL *e*S **S** **19 35 17.4 -0.4**
SKJI Sukabumi 20.73 135 P **P** **19 31 26.5 -1.7**
comp=Z,7µm,1.2s,comp=Z,125µm
SKJI S **S** **19 35 14.8 -3.4**
comp=Z,7µm,1.2s,comp=Z,125µm
GUN Gumba 20.76 345 *e*P Pn 19 31 30.3 -1.1
comp=Z,142µm,1.1s
KKN Kakani 20.81 343 *e*P **P** **19 31 30.1 +0.9**
comp=Z,20µm,0.6s
SBUM Sibu 20.88 104⇑P **P** **19 31 30.4 +0.6**
SBUM Sibu 20.88 104 *e*P **P** **19 31 30.2 +0.4**
comp=Z,10µm,1.0s
SBUM LR LR
comp=Z,573µm,20.0s
STKI Sintang 20.94 111 P **P** **19 31 30.6 +0.1**
comp=Z,7µm,1.4s,comp=Z,127µmcomp=Z,815µm
GKN Gorkha 21.21 342 *e*P **P** **19 31 34.5 +1.1**
comp=Z,37µm,0.6s
KOLN Koldanda 21.33 339 *e*P **P** **19 31 35.8 +1.0**
comp=Z,32µm,0.8s
CNJI Cibinong 21.35 134 P **P** **19 31 32.2 -2.6**
comp=Z,3µm,0.9s,comp=Z,93µm
CNJI S S 19 35 21.8 -8.6
comp=Z,3µm,0.9s,comp=Z,93µm
LEM Lembang 21.37 133 P **P** **19 31 33.8 -1.4**
comp=Z,3µm,0.9s,comp=Z,133µm
LEM Lembang 21.37 133 P **P** **19 31 34.6 -0.6**
comp=Z,1µm,1.0s,baz=88,slow=2.6,SNR=40
LEM S **S** **19 35 35.4 +4.2**
comp=Z,1µm,1.1s,baz=88,slow=23,SNR=3.9
LEM LR LR 19 41 17.2
comp=Z,760µm,21.1s,baz=311,slow=41
LSA Lhasa 21.75 358 P **P** **19 31 40.1 +0.6**
LSA S **S** **19 35 40.8 +1.9**
LSA LN
comp=Z,699µm,25.0s
LSA LE
comp=Z,1075µm,26.0s
LSA LZ
comp=Z,1544µm,27.0s
LSA Lhasa 21.75 358 PFAKE 19 31 50.0 +10
LSA LR LR
comp=Z,1050µm,20.0s
CISI Cisompet, Garu 22.01 134 P **P** **19 31 38.8 -3.2**
comp=Z,3µm,1.1s,comp=Z,71µm
CISI Cisompet, Garu 22.01 134⇑*i*P P 19 31 37.0 -5.0
CISI *e*S S 19 35 31.8 -12
CISI LR LR
comp=Z,865µm,22.0s
PBKI Pangkalan Bun 22.29 117 P **P** **19 31 44.1 -0.9**
comp=Z,11µm,1.2s,comp=Z,127µmcomp=Z,867µm
CMJI Cimerak 22.62 133 P **P** **19 31 45.3 -3.2**
comp=Z,2µm,0.7s,comp=Z,50µm
KPJI Karang Pucung 22.67 131 P **P** **19 31 46.6 -2.4**
comp=Z,1µm,0.8s,comp=Z,80µm
XMIS Christmas Isla 22.75 143 *e*P **P** **19 31 51.3 +1.5**
comp=Z,48µm,2.3s
GYA Guiyang 23.19 35⇑*i*P **P** **19 31 54.4 -0.1**
GYA pP **pP** **19 32 04.8 +1.7**
GYA PP PnPn 19 32 28.0 +7.4
GYA PcP **PcP** **19 35 42.3 +0.1**
GYA S **S** **19 36 02.2 -2.2**
GYA sS **sS** **19 36 19.4 0.0**
GYA SS SnSn 19 36 50.7 +11
GYA PMZ
comp=Z,11µm,1.0s
GYA LN
comp=Z,1215µm,21.0s
GYA LE
comp=Z,1116µm,20.0s
GYA LZ
comp=Z,871µm,23.0s
AGRA Agra 23.41 327 *e*P **P** **19 31 55.8 -0.7**
AGRA AMB AMB 19 31 59.4
comp=Z,5µm,2.0s
SMRI Semarang 23.64 128 P **P** **19 31 58.3 -0.5**
comp=Z,9µm,1.0s,comp=Z,285µm
SMRI Semarang 23.64 128⇑ePn **P** **19 31 57.0 -1.9**
comp=Z,8µm,1.0s
SMRI *e*S S 19 36 19.5 +7.9
SMRI LR LR
comp=Z,1454µm,21.0s
UWJI Ujung Watu 23.66 126 P **P** **19 32 01.1 +2.1**
comp=Z,18µm,2.1s,comp=Z,417µmcomp=Z,732µm
KKM Kota Kinabalu 24.15 93⇑P **P** **19 32 04.6 +0.9**
KKM Kota Kinabalu 24.15 93⇑*e*P **P** **19 32 04.2 +0.4**
KKM LR LR
comp=Z,410µm,21.0s
UGM Wanagama 24.25 130 P **P** **19 32 02.0 -2.5**
comp=Z,5µm,1.2s,comp=Z,100µm
UGM S **S** **19 36 21.7 +0.3**
comp=Z,5µm,1.2s,comp=Z,100µm
UGM Wanagama 24.25 130 *e*P **P** **19 32 01.9 -2.6**
comp=Z,5µm,1.1s
UGM LR LR
comp=Z,789µm,22.0s
MTKI Muara Teweh, K 24.49 110 P **P** **19 32 07.7 +1.0**
comp=Z,80nm,1.7s,comp=Z,2µm
I52GB DIEGO GARCIA I 24.61 233 P **P** **19 32 07.4 -0.4**
baz=89,slow=21,SNR=2.7
TBJI Tambak Boyo 24.61 126 P **P** **19 32 09.5 +1.7**
comp=Z,34µm,1.1s,comp=Z,786µm
DGAR Diego Garcia 24.66 233*c iP* **P** **19 32 07.6 -0.6**
DGAR Diego Garcia 24.66 233 P **P** **19 32 10.0 +1.8**
SNR=37
DGAR Diego Garcia 24.66 233⇑*e*P **P** **19 32 08.1 -0.1**
comp=Z,21µm,1.6s
DGAR *e*S **S** **19 36 35.0 +7.0**
DGAR LR LR
comp=Z,1731µm,19.0s
SONA Sohna 24.68 327 *e*P **P** **19 32 07.9 -0.3**
KDM Kudat 24.69 91⇑P **P** **19 32 09.3 +0.8**
BWJI Bawean 24.73 123 P **P** **19 32 11.1 +2.2**
comp=Z,3µm,1.6s,comp=Z,49µm
BISR Bishrakh 24.75 328 *e*P **P** **19 32 09.6 +0.7**
BISR AMB AMB 19 32 15.7
comp=Z,6µm,0.7s
H08S3 Diego Garcia H 24.76 232 P **P** **19 32 10.4 +1.5**
baz=21,slow=14,SNR=288
H08S3 S S 19 36 46.5 +17
H08S3 T T 19 58 31.0
baz=52,slow=75,SNR=930
H08S2 Diego Garcia H 24.77 232 P **P** **19 32 09.6 +0.7**
baz=21,slow=14,SNR=349
H08S2 S S 19 36 46.5 +17
H08S2 T T 19 58 36.9
baz=52,slow=75,SNR=1067
H08S1 Diego Garcia H 24.78 232 P **P** **19 32 09.7 +0.7**
baz=21,slow=14,SNR=426
H08S1 S S 19 36 46.6 +17
H08S1 T T 19 58 25.6
baz=52,slow=75,SNR=1071
AYAN Aya Nagar 24.84 328 *e*P **P** **19 32 09.7 0.0**
AYAN AMB AMB 19 32 14.2
comp=Z,4µm,1.3s
KALG Kalgarh 24.86 332 *e*P **P** **19 32 10.3 +0.4**
KALG AMB AMB 19 32 17.3
comp=Z,6µm,1.4s
KUDL Kundal 24.92 326 *e*P **P** **19 32 11.2 +0.7**
KUDL AMB AMB 19 32 37.2
comp=Z,4µm,1.1s
PCJI Pacitan 24.92 129 P **P** **19 32 09.6 -1.0**
comp=Z,2µm,1.0s,comp=Z,61µmcomp=Z,785µm
PCJI S **S** **19 36 32.9 +0.7**
comp=Z,2µm,1.0s,comp=Z,61µmcomp=Z,785µm

SDKM Sandakan 25.16 93⇑P **P** **19 32 13.3 +0.4**
GRJI Gresik 25.18 125 P **P** **19 32 15.2 +2.3**
comp=Z,5µm,1.4s,comp=Z,117µmcomp=Z,92µm
H08N1 Diego Carcia H 25.20 237 P **P** **19 32 16.2 +3.5**
baz=52
H08N1 S S 19 37 02.6 +27
H08N1 T T 19 59 25.4
baz=46,slow=76,SNR=838
H08N2 Diego Garcia H 25.20 237 P **P** **19 32 14.0 +1.3**
baz=52
H08N2 S S 19 37 02.6 +27
H08N2 T T 19 59 19.8
baz=46,slow=76,SNR=1245
H08N3 Diego Garcia H 25.22 237 P **P** **19 32 16.4 +3.5**
baz=52
H08N3 S S 19 37 02.8 +26
H08N3 T T 19 59 29.3
baz=46,slow=76,SNR=1603
KHET Khetri 25.25 325 *e*P **P** **19 32 13.7 +0.2**
KHET AMB AMB 19 32 18.3
comp=Z,3µm,0.8s
PWJI Pagerwojo 25.30 128 P **P** **19 32 14.6 +0.6**
comp=Z,2µm,1.9s,comp=Z,67µmcomp=Z,705µm
JOSI Joshimath 25.40 334 *e*P **P** **19 32 16.3 +1.3**
JOSI AMB AMB 19 32 27.2
comp=Z,55µm,0.6s
BBKI Banjar Baru 25.45 115 P **P** **19 32 15.7 +0.3**
comp=Z,7µm,1.0s,comp=Z,107µm
CD2 Chengdu 25.46 24⇓*i*P **P** **19 32 15.2 -0.2**
CD2 pP **pP** **19 32 25.0 +0.6**
CD2 sP **sP** **19 32 29.5 +1.2**
CD2 PcP **PcP** **19 35 44.5 -2.5**
CD2 S **S** **19 36 38.9 -1.7**
CD2 PMZ
comp=Z,9µm,1.0s
CD2 PMZ
comp=Z,168µm,4.9s
CD2 LN
comp=Z,1293µm,20.1s
CD2 LE
comp=Z,666µm,13.2s
CD2 LZ
comp=Z,1085µm,15.3s
GZH Guangzhou 25.52 51 P P 19 32 21.6 +5.6
GZH pP pP 19 32 30.4 +5.4
GZH PP PnPn 19 33 08.1 +16
GZH PcP **PcP** **19 35 42.7 -4.5**
GZH S S 19 36 51.8 +10
GZH SS SnSn 19 38 11.8 +35
GZH pmax pmax
comp=Z,100µm,8.1s
GZH LR LR
comp=N,821µm,20.2s
GZH LR LR
comp=E,751µm,22.1s
HKC Hong Kong Obse 25.77 54⇑*i*P **P** **19 32 20.0 +1.8**
DDI Dehra Dun 25.87 332⇓*i*P **P** **19 32 20.4 +1.3**
DDI AMB AMB 19 32 26.9
comp=Z,9µm,1.6s
DDI *e*S **S** **19 36 48.4 +1.2**
TSM Tawau 26.01 96⇑P **P** **19 32 20.1 -0.4**
KKR Kurukshetra 26.18 329 *e*P **P** **19 32 21.6 -0.3**
KKR AMB AMB 19 32 26.2
comp=Z,5µm,2.0s
BHJ Bhuj 26.32 308⇑*i*P **P** **19 32 24.1 +0.9**
BHJ *ex* **S** **19 36 57.9 +3.6**
BKB Balikpapan 26.47 109 P **P** **19 32 26.9 +2.2**
comp=Z,3µm,0.9s,comp=Z,188µm
PPR Puerto Princes 26.52 84⇓*i*P **P** **19 32 29.6 +4.4**
BLJI Banyuglugur 26.56 125 P **P** **19 32 26.0 +0.5**
comp=Z,10µm,1.1s,comp=Z,168µmcomp=Z,582µm
KBKI Kotabaru 26.57 114 P **P** **19 32 26.5 +0.9**
comp=Z,1µm,1.0s,comp=Z,46µmcomp=Z,616µm
SMLA Simla 26.97 331⇓*i*P **P** **19 32 28.7 -0.2**
SMLA AMB AMB 19 32 35.0
comp=Z,4µm,0.6s
SMLA *e*S **S** **19 37 04.6 +0.3**
ABJI Asem Bagus 27.11 124 P **P** **19 32 31.1 +0.7**
comp=Z,6µm,1.5s,comp=Z,160µmcomp=Z,578µm
ENH Enshi 27.70 34⇑*i*P **P** **19 32 35.2 -0.4**
comp=Z,2µm,0.9s
ENH *e*S **S** **19 37 16.1 0.0**
ENH LR LR
comp=Z,882µm,18.0s
SRBI Singaraja 28.07 124 P **P** **19 32 38.6 -0.4**
comp=Z,5µm,1.7s,comp=Z,122µmcomp=Z,424µm
DHRM DHARAMSHALA 28.31 331⇓*i*P **P** **19 32 41.4 +0.1**
DHRM AMB AMB 19 33 13.1
comp=Z,8µm,2.6s
DHRM *ex* x 19 37 29.2
DNP Denpasar 28.40 125 P **P** **19 32 41.9 -0.1**
comp=Z,3µm,1.3s,comp=Z,100µmcomp=Z,835µm
IGBI Denpasar 28.43 125 P **P** **19 32 39.8 -2.4**
comp=Z,1µm,1.3s,comp=Z,42µmcomp=Z,337µm
MPSI Mapaga 28.83 104 P **P** **19 32 46.0 +0.1**
comp=Z,2µm,1.0s,comp=Z,52µmcomp=Z,756µm
PGP Puerto Galera 29.03 76⇑*i*P **P** **19 32 47.8 +0.2**
TGY Tagaytay City 29.10 75 P **P** **19 32 49.7 +1.4**
comp=Z,2µm,0.6s,baz=289,slow=2.6,SNR=155
TGY LR LR 19 44 31.3
comp=Z,1µm,19.2s,baz=242,slow=37
TGY Tagaytay City 29.10 75⇑*e*P **P** **19 32 49.6 +1.3**
PCI Palu 29.13 106 P **P** **19 32 49.2 +0.7**
comp=Z,2µm,1.5s,comp=Z,52µm
BCPH Baguio City Da 29.21 70⇑*i*P **P** **19 32 49.7 +0.3**
BCPH *i*S **PP** **19 33 59.1 +3.4**
SZP Santa 29.39 68⇑*i*P **P** **19 32 51.4 +0.7**
comp=Z,11µm,1.4s
SZP *e*S S 19 38 04.6 +22
SZP LR LR
comp=Z,743µm,19.0s
SIPP Brgy, Tapao 29.49 67⇑*e*P **P** **19 32 52.5 +0.9**
TOLI Toli-Toli 29.50 102⇑*i*P **P** **19 32 51.4 -0.4**
comp=Z,2µm,0.8s
LQP Lukban 29.68 75⇑*e*P **P** **19 32 54.8 +1.2**
LQP *e*S **sP** **19 33 03.1 -3.4**
PIP Pasuquin 29.75 67⇑*e*P **P** **19 32 54.4 +0.5**
TTSI Tana Toraja 29.83 110 P **P** **19 32 54.2 -0.5**
comp=Z,1µm,1.4s,comp=Z,37µmcomp=Z,507µm
ZMPH Zamboanga City 29.87 90⇑*e*P **P** **19 32 55.1 0.0**
SPSI Sidrap Palu 30.13 112 P **P** **19 32 56.8 -0.5**
comp=Z,536nm,1.8s,comp=Z,34µmcomp=Z,462µm
LZH Lanzhou 30.13 19⇓P **P** **19 32 57.4 +0.1**
LZH pP **pP** **19 33 07.7 +1.3**
LZH sP **sP** **19 33 12.2 +1.9**
LZH PP **PnPn** **19 33 58.0 +2.8**
LZH S **S** **19 37 52.5 -1.9**
LZH sS **sS** **19 38 08.0 -1.4**
LZH SS **ScP** **19 39 34.2 -4.3**
LZH PMZ
comp=Z,5µm,1.1s
LZH PMZ
comp=Z,43µm,7.0s
LZH LN
comp=Z,1126µm,16.5s
LZH LE
comp=Z,747µm,16.9s
LZH LZ
comp=Z,1597µm,19.1s
KALP Kalibo 30.17 80⇑*e*P **P** **19 32 59.4 +1.7**
IPIL Ipil 30.33 88⇑*e*P **P** **19 32 59.5 +0.4**
XAN Xi'an 30.40 29 P P **19 32 58.1 -1.5**
XAN pP **pP** **19 33 08.7 0.0**
XAN sP **sP** **19 33 11.7 -0.8**
XAN PP **PnPn** **19 33 57.2 -1.5**
XAN S **S** **19 37 53.9 -4.5**
XAN sS **sS** **19 38 10.0 -3.5**
XAN SS **SnSn** **19 39 33.2 -2.1**
XAN LN
comp=Z,706µm,22.5s
XAN LE
comp=Z,284µm,22.5s
XAN LZ
comp=Z,460µm,20.6s
GQP Guinayangan 30.52 76⇑*e*P **P** **19 33 00.2 -0.6**
KAPI Kappang 30.53 114 P **P** **19 33 00.1 -0.8**
comp=Z,244nm,0.7s,baz=296,slow=9.3,SNR=53
KAPI Kappang 30.53 114 P **P** **19 33 00.5 -0.4**
SNR=108
KAPI Kappang 30.53 114⇑*i*P **P** **19 32 59.8 -1.2**
comp=Z,941nm,1.0s
KAPI LR LR
comp=Z,128µm,19.0s
RCP Roxas 30.56 81⇑*e*P **P** **19 33 02.4 +1.2**
QZH Quanzhou 30.59 53⇑*i*P **P** **19 33 02.4 +1.1**

QZH pP **pP** **19 33 11.4 +1.0**
QZH sP **sP** **19 33 15.6 +1.4**
QZH S **S** **19 38 01.0 -0.4**
QZH PMZ
comp=Z,5µm,1.1s
QZH PMZ
comp=Z,65µm,5.6s
QZH LN
comp=Z,584µm,12.5s
QZH LE
comp=Z,1464µm,16.6s
QZH LZ
comp=Z,1550µm,15.7s
MRSI Marisa 30.77 102 P **P** **19 33 02.2 -0.8**
comp=Z,4µm,0.9s,comp=Z,50µmcomp=Z,572µm
WHN Wuhan 30.81 40 P **P** **19 33 03.8 +0.7**
WHN S **S** **19 37 58.9 -5.8**
WHN LN
comp=Z,1264µm,20.3s
WHN LE
comp=Z,568µm,14.0s
WHN LZ
comp=Z,1693µm,15.7s
APSI Ampana 30.86 105 P **P** **19 33 04.8 +1.0**
comp=Z,3µm,1.4s,comp=Z,55µmcomp=Z,562µm
BKSI Bulukumba 31.00 114 P **P** **19 33 04.1 -0.9**
comp=Z,3µm,1.0s,comp=Z,36µmcomp=Z,416µm
DCPH Dipolog City 31.08 86⇑*e*P **P** **19 33 06.1 +0.3**
TPUB Ta-pu 31.51 58⇑*i*P **P** **19 33 10.6 +1.2**
TPUB LR LR
comp=Z,791µm,22.0s
BSSI Bau Bau, Buton 31.68 115 P **P** **19 33 09.4 -1.6**
comp=Z,804nm,2.0s,comp=Z,37µmcomp=Z,371µm
TWG Pinlang 31.69 59⇑*i*P **P** **19 33 13.0 +1.9**
comp=Z,50µm,1.5s
TWG LR LR
comp=Z,2554µm,19.0s
LUWI Luwuk 31.98 105 P **P** **19 33 13.3 -0.3**
comp=Z,9µm,1.1s,comp=Z,98µmcomp=Z,799µm
LUWI Luwuk 31.98 105⇑*i*P **P** **19 33 13.6 -0.1**
comp=Z,9µm,1.0s
LUWI *e*S S 19 38 33.2 +10
LUWI LR LR
comp=Z,298µm,21.0s
SSLB Suanglung 31.98 57⇑*i*P **P** **19 33 14.8 +1.1**
comp=Z,5µm,1.3s
SSLB LR LR
comp=Z,889µm,22.0s
CTBH Cotabato--PC H 32.02 89 *e*P **P** **19 33 14.3 +0.3**
YULB Yu-li 32.11 58⇑*i*P **P** **19 33 15.7 +1.0**
comp=Z,10µm,1.4s
YULB LR LR
comp=Z,996µm,22.0s
PVCP Virac 32.13 77⇑*e*P **P** **19 33 14.3 -0.6**
GTA Gaotai 32.21 11⇓P **P** **19 33 16.3 +0.8**
GTA pP **pP** **19 33 26.8 +2.1**
GTA sP **sP** **19 33 29.8 +1.3**
GTA PcP **PcP** **19 36 04.9 +1.1**
GTA S **S** **19 38 27.9 +1.2**
GTA sS **sS** **19 38 43.1 +1.3**
GTA ScP **ScP** **19 39 43.9 -1.4**
GTA PcS **PcS** **19 39 47.1 -1.6**
GTA SS **SnSn** **19 40 23.6 +4.4**
GTA ScS **ScS** **19 43 41.6 -2.7**
GTA PMZ
comp=Z,1µm,1.7s
GTA PMZ
comp=Z,20µm,5.7s
GTA LN
comp=Z,335µm,21.9s
GTA LE
comp=Z,479µm,21.8s
GTA LZ
comp=Z,514µm,27.1s
WBSI Waikabubak, Su 32.38 122 P P 19 33 12.8 -4.4
comp=Z,2µm,0.9s,comp=Z,25µmcomp=Z,267µm
CGP Cagayan de Oro 32.41 87⇓*e*P **P** **19 33 18.0 +0.5**
NACB Ninganchiao 32.68 57⇑*i*P **P** **19 33 20.3 +0.6**
comp=Z,3µm,1.2s
NACB LR LR
comp=Z,1064µm,22.0s
YHNB Yeheng 32.71 56⇑*i*P **P** **19 33 20.9 +0.9**
comp=Z,7µm,1.3s
YHNB LR LR
comp=Z,1241µm,22.0s
KMSI Cibinong 32.73 101 P **P** **19 33 21.3 +1.1**
comp=Z,12µm,1.0s,comp=Z,186µmcomp=Z,622µm
PLP Palo 32.73 82⇑*i*P **P** **19 33 20.9 +0.7**
KDI Kendari 32.76 110 P **P** **19 33 19.6 -1.0**
comp=Z,1µm,1.0s,comp=Z,25µmcomp=Z,783µm
GSPH General Santos 32.79 91⇑*e*P **P** **19 33 22.9 +1.9**
TATO Taipei 32.93 55 P **P** **19 33 24.2 +2.3**
SNR=254
TATO Taipei 32.93 55⇑*i*P **P** **19 33 23.1 +1.3**
comp=Z,8µm,1.3s
TATO LR LR
comp=Z,991µm,20.0s
WSI Waingapu 33.16 121 P **P** **19 33 22.0 -2.0**
comp=Z,3µm,0.8s,comp=Z,45µmcomp=Z,550µm
SCPH Surigao 33.19 84⇑*e*P **P** **19 33 25.4 +1.1**
DAV Davao City (W) 33.34 89 P **P** **19 33 27.4 +1.8**
SNR=91
DAV Davao City (W) 33.34 89⇑*e*P **P** **19 33 27.1 +1.4**
comp=Z,3µm,1.0s
DAV LR LR
comp=Z,399µm,19.0s
SGSI Sangihe 33.65 95 P **P** **19 33 30.6 +2.3**
comp=Z,2µm,1.6s,comp=Z,119µm
KBL Kabul 33.91 325⇓*i*P **P** **19 33 30.5 0.0**
comp=Z,11µm,2.1s
KBL LR LR
comp=Z,963µm,19.0s
YOJ Yonaguni jima 33.97 57⇑*i*P **P** **19 33 31.8 +0.8**
comp=Z,1µm,0.9s
YOJ LR LR
comp=Z,882µm,22.0s
BIPH Bislig 34.07 87⇓*e*P P 19 33 37.4 +5.4
MMRI Maumere 34.34 118 P P 19 33 29.8 -4.4
comp=Z,2µm,1.4s,comp=Z,46µmcomp=Z,441µm
MMRI Maumere 34.34 118⇑*i*P P 19 33 30.0 -4.2
comp=Z,2µm,1.3s
MMRI LR LR
comp=Z,633µm,22.0s
KSH Kashi 34.64 338⇓*i*P **P** **19 33 35.5 -1.2**
KSH pP **pP** **19 33 45.8 -0.1**
KSH PP **PnPn** **19 34 51.5 -1.4**
KSH S **S** **19 39 00.5 -3.9**
KSH PcS **PcS** **19 39 57.4 +0.2**
KSH SS **SnSn** **19 41 12.4 -5.8**
KSH ScS **ScS** **19 43 52.9 -4.1**
KSH PMZ
comp=Z,2µm,1.3s
KSH PMZ
comp=Z,29µm,5.7s
KSH LN
comp=Z,456µm,17.8s
KSH LE
comp=Z,314µm,15.1s
KSH LZ
comp=Z,741µm,20.8s
NJ2 Nanjing 34.72 42 *e*P **P** **19 33 39.4 +2.1**
NJ2 pP **pP** **19 33 47.1 +0.6**
NJ2 sP **sP** **19 33 52.1 +1.8**
NJ2 S **S** **19 39 07.0 +1.4**
NJ2 sS **sS** **19 39 23.0 +2.3**
NJ2 PMZ
comp=Z,1µm,0.6s
NJ2 PMZ
comp=Z,3µm,4.0s
WBK Wadi Bani Khal 34.93 299 P **P** **19 33 41.4 +2.0**
SNR=118
TIY Taiyuan 35.04 29⇑*i*P **P** **19 33 40.4 +0.2**
TIY S **S** **19 39 08.4 -2.2**
TIY PMZ
comp=Z,170nm,1.0s
TIY PMZ
comp=Z,10µm,4.7s
TIY LN
comp=Z,523µm,15.1s
TIY LE
comp=Z,598µm,14.7s
TIY LZ
comp=Z,1003µm,20.6s
SANI Sanana 35.34 105 P **P** **19 33 41.4 -1.6**
comp=Z,2µm,1.3s,comp=Z,60µmcomp=Z,635µm
JMDO Jabal Madar 35.61 298 P **P** **19 33 46.7 +1.5**

SNR=110
SSE Sheshan 35.77 46 P **P** 19 33 47.5 +1.1
SSE sP **sP** 19 34 00.0 +0.6
SSE S **S** 19 39 23.3 +1.6
SSE PcS **PcS** 19 39 59.2 -2.1
SSE PMZ
comp=Z,870nm,1.2s
SSE PMZ
comp=Z,64µm,7.5s
SSE LN
comp=Z,500µm,26.6s
SSE LE
comp=Z,115µm,26.6s
SSE LZ
comp=Z,428µm,16.4s
SMDO Samad 35.88 299 P **P** 19 33 49.3 +1.7
SNR=130
TNTI Ternate 35.98 100 P **P** 19 33 46.2 -2.2
comp=Z,2µm,1.1s,comp=Z,45µmcomp=Z,740µm
TNTI Ternate 35.98 100⇑*iP* **P** 19 33 46.0 -2.4
comp=Z,2µm,1.1s
TNTI *e*S **S** 19 39 24.6 -0.8
WMQ Urumqi 36.02 355 P **P** 19 33 49.6 +1.1
WMQ pP **pP** 19 33 59.3 +1.6
WMQ sP **sP** 19 34 03.2 +1.7
WMQ PP **PP** 19 35 12.6 +1.9
WMQ S **S** 19 39 25.9 +0.4
WMQ sS **sS** 19 39 41.7 +1.0
WMQ ScP **ScP** 19 39 58.5 -0.2
WMQ SS **SnSn** 19 41 51.5 0.0
WMQ ScS **ScS** 19 44 01.9 -2.3
WMQ PMZ
comp=Z,670nm,1.7s
WMQ PMZ
comp=Z,32µm,4.8s
WMQ LN
comp=Z,541µm,20.0s
WMQ LE
comp=Z,472µm,29.5s
WMQ LZ
comp=Z,634µm,29.5s
BTO Baotou 36.38 23 *e*P **P** 19 33 51.9 +0.3
TIA Tai'an 36.39 35⇑P **P** 19 33 52.1 +0.4
TIA pP **pP** 19 34 00.7 -0.2
TIA sP **sP** 19 34 05.4 +0.7
TIA S **S** 19 39 30.7 -0.5
TIA sS **sS** 19 39 47.3 +0.9
TIA SS **SnSn** 19 41 59.3 -1.2
TIA PMZ
comp=Z,440nm,1.5s
TIA PMZ
comp=Z,24µm,2.6s
TIA LN
comp=Z,507µm,20.8s
TIA LE
comp=Z,435µm,19.6s
TIA LZ
comp=Z,521µm,22.0s
BSY Bisya 36.52 298 P **P** 19 33 54.7 +1.7
SNR=266
SOEI Soe 36.63 118 P P 19 33 50.4 -3.7
comp=Z,3µm,0.9s,comp=Z,43µmcomp=Z,394µm
SOEI Soe 36.63 118⇑*iP* P 19 33 49.7 -4.3
comp=Z,2µm,0.8s
SOEI *e*S **S** 19 39 35.6 +0.1
SOEI LR LR
comp=Z,1237µm,22.0s
HOQ Hoqain 36.70 299 P **P** 19 33 56.3 +1.8
SNR=200
NLAI Namlea 36.75 106 P **P** 19 33 54.9 -0.1
comp=Z,2µm,0.9s,comp=Z,47µmcomp=Z,479µm
SHAO Shalim 36.75 290 P **P** 19 33 58.0 +3.0
SNR=44
ULHL Ulahol 36.96 340 P **P** 19 33 58.0 +1.3
SNR=11
KZA Kyzart 37.15 339 P **P** 19 33 59.5 +1.0
SNR=1142
HHC Hu-ho-hao-te 37.21 25 *e*P **P** 19 33 58.7 0.0
HHC pP **pP** 19 34 07.7 -0.3
HHC sP **sP** 19 34 11.4 -0.4
HHC PP **PnPn** 19 35 26.8 +2.3
HHC S **S** 19 39 42.0 -1.8
HHC SS **SnSn** 19 42 17.4 -3.0
HHC PMZ
comp=Z,390nm,1.1s
HHC PMZ
comp=Z,48µm,5.4s
HHC LN
comp=Z,534µm,13.0s
HHC LE
comp=Z,179µm,13.2s
HHC LZ
comp=Z,528µm,13.5s
ARQ Araqi 37.30 298 P **P** 19 34 01.5 +1.9
SNR=189
UCH Uchtor 37.54 339 P **P** 19 34 02.9 +0.9
SNR=22
AAA Alma-Ata 37.66 342 *i*P **P** 19 34 03.7 +1.3
AAA *i*S S 19 39 57.5 +7.1
AAA smax smax
comp=E,275µm,5.6s
AAA MLR MLR
comp=Z,623µm,10.0s
AML Almayashu 37.76 338 P **P** 19 34 05.0 +1.3
SNR=90
KBK Karagaybulak 37.77 339 P **P** 19 34 04.8 +1.4
SNR=33
TKM2 Tokmak 2 37.78 340 P **P** 19 34 04.3 +0.7
SNR=450
TKM2 Tokmak 2 37.78 340⇓*iP* **P** 19 34 04.0 +0.4
comp=Z,5µm,1.4s
TKM2 *e*ScS ScS 19 44 09.3 -5.0
TKM2 LR LR
comp=Z,854µm,20.0s
AAK Ala-Archa 37.91 339 P **P** 19 34 06.0 +1.3
comp=Z,11µm,1.2s
AAK Ala-Archa 37.91 339 P **P** 19 34 06.0 +1.3
SNR=858
AAK Ala-Archa 37.91 339 P **P** 19 34 06.0 +1.3
comp=Z,11µm,1.2s
AAK Ala-Archa 37.91 339*d*/*iP* **P** 19 34 05.7 +1.1
AAK Ala-Archa 37.91 339 P **P** 19 34 06.2 +1.5
SNR=2361
AAK Ala-Archa 37.91 339 *e*P **P** 19 34 05.9 +1.3
comp=Z,4µm,1.1s
AAK LR LR
comp=Z,847µm,20.0s
RBK Rabkut 37.99 288 P **P** 19 34 07.6 +2.1
SNR=48
FRU Bishkek 38.04 339 *i*P **P** 19 34 06.0 +0.4
FRU *i*S **S** 19 39 56.0 -0.1
FRU pmax pmax
comp=E,15µm,8.0s
UOSS Wadi Hilu 38.11 301 P **P** 19 34 07.1 +0.7
comp=E,2µm,1.0s,SNR=64
HATD Hatta, Dubai 38.13 301 *i*P **P** 19 34 08.0 +1.4
SNR=109
HATD ⇓S **S** 19 40 00.9 +2.9
CHMS Chumysh 38.13 339 P **P** 19 34 07.5 +1.1
SNR=9.1
EKS2 Erkin-Say 38.19 338 P **P** 19 34 08.5 +1.5
SNR=1363
EKS2 Erkin-Say 38.19 338⇓*iP* **P** 19 34 08.2 +1.2
comp=E,3µm,1.2s
EKS2 LR LR
comp=Z,776µm,22.0s
BANOM Banah 38.38 302 P **P** 19 34 10.2 +1.5
SNR=63
BANOM Banah 38.38 302⇓*iP* **P** 19 34 09.8 +1.1
SNR=82
BANOM ⇓S **S** 19 40 05.3 +3.6
MSEY Mahe Island 38.46 252 P **P** 19 34 11.4 +1.9
SNR=47
MSEY Mahe Island 38.46 252⇓*iP* **P** 19 34 10.7 +1.2
SNR=48
MSEY Mahe Island 38.46 252 *e*P **P** 19 34 10.1 +0.6
comp=Z,2µm,1.4s
MSEY LR LR
comp=Z,1132µm,19.0s
USP Ospenovka 38.46 339 P **P** 19 34 10.1 +0.9
SNR=83
MSAI Masohi 38.53 105 P **P** 19 34 10.5 +0.5
comp=Z,595nm,1.0s,comp=Z,9µmcomp=Z,107µm
FAQ Al Faqa, Dubai 38.56 300⇑*iP* **P** 19 34 11.3 +1.1
SNR=130
FAQ ⇑S **S** 19 40 09.1 +4.6

NAZ Nazwa, Dubai 38.59 301 *i*P **P** 19 34 11.6 +1.2
SNR=156
NAZ ⇓S **S** 19 40 09.5 +4.7
BJT Baijiatuau 38.66 30 *e*P **P** 19 34 11.7 +0.9
BJT LR LR
comp=Z,1153µm,22.0s
BJI Beijing 38.68 30 P **P** 19 34 12.0 +1.0
BJI S **S** 19 40 02.1 -3.7
BJI PMZ
comp=Z,320nm,2.1s
BJI PMZ
comp=Z,23µm,5.2s
BJI LN
comp=Z,760µm,21.4s
BJI LE
comp=Z,376µm,22.2s
BJI LZ
comp=Z,985µm,23.5s
ASUD Al Ashush, Dub 38.75 300 *i*P **P** 19 34 13.7 +1.9
SNR=252
ASUD ⇓S **S** 19 40 11.7 +4.4
ABTO Aybut 38.82 288 P **P** 19 34 14.4 +1.9
SNR=96
JOW Kunigami 39.27 57⇑*e*P **P** 19 34 16.6 +0.4
comp=Z,6µm,1.7s
JOW LR LR
comp=Z,536µm,19.0s
MK01 Makanchi Array 39.65 350 *e*P **P** 19 34 16.9 -2.1
MK01 *e*ScS ScS 19 44 19.9 -4.7
MKAR Makanchi Array 39.68 350 P **P** 19 34 19.1 -0.1
comp=Z,330nm,0.8s,baz=165,slow=7.3,SNR=476
MKAR LR LR 19 54 03.0
comp=Z,411µm,18.2s,baz=160,slow=41
MKAR P3KP 20 05 51.0
comp=Z,1.8nm,0.8s,baz=343,slow=3.8,SNR=3.8
MKAR PKPPKP **P'P'df** **20 06 49.6 +1.9**
comp=Z,7.2nm,1.0s,baz=320,slow=3.2,SNR=3.9
MKAR Makanchi Array 39.68 350 *e*P **P** 19 34 19.2 -0.1
MKAR *e*ScS ScS 19 44 20.4 -4.4
MKAR PKKKP 20 05 51.0
MKAR P'P' 20 06 49.6
MBWA Marble Bar 39.69 137 P **P** 19 34 20.1 +0.4
SNR=58
MBWA Marble Bar 39.69 137⇑*e*P **P** 19 34 19.2 -0.5
comp=Z,1µm,1.4s
MBWA LR LR
comp=Z,285µm,19.0s
BNDI Bandanaira 39.80 107 P **P** 19 34 19.2 -1.5
comp=Z,3µm,1.2s,comp=Z,48µmcomp=Z,550µm
KKAR Karatay Array 39.84 335⇓*iP* **P** 19 34 20.6 -0.1
comp=Z,432nm,0.6s
KSGOS Gosan 40.50 46 P **P** 19 34 27.4 +1.2
SNR=6.4
IMYA Miami 40.58 319 *e*P **P** 19 34 27.8 +0.7
KSSGP Seogwipo 40.73 47 P **P** 19 34 29.8 +1.6
SNR=19
KSSGP Seogwipo 40.73 47 P **P** 19 34 29.8 +1.6
SNR=19
KSHUK Heuksando 40.74 44 P **P** 19 34 29.6 +1.4
SNR=58
KSHUK Heuksando 40.74 44 P **P** 19 34 29.0 +0.8
SNR=85
DL2 Dalian 40.84 36 P **P** 19 34 30.1 +1.1
DL2 S **S** 19 40 40.7 +2.5
DL2 PMZ
comp=Z,3µm,2.2s
DL2 PMZ
comp=Z,60µm,8.1s
DL2 LN
comp=Z,151µm,16.6s
DL2 LE
comp=Z,185µm,17.8s
DL2 LZ
comp=Z,285µm,15.8s
KSJJU Jeju 40.85 47 P **P** 19 34 30.7 +1.5
SNR=61
KSJJU Jeju 40.85 47 P **P** 19 34 30.7 +1.5
SNR=61
IMOG Moghan 40.94 318 *e*P **P** 19 34 31.4 +1.2
KSJDO Jindo 41.22 45 P **P** 19 34 33.6 +1.4
SNR=18
KSJDO Jindo 41.22 45 P **P** 19 34 32.9 +0.6
SNR=112
IBAF Bafgh 41.29 310 *e*P **P** 19 34 34.4 +1.4
IPAY Payeh 41.36 318 *e*P **P** 19 34 34.9 +1.3
KSWAN Wando 41.45 45 P **P** 19 34 35.1 +1.0
SNR=37
KSWAN Wando 41.45 45 P **P** 19 34 35.1 +1.0
SNR=37
FAKI Fak Fak 41.60 103 P **P** 19 34 34.8 -0.7
comp=Z,1µm,1.5s,comp=Z,46µmcomp=Z,673µm
FAKI Fak Fak 41.60 103⇑*iP* **P** 19 34 34.2 -1.3
comp=Z,2µm,1.1s
FAKI LR LR
comp=Z,121µm,20.0s
IAKL Akhelmad 41.61 318 *e*P **P** 19 34 36.9 +1.2
SONM Songino Array 41.70 15 P **P** 19 34 36.3 +0.3
comp=Z,652nm,0.8s,baz=193,slow=5.6,SNR=468
SONM LR LR 19 54 48.2
comp=Z,846µm,19.2s,baz=193,slow=40
SONM PKPPKP P'P'df 20 06 40.4 -5.2
comp=Z,4.6nm,0.8s,baz=352,slow=0.5,SNR=7.7
SONA1 Songino Array 41.71 15 *e*P **P** 19 34 34.6 -1.6
IKRD Kardeh 41.87 318 *e*P P 19 34 33.6 -4.2
ULN Ulaanbaatar 41.89 15 PFAKE 19 34 50.0 +12
ULN LR LR
comp=Z,876µm,20.0s
IMEH Mehriz 41.93 309 *e*P **P** 19 34 38.8 +0.4
KSKOH Goheung 41.97 45 P **P** 19 34 39.2 +0.9
SNR=20
KSKOH Goheung 41.97 45 P **P** 19 34 39.2 +0.9
SNR=20
KSGWJ Gwangju-acc 42.00 45 P **P** 19 34 39.4 +0.9
SNR=109
KSKWJ Gwangju 42.06 45 P **P** 19 34 39.5 +0.5
SNR=32
KSKWJ Gwangju 42.06 45 P **P** 19 34 39.8 +0.8
SNR=55
FITZ Fitzroy Crossi 42.08 128 *e*P **P** 19 34 38.8 -0.6
comp=Z,4µm,1.4s
KSBAR Backryungdo 42.13 40 P **P** 19 34 39.8 +0.2
SNR=63
KSJEU Jeongeup 42.19 44 P **P** 19 34 40.8 +0.7
SNR=127
KSJEU Jeongeup 42.19 44 P **P** 19 34 40.6 +0.5
SNR=154
SAUI Saumlaki 42.26 111 PFAKE 19 34 50.0 +9.1
SAUI LR LR
comp=Z,238µm,20.0s
ISFR Sfrayin 42.37 318 *e*P **P** 19 34 43.4 +1.5
KSGUS GUNSAN 42.38 43 P **P** 19 34 41.9 +0.2
SNR=178
KSGUS GUNSAN 42.38 43 P **P** 19 34 41.8 +0.2
SNR=106
ICHK Chekchek 42.47 310 *e*P **P** 19 34 43.5 +0.8
IPAR Pars 42.52 306 *e*P **P** 19 34 44.1 +0.9
KSNAH Namhae 42.54 46 P **P** 19 34 43.9 +1.0
SNR=45
KSNAH Namhae 42.54 46 P **P** 19 34 43.9 +1.0
SNR=45
MUKL Al Mukalla 42.56 283⇑*e*P **P** 19 34 44.5 +1.1
KSSES Seosan 42.58 42 P **P** 19 34 43.3 +0.1
SNR=262
KSSES Seosan 42.58 42 P **P** 19 34 43.0 -0.2
SNR=133
KSJEO Jeonju 42.68 44 P **P** 19 34 44.7 +0.6
SNR=53
KSJIN Jinju 42.79 45 P **P** 19 34 45.9 +1.0
SNR=22
ISHV Shirvan 42.83 319 *e*P **P** 19 34 47.7 +2.1
KSKOJ Gongju 42.86 43 P **P** 19 34 45.9 +0.3
SNR=192
ISAD Sadrabad 42.87 309 *e*P **P** 19 34 46.8 +0.8
KSTEJ Daejeon 42.96 43 P **P** 19 34 47.0 +0.6
SNR=144
TJN Taejon 42.96 43 *i*P **P** 19 34 45.9 -0.4
INCN Inchon 43.08 42 P **P** 19 34 46.9 -0.5
SNR=244
INCN Inchon 43.08 42⇑*iP* **P** 19 34 47.0 -0.3
comp=Z,10µm,1.8s
INCN LR LR
comp=Z,535µm,18.0s
KSGAH Ganghwa 43.09 41 P **P** 19 34 47.3 0.0
SNR=191
RKPI Ransiki, Papua 43.12 101 P **P** 19 34 47.6 -0.4
comp=Z,2µm,0.9s,comp=Z,46µmcomp=Z,424µm
KSCEA Cheonan 43.13 43 P **P** 19 34 48.2 +0.4
SNR=217
KSCEJ CHEONGJU 43.15 43 P **P** 19 34 48.2 +0.3
SNR=94
HVS Khovu-Aksy 43.17 2*d*/*iP* **P** 19 34 47.6 -0.3
HVS pmax pmax
comp=Z,6µm,2.5s
HVS MLR MLR
comp=Z,1472µm,22.0s
KSSWO Suwon 43.18 42 P **P** 19 34 48.1 0.0
SNR=106
KSSEO Seoul 43.27 42 P **P** 19 34 48.9 0.0
SNR=269
KSCPR CHUPUNGNYEONG 43.30 44 P **P** 19 34 49.6 +0.6
SNR=62
KSBON Boeun 43.33 43 P **P** 19 34 50.2 +0.9
SNR=35
KSMUS Musan 43.40 41 P **P** 19 34 50.2 +0.4
SNR=91
ZAK Zakamensk 43.43 11⇓*iP* **P** 19 34 51.1 +1.0
ZAK *e* 19 36 39.7
ZAK pmax pmax
comp=Z,2µm,2.1s
IKAZ Kazeroun 43.47 305 *e*P **P** 19 34 51.6 +0.6
KSICN Icheon 43.49 42 P **P** 19 34 50.9 +0.2
SNR=65
KSSAJ Sangju 43.52 44 P **P** 19 34 51.2 +0.4
SNR=98
YNCB YEONCHEON 43.59 41 P **P** 19 34 51.1 -0.3
SNR=188
KSBUS Busan 43.59 46 P **P** 19 34 53.7 +2.2
SNR=14
KSDDC Dongducheon 43.60 41 P **P** 19 34 51.5 0.0
SNR=130
KSCHJ Chungju 43.64 43 P **P** 19 34 52.2 +0.4
SNR=55
KSDAG Daegu 43.70 45 P **P** 19 34 53.4 +1.0
SNR=57
KSYOC YEONGCHEON 43.84 45 P **P** 19 34 54.6 +1.1
SNR=45
KSEUS ULSEONG 43.86 44 P **P** 19 34 54.3 +0.7
SNR=46
KSAR Wonju Array Be 43.89 42 P **P** 19 34 53.8 -0.1
KSAR PKKKP 20 05 40.0
KSAR P'P' 20 06 43.4
SNY Shenyang 43.89 34⇑P **P** 19 34 54.0 +0.3
SNY S **S** 19 41 19.8 -3.3
SNY SS **SS** 19 44 36.4 -3.7
SNY PMZ
comp=Z,890nm,2.5s
SNY PMZ
comp=Z,101µm,12.0s
SNY LN
comp=Z,635µm,19.2s
SNY LE
comp=Z,379µm,19.2s
SNY LZ
comp=Z,390µm,25.2s
JNU Nakatsue 43.89 50 P **P** 19 34 54.5 +0.5
comp=Z,365nm,0.7s,baz=266,slow=3.8,SNR=68
JNU LR LR 19 55 14.3
comp=Z,525µm,20.1s,baz=234,slow=39
JNU Nakatsue 43.89 50⇑*iP* **P** 19 34 54.3 +0.3
comp=Z,736nm,1.0s
KS01 Wonju Array Si 43.91 42 *e*P **P** 19 34 52.1 -1.9
KSRS Korea Array 43.92 42 P **P** 19 34 53.8 -0.3
comp=Z,108nm,0.8s,baz=252,slow=8.2,SNR=100
KSRS LR LR 19 54 20.1
comp=Z,429µm,21.3s,baz=240,slow=38
KSRS P3KP 20 05 40.0
comp=Z,3.2nm,1.2s,baz=98,slow=1.0,SNR=4.4
KSRS PKPPKP **P'P'df** **20 06 43.4 -0.5**
comp=Z,5.0nm,1.0s,baz=337,slow=2.3,SNR=5.3
MRIV Mauritius Mete 43.95 230 *e*P **P** 19 34 57.5 +3.0
KSWJU Wonju 43.98 43 P **P** 19 34 55.1 +0.6
SNR=206
KSCWO Cheorwon 44.00 41 P **P** 19 34 55.1 +0.4
SNR=98
KSCHC Chuncheon 44.03 42 P **P** 19 34 54.8 -0.1
SNR=115
KURBB Kurchatov Arra 44.07 348 PKPPKP **P'P'df** **20 06 40.9 -1.7**
comp=Z,10nm,1.0s,baz=285,slow=4.0,SNR=7.2
KSYOW Yeongwol 44.13 43 P **P** 19 34 56.2 +0.4
SNR=82
KURK Kurchatov 44.14 348 P **P** 19 34 55.0 -0.6
comp=Z,7µm,1.0s
KURK Kurchatov 44.14 348 P **P** 19 34 56.0 +0.4
SNR=4218
KURK Kurchatov 44.14 348⇓*iP* **P** 19 34 55.8 +0.1
comp=Z,11µm,1.4s
KURK *e*SS SS 19 44 56.3 +11
KURK P'P' 20 06 40.9
KURK LR LR
comp=Z,726µm,22.0s
KSPHA Pohang 44.25 45 P **P** 19 34 58.2 +1.5
SNR=21
MOY Mondy 44.31 8 *e*P **P** 19 34 57.7 +0.6
MOY pmax pmax
comp=Z,2µm,3.1s
IZEF Zefreh 44.33 310 *e*P **P** 19 34 57.7 0.0
KSIJA INJE 44.34 42 P **P** 19 34 58.0 +0.6
SNR=304
KSJES JEONGSEON 44.41 43 P **P** 19 34 58.7 +0.7
SNR=48
KSTBA Taebaek 44.44 43 P **P** 19 34 59.0 +0.6
SNR=101
KSULJ Uljin 44.53 44 P **P** 19 35 00.4 +1.4
SNR=14
KSDGY Daegwallycong 44.55 43 P **P** 19 34 59.6 +0.3
SNR=75
SEHB SEOHWA 44.59 42 P **P** 19 34 59.6 +0.2
SNR=110
KSJMJ Jumunjin 44.71 42 P **P** 19 35 00.6 +0.2
SNR=144
TLY Talaya 44.75 10 P **P** 19 35 01.3 +0.9
comp=Z,6µm,0.9s
TLY Talaya 44.75 10*d*/*iP* **P** 19 35 01.6 +1.1
TLY *e*S **S** 19 41 35.8 +0.5
TLY *e*SS **ScS** 19 44 52.7 -3.0
TLY pmax pmax
comp=Z,6µm,2.3s
TLY MLR MLR
comp=Z,266µm,19.0s
TLY Talaya 44.75 10 P **P** 19 35 02.1 +1.6
SNR=760
TLY Talaya 44.75 10⇓*e*P **P** 19 35 01.4 +0.9
comp=Z,8µm,1.8s
TLY LR LR
comp=Z,296µm,19.0s
KSSKC Sokcho 44.77 42 P **P** 19 35 01.6 +0.7
SNR=41
IGLO Ghaloghah 44.90 315 *e*P **P** 19 35 03.2 +1.0
IKLH Kolahrood 45.08 310 *e*P **P** 19 35 04.2 +0.5
SRPI Serui, Papua 45.21 100 P **P** 19 35 02.3 -2.4
comp=Z,2µm,0.9s,comp=Z,40µmcomp=Z,384µm
IFIR Firoozkooh 45.24 314 *e*P **P** 19 35 05.7 +0.7
IPIR Pirpir 45.34 309 *e*P **P** 19 35 04.9 -1.0
IRK Irkutsk 45.40 11⇓*iP* **P** 19 35 06.4 +0.8
IRK *e*S S 19 41 47.8 +3.1
IRK pmax pmax
comp=Z,9µm,2.1s
IALA Alasht 45.41 314 *e*P **P** 19 35 07.8 +1.5
IVRN Varamin 45.69 312 *e*P **P** 19 35 09.6 +1.2
IDMV Damavand 45.73 313 *e*P **P** 19 35 09.6 +0.7
RER Riviere de l'E 45.78 230 *e*P **P** 19 35 10.7 +1.5
comp=Z,878nm,1.0s
RER LR LR
comp=Z,465µm,20.0s
IPRN Peran 45.83 314 *e*P **P** 19 35 10.1 +0.6
BDHA Al Bayda' 45.89 282⇓*e*P **P** 19 35 11.4 +1.0
KSULL Ulleungdo 45.95 44 P **P** 19 35 12.0 +1.8
SNR=29
LBOS 46.20 282⇓*e*P **P** 19 35 13.9 +1.0
LBOS AMb AMb 19 35 18.5
comp=Z,15µm,1.8s
CN2 Changchun 46.22 34⇑P **P** 19 35 12.6 +0.3
CN2 *e*pP **pP** 19 35 22.5 +0.8
CN2 *e*S **S** 19 41 55.4 -1.4
CN2 PMZ
comp=Z,370nm,0.8s
CN2 PMZ
comp=Z,88µm,6.0s
ZAA0 Zalesovo Array 46.33 354 *e*P **P** 19 35 11.0 -1.9
ZALV Zalesovo Beam 46.33 354 P **P** 19 35 12.9 0.0
comp=Z,172nm,0.6s,baz=177,slow=7.4,SNR=362
ZALV LR LR 19 58 25.0
comp=Z,599µm,19.5s,baz=177,slow=41

ZALV P3KP 20 05 43.9
comp=Z,2.3nm,0.8s,baz=326,slow=3.9,SNR=4.5
ZALV PKPPKP **P'P'df** **20 06 38.9 -0.7**
comp=Z,9.4nm,1.0s,baz=267,slow=2.5,SNR=5.1
I46RU ZALESOVO INFRA 46.33 354 P **P** **19 35 15.0 +2.1**
baz=170,slow=6.2,SNR=3.3
IMHD Mahdasht 46.77 313 *e*P **P** **19 35 17.9 +1.0**
DAMY Dhamar 47.06 283⇓*e*P **P** **19 35 21.0 +1.4**
comp=Z,7μm,1.8s
DAMY LR LR
comp=Z,398μm,21.0s
DHBB Dhamar BB 47.06 283⇑*e*P **P** **19 35 20.6 +1.0**
DHBB AMb AMB 19 35 23.3
comp=Z,8μm,1.2s
RAYN Ar Rayn 47.13 295 *e*P **P** **19 35 20.1 +0.3**
comp=Z,1μm,1.0s
RAYN LR LR
comp=Z,436μm,18.0s
NWAO Narrogin (SRO) 47.15 151 P **P** **19 35 20.2 +0.6**
comp=Z,104nm,0.6s,baz=329,slow=6.2,SNR=85
NWAO Narrogin (SRO) 47.15 151 P **P** **19 35 20.3 +0.6**
NWAO pmax pmax
comp=Z,104nm,0.6s
NWAO Narrogin (SRO) 47.15 151 P **P** **19 35 20.2 +0.6**
NWAO LR LR
comp=Z,1.0nm,21.0s
IRAZ Razeghan 47.20 312 *e*P **P** **19 35 21.3 +1.0**
TRBA At Turbah 47.28 281⇓*e*P **P** **19 35 22.2 +1.0**
AIS Amsterdam Isla 47.36 196 P P 19 35 08.0 -13
AIS PP PP 19 37 06.0 -6.7
AIS S S 19 42 01.0 -12
AIS L L 19 46 00.0
AIS R 19 48 00.0
NVS Novosibirsk 47.38 353⇓*i*P **P** **19 35 20.5 -0.6**
NVS *e* 19 37 14.2
NVS pmax pmax
comp=Z,6μm,1.9s
NVS pmax pmax
comp=N,4μm,2.0s
NVS pmax pmax
comp=E,2μm,1.5s
H01W3 Cape Leeuwin H 47.39 155 P **P** **19 35 23.2 +2.0**
baz=31
H01W3 T T 20 26 22.8
baz=331
H01W2 Cape Leeuwin H 47.40 155 P **P** **19 35 23.3 +2.0**
baz=31
H01W2 T T 20 26 36.3
baz=331
H01W1 Cape Leeuwin H 47.41 155 P **P** **19 35 23.4 +2.0**
baz=31
H01W1 T T 20 26 30.8
baz=331
IGZV Ghazvin 47.41 313 *e*P **P** **19 35 23.0 +1.0**
HIA Hailar 47.41 25⇓*e*P **P** **19 35 21.2 -0.4**
HIA LR LR
comp=Z,597μm,18.0s
CIT Chita 47.47 18 *e*P **P** **19 35 22.5 +0.5**
CIT *e* 19 35 39.7
CIT *e* 19 42 13.3
CIT pmax pmax
comp=Z,10μm,2.4s
SMPI Sarmi 47.65 100 P **P** **19 35 22.3 -1.6**
comp=Z,1μm,1.3s,comp=Z,62μm
HAJJ Hajjah 47.89 284⇑*e*P **P** **19 35 27.0 +1.1**
HAJJ AMb AMB 19 35 31.0
comp=Z,14μm,2.4s
KRAR Krasnoyarsk 48.04 1*d i*P **P** **19 35 26.2 0.0**
KRAR pmax pmax
comp=Z,4μm,2.1s
IBZA Bozab 48.37 310 *e*P **P** **19 35 28.6 -0.9**
BRVK Borovoye 48.40 343*d i*P **P** **19 35 28.5 -0.6**
BRVK pmax pmax
comp=Z,3μm,1.4s
BRVK MLR MLR
comp=Z,664μm,21.0s
BRVK Borovoye 48.40 343 P **P** **19 35 29.1 0.0**
SNR=1170
BRVK Borovoye 48.40 343⇓*e*P **P** **19 35 28.3 -0.8**
comp=Z,215nm,1.1s
BRVK LR LR
comp=Z,619μm,19.0s
IKOM Komasi 48.52 309 *e*P **P** **19 35 29.5 -1.0**
MDJ Mudanjiang 49.06 35 P **P** **19 35 35.1 +0.8**
MDJ pP **pP** **19 35 44.1 +0.4**
MDJ sP **sP** **19 35 47.9 +0.4**
MDJ S **S** **19 42 40.2 +3.2**
MDJ sS **sS** **19 42 53.8 +1.2**
MDJ PMZ
comp=Z,310nm,2.0s
MDJ PMZ
comp=Z,14μm,5.5s
MDJ LN
comp=Z,414μm,34.3s
MDJ LE
comp=Z,317μm,33.4s
MDJ LZ
comp=Z,355μm,37.8s
MDJ Mudanjiang 49.06 35⇓*e*P **P** **19 35 34.5 +0.3**
comp=Z,7μm,1.9s
MDJ LR LR
comp=Z,444μm,18.0s
GENI Genyem 49.20 100 P **P** **19 35 33.2 -2.6**
comp=Z,1μm,1.1s,comp=Z,41μmcomp=Z,575μm
ABKAR Akbulak array 49.24 333⇓*i*P **P** **19 35 35.6 +0.1**
comp=Z,1.6nm,1.7s
VLA Vladivostok 49.56 38*j i*P **P** **19 35 39.0 +0.9**
VLA *e**PP **pP** **19 35 46.9 -0.7**
VLA 19 37 31.5
VLA *e*S **S** **19 42 44.2 +0.2**
VLA pmax pmax
comp=Z,792nm,2.1s
VLA MLR MLR
comp=E,7880μm,23.0s
IDHR Dehrash 49.58 309 *e*P **P** **19 35 37.2 -1.5**
JAY Jayapura 49.71 100 P **P** **19 35 38.0 -1.8**
comp=E,347nm,1.8s,comp=E,19μm
WRA Warramunga Arr 50.02 124 P **P** **19 35 41.9 -0.2**
comp=E,216nm,0.7s,baz=304,slow=8.5,SNR=201
WRA S **S** **19 42 54.4 +3.1**
comp=E,29nm,0.9s,baz=296,slow=14,SNR=9.9
WRA LR LR 19 58 18.3
comp=E,310μm,21.8s,baz=305,slow=38
WRA PKP2bc 20 06 50.0
comp=E,14nm,1.0s,baz=148,slow=1.9,SNR=6.1
WRA P4KPbc 20 13 20.4
comp=E,8.9nm,1.1s,baz=307,slow=3.6,SNR=11
WRAB Tennant Creek 50.03 124*c i*P **P** **19 35 41.3 -0.8**
WRAB Tennant Creek 50.03 124⇑*i*P **P** **19 35 41.3 -0.8**
comp=E,348nm,2.9s
WRAB *e*S **S** **19 42 51.0 -0.4**
WRAB LR LR
comp=Z,364μm,22.0s
USRK Ussuriysk Ar. 50.22 37 P **P** **19 35 43.3 +0.2**
comp=Z,163nm,0.9s,baz=243,slow=5.8,SNR=89
USRK LR LR 19 58 45.0
comp=Z,395μm,20.9s,baz=224,slow=38
USRK PKP2bc 20 06 52.2
comp=Z,5.3nm,0.9s,baz=66,slow=2.3,SNR=4.5
MAJO Matsushiro 50.79 49*c i*P **P** **19 35 47.1 -0.5**
MAJO Matsushiro 50.79 49⇑*i*P **P** **19 35 47.5 -0.1**
comp=Z,4μm,1.5s
MAJO *e*PcP **PcP** **19 37 05.1 +0.8**
MAJO LR LR
comp=Z,472μm,22.0s
MAT Matsushiro 50.79 49 P **P** **19 35 47.2 -0.4**
MAT S **S** **19 43 00.9 -0.7**
MJAR Matsushiro Arr 50.79 49 P **P** **19 35 47.6 0.0**
comp=Z,190nm,1.0s,baz=244,slow=7.3,SNR=135
MJAR PcP **PcP** **19 37 05.4 +1.1**
comp=Z,320nm,1.0s,baz=240,slow=5.0,SNR=6.1
MJAR LR LR 19 58 14.2
comp=Z,343μm,21.2s,baz=230,slow=37
MJAR PKP2bc 20 06 51.5
comp=Z,4.0nm,0.9s,baz=2.1,slow=3.4,SNR=4.2
MJAR P4KPbc 20 13 23.7
comp=Z,6.0nm,0.9s,baz=237,slow=4.3,SNR=18
JHJ2 Mitsune 50.83 53⇑*e*P **P** **19 35 46.5 -1.4**
comp=Z,246nm,0.8s
JHJ2 LR LR
comp=Z,276μm,22.0s
AKTO Aktyubinsk 50.95 333 PKP2bc **P'P'bc** **20 06 51.4 +0.5**
comp=Z,13nm,1.2s,baz=46,slow=1.1,SNR=5.5
CBIJ Chichi jima 51.21 62⇑*e*P **P** **19 35 48.2 -2.7**
comp=Z,764nm,0.6s
JCJ Chichijima 51.21 62 LR LR 19 59 30.3
comp=Z,77μm,18.1s,baz=248,slow=38
ABPO Ambohimpanom 51.54 238⇑*e*P **P** **19 35 54.5 +0.9**
comp=Z,3μm,1.4s
ABPO LR LR
comp=Z,612μm,21.0s
AS31 Alice Springs 51.58 129⇑*e*P **P** **19 35 52.7 -1.0**
ASAR Alice Springs 51.58 129 P **P** **19 35 53.0 -0.7**
comp=Z,255nm,0.9s,baz=303,slow=7.0,SNR=424
ASAR LR LR 19 58 26.3
comp=Z,355μm,21.9s,baz=298,slow=37
ASAR P4KPbc 20 13 25.9
comp=Z,4.4nm,1.0s,baz=304,slow=4.6,SNR=16
AS01 Alice Springs 51.61 128 *e*P **P** **19 35 51.4 -2.6**
FORT Forrest 51.70 140 *e*P **P** **19 35 55.2 +0.8**
comp=Z,3μm,1.0s
FORT LR LR
comp=Z,357μm,20.0s
GUMO Guam 52.22 79 P **P** **19 35 57.7 -0.9**
comp=Z,166nm,0.8s,baz=266,slow=2.4,SNR=8.4
GUMO Guam 52.22 79 P **P** **19 35 57.7 -0.9**
GUMO pmax pmax
comp=Z,166nm,0.8s
GUMO Guam 52.22 79 *e*P **P** **19 35 56.5 -2.2**
comp=Z,81nm,1.0s
GUMO LR LR
comp=Z,116μm,19.0s
MAK Makhachkala 52.31 319*d i*P **P** **19 35 58.9 +0.1**
MAK *e* 19 37 15.4
MAK *e* 19 37 59.4
MAK *e*PPP PPP 19 38 55.3
MAK *e*S **S** **19 43 22.0 -0.2**
MAK *e* 19 45 48.8
MAK *e*SS **SS** **19 46 56.7 -3.5**
MAK *e*SSS SSS 19 48 36.6
MAK pmax pmax
comp=Z,3μm,1.7s
MAK pmax pmax
comp=N,3μm,1.7s
MAK pmax pmax
comp=Z,28μm,4.7s
MAK pmax pmax
comp=E,5μm,1.5s
MAK MLR MLR
comp=Z,205μm,15.0s
MAK MLR MLR
comp=N,376μm,23.0s
MAK MLR MLR
comp=E,418μm,23.0s
CUKT Cukurca 52.61 311 *e*P **P** **19 36 00.4 -1.0**
FURI Furi 52.68 275 P **P** **19 36 05.3 +2.9**
FURI S **S** **19 43 31.9 +3.1**
FURI Furi 52.68 275 *e*P **P** **19 36 05.6 +3.2**
comp=E,4μm,1.5s
FURI LR LR
comp=Z,509μm,22.0s
BOD Bodaibo 52.70 15 *e*P **P** **19 36 01.7 +0.3**
BOD *e*S **S** **19 43 28.6 +1.6**
BOD pmax pmax
comp=Z,5μm,2.3s
GNI Garni 52.92 315 *e*P **P** **19 36 03.9 +0.3**
GNI Garni 52.92 315*d i*P **P** **19 36 03.5 -0.1**
GNI pmax pmax
comp=Z,4μm,1.4s
GNI MLR MLR
comp=Z,267μm,18.0s
GNI Garni 52.92 315 P **P** **19 36 04.2 +0.6**
SNR=185
GNI Garni 52.92 315⇓*i*P **P** **19 36 04.0 +0.4**
SNR=175
GNI Garni 52.92 315⇓*i*P **P** **19 36 03.4 -0.1**
comp=Z,5μm,1.4s
GNI LR LR
comp=Z,258μm,20.0s
KLR Kul'dur 53.02 32 *e*P P 19 36 00.0 -4.0
KLR *e*S S 19 43 48.6 +17
KLR pmax pmax
comp=N,570nm,2.2s
KLR pmax pmax
comp=E,1μm,2.2s
KLR pmax pmax
comp=Z,3μm,2.2s
DGRG David-gareji 53.03 317 P **P** **19 36 06.2 +1.9**
DGRG David-gareji 53.03 317 P **P** **19 36 06.2 +1.9**
CLDR Caldiran 53.10 314 *e*P **P** **19 36 04.9 -0.1**
VANB Van 53.27 313 *e*P **P** **19 36 05.3 -0.8**
SEAG Tbilisi Sea 53.55 317 P **P** **19 36 07.1 -1.0**
SIRT Sirnak 53.57 311 *e*P **P** **19 36 07.5 -0.9**
TBLG Delisi 53.58 317 P **P** **19 36 08.6 +0.3**
TBLG Delisi 53.58 317 P **P** **19 36 08.6 +0.3**
KZR Kazreti 53.65 316 P **P** **19 36 09.6 +0.8**
DUS Dusheti 53.76 317 P **P** **19 36 09.8 +0.2**
DUS Dusheti 53.76 317 P **P** **19 36 10.0 +0.3**
AGRB Hanur-Agry 53.92 314 *e*P **P** **19 36 11.1 +0.1**
KARS Kars 54.27 315 *e*P **P** **19 36 13.8 +0.3**
HABR Khabarovsk 54.36 34*c i*P **P** **19 36 14.3 +0.5**
HABR *e**SP **sP** **19 36 25.6 -1.5**
HABR 19 37 14.3
HABR 19 38 14.7
HABR PPP PPP 19 39 25.2
HABR *e*S **S** **19 43 51.2 +1.4**
HABR *e* 19 44 01.7
HABR *e**SS **sS** **19 44 06.3 +0.7**
HABR *e* 19 45 58.2
HABR *e*SS **SS** **19 47 33.8 +1.5**
HABR pmax pmax
comp=Z,2μm,2.1s
HABR pmax pmax
comp=N,309nm,2.1s
HABR pmax pmax
comp=E,865nm,2.1s
HABR pmax pmax
comp=Z,26μm,3.2s
HABR MLR MLR
comp=N,157μm,15.0s
HABR MLR MLR
comp=Z,355μm,16.0s
HABR MLR MLR
comp=E,276μm,16.0s
ZEI Tsey 54.59 318 *e*P **P** **19 36 14.1 -1.8**
ZEI *e* 19 38 19.1
ZEI *e*S **S** **19 43 53.4 -0.3**
ZEI pmax pmax
comp=Z,973nm,1.4s
ZEI pmax pmax
comp=N,2μm,1.9s
ZEI pmax pmax
comp=E,839nm,1.1s
ZEI pmax pmax
comp=Z,13μm,7.1s
SVE Sverdlovsk 54.64 339*c i*P **P** **19 36 16.0 +0.3**
SVE *e*S **S** **19 43 49.9 -3.5**
SVE pmax pmax
comp=Z,6μm,1.0s
SVE pmax pmax
comp=Z,89μm,24.0s
SVE MLR MLR
comp=Z,1005μm,21.0s
SVE MLR MLR
comp=N,460μm,21.0s
SVE MLR MLR
comp=E,578μm,20.0s
SVAN Silvan-Diyarba 54.72 312 *e*P **P** **19 36 16.5 -0.2**
ONI Oni 54.81 317 P **P** **19 36 18.0 +0.7**
ONI Oni 54.81 317 P **P** **19 36 18.0 +0.7**
VRTB Varto-Mus 54.88 313 *e*P **P** **19 36 18.4 +0.4**
MAZI Mazidag 55.05 311 *e*P **P** **19 36 18.7 -0.4**
ARU Arti 55.08 338 P **P** **19 36 18.2 -0.6**
comp=E,8μm,1.4s
ARU Arti 55.08 338*d i*P **P** **19 36 18.5 -0.4**
ARU 19 37 18.0
ARU 19 38 29.9
ARU PPP PPP 19 39 35.8
ARU *e*S **S** **19 43 59.6 +0.2**
ARU 19 46 07.0
ARU SS **SS** **19 47 43.6 +0.1**
ARU pmax pmax
comp=Z,3μm,2.5s
ARU pmax pmax
comp=Z,28μm,11.1s
ARU MLR MLR
comp=Z,866μm,19.0s
ARU Arti 55.08 338⇓*i*P **P** **19 36 18.3 -0.6**
comp=Z,8μm,1.6s
ARU LR LR
comp=Z,883μm,19.0s
NCK Nalchik 55.10 318*d i*P **P** **19 36 18.4 -0.9**
COEN Coen 55.26 113 *e*P **P** **19 36 19.6 -1.2**
comp=Z,3μm,2.1s
KMBO Kilima Mbogo 55.27 263 *e*P **P** **19 36 22.7 +1.4**
KMBO Kilima Mbogo 55.27 263 P **P** **19 36 22.6 +1.4**
comp=Z,298nm,0.8s,baz=60,slow=9.8,SNR=242
KMBO LR LR 19 56 17.1
comp=Z,521μm,21.1s,baz=74,slow=32
KMBO PKP2bc 20 06 41.5
comp=Z,1.1nm,0.5s,baz=68,slow=2.0,SNR=4.4
KMBO Kilima Mbogo 55.27 263 P **P** **19 36 22.6 +1.4**
KMBO pmax pmax
comp=Z,298nm,0.8s
KMBO MLR MLR
comp=Z,521μm,21.2s
KMBO Kilima Mbogo 55.27 263 P **P** **19 36 22.4 +1.1**
SNR=254
KMBO Kilima Mbogo 55.27 263⇓*e*P **P** **19 36 22.4 +1.1**
comp=Z,2μm,1.5s
KMBO ⇑*e* 20 06 41.5
BNGB Bing˜ll **55.39 312** *e*P **P** **19 36 21.4 -0.2**
DYBB Diyarbakir 55.44 311 *e*P **P** **19 36 22.0 0.0**
NEY Neytrino 55.57 318 *i* P **P** **19 36 22.9 0.0**
NEY pmax pmax
comp=Z,400nm,1.9s
BCA Borcka 55.60 315 *e*P **P** **19 36 22.4 -0.5**
KBZ Khabaz 55.66 318 P **P** **19 36 23.6 +0.4**
comp=Z,318nm,1.0s,baz=102,slow=6.9,SNR=198
KBZ PKP2bc 20 06 39.8
comp=Z,4.6nm,0.9s,baz=17,slow=6.9,SNR=6.3
CHVG Ch'k'valeri 55.78 317 P **P** **19 36 25.1 +0.9**
KIV Kislovodsk 55.89 319 P **P** **19 36 24.2 -0.9**
comp=Z,4μm,1.9s
KIV Kislovodsk 55.89 319*d i*P **P** **19 36 24.4 -0.7**
KIV *e* 19 37 21.8
KIV *e* 19 38 31.9
KIV *e*PPP PPP 19 39 47.3
KIV *i* S S 19 44 04.1 -6.7
KIV *e*SS **SS** **19 47 56.3 -0.6**
KIV pmax pmax
comp=Z,5μm,1.8s
KIV MLR MLR
comp=Z,181μm,16.0s
KIV Kislovodsk 55.89 319 P **P** **19 36 24.8 -0.3**
SNR=885
KIV Kislovodsk 55.89 319⇓*i*P **P** **19 36 24.9 -0.2**
SNR=601
KIV Kislovodsk 55.89 319⇓*e*P **P** **19 36 24.2 -0.9**
comp=Z,4μm,1.4s
KIV LR LR
comp=Z,250μm,20.0s
GOF Gofitskoye 56.13 320⇑*i*P **P** **19 36 25.8 -0.9**
GOF *e*S S 19 44 21.5 +7.7
GOF pmax pmax
comp=Z,1μm,1.4s
GOF smax smax
comp=E,210nm,1.2s
SVRC Sivrice-ELAZID 56.20 311 *e*P **P** **19 36 26.9 -0.6**
BAYT Ayd¨¨ntepe-Bay 56.26 314 *e*P **P** **19 36 28.1 +0.2**
URFA Urfa 56.27 310 *e*P **P** **19 36 28.0 +0.1**
ERZN Erzincan 56.29 313 *e*P **P** **19 36 28.6 +0.6**
PTK Pertek 56.30 312 *e*P **P** **19 36 27.6 -0.7**
ASF Jabal al Asfar 56.42 303 PKP2bc **P'P'bc** **20 06 38.3 -2.0**
comp=E,8.0nm,1.0s,baz=355,slow=0.4,SNR=6.4
ERM Erimo 56.42 44*d i*P **P** **19 36 30.3 +1.6**
ERM pmax pmax
comp=Z,1μm,1.7s
ERM MLR MLR
comp=Z,169μm,16.0s
ERM Erimo 56.42 44⇓*e*P **P** **19 36 29.4 +0.7**
comp=Z,2μm,1.3s
ERM *e*S S 19 44 23.7 +6.1
ERM LR LR
comp=Z,207μm,19.0s
KTUT Trabzon 56.74 314 *e*P **P** **19 36 30.9 -0.1**
MALT Malatya 56.83 311 *e*P **P** **19 36 31.6 -0.3**
MALT Malatya 56.83 311 ⇓P **P** **19 36 31.8 -0.1**
MALT Malatya 56.83 311⇓*i*P **P** **19 36 31.8 -0.1**
ASAJ Asahikawa 56.86 42 LR LR 19 59 34.6
comp=Z,97μm,21.6s,slow=35
ASAJ Asahikawa 56.86 42⇑*i*P **P** **19 36 32.1 +0.2**
comp=Z,2μm,1.4s
ASAJ *e*S **S** **19 44 20.0 -3.4**
ILIC ilic-Erzincan 57.09 312 *e*P **P** **19 36 34.1 +0.4**
FKH Fakeheh 57.29 306 *e*P **P** **19 36 36.0 +0.7**
ESPY Espiye-Giresun 57.45 314 *e*P **P** **19 36 35.6 -0.6**
EIL Elat 57.56 300 LR LR 20 02 36.9
comp=Z,218μm,18.3s,baz=97,slow=37
RCY Rachaya 57.58 305 *e*P **P** **19 36 38.3 +1.0**
PMG Port Moresby 57.60 106*c i*P **P** **19 36 37.4 -0.1**
PMG pmax pmax
comp=Z,3μm,0.7s
PMG MLR MLR
comp=Z,474μm,18.0s
PMG Port Moresby 57.60 106⇑*i*P **P** **19 36 37.1 -0.5**
comp=Z,1μm,0.8s
PMG LR LR
comp=Z,135μm,22.0s
DARE Darende-Malaty 57.62 311 *e*P **P** **19 36 37.2 -0.3**
HWQ Hawqa 57.67 306 *e*P **P** **19 36 38.9 +1.0**
SOC Sochi 57.72 317*d i*P **P** **19 36 36.6 -1.3**
SOC *e**SP **sP** **19 36 48.9 -2.3**
SOC *e* 19 37 25.6
SOC *e* 19 38 45.9
SOC *e*S **S** **19 44 33.7 -1.0**
SOC *e*SS **SS** **19 48 27.7 +2.3**
SOC pmax pmax
comp=Z,880nm,1.5s
SOC pmax pmax
comp=Z,6μm,3.0s
SOC MLR MLR
comp=Z,233μm,26.0s
SOC MLR MLR
comp=N,154μm,26.0s
SOC MLR MLR
comp=E,177μm,26.0s
KMRS Kahramanmaras 57.75 310 *e*P **P** **19 36 38.2 -0.1**
DODT Dodoma, Tanzan 57.77 258 *i* P **P** **19 36 39.8 +0.9**
BHL Bhannes 57.82 305 *e*P **P** **19 36 39.8 +0.8**
MMAI Mount Meron Ar 57.83 304 PKP2bc **P'P'bc** **20 06 36.8 -0.2**
comp=E,70nm,1.4s,baz=270,slow=1.7,SNR=8.8
DQRL Deir Qamar 57.85 305 *e*P **P** **19 36 40.1 +1.0**
TAHT Tahtakopru-Hat 58.00 308 *e*P **P** **19 36 40.4 +0.4**
NAQL Naqoura 58.07 304 *e*P **P** **19 36 40.9 +0.3**
SOKR Solikamsk 58.08 340*d i*P **P** **19 36 39.8 -0.3**
SOKR S **S** **19 44 39.2 +0.4**
SOKR pmax pmax
comp=Z,1μm,1.3s
SOKR MLR MLR
comp=Z,641μm,17.0s
YSS Yuzh-Sakhalins 58.14 39*α i*P **P** **19 36 41.5 +0.7**
YSS *e* 19 37 28.0
YSS *e* 19 38 59.0
YSS *e*PPP PPP 19 40 20.0
YSS *i* S **S** **19 44 36.0 -4.1**
YSS *e*PS **PnS** **19 44 52.0 -2.3**
YSS *e*SS **SS** **19 48 36.0 +4.0**
YSS pmax pmax
comp=Z,880nm,1.3s
YSS pmax pmax
comp=E,9μm,8.0s
YSS pmax pmax
comp=Z,19μm,8.0s
YSS pmax pmax
comp=N,6μm,6.0s
YSS MLR MLR
comp=Z,242μm,18.0s
YSS MLR MLR
comp=N,252μm,20.0s
YSS MLR MLR
comp=E,208μm,20.0s
YSS Yuzh-Sakhalins 58.14 39 *e*P **P** **19 36 41.4 +0.7**
comp=E,10μm,1.6s
YSS LR LR
comp=Z,131μm,21.0s
BBOO Buckleboo 58.27 136 *e*P **P** **19 36 41.7 -0.2**
comp=Z,4μm,1.8s
RSDY Resadiye-TOKAT 58.29 313 *e*P **P** **19 36 41.7 -0.3**
SVSK Karacayir 58.38 312 *e*P **P** **19 36 42.4 -0.2**
CEYT Ceyhan 58.50 309 *e*P **P** **19 36 44.0 +0.4**
KOZT Kozan 58.57 309 *e*P **P** **19 36 43.8 -0.2**
KRTS Karatas 58.68 308 *e*P **P** **19 36 45.5 +0.7**
YUK Yuzh-Kuril'sk 59.01 43*c i*P **P** **19 36 47.4 +0.5**
YUK *i* 19 37 33.4
YUK *i* 19 38 58.0

YUK *i* S **S** **19 44 52.2 +0.7**
YUK *i* 19 46 35.0
YUK *i* SS **SS** **19 48 52.2 +6.6**
YUK MLR MLR
comp=N,142μm,20.0s
YUK MLR MLR
comp=E,88μm,20.0s
YUK MLR MLR
comp=Z,205μm,20.0s
KARA Karaisali 59.10 309 *e*P **P** **19 36 47.7 0.0**
EREN Erenkoy 59.38 307 *e*P **P** **19 36 49.8 +0.2**
MERS Mersin 59.42 308 *e*P **P** **19 36 49.7 -0.3**
KVT Kavak 59.43 313 *e*P **P** **19 36 49.4 -0.6**
ANN Anapa 59.69 318 *i*P **P** **19 36 48.9 -2.7**
ANN *e* 19 37 45.2
ANN *e* 19 39 03.8
ANN *e*PPP PPP 19 40 30.0
ANN *e*S **S** **19 44 58.1 -2.2**
ANN *e*SSS SSS 19 51 30.7
ANN pmax pmax
comp=N,463nm,1.4s
ANN pmax pmax
comp=Z,1μm,1.4s
ANN pmax pmax
comp=E,126nm,1.4s
ANN pmax pmax
comp=E,7μm,7.8s
ANN pmax pmax
comp=N,8μm,7.8s
ANN pmax pmax
comp=Z,22μm,7.8s
ANN MLR MLR
comp=E,224μm,22.0s
ANN MLR MLR
comp=Z,156μm,22.0s
ANN MLR MLR
comp=N,152μm,22.0s
TYV Tymovskoe 59.83 35 *e*P **P** **19 36 54.2 +1.8**
TYV pmax pmax
comp=E,3μm,1.6s
NKL Nikolayevsk 59.87 32 *i*P **P** **19 36 52.0 -0.6**
NKL *e* 19 37 02.0
NKL *e* 19 37 10.0
NKL *i*S **S** **19 45 01.0 -1.3**
NKL *e* 19 49 00.0
NKL pmax pmax
comp=N,560nm,0.9s
NKL pmax pmax
comp=E,230nm,0.9s
NKL pmax pmax
comp=Z,1μm,0.9s
NKL pmax pmax
comp=N,5μm,10.0s
NKL pmax pmax
comp=E,9μm,10.0s
NKL pmax pmax
comp=Z,22μm,10.0s
NKL smax smax
comp=N,84μm,20.0s
NKL smax smax
comp=E,108μm,20.0s
CSS Prodhromos 59.93 306 *e*P **P** **19 36 53.0 -0.5**
CSS Prodhromos 59.93 306 P **P** **19 36 53.6 +0.1**
CSS Prodhromos 59.93 306⇓*e*P **P** **19 36 52.5 -1.0**
comp=E,790nm,1.4s
CSS LR LR
comp=Z,134μm,21.0s
PAF Port-aux-Franc 60.06 196 P **P** **19 36 55.0 +1.1**
PAF S **S** **19 45 08.0 +3.4**
PAF L L 19 51 00.0
PAF R 19 55 00.0
PAF Port-aux-Franc 60.06 196 *e*P P 19 36 49.0 -4.9
comp=Z,802nm,1.6s
PAF LR LR
comp=Z,577μm,19.0s
DIKM Dikmen 60.16 314 *e*P **P** **19 36 54.1 -0.9**
CTA Charters Tower 60.19 118 P **P** **19 36 55.6 +0.1**
comp=Z,191nm,0.9s,baz=297,slow=8.7,SNR=49
CTA Charters Tower 60.19 118 P **P** **19 36 55.6 +0.1**
CTA pmax pmax
comp=Z,191nm,1.0s
CTAO Charters Tower 60.19 118⇑*e*P **P** **19 36 54.1 -1.4**
comp=Z,2μm,1.3s
CTAO LR LR
comp=Z,319μm,22.0s
CORM Corum 60.20 312 *e*P **P** **19 36 54.5 -0.8**
LEF Lefka 60.31 306 *e*P **P** **19 36 56.2 +0.1**
SULT Sultanhani-AKS 60.52 310 *e*P **P** **19 36 57.4 -0.2**
YAK Yakutsk 60.72 19*d* *i*P **P** **19 36 58.1 -0.2**
YAK *e**PP **pP** **19 37 08.4 +0.4**
YAK *e* 19 39 22.0
YAK *e*PPP PPP 19 40 38.6
YAK *i*S **S** **19 45 12.5 -0.4**
YAK *e**SS sS 19 45 41.0 +12
YAK *e* 19 46 44.3
YAK *e*SS **SS** **19 49 16.7 +4.9**
YAK pmax pmax
comp=Z,3μm,1.4s
YAK pmax pmax
comp=N,930nm,1.5s
YAK pmax pmax
comp=E,834nm,1.5s
YAK pmax pmax
comp=Z,6μm,4.5s
YAK pmax pmax
comp=N,2μm,1.7s
YAK pmax pmax
comp=E,2μm,2.5s
YAK MLR MLR
comp=E,356μm,25.0s
YAK MLR MLR
comp=N,87μm,20.0s
YAK Yakutsk 60.72 19⇓*e*P **P** **19 36 57.7 -0.6**
comp=N,5μm,0.9s
YAK ⇑*e* 20 06 25.2
YAK LR LR
comp=Z,375μm,21.0s
KUR Kuril'sk 60.77 42*c* *i*P P 19 36 51.0 -7.9
KUR pmax pmax
comp=N,424nm,1.0s
KUR pmax pmax
comp=E,581nm,1.0s
KUR pmax pmax
comp=Z,1μm,1.0s
KUR pmax pmax
comp=Z,5μm,2.1s
KUR MLR MLR
comp=N,84μm,15.0s
KUR MLR MLR
comp=E,83μm,15.0s
BR131 Keskin Array S 60.81 311⇓*e*P **P** **19 36 57.9 -1.7**
comp=E,8μm,1.2s
BRTR Keskin Array B 60.81 311 P **P** **19 36 58.8 -0.8**
comp=E,209nm,1.0s,baz=121,slow=6.2,SNR=220
BRTR PKP2bc 20 06 25.3
comp=E,5.8nm,0.9s,baz=188,slow=2.5,SNR=6.8
BRTR LR LR 20 07 57.7
comp=E,120μm,18.1s,baz=97,slow=41
BRTR P4KPbc 20 14 02.5
comp=E,1.5nm,1.0s,baz=90,slow=6.2,SNR=5.2
BRTR Keskin Array B 60.81 311 *i*P **P** **19 36 58.0 -1.6**
BRTR pmax pmax
comp=Z,147nm,1.0s
VORD Divnogorie 60.98 325 *e*P **P** **19 36 58.1 -2.2**
VORD *e**PP **pP** **19 37 06.0 -4.0**
VORD *e*S **S** **19 45 11.7 -4.9**
VORD pmax pmax
comp=Z,790nm,2.5s
VORD pmax pmax
comp=N,100nm,0.9s
VORD pmax pmax
comp=E,150nm,0.9s
VORD smax smax
comp=E,37μm,11.8s
VORD smax smax
comp=Z,26μm,8.7s
VORD smax smax
comp=N,31μm,7.9s
HDMB Hadim 61.03 308 *e*P **P** **19 37 00.4 -0.8**
CANT Cankiri 61.06 312 *e*P **P** **19 37 00.6 -0.5**
BZK Bozkurt 61.15 314 *e*P **P** **19 37 01.0 -0.6**
VSR Storozhevoye 61.16 325 *e*P **P** **19 36 59.9 -1.6**
VSR *e**PP **pP** **19 37 07.4 -3.8**
VSR *e*S **S** **19 45 20.2 +1.3**
VSR pmax pmax
comp=Z,490nm,2.1s
VSR pmax pmax
comp=N,70nm,1.2s
VSR pmax pmax
comp=E,260nm,1.2s
VSR smax smax
comp=E,25μm,11.5s
VSR smax smax
comp=Z,23μm,8.5s
VSR smax smax
comp=N,18μm,5.0s
VSR MLR MLR
comp=Z,318μm,18.0s
VSR MLR MLR
comp=N,122μm,16.0s
VSR MLR MLR
comp=E,182μm,17.0s
KONT Konya--Tatoy 61.34 309 *e*P **P** **19 37 02.8 -0.3**
VOR Voronezh 61.37 326⇓*i*P **P** **19 37 02.0 -0.9**
VOR pmax pmax
comp=Z,1μm,2.0s
LADK Ladik-KONYA 61.40 309 *e*P **P** **19 37 02.6 -1.0**
ANTO Ankara 61.48 311 *e*P **P** **19 37 03.1 -0.9**
ANTO Ankara 61.48 311⇑P **P** **19 37 03.7 -0.3**
ANTO Ankara 61.48 311⇑*i*P **P** **19 37 03.7 -0.3**
ANTO Ankara 61.48 311 P **P** **19 37 03.1 -0.9**
SNR=455
ANTO Ankara 61.48 311⇓*e*P **P** **19 37 02.3 -1.7**
comp=Z,2μm,1.4s
ANTO LR LR
comp=Z,174μm,20.0s
LOD Lodumlu 61.50 311 *e*P **P** **19 37 03.2 -1.0**
MBAR Mbarara 61.60 265 *e*P **P** **19 37 06.4 +1.0**
MBAR Mbarara 61.60 265*c* *i*P **P** **19 37 05.5 +0.1**
MBAR Mbarara 61.60 265 *e*P **P** **19 37 05.2 -0.2**
MBAR ⇑*e* 20 06 26.4
STKA Stephens Creek 61.67 133 P **P** **19 37 05.5 +0.2**
comp=Z,295nm,0.8s,baz=314,slow=6.2,SNR=284
STKA LR LR 20 05 27.3
comp=Z,118μm,21.0s,baz=298,slow=38
STKA Stephens Creek 61.67 133 P **P** **19 37 05.5 +0.2**
STKA pmax pmax
comp=Z,295nm,0.8s
STKA MLR MLR
comp=Z,118μm,21.0s
STKA Stephens Creek 61.67 133⇑*e*P **P** **19 37 05.3 0.0**
comp=Z,3μm,2.8s
SUTC Sutluce-Ispart 62.30 308 *e*P **P** **19 37 08.7 -1.0**
SVRH Sivrihisar-ESK 62.33 310 *e*P **P** **19 37 08.6 -1.1**
ANTB Antalya 62.45 308 *e*P **P** **19 37 09.8 -0.7**
BCK Bucak 62.61 308 *e*P **P** **19 37 10.3 -1.4**
ISP Isparta 62.74 309 *e*P **P** **19 37 11.4 -1.1**
ISP Isparta 62.74 309 P **P** **19 37 12.2 -0.4**
ISP Isparta 62.74 309⇑P **P** **19 37 12.1 -0.5**
ISP Isparta 62.74 309⇑*i*P **P** **19 37 12.1 -0.5**
ISP Isparta 62.74 309⇓*e*P **P** **19 37 10.9 -1.7**
comp=Z,4μm,1.5s
ISP LR LR
comp=Z,197μm,21.0s
ELL Elmali 63.01 307 *e*P **P** **19 37 15.3 +0.9**
KSL Kastellorizon 63.16 307 *e*P P 19 37 18.7 +3.5
GULT Gulveren 63.31 311 *e*P **P** **19 37 15.1 -1.2**
ALT Altintas 63.31 310 *e*P **P** **19 37 15.4 -0.9**
ALT Altintas 63.31 310 P **P** **19 37 15.8 -0.5**
PRGR Permogore 63.52 337⇓*i*P **P** **19 37 16.1 -1.0**
PRGR *e*PPP PPP 19 41 05.8
PRGR *e*S **S** **19 45 46.0 -2.2**
PRGR *e**SS **sS** **19 46 03.5 -0.7**
PRGR pmax pmax
comp=Z,2μm,0.8s
SPNC Sapanca-Adapaz 63.52 312 *e*P **P** **19 37 16.8 -0.7**
CAVI Cavuskoy 63.76 311 *e*P **P** **19 37 18.2 -1.0**
ADVT Abdulvahap 63.88 311 *e*P **P** **19 37 18.9 -1.0**
TVSB Tavsanli 63.88 310 *e*P **P** **19 37 19.1 -1.0**
MOS Moscow 63.98 329κ *i*P **P** **19 37 18.8 -1.5**
MOS *e* 19 37 55.8
MOS *e* 19 39 39.0
MOS *i*S **S** **19 45 50.6 -3.6**
MOS *e* 19 47 11.3
MOS *i*SS **SS** **19 50 08.3 +5.2**
MOS pmax pmax
comp=Z,9μm,2.1s
MOS pmax pmax
comp=Z,3μm,1.7s
MOS MLR MLR
comp=N,374μm,20.0s
MOS MLR MLR
comp=E,354μm,20.0s
MOS MLR MLR
comp=Z,592μm,20.0s
DALY Dalyan (Mu˘la 64.01 307 *e*P **P** **19 37 20.2 -0.7**
HRT Hereke 64.02 312 *e*P **P** **19 37 20.0 -0.9**
IZI Iznik 64.06 311 *e*P **P** **19 37 20.7 -0.6**
SILT Sile 64.11 312 *e*P **P** **19 37 20.2 -1.3**
OBN Obninsk 64.25 328 LR LR 20 09 37.5
comp=Z,359μm,18.6s,baz=125,slow=40
OBN Obninsk 64.25 328*d* *i*P **P** **19 37 20.6 -1.5**
OBN *e* 19 37 55.2
OBN *e* 19 39 39.3
OBN *e*PPP PPP 19 41 13.4
OBN *i*S **S** **19 45 52.3 -5.2**
OBN pmax pmax
comp=Z,5μm,1.9s
OBN MLR MLR
comp=Z,674μm,20.0s
OBN Obninsk 64.25 328 P **P** **19 37 20.5 -1.5**
comp=Z,6μm,1.8s,SNR=88
OBN Obninsk 64.25 328⇓*i*P **P** **19 37 20.5 -1.5**
comp=Z,4μm,1.4s
ARG Arkhangelos 64.33 306 P **P** **19 37 22.7 -0.3**
ARG Arkhangelos 64.33 306 *e*P **P** **19 37 22.2 -0.8**
YER Yerkesik 64.36 307 *e*P **P** **19 37 22.5 -0.7**
ISK Istanbul-Kandi 64.53 312 *e*P **P** **19 37 23.0 -1.1**
ISK Istanbul-Kandi 64.53 312 P **P** **19 37 23.6 -0.5**
ARMT Armutlu 64.57 311 *e*P **P** **19 37 23.0 -1.5**
KLYT Kilyos 64.58 312 *e*P **P** **19 37 23.5 -1.0**
I43RU DUBNA INFRASON64.62 330 P P 19 37 19.6 -4.9
baz=157,slow=12,SNR=0.9
BGKT Bogazkoy 64.76 312 *e*P **P** **19 37 24.7 -1.0**
CRZF Crozet Islands 64.77 210 S S 19 45 42.0 -22
CRZF L L 19 53 00.0
CRZF R 19 56 00.0
AYDB Zeytinkoy-Aydi 64.81 308 *e*P **P** **19 37 25.8 -0.4**
DAT Datca 64.85 307 *e*P **P** **19 37 25.6 -0.9**
KCTX Karacabey (Bur 64.88 311 *e*P **P** **19 37 25.5 -1.1**
CTKS Kestanelik-??a 64.97 312 *e*P **P** **19 37 25.7 -1.3**
KARP Karpathos 65.00 306 P **P** **19 37 27.7 +0.3**
KARP Karpathos 65.00 306 *e*P **P** **19 37 27.5 +0.1**
BODT Bodrum 65.11 307 *e*P **P** **19 37 27.2 -0.9**
BALB Balikesir 65.12 310 *e*P **P** **19 37 27.4 -0.6**
SLVT Silivri 65.19 312 *e*P **P** **19 37 27.6 -0.8**
EDC Edincik 65.27 311 *e*P **P** **19 37 28.4 -0.6**
MANR Mangalia 65.47 315⇓*i*P **P** **19 37 30.6 +0.4**
EFOR EFORİE 65.50 315⇓*i*P **P** **19 37 30.9 +0.5**
CRLT Corlu 65.52 312 *e*P **P** **19 37 30.4 -0.2**
MRMT Marmara Adasi 65.52 311 *e*P **P** **19 37 29.7 -1.0**
BLCB Balcova 65.54 309 *e*P **P** **19 37 30.8 0.0**
SMG Samos 65.59 308 P **P** **19 37 31.5 +0.3**
SMG Samos 65.59 308 *e*P **P** **19 37 31.2 0.0**
TKR Tekirdag 65.64 311 *e*P **P** **19 37 31.2 -0.2**
TLCR 65.64 316⇓P **P** **19 37 33.0 +1.7**
TLCR 65.64 316⇓*i*P **P** **19 37 33.0 +1.7**
KRBG Karabiga-Canak 65.70 311 *e*P **P** **19 37 30.7 -1.1**
PSN Preselentsi 65.73 314⇑P **P** **19 37 31.5 -0.4**
PSN Preselentsi 65.73 314⇑*i*P **P** **19 37 31.5 -0.4**
PSN Preselentsi 65.73 314 *i*P **P** **19 37 31.2 -0.7**
TIRR Tirgusor 65.74 315⇑P **P** **19 37 31.8 -0.2**
TIRR Tirgusor 65.74 315⇑*i*P **P** **19 37 31.8 -0.2**
TIRR Tirgusor 65.74 315⇓*e*P **P** **19 37 30.4 -1.5**
comp=Z,782nm,1.0s
TIRR *e*P'P'df P'P'df 20 06 03.9 -8.2
PHSR Pinarhisar 65.77 312 *e*P **P** **19 37 31.7 -0.5**
MSAB Monastry St. A 66.07 315⇑*i*P **P** **19 37 34.1 0.0**
KIS Kishinev 66.09 318 *i*P **P** **19 37 32.0 -2.1**
comp=Z,6μm,2.4s
KIS Kishinev 66.09 318 *i*PcP PcP 19 37 54.0 -10
KIS Kishinev 66.09 318 *i*PP PP 19 40 05.0 +5.2
comp=Z,14μm,12.0s
KIS *i*S **S** **19 46 17.0 -3.4**
comp=Z,5μm,3.0s
KIS Kishinev 66.09 318 *i*P **P** **19 37 32.0 -2.1**
KIS *i* 19 40 05.0
KIS *i*S **S** **19 46 17.0 -3.4**
KIS *i*PS **PnS** **19 46 34.0 -9.2**
KIS *i*SSS SSS 19 53 30.0
KIS pmax pmax
comp=E,5μm,2.4s
KIS pmax pmax
comp=Z,6μm,2.4s
KIS pmax pmax
comp=N,800nm,1.7s
KIS pmax pmax
comp=E,12μm,14.0s
KIS pmax pmax
comp=Z,21μm,14.0s
KIS pmax pmax
comp=N,2μm,14.0s
KIS pmax pmax
comp=E,14μm,12.0s
KIS pmax pmax
comp=Z,23μm,12.0s
KIS pmax pmax
comp=N,6μm,12.0s
KIS smax smax
comp=N,5μm,3.0s
KIS smax smax
comp=E,18μm,5.0s
KIS smax smax
comp=E,35μm,10.0s
KIS smax smax
comp=N,40μm,10.0s
KIS Kishinev 66.09 318⇑*i*P **P** **19 37 32.8 -1.3**
CFR Carcaliu 66.10 316⇓P **P** **19 37 33.2 -1.1**
CFR Carcaliu 66.10 316⇓*i*P **P** **19 37 33.2 -1.1**
CFR Carcaliu 66.10 316⇓*i*P **P'P'df** **20 06 13.5 +2.1**
LPK Lapseki 66.10 311 *e*P **P** **19 37 33.9 -0.5**
GIUM Giurgiulesti 66.12 316⇓*i*P **P** **19 37 34.7 +0.3**
HARR Harsova 66.13 315⇓P **P** **19 37 34.7 +0.2**
HARR Harsova 66.13 315⇓*i*P **P** **19 37 34.7 +0.2**
PRD Provadia 66.18 314 *i*P **P** **19 37 34.2 -0.6**
NPS Neapolis 66.21 305 P **P** **19 37 36.0 +0.8**
NPS Neapolis 66.21 305 *e*P **P** **19 37 35.4 +0.2**
PRK Paraskevi 66.28 309 P **P** **19 37 35.6 +0.1**
PRK Paraskevi 66.28 309 *e*P **P** **19 37 35.2 -0.3**
EIDS Eidsvold 66.29 122 *e*P **P** **19 37 36.2 +0.4**
comp=N,7μm,2.3s
CHOS Chios Island 66.31 308 P **P** **19 37 36.4 +0.6**
CHOS Chios island 66.31 308 *e*P **P** **19 37 36.0 +0.2**
GELI Tayfur-Gelibol 66.32 311 *e*P **P** **19 37 35.0 -0.8**
EZN Ezine 66.33 310 *e*P **P** **19 37 35.3 -0.5**
LEOM Leova 66.34 317⇑P **P** **19 37 32.8 -2.9**
LEOM Leova 66.34 317⇑*i*P **P** **19 37 32.8 -2.9**
EDRB Edirne 66.39 312 *e*P **P** **19 37 35.3 -0.9**
EDRB Edirne 66.39 312 P **P** **19 37 35.5 -0.7**
SANT Santorini 66.48 306 P **P** **19 37 36.5 -0.5**
SANT Santorini 66.48 306 *e*P **P** **19 37 36.2 -0.8**
SANT Santorini 66.48 306 *e*P **P'P'df** **20 06 14.1 +2.8**
SANT Santorini 66.48 306 *e*P **P** **19 37 35.2 -1.8**
comp=N,4μm,1.4s
SANT ⇑*e* 20 06 14.3
SANT LR LR
comp=Z,184μm,20.0s
THR1 Thera Island 66.48 306 P sP 19 37 50.6 +0.2
THR2 Thira island, 66.51 306 P **P** **19 37 37.1 0.0**
APE Apeiranthos 66.52 307 *e*P **P** **19 37 36.3 -0.9**
APE Apeiranthos 66.52 307 P **P** **19 37 36.9 -0.3**
APE Apeiranthos 66.52 307 *e*P **P** **19 37 36.0 -1.2**
APE Apeiranthos 66.52 307*d* *i*P **P** **19 37 34.8 -2.4**
APE pmax pmax
comp=Z,2μm,2.8s
APE MLR MLR
comp=Z,185μm,19.0s
APE Apeiranthos 66.52 307⇑*i*P **P** **19 37 37.2 0.0**
AMRR Amara 66.53 315⇑P **P** **19 37 37.0 0.0**
AMRR Amara 66.53 315⇑*i*P **P** **19 37 37.0 0.0**
THR6 Thira Island, 66.53 306 P **P** **19 37 37.0 -0.2**
THR3 Thira Island, 66.53 306 P **P** **19 37 37.1 -0.1**
THR5 Thira Island, 66.58 306 P **P** **19 37 37.4 -0.1**
SIGR SIGRI 66.59 309 P **P** **19 37 37.4 -0.1**
SIGR SIGRI 66.59 309 *e*P **P** **19 37 37.2 -0.3**
ENEZ Enez 66.62 311 *e*P **P** **19 37 37.1 -0.6**
JMB Yambol 66.62 313 P **P** **19 37 37.7 0.0**
JMB Yambol 66.62 313⇓P **P** **19 37 36.8 -0.9**
JMB Yambol 66.62 313⇓*i*P **P** **19 37 36.8 -0.9**
JMB Yambol 66.62 313⇑*i*P **P'P'df** **20 06 10.4 -0.3**
JMB Yambol 66.62 313 *i*P **P** **19 37 37.2 -0.5**
SORM Soroca 66.68 319⇓P **P** **19 37 37.6 -0.3**
SORM Soroca 66.68 319⇓*i*P **P** **19 37 37.6 -0.3**
GADA Gvkgeada 66.72 310 *e*P **P** **19 37 37.7 -0.6**
ALN Alexandroupoli 66.73 311 P **P** **19 37 37.8 -0.6**
ALN Alexandroupoli 66.73 311 *e*P **P** **19 37 37.0 -1.4**
ALN Alexandroupoli 66.73 311 *e*P **P'P'df** **20 06 08.5 -2.1**
IDI Anoyia 66.80 305 PKP2bc **P'P'bc** **20 06 10.2 -3.7**
comp=Z,44nm,1.1s,baz=305,slow=3.7,SNR=11
IDI LR LR 20 13 46.2
comp=Z,91μm,18.2s,baz=88,slow=42
AKASG Malin Array Be 66.83 322 P **P** **19 37 37.9 -0.9**
comp=Z,44nm,0.8s,baz=89,slow=4.9,SNR=312
AKASG PKP2bc 20 06 10.6
comp=Z,1.0nm,0.5s,baz=278,slow=2.9,SNR=6.3
AKASG LR LR 20 11 30.2
comp=Z,270μm,18.8s,baz=95,slow=40
PGOR Pogoanele 66.84 316⇓*i*P **P** **19 37 39.2 +0.2**
KIEV Kiev 66.84 322*d* *i*P **P** **19 37 36.8 -2.1**
KIEV Kiev 66.84 322⇓*e*P **P** **19 37 36.5 -2.4**
comp=Z,1μm,1.4s
KIEV *e*P'P'df P'P'df 20 06 21.8 +12
KIEV LR LR
comp=Z,276μm,20.0s
PETR Petresti 66.85 316⇑*i*P **P** **19 37 40.0 +1.0**
AK11 Malin Array Si 66.86 322 *e*P **P** **19 37 36.8 -2.2**
AK11 *e*P'P'df P'P'df 20 06 20.6 +11
GRER 66.95 316⇓*i*P **P** **19 37 41.6 +1.9**
IAS Iasi 66.97 318⇓P **P** **19 37 39.8 0.0**
IAS Iasi 66.97 318⇓*i*P **P** **19 37 39.8 0.0**
SMTH Samothraki Isl 67.04 311 P **P** **19 37 39.6 -0.8**
SMTH Samothraki Isl 67.04 311 *e*P **P** **19 37 39.4 -1.0**
SMTH Samothraki Isl 67.04 311 *e*P **P'P'df** **20 06 08.5 -1.6**
RDO Rodhopi 67.15 311 P **P** **19 37 40.4 -0.6**
RDO Rodhopi 67.15 311 *e*P **P** **19 37 40.3 -0.7**
RDO Rodhopi 67.15 311 *e*P P'P'df 20 06 04.0 -5.9
RDO Rodhopi 67.15 311 *e*P **P** **19 37 39.5 -1.6**
comp=Z,5μm,1.6s
RDO *e*P'P'df P'P'df 20 06 03.9 -5.9
ISR Istrita 67.19 316⇓P **P** **19 37 41.9 +0.6**
ISR Istrita 67.19 316⇓*i*P **P** **19 37 41.9 +0.6**
LIA Limnos Island 67.21 310 P **P** **19 37 41.0 -0.5**
LIA Limnos Island 67.21 310 *e*P **P** **19 37 40.6 -0.9**
VRI Vrincioaia 67.22 317⇑P **P** **19 37 41.9 +0.4**
VRI Vrincioaia 67.22 317⇑*i*P **P** **19 37 41.9 +0.4**
VRI Vrincioaia 67.22 317⇑*i*P P'P'df 20 06 03.4 -6.2
LSZ Lusaka 67.22 250 *e*P **P** **19 37 43.0 +0.9**
LSZ Lusaka 67.22 250 P **P** **19 37 42.7 +0.6**
SNR=167
LSZ Lusaka 67.22 250⇑*e*P **P** **19 37 41.8 -0.3**
comp=Z,2μm,1.7s
SZH Strazhica 67.25 314 *i*P **P** **19 37 41.0 -0.6**
PLOR Plostina 67.27 316⇑P **P** **19 37 42.8 +1.0**
PLOR Plostina 67.27 316⇑*i*P **P** **19 37 42.8 +1.0**
PLOR Plostina 67.27 316⇑*i*P P'P'df 20 06 16.8 +7.3
SULR 67.30 315⇑*i*P **P** **19 37 42.8 +0.9**
KDZ Kurdzhali 67.33 312⇓P **P** **19 37 41.6 -0.7**
KDZ Kurdzhali 67.33 312⇓*i*P **P** **19 37 41.5 -0.7**
KDZ Kurdzhali 67.33 312⇑*i*P P'P'df 20 06 04.0 -5.6
BTMR Bucharest-Geot 67.35 315⇑*i*P P 19 37 45.7 +3.4
MHLO Agia Marina, M 67.37 306 P **P** **19 37 42.1 -0.4**
MHLO Agia Marina, M 67.37 306 *e*P **P** **19 37 41.4 -1.1**
MHLO Agia Marina, M 67.37 306 *e*P **P'P'df** **20 06 11.9 +2.2**
VAM Vamos 67.38 305 *e*P **P** **19 37 43.1 +0.5**
VAM Vamos 67.38 305 *e*P **P'P'df** **20 06 10.2 +0.5**
BUC1 Bucharest 67.39 315⇑P P 19 37 45.7 +3.2
BUC1 Bucharest 67.39 315⇑*i*P P 19 37 45.7 +3.2
TESR Tescani 67.42 317⇑*i*P **P** **19 37 42.5 -0.2**
TESR Tescani 67.42 317⇑*i*P **P'P'df** **20 06 12.2 +3.0**
SECR 67.50 316⇓*i*P **P** **19 37 44.7 +1.5**
PLAR PLOIESTI 67.50 315⇑*i*P **P** **19 37 45.1 +1.9**
CIOR Ciorogarla 67.51 315⇑*i*P **P** **19 37 46.0 +2.7**
MLR Muntele Rosu 67.68 316 PKP2bc **P'P'df** **20 06 06.1 -2.8**
comp=Z,1.2nm,1.0s,baz=255,slow=2.7,SNR=7.3
MLR LR LR 20 12 15.8
comp=Z,59μm,20.1s,baz=80,slow=40
MLR Muntele Rosu 67.68 316⇓P **P** **19 37 45.6 +1.1**
MLR Muntele Rosu 67.68 316⇓*i*P **P** **19 37 45.6 +1.1**
TIXI Tiksi 67.69 12*d* *i*P **P** **19 37 43.1 -0.8**
TIXI MLR MLR
comp=Z,255μm,20.0s
TIXI Tiksi 67.69 12⇓*e*P **P** **19 37 43.1 -0.8**

	comp=Z,10µm,1.2s								
TIXI				*e*	PP	PP	19 40 21.7	+8.5	
TIXI					LR	LR			
	comp=Z,284µm,21.0s								
SKR	**Severo-Kuril's**	**67.70**	**38***c*	*i*	P	P	19 37 32.0	-12	
SKR				*i*			19 38 14.0		
SKR				*e*			19 40 20.0		
SKR				*e*	PS	**S**	**19 46 34.0**	**-5.7**	
SKR				*e*			19 47 08.0		
SKR					pmax	pmax			
	comp=N,2µm,1.1s								
SKR					pmax	pmax			
	comp=E,2µm,1.1s								
SKR					pmax	pmax			
	comp=Z,4µm,1.1s								
SKR					pmax	pmax			
	comp=E,48µm,12.0s								
SKR					pmax	pmax			
	comp=Z,93µm,12.0s								
SKR					pmax	pmax			
	comp=Z,29µm,18.0s								
SKR					pmax	pmax			
	comp=N,8µm,14.0s								
SKR					pmax	pmax			
	comp=E,19µm,14.0s								
SKR					MLR	MLR			
	comp=N,192µm,22.0s								
SKR					MLR	MLR			
	comp=E,91µm,22.0s								
SKR					MLR	MLR			
	comp=Z,203µm,22.0s								
TMCR	**Tamitsa**	**67.81**	**338**⇓	*i*	P	**P**	**19 37 44.2**	**-0.5**	
TMCR				*e*			19 40 15.9		
TMCR					pmax	pmax			
	comp=Z,3µm,1.7s								
RZN	**Rozhen**	**67.85**	**312**	*i*	P	**P**	**19 37 45.3**	**-0.4**	
PRAR	**RASCA**	**67.89**	**318**⇓	*i*	P	**P**	**19 37 44.7**	**-0.9**	
KAVA	**Kavala**	**67.89**	**311**		P	**P**	**19 37 45.3**	**-0.4**	
KAVA	**Kavala**	**67.89**	**311**	*eP*		**P**	**19 37 44.1**	**-1.6**	
KAVA	**Kavala**	**67.89**	**311**	*eP*		**P'P'df**	**20 06 08.0**	**-0.6**	
PLD	**Plovdiv**	**67.93**	**312**		P	**P**	**19 37 45.5**	**-0.5**	
PLD	**Plovdiv**	**67.93**	**312**	*i*	P	**P**	**19 37 44.8**	**-1.2**	
PTL	**Penteli**	**67.97**	**308**		P	**P**	**19 37 45.5**	**-0.8**	
PTL	**Penteli**	**67.97**	**308**	*eP*		**P**	**19 37 45.5**	**-0.8**	
PTL	**Penteli**	**67.97**	**308**	*eP*		P'P'df	20 06 16.3	+7.6	
ATHU	**Athens Univers**	**68.02**	**308**		P	**P**	**19 37 45.9**	**-0.7**	
ATH	**Athens Observa**	**68.07**	**308**		P	**P**	**19 37 45.9**	**-1.0**	
ATH	**Athens Observa**	**68.07**	**308**	*eP*		**P**	**19 37 46.1**	**-0.8**	
AOS	**Alonnisos**	**68.10**	**309**		P	**P**	**19 37 46.2**	**-0.9**	
AOS	**Alonnisos**	**68.10**	**309**	*eP*		**P**	**19 37 45.9**	**-1.2**	
AOS	**Alonnisos**	**68.10**	**309**	*eP*		**P'P'df**	**20 06 05.7**	**-2.6**	
ANKY	**Antikythira Is**	**68.16**	**305**		P	**P**	**19 37 47.8**	**+0.3**	
ANKY	**Antikythira Is**	**68.16**	**305**	*eP*		**P**	**19 37 47.5**	**0.0**	
ANKY	**Antikythira Is**	**68.16**	**305**	*eP*		**P'P'df**	**20 06 07.4**	**-1.0**	
DOPR	**Dopca**	**68.16**	**316**⇓	*i*	P	**P**	**19 37 47.8**	**+0.4**	
HUMR	**Humele**	**68.16**	**315**⇑	*i*	P	**P**	**19 37 47.4**	**0.0**	
OUR	**Ouranopolis**	**68.19**	**310**		P	**P**	**19 37 47.4**	**-0.2**	
OUR	**Ouranopolis**	**68.19**	**310**	*eP*		**P**	**19 37 46.5**	**-1.1**	
OUR	**Ouranopolis**	**68.19**	**310**	*eP*		**P'P'df**	**20 06 09.4**	**+1.3**	
NAIG	**Nisos Aigina**	**68.22**	**307**	*eP*		**P**	**19 37 46.7**	**-1.2**	
GOLR		**68.23**	**315**⇓	*i*	P	**P**	**19 37 48.6**	**+0.8**	
MTUR	**Matau**	**68.23**	**316**⇓		P	**P**	**19 37 48.2**	**+0.3**	
MTUR	**Matau**	**68.23**	**316**⇓	*i*	P	**P**	**19 37 48.2**	**+0.3**	
MRKA	**Markates**	**68.27**	**308**		P	**P**	**19 37 47.0**	**-1.2**	
MRKA	**Markates**	**68.27**	**308**	*eP*		**P**	**19 37 46.7**	**-1.5**	
MRKA	**Markates**	**68.27**	**308**	*eP*		**P'P'df**	**20 06 04.7**	**-3.4**	
VOIR		**68.28**	**316**⇑		P	**P**	**19 37 47.9**	**-0.3**	
VOIR		**68.28**	**316**⇑	*i*	P	**P**	**19 37 47.8**	**-0.4**	
VOIR		**68.28**	**316**⇑	*i*	P	P'P'df	20 06 15.5	+7.6	
PAIG	**Paliouri**	**68.36**	**310**		P	**P**	**19 37 48.2**	**-0.5**	
PAIG	**Paliouri**	**68.36**	**310**	*eP*		**P**	**19 37 48.0**	**-0.7**	
PAIG	**Paliouri**	**68.36**	**310**	*eP*		**P'P'df**	**20 06 06.4**	**-1.5**	
DID	**Didima**	**68.39**	**307**		P	**P**	**19 37 47.2**	**-1.8**	
DID	**Didima**	**68.39**	**307**	*eP*		**P**	**19 37 47.0**	**-2.0**	
DID	**Didima**	**68.39**	**307**	*eP*		**P'P'df**	**20 06 04.0**	**-4.0**	
PGB	**Panagyurishte**	**68.40**	**313**	*i*	P	**P**	**19 37 47.8**	**-1.2**	
VILL	**Villia**	**68.41**	**308**		P	**P**	**19 37 47.6**	**-1.5**	
KYTH	**Kithira**	**68.41**	**306**		P	**P**	**19 37 48.9**	**-0.3**	
KYTH	**Kithira**	**68.41**	**306**	*eP*		**P**	**19 37 48.4**	**-0.8**	
NVR	**Nevrokopi**	**68.43**	**311**		P	**P**	**19 37 48.4**	**-0.8**	
NVR	**Nevrokopi**	**68.43**	**311**	*eP*		**P**	**19 37 48.1**	**-1.1**	
NVR	**Nevrokopi**	**68.43**	**311**	*eP*		**P'P'df**	**20 06 07.5**	**-0.2**	
KRND	**KRANIDI**	**68.45**	**307**		P	**P**	**19 37 47.9**	**-1.4**	
KRND	**KRANIDI**	**68.45**	**307**	*eP*		**P**	**19 37 47.4**	**-1.9**	
KRND	**KRANIDI**	**68.45**	**307**	*eP*		**P'P'df**	**20 06 07.7**	**-0.1**	
VIL2	**Platees**	**68.45**	**308**	*eP*		**P**	**19 37 47.0**	**-2.4**	
VIL2	**Platees**	**68.45**	**308**	*eP*		**P'P'df**	**20 06 10.4**	**+2.6**	
VLI	**Veliai**	**68.54**	**306**		P	**P**	**19 37 48.3**	**-1.6**	
VLI	**Veliai**	**68.54**	**306**	*eP*		**P**	**19 37 47.2**	**-2.7**	
VLI	**Veliai**	**68.54**	**306**	*eP*		**P'P'df**	**20 06 08.0**	**+0.3**	
ARR	**Arges**	**68.56**	**316**⇑	*i*	P	**P**	**19 37 50.0**	**+0.1**	
ARR	**Arges**	**68.56**	**316**⇓	*i*	P	P'P'df	20 06 02.0	-5.4	
MMB	**Musomiste**	**68.57**	**312**⇑		P	**P**	**19 37 49.2**	**-0.8**	
MMB	**Musomiste**	**68.57**	**312**⇑	*i*	P	**P**	**19 37 49.2**	**-0.8**	
MMB	**Musomiste**	**68.57**	**312**⇓	*i*	P	**P'P'df**	**20 06 07.8**	**+0.3**	
MMB	**Musomiste**	**68.57**	**312**	*i*	P	**P**	**19 37 48.7**	**-1.3**	
SMIA	**Simia**	**68.58**	**309**		P	**P**	**19 37 49.2**	**-1.0**	
SMIA	**Simia**	**68.58**	**309**	*eP*		**P**	**19 37 48.7**	**-1.5**	
SMIA	**Simia**	**68.58**	**309**	*eP*		**P'P'df**	**20 06 06.4**	**-1.2**	
SRS	**Serrai**	**68.60**	**311**		P	**P**	**19 37 49.1**	**-1.1**	
SRS	**Serrai**	**68.60**	**311**	*eP*		**P**	**19 37 48.8**	**-1.4**	
SRS	**Serrai**	**68.60**	**311**	*eP*		**P'P'df**	**20 06 06.6**	**-0.8**	
PLG	**Polygyros**	**68.60**	**310**		P	**P**	**19 37 49.7**	**-0.6**	
PLG	**Polygyros**	**68.60**	**310**	*eP*		**P**	**19 37 49.4**	**-0.9**	
PLG	**Polygyros**	**68.60**	**310**	*eP*		**P'P'df**	**20 06 03.8**	**-3.7**	
BURAR	**Bucovina Array**	**68.61**	**318**⇓		P	**P**	**19 37 50.2**	**-0.1**	
BURAR	**Bucovina Array**	**68.61**	**318**⇓	*i*	P	**P**	**19 37 50.2**	**-0.1**	
BURAR	**Bucovina Array**	**68.61**	**318**⇓	*i*	P	**P'P'df**	**20 06 12.3**	**+5.1**	
BUR04	**Bucovina Ar. S**	**68.62**	**318**	*eP*		**P**	**19 37 48.2**	**-2.1**	
BUR04				*eP*	P'P'df	**P'P'df**	**20 06 07.6**	**+0.4**	
NEO	**Neokhori**	**68.63**	**309**		P	**P**	**19 37 49.0**	**-1.4**	
NEO	**Neokhori**	**68.63**	**309**	*eP*		**P**	**19 37 49.0**	**-1.4**	
BUR08	**Bucovina Ar. S**	**68.63**	**318**	*eP*		**P**	**19 37 49.6**	**-0.8**	
XOR	**Xorichti**	**68.66**	**309**		P	**P**	**19 37 49.1**	**-1.5**	
XOR	**Xorichti**	**68.66**	**309**	*eP*		**P**	**19 37 48.7**	**-1.9**	
XOR	**Xorichti**	**68.66**	**309**	*eP*		**P'P'df**	**20 06 09.2**	**+1.8**	
LTK	**Loutraki**	**68.67**	**308**		P	**P**	**19 37 48.9**	**-1.8**	
LTK	**Loutraki**	**68.67**	**308**	*eP*		**P**	**19 37 49.1**	**-1.6**	
LTK	**Loutraki**	**68.67**	**308**	*eP*		**P'P'df**	**20 06 07.6**	**+0.1**	
ARMA	**Armidale**	**68.67**	**127**	*eP*		**P**	**19 37 52.9**	**+2.0**	
	comp=Z,29µm,2.8s								
ATAL	**Atalanti**	**68.70**	**308**		P	**P**	**19 37 49.2**	**-1.7**	
LKR	**Lokris**	**68.72**	**308**		P	**P**	**19 37 49.1**	**-1.9**	
LKR	**Lokris**	**68.72**	**308**	*eP*		**P**	**19 37 49.0**	**-1.9**	
LKR	**Lokris**	**68.72**	**308**	*eP*		**P'P'df**	**20 06 06.3**	**-1.0**	
MICGM	**Minsk**	**68.72**	**326**⇓	*i*	P	P	19 37 47.0	-3.7	
ACOR	**Acrocorinthos**	**68.73**	**308**		P	P	19 37 46.6	-4.5	
SOH	**Sokhos**	**68.73**	**311**		P	**P**	**19 37 50.6**	**-0.5**	
SOH	**Sokhos**	**68.73**	**311**	*eP*		**P**	**19 37 50.6**	**-0.5**	
SOH	**Sokhos**	**68.73**	**311**	*eP*		**P'P'df**	**20 06 07.6**	**+0.3**	
CAN	**Canberra**	**68.74**	**133**⇑	*eP*		**P**	**19 37 51.6**	**+0.4**	
	comp=Z,1µm,0.8s								
CAN					LR	LR			
	comp=Z,243µm,20.0s								
MNK	**Minsk**	**68.75**	**326***d*	*i*	P	P	19 37 47.0	-3.8	
MNK				*e*			19 38 12.0		
MNK				*eS*		S	19 46 44.0	-8.1	
MNK				*eP*	S	**PnS**	**19 47 10.0**	**-9.2**	
MNK					pmax	pmax			
	comp=Z,2µm,1.8s								
MNK					pmax	pmax			
	comp=E,3µm,2.0s								
MNK					pmax	pmax			
	comp=Z,81µm,16.0s								
MNK					pmax	pmax			
	comp=Z,41µm,14.0s								
MNK					smax	smax			
	comp=E,47µm,10.0s								
MNK					smax	smax			
	comp=N,41µm,16.0s								
MNK					MLR	MLR			
	comp=Z,255µm,20.0s								
MNK					MLR	MLR			
	comp=N,96µm,24.0s								
MNK					MLR	MLR			
	comp=E,196µm,20.0s								
MNK					MLR	MLR			
	comp=Z,262µm,20.0s								
MNK					MLR	MLR			
	comp=Z,473µm,18.0s								
MPEP	**Malo Peshtene**	**68.84**	**313**	*i*	P	**P**	**19 37 51.2**	**-0.4**	
FYTO	**Fytoko, Volos**	**68.86**	**309**		P	**P**	**19 37 50.5**	**-1.3**	
MDB	**Medias**	**68.88**	**316**⇓		P	**P**	**19 37 53.2**	**+1.4**	
MDB	**Medias**	**68.88**	**316**⇓	*i*	P	**P**	**19 37 53.2**	**+1.4**	
HORT	**Hortiatis**	**68.89**	**310**		P	**P**	**19 37 51.2**	**-0.9**	
HORT	**Hortiatis**	**68.89**	**310**	*eP*		**P**	**19 37 50.3**	**-1.8**	
HORT	**Hortiatis**	**68.89**	**310**	*eP*		**P'P'df**	**20 06 05.6**	**-1.5**	
THAL	**Thalero**	**68.91**	**308**		P	**P**	**19 37 50.5**	**-1.6**	
CRAR	**CRAIOVA**	**68.96**	**314**⇓		P	**P**	**19 37 54.3**	**+2.0**	
CRAR	**CRAIOVA**	**68.96**	**314**⇓	*i*	P	**P**	**19 37 54.3**	**+2.0**	
AXAR	**Agios Charalam**	**69.00**	**308**		P	**P**	**19 37 51.4**	**-1.3**	
AXAR	**Agios Charalam**	**69.00**	**308**	*eP*		**P**	**19 37 51.0**	**-1.7**	
THE	**Thessaloniki**	**69.00**	**310**		P	**P**	**19 37 51.7**	**-1.0**	
THE	**Thessaloniki**	**69.00**	**310**	*eP*		**P**	**19 37 51.6**	**-1.1**	
VLX	**Vlachokerasia**	**69.06**	**307**		P	**P**	**19 37 52.2**	**-1.0**	
VLX	**Vlachokerasia**	**69.06**	**307**	*eP*		**P**	**19 37 52.4**	**-0.8**	
VLX	**Vlachokerasia**	**69.06**	**307**	*eP*		**P'P'df**	**20 06 07.0**	**+0.1**	
DSF	**Desfina**	**69.06**	**308**		P	**P**	**19 37 51.4**	**-1.8**	
DSF	**Desfina**	**69.06**	**308**	*eP*		**P**	**19 37 51.4**	**-1.8**	
DSF	**Desfina**	**69.06**	**308**	*eP*		**P'P'df**	**20 06 05.9**	**-0.9**	
KKB	**Krupnik**	**69.09**	**312**	*i*	P	**P**	**19 37 52.1**	**-1.1**	
VTS	**Vitosha**	**69.10**	**313**	*i*	P	**P**	**19 37 52.1**	**-1.4**	
KNT	**Kendrikon**	**69.12**	**311**		P	**P**	**19 37 52.4**	**-1.1**	
KNT	**Kendrikon**	**69.12**	**311**	*eP*		**P**	**19 37 52.4**	**-1.1**	
GUR	**Goura**	**69.15**	**308**		P	**P**	**19 37 52.2**	**-1.6**	
GUR	**Goura**	**69.15**	**308**	*eP*		**P**	**19 37 52.8**	**-1.0**	
GUR	**Goura**	**69.15**	**308**	*eP*		**P'P'df**	**20 06 06.8**	**0.0**	
LOT	**Lotru**	**69.17**	**316**⇑	*i*	P	**P**	**19 37 52.3**	**-1.5**	
PUL	**Pulkovo**	**69.19**	**332***d*	*i*	P	**P**	**19 37 52.6**	**-0.9**	
PUL					pmax	pmax			
	comp=Z,4µm,1.2s								
PUL					MLR	MLR			
	comp=Z,324µm,20.0s								
AGG	**Agios Georgios**	**69.28**	**309**		P	**P**	**19 37 52.5**	**-2.0**	
AGG	**Agios Georgios**	**69.28**	**309**	*eP*		**P**	**19 37 52.2**	**-2.4**	
AGG	**Agios Georgios**	**69.28**	**309**	*eP*		**P'P'df**	**20 06 08.7**	**+2.3**	
AGG	**Agios Georgios**	**69.28**	**309**	*eP*		**P**	**19 37 52.1**	**-2.4**	
	comp=Z,1µm,1.5s								
AGG				*eP*	P'P'df	**P'P'df**	**20 06 02.4**	**-4.0**	
LIT	**Litokhoron**	**69.29**	**310**		P	**P**	**19 37 53.2**	**-1.3**	
LIT	**Litokhoron**	**69.29**	**310**	*eP*		**P**	**19 37 53.6**	**-0.9**	
PEA0	**Petropavlovsk-**	**69.29**	**36**	*eP*		**P**	**19 37 53.1**	**-1.1**	
PEA0				⇑*e*			20 06 06.5		
PEA0B	**Petropavlovsk-**	**69.29**	**36**⇑	*i*	P	**P**	**19 37 53.3**	**-0.9**	
PETK	**Petropavlovsk-**	**69.29**	**36**	P		**P**	**19 37 53.5**	**-0.7**	
	comp=Z,81nm,0.9s,baz=230,slow=3.1,SNR=32								
PETK					PKP2bc		20 06 03.0		
	comp=Z,5.6nm,0.8s,baz=105,slow=5.2,SNR=4.7								
PETK					LR	LR	20 10 38.0		
	comp=Z,121µm,19.9s,baz=248,slow=38								
KALE	**Kalithea**	**69.36**	**308**		P	**P**	**19 37 53.5**	**-1.5**	
KALE	**Kalithea**	**69.36**	**308**	*eP*		**P**	**19 37 52.8**	**-2.2**	
VAY	**Valandovo**	**69.39**	**311**		P	**P**	**19 37 54.4**	**-0.7**	
VAY	**Valandovo**	**69.39**	**311**	*i*	P	**P**	**19 37 54.3**	**-0.7**	
VAY				*i*	S	**S**	**19 46 57.3**	**-2.9**	
ITM	**Ithomi**	**69.39**	**307**		P	**P**	**19 37 54.3**	**-0.9**	
ITM	**Ithomi**	**69.39**	**307**	*eP*		**P**	**19 37 54.1**	**-1.1**	
ITM	**Ithomi**	**69.39**	**307**	*eP*		**P'P'df**	**20 06 04.6**	**-1.7**	
SRE	**Strehaia**	**69.43**	**315**⇑		P	**P**	**19 37 55.5**	**+0.2**	
SRE	**Strehaia**	**69.43**	**315**⇑	*i*	P	**P**	**19 37 55.5**	**+0.2**	
MAKR	**Makrakomi, Fth**	**69.43**	**309**		P	**P**	**19 37 53.6**	**-1.9**	
MAKR	**Makrakomi, Fth**	**69.43**	**309**	*eP*		**P**	**19 37 53.4**	**-2.1**	
MAKR	**Makrakomi, Fth**	**69.43**	**309**	*eP*		**P'P'df**	**20 06 02.4**	**-3.7**	
PYL	**PYLOS**	**69.51**	**306**		P	**P**	**19 37 54.9**	**-1.0**	
PYL	**PYLOS**	**69.51**	**306**	*eP*		**P**	**19 37 54.2**	**-1.7**	
PYL	**PYLOS**	**69.51**	**306**	*eP*		**P'P'df**	**20 06 03.8**	**-2.2**	
CJR	**Cluj-Napoca**	**69.52**	**317**⇓		P	**P**	**19 37 56.9**	**+1.0**	
CJR	**Cluj-Napoca**	**69.52**	**317**⇓	*i*	P	**P**	**19 37 56.8**	**+0.9**	
CJR	**Cluj-Napoca**	**69.52**	**317**⇓	*i*	P	**P'P'df**	**20 06 05.0**	**-0.7**	
EFP	**Efpalio**	**69.54**	**308**		P	**P**	**19 37 55.1**	**-1.0**	
EFP	**Efpalio**	**69.54**	**308**	*eP*		**P**	**19 37 54.7**	**-1.4**	
EFP	**Efpalio**	**69.54**	**308**	*eP*		**P'P'df**	**20 06 06.0**	**+0.1**	
THL	**Klokotos Trika**	**69.59**	**309**		P	**P**	**19 37 54.3**	**-2.0**	
THL	**Klokotos Trika**	**69.59**	**309**	*eP*		**P**	**19 37 54.5**	**-1.8**	
THL	**Klokotos Trika**	**69.59**	**309**	*eP*		**P'P'df**	**20 06 04.2**	**-1.6**	
AMT	**Artemida-Makis**	**69.60**	**307**	*eP*		**P**	**19 37 56.6**	**-0.9**	
UPR	**University Cam**	**69.62**	**308**		P	**P**	**19 37 58.8**	**+2.2**	
ZAPS	**Zavoj**	**69.62**	**313**⇓	*i*	P	**P**	**19 37 56.0**	**-0.5**	
DRO	**Drossia**	**69.64**	**307**		P	**P**	**19 37 56.4**	**-0.4**	
DRO	**Drossia**	**69.64**	**307**	*eP*		**P**	**19 37 56.3**	**-0.5**	
DRO	**Drossia**	**69.64**	**307**	*eP*		**P'P'df**	**20 06 05.2**	**-0.6**	
EVR	**Evrytania**	**69.67**	**309**		P	**P**	**19 37 55.8**	**-1.2**	
EVR	**Evrytania**	**69.67**	**309**	*eP*		**P**	**19 37 55.2**	**-1.8**	
EVR	**Evrytania**	**69.67**	**309**	*eP*		**P'P'df**	**20 06 04.7**	**-1.1**	
BMR	**Baia Mare**	**69.77**	**318**⇓		P	**P**	**19 37 58.3**	**+1.0**	
BMR	**Baia Mare**	**69.77**	**318**⇓	*i*	P	**P**	**19 37 58.3**	**+1.0**	
BMR	**Baia Mare**	**69.77**	**318**⇓	*i*	P	**P'P'df**	**20 06 06.2**	**+1.1**	
PET	**Petropavlovsk**	**69.83**	**36***ce*	*eP*		**P**	**19 37 56.6**	**-0.9**	
PET				*e*			19 40 36.2		
PET				*eS*		**S**	**19 47 04.2**	**-0.6**	
PET				*eS*		**SS**	**19 51 27.3**	**-6.5**	
PET					pmax	pmax			
	comp=Z,1µm,1.2s								
PET					pmax	pmax			
	comp=Z,40µm,5.5s								
PET					pmax	pmax			
	comp=Z,65µm,18.2s								
PET					pmax	pmax			
	comp=Z,32µm,22.5s								
PET					MLR	MLR			
	comp=Z,326µm,22.0s								
PET					MLR	MLR			
	comp=Z,227µm,22.0s								
PET	**Petropavlovsk**	**69.83**	**36**⇑	*i*	P	**P**	**19 37 56.3**	**-1.2**	
	comp=Z,2µm,1.1s								
PET					LR	LR			
	comp=Z,230µm,22.0s								
LVV	**L'vov**	**69.84**	**320**	*eP*		**P**	**19 37 56.3**	**-1.4**	
LVV				*e*			19 38 23.9		
LVV				*ePPP*		PPP	19 42 18.3		
LVV				*eS*		**S**	**19 47 01.9**	**-3.3**	
LVV				*eP*	S	**PnS**	**19 47 29.5**	**-4.7**	
LVV				*eSS*		**SS**	**19 51 37.9**	**+3.6**	
LVV				*eSS*	S	SSS	19 54 41.3		
LVV					MLR	MLR			
	comp=N,112µm,17.0s								
LVV					MLR	MLR			
	comp=E,122µm,20.0s								
LVV					MLR	MLR			
	comp=Z,148µm,20.0s								
RLS	**Riolos of Patr**	**69.85**	**308**		P	**P**	**19 37 57.9**	**-0.1**	
RLS	**Riolos of Patr**	**69.85**	**308**	*eP*		**P**	**19 37 57.5**	**-0.5**	
RLS	**Riolos of Patr**	**69.85**	**308**	*eP*		P'P'df	20 06 00.1	-5.3	
GZR	**Gura Zlata**	**69.85**	**315**⇑		P	**P**	**19 37 57.8**	**-0.2**	
GZR	**Gura Zlata**	**69.85**	**315**⇑	*i*	P	**P**	**19 37 57.8**	**-0.2**	
GZR	**Gura Zlata**	**69.85**	**315**⇑	*i*	P	**P'P'df**	**20 06 05.3**	**+0.1**	
SEY	**Seymchan**	**69.86**	**25***c*	*i*	P	**P**	**19 37 57.4**	**-0.1**	
KZN	**Kozani**	**69.86**	**310**		P	**P**	**19 37 57.0**	**-1.1**	
KZN	**Kozani**	**69.86**	**310**	*eP*		**P**	**19 37 56.5**	**-1.6**	
KZN	**Kozani**	**69.86**	**310**	*eP*		**P'P'df**	**20 06 04.5**	**-0.9**	
HNR	**Honiara**	**69.87**	**103**	*i*	P	**P**	**19 37 58.0**	**-0.5**	
HNR	**Honiara**	**69.87**	**103**		P	**P'P'df**	**20 06 06.0**	**+0.9**	
HNR	**Honiara**	**69.87**	**103**⇑	*i*	P	**P**	**19 37 58.4**	**-0.1**	
HNR					LR	LR			
	comp=Z,3µm,20.0s								
IIGN	**Ignalina**	**69.88**	**326**	*eP*		**P**	**19 37 57.2**	**-0.6**	
IIGN					IAmb	IAmb	19 38 27.5		
	comp=Z,625nm,0.9s								
DJES	**Djerdap**	**69.92**	**315**	*i*	P	**P**	**19 37 57.0**	**-1.3**	
DJES				*eS*		**S**	**19 47 02.6**	**-3.7**	
IZAR	**Zarasai**	**69.98**	**327**	*eP*		**P**	**19 37 57.8**	**-0.6**	
IZAR					IAmb	IAmb	19 38 11.9		
	comp=Z,546nm,1.1s								
ISAL	**Salakas**	**70.00**	**327**	*eP*		**P**	**19 37 57.9**	**-0.6**	
ISAL					IAmb	IAmb	19 38 12.9		
	comp=Z,399nm,0.8s								
PDO	**Prodromos**	**70.12**	**308**		P	**P**	**19 37 59.0**	**-0.7**	
PDO	**Prodromos**	**70.12**	**308**	*eP*		**P**	**19 37 58.7**	**-1.0**	
PDO	**Prodromos**	**70.12**	**308**	*eP*		**P'P'df**	**20 06 02.6**	**-2.3**	
SFD	**Strofades**	**70.12**	**307**	*eP*		**P**	**19 38 02.5**	**+2.8**	
DRGR		**70.13**	**317**⇑		P	**P**	**19 38 00.1**	**+0.4**	
DRGR		**70.13**	**317**⇑	*i*	P	**P**	**19 38 00.1**	**+0.4**	
DRGR		**70.13**	**317**⇓	*i*	P	**P'P'df**	**20 06 04.5**	**-0.1**	
BARS	**Barje**	**70.15**	**313**⇓	*i*	P	**P**	**19 37 58.3**	**-1.5**	
BARS				*eS*		**S**	**19 47 04.5**	**-4.6**	
BOLS	**Boljevac**	**70.19**	**314**⇓	*i*	P	**P**	**19 37 58.1**	**-1.9**	
FNA	**Florina**	**70.22**	**310**		P	**P**	**19 37 58.7**	**-1.6**	
FNA	**Florina**	**70.22**	**310**	*eP*		**P**	**19 37 58.4**	**-1.9**	
FNA	**Florina**	**70.22**	**310**	*eP*		**P'P'df**	**20 06 02.9**	**-1.8**	
DSL	**Palaion Diasel**	**70.25**	**309**		P	**P**	**19 37 59.4**	**-1.1**	
SLR	**Silverton**	**70.26**	**239**	*eP*		**P**	**19 38 01.5**	**+0.6**	
SLR					AMB	AMB	19 38 26.9		
	comp=Z,601nm,0.8s								
SLR					AMS	AMS	20 04 56.1		
	comp=Z,605µm,18.0s								
SLR	**Silverton**	**70.26**	**239**		P	**P**	**19 38 01.5**	**+0.6**	
	comp=Z,601nm,0.8s								
SKO	**Skopje**	**70.31**	**312**		P	**P**	**19 37 59.7**	**-1.1**	
SKO	**Skopje**	**70.31**	**312**⇓	*i*	P	**P**	**19 37 59.6**	**-1.1**	
SKO				*i*	S	**S**	**19 47 08.4**	**-2.6**	
ZKS	**Zakynthos**	**70.35**	**307**		P	**P**	**19 38 00.0**	**-1.1**	
ZKS	**Zakynthos**	**70.35**	**307**	*eP*		**P**	**19 37 59.7**	**-1.4**	
KFL	**Anninata**	**70.39**	**308**		P	**P**	**19 38 00.6**	**-0.7**	
NEST	**Nestorio**	**70.42**	**310**		P	**P**	**19 38 00.0**	**-1.6**	
NEST	**Nestorio**	**70.42**	**310**	*eP*		**P**	**19 37 59.8**	**-1.8**	
NEST	**Nestorio**	**70.42**	**310**	*eP*		**P'P'df**	**20 06 02.3**	**-2.2**	
TRPA	**Tarpa**	**70.48**	**318**⇑	*i*	P	**P**	**19 38 02.1**	**+0.5**	
TRPA	**Tarpa**	**70.48**	**318**⇓	*i*	P	**P'P'df**	**20 06 05.0**	**+1.2**	
TRPA	**Tarpa**	**70.48**	**318**⇓	*eP*		**P**	**19 38 00.9**	**-0.7**	
JAN	**Janina**	**70.49**	**309**		P	**P**	**19 38 01.3**	**-0.6**	
JAN	**Janina**	**70.49**	**309**	*eP*		**P**	**19 38 00.9**	**-1.0**	
VSU	**Vasula**	**70.51**	**330***d*	*i*	P	**P**	**19 38 00.1**	**-1.5**	
VSU					pmax	pmax			
	comp=Z,4µm,1.2s								
VSU					MLR	MLR			
	comp=Z,1123µm,23.0s								
VLS	**Valsamata**	**70.55**	**308**		P	**P**	**19 38 01.5**	**-0.8**	
VLS	**Valsamata**	**70.55**	**308**	*eP*		**P**	**19 38 00.8**	**-1.5**	
LKD2	**Lefkada island**	**70.55**	**308**		P	**P**	**19 38 01.4**	**-0.9**	
LKD2	**Lefkada island**	**70.55**	**308**	*eP*		**P**	**19 38 01.0**	**-1.3**	
LKD2	**Lefkada island**	**70.55**	**308**	*eP*		**P'P'df**	**20 06 03.4**	**-0.8**	
KBN	**Korca**	**70.64**	**310**		P	**P**	**19 38 01.3**	**-1.6**	
KWP	**Kalwaria Pacla**	**70.65**	**320**	*eP*		**P**	**19 38 02.0**	**-0.6**	
KWP				*ep*	P	**pP**	**19 38 09.7**	**-2.8**	
KWP				*ePcP*		**PcP**	**19 38

SEK AMS AMS 20 03 24.8
comp=Z,456µm,20.5s
SEK Senekal 71.68 237 P **P** **19 38 10.5 +1.1**
comp=Z,1µm,1.1s
FINES FINESS Array B 71.73 332 P **P** **19 38 07.7 -1.2**
comp=Z,406nm,0.8s,baz=108,slow=5.1,SNR=228
FINES FINESS Array B 71.73 332 P **P** **19 38 07.7 -1.2**
FINES pmax pmax
comp=Z,406nm,0.8s
FRGS Fruska Gora 71.89 315⇓*i*P **P** **19 38 09.0 -1.3**
FRGS *e*S **S** **19 47 24.9 -4.4**
KECS Kecovo 71.89 318 *e*P **P** **19 38 10.4 +0.2**
KECS pmax pmax
comp=Z,69nm,1.1s
KECS Kecovo 71.89 318 *e*P **P** **19 38 10.4 +0.2**
KECS *e*PCP **PcP** **19 38 27.7 -1.2**
KECS *e* 19 44 12.4
KECS *e* 20 05 59.7
BFSD Buffelsfontein 71.90 239 *e*P **P** **19 38 11.8 +1.0**
BFSD AMB AMB 19 38 26.6
comp=Z,7µm,2.2s
BFSD AMS AMS 20 05 24.5
comp=Z,753µm,19.4s
BFSD Buffelsfontein 71.90 239 P **P** **19 38 11.8 +1.0**
comp=Z,7µm,2.2s
ULC Ulcinj 71.94 311⇓*i*P **P** **19 38 08.7 -2.0**
PLE Pljevlja 71.98 313⇓*i*P **P** **19 38 10.0 -1.0**
PDG Podgorica 71.98 312 P **P** **19 38 09.9 -0.9**
TTG Podgorica 71.98 312⇓*i*P **P** **19 38 09.0 -1.8**
DRME Dracevica, Mon 72.01 312⇓*i*P **P** **19 38 09.6 -1.4**
BBLS Lazići 72.03 313⇓*i*P **P** **19 38 10.6 -0.6**
BBLS *e*S **S** **19 47 27.6 -3.4**
PKSN Nyarlorinc 72.08 317⇑*e*P **P** **19 38 11.7 +0.4**
NIE Niedzica 72.15 319 *e*P **P** **19 38 11.2 -0.5**
NIE *e*PP **pP** **19 38 20.4 -1.2**
NIE *e*PcP **PcP** **19 38 32.6 +2.6**
NIE *e*S **S** **19 47 29.1 -3.0**
NIE LMZ LR 20 13 07.0
NIE Niedzica 72.15 319⇓*e*P **P** **19 38 11.3 -0.5**
NIE *e**PP **pP** **19 38 20.5 -1.2**
NIE *e* 19 38 32.7
NIE *e*S **S** **19 47 29.2 -2.9**
NIE MLR MLR
comp=Z,224µm,21.8s
PSZ Piszkesteto 72.20 318⇓P **P** **19 38 12.7 +0.5**
PSZ Piszkesteto 72.20 318⇓*i*P **P** **19 38 12.6 +0.4**
PSZ Piszkesteto 72.20 318⇑*i*P **P'P'df** **20 05 56.7 -4.3**
PSZ Piszkesteto 72.20 318⇓*e*P **P** **19 38 10.7 -1.4**
comp=Z,2µm,1.4s
PSZ *e*P'P'df P'P'df 20 05 55.2 -5.8
PSZ LR LR
comp=Z,191µm,21.0s
PSZ Piszkesteto 72.20 318⇓*e*P **P** **19 38 11.3 -0.9**
NKY Niksic 72.21 312⇓*i*P **P** **19 38 10.9 -1.5**
BUM Brajici-Budva 72.23 312⇓*i*P **P** **19 38 10.7 -1.8**
NKME Niksic 72.24 312⇓*i*P **P** **19 38 11.1 -1.3**
BEL Belsk 72.25 322 *e*P **P** **19 38 11.5 -0.7**
BEL *e*pP **pP** **19 38 18.9 -3.1**
BEL *e*PPP PPP 19 42 36.3
BEL *e*S **S** **19 47 29.8 -3.2**
BEL *e*SKSac **ScS** **19 48 15.6 -0.9**
BEL LMZ LR 20 12 31.6
BEL Belsk 72.25 322⇓*e*P **P** **19 38 11.5 -0.7**
BEL *e**PP **pP** **19 38 19.0 -3.1**
BEL *e*PPP PPP 19 42 36.3
BEL *e*S **S** **19 47 29.9 -3.1**
BEL *e* 19 48 15.6
BEL MLR MLR
comp=Z,219µm,26.0s
UPM Unac-Piva 72.32 313⇓*i*P **P** **19 38 11.5 -1.6**
LBTB Lobatse 72.34 241 *e*P **P** **19 38 14.1 +0.7**
LBTB AMB AMB 19 38 29.5
comp=Z,5µm,2.0s
LBTB AMS AMS 20 04 35.1
comp=Z,484µm,19.8s
LBTB Lobatse 72.34 241 *e*P **P** **19 38 13.8 +0.4**
comp=Z,5µm,2.0s
PKS2 Kecel 72.47 316⇓*e*P **P** **19 38 13.0 -0.7**
HCY Herceg Novi 72.54 312 *e*P **P** **19 38 12.6 -1.6**
BRY Bratogost 72.55 312⇓*i*P **P** **19 38 12.6 -1.9**
PKS7 Kunszentmiklos 72.58 317⇑*e*P **P** **19 38 14.2 -0.1**
OJC Ojcow 72.60 320 *e*P **P** **19 38 13.8 -0.6**
OJC *e*pP **pP** **19 38 20.9 -3.3**
OJC *e*S S 19 47 31.1 -6.1
OJC *e*SKSac **ScS** **19 48 21.6 +2.2**
OJC LMZ LR 20 15 14.9
OJC Ojcow 72.60 320⇓*e*P **P** **19 38 13.9 -0.5**
OJC *e**PP **pP** **19 38 21.0 -3.3**
OJC *e*S S 19 47 31.1 -6.1
OJC *e* 19 48 21.6
OJC MLR MLR
comp=Z,192µm,20.0s
OJC Ojcow 72.60 320 *e*P **P** **19 38 12.7 -1.8**
comp=Z,3µm,1.5s
OJC *e*P'P'df **P'P'df** **20 05 55.1 -5.0**
BUD Budapest 72.72 317⇓*e*P **P** **19 38 14.2 -1.0**
PKSM Moragy 72.83 316⇓P **P** **19 38 15.0 -0.8**
PKSM Moragy 72.83 316⇓*i*P **P** **19 38 15.0 -0.8**
PKSM Moragy 72.83 316⇓*i*P P'P'df 20 05 53.9 -6.0
PKSM Moragy 72.83 316⇓*e*P **P** **19 38 14.7 -1.1**
WAKE Wake Island 73.05 72⇑*e*P **P** **19 38 18.0 +0.4**
comp=Z,8µm,1.5s
WAKE LR LR
comp=Z,124µm,22.0s
H11S3 WAKE ISLAND Hy 73.12 73 P **P** **19 38 19.2 +1.4**
baz=234,slow=9.0,SNR=31
PKS9 Tamasi 73.12 316⇑*e*P **P** **19 38 17.2 -0.4**
CHZP Chorzow 73.12 320 *e*P **P** **19 38 16.9 -0.6**
H11S1 WAKE ISLAND Hy 73.13 73 P **P** **19 38 19.4 +1.5**
baz=234,slow=9.0,SNR=49
H11S2 WAKE ISLAND Hy 73.14 73 P **P** **19 38 19.0 +1.1**
baz=234,slow=9.0,SNR=42
PKSG 73.14 317 *e*P **P** **19 38 16.9 -0.7**
STON Ston 73.16 312 P **P** **19 38 15.7 -2.1**
CSKK Cs˙‡kako 73.22 317⇓*e*P **P** **19 38 17.7 -0.5**
SWZ Schweizer 73.23 239 *e*P **P** **19 38 19.3 +0.6**
SWZ AMB AMB 19 38 47.2
comp=Z,240nm,1.2s
SWZ AMS AMS 20 05 58.1
comp=Z,226µm,19.3s
SWZ Schweizer 73.23 239 P **P** **19 38 19.3 +0.6**
comp=Z,240nm,1.2s
H11N1 WAKE ISLAND Hy 73.26 72 P **P** **19 38 20.4 +1.8**
baz=237,slow=11,SNR=40
H11N2 WAKE ISLAND Hy 73.26 72 P **P** **19 38 20.4 +1.8**
baz=237,slow=11,SNR=38
H11N3 WAKE ISLAND Hy 73.28 72 P P 19 38 22.4 +3.7
baz=237,slow=11,SNR=86
PKST T˜'s 73.37 317⇑*e*P **P** **19 38 18.9 -0.1**
OKC Ostrava-Krasne 73.60 320⇓*i*P **P** **19 38 19.7 -0.6**
OKC *e*pP **pP** **19 38 27.6 -2.6**
OKC *e*S **SKiKP** **19 47 43.8 -4.6**
OKC *ex* x 19 53 13.7
OKC *e*PKPPKP P'P'df 20 05 51.0 -7.3
OKC *ex* x 20 06 02.3
OKC AMS AMS 20 15 00.0
comp=Z,131µm,19.8s
OKC Ostrava-Krasne 73.60 320⇓*i*P **P** **19 38 19.7 -0.6**
OKC *e**PP **pP** **19 38 27.6 -2.6**
OKC *e*S **SKiKP** **19 47 43.8 -4.6**
OKC MLR MLR
comp=Z,131µm,19.8s
RAC Raciborz 73.60 320 *e*P **P** **19 38 20.4 +0.1**
RAC *e*S **SKiKP** **19 47 43.5 -4.9**
RAC MLR MLR
comp=N,180µm,25.4s
RAC MLR MLR
comp=E,200µm,22.7s
RAC MLR MLR
comp=Z,190µm,23.4s
TIP Timpagrande 73.61 308⇓*e*P **P** **19 38 20.1 -0.6**
comp=Z,926nm,1.1s
TIP LR LR
comp=Z,107µm,20.0s
BOSA Boshof 73.74 237 *e*P **P** **19 38 22.3 +0.6**
BOSA AMB AMB 19 38 37.5
comp=Z,7µm,2.2s
BOSA AMS AMS 20 04 49.8
comp=Z,419µm,20.5s
BOSA Boshof 73.74 237 P **P** **19 38 21.8 +0.1**
comp=Z,115nm,0.8s,baz=70,slow=4.8,SNR=70
BOSA LR LR 20 05 30.0
comp=Z,352µm,21.6s,baz=68,slow=32
BOSA PKPPKP **P'P'df** **20 05 56.7 -0.4**
comp=Z,10nm,1.2s,baz=177,slow=1.7,SNR=3.0
BOSA Boshof 73.74 237 *e*P **P** **19 38 21.6 -0.1**
BOSA *e*P'P'df **P'P'df** **20 05 56.0 -1.1**
BOSA P'P' 20 05 56.7
SMOL Smolenice 73.91 318 *e*P **P** **19 38 23.9 +1.7**
SMOL Smolenice 73.91 318 *e*P **P** **19 38 23.9 +1.7**
KEV Kevo 74.14 341⇓*e*P **P** **19 38 22.3 -0.8**
comp=Z,1µm,1.2s
KEV LR LR
comp=Z,632µm,21.0s
BEHE Becsehely 74.14 316⇓*e*P **P** **19 38 23.4 -0.2**
HVD Gariep Dam 74.19 235 *e*P **P** **19 38 25.1 +0.8**
HVD AMB AMB 19 38 40.5
comp=Z,8µm,2.1s
HVD AMS AMS 20 04 09.7
comp=Z,362µm,23.3s
HVD Gariep Dam 74.19 235 P **P** **19 38 25.1 +0.8**
comp=Z,8µm,2.1s
CEL Celeste 74.24 307⇓*e*P **P** **19 38 24.0 -0.4**
comp=Z,4µm,1.3s
CEL LR LR
comp=Z,181µm,22.0s
GRM Grahamstown 74.30 232 *e*P **P** **19 38 26.2 +1.4**
GRM AMB AMB 19 38 41.4
comp=Z,5µm,1.8s
GRM AMS AMS 20 06 20.0
comp=Z,298µm,19.1s
GRM Grahamstown 74.30 232 P **P** **19 38 26.2 +1.4**
comp=Z,5µm,1.8s
GRM Grahamstown 74.30 232 *i*P **P** **19 38 26.5 +1.7**
SISC Sisak 74.34 315 P **P** **19 38 24.0 -0.7**
CUC Castrocucco 74.38 309⇓*e*P **P** **19 38 23.5 -1.7**
comp=Z,2µm,1.4s
CUC LR LR
comp=Z,130µm,22.0s
SOP Sopron 74.41 317⇓*e*P **P** **19 38 24.6 -0.5**
VRAC Vranov 74.55 319⇓P **P** **19 38 25.6 -0.3**
VRAC Vranov 74.55 319⇓*i*P **P** **19 38 25.5 -0.3**
ARA0 ARCESS Array S 74.56 340 *e*P **P** **19 38 24.2 -1.3**
ARCES ARCESS Array B 74.56 340 P **P** **19 38 24.9 -0.6**
comp=Z,246nm,0.8s,baz=106,slow=3.9,SNR=173
ARCES LR LR 20 15 14.9
comp=Z,425µm,20.3s,baz=112,slow=39
ARCES ARCESS Array B 74.56 340 P **P** **19 38 24.9 -0.6**
ARCES pmax pmax
comp=Z,246nm,0.8s
ARCES MLR MLR
comp=Z,425µm,20.3s
GKP Gorka Klasztor 74.61 323 *e*P **P** **19 38 25.0 -1.1**
GKP *e*pP **pP** **19 38 32.2 -3.8**
GKP *e*PPP PPP 19 42 58.8
GKP *e*S **SKiKP** **19 47 54.6 +4.8**
GKP LMZ LR 20 14 51.4
GKP Gorka Klasztor 74.61 323⇓*e*P **P** **19 38 25.0 -1.1**
GKP *e**PP **pP** **19 38 32.2 -3.8**
GKP *e*PPP PPP 19 42 58.9
GKP *e*S **SKiKP** **19 47 54.6 +4.8**
GKP MLR MLR
comp=Z,391µm,21.7s
UDBI Udbina 74.69 314 P **P** **19 38 25.2 -1.7**
KWAJ Kwajalein Atol 74.74 83⇑*i*P **P** **19 38 28.9 +1.3**
comp=Z,3µm,1.4s
KWAJ LR LR
comp=Z,41µm,21.0s
DPC Dobruska-Polom 74.83 320⇓*i*P **P** **19 38 27.5 0.0**
DPC *ex* x 19 38 33.1
DPC *e*PP **PP** **19 41 17.3 +2.2**
DPC *e*S **SKiKP** **19 47 55.8 +5.5**
DPC *e*PKPPKP P'P'df 20 05 45.5 -11
DPC *ex* x 20 05 56.6
DPC AMS AMS 20 16 10.0
comp=Z,160µm,17.5s
DPC Dobruska-Polom 74.83 320⇓*i*P **P** **19 38 27.5 0.0**
DPC *e**PP **pP** **19 38 33.1 -4.3**
DPC *e* 19 41 17.3
DPC *e*S **SKiKP** **19 47 55.8 +5.5**
SOE Somerset East 74.84 233 *e*P **P** **19 38 29.1 +1.2**
SOE AMB AMB 19 38 44.4
comp=Z,5µm,2.1s
SOE AMS AMS 20 10 25.3
comp=Z,241µm,16.9s
SOE Somerset East 74.84 233 P **P** **19 38 29.1 +1.2**
comp=Z,5µm,2.1s
CONA Conrad Observa 74.90 317⇓*i*P **P** **19 38 27.3 -0.7**
comp=Z,12µm,3.7s
GOLS Golise 74.90 315 *i*P **P** **19 38 27.2 -0.8**
KSP Ksiaz 74.90 320 *e*P **P** **19 38 27.6 -0.3**
KSP *e*pP **pP** **19 38 36.7 -1.1**
KSP *e*PcP **PcP** **19 38 40.3 -1.4**
KSP *e*PP **PP** **19 41 16.5 +0.9**
KSP *e*S **S** **19 48 00.1 -3.0**
KSP *e*SKSac **SKSac** **19 48 33.4 -1.1**
KSP LMZ LR 20 16 18.4
KSP Ksiaz 74.90 320⇓*e*P **P** **19 38 27.7 -0.2**
KSP *e**PP **pP** **19 38 36.7 -1.1**
KSP *e* 19 38 40.4
KSP *e* 19 41 16.6
KSP *e*S **S** **19 48 00.2 -2.9**
KSP *e* 19 48 33.4
KSP MLR MLR
comp=Z,186µm,18.6s
CRES Cresnjev 75.00 315 *i*P **P** **19 38 27.7 -0.9**
UPC Upice 75.04 320⇓*i*P **P** **19 38 28.6 -0.1**
UPC *e*pP **pP** **19 38 36.5 -2.1**
UPC *e*PKPPKP P'P'df 20 05 46.5 -9.3
UPC *ex* x 20 06 02.4
UPC Upice 75.04 320⇓*i*P **P** **19 38 28.6 -0.1**
UPC *e**PP **pP** **19 38 36.5 -2.1**
BOJS Bojanci 75.12 315 *i*P **P** **19 38 28.4 -0.8**
BOJS *e* 19 38 42.2
BOJS *e*PP PP 19 41 41.8 +24
BOJS *e*S **SKiKP** **19 47 55.8 +4.9**
BOJS *e*SS SS 19 53 45.2 +50
CASY Casey 75.18 172⇑*e*P **P** **19 38 29.9 +0.9**
comp=Z,2µm,1.5s
CASY LR LR
comp=Z,353µm,19.0s
TREC Trest 75.27 319⇓*i*P **P** **19 38 29.4 -0.6**
TREC *e*S **S** **19 48 04.7 -2.5**
TREC *ex* x 19 53 20.4
TREC *e*PKPPKP P'P'df 20 05 52.2 -5.3
TREC AMS AMS 20 16 10.0
comp=Z,143µm,21.2s
TREC Trest 75.27 319⇓*i*P **P** **19 38 29.4 -0.6**
TREC *e*S **S** **19 48 04.7 -2.5**
TREC MLR MLR
comp=Z,143µm,21.2s
WDD Wield Dalam 75.27 305⇓*e*P **P** **19 38 29.0 -1.3**
comp=Z,1µm,1.0s
WDD LR LR
comp=Z,188µm,18.0s
PERS Pernice 75.30 316 *e*P **P** **19 38 29.9 -0.5**
PERS *e* 19 38 43.4
PERS *e*S S 19 48 00.3 -7.5
PDKS Podkum 75.34 315 *e*P **P** **19 38 29.8 -0.7**
PDKS *e*S S 19 48 02.2 -6.0
SOKA Soboth 75.36 316 *i*P **P** **19 38 30.2 -0.5**
comp=Z,11µm,3.6s,SNR=258
VNDS Vrh nad Dolski 75.55 316 *e*P **P** **19 38 31.0 -0.7**
LJU Ljubljana 75.67 315 *i*P **P** **19 38 31.9 -0.5**
LJU *e* 19 38 45.6
LJU *e*PP PP 19 41 44.6 +22
LJU *e*S **S** **19 48 06.2 -5.6**
LJU *e* 19 48 46.4
LJU *e*SS SS 19 53 55.2 +52
OBKA Obir 75.68 316 *i*P **P** **19 38 32.1 -0.4**
comp=Z,10µm,3.0s,SNR=140
MOZS Mozjanca 75.74 316 *i*P **P** **19 38 32.2 -0.6**
GOPC GO Pecny, Ondr 75.77 319⇓*i*P **P** **19 38 32.8 -0.1**
GOPC *ex* x 19 38 38.1
GOPC *e*S **S** **19 48 08.8 -4.0**
GOPC *e*PKPPKP **P'P'df** **20 05 51.9 -2.7**
GOPC AMS AMS 20 17 30.0
comp=Z,164µm,17.8s
PRU Pruhonice 75.94 320⇓*i*P **P** **19 38 33.5 -0.3**
PRU *e*pP **pP** **19 38 41.1 -2.6**
PRU *e*PP **PP** **19 41 22.5 -1.8**
PRU *e*S **S** **19 48 09.6 -5.0**
PRU *ex* x 19 53 18.5
PRU *e*PKPPKP **P'P'df** **20 05 49.7 -4.5**
PRU *ex* x 20 05 59.1
PRU AMS AMS 20 17 40.0
comp=Z,174µm,17.6s
PRU Pruhonice 75.94 320⇓*i*P **P** **19 38 33.5 -0.3**
PRU *e**PP **pP** **19 38 41.1 -2.6**
PRU *e* 19 41 22.5
PRU *e*S **S** **19 48 09.6 -5.0**
PRU MLR MLR
comp=Z,174µm,17.6s
MOA Molln 75.96 317 *i*P **P** **19 38 33.2 -0.9**
comp=Z,11µm,3.7s,SNR=117
PVCC Panska Ves 75.96 320⇓*i*P **P** **19 38 33.8 -0.2**
PVCC *ex* x 19 38 39.4
PVCC *e*S S 19 48 07.1 -7.7
PVCC *e*PKPPKP **P'P'df** **20 05 53.2 -0.9**
PVCC AMS AMS 20 17 00.0
comp=Z,202µm,18.1s
PVCC Panska Ves 75.96 320⇓*i*P **P** **19 38 33.8 -0.2**
PVCC *e* 19 38 39.4
PVCC *e*S S 19 48 07.1 -7.7
PVCC MLR MLR
comp=Z,202µm,18.1s
JAVS Javornik 75.98 315 *e*P **P** **19 38 32.9 -1.4**
JAVS *e* 19 38 46.4
JAVS *e*S **S** **19 48 10.4 -5.0**
SKDS Skadanscina 76.00 315 *i*P **P** **19 38 32.5 -1.8**
PRA Prague 76.01 320⇓*i*P **P** **19 38 34.3 0.0**
PRA *e*PP **PP** **19 41 22.3 -2.7**
PRA *e*S S 19 48 08.6 -6.8
PRA *ex* x 19 53 17.7
PRA AMS AMS 20 17 30.0
comp=Z,155µm,17.3s
PRA Prague 76.01 320⇓*i*P **P** **19 38 34.3 0.0**
PRA *e* 19 41 22.3
PRA *e*S S 19 48 08.6 -6.8
PRA MLR MLR
comp=Z,155µm,17.3s
GORS Gorjuse 76.05 316 *e*P **P** **19 38 33.7 -1.0**
TRI Trieste 76.18 315⇓*i*P **P** **19 38 33.4 -1.9**
comp=Z,2µm,1.8s
BSD Bornholm Skovb 76.19 325⇓*i*P **P** **19 38 33.5 -1.6**
comp=Z,714nm,0.9s
BSD *i*S S 19 48 09.3 -7.8
comp=Z,336µm,19.0s
BSD Bornholm Skovb 76.19 325⇓*i*P **P** **19 38 33.5 -1.6**
BSD *i*S S 19 48 09.3 -7.8
BSD pmax pmax
comp=Z,710nm,0.9s
BSD MLR MLR
comp=Z,340µm,19.0s
AQU L'Aquila 76.30 312⇓*e*P **P** **19 38 34.9 -1.2**
comp=Z,2µm,1.5s
AQU LR LR
comp=Z,173µm,22.0s
MYKA Terra Mystica 76.31 316 *i*P **P** **19 38 35.4 -0.7**
comp=Z,8µm,2.5s,SNR=128
CLTB Caltabellotta 76.34 307⇓*e*P **P** **19 38 35.9 -0.7**
comp=Z,1µm,1.6s
CLTB LR LR
comp=Z,63µm,21.0s
BRG Berggiesshubel 76.39 320 *i*P **P** **19 38 36.2 -0.2**
comp=Z,786nm,1.5s
BRG *i* 19 38 47.2
comp=Z,951nm,1.0s
BRG PP PP 19 41 22.0 -6.1
BRG S **S** **19 48 16.0 -3.5**
BRG SS **SS** **19 53 12.0 -2.0**
BRG *e*PKPPKP **P'P'df** **20 05 53.6 +0.3**
comp=Z,84nm,1.8s
comp=N,194µm,19.7s
comp=E,213µm,19.4s
comp=Z,226µm,18.2s
BRG Berggiesshubel 76.39 320 *e*P **P** **19 38 36.2 -0.2**
comp=Z,22µm,2.7s
BRG Berggiesshubel 76.39 320 *i*P **P** **19 38 36.2 -0.2**
BRG *i* 19 38 47.2
BRG 19 41 22.0
BRG S **S** **19 48 16.0 -3.5**
BRG SS **SS** **19 53 12.0 -2.0**
BRG pmax pmax
comp=Z,786nm,1.5s
BRG MLR MLR
comp=N,194µm,19.7s
BRG MLR MLR
comp=E,213µm,19.4s
BRG MLR MLR
comp=Z,226µm,18.2s
GEC2 GERESS Array S 76.40 318 *e*P **P** **19 38 36.1 -0.5**
comp=Z,179nm,1.0s
GERES GERESS Array B 76.40 318 P **P** **19 38 36.1 -0.5**
comp=Z,317nm,0.9s,baz=90,slow=4.7,SNR=445
GERES PKPPKP **P'P'df** **20 05 51.3 -2.3**
comp=Z,4.6nm,1.2s,baz=228,slow=3.4,SNR=5.7
GERES LR LR 20 16 07.5
comp=Z,140µm,20.9s,baz=84,slow=39
KHC Kasperske Hory 76.50 319⇓*i*P **P** **19 38 36.5 -0.6**
KHC *e*pP **pP** **19 38 43.9 -3.1**
KHC *ex* x 19 39 01.5
KHC *e*PP PP 19 41 23.3 -5.9
KHC *e*S **S** **19 48 18.9 -2.0**
KHC *ex* x 19 53 04.6
KHC *e*PKPPKP P'P'df 20 05 46.8 -6.5
KHC *ex* x 20 06 01.7
KHC AMS AMS 20 17 00.0
comp=Z,151µm,18.3s
KHC Kasperske Hory 76.50 319⇓*i*P **P** **19 38 36.5 -0.6**
KHC *e**PP **pP** **19 38 43.9 -3.1**
KHC *e* 19 41 23.3
KHC *e*S **S** **19 48 18.9 -2.0**
KHC MLR MLR
comp=Z,151µm,18.3s
KHC Kasperske Hory 76.50 319⇓*i*P **P** **19 38 36.3 -0.9**
comp=Z,150nm,0.8s
KBA Koelnbreinsper 76.54 316 *i*P **P** **19 38 36.3 -1.3**
comp=Z,8µm,3.8s,SNR=93
RUE Ruedersdorf 76.61 322⇓*i*P **P** **19 38 37.0 -0.5**
comp=Z,2µm,1.0s
RUE LR LR
comp=Z,254µm,19.0s
TRO Tromso 76.80 340⇓*i*P **P** **19 38 37.2 -1.1**
TRO IAmb IAmb 19 38 52.5
comp=Z,2µm,1.3s
TRO IVmBBB 19 39 02.5
comp=Z,17µm,3.2s
TRO *e* 19 48 24.9
TRO IAMs_20 IAMs_20 20 14 24.3
comp=Z,650µm,20.9s
TRO IVMs_BB IVMs_BB 20 14 28.9
comp=Z,190µm,20.3s
BILL Bilibino 76.91 22*c*i P **P** **19 38 39.0 0.0**
BILL *i* 19 38 49.7
BILL *i*S S 19 48 17.0 -7.6
BILL *e*SS **SS** **19 53 27.2 +6.0**
BILL pmax pmax
comp=Z,3µm,1.7s
BILL Bilibino 76.91 22 *e*P **P** **19 38 38.3 -0.7**
RJOB Jochberg 76.94 317 *e*P **P** **19 38 38.9 -0.8**
comp=Z,72nm,0.8s
WET Wettzell 76.96 319 *e*P **P** **19 38 39.4 -0.3**
comp=Z,122nm,1.0s
CLL Collm 77.01 321 *e*P **P** **19 38 39.2 -0.7**
comp=Z,162nm,0.9s
CLL Collm 77.01 321⇓*i*P **P** **19 38 39.1 -0.8**
comp=Z,617nm,1.5s
CLL *i* 19 38 44.0
CLL *i* 19 38 46.8
CLL *i* Pmax 19 38 51.5
comp=Z,2µm,1.6s
CLL *e*Plp 19 38 55.0
comp=Z,37µm,21.8s
CLL *e*Pmax 19 38 59.0
CLL *i* 19 39 08.6
CLL *e*PPmax 19 42 00.0
CLL *e*PPPmax 19 43 48.0
CLL *e*S **S** **19 48 21.0 -5.3**
CLL *e*sS **sS** **19 48 41.0 -1.6**
CLL *e*SS **SS** **19 53 24.0 +0.6**
CLL *e*(SSSm) 19 57 14.0
CLL *e*(SSSS) 19 58 36.0
CLL *e*SKPPKPbc 20 09 24.0
CLL LmV 20 17 00.0
comp=Z,201µm,20.5s
CLL Lmax 20 18 00.0
CLL Collm 77.01 321⇓*i*P **P** **19 38 39.1 -0.8**
CLL *i* 19 38 44.0
CLL pmax pmax
comp=Z,617nm,1.5s

CLL Collm 77.01 321 *e*P **P 19 38 39.1 -0.8**
comp=Z,3μm,1.7s
CLL LR LR
comp=Z,242μm,20.0s
UPI Upington 77.03 239 *e*P **P 19 38 41.0 +0.4**
UPI AMB AMB 19 39 14.0
comp=Z,1μm,1.4s
UPI AMS AMS 20 08 07.6
comp=Z,546μm,19.8s
UPI Upington 77.03 239 P **P 19 38 41.0 +0.4**
comp=Z,1μm,1.4s
RGN Rugen 77.05 324⇓ *e*P **P 19 38 39.5 -0.5**
comp=Z,2μm,1.3s
RGN LR LR
comp=Z,272μm,19.0s
ABTA Abfaltersbach 77.09 316 *i* P **P 19 38 39.3 -1.3**
comp=Z,6μm,2.8s,SNR=126
HOPEN Hopen 77.11 347 *e*P **P 19 38 39.9 -0.1**
HOPEN IAmb IAmb 19 38 52.4
comp=Z,3μm,1.9s
HOPEN IVmB_BB 19 38 56.2
comp=Z,26μm,3.5s
HOPEN *e* 19 41 56.6
HOPEN *i* 19 43 55.9
HOPEN IAMs_20 IAMs_20 20 15 52.3
comp=Z,485μm,21.7s
NKC Novy Kostel 77.30 320⇓ *i*P **P 19 38 41.2 -0.4**
NKC *e*PP **PP 19 41 36.3 +0.5**
NKC *e*S **S 19 48 27.3 -2.2**
NKC *e*SS **SS 19 53 32.2 +4.3**
NKC *e*PKPPKP **P'P'df 20 05 52.4 +0.6**
NKC AMS AMS 20 17 40.0
comp=Z,178μm,18.1s
NKC Novy Kostel 77.30 320⇓ *i*P **P 19 38 41.2 -0.4**
NKC *e* 19 41 36.3
NKC *e*S **S 19 48 27.3 -2.2**
NKC *e*SS **SS 19 53 32.2 +4.3**
NKC MLR MLR
comp=Z,178μm,18.1s
TANN Tannenbergstha 77.30 320 *e*P **P 19 38 41.3 -0.3**
comp=Z,94nm,1.0s
ROTZ Rotzenmuhle 77.43 319 *e*P **P 19 38 42.7 +0.4**
comp=Z,205nm,1.0s
COP Copenhagen 77.65 325⇓ *i*P **P 19 38 43.1 -0.2**
comp=Z,342nm,0.9s
COP *i* S **S 19 48 28.0 -5.0**
comp=Z,139nm,19.0s
COP Copenhagen 77.65 325⇓ *i*P **P 19 38 43.1 -0.2**
COP *i* S **S 19 48 28.0 -5.0**
COP pmax pmax
comp=Z,340nm,0.9s
COP MLR MLR
comp=Z,140μm,19.0s
WTTA Wattenberg 77.71 317 *i* P **P 19 38 42.9 -1.2**
comp=Z,8μm,2.5s,SNR=222
LLD Lille Linde 77.75 325 *i* P **P 19 38 44.3 +0.4**
LLD Lille Linde 77.75 325 *i* P **P 19 38 44.3 +0.4**
WATA Walderalm 77.75 317 *i* P **P 19 38 42.9 -1.4**
comp=Z,3μm,1.6s,SNR=108
STEI Steigen 77.78 338 *e*P **P 19 38 43.0 -0.8**
MOX Moxa 77.85 320 *e*P **P 19 38 44.4 -0.2**
comp=Z,130nm,1.0s
MOX *e*L L 20 18 12.4
comp=Z,218μm,19.7s
BJO Bjornoya 77.90 345 *e*P **P 19 38 42.9 -1.5**
BJO IAmb IAmb 19 38 59.0
comp=Z,2μm,1.5s
BJO IVmB_BB 19 39 00.2
comp=Z,25μm,3.5s
FUR Furstenfeldbru 77.98 318 *e*P **P 19 38 44.9 -0.5**
comp=Z,182nm,1.0s
TSUM Tsumeb 78.00 249 *e*P **P 19 38 47.9 +1.7**
TSUM Tsumeb 78.00 249 *e*P **P 19 38 46.7 +0.5**
comp=Z,857nm,1.5s
TSUM LR LR
comp=Z,495μm,20.0s
GRF Grafenberg Arr 78.06 319 *e*P **P 19 38 46.4 +0.5**
comp=Z,333nm,0.9s
GRF *e*L L 20 18 46.8
comp=Z,176μm,18.1s
GRFO Grafenberg 78.07 319⇓ *e*P **P 19 38 45.5 -0.4**
comp=Z,2μm,1.1s
MOTA Moosalm 78.08 317 *i* P **P 19 38 44.8 -1.3**
comp=Z,6μm,2.2s,SNR=374
MAW Mawson 78.09 191 P **P 19 38 47.1 +1.7**
comp=Z,94nm,0.7s,baz=10,slow=4.8,SNR=71
MAW PKKPbc **PKKPbc 19 57 48.3 -0.4**
comp=Z,10nm,0.9s,baz=226,slow=1.0,SNR=5.0
MAW PKPPKP **P'P'df 20 05 43.3 -2.8**
comp=Z,3.8nm,0.8s,baz=172,slow=3.4,SNR=3.9
MAW LR LR 20 07 58.8
comp=Z,177μm,18.3s,baz=23,slow=32
FLOS Flostrand 78.27 336 *e*P **P 19 38 46.4 -0.2**
RETA Reutte 78.31 317 *i* P **P 19 38 46.3 -1.1**
comp=Z,8μm,2.5s,SNR=334
FETA Feichten 78.33 316 *i* P **P 19 38 46.7 -0.8**
comp=Z,9μm,3.3s,SNR=154
KONS Konsvik 78.39 336 *e*P **P 19 38 46.8 -0.5**
STOK Stokkvaagen 78.41 336 *e*P P 19 38 42.3 -5.1
LOF Lofoten 78.44 338 *e*P **P 19 38 46.2 -1.3**
VLC Villacollemand 78.53 313⇓ *e*P **P 19 38 47.0 -1.6**
comp=Z,751nm,1.0s
VLC LR LR
comp=Z,108μm,21.0s
SUR Sutherland 78.54 235 *e*P **P 19 38 51.0 +2.0**
SUR AMB AMB 19 39 05.9
comp=Z,3μm,1.9s
SUR AMS AMS 20 12 48.0
comp=Z,178μm,16.6s
SUR Sutherland 78.54 235 P **P 19 38 50.0 +1.0**
comp=Z,3μm,1.1s,SNR=22
SUR Sutherland 78.54 235 P **P 19 38 51.0 +2.0**
comp=Z,3μm,1.9s
SUR LR LR
comp=Z,55μm,19.0s
NOUC Port Laguerre 78.63 114 *e*P **P 19 38 48.8 -0.7**
NOUC *e*S **sP 19 39 03.1 0.0**
NOUC AMP 19 39 10.2
comp=Z,48nm,0.8s
FUORN Ofenpass-Fuorn 78.64 316⇓ *i*P **P 19 38 49.0 -0.4**
comp=Z,4μm,2.5s
FUORN Ofenpass-Fuorn 78.64 316 *e*P **P 19 38 48.9 -0.5**
comp=Z,2μm,1.4s
FUORN *e*P'P'df **P'P'df 20 05 54.5 +4.7**
NSS Namsos 78.65 334 *e*P **P 19 38 45.5 -3.2**
NSS IAmb IAmb 19 39 02.6
comp=Z,2μm,1.1s
NSS IAMs_20 IAMs_20 20 17 33.6
comp=Z,385μm,18.7s
MSKU Masuku 78.69 267 *e*P **P 19 38 50.0 +0.1**
comp=Z,4μm,1.8s
MSKU *e*P'P'df **P'P'df 20 05 51.0 +0.9**
MSKU LR LR
comp=Z,404μm,20.0s
NB2 NORSAR Subarra 78.69 331 P **P 19 38 47.7 -1.4**
comp=Z,4μm,2.0s,baz=93,slow=5.3
NB2 NORSAR Subarra 78.69 331 P **P 19 38 47.7 -1.4**
baz=93,slow=5.3
NOA NORSAR Array B 78.69 331 P **P 19 38 48.6 -0.5**
comp=Z,160nm,0.8s,baz=94,slow=5.4,SNR=174
NOA PKKPbc **PKKPbc 19 57 44.7 -1.7**
comp=Z,1.7nm,0.8s,baz=278,slow=2.0,SNR=3.8
NOA LR LR 20 16 31.0
comp=Z,365μm,21.5s,baz=90,slow=38
DZM Mont Dzumac 78.75 114 *e*P **P 19 38 51.9 +1.7**
comp=Z,4μm,1.6s
DZM Mont Dzumac 78.75 114 *e*PP PP 19 41 44.3 -4.6
comp=Z,20μm,27.6s
DZM *e*S **S 19 48 45.0 -1.3**
comp=Z,369μm,28.4s
DZM *e*SS **SS 19 53 46.6 -4.8**
comp=Z,265μm,32.2s
DZM *e*LR LR 20 03 23.2
comp=Z,309μm,27.9s
DZM Mont Dzumac 78.75 114 LR LR 20 15 59.2
comp=Z,92μm,21.6s,baz=286,slow=38
DZM Mont Dzumac 78.75 114 *e*P **P 19 38 50.3 +0.1**
DZM AMP 19 39 04.0
comp=Z,4μm,0.0s
DZM *e*S **sP 19 39 04.2 +0.4**
BSEG Bad Segeberg 78.78 323 *e*P **P 19 38 49.7 +0.1**
comp=Z,252nm,1.0s
BERNI Berninapass 78.80 316⇓ *i*P **P 19 38 50.0 -0.3**
comp=Z,4μm,1.4s
NAO01 NORSAR Array S 78.83 330 *e*P **P 19 38 47.5 -2.4**
comp=Z,347nm,0.9s
OSL Oslo 78.86 330 *e*P **P 19 38 48.8 -1.1**

NBO02 NORSAR Array S 78.86 331 *e*P **P 19 38 48.2 -1.8**
UBBA Unterbreizbach 78.88 320 *e*P **P 19 38 49.6 -0.6**
comp=Z,33nm,1.0s
DAVOX Davos/Dischmat 78.90 316⇓ *i*P **P 19 38 50.3 -0.5**
comp=Z,4μm,1.6s
DAVOX Davos/Dischmat 78.90 316 PKPPKP **P'P'df 20 05 48.9 -0.4**
comp=Z,4.1nm,0.9s,baz=44,slow=6.9,SNR=3.1
DAVA Damuels 78.91 317 *i* P **P 19 38 50.2 -0.6**
comp=Z,15μm,3.4s,SNR=328
SMY Shemya 79.04 38 *e*P **P 19 38 51.6 +0.5**
BAYA Yate Dam 79.17 114 *e*S sP 19 39 07.8 +1.8
LIENZ Kamor/St.Gall 79.17 317⇓ *i*P **P 19 38 51.6 -0.6**
comp=Z,6μm,1.9s
WIN Windhoek 79.19 245 *e*P **P 19 38 54.5 +1.7**
WIN AMB AMB 19 39 10.0
comp=Z,308nm,1.1s
WIN AMS AMS 20 11 24.1
comp=Z,94μm,17.3s
WIN Windhoek 79.19 245 P **P 19 38 54.5 +1.7**
comp=Z,308nm,1.1s
VDL Val di Lei 79.20 316⇓ *i*P **P 19 38 51.8 -0.6**
comp=Z,6μm,2.4s
PLONS Plons/SG 79.25 316⇓ *i*P **P 19 38 52.0 -0.5**
comp=Z,10μm,2.7s
TUE Stuetta 79.27 316 *e*P **P 19 38 51.6 -1.2**
comp=Z,2μm,1.4s
TUE LR LR
comp=Z,213μm,22.0s
TBLU Trondheim 79.29 333 *e*P **P 19 38 50.8 -1.5**
TBLU IVmB_BB 19 39 07.3
comp=Z,17μm,3.1s
VSL Villasalto 79.34 309⇓ *e*P **P 19 38 51.9 -1.2**
comp=Z,2μm,1.5s
VSL LR LR
comp=Z,62μm,22.0s
HSPB Hornsund (broa 79.35 347⇑ *i*P **P 19 38 51.5 -0.8**
HSPB IAmb IAmb 19 39 06.4
comp=Z,1μm,1.3s
HSPB IVmB_BB 19 39 06.5
comp=Z,20μm,3.9s
HSPB IAMs_20 IAMs_20 20 17 32.9
comp=Z,626μm,21.1s
STU Stuttgart 79.38 318 *e*P **P 19 38 52.8 -0.3**
comp=Z,15μm,2.5s
STU Stuttgart 79.38 318⇓ *e*P **P 19 38 50.9 -2.1**
comp=Z,2μm,1.3s
KONO Kongsberg 79.41 329 *e*P **P 19 38 52.1 -0.9**
KONO IVmBBB 19 39 01.5
comp=Z,14μm,1.9s
KONO *e* 19 41 54.1
KONO *i* 19 48 52.8
KONO IAMs_20 IAMs_20 20 18 12.3
comp=Z,418μm,18.5s
KONO Kongsberg 79.41 329⇓ *e*P **P 19 38 50.9 -2.1**
comp=Z,51nm,0.8s
KONO LR LR
comp=Z,410μm,19.0s
SPITS Spitsbergen Ar 79.42 348 PKPPKP **P'P'df 20 05 51.5 +4.6**
comp=Z,12nm,1.1s,baz=158,slow=5.4,SNR=4.3
KEST Kesra 79.48 305 P **P 19 38 54.0 0.0**
comp=Z,70nm,0.9s,baz=330,slow=3.4,SNR=74
KEST Kesra 79.48 305⇓ *e*P **P 19 38 53.6 -0.4**
MUGIO Muggio 79.48 315⇓ *i*P **P 19 38 52.3 -1.5**
comp=Z,5μm,2.1s
LLS Linth-Limmern 79.50 316⇓ *i*P **P 19 38 53.1 -0.9**
comp=Z,4μm,1.3s
MUD Monsted U'grnd 79.52 326⇓ *i*P **P 19 38 53.4 -0.2**
comp=Z,1μm,1.0s
MUD *i* S **S 19 48 47.3 -5.6**
comp=Z,317μm,20.0s
MUD Monsted U'grnd 79.52 326⇓ *i*P **P 19 38 53.4 -0.2**
MUD *i* S **S 19 48 47.3 -5.6**
MUD pmax pmax
comp=Z,1μm,1.0s
MUD MLR MLR
comp=Z,320μm,20.0s
WEIN Weingarten 79.52 317⇓ *i*P **P 19 38 53.5 -0.4**
comp=Z,5μm,2.5s
PGF Pioggiola 79.56 312⇓ *i*P **P 19 38 53.7 -0.6**
comp=Z,7μm,1.6s
PGF Pioggiola 79.56 312⇓ *i*P **P 19 38 53.7 -0.6**
comp=Z,7μm,1.6s
WILA Wila 79.57 317⇓ *i*P **P 19 38 53.5 -0.7**
comp=Z,5μm,1.7s
STEIN Stein am Rhein 79.59 317⇓ *i*P **P 19 38 53.6 -0.7**
comp=Z,6μm,2.6s
TRULL Truellikon 79.72 317⇓ *i*P **P 19 38 54.2 -0.8**
comp=Z,8μm,2.6s
FUSIO Fusio 79.74 316⇓ *i*P **P 19 38 54.3 -1.0**
comp=Z,2μm,1.9s
MUO Muotathal 79.76 316⇓ *i*P **P 19 38 54.6 -0.8**
comp=Z,10μm,1.6s
ZUR Degenried 79.79 317⇓ *i*P **P 19 38 54.8 -0.6**
comp=Z,8μm,3.2s
FLACH Flaach 79.80 317⇓ *i*P **P 19 38 54.9 -0.5**
comp=Z,4μm,1.6s
SLE Schleitheim 79.85 317⇓ *i*P **P 19 38 55.1 -0.6**
comp=Z,5μm,2.7s
TNS Taunus Mts 79.86 320 *e*P **P 19 38 55.7 -0.1**
comp=Z,151nm,1.0s
BNALP Bannalp 79.90 316⇓ *i*P **P 19 38 55.7 -0.5**
comp=Z,6μm,1.8s
HOMB Homborsund 79.93 328 *i* P **P 19 38 54.2 -1.6**
HOMB IAmb IAmb 19 39 21.4
comp=Z,5μm,2.3s
HOMB IVmB_BB 19 39 23.6
comp=Z,15μm,2.6s
HOMB *i* 19 48 52.7
BFO Black Forest 79.95 318 *e*P **P 19 38 55.5 -0.7**
comp=Z,110nm,1.1s
BFO Black Forest 79.95 318 *i* P **P 19 38 55.2 -1.0**
BFO Black Forest 79.95 318⇓ *e*P **P 19 38 55.1 -1.2**
comp=Z,724nm,1.0s
BFO LR LR
comp=Z,109μm,19.0s
CER Ceres 80.05 234 *e*P **P 19 38 59.0 +2.0**
CER AMB AMB 19 39 14.2
comp=Z,1μm,1.3s
CER AMS AMS 20 13 42.3
comp=Z,444μm,16.8s
CER Ceres 80.05 234 P **P 19 38 59.0 +2.0**
comp=Z,1μm,1.3s
HASLI Hasliberg/Brie 80.09 316⇓ *i*P **P 19 38 56.3 -0.9**
comp=Z,7μm,1.8s
SULZ Cheisacher 80.11 317⇓ *i*P **P 19 38 56.6 -0.5**
comp=Z,4μm,1.3s
MMK Mattmark 80.23 315⇓ *i*P **P 19 38 57.3 -0.8**
comp=Z,4μm,2.3s
LANF Langenberg 80.29 318⇑ *e*P **P 19 38 58.8 +0.8**
IBBN Ibbenburen 80.29 322 *e*P **P 19 38 57.8 -0.1**
comp=Z,210nm,1.0s
BALST Balsthal 80.39 317⇓ *i*P **P 19 38 58.0 -0.7**
comp=Z,4μm,2.1s
KBS Kingsbay 80.42 349⇓ *e*P **P 19 38 56.6 -1.5**
comp=Z,774nm,1.1s
KBS LR LR
comp=Z,545μm,22.0s
WIMIS Wimmis 80.46 316⇓ *i*P **P 19 38 58.6 -0.4**
comp=Z,5μm,2.1s
LKBD Leukerbad 80.46 316⇓ *i*P **P 19 38 58.8 -0.4**
comp=Z,5μm,1.1s
MOL Molde 80.50 332 *e*P **P 19 39 01.0 +2.1**
MOL IAmb IAmb 19 39 16.4
comp=Z,1μm,1.4s
MOL IVmB_BB 19 39 18.9
comp=Z,16μm,3.5s
SAOF Saorge 80.58 313⇑ *e*P **P 19 39 00.1 +0.4**
BUG Bochum--Univer 80.60 321 *e*P **P 19 38 59.5 -0.1**
comp=Z,185nm,1.0s
SNART Snartemo 80.61 328 *i* P **P 19 38 58.9 -0.6**
SNART IAmb IAmb 19 39 26.1
comp=Z,1μm,1.7s
SNART IAMs_20 IAMs_20 20 16 31.1
comp=Z,185μm,22.0s
SNART IVMs_BB IVMs_BB 20 19 29.3
comp=Z,57μm,16.7s
CDF Champ du Feu 80.65 318⇓ *i*P **P 19 38 59.2 -0.9**
comp=Z,3μm,1.5s
CDF Champ du Feu 80.65 318⇓ *i*P **P 19 38 59.2 -0.9**
comp=Z,3μm,1.5s
SBF Sospel 80.67 313⇓ *i*P **P 19 38 59.6 -0.6**
comp=Z,3μm,0.9s
SBF Sospel 80.67 313⇓ *i*P **P 19 38 59.6 -0.6**
comp=Z,3μm,0.9s
AUTN L'Aution 80.67 313⇑ *e*P **P 19 39 01.2 +0.7**
SENIN Lac Senin/Sane 80.69 316⇓ *i*P **P 19 38 59.6 -0.9**
comp=Z,5μm,1.6s

SENIN Lac Senin/Sane 80.69 316 *e*P **P 19 39 00.2 -0.2**
BOURR Bourrignon 80.71 317⇓ *i*P **P 19 39 00.2 -0.2**
comp=Z,4μm,2.5s
REVF Revere 80.72 313⇑ *e*P **P 19 39 00.9 +0.4**
ECH Echery 80.74 318⇑ *e*P **P 19 39 00.5 0.0**
ECH Echery 80.74 318⇓ *e*P **P 19 38 59.1 -1.4**
comp=Z,1μm,1.6s
ECH LR LR
comp=Z,80μm,20.0s
AKN Aaknes 80.75 332 *e*P **P 19 38 59.7 -0.6**
AKN *i* 19 49 00.2
AKN IAMs_20 IAMs_20 20 17 53.7
comp=Z,622μm,20.4s
AKN IVMs_BB IVMs_BB 20 17 57.4
comp=Z,189μm,20.3s
MOF Molkenrain 80.76 317⇑ *e*P **P 19 39 00.9 +0.2**
TOUF Mont Tournerai 80.80 313⇑ *e*P **P 19 39 01.8 +0.7**
GRYON Gryon 80.82 316⇓ *i*P **P 19 39 00.7 -0.4**
comp=Z,4μm,1.4s
MVIF Mont Vial 80.87 313⇑ *e*P **P 19 39 02.0 +0.6**
WTSB Winterswijk 80.89 321 *e*P **P 19 39 00.5 -0.6**
TORNY Torny/Romont 80.91 316⇓ *i*P **P 19 39 01.1 -0.4**
comp=Z,6μm,1.7s
ODD1 Odda 80.92 329 *e*P P 19 38 57.3 -3.9
SALAN Lac Salanfe 80.92 315⇓ *i*P **P 19 39 01.1 -0.6**
comp=Z,5μm,1.5s
AIGLE Aigle 80.93 316⇓ *i*P **P 19 39 01.3 -0.3**
comp=Z,6μm,2.4s
HINF Hinteralfeld 80.95 317⇓ *i*P **P 19 39 00.4 -1.2**
comp=Z,2μm,1.5s
HINF Hinteralfeld 80.95 317⇓ *i*P **P 19 39 00.4 -1.2**
comp=Z,2μm,1.5s
ABSA Djebel Ababsia 80.97 305 P **P 19 39 01.8 -0.2**
EMV Vieux Emosson 80.98 315⇓ *i*P **P 19 39 01.7 -0.4**
comp=Z,5μm,1.5s
LOMF Lomont 80.98 317⇑ *e*P **P 19 39 02.0 +0.1**
OG22 Abries 80.99 314⇑ *e*P **P 19 39 01.9 -0.2**
CMAH Djebel Manchou 81.00 306 P **P 19 39 01.7 -0.4**
BLS5 Blasjo 81.00 329 *e*P P 19 38 58.3 -3.3
BLS5 IAmb IAmb 19 39 16.4
comp=Z,1μm,1.2s
BLS5 IVmB_BB 19 39 17.3
comp=Z,15μm,2.5s
CALN Calern 81.07 313⇑ *e*P **P 19 39 03.1 +0.6**
SURF Saint Ours 81.09 314⇑ *e*P **P 19 39 03.5 +0.8**
LPG La Plagne 81.10 315⇓ *i*P **P 19 39 02.3 -0.5**
comp=Z,2μm,0.9s
LPG La Plagne 81.10 315⇓ *i*P **P 19 39 02.3 -0.5**
comp=Z,2μm,0.9s
LPL La Plagne 81.11 315⇓ *i*P **P 19 39 02.3 -0.5**
comp=Z,6μm,1.2s
LPL La Plagne 81.11 315⇓ *i*P **P 19 39 02.3 -0.5**
comp=Z,6μm,1.2s
MBDF Montbardon 81.11 314⇓ *i*P **P 19 39 01.6 -1.1**
comp=Z,2μm,1.1s
MBDF Montbardon 81.11 314⇓ *i*P **P 19 39 01.6 -1.1**
comp=Z,2μm,1.1s
OG01 Vacheresse 81.12 316⇑ *e*P **P 19 39 03.3 +0.7**
HYA Hoyanger 81.13 331 *e*P **P 19 39 01.3 -0.9**
BNI Bardonecchia 81.17 314⇓ *e*P **P 19 39 01.7 -1.3**
comp=Z,2μm,1.1s
RSL Roselend 81.18 315⇑ *e*P **P 19 39 03.4 +0.3**
BRANT Les Verrieres 81.24 316⇓ *i*P **P 19 39 02.8 -0.5**
comp=Z,4μm,2.4s
FRF La Foret Royal 81.25 313⇓ *i*P **P 19 39 02.8 -0.5**
comp=Z,9μm,1.5s
FRF La Foret Royal 81.25 313⇓ *i*P **P 19 39 02.8 -0.5**
comp=Z,9μm,1.5s
HAU Haudompre 81.28 317⇓ *i*P **P 19 39 02.5 -0.9**
comp=Z,3μm,1.3s
HAU *e*R
comp=Z,110μm,21.5s
HAU Haudompre 81.28 317⇓ *i*P **P 19 39 02.5 -0.9**
comp=Z,3μm,1.3s
WLF Walferdange 81.36 319 P **P 19 39 03.7 0.0**
comp=Z,1μm,2.4s
WLF Walferdange 81.36 319 *e*P **P 19 39 04.1 +0.4**
comp=Z,246nm,1.2s
WLF Walferdange 81.36 319⇓ *e*P **P 19 39 02.5 -1.2**
comp=Z,2μm,1.4s
WLF LR LR
comp=Z,222μm,20.0s
LMR La Mourre 81.36 313⇓ *i*P **P 19 39 03.4 -0.4**
comp=Z,5μm,1.5s
LMR La Mourre 81.36 313⇓ *i*P **P 19 39 03.4 -0.4**
comp=Z,5μm,1.5s
STAV Stavanger 81.40 328 *e*P **P 19 39 02.4 -1.3**
GIMEL St. Georges / 81.40 316⇓ *i*P **P 19 39 03.8 -0.3**
comp=Z,4μm,1.6s
MEM Membach 81.42 320 P **P 19 39 03.3 -0.7**
comp=Z,410nm,1.8s
MEM Membach 81.42 320 *e*P **P 19 39 03.4 -0.6**
comp=Z,831nm,1.2s
CAEH 'Ain El Ouahch 81.44 306 P **P 19 39 03.5 -1.0**
HGN Heimansgroeve 81.46 320 *e*P **P 19 39 03.5 -0.7**
HGN *e*PP **PP 19 42 15.4 +5.0**
HGN *e*S **S 19 49 10.8 -2.8**
HGN *e*SS SS 19 54 19.6 -11
CABF La Chapelle 81.52 316⇓ *i*P **P 19 39 04.5 -0.2**
comp=Z,8μm,1.7s
CABF La Chapelle 81.52 316⇓ *i*P **P 19 39 04.5 -0.2**
comp=Z,8μm,1.7s
THEF They Montfort 81.52 318⇑ *e*P **P 19 39 04.8 +0.2**
RUND Rundenannen 81.54 330 *e*P **P 19 39 02.7 -1.7**
GDM Grand'Maison 81.56 315⇑ *e*P **P 19 39 05.2 +0.1**
BER Bergen 81.56 330 *e*P P 19 38 57.6 -6.9
BER IVmB_BB 19 39 20.4
comp=Z,17μm,3.5s
BER *e* 19 45 18.7
BER IAMs_20 IAMs_20 20 19 39.2
comp=Z,456μm,18.7s
CKFL Kef-Lekhel 81.57 306 P **P 19 39 05.3 0.0**
BEBN Eben Emael 81.62 320 P **P 19 39 04.4 -0.7**
comp=Z,210nm,2.0s
KMY Karmoy 81.63 329 *e*P **P 19 39 03.5 -1.4**
ASK Askoy 81.63 330 *e*P P 19 38 57.2 -7.6
ASK IAMs_20 IAMs_20 20 19 41.3
comp=Z,392μm,18.6s
FOO Floro 81.68 331 *e*P **P 19 39 03.7 -1.4**
FOO IAmb IAmb 19 39 32.1
comp=Z,2μm,2.8s
FOO IVmB_BB 19 39 32.9
comp=Z,4μm,2.5s
FOO *e* 19 45 24.7
FOO IAMs_20 IAMs_20 20 18 38.3
comp=Z,76μm,19.1s
FOO IVMs_BB IVMs_BB 20 18 42.4
comp=Z,25μm,18.8s
PAGF Fort de Pagny 81.68 318⇓ *i*P **P 19 39 04.7 -0.7**
comp=Z,508nm,1.4s,baz=106
PAGF Fort de Pagny 81.68 318⇓ *i*P **P 19 39 04.7 -0.7**
comp=Z,508nm,1.4s
ORIF Oris-en-Rattie 81.74 314⇓ *i*P **P 19 39 05.2 -0.8**
comp=Z,1μm,1.0s
ORIF *e*R
comp=Z,168μm,20.0s
ORIF Oris-en-Rattie 81.74 314⇓ *i*P **P 19 39 05.2 -0.8**
comp=Z,1μm,1.0s
CASM Ain Smara 81.77 306 P **P 19 39 06.5 +0.3**
GRN Grenoble 81.82 315⇑ *e*P **P 19 39 07.1 +0.7**
SUE Sulen 81.83 331 *e*P **P 19 39 04.8 -1.0**
SUE IVmB_BB 19 39 21.0
comp=Z,16μm,2.8s
SUE IAmb IAmb 19 39 32.6
comp=Z,5μm,2.2s
SUE IAMs_20 IAMs_20 20 18 07.3
comp=Z,342μm,20.5s
SUE IVMs_BB IVMs_BB 20 20 03.4
comp=Z,99μm,17.8s
CTEI Djebel Teioual 81.85 305 P **P 19 39 07.0 +0.3**
BCLA Clavier 81.88 320 P **P 19 39 05.7 -0.7**
comp=Z,380nm,1.7s
SMRF Simiane la Rot 82.01 313⇓ *i*P **P 19 39 07.3 0.0**
comp=Z,5μm,1.4s
SMRF Simiane la Rot 82.01 313⇓ *i*P **P 19 39 07.3 0.0**
comp=Z,5μm,1.4s
MEZF Maizieres J'vi 82.13 318⇓ *i*P **P 19 39 07.1 -0.7**
comp=Z,2μm,1.2s,baz=94
MEZF Maizieres J'vi 82.13 318⇓ *i*P **P 19 39 07.1 -0.7**
comp=Z,2μm,1.2s
SFTF Sexfontaines 82.15 318⇓ *i*P **P 19 39 07.2 -0.7**
comp=Z,5μm,1.4s,baz=104
SFTF Sexfontaines 82.15 318⇓ *i*P **P 19 39 07.2 -0.7**
comp=Z,5μm,1.4s
OG26 St.-Nazaire-De 82.17 314⇑ *e*P **P 19 39 09.3 +1.1**
GIVF Givet 82.20 320⇓ *i*P **P 19 39 07.4 -0.7**

GIVF **Givet** 82.20 320 ⇓ *i*P P 19 39 07.4 -0.7
comp=Z,2µm,1.5s
DFRA **Djebel Bou Aff** 82.24 306 P P 19 39 09.1 +0.3
DOU **Dourbes** 82.34 320 P P 19 39 08.2 -0.7
comp=Z,418nm,1.7s
UCC **Uccle** 82.46 320 P P 19 39 08.5 -0.9
UCC **Uccle** 82.46 320 *e*P P 19 39 09.3 -0.1
comp=Z,3µm,2.5s
SNF **Seneffe** 82.52 320 P P 19 39 09.1 -0.7
CKHR **Kef el Ahmar** 82.57 305 P P 19 39 10.9 +0.3
BAIF **Baives** 82.60 320 ⇓ *i*P P 19 39 09.7 -0.5
comp=Z,2µm,1.2s
BAIF **Baives** 82.60 320 ⇓ *i*P P 19 39 09.7 -0.5
comp=Z,2µm,1.2s
VIVF **Saint-Julien-l** 82.60 314 ⇓ *i*P P 19 39 09.9 -0.5
comp=Z,3µm,1.5s
VIVF **Saint-Julien-l** 82.60 314 ⇓ *i*P P 19 39 09.9 -0.5
comp=Z,3µm,1.5s
SET **Setif** 82.65 306 P P 19 39 11.0 +0.1
SSB **Saint Sauveur** 82.67 315 ⇓ *e*P P 19 39 09.9 -0.9
comp=Z,1µm,1.3s
SSB LR LR
comp=Z,92µm,19.0s
LOR **Lormes** 83.00 317 ⇓ *i*P P 19 39 11.6 -0.8
comp=Z,4µm,1.5s,baz=88
LOR *e*R
comp=Z,64µm,21.5s
LOR **Lormes** 83.00 317 ⇓ *i*P P 19 39 11.6 -0.8
comp=Z,4µm,1.5s
SMF **Signal de Mont** 83.06 316 ⇓ *i*P P 19 39 11.8 -0.9
comp=Z,2µm,1.4s
SMF **Signal de Mont** 83.06 316 ⇓ *i*P P 19 39 11.8 -0.9
comp=Z,2µm,1.4s
LASF **Ste Croix** 83.24 313 ⇓ *i*P P 19 39 13.6 -0.1
comp=Z,4µm,1.4s
LASF **Ste Croix** 83.24 313 ⇓ *i*P P 19 39 13.6 -0.1
comp=Z,4µm,1.4s
COLF **Collangettes** 83.24 315 ⇑ *e*P P 19 39 14.3 +0.6
SSF **Saint Saulge** 83.26 317 ⇓ *i*P P 19 39 13.0 -0.7
comp=Z,2µm,1.5s
SSF **Saint Saulge** 83.26 317 ⇓ *i*P P 19 39 13.0 -0.7
comp=Z,2µm,1.5s
PLDF **La Plantade** 83.26 315 ⇑ *e*P P 19 39 15.3 +1.5
MCQ **Macquarie Isla** 83.36 147 *e*P P 19 39 17.8 +3.9
comp=Z,14µm,1.2s
MCQ LR LR
comp=Z,1302µm,20.0s
AVF **Avril sur Loir** 83.39 316 ⇓ *i*P P 19 39 13.5 -0.8
comp=Z,2µm,1.4s
AVF **Avril sur Loir** 83.39 316 ⇓ *i*P P 19 39 13.5 -0.8
comp=Z,2µm,1.4s
LBL **Lubilhac** 83.58 315 ⇑ *e*P P 19 39 17.4 +1.9
AGO **Saint Agoulin** 83.60 316 ⇑ *e*P P 19 39 17.1 +1.6
PYM **Petit Puy Mans** 83.71 315 ⇑ *e*P P 19 39 17.6 +1.5
TAM **Tamanrasset** 83.73 292 ⇓ *e*P P 19 39 17.7 +0.9
comp=Z,2µm,1.4s
TAM *e*PP PP 19 42 23.4 -6.7
TAM LR LR
comp=Z,287µm,20.0s
BGF **Bois d'Agland** 83.75 316 ⇓ *i*P P 19 39 15.8 -0.5
comp=Z,4µm,1.6s
BGF **Bois d'Agland** 83.75 316 ⇓ *i*P P 19 39 15.8 -0.5
comp=Z,4µm,1.6s
HYF **Humbligny** 83.83 317 ⇓ *i*P P 19 39 16.4 -0.3
HYF **Humbligny** 83.83 317 ⇓ *i*P P 19 39 16.4 -0.3
TCF **Toulx Ste Croi** 84.21 316 ⇓ *i*P P 19 39 18.2 -0.5
comp=Z,2µm,1.4s
TCF **Toulx Ste Croi** 84.21 316 ⇓ *i*P P 19 39 18.2 -0.5
comp=Z,2µm,1.4s
LRDF **Laroque-de-Fa** 84.29 312 ⇑ *e*P P 19 39 19.9 +0.8
FILF **Fillols** 84.31 312 ⇑ *e*P P 19 39 20.3 +1.0
CAF **Calviac** 84.44 314 ⇓ *i*P P 19 39 19.7 -0.2
comp=Z,2µm,1.6s
CAF **Calviac** 84.44 314 ⇓ *i*P P 19 39 19.7 -0.2
comp=Z,2µm,1.6s
ELSH **Elham, Standar** 84.46 321 *e*P P 19 39 17.1 -2.6
MTLF **Montolieu** 84.48 313 ⇓ *i*P P 19 39 19.8 -0.3
comp=Z,3µm,1.5s
MTLF **Montolieu** 84.48 313 ⇓ *i*P P 19 39 19.8 -0.3
comp=Z,3µm,1.5s
ABA **Alger-Bouzarea** 84.50 306 P P 19 39 20.5 +0.2
EMHD **Djebel Mahouad** 84.62 306 P P 19 39 22.1 +1.0
CARF **Carcanieres** 84.63 312 ⇑ *e*P P 19 39 21.4 +0.5
YEL1 **Yell** 84.72 330 *e*P P 19 39 19.9 -1.0
VALF **Valcebollere** 84.72 312 ⇑ *e*P P 19 39 22.6 +1.1
ADK **Adak** 84.73 38 ⇓ *e*P P 19 39 18.9 -2.1
comp=Z,1µm,1.2s
ADK *e* 19 50 21.5
ADK LR LR
comp=Z,125µm,21.0s
SYO **Syowa Base** 84.75 197 ⇓ *i*P P 19 39 21.0 +0.3
RJF **Les Rejaudoux** 84.79 315 ⇓ *i*P P 19 39 21.4 -0.2
comp=Z,3µm,1.4s
RJF *e*R
comp=Z,97nm,21.0s
RJF **Les Rejaudoux** 84.79 315 ⇓ *i*P P 19 39 21.4 -0.2
comp=Z,3µm,1.4s
LRW **Lerwick** 84.81 330 *e*P P 19 39 21.5 +0.2
LRW AMB AMB 19 39 35.8
comp=Z,852nm,2.6s
SAN1 **Sandwick** 84.86 330 *e*P P 19 39 18.7 -2.9
HMNX **Herstmonceux** 85.00 321 *e*P P 19 39 21.1 -1.3
HMNX AMB AMB 19 39 27.4
comp=Z,815nm,1.8s
GSTR **Great Sitkin T** 85.09 38 ⇓ *e*P P 19 39 22.1 -0.9
comp=Z,733nm,1.1s
LMK **Market Rasen** 85.11 323 *e*P P 19 39 21.4 -1.5
LMK AMB AMB 19 39 31.1
comp=Z,3µm,2.1s
SALF **Salau** 85.29 312 ⇑ *e*P P 19 39 24.9 +0.7
DCZ **Deep Cove** 85.32 137 PN P 19 39 25.1 +1.1
DCZ **Deep Cove** 85.32 137 *e*P P 19 39 24.9 +0.9
comp=Z,757nm,1.0s
DCZ LR LR
comp=Z,135µm,22.0s
MLS **Moulis** 85.34 313 ⇑ *e*P P 19 39 24.4 0.0
LFF **La Frestale** 85.38 315 ⇓ *i*P P 19 39 24.4 -0.1
comp=Z,3µm,1.4s
LFF **La Frestale** 85.38 315 ⇓ *i*P P 19 39 24.4 -0.1
comp=Z,3µm,1.4s
LDF **La Druitiere** 85.55 318 ⇓ *i*P P 19 39 24.4 -0.9
comp=Z,2µm,1.2s
LDF **La Druitiere** 85.55 318 ⇓ *i*P P 19 39 24.4 -0.9
comp=Z,2µm,1.2s
MELF **Melles** 85.60 313 ⇑ *e*P P 19 39 26.8 +1.1
MSZ **Milford Sound** 85.63 136 PN P 19 39 26.2 +0.6
LCP **Cassop** 85.63 325 *e*P P 19 39 24.6 -0.9
EBNR **Beni Rached** 85.75 306 P P 19 39 28.0 +1.4
FLN **La Foliniere** 85.76 318 ⇓ *i*P P 19 39 25.5 -0.8
comp=Z,2µm,1.3s,baz=82
FLN *e*R
comp=Z,264µm,21.0s
FLN **La Foliniere** 85.76 318 ⇓ *i*P P 19 39 25.5 -0.8
comp=Z,2µm,1.3s
MFF **Saint Martin d** 85.80 316 ⇓ *i*P P 19 39 25.7 -0.9
comp=Z,2µm,1.3s
MFF **Saint Martin d** 85.80 316 ⇓ *i*P P 19 39 25.7 -0.9
comp=Z,2µm,1.3s
GAMB **Gambell** 85.82 26 *e*P P 19 39 26.9 +0.7
comp=Z,2µm,1.2s
GAMB LR LR
comp=Z,298µm,20.0s
HPK **Haverah Park** 85.82 324 *e*P P 19 39 24.3 -2.2
HPK AMB AMB 19 39 31.6
comp=Z,1µm,1.5s
EPF **Esparros** 85.88 313 ⇓ *i*P P 19 39 26.2 -0.9
comp=Z,1µm,1.6s
EPF **Esparros** 85.88 313 ⇓ *i*P P 19 39 26.2 -0.9
comp=Z,1µm,1.6s
ECHA **Ech Chlef** 85.90 306 P P 19 39 28.8 +1.5
DRUM **Mains of Drumt** 85.91 327 *e*P P 19 39 25.7 -1.2
RESF **Ens** 85.91 312 ⇑ *e*P P 19 39 28.2 +0.8
WOL **Wolverton** 85.92 321 *e*P P 19 39 26.3 -0.7
WOL AMB AMB 19 39 32.2
comp=Z,2µm,1.6s
WHZ **Wether Hill Ro** 85.97 137 PN P 19 39 27.1 -0.2
WHZ **Wether Hill Ro** 85.97 137 ⇑ *e*P P 19 39 26.9 -0.4
comp=Z,849nm,1.0s
WHZ LR LR
comp=Z,194µm,22.0s
LHO **Holmfirth** 86.01 323 *e*P P 19 39 26.4 -1.1
JMIC **Jan Mayen** 86.03 341 ⇓ *i*P P 19 39 28.0 +0.8
JMIC IAMs_20 IAMs_20 20 18 59.5
comp=Z,214µm,21.7s
ETRT **Tiaret** 86.04 305 P P 19 39 28.9 +0.7

JCZ **Jackson Bay** 86.05 135 PN P 19 39 27.9 +0.1
JCZ PP PP 19 42 50.3 +1.9
GRR **Gorron** 86.06 318 ⇓ *i*P P 19 39 26.9 -0.9
comp=Z,1µm,1.4s
GRR **Gorron** 86.06 318 ⇓ *i*P P 19 39 26.9 -0.9
comp=Z,1µm,1.4s
LABF **Labassere** 86.08 313 ⇑ *e*P P 19 39 29.2 +1.1
MME1 **Meikle Cairn** 86.11 327 *e*P P 19 39 26.7 -1.2
ESY **Stoneypath** 86.12 326 *e*P P 19 39 26.0 -1.9
VIEF **Viey** 86.13 316 ⇑ *e*P P 19 39 29.3 +0.9
EANR **'Ain N'Sour** 86.14 306 P P 19 39 29.2 +0.6
MLA1 **Latheron** 86.17 328 *e*P P 19 39 26.8 -1.3
ATKA **Atka Island** 86.22 38 *e*P P 19 39 29.3 +0.8
comp=Z,152nm,0.9s
MCD **Coleburn Disti** 86.22 327 *e*P P 19 39 26.6 -1.8
APZ **The Paps** 86.24 138 *e*PN P 19 39 29.2 +0.5
EDU **Dundee** 86.25 326 *e*P P 19 39 26.0 -2.5
SWN1 **Swindon** 86.25 321 *e*P P 19 39 27.8 -0.9
SWN1 AMB AMB 19 39 33.8
comp=Z,2µm,1.6s
STNC **Stoke** 86.28 323 *e*P P 19 39 27.8 -1.0
STNC AMB AMB 19 39 37.2
comp=Z,2µm,1.9s
EBL **Broad Law** 86.38 326 *e*P P 19 39 26.1 -3.2
REYF **Montagne du Re** 86.41 313 ⇑ *e*P P 19 39 30.5 +0.7
WKZ **Wanaka** 86.42 136 PN P 19 39 30.4 +0.7
WKZ PP PP 19 42 43.7 -7.7
BIGH **Upper Bighouse** 86.43 328 *e*P P 19 39 27.8 -1.6
EDI **Edinburgh** 86.44 326 PFAKE 19 39 40.0 +11
EDI LR LR
comp=Z,201µm,19.0s
STRD **Stroud** 86.44 322 *e*P P 19 39 28.3 -1.3
STRD AMB AMB 19 39 37.3
comp=Z,2µm,2.0s
OJGS **Djebel Guires** 86.48 305 P P 19 39 31.0 +0.7
OKGL **Djebel Kef Gue** 86.50 306 P P 19 39 31.5 +1.2
EKA **Eskdalemuir Ar** 86.51 325 PKKPbc PKKPbc 19 57 29.0 +0.9
comp=Z,6.3nm,0.9s,baz=270,slow=2.2,SNR=6.5
ECK **Cauldkaine Hil** 86.51 325 *e*P P 19 39 28.2 -1.7
ESK **Eskdalemuir** 86.54 325 P P 19 39 29.3 -0.7
comp=Z,2µm,1.5s,SNR=51
ESK **Eskdalemuir** 86.54 325 *e*P P 19 39 27.3 -2.7
ESK **Eskdalemuir** 86.54 325 *i* P P 19 39 29.9 -0.1
ESK **Eskdalemuir** 86.54 325 ⇓ *e*P P 19 39 29.2 -0.8
comp=Z,734nm,1.0s
ESK LR LR
comp=Z,277µm,21.0s
ETSF **Etsaut** 86.55 313 ⇓ *i*P P 19 39 30.4 -0.1
comp=Z,876nm,1.0s
ETSF **Etsaut** 86.55 313 ⇓ *i*P P 19 39 30.4 -0.1
comp=Z,876nm,1.0s
BATH **Bath** 86.59 321 *e*P P 19 39 26.4 -3.9
KESW **Keswick, Cumbr** 86.59 324 *e*P P 19 39 28.3 -2.0
KESW AMB AMB 19 39 38.4
comp=Z,816nm,2.1s
MVH1 **Achvaich** 86.66 328 *e*P P 19 39 26.8 -3.7
EAZ **Earnscleugh** 86.72 136 *e*PN P 19 39 31.1 +0.1
HLM1 **Long Mynd** 86.77 322 *e*P P 19 39 29.8 -1.4
HLM1 AMB AMB 19 39 36.3
comp=Z,859nm,1.7s
ORDF **Ordiarp** 86.79 313 ⇑ *e*P P 19 39 31.8 +0.3
JSA **Saint Aubin** 86.81 319 *e*P P 19 39 29.6 -1.9
JSA AMB AMB 19 39 36.1
comp=Z,536nm,1.5s
MONM **Monmouth** 86.82 322 *e*P P 19 39 29.9 -1.5
MONM AMB AMB 19 39 40.2
comp=Z,1µm,3.9s
MDO **Dochfour** 86.84 327 *e*P P 19 39 30.2 -1.2
LARF **Larrau** 86.85 313 ⇑ *e*P P 19 39 33.0 +1.1
FOEL **Foel Wylfa** 86.91 323 *e*P P 19 39 30.4 -1.5
FOEL AMB AMB 19 39 37.1
comp=Z,804nm,1.8s
MCH1 **Michaelchurch** 86.92 322 *e*P P 19 39 29.4 -2.5
MCH1 AMB AMB 19 39 41.0
comp=Z,933nm,3.3s
SYZ **Scrubby Hill** 86.93 138 PN P 19 39 32.2 +0.2
MIDW **Midway** 86.93 62 ⇑ *e*P P 19 39 32.2 -0.3
comp=Z,614nm,1.1s
MIDW LR LR
comp=Z,67µm,22.0s
SJPF **Ste Jean** 87.01 313 ⇓ *i*P P 19 39 32.5 -0.1
comp=Z,645nm,1.0s
SJPF **Ste Jean** 87.01 313 ⇓ *i*P P 19 39 32.5 -0.1
comp=Z,645nm,1.0s
OSSF **Osses** 87.02 313 ⇑ *e*P P 19 39 32.7 +0.1
GCD **Castle Douglas** 87.03 325 *e*P P 19 39 30.5 -1.9
EAB **Aberfoyle** 87.03 326 *e*P P 19 39 30.0 -2.4
DAG **Danmarks Havn** 87.03 348 *i* P P 19 39 30.7 -1.3
comp=Z,406nm,1.0s
comp=Z,345µm,25.0s
DAG **Danmarks Havn** 87.03 348 *i* P P 19 39 30.7 -1.3
DAG pmax pmax
comp=Z,410nm,1.0s
DAG MLR MLR
comp=Z,420µm,25.0s
TNA **Tin City** 87.08 24 *e*P P 19 39 32.3 -0.1
comp=Z,1µm,1.2s
TNA LR LR
comp=Z,201µm,18.0s
LBZ **Lake Benmore** 87.12 135 PN P 19 39 32.6 -0.4
TUZ **Tuapeka** 87.12 137 *e*PN P 19 39 33.3 +0.4
PGBU **Glenifferbraes** 87.17 326 *e*P P 19 39 31.2 -1.9
PGBU AMB AMB 19 39 42.4
comp=Z,1µm,3.5s
WVZ **Waitaha Valley** 87.20 134 PN P 19 39 33.0 -0.4
SGMF **Saint Gilles** 87.20 318 ⇓ *i*P P 19 39 32.6 -0.8
comp=Z,3µm,1.9s
SGMF **Saint Gilles** 87.20 318 ⇓ *i*P P 19 39 32.6 -0.8
comp=Z,3µm,1.9s
ODJA **Bouhanifia** 87.23 305 P P 19 39 32.0 -1.9
WPM1 **Penmaenmawr** 87.27 323 *e*P P 19 39 32.2 -1.4
KAC **Achnashellach** 87.32 328 *e*P P 19 39 32.5 -1.3
KSB **Sheil Bridge** 87.44 327 *e*P P 19 39 31.7 -2.6
GAL1 **Galloway** 87.46 325 *e*P P 19 39 33.0 -1.5
GAL1 AMB AMB 19 39 42.7
comp=Z,804nm,1.8s
WME **Myndd Eilian** 87.48 323 *e*P P 19 39 33.5 -1.1
USTO **Oran** 87.50 306 P P 19 39 40.0 +4.9
KPL **Plockton** 87.54 327 *e*P P 19 39 33.8 -1.0
LPW **Lampeter** 87.55 322 *e*P P 19 39 33.6 -1.3
LPW AMB AMB 19 39 43.3
comp=Z,1µm,2.0s
WLF1 **Llynfaes** 87.55 323 *e*P P 19 39 34.5 -0.5
WLF1 AMB AMB 19 39 40.4
comp=Z,1µm,1.6s
HEX **Exmoor** 87.56 321 *e*P P 19 39 32.8 -2.3
RPZ **Rata Peaks** 87.57 135 PN P 19 39 35.1 -0.2
RPZ PP PP 19 42 58.3 -2.3
RPZ **Rata Peaks** 87.57 135 ⇑ *e*P P 19 39 35.1 -0.2
comp=Z,2µm,1.1s
RPZ LR LR
comp=Z,210µm,21.0s
ODZ **Otahua Downs** 87.59 136 ⇑ *i*P P 19 39 35.3 0.0
comp=Z,265nm,1.2s
ODZ *e*PP PP 19 42 58.1 -2.6
YRE **Yr Eifl** 87.62 323 *e*P P 19 39 33.8 -1.5
QUIF **Quistinic** 87.66 318 ⇓ *i*P P 19 39 34.5 -1.1
comp=Z,2µm,1.8s
QUIF **Quistinic** 87.66 318 ⇓ *i*P P 19 39 34.5 -1.1
comp=Z,2µm,1.8s
ROSF **Rostrenen** 87.66 318 ⇓ *i*P P 19 39 34.7 -0.9
comp=Z,1µm,1.4s
ROSF **Rostrenen** 87.66 318 ⇓ *i*P P 19 39 34.7 -0.9
comp=Z,1µm,1.4s
YRC **Rhoscolyn** 87.66 323 *e*P P 19 39 35.0 -0.5
DSZ **Denniston Nort** 87.67 133 PN P 19 39 35.8 0.0
SPIA **Saint Paul Isl** 87.67 33 *e*P P 19 39 36.9 +1.5
comp=Z,6µm,1.6s
SPIA LR LR
comp=Z,142µm,20.0s
OUZ **Omahuta** 87.71 126 *e*PN P 19 39 37.8 +1.7
OUZ **Omahuta** 87.71 126 ⇑ *i*P P 19 39 37.0 +1.0
comp=Z,1µm,1.2s
OUZ LR LR
comp=Z,236µm,22.0s
DYA **Yadsworthy** 87.75 320 *e*P P 19 39 33.6 -2.3
DYA **Yadsworthy** 87.75 320 *e*P P 19 39 36.2 +0.2
comp=Z,1µm,1.2s
HTL **Hartland** 88.00 321 *e*P P 19 39 35.5 -1.6
HTL AMB AMB 19 39 46.5
comp=Z,1µm,3.4s
QRZ **Quartz Range** 88.01 131 PN P 19 39 37.2 -0.2
OXZ **Oxford** 88.18 134 PN P 19 39 37.5 -0.6
LTZ **Lake Taylor** 88.23 133 PN P 19 39 39.0 +0.5

OLHC **Oulhaca** 88.27 305 P P 19 39 32.0 -6.9
GMM **Mts of Mourne** 88.29 324 *e*P P 19 39 37.4 -1.1
WCZ **Waipu Caves** 88.44 126 PN P 19 39 40.9 +1.4
THZ **Tophouse** 88.48 132 PN P 19 39 38.9 -0.8
THZ PP PP 19 43 09.1 +1.1
TOA0 **Torodi Ar. Sit** 88.49 283 *e*P P 19 39 38.6 -1.6
TORD **Torodi Ar. Bea** 88.49 283 P P 19 39 40.1 -0.1
comp=Z,63nm,0.9s,baz=86,slow=3.8,SNR=146
TORD PKKPbc PKKPbc 19 57 22.7 +0.7
comp=Z,6.3nm,0.5s,baz=302,slow=2.7,SNR=11
TORD PKPPKP P'P'df 20 05 33.5 +1.2
comp=Z,5.2nm,1.2s,baz=250,slow=2.0,SNR=4.6
TORD LR LR 20 17 15.9
comp=Z,122µm,20.0s,baz=85,slow=34
MSVF **Nonsavu** 88.67 108 ⇑ *e*P P 19 39 42.3 +1.2
comp=Z,2µm,1.4s
MSVF LR LR
comp=Z,73µm,22.0s
MQZ **McQueen's Vall** 88.70 134 *e*PN P 19 39 41.7 +1.1
DSB **Dublin** 88.73 324 *e*P P 19 39 39.2 -1.3
comp=Z,176nm,0.9s
DSB LR LR
comp=Z,124µm,21.0s
WTAZ **Waiatarua** 88.81 127 *e*PN P 19 39 43.2 +2.0
ALE **Alert** 89.01 357 P P 19 39 41.0 -0.4
comp=Z,3µm,1.2s,SNR=97
KHZ **Kahutara** 89.07 133 PN P 19 39 42.2 -0.1
KHZ **Kahutara** 89.07 133 ⇓ *e*P P 19 39 40.8 -1.6
comp=Z,2µm,1.5s
KHZ LR LR
comp=Z,172µm,20.0s
NIKH **Nikolski High** 89.29 37 *e*P P 19 39 42.4 -0.8
comp=Z,5µm,1.6s
MKAZ **Moumakai** 89.31 127 *e*PN P 19 39 44.9 +1.4
HIZ **Hauiti** 89.32 129 PN P 19 39 44.1 +0.5
ES19 **SONSECA Array** 89.52 310 *e*P P 19 39 44.6 -0.1
ESDC **Sonseca Array** 89.57 310 P P 19 39 44.8 -0.2
comp=Z,129nm,0.8s,baz=60,slow=4.4,SNR=200
ESDC PKKPbc PKKPbc 19 57 21.5 +1.4
comp=Z,1.9nm,0.8s,baz=290,slow=2.2,SNR=4.2
ESDC PKPPKP P'P'df 20 05 31.6 +1.9
comp=Z,2.6nm,1.1s,baz=316,slow=3.5,SNR=4.6
ESDC LR LR 20 23 21.6
comp=Z,64µm,21.4s,baz=75,slow=38
ESLA **Sonseca Array** 89.57 310 ⇓ *e*P P 19 39 44.2 -0.7
WAZ **Wanganui** 89.64 130 *e*PN P 19 39 45.5 +0.3
SNZO **South Karori** 89.72 132 *e*P P 19 39 46.2 +0.9
comp=Z,1µm,1.4s
SNZO *e*PP PP 19 43 14.4 -3.4
SNZO LR LR
comp=Z,170µm,22.0s
TWVZ **Taurewa** 89.86 129 *e*PN P 19 39 46.3 0.0
PAB **San Pablo** 89.89 310 ⇓ *e*P P 19 39 45.7 -0.7
comp=Z,762nm,1.3s
PAB LR LR
comp=Z,102µm,20.0s
COVZ **Chateau Observ** 89.97 129 PN P 19 39 46.8 +0.1
FWVZ **Far West T-bar** 89.98 130 PN P 19 39 47.0 0.0
KRVZ **Karewarewa** 90.03 129 *e*PN P 19 39 46.7 -0.3
PLWZ **Palliser** 90.17 132 *e*PN P 19 39 47.1 -0.5
UNV **Unalaska Valle** 90.47 35 *e*P P 19 39 48.0 -0.6
comp=Z,1µm,1.6s
UNV LR LR
comp=Z,124µm,21.0s
BKZ **Black Stump Fm** 90.69 129 PN P 19 39 49.2 -0.9
BKZ **Black Stump Fm** 90.69 129 *e*P P 19 39 49.6 -0.5
comp=Z,676nm,1.0s
BKZ LR LR
comp=Z,206µm,21.0s
BFZ **Birch Farm** 90.75 131 *e*P P 19 39 50.8 +0.6
comp=Z,3µm,1.8s
BFZ LR LR
comp=Z,222µm,21.0s
AKUT **Akutan** 90.81 35 *e*P P 19 39 49.5 -0.8
URZ **Urewera** 91.02 128 PN P 19 39 50.6 -0.9
URZ PP PP 19 43 28.7 +0.4
URZ **Urewera** 91.02 128 *e*P P 19 39 50.2 -1.4
comp=Z,597nm,0.9s
URZ LR LR
comp=Z,206µm,21.0s
PBRG **Braganca** 91.25 312 ⇓ *i*P P 19 39 52.8 +0.1
comp=Z,981nm,1.6s
PBRG **Braganca** 91.25 312 *e*PP PP 19 43 30.3 +0.4
PBRG **Braganca** 91.25 312 ⇓ *i*P P 19 39 52.8 +0.1
comp=Z,981nm,1.6s
PBRG **Braganca** 91.25 312 *e*PP PP 19 43 30.3 +0.4
MDT **Midelt** 91.27 303 PKPPKP P'P'df 20 05 25.0 -1.9
comp=Z,2.7nm,1.0s,baz=229,slow=4.2,SNR=3.9
VAL **Valentia** 91.32 323 *e*P P 19 39 52.4 -0.2
VAL *e*PP PP 19 43 31.1 +1.2
VAL **Valentia** 91.32 323 ⇓ *i*S S 19 50 59.3 +10
MWZ **Matawai** 91.36 128 *e*PN P 19 39 52.2 -1.0
HAZ **Te Kaha** 91.47 128 PN P 19 39 52.8 -0.8
MVO **Moncorvo** 91.59 312 ⇓ *i*P P 19 39 54.6 +0.3
comp=Z,1µm,1.5s
MVO **Moncorvo** 91.59 312 *e*PP PP 19 43 33.6 +1.0
MVO *e*SKSac **SKSac** 19 50 24.4 -0.6
MVO *e*S **ScS** 19 50 56.1 +0.8
MVO *e*SS **SS** 19 57 01.8 +2.6
MVO *e*LQ LQ 20 03 32.7
MVO **Moncorvo** 91.59 312 *e*LR LR 20 19 32.3
comp=Z,77µm,18.0s
MVO **Moncorvo** 91.59 312 ⇓ *i*P P 19 39 54.6 +0.3
comp=Z,1µm,1.5s
MVO **Moncorvo** 91.59 312 *e*PP PP 19 43 33.6 +1.0
MVO *e*SKSac **SKSac** 19 50 24.4 -0.6
MVO *e*S **ScS** 19 50 56.1 +0.8
MVO *e*SS **SS** 19 57 01.8 +2.6
MVO *e*LQ LQ 20 03 32.7
MVO **Moncorvo** 91.59 312 *e*LR LR 20 19 32.3
comp=Z,77µm,18.0s
TWGZ **Tauwhareparae** 91.69 128 *e*PN P 19 39 54.0 -0.7
PUZ **Puketiti** 91.89 128 PN P 19 39 55.3 -0.3
FALS **False Pass** 91.95 34 *e*P P 19 39 55.6 +0.1
comp=Z,882nm,1.5s
PVRL **Vila Real** 92.08 312 *e*P P 19 39 57.3 +0.8
comp=Z,985nm,1.5s
PVRL **Vila Real** 92.08 312 *e*PP PP 19 43 40.4 +4.0
PVRL **Vila Real** 92.08 312 *e*P P 19 39 57.3 +0.8
comp=Z,985nm,1.5s
PVRL **Vila Real** 92.08 312 *e*PP PP 19 43 40.4 +4.0
POLO **Lamas de Olo** 92.11 312 ⇓ *i*P P 19 39 56.8 0.0
comp=Z,519nm,1.7s
POLO **Lamas de Olo** 92.11 312 *e*PP PP 19 43 38.8 +2.1
POLO **Lamas de Olo** 92.11 312 ⇓ *i*P P 19 39 56.8 0.0
comp=Z,519nm,1.7s
POLO **Lamas de Olo** 92.11 312 *e*PP PP 19 43 38.8 +2.1
PCBR **Castelo Branco** 92.20 311 ⇓ *i*P P 19 39 57.4 +0.4
comp=Z,1µm,1.4s
PCBR **Castelo Branco** 92.20 311 *e*PP PP 19 43 40.8 +3.5
PCBR **Castelo Branco** 92.20 311 ⇓ *i*P P 19 39 57.4 +0.4
comp=Z,1µm,1.4s
PCBR **Castelo Branco** 92.20 311 *e*PP PP 19 43 40.8 +3.5
PBAR **Barrancos** 92.21 309 ⇓ *i*P P 19 39 57.4 +0.3
comp=Z,4µm,1.5s
PBAR **Barrancos** 92.21 309 *e*PP PP 19 43 39.3 +1.9
PBAR **Barrancos** 92.21 309 ⇓ *i*P P 19 39 57.4 +0.3
comp=Z,4µm,1.5s
PBAR **Barrancos** 92.21 309 *e*PP PP 19 43 39.3 +1.9
PCAB **Cabril** 92.21 312 *e*P P 19 39 57.4 +0.3
comp=Z,1µm,1.7s
PCAB **Cabril** 92.21 312 *e*PP PP 19 43 38.0 +0.6
PCAB **Cabril** 92.21 312 *e*P P 19 39 57.4 +0.3
comp=Z,1µm,1.7s
PCAB **Cabril** 92.21 312 *e*PP PP 19 43 38.0 +0.6
PMRV **Marv??o** 92.22 310 ⇓ *i*P P 19 39 57.2 0.0
comp=Z,1µm,1.5s
PMRV **Marv??o** 92.22 310 *e*PP PP 19 43 38.3 +0.8
PMRV *e*SKSac **SKSac** 19 50 27.2 -1.3
PMRV *e*S **S** 19 50 57.7 -0.5
PMRV *e*SS **SS** 19 57 07.1 -1.2
PMRV *e*LQ LQ 20 04 06.5
PMRV **Marv??o** 92.22 310 *e*LR LR 20 21 24.6
comp=Z,80µm,20.0s
PMRV **Marv??o** 92.22 310 ⇓ *i*P P 19 39 57.2 0.0
comp=Z,1µm,1.5s
PMRV **Marv??o** 92.22 310 *e*PP PP 19 43 38.3 +0.8
PMRV *e*SKSac **SKSac** 19 50 27.2 -1.3
PMRV *e*S **S** 19 50 57.7 -0.5
PMRV *e*SS **SS** 19 57 07.1 -1.2
PMRV *e*LQ LQ 20 04 06.5
PMRV **Marv??o** 92.22 310 *e*LR LR 20 21 24.6
comp=Z,80µm,20.0s
PVIS **Viseu** 92.33 311 *e*P P 19 39 58.5 +0.8
comp=Z,1µm,1.7s

PVIS	Viseu	92.33	311	*e*PP	PP	19 43 40.4	+2.0
PVIS	Viseu	92.33	311	*e*P	P	19 39 58.5	+0.8
	comp=Z,1μm,1.7s						
PVIS	Viseu	92.33	311	*e*PP	PP	19 43 40.4	+2.0
PGAV	Gavieira, Arco	92.34	313⇓	*i*P	P	19 39 57.9	+0.1
	comp=E,801nm,1.6s						
PGAV	Gavieira, Arco	92.34	313	*e*PP	PP	19 43 39.8	+1.3
PGAV				*e*SKSac	SKSac	19 50 28.0	-1.2
PGAV				*e*S	ScS	19 51 02.6	+1.1
PGAV				*e*SS	SS	19 57 15.2	+5.3
PGAV				*e*LQ	LQ	20 04 04.0	
PGAV	Gavieira, Arco	92.34	313	*e*LR	LR	20 15 54.4	
	comp=Z,90μm,20.0s						
PGAV	Gavieira, Arco	92.34	313⇓	*i*P	P	19 39 57.9	+0.1
	comp=E,801nm,1.6s						
PGAV	Gavieira, Arco	92.34	313	*e*PP	PP	19 43 39.8	+1.3
PGAV				*e*SKSac	SKSac	19 50 28.0	-1.2
PGAV				*e*S	ScS	19 51 02.6	+1.1
PGAV				*e*SS	SS	19 57 15.2	+5.3
PGAV				*e*LQ	LQ	20 04 04.0	
PGAV	Gavieira, Arco	92.34	313	*e*LR	LR	20 15 54.4	
	comp=Z,90μm,20.0s						
IM04	Indian Mountai	92.46	22	*e*P	P	19 39 56.9	-0.8
IM04				*e*P'P'df	P'P'df	20 05 22.5	-0.7
PESTR	Estremoz	92.49	310⇓	*i*P	P	19 39 58.2	-0.2
	comp=E,640nm,1.8s						
PESTR	Estremoz	92.49	310	*e*PP	PP	19 43 41.7	+2.0
PESTR	Estremoz	92.49	310⇓	*i*P	P	19 39 58.2	-0.2
	comp=E,640nm,1.8s						
PESTR	Estremoz	92.49	310	*e*PP	PP	19 43 41.7	+2.0
BORG	Borgarnes	92.60	337	*e*P	P	19 39 56.9	-1.4
	comp=E,468nm,1.4s						
BORG				LR	LR		
	comp=Z,190μm,20.0s						
PTO	Porto	92.76	312	*e*P	P	19 40 01.1	+1.5
	comp=Z,1μm,1.6s						
PTO	Porto	92.76	312	*e*P	P	19 40 01.1	+1.5
	comp=Z,1μm,1.6s						
EVO	Evora	92.88	309⇓	*i*P	P	19 40 00.6	+0.3
EVO				*e*R			
	comp=Z,165μm,22.0s						
EVO	Evora	92.88	309⇓	*i*P	P	19 40 00.5	+0.3
	comp=E,499nm,1.6s						
EVO	Evora	92.88	309	*e*PP	PP	19 43 42.2	-0.5
EVO	Evora	92.88	309⇓	*i*P	P	19 40 00.5	+0.3
	comp=E,499nm,1.6s						
EVO	Evora	92.88	309	*e*PP	PP	19 43 42.2	-0.5
PVAQ	Vaqueiros	92.89	308⇓	*i*P	P	19 40 00.6	+0.3
	comp=Z,2μm,1.6s						
PVAQ	Vaqueiros	92.89	308	*e*PP	PP	19 43 46.4	+3.6
PVAQ				*e*SKSac	SKSac	19 50 30.3	-2.0
PVAQ				*e*S	S	19 51 02.7	-1.5
PVAQ				*e*SS	SS	19 57 20.9	+3.0
PVAQ				*e*LQ	LQ	20 04 56.3	
PVAQ	Vaqueiros	92.89	308	*e*LR	LR	20 18 27.0	
	comp=Z,97μm,18.0s						
PVAQ	Vaqueiros	92.89	308⇓	*i*P	P	19 40 00.6	+0.3
	comp=Z,2μm,1.6s						
PVAQ	Vaqueiros	92.89	308	*e*PP	PP	19 43 46.4	+3.6
PVAQ				*e*SKSac	SKSac	19 50 30.3	-2.0
PVAQ				*e*S	S	19 51 02.7	-1.5
PVAQ				*e*SS	SS	19 57 20.9	+3.0
PVAQ				*e*LQ	LQ	20 04 56.3	
PVAQ	Vaqueiros	92.89	308	*e*LR	LR	20 18 27.0	
	comp=Z,97μm,18.0s						
PCAS	Casmilo, Conde	92.92	311	*e*P	P	19 40 00.5	+0.1
	comp=Z,567nm,1.7s						
PCAS	Casmilo, Conde	92.92	311	*e*PP	PP	19 43 43.3	+0.3
PCAS	Casmilo, Conde	92.92	311	*e*P	P	19 40 00.5	+0.1
	comp=E,567nm,1.7s						
PCAS	Casmilo, Conde	92.92	311	*e*PP	PP	19 43 43.3	+0.3
PTOM	Tomar	92.95	310	*e*P	P	19 40 01.0	+0.5
	comp=Z,2μm,1.6s						
PTOM	Tomar	92.95	310	*e*PP	PP	19 43 48.4	+5.2
PTOM	Tomar	92.95	310	*e*P	P	19 40 01.0	+0.5
	comp=Z,2μm,1.6s						
PTOM	Tomar	92.95	310	*e*PP	PP	19 43 48.4	+5.2
EVOP	Sao Brissos	92.97	309⇓	*i*P	P	19 40 00.6	0.0
PBDV	Barranco-do-Ve	93.09	308⇓	*i*P	P	19 40 01.8	+0.5
	comp=Z,1μm,1.5s						
PBDV	Barranco-do-Ve	93.09	308	*e*PP	PP	19 43 45.0	+0.5
PBDV	Barranco-do-Ve	93.09	308⇓	*i*P	P	19 40 01.8	+0.5
	comp=Z,1μm,1.5s						
PBDV	Barranco-do-Ve	93.09	308	*e*PP	PP	19 43 45.0	+0.5
PCVE	Castro Verde	93.09	308⇓	*i*P	P	19 40 01.6	+0.4
	comp=Z,242nm,1.9s						
PCVE	Castro Verde	93.09	308	*e*PP	PP	19 43 45.0	+0.6
PCVE	Castro Verde	93.09	308⇓	*i*P	P	19 40 01.6	+0.4
	comp=E,242nm,1.9s						
PCVE	Castro Verde	93.09	308	*e*PP	PP	19 43 45.0	+0.6
COLD	Coldfoot	93.16	20	*e*P	P	19 40 01.1	+0.2
	comp=Z,22nm,1.4s						
COLD				LR	LR		
	comp=Z,359μm,18.0s						
MESJ	Messejana	93.19	309	*e*P	P	19 40 01.2	-0.5
MESJ				*e*S	SKSac	19 50 31.6	-2.3
MESJ				AMS	AMS	20 26 53.1	
	comp=E,95μm,22.6s						
MESJ	Messejana	93.19	309	*e*P	P	19 40 01.2	-0.5
MESJ				*e*S	SKSac	19 50 31.6	-2.3
MESJ	Messejana	93.19	309⇓	*i*P	P	19 40 01.9	+0.2
	comp=E,713nm,1.5s						
MESJ	Messejana	93.19	309	*e*PP	PP	19 43 47.4	+2.2
MESJ	Messejana	93.19	309⇓	*i*P	P	19 40 01.9	+0.2
	comp=E,713nm,1.5s						
MESJ	Messejana	93.19	309	*e*PP	PP	19 43 47.4	+2.2
VNDA	Vanda	93.35	168	P	P	19 40 01.8	+0.3
	comp=E,23nm,0.7s,baz=300,slow=5.1,SNR=78						
VNDA				PKKPbc	PKKPdf	19 57 10.9	+0.6
	comp=E,7.5nm,0.9s,baz=53,slow=1.2,SNR=6.5						
VNDA				PKPPKP	P'P'df	20 05 20.7	+2.5
	comp=E,10.0nm,1.1s,baz=262,slow=1.0,SNR=9.6						
VNDA				LR	LR	20 19 13.0	
	comp=E,137μm,18.0s,baz=306,slow=34						
VNDA	Vanda	93.35	168	*e*P	P	19 39 59.6	-1.8
VNDA				PKKPbc	PKKPdf	19 57 10.9	+0.6
VNDA				P'P'		20 05 20.7	
VNDA				*e*P'P'df	P'P'df	20 05 20.9	+2.7
PNCL	Nicolau / Gran	93.37	309⇓	*i*P	P	19 40 02.4	-0.1
	comp=E,688nm,1.8s						
PNCL	Nicolau / Gran	93.37	309	*e*PP	PP	19 43 48.3	+1.8
PNCL	Nicolau / Gran	93.37	309⇓	*i*P	P	19 40 02.4	-0.1
	comp=E,688nm,1.8s						
PNCL	Nicolau / Gran	93.37	309	*e*PP	PP	19 43 48.3	+1.8
SDPT	Sand Point	93.41	33	*e*P	P	19 40 02.0	-0.2
PACT	Alcochete	93.46	310	*e*P	P	19 40 03.9	+1.1
	comp=E,1μm,1.6s						
PACT	Alcochete	93.46	310	*e*PP	PP	19 43 49.1	+1.9
PACT	Alcochete	93.46	310	*e*P	P	19 40 03.9	+1.1
	comp=E,1μm,1.6s						
PACT	Alcochete	93.46	310	*e*PP	PP	19 43 49.1	+1.9
MORF	Marmelete	93.64	308	*e*P	P	19 40 03.3	-0.5
MORF				*e*S	SKSac	19 50 34.5	-2.0
MORF				AMS	AMS	20 26 31.0	
	comp=Z,105μm,19.1s						
MORF	Marmelete	93.64	308	*e*P	P	19 40 03.3	-0.5
MORF				*e*S	SKSac	19 50 34.5	-2.0
MORF	Marmelete	93.64	308⇓	*i*P	P	19 40 04.2	+0.4
	comp=Z,962nm,1.5s						
MORF	Marmelete	93.64	308	*e*PP	PP	19 43 52.1	+3.3
MORF	Marmelete	93.64	308⇓	*i*P	P	19 40 04.2	+0.4
	comp=Z,962nm,1.5s						
MORF	Marmelete	93.64	308	*e*PP	PP	19 43 52.1	+3.3
PTEO	Sao Teotonio	93.64	308⇓	*i*P	P	19 40 04.3	+0.6
	comp=Z,1μm,1.6s						
PTEO	Sao Teotonio	93.64	308	*e*PP	PP	19 43 51.2	+2.5
PTEO	Sao Teotonio	93.64	308⇓	*i*P	P	19 40 04.3	+0.6
	comp=Z,1μm,1.6s						
PTEO	Sao Teotonio	93.64	308	*e*PP	PP	19 43 51.2	+2.5
SUMG	Summit	93.67	347	*i*P	P	19 40 03.7	0.0
	comp=Z,2μm,1.6s						
	comp=Z,277μm,28.0s						
SUMG	Summit	93.67	347	*i*P	P	19 40 03.7	0.0
SUMG				pmax	pmax		
	comp=Z,2μm,1.6s						
SUMG	Summit	93.67	347	*e*P	P	19 40 03.0	-0.7
	comp=Z,915nm,1.3s						
SUMG				*e*PP	PP	19 43 46.6	-1.8
SUMG				LR	LR		
	comp=Z,145μm,22.0s						
LIS	Lisbon	93.71	310	*e*P	P	19 40 03.3	-0.7
LIS				*e*PP	PP	19 43 49.0	-0.1
LIS				*e*S	SKSac	19 50 34.7	-2.0
LIS				AMS	AMS	20 28 16.2	
	comp=E,80μm,22.7s						
LIS	Lisbon	93.71	310	*e*P	P	19 40 03.3	-0.7
LIS				*e*		19 43 49.0	
LIS				*e*S	SKSac	19 50 34.7	-2.0
PMST	Lisbon--Monsan	93.73	310⇓	*i*P	P	19 40 04.1	0.0
	comp=E,593nm,2.2s						
PMST	Lisbon--Monsan	93.73	310	*e*PP	PP	19 43 50.5	+1.1
PMST	Lisbon--Monsan	93.73	310⇓	*i*P	P	19 40 04.1	0.0
	comp=E,593nm,2.2s						
PMST	Lisbon--Monsan	93.73	310	*e*PP	PP	19 43 50.5	+1.1
SVW2	Sparrevohn	93.75	27	*e*P	P	19 40 05.2	+1.5
PMAFR	Mafra	93.76	310⇓	*i*P	P	19 40 04.6	+0.3
	comp=E,1μm,1.7s						
PMAFR	Mafra	93.76	310	*e*PP	PP	19 43 49.7	+0.1
PMAFR	Mafra	93.76	310⇓	*i*P	P	19 40 04.6	+0.3
	comp=E,1μm,1.7s						
PMAFR	Mafra	93.76	310	*e*PP	PP	19 43 49.7	+0.1
PFVI	Vila Bisbo	93.82	308⇓	*i*P	P	19 40 05.0	+0.4
	comp=E,1μm,1.5s						
PFVI	Vila Bisbo	93.82	308	*e*PP	PP	19 43 50.7	+0.6
PFVI	Vila Bisbo	93.82	308⇓	*i*P	P	19 40 05.0	+0.4
	comp=E,1μm,1.5s						
PFVI	Vila Bisbo	93.82	308	*e*PP	PP	19 43 50.7	+0.6
RAO	Raoul Island	93.89	119	*e*P	P	19 40 05.8	+0.7
RAO				LR	LR		
	comp=Z,101μm,21.0s						
MLY	Manley	94.02	22	*e*P	P	19 40 05.3	+0.4
	comp=E,508nm,1.0s						
MLY				LR	LR		
	comp=Z,139μm,21.0s						
NVL	N'lazarevskaya	94.11	199⇓	*i*P	P	19 40 06.6	+1.5
NVL				*e*'PP	pP	19 40 19.3	+4.1
NVL				*e*		19 43 54.0	
NVL				*i* S	SKSac	19 50 34.4	-3.0
NVL				*e*		19 57 49.4	
NVL				pmax	pmax		
	comp=Z,233nm,1.1s						
NVL				MLR	MLR		
	comp=Z,183μm,18.0s						
CHGN	Chignik	94.18	32	*e*P	P	19 40 04.9	-0.8
CAST	Castle Rocks	94.24	24	*e*P	P	19 40 06.7	+0.8
	comp=Z,4μm,2.2s						
CAST				*e*PKKPdf	PKKPbc	19 57 08.4	-0.6
CAST				LR	LR		
	comp=Z,213μm,21.0s						
BPAW	Bear Paw Mtn.	94.36	23	*e*P	P	19 40 06.9	+0.4
	comp=Z,1μm,0.4s						
BPAW				*e*P'P'df	P'P'df	20 05 27.8	+8.1
PPLA	Purkeypile	94.43	24	*e*P	P	19 40 06.2	-0.9
	comp=Z,5μm,0.4s						
PPLA				LR	LR		
	comp=Z,178μm,21.0s						
SBA	Scott Base	94.45	168	*e*P	P	19 40 06.6	+0.1
	comp=Z,78nm,0.5s						
SBA				LR	LR		
	comp=Z,193μm,18.0s						
BWN	Browne	94.91	23	*e*P	P	19 40 11.9	+2.9
	comp=Z,3μm,1.7s						
BWN				*e*PKKPdf	PKKPdf	19 57 05.4	-0.9
BWN				LR	LR		
	comp=Z,158μm,19.0s						
MDM	Murphy Dome	94.98	22	PFAKE		19 40 20.0	+11
MDM				LR	LR		
	comp=Z,125μm,20.0s						
COLA	College	95.17	22*c*	*i*P	P	19 40 10.4	+0.3
COLA				pmax	pmax		
	comp=Z,783nm,1.9s						
COLA	College	95.17	22	*e*P	P	19 40 09.7	-0.4
	comp=Z,4μm,2.9s						
COLA				*e*PKKPdf	PKKPdf	19 57 05.7	-0.1
COLA				LR	LR		
	comp=Z,122μm,20.0s						
FYU	Fort Yukon	95.18	20	*e*P	P	19 40 12.5	+2.4
FYU				LR	LR		
	comp=Z,291μm,20.0s						
SPU	Mount Spurr	95.26	26	*e*P	P	19 40 10.2	-0.5
RSO	Redoubt South	95.27	27	*e*P	P	19 40 11.1	+0.1
	comp=Z,597nm,0.9s						
WRH	Wood River Hil	95.28	22	*e*P	P	19 40 10.1	-0.5
	comp=Z,175nm,1.0s						
WRH				LR	LR		
	comp=Z,128μm,21.0s						
CCB	Clear Creek Bu	95.30	22	*e*P	P	19 40 06.0	-4.7
	comp=Z,2μm,2.8s						
CCB				LR	LR		
	comp=Z,148μm,22.0s						
MCK	McKinley	95.33	23	*e*P	P	19 40 10.7	-0.3
	comp=Z,717nm,1.0s						
MCK				LR	LR		
	comp=Z,178μm,19.0s						
RND	Reindeer	95.53	23	*e*P	P	19 40 11.9	-0.1
	comp=Z,1μm,1.7s						
RND				*e*PKKPbc	PKKPdf	19 57 05.0	-0.3
RND				LR	LR		
	comp=Z,178μm,20.0s						
KULLO	Kullorsuaq	95.56	352	*i*P	P	19 40 11.1	-0.6
	comp=Z,370μm,28.0s						
IL1	Eielson Array	95.57	22	*e*P	P	19 40 09.7	-2.3
IL1				*e*PKKPbc	PKKPdf	19 57 02.1	-3.0
IL1				*e*P'P'df	P'P'df	20 05 16.0	-1.2
ILAR	Eielson Array	95.57	22	P	P	19 40 10.4	-1.6
	comp=Z,36nm,0.7s,baz=294,slow=4.0,SNR=96						
ILAR				PP	PP	19 43 58.6	-4.2
	comp=Z,57nm,1.0s,baz=301,slow=6.8,SNR=5.2						
ILAR				PKKPbc	PKKPdf	19 57 04.3	-0.8
	comp=Z,7.0nm,0.8s,baz=125,slow=0.9,SNR=15						
ILAR				PKP2bc		20 04 12.1	
	comp=Z,1.9nm,0.5s,baz=143,slow=4.9,SNR=18						
ILAR				PKPPKP	P'P'df	20 05 17.5	+0.2
	comp=Z,2.2nm,1.0s,baz=185,slow=0.9,SNR=5.4						
ILAR				LR	LR	20 25 06.5	
	comp=Z,94μm,21.0s,baz=311,slow=37						
KIC	Kosan Boka	95.73	277	*e*P	P	19 40 15.2	+1.4
	comp=Z,4μm,1.7s						
HDA	Harding Lake	95.74	22	*e*P	P	19 40 11.7	-1.1
	comp=Z,770nm,1.8s						
HDA				LR	LR		
	comp=Z,98μm,20.0s						
DBIC	Dimbokro	95.80	278⇓	*i*P	P	19 40 14.7	+0.6
DBIC	Dimbokro	95.80	278	P	P	19 40 15.1	+1.0
	comp=Z,114nm,0.9s,baz=71,slow=5.3,SNR=72						
DBIC				PKKPbc	PKKPdf	19 57 03.8	-0.3
	comp=Z,14nm,0.9s,baz=285,slow=4.6,SNR=4.1						
DBIC				LR	LR	20 22 53.3	
	comp=Z,269μm,19.5s,baz=54,slow=35						
DBIC	Dimbokro	95.80	278	*e*P	P	19 40 15.1	+1.0
	comp=Z,800nm,1.3s						
DBIC				PKKPbc	PKKPdf	19 57 03.8	-0.3
TIC	Toumodi	95.96	278	*e*P	P	19 40 16.0	+1.1
	comp=Z,795nm,1.4s						
LIC	Lamto	96.03	277	*e*P	P	19 40 16.3	+1.1
	comp=Z,1μm,1.6s						
LIC				*e*R			
	comp=Z,312μm,20.0s						
LIC	Lamto	96.03	277	*e*P	P	19 40 16.4	+1.2
	comp=Z,2μm,1.9s						
LIC	Lamto	96.03	277	*e*P	P	19 40 16.3	+1.1
	comp=Z,1μm,1.6s						
RC01	Rabbit Creek A	96.30	25	*e*P	P	19 40 15.9	+0.5
	comp=Z,27nm,1.0s						
RC01				LR	LR		
	comp=Z,106μm,20.0s						
OHAK	Old Harbor	96.42	30	*e*P	P	19 40 16.2	+0.3
	comp=Z,793nm,1.2s						
BRLK	Bradley Lake	96.42	27	*e*P	P	19 40 16.7	+0.7
	comp=Z,2μm,1.5s						
BRLK				LR	LR		
	comp=Z,192μm,20.0s						
KDAK	Kodiak Island	96.52	29	*i*P	P	19 40 18.2	+1.8
KDAK	Kodiak Island	96.52	29	*e*P	P	19 40 15.2	-1.3
	comp=Z,1μm,1.3s						
KDAK				LR	LR		
	comp=Z,201μm,21.0s						
KNTN	Kanton	96.64	92	PFAKE		19 40 30.0	+12
KNTN				LR	LR		
	comp=Z,34μm,22.0s						
SEW	Seward	96.90	26	*e*P	P	19 40 18.9	+0.9
	comp=Z,884nm,1.4s						
SEW				LR	LR		
	comp=Z,170μm,20.0s						
SCM	Sheep Creek Mo	96.93	24	*e*P	P	19 40 20.3	+1.9
	comp=Z,1μm,1.5s						
SCM				LR	LR		
	comp=Z,169μm,22.0s						
PAX	Paxson	97.07	23	*e*P	P	19 40 18.2	-0.7
	comp=Z,699nm,1.0s						
PAX				LR	LR		
	comp=Z,172μm,21.0s						
DOT	Dot Lake	97.22	22	PFAKE		19 40 30.0	+10
DOT				LR	LR		
	comp=Z,1μm,22.0s						
RES	Resolute Bay	97.50	2	P	Pdif	19 40 20.6	0.0
	comp=Z,134nm,1.1s,baz=7.8,slow=6.0,SNR=98						
RES	Resolute Bay	97.50	2	P	Pdif	19 40 20.6	0.0
RES				pmax	pmax		
	comp=Z,134nm,1.1s						
RES	Resolute Bay	97.50	2	*e*P	P	19 40 20.3	-0.2
	comp=Z,723nm,1.2s						
RES				LR	LR		
	comp=Z,180μm,21.0s						
EGAK	Eagle	97.60	20	*e*P	P	19 40 20.5	-0.7
	comp=Z,544nm,0.3s						
EGAK				LR	LR		
	comp=Z,235μm,19.0s						
INK	Inuvik	97.60	16	P	P	19 40 20.9	-0.2
	comp=Z,74nm,1.0s,baz=319,slow=5.6,SNR=48						
INK				PP	PP	19 44 19.9	+1.6
	comp=Z,75nm,1.1s,baz=342,slow=8.4,SNR=3.8						
INK				PKKPbc	PKKPbc	19 56 57.5	-2.5
	comp=Z,10nm,0.9s,baz=154,slow=6.2,SNR=6.3						
INK				PKP2bc		20 04 00.9	
	comp=Z,5.9nm,0.6s,baz=50,slow=3.0,SNR=11						
INK				LR	LR	20 32 15.7	
	comp=Z,97μm,18.1s,baz=300,slow=40						
INK	Inuvik	97.60	16	*e*P	P	19 40 20.5	-0.6
	comp=Z,1μm,1.2s						
INK				PP	PP	19 44 19.9	+1.6
INK				PKKPbc	PKKPbc	19 56 57.5	-2.5
INK				⇑*e*		20 04 00.9	
QSPA	South Pole Qui	97.75	180	PKPPKP	P'P'df	20 05 12.7	+2.5
	comp=Z,12nm,1.0s,baz=326,slow=0.8,SNR=4.9						
QSPA	South Pole Qui	97.75	180	PFAKE		19 40 30.0	+8.0
QSPA				LR	LR		
	comp=Z,271μm,19.0s						
AFI	Afiamalu	97.90	103	*e*P	P	19 40 16.8	-6.9
	comp=Z,526nm,1.5s						
AFI				LR	LR		
	comp=Z,32μm,20.0s						
DIV	Divide	97.94	24	*e*P	P	19 40 22.7	-0.1
	comp=Z,117nm,1.0s						
DIV				LR	LR		
	comp=Z,196μm,22.0s						
BMRM	Bremner River	98.50	24	*e*P	P	19 40 25.2	-0.2
	comp=Z,1μm,1.0s						
BMRM				LR	LR		
	comp=Z,194μm,22.0s						
DAWY	Dawson	98.64	20	*e*P	P	19 40 25.5	-0.4
	comp=Z,134nm,1.4s						
DAWY				LR	LR		
	comp=Z,157μm,20.0s						
RAGM	Ragged Mountai	98.79	25	PFAKE		19 40 40.0	+13
RAGM				LR	LR		
	comp=Z,322μm,19.0s						
SNAA	Sanae	98.91	199	P	P	19 40 20.5	-6.5
SNAA	Sanae	98.91	199	*e*P	P	19 40 20.1	-6.8
SNAA	Sanae	98.91	199	PKKPbc	PKKPbc	19 56 56.1	-0.7
	comp=Z,3.1nm,0.8s,baz=238,slow=7.2,SNR=6.2						
SNAA				PKPPKP	P'P'df	20 05 10.0	+1.9
	comp=Z,0.9nm,0.9s,baz=249,slow=8.5,SNR=5.0						
SNAA	Sanae	98.91	199	P	P	19 40 18.8	-8.2
	comp=Z,53nm,1.1s						
SNAA				PKKPbc	PKKPbc	19 56 56.1	-0.7
SNAA				P'P'		20 05 10.0	
SNAA				LR	LR		
	comp=Z,213μm,18.0s						
ILULI	Ilulissat	98.97	347	*i* P	P	19 40 26.5	-0.7
	comp=Z,319μm,23.0s						
SHEL	Horse Pasture	99.48	255	PFAKE		19 40 40.0	+9.3
SHEL				LR	LR		
	comp=Z,123μm,18.0s						
SFJD	Kangerlussuaq	100.63	346	*i* P	Pdif	19 40 40.9	+6.3
	comp=Z,136nm,1.2s						
	comp=Z,181μm,21.0s						
SFJD	Kangerlussuaq	100.63	346	P	Pdif	19 40 34.6	0.0
	comp=Z,44nm,1.1s,baz=38,slow=4.6,SNR=4.4						
SFJD				PP	PP	19 44 43.9	+2.6
	comp=Z,102nm,0.9s,baz=47,slow=7.7,SNR=5.8						
SFJD	Kangerlussuaq	100.63	346	P	Pdif	19 40 34.6	0.0
SFJD						19 44 43.9	
SFJD				pmax	pmax		
	comp=Z,44nm,1.1s						
SFJD				pmax	pmax		
	comp=Z,102nm,0.9s						
SFJD	Kangerlussuaq	100.63	346	*e*Pdif	Pdif	19 40 34.3	-0.4
	comp=Z,151nm,1.2s						
SFJD				PP	PP	19 44 43.9	+2.6
SFJD				LR	LR		
	comp=Z,194μm,22.0s						
VNA1	Neumayer--Stat	100.75	200	P	Pdif	19 40 39.4	+4.4
VNA1	Neumayer--Stat	100.75	200	P	PKKPdf	19 56 54.7	-2.0
PMPST	Porto Santo, M	100.80	306	*e*P	Pdif	19 40 45.0	+8.8
PMPST	Porto Santo, M	100.80	306	*e*PP	PP	19 44 43.7	-0.2
PMPST	Porto Santo, M	100.80	306	*e*P	Pdif	19 40 45.0	+8.8
PMPST	Porto Santo, M	100.80	306	*e*PP	PP	19 44 43.7	-0.2
PMPS	Porto Santo	100.80	306	*e*P	Pdif	19 40 44.4	+8.2
PMPS	Porto Santo	100.80	306	*e*PP	PP	19 44 43.5	-0.4
PMPS	Porto Santo	100.80	306	*e*P	Pdif	19 40 44.4	+8.2
PMPS	Porto Santo	100.80	306	*e*PP	PP	19 44 43.5	-0.4
PMAR	Madeira	101.37	306	*e*P	Pdif	19 40 47.1	+8.2
	comp=Z,259nm,1.9s						
PMAR	Madeira	101.37	306	*e*PP	PP	19 44 49.1	+0.7
PMAR	Madeira	101.37	306	*e*P	Pdif	19 40 47.1	+8.2
	comp=Z,259nm,1.9s						
PMAR	Madeira	101.37	306	*e*PP	PP	19 44 49.1	+0.7
FUL	Funchal	101.37	305	*e*P	Pdif	19 40 38.9	+0.2
FUL	Funchal	101.37	305	*e*PP	PP	19 44 50.3	+2.1
FUL	Funchal	101.37	305	*e*P	Pdif	19 40 38.9	+0.2
FUL	Funchal	101.37	305	*e*PP	PP	19 44 50.3	+2.1
HYT	Haines Junctio	101.38	22	*e*Pdif	Pdif	19 40 37.9	-0.4
	comp=Z,78nm,0.5s						
PMOZ	Porto Moniz, M	101.56	306	*e*P	Pdif	19 40 44.1	+4.4
	comp=Z,193nm,1.5s						
PMOZ	Porto Moniz, M	101.56	306	*e*PP	PP	19 44 50.8	+1.0
PMOZ				*e*SKSac	SKSac	19 51 16.4	-1.0
PMOZ				*e*SS	SS	19 59 24.6	+4.0
PMOZ				*e*LQ	LQ	20 08 51.0	
PMOZ	Porto Moniz, M	101.56

comp=Z,77nm,1.1s,baz=331,slow=6.8,SNR=5.2
YKA PKKPbc **PKKPbc 19 56 30.5 -2.1**
comp=Z,7.8nm,0.7s,baz=154,slow=3.5,SNR=19
YKA Yellowknife Ar 106.93 13 P **Pdif 19 41 05.2 +2.4**
YKA 19 45 28.3
YKA pmax pmax
comp=Z,5.0nm,0.9s
YKA pmax pmax
comp=Z,77nm,1.1s
YKB5 Yellowknife Ar 106.93 13 *e*PKKPbc PKKPbc 19 56 28.9 -3.6
FRB Frobisher Bay 107.09 351 Pdiff **Pdif 19 41 06.2 +2.7**
comp=Z,6.8nm,0.7s,baz=29,slow=4.1,SNR=6.4
FRB PKiKP **PKiKP 19 45 13.7 +1.1**
comp=Z,45nm,1.0s,baz=26,slow=3.8,SNR=4.6
FRB PP PP 19 45 23.2 -6.1
comp=Z,30nm,0.9s,baz=349,slow=5.0,SNR=3.9
FRB PKKPbc **PKKPbc 19 56 30.5 -1.6**
comp=Z,6.2nm,0.8s,baz=240,slow=6.3,SNR=4.6
ASCN Ascension 107.11 264 PFAKE 19 45 30.0
ASCN LR LR
comp=Z,86µm,19.0s
PGRA Graciosa 107.46 315 *e*Pdif **Pdif 19 41 14.1 +8.4**
PGRA Graciosa 107.46 315 *e*PP PP 19 45 29.3 -3.8
ROSA Rosais 107.78 315 *e*Pdif **Pdif 19 41 11.0 +3.9**
ROSA Rosais 107.78 315 *e*PP PP 19 45 36.9 +1.4
POHA Pohakuloa 108.16 66 PFAKE 19 45 30.0
POHA LR LR
comp=Z,64µm,22.0s
RAR Rarotonga 109.80 110 PP PP 19 45 50.0 -1.1
comp=Z,13nm,0.8s,baz=162,slow=6.3,SNR=3.6
XMAS Kiritimati 110.09 85 PFAKE 19 45 30.0
XMAS LR LR
comp=Z,43µm,22.0s
BBB Bella Bella 111.09 25 PP PP 19 45 56.8 -2.0
comp=Z,38nm,0.9s,baz=28,slow=22,SNR=3.3
SACV Santiago Islan 112.23 290 PFAKE 19 45 40.0
SACV LR LR
comp=Z,107µm,19.0s
FCC Fort Churchill 113.43 3 *e*Pdif **Pdif 19 41 33.1 +1.4**
FCC LR LR
comp=Z,218µm,19.0s
SCHQ Schefferville 115.07 347 PKP **PKPdf 19 45 28.2 +0.2**
comp=Z,24nm,0.9s,baz=63,slow=3.7,SNR=7.5
SCHQ PP **PP 19 46 26.8 -0.1**
comp=Z,108nm,1.1s,baz=17,slow=6.6,SNR=6.6
SCHQ PKKPbc **PKKPbc 19 56 04.3 -1.5**
comp=Z,14nm,0.9s,baz=226,slow=3.4,SNR=9.8
SCHQ Schefferville 115.07 347 *e*PKPdf **PKPdf 19 45 27.8 -0.2**
SCHQ PP **PP 19 46 26.8 -0.1**
SCHQ PKKPbc **PKKPbc 19 56 04.3 -1.5**
EDM Edmonton 115.48 17 *e*Pdif Pdif 19 41 53.3 +12
EDM *e*PKPdf **PKiKP 19 45 27.2 -1.8**
EDM LR LR
comp=Z,234µm,20.0s
PGC Sidney 115.72 25 *e*PKPdf **PKPdf 19 45 29.9 +0.5**
PGC *e*PP **PP 19 46 32.8 +1.2**
PGC LR LR
comp=Z,116µm,21.0s
A05A Maple Falls 116.01 24 *e*PKKPbc PKKPbc 19 56 03.8 +1.5
NLWA Neilton Lookou 116.50 26 *e*PKPdf **PKPdf 19 45 31.3 +0.2**
NLWA LR LR
comp=Z,115µm,22.0s
FFC Flin Flon 116.57 9 *e*Pdif **Pdif 19 41 47.4 +1.5**
FFC *e*PKPdf **PKiKP 19 45 32.1 +1.1**
FFC *e*PP **PP 19 46 33.8 -3.5**
FFC LR LR
comp=Z,175µm,20.0s
B06A Marblemount 116.64 24 *e*PKPdf **PKPdf 19 45 32.0 +0.9**
DRLN Deer Lake 117.17 338 *e*PKPdf **PKPdf 19 45 32.3 +0.1**
DRLN LR LR
comp=Z,139µm,22.0s
B08A Colville Reser 117.62 23 *e*PKPdf **PKPdf 19 45 34.8 +1.6**
B08A *e*PP **PP 19 46 46.9 +1.9**
F03A Seaside 117.75 27 *e*PKPdf **PKPdf 19 45 34.7 +1.2**
F04D Rainier, OR 117.88 27 ⇓P **PKPdf 19 45 34.1 +0.4**
baz=118
LON Longmire 117.89 26 *e*PKPdf **PKPdf 19 45 34.2 +0.4**
LON *e*PP PP 19 46 54.3 +7.4
LTY Liberty 117.97 25 *e*Pdif Pdif 19 42 03.3 +11
LTY *e*PKPdf **PKPdf 19 45 33.6 -0.4**
HOPE Hope Point 118.11 211 *e*PKKPbc PKKPbc 19 56 02.8 +7.9
HOPE LR LR
comp=Z,279µm,21.0s
F04A Amboy 118.26 27 *e*PKPdf **PKPdf 19 45 34.8 +0.4**
G03D McMinnville, O 118.44 28 ⇑P **PKPdf 19 45 35.3 +0.5**
baz=118
C09A Chrisman Ranch 118.48 23 *e*PKPdf **PKPdf 19 45 35.3 +0.5**
C09A *e*PP PP 19 46 59.8 +8.9
C09A LR LR
comp=Z,117µm,20.0s
NEW Newport 118.53 22 PKP **PKPdf 19 45 35.4 +0.5**
comp=Z,29nm,0.9s,baz=271,slow=0.8,SNR=12
NEW PKKPbc **PKKPbc 19 55 52.0 -1.4**
comp=Z,11nm,0.8s,baz=94,slow=5.7,SNR=7.6
NEW Newport 118.53 22 ⇑P **PKPdf 19 45 35.7 +0.7**
baz=118
NEW Newport 118.53 22 *e*Pdif Pdif 19 42 08.4 +14
NEW *e*PKPdf **PKPdf 19 45 34.9 0.0**
NEW PKP **PKPdf 19 45 35.4 +0.5**
NEW PKKPbc **PKKPbc 19 55 52.0 -1.4**
NEW LR LR
comp=Z,119µm,20.0s
D08A Wollman Farm, 118.84 24 *e*PKPdf **PKPdf 19 45 36.8 +1.3**
E07A Sunnyside 118.87 25 *e*PKPdf **PKPdf 19 45 37.5 +1.9**
COR Corvallis 118.89 28 *e*PKPdf **PKPdf 19 45 35.9 +0.3**
COR *e*PP **PP 19 46 55.8 +1.9**
COR *e*PKKP **PKKPbc 19 55 47.0 -4.9**
COR LR LR
comp=Z,76µm,20.0s
WALA Waterton Lakes 118.96 19 *e*Pdif **Pdif 19 42 03.0 +6.2**
WALA *e*PKPdf **PKPdf 19 45 35.9 0.0**
WALA *e*PP PP 19 46 43.2 -11
WALA *e*PKKPbc **PKKPbc 19 55 51.8 -0.3**
WALA LR LR
comp=Z,217µm,20.0s
HAWA Hanford 119.13 24 *e*PKPdf **PKPdf 19 45 35.9 -0.3**
HAWA *e*PP **PP 19 46 54.2 -1.2**
HAWA LR LR
comp=Z,117µm,22.0s
TBI Tubuai 119.28 112 *e*Pdif **Pdif 19 42 00.0 +1.5**
comp=Z,5µm,32.2s
TBI Tubuai 119.28 112 *e*PKiKP **PKPdf 19 45 35.5 -1.5**
comp=Z,805nm,1.3s
TBI Tubuai 119.28 112 *e*PP PP 19 46 58.5 +0.4
comp=Z,23µm,31.5s
TBI *e*Sdif Sdif 19 54 47.8 +1.2
comp=Z,46µm,32.0s
TBI Tubuai 119.28 112 *e*PS PS 19 56 41.8 -5.3
comp=Z,49µm,32.0s
TBI Tubuai 119.28 112 *e*LQ LQ 20 16 59.0
comp=Z,426µm,45.2s
TBI *e*LR LR 20 22 10.6
comp=Z,135µm,30.8s
G05D Wamic, OR 119.29 26 ⇓P **PKPdf 19 45 37.8 +1.3**
baz=119
H04A Detroit Lake 119.33 27 *e*PKPdf **PKPdf 19 45 37.0 +0.4**
PAE Paea 119.42 106 *e*PKiKP **PKPdf 19 45 35.6 -1.7**
comp=Z,34nm,1.3s
PPT2 Papeete2 119.42 106 *e*Pdif **Pdif 19 41 56.8 -2.5**
comp=Z,7µm,30.2s
PPT2 Papeete2 119.42 106 *e*PKiKP **PKPdf 19 45 36.0 -1.5**
comp=Z,226nm,1.4s
PPT2 Papeete2 119.42 106 *e*PP PP 19 46 58.9 -0.4
comp=Z,31µm,28.5s
PPT2 *e*Sdif Sdif 19 54 45.2 -3.0
comp=Z,50µm,30.8s
PPT2 Papeete2 119.42 106 *e*PS PS 19 56 43.2 -5.5
comp=Z,61µm,27.5s
PPT2 *e*SS SS 20 03 20.2 -0.7
comp=Z,166µm,30.2s
PPT2 *e*SS **SS 20 03 21.4 +0.5**
comp=Z,96µm,26.5s
PPT2 Papeete2 119.42 106 *e*LQ LQ 20 17 08.7
comp=Z,301µm,38.5s
PPT2 *e*LR LR 20 22 14.0
comp=Z,126µm,24.2s
PPT Papeete 119.42 106 PKP **PKPdf 19 45 39.9 +2.5**
comp=Z,36nm,0.3s,baz=172,slow=2.3,SNR=4.5
PPT Papeete 119.42 106 PKIKP **PKPdf 19 45 39.9 +2.5**
PPT pmax pmax
comp=Z,36nm,0.3s
PPT Papeete 119.42 106 PKP **PKPdf 19 45 39.9 +2.5**
PPT *ep*PKPdf **pPKPdf 19 45 43.1 -4.6**
I03D Drain, OR 119.54 29 ⇑P **PKPdf 19 45 37.8 +0.9**
baz=119,SNR=24

G06A Carlson Farm, 119.59 26 *e*PKPdf **PKPdf 19 45 38.1 +1.0**
E09A Wood Farm, Sta 119.59 23 *e*PKPdf **PKPdf 19 45 38.6 +1.7**
TIAR Tiarei 119.64 106 *e*PKiKP **PKPdf 19 45 36.5 -1.3**
comp=Z,25nm,1.0s
KEBM Edson Butte 119.68 30 *e*PKPdf **PKPdf 19 45 38.6 +1.3**
KEBM LR LR
comp=Z,67µm,22.0s
BSMT Bassoo Peak 119.71 20 *e*Pdif **Pdif 19 42 01.2 +1.0**
BSMT *e*PKPdf **PKiKP 19 45 37.8 +0.3**
BSMT *e*PP **PP 19 46 57.0 -2.5**
BLMT Blacktail Moun 119.72 20 *e*Pdif **Pdif 19 42 01.7 +1.4**
BLMT *e*PKPdf **PKPdf 19 45 37.3 -0.2**
BLMT *e*PP **PP 19 46 58.8 -0.8**
TVO Taravao 119.73 106 *e*PKiKP **PKPdf 19 45 36.9 -1.1**
comp=Z,125nm,1.3s
HSO Harness Mounta 119.79 29 *e*PKPdf **PKPdf 19 45 38.4 +0.8**
I04A Tendick Farm, 119.91 28 ⇓P **PKPdf 19 45 38.0 +0.3**
baz=120,SNR=21
YBMT Yellow Bay 119.97 20 *e*PKPdf **PKPdf 19 45 37.6 -0.3**
YBMT *e*PP **PP 19 47 02.6 +1.5**
JTMT Jette 119.97 20 *e*Pdif **Pdif 19 42 03.7 +2.4**
JTMT *e*PKPdf **PKPdf 19 45 36.6 -1.2**
JTMT *e*PKKPbc **PKKPbc 19 55 46.5 -1.8**
I05D Terrebonne, OR 119.98 27 ⇓P **PKPdf 19 45 38.4 +0.5**
baz=120
KBO Bosley Butte 120.22 30 *e*PKPdf **PKPdf 19 45 41.9 +3.4**
KBO *e*PP **PP 19 47 03.1 0.0**
KBO LR LR
comp=Z,56µm,21.0s
G08A Pilot Rock 120.26 25 *e*PKPdf **PKPdf 19 45 39.8 +1.3**
G08A *e*PKKPbc **PKKPbc 19 55 47.8 +0.6**
SWMT Swartz Lake 120.28 20 *e*PKPdf **PKPdf 19 45 38.3 -0.2**
SWMT *e*PP **PP 19 47 00.2 -3.1**
F10A Beach Ranch, E 120.40 23 *e*PKPdf **PKPdf 19 45 38.8 +0.1**
J04D Umpqua Nationa 120.47 28 ⇑P **PKPdf 19 45 39.5 +0.4**
baz=120,SNR=27
HUMO Hull Mountain 120.55 29 *e*PKPdf **PKPdf 19 45 39.4 +0.4**
HUMO LR LR
comp=Z,50µm,21.0s
L02D Cave Junction, 120.57 30 ⇓P **PKPdf 19 45 38.7 -0.3**
baz=120,SNR=13
A19A Klindworth Far 120.61 16 ⇑P **PKPdf 19 45 38.9 -0.1**
baz=120,SNR=11
SLMT Seeley Lake 120.68 20 *e*Pdif **Pdif 19 42 06.0 +1.5**
SLMT *e*PKPdf **PKPdf 19 45 39.3 0.0**
PMSA Palmer Station 120.70 192 PFAKE 19 45 50.0 +12
PMSA LR LR
comp=Z,222µm,20.0s
J05D Fort Rock, OR 120.85 28 ⇓P **PKPdf 19 45 39.6 -0.1**
baz=121,SNR=35
MEH Mehetia 120.86 106 *e*PKiKP **PKPdf 19 45 37.8 -2.4**
comp=Z,92nm,1.3s
A20A Cobblestone Ra 120.87 15 ⇓P **PKPdf 19 45 39.5 0.0**
baz=121,SNR=15
MSO Missoula 120.89 20 ⇓P **PKPdf 19 45 39.5 -0.1**
baz=121
MSO Missoula 120.89 20 *e*P Pdif 19 42 22.9 +18
MSO *e*PKPdf **PKPdf 19 45 39.2 -0.4**
MSO LR LR
comp=Z,204µm,20.0s
B19A Brinkman Farms 120.99 16 ⇓P **PKPdf 19 45 39.8 +0.1**
baz=121
CHMT Chamberlain Mo 121.05 20 *e*PKPdf **PKPdf 19 45 39.3 -0.7**
CHMT *e*PP **PP 19 47 11.7 +3.0**
PMOR Pomariorio Ree 121.05 103 *e*PKiKP **PKPdf 19 45 39.4 -1.1**
comp=Z,837nm,1.2s
K04D Chiloquin, OR 121.11 29 ⇓P **PKPdf 19 45 40.3 +0.1**
baz=121,SNR=12
EGMT Eagleton 121.15 17 ⇓P **PKPdf 19 45 40.1 0.0**
baz=121
EGMT Eagleton 121.15 17 *e*Pdif **Pdif 19 42 14.1 +7.6**
EGMT *e*PKPdf **PKPdf 19 45 39.9 -0.2**
EGMT LR LR
comp=Z,160µm,22.0s
B20A Solberg Farm, 121.25 15 ⇑P **PKPdf 19 45 39.3 -1.0**
baz=121
A22A Carney Farms, 121.26 14 ⇑P **PKPdf 19 45 38.9 -1.3**
baz=121,SNR=32
BMO Blue Mountains 121.29 24 *e*PKPdf **PKPdf 19 45 40.2 -0.3**
BMO *e*PP PP 19 47 17.4 +7.0
BMO LR LR
comp=Z,96µm,19.0s
VAH Vaihoa 121.31 103 *e*PKiKP **PKPdf 19 45 39.7 -1.3**
comp=Z,423nm,1.2s
YBH Yreka Blue Hor 121.33 30 PKP **PKPdf 19 45 41.6 +1.0**
comp=Z,18nm,0.8s,baz=40,slow=0.7,SNR=16
YBH PKKPbc **PKKPbc 19 55 41.8 -1.2**
comp=Z,8.3nm,0.7s,baz=78,slow=3.1,SNR=15
YBH Yreka Blue Hor 121.33 30 *e*PKPdf **PKPdf 19 45 40.8 +0.2**
YBH PKP **PKPdf 19 45 41.6 +1.0**
YBH *e*PP **PP 19 47 15.6 +4.9**
YBH PKKPbc **PKKPbc 19 55 41.8 -1.2**
YBH LR LR
comp=Z,48µm,21.0s
K05A Summer Lake 121.44 28 *e*PKPdf **PKPdf 19 45 41.9 +1.0**
KHMM Horse Mountain 121.45 31 *e*PKPdf **PKPdf 19 45 41.4 +0.4**
KHMM *e*PP **PP 19 47 15.6 +3.9**
M02C Callahan 121.51 30 ⇑P **PKPdf 19 45 42.0 +1.1**
baz=121,SNR=25
B21A Ellsworth Farm 121.52 15 ⇓P **PKPdf 19 45 39.3 -1.4**
baz=121,SNR=12
A23A Redstone 121.53 13 ⇓P **PKPdf 19 45 40.7 0.0**
baz=121
HRY Holter Researc 121.69 19 *e*PKPdf **PKPdf 19 45 41.6 +0.4**
HRY *e*PP **PP 19 47 11.8 -1.2**
M04C Macdoel 121.72 29 ⇑P **PKPdf 19 45 41.6 +0.2**
baz=122,SNR=16
A24A Westby 121.75 12 ⇓P **PKPdf 19 45 41.2 +0.1**
baz=122,SNR=16
B22A Reddig Ranch S 121.89 14 ⇑P **PKPdf 19 45 41.5 0.0**
baz=122,SNR=11
N02D Trinity Center 121.90 30 ⇓P **PKPdf 19 45 42.5 +0.8**
baz=122
A25A Svangstu Ranch 121.92 12 ⇓P **PKPdf 19 45 41.6 +0.2**
baz=122
C20A Veseth Ranch, 121.92 16 ⇓P **PKPdf 19 45 41.7 +0.2**
baz=122
KMRM Mail Ridge 121.94 32 *e*PKPdf **PKPdf 19 45 43.9 +2.1**
KMRM LR LR
comp=Z,72nm,22.0s
B23A Brockton 121.97 13 ⇑P **PKPdf 19 45 42.0 +0.4**
baz=122,SNR=12
C21A Desert Coulee 122.06 15 ⇑P **PKPdf 19 45 41.7 -0.1**
baz=122,SNR=12
DGMT Dagmar 122.14 13 ⇓P **PKPdf 19 45 42.0 +0.1**
baz=122,SNR=18
DGMT Dagmar 122.14 13 *e*PKPdf **PKPdf 19 45 41.9 0.0**
DGMT *e*PKKP PKKPbc 19 55 33.8 -6.3
DGMT LR LR
comp=Z,292µm,21.0s
A26A Wade Farm, Ken 122.17 11 ⇑P **PKPdf 19 45 41.9 0.0**
baz=122
A27A Ledoux Ranch, 122.26 10 ⇑P **PKPdf 19 45 41.9 -0.2**
baz=122
LRM Limekiln Ridge 122.27 20 *e*PKPdf **PKPdf 19 45 42.6 +0.1**
LRM *e*PP **PP 19 47 15.6 -1.4**
WDC Whiskeytown Da 122.28 31 *e*PKPdf **PKPdf 19 45 42.1 -0.2**
KIPM Iron Peak 122.36 32 *e*PKPdf **PKPdf 19 45 42.9 +0.2**
KIPM *e*PP **PP 19 47 17.9 0.0**
KCPM Cahto Peak 122.40 32 *e*PKPdf **PKPdf 19 45 43.9 +1.2**
KCPM LR LR
comp=Z,48µm,21.0s
C22A Vida 122.44 14 ⇓P **PKPdf 19 45 42.3 -0.2**
baz=122,SNR=29
A28A Rude Farm, Bot 122.47 10 ⇑P **PKPdf 19 45 42.3 -0.2**
baz=122
B25A Knox Farm, Ray 122.55 12 ⇑P **PKPdf 19 45 42.7 0.0**
baz=122,SNR=8.5
C23A Lambert 122.55 14 ⇑P **PKPdf 19 45 42.8 +0.1**
baz=122,SNR=21
A29A Manning Farm, 122.62 9 ⇑P **PKPdf 19 45 42.4 -0.4**
baz=122
DLMT Dillon 122.62 20 *e*Pdif **Pdif 19 42 10.0 -3.2**
DLMT *e*PKPdf **PKiKP 19 45 43.9 +0.6**
DLMT *e*PP **PP 19 47 19.5 +0.1**
DLMT LR LR
comp=Z,112µm,20.0s
B26A Jensen Ranch, 122.63 11 ⇓P **PKPdf 19 45 42.7 -0.2**
baz=122
WVOR Wild Horse Val 122.69 27 *e*Pdif **Pdif 19 42 16.0 +2.4**
WVOR *e*PKPdf **PKiKP 19 45 43.7 +0.2**
WVOR LR LR
comp=Z,102µm,22.0s
BOZ Bozeman (W) 122.70 19 ⇑P **PKPdf 19 45 43.0 -0.2**
baz=122

A30A Hoffart Farm, 122.74 8 ⇑P **PKPdf 19 45 43.1 +0.1**
baz=122
B27A Peters Farms, 122.79 10 ⇑P **PKPdf 19 45 43.1 0.0**
baz=122
D21A La Casta Ranch 122.79 15 ⇓P **PKPdf 19 45 43.3 0.0**
baz=122
PQI Presque Isle 122.86 344 *e*PKPdf **PKPdf 19 45 42.1 -1.1**
B28A Dugan Ranch, T 122.90 10 ⇓P **PKPdf 19 45 44.4 +1.1**
baz=123
D22A Cohagen 122.92 15 ⇓P **PKPdf 19 45 44.3 +0.8**
baz=123,SNR=64
C24A Savage 122.98 13 ⇓P **PKPdf 19 45 43.9 +0.3**
baz=123,SNR=20
MCMT McKenzie Canyo 123.00 21 *e*PKPdf **PKPdf 19 45 44.6 +0.6**
MCMT *e*PP **PP 19 47 23.5 +1.4**
B29A Wagenman Farm, 123.05 9 ⇑P **PKPdf 19 45 43.6 +0.1**
baz=123
C25A Freed Ranch, W 123.06 12 ⇑P **PKPdf 19 45 44.2 +0.5**
baz=123
MFID Camas Ranch 123.08 24 *e*Pdif Pdif 19 42 25.4 +10
MFID *e*PKPdf **PKiKP 19 45 44.5 +0.3**
MFID LR LR
comp=Z,62µm,22.0s
D23A Lindsay 123.14 14 ⇑P **PKPdf 19 45 44.6 +0.7**
baz=123,SNR=20
HOPS Hopland Field 123.17 32 *e*PKPdf **PKPdf 19 45 44.7 +0.6**
HOPS LR LR
comp=Z,64µm,22.0s
C26A Wahner Farm, P 123.19 11 ⇑P **PKPdf 19 45 44.7 +0.8**
baz=123,SNR=7.4
GCMT Greycliff 123.19 18 *e*PKPdf **PKPdf 19 45 44.2 +0.1**
GCMT *e*PP PP 19 47 14.7 -8.5
B30A Myrvik Farm, E 123.21 8 ⇓P **PKPdf 19 45 43.8 -0.1**
baz=123
E21A Keefer Ranch, 123.25 16 ⇑P **PKPdf 19 45 44.7 +0.6**
baz=123
LAO LASA Array 123.34 15 ⇑P **PKPdf 19 45 45.2 +0.9**
baz=123
LAO LASA Array 123.34 15 *e*PKPdf **PKPdf 19 45 44.0 -0.3**
LAO LR LR
comp=Z,111µm,21.0s
D24A Glendive 123.39 13 ⇓P **PKPdf 19 45 44.8 +0.5**
baz=123,SNR=12
C27A Sayler Ranch, 123.41 11 ⇑P **PKPdf 19 45 44.7 +0.4**
baz=123
QLMT Earthquake Lak 123.49 20 *e*PKPdf **PKPdf 19 45 45.5 +0.7**
QLMT *e*PP **PP 19 47 26.5 +1.3**
HLID Hailey 123.51 23 ⇓P **PKPdf 19 45 45.2 +0.3**
baz=123
HLID Hailey 123.51 23 *e*Pdif **Pdif 19 42 18.4 +1.2**
HLID *e*PKPdf **PKiKP 19 45 45.6 +0.5**
HLID *e*PP **PP 19 47 27.5 +2.1**
HLID LR LR
comp=Z,92µm,21.0s
D25A Fairfield 123.58 12 ⇓P **PKPdf 19 45 45.4 +0.6**
baz=123,SNR=19
C28A Hausauer Farms 123.61 10 ⇑P **PKPdf 19 45 44.8 +0.1**
baz=123
MDND Maddock 123.61 9 ⇑P **PKPdf 19 45 44.5 -0.2**
baz=123
MDND Maddock 123.61 9 *e*PKPdf **PKPdf 19 45 43.5 -1.2**
MDND *e*PP PP 19 47 18.1 -7.5
MDND LR LR
comp=Z,147µm,20.0s
F20A Billings 123.64 17 ⇑P **PKPdf 19 45 45.2 +0.3**
baz=123
E22A Miles City 123.64 15 ⇑P **PKPdf 19 45 45.3 +0.5**
baz=123
AGMN Agassiz Nation 123.67 6 ⇑P **PKPdf 19 45 44.0 -0.7**
baz=123
AGMN Agassiz Nation 123.67 6 *e*Pdif **Pdif 19 42 24.4 +6.8**
AGMN *e*PKPdf **PKPdf 19 45 44.2 -0.5**
AGMN *e*PP **PP 19 47 22.2 -3.7**
AGMN *e*PKKPbc **PKKPab 19 55 31.5 -2.1**
AGMN LR LR
comp=Z,131µm,20.0s
E23A Ismay 123.74 14 ⇑P **PKPdf 19 45 45.6 +0.6**
baz=124
YMR Madison River 123.78 20 *e*PKPdf **PKPdf 19 45 46.5 +1.1**
YMR *e*PP **PP 19 47 25.2 -2.0**
YMR LR LR
comp=Z,206µm,20.0s
YNR Norris Junctio 123.84 19 *e*PKPdf **PKPdf 19 45 46.6 +1.1**
YNR *e*PP **PP 19 47 23.7 -3.9**
YNR LR LR
comp=Z,167µm,19.0s
D26A Manning 123.88 12 ⇓P **PKPdf 19 45 45.7 +0.4**
baz=124,SNR=29
MCCM Marconi Confer 123.90 33 *e*PKPdf **PKPdf 19 45 45.9 +0.5**
MCCM *e*PP PP 19 47 36.6 +8.5
MCCM LR LR
comp=Z,48µm,21.0s
F21A Absaloka Mine, 123.90 16 ⇓P **PKPdf 19 45 45.8 +0.4**
baz=124
RLMT Red Lodge 123.92 18 ⇓P **PKPdf 19 45 46.1 +0.5**
baz=124
RLMT Red Lodge 123.92 18 *e*Pdif Pdif 19 42 29.8 +11
RLMT *e*PKPdf **PKiKP 19 45 46.6 +0.7**
RLMT *e*PP **PP 19 47 27.8 -0.3**
RLMT LR LR
comp=Z,178µm,20.0s
E24A Baker 123.92 13 ⇓P **PKPdf 19 45 45.8 +0.4**
baz=124,SNR=50
C30A Mose, Pekin 123.92 8 ⇑P **PKPdf 19 45 45.4 +0.1**
baz=124
D27A Center 123.99 11 ⇓P **PKPdf 19 45 46.1 +0.6**
baz=124,SNR=16
YFT Old Faithful 124.02 20 *e*PKPdf **PKPdf 19 45 45.8 -0.1**
YFT *e*PP **PP 19 47 26.7 -2.2**
YFT LR LR
comp=Z,364µm,18.0s
LKWY Lake 124.06 19 *e*PKPdf **PKPdf 19 45 48.5 +2.5**
LKWY LR LR
comp=Z,239µm,22.0s
D28A Regan 124.08 10 ⇓P **PKPdf 19 45 45.7 0.0**
baz=124
G20A Bridger 124.14 17 ⇓P **PKPdf 19 45 46.4 +0.4**
baz=124
H17A Grant Village 124.16 19 *e*PKPdf **PKPdf 19 45 47.3 +1.1**
H17A *e*PP PP 19 47 11.3 -18
H17A LR LR
comp=Z,216µm,20.0s
F22A Rosebud 124.17 15 ⇑P **PKPdf 19 45 46.2 +0.2**
baz=124
E25A Miller Ranch, 124.18 13 ⇓P **PKPdf 19 45 46.4 +0.5**
baz=124,SNR=41
EYMN Ely 124.36 3 *e*PKPdf **PKPdf 19 45 44.5 -1.7**
EYMN LR LR
comp=Z,125µm,21.0s
D29A Pettibone, Tap 124.38 10 ⇑P **PKPdf 19 45 45.6 -0.6**
baz=124
FLWY Flagg Ranch 124.39 20 *e*PKPdf **PKPdf 19 45 47.3 +0.7**
FLWY *e*PP **PP 19 47 28.2 -3.2**
FLWY LR LR
comp=Z,199µm,19.0s
E26A Carlson Angus 124.41 12 ⇑P **PKPdf 19 45 46.7 +0.4**
baz=124,SNR=22
H19A Powell 124.41 18 ⇑P **PKPdf 19 45 47.7 +1.2**
baz=124
G21A Lodge Grass 124.43 16 ⇓P **PKPdf 19 45 46.8 +0.3**
baz=124
F23A Volborg 124.45 15 ⇑P **PKPdf 19 45 46.4 0.0**
baz=124
D30A Buchanan 124.46 9 ⇓P **PKPdf 19 45 46.0 -0.3**
baz=124
IMW Indian Meadow 124.47 20 *e*Pdif Pdif 19 42 34.8 +13
IMW *e*PKPdf **PKiKP 19 45 47.4 +0.2**
IMW *e*PP PP 19 47 23.2 -8.8
IMW LR LR
comp=Z,169µm,19.0s
EMMW East Machias 124.48 342 *e*PKPdf **PKPdf 19 45 45.5 -0.9**
EMMW LR LR
comp=Z,215µm,22.0s
PKME Peaks-Kenny Pk 124.50 344 *e*PKPdf **PKPdf 19 45 46.5 0.0**
PKME LR LR
comp=Z,107µm,22.0s
SAC San Andreas 124.56 33 *e*PKPdf **PKPdf 19 45 42.0 -4.8**
F24A Ekalaka 124.56 14 ⇑P **PKPdf 19 45 46.9 +0.2**
baz=124
E27A Carson 124.63 11 ⇑P **PKPdf 19 45 47.1 +0.4**
baz=124
E28A Huff 124.66 11 ⇑P **PKPdf 19 45 47.1 +0.3**
baz=124
MOOW Moose Ponds 124.67 20 *e*PKPdf **PKPdf 19 45 47.0 -0.2**
MOOW *e*PP **PP 19 47 33.6 +0.4**
FXWY Fox Creek 124.67 20 *e*PKPdf **PKPdf 19 45 46.5 -0.6**

FXWY LR LR

comp=Z,193µm,20.0s
G22A Birney 124.68 16 ⇓P **PKPdf** 19 45 47.2 +0.3
baz=124
F25A Bowman 124.72 13 ⇑P **PKPdf** 19 45 47.5 +0.6
baz=124,SNR=21
TPAW Teton Pass 124.83 20 *e*PKPdf **PKPdf** 19 45 48.1 +0.6
TPAW *e*PP **PP** 19 47 35.2 +0.8
TPAW LR LR

comp=Z,197µm,20.0s
LOHW Long Hollow 124.84 20 *e*PKPdf **PKPdf** 19 45 47.6 +0.1
LOHW *e*PP **PP** 19 47 33.8 -0.5
LOHW LR LR

comp=Z,170µm,21.0s
E29A Napoleon 124.84 10 ⇑P **PKPdf** 19 45 47.0 -0.2
baz=125
H20A Greybull 124.88 17 ⇑P **PKPdf** 19 45 47.4 +0.1
baz=125
SNOW Snow King Moun 124.92 20 *e*PKPdf **PKPdf** 19 45 48.3 +0.6
SNOW LR LR

comp=Z,186µm,19.0s
G23A Biddle 124.94 15 ⇓P **PKPdf** 19 45 47.3 -0.1
baz=125
BMN Battle Mountai 124.94 27 *e*PKPdf **PKPdf** 19 45 47.6 -0.1
BMN *e*PP **PP** 19 47 32.8 -2.3
BMN LR LR

comp=Z,72µm,20.0s
F26A Lodgepole 124.96 12 ⇓P **PKPdf** 19 45 47.8 +0.4
baz=125,SNR=34
REDW Red Top Meadow 124.98 20 *e*PKPdf **PKPdf** 19 45 48.0 +0.3
REDW *e*PP PP 19 47 45.3 +10
REDW LR LR

comp=Z,201µm,20.0s
I19A Meeteetse 124.98 18 ⇓P **PKPdf** 19 45 48.0 +0.3
baz=125
H21A Big Horn, Sher 125.02 16 ⇓P **PKPdf** 19 45 47.5 -0.2
baz=125
E30A Jud 125.03 9 ⇓P **PKPdf** 19 45 47.3 -0.1
baz=125
G24A Alzada 125.06 14 ⇑P **PKPdf** 19 45 47.4 -0.3
baz=125
H22A Clearmont 125.25 16 ⇑P **PKPdf** 19 45 48.1 0.0
baz=125
WVL Waterville 125.25 344 *e*PKPdf **PKPdf** 19 45 46.8 -1.1
WVL *e*PP **PP** 19 47 36.7 0.0
WVL LR LR

comp=Z,151µm,21.0s
CMB Columbia Colle 125.29 31 *e*Pdif **Pdif** 19 42 34.0 +9.0
CMB *e*PKPdf **PKPdf** 19 45 48.2 -0.1
CMB *e*PP **PP** 19 47 39.8 +2.3
CMB LR LR

comp=Z,60µm,22.0s
I20A Worland 125.33 18 ⇓P **PKPdf** 19 45 48.8 +0.5
baz=125
F28A McLaughlin 125.34 11 ⇑P **PKPdf** 19 45 48.1 0.0
baz=125,SNR=8.7
WAKR Walker 125.41 30 *e*PKPdf **PKPdf** 19 45 49.2 +0.5
WAKR *e*PP **PP** 19 47 42.8 +4.4
AHID Auburn Hatcher 125.42 21 *e*PKPdf **PKPdf** 19 45 48.8 +0.2
AHID *e*PP **PP** 19 47 37.0 -1.2
AHID LR LR

comp=Z,185µm,19.0s
G25A Newell 125.42 13 ⇓P **PKPdf** 19 45 48.4 +0.1
baz=125
G26A Maurine 125.50 13 ⇓P **PKPdf** 19 45 48.5 0.0
baz=125,SNR=29
F29A Eureka 125.53 10 ⇓P **PKPdf** 19 45 48.3 -0.2
baz=125
H23A Clabaugh Cattl 125.53 15 ⇓P **PKPdf** 19 45 48.5 -0.1
baz=125
ELK Elko 125.54 25 PKP **PKPdf** 19 45 50.0 +1.1
comp=Z,38nm,0.9s,baz=345,slow=0.7,SNR=26
ELK PKKPab **PKKPbc** 19 55 26.8 0.0
comp=Z,9.1nm,1.1s,baz=155,slow=2.4,SNR=4.9
ELK Elko 125.54 25 PKIKP **PKPdf** 19 45 50.0 +1.1
ELK pmax pmax

comp=Z,38nm,0.9s
ELK Elko 125.54 25 *e*PKPdf **PKPdf** 19 45 49.4 +0.5
ELK PKP **PKPdf** 19 45 50.0 +1.1
ELK PKKPab **PKKPbc** 19 55 26.8 0.0
G27A Dupree 125.56 12 ⇓P **PKPdf** 19 45 48.5 0.0
baz=125,SNR=27
H24A Dirks Ranch, A 125.57 14 ⇓P **PKPdf** 19 45 48.5 -0.2
baz=125
F30A Leola 125.66 9 ⇓P **PKPdf** 19 45 48.8 +0.1
baz=125
J19A Crowheart 125.66 19 ⇑P **PKPdf** 19 45 49.3 +0.3
baz=125
HVU Hansel Valley 125.66 23 *e*PKPdf **PKPdf** 19 45 48.9 -0.1
HVU *e*PP **PP** 19 47 36.8 -3.1
HVU LR LR

comp=Z,82µm,20.0s
I21A Big Trails, Te 125.70 17 ⇓P **PKPdf** 19 45 48.9 -0.1
baz=126
MTUT Morton Thiokol 125.84 22 *e*PKPdf **PKPdf** 19 45 49.7 +0.4
I22A 9 Mile Ranch, 125.86 16 ⇑P **PKPdf** 19 45 49.1 -0.2
baz=126
J20A Shoshoni 125.88 18 ⇑P **PKPdf** 19 45 49.4 0.0
baz=126
H25A Fruitdale 125.92 14 ⇑P **PKPdf** 19 45 49.4 +0.1
baz=126
BW06 Boulder Array 125.94 19 *e*PKPdf **PKPdf** 19 45 48.5 -1.1
BW06 LR LR

comp=Z,166µm,21.0s
PDAR Pinedale Array 125.94 19 PKP **PKPdf** 19 45 49.4 -0.3
comp=Z,51nm,0.8s,baz=34,slow=2.6,SNR=39
PDAR PP PP 19 47 50.0 +8.3
comp=Z,57nm,0.9s,baz=346,slow=4.9,SNR=3.9
PDAR PKKPab **PKKPab** 19 55 24.4 +0.2
comp=Z,5.0nm,0.8s,baz=125,slow=4.9,SNR=10
NV01 Mina Array Sit 126.03 29 *e*PKPdf **PKPdf** 19 45 49.6 -0.2
NVAR Mina Array Bea 126.03 29 PKP **PKPdf** 19 45 51.9 +2.0
comp=Z,103nm,0.8s,baz=298,slow=1.7,SNR=52
G28A Parade 126.06 11 ⇓P **PKPdf** 19 45 49.6 0.0
baz=126,SNR=10
I23A Meade Ranch, G 126.07 16 ⇑P **PKPdf** 19 45 49.3 -0.4
baz=126
J21A Lysite 126.08 17 ⇓P **PKPdf** 19 45 49.9 +0.1
baz=126
H26A Fairpoint 126.11 13 ⇓P **PKPdf** 19 45 49.9 +0.3
baz=126,SNR=12
WVUT Wellsville 126.11 22 *e*PKPdf **PKPdf** 19 45 51.2 +1.2
G29A Hoven 126.13 10 ⇑P **PKPdf** 19 45 49.7 +0.1
baz=126
H27A Howes 126.25 12 ⇑P **PKPdf** 19 45 49.7 -0.2
baz=126,SNR=13
HWUT Hardware Ranch 126.26 22 *e*PKPdf **PKPdf** 19 45 49.9 -0.3
HWUT *e*PP **PP** 19 47 43.2 -0.6
HWUT LR LR

comp=Z,199µm,20.0s
RSSD Black Hills 126.28 14 *e*Pdif **Pdif** 19 42 34.5 +4.9
RSSD *e*PKPdf **PKPdf** 19 45 48.1 -2.2
RSSD *e*PP **PP** 19 47 46.5 +2.7
RSSD LR LR

comp=Z,214µm,21.0s
BGU Big Grassy Mou 126.29 23 *e*PKPdf **PKPdf** 19 45 50.4 +0.1
BGU *e*PP **PP** 19 47 47.5 +3.5
BGU LR LR

comp=Z,89µm,20.0s
J22A Midwest 126.30 17 ⇑P **PKPdf** 19 45 49.7 -0.5
baz=126
G30A Faulkton 126.33 10 ⇓P **PKPdf** 19 45 49.8 -0.2
baz=126
LONY Lake Ozonia 126.38 348 *e*PKPdf **PKPdf** 19 45 50.0 -0.1
LONY LR LR

comp=Z,155µm,22.0s
I24A Kuemmerle Ranc 126.38 15 ⇓P **PKPdf** 19 45 49.3 -1.0
baz=126
MLAC Mammoth, Mammt 126.39 30 ⇓P **PKPdf** 19 45 52.0 +1.4
baz=126
MCU Monte Cristo P 126.41 22 *e*PKPdf **PKPdf** 19 45 50.8 +0.2
H28A Mission Ridge 126.42 11 ⇓P **PKPdf** 19 45 50.5 +0.3
baz=126
I25A Rochford 126.45 14 ⇑P **PKPdf** 19 45 50.7 +0.2
baz=126
PTN Potsdam (NY) 126.51 348 *e*PKPdf **PKPdf** 19 45 49.6 -0.7
PTN LR LR

comp=Z,289µm,22.0s
J23A Dilts Ranch, B 126.56 16 ⇑P **PKPdf** 19 45 50.4 -0.2
baz=126
H29A Onida 126.62 11 ⇓P **PKPdf** 19 45 50.7 +0.1
baz=126
I26A New Underwood 126.65 13 ⇑P **PKPdf** 19 45 50.6 -0.2
baz=126
HNH Hanover 126.73 346 *e*PKPdf **PKPdf** 19 45 51.3 +0.5
HNH *e*PP **PP** 19 47 47.0 +0.5

HNH LR LR

comp=Z,130µm,21.0s
TCUT Toone Canyon 126.75 22 *e*Pdif **Pdif** 19 42 31.6 -0.2
TCUT *e*PKPdf **PKPdf** 19 45 47.4 -3.8
TCUT *e*PP **PP** 19 47 50.1 +3.0
TCUT LR LR

comp=Z,199µm,21.0s
I27A Quinn 126.79 13 ⇓P **PKPdf** 19 45 50.9 0.0
baz=126,SNR=23
FFD Franklin Falls 126.80 345 *e*PKPdf **PKPdf** 19 45 50.6 -0.3
FFD *e*PP **PP** 19 47 47.1 +0.2
FFD LR LR

comp=Z,161µm,21.0s
TPH Tonopah 126.82 29 *e*PKPdf **PKPdf** 19 45 52.0 +0.5
TPH LR LR

comp=Z,84µm,22.0s
J24A Dixon Ranch, L 126.87 15 ⇓P **PKPdf** 19 45 51.0 -0.2
baz=127
NCB Newcomb 126.92 348 *e*PKPdf **PKPdf** 19 45 51.5 +0.4
NCB LR LR

comp=Z,129µm,20.0s
K22A Casper 126.99 17 ⇓P **PKPdf** 19 45 51.4 -0.1
baz=127
K22A Casper 126.99 17 *e*PKPdf **PKPdf** 19 45 51.6 0.0
K22A LR LR

comp=Z,170µm,22.0s
CTU Camp Tracy 126.99 23 *e*PKPdf **PKPdf** 19 45 52.1 +0.5
CTU *e*PP **PP** 19 47 49.2 +0.6
CTU LR LR

comp=Z,192µm,20.0s
SPMN Marine on St. 127.00 4 ⇓P **PKPdf** 19 45 51.3 +0.1
SPMN Marine on St. 127.00 4 *e*PKPdf **PKPdf** 19 45 51.4 +0.1
SPMN LR LR

comp=Z,92µm,20.0s
DUG Dugway, Tooele 127.00 24 ⇓P **PKPdf** 19 45 52.4 +0.7
baz=127
DUG Dugway, Tooele 127.00 24 *e*PKPdf **PKPdf** 19 45 51.8 +0.2
DUG *e*PP **PP** 19 47 46.4 -2.4
DUG LR LR

comp=Z,98µm,21.0s
SADO Sadowa 127.01 352 PKP **PKPdf** 19 45 51.2 -0.1
comp=Z,78nm,0.8s,baz=341,slow=2.9,SNR=36
SADO PP **PP** 19 47 52.8 +4.5
comp=Z,84nm,1.0s,baz=15,slow=6.7,SNR=4.9
BRSD Miller 127.02 10 ⇑P **PKPdf** 19 45 51.2 -0.1
baz=127
BRSD Miller 127.02 10 *e*PKPpre PKPpre 19 45 44.0
BRSD *e*PKPdf **PKiKP** 19 45 52.1 +0.3
J25A Sunshine Ranch 127.03 14 ⇑P **PKPdf** 19 45 51.7 +0.2
baz=127
I28A Midland 127.04 12 ⇓P **PKPdf** 19 45 51.5 +0.1
baz=127,SNR=23
GMU Granite Mounta 127.08 23 *e*PKPdf **PKPdf** 19 45 52.3 +0.5
TIN Tinemaha, Big 127.14 30 ⇑P **PKPdf** 19 45 52.9 +1.0
baz=127
K23A Bowen Ranch, D 127.15 16 ⇓P **PKPdf** 19 45 51.7 -0.1
baz=127
JLU Jordanelle 127.18 22 *e*PKPdf **PKPdf** 19 45 52.6 +0.6
JLU *e*PP PP 19 47 43.0 -7.0
JLU LR LR

comp=Z,202µm,20.0s
I29A Vivian Onida 127.19 11 ⇑P **PKPdf** 19 45 51.9 +0.2
baz=127,SNR=18
RCTC Rector, Farmer 127.20 32 ⇓P **PKPdf** 19 45 52.8 +0.9
baz=127
J26A Sides Ranch, S 127.28 14 ⇑P **PKPdf** 19 45 52.3 +0.4
baz=127
ACCN Adirondack Com 127.36 347 *e*PKPdf **PKPdf** 19 45 50.9 -1.1
ACCN LR LR

comp=Z,208µm,22.0s
R11A Troy Canyon, C 127.36 27 ⇓P **PKPdf** 19 45 53.3 +0.9
baz=127
R11A Troy Canyon, C 127.36 27 *e*Pdif **Pdif** 19 42 35.0 +0.5
R11A *e*PP PP 19 47 45.4 -5.9
R11A LR LR

comp=Z,95µm,22.0s
K24A Anderson Ranch 127.40 16 ⇓P **PKPdf** 19 45 52.1 -0.2
baz=127
I30A Oacoma 127.46 10 ⇑P **PKPdf** 19 45 52.5 +0.3
baz=127,SNR=15
GLMI Grayling 127.48 357 *e*PKPdf **PKPdf** 19 45 51.9 -0.2
GLMI LR LR

comp=Z,223µm,22.0s
NLU North Lily Min 127.50 23 *e*PKPdf **PKPdf** 19 45 53.4 +0.8
NLU *e*PP **PP** 19 47 52.1 0.0
NLU LR LR

comp=Z,111µm,19.0s
SMMC Simmler 127.55 33 ⇓P **PKPdf** 19 45 52.5 -0.2
baz=127
J27A Elkhorn Farm, 127.58 13 ⇓P **PKPdf** 19 45 52.9 +0.3
baz=127,SNR=19
J28A Allard Ranch, 127.58 12 ⇑P **PKPdf** 19 45 52.7 +0.2
baz=127,SNR=22
GRAC Grapevine Rang 127.61 30 ⇑P **PKPdf** 19 45 53.8 +1.1
baz=127
MPU Maple Canyon 127.62 23 *e*PKPdf **PKPdf** 19 45 53.1 +0.2
VES Vestal, Richgr 127.64 32 ⇑P **PKPdf** 19 45 52.5 -0.2
baz=127
RWWY Rawlins 127.66 18 *e*PKPdf **PKPdf** 19 45 54.9 +1.9
RWWY LR LR

comp=Z,256µm,22.0s
HRV Adam Dziewonsk 127.67 345 *e*PKPdf **PKPdf** 19 45 52.0 -0.6
HRV *e*PP **PP** 19 47 49.3 -3.4
HRV LR LR

comp=Z,101µm,20.0s
CWC Cottonwood Cre 127.69 31 ⇑P **PKPdf** 19 45 54.3 +1.3
baz=128
K25A Mack Ranch, Ha 127.74 15 ⇓P **PKPdf** 19 45 53.1 +0.2
baz=128
J29A Okreek 127.78 11 ⇓P **PKPdf** 19 45 53.1 +0.2
baz=128,SNR=7.6
K26A Motz Farm, Whi 127.83 14 ⇑P **PKPdf** 19 45 52.8 -0.2
baz=128
PKM Mcpherson Peak 127.96 33 ⇓P **PKPdf** 19 45 53.4 -0.2
baz=128
FLU Fool Peak 127.96 24 *e*PKPdf **PKPdf** 19 45 54.4 +0.9
TRY Troy 127.98 347 *e*Pn **PKPdf** 19 45 52.3 -0.8
TRY LR LR

comp=Z,120µm,20.0s
J30A Dallas 128.01 11 ⇓P **PKPdf** 19 45 53.2 -0.1
baz=128,SNR=18
K27A Flueckinger Fa 128.05 13 ⇑P **PKPdf** 19 45 53.2 -0.2
baz=128
DAC Darwin (Calif) 128.06 30 *e*PKPdf **PKPdf** 19 45 52.5 -1.3
DAC *e*PP PP 19 47 47.7 -8.3
DAC LR LR

comp=Z,84µm,22.0s
ECSD EROS Data Cent 128.07 8 ⇑P **PKPdf** 19 45 53.3 -0.1
baz=128
ECSD EROS Data Cent 128.07 8 *e*PKPdf **PKPdf** 19 45 53.6 +0.2
ECSD LR LR

comp=Z,173µm,20.0s
ISA Isabella, Lake 128.09 32 ⇓P **PKPdf** 19 45 54.6 +0.9
ISA Isabella, Lake 128.09 32 *e*PKPdf **PKPdf** 19 45 50.1 -3.6
ISA *e*PP **PP** 19 47 55.1 -0.9
QUA2 Belchertown 128.09 345 *e*PKPdf **PKPdf** 19 45 52.9 -0.5
QUA2 *e*PP **PP** 19 47 56.8 +1.3
L25A Engebretsen Ra 128.15 15 ⇓P **PKPdf** 19 45 54.1 +0.4
baz=128
TPNV Topopah Spring 128.19 29 ⇑P **PKPdf** 19 45 55.0 +1.0
baz=128
TPNV Topopah Spring 128.19 29 *e*PKPdf **PKPdf** 19 45 55.5 +1.5
TPNV LR LR

comp=Z,82µm,21.0s
RCBR Riachuelo 128.21 269 PKP **PKPdf** 19 45 55.4 +1.0
comp=Z,93nm,1.1s,baz=89,slow=2.3,SNR=8.9
RCBR Riachuelo 128.21 269 *e*PKPdf **PKPdf** 19 45 54.6 +0.2
RCBR PKP **PKPdf** 19 45 55.4 +1.0
RCBR *e*PP **PP** 19 47 57.3 -1.3
RCBR LR LR

comp=Z,86µm,19.0s
BRYW Bryant College 128.22 344 *e*PKPdf **PKPdf** 19 45 53.3 -0.4
BRYW *e*PP **PP** 19 47 58.0 +1.6
BRYW LR LR

comp=Z,120µm,20.0s
K28A Ten Mile Ranch 128.23 12 ⇓P **PKPdf** 19 45 54.0 +0.2
baz=128,SNR=8.5
SNO Snow College 128.26 23 *e*PKPdf **PKPdf** 19 45 55.5 +1.3
FURC Furnace Creek, 128.27 30 ⇑P **PKPdf** 19 45 55.1 +1.3
baz=128
MPMC Manual Prospec 128.28 30 ⇓P **PKPdf** 19 45 55.4 +1.2
baz=128
RCWM Renegade Canyo 128.29 31 *e*PKPdf **PKPdf** 19 45 55.5 +1.4
ARVC Arvin 128.31 32 ⇓P **PKPdf** 19 45 55.1 +1.1
baz=128
SBC Santa Barbara 128.35 34 ⇑P **PKPdf** 19 45 55.8 +1.7
baz=128
K29A Lazy Trails An 128.40 12 ⇓P **PKPdf** 19 45 54.4 +0.3
baz=128,SNR=7.5
TMUT Trail Mountain 128.41 23 *e*PKPdf **PKPdf** 19 45 55.3 +0.8
TMUT LR LR

comp=Z,167µm,20.0s
TAOE Nuku Hiva Isla 128.47 95 *e*PKIKP **PKPdf** 19 45 54.0 -1.0
comp=Z,851nm,1.5s
TAOE Nuku Hiva Isla 128.47 95 *e*PP PP 19 47 59.5 -0.9
comp=Z,40µm,29.7s
TAOE Nuku Hiva Isla 128.47 95 *e*SS SS 20 05 14.5 -1.2
comp=Z,219µm,31.1s
TAOE Nuku Hiva Isla 128.47 95 *e*LR LR 20 26 17.7
comp=Z,144µm,31.7s
TAOE Nuku Hiva Isla 128.47 95 PKPdf **PKPdf** 19 45 54.3 -0.7
L26A Underwood Farm 128.48 14 ⇑P **PKPdf** 19 45 54.8 +0.4
baz=128
PHWY Pilot Hill 128.54 17 *e*PKPdf **PKPdf** 19 45 52.8 -1.9
PHWY *e*PP **PP** 19 47 55.4 -3.4
PHWY LR LR

comp=Z,152µm,20.0s
L27A T5 Ranch, Ells 128.62 14 ⇑P **PKPdf** 19 45 55.1 +0.5
baz=128
K30A Basset 128.62 11 ⇑P **PKPdf** 19 45 55.1 +0.6
baz=128,SNR=12
LRMC Laurel Mtn Rad 128.64 31 ⇓P **PKPdf** 19 45 55.8 +0.9
baz=128
MVU Marysvale 128.69 24 *e*PKPdf **PKPdf** 19 45 55.3 +0.3
MVU LR LR

comp=Z,113µm,18.0s
BSC Santa Cruz Isl 128.73 34 ⇑P **PKPdf** 19 45 55.4 +0.5
baz=128
O20A White River Ci 128.74 20 ⇑P **PKPdf** 19 45 55.5 +0.5
baz=128
O20A White River Ci 128.74 20 *e*PKPdf **PKPdf** 19 45 54.8 -0.2
O20A *e*PP **PP** 19 47 59.2 -0.9
O20A LR LR

comp=Z,181µm,21.0s
OSI Osito Audit: C 128.76 33 ⇓P **PKPdf** 19 45 56.2 +1.2
baz=129
OSI Osito Audit: C 128.76 33 *e*PKPdf **PKPdf** 19 45 56.1 +1.2
N23A Red Feather La 128.77 17 ⇓P **PKPdf** 19 45 55.2 +0.1
baz=128
N23A Red Feather La 128.77 17 *e*PKPdf **PKPdf** 19 45 54.6 -0.5
N23A LR LR

comp=Z,156µm,22.0s
M25A Palm-Egli Farm 128.80 15 ⇑P **PKPdf** 19 45 55.3 +0.3
baz=128
MMNY Mt. Morris Dam 128.82 350 *e*PKPdf **PKPdf** 19 45 55.2 +0.4
MMNY LR LR

comp=Z,387µm,22.0s
SRU San Rafael Swe 128.83 22 *e*PKPdf **PKPdf** 19 45 54.9 -0.3
SRU LR LR

comp=Z,101µm,19.0s
L28A Connealy Angus 128.87 13 ⇑P **PKPdf** 19 45 55.0 -0.1
baz=129
EDW2 Edwards Air Fo 128.94 32 ⇑P **PKPdf** 19 45 56.3 +1.0
baz=129
BLG Laguna Peak, P 128.96 33 ⇓P **PKPdf** 19 45 55.7 +0.3
baz=129
M26A McRoberts Ranc 129.00 15 ⇑P **PKPdf** 19 45 55.4 0.0
baz=129
CCUT Cedar City 129.01 26 *e*PKPdf **PKPdf** 19 45 56.7 +1.0
CCUT LR LR

comp=Z,60µm,21.0s
SHOC Shoshone, Teco 129.01 30 ⇑P **PKPdf** 19 45 56.3 +0.9
baz=129
L29A Maesberg Ranch 129.04 12 ⇓P **PKPdf** 19 45 55.3 -0.1
baz=129
SHPR Sheep Range 129.06 28 *e*PKPpre **PKiKP** 19 45 56.5 +0.2
SHPR *e*PP PP 19 48 09.9 +7.4
M27A Reverse DX Ran 129.13 14 ⇑P **PKPdf** 19 45 55.5 -0.1
baz=129
YLE Yale 129.14 345 *e*PKPdf **PKPdf** 19 45 53.3 -2.1
YLE *e*PP **PP** 19 48 02.2 -0.2
YLE LR LR

comp=Z,174µm,20.0s
BHU Blowhard Mount 129.19 25 *e*PKPdf **PKPdf** 19 45 58.1 +2.0
GSC Goldstone, Bar 129.22 31 ⇓P **PKPdf** 19 45 57.0 +1.1
baz=129
GSC Goldstone, Bar 129.22 31 *e*PKPdf **PKPdf** 19 45 56.8 +0.9
L31A Butterfield Fa 129.25 10 ⇓P **PKPdf** 19 45 55.7 0.0
baz=129
DECC Green Verdugo 129.25 33 ⇓P **PKPdf** 19 45 56.8 +0.9
baz=129
O22A Kremmling 129.26 18 ⇓P **PKPdf** 19 45 56.0 -0.1
baz=129
L30A Spencer Herefo 129.30 11 ⇑P **PKPdf** 19 45 55.6 -0.2
baz=129,SNR=6.7
O23A Lake Granby, G 129.41 18 ⇓P **PKPdf** 19 45 56.4 0.0
baz=129
JFWS Jewell Farm 129.44 2 *e*PKPdf **PKPdf** 19 45 54.3 -1.6
JFWS LR LR

comp=Z,180µm,19.0s
RRX Edison Barstow 129.46 31 ⇑P **PKPdf** 19 45 57.9 +1.6
baz=129
M28A Bar X Bar Ranc 129.49 13 ⇓P **PKPdf** 19 45 56.1 -0.1
baz=129
TUQ Turquoise Moun 129.56 30 ⇓P **PKPdf** 19 45 57.9 +1.3
baz=129
KSPA Keystone Colle 129.56 348 *e*PKPpre PKPpre 19 45 44.5
KSPA LR LR

comp=Z,195µm,22.0s
N26A Koester Ranch, 129.59 15 ⇑P **PKPdf** 19 45 56.3 -0.2
baz=129
M29A Burnside Ranch 129.59 12 ⇓P **PKPdf** 19 45 56.4 0.0
baz=129
BFSC Mount Baldy Ra 129.61 32 ⇓P **PKPdf** 19 45 57.6 +0.9
baz=129
M30A Dale-Ortello V 129.67 12 ⇓P **PKPdf** 19 45 56.9 +0.4
baz=129
PAL Palisades 129.67 346 PFAKE 19 46 10.0 +14
PAL LR LR

comp=Z,143µm,20.0s
FMP Fort Macarthur 129.68 33 ⇑P **PKPdf** 19 45 57.9 +1.2
baz=130
KNB Kanab 129.69 26 *e*PKPdf **PKPdf** 19 45 59.7 +2.8
KNB LR LR

comp=Z,109µm,18.0s
P22A Eagle 129.71 19 ⇓P **PKPdf** 19 45 57.3 +0.4
baz=130
OGNE Ogallala 129.77 14 ⇓P **PKPdf** 19 45 56.2 -0.6
baz=130
OGNE Ogallala 129.77 14 *e*PKPdf **PKPdf** 19 45 56.9 +0.2
OGNE LR LR

comp=Z,293µm,22.0s
N27A Anderson Farm, 129.78 14 ⇑P **PKPdf** 19 45 56.2 -0.6
baz=130
L35A Bielow Farm, R 129.81 7 P **PKPdf** 19 45 56.7 0.0
baz=130
EFI East Falkland 129.83 204 *e*PKPdf **PKPdf** 19 45 57.0 +0.6
EFI LR LR

comp=Z,91µm,21.0s
HEC Hector,Ludlow 129.84 31 ⇓P **PKPdf** 19 45 57.1 +0.1
baz=130
L34A Svendsen Farm, 129.84 8 ⇓P **PKPdf** 19 45 56.5 -0.3
baz=130
CIS Catalina Islan 129.85 33 ⇓P **PKPdf** 19 45 56.9 -0.2
baz=130
ISCO Idaho Springs 129.88 18 ⇓P **PKPdf** 19 45 57.0 -0.3
baz=130
ISCO Idaho Springs 129.88 18 *e*PKPpre PKPpre 19 45 49.9
ISCO *e*PKPdf **PKPdf** 19 45 57.7 +0.4
ISCO *e*PP **PP** 19 48 05.6 -2.0
ISCO LR LR

comp=Z,202µm,22.0s
AAM Ann Arbor 129.93 356 *e*PKPdf **PKPdf** 19 45 56.7 -0.2
AAM *e*PP PP 19 48 17.5 +10
AAM LR LR

comp=Z,136µm,21.0s
BBRC Big Bear Solar 129.98 31 ⇑P **PKPdf** 19 45 57.3 -0.2
baz=130
SMCO Snowmass 130.02 19 *e*PKPpre PKPpre 19 45 50.7
SMCO *e*PKPdf **PKPdf** 19 45 56.8 -0.9
SMCO *e*PP PP 19 48 00.3 -8.4
M31A Lambtecht Ranc 130.03 11 ⇓P **PKPdf** 19 45 56.9 -0.3
baz=130
PV04 Paradox Valley 130.06 21 *e*PKPdf **PKPdf** 19 45 53.8 -3.8
SCI San Clemente I 130.09 34 ⇓P **PKPdf** 19 45 59.0 +1.5
baz=130
BGNE Belgrade 130.11 10 ⇓P **PKPdf** 19 45 57.3 0.0
baz=130
BGNE Belgrade 130.11 10 *e*PKPpre PKPpre 19 45 41.4
BGNE *e*PKPdf **PKiKP** 19 45 57.8 -0.4

BGNE ePP PP 19 48 01.2 -7.4
BGNE eSKP 19 49 18.5
BGNE LR LR

comp=Z,156µm,20.0s
O26A Horse Wrangler 130.11 15 ⇑P PKPdf 19 45 57.5 -0.1
baz=130
N28A Pribbeno Ranch 130.13 13 ⇑P PKPdf 19 45 56.9 -0.6
baz=130
P23A Jefferson 130.20 18 ⇓P PKPdf 19 45 58.7 +0.7
baz=130
N29A Votaw Ranch, W 130.20 13 ⇑P PKPdf 19 45 57.6 0.0
baz=130
GMRC Granite Mounta 130.21 30 ⇓P PKPdf 19 45 59.0 +1.2
baz=130
M34A Aspy Farms, Fr 130.27 8 ⇓P PKPdf 19 45 57.4 -0.2
baz=130
N30A Hueftle Ranch, 130.34 12 ⇑P PKPdf 19 45 57.9 0.0
baz=130
MURC Murrieta 130.35 32 ⇓P PKPdf 19 45 58.6 +0.5
baz=130
O27A Beecher Island 130.37 15 ⇓P PKPdf 19 45 58.0 0.0
baz=130
PV01 Paradox Valley 130.41 21 ePKPpre PKPpre 19 45 42.5
PV01 ePKPdf **PKPdf 19 45 58.7 +0.4**
PV01 ePP **PP 19 48 07.3 -3.8**
N31A Bailey Ranch, 130.54 11 ⇑P PKPdf 19 45 58.0 -0.2
baz=130
O28A Krutsinger Ran 130.61 14 ⇓P PKPdf 19 45 58.4 0.0
baz=130
Q23A Hartsel 130.63 18 ⇑P PKPdf 19 45 58.2 -0.6
baz=130
BELC Belle Mtn. Jos 130.66 31 ⇑P PKPdf 19 45 58.5 -0.2
baz=130
N32A Stulken Farm, 130.71 10 ⇑P PKPdf 19 45 58.0 -0.5
baz=130
NEE2 Needles Airpor 130.73 29 ⇑P PKPdf 19 45 59.8 +1.2
baz=130
PFO Pinyon Flats O 130.73 32 ⇑P PKPdf 19 46 00.3 +1.4
baz=130
PFO Pinyon Flats O 130.73 32 ePKPpre PKPpre 19 45 53.7
PFO LR LR

comp=Z,76µm,22.0s
P26A Davis Ranch, A 130.74 16 ⇓P PKPdf 19 45 58.9 +0.1
baz=130
Q24A Divide 130.79 18 ⇑P PKPdf 19 45 58.7 -0.3
baz=130
Q24A Divide 130.79 18 ePKPpre PKPpre 19 45 49.0
Q24A LR LR

comp=Z,224µm,22.0s
O29A 4D Ranch, Culb 130.83 13 ⇓P PKPdf 19 45 58.8 +0.1
baz=131
SSPA Standing Stone 130.85 350 ePKPpre PKPpre 19 45 48.2
SSPA ePKPdf **PKiKP 19 45 59.4 -0.2**
SSPA ePP PP 19 47 57.5 -16
SSPA LR LR

comp=Z,199µm,20.0s
N34A Lincoln 130.93 8 ⇓P PKPdf 19 45 58.3 -0.6
baz=131
O30A MW Ranch, Wils 130.94 12 ⇓P PKPdf 19 45 58.7 -0.3
baz=131,SNR=9.4
109C Camp Elliot, M 130.94 33 ⇑P PKPdf 19 46 00.6 +1.5
baz=131
P27A Ficken Ranch, 130.95 15 ⇑P PKPdf 19 45 59.0 -0.1
baz=131
IRM Iron Mountain 130.96 30 ⇓P PKPdf 19 45 59.4 +0.2
baz=131
N35A Tabor 131.03 8 ⇑P PKPdf 19 45 58.7 -0.3
baz=131
O31A Woolen Ranch, 131.11 11 ⇓P PKPdf 19 45 58.8 -0.5
baz=131
P28A Saint Francis 131.13 14 ⇓P PKPdf 19 45 59.1 -0.3
baz=131
MVL Millersville 131.18 348 ePKPpre PKPpre 19 45 49.0
O32A Brockman Farm, 131.21 10 ⇓P PKPdf 19 45 59.2 -0.2
baz=131,SNR=7.6
BC3 Big Chuckawall 131.21 31 ⇓P PKPdf 19 45 60.0 +0.2
baz=131
MVCO Mesa Verde 131.25 22 ⇓P PKPdf 19 46 00.4 +0.5
baz=131
MVCO Mesa Verde 131.25 22 ePKPdf **PKPdf 19 46 01.1 +1.2**
MVCO ePP **PP 19 48 17.8 +1.2**
MVCO LR LR

comp=Z,196µm,22.0s
R23A Moffat 131.29 19 ⇓P PKPdf 19 46 00.5 +0.5
baz=131
Q26A Hugo 131.29 16 ⇓P PKPdf 19 45 59.5 -0.4
baz=131
P29A Atwood 131.30 13 ⇓P PKPdf 19 45 59.3 -0.4
baz=131
MONP Monument Peak, 131.31 32 ⇓P PKPdf 19 45 59.3 -0.8
baz=131
PDMCI Parker Dam,Lak 131.34 29 ⇑P PKPdf 19 45 59.5 -0.3
baz=131
BAR Barrett 131.34 33 ePKPdf **PKPdf 19 46 00.7 +0.7**
S22A 4UR Ranch, Cre 131.36 20 ⇓P PKPdf 19 46 00.7 +0.5
baz=131
S22A 4UR Ranch, Cre 131.36 20 ePKPpre PKPpre 19 45 52.6
S22A LR LR

comp=Z,123µm,22.0s
KSCO Kaye Shedlock' 131.45 15 ⇑P PKPdf 19 45 59.9 -0.2
baz=131
KSCO Kaye Shedlock' 131.45 15 ePKPdf **PKPdf 19 45 58.5 -1.6**
KSCO LR LR

comp=Z,288µm,20.0s
O33A Hebron 131.51 10 ⇑P PKPdf 19 45 59.2 -0.8
baz=131
P30A Selden 131.51 13 ⇓P PKPdf 19 45 59.6 -0.5
baz=131
O34A Beatrice 131.54 9 P PKPdf 19 45 59.5 -0.6
baz=131
O35A Humboldt 131.58 8 ⇑P PKPdf 19 45 59.4 -0.7
baz=131
WUAZ Wupatki 131.58 26 ⇑P PKPdf 19 46 01.1 +0.6
baz=131
WUAZ Wupatki 131.58 26 ePKPpre PKPpre 19 45 46.8
WUAZ ePKPdf **PKPdf 19 45 59.5 -1.0**
WUAZ LR LR

comp=Z,107µm,20.0s
Y12C Blythe 131.59 30 ⇓P PKPdf 19 46 01.8 +1.5
baz=131
SWSC Sam W. Stewart 131.59 32 ⇓P PKPdf 19 45 59.9 -0.4
baz=131
Q28A Sharon Springs 131.60 14 ⇑P PKPdf 19 46 00.3 0.0
baz=131
IBP Imperial Bould 131.66 32 ⇓P PKPdf 19 46 01.1 +0.5
baz=132
S23A Nye Farm, Mont 131.67 19 ⇑P PKPdf 19 46 01.1 +0.4
baz=131
P31A Stockton 131.71 12 ⇓P PKPdf 19 46 00.2 -0.3
baz=132,SNR=14
P32A Huiting Farm, 131.76 11 ⇑P PKPdf 19 46 00.1 -0.4
baz=132,SNR=7.9
SDCO Great Sand Dun 131.80 19 ⇑P PKPdf 19 46 01.3 +0.3
baz=132
SDCO Great Sand Dun 131.80 19 ePKPdf PKPpre 19 45 49.4
SDCO ePP **PP 19 48 23.1 +3.1**
SDCO LR LR

comp=Z,162µm,21.0s
HDIL Hopedale 131.82 1 ePKPdf **PKPdf 19 45 59.2 -1.3**
HDIL LR LR

comp=Z,10µm,20.0s
O36A Bolckow 131.83 7 ⇑P PKPdf 19 46 00.4 -0.2
baz=132
R26A Arlington 131.90 16 ⇓P PKPdf 19 46 01.4 +0.5
baz=132
ACSO Alum Creek Sta 131.93 355 ePKPpre PKPpre 19 45 50.9
ACSO ePKPdf **PKPdf 19 46 00.7 -0.1**
ACSO ePP PP 19 48 14.4 -5.9
ACSO LR LR

comp=Z,128µm,21.0s
Q29A Oakley 131.97 14 ⇑P PKPdf 19 46 00.5 -0.5
baz=132
GLA Glamis 132.00 31 ⇑P PKPdf 19 46 01.5 +0.3
baz=132
GLA Glamis 132.00 31 ePKPdf **PKPdf 19 46 02.0 +0.9**
SFIN Lafayette 132.00 359 ⇓P PKPdf 19 46 00.8 0.0
baz=132
SFIN Lafayette 132.00 359 ePKPdf **PKPdf 19 46 00.3 -0.5**
SFIN LR LR

comp=Z,230µm,22.0s
Q30A Quinter 132.06 13 ⇑P PKPdf 19 46 00.5 -0.6
baz=132
R27A Eads 132.09 16 ⇑P PKPdf 19 46 01.6 +0.3
baz=132
P33A Williams Farm, 132.11 10 ⇑P PKPdf 19 46 01.2 0.0
baz=132,SNR=8.6
P34A Walnut Farm, R 132.15 9 ⇑P PKPdf 19 46 00.5 -0.7
baz=132
Q31A Ellis 132.21 12 ⇑P PKPdf 19 46 01.4 0.0
baz=132
P35A Duane Minner, 132.28 8 ⇑P PKPdf 19 46 01.2 -0.3
baz=132
R28A Tribune 132.29 15 ⇓P PKPdf 19 46 01.6 -0.1
baz=132
P36A Good Intent, A 132.31 7 ⇓P PKPdf 19 46 01.3 -0.2
baz=132
R29A Marienthal 132.38 14 ⇑P PKPdf 19 46 01.1 -0.7
baz=132
Q32A Meitler Ranch, 132.38 11 ⇓P PKPdf 19 46 01.4 -0.3
baz=132
Q33A Connelly Farm, 132.51 10 ⇑P PKPdf 19 46 01.5 -0.4
baz=132,SNR=11
RKT Rikitea 132.52 114 ePdif **Pdif 19 42 55.2 -2.2**
comp=Z,3µm,33.2s
RKT Rikitea 132.52 114 ePKIKP **PKPdf 19 46 01.6 -0.7**
comp=Z,225nm,1.5s
RKT Rikitea 132.52 114 ePP PP 19 48 29.4 +3.2
comp=Z,29µm,30.0s
RKT eSdif Sdif 19 56 35.4 -1.7
comp=Z,27µm,29.8s
RKT Rikitea 132.52 114 ePS PS 19 58 37.8 -5.5
comp=Z,35µm,28.5s
RKT eSS SS 20 06 05.2 +0.7
comp=Z,150µm,32.2s
RKT Rikitea 132.52 114 eLQ LQ 20 22 41.0
comp=Z,246µm,43.0s
RKT eLR LR 20 28 05.4
comp=Z,212µm,34.8s
W18A Petrified Fore 132.61 24 ⇑P PKPdf 19 46 03.0 +0.5
baz=132
W18A Petrified Fore 132.61 24 ePKPdf **PKPdf 19 46 03.7 +1.2**
W18A LR LR

comp=Z,158µm,21.0s
KSU1 Kansas State U 132.62 9 ⇑P PKPdf 19 46 01.7 -0.4
baz=132
KSU1 Kansas State U 132.62 9 ePKPpre PKPpre 19 45 53.5
KSU1 ePKPdf **PKiKP 19 46 03.0 -0.3**
KSU1 ePP PP 19 48 17.8 -7.0
KSU1 LR LR

comp=Z,154µm,22.0s
S27A Las Animas 132.62 16 ⇓P PKPdf 19 46 02.4 +0.1
baz=132
T25A Trinidad 132.69 18 ⇓P PKPdf 19 46 03.5 +0.9
baz=132
T25A Trinidad 132.69 18 ePKPpre PKPpre 19 45 50.6
T25A LR LR

comp=Z,219µm,22.0s
R30A Dighton 132.71 13 ⇓P PKPdf 19 46 02.3 -0.1
baz=132
Q34A Chapman 132.74 9 ⇑P PKPdf 19 46 01.8 -0.6
baz=132
R31A Burdett 132.87 12 ⇑P PKPdf 19 46 02.4 -0.3
baz=133,SNR=7.3
T26A Comanche Natio 132.90 17 ⇑P PKPdf 19 46 03.3 +0.4
baz=133
R32A Long Quarter, 132.91 11 ⇓P PKPdf 19 46 02.6 -0.1
baz=133,SNR=13
Q36A Arnold C. Orve 132.92 8 ⇓P PKPdf 19 46 01.9 -0.8
baz=133
Q35A Mercer Eighty, 132.94 9 ⇑P PKPdf 19 46 02.3 -0.4
baz=133
S28A Manter 132.98 15 ⇑P PKPdf 19 46 03.3 +0.3
baz=133
CBN Corbin Frederi 133.11 348 ePKPdf **PKPdf 19 46 03.3 +0.3**
CBN ePP PP 19 48 39.6 +12
CBN LR LR

comp=Z,136µm,21.0s
Q37A Longview Farm, 133.13 7 ⇑P PKPdf 19 46 02.4 -0.7
baz=133
S29A Ulysses 133.14 14 ⇑P PKPdf 19 46 03.8 +0.5
baz=133
R33A Olander Ranch, 133.15 11 ⇑P PKPdf 19 46 03.6 +0.4
baz=133,SNR=9.7
BLO Bloomington 133.20 358 PFAKE 19 46 10.0 +6.8
BLO LR LR

comp=Z,179µm,21.0s
T27A Campo 133.25 16 ⇑P PKPdf 19 46 03.2 -0.3
baz=133
S30A Montezuma 133.28 14 ⇓P PKPdf 19 46 03.3 -0.2
baz=133
R34A Isabella, Hill 133.29 10 ⇑P PKPdf 19 46 03.3 -0.2
baz=133
T28A Walsh 133.36 16 ⇓P PKPdf 19 46 03.3 -0.4
baz=133
R35A Emporia Munici 133.44 9 ⇑P PKPdf 19 46 03.5 -0.2
baz=133
S31A Mullinville 133.52 13 ⇑P PKPdf 19 46 03.7 -0.2
baz=133
R36A Gordon, Harris 133.54 8 ⇑P PKPdf 19 46 03.0 -0.9
baz=133
T29A Hugoton 133.54 15 ⇓P PKPdf 19 46 04.2 +0.2
baz=133
S32A Newby Ranch, P 133.56 12 ⇓P PKPdf 19 46 03.8 -0.1
baz=133
R37A Teagarden Farm 133.64 7 ⇓P PKPdf 19 46 03.2 -0.8
baz=133
OLIL Olney 133.66 0 ePKPpre PKPpre 19 45 51.4
OLIL ePKPdf **PKPdf 19 46 01.0 -3.0**
OLIL ePP PP 19 48 37.9 +6.6
SLM Saint Louis 133.71 2 ePKPdf **PKPdf 19 46 04.8 +0.6**
SLM LR LR

comp=Z,166µm,22.0s
URVA University of 133.76 348 ePKPpre PKPpre 19 45 56.7
U27A Thompson Grove 133.82 17 ⇑P PKPdf 19 46 04.1 -0.6
baz=134
T30A Plains 133.83 14 ⇓P PKPdf 19 46 04.5 -0.1
baz=134
S33A Kaszmaul Farm, 133.84 11 ⇑P PKPdf 19 46 04.5 0.0
baz=134
214A Organ Pipe Nat 133.89 30 ⇑P PKPdf 19 46 03.9 -0.9
baz=134
214A Organ Pipe Nat 133.89 30 ePKPdf **PKPdf 19 46 04.6 -0.2**
S34A Willow Spring 133.90 10 ⇑P PKPdf 19 46 04.0 -0.6
baz=134
ANMO Albuquerque 134.02 21 PKP **PKPdf 19 46 07.6 +2.5**
comp=Z,72nm,0.8s,baz=343,slow=1.1,SNR=20
ANMO PP **PP 19 48 37.2 +3.0**
comp=Z,56nm,1.0s,baz=95,slow=3.6,SNR=3.7
ANMO Albuquerque 134.02 21*c* iPKIKP **PKPdf 19 46 05.9 +0.8**
ANMO Albuquerque 134.02 21 ePKPpre PKPpre 19 45 54.2
ANMO ePKPdf **PKiKP 19 46 06.7 +0.2**
ANMO PKP **PKPdf 19 46 07.6 +2.5**
ANMO ePP PP 19 48 28.4 -5.8
ANMO PP PP 19 48 37.2 +3.0
ANMO eSKP 19 49 35.0
ANMO LR LR

comp=Z,249µm,22.0s
U28A Mallet 134.03 16 ⇓P PKPdf 19 46 04.3 -0.7
baz=134
S35A Otter Creek Ra 134.05 9 ⇑P PKPdf 19 46 04.4 -0.5
baz=134
T32A Huddler Ranch, 134.06 12 ⇓P PKPdf 19 46 04.9 0.0
baz=134
S36A Lake Cedric, C 134.12 8 ⇑P PKPdf 19 46 04.4 -0.6
baz=134
WCI Wyandotte Cave 134.13 358 ePKPdf **PKPdf 19 46 04.5 -0.5**
WCI ePP **PP 19 48 30.7 -3.7**
WCI LR LR

comp=Z,180µm,21.0s
U29A Oasis Ranch, S 134.21 15 ⇓P PKPdf 19 46 05.0 -0.3
baz=134
BBSR BB Station 134.22 332 ePKPdf **PKPdf 19 46 05.6 +0.3**
BBSR LR LR

comp=Z,75µm,21.0s
LAZ Ladron 134.25 22 ePKPdf **PKPdf 19 46 07.0 +1.4**
T33A Patterson Ranc 134.29 11 ⇑P PKPdf 19 46 06.1 +0.8
baz=134,SNR=6.5
U30A WK&E Inc. Balk 134.29 14 ⇑P PKPdf 19 46 05.4 -0.1
baz=134
USIN University of 134.42 360 ePKPpre PKPpre 19 46 02.4
USIN ePP PP 19 48 48.7 +13
V27A Dan Oppiter Fa 134.44 17 ⇑P PKPdf 19 46 05.7 -0.1
baz=134
VWCC Virginia Weste 134.51 351 ePKPpre PKPpre 19 46 00.3
VWCC ePKPdf **PKPdf 19 46 06.0 +0.2**
T34A McClaskey Farm 134.55 10 ⇑P PKPdf 19 46 05.7 -0.2
baz=134,SNR=7.4
TUC Tucson 134.55 27 ePKPpre PKPpre 19 45 58.5
TUC ePKPdf **PKiKP 19 46 07.7 +0.3**
TUC LR LR

comp=Z,84µm,22.0s
BLA Blacksburg 134.61 351 ePKPdf **PKPdf 19 46 05.6 -0.3**
BLA LR LR

comp=Z,260µm,22.0s
V28A Channing 134.62 16 ⇑P PKPdf 19 46 06.0 -0.1
baz=134
Y22D IRIS PASSCAL I 134.63 22 ⇑P PKPdf 19 46 07.2 +0.9
baz=134
U31A Nine Bar Ranch 134.64 13 ⇑P PKPdf 19 46 06.7 +0.7
baz=134
SIUC Southern Illin 134.66 1 ePKPpre PKPpre 19 45 51.4
SIUC LR LR

comp=Z,167µm,22.0s
BNM Barren Site 134.67 22 ePKPpre PKPpre 19 45 59.2
V29A Stinnett 134.70 15 ⇑P PKPdf 19 46 06.1 -0.2
baz=134
T36A Boggs Farm, Ca 134.73 9 ⇓P PKPdf 19 46 06.5 +0.4
baz=134
T35A Sooner Cattle 134.77 10 ⇓P PKPdf 19 46 07.0 +0.7
baz=134
T37A Cheneyville 18 134.80 8 ⇑P PKPdf 19 46 06.5 +0.2
baz=134
U32A Winter Ranch, 134.82 12 ⇑P PKPdf 19 46 05.9 -0.4
baz=135
U33A Lingo Farm, Me 134.95 11 ⇓P PKPdf 19 46 06.0 -0.6
baz=135
V30A Spur Ranch, Mi 135.01 15 ⇑P PKPdf 19 46 07.5 +0.7
baz=135
U34A Anderson Ranch 135.06 11 ⇓P PKPdf 19 46 07.0 +0.2
baz=135
U34A Anderson Ranch 135.06 11 ePKPpre PKPpre 19 45 54.4
U34A ePKPdf **PKPdf 19 46 07.3 +0.6**
U34A LR LR

comp=Z,221µm,22.0s
W28A Vega 135.09 16 ⇓P PKPdf 19 46 06.9 -0.2
baz=135
V31A Spring Creek L 135.21 14 ⇓P PKPdf 19 46 06.5 -0.6
baz=135
W29A Amarillo 135.37 16 ⇓P PKPdf 19 46 07.4 -0.1
baz=135
V32A Arapaho 135.44 13 ⇓P PKPdf 19 46 06.8 -0.8
baz=135
V33A Lossen Ranch, 135.50 12 ⇓P PKPdf 19 46 07.6 0.0
baz=135
PBMO Poplar Bluff 135.55 3 ePKPpre PKPpre 19 45 57.9
AMTX Amarillo 135.59 16 ⇓P PKPdf 19 46 08.0 0.0
baz=135
AMTX Amarillo 135.59 16 ePKPpre PKPpre 19 46 00.3
AMTX ePP PP 19 48 33.4 -11
AMTX LR LR

comp=Z,250µm,20.0s
W30A Crocket Farms 135.59 15 ⇑P PKPdf 19 46 07.8 -0.1
baz=135
TZTN Tazewell 135.64 355 ePKPpre PKPpre 19 45 56.6
V34A Guthrie 135.64 11 ⇑P PKPdf 19 46 08.1 +0.2
baz=135,SNR=6.5
V34A Guthrie 135.64 11 ePKPpre PKPpre 19 45 57.9
V34A LR LR

comp=Z,213µm,22.0s
121A Cookes Peak, D 135.65 24 ⇓P PKPdf 19 46 08.3 +0.1
baz=135
121A Cookes Peak, D 135.65 24 ePKPdf PKPpre 19 46 02.4
121A ePP **PP 19 48 46.6 +2.0**
W31A Holland Ranch, 135.75 14 ⇑P PKPdf 19 46 07.9 -0.3
baz=136
X28A Dimmitt 135.78 17 ⇓P PKPdf 19 46 08.5 +0.2
baz=136
V35A Meyer Ranch, C 135.84 10 ⇓P PKPdf 19 46 08.8 +0.5
baz=136
TUL1 Leonard 135.87 9 ⇑P PKPdf 19 46 08.3 0.0
baz=136
TUL1 Leonard 135.87 9 ePKPpre PKPpre 19 45 55.9
TUL1 LR LR

comp=Z,208µm,22.0s
PVMO Portageville 135.94 2 ePKPdf **PKPdf 19 46 08.5 +0.1**
PVMO LR LR

comp=Z,295µm,22.0s
V36A Jenks 135.96 9 P PKPdf 19 46 08.6 +0.2
baz=136
W32A Sentinel 135.97 13 ⇓P PKPdf 19 46 07.8 -0.8
baz=136
V37A Hulbert 135.99 8 P PKPdf 19 46 07.6 -0.9
baz=136
X29A Tulia 135.99 16 ⇓P PKPdf 19 46 07.5 -1.3
baz=136
CNNC Cliffs of the 136.08 348 ePKPdf **PKPdf 19 46 08.2 -0.5**
CNNC LR LR

comp=Z,132µm,21.0s
W33A Caddo, Fort Co 136.11 12 ⇓P PKPdf 19 46 08.6 -0.2
baz=136
MSTX Muleshoe 136.13 18 ⇑P PKPdf 19 46 09.1 +0.2
baz=136
MSTX Muleshoe 136.13 18 ePKPpre PKPpre 19 45 57.8
MSTX LR LR

comp=Z,167µm,21.0s
W34A Bridge Creek, 136.17 12 ⇓P PKPdf 19 46 08.5 -0.4
baz=136
W34A Bridge Creek, 136.17 12 ePKPpre PKPpre 19 45 57.2
W34A LR LR

comp=Z,166µm,22.0s
X30A Coker Ranch, T 136.22 15 ⇑P PKPdf 19 46 08.6 -0.5
baz=136
WVT Waverly 136.25 360 ePKPpre PKPpre 19 45 56.2
WVT ePKPdf **PKPdf 19 46 09.8 +0.8**
WVT *e* 19 48 40.8
WVT LR LR

comp=Z,184µm,21.0s
X31A McDonald Ranch 136.27 14 ⇑P PKPdf 19 46 09.4 +0.3
baz=136
Y28A McKinney Farm, 136.34 17 ⇓P PKPdf 19 46 09.5 +0.2
baz=136
GNAR Gosnell 136.38 2 ePKPpre PKPpre 19 45 57.7
PTCN Pitcairn Islan 136.42 118 PFAKE 19 46 20.0 +10
PTCN LR LR

comp=Z,52µm,19.0s
W35A Tecumseh 136.42 11 ⇑P PKPdf 19 46 09.5 +0.1
baz=136
WMOK Wichita Mounta 136.44 13 ePKPpre PKPpre 19 45 57.9
WMOK LR LR

comp=Z,225µm,22.0s
TKL Tuckaleechee C 136.54 355 PKP **PKPdf 19 46 11.1 +1.5**
comp=Z,98nm,0.9s,baz=139,slow=2.8
TKL PP **PP 19 48 52.3 +2.7**
comp=Z,99nm,1.2s,baz=21,slow=4.3,SNR=5.0
TKL Tuckaleechee C 136.54 355 PKIKP **PKPdf 19 46 11.1 +1.5**
TKL 19 48 52.3
TKL pmax pmax

comp=Z,98nm,0.9s
TKL pmax pmax

comp=Z,99nm,1.2s
TKL Tuckaleechee C 136.54 355 ePKPpre PKPpre 19 45 57.0
TKL ePKPdf **PKPdf 19 46 09.8 +0.2**
TKL PKP **PKPdf 19 46 11.1 +1.5**
TKL PP **PP 19 48 52.3 +2.7**
W36A Wetumka 136.55 10 ⇓P PKPdf 19 46 09.5 0.0
baz=136
Y29A Porterfield Fa 136.55 17 ⇑P PKPdf 19 46 09.2 -0.5
baz=136
X32A Elmer 136.63 14 ⇑P PKPdf 19 46 09.3 -0.4
baz=136
CPRX Cap Rock 136.65 19 ePKPpre PKPpre 19 45 58.8
CPRX ePKPdf **PKPdf 19 46 09.2 -0.8**
W37A Quinton 136.68 9 ⇑P PKPdf 19 46 09.8 -0.1
baz=136
X33A Lawton 136.69 13 ⇑P PKPdf 19 46 10.0 +0.1
baz=136
Y30A Stafford Cattl 136.75 16 ⇓P PKPdf 19 46 09.9 -0.2
baz=136
HBAR Harrisburg 136.76 3 ePKPdf **PKPdf 19 46 08.6 -1.4**
KMSC Kings Mountain 136.77 352 ⇑P PKPdf 19 46 09.9 -0.1
baz=136
KMSC Kings Mountain 136.77 352 ePKPdf PKPpre 19 45 59.3
KMSC LR LR

comp=Z,175µm,21.0s
X34A Smith Ranch, M 136.78 12 ⇓P PKPdf 19 46 09.9 -0.1
baz=136,SNR=6.8
CPCT Cooper Cave 136.81 356 ePKPpre PKPpre 19 45 57.3
Y31A Rekieta Farm, 136.83 15 ⇑P PKPdf 19 46 09.7 -0.5
baz=137
Z28A Tucker Farm, M 136.88 18 ⇓P PKPdf 19 46 10.4 0.0
baz=137
W38A Poteau 136.88 8 ⇑P PKPdf 19 46 09.8 -0.4
baz=137
Y32A R-V Farms, Ver 137.00 14 ⇓P PKPdf 19 46 10.3 -0.2
baz=137
X36A Centrahoma 137.08 10 ⇓P PKPdf 19 46 10.8 +0.2
baz=137
Z29A Hungry Hill Ra 137.10 17 ⇓P PKPdf 19 46 10.5 -0.2
baz=137
X35A Drake 137.14 11 ⇓P PKPdf 19 46 10.0 -0.7
baz=137

Y33A	Hilltop Ranch,	137.18	13	⇑P		PKPdf	19 46 10.7	-0.1		
	baz=137,SNR=6.6									
MET	Memphis--Engin	137.22	2	ℯPP		PP	19 49 00.2	+6.4		
X37A	Clayton	137.23	9	⇑P		PKPdf	19 46 10.4	-0.4		
	baz=137									
X38A	Whitesboro	137.23	8	P		PKPdf	19 46 11.7	+0.8		
	baz=137									
Z30A	Sanderson Ranc	137.24	16	⇓P		PKPdf	19 46 10.8	-0.2		
	baz=137									
CLNB	Carlsbad	137.34	20	ℯPKPdf		PKPdf	19 46 10.3	-1.0		
UALR	University of	137.41	5	ℯPKPpre		PKPpre	19 46 01.4			
UALR				ℯPKPdf		PKPdf	19 46 09.7	-1.5		
Y34A	Reagan Ranch,	137.41	12	⇑P		PKPdf	19 46 11.1	-0.1		
	baz=137									
128A	Castleberry Fa	137.47	18	⇑P		PKPdf	19 46 10.3	-1.2		
	baz=137									
Z31A	Sharp Cattle R	137.47	15	⇓P		PKPdf	19 46 11.2	-0.2		
	baz=137,SNR=8.8									
MIAR	Mount Ida	137.51	7	ℯPKPpre		PKPpre	19 45 59.4			
MIAR				ℯPKPdf		PKPdf	19 46 11.2	-0.2		
MIAR				LR		LR				
	comp=Z,217µm,20.0s									
Y35A	Marietta	137.61	11	P		PKPdf	19 46 11.1	-0.4		
	baz=137									
JSC	Jenkinsville	137.61	352	ℯPKPpre		PKPpre	19 46 03.4			
129A	Stewart Farms,	137.64	17	⇑P		PKPdf	19 46 11.5	-0.3		
	baz=137									
Z32A	Haskell	137.65	14	⇓P		PKPdf	19 46 12.4	+0.7		
	baz=137,SNR=17									
Y36A	Durant	137.75	10	P		PKPdf	19 46 11.4	-0.4		
	baz=138									
Y37A	Hugo	137.78	9	P		PKPdf	19 46 12.1	+0.2		
	baz=138									
Z33A	Whitaker Ranch	137.84	13	⇑P		PKPdf	19 46 11.9	-0.2		
	baz=138									
OXF	Oxford	137.85	2	ℯPKPpre		PKPpre	19 46 00.0			
OXF				ℯPKPdf		PKPdf	19 46 10.3	-1.7		
OXF				LR		LR				
	comp=Z,197µm,21.0s									
228A	UT Block 9, Go	137.90	19	⇓P		PKPdf	19 46 12.9	+0.6		
	baz=138									
130A	Snyder	137.94	16	⇑P		PKPdf	19 46 12.7	+0.4		
	baz=138									
Z34A	Collier Ranch,	137.95	12	⇓P		PKPdf	19 46 11.8	-0.5		
	baz=138									
Y38A	Idabel	137.97	8	P		PKPdf	19 46 13.0	+0.8		
	baz=138									
131A	Roby	138.02	16	⇑P		PKPdf	19 46 12.8	+0.4		
	baz=138,SNR=6.7									
Y39A	Lockesburg	138.05	8	P		PKPdf	19 46 12.9	+0.5		
	baz=138									
Z35A	Perchaven, San	138.12	12	⇓P		PKPdf	19 46 12.7	+0.2		
	baz=138									
ABTX	Abilene, Hawle	138.26	15	⇑P		PKPdf	19 46 13.3	+0.4		
	baz=138,SNR=7.7									
ABTX	Abilene, Hawle	138.26	15	ℯPKPpre		PKPpre	19 46 02.7			
ABTX				ℯPKPdf		PKPdf	19 46 12.8	-0.1		
ABTX				ℯPP		PP	19 48 52.7	-7.8		
ABTX				LR		LR				
	comp=Z,157µm,22.0s									
229A	Bryant Ranch,	138.28	18	⇓P		PKPdf	19 46 12.7	-0.3		
	baz=138									
Z36A	Blue Ridge	138.34	11	P		PKPdf	19 46 13.1	+0.2		
	baz=138									
133A	Hamilton Ranch	138.45	14	⇓P		PKPdf	19 46 13.3	+0.1		
	baz=138									
Z37A	Pogue Cattle C	138.55	10	⇑P		PKPdf	19 46 13.7	+0.4		
	baz=138									
230A	Sterling City	138.56	17	⇑P		PKPdf	19 46 13.2	-0.3		
	baz=138									
NHSC	New Hope	138.59	350	ℯPKPpre		PKPpre	19 46 05.5			
NHSC				ℯPKPdf		PKiKP	19 46 14.9	-0.6		
NHSC				LR		LR				
	comp=Z,119µm,21.0s									
Z38A	Mt. Pleasant	138.60	9	⇑P		PKPdf	19 46 13.9	+0.5		
	baz=138									
329A	Wagon Wheel Ra	138.68	18	⇑P		PKPdf	19 46 14.0	+0.3		
	baz=138									
134A	White-Moore Ra	138.68	13	⇑P		PKPdf	19 46 13.1	-0.5		
	baz=138,SNR=6.4									
CSU	Charleston Sou	138.69	350	ℯPKPpre		PKPpre	19 46 08.1			
CSU				ℯPKPdf		PKPdf	19 46 14.1	+0.5		
Z39A	Irene McRaven,	138.72	8	⇑P		PKPdf	19 46 15.0	+1.4		
	baz=138									
231A	Bronte	138.74	16	⇓P		PKPdf	19 46 14.2	+0.4		
	baz=138									
135A	Vickery Place,	138.84	12	⇓P		PKPdf	19 46 14.3	+0.4		
	baz=139									
232A	Coleman	138.96	15	⇑P		PKPdf	19 46 14.6	+0.4		
	baz=139,SNR=14									
330A	Mertzon	138.99	17	⇑P		PKPdf	19 46 15.2	+0.9		
	baz=139									
233A	Rising Star	139.02	14	⇓P		PKPdf	19 46 15.8	+1.6		
	baz=139,SNR=16									
136A	Ennis	139.09	11	P		PKPdf	19 46 15.4	+1.1		
	baz=139									
137A	Heron Place, G	139.11	10	⇓P		PKPdf	19 46 15.8	+1.4		
	baz=139									
138A	Matatall Enter	139.16	9	⇑P		PKPdf	19 46 16.4	+1.9		
	baz=139									
234A	Clairette	139.21	13	⇑P		PKPdf	19 46 15.9	+1.3		
	baz=139,SNR=12									
139A	Bunkhouse Ranc	139.25	8	⇓P		PKPdf	19 46 16.2	+1.6		
	baz=139									
331A	San Angelo	139.30	16	⇓P		PKPdf	19 46 16.4	+1.5		
	baz=139									
LRAL	Lakeview Retre	139.33	359	ℯPKPpre		PKPpre	19 46 05.2			
LRAL				ℯPKPdf		PKPdf	19 46 13.9	-0.9		
LRAL				LR		LR				
	comp=Z,183µm,22.0s									
WHTX	Lake Whitney,	139.38	12	⇑P		PKPdf	19 46 16.2	+1.3		
	baz=139									
WHTX	Lake Whitney,	139.38	12	ℯPKPpre		PKPpre	19 46 05.7			
WHTX				ℯPP		PP	19 49 05.2	-2.1		
332A	Millersview	139.41	15	⇑P		PKPdf	19 46 17.5	+2.5		
	baz=139,SNR=23									
429A	Davenport Ranc	139.50	19	⇑P		PKPdf	19 46 17.6	+2.4		
	baz=139									
236A	Katherine and	139.55	11	⇑P		PKPdf	19 46 17.1	+1.9		
	baz=139									
430A	Baggett Ranch,	139.55	18	⇑P		PKPdf	19 46 17.1	+1.8		
	baz=139									
333A	Richland Sprin	139.66	15	⇑P		PKPdf	19 46 16.7	+1.2		
	baz=139,SNR=17									
237A	Washetta, Mont	139.68	10	⇓P		PKPdf	19 46 17.1	+1.7		
	baz=139									
238A	Jacksonville	139.80	9	⇑P		PKPdf	19 46 17.9	+2.3		
	baz=140									
334A	Lometa	139.84	14	⇑P		PKPdf	19 46 16.4	+0.7		
	baz=140									
431A	Sonora	139.84	17	⇑P		PKPdf	19 46 17.7	+1.9		
	baz=140									
529A	Stev Forest Ra	139.86	19	⇓P		PKPdf	19 46 16.5	+0.6		
	baz=140									
432A	Menard	139.88	16	⇑P		PKPdf	19 46 17.1	+1.2		
	baz=140,SNR=9.5									
239A	Gary	139.88	8	⇓P		PKPdf	19 46 17.2	+1.4		
	baz=140									
335A	Moody	140.07	13	⇓P		PKPdf	19 46 17.1	+1.0		
	baz=140									
TX31	Lajitas Ar. Si	140.09	21	ℯPKPpre		PKPpre	19 46 10.2			
TXAR	Lajitas Array	140.09	21	PKhKP		PKPpre	19 46 09.4			
	comp=Z,9.3nm,0.8s,baz=332,slow=0.9,SNR=20									
TXAR					PKP		PKiKP		19 46 17.9	-1.0
	comp=Z,42nm,0.9s,baz=253,slow=0.9,SNR=29									
TXAR					PP		PP		19 49 14.8	+2.8
	comp=Z,27nm,0.8s,baz=352,slow=2.7,SNR=3.9									
TXAR	Lajitas Array	140.09	21	PKHKP		PKPpre	19 46 09.4			
TXAR							19 49 14.8			
TXAR					pmax	pmax				
	comp=Z,42nm,0.9s									
TXAR					pmax	pmax				
	comp=Z,27nm,0.8s									
VBMS	Vicksburg	140.09	3	ℯPP		PP	19 49 13.8	+2.2		
BDFB	Brasilia	140.11	255	PKhKP		PKPpre	19 46 09.3			
	comp=Z,15nm,0.9s,baz=131,slow=5.5,SNR=12									
BDFB					PKP		PKiKP		19 46 18.3	-0.9
	comp=Z,61nm,0.8s,baz=151,slow=2.2,SNR=16									
BDFB	Brasilia	140.11	255	PKPpre		PKPpre	19 46 09.3			
BDFB				ℯPKPpre		PKPpre	19 46 09.5			
BDFB				PKP		PKiKP	19 46 18.3	-0.9		
NATX	Nacogdoches	140.11	9	⇑P		PKPdf	19 46 17.9	+1.7		
	baz=140									
NATX	Nacogdoches	140.11	9	ℯPKPpre		PKPpre	19 46 08.7			
NATX				LR		LR				
	comp=Z,153µm,21.0s									
530A	J-C Ranch, Com	140.12	18	⇓P		PKPdf	19 46 17.2	+0.9		
	baz=140,SNR=31									
433A	Art	140.18	15	⇑P		PKPdf	19 46 16.7	+0.3		
	baz=140,SNR=7.4									
JCT	Junction City	140.25	16	⇑P		PKPdf	19 46 17.5	+0.9		
	baz=140,SNR=26									
JCT	Junction City	140.25	16	ℯPKPpre		PKPpre	19 46 08.4			
JCT				ℯPKPdf		PKiKP	19 46 18.4	-0.7		
JCT				ℯPP		PP	19 49 16.1	+3.2		
JCT				LR		LR				
	comp=Z,163µm,20.0s									
434A	Burnet	140.32	14	⇓P		PKPdf	19 46 17.0	+0.3		
	baz=140									
337A	Centerville	140.34	11	⇑P		PKPdf	19 46 17.0	+0.4		
	baz=140									
531A	Rocksprings	140.34	17	⇑P		PKPdf	19 46 17.3	+0.6		
	baz=140,SNR=26									
338A	Crockett	140.40	10	⇓P		PKPdf	19 46 17.4	+0.7		
	baz=140									
435B	Jarrell	140.51	13	⇑P		PKPdf	19 46 18.5	+1.6		
	baz=140,SNR=6.1									
339A	Huntington	140.54	9	⇑P		PKPdf	19 46 18.0	+1.0		
	baz=140									
340A	Bronson	140.56	8	⇓P		PKPdf	19 46 18.0	+1.0		
	baz=140									
532A	Rocksprings	140.56	16	⇓P		PKPdf	19 46 18.6	+1.5		
	baz=140,SNR=12									
436A	Wall Ranch, Ga	140.69	12	⇑P		PKPdf	19 46 19.8	+2.5		
	baz=140									
TIGA	Tifton	140.70	354	⇑P		PKPdf	19 46 18.9	+1.7		
	baz=140									
TIGA	Tifton	140.70	354	ℯPKPpre		PKPpre	19 46 10.4			
437A	Phantom Ranch,	140.77	11	⇓P		PKPdf	19 46 19.0	+1.6		
	baz=140									
533A	Kerrville	140.84	15	⇑P		PKPdf	19 46 18.8	+1.2		
	baz=141,SNR=15									
438A	Sam Houston St	140.96	10	⇓P		PKPdf	19 46 19.6	+1.9		
	baz=141									
534A	Blanco	141.03	14	⇓P		PKPdf	19 46 19.1	+1.2		
	baz=141,SNR=6.9									
631A	Perdido Creek	141.04	18	⇓P		PKPdf	19 46 19.8	+1.8		
	baz=141									
439A	Center Grove,	141.04	9	⇑P		PKPdf	19 46 19.2	+1.3		
	baz=141									
632A	Uvalde	141.18	16	⇑P		PKPdf	19 46 20.0	+1.8		
	baz=141,SNR=18									
440A	Kirbyville	141.21	8	⇓P		PKPdf	19 46 20.7	+2.5		
	baz=141									
535A	Dale	141.24	13	⇓P		PKPdf	19 46 19.2	+0.9		
	baz=141									
536A	Bastrop	141.31	13	⇓P		PKPdf	19 46 19.6	+1.2		
	baz=141									
BRAL	Brewton	141.35	359	ℯPKPdf		PKPdf	19 46 16.5	-1.9		
BRAL				LR		LR				
	comp=Z,186µm,21.0s									
633A	Saathoff Ranch	141.39	16	⇓P		PKPdf	19 46 19.5	+0.9		
	baz=141,SNR=12									
537A	Green Hill Far	141.46	12	⇓P		PKPdf	19 46 19.9	+1.2		
	baz=141									
538A	Harpers Horsep	141.48	10	⇓P		PKPdf	19 46 22.5	+3.8		
	baz=141									
LPIG	La Paz	141.52	34	PKP		PKPdf	19 46 20.4	+1.4		
	comp=Z,23nm,0.3s,baz=96,slow=2.4,SNR=9.7									
634A	China Grove, S	141.68	15	⇑P		PKPdf	19 46 20.6	+1.5		
	baz=141									
HKT	Hockley	141.68	11	ℯPKPpre		PKPpre	19 46 13.7			
539A	Cross D Ranch,	141.72	9	⇑P		PKPdf	19 46 21.9	+2.8		
	baz=142									
540A	Vidor	141.73	8	⇓P		PKPdf	19 46 23.1	+4.0		
	baz=142									
TRQA	Tornquist	141.80	214	ℯPKPdf		PKPpre	19 46 12.9			
TRQA				LR		LR				
	comp=Z,210µm,19.0s									
635A	Leesville	141.81	14	⇓P		PKPdf	19 46 20.5	+1.2		
	baz=142									
732A	Laxson Ranch,	141.86	17	⇓P		PKPdf	19 46 21.6	+2.1		
	baz=142,SNR=16									
636A	Smothers Creek	141.88	13	⇑P		PKPdf	19 46 21.6	+2.1		
	baz=142									
SLBS	Sierra La Lagu	142.05	34	ℯPKPdf		PKPdf	19 46 18.0	-2.0		
733A	Divot King Ran	142.06	16	⇑P		PKPdf	19 46 21.3	+1.5		
	baz=142,SNR=23									
637A	Eagle Lake	142.08	12	⇑P		PKPdf	19 46 21.9	+2.1		
	baz=142									
734A	La Parita Cree	142.13	15	⇑P		PKPdf	19 46 21.1	+1.2		
	baz=142									
832A	Faith Ranch, C	142.27	17	⇑P		PKPdf	19 46 21.7	+1.5		
	baz=142,SNR=16									
735A	Kenedy	142.31	14	⇓P		PKPdf	19 46 22.0	+1.8		
	baz=142									
736A	Circle Diamond	142.39	13	⇓P		PKPdf	19 46 21.9	+1.5		
	baz=142									
833A	Chaparral WMA,	142.40	17	⇓P		PKPdf	19 46 21.0	+0.6		
	baz=142									
737A	Port Lavaca	142.71	12	⇓P		PKPdf	19 46 24.0	+3.0		
	baz=142									
738A	Farr-Stevens R	142.79	11	⇓P		PKPdf	19 46 24.4	+3.3		
	baz=143									
834A	Tilden	142.82	15	⇑P		PKPdf	19 46 18.7	-2.5		
	baz=143,SNR=12									
835A	Beeville	142.85	14	⇓P		PKPdf	19 46 19.2	-2.0		
	baz=143,SNR=12									
933A	Laredo	143.11	17	⇓P		PKPbc	19 46 19.4	+0.9		
	baz=143,SNR=14									
934A	Benavides	143.33	16	⇑P		PKPbc	19 46 20.2	+1.1		
	baz=143									
KVTX	Kingsville	143.54	15	ℯPKPdf		PKPdf	19 46 23.6	+1.1		
KVTX				LR		LR				
	comp=Z,137µm,19.0s									
ANWB	Willy Bob	143.72	315	ℯP		PKPab	19 46 18.9	-0.8		
ANWB	Willy Bob	143.72	315	ℯPKPpre		PKPab	19 46 19.7	0.0		
ANWB				LR		LR				
	comp=Z,101µm,21.0s									
PLCA	Paso Flores	143.73	203	PKP		PKPbc	19 46 20.9	+0.9		
	comp=Z,40nm,0.7s,baz=150,slow=2.1,SNR=66									
PLCA	Paso Flores	143.73	203	ℯPKPdf		PKPbc	19 46 20.2	+0.2		
PLCA				PKP		PKPab	19 46 20.9	+1.6		
034A	Hebbronville	143.79	16	⇑P		PKPdf	19 46 21.9	-1.0		
	baz=144,SNR=23									
936A	North Padre Is	143.81	14	P		PKPdf	19 46 29.5	+6.6		
	baz=144									
035A	Encino	144.07	15	⇑P		PKPdf	19 46 24.8	+1.4		
	baz=144,SNR=11									
H05N1	Guadeloupe/Mar	144.08	312	PKP		PKPdf	19 46 22.9	-0.8		
	SNR=132									
DEG	La Desirade	144.09	312	ℯP		PKPab	19 46 20.8	-0.4		
SEG	Port Louis	144.35	313	ℯP		PKPbc	19 46 22.3	-0.1		
SMRT	St. Maarten	144.36	316	ℯP		PKPab	19 46 21.5	-0.6		
SMRT	St. Maarten	144.36	316	ℯPKPdf		PKPab	19 46 22.0	-0.2		
MGG	Marie-Galante	144.53	312	ℯ		PKPab	19 46 22.8	0.0		
MGG	Marie-Galante	144.53	312	ℯP		PKPbc	19 46 23.2	+0.2		
035Z	Hargill	144.53	16	⇑P		PKPdf	19 46 25.0	+0.8		
	baz=144									
DOG	Dongo Capester	144.68	312	ℯP		PKPbc	19 46 23.6	0.0		
SEUS	St. Eustatius	144.68	316	ℯPKPdf		PKPbc	19 46 23.8	+0.3		
SSG	Sans Toucher	144.69	312	ℯP		PKPab	19 46 23.1	-0.5		
CRG	Carmichael	144.69	312	ℯP		PKPbc	19 46 23.8	+0.1		
ECG	Echelle	144.70	312	ℯP		PKPbc	19 46 23.9	+0.2		
LKG	Breislack	144.70	312	ℯP		PKPab	19 46 23.0	-0.6		
TAG	Tarasque	144.70	312	ℯP		PKPbc	19 46 23.8	0.0		
PHG	Guadaloupe-2	144.71	312	ℯP		PKPbc	19 46 23.7	-0.1		
FNG	Fond-Bernard	144.71	312	ℯP		PKPbc	19 46 23.9	+0.2		
LZG	Guadaloupe-1	144.72	313	ℯP		PKPab	19 46 23.4	-0.1		
MLG	Mont-d'or	144.72	312	ℯP		PKPab	19 46 23.3	-0.3		
SCG	Saint Claude	144.72	312	ℯP		PKPbc	19 46 23.7	-0.1		
DWS	Wesley	144.75	311	ℯ		PKPab	19 46 22.7	-0.9		
HMG	Houelmont	144.77	312	ℯP		PKPbc	19 46 23.8	0.0		
SABA	Saba	144.77	316	ℯP		PKPab	19 46 23.3	-0.3		
SABA	Saba	144.77	316	ℯPKPdf		PKPab	19 46 23.4	-0.3		
TBG	Guadaloupe-3	144.81	312	ℯP		PKPab	19 46 23.0	-0.8		
BBGH	Gun Hill	144.85	306	ℯ		PKPdf	19 46 25.5	+0.5		
BBGH	Gun Hill	144.85	306	ℯP		PKPdf	19 46 26.2	+1.2		
BBGH	Gun Hill	144.85	306	ℯPKPdf		PKPdf	19 46 25.6	+0.5		
BBGH				LR		LR				
	comp=Z,124µm,20.0s									
BBL	Barber's Block	144.89	311	ℯP		PKPab	19 46 23.9	-0.2		
DBCT	Belle View Cho	144.96	311	ℯP		PKPdf	19 46 26.7	+1.4		
MDN	Morne-Daniel	144.96	311	ℯP		PKPdf	19 46 24.9	-0.2		
DSHT	Scott's Head	145.02	311	ℯP		PKPdf	19 46 25.7	+0.4		
H05S1	Guadeloupe/Mar	145.09	309	PKPbc		PKPdf	19 46 26.4	+1.0		
	SNR=139									
H06N1	SOCORRO T-PHAS	145.12	40	PKPbc		PKPdf	19 46 28.0	+2.6		
	SNR=272									
FDF	Fort de France	145.15	310	ℯP		PKPbc	19 46 24.4	-0.6		
FDF	Fort de France	145.15	310	ℯP		PKPbc	19 46 24.8	-0.3		
FDF	Fort de France	145.15	310	ℯPKPdf		PKPbc	19 46 24.2	-0.9		
FDF				LR		LR				
	comp=Z,103µm,21.0s									
BIM	Bigot	145.22	310	ℯP		PKPab	19 46 25.4	0.0		
H06S1	SOCORRO T	145.24	40	PKPbc		PKPdf	19 46 27.7	+2.1		
	SNR=172									
STVI	Saint Thomas	145.40	319	ℯPKPdf		PKPbc	19 46 24.6	-1.1		
CPUP	Villa Florida	145.51	234	ℯPKPdf		PKPdf	19 46 25.3	-0.6		
MCLT	Moule a Chique	145.61	308	ℯP		PKPdf	19 46 25.7	-0.7		
MCLT	Moule a Chique	145.61	308	ℯ		PKPbc	19 46 26.6	+0.1		
SVV	Soufriere Volc	146.06	308	ℯP		PKPab	19 46 30.2	+1.7		
SVB	Belmont	146.11	308	ℯ		PKPdf	19 46 27.5	+0.3		
SVB	Belmont	146.11	308	ℯP		PKPbc	19 46 28.1	0.0		
HUMP	Col San Antoni	146.13	320	ℯPKPdf		PKPdf	19 46 26.9	-0.2		
FCV	Fort Charlotte	146.17	308	ℯP		PKPab	19 46 30.1	+1.1		
SJG	San Juan	146.34	320	ℯPKPdf		PKPdf	19 46 26.8	-0.7		
SJG				LR		LR				
	comp=Z,74µm,20.0s									
GRTK	Grand Turk	146.43	331	ℯPKPdf		PKPdf	19 46 28.1	+0.6		
GRTK				LR		LR				
	comp=Z,144µm,22.0s									
AOPR	Arecibo Observ	146.55	321	ℯPKPdf		PKPdf	19 46 27.9	0.0		
CELP	Cerrillos	146.64	321	ℯPKPdf		PKPdf	19 46 27.3	-0.7		
TOSP	Speyside	146.67	304	ℯ		PKPbc	19 46 29.4	-0.3		
TOSP	Speyside	146.67	304	ℯP		PKPbc	19 46 29.7	0.0		
AGPR	Aguadilla, PR	146.68	322	ℯPKPdf		PKPdf	19 46 28.8	+0.7		
OBIP	Obispado Ponce	146.68	321	ℯPKPbc		PKPdf	19 46 27.6	-0.5		
AGP	Aguadilla	146.74	322	ℯPKPdf		PKPbc	19 46 29.4	-0.5		
ICMP	Isla Caja de M	146.75	320	ℯPKPdf		PKPdf	19 46 28.2	+0.1		
LSP	Las Mesas	146.88	322	ℯPKPdf		PKPdf	19 46 28.6	+0.2		
MPR	Mayaguez	146.89	322	ℯPKPdf		PKPdf	19 46 28.7	+0.4		
BOT	Bacolet	146.89	304	ℯP		PKPdf	19 46 26.1	-2.5		
CRPR	Cabo Rojo, PR	147.02	321	ℯPKPbc		PKPdf	19 46 26.4	-2.2		
ANIG	Ahuacatlan	147.03	29	*i* P		PKPbc	19 46 29.8	-1.0		
GRW	Mount Saint Ca	147.09	307	ℯP		PKPdf	19 46 27.2	-1.7		
GRGR	Grenville	147.10	307	ℯ		PKPdf	19 46 28.5	-0.4		
GRGR	Grenville	147.10	307	ℯP		PKPdf	19 46 29.1	+0.2		
GRGR	Grenville	147.10	307	ℯPKPdf		PKPdf	19 46 28.6	-0.2		
GRGR				LR		LR				
	comp=Z,57µm,22.0s									
SMN1	Samana, DR	147.38	326	ℯPKPdf		PKPdf	19 46 28.0	-1.3		
SMN1				ℯPKPbc		PKPbc	19 46 31.5	-0.2		
PCDR	Punta Cana, DR	147.40	324	ℯPKPbc		PKPbc	19 46 31.7	0.0		
TBH	Brigand Hill	147.55	304	ℯP		PKPdf	19 46 29.4	-0.2		
TRN	Trinidad (W)	147.74	304	ℯP		PKPdf	19 46 30.9	+1.0		
TPP	Pointe-a-Pierr	147.96	304	ℯP		PKPbc	19 46 32.6	-0.7		
SDD	Santo Domingo	148.32	326	ℯPKPbc		PKPbc	19 46 33.8	-0.4		
SDDR	Presa de Saban	148.63	328	ℯPKPdf		PKPdf	19 46 31.4	+0.1		
SDDR				ℯPKPbc		PKPbc	19 46 35.2	+0.1		
SDDR				LR		LR				
	comp=Z,101µm,22.0s									
WSYH	La Gonave Hosp	149.55	331	ℯPKPbc		PKPbc	19 46 36.5	-0.8		
GTBY	Guantanamo Bay	149.60	335	ℯPKPdf		PKPdf	19 46 31.8	-1.0		
GTBY				ℯPKPbc		PKPbc	19 46 37.6	+0.2		
GTBY				LR		LR				
	comp=Z,104µm,21.0s									
LGNH	LOogne	149.70	330	ℯPKPdf		PKPbc	19 46 35.7	-1.9		
CLCH	Cerro Calan	149.86	210	ℯP		PKPdf	19 46 34.5	+1.5		
JAKH	Jacmel	149.88	330	ℯPKPbc		PKPbc	19 46 36.5	-1.6		
MMIG	Aquila	149.96	30

JTS				LR	LR			
	comp=Z,190μm,21.0s							
CGA2	**Cerro Gallo 2**	**161.90**	**349**	*e*P	PKPdf	**19 46 55.5**	**+6.0**
URSC	**Urasca**	**161.92**	**346⇑**	*e*P	**PKPdf**	**19 46 48.8**	**-0.8**
VCR	**Vista de Mar**	**161.98**	**352⇑**	*e*P	**PKPdf**	**19 46 48.8**	**-0.7**
JCR	**Jicaral**	**162.18**	**351**	*e*P	**PKPdf**	**19 46 46.1**	**-3.5**
QCR	**Quepos**	**162.41**	**347**	*e*P	**PKPdf**	**19 46 49.5**	**-0.3**
ACR	**Cerro Adams**	**162.90**	**343**	*e*P	**PKPdf**	**19 46 50.1**	**-0.3**
OTAV	**Otavalo**	**167.51**	**310**	*e*PKPdf	**PKPdf**	**19 46 54.8**	**0.0**
OTAV				*e*PKPab	**PKPab**	**19 48 01.0**	**+0.7**
OTAV				LR	LR			
	comp=Z,174μm,20.0s							
NNA	**Nana**	**168.22**	**249**	PKP	**PKPdf**	**19 46 54.7**	**0.0**
	comp=Z,38nm,0.8s,baz=330,slow=2.7,SNR=11							
NNA				PKPab	**PKPab**	**19 48 05.0**	**+1.9**
	comp=Z,100nm,0.9s,baz=204,slow=1.8,SNR=5.4							
NNA	**Nana**	**168.22**	**249**	*e*PKPdf	**PKPdf**	**19 46 54.2**	**-0.5**
NNA				PKP	**PKPdf**	**19 46 54.7**	**0.0**
NNA				*e*PKPab	**PKPab**	**19 48 02.7**	**-0.4**
NNA				PKPab	PKPab	19 48 05.0	+1.9
NNA				*e*PP	**PP**	**19 51 52.2**	**+0.1**
NNA				LR	LR			
	comp=Z,155μm,21.0s							
ATAH	**Atahualpa**	**170.40**	**274**	PKP	**PKPdf**	**19 46 57.2**	**+0.7**
	comp=Z,53nm,0.9s,baz=36,slow=0.4,SNR=25							
ATAH				PKPab	**PKPab**	**19 48 15.0**	**+1.7**
	comp=Z,76nm,1.1s,baz=229,slow=6.7,SNR=1.4							
PAYG	**Puerto Ayora**	**172.53**	**17**	*e*PKPdf	**PKPdf**	**19 46 57.3**	**+0.2**
PAYG				*e*PKPab	**PKPab**	**19 48 22.4**	**+0.7**
PAYG				*e*PP	PP	19 52 04.5	-7.0
PAYG				LR	LR			
	comp=Z,98μm,20.0s							

IDC ***12*** *19:54:12.5±2.2, 7°.11N×91°.82E, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.7/59, mbtmp3.8/9, ML3.8/2, Error ellipse: s-maj=55.9km s-min=22.4km az=55.0*
ISCJB ***12*** *19:54:14.8±1.5, 7°.2N±0°.2×92°.0E±0°.2, h23km, mb3.8/7, Error ellipse: s-maj=34.4km s-min=14.2km az=147.9*
ISC 12 19:54:16.7±1.9, 7°.2N±0°.2×92°.0E±0°.3, h23km, n12, σ0.88/9, mb3.9/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.19**	**122**	Pn	**Pn**	**19 56 14.1**	**-0.2**
	1.3nm,0.3s,baz=309,slow=15,SNR=8.6						
CMAR	**Chiang Mai Arr**	**13.08**	**31**	Pn	**Pn**	**19 57 20.8**	**-0.5**
	0.2nm,0.3s,baz=230,slow=14,SNR=4.8						
MKAR	**Makanchi Array**	**40.31**	**350**	P	**P**	**20 01 52.4**	**0.0**
	0.8nm,0.6s,baz=173,slow=7.9,SNR=4.0						
SONM	**Songino Array**	**42.31**	**14**	P	**P**	**20 02 08.8**	**-0.1**
	1.7nm,0.7s,baz=193,slow=8.5,SNR=5.9						
KSRS	**Korea Array**	**44.38**	**42**	P	**P**	**20 02 26.1**	**+0.6**
	0.5nm,0.6s,baz=239,slow=9.1,SNR=3.0						
KURBB	**Kurchatov Arra**	**44.71**	**348**	P	**P**	**20 02 28.1**	**+0.2**
	1.0nm,0.6s,baz=171,slow=7.2,SNR=4.4						
H01W3	**Cape Leeuwin H**	**46.80**	**155**	T	T	20 53 08.6	
	baz=320,slow=74						
H01W2	**Cape Leeuwin H**	**46.81**	**155**	T	T	20 53 36.1	
	baz=320						
H01W1	**Cape Leeuwin H**	**46.82**	**155**	T	T	20 53 30.6	
	baz=320,slow=74						
ZALV	**Zalesovo Beam**	**46.97**	**354**	P	**P**	**20 02 44.7**	**-1.0**
	1.9nm,0.9s,baz=169,slow=8.4,SNR=3.7						
WRA	**Warramunga Arr**	**49.65**	**124**	P	**P**	**20 03 06.8**	**-0.2**
	1.3nm,0.9s,baz=307,slow=8.6,SNR=2.8						
MJAR	**Matsushiro Arr**	**51.20**	**48**	P	**P**	**20 03 20.2**	**+1.7**
	0.6nm,0.7s,baz=240,slow=6.6,SNR=5.3						

GUC 12 19:59:21.0±0.7, 34°.77S×71°.74W, h45km±2km, ML4.0, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.48**	**119⇓**	*i*P	Pn	19 59 32.1	+0.4
NICH				*i* S	Sn	19 59 40.1	+0.8
TALC	**Talca**	**0.63**	**172⇑**	*i*P	Pn	19 59 34.1	+0.4
TALC				*i* S	Sn	19 59 43.5	+0.7
LNV	**Longovilo**	**0.86**	**19⇑**	*i*P	Pn	19 59 37.2	+0.5
LNV				*i* S	Sn	19 59 49.2	+1.0
LNCH	**Linares**	**1.08**	**174**	*e*P	Pn	19 59 42.4	+2.7
LNCH				*i* S	Sn	19 59 56.5	+3.0
CHCH	**Chadas Angostu**	**1.23**	**47⇑**	*i*P	Pn	19 59 42.5	+0.7
CHCH				*i* S	Sn	19 59 58.8	+1.5
TACH	**Talagante**	**1.30**	**31**	*e*P	Pn	19 59 43.5	+0.7
TACH				*i* S	Sn	20 00 00.6	+1.6
PCH	**Pirque**	**1.53**	**42⇑**	*i*P	Pn	19 59 46.9	+0.8
PCH				*e*S	Sn	20 00 06.9	+2.0
SAN	**Santiago**	**1.59**	**34**	*e*P	Pn	19 59 47.7	+0.9
SAN				*e*S	Sn	20 00 07.7	+1.5
SJCH	**San Jose de Ma**	**1.61**	**46**	*e*P	Pn	19 59 47.4	+0.3
SJCH				*i* S	Sn	20 00 07.8	+1.0
LACH	**Col Las Americ**	**1.66**	**38**	*e*P	Pn	19 59 48.0	+0.3
CLCH	**Cerro Calan**	**1.70**	**36⇓**	*i*P	Pn	19 59 49.2	+0.9
CLCH				*i* S	Sn	20 00 08.9	+0.1
CLCH				AML	AML	20 00 15.4	
	comp=E,2μm,0.3s						
IHA	**Instituto Hidr**	**1.74**	**3**	*e*P	Pn	19 59 49.5	+0.7
PEL	**Peldehue**	**1.84**	**29⇓**	*i*P	Pn	19 59 51.4	+1.1
PEL				*i* S	Sn	20 00 13.3	+0.8
PEL				AML	AML	20 00 21.2	
	comp=N,3μm,0.2s						
ROCH	**El Roble**	**1.90**	**19⇓**	*i*P	Pn	19 59 52.2	+1.0
ROCH				*i* S	Sn	20 00 15.1	+1.1
ROCH				AML	AML	20 00 22.4	
	comp=N,2μm,0.2s						

IDC ***12*** *20:03:36.7±1.4, 7°.64N×91°.82E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.6/50, mbtmp3.9/7, ML4.1/2, Error ellipse: s-maj=42.6km s-min=19.9km az=56.0*
ISCJB ***12*** *20:03:37.9±0.7, 7°.6N±0°.1×91°.80E±0°.1, h24km, mb4.0/8, Error ellipse: s-maj=19.1km s-min=10.4km az=35.6*
NEIC ***12*** *20:03:41.6±0.5, 7°.60N×91°.81E, h35km, mb4.4/3, Error ellipse: s-maj=15.9km s-min=8.5km az=35.0*
ISC 12 20:03:40.3±0.8, 7°.7N±0°.1×91°.8E±0°.1, h24km, n13, σ1.906/13, mb4.0/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.56**	**124**	Pn	**Pn**	**20 05 42.7**	**-0.3**
	1.9nm,0.3s,baz=312,slow=12,SNR=6.1						
KULM	**Kulim**	**9.07**	**101**	Pn	**Pn**	**20 05 49.1**	**-0.7**
PALK	**Pallekele**	**11.05**	**269**	Pn	**Pn**	**20 06 16.1**	**-0.9**
	1.4nm,0.3s,baz=106,slow=15,SNR=3.0						
PALK				Sn	Sn	20 08 06.2	-14
	1.2nm,0.3s,baz=90,slow=13,SNR=3.7						
ENH	**Enshi**	**27.90**	**34**	P	**P**	**20 09 25.9**	**-2.7**
MKAR	**Makanchi Array**	**39.81**	**350**	P	**P**	**20 11 11.9**	**+0.3**
	0.6nm,0.4s,baz=169,slow=8.7,SNR=12						
SONM	**Songino Array**	**41.88**	**15**	P	**P**	**20 11 29.4**	**+0.6**
	0.4nm,0.4s,baz=198,slow=9.2,SNR=3.2						
ZALV	**Zalesovo Beam**	**46.48**	**354**	P	**P**	**20 12 05.5**	**+0.2**
	3.9nm,1.2s,baz=157,slow=12,SNR=3.0						
ABKAR	**Akbulak array**	**49.33**	**333**	*e*P	**P**	**20 12 28.4**	**+0.9**
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**50.03**	**124**	P	**P**	**20 12 33.0**	**-0.3**
	0.6nm,0.5s,baz=302,slow=8.8,SNR=7.2						
WRAB	**Tennant Creek**	**50.03**	**124**	P	**P**	**20 12 33.6**	**+0.3**
	18nm,1.3s						
MAJO	**Matsushiro**	**50.98**	**49**	*e*P	**P**	**20 12 40.7**	**+0.4**
	2.6nm,0.6s						
ASAR	**Alice Springs**	**51.57**	**128**	P	**P**	**20 12 45.2**	**+0.3**
	0.6nm,0.7s,baz=303,slow=8.3,SNR=6.0						
CTAO	**Charters Tower**	**60.22**	**118**	P	**P**	**20 13 47.8**	**+0.9**

IDC ***12*** *20:06:25.4±1.4, 7°.54N×91°.66E, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.5/43, mbtmp3.7/6, ML4.1/2, Error ellipse: s-maj=38.3km s-min=23.4km az=61.0*
ISC 12 20:06:29.9±1.2, 7°.6N±0°.2×91°.6E±0°.1, h35km, n6, σ1.973/6, mb3.5/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.82**	**269**	Pn	**Pn**	**20 09 01.3**	**-1.0**
	1.4nm,0.3s,baz=128,slow=12,SNR=2.4						
CMAR	**Chiang Mai Arr**	**12.94**	**33**	Pn	**Pn**	**20 09 29.5**	**-1.8**
	0.4nm,0.3s,baz=234,slow=14,SNR=2.8						
MKAR	**Makanchi Array**	**39.86**	**350**	P	**P**	**20 14 02.0**	**+2.0**
	0.4nm,0.5s,baz=172,slow=9.7,SNR=6.9						
SONM	**Songino Array**	**42.02**	**15**	P	**P**	**20 14 18.7**	**+0.7**
	0.7nm,0.7s,baz=196,slow=7.5,SNR=3.3						
WRA	**Warramunga Arr**	**50.18**	**124**	P	**P**	**20 15 22.3**	**-0.2**
	0.6nm,0.7s,baz=304,slow=8.4,SNR=3.9						
ASAR	**Alice Springs**	**51.70**	**128**	P	**P**	**20 15 34.4**	**+0.5**
	0.5nm,0.8s,baz=304,slow=6.9,SNR=2.7						

IDC 12 20:10:31.0±2.7, 7°.80N×91°.70E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.3/41, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=84.3km s-min=24.3km az=69.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.72**	**33**	Pn	Pn	20 13 33.2	-0.1
	0.1nm,0.3s,baz=234,slow=14,SNR=3.4						
MKAR	**Makanchi Array**	**39.68**	**350**	P	P	20 18 04.8	0.0
	0.4nm,0.7s,baz=164,slow=8.7,SNR=4.2						
SONM	**Songino Array**	**41.81**	**15**	P	P	20 18 22.4	-0.2
	0.4nm,0.5s,baz=188,slow=9.6,SNR=2.7						
WRA	**Warramunga Arr**	**50.21**	**124**	P	P	20 19 29.1	0.0
	0.8nm,1.0s,baz=303,slow=8.3,SNR=2.9						
ASAR	**Alice Springs**	**51.75**	**128**	P	P	20 19 40.5	-0.2
	0.4nm,0.8s,baz=294,slow=7.1,SNR=4.1						

IDC ***12*** *20:12:20.6±0.9, 7°.78N×91°.99E, h0km, mb3.8/13, mb1 3.9/15, mb1mx3.8/41, mbtmp3.8/15, ML4.3/2, Error ellipse: s-maj=30.3km s-min=14.6km az=54.0*
ISCJB ***12*** *20:12:21.9±0.6, 7°.75N±0°.08×92°.09E±0°.08, h25km, mb4.1/21, Error ellipse: s-maj=14.9km s-min=6.8km az=136.2*
NEIC ***12*** *20:12:25.4±0.6, 7°.77N×92°.06E, h35km, mb4.7/8, Error ellipse: s-maj=15.6km s-min=8.4km az=47.0*
ISC 12 20:12:23.4±0.6, 7°.63N±0°.10×91°.90E±0°.08, h25km, n38, σ1.942/33, mb3.9/21, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.48**	**124**	Pn	**Pn**	**20 14 25.3**	**+0.4**
	3.0nm,0.3s,baz=336,slow=13,SNR=19						
PSI				Sn	**Sn**	**20 15 57.6**	**-2.4**
	1.4nm,0.3s,baz=203,slow=14,SNR=4.5						
KULM	**Kulim**	**9.00**	**104**	*e*Pn	**Pn**	**20 14 31.4**	**-0.6**
	28nm,1.2s						
PALK	**Pallekele**	**11.11**	**269**	Pn	**Pn**	**20 14 58.2**	**-2.6**
	8.2nm,0.3s,baz=90,slow=13,SNR=14						
PALK				Sn	Sn	20 16 47.9	-16
	6.6nm,0.3s,baz=356,slow=19,SNR=6.2						
PALK	**Pallekele**	**11.11**	**269**	Pn	**Pn**	**20 14 58.2**	**-2.6**
PALK				*e*Sn	Sn	20 16 42.5	-22
CMAR	**Chiang Mai Arr**	**12.76**	**32**	Pn	**Pn**	**20 15 22.6**	**-0.9**
	0.6nm,0.3s,baz=230,slow=14,SNR=6.2						
CHTO	**Chiang Mai**	**13.06**	**31**	*e*Pn	Pn	20 15 25.0	-2.5
QIZ	**Qiongzhong**	**20.79**	**55**	*e*P	**P**	**20 17 02.0**	**-0.9**
	18nm,0.7s						
H08S3	**Diego Garcia H**	**24.58**	**232**	T	T	20 44 12.2	
	baz=52,slow=75,SNR=3.9						
H08S2	**Diego Garcia H**	**24.59**	**232**	T	T	20 43 58.9	
	baz=52,slow=75,SNR=4.7						
H08S1	**Diego Garcia H**	**24.60**	**232**	T	T	20 44 12.2	
	baz=52,slow=75,SNR=4.8						
TKM2	**Tokmak 2**	**37.97**	**340**	P	**P**	**20 19 40.1**	**+0.7**
	19nm,1.5s						
AAK	**Ala-Archa**	**38.09**	**339**	P	**P**	**20 19 43.4**	**+2.9**
	29nm,1.4s						
EKS2	**Erkin-Say**	**38.37**	**338**	P	**P**	**20 19 41.8**	**-1.0**
	8.4nm,1.1s						
MK31	**Makanchi Array**	**39.88**	**350**	*e*P	P	20 19 52.2	-3.0
MKAR	**Makanchi Array**	**39.88**	**350**	P	**P**	**20 19 54.3**	**-0.9**
	1.3nm,0.6s,baz=171,slow=8.6,SNR=10						
KKAR	**Karatay Array**	**40.02**	**335**	P	**P**	**20 19 54.7**	**-1.6**
	1.0nm,0.5s						
SONM	**Songino Array**	**41.92**	**15**	P	**P**	**20 20 11.3**	**-0.8**
	1.7nm,0.7s,baz=196,slow=8.9,SNR=7.0						
KSAR	**Wonju Array Be**	**44.09**	**42**	P	**P**	**20 20 29.6**	**-0.1**
KSRS	**Korea Array**	**44.12**	**42**	P	**P**	**20 20 29.6**	**-0.3**
	0.9nm,0.8s,baz=241,slow=8.9,SNR=3.9						
KURBB	**Kurchatov Arra**	**44.28**	**348**	P	**P**	**20 20 30.4**	**-0.6**
	0.9nm,0.6s,baz=172,slow=7.3,SNR=12						
KURK	**Kurchatov**	**44.35**	**348**	P	**P**	**20 20 30.4**	**-1.1**
ZAA0	**Zalesovo Array**	**46.54**	**354**	P	**P**	**20 20 48.4**	**-0.4**
ZALV	**Zalesovo Beam**	**46.54**	**354**	P	**P**	**20 20 47.8**	**-1.0**
	0.5nm,0.4s,baz=187,slow=10,SNR=3.5						
BVAR	**Borovoye Array**	**48.53**	**343**	P	**P**	**20 21 04.0**	**-0.4**
	1.1nm,0.8s,baz=140,slow=7.7,SNR=4.0						
BRVK	**Borovoye**	**48.59**	**343**	P	**P**	**20 21 05.0**	**+0.1**
ABKAR	**Akbulak array**	**49.41**	**333**	*e*P	**P**	**20 21 10.8**	**-0.2**
	5.1nm,0.9s						
WRA	**Warramunga Arr**	**49.95**	**124**	P	**P**	**20 21 15.9**	**+0.2**
	1.9nm,0.7s,baz=307,slow=8.4,SNR=13						
WRAB	**Tennant Creek**	**49.95**	**124**	*e*P	**P**	**20 21 14.4**	**-1.3**
	11nm,1.0s						
MJAR	**Matsushiro Arr**	**50.98**	**49**	P	**P**	**20 21 23.1**	**-0.2**
	0.5nm,0.6s,baz=230,slow=3.6,SNR=4.5						
MJAR				PcP	**PcP**	**20 22 41.6**	**+2.2**
	0.6nm,0.6s,baz=238,slow=3.5,SNR=3.3						
ASAR	**Alice Springs**	**51.49**	**128**	P	**P**	**20 21 28.1**	**+0.8**
	0.6nm,0.6s,baz=302,slow=7.1,SNR=7.7						
ASAR				PcP	**PcP**	**20 22 42.8**	**+1.3**
	0.5nm,0.6s,baz=307,slow=3.7,SNR=3.3						
ARU	**Arti**	**55.27**	**338**	P	**P**	**20 21 56.4**	**+1.9**
	10nm,1.1s						
BRTR	**Keskin Array B**	**60.91**	**311**	P	**P**	**20 22 35.4**	**+0.9**
	0.2nm,0.3s,baz=141,slow=7.1,SNR=2.3						
STKA	**Stephens Creek**	**61.56**	**132**	P	**P**	**20 22 40.5**	**+1.6**
	1.2nm,0.6s,baz=298,slow=2.6,SNR=6.6						
FINES	**FINESS Array B**	**71.89**	**333**	P	**P**	**20 23 46.3**	**+2.1**
	0.8nm,0.7s,baz=122,slow=5.2,SNR=3.5						
GERES	**GERESS Array B**	**76.53**	**318**	P	**P**	**20 24 12.5**	**+0.8**
	1.1nm,0.8s,baz=101,slow=7.2,SNR=3.6						
CLL	**Collm**	**77.14**	**321**	*e*(pP)	pP	20 24 24.0	+1.0
LPG	**La Plagne**	**81.21**	**315**	*e*P	P	20 24 45.0	+7.3
	5.7nm,0.7s						
LPL	**La Plagne**	**81.23**	**315**	*e*P	P	20 24 45.0	+7.3

IDC ***12*** *20:19:03.4±1.0, 7°.72N×91°.83E, h0km, mb3.7/7, mb1 3.8/10, mb1mx3.6/47, mbtmp3.7/10, ML3.8/3, Error ellipse: s-maj=33.8km s-min=17.1km az=57.0*
ISCJB ***12*** *20:19:04.3±0.7, 7°.7N±0°.1×91°.8E±0°.1, h24km, mb3.6/7, Error ellipse: s-maj=16.8km s-min=12.1km az=39.9*
ISC 12 20:19:06.8±0.8, 7°.7N±0°.1×91°.8E±0°.1, h24km, n10, σ0.960/12, mb3.7/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.61**	**124**	Pn	**Pn**	**20 21 10.0**	**-0.1**
	1.1nm,0.3s,baz=316,slow=14,SNR=3.1						
PALK	**Pallekele**	**11.02**	**268**	Pn	**Pn**	**20 21 42.4**	**-0.6**
	1.9nm,0.3s,baz=76,slow=11,SNR=6.6						
PALK				Sn	Sn	20 23 33.6	-12
	10nm,0.3s,baz=330,slow=16,SNR=14						
CMAR	**Chiang Mai Arr**	**12.74**	**32**	Pn	**Pn**	**20 22 06.1**	**-0.4**
	0.1nm,0.3s,baz=230,slow=15,SNR=3.9						
MKAR	**Makanchi Array**	**39.78**	**350**	P	**P**	**20 26 37.6**	**-0.2**
	0.5nm,0.4s,baz=168,slow=8.6,SNR=12						
SONM	**Songino Array**	**41.86**	**15**	P	**P**	**20 26 55.0**	**-0.1**
	1.3nm,0.7s,baz=197,slow=8.7,SNR=12						
KURBB	**Kurchatov Arra**	**44.17**	**348**	P	**P**	**20 27 14.2**	**+0.7**
	0.8nm,0.7s,baz=168,slow=6.7,SNR=8.0						
ZALV	**Zalesovo Beam**	**46.44**	**354**	P	**P**	**20 27 31.6**	**0.0**
	0.5nm,0.3s,baz=162,slow=9.8,SNR=4.5						
WRA	**Warramunga Arr**	**50.08**	**124**	P	**P**	**20 27 59.5**	**-0.6**
	0.6nm,0.7s,baz=309,slow=7.8,SNR=5.4						
WRA				PcP	**PcP**	**20 29 20.5**	**+0.7**
	0.2nm,0.4s,baz=302,slow=2.8,SNR=3.7						
ASAR	**Alice Springs**	**51.61**	**128**	P	**P**	**20 28 11.7**	**-0.1**
	0.4nm,0.8s,baz=302,slow=7.9,SNR=4.3						
ASAR				PcP	**PcP**	**20 29 26.3**	**+0.9**
	0.2nm,0.6s,baz=312,slow=3.6,SNR=3.6						
GERES	**GERESS Array B**	**76.40**	**318**	P	**P**	**20 30 55.1**	**+0.7**
	0.3nm,0.3s,baz=60,slow=5.3,SNR=4.9						

ISCJB ***12*** *20:21:29.5±0.9, 7°.6N±0°.1×91°.41E±0°.08, h25km, mb3.7/8, Error ellipse: s-maj=19.6km s-min=11.3km az=2.8*
IDC ***12*** *20:21:29.7±1.1, 7°.90N×91°.93E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.5/45, mbtmp3.7/8, Error ellipse: s-maj=50.7km s-min=18.9km az=56.0*
ISC 12 20:21:32.4±1.0, 7°.7N±0°.2×91°.5E±0°.1, h25km, n9, σ1.956/11, mb3.8/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.72**	**269**	Sn	**Sn**	**20 26 01.9**	**-1.9**
	2.0nm,0.3s,baz=278,slow=15,SNR=3.7						
MKAR	**Makanchi Array**	**39.78**	**350**	P	**P**	**20 29 02.8**	**-0.5**
	0.8nm,0.5s,baz=181,slow=8.6,SNR=4.9						
SONM	**Songino Array**	**41.99**	**15**	P	**P**	**20 29 19.5**	**-2.1**
	0.8nm,0.7s,baz=195,slow=10,SNR=4.2						
SONM				PcP	**PcP**	**20 31 17.4**	**+0.7**
	0.3nm,0.6s,baz=163,slow=1.5,SNR=3.3						
KURBB	**Kurchatov Arra**	**44.16**	**348**	P	**P**	**20 29 39.3**	**+0.3**
	1.2nm,0.6s,baz=174,slow=7.5,SNR=5.9						
ZALV	**Zalesovo Beam**	**46.47**	**355**	P	**P**	**20 29 56.6**	**-0.6**
	0.9nm,0.6s,baz=170,slow=9.0,SNR=4.4						
WRA	**Warramunga Arr**	**50.29**	**124**	P	**P**	**20 30 26.0**	**-1.3**
	0.6nm,0.8s,baz=297,slow=8.7,SNR=3.1						
ASAR	**Alice Springs**	**51.81**	**128**	P	**P**	**20 30 38.3**	**-0.4**
	0.3nm,0.8s,baz=302,slow=8.0,SNR=2.9						
ASAR				PcP	**PcP**	**20 31 52.9**	**+1.2**
	0.5nm,0.9s,baz=303,slow=4.1,SNR=5.0						
BRTR	**Keskin Array B**	**60.60**	**311**	P	**P**	**20 31 43.0**	**+1.6**
	0.8nm,0.8s,baz=128,slow=7.2,SNR=3.9						
GERES	**GERESS Array B**	**76.24**	**318**	P	**P**	**20 33 21.1**	**+2.0**
	0.7nm,0.7s,baz=96,slow=6.0,SNR=4.8						

ISCJB ***12*** *20:21:57.4±0.3, 24°.47N±0°.05×94°.59E±0°.04, h100km, mb4.2/32, Error ellipse: s-maj=8.6km s-min=4.1km az=31.2*
IDC ***12*** *20:21:58.6±0.7, 24°.63N×94°.89E, h97km±6km, mb3.8/19, mb1 3.9/20, mb1mx3.7/50, mbtmp4.1/20, Error ellipse: s-maj=22.3km s-min=10.0km az=54.0*
BJI ***12*** *20:21:58.0, 24°.96N×94°.61E, h65km, mb4.3/7, ML4.1/2*
NEIC ***12*** *20:22:00.3±0.8, 24°.55N×94°.81E, h114km±9km, mb4.4/16, Error ellipse: s-maj=9.5km s-min=5.7km az=59.0*
ISC 12 20:21:58.8±0.5, 24°.51N±0°.08×94°.59E±0°.07, h100km, n84, σ1.950/101, mb4.3/32, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**0.65**	**295**	*e*P	**Pn**	**20 22 15.0**	**-0.9**
IMP				*e*S	**Sn**	**20 22 28.0**	**-0.7**
TAPN	**Taplejung**	**6.80**	**296**	*e*Pn	**Pn**	**20 23 37.6**	**+1.3**
TAPN				*e*Sn	**Sn**	**20 24 51.8**	**-0.7**
	562nm,0.8s						
ODAN	**Odare**	**6.90**	**291**	*e*Pn	**Pn**	**20 23 37.9**	**+0.3**
ODAN				*e*Sn	**Sn**	**20 24 52.2**	**-2.5**
	566nm,0.6s						
CHTO	**Chiang Mai**	**6.97**	**144**	*e*Pn	**Pn**	**20 23 38.6**	**+0.2**
	15nm,0.9s						
CHTO				*e*Sn	Sn	20 25 26.4	+30
CM31	**Chiang Mai Arr**	**7.26**	**145**	*e*Pn	**Pn**	**20 23 42.9**	**+0.5**
	10nm,0.7s						
CMAR	**Chiang Mai Arr**	**7.26**	**145**	P	**Pn**	**20 23 42.5**	**+0.2**
	0.8nm,0.3s,baz=320,slow=13,SNR=63						
CMAR				Lg	Lg	20 25 37.8	
	baz=316,slow=32,SNR=3.0						
RAMN	**Ramite**	**7.60**	**290**	*e*Pn	**Pn**	**20 23 48.2**	**+1.1**
RAMN				*e*Sn	**Sn**	**20 25 09.1**	**-2.7**
	325nm,0.6s						
JIRN	**Jiri**	**8.17**	**294**	*e*Pn	**Pn**	**20 23 55.9**	**+0.9**
JIRN				*e*Sn	**Sn**	**20 25 23.9**	**-2.0**
	248nm,0.5s						
GUN	**Gumba**	**8.52**	**295**	*e*Pn	**Pn**	**20 24 00.3**	**+0.6**
GUN				*e*Sn	**Sn**	**20 25 31.1**	**-3.2**
	279nm,0.5s						
PKI	**Pulchoki**	**8.80**	**292**	*e*Pn	**Pn**	**20 24 03.6**	**+0.1**
PKI				*e*Sn	**Sn**	**20 25 37.5**	**-3.6**
	205nm,0.9s						
KKN	**Kakani**	**8.97**	**293**	*e*Pn	**Pn**	**20 24 05.9**	**+0.1**
KKN				*e*Sn	**Sn**	**20 25 42.3**	**-2.9**
	146nm,0.7s						
DMN	**Daman**	**9.06**	**292**	*e*Pn	**Pn**	**20 24 07.2**	**+0.1**
DMN				*e*Sn	**Sn**	**20 25 44.2**	**-3.3**
	94nm,0.6s						
GKN	**Gorkha**	**9.58**	**293**	*e*Pn	**Pn**	**20 24 14.0**	**0.0**
GKN				*e*Sn	**Sn**	**20 25 56.0**	**-3.9**
	140nm,0.4s						
KOLN	**Koldanda**	**10.39**	**291**	*e*Pn	**Pn**	**20 24 25.3**	**+0.3**
KOLN				*e*Sn	**Sn**	**20 26 15.9**	**-3.7**
	71nm,0.3s						
ENH	**Enshi**	**14.42**	**63**	*e*Pn	**Pn**	**20 25 17.1**	**-1.2**
	9.1nm,0.6s						
QIZ	**Qiongzhong**	**15.18**	**108**	Pn	**

ASAR				pP		pP	20 32 26.8	-1.4
	1.6nm,0.8s,baz=320,slow=6.8,SNR=5.0							
NOA	NORSAR Array B	65.69	328	P		P	20 32 31.5	-1.0
	1.2nm,0.7s,baz=83,slow=6.7,SNR=4.1							
GERES	GERESS Array B	66.10	314	P		P	20 32 36.1	+0.7
	1.2nm,0.7s,baz=72,slow=5.6,SNR=12							
GERES				pP		pP	20 33 00.7	+0.3
	1.1nm,0.7s,baz=76,slow=5.6,SNR=5.3							
PGF	Pioggiola	70.75	309	eP		P	20 33 04.0	-0.4
	15nm,1.0s							
PGF	Pioggiola	70.75	309	eP		P	20 33 04.0	-0.4
	15nm,1.0s							
LPG	La Plagne	71.49	312	eP		P	20 33 09.8	+0.7
	3.1nm,0.4s							
LPL	La Plagne	71.50	312	eP		P	20 33 09.7	+0.6
LPL	La Plagne	71.50	312	eP		P	20 33 09.7	+0.6
MEZF	Maizieres J'vi	71.76	316	eP		P	20 33 11.2	+0.9
MEZF	Maizieres J'vi	71.76	316	eP		P	20 33 11.2	+0.9
SMF	Signal de Mont	73.09	314	eP		P	20 33 18.8	+0.5
	1.9nm,0.5s							
SMF	Signal de Mont	73.09	314	eP		P	20 33 18.8	+0.5
	1.9nm,0.5s							
SSF	Saint Saulge	73.18	314	eP		P	20 33 19.5	+0.7
	2.8nm,0.5s							
SSF	Saint Saulge	73.18	314	eP		P	20 33 19.5	+0.7
	2.8nm,0.5s							
AVF	Avril sur Loir	73.36	314	eP		P	20 33 20.5	+0.7
	7.1nm,1.0s							
AVF	Avril sur Loir	73.36	314	eP		P	20 33 20.5	+0.7
	7.1nm,1.0s							
LASF	Ste Croix	73.88	311	eP		P	20 33 23.4	+0.4
LASF	Ste Croix	73.88	311	eP		P	20 33 23.4	+0.4
TCF	Toulx Ste Croi	74.27	314	eP		P	20 33 26.3	+1.1
	4.0nm,0.8s							
TCF	Toulx Ste Croi	74.27	314	eP		P	20 33 26.3	+1.1
	4.0nm,0.8s							
LDF	La Druitiere	75.00	317	eP		P	20 33 30.2	+0.9
LDF	La Druitiere	75.00	317	eP		P	20 33 30.2	+0.9
RJF	Les Rejaudoux	75.06	313	eP		P	20 33 30.8	+1.1
RJF	Les Rejaudoux	75.06	313	eP		P	20 33 30.8	+1.1
MTLF	Montolieu	75.24	311	eP		P	20 33 31.4	+0.6
MTLF	Montolieu	75.24	311	eP		P	20 33 31.4	+0.6
ETSF	Etsaut	77.30	311	eP		P	20 33 43.3	+0.7
ETSF	Etsaut	77.30	311	eP		P	20 33 43.3	+0.7
ESDC	Sonseca Array	80.92	309	P		P	20 34 03.3	+1.0
	0.2nm,0.4s,baz=62,slow=5.1,SNR=3.3							
TORD	Torodi Ar. Bea	87.22	283	P		P	20 34 36.4	+1.7
	0.3nm,0.7s,baz=55,slow=5.1,SNR=2.5							

IDC ***12*** *20:29:13.6±2.1, 7.75N×91.75E, h0km, mb3.3/5, mb1 3.5/7, mb1mx3.4/39, mbtmp3.4/7, ML3.6/2, Error ellipse: s-maj=69.3km s-min=19.6km az=62.0*
ISCJB ***12*** *20:29:14.6±0.8, 7.5N±0.1×91.39E±0.0, h33km, mb3.3/5, Error ellipse: s-maj=19.2km s-min=10.2km az=13.3*

ISC 12 20:29:16.4±1.0, 7.6N±0.1×91.58E±0.09, h35km, n8, σ2s77/9, mb3.2/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PSI	Prapat	8.70	122			Pn	Pn	20 31 21.1	+1.1
	1.2nm,0.3s,baz=307,slow=10,SNR=2.5								
PSI						Sn	Sn	20 32 52.6	-4.4
	0.6nm,0.3s,baz=18,slow=16,SNR=2.5								
PALK	Pallekele	10.79	269			Sn	Sn	20 33 45.5	-2.7
	3.5nm,0.3s,baz=158,slow=22,SNR=10								
CMAR	Chiang Mai Arr	12.99	33	Pn		Pn	Pn	20 32 16.4	-2.1
	0.1nm,0.3s,baz=232,slow=15,SNR=3.4								
MKAR	Makanchi Array	39.90	350	P		P	P	20 36 47.7	+0.8
	0.3nm,0.8s,baz=179,slow=8.6,SNR=3.2								
SONM	Songino Array	42.07	15	P		P	P	20 37 05.1	+0.2
	0.2nm,0.4s,baz=192,slow=8.9,SNR=3.6								
KURBB	Kurchatov Arra	44.28	348	P		P	P	20 37 24.2	+1.6
	0.4nm,0.7s,baz=171,slow=7.1,SNR=2.5								
WRA	Warramunga Arr	50.17	124	P		P	P	20 38 11.7	+2.7
	0.9nm,1.1s,baz=307,slow=8.7,SNR=3.1								
ASAR	Alice Springs	51.69	128	P		P	P	20 38 22.1	+1.8
	0.1nm,0.4s,baz=302,slow=7.4,SNR=4.3								

IDC 12 20:39:06.0±2.3, 8.49N×91.41E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.3/40, mbtmp3.3/6, ML3.4/1, Error ellipse: s-maj=75.9km s-min=22.0km az=66.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CMAR	Chiang Mai Arr	12.32	36			Pn	Pn	20 42 03.6	+0.7
	0.1nm,0.3s,baz=237,slow=15,SNR=4.5								
H08S3	Diego Garcia H	24.73	230	T		T		21 10 50.9	
	baz=52,slow=76,SNR=4.7								
H08S2	Diego Garcia H	24.74	230	T		T		21 10 48.8	
	baz=52,slow=76,SNR=3.3								
H08S1	Diego Garcia H	24.75	230	T		T		21 10 47.8	
	baz=52,slow=76,SNR=5.5								
MKAR	Makanchi Array	38.96	350	P		P		20 46 35.3	+1.4
	0.2nm,0.5s,baz=170,slow=10,SNR=4.4								
SONM	Songino Array	41.23	15	P		P		20 46 52.4	-0.5
	0.3nm,0.6s,baz=183,slow=8.7,SNR=2.3								
ZALV	Zalesovo Beam	45.65	355	P		P		20 47 27.0	-1.3
	0.2nm,0.3s,baz=163,slow=10,SNR=2.7								
WRA	Warramunga Arr	50.83	124	P		P		20 48 09.0	+0.1
	0.5nm,0.8s,baz=303,slow=8.6,SNR=3.9								
ASAR	Alice Springs	52.40	129	P		P		20 48 20.3	-0.3
	0.2nm,0.4s,baz=302,slow=7.7,SNR=3.7								

IDC ***12*** *20:41:09.3±0.5, 58.68S×25.13W, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.2/24, mbtmp4.2/12, ML4.1/1, Error ellipse: s-maj=19.0km s-min=17.8km az=68.0*
ISCJB ***12*** *20:41:11.5±0.5, 58.73S±0.0, 25.2W±0.2, h28km, mb4.2/16, Error ellipse: s-maj=13.9km s-min=10.4km az=149.0*
NEIC ***12*** *20:41:12.5±6.3, 58.70S×25.14W, h21km±43km, mb4.4/7, Error ellipse: s-maj=13.4km s-min=11.4km az=223.0*

ISC 12 20:41:13.1±0.4, 58.69S±0.0, 25.06W±0.0, h28km, n44, σ1s07/37, mb4.3/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
VNA1	Neumayer--Stat	13.91	156	P		Pn	Pn	20 44 27.1	-0.9
SNAA	Sanae	15.86	154	P		Pn		20 44 44.5	-10
SNAA	Sanae	15.86	154	Pn		Pn	20 44 52.1		-2.0
	0.7nm,0.3s,baz=326,slow=15,SNR=39								
SNAA	Sanae	15.86	154	ePn		Pn		20 44 44.0	-10
TRQA	Tornquist	31.45	295	P		P		20 47 28.0	-3.9
	7.8nm,1.0s								
QSPA	South Pole Qui	31.55	180	P		P	20 47 33.3	+0.6	
	5.3nm,1.0s,baz=198,slow=3.1,SNR=17								
PLCA	Paso Flores	33.64	282	P		P	20 47 51.2	+0.1	
	3.8nm,0.8s,baz=131,slow=6.9,SNR=5.9								
PLCA	Paso Flores	33.64	282	eP		P	20 47 51.0	-0.1	
	4.9nm,0.8s								
MAW	Mawson	37.35	141	eP		P	20 48 20.0	-2.5	
CFAA	Coronel Fontan	39.67	294	P		P	20 48 42.1	-0.4	
	0.5nm,0.7s,baz=157,slow=7.7,SNR=7.5								
CFAA				PcP		PcP	20 50 48.8	-0.1	
	0.2nm,0.4s,baz=194,slow=4.2,SNR=4.1								
SBA	Scott Base	43.52	184	eP		P	20 49 15.6	+2.2	
	6.7nm,1.1s								
VNDA	Vanda	43.98	182	P		P	20 49 18.7	+1.6	
	5.0nm,0.9s,baz=189,slow=6.5,SNR=23								
BOSA	Boshof	45.62	71	P		P	20 49 31.5	+0.6	
	1.7nm,0.8s,baz=248,slow=5.4,SNR=2.2								
LBTB	Lobatse	48.78	69	P		P	20 49 56.0	+0.5	
	1.6nm,0.8s,baz=209,slow=13,SNR=3.3								
H10S2	ASCENSION HYDR	50.26	13	T		T		21 44 37.2	
	baz=188,slow=74,SNR=26								
H10S3	ASCENSION HYDR	50.26	13	T		T		21 44 40.5	
	baz=188,slow=74,SNR=28								
H10S1	ASCENSION HYDR	50.27	13	T		T		21 44 33.6	
	baz=188,slow=74,SNR=26								
H10N1	ASCENSION HYDR	51.37	13	T		T		21 46 05.2	
	baz=181,slow=72,SNR=6.8								
H10N3	ASCENSION HYDR	51.38	13	T		T		21 46 04.4	
	baz=181,slow=72,SNR=26								
H10N2	ASCENSION HYDR	51.39	13	T		T		21 45 50.9	
	baz=181,slow=72,SNR=14								
LPAZ	La Paz	52.84	305	P		P	20 50 26.6	-0.1	
	2.2nm,0.7s,baz=216,slow=7.8,SNR=12								
LPAZ	La Paz	52.84	305	eP		P	20 50 25.6	-1.1	
	2.2nm,0.7s								
SAML	Samuel	57.47	314	eP		P	20 50 58.3	-1.1	
	2.0nm,0.6s								
LSZ	Lusaka	58.34	65	P		P	20 51 08.0	+2.3	
	1.3nm,0.6s								
NNA	Nana	60.52	298	P		P	20 51 22.2	+1.5	
DBIC	Dimbokro	67.14	22	P		P	20 52 04.6	+0.5	
	4.9nm,1.1s,baz=140,slow=6.9,SNR=2.5								
TOA0	Torodi Ar. Sit	74.84	27	eP		P	20 52 52.1	+1.4	
TORD	Torodi Ar. Bea	74.84	27	P		P	20 52 52.0	+1.3	
	4.7nm,0.7s,baz=200,slow=6.3,SNR=38								
SDV	Santo Domingo	76.68	314	eP		P	20 53 01.5	-0.1	
	4.8nm,0.8s								
STKA	Stephens Creek	89.09	169	P		P	20 54 05.3	-0.2	
	2.5nm,1.0s,baz=148,slow=7.2,SNR=3.8								
ASAR	Alice Springs	96.11	161	P		P	20 54 37.0	-1.2	
	0.6nm,0.9s,baz=179,slow=5.2,SNR=4.5								
CMAR	Chiang Mai Arr	123.06	110	PKP		PKPdf	21 00 07.2	+0.6	
	0.9nm,0.9s,baz=251,slow=1.6,SNR=5.8								
NVAR	Mina Array Bea	123.44	290	PKP		PKPdf	21 00 08.5	+1.5	
	1.2nm,0.7s,baz=180,slow=3.5,SNR=5.3								
FINES	FINESS Array B	126.19	28	PKP		PKPdf	21 00 11.3	+0.1	
	3.5nm,1.0s,baz=279,slow=2.7,SNR=3.0								
ABKAR	Akbulak array	127.91	56	ePKPdf		PKPdf	21 00 15.0	+0.1	
BVAR	Borovoye Array	135.20	59	PKP		PKPdf	21 00 29.5	+0.9	
	0.5nm,0.5s,baz=232,slow=1.7,SNR=3.9								
YKA	Yellowknife Ar	138.88	315	PKP		PKPdf	21 00 35.1	+0.1	
	2.3nm,0.7s,baz=133,slow=2.1,SNR=6.9								
INK	Inuvik	148.56	317	PKP		PKPdf	21 00 52.4	+0.6	
	16nm,0.8s,baz=73,slow=3.8,SNR=7.1								
INK				PKPbc		PKPbc	21 00 55.7	+0.2	
	16nm,0.8s,baz=73,slow=3.8,SNR=20								
EGAK	Eagle	150.34	309	ePKPbc		PKPbc	21 00 59.7	-0.3	
ILAR	Eielson Array	152.69	307	PKPbc		PKPbc	21 01 06.0	+0.6	
	8.4nm,0.9s,baz=145,slow=2.4,SNR=67								
MCK	McKinley	153.28	305	ePKPdf		PKPdf	21 00 59.9	+0.6	
MCK				ePKPbc		PKiKP	21 01 07.6	+0.7	
BPAW	Bear Paw Mtn.	154.25	305	ePKPbc		PKPbc	21 01 09.4	+0.5	
COLD	Coldfoot	154.50	312	ePKPbc		PKPbc	21 01 10.8	+1.5	
BILL	Bilibino	169.35	336	ePKPdf		PKPdf	21 01 14.9	-1.0	

IDC ***12*** *20:51:04.1±1.1, 7.63N×91.96E, h0km, mb3.4/7, mb1 3.6/10, mb1mx3.5/55, mbtmp3.5/10, ML3.7/3, Error ellipse: s-maj=34.3km s-min=18.2km az=52.0*
ISCJB ***12*** *20:51:05.3±0.7, 7.6N±0.1×91.91E±0.1, h24km, mb3.4/7, Error ellipse: s-maj=16.6km s-min=12.1km az=39.0*

ISC 12 20:51:07.6±0.9, 7.6N±0.1×91.9E±0.1, h24km, n13, σ0s83/10, mb3.5/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PSI	Prapat	8.46	124			Pn	Pn	20 53 08.9	+0.1
	0.7nm,0.3s,baz=322,slow=17,SNR=3.2								
PALK	Pallekele	11.12	269			Pn	Pn	20 53 45.3	0.0
	2.5nm,0.3s,baz=83,slow=12,SNR=9.0								
PALK						Sn	Sn	20 55 34.8	-14
	1.9nm,0.3s,baz=6.0,slow=19,SNR=8.9								
CMAR	Chiang Mai Arr	12.76	32	Pn		Pn	Pn	20 54 08.1	+0.4
	0.1nm,0.3s,baz=235,slow=14,SNR=3.8								
H08S3	Diego Garcia H	24.59	232	T		T		21 22 45.9	
	baz=55								
H08S2	Diego Garcia H	24.59	232	T		T		21 22 46.8	
	baz=55,slow=74								
H08S1	Diego Garcia H	24.61	232	T		T		21 22 47.0	
	baz=55,slow=74								
MKAR	Makanchi Array	39.90	350	P		P	P	20 58 38.0	-1.6
	0.2nm,0.4s,baz=168,slow=8.9,SNR=4.2								
SONM	Songino Array	41.93	15	P		P	P	20 58 56.0	-0.5
	0.5nm,0.8s,baz=206,slow=9.4,SNR=4.2								
ZALV	Zalesovo Beam	46.55	354	P		P	P	20 59 33.6	+0.4
	0.3nm,0.3s,baz=143,slow=11,SNR=2.0								
BVAR	Borovoye Array	48.55	343	P		P	P	20 59 49.8	+1.1
	0.6nm,0.7s,baz=148,slow=8.5,SNR=3.9								
WRA	Warramunga Arr	49.93	124	P		P	P	20 59 59.5	-0.3
	0.4nm,0.7s,baz=306,slow=8.3,SNR=2.8								
ASAR	Alice Springs	51.47	128	P		P	P	21 00 11.3	0.0
	0.5nm,0.9s,baz=303,slow=7.4,SNR=3.8								
GERES	GERESS Array B	76.55	318	P		P	P	21 02 56.8	+0.7
	0.1nm,0.3s,baz=83,slow=8.0,SNR=3.8								

IDC ***12*** *20:51:47.2±1.0, 35.41N×26.50E, h0km, mb3.7/6, mb1 3.7/11, mb1mx3.5/43, mbtmp3.6/11, ML3.3/5, Error ellipse: s-maj=24.1km s-min=14.8km az=167.0*
ATH ***12*** *20:51:49.7, 35.52N×26.45E, h29km±2km, MD3.7/25*
ISCJB ***12*** *20:51:50.0±0.3, 35.38N±0.0↑3×26.50E±0.0↑2, h40km±7km, mb3.6/6, Error ellipse: s-maj=4.4km s-min=3.2km az=10.8*
CSEM ***12*** *20:51:50.8±0.2, 35.41N×26.47E, h20km, ML3.4, Error ellipse: s-maj=4.7km s-min=3.0km az=13.0*
THE ***12*** *20:51:51.7, 35.39N×26.49E, h26km±9km, ML3.4/4, Error ellipse: s-maj=10.5km s-min=0.9km az=163.0*
HLW ***12*** *20:51:52.5, 35.61N×26.53E, h34km±18km, Md3.6*
ISK ***12*** *20:51:52.5, 35.81N×26.55E, h8km, MD3.6*

ISC 12 20:51:50.9±1.0, 35.40N±0.04×26.49E±0.02, h28km±8km, n197, σ1s13/225, mb3.8/6, 2C, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KARP	Karpathos	0.57	75	P		Pb	Pb	20 52 02.3	-0.1
KARP				S		Sb	Sb	20 52 10.7	+0.4
KARP	Karpathos	0.57	75	iPN		Pb	Pb	20 52 02.3	-0.1
KARP				eSN		Sb	Sb	20 52 10.0	-0.3
KARP	Karpathos	0.57	75	P		Pb	Pb	20 52 02.3	-0.1
KARP				eSn		Sb	Sb	20 52 10.0	-0.3
NPS	Neapolis	0.73	259	P		Pn	Pn	20 52 04.6	-0.8
NPS				S		Sb	Sb	20 52 14.9	+0.2
NPS	Neapolis	0.73	259	iPN		Pn	Pn	20 52 04.6	-0.8
NPS				eSN		Sb	Sb	20 52 13.8	-0.9
NPS	Neapolis	0.73	259	P		Pn	Pn	20 52 04.6	-0.8
NPS				eSn		Sb	Sb	20 52 13.8	-0.9
NPS				S		Sb	Sb	20 52 14.9	+0.2
SANT	Santorini	1.28	319	P		Pn	Pn	20 52 12.2	-0.8
SANT				S		Sn	Sn	20 52 28.5	-0.7
SANT	Santorini	1.28	319	ePN		Pn	Pn	20 52 12.0	-1.0
SANT				eSN		Sn	Sn	20 52 27.4	-1.8
SANT	Santorini	1.28	319	P		Pn	Pn	20 52 12.2	-0.8
SANT				eSn		Sn	Sn	20 52 27.4	-1.8
SANT				S		Sn	Sn	20 52 28.5	-0.7
THR6	Thira Island,	1.30	317	P		Pn	Pn	20 52 12.7	-0.5
THR6	Thira Island,	1.30	317	P		Pn	Pn	20 52 12.7	-0.5
IDI	Argia	1.31	265	Pn		Pn	Pn	20 52 12.9	-0.5
	60nm,0.3s,baz=89,slow=15,SNR=273								
IDI						Sn	Sn	20 52 29.7	-0.3
	96nm,0.3s,baz=330,slow=16,SNR=16								
THR3	Thira Island,	1.34	319	P		Pn	Pn	20 52 13.3	-0.4
THR3	Thira Island,	1.34	319	P		Pn	Pn	20 52 13.3	-0.4
THR5	Thira Island,	1.37	318	P		Pn	Pn	20 52 13.9	-0.3
THR5	Thira Island,	1.37	318	P		Pn	Pn	20 52 13.9	-0.3
ARG	Arkhangelos	1.56	58	P		Pn	Pn	20 52 17.6	+0.8
ARG	Arkhangelos	1.56	58	ePN		Pn	Pn	20 52 17.4	+0.6
ARG				eSN		Sn	Sn	20 52 36.5	+0.4
ARG	Arkhangelos	1.56	58	ePn		Pn	Pn	20 52 17.4	+0.6
ARG				eSn		Sn	Sn	20 52 36.5	+0.4
DAT	Datca	1.59	33	ePN		Pn	Pn	20 52 16.7	-0.6
DAT				eSN		Sn	Sn	20 52 34.4	-2.6
DAT	Datca	1.59	33	ePn		Pn	Pn	20 52 16.7	-0.6
DAT				eSn		Sn	Sn	20 52 34.4	-2.6
BODT	Bodrum	1.79	22	ePN		Pn	Pn	20 52 18.8	-1.1
BODT				eSN		Sn	Sn	20 52 38.1	-3.5
BODT	Bodrum	1.79	22	ePn		Pn	Pn	20 52 18.8	-1.1
BODT				eSn		Sn	Sn	20 52 38.2	-3.5
APE	Apeiranthos	1.83	335	ePN		Pn	Pn	20 52 20.3	-0.4
APE				eSN		Sn	Sn	20 52 41.1	-1.9
APE	Apeiranthos	1.83	335	P		Pn	Pn	20 52 20.2	-0.4
APE				S		Sn	Sn	20 52 43.1	+0.2
APE	Apeiranthos	1.83	335	ePN		Pn	Pn	20 52 19.9	-0.7
APE				eSN		Sn	Sn	20 52 41.4	-1.5
APE	Apeiranthos	1.83	335	ePn		Pn	Pn	20 52 20.3	-0.4
APE				eSn		Sn	Sn	20 52 41.4	-1.5
APE				S		Sn	Sn	20 52 43.1	+0.2
MHLO	Agia Marina, M	2.12	308	P		Pn	Pn	20 52 24.8	+0.3
MHLO	Agia Marina, M	2.12	308	ePB		Pn	Pn	20 52 25.2	+0.7
MHLO	Agia Marina, M	2.12	308	P		Pn	Pn	20 52 24.8	+0.3
MHLO	Agia Marina, M	2.12	308	ePb		Pn	Pn	20 52 25.2	+0.7
DALY	Dalyan (Mu¨la	2.25	51	ePN		Pn	Pn	20 52 27.0	+0.7
DALY	Dalyan (Mu¨la	2.25	51	ePn		Pn	Pn	20 52 27.0	+0.7
YER	Yerkesik	2.26	39	ePN		Pn	Pn	20 52 26.4	0.0
YER	Yerkesik	2.26	39	ePn		Pn	Pn	20 52 26.4	0.0
SMG	Samos	2.32	7	ePN		Pn	Pn	20 52 26.5	-0.8
SMG	Samos	2.32	7	ePn		Pn	Pn	20 52 26.5	-0.8
ANKY	Antikythira Is	2.64	281	P		Pn	Pn	20 52 30.9	-0.7
ANKY	Antikythira Is	2.64	281	ePN		Pn	Pn	20 52 30.7	-0.9
ANKY	Antikythira Is	2.64	281	P		Pn	Pn	20 52 30.9	-0.7
AYDB	Zeytinkoy-Aydi	2.78	24	ePN		Pn	Pn	20 52 33.1	-0.6
AYDB	Zeytinkoy-Aydi	2.78	24	ePn		Pn	Pn	20 52 33.1	-0.6
KYTH	Kithira	2.94	288	P		Pn	Pn	20 52 35.4	-0.4
KYTH	Kithira	2.94	288	ePN		Pn	Pn	20 52 35.3	-0.5
KYTH	Kithira	2.94	288	P		Pn	Pn	20 52 35.4	-0.4
CHOS	Chios island	3.00	353	ePN		Pn	Pn	20 52 35.4	-1.3
CHOS	Chios island	3.00	353	ePn		Pn	Pn	20 52 35.4	-1.3
BLCB	Balcova	3.01	8	ePN		Pn	Pn	20 52 36.1	-0.6
BLCB	Balcova	3.01	8	ePn		Pn	Pn	20 52 36.1	-0.6
ELL	Elmali	3.08	63	ePN		Pn	Pn	20 52 40.1	+2.3
ELL	Elmali	3.08	63	ePn		Pn	Pn	20 52 40.1	+2.3
VLI	Veliai	3.16	296	P		Pn	Pn	20 52 38.5	-0.3
VLI	Veliai	3.16	296	ePN		Pn	Pn	20 52 38.5	-0.3
VLI	Veliai	3.16	296	P		Pn	Pn	20 52 38.5	-0.3
KRND	KRANIDI	3.34	307	P		Pn	Pn	20 52 42.1	+0.8
KRND	KRANIDI	3.34	307	ePN		Pn	Pn	20 52 41.4	+0.1
KRND	KRANIDI	3.34	307	ePn		Pn	Pn	20 52 41.4	+0.1
KRND	KRANIDI	3.34	307	P		Pn	Pn	20 52 42.1	+0.8
ATHU	Athens Univers	3.36	320	P		Pn	Pn	20 52 42.1	+0.6
ATHU	Athens Univers	3.36	320	P		Pn	Pn	20 52 42.1	+0.6
DID	Didima	3.36	310	P		Pn	Pn	20 52 41.9	+0.3
DID				S		Sn	Sn	20 53 19.9	-0.6
DID	Didima	3.36	310	ePN		Pn	Pn	20 52 41.7	+0.1
DID	Didima	3.36	310	P		Pn	Pn	20 52 41.9	+0.3
DID				S		Sn	Sn	20 53 19.9	-0.6
NAIG	Nisos Aigina	3.37	315	ePN		Pn	Pn	20 52 41.5	-0.2
NAIG	Nisos Aigina	3.37	315	ePn		Pn	Pn	20 52 41.5	-0.2
ANTB	Antalya	3.69	65	ePN		Pn	Pn	20 52 48.7	+2.7
ANTB	Antalya	3.69	65	ePn		Pn	Pn	20 52 48.7	+2.7
VILL	Villia	3.75	318	ePn		Pn	Pn	20 52 46.6	-0.4
VIL2	Platees	3.81	318	ePN		Pn	Pn	20 52 46.6	-1.2
SIGR	SIGRI	3.83	353	ePN		Pn	Pn	20 52 47.8	-0.3
SIGR	SIGRI	3.83	353	ePn		Pn	Pn	20 52 47.8	-0.3
LTK	Loutraki	3.85	314	P		Pn	Pn	20 52 49.0	+0.7
LTK	Loutraki	3.85	314	ePN		Pn	Pn	20 52 49.0	+0.7
LTK	Loutraki	3.85	314	P		Pn	Pn	20 52 49.0	+0.7
VLX	Vlachokerasia	3.85	302	P		Pn	Pn	20 52 49.3	+0.9
VLX	Vlachokerasia	3.85	302	P		Pn	Pn	20 52 49.3	+0.9
BCK	Bucak	3.89	57	ePN		Pn	Pn	20 52 51.1	+2.1
BCK	Bucak	3.89	57	ePn		Pn	Pn	20 52 51.1	+2.1
MRKA	Markates	4.03	326	ePN		Pn	Pn	20 52 51.4	+0.6
MRKA	Markates	4.03	326	ePn		Pn	Pn	20 52 51.4	+0.6
THAL	Thalero	4.04	312	P		Pn	Pn	20 52 51.5	+0.6
THAL	Thalero	4.04	312	P		Pn	Pn	20 52 51.5	+0.6
ITM	Ithomi	4.09	297	ePN		Pn	Pn	20 52 53.1	+1.5
ITM	Ithomi	4.09	297	ePn		Pn	Pn	20 52 53.1	+1.5
PYL	PYLOS	4.12	293	P		Pn	Pn	20 52 52.6	+0.6
PYL	PYLOS	4.12	293	ePN		Pn	Pn	20 52 52.3	+0.3
PYL	PYLOS	4.12	293	ePn		Pn	Pn	20 52 52.3	+0.3
PYL	PYLOS	4.12	293	P		Pn	Pn	20 52 52.6	+0.6
GUR	Goura	4.18	308	P		Pn	Pn	20 52 54.3	+1.3
GUR				S		Sn	Sn	20 53 42.2	+1.2
GUR	Goura	4.18	308	ePN		Pn	Pn	20 52 54.3	+1.3
GUR	Goura	4.18	308	P		Pn	Pn	20 52 54.3	+1.3
GUR				S		Sn	Sn	20 53 42.2	+1.2
SUTC	Sutluce-Ispart	4.18	59	ePN		Pn	Pn	20 52 55.4	+2.4
SUTC	Sutluce-Ispart	4

baz=135
SUZ 7.71 134 P Pn 20 53 41.4 +0.1
MMAI Mount Meron Ar 7.76 105 Pn Pn 20 53 40.9 -1.2
1.3nm,0.3s,baz=295,slow=10.0,SNR=11
MMAI Sn Sn 20 55 05.5 -3.5
2.9nm,0.3s,baz=288,slow=25,SNR=7.1
HNKL Nakhl 8.35 129 P Pn 20 53 49.3 -0.8
baz=130
HNKL S Sn 20 55 11.9 -11
baz=130
HNKL Nakhl 8.35 129 P Pn 20 53 49.3 -0.8
EIL Elat 9.15 126 Pn Pn 20 54 00.7 -0.3
0.5nm,0.3s,baz=246,slow=2.0,SNR=4.5
EIL Sn Sn 20 55 36.8 -6.3
0.5nm,0.3s,baz=40,slow=17,SNR=2.4
KBZ Khabaz 15.12 52 Pn P 20 55 25.9 -1.5
0.1nm,0.3s,baz=252,slow=6.4,SNR=3.6
GERES GERESS Array B 16.41 329 Pn Pn 20 55 40.5 +1.2
0.1nm,0.3s,baz=151,slow=11,SNR=4.0
ESDC Sonseca Array 24.46 289 P P 20 57 08.4 +1.0
0.4nm,0.5s,baz=79,slow=8.7,SNR=4.8
FINES FINESS Array B 26.06 360 P P 20 57 21.6 0.0
3.1nm,0.9s,baz=195,slow=16,SNR=3.4
EKA Eskdalemuir Ar 28.48 324 P P 20 57 43.2 -0.3
0.2nm,0.3s,baz=118,slow=9.3,SNR=4.2
TORD Torodi Ar. Bea 31.48 231 P P 20 58 10.8 +0.4
0.4nm,0.3s,baz=35,slow=9.1,SNR=22
MKAR Makanchi Array 42.73 57 P P 20 59 46.1 +0.5
1.4nm,0.6s,baz=268,slow=7.9,SNR=15
SONM Songino Array 58.49 51 P P 21 01 44.8 +0.2
0.5nm,0.5s,baz=287,slow=7.1,SNR=2.8

IDC 12 20:53:08.1±2.6, 8°28N×91°68E, h0km, mb3.7/3, mb1 3.6/4, mb1mx3.3/48, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=79.6km s-min=28.8km az=69.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	10.92	266	Sn	Sn	20 57 35.8	-13
	2.1nm,0.3s,baz=173,slow=18,SNR=11						
CMAR	Chiang Mai Arr	12.34	34	Pn	Pn	20 56 05.6	+0.4
	0.1nm,0.3s,baz=226,slow=12,SNR=3.3						
MKAR	Makanchi Array	39.21	350	P	P	21 00 38.2	+0.2
	0.6nm,0.5s,baz=167,slow=8.6,SNR=6.3						
SONM	Songino Array	41.35	15	P	P	21 00 55.4	-0.6
	3.0nm,1.0s,baz=193,slow=9.7,SNR=6.2						
ASAR	Alice Springs	52.05	129	P	P	21 02 20.0	-0.1
	0.3nm,0.7s,baz=303,slow=8.1,SNR=3.3						

ISCJB 12 20:53:25.7±0.8, 56°7S×0°2×141°3W±0°2, h10km, mb4.3/9, Error ellipse: s-maj=31.3km s-min=15.2km az=9.3
IDC 12 20:53:26.2±0.8, 56°78S×141°39W, h0km, mb4.3/6, mb1 4.4/6, mb1mx4.1/26, mbtmp4.3/6, Error ellipse: s-maj=30.2km s-min=20.7km az=14.0
NEIC 12 20:53:27.2±0.5, 56°74S×141°17W, h10km, mb4.8/3, Error ellipse: s-maj=26.8km s-min=12.9km az=187.0
ISC 12 20:53:27.5±0.7, 56°8S±0°2×141°2W±0°1, h10km, n32, σ1°22/22, mb4.5/9, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	South Pole Qui	33.38	180	P	P	21 00 06.9	+1.2
	8.3nm,0.9s,baz=61,slow=3.9,SNR=19						
SNAA	Sanae	48.57	164	P	P	21 02 10.1	-0.3
	2.3nm,0.6s,baz=213,slow=7.0,SNR=22						
SNAA	Sanae	48.57	164	eP	P	21 02 01.4	-9.0
	9.6nm,1.0s						
TRQA	Tornquist	53.58	105	eP	P	21 02 49.2	+0.8
	5.9nm,0.7s						
STKA	Stephens Creek	57.15	261	P	P	21 03 14.3	+0.1
	4.6nm,0.9s,baz=133,slow=5.5,SNR=9.0						
CTAO	Charters Tower	63.88	273	P	P	21 04 01.4	+1.1
	9.0nm,0.8s						
CPUP	Villa Florida	65.10	100	eP	P	21 04 06.5	-1.7
	0.1nm,1.0s						
LPAZ	La Paz	67.25	85	P	P	21 04 23.9	+1.1
	1.9nm,0.6s,baz=174,slow=5.7,SNR=9.0						
ASAR	Alice Springs	67.78	261	P	P	21 04 24.8	-0.7
	2.0nm,0.8s,baz=139,slow=6.4,SNR=19						
H01W1	Cape Leeuwin H	68.84	239	T	T	22 20 13.2	
	baz=144,slow=76,SNR=8.6						
H01W2	Cape Leeuwin H	68.84	239	T	T	22 20 14.6	
	baz=144,slow=76,SNR=8.9						
H01W3	Cape Leeuwin H	68.86	239	T	T	22 20 15.1	
	baz=144,slow=76,SNR=6.3						
WRA	Warramunga Arr	70.55	263	P	P	21 04 42.6	0.0
	1.3nm,0.7s,baz=147,slow=5.4,SNR=9.3						
WRAB	Tennant Creek	70.55	263	P	P	21 04 42.1	-0.5
PMG	Port Moresby	72.14	280	eP	P	21 04 52.4	+0.1
H10S3	ASCENSION HYDR	101.23	126	T	T	23 00 52.8	
	baz=205,slow=74,SNR=3.3						
H10S2	ASCENSION HYDR	101.23	126	T	T	23 01 00.9	
	baz=205,slow=74,SNR=5.4						
H10S1	ASCENSION HYDR	101.25	126	T	T	23 01 03.0	
	baz=205,slow=74,SNR=5.5						
H10N3	ASCENSION HYDR	102.29	126	T	T	23 02 14.7	
	baz=206,slow=75,SNR=4.2						
H10N1	ASCENSION HYDR	102.30	126	T	T	23 02 15.4	
	baz=206,slow=75,SNR=7.9						
H10N2	ASCENSION HYDR	102.31	126	T	T	23 02 23.1	
	baz=206,slow=75,SNR=5.4						
ILAR	Eielson Array	121.30	357	PKP		PKPdf	21 12 20.1	+1.0
	0.6nm,0.8s,baz=241,slow=2.2,SNR=6.2						
TORD	Torodi Ar. Bea	128.06	132	PKP		PKPdf	21 12 33.2	-0.5
	0.7nm,1.1s,baz=225,slow=3.9,SNR=2.9						
ESDC	Sonseca Array	147.44	103	PKPbc		PKPbc	21 13 11.2	+0.3
	1.4nm,0.7s,baz=254,slow=2.6,SNR=9.8						
MKAR	Makanchi Array	151.76	268	PKPbc		PKPbc	21 13 21.3	0.0
	1.0nm,0.8s,baz=112,slow=5.8,SNR=9.0						
ZALV	Zalesovo Beam	154.07	283	PKPab		PKPab	21 13 38.6	-1.3
	1.0nm,0.5s,baz=116,slow=3.4,SNR=5.3						
BVAR	Borovoye Array	161.54	272	PKPab		PKPab	21 14 11.1	-1.2
	0.6nm,0.6s,baz=125,slow=4.2,SNR=4.9						
BRTR	Keskin Array B	162.61	167	PKPab		PKPab	21 14 16.6	-0.8
	0.8nm,0.9s,baz=184,slow=6.6,SNR=4.8						
GERES	GERESS Array B	162.96	107	PKPab		PKPab	21 14 15.7	-3.0
	0.3nm,0.7s,baz=235,slow=3.5,SNR=4.3						
CLL	Collm	163.95	99	iPKPab		PKPab	21 14 25.2	+2.4
KBZ	Khabaz	166.68	193	PKPab		PKPab	21 14 34.4	-0.5
	0.7nm,0.4s,baz=174,slow=7.6,SNR=2.9						
AKTO	Aktyubinsk	166.97	249	PKPab		PKPab	21 14 35.5	-0.7
	2.1nm,0.9s,baz=124,slow=8.4,SNR=5.3						

IDC 12 20:57:23.1±1.4, 7°95N×92°18E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.4/47, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=43.2km s-min=23.6km az=57.0
ISC 12 20:57:26.8±1.2, 7°8N±0°2×92°1E±0°1, h25km, n17, σ2°19/7, mb3.4/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	11.35	268	Pn	Pn	21 00 07.3	-0.2
	1.3nm,0.3s,baz=81,slow=15,SNR=7.2						
PALK				Sn	Sn	21 01 58.9	-15
	3.6nm,0.3s,baz=169,slow=15,SNR=11						
ODAN	Odare	19.53	347	eP	Pn	21 01 56.9	+2.7
	22nm,0.5s						
RAMN	Ramite	19.80	345	eP	Pn	21 01 59.8	+2.4
	56nm,0.5s						
TAPN	Taplejung	19.94	348	eP	Pn	21 02 02.1	+3.0
	16nm,0.5s						
JIRN	Jiri	20.59	345	eP	Pn	21 02 10.9	+4.0
	9.5nm,0.3s						
PKI	Pulchoki	20.72	343	eP	Pn	21 02 12.5	+4.2
	22nm,0.5s						
DMN	Daman	20.84	342	eP	Pn	21 02 14.4	+4.7
	30nm,0.6s						
GUN	Gumba	20.91	344	eP	Pn	21 02 14.9	+4.3
	20nm,0.5s						
KKN	Kakani	20.96	343	eP	P	21 02 16.0	+7.7
	4.5nm,0.3s						
GKN	Gorkha	21.36	342	eP	P	21 02 20.2	+7.7
	18nm,0.4s						
H08S3	Diego Garcia H	24.85	233	T	T	21 29 04.5	
	baz=51,slow=75,SNR=5.8						
H08S2	Diego Garcia H	24.85	232	T	T	21 29 05.4	
	baz=51,slow=75,SNR=5.8						
H08S1	Diego Garcia H	24.87	232	T	T	21 29 07.4	
	baz=51,slow=75,SNR=5.7						
MKAR	Makanchi Array	39.81	349	P	P	21 04 56.2	-1.8
	0.3nm,0.6s,baz=171,slow=9.8,SNR=3.3						
SONM	Songino Array	41.74	14	P	P	21 05 12.6	-1.4
	0.6nm,0.8s,baz=203,slow=9.4,SNR=4.9						
WRA	Warramunga Arr	49.82	124	P	P	21 06 18.4	+0.4
	0.7nm,0.8s,baz=306,slow=8.3,SNR=2.7						
ASAR	Alice Springs	51.37	129	P	P	21 06 30.7	+0.9
	0.2nm,0.6s,baz=304,slow=8.6,SNR=2.9						

DDA 12 20:58:57.7, 37°73N×36°11E, h18km, MD3.7
ISCJB 12 20:58:58.8±0.4, 37°68N±0°02×36°16E±0°02, h12km±3km, mb3.5/3, Error ellipse: s-maj=3.6km s-min=2.7km az=165.9
IDC 12 20:58:58.0±1.4, 37°72N×35°93E, h0km, mb3.6/3, mb1 3.7/8, mb1mx3.4/45, mbtmp3.6/8, ML3.5/5, Error ellipse: s-maj=25.2km s-min=14.6km az=72.0
ISK 12 20:58:58.0, 37°67N×36°17E, h8km, ML3.9
CSEM 12 20:58:59.2±0.1, 37°66N×36°19E, h8km, MD3.7, Error ellipse: s-maj=3.8km s-min=2.6km az=155.0
ISC 12 20:58:59.4±0.9, 37°70N±0°02×36°16E±0°02, h11km±6km, n115, σ1°08/138, mb3.5/3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANDN	Andirin	0.19	128	iP	Pg	20 59 03.4	-0.2
ANDN				iS	Sg	20 59 07.7	+1.2
ANDN	Andirin	0.19	128	iP	Pg	20 59 03.4	-0.2
ANDN				iS	Sg	20 59 07.7	+1.2
KOZT	Kozan	0.34	230	ePG	Pg	20 59 04.7	-1.5
KOZT				eSG	Sg	20 59 10.2	-0.6
KOZT	Kozan	0.34	230	ePg	Pg	20 59 04.7	-1.5
KOZT				eSg	Sg	20 59 10.2	-0.6
KMRS	Kahramanmaras	0.62	108	ePG	Pg	20 59 11.0	-0.5
KMRS				eSG	Sg	20 59 19.0	-0.7
KMRS	Kahramanmaras	0.62	108	ePg	Pg	20 59 11.0	-0.5
KMRS				eSg	Sg	20 59 19.0	-0.7
KAMA	Osmaniye	0.66	141	iP	Pg	20 59 11.5	-0.6
KAMA				iS	Sg	20 59 17.8	-2.9
HCB	Kahramanmara¯	0.70	121	iP	Pg	20 59 12.3	-0.5
CEYT	Ceyhan	0.76	205	ePG	Pg	20 59 13.0	-1.1
CEYT	Ceyhan	0.76	205	ePg	Pg	20 59 13.0	-1.1
KARA	Karaisali	0.98	244	ePG	Pg	20 59 16.4	-1.9
KARA				eSG	Sb	20 59 31.2	-0.1
KARA	Karaisali	0.98	244	ePg	Pg	20 59 16.4	-1.9
KARA				eSg	Sb	20 59 31.2	-0.1
PINB	Pinarbasi	0.99	11	iP	Pg	20 59 15.7	-2.9
PINB				iS	Sg	20 59 30.4	-1.1
GZT	Gaziantep	1.17	107	iP	Pb	20 59 21.2	-0.5
KUZU	Kuzuini	1.18	141	iP	Pb	20 59 21.9	+0.1
KUZU				iS	Sn	20 59 40.0	+2.0
KUZU	Kuzuini	1.18	141	iP	Pb	20 59 21.9	+0.1
KRTS	Karatas	1.29	209	ePN	Pn	20 59 22.5	-0.8
KRTS	Karatas	1.29	209	ePn	Pn	20 59 22.5	-0.8
TAHT	Tahtakopru-Hat	1.32	179	ePN	Pn	20 59 23.0	-0.8
TAHT				eSN	Sb	20 59 41.3	+0.1
TAHT	Tahtakopru-Hat	1.32	179	ePn	Pn	20 59 23.0	-0.8
TAHT				eSn	Sb	20 59 41.3	+0.1
DARE	Darende-Malaty	1.36	50	ePN	Pn	20 59 23.8	-0.6
DARE				eSN	Sn	20 59 43.0	+0.5
DARE	Darende-Malaty	1.36	50	ePn	Pn	20 59 23.8	-0.6
DARE				eSn	Sn	20 59 43.0	+0.5
AKCD	Akcadag	1.52	66	iP	Pn	20 59 26.4	-0.2
AKCD				iS	Sg	20 59 49.0	+0.7
AKCD	Akcadag	1.52	66	iP	Pn	20 59 26.4	-0.2
MERS	Mersin	1.54	238	ePN	Pn	20 59 25.5	-1.4
MERS	Mersin	1.54	238	ePn	Pn	20 59 25.5	-1.4
MALT	Malatya	1.90	70	ePN	Pn	20 59 31.7	-0.1
MALT	Malatya	1.90	70	ePn	Pn	20 59 31.7	-0.1
URFA	Urfa	2.13	96	ePN	Pn	20 59 34.0	-1.0
URFA	Urfa	2.13	96	ePn	Pn	20 59 34.0	-1.0
SULT	Sultanhani-AKS	2.15	284	ePN	Pn	20 59 35.7	+0.5
SULT	Sultanhani-AKS	2.15	284	ePn	Pn	20 59 35.7	+0.5
SVSK	Karacayir	2.31	16	ePN	Pn	20 59 37.7	+0.4
SVSK	Karacayir	2.31	16	ePn	Pn	20 59 37.7	+0.4
ELZG	Elazig	2.37	70	iP	Pn	20 59 38.4	+0.1
ELZG				iS	Sn	21 00 06.1	-1.4
ELZG	Elazig	2.37	70	iP	Pn	20 59 38.4	+0.1
ELZG				iS	Sn	21 00 06.1	-1.4
CDAG	Cicekdag	2.37	325	iP	Pn	20 59 37.3	-1.1
CDAG	Cicekdag	2.37	325	iP	Pn	20 59 37.3	-1.1
KEMA	Kemaliye	2.41	49	iP	Pn	20 59 39.0	+0.1
KEMA				iS	Sb	21 00 14.0	+1.4
KEMA	Kemaliye	2.41	49	iP	Pn	20 59 39.0	+0.1
ILIC	ilic-Erzincan	2.58	46	ePN	Pn	20 59 41.3	+0.2
ILIC	ilic-Erzincan	2.58	46	ePn	Pn	20 59 41.3	+0.2
SVRC	Sivrice-ELAZID	2.58	74	ePN	Pn	20 59 40.6	-0.6
SVRC	Sivrice-ELAZID	2.58	74	ePn	Pn	20 59 40.6	-0.6
EREN	Erenkoy	2.69	217	ePN	Pn	20 59 42.5	0.0
EREN	Erenkoy	2.69	217	ePn	Pn	20 59 42.6	0.0
CORM	Corum	2.75	335	ePN	Pn	20 59 43.4	-0.1
CORM	Corum	2.75	335	ePn	Pn	20 59 43.4	-0.1
ERMK	Ermenek	2.80	249	iP	Pn	20 59 45.8	+1.5
ERMK				iS	Sn	21 00 13.0	+1.2
ERMK	Ermenek	2.80	249	iP	Pn	20 59 45.8	+1.5
ERMK				iS	Sn	21 00 19.3	+1.2
PTK	Pertek	2.81	64	ePN	Pn	20 59 43.8	-0.7
PTK	Pertek	2.81	64	ePn	Pn	20 59 43.8	-0.7
BRTR	Keskin Array B	2.82	317	Pn	Pn	20 59 43.6	-0.9
	2.5nm,0.3s,baz=140,slow=15,SNR=72						
BRTR				Sn	Sn	21 00 18.1	-0.5
	4.4nm,0.3s,baz=150,slow=30,SNR=8.5						
RSDY	Resadiye-TOKAT	2.84	18	ePN	Pn	20 59 45.3	+0.6
RSDY	Resadiye-TOKAT	2.84	18	ePn	Pn	20 59 45.3	+0.6
AFSR	Af˙ar-Bala (A	2.98	307	ePN	Pn	20 59 47.8	+1.1
AFSR	Af˙ar-Bala (A	2.98	307	ePn	Pn	20 59 47.8	+1.1
BBAL	Bala	3.00	309	iP	Pn	20 59 47.5	+0.5
BBAL				iS	Sb	20 59 53.9	+0.9
BBAL	Bala	3.00	309	iP	Pn	20 59 47.5	+0.5
HDMB	Hadim	3.02	257	ePN	Pn	20 59 47.4	+0.1
HDMB	Hadim	3.02	257	ePn	Pn	20 59 47.4	+0.1
KONT	Konya--Tatoy	3.02	276	ePN	Pn	20 59 47.8	+0.7
KONT	Konya--Tatoy	3.02	276	ePn	Pn	20 59 47.8	+0.7
LADK	Ladik-KONYA	3.04	281	ePN	Pn	20 59 48.6	+1.1
LADK	Ladik-KONYA	3.04	281	ePn	Pn	20 59 48.6	+1.1
DYBB	Diyarbakir	3.17	84	ePN	Pn	20 59 49.5	+0.3
LFK	Lefkose	3.21	222	ePN	Pn	20 59 50.3	+0.5
LFK	Lefkose	3.21	222	ePn	Pn	20 59 50.3	+0.5
DIY	Diyarbakir	3.23	85	ePn	Pn	20 59 49.5	-0.6
EZC	Erzincan	3.23	50	ePn	Pn	20 59 52.3	+2.1
KDHN	Kadinhani	3.29	286	iP	Pn	20 59 51.9	+1.0
KDHN	Kadinhani	3.29	286	iP	Pn	20 59 51.9	+1.0
ERZN	Erzincan	3.37	55	ePN	Pn	20 59 52.3	+0.2
KVT	Kavak	3.38	359	ePN	Pn	20 59 53.9	+1.8
KVT	Kavak	3.38	359	ePn	Pn	20 59 53.9	+1.8
ANTO	Ankara	3.40	311	ePN	Pn	20 59 54.4	+1.9
ANTO	Ankara	3.40	311	ePn	Pn	20 59 54.4	+1.9
GAZI	Gazipasa	3.41	246	iP	Pn	20 59 53.4	+0.9
GAZI				iS	Sb	21 00 42.9	+1.7
GAZI	Gazipasa	3.41	246	iP	Pn	20 59 53.4	+0.9
MAZI	Mazidag	3.42	93	ePN	Pn	20 59 53.1	+0.4
MAZI	Mazidag	3.42	93	ePn	Pn	20 59 53.1	+0.4
LOD	Lodumlu	3.44	311	ePN	Pn	20 59 54.7	+1.8
LOD	Lodumlu	3.44	311	ePn	Pn	20 59 54.7	+1.8
CANT	Cankiri	3.51	327	ePN	Pn	20 59 55.5	+1.6
CSS	Prodhromos	3.56	221	ePN	Pn	20 59 55.7	+1.1
CSS	Prodhromos	3.56	221	ePn	Pn	20 59 55.7	+1.1
BINT	Bingol	3.61	70	ePn	Pn	20 59 59.2	+3.9
LEF	Lefka	3.68	227	ePN	Pn	20 59 57.1	+0.9
LEF	Lefka	3.68	227	ePn	Pn	20 59 57.2	+0.9
MARD	Mardin	3.70	95	iP	Pn	20 59 55.1	-1.4
ESPY	Espiye-Giresun	3.78	31	ePN	Pn	20 59 58.4	+0.8
ESPY	Espiye-Giresun	3.78	31	ePn	Pn	20 59 58.4	+0.8
BNGB	Bing¨l	3.78	69	ePN	Pn	20 59 59.2	+1.5
DIKM	Dikmen	4.00	350	ePN	Pn	21 00 02.4	+1.8
DIKM	Dikmen	4.00	350	ePn	Pn	21 00 02.4	+1.8
SVAN	Silvan-Diyarba	4.01	82	ePN	Pn	21 00 01.6	+0.8
SVRH	Sivrihisar-ESK	4.03	297	ePN	Pn	21 00 02.0	+0.9
SVRH	Sivrihisar-ESK	4.03	297	ePn	Pn	21 00 02.0	+0.9
SUTC	Sutluce-Ispart	4.10	268	ePN	Pn	21 00 02.8	+0.7
SUTC	Sutluce-Ispart	4.10	268	ePn	Pn	21 00 02.8	+0.7
BAYT	Ayd¨–ntepe-Bay	4.11	48	ePN	Pn	21 00 02.8	+0.6
BAYT	Ayd¨–ntepe-Bay	4.11	48	ePn	Pn	21 00 02.8	+0.6
ISP	Isparta	4.47	273	ePN	Pn	21 00 08.6	+1.5
ISP	Isparta	4.47	273	ePn	Pn	21 00 08.6	+1.5
MMAI	Mount Meron Ar	4.71	188	Pn	Pn	21 00 10.9	+0.4
	3.3nm,0.3s,baz=7.2,slow=14,SNR=24						
MMAI				Sn	Sn	21 01 05.6	+0.4
	5.9nm,0.3s,baz=352,slow=31,SNR=5.6						
ASF	Jabal al Asfar	5.55	173	Pn	Pn	21 00 22.6	+0.6
	0.2nm,0.3s,baz=346,slow=4.2,SNR=1.9						
ASF				Lg	Lg	21 01 50.9	
	0.8nm,0.3s,baz=266,slow=19,SNR=2.2						
IDI	Anoyia	9.38	259	Pn	Pn	21 01 13.6	-1.0
	2.3nm,0.3s,baz=79,slow=14,SNR=35						
MLR	Muntele Rosu	10.90	319	Pn	Pn	21 01 38.0	+2.6
	0.0nm,0.3s,baz=286,slow=18,SNR=3.6						
KECS	Kecovo	15.69	318	eP	P	21 02 46.2	+1.9
STHS	Stebnicka Huta	15.90	322	eP	P	21 02 45.9	-0.8
GERES	GERESS Array B	19.71	312	P	P	21 03 28.0	-0.7
	0.1nm,0.3s,baz=114,slow=9.8,SNR=4.6						
AKTO	Aktyubinsk	20.13	44	P	Pn	21 03 34.9	-0.2
	0.7nm,0.6s,baz=254,slow=13,SNR=2.4						
KEST	Kesra	21.56	273	P	P	21 03 50.4	+1.5
	1.6nm,0.8s,baz=26,slow=18,SNR=6.6						
FINES	FINESS Array B	24.59	348	P	P	21 04 19.1	-0.1
	1.7nm,0.8s,baz=154,slow=10.0,SNR=3.3						
TORD	Torodi Ar. Bea	39.22	241	P	P	21 06 26.5	-1.3
	1.0nm,0.9s,baz=46,slow=7.3,SNR=4.1						

IDC 12 20:59:56.0±10.0, 8°56N×91°39E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.1/43, mbtmp3.2/3, ML3.5/1, Error ellipse: s-maj=190.0km s-min=73.0km az=174.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	12.27	36	Pn	Pn	21 02 52.8	+0.6
	0.1nm,0.3s,baz=229,slow=14,SNR=3.5						
MKAR	Makanchi Array	38.88	350	P	P	21 07 23.6	+0.3
	0.5nm,0.9s,baz=166,slow=10,SNR=3.0						
SONM	Songino Array	41.16	15	P	P	21 07 41.5	-0.7
	0.1nm,0.4s,baz=196,slow=7.9,SNR=1.8						

IDC 12 21:05:59.9±8.5, 17°72N×121°34E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.2/36, mbtmp3.4/3, 1C, Error ellipse: s-maj=447.3km s-min=29.9km az=91.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	Pasuquin	0.91	312	iP	Pb	21 06 18.8	+0.1
KSRS	Korea Array	20.50	15	P	P	21 10 39.4	-0.1
	1.5nm,0.9s,baz=203,slow=11,SNR=6.2						
WRA	Warramunga Arr	39.54	161	P	P	21 13 33.2	+0.3
	0.4nm,0.7s,baz=343,slow=8.3,SNR=3.1						
ASAR	Alice Springs	42.92	163	P	P	21 13 60.0	-0.7
	0.3nm,0.6s,baz=346,slow=8.1,SNR=4.6						

ISCJB 12 21:10:29.3±1.1, 28°83N±0°03×128°61E±0°05, h4km±8km, mb3.5/6, Error ellipse: s-maj=7.0km s-min=4.7km az=3.2
IDC 12 21:10:30.8±0.9, 28°71N×128°27E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.5/34, mbtmp3.5/8, ML3.3/2, Error ellipse: s-maj=35.1km s-min=14.8km az=81.0
JMA 12 21:10:30.1±0.2, 28°81N×128°64E, h6km±3km, M3.8
ISC 12 21:10:30.3±1.8, 28°79N±0°04×128°64E±0°07, h2km±12km, n22, σ1°05/30, mb3.5/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTAJ	Takarajima	0.61	54	P	Pg	21 10 41.8	-0.2
JTAJ				S	Sg	21 10 49.4	-0.6
JAMN	Amaminishikomi	0.72	139	P	Pg	21 10 44.4	+0.3
JAMN				S	Sg	21 10 54.2	+0.8
JAM	Amami Oshima	0.93	114	P	Pg	21 10 47.8	-0.3
JAM				eS	Sg	21 11 00.7	+0.6
JTK	Tokunoshima	1.04	165	P	Pg	21 10 49.9	-0.3
JTK				S	Sb	21 11 04.9	-0.1
JZK	Kikaishima	1.26	112	P	Pg	21 10 54.5	0.0
JZK				eS	Sn	21 11 11.6	-0.9
JOKE	Okinoerabujima	1.42	183	P	Pn	21 10 56.1	-1.1
JOKE				eS	Sb	21 11 15.7	-0.4
JNN	Nakanoshima	1.50	45	P	Pn	21 10 57.7	-0.6
JIH	Iheya	1.85	199	P	Pn	21 11 02.7	-0.2
JIH				eS	Sn	21 11 25.7	-1.2
JOW	Kunigami	1.98	190	P	Pn	21 11 04.1	-0.7
JOW				S	Sn	21 11 30.7	+0.6
JOW	Kunigami	1.98	190	Pn	Pn	21 11 04.0	-0.8
	2.8nm,0.3s,baz=103,slow=18,SNR=34						
JOW				Sn	Sn	21 11 28.4	-1.7
	1.8nm,0.3s,baz=127,slow=24,SNR=6.8						
JYAK	Yakushimahirau	2.18	48	P	Pn	21 11 05.7	-1.8
JNTH	Nagotoshara	2.33	194	P	Pn	21 11 10.6	+1.0
JAGN	Aguni-jima	2.52	210	P	Pn	21 11 12.7	+0.5
JTN	Tanegashima 3	2.76	47	P	Pn	21 11 14.5	-1.0
JNU	Nakatsue	4.73	23	Pn	Pn	21 11 46.7	+4.1
	2.0nm,0.3s,baz=224,slow=8.0,SNR=11						
KSRS	Korea Array	8.66	356	Pn	Pn	21 12 37.6	+1.0
	0.1nm,0.3s,baz=182,slow=14,SNR=2.9						
SONM	Songino Array	25.66	324	P	P	21 16 01.9	+0.5
	0.7nm,0.8s,baz=146,slow=8.4,SNR=6.1						
MKAR	Makanchi Array	40.15	310	P	P	21

baz=54
AAK **Ala-Archa 38.28 339** P **P** **21 44 18.1 +0.8**
1.0nm,0.4s,baz=200,slow=4.6,SNR=2.6
MKAR **Makanchi Array 40.14 350** P **P** **21 44 31.8 -0.8**
0.6nm,0.6s,baz=169,slow=8.6,SNR=6.0
SONM **Songino Array 42.30 15** P **P** **21 44 49.6 -0.9**
0.8nm,0.7s,baz=196,slow=7.9,SNR=6.5
KURBB **Kurchatov Arra 44.52 348** P **P** **21 45 08.3 +0.2**
1.0nm,0.9s,baz=163,slow=7.1,SNR=11
ZALV **Zalesovo Beam 46.82 355** P **P** **21 45 26.6 +0.3**
0.5nm,0.5s,baz=165,slow=8.4,SNR=3.2
BVAR **Borovoye Array 48.75 343** P **P** **21 45 41.8 +0.6**
0.5nm,0.7s,baz=123,slow=11,SNR=4.0
WRA **Warramunga Arr 50.02 124** P **P** **21 45 53.6 +2.1**
0.7nm,0.8s,baz=308,slow=8.9,SNR=3.3
ASAR **Alice Springs 51.53 128** P **P** **21 46 02.9 +0.1**
0.1nm,0.2s,baz=311,slow=7.3,SNR=4.0
ASAR PcP **PcP** **21 47 18.1 +1.5**
0.3nm,0.8s,baz=316,slow=3.9,SNR=3.0
BRTR **Keskin Array B 60.90 312** P **P** **21 47 10.1 +0.4**
0.3nm,0.6s,baz=141,slow=4.8,SNR=2.9

IDC 12 21:40:08.3±7.9, 8°.25N×91°.45E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.3/40, mbtmp3.5/6, ML3.7/2, Error ellipse: s-maj=159.3km s-min=36.5km az=152.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.69**	**266**	Pn		Pn	Pn	21 42 42.9	0.0
	0.5nm,0.3s,baz=83,slow=13,SNR=2.1								
PALK				Sn		Sn	Sn	21 44 32.8	-11
	1.9nm,0.3s,baz=0.0,slow=20,SNR=4.3								
CMAR	**Chiang Mai Arr**	**12.49**	**35**	Pn		Pn	Pn	21 43 07.5	+0.1
	0.1nm,0.3s,baz=227,slow=16,SNR=2.7								
MKAR	**Makanchi Array**	**39.20**	**350**	P		P		21 47 38.0	0.0
	0.2nm,0.5s,baz=174,slow=9.3,SNR=4.3								
SONM	**Songino Array**	**41.44**	**15**	P		P		21 47 56.5	-0.3
	0.4nm,0.7s,baz=199,slow=8.0,SNR=3.2								
KURBB	**Kurchatov Arra**	**43.58**	**348**	P		P		21 48 14.0	0.0
	0.4nm,0.7s,baz=172,slow=6.9,SNR=4.1								
BVAR	**Borovoye Array**	**47.81**	**343**	P		P		21 48 47.2	-0.2
	0.6nm,0.6s,baz=145,slow=8.1,SNR=4.0								

*IDC **12** 21:48:42.9±1.0, 7°.75N×91°.93E, h0km, mb3.6/8, mb1 3.8/11, mb1mx3.6/35, mbtmp3.7/11, ML3.8/3, Error ellipse: s-maj=34.6km s-min=17.3km az=55.0*
*ISCJB **12** 21:48:44.0±0.7, 7°.7N±0°.1×91°.93E±0°.10, h24km, mb3.6/8, Error ellipse: s-maj=16.8km s-min=11.7km az=41.1*
ISC 12 21:48:46.2±0.8, 7°.8N±0°.1×91°.9E±0°.1, h24km, n14, σ0s72/12, mb3.5/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.53**	**125**	Pn		Pn	**Pn**	**21 50 47.8**	**-0.6**
	0.9nm,0.3s,baz=271,slow=23,SNR=44								
PALK	**Pallekele**	**11.15**	**268**	Pn		Pn	**Pn**	**21 51 24.1**	**-0.3**
	1.0nm,0.3s,baz=86,slow=15,SNR=6.6								
PALK				Sn		Sn		21 53 14.3	-14
	4.9nm,0.3s,baz=187,slow=18,SNR=9.5								
CMAR	**Chiang Mai Arr**	**12.62**	**32**	Pn		Pn	**Pn**	**21 51 44.0**	**-0.4**
	0.2nm,0.3s,baz=228,slow=14,SNR=9.3								
H08S3	**Diego Garcia H**	**24.70**	**232**	T		T		22 20 20.8	
	baz=52,slow=76,SNR=13								
H08S2	**Diego Garcia H**	**24.70**	**232**	T		T		22 20 30.1	
	baz=52,slow=76,SNR=5.9								
H08S1	**Diego Carcia H**	**24.72**	**232**	T		T		22 20 32.5	
	baz=52,slow=76,SNR=9.2								
MKAR	**Makanchi Array**	**39.76**	**350**	P		P	**P**	**21 56 17.2**	**+0.1**
	0.5nm,0.6s,baz=178,slow=9.3,SNR=4.1								
SONM	**Songino Array**	**41.78**	**15**	P		P	**P**	**21 56 33.9**	**0.0**
	2.4nm,0.6s,baz=195,slow=8.5,SNR=5.8								
KURBB	**Kurchatov Arra**	**44.15**	**348**	P		P	**P**	**21 56 53.7**	**+0.8**
	0.4nm,0.6s,baz=171,slow=7.0,SNR=4.4								
ZALV	**Zalesovo Beam**	**46.41**	**354**	P		P	**P**	**21 57 11.9**	**+1.2**
	0.7nm,0.4s,baz=182,slow=7.2,SNR=2.4								
BVAR	**Borovoye Array**	**48.41**	**343**	P		P	**P**	**21 57 26.9**	**+0.5**
	0.3nm,0.7s,baz=158,slow=5.9,SNR=2.7								
WRA	**Warramunga Arr**	**49.99**	**124**	P		P	**P**	**21 57 39.1**	**+0.1**
	1.5nm,0.9s,baz=303,slow=9.1,SNR=6.3								
ASAR	**Alice Springs**	**51.54**	**128**	P		P	**P**	**21 57 51.2**	**+0.6**
	0.5nm,0.8s,baz=298,slow=7.3,SNR=5.5								
ASAR				PcP		**PcP**	**PcP**	**21 59 05.7**	**+1.0**
	0.4nm,0.6s,baz=298,slow=2.9,SNR=3.1								
GERES	**GERESS Array B**	**76.45**	**318**	P		P	**P**	**22 00 33.6**	**-0.6**
	0.1nm,0.3s,baz=87,slow=5.9,SNR=4.2								

IDC 12 21:50:22.9±15.0, 8°.31N×91°.73E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.4/32, mbtmp3.7/5, Error ellipse: s-maj=281.0km s-min=65.7km az=165.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.28**	**34**	Pn		Pn		21 53 19.6	+0.3
	baz=223,slow=14,SNR=2.4								
MKAR	**Makanchi Array**	**39.19**	**350**	P		P		21 57 52.2	-0.5
	1.1nm,0.8s,baz=156,slow=9.3,SNR=4.2								
SONM	**Songino Array**	**41.31**	**15**	P		P		21 58 09.7	-0.8
	1.3nm,0.8s,baz=196,slow=8.7,SNR=3.9								
ZALV	**Zalesovo Beam**	**45.85**	**354**	P		P		21 58 47.5	+0.8
	0.5nm,0.3s,baz=184,slow=9.4,SNR=2.6								
BVAR	**Borovoye Array**	**47.83**	**343**	P		P		21 59 01.9	-0.4
	0.8nm,0.8s,baz=161,slow=6.1,SNR=3.2								

*ISCJB **12** 21:57:48.9±1.4, 42°.96N±0°.09×145°.90E±0°.08, h42km, Error ellipse: s-maj=15.1km s-min=4.8km az=150.0*
*JMA **12** 21:57:49.0±0.1, 42°.93N×145°.88E, h40km±1km, M3.3*
*SKHL **12** 21:57:49.5±0.4, 42°.91N×145°.92E, h44km±8km, mb4.5/3*
ISC 12 21:57:48.9±2.1, 42°.9N±0°.1×145°.92E±0°.07, h42km, n11, σ0s94/18, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.47**	**344**	P		**eS**	**Sn**	**21 57 58.9**	**-0.4**
NEM2						**eS**	**Sn**	**21 58 05.7**	**-0.9**
JAK	**Akkeshi**	**0.90**	**276**	P		Pn	**Pn**	**21 58 05.1**	**0.0**
JAK						eS	**Sn**	**21 58 16.1**	**-0.8**
JNK	**Nakash**	**1.10**	**308**	P		Pn	**Pn**	**21 58 07.6**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**1.12**	**358**	*eP*		Pn	**Pn**	**21 58 07.9**	**-0.2**
YUK				AMB		AMB	AMB	21 58 09.1	
	111nm,0.2s								
YUK				AMB		AMB	AMB	21 58 09.1	
	148nm,0.2s								
YUK				AMB		AMB	AMB	21 58 09.1	
	523nm,0.2s								
YUK				*eS*		**Sn**	**Sn**	**21 58 21.4**	**-0.9**
YUK				A		A	A	21 58 24.4	
	390nm,0.4s								
YUK				A		A	A	21 58 24.4	
	370nm,0.4s								
SHO	**Shikotan**	**1.16**	**34**	*eP*		Pn	**Pn**	**21 58 08.0**	**-0.7**
SHO				AMB		AMB	AMB	21 58 13.4	
	140nm,0.8s								
SHO				*eS*		**Sn**	**Sn**	**21 58 22.1**	**-1.2**
SHO				A		A	A	21 58 25.2	
	514nm,0.6s								
JRA	**Rausu**	**1.18**	**331**	P		Pn	**Pn**	**21 58 08.9**	**0.0**
JOB	**Onbets**	**1.53**	**270**	P		Pn	**Pn**	**21 58 14.0**	**+0.3**
JOB				*eS*		**Sn**	**Sn**	**21 58 31.8**	**-0.6**
JAR	**Ashorobuto**	**1.62**	**284**	P		Pn	**Pn**	**21 58 15.2**	**+0.2**
JAR				*eS*		**Sn**	**Sn**	**21 58 34.3**	**-0.3**
JTKR	**Abashiri--Toko**	**1.81**	**306**	P		Pn	**Pn**	**21 58 18.3**	**+0.8**
KUR	**Kuril'sk**	**2.71**	**31**	*eP*		Pn	**Pn**	**21 58 31.5**	**+1.6**
KUR				AMB		AMB	AMB	21 58 38.0	
	14nm,0.1s								
KUR				AMB		AMB	AMB	21 58 38.0	
	15nm,0.1s								
KUR				*eS*		**Sn**	**Sn**	**21 59 01.5**	**+0.1**
KUR				A		A	A	21 59 08.7	
	160nm,0.3s								
KUR				A		A	A	21 59 08.7	
	70nm,0.3s								
YSS	**Yuzh-Sakhalins**	**4.62**	**332**	*eP*		Pn	**Pn**	**21 58 58.3**	**+2.2**

*IDC **12** 21:58:17.5±1.2, 7°.71N×92°.09E, h0km, mb3.5/7, mb1 3.6/9, mb1mx3.5/36, mbtmp3.5/9, ML4.1/1, Error ellipse: s-maj=38.1km s-min=19.6km az=58.0*
*ISCJB **12** 21:58:18.8±0.8, 7°.7N±0°.1×92°.0E±0°.1, h24km, mb3.5/7, Error ellipse: s-maj=16.9km s-min=15.8km az=15.3*

IDC 12 21:58:21.0±1.1, 7°.7N±0°.2×92°.1E±0°.1, h24km, n12, σ0s63/9, mb3.5/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.27**	**269**	Pn		**Pn**	**Pn**	**22 01 00.9**	**+0.1**
	1.3nm,0.3s,baz=82,slow=16,SNR=8.2								
PALK				Sn		Sn	Sn	22 02 51.9	-14
	1.9nm,0.3s,baz=163,slow=16,SNR=5.2								
CMAR	**Chiang Mai Arr**	**12.62**	**31**	Pn		**Pn**	**Pn**	**22 01 19.8**	**+0.5**
	baz=228,slow=13,SNR=3.2								
H08S3	**Diego Garcia H**	**24.75**	**233**	T		T		22 29 48.4	
	baz=52,slow=75,SNR=18								
H08S2	**Diego Garcia H**	**24.75**	**232**	T		T		22 29 48.4	
	baz=52,slow=75,SNR=12								
H08S1	**Diego Carcia H**	**24.77**	**232**	T		T		22 29 48.4	
	baz=52,slow=75,SNR=17								
MKAR	**Makanchi Array**	**39.86**	**350**	P		P	**P**	**22 05 51.8**	**-1.0**
	0.2nm,0.5s,baz=173,slow=7.6,SNR=3.7								
SONM	**Songino Array**	**41.83**	**14**	P		P	**P**	**22 06 08.6**	**-0.4**
	0.7nm,0.7s,baz=208,slow=5.7,SNR=5.0								
KURBB	**Kurchatov Arra**	**44.26**	**348**	P		P	**P**	**22 06 28.4**	**-0.1**
	0.6nm,0.8s,baz=167,slow=6.8,SNR=5.3								
ZALV	**Zalesovo Beam**	**46.50**	**354**	P		P	**P**	**22 06 45.6**	**-0.6**
	0.4nm,0.3s,baz=178,slow=9.8,SNR=2.7								
BVAR	**Borovoye Array**	**48.53**	**343**	P		P	**P**	**22 07 02.8**	**+0.8**
	0.1nm,0.4s,baz=125,slow=7.2,SNR=2.8								
WRA	**Warramunga Arr**	**49.84**	**124**	P		P	**P**	**22 07 12.8**	**+0.1**
	1.0nm,0.8s,baz=304,slow=8.9,SNR=3.1								
ASAR	**Alice Springs**	**51.39**	**128**	P		P	**P**	**22 07 24.2**	**-0.1**
	0.4nm,0.8s,baz=308,slow=7.9,SNR=4.0								

IDC 12 22:00:18.8±8.4, 7°.31N×91°.48E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/35, mbtmp3.4/4, Error ellipse: s-maj=415.6km s-min=24.1km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.12**	**350**	P		P	P	22 07 55.9	-0.5
	0.2nm,0.4s,baz=169,slow=8.4,SNR=4.9								
KURBB	**Kurchatov Arra**	**44.50**	**348**	P		P		22 08 32.1	+0.2
	0.2nm,0.4s,baz=172,slow=7.6,SNR=4.1								
WRA	**Warramunga Arr**	**50.12**	**124**	P		P	P	22 09 16.4	+0.1
	0.7nm,0.8s,baz=302,slow=8.8,SNR=2.9								
ASAR	**Alice Springs**	**51.62**	**128**	P		P	P	22 09 27.2	-0.3
	0.3nm,0.5s,baz=306,slow=7.7,SNR=3.5								

*IDC **12** 22:00:38.7±1.0, 7°.87N×92°.07E, h0km, mb3.5/9, mb1 3.7/11, mb1mx3.5/37, mbtmp3.5/11, ML3.9/3, Error ellipse: s-maj=31.4km s-min=17.1km az=50.0*
*ISCJB **12** 22:00:39.8±0.7, 7°.7N±0°.1×91°.9E±0°.1, h25km, mb3.5/9, Error ellipse: s-maj=20.2km s-min=11.5km az=39.3*
ISC 12 22:00:42.1±0.8, 7°.9N±0°.1×92°.0E±0°.1, h25km, n15, σ1s25/12, mb3.5/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.52**	**126**	Pn		**Pn**	**Pn**	**22 02 44.0**	**-0.1**
	1.1nm,0.3s,baz=331,slow=19,SNR=3.4								
PALK	**Pallekele**	**11.25**	**268**	Pn		**Pn**	**Pn**	**22 03 19.7**	**-1.8**
	5.0nm,0.3s,baz=93,slow=14,SNR=5.9								
PALK				Sn		Sn	Sn	22 05 11.4	-15
	4.0nm,0.3s,baz=9.0,slow=19,SNR=4.9								
CMAR	**Chiang Mai Arr**	**12.47**	**32**	Pn		**Pn**	**Pn**	**22 03 36.1**	**-2.0**
	0.1nm,0.3s,baz=221,slow=14,SNR=2.9								
H08S3	**Diego Garcia H**	**24.85**	**232**	T		T		22 32 15.5	
	baz=52,slow=75,SNR=4.6								
H08S2	**Diego Garcia H**	**24.85**	**232**	T		T		22 32 15.5	
	baz=52,slow=75,SNR=4.5								
H08S1	**Diego Carcia H**	**24.86**	**232**	T		T		22 32 15.5	
	baz=52,slow=75,SNR=4.2								
MKAR	**Makanchi Array**	**39.86**	**350**	P		P	**P**	**22 08 12.1**	**+0.1**
	0.5nm,0.5s,baz=169,slow=8.7,SNR=3.5								
SONM	**Songino Array**	**41.64**	**15**	P		P	**P**	**22 08 29.8**	**+1.3**
	0.5nm,0.6s,baz=196,slow=8.1,SNR=3.4								
KURBB	**Kurchatov Arra**	**44.06**	**348**	P		P	**P**	**22 08 47.3**	**-0.6**
	0.5nm,0.7s,baz=172,slow=7.0,SNR=3.8								
ZALV	**Zalesovo Beam**	**46.30**	**354**	P		P	**P**	**22 09 05.8**	**+0.2**
	0.4nm,0.4s,baz=152,slow=6.5,SNR=2.3								
BVAR	**Borovoye Array**	**48.33**	**343**	P		P	**P**	**22 09 22.5**	**+1.0**
	0.6nm,0.7s,baz=134,slow=9.6,SNR=4.3								
WRA	**Warramunga Arr**	**49.98**	**124**	P		P	**P**	**22 09 34.5**	**-0.1**
	0.6nm,0.7s,baz=306,slow=8.3,SNR=2.4								
ASAR	**Alice Springs**	**51.54**	**129**	P		P	**P**	**22 09 46.4**	**+0.1**
	0.3nm,0.6s,baz=304,slow=7.3,SNR=2.8								
BRTR	**Keskin Array B**	**60.85**	**311**	P		P	**P**	**22 10 54.6**	**+1.9**
	0.2nm,0.5s,baz=68,slow=8.0,SNR=2.4								
GERES	**GERESS Array B**	**76.43**	**318**	P		P	**P**	**22 12 30.3**	**+0.5**
	0.3nm,0.7s,baz=64,slow=4.8,SNR=2.9								

IDC 12 22:03:40.8±14.0, 7°.88N×91°.72E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.4/36, mbtmp3.7/5, ML4.4/1, Error ellipse: s-maj=259.1km s-min=70.4km az=167.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.94**	**268**	Sn		Sn	Sn	22 08 08.5	-14
	1.0nm,0.3s,baz=187,slow=19,SNR=3.2								
CMAR	**Chiang Mai Arr**	**12.65**	**33**	Pn		Pn		22 06 42.9	+0.7
	0.6nm,0.3s,baz=225,slow=14,SNR=4.3								
MKAR	**Makanchi Array**	**39.61**	**350**	P		P		22 11 14.1	0.0
	0.6nm,0.7s,baz=173,slow=8.8,SNR=3.6								
SONM	**Songino Array**	**41.73**	**15**	P		P		22 11 30.9	-0.8
	1.4nm,0.7s,baz=199,slow=8.6,SNR=6.5								
KURBB	**Kurchatov Arra**	**44.00**	**348**	P		P		22 11 50.2	+0.3
	0.7nm,0.7s,baz=170,slow=7.1,SNR=5.8								
ZALV	**Zalesovo Beam**	**46.28**	**354**	P		P		22 12 07.9	-0.1
	0.3nm,0.3s,baz=156,slow=6.0,SNR=2.8								

*IDC **12** 22:09:18.0±1.0, 7°.69N×91°.93E, h0km, mb3.5/8, mb1 3.7/11, mb1mx3.6/41, mbtmp3.6/11, ML4.0/2, Error ellipse: s-maj=31.7km s-min=18.2km az=44.0*
*ISCJB **12** 22:09:19.1±0.7, 7°.7N±0°.1×91°.89E±0°.09, h24km, mb3.4/8, Error ellipse: s-maj=16.6km s-min=11.8km az=33.9*
ISC 12 22:09:21.4±0.8, 7°.7N±0°.1×91°.9E±0°.1, h24km, n14, σ1s02/11, mb3.4/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.51**	**124**	Pn		**Pn**	**Pn**	**22 11 23.1**	**-0.2**
	0.9nm,0.3s,baz=322,slow=13,SNR=3.5								
PALK	**Pallekele**	**11.11**	**269**	Pn		**Pn**	**Pn**	**22 11 58.2**	**-0.7**
	2.1nm,0.3s,baz=85,slow=10,SNR=11								
PALK				Sn		Sn	Sn	22 13 50.6	-12
	9.7nm,0.3s,baz=127,slow=3.0,SNR=9.8								
CMAR	**Chiang Mai Arr**	**12.71**	**32**	Pn		**Pn**	**Pn**	**22 12 20.5**	**-0.3**
	baz=232,slow=15,SNR=4.8								
H08S3	**Diego Garcia H**	**24.62**	**232**	T		T		22 40 53.9	
	baz=52,slow=75,SNR=16								
H08S2	**Diego Garcia H**	**24.62**	**232**	T		T		22 40 53.9	
	baz=52,slow=75,SNR=14								
H08S1	**Diego Carcia H**	**24.64**	**232**	T		T		22 40 53.9	
	baz=52,slow=75,SNR=16								
MKAR	**Makanchi Array**	**39.83**	**350**	P		P	**P**	**22 16 52.6**	**-0.2**
	0.3nm,0.5s,baz=172,slow=9.8,SNR=5.6								
SONM	**Songino Array**	**41.87**	**15**	P		P	**P**	**22 17 09.1**	**-0.7**
	0.5nm,0.8s,baz=186,slow=9.4,SNR=4.4								
ZALV	**Zalesovo Beam**	**46.48**	**354**	P		P	**P**	**22 17 47.0**	**+0.5**
	0.5nm,0.4s,baz=191,slow=7.0,SNR=2.8								
WRA	**Warramunga Arr**	**49.98**	**124**	P		P	**P**	**22 18 13.9**	**-0.2**
	0.7nm,0.8s,baz=310,slow=8.0,SNR=8.2								
ASAR	**Alice Springs**	**51.52**	**128**	P		P	**P**	**22 18 25.9**	**+0.3**
	0.3nm,0.6s,baz=298,slow=7.0,SNR=4.3								
BRTR	**Keskin Array B**	**60.88**	**311**	P		P	**P**	**22 19 31.3**	**-1.1**
	0.3nm,0.8s,baz=100,slow=8.1,SNR=3.0								
MLR	**Muntele Rosu**	**67.76**	**316**	P		P	**P**	**22 20 19.3**	**+1.9**
	0.2nm,1.0s,baz=98,slow=7.1,SNR=2.6								
GERES	**GERESS Array B**	**76.49**	**318**	P		P	**P**	**22 21 10.9**	**+1.3**
	0.3nm,0.7s,baz=90,slow=5.9,SNR=2.9								

IDC 12 22:22:46.0±1.2, 21°.60N×144°.03E, h92km±7km, mb3.4/7, mb1 3.6/7, mb1mx3.3/35, mbtmp3.7/7, Error ellipse: s-maj=32.0km s-min=18.8km az=88.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.07**	**322**	P		P	P	22 27 26.8	+4.1
	2.4nm,0.8s,baz=149,slow=8.6,SNR=14								
SONM	**Songino Array**	**39.91**	**320**	P		P	P	22 30 12.1	+1.0
	0.4nm,0.4s,baz=132,slow=7.2,SNR=6.8								
SONM				sP		sP	sP	22 30 44.3	+1.2
	0.6nm,0.5s,baz=131,slow=8.0,SNR=4.3								
WRA	**Warramunga Arr**	**42.36**	**194**	P		P	P	22 30 31.4	+0.2
	0.6nm,0.7s,baz=16,slow=9.0,SNR=4.6								
ASAR	**Alice Springs**	**46.06**	**193**	P		P	P	22 31 00.4	-0.3
	0.2nm,0.5s,baz=11,slow=8.4,SNR=4.7								
MKAR	**Makanchi Array**	**55.34**	**313**	P		P	P	22 32 10.2	-0.2
	0.7nm,0.6s,baz=89,slow=9.3,SNR=8.6								
MKAR				pP		pP	pP	22 32 32.5	-0.4
	0.3nm,0.3s,baz=92,slow=8.1,SNR=4.5								
KURBB	**Kurchatov Arra**	**58.13**	**317**	P		P	P	22 32 29.2	-0.7
	1.9nm,0.7s,baz=95,slow=7.7,SNR=29								
KURBB				pP		pP	pP	22 32 52.1	-0.6
	0.3nm,0.3s,baz=101,slow=6.9,SNR=4.2								
ILAR	**Eielson Array**	**61.77**	**27**	P		P	P	22 32 54.3	-0.3
	0.6nm,0.8s,baz=263,slow=5.4,SNR=4.4								
YKA	**Yellowknife Ar**	**76.17**	**28**	P		P	P	22 34 24.1	+0.3
	0.8nm,0.5s,baz=290,slow=5.8,SNR=3.1								

IDC 12 22:27:10.1±1.7, 7°.70N×92°.01E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/39, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=44.6km s-min=29.8km az=53.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.22**	**269**	Pn		Pn	Pn	22 29 52.1	+0.3
	0.9nm,0.3s,baz=92,slow=12,SNR=4.1								
MKAR	**Makanchi Array**	**39.83**	**350**	P		P	P	22 34 44.9	-0.3
	0.1nm,0.4s,baz=166,slow=8.6,SNR=4.4								
SONM	**Songino Array**	**41.83**	**15**	P		P	P	22 35 01.7	-0.1
	0.2nm,0.5s,baz=190,slow=7.2,SNR=2.5								
WRA	**Warramunga Arr**	**49.90**	**124**	P		P	P	22 36 05.7	-0.1
	0.6nm,1.0s,baz=300,slow=8.1,SNR=3.2								

*IDC **12** 22:28:25.4±0.8, 7°.73N×91°.95E, h0km, mb4.1/15, mb1 4.2/18, mb1mx4.0/48, mbtmp4.1/18, ML4.2/3, Error ellipse: s-maj=26.0km s-min=15.2km az=44.0*
*ISCJB **12** 22:28:27.2±0.4, 7°.70N±0°.06×92°.05E±0°.07, h24km, mb4.1/21, Error ellipse: s-maj=12.3km s-min=5.4km az=139.1*
*NEIC **12** 22:28:29.8±1.7, 7°.72N×92°.04E, h30km±13km, mb4.3/7, Error ellipse: s-maj=8.4km s-min=5.1km az=225.0*
*DJA **12** 22:28:40.4±0.4, 8°.N±3°×9°.2E±°, h121km±10km, M4.8/8, mb4.2/8, mB5.5/2, MLv5.1/1, Mw(mB)5.0/2*
ISC 12 22:28:29.3±0.5, 7°.72N±0°.08×92°.03E±0°.08, h24km, n64, σ1s33/57, mb4.2/23, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**5.48**	**117**	P		Pn		22 29 55.8	+6.3
PSI	**Prapat**	**8.43**	**125**	Pn		**Pn**	**Pn**	**22 30 30.3**	**+0.1**
	1.6nm,0.3s,baz=346,slow=8.3,SNR=4.1								
PSI				Sn		**Sn**	**Sn**	**22 31 59.9**	**-4.8**
	0.2nm,0.3s,baz=342,slow=20,SNR=2.2								
GSI	**Gunungsitoli**	**8.44**	**139**	P		Pn		22 30 39.2	+9.0
GSI	**Gunungsitoli**	**8.44**	**139**	*ePn*		**Pn**		**22 30 29.0**	**-1.2**
KULM	**Kulim**	**8.90**	**105**	*ePn*		**Pn**		**22 30 36.0**	**-0.5**
IPM	**Ipoh**	**9.51**	**109**	*ePn*		**Pn**		**22 30 44.5**	**-0.4**
	7.4nm,0.6s								
PALK	**Pallekele**	**11.24**	**268**	Pn		**Pn**		**22 31 07.8**	**-0.8**
	2.7nm,0.3s,baz=92,slow=9.3,SNR=13								
PALK				Sn		Sn		22 32 59.5	-14
	3.6nm,0.3s,baz=189,slow=20,SNR=6.4								
PALK	**Pallekele**	**11.24**	**268**	*ePn*		**Pn**		**22 31 09.6**	**+1.0**
PALK				*eSn*		Sn		22 33 02.6	-11
BKNI	**Bangkinang**	**11.61**	**129**	P		Pn		22 31 20.6	+7.0
CMAR	**Chiang Mai Arr**	**12.62**	**32**	Pn		**Pn**		**22 31 27.6**	**+0.2**
	0.5nm,0.3s,baz=230,slow=14,SNR=4.5								
SDSI	**Sungai Dareh**	**12.72**	**132**	P		P		22 31 36.1	-3.7
LHSI	**Lahat**	**16.22**	**135**	P		P		**22 32 22.3**	**+3.5**
MDSI	**Maura Dua**	**17.15**	**135**	P		P		**22 32 32.6**	**+3.6**
LWLI	**Liwa**	**17.44**	**136**	P		P		22 32 43.5	+11
KLSI		**17.68**	**134**	P		P		**22 32 35.2**	**+0.2**
KASI	**Kota Agung**	**18.11**	**136**	P		P		22 32 45.7	+6.1
TPI	**Tanjungpandan**	**18.75**	**123**	P		**Pn**		**22 32 51.4**	**+4.2**
ODAN	**Odare**	**19.54**	**348**	*eP*		**P**		**22 32 55.5**	**0.0**
	60nm,0.5s								
CGJI	**Cibinong**	**19.71**

EKA	**Eskdalemuir Ar**	**86.65**	**325**	P		**P**		**22 41 10.8**	**-0.1**
	2.6nm,0.9s,baz=77,slow=6.8,SNR=3.8								
ESDC	**Sonseca Array**	**89.71**	**310**	P		**P**		**22 41 26.2**	**+0.3**
	0.8nm,0.8s,baz=69,slow=4.5,SNR=4.4								
LENM	**Lemitar**	**134.62**	**22**	*eP*		PKPdf		22 47 41.5	-5.2

IDC **12** *22:38:38.5±0.8, 19°.20N×80°.25W, h0km, mb3.8/7, mb1 4.1/10, mb1mx3.8/47, mbtmp4.0/10, ML4.6/4, Error ellipse: s-maj=22.7km s-min=19.2km az=12.0*
ISCJB **12** *22:38:39.9±0.4, 19°.14N±0°.05×80°.15W±0°.04, h33km, mb3.8/7, Error ellipse: s-maj=8.0km s-min=4.2km az=18.8*
NEIC **12** *22:38:39.6±0.4, 19°.19N×80°.18W, h10km, mb4.0/3, Error ellipse: s-maj=9.0km s-min=5.9km az=204.0*
JSN **12** *22:38:43.2±1.3, 19°.18N×79°.84W, h4km±92km, MD4.7*
ISC 12 22:38:41.3±0.6, 19°.14N±0°.07×80°.24W±0°.05, h35km, n37, σ2§16/41, mb3.7/7, Cuba region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MBJ	**Montego Bay**	**2.37**	**108**	*i*	S		**Sn**	**22 39 40.8**	**-4.9**
MCJ	**Malvern**	**2.71**	**116**	*i*	P		**Pn**	**22 39 22.0**	**-0.4**
CVJ	**Coleyville**	**2.72**	**109**	*i*	P		**Pn**	**22 39 21.9**	**-0.8**
MTDJ	**Mount Denham**	**2.72**	**109**	*e*	Pn		**Pn**	**22 39 21.6**	**-1.0**
MTDJ				*e*	Sn		**Sn**	**22 39 50.3**	**-4.1**
BBJ	**Bamboo Saint A**	**2.92**	**105**	*i*	P		**Pn**	**22 39 24.5**	**-0.8**
BNJ	**Bonny Gate**	**3.22**	**104**	*i*	P		**Pn**	**22 39 28.5**	**-1.0**
STH	**Stony Hill**	**3.42**	**108**	*i*	P		**Pn**	**22 39 31.5**	**-0.7**
STH				*i*	S		**Sn**	**22 40 08.1**	**-3.5**
GWJ	**Greenwich**	**3.50**	**107**	*i*	P		**Pn**	**22 39 32.7**	**-0.6**
HOJ	**Hope**	**3.50**	**108**	*i*	P		**Pn**	**22 39 31.6**	**-1.7**
GTBY	**Guantanamo Bay**	**4.90**	**80**	*e*	Pn		**Pn**	**22 39 51.5**	**-1.0**
GTBY				*e*	Sn		**Sn**	**22 40 49.5**	**+1.5**
TEIG	**Tepich**	**7.65**	**279**		Pn		**Pn**	**22 40 31.4**	**+1.2**
	63nm,0.3s,baz=86,slow=3.9,SNR=219								
TEIG					Sn		**Sn**	**22 41 52.1**	**-3.6**
	22nm,0.3s,baz=212,slow=23,SNR=14								
TEIG	**Tepich**	**7.65**	**279**	*e*	Pn		**Pn**	**22 40 31.4**	**+1.2**
TEIG				*e*	Sn		**Sn**	**22 41 53.5**	**-2.2**
SDDR	**Presa de Saban**	**8.47**	**90**	*e*	Pn		**Pn**	**22 40 41.5**	**-0.1**
SDDR				*e*	Sn		**Sn**	**22 42 15.6**	**-0.4**
GRTK	**Grand Turk**	**8.86**	**73**	*e*	Pn		**Pn**	**22 40 46.8**	**-0.1**
GRTK				*e*	Sn		**Sn**	**22 42 27.4**	**+1.8**
JTS	**JuntasAbangare**	**9.91**	**208**		Pn		Pn	22 41 04.5	+3.2
	4.6nm,0.3s,baz=354,slow=20,SNR=19								
JTS	**JuntasAbangare**	**9.91**	**208**	*e*	Pn		Pn	22 41 04.2	+2.9
SMN1	**Samana, DR**	**10.37**	**88**	*e*	Pn		**Pn**	**22 41 08.7**	**+1.1**
CRPR	**Cabo Rojo, PR**	**12.50**	**93**	*e*	Pn		**Pn**	**22 41 35.9**	**-0.8**
TIGA	**Tifton**	**12.61**	**347**	*e*	Pn		**Pn**	**22 41 37.3**	**-0.9**
	15nm,0.3s								
TIGA				*e*	Sn		**Sn**	**22 43 53.6**	**-3.8**
CELP	**Cerrillos**	**13.00**	**92**	*e*	Pn		**Pn**	**22 41 43.2**	**-0.3**
SDV	**Santo Domingo**	**13.81**	**136**	*e*	Pn		**Pn**	**22 41 54.3**	**-0.5**
CMIG	**Matias Romero**	**14.07**	**264**		Pn		**Pn**	**22 41 59.4**	**+1.2**
	0.7nm,0.3s,baz=58,slow=7.7,SNR=4.8								
CMIG					Sn		Sn	22 44 25.4	-7.8
	0.4nm,0.3s,baz=29,slow=19,SNR=3.2								
LRAL	**Lakeview Retre**	**15.10**	**338**	*e*	Pn		**Pn**	**22 42 12.1**	**+0.1**
	13nm,0.3s								
LRAL				*e*	Sn		Sn	22 44 47.2	-11
TKL	**Tuckaleechee C**	**16.75**	**350**		Pn		**P**	**22 42 34.4**	**-0.8**
	0.7nm,0.3s,baz=198,slow=8.0,SNR=8.0								
TKL					Sn		**Sn**	**22 45 32.3**	**-5.8**
	0.4nm,0.3s,baz=282,slow=14,SNR=3.7								
PCRV	**Puerto La Cruz**	**17.52**	**118**		P		**P**	**22 42 46.5**	**+2.6**
	1.2nm,0.3s,baz=270,slow=2.0,SNR=5.3								
HKT	**Hockley**	**17.78**	**310**	*e*	Pn		**P**	**22 42 46.9**	**+0.3**
	3.3nm,0.7s								
JSRW	**J. Sargant Re**	**18.60**	**6**	*e*	P		**Pn**	**22 42 56.0**	**+0.1**
WCI	**Wyandotte Cave**	**19.73**	**346**	*e*	Pn		**Pn**	**22 43 12.6**	**+2.9**
	6.7nm,0.8s								
TXAR	**Lajitas Array**	**23.61**	**300**		P		**P**	**22 43 52.3**	**+3.1**
	1.8nm,0.9s,baz=116,slow=10,SNR=15								
PTGA	**Pitinga**	**28.04**	**133**		P		P	22 44 32.0	+2.5
	0.7nm,0.3s,baz=338,slow=11,SNR=3.7								
SCHQ	**Schefferville**	**37.07**	**13**		P		P	22 45 51.0	+3.0
	4.1nm,0.7s,baz=210,slow=8.7,SNR=4.8								
ILAR	**Eielson Array**	**62.93**	**334**		P		**P**	**22 49 04.7**	**+0.8**
	0.2nm,0.6s,baz=106,slow=4.6,SNR=2.8								
EKA	**Eskdalemuir Ar**	**67.15**	**37**		P		**P**	**22 49 33.5**	**+2.0**
	0.2nm,0.4s,baz=268,slow=6.1,SNR=6.5								
ESDC	**Sonseca Array**	**67.64**	**54**		P		P	22 49 37.9	+2.9
	0.3nm,0.5s,baz=283,slow=6.5,SNR=3.9								
ARCES	**ARCESS Array B**	**77.59**	**20**		P		**P**	**22 50 35.8**	**+2.3**
	3.2nm,1.0s,baz=297,slow=4.0,SNR=4.5								
WRA	**Warramunga Arr**	**147.44**	**263**		PKPbc		**PKPab**	**22 58 23.5**	**-0.9**
	0.4nm,0.3s,baz=88,slow=3.5,SNR=4.6								
ASAR	**Alice Springs**	**147.94**	**256**		PKPbc		**PKPab**	**22 58 25.2**	**-1.1**
	1.1nm,0.8s,baz=105,slow=2.5,SNR=3.4								

IDC **12** *22:40:44.4±1.7, 7°.43N×91°.89E, h0km, mb4.0/8, mb1 4.1/11, mb1mx3.8/50, mbtmp4.0/11, ML3.9/3, Error ellipse: s-maj=35.7km s-min=29.8km az=172.0*
ISCJB **12** *22:40:46.0±0.7, 7°.4N±0°.1×91°.92E±0°.08, h24km, mb3.9/8, Error ellipse: s-maj=16.8km s-min=8.4km az=35.7*
ISC 12 22:40:48.4±0.8, 7°.5N±0°.1×91°.91E±0°.10, h24km, n11, σ0§64/12, mb4.0/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.40**	**123**		Pn		**Pn**	**22 42 49.2**	**+0.4**
	0.9nm,0.3s,baz=320,slow=15,SNR=4.1								
PSI					Sn		**Sn**	**22 44 22.7**	**-0.3**
	1.2nm,0.3s,baz=208,slow=15,SNR=3.7								
PALK	**Pallekele**	**11.12**	**270**		Pn		**Pn**	**22 43 26.7**	**+0.5**
	2.2nm,0.3s,baz=70,slow=15,SNR=3.0								
PALK					Sn		Sn	22 45 15.6	-14
	1.3nm,0.3s,baz=30,slow=16,SNR=6.9								
CMAR	**Chiang Mai Arr**	**12.86**	**31**		Pn		**Pn**	**22 43 50.4**	**+0.5**
	0.2nm,0.3s,baz=225,slow=14,SNR=6.6								
AAK	**Ala-Archa**	**38.22**	**339**		P		**P**	**22 48 07.6**	**+1.0**
	1.1nm,0.3s,baz=170,slow=6.1,SNR=3.1								
MKAR	**Makanchi Array**	**40.01**	**350**		P		**P**	**22 48 21.6**	**+0.1**
	1.1nm,0.7s,baz=170,slow=8.2,SNR=9.6								
SONM	**Songino Array**	**42.04**	**15**		P		**P**	**22 48 37.7**	**-0.5**
	0.4nm,0.4s,baz=194,slow=9.1,SNR=4.9								
KURBB	**Kurchatov Arra**	**44.41**	**348**		P		**P**	**22 48 57.6**	**+0.5**
	1.6nm,0.7s,baz=171,slow=7.1,SNR=27								
ZALV	**Zalesovo Beam**	**46.67**	**354**		P		**P**	**22 49 15.5**	**+0.5**
	0.7nm,0.4s,baz=161,slow=9.2,SNR=2.8								
IDI	**Anoyia**	**66.97**	**305**		P		**P**	**22 51 39.1**	**-0.5**
	2.6nm,0.7s,baz=69,slow=14,SNR=3.1								
FINES	**FINESS Array B**	**72.02**	**333**		P		**P**	**22 52 09.2**	**-0.9**
	3.4nm,1.0s,baz=119,slow=14,SNR=2.8								
GERES	**GERESS Array B**	**76.63**	**318**		P		**P**	**22 52 37.1**	**-0.3**
	0.5nm,0.7s,baz=72,slow=8.6,SNR=5.3								

MOS **12** *22:41:24.0±0.9, 10°.66S×165°.99E, h67km, mb5.5/33, Error ellipse: s-maj=10.5km s-min=8.9km az=104.0*
NOU **12** *22:41:24.6±0.9, 10°.59S×166°.77E, h30km, MD4.7, ML4.8*
ISCJB **12** *22:41:26.8±1.0, 10°.86S±0°.03×166°.03E±0°.03, h97km±8km, mb5.3/174, Error ellipse: s-maj=5.4km s-min=4.5km az=25.2*
IDC **12** *22:41:27.3±0.7, 10°.88S×166°.15E, h92km±6km, mb4.9/33, mb1 5.0/33, mb1mx4.9/42, mbtmp5.2/33, Error ellipse: s-maj=11.9km s-min=9.6km az=106.0*
BJI **12** *22:41:27.8, 10°.53S×166°.25E, h102km, mb5.2/42, mB5.7/16*
NEIC **12** *22:41:30.2±0.7, 10°.89S×166°.12E, h121km±6km, mb5.3/135, Error ellipse: s-maj=3.8km s-min=3.2km az=147.0*
ISC 12 22:41:27.7±0.3, 10°.91S±0°.04×166°.20E±0°.04, h98km±2km, h98km:pP-P, n749, σ1§18/757, mb5.3/174, 116C-99D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.33**	**283**	*i*	P		**Pn**	**22 42 58.0**	**-0.5**
HNR				*i*	S		Px	22 43 12.0	
HNR	**Honiara**	**6.33**	**283**	*e*	Pn		**Pn**	**22 42 57.8**	**-0.7**
HNR				*e*	Sn		**Sn**	**22 44 11.1**	**+1.6**
DZM	**Mont Dzumac**	**11.10**	**179**	*e*	Pn		**Pn**	**22 44 05.2**	**+1.7**
	727nm,0.7s								
DZM				*e*	Sn		**Sn**	**22 46 02.7**	**-3.0**
	430nm,0.5s								
DZM				*e*	LR		LR	22 46 58.6	
	7µm,26.9s								
DZM	**Mont Dzumac**	**11.10**	**179**	*e*	S		**Sn**	**22 46 02.9**	**-2.9**
DZM					AMP			22 46 11.0	
	comp=Z,2µm,3.3s								
NOUC	**Port Laguerre**	**11.13**	**180**	*e*	P		**Pn**	**22 44 04.5**	**+0.7**
NOUC				*e*	S		**Sn**	**22 46 03.3**	**-3.0**
NOUC					AMP			22 46 07.8	
	comp=Z,85nm,4.4s								
BAYA	**Yate Dam**	**11.20**	**177**	*e*	P		**Pn**	**22 44 05.8**	**+1.0**
NORM	**Noumea**	**11.26**	**179**	*e*	P		**Pn**	**22 44 07.7**	**+2.1**
PLUM	**Mont Dore**	**11.31**	**178**	*e*	P		**Pn**	**22 44 06.7**	**+0.6**
PLUM				*e*	S		**Sn**	**22 46 08.2**	**-2.4**
MSVF	**Nonsavu**	**13.33**	**122**		P		P	22 44 43.8	+4.6
	comp=Z,2µm,0.9s,SNR=10								
MSVF	**Nonsavu**	**13.33**	**122**	*e*	Pn		**Pn**	**22 44 34.5**	**+1.4**
PMG	**Port Moresby**	**18.80**	**273**	*d*	P		**P**	**22 45 39.5**	**-0.2**
PMG					pmax		pmax		
	comp=Z,569nm,1.2s								
PMG	**Port Moresby**	**18.80**	**273**	*e*	P		**P**	**22 45 39.0**	**-0.7**
	comp=Z,179nm,1.3s								
KWAJ	**Kwajalein Atol**	**19.63**	**4**	*e*	P		**Pn**	**22 45 51.1**	**+0.1**
	comp=Z,159nm,0.8s								
EIDS	**Eidsvold**	**20.30**	**223**	*e*	P		Pn	22 45 57.4	-1.3
	comp=Z,164nm,0.8s								
CTA	**Charters Tower**	**21.26**	**242**		P		**P**	**22 46 07.2**	**+0.9**
	comp=Z,22nm,0.8s,baz=75,slow=12,SNR=30								
CTA	**Charters Tower**	**21.26**	**242**		P		**P**	**22 46 07.2**	**+0.9**
CTA					pmax		pmax		
	comp=Z,72nm,0.8s								
CTAO	**Charters Tower**	**21.26**	**242**	*e*	P		**P**	**22 46 07.1**	**+0.9**
	comp=Z,329nm,1.5s								
AFI	**Afiamalu**	**21.71**	**100**	*e*	P		**P**	**22 46 12.6**	**+1.4**
	comp=Z,89nm,1.1s								
COEN	**Coen**	**22.69**	**260**	*e*	P		**P**	**22 46 21.2**	**-0.1**
	comp=Z,208nm,1.7s								
KNTN	**Kanton**	**23.35**	**71**	*e*	P		**P**	**22 46 28.1**	**+0.5**
	comp=Z,552nm,1.5s								
ARMA	**Armidale**	**23.67**	**213**	*e*	P		**P**	**22 46 31.5**	**+0.9**
	comp=Z,451nm,1.8s								
OUZ	**Omahuta**	**25.12**	**166**	*e*	P		**P**	**22 46 45.8**	**+2.3**
	comp=Z,50nm,0.9s								
SMPI	**Sarmi**	**28.69**	**286**		P		P	**22 47 17.7**	**+1.9**
	comp=Z,40nm,0.7s								
URZ	**Urewera**	**28.93**	**162**		P		**P**	**22 47 18.2**	**+0.5**
	comp=Z,50nm,0.8s,baz=265,slow=3.4,SNR=20								
URZ					PcP		**PcP**	**22 50 24.0**	**-0.4**
	comp=Z,18nm,1.0s,baz=270,slow=5.1,SNR=3.7								
URZ	**Urewera**	**28.93**	**162**	*e*	P		**P**	**22 47 18.4**	**+0.8**
	comp=Z,87nm,1.1s								
URZ					PcP		**PcP**	**22 50 23.9**	**-0.4**
URZ				*e*	S		**S**	**22 52 02.7**	**+1.6**
H11S2	**WAKE ISLAND Hy**	**29.22**	**1**		T		T	23 18 02.1	
	baz=181,slow=76,SNR=387								
H11S3	**WAKE ISLAND Hy**	**29.22**	**1**		T		T	23 17 54.3	
	baz=181,slow=76,SNR=325								
H11S1	**WAKE ISLAND Hy**	**29.24**	**1**		T		T	23 17 55.6	
	baz=181,slow=76,SNR=318								
BKZ	**Black Stump Fm**	**29.60**	**164**	*e*	P		**P**	**22 47 24.7**	**+1.1**
	comp=Z,103nm,0.3s								
BKZ				*e*	S		**S**	**22 52 11.3**	**-0.4**
H11N1	**WAKE ISLAND Hy**	**30.44**	**1**		T		T	23 19 31.8	
	baz=182,slow=76,SNR=270								
H11N3	**WAKE ISLAND Hy**	**30.44**	**1**		T		T	23 19 25.9	
	baz=182,slow=76,SNR=112								
H11N2	**WAKE ISLAND Hy**	**30.46**	**1**		T		T	23 19 29.0	
	baz=182,slow=76,SNR=159								
STKA	**Stephens Creek**	**30.85**	**224**		P		**P**	**22 47 35.2**	**+0.5**
	comp=Z,13nm,0.8s,baz=38,slow=8.9,SNR=24								
STKA					PcP		**PcP**	**22 50 28.8**	**-0.6**
	comp=Z,14nm,0.9s,baz=57,slow=4.2,SNR=3.6								
STKA	**Stephens Creek**	**30.85**	**224**		P		**P**	**22 47 35.2**	**+0.5**
STKA								22 50 28.8	
STKA					pmax		pmax		
	comp=Z,13nm,0.8s								
STKA					pmax		pmax		
	comp=Z,14nm,0.9s								
STKA	**Stephens Creek**	**30.85**	**224**	*e*	P		**P**	**22 47 35.7**	**+1.0**
	comp=Z,46nm,2.2s								
STKA				*e*	PcP		**PcP**	**22 50 28.9**	**-0.6**
BFZ	**Birch Farm**	**30.95**	**165**	*e*	P		**P**	**22 47 35.3**	**-0.2**
	comp=Z,80nm,0.8s								
BFZ				*e*	S		**S**	**22 52 34.4**	**+1.6**
SNZO	**South Karori**	**31.19**	**168**	*e*	P		**P**	**22 47 37.7**	**+0.2**
	comp=Z,72nm,1.0s								
WRAB	**Tennant Creek**	**31.94**	**250**		P		**P**	**22 47 44.6**	**+0.2**
	comp=Z,342nm,0.9s,SNR=17								
WRAB	**Tennant Creek**	**31.94**	**250**	*d*	P		**P**	**22 47 44.3**	**-0.1**
WRAB					pmax		pmax		
	comp=Z,235nm,1.5s								
WRAB	**Tennant Creek**	**31.94**	**250**	*e*	P		**P**	**22 47 43.4**	**-1.0**
	comp=Z,48nm,0.8s								
WRA	**Warramunga Arr**	**31.95**	**250**		P		**P**	**22 47 43.8**	**-0.7**
	comp=Z,40nm,0.8s,baz=80,slow=9.0,SNR=73								
WRA					PcP		**PcP**	**22 50 32.7**	**0.0**
	comp=Z,12nm,0.9s,baz=82,slow=3.0,SNR=9.7								
WRA					PKiKP		**PKiKP**	**22 57 59.6**	**-1.6**
	comp=Z,2.7nm,0.8s,baz=359,slow=1.1,SNR=6.0								
WRA	**Warramunga Arr**	**31.95**	**250**		P		**P**	**22 47 43.8**	**-0.7**
WRA								22 50 32.7	
WRA					pmax		pmax		
	comp=Z,40nm,0.8s								
WRA					pmax		pmax		
	comp=Z,12nm,0.9s								
KHZ	**Kahudara**	**32.04**	**170**	*e*	P		**P**	**22 47 45.0**	**+0.1**
	comp=Z,90nm,0.9s								
RPZ	**Rata Peaks**	**32.95**	**174**		P		**P**	**22 47 53.2**	**+0.2**
	comp=Z,194nm,0.9s,baz=1.7,slow=2.4,SNR=41								
RPZ	**Rata Peaks**	**32.95**	**174**	*e*	P		**P**	**22 47 53.6**	**+0.6**
	comp=Z,166nm,0.8s								
AS01	**Alice Springs**	**33.21**	**243**	*e*	P		**P**	**22 47 54.6**	**-0.9**
AS01				*e*	PcP		**PcP**	**22 50 36.3**	**+0.1**
ASAR	**Alice Springs**	**33.25**	**243**		P		**P**	**22 47 55.0**	**-0.8**
	comp=Z,44nm,0.8s,baz=70,slow=9.6,SNR=248								
ASAR					pP		**pP**	**22 48 16.6**	**-1.5**
	comp=Z,11nm,0.7s,baz=73,slow=8.9,SNR=3.9								
ASAR					PcP		**PcP**	**22 50 36.4**	**+0.1**
	comp=Z,11nm,0.8s,baz=84,slow=2.9,SNR=12								
ASAR	**Alice Springs**	**33.25**	**243**		P		**P**	**22 47 55.1**	**-0.8**
ASAR					*PP		**pP**	**22 48 16.6**	**-1.5**
ASAR								22 50 36.4	
ASAR					pmax		pmax		
	comp=Z,44nm,0.8s								
ASAR					pmax		pmax		
	comp=Z,11nm,0.7s								
ASAR					pmax		pmax		
	comp=Z,11nm,0.8s								
RAR	**Rarotonga**	**34.19**	**112**	*e*	P		**P**	**22 48 04.0**	**+0.1**
	comp=Z,689nm,3.0s								
DCZ	**Deep Cove**	**34.46**	**179**	*e*	P		**P**	**22 48 06.9**	**+0.9**
	comp=Z,94nm,1.3s								
WHZ	**Wether Hill Ro**	**34.90**	**178**	*e*	P		**P**	**22 48 08.9**	**-0.9**
	comp=Z,36nm,1.0s								
BBOO	**Buckleboo**	**35.25**	**227**	*e*	P		**P**	**22 48 13.2**	**+0.2**
	comp=Z,57nm,0.8s								
SIJI	**Sorong**	**36.11**	**284**		P		**P**	**22 48 21.0**	**+0.4**
	comp=Z,11nm,0.8s,baz=103,slow=6.1,SNR=7.0								
SIJI					PcP		**PcP**	**22 50 45.0**	**+0.3**
	comp=Z,9.3nm,0.9s,baz=200,slow=8.5,SNR=3.6								
SWI	**Sorong**	**36.12**	**284**		P		**P**	**22 48 22.6**	**+2.0**
	comp=Z,67nm,0.9s								
FITZ	**Fitzroy Crossi**	**39.85**	**255**	*e*	P		**P**	**22 48 52.1**	**+0.2**
	comp=Z,42nm,1.0s								
TNTI	**Ternate**	**40.32**	**284**		P		P	22 49 00.4	+4.5
	comp=Z,62nm,0.8s								
FORT	**Forrest**	**40.49**	**235**	*e*	P		**P**	**22 48 57.4**	**+0.3**
	comp=Z,301nm,1.9s								
SANI	**Sanana**	**40.87**	**280**		P		P	22 49 03.9	+3.5
	comp=Z,36nm,0.8s								
PPT2	**Papeete2**	**43.30**	**104**	*e*	LR		LR	23 01 53.4	
	comp=Z,2µm,25.0s								
MMRI	**Maumere**	**43.36**	**269**	*e*	P		**P**	**22 49 19.9**	**-0.8**
	comp=Z,70nm,1.1s								
TBI	**Tubuai**	**43.97**	**112**	*e*	LR		LR	23 02 15.0	
	comp=Z,5µm,31.0s								
LUWI	**Luwuk**	**44.23**	**280**		P		**P**	**22 49 30.3**	**+2.6**
	comp=Z,57nm,1.3s,comp=Z,4µm								
LUWI	**Luwuk**	**44.23**	**280**	*e*	P		**P**	**22 49 27.5**	**-0.2**
	comp=Z,85nm,1.0s								
MBWA	**Marble Bar**	**45.66**	**251**	*e*	P		**P**	**22 49 39.2**	**+0.3**
	comp=Z,56nm,0.8s								
KAPI	**Kappang**	**46.33**	**273**		P		**P**	**22 49 44.0**	**-0.3**
	comp=Z,15nm,0.9s,baz=131,slow=3.0,SNR=6.5								
KAPI					pP		**pP**	**22 50 06.0**	**-1.5**
	comp=Z,14nm,0.9s,baz=151,slow=13,SNR=3.6								
KAPI	**Kappang**	**46.33**	**273**	*e*	P		**P**	**22 49 43.6**	**-0.7**
	comp=Z,5.1nm,1.0s								
KAPI					pP		**pP**	**22 50 06.0**	**-1.5**
PCI	**Palu**	**47.11**	**279**		P		**P**	**22 49 53.0**	**+2.6**
	comp=Z,55nm,1.2s								
MPSI	**Mapaga**	**47.36**	**281**		P		**P**	**22 49 52.1**	**-0.2**
	comp=Z,41nm,1.2s,comp=Z,5µm								
KIP	**Kipapa**	**47.62**	**48**	*de*	P		**P**	**22 49 55.2**	**+1.1**
KIP					pmax		pmax		
	comp=Z,33nm,0.7s								
OPA	**Opana**	**47.79**	**47**	*e*	P		**P**	**22 49 57.5**	**+2.0**
POHA	**Pohakuloa**	**48.46**	**51**	*e*	P		**P**	**22 50 02.9**	**+1.9**
	comp=Z,160nm,0.8s								
NWAO	**Narrogin (SRO)**	**49.91**	**236**		P		**P**	**22 50 11.6**	**0.0**
	comp=Z,52nm,0.8s,baz=148,slow=2.5,SNR=27								
NWAO	**Narrogin (SRO)**	**49.91**	**236**		P		**P**	**22 50 11.6**	**0.0**
NWAO					pmax		pmax		
	comp=Z,52nm,0.8s								
GRJI	**Gresik**	**53.17**	**270**		P		P	22 50 43.1	+7.0
MJAR	**Matsushiro Arr**	**54.06**	**332**		P		**P**	**22 50 41.2**	**-1.0**
	comp=Z,18nm,0.7s,baz=168,slow=8.4,SNR=66								
MJAR					pP		**pP**	**22 51 03.9**	**-2.2**
	comp=Z,4.0nm,0.7s,baz=157,slow=6.8,SNR=2.6								
MJAR					PcP		**PcP**	**22 51 46.6**	**+0.5**
	comp=Z,5.4nm,0.7s,baz=160,slow=3.8,SNR=5.3								
MJAR	**Matsushiro Arr**	**54.06**	**332**		P		**P**	**22 50 41.2**	**-1.0**
MJAR					*PP		**pP**	**22 51 03.9**	**-2.2**
MJAR								22 51 46.6	
MJAR					pmax		pmax		
	comp=Z,18nm,0.7s								
MJAR					pmax		pmax		
	comp=Z,4.0nm,0.7s								
MJAR					pmax		pmax		
	comp=Z,5.0nm,0.7s								
MAJO	**Matsushiro**	**54.06**	**332**	*ce*	P		**P**	**22 50 41.4**	**-0.9**
MAJO					pmax		pmax		
	comp=Z,333nm,1.5s								
MAJO	**Matsushiro**	**54.06**	**332**	*e*	P		**P**	**22 50 41.2**	**-1.1**
	comp=Z,24nm,0.8s								
MAT	**Matsushiro**	**54.06**	**332**		P		**P**	**22 50 41.0**	**-1.3**
JNU	**Nakatsue**	**55.23**	**324**		P		**P**	**22 50 49.8**	**-1.0**
	comp=Z,36nm,1.0s,baz=82,slow=2.3,SNR=9.6								
JNU	**Nakatsue**	**55.23**	**324**	*e*	P		**P**	**22 50 50.1**	**-0.8**
	comp=Z,86nm,1.3s								
YULB	**Yu-li**	**55.60**	**308**	*e*	P		**P**	**22 50 53.0**	**-0.6**
	comp=Z,53nm,0.9s								
TPUB	**Ta-pu**	**56.07**	**308**	*e*	P		**P**	**22 50 55.6**	**-1.4**
	comp=Z,60nm,1.2s								
SSLB	**Suanglung**	**56.08**	**308**	*e*	P		**P**	**22 50 57.2**	**+0.1**
	comp=Z,32nm,0.8s								
YHNB	**Yeheng**	**56.24**	**310**	*e*	P		**P**	**22 50 57.2**	**-1.0**
	comp=Z,206nm,1.8s								
ERM	**Erimo**	**56.76**	**340**		P		**P**	**22 51 03.0**	**+1.5**
	comp=Z,176nm,0.7s,SNR=5.7								
ERM	**Erimo**	**56.76**	**340**	*c*	P		**P**	**22 51 02.5**	**+1.0**
ERM					pmax		pmax		
	comp=Z,53nm,1.7s								
ERM	**Erimo**	**56.76**	**340**	*e*	P		**P**	**22 51 01.2**	**-0.2**
	comp=Z,21nm,0.7s								
KSDAG	**Daegu**	**58.27**	**325**		P		**P**	**22 51 12.6**	**+0.4**
	SNR=6.6								
KSPHA	**Pohang**	**58.31**	**325**		P		**P**	**22 51 12.7**	**+0.2**
	SNR=7.3								
KSULJ	**Uljin**	**58.65**	**326**		P		**P**	**22 51 15.4**	**+0.5**
	SNR=9.9								
ASAJ	**Asahikawa**	**58.82**	**340**	*e*	P		**P**	**22 51 15.5**	**-0.4**
	comp=Z,48nm,0.7s								
KSTBA	**Taebaek**	**59.21**	**326**		P		**P**	**22 51 19.4**	**+0.6**
	SNR=26								
KSBON	**Boeun**	**59.41**	**324**		P		**P**	**22 51 20

NIKH	Nikolski High	67.12	16	*e*P		P		22 52 11.0	+0.3		
	comp=Z,136nm,1.0s										
SKNT	Sakolnakorn	67.45	294	P		P		22 52 16.2	+2.7		
	comp=Z,50nm,1.3s										
PSI	Prapat	68.30	277	P		P		22 52 17.9	-1.2		
	comp=Z,12nm,0.9s,baz=195,slow=2.9,SNR=3.9										
PSI	Prapat	68.30	277	P		P		22 52 17.9	-1.2		
PSI				pmax	pmax						
	comp=Z,12nm,0.9s										
UNV	Unalaska Valle	68.55	17	*e*P		P		22 52 19.4	-0.2		
	comp=Z,42nm,1.1s										
BJI	Beijing	68.66	321	P		P		22 52 20.6	0.0		
BJI				PMZ							
	comp=Z,45nm,1.2s										
GYA	Guiyang	68.71	304	P		P		22 52 23.0	+1.6		
GYA				pP		pP		22 52 49.8	+3.6		
GYA				sP		sP		22 53 00.8	+3.9		
GYA				PP		PP		22 54 56.7	+2.2		
GYA				ScP				22 56 40.2			
GYA				S		S		23 01 17.4	+0.1		
GYA				sS		SKiKP		23 02 02.7	-1.9		
GYA				SKS		SKSac		23 02 10.0	-2.2		
GYA				PMZ							
	comp=Z,30nm,1.0s										
GYA				PMZ							
	comp=Z,140nm,5.8s										
XAN	Xi'an	70.36	312	P		P		22 52 31.2	-0.1		
XAN				PMZ							
	comp=Z,14nm,1.1s										
XAN				PMZ							
	comp=Z,470nm,13.8s										
KMI	Kunming	71.43	301	P		P		22 52 39.2	+1.0		
KMI				pP		pP		22 53 01.7	-1.5		
KMI				PMZ							
	comp=Z,44nm,1.3s										
HHC	Hu-ho-hao-te	72.02	319	*e*P		P		22 52 41.9	+0.7		
HHC				pP		pP		22 53 06.6	+0.3		
HHC				PP		PP		22 55 24.7	+2.1		
HHC				S		S		23 01 54.4	-0.8		
HHC				SS		SS		23 06 35.6	+1.2		
HHC				PMZ							
	comp=Z,27nm,1.3s										
HHC				PMZ							
	comp=Z,680nm,7.3s										
HHC				LN							
	comp=Z,1µm,16.5s										
HHC				LE							
	comp=Z,1µm,16.7s										
HHC				LZ							
	comp=Z,2µm,16.3s										
CM01	Chiang Mai Arr	72.44	293	*e*P		P		22 52 44.2	+0.1		
CMAR	Chiang Mai Arr	72.47	293	P		P		22 52 44.6	+0.4		
	comp=Z,11nm,0.8s,baz=117,slow=4.2,SNR=10										
CMAR				PKPPKP		P'P'df		23 20 33.4	+3.7		
	comp=Z,0.7nm,0.4s,baz=278,slow=2.4,SNR=5.0										
HIA	Hailar	72.48	330	*c i*P		P		22 52 43.9	+0.3		
HIA				pmax	pmax						
	comp=Z,51nm,1.2s										
CMMT	Chiang Mai	72.58	294	P		P		22 52 47.0	+2.1		
CHTO	Chiang Mai	72.58	294	P		P		22 52 47.1	+2.2		
	comp=Z,832nm,0.8s										
CHTO	Chiang Mai	72.58	294	*e*P		P		22 52 45.3	+0.4		
	comp=Z,39nm,1.3s										
CD2	Chengdu	72.88	307	P		P		22 52 47.5	+1.0		
CD2				PcP		PcP		22 53 03.8	+0.7		
CD2				pP		pP		22 53 13.4	+1.9		
CD2				sP		sP		22 53 24.7	+2.5		
CD2				S		S		23 02 06.2	+0.9		
CD2				sS		sS		23 02 51.3	+3.1		
CD2				PMZ							
	comp=Z,30nm,0.5s										
CD2				PMZ							
	comp=Z,220nm,5.2s										
SEY	Seymchan	74.39	353	P		P		22 52 54.5	0.0		
	comp=Z,16nm,1.0s,baz=155,slow=8.1										
LZH	Lanzhou	75.00	312	P		P		22 53 00.1	+1.2		
LZH				PMZ							
	comp=Z,120nm,1.2s										
LZH				PMZ							
	comp=Z,460nm,5.2s										
CLNS	Chul'man	75.62	338	*e*P		P		22 52 59.6	-2.2		
CLNS				pmax	pmax						
	comp=Z,14nm,1.0s										
CLNS				pmax	pmax						
	comp=N,8.0nm,1.0s										
GAMB	Gambell	76.36	10	*e*P		P		22 53 06.5	+0.8		
	comp=N,52nm,0.8s										
CIT	Chita	77.27	330	*e*P		P		22 53 12.0	+0.8		
CIT				*e*				22 53 15.8			
CIT				*e*				22 53 36.8			
CIT				pmax	pmax						
	comp=Z,163nm,1.2s										
SVW2	Sparrevohn	77.85	18	*e*P		P		22 53 14.8	+0.6		
	comp=Z,29nm,1.0s										
YAK	Yakutsk	78.09	343	P		P		22 53 15.4	-0.1		
	comp=Z,11nm,0.5s,baz=143,slow=20,SNR=23										
YAK	Yakutsk	78.09	343	*c i*P		P		22 53 15.6	+0.1		
YAK				*e*				22 53 25.0			
YAK				*e**PP		pP		22 53 38.1	-2.8		
YAK				*e*PPP		PPP		22 57 59.4			
YAK				*e*S		S		23 03 01.7	+0.3		
YAK				*e*				23 03 24.5			
YAK				*e**SS		sS		23 03 46.0	+1.1		
YAK				pmax	pmax						
	comp=Z,81nm,0.8s										
YAK				pmax	pmax						
	comp=N,33nm,1.1s										
YAK				pmax	pmax						
	comp=E,24nm,1.2s										
YAK				pmax	pmax						
	comp=Z,661nm,12.4s										
YAK				pmax	pmax						
	comp=N,662nm,13.7s										
YAK				pmax	pmax						
	comp=E,836nm,14.1s										
YAK				smax	smax						
	comp=N,265nm,4.7s										
YAK				smax	smax						
	comp=E,167nm,4.9s										
YAK	Yakutsk	78.09	343	*e*P		P		22 53 15.4	-0.1		
	comp=E,139nm,0.8s										
RSO	Redoubt South	78.25	19	*e*P		P		22 53 16.4	-0.2		
BRLK	Bradley Lake	78.36	21	*e*P		P		22 53 17.0	0.0		
	comp=E,65nm,0.8s										
BILL	Bilibino	78.74	0	*c i*P		P		22 53 19.4	+0.4		
BILL				*e**PP		pP		22 53 43.0	-1.4		
BILL				*e*				22 56 15.1			
BILL				*e*PPP		PPP		22 58 04.3			
BILL				pmax	pmax						
	comp=Z,92nm,1.3s										
BILL	Bilibino	78.74	0	*e*P		P		22 53 19.2	+0.2		
SONM	Songino Array	78.82	324	P		P		22 53 20.8	+0.8		
	comp=Z,43nm,1.2s,baz=139,slow=4.4,SNR=18										
SONM				PKKPbc		PKKPbc		23 12 13.4	-2.4		
	comp=Z,1.2nm,0.7s,baz=243,slow=1.8,SNR=8.9										
SONM	Songino Array	78.82	324	P		P		22 53 20.8	+0.8		
SONM				pmax	pmax						
	comp=Z,43nm,1.2s										
SONM				pmax	pmax						
	comp=Z,1.0nm,0.7s										
GTA	Gaotai	79.29	314	⇑P		P		22 53 23.8	+1.0		
GTA				pP		pP		22 53 46.4	-1.8		
GTA				sP		sP		22 53 58.6	-0.2		
GTA				PMZ							
	comp=Z,64nm,1.3s										
RC01	Rabbit Creek A	79.71	20	*e*P		P		22 53 24.1	-0.3		
	comp=Z,58nm,1.4s										
PMR	Palmer	80.28	20	*e*P		P		22 53 27.5	+0.1		
	comp=Z,53nm,1.3s										
BOD	Bodaibo	80.60	335	⇑*i*P		P		22 53 29.2	0.0		
BOD				pmax	pmax						
	comp=Z,20nm,1.2s										
CAST	Castle Rocks	80.69	18	*e*P		P		22 53 29.4	-0.2		
	comp=Z,31nm,0.8s										
SCM	Sheep Creek Mo	81.06	20	*e*P		P		22 53 32.2	+0.5		
	comp=Z,51nm,0.8s										
DIV	Divide	81.12	21	*e*P		P		22 53 32.6	+0.5		
	comp=Z,58nm,0.8s										
TRF	Thorofare Moun	81.25	18	*e*P		P		22 53 32.2	-0.6		
	comp=Z,19nm,0.7s										
BMRM	Bremner River	81.44	22	*e*P		P		22 53 34.0	+0.3		
	comp=Z,53nm,1.0s										
RND	Reindeer	81.67	19	*e*P		P		22 53 34.6	-0.3		
	comp=Z,54nm,1.0s										
MCK	McKinley	81.87	18	*e*P		P		22 53 35.8	-0.1		
	comp=Z,61nm,1.1s										
BWN	Browne	82.03	18	*e*P		P		22 53 36.6	0.0		
	comp=Z,109nm,1.0s										
KCPM	Cahto Peak	82.13	47	*e*P		P		22 53 38.0	+0.1		
	comp=Z,41nm,0.9s										
IM04	Indian Mountai	82.16	15	*e*P		P		22 53 37.3	-0.1		
KIPM	Iron Peak	82.25	47	*e*P		P		22 53 38.9	+0.3		
HOPS	Hopland Field	82.25	48	*e*P		P		22 53 37.3	-1.2		
	comp=Z,23nm,1.2s										
TLY	Talaya	82.26	326	P		P		22 53 38.4	+0.2		
	comp=Z,31nm,0.8s,baz=217,slow=2.3,SNR=12										
TLY	Talaya	82.26	326	*e*P		P		22 53 38.8	+0.6		
TLY				pmax	pmax						
	comp=Z,30nm,0.6s										
MLY	Manley	82.28	17	*e*P		P		22 53 37.7	-0.4		
	comp=Z,19nm,0.9s										
KHMM	Horse Mountain	82.45	46	*e*P		P		22 53 40.9	+1.2		
	comp=Z,48nm,1.1s										
WRH	Wood River Hil	82.66	18	*e*P		P		22 53 39.4	-0.6		
	comp=Z,48nm,0.9s										
CCB	Clear Creek Bu	82.87	18	*e*P		P		22 53 40.6	-0.4		
	comp=Z,22nm,0.8s										
MDM	Murphy Dome	82.97	18	*e*P		P		22 53 41.0	-0.6		
	comp=Z,48nm,0.9s										
L02D	Cave Junction,	83.01	45	⇑P		P		22 53 44.4	+2.1		
	baz=83										
COLA	College	83.02	18	*c i*P		P		22 53 41.5	-0.2		
COLA				pmax	pmax						
	comp=Z,280nm,1.0s										
COLA	College	83.02	18	*e*P		P		22 53 41.3	-0.4		
	comp=Z,66nm,0.8s										
WDC	Whiskeytown Da	83.19	47	*e*P		P		22 53 43.9	+0.6		
	comp=Z,55nm,1.4s										
N02D	Trinity Center	83.22	46	⇑P		P		22 53 46.0	+2.5		
	baz=83,SNR=12										
IL1	Eielson Array	83.24	18	*e*P		P		22 53 42.7	-0.2		
ILAR	Eielson Array	83.24	18	P		P		22 53 42.6	-0.3		
	comp=Z,20nm,0.8s,baz=227,slow=6.1,SNR=154										
ILAR				PKKPbc		PKKPbc		23 12 03.0	-3.4		
	comp=Z,1.2nm,0.6s,baz=1.3,slow=2.9,SNR=9.0										
ILAR	Eielson Array	83.24	18	P		P		22 53 42.7	-0.3		
ILAR				pmax	pmax						
	comp=Z,20nm,0.8s										
ILAR				pmax	pmax						
	comp=Z,1.0nm,0.6s										
M02C	Callahan	83.26	46	⇑P		P		22 53 45.8	+2.1		
	baz=83,SNR=12										
SMMC	Simmler	83.34	52	⇑P		P		22 53 46.0	+1.8		
	baz=84										
PKM	Mcpherson Peak	83.36	53	⇓P		P		22 53 46.3	+1.9		
	baz=84										
YBH	Yreka Blue Hor	83.48	45	*e*P		P		22 53 44.7	-0.1		
	comp=Z,38nm,1.0s										
HUMO	Hull Mountain	83.62	45	*e*P		P		22 53 46.0	+0.5		
	comp=Z,39nm,1.0s										
BLG	Laguna Peak, P	83.71	54	⇑P		P		22 53 48.1	+2.1		
	baz=84										
I03D	Drain, OR	83.75	43	⇑P		P		22 53 47.6	+1.7		
	baz=84,SNR=6.4										
CMB	Columbia Colle	83.91	50	*e*P		P		22 53 46.9	-0.1		
	comp=Z,28nm,0.9s										
CIS	Catalina Islan	84.03	54	⇓P		P		22 53 48.8	+1.1		
	baz=84										
COLD	Coldfoot	84.05	16	*e*P		P		22 53 48.1	+1.1		
	comp=Z,26nm,1.2s										
HYT	Haines Junctio	84.08	24	*e*P		P		22 53 47.9	+0.4		
M04C	Macdoel	84.11	46	⇓P		P		22 53 49.7	+1.6		
	baz=84,SNR=15										
OSI	Osito Audit: C	84.13	53	⇑P		P		22 53 49.9	+1.7		
	baz=84										
ARVC	Arvin	84.20	53	⇓P		P		22 53 50.2	+1.7		
	baz=84										
VES	Vestal, Richgr	84.22	52	⇓P		P		22 53 49.9	+1.3		
	baz=84,SNR=9.6										
RCTC	Rector, Farmer	84.24	51	⇓P		P		22 53 49.6	+1.0		
	baz=84										
DECC	Green Verdugo	84.33	54	⇑P		P		22 53 50.7	+1.5		
	baz=84										
G03D	McMinnville, O	84.36	42	⇓P		P		22 53 50.7	+1.7		
	baz=84										
I04A	Tendick Farm,	84.42	44	⇑P		P		22 53 50.7	+1.2		
	baz=85,SNR=7.2										
J04D	Umpqua Nationa	84.43	44	⇓P		P		22 53 51.3	+1.5		
	baz=85,SNR=8.5										
K04D	Chiloquin, OR	84.46	45	⇓P		P		22 53 51.6	+1.8		
	baz=85										
MWC	Mount Wilson	84.54	54	*e*P		P		22 53 50.4	-0.1		
	comp=Z,39nm,1.2s										
ISA	Isabella, Lake	84.64	52	⇑P		P		22 53 52.1	+1.3		
	baz=85,SNR=16										
ISA	Isabella, Lake	84.64	52	*e*P		P		22 53 51.1	+0.3		
	comp=Z,28nm,0.9s										
WAKR	Walker	84.77	49	*e*P		P		22 53 52.2	+0.6		
NLWA	Neilton Lookou	84.78	40	*e*P		P		22 53 51.8	+0.6		
	comp=Z,22nm,1.1s										
EDW2	Edwards Air Fo	84.78	53	⇑P		P		22 53 52.9	+1.3		
	baz=85,SNR=27										
BFSC	Mount Baldy Ra	84.86	54	⇓P		P		22 53 53.0	+0.9		
	baz=85,SNR=14										
H04A	Detroit Lake	84.88	43	*e*P		P		22 53 51.3	-0.5		
	comp=Z,42nm,1.2s										
109C	Camp Elliot, M	84.92	55	⇑P		P		22 53 53.9	+1.7		
	baz=85										
MLAC	Mammoth, Mammo	84.95	50	⇓P		P		22 53 54.6	+2.0		
	baz=85										
MAW	Mawson	85.01	202	P		P		22 53 52.9	+0.9		
	comp=Z,65nm,1.0s,baz=102,slow=6.3,SNR=52										
MAW	Mawson	85.01	202	P		P		22 53 52.9	+0.9		
MAW				pmax	pmax						
	comp=Z,65nm,1.0s										
MAW	Mawson	85.01	202	*e*P		P		22 53 52.5	+0.6		
	comp=Z,18nm,1.0s										
J05D	Fort Rock, OR	85.04	44	⇓P		P		22 53 54.5	+1.8		
	baz=85,SNR=29										
MURC	Murrieta	85.04	55	⇑P		P		22 53 54.3	+1.5		
	baz=85										
K05A	Summer Lake	85.09	45	*e*P		P		22 53 54.1	+1.0		
	comp=Z,46nm,1.0s										
EGAK	Eagle	85.10	20	*e*P		P		22 53 52.4	+0.1		
	comp=Z,78nm,0.8s										
F04A	Amboy	85.17	42	*e*P		P		22 53 51.8	-1.3		
	comp=Z,36nm,1.0s										
LRMC	Laurel Mtn Rad	85.19	53	⇑P		P		22 53 55.5	+1.8		
	baz=85,SNR=14										
TIN	Tinemaha, Big	85.24	51	⇓P		P		22 53 56.0	+2.2		
	baz=85										
DAWY	Dawson	85.27	21	*e*P		P		22 53 53.8	+0.6		
I05D	Terrebonne, OR	85.33	43	⇑P		P		22 53 55.7	+1.6		
	baz=86,SNR=10										
MONP	Monument Peak,	85.47	55	⇑P		P		22 53 56.6	+1.4		
	baz=86,SNR=13										
DAC	Darwin (Calif)	85.50	52	*e*P		P		22 53 55.6	+0.4		
	comp=Z,26nm,1.0s										
PGC	Sidney	85.51	39	*e*P		P		22 53 55.3	+0.6		
	comp=Z,756nm,1.0s										
MPMC	Manual Prospec	85.52	52	⇑P		P		22 53 56.7	+1.4		
	baz=86,SNR=20										
RRX	Edison Barstow	85.56	53	⇑P		P		22 53 57.4	+2.0		
	baz=86										
NV01	Mina Array Sit	85.59	50	*e*P		P		22 53 56.4	+0.7		
NVAR	Mina Array Bea	85.59	50	P		P		22 53 56.9	+1.2		
	comp=Z,30nm,1.0s,baz=233,slow=7.5,SNR=92										
NVAR				pP		pP		22 54 21.1	-0.4		
	comp=Z,12nm,1.1s,baz=227,slow=7.2,SNR=3.6										
NVAR				PKPPKP		P'P'df		23 20 07.9	+2.8		
	comp=Z,0.8nm,0.8s,baz=46,slow=4.3,SNR=3.5										
PFO	Pinyon Flats O	85.64	55	P		P		22 53 57.9	+2.0		
	comp=Z,107nm,1.0s,SNR=5.7										
PFO	Pinyon Flats O	85.64	55	⇑P		P		22 53 57.2	+1.3		
	baz=86,SNR=9.9										
PFO	Pinyon Flats O	85.64	55	*e*P		P		22 53 55.4	-0.6		
	comp=Z,24nm,1.1s										
G05D	Wamic, OR	85.65	43	⇑P		P		22 53 56.9	+1.3		
	baz=86										
GSC	Goldstone, Bar	85.83	53	⇓P		P		22 53 58.1	+1.3		
	baz=86,SNR=14										
GSC	Goldstone, Bar	85.83	53	*e*P		P		22 53 57.0	+0.2		
	comp=Z,34nm,1.3s										
LON	Longmire	85.86	41	*e*P		P		22 53 56.3	-0.3		
	comp=Z,26nm,1.7s										
GRAC	Grapevine Rang	85.88	51	⇓P		P		22 53 58.6	+1.6		
	baz=86,SNR=12										
D05A	Enumclaw	85.89	41	*e*P		P		22 53 56.6	-0.1		
SWSC	Sam W. Stewart	85.99	56	⇑P		P		22 53 59.2	+1.7		
	baz=86,SNR=16										
TIXI	Tiksi	86.04	349	*ce*P		P		22 53 56.6	-0.3		
TIXI				*i* *PP		pP		22 54 19.7	-2.9		
TIXI				pmax	pmax						
	comp=Z,46nm,1.3s										
TIXI	Tiksi	86.04	349	*e*P		P		22 53 56.4	-0.5		
	comp=Z,72nm,0.8s										
DLBC	Dease Lake	86.08	28	*e*P		P		22 53 57.4	-0.1		
	comp=Z,128nm,2.3s										
HEC	Hector,Ludlow	86.08	54	⇓P		P		22 53 59.6	+1.6		
	baz=86,SNR=5.1										
G06A	Carlson Farm,	86.11	43	*e*P		P		22 53 57.3	-0.6		
	comp=Z,16nm,1.1s										
BELC	Belle Mtn. Jos	86.11	54	⇓P		P		22 53 59.9	+1.6		
	baz=86,SNR=28										
FURC	Furnace Creek,	86.12	52	⇑P		P		22 53 59.7	+1.7		
	baz=86,SNR=17										
TPH	Tonopah	86.30	50	*e*P		P		22 53 59.1	-0.1		
	comp=Z,34nm,1.4s										
SHOC	Shoshone, Teco	86.41	53	⇓P		P		22 54 01.1	+1.6		
	baz=87										
BC3	Big Chuckawall	86.46	55	⇓P		P		22 54 01.9	+1.9		
	baz=87,SNR=16										
I07A	Izee	86.49	44	*e*P		P		22 54 00.1	+0.2		
	comp=Z,34nm,1.1s										
TUQ	Turquoise Moun	86.56	53	⇑P		P		22 54 02.4	+1.9		
	baz=87										
WVOR	Wild Horse Val	86.57	46	*e*P		P		22 54 00.7	+0.4		
	comp=Z,42nm,1.2s										
GMRC	Granite Mounta	86.59	54	⇑P		P		22 54 01.9	+1.3		
	baz=87,SNR=21										
TPNV	Topopah Spring	86.73	52	⇓P		P		22 54 02.6	+1.3		
	baz=87,SNR=11										
TPNV	Topopah Spring	86.73	52	*e*P		P		22 54 01.4	+0.1		
	comp=Z,39nm,1.6s										
LTY	Liberty	86.76	41	*e*P		P		22 54 00.9	-0.2		
	comp=Z,37nm,1.4s										
GLA	Glamis	86.81	56	⇓P		P		22 54 03.6	+2.1		
	baz=87,SNR=5.8										
GLA	Glamis	86.81	56	*e*P		P		22 54 01.9	+0.3		
IRM	Iron Mountain	86.84	55	⇑P		P		22 54 03.1	+1.4		
	baz=87,SNR=36										
BMN	Battle Mountai	86.99	48	*e*P		P		22 54 02.3	-0.1		
	comp=Z,15nm,1.1s										
E07A	Sunnyside	87.06	42	*e*P		P		22 54 03.0	+0.6		
HAWA	Hanford	87.21	42	*e*P		P		22 54 03.1	0.0		
	comp=Z,30nm,1.0s										
Y12C	Blythe	87.23	55	⇓P		P		22 54 05.5	+1.9		
	baz=87,SNR=19										
G08A	Pilot Rock	87.24	43	*e*P		P		22 54 03.5	+0.1		
	comp=Z,32nm,1.0s										
NEE2	Needles Airpor	87.42	54	⇑P		P		22 54 06.5	+2.0		
	baz=88										
SHPR	Sheep Range	87.45	52	*e*P		P		22 54 05.0	+0.2		
R11A	Troy Canyon, C	87.62	50	⇑P		P		22 54 06.7	+1.2		
	baz=88,SNR=32										
R11A	Troy Canyon, C	87.62	50	*e*P		P		22 54 05.8	+0.2		
	comp=Z,23nm,1.2s										
PDMCI	Parker Dam,Lak	87.68	55	⇑P		P		22 54 08.0	+2.4		
	baz=88,SNR=8.8										
HVS	Khovu-Aksy	87.70	323	*c i*P		P		22 54 05.2	-0.3		
HVS				pmax	pmax						
	comp=Z,247nm,1.7s										
D08A	Wollman Farm,	87.83	41	*e*P		P		22 54 06.4	+0.3		
	comp=Z,25nm,1.1s										
B08A	Colville Reser	87.98	40	*e*P		P		22 54 06.6	-0.2		
	comp=Z,18nm,1.0s										
214A	Organ Pipe Nat	88.18	57	⇓P		P		22 54 10.3	+2.1		
	baz=88,SNR=18										
ELK	Elko	88.53	48	P		P		22 54 10.6	+0.7		
	comp=Z,4.8nm,0.7s,baz=230,slow=4.6,SNR=23										
ELK	Elko	88.53	48	P		P		22 54 10.6	+0.7		
ELK				pmax	pmax						
	comp=Z,5.0nm,0.7s										
ELK	Elko	88.53	48	*e*P		P		22 54 10.2	+0.4		
	comp=Z,27nm,1.4s										
F10A	Beach Ranch, E	88.61	43	*e*P		P		22 54 10.3	+0.4		
	comp=Z,100nm,1.8s										
SLBS	Sierra La Lagu	88.78	66	*e*P		P		22 54 11.4	+0.2		
	comp=Z,22nm,0.9s										
MFID	Camas Ranch	88.83	45	*e*P		P		22 54 11.8	+0.8		
	comp=Z,66nm,1.8s										
CCUT	Cedar City	89.11	52	*e*P		P		22 54 13.8	+1.1		
	comp=Z,38nm,1.0s										
WMQ	Urumqi	89.32	315	P		P		22 54 14.3	+1.0		
WMQ				pP		pP		22 54 40.2	+1.0		
WMQ				sP		sP		22 54 50.7	+1.1		
WMQ				PP		PP		22 57 47.9	+2.4		
WMQ				SKS		SKSac		23 04 33.2	-1.4		
WMQ				sS		sS		23 05 38.0	-1.6		
WMQ				SS		SS		23 10 52.3	+0.1		
WMQ				PMZ							
	comp=Z,46nm,1.2s										
WMQ				PMZ							
	comp=Z,350nm,6.5s										
WMQ				LN							
	comp=Z,1µm,14.0s										
WMQ				LE							
	comp=Z,760nm,16.5s										
WMQ				LZ							
	comp=Z,1µm,24.0s										
NEW	Newport

SYO Syowa Base 92.04 197 ⇓ eP P 22 54 23.6 -1.8
FXWY Fox Creek 92.27 46 eP P 22 54 27.5 +0.3
comp=Z,9.8nm,0.8s
TPAW Teton Pass 92.29 46 eP P 22 54 24.7 -2.7
comp=Z,8.3nm,0.8s
BOZ Bozeman (W) 92.30 44 ⇑ P P 22 54 28.6 +1.4
baz=92,SNR=25
REDW Red Top Meadow 92.33 46 eP P 22 54 27.4 -0.1
comp=Z,24nm,1.4s
IMW Indian Meadow 92.39 46 eP P 22 54 27.0 -0.8
comp=Z,10.0nm,0.8s
HRY Holter Researc 92.41 43 eP P 22 54 28.5 +0.8
SNOW Snow King Moun 92.42 46 eP P 22 54 28.9 +0.9
comp=Z,11nm,0.9s
121A Cookes Peak, D 92.46 58 ⇑ P P 22 54 30.2 +1.9
baz=93,SNR=13
MOOW Moose Ponds 92.49 46 eP P 22 54 28.5 +0.3
comp=Z,6.9nm,1.0s
PV05 Paradox Valley 92.52 52 eP P 22 54 29.1 +0.6
LOHW Long Hollow 92.56 46 eP P 22 54 28.5 -0.1
comp=Z,16nm,1.4s
PV09 Paradox Valley 92.58 51 eP P 22 54 29.4 +0.6
FLWY Flagg Ranch 92.60 46 eP P 22 54 28.9 +0.1
comp=Z,9.3nm,0.8s
PV10 Paradox Valley 92.62 52 eP P 22 54 29.4 +0.4
PV04 Paradox Valley 92.73 52 eP P 22 54 29.2 -0.2
H17A Grant Village 92.75 45 ⇓ P P 22 54 31.6 +2.1
baz=93
MVCO Mesa Verde 92.81 53 ⇓ P P 22 54 31.2 +1.3
baz=93
MVCO Mesa Verde 92.81 53 eP P P 22 54 29.5 -0.4
comp=Z,5.7nm,0.8s
PV01 Paradox Valley 92.94 52 eP P 22 54 28.2 -2.2
EDM Edmonton 93.00 36 eP P 22 54 30.4 +0.3
comp=Z,62nm,0.3s
BW06 Boulder Array 93.13 47 eP P 22 54 31.3 +0.1
PDAR Pinedale Array 93.13 47 P P 22 54 31.7 +0.4
comp=Z,8.5nm,0.9s,baz=294,slow=1.5,SNR=34
PDAR PKKP PKKPdf 23 11 40.1 +0.6
comp=Z,0.9nm,0.8s,baz=70,slow=5.5,SNR=5.8
PDAR PKPPKP P'P'df 23 19 49.7 -1.1
comp=Z,0.6nm,0.7s,baz=66,slow=1.1,SNR=5.3
O20A White River Ci 93.58 50 ⇓ P P 22 54 34.3 +1.0
baz=94
O20A White River Ci 93.58 50 eP P 22 54 32.1 -1.2
comp=Z,5.4nm,0.7s
J19A Crowheart 93.60 47 ⇑ P P 22 54 34.1 +0.8
baz=94
GCMT Greycliff 93.67 44 eP P 22 54 32.2 -1.4
ZALV Zalesovo Beam 93.71 324 P P 22 54 32.5 -0.8
comp=Z,28nm,0.9s,baz=132,slow=2.8,SNR=6.8
ZALV PKKPbc PKKPdf 23 11 37.4 -1.1
comp=Z,1.0nm,0.6s,baz=343,slow=2.1,SNR=3.8
ZALV Zalesovo Beam 93.71 324 P P 22 54 32.5 -0.8
ZALV pmax pmax
comp=Z,28nm,0.9s
ZALV pmax pmax
comp=Z,1.0nm,0.6s
MK01 Makanchi Array 93.72 317 eP P 22 54 32.8 -0.7
BNM Barren Site 93.72 56 eP P 22 54 34.5 +0.3
MKAR Makanchi Array 93.73 317 P P 22 54 33.1 -0.4
comp=Z,37nm,0.7s,baz=93,slow=6.6,SNR=23
MKAR PKKP PKKPdf 23 11 37.4 -0.9
comp=Z,3.9nm,0.6s,baz=278,slow=2.9,SNR=34
MKAR Makanchi Array 93.73 317 P P 22 54 33.2 -0.4
MKAR pmax pmax
comp=Z,37nm,0.7s
MKAR pmax pmax
comp=Z,4.0nm,0.6s
I19A Meeteetse 93.79 46 ⇑ P P 22 54 35.9 +1.7
baz=94
RLMT Red Lodge 93.81 45 ⇓ P P 22 54 35.7 +1.4
baz=94
H19A Powell 93.92 45 ⇓ P P 22 54 36.5 +1.8
baz=94,SNR=8.2
ANMO Albuquerque 94.00 55 P P 22 54 35.9 +0.5
comp=Z,5.0nm,0.9s,baz=219,slow=5.5,SNR=9.8
ANMO Albuquerque 94.00 55 eP P 22 54 36.0 +0.6
ANMO pmax pmax
comp=Z,23nm,1.1s
ANMO Albuquerque 94.00 55 eP P 22 54 35.3 -0.1
comp=Z,4.6nm,0.8s
EGMT Eagleton 94.07 42 ⇓ P P 22 54 36.5 +1.3
baz=94
EGMT Eagleton 94.07 42 eP P 22 54 35.4 +0.2
comp=Z,19nm,0.8s
S22A 4UR Ranch, Cre 94.21 53 ⇓ P P 22 54 37.7 +1.3
baz=94,SNR=8.3
S22A 4UR Ranch, Cre 94.21 53 eP P 22 54 35.3 -1.1
comp=Z,14nm,1.4s
J20A Shoshoni 94.31 47 ⇓ P P 22 54 37.4 +0.9
baz=94,SNR=5.8
SMCO Snowmass 94.36 51 eP P 22 54 34.0 -3.1
comp=Z,4.1nm,0.8s
I20A Worland 94.39 46 ⇓ P P 22 54 37.9 +1.1
baz=94
H20A Greybull 94.58 46 ⇑ P P 22 54 39.2 +1.5
baz=95
P22A Eagle 94.60 51 ⇑ P P 22 54 39.5 +1.4
baz=95
YKA Yellowknife Ar 94.65 27 P P 22 54 36.3 -1.1
comp=Z,4.6nm,0.7s,baz=254,slow=4.5,SNR=17
YKA Yellowknife Ar 94.65 27 P P 22 54 36.3 -1.1
YKA pmax pmax
comp=Z,5.0nm,0.7s
YKB5 Yellowknife Ar 94.65 27 eP P 22 54 36.0 -1.4
B19A Brinkman Farms 94.69 42 ⇑ P P 22 54 39.1 +1.1
baz=95
F20A Billings 94.72 44 ⇓ P P 22 54 39.6 +1.3
baz=95
J21A Lysite 94.76 47 ⇑ P P 22 54 39.7 +1.0
baz=95,SNR=7.3
O22A Kremmling 94.86 50 ⇑ P P 22 54 39.8 +0.5
baz=95,SNR=6.8
A19A Klindworth Far 94.91 41 ⇑ P P 22 54 40.1 +1.1
baz=95
I21A Big Trails, Te 94.96 46 ⇓ P P 22 54 40.0 +0.6
baz=95,SNR=6.0
R23A Moffat 95.07 52 ⇑ P P 22 54 41.1 +0.8
baz=95
C20A Veseth Ranch, 95.17 43 ⇑ P P 22 54 41.4 +1.2
baz=95
G21A Lodge Grass 95.27 45 ⇓ P P 22 54 42.5 +1.7
baz=95
TX31 Lajitas Ar. Si 95.37 61 eP P 22 54 42.0 +0.4
TXAR Lajitas Array 95.37 61 P P 22 54 42.2 +0.6
comp=Z,1.9nm,0.7s,baz=224,slow=5.8,SNR=24
TXAR PP PP 22 58 32.9 -0.6
comp=Z,4.0nm,1.1s,baz=242,slow=5.8,SNR=14
TXAR PKKP PKKPbc 23 11 34.1 -0.4
comp=Z,0.5nm,0.8s,baz=124,slow=3.7,SNR=3.5
TXAR Lajitas Array 95.37 61 P P 22 54 42.2 +0.6
TXAR 22 58 32.9
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR pmax pmax
comp=Z,4.0nm,1.2s
TXAR pmax pmax
comp=Z,1.0nm,0.8s
A20A Cobblestone Ra 95.43 41 ⇓ P P 22 54 42.4 +1.0
baz=96
N23A Red Feather La 95.44 50 ⇑ P P 22 54 43.4 +1.5
baz=96
N23A Red Feather La 95.44 50 eP P 22 54 42.2 +0.4
comp=Z,4.4nm,0.8s
J22A Midwest 95.47 47 ⇑ P P 22 54 43.2 +1.4
baz=96
ISCO Idaho Springs 95.50 51 ⇑ P P 22 54 44.1 +1.8
baz=96
I22A 9 Mile Ranch, 95.55 47 ⇓ P P 22 54 44.2 +2.0
baz=96
E21A Keefer Ranch, 95.58 44 ⇑ P P 22 54 43.6 +1.5
baz=96
D21A La Casta Ranch 95.73 43 ⇓ P P 22 54 43.9 +1.1
baz=96
C21A Desert Coulee 95.79 43 ⇑ P P 22 54 44.1 +1.1
baz=96
T25A Trinidad 96.01 53 ⇑ P P 22 54 45.5 +1.0
baz=96
A21A Bergtoll Ranch 96.10 41 ⇑ P P 22 54 45.6 +1.2
baz=96
LAO LASA Array 96.19 44 ⇓ P P 22 54 46.5 +1.6
baz=96
E22A Miles City 96.33 44 ⇑ P P 22 54 46.7 +1.1
baz=96
F23A Volborg 96.60 45 ⇑ P P 22 54 48.0 +1.3
baz=97
T26A Comanche Natio 96.66 54 ⇑ P P 22 54 48.0 +0.6
baz=97
228A UT Block 9, Go 96.72 59 ⇑ P P 22 54 48.2 +0.5
baz=97
529A Stev Forest Ra 96.74 61 ⇑ P P 22 54 48.1 +0.4
baz=97
A22A Carney Farms, 96.75 42 ⇓ P P 22 54 48.3 +0.9
baz=97
J24A Dixon Ranch, L 96.77 47 ⇑ P P 22 54 48.4 +0.7
baz=97
E23A Ismay 96.78 44 ⇑ P P 22 54 49.2 +1.6
baz=97
KURK Kurchatov 96.82 320 P P 22 54 46.8 -0.8
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 96.82 320 P P 22 54 46.8 -0.8
KURBB Kurchatov Arra 96.87 320 P P 22 54 46.8 -1.0
comp=Z,2.1nm,0.6s,baz=97,slow=5.0,SNR=4.6
128A Castleberry Fa 96.89 58 ⇑ P P 22 54 49.1 +0.7
baz=97
R26A Arlington 96.94 52 ⇓ P P 22 54 49.5 +0.9
baz=97
D23A Lindsay 96.95 43 ⇑ P P 22 54 49.9 +1.6
baz=97
Q26A Hugo 96.97 52 ⇑ P P 22 54 50.5 +1.7
baz=97
KSH Kashi 97.02 309 P Pdif 22 54 51.5 +2.5
KSH sP sP 22 55 26.6 +1.2
KSH PP PP 22 58 52.4 +6.4
KSH SKS SKSac 23 05 20.8 +3.5
KSH S S 23 06 03.6 -0.1
KSH sS sS 23 06 49.9 +1.1
KSH PMZ
comp=Z,10.0nm,1.0s
KSH PMZ
comp=Z,490nm,7.4s
KSH LN
comp=Z,330nm,8.2s
KSH LE
comp=Z,440nm,13.0s
KSH LZ
comp=Z,260nm,9.6s
H24A Dirks Ranch, A 97.05 46 ⇑ P Pdif 22 54 49.5 +0.6
baz=97
C23A Lambert 97.06 43 ⇓ P Pdif 22 54 50.1 +1.2
baz=97
429A Davenport Ranc 97.09 60 ⇓ P Pdif 22 54 50.0 +0.6
baz=97
329A Wagon Wheel Ra 97.14 59 ⇓ P Pdif 22 54 50.7 +1.0
baz=97
P26A Davis Ranch, A 97.20 51 ⇑ P Pdif 22 54 51.5 +1.6
baz=97
G24A Alzada 97.23 45 ⇑ P Pdif 22 54 50.6 +0.9
baz=97
SNAA Sanae 97.28 183 P P 22 54 40.2 -9.2
B23A Brockton 97.28 42 ⇓ P Pdif 22 54 51.2 +1.4
baz=97
T27A Campo 97.33 54 ⇑ P Pdif 22 54 51.1 +0.6
baz=98
129A Stewart Farms, 97.40 58 ⇑ P Pdif 22 54 51.1 +0.3
baz=98
A23A Redstone 97.42 42 ⇑ P Pdif 22 54 51.9 +1.5
baz=98
R27A Eads 97.44 53 ⇓ P Pdif 22 54 51.7 +0.8
baz=98
530A J-C Ranch, Com 97.50 61 ⇑ P Pdif 22 54 52.1 +0.8
baz=98
I25A Rochford 97.53 47 ⇑ P Pdif 22 54 52.4 +1.2
baz=98
D24A Glendive 97.54 44 ⇑ P Pdif 22 54 52.0 +1.0
baz=98
Z29A Hungry Hill Ra 97.62 58 ⇑ P Pdif 22 54 52.5 +0.7
baz=98
430A Baggett Ranch, 97.68 60 ⇑ P Pdif 22 54 52.7 +0.7
baz=98
H25A Fruitdale 97.71 46 ⇑ P Pdif 22 54 52.8 +0.9
baz=98
Y29A Porterfield Fa 97.74 57 ⇑ P Pdif 22 54 52.8 +0.5
baz=98
P27A Ficken Ranch, 97.78 51 ⇑ P Pdif 22 54 53.5 +1.1
baz=98
DGMT Dagmar 97.81 42 ⇓ P Pdif 22 54 53.3 +1.1
baz=98
T28A Walsh 97.82 54 ⇓ P Pdif 22 54 53.6 +1.0
baz=98
G25A Nekell 97.91 46 ⇓ P Pdif 22 54 54.0 +1.2
baz=98
J26A Sides Ranch, S 97.91 47 ⇓ P Pdif 22 54 54.0 +1.2
baz=98
O27A Beecher Island 97.94 51 ⇑ P Pdif 22 54 54.6 +1.5
baz=98
A24A Westby 97.99 42 ⇑ P Pdif 22 54 54.6 +1.6
baz=98
V29A Stinnett 98.13 55 ⇓ P Pdif 22 54 56.1 +2.1
baz=98
531A Rocksprings 98.18 61 ⇓ P Pdif 22 54 54.8 +0.5
baz=98
431A Sonora 98.20 60 ⇑ P Pdif 22 54 54.9 +0.6
baz=98
R28A Tribune 98.22 53 ⇑ P Pdif 22 54 55.4 +1.0
baz=98
D25A Fairfield 98.22 44 ⇑ P Pdif 22 54 55.5 +1.4
baz=98
H26A Fairpoint 98.29 46 ⇓ P Pdif 22 54 56.2 +1.7
baz=98
832A Faith Ranch, C 98.42 63 ⇓ P Pdif 22 54 56.3 +1.0
baz=98
X30A Coker Ranch, T 98.47 57 ⇓ P Pdif 22 54 56.4 +0.9
baz=99
T29A Hugoton 98.47 54 ⇓ P Pdif 22 54 56.7 +1.2
baz=99
G26A Maurine 98.50 46 ⇓ P Pdif 22 54 56.5 +1.1
baz=99
VNA1 Neumayer--Stat 98.54 182 P P 22 54 47.8 -7.2
S29A Ulysses 98.67 53 ⇑ P Pdif 22 54 57.9 +1.6
baz=99
532A Rocksprings 98.72 61 ⇓ P Pdif 22 54 57.1 +0.4
baz=99
E26A Carlson Angus 98.73 44 ⇑ P Pdif 22 54 57.6 +1.3
baz=99
H27A Howes 98.78 46 ⇑ P Pdif 22 54 57.8 +1.1
baz=99
JCT Junction City 98.86 61 ⇑ P Pdif 22 54 57.4 +0.1
baz=99
L28A Connealy Angus 98.89 49 ⇓ P Pdif 22 54 57.5 +0.3
baz=99
432A Menard 98.92 60 ⇑ P Pdif 22 54 58.2 +0.7
baz=99
Z31A Sharp Cattle R 98.93 58 ⇑ P Pdif 22 54 57.8 +0.2
baz=99
933A Laredo 98.94 64 ⇓ P Pdif 22 54 59.0 +1.3
baz=99
F27A Lemmon 98.97 45 ⇓ P Pdif 22 54 58.1 +0.7
baz=99
232A Coleman 99.17 59 ⇑ P Pdif 22 54 59.6 +0.9
baz=99
S30A Montezuma 99.19 53 ⇑ P Pdif 22 54 59.9 +1.2
baz=99
J28A Allard Ranch, 99.25 48 ⇓ P Pdif 22 55 00.8 +2.0
baz=99
ABTX Abilene, Hawle 99.26 59 ⇓ P Pdif 22 54 59.5 +0.4
baz=99
A26A Wade Farm, Ken 99.28 42 ⇓ P Pdif 22 54 59.6 +0.9
baz=99
Z32A Haskell 99.48 58 ⇑ P Pdif 22 55 00.7 +0.8
baz=100
B27A Peters Farms, 99.74 42 ⇓ P Pdif 22 55 02.3 +1.5
baz=100
F28A McLaughlin 99.81 45 ⇓ P Pdif 22 55 02.6 +1.5
baz=100
233A Rising Star 99.81 59 ⇓ P Pdif 22 55 02.3 +0.8
baz=100
035Z Hargill 99.86 65 ⇑ P Pdif 22 55 02.5 +0.8
baz=100
FFC Flin Flon 99.86 36 eP dif Pdif 22 55 00.9 -0.2
comp=Z,6.5nm,0.9s
534A Blanco 99.94 61 ⇓ P Pdif 22 55 01.8 -0.3
baz=100
W34A Bridge Creek, 101.09 56 eP PP 22 59 15.2 -1.8
B30A Myrvik Farm, E 101.69 43 ⇓ P Pdif 22 55 10.6 +1.2
baz=102
KSU1 Kansas State U 102.34 52 ⇓ P Pdif 22 55 14.4 +1.8
baz=102
S35A Otter Creek Ra 102.47 54 ⇑ P Pdif 22 55 14.7 +1.6
baz=103
ECSD EROS Data Cent 102.63 47 eP P 22 59 25.6 -2.7
T36A Boggs Farm, Ca 102.77 54 ⇓ P Pdif 22 55 16.6 +2.1
baz=103
TKL Tuckaleechee C 112.52 56 eP KiKP PKiKP 22 59 51.7 -1.3
TKL eP PP 23 00 38.4 -2.4
BLA Blacksburg 115.11 54 eP KiKP PKiKP 22 59 57.5 -0.4
APA Apatity 115.45 342 eP KiKP PKPdf 23 00 00.0 +2.4
APA MLR MLR
comp=Z,1μm,24.0s
ARCES ARCESS Array B 116.32 346 PKP PKPdf 22 59 58.5 -0.7
comp=Z,6.2nm,0.5s,baz=74,slow=1.9,SNR=50
ARCES PKKPbc PKKPbc 23 10 28.3 -3.0
comp=Z,2.9nm,0.7s,baz=214,slow=2.3,SNR=7.9
ARCES ARCESS Array B 116.32 346 PKIKP PKPdf 22 59 58.5 -0.7
ARCES pmax pmax
comp=Z,6.0nm,0.5s
ARCES pmax pmax
comp=Z,3.0nm,0.7s
PTN Potsdam (NY) 118.03 45 eP KPdf PKPdf 23 00 02.4 -0.8
TRY Troy 119.37 47 eP KPdf PKPdf 23 00 05.9 0.0
SCHQ Schefferville 119.67 32 PKP PKPdf 23 00 05.7 -0.5
comp=Z,4.9nm,0.7s,baz=279,slow=1.8,SNR=11
SCHQ PKKPbc PKKPab 23 10 18.3 -0.2
comp=Z,2.8nm,0.6s,baz=130,slow=3.9,SNR=7.8
ROSC El Rosal 119.82 91 PKP PKPdf 23 00 07.8 -0.3
comp=Z,5.4nm,0.5s,baz=270,slow=20,SNR=5.0
LPAZ La Paz 119.84 116 PKP PKPdf 23 00 08.4 +0.1
comp=Z,5.0nm,0.6s,baz=317,slow=1.0,SNR=40
LPAZ La Paz 119.84 116 PKIKP PKPdf 23 00 08.4 +0.1
LPAZ pmax pmax
comp=Z,5.0nm,0.6s
LPAZ La Paz 119.84 116 eP KPdf PKPdf 23 00 07.6 -0.7
LPSR Galich'ya Gora 120.78 326 eP KIKP PKPdf 23 00 08.1 -0.2
LPSR pmax pmax
comp=Z,8.0nm,0.7s
LPSR pmax pmax
comp=N,6.0nm,0.9s
LPSR pmax pmax
comp=E,5.0nm,0.5s
GNI Garni 120.91 310 ⇓ i PKIKP PKPdf 23 00 09.8 +0.6
GNI pmax pmax
comp=Z,14nm,1.2s
OBN Obninsk 120.92 329 d i PKIKP PKPdf 23 00 08.6 +0.2
OBN e 23 01 35.7
OBN eP PP PPP 23 04 13.9
OBN pmax pmax
comp=Z,13nm,1.2s
VSR Storozhevoye 121.22 324 eP KIKP PKPdf 23 00 08.9 -0.3
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=N,9.0nm,1.1s
VSR pmax pmax
comp=E,9.0nm,1.1s
VORD Divnogorie 121.24 324 eP KIKP PKPdf 23 00 07.8 -1.4
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=N,20nm,0.4s
VORD pmax pmax
comp=E,30nm,0.6s
KBZ Khabaz 121.36 315 PKP PKPdf 23 00 09.4 -0.3
comp=E,1.9nm,0.8s,baz=105,slow=7.0,SNR=3.9
KBZ Khabaz 121.36 315 PKIKP PKPdf 23 00 09.4 -0.3
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KIV Kislovodsk 121.45 315 ⇓ i PKIKP PKPdf 23 00 09.4 -0.6
KIV e 23 01 40.9
KIV eP PP PPP 23 04 18.6
KIV e 23 06 58.0
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,639nm,19.0s
NEY Neytrino 121.62 314 ⇓ eP KIKP PKPdf 23 00 11.4 +0.9
PKME Peaks-Kenny Pk 121.74 43 eP KPdf PKPdf 23 00 09.6 -0.7
FINES FINESS Array B 121.81 339 PKP PKPdf 23 00 09.8 -0.2
comp=Z,8.6nm,0.9s,baz=57,slow=1.3,SNR=12
FINES FINESS Array B 121.81 339 PKIKP PKPdf 23 00 09.8 -0.2
FINES pmax pmax
comp=Z,9.0nm,0.9s
PQI Presque Isle 122.13 41 eP KPdf PKPdf 23 00 10.1 -0.9
RAYN Ar Rayn 122.33 291 eP KPdf PKPdf 23 00 12.0 -0.2
DAMY Dhamar 123.25 280 eP KPdf PKPdf 23 00 12.8 -1.6
CPUP Villa Florida 123.78 132 eP KPdf PKPdf 23 00 14.6 -0.3
SDV Santo Domingo 124.04 87 eP KPdf PKPdf 23 00 15.4 -0.5
SDDR Presa de Saban 124.08 74 eP KPdf PKPdf 23 00 15.6 0.0
ANN Anapa 124.74 318 i PKIKP PKPdf 23 00 15.5 -0.6
ANN pmax pmax
comp=Z,24nm,1.4s
BOSA Boshof 125.52 223 PKP PKPdf 23 00 18.6 +0.2
comp=Z,15nm,0.7s,baz=129,slow=1.7,SNR=32
BOSA Boshof 125.52 223 PKIKP PKPdf 23 00 18.6 +0.2
BOSA pmax pmax
comp=Z,15nm,0.7s
BOSA Boshof 125.52 223 eP KPdf PKPdf 23 00 18.3 -0.1
SUR Sutherland 125.72 216 eP KPdf PKPdf 23 00 19.0 +0.3
NB2 NORSAR Subarra 126.69 345 PKP PKPdf 23 00 19.0 -0.4
comp=Z,15nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra 126.69 345 PKPdf PKPdf 23 00 19.0 -0.4
baz=31,slow=1.9
NOA NORSAR Array B 126.69 345 PKP PKPdf 23 00 18.8 -0.7
comp=Z,5.9nm,0.7s,baz=32,slow=2.0,SNR=14
NOA NORSAR Array B 126.69 345 PKIKP PKPdf 23 00 18.8 -0.7
NOA pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 126.99 327 PKP PKPdf 23 00 19.7 -0.6
comp=Z,3.2nm,0.7s,baz=50,slow=1.8,SNR=15
AKASG Malin Array Be 126.99 327 c i PKIKP PKPdf 23 00 20.2 0.0
AKASG pmax pmax
comp=Z,3.0nm,0.7s
KIEV Kiev 127.01 327 ⇓ i PKIKP PKPdf 23 00 20.3 0.0
AK11 Malin Array Si 127.04 327 eP KPdf PKPdf 23 00 19.6 -0.8
SAML Samuel 127.06 110 eP KPdf PKPdf 23 00 20.6 -0.8
LBTB Lobatse 127.56 227 eP KPdf PKPdf 23 00 22.0 -0.3
KMBO Kilima Mbogo 127.85 260 PKP PKPdf 23 00 24.5 +1.2
comp=Z,7.5nm,0.9s,baz=16,slow=4.8,SNR=13
KMBO Kilima Mbogo 127.85 260 PKIKP PKPdf 23 00 24.5 +1.2
KMBO pmax pmax
comp=Z,8.0nm,0.9s
SUW Suwalki 127.94 333 eP KPdf PKPdf 23 00 22.8 +0.8
SUW Suwalki 127.94 333 eP KIKP PKPdf 23 00 22.9 +0.9
FURI Furi 128.32 273 eP KPdf PKPdf 23 00 23.1 -1.1
SJG San Juan 128.95 76 eP KPdf PKPdf 23 00 23.0 -1.9
BRTR Keskin Array B 129.20 313 PKP PKPdf 23 00 24.9 -0.1
comp=Z,6.2nm,1.0s,baz=126,slow=3.2,SNR=16
BRTR Keskin Array B 129.20 313 PKIKP PKPdf 23 00 25.0 -0.1
BRTR pmax pmax
comp=Z,6.0nm,1.0s
HUMP Col San Antoni 129.24 75 eP KPdf PKPdf 23 00 24.7 -0.7
BR231 Keskin MP Arra 129.78 313 eP KPdf PKPdf 23 00 25.0 -1.1
BEL Belsk 130.48 332 eP KPdf PKPdf 23 00 28.3 +1.4
BEL Belsk 130.48 332 eP KIKP PKPdf 23 00 28.4 +1.6
CFR Carcaliu 130.52 322 ⇓ PKIKP PKPdf 23 00 27.6 +0.5
CFR Carcaliu 130.52 322 ⇓ i P PKPdf 23 00 27.6 +0.5
TESR Tescani 130.71 324 ⇑ i P PKPdf 23 00 27.9 +0.4
TIRR Tirgusor 130.71 321 ⇑ PKIKP PKPdf 23 00 27.5 0.0
TIRR Tirgusor 130.71 321 ⇑ i P PKPdf 23 00 27.5 0.0
TLB Topalu 130.87 321 ⇓ PKIKP PKPdf 23 00 28.4 +0.6
TLB Topalu 130.87 321 ⇓ i P PKPdf 23 00 28.4 +0.6
BURAR Bucovina Array 130.90 326 ⇓ PKIKP PKPdf 23 00 29.4 +1.4
BURAR Bucovina Array 130.90 326 ⇓ i P PKPdf 23 00 29.4 +1.4
BUR04 Bucovina Ar. S 130.90 326 eP KPdf PKPdf 23 00 28.4 +0.4
LSZ Lusaka 130.94 239 eP KPdf PKPdf 23 00 28.0 -1.0
CSS Prodhromos 131.00 307 eP KPdf PKPdf 23 00 26.9 -1.6
VRI Vrincioaia 131.01 323 ⇓ PKIKP PKPdf 23 00 28.1 0.0
VRI Vrincioaia 131.01 323 ⇓ i P PKPdf 23 00 28.1 0.0
KOLS Kolonicke sedl 131.67 329 eP KIKP PKPdf 23 00 29.9 +0.6
KOLS e 23 02 48.0
KOLS Kolonicke sedl 131.67 329 eP KPdf PKPdf 23 00 29.8 +0.5
KOLS eP PP 23 02 48.0 -1.6
MLR Muntele Rosu 131.67 323 ⇓ PKIKP PKPdf 23 00 29.6 +0.1
MLR Muntele Rosu 131.67 323 ⇓ i P PKPdf 23 00 29.6 +0.1
UZH Uzhgorod 131.85 328 ⇓ i PKIKP PKPpre 23 00 23.6
UZH i 23 00 46.8
STHS Stebnicka Huta 131.88 330 eP KIKP PKPdf 23 00 29.9 +0.3
STHS Stebnicka Huta 131.88 330 eP KPdf PKPdf 23 00 29.9 +0.3
OJC Ojcow 132.04 331 eP KPdf PKPdf 23 00 30.7 +0.8
OJC Ojcow 132.04 331 eP KIKP PKPdf 23 00 30.7 +0.8
NIE Niedzica 132.33 330 eP KPdf PKPdf 23 00 31.8 +1.3
NIE Niedzica 132.33 330 eP KIKP PKPdf 23 00 31.8 +1.3
ARR Arges 132.51 324 ⇑ i P PKPdf 23 00 32.5 +1.5
PTGA Pitinga 132.67 101 eP KPdf PKPdf 23 00 31.5 -0.6
DRGR 132.77 326 ⇓ PKIKP PKPdf 23 00 31.7 +0.2
DRGR 132.77 326 ⇓ i P PKPdf 23 00 31.7 +0.2
KECS Kecovo 132.87 329 eP KIKP PKPdf 23 00 30.0 -1.5
KECS e 23 02 56.7

KECS	Kecovo	132.87 329	*e*PKP	PKPdf	23 00 30.0	-1.5	
KECS			*e*PP	PP	23 02 56.7	-0.6	
BSEG	Bad Segeberg	132.98 341	*e*P	PKPdf	23 00 31.0	-0.5	
	comp=Z,15nm,1.3s						
OKC	Ostrava-Krasne	133.07 332	*e*PKPdf	PKPdf	23 00 32.2	+0.4	
OKC	Ostrava-Krasne	133.07 332	*e*PKIKP	PKPdf	23 00 32.2	+0.4	
KSP	Ksiaz	133.17 334	*e*PKP	PKPdf	23 00 33.2	+1.2	
KSP	Ksiaz	133.17 334	*e*PKIKP	PKPdf	23 00 33.2	+1.2	
DPC	Dobruska-Polom	133.52 334	*e*PKPdf	PKPdf	23 00 32.5	-0.2	
DPC			*ex*	x	23 00 54.1		
DPC	Dobruska-Polom	133.52 334	*e*PKIKP	PKPdf	23 00 32.5	-0.2	
DPC			*e*		23 00 54.1		
PSZ	Piszkesteto	133.54 329	⇓PKIKP	PKPdf	23 00 32.9	0.0	
PSZ	Piszkesteto	133.54 329	⇓*i*P	PKPdf	23 00 32.9	0.0	
UPC	Upice	133.54 334	*e*PKPdf	PKPdf	23 00 33.5	+0.8	
UPC	Upice	133.54 334	*e*PKIKP	PKPdf	23 00 33.5	+0.8	
ALN	Alexandroupoli	133.97 318	*e*P	PKPdf	23 00 33.2	-0.6	
BZS	Buzias	134.09 326	⇑PKIKP	PKPdf	23 00 34.0	+0.1	
BZS	Buzias	134.09 326	⇑*i*P	PKPdf	23 00 34.0	+0.1	
BRG	Berggiesshubel	134.13 336	*e*PKP	PKPdf	23 00 34.1	+0.3	
	comp=Z,13nm,1.1s						
BRG	Berggiesshubel	134.13 336	*e*P	PKPdf	23 00 34.7	+0.9	
	comp=Z,6.0nm,1.0s						
BRG	Berggiesshubel	134.13 336	*e*PKIKP	PKPdf	23 00 34.1	+0.3	
BRG			pmax	pmax			
	comp=Z,13nm,1.2s						
CLL	Collm	134.16 337	*e*P	PKPdf	23 00 34.5	+0.7	
	comp=Z,3.0nm,0.8s						
CLL	Collm	134.16 337	⇓*i*PKPdf	PKPdf	23 00 34.3	+0.5	
	comp=Z,9.0nm,1.0s						
CLL			*e*		23 00 44.0		
CLL	Collm	134.16 337	⇓*i*PKIKP	PKPdf	23 00 34.3	+0.5	
CLL			pmax	pmax			
	comp=Z,9.0nm,1.0s						
CLL	Collm	134.16 337	*e*PKPdf	PKPdf	23 00 32.6	-1.2	
VRAC	Vranov	134.16 333	⇑PKIKP	PKPdf	23 00 31.6	-2.3	
VRAC	Vranov	134.16 333	⇑*i*P	PKPdf	23 00 31.6	-2.3	
RDO	Rodhopi	134.18 318	*e*P	PKPdf	23 00 34.7	+0.5	
RDO	Rodhopi	134.18 318	*e*PKPdf	PKPdf	23 00 31.4	-2.7	
SMOL	Smolenice	134.34 331	*e*PKIKP	PKPdf	23 00 35.5	+1.2	
SMOL	Smolenice	134.34 331	*e*PKP	PKPdf	23 00 35.5	+1.2	
GOPC	GO Pecny, Ondr	134.51 334	*e*PKPdf	PKPdf	23 00 34.2	-0.4	
SMTH	Samothraki Isl	134.52 317	*e*P	PKPpre	23 00 28.5		
PRU	Pruhonice	134.56 335	*e*PKPdf	PKPdf	23 00 33.6	-1.0	
PRU			*ex*	x	23 01 00.1		
PRU	Pruhonice	134.56 335	*e*PKIKP	PKPdf	23 00 33.6	-1.0	
PRU			*e*		23 01 00.1		
TREC	Trest	134.67 333	*e*PKPdf	PKPdf	23 00 35.4	+0.5	
TREC	Trest	134.67 333	*e*PKIKP	PKPdf	23 00 35.4	+0.5	
KAVA	Kavala	134.93 318	*e*P	PKPdf	23 00 36.0	+0.4	
TANN	Tannenbergstha	135.07 336	*e*P	PKPdf	23 00 36.6	+0.9	
	comp=Z,2.0nm,1.0s						
CHOS	Chios Island	135.14 314	*e*P	PKPdf	23 00 37.4	+1.2	
NVR	Nevrokopi	135.17 319	*e*P	PKPdf	23 00 36.3	+0.2	
IBBN	Ibbenburen	135.18 341	*e*P	PKPdf	23 00 36.8	+1.1	
	comp=Z,8.0nm,1.0s						
MOX	Moxa	135.22 337	*e*P	PKPdf	23 00 36.8	+0.9	
	comp=Z,3.0nm,1.1s						
PKSM	Moragy	135.31 328	⇑PKIKP	PKPdf	23 00 36.0	-0.1	
PKSM	Moragy	135.31 328	⇑*i*P	PKPdf	23 00 36.0	-0.1	
OUR	Ouranopolis	135.61 318	*e*P	PKPdf	23 00 37.7	+0.8	
KHC	Kasperske Hory	135.62 334	*e*PKPdf	PKPdf	23 00 37.0	+0.3	
KHC			*ex*	x	23 01 01.8		
KHC	Kasperske Hory	135.62 334	*e*PKIKP	PKPdf	23 00 37.0	+0.3	
KHC			*e*		23 01 01.8		
UBBA	Unterbreizbach	135.68 339	*e*P	PKPdf	23 00 37.5	+1.0	
	comp=Z,4.0nm,1.1s						
GEC2	GERESS Array S	135.78 334	*e*P	PKPdf	23 00 37.8	+0.7	
	comp=Z,3.0nm,0.9s						
GERES	GERESS Array B	135.78 334	PKhKP	PKPpre	23 00 27.7		
	comp=Z,0.6nm,0.6s,baz=336,slow=2.2,SNR=3.5						
GERES			PKP	PKPdf	23 00 36.5	-0.5	
	comp=Z,3.9nm,0.7s,baz=64,slow=3.1,SNR=10						
GERES			pPKP	pPKPdf	23 01 02.7	-1.5	
	comp=Z,1.6nm,0.8s,baz=90,slow=0.4,SNR=2.5						
GERES	GERESS Array B	135.78 334	PKHKP	PKPpre	23 00 27.7		
GERES					23 00 36.6		
GERES					23 01 02.7		
GERES			pmax	pmax			
	comp=Z,1.0nm,0.6s						
GERES			pmax	pmax			
	comp=Z,4.0nm,0.7s						
GERES			pmax	pmax			
	comp=Z,2.0nm,0.8s						
KNT	Kendrikon	135.88 320	*e*P	PKPdf	23 00 37.3	-0.1	
WET	Wettzell	135.90 335	*e*P	PKPdf	23 00 38.4	+1.2	
	comp=Z,3.0nm,1.0s						
DIVS	Divibare	135.93 325	⇑*i*P	PKPdf	23 00 38.4	+0.9	
PAIG	Paliouri	136.02 318	*e*P	PKPdf	23 00 36.0	-1.7	
GRF	Grafenberg Arr	136.13 337	*e*P	PKPdf	23 00 39.8	+2.2	
	comp=Z,3.0nm,0.7s						
TNS	Taunus Mts	136.72 339	*e*P	PKPdf	23 00 40.9	+2.2	
	comp=Z,6.0nm,0.8s						
PERS	Pernice	136.78 331	*i* PKPdf	PKPdf	23 00 38.5	-0.5	
FNA	Florina	137.05 320	*e*P	PKPdf	23 00 39.8	+0.2	
BDFB	Brasilia	137.06 127	PKhKP	PKPpre	23 00 33.2		
	comp=Z,3.5nm,0.6s,baz=283,slow=2.5,SNR=3.5						
BDFB			PKP	PKPdf	23 00 40.6	+0.2	
	comp=Z,16nm,0.9s,baz=232,slow=2.5,SNR=10						
BDFB	Brasilia	137.06 127	PKHKP	PKPpre	23 00 33.2		
BDFB					23 00 40.7		
BDFB			pmax	pmax			
	comp=Z,4.0nm,0.6s						
BDFB			pmax	pmax			
	comp=Z,16nm,1.0s						
BDFB	Brasilia	137.06 127	*e*PKPdf	PKPdf	23 00 37.5	-2.9	
MEM	Membach	137.20 341	PKP	PKPdf	23 00 40.3	+0.8	
IDI	Anoyia	137.33 311	PKP	PKPdf	23 00 39.8	-0.6	
	comp=Z,12nm,0.7s,baz=14,slow=8.3,SNR=4.8						
AGG	Agios Georgios	137.38 317	*e*P	PKPdf	23 00 39.5	-0.8	
AGG	Agios Georgios	137.38 317	*e*PKPdf	PKPdf	23 00 38.2	-2.1	
NEST	Nestorio	137.47 320	*e*P	PKPdf	23 00 37.8	-2.7	
VISS	Visnje	137.51 330	*i* PKPdf	PKPdf	23 00 40.5	+0.2	
BOJS	Bojanci	137.52 330	*i* PKPdf	PKPdf	23 00 40.8	+0.5	
VAM	Vamos	137.79 312	*e*P	PKPpre	23 00 33.2		
SNF	Seneffe	137.81 343	PKP	PKPdf	23 00 41.3	+0.7	
JAVS	Javornik	137.82 331	*i* PKPdf	PKPdf	23 00 40.5	-0.5	
WLF	Walferdange	137.97 341	PKP	PKPdf	23 00 42.2	+1.3	
VLX	Vlachokerasia	138.18 315	*e*P	PKPpre	23 00 34.2		
ANKY	Antikythira Is	138.24 313	*e*P	PKPpre	23 00 33.8		
BFO	Black Forest	138.35 338	*e*P	PKPdf	23 00 45.1	+3.3	
	comp=Z,4.0nm,0.9s						
BFO	Black Forest	138.35 338	*i* PKIKP	PKPdf	23 00 45.4	+3.6	
BFO	Black Forest	138.35 338	*i* PKPdf	PKPdf	23 00 40.1	-1.7	
ITM	Ithomi	138.59 315	*e*P	PKPpre	23 00 32.7		
FUORN	Ofenpass-Fuorn	138.97 335	*e*PKPpre	PKPpre	23 00 33.7		
MOF	Molkenrain	139.19 338	*e*P	PKPdf	23 00 46.1	+2.7	
LOMF	Lomont	139.72 338	*e*P	PKPdf	23 00 44.1	-0.3	
BNI	Bardonecchia	141.71 336	*e*PKPpre	PKPpre	23 00 42.9		
CEL	Celeste	141.96 321	*e*PKPpre	PKPpre	23 00 42.3		
PLDF	La Plantade	142.03 340	*e*P	PKPdf	23 00 45.5	-3.1	
AGO	Saint Agoulin	142.12 341	*e*P	PKPdf	23 00 52.3	+3.6	
SAOF	Saorge	142.22 335	*e*P	PKPpre	23 00 43.4		
AUTN	L'Aution	142.27 335	*e*P	PKPpre	23 00 44.3		
TOUF	Mont Tournerai	142.33 335	*e*P	PKPpre	23 00 44.3		
PYM	Petit Puy Mans	142.43 341	*e*P	PKPpre	23 00 46.8		
MVIF	Mont Vial	142.47 335	*e*P	PKPpre	23 00 44.3		
REVF	Revere	142.50 335	*e*P	PKPpre	23 00 42.5		
CALN	Calern	142.69 335	*e*P	PKPpre	23 00 45.8		
LBL	Lubilhac	142.81 340	*e*P	PKPdf	23 00 47.3	-2.7	
CLTB	Caltabellotta	144.03 322	*e*PKPdf	PKPab	23 00 50.2	+0.2	
VSL	Villasalto	144.86 328	*e*PKPbc	PKPab	23 00 52.3	-0.6	
H07N1	FLORES T-PHASE	147.47 25	*e*PKP	PKPbc	23 01 00.9	+0.2	
KEST	Kesra	147.58 323	PKPbc	PKPbc	23 01 01.7	+0.5	
	comp=Z,33nm,1.0s,baz=286,slow=1.2,SNR=58						
KEST	Kesra	147.58 323	*e*PKPbc	PKPbc	23 01 00.2	-1.0	
CMAH	Djebel Manchou	148.02 327	P	PKPbc	23 01 02.3	-0.1	
ABSA	Djebel Ababsia	148.25 326	P	PKPbc	23 01 03.3	+0.3	
CKFL	Kef-Lekhel	148.56 327	P	PKPbc	23 01 04.0	+0.1	
PBRG	Braganca	148.61 350	*e*PKPdf	PKPbc	23 01 03.9	+0.2	
PBRG	Braganca	148.61 350	*e*PKPab	PKPab	23 01 08.4	+1.0	
PBRG	Braganca	148.61 350	*e*PKPdf	PKPbc	23 01 03.9	+0.2	
PBRG	Braganca	148.61 350	*e*PKPab	PKPab	23 01 08.4	+1.0	
PGAV	Gavieira, Arco	148.69 352	*e*PKPab	PKPbc	23 01 04.2	+0.2	
PGAV	Gavieira, Arco	148.69 352	*e*PKPab	PKPbc	23 01 04.2	+0.2	
CASM	Ain Smara	148.79 327	P	PKPbc	23 01 04.5	+0.1	
DFRA	Djebel Bou Aff	148.90 328	P	PKPbc	23 01 05.6	+0.9	
CTEI	Djebel Teioual	148.99 327	P	PKPbc	23 01 05.3	+0.3	
POLO	Lamas de Olo	149.20 351	*e*PKPab	PKPbc	23 01 05.9	+0.6	
POLO	Lamas de Olo	149.20 351	*e*PKPab	PKPbc	23 01 05.9	+0.6	
MVO	Moncorvo	149.28 350	*e*PKPab	PKPbc	23 01 06.2	+0.8	
MVO	Moncorvo	149.28 350	*e*PKPab	PKPbc	23 01 06.2	+0.8	
PVRL	Vila Real	149.28 351	*e*PKPab	PKPbc	23 01 06.1	+0.7	
PVRL	Vila Real	149.28 351	*e*PKPab	PKPbc	23 01 06.1	+0.7	
SET	Setif	149.41 328	P	PKPab	23 01 10.0	-0.9	
ROSA	Rosais	149.45 23	*e*PKP	PKPbc	23 01 05.9	0.0	
CKHR	Kef el Ahmar	149.49 328	P	PKPbc	23 01 06.6	+0.4	
PTO	Porto	149.54 352	*e*PKPbc	PKPbc	23 01 06.6	+0.6	
PTO	Porto	149.54 352	*e*PKPbc	PKPbc	23 01 06.6	+0.6	
PICO	Pico	149.57 23	*e*PKP	PKPbc	23 01 07.6	+1.4	
PMAN	Manadas	149.58 22	*e*PKP	PKPbc	23 01 07.4	+1.2	
PVIS	Viseu	149.86 351	*e*PKPab	PKPbc	23 01 07.3	+0.4	
PVIS	Viseu	149.86 351	*e*PKPab	PKPbc	23 01 07.3	+0.4	
ADH	Angra Heroismo	149.87 21	*e*PKP	PKPbc	23 01 07.6	+0.7	
ES19	SONSECA Array	150.01 345	*e*PKPdf	PKPdf	23 01 01.6	-0.6	
ES19			*e*PKPbc	PKPbc	23 01 07.0	-0.3	
ES19			*e*PKPab	PKPab	23 01 13.9	+0.7	
MSKU	Masuku	150.01 247	*e*PKPdf	PKPdf	23 01 01.6	-1.4	
MSKU			*e*PKPbc	PKPbc	23 01 08.1	+0.1	
ESDC	Sonseca Array	150.05 345	PKP	PKPdf	23 01 02.2	-0.1	
	comp=Z,2.3nm,0.8s,baz=1.6,slow=2.0,SNR=12						
ESDC			PKPbc	PKPbc	23 01 07.6	+0.3	
	comp=Z,12nm,0.9s,baz=16,slow=3.0,SNR=35						
ESDC			PKPab	PKPab	23 01 14.4	+1.1	
	comp=Z,8.5nm,0.7s,baz=14,slow=3.2,SNR=21						
PAB	San Pablo	150.27 345	*e*PKPdf	PKPdf	23 01 01.9	-0.8	
PAB			*e*PKPbc	PKPbc	23 01 08.1	+0.1	
PCAS	Casmilo, Conde	150.60 352	*e*PKPab	PKPbc	23 01 08.9	+0.3	
PCAS	Casmilo, Conde	150.60 352	*e*PKPab	PKPbc	23 01 08.9	+0.3	
EMHD	Djebel Mahouad	150.61 332	P	PKPbc	23 01 09.5	+0.6	
PCBR	Castelo Branco	150.65 350	*e*PKPab	PKPbc	23 01 09.1	+0.4	
PCBR	Castelo Branco	150.65 350	*e*PKPab	PKPbc	23 01 09.1	+0.4	
PTOM	Tomar	151.01 351	*e*PKPab	PKPbc	23 01 10.2	+0.7	
PTOM	Tomar	151.01 351	*e*PKPab	PKPbc	23 01 10.2	+0.7	
PMRV	Marv??o	151.03 350	*e*PKPab	PKPbc	23 01 10.2	+0.6	
PMRV	Marv??o	151.03 350	*e*PKPab	PKPbc	23 01 10.2	+0.6	
PSET	Sete Cidades	151.14 20	*e*PKP	PKPbc	23 01 11.2	+1.2	
EBNR	Beni Rached	151.17 334	P	PKPbc	23 01 11.0	+0.9	
PDA	Ponta Delgada	151.23 20	*e*PKP	PKPbc	23 01 11.3	+1.2	
ECHA	Ech Chlef	151.36 334	P	PKPbc	23 01 11.2	+0.8	
PESTR	Estremoz	151.61 350	*e*PKPbc	PKPbc	23 01 11.3	+0.3	
PESTR	Estremoz	151.61 350	*e*PKPab	PKPab	23 01 21.0	+1.2	
PESTR	Estremoz	151.61 350	*e*PKPbc	PKPbc	23 01 11.3	+0.3	
PESTR	Estremoz	151.61 350	*e*PKPab	PKPab	23 01 21.0	+1.2	
EANR	`Ain N'Sour	151.65 334	P	PKPbc	23 01 11.0	-0.2	
PMAFR	Mafra	151.78 353	*e*PKPab	PKPbc	23 01 11.8	+0.4	
PMAFR	Mafra	151.78 353	*e*PKPab	PKPbc	23 01 11.8	+0.4	
ETRT	Tiaret	152.03 333	P	PKPdf	23 01 08.0	+2.4	
PSMA	Santa Maria	152.09 20	*e*PKP	PKPbc	23 01 11.8	-0.3	
SHEL	Horse Pasture	152.14 197	*e*PKPbc	PKPbc	23 01 14.3	+1.4	
PBAR	Barrancos	152.18 349	*e*PKPdf	PKPdf	23 01 06.3	+0.8	
PBAR	Barrancos	152.18 349	*e*PKPab	PKPab	23 01 23.3	+1.2	
PBAR	Barrancos	152.18 349	*e*PKPdf	PKPdf	23 01 06.3	+0.8	
PBAR	Barrancos	152.18 349	*e*PKPab	PKPab	23 01 23.3	+1.2	
RCBR	Riachuelo	152.42 126	*e*PKPbc	PKPbc	23 01 13.1	-0.5	
PNCL	Nicolau / Gran	152.50 351	*e*PKPab	PKPbc	23 01 13.5	+0.5	
PNCL	Nicolau / Gran	152.50 351	*e*PKPab	PKPbc	23 01 13.5	+0.5	
MESJ	Messejana	152.72 350	*e*PKPab	PKPbc	23 01 14.2	+0.7	
MESJ	Messejana	152.72 350	*e*PKPab	PKPbc	23 01 14.2	+0.7	
PCVE	Castro Verde	152.89 350	*e*PKPdf	PKPdf	23 01 07.7	+1.1	
PCVE	Castro Verde	152.89 350	*e*PKPab	PKPab	23 01 26.0	+0.8	
PCVE	Castro Verde	152.89 350	*e*PKPdf	PKPdf	23 01 07.7	+1.1	
PCVE	Castro Verde	152.89 350	*e*PKPab	PKPab	23 01 26.0	+0.8	
MORF	Marmelete	153.31 351	*e*PKPdf	PKPdf	23 01 08.2	+0.9	
MORF	Marmelete	153.31 351	*e*PKPbc	PKPbc	23 01 15.7	+0.8	
MORF	Marmelete	153.31 351	*e*PKPab	PKPab	23 01 28.9	+1.9	
MORF	Marmelete	153.31 351	*e*PKPdf	PKPdf	23 01 08.2	+0.9	
MORF	Marmelete	153.31 351	*e*PKPbc	PKPbc	23 01 15.7	+0.8	
MORF	Marmelete	153.31 351	*e*PKPab	PKPab	23 01 28.9	+1.9	
TOA0	Torodi Ar. Sit	164.68 280	*e*P	PKPdf	23 01 19.8	-1.3	
TOA0	Torodi Ar. Sit	164.68 280	*e*PKPdf	PKPdf	23 01 19.8	-1.3	
TOA0			*e*PKPab	PKPab	23 02 14.9	-2.2	
TORD	Torodi Ar. Bea	164.68 280	PKP	PKPdf	23 01 21.0	-0.1	
	comp=Z,8.2nm,0.7s,baz=43,slow=0.4,SNR=36						
TORD			PKPab	PKPab	23 02 16.1	-1.0	
	comp=Z,12nm,1.1s,baz=77,slow=3.4,SNR=9.3						
KIC	Kosan Boka	169.97 244	*e*PKIKP	PKPdf	23 01 24.6	-0.4	
	comp=Z,83nm,1.2s						
DBIC	Dimbokro	170.21 245	PKP	PKPdf	23 01 24.6	-0.4	
	comp=Z,17nm,0.9s,baz=50,slow=9.0,SNR=3.4						
DBIC	Dimbokro	170.21 245	PKIKP	PKPdf	23 01 24.7	-0.4	
DBIC			pmax	pmax			
	comp=Z,17nm,0.9s						
TIC	Toumodi	170.34 245	*e*PKIKP	PKPdf	23 01 24.6	-0.6	

IDC **12** *22:44:37.7±0.3, 7.76N×91.96E, h0km, mb4.7/44, mb1 4.7/47, mb1mx4.7/49, mbtmp4.7/47, ML5.1/3, MS5.1/15, Ms1 5.2/15, ms1mx4.9/41, Error ellipse: s-maj=11.5km s-min=9.3km az=46.0*

ISCJB **12** *22:44:38.9±0.8, 7.71N±0.02×91.94E±0.02, h20km±5km, mb4.9/175, MS5.0/23, Error ellipse: s-maj=4.4km s-min=2.5km az=29.7*

BJI **12** *22:44:38.9, 7.83N×91.95E, h16km, mb5.0/56, mB5.5/19, Ms5.3/31, Ms7 5.1/31*

KLM **12** *22:44:41.0, 7.76N×92.00E, h10km, mb5.4, MS6.3*

MOS **12** *22:44:40.6±0.9, 7.76N×92.00E, h33km, mb5.0/48, MS5.2/18, Error ellipse: s-maj=8.1km s-min=4.8km az=117.6*

NEIC **12** *22:44:42.1±0.1, 7.67N×91.97E, h35km, mb5.2/87, Error ellipse: s-maj=4.5km s-min=2.9km az=214.0*

DJA **12** *22:44:45.1±0.9, 8.N±2°×9°2E±°, h19km±8km, M5.4/36, mb5.3/36, mB6.0/10, MLv5.3/3, Mw(mB)5.6/10*

SZGRF **12** *22:44:55.1, 8.10N×93.27E, h33km, mb4.5, Nicobar Islands, India, region*

ISC 12 22:44:41.2±0.4, 7.73N±0.04×91.98E±0.03, h23km±2km, h23km:pP-P, n625, σ1§29/683, mb5.0/178, MS5.3/23, 47C-35D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
CMBY	CAMPBELL BAY	2.06	110	*e*P	**Pn**	22	45	15.3	+0.9
PBA	Port Blair	3.98	11	*e*P	Pn	22	45	40.4	-0.4
DGPR	DIGLIPUR	5.50	10	*e*P	**Pn**	22	46	03.6	+1.9
DGPR				AMB	AMB	22	47	07.1	
	comp=Z,1µm,1.3s								
LHMI	Lhok Sumawe	5.52	116	P	**Pn**	**22**	**46**	**03.2**	**+1.1**
	comp=Z,420nm,0.8s,comp=Z,12µmcomp=Z,3.7nm								
LHMI				S	**Sn**	**22**	**47**	**08.8**	**+3.9**
	comp=Z,420nm,0.8s,comp=Z,12µmcomp=Z,3.7nm								
LHMI	Lhok Sumawe	5.52	116	*e*Pn	**Pn**	**22**	**46**	**01.2**	**-0.9**
LHMI				*e*Sn	**Sn**	**22**	**47**	**00.5**	**-4.4**
PKDT	Phuket	6.30	88	P	**Pn**	**22**	**46**	**12.9**	**+0.2**
	comp=Z,226nm,0.7s,comp=Z,8µmcomp=Z,3.0nm								
SURT	Suratani	6.85	79	P	**Pn**	**22**	**46**	**20.3**	**0.0**
	comp=Z,266nm,0.8s,comp=Z,3µmcomp=Z,0.9nm								
TRTT	Trang	7.64	89	P	**Pn**	**22**	**46**	**31.1**	**-0.1**
	comp=Z,175nm,0.7s,comp=Z,2µmcomp=Z,1.1nm								
PSI	Prapat	8.47	125	Pn	**Pn**	**22**	**46**	**41.5**	**-1.2**
	comp=Z,18nm,0.3s,baz=298,slow=10.0,SNR=40								
PSI				Sn	**Sn**	**22**	**48**	**12.8**	**-4.8**
	comp=Z,4.6nm,0.3s,baz=276,slow=14,SNR=2.4								
PSI	Prapat	8.47	125	P	**Pn**	**22**	**46**	**41.5**	**-1.2**
PSI						22	48	12.8	
PSI				pmax	pmax				
	comp=Z,18nm,0.3s								
PSI				smax	smax				
	comp=N,5.0nm,0.3s								
PSI	Prapat	8.47	125	*e*Pn	**Pn**	**22**	**46**	**40.9**	**-1.8**
PSI				*e*Sn	**Sn**	**22**	**48**	**15.6**	**-2.0**
GSI	Gunungsitoli	8.47	139	P	**Pn**	**22**	**46**	**45.1**	**+2.5**
GSI				S	Sn	22	48	09.9	-7.7
GSI	Gunungsitoli	8.47	139	*e*Pn	Pn	22	46	39.2	-3.4
GSI				*e*Sn	Sn	22	48	11.5	-6.1
SKLT	Songkhla	8.58	93	P	**Pn**	**22**	**46**	**47.0**	**+2.9**
	comp=N,121nm,0.9s,comp=N,17µmcomp=N,0.6nm								
KULM	Kulim	8.95	105	⇓P	**Pn**	**22**	**46**	**48.8**	**-0.3**
KULM	Kulim	8.95	105	*e*Pn	**Pn**	**22**	**46**	**48.1**	**-1.0**
KULM				*e*Sn	**Sn**	**22**	**48**	**25.5**	**-3.7**
IPM	Ipoh	9.55	109	⇓P	**Pn**	**22**	**46**	**57.5**	**0.0**
IPM	Ipoh	9.55	109	*e*Pn	**Pn**	**22**	**46**	**56.0**	**-1.4**
IPM				*e*Sn	**Sn**	**22**	**48**	**39.2**	**-5.0**
KHLT	Khaolaem Dam	9.56	42	P	**Pn**	**22**	**47**	**00.3**	**+2.8**
	comp=N,48nm,0.8s								
SRDT	SRDT	9.61	46	P	**Pn**	**22**	**47**	**01.2**	**+3.0**
	comp=N,197nm,0.8s								
PATY	Pattaya	10.15	59	P	**Pn**	**22**	**47**	**07.6**	**+2.0**
	comp=N,58nm,0.7s,comp=N,651nm								
PALK	Pallekele	11.19	268	Pn	**Pn**	**22**	**47**	**21.2**	**+1.2**
	comp=N,1µm,0.7s,SNR=20								
PALK	Pallekele	11.19	268	Pn	**Pn**	**22**	**47**	**20.1**	**+0.1**
	comp=N,32nm,0.3s,baz=83,slow=12,SNR=33								
PALK				Sn	Sn	22	49	12.3	-12
	comp=N,24nm,0.3s,baz=3.4,slow=19,SNR=7.0								
PALK				LR	LR	22	51	02.8	
	comp=N,14µm,21.4s,baz=72,slow=34								
PALK	Pallekele	11.19	268	*e*Pn	**Pn**	**22**	**47**	**20.6**	**+0.7**
PALK				*e*Sn	Sn	22	49	12.7	-12
KTGM	Kuala Trenggan	11.33	101	⇓P	**Pn**	**22**	**47**	**22.1**	**+0.2**
CHBT	CHBT	11.34	63	P	**Pn**	**22**	**47**	**23.3**	**+1.4**
	comp=N,69nm,0.9s								
MHMT	Maesarieng	11.89	29	P	**Pn**	**22**	**47**	**31.9**	**+2.4**
	comp=N,85nm,0.9s								
SUKH	Sukhothai	12.23	37	P	**Pn**	**22**	**47**	**35.4**	**+1.3**
	comp=N,20nm,0.9s,comp=N,147nm								
PBKT	Sadao Pong	12.42	44	P	**Pn**	**22**	**47**	**37.3**	**+0.6**
	comp=N,129nm,0.8s								
CM01	Chiang Mai Arr	12.61	32	*e*Pn	**Pn**	**22**	**47**	**39.3**	**-0.1**
CMAR	Chiang Mai Arr	12.63	32	Pn	**Pn**	**22**	**47**	**38.0**	**-1.6**
	comp=N,2.0nm,0.3s,baz=223,slow=14,SNR=44								
CMAR				LR	LR	22	53	05.7	
	comp=N,6µm,18.5s,baz=230,slow=40								
CMAR	Chiang Mai Arr	12.63	32	P	**Pn**	**22**	**47**	**38.1**	**-1.6**
CMAR				pmax	pmax				
	comp=Z,2.0nm,0.3s								
CMAR				MLR	MLR				
	comp=Z,6µm,18.5s								
SDSI	Sungai Dareh	12.76	132	P	Pn	22	47	45.2	+3.9
CHTO	Chiang Mai	12.93	31	P	**Pn**	**22**	**47**	**43.8**	**+0.1**
	comp=Z,143nm,0.9s								
CHTO	Chiang Mai	12.93	31	P	**Pn**	**22**	**47**	**45.5**	**+1.7**
	SNR=20								
CHTO	Chiang Mai	12.93	31	*e*Pn	**Pn**	**22**	**47**	**42.6**	**-1.1**
CMMT	Chiang Mai	12.93	31	P	**Pn**	**22**	**47**	**43.8**	**0.0**
	comp=Z,110nm,0.9s								
VIS	Vishakhapatnam	13.03	321	*i* P	**Pn**	**22**	**47**	**45.3**	**+0.2**
VIS				AMB	AMB	22	47	56.2	
	comp=Z,277nm,0.2s								
VIS				*i* x	x	22	49	55.2	
CHLP	Challavanipeta	13.20	325	*e*P	**Pn**	**22**	**47**	**44.6**	**-2.8**
CHLP				IAmb	IAmb	22	47	48.4	
	comp=Z,405nm,0.8s								
CHLP				*e*		22	50	00.5	
CHLP				*e*Sn	**Sn**	**22**	**50**	**13.3**	**-0.2**
CHLP				IVMs_BB	IVMs_BB	22	52	49

CGJI Cibinong 19.75 136 P Pn 22 49 15.1 +3.9
RAMN Ramite 19.79 346 *e*P **Pn 22 49 11.4 -0.5**
comp=Z,275nm,0.5s
TAPN Taplejung 19.93 349 *e*P **P 22 49 12.8 +0.9**
comp=Z,370nm,0.8s
KMI Kunming 20.12 29 P Pn 22 49 15.8 -0.1
KMI pP pP 22 49 23.5 +3.2
KMI PMZ
comp=Z,90nm,0.8s
JIRN Jiri 20.57 345 *e*P **P 22 49 19.5 +0.6**
comp=Z,436nm,0.9s
SKJI Sukabumi 20.62 135 P Pn 22 49 25.9 +4.4
POO Poona 20.64 303 *e*P **P 22 49 19.3 -0.1**
QIZ Qiongzhong 20.67 55 P **P 22 49 19.6 0.0**
QIZ pP **pP 22 49 24.1 -2.0**
QIZ S Sn 22 53 13.9 -0.9
QIZ PMZ
comp=Z,76nm,1.1s
QIZ Qiongzhong 20.67 55 *e*P **P 22 49 19.2 -0.4**
comp=Z,184nm,0.9s
PKI Pulchoki 20.70 343 *e*P **P 22 49 20.6 +0.4**
comp=Z,361nm,0.8s
BHPL Bhopal 20.82 319 *e*P **P 22 49 18.6 -2.7**
BHPL AMB AMB 22 49 34.1
comp=Z,120nm,2.1s
DMN Daman 20.82 343 *e*P **P 22 49 21.9 +0.4**
comp=Z,400nm,0.8s
SBUM Sibu 20.82 104 ⇓P **P 22 49 21.5 +0.2**
SBUM Sibu 20.82 104 *e*P **P 22 49 20.5 -0.8**
comp=Z,77nm,0.9s
STKI Sintang 20.87 110 P **P 22 49 22.3 +0.4**
comp=Z,106nm,0.8s,comp=Z,14μm
GUN Gumba 20.89 345 *e*P **P 22 49 22.3 -0.1**
comp=Z,457nm,0.8s
KKN Kakani 20.94 343 *e*P **P 22 49 22.9 +0.1**
comp=Z,127nm,0.6s
CNJI Cibinong 21.24 134 P **P 22 49 28.8 +3.0**
LEM Lembang 21.26 132 P **P 22 49 32.7 +6.4**
LEM Lembang 21.26 132 P **P 22 49 25.2 -1.1**
comp=Z,21nm,0.8s,baz=330,slow=20,SNR=3.7
LEM LR LR 22 59 42.7
comp=Z,11μm,18.0s,baz=304,slow=42
LEM Lembang 21.26 132 P **P 22 49 25.2 -1.1**
LEM pmax pmax
comp=Z,21nm,0.8s
LEM MLR MLR
comp=Z,11μm,18.0s
GKN Gorkha 21.33 342 *e*P **P 22 49 26.6 -0.3**
comp=Z,350nm,0.8s
KOLN Koldanda 21.46 339 *e*P **P 22 49 28.5 +0.2**
comp=Z,315nm,0.8s
BTM Bintulu 21.48 101 ⇑P **P 22 49 28.8 +0.4**
LSA Lhasa 21.87 358 *e*P **P 22 49 32.5 -0.5**
comp=Z,131nm,0.7s
LSA *e*S **S 22 53 34.8 +0.8**
CISI Cisompet, Garu 21.90 134 P **P 22 49 35.4 +2.4**
CISI Cisompet, Garu 21.90 134 *e*P **P 22 49 32.0 -1.0**
comp=Z,48nm,0.6s
CISI *e*PcP **PcP 22 53 31.7 -0.4**
PBKI Pangkalan Bun 22.21 117 P **P 22 49 39.6 +3.4**
KPJI Karang Pucung 22.57 131 P **P 22 49 44.7 +4.6**
XMIS Christmas Isla 22.63 143 *e*P **P 22 49 40.4 -0.5**
comp=Z,462nm,1.5s
GYA Guiyang 23.28 35⇑ *i*P **P 22 49 45.8 -1.7**
GYA PP **PnPn 22 50 19.8 +6.1**
GYA PcP **PcP 22 53 37.4 +2.6**
GYA S **S 22 53 55.0 -3.8**
GYA ScP **ScP 22 57 13.2 +1.5**
GYA PMZ
comp=Z,30nm,0.8s
GYA PMZ
comp=Z,140nm,4.9s
GYA LN
comp=Z,920nm,17.3s
GYA LE
comp=Z,760nm,17.8s
GYA LZ
comp=Z,850nm,17.0s
AGRA Agra 23.53 327 *e*P **P 22 49 49.6 -0.2**
AGRA AMB AMB 22 49 54.8
comp=Z,24nm,0.9s
SMRI Semarang 23.54 128 P **P 22 49 50.8 +0.7**
SMRI Semarang 23.54 128 *e*P **P 22 49 49.6 -0.5**
comp=Z,128nm,0.8s
KKM Kota Kinabalu 24.11 92 ⇑P **P 22 49 56.8 +1.1**
KKM Kota Kinabalu 24.11 92 *e*P **P 22 49 55.8 +0.1**
comp=Z,66nm,0.8s
TBJI Tambak Boyo 24.52 126 P **P 22 50 01.9 +2.7**
KDM Kudat 24.66 90 ⇓P **P 22 50 02.8 +2.3**
H08S3 Diego Garcia H 24.71 232 T T 23 16 12.4
baz=52,slow=75,SNR=289
H08S2 Diego Garcia H 24.71 232 T T 23 16 12.4
baz=52,slow=75,SNR=18
H08S1 Diego Carcia H 24.73 232 T T 23 16 12.1
baz=52,slow=75,SNR=226
SONA Sohna 24.80 327 *e*P **P 22 50 02.5 +1.0**
SONA AMB AMB 22 50 04.6
comp=Z,34nm,1.0s
PCJI Pacitan 24.82 129 P **P 22 50 05.9 +4.0**
BISR Bishrakh 24.87 328 *e*P **P 22 50 02.8 +0.6**
BISR AMB AMB 22 50 06.0
comp=Z,68nm,0.4s
AYAN Aya Nagar 24.96 328 *e*P **P 22 50 03.6 +0.6**
AYAN AMB AMB 22 50 06.0
comp=Z,33nm,0.9s
KALG Kalgarh 24.98 332 *e*P **P 22 50 03.0 -0.3**
KALG AMB AMB 22 50 11.7
comp=Z,40nm,1.1s
KUDL Kundal 25.04 326 *e*P **P 22 50 04.2 +0.4**
KUDL AMB AMB 22 50 16.2
comp=Z,28nm,0.6s
SDKM Sandakan 25.12 93 ⇓P **P 22 50 04.8 0.0**
PWJI Pagerwojo 25.20 128 P P 22 50 11.3 +5.9
KHET Khetri 25.37 325 *e*P **P 22 50 07.7 +0.9**
KHET AMB AMB 22 50 10.0
comp=Z,38nm,0.9s
JOSI Joshimath 25.52 334 *e*P **P 22 50 08.5 +0.1**
JOSI AMB AMB 22 50 19.1
comp=Z,584nm,0.8s
CD2 Chengdu 25.56 24 P **P 22 50 09.1 +0.5**
CD2 pP **pP 22 50 14.9 -0.5**
CD2 sP **sP 22 50 17.5 -0.8**
CD2 PcP **PcP 22 53 38.9 -0.7**
CD2 S **S 22 54 37.5 +2.3**
CD2 sS **sS 22 54 47.6 +1.0**
CD2 PMZ
comp=Z,40nm,0.5s
CD2 PMZ
comp=Z,320nm,4.5s
CD2 LE
comp=Z,6μm,14.2s
CD2 LZ
comp=Z,6μm,16.2s
TSM Tawau 25.97 96 ⇓P **P 22 50 12.5 +0.1**
DDI Dehra Dun 26.00 332 *e*P **P 22 50 12.2 -0.3**
DDI AMB AMB 22 50 30.3
comp=Z,183nm,1.8s
BLJI Banyuglugur 26.47 125 P **P 22 50 17.6 +0.8**
SMLA Simla 27.09 331 *e*P **P 22 50 23.1 +0.8**
SMLA AMB AMB 22 50 50.6
comp=Z,99nm,1.8s
ENH Enshi 27.79 34 *e*P **P 22 50 28.7 +0.1**
comp=Z,31nm,0.8s
DHRM DHARAMSHALA 28.43 331 *e*P **P 22 50 36.1 +1.6**
DHRM AMB AMB 22 50 53.4
comp=Z,45nm,0.4s
TGY Tagaytay City 29.11 75 P **P 22 50 42.1 +1.5**
comp=Z,182nm,0.5s,baz=301,slow=5.9,SNR=7.8
TGY LR LR 23 01 24.3
comp=Z,26nm,20.6s,baz=238,slow=35
TGY Tagaytay City 29.11 75 P **P 22 50 42.1 +1.5**
TGY pmax pmax
comp=Z,182nm,0.5s
TGY MLR MLR
comp=Z,26nm,20.6s
SZP Santa 29.41 68 *e*P **P 22 50 42.6 -0.5**
comp=Z,54nm,0.7s
LZH Lanzhou 30.24 19 P **P 22 50 51.5 +1.0**
LZH PMZ
comp=Z,86nm,1.2s
LZH PMZ
comp=Z,420nm,5.2s
XAN Xi'an 30.50 28 P **P 22 50 51.9 -0.8**
XAN PMZ
comp=Z,4.0nm,0.7s

RCP Roxas 30.55 80⇑ *e*P **P 22 50 54.7 +1.3**
QZH Quanzhou 30.64 53 P **P 22 50 54.6 +0.6**
QZH pP **pP 22 51 03.5 +2.6**
QZH S **S 22 55 53.5 -1.7**
QZH LN
comp=Z,4μm,13.0s
QZH LE
comp=Z,9μm,16.2s
QZH LZ
comp=Z,15μm,14.8s
MRSI Marisa 30.72 102 P **P 22 50 57.8 +3.0**
comp=Z,68nm,0.8s,comp=Z,2μm
WHN Wuhan 30.88 40 P **P 22 50 57.3 +1.2**
WHN PMZ
comp=Z,70nm,0.8s
BKSI Bulukumba 30.92 114 P P 22 51 07.4 +11
TWG Pinlang 31.73 59 *e*P **P 22 51 05.8 +2.2**
comp=Z,128nm,0.7s
LUWI Luwuk 31.92 105 P P 22 51 16.0 +11
LUWI Luwuk 31.92 105 *e*P **P 22 51 04.7 -0.7**
comp=Z,194nm,1.0s
YULB Yu-li 32.15 58 *e*P **P 22 51 07.9 +0.6**
comp=Z,53nm,0.9s
GTA Gaotai 32.32 11 *e*P **P 22 51 09.0 +0.2**
GTA pP **pP 22 51 16.1 +0.4**
GTA sP **sP 22 51 20.3 +1.7**
GTA PMZ
comp=Z,29nm,1.2s
NACB Ninganchiao 32.72 57 *e*P **P 22 51 14.4 +2.1**
comp=Z,30nm,0.8s
TATO Taipei 32.98 55 *e*P **P 22 51 15.0 +0.4**
comp=Z,38nm,0.8s
KBL Kabul 34.03 325 *e*P **P 22 51 23.0 -0.8**
comp=Z,24nm,0.9s
KSH Kashi 34.76 338 *e*P **P 22 51 28.9 -1.2**
KSH *ep*P **pP 22 51 34.5 -2.5**
KSH PcP **PcP 22 54 01.9 -1.5**
KSH S **S 22 56 57.6 -1.7**
KSH sS **sS 22 57 07.8 -3.0**
KSH PcS **PcS 22 57 49.9 -0.2**
KSH ScS **ScS 23 01 51.6 +0.7**
KSH PMZ
comp=Z,14nm,0.9s
KSH LN
comp=Z,2μm,14.9s
KSH LE
comp=Z,5μm,19.8s
KSH LZ
comp=Z,7μm,22.3s
NJ2 Nanjing 34.79 42 *e*P **P 22 51 32.4 +2.2**
NJ2 pP **pP 22 51 35.1 -2.1**
NJ2 sP **sP 22 51 36.1 -4.0**
NJ2 S **S 22 57 03.0 +3.3**
NJ2 sS **sS 22 57 08.0 -3.2**
NJ2 PMZ
comp=Z,3μm,6.0s
NJ2 LN
comp=Z,16μm,12.8s
NJ2 LE
comp=Z,14μm,13.1s
NJ2 LZ
comp=Z,14μm,15.6s
TNTI Ternate 35.93 99 P P 22 51 50.1 +10
WMQ Urumqi 36.15 355 P **P 22 51 43.1 +1.3**
WMQ pP **pP 22 51 47.5 -1.3**
WMQ PP **PP 22 53 05.8 +1.5**
WMQ PcP **PcP 22 54 11.6 +4.3**
WMQ PMZ
comp=Z,23nm,0.8s
WMQ PMZ
comp=Z,3μm,6.0s
WMQ LN
comp=Z,3μm,18.0s
WMQ LE
comp=Z,2μm,21.0s
WMQ LZ
comp=Z,3μm,23.0s
TIA Tai'an 36.48 35⇑ P **P 22 51 45.1 +0.4**
TIA PMZ
comp=Z,10.0nm,0.8s
NLAI Namlea 36.69 106 P P 22 51 54.8 +8.0
ULHL Ulahol 37.09 340 P **P 22 51 50.5 +0.5**
SNR=18
KZA Kyzart 37.28 339 P **P 22 51 52.2 +0.3**
SNR=23
HHC Hu-ho-hao-te 37.31 25 *e*P **P 22 51 52.7 +0.9**
HHC sP **sP 22 52 02.6 +0.9**
HHC PP **PP 22 53 16.5 -0.7**
HHC S **S 22 57 39.1 +0.8**
HHC SS **SnSn 23 00 13.6 -1.6**
HHC ScS **ScS 23 02 01.8 -3.1**
HHC PMZ
comp=Z,35nm,0.9s
HHC PMZ
comp=Z,600nm,9.1s
HHC LN
comp=Z,2μm,13.6s
HHC LE
comp=Z,3μm,12.9s
HHC LZ
comp=Z,2μm,13.8s
UCH Uchtor 37.67 339 P **P 22 51 56.0 +0.8**
SNR=20
AML Almayashu 37.89 338 P **P 22 51 57.5 +0.4**
SNR=43
KBK Karagaybulak 37.89 339 P **P 22 51 57.8 +1.0**
SNR=43
TKM2 Tokmak 2 37.90 340 P **P 22 51 57.5 +0.5**
SNR=14
TKM2 Tokmak 2 37.90 340 *e*P **P 22 51 56.9 0.0**
comp=Z,21nm,0.8s
AAK Ala-Archa 38.03 339 P **P 22 51 59.2 +1.3**
comp=Z,250nm,1.1s,SNR=9.4
AAK Ala-Archa 38.03 339 P **P 22 51 59.2 +1.3**
SNR=20
AAK Ala-Archa 38.03 339 P **P 22 51 59.8 +1.8**
comp=Z,180nm,1.0s,SNR=9.4
AAK Ala-Archa 38.03 339 P **P 22 51 57.9 0.0**
comp=Z,25nm,0.9s,baz=152,slow=6.2,SNR=32
AAK LR LR 23 08 22.2
comp=Z,5μm,21.5s,baz=154,slow=38
AAK Ala-Archa 38.03 339*d i*P **P 22 51 58.4 +0.4**
AAK pmax pmax
comp=Z,116nm,1.2s
AAK Ala-Archa 38.03 339 P **P 22 51 59.6 +1.6**
SNR=29
AAK Ala-Archa 38.03 339 *e*P **P 22 51 58.6 +0.7**
comp=Z,40nm,0.9s
FRU Bishkek 38.16 339 *e*P **P 22 51 59.0 +0.1**
FRU *i* 22 52 10.0
FRU *e*S **S 22 57 52.0 +1.0**
FRU pmax pmax
comp=Z,60nm,2.0s
CHMS Chumysh 38.26 339 P **P 22 52 00.7 +1.0**
SNR=12
EKS2 Erkin-Say 38.32 338 P **P 22 52 01.6 +1.3**
SNR=26
EKS2 Erkin-Say 38.32 338 *e*P **P 22 52 01.1 +0.8**
comp=Z,35nm,0.8s
USP Ospenovka 38.59 339 P **P 22 52 02.8 +0.3**
SNR=38
BJT Baijiatuau 38.76 30 *e*P **P 22 52 04.8 +0.9**
comp=Z,72nm,1.2s
BJI Beijing 38.78 30 P **P 22 52 05.8 +1.8**
BJI PMZ
comp=Z,24nm,0.6s
JOW Kunigami 39.31 57 LR LR 23 08 22.7
comp=Z,400nm,21.2s,baz=246,slow=36
MK01 Makanchi Array 39.78 350 *e*P **P 22 52 11.9 -0.5**
MKAR Makanchi Array 39.80 350 P **P 22 52 11.7 -0.9**
comp=Z,5.7nm,0.4s,baz=168,slow=8.6,SNR=62
MKAR LR LR 23 12 44.5
comp=Z,2μm,18.1s,baz=174,slow=42
MKAR Makanchi Array 39.80 350 P **P 22 52 11.7 -0.9**
MKAR pmax pmax
comp=Z,6.0nm,0.4s
MKAR MLR MLR
comp=Z,2μm,18.2s
MKAR Makanchi Array 39.80 350 *e*P **P 22 52 11.9 -0.7**
KKAR Karatay Array 39.97 335 *e*P **P 22 52 13.8 -0.2**
SWI Sorong 40.09 101 P P 22 52 19.2 +3.8
comp=Z,78nm,0.8s
SIJI Sorong 40.09 101 P **P 22 52 15.1 -0.3**
comp=Z,14nm,0.6s,baz=303,slow=4.7,SNR=8.9
IMYA Miami 40.69 319 *e*P **P 22 52 20.7 +0.4**
IMOG Moghan 41.05 318 *e*P **P 22 52 24.3 +0.9**

IBAF Bafgh 41.39 310 *e*P **P 22 52 27.2 +1.1**
IPAY Payeh 41.48 318 *e*P **P 22 52 27.9 +1.1**
IAKL Akhelmad 41.72 319 *e*P **P 22 52 29.8 +0.9**
SONM Songino Array 41.81 15 P **P 22 52 28.5 -0.7**
comp=Z,35nm,0.8s,baz=196,slow=6.1,SNR=91
SONM Songino Array 41.81 15 P **P 22 52 28.5 -0.7**
SONM pmax pmax
comp=Z,35nm,0.8s
SONA1 Songino Array 41.82 15 *e*P **P 22 52 28.6 -0.7**
IKRD Kardeh 41.98 319 *e*P P 22 52 27.1 -3.8
FITZ Fitzroy Crossi 41.98 128 *e*P **P 22 52 29.7 -1.2**
comp=Z,41nm,0.9s
IMEH Mehriz 42.03 309 *e*P **P 22 52 33.1 +1.6**
ISFR Sfrayin 42.48 319 *e*P **P 22 52 35.8 +0.7**
ISAD Sadrabad 42.97 309 *e*P **P 22 52 39.1 0.0**
TJN Taejon 43.03 43⇑ *e*P **P 22 52 38.7 -0.5**
HVS Khovu-Aksy 43.30 2*de*P **P 22 52 41.6 +0.4**
HVS pmax pmax
comp=Z,54nm,1.0s
ZAK Zakamensk 43.55 10 *e*P **P 22 52 42.3 -1.0**
ZAK pmax pmax
comp=Z,11nm,1.1s
JNU Nakatsue 43.95 49 P **P 22 52 47.4 +0.6**
comp=Z,13nm,0.8s,baz=162,slow=1.0,SNR=5.1
KSAR Wonju Array Be 43.96 42 P **P 22 52 47.2 +0.5**
KSRS Korea Array 43.99 42 P **P 22 52 47.2 +0.3**
comp=Z,4.2nm,0.7s,baz=253,slow=8.0,SNR=15
KSRS LR LR 23 12 24.9
comp=Z,2μm,20.1s,baz=250,slow=38
KSRS Korea Array 43.99 42 P **P 22 52 47.2 +0.3**
KSRS pmax pmax
comp=Z,4.0nm,0.7s
KSRS MLR MLR
comp=Z,2μm,20.2s
KURBB Kurchatov Arra 44.20 348 P **P 22 52 47.8 -0.6**
comp=Z,20nm,0.9s,baz=170,slow=7.0,SNR=41
KURK Kurchatov 44.27 348 P **P 22 52 48.9 0.0**
comp=Z,97nm,1.4s,SNR=9.5
KURK Kurchatov 44.27 348 P **P 22 52 47.8 -1.1**
KURK Kurchatov 44.27 348 P **P 22 52 49.2 +0.3**
SNR=22
KURK Kurchatov 44.27 348 *e*P **P 22 52 48.2 -0.7**
comp=Z,80nm,1.2s
IZEF Zefreh 44.43 310 *e*P **P 22 52 50.9 0.0**
MOY Mondy 44.43 8 *e*P **P 22 52 51.2 +0.8**
MOY pmax pmax
comp=Z,20nm,1.4s
TLY Talaya 44.86 10 P **P 22 52 54.7 +1.0**
comp=Z,11nm,0.7s,baz=205,slow=7.1,SNR=19
TLY Talaya 44.86 10 *e*P **P 22 52 54.9 +1.2**
TLY pmax pmax
comp=Z,23nm,1.0s
TLY Talaya 44.86 10 P **P 22 52 54.9 +1.2**
SNR=12
TLY Talaya 44.86 10 *e*P **P 22 52 54.6 +1.0**
comp=Z,40nm,0.8s
IGLO Ghaloghah 45.01 315 *e*P **P 22 52 53.9 -1.4**
ISHM Shahmirzad 45.04 314 *e*P **P 22 52 56.9 +1.2**
IPIR Pirpir 45.44 309 *e*P **P 22 53 00.6 +1.7**
IRK Irkutsk 45.51 11 *e*P **P 22 52 59.4 +0.6**
IRK *e*S **S 22 59 41.6 +2.2**
IRK pmax pmax
comp=Z,49nm,1.4s
IDMV Damavand 45.84 313 *e*P **P 22 53 02.8 +0.8**
IPRN Peran 45.93 314 *e*P **P 22 53 03.9 +1.3**
ZAA0 Zalesovo Array 46.45 354 *e*P **P 22 53 05.4 -0.7**
ZALV Zalesovo Beam 46.45 354 P **P 22 53 05.7 -0.5**
comp=Z,33nm,0.9s,baz=171,slow=10,SNR=37
ZALV Zalesovo Beam 46.45 354 P **P 22 53 05.7 -0.5**
ZALV pmax pmax
comp=Z,33nm,1.0s
NWAO Narrogin (SRO) 47.03 151 P **P 22 53 12.0 +1.0**
comp=Z,16nm,1.0s,baz=334,slow=2.9,SNR=3.1
NWAO LR LR 23 09 51.5
comp=Z,11nm,20.8s,slow=32
NWAO Narrogin (SRO) 47.03 151 P **P 22 53 12.0 +1.0**
NWAO pmax pmax
comp=Z,17nm,1.0s
NWAO MLR MLR
comp=Z,11nm,20.8s
RAYN Ar Rayn 47.20 295 P **P 22 53 13.9 +1.3**
comp=Z,73nm,0.6s,SNR=11
RAYN Ar Rayn 47.20 295 *e*P **P 22 53 12.9 +0.3**
comp=Z,12nm,0.9s
H01W3 Cape Leeuwin H 47.27 155 T T 23 44 24.3
baz=332,slow=76,SNR=6.3
H01W2 Cape Leeuwin H 47.28 155 T T 23 44 18.1
baz=332,slow=76,SNR=7.8
H01W1 Cape Leeuwin H 47.28 155 T T 23 44 27.5
baz=332,slow=76,SNR=5.4
IRAZ Razeghan 47.30 312 *e*P **P 22 53 11.6 -1.9**
NVS Novosibirsk 47.51 353 *i* P **P 22 53 12.3 -2.1**
NVS *e*S S 23 00 00.8 -7.0
NVS pmax pmax
comp=Z,20nm,0.8s
NVS pmax pmax
comp=N,19nm,0.7s
NVS pmax pmax
comp=E,13nm,0.7s
NVS smax smax
comp=N,44nm,2.7s
HIA Hailar 47.52 24⇑ *e*P **P 22 53 15.1 +0.5**
HIA pmax pmax
comp=Z,26nm,1.2s
BVAR Borovoye Array 48.47 343 P **P 22 53 21.2 -0.7**
comp=Z,13nm,0.8s,baz=154,slow=9.4,SNR=3.0
BVAR Borovoye Array 48.47 343 P **P 22 53 21.2 -0.7**
BVAR pmax pmax
comp=Z,13nm,0.8s
BRVK Borovoye 48.53 343*d i*P **P 22 53 21.8 -0.5**
BRVK pmax pmax
comp=Z,23nm,1.2s
BRVK Borovoye 48.53 343 P **P 22 53 22.2 -0.2**
SNR=11
BRVK Borovoye 48.53 343 *e*P **P 22 53 21.4 -1.0**
comp=Z,35nm,1.2s
MDJ Mudanjiang 49.14 35 P **P 22 53 28.8 +1.6**
MDJ PMZ
comp=Z,8.0nm,1.1s
MDJ PMZ
comp=Z,900nm,8.4s
ABKAR Akbulak array 49.36 333 *e*P **P 22 53 28.5 -0.3**
IDHR Dehrash 49.68 309 *e*P **P 22 53 30.7 -1.1**
WRA Warramunga Arr 49.93 124 P **P 22 53 32.1 -1.5**
comp=Z,27nm,0.8s,baz=304,slow=8.7,SNR=30
WRA LR LR 23 15 09.2
comp=Z,3μm,21.9s,baz=300,slow=37
WRA Warramunga Arr 49.93 124 P **P 22 53 32.1 -1.5**
WRA pmax pmax
comp=Z,27nm,0.8s
WRA MLR MLR
comp=Z,3μm,21.9s
WRAB Tennant Creek 49.94 124 P **P 22 53 33.0 -0.7**
comp=Z,292nm,0.8s,SNR=8.1
WRAB Tennant Creek 49.94 124*ce*P **P 22 53 32.4 -1.3**
WRAB pmax pmax
comp=Z,95nm,0.8s
WRAB Tennant Creek 49.94 124 *e*P **P 22 53 33.8 +0.2**
comp=Z,34nm,0.8s
USRK Ussuriysk Ar. 50.30 37 P **P 22 53 36.5 +0.5**
comp=Z,5.4nm,0.8s,baz=233,slow=8.6,SNR=4.2
USRK LR LR 23 16 42.0
comp=Z,2μm,19.2s,baz=200,slow=38
MAJO Matsushiro 50.85 49*ce*P **P 22 53 40.0 -0.4**
MAJO pmax pmax
comp=Z,48nm,0.8s
MAJO Matsushiro 50.85 49 *e*P **P 22 53 40.9 +0.5**
comp=Z,19nm,0.8s
MAT Matsushiro 50.85 49 P **P 22 53 40.6 +0.2**
MJAR Matsushiro Arr 50.85 49 P **P 22 53 40.0 -0.4**
comp=Z,4.7nm,0.7s,baz=243,slow=8.7,SNR=15
MJAR PcP **PcP 22 54 58.5 +1.6**
comp=Z,10.0nm,0.8s,baz=250,slow=3.2,SNR=7.3
MJAR Matsushiro Arr 50.85 49 P **P 22 53 40.0 -0.4**
MJAR 22 54 58.5
MJAR pmax pmax
comp=Z,5.0nm,0.7s
MJAR pmax pmax
comp=Z,10.0nm,0.8s
OPO Ambohidratompo 51.33 239 P **P 22 53 43.5 -0.9**
comp=Z,2.8nm,0.7s,baz=85,slow=13,SNR=2.0
OPO LR LR 23 10 46.2
comp=Z,3μm,21.4s,baz=63,slow=31
ASAR Alice Springs 51.48 128 P **P 22 53 44.1 -1.2**
comp=Z,12nm,0.8s,baz=307,slow=7.4,SNR=25
ASAR PcP **PcP 22 55 01.3 +1.8**

ASAR S **S** **23 01 05.5 +1.1**
comp=Z,1.4nm,0.8s,baz=296,slow=14,SNR=7.4
ASAR LR LR 23 16 00.7
comp=Z,2µm,20.9s,baz=293,slow=36
ASAR Alice Springs 51.48 128 P **P** **22 53 44.1 -1.2**
ASAR 22 55 01.3
ASAR S **S** **23 01 05.6 +1.1**
ASAR pmax pmax
comp=Z,12nm,0.8s
ASAR pmax pmax
comp=Z,4.0nm,0.7s
ASAR smax smax
comp=N,1.0nm,0.8s
ASAR MLR MLR
comp=Z,2µm,21.0s
ABPO Ambohimpanom 51.50 238 *e*P **P** **22 53 44.6 -1.0**
comp=Z,44nm,1.3s
AS01 Alice Springs 51.52 128 *e*P **P** **22 53 44.3 -1.2**
FORT Forrest 51.58 140 *e*P **P** **22 53 45.2 -0.7**
comp=Z,79nm,0.9s
GNI Garni 53.02 315⇑ *e*P **P** **22 53 57.1 +0.4**
GNI pmax pmax
comp=Z,25nm,1.7s
GNI Garni 53.02 315 *e*P **P** **22 53 55.6 -1.1**
comp=Z,29nm,1.0s
HABR Khabarovsk 54.45 34 *e*P **P** **22 54 03.6 -3.1**
HABR *e**PP **pP** **22 54 14.2 +0.2**
HABR 22 55 07.5
HABR *e* 22 56 06.7
HABR *e*PPP PPP 22 57 16.9
HABR *e*S **S** **23 01 40.9 -3.2**
HABR *e**SS **sS** **23 01 58.6 +2.6**
HABR 23 03 50.5
HABR *e*SS **SS** **23 05 26.4 -0.2**
HABR pmax pmax
comp=Z,29nm,1.5s
HABR MLR MLR
comp=Z,2µm,16.0s
SVE Sverdlovsk 54.77 340⇓ *e*P **P** **22 54 09.6 +0.7**
SVE pmax pmax
comp=Z,138nm,1.1s
SVE MLR MLR
comp=Z,4µm,20.0s
ARU Arti 55.21 338 *d i*P **P** **22 54 11.0 -1.1**
ARU 22 56 10.0
ARU PPP PPP 22 57 25.2
ARU S **S** **23 01 54.0 -0.1**
ARU SSS SSS 23 07 39.0
ARU pmax pmax
comp=Z,29nm,1.2s
ARU Arti 55.21 338 *e*P **P** **22 54 11.7 -0.4**
comp=Z,35nm,0.9s
NCK Nalchik 55.21 319⇑ *e*P **P** **22 54 12.8 +0.4**
KMBO Kilima Mbogo 55.28 263 P **P** **22 54 14.9 +1.2**
comp=Z,3.6nm,0.7s,baz=65,slow=9.8,SNR=12
KMBO Kilima Mbogo 55.28 263 P **P** **22 54 14.9 +1.2**
KMBO pmax pmax
comp=Z,4.0nm,0.7s
KMBO Kilima Mbogo 55.28 263 *e*P **P** **22 54 12.7 -1.0**
comp=Z,25nm,1.2s
NEY Neytrino 55.68 318 *e*P **P** **22 54 17.4 +1.4**
NEY pmax pmax
comp=Z,1.0nm,0.7s
KBZ Khabaz 55.77 319 P **P** **22 54 16.5 +0.1**
comp=Z,2.5nm,0.9s,baz=109,slow=4.4,SNR=7.4
KBZ Khabaz 55.77 319 P **P** **22 54 16.5 +0.1**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 56.00 319⇓ *e*P **P** **22 54 17.6 -0.6**
KIV *i* *PP **pP** **22 54 29.4 +3.9**
KIV *e* 22 56 23.0
KIV *e*S S 23 01 56.1 -9.3
KIV pmax pmax
comp=Z,16nm,1.7s
KIV MLR MLR
comp=Z,2µm,17.0s
KIV Kislovodsk 56.00 319 *e*P **P** **22 54 17.6 -0.6**
comp=Z,31nm,1.0s
GOF Gofitskoye 56.25 320 *e*P P 22 54 32.7 +13
GOF pmax pmax
comp=Z,20nm,0.8s
ASAJ Asahikawa 56.94 42 P **P** **22 54 26.1 +1.4**
comp=Z,15nm,0.9s,baz=201,slow=11
ASAJ Asahikawa 56.94 42 P **P** **22 54 26.1 +1.4**
ASAJ pmax pmax
comp=Z,15nm,0.9s
ASAJ Asahikawa 56.94 42 *e*P **P** **22 54 25.1 +0.4**
comp=Z,46nm,1.1s
PMG Port Moresby 57.54 106⇑ *e*P **P** **22 54 29.4 0.0**
PMG pmax pmax
comp=Z,76nm,0.8s
SOKR Solikamsk 58.20 340 *d i*P **P** **22 54 34.3 +1.0**
SOKR pmax pmax
comp=Z,30nm,1.4s
YSS Yuzh-Sakhalins 58.22 39 *e*P **P** **22 54 33.0 -0.7**
YSS *e* 22 54 42.2
YSS *e* 22 54 49.9
YSS Yuzh-Sakhalins 58.22 39 *e*P **P** **22 54 33.8 +0.1**
comp=Z,37nm,0.8s
YAK Yakutsk 60.83 19 P **P** **22 54 51.5 +0.2**
comp=Z,2.9nm,0.7s,baz=162,slow=20,SNR=6.5
YAK Yakutsk 60.83 19 P **P** **22 54 51.5 +0.2**
YAK pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 60.91 311 P **P** **22 54 51.3 -1.3**
comp=Z,1.2nm,0.6s,baz=131,slow=7.3,SNR=11
BRTR Keskin Array B 60.91 311 P **P** **22 54 51.3 -1.3**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
VORD Divnogorie 61.10 325 *e*P **P** **22 54 52.8 -0.6**
VORD pmax pmax
comp=Z,6.0nm,1.1s
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,60nm,0.9s
VSR Storozhevoye 61.28 325 *e*P **P** **22 54 54.7 0.0**
VSR pmax pmax
comp=Z,10.0nm,1.4s
VSR pmax pmax
comp=N,8.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.5s
STKA Stephens Creek 61.57 133 P **P** **22 54 57.1 +0.2**
comp=E,7.4nm,0.8s,baz=301,slow=2.0,SNR=10
STKA Stephens Creek 61.57 133 P **P** **22 54 57.1 +0.2**
STKA pmax pmax
comp=Z,7.0nm,0.8s
STKA Stephens Creek 61.57 133 *e*P **P** **22 54 57.1 +0.2**
comp=Z,8.5nm,1.5s
LPSR Galich'ya Gora 62.02 326 *e*P **P** **22 54 58.9 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR pmax pmax
comp=N,7.0nm,1.3s
LPSR pmax pmax
comp=E,5.0nm,0.6s
PRGR Permogore 63.64 337 *e*P **P** **22 55 08.8 -1.4**
PRGR pmax pmax
comp=Z,27nm,0.7s
MOS Moscow 64.10 329 *e*P **P** **22 55 12.4 -1.0**
MOS *e* 22 55 46.3
MOS *e* 22 57 30.3
MOS *e* 22 59 09.1
MOS *e*S **S** **23 03 51.8 +3.0**
MOS pmax pmax
comp=Z,62nm,1.5s
MOS MLR MLR
comp=N,1µm,19.0s
MOS MLR MLR
comp=E,3µm,19.0s
MOS MLR MLR
comp=Z,3µm,19.0s
OBN Obninsk 64.37 328 P **P** **22 55 14.2 -0.9**
comp=Z,11nm,0.8s,baz=75,slow=7.4,SNR=6.1
OBN Obninsk 64.37 328⇓ *e*P **P** **22 55 13.7 -1.5**
OBN *i* *PP **pP** **22 55 24.7 +2.2**
OBN *e* 22 57 36.8
OBN *e*S S 23 03 40.3 -12
OBN pmax pmax
comp=Z,24nm,1.2s
OBN MLR MLR
comp=Z,3µm,20.0s
OBN Obninsk 64.37 328 *e*P **P** **22 55 15.7 +0.6**
comp=Z,24nm,1.0s

KARP Karpathos 65.09 306 *e*P **P** **22 55 21.0 +0.6**
TIRR Tirgusor 65.85 315⇓ P **P** **22 55 24.3 -0.7**
TIRR Tirgusor 65.85 315⇓ *i*P **P** **22 55 24.3 -0.7**
TIRR Tirgusor 65.85 315 *e*P **P** **22 55 24.0 -1.0**
comp=Z,7.0nm,0.9s
TLB Topalu 66.14 315⇓ P **P** **22 55 26.2 -0.6**
TLB Topalu 66.14 315⇓ *i*P **P** **22 55 26.2 -0.6**
KIS Kishinev 66.20 318 *e* P 22 55 31.0 +3.8
KIS Kishinev 66.20 318 *e*P P 22 55 37.0 +10
KIS Kishinev 66.20 318 *e*P P 22 55 37.0 +10
KIS *e* 22 55 48.0
CFR Carcaliu 66.21 316⇑ P **P** **22 55 26.8 -0.5**
CFR Carcaliu 66.21 316⇑ *i*P **P** **22 55 26.8 -0.5**
HARR Harsova 66.24 316⇑ P **P** **22 55 25.5 -2.0**
HARR Harsova 66.24 316⇑ *i*P **P** **22 55 25.5 -2.0**
LEOM Leova 66.45 317⇓ P **P** **22 55 28.8 0.0**
LEOM Leova 66.45 317⇓ *i*P **P** **22 55 28.8 0.0**
ALN Alexandroupoli 66.83 311 *e*P **P** **22 55 31.1 -0.3**
IDI Anoyia 66.90 305 P **P** **22 55 32.2 +0.2**
comp=Z,4.9nm,0.6s,baz=80,slow=7.6,SNR=15
AKASG Malin Array Be 66.95 322 P **P** **22 55 30.2 -1.7**
comp=Z,1.0nm,0.4s,baz=90,slow=4.5,SNR=9.2
AKASG PP **PP** **22 58 00.8 +1.3**
comp=Z,0.7nm,0.4s,baz=95,slow=7.1,SNR=2.9
AKASG Malin Array Be 66.95 322 P **P** **22 55 30.2 -1.7**
AKASG 22 58 00.8
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 66.96 322⇑ *e*P **P** **22 55 32.2 +0.2**
SMTH Samothraki Isl 67.14 311 *e*P **P** **22 55 32.8 -0.6**
RDO Rodhopi 67.25 311 *e*P **P** **22 55 33.6 -0.4**
RDO Rodhopi 67.25 311 *e*P **P** **22 55 33.4 -0.7**
comp=Z,94nm,2.0s
ISR Istrita 67.30 316⇑ P **P** **22 55 34.9 +0.6**
ISR Istrita 67.30 316⇑ *i*P **P** **22 55 34.9 +0.6**
VRI Vrincioaia 67.33 317⇑ P **P** **22 55 35.0 +0.5**
VRI Vrincioaia 67.33 317⇑ *i*P **P** **22 55 35.0 +0.5**
PLOR Plostina 67.38 317⇓ P **P** **22 55 35.2 +0.4**
PLOR Plostina 67.38 317⇓ *i*P **P** **22 55 35.2 +0.4**
VAM Vamos 67.47 305 *e*P **P** **22 55 36.5 +0.9**
TESR Tescani 67.53 317⇑ *i*P **P** **22 55 35.6 -0.1**
PLAR PLOIESTI 67.61 315⇓ *i*P **P** **22 55 37.3 +1.1**
MLR Muntele Rosu 67.79 316 P **P** **22 55 37.1 -0.4**
comp=Z,2.9nm,0.9s,baz=155,slow=4.4,SNR=26
MLR Muntele Rosu 67.79 316⇑ P **P** **22 55 37.9 +0.4**
MLR Muntele Rosu 67.79 316⇑ *i*P **P** **22 55 37.9 +0.4**
TIXI Tiksi 67.81 12 *de*P **P** **22 55 36.0 -0.9**
TIXI pmax pmax
comp=Z,80nm,0.8s
TIXI Tiksi 67.81 12 *e*P **P** **22 55 36.2 -0.7**
comp=Z,72nm,0.8s
DOPR Dopca 68.27 316⇑ *i*P **P** **22 55 40.1 -0.3**
HUMR Humele 68.27 315⇑ *i*P **P** **22 55 40.0 -0.4**
VOIR 68.39 316⇑ P **P** **22 55 40.5 -0.8**
VOIR 68.39 316⇑ *i*P **P** **22 55 40.5 -0.8**
PAIG Paliouri 68.46 310 *e*P **P** **22 55 41.5 -0.2**
DID Didima 68.49 307 *e*P **P** **22 55 40.5 -1.5**
NVR Nevrokopi 68.53 311 *e*P **P** **22 55 41.5 -0.7**
KRND KRANIDI 68.54 307 *e*P **P** **22 55 40.9 -1.3**
ARR Arges 68.67 316⇓ *i*P **P** **22 55 42.1 -0.9**
SRS Serrai 68.70 311 *e*P **P** **22 55 41.8 -1.4**
BURAR Bucovina Array 68.72 318⇑ P **P** **22 55 43.4 +0.1**
BURAR Bucovina Array 68.72 318⇑ *i*P **P** **22 55 43.3 0.0**
BUR04 Bucovina Ar. S 68.73 318 *e*P **P** **22 55 42.9 -0.4**
HORT Horiatis 69.00 310 *e*P **P** **22 55 44.2 -0.9**
VLX Vlachokerasia 69.15 307 *e*P **P** **22 55 45.3 -0.9**
KNT Kendrikon 69.22 311 *e*P **P** **22 55 45.8 -0.7**
GUR Goura 69.24 308 *e*P **P** **22 55 45.8 -0.9**
LOT Lotru 69.28 316⇑ *i*P **P** **22 55 45.9 -0.9**
PETK Petropavlovsk- 69.37 36 P **P** **22 55 47.0 -0.1**
comp=Z,3.6nm,0.8s,baz=146,slow=2.9,SNR=3.6
PETK Petropavlovsk- 69.37 36 P **P** **22 55 47.0 -0.1**
PETK pmax pmax
comp=Z,4.0nm,0.8s
AGG Agios Georgios 69.38 309 *e*P **P** **22 55 45.7 -1.8**
AGG Agios Georgios 69.38 309 *e*P **P** **22 55 45.9 -1.5**
comp=Z,9.8nm,0.9s
LIT Litokhoron 69.39 310 *e*P **P** **22 55 46.5 -1.0**
KALE Kalithea 69.45 308 *e*P **P** **22 55 45.5 -2.5**
ITM Ithomi 69.49 307 *e*P **P** **22 55 47.6 -0.6**
MAKR Makrakomi, Fth 69.53 309 *e*P **P** **22 55 46.9 -1.5**
CJR Cluj-Napoca 69.63 317⇑ P **P** **22 55 48.5 -0.4**
CJR Cluj-Napoca 69.63 317⇑ *i*P **P** **22 55 48.5 -0.4**
EFP Efpalio 69.64 308 *e*P **P** **22 55 48.1 -0.9**
AMT Artemida-Makis 69.70 307 *e*P **P** **22 55 50.3 +0.8**
DRO Drossia 69.74 308 *e*P **P** **22 55 49.2 -0.5**
HNR Honiara 69.81 103 *e*P **P** **22 55 50.1 -0.4**
comp=Z,0.7nm,0.9s
RLS Riolos of Patr 69.94 308 *e*P **P** **22 55 50.7 -0.2**
SEY Seymchan 69.96 25 P **P** **22 55 50.9 +0.4**
comp=Z,9.6nm,0.9s,baz=234,slow=3.7,SNR=6.4
SEY Seymchan 69.96 25⇑ *i*P **P** **22 55 51.0 +0.5**
IIGN Ignalina 70.00 326 *e*P **P** **22 55 49.7 -1.2**
IIGN IAmb IAmb 22 56 04.0
comp=Z,14nm,0.9s
IZAR Zarasai 70.10 327 *e*P **P** **22 55 50.4 -1.1**
IZAR IAmb IAmb 22 56 04.5
comp=Z,13nm,0.9s
ISAL Salakas 70.11 327 *e*P **P** **22 55 50.4 -1.2**
ISAL IAmb IAmb 22 56 05.7
comp=Z,16nm,1.1s
PDO Prodromos 70.22 308 *e*P **P** **22 55 52.2 -0.4**
DRGR 70.24 317⇑ P **P** **22 55 52.7 0.0**
DRGR 70.24 317⇑ *i*P **P** **22 55 52.7 0.0**
NEST Nestorio 70.52 310 *e*P **P** **22 55 53.0 -1.6**
TRPA Tarpa 70.59 318⇓ *i*P **P** **22 55 54.7 0.0**
VSU Vasula 70.63 330⇑ *e*P **P** **22 55 55.2 +0.6**
VSU pmax pmax
comp=Z,91nm,1.2s
LKD2 Lefkada island 70.65 308 *e*P **P** **22 55 54.8 -0.5**
BZS Buzias 70.80 316⇑ P **P** **22 55 54.8 -1.2**
BZS Buzias 70.80 316⇑ *i*P **P** **22 55 54.8 -1.2**
UZH Uzhgorod 70.84 319 *e*P **P** **22 55 56.0 -0.2**
UZH PP **pP** **22 56 05.6 +2.0**
UZH *e* 22 56 22.8
KOLS Kolonicke sedl 70.91 319 *e*P **P** **22 55 56.6 0.0**
KOLS pmax pmax
comp=Z,5.0nm,1.3s
KOLS Kolonicke sedl 70.91 319 *e*P **P** **22 55 56.6 0.0**
KOLS *e*PCP **PcP** **22 56 16.0 -1.1**
KOLS *e* 23 09 42.8
IGT Igoumenitsa 70.98 309 *e*P **P** **22 55 56.2 -1.0**
APA Apatity 71.24 340⇑ *i*P P 22 55 48.0 -10
APA pmax pmax
comp=Z,14nm,0.5s
APA MLR MLR
comp=Z,3µm,22.0s
SUW Suwalki 71.38 325 *e*P **P** **22 55 58.3 -1.0**
SUW Suwalki 71.38 325 *e*P **P** **22 55 58.3 -1.0**
STHS Stebnicka Huta 71.66 319 *e*P **P** **22 56 01.1 -0.1**
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 71.66 319 *e*P **P** **22 56 01.1 -0.1**
STHS *e* 22 56 09.4
STHS *e* 22 56 13.3
STHS *e*PCP 23 09 37.5
DIVS Divibare 71.74 314⇑ *i*P **P** **22 56 01.4 -0.4**
FINES FINESS Array B 71.85 333 P **P** **22 56 01.4 -0.6**
comp=Z,5.4nm,0.7s,baz=110,slow=5.0,SNR=15
FINES FINESS Array B 71.85 333 P **P** **22 56 01.4 -0.6**
FINES pmax pmax
comp=Z,5.0nm,0.7s
KECS Kecovo 72.00 318 *e*P **P** **22 56 03.0 -0.2**
KECS pmax pmax
comp=Z,2.0nm,1.1s
KECS Kecovo 72.00 318 *e*P **P** **22 56 03.0 -0.2**
KECS *e* 22 56 11.8
KECS *e*PCP **PcP** **22 56 21.3 -0.4**
NIE Niedzica 72.26 319 *e*P **P** **22 56 05.2 +0.4**
NIE Niedzica 72.26 319 *e*P **P** **22 56 05.2 +0.4**
PSZ Piszkesteto 72.31 318⇑ P **P** **22 56 05.3 +0.1**
PSZ Piszkesteto 72.31 318⇑ *i*P **P** **22 56 05.3 +0.1**
PSZ Piszkesteto 72.31 318 *e*P **P** **22 56 04.7 -0.5**
comp=Z,9.8nm,0.9s
BEL Belsk 72.36 322 *e*P **P** **22 56 08.0 +2.7**
BEL Belsk 72.36 322 *e*P **P** **22 56 08.0 +2.7**
OJC Ojcow 72.72 320 *e*P **P** **22 56 07.2 -0.2**
OJC Ojcow 72.72 320 *e*P **P** **22 56 07.3 -0.2**
OJC Ojcow 72.72 320 *e*P **P** **22 56 06.9 -0.5**
comp=Z,12nm,0.8s

PKSM Moragy 72.94 316⇓ P **P** **22 56 08.0 -0.8**
PKSM Moragy 72.94 316⇓ *i*P **P** **22 56 08.0 -0.8**
BOSA Boshof 73.70 237 P **P** **22 56 14.0 +0.2**
comp=Z,3.3nm,0.7s,baz=61,slow=6.0,SNR=6.5
BOSA LR LR 23 22 57.7
comp=Z,2µm,21.8s,baz=60,slow=31
BOSA Boshof 73.70 237 P **P** **22 56 14.0 +0.2**
BOSA pmax pmax
comp=Z,3.0nm,0.7s
BOSA MLR MLR
comp=Z,2µm,21.8s
BOSA Boshof 73.70 237 *e*P **P** **22 56 12.5 -1.3**
TIP Timpagrande 73.71 308 *e*P **P** **22 56 12.7 -1.0**
comp=Z,7.9nm,0.9s
OKC Ostrava-Krasne 73.72 320 *e*P **P** **22 56 13.4 +0.1**
OKC *ep*P **pP** **22 56 24.0 +3.2**
OKC Ostrava-Krasne 73.72 320 *e*P **P** **22 56 13.4 +0.1**
OKC *e**PP **pP** **22 56 24.0 +3.2**
CEL Celeste 74.34 307 *e*P **P** **22 56 16.6 -0.7**
comp=Z,42nm,1.1s
CUC Castrocucco 74.48 309 *e*P **P** **22 56 17.6 -0.5**
comp=Z,8.8nm,0.9s
VRAC Vranov 74.66 319⇑ P **P** **22 56 18.8 -0.1**
VRAC Vranov 74.66 319⇑ *i*P **P** **22 56 18.8 -0.1**
ARA0 ARCESS Array S 74.69 340 *e*P **P** **22 56 19.2 +0.5**
ARCES ARCESS Array B 74.69 340 P **P** **22 56 18.6 0.0**
comp=Z,3.7nm,0.7s,baz=96,slow=4.9,SNR=11
ARCES LR LR 23 31 25.1
comp=Z,3µm,20.9s,baz=126,slow=38
ARCES ARCESS Array B 74.69 340 P **P** **22 56 18.7 0.0**
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES MLR MLR
comp=Z,3µm,20.9s
GKP Gorka Klasztor 74.73 323 *e*P **P** **22 56 18.4 -0.8**
GKP Gorka Klasztor 74.73 323 *e*P **P** **22 56 18.4 -0.8**
DPC Dobruska-Polom 74.94 320 *e*P **P** **22 56 20.8 +0.2**
DPC *ep*P **PcP** **22 56 32.2 -2.1**
DPC *ex* x 22 56 43.1
DPC Dobruska-Polom 74.94 320 *e*P **P** **22 56 20.8 +0.2**
DPC *e**PP **PcP** **22 56 32.2 -2.1**
CONA Conrad Observa 75.01 317⇑ *i*P **P** **22 56 19.4 -1.6**
comp=Z,4.6nm,1.0s
KSP Ksiaz 75.01 321 *e*P **P** **22 56 21.2 +0.4**
KSP Ksiaz 75.01 321 *e*P **P** **22 56 21.3 +0.4**
UPC Upice 75.16 320 *e*P **P** **22 56 21.7 0.0**
UPC *ep*P **pP** **22 56 30.4 +1.2**
UPC Upice 75.16 320 *e*P **P** **22 56 21.7 0.0**
UPC *e**PP **pP** **22 56 30.4 +1.2**
BOJS Bojanci 75.23 315 *i* P **P** **22 56 21.8 -0.5**
TREC Trest 75.38 319 *e*P **P** **22 56 22.4 -0.7**
TREC *ep*P **pP** **22 56 30.2 -0.3**
TREC Trest 75.38 319 *e*P **P** **22 56 22.4 -0.7**
TREC *e**PP **pP** **22 56 30.2 -0.3**
PERS Pernice 75.41 316 *i* P **P** **22 56 23.1 -0.3**
SOKA Soboth 75.47 316⇓ *i*P **P** **22 56 23.8 +0.1**
comp=Z,7.9nm,0.9s
GOPC GO Pecny, Ondr 75.89 319 *e*P **P** **22 56 27.1 +1.2**
GOPC *ep*P **PcP** **22 56 37.2 -1.2**
PRU Pruhonice 76.05 320 *e*P **P** **22 56 26.8 0.0**
PRU *ep*P **pP** **22 56 35.3 +1.0**
PRU Pruhonice 76.05 320 *e*P **P** **22 56 26.8 0.0**
PRU *e**PP **pP** **22 56 35.3 +1.0**
PVCC Panska Ves 76.08 320 *e*P **P** **22 56 27.6 +0.6**
PVCC Panska Ves 76.08 320 *e*P **P** **22 56 27.6 +0.6**
JAVS Javornik 76.09 315 *e*P P 22 56 31.7 +4.4
PRA Prague 76.12 320 *e*P **P** **22 56 27.4 +0.1**
PRA Prague 76.12 320 *e*P **P** **22 56 27.4 +0.1**
BRG Berggiesshubel 76.50 320 *e*P **P** **22 56 29.5 +0.2**
comp=Z,7.9nm,0.8s
BRG Berggiesshubel 76.50 320 *e*P **P** **22 56 29.6 +0.2**
comp=Z,2.0nm,0.7s
BRG Berggiesshubel 76.50 320 *e*P **P** **22 56 29.5 +0.2**
BRG pmax pmax
comp=Z,8.0nm,0.8s
GEC2 GERESS Array S 76.51 318 *e*P **P** **22 56 29.7 +0.1**
comp=Z,4.0nm,0.9s
GEC2 GERESS Array S 76.51 318 *e*P **P** **22 56 28.9 -0.7**
GERES GERESS Array B 76.51 318 P **P** **22 56 29.0 -0.7**
comp=Z,4.2nm,0.7s,baz=93,slow=5.3,SNR=39
GERES LR LR 23 35 55.7
comp=Z,677nm,18.0s,baz=88,slow=40
GERES GERESS Array B 76.51 318 P **P** **22 56 29.0 -0.7**
GERES pmax pmax
comp=Z,4.0nm,0.7s
GERES MLR MLR
comp=Z,677nm,18.0s
KHC Kasperske Hory 76.61 319 *e*P **P** **22 56 29.7 -0.4**
KHC *ep*P **PcP** **22 56 41.3 -0.3**
KHC *ex* x 22 56 52.1
KHC *ex* x 22 57 19.5
KHC Kasperske Hory 76.61 319 *e*P **P** **22 56 29.7 -0.4**
KHC *e**PP **PcP** **22 56 41.3 -0.3**
KHC Kasperske Hory 76.61 319 *e*P **P** **22 56 29.4 -0.7**
comp=Z,2.4nm,0.8s
BILL Bilibino 77.02 22⇓ *e*P **P** **22 56 32.2 +0.2**
BILL *e**PP **PcP** **22 56 43.2 +0.3**
BILL *e* 22 59 26.4
BILL *e*S **S** **23 06 16.8 -2.1**
BILL pmax pmax
comp=Z,15nm,1.2s
BILL MLR MLR
comp=Z,1µm,19.0s
RJOB Jochberg 77.05 317 *e*P **P** **22 56 32.8 +0.1**
comp=Z,4.0nm,0.8s
WET Wettzell 77.07 319 *e*P **P** **22 56 32.6 -0.1**
comp=Z,3.0nm,0.8s
CLL Collm 77.12 321 *e*P **P** **22 56 32.3 -0.6**
comp=Z,2.0nm,0.8s
CLL Collm 77.12 321 *e*P **P** **22 56 31.0 -1.9**
comp=Z,8.0nm,1.2s
CLL *ep*P **PcP** **22 56 42.0 -1.7**
CLL Lm MLR 23 35 00.0
comp=Z,2µm,21.2s
CLL Collm 77.12 321 *e*P **P** **22 56 31.0 -1.9**
CLL *e* 22 56 42.0
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL MLR MLR
comp=Z,2µm,21.2s
CLL Collm 77.12 321 *e*P **P** **22 56 31.7 -1.2**
comp=Z,15nm,1.2s
NKC Novy Kostel 77.41 320 *e*P **P** **22 56 36.3 +1.7**
NKC Novy Kostel 77.41 320 *e*P **P** **22 56 36.3 +1.7**
TANN Tannenbergstha 77.41 320 *e*P **P** **22 56 34.8 +0.2**
comp=Z,1.0nm,1.0s
ROTZ Rotzenmuhle 77.54 319 *e*P **P** **22 56 35.8 +0.5**
comp=Z,4.0nm,0.9s
MOX Moxa 77.96 320 *e*P **P** **22 56 37.8 +0.2**
comp=Z,58nm,1.9s
MAW Mawson 77.97 191 P **P** **22 56 39.1 +1.9**
comp=Z,2.4nm,0.7s,baz=334,slow=7.8,SNR=3.0
MAW Mawson 77.97 191 P **P** **22 56 39.1 +1.9**
MAW pmax pmax
comp=Z,2.0nm,0.7s
MAW Mawson 77.97 191 *e*P **P** **22 56 36.1 -1.0**
comp=Z,36nm,2.6s
FUR Furstenfeldbru 78.09 318 *e*P **P** **22 56 38.2 -0.2**
comp=Z,4.0nm,0.6s
GRF Grafenberg Arr 78.18 319 *e*P **P** **22 56 39.3 +0.5**
comp=Z,4.0nm,0.8s
GRFO Grafenberg 78.18 319 *e*P **P** **22 56 37.4 -1.4**
comp=Z,16nm,0.9s
RETA Reutte 78.42 317⇓ *i*P **P** **22 56 39.4 -0.9**
comp=Z,20nm,0.8s
FETA Feichten 78.43 316⇓ *i*P **P** **22 56 40.3 -0.2**
comp=Z,16nm,1.0s
MSKU Masuku 78.70 267 *e*P **P** **22 56 40.8 -1.6**
comp=Z,13nm,0.9s
FUORN Ofenpass-Fuorn 78.75 316 *e*P **P** **22 56 40.8 -1.6**
comp=Z,76nm,2.1s
NB2 NORSAR Subarra 78.81 331 P **P** **22 56 41.4 -0.7**
comp=Z,12nm,1.1s,baz=95,slow=5.3
NOA NORSAR Array B 78.81 331 P **P** **22 56 41.5 -0.6**
comp=Z,3.0nm,0.9s,baz=94,slow=5.7,SNR=4.8
NOA NORSAR Array B 78.81 331 P **P** **22 56 41.5 -0.6**
NOA pmax pmax
comp=Z,3.0nm,0.9s
BSEG Bad Segeberg 78.89 323 *e*P **P** **22 56 42.0 -0.6**
comp=Z,6.0nm,0.9s
DAVOX Davos/Dischmat 79.01 316 P **P** **22 56 44.0 +0.3**
comp=Z,9.9nm,0.7s,baz=108,slow=7.4,SNR=9.2
DAVOX Davos/Dischmat 79.01 316 P **P** **22 56 44.1 +0.3**
DAVOX pmax pmax
comp=Z,10.0nm,0.7s

DAVA	**Damuels**	79.02 317	⇓ *i* P		P		22 56 43.7	0.0
	comp=Z,14nm,0.8s							
STU	**Stuttgart**	79.49 318	*e*P		P		22 56 46.1	+0.1
	comp=Z,2.0nm,0.7s							
SPITS	**Spitsbergen Ar**	79.55 348	P		P		22 56 45.0	-0.8
	comp=Z,2.6nm,0.5s,baz=100,slow=9.4,SNR=9.7							
SPITS	**Spitsbergen Ar**	79.55 348	P		P		22 56 45.0	-0.8
SPITS			pmax	pmax				
	comp=Z,3.0nm,0.5s							
KEST	**Kesra**	79.57 305	P		P		22 56 47.7	+0.8
	comp=Z,1.8nm,0.7s,baz=43,slow=2.5,SNR=6.5							
PGF	**Pioggiola**	79.66 312	*e*P		P		22 56 46.6	-0.7
	comp=Z,29nm,1.1s							
PGF	**Pioggiola**	79.66 312	*e*P		P		22 56 46.6	-0.7
	comp=Z,29nm,1.1s							
TNS	**Taunus Mts**	79.98 320	*e*P		P		22 56 48.6	-0.1
	comp=Z,4.0nm,0.8s							
BFO	**Black Forest**	80.06 318	*e*P		P		22 56 49.3	+0.1
	comp=Z,2.0nm,0.8s							
BFO	**Black Forest**	80.06 318	*e*P		P		22 56 47.4	-1.9
	comp=Z,10nm,1.1s							
IBBN	**Ibbenburen**	80.41 322	*e*P		P		22 56 51.1	+0.2
	comp=Z,3.0nm,0.8s							
BUG	**Bochum--Univer**	80.72 321	*e*P		P		22 56 53.4	+0.8
	comp=Z,3.0nm,0.7s							
CDF	**Champ du Feu**	80.76 318	*e*P		P		22 56 52.0	-1.1
	comp=Z,14nm,1.0s							
CDF	**Champ du Feu**	80.76 318	*e*P		P		22 56 52.0	-1.1
	comp=Z,14nm,1.0s							
SBF	**Sospel**	80.77 313	*e*P		P		22 56 52.5	-0.7
	comp=Z,46nm,0.8s							
SBF	**Sospel**	80.77 313	*e*P		P		22 56 52.5	-0.7
	comp=Z,46nm,0.8s							
SENIN	**Lac Senin/Sane**	80.80 316	*e*P		P		22 56 52.5	-0.9
HINF	**Hinteralfeld**	81.06 317	*e*P		P		22 56 53.3	-1.3
HINF	**Hinteralfeld**	81.06 317	*e*P		P		22 56 53.3	-1.3
LPG	**La Plagne**	81.21 315	*e*P		P		22 56 55.3	-0.4
	comp=Z,33nm,0.8s							
LPG	**La Plagne**	81.21 315	*e*P		P		22 56 55.3	-0.4
	comp=Z,33nm,0.8s							
LPL	**La Plagne**	81.22 315	*e*P		P		22 56 55.3	-0.4
	comp=Z,40nm,0.8s							
LPL	**La Plagne**	81.22 315	*e*P		P		22 56 55.3	-0.4
	comp=Z,40nm,0.8s							
MBDF	**Montbardon**	81.22 314	*e*P		P		22 56 54.5	-1.2
	comp=Z,21nm,0.9s							
MBDF	**Montbardon**	81.22 314	*e*P		P		22 56 54.5	-1.2
	comp=Z,21nm,0.9s							
BNI	**Bardonecchia**	81.27 314	*e*P		P		22 56 54.7	-1.2
	comp=Z,15nm,0.8s							
FRF	**La Foret Royal**	81.36 313	*e*P		P		22 56 55.8	-0.4
	comp=Z,32nm,0.9s							
FRF	**La Foret Royal**	81.36 313	*e*P		P		22 56 55.8	-0.4
	comp=Z,32nm,0.9s							
HAU	**Haudompre**	81.40 317	*e*P		P		22 56 55.3	-1.1
	comp=Z,29nm,1.0s							
HAU	**Haudompre**	81.40 317	*e*P		P		22 56 55.3	-1.1
	comp=Z,29nm,1.0s							
LMR	**La Mourre**	81.47 313	*e*P		P		22 56 56.2	-0.6
	comp=Z,26nm,1.1s							
LMR	**La Mourre**	81.47 313	*e*P		P		22 56 56.2	-0.6
	comp=Z,26nm,1.1s							
WLF	**Walferdange**	81.47 319	*e*P		P		22 56 57.6	+0.9
	comp=Z,6.0nm,1.1s							
CABF	**La Chapelle**	81.62 316	*e*P		P		22 56 57.2	-0.5
	comp=Z,16nm,0.8s							
CABF	**La Chapelle**	81.62 316	*e*P		P		22 56 57.2	-0.5
	comp=Z,16nm,0.8s							
PAGF	**Fort de Pagny**	81.79 318	*e*P		P		22 56 57.5	-0.9
	comp=Z,4.0nm,0.9s							
PAGF	**Fort de Pagny**	81.79 318	*e*P		P		22 56 57.5	-0.9
	comp=Z,4.0nm,0.9s							
ORIF	**Oris-en-Rattie**	81.85 314	*e*P		P		22 56 58.6	-0.3
	comp=Z,16nm,0.9s							
ORIF	**Oris-en-Rattie**	81.85 314	*e*P		P		22 56 58.6	-0.3
	comp=Z,16nm,0.9s							
SMRF	**Simiane la Rot**	82.11 313	*e*P		P		22 57 00.3	+0.1
SMRF	**Simiane la Rot**	82.11 313	*e*P		P		22 57 00.3	+0.1
MEZF	**Maizieres J'vi**	82.24 318	*e*P		P		22 57 00.0	-0.7
	comp=Z,21nm,1.0s							
MEZF	**Maizieres J'vi**	82.24 318	*e*P		P		22 57 00.0	-0.7
	comp=Z,21nm,1.0s							
SFTF	**Sexfontaines**	82.26 318	*e*P		P		22 57 00.0	-0.9
	comp=Z,47nm,1.1s							
SFTF	**Sexfontaines**	82.26 318	*e*P		P		22 57 00.0	-0.9
	comp=Z,47nm,1.1s							
GIVF	**Givet**	82.31 320	*e*P		P		22 57 00.3	-0.8
GIVF	**Givet**	82.31 320	*e*P		P		22 57 00.3	-0.8
VIVF	**Saint-Julien-l**	82.71 314	*e*P		P		22 57 02.8	-0.5
	comp=Z,18nm,0.9s							
VIVF	**Saint-Julien-l**	82.71 314	*e*P		P		22 57 02.8	-0.5
	comp=Z,18nm,0.9s							
BAIF	**Baives**	82.71 320	*e*P		P		22 57 02.5	-0.6
	comp=Z,18nm,1.0s							
BAIF	**Baives**	82.71 320	*e*P		P		22 57 02.5	-0.6
	comp=Z,18nm,1.0s							
LOR	**Lormes**	83.11 317	*e*P		P		22 57 04.6	-0.8
	comp=Z,20nm,0.9s							
LOR	**Lormes**	83.11 317	*e*P		P		22 57 04.6	-0.8
	comp=Z,20nm,0.9s							
SMF	**Signal de Mont**	83.17 316	*e*P		P		22 57 04.6	-1.0
	comp=Z,13nm,0.7s							
SMF	**Signal de Mont**	83.17 316	*e*P		P		22 57 04.6	-1.0
	comp=Z,13nm,0.7s							
LASF	**Ste Croix**	83.34 314	*e*P		P		22 57 06.5	-0.1
	comp=Z,43nm,1.3s							
LASF	**Ste Croix**	83.34 314	*e*P		P		22 57 06.5	-0.1
	comp=Z,43nm,1.3s							
SSF	**Saint Saulge**	83.37 317	*e*P		P		22 57 06.1	-0.6
SSF	**Saint Saulge**	83.37 317	*e*P		P		22 57 06.1	-0.6
AVF	**Avril sur Loir**	83.49 316	*e*P		P		22 57 06.4	-0.9
	comp=Z,31nm,1.3s							
AVF	**Avril sur Loir**	83.49 316	*e*P		P		22 57 06.4	-0.9
	comp=Z,31nm,1.3s							
BGF	**Bois d'Agland**	83.86 316	*e*P		P		22 57 08.7	-0.5
	comp=Z,14nm,0.7s							
BGF	**Bois d'Agland**	83.86 316	*e*P		P		22 57 08.7	-0.5
	comp=Z,14nm,0.7s							
TCF	**Toulx Ste Croi**	84.32 316	*e*P		P		22 57 11.1	-0.5
TCF	**Toulx Ste Croi**	84.32 316	*e*P		P		22 57 11.1	-0.5
CAF	**Calviac**	84.55 314	*e*P		P		22 57 12.5	-0.3
	comp=Z,34nm,1.5s							
CAF	**Calviac**	84.55 314	*e*P		P		22 57 12.5	-0.3
	comp=Z,34nm,1.5s							
MTLF	**Montolieu**	84.59 313	*e*P		P		22 57 12.7	-0.3
	comp=Z,29nm,1.1s							
MTLF	**Montolieu**	84.59 313	*e*P		P		22 57 12.7	-0.3
	comp=Z,29nm,1.1s							
RJF	**Les Rejaudoux**	84.90 315	*e*P		P		22 57 14.3	-0.2
RJF	**Les Rejaudoux**	84.90 315	*e*P		P		22 57 14.3	-0.2
LFF	**La Frestale**	85.48 315	*e*P		P		22 57 17.3	-0.1
LFF	**La Frestale**	85.48 315	*e*P		P		22 57 17.3	-0.1
LDF	**La Druitiere**	85.66 318	*e*P		P		22 57 17.2	-1.0
	comp=Z,55nm,1.3s							
LDF	**La Druitiere**	85.66 318	*e*P		P		22 57 17.2	-1.0
	comp=Z,55nm,1.3s							
FLN	**La Foliniere**	85.88 318	*e*P		P		22 57 18.4	-0.9
FLN	**La Foliniere**	85.88 318	*e*P		P		22 57 18.4	-0.9
MFF	**Saint Martin d**	85.91 316	*e*P		P		22 57 18.7	-0.8
	comp=Z,42nm,1.3s							
MFF	**Saint Martin d**	85.91 316	*e*P		P		22 57 18.7	-0.8
	comp=Z,42nm,1.3s							
GAMB	**Gambell**	85.92 26	*e*P		P		22 57 18.7	-0.4
	comp=Z,24nm,1.0s							
EPF	**Esparros**	85.99 313	*e*P		P		22 57 19.2	-0.8
EPF	**Esparros**	85.99 313	*e*P		P		22 57 19.2	-0.8
ETSF	**Etsaut**	86.66 313	*e*P		P		22 57 23.3	-0.1
	comp=Z,12nm,0.9s							
ETSF	**Etsaut**	86.66 313	*e*P		P		22 57 23.3	-0.1
	comp=Z,12nm,0.9s							
SJPF	**Ste Jean**	87.11 313	*e*P		P		22 57 25.1	-0.4
	comp=Z,25nm,1.2s							
SJPF	**Ste Jean**	87.11 313	*e*P		P		22 57 25.1	-0.4
	comp=Z,25nm,1.2s							
DAG	**Danmarks Havn**	87.16 348	*i* P		P		22 57 23.6	-1.4
DAG	**Danmarks Havn**	87.16 348	*e*P		P		22 57 23.6	-1.4
RPZ	**Rata Peaks**	87.46 135	P		P		22 57 27.9	+0.8
	comp=Z,30nm,1.0s,baz=213,slow=0.8,SNR=5.6							
TOA0	**Torodi Ar. Sit**	88.55 283	*e*P		P		22 57 31.2	-1.7
TORD	**Torodi Ar. Bea**	88.55 283	P		P		22 57 33.5	+0.6
	comp=Z,2.0nm,1.2s,baz=72,slow=4.1,SNR=5.9							
ES19	**SONSECA Array**	89.62 310	*e*P		P		22 57 36.3	-1.2
ESDC	**Sonseca Array**	89.67 310	P		P		22 57 38.0	+0.2
	comp=Z,1.5nm,0.7s,baz=66,slow=4.2,SNR=12							
URZ	**Urewera**	90.92 128	P		P		22 57 43.6	+0.2
	comp=Z,11nm,0.8s,baz=298,slow=6.0,SNR=5.2							
MVO	**Moncorvo**	91.70 312	*e*P		P		22 57 48.6	+1.4
MVO	**Moncorvo**	91.70 312	*e*P		P		22 57 48.6	+1.4
PBAR	**Barrancos**	92.31 309	*e*P		P		22 57 51.3	+1.3
PBAR	**Barrancos**	92.31 309	*e*P		P		22 57 51.3	+1.3
IM04	**Indian Mountai**	92.56 22	*e*P		P		22 57 50.4	-0.2
VNDA	**Vanda**	93.22 168	P		P		22 57 53.6	+0.4
	comp=Z,0.9nm,0.8s,baz=314,slow=4.3,SNR=2.7							
VNDA			LR		LR		23 33 55.5	
	comp=Z,1μm,21.5s,baz=310,slow=32							
VNDA	**Vanda**	93.22 168	P		P		22 57 53.6	+0.4
VNDA			pmax	pmax				
	comp=Z,1.0nm,0.8s							
VNDA			MLR	MLR				
	comp=Z,1μm,21.5s							
SUMG	**Summit**	93.80 347	*i* P		P		22 58 06.7	+10
	comp=Z,11nm,1.0s							
SUMG	**Summit**	93.80 347	*e*P		P		22 58 06.7	+10
SUMG			pmax	pmax				
	comp=Z,11nm,1.0s							
MLY	**Manley**	94.12 22	*e*P		P		22 57 57.0	-0.8
	comp=Z,7.9nm,1.2s							
IL1	**Eielson Array**	95.68 22	*e*P		P		22 58 04.4	-0.5
ILAR	**Eielson Array**	95.68 22	P		P		22 58 04.2	-0.7
	comp=Z,1.5nm,0.7s,baz=302,slow=4.3,SNR=8.6							
ILAR			PP		PP		23 01 57.4	+1.5
	comp=Z,2.3nm,1.0s,baz=302,slow=7.9,SNR=4.6							
ILAR	**Eielson Array**	95.68 22	P		P		22 58 04.2	-0.7
ILAR							23 01 57.4	
ILAR			pmax	pmax				
	comp=Z,2.0nm,0.7s							
ILAR			pmax	pmax				
	comp=Z,2.0nm,1.0s							
RES	**Resolute Bay**	97.63 2	*e*P		P		22 58 13.4	0.0
	comp=Z,9.3nm,1.0s							
YKA	**Yellowknife Ar**	107.05 13	PP		PP		23 03 20.2	-1.2
	comp=Z,1.7nm,0.9s,baz=330,slow=7.5,SNR=5.4							
MSO	**Missoula**	120.99 20	*e*PKPdf		PKPdf		23 03 31.4	-0.8
MFID	**Camas Ranch**	123.18 24	*e*PKPdf		PKPdf		23 03 34.4	-2.2
HLID	**Hailey**	123.61 23	*e*PKPdf		PKPdf		23 03 36.1	-1.4
SNOW	**Snow King Moun**	125.03 20	*e*PKPdf		PKPdf		23 03 38.7	-1.6
REDW	**Red Top Meadow**	125.08 20	*e*PKPdf		PKPdf		23 03 40.0	-0.4
ELK	**Elko**	125.64 25	PKP		PKPdf		23 03 42.5	+0.9
	comp=Z,1.9nm,0.8s,baz=200,slow=3.5,SNR=6.4							
ELK	**Elko**	125.64 25	PKIKP		PKPdf		23 03 42.5	+0.9
ELK			pmax	pmax				
	comp=Z,2.0nm,0.8s							
BW06	**Boulder Array**	126.05 20	*e*PKPdf		PKPdf		23 03 40.8	-1.5
PDAR	**Pinedale Array**	126.05 20	PKP		PKPdf		23 03 42.6	+0.3
	comp=Z,2.2nm,1.0s,baz=29,slow=4.2,SNR=7.9							
NV01	**Mina Array Sit**	126.12 29	*e*PKPdf		PKPdf		23 03 42.3	-0.2
NVAR	**Mina Array Bea**	126.12 29	PKP		PKPdf		23 03 43.5	+1.0
	comp=Z,3.1nm,0.8s,baz=280,slow=3.3,SNR=14							
HWUT	**Hardware Ranch**	126.37 22	*e*PKPdf		PKPdf		23 03 41.0	-1.9
DUG	**Dugway, Tooele**	127.11 24	*e*PKPdf		PKPdf		23 03 41.9	-2.3
R11A	**Troy Canyon, C**	127.46 27	*e*PKPdf		PKPdf		23 03 44.0	-1.1
DAC	**Darwin (Calif)**	128.16 30	*e*PKPdf		PKPdf		23 03 45.3	-1.1
ECSD	**EROS Data Cent**	128.19 8	*e*PKPdf		PKPdf		23 03 43.9	-2.1
MVU	**Marysvale**	128.79 24	*e*PKPdf		PKPdf		23 03 45.0	-2.7
MSU	**Marysvale**	128.80 24	*e*PKPdf		PKPdf		23 03 45.2	-2.4
O20A	**White River Ci**	128.84 20	*e*PKPdf		PKPdf		23 03 46.0	-1.7
ANMO	**Albuquerque**	134.12 21	*e*PKPdf		PKPdf		23 03 56.3	-1.4
WVT	**Waverly**	136.38 360	*e*PKPdf		PKPdf		23 03 59.8	-1.8
MIAR	**Mount Ida**	137.63 7	*e*PKPdf		PKPdf		23 04 02.4	-1.7
TX31	**Lajitas Ar. Si**	140.19 22	*e*PKPdf		PKPdf		23 04 07.9	-1.1
TXAR	**Lajitas Array**	140.19 22	PKhKP		PKPpre		23 04 02.2	
	comp=Z,0.4nm,0.8s,baz=176,slow=1.9,SNR=3.5							
TXAR			PKP		PKPdf		23 04 09.1	+0.1
	comp=Z,1.1nm,0.8s,baz=240,slow=0.9,SNR=10							
TXAR	**Lajitas Array**	140.19 22	PKHKP		PKPpre		23 04 02.2	
TXAR							23 04 09.1	
TXAR			pmax	pmax				
	comp=Z,1.0nm,0.8s							
JCT	**Junction City**	140.37 16	*e*PKPdf		PKPdf		23 04 06.3	-2.9
CPUP	**Villa Florida**	145.46 234	*e*PKPbc		PKPbc		23 04 15.6	-2.6
HUMP	**Col San Antoni**	146.24 320	*e*PKPdf		PKPdf		23 04 16.5	-3.3
PTGA	**Pitinga**	151.19 283	*e*PKPdf		PKPdf		23 04 28.0	+0.1
CMIG	**Matias Romero**	154.42 15	PKPab		PKPab		23 04 54.5	-0.4
	comp=Z,4.2nm,0.7s,baz=0.0,slow=10,SNR=5.8							
LPAZ	**La Paz**	158.79 245	PKP		PKPdf		23 04 40.2	+1.2
	comp=Z,0.9nm,0.9s,baz=108,slow=3.2,SNR=3.1							
LPAZ			PKPab		PKPab		23 05 14.9	+0.2
	comp=Z,2.6nm,0.9s,baz=124,slow=6.0,SNR=4.8							
LPAZ	**La Paz**	158.79 245	PKIKP		PKPdf		23 04 40.2	+1.2
LPAZ			pmax	pmax				
	comp=Z,1.0nm,0.9s							
LPAZ			pmax	pmax				
	comp=Z,3.0nm,0.9s							
LPAZ	**La Paz**	158.79 245	*e*PKPdf		PKPdf		23 04 37.8	-1.1
LPAZ			PKPab		PKPab		23 05 14.9	+0.2

DDA **12** *22:47:57.7, 37.°73N×36.°10E, h7km, MD2.6*
ISK **12** *22:47:57.8, 37.°63N×36.°13E, h5km, MD2.8*
CSEM **12** *22:47:58.4±0.3, 37.°72N×36.°09E, h2km, MD2.8, Error ellipse: s-maj=8.7km s-min=5.5km az=141.0*
ISC 12 22:47:58.3±1.0, 37.72N±0.03×36.11E±0.03, h13km±7km, n20, σ0.66/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
ANDN	**Andirin**	0.24	126	*i* P		Pg	22 48 03.3	-0.1
ANDN				*i* S		Sg	22 48 07.2	+0.4
ANDN	**Andirin**	0.24	126	*i* P		Pg	22 48 03.3	-0.1
ANDN				*i* S		Sg	22 48 07.2	+0.4
KOZT	**Kozan**	0.33	223	*e*PG		Pg	22 48 04.7	-0.2
KOZT				*e*SG		Sg	22 48 09.6	+0.2
KOZT	**Kozan**	0.33	223	*e*Pg		Pg	22 48 04.7	-0.2
KOZT				*e*Sg		Sg	22 48 09.6	+0.2
KMRS	**Kahramanmaras**	0.67	109	*e*PG		Pg	22 48 10.7	-0.5
KMRS				*e*SG		Sb	22 48 20.7	-0.3
KMRS	**Kahramanmaras**	0.67	109	*e*Pg		Pg	22 48 10.7	-0.5
KMRS				*e*Sg		Sb	22 48 20.7	-0.3
KAMA	**Osmaniye**	0.70	140	*i* P		Pg	22 48 11.2	-0.6
KAMA				*i* S		Sb	22 48 22.3	+0.4
HCB	**Kahramanmara¯**	0.74	120	*i* P		Pg	22 48 12.3	-0.3
HCB				*i* S		Sg	22 48 21.9	-0.4
KARA	**Karaisali**	0.95	242	*e*PG		Pg	22 48 16.3	-0.4
KARA				*e*SG		Sn	22 48 30.9	0.0
KARA	**Karaisali**	0.95	242	*e*Pg		Pg	22 48 16.3	-0.4
KARA				*e*Sg		Sn	22 48 30.9	0.0
PINB	**Pinarbasi**	0.98	14	*i* P		Pg	22 48 16.2	-1.1
PINB				*i* S		Sg	22 48 30.5	+0.3
PINB	**Pinarbasi**	0.98	14	*i* P		Pg	22 48 16.2	-1.1
PINB				*i* S		Sg	22 48 30.5	+0.3
TAHT	**Tahtakopru-Hat**	1.34	177	*e*PN		Pn	22 48 23.0	+0.2
TAHT				*e*SN		Sn	22 48 41.2	+0.7
TAHT	**Tahtakopru-Hat**	1.34	177	*e*Pn		Pn	22 48 23.0	+0.2
TAHT				*e*Sn		Sn	22 48 41.2	+0.7
DARE	**Darende-Malaty**	1.38	52	*e*PN		Pg	22 48 26.0	+1.2
DARE	**Darende-Malaty**	1.38	52	*e*Pn		Pg	22 48 26.0	+1.2
MALT	**Malatya**	1.93	71	*e*PN		Pb	22 48 34.0	+0.7
MALT				*e*SN		Sg	22 48 59.2	-1.1
MALT	**Malatya**	1.93	71	*e*Pn		Pb	22 48 34.0	+0.7
MALT				*e*Sn		Sg	22 48 59.2	-1.1
URFA	**Urfa**	2.17	97	*e*PN		Pb	22 48 36.6	-1.0
URFA	**Urfa**	2.17	97	*e*Pn		Pb	22 48 36.6	-1.0

SZGRF **12** *22:57:46.8, 5.°51N×94.°31E, h33km, mb4.7, Northern Sumatera, Indonesia*
IDC **12** *22:57:57.3±0.6, 8.°03N×91.°98E, h0km, mb4.0/19, mb1 4.2/22, mb1mx4.0/53, mbtmp4.0/22, ML4.0/3, Error ellipse: s-maj=20.4km s-min=13.5km az=42.0*
NEIC **12** *22:57:59.4±3.0, 8.°04N×92.°21E, h22km±21km, mb4.9/19, Error ellipse: s-maj=11.9km s-min=6.7km az=54.0*
ISCJB **12** *22:58:01.4±1.0, 8.°14N±0.°05×92.°20E±0.°05, h45km±9km, mb4.6/82, MS5.1/1, Error ellipse: s-maj=10.4km s-min=6.1km az=139.6*
BJI **12** *22:58:03.3, 8.°10N×92.°30E, h31km, mb4.5/14, Ms5.0/2, Ms7 4.9/2*
MOS **12** *22:58:04.2±1.6, 8.°22N×92.°81E, h33km, mb4.5/23, Error ellipse: s-maj=14.6km s-min=7.1km az=121.9*
DJA **12** *22:58:08.7±0.3, 9.°N±3.°×9.°2E±.°, h10km, Ml4.8/12, mb4.8/12, mB6.1/1, Mw(mB)5.7/1*
ISC 12 22:58:00.7±0.5, 8.03N±0.°07×92.19E±0.°07, h26km±3km, h26km:pP-P, n238, σ1.9⁄44/172, mb4.7/79, 21C-11D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
CMBY	**CAMPBELL BAY**	2.00	120	*e*P		Pb	22 58 35.2	-1.3
PBA	**Port Blair**	3.64	9	*e*P		Pn	22 58 54.6	-0.8
DGPR	**DIGLIPUR**	5.17	8	*e*P		Pn	22 59 16.2	-0.2
DGPR				AMB	AMB		22 59 29.9	
	comp=Z,170nm,2.3s							
LHMI	**Lhok Sumawe**	5.49	120	P		Pb	22 59 34.0	-1.9
LHMI	**Lhok Sumawe**	5.49	120	*e*Pn		Pn	22 59 17.8	-3.0
PSI	**Prapat**	8.48	127	Pn		Pn	23 00 03.9	+1.8
	comp=Z,1.3nm,0.3s,baz=345,slow=11,SNR=4.0							
PSI	**Prapat**	8.48	127	P		Pn	23 00 03.9	+1.8
PSI				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PSI	**Prapat**	8.48	127	*e*Pn		Pn	23 00 02.0	-0.1
KULM	**Kulim**	8.84	107	*e*Pn		Pn	23 00 02.8	-4.1
IPM	**Ipoh**	9.47	111	*e*Pn		Pn	23 00 13.8	-1.7
PALK	**Pallekele**	11.41	267	Pn		Pn	23 00 37.3	-4.9
	comp=Z,1.1nm,0.3s,baz=87,slow=18,SNR=2.4							
PALK				Sn		Sn	23 02 27.8	-21
	comp=Z,1.5nm,0.3s,baz=103,slow=19,SNR=7.7							
CMAR	**Chiang Mai Arr**	12.27	32	Pn		Pn	23 00 55.4	+1.5
	comp=Z,0.2nm,0.3s,baz=233,slow=15,SNR=14							
CHTO	**Chiang Mai**	12.57	31	*e*Pn		Pn	23 00 57.2	-0.7
VIS	**Vishakhapatnam**	12.93	319	*ex*		Pn	23 00 57.4	-5.5
VIS				AMB	AMB		23 01 25.6	
	comp=Z,78nm,0.9s							
HYB	**Hyderabad**	16.23	306	*e*P		P	23 01 49.5	-0.6
HYB				AMB	AMB		23 02 04.8	
	comp=Z,131nm,1.9s							
LHSI	**Lahat**	16.33	136	P		P	23 01 50.6	-0.5
BOK	**Bokaro**	16.80	340	*e*P		Pn	23 01 52.5	-1.8
BOK				AMB	AMB		23 02 04.6	
	comp=Z,19nm,1.0s							
MDSI	**Maura Dua**	17.25	136	P		P	23 02 02.7	+1.4
SHL	**Shillong**	17.44	359	*e*P		Pn	23 02 01.4	-1.0
SHL				AMB	AMB		23 02 25.5	
	comp=Z,14nm,0.6s							
NGP	**Nagpur**	18.19	317	*e*P		Pn	23 02 10.3	-1.3
KASI	**Kota Agung**	18.22	137	P		sP	23 02 25.0	+2.5
	comp=Z,45nm,1.0s							
ODAN	**Odare**	19.27	347	*e*P		Pn	23 02 24.6	-0.3
	comp=Z,27nm,0.6s							
AKL	**Akola**	19.33	312	*e*P		Pn	23 02 26.3	+0.8
GOA	**Goa**	19.43	294	*e*P		P	23 02 25.7	+0.3
RAMN	**Ramite**	19.55	345	*e*P		Pn	23 02 30.7	+2.5
	comp=Z,33nm,0.5s							
TAPN	**Taplejung**	19.68	348	*e*P		P	23 02 27.0	-1.3
	comp=Z,147nm,1.4s							
KMI	**Kunming**	19.76	29	P		Pn	23 02 32.3	+1.6
KMI				pP		pP	23 02 40.5	+4.3
KMI				PMZ				
	comp=Z,12nm,1.3s							
CGJI	**Cibinong**	19.83	137	P		Pn	23 02 45.9	+15
	comp=Z,76nm,1.2s							
JIRN	**Jiri**	20.33	345	*e*P		Pn	23 02 37.9	+0.2
	comp=Z,56nm,0.9s							
DMN	**Daman**	20.59	342	*e*P		Pn	23 02 44.6	+4.0
	comp=Z,50nm,0.7s							
GUN	**Gumba**	20.65	344	*e*P		P	23 02 39.9	+1.0
	comp=Z,124nm,1.1s							
SBUM	**Sibu**	20.70	104	*e*P		P	23 02 38.9	-0.2
	comp=Z,35nm,1.2s							
KKN	**Kakani**	20.71	342	*e*P		Pn	23 02 42.4	+0.5
	comp=Z,39nm,0.9s							
STKI	**Sintang**	20.79	111	P		Pn	23 02 42.4	-0.3
GKN	**Gorkha**	21.11	341	*e*P		P	23 02 47.1	+3.5
	comp=Z,64nm,0.8s							
KOLN	**Koldanda**	21.25	339	*e*P		P	23 02 52.8	+7.6
	comp=Z,56nm,0.9s							
LSA	**Lhasa**	21.58	358	*e*P		P	23 02 47.7	-1.3
	comp=Z,26nm,0.9s							
GYA	**Guiyang**	22.91	35	⇑ *i* P		P	23 03 02.6	-0.3
GYA				PMZ				
	comp=Z,20

WRA	**Warramunga Arr**	**49.94 124**	P	**P**	**23 06 53.9**	**+1.1**
	comp=Z,4.0nm,0.8s,baz=306,slow=8.4,SNR=14					
WRA	**Warramunga Arr**	**49.94 124**	P	**P**	**23 06 53.9**	**+1.1**
WRA			pmax	pmax		
	comp=Z,4.0nm,0.8s					
WRAB	**Tennant Creek**	**49.94 124**⇑	*e*P	**pP**	**23 07 02.0**	**+1.2**
WRAB			pmax	pmax		
	comp=Z,43nm,1.7s					
MJAR	**Matsushiro Arr**	**50.50 49**	P	**P**	**23 06 59.3**	**+2.5**
	baz=210,slow=5.1					
ASAR	**Alice Springs**	**51.51 129**	P	**P**	**23 07 06.2**	**+1.7**
	comp=Z,2.2nm,0.8s,baz=304,slow=7.2,SNR=16					
ASAR			PcP	**PcP**	**23 08 20.3**	**+1.7**
	comp=Z,0.8nm,0.9s,baz=316,slow=3.9,SNR=2.3					
ASAR	**Alice Springs**	**51.51 129**	P	**P**	**23 07 06.3**	**+1.7**
ASAR					23 08 20.3	
ASAR			pmax	pmax		
	comp=Z,2.0nm,0.8s					
ASAR			pmax	pmax		
	comp=Z,1.0nm,0.9s					
AS01	**Alice Springs**	**51.55 129**	*e*P	**P**	**23 07 04.6**	**-0.3**
BOD	**Bodaibo**	**52.46 15**	*e*P	**P**	**23 07 10.4**	**-0.7**
BOD			pmax	pmax		
	comp=Z,13nm,0.9s					
GNI	**Garni**	**52.95 315**⇑	*e*P	**pP**	**23 07 22.2**	**-1.1**
GNI			pmax	pmax		
	comp=Z,11nm,1.0s					
SVE	**Sverdlovsk**	**54.56 339**	*e*P	**P**	**23 07 26.3**	**-0.2**
SVE			pmax	pmax		
	comp=Z,46nm,1.1s					
ARU	**Arti**	**55.00 338**	*d i*P	**pP**	**23 07 36.3**	**-1.5**
ARU					23 09 40.4	
ARU			S	**S**	**23 15 14.5**	**+4.3**
ARU			pmax	pmax		
	comp=Z,17nm,1.2s					
ARU	**Arti**	**55.00 338**	*e*P	**P**	**23 07 29.6**	**-0.1**
	comp=Z,12nm,1.0s					
NCK	**Nalchik**	**55.12 318**⇑	*e*P	P	23 07 37.5	+6.7
KMBO	**Kilima Mbogo**	**55.52 263**	P	**P**	**23 07 34.9**	**+0.4**
	comp=Z,4.3nm,0.8s,baz=67,slow=8.6,SNR=3.6					
KMBO	**Kilima Mbogo**	**55.52 263**	*ce*P	P	23 07 37.7	+3.2
KMBO			pmax	pmax		
	comp=Z,4.0nm,0.7s					
KMBO	**Kilima Mbogo**	**55.52 263**	*e*P	**P**	**23 07 34.2**	**-0.3**
	comp=Z,17nm,0.8s					
NEY	**Neytrino**	**55.59 318**	*e*P	**pP**	**23 07 42.0**	**-0.6**
NEY			pmax	pmax		
	comp=Z,1.0nm,1.0s					
KIV	**Kislovodsk**	**55.91 318**⇑	*e*P	P	23 07 43.0	+6.4
KIV			*e*		23 09 47.9	
KIV			*e*S	S	23 15 36.7	+14
KIV			*e*SS	SS	23 19 19.7	+11
KIV			pmax	pmax		
	comp=Z,14nm,1.0s					
ASAJ	**Asahikawa**	**56.58 42**	P	**P**	**23 07 44.1**	**+2.9**
	comp=Z,1.3nm,0.5s,baz=229,slow=11					
ASAJ	**Asahikawa**	**56.58 42**	P	**P**	**23 07 44.1**	**+2.9**
ASAJ			pmax	pmax		
	comp=Z,1.0nm,0.5s					
YAK	**Yakutsk**	**60.47 19**	*e*P	**pP**	**23 08 15.9**	**-0.3**
YAK			pmax	pmax		
	comp=Z,9.0nm,0.5s					
BRTR	**Keskin Array B**	**60.86 311**	P	**P**	**23 08 09.3**	**-2.1**
	comp=Z,1.1nm,0.9s,baz=120,slow=7.3,SNR=6.3					
BRTR	**Keskin Array B**	**60.86 311**	*ce*P	P	23 08 16.7	+5.3
BRTR			pmax	pmax		
	comp=Z,5.0nm,0.8s					
STKA	**Stephens Creek**	**61.62 133**	P	**P**	**23 08 17.9**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=304,slow=5.2,SNR=4.7					
STKA	**Stephens Creek**	**61.62 133**	P	**P**	**23 08 17.9**	**+1.5**
STKA			pmax	pmax		
	comp=Z,2.0nm,0.7s					
PRGR	**Permogore**	**63.44 337**	P	P	23 08 33.2	+5.2
PRGR			pmax	pmax		
	comp=Z,7.0nm,0.7s					
OBN	**Obninsk**	**64.22 328**⇓	*e*P	P	23 08 39.6	+6.4
OBN			*e*		23 09 15.3	
OBN			*e*		23 11 01.7	
OBN			pmax	pmax		
	comp=Z,8.0nm,0.9s					
OBN			MLR	MLR		
	comp=Z,1μm,17.0s					
TIRR	**Tirgusor**	**65.78 315** ⇓	*i*P	P	23 08 49.8	+6.2
TIRR	**Tirgusor**	**65.78 315** ⇓	*i*P	P	23 08 49.8	+6.2
TLB	**Topalu**	**66.06 315** ⇓	P	P	23 08 52.0	+6.6
TLB	**Topalu**	**66.06 315** ⇓	*i*P	P	23 08 52.0	+6.6
CFR	**Carcaliu**	**66.13 316** ⇑	*i*P	P	23 08 52.2	+6.3
CFR	**Carcaliu**	**66.13 316** ⇑	*i*P	P	23 08 52.2	+6.3
AKASG	**Malin Array Be**	**66.83 322**	*ce*P	P	23 08 56.0	+5.8
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.7s					
PLOR	**Plostina**	**67.30 316** ⇑	P	pP	23 09 00.6	-1.1
PLOR	**Plostina**	**67.30 316** ⇑	*i*P	P	23 09 00.6	+7.2
TESR	**Tescani**	**67.44 317** ⇓	*i*P	P	23 09 00.9	+6.7
TIXI	**Tiksi**	**67.47 12**	*d i*P	**pP**	**23 09 02.0**	**-0.1**
TIXI			pmax	pmax		
	comp=Z,24nm,1.0s					
TIXI	**Tiksi**	**67.47 12**	*e*P	**P**	**23 08 52.6**	**-1.2**
	comp=Z,19nm,0.7s					
MLR	**Muntele Rosu**	**67.71 316**	P	**P**	**23 08 56.2**	**+0.1**
	comp=Z,0.8nm,1.1s,baz=104,slow=4.9					
MLR	**Muntele Rosu**	**67.71 316**	P	**P**	**23 08 56.2**	**+0.1**
MLR			pmax	pmax		
	comp=Z,1.0nm,1.1s					
MLR	**Muntele Rosu**	**67.71 316** ⇓	*i*P	P	23 09 03.4	+7.3
ARR	**Arges**	**68.59 316** ⇑	*i*P	P	23 09 08.4	+6.8
BURAR	**Bucovina Array**	**68.63 318** ⇓	P	pP	23 09 09.3	-0.8
BURAR	**Bucovina Array**	**68.63 318** ⇓	*i*P	P	23 09 09.3	+7.5
BUR04	**Bucovina Ar. S**	**68.64 318**	*e*P	**P**	**23 09 00.4**	**-1.4**
LOT	**Lotru**	**69.20 316** ⇑	*i*P	P	23 09 08.7	+3.3
AGG	**Agios Georgios**	**69.35 309**	*e*P	**P**	**23 09 06.2**	**-0.1**
	comp=Z,4.7nm,0.9s					
SEY	**Seymchan**	**69.60 25**	*ce*P	P	23 09 17.8	+10
DRGR		**70.16 317** ⇑	P	P	23 09 17.1	+5.9
DRGR		**70.16 317** ⇑	*i*P	P	23 09 17.1	+5.9
KOLS	**Kolonicke sedl**	**70.81 319**	*e*P	P	23 09 22.1	+7.0
KOLS			pmax	pmax		
	comp=Z,6.0nm,1.2s					
KOLS	**Kolonicke sedl**	**70.81 319**	*ep*P	P	23 09 22.1	+7.0
STHS	**Stebnicka Huta**	**71.56 319**	*e*P	P	23 09 26.4	+6.8
STHS			pmax	pmax		
	comp=Z,3.0nm,0.8s					
STHS	**Stebnicka Huta**	**71.56 319**	*ep*P	P	23 09 26.4	+6.8
FINES	**FINESS Array B**	**71.67 332**	*i*P	P	23 09 26.2	+6.2
FINES			pmax	pmax		
	comp=Z,3.0nm,0.8s					
DIVS	**Divibare**	**71.67 314** ⇑	*i*P	P	23 09 26.8	+6.3
KECS	**Kecovo**	**71.91 318**	*e*P	P	23 09 26.5	+4.8
KECS			pmax	pmax		
	comp=Z,2.0nm,1.0s					
KECS	**Kecovo**	**71.91 318**	*ep*P	**P**	**23 09 26.5**	**+4.8**
PKSM	**Moragy**	**72.86 316** ⇑	P	P	23 09 33.4	+6.0
PKSM	**Moragy**	**72.86 316** ⇑	*i*P	P	23 09 33.4	+6.0
OKC	**Ostrava-Krasne**	**73.61 320**	*ep*P	pP	23 09 38.5	-1.6
OKC	**Ostrava-Krasne**	**73.61 320**	*e*P	pP	23 09 38.5	-1.6
CEL	**Celeste**	**74.32 307**	*e*P	**P**	**23 09 35.0**	**-1.2**
	comp=Z,19nm,0.9s					
DPC	**Dobruska-Polom**	**74.84 320**	*ep*P	**pP**	**23 09 46.2**	**-1.2**
DPC			*ex*	x	23 09 58.5	
DPC	**Dobruska-Polom**	**74.84 320**	*e*P	**pP**	**23 09 46.2**	**-1.2**
DPC			*e*		23 09 58.5	
UPC	**Upice**	**75.05 320**	*ep*P	pP	23 09 47.8	-0.8
UPC	**Upice**	**75.05 320**	*e*P	pP	23 09 47.8	-0.8
TREC	**Trest**	**75.28 319**	*ep*P	pP	23 09 48.1	-1.8
TREC	**Trest**	**75.28 319**	*e*P	pP	23 09 48.1	-1.8
PRU	**Pruhonice**	**75.95 319**	*e*P	**P**	**23 09 48.5**	**+3.2**
PRU			*ep*P	**pP**	**23 09 52.8**	**-0.9**
PRU	**Pruhonice**	**75.95 319**	*e*P	**P**	**23 09 48.5**	**+3.2**
PRA	**Prague**	**76.03 320**	*ep*P	pP	23 09 52.8	-1.3
PRA	**Prague**	**76.03 320**	*e*P	pP	23 09 52.8	-1.3
BRG	**Berggiesshubel**	**76.39 320**	*e*P	P	23 09 51.1	+3.2
	comp=Z,24nm,1.8s					
BRG	**Berggiesshubel**	**76.39 320**	*e*P	P	23 09 51.1	+3.2
BRG			pmax	pmax		
	comp=Z,24nm,1.8s					
GEC2	**GERESS Array S**	**76.42 318**	*e*P	**P**	**23 09 47.5**	**-0.7**
GERES	**GERESS Array B**	**76.42 318**	P	**P**	**23 09 48.1**	**0.0**
	comp=Z,1.2nm,0.8s,baz=76,slow=5.6,SNR=8.2					
GERES	**GERESS Array B**	**76.42 318**	P	**P**	**23 09 48.2**	**0.0**
GERES			pmax	pmax		
	comp=Z,1.0nm,0.8s					
KHC	**Kasperske Hory**	**76.52 319**	*e*P	**P**	**23 09 50.7**	**+2.0**
KHC			*ep*P	**pP**	**23 09 55.7**	**-1.3**
KHC	**Kasperske Hory**	**76.52 319**	*e*P	**P**	**23 09 50.7**	**+2.0**
KHC			*e*		23 09 55.7	
KHC	**Kasperske Hory**	**76.52 319**	*e*P	**P**	**23 09 47.0**	**-1.6**
	comp=Z,1.8nm,0.9s					
CLL	**Collm**	**77.02 321**	*e*P	P	23 09 58.0	+6.7
CLL			pmax	pmax		
	comp=Z,9.0nm,1.1s					
CLL	**Collm**	**77.02 321**	*e*P	**P**	**23 09 49.6**	**-1.7**
	comp=Z,9.4nm,1.1s					
GRF	**Grafenberg Arr**	**78.08 319**	*e*P	P	23 10 05.1	+7.7
	comp=Z,7.0nm,0.8s					
NB2	**NORSAR Subarra**	**78.64 331**	P	P	23 10 06.6	+6.3
	comp=Z,2.0nm,0.7s,baz=94,slow=5.3					
DAVOX	**Davos/Dischmat**	**78.93 316**	P	**P**	**23 10 02.4**	**0.0**
	comp=Z,2.3nm,0.7s,baz=149,slow=14,SNR=2.9					
DAVOX	**Davos/Dischmat**	**78.93 316**	P	**P**	**23 10 02.4**	**0.0**
DAVOX			pmax	pmax		
	comp=Z,2.0nm,0.7s					
KEST	**Kesra**	**79.56 305**	P	**P**	**23 10 06.3**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=111,slow=8.6,SNR=2.8					
PGF	**Pioggiola**	**79.61 312**	*e*P	**P**	**23 10 05.0**	**-1.0**
	comp=Z,15nm,1.0s					
PGF	**Pioggiola**	**79.61 312**	*e*P	**P**	**23 10 05.0**	**-1.0**
BFO	**Black Forest**	**79.97 318**	*i*P	P	23 10 15.3	+7.5
BFO	**Black Forest**	**79.97 318**	*e*P	**P**	**23 10 06.3**	**-1.5**
	comp=Z,8.8nm,1.2s					
CDF	**Champ du Feu**	**80.67 318**	*e*P	**P**	**23 10 10.4**	**-1.2**
	comp=Z,4.9nm,0.8s					
CDF	**Champ du Feu**	**80.67 318**	*e*P	**P**	**23 10 10.4**	**-1.2**
SBF	**Sospel**	**80.71 313**	*e*P	**P**	**23 10 10.9**	**-1.0**
	comp=Z,22nm,0.8s					
SBF	**Sospel**	**80.71 313**	*e*P	**P**	**23 10 10.9**	**-1.0**
LPG	**La Plagne**	**81.14 315**	*e*P	**P**	**23 10 13.7**	**-0.7**
	comp=Z,28nm,0.9s					
LPG	**La Plagne**	**81.14 315**	*e*P	**P**	**23 10 13.7**	**-0.7**
LPL	**La Plagne**	**81.15 315**	*e*P	**P**	**23 10 13.7**	**-0.7**
	comp=Z,43nm,1.0s					
LPL	**La Plagne**	**81.15 315**	*e*P	**P**	**23 10 13.7**	**-0.7**
MBDF	**Montbardon**	**81.15 314**	*e*P	**P**	**23 10 13.7**	**-0.7**
	comp=Z,18nm,1.0s					
MBDF	**Montbardon**	**81.15 314**	*e*P	**P**	**23 10 13.7**	**-0.7**
FRF	**La Foret Royal**	**81.30 313**	*e*P	**P**	**23 10 14.2**	**-0.8**
	comp=Z,20nm,1.0s					
FRF	**La Foret Royal**	**81.30 313**	*e*P	**P**	**23 10 14.2**	**-0.8**
HAU	**Haudompre**	**81.31 317**	*e*P	**P**	**23 10 13.8**	**-1.2**
	comp=Z,18nm,0.9s					
HAU	**Haudompre**	**81.31 317**	*e*P	**P**	**23 10 13.8**	**-1.2**
LMR	**La Mourre**	**81.41 313**	*e*P	**P**	**23 10 14.7**	**-0.8**
	comp=Z,18nm,1.0s					
LMR	**La Mourre**	**81.41 313**	*e*P	**P**	**23 10 14.7**	**-0.8**
CABF	**La Chapelle**	**81.55 316**	*e*P	**P**	**23 10 15.7**	**-0.6**
	comp=Z,15nm,0.9s					
CABF	**La Chapelle**	**81.55 316**	*e*P	**P**	**23 10 15.7**	**-0.6**
PAGF	**Fort de Pagny**	**81.70 318**	*e*P	**P**	**23 10 15.9**	**-1.1**
	comp=Z,3.4nm,0.9s					
PAGF	**Fort de Pagny**	**81.70 318**	*e*P	**P**	**23 10 15.9**	**-1.1**
ORIF	**Oris-en-Rattie**	**81.78 314**	*e*P	**P**	**23 10 16.3**	**-1.3**
	comp=Z,18nm,1.0s					
ORIF	**Oris-en-Rattie**	**81.78 314**	*e*P	**P**	**23 10 16.3**	**-1.3**
SMRF	**Simiane la Rot**	**82.05 313**	*e*P	**P**	**23 10 18.7**	**-0.3**
	comp=Z,18nm,1.0s					
SMRF	**Simiane la Rot**	**82.05 313**	*e*P	**P**	**23 10 18.7**	**-0.3**
MEZF	**Maizieres J'vi**	**82.15 318**	*e*P	**P**	**23 10 18.4**	**-0.9**
MEZF	**Maizieres J'vi**	**82.15 318**	*e*P	**P**	**23 10 18.4**	**-0.9**
SFTF	**Sexfontaines**	**82.18 318**	*e*P	**P**	**23 10 18.5**	**-1.0**
	comp=Z,20nm,0.9s					
SFTF	**Sexfontaines**	**82.18 318**	*e*P	**P**	**23 10 18.5**	**-1.0**
BAIF	**Baives**	**82.61 319**	*e*P	**P**	**23 10 21.0**	**-0.7**
	comp=Z,23nm,1.2s					
BAIF	**Baives**	**82.61 319**	*e*P	**P**	**23 10 21.0**	**-0.7**
VIVF	**Saint-Julien-l**	**82.64 314**	*e*P	**P**	**23 10 21.3**	**-0.7**
	comp=Z,16nm,0.9s					
VIVF	**Saint-Julien-l**	**82.64 314**	*e*P	**P**	**23 10 21.3**	**-0.7**
LOR	**Lormes**	**83.03 317**	*e*P	**P**	**23 10 22.9**	**-1.1**
	comp=Z,29nm,1.1s					
LOR	**Lormes**	**83.03 317**	*e*P	**P**	**23 10 22.9**	**-1.1**
SMF	**Signal de Mont**	**83.09 316**	*e*P	**P**	**23 10 23.1**	**-1.2**
	comp=Z,9.3nm,0.9s					
SMF	**Signal de Mont**	**83.09 316**	*e*P	**P**	**23 10 23.1**	**-1.2**
LASF	**Ste Croix**	**83.28 313**	*e*P	**P**	**23 10 25.0**	**-0.3**
	comp=Z,19nm,1.1s					
LASF	**Ste Croix**	**83.28 313**	*e*P	**P**	**23 10 25.0**	**-0.3**
SSF	**Saint Saulge**	**83.29 317**	*e*P	**P**	**23 10 24.4**	**-0.9**
	comp=Z,9.1nm,1.1s					
SSF	**Saint Saulge**	**83.29 317**	*e*P	**P**	**23 10 24.4**	**-0.9**
AVF	**Avril sur Loir**	**83.41 316**	*e*P	**P**	**23 10 25.0**	**-0.9**
	comp=Z,11nm,1.0s					
AVF	**Avril sur Loir**	**83.41 316**	*e*P	**P**	**23 10 25.0**	**-0.9**
BGF	**Bois d'Agland**	**83.78 316**	*e*P	**P**	**23 10 27.2**	**-0.6**
	comp=Z,18nm,1.2s					
BGF	**Bois d'Agland**	**83.78 316**	*e*P	**P**	**23 10 27.2**	**-0.6**
MTLF	**Montolieu**	**84.53 313**	*e*P	**P**	**23 10 31.2**	**-0.5**
	comp=Z,9.2nm,0.9s					
MTLF	**Montolieu**	**84.53 313**	*e*P	**P**	**23 10 31.2**	**-0.5**
RJF	**Les Rejaudoux**	**84.83 315**	*e*P	**P**	**23 10 31.9**	**-1.3**
	comp=Z,24nm,1.2s					
RJF	**Les Rejaudoux**	**84.83 315**	*e*P	**P**	**23 10 31.9**	**-1.3**
LDF	**La Druitiere**	**85.57 318**	*e*P	**P**	**23 10 35.7**	**-1.1**
	comp=Z,22nm,1.1s					
LDF	**La Druitiere**	**85.57 318**	*e*P	**P**	**23 10 35.7**	**-1.1**
MFF	**Saint Martin d**	**85.83 316**	*e*P	**P**	**23 10 37.2**	**-0.9**
	comp=Z,23nm,1.1s					
MFF	**Saint Martin d**	**85.83 316**	*e*P	**P**	**23 10 37.2**	**-0.9**
EKA	**Eskdalemuir Ar**	**86.49 325**	P	**P**	**23 10 43.3**	**+2.1**
	comp=Z,1.8nm,0.9s,baz=111,slow=5.7,SNR=3.7					
EKA	**Eskdalemuir Ar**	**86.49 325**	P	**P**	**23 10 43.3**	**+2.1**
EKA			pmax	pmax		
	comp=Z,2.0nm,0.9s					
ES19	**SONSECA Array**	**89.58 310**	*e*P	**P**	**23 10 53.8**	**-2.6**
ESDC	**Sonseca Array**	**89.63 310**	P	**P**	**23 10 56.2**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=58,slow=4.0,SNR=3.3					
CAST	**Castle Rocks**	**93.98 24**	*e*P	**P**	**23 11 14.0**	**-2.3**
	comp=Z,8.2nm,0.5s					
ILAR	**Eielson Array**	**95.32 22**	P	**P**	**23 11 21.6**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=307,slow=4.4,SNR=4.2					
INK	**Inuvik**	**97.37 16**	*e*P	P	23 11 28.2	-3.3
	comp=Z,7.8nm,0.8s					
PDAR	**Pinedale Array**	**125.69 20**	PKP	**PKPdf**	**23 17 01.8**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=336,slow=2.0,SNR=4.1					
TXAR	**Lajitas Array**	**139.84 22**	PKP	**PKPdf**	**23 17 30.8**	**+3.4**
	comp=Z,0.3nm,0.9s,baz=270,slow=1.8,SNR=3.0					

MEX 12 22:58:29.3±0.6, 15.48N×97.49W, h15km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.09**	**326**	*i* P	Pb	22 58 47.2	-2.8
PNIG				*e*S	Sb	22 58 59.6	-4.5
HUIG	**Huatulco**	**1.36**	**78**	*e*P	Pn	22 58 50.0	-3.9
HUIG				*i* S	Sn	22 59 06.6	-5.1
VHO	**Vista Hermosa**	**1.74**	**25**	*e*P	Pn	22 58 55.9	-3.5
VHO				*e*S	Sn	22 59 16.6	-4.9
VHO				*e*S	Sn	22 59 16.8	-4.7
OXX	**Oaxaca**	**1.75**	**25**	*i* P	Pn	22 58 56.5	-3.0
OXX				*i* S	Sn	22 59 16.0	-5.8
TLIG	**Tlapa**	**2.31**	**334**	*e*P	Pn	22 59 03.4	-3.6
TLIG				*i* S	Sn	22 59 30.3	-5.1
CMIG	**Matias Romero**	**2.97**	**57**	*e*P	Pn	22 59 13.4	-2.6
CMIG				*i* S	Sn	22 59 47.2	-4.2
CAIG	**El Cayaco**	**3.09**	**301**	*i* P	Pn	22 59 14.4	-3.1
CAIG				*i* S	Sn	22 59 49.8	-4.4

IDC 12 23:04:24.9±1.3, 7.83N×91.91E, h0km, mb3.4/3, mb1 3.9/6, mb1mx3.5/43, mbtmp3.7/6, ML3.9/2, Error ellipse: s-maj=44.9km s-min=24.4km az=34.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.59**	**125**	Pn	Pn	23 06 32.1	+1.4
	1.1nm,0.3s,baz=310,slow=7.9,SNR=2.8						
PALK	**Pallekele**	**11.12**	**268**	Pn	Pn	23 07 06.0	+0.6
	1.2nm,0.3s,baz=86,slow=13,SNR=6.1						
PALK				Sn	Sn	23 08 55.3	-15
	1.9nm,0.3s,baz=184,slow=19,SNR=8.5						
CMAR	**Chiang Mai Arr**	**12.58**	**32**	Pn	Pn	23 07 25.4	+0.1
	baz=230,slow=14,SNR=4.3						
H08S3	**Diego Garcia H**	**24.72**	**232**	T	T	23 35 57.2	
	baz=51,slow=76,SNR=2.6						
H08S2	**Diego Garcia H**	**24.72**	**232**	T	T	23 35 57.2	
	baz=51,slow=76,SNR=3.2						
H08S1	**Diego Carcia H**	**24.74**	**232**	T	T	23 35 57.2	
	baz=51,slow=76,SNR=3.3						
WRA	**Warramunga Arr**	**50.05**	**124**	P	P	23 13 21.3	-0.5
	0.4nm,0.3s,baz=299,slow=8.5,SNR=3.1						
ASAR	**Alice Springs**	**51.60**	**128**	P	P	23 13 33.4	-0.1
	1.2nm,1.2s,baz=302,slow=7.3,SNR=3.2						

IDC 12 23:05:33.0±3.4, 5.79S×150.68E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.3/27, mbtmp3.4/2, Error ellipse: s-maj=133.0km s-min=45.0km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.22**	**227**	P	P	23 10 20.8	+0.2
	0.7nm,0.5s,baz=52,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**24.02**	**221**	P	P	23 10 49.6	-0.2
	0.5nm,0.5s,baz=57,slow=9.2,SNR=17						
TORD	**Torodi Ar. Bea**	**148.57**	**286**	PKPbc	PKPbc	23 25 22.5	-0.6
	0.4nm,0.6s,baz=59,slow=2.9,SNR=3.6						

IDC 12 23:10:03.5±1.5, 7.63N×91.97E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/34, mbtmp3.5/6, ML3.7/1, Error ellipse: s-maj=44.3km s-min=27.7km az=50.0
ISCJB 12 23:10:05.5±1.2, 7.7N±0.2×92.1E±0.2, h24km, mb3.4/5, Error ellipse: s-maj=26.2km s-min=24.0km az=155.7
ISC 12 23:10:07.3±1.4, 7.7N±0.2×92.0E±0.2, h24km, n9, σ0.954/6, mb3.6/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.67**	**31**	Pn	**Pn**	**23 13 06.3**	**+0.1**
	0.1nm,0.3s,baz=233,slow=15,SNR=3.6						
H08S3	**Diego Garcia H**	**24.70**	**232**	T	T	23 41 45.8	
	baz=52						
H08S2	**Diego Garcia H**	**24.70**	**232**	T	T	23 41 44.1	
	baz=52						
H08S1	**Diego Carcia H**	**24.72**	**232**	T	T	23 41 48.1	
	baz=52						
MKAR	**Makanchi Array**	**39.88**	**350**	P	**P**	**23 17 39.3**	**+0.2**
	0.2nm,0.5s,baz=170,slow=8.3,SNR=3.0						
SONM	**Songino Array**	**41.86**	**15**	P	**P**	**23 17 55.3**	**-0.3**
	0.5nm,0.7s,baz=200,slow=8.0,SNR=4.5						
WRA	**Warramunga Arr**	**49.87**	**124**	P	**P**	**23 18 59.2**	**+0.1**
	0.6nm,0.8s,baz=304,slow=9.4,SNR=2.4						
BRTR	**Keskin Array B**	**60.98**	**311**	P	**P**	**23 20 19.6**	**+0.6**
	0.3nm,0.6s,baz=104,slow=6.1,SNR=3.6						
GERES	**GERESS Array B**	**76.58**	**318**	P	**P**	**23 21 55.4**	**-0.6**
	0.5nm,0.9s,baz=91,slow=4.3,SNR=4.8						

IDC 12 23:25:53.0±0.7, 29.22S×68.34W, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.8/33, mbtmp4.0/6, ML3.3/1, Error ellipse: s-maj=38.7km s-min=14.9km az=87.0
SJA 12 23:25:53.6±1.8, 29.18S×68.36W, h5km±9km, ML3.9, MW4.1
ISCJB 12 23:25:54.9±0.4, 29.08S±0.03×68.26W±0.05, h10km, mb4.0/4, Error ellipse: s-maj=6.9km s-min=4.6km az=5.4
NEIC 12 23:25:54.0, 29.18S×68.36W, h5km, MD4.0(SJA), After SJA.
NEIC Felt [IV] at Villa Union.
ISC 12 23:25:54.2±0.6, 29.25S±0.04×68.30W±0.04, h10km, n36, σ1.832/38, mb4.2/4, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACLC	**CERRO LA CRUZ**	**1.19**	**99**	*e*P	**Pn**	**23 26 17.4**	**+0.3**
AVFE	**Valle Fertil**	**1.58**	**153**	AML	AML	23 26 50.8	
	comp=Z,2μm,0.3s						
RTLL	**Cerro Villicun**	**2.07**	**184**	*e*P	**Pn**	**23 26 30.7**	**+1.6**
LCO	**Las Campanas**	**2.12**	**276**	*e*Pn	**Pb**	**23 26 32.6**	**-0.2**
LCO	**Las Campanas**	**2.12**	**276**	*e*P	**Pn**	**23 26 30.8**	**+0.9**
LCO				*e*S	**Sb**	**23 26 59.5**	**+0.2**
SJA	**San Juan**	**2.28**	**186**	*e*P	**Pb**	**23 26 35.9**	**+0.5**
CYA	**Choya**	**2.33**	**70**	*e*P	**Pb**	**23 26 35.3**	**-1.1**
CYA				*e*S	**Sb**	**23 27 07.0**	**+1.7**
CYA				AML	AML	23 27 12.8	
	comp=Z,531nm,0.7s						
CFAA	**Coronel Fontan**	**2.34**	**179**	Pn	**Pn**	**23 26 35.0**	**+2.2**
	comp=Z,6.4nm,0.3s,baz=4.3,slow=12,SNR=262						
CFAA				Pg	**Pb**	**23 26 37.2**	**+0.6**
	comp=Z,6.6nm,0.3s,baz=358,slow=18,SNR=312						
CFAA				Lg	Lg	23 27 07.2	
	comp=Z,49nm,0.3s,baz=258,slow=20,SNR=51						
CFAA	**Coronel Fontan**	**2.34**	**179**	*e*P	**Pb**	**23 26 35.9**	**-0.7**
CFAA				*e*S	**Sb**	**23 27 07.4**	**+1.8**
RTCV	**Cerro Valdivia**	**2.61**	**185**	*e*P	**Pb**	**23 26 40.9**	**-0.2**
RTLS	**Leoncito**	**2.68**	**199**	*e*P	**Pb**	**23 26 41.4**	**-1.0**
AUSP	**

n37,σ0ᵍ79/43, mb4.4/17, 6C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.71**	**108**	⇑*iP*	**Pn**	**23 27 08.0**	**+0.5**
TALC				*iS*	**Sn**	**23 27 30.1**	**+0.3**
LNCH	**Linares**	**1.91**	**120**	⇑*iP*	**Pb**	**23 27 11.3**	**-0.9**
LNCH				*iS*	**Sb**	**23 27 35.9**	**-0.7**
NICH	**Los Niches**	**1.97**	**94**	⇑*iP*	**Pn**	**23 27 12.1**	**+1.0**
NICH				*iS*	**Sb**	**23 27 37.4**	**-1.0**
LNV	**Longovilo**	**2.06**	**64**	⇑*iP*	**Pn**	**23 27 12.1**	**-0.2**
CHCH	**Chadas Angostu**	**2.64**	**70**	*eP*	**Pn**	**23 27 21.3**	**+1.0**
CHCH				*eS*	**Sn**	**23 27 53.2**	**+0.3**
ROCH	**El Roble**	**2.90**	**49**	*iS*	**Sn**	**23 27 59.5**	**0.0**
ROCH				AML	AML	23 28 01.8	
	comp=N,997nm,0.4s						
CLCH	**Cerro Calan**	**2.97**	**61**	⇑*iP*	**Pn**	**23 27 25.6**	**+0.7**
CLCH				*iS*	**Sn**	**23 28 01.1**	**+0.1**
CLCH				AML	AML	23 28 06.2	
	comp=N,1μm,0.4s						
PEL	**Peldehue**	**3.00**	**55**	⇑*iP*	**Pn**	**23 27 26.3**	**+0.9**
PEL				*iS*	**Sn**	**23 28 02.2**	**+0.3**
PEL				AML	AML	23 28 04.5	
	comp=N,4μm,0.4s						
CFAA	**Coronel Fontan**	**5.58**	**56**	Sn	**Sn**	**23 29 05.8**	**+0.4**
	comp=N,2.0nm,0.3s,baz=339,slow=17,SNR=2.6						
PLCA	**Paso Flores**	**6.32**	**158**	Pn	**Pn**	**23 28 11.8**	**+0.9**
	comp=N,1.1nm,0.3s,baz=327,slow=12,SNR=18						
PLCA				Sn	Sn	23 29 33.6	+10
	comp=N,0.7nm,0.3s,baz=54,slow=19,SNR=2.0						
TRQA	**Tornquist**	**9.90**	**112**	*ePn*	**Pn**	**23 29 01.1**	**+1.2**
LPAZ	**La Paz**	**19.17**	**16**	P	**Pn**	**23 31 04.9**	**+1.9**
	comp=N,0.4nm,0.3s,baz=188,slow=7.9,SNR=23						
LPAZ	**La Paz**	**19.17**	**16**	*eP*	**Pn**	**23 31 04.5**	**+1.5**
	comp=N,8.7nm,0.8s						
SIV	**San Ignacio**	**21.93**	**34**	P	**P**	**23 31 31.9**	**+0.4**
	comp=N,6.7nm,1.0s,baz=232,slow=11,SNR=12						
PTGA	**Pitinga**	**36.30**	**24**	P	**P**	**23 33 41.3**	**-0.5**
	comp=N,2.3nm,0.5s,baz=197,slow=14,SNR=4.1						
PTGA	**Pitinga**	**36.30**	**24**	*eP*	**P**	**23 33 41.4**	**-0.3**
	comp=N,10nm,1.3s						
SDV	**Santo Domingo**	**43.63**	**4**	*eP*	**P**	**23 34 41.7**	**-1.1**
	comp=N,6.6nm,0.8s						
JCT	**Junction City**	**69.55**	**336**	*eP*	**P**	**23 37 46.2**	**-0.7**
	comp=N,6.7nm,0.8s						
TXAR	**Lajitas Array**	**69.89**	**332**	P	**P**	**23 37 49.5**	**+0.3**
	comp=N,3.2nm,0.6s,baz=156,slow=8.6,SNR=42						
WVT	**Waverly**	**71.89**	**348**	*eP*	**P**	**23 37 59.9**	**-1.1**
	comp=N,8.5nm,1.1s						
MAW	**Mawson**	**72.69**	**164**	P	**P**	**23 38 05.7**	**+0.1**
	comp=N,2.0nm,0.7s,baz=164,slow=7.4,SNR=3.5						
ANMO	**Albuquerque**	**75.95**	**333**	*eP*	**P**	**23 38 25.6**	**+0.5**
	comp=N,2.2nm,0.9s						
DBIC	**Dimbokro**	**76.71**	**72**	P	**P**	**23 38 30.5**	**+0.9**
	comp=N,2.7nm,0.6s,baz=237,slow=2.6,SNR=4.7						
T25A	**Trinidad**	**77.17**	**335**	*eP*	**P**	**23 38 31.9**	**-0.1**
	comp=N,12nm,1.3s						
KNB	**Kanab**	**80.30**	**329**	*eP*	**P**	**23 38 49.1**	**-0.1**
	comp=N,5.8nm,1.1s						
BOSA	**Boshof**	**80.81**	**118**	P	**P**	**23 38 52.9**	**+0.6**
	comp=N,2.9nm,0.8s,baz=224,slow=6.5,SNR=4.7						
CCUT	**Cedar City**	**80.98**	**329**	*eP*	**P**	**23 38 52.0**	**-0.8**
	comp=N,3.8nm,1.0s						
ECSD	**EROS Data Cent**	**81.01**	**343**	*eP*	**P**	**23 38 51.7**	**-0.9**
	comp=N,8.5nm,1.3s						
NVAR	**Mina Array Bea**	**83.88**	**326**	P	**P**	**23 39 09.0**	**+1.0**
	comp=N,0.7nm,0.6s,baz=159,slow=5.4,SNR=3.1						
PDAR	**Pinedale Array**	**83.98**	**334**	P	**P**	**23 39 08.0**	**-0.5**
	comp=N,0.6nm,0.8s,baz=156,slow=8.9,SNR=3.5						
TOA0	**Torodi Ar. Sit**	**85.75**	**71**	*eP*	**P**	**23 39 17.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**85.75**	**71**	P	**P**	**23 39 17.9**	**+0.2**
	comp=N,1.6nm,0.8s,baz=243,slow=6.3,SNR=6.8						
BRTR	**Keskin Array B**	**123.41**	**62**	PKP	**PKPdf**	**23 45 35.1**	**-0.3**
AKASG	**Malin Array Be**	**123.76**	**48**	PKP	**PKPdf**	**23 45 34.3**	**-1.2**
	comp=N,0.2nm,0.3s,baz=256,slow=1.5,SNR=4.9						
ZALV	**Zalesovo Beam**	**155.68**	**32**	PKPab	**PKPab**	**23 46 58.1**	**+0.4**
	comp=N,0.7nm,0.3s,baz=293,slow=4.4,SNR=3.0						
MKAR	**Makanchi Array**	**158.34**	**49**	PKPab	**PKPab**	**23 47 09.6**	**0.0**
	comp=N,0.9nm,0.7s,baz=288,slow=5.0,SNR=5.2						
SONM	**Songino Array**	**167.07**	**360**	PKPab	**PKPab**	**23 47 48.0**	**+0.3**
	comp=N,1.1nm,0.8s,baz=339,slow=4.8,SNR=7.3						

*ISCJB **12** 23:26:42.5±0.6, 6°.87N±0°.07×73°.04W±0°.08, h166km, mb3.6/2, Error ellipse: s-maj=13.2km s-min=6.5km az=38.8*

*FUNV **12** 23:26:44.0, 6°.84N×73°.08W, h172km, MW3.6*

*IDC **12** 23:26:45.6±2.6, 6°.59N×73°.24W, h177km±30km, mb3.4/2, mb1 3.6/3, mb1mx3.0/37, mbtmp3.9/3, Error ellipse: s-maj=47.0km s-min=26.3km az=22.0*

ISC 12 23:26:43.5±1.0, 6°.87N±0°.07×73°.05W±0°.08, h166km, n18, σ1ᵍ44/23, 1C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**36**	⇑*eP*	**Pn**	**23 27 12.4**	**+0.3**
CAPV				*eS*	**Sn**	**23 27 33.8**	**-0.2**
ROSC	**El Rosal**	**2.37**	**213**	P	**Pn**	**23 27 23.8**	**-0.5**
	26nm,0.3s,baz=96,slow=10,SNR=101						
ROSC				S	**Sn**	**23 27 52.8**	**-3.0**
	67nm,0.3s,baz=100,slow=16,SNR=8.8						
VIGV	**El Vigia**	**2.58**	**40**	⇓*eP*	**Pn**	**23 27 26.8**	**+0.4**
VIGV				*eS*	**Sn**	**23 27 58.2**	**-1.5**
SOCV	**Socops**	**2.59**	**57**	*eP*	**Pn**	**23 27 27.3**	**+0.7**
SOCV				*eS*	**Sn**	**23 27 58.5**	**-1.4**
ELOV	**Elorza**	**3.54**	**88**	*eP*	**Pn**	**23 27 38.5**	**+0.1**
VIRV	**Villa del Rosa**	**3.67**	**10**	⇓*iP*	**Pn**	**23 27 39.2**	**-0.8**
VIRV				*eS*	**Sn**	**23 28 20.9**	**-3.2**
QARV	**Quebrada Arrib**	**4.16**	**37**	⇓*iP*	**Pn**	**23 27 46.7**	**+0.4**
SANV	**Sanarito**	**4.35**	**53**	*eP*	**Pn**	**23 27 48.4**	**-0.6**
CURV	**Curarigua**	**4.37**	**44**	*eP*	**Pn**	**23 27 49.0**	**-0.1**
DABV	**Dabajuro**	**4.68**	**30**	*eP*	**Pn**	**23 27 53.4**	**+0.3**
SIQV	**Siquisique**	**4.94**	**40**	⇓*eP*	**Pn**	**23 27 55.9**	**-0.5**
BAUV	**El Baul**	**5.37**	**67**	*eP*	**Pn**	**23 28 00.5**	**-1.6**
MONV	**Montecano**	**5.90**	**31**	*eP*	**Pn**	**23 28 08.5**	**-0.5**
TURV	**Turiamo**	**6.26**	**55**	*eP*	**Pn**	**23 28 12.0**	**-1.8**
BIRV	**Birongo**	**7.65**	**61**	*eP*	**Pn**	**23 28 30.2**	**-1.4**
TXAR	**Lajitas Array**	**36.48**	**312**	P	**P**	**23 33 34.2**	**+1.3**
	0.4nm,0.7s,baz=129,slow=10,SNR=6.4						
TORD	**Torodi Ar. Bea**	**73.66**	**78**	P	**P**	**23 38 01.9**	**+2.3**
	2.0nm,0.7s,baz=268,slow=5.4,SNR=16						
ASAR	**Alice Springs**	**149.19**	**234**	PKPbc	**PKPbc**	**23 46 12.8**	**-0.4**
	0.7nm,1.0s,baz=109,slow=3.5,SNR=4.5						

*IDC **13** 00:41:55.7±1.2, 7°.47N×91°.91E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.6/27, mbtmp3.7/8, ML3.8/1, Error ellipse: s-maj=35.0km s-min=23.8km az=52.0*

*ISCJB **13** 00:41:57.0±0.9, 7°.4N±0°.1×91°.8E±0°.1, h24km, mb3.5/6, Error ellipse: s-maj=22.6km s-min=16.6km az=26.6*

ISC 13 00:41:59.1±1.1, 7°.4N±0°.2×91°.8E±0°.1, h24km, n11, σ0ᵍ79/7, mb3.7/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.05**	**270**	Pn	**Pn**	**00 44 35.6**	**-0.2**
	0.6nm,0.3s,baz=94,slow=15,SNR=3.5						
CMAR	**Chiang Mai Arr**	**12.97**	**32**	Pn	Pn	00 44 58.8	-3.3
	baz=223,slow=16,SNR=3.1						
H08S3	**Diego Garcia H**	**24.41**	**233**	T	T	01 13 30.2	
	baz=51,slow=75,SNR=38						
H08S2	**Diego Garcia H**	**24.42**	**233**	T	T	01 13 33.2	
	baz=51,slow=75,SNR=35						
H08S1	**Diego Carcia H**	**24.43**	**233**	T	T	01 13 31.0	
	baz=51,slow=75,SNR=35						
MKAR	**Makanchi Array**	**40.08**	**350**	P	**P**	**00 49 32.8**	**+0.1**
	0.3nm,0.5s,baz=173,slow=8.9,SNR=5.2						
SONM	**Songino Array**	**42.14**	**15**	P	**P**	**00 49 49.8**	**+0.1**
	0.5nm,0.3s,baz=193,slow=8.1,SNR=6.4						
ZALV	**Zalesovo Beam**	**46.74**	**354**	P	**P**	**00 50 25.7**	**-0.5**
	0.4nm,0.3s,baz=181,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**49.88**	**124**	P	**P**	**00 50 50.0**	**-1.0**
	1.1nm,0.8s,baz=301,slow=9.8,SNR=3.0						
ASAR	**Alice Springs**	**51.40**	**128**	P	**P**	**00 51 03.4**	**+0.9**
	0.2nm,0.7s,baz=299,slow=8.3,SNR=3.2						
GERES	**GERESS Array B**	**76.65**	**318**	P	**P**	**00 53 48.7**	**+0.5**
	0.5nm,0.7s,baz=95,slow=5.9,SNR=3.1						

*ISCJB **13** 00:44:07.1±0.6, 0°.25S±0°.06×123°.86E±0°.04, h111km±7km, mb3.4/4, Error ellipse: s-maj=10.1km s-min=7.0km az=169.0*

*DJA **13** 00:44:09.2±0.5, 0°.S±4°×12°.4E±°, h80km±10km, M4.2/7, MLv4.2/7*

*IDC **13** 00:44:09.9±2.6, 0°.17N×124°.10E, h153km±25km, mb3.1/4, mb1 3.3/6, mb1mx3.1/23, mbtmp3.7/6, Error ellipse: s-maj=29.9km s-min=20.4km az=55.0*

ISC 13 00:44:06.8±0.9, 0°.10S±0°.06×123.81E±0°.05, h119km, 8km, n16, σ1ᵍ33/20, mb3.4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.69**	**14**	P	**Pn**	**00 44 26.7**	**+0.7**
KMSI				S	**Sn**	**00 44 41.6**	**+1.1**
GTOI	**Gorontalo**	**1.08**	**312**	P	Pn	00 44 33.8	+4.2
LUWI	**Luwuk**	**1.40**	**228**	P	**Pn**	**00 44 33.0**	**0.0**
LUWI				S	**Sn**	**00 44 52.0**	**-0.9**
MRSI	**Marisa**	**1.96**	**287**	P	**Pn**	**00 44 39.0**	**-0.6**
MRSI				S	**Sn**	**00 45 02.3**	**-2.5**
APSI	**Ampana**	**2.31**	**250**	P	**Pn**	**00 44 44.9**	**+0.8**
APSI				S	**Sn**	**00 45 12.4**	**-0.3**
SANI	**Sanana**	**2.91**	**132**	P	**Pn**	**00 44 50.8**	**-1.1**
SANI				S	**Sn**	**00 45 24.0**	**-2.7**
MPSI	**Mapaga**	**3.94**	**276**	P	Pn	00 45 08.8	+3.3
NLAI	**Namlea**	**4.53**	**134**	P	**Pn**	**00 45 14.2**	**+0.8**
TTSI	**Tana Toraja**	**4.95**	**234**	P	**Pn**	**00 45 20.8**	**+1.8**
KAPI	**Kappang**	**6.35**	**220**	P	Pn	00 45 45.5	+7.6
	0.9nm,0.3s,baz=90,slow=12,SNR=7.5						
KAPI				S	**Sn**	**00 46 48.6**	**-0.5**
	1.2nm,0.3s,baz=66,slow=20,SNR=4.5						
SIJI	**Sorong**	**7.49**	**96**	P	**Pn**	**00 45 53.6**	**+0.2**
	3.8nm,0.3s,baz=267,slow=16,SNR=13						
WRA	**Warramunga Arr**	**22.25**	**153**	P	**P**	**00 48 54.6**	**+0.5**
	0.4nm,0.4s,baz=340,slow=10.0,SNR=2.7						
ASAR	**Alice Springs**	**25.39**	**158**	P	**P**	**00 49 24.6**	**+1.4**
	0.2nm,0.5s,baz=342,slow=9.2,SNR=6.3						
ASAR				PcP	**PcP**	**00 52 53.0**	**+0.3**
	0.3nm,0.4s,baz=339,slow=2.3,SNR=4.3						
STKA	**Stephens Creek**	**35.80**	**154**	P	**P**	**00 50 55.7**	**+1.0**
	0.9nm,0.4s,baz=325,slow=6.1,SNR=6.7						
MKAR	**Makanchi Array**	**59.12**	**328**	P	**P**	**00 53 54.1**	**-0.7**
	0.4nm,0.5s,baz=119,slow=8.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**121.22**	**285**	PKP	**PKPdf**	**01 02 45.4**	**-1.3**
	0.2nm,0.6s,baz=62,slow=2.3,SNR=3.5						

*HLW **13** 00:44:45.2, 35°.68N×25°.19E, h30km±17km, Md3.7, Ml4.2*

*ISCJB **13** 00:44:50.4±0.3, 34°.94N±0°.02×25°.43E±0°.02, h70km±4km, mb3.7/11, Error ellipse: s-maj=4.0km s-min=2.5km az=21.5*

*IDC **13** 00:44:51.4±0.9, 35°.13N×25°.47E, h50km±6km, mb3.7/11, mb1 3.8/18, mb1mx3.6/33, mbtmp3.8/18, MS3.8/1, Ms1 3.8/1, ms1mx2.9/40, Error ellipse: s-maj=18.2km s-min=10.9km az=1.0*

*ISK **13** 00:44:51.1, 35°.19N×25°.54E, h4km, ML3.6*

*CSEM **13** 00:44:52.1±0.1, 34°.93N×25°.38E, h40km, ML3.2, Error ellipse: s-maj=3.8km s-min=2.3km az=28.0*

*ATH **13** 00:44:53.0, 35°.16N×25°.38E, h63km±1km, ML3.2*

*THE **13** 00:44:54.9, 35°.13N×25°.32E, h30km±31km, ML3.4/8, Error ellipse: s-maj=31.6km s-min=0.8km az=0.0*

*NIC **13** 00:44:56.5, 35°.38N×25°.90E, h36km, mb4.6, ML4.2*

*DDA **13** 00:45:17.1, 36°.55N×26°.76E, h56km, MD3.7*

ISC 13 00:44:51.5±0.7, 35°.00N±0°.05×25°.43E±0°.03, h56km±6km, n284, σ1ᵍ57/348, mb3.8/11, 2C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.30**	**29**	P	**Pn**	**00 45 02.8**	**+1.5**
NPS				S	**Sn**	**00 45 08.4**	**+0.1**
NPS	**Neapolis**	**0.30**	**29**	*eP*	**Pn**	**00 45 02.9**	**+1.6**
NPS				*eS*	**Sn**	**00 45 10.0**	**+1.7**
NPS	**Neapolis**	**0.30**	**29**	*eP*	**Pn**	**00 45 02.9**	**+1.6**
NPS				S	**Sn**	**00 45 08.4**	**+0.1**
IDI	**Anoyia**	**0.53**	**303**	P	**Pn**	**00 45 04.2**	**+0.6**
	614nm,0.3s,baz=129,slow=13,SNR=3215						
IDI				S	**Sn**	**00 45 13.1**	**+0.8**
	585nm,0.3s,baz=234,slow=19,SNR=46						
VAM	**Vamos**	**1.09**	**292**	*eP*	**Pn**	**00 45 12.4**	**+1.8**
VAM				*eS*	**Sn**	**00 45 26.0**	**+1.3**
VAM	**Vamos**	**1.09**	**292**	*eP*	**Pn**	**00 45 12.4**	**+1.8**
VAM				*eS*	**Sn**	**00 45 26.0**	**+1.3**
THR6	**Thira Island,**	**1.36**	**359**	P	**Pn**	**00 45 15.1**	**+0.9**
THR6	**Thira Island,**	**1.36**	**359**	P	**Pn**	**00 45 15.1**	**+0.9**
SANT	**Santorini**	**1.37**	**1**	P	**Pn**	**00 45 15.1**	**+0.7**
SANT				S	**Sn**	**00 45 32.2**	**+0.6**
SANT	**Santorini**	**1.37**	**1**	*eP*	**Pn**	**00 45 14.9**	**+0.5**
SANT				*eS*	**Sn**	**00 45 31.4**	**-0.2**
SANT	**Santorini**	**1.37**	**1**	P	**Pn**	**00 45 15.1**	**+0.7**
SANT				S	**Sn**	**00 45 32.2**	**+0.6**
THR3	**Thira Island,**	**1.41**	**359**	P	**Pn**	**00 45 16.6**	**+1.7**
THR3	**Thira Island,**	**1.41**	**359**	P	**Pn**	**00 45 16.6**	**+1.7**
THR5	**Thira Island,**	**1.42**	**357**	P	**Pn**	**00 45 16.0**	**+1.0**
THR5	**Thira Island,**	**1.42**	**357**	P	**Pn**	**00 45 16.0**	**+1.0**
THR7	**Fira-Santorini**	**1.42**	**360**	P	**Pn**	**00 45 16.3**	**+1.2**
THR7	**Fira-Santorini**	**1.42**	**360**	P	**Pn**	**00 45 16.3**	**+1.2**
THR2	**Thira island,**	**1.45**	**0**	P	**Pn**	**00 45 16.4**	**+1.0**
THR2	**Thira island,**	**1.45**	**0**	P	**Pn**	**00 45 16.4**	**+1.0**
KARP	**Karpathos**	**1.52**	**68**	P	Pn	00 45 19.9	+3.5
KARP	**Karpathos**	**1.52**	**68**	*eP*	**Pn**	**00 45 19.4**	**+3.0**
KARP	**Karpathos**	**1.52**	**68**	*eP*	**Pn**	**00 45 19.4**	**+3.0**
MHLO	**Agia Marina, M**	**1.88**	**334**	P	**Pn**	**00 45 22.3**	**+1.0**
MHLO				S	**Sn**	**00 45 43.1**	**-0.9**
MHLO	**Agia Marina, M**	**1.88**	**334**	*eP*	**Pn**	**00 45 22.3**	**+1.0**
MHLO				*eS*	**Sn**	**00 45 42.9**	**-1.1**
MHLO	**Agia Marina, M**	**1.88**	**334**	*eP*	**Pn**	**00 45 22.3**	**+1.0**
MHLO				S	**Sn**	**00 45 43.1**	**-0.9**
ANKY	**Antikythira Is**	**1.94**	**297**	P	**Pn**	**00 45 23.9**	**+1.8**
ANKY	**Antikythira Is**	**1.94**	**297**	*eP*	**Pn**	**00 45 24.0**	**+1.8**
ANKY				*eS*	**Sn**	**00 45 46.6**	**+1.2**
ANKY	**Antikythira Is**	**1.94**	**297**	P	**Pn**	**00 45 23.9**	**+1.8**
ANKY				*eS*	**Sn**	**00 45 46.6**	**+1.2**
APE	**Apeiranthos**	**2.07**	**2**	*ePN*	**Pn**	**00 45 24.5**	**+0.7**
APE				*eSN*	**Sn**	**00 45 49.8**	**+1.2**
APE	**Apeiranthos**	**2.07**	**2**	P	**Pn**	**00 45 24.6**	**+0.7**
APE				S	**Sn**	**00 45 48.3**	**-0.3**
APE	**Apeiranthos**	**2.07**	**2**	*eP*	**Pn**	**00 45 24.5**	**+0.7**
APE				*eS*	**Sn**	**00 45 48.3**	**-0.6**
APE	**Apeiranthos**	**2.07**	**2**	P	**Pn**	**00 45 24.6**	**+0.7**
APE				S	**Sn**	**00 45 48.3**	**-0.3**
APE				*eSn*	Sn	00 45 49.8	+1.2
KYTH	**Kithira**	**2.33**	**304**	P	**Pn**	**00 45 28.5**	**+1.0**
KYTH	**Kithira**	**2.33**	**304**	*eP*	**Pn**	**00 45 27.8**	**+0.3**
KYTH	**Kithira**	**2.33**	**304**	P	**Pn**	**00 45 28.5**	**+1.0**
DAT	**Datca**	**2.45**	**45**	*ePN*	**Pn**	**00 45 30.2**	**+1.0**
DAT	**Datca**	**2.45**	**45**	*ePn*	**Pn**	**00 45 30.2**	**+1.0**
ARG	**Arkhangelos**	**2.51**	**60**	P	**Pn**	**00 45 32.7**	**+2.8**
ARG				S	**Sn**	**00 46 02.0**	**+2.7**
ARG	**Arkhangelos**	**2.51**	**60**	*eP*	**Pn**	**00 45 32.5**	**+2.6**
ARG				*eS*	**Sn**	**00 46 01.4**	**+2.1**
ARG	**Arkhangelos**	**2.51**	**60**	*eP*	**Pn**	**00 45 32.5**	**+2.6**
ARG				S	**Sn**	**00 46 01.4**	**+2.1**
BODT	**Bodrum**	**2.56**	**36**	*ePN*	**Pn**	**00 45 31.8**	**+1.2**
BODT	**Bodrum**	**2.56**	**36**	*ePn*	**Pn**	**00 45 31.8**	**+1.2**
BDRM	**Kayabasi**	**2.63**	**38**	*iP*	**Pn**	**00 45 33.1**	**+1.5**
BDRM				*iS*	**Sn**	**00 46 02.8**	**+0.5**
BDRM	**Kayabasi**	**2.63**	**38**	*iP*	**Pn**	**00 45 33.1**	**+1.5**
BDRM				*iS*	**Sn**	**00 46 02.8**	**+0.5**
VLI	**Veliai**	**2.66**	**311**	P	**Pn**	**00 45 32.2**	**+0.3**
VLI				S	**Sn**	**00 46 02.4**	**-0.5**
VLI	**Veliai**	**2.66**	**311**	*eP*	**Pn**	**00 45 32.0**	**+0.1**
VLI				*eS*	**Sn**	**00 46 01.5**	**-1.4**
VLI	**Veliai**	**2.66**	**311**	P	**Pn**	**00 45 32.2**	**+0.3**
VLI				S	**Sn**	**00 46 02.4**	**-0.5**
SMG	**Samos**	**2.93**	**22**	P	**Pn**	**00 45 37.1**	**+1.4**
SMG	**Samos**	**2.93**	**22**	*eP*	**Pn**	**00 45 36.8**	**+1.1**
SMG				*eS*	**Sn**	**00 46 08.5**	**-1.2**
SMG	**Samos**	**2.93**	**22**	*eP*	**Pn**	**00 45 36.8**	**+1.1**
SMG				*eS*	**Sn**	**00 46 08.5**	**-1.2**
KRND	**KRANIDI**	**3.01**	**323**	P	**Pn**	**00 45 38.2**	**+1.5**
KRND				S	**Sn**	**00 46 11.2**	**-0.4**
KRND	**KRANIDI**	**3.01**	**323**	*eP*	**Pn**	**00 45 38.2**	**+1.5**
KRND				*eS*	**Sn**	**00 46 10.6**	**-1.0**
KRND	**KRANIDI**	**3.01**	**323**	*eP*	**Pn**	**00 45 38.2**	**+1.5**
KRND				S	**Sn**	**00 46 11.2**	**-0.4**
GCAM	**G?zelcaml?**	**3.06**	**28**	*iP*	**Pn**	**00 45 38.9**	**+1.5**
GCAM				*iS*	Sn	00 46 05.8	-7.0
GCAM	**G?zelcaml?**	**3.06**	**28**	*iP*	**Pn**	**00 45 38.9**	**+1.5**
DID	**Didima**	**3.07**	**325**	P	**Pn**	**00 45 38.4**	**+0.9**
DID				S	**Sn**	**00 46 12.9**	**-0.1**
DID	**Didima**	**3.07**	**325**	*eP*	**Pn**	**00 45 38.2**	**+0.7**
DID				*eS*	**Sn**	**00 46 11.5**	**-1.5**
DID	**Didima**	**3.07**	**325**	P	**Pn**	**00 45 38.4**	**+0.9**
DID				S	**Sn**	**00 46 12.9**	**-0.1**
YER	**Yerkesik**	**3.14**	**46**	*ePN*	**Pn**	**00 45 40.5**	**+1.9**
YER				*eSN*	**Sn**	**00 46 15.0**	**+0.1**
YER	**Yerkesik**	**3.14**	**46**	*ePn*	**Pn**	**00 45 40.5**	**+1.9**
YER				*eSn*	**Sn**	**00 46 15.0**	**+0.1**
NAIG	**Nisos Aigina**	**3.17**	**331**	*eP*	**Pn**	**00 45 39.3**	**+0.4**
NAIG	**Nisos Aigina**	**3.17**	**331**	*eP*	**Pn**	**00 45 39.3**	**+0.4**
TURN	**Turunc**	**3.18**	**53**	*iP*	**Pn**	**00 45 37.3**	**-1.8**
TURN				*iS*	Sn	00 46 08.7	-7.1
TURN	**Turunc**	**3.18**	**53**	*iP*	**Pn**	**00 45 37.3**	**-1.8**
DALY	**Dalyan (Mu¨la**	**3.18**	**54**	*ePN*	**Pn**	**00 45 40.4**	**+1.3**
DALY				*eSN*	**Sn**	**00 46 17.4**	**+1.6**
DALY	**Dalyan (Mu¨la**	**3.18**	**54**	*ePn*	**Pn**	**00 45 40.4**	**+1.3**
DALY				*eSn*	**Sn**	**00 46 17.4**	**+1.6**
ATHU	**Athens Univers**	**3.25**	**336**	P	**Pn**	**00 45 41.1**	**+1.1**
ATHU	**Athens Univers**	**3.25**	**336**	P	**Pn**	**00 45 41.1**	**+1.1**
ATH	**Athens Observa**	**3.27**	**336**	P	**Pn**	**00 45 41.6**	**+1.3**
ATH	**Athens Observa**	**3.27**	**336**	*eP*	**Pn**	**00 45 41.3**	**+1.0**
ATH				*eS*	**Sn**	**00 46 16.2**	**-1.8**
ATH	**Athens Observa**	**3.27**	**336**	*eP*	**Pn**	**00 45 41.3**	**+1.0**
PTL	**Penteli**	**3.30**	**338**	P	**Pn**	**00 45 42.0**	**+1.3**
PTL	**Penteli**	**3.30**	**338**	*eP*	**Pn**	**00 45 41.4**	**+0.7**
PTL				*eS*	**Sn**	**00 46 16.8**	**-1.8**
PTL	**Penteli**	**3.30**	**338**	*eP*	**Pn**	**00 45 41.4**	**+0.7**
AYDN	**Tasoluk**	**3.31**	**36**	*iP*	**Pn**	**00 45 43.1**	**+2.2**
AYDN				*iS*	**Sn**	**00 46 22.8**	**+3.7**
AYDN	**Tasoluk**	**3.31**	**36**	*iP*	**Pn**	**00 45 43.1**	**+2.2**
AYDN				*iS*	**Sn**	**00 46 22.8**	**+3.7**
ZEY	**¨zmir**	**3.35**	**15**	*iP*	**Pn**	**00 45 41.7**	**+0.4**
ZEY				*iS*	**Sn**	**00 46 16.3**	**-3.5**
CHOS	**Chios island**	**3.42**	**8**	P	**Pn**	**00 45 43.5**	**+1.1**
CHOS	**Chios island**	**3.42**	**8**	*eP*	**Pn**	**00 45 43.6**	**+1.1**
CHOS	**Chios island**	**3.42**	**8**	P	**Pn**	**00 45 43.5**	**+1.1**
VLX	**Vlachokerasia**	**3.42**	**315**	P	**Pn**	**00 45 43.3**	**+0.9**
VLX				S	**Sn**	**00 46 21.6**	**-0.2**
VLX	**Vlachokerasia**	**3.42**	**315**	*eP*	**Pn**	**00 45 43.0**	**+0.6**
VLX	**Vlachokerasia**	**3.42**	**315**	*eP*	**Pn**	**00 45 43.3**	**+0.9**
VLX				S	**Sn**	**00 46 21.6**	**-0.2**
PYL	**PYLOS**	**3.54**	**303**	P	**Pn**	**00 45 45.4**	**+1.4**
PYL	**PYLOS**	**3.54**	**303**	P	**Pn**	**00 45 45.4**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**3.55**	**33**	*ePN*	**Pn**	**00 45 45.9**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**3.55**	**33**	*ePn*	**Pn**	**00 45 45.9**	**+1.7**
ITM	**Ithomi**	**3.58**	**309**	P	**Pn**	**00 45 45.3**	**+0.8**
ITM	**Ithomi**	**3.58**	**309**	*eP*	**Pn**	**00 45 45.0**	**+0.5**
ITM	**Ithomi**	**3.58**	**309**	P	**Pn**	**00 45 45.3**	**+0.8**
VILL	**Villia**	**3.59**	**332**	P	**Pn**	**00 45 45.6**	**+0.9**
VILL	**Villia**	**3.59**	**332**	P	**Pn**	**00 45 45.6**	**+0.9**
LTK	**Loutraki**	**3.61**	**327**	P	**Pn**	**00 45

GDZ	**Gediz**	**5.21**	**37**	*i* P		**Pn**	**00 46 09.5**	**+2.5**
GDZ	**Gediz**	**5.21**	**37**	*i* P		**Pn**	**00 46 09.5**	**+2.5**
THL	**Klokotos Trika**	**5.31**	**330**	P		**Pn**	**00 46 10.3**	**+2.1**
THL	**Klokotos Trika**	**5.31**	**330**	*e*P		**Pn**	**00 46 10.8**	**+2.6**
THL	**Klokotos Trika**	**5.31**	**330**	P		**Pn**	**00 46 10.3**	**+2.1**
LKD2	**Lefkada island**	**5.38**	**316**	*e*P		**Pn**	**00 46 11.6**	**+2.4**
LKD2	**Lefkada island**	**5.38**	**316**	*e*P		**Pn**	**00 46 11.6**	**+2.4**
DSL	**Palaion Diasel**	**5.39**	**321**	P		**Pn**	**00 46 10.4**	**+1.0**
DSL	**Palaion Diasel**	**5.39**	**321**	P		**Pn**	**00 46 10.4**	**+1.0**
OUR	**Ouranopolis**	**5.45**	**348**	*e*P		**Pn**	**00 46 11.1**	**+1.0**
OUR	**Ouranopolis**	**5.45**	**348**	*e*P		**Pn**	**00 46 11.1**	**+1.0**
GELI	**Tayfur-Gelibol**	**5.45**	**8**	*e*PN		**Pn**	**00 46 12.6**	**+2.4**
GELI	**Tayfur-Gelibol**	**5.45**	**8**	*e*Pn		**Pn**	**00 46 12.6**	**+2.4**
TVSB	**Tavsanli**	**5.49**	**35**	*e*PN		**Pn**	**00 46 12.8**	**+2.1**
TVSB	**Tavsanli**	**5.49**	**35**	*e*Pn		**Pn**	**00 46 12.8**	**+2.1**
ALT	**Altintas**	**5.51**	**41**	*e*PN		**Pn**	**00 46 13.9**	**+2.9**
ALT	**Altintas**	**5.51**	**41**	P		**Pn**	**00 46 13.4**	**+2.3**
ALT	**Altintas**	**5.51**	**41**	P		**Pn**	**00 46 13.4**	**+2.3**
ALT	**Altintas**	**5.51**	**41**	*e*Pn		**Pn**	**00 46 14.0**	**+2.9**
KRBG	**Karabiga-Canak**	**5.59**	**15**	*e*PN		**Pn**	**00 46 13.2**	**+1.2**
KRBG	**Karabiga-Canak**	**5.59**	**15**	*e*Pn		**Pn**	**00 46 13.2**	**+1.2**
PLG	**Polygyros**	**5.59**	**344**	P		**Pn**	**00 46 13.2**	**+1.1**
PLG	**Polygyros**	**5.59**	**344**	P		**Pn**	**00 46 13.2**	**+1.1**
LIT	**Litokhoron**	**5.60**	**336**	P		**Pn**	**00 46 14.4**	**+2.1**
LIT	**Litokhoron**	**5.60**	**336**	*e*P		**Pn**	**00 46 13.3**	**+1.0**
LIT	**Litokhoron**	**5.60**	**336**	*e*P		**Pn**	**00 46 13.3**	**+1.0**
AKMC	**Akamas**	**5.66**	**88**	P		**Pn**	**00 46 12.6**	**-0.5**
	baz=275							
PPCY	**Paphos**	**5.68**	**89**	⇑P		**Pn**	**00 46 13.3**	**0.0**
	baz=277							
SWA2		**5.74**	**180**	P		**Pn**	**00 46 15.0**	**+0.9**
	baz=177							
SWA2				AMP			00 47 00.0	
	comp=N,160μm,0.3s,logA/T=5.7,baz=177							
SWA2		**5.74**	**180**	P		**Pn**	**00 46 15.0**	**+0.9**
GAZI	**Gazipasa**	**5.74**	**76**	*i* P		**Pn**	**00 46 13.8**	**-0.3**
GAZI				*i* S		Sn	00 47 09.3	-9.4
ENEZ	**Enez**	**5.76**	**5**	*e*PN		**Pn**	**00 46 16.5**	**+2.2**
ENEZ	**Enez**	**5.76**	**5**	*e*Pn		**Pn**	**00 46 16.5**	**+2.2**
HBRG	**Burj al 'Arab**	**5.76**	**139**	P		**Pn**	**00 46 15.0**	**+0.5**
	baz=141							
ALFC	**Alevga**	**5.88**	**86**	P		**Pn**	**00 46 15.7**	**-0.4**
	baz=274							
ALFC				S		**Sn**	**00 47 18.2**	**-3.9**
ALFC	**Alevga**	**5.88**	**86**	P		**Pn**	**00 46 15.7**	**-0.4**
ALN	**Alexandroupoli**	**5.91**	**5**	P		**Pn**	**00 46 17.9**	**+1.5**
ALN	**Alexandroupoli**	**5.91**	**5**	P		**Pn**	**00 46 17.9**	**+1.5**
HDMB	**Hadim**	**6.05**	**69**	*e*PN		**Pn**	**00 46 20.6**	**+2.1**
HDMB	**Hadim**	**6.05**	**69**	*e*Pn		**Pn**	**00 46 20.6**	**+2.1**
IGT	**Igoumenitsa**	**6.08**	**320**	P		**Pn**	**00 46 19.9**	**+1.1**
IGT	**Igoumenitsa**	**6.08**	**320**	P		**Pn**	**00 46 19.9**	**+1.1**
SZAC	**Souni-Zanaja**	**6.13**	**90**	P		**Pn**	**00 46 19.4**	**-0.1**
	baz=278							
SZAC				S		**Sn**	**00 47 25.0**	**-3.3**
SZAC	**Souni-Zanaja**	**6.13**	**90**	P		**Pn**	**00 46 19.4**	**-0.1**
ARMT	**Armutlu**	**6.19**	**25**	*e*PN		**Pn**	**00 46 23.3**	**+3.1**
ARMT	**Armutlu**	**6.19**	**25**	*e*Pn		**Pn**	**00 46 23.3**	**+3.1**
SGD	**Sagiada**	**6.19**	**320**	P		**Pn**	**00 46 22.7**	**+2.4**
SGD	**Sagiada**	**6.19**	**320**	P		**Pn**	**00 46 22.7**	**+2.4**
KONT	**Konya--Tatoy**	**6.31**	**60**	*e*PN		Pn	00 46 25.7	+3.7
KONT	**Konya--Tatoy**	**6.31**	**60**	*e*Pn		Pn	00 46 25.7	+3.7
MAMC	**Mammari**	**6.39**	**86**	P		**Pn**	**00 46 23.6**	**+0.6**
	baz=274							
MAMC	**Mammari**	**6.39**	**86**	P		**Pn**	**00 46 23.6**	**+0.6**
KDHN	**Kadinhani**	**6.42**	**55**	*i* P		Pn	**00 46 24.7**	**+1.3**
LADK	**Ladik-KONYA**	**6.43**	**58**	*e*PN		Pn	00 46 27.4	+3.8
LADK	**Ladik-KONYA**	**6.43**	**58**	*e*Pn		Pn	00 46 27.4	+3.8
KNT	**Kendrikon**	**6.47**	**343**	P		**Pn**	**00 46 26.0**	**+1.9**
KNT	**Kendrikon**	**6.47**	**343**	P		**Pn**	**00 46 26.0**	**+1.9**
CSS	**Prodhromos**	**6.49**	**88**	P		**Pn**	**00 46 24.2**	**-0.2**
	baz=276							
CSS				S		**Sn**	**00 47 33.5**	**-3.5**
CSS	**Prodhromos**	**6.49**	**88**	P		**Pn**	**00 46 24.2**	**-0.2**
AYT	**Al 'Ayyat**	**7.16**	**136**	P		**Pn**	**00 46 33.3**	**-0.3**
	baz=138							
AYT	**Al 'Ayyat**	**7.16**	**136**	P		**Pn**	**00 46 33.3**	**-0.3**
KOT	**Kottamia**	**7.40**	**131**	P		**Pn**	**00 46 36.2**	**-0.8**
	baz=133							
KOT				S		**Sn**	**00 47 55.1**	**-4.4**
	baz=133							
KOT	**Kottamia**	**7.40**	**131**	P		**Pn**	**00 46 36.2**	**-0.8**
HSAF	**As Saff**	**7.46**	**134**	P		**Pn**	**00 46 37.1**	**-0.6**
	baz=136							
HSAF	**As Saff**	**7.46**	**134**	P		**Pn**	**00 46 37.1**	**-0.6**
HHAG	**Hagoal**	**7.55**	**130**	P		**Pn**	**00 46 38.2**	**-0.8**
	baz=132							
HHAG				S		**Sn**	**00 47 58.6**	**-4.6**
	baz=132							
HHAG	**Hagoal**	**7.55**	**130**	P		**Pn**	**00 46 38.2**	**-0.8**
GLL	**Jalalah**	**7.58**	**134**	P		**Pn**	**00 46 38.6**	**-0.8**
	baz=136							
GLL	**Jalalah**	**7.58**	**134**	P		**Pn**	**00 46 38.6**	**-0.8**
BRTR	**Keskin Array B**	**8.06**	**52**	P		**Pn**	**00 46 44.1**	**-1.9**
	comp=N,0.1nm,0.3s,baz=231,slow=14,SNR=3.0							
BRTR				S		**Sn**	**00 48 14.5**	**-1.3**
	comp=N,0.1nm,0.3s,baz=231,slow=24,SNR=3.5							
SUZ		**8.10**	**127**	P		**Pn**	**00 46 45.8**	**-0.6**
	baz=130							
SUZ		**8.10**	**127**	P		**Pn**	**00 46 45.8**	**-0.6**
BARS	**Barje**	**8.30**	**341**	⇑*i*Pn		**Pn**	**00 46 51.4**	**+2.2**
MMAI	**Mount Meron Ar**	**8.51**	**101**	P		**Pn**	**00 46 50.8**	**-1.4**
	comp=N,5.9nm,0.3s,baz=289,slow=10,SNR=43							
MMAI				S		**Sn**	**00 48 23.1**	**-3.8**
	comp=N,5.7nm,0.3s,baz=82,slow=1.8,SNR=6.6							
HNKL	**Nakhl**	**8.81**	**123**	P		**Pn**	**00 46 54.9**	**-1.4**
	baz=125							
EIL	**Elat**	**9.64**	**121**	P		**Pn**	**00 47 07.1**	**-0.6**
	comp=N,2.0nm,0.3s,baz=288,slow=2.5,SNR=35							
EIL				S		Sn	00 48 48.0	-6.5
	comp=N,3.0nm,0.3s,baz=47,slow=3.6,SNR=8.7							
HKAT	**Jabal Katrina**	**9.73**	**129**	P		**Pn**	**00 47 07.8**	**-1.3**
	baz=131							
STON	**Ston**	**9.90**	**325**	*e*Pn		**Pn**	**00 47 08.0**	**-3.0**
STON				Sn		Sn	00 48 46.8	-14
ASF	**Jabal al Asfar**	**9.97**	**103**	P		**Pn**	**00 47 10.8**	**-1.4**
	comp=N,0.5nm,0.3s,baz=241,slow=4.4,SNR=7.8							
ASF				S		Sn	00 48 56.2	-6.3
	comp=N,0.2nm,0.3s,baz=18,slow=20,SNR=3.4							
HDHB	**Dhahab**	**10.01**	**126**	P		**Pn**	**00 47 10.3**	**-2.2**
	baz=128							
MLR	**Muntele Rosu**	**10.49**	**2**	P		Pn	00 47 15.9	-3.3
	baz=188,slow=7.1							
HDK2	**Wahat Dakhilah**	**11.07**	**163**	P		**Pn**	**00 47 26.6**	**-0.6**
	baz=163							
HDK2				S		Sn	00 49 20.7	-8.8
	baz=163							
HDK2	**Wahat Dakhilah**	**11.07**	**163**	P		**Pn**	**00 47 26.6**	**-0.6**
KEST	**Kesra**	**13.15**	**278**	P		**Pn**	**00 47 55.8**	**+0.2**
	comp=N,0.0nm,0.3s,baz=103,slow=18,SNR=4.9							
AKASG	**Malin Array Be**	**15.94**	**9**	P		**Pn**	**00 48 31.7**	**-0.2**
	comp=N,2.7nm,0.3s,baz=200,slow=11,SNR=14							
KBZ	**Khabaz**	**16.05**	**52**	P		**P**	**00 48 36.9**	**+0.9**
	comp=N,0.1nm,0.3s,baz=241,slow=8.9,SNR=4.8							
GERES	**GERESS Array B**	**16.33**	**331**	P		**Pn**	**00 48 37.1**	**0.0**
	comp=N,0.1nm,0.3s,baz=147,slow=16,SNR=3.5							
ESDC	**Sonseca Array**	**23.78**	**290**	P		**P**	**00 49 58.6**	**-0.3**
	comp=N,0.2nm,0.4s,baz=76,slow=9.5,SNR=4.4							
HFS	**Hagfors**	**26.28**	**347**	P		**P**	**00 50 20.5**	**-1.0**
	comp=N,2.1nm,0.7s,baz=146,slow=13,SNR=3.8							
FINES	**FINESS Array B**	**26.47**	**1**	P		**P**	**00 50 20.9**	**-2.2**
	comp=N,2.2nm,0.4s,baz=163,slow=12,SNR=26							
FINES				LR		LR	01 03 03.6	
	comp=N,190nm,18.4s,baz=0.0,slow=42							
AKTO	**Aktyubinsk**	**28.20**	**47**	P		**P**	**00 50 38.9**	**+0.2**
	comp=N,0.4nm,0.3s,baz=229,slow=11,SNR=2.9							
EKA	**Eskdalemuir Ar**	**28.30**	**325**	P		**P**	**00 50 39.1**	**-0.5**
	comp=N,0.3nm,0.4s,baz=121,slow=9.4,SNR=6.7							
TORD	**Torodi Ar. Bea**	**30.56**	**230**	P		**P**	**00 51 01.1**	**+1.2**
	comp=N,0.3nm,0.4s,baz=35,slow=8.7,SNR=9.6							
ARCES	**ARCESS Array B**	**34.59**	**0**	P		**P**	**00 51 33.0**	**-1.7**
	comp=N,1.6nm,0.4s,baz=189,slow=10,SNR=34							
MKAR	**Makanchi Array**	**43.68**	**56**	P		**P**	**00 52 51.8**	**+1.0**
	comp=N,0.7nm,0.4s,baz=276,slow=8.1,SNR=13							
ZALV	**Zalesovo Beam**	**44.96**	**46**	P		**P**	**00 53 01.3**	**+0.5**
	comp=N,1.3nm,0.3s,baz=274,slow=8.8,SNR=3.7							
SCHQ	**Schefferville**	**63.45**	**320**	P		**P**	**00 55 15.8**	**+0.5**
	comp=N,2.0nm,0.3s,baz=63,slow=5.0,SNR=10							
YKA	**Yellowknife Ar**	**77.67**	**342**	P		**P**	**00 56 41.8**	**+0.1**
	comp=N,3.2nm,1.1s,baz=33,slow=5.2,SNR=3.5							

IDC ***13*** *00:46:35.4±1.4, 6°.65N×91°.34E, h0km, mb3.6/5, mb1 3.8/8, mb1mx3.6/28, mbtmp3.7/8, ML3.8/3, Error ellipse: s-maj=40.1km s-min=22.4km az=56.0*

ISCJB ***13*** *00:46:37.5±0.7, 6°.6N×91°.28E±0°.06, h33km, mb3.6/5, Error ellipse: s-maj=16.7km s-min=8.9km az=9.2*

ISC 13 00:46:40.1±0.8, 6.7N×91.33E±0.08, h35km, n8, σ0s84/9, mb3.5/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.48**	**116**	Pn	**Pn**	**00 48 40.5**	**-0.3**
	0.5nm,0.3s,baz=340,slow=12,SNR=5.6						
PALK	**Pallekele**	**10.56**	**274**	Pn	**Pn**	**00 49 08.3**	**-0.9**
	0.4nm,0.3s,baz=87,slow=19,SNR=3.6						
PALK				Sn	**Sn**	**00 51 06.9**	**+0.5**
	0.8nm,0.3s,baz=22,slow=19,SNR=5.5						
CMAR	**Chiang Mai Arr**	**13.88**	**32**	Pn	**Pn**	**00 49 54.1**	**-0.4**
	0.4nm,0.3s,baz=227,slow=15,SNR=4.0						
MKAR	**Makanchi Array**	**40.74**	**350**	P	**P**	**00 54 18.7**	**+1.1**
	0.5nm,0.7s,baz=168,slow=7.8,SNR=3.4						
SONM	**Songino Array**	**43.00**	**15**	P	**P**	**00 54 35.8**	**-0.4**
	0.7nm,0.7s,baz=199,slow=9.3,SNR=5.5						
WRA	**Warramunga Arr**	**49.89**	**123**	P	**P**	**00 55 30.7**	**+0.1**
	0.4nm,0.6s,baz=306,slow=8.4,SNR=2.4						
ASAR	**Alice Springs**	**51.34**	**127**	P	**P**	**00 55 42.7**	**+1.2**
	0.3nm,0.7s,baz=306,slow=7.9,SNR=3.5						
STKA	**Stephens Creek**	**61.34**	**132**	P	**P**	**00 56 52.2**	**-0.4**
	1.3nm,1.0s,baz=324,slow=8.7,SNR=2.8						

IDC ***13*** *00:57:45.9±1.0, 7°.98N×91°.93E, h0km, mb3.8/8, mb1 4.0/11, mb1mx3.8/28, mbtmp3.8/11, ML3.9/2, Error ellipse: s-maj=31.8km s-min=19.0km az=48.0*

ISCJB ***13*** *00:57:47.2±0.6, 8°.0N×91°.93E±0°.09, h25km, mb4.0/12, Error ellipse: s-maj=16.2km s-min=11.2km az=32.0*

ISC 13 00:57:49.4±0.8, 8.0N×91.9E±0.1, h25km, n18, σ0s85/15, mb4.0/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.65**	**126**	Pn	**Pn**	**00 59 53.0**	**-0.2**
	0.9nm,0.3s,baz=89,slow=8.1,SNR=4.9						
PALK	**Pallekele**	**11.16**	**267**	Pn	**Pn**	**01 00 27.6**	**+0.1**
	1.2nm,0.3s,baz=91,slow=16,SNR=6.3						
PALK				Sn	Sn	01 02 18.7	-13
	8.0nm,0.3s,baz=339,slow=22,SNR=10						
CMAR	**Chiang Mai Arr**	**12.44**	**33**	Pn	**Pn**	**01 00 44.5**	**-0.5**
	baz=232,slow=14,SNR=10						
H08S3	**Diego Garcia H**	**24.83**	**232**	T	T	01 29 21.9	
	baz=51,slow=76,SNR=50						
H08S2	**Diego Garcia H**	**24.84**	**232**	T	T	01 29 32.9	
	baz=51,slow=76,SNR=42						
H08S1	**Diego Garcia H**	**24.85**	**232**	T	T	01 29 35.9	
	baz=51,slow=76,SNR=36						
MKAR	**Makanchi Array**	**39.54**	**350**	P	**P**	**01 05 18.4**	**+0.1**
	0.5nm,0.7s,baz=150,slow=9.8,SNR=3.9						
SONM	**Songino Array**	**41.57**	**15**	P	**P**	**01 05 35.4**	**+0.2**
	2.0nm,0.8s,baz=196,slow=8.5,SNR=18						
ZALV	**Zalesovo Beam**	**46.19**	**354**	P	**P**	**01 06 12.7**	**+0.7**
	0.5nm,0.3s,baz=148,slow=8.5,SNR=3.1						
WRA	**Warramunga Arr**	**50.12**	**124**	P	**P**	**01 06 43.2**	**+0.3**
	0.5nm,0.3s,baz=301,slow=8.8,SNR=4.0						
ASAR	**Alice Springs**	**51.68**	**129**	P	**P**	**01 06 55.1**	**+0.5**
	0.8nm,0.8s,baz=312,slow=7.4,SNR=6.6						
BRTR	**Keskin Array B**	**60.71**	**311**	P	**P**	**01 07 58.5**	**-0.6**
	0.3nm,0.7s,baz=113,slow=2.2,SNR=3.4						
FINES	**FINESS Array B**	**71.60**	**332**	P	**P**	**01 09 09.8**	**+1.4**
	1.8nm,0.9s,baz=86,slow=4.3,SNR=2.5						
GERES	**GERESS Array B**	**76.29**	**318**	P	**P**	**01 09 36.6**	**+0.3**
	0.6nm,0.8s,baz=94,slow=4.4,SNR=7.0						
PGF	**Pioggiola**	**79.46**	**312**	*e*P	**P**	**01 09 52.7**	**-1.3**
	24nm,1.2s						
LPG	**La Plagne**	**80.99**	**315**	*e*P	**P**	**01 10 01.4**	**-1.1**
	12nm,1.0s						
LPL	**La Plagne**	**81.00**	**315**	*e*P	**P**	**01 10 01.5**	**-1.0**
	12nm,0.8s						
HAU	**Haudompre**	**81.17**	**317**	*e*P	**P**	**01 10 01.9**	**-1.2**
	4.7nm,0.7s						

CSEM ***13*** *01:15:47.9±0.2, 38°.49N×39°.22E, h8km, MD2.6, Error ellipse: s-maj=6.7km s-min=4.4km az=29.0*

DDA ***13*** *01:15:47.9, 38°.46N×39°.24E, h7km, MD2.9*

ISK ***13*** *01:15:47.7, 38°.49N×39°.25E, h5km, MD2.6*

ISCJB ***13*** *01:15:48.0±0.6, 38°.49N±0°.04×39°.25E±0°.03, h6km±5km, Error ellipse: s-maj=6.9km s-min=4.1km az=19.1*

ISC 13 01:15:48.3±0.9, 38°.49N±0°.03×39°.25E±0°.02, h8km±7km, n23, σ0s75/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.12**	**158**	*e*PG	**Pg**	**01 15 50.9**	**-0.2**
SVRC				*e*SG	**Sg**	**01 15 52.5**	**-0.6**
SVRC	**Sivrice-ELAZID**	**0.12**	**158**	*e*Pg	**Pg**	**01 15 50.9**	**-0.2**
SVRC				*e*Sg	**Sg**	**01 15 52.5**	**-0.6**
ELZG	**Elazig**	**0.21**	**273**	*i* P	**Pg**	**01 15 52.9**	**+0.3**
ELZG				*i* S	**Sg**	**01 15 56.3**	**+0.8**
ELZG	**Elazig**	**0.21**	**273**	*i* P	**Pg**	**01 15 52.9**	**+0.3**
ELZG				*i* S	**Sg**	**01 15 56.3**	**+0.8**
PTK	**Pertek**	**0.42**	**16**	*e*PG	**Pg**	**01 15 56.2**	**-0.3**
PTK	**Pertek**	**0.42**	**16**	*e*Pg	**Pg**	**01 15 56.3**	**-0.3**
MALT	**Malatya**	**0.67**	**255**	*e*PG	**Pg**	**01 16 01.0**	**-0.2**
MALT				*e*SG	**Sb**	**01 16 10.7**	**-1.1**
MALT	**Malatya**	**0.67**	**255**	*e*Pg	**Pg**	**01 16 01.0**	**-0.2**
MALT				*e*Sg	**Sb**	**01 16 10.7**	**-1.1**
DYBB	**Diyarbakir**	**0.88**	**127**	*e*PG	**Pg**	**01 16 05.2**	**0.0**
DIYA	**Diyarbakir**	**0.89**	**129**	*i* P	**Pb**	**01 16 05.7**	**-0.3**
DIYA				*i* S	**Sg**	**01 16 17.3**	**+0.3**
DIYA	**Diyarbakir**	**0.89**	**129**	*i* P	**Pb**	**01 16 05.7**	**-0.3**
DIYA				*i* S	**Sg**	**01 16 17.3**	**+0.3**
DIY	**Diyarbakir**	**0.97**	**127**	*e*Pg	**Pg**	**01 16 05.3**	**-1.7**
KEMA	**Kemaliye**	**0.98**	**323**	*i* P	**Pg**	**01 16 06.3**	**-0.8**
KEMA				*i* S	**Sg**	**01 16 19.0**	**-0.8**
KEMA	**Kemaliye**	**0.98**	**323**	*i* P	**Pg**	**01 16 06.3**	**-0.8**
KEMA				*i* S	**Sg**	**01 16 19.0**	**-0.8**
BINT	**Bingol**	**1.04**	**68**	*e*Pn	**Pn**	**01 16 11.5**	**+2.1**
AKCD	**Akcadag**	**1.06**	**260**	*i* P	**Pg**	**01 16 07.6**	**-1.1**
AKCD				*i* S	**Sb**	**01 16 22.5**	**-0.5**
AKCD	**Akcadag**	**1.06**	**260**	*i* P	**Pg**	**01 16 07.6**	**-1.1**
AKCD				*i* S	**Sb**	**01 16 22.5**	**-0.5**
URFA	**Urfa**	**1.10**	**198**	*e*PN	**Pb**	**01 16 09.5**	**-0.1**
URFA	**Urfa**	**1.10**	**198**	*e*Pn	**Pb**	**01 16 09.5**	**-0.1**
BNGB	**Bing¶ll**	**1.23**	**65**	*e*PN	**Pb**	**01 16 11.5**	**-0.3**
BNGB				*e*SN	**Sn**	**01 16 29.0**	**+0.3**
MAZI	**Mazidag**	**1.40**	**137**	*e*PN	**Pb**	**01 16 14.6**	**-0.1**
MAZI	**Mazidag**	**1.40**	**137**	*e*Pn	**Pb**	**01 16 14.6**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.57**	**102**	*e*PN	**Pb**	**01 16 17.0**	**-0.6**

IDC 13 01:15:51.9±6.0, 17°.17S×69°.78W, h169km±31km, mb3.9/2, mb1 3.8/2, mb1mx3.2/17, mbtmp4.3/2, Error ellipse: s-maj=192.4km s-min=74.0km az=156.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.81**	**61**	P	Pn	01 16 26.7	-0.2
	50nm,0.3s,baz=244,slow=6.5,SNR=1591						
LPAZ				S	Sn	01 16 53.9	0.0
	1.7nm,0.3s,baz=12,slow=19,SNR=2.2						
DBIC	**Dimbokro**	**68.37**	**75**	P	P	01 26 35.3	-0.3
	3.6nm,0.7s,baz=227,slow=6.3,SNR=4.8						
TORD	**Torodi Ar. Bea**	**76.73**	**72**	P	P	01 27 25.2	+0.2
	1.9nm,0.8s,baz=255,slow=5.1,SNR=26						

IDC ***13*** *01:16:18.1±0.9, 36°.27N×22°.84E, h0km, mb3.9/10, mb1 3.8/18, mb1mx3.7/33, mbtmp3.7/18, ML3.6/6, Error ellipse: s-maj=18.0km s-min=13.1km az=34.0*

ISCJB ***13*** *01:16:19.1±0.5, 36°.08N±0°.02×22°.79E±0°.02, h19km±4km, mb3.9/16, Error ellipse: s-maj=4.0km s-min=2.2km az=30.0*

CSEM ***13*** *01:16:20.5±0.2, 36°.12N×22°.81E, h15km, mb4.1/7, Error ellipse: s-maj=4.7km s-min=2.6km az=25.0*

NEIC ***13*** *01:16:20.8±2.6, 36°.22N×22°.87E, h17km±18km, mb4.2/8, Error ellipse: s-maj=8.6km s-min=4.9km az=197.0*

ATH ***13*** *01:16:20.1, 36°.26N×22°.81E, h17km±1km, MD3.6/32, ML3.7*

THE ***13*** *01:16:22.0, 36°.21N×22°.96E, h3km±1km, ML3.9/15, Error ellipse: s-maj=1.5km s-min=0.7km az=207.0*

ISC 13 01:16:20.9±0.8, 36°.22N±0°.02×22°.84E±0°.02, h18km±3km, n432, σ1s53/501, mb4.0/16, 12C-17D, Southern Greece

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

KYTH	**Kithira**	**0.17**	**69**	P		**Pg**	**01 16 24.8**	**-0.7**
KYTH	**Kithira**	**0.17**	**69**	*e*PB		**Pg**	**01 16 24.9**	**-0.6**
KYTH	**Kithira**	**0.17**	**69**	*e*Pb		**Pg**	**01 16 24.9**	**-0.6**
VLI	**Veliai**	**0.51**	**9**	P		**Pn**	**01 16 32.5**	**-0.7**
VLI				S		**Sb**	**01 16 39.6**	**+1.4**
VLI	**Veliai**	**0.51**	**9**	*e*PB		**Pg**	**01 16 30.1**	**-1.0**
VLI				*e*SB		**Sg**	**01 16 37.1**	**-0.8**
VLI	**Veliai**	**0.51**	**9**	*e*Pb		**Pg**	**01 16 30.1**	**-1.0**
VLI	**Veliai**	**0.51**	**9**	P		**Pn**	**01 16 32.5**	**-0.7**
VLI				*e*Sb		**Sg**	**01 16 37.1**	**-0.8**
VLI				S		**Sb**	**01 16 39.6**	**+1.4**
ANKY	**Antikythira Is**	**0.51**	**133**	P		**Pg**	**01 16 30.6**	**-0.6**
ANKY				S		**Sg**	**01 16 37.7**	**-0.4**
ANKY	**Antikythira Is**	**0.51**	**133**	*e*PN		**Pg**	**01 16 30.7**	**-0.5**
ANKY				*e*SN		**Sb**	**01 16 39.5**	**+1.1**
ANKY	**Antikythira Is**	**0.51**	**133**	P		**Pg**	**01 16 30.7**	**-0.5**
ANKY				S		**Sg**	**01 16 37.7**	**-0.4**
ANKY				*e*Sn		**Sb**	**01 16 39.5**	**+1.1**
PYL	**PYLOS**	**1.11**	**308**	P		**Pn**	**01 16 40.5**	**-1.0**
PYL	**PYLOS**	**1.11**	**308**	*e*PN		**Pn**	**01 16 40.1**	**-1.4**
PYL				*e*SN		**Sb**	**01 16 55.0**	**-0.7**
PYL	**PYLOS**	**1.11**	**308**	*e*Pn		**Pn**	**01 16 40.1**	**-1.4**
PYL	**PYLOS**	**1.11**	**308**	P		**Pn**	**01 16 40.5**	**-1.0**
PYL				S		**Sb**	**01 16 55.2**	**-0.5**
KRND	**KRANIDI**	**1.19**	**12**	P		**Pn**	**01 16 42.7**	**+0.1**
KRND				S		**Sg**	**01 17 00.2**	**+0.7**
KRND	**KRANIDI**	**1.19**	**12**	*e*PN		**Pn**	**01 16 42.4**	**-0.2**
KRND				*e*SN		**Sb**	**01 16 57.7**	**-0.2**
KRND	**KRANIDI**	**1.19**	**12**	*e*Pn		**Pn**	**01 16 42.4**	**-0.2**
KRND	**KRANIDI**	**1.19**	**12**	P		**Pn**	**01 16 42.7**	**+0.1**
KRND				*e*Sn		**Sb**	**01 16 57.7**	**-0.2**
KRND				S		**Sg**	**01 17 00.2**	**+0.7**
ITM	**Ithomi**	**1.21**	**323**	P		**Pg**	**01 16 46.3**	**+2.0**
ITM				S		**Sg**	**01 17 04.1**	**+4.0**
ITM	**Ithomi**	**1.21**	**323**	*e*PN		**Pn**	**01 16 42.4**	**-0.5**
ITM				*e*SN		**Sn**	**01 16 59.3**	**+0.5**
ITM	**Ithomi**	**1.21**	**323**	*e*Pn		**Pn**	**01 16 42.4**	**-0.5**
ITM				*e*Sn		**Sn**	**01 16 59.3**	**+0.5**
ITM				S		**Sg**	**01 17 00.2**	**+0.1**
VLX	**Vlachokerasia**	**1.21**	**342**	P		**Pg**	**01 16 45.5**	**+1.2**
VLX				S		**Sg**	**01 17 04.3**	**+4.2**
VLX	**Vlachokerasia**	**1.21**	**342**	*e*PN		**Pn**	**01 16 42.5**	**-0.4**
VLX				*e*SN		**Sn**	**01 16 59.3**	**+0.4**
VLX	**Vlachokerasia**	**1.21**	**342**	*e*Pn		**Pn**	**01 16 42.5**	**-0.4**
VLX	**Vlachokerasia**	**1.21**	**342**	P		**Pg**	**01 16

APE	Apeiranthos	2.33	68	ePn	Pn	01 16 57.4	-0.9
APE	Apeiranthos	2.33	68	ePb	Pn	01 16 59.4	+1.2
APE	Apeiranthos	2.33	68	P	Pn	01 16 59.7	+1.5
APE				S	Sb	01 17 29.3	-1.3
EFP	Efpalio	2.33	342	P	Pb	01 17 02.0	-0.3
LKR	Lokris	2.43	3	P	Pn	01 17 01.3	+1.6
LKR	Lokris	2.43	3	ePN	Pn	01 17 00.9	+1.2
LKR	Lokris	2.43	3	ePb	Pn	01 17 00.9	+1.2
LKR	Lokris	2.43	3	P	Pn	01 17 01.3	+1.6
NPS	Neapolis	2.45	112	P	Pn	01 17 00.6	+0.7
NPS				S	Sn	01 17 30.6	+1.2
NPS	Neapolis	2.45	112	ePN	Pn	01 17 00.4	+0.5
NPS	Neapolis	2.45	112	ePn	Pn	01 17 00.4	+0.5
NPS				S	Sn	01 17 30.6	+1.2
ATAL	Atalanti	2.47	3	P	Pn	01 17 01.8	+1.5
ATAL				S	Sb	01 17 34.8	-0.1
ATAL	Atalanti	2.47	3	P	Pn	01 17 01.8	+1.5
ATAL				S	Sb	01 17 34.8	-0.1
KFL	Anninata	2.50	320	P	Pb	01 17 04.1	-1.1
AXAR	Agios Charalam	2.55	357	P	Pn	01 17 03.4	+2.1
AXAR	Agios Charalam	2.55	357	ePB	Pn	01 17 02.9	+1.6
AXAR	Agios Charalam	2.55	357	ePb	Pn	01 17 02.9	+1.6
AXAR	Agios Charalam	2.55	357	P	Pn	01 17 03.4	+2.1
MRKA	Markates	2.55	13	P	Pn	01 17 02.9	+1.5
MRKA				S	Sb	01 17 35.1	-2.1
MRKA	Markates	2.55	13	ePN	Pn	01 17 02.5	+1.1
MRKA	Markates	2.55	13	ePn	Pn	01 17 02.5	+1.1
MRKA	Markates	2.55	13	P	Pn	01 17 02.9	+1.5
MRKA				S	Sb	01 17 35.1	-2.1
PVO	Paravola	2.61	337	P	Pb	01 17 06.0	-1.1
VLS	Valsamata	2.66	318	P	Pn	01 17 05.2	+2.5
VLS				S	Sb	01 17 39.4	-0.7
VLS	Valsamata	2.66	318	ePB	Pn	01 17 05.3	+2.5
VLS	Valsamata	2.66	318	P	Pn	01 17 05.2	+2.5
SMIA	Simia	2.67	6	P	Pn	01 17 04.8	+1.8
SMIA	Simia	2.67	6	ePN	Pn	01 17 04.6	+1.6
SMIA	Simia	2.67	6	P	Pn	01 17 04.8	+1.8
PDO	Prodromos	2.72	331	P	Pg	01 17 12.8	-0.2
PDO				S	Sg	01 17 45.9	-2.3
EVR	Evrytania	2.82	343	P	Pb	01 17 08.5	-2.2
EVR	Evrytania	2.82	343	ePB	Pn	01 17 07.9	+2.9
EVR	Evrytania	2.82	343	ePb	Pn	01 17 07.9	+2.9
EVR	Evrytania	2.82	343	P	Pb	01 17 08.5	-2.2
AGG	Agios Georgios	2.83	352	P	Pn	01 17 07.7	+2.6
AGG				S	Sb	01 17 43.1	-2.0
AGG	Agios Georgios	2.83	352	ePB	Pn	01 17 07.7	+2.6
AGG	Agios Georgios	2.83	352	P	Pn	01 17 07.7	+2.6
AGG				S	Sb	01 17 43.1	-2.0
MAKR	Makrakomi, Fth	2.85	349	P	Pb	01 17 08.6	-2.5
MAKR	Makrakomi, Fth	2.85	349	ePB	Pn	01 17 08.0	+2.6
MAKR	Makrakomi, Fth	2.85	349	ePb	Pn	01 17 08.0	+2.6
MAKR	Makrakomi, Fth	2.85	349	P	Pb	01 17 08.6	-2.5
AOS	Alonnisos	3.06	15	P	Pn	01 17 10.8	+2.5
AOS	Alonnisos	3.06	15	ePN	Pn	01 17 08.8	+0.5
AOS	Alonnisos	3.06	15	ePn	Pn	01 17 08.8	+0.5
AOS	Alonnisos	3.06	15	P	Pn	01 17 10.8	+2.5
LKD2	Lefkada island	3.10	327	P	Pb	01 17 12.6	-2.8
NEO	Neokhori	3.10	6	ePN	Pn	01 17 10.2	+1.3
NEO	Neokhori	3.10	6	ePn	Pn	01 17 10.2	+1.3
XOR	Xorichti	3.15	5	P	Pn	01 17 11.2	+1.6
XOR	Xorichti	3.15	5	ePN	Pn	01 17 10.9	+1.3
XOR	Xorichti	3.15	5	ePn	Pn	01 17 10.9	+1.3
XOR	Xorichti	3.15	5	P	Pn	01 17 11.2	+1.6
FYTO	Fytoko, Volos	3.19	1	P	Pn	01 17 11.8	+1.8
FYTO	Fytoko, Volos	3.19	1	P	Pn	01 17 11.8	+1.8
DSL	Palaion Diasel	3.22	335	P	Pb	01 17 14.8	-2.7
DSL				S	Sb	01 17 56.0	-0.5
CHOS	Chios island	3.35	49	P	Pn	01 17 13.0	+0.5
CHOS	Chios island	3.35	49	ePN	Pn	01 17 12.9	+0.5
CHOS	Chios island	3.35	49	P	Pn	01 17 13.0	+0.5
THL	Klokotos Trika	3.40	349	P	Pn	01 17 15.6	+2.5
THL	Klokotos Trika	3.40	349	ePN	Pn	01 17 15.5	+2.5
THL	Klokotos Trika	3.40	349	ePn	Pn	01 17 15.5	+2.5
SMG	Samos	3.53	64	ePN	Pn	01 17 15.3	+0.5
SMG	Samos	3.53	64	ePn	Pn	01 17 15.3	+0.5
KARP	Karpathos	3.57	100	P	Pn	01 17 16.6	+1.2
KARP				S	Sn	01 17 59.6	+2.5
KARP	Karpathos	3.57	100	ePN	Pn	01 17 16.4	+1.0
KARP	Karpathos	3.57	100	ePn	Pn	01 17 16.4	+1.0
KARP				S	Sn	01 17 59.6	+2.5
BODT	Bodrum	3.69	75	ePN	Pn	01 17 17.1	+0.1
BODT	Bodrum	3.69	75	ePn	Pn	01 17 17.1	+0.1
PAIG	Paliouri	3.76	10	P	Pn	01 17 20.6	+2.7
PAIG	Paliouri	3.76	10	ePN	Pn	01 17 18.8	+0.9
PAIG	Paliouri	3.76	10	ePn	Pn	01 17 18.8	+0.9
PAIG	Paliouri	3.76	10	P	Pn	01 17 20.6	+2.7
JAN	Janina	3.78	336	P	Pn	01 17 22.1	+3.9
SIGR	SIGRI	3.83	38	P	Pn	01 17 20.9	+2.1
SIGR	SIGRI	3.83	38	ePN	Pn	01 17 19.2	+0.4
SIGR	SIGRI	3.83	38	ePn	Pn	01 17 19.2	+0.4
SIGR	SIGRI	3.83	38	P	Pn	01 17 20.9	+2.1
DAT	Datca	3.85	81	ePN	Pn	01 17 20.4	+1.2
DAT	Datca	3.85	81	ePn	Pn	01 17 20.5	+1.2
IGT	Igoumenitsa	3.86	330	P	Pn	01 17 21.9	+2.6
IGT				S	Sn	01 18 08.6	+4.5
IGT	Igoumenitsa	3.86	330	ePN	Pn	01 17 21.1	+1.8
IGT	Igoumenitsa	3.86	330	ePn	Pn	01 17 21.1	+1.8
IGT	Igoumenitsa	3.86	330	P	Pn	01 17 21.9	+2.6
LIT	Litokhoron	3.89	356	P	Pn	01 17 21.7	+2.0
LIT	Litokhoron	3.89	356	ePN	Pn	01 17 21.4	+1.7
LIT	Litokhoron	3.89	356	ePn	Pn	01 17 21.4	+1.7
LIT	Litokhoron	3.89	356	P	Pn	01 17 21.7	+2.0
SGD	Sagiada	3.97	329	P	Pn	01 17 23.2	+2.6
SGD				S	Sn	01 18 11.7	+5.0
SGD	Sagiada	3.97	329	ePN	Pn	01 17 23.0	+2.3
SGD	Sagiada	3.97	329	ePn	Pn	01 17 23.0	+2.3
SGD	Sagiada	3.97	329	P	Pn	01 17 23.2	+2.6
BLCB	Balcova	3.99	56	ePN	Pn	01 17 20.0	-1.1
BLCB	Balcova	3.99	56	ePn	Pn	01 17 20.0	-1.1
PRK	Paraskevi	4.07	41	P	Pn	01 17 24.0	+1.9
PRK	Paraskevi	4.07	41	ePN	Pn	01 17 22.6	+0.5
PRK	Paraskevi	4.07	41	ePn	Pn	01 17 22.6	+0.5
PRK	Paraskevi	4.07	41	P	Pn	01 17 24.0	+1.9
LIA	Limnos Island	4.11	26	P	Pn	01 17 24.8	+2.1
LIA				S	Sn	01 18 13.4	+3.0
LIA	Limnos Island	4.11	26	ePN	Pn	01 17 23.0	+0.3
LIA	Limnos Island	4.11	26	ePn	Pn	01 17 23.0	+0.3
LIA	Limnos Island	4.11	26	P	Pn	01 17 24.8	+2.1
LIA				S	Sn	01 18 13.4	+3.0
KZN	Kozani	4.17	349	P	Pn	01 17 27.3	+3.7
KZN	Kozani	4.17	349	P	Pn	01 17 27.3	+3.7
PLG	Polygyros	4.18	6	P	Pn	01 17 26.1	+2.4
PLG	Polygyros	4.18	6	ePN	Pn	01 17 24.9	+1.2
PLG	Polygyros	4.18	6	ePn	Pn	01 17 24.9	+1.2
PLG	Polygyros	4.18	6	P	Pn	01 17 26.1	+2.4
OUR	Ouranopolis	4.21	12	ePN	Pn	01 17 25.0	+1.0
OUR	Ouranopolis	4.21	12	ePn	Pn	01 17 25.0	+1.0
KEK	Kerkira	4.24	326	P	Pn	01 17 29.2	+4.7
KEK	Kerkira	4.24	326	ePN	Pn	01 17 26.3	+1.8
KEK	Kerkira	4.24	326	ePn	Pn	01 17 26.3	+1.8
ARG	Arkhangelos	4.28	88	P	Pn	01 17 25.9	+0.9
ARG				S	Sn	01 18 16.0	+1.6
ARG	Arkhangelos	4.28	88	ePN	Pn	01 17 27.4	+2.4
ARG	Arkhangelos	4.28	88	P	Pn	01 17 25.9	+0.9
ARG	Arkhangelos	4.28	88	ePn	Pn	01 17 27.4	+2.4
ARG				S	Sn	01 18 16.0	+1.6
SRN	Sarande	4.29	329	P	Pn	01 17 27.4	+2.3
SRN	Sarande	4.29	329	P	Pn	01 17 27.4	+2.3
HORT	Hortiatis	4.38	3	ePN	Pn	01 17 27.7	+1.2
HORT	Hortiatis	4.38	3	ePn	Pn	01 17 27.7	+1.2
AYDB	Zeytinkoy-Aydi	4.39	65	ePN	Pn	01 17 25.8	-0.9
AYDB	Zeytinkoy-Aydi	4.39	65	ePn	Pn	01 17 25.8	-0.9
NEST	Nestorio	4.42	342	P	Pn	01 17 31.8	+4.7
NEST				S	Sb	01 18 25.8	-5.2
YER	Yerkesik	4.47	77	ePN	Pn	01 17 28.2	+0.5
YER	Yerkesik	4.47	77	ePn	Pn	01 17 28.2	+0.5
EZN	Ezine	4.53	36	ePN	Pn	01 17 28.2	-0.3
EZN	Ezine	4.53	36	ePn	Pn	01 17 28.2	-0.3
SOH	Sokhos	4.61	5	P	Pn	01 17 31.6	+1.8
SOH	Sokhos	4.61	5	ePN	Pn	01 17 31.5	+1.8
SOH	Sokhos	4.61	5	ePn	Pn	01 17 31.5	+1.8
GADA	Gvkgeada	4.64	30	ePN	Pn	01 17 30.7	+0.7
GADA	Gvkgeada	4.64	30	ePn	Pn	01 17 30.7	+0.7
FNA	Florina	4.70	346	P	Pn	01 17 33.7	+2.8
FNA	Florina	4.70	346	ePN	Pn	01 17 33.7	+2.8
FNA	Florina	4.70	346	P	Pn	01 17 33.7	+2.8
DALY	Dalyan (Mu˘la	4.72	81	ePN	Pn	01 17 33.0	+1.9
DALY	Dalyan (Mu˘la	4.72	81	ePn	Pn	01 17 33.0	+1.9
SMTH	Samothraki Isl	4.74	26	P	Pn	01 17 33.3	+1.9
SMTH	Samothraki Isl	4.74	26	P	Pn	01 17 33.3	+1.9
SRS	Serrai	4.93	7	P	Pn	01 17 37.0	+3.0
SRS	Serrai	4.93	7	ePN	Pn	01 17 35.4	+1.4
SRS	Serrai	4.93	7	ePn	Pn	01 17 35.4	+1.4
SRS	Serrai	4.93	7	P	Pn	01 17 37.0	+3.0
KNT	Kendrikon	4.94	1	P	Pn	01 17 36.7	+2.6
KNT	Kendrikon	4.94	1	ePN	Pn	01 17 36.3	+2.2
KNT	Kendrikon	4.94	1	ePn	Pn	01 17 36.3	+2.2
KNT	Kendrikon	4.94	1	P	Pn	01 17 36.7	+2.6
GELI	Tayfur-Gelibol	5.06	33	ePN	Pn	01 17 36.7	+1.0
GELI	Tayfur-Gelibol	5.06	33	ePn	Pn	01 17 36.7	+1.0
VAY	Valandovo	5.10	358	*i* Pn	Pn	01 17 39.0	+2.7
VAY	Valandovo	5.10	358	*i* Pn	Pn	01 17 39.0	+2.7
OHR	Ohrid	5.14	343	*i* Pn	Pn	01 17 41.5	+4.6
OHR	Ohrid	5.14	343	*i* Pn	Pn	01 17 41.5	+4.6
NVR	Nevrokopi	5.19	9	P	Pn	01 17 40.5	+3.0
NVR	Nevrokopi	5.19	9	P	Pn	01 17 40.5	+3.0
ENEZ	Enez	5.21	29	ePN	Pn	01 17 38.7	+0.9
ENEZ	Enez	5.21	29	ePn	Pn	01 17 38.7	+0.9
ALN	Alexandroupoli	5.30	27	P	Pn	01 17 41.4	+2.3
ALN	Alexandroupoli	5.30	27	P	Pn	01 17 41.4	+2.3
KRBG	Karabiga-Canak	5.45	39	ePN	Pn	01 17 42.1	+1.0
KRBG	Karabiga-Canak	5.45	39	ePn	Pn	01 17 42.1	+1.0
TIR	Tirane	5.62	337	P	Pn	01 17 46.0	+2.5
TIR	Tirane	5.62	337	P	Pn	01 17 46.0	+2.5
TIP	Timpagrande 8.6nm,0.5s	5.66	303	ePn	Pn	01 17 44.5	+0.5
TIP	Timpagrande 8.6nm,0.5s	5.66	303	ePn	Pn	01 17 44.5	+0.5
TIP				eSn	Sn	01 18 45.5	-3.0
EDC	Edincik	5.71	42	ePN	Pn	01 17 45.3	+0.6
EDC	Edincik	5.71	42	ePn	Pn	01 17 45.3	+0.6
ELL	Elmali	5.72	83	ePN	Pn	01 17 46.5	+1.5
ELL	Elmali	5.72	83	ePn	Pn	01 17 46.5	+1.5
MRMT	Marmara Adasi	5.75	39	ePN	Pn	01 17 46.5	+1.1
MRMT	Marmara Adasi	5.75	39	ePn	Pn	01 17 46.5	+1.1
CEL	Celeste 15nm,0.6s	5.90	292	ePn	Pn	01 17 46.9	-0.5
CEL	Celeste 15nm,0.6s	5.90	292	ePn	Pn	01 17 46.9	-0.5
CEL				eSn	Sn	01 18 49.1	-5.5
PLD	Plovdiv	6.05	13	P	Pn	01 17 51.7	+2.3
PLD	Plovdiv	6.05	13	P	Pn	01 17 51.7	+2.3
TAR1	Taranto	6.13	316	ePn	Pn	01 17 51.8	+1.4
TAR1				Sn	Sn	01 18 59.1	-0.9
TVSB	Tavsanli	6.15	56	ePN	Pn	01 17 50.6	-0.3
TVSB	Tavsanli	6.15	56	ePn	Pn	01 17 50.6	-0.3
ANTB	Antalya	6.33	82	ePN	Pn	01 17 54.4	+1.2
ANTB	Antalya	6.33	82	ePn	Pn	01 17 54.4	+1.2
VTS	Vitosha	6.37	2	P	Pn	01 17 57.2	+3.3
VTS	Vitosha	6.37	2	P	Pn	01 17 57.2	+3.3
EDRB	Edirne	6.39	27	ePN	Pn	01 17 56.9	+2.9
EDRB	Edirne	6.39	27	ePn	Pn	01 17 56.9	+2.9
ARMT	Armutlu	6.42	46	ePN	Pn	01 17 55.4	+1.0
ARMT	Armutlu	6.42	46	ePn	Pn	01 17 55.4	+1.0
ALT	Altintas	6.43	62	ePN	Pn	01 17 54.5	-0.2
ALT	Altintas	6.43	62	ePn	Pn	01 17 54.5	-0.2
SLVT	Silivri	6.53	38	ePN	Pn	01 17 56.4	+0.4
SLVT	Silivri	6.53	38	ePn	Pn	01 17 56.4	+0.4
BARS	Barje	6.64	353	*i* Pn	Pn	01 18 00.6	+3.2
SUTC	Sutluce-Ispart	6.66	77	ePN	Pn	01 17 59.1	+1.2
SUTC	Sutluce-Ispart	6.66	77	ePn	Pn	01 17 59.1	+1.2
SG1	Sgolgore (BA)	6.68	316	ePn	Pn	01 17 59.9	+1.9
SG1				Sn	Sn	01 19 16.2	+2.6
CTKS	Kestanelik-??a	6.69	40	ePN	Pn	01 17 58.8	+0.7
CTKS	Kestanelik-??a	6.69	40	ePn	Pn	01 17 58.8	+0.7
CUC	Castrocucco 27nm,0.6s	6.70	306	ePn	Pn	01 17 59.5	+1.2
CUC	Castrocucco 27nm,0.6s	6.70	306	ePn	Pn	01 17 59.5	+1.2
CUC				eSn	Sn	01 19 14.2	+0.1
BAI	Bari	6.75	318	ePn	Pn	01 17 59.8	+0.8
BAI				Sn	Sn	01 19 15.2	-0.1
BGKT	Bogazkoy	6.79	41	ePN	Pn	01 17 59.8	+0.3
BGKT	Bogazkoy	6.79	41	ePn	Pn	01 17 59.8	+0.3
KLYT	Kilyos	6.98	42	ePN	Pn	01 18 03.1	+1.0
KLYT	Kilyos	6.98	42	ePn	Pn	01 18 03.1	+1.0
CDT	Castel del Mon	7.07	315	ePn	Pn	01 18 04.1	+0.7
SILT	Sile	7.25	45	ePN	Pn	01 18 05.9	0.0
SILT	Sile	7.25	45	ePn	Pn	01 18 05.9	0.0
IVAS	Ivanjica	7.63	345	*i* Pn	Pn	01 18 13.0	+1.8
MS1	Monte Sant'Ang	7.67	318	ePn	Pn	01 18 12.9	+1.2
STON	Ston	7.74	331	ePn	Pn	01 18 11.8	-0.7
STON				Sn	Sn	01 19 36.1	-3.5
STON	Ston	7.74	331	ePn	Pn	01 18 11.8	-0.7
HDMB	Hadim	7.80	82	ePN	Pn	01 18 15.8	+2.3
HDMB	Hadim	7.80	82	ePn	Pn	01 18 15.9	+2.3
KONT	Konya--Tatoy	7.80	74	ePN	Pn	01 18 14.2	+0.7
KONT	Konya--Tatoy	7.80	74	ePn	Pn	01 18 14.2	+0.7
GRUS	Gruza	7.83	349	*i* Pn	Pn	01 18 14.0	+0.2
BBLS	Lazići	8.08	342	⇓*i* Pn	Pn	01 18 18.2	+0.9
DIVS	Divibare	8.17	345	⇓*i*P	Pn	01 18 19.5	+1.0
DIVS	Divibare	8.17	345	⇑*i* Pn	Pn	01 18 19.1	+0.6
DIVS	Divibare	8.17	345	⇓*i*P	Pn	01 18 19.5	+1.0
LEF	Lefka	8.25	95	ePN	Pn	01 18 24.1	+4.5
CSS	Prodhromos	8.64	95	ePN	Pn	01 18 27.2	+2.3
CSS	Prodhromos 1.7nm,0.9s	8.64	95	ePn	Pn	01 18 25.1	+0.2
CSS	Prodhromos 1.7nm,0.9s	8.64	95	ePn	Pn	01 18 25.1	+0.2
CSS				eSn	Sn	01 19 52.9	-9.0
TEKS	Tekeris	8.70	344	*i* Pn	Pn	01 18 25.5	-0.2
MSAB	Monastry St. A	8.74	24	⇓*i*P	Pn	01 18 31.2	+5.0
BR131	Keskin Array S 1.6nm,0.7s	9.22	64	ePn	Pn	01 18 33.2	+0.2
BR131	Keskin Array S 1.6nm,0.7s	9.22	64	ePn	Pn	01 18 33.2	+0.2
BRTR	Keskin Array B 0.1nm,0.3s,baz=246,slow=15,SNR=8.4	9.22	64	Pn	Pn	01 18 35.3	+2.3
ARR	Arges	9.24	8	⇑*i*P	Pn	01 18 34.6	+1.4
ARR	Arges	9.24	8	⇑*i*P	Pn	01 18 34.6	+1.4
LOT	Lotru	9.25	4	⇓*i*P	Pn	01 18 36.6	+3.3
LOT	Lotru	9.25	4	⇓*i*P	Pn	01 18 36.6	+3.3
TIRR	Tirgusor	9.26	26	⇓*i*P	Pn	01 18 37.4	+4.0
TIRR	Tirgusor	9.26	26	⇓*i*P	Pn	01 18 37.4	+4.0
TIRR	Tirgusor 5.0nm,1.0s	9.26	26	ePn	Pn	01 18 30.3	-3.2
VOIR		9.36	10	⇓*i*P	Pn	01 18 36.9	+2.0
VOIR		9.36	10	⇓*i*P	Pn	01 18 36.9	+2.0
MLR	Muntele Rosu baz=200,slow=9.8	9.56	13	Pn	Pn	01 18 37.2	-0.4
MLR	Muntele Rosu	9.56	13	⇑*i*P	Pn	01 18 39.6	+2.0
MLR	Muntele Rosu	9.56	13	⇑*i*P	Pn	01 18 39.6	+2.0
CFR	Carcaliu	9.81	23	⇓*i*P	Pn	01 18 40.4	-0.5
CFR	Carcaliu	9.81	23	⇓*i*P	Pn	01 18 40.4	-0.5
UDBI	Udbina	9.90	329	ePn	Pn	01 18 42.2	0.0
UDBI				Sn	Sn	01 20 29.4	-3.4
UDBI	Udbina	9.90	329	ePn	Pn	01 18 42.2	0.0
DOPR	Dopca	9.93	10	⇑*i*P	Pn	01 18 44.9	+2.3
DOPR	Dopca	9.93	10	⇑*i*P	Pn	01 18 44.9	+2.3
PLOR	Plostina	10.04	15	⇑*i*P	Pn	01 18 47.4	+3.2
PLOR	Plostina	10.04	15	⇑*i*P	Pn	01 18 47.4	+3.2
VRI	Vrincioaia	10.07	16	⇑*i*P	Pn	01 18 48.5	+3.9
VRI	Vrincioaia	10.07	16	⇑*i*P	Pn	01 18 48.5	+3.9
PKSM	Moragy	10.47	344	⇓*i*P	Pn	01 18 50.6	+0.6
PKSM	Moragy	10.47	344	⇓*i*P	Pn	01 18 50.6	+0.6
MMAI	Mount Meron Ar 0.6nm,0.3s,baz=288,slow=15,SNR=3.9	10.83	104	Pn	Pn	01 18 53.1	-2.0
MMAI				Sn	Sn	01 20 55.4	-0.5
BOJS	Bojanci	10.90	331	*i* Pn	Pn	01 18 55.9	0.0
BOJS	Bojanci	10.90	331	Pn	Pn	01 18 55.9	0.0
KEST	Kesra	10.95	271	Pn	Pn	01 18 56.1	-0.6
KEST				Sn	Sn	01 20 56.4	-2.3
CRES	Cresnjev	11.09	332	*i* Pn	Pn	01 18 58.1	-0.4
CRES	Cresnjev	11.09	332	*i* Pn	Pn	01 18 58.1	-0.4
VISS	Visnje	11.32	330	ePn	Pn	01 19 00.8	-0.8
VISS	Visnje	11.32	330	ePn	Pn	01 19 00.8	-0.8
SOKA	Soboth	11.97	333	⇓*i*Pn	Pn	01 19 10.3	-0.3
SOKA	Soboth	11.97	333	Pn	Pn	01 19 10.3	-0.3
EIL	Elat	12.08	119	Pn	Pn	01 19 10.3	-1.8
EIL				Sn	Sn	01 21 22.1	-4.2
MOA	Molln	13.24	334	⇑*i*Pn	Pn	01 19 28.7	+0.8
MOA	Molln	13.24	334	Pn	Pn	01 19 28.7	+0.8
VRAC	Vranov	13.86	343	⇓*i*P	P	01 19 46.7	+2.2
VRAC	Vranov	13.86	343	⇓*i*P	P	01 19 46.7	+2.2
TREC	Trest	14.13	340	eP	P	01 19 47.1	-0.4
TREC	comp=Z,200nm,13.1s			AMS	AMS	01 25 50.0	
TREC	Trest	14.13	340	P	P	01 19 47.1	-0.4
GERES	GERESS Array B 0.1nm,0.3s,baz=158,slow=14,SNR=6.6	14.29	335	Pn	Pn	01 19 41.8	-0.5
GERES				Sn	Sn	01 22 15.9	-4.3
DAVOX	Davos/Dischmat 0.2nm,0.3s,baz=153,slow=22,SNR=6.4	14.32	321	Sn	Sn	01 22 20.1	-1.1
KHC	Kasperske Hory	14.58	335	eP	P	01 19 53.1	+0.6
KHC				eS	Sn	01 22 23.8	-3.3
KHC	comp=Z,300nm,11.0s			AMS	AMS	01 26 30.0	
KHC	Kasperske Hory	14.58	335	P	P	01 19 53.1	+0.6
GOPC	GO Pecny, Ondr	14.89	339	eP	P	01 19 55.8	-0.1
GOPC	GO Pecny, Ondr	14.89	339	P	P	01 19 55.8	-0.1
DPC	Dobruska-Polom	14.89	344	eP	P	01 19 57.4	+1.4
DPC	Dobruska-Polom	14.89	344	P	P	01 19 57.4	+1.4
PRU	Pruhonice	15.02	339	eP	P	01 19 56.1	-1.3
PRU	Pruhonice	15.02	339	P	P	01 19 56.1	-1.3
UPC	Upice	15.11	343	eP	P	01 20 00.5	+2.1
UPC	Upice	15.11	343	P	P	01 20 00.5	+2.1
AKASG	Malin Array Be 1.0nm,0.3s,baz=204,slow=11,SNR=5.6	15.19	16	Pn	Pn	01 19 53.3	-1.0
HINF	Hinteralfeld	16.56	319	eP	Pn	01 20 13.3	+1.3
HINF	Hinteralfeld	16.56	319	eP	Pn	01 20 13.3	+1.3
HINF	Hinteralfeld	16.56	319	eP	Pn	01 20 13.3	+1.3
CLL	Collm	16.65	338	epP	P	01 20 17.0	+1.6
CLL				ePP	PnPn	01 20 24.0	+1.6
CLL				e		01 20 33.0	
CDF	Champ du Feu	16.72	322	eP	Pn	01 20 15.3	+1.2
CDF	Champ du Feu	16.72	322	eP	Pn	01 20 15.3	+1.2
CDF	Champ du Feu	16.72	322	eP	Pn	01 20 15.3	+1.2
KIV	Kislovodsk 5.6nm,0.9s	17.02	57	ePn	P	01 20 19.2	-0.4
KIV	Kislovodsk 5.6nm,0.9s	17.02	57	ePn	P	01 20 19.2	-0.4
KBZ	Khabaz 0.1nm,0.3s,baz=259,slow=5.2,SNR=2.1	17.08	58	P	Pn	01 20 19.3	+0.7
MEZF	Maizieres J'vi	17.93	319	eP	P	01 20 29.9	+0.3
MEZF	Maizieres J'vi	17.93	319	eP	P	01 20 29.9	+0.3
MEZF	Maizieres J'vi	17.93	319	eP	P	01 20 29.9	+0.3
LDF	La Druitiere 11nm,0.9s	20.89	313	eP	P	01 21 02.2	+0.2
LDF	La Druitiere 11nm,0.9s	20.89	313	eP	P	01 21 02.2	+0.2
LDF	La Druitiere 11nm,0.9s	20.89	313	eP	P	01 21 02.2	+0.2
FLN	La Foliniere 10nm,0.6s	21.18	314	eP	P	01 21 05.6	+0.5
FLN	La Foliniere 10nm,0.6s	21.18	314	eP	P	01 21 05.6	+0.5
FLN	La Foliniere 10nm,0.6s	21.18	314	eP	P	01 21 05.6	+0.5
ESDC	Sonseca Array 0.6nm,0.7s,baz=84,slow=10,SNR=3.8	21.39	287	P	P	01 21 07.3	-0.1
HFS	Hagfors 2.8nm,0.5s,baz=161,slow=11,SNR=15	24.65	349

Error ellipse: s-maj=6.4km s-min=4.3km az=65.0
DJA 13 01:57:58.1±0.2,1°N±2″×12°7E±″,h104km±3km,M5.0/32,
mb4.8/32,mB5.5/17,MLv5.3/20,Mw(mB)4.9/17
ISC 13 01:57:55.7±0.3,0.73N±0.03×127.50E±0.04,h143km±2km,
h143km:pP-P,n267,σ1.52/329,mb4.7/78,23C-15D,
Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.14**	**287**	P	**Pn**	**01 58 14.3**	**-0.8**
TNTI	**Ternate**	**0.14**	**287**	*e*Pn	**Pn**	**01 58 14.3**	**-0.8**
SANI	**Sanana**	**3.15**	**209**	P	**Pn**	**01 58 43.9**	**-0.9**
SANI				S	**Sn**	**01 59 17.9**	**-4.8**
KMSI	**Cibinong**	**3.52**	**267**	P	**Pn**	**01 58 48.6**	**-0.9**
KMSI				S	**Sn**	**01 59 28.0**	**-3.2**
SGSI	**Sangihe**	**3.53**	**326**	P	**Pn**	**01 58 48.1**	**-1.6**
SGSI				S	**Sn**	**01 59 26.2**	**-5.4**
NLAI	**Namlea**	**3.96**	**186**	P	**Pn**	**01 58 56.0**	**+0.6**
SWI	**Sorong**	**4.08**	**113**	P	**Pn**	**01 58 59.6**	**+2.7**
SIJI	**Sorong**	**4.09**	**113**	P	**Pn**	**01 58 58.8**	**+1.8**
	3.7nm,0.3s,baz=301,slow=12,SNR=18						
MSAI	**Masohi**	**4.30**	**161**	P	**Pn**	**01 59 02.7**	**+2.9**
LUWI	**Luwuk**	**5.04**	**250**	P	**Pn**	**01 59 07.9**	**-1.7**
LUWI	**Luwuk**	**5.04**	**250**	*e*Pn	**Pn**	**01 59 08.2**	**-1.4**
LUWI				*e*Sn	**Sn**	**02 00 04.2**	**-3.0**
MRSI	**Marisa**	**5.56**	**267**	P	**Pn**	**01 59 14.6**	**-2.0**
	174nm,0.6s,3µm1.8nm						
GSPH	**General Santos**	**5.90**	**335**⇑	*i*P	**Pn**	**01 59 18.0**	**-3.1**
GSPH				*i* S	Sn	02 00 20.5	-7.4
FAKI	**Fak Fak**	**5.98**	**127**	P	**Pn**	**01 59 24.5**	**+2.4**
	57nm,1.1s,0.2nm						
APSI	**Ampana**	**6.07**	**254**	P	**Pn**	**01 59 22.2**	**-1.2**
	342nm,0.6s,13µm6.6nm						
MATI	**Mati**	**6.30**	**349**	*e*P	**Pn**	**01 59 25.9**	**-0.5**
DAV	**Davao City (W)**	**6.58**	**343**	*e*Pn	**Pn**	**01 59 28.7**	**-1.5**
KDI	**Kendari**	**6.74**	**226**	P	**Pn**	**01 59 31.7**	**-0.7**
	148nm,0.9s,4µm1.5nm						
RKPI	**Ransiki, Papua**	**7.04**	**108**	P	Pn	01 59 43.6	+7.2
	63nm,1.0s,0.2nm						
BIPH	**Bislig**	**7.49**	**351**⇑	*e*P	**Pn**	**01 59 44.9**	**+2.5**
BIPH				*e*S	**Sn**	**02 01 04.8**	**-1.2**
BUKP	**Musuan**	**7.50**	**341**	*e*P	**Pn**	**01 59 41.3**	**-1.4**
MPSI	**Mapaga**	**7.61**	**267**	P	**Pn**	**01 59 44.0**	**0.0**
	32nm,0.9s,2µm0.5nm						
PCI	**Palu**	**7.83**	**258**	P	**Pn**	**01 59 47.4**	**+0.4**
	63nm,0.9s,2µm0.8nm						
PAGZ	**Pagadian**	**8.17**	**330**	*e*P	**Pn**	**01 59 49.1**	**-2.4**
BUTP	**Butuan**	**8.39**	**347**	*e*P	**Pn**	**01 59 53.5**	**-1.0**
TTSI	**Tana Toraja**	**8.54**	**244**	P	**Pn**	**01 59 55.6**	**-0.9**
	81nm,0.9s,2µm						
SPSI	**Sidrap Palu**	**9.02**	**239**	P	**Pn**	**02 00 02.4**	**-0.5**
	157nm,0.6s,2µm						
BKSI	**Bulukumba**	**9.51**	**231**	P	**Pn**	**02 00 10.0**	**+0.6**
	117nm,0.7s,2µm						
KAPI	**Kappang**	**9.61**	**234**	P	**Pn**	**02 00 10.4**	**-0.4**
	20nm,0.3s,baz=101,slow=2.5,SNR=64						
KAPI				S	**Sn**	**02 01 55.2**	**-2.1**
	42nm,0.3s,baz=130,slow=21,SNR=25						
BSSI	**Bau Bau, Buton**	**9.78**	**226**	P	Pn	02 00 17.1	+4.1
	150nm,0.5s,2µm						
TSM	**Tawau**	**10.24**	**290**	⇑P	**Pn**	**02 00 17.5**	**-1.7**
MMRI	**Maumere**	**10.68**	**209**	*e*Pn	**Pn**	**02 00 24.0**	**-1.0**
SOEI	**Soe**	**10.90**	**197**	P	Pn	02 00 35.9	+7.9
SOEI	**Soe**	**10.90**	**197**	*e*Pn	**Pn**	**02 00 29.4**	**+1.4**
SDKM	**Sandakan**	**11.38**	**296**	⇑P	**Pn**	**02 00 34.2**	**-0.1**
SMPI	**Sarmi**	**11.53**	**104**	P	**P**	**02 00 41.1**	**-2.9**
	32nm,1.1s,7µm						
WBSI	**Waikabubak, Su**	**13.09**	**218**	P	**P**	**02 01 01.2**	**-0.2**
	99nm,0.7s						
GENI	**Genyem**	**13.09**	**105**	P	**P**	**02 01 00.4**	**-0.9**
	73nm,1.0s,3µm						
JAY	**Jayapura**	**13.59**	**104**	P	**P**	**02 01 09.0**	**+2.0**
	32nm,0.8s,6µm						
KSM	**Kuching**	**17.20**	**273**	⇑P	**Pn**	**02 01 49.0**	**+1.5**
KSM	**Kuching**	**17.20**	**273**	*e*P	**Pn**	**02 01 48.5**	**+1.0**
	14nm,0.9s						
PWJI	**Pagerwojo**	**17.90**	**241**	P	**Pn**	**02 01 58.0**	**+2.1**
	45nm,1.1s						
KPJI	**Karang Pucung**	**20.18**	**246**	P	Pn	02 02 22.0	-0.7
	49nm,0.9s						
COEN	**Coen**	**21.31**	**134**	*e*P	**P**	**02 02 31.7**	**+0.3**
	27nm,0.4s						
WRAB	**Tennant Creek**	**21.61**	**162**	*d i*P	**P**	**02 02 34.5**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,164nm,1.1s						
WRAB	**Tennant Creek**	**21.61**	**162**	*e*P	**P**	**02 02 34.8**	**+0.2**
	comp=Z,46nm,0.7s						
WRA	**Warramunga Arr**	**21.61**	**162**	P	**P**	**02 02 34.7**	**+0.1**
	comp=Z,40nm,0.7s,baz=342,slow=10,SNR=55						
WRA				S	**S**	**02 06 23.9**	**-1.2**
	comp=Z,10nm,0.9s,baz=346,slow=18,SNR=12						
WRA				ScP	**ScP**	**02 09 54.0**	**-0.8**
	comp=Z,2.0nm,1.1s,baz=351,slow=4.6,SNR=3.8						
WRA	**Warramunga Arr**	**21.61**	**162**	P	**P**	**02 02 34.7**	**+0.1**
WRA				S	**S**	**02 06 23.9**	**-1.2**
WRA				pmax	pmax		
	comp=Z,40nm,0.7s						
WRA				smax	smax		
	comp=N,10.0nm,0.9s						
WRA				pmax	pmax		
	comp=N,2.0nm,1.1s						
PMG	**Port Moresby**	**22.02**	**118**	*e*P	**P**	**02 02 40.1**	**+1.2**
	comp=N,20nm,0.8s						
CGJI	**Cibinong**	**22.95**	**251**	P	**P**	**02 02 50.3**	**+2.4**
	comp=N,32nm,0.7s,comp=N,2µm						
MBWA	**Marble Bar**	**23.04**	**199**	*e*P	**P**	**02 02 49.5**	**+0.8**
	comp=N,24nm,0.7s						
KLSI		**23.37**	**256**	P	**P**	**02 02 54.4**	**+2.6**
	comp=N,29nm,1.0s						
TPUB	**Ta-pu**	**23.40**	**344**	*e*P	**P**	**02 02 51.8**	**-0.2**
	comp=N,19nm,0.5s						
MYKOM	**Kota Tinggi**	**23.66**	**273**	*e*P	**P**	**02 02 55.7**	**+1.2**
	comp=N,13nm,0.8s						
KASI	**Kota Agung**	**23.79**	**255**	P	**P**	**02 02 57.9**	**+2.3**
	comp=N,45nm,1.1s						
MDSI	**Maura Dua**	**23.87**	**257**	P	**P**	**02 02 58.4**	**+2.1**
	comp=N,22nm,1.1s,comp=N,922nm						
KGM	**Kluang**	**24.20**	**273**	⇑P	**P**	**02 02 58.1**	**-1.2**
YHNB	**Yeheng**	**24.52**	**346**	*e*P	**P**	**02 03 01.4**	**-0.7**
	comp=N,11nm,0.6s						
AS31	**Alice Springs**	**25.04**	**166**	*e*P	**P**	**02 03 06.8**	**-0.1**
ASAR	**Alice Springs**	**25.04**	**166**	P	**P**	**02 03 07.0**	**+0.2**
	comp=N,11nm,0.3s,baz=340,slow=7.8,SNR=120						
ASAR				PcP	**PcP**	**02 06 37.1**	**-0.9**
	comp=N,2.2nm,0.4s,baz=351,slow=2.7,SNR=5.7						
ASAR				S	**S**	**02 07 22.3**	**+1.7**
	comp=N,1.3nm,0.8s,baz=336,slow=19,SNR=4.8						
ASAR				ScP	**ScP**	**02 10 02.7**	**-1.2**
	comp=N,0.4nm,0.6s,baz=340,slow=2.3,SNR=3.3						
ASAR	**Alice Springs**	**25.04**	**166**	P	**P**	**02 03 07.1**	**+0.2**
ASAR						02 06 37.1	
ASAR				S	**S**	**02 07 22.3**	**+1.7**
ASAR				pmax	pmax		
	comp=Z,11nm,0.3s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ASAR				smax	smax		
	comp=N,1.0nm,0.8s						
UBPT	**Khong Chiam**	**26.12**	**305**	P	**P**	**02 03 20.9**	**+4.3**
	comp=N,8.2nm,1.0s						
IPM	**Ipoh**	**26.70**	**278**	⇑P	**P**	**02 03 21.6**	**-0.3**
IPM	**Ipoh**	**26.70**	**278**	*e*P	**P**	**02 03 22.3**	**+0.4**
	comp=N,6.9nm,0.8s						
CTA	**Charters Tower**	**27.68**	**139**	P	**P**	**02 03 29.2**	**-1.3**
	comp=N,9.3nm,1.1s,baz=339,slow=17,SNR=2.6						
CTA	**Charters Tower**	**27.68**	**139**	P	**P**	**02 03 29.2**	**-1.3**
CTA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PSI	**Prapat**	**28.63**	**274**	P	**P**	**02 03 39.0**	**-0.3**
	comp=Z,4.1nm,0.7s,baz=102,slow=5.6,SNR=5.1						
PSI				PcP	**PcP**	**02 06 45.6**	**-1.3**
	comp=Z,2.2nm,0.3s,baz=31,slow=6.5,SNR=3.7						
PSI	**Prapat**	**28.63**	**274**	P	**P**	**02 03 39.0**	**-0.3**
PSI						02 06 45.6	
PSI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PSI				pmax	pmax		
	comp=Z,2.0nm,0.3s						
GSI	**Gunungsitoli**	**29.92**	**271**	*e*P	**P**	**02 03 50.2**	**-0.3**
	comp=Z,27nm,0.9s						
FORT	**Forrest**	**31.34**	**179**	*e*P	**P**	**02 04 02.3**	**-0.5**
	comp=Z,60nm,0.7s						
NJ2	**Nanjing**	**32.20**	**346**	*e*P	**P**	**02 04 11.6**	**+1.3**
NJ2				PMZ			
	comp=Z,30nm,0.8s						
GYA	**Guiyang**	**32.50**	**324**	P	**P**	**02 04 15.0**	**+1.9**
GYA				pP	**pP**	**02 04 45.8**	**+2.0**
GYA				sP	**sP**	**02 05 03.0**	**+2.7**
GYA				PP	**PP**	**02 05 29.4**	**-0.1**
GYA				S	**S**	**02 09 18.9**	**+1.1**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**33.10**	**304**	P	**P**	**02 04 16.2**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=125,slow=8.9,SNR=3.2						
CMAR				PcP	**PcP**	**02 06 57.8**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=167,slow=1.9,SNR=8.7						
CMAR				ScP	**ScP**	**02 10 29.5**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=132,slow=1.3,SNR=9.3						
CMAR	**Chiang Mai Arr**	**33.10**	**304**	P	**P**	**02 04 16.2**	**-2.2**
CMAR						02 06 57.8	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CMAR				pmax	pmax		
	comp=N,1.0nm,0.5s						
HNR	**Honiara**	**33.85**	**108**	*e*P	**P**	**02 04 26.2**	**+1.3**
STKA	**Stephens Creek**	**35.07**	**159**	P	**P**	**02 04 35.8**	**+0.6**
	comp=N,8.4nm,0.3s,baz=343,slow=7.3,SNR=65						
STKA				PcP	**PcP**	**02 07 03.4**	**-0.4**
	comp=N,3.9nm,0.4s,baz=344,slow=2.6,SNR=5.2						
STKA	**Stephens Creek**	**35.07**	**159**	P	**P**	**02 04 35.8**	**+0.6**
STKA						02 07 03.4	
STKA				pmax	pmax		
	comp=Z,8.0nm,0.3s						
STKA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
STKA	**Stephens Creek**	**35.07**	**159**	*e*P	**P**	**02 04 35.5**	**+0.3**
	comp=Z,3.4nm,0.8s						
STKA				*e*PcP	**PcP**	**02 07 03.5**	**-0.4**
KSAR	**Wonju Array Be**	**36.53**	**1**	P	**P**	**02 04 47.6**	**+0.1**
KSAR				pP	**pP**	**02 05 17.4**	**-1.2**
KSAR				PcP	**PcP**	**02 07 08.6**	**+0.5**
KSAR				ScP	**ScP**	**02 10 40.4**	**-1.1**
KSRS	**Korea Array**	**36.54**	**1**	P	**P**	**02 04 47.6**	**0.0**
	comp=Z,3.2nm,0.7s,baz=178,slow=9.8,SNR=15						
KSRS				pP	**pP**	**02 05 17.4**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=178,slow=10.0,SNR=2.6						
KSRS				PcP	**PcP**	**02 07 08.6**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=190,slow=3.6,SNR=8.4						
KSRS				ScP	**ScP**	**02 10 40.4**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=190,slow=4.1,SNR=5.5						
KSRS	**Korea Array**	**36.54**	**1**	P	**P**	**02 04 47.6**	**0.0**
KSRS				*PP	**pP**	**02 05 17.5**	**-1.3**
KSRS						02 07 08.6	
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KSRS				pmax	pmax		
	comp=N,2.0nm,0.8s						
MAJO	**Matsushiro**	**36.99**	**14**	*e*P	**P**	**02 04 49.9**	**-1.5**
	comp=N,4.3nm,0.6s						
MAT	**Matsushiro**	**36.99**	**14**	P	**P**	**02 04 50.2**	**-1.2**
CD2	**Chengdu**	**37.52**	**325**	*e*P	**P**	**02 04 57.0**	**+1.0**
CD2				pP	**pP**	**02 05 28.3**	**+1.0**
CD2				sP	**sP**	**02 05 44.9**	**+1.3**
CD2				PP	**PnPn**	**02 06 25.9**	**-1.4**
CD2				S	**S**	**02 10 36.5**	**+2.0**
CD2				sS	**sS**	**02 11 31.7**	**+2.7**
CD2				PMZ			
	comp=N,20nm,0.5s						
CD2				PMZ			
	comp=N,180nm,5.0s						
CAN	**Canberra**	**41.11**	**153**	*e*P	**P**	**02 05 27.2**	**+1.4**
	comp=N,13nm,0.6s						
LZH	**Lanzhou**	**41.47**	**331**	*e*P	**P**	**02 05 30.6**	**+1.8**
LZH				pP	**pP**	**02 06 02.0**	**+1.4**
LZH				sP	**sP**	**02 06 19.5**	**+2.8**
LZH				PMZ			
	comp=N,26nm,1.0s						
LZH				PMZ			
	comp=N,81nm,4.3s						
HHC	**Hu-ho-hao-te**	**42.47**	**342**	*e*P	P	02 05 43.0	+6.2
HHC				S	**S**	**02 11 50.8**	**+2.7**
HHC				PMZ			
	comp=N,17nm,0.9s						
HHC				PMZ			
	comp=N,66nm,5.9s						
CN2	**Changchun**	**42.92**	**358**	*e*P	**P**	**02 05 41.3**	**+1.1**
USRK	**Ussuriysk Ar.**	**43.47**	**5**	P	**P**	**02 05 43.6**	**-1.0**
	comp=N,2.5nm,0.6s,baz=159,slow=3.4,SNR=6.4						
USRK				pP	**pP**	**02 06 14.7**	**-2.0**
	comp=N,1.4nm,0.6s,baz=191,slow=6.8,SNR=2.0						
MDJ	**Mudanjiang**	**43.74**	**2**	P	**P**	**02 05 47.4**	**+0.6**
MDJ				PMZ			
	comp=N,8.0nm,0.9s						
MDJ				PMZ			
	comp=N,24nm,4.0s						
LSA	**Lhasa**	**45.01**	**313**	*e*P	**P**	**02 05 58.8**	**+1.1**
	comp=N,20nm,0.6s						
GTA	**Gaotai**	**46.05**	**330**	*e*P	**P**	**02 06 06.6**	**+1.2**
GTA				pP	**pP**	**02 06 38.2**	**+0.5**
GTA				sP	**sP**	**02 06 53.7**	**0.0**
GTA				S	**S**	**02 12 42.5**	**+2.4**
GTA				sS	**sS**	**02 13 38.0**	**+1.8**
GTA				SS	**SS**	**02 16 04.4**	**-2.7**
GTA				PMZ			
	comp=N,12nm,1.0s						
GTA				PMZ			
	comp=N,71nm,5.0s						
GTA				LN			
	comp=N,110nm,13.1s						
GTA				LE			
	comp=N,88nm,15.9s						
GTA				LZ			
	comp=N,120nm,17.1s						
TAPN	**Taplejung**	**46.43**	**308**	*e*P	**P**	**02 06 09.5**	**+0.8**
	comp=N,27nm,0.6s						
ODAN	**Odare**	**46.46**	**307**	*e*P	**P**	**02 06 10.1**	**+1.2**
RAMN	**Ramite**	**47.12**	**307**	*e*P	**P**	**02 06 15.4**	**+1.3**
	comp=N,105nm,0.6s						
JIRN	**Jiri**	**47.77**	**308**	*e*P	**P**	**02 06 20.3**	**+1.1**
	comp=N,85nm,0.5s						
HABR	**Khabarovsk**	**48.00**	**7**	*e*P	**P**	**02 06 17.9**	**-2.2**
HABR						02 08 11.5	
HABR				*e*PPP	PPP	02 09 03.5	
HABR				*e*S	**S**	**02 13 05.3**	**-1.8**
HABR				*e*		02 15 56.2	
HABR				*e*SS	**SS**	**02 16 37.4**	**-0.7**
HABR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HABR				MLR	MLR		
	comp=Z,86nm,22.0s						
GUN	**Gumba**	**48.13**	**308**	*e*P	**P**	**02 06 23.0**	**+1.1**
	comp=Z,115nm,0.5s						
PKI	**Pulchoki**	**48.35**	**307**	*e*P	**P**	**02 06 24.1**	**+0.5**
	comp=Z,34nm,0.4s						
KKN	**Kakani**	**48.55**	**307**	*e*P	**P**	**02 06 25.8**	**+0.8**
	comp=Z,34nm,0.5s						
DMN	**Daman**	**48.61**	**307**	*e*P	**P**	**02 06 26.4**	**+0.9**
	comp=Z,54nm,0.8s						
GKN	**Gorkha**	**49.15**	**307**	*e*P	**P**	**02 06 30.2**	**+0.7**
	comp=Z,61nm,0.9s						
KOLN	**Koldanda**	**49.88**	**307**	*e*P	**P**	**02 06 36.3**	**+1.2**
	comp=Z,157nm,0.6s						
SONM	**Songino Array**	**50.37**	**342**	P	**P**	**02 06 38.6**	**+0.3**
	comp=Z,5.2nm,0.7s,baz=154,slow=8.3,SNR=43						
SONM				pP	**pP**	**02 07 07.8**	**-3.4**
	comp=Z,1.5nm,0.7s,baz=149,slow=7.1,SNR=2.9						
SONM				PcP	**PcP**	**02 07 53.9**	**-0.9**
	comp=Z,2.9nm,0.8s,baz=154,slow=3.9,SNR=5.9						
SONM	**Songino Array**	**50.37**	**342**	P	**P**	**02 06 38.6**	**+0.3**
SONM				*PP	**pP**	**02 07 07.8**	**-3.4**
SONM						02 07 53.9	
SONM				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MSVF	**Nonsavu**	**53.01**	**113**	*e*P	**P**	**02 07 00.5**	**+2.1**
ZAK	**Zakamensk**	**53.59**	**341**	*e*P	**P**	**02 07 00.7**	**-1.4**
ZAK				*e*		02 08 05.5	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TLY	**Talaya**	**54.60**	**342**	*e*P	**P**	**02 07 09.8**	**+0.5**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MOY	**Mondy**	**55.44**	**340**	*e*P	**P**	**02 07 16.1**	**+0.6**
WMQ	**Urumqi**	**55.61**	**326**	P	**P**	**02 07 18.1**	**+1.3**
WMQ				pP	**pP**	**02 07 51.0**	**+0.8**
WMQ				sP	**sP**	**02 08 06.7**	**+0.7**
WMQ				PMZ			
	comp=Z,21nm,0.9s						
WMQ				PMZ			
	comp=Z,31nm,4.6s						
WMQ				LN			
	comp=Z,140nm,5.0s						
WMQ				LE			
	comp=Z,38nm,5.4s						
WMQ				LZ			
	comp=Z,120nm,24.0s						
HVS	**Khovu-Aksy**	**57.77**	**336***c i*P		**P**	**02 07 32.2**	**+0.3**
HVS				pmax	pmax		
	comp=Z,87nm,0.7s						
PETK	**Petropavlovsk-**	**57.92**	**21**	P	**P**	**02 07 32.6**	**-0.1**
	comp=Z,7.8nm,0.6s,baz=183,slow=5.8,SNR=8.4						
PETK	**Petropavlovsk-**	**57.92**	**21**	P	**P**	**02 07 32.7**	**-0.1**
PETK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BOD	**Bodaibo**	**57.92**	**352**	*e*P	**P**	**02 07 32.2**	**-0.5**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MK31	**Makanchi Array**	**60.45**	**326**	*e*P	**P**	**02 07 50.0**	**-0.3**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.4s						
MK31	**Makanchi Array**	**60.45**	**326**	*e*P	**P**	**02 07 50.4**	**0.0**
MK31				*e*pP	**pP**	**02 08 23.6**	**-0.7**
MKAR	**Makanchi Array**	**60.45**	**326**	P	**P**	**02 07 50.6**	**+0.2**
	comp=Z,19nm,0.6s,baz=120,slow=8.5,SNR=195						
MKAR	**Makanchi Array**	**60.45**	**326***c e*P		**P**	**02 07 50.5**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,19nm,0.6s						
KSH	**Kashi**	**60.71**	**316**	P	**P**	**02 07 54.0**	**+1.6**
KSH				pP	**pP**	**02 08 28.7**	**+2.4**
KSH				PcP	**PcP**	**02 08 36.2**	**+1.1**
KSH				sP	**sP**	**02 08 45.0**	**+3.0**
KSH				PP	**PP**	**02 10 12.2**	**+4.3**
KSH				S	**S**	**02 16 00.2**	**+2.1**
KSH				ScS	SKKSac	02 17 27.5	-2.1
KSH				SS	**SS**	**02 20 06.2**	**+6.8**
KSH				PMZ			
	comp=Z,9.0nm,0.8s						
KSH				PMZ			
	comp=Z,90nm,4.8s						
KSH				LN			
	comp=Z,49nm,5.3s						
KSH				LE			
	comp=Z,85nm,4.4s						
KSH				LZ			
	comp=Z,130nm,5.4s						
YAK	**Yakutsk**	**61.17**	**1**	*e*P	**P**	**02 07 54.6**	**-0.2**
YAK				*e**PP	**pP**	**02 08 24.1**	**-4.7**
YAK				*e*		02 08 35.6	
YAK				*e*		02 10 09.6	
YAK				*e*PPP	PPP	02 11 34.8	
YAK				*e*S	**S**	**02 16 06.8**	**+4.0**
YAK				*e*		02 17 36.0	
YAK				*e*SS	**SS**	**02 20 05.5**	**+0.1**
YAK				pmax	pmax		
	comp=Z,12nm,0.7s						
YAK				pmax	pmax		
	comp=Z,65nm,4.1s						
YAK				pmax	pmax		
	comp=N,27nm,3.3s						
YAK				pmax	pmax		
	comp=E,52nm,4.4s						
YAK				smax	smax		
	comp=N,21nm,2.5s						
YAK				smax	smax		
	comp=E,12nm,2.1s						
YAK	**Yakutsk**	**61.17**	**1**	*e*P	**P**	**02 07 54.7**	**-0.1**
	comp=E,18nm,0.6s						
KZA	**Kyzart**	**62.34**	**318**	P	**P**	**02 08 04.9**	**+1.2**
	SNR=13						
TKM2	**Tokmak 2**	**62.49**	**319**	P	**P**	**02 08 04.6**	**+0.2**
	SNR=14						
TKM2	**Tokmak 2**	**62.49**	**319**	P	**P**	**02 08 04.8**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,11nm,0.7s						
TKM2	**Tokmak 2**	**62.49**	**319**	*e*P	**P**	**02 08 04.5**	**+0.2**
	comp=Z,11nm,0.6s						
TKM2				*e*pP	**pP**	**02 08 39.0**	**+0.4**
UCH	**Uchtor**	**62.90**	**318**	P	**P**	**02 08 08.4**	**+1.0**
	SNR=14						
AAK	**Ala-Archa**	**63.09**	**319**⇑	*e*P	**P**	**02 08 08.6**	**+0.3**
AAK				pmax	pmax		
	comp=Z,15nm,1.7s						
AAK	**Ala-Archa**	**63.09**	**319**	*e*P	**P**	**02 08 08.3**	**0.0**
	comp=Z,4.1nm,0.9s						
USP	**Ospenovka**	**63.37**	**319**	P	**P**	**02 08 10.2**	**+0.2**
	SNR=19						
AML	**Almayashu**	**63.40**	**318**	P	**P**	**02 08 11.7**	**+1.0**
	SNR=8.2						
EKS2	**Erkin-Say**	**63.58**	**318**	P	**P**	**02 08 12.5**	**+1.0**
	SNR=13						
EKS2	**Erkin-Say**	**63.58**	**318**	*e*P	**P**	**02 08 12.2**	**+0.8**
	comp=Z,11nm,0.8s						
ZAA0	**Zalesovo Array**	**63.59**	**333**	*e*P	**P**	**02 08 09.6**	**-1.5**
ZALV	**Zalesovo Beam**	**63.59**	**333**	P	**P**	**02 08 10.2**	**-1.0**
	comp=Z,6.1nm,0.6s,baz=115,slow=6.7,SNR=28						
ZALV	**Zalesovo Beam**	**63.59**	**333**	P	**P**	**02 08 10.2**	**-1.0**
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KBL	**Kabul**	**63.96**	**308**	*e*P	**P**	**02 08 14.2**	**-0.1**
	comp=Z,13nm,0.8s						
KURK	**Kurchatov**	**64.67**	**328**	P	**P**	**02 08 17.7**	**-0.5**
KURK				pmax	pmax		
	comp=Z,28nm,0.9s						
KURK	**Kurchatov**	**64.67**	**328**	*e*P	**P**	**02 08 18.0**	**-0.3**
	comp=Z,57nm,0.6s						
KURK				*e*PcP	**PcP**	**02 08 49.5**	**-1.3**
SEY	**Seymchan**	**64.77**	**12**⇓	*e*P	**P**	**02 08 19.6**	**+1.0**
NVS	**Novosibirsk**	**64.88**	**334**	*e*P	**P**	**02 08 17.3**	**-2.2**
NVS				pmax	pmax		
	comp=Z,13nm,0.6s						
NVS				pmax	pmax		
	comp=N,6.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,7.0nm,0.5s						
KK31	**Karatay Array**	**65.94**	**318**	*i* P	**P**	**02 08 26.5**	**-0.1**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KKAR	**

ARU 02 12 30.3
ARU S **S** 02 19 17.8 -0.7
ARU pmax pmax
comp=Z,7.0nm,0.6s
ARU Arti 77.86 328 *eP* P **02 09 35.8 -1.6**
comp=Z,9.1nm,0.8s
IPIR Pirpir 78.34 303 *eP* P 02 09 37.7 -3.2
VNDA Vanda 80.38 173 P **P 02 09 51.0 +0.3**
comp=Z,9.6nm,0.7s,baz=312,slow=7.0,SNR=58
VNDA Vanda 80.38 173 P **P 02 09 51.0 +0.3**
VNDA pmax pmax
comp=Z,10.0nm,0.7s
VNDA Vanda 80.38 173 *eP* P **02 09 50.7 0.0**
comp=Z,8.8nm,0.7s
MAW Mawson 81.23 201 P **P 02 09 55.9 +0.6**
comp=Z,4.0nm,0.6s,baz=79,slow=5.1,SNR=14
MAW Mawson 81.23 201 P **P 02 09 55.9 +0.6**
MAW pmax pmax
comp=Z,4.0nm,0.6s
RAYN Ar Rayn 82.36 294 *eP* P **02 10 01.9 -0.5**
comp=Z,20nm,1.1s
GNI Garni 83.98 310⇑ *eP* P **02 10 11.1 +0.6**
GNI pmax pmax
comp=Z,11nm,1.7s
KDAK Kodiak Island 84.00 32 *i* P P **02 10 11.0 +1.1**
RSO Redoubt South 84.31 29 *eP* P **02 10 11.5 -0.2**
comp=Z,48nm,0.9s
ZEI Tsey 84.80 313 *eP* P **02 10 13.6 -1.0**
ZEI pmax pmax
comp=Z,25nm,0.9s
NCK Nalchik 85.07 313⇑ *iP* P **02 10 15.8 +0.1**
PRGR Permogore 85.49 332 *eP* P **02 10 14.2 -3.1**
PRGR pmax pmax
comp=Z,17nm,0.8s
GOF Gofitskoye 85.56 315 *eP* P **02 10 17.9 -0.1**
KBZ Khabaz 85.59 314 P **P 02 10 17.4 -0.7**
comp=Z,4.4nm,0.8s,baz=146,slow=3.5,SNR=11
KBZ Khabaz 85.59 314 P **P 02 10 17.5 -0.7**
KBZ pmax pmax
comp=Z,4.0nm,0.7s
NEY Neytrino 85.69 313 *eP* P **02 10 18.7 -0.2**
NEY pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 85.75 314 *c iP* P **02 10 19.1 0.0**
KIV pmax pmax
comp=Z,5.0nm,0.7s
KIV Kislovodsk 85.75 314 *eP* P **02 10 18.9 -0.2**
comp=Z,5.4nm,0.6s
COLD Coldfoot 86.34 23 *eP* P **02 10 22.0 +0.6**
comp=Z,7.3nm,0.9s
MCK McKinley 86.49 26 *eP* P **02 10 21.6 -0.6**
comp=Z,3.7nm,0.8s
VRHR Novokhopersk 86.83 321 *eP* P **02 10 22.8 -1.3**
VRHR pmax pmax
comp=Z,10.0nm,0.5s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.7s
ILAR Eielson Array 87.47 25 P **P 02 10 25.4 -1.4**
comp=E,0.9nm,0.6s,baz=241,slow=4.9,SNR=11
ILAR Eielson Array 87.47 25 P **P 02 10 25.5 -1.4**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
VORD Divnogorie 88.30 321 *eP* P **02 10 28.7 -2.4**
VORD pmax pmax
comp=Z,4.0nm,0.7s
VORD pmax pmax
comp=N,50nm,0.6s
VORD pmax pmax
comp=E,100nm,0.8s
VSR Storozhevoye 88.39 321 *eP* P **02 10 29.2 -2.3**
VSR pmax pmax
comp=Z,7.0nm,0.8s
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,8.0nm,0.5s
LPSR Galich'ya Gora 88.55 322 *eP* P **02 10 31.6 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR pmax pmax
comp=N,6.0nm,0.9s
LPSR pmax pmax
comp=E,3.0nm,0.5s
MALT Malatya 88.82 308⇑ P **P 02 10 34.5 +0.5**
MALT Malatya 88.82 308⇑ *iP* P **02 10 34.5 +0.5**
ANN Anapa 89.53 315 *eP* P **02 10 34.6 -2.4**
ANN pmax pmax
comp=Z,29nm,1.0s
SYO Syowa Base 89.92 201⇓ *eP* P **02 10 37.6 -0.7**
OBN Obninsk 89.94 325 *i* P P **02 10 37.2 -1.4**
OBN pmax pmax
comp=Z,24nm,2.5s
KMBO Kilima Mbogo 90.26 269 P **P 02 10 41.4 0.0**
comp=Z,0.6nm,0.3s,baz=76,slow=11,SNR=3.8
KMBO Kilima Mbogo 90.26 269 P **P 02 10 41.4 0.0**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 90.26 269 *eP* P **02 10 41.9 +0.5**
comp=Z,4.6nm,1.1s
BR131 Keskin Array S 92.51 310 *eP* P **02 10 49.5 -1.7**
comp=Z,2.9nm,0.9s
BRTR Keskin Array B 92.51 310 P **P 02 10 49.5 -1.7**
comp=Z,2.1nm,0.9s,baz=117,slow=4.4,SNR=14
BRTR Keskin Array B 92.51 310 P **P 02 10 49.6 -1.7**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 92.65 22 *eP* P **02 10 50.3 -0.7**
comp=Z,7.6nm,1.2s
CSS Prodhromos 93.00 305 *eP* P **02 10 51.7 -1.7**
comp=Z,1.0nm,0.9s
ARCES ARCESS Array B 93.51 340 P **P 02 10 53.5 -1.4**
comp=Z,3.3nm,0.6s,baz=80,slow=6.2,SNR=24
ARCES PKKP **PKKPdf 02 27 59.8 -1.4**
comp=Z,3.2nm,0.9s,baz=251,slow=2.8,SNR=6.6
ARCES ARCESS Array B 93.51 340 P **P 02 10 53.6 -1.4**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 94.69 321 P **P 02 10 58.2 -2.5**
comp=Z,0.6nm,0.5s,baz=282,slow=19,SNR=4.9
AKASG Malin Array Be 94.69 321 P **P 02 10 58.2 -2.5**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 94.82 332 P **P 02 10 58.8 -2.3**
comp=Z,1.4nm,0.5s,baz=67,slow=3.9,SNR=20
FINES FINESS Array B 94.82 332 *i* P **P 02 10 59.2 -1.9**
FINES pmax pmax
comp=Z,1.0nm,0.5s
TIRR Tirgusor 95.98 315⇑ *iP* **P 02 11 04.5 -2.2**
TIRR Tirgusor 95.98 315⇑ *iP* **P 02 11 04.5 -2.2**
CFR Carcaliu 96.09 315⇓ *iP* **P 02 11 06.0 -1.2**
CFR Carcaliu 96.09 315⇓ *iP* **P 02 11 06.0 -1.2**
MSAB Monastry St. A 96.44 314⇑ *iP* **P 02 11 07.6 -1.3**
VRI Vrincioaia 96.98 316⇑ *eP* **P 02 11 10.4 -0.9**
VRI Vrincioaia 96.98 316⇑ *iP* **P 02 11 10.4 -0.9**
PLOR Plostina 97.03 316⇓ *eP* **P 02 11 11.4 -0.2**
PLOR Plostina 97.03 316⇓ *iP* **P 02 11 11.4 -0.2**
MLR Muntele Rosu 97.58 316⇓ *eP* **P 02 11 13.0 -1.1**
MLR Muntele Rosu 97.58 316⇓ *iP* **P 02 11 13.0 -1.1**
BURAR Bucovina Array 97.73 318⇓ *eP* P 02 11 06.1 -8.7
BURAR Bucovina Array 97.73 318⇓ *iP* P 02 11 06.1 -8.7
BUR08 Bucovina Ar. S 97.74 318 *eP* **P 02 11 13.9 -0.9**
ARR Arges 98.51 316⇑ *iP* **P 02 11 17.4 -0.8**
LSZ Lusaka 99.17 255 *eP* **Pdif 02 11 21.5 -0.4**
KOLS Kolonicke sedl 99.42 320 *eP* **Pdif 02 11 19.4 -2.7**
KOLS Kolonicke sedl 99.42 320 PDIF **Pdif 02 11 19.4 -2.7**
STHS Stebnicka Huta 99.97 320 *eP* **Pdif 02 11 23.3 -1.3**
STHS Stebnicka Huta 99.97 320 PDIF **Pdif 02 11 23.3 -1.3**
BOSA Boshof 101.09 241 P **Pdif 02 11 29.3 -0.9**
comp=Z,3.7nm,1.0s,baz=266,slow=15,SNR=2.7
BOSA Boshof 101.09 241 P **Pdif 02 11 29.3 -0.9**
BOSA pmax pmax
comp=Z,4.0nm,1.0s
NOA NORSAR Array B 101.80 334 P **Pdif 02 11 30.3 -2.2**
comp=Z,1.2nm,0.7s,baz=68,slow=4.5,SNR=3.7
NOA NORSAR Array B 101.80 334 P **Pdif 02 11 30.3 -2.2**
NOA pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 104.89 321 PKiKP **PKiKP 02 16 00.5 -0.5**
comp=Z,0.2nm,0.3s,baz=27,slow=2.7,SNR=4.6
NVAR Mina Array Bea 108.31 49 PKiKP **PKiKP 02 16 08.4 +0.6**
comp=Z,0.6nm,0.7s,baz=241,slow=4.9,SNR=4.2

FCC Fort Churchill 112.27 22 *e*PKP **PKiKP 02 16 13.4 -0.9**
PDAR Pinedale Array 113.07 42 PKKPbc PKKPbc 02 27 03.0 -1.9
comp=Z,0.2nm,0.6s,baz=108,slow=4.8,SNR=4.5
ANMO Albuquerque 118.43 49⇑ *i*PKIKP **PKPdf 02 16 27.5 +0.3**
ANMO pmax pmax
comp=Z,10.0nm,0.8s
ANMO Albuquerque 118.43 49 *e*PKPdf **PKPdf 02 16 27.6 +0.4**
ESDC Sonseca Array 120.19 318 PKP **PKPdf 02 16 29.9 -0.4**
comp=Z,0.2nm,0.4s,baz=30,slow=2.5,SNR=3.9
ECSD EROS Data Cent 120.78 36 *e*PKPdf **PKPdf 02 16 30.5 -0.8**
TXAR Lajitas Array 122.78 54 PKP **PKPdf 02 16 35.4 -0.2**
comp=Z,1.7nm,0.7s,baz=211,slow=1.3,SNR=23
TXAR PKKPbc **PKKPab 02 26 29.6 0.0**
comp=Z,0.4nm,0.5s,baz=120,slow=6.1,SNR=7.9
SCHQ Schefferville 123.38 10 PKP **PKPdf 02 16 35.4 -0.5**
comp=Z,1.8nm,0.4s,baz=25,slow=4.3,SNR=7.7
TOA0 Torodi Ar. Sit 124.54 286 *e*PKPdf **PKPdf 02 16 38.8 -0.4**
TORD Torodi Ar. Bea 124.54 286 PKP **PKPdf 02 16 38.5 -0.7**
comp=Z,4.8nm,0.7s,baz=84,slow=1.9,SNR=37
TORD pPKP **pPKPdf 02 17 14.0 -3.2**
comp=Z,1.6nm,0.9s,baz=55,slow=2.6,SNR=3.4
TORD PKKPbc **PKKPbc 02 26 23.3 +1.3**
comp=Z,1.3nm,0.6s,baz=235,slow=2.7,SNR=14
JCT Junction City 125.38 51 *e*PKPdf **PKPdf 02 16 40.7 +0.2**
MIAR Mount Ida 127.96 43 *e*PKPdf **PKPdf 02 16 45.6 +0.4**
DBIC Dimbokro 131.89 280 PKP **PKPdf 02 16 52.9 -0.3**
comp=Z,3.1nm,0.6s,baz=59,slow=2.0,SNR=8.3
DBIC Dimbokro 131.89 280 PKIKP **PKPdf 02 16 52.9 -0.3**
DBIC pmax pmax
comp=Z,3.0nm,0.6s
DBIC Dimbokro 131.89 280 *e*PKPdf **PKPdf 02 16 53.5 +0.3**
LRAL Lakeview Retre 133.27 41 *e*PKPdf **PKPdf 02 16 55.6 +0.3**
KMSC Kings Mountain 135.29 34 *e*PKPdf **PKPdf 02 16 58.9 -0.2**
PLCA Paso Flores 136.95 160 PKP **PKPdf 02 17 03.0 +0.9**
comp=Z,2.8nm,0.6s,baz=153,slow=0.6,SNR=6.6
PLCA Paso Flores 136.95 160 PKIKP **PKPdf 02 17 03.0 +0.9**
PLCA pmax pmax
comp=Z,3.0nm,0.6s
PLCA Paso Flores 136.95 160 *e*PKPdf **PKPdf 02 17 03.2 +1.1**
TRQA Tornquist 141.85 168 *e*PKPdf **PKPdf 02 17 06.3 -4.7**
JTS JuntasAbangare 145.91 70 PKPbc **PKPab 02 17 20.4 +0.1**
comp=Z,18nm,0.7s,baz=303,slow=5.1,SNR=12
JTS JuntasAbangare 145.91 70 PKP2 **PKPab 02 17 20.4 +0.1**
JTS pmax pmax
comp=Z,18nm,0.7s
JTS JuntasAbangare 145.91 70 *e*PKPdf **PKPbc 02 17 19.7 +0.1**
LCO Las Campanas 146.94 150 *e*PKPbc **PKPbc 02 17 23.0 +0.5**
BCIP Isla Barro Col 151.05 70 *e*PKPdf **PKPdf 02 17 27.7 +0.6**
BCIP *e*PKPbc **PKPbc 02 17 32.7 -0.3**
LVC Limon Verde 153.02 145 PKPbc **PKPbc 02 17 39.0 +1.4**
comp=Z,30nm,0.7s,baz=270,slow=2.2,SNR=10.0
LVC Limon Verde 153.02 145 *e*PKPbc **PKPbc 02 17 38.7 +1.2**
ATAH Atahualpa 153.41 104 PKPbc **PKPbc 02 17 40.3 +1.5**
comp=Z,9.3nm,0.7s,baz=118,slow=2.5,SNR=6.4
CPUP Villa Florida 154.13 170 *e*PKPbc **PKPbc 02 17 39.6 +0.1**
CPUP *e*PKPab **PKPab 02 17 54.1 +0.7**
LPAZ La Paz 158.18 136 PKP **PKPdf 02 17 38.3 +0.7**
comp=Z,1.8nm,0.8s,baz=326,slow=1.9,SNR=10
LPAZ La Paz 158.18 136 PKIKP **PKPdf 02 17 38.3 +0.7**
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
LPAZ La Paz 158.18 136 *e*PKPdf **PKPdf 02 17 38.3 +0.7**
LPAZ *e*PKPab **PKPab 02 18 12.8 +0.9**
SIV San Ignacio 162.64 151 PKPab **PKPab 02 18 31.6 +1.0**
comp=Z,2.9nm,0.7s,baz=209,slow=5.4,SNR=8.7
SAML Samuel 166.59 128 *e*PKPdf **PKPdf 02 17 45.3 0.0**

SJA ***13*** *02:20:19.3±0.6, 18°.05S×67°.03W, h336km±9km, ML5.1, MW4.8*
ISCJB ***13*** *02:20:19.9±0.4, 17°.94S±0°.03×66°.83W±0°.03, h252km±4km, mb4.9/187, Error ellipse: s-maj=4.9km s-min=3.5km az=139.1*
MOS ***13*** *02:20:22.9±1.4, 17°.94S×66°.82W, h281km, mb5.1/13, Error ellipse: s-maj=16.5km s-min=10.4km az=116.0*
NEIC ***13*** *02:20:22.8±0.6, 17°.96S×66°.78W, h270km±5km, mb5.0/132, Error ellipse: s-maj=5.7km s-min=3.7km az=46.0*
NEIC Felt at Arica, Chile.
BJI ***13*** *02:20:24.0, 17°.80S×66°.60W, h269km, mB5.2/10*
IDC ***13*** *02:20:24.1±0.5, 17°.94S×66°.74W, h283km±4km, mb4.5/22, mb1 4.7/27, mb1mx4.6/29, mbtmp5.2/27, Error ellipse: s-maj=9.4km s-min=7.7km az=58.0*
ISC 13 02:20:23.6±0.3, 18°.07S±0°.03×66°.92W±0°.05, h280km±2km, h280km:pP-P, n987, σ1.916/1056, mb4.9/189, 52C-4D, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.11**	**327**	P	**Pn**		**02 21 09.6**	**-0.8**
	652nm,0.3s,baz=118,slow=5.5							
LPAZ				S	**S**		**02 21 45.5**	**-1.9**
	160nm,0.3s,baz=225,slow=24,SNR=17							
LPAZ	**La Paz**	**2.11**	**327**	P	**Pn**		**02 21 09.6**	**-0.8**
LPAZ				S	**S**		**02 21 45.5**	**-1.9**
LPAZ				pmax	pmax			
	comp=Z,652nm,0.3s							
LPAZ				smax	smax			
	comp=N,160nm,0.3s							
LPAZ	**La Paz**	**2.11**	**327**	*e*Pn	**Pn**		**02 21 10.3**	**-0.1**
LPAZ				*e*S	**S**		**02 21 45.4**	**-1.9**
LPAZ	**La Paz**	**2.11**	**327**	*e*P	**Pn**		**02 21 10.4**	**0.0**
LPAZ				*e*S	**S**		**02 21 42.4**	**-5.0**
YJA	**Yavi**	**4.30**	**162**	*e*P	**Pn**		**02 21 32.7**	**0.0**
YJA				*e*S	**S**		**02 22 27.4**	**-0.4**
LVC	**Limon Verde**	**4.89**	**202**	P	**Pn**		**02 21 38.1**	**-1.3**
	comp=N,3μm,0.3s,baz=20,slow=8.3,SNR=131							
LVC				S	**S**		**02 22 34.7**	**-5.3**
	comp=N,7μm,0.3s,baz=99,slow=19,SNR=31							
LVC	**Limon Verde**	**4.89**	**202**	*e*P	**Pn**		**02 21 37.8**	**-1.5**
LVC				*e*S	**S**		**02 22 35.9**	**-4.1**
HJA	**Humahuaca**	**5.31**	**165**	*e*P	**Pn**		**02 21 44.2**	**-0.3**
HJA				*e*S	**S**		**02 22 47.4**	**-1.8**
SIV	**San Ignacio**	**5.97**	**71**	P	**Pn**		**02 21 50.0**	**-2.1**
	comp=N,31nm,0.3s,baz=269,slow=11,SNR=563							
SIV				S	S		02 22 54.7	-8.5
	comp=N,8.3nm,0.3s,baz=211,slow=16,SNR=3.3							
ASTB	**Santa Barbara**	**6.28**	**159**	*e*P	**Pn**		**02 21 54.6**	**-1.4**
ALOL	**LOMAS DE OLMED**	**6.35**	**155**	*e*P	**Pn**		**02 21 55.2**	**-1.5**
AZAP	**Zapla**	**6.37**	**165**	*e*P	**Pn**		**02 21 55.4**	**-1.7**
AZAP				*e*S	**S**		**02 23 07.3**	**-5.1**
SLA	**San Lorenzo**	**6.75**	**169**	*e*P	**Pn**		**02 22 01.2**	**-0.6**
FSA	**Cafayete**	**8.03**	**174**	*e*P	**Pn**		**02 22 16.4**	**-1.2**
FSA				*e*S	**S**		**02 23 46.6**	**-3.2**
FSA				AML	AML		02 23 50.1	
	comp=Z,117nm,0.8s							
AHML	**Horco Molle**	**8.80**	**171**	*e*P	**Pn**		**02 22 24.9**	**-2.1**
AHML				*e*S	**S**		**02 24 02.5**	**-4.6**
SAML	**Samuel**	**9.77**	**22**	*e*Pn	**Pn**		**02 22 38.5**	**-0.6**
CYA	**Choya**	**10.38**	**175**	*e*P	**Pn**		**02 22 44.3**	**-2.3**
CYA				AML	AML		02 24 52.8	
	comp=Z,27nm,0.8s							
ACLC	**CERRO LA CRUZ**	**11.31**	**180**	*e*P	**Pn**		**02 22 55.3**	**-2.9**
NNA	**Nana**	**11.32**	**301**	Pn	**Pn**		**02 22 56.5**	**-1.9**
	comp=Z,1μm,0.5s,SNR=18							
NNA	**Nana**	**11.32**	**301**	P	**Pn**		**02 22 56.5**	**-1.9**
	comp=Z,52nm,0.3s,baz=139,slow=8.6,SNR=46							
NNA				S	S		02 24 59.5	-5.5
	comp=Z,17nm,0.3s,baz=27,slow=24,SNR=5.9							
NNA				ScP	**ScP**		**02 31 32.0**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=265,slow=1.1,SNR=4.9							
NNA	**Nana**	**11.32**	**301**	P	**Pn**		**02 22 56.5**	**-1.9**
NNA				S	S		02 24 59.6	-5.5
NNA				pmax	pmax			
	comp=Z,52nm,0.3s							
NNA				smax	smax			
	comp=N,17nm,0.3s							
NNA				pmax	pmax			
	comp=N,1.0nm,0.3s							
LCO	**Las Campanas**	**11.43**	**197**	*e*Pn	**Pn**		**02 22 57.1**	**-2.7**
LCO				*e*S	S		02 24 59.2	-8.4
CPUP	**Villa Florida**	**12.10**	**134**	*e*Pn	**Pn**		**02 23 06.8**	**-0.9**
	comp=N,5.0nm,1.2s							
APLL	**PUNTA DE LOS L**	**12.28**	**178**	*e*P	**Pn**		**02 23 08.1**	**-1.9**
AVFE	**Valle Fertil**	**12.55**	**182**	*e*P	**Pn**		**02 23 11.2**	**-2.1**
AMOG	**MOGNA**	**12.89**	**186**	*e*P	**Pn**		**02 23 16.4**	**-1.1**
RTLL	**Cerro Villicun**	**13.28**	**186**	*e*P	**P**		**02 23 21.8**	**-0.9**
RTLL				*e*S	S		02 25 41.5	-7.8
CFAA	**Coronel Fontan**	**13.53**	**185**	P	**Pn**		**02 23 24.2**	**-0.9**
	comp=N,1.1nm,0.3s,baz=360,slow=11,SNR=118							
CFAA				S	S		02 25 46.2	-8.8
	comp=N,1.3nm,0.3s,baz=156,slow=18,SNR=11							
CFAA	**Coronel Fontan**	**13.53**	**185**	*e*P	**Pn**		**02 23 24.2**	**-0.9**

RTCV Cerro Valdivia 13.81 186 *e*P **P 02 23 28.5 -0.2**
RTCV *e*S S 02 25 51.7 -10
RTLS Leoncito 13.84 188 *e*P **P 02 23 30.1 +1.0**
RTLS *e*S **S 02 26 02.6 +0.5**
ACAN Cantantal 14.15 181 *e*P **P 02 23 31.0 -1.4**
ACAN *e*S S 02 25 56.7 -12
AUSP Uspallata 14.27 188 *e*P **Pn 02 23 34.9 +0.7**
ASAL Salagasta 14.56 186 *e*P **Pn 02 23 38.0 +0.4**
ARCO CERRO ARCO 14.82 187 *e*P **Pn 02 23 41.0 +0.3**
AAGR Agrelo 15.05 186 *e*P **Pn 02 23 42.7 -0.7**
ATAH Atahualpa 15.59 313 P **P 02 23 49.7 +0.9**
comp=N,4.8nm,0.3s,baz=137,slow=9.4,SNR=52
ATAH S **S 02 26 40.9 +1.7**
comp=N,0.1nm,0.3s,baz=311,slow=20,SNR=2.7
ATAH ScP **ScP 02 31 40.1 +0.3**
comp=N,0.3nm,0.3s,baz=31,slow=6.2,SNR=3.6
BDFB Brasilia 18.26 85 P **P 02 24 17.0 -0.5**
comp=N,19nm,0.3s,baz=255,slow=9.1,SNR=54
BDFB Brasilia 18.26 85 P **P 02 24 17.0 -0.5**
BDFB pmax pmax
comp=Z,19nm,0.3s
PTGA Pitinga 18.54 22 P **P 02 24 18.8 -1.5**
comp=Z,6.3nm,0.3s,baz=204,slow=11,SNR=45
PTGA S **S 02 27 33.6 -3.2**
comp=Z,0.7nm,0.3s,baz=163,slow=19,SNR=4.9
TRQA Tornquist 20.38 169 *eP* P **02 24 38.0 -1.7**
comp=Z,51nm,0.5s
TRQA *e*S **S 02 28 06.6 -4.4**
OTAV Otavalo 21.43 327 *eP* P **02 24 50.2 -0.5**
comp=Z,59nm,1.0s
OTAV *e*S **S 02 28 27.5 -1.8**
PLCA Paso Flores 22.80 187 P **P 02 25 02.2 -0.2**
comp=Z,22nm,0.5s,baz=7.1,slow=11,SNR=131
PLCA ScP **ScP 02 31 56.7 +1.4**
comp=Z,1.9nm,0.6s,baz=93,slow=3.9,SNR=3.8
PLCA Paso Flores 22.80 187 P **P 02 25 02.3 -0.2**
PLCA pmax pmax
comp=Z,22nm,0.5s
PLCA pmax pmax
comp=N,2.0nm,0.6s
PLCA Paso Flores 22.80 187 *eP* P **02 25 01.6 -0.9**
comp=N,27nm,0.6s
PLCA ScP **ScP 02 31 56.7 +1.4**
ROSC El Rosal 23.92 342 P **P 02 25 12.4 -0.8**
comp=N,31nm,0.5s,baz=156,slow=1.1,SNR=42
ROSC El Rosal 23.92 342 *eP* P **02 25 13.1 -0.2**
SDV Santo Domingo 27.03 352 *eP* P **02 25 38.5 -2.4**
comp=N,22nm,0.7s
PCRV Puerto La Cruz 28.15 5 P **P 02 25 49.3 -1.4**
comp=N,12nm,0.6s,baz=147,slow=3.4,SNR=11
BCIP Isla Barro Col 29.91 334 *eP* P **02 26 05.2 -0.9**
comp=N,82nm,0.8s
RCBR Riachuelo 32.63 72 P **P 02 26 29.5 -0.5**
comp=N,86nm,0.7s,baz=236,slow=9.2,SNR=66
RCBR Riachuelo 32.63 72 *eP* P **02 26 30.1 +0.1**
comp=N,83nm,0.7s
JTS JuntasAbangare 33.33 326 P **P 02 26 36.6 +0.7**
comp=N,17nm,0.7s,baz=200,slow=2.9,SNR=16
JTS JuntasAbangare 33.33 326 *de* **P 02 26 35.9 0.0**
JTS pmax pmax
comp=Z,93nm,1.7s
JTS JuntasAbangare 33.33 326 *eP* P **02 26 36.3 +0.4**
comp=Z,24nm,0.8s
EFI East Falkland 34.26 170⇑ *iP* P **02 26 43.4 0.0**
EFI pmax pmax
comp=Z,151nm,1.1s
EFI East Falkland 34.26 170 *eP* P **02 26 43.7 +0.3**
comp=Z,132nm,1.3s
CELP Cerrillos 35.92 1 *eP* P 02 26 54.8 -3.1
SJG San Juan 35.96 1 *eP* P 02 26 54.9 -3.3
comp=Z,22nm,0.7s
USHA Ushuaia 36.72 181 P **P 02 27 03.9 -0.2**
comp=Z,4.6nm,0.5s,baz=324,slow=8.8,SNR=5.7
CNCH Conchagua 37.36 325 *eP* P **02 27 10.3 +0.1**
TGUH Tegucigalpa,Un 37.70 327⇑ *eP* P **02 27 12.9 0.0**
VSM San Miguel 37.72 325 *eP* P **02 27 13.7 +0.4**
LFRS El Faro 38.32 324 *eP* P **02 27 18.9 +0.8**
SBLS San Blas 38.81 323 *eP* P **02 27 23.1 +0.8**
RBDL Robledal 39.07 323⇑ *eP* P **02 27 25.3 +0.9**
GRTK Grand Turk 39.55 354 *eP* P **02 27 25.9 -2.2**
comp=Z,75nm,0.8s
HOPE Hope Point 43.06 154 P **P 02 27 57.7 +1.6**
comp=Z,791nm,0.7s,SNR=13
HOPE Hope Point 43.06 154 *eP* P **02 27 57.7 +1.6**
comp=Z,85nm,0.7s
TEIG Tepich 43.44 330 P **P 02 27 58.2 -1.3**
comp=Z,87nm,0.6s,baz=234,slow=1.1,SNR=93
TEIG ScP **ScP 02 33 07.1 +0.4**
comp=Z,16nm,0.8s,baz=117,slow=5.4,SNR=5.6
CMIG Matias Romero 44.47 320 P **P 02 28 08.3 +0.5**
comp=Z,37nm,0.5s,baz=114,slow=6.0,SNR=112
CMIG S **S 02 34 19.9 -1.5**
comp=Z,16nm,1.2s,baz=14,slow=22,SNR=7.0
PMSA Palmer Station 46.71 178 *eP* P **02 28 25.4 +0.8**
comp=Z,40nm,0.6s
BBSR BB Station 50.20 2 *eP* P **02 28 49.7 -1.7**
comp=Z,13nm,0.6s
TIGA Tifton 51.76 342 P **P 02 29 01.8 -1.2**
baz=52,SNR=14
TIGA Tifton 51.76 342 *eP* P **02 29 01.6 -1.3**
comp=Z,61nm,0.8s
RGRS Roger Stewart 52.25 346 *eP* P **02 29 05.6 -1.0**
NHSC New Hope 52.44 346 *eP* P **02 29 06.7 -1.2**
comp=Z,98nm,1.1s
BRAL Brewton 52.49 338 *eP* P **02 29 08.4 0.0**
comp=Z,73nm,0.5s
035Z Hargill 53.61 325 P **P 02 29 17.1 +0.5**
baz=54
JSC Jenkinsville 53.82 345 *eP* P **02 29 16.7 -1.2**
comp=Z,35nm,1.1s
035A Encino 54.01 325 P **P 02 29 20.0 +0.6**
baz=54
738A Farr-Stevens R 54.27 329 P **P 02 29 21.6 +0.3**
baz=54
LRAL Lakeview Retre 54.32 339 *eP* P **02 29 19.4 -2.2**
comp=Z,43nm,0.6s
034A Hebbronville 54.42 325 P **P 02 29 23.2 +0.8**
baz=55,SNR=5.5
540A Vidor 54.62 331 P **P 02 29 24.1 +0.4**
baz=55
KMSC Kings Mountain 54.66 346 P **P 02 29 23.0 -0.9**
baz=55,SNR=29
KMSC Kings Mountain 54.66 346 *eP* P **02 29 22.9 -1.1**
934A Benavides 54.76 325 P **P 02 29 25.5 +0.7**
baz=55
539A Cross D Ranch, 54.88 330 P **P 02 29 26.0 +0.4**
baz=55
835A Beeville 54.93 326 P **P 02 29 26.8 +0.8**
baz=55
440A Kirbyville 55.06 331 P **P 02 29 27.4 +0.5**
baz=55
736A Circle Diamond 55.08 328 P **P 02 29 28.1 +1.1**
baz=55,SNR=9.6
637A Eagle Lake 55.10 329 P **P 02 29 27.8 +0.6**
baz=55
933A Laredo 55.18 325 P **P 02 29 28.1 +0.3**
baz=55,SNR=25
834A Tilden 55.19 326 P **P 02 29 28.7 +0.8**
baz=55,SNR=8.4
HKT Hockley 55.27 329 *i* P **P 02 29 28.4 +0.1**
HKT pmax pmax
comp=Z,30nm,1.7s
HKT Hockley 55.27 329 *eP* P **02 29 28.3 -0.1**
538A Harpers Horsep 55.33 330 P **P 02 29 29.9 +1.1**
baz=56
735A Kenedy 55.38 327 P **P 02 29 30.0 +0.8**
baz=56,SNR=6.5
439A Center Grove, 55.47 331 P **P 02 29 30.5 +0.7**
baz=56,SNR=5.9
636A Smothers Creek 55.50 328 P **P 02 29 31.1 +1.1**
baz=56,SNR=8.2
340A Bronson 55.60 332 P **P 02 29 30.9 +0.2**
baz=56,SNR=7.7
537A Green Hill Far 55.62 329 P **P 02 29 31.1 +0.2**
baz=56
734A La Parita Cree 55.76 326 P **P 02 29 32.3 +0.3**
baz=56,SNR=8.3
438A Sam Houston St 55.77 330 P **P 02 29 31.9 0.0**
baz=56
TKL Tuckaleechee C 55.77 343 P **P 02 29 30.2 -1.7**
comp=Z,58nm,0.7s,baz=164,slow=8.4,SNR=154
TKL Tuckaleechee C 55.77 343 P **P 02 29 30.2 -1.7**
TKL pmax pmax
comp=Z,58nm,0.7s
TKL Tuckaleechee C 55.77 343 *eP* **P 02 29 30.0 -1.8**
CPCT Cooper Cave 55.78 343 *eP* **P 02 29 30.4 -1.5**
635A Leesville 55.79 327 P **P 02 29 32.1 0.0**

baz=56
833A **Chaparral WMA,** 55.80 325 P P 02 29 32.8 +0.6
baz=56,SNR=29
339A **Huntington** 55.83 331 P P 02 29 32.9 +0.6
baz=56,SNR=11
733A **Divot King Ran** 56.06 325 P P 02 29 34.3 +0.3
baz=56,SNR=16
634A **China Grove, S** 56.08 327 P P 02 29 35.1 +0.9
baz=56
832A **Faith Ranch, C** 56.09 325 P P 02 29 34.5 +0.2
baz=56,SNR=41
437A **Phantom Ranch,** 56.15 330 P P 02 29 35.3 +0.7
baz=56
338A **Crockett** 56.20 331 P P 02 29 36.0 +1.1
baz=56,SNR=12
535A **Dale** 56.20 328 P P 02 29 35.5 +0.5
baz=56
NATX **Nacogdoches** 56.23 332 P P 02 29 36.0 +0.8
baz=56,SNR=27
NATX **Nacogdoches** 56.23 332 eP P 02 29 35.5 +0.3
comp=Z,112nm,0.6s
239A **Gary** 56.37 332 P P 02 29 36.4 +0.3
baz=57,SNR=8.7
VWCC **Virginia Weste** 56.38 347 eP P 02 29 34.9 -1.2
JSRW **J. Sargeant Re** 56.41 350 eP P 02 29 35.6 -0.7
436A **Wall Ranch, Ga** 56.42 329 P P 02 29 37.1 +0.6
baz=57
337A **Centerville** 56.43 330 P P 02 29 37.4 +0.8
baz=57
732A **Laxson Ranch,** 56.43 325 P P 02 29 36.9 +0.2
baz=57,SNR=36
BLA **Blacksburg** 56.44 347 eP P 02 29 35.8 -0.8
comp=Z,69nm,1.4s
OXF **Oxford** 56.50 338 eP P 02 29 34.5 -2.4
comp=Z,70nm,0.8s
633A **Saathoff Ranch** 56.58 326 P P 02 29 37.8 +0.1
baz=57,SNR=26
238A **Jacksonville** 56.65 331 P P 02 29 38.8 +0.7
baz=57,SNR=17
534A **Blanco** 56.66 327 P P 02 29 37.8 -0.5
baz=57,SNR=8.0
435B **Jarrell** 56.82 328 P P 02 29 39.5 +0.1
baz=57
139A **Bunkhouse Ranc** 56.89 332 P P 02 29 40.1 +0.3
baz=57,SNR=5.5
632A **Uvalde** 56.94 326 P P 02 29 40.4 +0.2
baz=57,SNR=32
336A **Riesel** 56.95 329 P P 02 29 40.3 +0.1
baz=57
237A **Washetta, Mont** 56.97 331 P P 02 29 40.8 +0.5
baz=57
533A **Kerrville** 56.99 327 P P 02 29 40.4 -0.2
baz=57,SNR=12
335A **Moody** 57.15 329 P P 02 29 42.2 +0.6
baz=57,SNR=5.4
138A **Matatall Enter** 57.19 332 P P 02 29 42.8 +0.9
baz=57
434A **Burnet** 57.19 328 P P 02 29 41.7 -0.2
baz=57,SNR=7.3
Z39A **Irene McRaven,** 57.28 333 P P 02 29 42.9 +0.4
baz=58
631A **Perdido Creek** 57.29 325 P P 02 29 42.5 -0.2
baz=58,SNR=31
236A **Katherine and** 57.30 330 P P 02 29 43.0 +0.3
baz=58,SNR=9.6
WVT **Waverly** 57.42 340 eP P 02 29 40.6 -2.8
comp=Z,91nm,0.6s
137A **Heron Place, G** 57.44 331 P P 02 29 44.5 +0.9
baz=58,SNR=6.9
532A **Rocksprings** 57.49 326 P P 02 29 44.1 0.0
baz=58,SNR=24
433A **Art** 57.56 327 P P 02 29 44.4 -0.1
baz=58,SNR=22
334A **Lometa** 57.59 328 P P 02 29 44.7 0.0
baz=58,SNR=8.9
Z38A **Mt. Pleasant** 57.64 332 P P 02 29 45.4 +0.4
baz=58
136A **Ennis** 57.70 330 P P 02 29 45.7 +0.3
baz=58
JCT **Junction City** 57.71 326 P P 02 29 45.5 -0.1
baz=58,SNR=18
JCT **Junction City** 57.71 326 eP P 02 29 45.3 -0.3
comp=Z,34nm,0.6s
WHTX **Lake Whitney,** 57.74 329 P P 02 29 46.0 +0.2
baz=58
WHTX **Lake Whitney,** 57.74 329 eP P 02 29 45.5 -0.2
comp=Z,20nm,0.5s
UALR **University of** 57.84 335 eP P 02 29 44.9 -1.4
comp=Z,53nm,0.8s
531A **Rocksprings** 57.86 326 P P 02 29 46.9 +0.2
baz=58,SNR=59
Z37A **Pogue Cattle C** 57.88 332 P P 02 29 47.1 +0.4
baz=58
333A **Richland Sprin** 57.96 328 P P 02 29 46.9 -0.4
baz=58,SNR=21
GNAR **Gosnell** 58.02 338 eP P 02 29 45.7 -1.8
comp=Z,1µm,0.5s
432A **Menard** 58.02 327 P P 02 29 47.7 -0.1
baz=58,SNR=86
234A **Clairette** 58.09 329 P P 02 29 48.1 0.0
baz=58,SNR=20
Y38A **Idabel** 58.10 333 P P 02 29 48.0 -0.1
baz=58
MIAR **Mount Ida** 58.14 334 eP P 02 29 47.2 -1.3
comp=Z,31nm,0.6s
135A **Vickery Place,** 58.18 330 P P 02 29 48.9 +0.1
baz=58
530A **J-C Ranch, Com** 58.28 325 P P 02 29 49.7 +0.1
baz=58,SNR=62
431A **Sonora** 58.30 326 P P 02 29 49.4 -0.3
baz=58,SNR=24
PVMO **Portageville** 58.31 338 eP P 02 29 47.7 -1.9
comp=Z,300nm,1.0s
Z36A **Blue Ridge** 58.31 331 P P 02 29 49.7 +0.1
baz=58
332A **Millersview** 58.40 327 P P 02 29 50.3 0.0
baz=59,SNR=56
233A **Rising Star** 58.48 328 P P 02 29 50.6 -0.3
baz=58,SNR=24
134A **White-Moore Ra** 58.52 329 P P 02 29 50.8 -0.2
baz=59,SNR=7.4
Y37A **Hugo** 58.54 332 P P 02 29 51.5 +0.3
baz=59
PARMO **Parma** 58.55 339 eP P 02 29 50.3 -0.9
331A **San Angelo** 58.70 326 P P 02 29 52.1 -0.3
baz=59,SNR=29
430A **Baggett Ranch,** 58.72 325 P P 02 29 52.3 -0.3
baz=59,SNR=60
Z35A **Perchaven, San** 58.74 330 P P 02 29 52.9 +0.3
baz=59,SNR=7.8
232A **Coleman** 58.75 327 P P 02 29 52.7 -0.1
baz=59,SNR=24
529A **Stev Forest Ra** 58.75 324 P P 02 29 53.1 +0.3
baz=59,SNR=207
Y36A **Durant** 58.77 332 P P 02 29 53.4 +0.6
baz=59
X38A **Whitesboro** 58.78 333 P P 02 29 52.9 +0.1
baz=59
WCI **Wyandotte Cave** 58.88 342 eP P 02 29 50.7 -2.8
LUPA **Lehigh Univers** 58.89 352 eP P 02 29 52.7 -0.7
comp=Z,2.4nm,0.8s
PBMO **Poplar Bluff** 58.89 338 eP P 02 29 52.1 -1.5
comp=Z,99nm,0.6s
X37A **Clayton** 58.94 333 P P 02 29 53.8 -0.1
baz=59,SNR=14
429A **Davenport Ranc** 58.95 325 P P 02 29 54.1 -0.1
baz=59,SNR=67
133A **Hamilton Ranch** 58.96 329 P P 02 29 53.9 -0.2
baz=59,SNR=23
TXAR **Lajitas Array** 58.98 322 P P 02 29 54.0 -0.4
comp=Z,13nm,0.6s,baz=149,slow=8.5,SNR=158
TXAR S S 02 37 38.7 +0.2
comp=Z,0.4nm,0.8s,baz=114,slow=6.0,SNR=5.3
TXAR **Lajitas Array** 58.98 322 P P 02 29 54.0 -0.4
TXAR S S 02 37 38.7 +0.2
TXAR pmax pmax
comp=Z,13nm,0.6s
W38A **Poteau** 58.99 334 P P 02 29 54.1 -0.1
baz=59,SNR=11
SLBS **Sierra La Lagu** 59.04 313 eP P 02 29 56.2 +1.3
comp=Z,23nm,1.0s
USIN **University of** 59.05 341 eP P 02 29 52.3 -2.2
comp=Z,49nm,0.8s
Z34A **Collier Ranch,** 59.09 330 P P 02 29 55.0 0.0
baz=59,SNR=11
Y35A **Marietta** 59.12 331 P P 02 29 55.6 +0.5
baz=59
PAL **Palisades** 59.13 354 eP P 02 29 54.0 -1.0
comp=Z,26nm,0.8s
231A **Bronte** 59.13 327 P P 02 29 55.0 -0.4
baz=59,SNR=9.3
330A **Mertzon** 59.17 326 P P 02 29 55.0 -0.7
baz=59,SNR=13
SSPA **Standing Stone** 59.28 350 eP P 02 29 55.4 -0.7
SIUC **Southern Illin** 59.32 340 eP P 02 29 54.4 -2.0
comp=Z,45nm,0.7s
SIUC eP cP P cP 02 30 40.4 -0.9
ABTX **Abilene, Hawle** 59.34 328 P P 02 29 56.7 0.0
baz=60,SNR=13
ABTX **Abilene, Hawle** 59.34 328 eP P 02 29 56.3 -0.4
X36A **Centrahoma** 59.36 332 P P 02 29 56.5 -0.3
baz=60,SNR=15
W37A **Quinton** 59.43 333 P P 02 29 56.8 -0.4
baz=60,SNR=15
Z33A **Whitaker Ranch** 59.43 329 P P 02 29 57.3 0.0
baz=60,SNR=21
Y34A **Reagan Ranch,** 59.50 330 P P 02 29 57.7 0.0
baz=60,SNR=12
X35A **Drake** 59.50 331 P P 02 29 57.2 -0.5
baz=60,SNR=14
230A **Sterling City** 59.51 326 P P 02 29 57.7 -0.3
baz=60,SNR=8.9
329A **Wagon Wheel Ra** 59.66 325 P P 02 29 58.8 -0.2
baz=60,SNR=47
131A **Roby** 59.75 327 P P 02 29 59.7 +0.1
baz=60,SNR=13
W36A **Wetumka** 59.78 332 P P 02 29 58.7 -0.9
baz=60,SNR=18
Z32A **Haskell** 59.80 329 P P 02 29 59.9 +0.1
baz=60,SNR=18
BLO **Bloomington** 59.82 342 eP P 02 29 58.0 -1.8
BRYW **Bryant College** 59.83 356 eP P 02 29 59.1 -0.8
KSPA **Keystone Colle** 59.88 352 eP P 02 29 59.6 -0.6
comp=Z,18nm,1.0s
ACSO **Alum Creek Sta** 59.90 346 eP P 02 29 58.8 -1.5
comp=Z,90nm,0.7s
229A **Bryant Ranch,** 59.94 326 P P 02 30 00.5 -0.4
baz=60,SNR=13
V37A **Hulbert** 59.94 334 P P 02 30 00.0 -0.7
baz=60
Y33A **Hilltop Ranch,** 59.95 330 P P 02 30 01.3 +0.5
baz=60,SNR=5.4
130A **Snyder** 59.99 327 P P 02 30 00.9 -0.3
baz=60,SNR=12
X34A **Smith Ranch, M** 60.06 331 P P 02 30 01.6 +0.1
baz=60,SNR=16
W35A **Tecumseh** 60.08 332 P P 02 30 01.8 +0.1
baz=60,SNR=11
Z31A **Sharp Cattle R** 60.14 328 P P 02 30 02.0 -0.1
baz=60,SNR=44
V36A **Jenks** 60.20 333 P P 02 30 01.8 -0.7
baz=60
TUL1 **Leonard** 60.24 333 P P 02 30 01.9 -0.8
baz=60,SNR=14
TUL1 **Leonard** 60.24 333 eP P 02 30 01.4 -1.4
X33A **Lawton** 60.33 330 P P 02 30 02.8 -0.6
baz=60,SNR=16
Y32A **R-V Farms, Ver** 60.34 329 P P 02 30 03.9 +0.4
baz=61,SNR=12
HRV **Adam Dziewonsk** 60.42 356 eP P 02 30 02.6 -1.2
comp=Z,57nm,0.9s
228A **UT Block 9, Go** 60.48 325 P P 02 30 04.2 -0.4
baz=61,SNR=13
129A **Stewart Farms,** 60.49 326 P P 02 30 04.5 -0.1
baz=61,SNR=23
SLM **Saint Louis** 60.49 339 eP P 02 30 02.7 -1.6
comp=Z,46nm,0.6s
W34A **Bridge Creek,** 60.56 331 P P 02 30 05.4 +0.5
baz=61
W34A **Bridge Creek,** 60.56 331 eP P 02 30 04.2 -0.7
comp=Z,14nm,0.6s
V35A **Meyer Ranch, C** 60.58 332 P P 02 30 04.4 -0.6
baz=61,SNR=18
X32A **Elmer** 60.60 329 P P 02 30 05.1 -0.1
baz=61
Z30A **Sanderson Ranc** 60.62 327 P P 02 30 05.1 -0.3
baz=61,SNR=23
WMOK **Wichita Mounta** 60.62 330 eP P 02 30 04.6 -0.7
comp=Z,12nm,0.9s
Y31A **Rekieta Farm,** 60.72 328 P P 02 30 06.0 0.0
baz=61,SNR=32
128A **Castleberry Fa** 60.81 326 P P 02 30 06.3 -0.5
baz=61,SNR=18
TRY **Troy** 60.81 354 eP P 02 30 05.5 -0.9
comp=Z,74nm,0.8s
W33A **Caddo, Fort Co** 60.81 331 P P 02 30 06.9 +0.3
baz=61
Z29A **Hungry Hill Ra** 60.90 327 P P 02 30 06.9 -0.4
baz=61,SNR=16
T37A **Cheneyville 18** 60.91 335 P P 02 30 06.6 -0.6
baz=61,SNR=36
V34A **Guthrie** 60.94 332 P P 02 30 06.9 -0.5
baz=61,SNR=11
V34A **Guthrie** 60.94 332 eP P 02 30 06.7 -0.7
comp=Z,56nm,0.6s
Y30A **Stafford Cattl** 60.97 328 P P 02 30 07.4 -0.4
baz=61
SFIN **Lafayette** 61.10 342 P P 02 30 06.4 -2.0
baz=61,SNR=14
SFIN **Lafayette** 61.10 342 eP P 02 30 06.1 -2.3
X31A **McDonald Ranch** 61.11 329 P P 02 30 08.3 -0.3
baz=61,SNR=22
W32A **Sentinel** 61.16 330 P P 02 30 08.9 0.0
baz=61,SNR=25
T36A **Boggs Farm, Ca** 61.26 334 P P 02 30 08.8 -0.7
baz=62,SNR=32
Z28A **Tucker Farm, M** 61.27 326 P P 02 30 09.3 -0.6
baz=62,SNR=13
V33A **Lossen Ranch,** 61.28 331 P P 02 30 09.5 -0.2
baz=62,SNR=16
MMNY **Mt. Morris Dam** 61.34 351 eP P 02 30 08.6 -1.3
comp=Z,94nm,0.6s
Y29A **Porterfield Fa** 61.35 327 P P 02 30 09.6 -0.7
baz=62,SNR=15
FFD **Franklin Falls** 61.39 356 eP P 02 30 09.7 -0.6
comp=Z,15nm,0.5s
T35A **Sooner Cattle** 61.40 333 P P 02 30 10.2 -0.3
baz=62,SNR=8.9
X30A **Coker Ranch, T** 61.41 328 P P 02 30 10.3 -0.3
baz=62,SNR=18
U34A **Anderson Ranch** 61.45 332 P P 02 30 10.7 -0.1
baz=62,SNR=25
U34A **Anderson Ranch** 61.45 332 eP P 02 30 10.1 -0.7
comp=Z,89nm,0.5s
ACCN **Adirondack Com** 61.46 354 eP P 02 30 09.8 -0.9
comp=Z,12nm,0.7s
W31A **Holland Ranch,** 61.54 329 P P 02 30 11.3 -0.2
baz=62
V32A **Arapaho** 61.55 331 P P 02 30 12.0 +0.5
baz=62
HNH **Hanover** 61.66 356 eP P 02 30 11.5 -0.5
comp=Z,18nm,0.9s
Y28A **McKinney Farm,** 61.68 327 P P 02 30 12.0 -0.6
baz=62,SNR=13
S36A **Lake Cedric, C** 61.70 334 P P 02 30 11.8 -0.7
baz=62,SNR=19
U33A **Lingo Farm, Me** 61.70 332 P P 02 30 12.2 -0.3
baz=62,SNR=17
T34A **McClaskey Farm** 61.78 333 P P 02 30 12.9 -0.2
baz=62,SNR=16
X29A **Tulia** 61.82 328 P P 02 30 13.2 -0.3
baz=62
CPRX **Cap Rock** 61.87 325 eP P 02 30 13.8 -0.1
comp=Z,3.6nm,0.7s
R37A **Teagarden Farm** 61.90 335 P P 02 30 13.1 -0.7
baz=62
HDIL **Hopedale** 61.92 341 eP P 02 30 11.7 -2.2
comp=Z,124nm,0.6s
V31A **Spring Creek L** 61.97 330 P P 02 30 14.5 +0.2
baz=62,SNR=9.9
S35A **Otter Creek Ra** 61.97 334 P P 02 30 14.0 -0.3
baz=62,SNR=42
MSTX **Muleshoe** 62.01 327 P P 02 30 14.4 -0.3
baz=62,SNR=20
MSTX **Muleshoe** 62.01 327 eP P 02 30 14.0 -0.8
AAM **Ann Arbor** 62.02 346 eP P 02 30 12.9 -1.5
comp=Z,28nm,0.7s
U32A **Winter Ranch,** 62.06 331 P P 02 30 14.9 0.0
baz=62,SNR=6.2
X28A **Dimmitt** 62.13 327 P P 02 30 15.1 -0.5
baz=62,SNR=10
AMTX **Amarillo** 62.16 328 P P 02 30 15.1 -0.6
baz=62
AMTX **Amarillo** 62.16 328 eP P 02 30 15.3 -0.4
comp=Z,25nm,0.8s
R36A **Gordon, Harris** 62.18 335 P P 02 30 14.8 -0.8
baz=62,SNR=12
Q37A **Longview Farm,** 62.24 336 P P 02 30 15.0 -1.0
baz=62,SNR=8.7
T33A **Patterson Ranc** 62.30 332 P P 02 30 16.6 +0.1
baz=62,SNR=5.2
S34A **Willow Spring** 62.32 333 P P 02 30 16.3 -0.3
baz=62,SNR=7.0
W29A **Amarillo** 62.33 328 P P 02 30 16.3 -0.5
baz=62,SNR=7.1
R35A **Emporia Munici** 62.46 334 P P 02 30 17.3 -0.2
baz=63,SNR=5.3
S33A **Kaszmaul Farm,** 62.62 332 P P 02 30 18.4 -0.2
baz=63
T32A **Huddler Ranch,** 62.69 332 P P 02 30 19.5 +0.5
baz=63,SNR=9.3
Q36A **Arnold C. Orve** 62.71 335 P P 02 30 18.2 -0.9
baz=63,SNR=16
PTN **Potsdam (NY)** 62.77 354 eP P 02 30 18.7 -0.6
comp=Z,42nm,0.8s
LONY **Lake Ozonia** 62.77 354 eP P 02 30 18.8 -0.7
comp=Z,37nm,0.7s
Q35A **Mercer Eighty,** 62.85 335 P P 02 30 19.3 -0.8
baz=63,SNR=6.7
V29A **Stinnett** 62.86 329 P P 02 30 20.8 +0.5
baz=63
R34A **Isabella, Hill** 62.88 333 P P 02 30 20.3 0.0
baz=63,SNR=10
VNA1 **Neumayer--Stat** 62.90 161 P P 02 30 21.3 +1.4
PKME **Peaks-Kenny Pk** 63.06 358 eP P 02 30 20.7 -0.5
comp=Z,14nm,0.6s
V28A **Channing** 63.11 328 P P 02 30 22.4 +0.4
baz=63,SNR=6.6
S32A **Newby Ranch, P** 63.12 332 P P 02 30 22.0 +0.1
baz=63
P36A **Good Intent, A** 63.17 336 P P 02 30 21.0 -1.2
baz=63,SNR=28
U29A **Oasis Ranch, S** 63.20 329 P P 02 30 22.7 +0.2
baz=63
R33A **Olander Ranch,** 63.20 333 P P 02 30 22.2 -0.2
baz=63,SNR=5.3
Q34A **Chapman** 63.28 334 P P 02 30 22.5 -0.4
baz=64,SNR=12
KSU1 **Kansas State U** 63.29 334 P P 02 30 22.2 -0.8
baz=64,SNR=6.6
KSU1 **Kansas State U** 63.29 334 eP P 02 30 22.1 -0.9
comp=Z,40nm,1.0s
S31A **Mullinville** 63.30 331 P P 02 30 23.5 +0.5
baz=64
P35A **Duane Minner,** 63.42 335 P P 02 30 22.6 -1.2
baz=64,SNR=10.0
V27A **Dan Oppiter Fa** 63.43 328 P P 02 30 24.4 +0.4
baz=64
O36A **Bolckow** 63.52 336 P P 02 30 23.4 -1.0
baz=64,SNR=6.1
U28A **Mallet** 63.61 329 P P 02 30 24.9 -0.3
baz=64
R32A **Long Quarter,** 63.62 332 P P 02 30 25.1 0.0
baz=64,SNR=5.8
Q33A **Connelly Farm,** 63.72 333 P P 02 30 25.2 -0.5
baz=64
121A **Cookes Peak, D** 63.72 322 P P 02 30 27.1 +1.0
baz=64,SNR=17
121A **Cookes Peak, D** 63.72 322 eP P 02 30 26.4 +0.3
comp=Z,41nm,1.1s
P34A **Walnut Farm, R** 63.76 335 P P 02 30 25.7 -0.3
baz=64,SNR=28
S30A **Montezuma** 63.77 331 P P 02 30 26.7 +0.5
baz=64
T29A **Hugoton** 63.77 330 P P 02 30 26.6 +0.4
baz=64
R31A **Burdett** 63.87 332 P P 02 30 27.2 +0.5
baz=64
U27A **Thompson Grove** 63.94 328 P P 02 30 27.4 0.0
baz=64,SNR=11
O35A **Humboldt** 64.00 336 P P 02 30 27.3 -0.3
baz=64
Q32A **Meitler Ranch,** 64.02 333 P P 02 30 27.7 0.0
baz=64,SNR=8.1
S29A **Ulysses** 64.06 330 P P 02 30 28.5 +0.4
baz=64,SNR=6.2
T28A **Walsh** 64.14 329 P P 02 30 28.5 -0.1
baz=64,SNR=7.4
O34A **Beatrice** 64.25 335 P P 02 30 28.9 -0.2
baz=64
Y22D **IRIS PASSCAL I** 64.34 324 P P 02 30 30.6 +0.6
baz=65
LPM **Los Pinos Moun** 64.35 324 eP P 02 30 30.2 +0.1
comp=Z,40nm,0.6s
JFWS **Jewell Farm** 64.36 341 eP P 02 30 28.4 -1.5
comp=Z,74nm,0.6s
T27A **Campo** 64.39 329 P P 02 30 30.6 +0.3
baz=65,SNR=33
Q31A **Ellis** 64.40 332 P P 02 30 30.7 +0.6
baz=65,SNR=6.8
S28A **Manter** 64.41 330 P P 02 30 30.5 +0.1
baz=65,SNR=33
N35A **Tabor** 64.41 336 P P 02 30 29.6 -0.6
baz=65,SNR=15
LENM **Lemitar** 64.44 324 eP P 02 30 31.4 +0.7
O33A **Hebron** 64.52 334 P P 02 30 30.8 -0.1
baz=65
P32A **Huiting Farm,** 64.56 333 P P 02 30 30.8 -0.4
baz=65,SNR=11
GLMI **Grayling** 64.63 346 eP P 02 30 30.0 -1.5
comp=Z,45nm,0.8s
R29A **Marienthal** 64.72 331 P P 02 30 32.8 +0.5
baz=65,SNR=12
ANMO **Albuquerque** 64.72 325 c iP P 02 30 32.5 0.0
ANMO i *PP pP 02 31 31.8 -3.6
ANMO pmax pmax
comp=Z,45nm,0.7s
ANMO **Albuquerque** 64.72 325 eP P 02 30 32.6 0.0
comp=Z,14nm,0.6s
N34A **Lincoln** 64.73 336 P P 02 30 31.3 -0.9
baz=65,SNR=29
Q30A **Quinter** 64.74 332 P P 02 30 33.0 +0.6
baz=65,SNR=36
P31A **Stockton** 64.82 333 P P 02 30 32.8 0.0
baz=65,SNR=15
T26A **Comanche Natio** 64.91 328 P P 02 30 34.2 +0.5
baz=65,SNR=46
SNAA **Sanae** 64.92 162 P P 02 30 25.1 -8.1
SNAA **Sanae** 64.92 162 eP P 02 30 25.0 -8.1
O32A **Brockman Farm,** 64.96 334 P P 02 30 33.6 -0.1
baz=65,SNR=20
R28A **Tribune** 64.96 330 P P 02 30 34.0 +0.1
baz=65,SNR=8.2
S27A **Las Animas** 64.97 329 P P 02 30 34.2 +0.2
baz=65,SNR=8.3
Q29A **Oakley** 65.02 331 P P 02 30 34.5 +0.3
baz=65,SNR=18
P30A **Selden** 65.22 332 P P 02 30 35.8 +0.4
baz=65
T25A **Trinidad** 65.30 328 P P 02 30 36.8 +0.6
baz=66,SNR=22
O31A **Woolen Ranch,** 65.31 333 P P 02 30 36.3 +0.3
baz=66,SNR=7.5
TUC **Tucson** 65.36 320 eP P 02 30 37.4 +0.8
N32A **Stulken Farm,** 65.39 334 P P 02 30 36.6 +0.1
baz=66
R27A **Eads** 65.39 330 P P 02 30 36.8 +0.1
baz=66,SNR=8.6
L35A **Bielow Farm, R** 65.45 337 P P 02 30 36.0 -0.9
baz=66
Q28A **Sharon Springs** 65.55 331 P P 02 30 38.0 +0.3
baz=66
P29A **Atwood** 65.57 332 P P 02 30 38.5 +0.7
baz=66,SNR=7.4
L34A **Svendsen Farm,** 65.64 336 P P 02 30 37.4 -0.7
baz=66,SNR=45
LIC **Lamto** 65.65 74 eP P 02 30 38.2 -0.5
O30A **MW Ranch, Wils** 65.65 333 P P 02 30 38.5 +0.3
baz=66,SNR=11
N31A **Bailey Ranch,** 65.71 334 P P 02 30 39.2 +0.7
baz=66
R26A **Arlington** 65.72 329 P P 02 30 39.3 +0.6
baz=66,SNR=14
BGNE **Belgrade** 65.87 335 P P 02 30 39.5 0.0
baz=66,SNR=15
BGNE **Belgrade** 65.87 335 eP P 02 30 39.2 -0.3
KSCO **Kaye Shedlock'** 65.88 330 P P 02 30 40.8 +1.0
baz=66
KSCO **Kaye Shedlock'** 65.88 330 eP P 02 30 39.7 -0.1
P28A **Saint Francis** 65.92 331 P P 02 30 41.4 +1.4
baz=66
O29A **4D Ranch, Culb** 65.94 332 P P 02 30 41.2 +1.1
baz=66
KIC **Kosan Boka** 65.97 74 eP P 02 30 39.0 -1.7

DBIC **Dimbokro** 65.98 74 P P 02 30 39.2 -1.5
comp=Z,33nm,0.6s,baz=230,slow=7.3,SNR=58
DBIC **Dimbokro** 65.98 74 P P 02 30 39.2 -1.5
DBIC pmax pmax
comp=Z,33nm,0.6s
DBIC **Dimbokro** 65.98 74 eP P 02 30 38.9 -1.8
comp=Z,33nm,0.6s
M31A **Lambtecht Ranc** 66.16 334 P P 02 30 41.5 +0.1
baz=66,SNR=5.6
N30A **Hueftle Ranch,** 66.18 333 P P 02 30 41.9 +0.4
baz=66
Q26A **Hugo** 66.24 329 P P 02 30 42.6 +0.6
baz=66,SNR=7.6
P27A **Ficken Ranch,** 66.29 331 P P 02 30 42.9 +0.5
baz=66
SDCO **Great Sand Dun** 66.32 327 P P 02 30 43.7 +0.9
baz=66,SNR=32
SDCO **Great Sand Dun** 66.32 327 eP P 02 30 43.5 +0.7
comp=Z,37nm,0.6s
O28A **Krutsinger Ran** 66.38 331 P P 02 30 43.5 +0.6
baz=67,SNR=7.5
214A **Organ Pipe Nat** 66.39 318 P P 02 30 44.4 +1.4
baz=67,SNR=40
214A **Organ Pipe Nat** 66.39 318 eP P 02 30 43.9 +0.8
comp=Z,58nm,1.0s
N29A **Votaw Ranch, W** 66.43 333 P P 02 30 43.7 +0.6
baz=67,SNR=5.6
P26A **Davis Ranch, A** 66.66 330 P P 02 30 45.5 +0.8
baz=67,SNR=5.9
M30A **Dale-Ortello V** 66.69 334 P P 02 30 45.6 +0.9
baz=67
W18A **Petrified Fore** 66.70 323 P P 02 30 46.1 +1.0
baz=67
W18A **Petrified Fore** 66.70 323 eP P 02 30 45.1 0.0
comp=Z,15nm,0.5s
N28A **Pribbeno Ranch** 66.72 332 P P 02 30 45.8 +0.8
baz=67
O27A **Beecher Island** 66.75 331 P P 02 30 46.1 +0.9
baz=67,SNR=19
L31A **Butterfield Fa** 66.79 335 P P 02 30 45.7 +0.3
baz=67,SNR=5.6
R23A **Moffat** 66.82 327 P P 02 30 46.7 +0.8
baz=67,SNR=22
M29A **Burnside Ranch** 66.96 333 P P 02 30 47.1 +0.6
baz=67,SNR=6.4
L30A **Spencer Herefo** 66.97 334 P P 02 30 47.0 +0.5
baz=67
S22A **4UR Ranch, Cre** 67.01 326 P P 02 30 47.9 +0.8
baz=67,SNR=34
Q24A **Divide** 67.07 328 P P 02 30 48.3 +0.8
baz=67,SNR=18
OGNE **Ogallala** 67.15 332 P P 02 30 48.2 +0.5
baz=67
OGNE **Ogallala** 67.15 332 eP P 02 30 47.9 +0.2
comp=Z,30nm,0.7s
O26A **Horse Wrangler** 67.18 330 P P 02 30 48.9 +1.0
baz=67,SNR=12
M28A **Bar X Bar Ranc** 67.22 333 P P 02 30 49.0 +0.8
baz=67,SNR=5.6
SPMN **Marine on St.** 67.25 340 P P 02 30 46.9 -1.1
baz=68,SNR=6.8
SPMN **Marine on St.** 67.25 340 eP P 02 30 46.8 -1.3
ECSD **EROS Data Cent** 67.25 337 P P 02 30 47.1 -1.0
baz=68,SNR=17
ECSD **EROS Data Cent** 67.25 337 eP P 02 30 47.0 -1.2
comp=Z,10nm,0.6s
N27A **Anderson Farm,** 67.27 331 P P 02 30 48.8 +0.3
baz=68
L29A **Maesberg Ranch** 67.38 334 P P 02 30 51.5 +2.4
baz=68
MVCO **Mesa Verde** 67.51 325 P P 02 30 51.1 +1.0
baz=68,SNR=59
MVCO **Mesa Verde** 67.51 325 eP P 02 30 50.8 +0.6
comp=Z,70nm,0.9s
K30A **Basset** 67.53 334 P P 02 30 50.2 +0.3
baz=68
N26A **Koester Ranch,** 67.60 331 P P 02 30 51.6 +1.1
baz=68
P23A **Jefferson** 67.73 328 P P 02 30 52.7 +1.0
baz=68,SNR=14
M27A **Reverse DX Ran** 67.78 332 P P 02 30 52.5 +0.9
baz=68
L28A **Connealy Angus** 67.78 333 P P 02 30 52.4 +0.8
baz=68
K29A **Lazy Trails An** 67.89 334 P P 02 30 52.7 +0.5
baz=68,SNR=8.8
WUAZ **Wupatki** 67.93 322 P P 02 30 54.2 +1.4
baz=68,SNR=39
WUAZ **Wupatki** 67.93 322 eP P 02 30 54.0 +1.2
comp=Z,45nm,0.9s
ISCO **Idaho Springs** 67.94 329 P P 02 30 53.7 +0.8
baz=68,SNR=20
ISCO **Idaho Springs** 67.94 329 eP P 02 30 53.5 +0.6
comp=Z,15nm,0.9s
J30A **Dallas** 68.02 335 P P 02 30 53.0 0.0
baz=68
M26A **McRoberts Ranc** 68.07 331 P P 02 30 54.4 +1.0
baz=68,SNR=5.8
SMCO **Snowmass** 68.16 327 eP P 02 30 55.2 +0.9
L27A **T5 Ranch, Ells** 68.19 332 P P 02 30 55.9 +1.7
baz=68
PV01 **Paradox Valley** 68.22 326 eP P 02 30 55.3 +0.7
comp=Z,5µm,0.7s
K28A **Ten Mile Ranch** 68.29 333 P P 02 30 55.7 +0.9
baz=68,SNR=5.6
P22A **Eagle** 68.36 328 P P 02 30 56.4 +1.0
baz=69,SNR=8.4
GLA **Glamis** 68.39 318 P P 02 30 56.6 +1.1
baz=69,SNR=5.1
GLA **Glamis** 68.39 318 eP P 02 30 56.6 +1.1
comp=Z,11nm,0.8s
O23A **Lake Granby, G** 68.41 329 P P 02 30 56.6 +0.8
baz=69,SNR=26
J29A **Okreek** 68.42 334 P P 02 30 55.8 +0.3
baz=69,SNR=7.3
M25A **Palm-Egli Farm** 68.47 331 P P 02 30 57.0 +1.0
baz=69
I30A **Oacoma** 68.48 335 P P 02 30 55.5 -0.4
baz=69
L26A **Underwood Farm** 68.50 332 P P 02 30 57.0 +0.9
baz=69,SNR=6.8
PV04 **Paradox Valley** 68.59 326 eP P 02 30 57.8 +1.0
Y12C **Blythe** 68.65 319 P P 02 30 58.2 +1.2
baz=69,SNR=24
K27A **Flueckinger Fa** 68.66 333 P P 02 30 58.3 +1.3
baz=69,SNR=9.3
O22A **Kremmling** 68.68 328 P P 02 30 57.8 +0.3
baz=69,SNR=47
BRSD **Miller** 68.74 336 P P 02 30 57.1 -0.3
baz=69
PDMCI **Parker Dam,Lak** 68.78 319 P P 02 30 59.1 +1.3
baz=69,SNR=7.8
J28A **Allard Ranch,** 68.82 334 P P 02 30 57.2 -0.7
baz=69,SNR=13
I29A **Vivian Onida** 68.92 335 P P 02 30 58.0 -0.5
baz=69
SWSC **Sam W. Stewart** 68.94 317 P P 02 31 00.4 +1.6
baz=69
N23A **Red Feather La** 68.94 329 P P 02 30 59.9 +0.9
baz=69,SNR=17
IBP **Imperial Bould** 68.95 317 P P 02 31 00.6 +1.5
baz=69
L25A **Engebretsen Ra** 68.99 331 P P 02 31 00.2 +1.1
baz=69
J27A **Elkhorn Farm,** 69.00 333 P P 02 31 00.0 +0.9
baz=69,SNR=11
PHWY **Pilot Hill** 69.02 330 eP P 02 30 60.0 +0.4
comp=Z,18nm,0.6s
K26A **Motz Farm, Whi** 69.07 332 P P 02 31 00.6 +1.0
baz=69,SNR=7.7
BC3 **Big Chuckawall** 69.18 318 P P 02 31 01.9 +1.5
baz=69,SNR=25
I28A **Midland** 69.26 334 P P 02 31 00.6 0.0
baz=70
EYMN **Ely** 69.30 343 eP P 02 30 59.4 -1.4
comp=Z,7.3nm,0.8s
K25A **Mack Ranch, Ha** 69.31 332 P P 02 31 02.3 +1.3
baz=70
MONP **Monument Peak,** 69.31 317 P P 02 31 02.5 +1.1
baz=70,SNR=17
IRM **Iron Mountain** 69.31 319 P P 02 31 02.7 +1.6
baz=70,SNR=30
BAR **Barrett** 69.34 317 eP P 02 31 02.8 +1.4
NVL **N'lazarevskaya** 69.37 160 ⇑/P P 02 31 02.0 +1.1
NVL pmax pmax
comp=Z,11nm,0.8s
NEE2 **Needles Airpor** 69.38 319 P P 02 31 02.6 +1.1
baz=70

H29A **Onida** 69.39 335 P P 02 31 00.6 -0.7
baz=70,SNR=6.5
G30A **Faulkton** 69.39 336 P P 02 31 00.8 -0.5
baz=70,SNR=6.7
J26A **Sides Ranch, S** 69.51 333 P P 02 31 03.3 +1.1
baz=70,SNR=27
O20A **White River Ci** 69.52 327 P P 02 31 03.5 +1.0
baz=70,SNR=37
O20A **White River Ci** 69.52 327 eP P 02 31 03.2 +0.7
I27A **Quinn** 69.69 334 P P 02 31 03.6 +0.4
baz=70,SNR=5.8
G29A **Hoven** 69.75 336 P P 02 31 03.7 +0.2
baz=70
BELC **Belle Mtn. Jos** 69.75 318 P P 02 31 05.5 +1.6
baz=70,SNR=15
H28A **Mission Ridge** 69.75 335 P P 02 31 03.9 +0.3
baz=70,SNR=5.5
109C **Camp Elliot, M** 69.76 316 P P 02 31 05.3 +1.5
baz=70
PFO **Pinyon Flats O** 69.79 317 P P 02 31 05.3 +1.1
comp=Z,147nm,0.8s,SNR=12
PFO **Pinyon Flats O** 69.79 317 ⇑eP P 02 31 05.9 +1.7
PFO **Pinyon Flats O** 69.79 317 P P 02 31 05.8 +1.6
baz=70,SNR=15
PFO **Pinyon Flats O** 69.79 317 eP P 02 31 05.5 +1.4
comp=Z,16nm,0.8s
J25A **Sunshine Ranch** 69.90 332 P P 02 31 05.8 +1.2
baz=70
F30A **Leola** 69.94 337 P P 02 31 04.8 +0.1
baz=70
SRU **San Rafael Swe** 69.98 325 eP P 02 31 06.1 +0.8
I26A **New Underwood** 70.00 333 P P 02 31 05.2 +0.1
baz=70
GMRC **Granite Mounta** 70.04 319 P P 02 31 06.9 +1.3
baz=70,SNR=62
G28A **Parade** 70.04 335 P P 02 31 05.3 0.0
baz=70
PMPST **Porto Santo, M** 70.15 44 eP P 02 31 08.5 +2.3
PMPST **Porto Santo, M** 70.15 44 eP P 02 31 08.5 +2.3
H27A **Howes** 70.15 334 P P 02 31 05.9 -0.1
baz=70,SNR=11
RWWY **Rawlins** 70.17 329 eP P 02 31 08.8 +2.4
comp=Z,13nm,0.7s
K23A **Bowen Ranch, D** 70.22 331 P P 02 31 07.2 +0.6
baz=70,SNR=19
J24A **Dixon Ranch, L** 70.23 332 P P 02 31 08.3 +1.7
baz=70
F29A **Eureka** 70.24 336 P P 02 31 06.5 -0.1
baz=70,SNR=5.0
MURC **Murrieta** 70.27 317 P P 02 31 08.7 +1.8
baz=70
I25A **Rochford** 70.36 333 P P 02 31 08.6 +1.1
baz=71,SNR=73
H26A **Fairpoint** 70.43 334 P P 02 31 08.4 +0.7
baz=71,SNR=7.5
E30A **Jud** 70.46 337 P P 02 31 08.0 +0.2
baz=71
MSU **Marysvale** 70.47 324 eP P 02 31 09.5 +1.1
comp=Z,45nm,0.8s
MVU **Marysvale** 70.49 324 eP P 02 31 09.6 +1.2
comp=Z,46nm,0.8s
TMUT **Trail Mountain** 70.49 325 eP P 02 31 09.4 +0.9
comp=Z,16nm,0.5s
CCUT **Cedar City** 70.49 322 eP P 02 31 10.0 +1.6
comp=Z,36nm,0.9s
HEC **Heber,Ludlow** 70.49 318 P P 02 31 10.3 +1.9
baz=71,SNR=33
K22A **Casper** 70.57 330 P P 02 31 09.8 +1.0
baz=71,SNR=21
K22A **Casper** 70.57 330 eP P 02 31 09.6 +0.8
RSSD **Black Hills** 70.58 333 eP P 02 31 09.2 +0.4
comp=Z,20nm,0.9s
TUQ **Turquoise Moun** 70.63 319 P P 02 31 10.5 +1.3
baz=71,SNR=6.6
I24A **Kuemmerle Ranc** 70.63 332 P P 02 31 09.7 +0.7
baz=71,SNR=14
F28A **McLaughlin** 70.63 336 P P 02 31 09.4 +0.5
baz=71
J23A **Dilts Ranch, B** 70.69 331 P P 02 31 09.8 +0.4
baz=71
G27A **Dupree** 70.70 335 P P 02 31 09.5 +0.2
baz=71,SNR=5.3
SCI **San Clemente I** 70.77 316 P P 02 31 11.2 +1.2
baz=71
H25A **Fruitdale** 70.79 333 P P 02 31 10.0 +0.1
baz=71
E29A **Napoleon** 70.79 337 P P 02 31 10.1 +0.3
baz=71
SHPR **Sheep Range** 70.86 320 eP P 02 31 12.0 +1.4
G26A **Maurine** 70.91 334 P P 02 31 10.5 -0.1
baz=71,SNR=13
D30A **Buchanan** 70.92 338 P P 02 31 10.3 -0.2
baz=71,SNR=12
AGMN **Agassiz Nation** 70.95 340 P P 02 31 09.9 -0.7
baz=71,SNR=19
AGMN **Agassiz Nation** 70.95 340 eP P 02 31 09.8 -0.9
comp=Z,24nm,0.7s
RRX **Edison Barstow** 70.95 318 P P 02 31 13.2 +2.3
baz=71
BFSC **Mount Baldy Ra** 70.96 317 P P 02 31 12.6 +1.4
baz=71,SNR=9.4
GSC **Goldstone, Bar** 71.09 319 P P 02 31 13.3 +1.3
baz=71,SNR=19
GSC **Goldstone, Bar** 71.09 319 eP P 02 31 12.8 +0.8
J22A **Midwest** 71.13 331 P P 02 31 12.4 +0.4
baz=71,SNR=79
F27A **Lemmon** 71.14 335 P P 02 31 12.1 +0.2
baz=71,SNR=5.9
SHOC **Shoshone, Teco** 71.15 319 P P 02 31 13.8 +1.6
baz=71
G25A **Newell** 71.17 334 P P 02 31 12.1 0.0
baz=71
E28A **Huff** 71.19 336 P P 02 31 12.6 +0.4
baz=71,SNR=10
MPU **Maple Canyon** 71.23 325 eP P 02 31 13.5 +0.7
comp=Z,112nm,1.0s
H24A **Dirks Ranch, A** 71.30 333 P P 02 31 13.1 +0.2
baz=72,SNR=39
C30A **Mose, Pekin** 71.32 338 P P 02 31 12.8 -0.1
baz=72,SNR=7.6
F26A **Lodgepole** 71.39 334 P P 02 31 13.4 0.0
baz=72,SNR=13
DECC **Green Verdugo** 71.41 317 P P 02 31 15.3 +1.5
baz=72,SNR=5.8
E27A **Carson** 71.41 335 P P 02 31 14.0 +0.5
baz=72,SNR=6.9
NLU **North Lily Min** 71.43 325 eP P 02 31 15.3 +1.3
I22A **9 Mile Ranch,** 71.50 331 P P 02 31 14.8 +0.6
baz=72,SNR=64
H23A **Clabaugh Cattl** 71.53 332 P P 02 31 15.0 +0.6
baz=72
J21A **Lysite** 71.53 330 P P 02 31 15.4 +0.9
baz=72,SNR=48
JLU **Jordanelle** 71.54 326 eP P 02 31 15.7 +1.0
EDW2 **Edwards Air Fo** 71.58 318 P P 02 31 15.8 +1.0
baz=72,SNR=16
D28A **Regan** 71.66 337 P P 02 31 15.2 +0.2
baz=72,SNR=6.7
G24A **Alzada** 71.70 333 P P 02 31 15.6 +0.3
baz=72,SNR=14
LRMC **Laurel Mtn Rad** 71.76 318 P P 02 31 17.0 +1.1
baz=72,SNR=12
F25A **Bowman** 71.77 334 P P 02 31 15.8 +0.1
baz=72,SNR=7.5
BLG **Laguna Peak, P** 71.80 316 P P 02 31 17.3 +1.2
baz=72
E26A **Carlson Angus** 71.81 335 P P 02 31 16.3 +0.4
baz=72
TPNV **Topopah Spring** 71.81 320 P P 02 31 18.1 +1.8
baz=72,SNR=43
I21A **Big Trails, Te** 71.82 330 P P 02 31 16.6 +0.5
baz=72,SNR=109
J20A **Shoshoni** 71.85 330 P P 02 31 17.3 +1.0
baz=72,SNR=16
MDND **Maddock** 71.85 337 P P 02 31 16.3 +0.3
baz=72,SNR=11
MDND **Maddock** 71.85 337 eP P 02 31 16.3 +0.3
FURC **Furnace Creek,** 71.87 320 P P 02 31 17.9 +1.5
baz=72,SNR=31
OSI **Osito Audit: C** 71.89 317 P P 02 31 18.0 +1.4
baz=72,SNR=6.3
OSI **Osito Audit: C** 71.89 317 eP P 02 31 17.7 +1.1
comp=Z,29nm,0.9s
TCUT **Toone Canyon** 71.89 326 eP P 02 31 17.5 +0.7
comp=Z,15nm,0.7s
B30A **Myrvik Farm, E** 71.91 339 P P 02 31 15.8 -0.5
baz=72,SNR=18
D27A **Center** 71.96 336 P P 02 31 17.0 +0.2
baz=72
H22A **Clearmont** 71.98 332 P P 02 31 17.5 +0.4
baz=72,SNR=13
DUG **Dugway, Tooele** 72.00 325 P P 02 31 18.4 +1.1
baz=72,SNR=32
DUG **Dugway, Tooele** 72.00 325 eP P 02 31 18.3 +1.0
comp=Z,25nm,0.8s
MPMC **Manual Prospec** 72.00 319 P P 02 31 18.9 +1.5
baz=72,SNR=17
G23A **Biddle** 72.03 332 P P 02 31 17.7 +0.5
baz=72,SNR=35
BSC **Santa Cruz Isl** 72.10 316 P P 02 31 19.7 +1.8
baz=72
QSPA **South Pole Qui** 72.11 180 eP P 02 31 18.4 +0.8
comp=Z,26nm,0.6s
F24A **Ekalaka** 72.12 333 P P 02 31 18.2 +0.4
baz=72,SNR=19
BW06 **Boulder Array** 72.13 328 eP P 02 31 17.8 -0.3
comp=Z,11nm,0.5s
PDAR **Pinedale Array** 72.13 328 P P 02 31 18.1 0.0
comp=Z,12nm,0.5s,baz=114,slow=8.2,SNR=108
DAC **Darwin (Calif)** 72.20 319 eP P 02 31 20.1 +1.4
E25A **Miller Ranch,** 72.21 334 P P 02 31 18.7 +0.4
baz=72,SNR=9.4
D26A **Manning** 72.25 335 P P 02 31 19.0 +0.5
baz=72,SNR=5.7
J19A **Crowheart** 72.25 329 P P 02 31 19.3 +0.5
baz=72,SNR=46
ARVC **Arvin** 72.27 317 P P 02 31 20.5 +1.7
baz=72
B29A **Wagenman Farm,** 72.28 338 P P 02 31 18.5 0.0
baz=72,SNR=12
A30A **Hoffart Farm,** 72.32 339 P P 02 31 18.4 -0.3
baz=72,SNR=9.3
I20A **Worland** 72.32 330 P P 02 31 19.8 +0.7
baz=72,SNR=44
HWUT **Hardware Ranch** 72.32 326 eP P 02 31 19.6 +0.4
comp=Z,20nm,0.6s
H21A **Big Horn, Sher** 72.32 331 P P 02 31 19.7 +0.6
baz=72,SNR=20
R11A **Troy Canyon, C** 72.33 322 P P 02 31 21.1 +1.8
baz=72,SNR=32
R11A **Troy Canyon, C** 72.33 322 eP P 02 31 20.6 +1.3
comp=Z,22nm,1.1s
ISA **Isabella, Lake** 72.38 318 P P 02 31 21.3 +1.8
baz=73,SNR=20
ISA **Isabella, Lake** 72.38 318 eP P 02 31 21.3 +1.8
SBC **Santa Barbara** 72.43 316 P P 02 31 21.2 +1.5
baz=73
F23A **Volborg** 72.44 333 P P 02 31 19.9 +0.2
baz=73,SNR=26
G22A **Birney** 72.44 332 P P 02 31 20.0 +0.3
baz=73,SNR=8.1
C27A **Sayler Ranch,** 72.45 336 P P 02 31 19.9 +0.3
baz=73
GRAC **Grapevine Rang** 72.53 320 P P 02 31 22.2 +1.8
baz=73,SNR=8.9
SCHQ **Schefferville** 72.60 0 P P 02 31 18.0 -2.3
comp=Z,8.6nm,0.9s,baz=191,slow=4.2,SNR=11
SCHQ **Schefferville** 72.60 0 eP P 02 31 19.2 -1.1
comp=Z,8.1nm,0.7s
CWC **Cottonwood Cre** 72.61 319 P P 02 31 22.8 +1.8
baz=73
A29A **Manning Farm,** 72.62 338 P P 02 31 20.2 -0.4
baz=73,SNR=23
BGU **Big Grassy Mou** 72.62 325 eP P 02 31 21.7 +0.8
comp=Z,31nm,0.9s
B28A **Dugan Ranch, T** 72.63 337 P P 02 31 21.1 +0.5
baz=73
E24A **Baker** 72.63 334 P P 02 31 21.4 +0.6
baz=73,SNR=13
H20A **Greybull** 72.66 330 P P 02 31 21.4 +0.3
baz=73,SNR=42
D25A **Fairfield** 72.70 335 P P 02 31 21.9 +0.8
baz=73,SNR=9.8
C26A **Wahner Farm, P** 72.77 336 P P 02 31 22.1 +0.6
baz=73,SNR=6.3
PKM **Mcpherson Peak** 72.77 317 P P 02 31 23.9 +1.9
baz=73,SNR=12
I19A **Meeteetse** 72.80 330 P P 02 31 22.8 +0.8
baz=73,SNR=28
G21A **Lodge Grass** 72.86 331 P P 02 31 22.7 +0.5
baz=73,SNR=17
F22A **Rosebud** 72.86 332 P P 02 31 22.4 +0.3
baz=73
VES **Vestal, Richgr** 72.87 318 P P 02 31 24.0 +1.7
baz=73,SNR=14
AHID **Auburn Hatcher** 72.91 328 eP P 02 31 23.0 +0.4
comp=Z,25nm,0.8s
B27A **Peters Farms,** 72.93 337 P P 02 31 23.2 +0.8
baz=73
E23A **Ismay** 73.01 333 P P 02 31 23.2 +0.2
baz=73,SNR=9.4
HVU **Hansel Valley** 73.08 326 eP P 02 31 24.3 +0.7
D24A **Glendive** 73.08 334 P P 02 31 24.3 +0.9
baz=73,SNR=14
TPH **Tonopah** 73.12 321 eP P 02 31 25.1 +1.1
comp=Z,23nm,1.0s
C25A **Freed Ranch, W** 73.13 335 P P 02 31 24.3 +0.7
baz=73,SNR=6.5
SMMC **Simmler** 73.14 317 P P 02 31 26.1 +2.2
baz=73,SNR=6.8
REDW **Red Top Meadow** 73.21 328 eP P 02 31 25.1 +0.7
SNOW **Snow King Moun** 73.24 328 eP P 02 31 25.2 +0.6
comp=Z,25nm,0.7s
RCTC **Rector, Farmer** 73.26 318 P P 02 31 25.6 +1.1
baz=74
H19A **Powell** 73.26 330 P P 02 31 25.5 +0.9
baz=74,SNR=28
B26A **Jensen Ranch,** 73.27 336 P P 02 31 25.2 +0.8
baz=74
LOHW **Long Hollow** 73.27 328 eP P 02 31 25.5 +0.7
comp=Z,22nm,0.8s
G20A **Bridger** 73.31 331 P P 02 31 24.9 0.0
baz=74,SNR=22
TPAW **Teton Pass** 73.36 328 eP P 02 31 26.1 +0.7
comp=Z,22nm,0.7s
MOOW **Moose Ponds** 73.44 328 eP P 02 31 26.4 +0.6
C24A **Savage** 73.45 335 P P 02 31 26.2 +0.7
baz=74,SNR=11
D23A **Lindsay** 73.50 334 P P 02 31 26.8 +1.0
baz=74,SNR=12
FXWY **Fox Creek** 73.50 328 eP P 02 31 26.9 +0.7
B25A **Knox Farm, Ray** 73.55 336 P P 02 31 26.3 +0.3
baz=74
LAO **LASA Array** 73.55 333 P P 02 31 26.6 +0.5
baz=74,SNR=8.6
LAO **LASA Array** 73.55 333 eP P 02 31 26.6 +0.5
A26A **Wade Farm, Ken** 73.62 337 P P 02 31 27.0 +0.5
baz=74,SNR=7.5
IMW **Indian Meadow** 73.64 328 eP P 02 31 28.1 +1.0
FLWY **Flagg Ranch** 73.66 329 eP P 02 31 28.1 +1.1
comp=Z,77nm,0.7s
F20A **Billings** 73.72 331 P P 02 31 27.8 +0.6
baz=74,SNR=18
ELK **Elko** 73.72 324 eP P 02 31 28.2 +0.7
comp=Z,11nm,1.0s
RLMT **Red Lodge** 73.73 330 P P 02 31 28.2 +0.8
baz=74,SNR=38
RLMT **Red Lodge** 73.73 330 eP P 02 31 28.1 +0.8
E21A **Keefer Ranch,** 73.81 332 P P 02 31 28.5 +0.9
baz=74,SNR=16
H17A **Grant Village** 73.83 329 P P 02 31 29.3 +1.2
baz=74,SNR=7.2
H17A **Grant Village** 73.83 329 eP P 02 31 29.3 +1.2
comp=Z,25nm,0.6s
MLAC **Mammoth, Mammo** 73.83 319 P P 02 31 28.6 +0.5
baz=74
LKWY **Lake** 73.87 329 eP P 02 31 29.9 +1.7
comp=Z,37nm,0.8s
D22A **Cohagen** 73.89 333 P P 02 31 29.0 +1.0
baz=74,SNR=23
C23A **Lambert** 73.98 334 P P 02 31 29.4 +0.8
baz=74,SNR=7.3
YFT **Old Faithful** 74.00 329 eP P 02 31 30.8 +1.8
comp=Z,35nm,1.0s
NVAR **Mina Array Bea** 74.01 320 P P 02 31 30.5 +1.4
comp=Z,14nm,0.7s,baz=143,slow=6.2,SNR=88
A25A **Svangstu Ranch** 74.07 336 P P 02 31 29.8 +0.8
baz=74,SNR=8.0
DGMT **Dagmar** 74.11 335 P P 02 31 30.2 +0.9
baz=74,SNR=9.1
DGMT **Dagmar** 74.11 335 eP P 02 31 29.8 +0.5
D21A **La Casta Ranch** 74.18 333 P P 02 31 30.7 +1.0
baz=74,SNR=41
YMR **Madison River** 74.22 329 eP P 02 31 31.6 +1.4
comp=Z,79nm,0.8s
C22A **Vida** 74.23 334 P P 02 31 30.7 +0.7

baz=74,SNR=13
A24A **Westby** 74.40 336 P P 02 31 31.9 +1.0
baz=75,SNR=12
GCMT **Greycliff** 74.42 330 eP P 02 31 31.8 +0.6
B23A **Brockton** 74.43 335 P P 02 31 32.3 +1.2
baz=75,SNR=32
TOA0 **Torodi Ar. Sit** 74.44 70 eP P 02 31 28.9 -3.0
TOA0 **Torodi Ar. Sit** 74.44 70 eP P 02 31 30.0 -1.9
TORD **Torodi Ar. Bea** 74.44 70 P P 02 31 30.2 -1.7
comp=Z,33nm,0.6s,baz=253,slow=5.2,SNR=434
TORD pP pP 02 32 36.7 +0.1
comp=Z,15nm,0.8s,baz=252,slow=5.8,SNR=3.4
TORD S S 02 40 37.3 -6.3
comp=Z,2.9nm,1.0s,baz=249,slow=11,SNR=8.9
QLMT **Earthquake Lak** 74.56 329 eP P 02 31 33.4 +1.2
comp=Z,1.6nm,0.6s
B22A **Reddig Ranch S** 74.71 334 P P 02 31 33.7 +1.0
baz=75,SNR=14
WAKR **Walker** 74.75 320 eP P 02 31 35.3 +1.9
A23A **Redstone** 74.78 335 P P 02 31 33.9 +0.8
baz=75
C21A **Desert Coulee** 74.81 333 P P 02 31 33.8 +0.5
baz=75,SNR=20
CMB **Columbia Colle** 75.04 319 eP P 02 31 35.9 +1.0
C20A **Veseth Ranch,** 75.11 333 P P 02 31 35.3 +0.2
baz=75,SNR=25
HLID **Hailey** 75.19 326 P P 02 31 37.7 +1.9
baz=75,SNR=54
HLID **Hailey** 75.19 326 eP P 02 31 37.3 +1.6
A22A **Carney Farms,** 75.22 335 P P 02 31 36.5 +0.9
baz=75,SNR=12
B21A **Ellsworth Farm** 75.24 334 P P 02 31 36.7 +1.0
baz=76,SNR=12
BOZ **Bozeman (W)** 75.25 329 P P 02 31 36.8 +0.8
baz=76,SNR=20
BOZ **Bozeman (W)** 75.25 329 eP P 02 31 36.6 +0.6
MCMT **McKenzie Canyo** 75.27 328 eP P 02 31 37.8 +1.6
DLMT **Dillon** 75.52 329 eP P 02 31 38.8 +1.2
A21A **Bergtoll Ranch** 75.64 334 P P 02 31 38.9 +0.9
baz=76
B20A **Solberg Farm,** 75.67 333 P P 02 31 38.2 0.0
baz=76
LRM **Limekiln Ridge** 75.78 329 eP P 02 31 39.6 +0.5
comp=Z,85nm,0.9s
MFID **Camas Ranch** 75.84 326 eP P 02 31 41.0 +1.6
A20A **Cobblestone Ra** 75.97 333 P P 02 31 40.6 +0.7
baz=76,SNR=22
B19A **Brinkman Farms** 76.09 333 P P 02 31 41.4 +0.9
baz=76,SNR=8.6
HRY **Holter Researc** 76.12 330 eP P 02 31 41.9 +1.1
comp=Z,17nm,0.6s
EGMT **Eagleton** 76.12 332 P P 02 31 41.4 +0.7
baz=76,SNR=39
EGMT **Eagleton** 76.12 332 eP P 02 31 40.8 0.0
A19A **Klindworth Far** 76.36 333 P P 02 31 42.7 +0.7
baz=77,SNR=14
WVOR **Wild Horse Val** 76.75 323 eP P 02 31 45.4 +0.9
VAH **Vaihoa** 76.77 258 eP P 02 31 46.8 +1.8
comp=Z,96nm,1.1s
CHMT **Chamberlain Mo** 76.94 329 eP P 02 31 46.4 +0.8
comp=Z,10nm,1.3s
PMOR **Pomariorio Ree** 77.08 258 eP P 02 31 48.8 +2.1
comp=Z,72nm,1.0s
MSO **Missoula** 77.22 329 P P 02 31 48.5 +1.5
baz=77,SNR=11
MSO **Missoula** 77.22 329 eP P 02 31 48.1 +1.2
SLMT **Seeley Lake** 77.29 330 eP P 02 31 47.5 +0.1
comp=Z,16nm,1.0s
BMO **Blue Mountains** 77.59 326 eP P 02 31 50.3 +1.2
MORF **Marmelete** 77.71 44 eP P 02 31 45.7 -4.1
MORF epP pP 02 32 58.7 +3.6
MORF **Marmelete** 77.71 44 eP P 02 31 45.7 -4.1
MORF epP pP 02 32 58.7 +3.6
SWMT **Swartz Lake** 77.72 329 eP P 02 31 50.6 +0.9
comp=Z,16nm,1.1s
PTEO **Sao Teotonio** 77.80 44 eP P 02 31 53.4 +3.2
comp=Z,80nm,1.5s
PTEO epP pP 02 32 57.3 +1.8
PTEO **Sao Teotonio** 77.80 44 eP P 02 31 53.4 +3.2
comp=Z,80nm,1.5s
PTEO epP pP 02 32 57.3 +1.8
WDC **Whiskeytown Da** 77.91 320 eP P 02 31 50.4 -0.4
comp=Z,18nm,0.7s
YBMT **Yellow Bay** 77.98 330 eP P 02 31 52.1 +0.9
comp=Z,16nm,0.8s
JTMT **Jette** 78.03 330 eP P 02 31 52.5 +1.1
PBDV **Barranco-do-Ve** 78.15 44 eP P 02 31 55.1 +2.9
PBDV epP pP 02 33 00.5 +2.9
PBDV **Barranco-do-Ve** 78.15 44 eP P 02 31 55.1 +2.9
PBDV epP pP 02 33 00.5 +2.9
M04C **Macdoel** 78.21 321 P P 02 31 54.0 +1.4
baz=78,SNR=11
K05A **Summer Lake** 78.23 323 eP P 02 31 54.6 +1.8
PNCL **Nicolau / Gran** 78.24 43 eP P 02 31 53.0 +0.4
PNCL epP pP 02 33 00.9 +2.9
PNCL **Nicolau / Gran** 78.24 43 eP P 02 31 53.0 +0.4
PNCL epP pP 02 33 00.9 +2.9
N02D **Trinity Center** 78.25 320 P P 02 31 53.2 +0.5
baz=78,SNR=7.4
BLMT **Blacktail Moun** 78.25 330 eP P 02 31 53.7 +0.9
MESJ **Messejana** 78.29 44 eP P 02 31 54.3 +1.4
MESJ epP pP 02 33 01.1 +2.8
MESJ **Messejana** 78.29 44 eP P 02 31 54.3 +1.4
MESJ epP pP 02 33 01.1 +2.8
I07A **Izee** 78.29 324 eP P 02 31 54.6 +1.7
PCVE **Castro Verde** 78.30 44 eP P 02 31 55.8 +2.9
comp=Z,39nm,1.5s
PCVE epP pP 02 33 00.8 +2.5
PCVE **Castro Verde** 78.30 44 eP P 02 31 55.8 +2.9
comp=Z,39nm,1.5s
PCVE epP pP 02 33 00.8 +2.5
BSMT **Bassoo Peak** 78.34 329 eP P 02 31 54.0 +0.8
comp=Z,17nm,1.0s
PVAQ **Vaqueiros** 78.38 44 eP P 02 31 56.0 +2.6
comp=Z,38nm,1.6s
PVAQ epP pP 02 32 58.3 -0.5
PVAQ **Vaqueiros** 78.38 44 eP P 02 31 56.0 +2.6
comp=Z,38nm,1.6s
PVAQ epP pP 02 32 58.3 -0.5
FFC **Flin Flon** 78.42 340⇑ eP P 02 31 53.4 +0.2
FFC **Flin Flon** 78.42 340 eP P 02 31 53.0 -0.2
M02C **Callahan** 78.58 321 P P 02 31 55.3 +0.7
baz=79
SUR **Sutherland** 78.69 120 P P 02 31 56.8 +1.2
comp=Z,138nm,1.3s,SNR=5.5
SUR **Sutherland** 78.69 120 eP P 02 31 55.6 0.0
comp=Z,4.5nm,0.9s
YBH **Yreka Blue Hor** 78.70 321 eP P 02 31 54.9 -0.2
comp=Z,4.4nm,0.5s
EVOP **Sao Brissos** 78.74 43 eP P 02 31 55.7 +0.4
comp=Z,13nm,0.6s
EVOP epP pP 02 33 03.1 +2.3
G08A **Pilot Rock** 78.77 325 eP P 02 31 56.8 +1.3
WALA **Waterton Lakes** 78.77 331 eP P 02 31 55.5 +0.1
comp=Z,9.5nm,0.8s
J05D **Fort Rock, OR** 78.77 323 P P 02 31 57.3 +1.7
baz=79,SNR=19
EVO **Evora** 78.81 43 eP P 02 31 55.7 0.0
comp=Z,13nm,0.6s
EVO **Evora** 78.81 43 eP P 02 31 55.8 0.0
EVO epP pP 02 33 03.7 +2.5
EVO **Evora** 78.81 43 eP P 02 31 55.8 0.0
EVO epP pP 02 33 03.7 +2.5
SYO **Syowa Base** 79.04 159⇑ eP P 02 31 55.9 -0.6
PTOM **Tomar** 79.16 42 eP P 02 31 58.4 +0.8
PTOM epP pP 02 33 05.5 +2.4
PTOM **Tomar** 79.16 42 eP P 02 31 58.4 +0.8
PTOM epP pP 02 33 05.5 +2.4
TSUM **Tsumeb** 79.23 107 eP P 02 31 58.3 -0.3
comp=Z,19nm,0.6s
J04D **Umpqua Nationa** 79.25 322 P P 02 31 59.7 +1.4
baz=80,SNR=8.0
PBAR **Barrancos** 79.25 44 eP P 02 31 58.7 +0.6
PBAR epP pP 02 33 06.1 +2.4
PBAR **Barrancos** 79.25 44 eP P 02 31 58.7 +0.6
PBAR epP pP 02 33 06.1 +2.4
PESTR **Estremoz** 79.27 43 eP P 02 31 59.5 +1.3
comp=Z,31nm,1.5s
PESTR epP pP 02 33 06.3 +2.5
PESTR **Estremoz** 79.27 43 eP P 02 31 59.5 +1.3
comp=Z,31nm,1.5s
PESTR epP pP 02 33 06.3 +2.5
PCAS **Casmilo, Conde** 79.35 42 eP P 02 31 59.5 +0.9
PCAS **Casmilo, Conde** 79.35 42 eP P 02 31 59.5 +0.9
HUMO **Hull Mountain** 79.37 321 eP P 02 31 58.6 -0.1
comp=Z,9.2nm,0.8s
I05D **Terrebonne, OR** 79.48 324 P P 02 32 01.4 +2.1
baz=80,SNR=20
L02D **Cave Junction,** 79.49 321 P P 02 32 01.2 +1.9
baz=80
CROR **Criterion Ridg** 79.69 324 P P 02 32 02.3 +1.9
PMRV **Marv??o** 79.71 43 eP P 02 32 02.6 +2.0
comp=Z,35nm,1.5s
PMRV epP pP 02 33 08.4 +2.2
PMRV **Marv??o** 79.71 43 eP P 02 32 02.6 +2.0
comp=Z,35nm,1.5s
PMRV epP pP 02 33 08.4 +2.2
FCC **Fort Churchill** 79.75 346 eP P 02 31 59.5 -0.7
comp=Z,16nm,0.9s
I04A **Tendick Farm,** 79.76 323 P P 02 32 01.7 +0.9
baz=80,SNR=6.5
NEW **Newport** 79.77 329 P P 02 32 01.6 +0.9
baz=80
HAWA **Hanford** 79.78 326 eP P 02 32 01.4 +0.6
comp=Z,57nm,1.6s
BPO **Bald Peter** 79.87 324 P P 02 32 03.4 +1.9
PCBR **Castelo Branco** 79.88 42 eP P 02 32 02.1 +0.6
PCBR epP pP 02 33 10.4 +3.3
PCBR **Castelo Branco** 79.88 42 eP P 02 32 02.1 +0.6
PCBR epP pP 02 33 10.4 +3.3
OD2 **Odessa Site #2** 80.00 327 P P 02 32 03.0 +1.0
G05D **Wamic, OR** 80.03 324 P P 02 32 04.2 +2.0
baz=80,SNR=11
I03D **Drain, OR** 80.25 322 P P 02 32 04.9 +1.6
baz=80,SNR=7.1
TRW **Toppenish Ridg** 80.26 325 P P 02 32 05.3 +1.9
VNDA **Vanda** 80.53 190 P P 02 32 05.8 +1.4
comp=Z,4.1nm,0.8s,baz=131,slow=4.6,SNR=32
VNDA **Vanda** 80.53 190 P P 02 32 05.8 +1.4
VNDA pmax pmax
comp=Z,4.0nm,0.8s
VNDA **Vanda** 80.53 190 eP P 02 32 05.7 +1.4
comp=Z,23nm,1.6s
NAC **Naches** 80.69 326 P P 02 32 07.1 +1.5
COR **Corvallis** 80.75 323 eP P 02 32 07.5 +1.6
comp=Z,5.5nm,1.1s
WTV **Waterville** 80.84 327 P P 02 32 07.4 +0.9
MVO **Moncorvo** 80.90 41 eP P 02 32 07.5 +0.6
MVO epP pP 02 33 14.7 +2.0
MVO **Moncorvo** 80.90 41 eP P 02 32 07.5 +0.6
MVO epP pP 02 33 14.7 +2.0
G03D **McMinnville, O** 81.10 323 P P 02 32 09.9 +2.2
baz=81
LON **Longmire** 81.23 325 eP P 02 32 08.8 +0.3
comp=Z,11nm,0.9s
PBRG **Braganca** 81.44 41 eP P 02 32 10.6 +0.9
PBRG **Braganca** 81.44 41 eP P 02 32 10.6 +0.9
EDM **Edmonton** 81.49 334 eP P 02 32 09.4 -0.3
TAM **Tamanrasset** 81.60 63 eP P 02 32 11.5 +0.3
comp=Z,11nm,1.0s
PAB **San Pablo** 81.76 44 eP P 02 32 12.0 +0.5
comp=Z,13nm,0.8s
PAB epP pP 02 33 18.2 +0.8
BMW **Boistfort Moun** 81.84 324 P P 02 32 13.0 +1.3
ESDC **Sonseca Array** 82.08 44 P P 02 32 13.8 +0.7
comp=Z,5.4nm,0.6s,baz=250,slow=5.3,SNR=49
ESDC pP pP 02 33 20.2 +1.1
comp=Z,6.7nm,0.7s,baz=249,slow=5.5,SNR=9.7
ESLA **Sonseca Array** 82.08 44 eP P 02 32 13.7 +0.6
comp=Z,2.5nm,0.9s
ESLA epP pP 02 33 20.5 +1.4
JCW **Jim Creek** 82.19 326 P P 02 32 13.5 +0.1
CMW **Cultus Mountai** 82.43 327 P P 02 32 15.0 +0.3
NLWA **Neilton Lookou** 82.74 325 eP P 02 32 17.5 +1.2
comp=Z,48nm,1.2s
BOSA **Boshof** 83.39 118 P P 02 32 19.4 -0.9
comp=Z,12nm,0.5s,baz=255,slow=4.7,SNR=45
BOSA **Boshof** 83.39 118 P P 02 32 19.4 -0.9
BOSA pmax pmax
comp=Z,12nm,0.5s
BOSA **Boshof** 83.39 118 eP P 02 32 19.7 -0.6
comp=Z,26nm,0.9s
LBTB **Lobatse** 84.74 114 eP P 02 32 26.8 -0.3
comp=Z,16nm,0.6s
SJPF **Ste Jean** 85.60 42 epP pP 02 33 38.8 +1.5
SJPF **Ste Jean** 85.60 42 eP P 02 32 31.8 +1.1
comp=Z,25nm,1.0s
SJPF **Ste Jean** 85.60 42 eP P 02 32 31.8 +1.1
comp=Z,25nm,1.0s
SJPF epP pP 02 33 38.8 +1.5
ETSF **Etsaut** 85.92 42 epP pP 02 33 40.7 +1.7
ETSF **Etsaut** 85.92 42⇑ iP P 02 32 34.1 +1.8
comp=Z,3.5nm,0.6s
ETSF **Etsaut** 85.92 42⇑ iP P 02 32 34.1 +1.8
comp=Z,3.5nm,0.6s
ETSF epP pP 02 33 40.7 +1.7
EPF **Esparros** 86.56 43 eP P 02 32 35.8 +0.4
comp=Z,8.1nm,0.8s
EPF **Esparros** 86.56 43 eP P 02 32 35.8 +0.4
comp=Z,8.1nm,0.8s
QUIF **Quistinic** 86.86 37 eP P 02 32 36.2 -0.4
QUIF **Quistinic** 86.86 37 eP P 02 32 36.2 -0.4
ROSF **Rostrenen** 87.01 37 eP P 02 32 37.1 -0.3
ROSF **Rostrenen** 87.01 37 eP P 02 32 37.1 -0.3
MAW **Mawson** 87.05 163 P P 02 32 37.7 +0.4
comp=Z,7.3nm,0.6s,baz=205,slow=7.1,SNR=21
MAW **Mawson** 87.05 163 P P 02 32 37.7 +0.4
MAW pmax pmax
comp=Z,7.0nm,0.6s
MAW **Mawson** 87.05 163 eP P 02 32 38.2 +0.8
comp=Z,4.1nm,1.0s
SGMF **Saint Gilles** 87.38 37 eP P 02 32 39.3 +0.2
SGMF **Saint Gilles** 87.38 37 eP P 02 32 39.3 +0.2
LFF **La Frestale** 87.72 41 epP pP 02 33 48.9 +1.1
LFF **La Frestale** 87.72 41 eP P 02 32 40.8 0.0
comp=Z,26nm,0.6s
LFF **La Frestale** 87.72 41 eP P 02 32 40.8 0.0
comp=Z,26nm,0.6s
LFF epP pP 02 33 48.9 +1.1
MTLF **Montolieu** 87.92 43 eP P 02 32 41.4 -0.4
comp=Z,14nm,1.1s
MTLF **Montolieu** 87.92 43 eP P 02 32 41.4 -0.4
comp=Z,14nm,1.1s
MFF **Saint Martin d** 87.97 39⇑ iP P 02 32 41.8 -0.2
comp=Z,30nm,0.9s
MFF **Saint Martin d** 87.97 39⇑ iP P 02 32 41.8 -0.2
comp=Z,30nm,0.9s
RJF **Les Rejaudoux** 88.38 41 eP P 02 32 43.6 -0.3
comp=Z,17nm,0.9s
RJF **Les Rejaudoux** 88.38 41 eP P 02 32 43.6 -0.3
comp=Z,17nm,0.9s
GRR **Gorron** 88.43 38⇑ iP P 02 32 43.2 -0.8
comp=Z,22nm,0.9s
GRR **Gorron** 88.43 38⇑ iP P 02 32 43.2 -0.8
comp=Z,22nm,0.9s
CAF **Calviac** 88.55 42⇑ iP P 02 32 44.6 -0.2
comp=Z,11nm,0.7s
CAF **Calviac** 88.55 42⇑ iP P 02 32 44.6 -0.2
comp=Z,11nm,0.7s
YKA **Yellowknife Ar** 88.60 340 P P 02 32 44.8 +0.3
comp=Z,33nm,0.7s,baz=129,slow=4.5,SNR=95
YKA **Yellowknife Ar** 88.60 340 P P 02 32 44.8 +0.3
YKA pmax pmax
comp=Z,33nm,0.7s
FLN **La Foliniere** 88.83 37 eP P 02 32 45.4 -0.5
comp=Z,33nm,1.2s
FLN **La Foliniere** 88.83 37 eP P 02 32 45.4 -0.5
comp=Z,33nm,1.2s
LDF **La Druitiere** 88.95 38 eP P 02 32 45.8 -0.7
comp=Z,34nm,1.1s
LDF **La Druitiere** 88.95 38 eP P 02 32 45.8 -0.7
comp=Z,34nm,1.1s
TCF **Toulx Ste Croi** 89.26 40⇑ iP P 02 32 47.5 -0.6
comp=Z,28nm,1.1s
TCF **Toulx Ste Croi** 89.26 40⇑ iP P 02 32 47.5 -0.6
comp=Z,28nm,1.1s
LASF **Ste Croix** 89.31 43 eP P 02 32 48.3 0.0
LASF **Ste Croix** 89.31 43 eP P 02 32 48.3 0.0
LBL **Lubilhac** 89.43 42⇓ eP P 02 32 49.4 +0.5
PYM **Petit Puy Mans** 89.51 41⇓ eP P 02 32 49.4 +0.1
AGO **Saint Agoulin** 89.73 41⇓ eP P 02 32 50.1 -0.1
KEST **Kesra** 89.74 52 P P 02 32 50.0 -0.6
comp=Z,3.8nm,0.8s,baz=352,slow=3.8,SNR=12
KEST **Kesra** 89.74 52 eP P 02 32 50.9 +0.2
BGF **Bois d'Agland** 89.78 40 epP pP 02 33 57.5 -0.1
BGF **Bois d'Agland** 89.78 40⇑ iP P 02 32 50.2 -0.2
comp=Z,31nm,0.8s
BGF **Bois d'Agland** 89.78 40⇑ iP P 02 32 50.2 -0.2
comp=Z,31nm,0.8s
BGF epP pP 02 33 57.5 -0.1
HYF **Humbligny** 89.97 40⇑ iP P 02 32 51.0 -0.3
HYF **Humbligny** 89.97 40⇑ iP P 02 32 51.0 -0.3
PLDF **La Plantade** 90.00 41⇑ eP P 02 32 51.3 -0.2
LSZ **Lusaka** 90.06 106 eP P 02 32 53.2 +0.6
comp=Z,7.6nm,1.2s
VIVF **Saint-Julien-l** 90.18 42 eP P 02 32 51.8 -0.6
VIVF **Saint-Julien-l** 90.18 42 eP P 02 32 51.8 -0.6
AVF **Avril sur Loir** 90.19 40 epP pP 02 33 59.3 -0.2
AVF **Avril sur Loir** 90.19 40⇑ iP P 02 32 51.8 -0.5
comp=Z,9.9nm,0.8s
AVF **Avril sur Loir** 90.19 40⇑ iP P 02 32 51.8 -0.5
comp=Z,9.9nm,0.8s
AVF epP pP 02 33 59.3 -0.2
SMRF **Simiane la Rot** 90.39 44 eP P 02 32 53.7 +0.3
SMRF **Simiane la Rot** 90.39 44 eP P 02 32 53.7 +0.3
SSF **Saint Saulge** 90.41 40 epP pP 02 33 59.9 -0.6
SSF **Saint Saulge** 90.41 40⇑ iP P 02 32 52.6 -0.7
comp=Z,15nm,0.9s
SSF **Saint Saulge** 90.41 40⇑ iP P 02 32 52.6 -0.7
comp=Z,15nm,0.9s
SSF epP pP 02 33 59.9 -0.6
SMF **Signal de Mont** 90.43 41 epP pP 02 34 00.6 -0.1
SMF **Signal de Mont** 90.43 41⇑ iP P 02 32 53.2 -0.3
comp=Z,20nm,0.7s
SMF **Signal de Mont** 90.43 41⇑ iP P 02 32 53.2 -0.3
comp=Z,20nm,0.7s
SMF epP pP 02 34 00.6 -0.1
LOR **Lormes** 90.72 40 epP pP 02 34 01.5 -0.5
LOR **Lormes** 90.72 40⇑ iP P 02 32 54.1 -0.7
comp=Z,12nm,0.7s
LOR **Lormes** 90.72 40⇑ iP P 02 32 54.1 -0.7
comp=Z,12nm,0.7s
LOR epP pP 02 34 01.5 -0.5
LMR **La Mourre** 90.74 44 eP P 02 32 54.9 0.0
comp=Z,12nm,1.0s
LMR **La Mourre** 90.74 44 eP P 02 32 54.9 0.0
comp=Z,12nm,1.0s
FRF **La Foret Royal** 90.92 44 eP P 02 32 55.9 +0.1
FRF **La Foret Royal** 90.92 44 eP P 02 32 55.9 +0.1
ORIF **Oris-en-Rattie** 90.98 43 eP P 02 32 56.6 +0.4
comp=Z,13nm,0.9s
ORIF **Oris-en-Rattie** 90.98 43 eP P 02 32 56.6 +0.4
comp=Z,13nm,0.9s
SBF **Sospel** 91.57 44 eP P 02 32 58.8 -0.1
SBF **Sospel** 91.57 44 eP P 02 32 58.8 -0.1
LPL **La Plagne** 91.78 42 eP P 02 33 00.4 +0.4
LPL **La Plagne** 91.78 42 eP P 02 33 00.4 +0.4
LPG **La Plagne** 91.78 42 eP P 02 33 00.6 +0.5
comp=Z,9.7nm,0.9s
LPG **La Plagne** 91.78 42 eP P 02 33 00.6 +0.5
comp=Z,9.7nm,0.9s
CABF **La Chapelle** 91.82 41 eP P 02 32 59.8 -0.2
CABF **La Chapelle** 91.82 41 eP P 02 32 59.8 -0.2
SFTF **Sexfontaines** 91.84 40 epP pP 02 34 06.9 -0.3
SFTF **Sexfontaines** 91.84 40⇑ iP P 02 32 59.4 -0.5
comp=Z,11nm,0.7s
SFTF **Sexfontaines** 91.84 40⇑ iP P 02 32 59.4 -0.5
comp=Z,11nm,0.7s
SFTF epP pP 02 34 06.9 -0.3
MEZF **Maizieres J'vi** 91.97 39 epP pP 02 34 07.6 -0.2
MEZF **Maizieres J'vi** 91.97 39⇑ iP P 02 33 00.2 -0.3
comp=Z,12nm,0.5s
MEZF **Maizieres J'vi** 91.97 39⇑ iP P 02 33 00.2 -0.3
comp=Z,12nm,0.5s
MEZF epP pP 02 34 07.6 -0.2
PGF **Pioggiola** 92.10 46 eP P 02 33 01.2 -0.2
comp=Z,20nm,1.1s
PGF **Pioggiola** 92.10 46 eP P 02 33 01.2 -0.2
comp=Z,20nm,1.1s
PAGF **Fort de Pagny** 92.40 39 epP pP 02 34 09.8 0.0
PAGF **Fort de Pagny** 92.40 39⇑ iP P 02 33 02.4 -0.1
comp=Z,3.0nm,0.7s
PAGF **Fort de Pagny** 92.40 39⇑ iP P 02 33 02.4 -0.1
comp=Z,3.0nm,0.7s
PAGF epP pP 02 34 09.8 0.0
SUMG **Summit** 92.41 8 iP P 02 33 03.7 +1.2
comp=Z,11nm,0.9s
SUMG **Summit** 92.41 8 iP P 02 33 03.7 +1.2
SUMG pmax pmax
comp=Z,11nm,0.9s
SUMG **Summit** 92.41 8 eP P 02 33 01.9 -0.6
comp=Z,13nm,0.9s
SUMG epP pP 02 34 09.1 -0.7
GIVF **Givet** 92.52 38 eP P 02 33 02.6 -0.4
GIVF **Givet** 92.52 38 eP P 02 33 02.6 -0.4
HAU **Haudompre** 92.55 40 eP P 02 33 02.7 -0.6
comp=Z,7.5nm,0.6s
HAU epP pP 02 34 10.1 -0.4
HAU **Haudompre** 92.55 40 eP P 02 33 02.7 -0.6
comp=Z,7.5nm,0.6s
HAU epP pP 02 34 10.1 -0.4
LOMF **Lomont** 92.58 41 eP P 02 33 03.1 -0.4
HINF **Hinteralfeld** 92.79 40 epP pP 02 34 11.1 -0.6
HINF **Hinteralfeld** 92.79 40⇑ iP P 02 33 03.6 -0.8
comp=Z,6.3nm,0.7s
HINF **Hinteralfeld** 92.79 40⇑ iP P 02 33 03.6 -0.8
comp=Z,6.3nm,0.7s
HINF epP pP 02 34 11.1 -0.6
MOF **Molkenrain** 92.97 40 eP P 02 33 03.5 -1.8
WLF **Walferdange** 93.12 39 eP P 02 33 04.4 -1.4
comp=Z,14nm,1.1s
ECH **Echery** 93.13 40 eP P 02 33 04.8 -1.1
CDF **Champ du Feu** 93.28 40 epP pP 02 34 13.7 -0.3
CDF **Champ du Feu** 93.28 40⇑ iP P 02 33 06.2 -0.5
CDF **Champ du Feu** 93.28 40⇑ iP P 02 33 06.2 -0.5
CDF epP pP 02 34 13.7 -0.3
RES **Resolute Bay** 94.24 353 eP P 02 33 10.5 +0.2
comp=Z,3.3nm,0.8s
DAVA **Damuels** 94.47 42⇑ iPcP P 02 33 12.8 +0.5
comp=Z,4.2nm,1.1s
STU **Stuttgart** 94.60 40 eP P 02 33 12.1 -0.5
comp=Z,6.5nm,0.8s
FETA **Feichten** 94.91 42⇑ iP P 02 33 13.2 -1.1
comp=Z,5.7nm,1.3s
AQU **L'Aquila** 95.07 47 eP P 02 33 15.1 +0.1
comp=Z,8.1nm,0.9s
MOTA **Moosalm** 95.27 42⇑ iPcP P 02 33 16.0 +0.2
comp=Z,5.5nm,1.2s
WTTA **Wattenberg** 95.58 42⇓ iPcP P 02 33 17.5 +0.1
comp=Z,12nm,1.1s
TIP **Timpagrande** 96.46 51 eP P 02 33 20.2 -1.2
comp=Z,2.5nm,0.8s
GERES **GERESS Array B** 97.42 41 P P 02 33 24.2 -1.3
comp=Z,0.9nm,0.8s,baz=247,slow=2.8,SNR=9.2
GERES pP pP 02 34 32.3 -0.6
comp=Z,0.8nm,0.8s,baz=250,slow=3.8,SNR=4.1
GERES **GERESS Array B** 97.42 41 P P 02 33 24.2 -1.3
GERES *PP pP 02 34 32.3 -0.6
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES pmax pmax
comp=Z,1.0nm,0.8s
KHC **Kasperske Hory** 97.43 41 eP P 02 33 22.9 -2.6
KHC **Kasperske Hory** 97.43 41 eP P 02 33 22.9 -2.6
CLL **Collm** 97.79 39 ePP PP 02 37 31.0 +1.6
CLL e 02 38 03.0
CLL **Collm** 97.79 39 eP P 02 33 24.0 -2.9
CLL e 02 37 31.0
INK **Inuvik** 98.38 340 eP Pdif 02 33 28.7 -0.4
comp=Z,3.3nm,0.7s
TREC **Trest** 98.67 41 eP P 02 33 31.4 +0.4
TREC **Trest** 98.67 41 eP P 02 33 31.4 +0.4
DPC **Dobruska-Polom** 99.50 40 eP Pdif 02 33 32.6 -2.1
DPC **Dobruska-Polom** 99.50 40 eP Pdif 02 33 32.6 -2.1
ILAR **Eielson Array** 101.97 334 P Pdif 02 33 44.0 -1.3
comp=Z,0.5nm,0.9s,baz=152,slow=4.3,SNR=4.2
ILAR PP PP 02 37 57.5 -3.1
comp=Z,2.3nm,0.8s,baz=102,slow=5.1,SNR=10
ILAR **Eielson Array** 101.97 334 P Pdif 02 33 44.0 -1.3
ILAR 02 37 57.5
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR pmax pmax
comp=Z,2.0nm,0.8s
FINES **FINESS Array B** 107.11 30 PKKPbc PKKPbc 02 49 33.9 -2.0
comp=Z,0.9nm,0.4s,baz=117,slow=4.8,SNR=12
AKASG **Malin Array Be** 107.62 42 PKKPbc PKKPbc 02 49 32.5 -1.4
comp=Z,0.7nm,0.4s,baz=72,slow=3.7,SNR=4.1
ARCES **ARCESS Array B** 107.62 22 PKKPbc PKKPbc 02 49 31.6 -3.1
comp=Z,3.9nm,1.0s,baz=64,slow=2.8,SNR=6.1
BR131 **Keskin Array S** 109.31 53 ePKP PKiKP 02 38 21.1 +0.3
BRTR **Keskin Array B** 109.31 53 PKKPab PKKPab 02 49 38.9 -0.4
comp=Z,0.7nm,0.8s,baz=116,slow=5.6,SNR=7.0
KBZ **Khabaz** 116.50 50 PKP PKPdf 02 38 32.7 -1.5
comp=Z,1.8nm,0.9s,baz=86,slow=2.7,SNR=4.3
KBZ **Khabaz** 116.50 50 PKIKP PKPdf 02 38 32.7 -1.5

KBZ					pmax	pmax			
	comp=Z,2.0nm,0.9s								
STKA	**Stephens Creek**	**123.31**	**209**		PKP	**PKPdf**	**02 38 47.6**	**-0.2**	
	comp=Z,4.4nm,0.5s,baz=117,slow=4.4,SNR=24								
STKA	**Stephens Creek**	**123.31**	**209**		PKIKP	**PKPdf**	**02 38 47.6**	**-0.2**	
STKA					pmax	pmax			
	comp=Z,4.0nm,0.5s								
ARU	**Arti**	**124.27**	**33**	*i*	PKIKP	**PKPdf**	**02 38 48.7**	**-0.1**	
ARU							02 40 33.7		
ARU							02 45 23.6		
ARU	**Arti**	**124.27**	**33**	*e*	PKPdf	**PKPdf**	**02 38 48.8**	**0.0**	
TIXI	**Tiksi**	**125.61**	**354**	⇓	*i* PKIKP	**PKPdf**	**02 38 50.6**	**-0.3**	
TIXI					pmax	pmax			
	comp=Z,6.0nm,2.5s								
AKTO	**Aktyubinsk**	**125.83**	**40**		PKP	**PKPdf**	**02 38 51.5**	**-0.5**	
	comp=Z,1.9nm,0.8s,baz=325,slow=1.8,SNR=6.0								
AKTO	**Aktyubinsk**	**125.83**	**40**		PKIKP	**PKPdf**	**02 38 51.5**	**-0.5**	
AKTO					pmax	pmax			
	comp=Z,2.0nm,0.8s								
ABKAR	**Akbulak array**	**127.36**	**41**	*e*	PKPdf	**PKPdf**	**02 38 55.1**	**+0.2**	
SEY	**Seymchan**	**127.65**	**339**		PKP	**PKPdf**	**02 38 54.8**	**-0.3**	
	comp=Z,8.0nm,0.8s,baz=122,slow=3.1,SNR=18								
SEY	**Seymchan**	**127.65**	**339**	⇑	*i* PKIKP	**PKPdf**	**02 38 56.4**	**+1.3**	
FORT	**Forrest**	**129.34**	**197**	*e*	PKPdf	**PKPdf**	**02 38 58.9**	**-0.5**	
CTA	**Charters Tower**	**130.03**	**222**		PKP	**PKPdf**	**02 39 00.5**	**-0.5**	
	comp=Z,8.9nm,0.9s,baz=269,slow=3.8,SNR=3.9								
CTA					SKPbc	SKPab	02 41 56.9	-0.2	
	comp=Z,5.6nm,0.8s,baz=104,slow=4.2,SNR=4.0								
CTA	**Charters Tower**	**130.03**	**222**		PKIKP	**PKPdf**	**02 39 00.5**	**-0.5**	
CTA					pmax	pmax			
	comp=Z,9.0nm,1.0s								
CTA					pmax	pmax			
	comp=N,6.0nm,0.8s								
CTAO	**Charters Tower**	**130.03**	**222**	*e*	PKPdf	**PKPdf**	**02 39 01.3**	**+0.3**	
PETK	**Petropavlovsk-**	**130.85**	**326**		PKP	**PKPdf**	**02 39 01.9**	**+0.4**	
	comp=N,8.2nm,1.0s,baz=90,slow=4.4,SNR=5.8								
PETK					SKPbc	**SKPbc**	**02 41 59.2**	**+0.2**	
	comp=N,9.5nm,0.9s,baz=122,slow=5.4,SNR=6.4								
PETK	**Petropavlovsk-**	**130.85**	**326**		PKIKP	**PKPdf**	**02 39 01.9**	**+0.4**	
PETK					pmax	pmax			
	comp=Z,8.0nm,1.0s								
PETK					pmax	pmax			
	comp=N,10.0nm,0.9s								
BRVK	**Borovoye**	**131.84**	**33**	*e*	PKPdf	**PKPdf**	**02 39 04.4**	**+1.0**	
BVAR	**Borovoye Array**	**131.92**	**33**		PKP	**PKPdf**	**02 39 02.8**	**-0.7**	
	comp=N,0.7nm,0.5s,baz=124,slow=0.5,SNR=5.7								
BVAR					SKPbc	**SKPbc**	**02 42 02.3**	**-0.5**	
	comp=N,1.4nm,0.6s,baz=318,slow=2.0,SNR=6.7								
BVAR	**Borovoye Array**	**131.92**	**33**		PKIKP	**PKPdf**	**02 39 02.8**	**-0.7**	
BVAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
BVAR					pmax	pmax			
	comp=N,1.0nm,0.6s								
ASAR	**Alice Springs**	**133.80**	**207**		PKhKP	PKPpre	02 38 52.7		
	comp=N,0.8nm,0.5s,baz=136,slow=2.4,SNR=16								
ASAR					PKP	**PKPdf**	**02 39 07.7**	**-0.4**	
	comp=N,5.6nm,0.4s,baz=130,slow=1.5,SNR=9.9								
ASAR					PP	**PP**	**02 41 41.8**	**+2.3**	
	comp=N,1.2nm,1.0s,baz=169,slow=5.5,SNR=4.1								
ASAR					SKPbc	**SKPbc**	**02 42 11.1**	**+0.7**	
	comp=N,4.0nm,0.8s,baz=143,slow=3.7,SNR=13								
ASAR	**Alice Springs**	**133.80**	**207**		PKHKP	PKPpre	02 38 52.7		
ASAR							02 39 07.7		
ASAR							02 41 41.8		
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
ASAR					pmax	pmax			
	comp=Z,5.0nm,0.4s								
ASAR					pmax	pmax			
	comp=Z,1.0nm,1.0s								
ASAR					pmax	pmax			
	comp=N,4.0nm,0.8s								
AS31	**Alice Springs**	**133.81**	**207**	*e*	PKPdf	**PKPdf**	**02 39 07.8**	**-0.3**	
NVS	**Novosibirsk**	**136.78**	**25**	*e*	PKIKP	**PKPdf**	**02 39 10.0**	**-2.5**	
WRA	**Warramunga Arr**	**136.85**	**210**		PKhKP	PKPpre	02 39 00.8		
	comp=N,1.1nm,0.4s,baz=187,slow=1.9,SNR=8.5								
WRA					PKP	**PKPdf**	**02 39 14.1**	**+0.3**	
	comp=N,9.0nm,0.4s,baz=155,slow=1.7,SNR=27								
WRA					SKPbc	**SKPbc**	**02 42 20.8**	**+0.9**	
	comp=N,7.0nm,0.9s,baz=150,slow=2.4,SNR=11								
WRA	**Warramunga Arr**	**136.85**	**210**		PKHKP	PKPpre	02 39 00.9		
WRA							02 39 14.1		
WRA					pmax	pmax			
	comp=Z,1.0nm,0.4s								
WRA					pmax	pmax			
	comp=Z,9.0nm,0.4s								
WRA					pmax	pmax			
	comp=N,7.0nm,0.9s								
WRAB	**Tennant Creek**	**136.85**	**210**	*c*	*i* PKIKP	**PKPdf**	**02 39 14.4**	**+0.6**	
WRAB	**Tennant Creek**	**136.85**	**210**	*e*	PKPdf	**PKPdf**	**02 39 13.8**	**0.0**	
KURK	**Kurchatov**	**137.44**	**32**		PKHKP	PKPpre	02 39 05.1		
KURK							02 39 13.4		
KURK					pmax	pmax			
	comp=Z,1.0nm,0.8s								
KURK					pmax	pmax			
	comp=Z,2.0nm,0.6s								
KURK					pmax	pmax			
	comp=N,1.0nm,0.8s								
KURK	**Kurchatov**	**137.44**	**32**	*e*	PKPdf	**PKPdf**	**02 39 14.2**	**+0.4**	
KURK					SKPbc	**SKPbc**	**02 42 20.8**	**+0.3**	
KURBB	**Kurchatov Arra**	**137.45**	**32**		PKhKP	PKPpre	02 39 05.0		
	comp=N,0.6nm,0.8s,baz=306,slow=2.7,SNR=4.5								
KURBB					PKP	**PKPdf**	**02 39 13.4**	**-0.5**	
	comp=N,1.8nm,0.6s,baz=304,slow=2.8,SNR=11								
KURBB					SKPbc	**SKPbc**	**02 42 20.8**	**+0.2**	
	comp=N,1.4nm,0.8s,baz=306,slow=3.8,SNR=7.2								
ZAA0	**Zalesovo Array**	**138.07**	**25**	*e*	PKPdf	**PKPdf**	**02 39 15.2**	**+0.3**	
ZALV	**Zalesovo Beam**	**138.07**	**25**		PKhKP	PKPpre	02 39 06.7		
	comp=N,0.5nm,0.3s,baz=296,slow=4.8,SNR=3.5								
ZALV					PKP	**PKPdf**	**02 39 14.1**	**-0.8**	
	comp=N,3.3nm,0.4s,baz=291,slow=3.2,SNR=16								
ZALV					SKPbc	**SKPbc**	**02 42 21.4**	**-0.8**	
	comp=N,2.3nm,0.7s,baz=300,slow=3.9,SNR=4.5								
ZALV	**Zalesovo Beam**	**138.07**	**25**		PKHKP	PKPpre	02 39 06.7		
ZALV							02 39 14.1		
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.3s								
ZALV					pmax	pmax			
	comp=Z,3.0nm,0.4s								
ZALV					pmax	pmax			
	comp=N,2.0nm,0.7s								
EKS2	**Erkin-Say**	**138.69**	**45**	*e*	PKPdf	**PKPdf**	**02 39 17.8**	**+1.2**	
AAK	**Ala-Archa**	**139.18**	**45**		PKP	**PKPdf**	**02 39 16.5**	**-1.1**	
	comp=N,1.4nm,0.3s,baz=270,slow=1.0,SNR=3.1								
AAK					SKPbc	**SKPbc**	**02 42 26.2**	**+0.3**	
	comp=N,3.1nm,0.6s,baz=293,slow=1.1,SNR=10.0								
AAK	**Ala-Archa**	**139.18**	**45**	⇑	*i* PKIKP	**PKPdf**	**02 39 18.9**	**+1.3**	
AAK					pmax	pmax			
	comp=Z,17nm,1.7s								
AAK	**Ala-Archa**	**139.18**	**45**	*e*	PKPdf	**PKPdf**	**02 39 18.7**	**+1.1**	
AAK					SKPbc	**SKPbc**	**02 42 26.2**	**+0.3**	
TKM2	**Tokmak 2**	**139.79**	**44**	*e*	PKPdf	**PKPdf**	**02 39 17.1**	**-1.7**	
BOD	**Bodaibo**	**140.30**	**359**	*e*	PKHKP	PKPpre	02 39 09.9		
BOD					pmax	pmax			
	comp=Z,3.0nm,1.3s								
MBWA	**Marble Bar**	**140.47**	**190**	*e*	PKPdf	**PKPdf**	**02 39 21.1**	**+0.7**	
KSH	**Kashi**	**141.47**	**49**	*e*	PKP	**PKPdf**	**02 39 20.1**	**-1.6**	
KSH					PP	**PP**	**02 42 32.6**	**+4.6**	
KSH					PKS	**PKSdf**	**02 42 59.1**	**+1.4**	
KSH					SKKS		02 48 46.7		
KSH					PPMZ				
	comp=Z,260nm,6.1s								
MK31	**Makanchi Array**	**141.76**	**35**	*e*	PKPdf	**PKPdf**	**02 39 19.0**	**-2.9**	
MKAR	**Makanchi Array**	**141.76**	**35**		PKhKP	PKPpre	02 39 15.4		
	comp=Z,1.2nm,0.7s,baz=266,slow=2.8,SNR=8.3								
MKAR					PKP	**PKPdf**	**02 39 21.4**	**-0.5**	
	comp=Z,2.0nm,0.7s,baz=352,slow=2.0,SNR=11								
MKAR					SKPbc	**SKPbc**	**02 42 32.1**	**-0.3**	
	comp=Z,1.5nm,0.7s,baz=343,slow=1.3,SNR=4.8								
MKAR					SKKPbc	**SKKPab**	**02 50 53.1**	**-1.7**	
	comp=Z,1.2nm,0.8s,baz=121,slow=5.3,SNR=7.5								
MKAR	**Makanchi Array**	**141.76**	**35**		PKHKP	PKPpre	02 39 15.4		
MKAR							02 39 21.4		
MKAR							02 42 32.1		
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
MKAR					pmax	pmax			
	comp=Z,2.0nm,0.7s								
MKAR					pmax	pmax			
	comp=N,2.0nm,0.7s								
MKAR					pmax	pmax			
	comp=N,1.0nm,0.8s								
ASAJ	**Asahikawa**	**144.10**	**323**	*e*	PKPdf	PKPbc	02 39 25.2	+0.3	
HABR	**Khabarovsk**	**144.80**	**334**	*ce*	PKIKP	**PKPdf**	**02 39 27.4**	**+0.3**	
HABR				*e*			02 40 35.8		
HABR							02 42 47.0		
HABR				*e*			02 46 10.4		
HABR				*e*			02 55 21.7		
HABR				*e*	SS	SS	03 01 12.0	+0.4	
HABR					pmax	pmax			
	comp=N,65nm,2.2s								
HABR					pmax	pmax			
	comp=E,22nm,1.5s								
HABR					pmax	pmax			
	comp=Z,133nm,1.0s								
ERM	**Erimo**	**144.98**	**319**	*e*	PKPdf	**PKPab**	**02 39 28.6**	**+0.7**	
ERM				*e*	SKPbc	**SKiKP**	**02 42 41.0**	**+0.3**	
MOY	**Mondy**	**145.14**	**13**	*e*	PKIKP	**PKPab**	**02 39 28.6**	**+0.3**	
MOY					pmax	pmax			
	comp=Z,33nm,1.6s								
KLR	**Kul'dur**	**145.44**	**338**	*e*	PKHKP	PKPpre	02 39 23.8		
KLR					pmax	pmax			
	comp=Z,43nm,1.2s								
NDI	**New Delhi**	**145.55**	**65**	*e*	P	**PKPbc**	**02 39 30.0**	**+0.2**	
TLY	**Talaya**	**145.64**	**10**		PKPbc	**PKPdf**	**02 39 28.7**	**+0.2**	
	comp=Z,9.1nm,0.6s,baz=9.4,slow=3.3,SNR=13								
TLY					pPKPbc	pPKPbc	02 40 39.5	+0.6	
	comp=Z,7.0nm,0.7s,baz=253,slow=4.6,SNR=3.2								
TLY	**Talaya**	**145.64**	**10**	*e*	PKP2	**PKPab**	**02 39 30.5**	**+0.4**	
TLY					pmax	pmax			
	comp=Z,31nm,1.2s								
TLY	**Talaya**	**145.64**	**10**	*e*	PKPbc	**PKPab**	**02 39 30.1**	**0.0**	
TLY					pPKPbc	pPKPbc	02 40 39.5	+0.6	
WMQ	**Urumqi**	**146.59**	**34**		PKPbc	**PKPdf**	**02 39 30.4**	**0.0**	
WMQ					pPKP	**pPKPdf**	**02 40 42.4**	**+1.1**	
WMQ					PP	**PP**	**02 42 59.1**	**+1.2**	
WMQ					PPMZ				
	comp=Z,110nm,11.2s								
WMQ					LN				
	comp=Z,960nm,21.5s								
WMQ					LE				
	comp=Z,1μm,21.2s								
WMQ					LZ				
	comp=Z,1μm,22.1s								
ZAK	**Zakamensk**	**146.82**	**11**	*e*	PKIKP	**PKPdf**	**02 39 30.2**	**-0.4**	
ZAK				*e*			02 40 42.8		
ZAK					pmax	pmax			
	comp=Z,7.0nm,1.1s								
HIA	**Hailar**	**148.41**	**352**	*c*	*i* PKP2	**PKPbc**	**02 39 37.1**	**0.0**	
GUMO	**Guam**	**149.11**	**266**	*e*	PKPbc	**PKPbc**	**02 39 39.2**	**-0.6**	
USRK	**Ussuriysk Ar.**	**149.48**	**333**		PKPbc	**PKPbc**	**02 39 39.4**	**-0.4**	
	comp=Z,17nm,0.8s,baz=321,slow=2.7,SNR=6.5								
SONM	**Songino Array**	**149.81**	**9**		PKP	**PKPdf**	**02 39 36.2**	**+0.6**	
	comp=Z,16nm,1.0s,baz=26,slow=0.6,SNR=15								
SONM					PKPbc	**PKPbc**	**02 39 41.0**	**+0.3**	
	comp=Z,12nm,0.6s,baz=308,slow=1.6,SNR=80								
SONM					pPKPbc	**pPKPbc**	**02 40 52.6**	**+1.6**	
	comp=Z,5.2nm,0.8s,baz=312,slow=2.0,SNR=3.0								
SONM	**Songino Array**	**149.81**	**9**		PKHKP	PKPpre	02 39 36.2		
SONM					pmax	pmax			
	comp=Z,11nm,0.6s								
SONM					pmax	pmax			
	comp=Z,12nm,0.6s								
SONM					pmax	pmax			
	comp=Z,5.0nm,0.8s								
SOEI	**Soe**	**150.23**	**203**	*e*	PKPbc	**PKPbc**	**02 39 43.0**	**+0.4**	
MAJO	**Matsushiro**	**151.20**	**315**	⇓	*i* PKIKP	**PKPbc**	**02 39 43.9**	**-0.3**	
MAJO	**Matsushiro**	**151.20**	**315**	*e*	PKPbc	**PKPbc**	**02 39 44.0**	**-0.3**	
MAJO				*e*	PKPab	**PKPab**	**02 39 53.3**	**+0.1**	
MAT	**Matsushiro**	**151.20**	**315**		PKP	**PKPbc**	**02 39 44.0**	**-0.2**	
MJAR	**Matsushiro Arr**	**151.20**	**315**		PKPbc	**PKPbc**	**02 39 43.7**	**-0.5**	
	baz=126,slow=1.2								
KOLN	**Koldanda**	**151.25**	**65**	*e*	P	**PKPbc**	**02 39 44.5**	**-0.3**	
	comp=Z,9.6nm,0.5s								
GKN	**Gorkha**	**152.08**	**64**	*e*	P	**PKPbc**	**02 39 46.5**	**-0.1**	
	comp=Z,54nm,0.7s								
KKN	**Kakani**	**152.69**	**64**	*e*	P	**PKPbc**	**02 39 47.6**	**-0.4**	
	comp=Z,26nm,0.5s								
PKI	**Pulchoki**	**152.85**	**65**	*e*	P	**PKPbc**	**02 39 48.1**	**-0.5**	
GUN	**Gumba**	**153.17**	**64**	*e*	P	**PKPbc**	**02 39 49.0**	**-0.3**	
	comp=Z,56nm,0.8s								
JIRN	**Jiri**	**153.50**	**64**	*e*	P	**PKPbc**	**02 39 49.1**	**-0.9**	
RAMN	**Ramite**	**154.03**	**65**	*e*	P	**PKPbc**	**02 39 49.2**	**-1.8**	
	comp=Z,29nm,0.6s								
ODAN	**Odare**	**154.74**	**65**	*e*	P	**PKPbc**	**02 39 49.5**	**-3.0**	
TAPN	**Taplejung**	**154.88**	**64**	*e*	P	**PKPbc**	**02 39 50.4**	**-2.5**	
GTA	**Gaotai**	**155.82**	**26**	*e*	PKP	**PKPdf**	**02 39 45.5**	**+0.9**	
GTA					PKPab	**PKPab**	**02 40 16.2**	**+3.5**	
GTA					pPKP	**pPKPdf**	**02 40 48.8**	**-6.9**	
GTA					sPKP		02 41 22.2		
KAPI	**Kappang**	**156.14**	**197**	*e*	PKPab	**PKPab**	**02 40 15.4**	**+0.9**	
KSRS	**Korea Array**	**156.70**	**329**		PKP	**PKPdf**	**02 39 44.6**	**-1.0**	
	comp=Z,1.5nm,0.9s,baz=45,slow=1.0,SNR=7.0								
KSRS					PKPab	**PKPab**	**02 40 16.9**	**+0.6**	
	comp=Z,5.5nm,0.9s,baz=41,slow=4.5,SNR=12								
KSRS	**Korea Array**	**156.70**	**329**		PKIKP	**PKPdf**	**02 39 44.6**	**-1.0**	
KSRS					pmax	pmax			
	comp=Z,2.0nm,0.9s								
KSRS					pmax	pmax			
	comp=Z,6.0nm,0.9s								
KSAR	**Wonju Array Be**	**156.73**	**329**		PKP	**PKPdf**	**02 39 44.6**	**-1.1**	
KSAR					PKPab	**PKPab**	**02 40 16.9**	**+0.4**	
HHC	**Hu-ho-hao-te**	**157.26**	**3**	*e*	PKP	PKPdf	02 39 40.4	-6.0	
HHC					PP	PP	02 43 51.5	-6.1	
HHC					SKS	**SKSdf**	**02 46 20.2**	**-5.3**	
LZH	**Lanzhou**	**160.28**	**23**	*e*	PKP	**PKPdf**	**02 39 49.1**	**-1.1**	
LZH					pPKP	**pPKPdf**	**02 41 01.2**	**-0.2**	
LZH					sPKP		02 41 30.0		
TIA	**Tai'an**	**161.57**	**350**		PKP	**PKPdf**	**02 39 52.4**	**+1.1**	
CD2	**Chengdu**	**164.67**	**32**		PKP	**PKPdf**	**02 39 54.1**	**-0.4**	
CD2					pPKP	**pPKPdf**	**02 41 03.2**	**-2.6**	
CD2					sPKP		02 41 30.8		
CD2					PP	**PP**	**02 44 36.1**	**-1.6**	
CD2					SKS	**SKSdf**	**02 46 32.4**	**+0.3**	
CD2					SKKS	**SKKSac**	**02 50 56.0**	**-2.3**	
CD2					SS	**SS**	**03 04 43.7**	**-2.6**	
CD2					PPMZ				
	comp=Z,120nm,5.6s								
NJ2	**Nanjing**	**165.13**	**341**	*e*	PKP	**PKPdf**	**02 39 55.8**	**+1.0**	
CHTO	**Chiang Mai**	**166.57**	**85**	*e*	PKPab	**PKPab**	**02 40 59.5**	**-0.8**	
CMAR	**Chiang Mai Arr**	**166.57**	**86**		PKP	**PKPdf**	**02 39 55.5**	**-0.8**	
	comp=Z,0.7nm,0.6s,baz=276,slow=2.1,SNR=4.5								
CMAR					PKPab	**PKPab**	**02 41 00.2**	**-0.2**	
	comp=Z,1.7nm,0.7s,baz=284,slow=7.2,SNR=6.2								
CMAR	**Chiang Mai Arr**	**166.57**	**86**		PKIKP	**PKPdf**	**02 39 55.5**	**-0.8**	
CMAR							02 41 00.2		
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
CMAR					pmax	pmax			
	comp=Z,2.0nm,0.7s								
GYA	**Guiyang**	**169.76**	**34**	*i*	PKP	**PKPdf**	**02 39 59.2**	**+0.8**	
GYA					pPKP	**pPKPdf**	**02 41 07.0**	**-2.7**	
GYA					PKPab	**PKPab**	**02 41 13.5**	**-0.7**	
GYA					sPKP		02 41 34.8		
GYA					PKS	**PKSdf**	**02 43 29.6**	**-1.5**	
GYA					PP	**PP**	**02 45 04.9**	**+1.1**	
GYA					PPMZ				
	comp=Z,120nm,8.0s								

IDC ***13*** *02:21:24.5±2.2, 7.°65N×91.°91E, h0km, mb3.5/3, mb1 3.8/6, mb1mx3.5/28, mbtmp3.8/6, ML4.1/3, Error ellipse: s-maj=41.6km s-min=33.5km az=30.0*

ISCJB ***13*** *02:21:25.1±1.1, 7.°6N±0.°1×91.°9E±0.°1, h24km, mb3.4/3, Error ellipse: s-maj=19.3km s-min=15.5km az=14.2*

ISC 13 02:21:27.8±1.1, 7.°6N±0.°1×91.°9E±0.°1, h24km, n6, σ0.926/6, mb3.5/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PSI	**Prapat**	**8.45**	**124**		Pn	**Pn**	**02 23 28.9**	**0.0**
	1.3nm,0.3s,baz=321,slow=18,SNR=4.9							
PALK	**Pallekele**	**11.14**	**269**		Pn	**Pn**	**02 24 05.7**	**0.0**
	1.7nm,0.3s,baz=89,slow=14,SNR=4.1							
PALK					Sn	Sn	02 25 54.9	-15
	1.7nm,0.3s,baz=152,slow=17,SNR=7.1							
CMAR	**Chiang Mai Arr**	**12.75**	**32**		Pn	**Pn**	**02 24 27.6**	**-0.1**
	0.4nm,0.3s,baz=229,slow=14,SNR=5.2							
MKAR	**Makanchi Array**	**39.90**	**350**		P	**P**	**02 28 59.6**	**-0.2**
	0.3nm,0.6s,baz=167,slow=9.6,SNR=3.5							
SONM	**Songino Array**	**41.92**	**15**		P	**P**	**02 29 16.5**	**0.0**
	0.5nm,0.6s,baz=195,slow=7.6,SNR=3.9							
ZALV	**Zalesovo Beam**	**46.55**	**354**		P	**P**	**02 29 53.8**	**+0.4**
	0.3nm,0.4s,baz=156,slow=7.9,SNR=3.0							

IDC ***13*** *02:31:32.0±1.1, 32.°54N×85.°25E, h0km, mb3.6/8, mb1 3.8/11, mb1mx3.5/39, mbtmp3.6/11, ML2.5/2, Error ellipse: s-maj=32.1km s-min=20.0km az=57.0*

ISCJB ***13*** *02:31:34.9±0.8, 32.°7N±0.°1×85.°5E±0.°2, h33km, mb3.6/8, Error ellipse: s-maj=28.7km s-min=12.4km az=151.1*

ISC 13 02:31:36.8±1.0, 32.°6N±0.°1×85.°3E±0.°2, h35km, n12, σ1s29/10, mb3.7/8, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**14.34**	**352**		Pn	**Pn**	**02 34 56.0**	**-1.2**
	0.1nm,0.3s,baz=164,slow=13,SNR=8.0							
KURBB	**Kurchatov Arra**	**18.67**	**346**		P	**Pn**	**02 35 50.6**	**-1.7**
	0.0nm,0.3s,baz=163,slow=10,SNR=6.5							
CMAR	**Chiang Mai Arr**	**18.69**	**136**		P	**Pn**	**02 35 51.5**	**-1.2**
	baz=317,slow=12,SNR=5.7							
ZALV	**Zalesovo Beam**	**21.32**	**359**		P	**P**	**02 36 19.8**	**-0.7**
	0.7nm,0.5s,baz=191,slow=10,SNR=5.6							
SONM	**Songino Array**	**22.04**	**40**		P	**P**	**02 36 30.3**	**+1.9**
	0.9nm,0.8s,baz=231,slow=12,SNR=5.1							
BVAR	**Borovoye Array**	**23.05**	**337**		P	**P**	**02 36 40.0**	**+1.1**
	0.5nm,0.6s,baz=154,slow=14,SNR=3.5							
FINES	**FINESS Array B**	**47.31**	**326**		P	P	02 40 08.1	+1.5
	3.3nm,0.8s,baz=114,slow=9.8,SNR=17							
NB2	**NORSAR Subarra**	**54.46**	**325**		P	**P**	**02 41 01.1**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=88,slow=7.4							
NOA	**NORSAR Array B**	**54.46**	**325**		P	**P**	**02 41 00.7**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=87,slow=7.2,SNR=3.9							
GERES	**GERESS Array B**	**54.64**	**310**		P	P	02 41 03.2	+1.1
	comp=Z,0.6nm,0.7s,baz=88,slow=4.4,SNR=4.8							
ASAR	**Alice Springs**	**72.69**	**134**		P	**P**	**02 43 01.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=324,slow=5.9,SNR=4.5							
TORD	**Torodi Ar. Bea**	**77.71**	**278**		P	**P**	**02 43 30.6**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=54,slow=5.6,SNR=5.3							

SZGRF ***13*** *02:50:16.5, 5.°23N×93.°76E, h33km, mb4.4, Off west coast of northern Sumatera, Indonesia*

IDC ***13*** *02:50:31.4±0.5, 7.°71N×91.°93E, h0km, mb4.3/28, mb1 4.4/30, mb1mx4.4/33, mbtmp4.3/30, ML4.8/3, MS4.7/19, Ms1 4.6/19, ms1mx4.4/43, Error ellipse: s-maj=16.2km s-min=11.2km az=48.0*

BJI ***13*** *02:50:33.6, 7.°51N×91.°85E, h34km, mb4.7/45, mB4.9/35, Ms5.0/46, Ms7 4.8/42*

ISCJB ***13*** *02:50:34.0±0.2, 7.°58N±0.°03×91.°92E±0.°03, h30km, mb4.7/117, MS4.7/29, Error ellipse: s-maj=5.1km s-min=2.8km az=39.5*

NEIC ***13*** *02:50:33.0±2.6, 7.°63N×91.°90E, h12km±16km, mb4.9/36, Error ellipse: s-maj=7.6km s-min=4.8km az=224.0*

DJA ***13*** *02:50:34.3±0.4, 8.°N±6.°×9.°2E±.°, h10km, M5.0/19, mb5.0/19, mB5.3/15, MLv5.6/3, Mw(mB)4.7/15, Mwp7.8/1*

MOS ***13*** *02:50:34.6±1.1, 7.°72N×92.°05E, h33km, mb4.9/44, MS4.7/21, Error ellipse: s-maj=11.1km s-min=5.1km az=115.1*

KLM ***13*** *02:50:45.6, 7.°07N×92.°48E, h46km, mb4.9, ML4.8, MS5.8*

ISC 13 02:50:36.5±0.4, 7.°57N±0.°04×91.°90E±0.°04, h34km±1km, h35km:pP-P, n370, σ1s49/397, mb4.8/117, MS4.7/29, 27C-14D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMBY	**CAMPBELL BAY**	**2.09**	**105**	*eP*		**Pn**	**02 51 11.1**	**+2.0**
PBA	**Port Blair**	**4.14**	**12**	*eP*		Pn	02 51 31.6	-5.7
LHMI	**Lhok Sumawe**	**5.54**	**115**	P		**Pn**	**02 51 55.9**	**-0.6**
	276nm,1.2s,5μm2.4nm							
DGPR	**DGLIPUR**	**5.66**	**10**	*eP*		Pn	02 51 53.3	-5.0
SNSI	**Sinabang, Aceh**	**6.77**	**139**	P		**Pn**	**02 52 11.7**	**-1.7**
	275nm,0.8s,10μm2.1nm							
SNSI				S		**Sn**	**02 53 26.1**	**-3.3**
	275nm,0.8s,10μm2.1nm							
TSI	**

comp=Z,52nm,0.6s
CGJI Cibinong 19.70 135 P **Pn** **02 55 04.4 -0.3**
comp=Z,83nm,1.4s,comp=Z,2µm
RAMN Ramite 19.92 346 *e*P **Pn** **02 55 07.0 -0.4**
comp=Z,47nm,0.7s
TAPN Taplejung 20.07 349 *e*P **P** **02 55 08.1 +0.8**
comp=Z,92nm,0.6s
KMI Kunming 20.30 29 P **P** **02 55 10.6 +0.9**
KMI pP **pP** **02 55 19.3 +0.5**
KMI sP **sP** **02 55 26.7 +3.5**
KMI S **S** **02 58 53.1 -2.7**
KMI SS **SnSn** **02 59 23.7 +8.9**
KMI PMZ
comp=Z,26nm,1.5s
KMI PMZ
comp=Z,590nm,4.6s
KMI LN
comp=Z,2µm,16.5s
KMI LE
comp=Z,790nm,21.3s
KMI LZ
comp=Z,2µm,15.8s
POO Poona 20.66 304 *ex* **P** **02 55 09.8 -3.7**
JIRN Jiri 20.70 346 *e*P **P** **02 55 15.0 +0.8**
comp=Z,52nm,0.7s
PKI Pulchoki 20.82 344 *e*P **P** **02 55 15.7 +0.2**
comp=Z,73nm,0.6s
QIZ Qiongzhong 20.82 55 *e*P **P** **02 55 11.0 -4.3**
comp=Z,183nm,1.5s
SBUM Sibu 20.87 103 ⇑P **P** **02 55 16.2 +0.3**
SBUM Sibu 20.87 103 *e*P **P** **02 55 16.0 +0.1**
comp=Z,62nm,1.0s
BHPL Bhopal 20.88 320 *e*P **P** **02 55 15.8 -0.1**
DMN Daman 20.94 343 *e*P **P** **02 55 17.1 +0.4**
comp=Z,128nm,0.8s
GUN Gumba 21.02 345 *e*P **P** **02 55 16.8 -0.8**
comp=Z,120nm,0.7s
KKN Kakani 21.06 344 *e*P **P** **02 55 18.1 +0.1**
LEM Lembang 21.23 132 P sP 02 55 34.0 +0.8
LEM Lembang 21.23 132 P **P** **02 55 20.1 +0.4**
comp=Z,9.3nm,0.3s,baz=330,slow=20,SNR=2.5
LEM LR LR 03 05 08.9
comp=Z,3µm,18.2s,baz=304,slow=41
LEM Lembang 21.23 132 P **P** **02 55 20.2 +0.4**
LEM pmax pmax
comp=Z,9.0nm,0.3s
LEM MLR MLR
comp=Z,3µm,18.2s
GKN Gorkha 21.45 342 *e*P **P** **02 55 21.2 -0.9**
comp=Z,97nm,0.7s
BTM Bintulu 21.53 101 ⇓P **P** **02 55 24.1 +1.1**
KOLN Koldanda 21.57 340 *e*P **P** **02 55 22.8 -0.6**
comp=Z,91nm,0.7s
LSA Lhasa 22.02 358 *e*P **P** **02 55 29.3 +0.7**
comp=Z,70nm,0.8s
KPJI Karang Pucung 22.54 131 P sP 02 55 50.9 +3.8
GYA Guiyang 23.45 35 P **P** **02 55 43.8 +0.7**
GYA pP **pP** **02 55 52.2 -0.4**
GYA PP **PnPn** **02 56 16.0 +5.7**
GYA S **S** **02 59 52.3 -2.2**
GYA sS **sS** **03 00 06.8 -3.9**
GYA SS **SnSn** **03 00 40.4 +8.5**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.9s
GYA LN
comp=Z,1µm,13.9s
GYA LE
comp=Z,1µm,13.9s
GYA LZ
comp=Z,2µm,16.1s
SMRI Semarang 23.52 128 P P 02 55 50.1 +6.4
SMRI Semarang 23.52 128 *e*P **P** **02 55 43.6 -0.1**
comp=Z,42nm,0.8s
UWJI Ujung Watu 23.55 126 P sP 02 55 58.5 +0.8
KKM Kota Kinabalu 24.20 92 ⇑P **P** **02 55 52.3 +2.1**
KKM Kota Kinabalu 24.20 92 *e*P **P** **02 55 50.5 +0.3**
comp=Z,61nm,1.1s
MTKI Muara Teweh, K 24.45 109 P P 02 55 58.0 +5.6
TBJI Tambak Boyo 24.50 125 P P 02 56 01.0 +8.1
H08S3 Diego Garcia H 24.55 232 T T 03 22 19.4
baz=52,slow=76,SNR=172
H08S2 Diego Garcia H 24.55 232 T T 03 22 27.0
baz=52,slow=76,SNR=162
H08S1 Diego Carcia H 24.57 232 T T 03 22 20.6
baz=52,slow=76,SNR=119
KDM Kudat 24.75 90 ⇑P **P** **02 55 57.5 +2.4**
NDI New Delhi 25.16 328 *e*P **P** **02 55 58.0 -0.7**
CD2 Chengdu 25.73 24 P **P** **02 56 04.4 +0.4**
CD2 pP **pP** **02 56 14.2 +0.4**
CD2 sP **sP** **02 56 18.7 +0.8**
CD2 PcP **PcP** **02 59 32.5 -1.1**
CD2 S **S** **03 00 32.6 +1.8**
CD2 PMZ
comp=Z,50nm,0.7s
CD2 LN
comp=Z,2µm,13.3s
CD2 LE
comp=Z,2µm,12.3s
CD2 LZ
comp=Z,2µm,14.5s
GZH Guangzhou 25.74 51 P **P** **02 56 07.6 +3.6**
GZH pP **pP** **02 56 16.2 +2.4**
GZH LN
comp=Z,2µm,17.7s
GZH LE
comp=Z,2µm,16.8s
KMMI Kalianget 26.37 123 P sP 02 56 22.7 -1.1
BLJI Banyuglugur 26.45 125 P P 02 56 16.4 +5.9
ABJI Asem Bagus 27.00 124 P **P** **02 56 16.9 +1.4**
SMLA Simla 27.18 331 *e*P **P** **02 56 16.8 -0.1**
SMLA AMB AMB 02 56 27.6
comp=Z,35nm,3.4s
SRBI Singaraja 27.97 123 P sP 02 56 38.4 +0.2
DHRM DHARAMSHALA 28.52 332 *ex* P 02 56 24.2 -5.0
DHRM AMB AMB 02 56 49.5
comp=Z,23nm,2.0s
MPSI Mapaga 28.83 103 P P 02 56 39.4 +7.5
TGY Tagaytay City 29.23 75 LR LR 03 08 39.9
comp=Z,7.5nm,18.6s,slow=37
LZH Lanzhou 30.41 19 *e*P P 02 56 49.3 +3.5
LZH pP pP 02 56 59.7 +4.0
LZH sP sP 02 57 03.5 +3.6
LZH S **S** **03 01 47.0 +2.4**
LZH SS **ScP** **03 03 25.5 +0.4**
LZH PMZ
comp=Z,15nm,1.0s
LZH PMZ
comp=Z,66nm,4.2s
LZH LN
comp=Z,2µm,14.7s
LZH LE
comp=Z,950nm,12.5s
LZH LZ
comp=Z,3µm,15.6s
XAN Xi'an 30.67 28 P P 02 56 44.7 -3.3
XAN pP pP 02 56 54.3 -3.6
XAN sP sP 02 56 58.3 -3.8
XAN PP **PnPn** **02 57 43.8 -4.6**
XAN S S 03 01 40.6 -7.9
XAN PMZ
comp=Z,1.0nm,0.5s
XAN PMZ
comp=Z,22nm,5.7s
XAN LN
comp=Z,1µm,17.6s
XAN LE
comp=Z,670nm,14.6s
XAN LZ
comp=Z,620nm,16.1s
MRSI Marisa 30.77 102 P P 02 57 00.0 +11
QZH Quanzhou 30.80 53 P **P** **02 56 49.6 +0.4**
QZH S **S** **03 01 51.3 +0.7**
QZH LN
comp=Z,2µm,12.8s
QZH LE
comp=Z,2µm,11.4s
QZH LZ
comp=Z,3µm,16.3s
WHN Wuhan 31.06 40 P **P** **02 56 51.2 -0.2**
WHN S **S** **03 01 55.9 +1.5**
WHN LN
comp=Z,3µm,14.0s
WHN LE
comp=Z,2µm,14.0s
WHN LZ
comp=Z,3µm,16.3s
YULB Yu-li 32.30 58 *e*P **P** **02 57 04.3 +1.9**
comp=Z,36nm,1.0s
YULB *e*pP **pP** **02 57 13.0 +0.6**
GTA Gaotai 32.49 11 *e*P **P** **02 57 04.7 +0.7**
GTA pP **pP** **02 57 14.4 +0.4**
GTA sP **sP** **02 57 18.4 +0.3**
GTA PP **PnPn** **02 58 14.0 +2.1**
GTA S **S** **03 02 16.8 -0.1**
GTA sS **sS** **03 02 33.4 +0.1**
GTA SS **SnSn** **03 04 15.0 +2.9**
GTA PMZ
comp=Z,22nm,1.1s
GTA PMZ
comp=Z,130nm,4.6s
GTA LN
comp=Z,550nm,18.5s
GTA LE
comp=Z,790nm,17.1s
GTA LZ
comp=Z,840nm,19.0s
KSH Kashi 34.87 338 P **P** **02 57 23.5 -1.3**
KSH pP **pP** **02 57 33.1 -1.6**
KSH PP **PnPn** **02 58 42.4 +0.5**
KSH *e*PcP **PcP** **02 59 57.8 +0.5**
KSH S **S** **03 02 53.0 -0.8**
KSH sS **sS** **03 03 08.0 -2.2**
KSH PcS **PcS** **03 03 44.3 +0.2**
KSH ScS **ScS** **03 07 43.2 -0.7**
KSH PMZ
comp=Z,12nm,1.1s
KSH LN
comp=Z,300nm,8.9s
KSH LE
comp=Z,650nm,10.9s
KSH LZ
comp=Z,230nm,7.7s
NJ2 Nanjing 34.96 42 *e*P **P** **02 57 25.7 +0.2**
NJ2 S **S** **03 02 56.0 +0.9**
NJ2 PMZ
comp=Z,90nm,1.2s
NJ2 LN
comp=Z,2µm,14.1s
NJ2 LE
comp=Z,2µm,14.5s
NJ2 LZ
comp=Z,2µm,12.5s
SFK Sufi-Kurgan 36.26 336 P **P** **02 57 36.6 -0.2**
SFK pmax pmax
comp=Z,44nm,1.5s
WMQ Urumqi 36.29 355 P **P** **02 57 38.3 +1.5**
WMQ pP **pP** **02 57 47.1 +0.3**
WMQ sP **sP** **02 57 53.0 +2.0**
WMQ PP **PP** **02 59 01.4 +1.6**
WMQ S **S** **03 03 14.2 -1.2**
WMQ ScS **ScS** **03 07 50.3 -1.1**
WMQ PMZ
comp=Z,19nm,0.7s
WMQ LN
comp=Z,960nm,18.9s
WMQ LE
comp=Z,1µm,21.0s
WMQ LZ
comp=Z,1µm,25.0s
ULHL Ulahol 37.20 341 P **P** **02 57 45.0 +0.2**
SNR=9.1
PDGK Podgornoye 37.24 345 P **P** **02 57 44.9 +0.1**
PDGK pmax pmax
comp=Z,27nm,1.4s
KZA Kyzart 37.39 339 P **P** **02 57 47.7 +1.1**
SNR=13
HHC Hu-ho-hao-te 37.49 25 *e*P **P** **02 57 45.3 -1.8**
HHC pP **pP** **02 57 54.9 -2.2**
HHC PP **PnPn** **02 59 18.5 +4.5**
HHC S **S** **03 03 32.3 -1.4**
HHC sS **sS** **03 03 47.6 -2.6**
HHC PMZ
comp=Z,30nm,0.9s
HHC PMZ
comp=Z,140nm,5.6s
HHC LN
comp=Z,1µm,13.4s
HHC LE
comp=Z,1µm,13.6s
HHC LZ
comp=Z,1µm,13.7s
UCH Uchtor 37.78 339 P **P** **02 57 50.4 +0.5**
SNR=19
AAA Alma-Ata 37.91 342 *e*P **P** **02 57 51.5 +1.0**
AAA *e*S **S** **03 03 38.8 -1.1**
AAA pmax pmax
comp=Z,400nm,2.4s
AAA smax smax
comp=E,1µm,7.2s
AML Almayashu 38.00 338 P **P** **02 57 52.9 +1.1**
SNR=30
KBK Karagaybulak 38.00 340 P **P** **02 57 52.7 +1.1**
SNR=16
TKM2 Tokmak 2 38.02 340 P **P** **02 57 52.5 +0.9**
SNR=7.2
TKM2 Tokmak 2 38.02 340 P **P** **02 57 52.2 +0.5**
TKM2 pmax pmax
comp=Z,16nm,1.1s
TKM2 Tokmak 2 38.02 340 *e*P **P** **02 57 51.9 +0.2**
comp=Z,14nm,1.0s
AAK Ala-Archa 38.14 339 P **P** **02 57 53.9 +1.2**
SNR=9.5
AAK Ala-Archa 38.14 339 P **P** **02 57 53.4 +0.7**
comp=Z,12nm,0.9s,baz=160,slow=5.6,SNR=17
AAK LR LR 03 14 03.0
comp=Z,2µm,21.5s,baz=146,slow=37
AAK Ala-Archa 38.14 339 P **P** **02 57 53.4 +0.7**
AAK pmax pmax
comp=Z,12nm,0.9s
AAK MLR MLR
comp=Z,2µm,21.5s
AAK Ala-Archa 38.14 339 *e*P **P** **02 57 53.8 +1.2**
comp=Z,30nm,1.2s
FRU Bishkek 38.27 339 *e*P **P** **02 57 52.0 -1.6**
FRU *e*S **S** **03 03 48.0 +2.5**
FRU pmax pmax
comp=Z,85nm,2.1s
FRU MLR MLR
comp=Z,2µm,15.5s
EKS2 Erkin-Say 38.42 338 P **P** **02 57 56.3 +1.3**
SNR=15
EKS2 Erkin-Say 38.42 338 *e*P **P** **02 57 55.8 +0.8**
comp=Z,17nm,0.8s
USP Ospenovka 38.70 340 P **P** **02 57 57.7 +0.5**
SNR=18
MNAS Manas 38.76 337 P **P** **02 57 58.5 +0.7**
MNAS pmax pmax
comp=Z,13nm,0.8s
MBWA Marble Bar 39.53 137 *e*P **P** **02 58 03.2 -1.1**
comp=Z,11nm,0.8s
MK31 Makanchi Array 39.94 350 *e*P **P** **02 58 06.8 -0.7**
MK31 pmax pmax
comp=Z,14nm,0.9s
MK31 Makanchi Array 39.94 350 *e*P **P** **02 58 06.3 -1.1**
MKAR Makanchi Array 39.94 350 P **P** **02 58 06.5 -1.0**
comp=Z,7.9nm,0.8s,baz=162,slow=8.4,SNR=32
MKAR LR LR 03 15 55.5
comp=Z,835nm,21.9s,baz=168,slow=38
MKAR Makanchi Array 39.94 350 P **P** **02 58 06.5 -1.0**
MKAR pmax pmax
comp=Z,8.0nm,0.8s
MKAR MLR MLR
comp=Z,835nm,21.9s
MKAR Makanchi Array 39.94 350 *e*P **P** **02 58 06.9 -0.6**
KK31 Karatay Array 40.07 335 P **P** **02 58 08.6 0.0**
KK31 pmax pmax
comp=Z,8.0nm,0.6s
KKAR Karatay Array 40.07 335 *e*P **P** **02 58 08.4 -0.2**
comp=Z,16nm,0.8s
SIJI Sorong 40.15 100 P **P** **02 58 09.7 0.0**
comp=Z,4.0nm,0.5s,baz=309,slow=13,SNR=4.8
IBAF Bafgh 41.42 310 *e*P **P** **02 58 20.7 +0.6**
FITZ Fitzroy Crossi 41.96 128 *e*P **P** **02 58 25.8 +1.4**
SONM Songino Array 41.98 15 P **P** **02 58 23.6 -0.8**
comp=Z,6.1nm,0.6s,baz=195,slow=9.6,SNR=36
SONM LR LR 03 18 30.8
comp=Z,2µm,20.0s,baz=194,slow=40
SONM Songino Array 41.98 15 P **P** **02 58 23.6 -0.8**
SONM pmax pmax
comp=Z,6.0nm,0.6s
SONM MLR MLR
comp=Z,2µm,20.0s
ISAD Sadrabad 43.00 310 *e*P **P** **02 58 31.5 -1.6**
ZAK Zakamensk 43.72 11 *e*P **P** **02 58 35.5 -2.9**
ZAK pmax pmax
comp=Z,7.0nm,1.5s
OTUK Ortayu 43.79 341 P **P** **02 58 39.0 0.0**
OTUK pmax pmax
comp=Z,22nm,0.9s
JNU Nakatsue 44.12 49 P **P** **02 58 40.4 -1.4**
comp=Z,8.9nm,0.9s,baz=207,slow=4.5,SNR=2.2
JNU LR LR 03 19 02.2
comp=Z,654nm,18.5s,slow=39
KSAR Wonju Array Be 44.13 42 P **P** **02 58 40.3 -1.5**
KSRS Korea Array 44.17 42 P **P** **02 58 40.3 -1.8**
comp=Z,0.8nm,0.5s,baz=228,slow=9.1,SNR=4.1
KSRS LR LR 03 18 20.9
comp=Z,596nm,19.1s,baz=238,slow=38
KSRS Korea Array 44.17 42 P **P** **02 58 40.3 -1.8**
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS MLR MLR
comp=Z,596nm,19.1s
KURBB Kurchatov Arra 44.33 348 P **P** **02 58 42.7 -0.5**
comp=Z,11nm,0.8s,baz=169,slow=6.9,SNR=45
KURK Kurchatov 44.40 348 P **P** **02 58 42.7 -1.0**
KURK pmax pmax
comp=Z,11nm,0.9s
KURK Kurchatov 44.40 348 *e*P **P** **02 58 43.3 -0.4**
comp=Z,29nm,1.1s
TLY Talaya 45.03 10 *e*P **P** **02 58 50.0 +1.2**
TLY *e*S **S** **03 05 27.0 +1.8**
TLY pmax pmax
comp=Z,14nm,1.6s
TLY MLR MLR
comp=Z,446nm,16.0s
IPIR Pirpir 45.47 309 *e*P **P** **02 58 50.6 -2.4**
IRK Irkutsk 45.68 11 *e*P **P** **02 58 53.2 -0.7**
IRK pmax pmax
comp=Z,40nm,2.2s
ZAA0 Zalesovo Array 46.59 354 *e*P **P** **02 59 00.9 -0.2**
ZALV Zalesovo Beam 46.59 354 P **P** **02 59 00.4 -0.6**
comp=Z,3.5nm,0.4s,baz=163,slow=10,SNR=13
ZALV LR LR 03 20 51.7
comp=Z,1µm,22.0s,baz=248,slow=39
ZALV Zalesovo Beam 46.59 354 P **P** **02 59 00.4 -0.6**
ZALV pmax pmax
comp=Z,4.0nm,0.4s
ZALV MLR MLR
comp=Z,1µm,22.0s
RAYN Ar Rayn 47.19 295 *e*P **P** **02 59 06.8 +0.6**
comp=Z,7.5nm,0.8s
NVS Novosibirsk 47.65 353 *e*P **P** **02 59 08.3 -0.9**
NVS *e*S **S** **03 05 58.1 -4.4**
NVS pmax pmax
comp=Z,53nm,2.2s
NVS pmax pmax
comp=N,30nm,2.0s
NVS smax smax
comp=E,45nm,2.5s
HIA Hailar 47.69 24⇑ *e*P **P** **02 59 09.5 -0.2**
HIA pmax pmax
comp=Z,33nm,2.5s
BVA0 Borovoye Array 48.59 343 *i* P **P** **02 59 15.6 -1.0**
BVA0 pmax pmax
comp=Z,12nm,1.1s
BRVK Borovoye 48.65 343 *d i* P **P** **02 59 15.9 -1.1**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 48.65 343 *e*P **P** **02 59 16.1 -0.9**
comp=Z,9.0nm,0.8s
MDJ Mudanjiang 49.32 35 P **P** **02 59 22.2 -0.1**
MDJ PMZ
comp=Z,5.0nm,1.2s
MDJ PMZ
comp=Z,130nm,10.3s
AB31 Akbulak array 49.45 333 P **P** **02 59 23.4 +0.2**
AB31 pmax pmax
comp=Z,9.0nm,0.5s
ABKAR Akbulak array 49.45 333 *e*P **P** **02 59 22.8 -0.5**
WRA Warramunga Arr 49.92 124 P **P** **02 59 27.6 +0.3**
comp=Z,4.3nm,0.8s,baz=305,slow=8.7,SNR=17
WRA LR LR 03 23 59.2
comp=Z,607nm,18.9s,baz=285,slow=40
WRA Warramunga Arr 49.92 124 P **P** **02 59 27.6 +0.3**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA MLR MLR
comp=Z,607nm,19.0s
WRAB Tennant Creek 49.92 124⇓ *e*P **P** **02 59 27.5 +0.2**
WRAB pmax pmax
comp=Z,30nm,1.2s
WRAB Tennant Creek 49.92 124 *e*P **P** **02 59 27.8 +0.5**
comp=Z,26nm,1.2s
MAJO Matsushiro 51.02 49 *e*P **P** **02 59 35.6 +0.3**
comp=Z,5.3nm,0.8s
AKTO Aktyubinsk 51.17 333 P **P** **02 59 35.8 -0.4**
AKTO pmax pmax
comp=Z,8.0nm,0.7s
AS31 Alice Springs 51.45 128 *e*P **P** **02 59 36.0 -2.8**
ASAR Alice Springs 51.45 128 P **P** **02 59 39.5 +0.7**
comp=Z,2.5nm,0.9s,baz=299,slow=5.9,SNR=12
ASAR LR LR 03 22 03.7
comp=Z,689nm,21.3s,baz=299,slow=37
ASAR Alice Springs 51.45 128 P **P** **02 59 39.5 +0.7**
ASAR pmax pmax
comp=Z,3.0nm,1.0s
ASAR MLR MLR
comp=Z,689nm,21.3s
BOD Bodaibo 52.98 15 *e*P **P** **02 59 48.8 -0.7**
BOD pmax pmax
comp=Z,19nm,1.3s
GNI Garni 53.07 315 P **P** **02 59 51.3 +0.5**
comp=Z,3.4nm,0.5s,baz=102,slow=9.3,SNR=1.7
GNI Garni 53.07 315⇑ *e*P **P** **02 59 50.4 -0.4**
GNI pmax pmax
comp=Z,17nm,2.5s
SVE Sverdlovsk 54.88 340⇑ *i*P **P** **03 00 04.4 +0.9**
SVE *e*S **S** **03 07 41.3 -1.1**
SVE pmax pmax
comp=Z,60nm,1.2s
SVE MLR MLR
comp=Z,2µm,21.0s
KMBO Kilima Mbogo 55.18 263 P **P** **03 00 08.1 +1.5**
comp=Z,2.7nm,0.7s,baz=46,slow=12,SNR=7.7
KMBO LR LR 03 20 25.4
comp=Z,914nm,21.2s,baz=62,slow=32
KMBO Kilima Mbogo 55.18 263 *e*P **P** **03 00 08.9 +2.2**
comp=Z,3.2nm,1.0s
KMBO *e*pP **pP** **03 00 17.1 +0.1**
ARU Arti 55.32 338 *d i* P **P** **03 00 06.2 -0.4**
ARU 03 01 05.0
ARU 03 02 08.1
ARU S **S** **03 07 48.9 +0.6**
ARU SS **SS** **03 11 32.8 -0.2**
ARU pmax pmax
comp=Z,32nm,1.7s
ARU MLR MLR
comp=Z,1µm,19.0s
ARU Arti 55.32 338 *e*P **P** **03 00 06.2 -0.4**
NEY Neytrino 55.74 318⇑ *e*P **P** **03 00 08.6 -1.5**
KBZ Khabaz 55.83 319 P **P** **03 00 11.8 +1.3**
comp=Z,3.6nm,1.0s,baz=136,slow=5.9,SNR=6.1
KBZ LR LR 03 28 57.6
comp=Z,268nm,18.0s,baz=115,slow=41
KBZ Khabaz 55.83 319 P **P** **03 00 11.8 +1.3**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KBZ MLR MLR
comp=Z,268nm,18.0s
KIV Kislovodsk 56.06 319 *d i* P **P** **03 00 12.0 -0.3**
KIV pmax pmax
comp=Z,19nm,2.5s
KIV Kislovodsk 56.06 319 *e*P **P** **03 00 11.7 -0.6**
ASAJ Asahikawa 57.11 42 *e*P **P** **03 00 21.5 +1.9**
comp=Z,9.7nm,1.3s
PMG Port Moresby 57.58 106 *e*P **P** **03 00 20.9 -2.6**
comp=Z,37nm,1.1s
SOC Sochi 57.88 317 *e*P **P** **03 00 25.5 +0.4**
SOC *e*PPP PPP 03 03 58.6
SOC *e*S **S** **03 08 21.3 -1.3**
YSS Yuzh-Sakhalins 58.40 39 *e*P **P** **03 00 28.2 -0.4**
VRHR Novokhopersk 59.92 326 *e*P **P** **03 00 37.6 -1.5**
VRHR pmax pmax
comp=Z,10.0nm,0.7s

VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.6s
CSS Prodhromos 60.04 306 *e*P **P 03 00 41.7 +1.4**
comp=E,2.5nm,1.1s
CTAO Charters Tower 60.11 118 *e*P **P 03 00 40.2 -0.7**
comp=E,26nm,1.3s
BR131 Keskin Array S 60.95 311 *e*P **P 03 00 45.2 -1.4**
comp=E,2.3nm,0.8s
BRTR Keskin Array B 60.95 311 P **P 03 00 46.0 -0.6**
comp=E,2.0nm,1.0s,baz=116,slow=5.6,SNR=9.6
BRTR Keskin Array B 60.95 311*ce*P **P 03 00 49.2 +2.7**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
YAK Yakutsk 61.00 19 *e*P **P 03 00 45.5 -0.7**
YAK *e* 03 01 31.5
YAK *e* 03 03 00.6
YAK *e*PPP PPP 03 04 26.8
YAK *e*S **S 03 08 57.1 -5.1**
YAK *e* 03 10 29.7
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,44nm,2.8s
YAK pmax pmax
comp=N,27nm,2.9s
YAK pmax pmax
comp=E,26nm,2.9s
YAK smax smax
comp=N,109nm,2.9s
YAK smax smax
comp=E,93nm,2.3s
VORD Divnogorie 61.17 325 *e*P **P 03 00 47.0 -0.6**
VORD pmax pmax
comp=Z,6.0nm,1.2s
VORD pmax pmax
comp=N,4.0nm,0.6s
VORD pmax pmax
comp=E,9.0nm,0.7s
VSR Storozhevoye 61.35 325 *e*P **P 03 00 49.2 +0.3**
VSR pmax pmax
comp=Z,6.0nm,0.9s
VSR pmax pmax
comp=N,6.0nm,1.0s
VSR pmax pmax
comp=E,5.0nm,0.9s
STKA Stephens Creek 61.53 132 P **P 03 00 50.7 +0.3**
comp=E,3.5nm,0.8s,baz=331,slow=4.3,SNR=11
STKA LR LR 03 28 41.7
comp=E,429nm,20.7s,baz=299,slow=37
STKA Stephens Creek 61.53 132 P **P 03 00 50.7 +0.3**
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA MLR MLR
comp=Z,429nm,20.7s
STKA Stephens Creek 61.53 132 *e*P **P 03 00 51.8 +1.4**
comp=Z,3.8nm,1.2s
LPSR Galich'ya Gora 62.10 327 *e*P **P 03 00 53.4 -0.4**
LPSR pmax pmax
comp=Z,5.0nm,0.7s
LPSR pmax pmax
comp=N,2.0nm,0.5s
LPSR pmax pmax
comp=E,6.0nm,0.7s
SIM Simferopol' 62.12 317 P P 03 00 58.0 +3.8
SIM *e*S **S 03 09 19.0 +1.8**
SIM pmax pmax
comp=Z,9.0nm,0.7s
PRGR Permogore 63.75 337 *e*P **P 03 01 02.4 -2.2**
PRGR pmax pmax
comp=Z,16nm,0.6s
OBN Obninsk 64.46 328 *e*P **P 03 01 10.4 +1.0**
OBN *i* 03 01 20.9
OBN *i*S **S 03 09 50.0 +4.2**
OBN pmax pmax
comp=Z,40nm,2.5s
OBN MLR MLR
comp=Z,1μm,19.0s
TIRR Tirgusor 65.90 315 *e*P **P 03 01 17.8 -1.2**
comp=Z,5.6nm,1.0s
AKASG Malin Array Be 67.02 322 P **P 03 01 24.4 -1.6**
comp=Z,0.2nm,0.3s,baz=88,slow=4.9,SNR=8.5
AKASG LR LR 03 34 53.6
comp=Z,638nm,19.6s,baz=90,slow=40
LSZ Lusaka 67.07 250 *e*P **P 03 01 28.0 +0.8**
comp=Z,6.3nm,1.1s
VRI Vrincioaia 67.38 317⇑P **P 03 01 27.8 -0.7**
VRI Vrincioaia 67.38 317⇑*i*P **P 03 01 27.8 -0.7**
PLOR Plostina 67.43 317⇓P **P 03 01 29.0 +0.2**
PLOR Plostina 67.43 317⇓*i*P **P 03 01 29.0 +0.2**
MLR Muntele Rosu 67.84 316⇑P **P 03 01 31.9 +0.4**
MLR Muntele Rosu 67.84 316⇑*i*P **P 03 01 31.9 +0.4**
TIXI Tiksi 67.97 12*de*P **P 03 01 30.4 -1.3**
TIXI pmax pmax
comp=Z,38nm,1.0s
TIXI Tiksi 67.97 12 *e*P **P 03 01 30.0 -1.7**
comp=Z,70nm,1.4s
ARR Arges 68.72 316⇓*i*P **P 03 01 37.8 +0.9**
BURAR Bucovina Array 68.78 318⇓P **P 03 01 39.5 +2.2**
BURAR Bucovina Array 68.78 318⇓*i*P **P 03 01 39.5 +2.2**
LOT Lotru 69.33 316⇑*i*P **P 03 01 39.5 -1.3**
CJR Cluj-Napoca 69.68 317⇑P P 03 01 47.5 +4.6
CJR Cluj-Napoca 69.68 317⇑*i*P P 03 01 47.5 +4.6
SEY Seymchan 70.13 25⇓*e*P **P 03 01 45.9 +0.7**
DRGR 70.29 317⇑P **P 03 01 45.2 -1.5**
DRGR 70.29 317⇑*i*P **P 03 01 45.2 -1.5**
KWP Kalwaria Pacla 70.82 320 *e*P **P 03 01 48.9 -0.8**
KWP Kalwaria Pacla 70.82 320 *e*P **P 03 01 48.9 -0.8**
BZS Buzias 70.85 316⇑P **P 03 01 52.3 +2.3**
BZS Buzias 70.85 316⇑*i*P **P 03 01 52.3 +2.3**
SUW Suwalki 71.45 325 *e*P **P 03 01 52.4 -1.0**
SUW Suwalki 71.45 325 *e*P **P 03 01 52.4 -1.0**
FINES FINESS Array B 71.94 333 P **P 03 01 54.5 -1.8**
comp=Z,5.2nm,0.7s,baz=108,slow=6.2,SNR=11
FINES FINESS Array B 71.94 333 P **P 03 01 54.5 -1.8**
FINES pmax pmax
comp=Z,5.0nm,0.7s
OJC Ojcow 72.78 320 *e*P **P 03 02 01.4 -0.1**
OJC Ojcow 72.78 320 *e*P **P 03 02 01.4 -0.1**
PKSM Moragy 72.99 316⇓P **P 03 02 01.8 -1.0**
PKSM Moragy 72.99 316⇓*i*P **P 03 02 01.8 -1.0**
BOSA Boshof 73.55 237 P **P 03 02 07.1 +0.5**
comp=Z,1.4nm,0.6s,baz=76,slow=3.1,SNR=5.1
BOSA LR LR 03 29 08.2
comp=Z,352nm,21.8s,baz=60,slow=32
BOSA Boshof 73.55 237 *e*P **P 03 02 07.2 +0.7**
comp=Z,15nm,1.2s
TIP Timpagrande 73.74 309 *e*P **P 03 02 08.3 +0.8**
comp=Z,6.0nm,0.9s
OKC Ostrava-Krasne 73.77 320 *e*P **P 03 02 06.9 -0.4**
OKC *ep*P pP 03 02 11.4 -6.6
OKC *ex* x 03 02 16.2
OKC AMS AMS 03 39 00.0
comp=Z,300nm,14.6s
OKC Ostrava-Krasne 73.77 320 *e*P **P 03 02 06.9 -0.4**
OKC *e* 03 02 16.2
OKC MLR MLR
comp=Z,300nm,14.6s
ARCES ARCESS Array B 74.80 340 P **P 03 02 11.1 -1.9**
comp=Z,3.5nm,0.9s,baz=116,slow=5.5,SNR=7.5
ARCES ARCESS Array B 74.80 340 P **P 03 02 11.1 -1.9**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
DPC Dobruska-Polom 75.00 320 *e*P **P 03 02 15.0 +0.4**
DPC *ex* x 03 02 23.6
DPC Dobruska-Polom 75.00 320 *e*P **P 03 02 15.0 +0.4**
DPC *e* 03 02 23.6
KSP Ksiaz 75.08 321 *e*P **P 03 02 15.2 +0.3**
KSP Ksiaz 75.08 321 *e*P **P 03 02 15.3 +0.3**
UPC Upice 75.22 320 *e*P **P 03 02 16.0 +0.3**
UPC *ex* x 03 02 24.7
UPC Upice 75.22 320 *e*P **P 03 02 16.0 +0.3**
UPC *e* 03 02 24.7
TREC Trest 75.43 319 AMS AMS 03 43 30.0
comp=Z,400nm,15.1s
SOKA Soboth 75.52 316⇑*i*P **P 03 02 17.9 +0.3**
comp=Z,8.6nm,1.3s
GOPC GO Pecny, Ondr 75.94 319 *e*P **P 03 02 20.7 +0.8**
GOPC AMS AMS 03 41 30.0
comp=Z,300nm,18.5s

PRU Pruhonice 76.11 320 *e*P **P 03 02 21.2 +0.4**
PRU *ex* x 03 02 29.2
PRU AMS AMS 03 41 30.0
comp=Z,300nm,16.9s
PRU Pruhonice 76.11 320 *e*P **P 03 02 21.2 +0.4**
PRU *e* 03 02 29.2
PRU MLR MLR
comp=Z,300nm,16.9s
PVCC Panska Ves 76.14 320 *e*P **P 03 02 20.7 -0.3**
PVCC Panska Ves 76.14 320 *e*P **P 03 02 20.7 -0.3**
PRA Prague 76.18 320 *e*P **P 03 02 22.9 +1.7**
PRA *ex* x 03 02 30.8
PRA Prague 76.18 320 *e*P **P 03 02 22.9 +1.7**
PRA *e* 03 02 30.8
BRG Berggiesshubel 76.56 320 *e*P **P 03 02 23.7 +0.3**
comp=Z,7.1nm,1.2s
BRG Berggiesshubel 76.56 320 *e*P **P 03 02 23.7 +0.3**
BRG pmax pmax
comp=Z,7.0nm,1.2s
GERES GERESS Array B 76.57 318 P **P 03 02 22.9 -0.7**
comp=Z,1.7nm,0.7s,baz=85,slow=5.6,SNR=15
GERES GERESS Array B 76.57 318 P **P 03 02 22.9 -0.7**
GERES pmax pmax
comp=Z,2.0nm,0.7s
KHC Kasperske Hory 76.67 319 *e*P **P 03 02 25.4 +1.3**
KHC *ex* x 03 02 32.4
KHC *ex* x 03 02 36.6
KHC AMS AMS 03 44 20.0
comp=Z,400nm,16.8s
KHC Kasperske Hory 76.67 319 *e*P **P 03 02 25.4 +1.3**
KHC *e* 03 02 32.4
KHC *e* 03 02 36.6
KHC MLR MLR
comp=Z,400nm,16.8s
KHC Kasperske Hory 76.67 319 *e*P **P 03 02 21.7 -2.4**
comp=Z,1.4nm,0.9s
CLL Collm 77.19 321 *e*P **P 03 02 26.0 -0.9**
comp=Z,7.0nm,1.3s
CLL *ep*P pP 03 02 30.0 -7.6
CLL *e* 03 02 35.0
CLL *e*SS SS 03 17 12.0 +0.1
CLL *e*SSS SSS 03 20 54.0
CLL LmV 03 47 00.0
comp=Z,400nm,19.6s
CLL Collm 77.19 321 *e*P **P 03 02 26.0 -0.9**
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL MLR MLR
comp=Z,400nm,19.6s
NKC Novy Kostel 77.47 320 *e*P P 03 02 22.6 -5.9
NKC *ex* x 03 02 28.2
NKC *ep*P PcP 03 02 30.9 -7.9
NKC AMS AMS 03 41 10.0
comp=Z,300nm,17.9s
NKC Novy Kostel 77.47 320 *e*P P 03 02 22.6 -5.9
NKC *e* 03 02 30.9
NKC MLR MLR
comp=Z,300nm,17.9s
MAW Mawson 77.80 191 P **P 03 02 30.9 +1.1**
comp=Z,1.1nm,0.8s,baz=46,slow=18,SNR=3.4
MAW Mawson 77.80 191 P **P 03 02 30.9 +1.1**
MAW pmax pmax
comp=Z,1.0nm,0.8s
GRF Grafenberg Arr 78.23 319 *e*P **P 03 02 33.3 +0.5**
comp=Z,3.0nm,0.7s
GRFO Grafenberg 78.24 319 *e*P **P 03 02 32.9 +0.1**
comp=Z,11nm,0.9s
NB2 NORSAR Subarra 78.90 331 P P 03 02 36.2 -0.1
comp=Z,4.2nm,0.8s,baz=92,slow=5.6
NOA NORSAR Array B 78.90 331 P **P 03 02 34.7 -1.6**
comp=Z,4.4nm,1.1s,baz=94,slow=5.4,SNR=3.1
NOA NORSAR Array B 78.90 331 P **P 03 02 34.7 -1.6**
NOA pmax pmax
comp=Z,4.0nm,1.1s
DAVA Damuels 79.07 317⇑*i*P **P 03 02 37.8 +0.2**
comp=Z,14nm,0.8s
KEST Kesra 79.59 305 P **P 03 02 39.4 -1.2**
comp=Z,1.0nm,1.1s,baz=204,slow=9.2,SNR=9.4
PGF Pioggiola 79.70 312 *e*P **P 03 02 40.4 -0.7**
comp=Z,53nm,1.4s
PGF Pioggiola 79.70 312 *e*P **P 03 02 40.4 -0.7**
comp=Z,53nm,1.4s
BFO Black Forest 80.12 318 *e*P **P 03 02 44.5 +1.4**
comp=Z,10nm,1.4s
SBF Sospel 80.81 313 *e*P **P 03 02 46.5 -0.5**
comp=Z,38nm,1.0s
SBF Sospel 80.81 313 *e*P **P 03 02 46.5 -0.5**
comp=Z,38nm,1.0s
CDF Champ du Feu 80.82 318 *e*P **P 03 02 46.1 -0.9**
comp=Z,14nm,1.3s
CDF Champ du Feu 80.82 318 *e*P **P 03 02 46.1 -0.9**
comp=Z,14nm,1.3s
HINF Hinteralfeld 81.11 317 *e*P **P 03 02 47.4 -1.1**
HINF Hinteralfeld 81.11 317 *e*P **P 03 02 47.4 -1.1**
LPG La Plagne 81.25 315 *e*P **P 03 02 49.2 -0.4**
comp=Z,25nm,0.9s
LPG La Plagne 81.25 315 *e*P **P 03 02 49.2 -0.4**
comp=Z,25nm,0.9s
MBDF Montbardon 81.26 314 *e*P **P 03 02 48.5 -1.0**
comp=Z,14nm,0.9s
MBDF Montbardon 81.26 314 *e*P **P 03 02 48.5 -1.0**
comp=Z,14nm,0.9s
LPL La Plagne 81.26 315 *e*P **P 03 02 49.3 -0.3**
comp=Z,43nm,1.1s
LPL La Plagne 81.26 315 *e*P **P 03 02 49.3 -0.3**
comp=Z,43nm,1.1s
BNI Bardonecchia 81.32 314 *e*P **P 03 02 47.7 -2.1**
comp=Z,11nm,1.0s
FRF La Foret Royal 81.40 313 *e*P **P 03 02 49.7 -0.3**
comp=Z,15nm,1.0s
FRF La Foret Royal 81.40 313 *e*P **P 03 02 49.7 -0.3**
comp=Z,15nm,1.0s
HAU Haudompre 81.45 317 *e*P **P 03 02 49.3 -1.0**
comp=Z,31nm,1.2s
HAU Haudompre 81.45 317 *e*P **P 03 02 49.3 -1.0**
comp=Z,31nm,1.2s
LMR La Mourre 81.50 313 *e*P **P 03 02 50.2 -0.4**
comp=Z,42nm,1.5s
LMR La Mourre 81.50 313 *e*P **P 03 02 50.2 -0.4**
comp=Z,42nm,1.5s
WLF Walferdange 81.53 319 *e*P **P 03 02 51.0 +0.5**
comp=Z,26nm,1.4s
CABF La Chapelle 81.67 316 *e*P **P 03 02 51.4 -0.2**
comp=Z,33nm,1.3s
CABF La Chapelle 81.67 316 *e*P **P 03 02 51.4 -0.2**
comp=Z,33nm,1.3s
PAGF Fort de Pagny 81.84 318 *e*P **P 03 02 51.8 -0.5**
PAGF Fort de Pagny 81.84 318 *e*P **P 03 02 51.8 -0.5**
ORIF Oris-en-Rattie 81.89 314 *e*P **P 03 02 51.8 -1.0**
comp=Z,17nm,1.1s
ORIF Oris-en-Rattie 81.89 314 *e*P **P 03 02 51.8 -1.0**
comp=Z,17nm,1.1s
SMRF Simiane la Rot 82.15 313 *e*P **P 03 02 54.3 +0.2**
comp=Z,56nm,1.7s
SMRF Simiane la Rot 82.15 313 *e*P **P 03 02 54.3 +0.2**
comp=Z,56nm,1.7s
MEZF Maizieres J'vi 82.30 318 *e*P **P 03 02 54.1 -0.6**
comp=Z,14nm,1.0s
MEZF Maizieres J'vi 82.30 318 *e*P **P 03 02 54.1 -0.6**
comp=Z,14nm,1.0s
SFTF Sexfontaines 82.32 318 *e*P **P 03 02 53.8 -1.0**
comp=Z,27nm,1.1s
SFTF Sexfontaines 82.32 318 *e*P **P 03 02 53.8 -1.0**
comp=Z,27nm,1.1s
GIVF Givet 82.37 320 *e*P **P 03 02 54.8 -0.2**
GIVF Givet 82.37 320 *e*P **P 03 02 54.8 -0.2**
VIVF Saint-Julien-l 82.75 314 *e*P **P 03 02 56.9 -0.3**
comp=Z,19nm,1.1s
VIVF Saint-Julien-l 82.75 314 *e*P **P 03 02 56.9 -0.3**
comp=Z,19nm,1.1s
BAIF Baives 82.77 320 *e*P **P 03 02 56.7 -0.4**
comp=Z,25nm,1.2s
BAIF Baives 82.77 320 *e*P **P 03 02 56.7 -0.4**
comp=Z,25nm,1.2s
SSB Saint Sauveur 82.82 315 *e*P **P 03 02 59.2 +1.7**
comp=Z,19nm,1.4s
LOR Lormes 83.17 317 *e*P **P 03 02 58.6 -0.7**
comp=Z,19nm,1.1s
LOR Lormes 83.17 317 *e*P **P 03 02 58.6 -0.7**
comp=Z,19nm,1.1s
SMF Signal de Mont 83.22 316 *e*P **P 03 02 58.8 -0.7**
comp=Z,6.3nm,0.8s
SMF Signal de Mont 83.22 316 *e*P **P 03 02 58.8 -0.7**
comp=Z,6.3nm,0.8s
LASF Ste Croix 83.38 314 *e*P **P 03 03 00.6 +0.1**
comp=Z,46nm,1.5s

LASF Ste Croix 83.38 314 *e*P **P 03 03 00.6 +0.1**
comp=Z,46nm,1.5s
SSF Saint Saulge 83.42 317 *e*P **P 03 02 59.9 -0.6**
comp=Z,24nm,1.5s
SSF Saint Saulge 83.42 317 *e*P **P 03 02 59.9 -0.6**
comp=Z,24nm,1.5s
AVF Avril sur Loir 83.54 316 *e*P **P 03 03 00.5 -0.7**
comp=Z,37nm,1.5s
AVF Avril sur Loir 83.54 316 *e*P **P 03 03 00.5 -0.7**
comp=Z,37nm,1.5s
TAM Tamanrasset 83.78 292 *e*P **P 03 03 05.0 +2.0**
comp=Z,7.2nm,1.0s
BGF Bois d'Agland 83.91 316 *e*P **P 03 03 02.8 -0.3**
comp=Z,14nm,1.0s
BGF Bois d'Agland 83.91 316 *e*P **P 03 03 02.8 -0.3**
comp=Z,14nm,1.0s
TCF Toulx Ste Croi 84.37 316 *e*P **P 03 03 05.1 -0.4**
TCF Toulx Ste Croi 84.37 316 *e*P **P 03 03 05.1 -0.4**
CAF Calviac 84.59 314 *e*P **P 03 03 06.6 0.0**
comp=Z,33nm,1.6s
CAF Calviac 84.59 314 *e*P **P 03 03 06.6 0.0**
comp=Z,33nm,1.6s
MTLF Montolieu 84.63 313 *e*P **P 03 03 06.8 0.0**
comp=Z,21nm,1.3s
MTLF Montolieu 84.63 313 *e*P **P 03 03 06.8 0.0**
comp=Z,21nm,1.3s
RJF Les Rejaudoux 84.94 315 *e*P **P 03 03 08.3 0.0**
RJF Les Rejaudoux 84.94 315 *e*P **P 03 03 08.3 0.0**
LFF La Frestale 85.53 315 *e*P **P 03 03 11.3 +0.1**
LFF La Frestale 85.53 315 *e*P **P 03 03 11.3 +0.1**
LDF La Druitiere 85.71 318 *e*P **P 03 03 11.6 -0.5**
comp=Z,29nm,1.1s
LDF La Druitiere 85.71 318 *e*P **P 03 03 11.6 -0.5**
comp=Z,29nm,1.1s
FLN La Foliniere 85.93 318 *e*P **P 03 03 12.4 -0.8**
FLN La Foliniere 85.93 318 *e*P **P 03 03 12.4 -0.8**
MFF Saint Martin d 85.96 316 *e*P **P 03 03 13.0 -0.3**
comp=Z,18nm,1.0s
MFF Saint Martin d 85.96 316 *e*P **P 03 03 13.0 -0.3**
comp=Z,18nm,1.0s
EPF Esparros 86.03 313 *e*P **P 03 03 13.0 -0.8**
EPF Esparros 86.03 313 *e*P **P 03 03 13.0 -0.8**
GRR Gorron 86.22 318 *e*P **P 03 03 13.9 -0.7**
GRR Gorron 86.22 318 *e*P **P 03 03 13.9 -0.7**
ETSF Etsaut 86.70 313 *e*P **P 03 03 17.8 +0.6**
comp=Z,10.0nm,0.9s
ETSF Etsaut 86.70 313 *e*P **P 03 03 17.8 +0.6**
comp=Z,10.0nm,0.9s
SJPF Ste Jean 87.15 313 *e*P **P 03 03 19.5 +0.2**
comp=Z,28nm,1.3s
SJPF Ste Jean 87.15 313 *e*P **P 03 03 19.5 +0.2**
comp=Z,28nm,1.3s
TOA0 Torodi Ar. Sit 88.50 283 *e*P **P 03 03 27.2 +1.0**
TORD Torodi Ar. Bea 88.50 283 P **P 03 03 27.6 +1.3**
comp=Z,1.3nm,0.9s,baz=63,slow=3.4,SNR=4.7
TORD LR LR 03 42 31.6
comp=Z,183nm,18.6s,baz=85,slow=35
ESDC Sonseca Array 89.70 310 P **P 03 03 31.5 0.0**
comp=Z,1.9nm,0.9s,baz=52,slow=4.4,SNR=6.0
VNDA Vanda 93.09 168 P **P 03 03 46.8 +0.5**
comp=Z,0.3nm,0.6s,baz=288,slow=6.4,SNR=2.2
COLA College 95.44 22 *e*P **P 03 03 57.1 -0.3**
MCK McKinley 95.61 23 *e*P **P 03 03 57.8 -0.5**
DBIC Dimbokro 95.78 277 LR LR 03 46 39.8
comp=Z,490nm,19.4s,baz=107,slow=35
ILAR Eielson Array 95.85 22 P **P 03 03 58.7 -0.6**
comp=Z,0.4nm,0.8s,baz=290,slow=3.5,SNR=5.1
PDAR Pinedale Array 126.22 20 PKP **PKPdf 03 09 36.8 +0.6**
comp=Z,0.5nm,0.8s,baz=336,slow=2.0,SNR=3.6
NVAR Mina Array Bea 126.29 29 PKP **PKPdf 03 09 37.1 +0.7**
comp=Z,1.6nm,0.8s,baz=292,slow=1.8,SNR=6.4
SDCO Great Sand Dun 132.08 19 *e*PKPdf **PKPdf 03 09 45.8 -1.7**
ANMO Albuquerque 134.29 21 PKP **PKPdf 03 09 51.8 +0.1**
comp=Z,0.3nm,0.3s,baz=344,slow=7.4,SNR=2.7
TXAR Lajitas Array 140.37 22 PKP **PKPdf 03 10 04.3 +1.4**
comp=Z,2.1nm,1.2s,baz=207,slow=1.4,SNR=4.1
TXAR Lajitas Array 140.37 22 PKIKP **PKPdf 03 10 04.3 +1.4**
TXAR pmax pmax
comp=Z,2.0nm,1.2s
CPUP Villa Florida 145.30 234 *e*PKPbc **PKPbc 03 10 11.0 -0.2**
LPAZ La Paz 158.64 244 PKP **PKPdf 03 10 34.7 +2.4**
comp=Z,1.1nm,1.0s,baz=124,slow=7.8,SNR=4.5
LPAZ PKPab **PKPab 03 11 08.6 +1.0**
comp=Z,1.5nm,0.9s,baz=45,slow=2.9,SNR=3.1
LPAZ La Paz 158.64 244 PKIKP **PKPdf 03 10 34.7 +2.4**
LPAZ 03 11 08.6
LPAZ pmax pmax
comp=Z,1.0nm,1.0s
LPAZ pmax pmax
comp=Z,2.0nm,1.0s

IDC ***13*** *02:58:24.5±1.2, 14°.20N×92°.58W, h0km, mb3.8/8, mb1 4.2/12, mb1mx4.0/26, mbtmp3.9/12, ML4.1/4, MS3.6/2, Ms1 3.6/2, ms1mx3.1/28, Error ellipse: s-maj=33.2km s-min=18.9km az=52.0*
NEIC ***13*** *02:58:26.3±0.6, 14°.16N×92°.68W, h10km, mb4.2/21, MD4.4(MEX), Error ellipse: s-maj=11.7km s-min=7.1km az=40.0*
ISCJB ***13*** *02:58:27.1±1.4, 14°.23N±0°.05×92°.72W±0°.04, h23km±11km, mb4.0/23, MS3.5/2, Error ellipse: s-maj=10.0km s-min=5.6km az=33.2*
CASC ***13*** *02:58:30.9±1.4, 14°.16N×92°.55W, h36km±999km, MD4.0*
MEX ***13*** *02:58:33.7±0.5, 14°.48N×92°.99W, h11km±16km, MD4.4*
ISC 13 02:58:26.2±2.2,**14°.17N**±0°.06×**92°.72W**±0°.04,**h15**km±14km,
n63,σ1s76/71,mb4.2/23,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
JAT	**Jato**	**1.06**	**82**	*e*P		**Pn**	**02 58 47.8 +1.2**
JAT				*e*S		**Sg**	**02 58 59.4 -1.1**
PCIG		**1.61**	**342**	*e*P		**Pn**	**02 58 52.9 -1.2**
PCIG				*e*S		Sn	02 59 07.9 -6.8
PCIG		**1.61**	**342**	*e*P		**Pn**	**02 58 52.9 -1.2**
PCIG				*e*S		Sn	02 59 07.9 -6.8
FUG	**Fuego 3**	**1.84**	**81**	*e*P		**Pn**	**02 58 57.6 +0.1**
PCG	**Pacaya**	**2.06**	**83**	*e*P		**Pn**	**02 59 01.5 +0.9**
PCG				*e*S		**Sn**	**02 59 21.7 -4.5**
CCIG	**Comitan**	**2.18**	**15**	*e*P		**Pn**	**02 59 03.6 +1.4**
CCIG				*i* S		**Sn**	**02 59 27.7 -1.3**
CCIG	**Comitan**	**2.18**	**15**	*e*P		**Pn**	**02 59 03.6 +1.4**
CCIG				*i* S		**Sn**	**02 59 27.7 -1.3**
NBG	**Las Nubes**	**2.33**	**79**	*e*P		**Pb**	**02 59 06.6 -1.6**
TGIG		**2.63**	**351**	*e*P		**Pn**	**02 59 08.6 +0.4**
TGIG				*i* S		**Sn**	**02 59 35.8 -4.2**
TGIG		**2.63**	**351**	*e*P		**Pn**	**02 59 08.6 +0.4**
TGIG				*i* S		**Sn**	**02 59 35.8 -4.2**
RBDL	**Robledal**	**2.94**	**91**	*e*P		**Pn**	**02 59 13.4 +0.7**
RTR	**El Retiro**	**2.99**	**95**	*e*P		**Pn**	**02 59 14.1 +0.8**
SBLS	**San Blas**	**3.02**	**96**	*e*P		**Pn**	**02 59 14.8 +0.9**
SNJE	**San Jose**	**3.03**	**95**	*e*P		**Pn**	**02 59 14.6 +0.7**
MRL	**Marmol**	**3.06**	**73**	*e*P		**Pn**	**02 59 15.8 +1.5**
CMIG	**Matias Romero**	**3.58**	**325**	*e*P		**Pn**	**02 59 21.4 +0.1**
CMIG				*i* S		Sn	02 59 57.7 -5.8
CMIG	**Matias Romero**	**3.58**	**325**	Pn		**Pn**	**02 59 21.5 +0.1**
	3.1nm,0.3s,baz=134,slow=14,SNR=29						
CMIG				Sn		**Sn**	**03 00 01.2 -2.2**
	14nm,0.3s,baz=97,slow=14,SNR=4.8						
HUIG	**Huatulco**	**3.65**	**296**	*i* P		**Pn**	**02 59 22.0 -0.2**
HUIG				*i* S		Sn	02 59 59.2 -5.8
HUIG	**Huatulco**	**3.65**	**296**	*i* P		**Pn**	**02 59 22.0 -0.2**
HUIG				*i* S		Sn	02 59 59.2 -5.8
VHO	**Vista Hermosa**	**4.83**	**307**	*e*P		**Pn**	**02 59 38.9 +0.2**
VHO				*e*S		Sn	03 00 29.1 -5.5
VHO	**Vista Hermosa**	**4.83**	**307**	*e*P		**Pn**	**02 59 38.9 +0.2**
VHO				*e*S		Sn	03 00 29.1 -5.5
PNIG	**Pinotepa**	**5.67**	**294**	*i* P		**Pn**	**02 59 49.9 -0.3**
PNIG				*i* S		**Sn**	**03 00 51.0 -4.1**
PNIG	**Pinotepa**	**5.67**	**294**	*i* P		**Pn**	**02 59 49.9 -0.3**
PNIG				*i* S		**Sn**	**03 00 51.0 -4.1**
TEIG	**Tepich**	**7.37**	**35**	Pn		**Pn**	**03 00 13.8 +0.4**
	26nm,0.3s,baz=206,slow=0.3,SNR=44						
TEIG				Sn		**Sn**	**03 01 34.8 -2.1**
	baz=217,slow=20,SNR=4.3						
TEIG	**Tepich**	**7.37**	**35**	*e*Pn		**Pn**	**03 00 13.5 +0.1**
	87nm,0.4s						
TEIG				*e*Sn		**Sn**	**03 01 34.6 -2.3**
JTS	**JuntasAbangare**	**8.51**	**116**	Pn		**Pn**	**03 00 29.1 0.0**
	0.4nm,0.3s,baz=301,slow=19,SNR=2.8						
JTS	**JuntasAbangare**	**8.51**	**116**	*e*Pn		**Pn**	**03 00 28.9 -0.2**
	17nm,0.6s						
HKT	**Hockley**	**15.97**	**350**	*e*P		**Pn**	**03 02 11.7 +1.3**
	7.2nm,1.2s						

NATX	**Nacogdoches**	**17.60**	**355**	*e*P	**P**	**03 02 33.6**	**+1.5**
TXAR	**Lajitas Array**	**18.18**	**328**	P	**P**	**03 02 40.9**	**+2.3**
	0.3nm,0.3s,baz=146,slow=11,SNR=24						
LRAL	**Lakeview Retre**	**19.49**	**15**	*e*P	**P**	**03 02 52.5**	**-0.4**
	11nm,1.1s						
MIAR	**Mount Ida**	**20.31**	**358**	*e*P	Pn	03 03 05.5	+1.7
	28nm,1.0s						
ROSC	**El Rosal**	**20.34**	**115**	P	Pn	03 03 05.1	+0.3
	2.9nm,0.5s,baz=104,slow=21,SNR=4.1						
OXF	**Oxford**	**20.48**	**8**	*e*P	**P**	**03 03 02.8**	**-0.8**
	28nm,1.1s						
WVT	**Waverly**	**22.31**	**10**	*e*P	**P**	**03 03 22.8**	**-0.5**
	1.8nm,0.8s						
TKL	**Tuckaleechee C**	**22.86**	**19**	P	**P**	**03 03 27.8**	**-1.4**
	1.7nm,0.8s,baz=200,slow=5.7,SNR=5.1						
TKL				LR	LR	03 13 51.8	
	comp=Z,138nm,19.2s,baz=285,slow=41						
TKL	**Tuckaleechee C**	**22.86**	**19**	*e*P	**P**	**03 03 28.4**	**-0.8**
121A	**Cookes Peak, D**	**22.88**	**326**	*e*P	**P**	**03 03 33.3**	**+3.7**
	6.8nm,1.0s						
ANMO	**Albuquerque**	**24.12**	**331**	P	**P**	**03 03 43.0**	**+1.1**
	1.3nm,0.6s,baz=135,slow=13,SNR=8.6						
ANMO	**Albuquerque**	**24.12**	**331**	*e*P	**P**	**03 03 43.7**	**+1.8**
	1.0nm,0.6s						
TUC	**Tucson**	**24.46**	**321**	*e*P	**P**	**03 03 46.9**	**+2.0**
	2.0nm,0.9s						
WCI	**Wyandotte Cave**	**24.64**	**12**	*e*P	**P**	**03 03 44.4**	**-2.0**
	9.9nm,1.0s						
MVCO	**Mesa Verde**	**26.92**	**331**	*e*P	**P**	**03 04 09.7**	**+2.4**
	7.5nm,0.9s						
PV01	**Paradox Valley**	**27.71**	**332**	*e*P	**P**	**03 04 16.3**	**+2.0**
DUG	**Dugway, Tooele**	**31.34**	**330**	*e*P	**P**	**03 04 49.6**	**+3.1**
	8.7nm,1.6s						
PDAR	**Pinedale Array**	**31.99**	**336**	P	**P**	**03 04 53.8**	**+1.6**
	0.6nm,0.8s,baz=166,slow=2.4,SNR=4.0						
REDW	**Red Top Meadow**	**33.00**	**335**	*e*P	**P**	**03 05 01.3**	**+0.2**
	10nm,1.1s						
SNOW	**Snow King Moun**	**33.05**	**336**	*e*P	**P**	**03 05 03.4**	**+1.9**
	7.1nm,0.8s						
NVAR	**Mina Array Bea**	**33.11**	**322**	P	**P**	**03 05 02.8**	**+0.7**
	0.9nm,0.7s,baz=135,slow=8.8,SNR=6.4						
LOHW	**Long Hollow**	**33.11**	**336**	*e*P	**P**	**03 05 03.8**	**+1.8**
	3.4nm,1.0s						
MOOW	**Moose Ponds**	**33.28**	**336**	*e*P	**P**	**03 05 05.3**	**+1.8**
	1.7nm,0.8s						
HLID	**Hailey**	**34.70**	**332**	*e*P	**P**	**03 05 17.8**	**+2.0**
	4.1nm,1.2s						
MCMT	**McKenzie Canyo**	**35.02**	**335**	*e*P	**P**	**03 05 20.9**	**+2.2**
	4.0nm,1.1s						
SAML	**Samuel**	**37.23**	**126**	*e*P	**P**	**03 05 37.0**	**-0.5**
	2.3nm,0.9s						
LPAZ	**La Paz**	**38.80**	**140**	P	**P**	**03 05 51.0**	**-0.5**
	0.9nm,0.9s,baz=347,slow=6.1,SNR=5.8						
LPAZ	**La Paz**	**38.80**	**140**	*e*P	**P**	**03 05 51.6**	**+0.1**
	0.9nm,0.6s						
RPN	**Rapa Nui**	**44.10**	**201**	LR	LR	03 20 39.5	
	comp=Z,80nm,19.6s,baz=161,slow=30						
YKA	**Yellowknife Ar**	**50.71**	**347**	P	**P**	**03 07 24.4**	**-0.7**
	2.4nm,0.8s,baz=150,slow=7.7,SNR=5.6						
INK	**Inuvik**	**60.09**	**344**	P	**P**	**03 08 33.0**	**+0.5**
	0.9nm,0.4s,baz=113,slow=4.8,SNR=4.4						
ILAR	**Eielson Array**	**62.41**	**337**	P	**P**	**03 08 49.1**	**+0.7**
	0.7nm,0.9s,baz=130,slow=5.6,SNR=8.0						
BILL	**Bilibino**	**81.05**	**338**	*e*P	**P**	**03 10 41.0**	**+0.6**
	2.1nm,0.7s						
WLF	**Walferdange**	**84.97**	**40**	*e*P	**P**	**03 11 01.8**	**+0.7**
	5.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**145.61**	**340**	PKPbc	**PKPdf**	**03 18 05.3**	**+0.2**
	1.1nm,0.3s,baz=357,slow=3.6,SNR=4.1						

NNC ***13*** *03:05:28.5±5.9, 36.63N×66.59E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=66.4km s-min=44.0km az=118.0*
ISC 13 03:05:30.7±3.4, 36.2N±0.1×67.0E±0.2, h35km, n7, σ1§38/11, 5C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.05**	**29**	⇓Pn	**Pn**	**03 06 16.8**	**+0.4**
	37nm,0.5s						
DZET				⇓Lg	Lg	03 07 07.0	
	68nm,0.5s						
CEP	**Cherat**	**4.68**	**118**	P	**Pn**	**03 06 38.4**	**-0.6**
CEP				S	**Sn**	**03 07 34.0**	**+1.8**
SFK	**Sufi-Kurgan**	**6.45**	**51**	⇓Pn	**Pn**	**03 07 02.1**	**-1.2**
	3.0nm,0.3s						
SFK				⇓Sn	**Sn**	**03 08 16.5**	**+0.7**
	7.2nm,0.5s						
KK31	**Karatay Array**	**7.47**	**20**	Pn	**Pn**	**03 07 17.3**	**+0.1**
	1.1nm,0.3s,baz=204,slow=14,SNR=35						
KK31				⇓Sn	**Sn**	**03 08 40.9**	**+0.2**
	1.8nm,0.5s,baz=210,slow=32,SNR=4.1						
MNAS	**Manas**	**7.66**	**32**	⇑Pn	**Pn**	**03 07 18.5**	**-1.2**
	1.8nm,0.5s						
MNAS				⇑Sn	**Sn**	**03 08 47.2**	**+1.9**
	4.8nm,0.6s						
AAK	**Ala-Archa**	**8.72**	**40**	⇑Pn	**Pn**	**03 07 32.4**	**-2.0**
	5.6nm,0.7s						
AAK				⇑Sn	**Sn**	**03 09 11.4**	**-0.1**
	5.7nm,0.8s						
AB31	**Akbulak array**	**14.07**	**341**	⇑Pn	P	03 08 57.0	+2.4
	0.7nm,0.5s,baz=152,slow=12,SNR=4.1						
AB31				⇓Sn	Sn	03 11 28.6	+6.5
	0.4nm,0.4s,baz=150,slow=23,SNR=3.5						

BJI ***13*** *03:08:55.1, 33.40N×116.40W, h13km, mb4.8/1, mB5.4/2*
IDC ***13*** *03:08:56.0±1.3, 33.32N×116.31W, h0km, mb3.9/5, mb1 4.2/12, mb1mx4.0/31, mbtmp4.0/12, ML4.0/7, MS3.6/6, Ms1 3.6/6, ms1mx3.4/45, Error ellipse: s-maj=20.0km s-min=10.1km az=45.0*
NEIC ***13*** *03:08:57.1, 33.38N×116.42W, h12km, mb4.4/20, ML4.9(PAS), After PAS.*
NEIC Felt [IV] at Aguanga, Anza, Borrego Springs, La Quinta, Mountain Center, Ranchita, Vista and Warner Springs; [III] at Bonsall, Boulevard, Cardiff-by-the-Sea, Carlsbad, Cathedral City, Chula Vista, Coachella, El Cajon, Escondido, Fallbrook, Hemet, Idyllwild, Imperial, Indian Wells, Indio, Julian, Loma Linda, Mecca, Oceanside, Palm Desert, Palm Springs, Pine Valley, Poway, Ramona, Rancho Mirage, San Diego, San Jacinto, San Marcos, Santa Ysabel, Santee, Sun City, Thermal and Winchester. Felt throughout Orange, San Diego and western Riverside Counties and in parts of Imperial, Los Angeles, San Bernardino and Ventura Counties. Felt [III] at Tijuana, Baja California. Also felt at Mexicali and Tecate.
MEX ***13*** *03:09:00.3±0.6, 33.39N×116.57W, h16km±68km, MD3.9*
ISC 13 03:08:57.0±0.8, 33.38N±0.02×116.43W±0.02, h13km±5km, n166, σ1§61/204, mb4.2/13, MS3.7/3, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flats O**	**0.23**	**354**	P	**Pg**	**03 09 01.2**	**-0.9**
	baz=0.2						
PFO				S	**Sg**	**03 09 04.8**	**-0.9**
	baz=0.2						
PFO	**Pinyon Flats O**	**0.23**	**354**	*e*Pg	**Pg**	**03 09 01.1**	**-1.1**
PFO				*e*Sg	**Sg**	**03 09 04.3**	**-1.3**
MONP	**Monument Peak,**	**0.48**	**179**	P	**Pg**	**03 09 06.2**	**-0.4**
	baz=0.5						
SWSC	**Sam W. Stewart**	**0.68**	**129**	P	**Pg**	**03 09 09.5**	**-0.8**
	baz=0.7						
SWSC				S	**Sg**	**03 09 18.8**	**-0.5**
	baz=0.7						
MURC	**Murrieta**	**0.69**	**289**	P	**Pg**	**03 09 09.8**	**-0.5**
	baz=0.7						
MURC				S	**Sg**	**03 09 19.3**	**-0.1**
	baz=0.7						
BELC	**Belle Mtn. Jos**	**0.72**	**30**	P	**Pg**	**03 09 10.0**	**-1.0**
	baz=0.7						
BELC				S	**Sg**	**03 09 19.6**	**-0.9**
	baz=0.7						
BAR	**Barrett**	**0.72**	**197**	*e*Pg	**Pg**	**03 09 10.3**	**-0.7**
BAR				*e*Sg	**Sg**	**03 09 20.0**	**-0.6**
109C	**Camp Elliot, M**	**0.75**	**230**	P	**Pg**	**03 09 10.8**	**-0.8**
	baz=0.8						
109C				S	**Sg**	**03 09 20.9**	**-0.4**
	baz=0.8						
IBP	**Imperial Bould**	**0.77**	**158**	P	**Pg**	**03 09 11.4**	**-0.4**
	baz=0.8						
IBP				S	**Sg**	**03 09 21.7**	**-0.2**
	baz=0.8						
BC3	**Big Chuckawall**	**0.86**	**71**	P	**Pg**	**03 09 12.4**	**-1.3**
	baz=0.8						
BC3				S	**Sg**	**03 09 23.7**	**-1.2**
	baz=0.8						
BBRC	**Big Bear Solar**	**0.98**	**335**	P	**Pb**	**03 09 15.1**	**-0.7**
	baz=1.0						
BBRC				S	**Sg**	**03 09 28.2**	**-0.5**
	baz=1.0						
CBX	**Cerro Bola**	**1.08**	**191**	*e*P	**Pb**	**03 09 16.7**	**-0.8**
CBX				*i* S	**Sb**	**03 09 30.1**	**-1.4**
CBX	**Cerro Bola**	**1.08**	**191**	*e*P	**Pb**	**03 09 16.7**	**-0.8**
CBX				*i* S	**Sb**	**03 09 30.1**	**-1.4**
IRM	**Iron Mountain**	**1.32**	**53**	P	**Pn**	**03 09 19.4**	**-1.7**
	baz=1.3						
IRM				S	**Sb**	**03 09 37.8**	**-0.7**
	baz=1.3						
BFSC	**Mount Baldy Ra**	**1.34**	**310**	P	**Pn**	**03 09 20.9**	**-0.5**
	baz=1.3						
BFSC				Sb	**Sb**	**03 09 39.2**	**+0.1**
	baz=1.3						
GLA	**Glamis**	**1.38**	**103**	P	**Pn**	**03 09 19.7**	**-2.2**
	baz=1.4						
GLA	**Glamis**	**1.38**	**103**	*e*Pn	**Pn**	**03 09 19.7**	**-2.2**
MBIG	**Mexicali**	**1.41**	**133**	*e*P	**Pb**	**03 09 23.3**	**+0.1**
MBIG				*i* S	**Sn**	**03 09 40.8**	**0.0**
HEC	**Hector,Ludlow**	**1.45**	**3**	P	**Pn**	**03 09 21.9**	**-1.1**
	baz=1.4						
GMRC	**Granite Mounta**	**1.54**	**24**	P	**Pn**	**03 09 22.9**	**-1.3**
	baz=1.5						
GMRC				Sb	**Sn**	**03 09 44.6**	**+0.5**
	baz=1.5						
RRX	**Edison Barstow**	**1.57**	**343**	P	**Pn**	**03 09 24.0**	**-0.6**
	baz=1.6						
RRX				Sb	**Sb**	**03 09 46.5**	**+0.7**
	baz=1.6						
FMP	**Fort Macarthur**	**1.60**	**283**	P	**Pn**	**03 09 24.2**	**-0.6**
	baz=1.6						
Y12C	**Blythe**	**1.63**	**76**	P	**Pn**	**03 09 23.5**	**-1.9**
	baz=1.6						
CIS	**Catalina Islan**	**1.65**	**272**	P	**Pn**	**03 09 24.7**	**-1.0**
	baz=1.7						
CIS				S	**Sn**	**03 09 47.3**	**+0.5**
	baz=1.7						
DECC	**Green Verdugo**	**1.81**	**299**	P	**Pn**	**03 09 28.2**	**+0.4**
	baz=1.8						
DECC				Sb	**Sb**	**03 09 53.2**	**+0.6**
	baz=1.8						
SCI	**San Clemente I**	**1.82**	**258**	P	**Pn**	**03 09 27.7**	**-0.2**
	baz=1.8						
SCI				S	**Sn**	**03 09 51.0**	**+0.1**
	baz=1.8						
GSC	**Goldstone, Bar**	**1.95**	**351**	P	**Pn**	**03 09 29.2**	**-0.6**
	baz=1.9						
GSC	**Goldstone, Bar**	**1.95**	**351**	*e*Pn	**Pn**	**03 09 29.2**	**-0.6**
GSC				*e*Pg	**Pb**	**03 09 32.9**	**+0.5**
GSC				*e*Sg	**Sb**	**03 09 56.8**	**+0.2**
EDW2	**Edwards Air Fo**	**1.98**	**320**	P	**Pn**	**03 09 29.8**	**-0.4**
	baz=2.0						
EDW2				Sb	**Sb**	**03 09 58.3**	**+0.7**
	baz=2.0						
NEE2	**Needles Airpor**	**2.04**	**47**	P	**Pn**	**03 09 29.8**	**-1.3**
	baz=2.0						
NEE2				Sb	**Sb**	**03 09 59.8**	**+0.6**
	baz=2.0						
TUQ	**Turquoise Moun**	**2.10**	**11**	P	**Pn**	**03 09 30.9**	**-1.0**
	baz=2.1						
PDMCI	**Parker Dam,Lak**	**2.11**	**64**	P	**Pn**	**03 09 30.6**	**-1.4**
	baz=2.1						
PDMCI				Sb	**Sb**	**03 10 01.0**	**-0.3**
	baz=2.1						
OSI	**Osito Audit: C**	**2.27**	**304**	P	**Pn**	**03 09 34.0**	**-0.2**
	baz=2.3						
OSI				Sb	**Sb**	**03 10 07.4**	**+1.5**
	baz=2.3						
OSI	**Osito Audit: C**	**2.27**	**304**	*e*Pn	**Pn**	**03 09 34.1**	**-0.2**
OSI				*e*Pg	**Pb**	**03 09 38.6**	**+0.7**
OSI				*e*Sg	**Sb**	**03 10 07.7**	**+1.7**
BLG	**Laguna Peak, P**	**2.32**	**289**	P	**Pn**	**03 09 33.9**	**-0.9**
	baz=2.3						
LRMC	**Laurel Mtn Rad**	**2.34**	**334**	P	**Pn**	**03 09 34.7**	**-0.6**
	baz=2.3						
LRMC				Sb	**Sb**	**03 10 09.6**	**+1.6**
	baz=2.3						
SPIG	**San Pedro Mart**	**2.46**	**160**	*e*P	**Pn**	**03 09 38.3**	**+1.3**
SPIG				*i* S	**Sn**	**03 10 06.7**	**-0.5**
SPIG	**San Pedro Mart**	**2.46**	**160**	*e*P	**Pn**	**03 09 38.3**	**+1.3**
SPIG				*i* S	**Sn**	**03 10 06.7**	**-0.5**
SPX	**San Pedro Mart**	**2.46**	**160**	*e*P	**Pn**	**03 09 38.5**	**+1.4**
SPX				*i* S	**Sn**	**03 10 07.4**	**+0.2**
SHOC	**Shoshone, Teco**	**2.52**	**3**	P	**Pn**	**03 09 37.2**	**-0.4**
	baz=2.5						
ARVC	**Arvin**	**2.65**	**312**	P	**Pn**	**03 09 38.9**	**-0.4**
	baz=2.7						
ARVC				Sb	**Sb**	**03 10 18.1**	**+1.5**
	baz=2.7						
BSC	**Santa Cruz Isl**	**2.74**	**284**	P	**Pn**	**03 09 39.8**	**-0.9**
	baz=2.8						
MPMC	**Manual Prospec**	**2.82**	**342**	P	**Pn**	**03 09 41.1**	**-0.8**
	baz=2.8						
ISA	**Isabella, Lake**	**2.84**	**324**	P	**Pn**	**03 09 41.4**	**-0.6**
	baz=2.8						
ISA				Sb	**Sb**	**03 10 24.6**	**+2.4**
	baz=2.8						
ISA	**Isabella, Lake**	**2.84**	**324**	*e*Pn	**Pn**	**03 09 41.9**	**-0.2**
ISA				*e*Pb	**Pb**	**03 09 45.9**	**-1.6**
ISA				*e*Pg	**Pg**	**03 09 48.7**	**-2.7**
ISA				*e*Sn	**Sn**	**03 10 15.0**	**-1.1**
ISA				*e*Sg	**Sb**	**03 10 24.9**	**+2.6**
DAC	**Darwin (Calif)**	**3.05**	**342**	*e*Pn	**Pn**	**03 09 44.8**	**-0.2**
DAC				*e*Pg	**Pb**	**03 09 52.8**	**+1.6**
DAC				*e*Sg	**Sb**	**03 10 30.9**	**+2.5**
FURC	**Furnace Creek,**	**3.11**	**354**	P	**Pn**	**03 09 45.0**	**-0.6**
	baz=3.1						
PKM	**Mcpherson Peak**	**3.20**	**299**	P	**Pn**	**03 09 47.9**	**+0.8**
	baz=3.2						
SHPR	**Sheep Range**	**3.29**	**18**	*e*Pn	**Pn**	**03 09 48.2**	**-0.1**
SHPR				*e*Pg	**Pg**	**03 09 57.9**	**-2.2**
SHPR				*e*Sn	**Sn**	**03 10 28.5**	**+1.1**
SHPR				*e*Sg	**Sg**	**03 10 41.0**	**-1.7**
VES	**Vestal, Richgr**	**3.29**	**319**	P	**Pn**	**03 09 48.7**	**+0.5**
	baz=3.3						
214A	**Organ Pipe Nat**	**3.36**	**114**	P	**Pn**	**03 09 47.2**	**-2.0**
	baz=3.3						
214A	**Organ Pipe Nat**	**3.36**	**114**	*e*Pn	**Pn**	**03 09 47.5**	**-1.7**
214A				*e*Pg	**Pb**	**03 09 57.9**	**+1.5**
214A				*e*Sg	**Sg**	**03 10 42.7**	**-2.3**
WUAZ	**Wupatki**	**4.69**	**61**	*e*Pn	**Pn**	**03 10 08.6**	**+1.1**
WUAZ				*e*Sg	**Sg**	**03 11 26.2**	**-1.3**
TPH	**Tonopah**	**4.73**	**352**	*e*Pn	**Pn**	**03 10 08.5**	**+0.3**
TPH				*e*Pg	Pb	03 10 23.6	+3.7
TPH				*e*Sg	**Sb**	**03 11 22.4**	**+5.5**
CCUT	**Cedar City**	**4.86**	**30**	*e*Pn	**Pn**	**03 10 10.8**	**+0.8**
CCUT				*e*Pg	**Pb**	**03 10 25.1**	**+3.1**
CCUT				*e*Sg	**Sb**	**03 11 25.1**	**+4.7**
TUC	**Tucson**	**4.87**	**101**	*e*Pn	**Pn**	**03 10 08.1**	**-1.8**
TUC				*e*Pg	Pg	03 10 26.3	-3.9
R11A	**Troy Canyon, C**	**5.01**	**8**	*e*Pn	**Pn**	**03 10 12.2**	**+0.2**
	119nm,0.7s						
R11A				*e*Pg	**Pb**	**03 10 27.3**	**+2.7**
R11A				*e*Sg	**Sg**	**03 11 32.3**	**-5.5**
NVAR	**Mina Array Bea**	**5.27**	**344**	Pn	**Pn**	**03 10 17.0**	**+1.5**
	7.7nm,0.3s,baz=167,slow=15,SNR=68						
NVAR				Pg	Pg	03 10 34.6	-3.3
	39nm,0.3s,baz=160,slow=16,SNR=49						
NVAR				Lg	Lg	03 11 44.1	
	4.1nm,0.3s,baz=165,slow=29,SNR=2.2						
CMB	**Columbia Colle**	**5.66**	**326**	*e*Pn	**Pn**	**03 10 21.2**	**+0.5**
CMB				*e*Pg	Pb	03 10 40.6	+5.0
CMB				*e*Sg	**Sb**	**03 11 47.5**	**+4.3**
WAKR	**Walker**	**5.67**	**335**	*e*Pn	**Pn**	**03 10 21.1**	**0.0**
WAKR				*e*Pg	**Pg**	**03 10 43.6**	**-1.9**
WAKR				*e*Sg	**Sg**	**03 11 53.1**	**-5.9**
W18A	**Petrified Fore**	**5.81**	**71**	*e*Pn	**Pn**	**03 10 23.2**	**+0.3**
	157nm,0.7s						
W18A				*e*Pg	Pb	03 10 42.8	+4.6
W18A				*e*Sg	Sg	03 11 56.8	-6.6
MVU	**Marysvale**	**6.15**	**33**	*e*Pn	**Pn**	**03 10 28.9**	**+1.2**
	136nm,0.6s						
MVU				*e*Pg	Pg	03 10 50.5	-4.3
MVU				*e*Sg	**Sg**	**03 12 09.1**	**-5.4**
MSU	**Marysvale**	**6.18**	**33**	*e*Pn	**Pn**	**03 10 29.1**	**+1.1**
	151nm,0.6s						
MSU				*e*Pg	Pg	03 10 50.7	-4.6
MSU				*e*Sg	Sg	03 12 08.8	-6.5
BMN	**Battle Mountai**	**7.07**	**355**	*e*Pn	**Pn**	**03 10 40.0**	**-0.2**
BMN				*e*Pg	Pg	03 11 06.7	-5.7
BMN				*e*Sg	**Sg**	**03 12 38.7**	**-5.2**
TMUT	**Trail Mountain**	**7.25**	**34**	*e*Pn	**Pn**	**03 10 43.5**	**+0.6**
	79nm,0.7s						
TMUT				*e*Pb	**Pb**	**03 11 02.2**	**-0.7**
TMUT				*e*Pg	Pg	03 11 10.9	-5.0
TMUT				*e*Sg	Sg	03 12 43.2	-6.6
121A	**Cookes Peak, D**	**7.31**	**94**	*e*Pn	**Pn**	**03 10 42.9**	**-0.7**
	59nm,0.6s						
DUG	**Dugway, Tooele**	**7.40**	**22**	*e*Pn	**Pn**	**03 10 46.2**	**+1.5**
ELK	**Elko**	**7.42**	**7**	Pn	**Pn**	**03 10 46.6**	**+1.6**
	2.1nm,0.3s,baz=172,slow=9.2,SNR=34						
ELK				Lg	Lg	03 12 49.1	
	2.6nm,0.3s,baz=285,slow=16,SNR=3.4						
ELK	**Elko**	**7.42**	**7**	*e*Pn	**Pn**	**03 10 46.0**	**+0.9**
	49nm,0.7s						
ELK				Lg	Lg	03 12 49.1	
NLU	**North Lily Min**	**7.44**	**27**	*e*Pn	**Pn**	**03 10 45.7**	**+0.4**
NLU				*e*Sn	**Sn**	**03 12 08.3**	**-1.3**
SRU	**San Rafael Swe**	**7.45**	**38**	*e*Pn	Pn	03 10 48.8	+3.3
MVCO	**Mesa Verde**	**7.53**	**57**	*e*Pn	**Pn**	**03 10 48.1**	**+1.5**
MPU	**Maple Canyon**	**7.66**	**29**	*e*Pn	**Pn**	**03 10 47.6**	**-0.8**
	94nm,0.9s						
PV04	**Paradox Valley**	**7.89**	**49**	*e*Pn	**Pn**	**03 10 53.1**	**+1.6**
PV04				*e*Lg	Lg	03 13 05.6	
PV01	**Paradox Valley**	**7.96**	**51**	*e*Pn	**Pn**	**03 10 54.3**	**+1.8**
	7μm,0.7s						
PV01				*e*Lg	Lg	03 13 03.6	
BGU	**Big Grassy Mou**	**8.01**	**19**	*e*Pn	**Pn**	**03 10 53.7**	**+0.6**
	42nm,0.8s						
BGU				*e*Lg	Lg	03 13 10.2	
LPM	**Los Pinos Moun**	**8.20**	**81**	*e*Pn	**Pn**	**03 10 55.7**	**-0.1**
	8.4nm,0.4s						
CTU	**Camp Tracy**	**8.20**	**26**	*e*Pn	**Pn**	**03 10 56.4**	**+0.6**
JLU	**Jordanelle**	**8.24**	**27**	*e*Pn	**Pn**	**03 10 57.4**	**+1.1**
ANMO	**Albuquerque**	**8.41**	**77**	Pn	**Pn**	**03 10 59.2**	**+0.6**
	1.0nm,0.3s,baz=269,slow=12,SNR=21						
ANMO				Lg	Lg	03 13 19.8	
	0.6nm,0.3s,baz=348,slow=21,SNR=4.9						
ANMO				LR	LR	03 14 16.3	
	comp=Z,220nm,19.1s,baz=265,slow=38						
ANMO	**Albuquerque**	**8.41**	**77**	*e*Pn	**Pn**	**03 10 58.6**	**0.0**
ANMO				*e*Lg	Lg	03 13 21.2	
TCUT	**Toone Canyon**	**8.70**	**26**	*e*Pn	Pn	03 11 06.2	+3.6
	43nm,0.7s						
HVU	**Hansel Valley**	**8.88**	**18**	*e*Pn	**Pn**	**03 11 05.1**	**+0.1**
HVU				*e*Lg	Lg	03 13 38.8	
HWUT	**Hardware Ranch**	**9.08**	**24**	*e*Pn	Pn	03 11 11.1	+3.3
WVOR	**Wild Horse Val**	**9.21**	**350**	*e*Pn	Pn	03 11 16.4	+6.8
O20A	**White River Ci**	**9.41**	**42**	*e*Pn	**Pn**	**03 11 15.5**	**+3.1**
O20A				*e*Lg	Lg	03 13 51.6	
SMCO	**Snowmass**	**9.58**	**50**	*e*Pn	**Pn**	**03 11 16.6**	**+1.8**
SMCO				*e*Lg	Lg	03 13 54.0	
YBH	**Yreka Blue Hor**	**9.72**	**331**	Pn	Pn	03 11 21.7	+5.2
	0.1nm,0.3s,baz=140,slow=4.3,SNR=3.8						
YBH				Lg	Lg	03 13 59.0	
	0.2nm,0.3s,baz=79,slow=11,SNR=3.8						
YBH				LR	LR	03 15 32.6	
	comp=Z,179nm,18.4s,baz=311,slow=40						
SDCO	**Great Sand Dun**	**9.91**	**61**	*e*Pn	**Pn**	**03 11 21.5**	**+2.2**
K05A	**Summer Lake**	**9.97**	**341**	*e*Pn	Pn	03 11 28.5	+8.4
MFID	**Camas Ranch**	**10.04**	**3**	*e*Pn	Pn	03 11 24.5	+3.7
AHID	**Auburn Hatcher**	**10.27**	**23**	*e*Pn	**Pn**	**03 11 26.5**	**+2.4**
	17nm,0.9s						
HLID	**Hailey**	**10.29**	**8**	*e*Pn	**Pn**	**03 11 26.4**	**+2.0**
LPIG	**La Paz**	**10.68**	**148**	LR	LR	03 15 24.2	
	comp=Z,137nm,18.1s,baz=341,slow=37						
ISCO	**Idaho Springs**	**10.80**	**50**	*e*Pn	Pn	03 11 35.1	+3.6
BW06	**Boulder Array**	**10.82**	**28**	*e*Pn	Pn	03 11 35.4	+3.7
	6.1nm,0.8s						
PDAR	**Pinedale Array**	**10.82**	**28**	Pn	Pn	03 11 36.0	+4.3
	0.1nm,0.3s,baz=225,slow=10.0,SNR=8.9						
PDAR				Lg	Lg	03 14 40.9	
	0.2nm,0.3s,baz=219,slow=21,SNR=4.9						
REDW	**Red Top Meadow**	**10.88**	**22**	*e*Pn	**Pn**	**03 11 33.9**	**+1.3**
I07A	**Izee**	**10.96**	**348**	*e*Pn	Pn	03 11 41.5	+8.0
SNOW	**Snow King Moun**	**11.01**	**22**	*e*Pn	**Pn**	**03 11 35.4**	**+1.1**
FXWY	**Fox Creek**	**11.08**	**21**	*e*Pn	Pn	03 11 41.2	+5.9
LOHW	**Long Hollow**	**11.19**	**22**	*e*Pn	Pn	03 11 41.3	+4.6
	7.4nm,0.8s						
MOOW	**Moose Ponds**	**11.27**	**22**	*e*Pn	Pn	03 11 41.7	+3.9
IMW	**Indian Meadow**	**11.34**	**21**	*e*Pn	Pn	03 11 43.2	+4.2
MSTX	**Muleshoe**	**11.39**	**83**	*e*Pn	**Pn**	**03 11 41.1**	**+1.7**
BMO	**Blue Mountains**	**11.48**	**357**	*e*Pn	Pn	03 11 53.1	+12
FLWY	**Flagg Ranch**	**11.58**	**21**	*e*Pn	Pn	03 11 47.9	+5.8
	11nm,0.9s						
TXAR	**Lajitas Array**	**11.62**	**107**	Pn	**Pn**	**03 11 43.4**	**+0.8**
	0.5nm,0.3s,baz=287,slow=12,SNR=22						
TXAR				Lg	Lg	03 14 58.5	
	0.0nm,0.3s,baz=302,slow=28,SNR=3.0						
MCMT	**McKenzie Canyo**	**11.77**	**13**	*e*Pn	Pn	03

	0.5nm,0.6s,baz=187,slow=8.2,SNR=2.9							
INK	**Inuvik**	**36.33**	**349**	P	**P**	**03**	**16**	**01.8 +1.8**
	2.0nm,0.8s,baz=158,slow=9.9,SNR=3.0							
ILAR	**Eielson Array**	**36.50**	**339**	P	**P**	**03**	**16**	**03.9 +2.3**
	1.3nm,0.6s,baz=151,slow=8.0,SNR=40							
COLA	**College**	**36.87**	**338**	*e*P	**P**	**03**	**16**	**04.7 +0.1**
	5.2nm,1.1s							
PPLA	**Purkeypile**	**37.09**	**334**	*e*P	**P**	**03**	**16**	**06.8 +0.1**
	11nm,1.2s							
SCHQ	**Schefferville**	**40.50**	**43**	P	**P**	**03**	**16**	**36.1 +0.8**
	3.2nm,0.9s,baz=266,slow=15,SNR=2.3							
HHC	**Hu-ho-hao-te**	**93.90**	**326**	*e*P	P	03	22	11.3 -3.2
HHC				PP	**PP**	**03**	**26**	**00.5 +1.2**
HHC				S	**S**	**03**	**33**	**21.1 -3.2**
HHC				SS	**SS**	**03**	**39**	**40.4 -1.5**
HHC				PMZ				
	160nm,7.9s							
NJ2	**Nanjing**	**96.64**	**315**	*e*P	**P**	**03**	**22**	**27.8 +0.9**
WMQ	**Urumqi**	**100.08**	**343**	*e*P	**Pdif**	**03**	**22**	**43.4 +1.1**
LZH	**Lanzhou**	**101.31**	**328**	*e*P	**Pdif**	**03**	**22**	**46.0 -2.0**
CD2	**Chengdu**	**105.64**	**325**	Pdif	**Pdif**	**03**	**23**	**05.1 -2.1**
GYA	**Guiyang**	**107.77**	**320**	*e*Pdif	**Pdif**	**03**	**23**	**15.8 -1.1**
GYA				PKP	**PKiKP**	**03**	**27**	**22.0 -2.5**
GYA				PP	**PP**	**03**	**27**	**45.6 +1.1**
GYA				PPMZ				
	90nm,7.8s							
BOSA	**Boshof**	**146.94**	**92**	PKPbc	**PKPbc**	**03**	**28**	**39.5 0.0**
	3.9nm,1.1s,baz=304,slow=3.6,SNR=2.3							

NIED **13** *03:09:00,26.70N×142.70E,h11km,Mw4.0 Best double couple: M0 1.26000×10^15 NP1:φs345.00000°,δ21.00000°, λ-74.00000°. NP2:φs148.00000°,δ70.00000°, λ-96.00000°.*

IDC **13** *03:09:06.4±0.6,26.57N×142.59E,h0km,mb3.9/18, mb1 4.1/21,mb1mx4.0/36,mbtmp3.9/21,ML3.1/3, Error ellipse: s-maj=19.4km s-min=11.8km az=66.0*

ISCJB **13** *03:09:09.2±0.4,26.69N±0.04×142.77E±0.05,h31km, mb4.0/25, Error ellipse: s-maj=6.7km s-min=5.3km az=154.1*

NEIC **13** *03:09:10.7±2.8,26.55N×142.60E,h28km±18km,mb4.4/6, Error ellipse: s-maj=11.9km s-min=8.6km az=83.0*

JMA **13** *03:09:10.1±0.3,26.71N×142.71E,h0km,M4.4*

ISC 13 03:09:11.3±0.6,26.63N±0.06×142.63E±0.08,h31km,n49, σ1§13/57,mb4.0/25,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHHJ	**Haha-jima-NKT**	**0.40**	**270**	P		**Pb**	**03 09 19.9**	**-0.3**
JHHJ				S		**Sn**	**03 09 27.9**	**+0.5**
CBIJ	**Chichi jima**	**0.61**	**320**	P		**Pb**	**03 09 22.5**	**-1.0**
CBIJ				S		**Sb**	**03 09 29.8**	**-2.1**
CBIJ	**Chichi jima**	**0.61**	**320**	*e*Pn		**Pb**	**03 09 22.6**	**-0.9**
CBIJ				*e*Sn		**Sn**	**03 09 33.2**	**+0.6**
JCJ	**Chichijima**	**0.61**	**320**	Pn		**Pb**	**03 09 23.3**	**-0.2**
	359nm,0.3s,baz=0.2,slow=22,SNR=210							
JCJ				Sn		**Sn**	**03 09 33.5**	**+1.0**
	2μm,0.3s,baz=270,slow=20,SNR=49							
BSO1	**Boso 1**	**8.12**	**350**	P		**Pn**	**03 11 06.5**	**0.0**
BSO3	**Boso 3**	**8.35**	**348**	P		**Pn**	**03 11 12.3**	**+2.5**
BSO4	**Boso 4**	**8.56**	**347**	P		**Pn**	**03 11 14.1**	**+1.1**
JIE	**Ise**	**9.27**	**328**	P		**Pn**	**03 11 28.2**	**+5.5**
JHU	**Hanno**	**9.63**	**344**	P		**Pn**	**03 11 28.1**	**+0.4**
JHU				S		**Sn**	**03 13 13.2**	**-1.5**
JRY	**Ryogami san**	**9.88**	**342**	P		**Pn**	**03 11 31.2**	**0.0**
JRY				S		**Sn**	**03 13 20.0**	**-1.1**
JHO	**Hitachi**	**10.10**	**351**	P		**Pn**	**03 11 33.4**	**-0.8**
JHO				S		**Sn**	**03 13 24.2**	**-2.2**
JAG	**Ashikaga**	**10.13**	**345**	P		**Pn**	**03 11 34.7**	**+0.1**
JAG				S		**Sn**	**03 13 26.3**	**-0.8**
MJAR	**Matsushiro Arr**	**10.57**	**340**	Pn		**Pn**	**03 11 41.3**	**+0.7**
	0.5nm,0.3s,baz=161,slow=11,SNR=9.5							
MAJO	**Matsushiro**	**10.57**	**340**	*e*Pn		**Pn**	**03 11 42.2**	**+1.6**
MAT	**Matsushiro**	**10.57**	**340**	P		**Pn**	**03 11 40.1**	**-0.6**
MAT				S		**Sn**	**03 13 42.4**	**+4.4**
KSRS	**Korea Array**	**16.47**	**315**	Pn		**Pn**	**03 13 00.5**	**+0.5**
	0.1nm,0.3s,baz=126,slow=12,SNR=2.7							
KSAR	**Wonju Array Be**	**16.48**	**314**	Pn		**Pn**	**03 13 00.5**	**+0.3**
ASAJ	**Asahikawa**	**17.45**	**360**	P		**P**	**03 13 13.6**	**+0.4**
	baz=117,slow=14							
USRK	**Ussuriysk Ar.**	**19.52**	**337**	P		**P**	**03 13 36.3**	**+0.2**
	0.2nm,0.3s,baz=153,slow=9.7,SNR=2.7							
SONM	**Songino Array**	**35.32**	**316**	P		**P**	**03 16 03.6**	**-0.1**
	0.3nm,0.5s,baz=126,slow=7.3,SNR=2.7							
CMAR	**Chiang Mai Arr**	**41.00**	**268**	P		**P**	**03 16 52.0**	**+0.2**
	1.1nm,0.4s,baz=66,slow=9.0,SNR=7.1							
WRAB	**Tennant Creek**	**46.98**	**191**	*e*P		**P**	**03 17 38.8**	**-0.8**
	11nm,1.0s							
WRA	**Warramunga Arr**	**46.99**	**191**	P		**P**	**03 17 39.1**	**-0.5**
	3.7nm,0.6s,baz=11,slow=8.5,SNR=20							
ZALV	**Zalesovo Beam**	**50.10**	**319**	P		**P**	**03 18 03.2**	**0.0**
	0.4nm,0.3s,baz=143,slow=10.0,SNR=3.8							
ASAR	**Alice Springs**	**50.71**	**190**	P		**P**	**03 18 07.4**	**-0.8**
	0.6nm,0.7s,baz=14,slow=7.5,SNR=8.8							
MK31	**Makanchi Array**	**51.07**	**310**	*e*P		**P**	**03 18 10.0**	**-0.7**
MKAR	**Makanchi Array**	**51.07**	**310**	P		**P**	**03 18 10.2**	**-0.6**
	0.3nm,0.6s,baz=76,slow=8.1,SNR=4.6							
KURK	**Kurchatov**	**53.59**	**315**	*e*P		**P**	**03 18 30.9**	**+1.6**
	1.8nm,0.8s							
TKM2	**Tokmak 2**	**56.01**	**305**	*e*P		**P**	**03 18 48.9**	**+1.7**
	1.5nm,0.6s							
ILAR	**Eielson Array**	**57.93**	**28**	P		**P**	**03 19 00.1**	**-0.2**
	0.6nm,0.7s,baz=259,slow=5.6,SNR=11							
STKA	**Stephens Creek**	**58.19**	**181**	P		**P**	**03 19 01.6**	**-0.8**
	2.6nm,0.8s,baz=315,slow=7.1,SNR=5.6							
BRVK	**Borovoye**	**58.71**	**318**	*e*P		**P**	**03 19 06.9**	**+1.0**
	3.6nm,0.9s							
KKAR	**Karatay Array**	**59.68**	**306**	*e*P		**P**	**03 19 13.3**	**+0.5**
	2.8nm,0.8s							
ARU	**Arti**	**65.03**	**322**	*e*P		**P**	**03 19 48.6**	**+0.3**
	3.4nm,0.7s							
ABKAR	**Akbulak array**	**65.70**	**315**	*e*P		**P**	**03 19 54.5**	**+1.7**
AKTO	**Aktyubinsk**	**66.64**	**316**	P		**P**	**03 19 57.8**	**-1.0**
	0.3nm,0.3s,baz=60,slow=8.1,SNR=3.1							
YKA	**Yellowknife Ar**	**72.36**	**28**	P		**P**	**03 20 34.1**	**+0.2**
	0.8nm,0.7s,baz=292,slow=7.0,SNR=3.0							
ARCES	**ARCESS Array B**	**74.11**	**341**	P		**P**	**03 20 43.0**	**-1.0**
	3.9nm,1.0s,baz=83,slow=7.6,SNR=3.0							
FINES	**FINESS Array B**	**78.54**	**334**	P		**P**	**03 21 09.8**	**+0.5**
	1.9nm,0.6s,baz=86,slow=4.6,SNR=15							
KBZ	**Khabaz**	**78.61**	**313**	P		**P**	**03 21 10.8**	**+0.8**
	3.1nm,0.8s,baz=93,slow=4.2,SNR=9.0							
NVAR	**Mina Array Bea**	**80.50**	**52**	P		**P**	**03 21 21.1**	**+0.4**
	0.4nm,0.5s,baz=286,slow=3.7,SNR=3.6							
AKASG	**Malin Array Be**	**81.22**	**324**	P		**P**	**03 21 34.3**	**-0.3**
	0.3nm,0.3s,baz=54,slow=4.9,SNR=4.3							
NOA	**NORSAR Array B**	**84.19**	**338**	P		**P**	**03 21 39.5**	**+0.2**
	1.0nm,0.7s,baz=44,slow=5.1,SNR=2.7							
PDAR	**Pinedale Array**	**84.26**	**45**	P		**P**	**03 21 41.7**	**+1.3**
	0.1nm,0.3s,baz=232,slow=4.4,SNR=2.2							
BRTR	**Keskin Array B**	**86.61**	**313**	P		**P**	**03 21 51.5**	**-0.4**
	0.2nm,0.6s,baz=101,slow=3.7,SNR=3.0							
GERES	**GERESS Array B**	**92.11**	**329**	P		**P**	**03 22 17.6**	**0.0**
	0.1nm,0.3s,baz=42,slow=3.1,SNR=3.1							
TORD	**Torodi Ar. Bea**	**125.18**	**311**	PKP		**PKPdf**	**03 28 08.4**	**-1.1**
	0.3nm,0.7s,baz=22,slow=3.1,SNR=2.6							
PLCA	**Paso Flores**	**149.22**	**126**	PKPbc		**PKPbc**	**03 28 56.2**	**-0.7**
	1.2nm,0.8s,baz=321,slow=6.5,SNR=3.3							
LPAZ	**La Paz**	**149.66**	**76**	PKPbc		**PKPbc**	**03 29 00.5**	**+1.2**
	1.5nm,0.7s,baz=266,slow=3.5,SNR=9.9							

NEIC 13 03:09:20.4,33.39N×116.40W,h6km,ML4.2(PAS),**2C, After PAS.,Southern California**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FRD	**Ford Ranch, An**	**0.20**	**301**	↑*i*P		Pg	03 09 24.5	-0.1
PFO	**Pinyon Flats O**	**0.22**	**347**	Pg		Pg	03 09 23.8	-1.2
PFO				*e*Sg		Sg	03 09 27.9	-0.2
SNDA	**J Saunders Pla**	**0.24**	**311**	*e*P		Pg	03 09 25.4	+0.1
SNDA				*e*S		Sg	03 09 29.1	+0.4
DNR	**Dunn Ranch,Anz**	**0.26**	**312**	*e*P		Pg	03 09 25.8	+0.1
DNR				*e*S		Sg	03 09 30.0	+0.7
CRY	**Cary Ranch**	**0.33**	**301**	↑*i*P		Pg	03 09 26.9	-0.2
CRY				*i* S		Sg	03 09 31.6	0.0
DGR	**Domenigoni Val**	**0.57**	**297**	*e*P		Pg	03 09 30.9	-0.6

IDC **13** *03:23:46.2±2.1,51.50N×159.74E,h0km,mb3.8/9, mb1 3.9/10,mb1mx3.7/27,mbtmp3.8/10,ML3.2/1, Error ellipse: s-maj=46.1km s-min=27.0km az=105.0*

MOS **13** *03:23:49.9±0.6,51.45N×159.94E,h42km,mb4.3/5, Error ellipse: s-maj=18.4km s-min=6.1km az=101.8*

KRSC **13** *03:23:49.9±1.3,51.56N×159.88E,h66km±20km,ML4.3*

ISCJB **13** *03:23:50.5±0.9,51.49N±0.05×159.93E±0.08,h49km±7km, mb4.0/14, Error ellipse: s-maj=10.0km s-min=6.6km az=141.7*

NEIC **13** *03:23:51.9±2.0,51.51N×159.68E,h38km±13km,mb4.3/4, Error ellipse: s-maj=22.1km s-min=9.9km az=124.0*

ISC 13 03:23:51.9±1.8,51.52N±0.07×159.89E±0.07,h40km±15km, n66,σ0§89/78,mb4.1/14,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RUS	**Russkaya**	**1.25**	**317**	*e*P		**Pn**	**03 24 11.7**	**-1.1**
RUS				*e*S		**Sn**	**03 24 27.3**	**-1.0**
RUS	**Russkaya**	**1.25**	**317**	PN		**Pn**	**03 24 11.7**	**-1.1**
RUS				S		**Sn**	**03 24 27.3**	**-1.0**
MTVR	**Mutnovka**	**1.43**	**313**	*e*P		**Pn**	**03 24 14.9**	**-0.5**
MTVR				*e*S		**Sn**	**03 24 32.7**	**-0.3**
ASAK	**Asacha**	**1.50**	**306**	*e*P		**Pn**	**03 24 16.1**	**-0.3**
ASAK				*e*S		**Sn**	**03 24 34.6**	**-0.2**
GRL	**Gorelyy**	**1.52**	**313**	*e*P		**Pn**	**03 24 17.0**	**+0.3**
GRL				*e*S		**Sn**	**03 24 36.3**	**+1.0**
GRL	**Gorelyy**	**1.52**	**313**	PN		**Pn**	**03 24 17.0**	**+0.3**
GRL				S		**Sn**	**03 24 36.3**	**+1.0**
SPN	**Mys Shipunski**	**1.58**	**3**	*e*P		**Pn**	**03 24 17.8**	**+0.4**
SPN	**Mys Shipunski**	**1.58**	**3**	PN		**Pn**	**03 24 17.8**	**+0.4**
NLC	**Nalytchevo**	**1.68**	**349**	*e*P		**Pn**	**03 24 17.8**	**-1.0**
NLC	**Nalytchevo**	**1.68**	**349**	PN		**Pn**	**03 24 17.8**	**-1.0**
PET	**Petropavlovsk**	**1.68**	**334**	*e*P		**Pn**	**03 24 18.8**	**0.0**
PET				*e*S		**Sn**	**03 24 39.3**	**+0.2**
PET	**Petropavlovsk**	**1.68**	**334**	*e*PN		**Pn**	**03 24 18.7**	**0.0**
PET				*e*S		**Sn**	**03 24 41.1**	**+2.0**
PET				pmax	pmax			
	comp=Z,122nm,0.5s							
PET				smax	smax			
	comp=N,1μm,0.6s							
PET	**Petropavlovsk**	**1.68**	**334**	*e*Pn		**Pn**	**03 24 18.1**	**-0.7**
UGLR	**Uglovaya**	**1.81**	**339**	*e*P		**Pn**	**03 24 21.1**	**+0.5**
SDLR	**Sedlovina**	**1.86**	**341**	*e*P		**Pn**	**03 24 21.0**	**-0.4**
SDLR	**Sedlovina**	**1.86**	**341**	PN		**Pn**	**03 24 21.0**	**-0.4**
SMAR	**Somma**	**1.86**	**340**	*e*P		**Pn**	**03 24 22.2**	**+0.7**
SMAR	**Somma**	**1.86**	**340**	PN		**Pn**	**03 24 22.2**	**+0.7**
AVH	**Avacha**	**1.88**	**338**	*e*P		**Pn**	**03 24 21.8**	**+0.2**
AVH	**Avacha**	**1.88**	**338**	PN		**Pn**	**03 24 21.8**	**+0.2**
KRER	**Koryakskii**	**1.91**	**339**	*e*P		**Pn**	**03 24 22.6**	**+0.4**
PAU	**Pauzhetka**	**1.92**	**269**	*e*P		**Pn**	**03 24 21.6**	**-0.5**
PAU	**Pauzhetka**	**1.92**	**269**	PN		**Pn**	**03 24 21.6**	**-0.5**
KOK	**Koryaka**	**1.93**	**337**	*e*P		**Pn**	**03 24 22.6**	**+0.3**
KOK	**Koryaka**	**1.93**	**337**	PN		**Pn**	**03 24 22.6**	**+0.3**
KRX	**Arik**	**1.99**	**338**	*e*P		**Pn**	**03 24 23.1**	**0.0**
PEA0B	**Petropavlovsk-**	**2.08**	**321**	*e*Pn		**Pn**	**03 24 24.0**	**-0.2**
PETK	**Petropavlovsk-**	**2.08**	**321**	Pn		**Pn**	**03 24 22.8**	**-1.5**
	comp=N,38nm,0.3s,baz=135,slow=18,SNR=116							
PETK				Sn		**Sn**	**03 24 50.9**	**+2.0**
	comp=N,23nm,0.3s,baz=168,slow=29,SNR=6.8							
PETK	**Petropavlovsk-**	**2.08**	**321**	PN		**Pn**	**03 24 22.8**	**-1.5**
PETK							03 24 50.9	
PETK				pmax	pmax			
	comp=Z,38nm,0.3s							
PETK				smax	smax			
	comp=N,23nm,0.3s							
MIPR	**Malaya Ipel'ka**	**2.08**	**292**	*e*P		**Pn**	**03 24 24.2**	**-0.1**
APC	**Apacha**	**2.19**	**311**	*e*P		**Pn**	**03 24 26.4**	**+0.7**
APC				*e*S		**Sn**	**03 24 52.5**	**+1.0**
APC	**Apacha**	**2.19**	**311**	PN		**Pn**	**03 24 26.4**	**+0.7**
APC				S		**Sn**	**03 24 52.5**	**+1.0**
GNL	**Ganaly**	**2.48**	**332**	*e*P		**Pn**	**03 24 30.1**	**+0.3**
GNL	**Ganaly**	**2.48**	**332**	PN		**Pn**	**03 24 30.1**	**+0.3**
SKR	**Severo-Kuril's**	**2.52**	**252**	*e*P		**Pn**	**03 24 31.2**	**+0.9**
SKR				*e*S		**Sn**	**03 25 00.8**	**+1.1**
MKZ	**Mys Kozlova**	**3.23**	**19**	*e*P		**Pn**	**03 24 39.4**	**-0.7**
MKZ				*e*S		**Sn**	**03 25 15.1**	**-2.2**
MKZ	**Mys Kozlova**	**3.23**	**19**	PN		**Pn**	**03 24 39.4**	**-0.7**
KZV	**Kizimen**	**3.60**	**4**	*e*P		**Pn**	**03 24 46.1**	**+0.8**
TUMR	**Tumrok**	**3.77**	**2**	*e*P		**Pn**	**03 24 48.2**	**+0.7**
TUMR	**Tumrok**	**3.77**	**2**	PN		**Pn**	**03 24 48.2**	**+0.7**
KBTR	**Krutoberegovo**	**5.00**	**19**	*e*P		**Pn**	**03 25 05.3**	**+1.0**
KBTR	**Krutoberegovo**	**5.00**	**19**	PN		**Pn**	**03 25 05.3**	**+1.0**
MJAR	**Matsushiro Arr**	**21.50**	**234**	P		**P**	**03 28 36.8**	**-0.3**
	comp=N,1.3nm,0.8s,baz=39,slow=8.7,SNR=4.9							
MJAR	**Matsushiro Arr**	**21.50**	**234**	P		**P**	**03 28 36.8**	**-0.3**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MAJO	**Matsushiro**	**21.50**	**234**	*e*P		**P**	**03 28 35.2**	**-1.9**
	comp=Z,8.8nm,1.1s							
KSRS	**Korea Array**	**26.54**	**251**	P		**P**	**03 29 25.5**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=41,slow=13,SNR=2.5							
KSRS	**Korea Array**	**26.54**	**251**	P		**P**	**03 29 25.5**	**-0.1**
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.7s							
KSAR	**Wonju Array Be**	**26.57**	**251**	P		**P**	**03 29 25.5**	**-0.4**
INK	**Inuvik**	**35.20**	**36**	*e*P		**P**	**03 30 41.8**	**+0.2**
	comp=Z,6.8nm,1.1s							
KURK	**Kurchatov**	**48.47**	**303**	P		**P**	**03 32 28.9**	**-1.2**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KURK	**Kurchatov**	**48.47**	**303**	*e*P		**P**	**03 32 28.4**	**-1.7**
	comp=Z,4.3nm,0.9s							
KURBB	**Kurchatov Arra**	**48.57**	**303**	P		**P**	**03 32 28.9**	**-2.0**
	comp=Z,1.7nm,0.7s,baz=60,slow=7.7,SNR=16							
MKAR	**Makanchi Array**	**48.73**	**297**	P		**P**	**03 32 30.4**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=56,slow=5.4,SNR=3.0							
ARCES	**ARCESS Array B**	**54.74**	**342**	P		**P**	**03 33 17.4**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=29,slow=9.5,SNR=3.7							
ARCES	**ARCESS Array B**	**54.74**	**342**	P		**P**	**03 33 17.4**	**+0.7**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
FCC	**Fort Churchill**	**54.79**	**38**	*e*P		**P**	**03 33 17.9**	**+0.8**
	comp=Z,1.4nm,0.8s							
FINES	**FINESS Array B**	**61.51**	**337**	P		**P**	**03 34 04.7**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=60,slow=8.2,SNR=4.9							
FINES	**FINESS Array B**	**61.51**	**337**	P		**P**	**03 34 04.7**	**+0.6**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
MICGM	**Minsk**	**67.02**	**332**	*e*LR		LR	03 33 38.0	
AKASG	**Malin Array Be**	**69.89**	**329**	P		**P**	**03 34 57.7**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=30,slow=6.3,SNR=6.5							
AKASG	**Malin Array Be**	**69.89**	**329**	P		**P**	**03 34 57.7**	**-0.5**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KIEV	**Kiev**	**69.91**	**329**	*e*P		**P**	**03 34 58.1**	**-0.2**
	comp=Z,3.1nm,0.8s							
GERES	**GERESS Array B**	**75.92**	**338**	P		**P**	**03 35 35.3**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=49,slow=6.6,SNR=3.2							
BRTR	**Keskin Array B**	**77.75**	**320**	P		**P**	**03 35 44.6**	**0.0**
	comp=Z,0.7nm,0.7s,baz=52,slow=4.4,SNR=5.4							
BRTR	**Keskin Array B**	**77.75**	**320**	P		**P**	**03 35 44.6**	**0.0**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
KEST	**Kesra**	**89.35**	**336**	*e*P		**P**	**03 36 44.0**	**0.0**

IDC **13** *03:24:13.8±0.7,26.61N×142.68E,h0km,mb3.8/12, mb1 4.0/12,mb1mx3.9/23,mbtmp3.7/12, Error ellipse: s-maj=26.3km s-min=13.3km az=62.0*

ISCJB **13** *03:24:16.2±0.5,26.57N±0.05×142.78E±0.06,h31km, mb3.9/17, Error ellipse: s-maj=8.6km s-min=5.6km az=146.7*

NEIC **13** *03:24:16.6±1.6,26.60N×142.70E,h19km±9km,mb4.4/5, Error ellipse: s-maj=14.3km s-min=7.8km az=87.0*

JMA **13** *03:24:17.3±0.3,26.73N×142.75E,h0km,M3.5*

ISC 13 03:24:18.5±0.7,26.62N±0.06×142.67E±0.09,h31km,n29, σ1§42/32,mb3.9/17,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHHJ	**Haha-jima-NKT**	**0.44**	**272**	P		**Pb**	**03 24 27.9**	**-0.1**
JHHJ				S		**Sn**	**03 24 35.9**	**+0.3**
CBIJ	**Chichi jima**	**0.64**	**318**	P		**Pb**	**03 24 30.0**	**-1.3**
CBIJ				S		**Sb**	**03 24 38.6**	**-1.5**
CBIJ	**Chichi jima**	**0.64**	**318**	*e*Pn		**Pb**	**03 24 30.1**	**-1.3**
CBIJ				*e*Sn		**Sn**	**03 24 41.3**	**+0.6**
JCJ	**Chichijima**	**0.64**	**318**	Pn		**Pb**	**03 24 30.6**	**-0.8**
	110nm,0.3s,baz=199,slow=8.8,SNR=94							
JCJ				Sn		**Sn**	**03 24 41.6**	**+1.0**
	347nm,0.3s,baz=287,slow=19,SNR=45							
BSO1	**Boso 1**	**8.14**	**350**	P		Pn	03 26 18.5	+4.4
BSO3	**Boso 3**	**8.37**	**348**	P		**Pn**	**03 26 20.4**	**+3.0**
BSO4	**Boso 4**	**8.59**	**347**	P		**Pn**	**03 26 21.0**	**+0.5**
JOD2	**Odawara 2**	**9.15**	**341**	P		Pn	03 26 33.4	+5.0
JRY	**Ryogami san**	**9.91**	**342**	P		**Pn**	**03 26 41.9**	**+3.1**
JRY				S		**Sn**	**03 28 31.7**	**+2.7**
JAG	**Ashikaga**	**10.16**	**345**	P		Pn	03 26 45.4	+3.2
JAG				S		**Sn**	**03 28 30.7**	**-4.3**
SONM	**Songino Array**	**35.36**	**316**	P		**P**	**03 31 11.5**	**+0.2**
	0.3nm,0.8s,baz=106,slow=5.1,SNR=2.8							
KAPI	**Kappang**	**38.48**	**219**	*e*P		**P**	**03 31 37.6**	**-0.3**
WRAB	**Tennant Creek**	**46.97**	**191**	*e*P		**P**	**03 32 46.3**	**-0.4**
	3.9nm,0.7s							
WRA	**Warramunga Arr**	**46.98**	**191**	P		**P**	**03 32 46.4**	**-0.4**
	3.1nm,0.8s,baz=12,slow=8.4,SNR=11							
ASAR	**Alice Springs**	**50.70**	**190**	P		**P**	**03 33 15.1**	**-0.2**
	0.5nm,0.8s,baz=18,slow=7.8,SNR=6.6							
MKAR	**Makanchi Array**	**51.11**	**310**	P		**P**	**03 33 18.9**	**+0.6**
	0.2nm,0.6s,baz=104,slow=12,SNR=2.4							
KURK	**Kurchatov**	**53.63**	**315**	*e*P		**P**	**03 33 36.4**	**-0.4**
	0.8nm,0.6s							
KURBB	**Kurchatov Arra**	**53.68**	**315**	P		**P**	**03 33 36.2**	**-1.0**
	0.4nm,0.6s,baz=90,slow=7.8,SNR=5.1							
AAK	**Ala-Archa**	**56.88**	**305**	*e*P		**P**	**03 33 59.8**	**-0.9**
	2.0nm,0.5s							
ILAR	**Eielson Array**	**57.93**	**28**	P		**P**	**03 34 06.8**	**-0.7**
	0.5nm,0.8s,baz=270,slow=5.9,SNR=8.5							
STKA	**Stephens Creek**	**58.17**	**181**	P		**P**	**03 34 08.7**	**-0.7**
	1.4nm,0.7s,baz=345,slow=12,SNR=4.8							
BRVK	**Borovoye**	**58.75**	**318**	*e*P		**P**	**03 34 13.2**	**-0.2**
	4.2nm,0.9s							
INK	**Inuvik**	**63.29**	**24**	*e*P		**P**	**03 34 43.1**	**-0.7**
	0.9nm,0.5s							
YKA	**Yellowknife Ar**	**72.36**	**28**	P		**P**	**03 35 41.0**	**-0.1**
	1.0nm,0.7s,baz=294,slow=6.0,SNR=3.9							
FINES	**FINESS Array B**	**78.57**	**334**	P		**P**	**03 36 17.1**	**+0.5**
	2.6nm,0.8s,baz=81,slow=4.4,SNR=6.2							
KBZ	**Khabaz**	**78.65**	**313**	P		**P**	**03 36 18.2**	**+0.7**
	1.1nm,0.5s,baz=102,slow=2.0,SNR=4.0							
BRTR	**Keskin Array B**	**86.64**	**313**	P		**P**	**03 36 59.7**	**+0.3**
	0.2nm,0.6s,baz=111,slow=6.2,SNR=2.3							
GERES	**GERESS Array B**	**92.14**	**329**	P		**P**	**03 37 25.2**	**+0.1**
	0.1nm,0.3s,baz=35,slow=3.6,SNR=2.6							
LPAZ	**La Paz**	**149.62**	**76**	PKPbc		**PKPbc**	**03 44 07.6**	**+1.2**
	1.5nm,0.8s,baz=301,slow=2.1,SNR=8.1							

BJI **13** *03:32:52.7,37.33N×141.77E,h17km,mb5.7/78,mB5.9/57, Ms5.9/93,Ms7 5.8/83*

MOS **13** *03:32:57.4±0.9,37.41N×141.70E,h40km,mb6.1/74, MS6.0/51, Error ellipse: s-maj=7.9km s-min=4.5km az=116.5*

NEIC **13** *03:32:57.2±0.1,37.37N×141.63E,h27km,mb6.3/285, ME5.7,MS5.6/155,MW5.8,MW5.8,MW5.9(NIED),Error ellipse: s-maj=2.7km s-min=1.9km az=142.0,Moment Tensor Solution. s73 Moment tensor: Scale 10^17Nm; Mrr5.44; Mθθ-2.95; Mφφ-2.49; Mrθ-0.57; Mθφ-2.54; Mφr-1.82; Best double couple: M0 5.70000×10^17 NP1: φs218.00000°,δ54.00000°,λ79.00000°. NP2:φs56.00000°, δ37.00000°,λ104.00000°. Principal axes: T 5.8400, Plg77.0000°, Azm90.0000°; N -0.3200, Plg8.0000°,

MAT S **Sb** **03 34 24.9 +1.2**
MAT Matsushiro 2.92 254 P **Pn** **03 33 44.3 +2.6**
JYN Shimob 3.17 234 ⇓P **Pn** **03 33 46.7 +1.5**
JGN Niukaw 3.71 253 ⇓P Pn 03 33 55.8 +3.2
JGF Kuroka 3.93 244 ⇓P **Pn** **03 33 58.6 +3.0**
JHJ2 Mitsune 4.54 200 *e*Pn **Pn** **03 34 04.2 +0.2**
JHJ2 *e*Sn **Sn** **03 34 55.7 -0.3**
ERM Erimo 4.75 13 *c i*P **Pn** **03 34 05.8 -0.9**
ERM pmax pmax
comp=Z,3μm,1.2s
ERM Erimo 4.75 13 *e*Pn **Pn** **03 34 05.9 -0.9**
ERM *e*Sn **Sn** **03 35 01.6 +0.8**
JWT Wachi 5.50 249 ⇓P Pn 03 34 20.5 +3.3
JKSM Kasumi 5.95 254 P Pn 03 34 27.1 +3.8
ASAJ Asahikawa 6.75 6 Pn **Pn** **03 34 33.8 -0.5**
baz=212,slow=10
ASAJ Sn **Sn** **03 35 52.2 +2.1**
baz=81,slow=19
ASAJ Asahikawa 6.75 6 *e*Pn **Pn** **03 34 33.5 -0.8**
ASAJ *e*Sn **Sn** **03 35 50.2 +0.1**
YUK Yuzh-Kuril'sk 7.34 24 *d i*P **Pn** **03 34 39.5 -2.9**
YUK *i* S **Sn** **03 35 59.4 -5.4**
YUK pmax pmax
comp=E,483nm,0.3s
YUK pmax pmax
comp=Z,1μm,0.3s
YUK pmax pmax
comp=N,513nm,0.3s
YUK pmax pmax
comp=Z,3μm,1.6s
YUK smax smax
comp=N,1μm,0.4s
YUK smax smax
comp=E,2μm,0.4s
YUK smax smax
comp=E,24μm,2.5s
YUK smax smax
comp=N,16μm,2.4s
YUK MLR MLR
comp=N,21μm,17.0s
YUK MLR MLR
comp=E,16μm,17.0s
YUK MLR MLR
comp=Z,18μm,17.0s
JJG Jouge 7.45 251 P Pn 03 34 47.8 +3.9
JHM Kurahashi 8.13 249 P Pn 03 34 57.0 +3.8
KSULL Ulleungdo 8.59 274 P Pn 03 35 04.5 +5.0
SNR=29
KSULL Ulleungdo 8.59 274 P Pn 03 35 05.1 +5.6
SNR=6.8
KUR Kuril'sk 9.10 29 ⇓ *i*P Pn 03 35 03.0 -3.5
KUR pmax pmax
comp=Z,228nm,0.6s
KUR pmax pmax
comp=E,30nm,0.3s
KUR pmax pmax
comp=N,189nm,0.6s
VLA Vladivostok 9.43 310 *b i*P Pn 03 35 15.4 +4.4
VLA *i* S Sn 03 37 05.6 +10
YSS Yuzh-Sakhalins 9.58 4 *k i*P **Pn** **03 35 12.0 -1.1**
YSS *i* S **Sn** **03 36 59.0 -0.8**
YSS pmax pmax
comp=N,2μm,1.0s
YSS pmax pmax
comp=Z,2μm,1.0s
YSS pmax pmax
comp=E,440μm,1.0s
YSS smax smax
comp=N,6μm,4.0s
YSS smax smax
comp=E,6μm,5.0s
YSS MLR MLR
comp=N,21μm,14.0s
YSS MLR MLR
comp=Z,28μm,14.0s
YSS MLR MLR
comp=E,47μm,17.0s
YSS Yuzh-Sakhalins 9.58 4 *e*Pn **Pn** **03 35 12.2 -0.9**
JNU Nakatsue 9.82 247 Pn **Pn** **03 35 19.1 +2.7**
comp=E,7.2nm,0.3s,baz=47,slow=8.4,SNR=65
JNU LR LR 03 39 28.6
comp=E,38μm,20.6s,baz=65,slow=40
JNU Nakatsue 9.82 247 *e*Pn Pn 03 35 20.4 +3.9
KSULJ Ulijn 9.85 270 P Pn 03 35 22.4 +5.6
SNR=60
KSULJ Ulijn 9.85 270 P Pn 03 35 22.4 +5.6
SNR=60
KSPHA Pohang 9.96 267 P Pn 03 35 24.0 +5.7
SNR=33
KSPHA Pohang 9.96 267 P Pn 03 35 24.0 +5.7
SNR=33
USRK Ussuriysk Ar. 10.01 316 Pn **Pn** **03 35 20.2 +1.2**
comp=E,11nm,0.3s,baz=125,slow=15,SNR=122
USRK LR LR 03 39 04.6
comp=E,67μm,18.9s,baz=123,slow=36
KSTBA Taebaek 10.16 272 P Pn 03 35 27.1 +5.9
SNR=110
KSTBA Taebaek 10.16 272 P Pn 03 35 27.1 +5.9
SNR=110
KSJMJ Jumunjin 10.28 277 P Pn 03 35 27.2 +4.6
SNR=47
KSJMJ Jumunjin 10.28 277 P Pn 03 35 28.4 +5.8
SNR=44
CBIJ Chichi jima 10.28 178 *e*Pn **Pn** **03 35 20.2 -2.6**
CBIJ *e*Sn Sn 03 37 05.5 -12
JCJ Chichijima 10.28 178 Pn Pn 03 35 19.3 -3.5
comp=E,280nm,0.3s,baz=282,slow=22,SNR=55
JCJ Sn Sn 03 37 06.3 -11
comp=E,153nm,0.3s,baz=108,slow=20,SNR=4.5
KSDGY Daegwallycong 10.35 276 P Pn 03 35 29.3 +5.6
SNR=79
KSDGY Daegwallycong 10.35 276 P Pn 03 35 29.3 +5.6
SNR=79
KSJES JEONGSEON 10.37 274 P Pn 03 35 30.4 +6.5
SNR=39
KSJES JEONGSEON 10.37 274 P Pn 03 35 29.9 +6.0
SNR=88
KSBUS Busan 10.38 262 P Pn 03 35 29.7 +5.7
SNR=28
KSBUS Busan 10.38 262 P Pn 03 35 29.7 +5.7
SNR=28
KSDAG Daegu 10.42 265 P Pn 03 35 30.4 +5.7
SNR=21
KSDAG Daegu 10.42 265 P Pn 03 35 30.4 +5.7
SNR=21
KSSKC Sokcho 10.46 279 P Pn 03 35 30.1 +5.0
SNR=42
KSSKC Sokcho 10.46 279 P Pn 03 35 30.4 +5.3
SNR=26
KSEUS ULSEONG 10.47 268 P Pn 03 35 31.2 +5.9
SNR=27
KSEUS ULSEONG 10.47 268 P Pn 03 35 31.2 +5.9
SNR=27
KSYOW Yeongwol 10.55 273 P Pn 03 35 32.6 +6.1
SNR=73
SEHB SEOHWA 10.67 279 P Pn 03 35 33.2 +5.1
SNR=34
SEHB SEOHWA 10.67 279 P Pn 03 35 33.6 +5.5
SNR=122
KSIJA INJE 10.78 277 P Pn 03 35 34.9 +5.3
SNR=113
KSIJA INJE 10.78 277 P Pn 03 35 34.9 +5.3
SNR=113
KSWJU Wonju 10.86 274 P Pn 03 35 37.0 +6.3
SNR=32
KSSAJ Sangju 10.89 269 P Pn 03 35 36.5 +5.5
SNR=10
KSRS Korea Array 10.96 274 Pn **Pn** **03 35 34.6 +2.7**
comp=E,5.4nm,0.3s,baz=90,slow=13,SNR=160
KSRS LR LR 03 39 45.8
comp=E,36μm,18.8s,baz=78,slow=37
KSRS PcP **PcP** **03 41 30.6 +0.8**
comp=E,0.4nm,0.3s,baz=72,slow=0.7,SNR=7.3
KSCHJ Chungju 10.97 271 P Pn 03 35 38.0 +5.8
SNR=66
KSAR Wonju Array Be 10.99 274 Pn **Pn** **03 35 34.6 +2.3**
KSAR PcP **PcP** **03 41 30.6 +0.8**
KSCHC Chuncheon 11.02 276 P Pn 03 35 38.7 +5.8
SNR=52
KSCPR CHUPUNGNYEONG 11.07 268 P Pn 03 35 39.1 +5.5
SNR=50
KSBON Boeun 11.16 270 P Pn 03 35 40.6 +5.9
SNR=37
KSCWO Cheorwon 11.25 278 P Pn 03 35 41.7 +5.7
SNR=57
KSJIN Jinju 11.26 263 P Pn 03 35 41.7 +5.6
SNR=8.9

KSICN Icheon 11.37 274 P Pn 03 35 43.6 +6.0
SNR=90
KSCEJ CHEONGJU 11.43 270 P Pn 03 35 45.4 +7.0
SNR=15
KSNAH Namhae 11.43 261 P Pn 03 35 45.4 +6.9
SNR=16
KSTEJ Daejeon 11.52 269 P Pn 03 35 46.1 +6.4
SNR=21
TJN Taejon 11.53 269 *e*P **Pn** **03 35 42.7 +2.9**
KSCEA Cheonan 11.54 272 P Pn 03 35 46.1 +6.0
SNR=63
MDJ Mudanjiang 11.64 312 P **Pn** **03 35 43.0 +1.7**
MDJ S **Sn** **03 37 54.6 +4.4**
MDJ PMZ
comp=E,370nm,2.2s
MDJ PMZ
comp=E,4μm,4.5s
MDJ LN
comp=E,24μm,21.3s
MDJ LE
comp=E,33μm,19.0s
MDJ LZ
comp=E,49μm,18.4s
MDJ Mudanjiang 11.64 312 *e*Pn Pn 03 35 44.4 +3.2
comp=E,1μm,1.4s
KSJEO Jeonju 11.66 267 P Pn 03 35 47.3 +5.6
SNR=9.5
UGL Uglegorsk 11.68 1 *e*P Pn 03 35 38.2 -3.6
UGL *e*S **Sn** **03 37 48.9 -2.2**
KSKOJ Gongju 11.68 270 P Pn 03 35 47.6 +5.7
SNR=11
YNCB YEONCHEON 11.72 278 P Pn 03 35 47.7 +5.4
SNR=69
KSSWO Suwon 11.73 274 P Pn 03 35 48.3 +5.8
SNR=30
KSSEO Seoul 11.75 275 P Pn 03 35 48.3 +5.5
SNR=12
KSMUS Musan 11.85 277 P Pn 03 35 49.7 +5.4
SNR=35
INCN Inchon 11.98 275 P Pn 03 35 51.7 +5.7
SNR=34
INCN Inchon 11.98 275 *e*Pn Pn 03 35 50.8 +4.8
KSKOH Goheung 12.01 261 P Pn 03 35 53.3 +6.9
SNR=12
KSJEU Jeongeup 12.04 265 P Pn 03 35 52.3 +5.4
SNR=65
KSGUS GUNSAN 12.05 268 P P 03 35 54.0 -5.5
SNR=10
KSKWJ Gwangju 12.08 264 P P 03 35 53.7 -6.2
SNR=10
HABR Khabarovsk 12.09 338 *ce*P **Pn** **03 35 44.4 -3.0**
HABR *e*S **Sn** **03 37 59.6 -1.5**
HABR MLR MLR
comp=E,23μm,14.0s
HABR MLR MLR
comp=Z,54μm,15.0s
HABR MLR MLR
comp=N,35μm,16.0s
KSGAH Ganghwa 12.11 276 P Pn 03 35 53.6 +5.8
SNR=23
KSGWJ Gwangju-acc 12.15 264 P P 03 35 55.1 -5.6
SNR=6.6
KSSES Seosan 12.19 272 P Pn 03 35 53.9 +5.1
SNR=36
KSWAN Wando 12.52 261 P Pn 03 35 59.1 +5.7
SNR=8.2
KSJDO Jindo 12.80 261 P P 03 36 03.5 -4.4
SNR=9.6
KSHUK Heuksando 13.42 263 P P 03 36 10.5 -4.3
SNR=16
KSBAR Backryungdo 13.47 278 P **P** **03 36 12.2 -3.0**
SNR=24
TYV Tymovskoe 13.48 3 *e*P **Pn** **03 36 05.0 -1.4**
TYV pmax pmax
comp=N,5μm,6.0s
TYV pmax pmax
comp=E,3μm,10.0s
TYV MLR MLR
comp=N,39μm,19.0s
TYV MLR MLR
comp=E,35μm,19.0s
KLR Kul'dur 13.85 332 *e*P Pn 03 36 07.7 -3.8
CN2 Changchun 13.89 302 *e*P **Pn** **03 36 14.3 +2.2**
CN2 *e*S **Sn** **03 38 49.0 +3.6**
CN2 PMZ
comp=E,30nm,0.9s
CN2 PMZ
comp=E,200nm,4.0s
CN2 LN
comp=E,30μm,15.0s
CN2 LE
comp=E,23μm,15.0s
CN2 LZ
comp=E,24μm,17.0s
SNY Shenyang 14.65 293 ⇓P **Pn** **03 36 24.0 +1.7**
SNY S Sn 03 39 11.9 +8.2
SNY PMZ
comp=E,170nm,1.7s
SNY PMZ
comp=E,1μm,3.5s
SNY LN
comp=E,27μm,13.7s
SNY LE
comp=E,36μm,19.0s
SNY LZ
comp=E,44μm,16.5s
JOW Kunigami 15.48 231 Pn **Pn** **03 36 33.2 -0.3**
baz=45,slow=11
JOW LR LR 03 42 23.4
comp=E,1μm,20.3s,slow=36
JOW Kunigami 15.48 231 *e*Pn **Pn** **03 36 32.0 -1.6**
comp=E,96nm,0.8s
DL2 Dalian 15.86 282 P **P** **03 36 41.3 -0.6**
DL2 S **S** **03 39 41.3 -5.7**
DL2 PMZ
comp=E,500nm,1.4s
DL2 PMZ
comp=E,2μm,5.1s
DL2 LN
comp=E,8μm,14.3s
DL2 LE
comp=E,8μm,19.4s
DL2 LZ
comp=E,12μm,18.6s
OKH Okha 16.18 3 *i*P **Pn** **03 36 40.0 -2.3**
OKH *i* S **S** **03 39 51.2 -2.1**
OKH pmax pmax
comp=Z,4μm,9.0s
OKH smax smax
comp=E,6μm,10.0s
OKH smax smax
comp=N,10μm,7.0s
OKH smax smax
comp=Z,33μm,15.0s
SSE Sheshan 18.07 256 P **Pn** **03 37 05.5 -0.6**
SSE pP **P** **03 37 08.9 +2.6**
SSE sP sP 03 37 10.3 -6.9
SSE S **Sn** **03 40 26.8 -0.1**
SSE sS **S** **03 40 37.4 +5.3**
SSE PMZ
comp=Z,260nm,1.2s
SSE PMZ
comp=Z,2μm,9.6s
SSE LN
comp=Z,14μm,20.7s
SSE LE
comp=Z,11μm,20.7s
SSE LZ
comp=Z,20μm,17.5s
PEA0B Petropavlovsk- 19.26 30 *e*P **P** **03 37 18.8 -0.5**
PEA0B *e*PcP **PcP** **03 41 40.9 -0.4**
PETK Petropavlovsk- 19.26 30 P **P** **03 37 18.9 -0.4**
comp=Z,3.2nm,0.3s,baz=204,slow=11,SNR=59
PETK S **Sn** **03 40 54.8 -0.6**
comp=Z,0.3nm,0.3s,baz=234,slow=12,SNR=2.5
PETK PcP **PcP** **03 41 42.2 +0.9**
comp=Z,0.3nm,0.3s,baz=163,slow=5.4,SNR=4.2
PETK LR LR 03 45 22.0
comp=Z,5μm,18.4s,baz=213,slow=39
NJ2 Nanjing 19.50 261 *e*P **Pn** **03 37 22.8 -0.6**
NJ2 pP **pP** **03 37 28.6 -0.8**
NJ2 sP **sP** **03 37 31.3 -1.6**
NJ2 S **S** **03 41 00.5 -0.3**
NJ2 PcP **PcP** **03 41 43.9 +1.8**
NJ2 PMZ
comp=Z,250nm,1.0s
NJ2 PMZ
comp=Z,1μm,10.2s
NJ2 LN
comp=Z,16μm,15.2s
NJ2 LE
comp=Z,25μm,15.5s
NJ2 LZ
comp=Z,46μm,15.4s
PET Petropavlovsk 19.59 32 *α i*P **Pn** **03 37 23.5 -0.8**
PET *e*S **S** **03 41 00.3 -2.0**
PET pmax pmax
comp=Z,206nm,1.3s
PET pmax pmax
comp=Z,5μm,5.2s
PET pmax pmax
comp=Z,5μm,11.4s
PET MLR MLR
comp=Z,21μm,20.0s
PET MLR MLR
comp=Z,15μm,16.0s
PET Petropavlovsk 19.59 32 *e*P **P** **03 37 22.6 -0.2**
comp=Z,2μm,1.6s
TIA Tai'an 19.70 274 ⇑P **P** **03 37 23.8 -0.5**
TIA pP **pP** **03 37 35.9 +4.3**
TIA S **S** **03 41 00.8 -4.1**
TIA PcP PcP 03 41 37.1 -5.3
TIA PMZ
comp=Z,430nm,1.0s
TIA LN
comp=Z,14μm,13.1s
TIA LE
comp=Z,21μm,15.5s
TIA LZ
comp=Z,24μm,14.5s
HIA Hailar 19.81 314 *ce*P **P** **03 37 25.6 +0.2**
HIA pmax pmax
comp=Z,107nm,1.7s
HIA MLR MLR
comp=Z,42μm,19.0s
HIA Hailar 19.81 314 *e*P **P** **03 37 24.6 -0.8**
comp=Z,94nm,0.8s
BJT Baijiatuao 20.07 285 *e*P **P** **03 37 27.9 -0.4**
comp=Z,441nm,0.8s
BJT LR LR
comp=Z,10μm,21.0s
YOJ Yonaguni jima 20.52 236 *e*P **P** **03 37 31.0 -2.3**
comp=Z,126nm,0.9s
YOJ *e*S **S** **03 41 16.9 -4.6**
TATO Taipei 21.21 240 P **P** **03 37 41.4 +0.7**
SNR=23
TATO Taipei 21.21 240 *e*P **P** **03 37 40.9 +0.2**
comp=Z,284nm,0.9s
TATO LR LR
comp=Z,9μm,21.0s
YHNB Yeheng 21.49 240 *e*P **P** **03 37 43.0 -0.7**
comp=Z,176nm,0.6s
YHNB *e*S **S** **03 41 37.0 -3.7**
YHNB LR LR
comp=Z,9μm,20.0s
NACB Ninganchiao 21.67 238 *e*P **P** **03 37 43.1 -2.4**
comp=Z,234nm,0.8s
NACB *e*S **S** **03 41 37.8 -6.3**
SSLB Suanglung 22.36 239 *e*P **P** **03 37 51.5 -1.6**
comp=Z,117nm,0.6s
SSLB *e*S S 03 41 47.7 -10
YULB Yu-li 22.39 237 *e*P **P** **03 37 50.3 -3.1**
comp=Z,134nm,0.8s
CLNS Chul'man 22.44 335 *e*P **P** **03 37 52.4 -1.3**
CLNS *e**PP pP 03 38 07.6 +6.5
CLNS *e* 03 41 43.4
CLNS *e*S **S** **03 41 53.1 -5.3**
CLNS *e*SS **SnSn** **03 42 30.6 +3.0**
CLNS pmax pmax
comp=N,123nm,1.1s
CLNS pmax pmax
comp=Z,224nm,1.2s
CLNS pmax pmax
comp=E,136nm,1.0s
CLNS smax smax
comp=N,7μm,11.2s
CLNS smax smax
comp=E,2μm,9.3s
CLNS MLR MLR
comp=N,18μm,15.0s
CLNS MLR MLR
comp=Z,31μm,18.0s
CLNS MLR MLR
comp=E,9μm,12.0s
TPUB Ta-pu 22.91 238 *e*P **P** **03 37 56.3 -2.5**
comp=E,278nm,0.7s
TPUB *e*S **S** **03 42 00.1 -6.9**
TWG Pinlang 22.94 236 *e*P **P** **03 37 58.0 -1.1**
comp=E,1μm,0.8s
TWG *e*S **S** **03 42 06.8 -0.7**
TIY Taiyuan 23.16 280 *e*P **P** **03 37 59.0 -2.4**
TIY S **S** **03 42 07.3 -4.0**
TIY LN
comp=E,10μm,13.3s
TIY LE
comp=E,12μm,14.9s
TIY LZ
comp=E,22μm,14.6s
QZH Quanzhou 23.27 244 ⇑ *i*P **P** **03 38 00.4 -2.1**
QZH S **S** **03 42 06.5 -6.6**
QZH PMZ
comp=E,370nm,0.9s
QZH LN
comp=E,19μm,19.2s
QZH LE
comp=E,21μm,16.0s
QZH LZ
comp=E,32μm,20.1s
HHC Hu-ho-hao-te 23.57 288 *e*P **P** **03 38 04.8 -0.7**
HHC PP **PnPn** **03 38 34.0 +1.3**
HHC PcP **PcP** **03 41 51.0 +0.9**
HHC S **S** **03 42 21.1 +3.1**
HHC SS **SnSn** **03 42 58.6 +3.1**
HHC PMZ
comp=E,54nm,0.6s
HHC PMZ
comp=E,1μm,5.1s
HHC LN
comp=E,5μm,10.6s
HHC LE
comp=E,11μm,10.7s
HHC LZ
comp=E,13μm,10.9s
WHN Wuhan 23.64 261 ⇑P **P** **03 38 04.8 -1.2**
WHN S S 03 42 08.1 -11
WHN LN
comp=E,15μm,12.0s
WHN LE
comp=E,28μm,13.2s
WHN LZ
comp=E,31μm,14.4s
GUMO Guam 23.88 172 P **P** **03 38 07.9 -0.5**
comp=E,100nm,0.7s,baz=350,slow=11,SNR=6.8
GUMO Guam 23.88 172 P **P** **03 38 07.9 -0.5**
GUMO pmax pmax
comp=Z,100nm,0.7s
GUMO Guam 23.88 172 *e*P **P** **03 38 08.2 -0.1**
comp=Z,385nm,1.4s
GUMO LR LR
comp=Z,2μm,20.0s
CIT Chita 24.57 316 *e*P **P** **03 38 15.9 +1.3**
CIT *e* 03 38 23.4
CIT *e* 03 38 33.5
CIT *e* 03 38 48.4
CIT *e* 03 39 00.1
CIT *e*S **S** **03 42 32.8 -1.0**
CIT pmax pmax
comp=Z,1μm,2.1s
BTO Baotou 24.75 287 *e*P **P** **03 38 17.3 +0.9**
YAK Yakutsk 25.77 347 P **P** **03 38 24.9 -0.2**
comp=Z,22nm,0.4s,baz=336,slow=23,SNR=65
YAK S **S** **03 42 52.0 -0.4**
comp=Z,4.5nm,0.7s,baz=164,slow=23,SNR=9.9
YAK Yakutsk 25.77 347 P **P** **03 38 24.9 -0.2**
YAK S **S** **03 42 52.0 -0.4**
YAK pmax pmax
comp=Z,23nm,0.4s
YAK smax smax
comp=N,5.0nm,0.7s
YAK Yakutsk 25.77 347 *e*P **P** **03 38 25.0 -0.2**
comp=N,565nm,0.7s
YAK *e*S **S** **03 42 50.3 -2.1**
YAK S S 03 42 52.0 -0.4

YAK LR LR
comp=Z,26µm,21.0s
SEY Seymchan 26.39 11 P **P** **03 38 32.0 +1.2**
comp=Z,72nm,0.6s,baz=197,slow=8.4,SNR=251
SEY S **S** **03 43 04.5 +2.2**
comp=Z,4.6nm,0.7s,baz=180,slow=20,SNR=1.9
SEY LR LR 03 49 09.8
comp=Z,10µm,20.8s,baz=196,slow=37
SEY Seymchan 26.39 11 P **P** **03 38 32.0 +1.2**
SEY S **S** **03 43 04.5 +2.2**
SEY pmax pmax
comp=Z,72nm,0.6s
SEY smax smax
comp=N,5.0nm,0.7s
SEY MLR MLR
comp=Z,10µm,20.8s
XAN Xi'an 26.75 273 P **P** **03 38 34.5 +0.1**
XAN pP **pP** **03 38 38.5 -3.9**
XAN PP **PnPn** **03 39 14.5 -1.6**
XAN S **S** **03 43 04.9 -3.7**
XAN PMZ
comp=Z,36nm,0.8s
XAN PMZ
comp=Z,250nm,5.0s
XAN LN
comp=Z,6µm,17.6s
XAN LE
comp=Z,3µm,16.2s
XAN LZ
comp=Z,3µm,14.9s
SZP Santa 27.20 229 *e*P **P** **03 38 38.8 +0.2**
comp=Z,404nm,1.1s
SZP *e*PcP **PcP** **03 41 58.9 +0.6**
SZP *e*S **S** **03 43 13.9 -1.8**
BOD Bodaibo 27.34 327 *e*P **P** **03 38 39.6 +0.1**
BOD pmax pmax
comp=Z,277nm,0.9s
ENH Enshi 27.59 265 *e*P **P** **03 38 41.8 -0.2**
comp=Z,293nm,1.0s
ENH LR LR
comp=Z,3µm,21.0s
SONM Songino Array 27.77 303 P **P** **03 38 44.4 +0.8**
comp=Z,146nm,1.0s,baz=103,slow=8.0,SNR=218
SONM PcP **PcP** **03 41 60.0 +0.5**
comp=Z,12nm,0.8s,baz=127,slow=3.8,SNR=3.2
SONM S **S** **03 43 20.0 -4.7**
comp=Z,1.2nm,0.7s,baz=102,slow=21,SNR=2.2
SONM LR LR 03 50 07.1
comp=Z,13µm,18.8s,baz=88,slow=37
SONM Songino Array 27.77 303 P **P** **03 38 44.4 +0.8**
SONM 03 42 00.0
SONM S **S** **03 43 20.0 -4.7**
SONM pmax pmax
comp=Z,149nm,1.0s
SONM pmax pmax
comp=Z,13nm,0.8s
SONM smax smax
comp=N,1.0nm,0.7s
SONM MLR MLR
comp=Z,13µm,18.8s
H11N2 WAKE ISLAND Hy 28.14 122 P **P** **03 38 48.7 +2.0**
H11N2 T T 04 08 14.4
baz=315,slow=75,SNR=191
H11N1 WAKE ISLAND Hy 28.15 122 P **P** **03 38 46.4 -0.4**
H11N1 T T 04 08 18.1
baz=315,slow=75,SNR=4588
H11N3 WAKE ISLAND Hy 28.16 122 P **P** **03 38 43.8 -3.1**
H11N3 T T 04 08 17.7
baz=315,slow=75,SNR=1496
GZH Guangzhou 28.21 248 P P 03 38 43.8 -3.8
GZH pP pP 03 38 53.3 -2.3
GZH PMZ
comp=Z,3µm,6.5s
GZH LN
comp=Z,22µm,15.8s
GZH LE
comp=Z,18µm,17.4s
WAKE Wake Island 28.29 123 PFAKE 03 39 00.0 +12
WAKE LR LR
comp=Z,15µm,22.0s
H11S1 WAKE ISLAND Hy 28.87 124 T T 04 09 12.3
baz=322
H11S3 WAKE ISLAND Hy 28.87 124 T T 04 09 11.3
baz=322,slow=74
H11S2 WAKE ISLAND Hy 28.89 124 T T 04 09 12.1
baz=322,slow=74
TGY Tagaytay City 29.66 224 P **P** **03 39 01.8 +1.3**
comp=Z,217nm,0.3s,baz=56,slow=1.3,SNR=16
TGY Tagaytay City 29.66 224 P **P** **03 39 01.8 +1.3**
TGY pmax pmax
comp=Z,217nm,0.3s
IRK Irkutsk 30.02 312 *e*P **P** **03 39 02.6 -0.8**
IRK *e* 03 44 03.6
IRK pmax pmax
comp=Z,197nm,3.2s
ZAK Zakamensk 30.22 308 ⇓*i*P **P** **03 39 05.4 +0.1**
ZAK *e* 03 45 58.2
ZAK pmax pmax
comp=Z,101nm,1.2s
LZH Lanzhou 30.23 279 *e*P **P** **03 39 05.9 +0.3**
LZH pP pP 03 39 08.3 -5.3
LZH S **S** **03 44 02.0 -1.6**
LZH SS **SnSn** **03 45 39.1 +0.9**
LZH PMZ
comp=Z,75nm,1.0s
LZH PMZ
comp=Z,550nm,4.0s
LZH LN
comp=Z,12µm,13.7s
LZH LE
comp=Z,15µm,15.2s
LZH LZ
comp=Z,22µm,17.6s
TLY Talaya 30.27 310 P **P** **03 39 06.5 +0.9**
comp=Z,480nm,1.0s,SNR=23
TLY Talaya 30.27 310 S **S** **03 44 04.7 +1.2**
comp=Z,3.4nm,0.7s,baz=49,slow=20,SNR=1.9
TLY LR LR 03 51 58.1
comp=Z,23µm,18.8s,baz=104,slow=38
TLY Talaya 30.27 310*c i*P **P** **03 39 06.8 +1.2**
TLY *e* 03 40 19.1
TLY *e*S **S** **03 44 01.2 -2.4**
TLY pmax pmax
comp=Z,97nm,0.8s
TLY MLR MLR
comp=Z,16µm,15.0s
TLY Talaya 30.27 310 P **P** **03 39 07.2 +1.6**
SNR=61
TLY Talaya 30.27 310 *e*P **P** **03 39 06.2 +0.6**
comp=Z,90nm,0.8s
TLY *e*PcP **PcP** **03 42 05.9 +0.3**
TLY S **S** **03 44 04.7 +1.2**
GYA Guiyang 31.50 260 ⇑*i*P **P** **03 39 16.9 0.0**
GYA PP **PnPn** **03 40 21.3 +1.0**
GYA PcP **PcP** **03 42 12.0 +2.6**
GYA S **S** **03 44 20.8 -2.8**
GYA ScP **ScP** **03 45 55.0 +4.3**
GYA SS **SnSn** **03 46 11.8 +2.4**
GYA PMZ
comp=Z,660nm,1.0s
GYA PMZ
comp=Z,880nm,11.1s
GYA LN
comp=Z,7µm,16.4s
GYA LE
comp=Z,10µm,17.7s
GYA LZ
comp=Z,10µm,16.4s
MOY Mondy 31.88 310 *e*P **P** **03 39 20.8 +0.9**
MOY pmax pmax
comp=Z,216nm,3.1s
CD2 Chengdu 31.90 270 ⇑P **P** **03 39 19.8 -0.4**
CD2 pP pP 03 39 22.5 -5.8
CD2 PP **PP** **03 40 31.5 -0.9**
CD2 PcP **PcP** **03 42 10.8 +0.5**
CD2 S **S** **03 44 30.9 +1.3**
CD2 PMZ
comp=Z,180nm,0.7s
CD2 PMZ
comp=Z,970nm,5.1s
CD2 LN
comp=Z,15µm,16.6s
CD2 LE
comp=Z,17µm,15.6s
CD2 LZ
comp=Z,21µm,15.1s

ADK Adak 32.48 50 *e*P **P** **03 39 23.4 -1.5**
comp=Z,442nm,1.4s
ADK LR LR
comp=Z,10µm,22.0s
GTA Gaotai 32.67 287 ⇑P **P** **03 39 27.4 +0.4**
GTA pP **pP** **03 39 31.8 -3.3**
GTA sP **sP** **03 39 34.4 -4.0**
GTA PP **PnPn** **03 40 37.8 +2.6**
GTA PcP **PcP** **03 42 13.8 +1.4**
GTA S **S** **03 44 42.8 +1.2**
GTA sS **sS** **03 44 49.8 -5.1**
GTA ScP **ScP** **03 45 54.3 -0.2**
GTA PcS **PcS** **03 45 57.8 +0.1**
GTA SS **SnSn** **03 46 40.8 +3.3**
GTA ScS **ScS** **03 49 53.8 -0.4**
GTA PMZ
comp=Z,55nm,1.0s
GTA PMZ
comp=Z,770nm,5.4s
GTA LN
comp=Z,14µm,22.8s
GTA LE
comp=Z,9µm,18.0s
GTA LZ
comp=Z,12µm,18.1s
QIZ Qiongzhong 33.28 245 *e*P **P** **03 39 33.4 +1.0**
comp=Z,141nm,1.0s
QIZ LR LR
comp=Z,5µm,20.0s
DAV Davao City (W) 33.56 210 PFAKE 03 39 50.0 +15
DAV LR LR
comp=Z,12µm,22.0s
TIXI Tiksi 34.96 353*c i*P **P** **03 39 45.9 -0.4**
TIXI pmax pmax
comp=Z,78nm,1.7s
TIXI MLR MLR
comp=Z,18µm,17.0s
TIXI Tiksi 34.96 353 *e*P **P** **03 39 46.1 -0.2**
comp=Z,64nm,0.7s
TIXI LR LR
comp=Z,17µm,20.0s
KMI Kunming 35.24 261 P **P** **03 39 49.6 0.0**
KMI pP **pP** **03 39 57.6 -0.1**
KMI sP **sP** **03 40 01.0 0.0**
KMI PP **PnPn** **03 41 07.3 -0.5**
KMI S **S** **03 45 20.3 -1.5**
KMI sS sS 03 45 29.4 -5.7
KMI SS **SnSn** **03 47 36.4 -3.8**
KMI PMZ
comp=Z,270nm,1.1s
KMI LN
comp=Z,6µm,15.5s
KMI LE
comp=Z,9µm,18.6s
KMI LZ
comp=Z,11µm,20.4s
MIDW Midway 35.37 93 PFAKE 03 40 00.0 +10
MIDW LR LR
comp=Z,8µm,20.0s
HVS Khovu-Aksy 36.35 308*c i*P **P** **03 39 59.6 +1.0**
HVS pmax pmax
comp=Z,877nm,1.2s
HVS MLR MLR
comp=Z,48µm,16.0s
SGSI Sangihe 36.68 208 P **P** **03 40 02.1 +0.4**
comp=Z,775nm,0.9s,comp=Z,39µm
NIKH Nikolski High 37.37 49 *e*P **P** **03 40 07.2 0.0**
comp=Z,170nm,0.8s
KDM Kudat 37.84 223 ⇑P **P** **03 40 13.5 +2.0**
GAMB Gambell 38.29 31 *e*P **P** **03 40 15.7 +1.0**
comp=Z,352nm,2.0s
SDKM Sandakan 38.71 221 ⇓P **P** **03 40 20.4 +1.5**
TNTI Ternate 38.77 203 P **P** **03 40 20.1 +0.7**
comp=Z,476nm,2.1s,comp=Z,11µm
TNTI Ternate 38.77 203 *e*P **P** **03 40 20.0 +0.7**
comp=Z,1µm,1.7s
UNV Unalaska Valle 38.83 48 *e*P **P** **03 40 19.6 +0.1**
comp=Z,34nm,0.9s
UBPT Khong Chiam 38.88 245 P **P** **03 40 21.3 +1.0**
comp=Z,926nm,1.5s,comp=Z,11µm
SKNT Sakolnakorn 38.89 249 P **P** **03 40 20.9 +0.6**
comp=Z,689nm,1.6s,comp=Z,10µm
KKM Kota Kinabalu 38.90 223 *e*P **P** **03 40 20.1 -0.5**
comp=Z,718nm,1.6s
KKM LR LR
comp=Z,5µm,20.0s
SWI Sorong 39.28 197 P **P** **03 40 24.2 +0.7**
comp=Z,165nm,1.0s,comp=Z,3µm
SMPI Sarmi 39.29 185 P **P** **03 40 24.9 +1.3**
comp=Z,326nm,1.4s,comp=Z,5µm
RKPI Ransiki, Papua 39.34 192 P **P** **03 40 24.4 +0.4**
comp=Z,180nm,1.2s,comp=Z,30µm
SRPI Serui, Papua 39.40 189 P **P** **03 40 25.2 +0.7**
comp=Z,273nm,1.7s
TSM Tawau 39.51 219 ⇑P **P** **03 40 26.9 +1.4**
JAY Jayapura 39.72 182 P **P** **03 40 28.2 +0.9**
comp=Z,152nm,1.6s,comp=Z,6µm
GENI Genyem 39.81 182 P **P** **03 40 29.4 +1.4**
comp=Z,437nm,1.0s,comp=Z,6µm
KMSI Cibinong 40.13 208 P **P** **03 40 31.5 +0.9**
comp=Z,2µm,0.9s,comp=Z,14µm
TNA Tin City 40.43 30 *e*P **P** **03 40 33.4 +0.8**
comp=Z,602nm,1.7s
WMQ Urumqi 40.88 297 P **P** **03 40 38.1 +1.4**
WMQ pP **pP** **03 40 42.0 -2.9**
WMQ sP **sP** **03 40 46.3 -1.9**
WMQ PP **PnPn** **03 42 13.8 -1.5**
WMQ PcP **PcP** **03 42 38.3 +1.3**
WMQ PcS **PcS** **03 46 29.3 +1.4**
WMQ S **S** **03 46 47.4 +1.0**
WMQ sS **sS** **03 46 55.8 -4.1**
WMQ PMZ
comp=Z,130nm,0.3s
WMQ PMZ
comp=Z,1µm,4.6s
WMQ LN
comp=Z,19µm,16.5s
WMQ LE
comp=Z,4µm,18.9s
WMQ LZ
comp=Z,8µm,25.2s
MRSI Marisa 41.02 211 P **P** **03 40 39.0 +1.0**
comp=Z,381nm,1.4s,comp=Z,5µm
FAKI Fak Fak 41.06 194 P **P** **03 40 38.7 +0.4**
comp=Z,329nm,0.9s,comp=Z,5µm
FAKI Fak Fak 41.06 194 *e*P **P** **03 40 38.7 +0.4**
comp=Z,253nm,0.9s
PBKT Sadao Pong 41.39 251 P **P** **03 40 41.9 +0.8**
comp=Z,337nm,1.4s,comp=Z,5µm
CMMT Chiang Mai 41.60 256 P **P** **03 40 43.5 +0.7**
comp=Z,233nm,1.8s,comp=Z,4µm
CHTO Chiang Mai 41.60 256 P **P** **03 40 43.6 +0.8**
comp=Z,802nm,1.8s,comp=Z,15µm
CHTO Chiang Mai 41.60 256 P **P** **03 40 43.8 +0.9**
SNR=67
CHTO Chiang Mai 41.60 256 *e*P **P** **03 40 43.6 +0.8**
comp=Z,360nm,1.5s
CHTO *e*PcP **PcP** **03 42 39.3 -0.4**
CHTO LR LR
comp=Z,5µm,20.0s
CM31 Chiang Mai Arr 41.81 255 *e*P **P** **03 40 44.9 +0.4**
comp=Z,173nm,1.1s
CMAR Chiang Mai Arr 41.81 255 P **P** **03 40 45.4 +0.9**
comp=Z,16nm,0.8s,baz=45,slow=6.6,SNR=34
CMAR PcP **PcP** **03 42 41.0 +0.7**
comp=Z,36nm,1.0s,baz=28,slow=3.2,SNR=6.3
CMAR LR LR 03 59 25.2
comp=Z,6µm,18.9s,baz=68,slow=38
CMAR Chiang Mai Arr 41.81 255 P **P** **03 40 45.4 +0.9**
CMAR 03 42 41.0
CMAR pmax pmax
comp=Z,16nm,0.8s
CMAR pmax pmax
comp=Z,36nm,1.0s
CMAR MLR MLR
comp=Z,6µm,19.0s
ZAA0 Zalesovo Array 41.84 312 *e*P **P** **03 40 44.4 0.0**
ZAA0 *e*PcP **PcP** **03 42 39.6 -0.3**
ZALV Zalesovo Beam 41.84 312 P **P** **03 40 45.0 +0.7**
comp=Z,62nm,0.6s,baz=90,slow=5.9,SNR=206
ZALV pP **pP** **03 40 54.3 +1.8**
comp=Z,293nm,0.8s,baz=92,slow=6.9,SNR=31
ZALV PcP **PcP** **03 42 40.0 +0.1**
comp=Z,58nm,0.7s,baz=99,slow=3.5,SNR=4.6
ZALV LR LR 03 58 55.1
comp=Z,19µm,18.7s,baz=72,slow=37

ZALV Zalesovo Beam 41.84 312 P **P** **03 40 45.1 +0.7**
ZALV *PP **pP** **03 40 54.3 +1.8**
ZALV 03 42 40.0
ZALV pmax pmax
comp=Z,62nm,0.6s
ZALV pmax pmax
comp=Z,293nm,0.8s
ZALV pmax pmax
comp=Z,58nm,0.7s
ZALV MLR MLR
comp=Z,19µm,18.7s
SANI Sanana 41.87 204 P **P** **03 40 44.5 -0.4**
comp=Z,254nm,0.7s,comp=Z,4µm
MPSI Mapaga 42.01 214 P **P** **03 40 46.9 +0.7**
comp=Z,123nm,2.1s,comp=Z,3µm
LUWI Luwuk 42.07 209 P **P** **03 40 45.4 -1.2**
comp=Z,289nm,1.3s,comp=Z,4µm
LUWI Luwuk 42.07 209 *e*P **P** **03 40 45.7 -0.9**
comp=Z,227nm,0.8s
MSAI Masohi 42.24 199 P **P** **03 40 49.9 +1.9**
comp=Z,96nm,1.8s,comp=Z,2µm
APSI Ampana 42.40 211 P **P** **03 40 49.6 +0.3**
comp=Z,593nm,1.0s,comp=Z,7µm
LSA Lhasa 42.40 275 P **P** **03 40 51.8 +2.0**
LSA S **S** **03 47 05.4 -4.7**
LSA PMZ
comp=Z,80nm,1.0s
LSA PMZ
comp=Z,750nm,4.5s
LSA LE
comp=Z,7µm,17.0s
LSA LZ
comp=Z,4µm,18.0s
LSA Lhasa 42.40 275 *e*P **P** **03 40 51.4 +1.6**
comp=Z,389nm,0.9s
LSA LR LR
comp=Z,6µm,19.0s
NLAI Namlea 42.65 202 P **P** **03 40 52.6 +1.3**
comp=Z,278nm,1.0s,comp=Z,3µm
NVS Novosibirsk 42.75 313 ⇑*i*P **P** **03 40 52.5 +0.7**
NVS *e*S **S** **03 47 10.7 -3.0**
NVS *e*SSS SSS 03 51 01.0
NVS pmax pmax
comp=Z,195nm,1.0s
NVS pmax pmax
comp=N,70nm,1.5s
NVS pmax pmax
comp=E,231nm,1.5s
NVS smax smax
comp=E,640nm,2.3s
CHBT CHBT 42.83 246 P **P** **03 40 53.9 +1.1**
comp=E,401nm,1.1s,comp=E,5µm
BTM Bintulu 42.98 225 ⇑P **P** **03 40 55.3 +1.2**
BNDI Bandanaira 43.13 197 P **P** **03 40 55.9 +0.7**
comp=E,1µm,1.1s,comp=E,16µm
PCI Palu 43.15 213 P **P** **03 40 55.5 +0.1**
comp=E,326nm,1.1s,comp=E,4µm
SHL Shillong 43.64 269 *e*P **P** **03 41 00.0 +0.5**
SHL *e*S **S** **03 47 27.5 -0.2**
SBUM Sibu 44.08 225 ⇑P **P** **03 41 04.1 +1.2**
SBUM Sibu 44.08 225 *e*P **P** **03 41 03.8 +0.9**
comp=E,277nm,1.3s
MK31 Makanchi Array 44.12 302 *i* P **P** **03 41 03.6 +0.6**
MK31 pmax pmax
comp=Z,627nm,0.8s
MK31 Makanchi Array 44.12 302 *e*P **P** **03 41 03.6 +0.6**
MKAR Makanchi Array 44.12 302 P **P** **03 41 03.8 +0.8**
comp=Z,94nm,0.8s,baz=85,slow=9.5,SNR=562
MKAR S **S** **03 47 32.4 -1.6**
comp=Z,7.5nm,1.0s,baz=75,slow=17,SNR=3.6
MKAR LR LR 04 00 38.3
comp=Z,6µm,18.7s,baz=81,slow=38
MKAR P4KPbc 04 18 57.5
comp=Z,0.6nm,0.8s,baz=60,slow=8.5,SNR=4.9
MKAR Makanchi Array 44.12 302 P **P** **03 41 03.8 +0.8**
MKAR S **S** **03 47 32.4 -1.6**
MKAR pmax pmax
comp=Z,94nm,0.8s
MKAR smax smax
comp=N,8.0nm,1.0s
MKAR MLR MLR
comp=Z,6µm,18.7s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
SRDT SRDT 44.16 250 P **P** **03 41 04.9 +1.3**
comp=Z,887nm,1.5s
KHLT Khaolaem Dam 44.28 251 P **P** **03 41 06.9 +2.3**
comp=Z,137nm,1.3s
BKB Balikpapan 44.80 217 P **P** **03 41 10.1 +1.5**
comp=Z,426nm,1.2s,comp=Z,7µm
KDI Kendari 44.81 208 P **P** **03 41 10.2 +1.5**
comp=Z,112nm,1.8s,comp=Z,2µm
TTSI Tana Toraja 45.08 212 P **P** **03 41 10.4 -0.5**
comp=Z,76nm,1.0s,comp=Z,1µm
SVW2 Sparrevohn 45.10 38 *e*P **P** **03 41 12.3 +1.8**
KURK Kurchatov 45.89 308 P **P** **03 41 17.6 +0.8**
comp=Z,2µm,0.7s
KURK Kurchatov 45.89 308 P **P** **03 41 17.1 +0.2**
KURK pmax pmax
comp=Z,711nm,1.1s
KURK Kurchatov 45.89 308 P **P** **03 41 17.7 +0.8**
SNR=552
KURK Kurchatov 45.89 308 *e*P **P** **03 41 17.4 +0.5**
comp=Z,1µm,0.9s
KURK S **S** **03 47 58.4 -1.0**
KURK LR LR
comp=Z,16µm,21.0s
SPSI Sidrap Palu 45.93 211 P **P** **03 41 17.4 -0.2**
comp=Z,193nm,1.2s,comp=Z,3µm
KURBB Kurchatov Arra 45.96 308 S **S** **03 47 58.4 -2.0**
comp=Z,5.8nm,0.9s,baz=86,slow=15,SNR=5.9
KSM Kuching 45.97 226 ⇑P **P** **03 41 20.1 +2.2**
KSM Kuching 45.97 226 *e*P **P** **03 41 19.0 +1.1**
comp=Z,332nm,0.8s
KSM LR LR
comp=Z,2µm,19.0s
TAPN Taplejung 46.14 274 *e*P **P** **03 41 20.8 +1.2**
IM04 Indian Mountai 46.21 31 *e*P **P** **03 41 19.9 +0.6**
STKI Sintang 46.46 224 P **P** **03 41 23.5 +1.7**
comp=Z,280nm,1.7s
RSO Redoubt South 46.48 38 *e*P **P** **03 41 22.0 +0.3**
comp=Z,595nm,1.2s
ODAN Odare 46.62 273 *e*P **P** **03 41 24.2 +0.9**
comp=Z,596nm,1.2s
KDAK Kodiak Island 46.68 42 *i* P **P** **03 41 22.8 -0.2**
KDAK Kodiak Island 46.68 42 *e*P **P** **03 41 23.2 +0.2**
comp=Z,263nm,0.7s
KDAK LR LR
comp=Z,7µm,21.0s
PPLA Purkeypile 46.74 35 *e*P **P** **03 41 25.4 +1.7**
comp=Z,993nm,1.8s
CAST Castle Rocks 46.80 34 *e*P **P** **03 41 25.5 +1.5**
comp=Z,677nm,2.0s
PDGK Podgornoye 46.81 298 P **P** **03 41 24.6 +0.4**
PDGK pmax pmax
comp=Z,683nm,0.9s
PMG Port Moresby 46.84 173*c e*P **P** **03 41 24.6 -0.1**
PMG pmax pmax
comp=Z,632nm,2.5s
PMG Port Moresby 46.84 173 *e*P **P** **03 41 25.8 +1.1**
comp=Z,34nm,0.9s
PMG LR LR
comp=Z,5µm,21.0s
KAPI Kappang 46.89 211 P **P** **03 41 25.9 +0.8**
comp=Z,253nm,1.2s,baz=32,slow=4.9,SNR=53
KAPI S **S** **03 48 16.9 +2.6**
comp=Z,6.6nm,0.8s,baz=160,slow=22,SNR=7.9
KAPI LR LR 03 59 37.1
comp=Z,2µm,21.6s,baz=60,slow=34
KAPI Kappang 46.89 211 P **P** **03 41 26.6 +1.5**
SNR=46
KAPI Kappang 46.89 211 *e*P **P** **03 41 26.1 +1.0**
comp=Z,389nm,1.0s
KAPI S **S** **03 48 16.9 +2.6**
KBKI Kotabaru 46.93 216 P **P** **03 41 25.9 +0.5**
comp=Z,150nm,0.9s,comp=Z,3µm
BKSI Bulukumba 47.02 210 P **P** **03 41 26.6 +0.5**
comp=Z,187nm,1.0s,comp=Z,2µm
RAMN Ramite 47.20 274 *e*P **P** **03 41 28.9 +1.0**
comp=Z,666nm,0.9s
JIRN Jiri 47.21 275 *e*P **P** **03 41 29.3 +1.3**
BPAW Bear Paw Mtn. 47.30 33 *e*P **P** **03 41 28.3 +0.5**
comp=Z,28nm,1.2s
GUN Gumba 47.34 275 *e*P **P** **03 41 30.2 +1.1**
comp=Z,420nm,0.8s
BRLK Bradley Lake 47.44 39 *e*P **P** **03 41 28.7 -0.3**
comp=Z,1µm,2.3s

KTGM **Kuala Trenggan** 47.48 237 ⇓P P 03 41 31.6 +1.9
TRF **Thorofare Moun** 47.61 34 eP P 03 41 30.5 +0.1
comp=Z,738nm,2.1s
BSSI **Bau Bau, Buton** 47.62 209 P P 03 41 31.2 +0.4
comp=Z,172nm,0.9s,comp=Z,4µm
BBKI **Banjar Baru** 47.70 218 P P 03 41 32.0 +0.5
comp=Z,485nm,1.2s,comp=Z,13µm
COLD **Coldfoot** 47.73 29 eP P 03 41 32.2 +1.1
comp=Z,226nm,1.7s
PKI **Pulchoki** 47.87 275 eP P 03 41 33.6 +0.5
KKN **Kakani** 47.87 276 eP P 03 41 34.0 +1.0
comp=Z,466nm,1.0s
SKLT **Songkhla** 47.88 242 P P 03 41 34.3 +1.4
comp=Z,426nm,1.1s
RC01 **Rabbit Creek A** 47.94 38 eP P 03 41 32.6 -0.2
comp=Z,704nm,1.5s
RC01 ePcP PcP 03 43 00.5 -0.2
SURT **Suratani** 47.94 245 P P 03 41 34.9 +1.6
comp=Z,178nm,1.7s
BWN **Browne** 47.96 33 eP P 03 41 34.9 +1.9
comp=Z,2µm,1.8s
DMN **Daman** 48.09 276 eP P 03 41 35.6 +0.8
SEW **Seward** 48.14 39 eP P 03 41 34.1 -0.2
comp=Z,537nm,1.4s
PMR **Palmer** 48.20 37 eP P 03 41 34.2 -0.6
comp=Z,269nm,1.2s
MCK **McKinley** 48.21 34 eP P 03 41 35.4 +0.5
comp=Z,1µm,2.2s
GKN **Gorkha** 48.29 276 eP P 03 41 37.1 +0.9
comp=Z,1µm,1.2s
AAA **Alma-Ata** 48.61 298 eP P 03 41 39.6 +1.3
AAA eS S 03 48 40.4 +1.9
AAA pmax pmax
comp=Z,1µm,5.0s
AAA smax smax
comp=N,4µm,18.3s
AAA MLR MLR
comp=Z,22µm,22.0s
COLA **College** 48.65 32c iP P 03 41 39.1 +0.9
COLA pmax pmax
comp=Z,2µm,2.5s
COLA **College** 48.65 32 eP P 03 41 39.1 +0.9
comp=Z,77nm,0.7s
COLA LR LR
comp=Z,4µm,20.0s
CCB **Clear Creek Bu** 48.68 33 eP P 03 41 38.9 +0.5
comp=Z,687nm,2.5s
DHY **Denali Highway** 48.94 35 eP P 03 41 41.5 +0.9
comp=Z,256nm,1.8s
PKDT **Phuket** 49.00 244 P P 03 41 43.2 +1.7
comp=Z,803nm,0.9s
HDA **Harding Lake** 49.05 33 eP P 03 41 41.3 -0.1
comp=Z,639nm,1.8s
ILAR **Eielson Array** 49.07 33 P P 03 41 41.4 0.0
comp=Z,76nm,0.8s,baz=267,slow=6.4,SNR=829
ILAR P4KPbc 04 19 16.1
comp=Z,0.6nm,0.7s,baz=267,slow=4.6,SNR=7.2
KULM **Kulim** 49.19 240 eP P 03 41 44.1 +1.1
comp=Z,342nm,1.4s
KULM LR LR
comp=Z,4µm,22.0s
KOLN **Koldanda** 49.21 277 eP P 03 41 44.2 +0.9
BOK **Bokaro** 49.27 271 eP P 03 41 44.2 +0.7
BOK AMB AMB 03 41 56.6
comp=Z,384nm,1.6s
MMRI **Maumere** 49.28 206 P P 03 41 44.0 +0.4
comp=Z,282nm,0.8s,comp=Z,6µm
MMRI **Maumere** 49.28 206 eP P 03 41 43.5 -0.1
comp=Z,241nm,1.0s
IPM **Ipoh** 49.52 239 ⇑P P 03 41 46.2 +0.7
IPM **Ipoh** 49.52 239 ⇓P P 03 41 46.3 +0.7
IPM **Ipoh** 49.52 239 eP P 03 41 46.0 +0.5
comp=Z,221nm,0.7s
DGPR **DIGLIPUR** 49.59 254 eP P 03 41 44.7 -1.3
DGPR AMB AMB 03 41 58.8
comp=Z,835nm,0.8s
HNR **Honiara** 49.62 156 eP P 03 41 47.0 +0.8
comp=Z,569nm,1.1s
HNR LR LR
comp=Z,14µm,21.0s
TKM2 **Tokmak 2** 49.66 298 PFAKE 03 42 00.0 +13
TKM2 LR LR
comp=Z,18µm,20.0s
MYKOM **Kota Tinggi** 49.66 234 ⇓P P 03 41 48.1 +1.6
MYKOM **Kota Tinggi** 49.66 234 ⇓P P 03 41 48.1 +1.6
MYKOM **Kota Tinggi** 49.66 234 eP P 03 41 39.9 -6.7
comp=Z,1µm,2.4s
SOEI **Soe** 49.67 203 P P 03 41 46.7 0.0
comp=Z,472nm,0.9s,comp=Z,6µm
SOEI **Soe** 49.67 203 eP P 03 41 46.6 0.0
comp=Z,354nm,0.8s
FYU **Fort Yukon** 49.68 30 eP P 03 41 48.2 +2.1
comp=Z,1µm,1.9s
PAX **Paxson** 49.81 35 eP P 03 41 48.6 +1.4
comp=Z,542nm,2.1s
KGM **Kluang** 49.83 234 ⇓P P 03 41 49.6 +1.7
KGM **Kluang** 49.83 234 ⇑P P 03 41 49.6 +1.7
DIV **Divide** 49.85 37 eP P 03 41 48.5 +1.0
comp=Z,1µm,1.6s
TPRI **Tanjung Pinang** 49.90 232 P P 03 41 49.7 +1.3
comp=Z,153nm,2.1s,comp=Z,5µm
EYAK **Cordova Ski Ar** 49.93 38 eP P 03 41 49.2 +1.2
HARP **HAARP** 50.01 36 eP P 03 41 50.2 +1.5
comp=Z,1µm,1.9s
FRIM **Kepong** 50.03 237 ⇓P P 03 41 50.4 +1.1
FRU **Bishkek** 50.37 298 ⇑iP P 03 41 52.0 +0.3
FRU i S S 03 49 03.0 -0.1
FRU pmax pmax
comp=Z,780nm,1.8s
FRU smax smax
comp=E,860nm,2.8s
FRU MLR MLR
comp=Z,12µm,18.0s
BMRM **Bremner River** 50.43 37 eP P 03 41 53.1 +1.1
comp=Z,392nm,1.3s
BMRM ePcP PcP 03 43 10.8 +0.9
KSH **Kashi** 50.46 294 ⇑iP P 03 41 57.3 +4.7
KSH epP pP 03 42 02.0 +1.1
KSH PcP PcP 03 43 15.8 +5.3
KSH PP PP 03 43 53.0 +4.8
KSH PcS PcS 03 47 09.9 +2.0
KSH S S 03 49 11.4 +6.7
KSH sS sS 03 49 19.1 +0.7
KSH PMZ
comp=Z,160nm,0.8s
KSH LN
comp=Z,13µm,15.3s
KSH LE
comp=Z,13µm,17.1s
KSH LZ
comp=Z,22µm,15.6s
BVA0 **Borovoye Array** 50.49 312 P P 03 41 53.0 +0.5
BVA0 pmax pmax
comp=Z,275nm,1.4s
BVAR **Borovoye Array** 50.49 312 PcP PcP 03 43 10.8 +0.6
comp=Z,75nm,0.8s,baz=62,slow=3.7,SNR=5.0
BVAR S S 03 49 02.3 -2.2
comp=Z,4.5nm,0.9s,baz=69,slow=7.9,SNR=3.6
BVAR LR LR 04 04 23.9
comp=Z,16µm,18.6s,baz=76,slow=37
AAK **Ala-Archa** 50.52 298 P P 03 41 53.0 0.0
comp=Z,2µm,0.7s,SNR=9.5
AAK **Ala-Archa** 50.52 298 P P 03 41 53.9 +0.9
comp=Z,407nm,1.4s,SNR=9.5
AAK **Ala-Archa** 50.52 298 P P 03 41 53.5 +0.5
comp=Z,27nm,0.5s,baz=89,slow=5.5,SNR=8.2
AAK pP pP 03 42 03.4 +2.0
comp=Z,169nm,0.7s,baz=105,slow=7.9,SNR=14
AAK LR LR 04 04 49.1
comp=Z,16µm,18.9s,baz=60,slow=38
AAK PKPPKP P'P'df 04 12 40.5 -5.2
comp=Z,0.9nm,0.3s,baz=200,slow=6.4,SNR=3.7
AAK **Ala-Archa** 50.52 298 P P 03 41 53.5 +0.5
AAK *PP pP 03 42 03.4 +2.0
AAK pmax pmax
comp=Z,27nm,0.5s
AAK pmax pmax
comp=Z,169nm,0.7s
AAK MLR MLR
comp=Z,16µm,18.9s
AAK pmax pmax
comp=Z,1.0nm,0.3s
AAK **Ala-Archa** 50.52 298 P P 03 41 54.2 +1.2
SNR=35
BRVK **Borovoye** 50.55 312 P P 03 41 53.5 +0.6
BRVK pmax pmax
comp=Z,218nm,0.9s
BRVK **Borovoye** 50.55 312 P P 03 41 53.9 +1.0
SNR=91
BRVK **Borovoye** 50.55 312 eP P 03 41 53.5 +0.6
comp=Z,149nm,0.9s
BRVK LR LR
comp=Z,17µm,19.0s
PBA **Port Blair** 50.67 253 eP P 03 41 55.5 +1.3
TPI **Tanjungpandan** 50.93 226 P P 03 41 57.3 +1.2
comp=Z,416nm,1.1s,comp=Z,5µm
EKS2 **Erkin-Say** 51.01 298 PFAKE 03 42 10.0 +13
EKS2 LR LR
comp=Z,11µm,19.0s
COEN **Coen** 51.10 178 eP P 03 41 58.1 +0.8
comp=Z,205nm,1.0s
KMMI **Kalianget** 51.25 216 P P 03 41 59.3 +0.8
comp=Z,408nm,1.1s,comp=Z,5µm
WBSI **Waikabubak, Su** 51.25 209 P P 03 42 00.1 +1.6
comp=Z,168nm,0.8s,comp=Z,2µm
PPBI **Pangkal Pinang** 51.34 228 P P 03 42 00.5 +1.3
comp=Z,307nm,1.5s,comp=Z,4µm
EGAK **Eagle** 51.51 32 eP P 03 42 00.2 +0.3
comp=Z,220nm,1.4s
EGAK LR LR
comp=Z,3µm,19.0s
SRBI **Singaraja** 51.59 214 P P 03 42 02.1 +1.1
comp=Z,318nm,0.8s,comp=Z,7µm
ABJI **Asem Bagus** 51.78 216 P P 03 42 03.3 +0.9
comp=Z,269nm,1.0s,comp=Z,6µm
LHMI **Lhok Sumawe** 51.83 243 P P 03 42 05.1 +2.2
comp=Z,466nm,0.9s,comp=Z,8µm
LHMI **Lhok Sumawe** 51.83 243 eP P 03 42 03.2 +0.3
comp=Z,456nm,0.9s
GRJI **Gresik** 51.85 218 P P 03 42 03.5 +0.5
comp=Z,437nm,1.1s,comp=Z,5µm
TSI **Tuntungan** 51.92 240 P sP 03 42 17.5 +2.3
BLJI **Banyuglugur** 52.03 216 P P 03 42 04.2 -0.1
comp=Z,171nm,0.8s,comp=Z,4µm
TBJI **Tambak Boyo** 52.08 219 P P 03 42 05.4 +0.7
comp=Z,526nm,1.5s,comp=Z,6µm
DNP **Denpasar** 52.11 214 P sP 03 42 16.7 +0.1
PSI **Prapat** 52.17 239 P P 03 42 06.0 +0.4
comp=Z,33nm,0.8s,baz=12,slow=5.5,SNR=40
PSI LR LR 04 04 33.1
comp=Z,3µm,21.3s,baz=26,slow=36
PSI **Prapat** 52.17 239 P P 03 42 06.1 +0.4
PSI pmax pmax
comp=Z,33nm,0.8s
PSI MLR MLR
comp=Z,3µm,21.3s
PSI **Prapat** 52.17 239 eP P 03 42 06.3 +0.6
comp=Z,142nm,0.8s
UWJI **Ujung Watu** 52.19 220 P P 03 42 05.8 +0.3
comp=Z,335nm,1.8s,comp=Z,5µm
IGBI **Denpasar** 52.27 214 P P 03 42 04.6 -1.5
comp=Z,203nm,0.9s,comp=Z,5µm
DAWY **Dawson** 52.37 33 eP P 03 42 07.1 +0.6
comp=Z,162nm,1.4s
JAGI **Jajag, Banyuwa** 52.41 215 eP P 03 42 06.0 -1.1
comp=Z,114nm,0.9s
JMBI **JAMBI** 52.43 231 P sP 03 42 21.8 +2.8
DDI **Dehra Dun** 52.44 282 eP P 03 42 07.6 +0.2
DDI AMB AMB 03 42 19.8
comp=Z,483nm,1.6s
BKNI **Bangkinang** 52.59 235 P P 03 42 09.9 +1.4
comp=Z,626nm,1.2s,comp=Z,8µm
BKNI **Bangkinang** 52.59 235 eP P 03 42 09.5 +1.0
PMBI **Palembang** 52.76 229 P sP 03 42 24.0 +2.6
SMLA **Simla** 52.78 284 i P P 03 42 10.4 +0.6
SMLA i x x 03 42 20.9
CMBY **CAMPBELL BAY** 52.80 247 eP P 03 42 09.0 -1.1
CMBY AMB AMB 03 42 22.5
comp=Z,594nm,0.0s
SMRI **Semarang** 52.99 220 P P 03 42 12.4 +0.9
comp=Z,313nm,1.7s,comp=Z,8µm
SMRI **Semarang** 52.99 220 eP P 03 42 11.6 +0.2
comp=Z,248nm,0.9s
PWJI **Pagerwojo** 53.13 218 P P 03 42 11.9 -0.6
comp=Z,667nm,0.9s,comp=Z,6µm
MNSI **Mandailing Nat** 53.20 237 P P 03 42 12.7 -0.4
comp=Z,171nm,0.7s,comp=Z,3µm
SDSI **Sungai Dareh** 53.29 234 P P 03 42 14.9 +1.2
comp=Z,323nm,1.1s
CHLP **Challavanipeta** 53.47 266 eP P 03 42 15.4 +0.4
CHLP esP sP 03 42 26.6 0.0
CHLP IAmb IAmb 03 42 28.1
comp=Z,351nm,0.9s
CHLP eS S 03 49 45.2 -0.8
CHLP eSS SS 03 53 26.9 +0.5
CHLP IVMs_BB IVMs_BB 04 03 42.4
comp=Z,2µm,27.7s
PCJI **Pacitan** 53.59 219 P P 03 42 20.7 +4.8
comp=Z,222nm,1.3s,comp=Z,3µm
UGM **Wanagama** 53.68 220 P P 03 42 16.4 -0.2
comp=Z,603nm,1.1s,comp=Z,10µm
NDI **New Delhi** 53.83 281 eP P 03 42 17.5 -0.1
HYT **Haines Junctio** 53.87 37 eP P 03 42 19.6 +2.0
comp=Z,794nm,1.4s
INK **Inuvik** 53.96 27 P P 03 42 19.0 +1.0
comp=Z,99nm,1.0s,baz=285,slow=7.5,SNR=100
INK **Inuvik** 53.96 27 P P 03 42 19.0 +1.0
INK pmax pmax
comp=Z,99nm,1.0s
INK **Inuvik** 53.96 27 eP P 03 42 18.9 +1.0
comp=Z,397nm,1.4s
KPJI **Karang Pucung** 54.01 222 P P 03 42 19.0 0.0
comp=Z,401nm,1.1s
KIP **Kipapa** 54.03 89ceP P 03 42 19.9 +0.8
KIP pmax pmax
comp=Z,540nm,1.7s
KIP MLR MLR
comp=Z,1µm,18.0s
KIP **Kipapa** 54.03 89 eP P 03 42 19.6 +0.5
comp=Z,256nm,0.9s
KIP LR LR
comp=Z,2µm,19.0s
GSI **Gunungsitoli** 54.18 239 P P 03 42 20.9 +0.6
comp=Z,555nm,1.2s,comp=Z,17µm
GSI **Gunungsitoli** 54.18 239 eP P 03 42 20.7 +0.4
comp=Z,5µm,1.9s
KLSI 54.19 228 P P 03 42 20.9 +0.6
comp=Z,542nm,1.7s,comp=Z,15µm
LHSI **Lahat** 54.22 229 P P 03 42 21.7 +1.2
comp=Z,560nm,0.9s,comp=Z,7µm
SNSI **Sinabang, Aceh** 54.25 241 P P 03 42 21.3 +0.5
comp=Z,522nm,1.9s,comp=Z,10µm
KLI **Kotabumi** 54.25 227 P P 03 42 20.8 0.0
comp=Z,524nm,0.9s,comp=Z,8µm
JHNI **Jhansi** 54.29 277 ex P 03 42 20.0 -1.0
LEM **Lembang** 54.30 223 P P 03 42 21.4 +0.2
comp=Z,129nm,1.0s,baz=68,slow=4.8,SNR=37
LEM **Lembang** 54.30 223 P P 03 42 21.4 +0.2
LEM pmax pmax
comp=Z,129nm,1.0s
MDSI **Maura Dua** 54.35 228 P P 03 42 21.6 +0.1
comp=Z,277nm,1.5s,comp=Z,4µm
VIS **Vishakhapatnam** 54.47 266 eP P 03 42 23.2 +0.8
SBJI **Serang** 54.54 225 P sP 03 42 35.1 +0.6
CMJI **Cimerak** 54.65 222 P P 03 42 31.9 +8.3
CISI **Cisompet, Garu** 54.79 223 P P 03 42 28.7 +4.0
comp=Z,169nm,0.7s
CISI **Cisompet, Garu** 54.79 223 eP P 03 42 23.1 -1.7
comp=Z,113nm,0.6s
LWLI **Liwa** 54.85 228 P P 03 42 26.2 +1.0
comp=Z,198nm,0.8s,comp=Z,9µm
CNJI **Cibinong** 54.96 223 P P 03 42 27.7 +1.8
comp=Z,153nm,1.1s,comp=Z,2µm
MNAI **Manna** 54.99 230 eP P 03 42 25.8 -0.4
KASI **Kota Agung** 55.00 227 P P 03 42 25.0 -1.1
comp=Z,274nm,0.7s,comp=Z,2µm
SVE **Sverdlovsk** 55.02 318d iP P 03 42 27.0 +1.1
SVE eS S 03 50 05.9 -0.3
SVE e 03 52 09.3
SVE pmax pmax
comp=Z,779nm,1.5s
SVE MLR MLR
comp=Z,22µm,17.0s
SVE MLR MLR
comp=E,16µm,16.0s
SKJI **Sukabumi** 55.03 224 P P 03 42 36.4 +10
CGJI **Cibinong** 55.19 225 P P 03 42 25.8 -1.7
comp=E,124nm,0.7s
SKAG **Skagway** 55.27 38 eP P 03 42 30.9 +3.3
comp=E,684nm,1.7s
PPSI **Pulau Pagai** 55.59 234 P P 03 42 30.7 +0.3
comp=E,460nm,1.4s,comp=E,7µm
BESE **Bessie Mountai** 55.76 39 eP P 03 42 33.0 +1.8
NGP **Nagpur** 56.05 272 eP P 03 42 33.8 +0.1
NGP ex x 03 50 24.7
PVM **Polavaram** 56.09 266 eP P 03 42 34.0 0.0
PVM esP sP 03 42 45.3 -0.5
PVM IAmb IAmb 03 42 46.8
comp=Z,250nm,0.8s
PVM eS S 03 50 21.0 -0.3
PVM IVMs_BB IVMs_BB 04 05 26.7
comp=Z,1µm,23.2s
ARU **Arti** 56.24 318 P P 03 42 35.5 +0.9
comp=Z,2µm,0.5s
ARU **Arti** 56.24 318c iP P 03 42 35.1 +0.5
ARU 03 43 30.5
ARU 03 44 35.6
ARU S S 03 50 22.7 +0.4
ARU 03 52 14.2
ARU SS SS 03 54 08.3 -0.3
ARU SSS SSS 03 56 20.3
ARU pmax pmax
comp=Z,408nm,1.2s
ARU MLR MLR
comp=Z,20µm,17.0s
ARU **Arti** 56.24 318 eP P 03 42 35.2 +0.7
comp=Z,348nm,0.8s
ARU LR LR
comp=Z,17µm,19.0s
BHPL **Bhopal** 56.27 275 eP P 03 42 34.8 -0.6
BHPL AMB AMB 03 42 46.5
comp=Z,317nm,0.7s
KKH **Kailua Kona** 56.55 90 eP P 03 42 39.9 +2.7
POHA **Pohakuloa** 56.88 90 eP P 03 42 40.3 +0.4
comp=Z,485nm,0.9s
POHA LR LR
comp=Z,3µm,19.0s
RPR **Rampur** 57.06 269 eP P 03 42 40.6 -0.4
RPR esP sP 03 42 51.9 -0.8
RPR IAmb IAmb 03 42 53.3
comp=Z,444nm,0.7s
RPR eS S 03 50 34.3 0.0
RPR IVMs_BB IVMs_BB 04 09 47.0
comp=Z,2µm,19.7s
CTAO **Charters Tower** 57.34 175 eP P 03 42 42.2 -0.5
comp=Z,40nm,0.8s
CTAO LR LR
comp=Z,3µm,21.0s
WRAB **Tennant Creek** 57.44 188c iP P 03 42 43.2 -0.2
WRAB pmax pmax
comp=Z,937nm,1.7s
WRAB **Tennant Creek** 57.44 188 eP P 03 42 43.2 -0.2
comp=Z,143nm,0.8s
WRAB LR LR
comp=Z,4µm,19.0s
WRA **Warramunga Arr** 57.45 188 P P 03 42 43.2 -0.3
comp=Z,67nm,0.5s,baz=6.5,slow=7.4,SNR=198
WRA S S 03 50 36.5 -2.4
comp=Z,3.1nm,0.9s,baz=5.3,slow=13,SNR=8.4
WRA LR LR 04 06 53.9
comp=Z,4µm,20.7s,baz=0.0,slow=35
WRA PKPPKP P'P'df 04 12 32.6 +9.0
comp=Z,3.1nm,1.1s,baz=191,slow=2.0,SNR=5.0
WRA PKP2bc 04 12 41.4
comp=Z,4.8nm,0.9s,baz=204,slow=1.9,SNR=8.4
WRA **Warramunga Arr** 57.45 188 P P 03 42 43.2 -0.3
WRA S S 03 50 36.6 -2.4
WRA pmax pmax
comp=Z,67nm,0.5s
WRA smax smax
comp=N,3.0nm,0.9s
WRA pmax pmax
comp=Z,3.0nm,1.1s
WRA pmax pmax
comp=Z,5.0nm,0.9s
WRA pmax pmax
comp=Z,1.0nm,0.7s
CRAG **Craig** 57.64 42 eP P 03 42 46.3 +1.8
WRAK **Wrangell Islan** 57.72 41 eP P 03 42 46.5 +1.5
comp=Z,81nm,0.9s
WRAK LR LR
comp=Z,4µm,22.0s
SRSP **Sriramsagar** 57.78 270 eP P 03 42 45.2 -0.8
SRSP esP sP 03 42 56.9 -0.9
SRSP IAmb IAmb 03 42 58.7
comp=Z,712nm,0.9s
SRSP eS S 03 50 43.5 -0.2
SRSP IVMs_BB IVMs_BB 04 09 51.8
comp=Z,2µm,16.4s
AB31 **Akbulak array** 57.88 310 i P P 03 42 46.3 0.0
AB31 pmax pmax
comp=Z,181nm,0.8s
ABKAR **Akbulak array** 57.88 310 eP P 03 42 46.5 +0.2
AKL **Akola** 57.90 273 eP P 03 42 46.1 -0.8
AKL AMB AMB 03 43 00.9
comp=Z,705nm,1.5s
ADKI **Addanki** 58.19 266 eP P 03 42 50.0 +1.1
ADKI esP sP 03 43 00.6 +0.1
ADKI IAmb IAmb 03 43 03.3
comp=Z,158nm,0.9s
DLBC **Dease Lake** 58.20 38 P P 03 42 50.7 +2.2
comp=Z,82nm,0.8s,baz=293,slow=7.2,SNR=75
DLBC **Dease Lake** 58.20 38 eP P 03 42 50.3 +1.8
comp=Z,745nm,1.6s
NJS **Nagarjunasagar** 58.32 267 eP P 03 42 49.4 -0.4
NJS esP sP 03 43 00.6 -0.9
NJS IAmb IAmb 03 43 02.1
comp=Z,183nm,0.9s
NJS ePP PP 03 44 57.0 -2.0
NJS e 03 50 04.9
NJS eS S 03 50 47.3 -3.4
NJS eSS SS 03 54 40.3 -2.5
NJS IVMs_BB IVMs_BB 04 07 28.2
comp=Z,893nm,4.8s
XMIS **Christmas Isla** 58.40 223 eP P 03 42 49.8 -0.5
comp=Z,298nm,1.5s
HYB **Hyderabad** 58.44 268 i P P 03 42 50.0 -0.7
HYB eS S 03 50 52.0 -0.4
HYB **Hyderabad** 58.44 268 eP P 03 42 50.7 0.0
HYB AMB AMB 03 43 03.0
comp=Z,415nm,0.6s
HYBB **Hyderabad (bro** 58.44 268 eP P 03 42 50.2 -0.5
HYBB esP sP 03 43 01.0 -1.4
HYBB IAmb IAmb 03 43 03.2
comp=Z,387nm,0.9s
HYBB ePcP PcP 03 43 40.2 -1.0
HYBB e 03 47 38.9
HYBB eS S 03 50 51.1 -1.3
HYBB eSS SS 03 54 43.8 -1.0
HYBB IVMs_BB IVMs_BB 04 10 09.2
comp=Z,2µm,14.6s
AKTO **Aktyubinsk** 58.60 312 LR LR 04 09 22.1
comp=Z,11µm,19.0s,slow=37
AKTO PKPPKP P'P'df 04 12 27.5 -6.8
comp=Z,1.1nm,0.7s,baz=198,slow=0.8,SNR=4.2
AKTO **Aktyubinsk** 58.60 312 P P 03 42 51.2 -0.1
AKTO pmax pmax
comp=Z,251nm,1.0s
H02N1 **VAN INLET T-PH** 58.75 45 P P 03 42 51.4 -1.0
H02S1 **DAWSON INLET T** 58.80 45 P P 03 42 53.1 +0.5
SRLM **Srisailam** 58.90 267 eP P 03 42 52.9 -1.0
SRLM esP sP 03 43 05.2 -0.4
SRLM IAmb IAmb 03 43 06.4
comp=Z,169nm,0.9s
SRLM eS S 03 50 53.8 -4.6
SRLM eSS SS 03 54 50.4 -1.6
SRLM IVMs_BB IVMs_BB 04 07 28.4
comp=Z,1µm,24.1s
RCLA **Racherla** 59.21 266 eP P 03 42 55.3 -0.8
RCLA esP sP 03 43 06.2 -1.6
RCLA IAmb IAmb 03 43 08.5
comp=Z,304nm,0.8s
RCLA e 03 50 09.4
RCLA eS S 03 51 01.0 -1.3
RCLA eSS SS 03 54 56.7 -0.2
RCLA IVMs_BB IVMs_BB 04 07 52.0
comp=Z,2µm,26.1s
MDRS **Chennai** 59.55 263 eP P 03 42 57.5 -0.9
MDRS AMB AMB 03 43 10.8
comp=Z,306nm,0.9s
SKHT **Srikalahasti** 59.59 264 eP P 03 42 58.5 -0.2
SKHT esP sP 03 43 10.2 -0.2
SKHT eS S 03 51 09.7 +2.5
KLRI **Killari** 59.64 270 eP P 03 42 58.2 -0.8
KLRI esP sP 03 43 09.4 -1.4
KLRI IAmb IAmb 03 43 11.2
comp=Z,910nm,0.9s
KLRI ePcP PcP 03 43 45.1 -0.9
KLRI e 03 50 13.2

KLRI eS S 03 51 06.5 -1.4
KLRI eSS SS 03 55 04.9 +1.2
KLRI IVMs_BB IVMs_BB 04 12 08.8
comp=Z,2µm,15.6s
ALE Alert 59.73 4 P P 03 42 59.3 +0.6
comp=Z,841nm,0.8s,SNR=84
HOPEN Hopen 59.74 346 eP P 03 43 00.2 +1.4
KBS Kingsbay 60.34 350 eP P 03 43 03.7 +0.8
comp=Z,161nm,0.9s
KBS LR LR
comp=Z,3µm,22.0s
PRGR Permogore 60.58 327⇑iP P 03 43 05.3 +0.5
PRGR e 03 43 16.4
PRGR e 03 45 19.2
PRGR pmax pmax
comp=Z,151nm,0.9s
URV Uravakonda 60.84 267 eP P 03 43 05.2 -2.1
URV esP sP 03 43 18.2 -0.9
URV IAmb IAmb 03 43 19.9
comp=Z,244nm,1.0s
URV eS S 03 51 23.4 0.0
URV eSS SS 03 55 25.8 +3.1
URV IVMs_BB IVMs_BB 04 07 26.8
comp=Z,1µm,29.8s
HSPB Hornsund (broa 61.14 348⇓iP P 03 43 09.6 +1.2
HSPB IAmb IAmb 03 43 21.4
comp=Z,819nm,1.5s
AS31 Alice Springs 61.18 188 eP P 03 43 08.9 -0.3
ASAR Alice Springs 61.18 188 P P 03 43 09.2 -0.1
comp=Z,51nm,0.9s,baz=14,slow=6.1,SNR=174
ASAR LR LR 04 09 19.9
ASAR comp=Z,4µm,21.1s,baz=358,slow=36 PKPPKP P'P'df 04 12 25.1 +7.2
comp=Z,3.2nm,1.1s,baz=169,slow=1.9,SNR=5.7
ASAR PKP2bc 04 12 33.9
comp=Z,4.6nm,0.7s,baz=175,slow=2.2,SNR=12
ASAR PKP2ab 04 12 43.4
comp=Z,5.8nm,0.7s,baz=167,slow=2.1,SNR=9.3
ASAR Alice Springs 61.18 188 P P 03 43 09.2 -0.1
ASAR pmax pmax
comp=Z,49nm,0.9s
ASAR MLR MLR
comp=Z,4µm,21.1s
ASAR pmax pmax
comp=Z,3.0nm,1.1s
ASAR pmax pmax
comp=Z,5.0nm,0.7s
ASAR pmax pmax
comp=Z,6.0nm,0.7s
POO Poona 61.58 272⇑iPN P 03 43 11.0 -1.3
comp=Z,308nm,0.9s
POO eP P 03 43 12.3 +0.1
POO AMB AMB 03 43 23.6
comp=Z,492nm,2.0s
BBB Bella Bella 61.65 44 P P 03 43 11.3 -0.8
comp=Z,155nm,1.3s,baz=302,slow=5.4,SNR=9.0
MBWA Marble Bar 61.81 203 P P 03 43 14.3 +0.8
SNR=11
MBWA Marble Bar 61.81 203 eP P 03 43 13.8 +0.3
comp=Z,110nm,0.7s
MBWA LR LR
comp=Z,3µm,21.0s
LVZ Lovozero 61.87 336 P P 03 43 13.5 0.0
comp=Z,611nm,0.6s,SNR=38
LVZ Lovozero 61.87 336*c*iP P 03 43 13.4 0.0
LVZ pmax pmax
comp=Z,95nm,1.0s
LVZ MLR MLR
comp=Z,15µm,20.0s
LVZ Lovozero 61.87 336 eP P 03 43 13.3 -0.2
comp=Z,188nm,1.1s
LVZ LR LR
comp=Z,13µm,19.0s
BJO Bjornoya 62.13 345 eP P 03 43 15.8 +0.8
BJO IAmb IAmb 03 43 16.9
comp=Z,98nm,1.0s
RES Resolute Bay 62.19 15 P P 03 43 15.4 0.0
comp=Z,75nm,0.8s,baz=309,slow=6.0,SNR=107
RES Resolute Bay 62.19 15 P P 03 43 15.5 0.0
RES pmax pmax
comp=Z,75nm,0.8s
RES Resolute Bay 62.19 15 eP P 03 43 15.4 0.0
comp=Z,2.3nm,0.3s
BHJ Bhuj 62.40 279 eP P 03 43 16.9 -0.8
BHJ AMB AMB 03 43 26.8
comp=Z,193nm,8.6s
APA Apatity 62.45 336⇓iP P 03 43 17.8 +0.5
APA i 03 43 59.0
APA iS S 03 51 40.0 -2.3
APA iPS PnS 03 52 00.0 +0.6
APA i 03 53 10.0
APA iSSS SSS 03 58 30.0
APA pmax pmax
comp=Z,122nm,0.5s
APA MLR MLR
comp=Z,15µm,18.0s
TMCR Tamitsa 62.53 331⇑iP P 03 43 18.4 +0.5
TMCR pmax pmax
comp=Z,659nm,1.8s
PALK Pallekele 62.67 258 P P 03 43 19.5 -0.1
comp=Z,66nm,1.0s,baz=68,slow=3.6,SNR=13
PALK pP pP 03 43 30.6 +2.5
comp=Z,59nm,0.8s,baz=52,slow=7.0,SNR=9.9
PALK S S 03 51 42.0 -4.5
comp=Z,6.6nm,0.5s,baz=86,slow=14,SNR=6.5
PALK LR LR 04 11 49.5
comp=Z,3µm,21.2s,baz=37,slow=37
PALK Pallekele 62.67 258 P P 03 43 19.5 -0.1
PALK *PP pP 03 43 30.6 +2.5
PALK S S 03 51 42.0 -4.5
PALK pmax pmax
comp=Z,66nm,1.0s
PALK pmax pmax
comp=Z,59nm,0.8s
PALK smax smax
comp=N,7.0nm,0.5s
PALK MLR MLR
comp=Z,3µm,21.2s
PALK Pallekele 62.67 258⇓P P 03 43 20.6 +1.0
SNR=7.5
PALK Pallekele 62.67 258⇓P P 03 43 20.6 +1.0
SNR=7.5
PALK Pallekele 62.67 258 eP P 03 43 19.8 +0.2
comp=Z,369nm,1.9s
PALK pP pP 03 43 30.6 +2.5
PALK S S 03 51 42.0 -4.5
EIDS Eidsvold 63.05 170 eP P 03 43 22.5 +0.8
comp=Z,1µm,2.6s
KEV Kevo 63.18 339 eP P 03 43 21.9 -0.2
comp=Z,582nm,1.6s
KEV LR LR
comp=Z,7µm,22.0s
IMYA Miami 63.20 297 eP P 03 43 24.3 +1.2
GOA Goa 63.27 269 eP P 03 43 24.3 +0.8
GOA AMB AMB 03 43 36.3
comp=Z,829nm,0.9s
YKA Yellowknife Ar 63.38 30 P P 03 43 23.8 +0.2
comp=Z,43nm,0.7s,baz=304,slow=6.8,SNR=97
YKA PKPPKP P'P'df 04 12 19.7 -7.3
comp=Z,1.3nm,0.8s,baz=119,slow=2.5,SNR=4.3
YKA PKP2ab 04 12 35.5
comp=Z,1.8nm,0.9s,baz=104,slow=2.6,SNR=4.6
YKA Yellowknife Ar 63.38 30 P P 03 43 23.8 +0.2
YKA pmax pmax
comp=Z,42nm,0.7s
DZM Mont Dzumac 63.58 154 eP P 03 43 27.2 +1.8
comp=Z,720nm,1.5s
DZM eS S 03 51 56.5 -1.0
comp=Z,9µm,29.9s
DZM Mont Dzumac 63.58 154 eLR LR 04 02 16.9
comp=Z,17µm,21.4s
DZM Mont Dzumac 63.58 154 eP P 03 43 26.6 +1.2
comp=Z,338nm,1.2s
ISRO Mashad 63.67 297 eP P 03 43 27.1 +1.1
ARCES ARCESS Array B 63.74 339 P P 03 43 26.4 +0.6
comp=Z,28nm,0.6s,baz=55,slow=7.5,SNR=178
ARCES LR LR 04 15 21.6
comp=Z,9µm,18.4s,baz=37,slow=40
ARCES ARCESS Array B 63.74 339 P P 03 43 26.4 +0.6
ARCES pmax pmax
comp=Z,28nm,0.6s
ARCES MLR MLR
comp=Z,9µm,18.4s
ARE0 ARCESS Array S 63.74 339 eP P 03 43 26.5 +0.6
ARE0 IAmb IAmb 03 43 39.4
comp=Z,471nm,1.6s
ARE0 ARCESS Array S 63.74 339 eP P 03 43 26.2 +0.4
IMOG Moghan 63.86 297 eP P 03 43 28.5 +1.0
IAKL Akhelmad 64.04 297 eP P 03 43 29.9 +1.2
IKRD Kardeh 64.12 298 eP P 03 43 26.4 -2.8
ISHV Shirvan 64.33 299 eP P 03 43 31.3 +0.8
ISFR Sfrayin 64.35 298 eP P 03 43 32.3 +1.5
MSVF Nonsavu 64.65 141 eP P 03 43 34.0 +1.6
comp=Z,269nm,1.2s
MSVF LR LR
comp=Z,7µm,21.0s
COCO West Island 64.85 230 iP P 03 43 36.2 +2.5
COCO West Island 64.85 230 eP P 03 43 34.5 +0.8
comp=Z,266nm,1.2s
COCO LR LR
comp=Z,2µm,19.0s
DAG Danmarks Havn 65.43 355⇑iP P 03 43 37.0 +0.2
comp=Z,113nm,0.7s
DAG Danmarks Havn 65.43 355⇑iP P 03 43 37.0 +0.2
DAG pmax pmax
comp=Z,77nm,0.7s
TRO Tromso 65.44 341⇑iP P 03 43 37.3 +0.4
XMAS Kiritimati 65.86 107 eP P 03 43 40.1 -0.3
XMAS LR LR
comp=Z,7µm,21.0s
PGC Sidney 65.92 46 eP P 03 43 41.0 +0.6
comp=Z,221nm,1.4s
NLWA Neilton Lookou 66.30 48 eP P 03 43 44.5 +1.6
comp=Z,598nm,1.4s
NLWA LR LR
comp=Z,3µm,22.0s
MBW Mount Baker 66.74 46 P P 03 43 46.7 +0.8
CMW Cultus Mountai 66.80 46 P P 03 43 47.4 +1.2
GNW Green Mountain 66.83 47 P P 03 43 47.6 +1.4
MOS Moscow 67.09 323 eP P 03 43 44.4 -3.3
MOS i 03 43 55.6
MOS e 03 46 15.5
MOS iS S 03 52 38.7 -1.0
MOS e 03 52 56.3
MOS e 03 53 40.8
MOS eSS SS 03 56 52.0 -6.1
MOS pmax pmax
comp=Z,446nm,2.0s
MOS pmax pmax
comp=E,89nm,1.5s
MOS pmax pmax
comp=Z,2µm,2.6s
MOS pmax pmax
comp=E,700nm,3.7s
MOS pmax pmax
comp=N,400nm,2.8s
MOS smax smax
comp=E,3µm,4.7s
MOS MLR MLR
comp=E,4µm,16.0s
MOS MLR MLR
comp=Z,5µm,16.0s
B06A Marblemount 67.12 46 eP P 03 43 48.8 +0.8
AFI Afiamalu 67.19 130 eP P 03 43 47.9 -1.0
comp=Z,35nm,1.4s
AFI LR LR
comp=Z,4µm,22.0s
C05A Tolt Reservoir 67.42 47 P P 03 43 51.1 +1.1
F04D Rainier, OR 67.47 49 P P 03 43 51.6 +1.3
baz=67
D05A Enumclaw 67.51 47 eP P 03 43 52.3 +1.8
comp=Z,701nm,1.5s
VRHR Novokhopersk 67.57 318 eP P 03 43 50.0 -0.8
VRHR e*PP pP 03 44 01.4 +2.0
VRHR eS S 03 53 01.8 +16
VRHR pmax pmax
comp=Z,150nm,0.7s
VRHR pmax pmax
comp=N,50nm,1.8s
VRHR pmax pmax
comp=E,50nm,0.8s
VRHR smax smax
comp=E,320nm,2.4s
VRHR smax smax
comp=Z,130nm,2.7s
VRHR smax smax
comp=N,230nm,1.3s
KULLO Kullorsuaq 67.59 5⇑i*P* P 03 43 50.6 0.0
comp=N,78nm,0.7s
G03D McMinnville, O 67.77 50 P P 03 43 53.5 +1.3
baz=68,SNR=20
IKIA Kiasar 67.79 299 eP P 03 43 53.6 +0.8
WRW Wenatchee Ridg 67.80 46 P P 03 43 53.4 +0.9
TDL Tradedollar La 67.81 48 P P 03 43 53.9 +1.3
LON Longmire 67.84 48 eP P 03 43 52.9 +0.1
comp=N,134nm,1.5s
LOF Lofoten 67.89 341 eP P 03 43 52.6 +0.1
OBN Obninsk 67.94 323*c*iP P 03 43 53.2 +0.1
OBN i 03 44 03.6
OBN i 03 44 17.8
OBN i 03 46 31.4
OBN iS S 03 52 40.4 -10
OBN iSS SS 03 57 08.7 -2.5
OBN pmax pmax
comp=Z,375nm,2.5s
OBN MLR MLR
comp=Z,7µm,17.0s
OBN Obninsk 67.94 323 P P 03 43 53.5 +0.4
comp=Z,2µm,1.9s,SNR=11
OBN Obninsk 67.94 323 eP P 03 43 53.5 +0.4
comp=Z,676nm,1.3s
OBN LR LR
comp=Z,6µm,20.0s
MTMW Mount Mitchell 67.98 48 P P 03 43 55.0 +1.3
PUL Pulkovo 67.99 329*c*iP P 03 43 53.8 +0.5
PUL pmax pmax
comp=Z,130nm,0.7s
PUL MLR MLR
comp=Z,11µm,18.0s
IANJ Anjilo 68.01 298 eP P 03 43 55.5 +1.3
COR Corvallis 68.07 50 eP P 03 43 55.9 +1.7
comp=Z,660nm,1.4s
ARMA Armidale 68.10 171 eP P 03 43 55.4 +1.0
LPSR Galich'ya Gora 68.17 320 eP P 03 43 54.9 +0.3
LPSR e*PP pP 03 44 06.3 +3.1
LPSR eS S 03 52 51.4 -1.3
LPSR pmax pmax
comp=Z,130nm,0.8s
LPSR pmax pmax
comp=N,20nm,0.9s
LPSR pmax pmax
comp=E,60nm,1.0s
LPSR smax smax
comp=N,630nm,2.6s
LPSR smax smax
comp=Z,350nm,3.2s
LPSR smax smax
comp=E,480nm,1.8s
LPSR MLR MLR
comp=Z,11µm,14.0s
LPSR MLR MLR
comp=N,9µm,17.0s
LPSR MLR MLR
comp=E,13µm,17.0s
LTY Liberty 68.24 47 P P 03 43 55.8 +0.6
ISHM Shahmirzad 68.27 299 eP P 03 43 57.3 +1.4
KEBM Edson Buttle 68.32 52 eP P 03 43 57.1 +1.3
comp=E,512nm,1.2s
MAK Makhachkala 68.41 308 eP P 03 43 55.8 -0.5
MAK e 03 44 22.3
MAK e 03 46 36.4
MAK ePPP PPP 03 48 07.7
MAK eS S 03 52 53.2 -2.8
MAK e 03 53 50.2
MAK pmax pmax
comp=Z,510nm,1.7s
MAK MLR MLR
comp=Z,8µm,20.0s
WTV Waterville 68.42 46 P P 03 43 56.8 +0.4
B08A Colville Reser 68.42 45 eP P 03 43 56.9 +0.6
comp=Z,455nm,1.5s
IALA Alasht 68.46 299 eP P 03 43 57.6 +0.5
I03D Drain, OR 68.50 51 P P 03 43 58.5 +1.6
baz=68,SNR=47
VOR Voronezh 68.50 319 eP P 03 43 56.0 -0.7
VOR pmax pmax
comp=Z,300nm,1.4s
VLL Laurance Lake 68.59 49 P P 03 43 58.9 +1.4
FIA1 FINESS Array S 68.60 332 eP P 03 43 57.3 +0.2
FINES FINESS Array B 68.60 332 P P 03 43 57.4 +0.3
comp=Z,123nm,0.7s,baz=44,slow=7.7,SNR=315
FINES LR LR 04 18 31.2
comp=Z,7µm,18.1s,baz=26,slow=40
FINES FINESS Array B 68.60 332 P P 03 43 57.4 +0.3
FINES pmax pmax
comp=Z,123nm,0.7s
FINES MLR MLR
comp=Z,7µm,18.1s
H04A Detroit Lake 68.70 50 P P 03 43 59.1 +1.0
IPRN Peran 68.70 300 eP P 03 43 58.8 +0.4
ILAS Lasjerd 68.72 299 eP P 03 43 60.0 +1.3
IFIR Firoozkooh 68.73 299 eP P 03 43 59.8 +1.1
KBO Bosley Butte 68.73 53 eP P 03 43 59.6 +1.2
comp=Z,499nm,1.4s
SAW Saint Andrews 68.73 46 P P 03 43 58.7 +0.4
VFP Flag Point 68.80 49 P P 03 44 00.0 +1.1
VSR Storozhevoye 68.81 319 eP P 03 43 58.9 +0.3
VSR e*PP pP 03 44 10.4 +3.2
VSR eS S 03 52 59.3 -1.1
VSR pmax pmax
comp=Z,140nm,0.7s
VSR pmax pmax
comp=N,130nm,1.0s
VSR pmax pmax
comp=E,130nm,1.0s
VSR smax smax
comp=E,780nm,3.1s
VSR smax smax
comp=Z,250nm,2.3s
VSR smax smax
comp=N,160nm,1.8s
VSR MLR MLR
comp=N,8µm,16.0s
VSR MLR MLR
comp=E,10µm,16.0s
VSR MLR MLR
comp=Z,18µm,16.0s
IBAF Bafgh 68.83 294 eP P 03 43 59.9 +0.6
VBEM Beaver Butte 68.86 49 P P 03 44 00.3 +1.1
VORD Divnogorie 68.88 319 eP P 03 43 59.3 +0.3
VORD e*PP pP 03 44 10.7 +3.1
VORD eS S 03 53 00.1 -1.1
VORD pmax pmax
comp=Z,210nm,1.5s
VORD pmax pmax
comp=N,40nm,0.7s
VORD pmax pmax
comp=E,90nm,1.2s
VORD smax smax
comp=E,770nm,2.5s
VORD smax smax
comp=Z,110nm,1.2s
VORD smax smax
comp=N,220nm,1.5s
VORD MLR MLR
comp=N,6µm,16.0s
VORD MLR MLR
comp=E,11µm,16.0s
VORD MLR MLR
comp=Z,15µm,16.0s
STKA Stephens Creek 68.92 180 P P 03 43 59.8 +0.4
comp=Z,78nm,0.8s,baz=3.4,slow=8.3,SNR=189
STKA PKP2bc 04 12 10.6
comp=Z,6.5nm,1.0s,baz=245,slow=7.5,SNR=5.1
STKA Stephens Creek 68.92 180 eP P 03 43 59.7 +0.4
comp=Z,19nm,0.8s
STKA ⇑e 04 12 10.6
EDM Edmonton 68.92 39 eP P 03 43 59.6 +0.2
comp=Z,572nm,1.3s
G05D Wamic, OR 68.93 49 P P 03 44 00.7 +1.2
baz=69,SNR=25
FORT Forrest 69.01 193 eP P 03 44 00.5 +0.6
I04A Tendick Farm, 69.03 50 P P 03 44 01.2 +1.0
baz=69,SNR=62
MOR8 Moi Rana 69.10 340⇑iP P 03 43 59.4 -0.8
MOR8 IAmb IAmb 03 44 00.4
comp=Z,159nm,0.6s
L02D Cave Junction, 69.15 52 P P 03 44 02.0 +1.1
baz=69,SNR=17
KONS Konsvik 69.22 340 eP P 03 44 01.3 +0.4
KONS IAmb IAmb 03 44 02.6
comp=Z,32nm,0.8s
IDMV Damavand 69.26 299 eP P 03 44 03.0 +0.9
FLOS Flostrand 69.27 340 eP P 03 44 01.5 +0.3
FLOS IAmb IAmb 03 44 01.7
comp=Z,79nm,0.8s
OD2 Odessa Site #2 69.30 46 P P 03 44 02.2 +0.4
HUMO Hull Mountain 69.32 52 eP P 03 44 03.3 +1.3
comp=Z,278nm,1.6s
ICHK Chekchek 69.33 295 eP P 03 44 02.5 0.0
BBOR Butler Butte 69.35 51 P P 03 44 03.5 +1.1
D08A Wollman Farm, 69.36 46 eP P 03 44 02.9 +0.7
comp=Z,643nm,1.9s
HAWA Hanford 69.36 47 eP P 03 44 02.6 +0.4
comp=Z,287nm,1.5s
HAWA LR LR
comp=Z,2µm,22.0s
STOK Stokkvaagen 69.37 340 eP P 03 44 01.9 +0.2
I05D Terrebonne, OR 69.39 50 P P 03 44 03.6 +1.2
baz=69,SNR=42
VTHM Trough 69.41 48 P P 03 44 03.7 +1.1
J04D Umpqua Nationa 69.51 51 P P 03 44 04.5 +1.1
baz=69,SNR=50
IMEH Mehriz 69.63 294 eP P 03 44 03.9 -0.4
NEW Newport 69.71 44 P P 03 44 05.0 +0.7
comp=Z,48nm,0.9s,baz=303,slow=5.8,SNR=110
NEW Newport 69.71 44 P P 03 44 05.0 +0.7
NEW pmax pmax
comp=Z,49nm,0.9s
NEW Newport 69.71 44 P P 03 44 05.2 +0.8
baz=70,SNR=109
NEW Newport 69.71 44 eP P 03 44 05.0 +0.7
comp=Z,612nm,1.8s
NEW LR LR
comp=Z,3µm,22.0s
KHMM Horse Mountain 69.75 54 eP P 03 44 06.5 +1.7
comp=Z,364nm,1.3s
IVRN Varamin 69.78 299 eP P 03 44 05.8 +0.8
JMIC Jan Mayen 69.83 350 iP P 03 44 05.9 +1.3
JMIC IAmb IAmb 03 44 06.5
comp=Z,78nm,0.9s
YBH Yreka Blue Hor 69.94 52 P P 03 44 06.8 +0.9
comp=Z,81nm,1.1s,baz=350,slow=2.3,SNR=54
YBH S S 03 53 18.5 +4.1
comp=Z,1.2nm,0.7s,baz=115,slow=14,SNR=1.8
YBH Yreka Blue Hor 69.94 52 P P 03 44 06.8 +0.9
YBH S S 03 53 18.5 +4.1
YBH pmax pmax
comp=Z,81nm,1.1s
YBH smax smax
comp=N,1.0nm,0.7s
YBH Yreka Blue Hor 69.94 52 eP P 03 44 07.4 +1.4
comp=N,423nm,1.6s
YBH S S 03 53 18.5 +4.1
IR3 Iran Long-Peri 70.01 300 eP P 03 44 07.3 +0.8
GOF Gofitskoye 70.02 312⇑iP P 03 44 06.8 +0.6
GOF eS S 03 53 14.8 -0.1
GOF pmax pmax
comp=Z,510nm,1.2s
ISAD Sadrabad 70.02 295 eP P 03 44 06.8 0.0
J05D Fort Rock, OR 70.03 50 P P 03 44 08.1 +1.5
baz=70,SNR=199
M02C Callahan 70.03 53 P P 03 44 08.1 +1.6
baz=70,SNR=24
BBOO Buckeboo 70.05 185 eP P 03 44 06.8 +0.5
K04D Chiloquin, OR 70.06 51 P P 03 44 08.1 +1.4
baz=70,SNR=7.1
IGZV Ghazvin 70.08 301 eP P 03 44 08.0 +0.9
KMRM Mail Ridge 70.11 54 eP P 03 44 08.7 +1.7
IMHD Mahdasht 70.15 300 eP P 03 44 08.3 +1.0
VSU Vasula 70.25 330*c*iP P 03 44 07.9 +0.5
VSU pmax pmax
comp=Z,462nm,1.2s
VSU MLR MLR
comp=Z,16µm,16.0s
G08A Pilot Rock 70.30 48 P P 03 44 08.9 +0.8
IBND Bandar-abas 70.30 290 eP P 03 44 07.4 -0.8
SUMG Summit 70.32 0⇑iP P 03 44 09.2 +1.1
comp=Z,48nm,1.0s
SUMG Summit 70.32 0⇑iP P 03 44 09.2 +1.1
SUMG i 03 44 21.6
SUMG pmax pmax
comp=Z,48nm,1.0s
SUMG Summit 70.32 0 eP P 03 44 09.0 +0.9
comp=Z,3µm,2.9s
N02D Trinity Center 70.35 53 P P 03 44 10.0 +1.6

baz=70,SNR=45
M04C Macdoel 70.47 52 P P 03 44 10.6 +1.4
baz=70,SNR=61
IZEF Zefreh 70.47 297 *e*P P 03 44 10.2 +0.7
KCPM Cahto Peak 70.48 55 *e*P P 03 44 10.0 +0.7
comp=Z,330nm,1.5s
KIPM Iron Peak 70.48 55 *e*P P 03 44 09.8 +0.5
comp=Z,370nm,1.5s
K05A Summer Lake 70.54 51 *e*P P 03 44 11.1 +1.4
comp=Z,1µm,1.6s
NCK Nalchik 70.54 310⇑ *i*P P 03 44 10.1 +0.6
I07A Izee 70.64 49 P P 03 44 11.2 +1.0
WDC Whiskeytown Da 70.67 53 *e*P P 03 44 10.8 +0.5
comp=Z,405nm,1.6s
ZEI Tsey 70.74 309 *e*P P 03 44 08.4 -2.6
ZEI *e*S S 03 53 21.5 -2.4
ZEI pmax pmax
comp=Z,306nm,1.4s
ZEI pmax pmax
comp=E,269nm,1.0s
ZEI pmax pmax
comp=N,208nm,0.8s
ZEI pmax pmax
comp=Z,16nm,1.9s
ZEI MLR MLR
comp=Z,6µm,17.0s
IKLH Kolahrood 70.78 298 *e*P P 03 44 12.1 +0.7
IRAZ Razeghan 70.81 300 *e*P P 03 44 11.9 +0.4
KBZ Khabaz 70.84 311 P P 03 44 12.0 +0.8
comp=Z,101nm,0.9s,baz=66,slow=5.8,SNR=160
KBZ S S 03 53 21.8 -2.7
comp=Z,1.8nm,0.8s,baz=63,slow=18,SNR=2.5
KBZ PKP2ab 04 11 59.2
comp=Z,3.0nm,1.0s,baz=248,slow=4.8,SNR=12
KBZ LR LR 04 20 01.4
comp=Z,5µm,18.5s,baz=52,slow=40
KIV Kislovodsk 70.84 311 P P 03 44 12.4 +1.0
comp=Z,2µm,1.0s,SNR=65
KIV Kislovodsk 70.84 311 *c i*P P 03 44 12.1 +0.7
KIV pmax pmax
comp=Z,370nm,1.0s
KIV MLR MLR
comp=Z,5µm,20.0s
KIV Kislovodsk 70.84 311 P P 03 44 12.5 +1.2
SNR=383
KIV Kislovodsk 70.84 311⇓ *e*P P 03 44 12.4 +1.0
SNR=50
KIV Kislovodsk 70.84 311⇓ *e*P P 03 44 12.4 +1.0
SNR=50
KIV Kislovodsk 70.84 311 *e*P P 03 44 12.4 +1.0
comp=Z,1µm,1.3s
KIV LR LR
comp=Z,5µm,20.0s
WALA Waterton Lakes 71.02 42 *e*P P 03 44 12.8 +0.4
comp=Z,1µm,1.1s
NSS Namsos 71.02 339 *e*P P 03 44 11.9 -0.1
ISRB Sarab 71.03 303 *e*P P 03 44 13.1 +0.3
WBK Wadi Bani Khal 71.07 284 P P 03 44 14.4 +1.4
SNR=32
IHRS Heris 71.18 304 *e*P P 03 44 14.1 +0.4
HOPS Hopland Field 71.19 55 *e*P P 03 44 13.8 +0.3
comp=Z,51nm,1.3s
NEY Neytrino 71.21 310 *e*P P 03 44 14.3 +0.6
NEY pmax pmax
comp=Z,18nm,1.0s
BSMT Bassoo Peak 71.24 44 *e*P P 03 44 14.4 +0.6
comp=Z,27nm,0.8s
BANOM Banah 71.31 289 P P 03 44 15.6 +1.2
SNR=40
BANOM Banah 71.31 289 *i* P P 03 44 15.4 +0.9
SNR=38
BANOM Banah 71.31 289 *i* P P 03 44 15.4 +0.9
SNR=38
BLMT Blacktail Moun 71.38 43 *e*P P 03 44 15.7 +1.0
BMO Blue Mountains 71.52 47 *e*P P 03 44 16.4 +0.9
comp=Z,338nm,1.4s
BMO LR LR
comp=Z,2µm,22.0s
SMDO Samad 71.54 285 P P 03 44 17.0 +1.0
SNR=59
JTMT Jette 71.58 44 *e*P P 03 44 16.7 +0.9
comp=Z,297nm,1.4s
IPIR Pirpir 71.60 297 *e*P P 03 44 15.8 -0.7
IBST Bostanabad 71.62 304 *e*P P 03 44 15.6 -0.8
YBMT Yellow Bay 71.66 43 *e*P P 03 44 17.0 +0.7
comp=Z,146nm,1.4s
GNI Garni 71.67 307 S S 03 53 36.9 +2.3
comp=Z,2.9nm,0.5s,baz=15,slow=16,SNR=2.2
GNI Garni 71.67 307 *c i*P P 03 44 17.9 +1.4
GNI pmax pmax
comp=Z,116nm,1.2s
GNI MLR MLR
comp=Z,4µm,18.0s
GNI Garni 71.67 307 P P 03 44 18.2 +1.6
SNR=112
GNI Garni 71.67 307 ⇓P P 03 44 17.9 +1.4
GNI Garni 71.67 307 ⇓P P 03 44 17.9 +1.4
GNI Garni 71.67 307 *e*P P 03 44 18.0 +1.5
comp=Z,1µm,1.7s
GNI S S 03 53 36.9 +2.3
GNI LR LR
comp=Z,5µm,19.0s
MCCM Marconi Confer 71.78 56 *e*P P 03 44 17.3 +0.3
comp=Z,91nm,0.7s
HOQ Hoqain 71.82 286 P P 03 44 18.3 +0.8
SNR=75
ITBZ Tabriz 71.82 304 *e*P P 03 44 17.8 +0.3
IMRD Marand 71.84 305 *e*P P 03 44 18.0 +0.4
SWMT Swartz Lake 71.87 44 *e*P P 03 44 18.0 +0.5
comp=Z,1µm,1.5s
JMDO Jabal Madar 71.87 285 P P 03 44 18.7 +0.9
SNR=42
UOSS Wadi Hilu 71.91 288 P P 03 44 18.3 +0.3
comp=Z,847nm,0.9s,SNR=34
UOSS Wadi Hilu 71.91 288 *e*P P 03 44 18.5 +0.4
comp=Z,259nm,0.9s
HATD Hatta, Dubai 72.03 288⇑ *e*P P 03 44 19.5 +0.8
SNR=46
HATD Hatta, Dubai 72.03 288⇑ *e*P P 03 44 19.5 +0.8
SNR=46
WVOR Wild Horse Val 72.09 50 *e*P P 03 44 19.9 +1.0
comp=Z,514nm,1.6s
WVOR LR LR
comp=Z,2µm,22.0s
IZAR Zarasai 72.22 328 *e*P P 03 44 19.7 +0.3
IZAR IAmb IAmb 03 44 33.1
comp=Z,60nm,0.8s
IAZR Azarshahr 72.23 304 *e*P P 03 44 20.6 +0.5
NAZ Nazwa, Dubai 72.30 288⇑ *e*P P 03 44 20.9 +0.6
SNR=16
NAZ Nazwa, Dubai 72.30 288⇑ *e*P P 03 44 20.9 +0.6
SNR=16
MSO Missoula 72.30 44 P P 03 44 20.4 +0.3
baz=72,SNR=72
MSO Missoula 72.30 44 *e*P P 03 44 20.5 +0.3
SLMT Seeley Lake 72.31 44 *e*P P 03 44 20.5 +0.2
comp=Z,83nm,0.6s
MICGM Minsk 72.32 326⇑ *i*P P 03 44 19.0 -1.0
MICGM Minsk 72.32 326⇑ *i*P P 03 44 19.0 -1.0
MICGM Minsk 72.32 326 *e*P P 03 44 30.0 +10
MICGM Minsk 72.32 326 *e*PP PP 03 47 10.0 +10
MICGM Minsk 72.32 326 *e*PPP PPP 03 48 48.0
MNK Minsk 72.34 326 *c i*P P 03 44 19.0 -1.1
MNK *e* 03 44 30.0
MNK *e* 03 47 10.0
MNK *e*PPP PPP 03 48 48.0
MNK *e*S S 03 53 40.0 -1.5
MNK pmax pmax
comp=Z,3µm,5.0s
MNK pmax pmax
comp=E,450nm,2.0s
MNK pmax pmax
comp=Z,260nm,1.4s
MNK pmax pmax
comp=N,400nm,1.9s
MNK MLR MLR
comp=Z,13µm,14.0s
BSY Bisya 72.36 285 P P 03 44 21.7 +0.9
SNR=63
ISAL Salakas 72.39 327 *e*P P 03 44 20.9 +0.6
ISAL IAmb IAmb 03 44 34.3
comp=Z,156nm,0.9s
ISAL *e*PP PP 03 46 59.0 -1.8
FAQ Al Faqa, Dubai 72.48 288⇑ *i*P P 03 44 21.8 +0.3
SNR=12
FAQ Al Faqa, Dubai 72.48 288⇑ *i*P P 03 44 21.8 +0.3
SNR=12
TBLU Trondheim 72.49 339 *e*P P 03 44 20.4 -0.4
TBLU IAmb IAmb 03 44 31.9
comp=Z,160nm,0.9s
IIGN Ignalina 72.50 327 *e*P P 03 44 21.6 +0.6
IIGN IAmb IAmb 03 44 34.8
comp=Z,95nm,0.8s
IIGN *e*PP PP 03 47 02.1 +0.3
IIGN *e*S S 03 53 40.5 -2.7
IKAZ Kazeroun 72.51 294 *e*P P 03 44 22.8 +0.8
ARQ Araqi 72.55 286 P P 03 44 22.8 +0.9
SNR=60
CHMT Chamberlain Mo 72.63 44 *e*P P 03 44 21.9 -0.3
comp=Z,5µm,1.5s
CAN Canberra 72.67 174 *e*P P 03 44 22.6 +0.5
comp=Z,233nm,1.4s
CAN LR LR
comp=Z,3µm,21.0s
ASUD Al Ashush, Dub 72.75 288⇑ *i*P P 03 44 23.9 +0.8
SNR=18
ASUD Al Ashush, Dub 72.75 288⇑ *i*P P 03 44 23.9 +0.8
SNR=18
SOC Sochi 72.82 312 *c i*P P 03 44 23.4 +0.2
SOC *e* 03 44 39.3
SOC *e* 03 47 07.2
SOC *e*PPP PPP 03 48 54.9
SOC *i*S S 03 53 46.8 -0.5
SOC *e* 03 54 26.9
SOC *e*SS SS 03 58 23.9 -2.9
SOC pmax pmax
comp=Z,351nm,1.1s
SOC pmax pmax
comp=Z,1µm,2.9s
SOC MLR MLR
comp=Z,7µm,20.0s
IKOM Komasi 73.14 300 *e*P P 03 44 25.2 -0.2
MFID Camas Ranch 73.21 48 *e*P P 03 44 26.3 +0.7
comp=Z,294nm,1.2s
FFC Flin Flon 73.28 33 *e*P P 03 44 25.8 +0.2
FFC LR LR
comp=Z,2µm,19.0s
ILULI Ilulissat 73.28 5⇑ *i*P P 03 44 25.7 +0.3
ANN Anapa 73.44 314 *c i*P P 03 44 26.7 -0.1
ANN *i*S S 03 53 52.6 -1.7
ANN pmax pmax
comp=Z,426nm,2.3s
CMB Columbia Colle 73.47 55 *e*P P 03 44 28.0 +0.8
comp=Z,426nm,1.3s
HRY Holter Researc 73.53 43 *e*P P 03 44 27.9 +0.4
comp=Z,298nm,1.3s
FCC Fort Churchill 73.58 27 *e*P P 03 44 27.1 -0.2
NWAO Narrogin (SRO) 73.59 201 P P 03 44 27.1 -0.4
comp=Z,40nm,0.7s,baz=329,slow=4.0,SNR=18
NWAO Narrogin (SRO) 73.59 201 P P 03 44 27.2 -0.4
NWAO pmax pmax
comp=Z,41nm,0.7s
IDHR Dehrash 73.62 301 *e*P P 03 44 28.1 -0.2
LRM Limekiln Ridge 73.73 44 *e*P P 03 44 29.4 +0.6
comp=Z,246nm,0.6s
DOMB Dombas 73.79 339 *e*P P 03 44 29.5 +0.9
MOL Molde 73.79 340 *e*P P 03 44 29.6 +1.1
A19A Klindworth Far 73.81 40 P P 03 44 30.1 +1.0
baz=74,SNR=108
WAKR Walker 73.82 54 *e*P P 03 44 30.6 +1.2
EGMT Eagleton 73.85 41 P P 03 44 30.0 +0.7
baz=74,SNR=139
EGMT Eagleton 73.85 41 *e*P P 03 44 29.9 +0.7
comp=Z,978nm,1.6s
EGMT LR LR
comp=Z,2µm,20.0s
DLMT Dillon 73.92 45 *e*P P 03 44 30.3 +0.5
comp=Z,241nm,0.9s
NB2 NORSAR Subarra 73.94 337 P P 03 44 29.8 +0.3
comp=Z,108nm,0.7s,baz=39,slow=6.2
NB2 NORSAR Subarra 73.94 337 P P 03 44 29.8 +0.3
baz=39,slow=6.2
NOA NORSAR Array B 73.94 337 P P 03 44 29.9 +0.5
comp=Z,75nm,0.7s,baz=38,slow=5.8,SNR=254
NOA S S 03 54 00.4 +0.9
comp=Z,1.1nm,0.9s,baz=39,slow=11,SNR=2.7
NOA LR LR 04 19 26.2
comp=Z,14µm,21.8s,baz=40,slow=38
NOA NORSAR Array B 73.94 337 P P 03 44 30.0 +0.5
NOA S S 03 54 00.4 +0.9
NOA pmax pmax
comp=Z,76nm,0.7s
NOA smax smax
comp=N,1.0nm,0.9s
NOA MLR MLR
comp=Z,14µm,21.8s
HLID Hailey 73.96 47 P P 03 44 31.1 +1.0
baz=74,SNR=168
HLID Hailey 73.96 47 *e*P P 03 44 31.2 +1.1
comp=Z,251nm,1.4s
HLID LR LR
comp=Z,2µm,22.0s
B19A Brinkman Farms 74.01 41 P P 03 44 31.0 +0.9
baz=74,SNR=54
MCMT McKenzie Canyo 74.11 45 *e*P P 03 44 31.3 +0.2
BMN Battle Mountai 74.11 51 *e*P P 03 44 32.2 +1.2
comp=Z,437nm,1.4s
AKASG Malin Array Be 74.15 322 P P 03 44 30.9 +0.1
comp=Z,36nm,0.5s,baz=44,slow=6.1,SNR=206
AKASG S S 03 54 01.6 -0.4
comp=Z,0.3nm,0.4s,baz=51,slow=11,SNR=4.8
AKASG PKPPKP P'P'df 04 12 00.5 -7.8
comp=Z,0.2nm,0.3s,baz=260,slow=2.6,SNR=6.6
AKASG LR LR 04 20 33.7
comp=Z,7µm,18.8s,baz=70,slow=38
AKBB Malin Array Si 74.15 322 *e*P P 03 44 30.7 -0.1
AK01 Malin Array Si 74.16 322 *e*P P 03 44 31.0 +0.1
KIEV Kiev 74.16 322 *c i*P P 03 44 30.7 -0.2
KIEV Kiev 74.16 322 *e*P P 03 44 30.9 0.0
comp=Z,258nm,0.9s
KIEV LR LR
comp=Z,8µm,20.0s
AK02 Malin Array Si 74.19 322 *e*P P 03 44 31.0 0.0
AKN Aaknes 74.26 340 *e*P P 03 44 32.2 +0.9
A20A Cobblestone Ra 74.27 40 P P 03 44 32.1 +0.5
baz=74,SNR=67
BOZ Bozeman (W) 74.29 44 P P 03 44 33.0 +1.0
baz=74,SNR=312
BOZ Bozeman (W) 74.29 44 *e*P P 03 44 33.0 +1.0
B20A Solberg Farm, 74.50 40 P P 03 44 33.7 +0.7
baz=74,SNR=29
NVAR Mina Array Bea 74.59 53 P P 03 44 34.8 +0.9
comp=Z,77nm,0.8s,baz=288,slow=5.6,SNR=345
NVAR S S 03 54 12.1 +4.1
comp=Z,0.2nm,0.3s,baz=318,slow=5.2,SNR=2.8
NVAR PKPPKP P'P'df 04 12 00.5 -6.8
comp=Z,0.2nm,0.5s,baz=95,slow=4.5,SNR=3.6
A21A Bergtoll Ranch 74.70 39 P P 03 44 35.1 +0.9
baz=74,SNR=38
SUW Suwalki 74.70 327 *i* P P 03 44 34.0 0.0
SUW *e*PcP pP 03 44 44.9 +2.2
SUW LMZ LR 04 20 11.2
SUW Suwalki 74.70 327⇑ *i*P P 03 44 34.0 0.0
SUW *e* 03 44 44.9
SUW MLR MLR
comp=Z,12µm,18.0s
MLAC Mammoth, Mammo 74.71 54 P P 03 44 36.0 +1.4
baz=75,SNR=22
QLMT Earthquake Lak 74.90 45 *e*P P 03 44 36.4 +0.8
comp=Z,56nm,1.4s
OSL Oslo 74.95 337 *e*P P 03 44 36.3 +1.0
C20A Veseth Ranch, 74.96 41 P P 03 44 36.9 +1.2
baz=75,SNR=208
B21A Ellsworth Farm 75.02 40 P P 03 44 36.7 +0.7
baz=75
ELK Elko 75.14 50 *e*P P 03 44 38.2 +1.1
comp=Z,130nm,0.8s
A22A Carney Farms, 75.21 39 P P 03 44 37.8 +0.6
baz=75,SNR=154
RCTC Rector, Farmer 75.21 56 P P 03 44 38.2 +1.0
baz=75,SNR=21
SIM Simferopol' 75.23 316 *c i*P P 03 44 37.7 +0.5
SIM *e* 03 44 48.0
SIM *i*S S 03 54 14.0 -0.3
SIM *e* 03 54 32.0
SIM *e*PS PnS 03 54 46.0 -5.5
SIM pmax pmax
comp=Z,128nm,0.9s
SIM MLR MLR
comp=Z,3µm,16.4s
YMR Madison River 75.27 45 *e*P P 03 44 38.6 +0.9
comp=Z,593nm,1.5s
FOO Floro 75.27 340 *e*P P 03 44 38.0 +1.0
FOO IAmb IAmb 03 44 49.4
comp=Z,37nm,1.2s
GCMT Greycliff 75.28 43 *e*P P 03 44 38.8 +1.1
SMMC Simmler 75.29 57 P P 03 44 38.9 +1.2
baz=75,SNR=14
HYA Hoyanger 75.31 339⇑ *i*P P 03 44 38.0 +0.6
HYA IAmb IAmb 03 44 38.6
comp=Z,96nm,0.9s
C21A Desert Coulee 75.36 40 P P 03 44 38.9 +0.9
baz=75,SNR=121
YNR Norris Junctio 75.40 45 *e*P P 03 44 40.5 +2.0
comp=Z,302nm,1.4s
TIN Tinemaha, Big 75.44 54 P P 03 44 39.8 +1.1
baz=75,SNR=7.5
YFT Old Faithful 75.47 45 *e*P P 03 44 41.0 +2.1
comp=Z,328nm,1.2s
TPH Tonopah 75.49 53 *e*P P 03 44 39.9 +0.8
comp=Z,556nm,1.4s
SFJD Kangerlussuaq 75.50 5⇑ *i*P P 03 44 38.8 +0.5
comp=Z,127nm,1.1s
SFJD Kangerlussuaq 75.50 5⇑ *i*P P 03 44 38.8 +0.5
SFJD *i* 03 44 52.0
SFJD pmax pmax
comp=Z,130nm,1.1s
SFJD Kangerlussuaq 75.50 5 *e*P P 03 44 38.3 -0.1
comp=Z,92nm,0.8s
SFJD LR LR
comp=Z,3µm,19.0s
KONO Kongsberg 75.53 337 *e*P P 03 44 39.1 +0.5
KONO IAmb IAmb 03 44 50.8
comp=Z,130nm,1.2s
KONO Kongsberg 75.53 337 *e*P P 03 44 39.1 +0.5
comp=Z,63nm,0.9s
KONO LR LR
comp=Z,12µm,20.0s
VES Vestal, Richgr 75.59 56 P P 03 44 39.6 +0.1
baz=75,SNR=128
B22A Reddig Ranch S 75.62 40 P P 03 44 39.9 +0.5
baz=75,SNR=59
LKWY Lake 75.65 45 *e*P P 03 44 41.9 +1.9
comp=Z,763nm,1.8s
LKWY LR LR
comp=Z,3µm,20.0s
PKM Mcpherson Peak 75.65 57 P P 03 44 41.2 +1.1
baz=76,SNR=51
H17A Grant Village 75.65 45 P P 03 44 42.9 +2.9
baz=76,SNR=44
H17A Grant Village 75.65 45 *e*P P 03 44 42.6 +2.6
comp=Z,637nm,1.3s
A23A Redstone 75.75 39 P P 03 44 40.8 +0.7
baz=76,SNR=15
IMW Indian Meadow 75.76 45 *e*P P 03 44 42.1 +1.4
comp=Z,382nm,1.4s
FLWY Flagg Ranch 75.78 45 *e*P P 03 44 42.1 +1.5
comp=Z,35nm,1.4s
SUE Sulen 75.80 340 *e*P P 03 44 41.0 +0.9
FXWY Fox Creek 75.87 46 *e*P P 03 44 42.7 +1.5
CWC Cottonwood Cre 75.90 55 P P 03 44 42.0 +0.6
baz=76,SNR=20
D21A La Casta Ranch 75.91 41 P P 03 44 41.9 +0.8
baz=76,SNR=97
RLMT Red Lodge 75.92 44 P P 03 44 42.7 +1.2
baz=76,SNR=120
RLMT Red Lodge 75.92 44 *e*P P 03 44 42.7 +1.2
comp=Z,90nm,0.7s
RLMT LR LR
comp=Z,2µm,20.0s
MOOW Moose Ponds 75.96 45 *e*P P 03 44 43.1 +1.4
comp=Z,450nm,1.6s
SBC Santa Barbara 75.99 57 P P 03 44 42.4 +0.7
baz=76,SNR=6.3
HVU Hansel Valley 76.00 48 *e*P P 03 44 43.1 +1.2
comp=Z,323nm,1.4s
TPAW Teton Pass 76.00 46 *e*P P 03 44 43.4 +1.3
comp=Z,470nm,1.4s
B23A Brockton 76.02 39 P P 03 44 42.4 +0.6
baz=76,SNR=102
GRAC Grapevine Rang 76.03 54 P P 03 44 43.3 +1.3
baz=76,SNR=67
C22A Vida 76.04 40 P P 03 44 42.1 +0.2
baz=76,SNR=44
ISA Isabella, Lake 76.10 56 P P 03 44 42.2 -0.2
baz=76,SNR=69
ISA Isabella, Lake 76.10 56 *e*P P 03 44 42.3 -0.2
comp=Z,271nm,1.5s
F20A Billings 76.10 43 P P 03 44 42.9 +0.6
baz=76,SNR=37
LOHW Long Hollow 76.12 45 *e*P P 03 44 43.8 +1.1
comp=Z,36nm,1.4s
SNOW Snow King Moun 76.13 46 *e*P P 03 44 44.0 +1.3
comp=Z,21nm,1.8s
REDW Red Top Meadow 76.14 46 *e*P P 03 44 44.0 +1.3
comp=Z,479nm,1.5s
ASK Askoy 76.15 339 *e*P P 03 44 43.4 +1.2
ASK IAmb IAmb 03 44 54.8
comp=Z,178nm,1.1s
RUND Rundenannen 76.16 339 *e*P P 03 44 42.2 -0.1
ARVC Arvin 76.17 56 P P 03 44 43.2 +0.4
baz=76,SNR=40
BER Bergen 76.19 339 *e*P P 03 44 43.4 +1.0
BER IAmb IAmb 03 44 54.9
comp=Z,141nm,1.0s
E21A Keefer Ranch, 76.20 41 P P 03 44 43.9 +1.1
baz=76,SNR=14
A24A Westby 76.21 38 P P 03 44 43.2 +0.4
baz=76,SNR=26
ODD1 Odda 76.21 339 *e*P P 03 44 43.7 +1.1
SORM Soroca 76.25 321⇓ *i*P P 03 44 43.5 +0.5
D22A Cohagen 76.27 41 P P 03 44 44.0 +0.8
baz=76,SNR=144
BSC Santa Cruz Isl 76.30 58 P P 03 44 44.3 +0.8
baz=76,SNR=13
DAC Darwin (Calif) 76.31 55 *e*P P 03 44 44.4 +0.6
comp=Z,346nm,1.5s
RAO Raoul Island 76.34 144 PFAKE 03 45 00.0 +16
RAO LR LR
comp=Z,5µm,22.0s
C23A Lambert 76.36 40 P P 03 44 44.3 +0.6
baz=76,SNR=93
R11A Troy Canyon, C 76.36 52 P P 03 44 44.9 +0.9
baz=76,SNR=381
R11A Troy Canyon, C 76.36 52 *e*P P 03 44 44.7 +0.7
comp=Z,2.1nm,0.4s
H19A Powell 76.36 44 P P 03 44 45.1 +1.2
baz=76,SNR=66
AHID Auburn Hatcher 76.37 46 *e*P P 03 44 44.4 +0.3
comp=Z,295nm,1.4s
AHID LR LR
comp=Z,2µm,22.0s
BGU Big Grassy Mou 76.37 49 *e*P P 03 44 44.7 +0.7
comp=Z,297nm,1.6s
DGMT Dagmar 76.41 39 P P 03 44 44.4 +0.5
baz=76,SNR=20
DGMT Dagmar 76.41 39 *e*P P 03 44 44.5 +0.5
comp=Z,639nm,1.4s
DGMT LR LR
comp=Z,2µm,21.0s
G20A Bridger 76.44 43 P P 03 44 44.6 +0.3
baz=76,SNR=54
MPMC Manual Prospec 76.51 55 P P 03 44 45.4 +0.5
baz=76,SNR=125
OSI Osito Audit: C 76.55 57 P P 03 44 46.0 +1.0
baz=76,SNR=20
OSI Osito Audit: C 76.55 57 *e*P P 03 44 45.8 +0.8
comp=Z,434nm,1.5s
LAO LASA Array 76.55 41 P P 03 44 45.5 +0.7
baz=76,SNR=150
LAO LASA Array 76.55 41 *e*P P 03 44 45.8 +0.9
comp=Z,742nm,1.5s
LAO LR LR
comp=Z,2µm,21.0s
A25A Svangstu Ranch 76.64 38 P P 03 44 46.1 +0.9
baz=76,SNR=50
F21A Absaloka Mine, 76.64 42 P P 03 44 45.8 +0.4
baz=76,SNR=8.8
BLS5 Blasjo 76.66 338 *e*P P 03 44 46.1 +1.0
BLS5 IAmb IAmb 03 44 57.7
comp=Z,218nm,1.3s
FURC Furnace Creek, 76.67 54 P P 03 44 46.7 +1.1
baz=76,SNR=142
LRMC Laurel Mtn Rad 76.72 56 P P 03 44 46.5 +0.5
baz=77,SNR=100
MALT Malatya 76.73 308⇓ *i*P P 03 44 47.7 +1.7
D23A Lindsay 76.76 40 P P 03 44 47.1 +1.1
baz=76,SNR=143
I19A Meeteetse 76.76 44 P P 03 44 47.6 +1.4
baz=77,SNR=83

KIS	**Kishinev**	**76.76**	**320**	*i* P		**P**	**03 44 45.5**	**-0.4**
	comp=Z,500nm,2.0s								
KIS	**Kishinev**	**76.76**	**320**	*e*PP		PP	03 47 52.0	+14
KIS	**Kishinev**	**76.76**	**320**	*e*PsP			03 48 13.5	
KIS				*i* S		**S**	**03 54 30.0**	**-1.2**
	comp=Z,2µm,9.0s								
KIS				LRM		MLR	04 21 11.0	
	comp=Z,9µm,22.5s								
KIS	**Kishinev**	**76.76**	**320**	*i* P		**P**	**03 44 45.5**	**-0.4**
KIS				*i*			03 44 56.0	
KIS				*i* S		**S**	**03 54 30.0**	**-1.2**
KIS				*e*			03 54 49.0	
KIS				*e*			03 55 25.0	
KIS				pmax		pmax		
	comp=Z,500nm,2.0s								
KIS				pmax		pmax		
	comp=Z,900nm,4.0s								
KIS				smax		smax		
	comp=N,2µm,9.0s								
KIS				smax		smax		
	comp=E,1µm,9.0s								
KIS				MLR		MLR		
	comp=Z,16µm,16.0s								
KIS				MLR		MLR		
	comp=N,9µm,22.5s								
KIS				MLR		MLR		
	comp=E,11µm,15.0s								
TPNV	**Topopah Spring**	**76.78**	**54**	P		**P**	**03 44 47.4**	**+1.0**
	baz=77,SNR=149								
HWUT	**Hardware Ranch**	**76.82**	**48**	*e*P		**P**	**03 44 47.7**	**+1.1**
	comp=E,882nm,1.6s								
HWUT				LR		LR		
	comp=Z,1µm,19.0s								
E22A	**Miles City**	**76.86**	**41**	P		**P**	**03 44 47.2**	**+0.6**
	baz=77,SNR=40								
EDW2	**Edwards Air Fo**	**76.88**	**56**	P		**P**	**03 44 47.6**	**+0.8**
	baz=77,SNR=110								
C24A	**Savage**	**76.92**	**40**	P		**P**	**03 44 47.6**	**+0.7**
	baz=77,SNR=68								
DUG	**Dugway, Tooele**	**76.95**	**49**	P		**P**	**03 44 48.6**	**+1.3**
	baz=77,SNR=202								
DUG	**Dugway, Tooele**	**76.95**	**49**	*e*P		**P**	**03 44 48.5**	**+1.2**
	comp=Z,332nm,1.2s								
DUG				LR		LR		
	comp=Z,1µm,20.0s								
HOMB	**Homborsund**	**76.98**	**337**	*e*P		**P**	**03 44 47.2**	**+0.4**
G21A	**Lodge Grass**	**76.98**	**43**	P		**P**	**03 44 47.7**	**+0.4**
	baz=77,SNR=50								
DECC	**Green Verdugo**	**77.02**	**57**	P		**P**	**03 44 48.0**	**+0.4**
	baz=77,SNR=16								
H20A	**Greybull**	**77.03**	**44**	P		**P**	**03 44 48.2**	**+0.6**
	baz=77,SNR=61								
B25A	**Knox Farm, Ray**	**77.06**	**38**	P		**P**	**03 44 48.6**	**+1.0**
	baz=77,SNR=9.8								
F22A	**Rosebud**	**77.13**	**42**	P		**P**	**03 44 48.5**	**+0.5**
	baz=77								
E23A	**Ismay**	**77.16**	**41**	P		**P**	**03 44 49.2**	**+1.0**
	baz=77,SNR=108								
A26A	**Wade Farm, Ken**	**77.19**	**37**	P		**P**	**03 44 49.1**	**+0.8**
	baz=77,SNR=134								
TCUT	**Toone Canyon**	**77.21**	**48**	*e*P		**P**	**03 44 49.8**	**+0.9**
	comp=Z,2µm,1.9s								
LVV	**L'vov**	**77.22**	**324**	*i* P		**P**	**03 44 48.3**	**-0.1**
LVV				*i* S		**S**	**03 54 34.1**	**-2.0**
LVV				*i* PS		**PnS**	**03 55 07.3**	**-10**
LVV				*e*SSS		SSS	04 02 51.1	
LVV				MLR		MLR		
	comp=N,8µm,16.0s								
LVV				MLR		MLR		
	comp=E,6µm,16.0s								
LVV				MLR		MLR		
	comp=Z,11µm,16.0s								
J19A	**Crowheart**	**77.22**	**45**	P		**P**	**03 44 49.9**	**+1.1**
	baz=77,SNR=231								
MWC	**Mount Wilson**	**77.22**	**57**	*e*P		**P**	**03 44 49.1**	**+0.1**
	comp=Z,390nm,1.4s								
BSD	**Bornholm Skovb**	**77.23**	**332**	⇑*i*P		**P**	**03 44 48.6**	**+0.3**
	comp=Z,412nm,1.4s								
BSD	**Bornholm Skovb**	**77.23**	**332**	⇑*i*P		**P**	**03 44 48.6**	**+0.3**
BSD				*i*			03 44 58.9	
BSD				pmax		pmax		
	comp=Z,410nm,1.4s								
D24A	**Glendive**	**77.25**	**40**	P		**P**	**03 44 49.9**	**+1.1**
	baz=77,SNR=104								
BW06	**Boulder Array**	**77.25**	**46**	*e*P		**P**	**03 44 49.2**	**+0.1**
	comp=Z,283nm,1.4s								
BW06				LR		LR		
	comp=Z,2µm,22.0s								
PDAR	**Pinedale Array**	**77.25**	**46**	P		**P**	**03 44 49.2**	**+0.1**
	comp=Z,48nm,0.7s,baz=321,slow=2.1,SNR=364								
PDAR				PP		**PP**	**03 47 43.0**	**+0.3**
	comp=Z,2.9nm,1.0s,baz=338,slow=2.1,SNR=2.5								
PDAR				PKKPbc		**PKKPbc**	**04 03 54.0**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=123,slow=4.4,SNR=6.9								
BEL	**Belsk**	**77.26**	**327**	*i* P		**P**	**03 44 49.8**	**+1.2**
BEL				*e*pP		pP	03 44 50.6	-6.7
BEL				*e*PcP		**PcP**	**03 45 00.1**	**+0.9**
BEL				LMZ		LR	04 21 55.0	
BEL	**Belsk**	**77.26**	**327**	⇑*i*P		**P**	**03 44 49.9**	**+1.3**
BEL				*e*			03 45 00.1	
BEL				MLR		MLR		
	comp=Z,8µm,18.8s								
CTU	**Camp Tracy**	**77.28**	**48**	*e*P		**P**	**03 44 49.7**	**+0.5**
	comp=Z,292nm,1.5s								
IAS	**Iasi**	**77.28**	**320**	⇓*i*P		**P**	**03 44 49.6**	**+0.8**
STAV	**Stavanger**	**77.29**	**338**	*e*P		**P**	**03 44 49.8**	**+1.3**
I20A	**Worland**	**77.30**	**44**	P		**P**	**03 44 50.4**	**+1.2**
	baz=77,SNR=152								
BORG	**Borgarnes**	**77.32**	**353**	P		**P**	**03 44 50.6**	**+1.9**
	comp=Z,516nm,0.8s,SNR=7.8								
BORG	**Borgarnes**	**77.32**	**353**	*i* P		**P**	**03 44 51.5**	**+2.8**
BORG	**Borgarnes**	**77.32**	**353**	*e*P		**P**	**03 44 50.6**	**+1.9**
	comp=Z,91nm,0.9s								
BORG				LR		LR		
	comp=Z,3µm,19.0s								
SNART	**Snartemo**	**77.32**	**337**	*e*P		**P**	**03 44 49.9**	**+1.1**
FMP	**Fort Macarthur**	**77.37**	**57**	P		**P**	**03 44 50.3**	**+0.8**
	baz=77								
SHOC	**Shoshone, Teco**	**77.39**	**54**	P		**P**	**03 44 50.7**	**+1.0**
	baz=77,SNR=17								
C25A	**Freed Ranch, W**	**77.39**	**39**	P		**P**	**03 44 50.4**	**+1.0**
	baz=77,SNR=13								
GSC	**Goldstone, Bar**	**77.40**	**55**	P		**P**	**03 44 50.7**	**+0.8**
	baz=77,SNR=105								
GSC	**Goldstone, Bar**	**77.40**	**55**	*e*P		**P**	**03 44 50.4**	**+0.5**
	comp=Z,276nm,1.4s								
LEOM	**Leova**	**77.41**	**319**	⇑*i*P		**P**	**03 44 50.2**	**+0.7**
B26A	**Jensen Ranch,**	**77.44**	**38**	P		**P**	**03 44 50.9**	**+1.1**
	baz=77,SNR=58								
H21A	**Big Horn, Sher**	**77.46**	**43**	P		**P**	**03 44 50.9**	**+0.9**
	baz=77,SNR=59								
CIS	**Catalina Islan**	**77.47**	**58**	P		**P**	**03 44 50.6**	**+0.4**
	baz=77,SNR=13								
G22A	**Birney**	**77.47**	**42**	P		**P**	**03 44 50.7**	**+0.7**
	baz=77,SNR=64								
BFSC	**Mount Baldy Ra**	**77.48**	**57**	P		**P**	**03 44 50.9**	**+0.6**
	baz=77,SNR=69								
JLU	**Jordanelle**	**77.51**	**48**	*e*P		**P**	**03 44 51.5**	**+0.9**
	comp=Z,785nm,1.9s								
A27A	**Ledoux Ranch,**	**77.53**	**37**	P		**P**	**03 44 51.2**	**+1.0**
	baz=77,SNR=28								
RRX	**Edison Barstow**	**77.53**	**56**	P		**P**	**03 44 51.6**	**+1.1**
	baz=77,SNR=8.3								
NLU	**North Lily Min**	**77.54**	**49**	*e*P		**P**	**03 44 51.8**	**+1.1**
	comp=Z,125nm,1.1s								
F23A	**Volborg**	**77.61**	**41**	P		**P**	**03 44 51.4**	**+0.6**
	baz=77,SNR=56								
E24A	**Baker**	**77.63**	**40**	P		**P**	**03 44 51.6**	**+0.7**
	baz=77,SNR=33								
SCI	**San Clemente I**	**77.63**	**58**	P		**P**	**03 44 51.8**	**+0.7**
	baz=78,SNR=6.9								
RBK	**Rabkut**	**77.64**	**283**	P		**P**	**03 44 51.5**	**+0.2**
	SNR=10								
COP	**Copenhagen**	**77.70**	**333**	⇑*i*P		**P**	**03 44 51.8**	**+0.8**
	comp=Z,83nm,0.9s								
COP				*i* pP		**PcP**	**03 45 02.2**	**+1.2**
COP	**Copenhagen**	**77.70**	**333**	⇑*i*P		**P**	**03 44 51.8**	**+0.8**
COP				*i* *PP		**PcP**	**03 45 02.2**	**+1.2**
COP				pmax		pmax		
	comp=Z,83nm,0.9s								
J20A	**Shoshoni**	**77.71**	**44**	P		**P**	**03 44 52.2**	**+0.7**
	baz=78,SNR=104								
GKP	**Gorka Klasztor**	**77.71**	**330**	*i* P		**P**	**03 44 51.6**	**+0.5**
GKP				*e*pP		pP	03 44 53.2	-6.6
GKP				*e*PcP		**PcP**	**03 45 00.5**	**-0.6**
GKP				LMZ		LR	04 25 03.3	
GKP	**Gorka Klasztor**	**77.71**	**330**	⇑*i*P		**P**	**03 44 51.6**	**+0.5**
GKP				*e*			03 45 00.6	
D25A	**Fairfield**	**77.74**	**39**	P		**P**	**03 44 52.3**	**+0.9**
	baz=78								
SHPR	**Sheep Range**	**77.74**	**53**	*e*P		**P**	**03 44 52.6**	**+0.8**
	comp=Z,0.8nm,0.4s								
MPU	**Maple Canyon**	**77.77**	**49**	*e*P		**P**	**03 44 52.8**	**+0.9**
	comp=Z,1µm,1.4s								
PRAR	**RASCA**	**77.84**	**321**	⇑*i*P		**P**	**03 44 52.7**	**+0.8**
I21A	**Big Trails, Te**	**77.85**	**44**	P		**P**	**03 44 52.8**	**+0.5**
	baz=78,SNR=224								
H22A	**Clearmont**	**77.85**	**43**	P		**P**	**03 44 52.9**	**+0.6**
	baz=78,SNR=71								
C26A	**Wahner Farm, P**	**77.89**	**38**	P		**P**	**03 44 52.9**	**+0.6**
	baz=78,SNR=39								
B27A	**Peters Farms,**	**77.90**	**37**	P		**P**	**03 44 52.8**	**+0.5**
	baz=78,SNR=22								
TUQ	**Turquoise Moun**	**77.90**	**55**	P		**P**	**03 44 53.5**	**+0.8**
	baz=78,SNR=23								
BBRC	**Big Bear Solar**	**77.95**	**56**	P		**P**	**03 44 53.7**	**+0.6**
	baz=78,SNR=5.5								
TLCR		**77.96**	**318**	⇓*i*P		**P**	**03 44 53.1**	**+0.5**
KWP	**Kalwaria Pacla**	**77.97**	**324**	*i* P		**P**	**03 44 53.6**	**+1.0**
KWP				*e*PcP		**PcP**	**03 45 04.2**	**+1.9**
KWP				LMZ		LR	04 24 59.9	
KWP	**Kalwaria Pacla**	**77.97**	**324**	⇑*i*P		**P**	**03 44 53.7**	**+1.1**
KWP				*e*			03 45 04.2	
G23A	**Biddle**	**77.97**	**42**	P		**P**	**03 44 53.2**	**+0.4**
	baz=78,SNR=88								
HEC	**Hector,Ludlow**	**78.00**	**55**	P		**P**	**03 44 54.0**	**+0.8**
	baz=78,SNR=153								
A28A	**Rude Farm, Bot**	**78.02**	**37**	P		**P**	**03 44 53.7**	**+0.7**
	baz=78,SNR=125								
F24A	**Ekalaka**	**78.04**	**41**	P		**P**	**03 44 53.9**	**+0.7**
	baz=78,SNR=102								
J21A	**Lysite**	**78.07**	**44**	P		**P**	**03 44 54.2**	**+0.6**
	baz=78,SNR=96								
GIUM	**Giurgiulesti**	**78.08**	**319**	⇑*i*P		**P**	**03 44 54.6**	**+1.3**
E25A	**Miller Ranch,**	**78.13**	**40**	P		**P**	**03 44 54.5**	**+0.9**
	baz=78,SNR=46								
BUR08	**Bucovina Ar. S**	**78.15**	**322**	*e*P		**P**	**03 44 54.4**	**+0.6**
MURC	**Murrieta**	**78.17**	**57**	P		**P**	**03 44 54.4**	**+0.3**
	baz=78,SNR=46								
BURAR	**Bucovina Array**	**78.17**	**322**	⇑*i*P		**P**	**03 44 54.5**	**+0.6**
TESR	**Tescani**	**78.20**	**320**	⇑*i*P		**P**	**03 44 54.7**	**+0.7**
MUD	**Monsted U'grnd**	**78.22**	**335**	*i* P		**P**	**03 44 54.4**	**+0.6**
	comp=Z,175nm,1.3s								
MUD	**Monsted U'grnd**	**78.22**	**335**	*i* P		**P**	**03 44 54.4**	**+0.6**
MUD				*i*			03 45 05.8	
MUD				pmax		pmax		
	comp=Z,180nm,1.3s								
CCUT	**Cedar City**	**78.24**	**52**	*e*P		**P**	**03 44 55.6**	**+1.0**
	comp=Z,3.6nm,0.5s								
I22A	**9 Mile Ranch,**	**78.24**	**43**	P		**P**	**03 44 55.4**	**+1.0**
	baz=78,SNR=115								
C27A	**Sayler Ranch,**	**78.26**	**38**	P		**P**	**03 44 55.1**	**+0.8**
	baz=78,SNR=32								
D26A	**Manning**	**78.26**	**39**	P		**P**	**03 44 55.0**	**+0.6**
	baz=78,SNR=30								
B28A	**Dugan Ranch, T**	**78.30**	**37**	P		**P**	**03 44 55.3**	**+0.8**
	baz=78,SNR=45								
DGAR	**Diego Garcia**	**78.32**	**251**	*c i*P		**P**	**03 44 55.1**	**+0.1**
DGAR	**Diego Garcia**	**78.32**	**251**	PFAKE			03 45 10.0	+15
DGAR				LR		LR		
	comp=Z,1µm,19.0s								
CFR	**Carcaliu**	**78.32**	**319**	⇑*i*P		**P**	**03 44 55.0**	**+0.4**
MVU	**Marysvale**	**78.36**	**50**	*e*P		**P**	**03 44 56.6**	**+1.3**
	comp=Z,272nm,1.4s								
MSU	**Marysvale**	**78.38**	**50**	*e*P		**P**	**03 44 56.6**	**+1.2**
	comp=Z,12nm,0.1s								
H23A	**Clabaugh Cattl**	**78.39**	**42**	P		**P**	**03 44 55.5**	**+0.3**
	baz=78,SNR=19								
G24A	**Alzada**	**78.40**	**41**	P		**P**	**03 44 55.3**	**+0.1**
	baz=78,SNR=48								
ABTO	**Aybut**	**78.43**	**283**	P		**P**	**03 44 55.4**	**-0.3**
	SNR=14								
PETR	**Petresti**	**78.43**	**319**	⇓*i*P		**P**	**03 44 56.6**	**+1.4**
H08S3	**Diego Garcia H**	**78.44**	**251**	P		**P**	**03 44 55.4**	**+0.1**
H08S2	**Diego Garcia H**	**78.44**	**251**	P		**P**	**03 44 55.4**	**+0.1**
H08S1	**Diego Garcia H**	**78.46**	**251**	P		**P**	**03 44 55.5**	**+0.1**
GMRC	**Granite Mounta**	**78.47**	**55**	P		**P**	**03 44 56.4**	**+0.6**
	baz=78,SNR=119								
TMUT	**Trail Mountain**	**78.47**	**49**	*e*P		**P**	**03 44 56.6**	**+0.6**
	comp=Z,8.1nm,0.5s								
F25A	**Bowman**	**78.49**	**40**	P		**P**	**03 44 56.4**	**+0.7**
	baz=78,SNR=34								
A29A	**Manning Farm,**	**78.50**	**36**	P		**P**	**03 44 56.2**	**+0.6**
	baz=78,SNR=178								
J22A	**Midwest**	**78.56**	**44**	P		**P**	**03 44 56.6**	**+0.4**
	baz=78,SNR=381								
VRI	**Vrincioaia**	**78.59**	**320**	⇑*i*P		**P**	**03 44 57.1**	**+0.9**
E26A	**Carlson Angus**	**78.63**	**39**	P		**P**	**03 44 56.7**	**+0.3**
	baz=78,SNR=38								
PLOR	**Plostina**	**78.65**	**320**	⇓*i*P		**P**	**03 44 57.2**	**+0.7**
PFO	**Pinyon Flats O**	**78.66**	**56**	P		**P**	**03 44 57.0**	**+0.1**
	comp=Z,817nm,1.1s,SNR=44								
PFO	**Pinyon Flats O**	**78.66**	**56**	P		**P**	**03 44 57.2**	**+0.3**
	baz=78,SNR=63								
PFO	**Pinyon Flats O**	**78.66**	**56**	*e*P		**P**	**03 44 57.0**	**+0.1**
	comp=Z,387nm,1.4s								
PFO				LR		LR		
	comp=Z,3µm,21.0s								
109C	**Camp Elliot, M**	**78.66**	**57**	P		**P**	**03 44 57.5**	**+0.8**
	baz=78,SNR=26								
TIRR	**Tirgusor**	**78.66**	**318**	⇓*i*P		**P**	**03 44 57.0**	**+0.5**
TIRR	**Tirgusor**	**78.66**	**318**	*e*P		**P**	**03 44 56.6**	**+0.2**
	comp=Z,133nm,1.5s								
KOLS	**Kolonicke sedl**	**78.66**	**324**	*e*P		**P**	**03 44 57.1**	**+0.6**
KOLS				pmax		pmax		
	comp=Z,79nm,1.2s								
KOLS	**Kolonicke sedl**	**78.66**	**324**	*e*P		**P**	**03 44 57.1**	**+0.6**
KOLS				*e*pP		**pP**	**03 45 05.2**	**0.0**
KOLS				*e*sP		**sP**	**03 45 08.5**	**+0.1**
KOLS				*e*PP		**PP**	**03 47 54.9**	**+0.9**
KOLS				*e*S		**S**	**03 54 52.2**	**+0.5**
D27A	**Center**	**78.66**	**38**	P		**P**	**03 44 57.4**	**+0.9**
	baz=78,SNR=46								
H24A	**Dirks Ranch, A**	**78.71**	**42**	P		**P**	**03 44 56.9**	**0.0**
	baz=78,SNR=147								
BELC	**Belle Mtn. Jos**	**78.72**	**56**	P		**P**	**03 44 57.4**	**+0.2**
	baz=79,SNR=68								
H08N1	**Diego Garcia H**	**78.72**	**253**	P		**P**	**03 44 58.8**	**+1.9**
	baz=360,slow=1.1,SNR=8.9								
H08N2	**Diego Garcia H**	**78.72**	**253**	P		**P**	**03 44 58.2**	**+1.3**
	baz=360,slow=1.1,SNR=7.0								
H08N3	**Diego Garcia H**	**78.75**	**253**	P		**P**	**03 44 57.4**	**+0.4**
	baz=360,slow=1.1,SNR=7.1								
I23A	**Meade Ranch, G**	**78.75**	**43**	P		**P**	**03 44 57.2**	**0.0**
	baz=78								
HARR	**Harsova**	**78.76**	**318**	⇓*i*P		**P**	**03 44 57.7**	**+0.7**
B29A	**Wagenman Farm,**	**78.77**	**36**	P		**P**	**03 44 57.5**	**+0.5**
	baz=78,SNR=84								
TLB	**Topalu**	**78.77**	**318**	⇓*i*P		**P**	**03 44 58.1**	**+1.0**
BR131	**Keskin Array S**	**78.78**	**312**	*e*P		**P**	**03 44 57.7**	**+0.2**
	comp=Z,179nm,0.8s								
BRTR	**Keskin Array B**	**78.78**	**312**	P		**P**	**03 44 57.7**	**+0.2**
	comp=Z,68nm,1.1s,baz=95,slow=4.2,SNR=210								
BRTR				LR		LR	04 25 33.7	
	comp=Z,3µm,18.9s,baz=53,slow=40								
BRTR	**Keskin Array B**	**78.78**	**312**	*ce*P		**P**	**03 44 58.0**	**+0.5**
BRTR				pmax		pmax		
	comp=Z,68nm,1.1s								
EFOR	**EFORIE**	**78.79**	**317**	⇑*i*P		**P**	**03 44 58.8**	**+1.6**
STHS	**Stebnicka Huta**	**78.79**	**325**	*e*P		**P**	**03 44 58.3**	**+1.1**
STHS				pmax		pmax		
	comp=Z,74nm,1.1s								
STHS	**Stebnicka Huta**	**78.79**	**325**	*e*P		**P**	**03 44 58.3**	**+1.1**
STHS				*e*sP		**sP**	**03 45 10.0**	**+0.9**
STHS				*e*PP		**PP**	**03 47 56.5**	**+1.5**
STHS				*e*S		**S**	**03 54 55.2**	**+2.1**
GRER		**78.80**	**319**	⇓*i*P		**P**	**03 44 59.6**	**+2.3**
C28A	**Hausauer Farms**	**78.80**	**37**	P		**P**	**03 44 58.1**	**+0.8**
	baz=79,SNR=41								
OJC	**Ojcow**	**78.86**	**326**	*i* P		**P**	**03 44 58.5**	**+1.0**
OJC				*e*pP		pP	03 44 59.4	-6.9
OJC				*e*PcP		**PcP**	**03 45 09.3**	**+3.1**
OJC				LMZ		LR	04 23 01.3	
OJC	**Ojcow**	**78.86**	**326**	⇑*i*P		**P**	**03 44 58.6**	**+1.0**
OJC				*e*			03 45 09.4	
OJC				MLR		MLR		
	comp=Z,10µm,17.0s								
UZH	**Uzhgorod**	**78.86**	**324**	⇓*i*P		**P**	**03 44 58.0**	**+0.5**
UZH				*i*			03 45 10.0	
UZH				*e*			03 47 57.8	
UZH				*e*			03 49 52.6	
UZH				*e*S		S	03 55 06.0	+12
UZH				*e*			03 55 29.0	
UZH				*e*			04 00 03.0	
UZH				MLR		MLR		
	comp=N,8µm,16.0s								
UZH				MLR		MLR		
	comp=E,14µm,16.0s								
UZH				MLR		MLR		
	comp=Z,7µm,16.0s								
A30A	**Hoffart Farm,**	**78.92**	**36**	P		**P**	**03 44 58.4**	**+0.5**
	baz=79,SNR=80								
F26A	**Lodgepole**	**78.95**	**40**	P		**P**	**03 44 58.8**	**+0.6**
	baz=79,SNR=49								
BMR	**Baia Mare**	**78.97**	**323**	⇓*i*P		**P**	**03 44 59.8**	**+1.7**
MANR	**Mangalia**	**78.99**	**317**	⇓*i*P		**P**	**03 44 59.5**	**+1.2**
SRU	**San Rafael Swe**	**79.00**	**49**	*e*P		**P**	**03 44 59.4**	**+0.6**
	comp=Z,748nm,1.4s								
G25A	**Newell**	**79.01**	**41**	P		**P**	**03 44 58.7**	**+0.2**
	baz=79,SNR=24								
K22A	**Casper**	**79.03**	**44**	P		**P**	**03 44 59.3**	**+0.4**
	baz=79,SNR=88								
K22A	**Casper**	**79.03**	**44**	*e*P		**P**	**03 44 58.9**	**0.0**
	comp=Z,578nm,1.5s								
J23A	**Dilts Ranch, B**	**79.07**	**43**	P		**P**	**03 44 58.9**	**-0.1**
	baz=79,SNR=22								
BAR	**Barrett**	**79.07**	**57**	*e*P		**P**	**03 44 59.2**	**+0.1**
	comp=Z,348nm,1.4s								
D28A	**Regan**	**79.07**	**38**	P		**P**	**03 44 59.5**	**+0.7**
	baz=79,SNR=62								
MDND	**Maddock**	**79.08**	**37**	P		**P**	**03 44 59.4**	**+0.6**
	baz=79,SNR=37								
MDND	**Maddock**	**79.08**	**37**	*e*P		**P**	**03 44 59.1**	**+0.3**
	comp=Z,1µm,1.5s								
TRPA	**Tarpa**	**79.10**	**323**	⇑*i*P		**P**	**03 45 00.1**	**+1.2**
TRPA	**Tarpa**	**79.10**	**323**	⇑*e*S		**P**	**03 45 00.1**	**+1.2**
E27A	**Carson**	**79.11**	**39**	P		**P**	**03 44 59.7**	**+0.7**
	baz=79,SNR=56								
PGOR	**Pogoanele**	**79.11**	**319**	⇓*i*P		**P**	**03 45 01.0**	**+2.0**
MONP	**Monument Peak,**	**79.11**	**57**	P		**P**	**03 45 00.1**	**+0.6**
	baz=79,SNR=51								
NEE2	**Needles Airpor**	**79.15**	**55**	P		**P**	**03 45 00.1**	**+0.7**
	baz=79								
CHZP	**Chorzow**	**79.17**	**327**	*e*P		**P**	**03 45 00.2**	**+1.0**
IRM	**Iron Mountain**	**79.18**	**55**	P		**P**	**03 45 00.4**	**+0.8**
	baz=79,SNR=64								
ANTO	**Ankara**	**79.19**	**312**	⇑*i*P		**P**	**03 45 00.6**	**+1.0**
ANTO	**Ankara**	**79.19**	**312**	P		**P**	**03 45 00.9**	**+1.3**
	SNR=72								
ANTO	**Ankara**	**79.19**	**312**	*e*P		**P**	**03 45 00.3**	**+0.7**
	comp=Z,100nm,0.8s								
ANTO				LR		LR		
	comp=Z,3µm,20.0s								
DOPR	**Dopca**	**79.21**	**320**	⇑*i*P		**P**	**03 45 01.1**	**+1.5**
NIE	**Niedzica**	**79.21**	**325**	*i* P		**P**	**03 45 00.8**	**+1.3**
NIE				*e*PcP		**pP**	**03 45 11.5**	**+3.2**
NIE				LMZ		LR	04 23 41.2	
NIE	**Niedzica**	**79.21**	**325**	⇑*i*P		**P**	**03 45 00.9**	**+1.4**
NIE				*e*			03 45 11.5	
NIE				MLR		MLR		
	comp=Z,9µm,16.7s								
MSAB	**Monastry St. A**	**79.22**	**318**	⇑*i*P		**P**	**03 45 00.6**	**+1.0**
MLR	**Muntele Rosu**	**79.25**	**320**	S		**S**	**03 54 59.0**	**+0.7**
	comp=Z,0.6nm,1.1s,baz=2.2,slow=21,SNR=7.6								
MLR	**Muntele Rosu**	**79.25**	**320**	⇑*i*P		**P**	**03 45 00.4**	**+0.5**
B30A	**Myrvik Farm, E**	**79.26**	**36**	P		**P**	**03 45 00.4**	**+0.6**
	baz=79,SNR=142								
F27A	**Lemmon**	**79.26**	**40**	P		**P**	**03 45 00.4**	**+0.5**
	baz=79,SNR=40								
I24A	**Kuemmerle Ranc**	**79.27**	**42**	P		**P**	**03 44 59.7**	**-0.4**
	baz=79,SNR=31								
RWWY	**Rawlins**	**79.28**	**45**	*e*P		**P**	**03 45 02.2**	**+1.8**
	comp=Z,36nm,1.4s								
BC3	**Big Chuckawall**	**79.29**	**56**	P		**P**	**03 45 00.7**	**+0.4**
	baz=79,SNR=97								
H25A	**Fruitdale**	**79.30**	**41**	P		**P**	**03 45 00.6**	**+0.4**
	baz=79,SNR=58								
G26A	**Maurine**	**79.36**	**40**	P		**P**	**03 45 01.0**	**+0.5**
	baz=79,SNR=124								
RSSD	**Black Hills**	**79.41**	**42**	*e*P		**P**	**03 45 00.9**	**0.0**
	comp=Z,336nm,1.4s								
E28A	**Huff**	**79.44**	**38**	P		**P**	**03 45 01.2**	**+0.4**
	baz=79,SNR=30								
K23A	**Bowen Ranch, D**	**79.46**	**44**	P		**P**	**03 45 01.2**	**0.0**
	baz=79,SNR=19								
IBP	**Imperial Bould**	**79.47**	**57**	P		**P**	**03 45 02.0**	**+0.7**
	baz=79,SNR=13								
SWSC	**Sam W. Stewart**	**79.50**	**57**	P

baz=80,SNR=60
GLA Glamis 80.07 56 *e*P P 03 45 05.1 +0.6
comp=Z,604nm,1.5s
H27A Howes 80.09 41 P P 03 45 05.0 +0.6
baz=80,SNR=124
I26A New Underwood 80.09 41 P P 03 45 05.2 +0.7
baz=80,SNR=89
TAU Tasmania Unive 80.09 176 *e*P P 03 45 04.7 +0.8
comp=Z,175nm,1.5s
TAU LR LR
comp=Z,4µm,22.0s
DPC Dobruska-Polom 80.27 328 *e*P P 03 45 06.4 +1.1
DPC *ep*P **pP** 03 45 14.1 +0.1
DPC *es*P **sP** 03 45 16.9 -0.3
DPC *e*S **S** 03 55 07.3 -1.5
DPC *e*SS **SS** 04 00 21.2 +2.3
DPC *e*PKPPKP P'P'df 04 11 49.4 -8.0
DPC AMS AMS 04 24 00.0
comp=Z,9µm,16.8s
DPC Dobruska-Polom 80.27 328 *e*P P 03 45 06.4 +1.1
DPC *e* 03 45 16.9
DPC *e*S **S** 03 55 07.3 -1.5
DPC *e*SS **SS** 04 00 21.2 +2.3
DPC MLR MLR
comp=Z,9µm,16.8s
MLA1 Latheron 80.27 342⇑ *e*P P 03 45 05.8 +0.7
UPC Upice 80.28 328⇑ *e*P P 03 45 06.2 +0.9
UPC *ep*P **pP** 03 45 15.1 +1.1
UPC *es*P **sP** 03 45 17.5 +0.3
UPC Upice 80.28 328 *e*P P 03 45 06.2 +0.9
UPC *e* 03 45 17.5
E30A Jud 80.37 38 P P 03 45 06.0 +0.2
baz=80,SNR=65
G28A Parade 80.38 40 P P 03 45 06.4 +0.5
baz=80,SNR=58
LOT Lotru 80.39 321⇑ *i*P P 03 45 06.7 +0.6
F29A Eureka 80.39 39 P P 03 45 06.5 +0.5
baz=80,SNR=69
HUMR Humele 80.41 320⇓ *i*P P 03 45 06.3 +0.2
PV04 Paradox Valley 80.43 49 *e*P P 03 45 07.2 +0.7
J26A Sides Ranch, S 80.47 42 P P 03 45 06.9 +0.4
baz=80,SNR=66
I27A Quinn 80.49 41 P P 03 45 07.2 +0.7
baz=80,SNR=98
PSZ Piszkesteto 80.49 325⇑ *i*P P 03 45 07.6 +1.1
PSZ Piszkesteto 80.49 325 *e*P P 03 45 07.3 +0.8
comp=Z,754nm,1.5s
PSZ LR LR
comp=Z,5µm,19.0s
PSZ Piszkesteto 80.49 325⇑ *e*P P 03 45 07.6 +1.1
AGMN Agassiz Nation 80.51 35 P P 03 45 06.1 -0.4
baz=80,SNR=77
AGMN Agassiz Nation 80.51 35 *e*P P 03 45 05.9 -0.6
comp=Z,291nm,1.3s
AGMN LR LR
comp=Z,4µm,22.0s
K25A Mack Ranch, Ha 80.52 43 P P 03 45 07.2 +0.3
baz=80,SNR=17
N23A Red Feather La 80.52 45 P P 03 45 08.2 +1.1
baz=80,SNR=140
PHWY Pilot Hill 80.52 45 *e*P P 03 45 07.2 +0.1
comp=Z,34nm,1.4s
ISK Istanbul-Kandi 80.56 315 P P 03 45 08.1 +1.2
ISK Istanbul-Kandi 80.56 315 P P 03 45 08.1 +1.2
H28A Mission Ridge 80.60 40 P P 03 45 07.8 +0.7
baz=80,SNR=160
O22A Kremmling 80.66 46 P P 03 45 08.5 +0.6
baz=80,SNR=127
RAYN Ar Rayn 80.73 292 *e*P P 03 45 08.2 0.0
comp=Z,344nm,0.8s
WUAZ Wupatki 80.76 52 P P 03 45 09.1 +0.8
baz=81,SNR=178
WUAZ Wupatki 80.76 52 *e*P P 03 45 09.2 +0.8
comp=Z,339nm,1.3s
WUAZ LR LR
comp=Z,2µm,21.0s
L25A Engebretsen Ra 80.77 43 P P 03 45 09.2 +0.9
baz=81,SNR=12
SZH Strazhica 80.78 318 *i*P P 03 45 08.6 +0.5
F30A Leola 80.79 38 P P 03 45 08.3 +0.2
baz=81,SNR=16
HWQ Hawqa 80.79 306 *e*P P 03 45 08.9 +0.4
G29A Hoven 80.80 39 P P 03 45 08.3 +0.2
baz=81,SNR=24
PV01 Paradox Valley 80.80 49 *e*P P 03 45 09.3 +0.7
MVH1 Achvaich 80.81 342⇑ *i*P P 03 45 08.5 +0.5
K26A Motz Farm, Whi 80.83 43 P P 03 45 08.7 +0.2
baz=81,SNR=79
SIRR Siria 80.85 323⇓ *i*P P 03 45 09.4 +1.0
BRG Berggiesshubel 80.85 330⇑ *i*P P 03 45 08.7 +0.4
comp=Z,168nm,1.2s
BRG *i* PCP **pP** 03 45 19.4 +2.3
comp=Z,308nm,1.5s
BRG S **S** 03 55 11.0 -3.7
BRG SS SS 04 00 19.0 -8.4
BRG Berggiesshubel 80.85 330 *e*P P 03 45 09.0 +0.7
comp=Z,70nm,1.0s
BRG Berggiesshubel 80.85 330⇑ *i*P P 03 45 08.7 +0.4
BRG *i* 03 45 19.4
BRG S **S** 03 55 11.0 -3.7
BRG pmax pmax
comp=Z,168nm,1.2s
BRG pmax pmax
comp=Z,308nm,1.5s
BRG pmax pmax
comp=Z,11nm,1.0s
BRG MLR MLR
comp=N,8µm,17.4s
BRG MLR MLR
comp=E,12µm,19.3s
BRG MLR MLR
comp=Z,11µm,14.8s
PVCC Panska Ves 80.86 329⇑ *i*P P 03 45 09.4 +1.0
PVCC *ep*P **pP** 03 45 17.1 0.0
PVCC *es*P **sP** 03 45 20.2 -0.1
PVCC *e*S **S** 03 55 13.9 -1.0
PVCC *e*SS **SS** 04 00 29.1 +1.5
PVCC AMS AMS 04 25 20.0
comp=Z,10µm,18.0s
PVCC Panska Ves 80.86 329⇑ *i*P P 03 45 09.4 +1.0
PVCC *e* 03 45 20.2
PVCC *e*S **S** 03 55 13.9 -1.0
PVCC *e*SS **SS** 04 00 29.1 +1.5
PVCC MLR MLR
comp=Z,10µm,18.0s
MCD Coleburn Disti 80.89 342⇑ *e*P P 03 45 08.7 +0.3
CLL Collm 80.89 330 *e*P P 03 45 09.0 +0.5
comp=Z,122nm,1.0s
CLL Collm 80.89 330⇑ *i*P P 03 45 08.7 +0.2
comp=Z,244nm,1.1s
CLL *i* sP **sP** 03 45 19.6 -0.8
CLL *e*S **S** 03 55 16.0 +0.9
CLL *e*ScS **ScS** 03 55 33.0 -0.8
CLL *e*SS SS 04 00 54.0 +26
CLL *e*SSS SSS 04 04 12.0
CLL LmH 04 22 00.0
comp=N,4µm,19.1s
CLL LmH 04 22 00.0
comp=E,9µm,19.8s
CLL LmV 04 24 00.0
comp=Z,9µm,18.1s
CLL Collm 80.89 330⇑ *i*P P 03 45 08.7 +0.2
CLL *i* 03 45 19.6
CLL *e*S **S** 03 55 16.0 +0.9
CLL pmax pmax
comp=Z,244nm,1.1s
CLL MLR MLR
comp=Z,9µm,18.1s
P22A Eagle 80.91 47 P P 03 45 10.2 +1.1
baz=81,SNR=135
JMB Yambol 80.98 317 P P 03 45 10.9 +1.8
JMB Yambol 80.98 317 P P 03 45 10.9 +1.8
O23A Lake Granby, G 80.99 46 P P 03 45 10.9 +1.2
baz=81,SNR=86
I28A Midland 81.00 41 P P 03 45 09.8 +0.5
baz=81,SNR=138
H29A Onida 81.05 40 P P 03 45 09.9 +0.4
baz=81,SNR=58
J27A Elkhorn Farm, 81.08 42 P P 03 45 10.6 +0.9
baz=81,SNR=94
SMOL Smolenice 81.17 326 *e*P P 03 45 11.5 +1.5
SMOL *es*P 03 45 22.9
SMOL Smolenice 81.17 326 *e*P P 03 45 11.5 +1.5
SMOL *es*P **sP** 03 45 22.9 +0.9
BUD Budapest 81.21 325⇑ *e*P P 03 45 11.2 +0.9

M25A Palm-Egli Farm 81.21 44 P P 03 45 11.9 +1.3
baz=81,SNR=34
BHL Bhannes 81.21 306 *e*P P 03 45 10.9 +0.2
SRE Strehaia 81.22 321⇑ *i*P P 03 45 11.9 +1.5
G30A Faulkton 81.23 39 P P 03 45 10.7 +0.3
baz=81,SNR=160
GOPC GO Pecny, Ondr 81.25 328⇑ *i*P P 03 45 11.4 +1.0
GOPC *ep*P **pP** 03 45 19.3 +0.1
GOPC *es*P **sP** 03 45 22.2 -0.2
GOPC *e*S **S** 03 55 17.6 -1.3
GOPC *e*SS **SS** 04 00 32.4 -0.9
GOPC AMS AMS 04 24 10.0
comp=Z,9µm,18.3s
PKSN Nyarlorinc 81.25 324⇑ *e*P P 03 45 11.7 +1.2
PRA Prague 81.27 329⇑ *e*P P 03 45 11.6 +1.1
PRA *e*PCP **PcP** 03 45 16.6 -0.1
PRA *ep*P **pP** 03 45 19.4 +0.1
PRA *ex* x 03 45 22.3
PRA *e*S **S** 03 55 17.3 -1.8
PRA *e*SS **SS** 04 00 32.9 -0.8
PRA AMS AMS 04 25 30.0
comp=Z,9µm,18.0s
PRA Prague 81.27 329 *e*P P 03 45 11.6 +1.1
PRA *e* 03 45 22.3
PRA *e*S **S** 03 55 17.3 -1.8
PRA *e*SS **SS** 04 00 32.9 -0.8
PRA MLR MLR
comp=Z,9µm,18.0s
MDO Dochfour 81.29 342⇑ *e*P P 03 45 10.7 +0.2
PRU Pruhonice 81.29 329⇑ *i*P P 03 45 11.4 +0.8
PRU *e*PCP **PcP** 03 45 17.0 +0.2
PRU *ep*P **pP** 03 45 19.4 0.0
PRU *es*P **sP** 03 45 22.3 -0.3
PRU *e*S **S** 03 55 17.7 -1.6
PRU *e*SS **SS** 04 00 33.4 -0.5
PRU AMS AMS 04 24 20.0
comp=Z,8µm,17.2s
PRU Pruhonice 81.29 329⇑ *i*P P 03 45 11.4 +0.8
PRU *e* 03 45 22.3
PRU *e*S **S** 03 55 17.7 -1.6
PRU *e*SS **SS** 04 00 33.4 -0.5
PRU MLR MLR
comp=Z,8µm,17.2s
ALT Altintas 81.29 313 P P 03 45 12.3 +1.3
ALT Altintas 81.29 313 P P 03 45 12.3 +1.3
EDRB Edirne 81.32 317 P P 03 45 12.2 +1.3
EDRB Edirne 81.32 317 P P 03 45 12.2 +1.3
K27A Flueckinger Fa 81.33 42 P P 03 45 11.3 +0.1
baz=81,SNR=65
BZS Buzias 81.34 322⇑ *i*P P 03 45 11.1 +0.1
L26A Underwood Farm 81.34 43 P P 03 45 11.7 +0.4
baz=81,SNR=24
RCY Rachaya 81.35 306 *e*P P 03 45 12.2 +0.7
J28A Allard Ranch, 81.36 41 P P 03 45 11.7 +0.4
baz=81,SNR=114
DQRL Deir Qamar 81.39 306 *e*P P 03 45 12.4 +0.8
TREC Trest 81.42 328⇑ *i*P P 03 45 12.2 +0.8
TREC *e*PCP **PcP** 03 45 17.8 +0.4
TREC *ep*P **pP** 03 45 20.2 0.0
TREC *es*P **sP** 03 45 23.0 -0.4
TREC *e*S **S** 03 55 20.4 -0.4
TREC *e*SS **SS** 04 00 36.7 +0.7
TREC *e*PKPPKP P'P'df 04 11 49.8 -5.4
TREC AMS AMS 04 24 40.0
comp=Z,8µm,16.8s
TREC Trest 81.42 328⇑ *i*P P 03 45 12.2 +0.8
TREC *e* 03 45 23.0
TREC *e*S **S** 03 55 20.4 -0.4
TREC *e*SS **SS** 04 00 36.7 +0.7
TREC MLR MLR
comp=Z,8µm,16.8s
I29A Vivian Onida 81.43 40 P P 03 45 11.8 +0.3
baz=81,SNR=63
ISCO Idaho Springs 81.44 46 P P 03 45 12.9 +0.9
baz=81,SNR=94
ISCO Idaho Springs 81.44 46 *e*P P 03 45 12.8 +0.8
comp=Z,326nm,1.5s
ISCO LR LR
comp=Z,2µm,19.0s
MVCO Mesa Verde 81.45 49 P P 03 45 12.9 +0.8
baz=81,SNR=146
MVCO Mesa Verde 81.45 49 *e*P P 03 45 12.7 +0.7
comp=Z,504nm,1.5s
MVCO LR LR
comp=Z,1µm,19.0s
KAC Achnashellach 81.46 343⇑ *i*P P 03 45 12.2 +0.8
PKS7 Kunszentmiklos 81.47 324⇑ *e*P P 03 45 12.6 +1.0
ASF Jabal al Asfar 81.49 304 PKKPbc PKKPbc 04 03 46.8 +2.7
comp=Z,1.3nm,0.5s,baz=252,slow=3.2,SNR=3.2
DJES Djerdap 81.57 321 *i*P P 03 45 11.8 -0.4
DJES Djerdap 81.57 321 *e*S **S** 03 55 21.2 -1.2
PKSG 81.57 325⇑ *e*P P 03 45 13.0 +0.8
P23A Jefferson 81.59 46 P P 03 45 14.5 +1.6
baz=81,SNR=74
CSKK Cs˙ákako 81.65 325⇓ *e*P P 03 45 13.7 +1.1
KPL Plockton 81.69 343⇑ *e*P P 03 45 13.4 +0.8
KPL AMB AMB 03 45 14.7
comp=Z,229nm,1.5s
KPL AMS AMS 04 22 55.0
comp=Z,3µm,21.3s
M26A McRoberts Ranc 81.69 43 P P 03 45 14.2 +1.1
baz=82,SNR=18
L27A T5 Ranch, Ells 81.72 43 P P 03 45 13.7 +0.4
baz=82,SNR=32
EDU Dundee 81.75 341⇑ *e*P P 03 45 13.5 +0.6
KSB Sheil Bridge 81.75 343⇑ *i*P P 03 45 13.5 +0.6
K28A Ten Mile Ranch 81.79 42 P P 03 45 14.2 +0.6
baz=82,SNR=52
TANN Tannbergstha 81.81 330 *e*P P 03 45 14.0 +0.6
comp=Z,31nm,1.0s
PKST T"'s 81.83 325⇑ *e*P P 03 45 14.1 +0.5
J29A Okreek 81.85 41 P P 03 45 14.1 +0.3
baz=82,SNR=46
ISP Isparta 81.86 312⇓ *i*P P 03 45 13.9 -0.2
ISP Isparta 81.86 312 *e*P P 03 45 12.8 -1.3
comp=Z,119nm,1.1s
ISP LR LR
comp=Z,3µm,20.0s
MPEP Malo Peshtene 81.87 319 *i*P P 03 45 14.7 +0.8
Q23A Hartsel 81.91 47 P P 03 45 15.4 +0.9
baz=82
I30A Oacoma 81.95 40 P P 03 45 14.5 +0.2
baz=82,SNR=65
NKC Novy Kostel 81.95 330⇑ *i*P P 03 45 14.8 +0.6
NKC *ep*P **pP** 03 45 23.7 +0.8
NKC *es*P **sP** 03 45 25.7 -0.4
NKC *e*S **S** 03 55 23.3 -2.9
NKC *ex* x 04 00 33.3
NKC AMS AMS 04 28 40.0
comp=Z,6µm,16.1s
NKC Novy Kostel 81.95 330⇑ *i*P P 03 45 14.8 +0.6
NKC *e* 03 45 25.7
NKC *e*S **S** 03 55 23.3 -2.9
NKC MLR MLR
comp=Z,6µm,16.1s
MOX Moxa 81.96 331 *e*P P 03 45 14.9 +0.7
comp=Z,57nm,1.0s
MOX *e*L L 04 24 52.1
comp=Z,7µm,18.4s
CSS Prodhromos 82.02 308 P P 03 45 15.6 +0.8
CSS Prodhromos 82.02 308 *e*P P 03 45 15.0 +0.2
comp=Z,673nm,1.6s
CSS LR LR
comp=Z,558nm,21.0s
W18A Petrified Fore 82.04 52 P P 03 45 16.2 +1.1
baz=82,SNR=8.9
W18A Petrified Fore 82.04 52 *e*P P 03 45 15.8 +0.7
comp=Z,540nm,2.1s
M27A Reverse DX Ran 82.06 43 P P 03 45 15.6 +0.5
baz=82,SNR=32
IBBN Ibbenburen 82.07 333 *e*P P 03 45 15.2 +0.5
comp=Z,121nm,0.9s
URZ Urewera 82.07 153 LR LR 04 17 11.0
comp=Z,6µm,21.7s,baz=348,slow=32
URZ Urewera 82.07 153 *e*P P 03 45 12.9 -1.7
comp=Z,69nm,1.0s
214A Organ Pipe Nat 82.08 56 P P 03 45 16.0 +0.8
baz=82,SNR=73
214A Organ Pipe Nat 82.08 56 *e*P P 03 45 15.5 +0.3
comp=Z,142nm,0.2s
N26A Koester Ranch, 82.09 44 P P 03 45 15.6 +0.4
baz=82
S22A 4UR Ranch, Cre 82.09 48 P P 03 45 16.9 +1.3
baz=82,SNR=140

KDZ Kurdzhali 82.17 317 *i*P P 03 45 17.0 +1.5
SOP Sopron 82.18 326⇑ *e*P P 03 45 16.6 +1.2
L28A Connealy Angus 82.20 42 P P 03 45 16.1 +0.4
baz=82
ESY Stoneypath 82.20 341⇑ *e*P P 03 45 15.7 +0.3
PGB Panagyurishte 82.21 319 *i*P P 03 45 16.6 +0.9
PKS9 Tamasi 82.22 324⇑ *e*P P 03 45 15.9 +0.3
PLD Plovdiv 82.24 318 P P 03 45 17.1 +1.3
PLD Plovdiv 82.24 318 P P 03 45 17.1 +1.3
Q24A Divide 82.26 46 P P 03 45 17.0 +0.6
baz=82,SNR=29
CONA Conrad Observa 82.30 327 *i*PcP P 03 45 17.4 +1.3
comp=Z,348nm,1.4s,SNR=103
K29A Lazy Trails An 82.31 41 P P 03 45 16.7 +0.5
baz=82,SNR=62
PKSM Moragy 82.33 324⇓ *i*P P 03 45 16.1 -0.1
PKSM Moragy 82.33 324⇑ *e*P P 03 45 16.4 +0.2
J30A Dallas 82.33 40 P P 03 45 16.8 +0.4
baz=82
KHC Kasperske Hory 82.35 329⇑ *i*P P 03 45 17.1 +0.8
KHC *ep*P **pP** 03 45 25.7 +0.6
KHC *es*P **sP** 03 45 27.9 -0.4
KHC *e*S **S** 03 55 27.7 -2.7
KHC *e*SS **SS** 04 00 47.8 -2.0
KHC AMS AMS 04 26 10.0
comp=Z,10µm,16.4s
KHC Kasperske Hory 82.35 329⇑ *i*P P 03 45 17.1 +0.8
KHC *e* 03 45 27.9
KHC *e*S **S** 03 55 27.7 -2.7
KHC *e*SS **SS** 04 00 47.8 -2.0
KHC MLR MLR
comp=Z,10µm,16.4s
KHC Kasperske Hory 82.35 329 *e*P P 03 45 16.9 +0.5
comp=Z,69nm,1.0s
ALN Alexandroupoli 82.35 316 P P 03 45 17.2 +0.8
ALN Alexandroupoli 82.35 316 *e*P P 03 45 16.9 +0.5
ALN Alexandroupoli 82.35 316 P P 03 45 17.2 +0.8
R23A Moffat 82.39 47 P P 03 45 18.5 +1.5
baz=82,SNR=174
EAB Aberfoyle 82.41 342⇑ *e*P P 03 45 17.1 +0.8
ROTZ Rotzenmuhle 82.42 330 *e*P P 03 45 17.9 +1.3
comp=Z,153nm,1.2s
O26A Horse Wrangler 82.44 44 P P 03 45 17.3 +0.2
baz=82,SNR=36
EBL Broad Law 82.44 341⇑ *i*P P 03 45 17.1 +0.5
UBBA Unterbreizbach 82.44 331 *e*P P 03 45 17.0 +0.4
comp=Z,30nm,1.1s
BOLS Boljevac 82.45 321⇑ *i*P P 03 45 15.4 -1.5
BEO Beograd 82.48 322⇑ *i*P P 03 45 15.8 -1.2
BEO Beograd 82.48 322 *e*S **S** 03 55 30.3 -1.4
N27A Anderson Farm, 82.48 44 P P 03 45 17.8 +0.5
baz=82,SNR=26
ZAPS Zavoj 82.50 320⇑ *i*P P 03 45 17.4 +0.2
ZAPS Zavoj 82.50 320 *e*S **S** 03 55 32.1 0.0
SVIS Svilajnac 82.51 321⇑ *i*P P 03 45 17.4 +0.3
SVIS Svilajnac 82.51 321 *e*S **S** 03 55 30.7 -1.3
GEC2 GERESS Array S 82.52 328 *e*P P 03 45 17.8 +0.5
comp=Z,56nm,1.0s
GEC2 *ep*P **pP** 03 45 24.8 -1.2
GERES GERESS Array B 82.52 328 P P 03 45 17.4 +0.1
comp=Z,45nm,0.9s,baz=36,slow=5.0,SNR=302
GERES S **S** 03 55 31.9 -0.4
comp=Z,0.1nm,0.3s,baz=39,slow=27,SNR=2.1
GERES PKKPbc **PKKPbc** 04 03 41.8 -0.4
comp=Z,1.1nm,0.7s,baz=207,slow=1.1,SNR=7.6
GERES PKPPKP P'P'df 04 11 46.7 -6.6
comp=Z,0.3nm,0.7s,baz=259,slow=1.0,SNR=4.3
GERES LR LR 04 25 23.7
comp=Z,9µm,18.5s,baz=18,slow=38
RZN Rozhen 82.53 318 *i*P P 03 45 18.8 +1.3
FRGS Fruska Gora 82.55 323 *e*S **S** 03 55 31.8 -0.7
S23A Nye Farm, Mont 82.61 48 P P 03 45 19.6 +1.5
baz=82,SNR=9.4
WET Wettzell 82.63 329 *e*P P 03 45 18.8 +1.1
comp=Z,69nm,1.0s
OGNE Ogallala 82.66 43 P P 03 45 18.3 +0.2
baz=82,SNR=15
OGNE Ogallala 82.66 43 *e*P P 03 45 18.1 0.0
comp=Z,2µm,1.8s
OGNE LR LR
comp=Z,2µm,21.0s
WTSB Winterswijk 82.68 334 *e*P P 03 45 18.1 +0.2
comp=Z,123nm,1.0s
VTS Vitosha 82.69 319 P P 03 45 19.6 +1.3
VTS Vitosha 82.69 319 *e*P P 03 45 19.1 +0.8
VTS Vitosha 82.69 319 *i*P P 03 45 19.3 +1.0
VTS Vitosha 82.69 319 P P 03 45 19.6 +1.3
M28A Bar X Bar Ranc 82.70 43 P P 03 45 18.6 +0.2
baz=82,SNR=11
EYMN Ely 82.71 33 *e*P P 03 45 17.8 -0.4
comp=Z,420nm,1.3s
EYMN LR LR
comp=Z,2µm,21.0s
L29A Maesberg Ranch 82.71 42 P P 03 45 18.3 -0.1
baz=82,SNR=22
K30A Basset 82.73 41 P P 03 45 18.9 +0.5
baz=82,SNR=54
PGBU Glenifferbraes 82.78 342⇑ *e*P P 03 45 19.0 +0.7
PGBU AMB AMB 03 45 21.6
comp=Z,237nm,1.7s
PGBU AMS AMS 04 27 21.9
comp=Z,4µm,17.8s
GRF Grafenberg Arr 82.87 330 *e*P P 03 45 20.1 +1.1
comp=Z,131nm,1.0s
GRF *e*L L 04 26 42.3
comp=Z,5µm,20.9s
GRFO Grafenberg 82.87 330 *e*P P 03 45 19.6 +0.7
comp=Z,995nm,1.6s
SDCO Great Sand Dun 82.88 47 P P 03 45 20.6 +1.0
baz=83,SNR=156
SDCO Great Sand Dun 82.88 47 *e*P P 03 45 20.2 +0.7
comp=Z,226nm,1.5s
SDCO LR LR
comp=Z,1µm,20.0s
P26A Davis Ranch, A 82.89 45 P P 03 45 19.7 +0.3
baz=83,SNR=35
ESK Eskdalemuir 82.89 341 P P 03 45 19.3 +0.4
comp=Z,267nm,0.7s,SNR=9.1
ESK Eskdalemuir 82.89 341⇑ *e*P P 03 45 19.0 +0.1
ESK AMB AMB 03 45 20.4
comp=Z,134nm,3.2s
ESK AMS AMS 04 25 14.0
comp=Z,5µm,19.8s
ESK Eskdalemuir 82.89 341 *i*P P 03 45 19.9 +1.0
ESK Eskdalemuir 82.89 341 *e*P P 03 45 19.0 +0.1
comp=Z,55nm,1.1s
ESK LR LR
comp=Z,7µm,20.0s
SMTH Samothraki Isl 82.93 316 P P 03 45 19.8 +0.4
SMTH Samothraki Isl 82.93 316 *e*P P 03 45 19.3 -0.1
SMTH Samothraki Isl 82.93 316 P P 03 45 19.8 +0.4
LCP Cassop 82.93 339⇑ *e*P P 03 45 20.3 +1.2
O27A Beecher Island 82.94 44 P P 03 45 19.6 0.0
baz=83,SNR=39
TRUS Trudelj 82.94 322⇑ *i*P P 03 45 18.7 -0.7
TRUS Trudelj 82.94 322⇑ *i*P P 03 45 18.8 -0.7
BUG Bochum--Univer 82.95 333 *e*P P 03 45 19.6 +0.3
comp=Z,53nm,0.9s
ECK Cauldkaine Hil 82.99 341⇑ *i*P P 03 45 19.9 +0.4
BEHE Becsehely 82.99 325⇑ *e*P P 03 45 20.2 +0.6
GRUS Gruza 83.03 321⇑ *i*P P 03 45 20.5 +0.6
GRUS Gruza 83.03 321 *e*S **S** 03 55 37.5 +0.1
M29A Burnside Ranch 83.04 42 P P 03 45 20.0 0.0
baz=83,SNR=13
MOA Molln 83.05 327 *i*P P 03 45 20.7 +0.8
comp=Z,180nm,1.5s,SNR=57
N28A Pribbeno Ranch 83.11 43 P P 03 45 20.5 0.0
baz=83,SNR=30
KAVA Kavala 83.12 317 P P 03 45 21.6 +1.2
KAVA Kavala 83.12 317 *e*P P 03 45 21.2 +0.8
KAVA Kavala 83.12 317 P P 03 45 21.6 +1.2
MMB Musomiste 83.12 318 *i*P P 03 45 16.6 -3.9
TEKS Tekeris 83.13 322 *i*P P 03 45 20.9 +0.5
TEKS Tekeris 83.13 322 *e*S **S** 03 55 38.7 +0.3
TUC Tucson 83.18 54 *e*P P 03 45 21.4 +0.4
comp=Z,480nm,1.8s
TUC LR LR
comp=Z,2µm,19.0s
L30A Spencer Herefo 83.19 41 P P 03 45 20.8 0.0
baz=83,SNR=28
NVR Nevrokopi 83.22 318 P P 03 45 22.0 +1.0
NVR Nevrokopi 83.22 318 *e*P P 03 45 21.7 +0.7
NVR Nevrokopi 83.22 318 P P 03 45 22.0 +1.0
Q26A Hugo 83.22 45 P P 03 45 21.5 +0.3
baz=83,SNR=21

DIVS Divibare 83.23 322 P P 03 45 21.7 +0.7
DIVS Divibare 83.23 322⇑ *i*P P 03 45 21.3 +0.3
DIVS Divibare 83.23 322 *e*S S 03 55 38.4 -1.2
DIVS Divibare 83.23 322⇓ *i*P P 03 45 21.4 +0.4
BARS Barje 83.25 320⇑ *i*P P 03 45 21.4 +0.4
BARS Barje 83.25 320 *e*S S 03 55 39.3 -0.4
KOGS Kog 83.25 325 *i* P P 03 45 20.8 -0.1
KOGS *e*pP pP 03 45 32.5 +2.7
KKB Krupnik 83.27 319 *i* P P 03 45 22.4 +1.2
SELS Selova 83.31 321⇑ *i*P P 03 45 21.1 -0.3
P27A Ficken Ranch, 83.32 45 P P 03 45 21.6 0.0
baz=83,SNR=25
PRK Paraskevi 83.36 315 P P 03 45 22.4 +0.7
PRK Paraskevi 83.36 315 *e*P P 03 45 22.1 +0.4
PRK Paraskevi 83.36 315 P P 03 45 22.4 +0.7
O28A Krutsinger Ran 83.37 44 P P 03 45 21.8 0.0
baz=83,SNR=26
M30A Dale-Ortello V 83.41 42 P P 03 45 21.8 -0.1
baz=83
GCD Castle Douglas 83.49 341⇑ *i*P P 03 45 22.4 +0.4
ECSD EROS Data Cent 83.49 38 P P 03 45 22.1 -0.2
baz=83,SNR=221
ECSD EROS Data Cent 83.49 38 *e*P P 03 45 22.0 -0.3
comp=Z,425nm,1.4s
ECSD LR LR
comp=Z,2µm,20.0s
L31A Butterfield Fa 83.49 41 P P 03 45 22.5 +0.2
baz=83,SNR=56
N29A Votaw Ranch, W 83.51 43 P P 03 45 22.6 +0.1
baz=83,SNR=29
KESW Keswick, Cumbr 83.51 340⇑ *e*P P 03 45 23.0 +0.8
KESW AMB AMB 03 45 25.4
comp=Z,230nm,2.1s
KESW AMS AMS 04 25 44.0
comp=Z,8µm,19.5s
TNS Taunus Mts 83.51 332 *e*P P 03 45 22.9 +0.6
comp=Z,35nm,0.9s
LIA Limnos Island 83.52 316 P P 03 45 23.2 +0.8
LIA Limnos Island 83.52 316 *e*P P 03 45 22.5 +0.1
LIA Limnos Island 83.52 316 P P 03 45 23.2 +0.8
SRS Serrai 83.53 318 P P 03 45 23.1 +0.6
SRS Serrai 83.53 318 *e*P P 03 45 22.9 +0.4
SRS Serrai 83.53 318 P P 03 45 23.1 +0.6
IVAS Ivanjica 83.53 321 *i* P P 03 45 23.0 +0.4
KSL Kastellorizon 83.54 311 *e*P P 03 45 22.7 +0.1
GROS Grobnik 83.58 326 *i* P P 03 45 23.0 +0.2
SOKA Soboth 83.62 326 *i* P P 03 45 23.5 +0.5
comp=Z,325nm,1.1s,SNR=177
SIGR SIGRI 83.62 315 P P 03 45 23.7 +0.7
SIGR SIGRI 83.62 315 *e*P P 03 45 23.2 +0.2
SIGR SIGRI 83.62 315 P P 03 45 23.7 +0.7
HPK Haverah Park 83.66 339⇑ *e*P P 03 45 23.5 +0.6
HPK AMB AMB 03 45 24.5
comp=Z,146nm,2.6s
HPK AMS AMS 04 25 53.4
comp=Z,6µm,19.7s
KSCO Kaye Shedlock' 83.67 45 P P 03 45 23.9 +0.4
baz=84,SNR=20
KSCO Kaye Shedlock' 83.67 45 *e*P P 03 45 23.4 -0.1
comp=Z,648nm,1.6s
GAL1 Galloway 83.69 341⇑ *e*P P 03 45 23.2 +0.2
GAL1 AMB AMB 03 45 24.4
comp=Z,136nm,2.1s
GAL1 AMS AMS 04 26 10.0
comp=Z,3µm,21.4s
BBLS Lazići 83.69 322⇑ *i*P P 03 45 24.3 +0.9
BBLS Lazići 83.69 322 *e*S S 03 55 41.6 -2.6
R26A Arlington 83.69 46 P P 03 45 24.1 +0.5
baz=84,SNR=167
LMK Market Rasen 83.72 338 AMS AMS 04 24 00.1
comp=Z,9µm,21.2s
RJOB Jochberg 83.76 328 *e*P P 03 45 24.8 +1.1
comp=Z,114nm,0.9s
P28A Saint Francis 83.77 44 P P 03 45 24.2 +0.3
baz=84,SNR=5.7
N30A Hueftle Ranch, 83.81 42 P P 03 45 24.1 +0.1
baz=84,SNR=11
SJES Sjenica 83.85 321⇑ *i*P P 03 45 25.1 +0.8
SJES Sjenica 83.85 321 *e*S S 03 55 42.3 -3.7
SOH Sokhos 83.86 318 P P 03 45 24.9 +0.6
SOH Sokhos 83.86 318 *e*P P 03 45 24.3 0.0
SOH Sokhos 83.86 318 P P 03 45 24.9 +0.6
KNT Kendrikon 83.86 318 P P 03 45 25.1 +0.9
KNT Kendrikon 83.86 318 *e*P P 03 45 24.7 +0.5
KNT Kendrikon 83.86 318 P P 03 45 25.1 +0.9
OUR Ouranopolis 83.87 317 P P 03 45 24.9 +0.7
OUR Ouranopolis 83.87 317 *e*P P 03 45 24.7 +0.5
OUR Ouranopolis 83.87 317 P P 03 45 24.9 +0.7
O29A 4D Ranch, Culb 83.90 43 P P 03 45 24.6 +0.1
baz=84,SNR=17
VAY Valandovo 83.92 319 P P 03 45 25.7 +1.2
VAY Valandovo 83.92 319⇑ *i*P P 03 45 25.9 +1.4
VAY Valandovo 83.92 319 P P 03 45 25.7 +1.2
T25A Trinidad 83.93 47 P P 03 45 25.7 +0.7
baz=84,SNR=160
SISC Sisak 83.93 325 P P 03 45 25.4 +0.9
SNZO South Karori 83.95 156 PFAKE 03 45 40.0 +16
SNZO LR LR
comp=Z,4µm,20.0s
OBKA Obir 83.96 326 *i* P P 03 45 24.7 0.0
comp=Z,46nm,0.9s,SNR=29
HGN Heimansgroeve 83.98 334 *e*P P 03 45 24.7 +0.1
comp=Z,365nm,1.7s
M31A Lambtecht Ranc 84.02 41 P P 03 45 24.9 -0.2
baz=84,SNR=21
KBA Koelnbreinsper 84.05 327 *i* P P 03 45 25.6 +0.3
comp=Z,312nm,1.7s,SNR=45
SKO Skopje 84.05 320 P P 03 45 26.8 +1.6
SKO Skopje 84.05 320⇑ *i*P P 03 45 27.0 +1.9
SKO Skopje 84.05 320 P P 03 45 26.8 +1.6
BEBN Eben Emael 84.05 334 P P 03 45 25.2 +0.3
FUR Furstenfeldbru 84.06 329 *e*P P 03 45 26.1 +1.0
comp=Z,168nm,0.9s
R27A Eads 84.07 46 P P 03 45 25.6 +0.1
baz=84,SNR=91
Q28A Sharon Springs 84.08 44 P P 03 45 25.4 -0.1
baz=84,SNR=39
CHOS Chios island 84.08 315 P P 03 45 26.3 +0.8
CHOS Chios island 84.08 315 *e*P P 03 45 25.8 +0.3
CHOS Chios island 84.08 315 P P 03 45 26.3 +0.8
MEM Membach 84.09 333 P P 03 45 25.0 -0.1
comp=Z,68nm,1.3s
LHO Holmfirth 84.09 339⇑ *i*P P 03 45 25.6 +0.5
PLE Pljevlja 84.09 322⇑ *i*P P 03 45 26.6 +1.1
SMG Samos 84.10 314 P P 03 45 26.1 +0.6
SMG Samos 84.10 314 *e*P P 03 45 25.6 +0.1
SMG Samos 84.10 314 P P 03 45 26.1 +0.6
PDKS Podkum 84.11 326 *i* P P 03 45 25.4 0.0
PMOR Pomariorio Ree 84.12 114 *e*P P 03 45 26.5 +0.8
comp=Z,361nm,1.4s
PMOR Pomariorio Ree 84.12 114 *e*T T 05 17 47.2
comp=Z,86nm,0.2s
LAZ Ladron 84.12 51 *e*P P 03 45 26.8 +0.9
PLG Polygyros 84.13 317 P P 03 45 26.3 +0.6
PLG Polygyros 84.13 317 *e*P P 03 45 26.0 +0.3
PLG Polygyros 84.13 317 P P 03 45 26.3 +0.6
HORT Hortiatis 84.16 318 P P 03 45 26.1 +0.3
HORT Hortiatis 84.16 318 *e*P P 03 45 25.7 -0.1
HORT Hortiatis 84.16 318 P P 03 45 26.1 +0.3
IVA Berane 84.18 321⇑ *i*P P 03 45 26.9 +1.0
ANMO Albuquerque 84.18 50 PKKPbc PKKPbc 04 03 39.1 +0.9
comp=Z,0.8nm,0.6s,baz=125,slow=6.3,SNR=4.6
ANMO Albuquerque 84.18 50 *c i*P P 03 45 27.0 +0.8
ANMO pmax pmax
comp=Z,1µm,1.2s
ANMO MLR MLR
comp=Z,7µm,20.0s
ANMO Albuquerque 84.18 50 *e*P P 03 45 26.9 +0.6
comp=Z,356nm,1.4s
ANMO PKKPbc PKKPbc 04 03 39.1 +0.9
ANMO LR LR
comp=Z,2µm,20.0s
P29A Atwood 84.20 44 P P 03 45 25.9 -0.1
baz=84,SNR=51
SPMN Marine on St. 84.20 35 P P 03 45 25.9 0.0
baz=84,SNR=48
SPMN Marine on St. 84.20 35 *e*P P 03 45 25.4 -0.4
comp=Z,276nm,1.3s
THE Thessaloniki 84.21 318 P P 03 45 26.1 +0.1
THE Thessaloniki 84.21 318 *e*P P 03 45 26.0 +0.1
THE Thessaloniki 84.21 318 P P 03 45 26.1 +0.1
KBI1 Birley Grange 84.25 339⇑ *i*P P 03 45 27.1 +1.1
MYKA Terra Mystica 84.27 327 *i* P P 03 45 26.0 -0.3
comp=Z,219nm,1.7s,SNR=45

O30A MW Ranch, Wils 84.27 43 P P 03 45 26.4 0.0
baz=84,SNR=40
PAIG Paliouri 84.32 317 P P 03 45 27.0 +0.4
PAIG Paliouri 84.32 317 *e*P P 03 45 26.8 +0.2
PAIG Paliouri 84.32 317 P P 03 45 27.0 +0.4
LJU Ljubljana 84.33 326 *i* P P 03 45 26.4 -0.1
LJU *e*SKSac SKSac 03 55 44.5 -3.7
PVY Plav 84.35 321 *e*P P 03 45 27.2 +0.4
GORS Gorjuse 84.35 327 *i* P P 03 45 25.9 -0.9
ARG Arkhangelos 84.36 312 P P 03 45 27.9 +1.1
ARG Arkhangelos 84.36 312 *e*P P 03 45 27.5 +0.7
ARG Arkhangelos 84.36 312 P P 03 45 27.9 +1.1
EIL Eilat 84.37 303 PKKPbc PKKPbc 04 03 39.0 +1.6
comp=Z,2.1nm,0.4s,baz=322,slow=5.9,SNR=3.1
T26A Comanche Natio 84.38 47 P P 03 45 27.4 +0.3
baz=84,SNR=138
LENM Lemitar 84.38 51 *e*P P 03 45 27.8 +0.5
comp=Z,105nm,1.4s
N31A Bailey Ranch, 84.40 42 P P 03 45 26.8 -0.2
baz=84,SNR=7.3
BGNE Belgrade 84.40 41 P P 03 45 26.8 -0.2
baz=84,SNR=16
BGNE Belgrade 84.40 41 *e*P P 03 45 26.7 -0.3
comp=Z,407nm,1.0s
STU Stuttgart 84.40 331 *e*P P 03 45 27.5 +0.7
comp=Z,148nm,0.9s
STU *e*pP pP 03 45 34.6 -1.0
STU Stuttgart 84.40 331 *e*P P 03 45 27.0 +0.2
comp=Z,220nm,1.0s
BOJS Bojanci 84.42 325 *i* P P 03 45 26.9 0.0
UPM Unac-Piva 84.42 322⇑ *i*P P 03 45 27.1 -0.2
S27A Las Animas 84.43 46 P P 03 45 27.6 +0.2
baz=84,SNR=12
VAH Vaihoa 84.47 114 *e*P P 03 45 28.0 +0.5
comp=Z,72nm,1.1s
Y22D IRIS PASSCAL I 84.48 51 P P 03 45 29.1 +1.4
baz=84,SNR=6.8
BCLA Clavier 84.49 334 P P 03 45 27.3 +0.1
comp=Z,72nm,1.6s
LPM Los Pinos Moun 84.50 51 *e*P P 03 45 28.3 +0.5
comp=Z,109nm,1.4s
UCC Uccle 84.51 334 P P 03 45 27.4 +0.2
GMM Mts of Mourne 84.57 342⇑ *i*P P 03 45 27.8 +0.3
WATA Walderalm 84.59 329⇑ *i*PcP P 03 45 28.3 +0.3
comp=Z,110nm,1.3s,SNR=18
R28A Tribune 84.59 45 P P 03 45 28.1 -0.1
baz=84,SNR=49
PPT Papeete 84.59 117 P P 03 45 30.0 +1.9
comp=Z,52nm,1.1s,baz=9.3,slow=1.2,SNR=4.4
PPT LR LR 04 18 10.6
comp=Z,3µm,19.9s,baz=296,slow=32
PPT2 Papeete2 84.61 117 *e*P P 03 45 29.4 +1.1
comp=Z,103nm,1.4s
PPT2 Papeete2 84.61 117 *e*S S 03 55 51.0 -2.9
comp=Z,4µm,31.5s
PPT2 Papeete2 84.61 117 *e*LQ LQ 04 07 52.7
comp=Z,5µm,31.2s
PPT2 *e*LR LR 04 11 59.0
comp=Z,6µm,24.0s,baz=303
PPT2 Papeete2 84.61 117 *e*T T 05 18 33.8
comp=Z,14nm,0.3s
P30A Selden 84.61 43 P P 03 45 28.2 +0.1
baz=84,SNR=82
WTTA Wattenberg 84.62 328 *i* PcP P 03 45 28.6 +0.4
comp=Z,209nm,1.7s,SNR=25
PAE Paea 84.66 117 *e*P P 03 45 29.1 +0.7
PAE Paea 84.66 117 *e*T T 05 18 36.7
comp=Z,3.3nm,0.3s
ABTA Abfaltersbach 84.66 328 *i* P P 03 45 27.4 -0.8
comp=Z,160nm,1.9s,SNR=47
NKY Nikic 84.67 322⇑ *i*P P 03 45 28.6 +0.2
Q29A Oakley 84.67 44 P P 03 45 28.5 0.0
baz=84,SNR=24
O31A Woolen Ranch, 84.68 42 P P 03 45 28.2 -0.3
baz=84,SNR=21
NKME Niksic 84.72 322⇑ *i*P P 03 45 28.7 +0.1
AOS Alonnisos 84.75 316 P P 03 45 29.0 +0.3
AOS Alonnisos 84.75 316 *e*P P 03 45 28.6 -0.1
AOS Alonnisos 84.75 316 P P 03 45 29.0 +0.3
TIAR Tiarei 84.75 117 *e*P P 03 45 29.7 +0.8
comp=Z,64nm,1.4s
TIAR Tiarei 84.75 117 *e*T T 05 18 43.9
comp=Z,8.5nm,0.2s
LANF Langenberg 84.77 332⇑ *e*P P 03 45 29.4 +0.7
SNF Seneffe 84.78 334 P P 03 45 28.9 +0.3
MOTA Moosalm 84.78 329 *i* PcP P 03 45 29.2 +0.2
comp=Z,105nm,1.1s,SNR=64
N32A Stulken Farm, 84.79 41 P P 03 45 28.6 -0.3
baz=85,SNR=7.4
RETA Reutte 84.81 329 *i* P P 03 45 29.2 +0.2
comp=Z,528nm,2.0s,SNR=164
WLF Walferdange 84.82 333 P P 03 45 29.6 +0.7
comp=Z,160nm,1.9s
WLF Walferdange 84.82 333 *e*P P 03 45 29.5 +0.7
comp=Z,20nm,1.0s
WLF Walferdange 84.82 333 *e*P P 03 45 29.1 +0.2
comp=Z,96nm,2.0s
WLF LR LR
comp=Z,6µm,19.0s
PDG Podgorica 84.82 321 P P 03 45 29.9 +0.9
TTG Podgorica 84.82 321 P P 03 45 29.9 +0.9
TTG Podgorica 84.82 321⇑ *i*P P 03 45 29.4 +0.4
BRY Bratogost 84.83 322⇑ *i*P P 03 45 29.0 -0.3
LIT Litokhoron 84.84 318 P P 03 45 29.4 +0.2
LIT Litokhoron 84.84 318 *e*P P 03 45 29.2 0.0
LIT Litokhoron 84.84 318 P P 03 45 29.4 +0.2
WME Myndd Eilian 84.90 340⇑ *e*P P 03 45 29.3 +0.1
L34A Svendsen Farm, 84.91 39 P P 03 45 29.6 +0.1
baz=85,SNR=30
R29A Marienthal 84.91 45 P P 03 45 29.7 0.0
baz=85,SNR=59
WPM1 Penmaenmawr 84.91 340⇑ *i*P P 03 45 29.8 +0.5
SCHQ Schefferville 84.92 16 P P 03 45 29.8 +0.4
comp=Z,80nm,0.8s,baz=356,slow=5.5,SNR=131
SCHQ LR LR 04 25 14.4
comp=Z,4µm,21.2s,baz=338,slow=37
SCHQ Schefferville 84.92 16 *e*P P 03 45 29.4 +0.1
comp=Z,171nm,0.8s
GIVF Givet 84.93 334⇑ *i*P P 03 45 29.6 +0.2
comp=Z,289nm,1.3s
GIVF Givet 84.93 334⇑ *i*P P 03 45 29.6 +0.2
comp=Z,289nm,1.3s
UDBI Udbina 84.93 324 P P 03 45 29.2 -0.4
FNA Florina 84.94 319 P P 03 45 30.0 +0.2
FNA Florina 84.94 319 *e*P P 03 45 29.7 -0.1
FNA Florina 84.94 319 P P 03 45 30.0 +0.2
SKDS Skadanscina 84.94 326 *i* P P 03 45 28.9 -0.7
121A Cookes Peak, D 84.96 53 P P 03 45 31.3 +1.2
baz=85,SNR=112
121A Cookes Peak, D 84.96 53 *e*P P 03 45 30.9 +0.7
comp=Z,343nm,1.4s
T27A Campo 84.96 46 P P 03 45 30.5 +0.4
baz=85,SNR=52
TVO Taravao 84.97 117 *e*P P 03 45 31.1 +1.0
comp=Z,46nm,1.3s
XOR Xorichti 84.98 317 P P 03 45 29.8 -0.2
XOR Xorichti 84.98 317 *e*P P 03 45 29.5 -0.5
XOR Xorichti 84.98 317 P P 03 45 29.8 -0.2
OHR Ohrid 85.00 319⇑ *i*P P 03 45 29.4 -0.6
NEO Neokhori 85.01 317 P P 03 45 29.8 -0.3
NEO Neokhori 85.01 317 *e*P P 03 45 29.4 -0.7
NEO Neokhori 85.01 317 P P 03 45 29.8 -0.3
DOU Dourbes 85.01 334 P P 03 45 29.9 0.0
comp=Z,66nm,1.8s
WLF1 Llynfaes 85.02 340⇑ *e*P P 03 45 30.3 +0.5
WLF1 AMB AMB 03 45 31.3
comp=Z,205nm,1.7s
WLF1 AMS AMS 04 26 28.2
comp=Z,6µm,20.6s
RPZ Rata Peaks 85.02 159 LR LR 04 18 55.4
comp=Z,4µm,21.3s,baz=332,slow=32
RPZ Rata Peaks 85.02 159 *e*P P 03 45 29.3 -0.4
comp=Z,44nm,0.8s
Q30A Quinter 85.03 44 P P 03 45 30.4 +0.1
baz=85,SNR=18
DRME Dracevica, Mon 85.04 321⇑ *i*P P 03 45 30.6 +0.5
FOEL Foel Wylfa 85.05 340⇑ *e*P P 03 45 30.6 +0.6
FOEL AMB AMB 03 45 31.8
comp=Z,286nm,1.3s
FOEL AMS AMS 04 28 08.6
comp=Z,5µm,17.1s
S28A Manter 85.07 46 P P 03 45 30.9 +0.4
baz=85,SNR=91
KZN Kozani 85.08 318 P P 03 45 30.6 +0.1
KZN Kozani 85.08 318 *e*P P 03 45 30.1 -0.4
KZN Kozani 85.08 318 P P 03 45 30.6 +0.1

FYTO Fytoko, Volos 85.09 317 P P 03 45 30.3 -0.2
FYTO Fytoko, Volos 85.09 317 P P 03 45 30.3 -0.2
YLL Llanberis 85.09 340⇑ *i*P P 03 45 30.7 +0.5
BFO Black Forest 85.10 331 *e*P P 03 45 30.9 +0.5
comp=Z,158nm,1.0s
BFO *e*pP pP 03 45 37.9 -1.3
BFO Black Forest 85.10 331 *i* P P 03 45 30.0 -0.4
BFO Black Forest 85.10 331 PFAKE 03 45 40.0 +10
BFO LR LR
comp=Z,6µm,19.0s
BUM Brajici-Budva 85.10 321⇑ *i*P P 03 45 30.5 0.0
P31A Stockton 85.10 43 P P 03 45 30.4 -0.2
baz=85,SNR=93
M34A Aspy Farms, Fr 85.14 40 P P 03 45 30.6 -0.1
baz=85,SNR=22
O32A Brockman Farm, 85.16 42 P P 03 45 30.3 -0.6
baz=85,SNR=8.5
ULC Ulcinj 85.17 321⇑ *i*P P 03 45 30.9 0.0
BAIF Baives 85.18 334⇑ *i*P P 03 45 31.0 +0.3
comp=Z,201nm,1.1s
BAIF Baives 85.18 334⇑ *i*P P 03 45 31.0 +0.3
comp=Z,201nm,1.1s
HCY Herceg Novi 85.19 322⇑ *i*P P 03 45 30.6 -0.3
FETA Feichten 85.19 329 *i* PcP P 03 45 31.4 +0.3
comp=Z,95nm,0.9s,SNR=48
L35A Bielow Farm, R 85.22 39 P P 03 45 30.8 -0.3
baz=85
MRKA Markates 85.24 316 P P 03 45 30.8 -0.5
MRKA Markates 85.24 316 *e*P P 03 45 30.7 -0.5
STON Ston 85.26 322 P P 03 45 30.6 -0.6
T28A Walsh 85.27 46 P P 03 45 31.7 +0.1
baz=85,SNR=20
ELSH Elham, Standar 85.28 336⇑ *e*P P 03 45 31.4 +0.3
ELSH AMB AMB 03 45 32.3
comp=Z,321nm,1.1s
HLM1 Long Mynd 85.29 339⇑ *e*P P 03 45 31.0 -0.2
HLM1 AMB AMB 03 45 32.7
comp=Z,123nm,1.7s
HLM1 AMS AMS 04 28 16.4
comp=Z,6µm,17.6s
APE Apeiranthos 85.29 314 P P 03 45 30.4 -1.2
APE Apeiranthos 85.29 314 *e*P P 03 45 30.7 -0.9
APE Apeiranthos 85.29 314 *ce*P P 03 45 29.7 -1.9
APE pmax pmax
comp=Z,315nm,2.5s
APE MLR MLR
comp=Z,1µm,22.0s
APE Apeiranthos 85.29 314⇓ *i*P P 03 45 31.4 -0.2
APE Apeiranthos 85.29 314 P P 03 45 30.4 -1.2
YRE Yr Eifl 85.30 340⇑ *i*P P 03 45 31.9 +0.6
TIR Tirane 85.31 320 P P 03 45 32.3 +0.8
TIR Tirane 85.31 320 *e*P P 03 45 32.0 +0.5
TIR Tirane 85.31 320 *e*P P 03 45 31.8 +0.2
comp=Z,202nm,0.9s
TIR LR LR
comp=Z,16µm,19.0s
SMIA Simia 85.32 317 P P 03 45 31.6 -0.1
SMIA Simia 85.32 317 *e*P P 03 45 31.2 -0.5
DAVA Damuels 85.33 329 *i* PcP P 03 45 32.0 +0.3
comp=Z,234nm,1.0s,SNR=90
U27A Thompson Grove 85.34 47 P P 03 45 32.6 +0.7
baz=85,SNR=67
KBN Korca 85.36 319 P P 03 45 32.6 +0.7
KBN Korca 85.36 319 P P 03 45 32.6 +0.7
NEST Nestorio 85.38 319 P P 03 45 32.6 +0.6
NEST Nestorio 85.38 319 *e*P P 03 45 32.0 0.0
KARP Karpathos 85.39 312 P P 03 45 32.6 +0.5
KARP Karpathos 85.39 312 *e*P P 03 45 32.4 +0.3
KARP Karpathos 85.39 312 P P 03 45 32.6 +0.5
CDF Champ du Feu 85.43 331⇑ *i*P P 03 45 32.5 +0.4
comp=Z,362nm,1.0s
CDF Champ du Feu 85.43 331⇑ *i*P P 03 45 32.5 +0.4
comp=Z,362nm,1.0s
P32A Huiting Farm, 85.45 42 P P 03 45 31.8 -0.5
baz=85,SNR=115
MENF Mencas 85.45 335⇑ *e*P P 03 45 32.2 +0.2
Q31A Ellis 85.46 43 P P 03 45 31.8 -0.6
baz=85,SNR=13
THL Klokotos Trika 85.48 318 P P 03 45 31.3 -1.1
S29A Ulysses 85.49 45 P P 03 45 32.8 +0.2
baz=85,SNR=24
R30A Dighton 85.49 44 P P 03 45 32.6 +0.1
baz=85,SNR=34
PTL Penteli 85.55 316 *e*P P 03 45 31.9 -0.9
ATAL Atalanti 85.56 316 P P 03 45 32.3 -0.5
ATAL Atalanti 85.56 316 P P 03 45 32.3 -0.5
LKR Lokris 85.60 316 P P 03 45 32.4 -0.6
LKR Lokris 85.60 316 *e*P P 03 45 32.1 -0.9
LKR Lokris 85.60 316 P P 03 45 32.4 -0.6
ECH Echery 85.64 331⇑ *e*P P 03 45 33.5 +0.4
ECH Echery 85.64 331 *e*P P 03 45 32.7 -0.4
comp=Z,140nm,0.9s
ECH LR LR
comp=Z,5µm,19.0s
ATHU Athens Univers 85.65 316 P P 03 45 32.2 -1.1
ATHU Athens Univers 85.65 316 P P 03 45 32.2 -1.1
O33A Hebron 85.66 41 P P 03 45 32.8 -0.5
baz=85,SNR=10
N34A Lincoln 85.67 40 P P 03 45 32.6 -0.8
baz=85,SNR=39
AGG Agios Georgios 85.70 317 P P 03 45 32.5 -1.0
AGG Agios Georgios 85.70 317 *e*P P 03 45 32.1 -1.4
AGG Agios Georgios 85.70 317 P P 03 45 32.5 -1.0
AXAR Agios Charalam 85.70 317 P P 03 45 33.0 -0.5
AXAR Agios Charalam 85.70 317 *e*P P 03 45 33.1 -0.5
AXAR Agios Charalam 85.70 317 P P 03 45 33.0 -0.5
T29A Hugoton 85.71 46 P P 03 45 34.0 +0.3
baz=86
U28A Mallet 85.72 47 P P 03 45 34.1 +0.3
baz=86
STRD Stroud 85.74 338⇑ *e*P P 03 45 33.8 +0.3
STRD AMB AMB 03 45 34.9
comp=Z,496nm,1.2s
STRD AMS AMS 04 26 10.1
comp=Z,7µm,22.0s
VIL2 Platees 85.76 316 *e*P P 03 45 32.4 -1.5
VILL Villia 85.77 316 P P 03 45 32.5 -1.5
HMNX Herstmonceux 85.78 337⇑ *e*P P 03 45 34.2 +0.6
HMNX AMB AMB 03 45 35.4
comp=Z,456nm,1.0s
HMNX AMS AMS 04 27 50.8
comp=Z,8µm,18.0s
MCH1 Michaelchurch 85.78 339 AMB AMB 03 45 33.7
comp=Z,213nm,1.2s
MCH1 AMS AMS 04 28 39.9
comp=Z,5µm,17.1s
V27A Dan Oppiter Fa 85.80 47 P P 03 45 35.0 +0.8
baz=86
MAKR Makrakomi, Fth 85.81 317 P P 03 45 33.4 -0.7
MAKR Makrakomi, Fth 85.81 317 *e*P P 03 45 33.0 -1.1
MAKR Makrakomi, Fth 85.81 317 P P 03 45 33.4 -0.7
SANT Santorini 85.82 313 *e*P P 03 45 32.8 -1.4
comp=Z,495nm,1.4s
SANT LR LR
comp=Z,1µm,19.0s
THR3 Thira Island, 85.83 314 P P 03 45 33.6 -0.6
THR3 Thira Island, 85.83 314 P P 03 45 33.6 -0.6
S30A Montezuma 85.84 45 P P 03 45 34.6 +0.2
baz=86,SNR=18
THR6 Thira Island, 85.86 313 P P 03 45 33.8 -0.6
THR6 Thira Island, 85.86 313 P P 03 45 33.8 -0.6
SWN1 Swindon 85.86 338⇑ *e*P P 03 45 34.7 +0.6
SWN1 AMB AMB 03 45 35.7
comp=Z,494nm,1.3s
SWN1 AMS AMS 04 26 14.3
comp=Z,9µm,22.2s
WOL Wolverton 85.87 338⇑ *e*P P 03 45 34.2 +0.2
WOL AMB AMB 03 45 35.2
comp=Z,258nm,1.2s
WOL AMS AMS 04 25 15.5
comp=Z,8µm,22.5s
MONM Monmouth 85.87 339⇑ *e*P P 03 45 34.4 +0.3
MONM AMB AMB 03 45 35.5
comp=Z,260nm,1.2s
MONM AMS AMS 04 28 36.5
comp=Z,5µm,16.6s
MEH Mehetia 85.88 116 *e*P P 03 45 35.3 +0.7
MEH Mehetia 85.88 116 *e*T T 05 20 08.2
comp=Z,83nm,0.2s
PAGF Fort de Pagny 85.90 332⇑ *i*P P 03 45 35.0 +0.7
comp=Z,166nm,1.1s
PAGF Fort de Pagny 85.90 332⇑ *i*P P 03 45 35.0 +0.7
comp=Z,166nm,1.1s
R31A Burdett 85.90 44 P P 03 45 34.2 -0.3
baz=86,SNR=49

Q32A	Meitler Ranch,	85.93	43	P	P	03 45 34.3	-0.3
	baz=86,SNR=25						
MOF	Molkenrain	85.95	331⇑	eP	P	03 45 35.0	+0.3
OLDB	Oldbury-Upon-S	85.95	339⇑	eP	P	03 45 34.1	-0.4
OLDB				AMB	AMB	03 45 36.9	
	comp=Z,164nm,2.7s						
OLDB				AMS	AMS	04 27 02.5	
	comp=Z,6μm,21.5s						
NAIG	Nisos Aigina	85.96	316	eP	P	03 45 33.0	-1.8
LPW	Lampeter	85.98	340⇑	eP	P	03 45 35.1	+0.5
LPW				AMB	AMB	03 45 36.1	
	comp=Z,234nm,1.4s						
LPW				AMS	AMS	04 27 16.5	
	comp=Z,6μm,20.0s						
DSF	Desfina	86.03	317	P	P	03 45 33.9	-1.3
DSF	Desfina	86.03	317	eP	P	03 45 33.4	-1.8
DSF	Desfina	86.03	317	P	P	03 45 33.9	-1.3
JAN	Janina	86.03	318	P	P	03 45 35.6	+0.4
JAN	Janina	86.03	318	eP	P	03 45 35.3	+0.1
JAN	Janina	86.03	318	P	P	03 45 35.6	+0.4
TAOE	Nuku Hiva Isla	86.04	104	eS	S	03 56 04.3	-4.0
	comp=Z,3μm,29.3s						
TAOE	Nuku Hiva Isla	86.04	104	eLR	LR	04 12 42.4	
	comp=Z,9μm,24.6s,baz=317						
TAOE	Nuku Hiva Isla	86.04	104	eT	T	05 20 22.5	
	comp=Z,160nm,0.3s						
O34A	Beatrice	86.05	41	P	P	03 45 34.5	-0.8
	baz=86						
EVR	Evrytania	86.06	317	P	P	03 45 34.9	-0.5
EVR	Evrytania	86.06	317	eP	P	03 45 34.5	-0.9
EVR	Evrytania	86.06	317	P	P	03 45 34.9	-0.5
LTK	Loutraki	86.06	316	P	P	03 45 33.4	-2.0
LTK	Loutraki	86.06	316	eP	P	03 45 33.2	-2.2
LTK	Loutraki	86.06	316	P	P	03 45 33.4	-2.0
P33A	Williams Farm,	86.07	42	P	P	03 45 35.0	-0.3
	baz=86,SNR=11						
THEF	They Montfort	86.07	332⇑	eP	P	03 45 35.4	+0.2
HINF	Hinteralfeld	86.08	331⇑	iP	P	03 45 35.1	-0.2
	comp=Z,238nm,1.3s						
HINF	Hinteralfeld	86.08	331⇑	iP	P	03 45 35.1	-0.2
	comp=Z,238nm,1.3s						
N35A	Tabor	86.09	40	P	P	03 45 35.8	+0.3
	baz=86,SNR=70						
HAU	Haudompre	86.12	332⇑	iP	P	03 45 35.5	0.0
	comp=Z,192nm,1.0s						
HAU				eR			
	comp=Z,9μm,18.0s						
HAU	Haudompre	86.12	332⇑	iP	P	03 45 35.5	0.0
	comp=Z,192nm,1.0s						
V28A	Channing	86.16	47	P	P	03 45 36.5	+0.5
	baz=86,SNR=33						
MEZF	Maizieres J'vi	86.19	333⇑	iP	P	03 45 36.4	+0.7
	comp=Z,505nm,1.2s						
MEZF	Maizieres J'vi	86.19	333⇑	iP	P	03 45 36.4	+0.7
	comp=Z,505nm,1.2s						
TUE	Stuetta	86.20	329	PFAKE		03 45 50.0	+14
TUE				LR	LR		
	comp=Z,5μm,19.0s						
ACOR	Acrocorinthos	86.21	316	P	P	03 45 31.4	-4.7
T30A	Plains	86.22	45	P	P	03 45 36.6	+0.4
	baz=86,SNR=7.6						
THAL	Thalero	86.22	316	P	P	03 45 34.6	-1.5
U29A	Oasis Ranch, S	86.22	46	P	P	03 45 36.6	+0.4
	baz=86,SNR=16						
R32A	Long Quarter,	86.25	43	P	P	03 45 35.9	-0.4
	baz=86,SNR=7.8						
KALE	Kalithea	86.25	317	P	P	03 45 35.4	-1.0
KALE	Kalithea	86.25	317	eP	P	03 45 35.1	-1.3
KALE	Kalithea	86.25	317	P	P	03 45 35.4	-1.0
DID	Didima	86.28	316	P	P	03 45 34.1	-2.4
DID	Didima	86.28	316	eP	P	03 45 34.0	-2.4
DID	Didima	86.28	316	P	P	03 45 34.1	-2.4
DSL	Palaion Diasel	86.28	318	P	P	03 45 36.6	+0.2
DSL	Palaion Diasel	86.28	318	P	P	03 45 36.6	+0.2
Q33A	Connelly Farm,	86.31	42	P	P	03 45 36.5	-0.1
	baz=86,SNR=58						
SRN	Sarande	86.32	319	P	P	03 45 36.7	+0.2
SRN	Sarande	86.32	319	P	P	03 45 36.7	+0.2
EFP	Efpalio	86.36	317	P	P	03 45 36.4	-0.3
EFP	Efpalio	86.36	317	eP	P	03 45 36.3	-0.4
SGD	Sagiada	86.39	319	P	P	03 45 37.1	+0.2
O35A	Humboldt	86.39	40	P	P	03 45 36.4	-0.5
	baz=86,SNR=44						
IGT	Igoumenitsa	86.40	319	P	P	03 45 37.0	0.0
IGT	Igoumenitsa	86.40	319	eP	P	03 45 36.7	-0.3
IGT	Igoumenitsa	86.40	319	P	P	03 45 37.0	0.0
S31A	Mullinville	86.40	44	P	P	03 45 37.1	+0.1
	baz=86,SNR=14						
KRND	KRANIDI	86.42	315	P	P	03 45 34.8	-2.3
KRND	KRANIDI	86.42	315	eP	P	03 45 34.8	-2.3
SFTF	Sexfontaines	86.44	333⇑	iP	P	03 45 37.4	+0.4
	comp=Z,641nm,1.1s						
SFTF	Sexfontaines	86.44	333⇑	iP	P	03 45 37.4	+0.4
	comp=Z,641nm,1.1s						
P34A	Walnut Farm, R	86.45	41	P	P	03 45 36.9	-0.3
	baz=86,SNR=47						
GUR	Goura	86.47	316	P	P	03 45 36.4	-1.1
GUR	Goura	86.47	316	eP	P	03 45 36.1	-1.4
GUR	Goura	86.47	316	P	P	03 45 36.4	-1.1
LOMF	Lomont	86.48	331⇑	eP	P	03 45 37.6	+0.3
V29A	Stinnett	86.48	47	P	P	03 45 37.8	+0.3
	baz=86,SNR=28						
NPS	Neapolis	86.50	313	P	P	03 45 37.1	-0.5
NPS	Neapolis	86.50	313	eP	P	03 45 36.8	-0.8
NPS	Neapolis	86.50	313	P	P	03 45 37.1	-0.5
U30A	WK&E Inc. Balk	86.52	46	P	P	03 45 38.1	+0.4
	baz=86,SNR=9.7						
KEK	Kerkira	86.54	319	P	P	03 45 37.7	0.0
KEK	Kerkira	86.54	319	eP	P	03 45 37.2	-0.5
KEK	Kerkira	86.54	319	P	P	03 45 37.7	0.0
PDO	Prodromos	86.62	317	P	P	03 45 37.8	-0.3
PDO	Prodromos	86.62	317	eP	P	03 45 37.4	-0.7
S32A	Newby Ranch, P	86.65	44	P	P	03 45 38.0	-0.3
	baz=86,SNR=14						
R33A	Olander Ranch,	86.73	43	P	P	03 45 38.6	0.0
	baz=86,SNR=21						
LKD2	Lefkada island	86.77	318	P	P	03 45 38.7	-0.1
LKD2	Lefkada island	86.77	318	eP	P	03 45 38.1	-0.7
LKD2	Lefkada island	86.77	318	P	P	03 45 38.7	-0.1
DRO	Drossia	86.81	317	P	P	03 45 39.1	+0.1
DRO	Drossia	86.81	317	eP	P	03 45 39.7	+0.7
HEX	Exmoor	86.84	339⇑	eP	P	03 45 39.1	+0.3
Q34A	Chapman	86.84	42	P	P	03 45 39.2	0.0
	baz=87,SNR=49						
VLX	Vlachokerasia	86.86	316	P	P	03 45 38.3	-1.1
VLX	Vlachokerasia	86.86	316	eP	P	03 45 38.2	-1.1
VLX	Vlachokerasia	86.86	316	P	P	03 45 38.3	-1.1
RLS	Riolos of Patr	86.86	317	P	P	03 45 39.4	+0.2
RLS	Riolos of Patr	86.86	317	eP	P	03 45 39.2	0.0
RLS	Riolos of Patr	86.86	317	P	P	03 45 39.4	+0.2
P35A	Duane Minner,	86.88	41	P	P	03 45 39.0	-0.3
	baz=87,SNR=60						
KSU1	Kansas State U	86.89	42	P	P	03 45 39.2	-0.2
	baz=87,SNR=55						
KSU1	Kansas State U	86.89	42	eP	P	03 45 39.0	-0.3
	comp=Z,197nm,0.8s						
KSU1				LR	LR		
	comp=Z,2μm,19.0s						
IDI	Anoyia	86.91	313	PKKPbc	PKKPbc	04 03 31.0	-0.7
	comp=Z,4.8nm,0.9s,baz=207,slow=6.8,SNR=3.2						
W29A	Amarillo	86.94	47	P	P	03 45 40.5	+0.7
	baz=87,SNR=18						
DAMY	Dhamar	86.95	286	eP	P	03 45 41.2	+0.8
	comp=Z,126nm,0.3s						
O36A	Bolckow	86.98	40	P	P	03 45 40.0	+0.2
	baz=87,SNR=120						
VLI	Veliai	87.01	315	P	P	03 45 38.0	-2.0
VLI	Veliai	87.01	315	eP	P	03 45 37.8	-2.2
VLI	Veliai	87.01	315	P	P	03 45 38.0	-2.0
T32A	Huddler Ranch,	87.03	44	P	P	03 45 40.6	+0.5
	baz=87						
X28A	Dimmitt	87.03	48	P	P	03 45 40.8	+0.5
	baz=87,SNR=32						
V30A	Spur Ranch, Mi	87.04	46	P	P	03 45 40.7	+0.5
	baz=87						
MSTX	Muleshoe	87.07	49	P	P	03 45 40.7	+0.2
	baz=87,SNR=26						
MSTX	Muleshoe	87.07	49	eP	P	03 45 40.3	-0.2
	comp=Z,155nm,1.4s						
AMTX	Amarillo	87.08	47	P	P	03 45 41.4	+0.9
	baz=87						
AMTX	Amarillo	87.08	47	eP	P	03 45 40.9	+0.4
	comp=Z,372nm,1.3s						
U31A	Nine Bar Ranch	87.09	45	P	P	03 45 41.3	+0.8
	baz=87,SNR=16						
HTL	Hartland	87.10	339⇑	eP	P	03 45 40.6	+0.5
HTL				AMB	AMB	03 45 41.6	
	comp=Z,158nm,2.2s						
HTL				AMS	AMS	04 28 00.2	
	comp=Z,5μm,20.3s						
AMT	Artemida-Makis	87.11	316	P	P	03 45 40.0	-0.5
AMT	Artemida-Makis	87.11	316	eP	P	03 45 39.6	-0.9
R34A	Isabella, Hill	87.13	42	P	P	03 45 40.6	0.0
	baz=87,SNR=20						
JFWS	Jewell Farm	87.16	35	eP	P	03 45 39.9	-0.7
	comp=Z,385nm,1.5s						
JFWS				LR	LR		
	comp=Z,3μm,21.0s						
VAM	Vamos	87.22	313	eP	P	03 45 41.3	+0.2
P36A	Good Intent, A	87.24	40	P	P	03 45 41.1	0.0
	baz=87,SNR=74						
S33A	Kaszmaul Farm,	87.24	43	P	P	03 45 41.5	+0.4
	baz=87,SNR=14						
ITM	Ithomi	87.24	316	P	P	03 45 40.6	-0.5
ITM	Ithomi	87.24	316	eP	P	03 45 40.3	-0.8
ITM	Ithomi	87.24	316	P	P	03 45 40.6	-0.5
VLS	Valsamata	87.25	318	P	P	03 45 40.7	-0.5
VLS	Valsamata	87.25	318	eP	P	03 45 40.5	-0.7
VLS	Valsamata	87.25	318	P	P	03 45 40.7	-0.5
KYTH	Kithira	87.27	315	P	P	03 45 40.1	-1.2
KYTH	Kithira	87.27	315	eP	P	03 45 40.2	-1.1
KYTH	Kithira	87.27	315	P	P	03 45 40.1	-1.2
Q35A	Mercer Eighty,	87.37	41	P	P	03 45 42.0	+0.2
	baz=87,SNR=90						
CABF	La Chapelle	87.38	331⇑	iP	P	03 45 41.8	+0.1
	comp=Z,148nm,1.3s						
CABF	La Chapelle	87.38	331⇑	iP	P	03 45 41.8	+0.1
	comp=Z,148nm,1.3s						
X29A	Tulia	87.38	48	P	P	03 45 42.8	+0.9
	baz=87,SNR=15						
OG01	Vacheresse	87.38	331⇑	eP	P	03 45 41.6	-0.1
ANKY	Antikythira Is	87.41	314	P	P	03 45 41.3	-0.7
ANKY	Antikythira Is	87.41	314	eP	P	03 45 41.2	-0.7
ANKY	Antikythira Is	87.41	314	P	P	03 45 41.3	-0.7
Y28A	McKinney Farm,	87.43	48	P	P	03 45 42.5	+0.3
	baz=87,SNR=22						
DYA	Yadsworthy	87.44	339⇑	eP	P	03 45 41.6	-0.2
DYA				AMB	AMB	03 45 42.8	
	comp=Z,180nm,1.8s						
DYA				AMS	AMS	04 29 33.2	
	comp=Z,5μm,17.6s						
T33A	Patterson Ranc	87.47	44	P	P	03 45 42.7	+0.4
	baz=87,SNR=7.8						
ZKS	Zakynthos	87.49	317	P	P	03 45 41.4	-0.9
ZKS	Zakynthos	87.49	317	eP	P	03 45 41.5	-0.9
W30A	Crocket Farms	87.52	47	P	P	03 45 43.3	+0.7
	baz=87						
V31A	Spring Creek L	87.52	46	P	P	03 45 43.6	+1.1
	baz=87,SNR=39						
PYL	PYLOS	87.55	316	P	P	03 45 41.6	-1.0
PYL	PYLOS	87.55	316	eP	P	03 45 41.3	-1.3
PYL	PYLOS	87.55	316	P	P	03 45 41.6	-1.0
U32A	Winter Ranch,	87.56	45	P	P	03 45 43.0	+0.3
	baz=87,SNR=22						
Q36A	Arnold C. Orve	87.59	41	P	P	03 45 42.7	-0.1
	baz=87,SNR=5.5						
VLC	Villacollemand	87.62	327	eP	P	03 45 43.9	+1.0
	comp=Z,235nm,0.4s						
VLC				LR	LR		
	comp=Z,6μm,19.0s						
S34A	Willow Spring	87.64	43	P	P	03 45 43.2	+0.2
	baz=87,SNR=25						
LOR	Lormes	87.66	333⇑	iP	P	03 45 43.2	+0.2
	comp=Z,432nm,1.2s						
LOR				eR			
	comp=Z,7μm,19.0s						
LOR	Lormes	87.66	333⇑	iP	P	03 45 43.2	+0.2
	comp=Z,432nm,1.2s						
R35A	Emporia Munici	87.68	42	P	P	03 45 43.8	+0.6
	baz=88,SNR=36						
AQU	L'Aquila	87.70	324	PFAKE		03 45 50.0	+6.7
AQU				LR	LR		
	comp=Z,6μm,21.0s						
Z28A	Tucker Farm, M	87.78	49	P	P	03 45 44.4	+0.5
	baz=88,SNR=19						
Y29A	Porterfield Fa	87.80	48	P	P	03 45 44.5	+0.5
	baz=88,SNR=27						
X30A	Coker Ranch, T	87.86	47	P	P	03 45 44.4	+0.2
	baz=88,SNR=26						
FLN	La Foliniere	87.87	336⇑	iP	P	03 45 44.1	+0.2
	comp=Z,286nm,1.1s						
FLN				eR			
	comp=Z,13μm,19.8s						
FLN	La Foliniere	87.87	336⇑	iP	P	03 45 44.1	+0.2
	comp=Z,286nm,1.1s						
W31A	Holland Ranch,	87.88	46	P	P	03 45 44.8	+0.6
	baz=88,SNR=62						
LDF	La Druitiere	87.90	336⇑	iP	P	03 45 44.2	+0.2
	comp=Z,221nm,1.1s						
LDF	La Druitiere	87.90	336⇑	iP	P	03 45 44.2	+0.2
	comp=Z,221nm,1.1s						
RSL	Roselend	87.93	330⇑	eP	P	03 45 44.2	-0.3
SSF	Saint Saulge	87.96	333⇑	iP	P	03 45 44.7	+0.3
	comp=Z,180nm,1.1s						
SSF	Saint Saulge	87.96	333⇑	iP	P	03 45 44.7	+0.3
	comp=Z,180nm,1.1s						
V32A	Arapaho	88.01	45	P	P	03 45 45.9	+1.0
	baz=88,SNR=20						
U33A	Lingo Farm, Me	88.02	44	P	P	03 45 45.3	+0.4
	baz=88,SNR=50						
JSA	Saint Aubin	88.03	337⇑	eP	P	03 45 44.8	+0.2
JSA				AMB	AMB	03 45 45.8	
	comp=Z,183nm,1.2s						
JSA				AMS	AMS	04 29 40.0	
	comp=Z,9μm,17.6s						
LPL	La Plagne	88.03	330⇑	iP	P	03 45 45.1	+0.1
	comp=Z,89nm,0.9s						
LPL	La Plagne	88.03	330⇑	iP	P	03 45 45.1	+0.1
	comp=Z,89nm,0.9s						
LPG	La Plagne	88.04	330⇑	iP	P	03 45 45.3	+0.1
	comp=Z,134nm,0.9s						
LPG	La Plagne	88.04	330⇑	iP	P	03 45 45.3	+0.1
	comp=Z,134nm,0.9s						
R36A	Gordon, Harris	88.04	41	P	P	03 45 44.9	0.0
	baz=88,SNR=64						
S35A	Otter Creek Ra	88.08	42	P	P	03 45 45.6	+0.4
	baz=88,SNR=97						
GLMI	Grayling	88.08	31	eP	P	03 45 45.9	+0.9
	comp=Z,914nm,1.1s						
GLMI				LR	LR		
	comp=Z,2μm,19.0s						
T34A	McClaskey Farm	88.10	43	P	P	03 45 45.6	+0.3
	baz=88,SNR=50						
HYF	Humbligny	88.10	333⇑	iP	P	03 45 45.8	+0.8
HYF	Humbligny	88.10	333⇑	iP	P	03 45 45.8	+0.8
128A	Castleberry Fa	88.18	49	P	P	03 45 46.2	+0.4
	baz=88,SNR=26						
Q37A	Longview Farm,	88.18	40	P	P	03 45 45.2	-0.3
	baz=88,SNR=9.9						
SMF	Signal de Mont	88.19	332⇑	iP	P	03 45 45.7	+0.2
	comp=Z,214nm,1.3s						
SMF	Signal de Mont	88.19	332⇑	iP	P	03 45 45.7	+0.2
	comp=Z,214nm,1.3s						
Z29A	Hungry Hill Ra	88.20	49	P	P	03 45 46.3	+0.4
	baz=88,SNR=63						
AVF	Avril sur Loir	88.25	333⇑	iP	P	03 45 46.2	+0.5
	comp=Z,318nm,1.1s						
AVF	Avril sur Loir	88.25	333⇑	iP	P	03 45 46.2	+0.5
	comp=Z,318nm,1.1s						
Y30A	Stafford Cattl	88.25	48	P	P	03 45 46.6	+0.6
	baz=88,SNR=13						
X31A	McDonald Ranch	88.25	47	P	P	03 45 46.6	+0.6
	baz=88,SNR=40						
GRR	Gorron	88.32	336⇑	iP	P	03 45 46.5	+0.5
	comp=Z,389nm,1.1s						
GRR	Gorron	88.32	336⇑	iP	P	03 45 46.5	+0.5
	comp=Z,389nm,1.1s						
W32A	Sentinel	88.32	46	P	P	03 45 47.2	+0.8
	baz=88,SNR=49						
U34A	Anderson Ranch	88.33	44	P	P	03 45 46.5	+0.2
	baz=88,SNR=55						
U34A	Anderson Ranch	88.33	44	eP	P	03 45 46.6	+0.2
	comp=Z,568nm,1.4s						
V33A	Lossen Ranch,	88.36	45	P	P	03 45 46.6	+0.1
	baz=88,SNR=33						
CUC	Castrocucco	88.36	321	PFAKE		03 46 00.0	+14
CUC				LR	LR		
	comp=Z,7μm,19.0s						
R37A	Teagarden Farm	88.41	41	P	P	03 45 46.5	-0.2
	baz=88,SNR=13						
BNI	Bardonecchia	88.44	330	PFAKE		03 46 00.0	+13
BNI				LR	LR		
	comp=Z,6μm,21.0s						
S36A	Lake Cedric, C	88.44	42	P	P	03 45 46.8	0.0
	baz=88,SNR=66						
228A	UT Block 9, Go	88.47	50	P	P	03 45 47.6	+0.4
	baz=88,SNR=13						
TIP	Timpagrande	88.51	320	P	P	03 45 47.9	+0.7
TIP	Timpagrande	88.51	320	eP	P	03 45 47.1	-0.1
	comp=Z,114nm,2.8s						
TIP				LR	LR		
	comp=Z,3μm,21.0s						
OG22	Abries	88.52	330⇑	eP	P	03 45 46.8	-0.5
TBI	Tubuai	88.52	121	eP	P	03 45 48.4	+1.2
	comp=Z,350nm,1.5s						
TBI	Tubuai	88.52	121	eS	S	03 56 28.2	-3.3
	comp=Z,1μm,31.2s						
TBI	Tubuai	88.52	121	eLQ	LQ	04 09 43.5	
	comp=Z,4μm,32.5s						
TBI				eLR	LR	04 13 50.7	
	comp=Z,7μm,22.8s,baz=313						
TBI	Tubuai	88.52	121	eT	T	05 23 25.5	
	comp=Z,214nm,0.3s						
Z30A	Sanderson Ranc	88.53	48	P	P	03 45 47.6	+0.2
	baz=88,SNR=22						
GDM	Grand'Maison	88.53	330⇑	eP	P	03 45 47.5	+0.2
T35A	Sooner Cattle	88.54	43	P	P	03 45 47.7	+0.3
	baz=88,SNR=36						
129A	Stewart Farms,	88.55	49	P	P	03 45 47.5	0.0
	baz=88						
Y31A	Rekieta Farm,	88.56	47	P	P	03 45 47.9	+0.4
	baz=88,SNR=55						
BGF	Bois d'Agland	88.63	333⇑	iP	P	03 45 47.9	+0.3
	comp=Z,123nm,1.2s						
BGF	Bois d'Agland	88.63	333⇑	iP	P	03 45 47.9	+0.3
	comp=Z,123nm,1.2s						
GRN	Grenoble	88.65	331⇑	eP	P	03 45 48.1	+0.3
MBDF	Montbardon	88.67	330⇑	iP	P	03 45 47.4	-0.6
MBDF	Montbardon	88.67	330⇑	iP	P	03 45 47.4	-0.6
W33A	Caddo, Fort Co	88.74	45	P	P	03 45 49.3	+1.0
	baz=88,SNR=39						
T36A	Boggs Farm, Ca	88.78	42	P	P	03 45 48.8	+0.3
	baz=89,SNR=89						
V34A	Guthrie	88.78	44	P	P	03 45 49.1	+0.6
	baz=89,SNR=12						
V34A	Guthrie	88.78	44	eP	P	03 45 49.0	+0.6
	comp=Z,578nm,1.4s						
X32A	Elmer	88.80	46	P	P	03 45 48.9	+0.3
	baz=89,SNR=32						
PLDF	La Plantade	88.85	332⇑	eP	P	03 45 50.1	+1.4
SURF	Saint Ours	88.85	330⇑	eP	P	03 45 48.9	0.0
WMOK	Wichita Mounta	88.86	46	eP	P	03 45 48.7	-0.2
	comp=Z,292nm,1.5s						
WMOK				LR	LR		
	comp=Z,2μm,20.0s						
ORIF	Oris-en-Rattie	88.86	330⇑	iP	P	03 45 48.8	0.0
ORIF				eR			
	comp=Z,9μm,22.8s						
ORIF	Oris-en-Rattie	88.86	330⇑	iP	P	03 45 48.8	0.0
AGO	Saint Agoulin	88.96	333⇑	eP	P	03 45 50.8	+1.7
SAOF	Saorge	88.96	329⇑	eP	P	03 45 48.6	-0.6
SGMF	Saint Gilles	88.97	337⇑	iP	P	03 45 49.7	+0.6
	comp=Z,246nm,1.1s						
SGMF	Saint Gilles	88.97	337⇑	iP	P	03 45 49.7	+0.6
	comp=Z,246nm,1.0s						
AUTN	L'Aution	89.00	329⇑	eP	P	03 45 49.7	+0.1
Y32A	R-V Farms, Ver	89.01	47	P	P	03 45 49.8	+0.2
	baz=89,SNR=26						
229A	Bryant Ranch,	89.05	50	P	P	03 45 50.2	+0.3
	baz=89,SNR=14						
TOUF	Mont Tournerai	89.06	329⇑	eP	P	03 45 49.3	-0.6
W34A	Bridge Creek,	89.07	45	P	P	03 45 50.6	+0.7
	baz=89,SNR=32						
W34A	Bridge Creek,	89.07	45	eP	P	03 45 50.4	+0.5
	comp=Z,484nm,1.5s						
SSB	Saint Sauveur	89.08	331⇑	eP	P	03 45 49.9	+0.1
SSB	Saint Sauveur	89.08	331	eP	P	03 45 49.3	-0.5
	comp=Z,152nm,1.6s						
SSB				LR	LR		
	comp=Z,6μm,21.0s						
Z31A	Sharp Cattle R	89.09	48	P	P	03 45 50.3	+0.3
	baz=89,SNR=61						
TCF	Toulx Ste Croi	89.09	333⇑	iP	P	03 45 50.3	+0.5
	comp=Z,279nm,1.6s						
TCF	Toulx Ste Croi	89.09	333⇑	iP	P	03 45 50.3	+0.5
	comp=Z,279nm,1.6s						
SBF	Sospel	89.11	329⇑	iP	P	03 45 49.1	-0.8
	comp=Z,145nm,1.1s						
SBF	Sospel	89.11	329⇑	iP	P	03 45 49.1	-0.8
	comp=Z,145nm,1.1s						
130A	Snyder	89.11	49	P	P	03 45 50.3	+0.2
	baz=89,SNR=17						
ROSF	Rostrenen	89.12	337⇑	iP	P	03 45 50.4	+0.6
	comp=Z,252nm,1.1s						
ROSF	Rostrenen	89.12	337⇑	iP	P	03 45 50.4	+0.6
	comp=Z,252nm,1.1s						
X33A	Lawton	89.17	46	P	P	03 45 50.4	+0.1
	baz=89,SNR=30						
MVIF	Mont Vial	89.20	329⇑	eP	P	03 45 49.7	-0.8
COLF	Collangettes	89.20	332⇑	eP	P	03 45 51.0	+0.7
V35A	Meyer Ranch, C	89.21	44	P	P	03 45 50.7	+0.2
	baz=89,SNR=41						
REVF	Revere	89.24	329	eP	P	03 45 49.9	-0.6
T37A	Cheneyville 18	89.25	42	P	P	03 45 50.7	+0.1
	baz=89,SNR=66						
PYM	Petit Puy Mans	89.26	332⇑	eP	P	03 45 52.2	+1.6
329A	Wagon Wheel Ra	89.28	50	P	P	03 45 51.2	+0.2
	baz=89,SNR=44						
OG26	St.-Nazaire-De	89.38	330⇑	eP	P	03 45 51.5	+0.3
VIVF	Saint-Julien-l	89.39	331⇑	iP	P	03 45 51.3	+0.1
	comp=Z,208nm,1.6s						
VIVF	Saint-Julien-l	89.39	331⇑	iP	P	03 45 51.3	+0.1
	comp=Z,208nm,1.5s						
131A	Roby	89.40	48	P	P	03 45 51.7	+0.2
	baz=89,SNR=18						
CALN	Calern	89.42	329⇑	eP	P	03 45 51.0	-0.5
HDIL	Hopedale	89.44	36	eP	P	03 45 51.5	+0.1
	comp=Z,556nm,1.4s						
HDIL				LR	LR		
	comp=Z,2μm,20.0s						
QUIF	Quistinic	89.46	337⇑	iP	P	03 45 51.7	+0.3
	comp=Z,88nm,0.9s						
QUIF	Quistinic	89.46	337⇑	iP	P	03 45 51.7	+0.3
	comp=Z,88nm,0.9s						
Y33A	Hilltop Ranch,	89.48	46	P	P	03 45 51.8	0.0
	baz=89,SNR=41						
Z32A	Haskell	89.49	47	P	P	03 45 52.4	+0.5
	baz=89,SNR=125						
X34A	Smith Ranch, M	89.50	45	P	P	03 45 52.3	+0.4
	baz=89,SNR=54						
PGF	Pioggiola	89.52	327⇑	iP	P	03 45 51.4	-0.5
	comp=Z,187nm,1.2s						
PGF	Pioggiola	89.52	327⇑	iP	P	03 45 51.4	-0.5
	comp=Z,187nm,1.2s						
230A	Sterling City	89.52	49	P	P	03 45 52.3	+0.2
	baz=89,SNR=22						
LBL	Lubilhac	89.61	332⇑	eP	P	03 45 54.0	+1.7
W35A	Tecumseh	89.64	44	P	P	03 45 52.9	+0.4
	baz=89,SNR=47						
MFF	Saint Martin d	89.64	335⇑	iP	P	03 45 53.0	+0.7
	comp=Z,291nm,1.1s						
MFF	Saint Martin d	89.64	335⇑	iP	P	03 45 53.0	+0.7
	comp=Z,291nm,1.1s						
CEL	Celeste	89.65	320	PFAKE		03 46 00.0	+7.4
CEL				LR	LR		
	comp=Z,7μm,19.0s						
TUL1	Leonard	89.68	43	P	P	03 45 52.9	+0.2
	baz=90,SNR=68						
TUL1	Leonard	89.68	43	eP	P	03 45 52.9	+0.2
	comp=Z,158nm,0.8s						
FRF	La Foret Royal	89.68	329⇑	iP	P	03 45 51.9	-0.6
	comp=Z,206nm,1.5s						
FRF	La Foret Royal	89.68	329⇑	iP	P	03 45 51.9	-0.6
	comp=Z,206nm,1.5s						
V36A	Jenks	89.69	43	P	P	03 45 53.1	+0.4
	baz=90						
TXAR	Lajitas Array	89.72	53	P	P	03 45 53.5	+0.4
	comp=Z,30nm,0.7s,baz=305,slow=3.1,SNR=412						
TXAR				PP	PP	03 49 21.9	-2.9
	comp=Z,2.4nm,1.0s,baz=280,slow=6.3,SNR=2.9						
TXAR				S	SKSac	03 56 17.5	-4.6
	comp=Z,0.2nm,0.8s,baz=319,slow=11,SNR=2.1						
TXAR				PKKPbc	PKKPbc	04 03 27.2	+2.4
	comp=Z,1.6nm,0.7s,baz=147,slow=5.4,SNR=13						
TXAR				PKPPKP	P'P'df	04 11 35.0	-4.1
	comp=Z,0.7nm,1.0s,baz=160,slow=4.0,SNR=4.5						
TXAR				LR	LR	04 19 42.5	
	comp=Z,2μm,21.9s,baz=0.0,slow=31						
TXAR	Lajitas Array	89.72	53	P	P	03 45 53.5	+0.4

TXAR 03 49 21.9
TXAR S **SKSac** **03 56 17.5 -4.6**
TXAR pmax pmax
comp=Z,30nm,0.7s
TXAR pmax pmax
comp=Z,2.0nm,1.0s
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR pmax pmax
comp=Z,1.0nm,1.0s
SMRF Simiane la Rot 89.77 330⇑ *i*P **P 03 45 53.2 +0.2**
comp=Z,174nm,1.7s
SMRF Simiane la Rot 89.77 330⇑ *i*P **P 03 45 53.2 +0.2**
comp=Z,174nm,1.7s
MSEY Mahe Island 89.80 264 ⇓P **P 03 45 53.9 +0.3**
MSEY Mahe Island 89.80 264 ⇓P **P 03 45 53.9 +0.3**
MSEY Mahe Island 89.80 264 PFAKE 03 46 00.0 +6.4
MSEY LR LR
comp=Z,1μm,20.0s
330A Mertzon 89.82 50 P **P 03 45 53.3 -0.2**
baz=90,SNR=42
ABTX Abilene, Hawle 89.88 48 P **P 03 45 54.3 +0.6**
baz=90,SNR=38
ABTX Abilene, Hawle 89.88 48 *e*P **P 03 45 53.8 +0.1**
comp=Z,258nm,1.3s
Z33A Whitaker Ranch 89.92 47 P **P 03 45 54.2 +0.4**
baz=90,SNR=48
LMR La Mourre 89.92 329⇑ *i*P **P 03 45 53.3 -0.4**
comp=Z,287nm,1.4s
LMR La Mourre 89.92 329⇑ *i*P **P 03 45 53.3 -0.4**
comp=Z,287nm,1.4s
429A Davenport Ranc 89.93 51 P **P 03 45 54.0 0.0**
baz=90,SNR=20
231A Bronte 89.97 49 P **P 03 45 54.3 +0.2**
baz=90,SNR=22
W36A Wetumka 90.01 44 P **P 03 45 54.6 +0.4**
baz=90,SNR=6.1
Y34A Reagan Ranch, 90.01 46 P **P 03 45 54.6 +0.4**
baz=90,SNR=26
V37A Hulbert 90.05 43 P **P 03 45 54.7 +0.2**
baz=90
529A Stev Forest Ra 90.08 51 P **P 03 45 55.0 +0.3**
baz=90,SNR=16
X35A Drake 90.13 45 P **P 03 45 54.8 0.0**
baz=90,SNR=111
RJF Les Rejaudoux 90.18 333⇑ *i*P **P 03 45 55.5 +0.6**
comp=Z,210nm,1.1s
RJF *e*R
comp=Z,10μm,18.5s
RJF Les Rejaudoux 90.18 333⇑ *i*P **P 03 45 55.5 +0.6**
comp=Z,210nm,1.1s
430A Baggett Ranch, 90.22 50 P **P 03 45 55.2 -0.2**
baz=90,SNR=23
CAF Calviac 90.31 333⇑ *i*P **P 03 45 56.4 +0.9**
comp=Z,206nm,1.1s
CAF Calviac 90.31 333⇑ *i*P **P 03 45 56.4 +0.9**
comp=Z,206nm,1.1s
133A Hamilton Ranch 90.31 47 P **P 03 45 55.9 +0.2**
baz=90,SNR=27
331A San Angelo 90.34 49 P **P 03 45 55.6 -0.3**
baz=90,SNR=27
Z34A Collier Ranch, 90.34 46 P **P 03 45 56.1 +0.3**
baz=90,SNR=41
X36A Centrahoma 90.36 44 P **P 03 45 56.3 +0.4**
baz=90,SNR=102
LASF Ste Croix 90.36 331⇑ *i*P **P 03 45 56.3 +0.6**
comp=Z,151nm,1.2s
LASF Ste Croix 90.36 331⇑ *i*P **P 03 45 56.3 +0.6**
comp=Z,151nm,1.3s
232A Coleman 90.40 48 P **P 03 45 56.6 +0.4**
baz=90,SNR=57
W37A Quinton 90.45 43 P **P 03 45 56.8 +0.5**
baz=90,SNR=55
Y35A Marietta 90.46 45 P **P 03 45 56.4 +0.1**
baz=90
AAM Ann Arbor 90.55 32 *e*P **P 03 45 56.9 +0.3**
comp=Z,303nm,1.4s
AAM LR LR
comp=Z,2μm,20.0s
SFIN Lafayette 90.60 35 P **P 03 45 57.2 +0.3**
baz=90,SNR=53
530A J-C Ranch, Com 90.61 51 P **P 03 45 57.7 +0.5**
baz=90,SNR=57
431A Sonora 90.68 50 P **P 03 45 57.5 0.0**
baz=90,SNR=28
332A Millersview 90.70 49 P **P 03 45 58.1 +0.5**
baz=90,SNR=91
233A Rising Star 90.75 48 P **P 03 45 58.4 +0.6**
baz=91,SNR=87
Z35A Perchaven, San 90.75 46 P **P 03 45 58.0 +0.3**
baz=91,SNR=48
LFF La Frestale 90.78 333⇑ *i*P **P 03 45 58.5 +0.9**
comp=Z,255nm,1.1s
LFF La Frestale 90.78 333⇑ *i*P **P 03 45 58.5 +0.9**
comp=Z,255nm,1.1s
134A White-Moore Ra 90.83 47 P **P 03 45 58.7 +0.6**
baz=91,SNR=68
X37A Clayton 90.89 44 P **P 03 45 58.6 +0.2**
baz=91,SNR=68
Y36A Durant 90.89 45 P **P 03 45 58.6 +0.3**
baz=91
W38A Poteau 90.99 43 P **P 03 45 59.1 +0.3**
baz=91,SNR=92
432A Menard 91.03 49 P **P 03 45 59.1 0.0**
baz=91,SNR=30
531A Rocksprings 91.08 50 P **P 03 45 59.5 +0.2**
baz=91,SNR=45
X38A Whitesboro 91.12 43 P **P 03 46 00.0 +0.6**
baz=91
333A Richland Sprin 91.20 48 P **P 03 46 00.3 +0.4**
baz=91,SNR=93
Y37A Hugo 91.20 44 P **P 03 45 59.8 0.0**
baz=91
234A Clairette 91.21 47 P **P 03 46 00.5 +0.6**
baz=91,SNR=109
135A Vickery Place, 91.23 46 P **P 03 46 00.6 +0.6**
baz=91,SNR=29
Z36A Blue Ridge 91.27 45 P **P 03 46 00.2 +0.1**
baz=91
JCT Junction City 91.31 49 P **P 03 46 00.3 -0.1**
baz=91,SNR=54
JCT Junction City 91.31 49 *e*P **P 03 46 00.3 -0.1**
comp=Z,54nm,0.8s
JCT LR LR
comp=Z,1μm,20.0s
OLIL Olney 91.44 37 *e*P **P 03 46 00.9 +0.1**
comp=Z,468nm,1.5s
532A Rocksprings 91.50 50 P **P 03 46 01.5 +0.1**
baz=91,SNR=51
CLTB Caltabellotta 91.52 322 PFAKE 03 46 10.0 +8.7
CLTB LR LR
comp=Z,5μm,20.0s
433A Art 91.54 49 P **P 03 46 01.4 -0.1**
baz=91,SNR=22
631A Perdido Creek 91.59 51 P **P 03 46 01.7 0.0**
baz=91,SNR=75
MTLF Montolieu 91.61 332⇑ *i*P **P 03 46 02.2 +0.7**
comp=Z,138nm,1.2s
MTLF Montolieu 91.61 332⇑ *i*P **P 03 46 02.2 +0.7**
comp=Z,138nm,1.2s
WHTX Lake Whitney, 91.61 47 P **P 03 46 02.2 +0.4**
baz=91
WHTX Lake Whitney, 91.61 47 *e*P **P 03 46 02.0 +0.2**
comp=Z,404nm,1.2s
334A Lometa 91.63 48 P **P 03 46 02.1 +0.3**
baz=91,SNR=46
SIUC Southern Illin 91.71 38 *e*P **P 03 46 02.0 -0.1**
comp=Z,157nm,1.2s
Y38A Idabel 91.73 44 P **P 03 46 01.9 -0.3**
baz=92
Z37A Pogue Cattle C 91.78 45 P **P 03 46 02.8 +0.3**
baz=92,SNR=40
136A Ennis 91.79 46 P **P 03 46 02.5 -0.1**
baz=92
VSL Villasalto 91.82 325 *e*P **P 03 46 00.8 -1.8**
comp=Z,128nm,1.7s
VSL LR LR
comp=Z,3μm,20.0s
H06S1 SOCORRO T 91.83 65 P **P 03 46 04.2 +1.2**
H06S1 T T 05 28 16.7
LRDF Laroque-de-Fa 91.83 331⇑ *e*P **P 03 46 03.3 +0.7**
MIAR Mount Ida 91.90 43 *e*P **P 03 46 03.2 +0.2**
comp=Z,474nm,1.3s
MIAR LR LR
comp=Z,2μm,21.0s
434A Burnet 91.99 48 P **P 03 46 03.4 -0.2**
baz=92,SNR=28
632A Uvalde 92.01 50 P **P 03 46 03.9 +0.2**
baz=92,SNR=28
LONY Lake Ozonia 92.01 25 *e*P **P 03 46 03.0 -0.4**
comp=Z,126nm,1.5s
LONY LR LR
comp=Z,3μm,20.0s
533A Kerrville 92.06 49 P **P 03 46 03.9 0.0**
baz=92,SNR=32
Y39A Lockesburg 92.07 43 P **P 03 46 04.0 +0.2**
baz=92
Z38A Mt. Pleasant 92.09 44 P **P 03 46 04.2 +0.2**
baz=92,SNR=12
236A Katherine and 92.14 46 P **P 03 46 04.4 +0.3**
baz=92,SNR=8.6
137A Heron Place, G 92.14 45 P **P 03 46 04.6 +0.4**
baz=92
335A Moody 92.15 47 P **P 03 46 04.3 +0.1**
baz=92,SNR=18
WDD Wield Dalam 92.18 320 PFAKE 03 46 20.0 +16
WDD LR LR
comp=Z,4μm,21.0s
CARF Carcanieres 92.19 331⇑ *e*P **P 03 46 04.6 +0.2**
MLS Moulis 92.36 332⇑ *e*P **P 03 46 05.5 +0.5**
336A Riesel 92.41 47 P **P 03 46 05.8 +0.4**
baz=92,SNR=55
435B Jarrell 92.42 48 P **P 03 46 05.7 +0.2**
baz=92,SNR=15
633A Saathoff Ranch 92.42 50 P **P 03 46 06.1 +0.5**
baz=92,SNR=8.3
534A Blanco 92.43 49 P **P 03 46 05.8 +0.2**
baz=92,SNR=40
732A Laxson Ranch, 92.45 51 P **P 03 46 06.1 +0.4**
baz=92,SNR=42
138A Matatall Enter 92.47 45 P **P 03 46 06.0 +0.2**
baz=92,SNR=17
Z39A Irene McRaven, 92.55 44 P **P 03 46 06.5 +0.5**
baz=92,SNR=12
ACSO Alt Creek Sta 92.55 33 *e*P **P 03 46 05.9 0.0**
comp=Z,110nm,0.8s
ACSO LR LR
comp=Z,3μm,19.0s
237A Washetta, Mont 92.56 46 P **P 03 46 06.4 +0.3**
baz=92,SNR=5.2
EPF Esparros 92.57 333⇑ *i*P **P 03 46 06.1 0.0**
comp=Z,75nm,1.2s
EPF Esparros 92.57 333⇑ *i*P **P 03 46 06.1 0.0**
comp=Z,75nm,1.2s
HBAR Harrisburg 92.67 40 *e*P **P 03 46 07.0 +0.5**
WCI Wyandotte Cave 92.70 36 *e*P **P 03 46 06.6 -0.1**
comp=Z,74nm,0.9s
NCB Newcomb 92.71 25 *e*P **P 03 46 05.9 -0.7**
NCB LR LR
comp=Z,3μm,20.0s
832A Faith Ranch, C 92.76 51 P **P 03 46 07.8 +0.6**
baz=93,SNR=22
RESF Ens 92.77 333⇑ *e*P **P 03 46 08.3 +1.3**
REYF Montagne du Re 92.81 333⇑ *e*P **P 03 46 07.2 0.0**
GLAT Glass 92.81 39 *e*P **P 03 46 07.4 +0.2**
VIEF Viey 92.82 333⇑ *e*P **P 03 46 08.2 +1.0**
139A Bunkhouse Ranc 92.85 44 P **P 03 46 07.9 +0.5**
baz=93
733A Divot King Ran 92.87 50 P **P 03 46 08.0 +0.4**
baz=93,SNR=11
436A Wall Ranch, Ga 92.89 47 P **P 03 46 08.5 +0.9**
baz=93,SNR=31
238A Jacksonville 92.94 45 P **P 03 46 08.9 +1.0**
baz=93,SNR=13
535A Dale 92.97 48 P **P 03 46 08.4 +0.3**
baz=93,SNR=12
634A China Grove, S 92.97 49 P **P 03 46 08.4 +0.4**
baz=93
ETSF Etsaut 93.01 333⇑ *i*P **P 03 46 09.1 +1.0**
comp=Z,92nm,1.1s
ETSF Etsaut 93.01 333⇑ *i*P **P 03 46 09.1 +1.0**
comp=Z,92nm,1.1s
337A Centerville 93.02 46 P **P 03 46 08.5 +0.2**
baz=93,SNR=6.5
LARF Larrau 93.05 334⇑ *e*P **P 03 46 09.2 +1.0**
SJPF Ste Jean 93.06 334⇑ *i*P **P 03 46 09.1 +0.8**
comp=Z,42nm,1.1s
SJPF Ste Jean 93.06 334⇑ *i*P **P 03 46 09.1 +0.8**
comp=Z,42nm,1.1s
833A Chaparral WMA, 93.09 51 P **P 03 46 09.1 +0.5**
baz=93,SNR=37
PKME Peaks-Kenny Pk 93.09 21 *e*P **P 03 46 09.0 +0.7**
comp=Z,136nm,1.3s
PKME LR LR
comp=Z,3μm,20.0s
437A Phantom Ranch, 93.23 47 P **P 03 46 10.2 +1.0**
baz=93,SNR=6.6
734A La Parita Cree 93.23 50 P **P 03 46 10.0 +0.7**
baz=93,SNR=12
536A Bastrop 93.24 48 P **P 03 46 09.9 +0.6**
baz=93,SNR=6.5
239A Gary 93.30 45 P **P 03 46 09.8 +0.3**
baz=93
635A Leesville 93.31 49 P **P 03 46 10.2 +0.6**
baz=93,SNR=9.3
338A Crockett 93.32 46 P **P 03 46 10.2 +0.6**
baz=93
NATX Nacogdoches 93.39 45 P **P 03 46 10.7 +0.7**
baz=93
NATX Nacogdoches 93.39 45 *e*P **P 03 46 10.6 +0.7**
comp=Z,156nm,1.4s
NATX LR LR
comp=Z,2μm,22.0s
ACCN Adirondack Com 93.42 25 *e*P **P 03 46 09.8 -0.1**
comp=Z,145nm,1.5s
HNH Hanover 93.58 24 *e*P **P 03 46 11.1 +0.4**
comp=Z,267nm,2.1s
WVT Waverly 93.64 38 *e*P **P 03 46 10.6 -0.4**
comp=Z,106nm,1.5s
438A Sam Houston St 93.67 46 P **P 03 46 12.2 +1.0**
baz=94
537A Green Hill Far 93.67 47 P **P 03 46 12.0 +0.7**
baz=94,SNR=14
636A Smothers Creek 93.67 48 P **P 03 46 12.5 +1.2**
baz=94,SNR=29
933A Laredo 93.67 51 P **P 03 46 12.6 +1.3**
baz=94,SNR=41
735A Kenedy 93.68 49 P **P 03 46 12.5 +1.2**
baz=94,SNR=5.5
834A Tilden 93.75 50 P **P 03 46 13.0 +1.3**
baz=94,SNR=7.9
339A Huntington 93.76 45 P **P 03 46 11.9 +0.2**
baz=94
439A Center Grove, 94.05 46 P **P 03 46 13.6 +0.6**
baz=94
736A Circle Diamond 94.05 49 P **P 03 46 14.9 +1.9**
baz=94,SNR=19
538A Harpers Horsep 94.05 47 P **P 03 46 14.3 +1.2**
baz=94
HKT Hockley 94.05 47 *e*P **P 03 46 12.8 -0.2**
comp=Z,160nm,1.6s
835A Beeville 94.08 50 P **P 03 46 14.6 +1.5**
baz=94
340A Bronson 94.08 45 P **P 03 46 13.0 -0.1**
baz=94
OXF Oxford 94.12 40 *e*P **P 03 46 12.8 -0.5**
comp=Z,237nm,1.4s
637A Eagle Lake 94.14 48 P **P 03 46 14.9 +1.5**
baz=94,SNR=16
934A Benavides 94.15 51 P **P 03 46 14.7 +1.2**
baz=94,SNR=12
SSPA Standing Stone 94.29 29 *e*P **P 03 46 14.1 +0.2**
comp=Z,68nm,1.4s
034A Hebbronville 94.43 51 P **P 03 46 16.5 +1.7**
baz=94,SNR=23
440A Kirbyville 94.54 45 P **P 03 46 15.1 -0.2**
baz=94
737A Port Lavaca 94.57 48 P **P 03 46 15.7 +0.3**
baz=94
KVTX Kingsville 94.57 50 PFAKE 03 46 30.0 +15
KVTX LR LR
comp=Z,2μm,19.0s
539A Cross D Ranch, 94.58 46 P **P 03 46 15.7 +0.2**
baz=94
KEST Kesra 94.87 323 P **P 03 46 15.9 -0.9**
comp=Z,13nm,1.1s,baz=295,slow=2.0,SNR=21
KEST PP **PP 03 50 07.8 +2.9**
comp=Z,4.0nm,1.0s,baz=63,slow=4.5,SNR=4.0
KEST LR LR 04 34 55.4
comp=Z,2μm,18.0s,baz=345,slow=39
KEST Kesra 94.87 323 *e*P **P 03 46 16.4 -0.3**
KEST PP **PP 03 50 07.8 +2.9**
035A Encino 94.88 51 P **P 03 46 17.5 +0.6**
baz=95
HRV Adam Dziewonsk 94.90 24 *e*P **P 03 46 17.0 +0.3**
comp=Z,59nm,1.4s
CMAH Djebel Manchou 95.05 325 P **P 03 46 16.6 -1.0**
CAEH ʿAin El Ouahch 95.19 325 P **P 03 46 17.3 -0.8**
035Z Hargill 95.25 51 P **P 03 46 18.8 +0.3**
baz=95,SNR=5.9
ABSA Djebel Ababsia 95.31 324 P **P 03 46 18.0 -0.8**
CKFL Kef-Lekhel 95.56 325 P **P 03 46 19.0 -1.0**
CASM Ain Smara 95.78 325 P **P 03 46 20.0 -0.9**
DFRA Djebel Bou Aff 95.82 326 P **P 03 46 20.5 -0.7**
TKL Tuckaleechee C 95.96 36 PKKPbc PKKPbc 04 03 08.3 -0.6
comp=Z,1.4nm,0.7s,baz=214,slow=7.3,SNR=3.3
TKL Tuckaleechee C 95.96 36 *e*P **P 03 46 21.2 -0.5**
TKL PKKPbc **PKKPdf 04 03 08.3 0.0**
PBRG Braganca 96.07 337 *e*P **P 03 46 22.1 0.0**
PBRG Braganca 96.07 337 *e*P **P 03 46 22.1 0.0**
BLA Blacksburg 96.17 33 *e*P **P 03 46 21.9 -0.7**
comp=Z,100nm,1.3s
BLA LR LR
comp=Z,3μm,20.0s
SET Setif 96.32 326 P **P 03 46 24.0 +0.6**
VWCC Virginia Weste 96.33 32 *e*P **P 03 46 23.1 -0.3**
PGAV Gavieira, Arco 96.39 338 *e*SKSac **SKSac 03 56 57.3 -1.3**
PGAV *e*P **SP 03 59 02.7 +2.1**
PGAV *e*SS SS 04 04 23.0 +10
PGAV Gavieira, Arco 96.39 338 *e*LQ LQ 04 19 06.6
PGAV *e*LR LR 04 22 42.7
comp=Z,5μm,18.0s
PGAV Gavieira, Arco 96.39 338 *e*SKSac **SKSac 03 56 57.3 -1.3**
PGAV *e*P **SP 03 59 02.7 +2.1**
PGAV *e*SS SS 04 04 23.0 +10
PGAV Gavieira, Arco 96.39 338 *e*LQ LQ 04 19 06.6
PGAV *e*LR LR 04 22 42.7
comp=Z,5μm,18.0s
CKHR Kef el Ahmar 96.42 326 P **P 03 46 23.5 -0.4**
LRAL Lakeview Retre 96.51 39 *e*P **P 03 46 23.0 -1.2**
comp=Z,5.7nm,0.7s
CBN Corbin Frederi 96.58 30 *e*P **P 03 46 24.4 0.0**
comp=Z,56nm,1.1s
CBN LR LR
comp=Z,2μm,19.0s
MVO Moncorvo 96.74 337 *e*P **P 03 46 24.8 -0.4**
MVO Moncorvo 96.74 337 *e*SKSac **SKSac 03 57 03.2 +2.8**
MVO *e*P **PS 03 59 07.4 -0.7**
MVO *e*SS SS 04 04 26.6 +8.3
MVO Moncorvo 96.74 337 *e*LQ LQ 04 19 17.7
MVO *e*LR LR 04 22 04.2
comp=Z,6μm,22.0s
MVO Moncorvo 96.74 337 *e*P **P 03 46 24.8 -0.4**
MVO Moncorvo 96.74 337 *e*SKSac **SKSac 03 57 03.2 +2.8**
MVO *e*P **PS 03 59 07.4 -0.7**
MVO *e*SS SS 04 04 26.6 +8.3
MVO Moncorvo 96.74 337 *e*LQ LQ 04 19 17.7
MVO *e*LR LR 04 22 04.2
comp=Z,6μm,22.0s
POLO Lamas de Olo 96.79 337 *e*P **P 03 46 25.4 0.0**
POLO Lamas de Olo 96.79 337 *e*P **P 03 46 25.4 0.0**
JSRW J. Sargeant Re 96.82 31 *e*P **P 03 46 24.5 -1.0**
PVRL Vila Real 96.85 337 *e*P **P 03 46 26.0 +0.3**
PVRL Vila Real 96.85 337 *e*P **P 03 46 26.0 +0.3**
ESDC Sonseca Array 97.06 334 P **P 03 46 26.3 -0.4**
comp=Z,11nm,0.8s,baz=21,slow=4.1,SNR=54
ESDC PP **PP 03 50 18.9 -2.7**
comp=Z,2.1nm,0.7s,baz=34,slow=7.7,SNR=6.4
ESDC PKKPbc **PKKPbc 04 03 04.1 -2.0**
comp=Z,1.1nm,1.0s,baz=212,slow=4.6,SNR=4.5
ESDC LR LR 04 34 54.4
comp=Z,9μm,21.0s,baz=25,slow=38
ESLA Sonseca Array 97.06 334 *e*P **P 03 46 26.5 -0.1**
comp=Z,2.8nm,0.9s
PTO Porto 97.25 338 *e*P Pdif 03 46 28.9 +1.5
PTO Porto 97.25 338 *e*P Pdif 03 46 28.9 +1.5
PAB San Pablo 97.31 334 PFAKE 03 46 40.0 +12
PAB LR LR
comp=Z,11μm,20.0s
KMSC Kings Mountain 97.50 34 P **P 03 46 28.3 -0.3**
baz=97,SNR=18
BRAL Brewton 98.09 41 *e*P **P 03 46 31.2 -0.1**
comp=Z,16nm,0.4s
BRAL LR LR
comp=Z,2μm,21.0s
PCAS Casmilo, Conde 98.21 337 *e*P Pdif 03 46 33.4 +1.6
PCAS Casmilo, Conde 98.21 337 *e*P Pdif 03 46 33.4 +1.6
PMRV Marv??o 98.43 336 *e*P Pdif 03 46 33.1 +0.3
PMRV Marv??o 98.43 336 *e*SKSac **SKSac 03 57 12.2 +3.2**
PMRV *e*P **PS 03 59 27.9 +1.5**
PMRV *e*SS **SS 04 04 49.0 +6.9**
PMRV Marv??o 98.43 336 *e*LR LR 04 24 07.8
comp=Z,7μm,18.0s
PMRV Marv??o 98.43 336 *e*P Pdif 03 46 33.1 +0.3
PMRV Marv??o 98.43 336 *e*SKSac **SKSac 03 57 12.2 +3.2**
PMRV *e*P **PS 03 59 27.9 +1.5**
PMRV *e*SS **SS 04 04 49.0 +6.9**
PMRV Marv??o 98.43 336 *e*LR LR 04 24 07.8
comp=Z,7μm,18.0s
RKT Rikitea 98.68 112 *e*SKSac **SKSac 03 57 08.0 -2.2**
comp=Z,670nm,27.0s
RKT Rikitea 98.68 112 *e*PS PS 03 59 34.0 +3.5
comp=Z,1μm,28.5s
RKT Rikitea 98.68 112 *e*LR LR 04 18 33.6
comp=Z,7μm,23.0s,baz=308
CNNC Cliffs of the 98.92 32 *e*P Pdif 03 46 35.1 +0.1
comp=Z,67nm,1.5s
CNNC LR LR
comp=Z,2μm,20.0s
PESTR Estremoz 99.01 336 *e*P **Pdif 03 46 35.8 +0.4**
PESTR Estremoz 99.01 336 *e*P **Pdif 03 46 35.8 +0.4**
PBAR Barrancos 99.46 336 *e*P **Pdif 03 46 37.5 +0.2**
PBAR Barrancos 99.46 336 *e*P **Pdif 03 46 37.5 +0.2**
TIGA Tifton 99.50 38 P **Pdif 03 46 37.8 +0.2**
baz=99,SNR=5.6
TIGA Tifton 99.50 38 *e*P **Pdif 03 46 37.5 -0.1**
comp=Z,23nm,0.6s
LIS Lisbon 99.64 337 *e*P **Pdif 03 46 38.8 +0.7**
LIS AMS AMS 04 34 10.8
comp=N,7μm,21.7s
LIS Lisbon 99.64 337 *e*P **Pdif 03 46 38.8 +0.7**
NHSC New Hope 99.73 35 *e*Pdif **Pdif 03 46 38.1 -0.6**
comp=N,56nm,1.2s
NHSC LR LR
comp=Z,3μm,19.0s
MESJ Messejana 100.14 336 *e*P **Pdif 03 46 41.0 +0.6**
MESJ *e*S **SKSac 03 57 19.4 +1.9**
MESJ AMS AMS 04 34 22.6
comp=Z,7μm,21.6s
MESJ Messejana 100.14 336 *e*P **Pdif 03 46 41.0 +0.6**
MESJ *e*S **SKSac 03 57 19.4 +1.9**
MESJ Messejana 100.14 336 *e*P **Pdif 03 46 40.5 +0.1**
MESJ Messejana 100.14 336 *e*P **Pdif 03 46 40.5 +0.1**
PVAQ Vaqueiros 100.38 336 *e*P **Pdif 03 46 41.6 +0.1**
PVAQ Vaqueiros 100.38 336 *e*SKSac SKSac 03 57 26.6 +7.9
PVAQ *e*SS SS 04 05 23.1 +14
PVAQ Vaqueiros 100.38 336 *e*LQ LQ 04 19 35.8
PVAQ *e*LR LR 04 23 57.1
comp=Z,8μm,22.0s
PVAQ Vaqueiros 100.38 336 *e*P **Pdif 03 46 41.6 +0.1**
PVAQ Vaqueiros 100.38 336 *e*SKSac SKSac 03 57 26.6 +7.9
PVAQ *e*SS SS 04 05 23.1 +14
PVAQ Vaqueiros 100.38 336 *e*LQ LQ 04 19 35.8
PVAQ *e*LR LR 04 23 57.1
comp=Z,8μm,22.0s
MORF Marmelete 100.77 336 *e*P **Pdif 03 46 43.8 +0.5**
MORF *e*S **SKSac 03 57 23.2 +2.5**
MORF AMS AMS 04 35 38.8
comp=Z,6μm,25.0s
MORF Marmelete 100.77 336 *e*P **Pdif 03 46 43.8 +0.5**
MORF *e*S **SKSac 03 57 23.2 +2.5**
KMBO Kilima Mbogo 102.15 278 P **Pdif 03 46 48.6 -1.3**
comp=Z,1.1nm,0.6s,baz=37,slow=18,SNR=3.9
KMBO PP **PP 03 51 00.7 -1.3**
comp=Z,1.1nm,0.2s,baz=56,slow=9.9,SNR=2.8
KMBO Kilima Mbogo 102.15 278 P **Pdif 03 46 48.7 -1.3**
KMBO 03 51 00.7
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO pmax pmax
comp=Z,1.0nm,0.2s
KMBO Kilima Mbogo 102.15 278 P **Pdif 03 46 48.6 -1.3**
KMBO PP **PP 03 51 00.7 -1.3**
KMBO LR LR
comp=Z,1μm,19.0s
PTCN Pitcairn Islan 103.43 111 PFAKE 03 47 10.0 +15
PTCN LR LR
comp=Z,3μm,20.0s
ROSA Rosais 103.69 352 *e*LR LR 04 22 20.2
comp=Z,329nm,22.4s

PSET	**Sete Cidades**	**104.25**	**350**	*e*LR	LR		04 22 25.9		
	comp=Z,139nm,19.5s								
ABPO	**Ambohimpanom**	**104.75**	**257**	PFAKE			03 47 10.0	+8.7	
ABPO				LR	LR				
	comp=Z,966nm,22.0s								
PSMN	**Pico do Norte,**	**104.96**	**349**	*e*LR	LR		04 22 12.6		
	comp=Z,118nm,19.5s								
TEIG	**Tepich**	**105.85**	**48**	PKKPbc	PKKPbc		04 02 38.7	-1.6	
	comp=Z,11nm,0.7s,baz=142,slow=5.7,SNR=8.4								
TEIG	**Tepich**	**105.85**	**48**	PKKPbc	PKKPbc		04 02 38.7	-1.6	
TEIG				LR	LR				
	comp=Z,1µm,20.0s								
CASY	**Casey**	**106.10**	**193**	PFAKE			03 51 30.0		
CASY				LR	LR				
	comp=Z,3µm,21.0s								
BBSR	**BB Station**	**106.35**	**23**	PFAKE			03 51 30.0		
BBSR				LR	LR				
	comp=Z,1µm,20.0s								
TAM	**Tamanrasset**	**107.29**	**318**	*e*PKP	**PKiKP**		**03 51 20.3**	**-1.1**	
TAM				LR	LR				
	comp=Z,3µm,19.0s								
PMOZ	**Porto Moniz, M**	**107.42**	**341**	*e*LR	LR		04 26 31.9		
	comp=Z,3µm,20.0s								
PMOZ	**Porto Moniz, M**	**107.42**	**341**	*e*LR	LR		04 26 31.9		
	comp=Z,3µm,20.0s								
GTBY	**Guantanamo Bay**	**113.27**	**38**	PFAKE			03 51 40.0		
GTBY				LR	LR				
	comp=Z,1µm,21.0s								
MTDJ	**Mount Denham**	**113.47**	**41**	PFAKE			03 51 50.0		
MTDJ				LR	LR				
	comp=Z,2µm,21.0s								
GRTK	**Grand Turk**	**113.75**	**33**	PFAKE			03 51 50.0		
GRTK				LR	LR				
	comp=Z,3µm,22.0s								
VNDA	**Vanda**	**115.32**	**175**	PKP	**PKPdf**		**03 51 34.0**	**-0.7**	
	comp=Z,2.7nm,0.7s,baz=327,slow=4.7,SNR=25								
VNDA				pPKP	PKiKP		03 51 45.1	+10	
	comp=Z,5.8nm,0.8s,baz=301,slow=4.1,SNR=13								
VNDA				PP	**PP**		**03 52 35.2**	**-1.3**	
	comp=Z,2.4nm,0.9s,baz=345,slow=8.7,SNR=8.4								
VNDA				PKKPbc	**PKKPbc**		**04 02 10.2**	**-0.7**	
	comp=Z,1.4nm,0.6s,baz=243,slow=1.2,SNR=13								
VNDA	**Vanda**	**115.32**	**175**	PKIKP	**PKPdf**		**03 51 34.0**	**-0.7**	
VNDA							03 51 45.1		
VNDA							03 52 35.3		
VNDA							04 02 10.2		
VNDA				pmax	pmax				
	comp=Z,3.0nm,0.7s								
VNDA				pmax	pmax				
	comp=Z,6.0nm,0.8s								
VNDA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
VNDA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
VNDA	**Vanda**	**115.32**	**175**	*e*PKPdf	**PKPdf**		**03 51 34.3**	**-0.4**	
VNDA				pPKP	PKiKP		03 51 45.1	+10	
VNDA				PP	**PP**		**03 52 35.2**	**-1.3**	
VNDA				PKKPbc	**PKKPbc**		**04 02 10.2**	**-0.7**	
JTS	**JuntasAbangare**	**115.51**	**52**	PFAKE			03 51 50.0	+13	
JTS				LR	LR				
	comp=Z,974nm,20.0s								
SDDR	**Presa de Saban**	**115.89**	**35**	PFAKE			03 51 50.0	+12	
SDDR				LR	LR				
	comp=Z,3µm,20.0s								
SBA	**Scott Base**	**115.99**	**174**	PFAKE			03 51 50.0	+14	
SBA				LR	LR				
	comp=Z,1µm,19.0s								
TOA0	**Torodi Ar. Sit**	**117.23**	**315**	*e*PKP1	**PKPdf**		**03 51 38.1**	**-2.2**	
TOA0	**Torodi Ar. Sit**	**117.23**	**315**	*e*PKPdf	**PKPdf**		**03 51 39.4**	**-0.9**	
TORD	**Torodi Ar. Bea**	**117.23**	**315**	PKP	**PKPdf**		**03 51 39.5**	**-0.8**	
	comp=Z,15nm,1.1s,baz=34,slow=1.9,SNR=36								
TORD				PP	**PP**		**03 52 49.6**	**-0.5**	
	comp=Z,9.8nm,0.8s,baz=29,slow=6.3,SNR=12								
TORD				PKKPbc	**PKKPbc**		**04 02 03.9**	**+0.9**	
	comp=Z,1.9nm,0.8s,baz=224,slow=4.4,SNR=12								
LSZ	**Lusaka**	**117.71**	**272**	*e*PKPdf	**PKPdf**		**03 51 41.1**	**-0.2**	
LSZ				LR	LR				
	comp=Z,2µm,19.0s								
SJG	**San Juan**	**118.87**	**30**	PFAKE			03 52 00.0	+17	
SJG				LR	LR				
	comp=Z,2µm,22.0s								
ICMP	**Isla Caja de M**	**118.92**	**31**	*e*PKPdf	**PKPdf**		**03 51 42.7**	**-0.8**	
BCIP	**Isla Barro Col**	**119.53**	**49**	PFAKE			03 52 00.0	+15	
BCIP				LR	LR				
	comp=Z,839nm,21.0s								
PAYG	**Puerto Ayora**	**119.84**	**65**	PFAKE			03 52 00.0	+15	
PAYG				LR	LR				
	comp=Z,3µm,21.0s								
MAW	**Mawson**	**119.96**	**206**	PKP	**PKPdf**		**03 51 43.8**	**0.0**	
	comp=Z,12nm,0.7s,baz=45,slow=1.5,SNR=31								
MAW				pPKP	**pPKPdf**		**03 51 55.4**	**+2.5**	
	comp=Z,16nm,0.7s,baz=349,slow=0.8,SNR=12								
MAW				PP	**PP**		**03 53 04.5**	**-4.6**	
	comp=Z,3.2nm,0.8s,baz=342,slow=5.5,SNR=1.2								
MAW				PKKPbc	**PKKPbc**		**04 01 54.3**	**+0.3**	
	comp=Z,3.5nm,0.6s,baz=239,slow=7.0,SNR=9.7								
MAW	**Mawson**	**119.96**	**206**	PKIKP	**PKPdf**		**03 51 43.8**	**0.0**	
MAW							03 51 55.4		
MAW				pmax	pmax				
	comp=Z,12nm,0.7s								
MAW				pmax	pmax				
	comp=Z,16nm,0.7s								
MAW				pmax	pmax				
	comp=Z,3.0nm,0.8s								
MAW				pmax	pmax				
	comp=Z,4.0nm,0.6s								
RPN	**Rapa Nui**	**120.33**	**102**	PFAKE			03 52 00.0	+14	
RPN				LR	LR				
	comp=Z,4µm,21.0s								
ANWB	**Willy Bob**	**120.93**	**26**	PFAKE			03 52 00.0	+13	
ANWB				LR	LR				
	comp=Z,1µm,21.0s								
H05N1	**Guadeloupe/Mar**	**122.44**	**26**	PKP	**PKPdf**		**03 51 47.7**	**-2.6**	
SLR	**Silverton**	**123.13**	**261**	P	**PKPdf**		**03 51 50.8**	**-0.7**	
FDF	**Fort de France**	**123.87**	**27**[1]	*e*P	**PKPdf**		**03 51 53.0**	**-0.1**	
FDF	**Fort de France**	**123.87**	**27**	*e*PKPdf	**PKPdf**		**03 51 51.8**	**-1.3**	
FDF				LR	LR				
	comp=Z,2µm,22.0s								
KLOF	**Kloof**	**123.96**	**261**	P	**PKPdf**		**03 51 52.3**	**-0.8**	
ZAM	**Aeronautique**	**124.06**	**27**	*e*P	**PKPdf**		**03 51 53.5**	**+0.1**	
LPMF	**Morne Lapointe**	**124.08**	**27**	*e*P	**PKPdf**		**03 51 54.2**	**+0.7**	
PRYS	**Parys**	**124.43**	**260**	P	**PKPdf**		**03 51 52.8**	**-1.1**	
KSD	**Kokstad**	**124.49**	**256**	P	**PKPdf**		**03 51 52.6**	**-1.3**	
BFSD	**Buffelsfontein**	**124.85**	**261**	P	**PKPdf**		**03 51 54.5**	**-0.2**	
SEK	**Senekal**	**124.88**	**259**	P	**PKPdf**		**03 51 53.6**	**-1.2**	
SDV	**Santo Domingo**	**124.90**	**40**	*e*PKPdf	**PKPdf**		**03 51 55.1**	**-0.2**	
SDV				LR	LR				
	comp=Z,2µm,20.0s								
LBTB	**Lobatse**	**124.90**	**263**	*e*PKPdf	**PKPdf**		**03 51 54.8**	**-0.1**	
BBGH	**Gun Hill**	**125.90**	**26**	PFAKE			03 52 10.0	+13	
BBGH				LR	LR				
	comp=Z,2µm,22.0s								
RUDU	**RUNDU**	**125.90**	**274**	P	**PKPdf**		**03 51 57.0**	**+0.1**	
GRGR	**Grenville**	**126.07**	**29**	PFAKE			03 52 10.0	+13	
GRGR				LR	LR				
	comp=Z,1µm,20.0s								
SACV	**Santiago Islan**	**126.11**	**342**	PFAKE			03 52 10.0	+13	
SACV				LR	LR				
	comp=Z,2µm,22.0s								
DBIC	**Dimbokro**	**126.18**	**317**	PKP	**PKPdf**		**03 51 56.6**	**-0.9**	
	comp=Z,25nm,0.7s,baz=17,slow=2.7,SNR=47								
DBIC				PP	**PP**		**03 53 46.1**	**-4.9**	
	comp=Z,15nm,1.1s,baz=1.7,slow=6.5,SNR=2.6								
DBIC	**Dimbokro**	**126.18**	**317**	PKIKP	**PKPdf**		**03 51 56.6**	**-0.9**	
DBIC				pmax	pmax				
	comp=Z,25nm,0.7s								
DBIC				pmax	pmax				
	comp=Z,15nm,1.1s								
DBIC	**Dimbokro**	**126.18**	**317**	*e*PKPdf	**PKPdf**		**03 51 57.0**	**-0.5**	
DBIC				PP	**PP**		**03 53 46.1**	**-4.9**	
ROSC	**El Rosal**	**126.22**	**47**	PKP	**PKPdf**		**03 51 58.3**	**+0.2**	
	comp=Z,18nm,0.6s,baz=34,slow=0.9,SNR=26								
ROSC	**El Rosal**	**126.22**	**47**	PKP	**PKPdf**		**03 51 58.3**	**+0.2**	
ROSC				*e*PKPdf	**PKiKP**		**03 51 58.4**	**-0.1**	
TIC	**Toumodi**	**126.29**	**317**	*e*PKP1	**PKPdf**		**03 51 57.2**	**-0.6**	
KIC	**Kosan Boka**	**126.37**	**317**	*e*PKP1	**PKPdf**		**03 51 57.4**	**-0.5**	
	comp=Z,98nm,0.9s								
PCRV	**Puerto La Cruz**	**126.62**	**33**	PKP	**PKPdf**		**03 51 56.9**	**-1.5**	
	comp=Z,18nm,0.7s,baz=254,slow=1.6,SNR=5.0								
PCRV				PP	**PP**		**03 53 54.4**	**+0.7**	
	comp=Z,14nm,1.2s,baz=282,slow=9.3,SNR=2.1								
LIC	**Lamto**	**126.64**	**317**	*e*PKIKP	**PKPdf**		**03 51 57.0**	**-1.4**	
	comp=Z,76nm,1.0s								
LIC				*e*R					
	comp=Z,5µm,21.5s								
LIC	**Lamto**	**126.64**	**317**	*e*PKP1	**PKPdf**		**03 51 58.0**	**-0.4**	
	comp=Z,104nm,1.0s								
LIC	**Lamto**	**126.64**	**317**	*e*PKPdf	**PKPdf**		**03 51 57.0**	**-1.4**	
BOSA	**Boshof**	**126.86**	**260**	PKP	**PKPdf**		**03 51 58.5**	**0.0**	
	comp=Z,18nm,0.8s,baz=79,slow=2.0,SNR=34								
BOSA				PP	**PP**		**03 53 56.1**	**-0.6**	
	comp=Z,6.1nm,1.0s,baz=101,slow=6.1,SNR=1.9								
BOSA				PKKP	**PKKPdf**		**04 02 15.1**	**+2.6**	
	comp=Z,2.2nm,0.9s,baz=314,slow=11,SNR=3.2								
BOSA	**Boshof**	**126.86**	**260**	PKIKP	**PKPdf**		**03 51 58.5**	**0.0**	
BOSA							03 53 56.1		
BOSA				pmax	pmax				
	comp=Z,18nm,0.8s								
BOSA				pmax	pmax				
	comp=Z,6.0nm,1.0s								
BOSA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
BOSA	**Boshof**	**126.86**	**260**	*e*PKPdf	**PKPdf**		**03 51 58.0**	**-0.5**	
BOSA				PP	**PP**		**03 53 56.1**	**-0.6**	
BOSA				PKKP	**PKKPdf**		**04 02 15.1**	**+2.6**	
QSPA	**South Pole Qui**	**127.14**	**180**	PKP	**PKPdf**		**03 51 57.3**	**-0.5**	
	comp=Z,49nm,1.0s,baz=264,slow=0.8,SNR=47								
QSPA				PP	**PP**		**03 53 54.1**	**-3.3**	
	comp=Z,41nm,1.3s,baz=346,slow=8.3,SNR=2.2								
QSPA	**South Pole Qui**	**127.14**	**180**	PKP	**PKPdf**		**03 51 57.3**	**-0.5**	
QSPA				PP	**PP**		**03 53 54.1**	**-3.3**	
QSPA				LR	LR				
	comp=Z,3µm,22.0s								
OTAV	**Otavalo**	**127.32**	**54**	*e*PKPdf	**PKPdf**		**03 51 59.9**	**-0.4**	
OTAV				*e*PP	**PP**		**03 53 55.8**	**-3.6**	
OTAV				LR	LR				
	comp=Z,931nm,20.0s								
GRM	**Grahamstown**	**127.91**	**254**	P	**PKPdf**		**03 52 00.2**	**-0.1**	
TSUM	**Tsumeb**	**128.30**	**274**	*e*PKPdf	**PKPdf**		**03 52 01.6**	**+0.1**	
TSUM				*e*PP	PP		03 54 00.4	-5.8	
TSUM				LR	LR				
	comp=Z,2µm,20.0s								
SOE	**Somerset East**	**128.39**	**255**	P	**PKPdf**		**03 52 01.6**	**+0.4**	
UPI	**Upington**	**129.90**	**262**	P	**PKPdf**		**03 52 03.5**	**-0.8**	
WIN	**Windhoek**	**130.45**	**271**	P	**PKPdf**		**03 52 05.5**	**-0.1**	
SUR	**Sutherland**	**131.93**	**257**	PFAKE			03 52 20.0	+12	
SUR				LR	LR				
	comp=Z,1µm,20.0s								
NNA	**Nana**	**137.25**	**64**	PFAKE			03 52 30.0	+12	
NNA				LR	LR				
	comp=Z,2µm,19.0s								
NVL	**N'lazarevskaya**	**137.71**	**202**	*e*PKIKP	**PKPdf**		**03 52 17.5**	**0.0**	
NVL				*e**PP	PKiKP		03 52 24.9	+5.5	
NVL				pmax	pmax				
	comp=Z,7.0nm,0.6s								
PTGA	**Pitinga**	**138.40**	**34**	PP	PP		03 55 06.4	-2.9	
	comp=Z,14nm,1.0s,baz=346,slow=6.8,SNR=12								
SNAA	**Sanae**	**141.16**	**197**	PKhKP	PKPpre		03 52 16.3		
	comp=Z,5.4nm,0.7s,baz=175,slow=4.7,SNR=53								
SNAA				PP	**PP**		**03 55 23.7**	**-2.5**	
	comp=Z,4.1nm,1.0s,baz=150,slow=8.2,SNR=6.0								
SNAA	**Sanae**	**141.16**	**197**	PKHKP	PKPpre		03 52 16.3		
SNAA							03 55 23.7		
SNAA				pmax	pmax				
	comp=Z,5.0nm,0.7s								
SNAA				pmax	pmax				
	comp=Z,4.0nm,1.0s								
ASCN	**Ascension**	**143.50**	**317**	PFAKE			03 52 40.0	+10	
ASCN				LR	LR				
	comp=Z,2µm,22.0s								
SAML	**Samuel**	**143.83**	**45**	*e*PKPdf	PKPab		03 52 27.4	+0.2	
SAML				LR	LR				
	comp=Z,1µm,22.0s								
SHEL	**Horse Pasture**	**144.19**	**298**	PFAKE			03 52 40.0	+9.2	
SHEL				LR	LR				
	comp=Z,2µm,21.0s								
LPAZ	**La Paz**	**146.31**	**59**	PKPbc	**PKPbc**		**03 52 35.9**	**-0.5**	
	comp=Z,86nm,0.6s,baz=325,slow=4.7,SNR=226								
LPAZ	**La Paz**	**146.31**	**59**	PKP2	**PKPbc**		**03 52 35.9**	**-0.5**	
LPAZ				pmax	pmax				
	comp=Z,87nm,0.6s								
LPAZ	**La Paz**	**146.31**	**59**	*e*PKPbc	**PKPbc**		**03 52 36.0**	**-0.4**	
RCBR	**Riachuelo**	**148.50**	**355**	*e*PKPdf	**PKPdf**		**03 52 38.5**	**+0.2**	
RCBR				*e*PKPbc	**PKPbc**		**03 52 41.8**	**0.0**	
RCBR				LR	LR				
	comp=Z,1µm,22.0s								
LVC	**Limon Verde**	**149.84**	**69**	*e*PKPdf	**PKPdf**		**03 52 41.1**	**+0.7**	
LVC				*e*PKPbc	**PKiKP**		**03 52 46.3**	**+0.1**	
LVC				*e*PKPab	**PKPab**		**03 52 51.8**	**+1.1**	
LVC				LR	LR				
	comp=Z,3µm,21.0s								
LCO	**Las Campanas**	**151.74**	**82**	*e*PKPdf	**PKPdf**		**03 52 43.8**	**+0.6**	
LCO				*e*PKPbc	**PKiKP**		**03 52 49.8**	**-0.2**	
LCO				*e*PKPab	**PKPab**		**03 52 59.5**	**+1.0**	
LCO				LR	LR				
	comp=Z,2µm,19.0s								
PLCA	**Paso Flores**	**154.82**	**108**	PKP	**PKPdf**		**03 52 46.4**	**-0.6**	
	comp=Z,30nm,1.4s,baz=293,slow=2.3,SNR=7.3								
PLCA				PKPbc	**PKiKP**		**03 52 55.8**	**+0.1**	
	comp=Z,14nm,0.9s,baz=242,slow=2.6,SNR=7.1								
PLCA				PKPab	**PKPab**		**03 53 12.4**	**+1.5**	
	comp=Z,98nm,1.1s,baz=266,slow=6.0,SNR=14								
PLCA	**Paso Flores**	**154.82**	**108**	PKIKP	**PKPdf**		**03 52 46.4**	**-0.6**	
PLCA							03 52 55.8		
PLCA				pmax	pmax				
	comp=Z,30nm,1.4s								
PLCA				pmax	pmax				
	comp=Z,14nm,0.9s								
PLCA				pmax	pmax				
	comp=Z,98nm,1.2s								
PLCA	**Paso Flores**	**154.82**	**108**	*e*PKPdf	**PKPdf**		**03 52 46.4**	**-0.6**	
PLCA				*e*PKPbc	**PKiKP**		**03 52 55.9**	**+0.2**	
PLCA				*e*PKPab	**PKPab**		**03 53 11.6**	**+0.6**	
BDFB	**Brasilia**	**156.68**	**24**	PKP	**PKPdf**		**03 52 49.1**	**-1.2**	
	comp=Z,11nm,1.1s,baz=315,slow=7.1,SNR=8.3								
BDFB				PKPab	**PKPab**		**03 53 20.4**	**+1.0**	
	comp=Z,23nm,0.7s,baz=339,slow=5.8,SNR=15								
BDFB				PP	**PP**		**03 56 54.4**	**-2.1**	
	comp=Z,12nm,1.0s,baz=339,slow=8.1,SNR=4.8								
BDFB	**Brasilia**	**156.68**	**24**	PKIKP	**PKPdf**		**03 52 49.1**	**-1.2**	
BDFB							03 56 54.4		
BDFB				pmax	pmax				
	comp=Z,11nm,1.1s								
BDFB				pmax	pmax				
	comp=Z,23nm,0.7s								
BDFB				pmax	pmax				
	comp=Z,12nm,1.0s								
EFI	**East Falkland**	**160.04**	**142**	PFAKE			03 53 00.0	+7.0	
EFI				LR	LR				
	comp=Z,4µm,20.0s								
CPUP	**Villa Florida**	**160.47**	**61**	*e*PKPdf	**PKPdf**		**03 52 54.0**	**-0.3**	
CPUP				*e*PKPab	**PKPab**		**03 53 35.0**	**-0.5**	
CPUP				*e*PP	PP		03 57 09.9	-8.1	
TRQA	**Tornquist**	**161.27**	**99**	*e*PKPdf	**PKPdf**		**03 52 53.9**	**-1.0**	
TRQA				*e*PKPab	**PKPab**		**03 53 39.0**	**+0.1**	
TRQA				LR	LR				
	comp=Z,2µm,22.0s								
HOPE	**Hope Point**	**163.06**	**184**	PFAKE			03 53 10.0	+14	
HOPE				LR	LR				
	comp=Z,3µm,20.0s								

GUC 13 03:33:52.0±0.3, 35°21'S × 72°02'W, h39km ± 1km, ML3.7, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TALC	**Talca**	**0.37**	**121**	⇓*i*	P	Pn	03 34 01.2	+0.3
TALC				*i*	S	Sn	03 34 07.9	+0.5
TALC					AML	AML	03 34 08.4	
	comp=E,11µm,0.1s							
NICH	**Los Niches**	**0.68**	**72**	⇓*i*	P	Pn	03 34 05.4	+0.2
NICH				*i*	S	Sn	03 34 15.4	+0.8
LNCH	**Linares**	**0.72**	**152**	*e*P		Pn	03 34 06.0	+0.2
LNCH				*i*	S	Sn	03 34 16.2	+0.6
LNV	**Longovilo**	**1.35**	**22**	*e*P		Pn	03 34 15.4	+1.1
LNV				*e*S		Sn	03 34 33.1	+2.1
CHCH	**Chadas Angostu**	**1.70**	**42**	*e*P		Pn	03 34 20.5	+1.2
CHCH				*i*	S	Sn	03 34 42.2	+2.3

*NNC **13** 03:39:34.0±5.5, 37°49N × 71°29E, h0km, mb4.7, mpv4.3, Error ellipse: s-maj=47.0km s-min=34.2km az=161.0*

ISC 13 03:39:31.0±3.6, 36°9N±0°2 × 71°5E±0°1, h106km, n16, σ1§26/18, 4C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.83**	**313**	⇓Pn		**Pn**	**03 40 15.3**	**+0.5**
	56nm,0.3s							
DZET				⇓Lg		Lg	03 40 51.5	
	720nm,0.4s							
SFK	**Sufi-Kurgan**	**3.49**	**26**	⇑Pn		**Pn**	**03 40 25.8**	**+2.2**
	17nm,0.3s							
SFK				⇓Lg		Lg	03 41 12.1	
	128nm,0.5s							
AML	**Almayashu**	**5.49**	**17**	P		**Pn**	**03 40 50.6**	**-0.2**
	SNR=191							
MNAS	**Manas**	**5.63**	**8**	⇑Pn		**Pn**	**03 40 52.0**	**-0.3**
	28nm,0.4s							
MNAS				⇑Sn		**Sn**	**03 41 58.4**	**+2.6**
	36nm,0.8s							
UCH	**Uchtor**	**5.81**	**23**	P		**Pn**	**03 40 54.7**	**-0.4**
	SNR=143							
KZA	**Kyzart**	**5.93**	**28**	P		**Pn**	**03 40 55.6**	**-1.1**
	SNR=57							
EKS2	**Erkin-Say**	**6.02**	**16**	P		**Pn**	**03 40 56.9**	**-0.6**
	SNR=31							
AAK	**Ala-Archa**	**6.18**	**21**	P		**Pn**	**03 40 59.5**	**-0.3**
	SNR=43							
AAK	**Ala-Archa**	**6.18**	**21**	⇑Pn		**Pn**	**03 40 59.3**	**-0.4**
	26nm,0.4s							
KK31	**Karatay Array**	**6.24**	**353**	⇓Pn		**Pn**	**03 40 58.8**	**-1.7**
	12nm,0.6s,baz=172,slow=12,SNR=162							
KK31						**Sn**	**03 42 09.3**	**-1.0**
	32nm,0.7s,baz=183,slow=24,SNR=82							
KBK	**Karagaybulak**	**6.34**	**24**	P		**Pn**	**03 41 01.7**	**-0.3**
	SNR=34							
ULHL	**Ulahol**	**6.48**	**33**	P		**Pn**	**03 41 02.8**	**-1.2**
	SNR=18							
CHMS	**Chumysh**	**6.59**	**21**	P		**Pn**	**03 41 04.7**	**-0.5**
	SNR=13							
USP	**Ospenovka**	**6.76**	**19**	P		**Pn**	**03 41 06.5**	**-1.2**
	SNR=10							
TKM2	**Tokmak 2**	**6.79**	**26**	P		**Pn**	**03 41 07.3**	**-0.9**
	SNR=13							
TKM2	**Tokmak 2**	**6.79**	**26**	⇓Pn		**Pn**	**03 41 06.7**	**-1.4**
	32nm,0.7s							

*CSEM **13** 03:40:10.9, 38°07N × 21°29E, h16km, MD2.8*

ATH 13 03:40:10.9, 38°07N × 21°29E, h16km ± 2km, MD2.8/9, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.14**	**95**	*e*PB		Pg	03 40 14.9	+0.1
RLS				*e*SB		Sg	03 40 17.5	+0.2
RLS	**Riolos of Patr**	**0.14**	**95**	*e*Pb		Pg	03 40 14.9	+0.1
RLS				*e*Sb		Sg	03 40 17.5	+0.2
DRO	**Drossia**	**0.35**	**109**	*e*PB		Pg	03 40 18.5	+0.3
DRO				*e*SB		Sb	03 40 24.0	-0.2
DRO	**Drossia**	**0.35**	**109**	*e*Pb		Pg	03 40 18.5	+0.3
DRO				*e*Sb		Sb	03 40 24.0	-0.2
PDO	**Prodromos**	**0.53**	**351**	*e*PN		Pb	03 40 21.8	-0.1
PDO				*e*SN		Sb	03 40 29.2	-0.2
PDO	**Prodromos**	**0.53**	**351**	*e*Pn		Pb	03 40 21.8	-0.1
PDO				*e*Sn		Sb	03 40 29.2	-0.2
ZKS	**Zakynthos**	**0.55**	**227**	*e*PN		Pg	03 40 21.0	-0.8
ZKS				*e*SN		Sb	03 40 30.0	+0.2
ZKS	**Zakynthos**	**0.55**	**227**	*e*Pn		Pg	03 40 21.0	-0.8
ZKS				*e*Sn		Sb	03 40 30.0	+0.2
VLS	**Valsamata**	**0.56**	**281**	*e*PN		Pg	03 40 21.5	-0.6
VLS				*e*SN		Sb	03 40 30.5	+0.2
VLS	**Valsamata**	**0.56**	**281**	*e*Pn		Pg	03 40 21.5	-0.6
VLS				*e*Sn		Sb	03 40 30.5	+0.2
AMT	**Artemida-Makis**	**0.63**	**148**	*e*PN		Pg	03 40 23.1	-0.3
AMT				*e*SN		Sb	03 40 32.2	0.0
AMT	**Artemida-Makis**	**0.63**	**148**	*e*Pn		Pg	03 40 23.1	-0.3
AMT				*e*Sn		Sb	03 40 32.2	0.0
KALE	**Kalithea**	**0.74**	**64**	*e*PN		Pg	03 40 25.1	-0.4
KALE	**Kalithea**	**0.74**	**64**	*e*Pn		Pg	03 40 25.1	-0.4
GUR	**Goura**	**0.84**	**99**	*e*PN		Pb	03 40 26.9	-0.4
GUR				*e*SN		Sg	03 40 38.9	+0.2
GUR	**Goura**	**0.84**	**99**	*e*Pn		Pb	03 40 26.9	-0.4
GUR				*e*Sn		Sg	03 40 38.9	+0.2
LKD2	**Lefkada island**	**0.87**	**326**	*e*PN		Pb	03 40 27.6	-0.2
LKD2	**Lefkada island**	**0.87**	**326**	*e*Pn		Pb	03 40 27.6	-0.2
ITM	**Ithomi**	**1.02**	**150**	*e*PN		Pg	03 40 30.9	+0.1
ITM				*e*SN		Sg	03 40 44.2	0.0
ITM	**Ithomi**	**1.02**	**150**	*e*Pn		Pg	03 40 30.9	+0.1
ITM				*e*Sn		Sg	03 40 44.2	0.0

JMA 13 03:43:01.8±0.2, 38°21N × 144°69E, h39km, M3.6, Off east coast of Honshu

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

0.4nm,0.7s,baz=160,slow=9.0,SNR=4.1
SONM Songino Array 41.61 15 P P 04 05 35.3 -0.3
0.7nm,0.6s,baz=189,slow=7.8,SNR=3.8
KURBB Kurchatov Arra 44.05 348 P P 04 05 55.3 +0.1
0.4nm,0.6s,baz=174,slow=7.0,SNR=6.1
WRA Warramunga Arr 49.94 124 P P 04 06 41.7 0.0
0.4nm,0.7s,baz=299,slow=9.6,SNR=2.8

PRU ***13*** *03:57:56.4, 49°.46N×34°.96E, h9km*
ISCJB ***13*** *03:58:04.1±0.4, 48°.20N±0°.04×33°.37E±0°.05, h10km, mb3.9/11, Error ellipse: s-maj=6.6km s-min=4.7km az=156.8*
IDC ***13*** *03:58:04.7±0.6, 48°.05N×33°.41E, h0km, mb4.0/11, mb1 4.0/19, mb1mx3.8/34, mbtmp3.9/19, ML3.1/10, MS4.0/2, Ms1 3.9/2, ms1mx3.6/36, Error ellipse: s-maj=8.1km s-min=7.5km az=34.0*
ISC 13 03:58:05.3±0.5, 48°.07N±0°.05×33°.45E±0°.04, h10km, n60, σ1§57/55, mb4.1/11, 16C-12D,
Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIS	**Kishinev**	**3.32**	**253**	*eP*	**Pb**	**03 59 03.5**	**-0.7**
KIS				*eS*	Sb	03 59 50.0	+5.4
KIS				LRM	MLR	04 00 10.0	
	16μm,7.0s						
KIS	**Kishinev**	**3.32**	**253**	*i*P	Sb	03 59 49.9	+5.4
SORM	**Soroca**	**3.42**	**273**	*i*P	**Sn**	**03 59 41.5**	**+2.4**
AKASG	**Malin Array Be**	**3.81**	**315**	Pn	**Pn**	**03 59 05.8**	**+1.8**
	1.5nm,0.3s,baz=118,slow=14,SNR=6.9						
AKASG				Lg	Lg	04 00 03.9	
	14nm,0.3s,baz=126,slow=30,SNR=6.7						
AKASG				LR	LR	04 00 48.9	
	comp=Z,2μm,18.1s,baz=130,slow=43						
LEOM	**Leova**	**3.89**	**248**	*i*P	Pn	03 59 07.7	+2.7
TLCR		**4.31**	**230**	*i*P	**Pg**	**03 59 24.7**	**-3.0**
GIUM	**Giurgiulesti**	**4.44**	**236**	*i*P	**Pb**	**03 59 23.9**	**+0.7**
CFR	**Carcaliu**	**4.67**	**234**	*i*P	**Pn**	**03 59 16.4**	**+0.7**
PETR	**Petresti**	**4.87**	**243**	*i*P	**Pg**	**03 59 38.2**	**-0.3**
TESR	**Tescani**	**4.88**	**254**	*i*P	**Pn**	**03 59 19.9**	**+1.2**
PRAR	**RASCA**	**4.93**	**264**	*i*P	Pn	03 59 22.4	+3.1
TIRR	**Tirgusor**	**5.03**	**226**	*i*P	**Pn**	**03 59 22.2**	**+1.5**
HARR	**Harsova**	**5.10**	**230**	*i*P	**Pg**	**03 59 43.4**	**+0.5**
VRI	**Vrincioaia**	**5.10**	**247**	*i*P	**Pn**	**03 59 23.6**	**+1.8**
TLB	**Topalu**	**5.12**	**229**	*i*P	**Pg**	**03 59 42.6**	**-0.7**
PLOR	**Plostina**	**5.16**	**247**	*i*P	Pn	03 59 26.1	+3.5
BURAR	**Bucovina Array**	**5.56**	**268**	*i*P	**Pn**	**03 59 29.5**	**+1.4**
MSAB	**Monastry St. A**	**5.58**	**227**	*i*P	**Pn**	**03 59 29.8**	**+1.5**
ISR	**Istrita**	**5.60**	**241**	*i*P	**Pg**	**03 59 51.0**	**-1.5**
MLR	**Muntele Rosu**	**5.77**	**246**	Pn	**Pn**	**03 59 32.3**	**+1.3**
	0.1nm,0.3s,baz=227,slow=11,SNR=22						
MLR				Sn	**Sn**	**04 00 37.1**	**-0.1**
	0.2nm,0.3s,baz=246,slow=20,SNR=2.0						
MLR				Lg	Lg	04 00 54.2	
	0.4nm,0.3s,baz=222,slow=14,SNR=3.1						
MLR	**Muntele Rosu**	**5.77**	**246**	*i*P	**Pn**	**03 59 33.1**	**+2.1**
DOPR	**Dopca**	**5.90**	**252**	*i*P	**Pn**	**03 59 33.5**	**+0.8**
VOIR		**6.35**	**249**	*i*P	**Pn**	**03 59 39.0**	**+0.1**
ARR	**Arges**	**6.64**	**249**	*i*P	**Pn**	**03 59 44.3**	**+1.4**
CJR	**Cluj-Napoca**	**6.83**	**262**	*i*P	**Pn**	**03 59 47.1**	**+1.7**
LOT	**Lotru**	**7.15**	**252**	*i*P	**Pn**	**03 59 50.9**	**+1.0**
TRPA	**Tarpa**	**7.31**	**274**	*i*P	**Pn**	**03 59 53.5**	**+1.5**
OBN	**Obninsk**	**7.31**	**14**	Pn	**Pn**	**03 59 51.8**	**-0.2**
	3.3nm,0.3s,baz=170,slow=18,SNR=2.4						
OBN				Sn	**Sn**	**04 01 11.9**	**-3.1**
	2.4nm,0.3s,baz=336,slow=21,SNR=5.0						
OBN				Lg	Lg	04 01 54.3	
	2.2nm,0.3s,baz=269,slow=24,SNR=5.8						
DRGR		**7.40**	**264**	*i*P	**Pn**	**03 59 54.3**	**+1.0**
KBZ	**Khabaz**	**7.89**	**120**	Pn	**Pn**	**04 00 00.3**	**+0.4**
	0.1nm,0.3s,baz=310,slow=15,SNR=2.7						
KBZ				Sn	**Sn**	**04 01 26.2**	**-3.1**
	0.2nm,0.3s,baz=126,slow=19,SNR=2.6						
KBZ				Lg	Lg	04 02 15.7	
	0.5nm,0.3s,baz=32,slow=22,SNR=8.4						
KBZ				LR	LR	04 03 22.5	
	comp=Z,787nm,19.0s,baz=327,slow=40						
BRTR	**Keskin Array B**	**8.35**	**179**	Pn	**Pn**	**04 00 06.9**	**+0.5**
	0.0nm,0.3s,baz=349,slow=10,SNR=4.1						
BRTR				Sn	**Sn**	**04 01 35.6**	**-5.1**
	0.2nm,0.3s,baz=357,slow=16,SNR=5.4						
BRTR				Lg	Lg	04 02 27.9	
	0.1nm,0.3s,baz=346,slow=21,SNR=2.8						
BZS	**Buzias**	**8.48**	**258**	*i*P	**Pn**	**04 00 09.1**	**+1.1**
PSZ	**Piszkesteto**	**9.10**	**274**	*i*P	Pn	04 00 13.2	-3.4
OKC	**Ostrava-Krasne**	**10.22**	**286**	*e*P	**Pn**	**04 00 30.9**	**-1.0**
OKC				*e*S	**Sn**	**04 02 27.6**	**+1.1**
OKC				*ex*	x	04 03 09.5	
OKC				*ex*	x	04 03 29.7	
OKC				AMS	AMS	04 04 50.0	
	comp=Z,3μm,8.9s						
PKSM	**Moragy**	**10.26**	**265**	*i*P	**Pn**	**04 00 32.9**	**+0.4**
DPC	**Dobruska-Polom**	**11.43**	**288**	*e*P	**Pn**	**04 00 46.1**	**-2.4**
DPC				*ex*	x	04 02 53.9	
DPC				*ex*	x	04 03 43.0	
DPC				*ex*	x	04 04 06.6	
DPC				AMS	AMS	04 05 10.0	
	comp=Z,2μm,10.4s						
UPC	**Upice**	**11.65**	**289**	*e*P	**Pn**	**04 00 49.2**	**-2.2**
UPC				*e*S	**Sn**	**04 02 59.5**	**-1.9**
UPC				*ex*	x	04 03 44.3	
UPC				*ex*	x	04 04 10.5	
TREC	**Trest**	**11.94**	**283**	AMS	AMS	04 05 30.0	
	comp=Z,2μm,10.6s						
GOPC	**GO Pecny, Ondr**	**12.40**	**285**	*e*S	**Sn**	**04 03 19.2**	**-0.6**
GOPC				*ex*	x	04 04 41.8	
GOPC				AMS	AMS	04 06 10.0	
	comp=Z,2μm,11.2s						
PRU	**Pruhonice**	**12.56**	**286**	*e*S	**Sn**	**04 03 22.8**	**-0.9**
PRU				*ex*	x	04 04 01.3	
PRU				*ex*	x	04 04 12.3	
PRU				*ex*	x	04 04 43.4	
PRU				AMS	AMS	04 06 20.0	
	comp=Z,2μm,10.5s						
PVCC	**Panska Ves**	**12.57**	**288**	*ex*	x	04 04 44.5	
PVCC				AMS	AMS	04 06 30.0	
	comp=Z,1μm,11.9s						
I26DE	**FREYUNG INFRAS**	**13.12**	**281**	*i*		05 13 40.0	
	baz=88,slow=307,SNR=3.6						
GERES	**GERESS Array B**	**13.13**	**281**	Pn	**Pn**	**04 01 12.1**	**+0.3**
	0.0nm,0.3s,baz=75,slow=11,SNR=4.0						
GERES				Lg	Lg	04 04 56.5	
	0.1nm,0.3s,baz=60,slow=24,SNR=2.7						
KHC	**Kasperske Hory**	**13.20**	**282**	*e*S	**S**	**04 04 03.2**	**-1.0**
KHC				*ex*	x	04 04 32.0	
KHC				*ex*	x	04 05 09.6	
KHC				AMS	AMS	04 06 40.0	
	comp=Z,2μm,12.7s						
FINES	**FINESS Array B**	**14.04**	**345**	Pn	Pn	04 01 19.1	-4.9
	0.1nm,0.3s,baz=172,slow=15,SNR=5.1						
FINES				Sn	Sn	04 03 45.5	-14
	0.2nm,0.3s,baz=148,slow=21,SNR=3.4						
FINES				Lg	Lg	04 05 24.8	
	baz=156,slow=24,SNR=2.1						
AKTO	**Aktyubinsk**	**16.19**	**72**	Pn	Pn	04 01 47.4	-5.3
	0.1nm,0.3s,baz=250,slow=12,SNR=2.2						
AKTO				Sn	Sn	04 04 41.6	-11
	0.1nm,0.3s,baz=195,slow=20,SNR=3.2						
HFS	**Hagfors**	**16.65**	**324**	Pn	Pn	04 01 51.1	-7.3
	0.2nm,0.3s,baz=149,slow=12,SNR=6.2						
HFS				Sn	Sn	04 04 47.6	-16
	0.1nm,0.3s,baz=139,slow=26,SNR=2.0						
HFS				Lg	Lg	04 06 47.9	
	0.1nm,0.3s,baz=120,slow=23,SNR=2.1						
NB2	**NORSAR Subarra**	**18.17**	**324**	P	**Pn**	**04 02 16.9**	**-0.6**
	comp=Z,4.9nm,0.8s,baz=131,slow=11						
NOA	**NORSAR Array B**	**18.17**	**324**	P	**P**	**04 02 17.2**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=131,slow=11,SNR=7.5						
NOA				Lg	Lg	04 07 35.5	
	comp=Z,0.1nm,0.3s,baz=124,slow=22,SNR=3.7						
ARCES	**ARCESS Array B**	**21.88**	**353**	P	**P**	**04 02 57.5**	**-0.4**
	comp=Z,20nm,0.8s,baz=163,slow=8.9,SNR=41						
EKA	**Eskdalemuir Ar**	**23.60**	**302**	P	**P**	**04 03 15.7**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=120,slow=12,SNR=2.6						
BVAR	**Borovoye Array**	**23.80**	**64**	P	**P**	**04 03 19.4**	**+1.5**
	comp=Z,2.0nm,0.7s,baz=267,slow=5.9,SNR=7.7						
ESDC	**Sonseca Array**	**28.02**	**267**	P	**P**	**04 03 57.8**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=55,slow=9.8,SNR=4.5						
AAK	**Ala-Archa**	**29.09**	**85**	P	**P**	**04 04 07.9**	**+1.9**
	comp=Z,1.2nm,0.4s,baz=263,slow=4.4,SNR=3.2						
ZALV	**Zalesovo Beam**	**32.24**	**60**	P	**P**	**04 04 34.0**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=282,slow=9.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**43.69**	**228**	P	**P**	**04 06 10.1**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=14,slow=4.8,SNR=12						
SONM	**Songino Array**	**47.10**	**62**	P	**P**	**04 06 38.7**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=317,slow=6.1,SNR=3.2						
DBIC	**Dimbokro**	**52.53**	**231**	P	**P**	**04 07 18.1**	**-0.7**
	comp=Z,3.6nm,0.8s,baz=30,slow=12,SNR=4.0						
SCHQ	**Schefferville**	**57.61**	**318**	P	**P**	**04 07 56.5**	**+1.5**
	comp=Z,1.3nm,0.5s,baz=217,slow=18,SNR=3.8						
PDAR	**Pinedale Array**	**83.83**	**334**	P	**P**	**04 10 35.7**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=33,slow=3.8,SNR=2.4						

ISCJB ***13*** *04:01:06.0±0.5, 7°.80N±0°.03×92°.09E±0°.02, h39km±4km, mb4.8/146, MS5.2/1, Error ellipse: s-maj=4.8km s-min=3.0km az=27.5*
BJI ***13*** *04:01:05.0, 7°.76N×92°.09E, h38km, mb5.0/57, mB5.5/18, Ms5.0/19, Ms7 4.7/19*
MOS ***13*** *04:01:05.1±0.8, 7°.87N×92°.13E, h33km, mb5.1/52, Error ellipse: s-maj=8.5km s-min=5.0km az=116.7*
SZGRF ***13*** *04:01:06.2, 7°.06N×91°.38E, h33km, mb4.7, Nicobar Islands, India, region*
DJA ***13*** *04:01:06.6±0.3, 8°N±3°×9°2E±°, h10km, M5.4/24, mb5.0/24, mB6.0/6, MLv5.5/3, Mw(mB)5.6/6*
KLM ***13*** *04:01:07.4, 7°.81N×92°.18E, h15km, mb5.0, ML4.7, MS6.1*
NEIC ***13*** *04:01:07.7±0.6, 7°.86N×92°.09E, h37km±5km, mb5.0/67, Error ellipse: s-maj=5.1km s-min=3.5km az=209.0*
IDC ***13*** *04:01:10.1±0.5, 7°.94N×92°.18E, h56km±3km, mb4.4/39, mb1 4.5/41, mb1mx4.4/44, mbtmp4.7/41, MS4.5/1, Ms1 4.7/1, ms1mx3.5/37, Error ellipse: s-maj=12.5km s-min=7.8km az=35.0*
ISC 13 04:01:08.7±0.3, 7°.85N±0°.04×92°.11E±0°.04, h45km±2km, h45km:pP-P, n613, σ1§18/698, mb4.8/146, 86C-21D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMBY	**CAMPBELL BAY**	**1.98**	**115**	*e*P	**Pn**	**04 01 39.7**	**-0.2**
PBA	**Port Blair**	**3.83**	**9**	*e*P	Pn	04 02 04.5	-0.7
DGPR	**DIGLIPUR**	**5.35**	**9**	*e*P	**Pn**	**04 02 25.0**	**-1.1**
LHMI	**Lhok Sumawe**	**5.46**	**118**	P	**Pn**	**04 02 28.9**	**+1.3**
	525nm,0.6s,8μm2.3nm						
PKDT	**Phuket**	**6.16**	**89**	P	Pn	04 02 41.1	+3.8
SURT	**Suratani**	**6.70**	**80**	P	**Pn**	**04 02 45.8**	**+1.2**
	126nm,0.8s,0.4nm						
SNSI	**Sinabang, Aceh**	**6.84**	**142**	P	**Pn**	**04 02 44.3**	**-2.3**
	355nm,0.8s,11μm2.8nm						
TRTT	**Trang**	**7.51**	**90**	P	**Pn**	**04 02 56.3**	**+0.6**
	65nm,1.0s,0.3nm						
TSI	**Tuntungan**	**7.74**	**124**	P	**Pn**	**04 02 58.4**	**-0.5**
	120nm,0.5s,0.8nm						
PSI	**Prapat**	**8.44**	**126**	P	**Pn**	**04 03 08.9**	**+0.3**
	27nm,0.3s,baz=302,slow=11,SNR=94						
PSI				S	**Sn**	**04 04 40.2**	**-2.4**
	5.6nm,0.3s,baz=279,slow=14,SNR=5.6						
PSI	**Prapat**	**8.44**	**126**	P	**Pn**	**04 03 08.9**	**+0.3**
PSI				S	**Sn**	**04 04 40.2**	**-2.4**
PSI				pmax	pmax		
	comp=Z,27nm,0.3s						
PSI				smax	smax		
	comp=N,6.0nm,0.3s						
PSI	**Prapat**	**8.44**	**126**	*e*Pn	**Pn**	**04 03 08.6**	**0.0**
PSI				S	**Sn**	**04 04 40.2**	**-2.4**
GSI	**Gunungsitoli**	**8.48**	**140**	P	**Pn**	**04 03 06.6**	**-2.5**
	comp=N,142nm,0.6s						
GSI				S	Sn	04 04 37.2	-6.4
	comp=N,142nm,0.6s						
GSI	**Gunungsitoli**	**8.48**	**140**	*e*Pn	**Pn**	**04 03 06.7**	**-2.5**
GSI				*e*Sn	**Sn**	**04 04 40.9**	**-2.7**
KULM	**Kulim**	**8.86**	**106**	P	**Pn**	**04 03 13.8**	**-0.4**
KULM	**Kulim**	**8.86**	**106**	*e*Pn	**Pn**	**04 03 13.8**	**-0.4**
IPM	**Ipoh**	**9.47**	**110**	P	**Pn**	**04 03 22.0**	**-0.7**
IPM	**Ipoh**	**9.47**	**110**	*e*Pn	**Pn**	**04 03 20.9**	**-1.7**
IPM				*e*Sn	**Sn**	**04 05 03.5**	**-4.4**
PATY	**Pattaya**	**9.97**	**59**	P	**Pn**	**04 03 32.1**	**+2.6**
	comp=N,20nm,0.5s						
MNSI	**Mandailing Nat**	**10.22**	**133**	P	**Pn**	**04 03 30.0**	**-2.9**
	comp=N,68nm,0.4s,comp=N,3μm						
FRIM	**Kepong**	**10.52**	**115**	P	**Pn**	**04 03 37.2**	**+0.2**
CHBT	**CHBT**	**11.17**	**63**	P	**Pn**	**04 03 48.2**	**+2.4**
	comp=N,32nm,0.9s						
PALK	**Pallekele**	**11.33**	**268**	Pn	**Pn**	**04 03 48.1**	**0.0**
	comp=N,312nm,0.4s,SNR=7.3						
PALK	**Pallekele**	**11.33**	**268**	P	**Pn**	**04 03 47.8**	**-0.3**
	comp=N,7.3nm,0.3s,baz=98,slow=14,SNR=21						
PALK				S	Sn	04 05 39.7	-14
	comp=N,14nm,0.3s,baz=115,slow=22,SNR=14						
PALK	**Pallekele**	**11.33**	**268**	*e*Pn	**Pn**	**04 03 47.3**	**-0.8**
PALK				*e*Sn	Sn	04 05 43.8	-10
MHMT	**Maesarieng**	**11.72**	**28**	P	**Pn**	**04 03 54.7**	**+1.3**
	comp=N,30nm,1.0s						
PBKT	**Sadao Pong**	**12.24**	**44**	P	**Pn**	**04 04 02.2**	**+1.7**
	comp=N,52nm,0.8s						
CM31	**Chiang Mai Arr**	**12.46**	**32**	*e*Pn	**Pn**	**04 04 04.1**	**+0.6**
	comp=N,32nm,0.7s						
CMAR	**Chiang Mai Arr**	**12.46**	**32**	P	**Pn**	**04 04 02.1**	**-1.4**
	comp=N,3.4nm,0.3s,baz=229,slow=14,SNR=59						
CMAR				S	**Sn**	**04 06 26.0**	**+5.0**
	baz=232,slow=27,SNR=2.2						
CMAR				LR	LR	04 09 27.2	
	comp=N,2μm,19.5s,baz=62,slow=40						
CMAR	**Chiang Mai Arr**	**12.46**	**32**	P	**Pn**	**04 04 02.1**	**-1.4**
CMAR				S	**Sn**	**04 06 26.0**	**+5.0**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,2μm,19.5s						
KGM	**Kluang**	**12.58**	**117**	P	**Pn**	**04 04 04.7**	**-0.4**
SDSI	**Sungai Dareh**	**12.75**	**133**	P	**Pn**	**04 04 04.6**	**-2.8**
	comp=Z,21nm,0.8s,comp=Z,31μm						
CHTO	**Chiang Mai**	**12.76**	**31**	P	**Pn**	**04 04 07.8**	**+0.2**
	comp=Z,235nm,0.8s						
CHTO	**Chiang Mai**	**12.76**	**31**	*e*Pn	**Pn**	**04 04 07.1**	**-0.5**
CHTO				*e*Sn	**Sn**	**04 06 26.7**	**-1.6**
CMMT	**Chiang Mai**	**12.76**	**31**	P	**Pn**	**04 04 07.7**	**+0.1**
	comp=Z,34nm,0.9s						
MDRS	**Chennai**	**12.77**	**295**	*e*P	**Pn**	**04 04 08.3**	**+0.6**
MDRS				AMB	AMB	04 04 08.8	
	comp=Z,146nm,0.7s						
VIS	**Vishakhapatnam**	**13.02**	**320**	*e*P	**Pn**	**04 04 09.4**	**-1.7**
VIS				AMB	AMB	04 04 11.6	
	comp=Z,259nm,0.7s						
MYKOM	**Kota Tinggi**	**13.15**	**117**	P	**Pn**	**04 04 13.3**	**+0.4**
MYKOM	**Kota Tinggi**	**13.15**	**117**	*e*Pn	**Pn**	**04 04 13.1**	**+0.1**
PPSI	**Pulau Pagai**	**13.16**	**143**	P	Pn	04 04 09.3	-3.8
	comp=Z,62nm,1.4s						
CHLP	**Challavanipeta**	**13.17**	**324**	*e*P	**Pn**	**04 04 10.9**	**-2.3**
CHLP				IAmb	IAmb	04 04 12.6	
	comp=Z,852nm,0.4s						
CHLP				*e*Sn	Sn	04 06 23.9	-14
SKHT	**Srikalahasti**	**13.51**	**297**	*e*Pn	**Pn**	**04 04 17.4**	**-0.5**
SKHT				IAmb	IAmb	04 04 20.4	
	comp=Z,189nm,1.1s						
SKHT				*e*Sn	Sn	04 06 32.2	-14
PVM	**Polavaram**	**13.85**	**313**	*e*Pn	**Pn**	**04 04 21.4**	**-1.1**
PVM				IAmb	IAmb	04 04 23.2	
	comp=Z,378nm,1.2s						
PVM				*e*Sn	Sn	04 06 41.2	-14
ADKI	**Addanki**	**14.29**	**305**	*e*P	**Pn**	**04 04 26.9**	**-1.5**
ADKI				IAmb	IAmb	04 04 29.4	
	comp=Z,120nm,0.7s						
ADKI				*e*Sn	Sn	04 06 48.1	-18
SKNT	**Sakolnakorn**	**14.71**	**51**	P	**Pn**	**04 04 35.2**	**+1.2**
	comp=Z,80nm,1.1s						
RCLA	**Racherla**	**14.93**	**302**	*e*P	**Pn**	**04 04 36.0**	**-1.0**
RCLA				IAmb	IAmb	04 04 40.3	
	comp=Z,146nm,0.7s						
RCLA				*e*Sn	Sn	04 07 04.7	-17
UBPT	**Khong Chiam**	**15.02**	**59**	P	**Pn**	**04 04 39.5**	**+1.4**
	comp=Z,155nm,0.9s						
NJS	**Nagarjunasagar**	**15.21**	**306**	*e*Pn	**Pn**	**04 04 39.7**	**-0.9**
NJS				IAmb	IAmb	04 04 41.9	
	comp=Z,71nm,1.0s						
NJS				*e*Sn	Sn	04 07 11.7	-16
SRLM	**Srisailam**	**15.30**	**304**	*e*P	**Pn**	**04 04 40.7**	**-1.1**
SRLM				IAmb	IAmb	04 04 47.0	
	comp=Z,110nm,0.6s						
SRLM				*e*Sn	Sn	04 07 14.0	-16
URV	**Uravakonda**	**16.17**	**297**	*e*Pn	**Pn**	**04 04 54.2**	**+1.2**
URV				IAmb	IAmb	04 05 06.1	
	comp=Z,31nm,0.7s						
URV				*e*Sn	Sn	04 07 37.5	-14
LHSI	**Lahat**	**16.25**	**135**	P	Pn	04 04 49.0	-5.0
HYB	**Hyderabad**	**16.28**	**307**	*i* P	**Pn**	**04 04 52.0**	**-2.4**
HYB				*e*S	**Sn**	**04 07 53.0**	**-1.1**
HYB	**Hyderabad**	**16.28**	**307**	*e*P	**Pn**	**04 04 55.2**	**+0.9**
HYB				AMB	AMB	04 04 56.6	
	comp=Z,43nm,1.2s						
HYBB	**Hyderabad (bro**	**16.28**	**307**	*e*Pn	**Pn**	**04 04 53.4**	**-1.1**
HYBB				IAmb	IAmb	04 04 55.7	
	comp=Z,54nm,1.1s						
HYBB				*e*		04 07 43.4	
HYBB				*e*Sn	**Sn**	**04 07 53.1**	**-1.0**
RPR	**Rampur**	**16.58**	**313**	*e*Pn	**Pn**	**04 04 56.7**	**-1.3**
RPR				*e*Sn	Sn	04 07 39.5	-22
BOK	**Bokaro**	**16.94**	**340**	*e*P	**Pn**	**04 05 02.6**	**0.0**
BOK				AMB	AMB	04 05 04.5	
	comp=Z,86nm,1.5s						
MDSI	**Maura Dua**	**17.18**	**135**	P	**Pn**	**04 05 04.2**	**-1.4**
	comp=Z,34nm,1.2s						
SRSP	**Sriramsagar**	**17.32**	**311**	*e*Pn	**Pn**	**04 05 07.8**	**+0.4**
SRSP				IAmb	IAmb	04 05 09.7	
	comp=Z,71nm,0.7s						
SRSP				*e*Sn	Sn	04 08 05.3	-14
LWLI	**Liwa**	**17.48**	**137**	P	**P**	**04 05 13.5**	**+3.3**
SHL	**Shillong**	**17.62**	**359**	*e*P	**Pn**	**04 05 10.1**	**-1.0**
SHL				AMB	AMB	04 05 25.3	
	comp=Z,28nm,1.3s						
SHL				*ex*	x	04 08 14.5	
KLSI		**17.71**	**134**	P	**P**	**04 05 14.1**	**+1.5**
KASI	**Kota Agung**	**18.14**	**137**	P	**P**	**04 05 17.4**	**0.0**
	comp=Z,51nm,0.5s						
KLRI	**Killari**	**18.20**	**305**	*e*Pn	**P**	**04 05 17.8**	**-0.2**
KLRI				IAmb	IAmb	04 05 21.9	
	comp=Z,120nm,0.6s						
KLRI				*e*Sn	Sn	04 08 21.2	-19
NGP	**Nagpur**	**18.27**	**318**	*e*P	**Pn**	**04 05 20.1**	**+1.1**
NGP				*ex*	x	04 05 24.5	
	comp=Z,378nm,1.0s						
NGP				*ex*	x	04 08 29.6	
KSM	**Kuching**	**19.20**	**108**	P	**Pn**	**04 05 30.8**	**+0.5**
KSM	**Kuching**	**19.20**	**108**	*e*P	**Pn**	**04 05 30.3**	**0.0**
	comp=Z,12nm,0.9s						
AKL	**Akola**	**19.40**	**313**	*ex*	P	04 05 38.9	+7.8
AKL				AMB	AMB	04 05 41.6	
	comp=Z,155nm,2.6s						
ODAN	**Odare**	**19.43**	**347**	*e*P	**Pn**	**04 05 34.2**	**+1.1**
	comp=Z,253nm,0.4s						
GOA	**Goa**	**19.44**	**295**	*e*P	**Pn**	**04 05 32.7**	**-0.4**
GOA				AMB	AMB	04 05 38.6	
	comp=Z,51nm,0.6s						
RAMN	**Ramite**	**19.70**	**345**	*e*P	**Pn**	**04 05 36.2**	**-0.2**
CGJI	**Cibinong**	**19.75**	**136**	P	**Pn**	**04 05 36.0**	**-0.7**
	comp=Z,43nm,0.8s,comp=Z,2μm						
TAPN	**Taplejung**	**19.84**	**348**	*e*P	**Pn**	**04 05 37.5**	**-0.5**
KMI	**Kunming**	**19.95**	**29**	P	**Pn**	**04 05 38.4**	**-0.9**
KMI				pP	**pP**	**04 05 50.4**	**+2.3**
KMI				PMZ			
	comp=Z,57nm,1.1s						
JIRN	**Jiri**	**20.48**	**345**	*e*P	**P**	**04 05 44.4**	**+1.1**
QIZ	**Qiongzhong**	**20.49**	**55**	*e*P	**P**	**04 05 43.4**	**+0.4**
	comp=Z,83nm,0.8s						
PKI	**Pulchoki**	**20.61**	**343**	*e*P	**P**	**04 05 45.2**	**+0.6**
POO	**Poona**	**20.68**	**303**	*e*P	**P**	**04 05 44.5**	**-0.7**
SBUM	**Sibu**	**20.73**	**104**	P	Pn	04 05 47.4	-1.0
SBUM	**Sibu**	**20.73**	**104**	*e*Pn	Pn	04 05 47.1	-1.3
DMN	**Daman**	**20.74**	**342**	*e*P	**P**	**04 05 46.8**	**+0.9**
STKI	**Sintang**	**20.80**	**111**	P	Pn	04 05 48.3	-0.9
	comp=Z,52nm,0.9s,comp=Z,17μm						
GUN	**Gumba**	**20.80**	**344**	*e*P	**P**	**04 05 47.2**	**+0.5**
	comp=Z,82nm,0.7s						
BHPL	**Bhopal**	**20.81**	**319**	*e*P	**P**	**04 05 47.0**	**+0.5**
BHPL				AMB	AMB	04 05 56.5	
	comp=Z,38nm,0.3s						
KKN	**Kakani**	**20.86**	**343**	*e*P	**P**	**04 05 47.8**	**+0.7**
GKN	**Gorkha**	**21.25**	**341**	*e*P	**P**	**04 05 51.9**	**+0.6**
	comp=Z,110nm,0.7s						
BTM	**Bintulu**	**21.37**	**101**	P	**P**	**04 05 54.1**	**+1.5**
KOLN	**Koldanda**	**21.39**	**339**	*e*P	**P**	**04 05 53.4**	**+0.6**
	comp=Z,101nm,0.8s						
LSA	**Lhasa**	**21.75**	**358**	*e*P	**P**	**04 05 56.6**	**-0.4**
	comp=Z,116nm,0.8s						
PBKI	**Pangkalan Bun**	**22.15**	**118**	P	pP	04 06 13.0	+1.2
GYA	**Guiyang**	**23.10**	**35**	P	**P**	**04 06 11.8**	**+0.9**
GYA				pP	**pP**	**04 06 20.4**	**-1.6**
GYA				PP

	comp=Z,14nm,0.7s								
KSH					PMZ				
	comp=Z,1μm,10.4s								
KSH					LN				
	comp=Z,2μm,17.3s								
KSH					LE				
	comp=Z,2μm,13.1s								
KSH					LZ				
	comp=Z,2μm,16.5s								
WMQ	**Urumqi**	**36.03**	**355**		P	**P**	**04**	**08**	**06.6**	**+0.8**
WMQ					pP	**pP**	**04**	**08**	**16.3**	**-1.6**
WMQ					sP	**sP**	**04**	**08**	**20.3**	**-3.0**
WMQ					PP	**PP**	**04**	**09**	**28.8**	**+0.5**
WMQ					PcP	**PcP**	**04**	**10**	**32.5**	**+1.1**
WMQ					PMZ					
	comp=Z,23nm,1.0s									
WMQ					PMZ					
	comp=Z,2μm,5.2s									
WMQ					LN					
	comp=Z,1μm,14.0s									
WMQ					LE					
	comp=Z,920nm,17.2s									
WMQ					LZ					
	comp=Z,1μm,16.5s									
SFK	**Sufi-Kurgan**	**36.09**	**335**		P	**P**	**04**	**08**	**07.3**	**+0.8**
SFK					pmax	pmax				
	comp=Z,58nm,0.9s									
ULHL	**Ulahol**	**37.01**	**340**		P	**P**	**04**	**08**	**15.2**	**+0.9**
	SNR=14									
PDGK	**Podgornoye**	**37.03**	**345**		P	**P**	**04**	**08**	**14.9**	**+0.8**
PDGK					pmax	pmax				
	comp=Z,13nm,0.7s									
HHC	**Hu-ho-hao-te**	**37.14**	**25**	*e*	P	**P**	**04**	**08**	**16.8**	**+1.5**
HHC					PP	**PnPn**	**04**	**09**	**45.8**	**+4.4**
HHC					S	**S**	**04**	**13**	**58.1**	**-0.7**
HHC					sS	**sS**	**04**	**14**	**18.8**	**-0.4**
HHC					SS	**SnSn**	**04**	**16**	**35.0**	**-1.4**
HHC					PMZ					
	comp=Z,23nm,0.9s									
HHC					PMZ					
	comp=Z,410nm,5.0s									
HHC					LN					
	comp=Z,770nm,13.5s									
HHC					LE					
	comp=Z,860nm,14.0s									
HHC					LZ					
	comp=Z,680nm,13.0s									
KZA	**Kyzart**	**37.20**	**339**		P	**P**	**04**	**08**	**17.1**	**+0.9**
	SNR=17									
UCH	**Uchtor**	**37.60**	**338**		P	**P**	**04**	**08**	**20.4**	**+0.9**
	SNR=24									
KBK	**Karagaybulak**	**37.82**	**339**		P	**P**	**04**	**08**	**22.7**	**+1.6**
	SNR=20									
AML	**Almayashu**	**37.82**	**337**		P	**P**	**04**	**08**	**22.6**	**+1.3**
	SNR=49									
TKM2	**Tokmak 2**	**37.83**	**340**		P	**P**	**04**	**08**	**21.8**	**+0.6**
	SNR=11									
TKM2	**Tokmak 2**	**37.83**	**340**	*e*	P	**P**	**04**	**08**	**21.5**	**+0.3**
	comp=Z,13nm,0.9s									
AAK	**Ala-Archa**	**37.96**	**339**		P	**P**	**04**	**08**	**23.9**	**+1.6**
	comp=Z,152nm,0.9s,SNR=9.4									
AAK	**Ala-Archa**	**37.96**	**339**		P	**P**	**04**	**08**	**23.5**	**+1.2**
	SNR=16									
AAK	**Ala-Archa**	**37.96**	**339**		P	**P**	**04**	**08**	**23.1**	**+0.8**
	comp=Z,152nm,0.9s,SNR=9.4									
AAK	**Ala-Archa**	**37.96**	**339**		P	**P**	**04**	**08**	**22.3**	**+0.1**
	comp=Z,18nm,0.9s,baz=148,slow=6.4,SNR=25									
AAK	**Ala-Archa**	**37.96**	**339**		P	**P**	**04**	**08**	**23.1**	**+0.8**
AAK					pmax	pmax				
	comp=Z,35nm,1.1s									
AAK	**Ala-Archa**	**37.96**	**339**	*e*	P	**P**	**04**	**08**	**23.1**	**+0.8**
	comp=Z,29nm,1.0s									
FRU	**Bishkek**	**38.09**	**339**	*e*	P	**P**	**04**	**08**	**23.0**	**-0.2**
FRU					pmax	pmax				
	comp=Z,34nm,1.8s									
CHMS	**Chumysh**	**38.19**	**339**		P	**P**	**04**	**08**	**25.0**	**+0.9**
	SNR=7.2									
EKS2	**Erkin-Say**	**38.25**	**338**		P	**P**	**04**	**08**	**26.0**	**+1.4**
	SNR=19									
EKS2	**Erkin-Say**	**38.25**	**338**	*e*	P	**P**	**04**	**08**	**25.6**	**+1.0**
	comp=Z,19nm,0.8s									
USP	**Ospenovka**	**38.51**	**339**		P	**P**	**04**	**08**	**27.5**	**+0.7**
	SNR=27									
MNAS	**Manas**	**38.59**	**337**		P	**P**	**04**	**08**	**28.3**	**+0.8**
MNAS					pmax	pmax				
	comp=Z,22nm,0.9s									
BJI	**Beijing**	**38.60**	**30**		P	**P**	**04**	**08**	**28.0**	**+0.5**
BJI					PMZ					
	comp=Z,23nm,0.6s									
MBWA	**Marble Bar**	**39.59**	**137**	*e*	P	**P**	**04**	**08**	**35.7**	**-0.3**
	comp=Z,23nm,1.2s									
MK31	**Makanchi Array**	**39.70**	**349**	*i*	P	**P**	**04**	**08**	**36.3**	**-0.3**
MK31					pmax	pmax				
	comp=Z,77nm,1.2s									
MK31	**Makanchi Array**	**39.70**	**349**	*e*	P	**P**	**04**	**08**	**36.1**	**-0.5**
MK31				*e*	PcP	**PcP**	**04**	**10**	**42.6**	**0.0**
MKAR	**Makanchi Array**	**39.70**	**349**		P	**P**	**04**	**08**	**36.6**	**0.0**
	comp=Z,13nm,0.5s,baz=166,slow=8.7,SNR=125									
MKAR					PcP	**PcP**	**04**	**10**	**42.7**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=192,slow=3.4,SNR=4.8									
MKAR	**Makanchi Array**	**39.70**	**349**		P	**P**	**04**	**08**	**36.7**	**0.0**
MKAR							04	10	42.7	
MKAR					pmax	pmax				
	comp=Z,13nm,0.5s									
MKAR					pmax	pmax				
	comp=Z,3.0nm,0.6s									
MKAR	**Makanchi Array**	**39.70**	**349**	*e*	P	**P**	**04**	**08**	**36.2**	**-0.4**
MKAR					PcP	**PcP**	**04**	**10**	**42.7**	**+0.1**
KK31	**Karatay Array**	**39.91**	**335**	*i*	P	**P**	**04**	**08**	**38.1**	**-0.3**
KK31					pmax	pmax				
	comp=Z,12nm,0.5s									
KKAR	**Karatay Array**	**39.91**	**335**	*e*	P	**P**	**04**	**08**	**39.0**	**+0.6**
	comp=Z,29nm,0.8s									
SIJI	**Sorong**	**39.99**	**101**		P	**P**	**04**	**08**	**38.7**	**-0.8**
	comp=Z,5.6nm,0.6s,baz=306,slow=7.0,SNR=3.9									
KSJDO	**Jindo**	**41.11**	**45**		P	**P**	**04**	**08**	**49.0**	**+0.5**
	SNR=7.6									
IBAF	**Bafgh**	**41.41**	**310**	*e*	P	**P**	**04**	**08**	**52.3**	**+1.2**
SONM	**Songino Array**	**41.65**	**14**		P	**P**	**04**	**08**	**52.9**	**+0.1**
	comp=Z,25nm,0.8s,baz=196,slow=8.5,SNR=141									
SONM					PcP	**PcP**	**04**	**10**	**49.3**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=200,slow=4.0,SNR=4.5									
SONM	**Songino Array**	**41.65**	**14**		P	**P**	**04**	**08**	**52.9**	**+0.1**
SONM							04	10	49.3	
SONM					pmax	pmax				
	comp=Z,25nm,0.8s									
SONM					pmax	pmax				
	comp=Z,4.0nm,0.7s									
IAKL	**Akhelmad**	**41.71**	**318**	*e*	P	**P**	**04**	**08**	**54.4**	**+0.7**
IMEH	**Mehriz**	**42.05**	**309**	*e*	P	**P**	**04**	**08**	**57.5**	**+1.1**
KSSES	**Seosan**	**42.47**	**42**		P	**P**	**04**	**08**	**59.4**	**-0.1**
	SNR=14									
IPAR	**Pars**	**42.65**	**306**	*e*	P	**P**	**04**	**09**	**03.0**	**+1.5**
TJN	**Taejon**	**42.85**	**43**	*i*	P	**P**	**04**	**09**	**02.3**	**-0.3**
ISHV	**Shirvan**	**42.94**	**319**	*e*	P	**P**	**04**	**09**	**04.9**	**+1.4**
KSGAH	**Ganghwa**	**42.98**	**41**		P	**P**	**04**	**09**	**03.5**	**-0.1**
	SNR=6.8									
ISAD	**Sadrabad**	**42.99**	**309**	*e*	P	**P**	**04**	**09**	**04.4**	**+0.3**
KSCEA	**Cheonan**	**43.02**	**43**		P	**P**	**04**	**09**	**03.9**	**-0.1**
	SNR=8.2									
KSSEO	**Seoul**	**43.17**	**42**		P	**P**	**04**	**09**	**05.0**	**-0.1**
	SNR=7.4									
KSBON	**Boeun**	**43.22**	**43**		P	**P**	**04**	**09**	**05.6**	**0.0**
	SNR=6.0									
KSMUS	**Musan**	**43.29**	**41**		P	**P**	**04**	**09**	**06.0**	**-0.1**
	SNR=8.9									
KSICN	**Icheon**	**43.39**	**42**		P	**P**	**04**	**09**	**06.5**	**-0.4**
	SNR=5.7									
ZAK	**Zakamensk**	**43.40**	**10**	⇓*i*	P	**P**	**04**	**09**	**05.6**	**-1.4**
ZAK				*e*			04	10	49.5	
ZAK					pmax	pmax				
	comp=Z,12nm,1.0s									
YNCB	**YEONCHEON**	**43.48**	**41**		P	**P**	**04**	**09**	**07.4**	**-0.3**
	SNR=9.0									
JNU	**Nakatsue**	**43.77**	**49**		P	**P**	**04**	**09**	**09.9**	**-0.3**
	comp=Z,21nm,0.8s,baz=226,slow=4.3,SNR=10									
KSAR	**Wonju Array Be**	**43.78**	**42**		P	**P**	**04**	**09**	**09.8**	**-0.3**
KSAR					PcP	**PcP**	**04**	**10**	**55.2**	**-1.0**
KSRS	**Korea Array**	**43.81**	**42**		P	**P**	**04**	**09**	**09.8**	**-0.5**
	comp=Z,3.4nm,0.4s,baz=247,slow=8.5,SNR=21									
KSRS					PcP	**PcP**	**04**	**10**	**55.2**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=238,slow=3.9,SNR=3.8									
KSRS	**Korea Array**	**43.81**	**42**		P	**P**	**04**	**09**	**09.8**	**-0.5**
KSRS							04	10	55.2	
KSRS					pmax	pmax				
	comp=Z,3.0nm,0.4s									
KSRS					pmax	pmax				
	comp=Z,1.0nm,0.5s									
KURBB	**Kurchatov Arra**	**44.10**	**348**		P	**P**	**04**	**09**	**12.4**	**0.0**
	comp=Z,26nm,0.9s,baz=168,slow=6.9,SNR=184									
KURBB					pP	**pP**	**04**	**09**	**27.1**	**+2.2**
	comp=Z,17nm,0.8s,baz=167,slow=7.0,SNR=12									
KURBB					PcP	**PcP**	**04**	**10**	**57.5**	**+0.5**
	comp=Z,6.7nm,0.8s,baz=161,slow=2.9,SNR=10									
KURK	**Kurchatov**	**44.17**	**348**		P	**P**	**04**	**09**	**13.9**	**+0.9**
	comp=Z,118nm,1.2s,SNR=24									
KURK	**Kurchatov**	**44.17**	**348**		P	**P**	**04**	**09**	**12.4**	**-0.6**
KURK					*PP	**pP**	**04**	**09**	**27.1**	**+1.7**
KURK							04	10	57.5	
KURK					pmax	pmax				
	comp=Z,27nm,0.8s									
KURK					pmax	pmax				
	comp=Z,17nm,0.8s									
KURK					pmax	pmax				
	comp=Z,7.0nm,0.8s									
KURK	**Kurchatov**	**44.17**	**348**	*e*	P	**P**	**04**	**09**	**12.9**	**-0.1**
	comp=Z,50nm,1.1s									
KURK					pP	**pP**	**04**	**09**	**27.1**	**+1.7**
KURK				*e*	PcP	**PcP**	**04**	**10**	**57.2**	**0.0**
KURK					PcP	**PP**	**04**	**10**	**57.5**	**+0.9**
KSIJA	**INJE**	**44.23**	**42**		P	**P**	**04**	**09**	**13.6**	**0.0**
	SNR=12									
MOY	**Mondy**	**44.29**	**8**	*e*	P	**P**	**04**	**09**	**14.3**	**+0.2**
MOY					pmax	pmax				
	comp=Z,20nm,1.6s									
IZEF	**Zefreh**	**44.45**	**310**	*e*	P	**P**	**04**	**09**	**16.1**	**+0.3**
TLY	**Talaya**	**44.72**	**10**		P	**P**	**04**	**09**	**18.2**	**+0.8**
	comp=Z,10nm,0.7s,baz=225,slow=6.7,SNR=22									
TLY	**Talaya**	**44.72**	**10**	*e*	P	**P**	**04**	**09**	**18.1**	**+0.8**
TLY					pmax	pmax				
	comp=Z,39nm,1.9s									
TLY	**Talaya**	**44.72**	**10**	*e*	P	**P**	**04**	**09**	**18.1**	**+0.8**
	comp=Z,17nm,0.9s									
IKIA	**Kiasar**	**44.97**	**315**	*e*	P	**P**	**04**	**09**	**20.9**	**+1.0**
IPIR	**Pirpir**	**45.46**	**309**	*e*	P	**P**	**04**	**09**	**23.2**	**-0.7**
CN2	**Changchun**	**46.13**	**33**	*e*	P	**P**	**04**	**09**	**27.9**	**-0.8**
CN2					PMZ					
	comp=Z,10.0nm,0.7s									
ZAA0	**Zalesovo Array**	**46.34**	**354**	*e*	P	**P**	**04**	**09**	**29.7**	**-0.4**
ZALV	**Zalesovo Beam**	**46.34**	**354**		P	**P**	**04**	**09**	**29.8**	**-0.3**
	comp=Z,11nm,0.3s,baz=162,slow=10,SNR=54									
ZALV					PcP	**PcP**	**04**	**11**	**02.5**	**-2.2**
	comp=Z,4.1nm,0.8s,baz=162,slow=5.9,SNR=3.0									
ZALV	**Zalesovo Beam**	**46.34**	**354**		P	**P**	**04**	**09**	**29.8**	**-0.3**
ZALV							04	11	02.5	
ZALV					pmax	pmax				
	comp=Z,11nm,0.3s									
ZALV					pmax	pmax				
	comp=Z,4.0nm,0.8s									
RAYN	**Ar Rayn**	**47.27**	**295**	*e*	P	**P**	**04**	**09**	**39.2**	**+1.3**
	comp=Z,6.5nm,1.1s									
RAYN				*e*	pP	**pP**	**04**	**09**	**49.7**	**-0.8**
IRAZ	**Razeghan**	**47.31**	**312**	*e*	P	**P**	**04**	**09**	**39.4**	**+1.1**
H01W3	**Cape Leeuwin H**	**47.33**	**155**		T	T	05	00	34.0	
	baz=328									
H01W2	**Cape Leeuwin H**	**47.34**	**155**		T	T	05	00	50.0	
	baz=328									
H01W1	**Cape Leeuwin H**	**47.34**	**155**		T	T	05	00	31.5	
	baz=328									
HIA	**Hailar**	**47.35**	**24**	*d i*	P	**P**	**04**	**09**	**37.9**	**-0.2**
HIA					pmax	pmax				
	comp=Z,32nm,1.2s									
NVS	**Novosibirsk**	**47.39**	**353**	⇑*i*	P	**P**	**04**	**09**	**37.2**	**-1.1**
NVS					pmax	pmax				
	comp=Z,21nm,0.9s									
NVS					pmax	pmax				
	comp=N,14nm,0.8s									
NVS					pmax	pmax				
	comp=E,12nm,1.3s									
BVA0	**Borovoye Array**	**48.38**	**343**	*i*	P	**P**	**04**	**09**	**45.5**	**-0.6**
BVA0					pmax	pmax				
	comp=Z,17nm,1.0s									
BVAR	**Borovoye Array**	**48.38**	**343**		P	**P**	**04**	**09**	**45.9**	**-0.2**
	comp=Z,6.8nm,0.5s,baz=142,slow=7.5,SNR=45									
BVAR					PcP	**PcP**	**04**	**11**	**12.3**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=151,slow=3.4,SNR=4.0									
BVAR	**Borovoye Array**	**48.38**	**343**		P	**P**	**04**	**09**	**45.9**	**-0.2**
BVAR							04	11	12.3	
BVAR					pmax	pmax				
	comp=Z,7.0nm,0.5s									
BVAR					pmax	pmax				
	comp=Z,4.0nm,0.8s									
BRVK	**Borovoye**	**48.45**	**343**		P	**P**	**04**	**09**	**46.8**	**+0.3**
	comp=Z,116nm,0.6s,SNR=6.3									
BRVK	**Borovoye**	**48.45**	**343**	*de*	P	**P**	**04**	**09**	**46.4**	**-0.1**
BRVK					pmax	pmax				
	comp=Z,16nm,0.8s									
BRVK	**Borovoye**	**48.45**	**343**	*e*	P	**P**	**04**	**09**	**46.2**	**-0.3**
	comp=Z,14nm,0.8s									
IKOM	**Komasi**	**48.65**	**309**	*e*	P	**P**	**04**	**09**	**47.7**	**-0.9**
MDJ	**Mudanjiang**	**48.96**	**35**		P	**P**	**04**	**09**	**51.0**	**+0.3**
MDJ					PMZ					
	comp=Z,11nm,1.4s									
AB31	**Akbulak array**	**49.31**	**333**		P	**P**	**04**	**09**	**53.3**	**+0.1**
AB31					pmax	pmax				
	comp=Z,9.0nm,0.4s									
ABKAR	**Akbulak array**	**49.31**	**333**	*e*	P	**P**	**04**	**09**	**53.5**	**+0.4**
IDHR	**Dehrash**	**49.70**	**309**	*e*	P	**P**	**04**	**09**	**55.8**	**-0.9**
WRA	**Warramunga Arr**	**49.90**	**124**		P	**P**	**04**	**09**	**57.9**	**-0.2**
	comp=Z,8.7nm,0.8s,baz=305,slow=8.7,SNR=45									
WRA					pP	**pP**	**04**	**10**	**13.9**	**+3.1**
	comp=Z,7.6nm,0.7s,baz=304,slow=8.7,SNR=11									
WRA					PcP	**PcP**	**04**	**11**	**18.8**	**+0.7**
	comp=Z,5.4nm,0.8s,baz=311,slow=3.1,SNR=6.0									
WRA	**Warramunga Arr**	**49.90**	**124**		P	**P**	**04**	**09**	**57.9**	**-0.2**
WRA					*PP	**pP**	**04**	**10**	**13.9**	**+3.1**
WRA							04	11	18.8	
WRA					pmax	pmax				
	comp=Z,9.0nm,0.8s									
WRA					pmax	pmax				
	comp=Z,10.0nm,0.7s									
WRA					pmax	pmax				
	comp=Z,5.0nm,0.8s									
WRAB	**Tennant Creek**	**49.90**	**124**		P	**P**	**04**	**09**	**58.0**	**-0.2**
	comp=Z,113nm,0.9s,SNR=8.1									
WRAB	**Tennant Creek**	**49.90**	**124**	*c i*	P	**P**	**04**	**09**	**57.7**	**-0.5**
WRAB					pmax	pmax				
	comp=Z,33nm,0.7s									
WRAB	**Tennant Creek**	**49.90**	**124**	*e*	P	**P**	**04**	**09**	**58.0**	**-0.2**
	comp=Z,15nm,0.8s									
USRK	**Ussuriysk Ar.**	**50.12**	**37**		P	**P**	**04**	**09**	**59.2**	**-0.3**
	comp=Z,3.7nm,0.7s,baz=249,slow=6.2,SNR=13									
USRK					PP	**PP**	**04**	**11**	**54.9**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=230,slow=8.7,SNR=5.4									
MAJO	**Matsushiro**	**50.67**	**49**	⇑*e*	P	**P**	**04**	**10**	**03.2**	**-0.6**
MAJO					pmax	pmax				
	comp=Z,65nm,1.0s									
MAJO	**Matsushiro**	**50.67**	**49**	*e*	P	**P**	**04**	**10**	**03.0**	**-0.8**
	comp=Z,83nm,2.1s									
MAJO				*e*	PcP	**PcP**	**04**	**11**	**20.6**	**-0.2**
MAT	**Matsushiro**	**50.67**	**49**		P	**P**	**04**	**10**	**03.2**	**-0.6**
MJAR	**Matsushiro Arr**	**50.67**	**49**		P	**P**	**04**	**10**	**04.1**	**+0.3**
	comp=Z,4.9nm,0.7s,baz=228,slow=5.6,SNR=26									
MJAR	**Matsushiro Arr**	**50.67**	**49**		P	**P**	**04**	**10**	**04.1**	**+0.3**
MJAR					pmax	pmax				
	comp=Z,5.0nm,0.7s									
AKTO	**Aktyubinsk**	**51.02**	**333**		P	**P**	**04**	**10**	**06.0**	**-0.1**
	comp=Z,6.6nm,0.7s,baz=123,slow=7.8,SNR=13									
AKTO					PcP	**PcP**	**04**	**11**	**21.2**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=135,slow=5.7,SNR=3.8									
AKTO	**Aktyubinsk**	**51.02**	**333**		P	**P**	**04**	**10**	**06.1**	**-0.1**
AKTO							04	11	21.2	
AKTO					pmax	pmax				
	comp=Z,7.0nm,0.7s									
AKTO					pmax	pmax				
	comp=Z,1.0nm,0.5s									
CBIJ	**Chichi jima**	**51.07**	**61**		P	**P**	**04**	**10**	**04.8**	**-2.1**
JCJ	**Chichijima**	**51.07**	**61**		P	**P**	**04**	**10**	**04.8**	**-2.1**
	comp=Z,72nm,0.9s,baz=269,slow=20,SNR=4.0									
AS31	**Alice Springs**	**51.46**	**129**	*e*	P	**P**	**04**	**10**	**09.4**	**-0.5**
AS31				*e*	PcP	**PcP**	**04**	**11**	**23.7**	**-0.2**
ASAR	**Alice Springs**	**51.46**	**129**		P	**P**	**04**	**10**	**09.9**	**+0.1**
	comp=Z,5.4nm,0.8s,baz=301,slow=7.4,SNR=45									
ASAR					pP	**pP**	**04**	**10**	**25.4**	**+2.9**
	comp=Z,6.9nm,0.8s,baz=311,slow=7.5,SNR=13									
ASAR					PcP	**PcP**	**04**	**11**	**24.9**	**+1.0**
	comp=Z,3.7nm,0.6s,baz=305,slow=3.4,SNR=9.9									
ASAR	**Alice Springs**	**51.46**	**129**		P	**P**	**04**	**10**	**10.0**	**+0.1**
ASAR					*PP	**pP**	**04**	**10**	**25.5**	**+2.9**
ASAR							04	11	24.9	
ASAR					pmax	pmax				
	comp=Z,5.0nm,0.8s									
ASAR					pmax	pmax				
	comp=Z,7.0nm,0.8s									
ASAR					pmax	pmax				
	comp=Z,4.0nm,0.6s									
BOD	**Bodaibo**	**52.65**	**15**	⇑*i*	P	**P**	**04**	**10**	**18.2**	**0.0**
BOD					pmax	pmax				
	comp=Z,37nm,1.1s									
GNI	**Garni**	**53.02**	**315**	*de*	P	**P**	**04**	**10**	**22.4**	**+0.9**
GNI					pmax	pmax				
	comp=Z,14nm,1.2s									
GNI	**Garni**	**53.02**	**315**	*e*	P	**P**	**04**	**10**	**21.9**	**+0.4**
	comp=Z,7.2nm,0.6s									
SVE	**Sverdlovsk**	**54.70**	**339**	⇑*e*	P	**P**	**04**	**10**	**33.8**	**+0.6**
SVE					pmax	pmax				
	comp=Z,88nm,1.2s									
ARU	**Arti**	**55.14**	**338**		P	**P**	**04**	**10**	**36.0**	**-0.4**
	comp=Z,141nm,1.1s,SNR=5.8									
ARU	**Arti**	**55.14**	**338**	*d i*	P	**P**	**04**	**10**	**36.5**	**+0.1**
ARU							04	12	39.8	
ARU					S	**S**	**04**	**18**	**20.0**	**+4.0**
ARU					SS	**SS**	**04**	**22**	**03.0**	**+2.5**
ARU					pmax	pmax				
	comp=Z,47nm,1.7s									
ARU	**Arti**	**55.14**	**338**	*e*	P	**P**	**04**	**10**	**36.1**	**-0.2**
	comp=Z,23nm,0.9s									
CLNS	**Chul'man**	**55.17**	**21**	*e*	P	**P**	**04**	**10**	**35.2**	**-1.4**
CLNS					pmax	pmax				
	comp=Z,21nm,0.9s									
CLNS					pmax	pmax				
	comp=N,11nm,1.0s									
CLNS					pmax	pmax				
	comp=E,12nm,1.0s									
KMBO	**Kilima Mbogo**	**55.43**	**263**		P	**P**	**04**	**10**	**41.0**	**+1.5**
	comp=E,0.5nm,0.3s,baz=69,slow=8.6,SNR=3.7									
KMBO	**Kilima Mbogo**	**55.43**	**263**		P	**P**	**04**	**10**	**41.0**	**+1.5**
KMBO					pmax	pmax				
	comp=Z,1.0nm,0.3s									
KMBO	**Kilima Mbogo**	**55.43**	**263**	*e*	P	**P**	**04**	**10**	**38.8**	**-0.6**
	comp=Z,12nm,1.1s									
NEY	**Neytrino**	**55.68**	**318**	*e*	P	**P**	**04**	**10**	**39.8**	**-0.9**
NEY					pmax	pmax				
	comp=Z,1.0nm,0.7s									
KBZ	**Khabaz**	**55.76**	**318**		P	**P**	**04**	**10**	**40.3**	**-0.7**
	comp=Z,4.8nm,0.9s,baz=162,slow=6.7,SNR=8.8									
KBZ					PcP	**PcP**	**04**	**11**	**39.1**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=135,slow=4.3,SNR=2.6									
KBZ	**Khabaz**	**55.76**	**318**		P	**P**	**04**	**10**	**40.3**	**-0.7**
KBZ							04	11	39.2	
KBZ					pmax	pmax				
	comp=Z,5.0nm,0.9s									
KBZ					pmax	pmax				
	comp=Z,3.0nm,0.7s									
KIV	**Kislovodsk**	**55.99**	**319**	*e*	P	**P**	**04**	**10**	**42.6**	**-0.3**
KIV					pmax	pmax				
	comp=Z,9.0nm,1.0s									
KIV	**Kislovodsk**	**55.99**	**319**	*e*	P	**P**	**04**	**10**	**42.1**	**-0.8**
	comp=Z,16nm,1.0s									
ERM	**Erimo**	**56.31**	**44**	*e*	P	**P**	**04**	**10**	**45.8**	**+0.8**
	comp=Z,9.2nm,0.4s									
ASF	**Jabal al Asfar**	**56.55**	**303**		P	**P**	**04**	**10**	**47.2**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=55,slow=6.0,SNR=8.7									
ASF	**Jabal al Asfar**	**56.55**	**303**		P	**P**	**04**	**10**	**47.2**	**+0.2**
ASF					pmax	pmax				
	comp=Z,5.0nm,0.8s									
ASAJ	**Asahikawa**	**56.76**	**42**	*e*	P	**P**	**04**	**10**	**49.1**	**+1.0**
	comp=Z,23nm,1.6s									
EIL	**Elat**	**57.70**	**300**		P	**P**	**04**	**10**	**56.5**	**+1.4**
	comp=Z,13nm,0.7s,baz=350,slow=2.4,SNR=14									
MMAI	**Mount Meron Ar**	**57.96**	**304**		P	**P**	**04**	**10**	**58.8**	**+1.8**
	comp=Z,2.4nm,0.5s,baz=94,slow=8.4,SNR=7.0									
YSS	**Yuzh-Sakhalins**	**58.04**	**39**	*e*	P	**P**	**04**	**10**	**56.9**	**-0.3**
YSS	**Yuzh-Sakhalins**	**58.04**	**39**	*e*	P	**P**	**04**	**10**	**57.6**	**+0.5**
	comp=Z,38nm,0.8s									
CSS	**Prodhromos**	**60.05**	**306**	*e*	P	**P**	**04**	**11**	**11.2**	**-0.2**
	comp=Z,1.3nm,0.7s									
CTA	**Charters Tower**	**60.06**	**118**		P	**P**	**04**	**11**	**11.2**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=270,slow=4.0,SNR=2.7									

comp=Z,134nm,1.2s
TIXI Tiksi 67.66 12 *e*P **P 04 11 59.9 -0.8**
comp=Z,73nm,0.7s
MLR Muntele Rosu 67.79 316 ⇓P **P 04 12 02.5 +0.3**
MLR Muntele Rosu 67.79 316 ⇓*i*P **P 04 12 02.5 +0.3**
DOPR Dopca 68.26 316 ⇑*i*P **P 04 12 05.0 0.0**
VOIR 68.39 316 ⇑P **P 04 12 05.4 -0.5**
VOIR 68.39 316 ⇑*i*P **P 04 12 05.4 -0.5**
ARR Arges 68.67 316 ⇑*i*P **P 04 12 07.2 -0.4**
BURAR Bucovina Array 68.72 318 ⇑P **P 04 12 08.0 +0.1**
BURAR Bucovina Array 68.72 318 ⇑*i*P **P 04 12 08.0 +0.1**
BUR08 Bucovina Ar. S 68.73 318 *e*P **P 04 12 07.9 -0.1**
PETK Petropavlovsk- 69.19 36 P **P 04 12 08.9 -1.8**
comp=Z,1.4nm,0.4s,baz=251,slow=4.3,SNR=8.0
PETK Petropavlovsk- 69.19 36 P **P 04 12 08.9 -1.8**
PETK pmax pmax
comp=Z,1.0nm,0.4s
AGG Agios Georgios 69.40 309 *e*P **P 04 12 10.7 -1.5**
comp=Z,7.9nm,0.8s
CJR Cluj-Napoca 69.62 317 ⇑P **P 04 12 13.8 +0.3**
CJR Cluj-Napoca 69.62 317 ⇑*i*P **P 04 12 13.8 +0.3**
SEY Seymchan 69.79 25 P **P 04 12 13.6 -0.5**
comp=Z,4.9nm,0.5s,baz=269,slow=4.7,SNR=19
SEY Seymchan 69.79 25 P **P 04 12 13.6 -0.5**
SEY pmax pmax
comp=Z,5.0nm,0.5s
DRGR 70.24 317 ⇓P **P 04 12 17.1 -0.2**
DRGR 70.24 317 ⇓*i*P **P 04 12 17.0 -0.2**
BZS Buzias 70.80 316 ⇑P **P 04 12 20.2 -0.5**
BZS Buzias 70.80 316 ⇑*i*P **P 04 12 20.2 -0.5**
KOLS Kolonicke sedl 70.90 319 *e*P **P 04 12 21.0 -0.2**
KOLS pmax pmax
comp=Z,8.0nm,1.2s
KOLS Kolonicke sedl 70.90 319 *e*P **P 04 12 21.0 -0.2**
APA Apatity 71.17 340 ⇑*i*P **P 04 12 21.5 -0.9**
APA pmax pmax
comp=Z,22nm,1.2s
APA MLR MLR
comp=Z,1µm,16.0s
STHS Stebnicka Huta 71.65 319 *e*P **P 04 12 25.1 -0.6**
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 71.65 319 *e*P **P 04 12 25.1 -0.6**
DIVS Divibare 71.74 314 ⇑*i*P **P 04 12 25.8 -0.7**
FINES FINESS Array B 71.80 332 P **P 04 12 25.4 -0.9**
comp=Z,7.1nm,0.6s,baz=117,slow=7.5,SNR=40
FINES pP **PcP 04 12 42.4 -2.6**
comp=Z,3.8nm,0.6s,baz=123,slow=8.4,SNR=3.4
FINES FINESS Array B 71.80 332 P **P 04 12 25.4 -0.9**
FINES *PP **PcP 04 12 42.4 -2.6**
FINES pmax pmax
comp=Z,7.0nm,0.6s
FINES pmax pmax
comp=Z,4.0nm,0.6s
KECS Kecovo 72.00 318 *e*P **P 04 12 26.9 -0.9**
KECS pmax pmax
comp=Z,3.0nm,0.7s
KECS Kecovo 72.00 318 *e*P **P 04 12 26.9 -0.9**
PSZ Piszkesteto 72.30 318 *e*P **P 04 12 28.9 -0.8**
comp=Z,6.5nm,0.9s
OJC Ojcow 72.70 320 *e*P **P 04 12 31.8 -0.2**
comp=Z,12nm,0.8s
OJC *e*pP **pP 04 12 41.1 -4.1**
PKSM Moragy 72.94 316 ⇑P **P 04 12 32.6 -0.9**
PKSM Moragy 72.94 316 ⇑*i*P **P 04 12 32.6 -0.9**
OKC Ostrava-Krasne 73.70 320 *e*P **P 04 12 37.7 -0.2**
OKC *e*pP pP 04 12 45.5 -5.6
OKC *e*sP **sP 04 12 53.8 -2.5**
OKC Ostrava-Krasne 73.70 320 *e*P **P 04 12 37.7 -0.2**
OKC *e* 04 12 45.5
OKC *e* 04 12 53.8
TIP Timpagrande 73.73 308 *e*P **P 04 12 38.1 -0.3**
comp=Z,5.2nm,0.9s
CEL Celeste 74.37 307 *e*P **P 04 12 42.9 +0.8**
ARCES ARCESS Array B 74.61 340 P **P 04 12 42.4 -0.4**
comp=Z,10nm,0.9s,baz=116,slow=5.0,SNR=24
ARCES ARCESS Array B 74.61 340 P **P 04 12 42.4 -0.4**
ARCES pmax pmax
comp=Z,10.0nm,0.9s
KOGS Kog 74.61 316 *i*P **P 04 12 43.1 -0.1**
DPC Dobruska-Polom 74.93 320 *e*P **P 04 12 45.3 +0.2**
DPC *e*pP pP 04 12 52.7 -5.6
DPC *e*sP **sP 04 13 01.5 -2.0**
DPC Dobruska-Polom 74.93 320 *e*P **P 04 12 45.3 +0.2**
DPC *e* 04 12 52.7
DPC *e* 04 13 01.5
CONA Conrad Observa 75.00 317 ⇑*i*P **P 04 12 45.1 -0.5**
comp=Z,4.7nm,0.9s
UPC Upice 75.14 320 *e*P **P 04 12 46.3 0.0**
UPC *ex* x 04 12 52.5
UPC *e*sP **sP 04 13 02.8 -1.9**
UPC Upice 75.14 320 *e*P **P 04 12 46.3 0.0**
UPC *e* 04 12 52.5
UPC *e* 04 13 02.8
TREC Trest 75.37 319 *e*P **P 04 12 47.2 -0.4**
TREC Trest 75.37 319 *e*P **P 04 12 47.2 -0.4**
PERS Pernice 75.41 316 *i*P **P 04 12 47.7 -0.2**
SOKA Soboth 75.47 316 ⇑*i*P **P 04 12 48.3 0.0**
comp=Z,9.0nm,0.9s,SNR=5.7
GOPC GO Pecny, Ondr 75.87 319 *e*P **P 04 12 50.6 +0.1**
PRU Pruhonice 76.04 319 *e*P **P 04 12 51.2 -0.2**
PRU *e*sP **sP 04 13 07.6 -2.2**
PRU Pruhonice 76.04 319 *e*P **P 04 12 51.2 -0.2**
PRU *e* 04 13 07.6
PVCC Panska Ves 76.06 320 *e*P **P 04 12 51.6 +0.1**
PVCC Panska Ves 76.06 320 *e*P **P 04 12 51.6 +0.1**
PRA Prague 76.11 320 *e*P **P 04 12 52.4 +0.6**
PRA *e*sP **sP 04 13 09.0 -1.2**
PRA Prague 76.11 320 *e*P **P 04 12 52.4 +0.6**
PRA *e* 04 13 09.0
AQU L'Aquila 76.42 312 *e*P **P 04 12 53.1 -0.7**
comp=Z,6.7nm,0.8s
BRG Berggiesshubel 76.48 320 *e*P **P 04 12 53.3 -0.6**
comp=Z,11nm,1.0s
BRG Berggiesshubel 76.48 320 *e*P **P 04 12 54.1 +0.1**
comp=Z,5.0nm,0.8s
BRG Berggiesshubel 76.48 320 *e*P **P 04 12 54.0 +0.1**
BRG pmax pmax
comp=Z,11nm,1.0s
GEC2 GERESS Array S 76.50 318 *e*P **P 04 12 53.9 -0.3**
comp=Z,8.0nm,0.8s
GEC2 GERESS Array S 76.50 318 *e*P **P 04 12 54.5 +0.3**
GEC2 *e*pP **pP 04 13 10.3 +2.8**
GERES GERESS Array B 76.50 318 P **P 04 12 53.9 -0.3**
comp=Z,6.8nm,0.8s,baz=89,slow=5.5,SNR=51
GERES pP **pP 04 13 09.5 +2.0**
comp=Z,4.1nm,0.7s,baz=93,slow=5.3,SNR=10
GERES GERESS Array B 76.50 318 P **P 04 12 53.9 -0.3**
GERES *PP **pP 04 13 09.5 +2.0**
GERES pmax pmax
comp=Z,7.0nm,0.8s
GERES pmax pmax
comp=Z,4.0nm,0.7s
KHC Kasperske Hory 76.60 319 *e*P **P 04 12 54.5 -0.2**
KHC *e*pP **PcP 04 13 02.5 -3.5**
KHC *e*sP **sP 04 13 10.3 -2.8**
KHC Kasperske Hory 76.60 319 *e*P **P 04 12 54.5 -0.2**
KHC *e* 04 13 02.5
KHC *e* 04 13 10.3
KHC Kasperske Hory 76.60 319 *e*P **P 04 12 54.8 +0.1**
KBA Koelnbreinsper 76.64 316 ⇓*i*P **P 04 12 54.0 -1.1**
comp=Z,6.8nm,1.0s
BILL Bilibino 76.85 22 ⇑*e*P **P 04 12 54.9 -0.7**
BILL *i* 04 13 03.3
BILL pmax pmax
comp=Z,12nm,1.7s
RJOB Jochberg 77.05 317 *e*P **P 04 12 56.6 -0.6**
comp=Z,11nm,1.2s
WET Wettzell 77.06 319 *e*P **P 04 12 57.2 -0.1**
comp=Z,5.0nm,0.9s
CLL Collm 77.11 321 *e*P **P 04 12 57.3 -0.1**
comp=Z,4.0nm,1.0s
CLL Collm 77.11 321 ⇓*i*P **P 04 12 57.0 -0.4**
comp=Z,13nm,1.3s
CLL *e* 04 13 06.0
CLL *i*sP **sP 04 13 13.3 -2.5**
CLL Collm 77.11 321 ⇓*i*P **P 04 12 57.0 -0.4**
CLL *e* 04 13 06.0
CLL *i* 04 13 13.3
CLL pmax pmax
comp=Z,13nm,1.3s
CLL Collm 77.11 321 *e*P **P 04 12 57.1 -0.2**
NKC Novy Kostel 77.40 320 *e*P **P 04 12 58.8 -0.3**
NKC *e*pP **PcP 04 13 08.7 -0.7**
NKC *e*sP **sP 04 13 15.8 -1.7**
NKC Novy Kostel 77.40 320 *e*P **P 04 12 58.8 -0.3**
NKC *e* 04 13 08.7
NKC *e* 04 13 15.8
TANN Tannenbergstha 77.40 320 *e*P **P 04 12 58.7 -0.4**
comp=Z,3.0nm,0.9s
HFS Hagfors 77.46 330 P **P 04 12 58.5 -0.7**
comp=Z,3.7nm,0.4s,baz=102,slow=4.6,SNR=32
HFS pP **pP 04 13 14.8 +2.3**
comp=Z,1.8nm,0.4s,baz=104,slow=6.3,SNR=2.3
HFS Hagfors 77.46 330 P **P 04 12 58.5 -0.7**
HFS *PP **pP 04 13 14.8 +2.3**
HFS pmax pmax
comp=Z,4.0nm,0.4s
HFS pmax pmax
comp=Z,2.0nm,0.4s
ROTZ Rotzenmuhle 77.53 319 *e*P **P 04 13 00.4 +0.6**
comp=Z,7.0nm,0.9s
WTTA Wattenberg 77.82 317 ⇑*i*P **P 04 13 00.9 -0.8**
comp=Z,9.2nm,0.7s
MOX Moxa 77.95 320 *e*P **P 04 13 01.8 -0.3**
comp=Z,3.0nm,0.7s
FUR Furstenfeldbru 78.08 318 *e*P **P 04 13 02.3 -0.7**
comp=Z,6.0nm,0.8s
GRF Grafenberg Arr 78.17 319 *e*P **P 04 13 04.0 +0.6**
comp=Z,11nm,0.9s
MOTA Moosalm 78.18 317 ⇑*i*P **P 04 13 02.4 -1.3**
comp=Z,9.5nm,0.8s,SNR=8.7
RETA Reutte 78.42 317 ⇑*i*P **P 04 13 04.3 -0.6**
comp=Z,15nm,0.9s,SNR=10
FETA Feichten 78.43 316 ⇑*i*P **P 04 13 04.6 -0.5**
comp=Z,9.7nm,0.9s
NB2 NORSAR Subarra 78.76 331 P **P 04 13 05.0 -1.5**
comp=Z,2.4nm,0.8s,baz=88,slow=5.9
NOA NORSAR Array B 78.76 331 P **P 04 13 05.4 -1.1**
comp=Z,4.1nm,0.8s,baz=94,slow=5.4,SNR=9.1
NOA NORSAR Array B 78.76 331 P **P 04 13 05.4 -1.1**
NOA pmax pmax
comp=Z,4.0nm,0.8s
BSEG Bad Segeberg 78.87 323 *e*P **P 04 13 07.5 +0.4**
comp=Z,11nm,0.9s
NAO01 NORSAR Array S 78.91 330 *e*P **P 04 13 05.9 -1.3**
comp=Z,5.5nm,0.8s
DAVA Damuels 79.01 317 ⇑*i*P **P 04 13 07.8 -0.5**
comp=Z,15nm,0.8s,SNR=7.3
TUE Stuetta 79.38 316 *e*P **P 04 13 10.0 -0.3**
TUE *e*pP **pP 04 13 27.8 +4.1**
KEST Kesra 79.61 305 P **P 04 13 11.2 -0.5**
comp=Z,2.0nm,0.8s,baz=5.3,slow=3.5,SNR=7.8
KEST pP **pP 04 13 28.4 +3.4**
comp=Z,1.0nm,0.6s,baz=336,slow=4.9,SNR=3.0
KEST Kesra 79.61 305 *e*P **P 04 13 11.6 -0.1**
KEST *e*pP **pP 04 13 28.4 +3.4**
PGF Pioggiola 79.67 312 ⇑*i*P **P 04 13 11.5 -0.4**
PGF Pioggiola 79.67 312 ⇑*i*P **P 04 13 11.5 -0.4**
TNS Taunus Mts 79.97 320 *e*P **P 04 13 13.3 0.0**
comp=Z,4.0nm,0.8s
BFO Black Forest 80.06 318 *e*P **P 04 13 13.3 -0.5**
comp=Z,4.0nm,0.8s
BFO Black Forest 80.06 318 *e*P **P 04 13 12.6 -1.1**
comp=Z,9.0nm,1.3s
IBBN Ibbenburen 80.39 322 *e*P **P 04 13 15.7 +0.3**
comp=Z,10.0nm,1.1s
KBS Kingsbay 80.45 349 *e*P **P 04 13 14.2 -1.1**
comp=Z,14nm,1.1s
CDF Champ du Feu 80.76 318 ⇑*i*P **P 04 13 16.8 -0.8**
comp=Z,8.3nm,0.9s
CDF Champ du Feu 80.76 318 ⇑*i*P **P 04 13 16.8 -0.8**
comp=Z,8.3nm,0.9s
SBF Sospel 80.78 313 ⇑*i*P **P 04 13 17.5 -0.3**
SBF Sospel 80.78 313 ⇑*i*P **P 04 13 17.5 -0.3**
SENIN Lac Senin/Sane 80.80 316 *e*P **P 04 13 18.3 +0.3**
LPG La Plagne 81.21 315 ⇑*i*P **P 04 13 20.1 -0.2**
comp=Z,27nm,0.9s
LPG La Plagne 81.21 315 ⇑*i*P **P 04 13 20.1 -0.2**
comp=Z,27nm,0.9s
LPL La Plagne 81.22 315 ⇑*i*P **P 04 13 20.1 -0.2**
comp=Z,33nm,0.8s
LPL La Plagne 81.22 315 ⇑*i*P **P 04 13 20.1 -0.2**
comp=Z,33nm,0.8s
MBDF Montbardon 81.22 314 ⇑*i*P **P 04 13 19.4 -0.9**
MBDF Montbardon 81.22 314 ⇑*i*P **P 04 13 19.4 -0.9**
BNI Bardonecchia 81.28 314 *e*P **P 04 13 20.2 -0.3**
comp=Z,17nm,1.1s
FRF La Foret Royal 81.36 313 ⇑*i*P **P 04 13 20.7 -0.1**
comp=Z,27nm,1.0s
FRF La Foret Royal 81.36 313 ⇑*i*P **P 04 13 20.7 -0.1**
comp=Z,27nm,1.0s
HAU Haudompre 81.39 317 ⇑*i*P **P 04 13 20.2 -0.7**
comp=Z,13nm,0.8s
HAU Haudompre 81.39 317 ⇑*i*P **P 04 13 20.2 -0.7**
comp=Z,13nm,0.8s
WLF Walferdange 81.46 319 *e*P **P 04 13 20.5 -0.7**
comp=Z,5.1nm,0.8s
LMR La Mourre 81.48 313 ⇑*i*P **P 04 13 21.2 -0.2**
comp=Z,12nm,0.9s
LMR La Mourre 81.48 313 ⇑*i*P **P 04 13 21.2 -0.2**
comp=Z,12nm,0.9s
CABF La Chapelle 81.62 316 ⇑*i*P **P 04 13 22.1 -0.1**
comp=Z,12nm,0.8s
CABF La Chapelle 81.62 316 ⇑*i*P **P 04 13 22.1 -0.1**
comp=Z,12nm,0.8s
PAGF Fort de Pagny 81.78 318 *e*P **P 04 13 22.3 -0.6**
comp=Z,3.8nm,1.0s
PAGF Fort de Pagny 81.78 318 *e*P **P 04 13 22.3 -0.6**
comp=Z,3.8nm,1.0s
ORIF Oris-en-Rattie 81.85 314 ⇑*i*P **P 04 13 22.8 -0.7**
comp=Z,13nm,1.0s
ORIF Oris-en-Rattie 81.85 314 ⇑*i*P **P 04 13 22.8 -0.7**
comp=Z,13nm,1.0s
SMRF Simiane la Rot 82.12 313 *e*P **P 04 13 25.1 +0.3**
comp=Z,26nm,1.3s
SMRF Simiane la Rot 82.12 313 *e*P **P 04 13 25.1 +0.3**
comp=Z,26nm,1.3s
MEZF Maizieres J'vi 82.23 318 *e*P **P 04 13 24.8 -0.5**
comp=Z,16nm,0.9s
MEZF Maizieres J'vi 82.23 318 *e*P **P 04 13 24.8 -0.5**
comp=Z,16nm,0.9s
SFTF Sexfontaines 82.26 318 ⇑*i*P **P 04 13 24.8 -0.6**
comp=Z,36nm,1.0s
SFTF Sexfontaines 82.26 318 ⇑*i*P **P 04 13 24.8 -0.6**
comp=Z,36nm,1.0s
GIVF Givet 82.30 320 *e*P **P 04 13 25.1 -0.5**
GIVF Givet 82.30 320 *e*P **P 04 13 25.1 -0.5**
BAIF Baives 82.70 320 ⇑*i*P **P 04 13 27.3 -0.3**
comp=Z,38nm,1.3s
BAIF Baives 82.70 320 ⇑*i*P **P 04 13 27.3 -0.3**
comp=Z,38nm,1.3s
VIVF Saint-Julien-l 82.71 314 ⇑*i*P **P 04 13 27.7 -0.2**
comp=Z,21nm,1.1s
VIVF Saint-Julien-l 82.71 314 ⇑*i*P **P 04 13 27.7 -0.2**
comp=Z,21nm,1.1s
LOR Lormes 83.11 317 ⇑*i*P **P 04 13 29.2 -0.7**
comp=Z,16nm,0.9s
LOR Lormes 83.11 317 ⇑*i*P **P 04 13 29.2 -0.7**
comp=Z,16nm,0.9s
SMF Signal de Mont 83.17 316 ⇑*i*P **P 04 13 29.5 -0.7**
comp=Z,8.6nm,0.7s
SMF Signal de Mont 83.17 316 ⇑*i*P **P 04 13 29.5 -0.7**
comp=Z,8.6nm,0.7s
LASF Ste Croix 83.35 314 ⇑*i*P **P 04 13 31.4 +0.2**
LASF Ste Croix 83.35 314 ⇑*i*P **P 04 13 31.4 +0.2**
SSF Saint Saulge 83.37 317 ⇑*i*P **P 04 13 30.6 -0.6**
comp=Z,16nm,1.2s
SSF Saint Saulge 83.37 317 ⇑*i*P **P 04 13 30.6 -0.6**
comp=Z,16nm,1.2s
AVF Avril sur Loir 83.49 316 *e*P **P 04 13 31.2 -0.6**
comp=Z,6.3nm,0.8s
AVF Avril sur Loir 83.49 316 *e*P **P 04 13 31.2 -0.6**
comp=Z,6.3nm,0.8s
BGF Bois d'Agland 83.86 316 *e*P **P 04 13 33.5 -0.2**
comp=Z,9.3nm,0.7s
BGF Bois d'Agland 83.86 316 *e*P **P 04 13 33.5 -0.2**
comp=Z,9.3nm,0.7s
TAM Tamanrasset 83.88 292 *e*P **P 04 13 36.0 +1.5**
comp=Z,9.6nm,1.1s
TCF Toulx Ste Croi 84.32 316 ⇑*i*P **P 04 13 35.8 -0.3**
TCF Toulx Ste Croi 84.32 316 ⇑*i*P **P 04 13 35.8 -0.3**
CAF Calviac 84.55 314 *e*P **P 04 13 37.3 0.0**
CAF Calviac 84.55 314 *e*P **P 04 13 37.3 0.0**
MTLF Montolieu 84.60 313 ⇑*i*P **P 04 13 37.5 -0.1**
comp=Z,14nm,1.0s
MTLF Montolieu 84.60 313 ⇑*i*P **P 04 13 37.5 -0.1**
comp=Z,14nm,1.0s
RJF Les Rejaudoux 84.90 315 *e*P **P 04 13 39.0 -0.1**
RJF Les Rejaudoux 84.90 315 *e*P **P 04 13 39.0 -0.1**
LFF La Frestale 85.49 315 *e*P **P 04 13 42.2 +0.2**
LFF La Frestale 85.49 315 *e*P **P 04 13 42.2 +0.2**
LDF La Druitiere 85.65 318 *e*P **P 04 13 42.0 -0.7**
comp=Z,8.6nm,0.8s
LDF La Druitiere 85.65 318 *e*P **P 04 13 42.0 -0.7**
comp=Z,8.6nm,0.8s
FLN La Foliniere 85.87 318 *e*P **P 04 13 43.0 -0.8**
comp=Z,10nm,0.8s
FLN La Foliniere 85.87 318 *e*P **P 04 13 43.0 -0.8**
comp=Z,10nm,0.8s
MFF Saint Martin d 85.91 316 *e*P **P 04 13 43.4 -0.6**
comp=Z,7.5nm,0.8s
MFF Saint Martin d 85.91 316 *e*P **P 04 13 43.4 -0.6**
comp=Z,7.5nm,0.8s
EPF Esparros 86.00 313 *e*P **P 04 13 43.7 -0.9**
EPF Esparros 86.00 313 *e*P **P 04 13 43.7 -0.9**
GRR Gorron 86.16 318 *e*P **P 04 13 44.6 -0.6**
GRR Gorron 86.16 318 *e*P **P 04 13 44.6 -0.6**
EKA Eskdalemuir Ar 86.60 325 P **P 04 13 46.2 -1.0**
comp=Z,5.4nm,0.7s,baz=97,slow=5.8,SNR=15
EKA pP **pP 04 14 03.2 +2.5**
comp=Z,2.3nm,0.7s,baz=93,slow=5.7,SNR=3.3
EKA Eskdalemuir Ar 86.60 325 P **P 04 13 46.2 -1.0**
EKA *PP **pP 04 14 03.2 +2.5**
EKA pmax pmax
comp=Z,5.0nm,0.7s
EKA pmax pmax
comp=Z,2.0nm,0.7s
ESK Eskdalemuir 86.62 325 *e*P **P 04 13 47.0 -0.3**
comp=Z,13nm,1.0s
ETSF Etsaut 86.67 313 *e*P **P 04 13 48.0 0.0**
ETSF Etsaut 86.67 313 *e*P **P 04 13 48.0 0.0**
DAG Danmarks Havn 87.07 348 *i*P **P 04 13 47.8 -1.3**
comp=Z,8.6nm,0.7s
DAG Danmarks Havn 87.07 348 *i*P **P 04 13 47.8 -1.3**
DAG pmax pmax
comp=Z,6.0nm,0.7s
SJPF Ste Jean 87.12 313 *e*P **P 04 13 50.4 +0.3**
SJPF Ste Jean 87.12 313 *e*P **P 04 13 50.4 +0.3**
SGMF Saint Gilles 87.30 318 *e*P **P 04 13 50.2 -0.6**
SGMF Saint Gilles 87.30 318 *e*P **P 04 13 50.2 -0.6**
ROSF Rostrenen 87.76 318 *e*P **P 04 13 52.5 -0.5**
ROSF Rostrenen 87.76 318 *e*P **P 04 13 52.5 -0.5**
TOA0 Torodi Ar. Sit 88.65 283 *e*P **P 04 13 58.8 +0.9**
TORD Torodi Ar. Bea 88.65 283 P **P 04 13 58.5 +0.6**
comp=Z,2.0nm,1.0s,baz=93,slow=3.3,SNR=12
TORD PKKPbc **PKKPbc 04 31 39.3 +0.9**
comp=Z,0.3nm,0.6s,baz=305,slow=3.1,SNR=5.0
ALE Alert 89.02 357 P **P 04 13 57.9 -0.4**
comp=Z,131nm,0.6s,SNR=7.8
ESDC Sonseca Array 89.69 310 P **P 04 14 02.6 +0.2**
comp=Z,1.9nm,0.7s,baz=59,slow=4.7,SNR=11
ESDC pP **pP 04 14 18.9 +2.9**
comp=Z,0.5nm,0.5s,baz=58,slow=4.2,SNR=3.7
IM04 Indian Mountai 92.40 22 *e*P **P 04 14 14.3 0.0**
MCK McKinley 95.27 23 *e*P **P 04 14 27.1 -0.5**
comp=Z,7.5nm,1.0s
ILAR Eielson Array 95.51 22 P **P 04 14 27.4 -1.3**
comp=Z,2.0nm,0.7s,baz=301,slow=4.4,SNR=21
ILAR PP PP 04 18 11.6 -7.9
comp=Z,0.4nm,0.8s,baz=299,slow=6.8,SNR=6.4
DBIC Dimbokro 95.95 278 P **P 04 14 32.3 +0.6**
comp=Z,2.1nm,0.6s,baz=31,slow=6.6,SNR=3.7
DBIC Dimbokro 95.95 278 P **P 04 14 32.3 +0.6**
DBIC pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 97.56 16 *e*P **P 04 14 37.4 -0.4**
comp=Z,10.0nm,1.1s
PPT Papeete 119.27 106 PKP **PKPdf 04 19 55.2 +1.3**
comp=Z,43nm,0.6s,baz=49,slow=8.2,SNR=6.8
PPT Papeete 119.27 106 PKIKP **PKPdf 04 19 55.2 +1.3**
PPT pmax pmax
comp=Z,43nm,0.6s
I03D Drain, OR 119.46 29 P **PKPdf 04 19 53.3 -0.3**
baz=119
I04A Tendick Farm, 119.83 28 P **PKPdf 04 19 54.5 +0.1**
baz=120
J04D Umpqua Nationa 120.40 28 P **PKPdf 04 19 56.1 +0.3**
baz=120
J05D Fort Rock, OR 120.77 28 P **PKPdf 04 19 56.6 +0.2**
baz=121
MSO Missoula 120.83 21 P **PKPdf 04 19 56.3 -0.1**
baz=121
A20A Cobblestone Ra 120.83 15 P **PKPdf 04 19 56.2 0.0**
baz=121
A21A Bergtoll Ranch 120.98 15 P **PKPdf 04 19 56.6 +0.1**
baz=121
EGMT Eagleton 121.11 17 P **PKPdf 04 19 57.0 +0.2**
baz=121
B20A Solberg Farm, 121.21 16 P **PKPdf 04 19 57.1 +0.1**
baz=121
A22A Carney Farms, 121.22 14 P **PKPdf 04 19 57.1 +0.1**
baz=121
C20A Veseth Ranch, 121.88 16 P **PKPdf 04 19 58.2 0.0**
baz=122
B23A Brockton 121.93 13 P **PKPdf 04 19 58.9 +0.5**
baz=122
C21A Desert Coulee 122.02 15 P **PKPdf 04 19 58.7 +0.2**
baz=122
C22A Vida 122.40 14 P **PKPdf 04 19 59.3 +0.1**
baz=122
A28A Rude Farm, Bot 122.44 10 P **PKPdf 04 19 59.5 +0.2**
baz=122
C23A Lambert 122.51 14 P **PKPdf 04 19 59.9 +0.4**
baz=122
A29A Manning Farm, 122.59 9 P **PKPdf 04 19 59.6 0.0**
baz=122
BOZ Bozeman (W) 122.64 20 P **PKPdf 04 20 00.0 +0.1**
baz=122
D22A Cohagen 122.88 15 P **PKPdf 04 20 00.9 +0.7**
baz=123
C24A Savage 122.94 13 P **PKPdf 04 20 00.8 +0.5**
baz=123
C26A Wahner Farm, P 123.16 11 P **PKPdf 04 20 00.6 -0.1**
baz=123
LAO LASA Array 123.29 15 P **PKPdf 04 20 01.7 +0.6**
baz=123
D24A Glendive 123.36 13 P **PKPdf 04 20 01.9 +0.8**
baz=123
HLID Hailey 123.45 23 P **PKPdf 04 20 02.2 +0.6**
baz=123
D26A Manning 123.85 12 P **PKPdf 04 20 02.5 +0.4**
baz=124
E24A Baker 123.88 14 P **PKPdf 04 20 02.6 +0.4**
baz=124
D28A Regan 124.05 10 P **PKPdf 04 20 03.0 +0.6**
baz=124
G20A Bridger 124.10 17 P **PKPdf 04 20 03.3 +0.6**
baz=124
D29A Pettibone, Tap 124.35 10 P **PKPdf 04 20 03.2 +0.2**
baz=124
H19A Powell 124.36 18 P **PKPdf 04 20 04.7 +1.5**
baz=124
E26A Carlson Angus 124.38 12 P **PKPdf 04 20 03.4 +0.3**
baz=124
F23A Volborg 124.40 15 P **PKPdf 04 20 03.7 +0.5**
baz=124
F24A Ekalaka 124.52 14 P **PKPdf 04 20 03.7 +0.2**
baz=124
G22A Birney 124.64 16 P **PKPdf 04 20 04.3 +0.6**
baz=124
F25A Bowman 124.68 13 P **PKPdf 04 20 04.4 +0.7**
baz=124
H20A Greybull 124.83 17 P **PKPdf 04 20 04.8 +0.7**
baz=125
SNOW Snow King Moun 124.86 20 *e*PKPdf **PKPdf 04 20 05.2 +0.7**
G23A Biddle 124.89 15 P **PKPdf 04 20 04.5 +0.3**
baz=125
REDW Red Top Meadow 124.92 20 *e*PKPdf **PKPdf 04 20 04.5 0.0**
REDW *e*PP **PP 04 21 48.7 -3.2**
F26A Lodgepole 124.92 13 P **PKPdf 04 20 04.5 +0.4**
baz=125
I19A Meeteetse 124.93 18 P **PKPdf 04 20 04.4 -0.1**
baz=125
H21A Big Horn, Sher 124.98 17 P **PKPdf 04 20 05.0 +0.6**
baz=125
E30A Jud 125.00 9 P **PKPdf 04 20 04.5 +0.2**
baz=125
G24A Alzada 125.02 14 P **PKPdf 04 20 04.3 -0.1**
baz=125
F27A Lemmon 125.04 12 P **PKPdf 04 20 04.7 +0.3**
baz=125
I20A Worland 125.28 18 P **PKPdf 04 20 05.3 +0.3**
baz=125
G26A Maurine 125.47 13 P **PKPdf 04 20 05.2 -0.1**
baz=125
H24A Dirks Ranch, A 125.53 15 P **PKPdf 04 20 05.1 -0.3**

	baz=125						
G27A	**Dupree**	125.53	12	P	PKPdf	04 20 05.5	+0.1
	baz=125						
J19A	**Crowheart**	125.61	19	P	PKPdf	04 20 05.9	+0.1
	baz=125						
I21A	**Big Trails, Te**	125.65	17	P	PKPdf	04 20 05.7	0.0
	baz=125						
J20A	**Shoshoni**	125.83	18	P	PKPdf	04 20 06.2	+0.1
	baz=126						
PDAR	**Pinedale Array**	125.89	20	PKP	PKPdf	04 20 06.4	0.0
	comp=Z,3.0nm,0.8s,baz=44,slow=2.6,SNR=24						
PDAR				PP	PP	04 21 56.2	-2.1
	comp=Z,1.4nm,0.9s,baz=4.8,slow=3.6,SNR=5.5						
NVAR	**Mina Array Bea**	125.94	29	PKP	PKPdf	04 20 07.6	+1.0
	comp=Z,5.1nm,0.8s,baz=300,slow=1.6,SNR=27						
G28A	**Parade**	126.03	11	P	PKPdf	04 20 06.4	+0.1
	baz=126						
J21A	**Lysite**	126.03	18	P	PKPdf	04 20 06.7	+0.1
	baz=126						
H26A	**Fairpoint**	126.07	13	P	PKPdf	04 20 06.7	+0.3
	baz=126						
G29A	**Hoven**	126.10	11	P	PKPdf	04 20 06.3	-0.1
	baz=126						
HWUT	**Hardware Ranch**	126.20	22	*e*PKPdf	PKPdf	04 20 06.9	0.0
J22A	**Midwest**	126.25	17	P	PKPdf	04 20 06.6	-0.4
	baz=126						
G30A	**Faulkton**	126.30	10	P	PKPdf	04 20 06.8	+0.1
	baz=126						
I25A	**Rochford**	126.41	14	P	PKPdf	04 20 07.1	-0.2
	baz=126						
I27A	**Quinn**	126.75	13	P	PKPdf	04 20 08.1	+0.4
	baz=126						
DUG	**Dugway, Tooele**	126.94	24	P	PKPdf	04 20 09.1	+0.8
	baz=127						
K22A	**Casper**	126.94	17	P	PKPdf	04 20 08.3	0.0
	baz=127						
I28A	**Midland**	127.01	12	P	PKPdf	04 20 08.6	+0.4
	baz=127						
K23A	**Bowen Ranch, D**	127.10	16	P	PKPdf	04 20 08.7	+0.1
	baz=127						
I29A	**Vivian Onida**	127.16	11	P	PKPdf	04 20 08.9	+0.4
	baz=127						
J26A	**Sides Ranch, S**	127.24	14	P	PKPdf	04 20 08.8	+0.1
	baz=127						
R11A	**Troy Canyon, C**	127.29	27	P	PKPdf	04 20 10.0	+0.9
	baz=127						
J28A	**Allard Ranch,**	127.54	12	P	PKPdf	04 20 09.5	+0.3
	baz=127						
K26A	**Motz Farm, Whi**	127.79	14	P	PKPdf	04 20 10.0	+0.2
	baz=128						
J30A	**Dallas**	127.98	11	P	PKPdf	04 20 10.2	+0.2
	baz=128						
ECSD	**EROS Data Cent**	128.05	8	P	PKPdf	04 20 10.2	0.0
	baz=128						
L25A	**Engebretsen Ra**	128.10	15	P	PKPdf	04 20 11.1	+0.6
	baz=128						
FURC	**Furnace Creek,**	128.19	30	P	PKPdf	04 20 12.3	+1.7
	baz=128						
MPMC	**Manual Prospec**	128.20	31	P	PKPdf	04 20 12.2	+1.3
	baz=128						
LRMC	**Laurel Mtn Rad**	128.55	31	P	PKPdf	04 20 13.0	+1.5
	baz=128						
K30A	**Basset**	128.59	11	P	PKPdf	04 20 11.8	+0.5
	baz=128						
MSU	**Marysvale**	128.63	24	*e*PKPdf	PKPdf	04 20 12.7	+1.0
O20A	**White River Ci**	128.68	20	P	PKPdf	04 20 12.1	+0.4
	baz=128						
N23A	**Red Feather La**	128.72	18	P	PKPdf	04 20 12.6	+0.7
	baz=128						
O23A	**Lake Granby, G**	129.36	18	P	PKPdf	04 20 13.4	+0.3
	baz=129						
P23A	**Jefferson**	130.15	18	P	PKPdf	04 20 15.3	+0.6
	baz=130						
O27A	**Beecher Island**	130.33	15	P	PKPdf	04 20 15.2	+0.5
	baz=130						
P26A	**Davis Ranch, A**	130.70	16	P	PKPdf	04 20 15.9	+0.4
	baz=130						
Q26A	**Hugo**	131.25	16	P	PKPdf	04 20 16.8	+0.3
	baz=131						
PDMCI	**Parker Dam,Lak**	131.26	29	P	PKPdf	04 20 17.5	+1.0
	baz=131						
O33A	**Hebron**	131.48	10	P	PKPdf	04 20 16.2	-0.6
O34A	**Beatrice**	131.52	9	P	PKPdf	04 20 16.3	-0.6
	baz=131						
P31A	**Stockton**	131.68	12	P	PKPdf	04 20 17.3	+0.1
	baz=131						
SDCO	**Great Sand Dun**	131.75	19	P	PKPdf	04 20 18.4	+0.7
	baz=132						
O36A	**Bolckow**	131.81	7	P	PKPdf	04 20 16.7	-0.7
	baz=132						
R28A	**Tribune**	132.25	15	P	PKPdf	04 20 17.7	-0.7
	baz=132						
P35A	**Duane Minner,**	132.26	8	P	PKPdf	04 20 18.0	-0.3
	baz=132						
T25A	**Trinidad**	132.64	18	P	PKPdf	04 20 19.4	0.0
	baz=132						
Q34A	**Chapman**	132.71	10	P	PKPdf	04 20 19.2	+0.1
	baz=132						
T26A	**Comanche Natio**	132.85	17	P	PKPdf	04 20 19.6	-0.2
	baz=133						
S28A	**Manter**	132.93	15	P	PKPdf	04 20 20.0	+0.3
	baz=133						
R33A	**Olander Ranch,**	133.12	11	P	PKPdf	04 20 20.4	+0.5
	baz=133						
T27A	**Campo**	133.21	16	P	PKPdf	04 20 19.0	-1.3
	baz=133						
ANMO	**Albuquerque**	133.96	21	⇓*i*PKIKP	PKPdf	04 20 22.9	+1.0
ANMO				pmax	pmax		
	comp=Z,15nm,0.8s						
Y31A	**Rekieta Farm,**	136.79	15	P	PKPdf	04 20 28.7	+1.7
	baz=137						
KMSC	**Kings Mountain**	136.79	352	P	PKPdf	04 20 27.9	+1.1
	baz=137						
Z28A	**Tucker Farm, M**	136.82	18	P	PKPdf	04 20 27.8	+0.7
	baz=137						
X36A	**Centrahoma**	137.05	10	P	PKPdf	04 20 29.1	+1.7
	baz=137						
Z29A	**Hungry Hill Ra**	137.05	17	P	PKPdf	04 20 27.8	+0.2
	baz=137						
Y33A	**Hilltop Ranch,**	137.14	13	P	PKPdf	04 20 28.1	+0.5
	baz=137						
X38A	**Whitesboro**	137.20	8	P	PKPdf	04 20 27.8	+0.1
	baz=137						
Z32A	**Haskell**	137.61	14	P	PKPdf	04 20 28.7	+0.2
	baz=137						
Y36A	**Durant**	137.72	10	P	PKPdf	04 20 29.7	+1.1
	baz=138						
131A	**Roby**	137.97	16	P	PKPdf	04 20 29.4	+0.2
	baz=138						
331A	**San Angelo**	139.25	17	P	PKPdf	04 20 31.6	0.0
	baz=139						
429A	**Davenport Ranc**	139.45	19	P	PKPdf	04 20 31.8	-0.2
	baz=139						
430A	**Baggett Ranch,**	139.50	18	P	PKPdf	04 20 31.4	-0.7
	baz=139						
333A	**Richland Sprin**	139.62	15	P	PKPdf	04 20 31.8	-0.4
	baz=139						
431A	**Sonora**	139.79	17	P	PKPdf	04 20 33.0	+0.5
	baz=140						
529A	**Stev Forest Ra**	139.81	19	P	PKPdf	04 20 32.9	+0.2
	baz=140						
432A	**Menard**	139.84	16	P	PKPdf	04 20 33.0	+0.4
	baz=140						
TXAR	**Lajitas Array**	140.03	22	PKhKP	PKPpre	04 20 26.2	
	comp=Z,0.8nm,0.8s,baz=184,slow=0.6,SNR=6.8						
TXAR				PKP	PKPdf	04 20 33.0	-0.1
	comp=Z,1.2nm,0.5s,baz=172,slow=1.2,SNR=14						
TXAR				PP	PP	04 23 25.2	-3.5
	comp=Z,0.8nm,0.9s,baz=27,slow=3.1,SNR=5.3						
TXAR	**Lajitas Array**	140.03	22	PKHKP	PKPpre	04 20 26.2	
TXAR						04 20 33.0	
TXAR						04 23 25.2	
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
335A	**Moody**	140.03	13	P	PKPdf	04 20 32.7	-0.2
	baz=140						
336A	**Riesel**	140.05	12	P	PKPdf	04 20 33.4	+0.5
	baz=140						
530A	**J-C Ranch, Com**	140.07	18	P	PKPdf	04 20 32.9	-0.2
	baz=140						
NATX	**Nacogdoches**	140.08	9	P	PKPdf	04 20 32.3	-0.7
	baz=140						
JCT	**Junction City**	140.21	16	P	PKPdf	04 20 33.6	+0.3
	baz=140						
JCT	**Junction City**	140.21	16	*e*PKPdf	PKPdf	04 20 33.7	+0.4
434A	**Burnet**	140.28	14	P	PKPdf	04 20 32.1	-1.4
	baz=140						
531A	**Rocksprings**	140.29	17	P	PKPdf	04 20 33.7	+0.2
	baz=140						
LPAZ	**La Paz**	158.96	245	PKP	PKPdf	04 21 04.0	+0.5
	comp=Z,1.4nm,0.9s,baz=26,slow=4.9,SNR=5.1						
LPAZ				PKPab	PKPab	04 21 41.0	+1.1
	comp=Z,1.0nm,0.6s,baz=212,slow=7.2,SNR=6.0						
LPAZ	**La Paz**	158.96	245	PKIKP	PKPdf	04 21 04.1	+0.5
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC ***13*** *04:09:48.3±0.9, 6.63S×153.47E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.9/32, mbtmpb3.9/10, Error ellipse: s-maj=33.1km s-min=18.4km az=96.0*

ISCJB ***13*** *04:09:51.2±0.8, 6.7S±0.1×153.6E±0.2, h29km, mb4.1/17, Error ellipse: s-maj=26.1km s-min=12.4km az=21.2*

NEIC ***13*** *04:09:54.1±0.6, 6.65S×153.45E, h35km, mb4.6/7, Error ellipse: s-maj=19.6km s-min=10.7km az=111.0*

ISC 13 04:09:52.4±0.9, 6.7S±0.1×153.6E±0.2, h29km, n24, σ1§10/25, mb4.1/17, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	22.84	233	*e*P		P	04 14 54.6	+1.1
	8.0nm,1.0s							
WRA	**Warramunga Arr**	22.85	233	P		P	04 14 52.8	-0.8
	1.5nm,0.6s,baz=56,slow=9.6,SNR=4.9							
AS31	**Alice Springs**	25.34	226	*e*P		P	04 15 17.6	+0.5
ASAR	**Alice Springs**	25.34	226	P		P	04 15 17.9	+0.8
	2.4nm,0.7s,baz=61,slow=8.9,SNR=13							
STKA	**Stephens Creek**	27.45	203	P		P	04 15 35.9	-0.1
	0.9nm,0.8s,baz=32,slow=19,SNR=2.8							
SOEI	**Soe**	29.16	262	*e*P		P	04 15 51.5	-0.1
KSRS	**Korea Array**	50.02	333	P		P	04 18 42.0	-2.3
	0.6nm,0.5s,baz=162,slow=9.3,SNR=7.1							
KSAR	**Wonju Array Be**	50.03	333	P		P	04 18 42.0	-2.3
CMAR	**Chiang Mai Arr**	59.38	296	P		P	04 19 51.7	-0.9
	1.0nm,0.3s,baz=93,slow=3.6,SNR=3.6							
SONM	**Songino Array**	68.32	328	P		P	04 20 52.3	+1.2
	0.7nm,0.9s,baz=129,slow=4.8,SNR=5.6							
VNDA	**Vanda**	70.93	178	P		P	04 21 05.8	-0.7
	0.6nm,0.8s,baz=0.0,slow=6.1,SNR=2.0							
MKAR	**Makanchi Array**	82.25	319	P		P	04 22 10.9	-0.2
	0.5nm,0.8s,baz=94,slow=7.2,SNR=4.3							
MCK	**McKinley**	82.30	22	*e*P		P	04 22 12.3	+1.3
	10nm,1.2s							
ZALV	**Zalesovo Beam**	83.14	326	P		P	04 22 15.5	0.0
	0.4nm,0.3s,baz=98,slow=7.4,SNR=2.6							
ILAR	**Eielson Array**	83.61	22	P		P	04 22 18.2	+0.4
	1.1nm,0.8s,baz=254,slow=5.2,SNR=12							
KURK	**Kurchatov**	85.72	322	*e*P		P	04 22 28.7	+0.1
	2.2nm,0.9s							
TKM2	**Tokmak 2**	85.78	314	*e*P		P	04 22 30.8	+1.3
	3.4nm,0.7s							
AAK	**Ala-Archa**	86.51	313	*e*P		P	04 22 33.8	+0.7
	6.9nm,1.0s							
EKS2	**Erkin-Say**	87.04	313	*e*P		P	04 22 36.5	+0.9
	4.2nm,0.8s							
KKAR	**Karatay Array**	89.48	313	*e*P		P	04 22 48.1	+1.1
	2.4nm,0.7s							
TAM	**Tamanrasset**	145.32	301	*e*PKPdf	PKPdf		04 29 29.3	+0.7
BDFB	**Brasilia**	149.19	136	PKPbc	PKPab		04 29 42.0	-1.6
	2.3nm,0.8s,baz=214,slow=2.7,SNR=3.4							
TOA0	**Torodi Ar. Sit**	151.58	285	*e*PKPbc	PKPbc		04 29 45.7	+0.7
TORD	**Torodi Ar. Bea**	151.58	285	PKPbc	PKPbc		04 29 45.6	+0.7
	2.9nm,0.7s,baz=78,slow=1.8,SNR=22							
TORD				PKPab	PKPab		04 29 54.1	+0.5
	1.3nm,0.7s,baz=83,slow=1.6,SNR=5.7							

IDC ***13*** *04:15:09.5±1.0, 7.48N×91.84E, h0km, mb3.9/9, mb1 4.1/12, mb1mx3.8/29, mbtmpb3.9/12, ML4.0/3, MS3.9/1, Ms1 3.9/1, ms1mx3.5/39, Error ellipse: s-maj=32.7km s-min=18.7km az=49.0*

ISCJB ***13*** *04:15:11.2±0.5, 7.36N±0.07×91.91E±0.07, h24km, mb4.1/14, Error ellipse: s-maj=13.4km s-min=6.6km az=44.8*

NEIC ***13*** *04:15:14.6±0.5, 7.43N×91.90E, h35km, mb4.5/5, Error ellipse: s-maj=11.1km s-min=8.4km az=47.0*

ISC 13 04:15:13.3±0.7, 7.40N±0.10×91.88E±0.09, h24km, n35, σ1§41/28, mb4.3/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	8.37	123	Pn		Pn	04 17 15.1	+1.7
	0.6nm,0.3s,baz=339,slow=11,SNR=6.6							
PSI				Sn		Sn	04 18 47.3	-0.1
	1.5nm,0.3s,baz=271,slow=16,SNR=4.3							
PSI				LR		LR	04 20 27.9	
	comp=Z,741nm,19.9s,baz=76,slow=37							
KULM	**Kulim**	8.97	103	*e*Pn		Pn	04 17 14.7	-6.8
PALK	**Pallekele**	11.09	270	Pn		Pn	04 17 51.1	+0.6
	2.5nm,0.3s,baz=86,slow=17,SNR=2.8							
PALK				Sn		Sn	04 19 41.1	-13
	3.3nm,0.3s,baz=166,slow=19,SNR=5.2							
CMAR	**Chiang Mai Arr**	12.96	31	Pn		Pn	04 18 15.6	-0.6
	0.3nm,0.3s,baz=229,slow=15,SNR=13							
CHTO	**Chiang Mai**	13.26	31	*e*Pn		Pn	04 18 19.3	-1.0
ODAN	**Odare**	19.82	348	*e*P		Pn	04 19 48.1	+3.9
RAMN	**Ramite**	20.08	346	*e*P		Pn	04 19 51.9	+4.5
TAPN	**Taplejung**	20.23	349	*e*P		Pn	04 19 48.7	-0.6
	57nm,0.9s							
JIRN	**Jiri**	20.86	346	*e*P		Pn	04 19 55.7	-1.0
PKI	**Pulchoki**	20.98	344	*e*P		Pn	04 19 58.0	0.0
	38nm,0.8s							
DMN	**Daman**	21.10	343	*e*P		P	04 19 59.8	+3.3
GUN	**Gumba**	21.18	345	*e*P		P	04 19 57.7	+0.3
	98nm,1.1s							
KKN	**Kakani**	21.22	344	*e*P		P	04 19 59.3	+1.5
GKN	**Gorkha**	21.61	342	*e*P		P	04 20 02.5	+0.6
	46nm,0.8s							
KOLN	**Koldanda**	21.72	340	*e*P		P	04 20 03.5	+0.3
	43nm,0.7s							
LSA	**Lhasa**	22.19	358	*e*P		P	04 20 10.5	+2.0
	18nm,0.8s							
H08S3	**Diego Garcia H**	24.43	233	T		T	04 46 48.8	
	baz=52,slow=76,SNR=6.1							
H08S2	**Diego Garcia H**	24.43	233	T		T	04 47 06.2	
	baz=52,slow=76,SNR=7.6							
H08S1	**Diego Garcia H**	24.45	233	T		T	04 47 02.2	
	baz=52,slow=76,SNR=5.3							
MK31	**Makanchi Array**	40.10	350	*e*P		P	04 22 47.2	+0.1
MKAR	**Makanchi Array**	40.10	350	P		P	04 22 46.9	-0.2
	1.9nm,0.7s,baz=174,slow=8.2,SNR=11							
SONM	**Songino Array**	42.15	15	P		P	04 23 03.4	-0.6
	2.4nm,0.6s,baz=195,slow=8.7,SNR=15							
KURK	**Kurchatov**	44.56	348	*e*P		P	04 23 23.4	+0.1
	12nm,1.1s							
ZALV	**Zalesovo Beam**	46.76	354	P		P	04 23 38.9	-1.7
	2.3nm,0.8s,baz=181,slow=7.0,SNR=9.2							
BRVK	**Borovoye**	48.80	343	*e*P		P	04 23 56.6	+0.2
	3.8nm,0.9s							
ABKAR	**Akbulak array**	49.60	333	*e*P		P	04 24 02.2	-0.4
WRA	**Warramunga Arr**	49.84	124	P		P	04 24 04.3	-0.6
	0.7nm,0.7s,baz=307,slow=8.3,SNR=2.8							
WRAB	**Tennant Creek**	49.84	124	*e*P		P	04 24 04.3	-0.7
	3.3nm,0.8s							
ASAR	**Alice Springs**	51.36	128	P		P	04 24 17.2	+0.8
	0.2nm,0.5s,baz=301,slow=8.1,SNR=7.3							
BRTR	**Keskin Array B**	61.05	311	P		P	04 25 24.1	-1.4
	0.2nm,0.4s,baz=138,slow=7.0,SNR=2.7							
TIXI	**Tiksi**	68.14	12	*e*P		P	04 26 10.4	-0.7
	3.1nm,0.6s							
FINES	**FINESS Array B**	72.09	333	P		P	04 26 34.7	-0.7
	1.8nm,0.7s,baz=101,slow=9.9,SNR=4.0							
ARCES	**ARCESS Array B**	74.95	341	P		P	04 26 51.8	-0.4
	1.8nm,0.9s,baz=120,slow=5.3,SNR=3.3							
GERES	**GERESS Array B**	76.69	318	P		P	04 27 02.4	-0.3
	0.4nm,0.7s,baz=74,slow=6.0,SNR=4.3							
TXAR	**Lajitas Array**	140.53	22	PKP		PKPdf	04 34 39.5	-2.1
	0.3nm,0.9s,baz=116,slow=2.9,SNR=3.5							

MEX 13 04:15:54.5±0.7, 15.96N×96.92W, h15km±8km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	0.81	103	*e*P		Pg	04 16 07.5	-2.7
HUIG				*i* S		Sg	04 16 17.5	-3.3
VHO	**Vista Hermosa**	1.12	9	*e*P		Pb	04 16 12.1	-3.8
VHO				*i* S		Sb	04 16 25.7	-4.8
PNIG	**Pinotepa**	1.24	291	*e*P		Pn	04 16 13.1	-4.2
PNIG				*i* S		Sb	04 16 28.9	-4.6
TLIG	**Tlapa**	2.24	316	*e*P		Pn	04 16 27.3	-4.0
TLIG				*e*S		Sn	04 16 54.4	-4.5
CMIG	**Matias Romero**	2.25	60	*e*P		Pn	04 16 27.6	-3.7
CMIG				*i* S		Sn	04 16 55.0	-3.9

MEX 13 04:24:19.0±1.0, 17.41N×95.86W, h114km±9km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	0.90	248	*e*P		Pn	04 24 39.0	-0.7
VHO				*e*S		Sn	04 24 53.8	-1.6
CMIG	**Matias Romero**	0.99	108	*i* P		Pn	04 24 39.5	-0.9
CMIG				*i* S		Sn	04 24 54.0	-2.6
HUIG	**Huatulco**	1.65	188	*e*P		Pn	04 24 46.0	-1.9
HUIG				*i* S		Sn	04 25 08.2	-1.5
LVIG	**Laguna Verde**	2.36	347	*i* P		Pn	04 24 55.2	-1.7
LVIG				*i* S		Sn	04 25 24.0	-1.9
PNIG	**Pinotepa**	2.39	245	*i* P		Pn	04 24 55.3	-1.9
PNIG				*i* S		Sn	04 25 24.3	-2.2
TLIG	**Tlapa**	2.58	274	*e*P		Pn	04 24 59.2	-0.6
TLIG				*i* S		Sn	04 25 28.8	-2.4
TGIG		2.69	103	*i* P		Pn	04 25 00.8	-0.5
TGIG				*i* S		Sn	04 25 31.3	-2.4
CCIG	**Comitan**	3.74	107	*i* P		Pn	04 25 13.2	-2.0
CCIG				*i* S		Sn	04 25 56.7	-2.0

IDC 13 04:49:03.2±8.8, 18.07N×108.29W, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.5/17, mbtmpb3.2/4, ML3.2/1, Error ellipse: s-maj=152.2km s-min=80.2km az=149.0, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	11.98	20	Pn		Pn	04 51 57.5	+2.0
	0.0nm,0.3s,baz=202,slow=13,SNR=4.8							
NVAR	**Mina Array Bea**	22.09	339	P		P	04 53 59.8	-0.6
	0.2nm,0.3s,baz=169,slow=11,SNR=3.5							
YKA	**Yellowknife Ar**	44.59	356	P		P	04 57 15.7	-1.2
	0.6nm,0.5s,baz=163,slow=6.6,SNR=2.8							
ILAR	**Eielson Array**	53.33	341	P		P	04 58 24.7	+0.8
	0.4nm,0.7s,baz=138,slow=6.8,SNR=4.6							

ISCJB ***13*** *04:53:54.7±0.7, 56.2N±0.2×34.1W±0.2, h10km, mb3.8/15, MS3.9/1, Error ellipse: s-maj=23.6km s-min=11.9km az=18.9*

IDC ***13*** *04:53:54.6±1.0, 56.72N×33.85W, h0km, mb3.6/10, mb1 3.8/10, mb1mx3.6/28, mbtmpb3.6/10, MS4.0/1, Ms1 4.0/1, ms1mx3.2/40, Error ellipse: s-maj=29.9km s-min=19.3km az=11.0*

ISC 13 04:53:56.4±0.9, 56.8N±0.2×33.9W±0.1, h10km, n19, σ1§43/18, mb3.9/15, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TCF	**Toulx Ste Croi**	24.52	100	*e*P		P	04 59 18.1	+2.4
	35nm,1.4s							
BGF	**Bois d'Agland**	24.69	99	*e*P		P	04 59 19.6	+2.3
SSF	**Saint Saulge**	24.75	97	*e*P		P	04 59 18.8	+1.0
LOR	**Lormes**	24.82	96	*e*P		P	04 59 20.6	+2.2
	7.4nm,1.0s							
AVF	**Avril sur Loir**	24.83	98	*e*P		P	04 59 18.2	-0.3
	15nm,1.2s							
SMF	**Signal de Mont**	25.18	98	*e*P		P	04 59 23.4	+1.7
	5.6nm,0.7s							
ESDC	**Sonseca Array**	25.98	118	P		P	04 59 27.2	-1.9
	0.3nm,0.7s,baz=308,slow=14,SNR=3.2							
CABF	**La Chapelle**	26.43	95	*e*P		P	04 59 32.6	-0.5
	42nm,1.6s							
SPITS	**Spitsbergen Ar**	27.18	20	LR		LR	05 07 18.9	
	comp=Z,279nm,18.7s,baz=130,slow=30							
ARCES	**ARCESS Array B**	28.34	40	P		P	04 59 49.5	-0.5
	4.3nm,1.0s,baz=281,slow=9.1,SNR=5.3							
AKASG	**Malin Array Be**	36.63	72	P		P	05 01 00.3	-2.2
	0.8nm,0.5s,baz=300,slow=8.3,SNR=5.9							
BRTR	**Keskin Array B**	46.09	82	P		P	05 02 21.4	+0.9
	0.3nm,0.6s,baz=332,slow=8.5,SNR=2.3							
ILAR	**Eielson Array**	48.52	328	P		P	05 02 39.4	+0.5
	0.7nm,0.9s,baz=35,slow=7.1,SNR=8.5							
TORD	**Torodi Ar. Bea**	51.35	133	P		P	05 03 00.8	-0.1
	0.9nm,0.9s,baz=346,slow=8.4,SNR=4.8							
TXAR	**Lajitas Array**	55.02	271	P		P	05 03 27.4	-0.6
	0.3nm,0.7s,baz=61,slow=6.3,SNR=4.7							
NVAR	**Mina Array Bea**	56.01	289	P		P	05 03 35.5	+0.4
	0.1nm,0.4s,baz=59,slow=11,SNR=2.5							
KURBB	**Kurchatov Arra**	59.34	43	P		P	05 03 58.4	+0.3
	0.9nm,0.6s,baz=325,slow=7.1,SNR=5.3							
MKAR	**Makanchi Array**	63.91	43	P		P	05 04 29.8	+0.7
	0.5nm,0.6s,baz=323,slow=6.3,SNR=6.5							
ASAR	**Alice Springs**	145.74	20	PKPbc		PKPdf	05 13 34.4	-0.5
	0.3nm,0.8s,baz=345,slow=3.0,SNR=3.3							

IDC 13 05:00:31.4±3.4, 49.54N×28.68W, h0km, mb3.4/3, mb1 3.4/3, mb1mx3.1/31, mbtmpb3.4/3, Error ellipse: s-maj=112.0km s-min=44.3km az=82.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	44.03	135	P		P	05 08 40.6	-0.1
	0.3nm,0.9s,baz=343,slow=6.9,SNR=3.1							
KURBB	**Kurchatov Arra**	62.48	43	P		P	05 10 56.3	+0.2
	0.3nm,0.5s,baz=318,slow=6.8,SNR=3.6							
MKAR	**Makanchi Array**	66.98	44	P		P	05 11 25.5	-0.1
	0.5nm,0.7s,baz=336,

AVF	**Avril sur Loir**	**21.36**	**85**	*e*P		**P**	**05 09 07.3**	**+0.5**
	14nm,1.0s								
SSF	**Saint Saulge**	**21.38**	**84**	*e*P		**P**	**05 09 06.6**	**-0.4**
SMF	**Signal de Mont**	**21.73**	**85**	*e*P		**P**	**05 09 11.3**	**+0.6**
	15nm,1.4s								
MEZF	**Maizieres J'vi**	**21.96**	**80**	*e*P		**P**	**05 09 13.7**	**+0.5**
	30nm,1.2s								
FRF	**La Foret Royal**	**24.75**	**90**	*e*P		**P**	**05 09 40.4**	**-0.6**
	15nm,1.1s								
GERES	**GERESS Array B**	**27.38**	**75**	P		**P**	**05 10 06.7**	**+1.9**
	0.7nm,0.9s,baz=301,slow=7.9,SNR=4.7								
AKASG	**Malin Array Be**	**36.28**	**65**	P		**P**	**05 11 20.9**	**-1.8**
	0.1nm,0.3s,baz=297,slow=8.6,SNR=3.0								
TORD	**Torodi Ar. Bea**	**43.88**	**135**	P		**P**	**05 12 26.1**	**0.0**
	0.6nm,0.8s,baz=333,slow=8.8,SNR=3.5								
PDAR	**Pinedale Array**	**54.03**	**296**	P		**P**	**05 13 43.1**	**-0.9**
	0.8nm,0.8s,baz=64,slow=10,SNR=7.3								
ILAR	**Eielson Array**	**56.54**	**333**	P		**P**	**05 14 01.9**	**+0.5**
	0.2nm,0.9s,baz=47,slow=5.9,SNR=4.9								
TXAR	**Lajitas Array**	**58.98**	**280**	P		**P**	**05 14 19.2**	**0.0**
	0.1nm,0.5s,baz=62,slow=9.5,SNR=3.4								
MKAR	**Makanchi Array**	**66.99**	**44**	P		**P**	**05 15 12.1**	**0.0**
	1.2nm,0.7s,baz=328,slow=5.7,SNR=12								
SONM	**Songino Array**	**75.58**	**30**	P		**P**	**05 16 04.3**	**+0.2**
	0.7nm,0.8s,baz=316,slow=4.1,SNR=3.8								
WRA	**Warramunga Arr**	**147.54**	**31**	PKPbc		**PKPbc**	**05 24 03.1**	**-0.6**
	0.8nm,0.8s,baz=325,slow=4.1,SNR=3.3								
ASAR	**Alice Springs**	**150.82**	**35**	PKPbc		**PKPbc**	**05 24 11.4**	**-0.5**
	1.8nm,0.7s,baz=339,slow=1.8,SNR=18								
VNDA	**Vanda**	**151.52**	**185**	PKPab		**PKPab**	**05 24 22.4**	**+1.8**
	1.0nm,0.8s,baz=251,slow=3.7,SNR=5.0								

IDC 13 05:26:00.6±3.1, 54°.15N×87°.29E, h0km, mb1 2.6/1, mb1mx2.6/27, mbtmp2.6/1, ML2.6/1, Error ellipse: s-maj=27.3km s-min=16.6km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**263**	*i*			05 35 20.8	
	baz=79,slow=321,SNR=1.2							
ZALV	**Zalesovo Beam**	**1.47**	**263**	Pg		Pn	05 26 26.6	-1.9
	3.7nm,0.3s,baz=82,slow=16,SNR=20							
ZALV				Pn		Pb	05 26 28.9	+0.1
	1.7nm,0.3s,baz=83,slow=14,SNR=5.8							
ZALV				Lg		Lg	05 26 47.1	
	1.7nm,0.3s,baz=79,slow=23,SNR=5.4							
ZALV				Sn		Sn	05 26 51.2	+2.8
	2.6nm,0.3s,baz=84,slow=23,SNR=6.6							
MKAR	**Makanchi Array**	**8.03**	**205**	Pn		Pn	05 27 59.9	+1.4
	0.1nm,0.3s,baz=27,slow=14,SNR=6.9							
MKAR				Lg		Lg	05 30 13.9	
	0.0nm,0.3s,baz=24,slow=39,SNR=2.6							

PDA 13 05:27:14.8±0.5, 37°.56N×25°.22W, h7km±4km, MD3.8, ML2.7, Error ellipse: s-maj=4.1km s-min=1.5km az=58.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BART	**Pico Bartolome**	**0.22**	**11**	*i* P		Pg	05 27 18.7	-0.6
BART				*e*S		Sg	05 27 22.3	-0.1
BART				A		A	05 27 25.1	
	1µm,0.3s							
GRON	**Grota Negra**	**0.32**	**310**	*e*P		Pg	05 27 19.4	-1.8
GRON				*e*S		Sg	05 27 22.8	-2.7
GRON				A		A	05 27 25.9	
	98nm,0.2s							
PDA	**Ponta Delgada**	**0.40**	**298**	*e*P		Pg	05 27 21.6	-0.9
PDA				*e*S		Sg	05 27 26.7	-1.0
PDA				A		A	05 27 29.1	
	185nm,0.4s							
PSET	**Sete Cidades**	**0.47**	**304**	*e*P		Pg	05 27 23.0	-1.1
PSET				*e*S		Sg	05 27 29.0	-1.3
PSET				A		A	05 27 33.9	
	225nm,0.3s							
PSMA	**Santa Maria**	**0.57**	**172**	*e*P		Pg	05 27 24.3	-1.5
PSMA				*e*S		Sg	05 27 31.6	-1.7
PSMA				A		A	05 27 32.7	
	474nm,0.2s							
PSMN	**Pico do Norte,**	**0.57**	**167**	*i* P		Pg	05 27 24.2	-1.7
PSMN				*e*S		Sg	05 27 31.6	-1.7
PSMN				A		A	05 27 32.5	
	202nm,0.3s							

MOS ***13*** *05:44:10.9±1.1, 2°.37N×126°.77E, h34km, mb4.9/39, Error ellipse: s-maj=17.2km s-min=7.1km az=111.9*
BJI ***13*** *05:44:11.4, 2°.27N×126°.77E, h43km, mb4.8/35, mB4.8/25, Ms4.7/19, Ms7 4.1/18*
ISCJB ***13*** *05:44:11.0±0.2, 2°.49N±0°.03×126°.97E±0°.04, h33km, mb4.7/71, Error ellipse: s-maj=5.6km s-min=3.6km az=161.8*
NEIC ***13*** *05:44:12.9±0.2, 2°.50N×126°.99E, h35km, mb4.7/26, Error ellipse: s-maj=8.7km s-min=4.5km az=76.0*
DJA ***13*** *05:44:15.0±0.4, 2°.N±3°×12°.7E±°, h10km, M4.9/13, mb5.0/12, mB5.4/8, MLv4.9/13, Mw(mB)4.8/8, Mwp5.9/1*
IDC ***13*** *05:44:17.7±1.7, 2°.27N×126°.81E, h80km±15km, mb4.2/22, mb1 4.3/24, mb1mx4.3/27, mbtmp4.5/24, MS3.1/1, Ms1 3.1/1, ms1mx2.6/33, Error ellipse: s-maj=15.7km s-min=7.7km az=68.0*

ISC 13 05:44:14.0±0.4, 2°.41N±0°.03×126°.92E±0°.04, h43km±3km, n173, σ1§55/196, mb4.8/78, 10C-3D, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.69**	**165**	P		Pn	05 44 44.1	+3.1
TNTI				S		Sn	05 45 08.6	+7.2
TNTI	**Ternate**	**1.69**	**165**	*e*Pn		Pn	05 44 44.0	+3.1
SGSI	**Sangihe**	**1.88**	**312**	P		**Pn**	**05 44 45.5**	**+1.8**
SGSI				S		**Sn**	**05 45 08.8**	**+2.6**
KMSI	**Cibinong**	**3.46**	**238**	P		Pn	05 45 09.5	+4.2
KMSI				S		Sn	05 45 52.3	+7.2
GSPH	**General Santos**	**4.15**	**332**	*i*P		**Pn**	**05 45 16.2**	**+1.2**
SANI	**Sanana**	**4.53**	**192**	P		**Pn**	**05 45 21.4**	**+1.4**
MATI	**Mati**	**4.56**	**352**	*e*P		**Pn**	**05 45 23.3**	**+2.8**
MATI				*e*S		Sn	05 45 51.5	-21
MRSI	**Marisa**	**5.34**	**249**	P		Pn	05 45 35.8	+4.7
	448nm,0.8s,5µm1.4nm							
LUWI	**Luwuk**	**5.38**	**230**	Pn		**Pn**	**05 45 31.9**	**+0.2**
	213nm,0.7s							
LUWI				*e*Sn		Sn	05 46 41.1	+8.6
SWI	**Sorong**	**5.42**	**127**	P		Pn	05 45 37.0	+4.7
	64nm,1.0s,0.3nm							
SIJI	**Sorong**	**5.43**	**127**	P		Pn	05 45 36.8	+4.4
	9.6nm,0.3s,baz=283,slow=23,SNR=7.6							
SIJI				S		**Sn**	**05 46 36.9**	**+3.2**
	baz=120,slow=23,SNR=1.4							
SIJI				LR		LR	05 47 08.0	
	comp=Z,208nm,21.3s,baz=290,slow=31							
NLAI	**Namlea**	**5.61**	**178**	P		Pn	05 45 39.4	+4.4
	100nm,0.8s,3µm0.6nm							
BUKP	**Musuan**	**5.74**	**341**	*e*P		**Pn**	**05 45 39.4**	**+2.7**
APSI	**Ampana**	**6.22**	**238**	P		Pn	05 45 48.2	+4.9
	285nm,0.8s,3µm1.1nm							
CGP	**Cagayan de Oro**	**6.40**	**340**	‖*e*P		Pn	05 45 52.0	+6.2
PAGZ	**Pagadian**	**6.45**	**327**	*e*P		**Pn**	**05 45 47.4**	**+0.9**
MPSI	**Mapaga**	**7.32**	**254**	P		Pn	05 46 02.9	+4.6
	86nm,0.7s,4µm0.4nm							
FAKI	**Fak Fak**	**7.51**	**135**	*e*Pn		**Pn**	**05 46 01.6**	**+0.6**
FAKI				Sn		**Sn**	**05 47 26.4**	**+1.5**
KDI	**Kendari**	**7.65**	**214**	P		**Pn**	**05 46 04.5**	**+1.6**
	55nm,0.7s,875nm0.2nm							
PCI	**Palu**	**7.81**	**245**	P		Pn	05 46 09.5	+4.3
	77nm,0.9s,989nm48µm0.2nm							
RKPI	**Ransiki, Papua**	**8.23**	**118**	P		Pn	05 46 29.8	+19
TTSI	**Tana Toraja**	**8.93**	**233**	P		**Pn**	**05 46 22.8**	**+2.3**
	46nm,0.9s							
SPSI	**Sidrap Palu**	**9.55**	**228**	P		Pn	05 46 32.2	+3.2
	32nm,0.9s							
KAPI	**Kappang**	**10.28**	**224**	P		**Pn**	**05 46 41.4**	**+2.4**
	2.2nm,0.3s,baz=50,slow=4.2,SNR=12							
KAPI				S		**Sn**	**05 48 30.4**	**-2.6**
	0.7nm,0.3s,baz=173,slow=21,SNR=1.3							
KAPI	**Kappang**	**10.28**	**224**	*e*Pn		**Pn**	**05 46 41.0**	**+2.0**
KAPI						Sn	**05 48 33.5**	**+0.6**
BSSI	**Bau Bau, Buton**	**10.65**	**217**	P		Pn	05 46 47.9	+3.8
SBUM	**Sibu**	**14.69**	**270**	*e*Pn		**P**	**05 47 46.8**	**+2.3**
JAGI	**Jajag, Banyuwa**	**16.70**	**230**	*e*Pn		**P**	**05 48 06.9**	**0.0**
	47nm,1.0s							
TWG	**Pinlang**	**21.07**	**345**	*e*P		**P**	**05 48 51.9**	**-2.7**
	137nm,0.6s							
YULB	**Yu-li**	**21.56**	**346**	*e*P		**P**	**05 48 56.7**	**-3.2**
	29nm,0.7s							
TPUB	**Ta-pu**	**21.64**	**344**	*e*P		**P**	**05 48 59.2**	**-1.6**
	73nm,0.8s							
SSLB	**Suanglung**	**22.02**	**345**	*e*P		**P**	**05 49 02.5**	**-2.4**
	38nm,0.8s							
YOJ	**Yonaguni jima**	**22.25**	**351**	*e*P		**P**	**05 49 06.7**	**-0.6**
	23nm,1.0s							
YHNB	**Yeheng**	**22.77**	**347**	*e*P		**P**	**05 49 11.5**	**-1.4**
	18nm,0.7s							
WRAB	**Tennant Creek**	**23.37**	**162**	*ce*P		**P**	**05 49 18.0**	**-0.9**
WRAB					pmax	pmax		
	comp=Z,49nm,0.8s							
WRAB	**Tennant Creek**	**23.37**	**162**	*e*P		**P**	**05 49 18.1**	**-0.8**
	comp=Z,26nm,0.7s							
WRA	**Warramunga Arr**	**23.38**	**162**	P		**P**	**05 49 18.0**	**-1.0**
	comp=Z,12nm,0.4s,baz=344,slow=11,SNR=79							
WRA					PcP	**PcP**	**05 53 03.7**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=342,slow=2.2,SNR=5.1							
WRA					S	**S**	**05 53 24.7**	**-4.3**
	comp=Z,3.5nm,0.8s,baz=334,slow=21,SNR=6.0							
WRA	**Warramunga Arr**	**23.38**	**162**	P		**P**	**05 49 18.0**	**-1.0**
WRA							05 53 03.7	
WRA					S	**S**	**05 53 24.7**	**-4.3**
WRA					pmax	pmax		
	comp=Z,12nm,0.4s							
WRA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
WRA					smax	smax		
	comp=N,4.0nm,0.8s							
MBWA	**Marble Bar**	**24.46**	**196**	*e*P		**P**	**05 49 29.2**	**+0.3**
UBPT	**Khong Chiam**	**24.72**	**302**	P		**P**	**05 49 30.8**	**-0.6**
	comp=N,22nm,1.2s							
CHBT	**CHBT**	**26.42**	**294**	P		**P**	**05 49 47.9**	**+1.0**
	comp=N,21nm,0.9s							
SKNT	**Sakolnakorn**	**26.79**	**304**	P		**P**	**05 49 50.4**	**+0.2**
	comp=N,31nm,1.2s							
AS31	**Alice Springs**	**26.79**	**166**	*e*P		**P**	**05 49 49.5**	**-0.7**
ASAR	**Alice Springs**	**26.80**	**166**	P		**P**	**05 49 49.2**	**-1.0**
	comp=N,2.1nm,0.5s,baz=346,slow=7.0,SNR=46							
ASAR					PcP	**PcP**	**05 53 12.5**	**0.0**
	comp=N,1.9nm,0.6s,baz=351,slow=2.4,SNR=8.3							
ASAR					S	**S**	**05 54 18.5**	**-5.0**
	comp=N,0.6nm,0.7s,baz=324,slow=11,SNR=4.0							
ASAR	**Alice Springs**	**26.80**	**166**	P		**P**	**05 49 49.2**	**-1.0**
ASAR							05 53 12.5	
ASAR					S	**S**	**05 54 18.5**	**-5.0**
ASAR					pmax	pmax		
	comp=Z,2.0nm,0.5s							
ASAR					pmax	pmax		
	comp=Z,2.0nm,0.6s							
ASAR					smax	smax		
	comp=N,1.0nm,0.7s							
PSI	**Prapat**	**27.97**	**271**	P		**P**	**05 49 58.9**	**-2.1**
	comp=N,3.4nm,0.9s,baz=142,slow=14,SNR=2.9							
PSI	**Prapat**	**27.97**	**271**	P		**P**	**05 49 58.9**	**-2.1**
PSI					pmax	pmax		
	comp=Z,3.0nm,0.9s							
CHAI	**Chaiyaphum**	**27.98**	**300**	P		**P**	**05 49 59.6**	**-1.3**
	comp=Z,10nm,0.7s							
NONG	**Nongkai**	**28.03**	**305**	P		**P**	**05 50 03.3**	**+2.0**
	comp=Z,19nm,1.5s							
PBKT	**Sadao Pong**	**29.15**	**300**	P		**P**	**05 50 10.6**	**-0.6**
	comp=Z,11nm,0.9s							
LOEI	**Loei**	**29.32**	**302**	P		P	05 50 09.1	-3.7
	comp=Z,25nm,0.8s							
CTA	**Charters Tower**	**29.32**	**141**	P		**P**	**05 50 11.3**	**-1.5**
	comp=Z,1.6nm,0.4s,baz=326,slow=11,SNR=5.4							
CTA	**Charters Tower**	**29.32**	**141**	P		**P**	**05 50 11.3**	**-1.5**
CTA					pmax	pmax		
	comp=Z,3.0nm,0.6s							
UTHA	**Uthaitani**	**30.06**	**297**	P		**P**	**05 50 19.0**	**-0.4**
	comp=Z,6.9nm,0.8s							
NJ2	**Nanjing**	**30.45**	**346**	*e*P		**P**	**05 50 22.3**	**-0.3**
NJ2					PMZ			
	comp=Z,30nm,0.6s							
SUKH	**Sukhothai**	**30.70**	**301**	P		**P**	**05 50 24.6**	**-0.4**
	comp=Z,11nm,0.7s							
GYA	**Guiyang**	**30.82**	**323**	*e*P		**P**	**05 50 28.0**	**+1.9**
GYA					PMZ			
	comp=Z,10.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**31.72**	**302**	P		**P**	**05 50 33.4**	**-0.6**
	comp=Z,5.8nm,0.8s,baz=120,slow=7.2,SNR=27							
CMAR	**Chiang Mai Arr**	**31.72**	**302**	*ce*P		**P**	**05 50 33.7**	**-0.3**
CMAR					pmax	pmax		
	comp=Z,6.0nm,0.8s							
CMMT	**Chiang Mai**	**31.87**	**303**	P		**P**	**05 50 34.7**	**-0.7**
	comp=Z,35nm,0.8s							
CHTO	**Chiang Mai**	**31.88**	**303**	P		**P**	**05 50 34.8**	**-0.6**
	comp=Z,90nm,0.8s							
CHTO	**Chiang Mai**	**31.88**	**303**	*e*P		**P**	**05 50 34.5**	**-0.9**
	comp=Z,9.3nm,0.6s							
MHMT	**Maesariang**	**32.45**	**301**	P		**P**	**05 50 40.2**	**-0.2**
	comp=Z,14nm,0.9s							
FORT	**Forrest**	**33.02**	**178**	*e*P		**P**	**05 50 44.7**	**-0.5**
KSAR	**Wonju Array Be**	**34.88**	**1**	P		**P**	**05 51 02.7**	**+1.5**
KSRS	**Korea Array**	**34.89**	**1**	P		**P**	**05 51 02.7**	**+1.4**
	comp=Z,3.2nm,0.7s,baz=180,slow=10,SNR=22							
KSRS	**Korea Array**	**34.89**	**1**	P		**P**	**05 51 02.7**	**+1.4**
KSRS					pmax	pmax		
	comp=Z,4.0nm,0.7s							
MAJO	**Matsushiro**	**35.53**	**16**	*e*P		**P**	**05 51 06.3**	**-0.7**
	comp=Z,5.3nm,0.6s							
MAT	**Matsushiro**	**35.53**	**16**	P		**P**	**05 51 05.9**	**-1.0**
XAN	**Xi'an**	**35.68**	**334**	P		**P**	**05 51 07.0**	**-1.3**
XAN					PMZ			
	comp=Z,4.0nm,0.8s							
XAN					PMZ			
	comp=Z,18nm,7.4s							
CD2	**Chengdu**	**35.82**	**325**	*e*P		**P**	**05 51 10.1**	**+0.6**
CD2					pP	**pP**	**05 51 20.1**	**-1.2**
CD2					PP	**PP**	**05 52 32.1**	**+0.5**
CD2					PcP	**PcP**	**05 53 36.5**	**0.0**
CD2					S	**S**	**05 56 46.5**	**+2.2**
CD2					sS	**sS**	**05 57 03.8**	**-0.2**
CD2					PMZ			
	comp=Z,10.0nm,0.5s							
CD2					PMZ			
	comp=Z,120nm,5.2s							
BBOO	**Buckleboo**	**36.08**	**167**	*e*P		**P**	**05 51 11.2**	**-0.4**
	comp=Z,114nm,2.3s							
EIDS	**Eidsvold**	**36.20**	**141**	*e*P		**P**	**05 51 12.5**	**-0.3**
STKA	**Stephens Creek**	**36.84**	**159**	P		**P**	**05 51 18.1**	**0.0**
	comp=Z,16nm,0.6s,baz=336,slow=7.7,SNR=25							
STKA					PcP	**PcP**	**05 53 39.5**	**0.0**
	comp=Z,5.7nm,0.8s,baz=330,slow=6.4,SNR=3.5							
STKA	**Stephens Creek**	**36.84**	**159**	P		**P**	**05 51 18.1**	**0.0**
STKA							05 53 39.5	
STKA					pmax	pmax		
	comp=Z,16nm,0.6s							
STKA					pmax	pmax		
	comp=Z,6.0nm,0.8s							
STKA	**Stephens Creek**	**36.84**	**159**	*e*P		**P**	**05 51 18.1**	**0.0**
	comp=Z,3.8nm,0.7s							
STKA					PcP	**PcP**	**05 53 39.5**	**0.0**
BJT	**Baijiatuau**	**38.69**	**347**	*e*P		**P**	**05 51 33.6**	**0.0**
	comp=Z,15nm,0.4s							
BJI	**Beijing**	**38.71**	**347**	P		**P**	**05 51 34.1**	**+0.3**
BJI				S		**S**	**05 57 32.5**	**+4.7**
BJI					PMZ			
	comp=Z,64nm,0.7s							
BJI					LN			
	comp=Z,170nm,20.7s							
BJI					LE			
	comp=Z,71nm,13.4s							
BJI					LZ			
	comp=Z,88nm,27.8s							
LZH	**Lanzhou**	**39.73**	**330**	‖P		**P**	**05 51 43.1**	**+0.4**
LZH					pP	**pP**	**05 51 53.5**	**-1.1**
LZH					sP	**sP**	**05 51 57.3**	**-2.4**
LZH					PMZ			
	comp=Z,27nm,1.0s							
LZH					PMZ			
	comp=Z,60nm,4.0s							
LZH					LN			
	comp=Z,2µm,19.4s							
LZH					LE			
	comp=Z,1µm,19.5s							
LZH					LZ			
	comp=Z,270nm,20.4s							
ARMA	**Armidale**	**40.27**	**146**	*e*P		**P**	**05 51 48.1**	**+1.0**
HHC	**Hu-ho-hao-te**	**40.70**	**342**	*e*P		**P**	**05 51 50.1**	**-0.5**
HHC					PP	**PnPn**	**05 53 30.8**	**+1.5**
HHC					S	**S**	**05 58 01.3**	**+3.3**
HHC					sS	**sS**	**05 58 17.5**	**-0.4**
HHC					SS	**SS**	**06 00 58.3**	**-1.6**
HHC					PMZ			
	comp=Z,19nm,0.9s							
HHC					PMZ			
	comp=Z,140nm,5.4s							
HHC					LN			
	comp=Z,100nm,13.4s							
HHC					LE			
	comp=Z,280nm,13.0s							
HHC					LZ			
	comp=Z,110nm,13.4s							
USRK	**Ussuriysk Ar.**	**41.86**	**5**	P		**P**	**05 52 01.0**	**+1.2**
	comp=Z,4.5nm,0.9s,baz=193,slow=8.5,SNR=8.7							
MDJ	**Mudanjiang**	**42.10**	**3**	P		**P**	**05 52 03.1**	**+1.3**
MDJ					PMZ			
	comp=Z,10.0nm,0.8s							
LSA	**Lhasa**	**43.46**	**312**	*e*P		**P**	**05 52 13.4**	**-0.2**
	comp=Z,8.0nm,0.6s							
ASAJ	**Asahikawa**	**43.80**	**16**	P		**P**	**05 52 17.2**	**+1.7**
	comp=Z,5.7nm,0.7s,baz=180,slow=9.1							
ASAJ	**Asahikawa**	**43.80**	**16**	P		**P**	**05 52 17.2**	**+1.7**
ASAJ					pmax	pmax		
	comp=Z,6.0nm,0.7s							
ASAJ	**Asahikawa**	**43.80**	**16**	*e*P		**P**	**05 52 13.0**	**-2.6**
	comp=Z,2.9nm,0.8s							
GTA	**Gaotai**	**44.32**	**330**	*e*P		**P**	**05 52 20.0**	**0.0**
GTA					pP	**pP**	**05 52 30.8**	**-1.3**
GTA					sP	sP	05 52 34.1	-3.0
GTA					S	**S**	**05 58 52.3**	**+0.9**
GTA					sS	**sS**	**05 59 08.9**	**-2.5**
GTA					SS	SS	06 02 02.8	-8.4
GTA					PMZ			
	comp=Z,10.0nm,0.7s							
GTA					PMZ			
	comp=Z,79nm,5.3s							
GTA					LN			
	comp=Z,200nm,13.8s							
GTA					LE			
	comp=Z,360nm,12.4s							
GTA					LZ			
	comp=Z,350nm,12.4s							
TAPN	**Taplejung**	**44.95**	**307**	*e*P		**P**	**05 52 24.5**	**-1.0**
	comp=Z,4.5nm,1.2s							
ODAN	**Odare**	**44.99**	**306**	*e*P		**P**	**05 52 24.6**	**-1.1**
	comp=Z,31nm,0.8s							
RAMN	**Ramite**	**45.67**	**306**	*e*P		**P**	**05 52 30.4**	**-0.7**
	comp=Z,29nm,0.8s							
JIRN	**Jiri**	**46.30**	**307**	*e*P		**P**	**05 52 35.2**	**-1.0**
	comp=Z,25nm,0.6s							
HABR	**Khabarovsk**	**46.42**	**7**	*e*P		**P**	**05 52 34.1**	**-2.2**
HABR				*e**PP		pP	05 52 44.1	-4.3
HABR				*e**SP		sP	05 52 48.3	-5.1
HABR				*e*			05 54 08.5	
HABR							05 54 23.9	
HABR					PPP	PPP	05 55 06.9	
HABR				*e*S		**S**	**05 59 20.3**	**-0.7**
HABR				*e**SS		sS	05 59 37.0	-4.1
HABR				*e*			06 02 26.8	
HABR				*e*SSS		SSS	06 03 44.8	
HABR					pmax	pmax		
	comp=Z,23nm,2.0s							
HABR					MLR	MLR		
	comp=Z,64nm,15.0s							
GUN	**Gumba**	**46.66**	**307**	*e*P		**P**	**05 52 38.0**	**-1.0**
	comp=Z,43nm,0.8s							
KLR	**Kul'dur**	**46.83**	**4**	*e*P		P	05 52 33.8	-5.7
PKI	**Pulchoki**	**46.89**	**306**	*e*P		**P**	**05 52 39.2**	**-1.6**
KKN	**Kakani**	**47.09**	**307**	*e*P		**P**	**05 52 40.9**	**-1.3**
	comp=Z,11nm,0.6s							
DMN	**Daman**	**47.15**	**306**	*e*P		**P**	**05 52 41.3**	**-1.4**
GKN	**Gorkha**	**47.69**	**306**	*e*P		**P**	**05 52 45.5**	**-1.3**
KOLN	**Koldanda**	**48.44**	**306**	*e*P		**P**	**05 52 51.9**	**-0.7**
	comp=Z,36nm,0.6s							
SONM	**Songino Array**	**48.60**	**342**	P		**P**	**05 52 54.0**	**+0.5**
	comp=Z,10nm,0.9s,baz=160,slow=8.5,SNR=42							
SONM	**Songino Array**	**48.60**	**342**	P		**P**	**05 52 54.0**	**+0.5**
SONM					pmax	pmax		
	comp=Z,10.0nm,0.9s							
ZAK	**Zakamensk**	**51.83**	**341**	*e*P		**P**	**05 53 16.9**	**-0.9**
ZAK					pmax	pmax		
	comp=Z,4.0nm,1.1s							
TLY	**Talaya**	**52.84**	**342**	*e*P		**P**	**05 53 26.3**	**+1.2**
TLY					pmax	pmax		
	comp=Z,17nm,0.9s							
TLY	**Talaya**	**52.84**	**342**	*e*P		**P**	**05 53 24.5**	**-0.6**
	comp=Z,16nm,0.8s							
MOY	**Mondy**	**53.68**	**340**	*e*P		**P**	**05 53 32.1**	**+0.6**
MOY					pmax	pmax		
	comp=Z,26nm,1.5s							
WMQ	**Urumqi**	**53.91**	**325**	P		**P**	**05 53 33.8**	**+0.5**
WMQ					pP	**pP**	**05 53 43.9**	**-1.7**
WMQ					sP	**sP**	**05 53 50.3**	**-0.3**
WMQ					PcP	**PcP**	**05 54 39.3**	**+1.0**
WMQ					PP	**PP**	**05 55 37.1**	**+2.2**
WMQ					PMZ			
	comp=Z,9.0nm,0.7s							
WMQ					PMZ			
	comp=Z,82nm,5.4s							
WMQ					LN			
	comp=Z,640nm,10.5s							
WMQ					LE			
	comp=Z,500nm,13.6s							
WMQ					LZ			
	comp=Z,250nm,17.0s							
BOD	**Bodaibo**	**56.19**	**352**	*e*P		**P**	**05 53 50.0**	**+0.7**
BOD					pmax	pmax		
	comp=Z,7.0nm,1.3s							
PETK	**Petropavlovsk-**	**56.58**	**22**	P		**P**	**05 53 53.2**	**+1.0**
	comp=Z,5.5nm,0.9s,baz=182,slow=8.8,SNR=3.9							
PETK	**Petropavlovsk-**	**56.58**	**22**	P		**P**	**05 53 53.2**	**+1.0**
PETK					pmax	pmax		
	comp=Z,6.0nm,0.9s							
MK31	**Makanchi Array**	**58.74**	**326**	P		**P**	**05 54 06.9**	**-0.7**
MK31					pmax	pmax		
	comp=Z,6.0nm,0.7s							
MK31	**Makanchi Array**	**58.74**	**326**	*e*P		**P**	**05 54 07.1**

NVS					pmax	pmax			
	comp=Z,12nm,0.9s								
NVS					pmax	pmax			
	comp=N,6.0nm,0.9s								
NVS					pmax	pmax			
	comp=E,7.0nm,0.8s								
SEY	**Seymchan**	**63.27**	**13**	⇑*iP*		**P**		**05 54 39.2**	**+1.3**
KKAR	**Karatay Array**	**64.33**	**317**	*eP*		**P**		**05 54 44.8**	**-0.6**
	comp=E,2.7nm,0.8s								
BVA0	**Borovoye Array**	**68.53**	**327**	*i* P		**P**		**05 55 11.5**	**-0.5**
BVA0					pmax	pmax			
	comp=E,16nm,1.2s								
BVAR	**Borovoye Array**	**68.53**	**327**	P		**P**		**05 55 11.7**	**-0.3**
	comp=Z,12nm,0.9s,baz=130,slow=8.0,SNR=38								
BVAR	**Borovoye Array**	**68.53**	**327**	P		**P**		**05 55 11.7**	**-0.3**
BVAR					pmax	pmax			
	comp=E,12nm,0.9s								
BRVK	**Borovoye**	**68.60**	**327**	*c iP*		**P**		**05 55 12.4**	**0.0**
BRVK					pmax	pmax			
	comp=E,25nm,1.2s								
BRVK	**Borovoye**	**68.60**	**327**	*eP*		**P**		**05 55 12.3**	**0.0**
	comp=E,21nm,1.0s								
TIXI	**Tiksi**	**69.15**	**1**	⇓*iP*		**P**		**05 55 14.9**	**-0.6**
TIXI					pmax	pmax			
	comp=E,4.0nm,0.8s								
TIXI	**Tiksi**	**69.15**	**1**	*eP*		**P**		**05 55 15.2**	**-0.2**
	comp=E,3.0nm,0.4s								
AB31	**Akbulak array**	**73.29**	**321**	P		**P**		**05 55 40.2**	**-0.7**
AB31					pmax	pmax			
	comp=E,7.0nm,0.8s								
ABKAR	**Akbulak array**	**73.29**	**321**	*eP*		**P**		**05 55 40.6**	**-0.3**
	comp=Z,6.5nm,0.8s								
AKTO	**Aktyubinsk**	**74.81**	**322**	P		**P**		**05 55 49.4**	**-0.4**
AKTO					pmax	pmax			
	comp=E,19nm,0.8s								
SVE	**Sverdlovsk**	**75.18**	**329**	⇑*iP*		**P**		**05 55 52.1**	**+0.3**
SVE					pmax	pmax			
	comp=E,24nm,1.1s								
ARU	**Arti**	**76.15**	**328**	*c iP*		**P**		**05 55 56.6**	**-0.7**
ARU								05 58 43.4	
ARU					S	**S**		**06 05 39.5**	**+1.5**
ARU					SS	**SS**		**06 10 32.4**	**+0.4**
ARU					pmax	pmax			
	comp=E,13nm,1.0s								
ARU	**Arti**	**76.15**	**328**	*eP*		**P**		**05 55 56.8**	**-0.5**
	comp=E,9.1nm,0.8s								
VNDA	**Vanda**	**82.10**	**173**	P		**P**		**05 56 29.4**	**-0.1**
	comp=E,3.4nm,0.6s,baz=321,slow=5.6,SNR=27								
VNDA	**Vanda**	**82.10**	**173**	P		**P**		**05 56 29.4**	**-0.1**
VNDA					pmax	pmax			
	comp=E,3.0nm,0.6s								
VNDA	**Vanda**	**82.10**	**173**	*eP*		**P**		**05 56 29.3**	**-0.1**
	comp=E,5.0nm,1.0s								
GNI	**Garni**	**82.47**	**310**	⇑*eP*		**P**		**05 56 34.2**	**+1.8**
MAW	**Mawson**	**82.59**	**200**	P		**P**		**05 56 32.4**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=63,slow=8.7,SNR=3.9								
MAW	**Mawson**	**82.59**	**200**	P		**P**		**05 56 32.4**	**+0.2**
MAW					pmax	pmax			
	comp=E,3.0nm,0.8s								
KDAK	**Kodiak Island**	**82.90**	**32**	*i* P		**P**		**05 56 35.2**	**+1.2**
ZEI	**Tsey**	**83.24**	**313**	*eP*		**P**		**05 56 34.3**	**-2.1**
ZEI					pmax	pmax			
	comp=E,9.0nm,0.5s								
IM04	**Indian Mountai**	**83.45**	**24**	*eP*		**P**		**05 56 38.0**	**+1.3**
PRGR	**Permogore**	**83.75**	**332**	P		**P**		**05 56 36.1**	**-2.2**
PRGR					pmax	pmax			
	comp=E,12nm,0.6s								
KBZ	**Khabaz**	**84.02**	**314**	P		**P**		**05 56 40.5**	**+0.4**
	comp=Z,4.0nm,0.9s,baz=63,slow=1.3,SNR=7.5								
KBZ	**Khabaz**	**84.02**	**314**	P		**P**		**05 56 40.5**	**+0.4**
KBZ					pmax	pmax			
	comp=E,4.0nm,1.0s								
NEY	**Neytrino**	**84.13**	**313**	*eP*		**P**		**05 56 42.1**	**+1.2**
NEY					pmax	pmax			
	comp=E,3.0nm,1.3s								
COLD	**Coldfoot**	**85.03**	**23**	*eP*		**P**		**05 56 45.2**	**+0.5**
	comp=E,3.5nm,0.9s								
ILAR	**Eielson Array**	**86.21**	**25**	P		**P**		**05 56 49.4**	**-1.2**
	comp=E,0.4nm,0.8s,baz=235,slow=4.5,SNR=4.1								
KMBO	**Kilima Mbogo**	**89.72**	**269**	*i* P		P		05 57 14.3	+5.5
KMBO					pmax	pmax			
	comp=E,2.0nm,0.9s								
BRTR	**Keskin Array B**	**91.00**	**310**	P		**P**		**05 57 13.5**	**-0.6**
	comp=E,1.2nm,0.9s,baz=125,slow=4.5,SNR=6.8								
BRTR	**Keskin Array B**	**91.00**	**310**	*ceP*		**P**		**05 57 16.1**	**+2.0**
BRTR					pmax	pmax			
	comp=E,1.0nm,0.8s								
ARCES	**ARCESS Array B**	**91.75**	**340**	P		**P**		**05 57 15.7**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=67,slow=6.9,SNR=5.0								
ARCES	**ARCESS Array B**	**91.75**	**340**	P		**P**		**05 57 15.7**	**-1.0**
ARCES					pmax	pmax			
	comp=E,1.0nm,0.7s								
FINES	**FINESS Array B**	**93.08**	**332**	P		**P**		**05 57 21.4**	**-1.6**
	comp=Z,9.3nm,1.2s,baz=117,slow=4.8,SNR=2.8								
FINES	**FINESS Array B**	**93.08**	**332**	*i* P		P		05 57 31.3	+8.3
FINES					pmax	pmax			
	comp=E,3.0nm,0.8s								
BUR08	**Bucovina Ar. S**	**96.11**	**318**	*eP*		**P**		**05 57 38.5**	**+1.1**
STHS	**Stebnicka Huta**	**98.32**	**321**	*eP*		**P**		**05 57 45.4**	**-1.8**
STHS	**Stebnicka Huta**	**98.32**	**321**	*e*		**P**		**05 57 45.4**	**-1.8**
KECS	**Kecovo**	**99.03**	**320**	*eP*		**Pdif**		**05 57 47.9**	**-2.5**
KECS	**Kecovo**	**99.03**	**320**	PDIF		**Pdif**		**05 57 47.9**	**-2.5**
BRG	**Berggiesshubel**	**102.41**	**323**	PDIFF		**Pdif**		**05 58 07.6**	**+2.3**
	comp=E,1.4nm,0.7s								
BRG	**Berggiesshubel**	**102.41**	**323**	P		**Pdif**		**05 58 07.6**	**+2.3**
BRG					pmax	pmax			
	comp=E,1.0nm,0.7s								
CLL	**Collm**	**102.81**	**324**	*eP*		**Pdif**		**05 58 05.0**	**-2.1**
TXAR	**Lajitas Array**	**122.25**	**53**	PKP		**PKPdf**		**06 03 05.6**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=192,slow=0.8,SNR=2.8								
TORD	**Torodi Ar. Bea**	**123.50**	**287**	PKP		**PKPdf**		**06 03 07.9**	**+0.2**
	comp=Z,1.1nm,1.1s,baz=85,slow=2.3,SNR=3.6								
TORD					PKKPbc	**PKKPab**		**06 12 56.8**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=276,slow=3.2,SNR=5.8								

*IDC **13** 05:54:33.6±1.1,26°.67N×142°.68E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.7/5, MS4.0/1, Ms1 4.2/1, ms1mx3.0/35, Error ellipse: s-maj=34.3km s-min=15.6km az=59.0*

*ISCJB **13** 05:54:36.4±0.8,26°.61N±0°.05×142°.75E±0°.07, h31km, mb3.7/5, MS4.1/1, Error ellipse: s-maj=9.4km s-min=7.5km az=165.9*

*JMA **13** 05:54:37.8±0.5,26°.75N×142°.67E, h0km, M3.9*

ISC 13 05:54:38.1±1.2,26°.55N±0°.08×142°.6E±0°.1,h31km,n16, σ1s86/15,mb3.6/5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.38**	**283**	P		**Pn**		**05 54 47.0**	**-0.5**
JHHJ				S		**Sn**		**05 54 54.6**	**+0.8**
CBIJ	**Chichi jima**	**0.66**	**326**	P		**Pn**		**05 54 49.3**	**-2.0**
CBIJ				S		**Sb**		**05 54 56.5**	**-3.6**
JCJ	**Chichijima**	**0.66**	**326**	Pn		**Pn**		**05 54 49.5**	**-1.8**
	203nm,0.3s,baz=321,slow=19,SNR=100								
JCJ				Sn		**Sb**		**05 55 00.8**	**+0.7**
	302nm,0.3s,baz=104,slow=23,SNR=10								
BSO3	**Boso 3**	**8.42**	**348**	P		**Pn**		**05 56 37.2**	**-0.6**
BSO3				S		**Sn**		**05 58 14.5**	**+2.9**
BSO4	**Boso 4**	**8.64**	**348**	P		Pn		05 56 44.8	+3.9
JNY	**Yasuok**	**9.68**	**336**	P		Pn		05 56 59.6	+4.3
JHU	**Hanno**	**9.70**	**344**	P		**Pn**		**05 56 57.9**	**+2.4**
JRY	**Ryogami san**	**9.96**	**342**	P		**Pn**		**05 56 59.0**	**0.0**
JRY				S		**Sn**		**05 58 51.4**	**+1.7**
H11N2	**WAKE ISLAND Hy**	**23.33**	**102**	T		T		06 23 44.1	
	baz=288,SNR=4.3								
H11N1	**WAKE ISLAND Hy**	**23.33**	**102**	T		T		06 23 43.2	
	baz=288								
H11N3	**WAKE ISLAND Hy**	**23.35**	**102**	T		T		06 23 45.0	
	baz=288								
WRA	**Warramunga Arr**	**46.90**	**191**	P		**P**		**06 03 05.8**	**0.0**
	1.6nm,0.7s,baz=8.8,slow=8.5,SNR=9.2								
ASAR	**Alice Springs**	**50.62**	**190**	P		P		06 03 36.6	+2.3
	0.2nm,0.5s,baz=9.0,slow=7.5,SNR=4.1								
KURBB	**Kurchatov Arra**	**53.69**	**315**	P		**P**		**06 03 57.9**	**+1.1**
	0.3nm,0.5s,baz=89,slow=7.1,SNR=2.4								
ILAR	**Eielson Array**	**58.02**	**28**	P		**P**		**06 04 26.5**	**-1.2**
	0.3nm,0.8s,baz=263,slow=6.3,SNR=4.3								
ILAR				LR		LR		06 25 11.0	
	comp=Z,160nm,22.0s,baz=87,slow=32								
FINES	**FINESS Array B**	**78.60**	**334**	P		**P**		**06 06 36.6**	**+0.1**
	2.8nm,0.9s,baz=57,slow=5.1,SNR=6.3								

*ISCJB **13** 05:58:24.6±1.2,37°.36N±0°.04×141°.91E±0°.07, h17km±7km, mb3.5/4, Error ellipse: s-maj=9.5km s-min=6.1km az=28.7*

*IDC **13** 05:58:25.4±4.4,37°.85N×141°.81E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/25, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=131.6km s-min=29.2km az=173.0*

*JMA **13** 05:58:26.7±0.2,37°.37N×141°.82E, h39km±3km, M3.8*

ISC 13 05:58:24.9±1.9,37°.36N±0°.05×141°.87E±0°.07,h12km±10km, n22,σ1s22/27,mb3.5/4,2C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.79**	**271**	⇓P		**Pg**		**05 58 41.0**	**+0.8**
JFK				S		**Sg**		**05 58 50.7**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.90**	**253**	⇓P		**Pg**		**05 58 42.3**	**+0.1**
ONAJ				*e*S		**Sg**		**05 58 53.1**	**-0.8**
JMM	**Marumori**	**0.99**	**301**	⇑P		**Pb**		**05 58 43.9**	**-0.1**
JMM				S		**Sg**		**05 58 56.1**	**-0.8**
JIO	**Ouri**	**1.17**	**339**	⇑P		**Pn**		**05 58 46.5**	**-0.5**
JIO				S		**Sb**		**05 59 00.0**	**-2.0**
JFT	**Otama**	**1.23**	**278**	⇓P		**Pn**		**05 58 48.2**	**+0.3**
JFT				S		**Sb**		**05 59 02.9**	**-1.0**
JHO	**Hitachi**	**1.28**	**235**	P		**Pn**		**05 58 47.6**	**-1.0**
JHO				S		**Sb**		**05 59 02.1**	**-3.3**
JOU	**Okura**	**1.38**	**317**	P		**Pn**		**05 58 50.3**	**+0.3**
JOU				*e*S		**Sn**		**05 59 07.3**	**-0.9**
JMK	**Ichinoseki**	**1.67**	**342**	P		**Pn**		**05 58 54.3**	**+0.4**
JMK				*e*S		**Sn**		**05 59 14.3**	**-0.9**
JYS	**Shirataka**	**1.67**	**301**	P		**Pn**		**05 58 54.8**	**+0.9**
JYS				S		**Sn**		**05 59 15.8**	**+0.6**
JFY	**Yanaizu**	**1.73**	**272**	P		**Pn**		**05 58 55.1**	**+0.4**
JFY				S		**Sn**		**05 59 16.2**	**-0.5**
MAT	**Matsushiro**	**3.05**	**256**	P		**Pn**		**05 59 14.6**	**+1.7**
MAT				S		**Sn**		**05 59 51.1**	**+1.8**
KSRS	**Korea Array**	**11.10**	**275**	Pn		**Pn**		**06 01 05.2**	**+1.9**
	0.3nm,0.3s,baz=80,slow=13,SNR=3.7								
H11N2	**WAKE ISLAND Hy**	**28.01**	**122**	T		T		06 33 46.4	
	baz=315,slow=75,SNR=15								
H11N1	**WAKE ISLAND Hy**	**28.02**	**122**	T		T		06 33 44.7	
	baz=315,slow=75,SNR=12								
H11N3	**WAKE ISLAND Hy**	**28.02**	**122**	T		T		06 33 46.3	
	baz=315,slow=75,SNR=14								
H11S1	**WAKE ISLAND Hy**	**28.74**	**124**	T		T		06 34 42.0	
	baz=316,slow=76,SNR=16								
H11S3	**WAKE ISLAND Hy**	**28.74**	**124**	T		T		06 34 39.5	
	baz=316,slow=76,SNR=17								
H11S2	**WAKE ISLAND Hy**	**28.75**	**124**	T		T		06 34 39.2	
	baz=316,slow=76,SNR=18								
MKAR	**Makanchi Array**	**44.25**	**302**	P		**P**		**06 06 33.9**	**-0.2**
	0.5nm,0.7s,baz=92,slow=9.3,SNR=2.8								
KURBB	**Kurchatov Arra**	**46.09**	**308**	P		**P**		**06 06 48.1**	**-0.5**
	0.4nm,0.5s,baz=84,slow=8.9,SNR=3.7								
ILAR	**Eielson Array**	**49.02**	**33**	P		**P**		**06 07 10.8**	**-0.4**
	0.4nm,0.7s,baz=262,slow=6.4,SNR=5.6								
NVAR	**Mina Array Bea**	**74.50**	**53**	P		**P**		**06 10 04.5**	**+0.9**
	0.4nm,0.8s,baz=273,slow=6.2,SNR=2.9								

*ISCJB **13** 05:58:38.3±0.5,34°.52N±0°.05×80°.84E±0°.06, h10km, mb4.0/18, MS3.5/2, Error ellipse: s-maj=7.7km s-min=6.6km az=147.7*

*IDC **13** 05:58:38.6±0.7,34°.56N×80°.81E, h0km, mb4.1/14, mb1 4.2/19, mb1mx4.0/50, mbtmp4.0/19, ML3.4/5, MS3.6/2, Ms1 3.6/2, ms1mx3.0/42, Error ellipse: s-maj=20.6km s-min=13.2km az=46.0*

*BJI **13** 05:58:40.1,34°.48N×80°.99E, h5km, mb4.4/4, ML4.1/5, Ms4.1/1, Ms7 3.9/3*

*NEIC **13** 05:58:44.0±1.3,34°.57N×80°.78E, h38km±11km, mb4.5/4, Error ellipse: s-maj=11.2km s-min=9.4km az=192.0*

ISC 13 05:58:39.5±0.5,34°.46N±0°.07×80°.85E±0°.05,h10km,n46, σ1s29/47,mb4.2/18,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**4.39**	**229**	*eP*		**Pb**		**05 59 56.0**	**-0.8**
CHCP	**Chirah Chowk**	**6.35**	**265**	P		**Pn**		**06 00 13.8**	**+0.7**
KSH	**Kashi**	**6.38**	**324**	Pn		**Pn**		**06 00 15.5**	**+1.8**
KSH				Sn		**Sn**		**06 01 29.3**	**+2.6**
KSH				SMN					
	100nm,1.2s								
KSH				SME					
	100nm,1.1s								
NDI	**New Delhi**	**6.54**	**209**	*eP*		Pn		06 00 20.0	+4.3
CEP	**Cherat**	**7.44**	**268**	P		**Sn**		**06 01 52.3**	**-0.5**
THW	**Thamme Wali**	**7.77**	**260**	P		**Pn**		**06 00 32.6**	**-0.1**
ULHL	**Ulahol**	**8.58**	**336**	P		**Pn**		**06 00 46.6**	**+2.7**
SNR=10									
KZA	**Kyzart**	**8.79**	**332**	P		**Pn**		**06 00 49.3**	**+2.3**
SNR=10									
UCH	**Uchtor**	**9.22**	**329**	P		**Pn**		**06 00 54.9**	**+2.1**
SNR=11									
TKM2	**Tokmak 2**	**9.39**	**336**	P		Pn		06 00 58.1	+3.0
SNR=6.3									
AML	**Almayashu**	**9.50**	**326**	P		**Pn**		**06 00 58.8**	**+2.0**
SNR=11									
AAK	**Ala-Archa**	**9.56**	**331**	Pn		**Pn**		**06 00 59.8**	**+2.5**
	0.3nm,0.3s,baz=134,slow=12,SNR=3.6								
AAK				Lg		Lg		06 03 35.3	
	0.1nm,0.3s,baz=291,slow=15,SNR=2.8								
KBL	**Kabul**	**9.75**	**274**	*e*Pn		**Pn**		**06 00 59.2**	**-0.7**
9.5nm,0.7s									
MK31	**Makanchi Array**	**12.37**	**5**	*e*Pn		**Pn**		**06 01 37.0**	**+1.4**
MKAR	**Makanchi Array**	**12.37**	**5**	Pn		**Pn**		**06 01 36.1**	**+0.4**
	0.4nm,0.3s,baz=190,slow=12,SNR=17								
MKAR				Sn		**Sn**		**06 03 51.8**	**-1.8**
	0.1nm,0.3s,baz=166,slow=37,SNR=3.7								
GTA	**Gaotai**	**15.95**	**66**	*eP*		P		06 02 37.3	+10
GTA				pP		pP		06 02 40.8	+10
GTA				sP		sP		06 02 44.4	+13
GTA				S		S		06 05 45.5	+10
GTA				sS		sS		06 05 50.9	+11
GTA				SS		SbSb		06 06 05.6	-22
GTA				pmax		pmax			
	comp=Z,7.0nm,1.0s								
GTA				pmax		pmax			
	comp=Z,71nm,4.0s								
GTA				LR		LR			
	comp=N,200nm,13.5s								
GTA				LR		LR			
	comp=E,360nm,12.2s								
GTA				LR		LR			
	comp=Z,350nm,11.9s								
KURBB	**Kurchatov Arra**	**16.25**	**355**	Pn		**Pn**		**06 02 25.5**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=181,slow=10,SNR=15								
KURK	**Kurchatov**	**16.33**	**355**	*e*Pn		**Pn**		**06 02 28.0**	**-0.8**
CD2	**Chengdu**	**19.60**	**94**	*eP*		**Pn**		**06 03 08.8**	**-0.4**
CD2				pP		**pP**		**06 03 10.8**	**+0.1**
CD2				S		**S**		**06 06 48.5**	**-0.6**
CD2				sS		**sS**		**06 06 53.3**	**-0.4**
CD2				LZ					
	comp=Z,470nm,10.3s								
ZAA0	**Zalesovo Array**	**19.69**	**7**	*eP*		**P**		**06 03 08.1**	**-0.6**
ZALV	**Zalesovo Beam**	**19.69**	**7**	P		**P**		**06 03 08.0**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=193,slow=12,SNR=14								
BVAR	**Borovoye Array**	**20.00**	**341**	P		**P**		**06 03 12.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=161,slow=10,SNR=16								
ABKAR	**Akbulak array**	**21.37**	**320**	*eP*		**P**		**06 03 25.9**	**-1.0**
	comp=Z,6.2nm,0.7s								
CMAR	**Chiang Mai Arr**	**22.66**	**130**	P		**P**		**06 03 43.9**	**+2.9**
	comp=Z,1.3nm,0.4s,baz=307,slow=12,SNR=9.4								
AKTO	**Aktyubinsk**	**23.07**	**321**	P		**P**		**06 03 43.8**	**-1.3**
	comp=Z,4.6nm,0.8s,baz=116,slow=10,SNR=12								
SONM	**Songino Array**	**23.30**	**47**	P		**P**		**06 03 46.1**	**-1.4**
	comp=Z,0.1nm,0.4s,baz=236,slow=10,SNR=2.5								
TLY	**Talaya**	**23.79**	**37**	LR		LR		06 14 21.2	
	comp=Z,152nm,21.4s,baz=247,slow=40								
BR131	**Keskin Array S**	**37.68**	**292**	*eP*		**P**		**06 05 54.2**	**-0.9**
	comp=Z,1.4nm,0.7s								
BRTR	**Keskin Array B**	**37.68**	**292**	P		**P**		**06 05 56.4**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=98,slow=7.9,SNR=14								
AKASG	**Malin Array Be**	**40.46**	**310**	P		**P**		**06 06 17.6**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=80,slow=7.3,SNR=9.3								
AKASG				LR		LR		06 23 13.6	
	comp=Z,97nm,20.3s,baz=225,slow=36								
FINES	**FINESS Array B**	**43.70**	**325**	P		**P**		**06 06 44.4**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=116,slow=9.4,SNR=11								
ARCES	**ARCESS Array B**	**46.17**	**336**	P		**P**		**06 07 03.4**	**-0.5**
	comp=Z,4.0nm,0.9s,baz=87,slow=7.3,SNR=4.7								
GERES	**GERESS Array B**	**50.59**	**308**	P		**P**		**06 07 39.2**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=73,slow=6.3,SNR=9.0								
NB2	**NORSAR Subarra**	**50.81**	**324**	P		**P**		**06 07 39.3**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=87,slow=7.9								
NOA	**NORSAR Array B**	**50.81**	**324**	P		**P**		**06 07 39.5**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=89,slow=7.5,SNR=6.9								
LPG	**La Plagne**	**55.97**	**305**	*eP*		**P**		**06 08 18.3**	**0.0**
	comp=Z,11nm,1.1s								
LPG	**La Plagne**	**55.97**	**305**	*eP*		**P**		**06 08 18.3**	**0.0**
	comp=Z,11nm,1.0s								
LPL	**La Plagne**	**55.98**	**305**	*eP*		**P**		**06 08 18.5**	**+0.2**
	comp=Z,12nm,0.9s								
LPL	**La Plagne**	**55.98**	**305**	*eP*		**P**		**06 08 18.5**	**+0.2**
	comp=Z,12nm,0.9s								
ESDC	**Sonseca Array**	**65.43**	**302**	P		**P**		**06 09 22.8**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=66,slow=7.2,SNR=3.4								
TORD	**Torodi Ar. Bea**	**73.81**	**275**	P		**P**		**06 10 14.1**	**-0.5**
	comp=Z,3.6nm,0.8s,baz=46,slow=5.1,SNR=24								
WRA	**Warramunga Arr**	**74.24**	**128**	P		**P**		**06 10 18.5**	**+1.6**
	comp=Z,4.6nm,0.9s,baz=326,slow=5.6,SNR=16								
ILAR	**Eielson Array**	**74.30**	**19**	P		**P**		**06 10 16.8**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=316,slow=4.3,SNR=10								
ASAR	**Alice Springs**	**76.67**	**131**	P		**P**		**06 10 32.1**	**+1.3**
	comp=Z,2.2nm,0.6s,baz=319,slow=5.7,SNR=16								
YKA	**Yellowknife Ar**	**82.59**	**7**	P		**P**		**06 11 02.8**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=342,slow=5.2,SNR=3.9								
LPAZ	**La Paz**	**146.83**	**295**	PKPbc		**PKPdf**		**06 18 21.8**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=34,slow=11,SNR=4.2								

*IDC **13** 05:58:59.4±6.4,6°.75N×92°.32E, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.7/29, mbtmp3.9/11, ML4.4/2, Error ellipse: s-maj=140.9km s-min=35.3km az=148.0*

ISC 13 05:59:04.7±6.5,6°.9N±0°.9×92°.2E±0°.5,h26km,n14, σ0s51/11,mb3.8/9,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.44**	**272**	Pn		**Pn**		**06 01 46.8**	**+0.2**
	1.5nm,0.3s,baz=88,slow=15,SNR=2.5								
PALK				Sn		Sn		06 03 37.4	-16
	1.1nm,0.3s,baz=314,slow=9.3,SNR=1.0								
CMAR	**Chiang Mai Arr**	**13.20**	**29**	Pn		**Pn**		**06 02 10.8**	**+0.2**
	0.8nm,0.3s,baz=230,slow=13,SNR=3.8								
H08S3	**Diego Garcia H**	**24.42**	**234**	T		T		06 30 53.8	
	baz=52,slow=75,SNR=6.5								
H08S2	**Diego Garcia H**	**24.43**	**234**	T		T		06 30 55.2	
	baz=52,slow=75,SNR=6.2								
H08S1	**Diego Carcia H**	**24.44**	**234**	T		T		06 30 58.5	
	baz=52,slow=75,SNR=5.7								
MKAR	**Makanchi Array**	**40.63**	**350**	P		**P**		**06 06 42.3**	**-0.3**
	0.6nm,0.5s,baz=176,slow=9.1,SNR=3.8								
SONM	**Songino Array**	**42.52**	**14**	P		**P**		**06 06 57.8**	**-0.4**
	1.2nm,0.8s,baz=202,slow=11,SNR=4.7								
KURBB	**Kurchatov Arra**	**45.03**	**348**	P		**P**		**06 07 18.1**	**0.0**
	1.9nm,0.9s,baz=171,slow=7.4,SNR=5.6								
ZALV	**Zalesovo Beam**	**47.27**	**354**	P		**P**		**06 07 36.7**	**+1.0**
	0.4nm,0.4s,baz=176,slow=9.4,SNR=3.2								
BVAR	**Borovoye Array**	**49.30**	**343**	P		**P**		**06 07 50.8**	**-0.6**
	1.3nm,0.8s,baz=138,slow=7.3,SNR=3.5								
BRTR	**Keskin Array B**	**61.62**	**312**	P		**P**		**06 09 20.3**	**-0.2**
	0.3nm,0.5s,baz=107,slow=4.8,SNR=2.6								
FINES	**FINESS Array B**	**72.67**	**333**	P		**P**		**06 10 29.4**	**-0.5**
	1.6nm,0.8s,baz=178,slow=5.7,SNR=3.4								
ARCES	**ARCESS Array B**	**75.52**	**341**	P		**P**		**06 10 46.8**	**+0.3**
	2.5nm,0.9s,baz=99,slow=5.6,SNR=2.8								
GERES	**GERESS Array B**	**77.27**	**318**	P		**P**		**06 10 57.1**	**+0.1**
	0.4nm,0.8s,baz=91,slow=6.7,SNR=4.2								

IDC 13 06:00:31.8±2.6,6°.88S×129°.15E, h0km, mb3.6/2, mb1 3.5/4, mb1mx3.4/19, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=284.4km s-min=30.2km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.93**	**159**	Pn	

2.2nm,0.7s,baz=164,slow=12,SNR=15
SONM Songino Array 25.14 25 P **P** **06 19 00.8 +0.4**
0.3nm,0.5s,baz=200,slow=8.3,SNR=2.3
KURBB Kurchatov Arra 26.44 342 P **P** **06 19 11.6 -0.3**
0.8nm,0.9s,baz=168,slow=9.2,SNR=4.4
TLY Talaya 27.57 17 LR LR 06 31 15.0
comp=Z,236nm,21.6s,baz=314,slow=38
FINES FINESS Array B 55.55 328 P **P** **06 23 09.8 -0.4**
2.3nm,0.9s,baz=120,slow=11,SNR=3.5
ARCES ARCESS Array B 57.39 338 P **P** **06 23 23.1 -0.2**
2.4nm,0.9s,baz=100,slow=8.3,SNR=2.8
WRA Warramunga Arr 62.17 133 P **P** **06 23 55.9 -1.0**
0.5nm,0.6s,baz=325,slow=7.2,SNR=3.1
ASAR Alice Springs 64.56 136 P **P** **06 24 12.6 -0.1**
0.5nm,0.7s,baz=316,slow=5.8,SNR=5.3
MAW Mawson 95.50 190 LR LR 07 05 56.9
comp=Z,77nm,18.7s,baz=59,slow=33

IDC ***13*** *06:25:59.5±0.4, 7.°83N×91.°90E, h0km, mb4.3/31, mb1 4.5/34, mb1mx4.4/42, mbtmp4.4/34, ML4.7/3, MS4.5/29, Ms1 4.5/29, ms1mx4.4/38, Error ellipse: s-maj=14.8km s-min=10.4km az=59.0*

ISCJB ***13*** *06:26:01.5±0.2, 7.°72N±0.°03×91.°92E±0.°02, h25km, mb4.8/129, MS4.5/44, Error ellipse: s-maj=4.0km s-min=2.7km az=27.6*

DJA ***13*** *06:26:02.3±0.3, 8.°N±4.′×9.°2E±.°, h10km, M4.8/23, mb4.9/23, mB5.3/14, Mw(mB)4.7/14*

MOS ***13*** *06:26:03.0±1.2, 7.°85N×92.°13E, h33km, mb4.9/41, MS4.5/26, Error ellipse: s-maj=10.7km s-min=5.1km az=115.4*

BJI ***13*** *06:26:04.1, 7.°97N×91.°82E, h21km, mb4.7/53, mB5.1/45, Ms4.8/56, Ms7 4.5/52*

GCMT ***13*** *06:26:04.8±0.3, 7.°71N×91.°82E, h12km, MW5.2/92, Moment Tensor Solution. s20,c24; s92,c144; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.63±.22; Mθθ=4.01±.18; Mϕϕ=4.64±.20; Mrθ=-1.98±.59; Mrϕ=-4.72±.18; Mθϕ=-2.81±.58; Best double couple: Mo=7.28300×10¹⁶ NP1:ϕs=20.00000°, δ83.00000°, λ=-28.00000°. NP2: ϕs=113.00000°, δ63.00000°, λ=-172.00000°. Principal axes: T 7.1590, Plg14.0000°, Azm69.0000°; N 0.2540, Plg62.0000°, Azm187.0000°; P -7.4080, Plg24.0000°, Azm333.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***13*** *06:26:04.8±0.2, 7.°78N×91.°99E, h35km, mb5.1/58 Error ellipse: s-maj=6.1km s-min=3.8km az=214.0*

KLM ***13*** *06:26:05.3, 7.°43N×91.°87E, h35km, mb5.0, MS6.2*

SZGRF ***13*** *06:26:29.9, 11.°47N×90.°26E, h33km, mb4.7, Andaman Islands, India, region*

ISC 13 06:26:04.0±0.4, 7.°70N±0.°04×91.°90E±0.°03, h30km±1km, h30km:pP-P,n468,σ1§46/481,mb5.0/129,MS4.5/44, 35C-22D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMBY	**CAMPBELL BAY**	**2.12**	**109**	*e*P	**Pn**	**06 26 38.1**	**+0.7**
CMBY				AMB	AMB	06 26 39.4	
	comp=Z,2μm,0.3s						
PBA	**Port Blair**	**4.02**	**12**	*e*P	Pn	06 27 01.9	-1.6
DGPR	**DIGLIPUR**	**5.54**	**10**	*e*P	**Pn**	**06 27 25.3**	**+0.9**
DGPR				AMB	AMB	06 28 30.6	
	comp=Z,465nm,1.2s						
LHMI	**Lhok Sumawe**	**5.58**	**116**	*e*Pn	**Pn**	**06 27 24.0**	**-1.0**
SNSI	**Sinabang, Aceh**	**6.86**	**140**	P	**Pn**	**06 27 39.4**	**-3.1**
SURT	**Suratani**	**6.94**	**79**	P	**Pn**	**06 27 44.2**	**+0.5**
	comp=Z,58nm,1.2s,comp=Z,848nmcomp=Z,0.3nm						
KRAB	**Krabi**	**7.25**	**85**	P	**Pn**	**06 27 48.4**	**+0.5**
	comp=Z,129nm,0.7s,comp=Z,2μmcomp=Z,0.5nm						
TRTT	**Trang**	**7.72**	**88**	P	**Pn**	**06 27 54.4**	**0.0**
	comp=Z,58nm,0.9s,comp=Z,1μmcomp=Z,0.2nm						
SURA	**Surathani**	**7.79**	**79**	P	**Pn**	**06 27 55.5**	**+0.2**
	comp=Z,60nm,0.8s,comp=Z,2μmcomp=Z,0.3nm						
PSI	**Prapat**	**8.52**	**124**	Pn	**Pn**	**06 28 04.6**	**-0.9**
	comp=Z,4.6nm,0.3s,baz=297,slow=9.1,SNR=13						
PSI				Sn	**Sn**	**06 29 39.8**	**-0.9**
	comp=Z,3.3nm,0.3s,baz=75,slow=24,SNR=4.6						
PSI	**Prapat**	**8.52**	**124**	P	**Pn**	**06 28 04.6**	**-0.9**
PSI						06 29 39.8	
PSI				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PSI				smax	smax		
	comp=N,3.0nm,0.3s						
SKLT	**Songkhla**	**8.67**	**93**	P	**Pn**	**06 28 09.3**	**+1.9**
	comp=N,25nm,1.0s,comp=N,0.2nm						
KULM	**Kulim**	**9.02**	**105**	⇓P	**Pn**	**06 28 12.0**	**-0.3**
KULM	**Kulim**	**9.02**	**105**	*e*Pn	**Pn**	**06 28 11.3**	**-0.9**
KULM				*e*Sn	**Sn**	**06 29 51.3**	**-1.5**
IPM	**Ipoh**	**9.62**	**109**	⇑P	**Pn**	**06 28 19.6**	**-0.9**
IPM	**Ipoh**	**9.62**	**109**	*e*Pn	**Pn**	**06 28 19.1**	**-1.4**
IPM				*e*Sn	**Sn**	**06 30 02.3**	**-5.4**
PATY	**Pattaya**	**10.24**	**59**	P	Pn	06 28 33.2	+4.3
	comp=N,14nm,0.8s,comp=N,778nm						
MNSI	**Mandailing Nat**	**10.28**	**131**	P	**Pn**	**06 28 27.6**	**-1.9**
	comp=N,35nm,0.4s,comp=N,1μm						
FRIM	**Kepong**	**10.65**	**114**	⇓P	**Pn**	**06 28 32.8**	**-1.7**
UTHA	**Uthaitani**	**10.76**	**43**	P	Pn	06 28 39.5	+3.5
	comp=N,7.1nm,0.8s,comp=N,116nm						
PALK	**Pallekele**	**11.11**	**269**	Pn	**Pn**	**06 28 38.2**	**-2.7**
	comp=N,475nm,0.8s,SNR=7.7						
PALK	**Pallekele**	**11.11**	**269**	Pn	**Pn**	**06 28 38.3**	**-2.5**
	comp=N,9.9nm,0.3s,baz=92,slow=15,SNR=32						
PALK				Sn	Sn	06 30 29.2	-15
	comp=N,15nm,0.3s,baz=170,slow=16,SNR=10.0						
PALK				LR	LR	06 32 29.4	
	comp=N,3μm,20.4s,baz=82,slow=35						
PALK	**Pallekele**	**11.11**	**269**	*e*Pn	**Pn**	**06 28 38.4**	**-2.5**
PALK				Sn	Sn	06 30 29.2	-15
PALK				*e*Sn	Sn	06 30 30.0	-14
KTGM	**Kuala Trenggan**	**11.41**	**101**	⇑P	**Pn**	**06 28 44.0**	**-1.0**
MHMT	**Maesarieng**	**11.96**	**29**	P	Pn	06 28 58.7	+6.2
	comp=N,31nm,0.8s,comp=N,514nm						
SUKH	**Sukhothai**	**12.31**	**37**	P	**P**	**06 29 06.9**	**-2.2**
MDRS	**Chennai**	**12.64**	**296**	*ex*	Pn	06 28 57.0	-4.8
MDRS				*ex*	Pn	06 28 57.5	-4.3
KGM	**Kluang**	**12.70**	**116**	⇑P	**Pn**	**06 29 00.4**	**-2.2**
CM31	**Chiang Mai Arr**	**12.71**	**32**	*e*Pn	**Pn**	**06 29 02.7**	**0.0**
	comp=N,22nm,0.8s						
CMAR	**Chiang Mai Arr**	**12.71**	**32**	Pn	**Pn**	**06 29 01.7**	**-1.0**
	comp=N,1.2nm,0.3s,baz=225,slow=14,SNR=16						
CMAR				LR	LR	06 34 09.6	
	comp=N,1μm,20.7s,baz=215,slow=39						
CMAR	**Chiang Mai Arr**	**12.71**	**32**	P	**Pn**	**06 29 01.7**	**-1.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,1μm,20.7s						
CHAI	**Chaiyaphum**	**12.80**	**50**	P	**P**	**06 29 14.2**	**-0.4**
VIS	**Vishakhapatnam**	**13.00**	**321**	*e*P	**Pn**	**06 29 04.5**	**-2.2**
VIS				AMB	AMB	06 29 17.9	
	comp=Z,54nm,1.2s						
VIS				*i* x	x	06 31 17.8	
CHTO	**Chiang Mai**	**13.00**	**31**	P	**Pn**	**06 29 07.6**	**+0.8**
	comp=Z,164nm,1.2s,comp=Z,3μm						
CHTO	**Chiang Mai**	**13.00**	**31**	P	**Pn**	**06 29 07.1**	**+0.4**
	SNR=12						
CHTO	**Chiang Mai**	**13.00**	**31**	*e*Pn	**Pn**	**06 29 05.4**	**-1.3**
CHTO				*e*Sn	**Sn**	**06 31 30.9**	**+0.4**
CMMT	**Chiang Mai**	**13.00**	**31**	P	**Pn**	**06 29 07.5**	**+0.7**
	comp=Z,26nm,1.3s,comp=Z,751nm						
CHLP	**Challavanipeta**	**13.18**	**325**	*e*Pn	Pn	06 29 05.3	-3.8
CHLP				IAmb	IAmb	06 29 07.3	
	comp=Z,80nm,0.8s						
CHLP				*e*Sn	Sn	06 31 18.9	-16
CHLP				IVMs_BB	IVMs_BB	06 35 01.9	
	comp=Z,1μm,18.5s						
MYKOM	**Kota Tinggi**	**13.27**	**116**	⇑P	**Pn**	**06 29 07.6**	**-2.8**
MYKOM	**Kota Tinggi**	**13.27**	**116**	*e*Pn	**Pn**	**06 29 08.8**	**-1.7**
LOEI	**Loei**	**13.36**	**42**	P	**P**	**06 29 22.5**	**+1.6**
SKHT	**Srikalahasti**	**13.39**	**298**	*e*Pn	**Pn**	**06 29 10.0**	**-2.1**
SKHT				IAmb	IAmb	06 29 14.0	
	comp=Z,43nm,0.8s						
SKHT				Sn	Sn	06 31 23.6	-16
SKHT				IVMs_BB	IVMs_BB	06 38 20.0	
	comp=Z,1μm,12.3s						
PVM	**Polavaram**	**13.80**	**314**	*e*Pn	Pn	06 29 14.9	-2.8
PVM				IAmb	IAmb	06 29 16.8	
	comp=Z,21nm,1.0s						
PVM				Sn	Sn	06 31 31.9	-18
PVM				IVMs_BB	IVMs_BB	06 35 46.1	
	comp=Z,802nm,18.0s						
ADKI	**Addanki**	**14.20**	**306**	*e*Pn	Pn	06 29 19.8	-3.3
ADKI				IAmb	IAmb	06 29 28.9	
	comp=Z,28nm,0.6s						
RCLA	**Racherla**	**14.83**	**302**	*e*P	Pn	06 29 27.8	-3.9
RCLA				IAmb	IAmb	06 29 35.9	
	comp=Z,16nm,0.7s						
RCLA				*e*Sn	Sn	06 31 56.7	-19
RCLA				IVMs_BB	IVMs_BB	06 36 33.6	
	comp=Z,1μm,22.9s						
JMBI	**JAMBI**	**14.94**	**128**	P	P	06 29 44.2	+5.8
SKNT	**Sakolnakorn**	**14.97**	**51**	P	**Pn**	**06 29 34.6**	**+1.0**
	comp=Z,44nm,1.4s,comp=Z,2μm						
DSRI	**Dabo**	**15.03**	**122**	P	**P**	**06 29 41.9**	**+2.5**
NJS	**Nagarjunasagar**	**15.12**	**307**	*e*P	**Pn**	**06 29 33.3**	**-2.3**
NJS				IAmb	IAmb	06 29 36.1	
	comp=Z,68nm,1.8s						
NJS				*e*Sn	Sn	06 32 07.4	-15
NJS				IVMs_BB	IVMs_BB	06 36 59.7	
	comp=Z,1μm,13.5s						
SRLM	**Srisailam**	**15.21**	**304**	*e*Pn	**Pn**	**06 29 34.7**	**-2.2**
SRLM				IAmb	IAmb	06 29 42.5	
	comp=Z,23nm,0.8s						
SRLM				Sn	Sn	06 32 06.1	-18
SRLM				IVMs_BB	IVMs_BB	06 37 05.1	
	comp=Z,2μm,18.8s						
UBPT	**Khong Chiam**	**15.28**	**59**	P	**Pn**	**06 29 38.7**	**+1.0**
	comp=Z,76nm,1.2s,comp=Z,946nm						
URV	**Uravakonda**	**16.05**	**298**	*e*Pn	**Pn**	**06 29 48.2**	**+0.5**
URV				IAmb	IAmb	06 29 59.1	
	comp=Z,67nm,1.4s						
URV				Sn	Sn	06 32 30.3	-15
URV				IVMs_BB	IVMs_BB	06 35 02.5	
	comp=Z,826nm,3.9s						
HYB	**Hyderabad**	**16.20**	**308**	*i* P	**P**	**06 29 52.0**	**-0.5**
HYB				*e*S	**Sn**	**06 32 50.0**	**+1.4**
HYB	**Hyderabad**	**16.20**	**308**	*e*P	**Pn**	**06 29 50.3**	**+0.6**
HYB				AMB	AMB	06 30 02.1	
	comp=Z,53nm,1.6s						
HYBB	**Hyderabad (bro**	**16.21**	**308**	*e*P	**P**	**06 29 53.0**	**+0.4**
HYBB				*e*Sn	**Sn**	**06 32 44.7**	**-3.9**
HYBB				IVMs_BB	IVMs_BB	06 37 06.5	
	comp=Z,534nm,4.4s						
LHSI	**Lahat**	**16.30**	**134**	P	**Pn**	**06 29 47.9**	**-2.9**
	comp=Z,148nm,1.2s,comp=Z,2μm						
RPR	**Rampur**	**16.53**	**313**	*e*Pn	Pn	06 29 46.1	-7.5
RPR				Sn	Sn	06 32 40.5	-16
RPR				IVMs_BB	IVMs_BB	06 37 18.8	
	comp=Z,1μm,19.9s						
PMBI	**Palembang**	**16.62**	**129**	P	**P**	**06 30 00.1**	**+3.0**
BOK	**Bokaro**	**17.02**	**341**	*e*P	**Pn**	**06 29 58.8**	**-1.0**
BOK				AMB	AMB	06 30 10.2	
	comp=Z,66nm,0.7s						
MDSI	**Maura Dua**	**17.22**	**134**	P	**P**	**06 30 03.3**	**-0.4**
	comp=Z,85nm,1.2s						
PPBI	**Pangkal Pinang**	**17.25**	**124**	P	**P**	**06 30 06.9**	**+2.8**
SRSP	**Sriramsagar**	**17.27**	**312**	*e*Pn	**Pn**	**06 30 00.6**	**-2.4**
SRSP				IAmb	IAmb	06 30 04.9	
	comp=Z,74nm,1.6s						
SRSP				Sn	Sn	06 33 00.2	-14
SRSP				IVMs_BB	IVMs_BB	06 36 41.2	
	comp=Z,520nm,4.3s						
LWLI	**Liwa**	**17.51**	**136**	P	**P**	**06 30 09.7**	**+2.6**
	comp=Z,91nm,1.0s,comp=Z,7μm						
KLSI		**17.76**	**133**	P	**P**	**06 30 10.5**	**+0.8**
	comp=Z,120nm,1.0s						
SHL	**Shillong**	**17.77**	**360**	*e*P	**Pn**	**06 30 09.0**	**-0.4**
SHL				AMB	AMB	06 30 18.8	
	comp=Z,124nm,1.4s						
SHL				*ex*	x	06 33 16.0	
KLI	**Kotabumi**	**17.97**	**134**	P	P	06 30 25.4	+13
KLRI	**Killari**	**18.11**	**306**	*e*Pn	**Pn**	**06 30 12.7**	**-0.8**
KLRI				IAmb	IAmb	06 30 22.3	
	comp=Z,83nm,1.3s						
KLRI				*e*Sn	Sn	06 33 15.9	-19
KLRI				IVMsBB		06 38 46.3	
	comp=Z,2μm,11.3s						
KASI	**Kota Agung**	**18.18**	**136**	P	**P**	**06 30 15.6**	**+1.3**
	comp=Z,86nm,1.1s						
NGP	**Nagpur**	**18.25**	**318**	*e*P	**Pn**	**06 30 15.8**	**+0.7**
NGP				*ex*	x	06 33 21.5	
TPI	**Tanjungpandan**	**18.84**	**123**	P	**Pn**	**06 30 23.5**	**+1.2**
	comp=Z,80nm,1.1s,comp=Z,1μm						
AKL	**Akola**	**19.35**	**313**	*e*P	**Pn**	**06 30 29.2**	**+0.8**
KSM	**Kuching**	**19.36**	**108**	⇓P	**P**	**06 30 27.6**	**+0.3**
KSM	**Kuching**	**19.36**	**108**	*e*P	**P**	**06 30 27.2**	**-0.1**
	comp=Z,20nm,0.9s						
ODAN	**Odare**	**19.54**	**348**	*e*P	**P**	**06 30 29.4**	**0.0**
CGJI	**Cibinong**	**19.78**	**136**	P	**P**	**06 30 32.5**	**+0.6**
	comp=Z,62nm,1.2s,comp=Z,3μm						
RAMN	**Ramite**	**19.80**	**346**	*e*P	**P**	**06 30 32.8**	**+0.5**
	comp=Z,33nm,0.5s						
TAPN	**Taplejung**	**19.95**	**349**	*e*P	**P**	**06 30 34.3**	**+0.3**
KMI	**Kunming**	**20.19**	**30**	P	Pn	06 30 38.5	-0.1
KMI				pP	pP	06 30 46.8	+2.1
KMI				S	**S**	**06 34 18.6**	**-3.3**
KMI				PMZ			
	comp=Z,42nm,1.3s						
KMI				PMZ			
	comp=Z,400nm,4.8s						
KMI				LN			
	comp=Z,2μm,17.0s						
KMI				LE			
	comp=Z,1μm,14.2s						
KMI				LZ			
	comp=Z,2μm,17.0s						
JIRN	**Jiri**	**20.58**	**345**	*e*P	**P**	**06 30 41.4**	**+0.5**
POO	**Poona**	**20.59**	**303**	*e*P	**P**	**06 30 41.5**	**+0.8**
	comp=Z,182nm,1.2s						
POO				*e*P	Pn	06 30 42.3	-0.8
POO				AMB	AMB	06 30 51.3	
	comp=Z,50nm,0.0s						
PKI	**Pulchoki**	**20.70**	**344**	*e*P	**P**	**06 30 42.4**	**+0.2**
QIZ	**Qiongzhong**	**20.75**	**55**	P	**P**	**06 30 41.4**	**-1.1**
QIZ				pP	**pP**	**06 30 49.6**	**-1.0**
QIZ				sP	**sP**	**06 30 53.8**	**-0.7**
QIZ				S	**S**	**06 34 31.1**	**-1.7**
QIZ				PMZ			
	comp=Z,22nm,1.7s						
QIZ				PMZ			
	comp=Z,460nm,9.5s						
QIZ	**Qiongzhong**	**20.75**	**55**	*e*P	**P**	**06 30 41.1**	**-1.4**
	comp=Z,133nm,1.3s						
BHPL	**Bhopal**	**20.79**	**320**	*e*P	**P**	**06 30 41.4**	**-1.4**
DMN	**Daman**	**20.82**	**343**	*e*P	**P**	**06 30 43.8**	**+0.4**
SBUM	**Sibu**	**20.90**	**103**	⇑P	**P**	**06 30 44.8**	**+0.7**
SBUM	**Sibu**	**20.90**	**103**	*e*P	**P**	**06 30 44.5**	**+0.4**
GUN	**Gumba**	**20.90**	**345**	*e*P	**P**	**06 30 44.3**	**0.0**
	comp=Z,82nm,0.6s						
STKI	**Sintang**	**20.94**	**110**	P	**P**	**06 30 45.4**	**+0.9**
	comp=Z,80nm,1.0s						
KKN	**Kakani**	**20.95**	**343**	*e*P	**P**	**06 30 44.7**	**0.0**
	comp=Z,28nm,0.5s						
LEM	**Lembang**	**21.31**	**132**	P	**P**	**06 30 50.5**	**+1.9**
	comp=Z,9.0nm,0.4s,baz=315,slow=19,SNR=2.6						
LEM				LR	LR	06 39 21.3	
	comp=Z,2μm,21.1s,baz=300,slow=38						
LEM	**Lembang**	**21.31**	**132**	P	**P**	**06 30 50.5**	**+1.9**
LEM				pmax	pmax		
	comp=Z,9.0nm,0.4s						
LEM				MLR	MLR		
	comp=Z,2μm,21.1s						
GKN	**Gorkha**	**21.33**	**342**	*e*P	**P**	**06 30 48.6**	**-0.2**
	comp=Z,90nm,0.5s						
KOLN	**Koldanda**	**21.46**	**340**	*e*P	**P**	**06 30 50.1**	**-0.1**
	comp=Z,111nm,0.7s						
BTM	**Bintulu**	**21.55**	**101**	⇑P	**P**	**06 30 51.5**	**+0.4**
LSA	**Lhasa**	**21.90**	**358**	*e*P	**P**	**06 30 57.1**	**+1.9**
	comp=Z,176nm,0.8s						
XMIS	**Christmas Isla**	**22.66**	**143**	*e*P	**P**	**06 30 59.7**	**-3.3**
	comp=Z,100nm,1.1s						
GYA	**Guiyang**	**23.35**	**35**	P	**P**	**06 31 10.0**	**-0.1**
GYA				pP	**pP**	**06 31 18.9**	**+0.4**
GYA				PP	**PnPn**	**06 31 40.3**	**+3.5**
GYA				PcP	**PcP**	**06 34 58.0**	**+1.4**
GYA				S	**S**	**06 35 15.6**	**-5.6**
GYA				sS	**sS**	**06 35 32.8**	**-2.9**
GYA				SS	**SnSn**	**06 36 02.3**	**+4.8**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,120nm,4.9s						
GYA				LN			
	comp=Z,680nm,16.2s						
GYA				LE			
	comp=Z,620nm,17.4s						
GYA				LZ			
	comp=Z,650nm,16.8s						
SMRI	**Semarang**	**23.59**	**128**	P	**P**	**06 31 16.5**	**+4.1**
	comp=Z,75nm,1.0s						
SMRI	**Semarang**	**23.59**	**128**	*e*P	**P**	**06 31 12.7**	**+0.3**
	comp=Z,63nm,0.9s						
TBJI	**Tambak Boyo**	**24.57**	**125**	P	**P**	**06 31 23.0**	**+1.5**
H08S3	**Diego Garcia H**	**24.62**	**232**	T	T	06 57 35.8	
	baz=52,slow=75,SNR=308						
H08S2	**Diego Garcia H**	**24.63**	**232**	T	T	06 57 36.7	
	baz=52,slow=75,SNR=152						
H08S1	**Diego Carcia H**	**24.64**	**232**	T	T	06 57 37.7	
	baz=52,slow=75,SNR=139						
NDI	**New Delhi**	**25.05**	**328**	*e*P	**P**	**06 31 25.5**	**-0.2**
H08N1	**Diego Carcia H**	**25.07**	**237**	T	T	06 58 09.5	
	baz=44						
H08N2	**Diego Garcia H**	**25.07**	**237**	T	T	06 58 14.4	
	baz=44						
H08N3	**Diego Garcia H**	**25.09**	**237**	T	T	06 58 14.4	
	baz=44						
SDKM	**Sandakan**	**25.21**	**93**	⇓P	**P**	**06 31 29.4**	**+2.1**
CD2	**Chengdu**	**25.62**	**24**	⇓P	**P**	**06 31 30.4**	**-0.5**
CD2				pP	**pP**	**06 31 40.3**	**+0.6**
CD2				sP	**sP**	**06 31 44.8**	**+1.4**
CD2				PcP	**PcP**	**06 35 00.4**	**-1.0**
CD2				S	**S**	**06 35 56.8**	**-0.5**
CD2				PMZ			
	comp=Z,50nm,0.6s						
CD2				PMZ			
	comp=Z,440nm,4.7s						
CD2				LN			
	comp=Z,1μm,18.6s						
CD2				LE			
	comp=Z,2μm,16.6s						
CD2				LZ			
	comp=Z,1μm,14.2s						
GZH	**Guangzhou**	**25.66**	**51**	P	P	06 31 37.3	+6.0
GZH				PMZ			
	comp=Z,470nm,6.5s						
GZH				LN			
	comp=Z,2μm,16.5s						
GZH				LE			
	comp=Z,1μm,15.3s						
DDI	**Dehra Dun**	**25.98**	**332**	*e*P	**P**	**06 31 33.7**	**-0.5**
DDI				AMB	AMB	06 31 44.7	
	comp=Z,81nm,1.7s						
SMLA	**Simla**	**27.07**	**331**	*e*P	**P**	**06 31 45.8**	**+1.9**
ENH	**Enshi**	**27.86**	**34**	*e*P	**P**	**06 31 49.0**	**-2.1**
	comp=Z,24nm,1.0s						
DHRM	**DHARAMSHALA**	**28.41**	**331**	*e*P	**P**	**06 31 57.1**	**+0.9**
DHRM				AMB	AMB	06 32 06.0	
	comp=Z,39nm,0.8s						
TGY	**Tagaytay City**	**29.20**	**75**	LR	LR	06 43 31.1	
	comp=Z,6.6nm,18.3s,baz=246,slow=36						
LZH	**Lanzhou**	**30.30**	**19**	*e*P	**P**	**06 32 15.4**	**+2.6**
LZH				pP	**pP**	**06 32 25.6**	**+3.9**
LZH				sP	**sP**	**06 32 30.0**	**+4.6**
LZH				PMZ			
	comp=Z,37nm,1.0s						
LZH				PMZ			
	comp=Z,230nm,4.0s						
LZH				LN			
	comp=Z,2μm,16.8s						
LZH				LE			
	comp=Z,3μm,17.2s						
LZH				LZ			
	comp=Z,2μm,17.5s						
XAN	**Xi'an**	**30.56**	**29**	P	**P**	**06 32 13.4**	**-1.7**
XAN				pP	**pP**	**06 32 23.0**	**-0.9**
XAN				sP	**sP**	**06 32 27.0**	**-0.6**
XAN				PP	**PnPn**	**06 33 12.1**	**-2.7**
XAN				S	S	06 37 08.6	-6.5
XAN				sS	sS	06 37 24.4	-5.3
XAN				PMZ			
	comp=Z,2.0nm,0.6s						
XAN				LN			
	comp=Z,920nm,17.9s						
XAN				LE			
	comp=Z,490nm,16.4s						
XAN				LZ			
	comp=Z,460nm,13.4s						
QZH	**Quanzhou**	**30.73**	**53**	P	P	06 32 20.8	+4.3
QZH				S	**S**	**06 37 20.1**	**+2.4**
QZH				LN			
	comp=Z,1μm,11.0s						
QZH				LE			
	comp=Z,2μm,11.6s						
QZH				LZ			
	comp=Z,3μm,16.2s						
WHN	**Wuhan**	**30.96**	**40**	⇑P	**P**	**06 32 19.5**	**+1.0**
WHN				S	**S**	**06 37 22.5**	**+1.2**
WHN				LN			
	comp=Z,1μm,11.0s						
WHN				LE			
	comp=Z,840nm,10.8s						
WHN				LZ			
	comp=Z,2μm,15.6s						
YULB	**Yu-li**	**32.24**	**58**	*e*P	**P**	**06 32 30.3**	**+0.4**
	comp=Z,16nm,0.8s						
GTA	**Gaotai**	**32.37**	**11**	⇑P	**P**	**06 32 31.3**	**+0.3**
GTA				pP	**pP**	**06 32 40.0**	**+0.1**
GTA				sP	**sP**	**06 32 44.0**	**+0.4**
GTA				S	**S**	**06 37 43.3**	**-0.1**
GTA				sS	**sS**	**06 37 59.1**	**+1.1**
GTA				PMZ			
	comp=Z,25nm,1.0s						
GTA				PMZ			
	comp=Z,230nm,4.6s						
GTA				LN			
	comp=Z,380nm,20.4s						
GTA				LE			
	comp=Z,530nm,17.1s						
GTA				LZ			
	comp=Z,510nm,22.8s						
KSH	**Kashi**	**34.76**	**338**	P	**P**	**06 32 52.3**	**+0.5**
KSH				*e*pP	**pP**	**06 33 01.5**	**+0.8**
KSH				PcP	**PcP**	**06 35 24.8**	**-0.3**
KSH				S	**S**	**06 38 24.9**	**+4.5**
KSH				PcS	**PcS**	**06 39 13.3**	**+1.6**
KSH				ScS	**ScS**	**06 43 13.3**	**+1.5**
KSH				PMZ			
	comp=Z,42nm,1.5s						
KSH				LN			
	comp=Z,200nm,8.9s						
KSH				LE			
	comp=Z,980nm,18.0s						
KSH				LZ			
	comp=Z,1μm,21.4s						
NJ2	**Nanjing**	**34.87**	**42**	*e*P	**P**	**06 32 52.1**	**-0.6**
NJ2				pP	**pP**	**06 33 00.6**	**-1.0**
NJ2				sP	**sP**	**06 33 05.3**	**0.0**
NJ2				S	**S**	**06 38 22.0**	**-0.1**
NJ2				sS	**sS**	**06 38 38.0**	**+1.2**
NJ2				PMZ			
	comp=Z,70nm,0.6s						
NJ2				LN			
	comp=Z,1μm,13.1s						
NJ2				LE			
	comp=Z,1μm,12.5s						
NJ2				LZ			
	comp=Z,

KZA	**Kyzart**	**37.27**	**339**	P	**P**	**06 33 14.4**	**+0.7**		
	SNR=10								
HHC	**Hu-ho-hao-te**	**37.38**	**25**	*e*P	P	06 33 21.9	+7.7		
HHC				pP	pP	06 33 28.0	+4.9		
HHC				PP	PnPn	06 34 51.3	+11		
HHC				S	S	06 39 10.3	+10		
HHC				sS	sS	06 39 16.0	+0.8		
HHC				SS	**SnSn**	**06 41 40.4**	**+2.0**		
HHC				pmax	pmax				
	comp=Z,18nm,0.7s								
HHC				LR	LR				
	comp=N,650nm,13.3s								
HHC				LR	LR				
	comp=E,580nm,13.6s								
HHC				LR	LR				
	comp=Z,640nm,13.8s								
UCH	**Uchtor**	**37.67**	**339**	P	**P**	**06 33 17.8**	**+0.8**		
	SNR=15								
AAA	**Alma-Ata**	**37.79**	**342**	*e*P	P	06 33 21.4	+3.8		
AAA				*e*S	S	06 39 13.0	+6.5		
AAA				pmax	pmax				
	comp=Z,500nm,1.9s								
AAA				smax	smax				
	comp=E,1μm,7.0s								
AML	**Almayashu**	**37.88**	**338**	P	**P**	**06 33 19.9**	**+1.1**		
	SNR=23								
KBK	**Karagaybulak**	**37.89**	**340**	P	**P**	**06 33 19.9**	**+1.3**		
	SNR=14								
TKM2	**Tokmak 2**	**37.90**	**340**	P	P	06 33 29.3	+11		
	SNR=6.6								
TKM2	**Tokmak 2**	**37.90**	**340**	*e*P	**P**	**06 33 19.1**	**+0.4**		
	comp=E,19nm,0.7s								
AAK	**Ala-Archa**	**38.03**	**339**	P	**P**	**06 33 20.8**	**+1.1**		
	comp=E,288nm,1.1s,SNR=6.5								
AAK	**Ala-Archa**	**38.03**	**339**	P	P	06 33 28.8	+9.1		
	comp=E,288nm,1.1s,SNR=6.5								
AAK	**Ala-Archa**	**38.03**	**339**	P	**P**	**06 33 19.3**	**-0.5**		
	comp=E,7.1nm,0.7s,baz=170,slow=8.7,SNR=11								
AAK				LR	LR	06 49 29.8			
	comp=E,1μm,21.5s,baz=144,slow=37								
AAK	**Ala-Archa**	**38.03**	**339**	⇓*e*P	**P**	**06 33 20.6**	**+0.9**		
AAK				pmax	pmax				
	comp=Z,50nm,1.0s								
AAK	**Ala-Archa**	**38.03**	**339**	P	**P**	**06 33 21.1**	**+1.4**		
	SNR=47								
FRU	**Bishkek**	**38.16**	**339**	*e*P	**P**	**06 33 22.5**	**+1.8**		
FRU				pmax	pmax				
	comp=Z,200nm,2.0s								
CHMS	**Chumysh**	**38.26**	**340**	P	P	06 33 30.6	+9.1		
	SNR=6.5								
EKS2	**Erkin-Say**	**38.31**	**338**	P	**P**	**06 33 23.3**	**+1.2**		
	SNR=14								
EKS2	**Erkin-Say**	**38.31**	**338**	*e*P	**P**	**06 33 23.1**	**+1.1**		
	comp=Z,49nm,0.9s								
EKS2				*e*PP	**PnPn**	**06 34 54.6**	**+2.8**		
USP	**Ospenovka**	**38.58**	**340**	P	**P**	**06 33 24.8**	**+0.6**		
	SNR=16								
MNAS	**Manas**	**38.64**	**337**	P	**P**	**06 33 25.5**	**+0.6**		
MNAS				pmax	pmax				
	comp=Z,44nm,0.8s								
BJI	**Beijing**	**38.85**	**30**	P	**P**	**06 33 26.1**	**-0.3**		
BJI				PP	**PnPn**	**06 34 59.0**	**+0.9**		
BJI				S	**S**	**06 39 26.1**	**+3.7**		
BJI				PMZ					
	comp=Z,11nm,0.8s								
BJI				LN					
	comp=Z,900nm,18.7s								
BJI				LE					
	comp=Z,510nm,15.4s								
BJI				LZ					
	comp=Z,770nm,24.6s								
MK31	**Makanchi Array**	**39.82**	**350**	*i* P	**P**	**06 33 33.9**	**-0.6**		
MK31				pmax	pmax				
	comp=Z,20nm,0.7s								
MK31	**Makanchi Array**	**39.82**	**350**	*e*P	**P**	**06 33 34.2**	**-0.3**		
MKAR	**Makanchi Array**	**39.82**	**350**	P	**P**	**06 33 33.9**	**-0.6**		
	comp=Z,3.7nm,0.6s,baz=169,slow=8.6,SNR=51								
MKAR				PcP	**PcP**	**06 35 40.8**	**+0.6**		
	comp=Z,1.1nm,0.6s,baz=194,slow=2.8,SNR=3.7								
MKAR				LR	LR	06 51 22.8			
	comp=Z,523nm,21.5s,baz=166,slow=38								
MKAR	**Makanchi Array**	**39.82**	**350**	P	**P**	**06 33 33.9**	**-0.6**		
MKAR						06 35 40.8			
MKAR				pmax	pmax				
	comp=Z,4.0nm,0.6s								
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
MKAR				MLR	MLR				
	comp=Z,523nm,21.5s								
KK31	**Karatay Array**	**39.96**	**335**	*i* P	**P**	**06 33 35.3**	**-0.4**		
KK31				pmax	pmax				
	comp=Z,41nm,0.9s								
KKAR	**Karatay Array**	**39.96**	**335**	*e*P	**P**	**06 33 35.5**	**-0.2**		
SONM	**Songino Array**	**41.86**	**15**	P	**P**	**06 33 50.8**	**-0.6**		
	comp=Z,9.1nm,0.7s,baz=195,slow=8.8,SNR=43								
SONM				LR	LR	06 53 57.5			
	comp=Z,1μm,19.7s,baz=194,slow=40								
SONM	**Songino Array**	**41.86**	**15**	P	**P**	**06 33 50.8**	**-0.6**		
SONM				pmax	pmax				
	comp=Z,9.0nm,0.7s								
SONM				MLR	MLR				
	comp=Z,1μm,19.7s								
ISAD	**Sadrabad**	**42.92**	**309**	*e*P	**P**	**06 34 01.0**	**+0.4**		
ZAK	**Zakamensk**	**43.60**	**11**	*e*P	**P**	**06 34 04.4**	**-1.0**		
ZAK				*e*		06 35 57.2			
ZAK				pmax	pmax				
	comp=Z,15nm,1.8s								
KSAR	**Wonju Array Be**	**44.04**	**42**	P	**P**	**06 34 06.8**	**-2.2**		
KSRS	**Korea Array**	**44.07**	**42**	P	**P**	**06 34 06.8**	**-2.5**		
	comp=Z,1.4nm,0.6s,baz=250,slow=9.6,SNR=6.6								
KSRS				LR	LR	06 53 47.9			
	comp=Z,404nm,19.5s,baz=247,slow=38								
KSRS	**Korea Array**	**44.07**	**42**	P	**P**	**06 34 06.9**	**-2.5**		
KSRS				pmax	pmax				
	comp=Z,1.0nm,0.6s								
KSRS				MLR	MLR				
	comp=Z,404nm,19.5s								
KURBB	**Kurchatov Arra**	**44.21**	**348**	P	**P**	**06 34 10.1**	**-0.1**		
	comp=Z,5.7nm,0.7s,baz=172,slow=7.3,SNR=76								
KURBB				PcP	**PcP**	**06 35 55.8**	**+1.3**		
	comp=Z,2.2nm,0.6s,baz=160,slow=2.6,SNR=6.8								
KURK	**Kurchatov**	**44.28**	**348**	P	**P**	**06 34 10.2**	**-0.6**		
	comp=Z,192nm,1.1s,SNR=17								
KURK	**Kurchatov**	**44.28**	**348**	P	**P**	**06 34 10.1**	**-0.7**		
KURK						06 35 55.8			
KURK				pmax	pmax				
	comp=Z,6.0nm,0.7s								
KURK				pmax	pmax				
	comp=Z,2.0nm,0.6s								
KURK	**Kurchatov**	**44.28**	**348**	P	**P**	**06 34 11.2**	**+0.4**		
	SNR=50								
KURK	**Kurchatov**	**44.28**	**348**	*e*P	**P**	**06 34 10.7**	**-0.1**		
KURK				PcP	**PcP**	**06 35 55.8**	**+1.0**		
IZEF	**Zefreh**	**44.38**	**310**	*e*P	**P**	**06 34 12.2**	**0.0**		
MOY	**Mondy**	**44.47**	**8**	*e*P	P	06 34 21.2	+8.7		
TLY	**Talaya**	**44.91**	**10**	P	**P**	**06 34 15.8**	**0.0**		
	comp=Z,0.7nm,0.4s,baz=215,slow=6.6,SNR=8.0								
TLY	**Talaya**	**44.91**	**10**	*e*P	**P**	**06 34 16.7**	**+0.9**		
TLY				*e*S	S	06 40 43.9	-7.9		
TLY				*e*SS	**ScS**	**06 44 06.8**	**-4.1**		
TLY				pmax	pmax				
	comp=Z,38nm,1.5s								
TLY	**Talaya**	**44.91**	**10**	P	**P**	**06 34 17.0**	**+1.2**		
	SNR=25								
IKIA	**Kiasar**	**44.92**	**315**	*e*P	P	06 34 20.5	+4.0		
IRK	**Irkutsk**	**45.56**	**11**	*e*P	**P**	**06 34 20.0**	**-1.0**		
IRK				pmax	pmax				
	comp=Z,71nm,1.9s								
IDMV	**Damavand**	**45.80**	**313**	*e*P	P	06 34 31.8	+8.3		
CN2	**Changchun**	**46.38**	**34**	*e*P	P	06 34 22.8	-4.8		
CN2				*e*S	S	06 41 06.5	-6.8		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CN2				pmax	pmax				
	comp=Z,200nm,4.0s								
CN2				LR	LR				
	comp=N,400nm,15.0s								
CN2				LR	LR				
	comp=E,400nm,15.0s								
CN2				LR	LR				
	comp=Z,400nm,16.0s								
ZAA0	**Zalesovo Array**	**46.47**	**354**	*e*P	**P**	**06 34 28.7**	**+0.6**		
ZALV	**Zalesovo Beam**	**46.47**	**354**	P	**P**	**06 34 27.7**	**-0.4**		
	comp=Z,5.1nm,0.6s,baz=161,slow=13,SNR=18								
ZALV				LR	LR	06 56 19.5			
	comp=Z,611nm,21.5s,baz=250,slow=39								
ZALV	**Zalesovo Beam**	**46.47**	**354**	P	**P**	**06 34 27.7**	**-0.4**		
ZALV				pmax	pmax				
	comp=Z,5.0nm,0.6s								
ZALV				MLR	MLR				
	comp=Z,611nm,21.5s								
IR3	**Iran Long-Peri**	**46.48**	**313**	*e*P	P	06 34 37.4	+8.7		
NWAO	**Narrogin (SRO)**	**47.05**	**151**	P	**P**	**06 34 33.9**	**+1.0**		
	comp=Z,6.2nm,0.6s,baz=323,slow=2.1,SNR=3.3								
NWAO	**Narrogin (SRO)**	**47.05**	**151**	P	**P**	**06 34 33.9**	**+1.0**		
NWAO				pmax	pmax				
	comp=Z,6.0nm,0.6s								
RAYN	**Ar Rayn**	**47.14**	**295**	P	**P**	**06 34 34.8**	**+0.9**		
	comp=Z,75nm,1.6s,SNR=5.2								
RAYN	**Ar Rayn**	**47.14**	**295**	*e*P	**P**	**06 34 35.0**	**+1.0**		
	comp=Z,16nm,0.9s								
H01W3	**Cape Leeuwin H**	**47.28**	**155**	T	T	07 26 05.7			
	baz=332,slow=76,SNR=5.3								
H01W2	**Cape Leeuwin H**	**47.29**	**155**	T	T	07 26 04.2			
	baz=332,slow=76,SNR=4.8								
H01W1	**Cape Leeuwin H**	**47.29**	**155**	T	T	07 26 04.8			
	baz=332,slow=76,SNR=6.7								
IGZV	**Ghazvin**	**47.48**	**313**	*e*P	P	06 34 31.4	-5.2		
NVS	**Novosibirsk**	**47.52**	**353**	*e*P	**P**	**06 34 35.2**	**-1.1**		
NVS				*e*S	**S**	**06 41 27.5**	**-1.7**		
NVS				pmax	pmax				
	comp=Z,72nm,1.6s								
NVS				pmax	pmax				
	comp=N,56nm,1.7s								
NVS				pmax	pmax				
	comp=E,27nm,1.8s								
NVS				smax	smax				
	comp=E,20nm,1.9s								
BVA0	**Borovoye Array**	**48.47**	**343**	*i* P	**P**	**06 34 42.9**	**-0.8**		
BVA0				pmax	pmax				
	comp=Z,59nm,1.1s								
BVAR	**Borovoye Array**	**48.47**	**343**	P	**P**	**06 34 42.8**	**-0.9**		
	comp=Z,7.9nm,0.7s,baz=147,slow=8.6,SNR=22								
BVAR	**Borovoye Array**	**48.47**	**343**	P	**P**	**06 34 42.8**	**-0.9**		
BVAR				pmax	pmax				
	comp=Z,8.0nm,0.7s								
BRVK	**Borovoye**	**48.53**	**343**	P	**P**	**06 34 43.9**	**-0.2**		
	comp=Z,258nm,0.7s,SNR=5.0								
BRVK	**Borovoye**	**48.53**	**343**	*ce*P	**P**	**06 34 43.1**	**-1.0**		
BRVK				pmax	pmax				
	comp=Z,10.0nm,0.8s								
BRVK	**Borovoye**	**48.53**	**343**	P	**P**	**06 34 46.2**	**+2.1**		
	SNR=19								
BRVK	**Borovoye**	**48.53**	**343**	*e*P	**P**	**06 34 43.6**	**-0.5**		
	comp=Z,30nm,0.8s								
MDJ	**Mudanjiang**	**49.22**	**35**	P	**P**	**06 34 49.5**	**0.0**		
MDJ				pP	**pP**	**06 34 59.0**	**+0.3**		
MDJ				sP	**sP**	**06 35 02.4**	**0.0**		
MDJ				S	**S**	**06 41 53.3**	**-0.1**		
MDJ				PMZ					
	comp=Z,8.0nm,1.0s								
MDJ				PMZ					
	comp=Z,59nm,4.2s								
MDJ				LN					
	comp=Z,280nm,31.8s								
MDJ				LE					
	comp=Z,330nm,35.4s								
MDJ				LZ					
	comp=Z,290nm,35.4s								
AB31	**Akbulak array**	**49.35**	**333**	*i* P	**P**	**06 34 50.3**	**-0.1**		
AB31				pmax	pmax				
	comp=Z,40nm,0.8s								
ABKAR	**Akbulak array**	**49.35**	**333**	*e*P	**P**	**06 34 50.5**	**+0.1**		
	comp=Z,23nm,0.7s								
WRA	**Warramunga Arr**	**49.99**	**124**	P	**P**	**06 34 55.1**	**-0.7**		
	comp=Z,8.4nm,1.0s,baz=307,slow=8.1,SNR=4.6								
WRA				PcP	**PcP**	**06 36 16.1**	**+0.4**		
	comp=Z,1.8nm,0.7s,baz=314,slow=2.7,SNR=4.5								
WRA				LR	LR	06 59 38.2			
	comp=Z,394nm,18.4s,baz=305,slow=40								
WRA	**Warramunga Arr**	**49.99**	**124**	P	**P**	**06 34 55.1**	**-0.7**		
WRA						06 36 16.1			
WRA				pmax	pmax				
	comp=Z,8.0nm,1.0s								
WRA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
WRA				MLR	MLR				
	comp=Z,394nm,18.4s								
WRAB	**Tennant Creek**	**49.99**	**124**	P	**P**	**06 34 55.2**	**-0.6**		
	comp=Z,75nm,1.2s,SNR=6.2								
WRAB	**Tennant Creek**	**49.99**	**124**	*ce*P	**P**	**06 34 54.9**	**-0.9**		
WRAB				pmax	pmax				
	comp=Z,65nm,1.7s								
WRAB	**Tennant Creek**	**49.99**	**124**	*e*P	**P**	**06 34 55.1**	**-0.8**		
	comp=Z,14nm,0.9s								
USRK	**Usuriysk Ar.**	**50.38**	**37**	P	**P**	**06 34 58.0**	**-0.4**		
	comp=Z,1.1nm,0.5s,baz=226,slow=5.0,SNR=5.1								
USRK				LR	LR	06 58 24.8			
	comp=Z,467nm,19.2s,baz=220,slow=39								
AKTO	**Aktyubinsk**	**51.06**	**333**	P	**P**	**06 35 02.4**	**-1.1**		
AKTO				pmax	pmax				
	comp=Z,24nm,1.0s								
OPO	**Ambohidratompo**	**51.24**	**239**	LR	LR	06 52 12.9			
	comp=Z,544nm,21.2s,baz=66,slow=31								
AS31	**Alice Springs**	**51.53**	**128**	*e*P	**P**	**06 35 07.8**	**+0.4**		
ASAR	**Alice Springs**	**51.53**	**128**	P	**P**	**06 35 06.8**	**-0.6**		
	comp=Z,3.0nm,0.7s,baz=304,slow=7.4,SNR=24								
ASAR				PcP	**PcP**	**06 36 22.2**	**+0.9**		
	comp=Z,1.7nm,0.6s,baz=310,slow=4.1,SNR=2.7								
ASAR				LR	LR	06 57 23.5			
	comp=Z,472nm,21.7s,baz=298,slow=36								
ASAR	**Alice Springs**	**51.53**	**128**	P	**P**	**06 35 06.8**	**-0.6**		
ASAR						06 36 22.2			
ASAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
ASAR				pmax	pmax				
	comp=Z,2.0nm,0.6s								
ASAR				MLR	MLR				
	comp=Z,472nm,21.7s								
BOD	**Bodaibo**	**52.86**	**15**	*e*P	**P**	**06 35 16.5**	**-0.2**		
BOD				pmax	pmax				
	comp=Z,44nm,1.6s								
GNI	**Garni**	**52.98**	**315**	*i* P	**P**	**06 35 18.5**	**+0.3**		
GNI				pmax	pmax				
	comp=Z,17nm,1.3s								
GNI	**Garni**	**52.98**	**315**	P	P	06 35 21.9	+3.7		
	SNR=5.4								
GNI	**Garni**	**52.98**	**315**	*e*P	**P**	**06 35 21.3**	**+3.1**		
	comp=Z,51nm,1.4s								
KLR	**Kul'dur**	**53.19**	**32**	*e*P	P	06 35 15.0	-4.2		
ZEI	**Tsey**	**54.67**	**318**	*e*P	P	06 35 34.9	+4.4		
ZEI				pmax	pmax				
	comp=Z,11nm,0.6s								
SVE	**Sverdlovsk**	**54.77**	**340**	*e*P	**P**	**06 35 31.2**	**+0.5**		
SVE				pmax	pmax				
	comp=Z,56nm,1.0s								
SVE				MLR	MLR				
	comp=Z,988nm,20.0s								
KMBO	**Kilima Mbogo**	**55.19**	**263**	P	**P**	**06 35 35.0**	**+0.2**		
	comp=Z,3.2nm,0.6s,baz=53,slow=9.3,SNR=9.0								
KMBO				LR	LR	06 54 49.7			
	comp=Z,732nm,21.7s,baz=81,slow=31								
KMBO	**Kilima Mbogo**	**55.19**	**263**	*e*P	**P**	**06 35 36.3**	**+1.6**		
ARU	**Arti**	**55.21**	**338**	P	**P**	**06 35 33.3**	**-0.5**		
	comp=Z,284nm,1.2s,SNR=5.3								
ARU	**Arti**	**55.21**	**338**	*d* P	**P**	**06 35 32.6**	**-1.2**		
ARU						06 36 35.2			
ARU				PPP	PPP	06 38 49.9			
ARU				S	**S**	**06 43 15.6**	**+0.5**		
ARU				pmax	pmax				
	comp=Z,13nm,1.2s								
ARU				MLR	MLR				
	comp=Z,865nm,20.0s								
ARU	**Arti**	**55.21**	**338**	*e*P	**P**	**06 35 33.0**	**-0.8**		
	comp=Z,74nm,1.1s								
CLNS	**Chul'man**	**55.39**	**21**	*e*P	P	06 35 41.6	+6.4		
CLNS				pmax	pmax				
	comp=E,16nm,0.9s								
CLNS				pmax	pmax				
	comp=Z,23nm,0.9s								
CLNS				pmax	pmax				
	comp=N,15nm,1.0s								
NEY	**Neytrino**	**55.65**	**318**	*i* P	**P**	**06 35 40.4**	**+2.9**		
NEY				pmax	pmax				
	comp=Z,1.0nm,0.7s								
KBZ	**Khabaz**	**55.73**	**319**	P	**P**	**06 35 37.6**	**-0.2**		
	comp=Z,3.8nm,0.8s,baz=139,slow=5.3,SNR=6.7								
KBZ	**Khabaz**	**55.73**	**319**	P	**P**	**06 35 37.6**	**-0.2**		
KBZ				pmax	pmax				
	comp=Z,4.0nm,0.9s								
KIV	**Kislovodsk**	**55.97**	**319**	*e*P	**P**	**06 35 39.5**	**-0.2**		
KIV				pmax	pmax				
	comp=Z,12nm,1.3s								
KIV	**Kislovodsk**	**55.97**	**319**	P	P	06 35 47.8	+8.1		
	SNR=9.1								
KIV	**Kislovodsk**	**55.97**	**319**	*e*P	**P**	**06 35 39.7**	**0.0**		
	comp=Z,8.4nm,0.6s								
GOF	**Gofitskoye**	**56.22**	**320**	*e*P	P	06 35 48.6	+7.3		
MALT	**Malatya**	**56.89**	**311**	⇑P	P	06 35 54.7	+8.3		
MALT	**Malatya**	**56.89**	**311**	⇑*i*P	P	06 35 54.7	+8.3		
ASAJ	**Asahikawa**	**57.02**	**42**	*e*P	**P**	**06 35 47.0**	**0.0**		
	comp=Z,27nm,1.6s								
SOKR	**Solikamsk**	**58.20**	**340**	*d* P	P	06 36 03.5	+8.5		
SOKR				pmax	pmax				
	comp=Z,80nm,1.5s								
SOKR				MLR	MLR				
	comp=Z,680nm,19.0s								
YSS	**Yuzh-Sakhalins**	**58.30**	**39**	*e*P	P	06 35 52.5	-3.5		
YSS				*e*		06 36 04.5			
YSS	**Yuzh-Sakhalins**	**58.30**	**39**	*e*P	**P**	**06 35 55.7**	**-0.3**		
	comp=Z,10nm,0.6s								
VRHR	**Novokhopersk**	**59.82**	**326**	*e*P	**P**	**06 36 09.4**	**+3.0**		
VRHR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
VRHR				pmax	pmax				
	comp=N,20nm,1.0s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.5s								
BRTR	**Keskin Array B**	**60.87**	**311**	P	**P**	**06 36 12.9**	**-1.1**		
	comp=E,3.2nm,0.7s,baz=122,slow=7.4,SNR=20								
BRTR				LR	LR	07 03 37.4			
	comp=E,254nm,21.5s,baz=108,slow=37								
BRTR	**Keskin Array B**	**60.87**	**311**	P	**P**	**06 36 12.9**	**-1.1**		
BRTR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
BRTR				MLR	MLR				
	comp=Z,254nm,21.5s								
BR131	**Keskin Array S**	**60.87**	**311**	*e*P	**P**	**06 36 13.2**	**-0.8**		
	comp=Z,4.2nm,0.6s								
YAK	**Yakutsk**	**60.88**	**19**	*e*P	**P**	**06 36 12.5**	**-1.0**		
YAK				*e*		06 36 53.4			
YAK				*e*		06 38 27.9			
YAK				*e*PPP	PPP	06 39 55.7			
YAK				*e*S	S	06 44 22.8	-6.3		
YAK				*e*		06 45 51.3			
YAK				*e*SS	**SS**	**06 48 25.5**	**-3.0**		
YAK				pmax	pmax				
	comp=Z,39nm,1.2s								
YAK				pmax	pmax				
	comp=N,19nm,1.2s								
YAK				pmax	pmax				
	comp=E,20nm,1.2s								
YAK				pmax	pmax				
	comp=Z,49nm,3.3s								
YAK				pmax	pmax				
	comp=N,8.0nm,1.7s								
YAK				pmax	pmax				
	comp=E,7.0nm,1.4s								
YAK				smax	smax				
	comp=N,27nm,1.8s								
YAK				smax	smax				
	comp=E,54nm,2.3s								
YAK	**Yakutsk**	**60.88**	**19**	*e*P	**P**	**06 36 12.8**	**-0.7**		
	comp=E,17nm,0.6s								
VORD	**Divnogorie**	**61.07**	**325**	*e*P	**P**	**06 36 16.5**	**+1.5**		
VORD				pmax	pmax				
	comp=Z,9.0nm,0.9s								
VORD				pmax	pmax				
	comp=N,80nm,0.8s								
VORD				pmax	pmax				
	comp=E,50nm,0.8s								
VSR	**Storozhevoye**	**61.26**	**325**	*e*P	**P**	**06 36 17.9**	**+1.7**		
VSR				pmax	pmax				
	comp=Z,10.0nm,1.3s								
VSR				pmax	pmax				
	comp=N,4.0nm,0.4s								
VSR				pmax	pmax				
	comp=E,10.0nm,1.2s								
STKA	**Stephens Creek**	**61.61**	**132**	P	**P**	**06 36 19.6**	**+0.7**		
	comp=E,3.8nm,0.5s,baz=306,slow=3.8,SNR=18								
STKA				LR	LR	07 08 22.2			
	comp=E,254nm,18.0s,baz=313,slow=41								
STKA	**Stephens Creek**	**61.61**	**132**	P	**P**	**06 36 19.7**	**+0.7**		
STKA				pmax	pmax				
	comp=Z,4.0nm,0.5s								
STKA				MLR	MLR				
	comp=Z,254nm,18.0s								
STKA	**Stephens Creek**	**61.61**	**132**	*e*P	**P**	**06 36 19.6**	**+0.7**		
	comp=Z,1.0nm,0.6s								
LPSR	**Galich'ya Gora**	**62.00**	**327**	*e*P	**P**	**06 36 22.8**	**+1.6**		
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
LPSR				pmax	pmax				
	comp=N,6.0nm,0.8s								
LPSR				pmax	pmax				
	comp=E,10.0nm,1.0s								
SIM	**Simferopol'**	**62.04**	**317**	P	P	06 36 29.0	+7.4		
SIM				pmax	pmax				
	comp=Z,12nm,0.8s								
ISP	**Isparta**	**62.79**	**309**	⇓P	**P**	**06 36 28.4**	**+1.4**		
ISP	**Isparta**	**62.79**	**309**	⇓*i*P	**P**	**06 36 28.4**	**+1.4**		
ISP	**Isparta**	**62.79**	**309**	*e*P	**P**	**06 36 27.1**	**+0.1**		
	comp=Z,16nm,1.0s								
PRGR	**Permogore**	**63.64**	**337**	P	**P**	**06 36 32.6**	**+0.7**		
PRGR				*e**PP	**pP**	**06 36 37.8**	**-3.6**		
PRGR				pmax	pmax				
	comp=Z,15nm,0.7s								
MOS	**Moscow**	**64.09**	**329**	*e*P	P	06 36 31.9	-3.1		
MOS				*e*		06 36 41.1			
MOS				pmax	pmax				
	comp=Z,28nm,0.8s								
MOS				MLR	MLR				
	comp=Z,1μm,19.0s								
OBN	**Obninsk**	**64.35**	**328**	*i* P	**P**	**06 36 37.5**	**+0.7**		
OBN				*i*		06 36 43.6			
OBN				pmax	pmax				
	comp=Z,38nm,1.7s								
OBN				MLR	MLR				
	comp=Z,846nm,21.0s								
OBN	**Obninsk**	**64.35**	**328**	*e*P	**P**	**06 36 38.6**	**+1.8**		
	comp=Z,81nm,1.6s								
KARP	**Karpathos**	**65.04**	**306**	*e*P	**P**	**06 36 41.8**	**+0.1**		
TIRR	**Tirgusor**	**65.81**	**315**	⇑P	P	06 36 53.9	+7.4		
TIRR	**Tirgusor**	**65.81**	**315**	⇑*i*P	P	06 36 53.9	+7.4		
TIRR	**Tirgusor**	**65.81**	**315**	*e*P	**P**	**06 36 45.7**	**-0.8**		
	comp=Z,10nm,1.5s								
TLB	**Topalu**	**66.10**	**315**	⇑P	**P**	**06 36 51.3**	**+3.0**		
TLB	**

GUR	**Goura**	**69.19**	**308**	*e*P		**P**	**06 37 07.4**	**-0.8**
KALE	**Kalithea**	**69.41**	**308**	*e*P		P	06 37 03.4	-6.0
ITM	**Ithomi**	**69.44**	**307**	*e*P		**P**	**06 37 08.3**	**-1.3**
PETK	**Petropavlovsk-**	**69.45**	**36**	P		**P**	**06 37 07.7**	**-1.6**
	comp=Z,1.1nm,0.7s,baz=224,slow=4.0,SNR=3.1							
PETK				LR		LR	07 09 38.9	
	comp=Z,208nm,18.5s,baz=254,slow=38							
PETK	**Petropavlovsk-**	**69.45**	**36**	P		**P**	**06 37 07.7**	**-1.6**
PETK				pmax	pmax			
	comp=Z,1.0nm,0.7s							
PETK				MLR	MLR			
	comp=Z,208nm,18.5s							
MAKR	**Makrakomi, Fth**	**69.48**	**309**	*e*P		P	06 37 02.6	-7.2
DRO	**Drossia**	**69.69**	**308**	*e*P		**P**	**06 37 10.9**	**-0.2**
EVR	**Evrytania**	**69.72**	**309**	*e*P		**P**	**06 37 10.1**	**-1.3**
SEY	**Seymchan**	**70.02**	**25**	P		**P**	**06 37 11.9**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=280,slow=5.0,SNR=5.5							
SEY	**Seymchan**	**70.02**	**25**	⇑*i*P		**P**	**06 37 12.0**	**-0.6**
PDO	**Prodromos**	**70.17**	**308**	*e*P		**P**	**06 37 13.1**	**-0.9**
DRGR		**70.21**	**317**	⇓*i*P		P	06 37 22.6	+8.4
DRGR		**70.21**	**317**	⇓*i*P		P	06 37 22.6	+8.4
TRPA	**Tarpa**	**70.56**	**318**	⇑*i*P		P	06 37 23.9	+7.7
LKD2	**Lefkada island**	**70.60**	**308**	*e*P		**P**	**06 37 15.9**	**-0.8**
UZH	**Uzhgorod**	**70.81**	**319**	*e*P		P	06 37 25.6	+7.9
UZH				*e*			06 37 32.2	
SIRR	**Siria**	**70.83**	**316**	⇑*i*P		P	06 37 25.6	+7.7
KOLS	**Kolonicke sedl**	**70.88**	**319**	*e*P		**P**	**06 37 20.8**	**+2.6**
KOLS				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KOLS	**Kolonicke sedl**	**70.88**	**319**	*e*P		**P**	**06 37 20.8**	**+2.6**
KOLS				*e*PCP		**PcP**	**06 37 40.6**	**+2.0**
APA	**Apatity**	**71.24**	**340**	⇓*i*P		**P**	**06 37 22.5**	**+2.6**
APA				*i*			06 37 33.5	
APA				*i* S		**S**	**06 46 37.0**	**+2.0**
APA				pmax	pmax			
	comp=Z,24nm,0.8s							
APA				MLR	MLR			
	comp=Z,900nm,16.0s							
STHS	**Stebnicka Huta**	**71.63**	**320**	*e*P		**P**	**06 37 24.4**	**+1.7**
STHS				pmax	pmax			
	comp=Z,5.0nm,1.3s							
STHS	**Stebnicka Huta**	**71.63**	**320**	*e*P		**P**	**06 37 24.4**	**+1.7**
STHS				*e*PCP		**PcP**	**06 37 43.4**	**+1.6**
DIVS	**Divibare**	**71.70**	**314**	⇓*i*P		**P**	**06 37 25.8**	**+2.5**
FINES	**FINESS Array B**	**71.84**	**333**	P		**P**	**06 37 22.1**	**-1.5**
	comp=Z,6.5nm,0.7s,baz=120,slow=8.2,SNR=18							
FINES				LR		LR	07 13 31.6	
	comp=Z,402nm,18.0s,baz=116,slow=40							
FINES	**FINESS Array B**	**71.84**	**333**	P		**P**	**06 37 22.1**	**-1.5**
FINES				pmax	pmax			
	comp=Z,7.0nm,0.7s							
FINES				MLR	MLR			
	comp=Z,402nm,18.0s							
KECS	**Kecovo**	**71.97**	**318**	*e*P		**P**	**06 37 24.5**	**-0.2**
KECS				pmax	pmax			
	comp=Z,2.0nm,1.0s							
KECS	**Kecovo**	**71.97**	**318**	*e*		**P**	**06 37 24.5**	**-0.2**
PSZ	**Piszkesteto**	**72.28**	**318**	*e*P		**P**	**06 37 26.7**	**0.0**
	comp=Z,34nm,1.9s							
PKSM	**Moragy**	**72.90**	**316**	⇓P		**P**	**06 37 32.6**	**+2.3**
PKSM	**Moragy**	**72.90**	**316**	⇓*i*P		**P**	**06 37 32.6**	**+2.3**
BOSA	**Boshof**	**73.61**	**237**	P		**P**	**06 37 35.2**	**+0.3**
	comp=Z,4.7nm,1.0s,baz=105,slow=4.7,SNR=3.6							
BOSA				LR		LR	07 04 12.8	
	comp=Z,556nm,22.0s,baz=70,slow=31							
TIP	**Timpagrande**	**73.66**	**308**	*e*P		**P**	**06 37 37.5**	**+2.4**
	comp=Z,14nm,1.4s							
OKC	**Ostrava-Krasne**	**73.68**	**320**	*e*P		**P**	**06 37 37.5**	**+2.6**
OKC				*e*pP		**pP**	**06 37 42.8**	**-1.6**
OKC				AMS	AMS		07 14 30.0	
	comp=Z,200nm,12.3s							
OKC	**Ostrava-Krasne**	**73.68**	**320**	*e*P		**P**	**06 37 37.5**	**+2.6**
OKC				*e*			06 37 42.8	
OKC				MLR	MLR			
	comp=Z,200nm,12.3s							
CEL	**Celeste**	**74.29**	**307**	*e*P		**P**	**06 37 40.2**	**+1.5**
	comp=Z,12nm,1.1s							
KRLC	**Kraliky**	**74.59**	**320**	*e*P		**P**	**06 37 40.2**	**0.0**
KRLC				*ex*		x	06 37 42.8	
KRLC				*e*pP		**pP**	**06 37 48.3**	**-1.5**
KRLC	**Kraliky**	**74.59**	**320**	*e*P		**P**	**06 37 40.2**	**0.0**
KRLC				*e*			06 37 48.3	
ARCES	**ARCESS Array B**	**74.69**	**340**	P		**P**	**06 37 39.9**	**-0.4**
	comp=Z,4.7nm,0.7s,baz=96,slow=4.5,SNR=15							
ARCES				LR		LR	07 12 12.3	
	comp=Z,537nm,22.0s,baz=114,slow=37							
ARCES	**ARCESS Array B**	**74.69**	**340**	P		**P**	**06 37 39.9**	**-0.4**
ARCES				pmax	pmax			
	comp=Z,5.0nm,0.7s							
ARCES				MLR	MLR			
	comp=Z,537nm,22.0s							
DPC	**Dobruska-Polom**	**74.91**	**320**	*e*P		**P**	**06 37 42.8**	**+0.7**
DPC				*ex*		x	06 37 45.4	
DPC				*e*pP		**pP**	**06 37 50.6**	**-1.1**
DPC	**Dobruska-Polom**	**74.91**	**320**	*e*P		**P**	**06 37 42.8**	**+0.7**
DPC				*e*			06 37 50.6	
CONA	**Conrad Observa**	**74.97**	**317**	⇓*i*P		**P**	**06 37 45.4**	**+2.8**
	comp=Z,11nm,1.7s							
UPC	**Upice**	**75.12**	**320**	*e*P		**P**	**06 37 43.4**	**+0.1**
UPC				*e*pP		**pP**	**06 37 51.6**	**-1.2**
UPC	**Upice**	**75.12**	**320**	*e*P		**P**	**06 37 43.4**	**+0.1**
UPC				*e*			06 37 51.6	
TREC	**Trest**	**75.34**	**319**	*e*P		**P**	**06 37 47.3**	**+2.7**
TREC				*e*pP		**pP**	**06 37 52.4**	**-1.8**
TREC				AMS	AMS		07 18 50.0	
	comp=Z,200nm,15.7s							
TREC	**Trest**	**75.34**	**319**	*e*P		**P**	**06 37 47.3**	**+2.7**
TREC				*e*			06 37 52.4	
TREC				MLR	MLR			
	comp=Z,200nm,15.7s							
SOKA	**Soboth**	**75.43**	**316**	⇑*i*P		**P**	**06 37 45.4**	**+0.2**
	comp=Z,14nm,1.2s							
GOPC	**GO Pecny, Ondr**	**75.85**	**319**	*e*P		**P**	**06 37 50.2**	**+2.7**
GOPC				*e*pP		**pP**	**06 37 55.3**	**-1.8**
GOPC				AMS	AMS		07 16 50.0	
	comp=Z,200nm,19.6s							
PRU	**Pruhonice**	**76.02**	**320**	*e*P		**P**	**06 37 50.2**	**+1.8**
PRU				*e*pP		**pP**	**06 37 56.3**	**-1.7**
PRU				AMS	AMS		07 16 50.0	
	comp=Z,200nm,21.0s							
PRU	**Pruhonice**	**76.02**	**320**	*e*P		**P**	**06 37 50.2**	**+1.8**
PRU				*e*			06 37 56.3	
PRU				MLR	MLR			
	comp=Z,200nm,21.0s							
PVCC	**Panska Ves**	**76.04**	**320**	*e*P		P	06 37 53.2	+4.7
PVCC				*e*pP		pP	06 37 57.0	-1.1
PVCC	**Panska Ves**	**76.04**	**320**	*e*P		P	06 37 53.2	+4.7
PVCC				*e*			06 37 57.0	
PRA	**Prague**	**76.09**	**320**	*e*P		**P**	**06 37 50.3**	**+1.5**
PRA				*e*pP		**pP**	**06 37 57.1**	**-1.3**
PRA	**Prague**	**76.09**	**320**	*e*P		**P**	**06 37 50.3**	**+1.5**
PRA				*e*			06 37 57.1	
BRG	**Berggiesshubel**	**76.47**	**320**	*e*P		**P**	**06 37 51.5**	**+0.6**
	comp=Z,5.3nm,1.3s							
BRG				*e*			06 37 59.2	
	comp=Z,54nm,1.8s							
	comp=N,178nm,19.7s							
	comp=E,316nm,21.8s							
	comp=Z,310nm,18.6s							
BRG	**Berggiesshubel**	**76.47**	**320**	*e*P		**P**	**06 37 51.5**	**+0.6**
BRG				*e*			06 37 59.2	
BRG				pmax	pmax			
	comp=Z,5.0nm,1.3s							
BRG				pmax	pmax			
	comp=Z,54nm,1.8s							
BRG				MLR	MLR			
	comp=N,178nm,19.7s							
BRG				MLR	MLR			
	comp=E,316nm,21.8s							
BRG				MLR	MLR			
	comp=Z,310nm,18.6s							
GERES	**GERESS Array B**	**76.48**	**318**	P		**P**	**06 37 50.9**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=90,slow=5.3,SNR=25							
GERES				LR		LR	07 14 59.3	
	comp=Z,155nm,20.9s,baz=86,slow=38							
GERES	**GERESS Array B**	**76.48**	**318**	P		**P**	**06 37 50.9**	**-0.2**
GERES				pmax	pmax			
	comp=Z,4.0nm,0.8s							
GERES				MLR	MLR			
	comp=Z,155nm,21.0s							
KHC	**Kasperske Hory**	**76.58**	**319**	*e*P		**P**	**06 37 50.8**	**-0.8**
KHC				*ex*		x	06 37 54.7	
KHC				*e*pP		**pP**	**06 37 59.9**	**-1.3**
KHC				AMS	AMS		07 21 50.0	
	comp=Z,200nm,16.9s							
KHC	**Kasperske Hory**	**76.58**	**319**	*e*P		**P**	**06 37 50.8**	**-0.8**
KHC				*e*			06 37 59.9	
KHC				MLR	MLR			
	comp=Z,200nm,16.9s							
KHC	**Kasperske Hory**	**76.58**	**319**	*e*P		**P**	**06 37 51.1**	**-0.6**
	comp=Z,1.8nm,0.8s							
KHC				*e*PP		**PP**	**06 40 42.0**	**-1.9**
BILL	**Bilibino**	**77.08**	**22**	*i* P		**P**	**06 37 53.1**	**-0.9**
BILL				*i*			06 38 02.1	
BILL				*i*			06 40 43.2	
BILL				pmax	pmax			
	comp=Z,8.0nm,1.6s							
CLL	**Collm**	**77.09**	**321**	*e*P		**P**	**06 37 54.0**	**-0.4**
CLL				*i* Pmax			06 37 56.8	
	comp=Z,15nm,1.5s							
CLL				*i* pP		**pP**	**06 38 02.2**	**-1.8**
	comp=Z,27nm,1.6s							
CLL				*e*(PP)			06 40 58.0	
CLL				Lm	MLR		07 16 00.0	
	comp=Z,200nm,20.8s							
CLL	**Collm**	**77.09**	**321**	*e*P		**P**	**06 37 54.0**	**-0.4**
CLL				MLR	MLR			
	comp=Z,200nm,20.8s							
NKC	**Novy Kostel**	**77.38**	**320**	*e*P		**P**	**06 37 56.5**	**+0.4**
NKC				*e*pP		**pP**	**06 38 04.4**	**-1.3**
NKC				AMS	AMS		07 16 50.0	
	comp=Z,200nm,17.7s							
NKC	**Novy Kostel**	**77.38**	**320**	*e*P		**P**	**06 37 56.5**	**+0.4**
NKC				*e*			06 38 04.4	
NKC				MLR	MLR			
	comp=Z,200nm,17.7s							
HFS	**Hagfors**	**77.49**	**330**	LR		LR	07 16 09.6	
	comp=Z,342nm,18.3s,baz=98,slow=39							
WTTA	**Wattenberg**	**77.78**	**317**	⇑*i*P		**P**	**06 37 58.0**	**-0.6**
	comp=Z,18nm,1.3s							
MAW	**Mawson**	**77.92**	**191**	P		**P**	**06 38 01.5**	**+2.9**
	comp=Z,1.9nm,0.8s,baz=111,slow=7.1,SNR=3.5							
MAW	**Mawson**	**77.92**	**191**	P		**P**	**06 38 01.5**	**+2.9**
MAW				pmax	pmax			
	comp=Z,2.0nm,0.9s							
GRF	**Grafenberg Arr**	**78.14**	**319**	*e*P		P	06 38 03.8	+3.4
	comp=Z,6.0nm,0.9s							
GRFO	**Grafenberg**	**78.14**	**319**	P		**P**	**06 38 00.6**	**+0.2**
	comp=Z,19nm,1.0s							
MOTA	**Moosalm**	**78.15**	**317**	⇑*i*P		**P**	**06 37 60.0**	**-0.7**
	comp=Z,5.4nm,0.8s							
NB2	**NORSAR Subarra**	**78.80**	**331**	P		**P**	**06 38 03.0**	**-0.7**
	comp=Z,12nm,1.0s,baz=91,slow=5.3							
NOA	**NORSAR Array B**	**78.80**	**331**	P		**P**	**06 38 02.6**	**-1.1**
	comp=Z,2.5nm,0.7s,baz=94,slow=5.7,SNR=5.4							
NOA				LR		LR	07 16 26.1	
	comp=Z,448nm,20.3s,baz=110,slow=38							
NOA	**NORSAR Array B**	**78.80**	**331**	P		**P**	**06 38 02.6**	**-1.1**
NOA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
NOA				MLR	MLR			
	comp=Z,448nm,20.3s							
DAVA	**Damuels**	**78.98**	**317**	⇓*i*P		**P**	**06 38 05.1**	**-0.1**
	comp=Z,18nm,1.0s							
KEST	**Kesra**	**79.52**	**305**	P		**P**	**06 38 07.5**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=201,slow=14,SNR=2.4							
KEST				LR		LR	07 19 57.0	
	comp=Z,35nm,18.4s,baz=352,slow=41							
PGF	**Pioggiola**	**79.62**	**312**	*e*P		**P**	**06 38 08.2**	**-0.5**
	comp=Z,22nm,1.1s							
PGF	**Pioggiola**	**79.62**	**312**	*e*P		**P**	**06 38 08.2**	**-0.5**
	comp=Z,22nm,1.1s							
BFO	**Black Forest**	**80.03**	**318**	*i* P		P	06 38 14.2	+3.5
BFO	**Black Forest**	**80.03**	**318**	*e*P		**P**	**06 38 13.0**	**+2.3**
	comp=Z,17nm,1.4s							
CDF	**Champ du Feu**	**80.73**	**318**	*e*P		**P**	**06 38 13.9**	**-0.7**
CDF	**Champ du Feu**	**80.73**	**318**	*e*P		**P**	**06 38 13.9**	**-0.7**
SBF	**Sospel**	**80.73**	**313**	*e*P		**P**	**06 38 14.4**	**-0.3**
	comp=Z,42nm,0.7s							
SBF	**Sospel**	**80.73**	**313**	*e*P		**P**	**06 38 14.4**	**-0.3**
	comp=Z,42nm,0.7s							
HINF	**Hinteralfeld**	**81.03**	**317**	*e*P		**P**	**06 38 15.6**	**-0.5**
HINF	**Hinteralfeld**	**81.03**	**317**	*e*P		**P**	**06 38 15.6**	**-0.5**
LPG	**La Plagne**	**81.17**	**315**	*e*P		**P**	**06 38 17.1**	**-0.1**
	comp=Z,29nm,0.8s							
LPG	**La Plagne**	**81.17**	**315**	*e*P		**P**	**06 38 17.1**	**-0.1**
	comp=Z,29nm,0.8s							
FRF	**La Foret Royal**	**81.31**	**313**	*e*P		**P**	**06 38 17.6**	**-0.1**
	comp=Z,18nm,0.7s							
FRF	**La Foret Royal**	**81.31**	**313**	*e*P		**P**	**06 38 17.6**	**-0.1**
	comp=Z,18nm,0.7s							
HAU	**Haudompre**	**81.36**	**317**	*e*P		**P**	**06 38 17.3**	**-0.6**
	comp=Z,20nm,0.8s							
HAU				*e*R				
	comp=Z,192nm,19.2s							
HAU	**Haudompre**	**81.36**	**317**	*e*P		**P**	**06 38 17.3**	**-0.6**
	comp=Z,20nm,0.8s							
LMR	**La Mourre**	**81.42**	**313**	*e*P		**P**	**06 38 18.1**	**-0.1**
	comp=Z,17nm,0.8s							
LMR	**La Mourre**	**81.42**	**313**	*e*P		**P**	**06 38 18.1**	**-0.1**
	comp=Z,17nm,0.8s							
CABF	**La Chapelle**	**81.59**	**316**	*e*P		**P**	**06 38 19.2**	**0.0**
	comp=Z,99nm,1.6s							
CABF	**La Chapelle**	**81.59**	**316**	*e*P		**P**	**06 38 19.2**	**0.0**
	comp=Z,99nm,1.6s							
PAGF	**Fort de Pagny**	**81.76**	**318**	*e*P		**P**	**06 38 19.5**	**-0.4**
PAGF	**Fort de Pagny**	**81.76**	**318**	*e*P		**P**	**06 38 19.5**	**-0.4**
ORIF	**Oris-en-Rattie**	**81.81**	**314**	*e*P		**P**	**06 38 19.8**	**-0.6**
	comp=Z,13nm,0.8s							
ORIF				*e*R				
	comp=Z,156nm,19.5s							
ORIF	**Oris-en-Rattie**	**81.81**	**314**	*e*P		**P**	**06 38 19.8**	**-0.6**
	comp=Z,13nm,0.8s							
SMRF	**Simiane la Rot**	**82.07**	**313**	*e*P		**P**	**06 38 22.1**	**+0.4**
	comp=Z,12nm,0.8s							
SMRF	**Simiane la Rot**	**82.07**	**313**	*e*P		**P**	**06 38 22.1**	**+0.4**
	comp=Z,12nm,0.8s							
MEZF	**Maizieres J'vi**	**82.20**	**318**	*e*P		**P**	**06 38 22.0**	**-0.2**
	comp=Z,19nm,1.0s							
MEZF	**Maizieres J'vi**	**82.20**	**318**	*e*P		**P**	**06 38 22.0**	**-0.2**
	comp=Z,19nm,1.0s							
SFTF	**Sexfontaines**	**82.23**	**318**	*e*P		**P**	**06 38 22.0**	**-0.4**
	comp=Z,34nm,0.9s							
SFTF	**Sexfontaines**	**82.23**	**318**	*e*P		**P**	**06 38 22.0**	**-0.4**
	comp=Z,34nm,0.9s							
GIVF	**Givet**	**82.28**	**320**	*e*P		**P**	**06 38 22.3**	**-0.3**
	comp=Z,29nm,1.2s							
GIVF	**Givet**	**82.28**	**320**	*e*P		**P**	**06 38 22.3**	**-0.3**
	comp=Z,29nm,1.2s							
SNF	**Seneffe**	**82.60**	**320**	P		**P**	**06 38 24.3**	**+0.1**
VIVF	**Saint-Julien-l**	**82.67**	**314**	*e*P		**P**	**06 38 24.7**	**-0.1**
	comp=Z,19nm,0.9s							
VIVF	**Saint-Julien-l**	**82.67**	**314**	*e*P		**P**	**06 38 24.7**	**-0.1**
	comp=Z,19nm,0.9s							
BAIF	**Baives**	**82.68**	**320**	*e*P		**P**	**06 38 24.6**	**-0.1**
	comp=Z,14nm,0.9s							
BAIF	**Baives**	**82.68**	**320**	*e*P		**P**	**06 38 24.6**	**-0.1**
	comp=Z,14nm,0.9s							
SSB	**Saint Sauveur**	**82.73**	**315**	*e*P		**P**	**06 38 25.4**	**+0.2**
	comp=Z,9.0nm,1.4s							
LOR	**Lormes**	**83.08**	**317**	*e*P		**P**	**06 38 26.5**	**-0.4**
	comp=Z,18nm,0.9s							
LOR				*e*R				
	comp=Z,222nm,22.2s							
LOR	**Lormes**	**83.08**	**317**	*e*P		**P**	**06 38 26.5**	**-0.4**
	comp=Z,18nm,0.9s							
SMF	**Signal de Mont**	**83.13**	**316**	*e*P		**P**	**06 38 26.6**	**-0.5**
	comp=Z,12nm,0.8s							
SMF	**Signal de Mont**	**83.13**	**316**	*e*P		**P**	**06 38 26.6**	**-0.5**
	comp=Z,12nm,0.8s							
LASF	**Ste Croix**	**83.30**	**314**	*e*P		**P**	**06 38 28.3**	**+0.2**
LASF	**Ste Croix**	**83.30**	**314**	*e*P		**P**	**06 38 28.3**	**+0.2**
SSF	**Saint Saulge**	**83.33**	**317**	*e*P		**P**	**06 38 27.8**	**-0.4**
SSF	**Saint Saulge**	**83.33**	**317**	*e*P		**P**	**06 38 27.8**	**-0.4**
AVF	**Avril sur Loir**	**83.46**	**316**	*e*P		**P**	**06 38 28.3**	**-0.5**
AVF	**Avril sur Loir**	**83.46**	**316**	*e*P		**P**	**06 38 28.3**	**-0.5**
TAM	**Tamanrasset**	**83.74**	**292**	*e*P		**P**	**06 38 32.0**	**+1.1**
	comp=Z,12nm,1.0s							
BGF	**Bois d'Agland**	**83.82**	**316**	*e*P		**P**	**06 38 30.7**	**0.0**
	comp=Z,15nm,0.8s							
BGF	**Bois d'Agland**	**83.82**	**316**	*e*P		**P**	**06 38 30.7**	**0.0**
	comp=Z,15nm,0.8s							
TCF	**Toulx Ste Croi**	**84.28**	**316**	*e*P		**P**	**06 38 32.9**	**-0.2**
TCF	**Toulx Ste Croi**	**84.28**	**316**	*e*P		**P**	**06 38 32.9**	**-0.2**
CAF	**Calviac**	**84.51**	**314**	*e*P		**P**	**06 38 34.4**	**+0.1**
CAF	**Calviac**	**84.51**	**314**	*e*P		**P**	**06 38 34.4**	**+0.1**
MTLF	**Montolieu**	**84.55**	**313**	*e*P		**P**	**06 38 34.6**	**+0.2**
	comp=Z,13nm,0.8s							
MTLF	**Montolieu**	**84.55**	**313**	*e*P		**P**	**06 38 34.6**	**+0.2**
	comp=Z,13nm,0.8s							
SYO	**Syowa Base**	**84.59**	**197**	⇑*e*X			06 38 43.4	
RJF	**Les Rejaudoux**	**84.86**	**315**	*e*P		**P**	**06 38 36.2**	**+0.2**
RJF				*e*R				
	comp=Z,213nm,22.2s							
RJF	**Les Rejaudoux**	**84.86**	**315**	*e*P		**P**	**06 38 36.2**	**+0.2**
LDF	**La Druitiere**	**85.62**	**318**	*e*P		**P**	**06 38 39.2**	**-0.5**
LDF	**La Druitiere**	**85.62**	**318**	*e*P		**P**	**06 38 39.2**	**-0.5**
FLN	**La Foliniere**	**85.84**	**318**	*e*P		**P**	**06 38 40.2**	**-0.6**
	comp=Z,34nm,1.1s							
FLN				*e*R				
	comp=Z,236nm,20.0s							
FLN	**La Foliniere**	**85.84**	**318**	*e*P		**P**	**06 38 40.2**	**-0.6**
	comp=Z,34nm,1.1s							
MFF	**Saint Martin d**	**85.87**	**316**	*e*P		**P**	**06 38 40.6**	**-0.4**
	comp=Z,20nm,1.0s							
MFF	**Saint Martin d**	**85.87**	**316**	*e*P		**P**	**06 38 40.6**	**-0.4**
	comp=Z,20nm,1.0s							
EPF	**Esparros**	**85.94**	**313**	*e*P		**P**	**06 38 41.2**	**-0.3**
EPF	**Esparros**	**85.94**	**313**	*e*P		**P**	**06 38 41.2**	**-0.3**
ETSF	**Etsaut**	**86.62**	**313**	*e*P		**P**	**06 38 45.0**	**+0.2**
	comp=Z,9.1nm,0.8s							
ETSF	**Etsaut**	**86.62**	**313**	*e*P		**P**	**06 38 45.0**	**+0.2**
	comp=Z,9.1nm,0.8s							
SJPF	**Ste Jean**	**87.07**	**313**	*e*P		**P**	**06 38 47.3**	**+0.3**
	comp=Z,14nm,1.0s							
SJPF	**Ste Jean**	**87.07**	**313**	*e*P		**P**	**06 38 47.3**	**+0.3**
	comp=Z,14nm,1.0s							
TORD	**Torodi Ar. Bea**	**88.47**	**283**	P		**P**	**06 38 55.1**	**+0.9**
	comp=Z,1.5nm,1.0s,baz=56,slow=0.5,SNR=5.2							
TORD				LR		LR	07 16 32.9	
	comp=Z,117nm,20.7s,baz=115,slow=34							
ESDC	**Sonseca Array**	**89.63**	**310**	P		**P**	**06 38 60.0**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=54,slow=4.9,SNR=7.4							
ESDC				LR		LR	07 25 10.5	
	comp=Z,111nm,18.4s,baz=105,slow=40							
IM04	**Indian Mountai**	**92.62**	**22**	*e*P		**P**	**06 39 12.5**	**0.0**
VNDA	**Vanda**	**93.21**	**168**	P		**P**	**06 39 17.0**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=315,slow=3.7,SNR=3.0							
VNDA				LR		LR	07 16 40.1	
	comp=Z,304nm,19.0s,baz=297,slow=33							
COLD	**Coldfoot**	**93.33**	**20**	*e*P		**P**	**06 39 14.9**	**-0.8**
	comp=Z,7.4nm,1.4s							
ILAR	**Eielson Array**	**95.74**	**22**	P		**P**	**06 39 26.4**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=279,slow=4.3,SNR=8.7							
ILAR				PP		**PP**	**06 43 17.7**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=282,slow=6.9,SNR=4.3							
ILAR				LR		LR	07 27 55.6	
	comp=Z,211nm,18.5s,baz=310,slow=39							
ILAR	**Eielson Array**	**95.74**	**22**	P		**P**	**06 39 26.5**	**-0.3**
ILAR							06 43 17.7	
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
DBIC	**Dimbokro**	**95.76**	**278**	LR		LR	07 21 58.0	
	comp=Z,408nm,18.9s,baz=64,slow=35							
PDAR	**Pinedale Array**	**126.11**	**19**	PKP		**PKPdf**	**06 45 03.7**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=38,slow=1.6,SNR=6.3							
NVAR	**Mina Array Bea**	**126.19**	**29**	PKP		**PKPdf**	**06 45 05.0**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=286,slow=1.6,SNR=9.4							
MSU	**Marysvale**	**128.86**	**24**	*e*PKPdf		**PKPdf**	**06 45 10.9**	**+1.5**
TXAR	**Lajitas Array**	**140.25**	**21**	PKP		**PKPdf**	**06 45 31.0**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=104,slow=0.1,SNR=6.0							
TXAR				PP		**PP**	**06 48 22.8**	**-4.3**
	comp=Z,0.4nm,0.9s,baz=328,slow=3.2,SNR=2.5							
TXAR	**Lajitas Array**	**140.25**	**21**	PKIKP		**PKPdf**	**06 45 31.0**	**+0.3**
TXAR							06 48 22.8	
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
JCT	**Junction City**	**140.42**	**16**	*e*PKPdf		**PKPdf**	**06 45 32.0**	**+1.1**
JCT				*e*PP		**PP**	**06 48 28.3**	**+0.4**
CPUP	**Villa Florida**	**145.38**	**234**	*e*PKPbc		**PKPab**	**06 45 40.0**	**+0.2**
CELP	**Cerrillos**	**146.72**	**320**	*e*PKPbc		**PKPab**	**06 45 44.8**	**-0.3**
SIV	**San Ignacio**	**152.32**	**250**	PKPbc		**PKPbc**	**06 46 00.5**	**+2.5**
	comp=Z,0.9nm,0.7s,baz=157,slow=6.6,SNR=2.2							
LPAZ	**La Paz**	**158.70**	**245**	PKPab		**PKPab**	**06 46 35.5**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=103,slow=2.5,SNR=4.4							
LPAZ	**La Paz**	**158

GOLH	Golhisar	2.66	44	*i* P		Pb	06 29 11.1	-1.1
GOLH				*i* S		Sn	06 29 36.3	-3.2
MHLO	Agia Marina, M	2.68	301	*e*PB		Pn	06 29 09.0	+1.6
MHLO	Agia Marina, M	2.68	301	*e*Pb		Pn	06 29 09.0	+1.6
CHOS	Chios island	3.19	343	*e*PN		Pn	06 29 15.2	+0.6
CHOS	Chios island	3.19	343	*e*Pn		Pn	06 29 15.2	+0.6
ANKY	Antikythira Is	3.26	281	*e*PN		Pn	06 29 15.7	+0.3
ANKY	Antikythira Is	3.26	281	*e*Pn		Pn	06 29 15.7	+0.3
KYTH	Kithira	3.55	287	*e*PN		Pn	06 29 20.4	+0.9
KYTH	Kithira	3.55	287	*e*Pn		Pn	06 29 20.4	+0.9
VLI	Veliai	3.76	293	*e*PN		Pn	06 29 22.9	+0.6
VLI				*e*SN		Sn	06 30 04.4	-1.9
VLI	Veliai	3.76	293	*e*Pn		Pn	06 29 22.9	+0.6
VLI				*e*Sn		Sn	06 30 04.4	-1.9
KRND	KRANIDI	3.89	303	*e*PN		Pn	06 29 26.2	+2.1
KRND	KRANIDI	3.89	303	*e*Pn		Pn	06 29 26.2	+2.1
DID	Didima	3.90	305	*e*PN		Pn	06 29 25.4	+1.2
DID	Didima	3.90	305	*e*Pn		Pn	06 29 25.4	+1.2
PRK	Paraskevi	3.98	349	*e*PN		Pn	06 29 27.5	+2.2
PRK	Paraskevi	3.98	349	*e*Pn		Pn	06 29 27.5	+2.2
SIGR	SIGRI	4.03	344	*e*PN		Pn	06 29 26.6	+0.7
SIGR	SIGRI	4.03	344	*e*Pn		Pn	06 29 26.6	+0.7
GAZI	Gazipasa	4.21	76	*i* P		Pn	06 29 28.7	+0.1
GAZI	Gazipasa	4.21	76	*i* Pn		Pn	06 29 28.7	+0.1
VILL	Villia	4.24	313	*e*Pn		Pn	06 29 29.0	+0.1
VIL2	Platees	4.30	313	*e*PN		Pn	06 29 29.0	-0.7
LTK	Loutraki	4.37	309	*e*PN		Pn	06 29 30.9	+0.3
LTK	Loutraki	4.37	309	*e*Pn		Pn	06 29 30.9	+0.3
DURS	Dursunbey	4.37	13	*i* P		Pn	06 29 32.3	+1.5
DURS	Dursunbey	4.37	13	*i* Pn		Pn	06 29 32.3	+1.5
MRKA	Markates	4.46	320	*e*PN		Pn	06 29 33.5	+1.5
MRKA	Markates	4.46	320	*e*Pn		Pn	06 29 33.5	+1.5
AMT	Artemida-Makis	4.98	298	*e*PN		Pn	06 29 40.7	+1.7
AMT	Artemida-Makis	4.98	298	*e*Pn		Pn	06 29 40.7	+1.7
EFP	Efpalio	5.28	307	*e*PN		Pn	06 29 44.9	+1.7
EFP	Efpalio	5.28	307	*e*Pn		Pn	06 29 44.9	+1.7

GUC ***13*** *06:31:26.9±0.4, 38.˚17S×73.˚47W, h51km±8km, ML4.5*
IDC ***13*** *06:31:28.0±1.6, 37.˚97S×72.˚68W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/24, mbtmp3.9/5, ML3.8/1, MS3.8/1, Ms1 3.7/1, ms1mx2.8/16, Error ellipse: s-maj=47.8km s-min=15.9km az=68.0*

ISC 13 06:31:27.8±1.3, 38.˚15S±0.˚04×73.˚5W±0.˚2, h33km, n14, σ1s59/18, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	0.66	171	*e*P	Pn	06 31 39.9	-0.9
PSCH				*e*S	Sn	06 31 50.0	0.0
CCSP	**San Pedro de C**	1.35	15	*e*P	Pn	06 31 49.9	-0.4
CCSP				*e*S	Sb	06 32 07.0	-2.4
VLCH	**Valdivia**	1.67	172	*e*P	Pn	06 31 53.9	-0.8
VLCH				*e*S	Sn	06 32 13.9	-1.0
VLCH				AML	AML	06 32 25.6	
	comp=N,15μm,0.3s						
OSCH	**Osorno**	2.44	173	*e*P	Pn	06 32 05.1	-0.3
OSCH				*e*S	Sn	06 32 33.6	-0.4
OSCH				AML	AML	06 32 55.0	
	comp=E,2μm,0.4s						
LNCH	**Linares**	2.77	34	*e*P	Pn	06 32 09.2	-0.7
LNCH				AML	AML	06 33 00.5	
	comp=E,1μm,0.9s						
PLCA	**Paso Flores**	3.46	139	Pn	Pn	06 32 21.5	+2.1
	comp=E,2.3nm,0.3s,baz=317,slow=9.6,SNR=21						
PLCA				Pg	Pb	06 32 26.6	-1.8
	comp=E,5.7nm,0.3s,baz=311,slow=13,SNR=35						
PLCA				Lg	Lg	06 33 10.7	
	comp=E,7.3nm,0.3s,baz=46,slow=20,SNR=2.8						
CLCH	**Cerro Calan**	5.33	28	*e*P	Pn	06 32 44.5	-0.6
CFAA	**Coronel Fontan**	7.84	35	Pn	Pn	06 33 16.9	-2.8
	comp=E,0.1nm,0.3s,baz=224,slow=21,SNR=22						
CFAA				Sn	Sn	06 34 47.1	-0.2
	comp=E,0.1nm,0.3s,baz=117,slow=15,SNR=2.0						
CFAA				Lg	Lg	06 35 09.7	
	comp=E,0.1nm,0.3s,baz=287,slow=21,SNR=4.1						
LPAZ	**La Paz**	22.29	14	P	P	06 36 26.0	+2.9
	comp=E,1.9nm,0.7s,baz=197,slow=4.5,SNR=9.7						
BDFB	**Brasilia**	31.75	52	LR	LR	06 52 02.0	
	comp=E,150nm,18.1s,baz=206,slow=40						
TXAR	**Lajitas Array**	72.81	333	P	P	06 42 59.5	+6.4
	comp=E,0.3nm,0.8s,baz=144,slow=7.8,SNR=3.4						
DBIC	**Dimbokro**	77.65	71	P	P	06 43 23.2	+1.9
	comp=E,6.2nm,0.8s,baz=220,slow=6.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	86.74	71	P	P	06 44 09.2	+0.4
	comp=E,0.8nm,0.9s,baz=229,slow=2.9,SNR=3.3						
MKAR	**Makanchi Array**	160.24	56	PKPab	PKPab	06 52 05.0	+1.0
	comp=E,0.4nm,0.9s,baz=292,slow=3.9,SNR=3.7						

IDC ***13*** *06:36:45.2±1.6, 7.˚72N×91.˚84E, h0km, mb3.4/5, mb1 3.8/7, mb1mx3.5/36, mbtmp3.7/7, ML4.4/2, Error ellipse: s-maj=38.3km s-min=26.4km az=56.0*
ISCJB ***13*** *06:36:46.4±1.2, 7.˚7N±0.˚2×91.˚8E±0.˚1, h24km, mb3.4/5, Error ellipse: s-maj=23.7km s-min=17.2km az=156.3*

ISC 13 06:36:48.7±1.3, 7.˚7N±0.˚2×91.˚8E±0.˚1, h24km, n7, σ0s38/7, mb3.4/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	11.03	268	Pn	Pn	06 39 25.2	+0.1
	2.7nm,0.3s,baz=87,slow=17,SNR=4.0						
CMAR	**Chiang Mai Arr**	12.74	32	Pn	Pn	06 39 48.9	+0.4
	0.7nm,0.3s,baz=236,slow=16,SNR=3.7						
MKAR	**Makanchi Array**	39.80	350	P	P	06 44 19.5	-0.4
	0.4nm,0.9s,baz=140,slow=7.6,SNR=2.2						
SONM	**Songino Array**	41.87	15	P	P	06 44 36.7	-0.4
	1.1nm,0.8s,baz=195,slow=9.0,SNR=6.2						
KURBB	**Kurchatov Arra**	44.19	348	P	P	06 44 55.9	+0.3
	0.3nm,0.5s,baz=170,slow=7.5,SNR=3.7						
ZALV	**Zalesovo Beam**	46.46	354	P	P	06 45 13.5	-0.1
	0.5nm,0.6s,baz=176,slow=5.5,SNR=2.7						
WRA	**Warramunga Arr**	50.06	124	P	P	06 45 42.0	0.0
	0.4nm,1.0s,baz=308,slow=8.2,SNR=2.6						

IDC ***13*** *06:37:56.6±2.1, 7.˚56N×91.˚84E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/36, mbtmp3.6/8, ML4.1/2, Error ellipse: s-maj=71.9km s-min=18.9km az=61.0*
ISCJB ***13*** *06:37:58.7±1.4, 7.˚6N±0.˚1×92.˚1E±0.˚2, h24km, mb3.5/6, Error ellipse: s-maj=32.5km s-min=9.5km az=143.1*

ISC 13 06:38:00.3±1.8, 7.˚5N±0.˚2×92.˚0E±0.˚2, h24km, n8, σ1s36/9, mb3.6/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	8.38	124	Pn	Pn	06 40 01.0	+0.5
	0.4nm,0.3s,baz=310,slow=18,SNR=2.8						
PSI				Sn	Sn	06 41 32.8	-1.7
	0.8nm,0.3s,baz=286,slow=17,SNR=1.6						
CMAR	**Chiang Mai Arr**	12.81	31	Pn	Pn	06 41 01.9	+0.8
	0.9nm,0.3s,baz=229,slow=14,SNR=5.2						
MKAR	**Makanchi Array**	39.99	350	P	P	06 45 33.1	0.0
	0.3nm,0.5s,baz=149,slow=9.0,SNR=4.3						
SONM	**Songino Array**	42.00	15	P	P	06 45 49.1	-0.7
	1.1nm,0.6s,baz=192,slow=12,SNR=5.9						
KURBB	**Kurchatov Arra**	44.38	348	P	P	06 46 07.0	-1.8
	0.4nm,0.3s,baz=153,slow=6.3,SNR=4.1						
ZALV	**Zalesovo Beam**	46.64	354	P	P	06 46 26.7	0.0
	0.6nm,0.5s,baz=225,slow=1.8,SNR=2.3						
WRA	**Warramunga Arr**	49.85	124	P	P	06 46 51.8	-0.2
	0.2nm,0.3s,baz=304,slow=8.3,SNR=4.5						
ASAR	**Alice Springs**	51.38	128	P	P	06 47 05.4	+1.9
	0.3nm,0.7s,baz=304,slow=6.6,SNR=3.2						

IDC ***13*** *06:38:39.3±0.9, 7.˚62N×91.˚68E, h0km, mb3.9/10, mb1 4.1/13, mb1mx3.9/36, mbtmp4.0/13, ML4.2/3, MS3.7/1, Ms1 3.7/1, ms1mx3.0/40, Error ellipse: s-maj=31.5km s-min=16.1km az=51.0*
NEIC ***13*** *06:38:43.1±0.6, 7.˚53N×91.˚62E, mb4.7/6, Error ellipse: s-maj=15.9km s-min=10.7km az=46.0*

ISC 13 06:38:43.1±0.6, 7.˚4N±0.˚1×91.˚49E±0.˚08, h35km, n34, σ1s74/28, mb4.1/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	8.70	121	Pn	Pn	06 40 46.8	+0.1
	0.7nm,0.3s,baz=329,slow=18,SNR=3.8						
PSI				Sn	Sn	06 42 20.7	-3.0
	0.8nm,0.3s,baz=222,slow=21,SNR=1.8						
PALK	**Pallekele**	10.71	270	Pn	Pn	06 41 14.5	+0.4
	2.1nm,0.3s,baz=42,slow=16,SNR=2.3						
PALK				Sn	Sn	06 43 09.6	-3.2
	2.7nm,0.3s,baz=358,slow=20,SNR=1.3						
PALK				LR	LR	06 44 44.1	
	comp=Z,403nm,21.8s,baz=55,slow=34						
CMAR	**Chiang Mai Arr**	13.16	33	Pn	Pn	06 41 44.1	-3.5
	1.0nm,0.3s,baz=231,slow=15,SNR=5.3						
LSA	**Lhasa**	22.18	359	*e*P	P	06 43 37.9	+1.1
	10nm,0.8s						
H08S3	**Diego Garcia H**	24.13	232	T	T	07 10 27.0	
	baz=51,slow=76,SNR=5.8						
H08S2	**Diego Garcia H**	24.14	232	T	T	07 10 27.3	
	baz=51,slow=76,SNR=5.7						
H08S1	**Diego Garcia H**	24.15	232	T	T	07 10 27.6	
	baz=51,slow=76,SNR=6.0						
KZA	**Kyzart**	37.41	340	P	P	06 45 58.3	+5.0
	SNR=5.3						
UCH	**Uchtor**	37.79	339	P	P	06 46 05.8	+9.2
	SNR=6.8						
AML	**Almayashu**	38.00	338	P	P	06 46 07.8	+10
	SNR=7.6						
TKM2	**Tokmak 2**	38.04	341	*e*P	P	06 46 00.8	+2.4
	4.3nm,0.6s						
AAK	**Ala-Archa**	38.16	340	P	P	06 46 08.4	+9.0
	SNR=5.7						
AAK	**Ala-Archa**	38.16	340	P	P	06 46 02.7	+3.3
	11nm,0.9s,baz=165,slow=9.3,SNR=11						
AAK	**Ala-Archa**	38.16	340	P	P	06 46 00.6	+1.2
	14nm,1.0s						
EKS2	**Erkin-Say**	38.43	339	P	P	06 46 11.3	+10
	SNR=6.4						
EKS2	**Erkin-Say**	38.43	339	*e*P	P	06 46 02.4	+0.8
	13nm,0.8s						
USP	**Ospenovka**	38.72	340	P	P	06 46 12.8	+8.9
	SNR=7.4						
MK31	**Makanchi Array**	40.03	350	*e*P	P	06 46 14.7	-0.1
MKAR	**Makanchi Array**	40.03	350	P	P	06 46 14.5	-0.3
	1.6nm,0.7s,baz=167,slow=8.3,SNR=7.9						
SONM	**Songino Array**	42.24	15	P	P	06 46 31.7	-1.3
	3.5nm,0.9s,baz=195,slow=8.5,SNR=9.5						
KURBB	**Kurchatov Arra**	44.41	348	P	P	06 46 50.3	0.0
	1.8nm,0.6s,baz=171,slow=6.9,SNR=6.5						
KURK	**Kurchatov**	44.48	348	P	P	06 46 50.3	-0.6
ZAA0	**Zalesovo Array**	46.72	355	*e*P	P	06 47 06.9	-1.6
ZALV	**Zalesovo Beam**	46.72	355	P	P	06 47 08.2	-0.4
	0.9nm,0.3s,baz=167,slow=13,SNR=4.9						
BRVK	**Borovoye**	48.69	343	*e*P	P	06 47 24.1	+0.2
	6.3nm,0.7s						
ABKAR	**Akbulak array**	49.42	333	*e*P	P	06 47 31.2	+1.7
	6.8nm,0.6s						
ABKAR				*e*pP	pP	06 47 38.6	-1.4
WRA	**Warramunga Arr**	50.16	124	P	P	06 47 36.0	+0.4
	0.5nm,0.6s,baz=305,slow=9.0,SNR=3.0						
ASAR	**Alice Springs**	51.66	128	P	P	06 47 48.9	+2.0
	0.3nm,0.5s,baz=316,slow=7.8,SNR=3.5						
BR131	**Keskin Array S**	60.76	312	*e*P	P	06 48 50.2	-1.6
BR131				*e*pP	pP	06 49 01.2	-1.2
BRTR	**Keskin Array B**	60.76	312	P	P	06 48 54.4	+2.6
	0.5nm,0.6s,baz=124,slow=4.6,SNR=3.8						
STKA	**Stephens Creek**	61.71	132	P	P	06 48 59.8	+1.7
	1.3nm,0.8s,baz=260,slow=6.1,SNR=2.9						
TIXI	**Tiksi**	68.22	12	*e*P	P	06 49 38.7	-1.0
	8.4nm,0.7s						
TIXI				*e*pP	pP	06 49 46.7	-3.8
FINES	**FINESS Array B**	71.91	333	P	P	06 50 03.4	+0.9
	1.9nm,0.8s,baz=97,slow=10,SNR=4.1						
GERES	**GERESS Array B**	76.43	318	P	P	06 50 31.0	+1.7
	0.6nm,0.8s,baz=106,slow=7.2,SNR=3.7						

ISCJB ***13*** *07:03:39.7±0.5, 38.˚47N±0.˚03×13.˚53E±0.˚04, h23km±4km, mb3.7/4, Error ellipse: s-maj=5.8km s-min=4.0km az=39.8*
ROM ***13*** *07:03:39.9±0.4, 38.˚39N×13.˚62E, h5km±4km, Ml3.6/21, Error ellipse: s-maj=3.0km s-min=2.8km az=71.0*
IDC ***13*** *07:03:39.9±1.8, 38.˚51N×13.˚79E, h0km, mb3.7/4, mb1 3.6/5, mb1mx3.4/53, mbtmp3.6/5, ML2.3/1, Error ellipse: s-maj=78.9km s-min=30.9km az=141.0*
CSEM ***13*** *07:03:40.6±0.2, 38.˚43N×13.˚58E, h20km, ML3.6, Error ellipse: s-maj=4.4km s-min=3.3km az=40.0*
LDG ***13*** *07:03:40.0±0.2, 38.˚37N×13.˚62E, h2km, Ml2.9/3, Error ellipse: s-maj=5.7km s-min=4.3km az=38.0*

ISC 13 07:03:40.0±1.1, 38.˚44N±0.˚03×13.˚62E±0.˚02, h13km±8km, n73, σ0s91/97, mb3.8/4, 10D, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOLUN	**Solunto**	0.35	191	⇓*i*Pg	Pg	07 03 46.8	-0.3
SOLUN				Sg	Sg	07 03 51.5	-0.4
	14μm,0.5s						
SOLUN	**Solunto**	0.35	191	⇓*i*Pg	Pg	07 03 46.8	-0.3
SOLUN				Sg	Sg	07 03 51.5	-0.4
	14μm,0.5s						
USI	**Ustica**	0.44	308	Pg	Pb	07 03 50.5	+0.9
USI				Sg	Sb	07 03 58.0	+1.9
	9μm,0.6s						
USI	**Ustica**	0.44	308	Pg	Pb	07 03 50.5	+0.9
USI				Sg	Sb	07 03 58.0	+1.9
	9μm,0.6s						
GIB	**Gibilmanna**	0.55	144	⇓*i*Pg	Pb	07 03 51.0	-0.6
GIB				Sg	Sb	07 03 59.4	-0.1
	9μm,0.6s						
GIB	**Gibilmanna**	0.55	144	⇓*i*Pg	Pb	07 03 51.0	-0.6
GIB				Sg	Sb	07 03 59.4	-0.1
	9μm,0.6s						
IACL	**Alicudi**	0.59	81	Pg	Pn	07 03 53.1	-1.0
	4μm,0.8s						
IACL	**Alicudi**	0.59	81	Pg	Pn	07 03 53.1	-1.0
	4μm,0.8s						
CORL	**Corleone**	0.60	205	Pg	Pg	07 03 51.1	-0.6
CORL				Sg	Sg	07 04 00.1	+0.5
	3μm,0.5s						
CORL	**Corleone**	0.60	205	Pg	Pg	07 03 51.1	-0.6
CORL				Sg	Sg	07 04 00.1	+0.5
	3μm,0.5s						
PLLN	**Pollina**	0.61	137	⇓*i*Pg	Pb	07 03 52.2	-0.3
PLLN				Sg	Sb	07 04 01.6	+0.5
	4μm,0.7s						
PLLN	**Pollina**	0.61	137	⇓*i*Pg	Pb	07 03 52.2	-0.3
PLLN				Sg	Sb	07 04 01.6	+0.5
	4μm,0.7s						
ALJA	**Alia**	0.70	171	⇓*i*Pg	Pb	07 03 54.2	+0.1
ALJA				Sg	Sb	07 04 04.2	+0.6
ALJA	**Alia**	0.70	171	⇓*i*Pg	Pb	07 03 54.2	+0.1
ALJA				Sg	Sb	07 04 04.2	+0.6
CRJA	**Costa Raja**	0.80	217	Pg	Pg	07 03 55.4	-0.1
CRJA	**Costa Raja**	0.80	217	Pg	Pg	07 03 55.4	-0.1
RESU	**Resuttano**	0.86	156	⇓*i*Pg	Pn	07 03 57.6	-0.3
	2μm,0.7s						
RESU	**Resuttano**	0.86	156	⇓*i*Pg	Pn	07 03 57.6	-0.3
	2μm,0.7s						
MTGR	**Montagna Grand**	0.87	231	Pg	Pg	07 03 56.3	-0.5
	241nm,0.3s						
MTGR	**Montagna Grand**	0.87	231	Pg	Pg	07 03 56.3	-0.5
	241nm,0.3s						
MMGO	**Monte Magaggia**	0.93	213	Pg	Pg	07 03 57.0	-0.9
	1μm,0.5s						
MMGO	**Monte Magaggia**	0.93	213	Pg	Pg	07 03 57.0	-0.9
	1μm,0.5s						
MNO	**Monte Soro**	0.99	121	Pg	Pn	07 03 59.2	-0.6
	1μm,0.7s						
MNO	**Monte Soro**	0.99	121	Pg	Pn	07 03 59.2	-0.6
	1μm,0.7s						
GALF	**Gagliano Caste**	1.04	134	Pg	Pn	07 04 00.9	+0.5
GALF	**Gagliano Caste**	1.04	134	Pg	Pn	07 04 00.9	+0.5
LLI	**Lipari**	1.04	89	Pg	Pn	07 04 00.0	-0.3
	5μm,0.8s						
LLI	**Lipari**	1.04	89	Pg	Pn	07 04 00.0	-0.3
	5μm,0.8s						
CAGR	**Agira**	1.07	139	Pg	Pn	07 04 02.2	+1.4
CAGR	**Agira**	1.07	139	Pg	Pn	07 04 02.2	+1.4
VPL	**Vulcano Piano**	1.07	93	Pg	Pg	07 04 00.0	-0.7
	1μm,0.8s						
VPL	**Vulcano Piano**	1.07	93	Pg	Pg	07 04 00.0	-0.7
	1μm,0.8s						
ECNV	**Catenanuova**	1.21	134	Pg	Pg	07 04 04.1	+0.9
ECNV	**Catenanuova**	1.21	134	Pg	Pg	07 04 04.1	+0.9
MILZ	**Milazzo**	1.28	97	Pg	Pn	07 04 02.5	-1.1
	637nm,0.6s						
MILZ	**Milazzo**	1.28	97	Pg	Pn	07 04 02.5	-1.1
	637nm,0.6s						
RAFF	**Raffo Rosso**	1.35	154	Pg	Pg	07 04 05.4	-0.5
	2μm,0.7s						
RAFF	**Raffo Rosso**	1.35	154	Pg	Pg	07 04 05.4	-0.5
	2μm,0.7s						
MMME	**Mongiuffi-Meli**	1.38	111	Pg	Pg	07 04 07.0	+0.4
	524nm,0.7s						
MMME	**Mongiuffi-Meli**	1.38	111	Pg	Pg	07 04 07.0	+0.4
	524nm,0.7s						
MSRU	**Castanea**	1.50	96	Pg	Pn	07 04 05.8	-0.8
	359nm,0.7s						
MSRU	**Castanea**	1.50	96	Pg	Pn	07 04 05.8	-0.8
	359nm,0.7s						
HVZN	**Vizzini**	1.53	145	Pg	Pn	07 04 07.1	0.0
HVZN				Sg	Sb	07 04 27.7	+0.1
	2μm,0.5s						
HVZN	**Vizzini**	1.53	145	Pg	Pn	07 04 07.1	0.0
HVZN				Sg	Sb	07 04 27.7	+0.1
	2μm,0.5s						
HCRL	**Carlentini**	1.61	135	Pg	Pn	07 04 08.1	0.0
HCRL				Sg	Sn	07 04 28.7	0.0
	1μm,0.7s						
HCRL	**Carlentini**	1.61	135	Pg	Pn	07 04 08.1	0.0
HCRL				Sg	Sn	07 04 28.7	0.0
	1μm,0.7s						
MTTG	**Motta San Giov**	1.69	104	Pg	Pn	07 04 10.0	+0.7
	389nm,0.9s						
MTTG	**Motta San Giov**	1.69	104	Pg	Pn	07 04 10.0	+0.7
	389nm,0.9s						
MSCL	**Scilla**	1.72	96	Pg	Pn	07 04 08.9	-0.8
	401nm,0.7s						
MSCL	**Scilla**	1.72	96	Pg	Pn	07 04 08.9	-0.8
	401nm,0.7s						
SSY	**Sortino**	1.72	138	Pg	Pn	07 04 10.1	+0.4
SSY				Sg	Sn	07 04 31.7	0.0
	645nm,0.5s						
SSY	**Sortino**	1.72	138	Pg	Pn	07 04 10.1	+0.4
SSY				Sg	Sn	07 04 31.7	0.0
	645nm,0.5s						
AGST	**Augusta-Monte**	1.74	132	Pg	Pn	07 04 09.9	0.0
	284nm,0.6s						
AGST	**Augusta-Monte**	1.74	132	Pg	Pn	07 04 09.9	0.0
	284nm,0.6s						
HMDC	**Modica**	1.74	148	Pg	Pn	07 04 10.2	+0.2
HMDC				Sg	Sn	07 04 32.1	0.0
	658nm,0.6s						
HMDC	**Modica**	1.74	148	Pg	Pn	07 04 10.2	+0.2
HMDC				Sg	Sn	07 04 32.1	0.0
	658nm,0.6s						
CEL	**Celeste**	1.80	95	Pg	Pn	07 04 09.7	-1.1
	142nm,0.6s						
CEL	**Celeste**	1.80	95	Pg	Pn	07 04 09.7	-1.1
	142nm,0.6s						
PLAC	**Placanica**	2.21	89	Pg	Pn	07 04 16.9	+0.4
	162nm,0.8s						
PLAC	**Placanica**	2.21	89	Pg	Pn	07 04 16.9	+0.4
	162nm,0.8s						
KEST	**Kesra**	4.36	233	Pn	Pn	07 04 49.4	+3.4
	0.2nm,0.3s,baz=312,slow=18,SNR=4.4						
KEST				Sn	Sn	07 05 34.9	-1.8
	0.2nm,0.3s,baz=198,slow=20,SNR=3.0						
PGF	**Pioggiola**	5.41	321	*e*Pn	Pn	07 05 00.6	+0.2
PGF				*e*Sn	Sn	07 06 00.4	-2.2
	4.0nm,0.5s						
PGF	**Pioggiola**	5.41	321	*e*Pn	Pn	07 05 00.6	+0.2
PGF				*e*Sn	Sn	07 06 00.4	-2.2
	2.0nm,0.5s						
SBF	**Sospel**	7.15	321	*e*Pn	Pn	07 05 24.2	-0.1
SBF	**Sospel**	7.15	321	*e*Pn	Pn	07 05 24.2	-0.1
LMR	**La Mourre**	7.27	314	*e*Pn	Pn	07 05 25.3	-0.6
LMR				*e*Sn	Sn	07 06 44.7	-3.6
	0.5nm,0.3s						
LMR	**La Mourre**	7.27	314	*e*Pn	Pn	07 05 25.3	-0.6
LMR				*e*Sn	Sn	07 06 44.7	-3.6
	0.2nm,0.3s						
FRF	**La Foret Royal**	7.34	316	*e*Pn	Pn	07 05 26.8	-0.1
FRF	**La Foret Royal**	7.34	316	*e*Pn	Pn	07 05 26.8	-0.1
FINES	**FINESS Array B**	24.30	15	P	P	07 08 57.7	+0.8
	1.8nm,0.9s,baz=198,slow=12,SNR=4.1						
KURBB	**Kurchatov Arra**	46.42	53	P	P	07 12 07.3	+1.2
	0.4nm,0.4s,baz=283,slow=9.0,SNR=5.4						
ZALV	**Zalesovo Beam**	49.53	47	P	P	07 12 30.9	+0.7
	1.0nm,0.7s,baz=279,slow=12,SNR=4.0						
MKAR	**Makanchi Array**	49.75	57	P	P	07 12 32.2	+0.2
	0.6nm,0.7s,baz=284,slow=6.1,SNR=7.2						

ISCJB ***13*** *07:05:32.0±0.8, 7.˚79N±0.˚03×91.˚88E±0.˚02, h13km±5km, mb5.0/165, MS4.2/29, Error ellipse: s-maj=4.6km s-min=3.0km az=19.7*
IDC ***13*** *07:05:31.6±0.4, 7.˚81N×92.˚00E, h0km, mb4.5/39, mb1 4.6/42, mb1mx4.6/49, mbtmp4.5/42, ML4.7/3, MS4.2/22, Ms1 4.2/22, ms1mx4.0/38, Error ellipse: s-maj=12.7km s-min=10.7km az=43.0*
DJA ***13*** *07:05:34.8±0.3, 8.˚N±3.˚×9.˚2E±.˚, h10km, M4.9/24, mb5.0/24, mB5.3/15, MLv5.2/1, Mw(mB)4.8/15, Mwp6.2/1*
BJI ***13*** *07:05:34.8, 7.˚83N×91.˚94E, h32km, mb4.8/57, mB5.0/43

MNSI Mandailing Nat 10.31 132 P Pn 07 08 10.5 +8.3
FRIM Kepong 10.64 115 ⇑P **Pn** **07 08 07.0 +0.3**
PALK Pallekele 11.17 268 Pn **Pn** **07 08 13.6 -0.4**
comp=Z,521nm,0.4s,SNR=5.7
PALK Pallekele 11.17 268 Pn **Pn** **07 08 12.1 -1.9**
comp=Z,14nm,0.3s,baz=88,slow=12,SNR=44
PALK Sn Sn 07 10 03.4 -15
comp=Z,42nm,0.3s,baz=184,slow=20,SNR=12
PALK LR LR 07 12 03.6
comp=Z,2µm,20.9s,baz=83,slow=35
PALK T T 07 19 44.6
comp=Z,6.6nm,0.3s,baz=148,slow=9.5,SNR=3.9
PALK Pallekele 11.17 268 P **Pn** **07 08 12.1 -1.9**
PALK pmax pmax
comp=Z,15nm,0.3s
PALK MLR MLR
comp=Z,2µm,20.9s
PALK pmax pmax
comp=Z,7µm,0.3s
PALK Pallekele 11.17 268⇑*i*P **Pn** **07 08 12.9 -1.1**
SNR=18
PALK Pallekele 11.17 268 *e*Pn **Pn** **07 08 13.8 -0.3**
PALK Sn Sn 07 10 03.4 -15
PALK TT 07 19 44.6
BKNI Bangkinang 11.72 129 Pn Pn 07 08 25.9 +4.4
MHMT Maesarieng 11.83 29 P **Pn** **07 08 23.5 +0.5**
comp=Z,84nm,0.8s
PBKT Sadao Pong 12.38 44 P **Pn** **07 08 31.7 +1.1**
comp=Z,60nm,1.1s
CM31 Chiang Mai Arr 12.58 32 *e*Pn **Pn** **07 08 33.7 +0.5**
comp=Z,27nm,0.7s
CM31 *e*Sn **Sn** **07 10 52.5 +0.1**
CMAR Chiang Mai Arr 12.58 32 Pn **Pn** **07 08 33.1 -0.1**
comp=Z,1.5nm,0.3s,baz=228,slow=14,SNR=43
CMAR LR LR 07 13 39.3
comp=Z,654nm,21.8s,baz=211,slow=39
CMAR Chiang Mai Arr 12.58 32 P **Pn** **07 08 33.2 -0.1**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR MLR MLR
comp=Z,654nm,21.8s
KGM Kluang 12.70 116⇑P **Pn** **07 08 34.2 -0.7**
CHTO Chiang Mai 12.88 31 P **Pn** **07 08 37.6 +0.3**
comp=Z,100nm,1.2s,comp=Z,3µm
CHTO Chiang Mai 12.88 31 P **Pn** **07 08 37.9 +0.6**
SNR=11
CHTO Chiang Mai 12.88 31 *e*Pn **Pn** **07 08 37.4 +0.1**
CHTO *e*Sn **Sn** **07 10 59.6 0.0**
CMMT Chiang Mai 12.88 31 P **Pn** **07 08 37.5 +0.2**
comp=Z,69nm,1.1s,comp=Z,753nm
VIS Vishakhapatnam 12.95 320 *i* P **Pn** **07 08 36.5 -1.8**
VIS AMB AMB 07 09 11.8
comp=Z,120nm,1.2s
VIS *i* x x 07 10 48.3
CHLP Challavanipeta 13.12 325 *e*Pn Pn 07 08 36.7 -3.9
CHLP IAmb IAmb 07 08 49.4
comp=Z,264nm,0.7s
CHLP Sn Sn 07 10 53.1 -12
CHLP IVMs_BB IVMs_BB 07 14 41.2
comp=Z,658nm,17.6s
MYKOM Kota Tinggi 13.27 116⇑P **Pn** **07 08 43.3 +0.5**
MYKOM Kota Tinggi 13.27 116 *e*Pn **Pn** **07 08 42.2 -0.6**
SKHT Srikalahasti 13.39 297 *e*Pn **Pn** **07 08 43.7 -0.7**
SKHT IAmb IAmb 07 08 52.0
comp=Z,74nm,1.0s
SKHT Sn Sn 07 10 57.6 -15
SKHT IVMs_BB IVMs_BB 07 15 48.5
comp=Z,838nm,4.5s
PVM Polavaram 13.77 314 *e*Pn **Pn** **07 08 49.0 -0.5**
PVM IAmb IAmb 07 08 49.5
comp=Z,60nm,1.2s
PVM Sn Sn 07 11 09.0 -12
PVM IVMs_BB IVMs_BB 07 15 15.8
comp=Z,635nm,15.6s
ADKI Addanki 14.18 305 *e*Pn **Pn** **07 08 52.7 -2.5**
ADKI IAmb IAmb 07 09 02.6
comp=Z,81nm,0.8s
ADKI Sn Sn 07 11 14.8 -17
RCLA Racherla 14.82 302 *e*Pn **Pn** **07 09 01.3 -2.5**
RCLA IAML 07 09 06.3
RCLA Sn Sn 07 11 30.4 -17
RCLA IVMs_BB IVMs_BB 07 16 50.2
comp=Z,954nm,5.4s
SKNT Sakolnakorn 14.86 51 P **Pn** **07 09 05.8 +1.5**
comp=Z,66nm,0.8s,comp=Z,1µm
DSRI Dabo 15.04 123 P **P** **07 09 14.6 +2.8**
NJS Nagarjunasagar 15.10 306 *e*Pn **Pn** **07 09 06.2 -1.5**
NJS IAmb IAmb 07 09 16.2
comp=Z,55nm,1.0s
NJS Sn Sn 07 11 38.0 -16
NJS IVMs_BB IVMs_BB 07 16 50.4
comp=Z,682nm,4.9s
UBPT Khong Chiam 15.17 60 P **P** **07 09 11.1 -2.2**
comp=Z,152nm,0.8s,comp=Z,1µm
SRLM Srisailam 15.20 304 *e*Pn **Pn** **07 09 06.5 -2.4**
SRLM IAmb IAmb 07 09 15.3
comp=Z,84nm,0.9s
SRLM Sn Sn 07 11 40.5 -16
SRLM IVMs_BB IVMs_BB 07 16 02.0
comp=Z,806nm,6.6s
URV Uravakonda 16.05 298 *e*Pn **Pn** **07 09 18.9 -1.0**
URV IAmb IAmb 07 09 24.7
comp=Z,43nm,0.7s
URV Sn Sn 07 12 02.8 -14
URV IVMs_BB IVMs_BB 07 16 59.9
comp=Z,950nm,14.6s
HYB Hyderabad 16.18 307 *i* P **P** **07 09 23.5 -1.0**
HYB *e*S **S** **07 12 30.0 -2.7**
HYB Hyderabad 16.18 307 *e*P **Pn** **07 09 20.9 -0.7**
HYB AMB AMB 07 09 26.2
comp=Z,61nm,1.1s
HYBB Hyderabad (bro 16.18 307 *e*Pn **Pn** **07 09 20.6 -1.0**
HYBB IAmb IAmb 07 09 35.0
comp=Z,188nm,1.5s
HYBB *e* 07 12 11.3
HYBB *e*Sn **Sn** **07 12 19.0 -1.3**
HYBB IVMs_BB IVMs_BB 07 17 44.1
comp=Z,966nm,4.9s
LHSI Lahat 16.34 135 P **P** **07 09 27.9 +1.7**
RPR Rampur 16.49 313 *e*Pn **Pn** **07 09 24.6 -0.9**
RPR IAmb IAmb 07 09 30.7
comp=Z,34nm,0.7s
RPR IVMs_BB IVMs_BB 07 17 01.2
comp=Z,1µm,15.4s
BOK Bokaro 16.93 341 *e*P **Pn** **07 09 29.8 -1.2**
BOK AMB AMB 07 09 34.9
comp=Z,60nm,1.3s
SRSP Sriramsagar 17.23 311 *e*Pn **Pn** **07 09 33.8 -1.1**
SRSP IAmb IAmb 07 09 46.6
comp=Z,193nm,1.6s
SRSP Sn Sn 07 12 31.4 -14
SRSP IVMs_BB IVMs_BB 07 19 18.5
comp=Z,747nm,4.3s
MDSI Maura Dua 17.26 135 P **P** **07 09 36.8 +0.4**
comp=Z,121nm,1.0s,comp=Z,1µm
PPBI Pangkal Pinang 17.27 124 P sP 07 09 48.6 -0.2
LWLI Liwa 17.56 136 P P 07 09 46.0 +6.2
SHL Shillong 17.66 360 *e*P **Pn** **07 09 38.1 -2.1**
KLSI 17.80 134 P **P** **07 09 44.1 +1.7**
comp=Z,411nm,1.4s,comp=Z,4µm
KLRI Killari 18.09 306 *e*Pn **Pn** **07 09 44.8 -0.8**
KLRI IAmb IAmb 07 09 56.2
comp=Z,187nm,1.5s
KLRI Sn Sn 07 12 52.2 -14
KLRI IVMs_BB IVMs_BB 07 18 17.9
comp=Z,854nm,3.4s
NGP Nagpur 18.20 318 *e*P **Pn** **07 09 45.4 -1.4**
NGP *ex* x 07 10 07.7
comp=Z,144nm,1.3s
NGP *ex* x 07 13 00.6
KASI Kota Agung 18.22 136 P **P** **07 09 48.1 +1.1**
comp=Z,132nm,1.2s,comp=Z,1µm
TPI Tanjungpandan 18.85 123 P **P** **07 09 54.1 +0.1**
comp=Z,94nm,1.4s,comp=Z,1µmcomp=Z,54µm
AKL Akola 19.31 313 *ex* **Pn** **07 10 02.0 +1.8**
AKL AMB AMB 07 10 05.6
comp=Z,85nm,1.2s
GOA Goa 19.32 295 *e*P **P** **07 09 59.7 +0.6**
KSM Kuching 19.34 108⇓P **Pn** **07 10 00.9 +0.3**
KSM Kuching 19.34 108 *e*P **Pn** **07 10 00.1 -0.5**
comp=Z,23nm,0.8s
ODAN Odare 19.44 348 *e*P **Pn** **07 10 01.4 -0.5**
RAMN Ramite 19.70 346 *e*P **Pn** **07 10 05.0 -0.1**
comp=Z,95nm,0.5s
CGJI Cibinong 19.82 136 P **P** **07 10 02.9 -1.7**
comp=Z,97nm,0.9s,comp=Z,2µm
TAPN Taplejung 19.85 349 *e*P **Pn** **07 10 06.2 -0.6**
comp=Z,148nm,1.0s
KMI Kunming 20.06 30 P Pn 07 10 10.8 +1.4
KMI pP pP 07 10 19.0 +3.3
KMI S **S** **07 13 47.6 -3.9**
KMI PMZ
comp=Z,65nm,1.0s
KMI LN
comp=Z,850nm,17.2s
KMI LE
comp=Z,390nm,15.5s
KMI LZ
comp=Z,690nm,17.5s
JIRN Jiri 20.48 345 *e*P **P** **07 10 13.2 +1.1**
comp=Z,166nm,1.1s
POO Poona 20.57 303⇑*i*PN **P** **07 10 13.0 +0.1**
comp=Z,182nm,1.2s
POO *e*P Pn 07 10 14.1 -1.1
POO *e*PP **PnPn** **07 10 29.0 -2.0**
PKI Pulchoki 20.61 343 *e*P **P** **07 10 14.1 +0.7**
comp=Z,262nm,1.3s
QIZ Qiongzhong 20.64 56 *e*P **P** **07 10 14.3 +0.8**
comp=Z,58nm,0.8s
BHPL Bhopal 20.74 319 *e*P **P** **07 10 14.6 0.0**
GUN Gumba 20.80 345 *e*P **P** **07 10 16.3 +0.7**
comp=Z,201nm,0.8s
KKN Kakani 20.85 343 *e*P **P** **07 10 16.6 +0.6**
comp=Z,100nm,1.0s
SBUM Sibu 20.87 104⇑P Pn 07 10 17.7 -1.0
SBUM Sibu 20.87 104 *e*P **P** **07 10 16.6 +0.5**
comp=Z,67nm,1.0s
STKI Sintang 20.93 111 P Pn 07 10 18.3 -1.0
comp=Z,85nm,1.0s,comp=Z,11µm
GKN Gorkha 21.24 342 *e*P **P** **07 10 20.7 +0.6**
comp=Z,167nm,0.9s
LEM Lembang 21.34 133 LR LR 07 19 12.7
comp=Z,631nm,18.9s,baz=216,slow=38
KOLN Koldanda 21.37 339 *e*P **P** **07 10 22.2 +0.7**
comp=Z,177nm,0.8s
BTM Bintulu 21.52 101⇑P **P** **07 10 25.2 +2.2**
LSA Lhasa 21.79 358 *e*P **P** **07 10 26.0 -0.2**
comp=Z,62nm,0.8s
GYA Guiyang 23.23 35⇑*i*P **P** **07 10 40.3 -0.8**
GYA pP **pP** **07 10 52.8 +3.1**
GYA PP PnPn 07 11 15.0 +7.6
GYA PcP **PcP** **07 14 30.4 +1.8**
GYA S **S** **07 14 50.3 -1.0**
GYA PMZ
comp=Z,60nm,0.9s
GYA PMZ
comp=Z,130nm,5.0s
GYA LN
comp=Z,880nm,16.5s
GYA LE
comp=Z,620nm,17.0s
GYA LZ
comp=Z,750nm,16.6s
AGRA Agra 23.44 327 *e*P **P** **07 10 42.6 -0.5**
SMRI Semarang 23.62 128 P P 07 10 56.6 +12
SMRI Semarang 23.62 128 *e*P **P** **07 10 45.8 +0.9**
comp=Z,162nm,1.0s
UWJI Ujung Watu 23.64 126 P **P** **07 10 47.1 +2.0**
comp=Z,255nm,1.4s
UGM Wanagama 24.22 130 P **P** **07 10 50.5 -0.1**
comp=Z,109nm,1.9s
TBJI Tambak Boyo 24.59 126 P **P** **07 10 56.3 +2.4**
SONA Sohna 24.71 327 *e*P **P** **07 10 54.8 -0.1**
H08S3 Diego Garcia H 24.74 232 T T 07 37 21.6
baz=51,slow=75,SNR=313
H08S2 Diego Garcia H 24.74 232 T T 07 37 22.0
baz=51,slow=75,SNR=91
H08S1 Diego Carcia H 24.76 232 T T 07 37 23.1
baz=51,slow=75,SNR=180
BISR Bishrakh 24.78 328 *e*P **P** **07 10 55.6 +0.1**
BISR AMB AMB 07 10 57.2
comp=Z,73nm,0.1s
AYAN Aya Nagar 24.87 328 *e*P **P** **07 10 56.8 +0.5**
AYAN AMB AMB 07 10 57.9
comp=Z,41nm,0.7s
KALG Kalgarh 24.90 332 *e*P **P** **07 10 55.6 -1.0**
KALG AMB AMB 07 11 00.6
comp=Z,39nm,0.6s
NDI New Delhi 24.99 328 *e*P **P** **07 10 57.0 -0.4**
SDKM Sandakan 25.16 93⇓P **P** **07 11 02.2 +3.0**
H08N1 Diego Carcia H 25.18 237 T T 07 37 50.5
baz=48
H08N2 Diego Garcia H 25.18 237 T T 07 37 49.7
baz=48,slow=74,SNR=3.8
H08N3 Diego Garcia H 25.20 237 T T 07 38 14.0
baz=48,slow=74,SNR=6.1
KHET Khetri 25.28 325 *e*P **P** **07 11 00.5 +0.4**
KHET AMB AMB 07 11 01.9
comp=Z,33nm,0.4s
CD2 Chengdu 25.50 24⇓P **P** **07 11 01.9 -0.1**
CD2 pP **pP** **07 11 11.8 +0.8**
CD2 sP **sP** **07 11 16.3 +1.5**
CD2 PcP **PcP** **07 14 31.3 -2.1**
CD2 S **S** **07 15 29.1 +1.6**
CD2 PMZ
comp=Z,110nm,0.7s
CD2 PMZ
comp=Z,250nm,5.5s
CD2 LN
comp=Z,800nm,15.1s
CD2 LE
comp=Z,780nm,12.9s
CD2 LZ
comp=Z,590nm,14.2s
GZH Guangzhou 25.55 51 P P 07 11 08.3 +5.8
GZH pP pP 07 11 16.8 +5.3
GZH PP PnPn 07 11 57.8 +19
GZH S S 07 15 42.9 +15
GZH SS SnSn 07 17 00.9 +38
GZH LR LR
comp=N,920nm,16.3s
GZH LR LR
comp=E,850nm,17.3s
DDI Dehra Dun 25.91 332 *e*P **P** **07 11 06.2 +0.4**
DDI AMB AMB 07 11 10.2
comp=Z,129nm,1.1s
TSM Tawau 26.00 96⇓P **P** **07 11 09.6 +2.8**
KKR Kurukshetra 26.22 329 *e*P **P** **07 11 08.7 +0.1**
SMLA Simla 27.00 331 *e*P **P** **07 11 16.4 +0.9**
SMLA AMB AMB 07 11 17.8
comp=Z,47nm,0.5s
ENH Enshi 27.74 34 *e*P **P** **07 11 22.4 +0.1**
comp=Z,51nm,1.1s
DHRM DHARAMSHALA 28.34 331 *e*P **P** **07 11 26.5 -1.3**
TGY Tagaytay City 29.11 75 LR LR 07 22 51.4
comp=Z,5.8nm,21.4s,baz=262,slow=36
LZH Lanzhou 30.17 19 *e*P **P** **07 11 44.3 +0.3**
LZH pP **pP** **07 11 54.5 +1.5**
LZH sP **sP** **07 11 58.8 +2.0**
LZH PMZ
comp=Z,30nm,1.0s
LZH PMZ
comp=Z,160nm,5.2s
LZH LN
comp=Z,500nm,14.2s
LZH LE
comp=Z,680nm,16.4s
LZH LZ
comp=Z,930nm,16.4s
XAN Xi'an 30.44 29 P **P** **07 11 45.5 -0.7**
XAN pP **pP** **07 11 55.1 -0.2**
XAN sP **sP** **07 11 59.1 0.0**
XAN PP **PnPn** **07 12 44.3 -1.2**
XAN S **S** **07 16 40.6 -4.7**
XAN sS **sS** **07 16 56.6 -3.7**
XAN SS **SnSn** **07 18 19.3 -3.1**
XAN PMZ
comp=Z,3.0nm,1.0s
XAN PMZ
comp=Z,52nm,11.6s
XAN LN
comp=Z,470nm,16.4s
XAN LE
comp=Z,210nm,14.9s
XAN LZ
comp=Z,200nm,16.4s
RCP Roxas 30.57 81⇓*e*P **P** **07 11 50.7 +3.1**
QZH Quanzhou 30.61 53 P **P** **07 11 49.1 +1.3**
QZH *e*S **S** **07 16 50.3 +2.2**
QZH PMZ
comp=Z,100nm,0.6s
QZH LN
comp=Z,690nm,9.2s
QZH LE
comp=Z,2µm,14.5s
QZH LZ
comp=Z,1µm,16.5s
WHN Wuhan 30.84 40 P **P** **07 11 50.8 +1.1**
WHN S **S** **07 16 53.8 +2.3**
WHN LN
comp=Z,2µm,15.0s
WHN LE
comp=Z,510nm,9.1s
WHN LZ
comp=Z,1µm,14.8s
TWG Pinlang 31.71 59 *e*P **P** **07 11 59.2 +1.7**
comp=Z,85nm,0.7s
LUWI Luwuk 31.97 105 *e*P **P** **07 11 59.0 -0.9**
comp=Z,84nm,0.8s
SSLB Suanglung 32.01 57 *e*P **P** **07 12 00.2 +0.1**
comp=Z,18nm,0.8s
YULB Yu-li 32.13 58 *e*P **P** **07 12 03.5 +2.3**
comp=Z,26nm,0.9s
GTA Gaotai 32.25 11⇑P **P** **07 12 02.8 +0.6**
GTA pP **pP** **07 12 12.1 +0.8**
GTA sP **sP** **07 12 16.3 +1.2**
GTA S **S** **07 17 14.0 +0.4**
GTA sS **sS** **07 17 29.8 +1.1**
GTA ScP **ScP** **07 18 31.0 -0.8**
GTA SS **SnSn** **07 19 09.8 +3.3**
GTA PMZ
comp=Z,82nm,0.9s
GTA PMZ
comp=Z,190nm,5.0s
GTA LN
comp=Z,260nm,16.1s
GTA LE
comp=Z,260nm,12.7s
GTA LZ
comp=Z,290nm,14.2s
YHNB Yeheng 32.73 56 *e*P **P** **07 12 07.9 +1.4**
comp=Z,16nm,0.8s
KBL Kabul 33.94 325 *e*P **P** **07 12 17.7 +0.5**
comp=Z,5.6nm,0.6s
KSH Kashi 34.68 338 P **P** **07 12 22.3 -1.0**
KSH pP **pP** **07 12 31.3 -1.2**
KSH sP **sP** **07 12 35.4 -0.9**
KSH PP **PP** **07 13 41.5 -0.8**
KSH S **S** **07 17 53.9 +2.6**
KSH PcS **PcS** **07 18 43.0 -0.7**
KSH ScS **ScS** **07 22 42.9 -0.6**
KSH PMZ
comp=Z,13nm,0.8s
KSH LN
comp=Z,150nm,6.9s
KSH LE
comp=Z,120nm,5.7s
KSH LZ
comp=Z,130nm,6.5s
NJ2 Nanjing 34.75 42 *e*P **P** **07 12 26.3 +2.4**
NJ2 pP **pP** **07 12 33.4 +0.4**
NJ2 sP **sP** **07 12 38.4 +1.6**
NJ2 S S 07 17 59.0 +6.7
NJ2 PMZ
comp=Z,40nm,0.7s
NJ2 LN
comp=Z,460nm,11.3s
NJ2 LE
comp=Z,1µm,13.6s
WMQ Urumqi 36.06 355 P **P** **07 12 36.6 +1.5**
WMQ pP **pP** **07 12 45.1 +0.8**
WMQ sP **sP** **07 12 48.3 +0.2**
WMQ PP **PP** **07 13 58.8 +1.3**
WMQ PcP **PcP** **07 15 03.0 +2.0**
WMQ ScP **ScP** **07 18 44.3 -0.9**
WMQ SS **SnSn** **07 20 35.8 -3.0**
WMQ ScS **ScS** **07 22 47.8 -2.9**
WMQ PMZ
comp=Z,11nm,0.8s
WMQ PMZ
comp=Z,190nm,4.2s
WMQ LN
comp=Z,300nm,12.5s
WMQ LE
comp=Z,230nm,15.0s
WMQ LZ
comp=Z,230nm,22.4s
SFK Sufi-Kurgan 36.07 336 P **P** **07 12 36.0 +0.6**
SFK pmax pmax
comp=Z,83nm,1.2s
TIA Tai'an 36.42 35⇓P **P** **07 12 38.5 +0.2**
ULHL Ulahol 37.00 340 P **P** **07 12 44.4 +1.1**
SNR=12
PDGK Podgornoye 37.03 345 P **P** **07 12 44.0 +0.7**
PDGK pmax pmax
comp=Z,62nm,1.7s
KZA Kyzart 37.19 339 P **P** **07 12 46.7 +1.5**
SNR=20
HHC Hu-ho-hao-te 37.25 25 *e*P **P** **07 12 45.9 +0.6**
HHC S **S** **07 18 31.0 +0.4**
HHC sS **ScP** **07 18 48.8 -0.9**
HHC SS **SnSn** **07 21 05.5 -2.1**
HHC PMZ
comp=Z,18nm,1.0s
HHC PMZ
comp=Z,170nm,6.0s
HHC LN
comp=Z,250nm,13.5s
HHC LE
comp=Z,430nm,13.0s
HHC LZ
comp=Z,320nm,13.4s
UCH Uchtor 37.58 339 P **P** **07 12 50.0 +1.5**
SNR=22
AAA Alma-Ata 37.70 342 *e*P **P** **07 12 49.9 +0.9**
AAA *e*S **S** **07 18 38.2 +0.9**
AAA pmax pmax
comp=Z,300nm,2.9s
AAA smax smax
comp=E,400nm,7.6s
AML Almayashu 37.80 338 P **P** **07 12 51.5 +1.2**
SNR=44
KBK Karagaybulak 37.80 339 P **P** **07 12 51.6 +1.5**
SNR=24
TKM2 Tokmak 2 37.82 340 P **P** **07 12 51.5 +1.2**
SNR=17
TKM2 Tokmak 2 37.82 340 P **P** **07 12 50.0 -0.2**
TKM2 pmax pmax
comp=Z,33nm,1.3s
TKM2 Tokmak 2 37.82 340 *e*P **P** **07 12 50.4 +0.2**
comp=Z,58nm,1.5s
AAK Ala-Archa 37.94 339 P **P** **07 12 52.9 +1.7**
comp=Z,215nm,1.2s,SNR=12
AAK Ala-Archa 37.94 339 P **P** **07 12 52.7 +1.5**
SNR=22
AAK Ala-Archa 37.94 339 P **P** **07 12 52.9 +1.7**
comp=Z,831µm,0.1s,SNR=12
AAK Ala-Archa 37.94 339 P **P** **07 12 52.4 +1.1**
comp=Z,28nm,1.0s,baz=154,slow=6.3,SNR=52
AAK Ala-Archa 37.94 339*d i*P **P** **07 12 52.5 +1.2**
AAK pmax pmax
comp=Z,184nm,1.7s
AAK Ala-Archa 37.94 339 P **P** **07 12 53.0 +1.7**
SNR=29
FRU Bishkek 38.08 339 *i* P **P** **07 12 52.5 +0.3**
FRU pmax pmax
comp=Z,110nm,2.0s
FRU MLR MLR
comp=E,900nm,15.0s
CHMS Chumysh 38.17 339 P **P** **07 12 54.1 +1.1**
SNR=11
EKS2 Erkin-Say 38.23 338 P **P** **07 12 55.3 +1.7**
SNR=23
EKS2 Erkin-Say 38.23 338 *e*P **P** **07 12 54.6 +1.0**
comp=E,86nm,1.5s
USP Ospenovka 38.50 339 P **P** **07 12 57.1 +1.3**
SNR=36
MNAS Manas 38.56 337 P **P** **07 12 57.3 +0.8**
MNAS pmax pmax
comp=Z,54nm,1.5s
BJI Beijing 38.72 30 P **P** **07 12 59.3 +1.7**
BJI S **S** **07 18 56.3 +3.6**
BJI PMZ
comp=Z,11nm,0.5s
BJI LN
comp=Z,380nm,25.8s
BJI LE

comp=Z,360nm,18.1s
BJI LZ
comp=Z,390nm,23.6s
ASUD Al Ashush, Dub 38.77 300 ⇓P **P 07 12 58.9 +0.6**
MK31 Makanchi Array 39.72 350 *e*P **P 07 13 06.2 +0.3**
MKAR Makanchi Array 39.72 350 P **P 07 13 05.5 -0.4**
comp=Z,10nm,0.8s,baz=168,slow=8.5,SNR=79
MKAR Makanchi Array 39.72 350 *ce*P **P 07 13 06.0 +0.1**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
KK31 Karatay Array 39.88 335 P **P 07 13 06.0 -1.3**
KK31 pmax pmax
comp=Z,41nm,1.0s
KKAR Karatay Array 39.88 335 *e*P **P 07 13 07.9 +0.6**
comp=Z,26nm,0.9s
IMOG Moghan 40.97 318 *e*P **P 07 13 17.7 +0.9**
IAKL Akhelmad 41.64 318 *e*P **P 07 13 23.8 +1.5**
SONM Songino Array 41.73 15 P **P 07 13 23.0 +0.4**
comp=Z,17nm,0.8s,baz=195,slow=8.9,SNR=102
SONM LR LR 07 33 26.7
comp=Z,460nm,19.6s,baz=191,slow=40
SONM Songino Array 41.73 15 P **P 07 13 23.0 +0.4**
SONM pmax pmax
comp=Z,17nm,0.8s
SONM MLR MLR
comp=Z,460nm,19.6s
IPAR Pars 42.54 306 *e*P **P 07 13 30.6 +0.9**
ISHV Shirvan 42.86 319 *e*P **P 07 13 34.5 +2.4**
TJN Taejon 42.99 43 *i* P **P 07 13 33.1 +0.2**
HVS Khovu-Aksy 43.21 2 ⇑*i*P **P 07 13 34.3 -0.3**
HVS pmax pmax
comp=Z,47nm,1.2s
ZAK Zakamensk 43.47 11 *e*P **P 07 13 35.8 -0.9**
ZAK *e* 07 15 28.0
ZAK pmax pmax
comp=Z,11nm,1.3s
KSAR Wonju Array Be 43.92 42 P **P 07 13 40.0 -0.4**
JNU Nakatsue 43.92 49 P **P 07 13 40.8 +0.2**
comp=Z,10nm,0.8s,baz=135,slow=1.4,SNR=3.5
JNU LR LR 07 34 17.4
comp=Z,410nm,18.2s,baz=228,slow=39
KSRS Korea Array 43.95 42 P **P 07 13 40.0 -0.6**
comp=Z,2.0nm,0.8s,baz=252,slow=8.8,SNR=9.1
KSRS LR LR 07 33 48.9
comp=Z,186nm,18.6s,baz=244,slow=39
KSRS Korea Array 43.95 42 P **P 07 13 40.0 -0.6**
KSRS pmax pmax
comp=Z,2.0nm,0.7s
KSRS MLR MLR
comp=Z,186nm,18.6s
KURBB Kurchatov Arra 44.11 348 P **P 07 13 42.1 +0.4**
comp=Z,16nm,0.9s,baz=171,slow=7.1,SNR=93
KURK Kurchatov 44.18 348 P **P 07 13 42.0 -0.2**
comp=Z,88nm,1.1s,SNR=16
KURK Kurchatov 44.18 348 P **P 07 13 42.5 +0.3**
KURK pmax pmax
comp=Z,30nm,1.4s
KURK Kurchatov 44.18 348 P **P 07 13 43.0 +0.7**
SNR=25
KURK Kurchatov 44.18 348 P **P 07 13 42.1 -0.1**
TLY Talaya 44.78 10 P **P 07 13 48.5 +1.4**
comp=Z,4.5nm,0.7s,baz=225,slow=6.7,SNR=15
TLY LR LR 07 35 28.2
comp=Z,171nm,19.0s,baz=188,slow=40
TLY Talaya 44.78 10 *e*P **P 07 13 48.0 +0.9**
TLY pmax pmax
comp=Z,15nm,1.2s
TLY MLR MLR
comp=Z,151nm,16.0s
TLY Talaya 44.78 10 P **P 07 13 48.8 +1.7**
SNR=13
TLY Talaya 44.78 10 *e*P **P 07 13 48.3 +1.2**
comp=Z,8.9nm,0.8s
IKIA Kiasar 44.88 315 *e*P **P 07 13 49.7 +1.3**
IFIR Firoozkooh 45.27 314 *e*P **P 07 13 52.9 +1.4**
IVRN Varamin 45.72 312 *e*P **P 07 13 56.5 +1.7**
CN2 Changchun 46.26 34 *e*P **P 07 13 58.8 -0.1**
CN2 *e*S **S 07 20 44.5 +0.9**
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,400nm,13.0s
CN2 LE
comp=Z,300nm,13.0s
CN2 LZ
comp=Z,300nm,13.0s
ZAA0 Zalesovo Array 46.37 354 *e*P **P 07 13 59.6 +0.1**
ZALV Zalesovo Beam 46.37 354 P **P 07 13 59.7 +0.2**
comp=Z,13nm,0.9s,baz=169,slow=9.1,SNR=30
ZALV Zalesovo Beam 46.37 354 P **P 07 13 59.7 +0.2**
ZALV pmax pmax
comp=Z,13nm,0.9s
RAYN Ar Rayn 47.14 295 P **P 07 14 07.7 +1.5**
comp=Z,162nm,0.9s,SNR=7.1
RAYN Ar Rayn 47.14 295 *e*P **P 07 14 06.5 +0.3**
comp=Z,26nm,0.9s
RAYN *e*pP **pP 07 14 16.4 +0.8**
NVS Novosibirsk 47.42 353 *e*P P 07 14 04.3 -3.4
NVS pmax pmax
comp=Z,27nm,1.4s
NVS pmax pmax
comp=N,16nm,1.3s
NVS pmax pmax
comp=E,9.0nm,1.0s
BVA0 Borovoye Array 48.38 343 *i* P **P 07 14 14.6 -0.6**
BVA0 pmax pmax
comp=Z,33nm,1.2s
BRVK Borovoye 48.44 343 *ce*P **P 07 14 15.1 -0.6**
BRVK pmax pmax
comp=Z,25nm,1.7s
BRVK Borovoye 48.44 343 P **P 07 14 15.7 0.0**
SNR=8.6
BRVK Borovoye 48.44 343 *e*P **P 07 14 15.1 -0.6**
comp=Z,15nm,0.9s
MDJ Mudanjiang 49.09 35 P **P 07 14 22.4 +1.6**
MDJ pP **pP 07 14 31.5 +1.3**
MDJ sP **sP 07 14 35.3 +1.3**
MDJ S **S 07 21 26.8 +3.0**
MDJ PMZ
comp=Z,5.0nm,0.5s
MDJ PMZ
comp=Z,100nm,9.5s
MDJ LN
comp=Z,130nm,26.7s
MDJ LE
comp=Z,180nm,29.6s
MDJ LZ
comp=Z,150nm,36.5s
AB31 Akbulak array 49.27 333 *i* P **P 07 14 22.1 0.0**
AB31 pmax pmax
comp=Z,11nm,0.6s
ABKAR Akbulak array 49.27 333 *e*P **P 07 14 22.3 +0.2**
comp=Z,29nm,1.0s
WRA Warramunga Arr 50.00 124 P **P 07 14 27.5 -0.7**
comp=Z,5.1nm,0.8s,baz=304,slow=8.7,SNR=21
WRA PcP **PcP 07 15 48.5 +0.5**
comp=Z,1.5nm,0.5s,baz=310,slow=2.9,SNR=5.7
WRA Warramunga Arr 50.00 124 P **P 07 14 27.5 -0.7**
WRA 07 15 48.5
WRA pmax pmax
comp=Z,5.0nm,0.8s
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRAB Tennant Creek 50.01 124 *ce*P **P 07 14 26.8 -1.4**
WRAB pmax pmax
comp=Z,37nm,1.0s
WRAB Tennant Creek 50.01 124 *e*P **P 07 14 27.5 -0.7**
comp=Z,22nm,0.8s
USRK Ussuriysk Ar. 50.25 37 P **P 07 14 29.5 -0.2**
comp=Z,1.1nm,0.5s,baz=251,slow=5.8,SNR=5.2
USRK LR LR 07 37 34.0
comp=Z,200nm,20.2s,baz=222,slow=38
MAJO Matsushiro 50.82 49 ⇑*i*P **P 07 14 34.7 +0.6**
MAJO pmax pmax
comp=Z,57nm,1.3s
MAJO Matsushiro 50.82 49 *e*P **P 07 14 35.3 +1.2**
comp=Z,7.9nm,0.8s
MAT Matsushiro 50.82 49 P **P 07 14 34.8 +0.7**
MAT S S 07 21 23.6 -25
MJAR Matsushiro Arr 50.82 49 PcP **PcP 07 15 51.6 +0.9**
comp=Z,2.8nm,0.7s,baz=232,slow=3.4,SNR=3.3
AKTO Aktyubinsk 50.99 333 P **P 07 14 34.7 -0.4**
AKTO pmax pmax
comp=Z,18nm,0.9s

JCJ Chichijima 51.23 62 LR LR 07 34 48.4
comp=Z,137nm,20.7s,baz=114,slow=34
ASAR Alice Springs 51.55 129 P **P 07 14 39.5 -0.3**
comp=Z,2.5nm,0.8s,baz=301,slow=8.4,SNR=26
ASAR PcP **PcP 07 15 54.3 +0.6**
comp=Z,2.0nm,0.5s,baz=307,slow=3.9,SNR=5.1
ASAR LR LR 07 37 44.3
comp=Z,208nm,19.3s,baz=299,slow=38
ASAR Alice Springs 51.55 129 P **P 07 14 39.6 -0.3**
ASAR 07 15 54.3
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR pmax pmax
comp=Z,2.0nm,0.5s
ASAR MLR MLR
comp=Z,208nm,19.3s
AS31 Alice Springs 51.55 128 *e*P **P 07 14 39.4 -0.5**
GUMO Guam 52.23 79 LR LR 07 36 36.3
comp=Z,185nm,19.2s,baz=254,slow=36
BOD Bodaibo 52.73 15 *e*P **P 07 14 48.6 +0.6**
BOD pmax pmax
comp=Z,42nm,1.1s
GNI Garni 52.94 315 P **P 07 14 50.9 +0.8**
comp=Z,3.3nm,0.3s,baz=3.4,slow=2.7,SNR=9.9
GNI Garni 52.94 315 *d i*P **P 07 14 50.5 +0.4**
GNI pmax pmax
comp=Z,34nm,1.2s
GNI Garni 52.94 315 P **P 07 14 51.3 +1.2**
SNR=8.1
GNI Garni 52.94 315 ⇑*i*P **P 07 14 50.6 +0.4**
SNR=5.7
GNI Garni 52.94 315 *e*P **P 07 14 50.6 +0.4**
comp=Z,32nm,1.1s
KLR Kul'dur 53.06 32 *e*P P 07 14 45.2 -5.4
HABR Khabarovsk 54.39 34 *e*P **P 07 14 58.0 -2.3**
HABR *e**PP **pP 07 15 07.6 -2.2**
HABR *e**SP **sP 07 15 11.8 -1.7**
HABR *e* 07 16 00.8
HABR *e*PPP PPP 07 18 09.8
HABR *e*S **S 07 22 34.6 -2.0**
HABR *e* 07 22 46.7
HABR *e**SS **sS 07 22 51.5 -0.8**
HABR *e* 07 24 43.8
HABR *e*SS **SS 07 26 18.2 -1.0**
HABR *e*SSS SSS 07 28 21.1
HABR pmax pmax
comp=Z,32nm,1.8s
HABR MLR MLR
comp=Z,249nm,19.0s
ZEI Tsey 54.62 318 *e*P **P 07 15 02.0 -0.4**
ZEI pmax pmax
comp=Z,10.0nm,0.4s
SVE Sverdlovsk 54.68 340 *ce*P **P 07 15 02.6 +0.3**
SVE pmax pmax
comp=Z,98nm,1.1s
ARU Arti 55.12 338 P **P 07 15 05.3 -0.2**
comp=Z,164nm,1.1s,SNR=12
ARU Arti 55.12 338 *d i*P **P 07 15 05.0 -0.5**
ARU 07 16 06.9
ARU 07 17 09.3
ARU PPP PPP 07 18 18.9
ARU S **S 07 22 48.6 +2.4**
ARU SS SS 07 26 22.3 -8.1
ARU pmax pmax
comp=Z,71nm,1.7s
ARU Arti 55.12 338 *e*P **P 07 15 05.6 +0.1**
comp=Z,33nm,0.9s
NCK Nalchik 55.13 318 ⇑*i*P **P 07 15 06.2 +0.4**
CLNS Chul'man 55.26 21 *e*P **P 07 15 06.2 -0.4**
CLNS *e**PP **pP 07 15 15.5 -0.6**
CLNS *e* 07 16 04.6
CLNS *e* 07 17 09.8
CLNS *e*PPP PPP 07 18 22.5
CLNS *e*S **S 07 22 51.4 +3.2**
CLNS pmax pmax
comp=Z,15nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=Z,4.0nm,0.7s
CLNS pmax pmax
comp=N,3.0nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,0.8s
CLNS smax smax
comp=N,94nm,11.3s
CLNS smax smax
comp=E,136nm,11.8s
CLNS MLR MLR
comp=N,341nm,11.0s
CLNS MLR MLR
comp=E,258nm,18.0s
CLNS MLR MLR
comp=Z,214nm,15.0s
KMBO Kilima Mbogo 55.26 263 P **P 07 15 09.5 +1.9**
comp=Z,7.2nm,0.8s,baz=49,slow=9.8,SNR=17
KMBO LR LR 07 35 36.7
comp=Z,354nm,21.2s,baz=100,slow=33
KMBO Kilima Mbogo 55.26 263 *e*P **P 07 15 08.7 +1.2**
comp=Z,7.1nm,1.1s
NEY Neytrino 55.60 318 *i* P **P 07 15 10.6 +1.2**
NEY pmax pmax
comp=Z,3.0nm,1.3s
KBZ Khabaz 55.69 318 P **P 07 15 09.8 +0.1**
comp=Z,8.4nm,1.0s,baz=105,slow=6.7,SNR=20
KBZ Khabaz 55.69 318 P **P 07 15 09.8 +0.1**
KBZ pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 55.92 319 *d i*P **P 07 15 11.5 -0.1**
KIV pmax pmax
comp=Z,50nm,1.6s
KIV Kislovodsk 55.92 319 P **P 07 15 12.1 +0.5**
SNR=12
KIV Kislovodsk 55.92 319 ⇑*i*P **P 07 15 12.3 +0.7**
SNR=6.5
KIV Kislovodsk 55.92 319 *e*P **P 07 15 11.8 +0.2**
comp=Z,31nm,1.4s
GOF Gofitskoye 56.17 320 *e*P P 07 15 09.3 -3.9
ASF Jabal al Asfar 56.44 303 P **P 07 15 16.8 +1.3**
comp=Z,1.6nm,0.4s,baz=56,slow=4.5,SNR=7.1
ASF Jabal al Asfar 56.44 303 P **P 07 15 16.8 +1.3**
ASF pmax pmax
comp=Z,2.0nm,0.4s
ASAJ Asahikawa 56.89 42 P **P 07 15 19.4 +1.0**
comp=Z,4.1nm,0.9s,baz=236,slow=3.6
ASAJ Asahikawa 56.89 42 P **P 07 15 19.4 +1.0**
ASAJ pmax pmax
comp=Z,4.0nm,0.9s
EIL Elat 57.58 300 P **P 07 15 25.1 +1.6**
comp=Z,12nm,1.0s,baz=78,slow=1.1,SNR=12
MMAI Mount Meron Ar 57.85 304 P **P 07 15 27.5 +2.0**
comp=Z,2.3nm,0.6s,baz=38,slow=7.4,SNR=7.5
SOKR Solikamsk 58.11 340 *ce i*P **P 07 15 27.4 +0.8**
SOKR pmax pmax
comp=Z,50nm,1.4s
SOKR MLR MLR
comp=Z,350nm,25.0s
YSS Yuzh-Sakhalins 58.17 39 ⇓*e*P P 07 15 37.0 +10
YSS *e* 07 15 46.3
YSS Yuzh-Sakhalins 58.17 39 P **P 07 15 26.3 -1.0**
comp=Z,31nm,1.0s
VRHR Novokhopersk 59.76 326 *e*P P 07 15 46.6 +8.3
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,50nm,0.8s
VRHR pmax pmax
comp=E,40nm,0.8s
YAK Yakutsk 60.76 19 P **P 07 15 43.2 -1.6**
comp=E,1.3nm,0.3s,baz=68,slow=24,SNR=6.1
YAK Yakutsk 60.76 19 *e*P **P 07 15 44.4 -0.5**
YAK *e* 07 16 27.2
YAK *e* 07 17 59.0
YAK *e*PPP PPP 07 19 24.5
YAK *e*S **S 07 23 55.3 -4.4**
YAK *e* 07 25 25.4
YAK *e*SS **SS 07 27 58.8 +0.1**
YAK pmax pmax
comp=Z,22nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK pmax pmax

comp=Z,99nm,5.9s
YAK pmax pmax
comp=N,19nm,1.9s
YAK pmax pmax
comp=E,24nm,3.3s
YAK smax smax
comp=N,63nm,2.2s
YAK smax smax
comp=E,31nm,1.5s
BR131 Keskin Array S 60.84 311 *e*P **P 07 15 44.6 -1.4**
comp=E,4.6nm,0.8s
BRTR Keskin Array B 60.84 311 P **P 07 15 45.1 -1.0**
comp=E,4.8nm,0.9s,baz=117,slow=7.1,SNR=26
BRTR LR LR 07 43 38.7
comp=E,82nm,19.2s,baz=105,slow=38
VORD Divnogorie 61.01 325 *e*P **P 07 15 45.6 -1.2**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,20nm,0.5s
VSR Storozhevoye 61.20 325 *e*P **P 07 15 46.2 -1.9**
VSR pmax pmax
comp=N,5.0nm,0.7s
VSR pmax pmax
comp=Z,9.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,1.1s
STKA Stephens Creek 61.64 133 P **P 07 15 49.9 -1.5**
comp=E,3.3nm,0.7s,baz=324,slow=6.3,SNR=9.5
STKA LR LR 07 45 01.2
comp=E,131nm,18.6s,baz=315,slow=38
STKA Stephens Creek 61.64 133 P **P 07 15 49.9 -1.5**
STKA pmax pmax
comp=Z,3.0nm,0.7s
STKA MLR MLR
comp=Z,131nm,18.6s
STKA Stephens Creek 61.64 133 *e*P **P 07 15 51.9 +0.4**
LPSR Galich'ya Gora 61.94 326 *e*P **P 07 15 52.1 -0.9**
LPSR pmax pmax
comp=Z,20nm,1.1s
LPSR pmax pmax
comp=N,6.0nm,0.4s
LPSR pmax pmax
comp=E,40nm,1.3s
SIM Simferopol' 61.99 317 *e*P **P 07 15 53.0 -0.6**
SIM pmax pmax
comp=Z,16nm,1.2s
ISP Isparta 62.76 309 ⇑P **P 07 15 59.0 0.0**
ISP Isparta 62.76 309 ⇑*i*P **P 07 15 59.0 0.0**
ISP Isparta 62.76 309 *e*P **P 07 15 57.6 -1.5**
comp=Z,32nm,1.4s
PRGR Permogore 63.55 337 *e*P **P 07 16 00.9 -2.7**
PRGR *e**PP **pP 07 16 10.9 -2.4**
PRGR pmax pmax
comp=Z,24nm,0.9s
MOS Moscow 64.02 329 *e*P **P 07 16 04.4 -2.4**
MOS *e* 07 16 13.8
MOS pmax pmax
comp=Z,73nm,1.5s
OBN Obninsk 64.29 328 P **P 07 16 07.6 -1.0**
comp=Z,17nm,0.4s,baz=93,slow=7.2,SNR=10
OBN Obninsk 64.29 328 *i* P **P 07 16 07.3 -1.3**
OBN *i* 07 16 15.9
OBN *i* 07 16 39.1
OBN pmax pmax
comp=Z,53nm,1.4s
OBN MLR MLR
comp=Z,275nm,19.0s
TIRR Tirgusor 65.77 315 ⇓P **P 07 16 18.3 -0.2**
TIRR Tirgusor 65.77 315 ⇓*i*P **P 07 16 18.3 -0.2**
TIRR Tirgusor 65.77 315 *e*P **P 07 16 17.9 -0.6**
comp=Z,5.9nm,1.1s
TLB Topalu 66.06 315 ⇓P **P 07 16 20.3 0.0**
TLB Topalu 66.06 315 ⇓*i*P **P 07 16 20.3 0.0**
KIS Kishinev 66.12 318 *e*P **P 07 16 19.0 -1.6**
comp=Z,70nm,1.6s
KIS Kishinev 66.12 318 *e*P **P 07 16 19.0 -1.6**
KIS *e* 07 16 32.0
KIS pmax pmax
comp=Z,70nm,1.6s
KIS MLR MLR
comp=Z,200nm,15.0s
CFR Carcaliu 66.13 316 ⇑P **P 07 16 18.6 -2.1**
CFR Carcaliu 66.13 316 ⇑*i*P **P 07 16 18.6 -2.1**
AK02 Malin Array Si 66.86 322 *e*P **P 07 16 23.7 -1.6**
AKASG Malin Array Be 66.87 322 P **P 07 16 23.9 -1.5**
comp=Z,1.4nm,0.6s,baz=90,slow=4.7,SNR=23
AKASG PP **PP 07 18 52.0 -0.9**
comp=Z,0.2nm,0.3s,baz=99,slow=8.6,SNR=4.1
AKASG LR LR 07 49 52.8
comp=Z,174nm,18.7s,baz=110,slow=40
AKASG Malin Array Be 66.87 322 P **P 07 16 23.9 -1.5**
AKASG 07 18 52.0
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG MLR MLR
comp=Z,174nm,18.7s
AK01 Malin Array Si 66.87 322 *e*P **P 07 16 23.8 -1.6**
SMTH Samothraki Isl 67.07 311 *e*P **P 07 16 26.2 -0.7**
ISR Istrita 67.22 316 ⇑P **P 07 16 30.0 +2.2**
ISR Istrita 67.22 316 ⇑*i*P **P 07 16 30.0 +2.2**
VRI Vrincioaia 67.25 317 ⇓P **P 07 16 28.9 +1.0**
VRI Vrincioaia 67.25 317 ⇓*i*P **P 07 16 28.9 +1.0**
PLOR Plostina 67.30 317 ⇑P **P 07 16 29.1 +0.8**
PLOR Plostina 67.30 317 ⇑*i*P **P 07 16 29.1 +0.8**
VAM Vamos 67.40 305 *e*P **P 07 16 29.6 +0.5**
TESR Tescani 67.45 317 ⇑*i*P **P 07 16 29.1 -0.1**
MLR Muntele Rosu 67.71 316 ⇑P **P 07 16 31.0 0.0**
MLR Muntele Rosu 67.71 316 ⇑*i*P **P 07 16 31.0 0.0**
TIXI Tiksi 67.73 12 *d i*P **P 07 16 30.2 -0.2**
TIXI pmax pmax
comp=Z,77nm,1.7s
TIXI Tiksi 67.73 12 *e*P **P 07 16 30.1 -0.2**
comp=Z,37nm,0.8s
KAVA Kavala 67.92 311 *e*P **P 07 16 31.9 -0.3**
AOS Alonnisos 68.13 309 *e*P **P 07 16 32.9 -0.7**
ANKY Antikythira Is 68.18 305 *e*P **P 07 16 33.5 -0.5**
DOPR Dopca 68.19 316 ⇑*i*P **P 07 16 33.4 -0.5**
OUR Ouranopolis 68.22 310 *e*P **P 07 16 33.8 -0.3**
VOIR 68.31 316 ⇑P **P 07 16 35.7 +1.0**
VOIR 68.31 316 ⇑*i*P **P 07 16 35.7 +1.0**
PAIG Paliouri 68.39 310 *e*P **P 07 16 34.7 -0.5**
DID Didima 68.42 307 *e*P **P 07 16 33.6 -1.9**
KRND KRANIDI 68.47 307 *e*P **P 07 16 33.7 -2.0**
VIL2 Platees 68.48 308 *e*P **P 07 16 34.2 -1.6**
ARR Arges 68.59 316 ⇑*i*P **P 07 16 35.2 -1.2**
SRS Serrai 68.62 311 *e*P **P 07 16 35.7 -1.0**
BURAR Bucovina Array 68.64 318 ⇑P **P 07 16 37.2 +0.4**
BURAR Bucovina Array 68.64 318 ⇑*i*P **P 07 16 37.2 +0.4**
BUR08 Bucovina Ar. S 68.66 318 *e*P **P 07 16 36.7 -0.2**
KNT Kendrikon 69.15 311 *e*P **P 07 16 39.0 -0.9**
GUR Goura 69.17 308 *e*P **P 07 16 39.0 -1.3**
LOT Lotru 69.20 316 ⇓*i*P **P 07 16 40.0 -0.3**
LIT Litokhoron 69.31 310 *e*P **P 07 16 39.5 -1.5**
PETK Petropavlovsk- 69.32 36 P **P 07 16 39.9 -0.8**
comp=Z,1.6nm,0.8s,baz=235,slow=6.8,SNR=2.1
PETK Petropavlovsk- 69.32 36 P **P 07 16 39.9 -0.8**
PETK pmax pmax
comp=Z,2.0nm,0.8s
ITM Ithomi 69.42 307 *e*P **P 07 16 40.8 -0.9**
EFP Efpalio 69.57 308 *e*P P 07 16 51.3 +8.8
DRO Drossia 69.67 307 *e*P **P 07 16 42.7 -0.5**
RLS Riolos of Patr 69.87 308 *e*P **P 07 16 43.1 -1.3**
LVV L'vov 69.88 320 *e*P P 07 16 39.1 -5.1
LVV *e* 07 16 56.9
SEY Seymchan 69.89 25 P **P 07 16 44.0 0.0**
comp=Z,1.1nm,0.3s,baz=280,slow=7.2,SNR=4.5
SEY Seymchan 69.89 25 *ce*P **P 07 16 45.2 +1.1**
PDO Prodromos 70.15 308 *e*P **P 07 16 45.6 -0.5**
DRGR 70.16 317 ⇓P **P 07 16 46.6 +0.5**
DRGR 70.16 317 ⇓*i*P **P 07 16 46.6 +0.5**
NEST Nestorio 70.45 310 *e*P **P 07 16 46.5 -1.6**
TRPA Tarpa 70.51 318 ⇑*i*P **P 07 16 48.3 +0.2**
LKD2 Lefkada island 70.58 308 *e*P **P 07 16 47.8 -1.0**
BZS Buzias 70.72 316 ⇑P **P 07 16 49.1 -0.4**
BZS Buzias 70.72 316 ⇑*i*P **P 07 16 49.1 -0.4**
UZH Uzhgorod 70.76 319 *e*P **P 07 16 48.0 -1.6**
UZH *e* 07 16 59.2
SIRR Siria 70.79 316 ⇓*i*P **P 07 16 50.5 +0.6**
KOLS Kolonicke sedl 70.83 319 *e*P **P 07 16 49.9 -0.2**
KOLS pmax pmax
comp=Z,13nm,1.3s

KOLS Kolonicke sedl 70.83 319 *e*P **P 07 16 49.9 -0.2**
STHS Stebnicka Huta 71.58 319 *e*P **P 07 16 54.7 +0.1**
STHS pmax pmax
comp=Z,4.0nm,1.1s
STHS Stebnicka Huta 71.58 319 *e*P **P 07 16 54.7 +0.1**
DIVS Divibare 71.66 314⇓*i*P **P 07 16 55.2 -0.1**
FINES FINESS Array B 71.76 333 P **P 07 16 54.9 -0.6**
comp=Z,10nm,0.8s,baz=101,slow=9.9,SNR=18
FINES FINESS Array B 71.76 333 *i*P **P 07 16 54.5 -0.9**
FINES pmax pmax
comp=Z,11nm,0.8s
KECS Kecovo 71.92 318 *e*P **P 07 16 56.4 -0.3**
KECS pmax pmax
comp=Z,4.0nm,1.2s
KECS Kecovo 71.92 318 *e*P **P 07 16 56.4 -0.3**
NIE Niedzica 72.18 319 *e*P **P 07 16 57.7 -0.6**
NIE Niedzica 72.18 319 *e*P **P 07 16 57.7 -0.6**
PSZ Piszkesteto 72.23 318⇓P **P 07 16 58.6 0.0**
PSZ Piszkesteto 72.23 318⇓*i*P **P 07 16 58.6 0.0**
PSZ Piszkesteto 72.23 318 *e*P **P 07 16 58.4 -0.3**
comp=Z,24nm,1.3s
OJC Ojcow 72.63 320 *e*P **P 07 17 00.5 -0.4**
OJC Ojcow 72.63 320 *e*P **P 07 17 00.5 -0.4**
PKSM Moragy 72.86 316⇓P **P 07 17 01.4 -0.9**
PKSM Moragy 72.86 316⇓*i*P **P 07 17 01.4 -0.9**
PKSM Moragy 72.86 316⇓*e*P **P 07 17 01.5 -0.9**
OKC Ostrava-Krasne 73.63 320 *e*P **P 07 17 06.7 -0.1**
OKC *e*pP **pP 07 17 16.4 -0.2**
OKC *e*sP **sP 07 17 20.6 +0.3**
OKC Ostrava-Krasne 73.63 320 *e*P **P 07 17 06.7 -0.1**
OKC *e* 07 17 16.4
OKC *e* 07 17 20.6
BOSA Boshof 73.72 237 P **P 07 17 07.7 -0.2**
comp=Z,4.9nm,0.9s,baz=109,slow=3.2,SNR=5.1
BOSA LR LR 07 44 21.1
comp=Z,136nm,21.6s,baz=52,slow=32
CEL Celeste 74.27 307 *e*P **P 07 17 11.1 +0.2**
comp=Z,30nm,1.1s
KRLC Kraliky 74.54 320 *e*P **P 07 17 12.1 -0.1**
KRLC *e*pP **pP 07 17 21.9 -0.1**
KRLC *e*x x 07 17 25.9
KRLC Kraliky 74.54 320 *e*P **P 07 17 12.1 -0.1**
KRLC *e* 07 17 21.9
KRLC *e* 07 17 25.9
ARCES ARCESS Array B 74.60 340 P **P 07 17 11.7 -0.4**
comp=Z,5.0nm,0.9s,baz=94,slow=4.9,SNR=7.0
ARCES LR LR 07 54 27.6
comp=Z,243nm,18.4s,baz=112,slow=39
ARCES ARCESS Array B 74.60 340 P **P 07 17 11.7 -0.4**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES MLR MLR
comp=Z,243nm,18.4s
ARE0 ARCESS Array S 74.60 340 *e*P **P 07 17 11.9 -0.2**
DPC Dobruska-Polom 74.86 320 *e*P **P 07 17 14.2 +0.2**
DPC *e*x x 07 17 18.6
DPC *e*pP **pP 07 17 24.0 +0.1**
DPC *e*sP **sP 07 17 28.0 +0.5**
DPC Dobruska-Polom 74.86 320 *e*P **P 07 17 14.2 +0.2**
DPC *e* 07 17 24.0
DPC *e* 07 17 28.0
GCIS Gornji Cirnik 74.92 315 *e*P **P 07 17 13.6 -0.8**
KSP Ksiaz 74.93 320 *e*P **P 07 17 14.4 +0.1**
KSP Ksiaz 74.93 320 *e*P **P 07 17 14.5 +0.1**
UPC Upice 75.07 320 *e*P **P 07 17 15.0 -0.2**
UPC *e*x x 07 17 19.6
UPC *e*pP **pP 07 17 23.8 -1.2**
UPC *e*sP **sP 07 17 29.4 +0.7**
UPC Upice 75.07 320 *e*P **P 07 17 15.0 -0.2**
UPC *e* 07 17 23.8
UPC *e* 07 17 29.4
BOJS Bojanci 75.15 315 *e*P **P 07 17 15.1 -0.7**
TREC Trest 75.30 319 *e*P **P 07 17 16.3 -0.2**
TREC *e*pP **pP 07 17 26.0 -0.4**
TREC *e*sP **sP 07 17 29.8 -0.2**
TREC AMS AMS 08 00 30.0
comp=Z,200nm,14.7s
TREC Trest 75.30 319 *e*P **P 07 17 16.3 -0.2**
TREC *e* 07 17 26.0
TREC *e* 07 17 29.8
TREC MLR MLR
comp=Z,200nm,14.7s
SOKA Soboth 75.39 316 *i*P **P 07 17 17.3 +0.2**
SNR=14
OBKA Obir 75.71 316⇑*i*P **P 07 17 19.0 -0.1**
comp=Z,22nm,1.4s,SNR=5.6
GOPC GO Pecny, Ondr 75.80 319 *e*P **P 07 17 19.4 0.0**
GOPC *e*pP **pP 07 17 29.3 0.0**
GOPC *e*sP **sP 07 17 33.0 +0.1**
GOPC AMS AMS 08 00 20.2
PRU Pruhonice 75.97 320 *e*P **P 07 17 20.2 -0.1**
PRU *e*pP **pP 07 17 29.6 -0.6**
PRU *e*sP **sP 07 17 34.6 +0.8**
PRU AMS AMS 07 59 00.0
comp=Z,100nm,15.4s
PRU Pruhonice 75.97 320 *e*P **P 07 17 20.2 -0.1**
PRU *e* 07 17 29.6
PRU *e* 07 17 34.6
PRU MLR MLR
comp=Z,100nm,15.4s
PVCC Panska Ves 75.99 320 *e*P **P 07 17 20.9 +0.4**
PVCC *e*sP **sP 07 17 34.4 +0.5**
PVCC AMS AMS 07 58 00.0
comp=Z,200nm,14.8s
PVCC Panska Ves 75.99 320 *e*P **P 07 17 20.9 +0.4**
PVCC *e* 07 17 34.4
PVCC MLR MLR
comp=Z,200nm,14.8s
PRA Prague 76.04 320 *e*P **P 07 17 21.3 +0.6**
PRA Prague 76.04 320 *e*P **P 07 17 21.3 +0.6**
MYKA Terra Mystica 76.34 316 *i*P **P 07 17 22.6 0.0**
comp=Z,17nm,1.5s,SNR=6.3
BRG Berggiesshubel 76.42 320 *e*P **P 07 17 23.3 +0.4**
comp=Z,26nm,1.2s
BRG Berggiesshubel 76.42 320 *e*P **P 07 17 23.2 +0.3**
comp=Z,26nm,1.2s
BRG Berggiesshubel 76.42 320 *e*P **P 07 17 23.3 +0.4**
BRG pmax pmax
comp=Z,26nm,1.2s
GEC2 GERESS Array S 76.43 318 *e*P **P 07 17 23.0 -0.1**
comp=Z,24nm,1.2s
GERES GERESS Array B 76.43 318 P **P 07 17 23.1 +0.1**
comp=Z,5.7nm,0.8s,baz=89,slow=5.7,SNR=55
GERES GERESS Array B 76.43 318 P **P 07 17 23.2 +0.1**
GERES pmax pmax
comp=Z,6.0nm,0.8s
KHC Kasperske Hory 76.53 319 *e*P **P 07 17 22.0 -1.6**
KHC *e*pP **pP 07 17 32.6 -0.9**
KHC *e*sP **sP 07 17 36.8 -0.3**
KHC Kasperske Hory 76.53 319 *e*P **P 07 17 22.0 -1.6**
KHC *e* 07 17 32.6
KHC *e* 07 17 36.8
KHC Kasperske Hory 76.53 319 *e*P **P 07 17 23.4 -0.2**
comp=Z,3.2nm,1.0s
KBA Koelnbreinsper 76.57 316⇑*i*P **P 07 17 23.8 -0.2**
comp=Z,8.8nm,0.8s
BILL Bilibino 76.95 22⇓*e*P **P 07 17 25.1 -0.4**
BILL *i* 07 17 34.7
BILL pmax pmax
comp=Z,13nm,1.7s
BILL Bilibino 76.95 22 *e*P **P 07 17 25.1 -0.4**
comp=Z,24nm,1.6s
RJOB Jochberg 76.97 317 *e*P **P 07 17 25.5 -0.7**
comp=Z,9.0nm,1.1s
WET Wettzell 76.99 319 *e*P **P 07 17 26.3 +0.1**
comp=Z,22nm,1.4s
CLL Collm 77.04 321 *e*P **P 07 17 26.3 -0.1**
comp=Z,26nm,1.3s
CLL Collm 77.04 321⇓*i*P **P 07 17 25.7 -0.7**
comp=Z,26nm,1.3s
CLL *e*pP **pP 07 17 35.0 -1.2**
CLL Collm 77.04 321⇓*i*P **P 07 17 25.7 -0.7**
CLL *e* 07 17 35.0
CLL pmax pmax
comp=Z,26nm,1.3s
NKC Novy Kostel 77.33 320 *e*P **P 07 17 28.1 +0.1**
NKC *e*pP **pP 07 17 37.7 -0.2**
NKC *e*sP **sP 07 17 42.4 +0.9**
NKC Novy Kostel 77.33 320 *e*P **P 07 17 28.1 +0.1**
NKC *e* 07 17 37.7
NKC *e* 07 17 42.4
TANN Tannenbergstha 77.33 320 *e*P **P 07 17 28.1 0.0**
comp=Z,22nm,1.4s

HFS Hagfors 77.42 330 P **P 07 17 27.7 -0.6**
comp=Z,2.9nm,0.5s,baz=104,slow=6.3,SNR=9.3
HFS Hagfors 77.42 330 P **P 07 17 27.7 -0.6**
HFS pmax pmax
comp=Z,3.0nm,0.5s
ROTZ Rotzenmuhle 77.46 319 *e*P **P 07 17 29.2 +0.4**
comp=Z,28nm,1.2s
WTTA Wattenberg 77.74 317⇑*i*P **P 07 17 29.8 -0.8**
comp=Z,21nm,1.1s,SNR=8.4
WATA Walderalm 77.78 317⇑*i*P **P 07 17 30.0 -0.9**
comp=Z,11nm,1.0s
MOX Moxa 77.88 320 *e*P **P 07 17 31.3 +0.2**
comp=Z,34nm,1.5s
FUR Furstenfeldbru 78.01 318 *e*P **P 07 17 32.0 +0.1**
comp=Z,54nm,1.7s
MAW Mawson 78.05 191 P **P 07 17 32.3 +0.8**
comp=Z,1.9nm,0.7s,baz=346,slow=8.3,SNR=4.5
MAW LR LR 07 46 09.9
comp=Z,130nm,18.8s,baz=62,slow=31
GRF Grafenberg Arr 78.09 319 *e*P **P 07 17 33.1 +0.8**
comp=Z,37nm,1.2s
MOTA Moosalm 78.11 317⇑*i*P **P 07 17 32.1 -0.5**
comp=Z,13nm,1.0s,SNR=8.5
RETA Reutte 78.34 317⇑*i*P **P 07 17 33.4 -0.4**
comp=Z,26nm,1.1s,SNR=13
FETA Feichten 78.35 316 *i*P **P 07 17 33.8 -0.2**
comp=Z,15nm,1.1s,SNR=7.8
NB2 NORSAR Subarra 78.72 331 P **P 07 17 33.9 -1.7**
comp=Z,10nm,1.0s,baz=93,slow=5.6
NOA NORSAR Array B 78.72 331 P **P 07 17 34.4 -1.2**
comp=Z,4.8nm,0.9s,baz=94,slow=5.4,SNR=6.0
NOA LR LR 07 55 58.3
comp=Z,193nm,20.3s,baz=105,slow=38
NOA NORSAR Array B 78.72 331 P **P 07 17 34.4 -1.2**
NOA pmax pmax
comp=Z,5.0nm,0.9s
NOA MLR MLR
comp=Z,193nm,20.3s
BSEG Bad Segeberg 78.81 323 *e*P **P 07 17 36.3 +0.2**
comp=Z,44nm,1.2s
UBBA Unterbreizbach 78.91 320 *e*P **P 07 17 36.5 -0.1**
comp=Z,4.0nm,1.0s
DAVA Damuels 78.94 317 *i*P **P 07 17 37.3 +0.1**
comp=Z,30nm,1.1s,SNR=17
STU Stuttgart 79.41 318 *e*P **P 07 17 39.5 0.0**
comp=Z,75nm,2.0s
KEST Kesra 79.50 305 P **P 07 17 41.0 +0.6**
comp=Z,2.1nm,1.0s,baz=20,slow=1.8,SNR=4.6
TNS Taunus Mts 79.90 320 *e*P **P 07 17 42.7 +0.5**
comp=Z,18nm,1.2s
BFO Black Forest 79.98 318 P **P 07 17 42.1 -0.6**
comp=Z,54nm,1.2s,SNR=5.1
BFO Black Forest 79.98 318 *e*P **P 07 17 42.4 -0.3**
comp=Z,18nm,1.2s
BFO Black Forest 79.98 318 *i*P **P 07 17 43.0 +0.3**
BFO Black Forest 79.98 318 *e*P **P 07 17 42.3 -0.3**
comp=Z,10nm,1.1s
LANF Langenberg 80.32 318⇑*e*P **P 07 17 44.9 +0.4**
IBBN Ibbenburen 80.33 322 *e*P **P 07 17 44.6 +0.2**
comp=Z,56nm,1.7s
SAOF Saorge 80.61 313⇑*e*P **P 07 17 46.5 +0.3**
BUG Bochum--Univer 80.63 321 *e*P **P 07 17 46.2 +0.1**
comp=Z,32nm,1.2s
CDF Champ du Feu 80.68 318 *e*P **P 07 17 44.8 -1.8**
comp=Z,42nm,1.6s
CDF Champ du Feu 80.68 318 *e*P **P 07 17 44.8 -1.8**
comp=Z,42nm,1.6s
SBF Sospel 80.70 313 *e*P **P 07 17 45.1 -1.6**
comp=Z,94nm,1.3s
SBF Sospel 80.70 313 *e*P **P 07 17 45.1 -1.6**
comp=Z,94nm,1.3s
REVF Revere 80.75 313⇑*e*P **P 07 17 47.1 +0.1**
ECH Echery 80.77 318⇑*e*P **P 07 17 46.9 0.0**
MOF Molkenrain 80.79 317⇑*e*P **P 07 17 47.1 -0.1**
TOUF Mont Tournerai 80.83 313⇑*e*P **P 07 17 47.9 +0.3**
MVIF Mont Vial 80.90 313⇑*e*P **P 07 17 48.0 +0.1**
HINF Hinteralfeld 80.98 317 *e*P **P 07 17 46.1 -2.0**
comp=Z,11nm,1.0s
HINF Hinteralfeld 80.98 317 *e*P **P 07 17 46.1 -2.0**
comp=Z,11nm,1.0s
LOMF Lomont 81.01 317⇑*e*P **P 07 17 48.4 +0.1**
CALN Calern 81.09 313⇑*e*P **P 07 17 49.0 +0.1**
LPG La Plagne 81.13 315 *e*P **P 07 17 47.9 -1.3**
comp=Z,76nm,1.1s
LPG La Plagne 81.13 315 *e*P **P 07 17 47.9 -1.3**
comp=Z,76nm,1.1s
LPL La Plagne 81.14 315 *e*P **P 07 17 47.9 -1.3**
comp=Z,82nm,1.3s
LPL La Plagne 81.14 315 *e*P **P 07 17 47.9 -1.3**
comp=Z,82nm,1.3s
MBDF Montbardon 81.14 314 *e*P **P 07 17 47.1 -2.1**
comp=Z,55nm,1.4s
MBDF Montbardon 81.14 314 *e*P **P 07 17 47.1 -2.1**
comp=Z,55nm,1.4s
BNI Bardonecchia 81.19 314 *e*P **P 07 17 49.4 0.0**
comp=Z,20nm,1.0s
FRF La Foret Royal 81.28 313 *e*P **P 07 17 48.4 -1.3**
comp=Z,82nm,1.4s
FRF La Foret Royal 81.28 313 *e*P **P 07 17 48.4 -1.3**
comp=Z,82nm,1.4s
HAU Haudompre 81.31 317 *e*P **P 07 17 48.0 -1.9**
comp=Z,78nm,1.4s
HAU *e*R
comp=Z,109nm,22.2s
HAU Haudompre 81.31 317 *e*P **P 07 17 48.0 -1.9**
comp=Z,78nm,1.4s
WLF Walferdange 81.39 319 P **P 07 17 50.9 +0.7**
comp=Z,16nm,1.5s
WLF Walferdange 81.39 319 *e*P **P 07 17 50.7 +0.5**
comp=Z,34nm,1.3s
LMR La Mourre 81.39 313 *e*P **P 07 17 48.9 -1.4**
comp=Z,56nm,1.4s
LMR La Mourre 81.39 313 *e*P **P 07 17 48.9 -1.4**
comp=Z,56nm,1.4s
CABF La Chapelle 81.55 316 *e*P **P 07 17 50.1 -1.1**
comp=Z,72nm,1.5s
CABF La Chapelle 81.55 316 *e*P **P 07 17 50.1 -1.1**
comp=Z,72nm,1.5s
THEF They Montfort 81.55 318⇑*e*P **P 07 17 50.8 -0.3**
PAGF Fort de Pagny 81.71 318 *e*P **P 07 17 50.4 -1.5**
comp=Z,3.8nm,1.0s
PAGF Fort de Pagny 81.71 318 *e*P **P 07 17 50.4 -1.5**
comp=Z,3.8nm,1.0s
ORIF Oris-en-Rattie 81.77 314 *e*P **P 07 17 51.4 -1.0**
comp=Z,18nm,1.0s
ORIF *e*R
comp=Z,140nm,22.2s
ORIF Oris-en-Rattie 81.77 314 *e*P **P 07 17 51.4 -1.0**
comp=Z,18nm,1.0s
SMRF Simiane la Rot 82.03 313 *e*P **P 07 17 53.0 -0.8**
comp=Z,72nm,1.4s
SMRF Simiane la Rot 82.03 313 *e*P **P 07 17 53.0 -0.8**
comp=Z,72nm,1.4s
MEZF Maizieres J'vi 82.16 318 *e*P **P 07 17 52.7 -1.5**
comp=Z,37nm,1.3s
MEZF Maizieres J'vi 82.16 318 *e*P **P 07 17 52.7 -1.5**
comp=Z,37nm,1.3s
SFTF Sexfontaines 82.18 318 *e*P **P 07 17 52.8 -1.6**
comp=Z,74nm,1.2s
SFTF Sexfontaines 82.18 318 *e*P **P 07 17 52.8 -1.6**
comp=Z,74nm,1.3s
GIVF Givet 82.23 320 *e*P **P 07 17 52.9 -1.7**
comp=Z,61nm,1.5s
GIVF Givet 82.23 320 *e*P **P 07 17 52.9 -1.7**
comp=Z,61nm,1.5s
BAIF Baives 82.63 320 *e*P **P 07 17 55.2 -1.4**
comp=Z,33nm,1.2s
BAIF Baives 82.63 320 *e*P **P 07 17 55.2 -1.4**
comp=Z,33nm,1.2s
VIVF Saint-Julien-l 82.63 314 *e*P **P 07 17 55.6 -1.2**
comp=Z,68nm,1.4s
VIVF Saint-Julien-l 82.63 314 *e*P **P 07 17 55.6 -1.2**
comp=Z,68nm,1.4s
SSB Saint Sauveur 82.69 315 *e*P **P 07 17 57.1 -0.1**
comp=Z,29nm,1.6s
LOR Lormes 83.03 317 *e*P **P 07 17 57.2 -1.7**
comp=Z,52nm,1.3s
LOR *e*R
comp=Z,114nm,22.0s
LOR Lormes 83.03 317 *e*P **P 07 17 57.2 -1.7**
comp=Z,52nm,1.3s
SMF Signal de Mont 83.09 316 *e*P **P 07 17 57.3 -1.9**
comp=Z,7.2nm,0.8s
SMF Signal de Mont 83.09 316 *e*P **P 07 17 57.3 -1.9**
comp=Z,7.2nm,0.8s
LASF Ste Croix 83.26 314 *e*P **P 07 17 59.3 -0.8**
comp=Z,78nm,1.5s
LASF Ste Croix 83.26 314 *e*P **P 07 17 59.3 -0.8**

comp=Z,78nm,1.5s
SSF Saint Saulge 83.29 317 *e*P **P 07 17 58.8 -1.4**
comp=Z,64nm,1.7s
SSF Saint Saulge 83.29 317 *e*P **P 07 17 58.8 -1.4**
comp=Z,64nm,1.7s
PLDF La Plantade 83.29 315⇑*e*P **P 07 18 00.3 0.0**
AVF Avril sur Loir 83.41 316 *e*P **P 07 17 59.1 -1.7**
comp=Z,34nm,1.3s
AVF Avril sur Loir 83.41 316 *e*P **P 07 17 59.1 -1.7**
comp=Z,34nm,1.3s
LBL Lubilhac 83.61 315⇑*e*P **P 07 18 03.0 +1.0**
PYM Petit Puy Mans 83.73 315⇑*e*P **P 07 18 03.1 +0.5**
TAM Tamanrasset 83.75 292 *e*P **P 07 18 04.8 +1.6**
comp=Z,22nm,1.3s
BGF Bois d'Agland 83.78 316 *e*P **P 07 18 01.5 -1.2**
comp=Z,107nm,1.7s
BGF Bois d'Agland 83.78 316 *e*P **P 07 18 01.5 -1.2**
comp=Z,107nm,1.7s
TCF Toulx Ste Croi 84.24 316 *e*P **P 07 18 03.9 -1.2**
comp=Z,26nm,1.3s
TCF Toulx Ste Croi 84.24 316 *e*P **P 07 18 03.9 -1.2**
comp=Z,26nm,1.3s
CAF Calviac 84.47 314 *e*P **P 07 18 05.2 -1.1**
comp=Z,40nm,1.7s
CAF Calviac 84.47 314 *e*P **P 07 18 05.2 -1.1**
comp=Z,40nm,1.7s
MTLF Montolieu 84.51 313 *e*P **P 07 18 05.4 -1.1**
comp=Z,37nm,1.4s
MTLF Montolieu 84.51 313 *e*P **P 07 18 05.4 -1.1**
comp=Z,37nm,1.4s
SYO Syowa Base 84.72 197⇑*e*P **P 07 18 07.5 +0.7**
RJF Les Rejaudoux 84.82 315 *e*P **P 07 18 07.1 -0.9**
comp=Z,70nm,1.7s
RJF *e*R
comp=Z,88nm,19.6s
RJF Les Rejaudoux 84.82 315 *e*P **P 07 18 07.1 -0.9**
comp=Z,70nm,1.7s
LFF La Frestale 85.40 315 *e*P **P 07 18 10.1 -0.8**
LFF La Frestale 85.40 315 *e*P **P 07 18 10.1 -0.8**
EKA Eskdalemuir Ar 86.54 325 P **P 07 18 16.1 -0.2**
comp=Z,4.0nm,0.8s,baz=88,slow=6.1,SNR=9.5
EKA Eskdalemuir Ar 86.54 325 P **P 07 18 16.1 -0.2**
EKA pmax pmax
comp=Z,4.0nm,0.8s
ETSF Etsaut 86.58 313 *e*P **P 07 18 16.0 -0.9**
comp=Z,12nm,1.0s
ETSF Etsaut 86.58 313 *e*P **P 07 18 16.0 -0.9**
comp=Z,12nm,1.0s
SJPF Ste Jean 87.04 313 *e*P **P 07 18 18.2 -0.9**
comp=Z,41nm,1.3s
SJPF Ste Jean 87.04 313 *e*P **P 07 18 18.2 -0.9**
comp=Z,41nm,1.3s
TORD Torodi Ar. Bea 88.50 283 P **P 07 18 27.6 +1.0**
comp=Z,2.8nm,1.2s,baz=56,slow=5.6,SNR=9.4
TORD PP **PP 07 21 55.8 +0.8**
comp=Z,0.7nm,1.0s,baz=75,slow=7.8,SNR=3.5
TORD LR LR 07 56 17.6
comp=Z,103nm,21.4s,baz=110,slow=34
ALE Alert 89.05 357 P **P 07 18 27.3 -0.6**
comp=Z,43nm,1.0s,SNR=5.2
ESDC Sonseca Array 89.60 310 P **P 07 18 31.9 +0.6**
comp=Z,2.7nm,0.9s,baz=69,slow=4.6,SNR=11
IM04 Indian Mountai 92.50 22 *e*P **P 07 18 44.2 0.0**
VNDA Vanda 93.31 168 P **P 07 18 48.2 +0.6**
comp=Z,0.7nm,0.8s,baz=285,slow=5.8,SNR=5.0
VNDA Vanda 93.31 168 P **P 07 18 48.2 +0.6**
VNDA pmax pmax
comp=Z,1.0nm,0.8s
SUMG Summit 93.71 347 *i*P **P 07 18 47.4 -2.8**
SUMG Summit 93.71 347 *i*P **P 07 18 47.4 -2.8**
ILAR Eielson Array 95.61 22 P **P 07 18 58.0 -0.4**
comp=Z,0.6nm,0.7s,baz=293,slow=4.6,SNR=5.3
ILAR PP **PP 07 22 46.8 -2.6**
comp=Z,1.1nm,1.0s,baz=298,slow=5.8,SNR=4.8
ILAR Eielson Array 95.61 22 P **P 07 18 58.1 -0.4**
ILAR 07 22 46.8
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR pmax pmax
comp=Z,1.0nm,1.0s
DBIC Dimbokro 95.81 278 LR LR 08 01 51.4
comp=Z,160nm,19.2s,baz=56,slow=35
INK Inuvik 97.64 16 P Pdif 07 19 08.6 +1.0
comp=Z,2.7nm,0.9s,baz=37,slow=7.1,SNR=3.6
INK Inuvik 97.64 16 P Pdif 07 19 08.6 +1.0
INK pmax pmax
comp=Z,3.0nm,0.9s
TBI Tubuai 119.27 112 *e*LR LR 07 24 11.6
comp=Z,209nm,29.2s
PPT2 Papeete2 119.41 106 *e*LR LR 07 26 21.2
comp=Z,207nm,23.8s
EGMT Eagleton 121.19 17 P **PKPdf 07 24 26.6 +0.1**
baz=121
B21A Ellsworth Farm 121.56 15 P **PKPdf 07 24 27.4 +0.3**
baz=121
BOZ Bozeman (W) 122.74 19 P **PKPdf 07 24 29.4 -0.2**
baz=123
D22A Cohagen 122.96 15 P **PKPdf 07 24 30.5 +0.7**
baz=123
E24A Baker 123.96 13 P **PKPdf 07 24 32.7 +0.9**
baz=124
C30A Mose, Pekin 123.96 8 P **PKPdf 07 24 32.1 +0.4**
baz=124
E25A Miller Ranch, 124.22 13 P **PKPdf 07 24 32.2 -0.1**
baz=124
H19A Powell 124.45 18 P **PKPdf 07 24 32.8 -0.1**
baz=124
E27A Carson 124.67 11 P **PKPdf 07 24 34.0 +0.9**
baz=124
SNOW Snow King Moun 124.96 20 *e*PKPdf **PKPdf 07 24 35.6 +1.5**
G24A Alzada 125.10 14 P **PKPdf 07 24 33.6 -0.5**
baz=125
I20A Worland 125.36 18 P **PKPdf 07 24 35.1 +0.5**
baz=125
G26A Maurine 125.54 13 P **PKPdf 07 24 35.3 +0.4**
baz=125
H24A Dirks Ranch, A 125.61 14 P **PKPdf 07 24 35.5 +0.5**
baz=125
I21A Big Trails, Te 125.74 17 P **PKPdf 07 24 35.4 0.0**
baz=126
PDAR Pinedale Array 125.98 19 PKP **PKPdf 07 24 36.7 +0.7**
comp=Z,1.4nm,1.1s,baz=28,slow=3.5,SNR=8.9
PDAR PP PP 07 26 33.6 +5.4
comp=Z,0.7nm,0.9s,baz=16,slow=7.0,SNR=3.3
NVAR Mina Array Bea 126.06 29 PKP **PKPdf 07 24 37.1 +0.9**
comp=Z,0.8nm,0.7s,baz=311,slow=2.1,SNR=8.0
H26A Fairpoint 126.15 13 P **PKPdf 07 24 37.1 +1.1**
baz=126
J22A Midwest 126.34 17 P **PKPdf 07 24 36.8 +0.2**
baz=126
G30A Faulkton 126.37 10 P **PKPdf 07 24 37.0 +0.6**
baz=126
I24A Kuemmerle Ranc 126.42 15 P **PKPdf 07 24 37.1 +0.4**
baz=126
I28A Midland 127.08 12 P **PKPdf 07 24 38.5 +0.7**
baz=127
R11A Troy Canyon, C 127.40 27 P **PKPdf 07 24 39.7 +0.9**
baz=127
J28A Allard Ranch, 127.62 12 P **PKPdf 07 24 39.5 +0.6**
baz=127
J29A Okreek 127.82 11 P **PKPdf 07 24 40.1 +0.9**
baz=128
ECSD EROS Data Cent 128.11 8 P **PKPdf 07 24 40.3 +0.5**
baz=128
ECSD EROS Data Cent 128.11 8 *e*PKPdf **PKPdf 07 24 39.7 -0.1**
O20A White River Ci 128.78 20 P **PKPdf 07 24 41.9 +0.5**
baz=129
GNAR Gosnell 136.42 2 *e*PKPdf **PKPdf 07 24 56.1 +0.5**
MIAR Mount Ida 137.55 7 *e*PKPdf **PKPdf 07 24 58.7 +1.0**
TXAR Lajitas Array 140.12 22 PKP **PKPdf 07 25 04.2 +1.4**
comp=Z,0.2nm,0.5s,baz=117,slow=1.4,SNR=5.1
TXAR PP **PP 07 27 56.7 -1.9**
comp=Z,0.4nm,0.9s,baz=352,slow=4,6,SNR=3.2
JCT Junction City 140.29 16 *e*PKPdf **PKPdf 07 25 03.6 +0.7**
CPUP Villa Florida 145.49 234 *e*PKPbc **PKPbc 07 25 12.3 +0.1**
CELP Cerrillos 146.67 321 *e*PKPbc **PKPab 07 25 16.8 -0.3**
MTDJ Mount Denham 152.13 338 *e*PKPbc **PKPbc 07 25 30.5 +0.7**
LPAZ La Paz 158.80 245 PKP **PKPdf 07 25 33.3 +0.5**
comp=Z,4.8nm,1.3s,baz=53,slow=5.8,SNR=5.8
LPAZ PKPab **PKPab 07 26 09.1 +0.5**
comp=Z,2.4nm,0.8s,baz=182,slow=3.6,SNR=5.9
LPAZ La Paz 158.80 245 PKIKP **PKPdf 07 25 33.3 +0.5**
LPAZ pmax pmax
comp=Z,5.0nm,1.3s
LPAZ pmax pmax
comp=Z,2.0nm,0.8s

MEX 13 07:07:01.4±0.4, 15.72N×97.47W, h4km±7km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.92**	**317**	*eP*	Pg	07 07 17.1	-1.9
PNIG				*i* S	Sg	07 07 29.6	-1.5
HUIG	**Huatulco**	**1.31**	**88**	*eP*	Pn	07 07 23.0	-3.6
HUIG				*i* S	Sg	07 07 39.1	-4.5
VHO	**Vista Hermosa**	**1.52**	**28**	*eP*	Pn	07 07 25.6	-4.0
VHO				*eS*	Sn	07 07 45.5	-4.5
OXX	**Oaxaca**	**1.53**	**28**	*eP*	Pn	07 07 25.9	-3.9
OXX				*eS*	Sn	07 07 41.4	-9.0
TLIG	**Tlapa**	**2.11**	**330**	*i* P	Pn	07 07 33.8	-3.8
TLIG				*i* S	Sn	07 07 59.5	-5.0
ACX	**Acapulco**	**2.56**	**297**	*eP*	Pn	07 07 44.8	+1.1
CMIG	**Matias Romero**	**2.83**	**61**	*i* P	Pn	07 07 42.5	-4.9
CMIG				*i* S	Sn	07 08 17.3	-4.7
CAIG	**El Cayaco**	**2.99**	**297**	*i* P	Pn	07 07 46.2	-3.4
CAIG				*i* S	Sn	07 08 22.6	-3.4

IDC ***13*** *07:14:14.2±1.7, 7.96N×91.32E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/40, mbtmp3.7/7, ML4.1/1, Error ellipse: s-maj=57.9km s-min=26.0km az=61.0*
ISCJB ***13*** *07:14:18.8±1.4, 8.0N±0.2×91.8E±0.2, h33km, mb3.6/6, Error ellipse: s-maj=30.8km s-min=18.1km az=144.7*
ISC 13 07:14:20.0±1.5, 8.0N±0.2×91.6E±0.2, h35km, n14, σ1s98/13, mb3.7/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.64**	**34**	Pn	**Pn**	**07 17 17.1**	**-0.2**
	0.4nm,0.3s,baz=227,slow=14,SNR=3.8						
ODAN	**Odare**	**19.23**	**348**	*eP*	**Pn**	**07 18 46.1**	**+3.4**
	20nm,0.9s						
RAMN	**Ramite**	**19.49**	**346**	*eP*	**Pn**	**07 18 49.2**	**+3.4**
	26nm,0.7s						
TAPN	**Taplejung**	**19.65**	**350**	*eP*	**Pn**	**07 18 47.7**	**0.0**
	31nm,1.0s						
JIRN	**Jiri**	**20.27**	**346**	*eP*	Pn	07 18 54.8	-0.4
	28nm,0.9s						
GUN	**Gumba**	**20.58**	**345**	*eP*	**P**	**07 18 57.2**	**+0.8**
	39nm,0.8s						
GKN	**Gorkha**	**21.01**	**343**	*eP*	**P**	**07 19 01.6**	**+0.8**
	38nm,0.9s						
KOLN	**Koldanda**	**21.12**	**340**	*eP*	**P**	**07 19 03.2**	**+1.1**
	28nm,0.7s						
MKAR	**Makanchi Array**	**39.52**	**350**	P	**P**	**07 21 46.3**	**-1.1**
	0.8nm,0.7s,baz=171,slow=8.9,SNR=5.2						
SONM	**Songino Array**	**41.68**	**15**	P	**P**	**07 22 03.6**	**-1.8**
	0.3nm,0.4s,baz=184,slow=9.7,SNR=3.6						
KURBB	**Kurchatov Arra**	**43.91**	**348**	P	**P**	**07 22 22.7**	**-0.5**
	1.5nm,0.8s,baz=168,slow=7.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**46.19**	**354**	P	**P**	**07 22 42.0**	**+0.6**
	0.7nm,0.5s,baz=163,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**51.90**	**128**	P	**P**	**07 23 26.9**	**+1.4**
	0.3nm,0.8s,baz=297,slow=7.4,SNR=3.9						
FINES	**FINESS Array B**	**71.48**	**333**	P	**P**	**07 25 34.4**	**-2.5**
	2.4nm,0.9s,baz=102,slow=12,SNR=2.7						

IDC ***13*** *07:36:56.0±0.6, 7.73N×91.98E, h0km, mb4.1/17, mb1 4.2/20, mb1mx4.0/50, mbtmp4.1/20, ML4.2/3, MS4.4/1, Ms1 4.4/1, ms1mx3.2/32, Error ellipse: s-maj=20.5km s-min=13.5km az=57.0*
BJI ***13*** *07:36:59.5, 7.76N×91.76E, h24km, mb4.5/23, mB4.6/14, Ms4.3/15, Ms7 3.9/15*
NEIC ***13*** *07:36:59.5±2.4, 7.68N×91.95E, h23km±18km, mb4.5/8, Error ellipse: s-maj=10.0km s-min=6.3km az=45.0*
ISC 13 07:37:00.7±0.6, 7.55N±0.05×91.90E±0.06, h32km±2km, h32km:pP-P, n69, σ1s75/97, mb4.4/28, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.44**	**124**	Pn	**Pn**	**07 39 01.1**	**+0.2**
	1.2nm,0.3s,baz=296,slow=6.5,SNR=4.5						
PSI				Sn	**Sn**	07 40 33.8	-1.4
	1.5nm,0.3s,baz=182,slow=13,SNR=6.4						
KULM	**Kulim**	**8.98**	**104**	*e*Pn	**Pn**	**07 39 07.2**	**-1.0**
IPM	**Ipoh**	**9.57**	**108**	*e*Pn	**Pn**	**07 39 15.2**	**-1.2**
PALK	**Pallekele**	**11.11**	**269**	Pn	**Pn**	**07 39 36.2**	**-1.3**
	3.0nm,0.3s,baz=93,slow=16,SNR=8.5						
PALK	**Pallekele**	**11.11**	**269**	*e*Pn	**Pn**	**07 39 37.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**12.82**	**32**	Pn	**Pn**	**07 39 58.9**	**-2.0**
	0.6nm,0.3s,baz=228,slow=15,SNR=11						
KSM	**Kuching**	**19.31**	**107**	*e*P	**Pn**	**07 41 24.6**	**0.0**
	20nm,1.0s						
ODAN	**Odare**	**19.67**	**348**	*e*P	**Pn**	**07 41 31.4**	**+2.4**
RAMN	**Ramite**	**19.94**	**346**	*e*P	**Pn**	**07 41 34.8**	**+2.7**
	43nm,0.5s						
TAPN	**Taplejung**	**20.09**	**349**	*e*P	**P**	**07 41 32.5**	**+0.5**
	37nm,1.0s						
JIRN	**Jiri**	**20.72**	**346**	*e*P	**P**	**07 41 39.4**	**+0.5**
PKI	**Pulchoki**	**20.84**	**344**	*e*P	**P**	**07 41 39.4**	**-0.8**
SBUM	**Sibu**	**20.86**	**103**	*e*P	**P**	**07 41 41.1**	**+0.9**
	18nm,1.0s						
DMN	**Daman**	**20.96**	**343**	*e*P	Pn	07 41 44.0	-0.2
GUN	**Gumba**	**21.04**	**345**	*e*P	**P**	**07 41 41.8**	**-0.5**
	42nm,0.7s						
KKN	**Kakani**	**21.08**	**344**	*e*P	**P**	**07 41 42.5**	**-0.2**
	17nm,0.6s						
GKN	**Gorkha**	**21.47**	**342**	*e*P	**P**	**07 41 45.9**	**-0.9**
	47nm,1.0s						
KOLN	**Koldanda**	**21.59**	**340**	*e*P	**P**	**07 41 47.3**	**-0.8**
	33nm,0.7s						
LSA	**Lhasa**	**22.04**	**358**	*e*P	**P**	**07 41 54.5**	**+1.2**
	11nm,0.7s						
GYA	**Guiyang**	**23.47**	**35**	⇑*i* P	**P**	**07 42 06.8**	**-0.9**
GYA				pP	**pP**	**07 42 17.4**	**+0.8**
GYA				PP	**PnPn**	**07 42 41.0**	**+6.1**
GYA				PcP	**PcP**	**07 45 53.3**	**0.0**
GYA				S	**S**	**07 46 16.8**	**-2.6**
GYA				sS	**sS**	**07 46 31.0**	**-3.7**
GYA				SS	**SnSn**	**07 47 04.3**	**+7.6**
GYA				PMZ			
	20nm,1.0s						
GYA				PMZ			
	110nm,4.8s						
GYA				LN			
	480nm,16.8s						
GYA				LE			
	370nm,17.2s						
GYA				LZ			
	450nm,16.9s						
H08S3	**Diego Garcia H**	**24.54**	**233**	T	T	08 08 43.2	
	baz=52,slow=76,SNR=21						
H08S2	**Diego Garcia H**	**24.54**	**232**	T	T	08 09 02.2	
	baz=52,slow=76,SNR=24						
H08S1	**Diego Garcia H**	**24.56**	**232**	T	T	08 08 34.7	
	baz=52,slow=76,SNR=45						
H08N1	**Diego Garcia H**	**24.99**	**237**	T	T	08 09 11.7	
	baz=169,SNR=3.5						
H08N2	**Diego Garcia H**	**25.00**	**237**	T	T	08 09 19.1	
	baz=169						
H08N3	**Diego Garcia H**	**25.01**	**237**	T	T	08 09 17.0	
	baz=169						
CD2	**Chengdu**	**25.75**	**24**	*e*P	**P**	**07 42 28.5**	**-0.1**
CD2				pP	**pP**	**07 42 38.3**	**+0.5**
CD2				sP	**sP**	**07 42 42.8**	**+1.1**
CD2				PcP	**PcP**	**07 45 57.0**	**-1.2**
CD2				S	**S**	**07 46 56.4**	**+0.7**
CD2				PMZ			
	30nm,0.4s						
CD2				PMZ			
	100nm,4.7s						
CD2				LE			
	230nm,17.2s						
CD2				LZ			
	200nm,11.2s						
LZH	**Lanzhou**	**30.43**	**19**	*e*P	**P**	**07 43 12.1**	**+1.6**
LZH				pP	**pP**	**07 43 22.3**	**+2.5**
LZH				sP	**sP**	**07 43 26.0**	**+2.3**
LZH				PMZ			
	14nm,1.0s						
KAPI	**Kappang**	**30.46**	**113**	LR	LR	07 57 23.7	
	comp=Z,732nm,19.3s,baz=142,slow=40						
WHN	**Wuhan**	**31.07**	**40**	⇓P	**P**	**07 43 16.8**	**+0.8**
GTA	**Gaotai**	**32.51**	**11**	*e*P	**P**	**07 43 28.5**	**-0.2**
GTA				pP	**pP**	**07 43 38.1**	**+0.1**
GTA				sP	**sP**	**07 43 41.9**	**0.0**
GTA				S	**S**	**07 48 41.4**	**-0.5**
GTA				sS	**sS**	**07 48 56.8**	**-0.5**
GTA				SS	**SnSn**	**07 50 39.3**	**+2.3**
GTA				PMZ			
	11nm,1.6s						
GTA				PMZ			
	130nm,5.1s						
GTA				LN			
	120nm,13.3s						
GTA				LE			
	170nm,11.9s						
GTA				LZ			
	110nm,13.8s						
KSH	**Kashi**	**34.89**	**338**	P	**P**	**07 43 48.8**	**-0.7**
KSH				pP	**pP**	**07 43 58.6**	**-0.2**
KSH				PP	**PP**	**07 45 08.3**	**-0.6**
KSH				PcP	**PcP**	**07 46 22.5**	**+0.6**
KSH				S	**S**	**07 49 19.8**	**+1.0**
KSH				sS	**sS**	**07 49 33.5**	**-0.8**
KSH				PcS	**PcS**	**07 50 07.3**	**-1.4**
KSH				PMZ			
	4.0nm,1.0s						
KSH				PMZ			
	290nm,5.7s						
KSH				LN			
	350nm,5.8s						
KSH				LE			
	340nm,4.9s						
NJ2	**Nanjing**	**34.97**	**42**	*e*P	**P**	**07 43 50.8**	**+0.7**
NJ2				PMZ			
	50nm,1.0s						
WMQ	**Urumqi**	**36.31**	**355**	P	**P**	**07 44 01.9**	**+0.4**
WMQ				pP	**pP**	**07 44 11.6**	**+0.7**
WMQ				sP	**sP**	**07 44 15.5**	**+0.7**
WMQ				PP	**PP**	**07 45 25.0**	**+0.5**
WMQ				PcP	**PcP**	**07 46 28.9**	**+3.0**
WMQ				S	**S**	**07 49 39.8**	**-0.6**
WMQ				PMZ			
	9.0nm,0.9s						
WMQ				PMZ			
	100nm,6.0s						
WMQ				LN			
	390nm,13.0s						
WMQ				LE			
	430nm,17.5s						
WMQ				LZ			
	150nm,18.4s						
HHC	**Hu-ho-hao-te**	**37.50**	**25**	*e*P	**P**	**07 44 12.5**	**+0.8**
HHC				PP	**PnPn**	**07 45 42.3**	**+3.7**
HHC				S	**S**	**07 49 54.4**	**-4.3**
HHC				sS	**ScP**	**07 50 16.3**	**+1.5**
HHC				SS	**SnSn**	**07 52 34.8**	**-3.2**
HHC				PMZ			
	14nm,1.0s						
HHC				PMZ			
	100nm,8.6s						
HHC				LN			
	140nm,13.6s						
HHC				LE			
	250nm,13.8s						
HHC				LZ			
	130nm,13.6s						
TKM2	**Tokmak 2**	**38.04**	**340**	*e*P	**P**	**07 44 17.5**	**+1.1**
TKM2				*e*pP	**pP**	**07 44 24.3**	**-1.5**
AAK	**Ala-Archa**	**38.16**	**339**	P	**P**	**07 44 17.4**	**0.0**
	3.0nm,0.6s,baz=139,slow=7.4,SNR=10						
AAK	**Ala-Archa**	**38.16**	**339**	*e*P	**P**	**07 44 18.1**	**+0.8**
	7.9nm,1.0s						
EKS2	**Erkin-Say**	**38.44**	**338**	*e*P	**P**	**07 44 19.5**	**-0.2**
	6.4nm,0.8s						
BJI	**Beijing**	**38.97**	**30**	P	**P**	**07 44 24.6**	**+0.7**
BJI				PP	**PP**	**07 45 54.5**	**+0.9**
BJI				S	**S**	**07 50 23.4**	**+2.9**
BJI				PMZ			
	7.0nm,0.6s						
BJI				LN			
	160nm,15.7s						
BJI				LE			
	160nm,14.0s						
BJI				LZ			
	110nm,23.8s						
MK01	**Makanchi Array**	**39.93**	**350**	*e*P	**P**	**07 44 30.4**	**-1.5**
MK31	**Makanchi Array**	**39.96**	**350**	*e*P	**P**	**07 44 30.8**	**-1.3**
MKAR	**Makanchi Array**	**39.96**	**350**	P	**P**	**07 44 30.7**	**-1.4**
	2.7nm,0.9s,baz=161,slow=7.7,SNR=14						
MKAR	**Makanchi Array**	**39.96**	**350**	*e*P	**P**	**07 44 31.1**	**-1.1**
KKAR	**Karatay Array**	**40.09**	**335**	*e*P	**P**	**07 44 33.3**	**0.0**
SONM	**Songino Array**	**41.99**	**15**	P	**P**	**07 44 47.7**	**-1.4**
	2.6nm,0.6s,baz=196,slow=8.2,SNR=19						
SONA1	**Songino Array**	**42.01**	**15**	*e*P	**P**	**07 44 47.9**	**-1.3**
KSAR	**Wonju Array Be**	**44.14**	**42**	P	**P**	**07 45 05.3**	**-1.1**
KSRS	**Korea Array**	**44.18**	**42**	P	**P**	**07 45 05.3**	**-1.3**
	0.4nm,0.3s,baz=240,slow=9.9,SNR=5.0						
KURBB	**Kurchatov Arra**	**44.35**	**348**	P	**P**	**07 45 07.0**	**-0.9**
	2.4nm,0.8s,baz=166,slow=7.3,SNR=17						
KURK	**Kurchatov**	**44.42**	**348**	P	**P**	**07 45 07.0**	**-1.4**
TLY	**Talaya**	**45.05**	**10**	P	**P**	**07 45 11.5**	**-2.0**
	0.5nm,0.4s,baz=197,slow=11,SNR=3.2						
ZAA0	**Zalesovo Array**	**46.61**	**354**	*e*P	**P**	**07 45 24.9**	**-0.8**
	6.4nm,1.2s						
ZALV	**Zalesovo Beam**	**46.61**	**354**	P	**P**	**07 45 23.6**	**-2.1**
	0.6nm,0.4s,baz=241,slow=8.3,SNR=7.0						
BVAR	**Borovoye Array**	**48.61**	**343**	P	**P**	**07 45 39.9**	**-1.3**
	1.4nm,0.7s,baz=149,slow=6.9,SNR=8.2						
ABKAR	**Akbulak array**	**49.47**	**333**	*e*P	**P**	**07 45 47.5**	**-0.4**
	1.8nm,0.5s						
WRA	**Warramunga Arr**	**49.91**	**124**	P	**P**	**07 45 51.9**	**+0.2**
	7.1nm,1.0s,baz=304,slow=8.6,SNR=21						
WRAB	**Tennant Creek**	**49.91**	**124**	*e*P	**P**	**07 45 51.9**	**+0.2**
	7.1nm,0.8s						
OPO	**Ambohidratompo**	**51.17**	**239**	P	**P**	**07 46 03.6**	**+2.1**
	2.3nm,0.4s,baz=324,slow=8.7,SNR=7.9						
AKTO	**Aktyubinsk**	**51.19**	**333**	P	**P**	**07 46 00.7**	**-0.2**
	0.8nm,0.5s,baz=115,slow=10.0,SNR=3.3						
ASAR	**Alice Springs**	**51.44**	**128**	P	**P**	**07 46 03.9**	**+0.6**
	2.2nm,0.8s,baz=304,slow=7.4,SNR=18						
BRTR	**Keskin Array B**	**60.96**	**311**	P	**P**	**07 47 11.4**	**+0.3**
	0.2nm,0.4s,baz=146,slow=10,SNR=3.1						
STKA	**Stephens Creek**	**61.51**	**132**	P	**P**	**07 47 14.9**	**+0.2**
	2.9nm,0.8s,baz=315,slow=9.0,SNR=6.8						
TIXI	**Tiksi**	**67.99**	**12**	*e*P	**P**	**07 47 55.0**	**-1.3**
	15nm,1.0s						
FINES	**FINESS Array B**	**71.96**	**333**	P	**P**	**07 48 18.8**	**-2.1**
	5.6nm,1.1s,baz=123,slow=7.0,SNR=4.4						
ARCES	**ARCESS Array B**	**74.82**	**340**	P	**P**	**07 48 36.4**	**-1.2**
	1.2nm,0.6s,baz=111,slow=5.3,SNR=3.9						
GERES	**GERESS Array B**	**76.59**	**318**	P	**P**	**07 48 48.0**	**-0.2**
	0.2nm,0.3s,baz=90,slow=9.3,SNR=6.1						
LPG	**La Plagne**	**81.27**	**315**	*e*P	**P**	**07 49 13.8**	**-0.4**
	6.9nm,0.9s						
CFAA	**Coronel Fontan**	**149.74**	**215**	PKPbc	**PKPbc**	**07 56 49.1**	**+1.1**
	0.2nm,0.6s,baz=180,slow=7.1,SNR=3.5						

IDC ***13*** *07:37:31.0±0.7, 7.76N×92.02E, h0km, mb4.3/13, mb1 4.4/15, mb1mx4.0/51, mbtmp4.3/15, ML4.5/2, MS3.9/2, Ms1 3.9/2, ms1mx3.2/35, Error ellipse: s-maj=26.1km s-min=15.0km az=53.0*
ISCJB ***13*** *07:37:32.1±0.5, 7.58N±0.09×91.87E±0.10, h24km, mb4.4/18, Error ellipse: s-maj=16.3km s-min=9.5km az=138.4*
NEIC ***13*** *07:37:35.7±0.5, 7.65N×91.96E, h35km, mb4.7/5, Error ellipse: s-maj=16.1km s-min=9.4km az=48.0*
ISC 13 07:37:34.5±0.6, 7.6N±0.1×91.91E±0.10, h24km, n25, σ1s35/26, mb4.5/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.44**	**124**	Pn	**Pn**	**07 39 34.1**	**-1.4**
	1.8nm,0.3s,baz=310,slow=15,SNR=4.6						
PSI				LR	LR	07 43 13.0	
	comp=Z,548nm,18.0s,baz=212,slow=40						
PALK	**Pallekele**	**11.12**	**269**	Pn	**Pn**	**07 40 11.5**	**-0.6**
	9.5nm,0.3s,baz=92,slow=10,SNR=9.1						
PALK				LR	LR	07 43 58.3	
	comp=Z,671nm,18.0s,baz=88,slow=34						
PALK	**Pallekele**	**11.12**	**269**	*e*Pn	**Pn**	**07 40 11.4**	**-0.7**
LSA	**Lhasa**	**22.02**	**358**	*e*P	**P**	**07 42 28.8**	**+1.1**
	35nm,0.6s						
GTA	**Gaotai**	**32.48**	**11**	*e*P	**P**	**07 44 03.8**	**+0.5**
GTA				pP	**pP**	**07 44 11.9**	**+1.4**
GTA				sP	**sP**	**07 44 16.6**	**+3.1**
GTA				pmax	pmax		
	comp=Z,19nm,1.0s						
AAK	**Ala-Archa**	**38.14**	**339**	P	**P**	**07 44 50.4**	**-1.7**
	comp=Z,8.5nm,1.0s,baz=175,slow=5.3,SNR=7.7						
AAK	**Ala-Archa**	**38.14**	**339**	*e*P	**P**	**07 44 50.6**	**-1.4**
	comp=Z,15nm,1.2s						
MK31	**Makanchi Array**	**39.94**	**350**	P	**P**	**07 45 05.3**	**-1.5**
MKAR	**Makanchi Array**	**39.94**	**350**	P	**P**	**07 45 05.6**	**-1.2**
	comp=Z,3.7nm,0.8s,baz=161,slow=7.7,SNR=9.3						
KKAR	**Karatay Array**	**40.07**	**335**	*e*P	**P**	**07 45 07.0**	**-1.0**
	comp=Z,3.4nm,0.6s						
SONM	**Songino Array**	**41.97**	**15**	P	**P**	**07 45 22.4**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=193,slow=8.6,SNR=4.6						
KURBB	**Kurchatov Arra**	**44.33**	**348**	P	**P**	**07 45 41.5**	**-1.0**
	comp=Z,5.5nm,0.8s,baz=170,slow=6.9,SNR=11						
KURK	**Kurchatov**	**44.40**	**348**	P	**P**	**07 45 41.5**	**-1.5**
ZALV	**Zalesovo Beam**	**46.59**	**354**	P	**P**	**07 46 00.0**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=165,slow=6.2,SNR=5.7						
BVAR	**Borovoye Array**	**48.59**	**343**	P	**P**	**07 46 14.5**	**-1.4**
	comp=Z,2.8nm,0.6s,baz=153,slow=9.4,SNR=8.9						
ABKAR	**Akbulak array**	**49.46**	**333**	*e*P	**P**	**07 46 21.4**	**-1.2**
	comp=Z,3.1nm,0.6s						
WRA	**Warramunga Arr**	**49.91**	**124**	P	**P**	**07 46 26.8**	**+0.2**
	comp=Z,5.6nm,1.0s,baz=307,slow=8.7,SNR=6.9						
WRAB	**Tennant Creek**	**49.92**	**124**	*e*P	**P**	**07 46 26.5**	**-0.1**
	comp=Z,7.1nm,0.8s						
ASAR	**Alice Springs**	**51.45**	**128**	P	**P**	**07 46 38.9**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=311,slow=7.8,SNR=5.1						
KMBO	**Kilima Mbogo**	**55.19**	**263**	P	**P**	**07 47 08.3**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=217,slow=20,SNR=2.7						
KBZ	**Ibabaz**	**55.83**	**319**	P	**P**	**07 47 10.9**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=172,slow=6.7,SNR=4.5						
STKA	**Stephens Creek**	**61.52**	**132**	P	**P**	**07 47 50.4**	**+0.7**
	comp=Z,2.3nm,0.6s,baz=284,slow=8.8,SNR=5.8						
GERES	**GERESS Array B**	**76.57**	**318**	P	**P**	**07 49 21.9**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=101,slow=5.6,SNR=5.5						
INK	**Inuvik**	**97.88**	**16**	P	Pdif	07 51 08.3	+0.4
	comp=Z,1.8nm,0.9s,baz=343,slow=14,SNR=3.4						
CFAA	**Coronel Fontan**	**149.76**	**215**	PKPbc	**PKPbc**	**07 57 23.6**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=185,slow=2.2,SNR=4.3						

DJA 13 07:37:36.8±0.4, 9.9S±6.3×119.9E±, h18km±9km, M3.8/7, mb4.0/1, mB4.9/1, MLv3.6/7, Mw(mB)4.2/1, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.39**	**150**	P	Pg	07 37 44.7	-0.3
WBSI				S	Sn	07 37 53.0	-1.7
WSI	**Waingapu**	**1.15**	**109**	S	Sb	07 38 12.7	-0.2
BSSI	**Bau Bau, Buton**	**3.39**	**22**	P	Pn	07 38 28.9	0.0
BSSI				S	Sn	07 39 09.8	+1.1
BKSI	**Bulukumba**	**4.06**	**13**	P	Pn	07 38 38.1	0.0
SPSI	**Sidrap Palu**	**5.33**	**6**	P	Pn	07 38 55.5	-0.1

IDC 13 07:39:55.1±13.0, 11.99N×92.08E, h0km, mb4.1/4, mb1 4.0/5, mb1mx3.5/47, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=238.6km s-min=51.3km az=175.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.24**	**45**	Pn	Pn	07 42 08.2	-1.6
	0.4nm,0.3s,baz=229,slow=17,SNR=2.8						
MKAR	**Makanchi Array**	**35.67**	**348**	P	P	07 46 53.5	-1.6
	0.6nm,0.5s,baz=162,slow=10.0,SNR=2.0						
SONM	**Songino Array**	**37.70**	**16**	P	P	07 47 13.5	+1.0
	1.5nm,1.1s,baz=200,slow=11,SNR=3.1						
KURBB	**Kurchatov Arra**	**40.09**	**347**	P	P	07 47 34.0	+1.6
	1.3nm,0.2s,baz=169,slow=6.3,SNR=3.5						
BVAR	**Borovoye Array**	**44.47**	**341**	P	P	07 48 06.9	-1.2
	1.3nm,0.8s,baz=152,slow=9.8,SNR=3.4						

ISCJB ***13*** *07:41:40.8±1.1, 17.9S±0.2×178.4W±0.2, h500km, mb3.9/6, Error ellipse: s-maj=24.2km s-min=22.8km az=6.9*
IDC ***13*** *07:41:40.9±5.2, 17.80S×178.41W, h491km±53km, mb3.6/7, mb1 3.7/8, mb1mx3.4/44, mbtmp4.4/8, Error ellipse: s-maj=32.6km s-min=20.5km az=57.0*
ISC 13 07:41:41.6±0.9, 17.8S±0.2×178.6W±0.1, h500km, n15, σ1s53/16, mb3.9/6, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.72**	**251**	P	**P**	**07 44 50.8**	**+1.8**
	baz=90,slow=20						
URZ	**Urewera**	**20.77**	**190**	P	**P**	**07 45 45.7**	**-1.4**
	14nm,0.7s,baz=263,slow=4.4,SNR=7.6						
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**07 48 22.7**	**+1.8**
	4.1nm,0.4s,baz=89,slow=6.0,SNR=29						
WRA	**Warramunga Arr**	**44.50**	**259**	P	**P**	**07 49 08.3**	**+0.1**
	2.0nm,0.7s,baz=95,slow=7.8,SNR=15						
ASAR	**Alice Springs**	**44.67**	**254**	P	**P**	**07 49 10.4**	**+0.9**
	24nm,0.6s,baz=88,slow=8.2,SNR=241						
ASAR				PcP	**PcP**	**07 50 41.7**	**+0.1**
	2.1nm,0.8s,baz=91,slow=4.3,SNR=7.4						
ASAR				S	**S**	**07 55 05.0**	**-4.4**
	1.2nm,0.8s,baz=91,slow=17,SNR=6.9						
VNDA	**Vanda**	**60.58**	**185**	P	**P**	**07 51 03.3**	**+0.7**
	1.9nm,0.8s,baz=2.3,slow=7.4,SNR=12						
MAW	**Mawson**	**83.94**	**200**	P	**P**	**07 53 17.8**	**-0.3**
	3.8nm,0.8s,baz=94,slow=7.6,SNR=5.7						
ILAR	**Eielson Array**	**85.78**	**13**	P	**P**	**07 53 27.2**	**+0.2**
	0.7nm,0.8s,baz=240,slow=5.0,SNR=8.3						
SNAA	**Sanae**	**90.75**	**179**	P	P	07 53 40.9	-10
VNA1	**Neumayer--Stat**	**91.56**	**177**	P	**P**	**07 53 54.2**	**+0.1**
ARCES	**ARCESS Array B**	**126.14**	**350**	PKP	**PKPdf**	**07 59 45.7**	**-0.4**
	3.6nm,1.0s,baz=41,slow=2.9,SNR=3.1						
BRTR	**Keskin Array B**	**144.56**	**315**	PKP	**PKPab**	**08 00 21.3**	**-0.4**
	2.8nm,0.9s,baz=132,slow=1.8,SNR=9.3						
CLL	**Collm**	**145.28**	**347**	⇑*i* (P)	**PKPab**	**08 00 23.0**	**-0.8**
	comp=Z,8.0nm,1.0s						
CLL				LmV		08 43 00.0	
	comp=Z,400nm,18.0s						
GERES	**GERESS Array B**	**147.43**	**345**	PKPbc	**PKPbc**	**08 00 29.1**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=27,slow=3.3,SNR=11						
TORD	**Torodi Ar. Bea**	**175.41**	**183**	PKPab	**PKPab**	**08 02 33.7**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=177,slow=4.3,SNR=2.6	

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AKASG Malin Array Be    40.33 310  P          P      07 52 17.3 -0.5
                1.8nm,0.6s,baz=78,slow=7.9,SNR=5.7
JOW   Kunigami          41.30  87  LR         LR     08 11 27.2
                comp=Z,259nm,21.1s,baz=78,slow=39
FINES FINESS Array B    43.58 325  P          P      07 52 44.3 +0.2
                2.5nm,0.6s,baz=117,slow=9.8,SNR=14
ARCES ARCESS Array B    46.06 336  P          P      07 53 04.4 +0.6
                4.0nm,0.8s,baz=96,slow=8.7,SNR=5.5
GERES GERESS Array B    50.47 308  P          P      07 53 39.1 +0.9
                0.4nm,0.4s,baz=48,slow=2.0,SNR=5.1
NB2   NORSAR Subarra    50.68 324  P          P      07 53 39.1 -0.5
                comp=Z,1.8nm,0.7s,baz=87,slow=7.9
NOA   NORSAR Array B    50.68 324  P          P      07 53 39.4 -0.2
                comp=Z,2.5nm,0.7s,baz=88,slow=7.5,SNR=8.4
LPG   La Plagne         55.84 305  eP         P      07 54 18.2 +0.1
LPG   La Plagne         55.84 305  eP         P      07 54 18.2 +0.1
LPL   La Plagne         55.85 305  eP         P      07 54 18.3 +0.3
                comp=Z,5.8nm,0.6s
LPL   La Plagne         55.85 305  eP         P      07 54 18.3 +0.3
                comp=Z,5.8nm,0.6s
SMF   Signal de Mont    57.45 307  eP         P      07 54 28.2 -0.9
                comp=Z,2.8nm,0.5s
SMF   Signal de Mont    57.45 307  eP         P      07 54 28.2 -0.9
                comp=Z,2.8nm,0.5s
SSF   Saint Saulge      57.54 308  eP         P      07 54 29.2 -0.5
SSF   Saint Saulge      57.54 308  eP         P      07 54 29.2 -0.5
AVF   Avril sur Loir    57.72 308  eP         P      07 54 30.5 -0.5
                comp=Z,3.1nm,0.8s
AVF   Avril sur Loir    57.72 308  eP         P      07 54 30.5 -0.5
                comp=Z,3.1nm,0.8s
TCF   Toulx Ste Croi    58.63 307  eP         P      07 54 37.0 -0.4
                comp=Z,3.3nm,0.7s
TCF   Toulx Ste Croi    58.63 307  eP         P      07 54 37.0 -0.4
                comp=Z,3.3nm,0.7s
TORD  Torodi Ar. Bea    73.71 275  P          P      07 56 14.2 -0.4
                comp=Z,3.6nm,0.8s,baz=48,slow=4.9,SNR=26
ILAR  Eielson Array     74.26  19  P          P      07 56 16.6 -0.3
                comp=Z,0.8nm,0.8s,baz=315,slow=5.1,SNR=5.4
WRA   Warramunga Arr    74.37 128  P          P      07 56 18.9 +0.6
                comp=Z,5.0nm,0.8s,baz=324,slow=5.8,SNR=34
ASAR  Alice Springs     76.80 131  P          P      07 56 32.4 +0.3
                comp=Z,4.1nm,0.7s,baz=316,slow=5.6,SNR=63
YKA   Yellowknife Ar    82.52   7  P          P      07 57 02.1 -0.4
                comp=Z,2.6nm,0.9s,baz=346,slow=4.6,SNR=3.2
STKA  Stephens Creek    87.40 132  P          P      07 57 26.9 -0.5
                comp=Z,0.7nm,0.6s,baz=316,slow=8.7,SNR=3.5
LPAZ  La Paz            146.71 295 PKPbc      PKPdf  08 04 21.7 +0.1
                comp=Z,0.7nm,0.7s,baz=20,slow=10,SNR=4.5
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NIED **13** *07:47:00,45.˚80N×151.˚60E,h38km,Mw4.4 Best double couple: M₀4.82000×10¹⁵ NP1:φs230.00000°,δ53.00000°, λ-159.00000°. NP2:φs127.00000°,δ74.00000°, λ-39.00000°.*

ISCJB **13** *07:47:24.3±0.7,45.˚74N±0.˚04×151.˚65E±0.˚06,h41km±5km, mb4.5/57,MS3.5/4,Error ellipse: s-maj=9.0km s-min=4.7km az=137.9*

IDC **13** *07:47:25.9±0.5,45.˚97N×151.˚42E,h34km±4km,mb4.0/22, mb1 4.2/24,mb1mx4.0/46,mbtmp4.2/24,ML3.7/2,MS3.5/6, Ms1 3.5/6,ms1mx3.2/36,Error ellipse: s-maj=16.5km s-min=10.6km az=135.0*

NEIC **13** *07:47:25.4±0.5,45.˚83N×151.˚67E,mb4.6/7,Error ellipse: s-maj=12.9km s-min=6.1km az=139.0*

SKHL **13** *07:47:25.0±0.7,45.˚62N×151.˚88E,h62km±4km,mb5.1/8, Ms3.8/1,msh5.2/1*

MOS **13** *07:47:25.8±0.9,45.˚89N×151.˚52E,h50km,mb4.6/14,Error ellipse: s-maj=9.5km s-min=7.5km az=100.8*

JMA **13** *07:47:26.0±0.7,45.˚84N×151.˚59E,h30km,M5.2*

SZGRF **13** *07:47:29.3,47.˚23N×154.˚38E,h33km,mb4.9,Kuril Islands, Russia*

ISC 13 07:47:25.7±0.5**,45.˚77N**±0.˚06×**151.˚63E**±0.˚05**,h37**km±4km**, n279,σ1=28/296,mb4.7**/65**,MS3.6**/4**,44C-21D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.70**	**260**	*e*P	N	**Pn**	**07 48 07.0**	**+0.5**
KUR				eS		**Sn**	**07 48 39.0**	**+1.1**
KUR	comp=N,427nm,0.3s			pmax		pmax		
KUR	comp=E,201nm,0.3s			pmax		pmax		
KUR	comp=Z,736nm,0.3s			pmax		pmax		
KUR	comp=N,1μm,0.4s			smax		smax		
KUR	comp=E,655nm,0.4s			smax		smax		
KUR	**Kuril'sk**	**2.70**	**260**	*e*P		**Pn**	**07 48 07.0**	**+0.5**
KUR	comp=E,430nm,0.3s			AMB		AMB	07 48 10.1	
KUR	comp=E,200nm,0.3s			AMB		AMB	07 48 10.1	
KUR	comp=E,740nm,0.3s			AMB		AMB	07 48 10.1	
KUR				eS		**Sn**	**07 48 39.0**	**+1.1**
KUR	comp=E,1μm,0.4s			A		A	07 48 48.0	
KUR	comp=E,660nm,0.4s			A		A	07 48 48.0	
SHO	**Shikotan**	**3.91**	**243**	*e*P		**Pn**	**07 48 23.7**	**+0.6**
SHO	comp=E,430nm,0.3s			AMB		AMB	07 48 26.3	
SHO				eS		**Sn**	**07 49 07.2**	**-0.5**
SHO	comp=E,610nm,0.3s			A		A	07 49 26.8	
YUK	**Yuzh-Kuril'sk**	**4.45**	**249**	*d* iPN		**Pn**	**07 48 32.8**	**+2.3**
YUK				*i* S		**Sn**	**07 49 23.6**	**+2.5**
YUK	comp=N,31nm,0.5s			pmax		pmax		
YUK	comp=E,129nm,0.5s			pmax		pmax		
YUK	comp=Z,430nm,0.5s			pmax		pmax		
YUK	comp=N,361nm,0.6s			smax		smax		
YUK	comp=E,438nm,0.6s			smax		smax		
YUK	comp=E,736nm,1.2s			smax		smax		
YUK	comp=N,1μm,2.1s			smax		smax		
YUK	**Yuzh-Kuril'sk**	**4.45**	**249**	*e*P		**Pn**	**07 48 32.8**	**+2.3**
YUK	comp=N,31nm,0.5s			AMB		AMB	07 48 34.2	
YUK	comp=N,130nm,0.5s			AMB		AMB	07 48 34.2	
YUK	comp=N,430nm,0.5s			AMB		AMB	07 48 34.2	
YUK				eS		**Sn**	**07 49 23.6**	**+2.5**
YUK	comp=N,1μm,2.0s			A		A	07 49 30.4	
YUK	comp=N,740nm,2.0s			A		A	07 49 30.4	
YUK	comp=N,360nm,0.6s			A		A	07 49 34.4	
YUK	comp=N,440nm,0.6s			A		A	07 49 34.4	
NEM2	**Nemuro 2**	**4.85**	**242**	P		**Pn**	**07 48 36.3**	**+0.3**
NEM2				eS		**Sn**	**07 49 28.4**	**-2.4**
JRA	**Rausu**	**4.98**	**251**	P		**Pn**	**07 48 39.9**	**+2.1**
JNK	**Nakash**	**5.39**	**249**	P		**Pn**	**07 48 45.2**	**+1.7**
JNK				eS		**Sn**	**07 49 43.6**	**-0.7**
JAK	**Akkeshi**	**5.69**	**243**	P		**Pn**	**07 48 47.9**	**+0.3**
JAK				eS		**Sn**	**07 49 48.1**	**-3.5**
SKR	**Severo-Kuril's**	**5.75**	**30**	*e*P		**Pn**	**07 48 48.6**	**+0.2**
SKR	comp=N,280nm,0.7s			AMB		AMB	07 48 55.3	
SKR				eS		**Sn**	**07 49 50.3**	**-2.8**
SKR	comp=N,194nm,0.3s			A		A	07 49 52.8	
JTKR	**Abashiri--Toko**	**5.78**	**255**	P		**Pn**	**07 48 51.1**	**+2.4**
JMP	**Maruseppu**	**6.14**	**256**	P		**Pn**	**07 48 56.5**	**+2.8**
JAR	**Ashorobuto**	**6.14**	**249**	P		**Pn**	**07 48 56.1**	**+2.4**
JAR				eS		**Sn**	**07 50 03.4**	**+0.7**
YSS	**Yuzh-Sakhalins**	**6.26**	**284**	*e*PN		**Pn**	**07 48 57.6**	**+2.3**
YSS				eS		**Sn**	**07 50 06.0**	**+0.5**
YSS	comp=Z,80nm,0.6s			pmax		pmax		
YSS	comp=N,400nm,16.0s			MLR		MLR		
YSS	comp=Z,500nm,16.0s			MLR		MLR		
YSS	comp=E,400nm,15.0s			MLR		MLR		
YSS	**Yuzh-Sakhalins**	**6.26**	**284**	*e*P		**Pn**	**07 48 57.6**	**+2.3**
YSS	comp=E,80nm,0.6s			AMB		AMB	07 48 58.6	
YSS				*e*S		**Sn**	**07 50 06.0**	**+0.5**
YSS	comp=E,400nm,15.0s			AMS		AMS	07 51 19.0	
YSS	comp=E,500nm,15.0s			AMS		AMS	07 51 19.0	
YSS	**Yuzh-Sakhalins**	**6.26**	**284**	*e*Pn		**Pn**	**07 48 58.0**	**+2.7**
JOB	**Onbets**	**6.28**	**246**	P		**Pn**	**07 48 56.9**	**+1.2**
JSE	**Soyaes**	**6.43**	**266**	P		Pn	07 49 01.8	+4.2
HRK	**Horoka**	**6.49**	**252**	*e*P		**Pn**	**07 49 01.5**	**+2.9**
JKK2	**Kamakawa 2**	**6.60**	**256**	P		**Pn**	**07 49 03.1**	**+3.1**
JKA	**Kamikawa-asahi**	**6.62**	**259**	*e*P		Pn	07 49 04.9	+4.6
ASAJ	**Asahikawa**	**6.62**	**259**	P		Pn	07 49 03.9	+3.5
ASAJ	**Asahikawa** baz=87,slow=7.9	**6.62**	**259**	Pn		Pn	07 49 04.9	+4.5
ASAJ	**Asahikawa** comp=E,61nm,1.0s	**6.62**	**259**	*e*Pn		Pn	07 49 04.2	+3.9
JCH	**Churui**	**6.73**	**245**	P		**Pn**	**07 49 02.3**	**+0.5**
JCH				eS		**Sn**	**07 50 13.4**	**-3.8**
NEVR	**Nevel'sk**	**6.84**	**281**	*e*P		**Pn**	**07 49 06.4**	**+3.1**
JWK2	**Keihoku**	**6.85**	**270**	P		Pn	07 49 07.9	+4.4
MYR	**Moyori**	**6.95**	**243**	*e*P		**Pn**	**07 49 05.4**	**+0.6**
JFR	**Furan**	**6.97**	**251**	P		**Pn**	**07 49 07.6**	**+2.4**
JEM	**Erimo**	**7.18**	**241**	eS		**Sn**	**07 50 24.0**	**-4.2**
ERM	**Erimo**	**7.18**	**241**	*ce*PN		**Pn**	**07 49 09.8**	**+1.8**
ERM	comp=Z,65nm,0.6s			pmax		pmax		
ERM	**Erimo**	**7.18**	**241**	*e*P		**Pn**	**07 49 09.8**	**+1.8**
ERM	**Erimo** comp=Z,194nm,0.3s	**7.18**	**241**	*e*Pn		**Pn**	**07 49 10.0**	**+2.0**
ERM				Sn		**Sn**	**07 50 26.1**	**-2.2**
JNBK	**Urakawa-nobuka**	**7.29**	**245**	P		**Pn**	**07 49 09.6**	**+0.1**
JNBK				eS		**Sn**	**07 50 26.9**	**-4.0**
JBT2	**Biratori 2**	**7.29**	**249**	P		**Pn**	**07 49 10.7**	**+1.1**
JEW	**Eniwo**	**7.87**	**252**	P		**Pn**	**07 49 19.8**	**+2.3**
JNB	**Noboribetsu**	**8.30**	**250**	P		**Pn**	**07 49 24.3**	**+0.9**
JNB				eS		**Sn**	**07 50 53.9**	**-2.0**
PEA0B	**Petropavlovsk-**	**8.34**	**26**	*e*Pn		**Pn**	**07 49 22.2**	**-1.6**
PETK	**Petropavlovsk-** comp=Z,1.5nm,0.3s,baz=181,slow=14,SNR=14	**8.34**	**26**	Pn		**Pn**	**07 49 24.6**	**+0.7**
PETK	**Petropavlovsk-**	**8.34**	**26**	PN		**Pn**	**07 49 24.6**	**+0.7**
PETK	comp=Z,2.0nm,0.3s			pmax		pmax		
PET	**Petropavlovsk**	**8.58**	**30**	*e*PN		**Pn**	**07 49 29.1**	**+2.0**
PET	comp=Z,200nm,16.0s			MLR		MLR		
PET	**Petropavlovsk**	**8.58**	**30**	*e*P		**Pn**	**07 49 29.1**	**+2.0**
PET				eS		**Sn**	**07 50 59.4**	**-3.1**
PET	comp=Z,44nm,0.5s			A		A	07 51 16.8	
JKB	**Kayabe**	**8.59**	**247**	P		**Pn**	**07 49 27.5**	**+0.2**
JKB				eS		**Sn**	**07 50 57.7**	**-5.1**
JYM2	**Yakumo 2**	**8.91**	**250**	P		**Pn**	**07 49 32.3**	**+0.6**
JANG	**Nango**	**9.16**	**237**	P		**Pn**	**07 49 33.4**	**-1.7**
JANG				eS		Sn	07 51 07.9	-9.0
JSR	**Shiriuchi**	**9.17**	**246**	P		**Pn**	**07 49 35.1**	**-0.1**
JSR				eS		**Sn**	**07 51 12.4**	**-4.7**
JTM	**Tenmabayashi**	**9.17**	**241**	P		**Pn**	**07 49 34.6**	**-0.7**
JTM				eS		Sn	07 51 09.6	-7.6
JTH	**Tanohata**	**9.24**	**234**	eS		Sn	07 51 09.4	-9.5
JOSM	**Okushiri--Mats**	**9.51**	**252**	P		**Pn**	**07 49 40.4**	**+0.4**
OFUJ	**Ofunato**	**9.94**	**231**	P		**Pn**	**07 49 43.8**	**-2.1**
JRG	**Rokugo**	**10.31**	**236**	P		**Pn**	**07 49 49.4**	**-1.5**
JIO	**Ouri**	**10.57**	**230**	P		**Pn**	**07 49 52.7**	**-1.7**
JIO				eS		Sn	07 51 41.4	-10
TEY	**Ternei**	**10.60**	**271**	*e*P		**Pn**	**07 49 57.0**	**+2.2**
GRNR	**Gornyy**	**11.30**	**302**	*e*P		**Pn**	**07 50 07.0**	**+2.6**
GRNR	comp=Z,14nm,0.8s			AMB		AMB	07 50 11.0	
HABR	**Khabarovsk**	**11.62**	**289**	*e*PN		**Pn**	**07 50 08.7**	**0.0**
HABR	comp=Z,17nm,1.6s			pmax		pmax		
HABR	comp=Z,178nm,16.0s			MLR		MLR		
MAJO	**Matsushiro**	**13.67**	**232**	*i* P		**Pn**	**07 50 35.5**	**-1.4**
MAJO	comp=Z,62nm,0.7s			pmax		pmax		
MAJO	**Matsushiro**	**13.67**	**232**	*e*P		**Pn**	**07 50 35.5**	**-1.4**
MAJO	**Matsushiro** comp=Z,22nm,0.7s	**13.67**	**232**	*e*Pn		**Pn**	**07 50 35.4**	**-1.4**
MAT	**Matsushiro**	**13.67**	**232**	P		**Pn**	**07 50 35.3**	**-1.6**
MAT				S		**Sn**	**07 53 10.2**	**+2.9**
MJAR	**Matsushiro Arr** baz=26,slow=13	**13.67**	**232**	Pn		**Pn**	**07 50 35.2**	**-1.6**
MJAR	comp=Z,88nm,18.4s,baz=50,slow=41			LR		LR	07 56 48.3	
KLR	**Kul'dur**	**13.87**	**292**	*e*P		**Pn**	**07 50 38.9**	**-0.6**
KLR	**Kul'dur**	**13.87**	**292**	*e*P		**Pn**	**07 50 38.9**	**-0.6**
USRK	**Ussuriysk Ar.** comp=Z,0.8nm,0.3s,baz=83,slow=12,SNR=10	**13.99**	**271**	Pn		**Pn**	**07 50 42.3**	**+1.1**
USRK	comp=Z,253nm,19.1s,baz=45,slow=37			LR		LR	07 56 02.6	
EKMR	**Ekimchan**	**14.16**	**308**	*e*P		**Pn**	**07 50 43.5**	**+0.1**
EKMR	comp=Z,8.0nm,0.6s			AMB		AMB	07 50 55.0	
MDJ	**Mudanjiang** comp=Z,24nm,0.9s	**15.58**	**274**	*e*P		**P**	**07 51 05.4**	**-0.8**
SEY	**Seymchan** comp=Z,0.7nm,0.3s,baz=8.3,slow=23,SNR=6.7	**17.20**	**1**	P		**P**	**07 51 24.7**	**+0.7**
SEY	**Seymchan**	**17.20**	**1**	*i* P		**P**	**07 51 27.1**	**+3.1**
KROS	**Kirovskiy**	**17.96**	**308**	*e*P		**P**	**07 51 34.5**	**+2.0**
KSJMJ	**Jumunjin** SNR=6.5	**18.74**	**253**	P		**Pn**	**07 51 42.5**	**+0.7**
KSDGY	**Daegwallycong** SNR=11	**18.90**	**253**	P		**Pn**	**07 51 44.9**	**+1.1**
KSCHC	**Chuncheon** SNR=16	**19.43**	**254**	P		**Pn**	**07 51 50.9**	**+0.8**
KSRS	**Korea Array** comp=Z,0.6nm,0.3s,baz=56,slow=11,SNR=46	**19.53**	**253**	P		**P**	**07 51 50.4**	**+0.6**
KSRS	**Korea Array**	**19.53**	**253**	*e*P		**P**	**07 51 49.9**	**+0.1**
KSRS	comp=Z,1.0nm,0.3s			pmax		pmax		
KSRS	**Korea Array**	**19.53**	**253**	*e*P		**P**	**07 51 49.9**	**+0.1**
KSAR	**Wonju Array Be**	**19.56**	**253**	P		**P**	**07 51 50.4**	**+0.3**
YNCB	**YEONCHEON** SNR=9.4	**19.89**	**256**	P		**Pn**	**07 51 54.8**	**-0.8**
KSMUS	**Musan** SNR=12	**20.08**	**256**	P		Pn	07 51 57.1	-0.7
KSCEA	**Cheonan** SNR=5.4	**20.32**	**253**	P		Pn	07 52 01.3	+0.7
JNU	**Nakatsue** comp=Z,14nm,0.8s,baz=269,slow=3.7,SNR=8.7	**20.34**	**239**	P		Pn	07 52 00.0	-0.9
KSGAH	**Ganghwa** SNR=7.5	**20.39**	**256**	P		Pn	07 52 01.8	+0.4
YAK	**Yakutsk** comp=Z,74nm,21.8s,baz=118,slow=36	**20.62**	**330**	LR		LR	07 59 44.5	
YAK	**Yakutsk**	**20.62**	**330**	*e*P		Pn	07 52 05.3	+1.4
YAK				*e**PP		pP	07 52 23.5	+12
YAK				eS		**S**	**07 55 50.8**	**+1.1**
YAK				*e*			07 56 11.0	
YAK				*e**SS		sS	07 56 22.2	+17
YAK				*e*			08 03 22.7	
YAK	comp=Z,35nm,0.6s			pmax		pmax		
YAK	comp=E,11nm,0.7s			pmax		pmax		
YAK	comp=N,15nm,0.9s			pmax		pmax		
YAK	comp=N,27nm,2.3s			smax		smax		
YAK	comp=E,17nm,2.0s			smax		smax		
KSJEU	**Jeongeup** SNR=8.9	**21.30**	**250**	P		**P**	**07 52 12.7**	**+3.8**
KSBAR	**Backryungdo** SNR=12	**21.43**	**258**	P		**P**	**07 52 11.5**	**+1.1**
H11N2	**WAKE ISLAND Hy** baz=338,slow=76,SNR=3205	**28.86**	**149**	T		T	08 23 52.1	
H11N1	**WAKE ISLAND Hy** baz=338,slow=76,SNR=2529	**28.88**	**149**	T		T	08 23 57.5	
H11N3	**WAKE ISLAND Hy** baz=338,slow=76,SNR=3270	**28.88**	**149**	T		T	08 23 57.7	
H11S1	**WAKE ISLAND Hy** baz=339,slow=76,SNR=3257	**29.92**	**150**	T		T	08 25 18.5	
H11S3	**WAKE ISLAND Hy** baz=339,slow=76,SNR=2103	**29.93**	**150**	T		T	08 25 15.6	
H11S2	**WAKE ISLAND Hy** baz=339,slow=76,SNR=2128	**29.94**	**150**	T		T	08 25 20.0	
SONM	**Songino Array** comp=E,0.4nm,0.4s,baz=64,slow=8.0,SNR=3.8	**30.70**	**290**	P		**P**	**07 53 35.3**	**-1.6**
SONM				PcP		**PcP**	**07 56 34.2**	**+0.2**
SONM	**Songino Array**	**30.70**	**290**	P		**P**	**07 53 35.3**	**-1.6**
SONM							07 56 34.2	
SONM				pmax		pmax		
TLY	**Talaya** comp=Z,124nm,18.3s,baz=138,slow=38	**31.73**	**298**	LR		LR	08 07 33.3	
ZAK	**Zakamensk**	**32.17**	**296**	*e*P		**P**	**07 53 48.5**	**-1.3**
ZAK				*e*			07 55 01.1	
ZAK	comp=Z,1.0nm,1.3s			pmax		pmax		
ILAR	**Eielson Array** comp=Z,0.4nm,0.6s,baz=260,slow=7.6,SNR=11	**37.95**	**38**	P		**P**	**07 54 39.2**	**0.0**
ILAR	comp=Z,0.6nm,0.5s,baz=261,slow=8.1,SNR=4.6			pP		**pP**	**07 54 48.9**	**-0.9**
ILAR	**Eielson Array**	**37.95**	**38**	P		**P**	**07 54 39.3**	**0.0**
ILAR				*PP		**pP**	**07 54 48.9**	**-0.9**
ILAR	comp=Z,1.0nm,0.5s			pmax		pmax		
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.4s,baz=66,slow=11,SNR=3.0	**42.35**	**306**	P		**P**	**07 55 15.1**	**-0.8**
ZALV				PcP		**PcP**	**07 57 08.4**	**-0.2**
ZALV	**Zalesovo Beam** comp=Z,4.7nm,0.7s,baz=56,slow=1.9,SNR=17	**42.35**	**306**	P		**P**	**07 55 15.1**	**-0.8**
ZALV							07 57 08.4	
ZALV	comp=Z,1.0nm,0.4s			pmax		pmax		
ZALV	comp=Z,5.0nm,0.7s			pmax		pmax		
INK	**Inuvik** comp=Z,3.2nm,0.6s,baz=159,slow=32,SNR=7.2	**43.03**	**32**	P		**P**	**07 55 21.1**	**0.0**
INK	**Inuvik**	**43.03**	**32**	P		**P**	**07 55 21.1**	**0.0**
INK	comp=Z,3.0nm,0.6s			pmax		pmax		
MK31	**Makanchi Array**	**46.48**	**298**	*e*P		**P**	**07 55 48.2**	**-0.8**
MK31				*e*PcP		**PcP**	**07 57 22.6**	**-0.4**
MKAR	**Makanchi Array** comp=Z,2.6nm,0.6s,baz=72,slow=7.6,SNR=30	**46.48**	**298**	P		**P**	**07 55 46.8**	**-2.2**
MKAR				PcP		**PcP**	**07 57 22.9**	**-0.1**
MKAR	comp=Z,2.4nm,0.6s,baz=62,slow=3.1,SNR=11			LR		LR	08 15 45.9	
MKAR	**Makanchi Array** comp=Z,88nm,21.0s,baz=112,slow=37	**46.48**	**298**	P		**P**	**07 55 46.8**	**-2.2**
MKAR							07 57 22.9	
MKAR	comp=Z,3.0nm,0.6s			pmax		pmax		
MKAR	comp=Z,2.0nm,0.6s			pmax		pmax		
MKAR	comp=Z,88nm,21.0s			MLR		MLR		
MKAR	**Makanchi Array**	**46.48**	**298**	*e*P		**P**	**07 55 48.0**	**-0.9**
KURK	**Kurchatov**	**47.05**	**304**	*e*P		**P**	**07 55 53.5**	**+0.2**
LSA	**Lhasa** comp=Z,12nm,0.5s	**49.30**	**273**	*e*P		**P**	**07 56 12.6**	**+1.1**
BVAR	**Borovoye Array** comp=Z,1.4nm,0.6s,baz=64,slow=8.4,SNR=7.6	**50.69**	**310**	P		**P**	**07 56 19.8**	**-1.4**
BVAR				PcP		**PcP**	**07 57 37.8**	**-0.2**
BVAR	**Borovoye Array** comp=Z,1.0nm,0.4s,baz=69,slow=4.9,SNR=5.5	**50.69**	**310**	P		**P**	**07 56 19.8**	**-1.4**
BVAR							07 57 37.8	
BVAR	comp=Z,1.0nm,0.6s			pmax		pmax		
BVAR	comp=Z,1.0nm,0.4s			pmax		pmax		
CHTO	**Chiang Mai** comp=Z,17nm,1.0s	**50.89**	**256**	*e*P		**P**	**07 56 24.1**	**+1.0**
CMAR	**Chiang Mai Arr** comp=Z,6.7nm,0.9s,baz=34,slow=7.8,SNR=17	**51.14**	**256**	P		**P**	**07 56 26.0**	**+1.0**
CMAR				LR		LR	08 18 32.0	
CMAR	**Chiang Mai Arr** comp=Z,44nm,18.1s,baz=64,slow=37	**51.14**	**256**	*e*P		**P**	**07 56 26.2**	**+1.2**
CMAR	comp=Z,7.0nm,0.9s			pmax		pmax		
YKA	**Yellowknife Ar** comp=Z,0.8nm,0.5s,baz=300,slow=7.0,SNR=4.2	**52.32**	**36**	P		**P**	**07 56 33.5**	**+0.3**
YKA	**Yellowknife Ar**	**52.32**	**36**	P		**P**	**07 56 33.5**	**+0.3**
YKA	comp=Z,1.0nm,0.5s			pmax		pmax		
YKA	**Yellowknife Ar**	**52.32**	**36**	*e*P		**P**	**07 56 33.7**	**+0.5**
TAPN	**Taplejung** comp=Z,19nm,0.5s	**53.13**	**273**	*e*P		**P**	**07 56 40.9**	**+0.9**
ODAN	**Odare** comp=Z,16nm,0.6s	**53.65**	**273**	*e*P		**P**	**07 56 45.1**	**+1.3**
JIRN	**Jiri** comp=Z,41nm,0.5s	**54.00**	**274**	*e*P		**P**	**07 56 46.9**	**+0.4**
GUN	**Gumba** comp=Z,25nm,0.5s	**54.06**	**275**	*e*P		**P**	**07 56 47.1**	**+0.2**
RAMN	**Ramite** comp=Z,50nm,0.5s	**54.15**	**273**	*e*P		**P**	**07 56 47.8**	**+0.3**
KKN	**Kakani** comp=Z,21nm,0.6s	**54.55**	**275**	*e*P		**P**	**07 56 50.7**	**+0.4**
PKI	**Pulchoki** comp=Z,17nm,0.6s	**54.60**	**275**	*e*P		**P**	**07 56 50.8**	**0.0**
DMN	**Daman**	**54.78**	**275**	*e*P		**P**	**07 56 52.5**	**+0.4**
GKN	**Gorkha** comp=Z,28nm,0.5s	**54.87**	**276**	*e*P		**P**	**07 56 53.0**	**+0.4**
ARU	**Arti**	**55.04**	**317**	*d* iP		**P**	**07 56 53.4**	**+0.2**
ARU							07 58 54.4	
ARU				S		**S**	**08 04 31.5**	**-1.1**
ARU				SS		**SS**	**08 08 14.7**	**-1.2**
ARU	comp=Z,1.0nm,0.5s			pmax		pmax		
ARU	**Arti**	**55.04**	**317**	*e*P		**P**	**07 56 53.4**	**+0.2**
KOLN	**Koldanda**	**55.73**	**276**	*e*P		**P**	**07 56 59.4**	**+0.5**
ABKAR	**Akbulak array** comp=Z,1.7nm,0.4s	**58.26**	**310**	*e*P		**P**	**07 57 14.7**	**-1.4**
ARCES	**ARCESS Array B** comp=Z,1.9nm,0.8s,baz=60,slow=7.2,SNR=6.3	**58.44**	**341**	P		**P**	**07 57 16.1**	**-1.0**
ARCES	**ARCESS Array B**	**58.44**	**341**	*e*P		**P**	**07 57 16.1**	**-1.0**
ARCES	comp=Z,2.0nm,0.8s			pmax		pmax		
SUMG	**Summit** comp=Z,20nm,0.8s	**61.74**	**3**	*i* P		**P**	**07 57 39.8**	**-0.4**
SUMG	**Summit** comp=Z,20nm,0.8s	**61.74**	**3**	*i* P		**P**	**07 57 39.8**	**-0.4**
SUMG				pmax		pmax		
SUMG	**Summit** comp=Z,21nm,0.8s	**61.74**	**3**	*e*P		**P**	**07 57 39.9**	**-0.3**
NVAR	**Mina Array Bea** comp=Z,0.9nm,0.7s,baz=304,slow=6.4,SNR=6.2	**63.80**	**61**	P		**P**	**07 57 55.8**	**+1.5**
NVAR				pP		**pP**	**07 58 05.8**	**+0.4**
FINES	**FINESS Array B** comp=Z,4.1nm,0.6s,baz=38,slow=5.9,SNR=22	**64.48**	**334**	P		**P**	**07 57 55.7**	**-2.3**
FINES	**FINESS Array B**	**64.48**	**334**	*e*P		**P**	**07 57 56.8**	**-1.2**
FINES	comp=Z,4.0nm,0.6s			pmax		pmax		
FINES	**FINESS Array B**	**64.48**	**334**	*e*P		**P**	**07 57 56.8**	**-1.2**
PDAR	**Pinedale Array** comp=Z,1.1nm,0.9s,baz=323,slow=2.2,SNR=4.5	**66.16**	**53**	P		**P**	**07 58 09.7**	**+0.2**
PDAR	comp=Z,1.5nm,0.8s,baz=345,slow=2.2,SNR=6.6			pP		**pP**	**07 58 19.9**	**-0.7**
WRAB	**Tennant Creek** comp=Z,52nm,2.0s	**67.25**	**198**	*i* P		**P**	**07 58 15.3**	**-0.9**
WRAB				pmax		pmax		
WRA	**Warramunga Arr** comp=Z,5.4nm,0.8s,baz=16,slow=6.6,SNR=22	**67.26**	**198**	P		**P**	**07 58 16.8**	**+0.5**
WRA	comp=Z,2.8nm,0.8s,baz=17,slow=6.7,SNR=8.0			pP		**pP**	**07 58 28.3**	**+0.8**
WRA	**Warramunga Arr**	**67.26**	**198**	P		**P**	**07 58 16.8**	**+0.5**
WRA				*PP		**pP**	**07 58 28.3**	**+0.8**
WRA	comp=Z,5.0nm,0.8s			pmax		pmax		
WRA	comp=Z,3.0nm,0.8s			pmax		pmax		
NB2	**NORSAR Subarra** comp=Z,1.6nm,0.4s,baz=29,slow=6.5	**68.81**	**341**	P		**P**	**07 58 24.8**	**-0.9**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.8s,baz=29,slow=6.2,SNR=10	**68.81**	**341**	P		**P**	**07 58 24.6**	**-1.1**
NOA	**NORSAR Array B**	**68.81**	**341**	P		**P**	**07 58 24.6**	**-1.1**
NOA	comp=Z,1.0nm,0.8s			pmax		pmax		
BORG	**Borgarnes**	**69.68**	**357**	*i* P		P

comp=Z,1.8nm,0.7s,baz=8.4,slow=4.9,SNR=8.0
ASAR Alice Springs 70.96 197 P P 07 58 40.7 +1.4
ASAR *P P 07 58 52.1 +1.6
ASAR pmax pmax
comp=Z,2.0nm,0.9s
ASAR pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 71.78 326 P P 07 58 42.6 -1.3
comp=Z,1.1nm,0.3s,baz=34,slow=6.6,SNR=7.4
AKASG Malin Array Be 71.78 326 P P 07 58 42.6 -1.3
AKASG pmax pmax
comp=Z,1.0nm,0.3s
SCHQ Schefferville 74.61 22 P P 07 59 00.7 +0.1
comp=Z,1.4nm,0.6s,baz=299,slow=8.1,SNR=3.8
BUR08 Bucovina Ar. S 75.81 326 *eP P 07 59 07.3 -0.5
BURAR Bucovina Array 75.83 326 ⇑P P 07 59 07.4 -0.5
BURAR Bucovina Array 75.83 326 ⇑*iP* P 07 59 07.4 -0.5
TESR Tescani 76.15 324 ⇑*iP* P 07 59 09.1 -0.5
TLCR 76.31 322 ⇓P P 07 59 10.6 +0.2
TLCR 76.31 322 ⇓*iP* P 07 59 10.6 +0.2
TRPA Tarpa 76.43 328 ⇑*iP* P 07 59 11.3 +0.2
OKC Ostrava-Krasne 76.56 331 *eP* P 07 59 11.2 -0.6
OKC *ex* x 08 00 23.2
OKC Ostrava-Krasne 76.56 331 *eP* P 07 59 11.2 -0.6
CFR Carcaliu 76.60 323 ⇑P P 07 59 11.9 -0.2
CFR Carcaliu 76.60 323 ⇑*iP* P 07 59 11.9 -0.2
VRI Vrincioaia 76.64 324 ⇓P P 07 59 10.3 -2.1
VRI Vrincioaia 76.64 324 ⇓*iP* P 07 59 10.3 -2.1
PLOR Plostina 76.68 324 ⇓P P 07 59 11.7 -1.0
PLOR Plostina 76.68 324 ⇓*iP* P 07 59 11.7 -1.0
DPC Dobruska-Polom 76.72 332 *eP* P 07 59 12.8 0.0
DPC *ex* x 08 00 19.5
DPC *ex* x 08 00 23.5
DPC Dobruska-Polom 76.72 332 *eP* P 07 59 12.8 0.0
KRLC Kraliky 76.81 332 *eP* P 07 59 12.7 -0.6
KRLC Kraliky 76.81 332 *eP* P 07 59 12.7 -0.6
CLL Collm 76.92 335 ⇑*iP* P 07 59 12.9 -0.9
comp=Z,9.0nm,0.9s
CLL Collm 76.92 335 ⇑*iP* P 07 59 12.9 -0.9
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 76.92 335 *eP* P 07 59 12.9 -0.9
BRG Berggiesshubel 77.02 334 *eP* P 07 59 13.5 -0.9
comp=Z,11nm,1.7s
BRG Berggiesshubel 77.02 334 *eP* P 07 59 13.5 -0.9
BRG pmax pmax
comp=Z,11nm,1.7s
BRG Berggiesshubel 77.02 334 *eP* P 07 59 13.5 -0.9
MALT Malatya 77.06 312 ⇓P P 07 59 16.0 +1.0
MALT Malatya 77.06 312 ⇓*iP* P 07 59 16.0 +1.0
TIRR Tirgusor 77.06 322 ⇑P P 07 59 14.7 0.0
TIRR Tirgusor 77.06 322 ⇑*iP* P 07 59 14.7 0.0
DOPR Dopca 77.10 325 ⇑*iP* P 07 59 15.2 +0.2
TLB Topalu 77.12 322 ⇑P P 07 59 14.7 -0.3
TLB Topalu 77.12 322 ⇑*iP* P 07 59 14.7 -0.3
MLR Muntele Rosu 77.27 324 ⇓P P 07 59 16.7 +0.6
MLR Muntele Rosu 77.27 324 ⇓*iP* P 07 59 16.7 +0.6
DRGR 77.48 327 ⇑P P 07 59 16.5 -0.7
DRGR 77.48 327 ⇑*iP* P 07 59 16.5 -0.7
PSZ Piszkesteto 77.58 329 ⇑P P 07 59 17.2 -0.5
PSZ Piszkesteto 77.58 329 ⇑*iP* P 07 59 17.2 -0.5
GOPC GO Pecny, Ondr 77.59 333 *eP* P 07 59 17.1 -0.6
PRU Pruhonice 77.61 333 *eP* P 07 59 17.2 -0.5
PRU *ex* x 08 00 25.7
PRU Pruhonice 77.61 333 *eP* P 07 59 17.2 -0.5
PRU Pruhonice 77.61 333 *eP* P 07 59 17.2 -0.5
VOIR 77.67 325 ⇑P P 07 59 18.3 0.0
VOIR 77.67 325 ⇑*iP* P 07 59 18.3 0.0
ARR Arges 77.90 325 ⇓*iP* P 07 59 20.4 +0.9
TREC Trest 77.91 332 *eP* P 07 59 18.8 -0.6
TREC *ex* x 08 00 26.9
TREC Trest 77.91 332 *eP* P 07 59 18.8 -0.6
BR131 Keskin Array S 78.39 316 *eP* P 07 59 22.3 -0.1
comp=Z,1.7nm,0.7s
BRTR Keskin Array B 78.39 316 P P 07 59 22.3 -0.1
comp=Z,2.8nm,0.8s,baz=76,slow=5.2,SNR=16
BRTR Keskin Array B 78.39 316 P P 07 59 22.3 -0.1
BRTR pmax pmax
comp=Z,3.0nm,0.8s
KHC Kasperske Hory 78.66 333 *eP* P 07 59 23.3 -0.4
KHC *ex* x 07 59 27.7
KHC *ex* x 08 00 27.7
KHC *ex* x 08 00 33.0
KHC Kasperske Hory 78.66 333 *eP* P 07 59 23.3 -0.4
KHC *e* 07 59 27.7
KHC Kasperske Hory 78.66 333 *eP* P 07 59 23.3 -0.4
KHC Kasperske Hory 78.66 333 *eP* P 07 59 23.2 -0.4
comp=Z,4.6nm,1.1s
TXAR Lajitas Array 78.87 59 P P 07 59 26.3 +1.1
comp=Z,1.2nm,0.9s,baz=299,slow=3.4,SNR=4.5
TXAR pP pP 07 59 36.1 -0.4
comp=Z,1.5nm,0.7s,baz=300,slow=3.3,SNR=9.0
TXAR Lajitas Array 78.87 59 P P 07 59 26.3 +1.1
TXAR *PP pP 07 59 36.2 -0.4
TXAR pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 78.88 333 P P 07 59 24.4 -0.5
comp=Z,2.3nm,0.6s,baz=32,slow=5.3,SNR=23
GERES GERESS Array B 78.88 333 *eP* P 07 59 24.3 -0.5
GERES pmax pmax
comp=Z,2.0nm,0.6s
BZS Buzias 78.88 327 ⇓P P 07 59 24.6 -0.2
BZS Buzias 78.88 327 ⇓*iP* P 07 59 24.6 -0.2
GRF Grafenberg Arr 78.88 335 *eP* P 07 59 24.7 -0.1
comp=Z,8.0nm,0.7s
CONA Conrad Observa 78.97 331 ⇑*iP* P 07 59 25.6 +0.2
comp=Z,5.1nm,0.6s
PKSM Moragy 79.48 329 ⇓P P 07 59 27.2 -0.9
PKSM Moragy 79.48 329 ⇓*iP* P 07 59 27.2 -0.9
MPEP Malo Peshtene 79.92 324 P P 07 59 29.6 -0.9
GIVF Givet 80.26 339 *eP* P 07 59 31.6 -0.6
GIVF Givet 80.26 339 *eP* P 07 59 31.6 -0.6
SOKA Soboth 80.34 331 ⇓*iP* P 07 59 32.4 -0.5
comp=Z,6.3nm,0.9s
BAIF Baives 80.45 339 *eP* P 07 59 32.7 -0.5
BAIF Baives 80.45 339 *eP* P 07 59 32.7 -0.5
KBA Koelnbreinsper 80.54 333 ⇓*iP* P 07 59 34.4 +0.3
comp=Z,8.5nm,0.7s
VTS Vitosha 80.77 324 *i* P P 07 59 34.5 -0.8
DIVS Divibare 80.78 327 ⇓*iP* P 07 59 34.2 -1.1
GCIS Gornji Cirnik 80.84 331 *eP* P 07 59 34.6 -0.9
WATA Walderalm 80.88 334 ⇑*iP* P 07 59 35.0 -0.8
comp=Z,4.5nm,0.5s
WTTA Wattenberg 80.92 334 ⇑*iP* P 07 59 35.5 -0.6
comp=Z,7.5nm,0.6s
CRES Cresnjev 80.94 331 *eP* P 07 59 35.0 -1.0
BFO Black Forest 80.94 336 *iP* P 07 59 36.0 0.0
RETA Reutte 80.99 334 ⇑*iP* P 07 59 36.1 -0.2
comp=Z,8.4nm,1.2s
CDF Champ du Feu 81.16 337 ⇑P P 07 59 36.7 -0.5
comp=Z,11nm,0.9s
CDF Champ du Feu 81.16 337 ⇑*iP* P 07 59 36.7 -0.5
comp=Z,11nm,0.9s
MMB Musomiste 81.39 323 *i* P P 07 59 38.2 -0.3
DAVA Damuels 81.44 335 ⇑*iP* P 07 59 38.2 -0.6
comp=Z,5.6nm,0.9s
PAGF Fort de Pagny 81.45 338 ⇑*iP* P 07 59 38.6 0.0
comp=Z,8.4nm,0.8s
PAGF Fort de Pagny 81.45 338 ⇑*iP* P 07 59 38.6 0.0
comp=Z,8.4nm,0.8s
MEZF Maizieres J'vi 81.67 338 ⇑*iP* P 07 59 39.5 -0.3
comp=Z,23nm,1.0s
MEZF Maizieres J'vi 81.67 338 ⇑*iP* P 07 59 39.5 -0.3
comp=Z,23nm,1.0s
HAU Haudompre 81.79 337 *eP* P 07 59 39.8 -0.7
comp=Z,11nm,0.9s
HAU Haudompre 81.79 337 *eP* P 07 59 39.8 -0.7
comp=Z,11nm,0.9s
HINF Hinteralfeld 81.82 337 *eP* P 07 59 39.8 -0.9
comp=Z,2.4nm,0.7s
HINF Hinteralfeld 81.82 337 *eP* P 07 59 39.8 -0.9
comp=Z,2.4nm,0.7s
SFTF Sexfontaines 81.95 338 ⇑*iP* P 07 59 40.9 -0.4
comp=Z,21nm,0.8s
SFTF Sexfontaines 81.95 338 ⇑*iP* P 07 59 40.9 -0.4
comp=Z,21nm,0.8s
FLN La Foliniere 82.75 342 *eP* P 07 59 44.3 -1.1
comp=Z,5.4nm,0.6s
FLN La Foliniere 82.75 342 *eP* P 07 59 44.3 -1.1
comp=Z,5.4nm,0.6s
LDF La Druitiere 82.83 342 *eP* P 07 59 45.2 -0.7
LDF La Druitiere 82.83 342 *eP* P 07 59 45.2 -0.7
LOR Lormes 83.12 339 ⇑*iP* P 07 59 47.0 -0.4
comp=Z,11nm,0.9s
LOR Lormes 83.12 339 ⇑*iP* P 07 59 47.0 -0.4
comp=Z,11nm,0.9s
GRR Gorron 83.19 342 *eP* P 07 59 47.3 -0.4
comp=Z,7.9nm,0.6s
GRR Gorron 83.19 342 *eP* P 07 59 47.3 -0.4
comp=Z,7.9nm,0.6s
SSF Saint Saulge 83.40 339 ⇑*iP* P 07 59 48.5 -0.4
comp=Z,7.6nm,0.9s
SSF Saint Saulge 83.40 339 ⇑*iP* P 07 59 48.5 -0.4
comp=Z,7.6nm,0.9s
SGMF Saint Gilles 83.67 343 *eP* P 07 59 49.9 -0.3
comp=Z,3.1nm,0.5s
SGMF Saint Gilles 83.67 343 *eP* P 07 59 49.9 -0.3
comp=Z,3.1nm,0.5s
AVF Avril sur Loir 83.69 339 ⇑*iP* P 07 59 50.1 -0.2
comp=Z,18nm,1.1s
AVF Avril sur Loir 83.69 339 ⇑*iP* P 07 59 50.1 -0.2
comp=Z,18nm,1.1s
SMF Signal de Mont 83.70 338 ⇑*iP* P 07 59 50.1 -0.3
comp=Z,21nm,1.0s
SMF Signal de Mont 83.70 338 ⇑*iP* P 07 59 50.1 -0.3
comp=Z,21nm,1.0s
LPL La Plagne 83.96 336 *eP* P 07 59 52.1 +0.1
LPL La Plagne 83.96 336 *eP* P 07 59 52.1 +0.1
LPG La Plagne 83.97 336 ⇑*iP* P 07 59 52.3 +0.1
comp=Z,13nm,1.0s
LPG La Plagne 83.97 336 ⇑*iP* P 07 59 52.3 +0.1
comp=Z,13nm,1.0s
TCF Toulx Ste Croi 84.45 339 *eP* P 07 59 54.1 -0.1
TCF Toulx Ste Croi 84.45 339 *eP* P 07 59 54.1 -0.1
ORIF Oris-en-Rattie 84.75 336 *eP* P 07 59 56.0 +0.1
comp=Z,9.4nm,0.7s
ORIF Oris-en-Rattie 84.75 336 *eP* P 07 59 56.0 +0.1
comp=Z,9.4nm,0.7s
VIVF Saint-Julien-l 85.14 337 *eP* P 07 59 57.8 +0.1
comp=Z,12nm,1.1s
VIVF Saint-Julien-l 85.14 337 *eP* P 07 59 57.8 +0.1
comp=Z,12nm,1.1s
CAF Calviac 85.76 339 *eP* P 08 00 00.5 -0.3
CAF Calviac 85.76 339 *eP* P 08 00 00.5 -0.3
LMR La Mourre 86.02 335 *eP* P 08 00 01.8 -0.3
comp=Z,19nm,1.0s
LMR La Mourre 86.02 335 *eP* P 08 00 01.8 -0.3
comp=Z,19nm,1.0s
TORD Torodi Ar. Bea 115.38 327 PKP **PKPdf 08 06 02.0 -1.7**
comp=Z,0.3nm,0.6s,baz=8.7,slow=2.2,SNR=3.0
BDFB Brasilia 145.74 35 PKPbc **PKPab 08 07 00.9 -0.4**
comp=Z,5.0nm,1.1s,baz=328,slow=5.0,SNR=3.6
BDFB Brasilia 145.74 35 PKP2 **PKPab 08 07 00.9 -0.4**
BDFB pmax pmax
comp=Z,5.0nm,1.1s

*ISCJB **13** 07:48:46.0±0.3,22.°70N±0.°03×107.°97W±0.°02,h10km, mb4.8/88,MS4.5/25,Error ellipse: s-maj=4.4km s-min=2.1km az=11.9*
*BJI **13** 07:48:45.1,22.°70N×108.°00W,h10km,mB5.4/5,Ms5.2/3, Ms7 4.7/3*
*IDC **13** 07:48:46.1±0.9,22.°74N×108.°22W,h0km,mb4.2/15, mb1 4.4/22,mb1mx4.3/43,mbtmp4.3/22,ML3.8/6,MS4.3/23, Ms1 4.3/23,ms1mx4.2/31,Error ellipse: s-maj=26.7km s-min=12.5km az=43.0*
*MEX **13** 07:48:47.0±0.4,22.°74N×108.°13W,h16km±11km,MD4.7*
*NEIC **13** 07:48:47.8±0.4,22.°74N×108.°01W,h10km,mb4.9/99, MD4.7(MEX),Error ellipse: s-maj=6.6km s-min=3.7km az=36.0*
*GCMT **13** 07:48:47.8±0.3,22.°98N×108.°13W,h20km±1km,MW5.2/89, Moment Tensor Solution. s28,c30; s89,c145; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.94±.25; Mθθ-5.39±.21; Mφφ6.33±.23; Mrθ-1.49±.42; Mθφ-2.69±.16; Mφr0.28±.36; Best double couple: Mo6.65200×10^16^ NP1:φs124.00000°,δ83.00000°,λ-167.00000°. NP2: φs32.00000°,δ77.00000°,λ-7.00000°. Principal axes: T 6.9620, Plg4.0000°, Azm257.0000°; N -0.6230, Plg75.0000°, Azm151.0000°; P -6.3410, Plg15.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 07:48:48.0±0.5,22°80N±0.°05×107°96W±0.°06,h10km, n686,σ1$27/621,mb4.8/87,MS4.5/24,Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
MAIG	**Mazatlaan**	**1.46**	**74**	*i* P	**Pn**	**07 49 11.5**	**-2.9**
MAIG				*e*S	**Sn**	**07 49 30.2**	**-3.4**
MAIG	**Mazatlaan**	**1.46**	**74**	*i* P	**Pn**	**07 49 11.5**	**-2.9**
MAIG				*e*S	**Sn**	**07 49 30.2**	**-3.4**
SLBS	**Sierra La Lagu**	**2.03**	**296**	*e*Pn	Pn	07 49 15.3	-7.1
LPIG	**La Paz**	**2.52**	**301**	*i* P	Pn	07 49 22.8	-6.2
LPIG				*e*S	Sn	07 49 50.6	-9.2
LPIG	**La Paz**	**2.52**	**301**	Pn	Pn	07 49 25.0	-4.0
	6.8nm,0.3s,baz=300,slow=2.3,SNR=28						
LPIG				Lg	Lg	07 49 49.4	
	157nm,0.3s,baz=35,slow=5.8,SNR=25						
LPIG				LR	LR	07 50 09.6	
	comp=Z,3μm,21.6s,baz=121,slow=36						
LPIG	**La Paz**	**2.52**	**301**	Pn	Pn	07 49 25.0	-4.0
LPIG				Lg	Lg	07 49 49.4	
LPIG				*e*S	Sn	07 49 50.6	-9.2
ANIG	**Ahuacatlan**	**3.63**	**118**	*e*P	**Pn**	**07 49 42.2**	**-2.2**
ANIG				*e*S	**Sn**	**07 50 24.9**	**-2.5**
ANIG	**Ahuacatlan**	**3.63**	**118**	*e*P	**Pn**	**07 49 42.2**	**-2.2**
ANIG				*e*S	**Sn**	**07 50 24.9**	**-2.5**
HPIG		**4.62**	**26**	*e*P	**Pn**	**07 49 56.4**	**-1.6**
HPIG				*i* S	**Sn**	**07 50 49.6**	**-2.2**
HPIG		**4.62**	**26**	*e*P	**Pn**	**07 49 56.4**	**-1.6**
HPIG				*i* S	**Sn**	**07 50 49.6**	**-2.2**
H05S1	**SOCORRO T**	**4.92**	**215**	T	T	07 55 18.3	
	SNR=8.8						
ZAIG	**Zacatecas**	**4.97**	**89**	*e*P	**Pn**	**07 50 01.9**	**-1.1**
ZAIG				*e*S	**Sn**	**07 50 59.6**	**-1.1**
ZAIG	**Zacatecas**	**4.97**	**89**	*e*P	**Pn**	**07 50 01.9**	**-1.1**
ZAIG				*e*S	**Sn**	**07 50 59.6**	**-1.1**
R15V		**5.18**	**133**	*i* P	**Pn**	**07 50 03.1**	**-2.5**
EZ5V		**5.23**	**128**	*i* P	**Pn**	**07 50 03.9**	**-2.7**
SRIG	**Santa Rosalia**	**5.95**	**320**	*e*P	Pn	07 50 12.0	-4.1
SRIG	**Santa Rosalia**	**5.95**	**320**	*e*P	Pn	07 50 12.0	-4.1
MMIG	**Aquila**	**6.23**	**135**	*e*P	**Pn**	**07 50 16.9**	**-3.0**
MMIG	**Aquila**	**6.23**	**135**	*e*P	**Pn**	**07 50 16.9**	**-3.0**
HSIG		**6.76**	**337**	*e*P	**Pn**	**07 50 24.6**	**-2.6**
HSIG		**6.76**	**337**	*e*P	**Pn**	**07 50 24.6**	**-2.6**
TXAR	**Lajitas Array**	**7.56**	**30**	Pn	**Pn**	**07 50 37.8**	**-0.6**
	1.3nm,0.3s,baz=205,slow=14,SNR=45						
TXAR				Sn	**Sn**	**07 52 02.9**	**-1.5**
	1.6nm,0.3s,baz=215,slow=15,SNR=4.1						
TXAR				Lg	Lg	07 52 42.8	
	4.1nm,0.3s,baz=213,slow=25,SNR=8.2						
TXAR				LR	LR	07 53 12.9	
	comp=Z,1μm,19.4s,baz=0.0,slow=34						
529A	**Stev Forest Ra**	**8.92**	**34**	P	**Pn**	**07 50 58.3**	**+1.3**
	baz=9.0						
933A	**Laredo**	**9.21**	**57**	P	**Pn**	**07 51 01.6**	**+0.7**
	baz=9.3						
732A	**Laxson Ranch,**	**9.31**	**49**	P	**Pn**	**07 51 02.8**	**+0.5**
	baz=9.4						
631A	**Perdido Creek**	**9.35**	**44**	P	**Pn**	**07 51 03.9**	**+1.1**
	baz=9.4,SNR=8.3						
530A	**J-C Ranch, Com**	**9.42**	**38**	P	**Pn**	**07 51 05.1**	**+1.3**
	baz=9.5						
034A	**Hebbronville**	**9.43**	**61**	P	**Pn**	**07 51 04.3**	**+0.4**
	baz=9.5						
833A	**Chaparral WMA,**	**9.49**	**53**	P	**Pn**	**07 51 05.7**	**+1.0**
	baz=9.6						
429A	**Davenport Ranc**	**9.49**	**33**	P	**Pn**	**07 51 06.1**	**+1.2**
	baz=9.6						
121A	**Cookes Peak, D**	**9.70**	**1**	P	**Pn**	**07 51 08.3**	**+0.5**
	baz=9.8,SNR=18						
121A	**Cookes Peak, D**	**9.70**	**1**	*e*Pn	**Pn**	**07 51 06.9**	**-0.9**
035Z	**Hargill**	**9.71**	**66**	P	**Pn**	**07 51 07.7**	**0.0**
	baz=9.8						
733A	**Divot King Ran**	**9.78**	**51**	P	**Pn**	**07 51 09.3**	**+0.5**
	baz=9.9						
934A	**Benavides**	**9.79**	**59**	P	**Pn**	**07 51 08.9**	**0.0**
	baz=9.9						
TUC	**Tucson**	**9.80**	**346**	*e*Pn	**Pn**	**07 51 08.7**	**-0.4**
035A	**Encino**	**9.85**	**63**	P	**Pn**	**07 51 10.2**	**+0.5**
	baz=9.9						
531A	**Rocksprings**	**9.89**	**41**	P	**Pn**	**07 51 11.0**	**+0.7**
	baz=10.0						
632A	**Uvalde**	**9.92**	**46**	P	**Pn**	**07 51 11.6**	**+0.9**
	baz=10.0,SNR=11						
430A	**Baggett Ranch,**	**9.96**	**36**	P	**Pn**	**07 51 12.0**	**+0.7**
	baz=10,SNR=6.5						
834A	**Tilden**	**10.01**	**56**	P	**Pn**	**07 51 12.2**	**+0.2**
	baz=10						
214A	**Organ Pipe Nat**	**10.09**	**336**	P	**Pn**	**07 51 13.4**	**+0.3**
	baz=10,SNR=23						
214A	**Organ Pipe Nat**	**10.09**	**336**	*e*Pn	**Pn**	**07 51 14.1**	**+1.0**
329A	**Wagon Wheel Ra**	**10.16**	**30**	P	**Pn**	**07 51 15.8**	**+1.8**
	baz=10						
431A	**Sonora**	**10.23**	**38**	P	**Pn**	**07 51 16.7**	**+1.7**
	baz=10,SNR=9.6						
532A	**Rocksprings**	**10.26**	**43**	P	**Pn**	**07 51 17.1**	**+1.7**
	baz=10,SNR=6.6						
633A	**Saathoff Ranch**	**10.30**	**48**	P	**Pn**	**07 51 16.9**	**+0.9**
	baz=10						
734A	**La Parita Cree**	**10.39**	**53**	P	**Pn**	**07 51 18.3**	**+1.2**
	baz=10						
228A	**UT Block 9, Go**	**10.43**	**26**	P	**Pn**	**07 51 20.0**	**+2.2**
	baz=10						
330A	**Mertzon**	**10.48**	**34**	P	**Pn**	**07 51 20.6**	**+2.2**
	baz=11,SNR=5.8						
JCT	**Junction City**	**10.57**	**42**	P	**Pn**	**07 51 20.4**	**+0.8**
	baz=11						
JCT	**Junction City**	**10.57**	**42**	*e*Pn	**Pn**	**07 51 18.5**	**-1.0**
229A	**Bryant Ranch,**	**10.64**	**30**	P	**Pn**	**07 51 22.6**	**+2.1**
	baz=11						
533A	**Kerrville**	**10.78**	**46**	P	**Pn**	**07 51 24.5**	**+1.9**
	baz=11						
331A	**San Angelo**	**10.81**	**37**	P	**Pn**	**07 51 24.9**	**+2.1**
	baz=11						
634A	**China Grove, S**	**10.84**	**51**	P	**Pn**	**07 51 25.1**	**+1.9**
	baz=11						
432A	**Menard**	**10.85**	**40**	P	**Pn**	**07 51 25.5**	**+2.0**
	baz=11,SNR=12						
230A	**Sterling City**	**10.90**	**32**	P	**Pn**	**07 51 26.1**	**+1.9**
	baz=11						
128A	**Castleberry Fa**	**10.92**	**25**	P	**Pn**	**07 51 26.5**	**+2.1**
	baz=11,SNR=26						
735A	**Kenedy**	**10.95**	**54**	P	**Pn**	**07 51 26.4**	**+1.6**
	baz=11						
534A	**Blanco**	**11.13**	**48**	P	**Pn**	**07 51 28.5**	**+1.2**
	baz=11,SNR=8.9						
129A	**Stewart Farms,**	**11.18**	**27**	P	**Pn**	**07 51 30.0**	**+2.0**
	baz=11,SNR=11						
433A	**Art**	**11.20**	**43**	P	**Pn**	**07 51 29.8**	**+1.6**
	baz=11,SNR=5.5						
332A	**Millersview**	**11.25**	**39**	P	**Pn**	**07 51 31.1**	**+2.2**
	baz=11,SNR=8.4						
635A	**Leesville**	**11.26**	**52**	P	**Pn**	**07 51 30.5**	**+1.6**
	baz=11						
Y22D	**IRIS PASSCAL I**	**11.27**	**4**	P	**Pn**	**07 51 31.4**	**+2.1**
	baz=11						
231A	**Bronte**	**11.35**	**35**	P	**Pn**	**07 51 31.9**	**+1.6**
	baz=11						
LENM	**Lemitar**	**11.36**	**4**	*e*Pn	**Pn**	**07 51 32.6**	**+2.1**
LPM	**Los Pinos Moun**	**11.53**	**5**	*e*Pn	**Pn**	**07 51 33.5**	**+0.7**
	64nm,1.5s						
Z28A	**Tucker Farm, M**	**11.55**	**24**	P	**Pn**	**07 51 34.5**	**+1.4**
	baz=12,SNR=20						
130A	**Snyder**	**11.55**	**31**	P	**Pn**	**07 51 34.6**	**+1.5**
	baz=12						
LAZ	**Ladron**	**11.59**	**3**	*e*Pn	**Pn**	**07 51 34.3**	**+0.6**
	58nm,1.5s						
333A	**Richland Sprin**	**11.66**	**41**	P	**Pn**	**07 51 36.1**	**+1.6**
	baz=12,SNR=8.3						
232A	**Coleman**	**11.68**	**37**	P	**Pn**	**07 51 36.3**	**+1.5**
	baz=12						
535A	**Dale**	**11.76**	**50**	P	**Pn**	**07 51 36.8**	**+0.9**
	baz=12						
434A	**Burnet**	**11.77**	**45**	P	**Pn**	**07 51 38.0**	**+2.0**
	baz=12,SNR=11						
Z29A	**Hungry Hill Ra**	**11.79**	**27**	P	**Pn**	**07 51 38.1**	**+1.8**
	baz=12,SNR=17						
636A	**Smothers Creek**	**11.83**	**54**	P	**Pn**	**07 51 38.2**	**+1.4**
	baz=12						
GLA	**Glamis**	**11.88**	**331**	P	**Pn**	**07 51 38.7**	**+1.2**
	baz=12,SNR=30						
GLA	**Glamis**	**11.88**	**331**	*e*Pn	**Pn**	**07 51 37.8**	**+0.3**
	291nm,1.4s						
131A	**Roby**	**11.90**	**33**	P	**Pn**	**07 51 39.4**	**+1.6**
	baz=12						
737A	**Port Lavaca**	**11.95**	**58**	P	**Pn**	**07 51 39.7**	**+1.3**
	baz=12						
MSTX	**Muleshoe**	**12.03**	**21**	P	**Pn**	**07 51 41.3**	**+1.7**
	baz=12,SNR=9.9						
Z30A	**Sanderson Ranc**	**12.06**	**28**	P	**Pn**	**07 51 41.8**	**+1.9**
	baz=12						
334A	**Lometa**	**12.13**	**43**	P	**Pn**	**07 51 42.4**	**+1.5**
	baz=12,SNR=6.9						
Y28A	**McKinney Farm,**	**12.15**	**23**	P	**Pn**	**07 51 42.9**	**+1.6**
	baz=12						
ANMO	**Albuquerque**	**12.18**	**6**	Pn	**Pn**	**07 51 42.3**	**+0.6**
	0.3nm,0.3s,baz=188,slow=12,SNR=53						
ANMO				Lg	Lg	07 55 10.9	
	0.1nm,0.3s,baz=274,slow=15,SNR=4.3						
ANMO				LR	LR	07 56 05.1	
	comp=Z,1μm,21.6s,baz=192,slow=36						
233A	**Rising Star**	**12.20**	**39**	P	**Pn**	**07 51 43.4**	**+1.4**
	baz=12,SNR=7.0						
435B	**Jarrell**	**12.20**	**47**	P	**Pn**	**07 51 43.8**	**+1.9**
	baz=12						
ABTX	**Abilene, Hawle**	**12.24**	**35**	P	**Pn**	**07 51 43.7**	**+1.2**
	baz=12						
ABTX	**Abilene, Hawle**	**12.24**	**35**	*e*Pn	**Pn**	**07 51 44.2**	**+1.7**
ABTX				*e*Sn	**Sn**	**07 53 55.7**	**-3.3**
SWSC	**Sam W. Stewart**	**12.25**	**327**	P	**Pn**	**07 51 43.8**	**+1.2**
	baz=12,SNR=5.3						
Y29A	**Porterfield Fa**	**12.33**	**25**	P	**Pn**	**07 51 45.3**	**+1.6**
	baz=12						
Y12C	**Blythe**	**12.35**	**334**	P	**Pn**	**07 51 45.1**	**+1.3**
	baz=12,SNR=68						
637A	**Eagle Lake**	**12.36**	**55**	P	**Pn**	**07 51 45.5**	**+1.5**
	baz=12						
W18A	**Petrified Fore**	**12.38**	**353**	P	**Pn**	**07 51 46.0**	**+1.5**
	baz=12,SNR=17						
W18A	**Petrified Fore**	**12.38**	**353**	*e*Pn	**Pn**	**07 51 45.5**	**+1.1**
	168nm,1.6s						
BAR	**Barrett**	**12.50**	**324**	*e*Pn	**Pn**	**07 51 46.5**	**+0.4**
MONP	**Monument Peak,**	**12.53**	**325**	P	**Pn**	**07 51 47.1**	**+0.5**
	baz=13,SNR=17						
Z31A	**Sharp Cattle R**	**12.54**	**32**	P	**Pn**	**07 51 48.0**	**+1.4**
	baz=13						
335A	**Moody**	**12.62**	**46**	P	**Pn**	**07 51 49.4**	**+1.8**
	baz=13,SNR=7.8						
133A	**Hamilton Ranch**	**12.63**	**37**	P	**Pn**	**07 51 49.8**	**+2.1**
	baz=13						
234A	**Clairette**	**12.65**	**41**	P	**Pn**	**07 51 49.7**	**+1.6**
	baz=13,SNR=7.0						
Y30A	**Stafford Cattl**	**12.66**	**28**	P	**Pn**	**07 51 50.0**	**+1.8**
	baz=13						
BC3	**Big Chuckawall**	**12.67**	**330**	P	**Pn**	**07 51 49.4**	**+1.0**
	baz=13,SNR=53						
PDMCI	**Parker Dam,Lak**	**12.68**	**336**	P	**Pn**	**07 51 49.6**	**+1.2**
	baz=13,SNR=34						
537A	**Green Hill Far**	**12.70**	**53**	P	**Pn**	**07 51 50.2**	**+1.5**
	baz=13						
X28A	**Dimmitt**	**12.72**	**22**	P	**Pn**	**07 51 50.0**	**+0.9**
	baz=13						
436A	**Wall Ranch, Ga**	**12.74**	**49**	P	**Pn**	**07 51 50.2**	**+1.0**
	baz=13						
X29A	**Tulia**	**12.83**	**24**	P	**Pn**	**07 51 51.7**	**+1.1**
	baz=13						
Z32A	**Haskell**	**12.86**	**34**	P	**Pn**	**07 51 52.5**	**+1.5**
	baz=13						
109C	**Camp Elliot, M**	**12.90**	**323**	P	**Pn**	**07 51 51.8**	**+0.4**
	baz=13						
IRM	**Iron Mountain**	**12.96**	**332**	P	**Pn**	**07 51 53.3**	**+1.0**
	baz=13,SNR=119						
Y31A	**Rekieta Farm,**	**13.02**	**30**	P	**Pn**	**07 51 54.9**

AMTX **Amarillo** 13.23 23 *e*Pn Pn 07 51 56.5 +0.4
NEE2 **Needles Airpor** 13.28 335 P Pn 07 51 57.8 +1.3
baz=13,SNR=5.4
Y32A **R-V Farms, Ver** 13.44 32 P Pn 07 51 59.7 +1.0
baz=14
W29A **Amarillo** 13.46 23 P Pn 07 52 00.0 +0.9
baz=14
135A **Vickery Place,** 13.47 42 P Pn 07 52 00.4 +1.1
baz=14
MURC **Murrieta** 13.49 325 P Pn 07 52 00.2 +0.6
baz=14
CMIG **Matias Romero** 13.53 112 Pn Pn 07 52 03.0 +2.8
0.5nm,0.3s,baz=292,slow=11,SNR=7.8
CMIG LR LR 07 57 12.2
comp=Z,2µm,20.6s,baz=273,slow=37
V27A **Dan Oppiter Fa** 13.66 18 P Pn 07 52 03.9 +2.0
baz=14
236A **Katherine and** 13.66 45 P Pn 07 52 03.3 +1.4
baz=14
438A **Sam Houston St** 13.67 52 P Pn 07 52 03.0 +1.1
baz=14
337A **Centerville** 13.69 49 P Pn 07 52 03.6 +1.4
baz=14
X31A **McDonald Ranch** 13.70 29 P Pn 07 52 03.6 +1.2
baz=14,SNR=22
GMRC **Granite Mounta** 13.71 332 P Pn 07 52 03.8 +1.2
baz=14,SNR=33
Z34A **Collier Ranch,** 13.76 38 P Pn 07 52 04.9 +1.8
baz=14
V28A **Channing** 13.84 20 P Pn 07 52 05.1 +0.8
baz=14
X32A **Elmer** 13.85 31 P Pn 07 52 06.2 +1.7
baz=14
Y33A **Hilltop Ranch,** 13.85 34 P Pn 07 52 06.5 +2.1
baz=14
BBRC **Big Bear Solar** 13.87 327 P Pn 07 52 04.3 -0.6
baz=14,SNR=11
539A **Cross D Ranch,** 13.90 56 P Pn 07 52 05.5 +0.4
baz=14
W30A **Crocket Farms** 13.92 26 P Pn 07 52 06.4 +1.0
baz=14
136A **Ennis** 13.97 44 P Pn 07 52 06.6 +0.6
baz=14
CIS **Catalina Islan** 14.02 321 P Pn 07 52 06.8 +0.1
baz=14
HEC **Hector,Ludlow** 14.05 330 P Pn 07 52 07.4 +0.2
baz=14,SNR=13
Z35A **Perchaven, San** 14.11 40 P Pn 07 52 08.7 +0.8
baz=14
338A **Crockett** 14.12 50 P Pn 07 52 09.1 +1.1
baz=14
237A **Washetta, Mont** 14.15 47 P Pn 07 52 09.1 +0.6
baz=14
FMP **Fort Macarthur** 14.18 322 P Pn 07 52 08.2 -0.6
baz=14
V29A **Stinnett** 14.18 22 P Pn 07 52 10.0 +1.0
baz=14
W31A **Holland Ranch,** 14.19 28 P Pn 07 52 10.2 +1.1
baz=14,SNR=15
BFSC **Mount Baldy Ra** 14.23 325 P Pn 07 52 09.5 -0.2
baz=14
Y34A **Reagan Ranch,** 14.28 37 P Pn 07 52 11.1 +0.9
baz=14
U27A **Thompson Grove** 14.29 17 P Pn 07 52 12.2 +1.7
baz=14
X33A **Lawton** 14.33 33 P Pn 07 52 11.9 +0.9
baz=14
WMOK **Wichita Mounta** 14.35 32 *e*Pn Pn 07 52 09.6 -1.7
MVCO **Mesa Verde** 14.37 358 P Pn 07 52 13.2 +1.4
baz=14,SNR=39
MVCO **Mesa Verde** 14.37 358 *e*Pn Pn 07 52 13.1 +1.4
TUQ **Turquoise Moun** 14.38 333 P Pn 07 52 12.3 +0.5
baz=14,SNR=24
RRX **Edison Barstow** 14.40 329 P Pn 07 52 12.6 +0.6
baz=14,SNR=8.5
U28A **Mallet** 14.42 19 P Pn 07 52 13.4 +1.1
baz=14
MWC **Mount Wilson** 14.43 324 *e*Pn Pn 07 52 12.9 +0.4
65nm,1.4s
W32A **Sentinel** 14.45 30 P Pn 07 52 14.5 +1.9
baz=15,SNR=6.9
540A **Vidor** 14.52 57 P Pn 07 52 14.0 +0.4
baz=15
137A **Heron Place, G** 14.55 45 P Pn 07 52 14.9 +0.9
baz=15
Z36A **Blue Ridge** 14.56 42 P Pn 07 52 14.9 +0.8
baz=15
DECC **Green Verdugo** 14.60 324 P Pn 07 52 15.5 +0.9
baz=15
238A **Jacksonville** 14.62 48 P Pn 07 52 16.4 +1.4
baz=15
T25A **Trinidad** 14.62 11 P Pn 07 52 16.9 +1.8
baz=15,SNR=36
339A **Huntington** 14.64 52 P Pn 07 52 16.2 +1.0
baz=15
Y35A **Marietta** 14.64 39 P Pn 07 52 17.1 +1.8
baz=15
GSC **Goldstone, Bar** 14.66 330 P Pn 07 52 16.2 +0.7
baz=15,SNR=26
GSC **Goldstone, Bar** 14.66 330 *e*Pn Pn 07 52 16.1 +0.5
X34A **Smith Ranch, M** 14.72 35 P Pn 07 52 18.3 +1.9
baz=15
V31A **Spring Creek L** 14.73 27 P Pn 07 52 17.9 +1.4
baz=15
440A **Kirbyville** 14.79 55 P Pn 07 52 17.9 +0.7
baz=15
NATX **Nacogdoches** 14.80 50 P Pn 07 52 18.0 +0.6
baz=15
NATX **Nacogdoches** 14.80 50 *e*Pn Pn 07 52 17.1 -0.3
T26A **Comanche Natio** 14.82 14 P Pn 07 52 19.4 +1.6
baz=15,SNR=16
W33A **Caddo, Fort Co** 14.84 32 P Pn 07 52 19.9 +2.0
baz=15
EDW2 **Edwards Air Fo** 14.90 326 P Pn 07 52 19.5 +0.7
baz=15,SNR=12
T27A **Campo** 14.92 16 P Pn 07 52 20.5 +1.4
baz=15
SHOC **Shoshone, Teco** 14.93 333 P Pn 07 52 20.4 +1.2
baz=15,SNR=12
S22A **4UR Ranch, Cre** 14.93 3 P Pn 07 52 21.5 +2.1
baz=15,SNR=38
Z37A **Pogue Cattle C** 15.02 44 P Pn 07 52 21.9 +1.5
baz=15
SHPR **Sheep Range** 15.02 337 *e*Pn Pn 07 52 21.4 +0.9
138A **Matatall Enter** 15.03 46 P Pn 07 52 21.8 +1.3
baz=15
V32A **Arapaho** 15.03 29 P Pn 07 52 21.7 +1.2
baz=15
X35A **Drake** 15.04 37 P Pn 07 52 21.7 +1.1
baz=15
SDCO **Great Sand Dun** 15.05 8 P Pn 07 52 22.6 +1.7
baz=15,SNR=14
SDCO **Great Sand Dun** 15.05 8 *e*Pn Pn 07 52 23.2 +2.2
74nm,1.3s
U30A **WK&E Inc. Balk** 15.08 23 P Pn 07 52 22.4 +1.2
baz=15
239A **Gary** 15.08 50 P Pn 07 52 22.5 +1.3
baz=15
OSI **Osito Audit: C** 15.08 324 P Pn 07 52 21.4 +0.1
baz=15
Y36A **Durant** 15.08 40 P Pn 07 52 21.8 +0.6
baz=15
BSC **Santa Cruz Isl** 15.15 320 P Pn 07 52 23.0 +0.8
baz=15
340A **Bronson** 15.17 53 P Pn 07 52 23.7 +1.3
baz=15
LRMC **Laurel Mtn Rad** 15.22 328 P Pn 07 52 23.5 +0.4
baz=15,SNR=38
U31A **Nine Bar Ranch** 15.24 26 P Pn 07 52 23.9 +0.5
baz=15
W34A **Bridge Creek,** 15.25 33 P Pn 07 52 23.8 +0.4
baz=15
W34A **Bridge Creek,** 15.25 33 *e*Pn Pn 07 52 22.3 -1.1
23nm,1.1s
PV01 **Paradox Valley** 15.30 358 *e*Pn Pn 07 52 24.8 +0.5
5µm,1.3s
T29A **Hugoton** 15.42 20 P Pn 07 52 26.5 +0.8
baz=16
CCUT **Cedar City** 15.43 344 *e*Pn Pn 07 52 27.5 +1.6
158nm,1.6s
R23A **Moffat** 15.45 6 P Pn 07 52 28.4 +2.0
baz=16
S27A **Las Animas** 15.46 15 P Pn 07 52 27.0 +0.6
baz=16
V33A **Lossen Ranch,** 15.46 31 P Pn 07 52 26.8 +0.6
baz=16
Z38A **Mt. Pleasant** 15.46 45 P Pn 07 52 26.6 +0.4
baz=16

139A **Bunkhouse Ranc** 15.51 48 P Pn 07 52 27.1 +0.3
baz=16
SBC **Santa Barbara** 15.52 321 P Pn 07 52 26.4 -0.5
baz=16
X36A **Centrahoma** 15.52 38 P Pn 07 52 26.9 0.0
baz=16,SNR=7.7
ARVC **Arvin** 15.53 325 P Pn 07 52 26.9 -0.2
baz=16,SNR=9.1
Y37A **Hugo** 15.54 42 P Pn 07 52 27.6 +0.4
baz=16
PV04 **Paradox Valley** 15.57 357 *e*Pn Pn 07 52 28.4 +0.6
MPMC **Manual Prospec** 15.60 330 P Pn 07 52 28.5 +0.4
baz=16,SNR=48
U32A **Winter Ranch,** 15.60 28 P Pn 07 52 29.5 +1.4
baz=16
S28A **Manter** 15.64 18 P Pn 07 52 29.6 +1.0
baz=16
W35A **Tecumseh** 15.65 36 P Pn 07 52 29.5 +0.8
baz=16
FURC **Furnace Creek,** 15.66 332 P Pn 07 52 29.2 +0.4
baz=16,SNR=27
ISA **Isabella, Lake** 15.75 327 P Pn 07 52 30.0 -0.1
baz=16,SNR=10
ISA **Isabella, Lake** 15.75 327 *e*Pn Pn 07 52 30.0 -0.1
41nm,1.4s
TPNV **Topopah Spring** 15.82 335 P Pn 07 52 32.2 +1.2
baz=16,SNR=42
DAC **Darwin (Calif)** 15.82 330 *e*Pn Pn 07 52 31.5 +0.4
74nm,1.2s
V34A **Guthrie** 15.85 33 P Pn 07 52 30.9 -0.3
baz=16,SNR=8.5
V34A **Guthrie** 15.85 33 *e*P P 07 52 36.1 +1.2
38nm,1.0s
PKM **Mcpherson Peak** 15.90 322 P Pn 07 52 32.4 +0.3
baz=16
S29A **Ulysses** 15.90 20 P Pn 07 52 32.8 +0.8
baz=16
R26A **Arlington** 15.93 13 P Pn 07 52 33.9 +1.5
baz=16,SNR=18
Z39A **Irene McRaven,** 15.99 46 P P 07 52 35.0 -1.5
baz=16
W36A **Wetumka** 16.00 37 P Pn 07 52 33.8 +0.6
baz=16
U33A **Lingo Farm, Me** 16.04 30 P Pn 07 52 35.2 +1.5
baz=16
Y38A **Idabel** 16.06 43 P Pn 07 52 34.6 +0.7
baz=16
R27A **Eads** 16.06 15 P Pn 07 52 35.5 +1.4
baz=16,SNR=43
MVU **Marysvale** 16.07 348 *e*Pn Pn 07 52 35.3 +1.0
87nm,1.3s
MSU **Marysvale** 16.08 348 *e*Pn Pn 07 52 35.5 +1.2
67nm,1.5s
X37A **Clayton** 16.10 40 P Pn 07 52 34.4 -0.1
baz=16,SNR=7.0
V35A **Meyer Ranch, C** 16.14 34 P P 07 52 37.2 -1.0
baz=16
S30A **Montezuma** 16.14 22 P Pn 07 52 35.9 +0.9
baz=16
Q23A **Hartsel** 16.16 6 P P 07 52 38.3 -0.5
baz=16
CWC **Cottonwood Cre** 16.18 329 P Pn 07 52 36.5 +0.9
baz=16,SNR=8.7
VES **Vestal, Richgr** 16.20 326 P Pn 07 52 36.6 +0.8
baz=16,SNR=18
Q24A **Divide** 16.29 8 P P 07 52 39.2 -1.0
baz=16,SNR=15
SMMC **Simmler** 16.30 323 P Pn 07 52 37.9 +0.8
baz=16
T32A **Huddler Ranch,** 16.32 27 P Pn 07 52 38.1 +0.9
baz=16
U34A **Anderson Ranch** 16.32 31 P Pn 07 52 37.1 -0.2
baz=16,SNR=5.3
U34A **Anderson Ranch** 16.32 31 *e*P P 07 52 42.1 +1.9
54nm,1.2s
GRAC **Grapevine Rang** 16.32 332 P P 07 52 38.8 -1.5
baz=16,SNR=18
SMCO **Snowmass** 16.35 3 *e*Pn P 07 52 39.8 -1.2
533nm,2.5s
R28A **Tribune** 16.36 17 P Pn 07 52 38.7 +0.7
baz=16,SNR=19
SRU **San Rafael Swe** 16.41 353 *e*Pn Pn 07 52 39.6 +1.0
386nm,2.7s
W37A **Quinton** 16.45 39 P P 07 52 41.9 +0.1
baz=17,SNR=8.7
Y39A **Lockesburg** 16.47 45 P Pn 07 52 39.5 +0.3
baz=17
S31A **Mullinville** 16.47 24 P P 07 52 42.0 0.0
baz=17
X38A **Whitesboro** 16.49 41 P Pn 07 52 40.2 +0.8
baz=17
Q26A **Hugo** 16.52 12 P P 07 52 42.7 +0.1
baz=17,SNR=9.2
T33A **Patterson Ranc** 16.52 28 P P 07 52 42.0 -0.5
baz=17,SNR=6.9
P23A **Jefferson** 16.62 6 P P 07 52 44.1 +0.2
baz=17,SNR=53
V36A **Jenks** 16.63 36 P P 07 52 42.8 -0.9
baz=17
R29A **Marienthal** 16.64 19 P P 07 52 44.1 +0.3
baz=17
RCTC **Rector, Farmer** 16.65 327 P Pn 07 52 42.2 +0.8
baz=17,SNR=26
TMUT **Trail Mountain** 16.68 351 *e*P P 07 52 43.5 -1.0
447nm,2.0s
TIN **Tinemaha, Big** 16.75 330 P P 07 52 44.5 -0.6
baz=17
S32A **Newby Ranch, P** 16.76 26 P P 07 52 45.1 0.0
baz=17
P22A **Eagle** 16.78 3 P P 07 52 45.8 +0.3
baz=17,SNR=20
R30A **Dighton** 16.78 21 P P 07 52 45.1 -0.4
baz=17
KSCO **Kaye Shedlock'** 16.79 15 P P 07 52 45.4 -0.2
baz=17,SNR=7.5
KSCO **Kaye Shedlock'** 16.79 15 *e*Pn P 07 52 44.7 -0.9
293nm,1.8s
TUL1 **Leonard** 16.81 36 P Pn 07 52 44.3 +0.8
baz=17
TUL1 **Leonard** 16.81 36 *e*Pn Pn 07 52 42.9 -0.6
27nm,1.3s
R11A **Troy Canyon, C** 16.82 339 P P 07 52 45.1 -0.9
baz=17,SNR=22
R11A **Troy Canyon, C** 16.82 339 *e*Pn Pn 07 52 44.3 +0.5
49nm,1.4s
W38A **Poteau** 16.94 41 P P 07 52 47.8 +0.6
baz=17,SNR=11
T34A **Mcaskey Farm** 16.95 31 P P 07 52 47.1 -0.2
baz=17,SNR=5.6
Q28A **Sharon Springs** 17.04 16 P P 07 52 47.5 -0.7
baz=17
R31A **Burdett** 17.05 23 P P 07 52 49.1 +0.8
baz=17,SNR=6.3
S33A **Kaszmaul Farm,** 17.05 28 P P 07 52 49.8 +1.4
baz=17
ISCO **Idaho Springs** 17.07 6 P P 07 52 49.1 +0.3
baz=17,SNR=64
ISCO **Idaho Springs** 17.07 6 *e*Pn P 07 52 48.8 0.0
221nm,1.7s
Q29A **Oakley** 17.11 19 P P 07 52 49.0 -0.1
baz=17,SNR=6.3
V37A **Hulbert** 17.15 38 P Pn 07 52 48.3 +0.6
baz=17
P26A **Davis Ranch, A** 17.16 12 P P 07 52 49.5 -0.2
baz=17,SNR=16
TPH **Tonopah** 17.18 335 *e*P P 07 52 49.3 -0.7
183nm,1.7s
MIAR **Mount Ida** 17.19 44 *e*Pn Pn 07 52 49.0 +0.7
38nm,1.6s
T35A **Sooner Cattle** 17.20 33 P Pn 07 52 48.9 +0.5
baz=17
O20A **White River Ci** 17.29 359 P P 07 52 51.6 +0.5
baz=17,SNR=28
O20A **White River Ci** 17.29 359 *e*P P 07 52 51.6 +0.5
72nm,1.1s
P27A **Ficken Ranch,** 17.32 14 P P 07 52 51.5 0.0
baz=17,SNR=15
O22A **Kremmling** 17.35 4 P P 07 52 52.6 +0.6
baz=18,SNR=28
Q30A **Quinter** 17.43 21 P P 07 52 53.0 +0.4
baz=18
MPU **Maple Canyon** 17.45 351 *e*P P 07 52 53.1 +0.2
196nm,1.5s
O23A **Lake Granby, G** 17.45 5 P P 07 52 54.3 +1.3
baz=18,SNR=33
NLU **North Lily Min** 17.46 349 *e*P P 07 52 53.1 0.0
68nm,1.6s
R32A **Long Quarter,** 17.47 25 P Pn 07 52 52.3 +0.4
baz=18
MLAC **Mammoth, Mammo** 17.50 330 P P 07 52 53.7 +0.1
baz=18,SNR=8.8
P28A **Saint Francis** 17.54 16 P P 07 52 54.6 +0.8
baz=18
S34A **Willow Spring** 17.54 30 P P 07 52 54.5 +0.7
baz=18
T36A **Boggs Farm, Ca** 17.63 34 P Pn 07 52 53.8 +0.1
baz=18,SNR=6.2
Q31A **Ellis** 17.73 22 P P 07 52 57.2 +1.4
baz=18
P29A **Atwood** 17.79 18 P P 07 52 57.6 +1.1
baz=18,SNR=5.7
DUG **Dugway, Tooele** 17.83 348 P P 07 52 57.8 +0.8
baz=18,SNR=28
DUG **Dugway, Tooele** 17.83 348 *e*P P 07 52 57.6 +0.5
464nm,2.8s
O26A **Horse Wrangler** 17.83 12 P P 07 52 57.5 +0.5
baz=18
S35A **Otter Creek Ra** 17.90 31 P P 07 52 58.3 +0.6
baz=18
NVAR **Mina Array Bea** 17.93 333 P P 07 52 58.1 -0.2
baz=151,slow=11
P30A **Selden** 17.94 20 P P 07 52 59.6 +1.4
baz=18
O27A **Beecher Island** 17.95 14 P P 07 52 59.1 +0.8
baz=18
JLU **Jordanelle** 18.00 351 *e*Pn P 07 52 59.2 +0.2
128nm,1.6s
Q32A **Meitler Ranch,** 18.02 24 P P 07 53 00.1 +1.0
baz=18
O28A **Krutsinger Ran** 18.05 15 P P 07 53 00.7 +1.2
baz=18,SNR=14
N23A **Red Feather La** 18.12 5 P P 07 53 01.7 +1.2
baz=18,SNR=15
CTU **Camp Tracy** 18.13 351 *e*Pn P 07 53 00.7 +0.3
85nm,1.4s
T37A **Cheneyville 18** 18.18 35 P P 07 53 01.2 +0.4
baz=18
P31A **Stockton** 18.20 22 P P 07 53 01.6 +0.6
baz=18
S36A **Lake Cedric, C** 18.29 33 P P 07 53 02.3 +0.3
baz=18
Q33A **Connelly Farm,** 18.32 26 P P 07 53 03.4 +1.1
baz=18
N26A **Koester Ranch,** 18.42 11 P Pn 07 53 04.9 +1.4
baz=18
WAKR **Walker** 18.49 330 *e*Pn Pn 07 53 05.3 +0.8
TEIG **Tepich** 18.49 94 P Pn 07 53 05.2 +0.8
0.4nm,0.3s,baz=288,slow=18,SNR=3.5
TEIG LR LR 08 01 18.4
comp=Z,552nm,19.4s,baz=280,slow=40
TCUT **Toone Canyon** 18.50 352 *e*P Pn 07 53 05.4 +0.7
75nm,1.2s
N27A **Anderson Farm,** 18.53 13 P Pn 07 53 06.1 +1.2
baz=19
CMB **Columbia Colle** 18.56 328 *e*P P 07 53 05.0 -0.1
25nm,1.3s
P32A **Huiting Farm,** 18.56 23 P Pn 07 53 06.2 +1.0
baz=19
PHWY **Pilot Hill** 18.57 6 *e*Pn Pn 07 53 08.0 +2.4
65nm,1.8s
BGU **Big Grassy Mou** 18.57 348 *e*P Pn 07 53 05.4 -0.1
138nm,1.5s
Q34A **Chapman** 18.62 28 P Pn 07 53 07.3 +1.4
baz=19
N28A **Pribbeno Ranch** 18.64 15 P Pn 07 53 07.4 +1.1
baz=19,SNR=6.2
P33A **Williams Farm,** 18.75 25 P P 07 53 08.4 +0.9
baz=19
OGNE **Ogallala** 18.77 14 P Pn 07 53 08.3 +0.4
baz=19
O31A **Woolen Ranch,** 18.78 21 P Pn 07 53 08.2 +0.3
baz=19
R36A **Gordon, Harris** 18.80 32 P Pn 07 53 08.5 +0.4
baz=19
RWWY **Rawlins** 18.85 2 *e*Pn Pn 07 53 11.6 +2.7
319nm,2.0s
M25A **Palm-Egli Farm** 18.87 9 P Pn 07 53 09.6 +0.6
baz=19,SNR=6.6
KSU1 **Kansas State U** 18.91 28 P Pn 07 53 10.0 +0.6
baz=19
KSU1 **Kansas State U** 18.91 28 *e*P P 07 53 06.3 -2.5
74nm,1.6s
ELK **Elko** 18.92 343 P Pn 07 53 09.7 -0.1
0.1nm,0.3s,baz=175,slow=8.6,SNR=39
ELK LR LR 08 00 16.2
comp=Z,1µm,19.9s,baz=168,slow=36
ELK **Elko** 18.92 343 *e*P P 07 53 09.2 0.0
24nm,1.1s
Q35A **Mercer Eighty,** 18.97 30 P Pn 07 53 11.3 +1.1
baz=19
HWUT **Hardware Ranch** 19.00 352 *e*P P 07 53 09.9 -0.1
367nm,2.3s
R37A **Teagarden Farm** 19.12 33 P Pn 07 53 14.2 +2.2
baz=19
N30A **Hueftle Ranch,** 19.13 18 P Pn 07 53 14.2 +2.0
baz=19
P34A **Walnut Farm, R** 19.19 27 P Pn 07 53 14.6 +1.7
baz=19
O32A **Brockman Farm,** 19.24 23 P Pn 07 53 15.3 +1.8
baz=19
BMN **Battle Mountai** 19.25 338 *e*P Pn 07 53 13.4 -0.3
44nm,1.3s
M27A **Reverse DX Ran** 19.25 13 P Pn 07 53 16.3 +2.6
baz=19
Q36A **Arnold C. Orve** 19.32 31 P Pn 07 53 16.0 +1.6
baz=19
O33A **Hebron** 19.34 25 P Pn 07 53 15.5 +0.9
baz=20
M28A **Bar X Bar Ranc** 19.35 15 P Pn 07 53 16.6 +1.8
baz=20
HVU **Hansel Valley** 19.36 349 *e*P Pn 07 53 14.6 -0.3
P35A **Duane Minner,** 19.52 29 P Pn 07 53 17.5 +0.6
baz=20
M29A **Burnside Ranch** 19.57 16 P Pn 07 53 18.3 +0.8
baz=20
L25A **Engebretsen Ra** 19.59 9 P Pn 07 53 18.4 +0.7
baz=20
L26A **Underwood Farm** 19.61 11 P Pn 07 53 18.6 +0.7
baz=20
N32A **Stulken Farm,** 19.68 22 P Pn 07 53 20.5 +1.8
baz=20
Q37A **Longview Farm,** 19.74 33 P Pn 07 53 22.2 +2.7
baz=20
O34A **Beatrice** 19.78 26 P P 07 53 18.8 +0.4
baz=20
K22A **Casper** 19.84 3 P P 07 53 19.8 +0.7
baz=20,SNR=28
K22A **Casper** 19.84 3 *e*P P 07 53 19.8 +0.7
330nm,1.9s
M30A **Dale-Ortello V** 19.88 18 P Pn 07 53 20.7 -0.4
baz=20
PDAR **Pinedale Array** 19.96 357 P P 07 53 19.9 -0.6
0.1nm,0.3s,baz=163,slow=8.1,SNR=36
PDAR LR LR 08 01 01.7
comp=Z,862nm,18.1s,baz=184,slow=37
P36A **Good Intent, A** 19.97 30 P Pn 07 53 22.0 -0.1
baz=20
OXF **Oxford** 19.99 50 *e*P Pn 07 53 21.8 -0.6
29nm,1.0s
K23A **Bowen Ranch, D** 20.00 5 P P 07 53 21.6 +0.7
baz=20,SNR=7.3
K24A **Anderson Ranch** 20.04 7 P Pn 07 53 22.4 -0.8
baz=20
K25A **Mack Ranch, Ha** 20.05 9 P Pn 07 53 22.5 -0.8
baz=20
AHID **Auburn Hatcher** 20.09 353 *e*P P 07 53 22.1 +0.2
9.0nm,0.4s
O35A **Humboldt** 20.18 28 P Pn 07 53 24.7 +0.1
baz=20
L29A **Maesberg Ranch** 20.20 16 P Pn 07 53 24.8 -0.1
baz=20
K26A **Motz Farm, Whi** 20.25 10 P P 07 53 24.2 +0.7
baz=20
BGNE **Belgrade** 20.30 22 P Pn 07 53 28.7 +2.6
baz=20
BGNE **Belgrade** 20.30 22 *e*Pn Pn 07 53 28.2 +2.1
64nm,1.1s
L30A **Spencer Herefo** 20.30 18 P Pn 07 53 26.7 +0.6
baz=20
K27A **Flueckinger Fa** 20.41 12 P P 07 53 26.3 +1.0
baz=20,SNR=7.8
N34A **Lincoln** 20.42 26 P Pn 07 53 28.5 +1.1
baz=20
J19A **Crowheart** 20.43 358 P P 07 53 26.2 +0.6
baz=20,SNR=40
O36A **Bolckow** 20.49 29 P Pn 07 53 27.5 -0.7

baz=21
J21A Lysite 20.50 1 P P 07 53 27.4 +1.1
baz=21,SNR=11
J20A Shoshoni 20.50 360 P Pn 07 53 27.7 -0.8
baz=21
PBMO Poplar Bluff 20.58 43 eP Pn 07 53 28.2 -1.1
60nm,1.6s
J22A Midwest 20.60 3 P P 07 53 27.7 +0.3
baz=21,SNR=34
K28A Ten Mile Ranch 20.61 14 P Pn 07 53 28.9 -0.8
baz=21,SNR=10
J23A Dilts Ranch, B 20.65 5 P P 07 53 28.8 +0.9
baz=21
J24A Dixon Ranch, L 20.66 7 P P 07 53 29.1 +1.1
baz=21
SNOW Snow King Moun 20.74 354 eP P 07 53 29.1 +0.1
274nm,1.9s
TPAW Teton Pass 20.79 354 eP P 07 53 30.1 +0.5
96nm,1.5s
N35A Tabor 20.79 27 P Pn 07 53 31.7 0.0
baz=21
J25A Sunshine Ranch 20.82 9 P P 07 53 30.6 +0.8
baz=21
J26A Sides Ranch, S 20.86 10 P P 07 53 31.2 +1.1
baz=21,SNR=12
LOHW Long Hollow 20.88 355 eP P 07 53 30.6 +0.2
94nm,1.3s
K29A Lazy Trails An 20.90 16 P Pn 07 53 33.8 +0.7
baz=21
FXWY Fox Creek 20.94 354 eP P 07 53 31.5 +0.3
74nm,1.4s
M34A Aspy Farms, Fr 20.95 24 P Pn 07 53 34.3 +0.7
baz=21
I21A Big Trails, Te 20.97 1 P P 07 53 31.3 -0.1
baz=21,SNR=20
J27A Elkhorn Farm, 20.99 12 P P 07 53 32.6 +1.1
baz=21,SNR=12
K30A Basset 21.00 17 P P 07 53 33.3 +1.7
baz=21
MOOW Moose Ponds 21.02 354 eP P 07 53 32.1 +0.1
78nm,1.3s
I22A 9 Mile Ranch, 21.07 3 P P 07 53 33.7 +1.1
baz=21,SNR=12
I20A Worland 21.10 360 P P 07 53 33.7 +1.0
baz=21,SNR=52
LRAL Lakeview Retre 21.11 57 eP P 07 53 34.0 +1.2
94nm,1.8s
I24A Kuemmerle Ranc 21.19 7 P P 07 53 34.8 +1.1
baz=21
IMW Indian Meadow 21.19 354 eP P 07 53 34.2 +0.3
59nm,1.2s
I19A Meeteetse 21.20 358 P P 07 53 34.2 +0.2
baz=21,SNR=26
I23A Meade Ranch, G 21.21 5 P P 07 53 35.4 +1.4
baz=21
LBCM Butte Creek Ri 21.24 331 P P 07 53 34.9 +0.6
J28A Allard Ranch, 21.31 14 P P 07 53 36.4 +1.4
baz=21,SNR=24
FLWY Flagg Ranch 21.35 355 eP P 07 53 36.0 +0.4
237nm,1.7s
HLID Hailey 21.39 347 P P 07 53 36.5 +0.5
baz=22,SNR=30
HLID Hailey 21.39 347 eP P 07 53 36.3 +0.4
40nm,1.3s
L34A Svendsen Farm, 21.43 24 P P 07 53 37.7 +1.5
baz=22
I25A Rochford 21.45 8 P P 07 53 37.5 +0.9
baz=22,SNR=14
J29A Okreek 21.50 15 P P 07 53 38.5 +1.4
baz=22,SNR=20
RSSD Black Hills 21.51 8 eP P 07 53 37.5 +0.1
29nm,1.6s
WVOR Wild Horse Val 21.52 338 eP P 07 53 36.8 -0.5
128nm,1.6s
WVOR eS S 07 57 35.2 -0.6
MFID Camas Ranch 21.57 344 eP S 07 53 37.7 -0.2
23nm,1.1s
WDC Whiskeytown Da 21.59 329 eP P 07 53 37.4 -0.5
19nm,1.1s
I26A New Underwood 21.59 10 P P 07 53 39.7 +1.7
baz=22,SNR=7.4
H20A Greybull 21.64 360 P P 07 53 38.6 +0.1
baz=22,SNR=20
J30A Dallas 21.64 17 P P 07 53 40.6 +2.1
baz=22
H17A Grant Village 21.65 355 P P 07 53 40.4 +1.6
baz=22
YFT Old Faithful 21.73 354 eP P 07 53 41.0 +1.4
245nm,1.9s
I27A Quinn 21.77 12 P P 07 53 40.9 +1.1
baz=22,SNR=14
H22A Clearmont 21.78 3 P P 07 53 41.0 +0.9
baz=22,SNR=12
H21A Big Horn, Sher 21.79 2 P P 07 53 40.6 +0.5
baz=22
LKWY Lake 21.81 355 eP P 07 53 41.8 +1.3
62nm,1.3s
H23A Clabaugh Cattl 21.81 5 P P 07 53 41.8 +1.5
baz=22
H19A Powell 21.84 358 P P 07 53 41.3 +0.6
baz=22,SNR=34
I28A Midland 21.88 13 P P 07 53 42.6 +1.6
baz=22,SNR=10
L35A Bielow Farm, R 21.88 25 P P 07 53 43.2 +2.2
baz=22
SLM Saint Louis 21.88 40 eP P 07 53 41.4 +0.4
41nm,0.9s
SIUC Southern Illin 21.92 43 eP P 07 53 41.5 0.0
42nm,1.2s
WVT Waverly 21.93 48 eP P 07 53 41.8 +0.2
15nm,0.9s
YMR Madison River 21.96 354 eP P 07 53 42.4 +0.3
148nm,1.6s
N02D Trinity Center 21.97 329 P P 07 53 41.6 -0.5
baz=22
YNR Norris Junctio 21.98 355 eP P 07 53 48.0 +5.7
144nm,1.7s
H25A Fruitdale 22.06 8 P P 07 53 44.3 +1.3
baz=22,SNR=11
H24A Dirks Ranch, A 22.07 6 P P 07 53 43.9 +0.8
baz=22,SNR=9.7
I29A Vivian Onida 22.09 15 P P 07 53 44.6 +1.3
baz=22,SNR=9.7
QLMT Earthquake Lak 22.16 353 eP P 07 53 45.4 +1.1
10nm,1.4s
H26A Fairpoint 22.18 10 P P 07 53 45.5 +1.2
baz=22,SNR=18
M04C Macdoel 22.22 332 P P 07 53 44.9 0.0
baz=22,SNR=12
RLMT Red Lodge 22.30 358 P P 07 53 45.6 -0.1
baz=22,SNR=13
RLMT Red Lodge 22.30 358 eP P 07 53 43.5 -2.2
61nm,1.5s
H27A Howes 22.31 11 P P 07 53 47.0 +1.4
baz=22,SNR=22
MCMT McKenzie Canyo 22.34 351 eP P 07 53 46.9 +0.7
29nm,1.2s
G20A Bridger 22.37 360 P P 07 53 46.7 +0.3
baz=22,SNR=13
G21A Lodge Grass 22.38 1 P P 07 53 46.9 +0.4
baz=22,SNR=7.8
KHMM Horse Mountain 22.40 327 eP P 07 53 47.2 +0.5
102nm,1.4s
G22A Birney 22.41 3 P P 07 53 47.2 +0.5
baz=22,SNR=14
G23A Biddle 22.45 5 P P 07 53 47.9 +0.8
baz=23,SNR=6.6
YBH Yreka Blue Hor 22.57 330 P P 07 53 46.4 -2.1
3.6nm,1.0s,baz=119,slow=8.5,SNR=3.2
YBH LR LR 08 02 12.3
comp=Z,440nm,19.1s,baz=161,slow=36
K05A Summer Lake 22.61 335 eP P 07 53 49.4 +0.4
90nm,1.4s
G25A Newell 22.65 8 P P 07 53 50.4 +1.1
baz=23,SNR=6.9
G24A Alzada 22.66 6 P P 07 53 49.8 +0.4
baz=23,SNR=12
H29A Onida 22.68 14 P P 07 53 50.3 +0.7
baz=23
DLMT Dillon 22.83 352 eP P 07 53 51.8 +0.5
55nm,1.3s
G26A Maurine 22.86 10 P P 07 53 52.7 +1.1
baz=23,SNR=18
K04D Chiloquin, OR 22.87 333 P P 07 53 52.2 +0.5
baz=23
ECSD EROS Data Cent 22.89 21 P P 07 53 53.5 +1.7
baz=23,SNR=7.6
ECSD EROS Data Cent 22.89 21 eP P 07 53 53.4 +1.6
34nm,1.3s
F20A Billings 22.95 360 P P 07 53 52.5 0.0
baz=23,SNR=10
G28A Parade 22.96 13 P P 07 53 52.6 0.0
baz=23
F23A Volborg 22.96 5 P P 07 53 53.6 +1.0
baz=23,SNR=25
F22A Rosebud 22.97 3 P P 07 53 52.9 +0.3
baz=23
F21A Absaloka Mine, 22.98 1 P P 07 53 53.0 +0.2
baz=23
GCMT Greycliff 22.98 357 eP P 07 53 53.4 +0.5
BOZ Bozeman (W) 22.99 353 P P 07 53 53.6 +0.6
baz=23,SNR=25
BOZ Bozeman (W) 22.99 353 eP P 07 53 53.3 +0.3
67nm,1.4s
USIN University of 23.05 44 eP P 07 53 55.2 +1.6
89nm,1.1s
G27A Dupree 23.06 11 P P 07 53 54.1 +0.5
baz=23,SNR=15
F24A Ekalaka 23.17 6 P P 07 53 54.6 -0.1
baz=23,SNR=14
J05D Fort Rock, OR 23.21 335 P P 07 53 55.2 0.0
baz=23,SNR=10
OLIL Olney 23.23 42 eP P 07 53 56.8 +1.5
LRM Limekiln Ridge 23.26 352 eP P 07 53 55.7 -0.1
440nm,1.5s
LRM ePcP PcP 07 57 47.6 +4.1
I07A Izee 23.27 339 eP P 07 53 55.3 -0.5
G29A Hoven 23.29 14 P P 07 53 56.6 +0.7
baz=23
TIGA Tifton 23.29 63 P P 07 53 57.1 +1.0
baz=23,SNR=6.2
TIGA Tifton 23.29 63 eP P 07 53 56.9 +0.9
535nm,2.3s
BMO Blue Mountains 23.30 343 eP P 07 53 55.6 -0.5
223nm,2.3s
L02D Cave Junction, 23.32 330 P P 07 53 56.2 0.0
baz=23
F25A Bowman 23.36 8 P P 07 53 57.0 +0.4
baz=24
F26A Lodgepole 23.40 9 P P 07 53 57.4 +0.4
baz=24
G30A Faulkton 23.41 16 P P 07 53 57.9 +0.8
baz=24,SNR=8.7
F27A Lemmon 23.52 10 P P 07 53 58.4 +0.1
baz=24,SNR=10
J04D Umpqua Nationa 23.53 333 P P 07 53 58.6 +0.1
baz=24
E22A Miles City 23.64 3 P P 07 54 00.4 +0.9
baz=24
E21A Keefer Ranch, 23.70 2 P P 07 53 60.0 0.0
baz=24,SNR=8.4
HDIL Hopedale 23.70 37 eP P 07 54 00.7 +0.7
106nm,1.5s
F28A McLaughlin 23.72 12 P P 07 54 00.4 +0.2
baz=24
E23A Ismay 23.74 5 P P 07 54 00.8 +0.4
baz=24
LAO LASA Array 23.88 3 P P 07 54 01.7 0.0
baz=24,SNR=9.6
LAO LASA Array 23.88 3 eP P 07 54 01.6 -0.1
374nm,2.6s
E24A Baker 23.89 6 P P 07 54 01.8 -0.1
baz=24
F29A Eureka 23.91 14 P P 07 54 01.6 -0.4
baz=24
E25A Miller Ranch, 23.93 8 P P 07 54 01.8 -0.5
baz=24
CPCT Cooper Cave 23.97 53 eP P 07 54 03.4 +0.8
E26A Carlson Angus 24.03 9 P P 07 54 02.7 -0.5
baz=24
HRY Holter Researc 24.06 353 eP P 07 54 03.8 +0.2
75nm,1.5s
HRY ePcP PcP 07 57 45.5 +0.6
WCI Wyandotte Cave 24.10 45 eP P 07 54 04.1 +0.3
F30A Leola 24.11 15 P P 07 54 04.5 +0.7
baz=24
E27A Carson 24.14 11 P P 07 54 04.8 +0.7
baz=24,SNR=12
I05D Terrebonne, OR 24.14 336 P P 07 54 04.3 +0.1
baz=24
G08A Pilot Rock 24.17 341 eP P 07 54 04.8 +0.3
16nm,1.5s
D21A La Casita Ranch 24.23 2 P P 07 54 05.4 +0.5
baz=24,SNR=8.5
D22A Cohagen 24.34 3 P P 07 54 06.5 +0.5
baz=24,SNR=20
I03D Drain, OR 24.42 332 P P 07 54 06.8 +0.1
baz=24
D23A Lindsay 24.42 5 P P 07 54 06.8 +0.1
baz=24,SNR=12
CHMT Chamberlain Mo 24.44 351 eP P 07 54 06.2 -0.9
32nm,1.2s
D24A Glendive 24.44 6 P P 07 54 07.3 +0.4
baz=25
E28A Huff 24.44 12 P P 07 54 07.2 +0.3
baz=25
MSO Missoula 24.46 350 P P 07 54 06.7 -0.4
baz=25,SNR=16
MSO Missoula 24.46 350 eP P 07 54 06.9 -0.3
43nm,1.1s
BLO Bloomington 24.48 43 eP P 07 54 08.4 +1.1
CROR Criterion Ridg 24.57 337 P P 07 54 08.8 +0.7
D25A Fairfield 24.58 8 P P 07 54 09.7 +1.4
baz=25
D26A Manning 24.58 9 P P 07 54 08.3 +0.1
baz=25,SNR=22
VTHM Trough 24.59 338 P P 07 54 08.1 -0.2
TKL Tuckaleechee C 24.61 53 P P 07 54 09.1 +0.6
7.2nm,0.9s,baz=178,slow=4.6,SNR=9.8
TKL LR LR 08 03 16.0
comp=Z,809nm,21.1s,baz=252,slow=35
TKL Tuckaleechee C 24.61 53 P P 07 54 09.1 +0.6
25nm,1.1s
E29A Napoleon 24.65 14 P P 07 54 09.1 +0.3
baz=25
E30A Jud 24.76 15 P P 07 54 09.8 0.0
baz=25
SLMT Seeley Lake 24.79 351 eP P 07 54 09.8 -0.4
62nm,1.5s
D27A Center 24.80 11 P P 07 54 10.2 0.0
baz=25
C24A Savage 24.84 6 P P 07 54 10.9 +0.4
baz=25,SNR=7.1
SFIN Lafayette 24.86 40 P P 07 54 11.6 +0.9
baz=25,SNR=11
C20A Veseth Ranch, 24.86 360 P P 07 54 11.3 +0.6
baz=25,SNR=14
JFWS Jewell Farm 24.88 32 eP P 07 54 12.1 +1.2
12nm,1.0s
G05D Wamic, OR 24.91 337 P P 07 54 11.7 +0.6
baz=25
C22A Vida 24.95 3 P P 07 54 11.9 +0.4
baz=25
C21A Desert Coulee 24.98 1 P P 07 54 11.8 0.0
baz=25,SNR=9.0
C23A Lambert 25.05 4 P P 07 54 12.7 +0.3
baz=25,SNR=9.5
D28A Regan 25.06 12 P P 07 54 12.6 +0.2
baz=25
D29A Pettibone, Tap 25.13 14 P P 07 54 13.4 +0.3
baz=25
SWMT Swartz Lake 25.13 350 eP P 07 54 12.2 -1.0
61nm,1.3s
C25A Freed Ranch, W 25.14 7 P P 07 54 14.2 +1.0
baz=25
EGMT Eagleton 25.21 357 P P 07 54 13.7 -0.2
baz=25,SNR=13
EGMT Eagleton 25.21 357 eP P 07 54 13.8 -0.1
53nm,1.2s
JTS JuntasAbangare 25.27 116 P P 07 54 16.0 +1.4
5.8nm,0.9s,baz=309,slow=9.3,SNR=4.4
JTS LR LR 08 04 21.5
comp=Z,891nm,19.0s,baz=310,slow=37
JTS JuntasAbangare 25.27 116 eP P 07 54 16.8 +2.2
25nm,1.3s
HAWA Hanford 25.34 341 eP P 07 54 14.7 -0.3
27nm,1.1s
D30A Buchanan 25.36 15 P P 07 54 16.2 +1.0
baz=26
C27A Sayler Ranch, 25.39 10 P P 07 54 17.2 +1.7
baz=26
JTMT Jette 25.41 350 eP P 07 54 16.8 +1.1
C26A Wahner Farm, P 25.41 9 P P 07 54 16.1 +0.5
baz=26
YBMT Yellow Bay 25.48 350 eP P 07 54 15.3 -1.1
51nm,1.5s
B22A Reddig Ranch S 25.50 3 P P 07 54 16.7 +0.3
baz=26
SPMN Marine on St. 25.57 25 eP P 07 54 23.1 +6.0
11nm,1.0s
B20A Solberg Farm, 25.59 360 P P 07 54 17.1 -0.2
baz=26,SNR=19
BSMT Bassoo Peak 25.59 349 eP P 07 54 17.4 -0.1
16nm,1.4s
B19A Brinkman Farms 25.62 358 P P 07 54 17.5 0.0
baz=26,SNR=14
G03D McMinnville, O 25.62 334 P P 07 54 17.4 -0.1
baz=26
BLMT Blacktail Moun 25.68 350 eP P 07 54 18.2 0.0
B25A Knox Farm, Ray 25.71 7 P P 07 54 17.9 -0.5
baz=26
B23A Brockton 25.72 5 P P 07 54 18.4 -0.1
baz=26,SNR=5.1
DGMT Dagmar 25.79 6 P P 07 54 18.5 -0.6
baz=26
DGMT Dagmar 25.79 6 eP P 07 54 21.3 +2.2
66nm,1.8s
MDND Maddock 25.88 13 P P 07 54 19.9 +0.1
baz=26
MDND Maddock 25.88 13 eP P 07 54 20.2 +0.4
116nm,1.0s
B26A Jensen Ranch, 25.93 9 P P 07 54 20.4 0.0
baz=26
C30A Mose, Pekin 25.99 15 P P 07 54 21.1 +0.2
baz=26
JSC Jenkinsville 26.02 58 eP P 07 54 21.4 +0.2
48nm,2.0s
A20A Cobblestone Ra 26.03 0 P P 07 54 21.3 0.0
baz=26,SNR=16
A19A Klindworth Far 26.09 359 P P 07 54 21.9 +0.1
baz=26,SNR=7.0
B27A Peters Farms, 26.11 10 P P 07 54 22.5 +0.6
baz=26
A21A Bergtoll Ranch 26.15 2 P P 07 54 22.9 +0.5
baz=26
GLK Glacier Lake 26.16 338 P P 07 54 25.4 +2.8
A22A Carney Farms, 26.19 3 P P 07 54 23.2 +0.4
baz=26,SNR=11
ERK Elk Rock 26.19 337 P P 07 54 24.6 +1.7
KMSC Kings Mountain 26.25 56 P P 07 54 23.5 +0.1
baz=26
KMSC Kings Mountain 26.25 56 eP P 07 54 23.8 +0.4
17nm,1.1s
A24A Westby 26.26 6 P P 07 54 23.5 +0.2
baz=26
B28A Dugan Ranch, T 26.30 11 P P 07 54 24.1 +0.3
baz=26
A25A Svangstu Ranch 26.37 7 P P 07 54 25.6 +1.3
baz=26
LON Longmire 26.39 338 eP P 07 54 24.2 -0.4
50nm,1.7s
NEW Newport 26.45 346 P P 07 54 24.2 -0.9
8.0nm,1.1s,baz=157,slow=11,SNR=12
NEW LR LR 08 04 57.0
comp=Z,950nm,19.0s,baz=174,slow=37
NEW Newport 26.45 346 P P 07 54 25.3 +0.2
baz=26,SNR=8.6
NEW Newport 26.45 346 eP P 07 54 24.4 -0.7
22nm,1.0s
A26A Wade Farm, Ken 26.47 9 P P 07 54 25.4 +0.2
baz=27
B29A Wagenman Farm, 26.52 13 P P 07 54 25.6 -0.1
baz=27
A27A Ledoux Ranch, 26.64 10 P P 07 54 27.2 +0.5
baz=27
B30A Myrvik Farm, E 26.72 14 P P 07 54 27.8 +0.3
baz=27,SNR=12
A28A Rude Farm, Bot 26.76 11 P P 07 54 28.5 +0.6
baz=27,SNR=5.8
D05A Enumclaw 26.83 339 eP P 07 54 33.7 +5.2
24nm,1.3s
A29A Manning Farm, 26.98 13 P P 07 54 30.8 +1.0
baz=27,SNR=6.4
B08A Colville Reser 27.07 343 eP P 07 54 30.4 -0.3
27nm,1.4s
A30A Hoffart Farm, 27.19 14 P P 07 54 31.6 -0.1
baz=27
AGMN Agassiz Nation 27.21 18 eP P 07 54 32.3 +0.3
14nm,1.1s
ACSO Alum Creek Sta 27.34 45 eP P 07 54 37.4 +4.3
14nm,0.9s
BLA Blacksburg 27.71 53 eP P 07 54 39.4 +2.8
23nm,1.4s
EYMN Ely 28.34 24 eP P 07 54 41.2 -0.8
28nm,1.3s
EDM Edmonton 30.66 354 eP P 07 55 01.8 -0.8
FFC Flin Flon 32.20 7 eP P 07 55 14.2 -1.8
3.5nm,0.9s
PTN Potsdam (NY) 34.64 43 eP P 07 55 42.1 +4.7
26nm,1.1s
OTAV Otavalo 36.42 124 eP P 07 55 56.3 +2.8
15nm,1.2s
ROSC El Rosal 37.05 114 P P 07 56 01.4 +2.4
1.4nm,0.4s,baz=52,slow=6.0,SNR=4.3
ROSC LR LR 08 12 43.1
comp=Z,409nm,19.2s,baz=0.5,slow=39
FCC Fort Churchill 37.28 12 eP P 07 55 58.7 -1.1
SDV Santo Domingo 38.34 105 eP P 07 56 11.4 +1.8
8.5nm,0.6s
DLBC Dease Lake 38.97 342 P P 07 56 14.6 +0.3
8.5nm,1.0s,baz=175,slow=2.4,SNR=5.6
EMMW East Machias 39.60 47 eP P 07 56 25.6 +6.0
SCHQ Schefferville 44.24 33 P P 07 56 58.6 +1.2
3.9nm,1.0s,baz=275,slow=11,SNR=2.9
SCHQ LR LR 08 16 10.1
comp=Z,1μm,18.4s,baz=254,slow=37
TAOE Nuku Hiva Isla 44.53 229 eT T 08 44 19.4
168nm,0.3s
EGAK Eagle 47.24 341 eP P 07 57 21.2 +0.3
INK Inuvik 48.15 348 P P 07 57 27.7 -0.2
8.4nm,1.1s,baz=144,slow=8.7,SNR=4.5
INK Inuvik 48.15 348 eP P 07 57 27.8 -0.1
ILAR Eielson Array 49.02 339 P P 07 57 34.2 -0.5
4.3nm,0.9s,baz=149,slow=6.6,SNR=30
ILAR LR LR 08 17 44.6
comp=Z,194nm,19.1s,baz=135,slow=36
MCK McKinley 49.08 337 eP P 07 57 36.0 +0.8
CCB Clear Creek Bu 49.25 339 eP P 07 57 35.9 -0.6
TRF Thorofare Moun 49.40 337 eP P 07 57 37.7 -0.2
28nm,0.8s
BWN Browne 49.53 338 eP P 07 57 38.6 -0.1
PPLA Purkeypile 49.81 335 eP P 07 57 40.7 -0.2
BPAW Bear Paw Mtn. 50.03 337 eP P 07 57 42.8 +0.3
SVW2 Sparrevohn 50.29 332 eP P 07 57 41.7 -2.7
9.2nm,0.7s
COLD Coldfoot 51.63 340 eP P 07 57 54.9 +0.5
IM04 Indian Mountai 52.06 338 eP P 07 57 56.4 -1.3
PTGA Pitinga 52.22 110 P P 07 58 01.1 +1.5
1.5nm,0.3s,baz=295,slow=7.5,SNR=7.2
RKT Rikitea 52.67 212 eT T 08 54 41.4
3.3nm,0.3s
PPT Papeete 57.15 229 LR LR 08 16 26.5
comp=Z,243nm,18.4s,baz=18,slow=29
PPT2 Papeete2 57.16 229 eLR LR 08 15 11.5
916nm,27.2s,baz=35
TBI Tubuai 61.10 224 eLQ LQ 08 14 33.2
444nm,32.5s
TBI eLR LR 08 16 57.0
445nm,27.2s,baz=36
DAG Dannmarks Havn 67.82 14 i P P 07 59 47.1 +1.3
5.5nm,0.8s
BDFB Brasilia 70.00 117 P P 08 00 01.5 +1.1
1.9nm,0.7s,baz=324,slow=8.7,SNR=3.0
BDFB LR LR 08 32 12.8
comp=Z,242nm,19.1s,baz=324,slow=37
SEY Seymchan 74.23 332 P P 08 00 24.1 -0.8
4.5nm,0.8s,baz=36,slow=18,SNR=4.7
PETK Petropavlovsk- 74.62 321 P P 08 00 27.0 -0.4
4.1nm,0.9s,baz=76,slow=12,SNR=3.5
PETK LR LR 08 27 01.4
comp=Z,52nm,20.3s,baz=76,slow=31
ARCES ARCESS Array B 82.10 15 LR LR 08 38 14.5
comp=Z,163nm,20.8s,baz=341,slow=36
QUIF Quistinic 82.73 41 eP P 08 01 18.8 +6.7
78nm,1.4s
QUIF Quistinic 82.73 41 eP P 08 01 18.8 +6.7
78nm,1.4s
SGMF Saint Gilles 82.94 40 eP P 08 01 20.0 +6.8
113nm,1.6s
SGMF Saint Gilles 82.94 40 eP P 08 01 20.0 +6.8
113nm,1.6s
NOA NORSAR Array B 83.24 25 P P 08 01 16.2 +1.7
1.3nm,0.9s,baz=347,slow=16,SNR=3.0
NOA LR LR 08 38 44.9

comp=Z,218nm,18.1s,baz=300,slow=36
GRR Gorron 83.89 40 *e*P P 08 01 24.1 +6.0
62nm,1.3s
GRR Gorron 83.89 40 *e*P P 08 01 24.1 +6.0
62nm,1.3s
FLN La Foliniere 83.94 39 *e*P P 08 01 24.4 +6.1
75nm,1.2s
FLN *e*R
469nm,22.0s
FLN La Foliniere 83.94 39 *e*P P 08 01 24.4 +6.1
75nm,1.2s
LDF La Druitiere 84.23 39 *e*P P 08 01 25.6 +5.8
51nm,1.4s
LDF La Druitiere 84.23 39 *e*P P 08 01 25.6 +5.8
51nm,1.4s
MFF Saint Martin d 85.16 41 *e*P P 08 01 30.2 +5.7
24nm,1.2s
MFF Saint Martin d 85.16 41 *e*P P 08 01 30.2 +5.7
24nm,1.3s
ESDC Sonseca Array 85.83 49 P **P 08 01 27.9 -0.2**
0.1nm,0.2s,baz=317,slow=7.0,SNR=2.9
ESDC LR LR 08 37 13.0
comp=Z,186nm,21.6s,baz=295,slow=34
BAIF Baives 85.97 37 *e*P P 08 01 34.4 +5.9
15nm,1.1s
BAIF Baives 85.97 37 *e*P P 08 01 34.4 +5.9
15nm,1.1s
GIVF Givet 86.29 37 *e*P P 08 01 36.1 +6.0
GIVF Givet 86.29 37 *e*P P 08 01 36.1 +6.0
TCF Toulx Ste Croi 86.73 41 *e*P P 08 01 36.8 +4.4
16nm,1.2s
TCF Toulx Ste Croi 86.73 41 *e*P P 08 01 36.8 +4.4
16nm,1.2s
BGF Bois d'Agland 86.98 40 *e*P P 08 01 39.0 +5.4
BGF Bois d'Agland 86.98 40 *e*P P 08 01 39.0 +5.4
SSF Saint Saulge 87.11 40 *e*P P 08 01 39.8 +5.6
27nm,1.2s
SSF Saint Saulge 87.11 40 *e*P P 08 01 39.8 +5.6
27nm,1.2s
AVF Avril sur Loir 87.16 40 *e*P P 08 01 39.7 +5.3
AVF Avril sur Loir 87.16 40 *e*P P 08 01 39.7 +5.3
LOR Lormes 87.22 39 *e*P P 08 01 40.4 +5.7
16nm,1.2s
LOR *e*R
497nm,21.8s
LOR Lormes 87.22 39 *e*P P 08 01 40.4 +5.7
16nm,1.2s
SFTF Sexfontaines 87.41 38 *e*P P 08 01 41.1 +5.5
SFTF Sexfontaines 87.41 38 *e*P P 08 01 41.1 +5.5
PAGF Fort de Pagny 87.61 38 *e*P P 08 01 42.5 +5.9
PAGF Fort de Pagny 87.61 38 *e*P P 08 01 42.5 +5.9
HAU Haudompre 88.26 38 *e*P P 08 01 45.2 +5.5
HAU *e*R
475nm,21.5s
HAU Haudompre 88.26 38 *e*P P 08 01 45.2 +5.5
CDF Champ du Feu 88.56 37 *e*P P 08 01 47.1 +5.9
19nm,1.5s
CDF Champ du Feu 88.56 37 *e*P P 08 01 47.1 +5.9
19nm,1.5s
LPL La Plagne 89.83 40 *e*P P 08 01 52.5 +5.1
LPL La Plagne 89.83 40 *e*P P 08 01 52.5 +5.1
LPG La Plagne 89.85 40 *e*P P 08 01 52.9 +5.3
22nm,1.4s
LPG La Plagne 89.85 40 *e*P P 08 01 52.9 +5.3
22nm,1.4s
NKC Novy Kostel 90.26 34 AMS AMS 08 44 20.0
comp=Z,300nm,18.3s
PVCC Panska Ves 91.15 33 AMS AMS 08 45 20.0
comp=Z,500nm,13.9s
PRA Prague 91.37 33 AMS AMS 08 43 10.0
PRU Pruhonice 91.48 33 AMS AMS 08 43 00.0
comp=Z,400nm,15.4s
KHC Kasperske Hory 91.52 34 AMS AMS 08 42 50.0
comp=Z,300nm,18.1s
GOPC GO Pecny, Ondr 91.65 33 AMS AMS 08 45 00.0
comp=Z,500nm,14.7s
GERES GERESS Array B 91.76 34 LR LR 08 41 54.5
comp=Z,259nm,21.6s,baz=307,slow=35
DPC Dobruska-Polom 92.13 32 AMS AMS 08 46 10.0
TREC Trest 92.39 33 AMS AMS 08 43 30.0
comp=Z,500nm,18.2s
OKC Ostrava-Krasne 93.35 32 AMS AMS 08 47 00.0
comp=Z,300nm,13.4s
PMSA Palmer Station 93.62 163 LR LR 08 34 35.3
comp=Z,140nm,19.4s,baz=304,slow=29
DZM Mont Dzumac 94.49 248 *e*LR LR 08 32 23.6
519nm,25.5s
KECS Kecovo 95.40 32 *e*P **P 08 02 11.5 -1.2**
DBIC Dimbokro 99.40 79 LR LR 08 46 44.4
comp=Z,129nm,19.4s,baz=270,slow=35
HHC Hu-ho-hao-te 106.80 330 Pdif **Pdif 08 02 56.8 -7.2**
HHC PP **PP 08 07 26.1 -2.7**
HHC Hu-ho-hao-te 106.80 330 SS SS 08 22 27.6 -6.1
HHC AMB AMB
comp=Z,120nm,8.5s
HHC LR LR
comp=N,120nm,18.7s
HHC LR LR
comp=E,200nm,18.7s
HHC LR LR
comp=Z,85nm,18.6s
WMQ Urumqi 112.17 348 PKP **PKiKP 08 07 22.9 -1.2**
WMQ PP **PP 08 08 12.3 +5.0**
WMQ PPMZ
comp=Z,59nm,10.8s
WMQ LN
comp=Z,180nm,6.5s
WMQ LE
comp=Z,120nm,7.8s
WMQ LZ
comp=Z,89nm,22.1s
LZH Lanzhou 114.17 332 *e*PKP PKPdf 08 07 22.5 -5.8
LZH sPKP 08 07 29.0
CD2 Chengdu 118.54 329 PKP **PKPdf 08 07 34.4 -2.3**
CD2 sPKP 08 07 39.1
CD2 PP **PP 08 08 50.3 -2.3**
CD2 SKS **SKSdf 08 14 46.5 -2.7**
CD2 SKKS **SKKSac 08 15 49.3 -5.3**
CD2 SS **SS 08 25 07.8 -1.7**
CD2 PPMZ
comp=Z,120nm,5.4s
GYA Guiyang 120.67 324 *e*Pdif **Pdif 08 04 04.6 -1.4**
GYA PKP **PKPdf 08 07 39.8 -1.2**
GYA PP **PP 08 09 10.3 +2.8**
GYA PPMZ
comp=Z,110nm,7.8s
WRA Warramunga Arr 122.29 260 PKP **PKPdf 08 07 42.6 -1.4**
comp=Z,0.5nm,0.9s,baz=54,slow=1.6,SNR=2.8
ASAR Alice Springs 123.56 256 PKP **PKPdf 08 07 45.1 -1.3**
comp=Z,1.0nm,1.1s,baz=85,slow=2.0,SNR=3.6

IDC ***13*** *08:05:33.1±12.0, 1°.20S×142°.06E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/28, mbtmp3.4/3, Error ellipse: s-maj=194.7km s-min=109.4km az=176.0*
DJA ***13*** *08:05:52.2±1.0, 2°.5±.6°×14°.0E±°, h10km, M3.7/4, MLv3.7/4*
ISC 13 08:05:50.9±3.1, 1°.9S±0°.2×140°.5E±0°.2, h35km, n7, σ1§74/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.66**	**164**	P	Pn	08 06 05.4	+1.5
JAY				S	**Sn**	**08 06 14.6**	**+1.5**
GENI	**Genyem**	**0.80**	**206**	P	**Pn**	**08 06 04.8**	**-0.9**
GENI				S	**Sn**	**08 06 14.7**	**-1.7**
SMPI	**Sarmi**	**1.81**	**266**	P	**Pn**	**08 06 19.1**	**-0.6**
SMPI				S	**Sn**	**08 06 42.8**	**+1.3**
WAMI	**Wamena**	**2.69**	**222**	P	**Pn**	**08 06 34.2**	**+2.4**
WRA	**Warramunga Arr**	**18.95**	**198**	P	**Pn**	**08 10 10.1**	**0.0**
0.7nm,0.8s,baz=23,slow=11,SNR=3.0							
ASAR	**Alice Springs**	**22.59**	**196**	P	**P**	**08 10 47.4**	**-1.3**
0.4nm,0.7s,baz=29,slow=9.9,SNR=7.2							
STKA	**Stephens Creek**	**29.86**	**178**	P	P	08 11 46.5	-8.7
0.6nm,0.4s,baz=338,slow=11,SNR=3.6							

IDC ***13*** *08:08:51.7±0.8, 31°.90S×178°.24W, h0km, mb4.3/8, mb1 4.5/9, mb1mx4.2/25, mbtmp4.3/9, ML4.8/1, MS4.0/2, Ms1 3.9/2, ms1mx3.2/28, Error ellipse: s-maj=23.7km s-min=20.0km az=87.0*
NEIC ***13*** *08:08:56.1±0.6, 31°.85S×178°.15W, h35km, mb4.9/2, Error ellipse: s-maj=15.8km s-min=12.0km az=113.0*
ISC 13 08:08:55.5±0.7, 32°.16S±0°.07×178°.4W±0°.2, h35km, n48, σ1§70/43, **mb4.3/9, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.93**	**9**	Pn	**Pn**	**08 09 37.3**	**-2.2**
171nm,0.3s,baz=116,slow=9.0,SNR=6.8							
RAO				Sn	**Sn**	**08 10 13.7**	**+0.3**
268nm,0.3s,baz=253,slow=19,SNR=3.7							
RAO	**Raoul Island**	**2.93**	**9**	*e*Pn	Pn	08 09 36.4	-3.2
RAO				Sn	**Sn**	**08 10 13.8**	**+0.3**
WMGZ	**Waiomatatini S**	**6.21**	**204**	PN	**Pn**	**08 10 23.4**	**-1.3**
WMGZ				SN	**Sn**	**08 11 37.4**	**+2.9**
HAZ	**Te Kaha**	**6.39**	**208**	PN	**Pn**	**08 10 26.1**	**-1.0**
HAZ				SN	**Sn**	**08 11 43.2**	**+4.3**
PUZ	**Puketiti**	**6.50**	**204**	PN	**Pn**	**08 10 26.7**	**-1.9**
PUZ				SN	**Sn**	**08 11 42.5**	**+1.0**
TWGZ	**Tauwhareparae**	**6.69**	**205**	PN	**Pn**	**08 10 29.5**	**-1.7**
TWGZ				SN	**Sn**	**08 11 47.9**	**+1.7**
CNGZ	**Carnagh Statio**	**6.89**	**203**	*e*PN	Pn	08 10 31.0	-2.9
TKGZ	**Te Karaka**	**6.97**	**205**	PN	**Pn**	**08 10 32.7**	**-2.3**
TKGZ				SN	**Sn**	**08 11 53.0**	**0.0**
MWZ	**Matawai**	**7.00**	**207**	PN	Pn	08 10 32.6	-2.8
MWZ				SN	**Sn**	**08 11 54.8**	**+1.0**
URZ	**Urewera**	**7.10**	**210**	Pn	**Pn**	**08 10 35.4**	**-1.4**
2.6nm,0.3s,baz=275,slow=4.0,SNR=23							
URZ				Sn	**Sn**	**08 11 57.3**	**+1.0**
11nm,0.3s,baz=260,slow=21,SNR=12							
URZ	**Urewera**	**7.10**	**210**	PN	**Pn**	**08 10 35.1**	**-1.7**
URZ				SN	**Sn**	**08 11 56.9**	**+0.7**
URZ	**Urewera**	**7.10**	**210**	*e*Pn	**Pn**	**08 10 35.5**	**-1.3**
URZ				Sn	**Sn**	**08 11 57.3**	**+1.0**
URZ				*e*Sn	**Sn**	**08 11 57.4**	**+1.2**
RAGZ	**Rawiri**	**7.18**	**207**	*e*PN	**Pn**	**08 10 35.7**	**-2.3**
OUZ	**Omahuta**	**7.32**	**243**	PN	Pn	08 10 46.8	+7.0
OUZ	**Omahuta**	**7.32**	**243**	*e*Pn	Pn	08 10 46.0	+6.2
82nm,0.9s							
SNGZ	**Shannon Statio**	**7.46**	**206**	*e*PN	**Pn**	**08 10 39.4**	**-2.4**
KNZ	**Kokohu**	**7.55**	**204**	PN	Pn	08 10 39.6	-3.3
KNZ				SN	**Sn**	**08 12 05.9**	**-1.4**
BKZ	**Black Stump Fm**	**8.12**	**209**	PN	**Pn**	**08 10 48.3**	**-2.6**
MCHZ	**McNeill Hill**	**8.28**	**207**	PN	**Pn**	**08 10 50.8**	**-2.2**
MRZ	**Mangatainoka R**	**9.76**	**208**	*e*PN	Pn	08 11 08.6	-4.8
MRZ				*e*SN	Sn	08 12 55.2	-6.5
THZ	**Tophouse**	**11.83**	**213**	*e*SN	Sn	08 13 45.2	-7.1
KHZ	**Kahutara**	**12.07**	**210**	*e*SN	Sn	08 13 47.4	-11
MQZ	**McQueen's Vall**	**13.50**	**209**	*e*SN	Sn	08 14 19.7	-13
RPZ	**Rata Peaks**	**14.20**	**213**	Pn	**Pn**	**08 12 11.7**	**-2.3**
1.9nm,0.3s,baz=83,slow=8.1,SNR=10							
RPZ				Sn	Sn	08 14 36.7	-14
0.7nm,0.3s,baz=109,slow=18,SNR=4.8							
DZM	**Mont Dzumac**	**16.79**	**303**	LR	LR	08 18 11.9	
comp=Z,524nm,19.5s,baz=180,slow=33							
CTA	**Charters Tower**	**33.76**	**282**	P	P	08 15 37.6	+3.6
4.9nm,0.5s,baz=105,slow=8.8,SNR=9.8							
STKA	**Stephens Creek**	**33.76**	**260**	P	P	08 15 37.6	+3.7
3.6nm,0.8s,baz=88,slow=9.2,SNR=7.7							
STKA				LR	LR	08 29 41.6	
comp=Z,178nm,18.2s,baz=67,slow=37							
AS31	**Alice Springs**	**42.68**	**269**	*e*P	**P**	**08 16 50.8**	**+1.7**
ASAR	**Alice Springs**	**42.68**	**269**	P	**P**	**08 16 50.9**	**+1.8**
3.1nm,0.5s,baz=105,slow=7.4,SNR=44							
WRAB	**Tennant Creek**	**43.83**	**274**	*e*P	**P**	**08 16 59.8**	**+1.5**
18nm,1.0s							
WRA	**Warrunnga Arr**	**43.83**	**274**	P	**P**	**08 17 00.1**	**+1.7**
6.3nm,0.3s,baz=113,slow=8.0,SNR=55							
VNDA	**Vanda**	**46.32**	**186**	P	P	08 17 21.9	+4.5
0.2nm,0.6s,baz=2.3,slow=7.8,SNR=2.5							
QSPA	**South Pole Qui**	**57.96**	**180**	P	P	08 18 47.2	+3.0
12nm,1.0s,baz=31,slow=1.9,SNR=38							
QSPA	**South Pole Qui**	**57.96**	**180**	*e*P	**P**	**08 18 46.2**	**+2.1**
10nm,0.7s							
MAW	**Mawson**	**70.54**	**201**	P	P	08 20 10.9	+4.5
1.1nm,0.4s,baz=124,slow=2.4,SNR=8.6							
SNAA	**Sanae**	**76.41**	**179**	P	**P**	**08 20 41.4**	**+0.5**
VNA1	**Neumayer--Stat**	**77.24**	**177**	P	P	08 20 51.0	+5.5
NVAR	**Mina Array Bea**	**89.77**	**43**	P	**P**	**08 21 51.7**	**+1.3**
0.4nm,0.8s,baz=243,slow=8.0,SNR=2.5							
MKAR	**Makanchi Array**	**118.61**	**309**	PKhKP	PKPpre	08 27 38.0	
0.2nm,0.4s,baz=72,slow=4.7,SNR=4.8							
MKAR				PKP	**PKiKP**	**08 27 41.0**	**+1.5**
0.7nm,0.8s,baz=96,slow=1.7,SNR=4.8							
KURK	**Kurchatov**	**121.99**	**313**	*e*PKPdf	**PKPdf**	**08 27 45.8**	**+0.2**
ARCES	**ARCESS Array B**	**140.22**	**347**	PKhKP	PKPpre	08 28 13.9	
1.3nm,0.7s,baz=23,slow=3.0,SNR=4.1							
FINES	**FINESS Array B**	**146.66**	**339**	PKPbc	**PKPab**	**08 28 33.2**	**-0.6**
2.7nm,0.4s,baz=56,slow=3.4,SNR=53							
NB2	**NORSAR Subarra**	**150.42**	**350**	PKP	**PKPbc**	**08 28 43.6**	**+1.1**
comp=Z,3.7nm,1.2s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**150.42**	**350**	PKPbc	**PKPbc**	**08 28 43.0**	**+0.5**
comp=Z,0.8nm,0.5s,baz=15,slow=4.2,SNR=4.2							
AKASG	**Malin Array Be**	**152.44**	**320**	PKPbc	**PKPbc**	**08 28 47.7**	**+0.2**
comp=Z,1.8nm,0.7s,baz=51,slow=2.6,SNR=7.6							
BR131	**Keskin Array S**	**153.07**	**295**	*e*PKPbc	**PKPbc**	**08 28 48.9**	**-0.5**
BRTR	**Keskin Array B**	**153.07**	**295**	PKPbc	**PKPbc**	**08 28 50.6**	**+1.2**
comp=Z,0.9nm,0.5s,baz=156,slow=3.1,SNR=6.1							
TORD	**Torodi Ar. Bea**	**161.08**	**180**	PKPab	**PKPab**	**08 29 36.4**	**+0.7**
comp=Z,1.1nm,0.7s,baz=186,slow=3.5,SNR=5.5							

ISCJB ***13*** *08:11:45.2±1.3, 32°.37S±0°.07×177°.7W±0°.2, h24km, mb4.4/5, Error ellipse: s-maj=28.6km s-min=6.2km az=17.0*
IDC ***13*** *08:11:45.8±1.5, 31°.76S×178°.00W, h0km, mb4.4/5, mb1 4.5/5, mb1mx4.0/24, mbtmp4.4/5, Error ellipse: s-maj=47.9km s-min=28.2km az=34.0*
ISC 13 08:11:48.0±1.2, 32°.28S±0°.09×177°.9W±0°.2, h24km, n20, σ1§73/23, **mb4.5/5, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.02**	**359**	Pn	**Pn**	**08 12 33.0**	**-1.2**
104nm,0.3s,baz=96,slow=19,SNR=4.3							
WMGZ	**Waiomatatini S**	**6.31**	**208**	*e*PN	**Pn**	**08 13 21.6**	**+2.0**
WMGZ				SN	**Sn**	**08 14 31.4**	**+0.6**
HAZ	**Te Kaha**	**6.53**	**212**	PN	**Pn**	**08 13 21.7**	**-0.7**
HAZ				SN	**Sn**	**08 14 37.9**	**+1.8**
PUZ	**Puketiti**	**6.59**	**208**	SN	**Sn**	**08 14 37.4**	**-0.4**
TWGZ	**Tauwhareparae**	**6.79**	**209**	SN	**Sn**	**08 14 43.1**	**+0.3**
MWZ	**Matawai**	**7.12**	**211**	PN	**Pn**	**08 13 29.8**	**-0.9**
MWZ				SN	**Sn**	**08 14 50.4**	**-0.4**
URZ	**Urewera**	**7.24**	**213**	Pn	**Pn**	**08 13 31.4**	**-1.0**
baz=335,slow=14,SNR=3.3							
URZ				Sn	**Sn**	**08 14 52.8**	**-1.0**
6.8nm,0.3s,baz=174,slow=17,SNR=6.1							
URZ	**Urewera**	**7.24**	**213**	PN	**Pn**	**08 13 31.7**	**-0.6**
URZ				SN	**Sn**	**08 14 50.5**	**-3.3**
SNGZ	**Shannon Statio**	**7.57**	**210**	SN	**Sn**	**08 15 02.2**	**+0.2**
BKZ	**Black Stump Fm**	**8.26**	**212**	SN	**Sn**	**08 15 14.9**	**-4.0**
STKA	**Stephens Creek**	**34.20**	**260**	P	**P**	**08 18 33.8**	**+2.1**
3.3nm,0.8s,baz=93,slow=12,SNR=5.0							
CTA	**Charters Tower**	**34.25**	**282**	P	**P**	**08 18 33.6**	**+1.4**
3.2nm,0.5s,baz=107,slow=9.8,SNR=6.3							
ASAR	**Alice Springs**	**43.15**	**269**	P	**P**	**08 19 46.5**	**-0.5**
2.1nm,0.5s,baz=109,slow=7.4,SNR=13							
WRA	**Warramunga Arr**	**44.31**	**274**	P	**P**	**08 19 55.8**	**-0.5**
4.2nm,0.4s,baz=114,slow=7.8,SNR=17							
QSPA	**South Pole Qui**	**57.84**	**180**	P	P	08 21 43.2	+5.8
3.5nm,0.8s,baz=49,slow=1.3,SNR=7.5							
SNAA	**Sanae**	**76.28**	**178**	P	**P**	**08 23 32.8**	**-1.5**
VNA1	**Neumayer--Stat**	**77.10**	**176**	P	P	08 23 51.6	+13
FINES	**FINESS Array B**	**146.94**	**339**	PKPbc	**PKPab**	**08 31 28.6**	**-0.5**
4.8nm,0.8s,baz=68,slow=2.0,SNR=9.5							
BRTR	**Keskin Array B**	**153.54**	**295**	PKPbc	**PKPbc**	**08 31 43.9**	**-0.8**
0.9nm,0.5s,baz=141,slow=3.5,SNR=5.7							
TORD	**Torodi Ar. Bea**	**160.96**	**179**	PKPab	**PKPab**	**08 32 32.4**	**+3.1**
0.5nm,0.5s,baz=179,slow=4.6,SNR=6.6							

BKK 13 08:19:29.1±0.4, 15°.N±17°.×99°.9E±1°.6, h23km±27km, M3.6/4, MLv3.6/4, Thailand

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRDT	**SRDT**	**0.23**	**208**	P	Pn	08 19 36.3	-0.8
SRDT				S	Sb	08 19 41.0	+2.2
KHLT	**Khaolaem Dam**	**0.67**	**292**	P	Pb	08 19 42.6	+0.5
KHLT				S	Sn	08 19 52.1	-0.8
NAYO	**Nakonayok**	**2.04**	**96**	P	Pn	08 20 02.1	+0.1
PATY	**Pattaya**	**2.27**	**135**	P	Pb	08 20 12.3	+2.9
PBKT	**Sadao Pong**	**2.62**	**40**	P	Pn	08 20 09.6	-0.4
CHAI	**Chaiyaphum**	**2.98**	**63**	P	Pb	08 20 20.3	-1.3
MHMT	**Maesarieng**	**3.81**	**341**	P	Pb	08 20 38.8	+3.0

ISCJB ***13*** *08:24:03.0±1.2, 32°.41S±0°.05×177°.3W±0°.2, h33km, mb4.6/7, MS3.6/4, Error ellipse: s-maj=22.5km s-min=5.2km az=11.0*
IDC ***13*** *08:24:05.5±0.9, 32°.17S×178°.13W, h0km, mb4.4/5, mb1 4.6/7, mb1mx4.2/23, mbtmp4.5/7, ML4.5/2, MS3.6/6, Ms1 3.6/6, ms1mx3.3/26, Error ellipse: s-maj=30.5km s-min=20.6km az=136.0*
NEIC ***13*** *08:24:07.8±4.5, 32°.11S×178°.19W, h13km±26km, mb4.9/2, Error ellipse: s-maj=17.8km s-min=11.4km az=115.0*
ISC 13 08:24:10.9±0.8, 32°.19S±0°.08×178°.3W±0°.2, h35km, n39, σ1§42/37, **mb4.6/7, MS3.6/4, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.95**	**6**	Pn	**Pn**	**08 24 52.9**	**-2.3**
91nm,0.3s,baz=252,slow=20,SNR=3.6							
RAO				Sn	**Sn**	**08 25 28.4**	**-1.1**
215nm,0.3s,baz=45,slow=16,SNR=3.6							
MXZ	**Matakaoa Point**	**6.04**	**207**	*e*PN	**Pn**	**08 25 36.2**	**-1.5**
MXZ				SN	**Sn**	**08 26 45.6**	**0.0**
WMGZ	**Waiomatatini S**	**6.23**	**205**	PN	**Pn**	**08 25 38.4**	**-1.9**
WMGZ				SN	**Sn**	**08 26 52.0**	**+1.8**
HAZ	**Te Kaha**	**6.42**	**209**	PN	**Pn**	**08 25 41.8**	**-1.0**
PUZ	**Puketiti**	**6.51**	**205**	SN	**Sn**	**08 26 57.7**	**+0.4**
CNGZ	**Carnagh Statio**	**6.90**	**204**	PN	**Pn**	**08 25 47.1**	**-2.4**
TKGZ	**Te Karaka**	**6.98**	**206**	PN	**Pn**	**08 25 47.8**	**-2.8**
MWZ	**Matawai**	**7.02**	**208**	PN	**Pn**	**08 25 48.5**	**-2.6**
URZ	**Urewera**	**7.12**	**211**	Pn	**Pn**	**08 25 51.2**	**-1.4**
6.4nm,0.3s,baz=292,slow=5.0,SNR=17							
URZ				Sn	**Sn**	**08 27 11.8**	**-0.4**
12nm,0.3s,baz=233,slow=5.3,SNR=13							
URZ	**Urewera**	**7.12**	**211**	*e*PN	**Pn**	**08 25 50.0**	**-2.5**
URZ				*e*SN	**Sn**	**08 27 11.8**	**-0.4**
URZ	**Urewera**	**7.12**	**211**	*e*Pn	**Pn**	**08 25 52.2**	**-0.3**
URZ				*e*Sn	**Sn**	**08 27 09.9**	**-2.3**
URZ				Sn	**Sn**	**08 27 11.8**	**-0.4**
OUZ	**Omahuta**	**7.40**	**244**	*e*Pn	Pn	08 26 01.5	+5.1
40nm,0.6s							
SNGZ	**Shannon Statio**	**7.47**	**207**	PN	**Pn**	**08 25 56.5**	**-0.9**
BKZ	**Black Stump Fm**	**8.15**	**210**	PN	**Pn**	**08 26 04.7**	**-2.0**
RPZ	**Rata Peaks**	**14.23**	**213**	Pn	Pn	08 27 25.8	-4.1
2.0nm,0.3s,baz=46,slow=2.6,SNR=9.1							
RPZ				Sn	Sn	08 29 53.0	-13
1.2nm,0.3s,baz=300,slow=23,SNR=6.8							
DZM	**Mont Dzumac**	**16.90**	**303**	LR	LR	08 33 06.2	
comp=Z,362nm,20.5s,baz=180,slow=32							
RAR	**Rarotonga**	**19.80**	**61**	LR	LR	08 35 17.9	
comp=Z,130nm,19.3s,baz=264,slow=34							
PPT	**Papeete**	**29.73**	**68**	LR	LR	08 40 37.2	
comp=Z,81nm,18.2s,baz=355,slow=34							
STKA	**Stephens Creek**	**33.87**	**260**	P	P	08 30 52.5	+2.2
4.4nm,0.7s,baz=84,slow=9.7,SNR=12							
CTA	**Charters Tower**	**33.88**	**282**	P	**P**	**08 30 52.5**	**+2.0**
5.2nm,0.5s,baz=102,slow=11,SNR=8.7							
AS31	**Alice Springs**	**42.80**	**269**	*e*P	**P**	**08 32 06.6**	**+1.1**
ASAR	**Alice Springs**	**42.80**	**269**	P	**P**	**08 32 05.7**	**+0.3**
3.4nm,0.6s,baz=106,slow=7.4,SNR=65							
ASAR				LR	LR	08 50 01.3	
comp=Z,159nm,18.7s,baz=71,slow=36							
WRAB	**Tennant Creek**	**43.94**	**274**	*e*P	**P**	**08 32 15.1**	**+0.4**
7.0nm,0.6s							
WRA	**Warramunga Arr**	**43.95**	**274**	P	**P**	**08 32 14.8**	**0.0**
6.1nm,0.6s,baz=112,slow=8.1,SNR=96							
WRA				LR	LR	08 49 35.9	
comp=Z,108nm,20.9s,baz=165,slow=35							
QSPA	**South Pole Qui**	**57.92**	**180**	*e*P	P	08 34 01.6	+2.3
17nm,0.8s							
RPN	**Rapa Nui**	**59.22**	**104**	LR	LR	08 58 52.9	
comp=Z,27nm,18.3s,baz=188,slow=35							
SNAA	**Sanae**	**76.37**	**179**	P	P	08 35 48.7	-7.4
VNA1	**Neumayer--Stat**	**77.20**	**177**	P	**P**	**08 36 02.1**	**+1.4**
NVAR	**Mina Array Bea**	**89.72**	**43**	P	**P**	**08 37 06.8**	**+1.2**
0.8nm,1.0s,baz=233,slow=8.9,SNR=3.1							
MKAR	**Makanchi Array**	**118.72**	**309**	PKP	**PKPdf**	**08 42 54.8**	**-0.2**
0.7nm,0.9s,baz=57,slow=4.5,SNR=4.4							
BVAR	**Borovoye Array**	**127.50**	**315**	PKP	**PKPdf**	**08 43 11.3**	**-0.3**
1.5nm,0.9s,baz=132,slow=2.1,SNR=4.0							
ARCES	**ARCESS Array B**	**140.28**	**347**	PKP	**PKPdf**	**08 43 36.4**	**+1.4**
1.7nm,0.8s,baz=2.9,slow=1.8,SNR=3.3							
KBZ	**Khabaz**	**145.87**	**302**	PKPbc	**PKPab**	**08 43 46.7**	**-0.1**
2.0nm,0.8s,baz=124,slow=2.2,SNR=4.6							
FINES	**FINESS Array B**	**146.73**	**339**	PKPbc	**PKPbc**	**08 43 47.6**	**-0.7**
8.7nm,0.8s,baz=62,slow=2.8,SNR=20							
NOA	**NORSAR Array B**	**150.48**	**351**	PKPbc	**PKPbc**	**08 43 57.8**	**-0.3**
1.0nm,0.6s,baz=14,slow=4.1,SNR=3.6							
AKASG	**Malin Array Be**	**152.55**	**320**	PKPbc	**PKPbc**	**08 44 02.7**	**-0.4**
1.7nm,0.8s,baz=56,slow=2.9,SNR=6.3							
BR131	**Keskin Array S**	**153.19**	**295**	*e*PKPbc	**PKPbc**	**08 44 05.4**	**+0.4**
BRTR	**Keskin Array B**	**153.19**	**295**	PKPbc	**PKPbc**	**08 44 04.2**	**-0.8**
1.2nm,0.5s,baz=140,slow=3.8,SNR=9.4							
TORD	**Torodi Ar. Bea**	**161.04**	**180**	PKPab	**PKPab**	**08 44 51.0**	**+0.1**
1.3nm,0.8s,baz=174,slow=3.1,SNR=6.8							

IDC ***13*** *08:41:13.3±1.4, 22°.36N×108°.23W, h0km, mb3.9/3, mb1 4.1/8, mb1mx3.8/31, mbtmp3.8/8, ML3.2/5, MS4.3/27, Ms1 4.3/27, ms1mx4.2/35, Error ellipse: s-maj=33.2km s-min=25.3km az=48.0*
BJI ***13*** *08:41:20.1, 22°.90N×107°.80W, h10km, mb5.1/1*
MEX ***13*** *08:41:20.5±0.4, 23°.21N×108°.02W, h13km±7km, MD4.6*
ISCJB ***13*** *08:41:21.5±0.3, 23°.01N±0°.03×107°.78W±0°.02, h10km, mb4.6/37, MS4.4/21, Error ellipse: s-maj=3.9km s-min=2.3km az=17.7*
GCMT ***13*** *08:41:21.4±0.3, 23°.01N×108°.09W, h18km±1km, MW5.1/76, Moment Tensor Solution. s14,c17; s76,c116; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.58±.30; Mθθ-2.23±.18; Mϕϕ4.82±.22; Mrθ-1.46±.51; Mθϕ-2.01±.13; Mϕr-0.14±.37; Best double couple: M₀4.74200×10¹⁶ NP1:ϕs129.00000°, δ62.00000°, λ-145.00000°. NP2: ϕs21.00000°, δ60.00000°, λ-32.00000°. Principal axes: T 5.3600, Plg2.0000°, Azm255.0000°; N -1.2250, Plg

baz=9.0
933A **Laredo** 8.97 57 P Pn 08 43 33.0 +0.5
baz=9.1
631A **Perdido Creek** 9.10 44 P Pn 08 43 35.3 +1.0
baz=9.3,SNR=9.8
631A S Sn 08 45 20.5 +3.8
baz=9.3
530A **J-C Ranch, Com** 9.17 38 P Pn 08 43 36.3 +1.0
baz=9.4,SNR=5.2
034A **Hebbronville** 9.19 62 P Pn 08 43 36.0 +0.4
baz=9.3
833A **Chaparral WMA,** 9.24 53 P Pn 08 43 37.0 +0.7
baz=9.4
833A S Sn 08 45 21.5 +1.1
baz=9.4
429A **Davenport Ranc** 9.24 33 P Pn 08 43 37.3 +1.0
baz=9.4,SNR=6.7
121A **Cookes Peak, D** 9.51 360 P Pn 08 43 41.0 +0.9
baz=9.7
121A **Cookes Peak, D** 9.51 360 *e*Pn Pn 08 43 38.6 -1.4
11nm,0.7s
531A **Rocksprings** 9.64 41 P Pn 08 43 43.2 +1.4
baz=9.8,SNR=7.0
TUC **Tucson** 9.66 345 *e*Pn Pn 08 43 40.9 -1.1
632A **Uvalde** 9.67 46 P Pn 08 43 43.1 +0.9
baz=9.9,SNR=9.8
430A **Baggett Ranch,** 9.71 36 P Pn 08 43 44.4 +1.6
baz=9.9,SNR=7.0
834A **Tilden** 9.78 57 P Pn 08 43 44.6 +1.0
baz=9.9
329A **Wagon Wheel Ra** 9.91 30 P Pn 08 43 47.3 +1.8
baz=10,SNR=5.9
214A **Organ Pipe Nat** 9.98 335 P Pn 08 43 48.5 +2.1
baz=10
214A **Organ Pipe Nat** 9.98 335 *e*Pn Pn 08 43 47.2 +0.8
25nm,1.4s
431A **Sonora** 9.98 38 P Pn 08 43 49.3 +2.8
baz=10,SNR=17
532A **Rocksprings** 10.01 43 P Pn 08 43 49.2 +2.3
baz=10,SNR=10.0
633A **Saathoff Ranch** 10.05 48 P Pn 08 43 49.5 +2.1
baz=10
734A **La Parita Cree** 10.14 53 P Pn 08 43 50.5 +1.9
baz=10
228A **UT Block 9, Go** 10.19 26 P Pn 08 43 51.9 +2.6
baz=10,SNR=5.5
330A **Mertzon** 10.24 34 P Pn 08 43 52.4 +2.5
baz=10,SNR=14
JCT **Junction City** 10.32 42 P Pn 08 43 53.5 +2.5
baz=10,SNR=7.6
JCT **Junction City** 10.32 42 *e*Pn Pn 08 43 53.0 +1.9
229A **Bryant Ranch,** 10.39 29 P Pn 08 43 54.0 +1.9
baz=11
533A **Kerrville** 10.54 46 P Pn 08 43 55.4 +1.4
baz=11
331A **San Angelo** 10.56 37 P Pn 08 43 56.0 +1.7
baz=11,SNR=7.4
634A **China Grove, S** 10.59 51 P Pn 08 43 56.5 +1.8
baz=11
432A **Menard** 10.60 41 P Pn 08 43 57.0 +2.1
baz=11,SNR=16
230A **Sterling City** 10.66 32 P Pn 08 43 57.6 +1.9
baz=11,SNR=6.6
128A **Castleberry Fa** 10.68 25 P Pn 08 43 58.3 +2.3
baz=11,SNR=37
534A **Blanco** 10.88 48 P Pn 08 44 00.5 +1.7
baz=11,SNR=8.7
129A **Stewart Farms,** 10.93 27 P Pn 08 44 01.6 +2.1
baz=11,SNR=13
433A **Art** 10.95 43 P Pn 08 44 00.9 +1.3
baz=11,SNR=12
332A **Millersview** 11.00 39 P Pn 08 44 01.7 +1.3
baz=11,SNR=12
Y22D **IRIS PASSCAL I** 11.07 4 P Pn 08 44 02.8 +1.4
baz=11
231A **Bronte** 11.10 35 P Pn 08 44 03.1 +1.3
baz=11
LENM **Lemitar** 11.16 3 *e*Pn Pn 08 44 04.3 +1.7
Z28A **Tucker Farm, M** 11.31 24 P Pn 08 44 05.9 +1.2
baz=12,SNR=16
130A **Snyder** 11.31 31 P Pn 08 44 05.7 +1.1
baz=12,SNR=5.9
LPM **Los Pinos Moun** 11.32 5 *e*Pn Pn 08 44 05.7 +0.7
LAZ **Ladron** 11.38 3 *e*Pn Pn 08 44 06.5 +0.7
18nm,1.4s
333A **Richland Sprin** 11.41 41 P Pn 08 44 07.7 +1.7
baz=12,SNR=12
232A **Coleman** 11.43 37 P Pn 08 44 07.7 +1.5
baz=12
535A **Dale** 11.52 50 P Pn 08 44 09.2 +1.7
baz=12
434A **Burnet** 11.52 45 P Pn 08 44 08.7 +1.2
baz=12,SNR=17
Z29A **Hungry Hill Ra** 11.55 26 P Pn 08 44 09.0 +1.1
baz=12,SNR=18
636A **Smothers Creek** 11.59 54 P Pn 08 44 08.9 +0.4
baz=12
131A **Roby** 11.65 33 P Pn 08 44 10.2 +0.9
baz=12
737A **Port Lavaca** 11.71 58 P Pn 08 44 10.5 +0.3
baz=12
MSTX **Muleshoe** 11.79 21 P Pn 08 44 12.7 +1.5
baz=12,SNR=8.6
MSTX **Muleshoe** 11.79 21 *e*Pn Pn 08 44 12.4 +1.2
GLA **Glamis** 11.79 330 P Pn 08 44 12.0 +0.8
baz=12
GLA **Glamis** 11.79 330 *e*Pn Pn 08 44 11.4 +0.2
93nm,1.7s
Z30A **Sanderson Ranc** 11.81 28 P Pn 08 44 12.5 +1.0
baz=12,SNR=9.7
334A **Lometa** 11.88 44 P Pn 08 44 13.5 +1.2
baz=12,SNR=11
Y28A **McKinney Farm,** 11.91 23 P Pn 08 44 14.3 +1.3
baz=12,SNR=11
233A **Rising Star** 11.95 39 P Pn 08 44 15.3 +1.8
baz=12,SNR=11
435B **Jarrell** 11.95 47 P Pn 08 44 16.0 +2.6
baz=12,SNR=7.3
ANMO **Albuquerque** 11.97 5 Pn Pn 08 44 12.7 -1.1
0.1nm,0.3s,baz=85,slow=12,SNR=6.9
ANMO Lg Lg 08 47 42.1
0.1nm,0.3s,baz=253,slow=18,SNR=2.8
ANMO LR LR 08 50 01.3
comp=Z,291nm,18.2s,baz=190,slow=42
ANMO **Albuquerque** 11.97 5 *e*Pn Pn 08 44 15.6 +1.8
ANMO Lg Lg 08 47 42.1
ABTX **Abilene, Hawle** 11.99 35 P Pn 08 44 15.6 +1.6
baz=12
Y29A **Porterfield Fa** 12.09 25 P Pn 08 44 16.2 +0.9
baz=12,SNR=11
W18A **Petrified Fore** 12.20 352 P Pn 08 44 18.6 +1.6
baz=12
Y12C **Blythe** 12.25 333 P Pn 08 44 18.6 +1.2
baz=12,SNR=14
Z31A **Sharp Cattle R** 12.29 32 P Pn 08 44 18.7 +0.7
baz=12,SNR=9.0
335A **Moody** 12.37 46 P Pn 08 44 21.3 +2.1
baz=13
133A **Hamilton Ranch** 12.38 37 P Pn 08 44 20.3 +1.1
baz=13
234A **Clairette** 12.40 42 P Pn 08 44 20.7 +1.2
baz=13,SNR=11
Y30A **Stafford Cattl** 12.42 28 P Pn 08 44 21.6 +1.8
baz=13
BAR **Barrett** 12.44 323 *e*Pn Pn 08 44 19.5 -0.6
MONP **Monument Peak,** 12.46 324 P Pn 08 44 21.8 +1.2
baz=13
X28A **Dimmitt** 12.48 22 P Pn 08 44 21.6 +0.8
baz=13
PDMCI **Parker Dam,Lak** 12.57 335 P Pn 08 44 22.9 +1.1
baz=13
BC3 **Big Chuckawall** 12.58 329 P Pn 08 44 23.2 +1.1
baz=13,SNR=10
X29A **Tulia** 12.59 24 P Pn 08 44 23.2 +0.9
baz=13,SNR=18
Z32A **Haskell** 12.61 34 P Pn 08 44 23.1 +0.7
baz=13,SNR=16
Y31A **Rekieta Farm,** 12.77 29 P Pn 08 44 25.3 +0.7
baz=13,SNR=15
WHTX **Lake Whitney,** 12.81 43 P Pn 08 44 26.7 +1.6
baz=13
WHTX **Lake Whitney,** 12.81 43 *e*Pn Pn 08 44 24.7 -0.5
30nm,1.0s
336A **Riesel** 12.83 47 P Pn 08 44 26.9 +1.6
baz=13
134A **White-Moore Ra** 12.83 40 P Pn 08 44 26.6 +1.1
baz=13,SNR=5.8
IRM **Iron Mountain** 12.87 331 P Pn 08 44 26.4 +0.5
baz=13,SNR=22
WUAZ **Wupatki** 12.87 347 P Pn 08 44 27.3 +1.2
baz=13,SNR=12
X30A **Coker Ranch, T** 12.92 26 P Pn 08 44 27.6 +0.9
baz=13,SNR=19
Z33A **Whitaker Ranch** 12.97 36 P Pn 08 44 27.3 0.0
baz=13
AMTX **Amarillo** 12.99 23 P Pn 08 44 28.1 +0.4
baz=13
AMTX **Amarillo** 12.99 23 *e*Pn Pn 08 44 28.1 +0.4
PFO **Pinyon Flats O** 13.04 326 P Pn 08 44 29.2 +0.9
baz=13
BELC **Belle Mtn. Jos** 13.13 328 P Pn 08 44 30.3 +0.8
baz=13
538A **Harpers Horsep** 13.14 54 P Pn 08 44 29.9 +0.3
baz=13
Y32A **R-V Farms, Ver** 13.19 32 P Pn 08 44 30.4 +0.1
baz=13,SNR=7.8
W29A **Amarillo** 13.22 23 P Pn 08 44 31.7 +1.0
baz=13
135A **Vickery Place,** 13.22 42 P Pn 08 44 31.6 +0.8
baz=13
236A **Katherine and** 13.42 46 P Pn 08 44 33.9 +0.5
baz=14
V27A **Dan Oppiter Fa** 13.43 18 P Pn 08 44 34.6 +0.9
baz=14
337A **Centerville** 13.44 49 P Pn 08 44 34.5 +0.7
baz=14
X31A **McDonald Ranch** 13.46 29 P Pn 08 44 34.7 +0.7
baz=14,SNR=21
CMIG **Matias Romero** 13.46 114 Pn Pn 08 44 28.0 -6.1
0.1nm,0.3s,baz=166,slow=17,SNR=2.3
CMIG LR LR 08 49 53.1
comp=Z,2μm,18.6s,baz=276,slow=38
V28A **Channing** 13.60 20 P Pn 08 44 36.8 +0.8
baz=14
X32A **Elmer** 13.60 31 P Pn 08 44 36.3 +0.3
baz=14,SNR=13
Y33A **Hilltop Ranch,** 13.60 34 P Pn 08 44 37.3 +1.4
baz=14
GMRC **Granite Mounta** 13.62 331 P Pn 08 44 37.0 +0.8
baz=14
W30A **Crocket Farms** 13.68 26 P Pn 08 44 37.4 +0.5
baz=14
136A **Ennis** 13.72 44 P Pn 08 44 37.4 -0.1
baz=14
SCI **San Clemente I** 13.75 319 P Pn 08 44 38.3 +0.3
baz=14
V29A **Stinnett** 13.94 22 P Pn 08 44 42.5 +1.8
baz=14
W31A **Holland Ranch,** 13.94 28 P Pn 08 44 40.5 -0.1
baz=14,SNR=19
HEC **Hector,Ludlow** 13.96 330 P Pn 08 44 41.3 +0.4
baz=14
Y34A **Reagan Ranch,** 14.03 37 P Pn 08 44 43.4 +1.6
baz=14
U27A **Thompson Grove** 14.06 17 P Pn 08 44 43.5 +1.2
baz=14,SNR=5.4
WMOK **Wichita Mounta** 14.10 32 *e*Pn Pn 08 44 42.0 -0.8
BFSC **Mount Baldy Ra** 14.16 324 P Pn 08 44 45.1 +1.5
baz=14
MVCO **Mesa Verde** 14.19 358 P Pn 08 44 44.5 +0.4
baz=14,SNR=8.0
W32A **Sentinel** 14.20 30 P Pn 08 44 44.1 0.0
baz=14,SNR=11
540A **Vidor** 14.28 57 P Pn 08 44 45.8 +0.6
baz=14
137A **Heron Place, G** 14.30 45 P Pn 08 44 46.8 +1.3
baz=14
Z36A **Blue Ridge** 14.31 42 P Pn 08 44 45.7 +0.1
baz=14
238A **Jacksonville** 14.37 49 P Pn 08 44 46.4 -0.1
baz=14
Y35A **Marietta** 14.39 39 P Pn 08 44 47.8 +1.1
baz=15
T25A **Trinidad** 14.40 11 P Pn 08 44 49.0 +2.0
baz=15,SNR=12
X34A **Smith Ranch, M** 14.47 35 P Pn 08 44 47.9 0.0
baz=15
V31A **Spring Creek L** 14.49 27 P Pn 08 44 48.3 +0.2
baz=15,SNR=6.4
NATX **Nacogdoches** 14.55 50 *e*Pn Pn 08 44 47.7 -1.3
34nm,1.1s
GSC **Goldstone, Bar** 14.57 329 P Pn 08 44 49.2 0.0
baz=15
GSC **Goldstone, Bar** 14.57 329 *e*Pn Pn 08 44 48.5 -0.8
W33A **Caddo, Fort Co** 14.59 32 P Pn 08 44 49.6 +0.2
baz=15,SNR=5.8
T26A **Comanche Natio** 14.59 13 P Pn 08 44 50.8 +1.2
baz=15,SNR=8.0
T27A **Campo** 14.69 16 P Pn 08 44 52.3 +1.4
baz=15
S22A **4UR Ranch, Cre** 14.73 3 P P 08 44 56.4 -1.4
baz=15,SNR=12
138A **Matatall Enter** 14.78 47 P Pn 08 44 54.3 +2.2
baz=15
X35A **Drake** 14.79 37 P Pn 08 44 52.0 -0.1
baz=15
SHOC **Shoshone, Teco** 14.83 332 P Pn 08 44 52.5 -0.2
baz=15
SDCO **Great Sand Dun** 14.84 7 P Pn 08 44 53.6 +0.6
baz=15,SNR=19
SDCO **Great Sand Dun** 14.84 7 *e*Pn Pn 08 44 55.0 +2.0
U30A **WK&E Inc. Balk** 14.84 23 P Pn 08 44 53.0 +0.2
baz=15
SHPR **Sheep Range** 14.90 336 *e*Pn Pn 08 44 53.2 -0.6
U31A **Nine Bar Ranch** 15.00 25 P Pn 08 44 55.0 0.0
baz=15
W34A **Bridge Creek,** 15.00 33 P Pn 08 44 54.5 -0.5
baz=15
W34A **Bridge Creek,** 15.00 33 *e*Pn Pn 08 44 53.6 -1.4
35nm,1.4s
OSI **Osito Audit: C** 15.02 323 *e*Pn Pn 08 44 56.1 +0.8
17nm,0.4s
PV01 **Paradox Valley** 15.11 358 *e*Pn Pn 08 44 56.5 -0.1
2μm,1.2s
LRMC **Laurel Mtn Rad** 15.14 327 P Pn 08 44 56.1 -0.8
baz=15
T29A **Hugoton** 15.19 20 P Pn 08 44 57.1 -0.4
baz=15
Z38A **Mt. Pleasant** 15.21 45 P Pn 08 44 57.2 -0.6
baz=15
V33A **Lossen Ranch,** 15.22 31 P Pn 08 44 57.5 -0.3
baz=15
R23A **Moffat** 15.24 6 P Pn 08 44 60.0 +1.5
baz=16
139A **Bunkhouse Ranc** 15.26 48 P Pn 08 44 58.0 -0.5
baz=15
X36A **Centrahoma** 15.27 38 P Pn 08 44 58.4 -0.2
baz=16,SNR=9.6
CCUT **Cedar City** 15.29 343 *e*Pn Pn 08 44 59.7 +0.7
35nm,1.5s
Y37A **Hugo** 15.29 42 P Pn 08 44 58.7 -0.1
baz=16
U32A **Winter Ranch,** 15.36 28 P Pn 08 44 59.7 -0.1
baz=16
PV04 **Paradox Valley** 15.38 357 *e*Pn Pn 08 45 00.1 -0.2
W35A **Tecumseh** 15.40 36 P Pn 08 45 00.2 -0.1
baz=16
S28A **Manter** 15.41 18 P Pn 08 45 00.9 +0.5
baz=16
ARVC **Arvin** 15.46 324 P Pn 08 44 59.6 -1.5
baz=16
MPMC **Manual Prospec** 15.51 329 P Pn 08 45 00.8 -1.1
baz=16,SNR=23
FURC **Furnace Creek,** 15.56 332 P Pn 08 45 01.5 -0.9
baz=16,SNR=9.8
V34A **Guthrie** 15.60 33 *e*Pn Pn 08 45 02.2 -0.7
94nm,1.3s
ISA **Isabella, Lake** 15.68 326 P Pn 08 45 03.6 -0.4
baz=16
ISA **Isabella, Lake** 15.68 326 *e*Pn Pn 08 45 02.9 -1.2
65nm,2.1s
R26A **Arlington** 15.71 13 P Pn 08 45 05.0 +0.6
baz=16,SNR=6.0
TPNV **Topopah Spring** 15.71 334 P Pn 08 45 04.3 -0.3
baz=16,SNR=18
DAC **Darwin (Calif)** 15.73 329 *e*Pn Pn 08 45 03.8 -1.0
282nm,2.5s
W36A **Wetumka** 15.75 37 P Pn 08 45 04.9 0.0
baz=16,SNR=6.0
U33A **Lingo Farm, Me** 15.80 30 P Pn 08 45 04.9 -0.5
baz=16
Y38A **Idabel** 15.81 44 P Pn 08 45 06.4 +0.8
baz=16
R27A **Eads** 15.83 15 P Pn 08 45 06.7 +0.7
baz=16,SNR=17
X37A **Clayton** 15.85 40 P Pn 08 45 05.6 -0.6
baz=16,SNR=11
V35A **Meyer Ranch, C** 15.89 34 P Pn 08 45 05.9 -0.7
baz=16,SNR=8.9
MVU **Marysvale** 15.92 347 *e*Pn Pn 08 45 07.1 -0.2
35nm,1.7s
MSU **Marysvale** 15.92 347 *e*Pn Pn 08 45 07.4 +0.2
27nm,1.5s
U34A **Anderson Ranch** 16.07 31 P Pn 08 45 08.5 -0.5
baz=16
U34A **Anderson Ranch** 16.07 31 *e*Pn Pn 08 45 07.5 -1.5
74nm,1.3s
T32A **Huddler Ranch,** 16.07 26 P Pn 08 45 10.3 +1.2
baz=16
Q24A **Divide** 16.08 7 P Pn 08 45 10.6 +1.2
baz=16
CWC **Cottonwood Cre** 16.10 329 P Pn 08 45 09.4 -0.1
baz=16
R28A **Tribune** 16.13 17 P Pn 08 45 10.4 +0.5
baz=16,SNR=8.8
VES **Vestal, Richgr** 16.14 325 P P 08 45 11.3 -1.8
baz=16,SNR=15
SMCO **Snowmass** 16.15 2 *e*Pn Pn 08 45 10.9 +0.5
33nm,1.3s
W37A **Quinton** 16.20 39 P Pn 08 45 10.6 -0.1
baz=16,SNR=29
Y39A **Lockesburg** 16.22 45 P Pn 08 45 12.4 +1.4
baz=16
GRAC **Grapevine Rang** 16.23 332 P Pn 08 45 12.0 +0.9
baz=16
S31A **Mullinville** 16.23 24 P Pn 08 45 11.9 +0.8
baz=16
X38A **Whitesboro** 16.24 41 P Pn 08 45 12.1 +1.0
baz=16
SRU **San Rafael Swe** 16.24 352 *e*Pn Pn 08 45 08.3 -3.0
21nm,1.5s
SMMC **Simmler** 16.25 322 P Pn 08 45 11.7 +0.4
baz=16
T33A **Patterson Ranc** 16.28 28 P Pn 08 45 11.5 -0.2
baz=16
Q26A **Hugo** 16.29 12 P P 08 45 14.1 -0.9
baz=16
V36A **Jenks** 16.38 36 P Pn 08 45 14.1 +1.2
baz=17
R29A **Marienthal** 16.40 19 P Pn 08 45 14.3 +1.0
baz=17,SNR=6.4
P23A **Jefferson** 16.42 5 P P 08 45 16.2 -0.3
baz=17,SNR=18
TMUT **Trail Mountain** 16.51 351 *e*Pn Pn 08 45 15.2 +0.3
106nm,1.9s
S32A **Newby Ranch, P** 16.52 25 P P 08 45 16.3 -1.0
baz=17
TUL1 **Leonard** 16.56 36 P Pn 08 45 15.8 +0.6
baz=17,SNR=9.0
TUL1 **Leonard** 16.56 36 *e*Pn Pn 08 45 13.9 -1.3
38nm,1.2s
KSCO **Kaye Shedlock'** 16.56 14 P P 08 45 17.0 -0.9
baz=17,SNR=8.9
KSCO **Kaye Shedlock'** 16.56 14 *e*Pn Pn 08 45 16.1 +0.7
104nm,1.4s
RCTC **Rector, Farmer** 16.57 326 P Pn 08 45 14.5 -0.9
baz=17
P22A **Eagle** 16.58 3 P P 08 45 17.9 -0.3
baz=17,SNR=7.2
W38A **Poteau** 16.69 41 P Pn 08 45 16.8 -0.2
baz=17,SNR=19
R11A **Troy Canyon, C** 16.70 338 P Pn 08 45 16.5 -0.7
baz=17
R11A **Troy Canyon, C** 16.70 338 *e*Pn Pn 08 45 16.1 -1.1
24nm,1.6s
T34A **McClaskey Farm** 16.71 31 P Pn 08 45 16.9 -0.2
baz=17,SNR=6.8
Q28A **Sharon Springs** 16.80 16 P P 08 45 19.4 -1.2
baz=17,SNR=6.4
S33A **Kaszmaul Farm,** 16.81 28 P Pn 08 45 19.0 +0.6
baz=17
ISCO **Idaho Springs** 16.86 6 P P 08 45 21.0 -0.4
baz=17,SNR=25
ISCO **Idaho Springs** 16.86 6 *e*Pn P 08 45 20.3 -1.1
94nm,1.8s
Q29A **Oakley** 16.88 19 P P 08 45 20.4 -1.0
baz=17
V37A **Hulbert** 16.90 38 P Pn 08 45 19.1 -0.4
baz=17
P26A **Davis Ranch, A** 16.94 12 P Pn 08 45 20.4 +0.1
baz=17,SNR=9.7
T35A **Sooner Cattle** 16.95 33 P Pn 08 45 19.5 -0.7
baz=17,SNR=14
TPH **Tonopah** 17.07 334 *e*Pn Pn 08 45 20.7 -1.3
48nm,1.5s
O20A **White River Ci** 17.10 359 P Pn 08 45 22.7 +0.5
baz=17
O20A **White River Ci** 17.10 359 *e*Pn P 08 45 23.3 -0.6
102nm,1.8s
P27A **Ficken Ranch,** 17.10 14 P Pn 08 45 22.3 +0.2
baz=17,SNR=8.1
O22A **Kremmling** 17.15 3 P P 08 45 24.2 -0.5
baz=17,SNR=8.2
Q30A **Quinter** 17.19 20 P Pn 08 45 22.9 -0.4
baz=17
R32A **Long Quarter,** 17.23 25 P Pn 08 45 23.5 -0.2
baz=18,SNR=8.1
O23A **Lake Granby, G** 17.24 5 P P 08 45 25.3 -0.3
baz=18,SNR=10
MPU **Maple Canyon** 17.28 350 *e*P Pn 08 45 24.5 -0.1
62nm,1.4s
S34A **Willow Spring** 17.29 30 P Pn 08 45 24.3 -0.2
baz=18
NLU **North Lily Min** 17.30 349 *e*Pn P 08 45 25.9 -0.3
16nm,1.4s
P28A **Saint Francis** 17.31 16 P P 08 45 25.7 -0.5
baz=18
T36A **Boggs Farm, Ca** 17.38 34 P Pn 08 45 24.6 -0.9
baz=18,SNR=15
MLAC **Mammoth, Mammo** 17.41 329 P Pn 08 45 25.8 -0.4
baz=18
R33A **Olander Ranch,** 17.42 27 P Pn 08 45 26.2 +0.1
baz=18
Q31A **Ellis** 17.49 22 P P 08 45 27.6 -0.5
baz=18
P29A **Atwood** 17.55 18 P Pn 08 45 28.2 +0.4
baz=18
O26A **Horse Wrangler** 17.61 11 P Pn 08 45 28.5 0.0
baz=18
S35A **Otter Creek Ra** 17.65 31 P Pn 08 45 28.7 -0.2
baz=18,SNR=6.0
DUG **Dugway, Tooele** 17.67 347 P P 08 45 29.5 -0.8
baz=18
DUG **Dugway, Tooele** 17.67 347 *e*Pn P 08 45 30.3 +0.1
16nm,1.2s
P30A **Selden** 17.70 19 P Pn 08 45 29.3 -0.2
baz=18
O27A **Beecher Island** 17.73 13 P P 08 45 31.2 +0.4
baz=18
R34A **Isabella, Hill** 17.73 28 P Pn 08 45 29.7 -0.2
baz=18
Q32A **Meitler Ranch,** 17.78 24 P Pn 08 45 30.6 0.0
baz=18
O28A **Krutsinger Ran** 17.82 15 P P 08 45 31.7 -0.2
baz=18
NVAR **Mina Array Bea** 17.83 332 P Pn 08 45 28.9 -2.4
0.2nm,0.3s,baz=159,slow=12,SNR=20
JLU **Jordanelle** 17.83 351 *e*P P 08 45 32.5 +0.4
124nm,2.2s
UALR **University of** 17.88 46 *e*Pn Pn 08 45 31.0 -0.8
66nm,1.4s
N23A **Red Feather La** 17.92 5 P P 08 45 33.7 +0.6
baz=18,SNR=6.1
T37A **Cheneyville 18** 17.93 35 P Pn 08 45 31.5 -0.9
baz=18,SNR=12
P31A **Stockton** 17.96 22 P Pn 08 45 32.6 -0.1
baz=18
S36A **Lake Cedric, C** 18.04 33 P Pn 08 45 33.0 -0.7
baz=18,SNR=12
Q33A **Connelly Farm,** 18.07 26 P Pn 08 45 34.2 +0.1
baz=18
O29A **4D Ranch, Culb** 18.08 17 P P 08 45 34.8 +0.2
baz=18
N26A **Koester Ranch,** 18.20 11 P P 08 45 36.4 +0.4
baz=18
R35A **Emporia Munici** 18.22 30 P P 08 45 36.2 +0.1
baz=18
N27A **Anderson Farm,** 18.30 13 P P 08 45 37.0 -0.1
baz=18
P32A **Huiting Farm,** 18.32 23 P Pn 08 45 36.7 -0.5
baz=19
TCUT **Toone Canyon** 18.33 351 *e*P P 08 45 37.8 +0.2
37nm,1.2s
TEIG **Tepich** 18.34 95 LR LR 08 54 19.8
comp=Z,569nm,18.1s,baz=280,slow=42

PHWY **Pilot Hill** 18.36 6 eP Pn 08 45 37.5 -0.4
37nm,1.8s
Q34A **Chapman** 18.38 28 P Pn 08 45 37.8 0.0
baz=19,SNR=7.6
WAKR **Walker** 18.40 330 eP P 08 45 39.1 +0.8
N28A **Pribbeno Ranch** 18.41 15 P Pn 08 45 38.3 0.0
baz=19
BGU **Big Grassy Mou** 18.42 347 eP P 08 45 37.9 -0.6
53nm,2.0s
P33A **Williams Farm,** 18.50 25 P P 08 45 39.1 -0.2
baz=19,SNR=5.8
OGNE **Ogallala** 18.55 14 P Pn 08 45 39.9 0.0
baz=19
O31A **Woolen Ranch,** 18.55 21 P P 08 45 39.1 -0.7
baz=19
R36A **Gordon, Harris** 18.55 32 P P 08 45 39.1 -0.7
baz=19
RWWY **Rawlins** 18.65 1 eP Pn 08 45 43.6 +2.2
124nm,2.0s
M25A **Palm-Egli Farm** 18.66 9 P Pn 08 45 43.3 +1.9
baz=19
KSU1 **Kansas State U** 18.67 28 P Pn 08 45 41.3 -0.2
baz=19,SNR=5.1
KSU1 **Kansas State U** 18.67 28 eP Pn 08 45 41.2 -0.2
73nm,1.5s
Q35A **Mercer Eighty,** 18.73 30 P P 08 45 41.7 0.0
baz=19
ELK **Elko** 18.79 342 P P 08 45 40.4 -2.2
0.1nm,0.3s,baz=155,slow=19,SNR=3.2
ELK **Elko** 18.79 342 eP P 08 45 42.0 -0.6
7.6nm,1.1s
HWUT **Hardware Ranch** 18.83 351 eP P 08 45 42.7 -0.3
70nm,2.0s
R37A **Teagarden Farm** 18.87 33 P P 08 45 43.2 -0.2
baz=19
P34A **Walnut Farm, R** 18.95 27 P Pn 08 45 44.5 -0.3
baz=19,SNR=10.0
O32A **Brockman Farm,** 19.00 23 P Pn 08 45 45.6 +0.1
baz=19
Q36A **Arnold C. Orve** 19.07 31 P Pn 08 45 47.0 +0.7
baz=19
M28A **Bar X Bar Ranc** 19.12 15 P Pn 08 45 46.6 -0.4
baz=19
BMN **Battle Mountai** 19.13 338 eP P 08 45 45.5 -0.8
16nm,1.2s
HVU **Hansel Valley** 19.20 349 eP P 08 45 46.8 -0.2
P35A **Duane Minner,** 19.28 29 P Pn 08 45 49.2 +0.4
baz=20
M29A **Burnside Ranch** 19.34 16 P Pn 08 45 49.4 -0.1
baz=20
Q37A **Longview Farm,** 19.50 33 P Pn 08 45 52.0 +0.6
baz=20
O34A **Beatrice** 19.54 26 P Pn 08 45 51.7 -0.3
baz=20
K22A **Casper** 19.63 3 P Pn 08 45 52.4 -0.7
baz=20
K22A **Casper** 19.63 3 eP P 08 45 52.0 +0.2
118nm,1.8s
M30A **Dale-Ortello V** 19.65 18 P Pn 08 45 52.9 -0.3
baz=20
P36A **Good Intent, A** 19.72 30 P P 08 45 53.3 +0.7
baz=20
M31A **Lambtecht Ranc** 19.74 20 P Pn 08 45 54.2 -0.1
baz=20
OXF **Oxford** 19.75 50 eP P 08 45 53.5 +0.6
47nm,1.3s
BW06 **Boulder Array** 19.78 356 eP P 08 45 52.2 -1.3
64nm,2.0s
PDAR **Pinedale Array** 19.78 356 P P 08 45 51.4 -2.0
1.4nm,0.9s,baz=157,slow=8.0,SNR=9.8
PDAR LR LR 08 53 50.6
comp=Z,572nm,18.7s,baz=188,slow=37
K24A **Anderson Ranch** 19.83 6 P Pn 08 45 55.8 +0.3
baz=20
K25A **Mack Ranch, Ha** 19.84 9 P Pn 08 45 55.3 -0.2
baz=20
AHID **Auburn Hatcher** 19.91 353 eP P 08 45 53.9 -1.0
39nm,1.7s
O35A **Humboldt** 19.94 27 P P 08 45 55.2 +0.2
baz=20
L29A **Maesberg Ranch** 19.98 16 P P 08 45 56.1 +0.7
baz=20
K26A **Motz Farm, Whi** 20.03 10 P P 08 45 56.0 0.0
baz=20
BGNE **Belgrade** 20.07 22 P P 08 45 56.6 +0.3
baz=20
BGNE **Belgrade** 20.07 22 eP P 08 45 57.1 +0.7
50nm,1.0s
BRAL **Brewton** 20.10 62 eP Pn 08 45 59.1 +0.5
105nm,1.3s
N34A **Lincoln** 20.17 25 P P 08 45 58.0 +0.5
baz=20
K27A **Flueckinger Fa** 20.19 12 P P 08 45 58.1 +0.3
baz=20
O36A **Bolckow** 20.24 29 P P 08 45 59.0 +0.7
baz=20,SNR=5.7
J19A **Crowheart** 20.25 357 P P 08 45 58.6 +0.1
baz=20,SNR=10.0
J21A **Lysite** 20.30 1 P P 08 45 59.8 +0.7
baz=20
J20A **Shoshoni** 20.31 359 P Pn 08 46 00.0 -1.1
baz=20
PBMO **Poplar Bluff** 20.33 44 eP P 08 45 59.8 +0.6
58nm,1.6s
K28A **Ten Mile Ranch** 20.38 14 P P 08 46 00.4 +0.6
baz=21,SNR=7.0
J22A **Midwest** 20.40 3 P P 08 45 59.7 -0.4
baz=21,SNR=11
J24A **Dixon Ranch, L** 20.45 7 P P 08 46 01.2 +0.5
baz=21
REDW **Red Top Meadow** 20.48 354 eP P 08 46 01.2 +0.2
96nm,2.1s
HALT **Halls** 20.54 47 eP P 08 46 02.0 +0.5
L31A **Butterfield Fa** 20.54 19 P P 08 46 01.8 +0.3
baz=21
N35A **Tabor** 20.54 27 P P 08 46 01.9 +0.3
baz=21
SNOW **Snow King Moun** 20.57 354 eP P 08 46 01.5 -0.5
18nm,1.2s
J25A **Sunshine Ranch** 20.61 8 P P 08 46 02.4 0.0
baz=21
TPAW **Teton Pass** 20.61 353 eP P 08 46 02.3 -0.3
51nm,1.8s
J26A **Sides Ranch, S** 20.64 10 P P 08 46 03.2 +0.6
baz=21,SNR=8.7
K29A **Lazy Trails An** 20.67 16 P P 08 46 03.5 +0.6
baz=21
PARMO **Parma** 20.70 45 eP P 08 46 04.4 +1.2
LOHW **Long Hollow** 20.70 354 eP P 08 46 02.6 -0.8
27nm,1.3s
M34A **Aspy Farms, Fr** 20.71 24 P P 08 46 03.7 +0.4
baz=21
FXWY **Fox Creek** 20.77 353 eP P 08 46 03.8 -0.4
104nm,2.3s
J27A **Elkhorn Farm,** 20.77 12 P P 08 46 04.5 +0.4
baz=21,SNR=9.6
I21A **Big Trails, Te** 20.77 1 P P 08 46 04.3 +0.1
baz=21
K30A **Basset** 20.77 17 P P 08 46 04.9 +0.8
baz=21
GLAT **Glass** 20.77 46 eP P 08 46 04.0 -0.1
MOOW **Moose Ponds** 20.85 354 eP P 08 46 04.2 -0.8
144nm,2.2s
LRAL **Lakeview Retre** 20.87 57 eP P 08 46 05.5 +0.4
110nm,2.1s
I22A **9 Mile Ranch,** 20.87 3 P P 08 46 05.1 -0.1
baz=21
I20A **Worland** 20.91 359 P P 08 46 05.8 +0.3
baz=21,SNR=9.1
I24A **Kuemmerle Ranc** 20.98 6 P P 08 46 06.6 +0.3
baz=21
IMW **Indian Meadow** 21.01 354 eP P 08 46 06.5 -0.4
39nm,1.6s
I19A **Meeteetse** 21.01 358 P P 08 46 06.2 -0.6
baz=21,SNR=8.8
J28A **Allard Ranch,** 21.09 13 P P 08 46 08.1 +0.6
baz=21,SNR=12
FLWY **Flagg Ranch** 21.17 354 eP P 08 46 08.2 -0.4
56nm,1.4s
L34A **Svendsen Farm,** 21.19 24 P P 08 46 10.4 +1.9
baz=21
HLID **Hailey** 21.24 347 P P 08 46 09.2 -0.1
baz=21
HLID **Hailey** 21.24 347 eP P 08 46 09.5 +0.2
16nm,1.4s
I25A **Rochford** 21.24 8 P P 08 46 09.2 -0.1
baz=22
J29A **Okreek** 21.28 15 P P 08 46 10.5 +1.0
baz=22,SNR=17
RSSD **Black Hills** 21.30 7 eP P 08 46 09.3 -0.7
63nm,2.5s
I26A **New Underwood** 21.37 10 P P 08 46 11.8 +1.3
baz=22,SNR=5.8
WVOR **Wild Horse Val** 21.40 338 eP P 08 46 11.8 +0.9
25nm,1.5s
MFID **Camas Ranch** 21.43 344 eP P 08 46 10.2 -1.1
13nm,1.4s
H20A **Greybull** 21.44 360 P P 08 46 13.5 +2.2
baz=22
I27A **Quinn** 21.55 11 P P 08 46 13.3 +0.9
baz=22
YFT **Old Faithful** 21.55 354 eP P 08 46 12.4 -0.2
79nm,1.7s
H21A **Big Horn, Sher** 21.59 1 P P 08 46 14.2 +1.2
baz=22
H19A **Powell** 21.65 358 P P 08 46 13.4 -0.2
baz=22,SNR=12
I28A **Midland** 21.65 13 P P 08 46 13.9 +0.4
baz=22,SNR=9.5
SIUC **Southern Illin** 21.67 43 eP P 08 46 13.0 -0.7
35nm,1.3s
WVT **Waverly** 21.69 48 eP P 08 46 13.1 -0.8
36nm,1.4s
YMR **Madison River** 21.78 354 eP P 08 46 13.7 -1.4
20nm,1.1s
H25A **Fruitdale** 21.85 8 P P 08 46 16.4 +0.7
baz=22,SNR=5.8
H24A **Dirks Ranch, A** 21.86 6 P P 08 46 16.3 +0.4
baz=22
I29A **Vivian Onida** 21.86 15 P P 08 46 15.8 +0.1
baz=22,SNR=7.9
N02D **Trinity Center** 21.89 328 P P 08 46 16.3 +0.2
baz=22
H26A **Fairpoint** 21.96 10 P P 08 46 17.2 +0.3
baz=22,SNR=13
I30A **Oacoma** 21.98 16 P P 08 46 17.3 +0.3
baz=22
H27A **Howes** 22.09 11 P P 08 46 18.8 +0.6
baz=22,SNR=9.9
RLMT **Red Lodge** 22.11 357 P P 08 46 18.8 +0.1
baz=22
RLMT **Red Lodge** 22.11 357 eP P 08 46 18.2 -0.4
43nm,1.8s
M04C **Macdoel** 22.13 331 P P 08 46 18.5 -0.2
baz=22
MCMT **McKenzie Canyo** 22.17 350 eP P 08 46 19.8 +0.5
G20A **Bridger** 22.18 359 P P 08 46 19.3 +0.1
baz=22
G21A **Lodge Grass** 22.18 1 P P 08 46 19.7 +0.4
baz=22
G22A **Birney** 22.21 3 P P 08 46 19.9 +0.4
baz=22
G23A **Biddle** 22.24 4 P P 08 46 20.0 +0.2
baz=22
H28A **Mission Ridge** 22.33 13 P P 08 46 21.2 +0.5
baz=23
G25A **Newell** 22.43 8 P P 08 46 22.3 +0.4
baz=23
G24A **Alzada** 22.45 6 P P 08 46 22.3 +0.1
baz=23
H29A **Onida** 22.46 14 P P 08 46 22.4 +0.3
baz=23
YBH **Yreka Blue Hor** 22.48 330 LR LR 08 55 26.7
comp=Z,273nm,20.0s,baz=164,slow=37
G26A **Maurine** 22.65 10 P P 08 46 24.7 +0.6
baz=23,SNR=6.6
ECSD **EROS Data Cent** 22.65 21 P P 08 46 24.7 +0.5
baz=23
ECSD **EROS Data Cent** 22.65 21 eP P 08 46 23.0 -1.2
21nm,1.3s
DLMT **Dillon** 22.66 351 eP P 08 46 25.1 +0.6
112nm,2.5s
DLMT epP pP 08 46 37.0 +10
G28A **Parade** 22.73 13 P P 08 46 25.9 +0.8
baz=23
F20A **Billings** 22.76 359 P P 08 46 25.6 +0.2
baz=23
F23A **Volborg** 22.76 4 P P 08 46 25.4 0.0
baz=23,SNR=13
F22A **Rosebud** 22.77 3 P P 08 46 25.9 +0.4
baz=23
K04D **Chiloquin, OR** 22.77 333 P P 08 46 25.6 0.0
baz=23
GCMT **Greycliff** 22.80 357 eP P 08 46 24.1 -1.8
USIN **University of** 22.80 45 eP P 08 46 26.3 +0.4
BOZ **Bozeman (W)** 22.82 353 P P 08 46 26.2 +0.1
baz=23
BOZ **Bozeman (W)** 22.82 353 eP P 08 46 26.1 0.0
40nm,1.8s
G27A **Lupree** 22.84 11 P P 08 46 26.8 +0.6
baz=23
OLIL **Olney** 22.98 42 eP P 08 46 27.6 -0.2
56nm,1.4s
G29A **Hoven** 23.06 14 P P 08 46 29.7 +1.3
baz=23
TIGA **Tifton** 23.07 63 P P 08 46 28.8 +0.1
baz=23,SNR=7.6
TIGA **Tifton** 23.07 63 eP P 08 46 30.0 +1.4
367nm,2.0s
LRM **Limekiln Ridge** 23.09 352 eP P 08 46 28.9 -0.1
254nm,1.7s
J05D **Fort Rock, OR** 23.10 334 P P 08 46 29.7 +0.6
baz=23
F25A **Bowman** 23.15 8 P P 08 46 30.8 +1.4
baz=23
BMO **Blue Mountains** 23.16 343 eP P 08 46 28.1 -1.5
3.7nm,0.7s
F26A **Lodgepole** 23.18 9 P P 08 46 30.4 +0.6
baz=23
G30A **Faulkton** 23.18 16 P P 08 46 30.5 +0.8
baz=23
F27A **Lemmon** 23.30 10 P P 08 46 30.9 -0.1
baz=24
J04D **Umpqua Nationa** 23.43 333 P P 08 46 32.8 +0.4
baz=24
E22A **Miles City** 23.44 3 P P 08 46 32.3 -0.1
baz=24
HDIL **Hoodale** 23.45 37 eP P 08 46 32.2 -0.3
135nm,1.5s
F28A **McLaughlin** 23.50 12 P P 08 46 32.7 -0.2
baz=24
E21A **Keefer Ranch,** 23.50 1 P P 08 46 32.8 -0.1
baz=24
E23A **Ismay** 23.54 4 P P 08 46 32.9 -0.4
baz=24
LAO **LASA Array** 23.68 3 P P 08 46 35.0 +0.3
baz=24
E24A **Baker** 23.68 6 P P 08 46 34.9 +0.2
baz=24
F29A **Eureka** 23.69 14 P P 08 46 34.9 +0.2
baz=24
E25A **Miller Ranch,** 23.72 8 P P 08 46 35.0 -0.1
baz=24
CPCT **Cooper Cave** 23.73 53 eP P 08 46 35.0 -0.3
E26A **Carlson Angus** 23.82 9 P P 08 46 36.0 0.0
baz=24
WCI **Wyandotte Cave** 23.85 46 eP P 08 46 36.4 +0.1
111nm,2.0s
F30A **Leola** 23.88 15 P P 08 46 36.6 +0.1
baz=24
E27A **Carson** 23.92 11 P P 08 46 37.2 +0.2
baz=24,SNR=5.8
I04A **Tendick Farm,** 24.00 333 P P 08 46 37.3 -0.5
baz=24
D21A **La Casta Ranch** 24.03 1 P P 08 46 37.9 -0.1
baz=24
D22A **Cohagen** 24.14 3 P P 08 46 39.1 0.0
baz=24
D23A **Lindsay** 24.22 4 P P 08 46 39.9 +0.1
baz=24
E28A **Huff** 24.22 12 P P 08 46 39.5 -0.3
baz=24
D24A **Glendive** 24.23 6 P P 08 46 40.2 +0.3
baz=24
BLO **Bloomington** 24.23 43 eP P 08 46 40.4 +0.5
CHMT **Chamberlain Mo** 24.27 351 eP P 08 46 39.4 -1.1
21nm,1.7s
MSO **Missoula** 24.30 350 P P 08 46 39.9 -0.7
baz=24
MSO **Missoula** 24.30 350 eP P 08 46 40.1 -0.5
30nm,1.7s
D26A **Manning** 24.37 9 P P 08 46 41.3 +0.1
baz=25
TKL **Tuckaleechee C** 24.37 53 P P 08 46 39.6 -1.6
7.5nm,1.1s,baz=231,slow=11,SNR=7.2
TKL LR LR 08 57 09.8
comp=Z,877nm,18.1s,baz=247,slow=38
TKL **Tuckaleechee C** 24.37 53 eP P 08 46 41.0 -0.3
D25A **Fairfield** 24.37 7 P P 08 46 40.9 -0.3
baz=25
E29A **Napoleon** 24.43 14 P P 08 46 41.5 -0.2
baz=25
E30A **Jud** 24.53 15 P P 08 46 42.3 -0.3
baz=25
D27A **Center** 24.58 10 P P 08 46 42.4 -0.7
baz=25
SFIN **Lafayette** 24.61 40 P P 08 46 43.6 +0.3
baz=25,SNR=12
SFIN **Lafayette** 24.61 40 eP P 08 46 43.5 +0.2
101nm,1.4s
SLMT **Seeley Lake** 24.63 351 eP P 08 46 43.0 -0.7
18nm,1.3s
C24A **Savage** 24.63 5 P P 08 46 43.6 0.0
baz=25
C20A **Veseth Ranch,** 24.67 360 P P 08 46 43.1 -0.8
baz=25
C22A **Vida** 24.75 3 P P 08 46 43.9 -0.7
baz=25
C21A **Desert Coulee** 24.79 1 P P 08 46 44.6 -0.3
baz=25
D28A **Regan** 24.84 12 P P 08 46 45.3 0.0
baz=25
C23A **Lambert** 24.84 4 P P 08 46 44.8 -0.6
baz=25
D29A **Pettibone, Tap** 24.90 13 P P 08 46 45.9 -0.1
baz=25
C25A **Freed Ranch, W** 24.93 7 P P 08 46 45.3 -0.9
baz=25
SWMT **Swartz Lake** 24.97 350 eP P 08 46 44.9 -1.8
7.6nm,0.9s
EGMT **Eagleton** 25.03 357 P P 08 46 46.2 -1.0
baz=25
EGMT **Eagleton** 25.03 357 eP P 08 46 47.3 +0.1
26nm,1.4s
D30A **Buchanan** 25.14 15 P P 08 46 47.6 -0.4
baz=25
C27A **Sayler Ranch,** 25.18 10 P P 08 46 47.9 -0.5
baz=25
C26A **Wahner Farm, P** 25.20 9 P P 08 46 48.0 -0.6
baz=25
B22A **Reddig Ranch S** 25.30 3 P P 08 46 48.8 -0.8
baz=26
YBMT **Yellow Bay** 25.31 350 eP P 08 46 50.0 +0.2
20nm,1.5s
SPMN **Marine on St.** 25.33 25 P P 08 46 49.3 -0.5
baz=26
C28A **Hausauer Farms** 25.37 12 P P 08 46 50.0 -0.2
baz=26
B21A **Ellsworth Farm** 25.39 1 P P 08 46 49.9 -0.5
baz=26
B20A **Solberg Farm,** 25.39 360 P P 08 46 49.7 -0.7
baz=26
B19A **Brinkman Farms** 25.43 358 P P 08 46 50.2 -0.5
baz=26
B23A **Brockton** 25.52 4 P P 08 46 51.0 -0.5
baz=26
C30A **Mose, Pekin** 25.76 15 P P 08 46 53.5 -0.2
baz=26,SNR=7.7
A20A **Cobblestone Ra** 25.84 360 P P 08 46 54.5 0.0
baz=26
B27A **Peters Farms,** 25.89 10 P P 08 46 55.6 +0.7
baz=26
A19A **Klindworth Far** 25.90 359 P P 08 46 56.1 +1.1
baz=26
A22A **Carney Farms,** 25.99 3 P P 08 46 56.0 +0.2
baz=26
KMSC **Kings Mountain** 26.01 56 P P 08 46 55.9 -0.2
baz=26
B28A **Dugan Ranch, T** 26.08 11 P P 08 46 56.4 -0.2
baz=26
A26A **Wade Farm, Ken** 26.25 9 P P 08 46 59.2 +1.0
baz=26
B29A **Wagenman Farm,** 26.29 13 P P 08 46 58.7 +0.2
baz=26
NEW **Newport** 26.30 346 P P 08 46 59.1 +0.5
1.4nm,0.6s,baz=155,slow=14,SNR=3.5
NEW **Newport** 26.30 346 P P 08 46 59.1 +0.5
baz=26
NEW **Newport** 26.30 346 eP P 08 47 02.9 +4.3
5.9nm,0.9s
A27A **Ledoux Ranch,** 26.42 10 P P 08 46 59.9 +0.2
baz=27
B30A **Myrvik Farm, E** 26.50 14 P P 08 47 00.0 -0.4
baz=27,SNR=5.6
A28A **Rude Farm, Bot** 26.54 11 P P 08 47 00.8 0.0
baz=27
A29A **Manning Farm,** 26.75 13 P P 08 47 03.1 +0.4
baz=27
A30A **Hoffart Farm,** 26.96 14 P P 08 47 04.5 -0.1
baz=27
AGMN **Agassiz Nation** 26.98 18 P P 08 47 04.9 +0.1
baz=27
AGMN **Agassiz Nation** 26.98 18 eP P 08 47 04.2 -0.5
11nm,1.3s
ACSO **Alum Creek Sta** 27.09 45 eP P 08 47 05.7 -0.1
25nm,1.4s
EYMN **Ely** 28.09 24 eP P 08 47 13.0 -1.7
20nm,1.3s
OTAV **Otavalo** 36.39 124 eP P 08 48 27.7 -0.5
ROSC **El Rosal** 36.99 114 LR LR 09 05 15.1
comp=Z,290nm,20.3s,baz=6.0,slow=39
SCHQ **Schefferville** 43.99 33 LR LR 09 08 43.1
comp=Z,1µm,19.3s,baz=249,slow=37
TAOE **Nuku Hiva Isla** 44.78 229 eT T 09 36 36.3
83nm,0.3s
INK **Inuvik** 48.00 347 LR LR 09 11 17.6
comp=Z,383nm,19.0s,baz=140,slow=37
HDA **Harding Lake** 48.69 339 eP P 08 50 09.6 +2.5
52nm,1.2s
ILAR **Eielson Array** 48.90 339 P P 08 50 04.8 -3.9
1.0nm,0.5s,baz=142,slow=7.8,SNR=2.0
ILAR LR LR 09 11 17.1
comp=Z,157nm,19.3s,baz=132,slow=37
IM04 **Indian Mountai** 51.95 338 eP P 08 50 32.3 +0.5
RKT **Rikitea** 52.92 212 eLR LR 09 05 47.6
370nm,25.2s,baz=18
RKT **Rikitea** 52.92 212 eT T 09 47 13.0
1.8nm,0.3s
SAML **Samuel** 53.97 121 eP P 08 50 44.0 -3.3
7.2nm,1.3s
PPT **Papeete** 57.39 229 LR LR 09 09 09.3
comp=Z,274nm,21.2s,baz=28,slow=30
PPT2 **Papeete2** 57.41 229 eS S 08 59 09.2 -0.1
127nm,26.0s
PPT2 eLR LR 09 07 43.5
1µm,26.5s,baz=36
TBI **Tubuai** 61.35 224 eS S 08 59 59.0 -0.9
196nm,27.8s
TBI eLQ LQ 09 07 03.7
301nm,30.8s
TBI eLR LR 09 09 28.4
528nm,28.0s,baz=38
RAR **Rarotonga** 67.06 233 LR LR 09 13 31.3
comp=Z,164nm,19.8s,baz=64,slow=29
BORG **Borgarnes** 67.96 28 LR LR 09 21 51.7
comp=Z,606nm,18.4s,baz=262,slow=36
BDFB **Brasilia** 69.94 118 P P 08 52 31.0 -4.0
3.5nm,0.9s,baz=286,slow=10.0,SNR=3.3
BDFB LR LR 09 24 23.1
comp=Z,130nm,20.6s,baz=322,slow=37
JMIC **Jan Mayen** 71.44 20 LR LR 09 24 16.6
comp=Z,221nm,18.8s,baz=264,slow=36
SPITS **Spitsbergen Ar** 74.14 10 LR LR 09 27 45.8
comp=Z,236nm,19.6s,baz=320,slow=37
TIXI **Tiksi** 78.00 344 P P 08 53 22.3 +1.2
14nm,1.4s
ARCES **ARCESS Array B** 81.88 15 LR LR 09 30 45.9
comp=Z,173nm,20.9s,baz=293,slow=36
NOA **NORSAR Array B** 83.00 25 LR LR 09 31 17.2
comp=Z,232nm,18.3s,baz=230,slow=36
YAK **Yakutsk** 83.75 336 eP P 08 53 51.9 0.0
27nm,1.6s
HFS **Hagfors** 84.53 25 LR LR 09 32 14.4
comp=Z,291nm,18.6s,baz=302,slow=36
ESDC **Sonseca Array** 85.58 49 LR LR 09 29 57.0
comp=Z,162nm,21.8s,baz=285,slow=34
FINES **FINESS Array B** 88.06 20 LR LR 09 33 27.3
comp=Z,188nm,18.6s,baz=318,slow=35
GERES **GERESS Array B** 91.51 34 LR LR 09 34 26.9
comp=Z,243nm,21.5s,baz=302,slow=35
DZM **Mont Dzumac** 94.71 248 eLR LR 09 25 09.5
342nm,30.9s
KEST **Kesra** 96.67 47 LR LR 09 37 56.6
comp=Z,57nm,19.8s,baz=269,slow=35

AKASG	**Malin Array Be**	**97.41**	**26**	LR	LR	09 40 48.5		
	comp=Z,154nm,18.2s,baz=330,slow=36							
DBIC	**Dimbokro**	**99.20**	**79**	LR	LR	09 38 45.9		
	comp=Z,98nm,19.7s,baz=272,slow=35							
HHC	**Hu-ho-hao-te**	**106.71**	**330**	Pdif	**Pdif**	**08 55 31.6**	**-6.9**
HHC				PP	**PP**	**09 00 02.8**	**-0.2**
HHC	**Hu-ho-hao-te**	**106.71**	**330**	SS	SS	09 14 57.8	-10
HHC				AMB	AMB		
	comp=Z,120nm,8.5s							
WMQ	**Urumqi**	**112.02**	**348**	*e*PKP	**PKiKP**	**08 59 57.5**	**-1.2**
LZH	**Lanzhou**	**114.07**	**332**	*e*PKP	PKPdf	08 59 57.4	-5.6
LZH				sPKP		09 00 04.5		
CD2	**Chengdu**	**118.46**	**329**	PKP	**PKPdf**	**09 00 09.3**	**-2.1**
WRA	**Warramunga Arr**	**122.48**	**260**	PKP	PKPdf	09 00 10.2	-9.1
	comp=Z,1.0nm,1.1s,baz=72,slow=2.2,SNR=2.7							
ASAR	**Alice Springs**	**123.76**	**256**	PKP	PKPdf	09 00 12.3	-9.4	
	comp=Z,0.4nm,0.7s,baz=86,slow=2.0,SNR=2.8							

WEL 13 08:42:37.4±0.4, 37.80S×176.29E, h135km±5km, ML3.6/16, 6C-2D, Error ellipse: s-maj=5.0km s-min=4.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.80**	**126**	⇑P	Pn	08 42 59.3	+0.3
URZ				SN	Sn	08 43 15.9	+0.4
URZ				AML	AML	08 43 16.1	
MWZ	**Matawai**	**1.12**	**119**	PN	Pn	08 43 01.9	0.0
MWZ				SN	Sn	08 43 20.7	+0.1
RAGZ	**Rawiri**	**1.13**	**128**	PN	Pn	08 43 02.2	+0.1
RAGZ				SN	Sn	08 43 20.7	-0.2
HAZ	**Te Kaha**	**1.19**	**89**	PN	Pn	08 43 02.3	-0.3
HAZ				SN	Sn	08 43 21.1	-0.5
RAHZ	**Arahi**	**1.28**	**151**	PN	Pn	08 43 03.9	+0.3
SNGZ	**Shannon Statio**	**1.29**	**140**	PN	Pn	08 43 03.7	+0.1
NMHZ	**Naumai**	**1.36**	**163**	PN	Pn	08 43 05.0	+0.6
BKZ	**Black Stump Fm**	**1.38**	**173**	⇑PN	Pn	08 43 04.3	-0.3
TKGZ	**Te Karaka**	**1.39**	**118**	PN	Pn	08 43 04.6	0.0
WHHZ	**Waihua**	**1.48**	**150**	PN	Pn	08 43 05.5	-0.1
ARHZ	**Aropaoanui**	**1.57**	**159**	PN	Pn	08 43 06.5	-0.1
MXZ	**Matakaoa Point**	**1.62**	**82**	PN	Pn	08 43 07.4	+0.2
WNVZ	**Wahianoa**	**1.62**	**199**	⇑PN	Pn	08 43 07.7	+0.2
KWHZ	**Kaweka Forest**	**1.63**	**176**	PN	Pn	08 43 07.2	-0.2
KNZ	**Kokohu**	**1.64**	**139**	⇑PN	Pn	08 43 06.6	-0.7
CNGZ	**Carnagh Statio**	**1.67**	**115**	PN	Pn	08 43 08.0	+0.3
MCHZ	**McNeill Hill**	**1.68**	**169**	PN	Pn	08 43 07.8	-0.1
WMGZ	**Waiomatatini S**	**1.69**	**91**	⇓PN	Pn	08 43 07.7	-0.3
BHHZ	**Black Hill Sta**	**1.70**	**186**	⇑PN	Pn	08 43 07.6	-0.6
KRHZ	**Kereru**	**1.85**	**178**	PN	Pn	08 43 08.9	-0.9
CKHZ	**Cape Kidnapper**	**1.96**	**162**	PN	Pn	08 43 10.3	-0.8
KAHZ	**Kahuranaki**	**2.05**	**167**	PN	Pn	08 43 11.3	-1.0
PNHZ	**Pukenui**	**2.12**	**182**	PN	Pn	08 43 11.6	-1.5
WPHZ	**Waipukurau**	**2.27**	**177**	PN	Pn	08 43 13.3	-1.7
TSZ	**Takapari Road**	**2.28**	**186**	PN	Pn	08 43 13.4	-1.6
PXZ	**Pawanui**	**2.28**	**169**	⇑PN	Pn	08 43 13.4	-1.6
DVHZ	**Dannevirke**	**2.50**	**182**	PN	Pn	08 43 15.6	-2.2
POWZ	**Post Office Ro**	**2.62**	**189**	PN	Pn	08 43 17.3	-2.1
ANWZ	**Angora Road**	**2.67**	**177**	⇓PN	Pn	08 43 17.9	-2.0
PRWZ	**Pori Road**	**2.77**	**185**	PN	Pn	08 43 19.1	-2.1
MRZ	**Mangatainoka R**	**2.92**	**191**	PN	Pn	08 43 20.5	-2.6
MRZ				AML	AML	08 43 55.4	
TIWZ	**Tintock**	**2.99**	**186**	AML	AML	08 43 58.1	
OGWZ	**Otaki Gorge**	**3.14**	**196**	PN	Pn	08 43 23.2	-2.7
HOWZ	**Holdsworth Sta**	**3.16**	**191**	PN	Pn	08 43 23.1	-3.2
KIW	**Kapiti Island**	**3.24**	**199**	PN	Pn	08 43 24.3	-3.0
MTW	**Mount Morrison**	**3.41**	**190**	PN	Pn	08 43 25.9	-3.7
CAW	**Cannon Point**	**3.44**	**196**	PN	Pn	08 43 26.7	-3.2
CAW				AML	AML	08 44 07.0	
PAWZ	**Paruwai Farm**	**3.64**	**190**	PN	Pn	08 43 28.6	-3.9
PAWZ				AML	AML	08 44 10.2	
MSWZ	**Moikau Station**	**3.70**	**192**	PN	Pn	08 43 29.3	-4.1
TCW	**Tory Channel**	**3.75**	**204**	PN	Pn	08 43 30.6	-3.3
PLWZ	**Palliser**	**3.85**	**192**	PN	Pn	08 43 31.1	-4.3
TUWZ	**Tuamarina**	**4.06**	**206**	PN	Pn	08 43 34.3	-3.7
QRZ	**Quartz Range**	**4.20**	**223**	PN	Pn	08 43 36.5	-3.5
THZ	**Tophouse**	**4.74**	**212**	PN	Pn	08 43 43.6	-3.6
KHZ	**Kahutara**	**5.07**	**204**	PN	Pn	08 43 47.0	-4.4
OXZ	**Oxford**	**6.40**	**209**	PN	Pn	08 44 03.2	-6.1

*IDC **13** 08:58:56.7±1.4, 30.75N×129.72E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.4/42, mbtmp3.5/6, ML3.6/2, MS2.6/1, Ms1 2.6/1, ms1mx2.3/22, Error ellipse: s-maj=41.1km s-min=22.5km az=91.0*

*ISCJB **13** 08:58:59.1±0.7, 31.06N±0.03×129.84E±0.06, h21km±8km, mb3.5/4, Error ellipse: s-maj=9.3km s-min=4.7km az=171.7*

*JMA **13** 08:58:59.1, 31.04N×129.83E, h9km±1km, M4.1*

JMA Felt II J1.

*NIED **13** 08:59:00, 31.00N×129.80E, h5km, Mw3.9 Best double couple: M₀6.78000×10¹⁴ NP1:ϕ₈290.00000°, δ47.00000°, λ-12.00000°. NP2:ϕ₈28.00000°, δ81.00000°, λ-136.00000°.*

ISC 13 08:58:57.6±1.8, 30.98N±0.04×129.79E±0.07, h2km±13km, n13, σ0⁹90/22, mb3.6/4, 2C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKC	**Kuchinoerabu**	**0.62**	**146**	⇑P	**Pb**	**08 59 11.4**	**+0.3**
JKC				S	**Sb**	**08 59 20.4**	**+0.1**
JSJ	**Shimokoshiki**	**0.70**	**355**	⇑P	**Pg**	**08 59 11.1**	**-0.1**
JSJ				S	**Sg**	**08 59 19.4**	**-0.9**
JSU	**Suzuyama**	**0.78**	**47**	⇓P	**Pg**	**08 59 12.6**	**0.0**
JSU				S	**Sg**	**08 59 21.9**	**-0.8**
JYAK	**Yakushimahirau**	**0.96**	**140**	P	**Pb**	**08 59 17.3**	**+0.3**
JYAK				S	**Sb**	**08 59 30.3**	**+0.2**
JTSR	**Tashiro 2**	**0.99**	**79**	P	**Pg**	**08 59 16.9**	**+0.3**
JTSR				S	**Sg**	**08 59 28.6**	**-0.9**
JTN	**Tanegashima 3**	**1.07**	**107**	P	**Pb**	**08 59 18.7**	**-0.2**
JTN				S	**Sg**	**08 59 32.2**	**+0.1**
JNN	**Nakanoshima**	**1.13**	**176**	P	**Pn**	**08 59 21.4**	**+0.9**
JNN				S	**Sn**	**08 59 37.6**	**+1.0**
JNU	**Nakatsue**	**2.33**	**23**	Pn	**Pb**	**08 59 41.1**	**+0.7**
	38nm,0.3s,baz=184,slow=8.6,SNR=82						
JNU				Sn	**Sb**	**09 00 11.1**	**+1.4**
	48nm,0.3s,baz=309,slow=6.8,SNR=11						
KSRS	**Korea Array**	**6.64**	**347**	Pn	**Pn**	**09 00 36.9**	**+0.7**
	0.2nm,0.3s,baz=165,slow=13,SNR=4.3						
KSRS				Sn	**Sn**	**09 01 51.9**	**-0.7**
	0.6nm,0.3s,baz=170,slow=26,SNR=5.0						
KSRS				LR	LR	09 03 37.0	
	comp=Z,48nm,20.9s,baz=167,slow=41						
KURBB	**Kurchatov Arra**	**42.51**	**313**	P	**P**	**09 06 55.4**	**+1.2**
	0.2nm,0.4s,baz=101,slow=8.7,SNR=2.5						
WRA	**Warramunga Arr**	**50.81**	**174**	P	**P**	**09 07 57.3**	**-2.3**
	0.4nm,0.8s,baz=359,slow=7.8,SNR=2.8						
AKASG	**Malin Array Be**	**72.84**	**319**	P	**P**	**09 10 27.3**	**-0.4**
	0.5nm,0.4s,baz=58,slow=6.8,SNR=3.8						
BRTR	**Keskin Array B**	**75.22**	**308**	P	**P**	**09 10 42.0**	**-0.2**
	0.7nm,0.8s,baz=64,slow=8.4,SNR=3.7						

IDC 13 09:08:42.7±3.0, 32.26S×178.17W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.7/19, mbtmp3.9/3, ML3.4/1, Error ellipse: s-maj=69.9km s-min=36.3km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.12**	**211**	Pn	Pn	09 10 27.8	-0.3
	0.7nm,0.3s,baz=76,slow=19,SNR=5.2						
URZ				Sn	Sn	09 11 50.3	+0.5
	2.4nm,0.3s,baz=103,slow=19,SNR=11						
ASAR	**Alice Springs**	**42.90**	**269**	P	P	09 16 43.3	+0.1
	0.5nm,0.5s,baz=108,slow=7.8,SNR=13						
WRA	**Warramunga Arr**	**44.05**	**274**	P	P	09 16 52.4	-0.2
	0.9nm,0.4s,baz=114,slow=7.9,SNR=13						
FINES	**FINESS Array B**	**146.83**	**339**	PKPbc	PKPdf	09 28 25.2	+0.9
	0.9nm,0.5s,baz=62,slow=3.3,SNR=6.2						

*ISCJB **13** 09:25:46.5±0.5, 0.46N±0.05×100.31E±0.07, h150km, mb3.7/8, Error ellipse: s-maj=11.1km s-min=5.4km az=145.7*

*IDC **13** 09:25:47.4±1.1, 0.28N×100.13E, h160km±7km, mb3.5/8, mb1 3.6/9, mb1mx3.3/33, mbtmp3.9/9, MS3.3/1, Ms1 3.3/1, ms1mx2.5/39, Error ellipse: s-maj=51.2km s-min=9.6km az=55.0*

*DJA **13** 09:25:49.0±0.4, 0°N±3°×10°0E±°, h147km±6km, M3.9/13, mb4.2/3, MLv3.8/5, MLv4.0/13*

ISC 13 09:25:47.1±0.6, 0.35N±0.06×100.16E±0.07, h150km, n20, σ2⁰12/30, mb3.7/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.73**	**307**	P	**Pn**	**09 26 12.5**	**+2.7**
BKNI	**Bangkinang**	**0.88**	**92**	P	**Pn**	**09 26 13.7**	**+2.8**
BKNI				S	**Sn**	**09 26 32.2**	**+3.2**
SDSI	**Sungai Dareh**	**1.80**	**135**	P	**Pn**	**09 26 22.7**	**+2.8**
PSI	**Prapat**	**2.73**	**333**	P	**Pn**	**09 26 32.3**	**+1.1**
	2.2nm,0.3s,baz=182,slow=8.1,SNR=7.6						
PSI				S	**Sn**	**09 27 05.4**	**+0.1**
	2.0nm,0.3s,baz=262,slow=21,SNR=13						
GSI	**Gunungsitoli**	**2.75**	**290**	P	**Pn**	**09 26 33.9**	**+2.5**
GSI				S	**Sn**	**09 27 06.9**	**+1.3**
PPSI	**Pulau Pagai**	**3.10**	**183**	P	**Pn**	**09 26 36.9**	**+1.1**
PPSI				S	**Sn**	**09 27 15.9**	**+2.5**
SNSI	**Sinabang, Aceh**	**4.34**	**298**	P	**Pn**	**09 26 54.1**	**+2.2**
MDSI	**Maura Dua**	**6.26**	**140**	P	**Pn**	**09 27 18.8**	**+1.5**
	22nm,0.9s,0.1nm						
KLSI		**6.78**	**138**	P	**Pn**	**09 27 26.4**	**+2.2**
	38nm,0.9s,0.1nm						
KASI	**Kota Agung**	**7.27**	**143**	P	**Pn**	**09 27 30.9**	**+0.1**
WRA	**Warramunga Arr**	**39.08**	**123**	P	**P**	**09 32 58.5**	**-1.4**
	0.7nm,0.4s,baz=310,slow=9.2,SNR=21						
WRA				PcP	**PcP**	**09 35 06.4**	**-0.5**
	0.5nm,0.4s,baz=318,slow=2.6,SNR=14						
WRA				ScP	**ScP**	**09 38 37.8**	**-3.7**
	0.2nm,0.6s,baz=293,slow=3.4,SNR=3.1						
ASAR	**Alice Springs**	**40.54**	**128**	P	**P**	**09 33 10.1**	**-1.8**
	0.6nm,0.3s,baz=299,slow=7.7,SNR=43						
ASAR				PcP	**PcP**	**09 35 11.3**	**-0.2**
	0.8nm,0.4s,baz=309,slow=2.8,SNR=15						
ASAR				ScP	**ScP**	**09 38 43.0**	**-4.1**
	0.3nm,0.6s,baz=305,slow=4.1,SNR=5.2						
SONM	**Songino Array**	**47.60**	**6**	P	**P**	**09 34 08.9**	**+0.9**
	0.6nm,0.6s,baz=192,slow=9.6,SNR=5.5						
JCJ	**Chichijima**	**48.32**	**53**	LR	LR	09 54 52.0	
	comp=Z,38nm,21.6s,slow=36						
MKAR	**Makanchi Array**	**48.83**	**344**	P	**P**	**09 34 16.8**	**-0.4**
	1.3nm,0.3s,baz=156,slow=8.6,SNR=55						
STKA	**Stephens Creek**	**50.61**	**133**	P	**P**	**09 34 30.1**	**-0.8**
	1.2nm,0.4s,baz=319,slow=6.2,SNR=6.7						
STKA				pP	**pP**	**09 35 07.1**	**+1.9**
	0.4nm,0.3s,baz=243,slow=4.3,SNR=1.4						
KURBB	**Kurchatov Arra**	**53.36**	**343**	P	**P**	**09 34 50.4**	**-0.5**
	0.3nm,0.4s,baz=158,slow=7.2,SNR=4.8						
KURBB				pP	**pP**	**09 35 26.4**	**+0.9**
	0.6nm,0.6s,baz=160,slow=7.2,SNR=4.0						
ZALV	**Zalesovo Beam**	**54.90**	**349**	P	**P**	**09 35 01.6**	**-0.4**
	1.5nm,0.3s,baz=189,slow=3.8,SNR=4.7						
ZALV				pP	**pP**	**09 35 39.0**	**+2.2**
	0.9nm,0.4s,baz=184,slow=5.9,SNR=2.3						
BRTR	**Keskin Array B**	**71.87**	**312**	P	**P**	**09 36 53.5**	**-0.7**
	1.0nm,0.6s,baz=138,slow=6.8,SNR=7.5						
TXAR	**Lajitas Array**	**142.73**	**36**	PKP	**PKPdf**	**09 44 59.9**	**-3.6**
	0.2nm,0.4s,baz=331,slow=1.3,SNR=6.1						

CASC 13 09:30:15.2±1.9, 14.67N×91.25W, h165km±12km, MD3.5, 1C, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.45**	**119**	*e*P	Pn	09 30 38.2	-0.1
JAT	**Jato**	**0.51**	**227**	⇑*e*P	Pn	09 30 38.2	-0.1
NBG	**Las Nubes**	**0.88**	**95**	*e*P	Pn	09 30 41.7	+0.8
MRL	**Marmol**	**1.56**	**75**	*e*P	Pn	09 30 47.5	+0.7
MRL				*e*S	Sn	09 31 11.9	+0.8
RBDL	**Robledal**	**1.61**	**110**	*e*P	Pn	09 30 47.3	0.0
RTR	**El Retiro**	**1.73**	**116**	*e*P	Pn	09 30 48.8	+0.2
SBLS	**San Blas**	**1.78**	**117**	*e*P	Pn	09 30 51.2	+2.1
SNJE	**San Jose**	**1.78**	**116**	*e*P	Pn	09 30 49.6	+0.5

*IDC **13** 09:33:58.6±1.0, 7.73N×91.89E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.7/34, mbtmp3.8/9, ML4.0/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/47, Error ellipse: s-maj=40.2km s-min=18.6km az=44.0*

*ISCJB **13** 09:33:59.8±0.7, 7.76N±0.1×91.78E±0.1, h24km, mb3.6/7, Error ellipse: s-maj=23.3km s-min=12.2km az=32.4*

ISC 13 09:34:02.1±0.8, 7.77N±0.2×91.95E±0.1, h24km, n9, σ0⁹60/9, mb3.8/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.54**	**124**	Pn	**Pn**	**09 36 04.0**	**-0.4**
	1.4nm,0.3s,baz=321,slow=16,SNR=7.3						
PALK	**Pallekele**	**11.09**	**269**	Pn	**Pn**	**09 36 39.1**	**-0.2**
	1.5nm,0.3s,baz=103,slow=16,SNR=4.7						
PALK				Sn	Sn	09 38 31.2	-11
	7.9nm,0.3s,baz=150,slow=6.7,SNR=13						
PALK				LR	LR	09 40 06.4	
	comp=Z,80nm,21.4s,baz=82,slow=33						
MKAR	**Makanchi Array**	**39.82**	**350**	P	**P**	**09 41 32.7**	**-0.8**
	0.3nm,0.5s,baz=173,slow=10.0,SNR=4.9						
SONM	**Songino Array**	**41.87**	**15**	P	**P**	**09 41 50.8**	**+0.3**
	1.0nm,0.8s,baz=194,slow=7.4,SNR=4.9						
WRA	**Warramunga Arr**	**50.00**	**124**	P	**P**	**09 42 55.5**	**+0.6**
	1.3nm,1.0s,baz=303,slow=8.9,SNR=5.5						
ASAR	**Alice Springs**	**51.54**	**128**	P	**P**	**09 43 06.5**	**0.0**
	0.2nm,0.7s,baz=300,slow=7.9,SNR=3.6						
BRTR	**Keskin Array B**	**60.85**	**311**	P	**P**	**09 44 13.0**	**0.0**
	0.6nm,0.7s,baz=112,slow=8.6,SNR=3.9						
FINES	**FINESS Array B**	**71.83**	**333**	P	**P**	**09 45 22.5**	**-0.2**
	2.2nm,0.9s,baz=110,slow=15,SNR=3.0						
GERES	**GERESS Array B**	**76.47**	**318**	P	**P**	**09 45 51.0**	**+0.9**
	0.6nm,0.7s,baz=93,slow=5.3,SNR=6.6						

*SJA **13** 09:37:19.9±1.5, 29.79S×69.79W, h8km±15km, ML2.5, MW2.5*

*GUC **13** 09:37:21.0±0.5, 29.69S×69.99W, h99km±8km, ML3.9*

*ISCJB **13** 09:37:22.3±1.5, 29.62S±0.03×69.86W±0.04, h31km±14km, Error ellipse: s-maj=7.1km s-min=4.3km az=149.1*

ISC 13 09:37:22.2±1.1, 29.63S±0.04×69.87W±0.04, h22km±8km, n15, σ0⁹91/26, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**0.97**	**236**	⇑*i*P	**Pb**	**09 37 40.8**	**+0.3**
TLL				*i* S	**Sn**	**09 37 55.7**	**+1.6**
LSCH	**La Serena**	**1.23**	**257**	⇑*i*P	**Pn**	**09 37 42.7**	**-1.3**
LSCH				*i* S	**Sn**	**09 37 59.2**	**-0.8**
VACH	**Vallenar**	**1.31**	**323**	*i* P	**Pn**	**09 37 45.6**	**+0.4**
VACH				*i* S	**Sb**	**09 38 03.9**	**+1.4**
VACH				AML	AML	09 38 05.5	
	comp=N,2μm,0.1s						
RTLL	**Cerro Villicun**	**2.08**	**145**	*e*P	**Pn**	**09 37 55.9**	**+0.1**
RTLL				*e*S	**Sn**	**09 38 21.9**	**+0.9**
RTLS	**Leoncito**	**2.22**	**167**	*e*P	**Pn**	**09 37 57.8**	**-0.1**
RTLS				*e*S	**Sn**	**09 38 25.1**	**+0.3**
CPCH	**Copiapo**	**2.30**	**349**	*e*P	**Pn**	**09 37 58.3**	**-0.6**
CPCH				*i* S	**Sn**	**09 38 26.9**	**+0.3**
CPCH				AML	AML	09 38 30.0	
	comp=N,803nm,0.1s						
AVFE	**Valle Fertil**	**2.33**	**117**	*e*P	**Pn**	**09 37 59.5**	**+0.2**
AVFE				*e*S	**Sn**	**09 38 27.7**	**+0.4**
CFAA	**Coronel Fontan**	**2.42**	**145**	*e*P	**Pn**	**09 38 00.3**	**-0.2**
CFAA				*e*S	**Sn**	**09 38 29.5**	**0.0**
RTCV	**Cerro Valdivia**	**2.50**	**153**	*e*P	**Pn**	**09 38 01.2**	**-0.5**
RTCV				*e*S	**Sn**	**09 38 30.6**	**-0.9**
ACLC	**CERRO LA CRUZ**	**2.55**	**86**	*e*P	**Pn**	**09 38 03.1**	**+0.7**
ACLC				*e*S	**Sb**	**09 38 36.4**	**-2.0**
AUSP	**Uspallata**	**2.62**	**171**	*e*P	**Pn**	**09 38 03.0**	**-0.5**
AUSP				*e*S	**Sn**	**09 38 36.3**	**+1.5**
CDCH	**Caldera**	**2.69**	**342**	*i* P	**Pn**	**09 38 03.4**	**-0.7**
CDCH				*i* S	**Sn**	**09 38 35.6**	**-0.4**
APLL	**PUNTA DE LOS L**	**3.00**	**106**	*e*P	**Pn**	**09 38 08.6**	**+0.2**
ASAL	**Salagasta**	**3.08**	**164**	*e*P	**Pn**	**09 38 09.0**	**-0.6**
CYA	**Choya**	**3.75**	**73**	AML	AML	09 39 08.8	
	comp=Z,8.6nm,0.3s						

*IDC **13** 09:44:06.5±0.9, 7.77N×91.87E, h0km, mb3.8/8, mb1 4.0/11, mb1mx3.7/48, mbtmp3.8/11, ML4.0/3, MS3.0/2, Ms1 3.1/2, ms1mx2.7/41, Error ellipse: s-maj=26.8km s-min=18.6km az=43.0*

*ISCJB **13** 09:44:07.8±0.6, 7.69N±0.10×91.81E±0.08, h24km, mb3.8/10, Error ellipse: s-maj=15.4km s-min=9.7km az=31.6*

*NEIC **13** 09:44:11.4±0.6, 7.73N×91.84E, h35km, mb4.2/3, Error ellipse: s-maj=15.0km s-min=10.0km az=208.0*

ISC 13 09:44:10.2±0.7, 7.7N±0.1×91.82E±0.09, h24km, n18, σ1⁹06/15, mb3.8/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.61**	**124**	Pn	**Pn**	**09 46 12.7**	**-0.8**
	1.7nm,0.3s,baz=307,slow=11,SNR=7.3						
KULM	**Kulim**	**9.11**	**105**	*e*Pn	**Pn**	**09 46 21.3**	**+1.0**
PALK	**Pallekele**	**11.03**	**268**	Pn	**Pn**	**09 46 45.5**	**-1.1**
	1.8nm,0.3s,baz=88,slow=11,SNR=6.5						
PALK				Sn	Sn	09 48 37.1	-12
	8.2nm,0.3s,baz=139,slow=17,SNR=11						
PALK				LR	LR	09 50 35.7	
	comp=Z,122nm,19.6s,baz=84,slow=35						
CMAR	**Chiang Mai Arr**	**12.71**	**32**	Pn	**Pn**	**09 47 09.1**	**-0.4**
	0.2nm,0.3s,baz=232,slow=14,SNR=2.9						
CMAR				LR	LR	09 52 23.9	
	comp=Z,40nm,20.9s,baz=163,slow=39						
H08S3	**Diego Garcia H**	**24.59**	**232**	T	T	10 15 52.9	
	baz=52,slow=76,SNR=14						
H08S2	**Diego Garcia H**	**24.59**	**232**	T	T	10 15 36.8	
	baz=52,slow=76,SNR=14						
H08S1	**Diego Garcia H**	**24.61**	**232**	T	T	10 15 41.2	
	baz=52,slow=76,SNR=11						
MKAR	**Makanchi Array**	**39.76**	**350**	P	**P**	**09 51 40.2**	**-0.8**
	0.7nm,0.6s,baz=163,slow=8.1,SNR=7.6						
KKAR	**Karatay Array**	**39.88**	**335**	*e*P	**P**	**09 51 41.9**	**-0.2**
	4.3nm,1.1s						
SONM	**Songino Array**	**41.83**	**15**	P	**P**	**09 51 58.0**	**-0.2**
	1.0nm,0.6s,baz=201,slow=8.7,SNR=7.2						
KURBB	**Kurchatov Arra**	**44.15**	**348**	P	**P**	**09 52 17.3**	**+0.5**
	0.8nm,0.6s,baz=171,slow=7.1,SNR=7.1						
KURK	**Kurchatov**	**44.22**	**348**	*e*P	**P**	**09 52 18.8**	**+1.4**
	3.9nm,1.1s						
WRA	**Warramunga Arr**	**50.08**	**124**	P	**P**	**09 53 03.0**	**-0.6**
	1.4nm,0.8s,baz=305,slow=8.9,SNR=6.6						
ASAR	**Alice Springs**	**51.62**	**128**	P	**P**	**09 53 15.2**	**0.0**
	0.8nm,0.8s,baz=320,slow=7.9,SNR=4.3						
KMBO	**Kilima Mbogo**	**55.12**	**263**	P	**P**	**09 53 43.0**	**+1.6**
	1.4nm,0.7s,baz=62,slow=14,SNR=4.2						
KMBO	**Kilima Mbogo**	**55.12**	**263**	*e*P	**P**	**09 53 43.4**	**+2.0**
	4.3nm,1.3s						
BRTR	**Keskin Array B**	**60.78**	**311**	P	**P**	**09 54 20.1**	**-0.4**
	0.6nm,0.8s,baz=121,slow=8.5,SNR=4.6						
GERES	**GERESS Array B**	**76.39**	**318**	P	**P**	**09 55 57.8**	**0.0**
	0.5nm,0.6s,baz=74,slow=5.7,SNR=5.8						

*ISCJB **13** 09:44:43.7±0.3, 3.80N±0.04×125.88E±0.09, h150km, mb4.2/22, Error ellipse: s-maj=13.5km s-min=4.7km az=161.2*

*NEIC **13** 09:44:45.5±1.1, 3.97N×126.19E, h148km±11km, mb4.3/9, Error ellipse: s-maj=16.6km s-min=7.5km az=63.0*

*IDC **13** 09:44:45.8±3.8, 3.89N×125.98E, h149km±38km, mb4.0/15, mb1 4.0/16, mb1mx3.7/40, mbtmp4.4/16, MS3.5/1, Ms1 3.5/1, ms1mx2.5/35, Error ellipse: s-maj=35.0km s-min=11.6km az=72.0*

*DJA **13** 09:44:52.0±0.4, 3°N±4°×12°6E±°, h10km, M4.7/6, mb4.7/3, mB5.5/3, MLv4.7/6, Mw(mB)5.0/3*

ISC 13 09:44:45.8±0.5, 3.79N±0.05×126.00E±0.09, h150km, n38, σ1⁹49/39, mb4.3/22, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.48**	**257**	P	**Pn**	**09 45 04.3**	**-2.7**
SGSI				S	**Sn**	**09 45 19.3**	**-3.8**
GSPH	**General Santos**	**2.51**	**335**	⇑*i*P	Pn	09 45 23.1	-4.0
GSPH				*i* S	Sn	09 45 51.5	-7.6
TNTI	**Ternate**	**3.30**	**155**	P	**Pn**	**09 45 36.1**	**-0.9**
TNTI				S	**Sn**	**09 46 15.0**	**-1.6**
TNTI	**Ternate**	**3.30**	**155**	*e*Pn	**Pn**	**09 45 35.8**	**-1.2**
BIPH	**Bislig**	**4.38**	**5**	⇑*e*P	**Pn**	**09 45 52.7**	**+1.7**
BIPH				*e*S	**Sn**	**09 46 39.4**	**-2.4**
SANI	**Sanana**	**5.80**	**180**	P	Pn	09 46 07.6	-2.3
	49nm,0.7s,6μm0.6nm						
SANI				S	Sn	09 47 09.8	-5.9
	49nm,0.7s,6μm0.6nm						
SIJI	**Sorong**	**7.01**	**131**	P	**Pn**	**09 46 25.4**	**-0.7**
	1.7nm,0.3s,baz=200,slow=23,SNR=4.1						
SIJI				S	**Sn**	**09 47 41.8**	**-2.9**
	1.3nm,0.3s,baz=127,slow=20,SNR=3.8						

*JMA **13** 10:22:37.2,26°.58N×142°.78E,h81km±5km,M3.6*
*IDC **13** 10:22:37.2±0.9,26°.50N×141°.93E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.6/30,mbtmp3.7/6,ML3.7/1,MS2.8/1, Ms1 2.8/1,ms1mx2.3/35,Error ellipse: s-maj=37.9km s-min=12.8km az=104.0*

ISC 13 10:22:37.3±2.2,26.77N±0°.08×143°.01E±0°.09,h17km±13km, n16,σ1§02/19,mb4.1/5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.76**	**259**	P	**Pg**	**10 22 51.5**	**-0.7**
JHHJ				*e*S	**Sb**	**10 23 02.2**	**+0.1**
JCJ	**Chichijima**	**0.80**	**294**	Pn	**Pb**	**10 22 53.6**	**+0.8**
	247nm,0.3s,baz=276,slow=23,SNR=264						
JCJ				Sn	**Sn**	**10 23 05.7**	**+0.2**
	736nm,0.3s,baz=287,slow=20,SNR=59						
CBIJ	**Chichi jima**	**0.81**	**294**	P	**Pb**	**10 22 53.6**	**+0.7**
CBIJ				*e*S	**Sn**	**10 23 05.7**	**+0.2**
BSO1	**Boso 1**	**8.05**	**348**	P	**Pn**	**10 24 34.1**	**+1.2**
JOD2	**Odawara 2**	**9.11**	**339**	P	**Pn**	**10 24 49.2**	**+1.2**
JHU	**Hanno**	**9.59**	**342**	P	**Pn**	**10 24 54.6**	**0.0**
JHU				*e*S	**Sn**	**10 26 40.2**	**-1.9**
JYT	**Yasato**	**9.73**	**346**	P	**Pn**	**10 24 57.7**	**+1.3**
JRY	**Ryogami san**	**9.86**	**340**	P	**Pn**	**10 24 58.7**	**+0.4**
JHO	**Hitachi**	**10.03**	**349**	P	**Pn**	**10 24 59.6**	**-0.9**
MJAR	**Matsushiro Arr**	**10.56**	**338**	Pn	**Pn**	**10 25 08.3**	**+0.4**
	0.5nm,0.3s,baz=160,slow=12,SNR=7.5						
GUMO	**Guam**	**13.23**	**172**	LR	LR	10 29 55.8	
	comp=Z,43nm,20.1s,baz=150,slow=33						
WRA	**Warramunga Arr**	**47.20**	**191**	P	**P**	**10 31 08.3**	**-0.9**
	1.0nm,0.4s,baz=13,slow=8.7,SNR=20						
ASAR	**Alice Springs**	**50.91**	**191**	P	**P**	**10 31 36.5**	**-1.2**
	0.2nm,0.5s,baz=0.9,slow=4.7,SNR=6.8						
MKAR	**Makanchi Array**	**51.25**	**310**	P	**P**	**10 31 39.4**	**-0.7**
	0.2nm,0.6s,baz=103,slow=6.2,SNR=2.7						
STKA	**Stephens Creek**	**58.34**	**181**	P	**P**	**10 32 32.6**	**+1.1**
	0.6nm,0.3s,baz=335,slow=14,SNR=3.4						
FINES	**FINESS Array B**	**78.56**	**334**	P	**P**	**10 34 38.3**	**+0.7**
	1.8nm,0.9s,baz=134,slow=4.0,SNR=7.0						

*IDC **13** 10:33:15.0±0.6,28°.63S×71°.40W,h0km,mb3.8/6, mb1 4.0/10,mb1mx3.9/30,mbtmp3.8/10,ML3.6/3,MS3.4/8, Ms1 3.4/8,ms1mx3.2/23,Error ellipse: s-maj=31.6km s-min=16.4km az=91.0*
*ISCJB **13** 10:33:20.3±0.9,28°.47S±0°.03×71°.39W±0°.09,h45km±9km, mb4.0/11,MS3.5/5,Error ellipse: s-maj=12.9km s-min=5.4km az=6.0*
*GUC **13** 10:33:20.9±0.6,28°.61S×71°.32W,h46km±2km,ML4.3*
*NEIC **13** 10:33:20.9±1.4,28°.48S×71°.33W,h35km±12km,mb4.3/7, Error ellipse: s-maj=19.4km s-min=7.3km az=81.0*
*SJA **13** 10:33:22.7±0.8,28°.56S×71°.21W,h60km,ML4.3,MW4.9*

ISC 13 10:33:20.8±0.8,28°.53S±0°.03×71°.43W±0°.07,h37km±2km, n65,σ1§48/64,mb4.1/11,MS3.5/5,4C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.59**	**95**	⇑*i*P	**Pn**	**10 33 32.3**	**-0.6**
VACH				*i*S	**Sn**	**10 33 40.5**	**-0.7**
LCO	**Las Campanas**	**0.80**	**127**	⇓*i*P	**Pn**	**10 33 35.1**	**-0.7**
LCO				*i*S	**Sn**	**10 33 45.8**	**-0.9**
LCO				AML	AML	10 33 47.4	
	comp=N,21μm,0.2s						
LCO	**Las Campanas**	**0.80**	**127**	*e*P	**Pn**	**10 33 34.9**	**-0.8**
LCO				*e*Sg	**Sn**	**10 33 44.2**	**-2.4**
LCO	**Las Campanas**	**0.80**	**127**	*e*P	**Pn**	**10 33 35.0**	**-0.8**
LCO				*e*S	**Sn**	**10 33 45.2**	**-1.4**
LSCH	**La Serena**	**1.38**	**173**	⇑*i*P	**Pn**	**10 33 43.1**	**-0.5**
LSCH				*i*S	**Sn**	**10 33 59.8**	**-0.8**
CPCH	**Copiapo**	**1.50**	**39**	⇑*i*P	**Pn**	**10 33 45.8**	**+0.5**
CPCH				*i*S	**Sn**	**10 34 05.6**	**+2.0**
CDCH	**Caldera**	**1.55**	**20**	*e*P	**Pn**	**10 33 45.8**	**0.0**
CDCH				*e*S	**Sn**	**10 34 05.2**	**+0.5**
TLL	**Tololo Astrono**	**1.72**	**162**	⇑*i*P	**Pn**	**10 33 48.1**	**-0.3**
TLL				*i*S	**Sn**	**10 34 08.9**	**-0.4**
TLL				AML	AML	10 34 14.3	
	comp=E,6μm,0.4s						
AMOG	**MOGNA**	**3.50**	**134**	*e*P	**Pn**	**10 34 15.2**	**+2.4**
RTLS	**Leoncito**	**3.75**	**151**	*e*P	Pn	10 34 19.7	+3.4
RTLL	**Cerro Villicun**	**3.79**	**138**	*e*P	**Pn**	**10 34 19.0**	**+2.4**
SJA	**San Juan**	**3.89**	**141**	*e*P	**Pn**	**10 34 20.6**	**+2.6**
ACLC	**CERRO LA CRUZ**	**4.02**	**104**	*e*P	**Pn**	**10 34 21.9**	**+1.9**
AVFE	**Valle Fertil**	**4.06**	**123**	*e*P	**Pn**	**10 34 22.0**	**+1.6**
AVFE				AML	AML	10 35 34.5	
	comp=Z,470nm,0.8s						
AUSP	**Uspallata**	**4.08**	**155**	*e*P	Pn	10 34 24.2	+3.3
CFAA	**Coronel Fontan**	**4.13**	**139**	Pn	**Pn**	**10 34 22.7**	**+1.3**
	comp=Z,2.3nm,0.3s,baz=330,slow=4.1,SNR=293						
CFAA				Sn	**Sn**	**10 35 11.1**	**+2.7**
	comp=Z,4.6nm,0.3s,baz=81,slow=22,SNR=8.0						
CFAA				Lg	Lg	10 35 27.1	
	comp=Z,13nm,0.3s,baz=228,slow=23,SNR=20						
CFAA				LR	LR	10 36 05.2	
	comp=Z,62nm,19.1s,baz=308,slow=42						
CFAA	**Coronel Fontan**	**4.13**	**139**	*e*P	**Pn**	**10 34 23.4**	**+2.0**
RTCV	**Cerro Valdivia**	**4.16**	**144**	*e*P	**Pn**	**10 34 24.5**	**+2.8**
ASAL	**Salagasta**	**4.62**	**152**	*e*P	**Pn**	**10 34 31.1**	**+2.9**
APLL	**PUNTA DE LOS L**	**4.66**	**115**	*e*P	**Pn**	**10 34 30.2**	**+1.5**
ARCO	**CERRO ARCO**	**4.81**	**154**	*e*P	**Pn**	**10 34 35.5**	**+2.7**
CYA	**Choya**	**4.95**	**90**	*e*P	**Pn**	**10 34 34.2**	**+1.5**
AAGR	**Agrelo**	**5.06**	**154**	*e*P	**Pn**	**10 34 37.3**	**+3.1**
AHML	**Horco Molle**	**5.68**	**74**	*e*P	**Pn**	**10 34 43.9**	**+1.3**
LVC	**Limon Verde**	**6.31**	**22**	Pn	**Pn**	**10 34 50.8**	**-0.7**
	comp=Z,78nm,0.3s,baz=197,slow=9.2,SNR=44						
LVC				Sn	**Sn**	**10 36 01.4**	**-1.2**
	comp=Z,220nm,0.3s,baz=273,slow=22,SNR=7.7						
LVC				Lg	Lg	10 36 37.9	
	comp=Z,715nm,0.3s,baz=126,slow=12,SNR=15						
LVC				LR	LR	10 37 20.0	
	comp=Z,1μm,21.0s,baz=200,slow=38						
LVC	**Limon Verde**	**6.31**	**22**	*e*Pn	**Pn**	**10 34 50.6**	**-1.0**
	comp=Z,27nm,0.8s						
LVC				Sn	**Sn**	**10 36 01.4**	**-1.2**
LVC				Lg	Lg	10 36 37.9	
PLCA	**Paso Flores**	**12.20**	**177**	Pn	Pn	10 36 08.0	-4.0
	comp=Z,0.1nm,0.3s,baz=24,slow=20,SNR=2.6						
TRQA	**Tornquist**	**12.35**	**143**	*e*Pn	**Pn**	**10 36 14.5**	**+0.4**
	comp=Z,28nm,1.3s						
LPAZ	**La Paz**	**12.56**	**15**	Pn	**Pn**	**10 36 15.8**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=226,slow=10,SNR=5.4						
LPAZ				LR	LR	10 40 28.1	
	comp=Z,39nm,21.8s,baz=222,slow=34						
LPAZ	**La Paz**	**12.56**	**15**	*e*Pn	**Pn**	**10 36 15.7**	**-1.8**
	comp=Z,2.1nm,0.5s						
CPUP	**Villa Florida**	**12.71**	**83**	*e*Pn	**Pn**	**10 36 19.2**	**+0.2**
SIV	**San Ignacio**	**15.72**	**40**	Pn	**Pn**	**10 36 57.1**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=241,slow=12,SNR=2.3						
SAML	**Samuel**	**20.97**	**23**	*e*P	**P**	**10 38 00.1**	**-0.6**
	comp=Z,2.6nm,0.8s						
BDFB	**Brasilia**	**25.14**	**64**	LR	LR	10 48 59.3	
	comp=Z,142nm,20.3s,baz=180,slow=38						
PTGA	**Pitinga**	**29.73**	**24**	LR	LR	10 52 01.7	
	comp=Z,79nm,21.0s,baz=193,slow=38						
RPN	**Rapa Nui**	**33.46**	**263**	LR	LR	10 49 47.9	
	comp=Z,97nm,19.2s,baz=98,slow=30						
SNAA	**Sanae**	**56.47**	**159**	P	**P**	**10 42 58.0**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=278,slow=7.7,SNR=16						
SNAA	**Sanae**	**56.47**	**159**	*e*P	P	10 42 49.7	-8.9
	comp=Z,2.4nm,0.8s						
QSPA	**South Pole Qui**	**61.69**	**180**	*e*P	**P**	**10 43 34.5**	**-0.4**
	comp=Z,8.9nm,1.3s						
TXAR	**Lajitas Array**	**65.27**	**329**	P	**P**	**10 44 00.4**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=154,slow=8.8,SNR=7.3						
ECSD	**EROS Data Cent**	**75.53**	**341**	*e*P	**P**	**10 45 02.2**	**+1.0**
	comp=Z,1.1nm,0.8s						
MAW	**Mawson**	**78.27**	**164**	P	**P**	**10 45 15.9**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=241,slow=4.7,SNR=4.2						
DUG	**Dugway, Tooele**	**78.45**	**329**	*e*P	**P**	**10 45 19.3**	**+1.5**
	comp=Z,4.4nm,1.4s						
HWUT	**Hardware Ranch**	**79.04**	**331**	*e*P	**P**	**10 45 22.2**	**+1.2**
	comp=Z,3.3nm,0.8s						
PDAR	**Pinedale Array**	**79.15**	**332**	P	**P**	**10 45 22.6**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=158,slow=1.6,SNR=5.5						
HVU	**Hansel Valley**	**79.71**	**330**	*e*P	**P**	**10 45 25.9**	**+1.2**
	comp=Z,4.4nm,1.1s						
NVAR	**Mina Array Bea**	**79.73**	**324**	P	**P**	**10 45 24.5**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=129,slow=5.2,SNR=2.6						
TORD	**Torodi Ar. Bea**	**81.87**	**70**	P	**P**	**10 45 36.6**	**0.0**
	comp=Z,0.9nm,0.9s,baz=279,slow=5.3,SNR=4.4						
TORD				LR	LR	11 20 06.9	
	comp=Z,29nm,20.1s,baz=175,slow=34						
KEST	**Kesra**	**99.29**	**54**	LR	LR	11 30 29.9	
	comp=Z,27nm,22.0s,baz=264,slow=35						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**122.65**	**208**	PKP	**PKPdf**	**10 52 12.1**	**-1.0**
	comp=Z,1.1nm,1.0s,baz=138,slow=1.6,SNR=9.7						
WRA	**Warramunga Arr**	**125.76**	**210**	PKP	**PKPdf**	**10 52 18.6**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=164,slow=1.6,SNR=18						
WRAB	**Tennant Creek**	**125.76**	**210**	*e*P	**PKPdf**	**10 52 19.0**	**-0.1**
H11S2	**WAKE ISLAND Hyl**	**126.20**	**273**	T	T	13 11 24.4	
	baz=116						
H11S1	**WAKE ISLAND Hyl**	**126.21**	**273**	T	T	13 11 21.4	
	baz=116						
H11S3	**WAKE ISLAND Hyl**	**126.22**	**273**	T	T	13 11 22.9	
	baz=116						
H11N3	**WAKE ISLAND Hyl**	**126.48**	**274**	T	T	13 11 37.6	
	baz=113,slow=75,SNR=8.7						
H11N1	**WAKE ISLAND Hyl**	**126.49**	**274**	T	T	13 11 35.3	
	baz=113,slow=75,SNR=5.6						
H11N2	**WAKE ISLAND Hyl**	**126.49**	**274**	T	T	13 11 41.4	
	baz=113,slow=75,SNR=7.6						
KAPI	**Kappang**	**144.96**	**200**	PKP	**PKPdf**	**10 52 54.5**	**-0.2**
	comp=Z,5.1nm,0.8s,baz=225,slow=2.9,SNR=5.5						
KKAR	**Karatay Array**	**146.19**	**54**	*e*P	**PKPab**	**10 52 57.1**	**-0.8**
KURK	**Kurchatov**	**148.37**	**37**	*e*PKPdf	**PKPbc**	**10 53 00.7**	**-2.1**
KURK				PKPbc	**PKiKP**	**10 53 02.8**	**-1.6**
KURBB	**Kurchatov Arra**	**148.37**	**37**	PKPbc	**PKPbc**	**10 53 02.8**	**0.0**
	comp=Z,1.7nm,0.7s,baz=301,slow=3.1,SNR=15						
ZALV	**Zalesovo Beam**	**149.24**	**28**	PKPbc	**PKPbc**	**10 53 05.5**	**+0.5**
	comp=Z,4.3nm,0.6s,baz=296,slow=3.8,SNR=9.0						
MK31	**Makanchi Array**	**152.53**	**41**	*e*PKPbc	**PKPbc**	**10 53 12.8**	**-0.1**
MKAR	**Makanchi Array**	**152.53**	**41**	PKPbc	**PKPbc**	**10 53 13.0**	**0.0**
	comp=Z,1.2nm,0.7s,baz=327,slow=2.0,SNR=14						
MKAR				PKPab	**PKPab**	**10 53 24.5**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=306,slow=2.9,SNR=4.7						

IDC 13 10:33:46.7±6.3,39°.36N×110°.78E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.2/37,mbtmp3.4/3,ML2.9/1,Error ellipse: s-maj=131.5km s-min=26.1km az=84.0,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.05**	**341**	Pn	Pn	10 35 58.6	-0.1
	0.1nm,0.3s,baz=154,slow=13,SNR=5.1						
SONM				Lg	Lg	10 38 34.1	
	0.1nm,0.3s,baz=168,slow=29,SNR=3.7						
MKAR	**Makanchi Array**	**22.01**	**299**	P	P	10 38 42.6	+0.1
	0.6nm,0.7s,baz=104,slow=13,SNR=6.4						
CMAR	**Chiang Mai Arr**	**23.22**	**210**	P	P	10 38 55.4	0.0
	0.4nm,0.3s,baz=13,slow=11,SNR=4.7						

IDC 13 10:38:28.5±3.4,32°.34S×178°.13W,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.5/27,mbtmp3.6/3,ML2.8/1,Error ellipse: s-maj=78.3km s-min=48.1km az=118.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.08**	**212**	Pn	Pn	10 40 13.1	-0.3
	0.2nm,0.3s,baz=9.5,slow=19,SNR=3.3						
ASAR	**Alice Springs**	**42.93**	**269**	P	P	10 46 29.4	0.0
	0.4nm,0.7s,baz=108,slow=7.3,SNR=4.7						
WRA	**Warramunga Arr**	**44.09**	**274**	P	P	10 46 38.5	-0.2
	0.3nm,0.3s,baz=112,slow=8.1,SNR=5.7						
FINES	**FINESS Array B**	**146.91**	**339**	PKPbc	PKPbc	10 58 11.4	-0.8
	3.8nm,1.0s,baz=111,slow=6.1,SNR=3.4						

GUC 13 10:39:28.2±0.4,35°.24S×73°.29W,h19km±4km,ML3.6,1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.98**	**155**	*e*P	Pb	10 39 44.9	-1.6
COCH				*e*S	Sb	10 39 57.4	-1.6
TALC	**Talca**	**1.36**	**97**	*e*P	Pn	10 39 50.9	-1.3
TALC				*e*S	Sn	10 40 08.4	-1.3
LNCH	**Linares**	**1.50**	**114**	*e*P	Pn	10 39 53.5	-0.7
LNCH				*e*S	Sn	10 40 12.4	-0.9
NICH	**Los Niches**	**1.71**	**83**	⇑*i*P	Pn	10 39 56.5	-0.4
NICH				*i*S	Sn	10 40 18.1	-0.2
CLCH	**Cerro Calan**	**2.93**	**52**	*e*P	Pn	10 40 14.7	+0.8
CLCH				*e*S	Sn	10 40 49.8	+1.1
CLCH				IAML		10 41 15.3	
	comp=N,200nm,1.7s						
ROCH	**El Roble**	**2.95**	**41**	IAML		10 41 10.6	
	comp=N,113nm,0.8s						
PEL	**Peldehue**	**3.01**	**47**	*e*P	Pn	10 40 15.4	+0.5
PEL				*e*S	Sn	10 40 51.1	+0.7
PEL				IAML		10 41 06.3	
	comp=N,196nm,1.6s						

IDC 13 10:55:22.0±9.0,22°.90N×108°.07W,h0km,mb3.2/1, mb1 3.6/5,mb1mx3.5/28,mbtmp3.2/5,ML3.3/4,MS2.8/3, Ms1 2.8/3,ms1mx2.6/10,Error ellipse: s-maj=137.6km s-min=39.4km az=166.0,Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**2.38**	**301**	Pn	Pn	10 56 00.6	-1.6
	1.2nm,0.3s,baz=101,slow=10,SNR=4.6						
LPIG				Lg	Lg	10 56 24.8	
	18nm,0.3s,baz=97,slow=18,SNR=12						
LPIG				LR	LR	10 56 50.6	
	comp=Z,163nm,18.8s,baz=338,slow=37						
TXAR	**Lajitas Array**	**7.53**	**31**	Pn	Pn	10 57 12.7	-0.5
	0.1nm,0.3s,baz=211,slow=13,SNR=7.0						
TXAR				Sn	Sn	10 58 33.7	-5.7
	0.2nm,0.3s,baz=216,slow=12,SNR=4.3						
TXAR				Lg	Lg	10 59 14.8	
	0.3nm,0.3s,baz=220,slow=26,SNR=3.8						
ANMO	**Albuquerque**	**12.08**	**6**	LR	LR	11 03 03.5	
	comp=Z,58nm,20.4s,baz=162,slow=38						
NVAR	**Mina Array Bea**	**17.79**	**333**	P	P	10 59 33.2	+1.0
	0.1nm,0.3s,baz=155,slow=12,SNR=8.5						
PDAR	**Pinedale Array**	**19.85**	**357**	P	P	10 59 55.4	+0.6
	0.0nm,0.3s,baz=145,slow=9.9,SNR=3.5						
PDAR				LR	LR	11 06 46.5	
	comp=Z,26nm,22.0s,baz=254,slow=34						
ILAR	**Eielson Array**	**48.89**	**339**	P	P	11 04 09.6	+0.3
	0.3nm,0.6s,baz=143,slow=7.1,SNR=5.4						

*IDC **13** 11:00:57.6±3.3,4°.89S×102°.53E,h0km,mb3.7/6, mb1 3.7/6,mb1mx3.6/26,mbtmp3.7/6,Error ellipse: s-maj=153.8km s-min=19.4km az=55.0*
*ISCJB **13** 11:01:02.4±0.9,4°.96S±0°.07×102°.61E±0°.07,h44km, mb3.7/6,Error ellipse: s-maj=10.8km s-min=9.7km az=43.6*
*DJA **13** 11:01:07.0±1.0,5°.S±7°×10°.3E±°,h25km±12km,M3.7/6, MLv3.7/6*

ISC 13 11:01:04.3±1.2,4°.92S±0°.09×102°.7E±0°.1,h44km,n13, σ0§95/16,mb3.7/6,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.61**	**25**	P	**Pn**	**11 01 17.8**	**+1.2**
MNAI				S	**Sn**	**11 01 26.0**	**+0.5**
LWLI	**Liwa**	**1.36**	**94**	P	**Pn**	**11 01 27.6**	**+0.7**
LWLI				S	**Sn**	**11 01 42.5**	**-1.3**
LHSI	**Lahat**	**1.36**	**37**	P	**Pn**	**11 01 27.7**	**+0.9**
MDSI	**Maura Dua**	**1.53**	**74**	P	**Pn**	**11 01 29.7**	**+0.5**
MDSI				S	**Sn**	**11 01 47.1**	**-0.8**
KASI	**Kota Agung**	**1.89**	**109**	P	**Pn**	**11 01 35.1**	**+1.1**
KLSI		**2.04**	**84**	P	**Pn**	**11 01 37.0**	**+0.9**
WRA	**Warramunga Arr**	**34.22**	**119**	P	**P**	**11 07 46.6**	**+0.5**
	0.1nm,0.3s,baz=319,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**35.38**	**125**	P	**P**	**11 07 56.5**	**+0.4**
	0.2nm,0.3s,baz=296,slow=7.7,SNR=7.8						
STKA	**Stephens Creek**	**45.21**	**131**	P	**P**	**11 09 17.9**	**+0.6**
	1.1nm,0.8s,baz=293,slow=15,SNR=2.2						
SONM	**Songino Array**	**52.63**	**3**	P	P	**11 10 13.5**	**-0.4**
	0.5nm,0.6s,baz=190,slow=8.6,SNR=4.2						
MKAR	**Makanchi Array**	**54.57**	**343**	P	**P**	**11 10 27.4**	**-0.7**
	1.0nm,0.5s,baz=146,slow=8.3,SNR=13						
ZALV	**Zalesovo Beam**	**60.54**	**348**	P	**P**	**11 11 08.3**	**-1.6**
	0.7nm,0.4s,baz=151,slow=3.4,SNR=4.3						
TXAR	**Lajitas Array**	**145.19**	**43**	PKPbc	**PKPbc**	**11 20 37.3**	**-0.2**
	0.5nm,0.8s,baz=269,slow=2.1,SNR=6.9						

IDC 13 11:05:48.9±4.8,6°.97N×91°.46E,h0km,mb3.4/4,mb1 3.5/4, mb1mx3.3/30,mbtmp3.4/4,Error ellipse: s-maj=176.4km s-min=28.7km az=65.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**23.84**	**233**	T	T	11 34 33.5	
	baz=51						
H08S2	**Diego Garcia H**	**23.84**	**233**	T	T	11 34 33.5	
	baz=51						
H08S1	**Diego Garcia H**	**23.86**	**233**	T	T	11 34 33.5	
	baz=51						
MKAR	**Makanchi Array**	**40.45**	**350**	P	P	11 13 29.0	-0.2
	0.2nm,0.4s,baz=173,slow=12,SNR=2.6						
SONM	**Songino Array**	**42.66**	**15**	P	P	11 13 47.4	-0.1
	0.5nm,0.6s,baz=196,slow=7.3,SNR=4.3						
WRA	**Warramunga Arr**	**49.95**	**123**	P	P	11 14 44.8	-0.2
	0.4nm,0.8s,baz=308,slow=8.1,SNR=2.4						
ASAR	**Alice Springs**	**51.42**	**128**	P	P	11 14 56.2	0.0
	0.3nm,0.9s,baz=302,slow=8.0,SNR=1.8						

*PDG **13** 11:18:09.5±0.3,44°.81N×17°.10E,h30km,ML3.0/10,Error ellipse: s-maj=1.3km s-min=2.0km az=0.0*
*ISCJB **13** 11:18:10.0±0.5,44°.71N±0°.02×17°.44E±0°.03,h2km±3km, Error ellipse: s-maj=3.8km s-min=2.3km az=141.6*
*BEO **13** 11:18:09.8±0.3,44°.55N×17°.30E,h8km±2km,ML2.9/1*
*LDG **13** 11:18:10.3±0.1,44°.55N×17°.26E,h2km,Ml3.2/1,Error ellipse: s-maj=3.1km s-min=2.0km az=21.0*
*PRU **13** 11:18:10.9,44°.59N×17°.47E,h5km*
*CSEM **13** 11:18:11.0±0.1,44°.67N×17°.44E,h5km,ML2.9,Error ellipse: s-maj=4.7km s-min=2.6km az=51.0*

ISC 13 11:18:10.6±0.9,44°.59N±0°.02×17°.38E±0°.02,h12km±7km, n118,σ1§35/167,25C-28D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.22**	**319**	⇑*i*Pg	**Pg**	**11 18 14.7**	**-0.6**
BLY				*e*Sg	**Sg**	**11 18 19.2**	**+0.7**
BLY	**Banja Luka**	**0.22**	**319**	⇑*i*Pg	**Pg**	**11 18 14.7**	**-0.6**
BLY				*e*Sg	**Sg**	**11 18 19.2**	**+0.7**
SISC	**Sisak**	**1.14**	**321**	*e*Pg	**Pg**	**11 18 32.3**	**-0.2**
SISC				Sg	**Sn**	**11 18 47.7**	**-0.2**
SISC	**Sisak**	**1.14**	**321**	*e*Pg	**Pg**	**11 18 32.3**	**-0.2**
SISC				Sg	**Sn**	**11 18 47.7**	**-0.2**
UDBI	**Udbina**	**1.16**	**268**	*e*Pg	**Pb**	**11 18 30.5**	**-2.1**
UDBI				Sn	**Sn**	**11 18 50.0**	**+1.6**
UDBI	**Udbina**	**1.16**	**268**	*e*Pg	**Pb**	**11 18 30.4**	**-2.1**
UDBI				Sn	**Sn**	**11 18 50.0**	**+1.6**
HAPS	**Han Pijesak,Bl**	**1.23**	**113**	*e*Pg	**Pn**	**11 18 33.3**	**-0.5**
HAPS				*e*Sg	**Sb**	**11 18 50.1**	**+0.3**
HAPS	**Han Pijesak,Bl**	**1.23**	**113**	*e*Pg	**Pn**	**11 18 33.3**	**-0.5**
HAPS				*e*Sg	**Sb**	**11 18 50.1**	**+0.3**
TEKS	**Tekeris**	**1.54**	**91**	*i*Pg	**Pn**	**11 18 37.8**	**-0.1**
TEKS				*e*Sn	**Sn**	**11 18 57.7**	**0.0**
BBLS	**Lazići**	**1.62**	**116**	⇑*i*Pg	**Pn**	**11 18 39.0**	**-0.1**
BBLS				*e*Sg	**Sg**	**11 19 04.1**	**+1.2**
STON	**Ston**	**1.73**	**172**	*i*Pn	**Pn**	**11 18 41.3**	**+0.9**
STON				Sn	**Sb**	**11 19 04.9**	**+0.9**
STON	**Ston**	**1.73**	**172**	*e*Pg	**Pn**	**11 18 41.1**	**+0.7**
STON				*e*Sg	**Sb**	**11 19 04.8**	**+0.9**
STON	**Ston**	**1.73**	**172**	*i*Pn	**Pn**	**11 18 41.3**	**+0.9**
STON				Sn	**Sb**	**11 19 04.8**	**+0.9**
BOJS	**Bojanci**	**1.77**	**302**	*i*Pn	**Pn**	**11 18 41.6**	**+0.6**
BOJS	**Bojanci**	**1.77**	**302**	Pn	**Pn**	**11 18 41.6**	**+0.6**
UPM	**Unac-Piva**	**1.77**	**141**	⇑*i*Pn	**Pn**	**11 18 41.5**	**+0.3**
UPM				*e*Sn	**Sg**	**11 19 08.5**	**+1.0**
UPM	**Unac-Piva**	**1.77**	**141**	⇑*i*Pn	**Pn**	**11 18 41.5**	**+0.3**
UPM				*e*Sn	**Sg**	**11 19 08.5**	**+1.0**
FGSL	**Fruska Gora**	**1.82**	**71**	*e*Pn	**Pn**	**11 18 41.4**	**-0.4**
FGSL				*e*Sg	**Sg**	**11 19 09.8**	**+0.7**
FRGS	**Fruska Gora**	**1.82**	**71**	*e*Pn	**Pn**	**11 18 41.4**	**-0.4**
FRGS				*e*Sg	**Sg**	**11 19 09.8**	**+0.7**
PKSM	**Moragy**	**1.85**	**28**	⇓*i*Pn	**Pn**	**11 18 42.0**	**-0.2**
PKSM				*e*Sg	**Sg**	**11 19 11.4**	**+1.2**
PKSM	**Moragy**	**1.85**	**28**	⇓*i*P	**Pn**	**11 18 41.9**	**-0.2**
PKSM	**Moragy**	**1.85**	**28**	S	**Sn**	**11 19 04.9**	**

ULC	**Ulcinj**	**2.95**	**152**	∥	*i*Pn	**Pn**	**11 18 59.2**	**+1.9**
ULC					*e*Sn	**Sb**	**11 19 37.3**	**-1.9**
ULC	**Ulcinj**	**2.95**	**152**	∥	*i*Pn	**Pn**	**11 18 59.2**	**+1.9**
ULC					*e*Sn	**Sb**	**11 19 37.3**	**-1.9**
SELS	**Selova**	**3.03**	**116**	⇑	*i*Pn	**Pn**	**11 18 57.9**	**-0.5**
BZS	**Buzias**	**3.17**	**70**	⇑	*i*P	**Pn**	**11 19 00.4**	**+0.1**
BZS	**Buzias**	**3.17**	**70**	⇑	*i*P	**Pn**	**11 19 00.4**	**+0.1**
SIRR	**Siria**	**3.45**	**59**	∥	*i*P	**Pn**	**11 19 04.3**	**+0.1**
SIRR	**Siria**	**3.45**	**59**	∥	*i*P	**Pn**	**11 19 04.3**	**+0.1**
CONA	**Conrad Observa**	**3.51**	**343**	∥	*i*Pn	**Pn**	**11 19 05.1**	**+0.1**
CONA	**Conrad Observa**	**3.51**	**343**		Pn	**Pn**	**11 19 05.1**	**+0.1**
BARS	**Barje**	**3.67**	**117**	⇑	*i*Pn	**Pn**	**11 19 07.1**	**-0.1**
BARS					*e*Sn	**Sn**	**11 19 49.8**	**-0.5**
BARS	**Barje**	**3.67**	**117**	⇑	*i*Pn	**Pn**	**11 19 07.1**	**-0.1**
MOA	**Molln**	**3.92**	**328**	∥	*i*Pn	**Pn**	**11 19 12.0**	**+1.4**
MOA	**Molln**	**3.92**	**328**		Pn	**Pn**	**11 19 12.0**	**+1.4**
ZAPS	**Zavoj**	**4.01**	**107**	⇑	*i*Pn	**Pn**	**11 19 12.3**	**+0.4**
DRGR		**4.34**	**58**	⇑	*i*P	**Pn**	**11 19 16.7**	**+0.3**
DRGR		**4.34**	**58**	⇑	*i*P	**Pn**	**11 19 16.7**	**+0.3**
TRPA	**Tarpa**	**5.03**	**43**	∥	*i*P	**Pn**	**11 19 25.3**	**-0.5**
KHC	**Kasperske Hory**	**5.24**	**332**		*e*PN	**Pn**	**11 19 30.0**	**+1.2**
KHC					*ex*	x	11 19 38.0	
KHC					*e*PB	**Pb**	**11 19 41.8**	**-0.4**
KHC					*e*PG	Pg	11 19 45.2	-5.8
KHC					*e*SN	**Sn**	**11 20 28.1**	**-1.0**
KHC					*ex*	x	11 20 41.5	
KHC					*e*SG	**Sg**	**11 21 02.0**	**+3.2**
KHC	**Kasperske Hory**	**5.24**	**332**		Pn	**Pn**	**11 19 30.0**	**+1.2**
KHC					Sn	**Sn**	**11 20 28.1**	**-1.0**
OKC	**Ostrava-Krasne**	**5.28**	**5**		*e*SN	**Sn**	**11 20 29.6**	**-0.4**
OKC	**Ostrava-Krasne**	**5.28**	**5**		Sn	**Sn**	**11 20 29.6**	**-0.4**
GOPC	**GO Pecny, Ondr**	**5.62**	**343**		*e*SN	**Sn**	**11 20 38.0**	**-0.3**
GOPC					*ex*	x	11 20 51.3	
GOPC	**GO Pecny, Ondr**	**5.62**	**343**		Sn	**Sn**	**11 20 38.0**	**-0.3**
DPC	**Dobruska-Polom**	**5.81**	**353**		*e*PN	**Pn**	**11 19 37.0**	**+0.4**
DPC					*ex*	x	11 19 47.4	
DPC					*e*SN	**Sn**	**11 20 42.5**	**-0.7**
DPC	**Dobruska-Polom**	**5.81**	**353**		Pn	**Pn**	**11 19 37.0**	**+0.4**
DPC					Sn	**Sn**	**11 20 42.5**	**-0.7**
PGF	**Pioggiola**	**6.42**	**254**		*e*Pn	**Pn**	**11 19 42.4**	**-2.6**
PGF	**Pioggiola**	**6.42**	**254**		*e*Pn	**Pn**	**11 19 42.4**	**-2.6**
SBF	**Sospel**	**7.18**	**268**		*e*Pn	**Pn**	**11 19 52.7**	**-2.8**
SBF					*e*Sn	Sn	11 21 09.4	-7.6
	2.0nm,0.2s							
SBF	**Sospel**	**7.18**	**268**		*e*Pn	**Pn**	**11 19 52.7**	**-2.8**
SBF					*e*Sn	Sn	11 21 09.4	-7.6
	1.0nm,0.2s							
CLL	**Collm**	**7.34**	**338**		*e*Sg	**Sb**	**11 21 47.0**	**+1.8**
MBDF	**Montbardon**	**7.57**	**275**		*e*Pn	**Pn**	**11 19 58.2**	**-2.6**
MBDF	**Montbardon**	**7.57**	**275**		*e*Pn	**Pn**	**11 19 58.2**	**-2.6**
LPG	**La Plagne**	**7.58**	**281**		*e*Pn	**Pn**	**11 19 58.7**	**-2.5**
LPG	**La Plagne**	**7.58**	**281**		*e*Pn	**Pn**	**11 19 58.7**	**-2.5**
LPL	**La Plagne**	**7.60**	**281**		*e*Pn	**Pn**	**11 19 58.8**	**-2.5**
LPL	**La Plagne**	**7.60**	**281**		*e*Pn	**Pn**	**11 19 58.8**	**-2.5**
FRF	**La Foret Royal**	**7.80**	**266**		*e*Pn	**Pn**	**11 20 01.1**	**-2.8**
FRF	**La Foret Royal**	**7.80**	**266**		*e*Pn	**Pn**	**11 20 01.1**	**-2.8**
LMR	**La Mourre**	**7.94**	**265**		*e*Pn	**Pn**	**11 20 03.1**	**-2.7**
LMR	**La Mourre**	**7.94**	**265**		*e*Pn	**Pn**	**11 20 03.1**	**-2.7**
SMRF	**Simiane la Rot**	**8.49**	**270**		*e*Pn	**Pn**	**11 20 10.6**	**-2.8**
SMRF	**Simiane la Rot**	**8.49**	**270**		*e*Pn	**Pn**	**11 20 10.6**	**-2.8**

ISCJB ***13*** *11:37:17.7±1.1,28°.82N±0°.03×128°.64E±0°.05,h5km±7km, mb4.0/13,MS3.2/4, Error ellipse: s-maj=7.3km s-min=4.4km az=173.0*

IDC ***13*** *11:37:17.9±0.9,28°.79N×128°.83E,h0km,mb3.9/10, mb1 4.0/11,mb1mx3.8/44,mbtmp3.9/11,ML2.4/2,MS3.2/6, Ms1 3.3/6,ms1mx2.8/36, Error ellipse: s-maj=34.2km s-min=14.6km az=80.0*

JMA ***13*** *11:37:18.6±0.2,28°.82N×128°.65E,h12km±3km,M3.4*

NEIC ***13*** *11:37:19.6±0.8,28°.78N×128°.96E,h10km,mb4.4/3, Error ellipse: s-maj=30.8km s-min=11.9km az=84.0*

ISC 13 11:37:18.2±2.3, 28°.76N±0°.04×128°.79E±0°.06, h2km±15km, n33, σ1§20/34, mb4.0/13, MS3.2/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.54**	**42**	P		**Pb**	**11 37 30.0**	**-0.4**
JTAJ				S		**Sb**	**11 37 37.7**	**-0.9**
JAMN	**Amaminishikomi**	**0.61**	**146**	P		**Pn**	**11 37 32.7**	**-1.2**
JAMN				S		**Sn**	**11 37 42.5**	**-1.9**
JAM	**Amami Oshima**	**0.80**	**115**	P		**Pn**	**11 37 36.1**	**-0.3**
JAM				S		**Sn**	**11 37 48.2**	**-0.7**
JTK	**Tokunoshima**	**0.98**	**172**	P		**Pb**	**11 37 38.3**	**+0.5**
JTK				S		**Sn**	**11 37 52.2**	**-1.2**
JZK	**Kikaishima**	**1.13**	**113**	P		**Pn**	**11 37 42.7**	**+1.7**
JZK				S		**Sn**	**11 38 00.1**	**+2.9**
JOKE	**Okinoerabujima**	**1.40**	**188**	P		**Pn**	**11 37 44.4**	**-0.4**
JOKE				S		**Sg**	**11 38 03.3**	**+0.1**
JNN	**Nakanoshima**	**1.44**	**41**	P		**Pn**	**11 37 44.6**	**-0.7**
JIH	**Iheya**	**1.86**	**203**	P		**Pn**	**11 37 51.1**	**0.0**
JOW	**Kunigami**	**1.97**	**193**	P		**Pn**	**11 37 52.5**	**-0.1**
JOW	**Kunigami**	**1.97**	**193**	Pn		**Pn**	**11 37 53.8**	**+1.2**
	1.4nm,0.3s,baz=176,slow=12,SNR=28							
JOW				Sn		**Sn**	**11 38 18.2**	**+0.3**
	2.7nm,0.3s,baz=64,slow=28,SNR=9.7							
JYAK	**Yakushimahirau**	**2.11**	**45**	P		**Pn**	**11 37 54.1**	**-0.4**
JTN	**Tanegashima 3**	**2.69**	**45**	P		**Pn**	**11 38 02.8**	**+0.3**
JNU	**Nakatsue**	**4.71**	**22**	Pn		Pn	11 38 34.4	+4.1
	1.0nm,0.3s,baz=230,slow=4.5,SNR=13							
JNU	**Nakatsue**	**4.71**	**22**	*e*Pn		Pn	11 38 35.1	+4.8
KSAR	**Wonju Array Be**	**8.70**	**355**	Pn		**Pn**	**11 39 25.2**	**+0.2**
KSRS	**Korea Array**	**8.71**	**355**	Pn		**Pn**	**11 39 25.2**	**+0.1**
	0.1nm,0.3s,baz=184,slow=15,SNR=3.8							
KSRS				LR		LR	11 42 52.7	
	comp=Z,151nm,20.2s,baz=174,slow=39							
USRK	**Ussuriysk Ar.**	**15.62**	**9**	LR		LR	11 46 07.9	
	comp=Z,44nm,21.5s,baz=181,slow=34							
SONM	**Songino Array**	**25.76**	**324**	P		**P**	**11 42 51.1**	**+0.7**
	1.7nm,0.8s,baz=143,slow=9.5,SNR=12							
SONM				LR		LR	11 53 55.0	
	comp=Z,40nm,18.0s,baz=112,slow=39							
CMAR	**Chiang Mai Arr**	**29.13**	**256**	LR		LR	11 55 49.0	
	comp=Z,63nm,18.3s,baz=147,slow=38							
TLY	**Talaya**	**29.61**	**328**	LR		LR	11 56 38.0	
	comp=Z,53nm,19.6s,baz=146,slow=39							
MKAR	**Makanchi Array**	**40.27**	**310**	P		**P**	**11 44 55.7**	**-0.9**
	0.4nm,0.6s,baz=91,slow=12,SNR=3.6							
MKAR				PcP		**PcP**	**11 46 57.7**	**-2.7**
	0.3nm,0.7s,baz=72,slow=4.7,SNR=3.6							
ZALV	**Zalesovo Beam**	**40.57**	**321**	P		**P**	**11 44 57.8**	**-1.2**
	3.2nm,0.7s,baz=110,slow=8.1,SNR=2.7							
KURK	**Kurchatov**	**43.37**	**315**	*e*P		P	11 45 25.3	+3.5
	2.1nm,0.7s							
KURBB	**Kurchatov Arra**	**43.41**	**315**	P		**P**	**11 45 20.9**	**-1.2**
	3.2nm,0.2s,baz=102,slow=9.0,SNR=4.0							
WRA	**Warramunga Arr**	**48.71**	**173**	P		**P**	**11 46 03.8**	**-0.5**
	1.7nm,0.7s,baz=353,slow=8.3,SNR=8.6							
BRVK	**Borovoye**	**48.82**	**317**	*e*P		P	11 46 08.5	+3.7
	14nm,1.0s							
ASAR	**Alice Springs**	**52.35**	**174**	P		**P**	**11 46 32.7**	**+1.0**
	0.2nm,0.4s,baz=359,slow=6.4,SNR=4.9							
ARU	**Arti**	**55.74**	**321**	*e*P		**P**	**11 46 56.9**	**+0.8**
	2.7nm,0.7s							
ILAR	**Eielson Array**	**61.99**	**29**	P		**P**	**11 47 38.4**	**-1.1**
	0.4nm,0.8s,baz=297,slow=8.2,SNR=7.0							
FINES	**FINESS Array B**	**70.92**	**330**	P		**P**	**11 48 38.1**	**+1.5**
	5.3nm,1.1s,baz=87,slow=7.2,SNR=3.1							
FINES				LR		LR	12 22 16.7	
	comp=Z,30nm,19.2s,baz=14,slow=38							
BRTR	**Keskin Array B**	**75.88**	**308**	P		**P**	**11 49 08.2**	**+1.6**
	0.5nm,0.8s,baz=57,slow=4.6,SNR=3.6							
NB2	**NORSAR Subarra**	**77.28**	**334**	P		**P**	**11 49 14.9**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=53,slow=5.3							
NOA	**NORSAR Array B**	**77.28**	**334**	P		**P**	**11 49 15.0**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=52,slow=5.5,SNR=3.8							

IDC ***13*** *11:39:31.8±1.6,6°.61S×147°.26E,h0km,mb3.9/6, mb1 4.2/8,mb1mx3.8/38,mbtmp4.0/8,ML3.6/2, Error ellipse: s-maj=45.8km s-min=25.1km az=114.0*

ISCJB ***13*** *11:39:37.0±1.3,6°.7S±0°.1×147°.1E±0°.2,h49km,mb3.9/6, Error ellipse: s-maj=30.1km s-min=16.8km az=20.0*

ISC 13 11:39:38.8±1.5, 6°.7S±0°.2×147°.1E±0°.2, h49km, n9, σ1§07/9, mb4.0/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**16.81**	**289**	Pn		**Pn**	**11 43 30.3**	**-0.7**
	0.9nm,0.3s,baz=69,slow=8.8,SNR=6.5							
WRA	**Warramunga Arr**	**18.09**	**222**	P		**P**	**11 43 45.6**	**-0.9**
	0.1nm,0.3s,baz=48,slow=12,SNR=10							
ASAR	**Alice Springs**	**21.12**	**216**	P		**P**	**11 44 20.0**	**+0.4**
	1.5nm,0.8s,baz=33,slow=13,SNR=23							
KSRS	**Korea Array**	**47.42**	**339**	P		**P**	**11 48 08.6**	**+0.1**
	2.0nm,0.8s,baz=159,slow=9.6,SNR=9.4							
CMAR	**Chiang Mai Arr**	**53.65**	**299**	P		**P**	**11 48 57.4**	**+1.5**
	2.1nm,0.6s,baz=126,slow=6.1,SNR=13							
MKAR	**Makanchi Array**	**78.08**	**321**	P		**P**	**11 51 32.4**	**-0.2**
	0.4nm,0.4s,baz=99,slow=8.5,SNR=11							
ZALV	**Zalesovo Beam**	**79.64**	**328**	P		**P**	**11 51 39.3**	**-1.6**
	0.7nm,0.5s,baz=126,slow=7.3,SNR=2.9							
ILAR	**Eielson Array**	**86.07**	**23**	P		**P**	**11 52 13.9**	**-0.1**
	0.7nm,0.6s,baz=253,slow=4.9,SNR=14							
TORD	**Torodi Ar. Bea**	**145.34**	**283**	PKPbc		**PKPbc**	**11 59 13.1**	**+0.9**
	3.3nm,0.6s,baz=75,slow=3.8,SNR=21							

IDC ***13*** *12:07:15.6±1.3,31°.99S×178°.15W,h0km,mb4.2/5, mb1 4.3/6,mb1mx3.9/29,mbtmp4.2/6,ML4.4/1, Error ellipse: s-maj=32.3km s-min=26.8km az=60.0*

ISC 13 12:07:17.5±1.4, 32°.23S±0°.09×178°.0W±0°.2, h24km, n16, σ1§68/21, mb4.2/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.97**	**1**	Pn		**Pn**	**12 08 01.4**	**-1.8**
	58nm,0.3s,baz=323,slow=20,SNR=2.0							
RAO				Sn		**Sn**	**12 08 38.0**	**-0.1**
	120nm,0.3s,baz=72,slow=20,SNR=2.1							
WMGZ	**Waiomatatini S**	**6.31**	**207**	PN		**Pn**	**12 08 51.0**	**+2.1**
HAZ	**Te Kaha**	**6.51**	**211**	PN		**Pn**	**12 08 51.0**	**-0.8**
HAZ				SN		**Sn**	**12 10 07.9**	**+2.6**
PUZ	**Puketiti**	**6.59**	**207**	PN		**Pn**	**12 08 51.5**	**-1.4**
PUZ				SN		**Sn**	**12 10 07.1**	**-0.2**
CNGZ	**Carnagh Statio**	**6.97**	**205**	PN		**Pn**	**12 08 56.8**	**-1.3**
MWZ	**Matawai**	**7.11**	**210**	*e*PN		**Pn**	**12 08 58.0**	**-2.0**
MWZ				SN		**Sn**	**12 10 18.8**	**-1.2**
URZ	**Urewera**	**7.23**	**212**	Pn		**Pn**	**12 09 00.6**	**-1.0**
	2.3nm,0.3s,baz=267,slow=3.4,SNR=9.1							
URZ				Sn		**Sn**	**12 10 20.2**	**-2.7**
	3.8nm,0.3s,baz=133,slow=16,SNR=8.2							
URZ	**Urewera**	**7.23**	**212**	PN		**Pn**	**12 09 00.1**	**-1.5**
URZ				SN		**Sn**	**12 10 20.4**	**-2.5**
STKA	**Stephens Creek**	**34.12**	**260**	P		**P**	**12 14 01.9**	**+1.5**
	1.8nm,0.9s,baz=91,slow=12,SNR=3.8							
CTA	**Charters Tower**	**34.15**	**282**	P		**P**	**12 14 02.4**	**+1.6**
	2.1nm,0.5s,baz=107,slow=11,SNR=8.3							
ASAR	**Alice Springs**	**43.05**	**269**	P		**P**	**12 15 15.6**	**-0.1**
	1.6nm,0.5s,baz=106,slow=7.2,SNR=31							
WRA	**Warramunga Arr**	**44.21**	**274**	P		**P**	**12 15 24.6**	**-0.4**
	2.1nm,0.4s,baz=113,slow=8.1,SNR=50							
QSPA	**South Pole Qui**	**57.88**	**180**	P		P	12 17 11.4	+4.2
	2.5nm,1.0s,baz=258,slow=0.9,SNR=11							
FINES	**FINESS Array B**	**146.86**	**339**	PKPbc		**PKPab**	**12 26 57.8**	**-0.5**
	2.0nm,0.6s,baz=46,slow=4.1,SNR=16							
BRTR	**Keskin Array B**	**153.44**	**295**	PKPbc		**PKPbc**	**12 27 14.3**	**+0.4**
	0.5nm,0.5s,baz=132,slow=4.3,SNR=2.1							
TORD	**Torodi Ar. Bea**	**161.00**	**179**	PKPab		**PKPab**	**12 28 01.1**	**+2.1**
	0.8nm,1.0s,baz=175,slow=5.9,SNR=1.2							

DJA 13 12:09:39.6±1.2, 10°.5S±8°.×11°.5E±°, h20km±9km, M3.8/3, MLv3.8/3, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**0.74**	**0**	P		Pb	12 09 53.5	-0.3
DNP	**Denpasar**	**0.88**	**5**	P		Pb	12 09 56.0	-0.2
DNP				S		Sb	12 10 08.0	+0.5
JAGI	**Jajag, Banyuwa**	**1.46**	**318**	P		Pn	12 10 03.8	-1.0
SRBI	**Singaraja**	**1.47**	**3**	P		Pn	12 10 04.0	-0.9
ABJI	**Asem Bagus**	**1.97**	**333**	P		Pn	12 10 12.6	+0.8
BLJI	**Banyuglugur**	**2.36**	**320**	P		Pn	12 10 17.1	-0.2

BUL ***13*** *12:13:06.4±12.0,0°.61N×34°.23E,h15km±174km,MD4.0*

BJI ***13*** *12:13:17.9,0°.11S×33°.53E,h10km,mb4.8/22,mB4.9/13, Ms4.8/13,Ms7 4.2/13*

ISCJB ***13*** *12:13:21.9±0.2,0°.28S±0°.03×34°.61E±0°.03,h10km, mb4.9/126,MS4.1/36, Error ellipse: s-maj=5.2km s-min=3.5km az=43.7*

IDC ***13*** *12:13:23.0±0.5,0°.14S×34°.51E,h0km,mb4.6/24, mb1 4.7/26,mb1mx4.6/31,mbtmp4.6/26,ML4.9/2,MS4.1/29, Ms1 4.1/29,ms1mx4.0/37, Error ellipse: s-maj=15.5km s-min=10.8km az=94.0*

MOS ***13*** *12:13:23.8±1.2,0°.19S×34°.50E,h19km,mb4.9/31, MS4.0/18, Error ellipse: s-maj=13.2km s-min=5.1km az=94.9*

NEIC ***13*** *12:13:24.6±0.2,0°.20S×34°.49E,h10km,mb4.9/46, Error ellipse: s-maj=6.3km s-min=4.0km az=76.0*

NEIC Felt [IV] at Kisumu and Nairobi. Also felt at Busia, Kitale, Nakuru and Yala. Felt at Jinja, Kamuli and Mukono, Uganda.

GCMT ***13*** *12:13:24.6±0.4,0°.15S×34°.51E,h12km,MW5.0/67, Moment Tensor Solution. s18,c23; s67,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.70±.14; $M_{\theta\theta}$1.53±.11; $M_{\phi\phi}$1.16±.17; $M_{r\theta}$-1.16±.40; $M_{\theta\phi}$0.80±.11; $M_{\phi r}$-2.96±.59; Best double couple: $M_0$3.96800×10^{16} NP1:ϕ_s29.00000°,δ72.00000°,λ-100.00000°. NP2: ϕ_s238.00000°,δ21.00000°,λ-62.00000°. Principal axes: T 3.5620, Plg26.0000°, Azm127.0000°; N 0.8040, Plg9.0000°, Azm32.0000°; P -4.3750, Plg62.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 12:13:24.4±0.3, 0°.25S±0°.04×34°.49E±0°.05, h10km, n413, σ1§30/430, mb5.0/132, MS4.1/36, 33C-23D, Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I32KE	**NAIROBI INFRAS**	**2.54**	**113**	Pg		**Pn**	**12 14 07.7**	**+2.0**
	baz=285,slow=28,SNR=1.5							
I32KE				Lg		Lg	12 14 39.7	
	baz=284,slow=33							
I32KE				*i*			12 27 20.0	
	baz=294,slow=329,SNR=0.4							
KMBO	**Kilima Mbogo**	**2.90**	**107**	Pn		**Pn**	**12 14 08.9**	**-1.8**
	43nm,0.3s,baz=280,slow=16,SNR=230							
KMBO				Pg		**Pb**	**12 14 13.5**	**-2.8**
	baz=280,slow=18							
KMBO				Lg		Lg	12 14 49.0	
	704nm,0.3s,baz=25,slow=22,SNR=22							
KMBO				LR		LR	12 15 02.4	
	comp=Z,1μm,18.4s,baz=288,slow=34							
KMBO	**Kilima Mbogo**	**2.90**	**107**	*e*Pn		**Pn**	**12 14 09.0**	**-1.8**
KMBO				Pg		**Pb**	**12 14 13.5**	**-2.8**
KMBO				Lg		Lg	12 14 49.0	
KMBO				*e*Sg		**Sb**	**12 14 52.8**	**+0.9**
MAUS	**Longido**	**3.31**	**138**	*i* Pg		**Pn**	**12 14 15.1**	**-1.4**
MAUS				*i* Sg		**Sb**	**12 15 07.2**	**+3.3**
MBAR	**Mbarara**	**3.77**	**265**	*e*Pn		Pb	12 14 27.5	-3.6
DODT	**Dodoma, Tanzan**	**6.03**	**168**	*i* Pg		**Pn**	**12 14 53.3**	**-0.5**
DODT				*i* Sg		**Sg**	**12 16 32.2**	**-6.0**
FURI	**Furi**	**10.00**	**25**	P		**Pn**	**12 15 50.6**	**+2.1**
FURI				S		Sn	12 17 23.8	-18
LSZ	**Lusaka**	**16.18**	**202**	Pn		**Pn**	**12 17 11.6**	**-0.5**
	4.4nm,0.3s,baz=30,slow=10.0,SNR=22							
LSZ				Sn		Sn	12 20 00.5	-11
	3.9nm,0.3s,baz=313,slow=22,SNR=4.2							
LSZ				Lg		Lg	12 21 42.7	
	5.9nm,0.3s,baz=298,slow=21,SNR=3.6							
ITZ	**Itezhi-Tezhi**	**17.52**	**208**	*i* P		**Pn**	**12 17 28.5**	**-0.6**
MATP	**Matopo**	**20.89**	**196**	P		**P**	**12 18 07.5**	**+0.4**
	22nm,0.7s,baz=13,slow=11,SNR=41							
MATP				Lg		Lg	12 24 12.8	
	72nm,0.9s,baz=104,slow=19,SNR=3.9							
MATP				LR		LR	12 26 27.9	
	comp=Z,692nm,18.6s,baz=20,slow=37							
MSKU	**Masuku**	**20.92**	**266**	P		**P**	**12 18 07.4**	**0.0**
	207nm,0.7s,baz=86,slow=7.3,SNR=152							
MSKU				S		**S**	**12 21 57.5**	**-3.3**
	32nm,0.9s,baz=103,slow=19,SNR=2.0							
MSKU				Lg		Lg	12 24 27.4	
	68nm,0.9s,baz=280,slow=19,SNR=2.3							
MSKU				LR		LR	12 25 12.2	
	comp=Z,232nm,20.7s,baz=84,slow=34							
OPO	**Ambohidratompo**	**22.07**	**146**	P		**P**	**12 18 21.7**	**+1.8**
	32nm,1.0s,baz=313,slow=9.2,SNR=13							
OPO				LR		LR	12 26 51.2	
	comp=Z,777nm,19.2s,baz=338,slow=36							
ABPO	**Ambohimpanom**	**22.45**	**147**	*e*P		**P**	**12 18 26.2**	**+2.2**
	44nm,1.1s							
TSUM	**Tsumeb**	**25.09**	**220**	P		**P**	**12 18 50.7**	**+1.2**
	58nm,1.2s,baz=19,slow=9.5,SNR=23							
TSUM				LR		LR	12 28 29.9	
	comp=Z,308nm,20.6s,baz=144,slow=36							
TSUM	**Tsumeb**	**25.09**	**220**	*e*P		**P**	**12 18 50.8**	**+1.2**
	67nm,1.2s							
RAYN	**Ar Rayn**	**25.94**	**24**	*e*P		**P**	**12 18 57.5**	**+0.3**
	3.0nm,0.5s							
LBTB	**Lobatse**	**26.08**	**199**	P		**P**	**12 18 59.2**	**+0.8**
	15nm,1.0s,baz=29,slow=9.5,SNR=11							
LBTB				LR		LR	12 28 54.5	
	comp=Z,443nm,19.6s,baz=33,slow=36							
LBTB	**Lobatse**	**26.08**	**199**	P		**P**	**12 18 59.2**	**+0.8**
LBTB				pmax		pmax		
	comp=Z,15nm,1.0s							
LBTB				MLR		MLR		
	comp=Z,443nm,19.6s							
LBTB	**Lobatse**	**26.08**	**199**	*e*P		**P**	**12 18 59.0**	**+0.6**
	comp=Z,47nm,1.5s							
BOSA	**Boshof**	**29.55**	**197**	P		**P**	**12 19 30.5**	**+1.0**
	comp=Z,5.2nm,0.8s,baz=22,slow=7.9,SNR=10							
BOSA				LR		LR	12 31 19.7	
	comp=Z,630nm,20.1s,baz=20,slow=36							
BOSA	**Boshof**	**29.55**	**197**	P		**P**	**12 19 30.5**	**+1.0**
BOSA				pmax		pmax		
	comp=Z,5.0nm,0.8s							
BOSA				MLR		MLR		
	comp=Z,630nm,20.1s							
BOSA	**Boshof**	**29.55**	**197**	*e*P		**P**	**12 19 30.8**	**+1.2**
	comp=Z,8.8nm,1.0s							
EIL	**Elat**	**29.76**	**1**	P		**P**	**12 19 32.0**	**+0.9**
	comp=Z,2.5nm,0.5s,baz=197,slow=6.5,SNR=5.3							
SUR	**Sutherland**	**34.47**	**201**	*e*P		**P**	**12 20 13.4**	**+0.7**
	comp=Z,15nm,1.5s							
CSS	**Prodhromos**	**35.05**	**358**	*e*P		**P**	**12 20 17.2**	**-0.3**
	comp=Z,6.5nm,1.0s							
TOA0	**Torodi Ar. Sit**	**35.13**	**294**	*e*P		**P**	**12 20 16.0**	**-2.5**
TOA0	**Torodi Ar. Sit**	**35.13**	**294**	*e*P		**P**	**12 20 17.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**35.13**	**294**	P		**P**	**12 20 17.8**	**-0.6**
	comp=Z,14nm,0.9s,baz=109,slow=8.1,SNR=62							
TORD				LR		LR	12 33 06.2	
	comp=Z,298nm,18.2s,baz=105,slow=34							
ZKR	**Zakros**	**36.02**	**348**	P		**P**	**12 20 27.7**	**+1.8**
ZKR	**Zakros**	**36.02**	**348**	P		**P**	**12 20 27.7**	**+1.8**
LAST	**Lasithi**	**36.22**	**347**	P		**P**	**12 20 28.5**	**+0.8**
LAST	**Lasithi**	**36.22**	**347**	P		**P**	**12 20 28.5**	**+0.8**
KARP	**Karpathos**	**36.27**	**350**	P		**P**	**12 20 28.6**	**+0.6**
KARP	**Karpathos**	**36.27**	**350**	P		**P**	**12 20 28.6**	**+0.6**
TAM	**Tamanrasset**	**36.32**	**311**	*e*P		**P**	**12 20 30.0**	**+1.2**
	comp=Z,32nm,1.4s							
ANKY	**Antikythira Is**	**37.42**	**345**	P		**P**	**12 20 38.2**	**+0.5**
ANKY	**Antikythira Is**	**37.42**	**345**	P		**P**	**12 20 38.2**	**+0.5**
MHLO	**Agia Marina, M**	**37.93**	**347**	P		**P**	**12 20 41.6**	**-0.5**
APE	**Apeiranthos**	**38.05**	**348**	*c*	*i*P	**P**	**12 20 44.8**	**+1.7**
APE				pmax		pmax		
	comp=Z,56nm,1.6s							
ISP	**Isparta**	**38.06**	**355**	P		**P**	**12 20 44.5**	**+1.2**
ISP	**Isparta**	**38.06**	**355**	*i* P		**P**	**12 20 43.9**	**+0.6**
ISP				pmax		pmax		
	comp=Z,27nm,1.3s							
ISP	**Isparta**	**38.06**	**355**	*e*P		**P**	**12 20 43.8**	**+0.6**
	comp=Z,28nm,1.2s							
VLI	**

PHP **Peshkopia** 43.64 345 P P 12 21 29.5 +0.3
KBZ **Khabaz** 44.43 9 P P 12 21 35.5 +0.1
comp=Z,3.1nm,0.9s,baz=196,slow=10,SNR=7.4
KBZ LR LR 12 39 53.8
comp=Z,334nm,19.2s,baz=198,slow=36
KBZ **Khabaz** 44.43 9 P P 12 21 35.5 +0.1
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ MLR MLR
comp=Z,334nm,19.2s
KIV **Kislovodsk** 44.62 8 eP P 12 21 38.4 +1.3
KIV pmax pmax
comp=Z,7.0nm,1.0s
TIRR **Tirgusor** 44.84 354 ⇓P P 12 21 40.4 +1.7
TIRR **Tirgusor** 44.84 354 ⇓iP P 12 21 40.4 +1.7
TIRR **Tirgusor** 44.84 354 eP P 12 21 39.6 +0.9
comp=Z,26nm,1.6s
ANN **Anapa** 44.93 3 eP P 12 21 39.5 +0.1
ANN pmax pmax
comp=Z,20nm,0.9s
SIM **Simferopol'** 45.01 360 eP P 12 21 40.0 0.0
SIM eS S 12 28 21.0 +2.4
SIM pmax pmax
comp=Z,9.0nm,0.8s
SIM MLR MLR
comp=Z,70nm,16.0s
TLB **Topalu** 45.01 353 ⇑P P 12 21 33.0 -7.0
TLB **Topalu** 45.01 353 ⇑iP P 12 21 33.0 -7.0
CFR **Carcaliu** 45.59 354 ⇑P P 12 21 44.8 +0.2
CFR **Carcaliu** 45.59 354 ⇑iP P 12 21 44.8 +0.2
ISR **Istrita** 45.72 352 ⇑P P 12 21 46.7 +0.9
ISR **Istrita** 45.72 352 ⇑iP P 12 21 46.7 +0.9
GOF **Gofitskoye** 45.75 8 eP P 12 21 46.8 +0.9
GOF pmax pmax
comp=Z,20nm,1.0s
DIVS **Divibare** 46.01 345 P P 12 21 48.7 +0.6
DIVS **Divibare** 46.01 345 ⇓iP P 12 21 48.8 +0.6
MLR **Muntele Rosu** 46.17 352 ⇓P P 12 21 46.4 -3.0
MLR **Muntele Rosu** 46.17 352 ⇓iP P 12 21 46.4 -3.0
VOIR 46.26 351 ⇑P P 12 21 49.6 -0.5
VOIR 46.26 351 ⇑iP P 12 21 49.5 -0.5
ARR **Arges** 46.26 350 ⇓iP P 12 21 49.4 -0.6
PLOR **Plostina** 46.43 352 ⇓P P 12 21 52.0 +0.7
PLOR **Plostina** 46.43 352 ⇓iP P 12 21 52.0 +0.7
VRI **Vrincioaia** 46.43 353 ⇓P P 12 21 51.5 +0.2
VRI **Vrincioaia** 46.43 353 ⇓iP P 12 21 51.5 +0.2
AQU **L'Aquila** 46.48 338 eP P 12 21 53.1 +1.4
comp=Z,19nm,1.2s
PALK **Palekele** 46.69 80 eP P 12 21 49.0 -4.9
comp=Z,26nm,1.0s
DOPR **Dopca** 46.72 351 ⇑iP P 12 21 52.4 -1.2
BZS **Buzias** 47.07 348 ⇓P P 12 21 55.8 -0.5
BZS **Buzias** 47.07 348 ⇓iP P 12 21 55.8 -0.5
TESR **Tescani** 47.08 353 ⇑iP P 12 21 56.0 -0.3
SIRR **Siria** 47.68 348 ⇓iP P 12 22 00.0 -1.1
CJR **Cluj-Napoca** 47.74 350 ⇑P P 12 22 02.1 +0.6
CJR **Cluj-Napoca** 47.74 350 ⇑iP P 12 22 02.1 +0.6
DRGR 47.98 349 ⇑P P 12 22 03.9 +0.5
DRGR 47.98 349 ⇑iP P 12 22 03.9 +0.5
PKSM **Moragy** 48.33 345 ⇑P P 12 22 06.3 +0.3
PKSM **Moragy** 48.33 345 ⇑iP P 12 22 06.3 +0.3
PKSM **Moragy** 48.33 345 eP P 12 22 06.0 0.0
BURAR **Bucovina Array** 48.35 352 ⇑P P 12 22 06.8 +0.4
BURAR **Bucovina Array** 48.35 352 ⇑iP P 12 22 06.8 +0.4
BUR08 **Bucovina Ar. S** 48.39 352 eP P 12 22 07.1 +0.5
PGF **Pioggiola** 48.39 335 eP P 12 22 05.7 -1.0
PGF **Pioggiola** 48.39 335 eP P 12 22 05.7 -1.0
PKS2 **Kecel** 48.45 346 eP P 12 22 07.8 +0.9
PKSN **Nyarlorinc** 48.67 347 eP P 12 22 09.7 +1.0
PKS9 **Tamasi** 48.77 345 eP P 12 22 10.0 +0.6
PKS7 **Kunszentmiklos** 48.98 346 ⇓eP P 12 22 11.8 +0.8
LEGS **Legarje** 49.01 342 iP P 12 22 11.7 +0.4
PDKS **Podkum** 49.21 342 eP P 12 22 13.3 +0.4
BUD **Budapest** 49.42 346 ⇓eP P 12 22 14.0 -0.4
PKST **T"s** 49.46 345 eP P 12 22 15.1 +0.4
PKSG 49.49 346 eP P 12 22 15.4 +0.5
CSKK **Cs^ŧkako** 49.50 346 ⇑eP P 12 22 15.5 +0.5
PSZ **Piszkesteto** 49.63 347 ⇑P P 12 22 16.2 +0.1
PSZ **Piszkesteto** 49.63 347 ⇑iP P 12 22 16.2 +0.1
PSZ **Piszkesteto** 49.63 347 eP P 12 22 16.2 +0.1
comp=Z,31nm,1.1s
PSZ **Piszkesteto** 49.63 347 ⇓eP P 12 22 15.8 -0.3
OBKA **Obir** 49.75 342 ⇑iP P 12 22 17.3 +0.2
comp=Z,44nm,1.2s,SNR=15
SOKA **Soboth** 49.76 343 iP P 12 22 17.7 +0.6
comp=Z,43nm,1.2s,SNR=30
CADS **Cadrg** 49.76 341 eP P 12 22 16.9 -0.2
UZH **Uzhgorod** 49.82 349 eP P 12 22 15.2 -2.2
UZH e 12 22 19.8
KECS **Kecovo** 50.04 348 eP P 12 22 19.1 0.0
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS **Kecovo** 50.04 348 eP P 12 22 19.1 0.0
KECS e 12 22 29.1
KECS e 12 22 32.6
KECS ePP PP 12 24 14.6 +0.3
LMR **La Mourre** 50.11 333 eP P 12 22 18.7 -1.0
comp=Z,27nm,1.1s
LMR **La Mourre** 50.11 333 eP P 12 22 18.7 -1.0
comp=Z,27nm,1.1s
KOLS **Kolonicke sedl** 50.12 350 eP P 12 22 20.2 +0.5
KOLS pmax pmax
comp=Z,14nm,1.2s
KOLS **Kolonicke sedl** 50.12 350 eP P 12 22 20.2 +0.5
KOLS e 12 22 28.9
KOLS ePP PP 12 24 15.3 +0.3
SBF **Sospel** 50.12 335 eP P 12 22 19.5 -0.4
comp=Z,28nm,0.9s
SBF **Sospel** 50.12 335 eP P 12 22 19.5 -0.4
comp=Z,28nm,0.9s
FRF **La Foret Royal** 50.23 334 eP P 12 22 19.6 -1.0
comp=Z,24nm,0.9s
FRF **La Foret Royal** 50.23 334 eP P 12 22 19.6 -1.0
comp=Z,24nm,0.9s
SOP **Sopron** 50.23 344 ⇓eP P 12 22 23.2 +2.6
ABTA **Abfaltersbach** 50.62 341 iP P 12 22 24.3 +0.7
comp=Z,26nm,1.1s,SNR=14
KBA **Koelnbreinsper** 50.64 341 iP P 12 22 24.4 +0.5
comp=Z,44nm,1.3s,SNR=15
CONA **Conrad Observa** 50.65 344 ⇑iP P 12 22 24.1 +0.3
comp=Z,26nm,1.2s,SNR=14
LVV **L'vov** 50.68 351 eP P 12 22 19.5 -4.5
KWP **Kalwaria Pacla** 50.71 350 eP P 12 22 24.5 +0.3
KWP **Kalwaria Pacla** 50.71 350 eP P 12 22 24.5 +0.3
STHS **Stebnicka Huta** 50.77 349 eP P 12 22 24.8 +0.1
STHS pmax pmax
comp=Z,8.0nm,0.8s
STHS **Stebnicka Huta** 50.77 349 eP P 12 22 24.8 +0.1
STHS e 12 22 35.2
STHS e 12 22 38.3
AK02 **Malin Array Si** 50.92 356 eP P 12 22 24.7 -1.0
AK01 **Malin Array Si** 50.95 356 eP P 12 22 24.6 -1.3
KIEV **Kiev** 50.96 356 ⇑iP P 12 22 24.6 -1.4
KIEV **Kiev** 50.96 356 eP P 12 22 24.9 -1.1
comp=Z,11nm,0.9s
AKASG **Malin Array Be** 50.96 356 P P 12 22 24.9 -1.2
comp=Z,3.2nm,0.6s,baz=177,slow=6.6,SNR=35
AKASG LR LR 12 48 50.1
comp=Z,100nm,18.1s,baz=190,slow=42
AKASG **Malin Array Be** 50.96 356 ceP P 12 22 24.8 -1.2
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB **Malin Array Si** 50.96 356 eP P 12 22 24.8 -1.3
NIE **Niedzica** 50.96 348 eP P 12 22 26.2 +0.1
NIE **Niedzica** 50.96 348 eP P 12 22 26.2 +0.1
SMRF **Simiane la Rot** 51.03 333 eP P 12 22 26.3 -0.4
comp=Z,46nm,1.5s
SMRF **Simiane la Rot** 51.03 333 eP P 12 22 26.3 -0.4
comp=Z,46nm,1.5s
MOA **Molln** 51.04 343 iP P 12 22 26.7 -0.1
comp=Z,42nm,1.1s,SNR=20
MBDF **Montbardon** 51.10 335 eP P 12 22 26.9 -0.5
comp=Z,32nm,0.9s
MBDF **Montbardon** 51.10 335 eP P 12 22 26.9 -0.5
comp=Z,32nm,0.9s
FUORN **Ofenpass-Fuorn** 51.29 339 eP P 12 22 29.2 +0.3
comp=Z,35nm,1.4s
WTTA **Wattenberg** 51.36 340 iP P 12 22 29.5 +0.2
comp=Z,48nm,1.1s,SNR=18
BNI **Bardonecchia** 51.40 335 eP P 12 22 29.9 +0.3
comp=Z,27nm,1.2s
WATA **Walderalm** 51.44 340 iP P 12 22 29.7 -0.2
comp=Z,36nm,1.3s,SNR=5.5
FETA **Feichten** 51.47 339 iP P 12 22 30.5 +0.4
comp=Z,25nm,1.0s,SNR=10.0
TUE **Stuetta** 51.50 338 eP P 12 22 29.8 -0.6
comp=Z,18nm,1.1s
MOTA **Moosalm** 51.61 340 ⇓iP P 12 22 30.5 -0.7
comp=Z,27nm,1.1s,SNR=14
ORIF **Oris-en-Rattie** 51.64 334 eP P 12 22 30.6 -0.8
ORIF eR
comp=Z,413nm,21.2s
ORIF **Oris-en-Rattie** 51.64 334 eP P 12 22 30.6 -0.8
LPG **La Plagne** 51.73 335 eP P 12 22 32.0 -0.3
comp=Z,28nm,1.0s
LPG **La Plagne** 51.73 335 eP P 12 22 32.0 -0.3
comp=Z,28nm,1.0s
LPL **La Plagne** 51.75 335 eP P 12 22 31.9 -0.5
comp=Z,44nm,1.3s
LPL **La Plagne** 51.75 335 eP P 12 22 31.9 -0.5
comp=Z,44nm,1.3s
OJC **Ojcow** 51.83 348 eP P 12 22 31.7 -0.9
OJC **Ojcow** 51.83 348 eP P 12 22 31.7 -0.9
OJC **Ojcow** 51.83 348 eP P 12 22 32.1 -0.5
comp=Z,18nm,1.3s
OKC **Ostrava-Krasne** 51.83 347 eP P 12 22 31.3 -1.3
OKC ex x 12 22 45.2
OKC ex x 12 22 48.9
OKC **Ostrava-Krasne** 51.83 347 eP P 12 22 31.3 -1.3
RETA **Reutte** 51.85 340 iP P 12 22 32.3 -0.6
comp=Z,43nm,1.1s,SNR=19
LASF **Ste Croix** 51.89 332 eP P 12 22 32.7 -0.5
comp=Z,31nm,1.4s
LASF **Ste Croix** 51.89 332 eP P 12 22 32.7 -0.5
comp=Z,31nm,1.4s
DAVA **Damuels** 51.99 339 iP P 12 22 33.4 -0.7
comp=Z,66nm,1.0s,SNR=17
TREC **Trest** 52.00 344 eP P 12 22 32.7 -1.2
TREC AMS AMS 12 50 20.0
comp=Z,100nm,13.8s
TREC **Trest** 52.00 344 eP P 12 22 32.7 -1.2
TREC MLR MLR
comp=Z,100nm,13.8s
GEC2 **GERESS Array S** 52.10 343 eP P 12 22 34.1 -0.7
comp=Z,8um,1.2s
GERES **GERESS Array B** 52.10 343 P P 12 22 34.2 -0.5
comp=Z,10.0nm,0.9s,baz=148,slow=7.8,SNR=52
GERES LR LR 12 49 08.3
comp=Z,141nm,18.1s,baz=152,slow=41
GERES **GERESS Array B** 52.10 343 P P 12 22 34.2 -0.5
GERES pmax pmax
comp=Z,10.0nm,0.9s
GERES MLR MLR
comp=Z,141nm,18.1s
VIVF **Saint-Julien-l** 52.12 333 eP P 12 22 34.3 -0.6
comp=Z,34nm,1.2s
VIVF **Saint-Julien-l** 52.12 333 eP P 12 22 34.3 -0.6
comp=Z,34nm,1.2s
MTLF **Montolieu** 52.13 330 eP P 12 22 34.2 -0.8
comp=Z,23nm,1.3s
MTLF **Montolieu** 52.13 330 eP P 12 22 34.2 -0.8
comp=Z,23nm,1.3s
SENIN **Lac Senin/Sane** 52.21 336 eP P 12 22 35.1 -0.7
KRLC **Kraliky** 52.38 346 eP P 12 22 36.0 -0.7
KRLC **Kraliky** 52.38 346 eP P 12 22 36.0 -0.7
KHC **Kasperske Hory** 52.39 343 eP P 12 22 35.9 -0.9
KHC ex x 12 22 48.7
KHC ex x 12 22 53.8
KHC AMS AMS 12 48 40.0
comp=Z,200nm,13.9s
KHC **Kasperske Hory** 52.39 343 eP P 12 22 35.9 -0.9
KHC e 12 22 48.7
KHC MLR MLR
comp=Z,200nm,13.9s
KHC **Kasperske Hory** 52.39 343 eP P 12 22 35.9 -0.9
comp=Z,11nm,1.1s
DPC **Dobruska-Polom** 52.75 345 eP P 12 22 38.9 -0.6
DPC AMS AMS 12 49 20.0
comp=Z,100nm,12.7s
DPC **Dobruska-Polom** 52.75 345 eP P 12 22 38.9 -0.6
DPC MLR MLR
comp=Z,100nm,12.7s
GOPC **GO Pecny, Ondr** 52.75 344 eP P 12 22 38.6 -0.9
GOPC ex x 12 22 51.6
GOPC AMS AMS 12 50 20.0
comp=Z,100nm,14.1s
EPF **Esparros** 52.85 329 eP P 12 22 39.9 -0.5
comp=Z,29nm,1.3s
EPF **Esparros** 52.85 329 eP P 12 22 39.9 -0.5
comp=Z,29nm,1.3s
PRU **Pruhonice** 52.89 344 eP P 12 22 38.0 -2.4
PRU ex x 12 22 41.8
PRU eS S 12 30 00.3 -9.1
PRU AMS AMS 12 49 30.0
comp=Z,100nm,12.8s
PRU **Pruhonice** 52.89 344 eP P 12 22 38.0 -2.4
PRU e 12 22 41.8
PRU eS S 12 30 00.3 -9.1
PRU MLR MLR
comp=Z,100nm,12.8s
CABF **La Chapelle** 52.90 336 eP P 12 22 40.5 -0.2
comp=Z,50nm,1.4s
CABF **La Chapelle** 52.90 336 eP P 12 22 40.5 -0.2
comp=Z,50nm,1.4s
UPC **Upice** 52.97 345 eP P 12 22 40.2 -0.8
UPC ex x 12 22 53.1
UPC **Upice** 52.97 345 eP P 12 22 40.2 -0.8
UPC e 12 22 53.1
ESDC **Sonseca Array** 53.02 323 P P 12 22 41.3 -0.4
comp=Z,4.4nm,0.8s,baz=134,slow=7.3,SNR=23
ESDC PcP PcP 12 23 50.6 +0.3
comp=Z,2.0nm,0.8s,baz=121,slow=4.4,SNR=5.1
ESDC LR LR 12 46 42.7
comp=Z,235nm,18.2s,baz=125,slow=38
ESLA **Sonseca Array** 53.02 323 eP P 12 22 41.4 -0.2
comp=Z,4.5nm,1.2s
COLF **Collangettes** 53.07 333 ⇑eP P 12 22 42.3 +0.4
LOMF **Lomont** 53.20 337 ⇑eP P 12 22 42.9 0.0
KSP **Ksiaz** 53.21 346 eP P 12 22 42.4 -0.4
KSP **Ksiaz** 53.21 346 eP P 12 22 42.4 -0.4
ETSF **Etsaut** 53.23 328 eP P 12 22 42.7 -0.5
comp=Z,54nm,1.4s
ETSF **Etsaut** 53.23 328 eP P 12 22 42.7 -0.5
comp=Z,54nm,1.4s
CAF **Calviac** 53.38 332 eP P 12 22 43.9 -0.3
comp=Z,21nm,1.1s
CAF **Calviac** 53.38 332 eP P 12 22 43.9 -0.3
comp=Z,21nm,1.1s
BFO **Black Forest** 53.44 339 iP P 12 22 44.4 -0.2
BFO **Black Forest** 53.44 339 eP P 12 22 44.2 -0.3
comp=Z,26nm,1.2s
MOF **Molkenrain** 53.49 337 ⇑eP P 12 22 44.8 -0.2
STU **Stuttgart** 53.50 339 eP P 12 22 45.8 +0.8
comp=Z,58nm,1.6s
HINF **Hinteralfeld** 53.57 337 eP P 12 22 44.6 -1.0
comp=Z,41nm,1.2s
HINF **Hinteralfeld** 53.57 337 eP P 12 22 44.6 -1.0
comp=Z,41nm,1.2s
GRFO **Grafenberg** 53.61 341 eP P 12 22 44.9 -0.9
comp=Z,38nm,1.6s
NKC **Novy Kostel** 53.71 343 eP P 12 22 46.2 -0.3
NKC ex x 12 22 58.7
NKC **Novy Kostel** 53.71 343 eP P 12 22 46.2 -0.3
NKC e 12 22 58.7
SJPF **Ste Jean** 53.73 328 eP P 12 22 46.6 -0.2
comp=Z,52nm,1.3s
SJPF **Ste Jean** 53.73 328 eP P 12 22 46.6 -0.2
comp=Z,52nm,1.3s
ECH **Echery** 53.78 338 ⇑eP P 12 22 46.8 -0.3
ECH **Echery** 53.78 338 eP P 12 22 45.9 -1.2
comp=Z,24nm,1.3s
BRG **Berggiesshubel** 53.85 344 eP P 12 22 48.6 +1.1
comp=Z,18nm,1.7s
comp=N,170nm,21.2s
comp=E,116nm,18.4s
comp=Z,170nm,13.5s
BRG **Berggiesshubel** 53.85 344 eP P 12 22 48.6 +1.1
BRG pmax pmax
comp=Z,18nm,1.7s
BRG MLR MLR
comp=N,170nm,21.2s
BRG MLR MLR
comp=E,116nm,18.4s
BRG MLR MLR
comp=Z,170nm,13.5s
SMF **Signal de Mont** 53.88 334 eP P 12 22 46.8 -1.0
comp=Z,17nm,1.0s
SMF **Signal de Mont** 53.88 334 eP P 12 22 46.8 -1.0
comp=Z,17nm,1.0s
KKAR **Karatay Array** 53.89 32 eP P 12 22 48.3 +0.3
comp=Z,2.7nm,0.8s
CDF **Champ du Feu** 53.90 338 eP P 12 22 46.9 -1.1
comp=Z,60nm,1.2s
CDF **Champ du Feu** 53.90 338 eP P 12 22 46.9 -1.1
comp=Z,60nm,1.2s
RJF **Les Rejaudoux** 53.92 332 eP P 12 22 47.8 -0.3
comp=Z,42nm,1.2s
RJF eR
comp=Z,493nm,20.5s
RJF **Les Rejaudoux** 53.92 332 eP P 12 22 47.8 -0.3
comp=Z,42nm,1.2s
HAU **Haudompre** 53.92 337 eP P 12 22 47.2 -0.9
comp=Z,56nm,1.3s
HAU eR
comp=Z,163nm,18.5s
HAU **Haudompre** 53.92 337 eP P 12 22 47.2 -0.9
comp=Z,56nm,1.3s
ABKAR **Akbulak array** 53.96 20 eP P 12 22 49.0 +0.7
comp=Z,2.6nm,1.0s
LFF **La Frestale** 54.02 331 eP P 12 22 48.5 -0.4
comp=Z,43nm,1.1s
LFF **La Frestale** 54.02 331 eP P 12 22 48.5 -0.4
comp=Z,43nm,1.1s
LANF **Langenberg** 54.17 339 ⇑eP P 12 22 49.9 0.0
AVF **Avril sur Loir** 54.20 334 eP P 12 22 49.4 -0.7
comp=Z,36nm,1.3s
AVF **Avril sur Loir** 54.20 334 eP P 12 22 49.4 -0.7
comp=Z,36nm,1.3s
BGF **Bois d'Agland** 54.25 334 eP P 12 22 49.9 -0.6
comp=Z,15nm,1.0s
BGF **Bois d'Agland** 54.25 334 eP P 12 22 49.9 -0.6
comp=Z,15nm,1.0s
TCF **Toulx Ste Croi** 54.33 333 eP P 12 22 51.2 +0.1
comp=Z,94nm,1.3s
TCF **Toulx Ste Croi** 54.33 333 eP P 12 22 51.2 +0.1
comp=Z,94nm,1.3s
SSF **Saint Saulge** 54.34 334 eP P 12 22 51.4 +0.2
SSF **Saint Saulge** 54.34 334 eP P 12 22 51.4 +0.2
LOR **Lormes** 54.35 335 eP P 12 22 50.4 -0.9
comp=Z,47nm,1.2s
LOR eR
comp=Z,269nm,22.8s
LOR **Lormes** 54.35 335 eP P 12 22 50.4 -0.9
comp=Z,47nm,1.2s
CLL **Collm** 54.50 344 iP P 12 22 51.3 -0.9
comp=Z,21nm,1.4s
CLL eS S 12 30 40.0 +8.8
CLL eSS SS 12 34 24.0 +10
CLL **Collm** 54.50 344 iP P 12 22 51.3 -0.9
CLL eS S 12 30 40.0 +8.8
CLL pmax pmax
comp=Z,21nm,1.4s
CLL **Collm** 54.50 344 eP P 12 22 51.4 -0.8
comp=Z,27nm,1.4s
SFTF **Sexfontaines** 54.60 336 eP P 12 22 52.6 -0.4
comp=Z,66nm,1.2s
SFTF **Sexfontaines** 54.60 336 eP P 12 22 52.6 -0.4
comp=Z,66nm,1.2s
PAGF **Fort de Pagny** 54.61 337 eP P 12 22 52.5 -0.6
comp=Z,28nm,1.8s
PAGF **Fort de Pagny** 54.61 337 eP P 12 22 52.5 -0.6
comp=Z,28nm,1.8s
KOLN **Koldanda** 54.69 55 eP P 12 22 52.8 -1.5
comp=Z,10nm,0.7s
KSH **Kashi** 54.78 39 eP P 12 22 51.5 -3.2
KSH sP sP 12 22 58.8 -0.3
KSH PcP PcP 12 23 57.0 -0.1
MEZF **Maizieres J'vi** 54.83 336 eP P 12 22 54.5 -0.2
comp=Z,86nm,1.4s
MEZF **Maizieres J'vi** 54.83 336 eP P 12 22 54.5 -0.2
comp=Z,86nm,1.4s
SUW **Suwalki** 54.89 352 eP P 12 22 54.6 -0.4
SUW **Suwalki** 54.89 352 eP P 12 22 54.6 -0.4
OBN **Obninsk** 55.21 1 iP P 12 22 55.6 -1.6
OBN iS S 12 30 37.4 -3.1
OBN iSS SS 12 34 17.8 -7.1
OBN pmax pmax
comp=Z,8.0nm,0.8s
OBN MLR MLR
comp=Z,86nm,21.0s
WLF **Walferdange** 55.35 338 P P 12 22 58.0 -0.4
comp=Z,13nm,1.4s
WLF **Walferdange** 55.35 338 eP P 12 22 58.5 +0.1
comp=Z,16nm,1.0s
GKN **Gorkha** 55.63 55 eP P 12 22 59.2 -1.8
comp=Z,44nm,1.1s
MFF **Saint Martin d** 55.66 332 eP P 12 23 00.3 -0.4
MFF **Saint Martin d** 55.66 332 eP P 12 23 00.3 -0.4
AAK **Ala-Archa** 55.78 35 ciP P 12 23 00.2 -1.7
AAK pmax pmax
comp=Z,7.0nm,0.7s
DMN **Daman** 55.87 56 eP P 12 23 00.9 -2.0
comp=Z,27nm,0.9s
KKN **Kakani** 56.08 56 eP P 12 23 03.0 -1.4
comp=Z,24nm,0.8s
PKI **Pulchoki** 56.11 56 eP P 12 23 02.5 -2.2
comp=Z,11nm,0.7s
MEM **Membach** 56.18 339 P P 12 23 07.0 +2.7
comp=Z,14nm,2.4s
GIVF **Givet** 56.21 337 eP P 12 23 03.7 -0.9
comp=Z,67nm,1.1s
GIVF **Givet** 56.21 337 eP P 12 23 03.7 -0.9
comp=Z,67nm,1.1s
BCLA **Clavier** 56.28 338 P P 12 23 05.3 +0.2
comp=Z,20nm,1.6s
DOU **Dourbes** 56.29 337 P P 12 23 04.5 -0.6
comp=Z,9.2nm,1.4s
BAIF **Baives** 56.41 337 eP P 12 23 05.1 -0.9
comp=Z,46nm,1.2s
BAIF **Baives** 56.41 337 eP P 12 23 05.1 -0.9
comp=Z,46nm,1.2s
TKM2 **Tokmak 2** 56.60 35 eP P 12 23 06.8 -1.0
comp=Z,14nm,1.4s
GUN **Gumba** 56.62 56 eP P 12 23 06.6 -1.8
comp=Z,35nm,0.9s
SNF **Seneffe** 56.74 337 P P 12 23 08.5 +0.2
JIRN **Jiri** 56.79 56 eP P 12 23 07.5 -2.1
comp=Z,14nm,0.8s
RAMN **Ramite** 56.89 57 eP P 12 23 07.7 -2.5
LDF **La Druitiere** 57.10 333 eP P 12 23 10.2 -0.8
LDF **La Druitiere** 57.10 333 eP P 12 23 10.2 -0.8
ODAN **Odare** 57.53 58 eP P 12 23 11.1 -3.6
TAPN **Taplejung** 57.96 57 eP P 12 23 15.6 -2.2
comp=Z,24nm,1.0s
ARU **Arti** 59.76 15 diP P 12 23 28.4 -1.0
ARU 12 25 38.5
ARU S S 12 31 38.5 -1.9
ARU pmax pmax
comp=Z,16nm,1.2s
ARU **Arti** 59.76 15 eP P 12 23 28.9 -0.5
comp=Z,77nm,2.1s
FINES **FINESS Array B** 61.87 355 P P 12 23 42.9 -0.7
comp=Z,3.9nm,0.7s,baz=163,slow=3.9,SNR=13
FINES LR LR 12 51 46.4
comp=Z,95nm,21.8s,baz=187,slow=37
FINES **FINESS Array B** 61.87 355 P P 12 23 42.9 -0.7
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES MLR MLR
comp=Z,95nm,21.8s
PRGR **Permogore** 62.31 6 eP P 12 23 44.0 -2.5
PRGR pmax pmax
comp=Z,8.0nm,0.9s
MK31 **Makanchi Array** 62.72 35 eP P 12 23 48.1 -1.6
MKAR **Makanchi Array** 62.72 35 P P 12 23 48.5 -1.2
comp=Z,7.2nm,0.8s,baz=233,slow=5.3,SNR=46
MKAR LR LR 12 52 07.0
comp=Z,121nm,20.9s,baz=250,slow=37
MKAR **Makanchi Array** 62.72 35 P P 12 23 48.5 -1.2
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR MLR MLR
comp=Z,121nm,20.9s
KURK **Kurchatov** 63.07 30 eP P 12 23 51.7 -0.1
comp=Z,15nm,1.3s
NB2 **NORSAR Subarra** 63.69 348 P P 12 23 55.0 -0.8
comp=Z,7.9nm,0.9s,baz=156,slow=6.5
NOA **NORSAR Array B** 63.69 348 P P 12 23 55.0 -0.8
comp=Z,4.3nm,0.8s,baz=156,slow=6.3,SNR=12
NOA LR LR 12 56 13.3
comp=Z,71nm,18.1s,baz=170,slow=40
NOA **NORSAR Array B** 63.69 348 P P 12 23 55.0 -0.8
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA MLR MLR
comp=Z,71nm,18.1s
PSI **Prapat** 64.48 87 LR LR 12 48 25.0

comp=Z,189nm,20.5s,slow=33
WMQ Urumqi 64.50 40 P **P** 12 24 01.3 -0.3
WMQ pP **pP** 12 24 08.3 +3.5
WMQ PMZ
comp=Z,7.0nm,0.8s
WMQ PMZ
comp=Z,75nm,4.6s
WMQ LN
comp=Z,330nm,16.0s
WMQ LE
comp=Z,130nm,15.2s
WMQ LZ
comp=Z,91nm,21.5s
IPM Ipoh 66.63 85 *e*P **P** 12 24 15.8 0.0
comp=Z,19nm,1.3s
NVS Novosibirsk 67.80 28 *e*P **P** 12 24 21.1 -1.3
NVS pmax pmax
comp=Z,44nm,1.9s
NVS pmax pmax
comp=N,17nm,1.4s
ZAA0 Zalesovo Array 68.05 29 *e*P **P** 12 24 22.9 -1.1
ZALV Zalesovo Beam 68.05 29 P **P** 12 24 22.6 -1.4
comp=N,5.0nm,0.9s,baz=241,slow=6.1,SNR=11
ZALV LR LR 12 55 17.1
comp=N,152nm,18.9s,baz=246,slow=37
ZALV Zalesovo Beam 68.05 29 *i* P **P** 12 24 25.5 +1.5
ZALV pmax pmax
comp=Z,5.0nm,0.9s
SYO Syowa Base 68.72 178 *i*eX 12 24 24.0
MYKOM Kota Tinggi 69.38 88 *e*P **P** 12 24 33.1 0.0
comp=Z,44nm,1.6s
MDSI Maura Dua 69.73 95 P **P** 12 24 35.7 +0.4
comp=Z,16nm,1.1s
ARCES ARCESS Array B 69.92 357 P **P** 12 24 33.7 -1.7
comp=Z,4.1nm,0.7s,baz=186,slow=3.7,SNR=11
ARCES LR LR 12 57 13.2
comp=Z,96nm,20.0s,baz=132,slow=38
ARCES ARCESS Array B 69.92 357 P **P** 12 24 33.7 -1.7
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES MLR MLR
comp=Z,96nm,20.0s
MAW Mawson 70.05 169 P **P** 12 24 39.0 +2.8
comp=Z,6.0nm,1.0s,baz=327,slow=6.8,SNR=6.9
MAW LR LR 12 50 02.5
comp=Z,235nm,21.9s,baz=298,slow=31
MAW Mawson 70.05 169 P **P** 12 24 39.0 +2.8
MAW pmax pmax
comp=Z,6.0nm,1.0s
MAW Mawson 70.05 169 *e*P **P** 12 24 37.9 +1.8
comp=Z,1.2nm,1.0s
GTA Gaotai 71.30 48 *e*P **P** 12 24 45.4 +0.8
GTA pP **pP** 12 24 50.1 +2.3
GTA sP **sP** 12 24 52.4 +3.4
GTA S **S** 12 34 03.1 +0.5
GTA sS **sS** 12 34 11.3 +3.3
GTA SKS **SKSac** 12 34 43.5 -4.6
GTA PMZ
comp=Z,5.0nm,2.0s
GTA PMZ
comp=Z,54nm,4.3s
GTA LN
comp=Z,130nm,17.6s
GTA LE
comp=Z,90nm,17.6s
GTA LZ
comp=Z,120nm,16.2s
CD2 Chengdu 72.42 57 *e*P **P** 12 24 51.0 -0.4
CD2 pP **pP** 12 24 54.3 -0.4
CD2 PcP **PcP** 12 25 08.9 -0.3
CD2 PP **PP** 12 27 31.5 -1.0
CD2 S **S** 12 34 14.9 -0.7
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
LEM Lembang 73.22 97 LR LR 12 51 54.7
comp=Z,124nm,21.5s,baz=239,slow=32
LZH Lanzhou 73.56 52 *e*P **P** 12 25 00.5 +2.3
LZH pP **pP** 12 25 04.5 +3.1
LZH sP **sP** 12 25 06.8 +4.2
LZH PMZ
comp=Z,14nm,1.0s
GYA Guiyang 74.19 62 P **P** 12 25 03.3 +1.3
GYA PP **PP** 12 27 49.8 +2.1
GYA S **S** 12 34 33.3 -2.7
GYA SKS **SKSac** 12 35 05.0 -5.3
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,580nm,18.4s
GYA LE
comp=Z,520nm,19.0s
GYA LZ
comp=Z,540nm,18.6s
QIZ Qiongzhong 76.24 70 P **P** 12 25 11.8 -2.0
QIZ S **S** 12 34 56.6 -2.2
QIZ LN
comp=Z,140nm,15.2s
QIZ LZ
comp=Z,120nm,18.4s
ZAK Zakamensk 76.81 38 *e*P **P** 12 25 14.5 -2.0
ZAK pmax pmax
comp=Z,3.0nm,1.8s
SONM Songino Array 78.11 41 P **P** 12 25 24.5 +0.6
comp=Z,0.9nm,0.8s,baz=259,slow=3.9,SNR=6.7
SONM LR LR 13 04 38.7
comp=Z,110nm,18.5s,baz=276,slow=39
SONM Songino Array 78.11 41 P **P** 12 25 24.5 +0.6
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM MLR MLR
comp=Z,110nm,18.5s
SPITS Spitsbergen Ar 78.95 356 LR LR 13 02 52.7
comp=Z,36nm,21.9s,baz=260,slow=38
HHC Hu-ho-hao-te 80.40 49 *e*P **P** 12 25 39.3 +2.8
HHC PP PP 12 28 45.4 +5.8
HHC S **S** 12 35 45.5 +2.6
HHC SKS **SKSac** 12 35 52.3 -2.6
HHC SS **SS** 12 40 56.5 +1.8
HHC PMZ
comp=Z,14nm,1.3s
HHC PMZ
comp=Z,100nm,8.4s
HHC LN
comp=Z,190nm,16.5s
HHC LE
comp=Z,160nm,16.5s
HHC LZ
comp=Z,110nm,16.9s
BOD Bodaibo 84.62 32 *e*P **P** 12 25 57.0 -1.0
BOD pmax pmax
comp=Z,12nm,1.4s
SUMG Summit 85.17 343 *e*P **P** 12 26 01.8 +0.8
comp=Z,23nm,1.2s
NJ2 Nanjing 85.35 58 *e*P **P** 12 26 01.9 -0.3
NJ2 PMZ
comp=Z,40nm,0.8s
MBWA Marble Bar 85.47 111 *e*P **P** 12 26 04.8 +1.7
comp=Z,20nm,1.2s
QSPA South Pole Qui 89.78 180 *e*P **P** 12 26 25.1 +2.1
comp=Z,154nm,2.4s
TIXI Tiksi 91.62 18 *e*P **P** 12 26 31.1 -0.2
comp=Z,2.0nm,0.8s
KSAR Wonju Array Be 92.85 53 P **P** 12 26 36.8 -1.0
KSRS Korea Array 92.88 53 P **P** 12 26 36.8 -1.1
comp=Z,0.4nm,0.5s,baz=263,slow=4.8,SNR=3.5
USRK Ussuriysk Ar. 95.56 46 LR LR 13 16 19.1
comp=Z,66nm,18.3s,baz=293,slow=40
SCHQ Schefferville 96.73 325 LR LR 13 11 33.4
comp=Z,90nm,18.4s,baz=69,slow=36
VNDA Vanda 97.34 170 LR LR 13 07 09.0
comp=Z,160nm,20.6s,baz=240,slow=33
ASAR Alice Springs 98.52 114 P **P** 12 27 03.7 -0.3
comp=Z,0.6nm,1.0s,baz=273,slow=5.1,SNR=3.4
ASAR LR LR 13 09 44.4
comp=Z,116nm,18.1s,baz=236,slow=34
ASAR Alice Springs 98.52 114 P **P** 12 27 03.7 -0.3
ASAR pmax pmax
comp=Z,1.0nm,1.0s
ASAR MLR MLR
comp=Z,116nm,18.1s
WRA Warramunga Arr 99.17 110 P **Pdif** 12 27 08.0 +1.1
comp=Z,1.8nm,1.0s,baz=269,slow=3.3,SNR=6.8
WRA Warramunga Arr 99.17 110 P **Pdif** 12 27 08.0 +1.1
WRA pmax pmax
comp=Z,2.0nm,1.0s
EGMT Eagleton 123.23 332 *e*PKPdf **PKPdf** 12 32 22.8 +1.0
BOZ Bozeman (W) 125.84 331 *e*PKPdf **PKPdf** 12 32 28.9 +1.9
PDAR Pinedale Array 126.80 327 PKP **PKPdf** 12 32 28.4 -0.7
comp=Z,1.8nm,1.1s,baz=83,slow=3.7,SNR=7.8
SDCO Great Sand Dun 127.58 320 *e*PKPdf **PKPdf** 12 32 31.3 +0.6
SMCO Snowmass 127.64 322 *e*PKPdf **PKPdf** 12 32 32.6 +1.7
PV04 Paradox Valley 129.31 323 *e*PKPdf **PKPdf** 12 32 34.9 +1.0
TXAR Lajitas Array 130.74 310 PKP **PKPdf** 12 32 35.6 -1.1
comp=Z,0.5nm,0.8s,baz=149,slow=2.6,SNR=5.3
TXAR Lajitas Array 130.74 310 PKIKP **PKPdf** 12 32 35.6 -1.1
TXAR pmax pmax
comp=Z,1.0nm,0.8s
NVAR Mina Array Bea 134.52 330 PKP **PKPdf** 12 32 45.5 +1.7
comp=Z,1.5nm,0.9s,baz=97,slow=0.9,SNR=8.8

IDC 13 12:19:10.4±1.4, 8°24N×91°68E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.6/38, mbtmp3.8/6, ML4.2/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/35, Error ellipse: s-maj=37.2km s-min=24.4km az=61.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.92**	**266**	Pn	Pn	12 21 48.2	0.0
	1.9nm,0.3s,baz=82,slow=14,SNR=9.5						
PALK				Sn	Sn	12 23 38.8	-12
	5.6nm,0.3s,baz=23,slow=18,SNR=12						
PALK				LR	LR	12 25 16.1	
	comp=Z,105nm,20.9s,baz=87,slow=34						
CMAR	**Chiang Mai Arr**	**12.37**	**34**	Pn	Pn	12 22 08.7	+0.8
	0.5nm,0.3s,baz=203,slow=36,SNR=5.6						
LEM	**Lembang**	**21.83**	**133**	LR	LR	12 33 06.7	
	comp=Z,46nm,20.5s,baz=331,slow=38						
H08S3	**Diego Garcia H**	**24.79**	**231**	T	T	12 50 48.3	
	baz=52,slow=75,SNR=17						
H08S2	**Diego Garcia H**	**24.80**	**231**	T	T	12 50 50.8	
	baz=52,slow=75,SNR=18						
H08S1	**Diego Garcia H**	**24.81**	**231**	T	T	12 50 46.7	
	baz=52,slow=75,SNR=14						
MKAR	**Makanchi Array**	**39.25**	**350**	P	P	12 26 40.7	0.0
	0.7nm,0.5s,baz=167,slow=9.6,SNR=9.6						
SONM	**Songino Array**	**41.39**	**15**	P	P	12 26 58.1	-0.5
	0.9nm,0.7s,baz=192,slow=8.2,SNR=5.0						
WRA	**Warramunga Arr**	**50.47**	**124**	P	P	12 28 10.5	0.0
	0.8nm,0.8s,baz=304,slow=8.6,SNR=4.9						
ASAR	**Alice Springs**	**52.03**	**129**	P	P	12 28 22.1	-0.2
	0.5nm,0.8s,baz=313,slow=7.7,SNR=5.0						

*ISCJB **13** 12:21:12.0±0.4, 22°.60S×0°.04×67°.43W×0°.05, h181km±5km, mb3.7/5, Error ellipse: s-maj=8.1km s-min=6.1km az=135.1*
*IDC **13** 12:21:12.2±1.0, 22°.59S×67°.20W, h159km±13km, mb3.3/4, mb1 3.6/7, mb1mx3.4/27, mbtmp3.9/7, Error ellipse: s-maj=21.6km s-min=13.5km az=113.0*
*SJA **13** 12:21:13.9±0.8, 22°.63S×66°.77W, h212km±53km, ML3.0, MW3.2*
*GUC **13** 12:21:14.3±0.5, 22°.62S×67°.86W, h202km±10km, ML4.3*

ISC 13 12:21:12.6±0.8, 22°.62S±0°.05×67°.36W±0°.05, h170km±8km, n25, σ1s37/35, mb3.5/5, 7C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.43**	**270**	P	**Pn**	**12 21 44.3**	**+0.9**
	8μm,0.3s,baz=89,slow=7.8,SNR=2020						
LVC				S	**Sn**	**12 22 07.6**	**+0.6**
	828nm,0.3s,baz=61,slow=9.7,SNR=10						
YJA	**Yavi**	**1.77**	**76**	*e*P	**Pn**	**12 21 47.9**	**+0.9**
HJA	**Humahuaca**	**1.90**	**109**	*e*P	**Pn**	**12 21 49.3**	**+1.1**
PB09	**IPOC Station P**	**1.92**	**295**	⇑*i*P	**Pn**	**12 21 49.7**	**+1.3**
PB09				*i* S	**Sn**	**12 22 16.6**	**+0.7**
PB09				AML	AML	12 22 18.5	
	comp=N,2μm,0.7s						
PB04	**IPOC Station P**	**2.00**	**280**	⇑*i*P	Pn	12 21 56.3	+7.4
PB04				*i* S	Sn	12 22 27.9	+11
PB04				AML	AML	12 22 30.4	
	comp=N,891nm,0.1s						
PB06	**IPOC Station P**	**2.04**	**267**	⇑*i*P	**Pn**	**12 21 50.1**	**+0.5**
PB06				*i* S	**Sn**	**12 22 18.8**	**+0.6**
PB07	**IPOC Station P**	**2.50**	**290**	⇑*i*P	**Pn**	**12 21 55.4**	**+0.5**
PB07				*i* S	**Sn**	**12 22 26.6**	**-1.2**
PB07				AML	AML	12 22 27.0	
	comp=N,2μm,0.2s						
PB01	**IPOC Station P**	**2.52**	**308**	⇑*i*P	**Pn**	**12 21 55.8**	**+0.7**
PB01				*i* S	**Sn**	**12 22 28.0**	**0.0**
PB01				AML	AML	12 22 29.4	
	comp=E,664nm,0.2s						
AZAP	**Zapla**	**2.65**	**128**	*e*P	**Pn**	**12 21 56.7**	**-0.1**
AZAP				*e*S	**Sn**	**12 22 28.2**	**-2.9**
SLA	**San Lorenzo**	**2.70**	**141**	*e*P	**Pn**	**12 21 58.5**	**+1.2**
SLA				AML	AML	12 22 34.0	
	comp=Z,42nm,0.6s						
ANCH	**Antofagasta**	**3.00**	**249**	⇑*i*P	**Pn**	**12 22 00.4**	**-0.3**
ANCH				*i* S	**Sn**	**12 22 35.4**	**-2.8**
PB10	**IPOC Station P**	**3.07**	**252**	⇑*i*P	**Pn**	**12 22 01.6**	**-0.1**
PB10				*i* S	**Sn**	**12 22 37.0**	**-2.9**
PB10				AML	AML	12 22 39.8	
	comp=E,1μm,0.2s						
PATCX	**Punta Patache**	**3.15**	**304**	⇓*i*P	**Pn**	**12 22 02.7**	**-0.1**
PATCX				*i* S	**Sn**	**12 22 39.9**	**-1.9**
PATCX				AML	AML	12 22 44.4	
	comp=N,547nm,0.3s						
PB11	**IPOC Station P**	**3.56**	**323**	*e*P	**Pn**	**12 22 07.6**	**-0.3**
PB11				*i* S	**Sn**	**12 22 49.4**	**-1.7**
FSA	**Cafayete**	**3.67**	**161**	*e*P	**Pn**	**12 22 11.1**	**+1.7**
LPAZ	**La Paz**	**6.33**	**353**	P	**Pn**	**12 22 45.7**	**+1.1**
	comp=N,1.2nm,0.3s,baz=146,slow=5.8,SNR=35						
LPAZ				S	**Sn**	**12 23 55.5**	**-1.3**
	comp=N,0.1nm,0.3s,baz=12,slow=13,SNR=2.1						
SIV	**San Ignacio**	**8.87**	**43**	P	**Pn**	**12 23 15.4**	**-2.1**
	comp=N,4.3nm,0.3s,baz=240,slow=11,SNR=50						
SIV				S	Sn	12 24 46.8	-10
	comp=N,2.5nm,0.3s,baz=308,slow=23,SNR=8.8						
CFAA	**Coronel Fontan**	**8.99**	**185**	P	**Pn**	**12 23 17.6**	**-1.4**
	comp=N,0.0nm,0.3s,baz=319,slow=9.3,SNR=1.1						
BDFB	**Brasilia**	**19.54**	**73**	P	**P**	**12 25 26.5**	**-1.0**
	comp=N,0.6nm,0.3s,baz=251,slow=10,SNR=12						
SNAA	**Sanae**	**60.76**	**161**	P	**P**	**12 31 07.0**	**+1.0**
	comp=N,0.3nm,0.7s,baz=278,slow=7.6,SNR=6.2						
TXAR	**Lajitas Array**	**62.36**	**324**	P	**P**	**12 31 18.0**	**+0.6**
	comp=N,0.1nm,0.5s,baz=151,slow=8.1,SNR=2.4						
QSPA	**South Pole Qui**	**67.58**	**180**	P	**P**	**12 31 52.3**	**+1.7**
	comp=N,0.9nm,0.9s,baz=180,slow=7.1,SNR=1.8						
TORD	**Torodi Ar. Bea**	**76.39**	**69**	P	**P**	**12 32 43.2**	**-0.4**
	comp=N,13nm,0.6s,baz=254,slow=5.7,SNR=176						
BOSA	**Boshof**	**81.66**	**117**	P	**P**	**12 33 12.3**	**0.0**
	comp=N,4.4nm,0.8s,baz=270,slow=5.1,SNR=1.6						
MKAR	**Makanchi Array**	**145.66**	**38**	PKPbc	**PKPab**	**12 40 31.9**	**+0.1**
	comp=N,0.9nm,0.8s,baz=317,slow=2.4,SNR=6.7						

*ISCJB **13** 12:25:19.1±0.8, 37°.4S±0°.1×94°.2W±0°.2, h10km, mb3.9/9, MS4.0/10, Error ellipse: s-maj=22.1km s-min=17.2km az=10.3*
*IDC **13** 12:25:19.1±0.8, 37°.34S×94°.26W, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.1/24, mbtmp4.1/8, MS4.0/11, Ms1 4.0/11, ms1mx3.9/19, Error ellipse: s-maj=25.8km s-min=20.0km az=89.0*
*NEIC **13** 12:25:20.8±0.7, 37°.28S×94°.29W, h10km, Error ellipse: s-maj=21.9km s-min=17.5km az=168.0*
*GCMT **13** 12:25:28.0±0.3, 37°.33S×94°.56W, h17km±1km, MW5.0/86, Moment Tensor Solution. s26,c27; s86,c121; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.49±.19; Mθθ=0.14±.16; Mϕϕ=0.35±.16; Mrθ=-0.48±.42; Mθϕ=-3.80±.13; Mϕr=0.29±.38; Best double couple: M₀=3.83600×10^16 NP1: ϕs=271.00000°, δ=87.00000°, λ=173.00000°. NP2: ϕs=1.00000°, δ=83.00000°, λ=3.00000°. Principal axes: T 4.1100, Plg=7.0000°, Azm=226.0000°; N -0.5470, Plg=83.0000°, Azm=68.0000°; P -3.5630, Plg=3.0000°, Azm=316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 12:25:20.7±0.8, 37°.3S±0°.1×94°.2W±0°.2, h10km, n24, σ0s92/11, mb3.9/9, MS4.2/10, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**16.32**	**304**	LR	LR	12 33 12.2	
	comp=Z,429nm,21.1s,baz=130,slow=29						
CFAA	**Coronel Fontan**	**22.15**	**83**	P	**P**	**12 30 17.1**	**+0.4**
	0.3nm,0.9s,baz=242,slow=11,SNR=3.3						
CFAA				LR	LR	12 36 47.3	
	comp=Z,74nm,20.9s,baz=255,slow=31						
USHA	**Ushuaia**	**24.80**	**143**	LR	LR	12 38 19.8	
	comp=Z,772nm,21.6s,baz=342,slow=32						
LVC	**Limon Verde**	**26.28**	**63**	P	**P**	**12 30 57.2**	**+0.5**
	11nm,0.7s,baz=220,slow=7.9,SNR=3.3						
NNA	**Nana**	**29.67**	**36**	LR	LR	12 40 11.5	
	comp=Z,702nm,21.3s,baz=226,slow=30						
LPAZ	**La Paz**	**31.16**	**55**	P	**P**	**12 31 40.0**	**-0.6**
	4.7nm,0.8s,baz=175,slow=5.1,SNR=13						
LPAZ				LR	LR	12 41 19.8	
	comp=Z,369nm,21.7s,baz=238,slow=31						
RKT	**Rikitea**	**37.65**	**280**	*e*LQ	LQ	12 41 16.7	
	738nm,27.5s						
RKT				*e*LR	LR	12 42 52.4	
	327nm,29.0s						
ROSC	**El Rosal**	**45.89**	**28**	LR	LR	12 51 08.9	
	comp=Z,241nm,18.5s,baz=208,slow=34						
BDFB	**Brasilia**	**46.12**	**75**	LR	LR	12 51 48.7	
	comp=Z,307nm,21.1s,baz=230,slow=34						
TBI	**Tubuai**	**49.02**	**270**	*e*LR	LR	12 48 11.5	
	147nm,28.2s						
PPT2	**Papeete2**	**52.14**	**276**	*e*LR	LR	12 49 28.5	
	192nm,24.5s						
PPT	**Papeete**	**52.15**	**276**	LR	LR	12 49 29.6	
	comp=Z,35nm,21.6s,baz=126,slow=28						
QSPA	**South Pole Qui**	**52.89**	**180**	P	**P**	**12 34 37.0**	**+0.4**
	0.8nm,0.9s,baz=113,slow=4.7,SNR=2.8						
SNAA	**Sanae**	**55.48**	**157**	P	**P**	**12 34 53.9**	**-1.4**
	1.1nm,1.0s,baz=257,slow=3.3,SNR=6.1						
RCBR	**Riachuelo**	**61.50**	**74**	LR	LR	13 01 19.3	
	comp=Z,310nm,19.0s,baz=207,slow=35						
TXAR	**Lajitas Array**	**66.91**	**351**	P	**P**	**12 36 13.4**	**+0.2**
	1.4nm,1.0s,baz=163,slow=5.1,SNR=7.9						
MAW	**Mawson**	**73.95**	**171**	P	**P**	**12 36 56.6**	**+0.9**
	1.9nm,0.8s,baz=155,slow=5.1,SNR=4.5						
NVAR	**Mina Array Bea**	**78.59**	**341**	P	**P**	**12 37 22.6**	**0.0**
	0.7nm,0.7s,baz=176,slow=5.7,SNR=4.9						
PDAR	**Pinedale Array**	**80.94**	**349**	P	**P**	**12 37 35.7**	**+0.5**
	0.7nm,0.6s,baz=31,slow=3.5,SNR=5.1						
DZM	**Mont Dzumac**	**83.92**	**247**	*e*LR	LR	13 03 58.9	
	227nm,27.9s						
BOSA	**Boshof**	**93.28**	**130**	LR	LR	13 14 16.3	
	comp=Z,81nm,19.5s,baz=178,slow=32						
DBIC	**Dimbokro**	**93.50**	**84**	LR	LR	13 16 04.3	
	comp=Z,68nm,21.1s,baz=208,slow=33						
BRTR	**Keskin Array B**	**139.62**	**70**	PKP	**PKPdf**	**12 44 49.6**	**+0.9**
	0.1nm,0.3s,baz=134,slow=4.2,SNR=2.2						
SONM	**Songino Array**	**161.59**	**311**	PKPab	**PKPab**	**12 46 05.1**	**-1.4**
	0.2nm,0.3s,baz=90,slow=1.4,SNR=2.7						

IDC 13 12:45:56.5±1.4, 7°.65N×91°.55E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/47, mbtmp3.8/5, ML2.8/1, Error ellipse: s-maj=49.5km s-min=23.5km az=53.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.76**	**269**	Pn	Pn	12 48 31.9	-0.1
	0.8nm,0.3s,baz=88,slow=13,SNR=4.1						
PALK				Sn	Sn	12 50 22.4	-11
	1.1nm,0.3s,baz=226,slow=9.7,SNR=9.2						
H08S3	**Diego Garcia H**	**24.32**	**232**	T	T	13 17 24.0	
	baz=52,slow=76,SNR=9.5						
H08S2	**Diego Garcia H**	**24.32**	**232**	T	T	13 17 33.7	
	baz=52,slow=76,SNR=12						
H08S1	**Diego Carcia H**	**24.34**	**232**	T	T	13 17 36.3	
	baz=52,slow=76,SNR=3.4						
MKAR	**Makanchi Array**	**39.80**	**350**	P	P	12 53 31.3	-0.2
	0.7nm,0.7s,baz=172,slow=8.3,SNR=8.1						
ZALV	**Zalesovo Beam**	**46.49**	**355**	P	P	12 54 25.3	-0.1
	0.8nm,0.6s,baz=165,slow=7.4,SNR=5.5						
WRA	**Warramunga Arr**	**50.25**	**124**	P	P	12 54 54.8	-0.2
	0.7nm,0.8s,baz=305,slow=8.9,SNR=4.3						
ASAR	**Alice Springs**	**51.77**	**128**	P	P	12 55 06.3	-0.1
	0.5nm,0.7s,baz=293,slow=6.8,SNR=7.7						

*CSEM **13** 12:51:11.2±0.7, 38°.65N×39°.39E, h15km, MD2.6, Error ellipse: s-maj=14.5km s-min=7.8km az=19.0*
*DDA **13** 12:51:15.4, 38°.42N×39°.19E, h7km, MD2.6*

ISC 13 12:51:10.2±2.9, 38°.7N±0°.2×39°.4E±0°.1, h9km, n8, σ0s19/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.36**	**188**	*e*PG	**Pg**	**12 51 17.4**	**0.0**
SVRC	**Sivrice-ELAZID**	**0.36**	**188**	*e*Pg	**Pg**	**12 51 17.4**	**0.0**
ELZG	**Elazig**	**0.39**	**231**	*i* P	**Pb**	**12 51 19.3**	**0.0**
ELZG				*i* S	**Sg**	**12 51 23.0**	**0.0**
ELZG	**Elazig**	**0.39**	**231**	*i* P	**Pb**	**12 51 19.3**	**0.0**
ELZG				*i* S	**Sg**	**12 51 23.0**	**0.0**
MALT	**Malatya**	**0.85**	**240**	*e*PG	**Pb**	**12 51 27.5**	**+0.2**
MALT				*e*SG	**Sb**	**12 51 39.0**	**+0.2**
MALT	**Malatya**	**0.85**	**240**	*e*Pg	**Pb**	**12 51 27.5**	**+0.2**
MALT				*e*Sg	**Sb**	**12 51 39.0**	**+0.2**
AKCD	**Akcadag**	**1.22**	**249**	*i* P	**Pn**	**12 51 33.5**	**0.0**
AKCD				*i* S	**Sb**	**12 51 49.1**	**-0.3**
AKCD	**Akcadag**	**1.22**	**249**	*i* P	**Pn**	**12 51 33.5**	**0.0**
AKCD				*i* S	**Sb**	**12 51 49.1**	**-0.3**

*CSEM **13** 12:51:42.3±1.2, 35°.37N×0°.70E, h10km, mb3.5, Error ellipse: s-maj=26.3km s-min=12.6km az=148.0*
*MDD **13** 12:51:42.4±1.6, 35°.34N×0°.64E, h0km, mb3.7/3, Error ellipse: s-maj=15.6km s-min=7.2km az=135.0, PRXIMO*
*CRAAG **13** 12:51:43.1, 35°.46N×0°.58E, Ml2.9*

ISC 13 12:51:44.2±2.4, 35°.5N±0°.1×0°.66E±0°.08, h10km, n17, σ0s91/21, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKGL	**Djebel Kef Gue**	**0.56**	**359**	P	**Pg**	**12 51 54.8**	**-0.2**
	69nm,0.1s,SNR=7.9						
OKGL				S	**Sb**	**12 52 04.8**	**+0.7**
	189nm,0.2s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**0.56**	**359**	P	**Pg**	**12 51 54.8**	**-0.2**
	69nm,0.1s,SNR=7.9						
OKGL				S	**Sb**	**12 52 04.8**	**+0.7**
	189nm,0.2s,SNR=7.9						
EANR	**'Ain N'Sour**	**0.59**	**37**	P	**Pg**	**12 51 55.8**	**+0.1**
EANR	**'Ain N'Sour**	**0.59**	**37**	P	**Pg**	**12 51 55.8**	**+0.1**
EANR	**'Ain N'Sour**	**0.59**	**37**	P	**Pg**	**12 51 55.8**	**+0.1**
OLHC	**Oulhaca**	**1.71**	**263**	P	Pn	12 51 58.0	-16
OLHC	**Oulhaca**	**1.71**	**263**	P	Pn	12 51 58.0	-16
EMUR	**La Murta**	**2.81**	**328**	P	**Pn**	**12 52 27.8**	**-1.3**
	0.5nm,0.2s,SNR=4.0						
EMUR	**La Murta**	**2.81**	**328**	P	**Pn**	**12 52 27.7**	**-1.5**
	0.3nm,0.1s,SNR=4.0						
EBER	**Berja**	**3.20**	**297**	P	**Pn**	**12 52 33.6**	**-1.1**
	1.7nm,0.3s,SNR=5.7						
EBER	**Berja**	**3.20**	**297**	P	**Pn**	**12 52 33.6**	**-1.1**
	1.7nm,0.3s,SNR=5.7						
ETOB	**Tobarra**	**3.62**	**331**	P	**Pn**	**12 52 40.0**	**-0.3**
	0.5nm,0.1s,SNR=6.2						
ETOB				S	**Sn**	**12 53 21.4**	**-1.8**
	0.4nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**3.62**	**331**	P	**Pn**	**12 52 40.0**	**-0.3**
	0.5nm,0.1s,SNR=6.2						
SESP	**Santiago Espad**	**3.68**	**317**	P	**Pn**	**12 52 41.9**	**+0.6**
	1.4nm,0.1s,SNR=4.0						
SESP				S	**Sn**	**12 53 25.5**	**+0.7**
	3.1nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.68**	**317**	P	**Pn**	**12 52 41.9**	**+0.6**
	1.4nm,0.1s,SNR=4.0						
EQES	**Quesada**	**3.79**	**309**	P	**Pn**	**12 52 43.7**	**+0.9**
	0.9nm,0.2s,SNR=12						
EQES				S	**Sn**	**12 53 27.6**	**+0.1**
	1.4nm,0.4s,SNR=4.0						
EQES	**Quesada**	**3.79**	**309**	P	**Pn**	**12 52 43.2**	**+0.5**
	0.9nm,0.2s,SNR=12						
EQES				S	**Sn**	**12 53 28.8**	**+1.4**
	1.4nm,0.4s,SNR=4.0						

*IDC **13** 12:57:32.6±0.7, 7°.79N×91°.94E, h0km, mb4.1/11, mb1 4.2/14, mb1mx4.0/39, mbtmp4.1/14, ML4.2/3, MS3.5/10, Ms1 3.5/10, ms1mx3.3/32, Error ellipse: s-maj=23.0km s-min=15.3km az=45.0*
*ISCJB **13** 12:57:34.6±0.4, 7°.70N±0°.05×91°.92E±0°.05, h24km, mb4.2/19, MS3.6/7, Error ellipse: s-maj=9.3km s-min=4.7km az=137.4*

*BJI **13** 12:57:37.0, 7°.82N×92°.03E, h32km, mb4.4/20, mB4.5/11, Ms4.1/9, Ms7 3.6/10*
*NEIC **13** 12:57:38.1±0.4, 7°.78N×91°.96E, h35km, mb4.4/13, Error ellipse: s-maj=10.2km s-min=5.5km az=222.0*
*DJA **13** 12:57:58.9±1.7, 7°.N±5°×9°.3E±1°.7, h65km±17km, M4.4/11, mb4.5/11, mB5.5/3, MLv4.3/2, Mw(mB)5.0/3*

ISC 13 12:57:36.9±0.5, 7.66N±0.06×91.88E±0.06, h24km, n72, σ1s77/76, mb4.3/19, MS3.5/7, 1C-2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**5.59**	**115**	*e*Pn	**Pn**	**12 59 00.2**	**+1.6**
GSI	**Gunungsitoli**	**8.49**	**138**	*e*Pn	**Pn**	**12 59 39.7**	**+1.1**
PSI	**Prapat**	**8.52**	**124**	Pn	**Pn**	**12 59 37.4**	**-1.6**
	2.4nm,0.3s,baz=311,slow=9.4,SNR=14						
PSI				LR	LR	13 03 37.5	
	comp=Z,142nm,18.8s,baz=166,slow=42						
PSI	**Prapat**	**8.52**	**124**	*e*Pn	**Pn**	**12 59 38.2**	**-0.8**
KULM	**Kulim**	**9.03**	**105**	*e*Pn	**Pn**	**12 59 44.8**	**-1.1**
IPM	**Ipoh**	**9.63**	**109**	*e*Pn	**Pn**	**12 59 53.0**	**-1.2**
PALK	**Pallekele**	**11.09**	**269**	Pn	**Pn**	**13 00 14.1**	**0.0**
	5.2nm,0.3s,baz=92,slow=13,SNR=17						
PALK				LR	LR	13 03 52.1	
	comp=Z,301nm,21.8s,baz=79,slow=34						
PALK	**Pallekele**	**11.09**	**269**	*e*Pn	**Pn**	**13 00 14.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**12.74**	**32**	Pn	**Pn**	**13 00 34.6**	**-2.2**
	0.2nm,0.3s,baz=230,slow=14,SNR=9.8						
CMAR				LR	LR	13 04 49.2	
	comp=Z,109nm,20.7s,baz=202,slow=35						
CHTO	**Chiang Mai**	**13.04**	**31**	*e*Pn	**Pn**	**13 00 40.0**	**-0.8**
MYKOM	**Kota Tinggi**	**13.28**	**115**	*e*Pn	**Pn**	**13 00 42.9**	**-1.2**
TRD	**Trivandrum**	**14.79**	**274**	*e*P	**S**	**13 04 02.2**	**-4.0**
DSRI	**Dabo**	**15.03**	**122**	P	**P**	**13 01 15.6**	**+2.5**
MNAI	**Manna**	**16.27**	**137**	*e*P	**P**	**13 01 27.1**	**+0.2**
	472nm,1.5s						
LHSI	**Lahat**	**16.29**	**134**	P	**P**	**13 01 28.7**	**+1.6**
	63nm,0.9s						
MDSI	**Maura Dua**	**17.21**	**134**	P	**Pn**	**13 01 36.4**	**+0.4**
	25nm,1.2s,895nm						
PPBI	**Pangkal Pinang**	**17.25**	**124**	P	P	13 01 51.7	+14
KLSI		**17.75**	**133**	P	**P**	**13 01 43.7**	**+0.4**
	77nm,1.0s						
KASI	**Kota Agung**	**18.17**	**136**	P	**P**	**13 01 51.4**	**+3.5**
	41nm,0.9s						
KSM	**Kuching**	**19.37**	**108**	*e*P	**P**	**13 02 01.3**	**+0.1**
	13nm,1.0s						
ODAN	**Odare**	**19.56**	**348**	*e*P	**Pn**	**13 02 06.6**	**+1.8**
RAMN	**Ramite**	**19.83**	**346**	*e*P	**Pn**	**13 02 09.6**	**+1.6**
TAPN	**Taplejung**	**19.98**	**349**	*e*P	**P**	**13 02 08.8**	**+0.8**
JIRN	**Jiri**	**20.61**	**346**	*e*P	**P**	**13 02 14.5**	**-0.4**
PKI	**Pulchoki**	**20.73**	**344**	*e*P	**P**	**13 02 15.4**	**-0.8**
QIZ	**Qiongzhong**	**20.79**	**55**	P	**P**	**13 02 15.3**	**-1.3**
QIZ				S	**S**	**13 06 05.4**	**-2.2**
QIZ				PMZ			
	15nm,1.1s						
QIZ				LN			
	260nm,14.0s						
QIZ				LZ			
	180nm,14.7s						
DMN	**Daman**	**20.85**	**343**	*e*P	**P**	**13 02 18.0**	**+0.6**
	37nm,0.8s						
SBUM	**Sibu**	**20.91**	**103**	*e*Pn	**P**	**13 02 17.9**	**0.0**
	20nm,1.0s						
GUN	**Gumba**	**20.93**	**345**	*e*P	**P**	**13 02 16.7**	**-1.6**
STKI	**Sintang**	**20.95**	**110**	P	**P**	**13 02 17.3**	**-1.0**
GKN	**Gorkha**	**21.36**	**342**	*e*P	**P**	**13 02 21.4**	**-1.4**
KOLN	**Koldanda**	**21.48**	**340**	*e*P	**P**	**13 02 22.8**	**-1.4**
	34nm,0.8s						
LSA	**Lhasa**	**21.93**	**358**	*e*P	**P**	**13 02 30.2**	**+1.0**
	13nm,0.9s						
H08S3	**Diego Garcia H**	**24.59**	**232**	T	T	13 29 23.0	
	baz=51,slow=76,SNR=12						
H08S2	**Diego Garcia H**	**24.59**	**232**	T	T	13 29 12.0	
	baz=51,slow=76,SNR=12						
H08S1	**Diego Carcia H**	**24.61**	**232**	T	T	13 29 11.7	
	baz=51,slow=76,SNR=12						
CD2	**Chengdu**	**25.66**	**24**	*e*P	**P**	**13 03 04.8**	**-0.3**
CD2				pP	**pP**	**13 03 14.5**	**+2.3**
CD2				sP	**sP**	**13 03 19.0**	**+3.8**
CD2				PcP	**PcP**	**13 06 34.5**	**-0.9**
CD2				S	**S**	**13 07 31.4**	**-0.9**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.0s						
LZH	**Lanzhou**	**30.33**	**19**	*e*P	**P**	**13 03 48.0**	**+1.0**
LZH				pP	**pP**	**13 03 58.4**	**+4.3**
LZH				sP	**sP**	**13 04 01.8**	**+4.7**
LZH				PMZ			
	15nm,1.0s						
WHN	**Wuhan**	**31.00**	**40**	↑P	**P**	**13 03 53.4**	**+0.7**
GTA	**Gaotai**	**32.41**	**12**	↓P	**P**	**13 04 04.3**	**-0.8**
GTA				pP	**pP**	**13 04 13.3**	**+1.0**
GTA				sP	**sP**	**13 04 17.1**	**+1.8**
GTA				PMZ			
	14nm,1.4s						
KSH	**Kashi**	**34.78**	**338**	*e*P	**P**	**13 04 26.8**	**+1.0**
KSH				*e*pP	**pP**	**13 04 36.0**	**+3.0**
KSH				*e*sP	**sP**	**13 04 39.1**	**+3.1**
NJ2	**Nanjing**	**34.91**	**42**	*e*P	**P**	**13 04 26.0**	**-0.8**
NJ2				PMZ			
	30nm,0.7s						
WMQ	**Urumqi**	**36.20**	**355**	P	**P**	**13 04 38.6**	**+0.7**
WMQ				pP	**pP**	**13 04 48.3**	**+3.2**
WMQ				sP	**sP**	**13 04 52.3**	**+4.2**
WMQ				PMZ			
	6.0nm,0.3s						
WMQ				PMZ			
	32nm,4.8s						
WMQ				LN			
	87nm,6.5s						
WMQ				LE			
	58nm,8.4s						
WMQ				LZ			
	25nm,7.5s						
EKS2	**Erkin-Say**	**38.34**	**338**	*e*P	**P**	**13 04 55.9**	**-0.2**
	6.0nm,1.0s						
BJI	**Beijing**	**38.88**	**30**	P	**P**	**13 05 01.8**	**+1.3**
BJI				S	S	13 10 46.3	-11
BJI				PMZ			
	6.0nm,0.8s						
BJI				PMZ			
	130nm,4.9s						
BJI				LZ			
	44nm,22.7s						
MKAR	**Makanchi Array**	**39.85**	**350**	P	**P**	**13 05 07.0**	**-1.5**
	1.1nm,0.6s,baz=170,slow=8.6,SNR=16						
MKAR				LR	LR	13 25 38.8	
	comp=Z,30nm,19.3s,baz=182,slow=42						
KKAR	**Karatay Array**	**39.98**	**335**	*e*P	**P**	**13 05 08.6**	**-1.1**
	4.3nm,0.8s						
SONM	**Songino Array**	**41.90**	**15**	P	**P**	**13 05 24.1**	**-1.4**
	3.5nm,0.7s,baz=194,slow=8.4,SNR=26						
SONM				LR	LR	13 25 26.3	
	comp=Z,61nm,20.6s,baz=208,slow=40						
KSRS	**Korea Array**	**44.11**	**42**	LR	LR	13 26 15.9	
	comp=Z,30nm,18.4s,baz=100,slow=39						
KURK	**Kurchatov**	**44.31**	**348**	*e*P	**P**	**13 05 43.9**	**-1.0**
	6.8nm,1.1s						
ZAA0	**Zalesovo Array**	**46.51**	**354**	*e*P	**P**	**13 06 01.2**	**-1.0**
ZALV	**Zalesovo Beam**	**46.51**	**354**	P	**P**	**13 06 00.6**	**-1.6**
	0.6nm,0.3s,baz=160,slow=9.5,SNR=7.9						
RAYN	**Ar Rayn**	**47.13**	**295**	*e*P	**P**	**13 06 08.1**	**+0.3**
	4.5nm,0.8s						
ABKAR	**Akbulak array**	**49.37**	**333**	*e*P	**P**	**13 06 23.7**	**-0.7**
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**49.98**	**124**	P	**P**	**13 06 28.5**	**-1.1**
	4.8nm,0.8s,baz=306,slow=8.8,SNR=22						
WRAB	**Tennant Creek**	**49.99**	**124**	*e*P	**P**	**13 06 29.1**	**-0.5**
	6.8nm,0.9s						
MJAR	**Matsushiro Arr**	**50.97**	**49**	P	**P**	**13 06 35.2**	**-1.7**
	0.7nm,0.7s,baz=248,slow=6.6,SNR=5.1						
ASAR	**Alice Springs**	**51.52**	**128**	P	**P**	**13 06 40.9**	**-0.3**
	1.7nm,0.8s,baz=296,slow=7.6,SNR=12						
KMBO	**Kilima Mbogo**	**55.17**	**263**	P	**P**	**13 07 09.3**	**+0.8**
	3.0nm,0.7s,baz=47,slow=11,SNR=7.1						
KMBO	**Kilima Mbogo**	**55.17**	**263**	*e*P	**P**	**13 07 10.1**	**+1.6**
	8.2nm,1.2s						
BRTR	**Keskin Array B**	**60.88**	**311**	P	**P**	**13 07 46.0**	**-1.9**
	1.2nm,0.8s,baz=120,slow=7.3,SNR=8.1						
STKA	**Stephens Creek**	**61.60**	**132**	P	**P**	**13 07 52.7**	**-0.1**
	2.3nm,0.8s,baz=289,slow=8.7,SNR=4.6						
STKA	**Stephens Creek**	**61.60**	**132**	*e*P	**P**	**13 07 53.6**	**+0.8**
	0.4nm,0.7s						
AKASG	**Malin Array Be**	**66.94**	**322**	LR	LR	13 39 32.7	
	comp=Z,22nm,21.7s,baz=290,slow=38						
TIXI	**Tiksi**	**67.89**	**12**	*e*P	**P**	**13 08 31.3**	**-1.7**
	8.5nm,0.9s						
FINES	**FINESS Array B**	**71.86**	**333**	P	**P**	**13 08 55.9**	**-1.7**
	2.0nm,0.7s,baz=123,slow=7.0,SNR=4.9						
BOSA	**Boshof**	**73.58**	**237**	LR	LR	13 38 08.2	
	comp=Z,48nm,18.6s,baz=151,slow=33						
GERES	**GERESS Array B**	**76.49**	**318**	P	**P**	**13 09 23.7**	**-1.4**
	1.1nm,0.8s,baz=102,slow=4.4,SNR=6.0						
TSUM	**Tsumeb**	**77.86**	**249**	LR	LR	13 41 32.3	
	comp=Z,70nm,19.1s,baz=153,slow=34						
MSKU	**Masuku**	**78.60**	**267**	LR	LR	13 43 17.0	
	comp=Z,51nm,18.5s,baz=142,slow=35						
NVAR	**Mina Array Bea**	**126.22**	**29**	PKP	**PKPdf**	**13 16 38.6**	**+0.3**
	0.4nm,0.7s,baz=270,slow=3.0,SNR=4.0						
RWWY	**Rawlins**	**127.86**	**18**	*e*PKPdf	**PKPdf**	**13 16 39.9**	**-1.5**

MEX 13 13:14:03.2±0.7, 17.02N×102.42W, h16km±999km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**1.08**	**57**	*i* P	Pb	13 14 19.9	-3.7
ZIIG				*i* S	Sb	13 14 33.1	-4.3
MMIG	**Aquila**	**1.54**	**325**	*e*P	Pn	13 14 26.2	-3.7
MMIG				*i* S	Sn	13 14 44.1	-5.5
R15V		**2.60**	**325**	*e*P	Pn	13 14 42.0	-2.7
R15V				*i* S	Sn	13 15 12.3	-3.8
EZ5V		**2.69**	**336**	*e*P	Pn	13 14 43.9	-2.3
EZ5V				*e*S	Sn	13 15 14.5	-4.1
SFJM	**Santa Fe**	**3.50**	**350**	*e*P	Pn	13 14 54.1	-3.1

KRSC 13 13:19:04.5±0.6, 55.15N×160.40E, h0km±3km, ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.07**	**242**	*e*P	Pg	13 19 06.7	+0.7
TUMR	**Tumrok**	**0.20**	**314**	*e*P	Pg	13 19 09.5	+1.0
KMNR	**Kamenistaya**	**0.62**	**352**	*e*P	Pb	13 19 17.8	-0.5
KMNR				*e*S	Sb	13 19 28.3	+0.6
BZMR	**Bezymyannaya**	**0.79**	**4**	P	Pb	13 19 21.5	+0.1
KIRR	**Kirishev**	**0.81**	**358**	*e*P	Pb	13 19 21.3	-0.3
KIRR				*e*S	Sb	13 19 33.6	+0.3
BZGR	**Bezymyannyi-Gr**	**0.81**	**12**	P	Pb	13 19 21.8	+0.1
BZWR	**Bezymyannyi-We**	**0.82**	**4**	*e*P	Pb	13 19 22.4	+0.5
BZWR				*e*S	Sn	13 19 35.6	-1.0
KPT	**Kopyto**	**0.83**	**353**	*e*P	Pb	13 19 22.2	+0.3
KPT				*e*S	Sn	13 19 35.5	-1.1
KOZ	**Kozyrevsk**	**0.96**	**342**	*e*P	Pn	13 19 25.2	-0.1
KOZ				*e*S	Sn	13 19 41.0	+1.3
MKZ	**Mys Kozlova**	**0.97**	**127**	*e*P	Pb	13 19 23.7	-0.4
MKZ				*e*S	Sn	13 19 39.0	-0.7
KLY	**Klyuchi**	**1.18**	**7**	*e*P	Pn	13 19 28.5	+0.3
KLY				*e*S	Sn	13 19 47.0	+2.1
SRDR	**Sredinnyy**	**1.24**	**342**	*e*P	Pg	13 19 28.3	0.0
ESO	**Esso**	**1.24**	**310**	*e*P	Pg	13 19 27.3	-1.0
ESO				*e*S	Sg	13 19 44.5	+0.1
KBTR	**Krutoberegovo**	**1.74**	**51**	*e*P	Pn	13 19 35.9	0.0
KBTR				*e*S	Sg	13 20 00.0	-0.3
GNL	**Ganaly**	**2.04**	**226**	*e*P	Pb	13 19 41.5	-1.0
GNL				*e*S	Sb	13 20 08.7	+0.1
KRX	**Arik**	**2.06**	**211**	*e*P	Pb	13 19 42.0	-0.9
SPN	**Mys Shipunski**	**2.06**	**186**	*e*P	Pn	13 19 40.1	-0.2
SPN				*e*S	Sb	13 20 07.9	-1.0
SDLR	**Sedlovina**	**2.07**	**206**	*e*P	Pb	13 19 42.3	-0.7
NLC	**Nalytchevo**	**2.07**	**198**	*e*P	Pb	13 19 42.3	-0.6
NLC				*e*S	Sg	13 20 11.1	+0.2
KRER	**Koryakskii**	**2.08**	**208**	*e*P	Pb	13 19 43.1	-0.3
SMAR	**Somma**	**2.10**	**207**	*e*P	Pb	13 19 43.2	-0.6
AVH	**Avacha**	**2.12**	**208**	P	Pb	13 19 43.7	-0.1
KOK	**Koryaka**	**2.12**	**210**	*e*P	Pb	13 19 43.5	-0.4
UGLR	**Uglovaya**	**2.15**	**206**	P	Pb	13 19 43.6	-0.8
PET	**Petropavlovsk**	**2.36**	**206**	*e*P	Pb	13 19 48.6	+0.8
RUS	**Russkaya**	**2.94**	**203**	*e*P	Pn	13 19 54.0	+1.7

*IDC **13** 13:29:51.3±1.5, 7°.85N×92°.06E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.4/37, mbtmp3.7/5, ML3.8/2, Error ellipse: s-maj=38.0km s-min=29.5km az=65.0*

ISC 13 13:29:53.2±1.1, 7.7N±0.1×92.1E±0.1, h10km, n17, σ1s56/8, mb3.4/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.35**	**269**	Pn	**Pn**	**13 32 34.8**	**-0.7**
	0.6nm,0.3s,baz=83,slow=15,SNR=5.7						
CMAR	**Chiang Mai Arr**	**12.58**	**31**	Pn	**Pn**	**13 32 51.6**	**-0.7**
	0.2nm,0.3s,baz=232,slow=14,SNR=9.2						
ODAN	**Odare**	**19.58**	**347**	*e*P	**Pn**	**13 34 24.8**	**+1.7**
	9.7nm,0.3s						
RAMN	**Ramite**	**19.85**	**345**	*e*P	**Pn**	**13 34 28.6**	**+2.3**
	45nm,0.4s						
TAPN	**Taplejung**	**19.99**	**348**	*e*P	Pn	13 34 32.0	+4.0
JIRN	**Jiri**	**20.64**	**345**	*e*P	Pn	13 34 39.5	+3.7
PKI	**Pulchoki**	**20.77**	**343**	*e*P	P	13 34 42.1	+7.3
	17nm,0.4s						
DMN	**Daman**	**20.89**	**342**	*e*P	Pn	13 34 42.7	+4.1
	21nm,0.6s						
KKN	**Kakani**	**21.01**	**343**	*e*P	P	13 34 44.7	+7.4
GKN	**Gorkha**	**21.40**	**342**	*e*P	P	13 34 50.1	+8.6
	12nm,0.3s						
KOLN	**Koldanda**	**21.54**	**339**	*e*P	P	13 34 52.0	+9.0
	6.9nm,0.4s						
H08S3	**Diego Garcia H**	**24.82**	**233**	T	T	14 01 46.1	
	baz=52,slow=76,SNR=14						
H08S2	**Diego Garcia H**	**24.82**	**233**	T	T	14 01 34.3	
	baz=52,slow=76,SNR=20						
H08S1	**Diego Carcia H**	**24.83**	**233**	T	T	14 01 48.2	
	baz=52,slow=76,SNR=15						
SONM	**Songino Array**	**41.79**	**14**	P	**P**	**13 37 41.6**	**-1.5**
	0.5nm,0.6s,baz=195,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**49.79**	**124**	P	**P**	**13 38 46.9**	**+0.4**
	0.6nm,0.7s,baz=306,slow=8.4,SNR=4.8						
ASAR	**Alice Springs**	**51.34**	**129**	P	**P**	**13 38 58.7**	**+0.4**
	0.4nm,0.8s,baz=301,slow=7.9,SNR=6.7						
ASAR				PcP	**PcP**	**13 40 13.7**	**+0.5**
	0.1nm,0.5s,baz=311,slow=4.0,SNR=4.3						

*ISK **13** 13:29:59.9, 37°.37N×27°.37E, h5km, MD2.4*
*DDA **13** 13:30:00.6, 37°.30N×27°.58E, h7km, MD2.7*
*ISCJB **13** 13:30:01.2±0.7, 37°.30N±0°.07×27°.6E±0°.2, h12km, Error ellipse: s-maj=21.3km s-min=3.9km az=28.1*
*CSEM **13** 13:30:01.3±0.4, 37°.34N×27°.49E, h2km, MD2.4, Error ellipse: s-maj=24.9km s-min=5.0km az=115.0*

ISC 13 13:29:59.5±1.9, 37.38N±0.06×27.4E±0.2, h12km, n10, σ0s56/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BODT	**Bodrum**	**0.31**	**185**	*e*PG	**Pb**	**13 30 07.3**	**+0.2**
BODT				*e*SG	**Sb**	**13 30 12.7**	**+0.5**
BODT	**Bodrum**	**0.31**	**185**	*e*Pg	**Pb**	**13 30 07.3**	**+0.2**
BODT				*e*Sg	**Sb**	**13 30 12.7**	**+0.5**
BDRM	**Kayabasi**	**0.32**	**166**	*i* P	**Pg**	**13 30 05.8**	**-0.3**
BDRM				*i* S	**Sg**	**13 30 10.2**	**-0.2**
BDRM	**Kayabasi**	**0.32**	**166**	*i* P	**Pg**	**13 30 05.8**	**-0.3**
BDRM				*i* S	**Sg**	**13 30 10.2**	**-0.2**
AYDN	**Tasoluk**	**0.51**	**56**	*i* P	**Pg**	**13 30 09.4**	**-0.2**
AYDN				*i* S	**Sg**	**13 30 16.2**	**-0.2**
AYDN	**Tasoluk**	**0.51**	**56**	*i* P	**Pg**	**13 30 09.4**	**-0.2**
AYDN				*i* S	**Sg**	**13 30 16.2**	**-0.2**
DAT	**Datca**	**0.67**	**164**	*e*PG	**Pb**	**13 30 13.9**	**+0.7**
DAT	**Datca**	**0.67**	**164**	*e*Pg	**Pb**	**13 30 13.9**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**0.72**	**37**	*e*PG	**Pb**	**13 30 14.8**	**+0.8**
AYDB				*e*SG	**Sn**	**13 30 25.6**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**0.72**	**37**	*e*Pg	**Pb**	**13 30 14.8**	**+0.8**
AYDB				*e*Sg	**Sn**	**13 30 25.7**	**-0.9**

*BJI **13** 13:43:00.4, 57°.75N×156°.72W, h10km, mb5.5/63, mB5.3/44, Ms5.1/54, Ms7 4.8/50*
*SZGRF **13** 13:43:02.6, 57°.27N×154°.58W, h33km, mb4.6, Kodiak Island, Alaska, United States, region*
*IDC **13** 13:43:03.9±0.4, 58°.21N×157°.02W, h0km, mb5.0/31, mb1 5.1/33, mb1mx5.0/39, mbtmp5.0/33, ML4.6/2, MS4.2/29, Ms1 4.2/29, ms1mx4.0/46, Error ellipse: s-maj=14.1km s-min=10.0km az=6.0*

*GCMT **13** 13:43:03.5±0.2, 58°.09N×156°.92W, h12km, MW4.9/92, Moment Tensor Solution. s32,c38; s92,c144; Duration: 0 Moment tensor: Scalar 10^16Nm; Mrr2.90±.08; Mθθ-2.00±.08; Mφφ-0.89±.07; Mrθ-0.03±.26; Mrφ-1.72±.07; Mθφ0.12±.29; Best double couple: Mo3.07900×10^16 NP1:φs51.00000°, δ46.00000°, λ86.00000°; NP2: φs236.00000°, δ45.00000°, λ94.00000°. Principal axes: T 2.9050, Plg87.0000°, Azm245.0000°; N 0.3570, Plg3.0000°, Azm54.0000°; P -3.2530, Plg0.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **13** 13:43:03.5, 58°.12N×157°.05W, h15km, mb5.4/227, MS4.2/17, ML4.9(AEIC), After AEIC.*
NEIC Felt [II] at Dillingham. Also felt at Egegik, King Salmon, Naknek and South Naknek.
*MOS **13** 13:43:04.0±0.9, 58°.25N×157°.03W, h10km, mb5.6/58, MS4.4/23, Error ellipse: s-maj=11.4km s-min=5.1km az=99.6*
*ISCJB **13** 13:43:04.5±0.6, 58°.24N±0°.02×157°.10W±0°.02, h12km±3km, mb5.2/310, MS4.3/58, Error ellipse: s-maj=2.9km s-min=1.8km az=16.4*

ISC 13 13:43:06.0±0.3, 58.10N±0.04×156.96W±0.03, h15km±1km, h15km:pP-P, n1183, σ1s50/1244, mb5.3/321, MS4.2/59, 90C-25D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLK5	**Peulik 5**	**0.11**	**157**	P	**Pg**	**13 43 07.3**	**-2.1**
PLK1	**Peulik 1**	**0.35**	**148**	P	**Pg**	**13 43 11.7**	**-1.4**
PLK2	**Peulik 2**	**0.48**	**134**	P	**Pg**	**13 43 14.0**	**-1.4**
PLK4	**Peulik 4**	**0.57**	**145**	P	**Pg**	**13 43 15.6**	**-1.5**
KABU	**Katmai Buttres**	**0.91**	**78**	P	**Pb**	**13 43 22.0**	**-1.4**
KABU				S	**Sb**	**13 43 33.8**	**-1.4**
KVTA	**Katmai Vly 10**	**0.93**	**71**	P	**Pb**	**13 43 22.2**	**-1.4**
KBM	**Katmai Bkd Mtn**	**0.95**	**79**	P	**Pb**	**13 43 22.6**	**-1.5**
KCE	**Katmai Mt Cerb**	**0.95**	**81**	P	**Pb**	**13 43 23.0**	**-1.2**
KAKN	**Katmai Knife C**	**1.02**	**78**	P	**Pb**	**13 43 24.0**	**-1.5**
KAKN				S	**Sb**	**13 43 36.8**	**-1.9**
KABR	**Katmai Barrier**	**1.06**	**87**	P	**Pb**	**13 43 24.4**	**-1.5**
MCNL	**McNeil River**	**1.75**	**50**	P	**Pn**	**13 43 35.5**	**-0.3**
CHGN	**Chignik**	**1.97**	**204**	P	**Pn**	**13 43 37.8**	**-0.9**
OHAK	**Old Harbor**	**2.16**	**112**	P	**Pn**	**13 43 41.3**	**+0.6**
OHAK				S	**Sb**	**13 44 09.9**	**-1.4**
PDB	**Pedro Bay**	**2.22**	**39**	P	**Pn**	**13 43 42.0**	**-0.2**
AUI	**Augustine Isla**	**2.22**	**55**	P	**Pn**	**13 43 42.2**	**0.0**
AUH	**Augustine H**	**2.23**	**54**	P	**Pn**	**13 43 42.5**	**+0.2**
VNHG	**Veniaminof 1**	**2.23**	**213**	P	**Pn**	**13 43 42.4**	**0.0**
AUL	**Augustine Lava**	**2.24**	**54**	P	**Pn**	**13 43 42.7**	**+0.2**
VNSG	**Veniaminof 6**	**2.29**	**211**	P	**Pn**	**13 43 42.9**	**-0.3**
KDAK	**Kodiak Island**	**2.36**	**96**	Pn	**Pn**	**13 43 45.0**	**+1.0**
	17μm,0.5s						
KDAK	**Kodiak Island**	**2.36**	**96**	*i* P	**Pn**	**13 43 44.8**	**+0.8**
KDAK	**Kodiak Island**	**2.36**	**96**	P	**Pn**	**13 43 45.0**	**+1.0**
KDAK				S	**Sn**	**13 44 13.6**	**+1.1**
OPT	**Oil Point**	**2.49**	**50**	P	**Pn**	**13 43 46.1**	**+0.3**
ILW	**Iliamna West**	**2.79**	**43**	P	**Pn**	**13 43 50.3**	**+0.2**
SVW2	**Sparrevohn**	**3.09**	**13**	P	**Pn**	**13 43 53.4**	**-0.7**
RSO	**Redoubt South**	**3.21**	**41**	P	**Pn**	**13 43 56.4**	**+0.5**
NCT	**North Crescent**	**3.22**	**38**	P	**Pn**	**13 43 56.5**	**+0.5**
SDPT	**Sand Point**	**3.37**	**217**	P	**Pn**	**13 43 57.6**	**-0.3**
PS1A	**Pavlof South-1**	**3.76**	**226**	P	**Pn**	**13 44 02.6**	**-0.7**
CKL	**Chakachamna La**	**3.89**	**35**	P	**Pn**	**13 44 05.8**	**+0.5**
SPBG	**Spurr Blockage**	**3.93**	**34**	P	**Pn**	**13 44 06.6**	**+0.8**
DTNA	**Dutton South F**	**4.16**	**227**	P	**Pn**	**13 44 08.4**	**-0.4**
DT1	**Dutton Round H**	**4.20**	**227**	P	**Pn**	**13 44 08.5**	**-0.8**
SLKM	**Skilak Lake**	**4.21**	**52**	P	**Pn**	**13 44 09.8**	**+0.2**
STLK	**Strandline Lak**	**4.28**	**35**	P	**Pn**	**13 44 11.4**	**+0.8**
SEW	**Seward**	**4.36**	**59**	P	**Pn**	**13 44 12.2**	**+0.7**
SUA	**Susitna One**	**4.61**	**40**	P	**Pn**	**13 44 15.7**	**+0.6**
RC01	**Rabbit Creek A**	**4.74**	**48**	P	**Pn**	**13 44 18.5**	**+1.8**
SKT	**Skwentna**	**4.75**	**33**	P	**Pn**	**13 44 18.1**	**+1.1**
TT01	**Tatalina**	**4.85**	**5**	P	**Pn**	**13 44 17.8**	**-0.4**
PMR	**Palmer**	**5.28**	**45**	P	**Pn**	**13 44 25.4**	**+1.3**
PPLA	**Purkeypile**	**5.36**	**24**	P	**Pn**	**13 44 26.3**	**+0.9**
WESN	**West Dahl Nort**	**5.52**	**233**	P	**Pn**	**13 44 27.8**	**+0.2**
WESE	**West Dahl East**	**5.59**	**233**	P	**Pn**	**13 44 29.9**	**+1.4**
MID	**Middleton Isla**	**5.69**	**72**	*e*Pn	**Pn**	**13 44 30.1**	**+0.3**
	279nm,0.6s						
SCM	**Sheep Creek Mo**	**6.12**	**48**	P	**Pn**	**13 44 36.5**	**+0.8**
VLZ	**Valdez**	**6.19**	**56**	P	**Pn**	**13 44 36.7**	**+0.1**
EYAK	**Cordova Ski Ar**	**6.24**	**62**	P	**Pn**	**13 44 37.9**	**+0.5**
TRF	**Thorofare Moun**	**6.28**	**29**	P	**Pn**	**13 44 39.5**	**+1.4**
AKUT	**Akut

F04D	Rainier, OR	23.79	106	P		P	13 48 20.9	+3.1
	baz=24								
NLW	Nelson Butte	23.88	99	P		P	13 48 21.2	+2.5
TDL	Tradedollar La	24.02	104	P		P	13 48 22.6	+2.5
LVP	Lakeview Peak	24.11	105	P		P	13 48 23.3	+2.4
WPW	White Pass	24.14	103	P		P	13 48 23.8	+2.7
ESD	East Dome	24.16	104	P		P	13 48 24.6	+3.2
MTMW	Mount Mitchell	24.24	105	P		P	13 48 24.8	+2.7
G03D	McMinnville, O	24.26	107	P		P	13 48 25.2	+3.0
	baz=24,SNR=13								
WTV	Waterville	24.32	99	P		P	13 48 24.7	+2.0
G04A	Mulino	24.67	106	P		P	13 48 28.2	+2.4
COR	Corvallis	24.68	108	eP		P	13 48 29.0	+3.1
	comp=Z,207nm,0.9s								
EDM	Edmonton	24.73	82	eP		P	13 48 27.6	+1.1
	comp=Z,132nm,0.7s								
SEY	Seymchan	24.84	303	P		P	13 48 27.6	+0.5
	comp=Z,48nm,0.8s,baz=103,slow=9.2,SNR=123								
SEY				LR		LR	13 59 12.2		
	comp=Z,2µm,18.1s,baz=71,slow=39								
SEY	Seymchan	24.84	303	i P		P	13 48 27.0	-0.2
VFP	Flag Point	25.11	105	P		P	13 48 32.2	+2.2
G05D	Wamic, OR	25.23	105	P		P	13 48 33.7	+2.7
	baz=25								
PET	Petropavlovsk	25.24	278	eP		P	13 48 31.7	+0.8
PET				eS		S	13 52 51.9	-3.7
PET				pmax		pmax			
	comp=Z,245nm,0.9s								
PET				MLR		MLR			
	comp=Z,300nm,19.0s								
PET	Petropavlovsk	25.24	278	eP		P	13 48 31.6	+0.8
	comp=Z,266nm,1.0s								
PET				LR		LR			
	comp=Z,200nm,19.0s								
I03D	Drain, OR	25.30	110	P		P	13 48 34.3	+2.8
	baz=25								
RSW	Rattlesnake Hi	25.35	101	P		P	13 48 34.3	+2.2
HAWA	Hanford	25.38	101	eP		P	13 48 34.2	+1.9
	comp=Z,149nm,1.3s								
HAWA				LR		LR			
	comp=Z,682nm,19.0s								
KEBM	Edson Butte	25.42	113	eP		P	13 48 36.0	+3.3
	comp=Z,182nm,1.1s								
BPO	Bald Peter	25.45	106	P		P	13 48 35.8	+2.6
NEW	Newport	25.46	95	P		P	13 48 34.7	+1.7
	comp=Z,34nm,1.0s,baz=321,slow=6.8,SNR=23								
NEW	Newport	25.46	95	P		P	13 48 34.7	+1.7
NEW				pmax		pmax			
	comp=Z,34nm,1.0s								
NEW	Newport	25.46	95	P		P	13 48 34.8	+1.8
	baz=25								
NEW	Newport	25.46	95	eP		P	13 48 34.4	+1.3
	comp=Z,140nm,1.4s								
NEW				LR		LR			
	comp=Z,668nm,20.0s								
I04A	Tendick Farm,	25.70	109	P		P	13 48 37.8	+2.6
	baz=26,SNR=41								
PETK	Petropavlovsk-	25.70	279	P		P	13 48 35.8	+0.7
	comp=Z,108nm,0.8s,baz=90,slow=11,SNR=91								
PETK	Petropavlovsk-	25.70	279	P		P	13 48 35.8	+0.7
PETK				pmax		pmax			
	comp=Z,97nm,0.8s								
WIFE	Three Sisters-	25.81	108	P		P	13 48 39.2	+2.8
I05D	Terrebonne, OR	25.85	107	P		P	13 48 39.3	+2.6
	baz=26,SNR=30								
KBO	Bosley Butte	25.96	113	P		P	13 48 39.4	+1.7
	comp=Z,200nm,1.3s								
J04D	Umpqua Nationa	26.25	109	P		P	13 48 43.5	+3.1
	baz=26,SNR=56								
HUMO	Hull Mountain	26.29	111	eP		P	13 48 43.7	+3.1
	comp=Z,88nm,0.9s								
L02D	Cave Junction,	26.31	113	P		P	13 48 44.4	+3.7
	baz=26,SNR=8.6								
J05D	Fort Rock, OR	26.66	108	P		P	13 48 47.4	+3.3
	baz=27,SNR=85								
WALA	Waterton Lakes	26.68	91	eP		P	13 48 45.5	+1.3
	comp=Z,61nm,1.1s								
K04D	Chiloquin, OR	26.88	110	P		P	13 48 49.1	+3.1
	baz=27,SNR=13								
BSMT	Basson Peak	26.95	94	eP		P	13 48 47.9	+1.2
	comp=Z,46nm,1.1s								
YBH	Yreka Blue Hor	27.07	112	P		P	13 48 51.0	+3.3
	comp=Z,92nm,0.8s,baz=328,slow=2.1,SNR=72								
YBH	Yreka Blue Hor	27.07	112	P		P	13 48 51.0	+3.3
YBH				pmax		pmax			
	comp=Z,92nm,0.8s								
YBH	Yreka Blue Hor	27.07	112	eP		P	13 48 50.9	+3.3
	comp=Z,99nm,0.9s								
BLMT	Blacktail Moun	27.08	93	eP		P	13 48 47.6	-0.2
	comp=Z,39nm,1.0s								
KHMM	Horse Mountain	27.23	115	eP		P	13 48 51.5	+2.4
	comp=Z,109nm,1.4s								
M02C	Callahan	27.25	113	P		P	13 48 53.2	+3.9
	baz=27,SNR=23								
JTMT	Jette	27.28	94	eP		P	13 48 50.7	+1.1
	comp=Z,49nm,1.0s								
YBMT	Yellow Bay	27.35	93	eP		P	13 48 51.5	+1.2
	comp=Z,47nm,1.0s								
M04C	Macdoel	27.46	111	P		P	13 48 54.6	+3.4
	baz=27,SNR=45								
BMO	Blue Mountains	27.57	101	eP		P	13 48 53.7	+1.5
	comp=Z,12nm,0.7s								
SWMT	Swartz Lake	27.58	94	eP		P	13 48 53.6	+1.4
	comp=Z,35nm,1.0s								
N02D	Trinity Center	27.65	113	P		P	13 48 56.4	+3.6
	baz=28,SNR=26								
SLMT	Seeley Lake	28.02	94	eP		P	13 48 56.8	+0.6
	comp=Z,30nm,1.2s								
WDC	Whiskeytown Da	28.03	114	eP		P	13 48 58.6	+2.5
	comp=Z,90nm,1.0s								
MSO	Missoula	28.04	95	P		P	13 49 00.0	+3.7
	baz=28,SNR=10								
KIPM	Iron Peak	28.17	116	eP		P	13 48 58.7	+1.0
	comp=Z,156nm,1.4s								
CHMT	Chamberlain Mo	28.35	94	eP		P	13 48 60.0	+0.7
	comp=Z,18nm,1.2s								
WVOR	Wild Horse Val	28.59	106	eP		P	13 49 03.1	+1.8
	comp=Z,83nm,1.0s								
WVOR				LR		LR			
	comp=Z,606nm,19.0s								
HRY	Holter Researc	29.23	93	eP		P	13 49 08.2	+1.3
	comp=Z,38nm,0.9s								
MFID	Camas Ranch	29.34	102	eP		P	13 49 09.5	+1.6
	comp=Z,55nm,1.0s								
LRM	Limekiln Ridge	29.48	95	eP		P	13 49 10.4	+1.1
	comp=Z,164nm,0.9s								
A19A	Klindworth Far	29.51	87	P		P	13 49 10.7	+1.4
	baz=29,SNR=54								
EGMT	Eagleton	29.52	89	P		P	13 49 10.5	+1.0
	baz=29,SNR=44								
EGMT	Eagleton	29.52	89	eP		P	13 49 09.9	+0.5
	comp=Z,79nm,1.1s								
EGMT				ePcP		PcP	13 52 12.8	-1.4
B19A	Brinkman Farms	29.68	88	P		P	13 49 12.4	+1.5
	baz=30,SNR=42								
DLMT	Dillon	29.70	96	eP		P	13 49 12.9	+1.7
	comp=Z,15nm,0.8s								
FFC	Flin Flon	29.89	72	P		P	13 49 13.9	+1.3
	comp=Z,57nm,0.8s,SNR=6.2								
FFC	Flin Flon	29.89	72	i P		P	13 49 13.7	+1.1
FFC	Flin Flon	29.89	72	eP		P	13 49 12.9	+0.4
	comp=Z,20nm,1.3s								
MCMT	McKenzie Canyo	29.93	97	eP		P	13 49 14.4	+1.1
	comp=Z,11nm,0.9s								
A20A	Cobblestone Ra	29.97	86	P		P	13 49 14.6	+1.2
	baz=30,SNR=34								
HLID	Hailey	29.97	100	P		P	13 49 15.5	+1.9
	baz=30,SNR=34								
HLID	Hailey	29.97	100	eP		P	13 49 14.9	+1.3
	comp=Z,25nm,0.9s								
HLID				ePcP		PcP	13 52 15.9	+0.3
HLID				LR		LR			
	comp=Z,445nm,20.0s								
BOZ	Bozeman (W)	30.03	95	P		P	13 49 15.9	+1.9
	baz=30,SNR=19								
B20A	Solberg Farm,	30.18	87	P		P	13 49 17.0	+1.7
	baz=30								
A21A	Bergtoll Ranch	30.43	85	P		P	13 49 19.4	+1.9
	baz=30,SNR=21								
C20A	Veseth Ranch,	30.64	88	P		P	13 49 20.9	+1.6
	baz=31,SNR=60								
QLMT	Earthquake Lak	30.68	96	eP		P	13 49 21.7	+1.9
	comp=Z,2.7nm,0.9s								
B21A	Ellsworth Farm	30.72	86	P		P	13 49 21.6	+1.6
	baz=31,SNR=48								
BMN	Battle Mountai	30.79	108	eP		P	13 49 22.8	+2.0
	comp=Z,90nm,1.1s								
A22A	Carney Farms,	30.96	85	P		P	13 49 23.9	+1.7
	baz=31,SNR=15								
GCMT	Greycliff	30.97	93	eP		P	13 49 24.6	+2.2
	comp=Z,89nm,1.3s								
YMR	Madison River	31.03	95	eP		P	13 49 25.2	+2.2
	comp=Z,76nm,0.8s								
C21A	Desert Coulee	31.05	87	P		P	13 49 24.8	+1.8
	baz=31,SNR=26								
CMB	Columbia Colle	31.06	114	eP		P	13 49 23.9	+0.8
	comp=Z,91nm,1.3s								
YNR	Norris Junctio	31.15	95	eP		P	13 49 25.5	+1.4
	comp=Z,32nm,1.0s								
WAKR	Walker	31.15	113	eP		P	13 49 26.7	+2.7
	comp=Z,81nm,0.8s								
YFT	Old Faithful	31.24	96	eP		P	13 49 27.5	+2.6
	comp=Z,62nm,0.9s								
B22A	Reddig Ranch S	31.34	86	P		P	13 49 27.4	+1.9
	baz=31,SNR=18								
LKWY	Lake	31.40	95	eP		P	13 49 28.5	+2.2
	comp=Z,26nm,0.9s								
H17A	Grant Village	31.42	95	P		P	13 49 27.1	+0.6
	baz=31,SNR=12								
H17A	Grant Village	31.42	95	eP		P	13 49 27.5	+1.1
	comp=Z,45nm,0.9s								
A23A	Redstone	31.53	84	P		P	13 49 28.6	+1.5
	baz=31								
ELK	Elko	31.56	105	eP		P	13 49 30.1	+2.3
	comp=Z,62nm,0.9s								
FLWY	Flagg Ranch	31.57	96	eP		P	13 49 29.9	+2.2
	comp=Z,115nm,0.8s								
IMW	Indian Meadow	31.57	96	eP		P	13 49 29.8	+2.0
	comp=Z,45nm,0.8s								
D21A	La Casta Ranch	31.58	88	P		P	13 49 29.5	+1.9
	baz=32,SNR=41								
RLMT	Red Lodge	31.63	93	P		P	13 49 30.6	+2.4
	baz=32,SNR=32								
RLMT	Red Lodge	31.63	93	eP		P	13 49 30.1	+1.9
	comp=Z,45nm,1.1s								
C22A	Vida	31.74	86	P		P	13 49 30.6	+1.5
	baz=32,SNR=34								
NVAR	Mina Array Bea	31.77	111	P		P	13 49 32.0	+2.5
	comp=Z,102nm,0.8s,baz=301,slow=8.6,SNR=312								
NVAR				PcP		PcP	13 52 21.9	+1.4
	comp=Z,6.3nm,0.8s,baz=286,slow=3.3,SNR=5.7								
MOOW	Mose Ponds	31.77	96	eP		P	13 49 30.9	+1.4
	comp=Z,14nm,0.9s								
B23A	Brockton	31.77	85	P		P	13 49 30.7	+1.5
	baz=32,SNR=20								
F20A	Billings	31.77	91	P		P	13 49 31.5	+2.1
	baz=32,SNR=22								
TIXI	Tiksi	31.83	325	c i P		P	13 49 30.1	+0.6
TIXI				pmax		pmax			
	comp=Z,28nm,1.2s								
TIXI	Tiksi	31.83	325	eP		P	13 49 29.5	0.0
	comp=Z,15nm,0.8s								
TIXI				LR		LR			
	comp=Z,385nm,21.0s								
TPAW	Teton Pass	31.84	97	eP		P	13 49 32.1	+1.9
	comp=Z,30nm,0.9s								
FCC	Fort Churchill	31.86	61	eP		P	13 49 30.5	+0.7
	comp=Z,82nm,0.9s								
E21A	Keefer Ranch,	31.87	89	P		P	13 49 32.6	+2.4
	baz=32,SNR=21								
LOHW	Long Hollow	31.94	96	eP		P	13 49 32.7	+1.7
	comp=Z,33nm,0.8s								
D22A	Cohagen	31.95	88	P		P	13 49 32.9	+2.0
	baz=32,SNR=56								
SNOW	Snow King Moun	31.96	97	eP		P	13 49 33.0	+1.8
	comp=Z,27nm,0.8s								
REDW	Red Top Meadow	31.98	97	eP		P	13 49 31.9	+0.5
	comp=Z,74nm,1.5s								
A24A	Westby	32.02	83	P		P	13 49 33.3	+1.9
	baz=32,SNR=31								
C23A	Lambert	32.08	86	P		P	13 49 33.9	+1.9
	baz=32,SNR=41								
H19A	Powell	32.08	94	P		P	13 49 34.4	+2.3
	baz=32,SNR=22								
HVU	Hansel Valley	32.09	101	eP		P	13 49 33.9	+1.6
	comp=Z,52nm,1.1s								
G20A	Bridger	32.12	92	P		P	13 49 34.5	+2.0
	baz=32,SNR=28								
MLAC	Mammoth, Mammo	32.13	113	P		P	13 49 35.6	+2.9
	baz=32,SNR=42								
DGMT	Dagmar	32.19	84	P		P	13 49 35.1	+2.2
	baz=32,SNR=5.1								
DGMT	Dagmar	32.19	84	P		P	13 49 32.0	-0.9
	comp=Z,61nm,0.8s								
LAO	LASA Array	32.22	88	P		P	13 49 35.2	+1.9
	baz=32,SNR=26								
LAO	LASA Array	32.22	88	eP		P	13 49 34.1	+0.8
	comp=Z,122nm,1.4s								
F21A	Absaloka Mine,	32.30	90	P		P	13 49 36.1	+2.0
	baz=32,SNR=9.3								
D23A	Lindsay	32.46	87	P		P	13 49 37.4	+2.0
	baz=32								
A25A	Svangstu Ranch	32.48	83	P		P	13 49 37.3	+1.9
	baz=32,SNR=53								
I19A	Meeteetse	32.50	94	P		P	13 49 38.0	+2.1
	baz=32,SNR=22								
E22A	Miles City	32.53	88	P		P	13 49 38.1	+2.2
	baz=32,SNR=26								
BGU	Big Grassy Mou	32.57	102	eP		P	13 49 38.1	+1.6
	comp=Z,20nm,1.0s								
TPH	Tonopah	32.58	110	eP		P	13 49 38.8	+2.1
	comp=Z,97nm,0.9s								
C24A	Savage	32.65	86	P		P	13 49 39.4	+2.5
	baz=33,SNR=90								
G21A	Lodge Grass	32.65	91	P		P	13 49 39.0	+1.9
	baz=33								
H20A	Greybull	32.72	93	P		P	13 49 39.6	+1.8
	baz=33,SNR=24								
E23A	Ismay	32.83	88	P		P	13 49 41.1	+2.5
	baz=33,SNR=17								
HWUT	Hardware Ranch	32.84	100	eP		P	13 49 40.8	+1.9
	comp=Z,58nm,1.2s								
B25A	Knox Farm, Ray	32.86	84	P		P	13 49 40.7	+1.9
	baz=33,SNR=18								
TIN	Tinemaha, Big	32.88	113	P		P	13 49 40.5	+1.3
	baz=33,SNR=12								
D24A	Glendive	32.96	86	P		P	13 49 42.5	+2.8
	baz=33,SNR=77								
RCTC	Rector, Farmer	32.98	115	P		P	13 49 42.8	+2.9
	baz=33								
J19A	Crowheart	33.00	96	P		P	13 49 42.5	+2.3
	baz=33,SNR=16								
I20A	Worland	33.02	94	P		P	13 49 42.6	+2.3
	baz=33,SNR=24								
A26A	Wade Farm, Ken	33.07	82	P		P	13 49 41.8	+1.2
	baz=33,SNR=51								
BW06	Boulder Array	33.08	97	eP		P	13 49 42.3	+1.3
	comp=Z,25nm,0.7s								
BW06				LR		LR			
	comp=Z,385nm,19.0s								
PDAR	Pinedale Array	33.08	97	P		P	13 49 42.4	+1.4
	comp=Z,26nm,0.6s,baz=330,slow=5.9,SNR=92								
PDAR				LR		LR	14 02 28.3		
	comp=Z,153nm,18.3s,baz=324,slow=35								
H21A	Big Horn, Sher	33.14	92	P		P	13 49 43.3	+1.9
	baz=33,SNR=21								
G22A	Birney	33.14	90	P		P	13 49 43.4	+2.1
	baz=33,SNR=33								
C25A	Freed Ranch, W	33.15	84	P		P	13 49 43.5	+2.1
	baz=33,SNR=5.0								
R11A	Troy Canyon, C	33.19	108	P		P	13 49 43.6	+1.7
	baz=33,SNR=193								
R11A	Troy Canyon, C	33.19	108	eP		P	13 49 43.5	+1.6
	comp=Z,72nm,0.9s								
R11A				ePcP		PcP	13 52 25.0	+0.6
DUG	Dugway, Tooele	33.22	103	P		P	13 49 44.1	+1.9
	baz=33,SNR=38								
DUG	Dugway, Tooele	33.22	103	eP		P	13 49 43.7	+1.5
	comp=Z,41nm,1.1s								
TCUT	Toone Canyon	33.27	101	P		P	13 49 44.6	+1.9
	comp=Z,64nm,1.1s								
B26A	Jensen Ranch,	33.28	83	P		P	13 49 44.2	+1.7
	baz=33,SNR=26								
F23A	Volborg	33.28	89	P		P	13 49 44.3	+1.7
	baz=33,SNR=50								
E24A	Baker	33.32	87	P		P	13 49 45.0	+2.1
	baz=33,SNR=14								
GRAC	Grapevine Rang	33.34	112	P		P	13 49 46.2	+3.1
	baz=33,SNR=221								
CTU	Camp Tracy	33.40	101	eP		P	13 49 45.5	+1.7
	comp=Z,39nm,1.1s								
SMMC	Simmler	33.42	117	P		P	13 49 46.9	+3.0
	baz=33,SNR=44								
VES	Vestal, Richgr	33.43	115	P		P	13 49 46.1	+2.2
	baz=33,SNR=31								
CWC	Cottonwood Cre	33.44	113	P		P	13 49 46.8	+2.7
	baz=33,SNR=21								
J20A	Shoshoni	33.45	95	P		P	13 49 46.6	+2.4
	baz=33,SNR=117								
A27A	Ledoux Ranch,	33.45	81	P		P	13 49 45.7	+1.8
	baz=33								
D25A	Fairfield	33.47	85	P		P	13 49 46.4	+2.3
	baz=33								
H22A	Clearmont	33.52	91	P		P	13 49 46.9	+2.2
	baz=33,SNR=8.0								
I21A	Big Trails, Te	33.55	93	P		P	13 49 46.7	+1.6
	baz=34,SNR=34								
JLU	Jordanelle	33.63	101	eP		P	13 49 47.5	+1.6
	comp=Z,47nm,1.1s								
G23A	Biddle	33.63	90	P		P	13 49 47.5	+1.9
	baz=34,SNR=44								
C26A	Wahner Farm, P	33.69	83	P		P	13 49 47.8	+1.7
	baz=34,SNR=18								
F24A	Ekalaka	33.71	88	P		P	13 49 48.3	+2.0
	baz=34,SNR=112								
B27A	Peters Farms,	33.78	82	P		P	13 49 48.5	+1.8
	baz=34,SNR=16								
NLU	North Lily Min	33.78	103	eP		P	13 49 48.0	+0.9
	comp=Z,27nm,1.0s								
J21A	Lysite	33.79	94	P		P	13 49 49.0	+1.8
	baz=34,SNR=74								
DAC	Darwin (Calif)	33.81	113	eP		P	13 49 49.1	+1.8
	comp=Z,75nm,0.8s								
E25A	Miller Ranch,	33.84	86	P		P	13 49 49.5	+2.1
	baz=34,SNR=27								
PKM	Mcpherson Peak	33.85	117	P		P	13 49 50.8	+3.1
	baz=34,SNR=71								
ISA	Isabella, Lake	33.87	115	P		P	13 49 49.9	+2.2
	baz=34,SNR=86								
ISA	Isabella, Lake	33.87	115	eP		P	13 49 49.7	+1.9
	comp=Z,81nm,0.8s								
I22A	9 Mile Ranch,	33.93	92	P		P	13 49 50.2	+1.9
	baz=34,SNR=35								
TPNV	Topopah Spring	33.94	111	P		P	13 49 50.7	+2.3
	baz=34,SNR=116								
MPU	Maple Canyon	33.96	102	eP		P	13 49 49.9	+1.2
	comp=Z,99nm,1.1s								
A28A	Rude Farm, Bot	33.99	81	P		P	13 49 50.5	+1.8
	baz=34,SNR=23								
D26A	Manning	34.01	85	P		P	13 49 51.1	+2.2
	baz=34,SNR=9.4								
FURC	Furnace Creek,	34.02	112	P		P	13 49 51.7	+2.9
	baz=34,SNR=64								
MPMC	Manual Prospec	34.03	113	P		P	13 49 52.0	+2.7
	baz=34,SNR=134								
H23A	Clabaugh Cattl	34.05	91	P		P	13 49 51.9	+2.6
	baz=34								
G24A	Alzada	34.06	89	P		P	13 49 51.0	+1.6
	baz=34,SNR=56								
C27A	Sayler Ranch,	34.08	83	P		P	13 49 51.5	+2.1
	baz=34,SNR=14								
ARVC	Arvin	34.13	116	P		P	13 49 52.1	+2.1
	baz=34,SNR=12								
F25A	Bowman	34.18	87	P		P	13 49 52.6	+2.2
	baz=34,SNR=14								
B28A	Dugan Ranch, T	34.22	81	P		P	13 49 52.5	+1.9
	baz=34,SNR=25								
J22A	Midwest	34.26	93	P		P	13 49 53.2	+2.0
	baz=34,SNR=51								
SBC	Santa Barbara	34.27	117	P		P	13 49 52.9	+1.8
	baz=34								
E26A	Carlson Angus	34.36	86	P		P	13 49 53.5	+1.6
	baz=34,SNR=17								
H24A	Dirks Ranch, A	34.38	90	P		P	13 49 53.5	+1.4
	baz=34,SNR=46								
LRMC	Laurel Mtn Rad	34.40	114	P		P	13 49 54.7	+2.3
	baz=34,SNR=125								
I23A	Meade Ranch, G	34.42	91	P		P	13 49 54.3	+1.7
	baz=34								
D27A	Center	34.45	84	P		P	13 49 54.5	+1.9
	baz=34								
A29A	Manning Farm,	34.52	80	P		P	13 49 54.7	+1.4
	baz=34,SNR=50								
OSI	Osito Audit: C	34.60	116	P		P	13 49 56.4	+2.3
	baz=35								
F26A	Lodgepole	34.65	87	P		P	13 49 56.3	+1.9
	baz=35,SNR=40								
C28A	Hausauer Farms	34.66	82	P		P	13 49 56.6	+2.1
	baz=35,SNR=14								
BSC	Santa Cruz Isl	34.67	118	P		P	13 49 57.4	+2.7
	baz=35,SNR=6.9								
G25A	Newell	34.68	88	P		P	13 49 56.8	+2.0
	baz=35,SNR=23								
TMUT	Trail Mountain	34.71	103	eP		P	13 49 57.1	+1.8
	comp=Z,56nm,1.0s								
EDW2	Edwards Air Fo	34.73	115	P		P	13 49 57.5	+2.2
	baz=35,SNR=44								
B29A	Wagenman Farm,	34.74	80	P		P	13 49 56.7	+1.6
	baz=35,SNR=21								
SHOC	Shoshone, Teco	34.75	112	P		P	13 49 58.3	+3.0
	baz=35,SNR=44								
J23A	Dilts Ranch, B	34.76	92	P		P	13 49 57.0	+1.6
	baz=35								
K22A	Casper	34.76	94	P		P	13 49 57.6	+2.0
	baz=35,SNR=22								
K22A	Casper	34.76	94	eP		P	13 49 56.4	+0.9
	comp=Z,40nm,1.0s								
MVU	Marysvale	34.79	105	eP		P	13 49 58.2	+2.3
	comp=Z,70nm,1.0s								
MSU	Marysvale	34.80	104	eP		P	13 49 58.3	+2.3
	comp=Z,82nm,1.1s								
SHPR	Sheep Range	34.83	110	eP		P	13 49 57.5	+1.3
	comp=Z,45nm,1.1s								
BLG	Laguna Peak, P	34.85	117	P		P	13 49 58.7	+2.5
	baz=35,SNR=15								
E27A	Carson	34.86	85	P		P	13 49 58.5	+2.3
	baz=35,SNR=10								
D28A	Regan	34.90	83	P		P	13 49 58.7	+2.2
	baz=35,SNR=29								
CCUT	Cedar City	34.93	107	eP		P	13 49 59.0	+1.9
	comp=Z,56nm,1.2s								
I24A	Kuemmerle Ranc	34.94	91	P		P	13 49 58.6	+1.6
	baz=35,SNR=10.0								
H25A	Fruitdale	34.97	89	P		P	13 49 59.4	+2.2
	baz=35,SNR=32								
GSC	Goldstone, Bar	34.97	113	P		P	13 50 00.0	+2.7
	baz=35,SNR=97								
GSC	Goldstone, Bar	34.97	113	eP		P	13 49 59.4	+2.1
	comp=Z,104nm,0.9s								
F27A	Lemmon	34.98	86	P		P	13 49 58.7	+1.4
	baz=35,SNR=15	

G26A	**Maurine**	**35.05**	**87**	P		**P**		**13 49 59.7**	**+1.8**
	baz=35,SNR=61								
RSSD	**Black Hills**	**35.07**	**90**	*e*P		**P**		**13 49 59.9**	**+1.6**
	comp=E,102nm,0.8s								
RWWY	**Rawlins**	**35.07**	**96**	*e*P		**P**		**13 50 00.9**	**+2.6**
	comp=E,105nm,0.8s								
DECC	**Green Verdugo**	**35.08**	**116**	P		**P**		**13 50 00.4**	**+2.2**
	baz=35,SNR=13								
K23A	**Bowen Ranch, D**	**35.16**	**93**	P		**P**		**13 50 00.5**	**+1.5**
	baz=35,SNR=65								
SRU	**San Rafael Swe**	**35.21**	**102**	*e*P		**P**		**13 50 01.4**	**+2.0**
	comp=E,218nm,1.0s								
RRX	**Edison Barstow**	**35.21**	**114**	P		**P**		**13 50 02.0**	**+2.7**
	baz=35								
E28A	**Huff**	**35.23**	**84**	P		**P**		**13 50 01.3**	**+2.0**
	baz=35,SNR=12								
MWC	**Mount Wilson**	**35.23**	**116**	*e*P		**P**		**13 50 01.9**	**+2.2**
	comp=E,141nm,1.1s								
J24A	**Dixon Ranch, L**	**35.28**	**91**	P		**P**		**13 50 01.7**	**+1.7**
	baz=35,SNR=12								
B30A	**Myrvik Farm, E**	**35.28**	**80**	P		**P**		**13 50 01.2**	**+1.4**
	baz=35,SNR=49								
TUQ	**Turquoise Moun**	**35.30**	**112**	P		**P**		**13 50 02.8**	**+2.6**
	baz=35,SNR=24								
I25A	**Rochford**	**35.30**	**90**	P		**P**		**13 50 01.6**	**+1.4**
	baz=35,SNR=54								
G27A	**Dupree**	**35.35**	**87**	P		**P**		**13 50 02.1**	**+1.7**
	baz=35								
H26A	**Fairpoint**	**35.41**	**88**	P		**P**		**13 50 02.6**	**+1.6**
	baz=35,SNR=35								
BFSC	**Mount Baldy Ra**	**35.41**	**115**	P		**P**		**13 50 03.3**	**+2.2**
	baz=35,SNR=96								
D29A	**Pettibone, Tap**	**35.49**	**83**	P		**P**		**13 50 03.5**	**+1.8**
	baz=35,SNR=13								
KUR	**Kuril'sk**	**35.52**	**273**	⇓*i*P		**P**		**13 50 01.4**	**-0.4**
HEC	**Hector,Ludlow**	**35.58**	**113**	P		**P**		**13 50 04.9**	**+2.3**
	baz=36,SNR=45								
K24A	**Anderson Ranch**	**35.62**	**92**	P		**P**		**13 50 04.0**	**+1.2**
	baz=36,SNR=8.0								
F28A	**McLaughlin**	**35.64**	**85**	P		**P**		**13 50 04.6**	**+1.6**
	baz=36,SNR=26								
O20A	**White River Ci**	**35.65**	**99**	P		**P**		**13 50 04.9**	**+1.7**
	baz=36,SNR=27								
O20A	**White River Ci**	**35.65**	**99**	*e*P		**P**		**13 50 04.5**	**+1.3**
	comp=E,104nm,1.3s								
C30A	**Mose, Pekin**	**35.67**	**81**	P		**P**		**13 50 04.6**	**+1.5**
	baz=36,SNR=8.4								
J25A	**Sunshine Ranch**	**35.69**	**91**	P		**P**		**13 50 04.7**	**+1.2**
	baz=36,SNR=12								
CIS	**Catalina Islan**	**35.74**	**117**	P		**P**		**13 50 06.2**	**+2.3**
	baz=36,SNR=6.6								
BBRC	**Big Bear Solar**	**35.75**	**114**	P		**P**		**13 50 06.6**	**+2.4**
	baz=36,SNR=10								
I26A	**New Underwood**	**35.76**	**89**	P		**P**		**13 50 05.9**	**+1.9**
	baz=36,SNR=13								
H27A	**Howes**	**35.77**	**88**	P		**P**		**13 50 05.7**	**+1.7**
	baz=36,SNR=43								
E29A	**Napoleon**	**35.78**	**83**	P		**P**		**13 50 06.0**	**+1.8**
	baz=36								
D30A	**Buchanan**	**35.90**	**82**	P		**P**		**13 50 06.5**	**+1.4**
	baz=36,SNR=15								
GMRC	**Granite Mounta**	**35.95**	**112**	P		**P**		**13 50 08.0**	**+2.2**
	baz=36,SNR=72								
SCI	**San Clemente I**	**36.02**	**117**	P		**P**		**13 50 08.8**	**+2.6**
	baz=36,SNR=33								
G28A	**Parade**	**36.09**	**86**	P		**P**		**13 50 08.5**	**+1.7**
	baz=36,SNR=14								
J26A	**Sides Ranch, S**	**36.13**	**90**	P		**P**		**13 50 08.8**	**+1.5**
	baz=36,SNR=27								
MURC	**Murrieta**	**36.15**	**115**	P		**P**		**13 50 09.8**	**+2.4**
	baz=36,SNR=14								
I27A	**Quinn**	**36.16**	**88**	P		**P**		**13 50 09.1**	**+1.7**
	baz=36,SNR=30								
F29A	**Eureka**	**36.16**	**84**	P		**P**		**13 50 08.5**	**+1.1**
	baz=36,SNR=16								
K25A	**Mack Ranch, Ha**	**36.19**	**92**	P		**P**		**13 50 09.6**	**+1.8**
	baz=36,SNR=5.3								
E30A	**Jud**	**36.21**	**83**	P		**P**		**13 50 09.5**	**+1.7**
	baz=36,SNR=14								
PHWY	**Pilot Hill**	**36.27**	**95**	P		**P**		**13 50 08.4**	**-0.3**
	comp=E,12nm,0.8s								
H28A	**Mission Ridge**	**36.30**	**87**	P		**P**		**13 50 10.5**	**+2.0**
	baz=36,SNR=13								
N23A	**Red Feather La**	**36.31**	**96**	P		**P**		**13 50 10.7**	**+1.7**
	baz=36,SNR=30								
BELC	**Belle Mtn. Jos**	**36.41**	**113**	P		**P**		**13 50 11.7**	**+1.9**
	baz=36,SNR=84								
L25A	**Engebretsen Ra**	**36.46**	**92**	P		**P**		**13 50 12.0**	**+1.9**
	baz=36								
NEE2	**Needles Airpor**	**36.47**	**111**	P		**P**		**13 50 12.6**	**+2.5**
	baz=36								
K26A	**Motz Farm, Whi**	**36.50**	**91**	P		**P**		**13 50 12.4**	**+2.0**
	baz=36,SNR=9.2								
PFO	**Pinyon Flats O**	**36.51**	**114**	P		**P**		**13 50 12.0**	**+1.5**
	comp=E,448nm,0.8s,SNR=37								
PFO	**Pinyon Flats O**	**36.51**	**114**	*i* P		**P**		**13 50 12.5**	**+2.0**
PFO	**Pinyon Flats O**	**36.51**	**114**	P		**P**		**13 50 12.3**	**+1.8**
	baz=36,SNR=51								
PFO	**Pinyon Flats O**	**36.51**	**114**	*e*P		**P**		**13 50 11.9**	**+1.3**
	comp=E,73nm,0.9s								
PFO				LR		LR			
	comp=Z,657nm,21.0s								
O22A	**Kremmling**	**36.52**	**97**	P		**P**		**13 50 12.5**	**+1.7**
	baz=36,SNR=23								
G29A	**Hoven**	**36.54**	**85**	P		**P**		**13 50 11.9**	**+1.4**
	baz=36,SNR=17								
PV04	**Paradox Valley**	**36.58**	**101**	*e*P		**P**		**13 50 12.4**	**+1.2**
F30A	**Leola**	**36.59**	**84**	P		**P**		**13 50 12.5**	**+1.5**
	baz=36								
AGMN	**Agassiz Nation**	**36.66**	**78**	P		**P**		**13 50 12.5**	**+0.9**
	baz=37,SNR=50								
AGMN	**Agassiz Nation**	**36.66**	**78**	*e*P		**P**		**13 50 12.0**	**+0.4**
	comp=Z,51nm,0.8s								
I28A	**Midland**	**36.68**	**88**	P		**P**		**13 50 13.4**	**+1.6**
	baz=37,SNR=48								
IRM	**Iron Mountain**	**36.70**	**112**	P		**P**		**13 50 14.3**	**+2.2**
	baz=37,SNR=93								
J27A	**Elkhorn Farm,**	**36.74**	**89**	P		**P**		**13 50 14.3**	**+1.8**
	baz=37,SNR=18								
H29A	**Onida**	**36.76**	**86**	P		**P**		**13 50 14.3**	**+1.8**
	baz=37,SNR=28								
109C	**Camp Elliot, M**	**36.78**	**116**	P		**P**		**13 50 15.4**	**+2.7**
	baz=37,SNR=39								
O23A	**Lake Granby, G**	**36.81**	**96**	P		**P**		**13 50 15.6**	**+2.3**
	baz=37,SNR=138								
P22A	**Eagle**	**36.82**	**98**	P		**P**		**13 50 14.9**	**+1.6**
	baz=37,SNR=23								
M25A	**Paim-Egli Farm**	**36.92**	**93**	P		**P**		**13 50 16.5**	**+2.4**
	baz=37,SNR=13								
PV01	**Paradox Valley**	**36.95**	**101**	*e*P		**P**		**13 50 15.7**	**+1.3**
	comp=Z,6µm,1.1s								
BC3	**Big Chuckawall**	**36.95**	**113**	P		**P**		**13 50 16.1**	**+1.8**
	baz=37,SNR=22								
G30A	**Faulkton**	**36.99**	**85**	P		**P**		**13 50 16.0**	**+1.6**
	baz=37,SNR=52								
K27A	**Fluecknger Fa**	**37.00**	**90**	P		**P**		**13 50 16.3**	**+1.6**
	baz=37,SNR=11								
SMCO	**Snowmass**	**37.01**	**99**	*e*P		**P**		**13 50 16.0**	**+0.8**
	comp=Z,29nm,1.1s								
J28A	**Allard Ranch,**	**37.03**	**88**	P		**P**		**13 50 16.6**	**+1.7**
	baz=37,SNR=46								
PDMCI	**Parker Dam,Lak**	**37.08**	**111**	P		**P**		**13 50 17.4**	**+2.1**
	baz=37,SNR=14								
YSS	**Yuzh-Sakhalins**	**37.10**	**279**	⇑*e*P		**P**		**13 50 16.0**	**+0.8**
YSS				pmax		pmax			
	comp=Z,60nm,1.0s								
YSS				MLR		MLR			
	comp=Z,400nm,15.0s								
YSS	**Yuzh-Sakhalins**	**37.10**	**279**	*e*P		**P**		**13 50 15.6**	**+0.4**
	comp=Z,47nm,0.9s								
MONP	**Monument Peak,**	**37.11**	**115**	P		**P**		**13 50 18.3**	**+2.5**
	baz=37,SNR=71								
I29A	**Vivian Onida**	**37.12**	**87**	P		**P**		**13 50 17.3**	**+1.7**
	baz=37,SNR=34								
BAR	**Barrett**	**37.16**	**115**	*e*P		**P**		**13 50 17.9**	**+1.9**
	comp=Z,68nm,1.1s								
ISCO	**Idaho Springs**	**37.27**	**97**	P		**P**		**13 50 19.2**	**+1.9**
	baz=37,SNR=16								
ISCO	**Idaho Springs**	**37.27**	**97**	*e*P		**P**		**13 50 18.7**	**+1.5**
	comp=Z,10nm,0.8s								
Y12C	**Blythe**	**37.33**	**112**	P		**P**		**13 50 19.8**	**+2.4**
	baz=37,SNR=60								
SWSC	**Sam W. Stewart**	**37.37**	**114**	P		**P**		**13 50 19.7**	**+2.0**
	baz=37,SNR=9.2								
M26A	**McRoberts Ranc**	**37.38**	**92**	P		**P**		**13 50 19.9**	**+2.0**
	baz=37								
YUK	**Yuzh-Kuril'sk**	**37.39**	**273**	*e*P		**P**		**13 50 16.8**	**-0.9**
YUK				*i*				13 51 44.2	
YUK				*i*	PPP	PPP		13 52 03.0	
YUK				*i*				13 52 37.5	
YUK				*i*	S	**S**		**13 56 02.7**	**-2.3**
YUK				*i*	SS	**SnSn**		**13 58 43.8**	**+2.3**
YUK				*i*				14 00 29.8	
YUK					MLR	MLR			
	comp=N,522nm,21.0s								
YUK					MLR	MLR			
	comp=E,354nm,21.0s								
YUK					MLR	MLR			
	comp=Z,292nm,21.0s								
K28A	**Ten Mile Ranch**	**37.45**	**89**	P		**P**		**13 50 20.5**	**+2.1**
	baz=37,SNR=20								
IBP	**Imperial Bould**	**37.45**	**115**	P		**P**		**13 50 21.1**	**+2.6**
	baz=37								
P23A	**Jefferson**	**37.46**	**97**	P		**P**		**13 50 21.1**	**+2.2**
	baz=37,SNR=54								
WUAZ	**Wupatki**	**37.51**	**107**	P		**P**		**13 50 21.3**	**+2.2**
	baz=38,SNR=46								
WUAZ	**Wupatki**	**37.51**	**107**	*e*P		**P**		**13 50 21.1**	**+2.0**
	comp=Z,66nm,1.1s								
J29A	**Okreek**	**37.53**	**88**	P		**P**		**13 50 20.5**	**+1.5**
	baz=37,SNR=80								
I30A	**Oacoma**	**37.66**	**86**	P		**P**		**13 50 21.7**	**+1.6**
	baz=38,SNR=9.5								
MVCO	**Mesa Verde**	**37.69**	**102**	P		**P**		**13 50 21.9**	**+1.2**
	baz=38,SNR=41								
MVCO	**Mesa Verde**	**37.69**	**102**	*e*P		**P**		**13 50 21.6**	**+1.0**
	comp=Z,43nm,0.8s								
M27A	**Reverse DX Ran**	**37.74**	**92**	P		**P**		**13 50 22.3**	**+1.4**
	baz=38								
GLA	**Glamis**	**37.75**	**113**	P		**P**		**13 50 23.0**	**+2.0**
	baz=38,SNR=39								
GLA	**Glamis**	**37.75**	**113**	*e*P		**P**		**13 50 22.8**	**+1.8**
	comp=Z,78nm,0.9s								
N26A	**Koester Ranch,**	**37.80**	**93**	P		**P**		**13 50 23.5**	**+2.1**
	baz=38								
Q23A	**Hartsel**	**37.81**	**98**	P		**P**		**13 50 23.8**	**+2.0**
	baz=38								
L28A	**Connealy Angus**	**37.86**	**90**	P		**P**		**13 50 23.9**	**+2.0**
	baz=38								
K29A	**Lazy Trails An**	**37.98**	**89**	P		**P**		**13 50 24.9**	**+2.1**
	baz=38,SNR=15								
J30A	**Dallas**	**38.03**	**87**	P		**P**		**13 50 24.9**	**+1.7**
	baz=38,SNR=25								
Q24A	**Divide**	**38.13**	**97**	P		**P**		**13 50 26.5**	**+2.1**
	baz=38,SNR=30								
S22A	**4UR Ranch, Cre**	**38.15**	**100**	P		**P**		**13 50 27.1**	**+2.5**
	baz=38,SNR=29								
O26A	**Horse Wrangler**	**38.17**	**94**	P		**P**		**13 50 26.7**	**+2.1**
	baz=38								
N27A	**Anderson Farm,**	**38.17**	**93**	P		**P**		**13 50 26.7**	**+2.1**
	baz=38,SNR=13								
OGNE	**Ogallala**	**38.34**	**92**	P		**P**		**13 50 27.8**	**+1.8**
	baz=38								
OGNE	**Ogallala**	**38.34**	**92**	*e*P		**P**		**13 50 27.6**	**+1.6**
	comp=Z,114nm,0.9s								
R23A	**Moffat**	**38.34**	**99**	P		**P**		**13 50 28.5**	**+2.2**
	baz=38,SNR=37								
M28A	**Bar X Bar Ranc**	**38.37**	**91**	P		**P**		**13 50 28.1**	**+1.8**
	baz=38,SNR=7.8								
L29A	**Maesberg Ranch**	**38.38**	**89**	P		**P**		**13 50 28.1**	**+1.9**
	baz=38,SNR=12								
K30A	**Basset**	**38.41**	**88**	P		**P**		**13 50 28.5**	**+2.0**
	baz=38,SNR=20								
S23A	**Nye Farm, Mont**	**38.61**	**99**	P		**P**		**13 50 30.6**	**+2.1**
	baz=39								
P26A	**Davis Ranch, A**	**38.64**	**95**	P		**P**		**13 50 30.8**	**+2.1**
	baz=39,SNR=21								
O27A	**Beecher Island**	**38.65**	**93**	P		**P**		**13 50 30.3**	**+1.7**
	baz=39,SNR=9.8								
W18A	**Petrified Fore**	**38.66**	**106**	P		**P**		**13 50 31.1**	**+2.3**
	baz=39,SNR=11								
W18A	**Petrified Fore**	**38.66**	**106**	*e*P		**P**		**13 50 29.3**	**+0.5**
	comp=Z,25nm,0.8s								
M29A	**Burnside Ranch**	**38.70**	**90**	P		**P**		**13 50 30.8**	**+1.9**
	baz=39								
N28A	**Pribbeno Ranch**	**38.79**	**92**	P		**P**		**13 50 31.5**	**+1.7**
	baz=39,SNR=16								
SDCO	**Great Sand Dun**	**38.85**	**99**	P		**P**		**13 50 32.4**	**+1.8**
	baz=39,SNR=57								
SDCO	**Great Sand Dun**	**38.85**	**99**	*e*P		**P**		**13 50 31.8**	**+1.3**
	comp=Z,44nm,1.2s								
L30A	**Spencer Herefo**	**38.86**	**89**	P		**P**		**13 50 32.0**	**+1.7**
	baz=39								
Q26A	**Hugo**	**39.02**	**96**	P		**P**		**13 50 33.7**	**+2.0**
	baz=39,SNR=37								
P27A	**Ficken Ranch,**	**39.05**	**94**	P		**P**		**13 50 33.8**	**+1.8**
	baz=39,SNR=14								
ASAJ	**Asahikawa**	**39.06**	**276**	LR		LR		14 07 08.0	
	comp=Z,1µm,20.2s,baz=100,slow=37								
ASAJ	**Asahikawa**	**39.06**	**276**	*e*P		**P**		**13 50 31.9**	**0.0**
	comp=Z,41nm,1.0s								
O28A	**Krutsinger Ran**	**39.07**	**93**	P		**P**		**13 50 33.8**	**+1.7**
	baz=39								
M30A	**Dale-Ortello V**	**39.07**	**90**	P		**P**		**13 50 34.0**	**+1.9**
	baz=39								
EYMN	**Ely**	**39.15**	**76**	*e*P		**P**		**13 50 33.3**	**+0.7**
	comp=Z,75nm,0.8s								
L31A	**Butterfield Fa**	**39.17**	**88**	P		**P**		**13 50 34.5**	**+1.7**
	baz=39,SNR=9.2								
N29A	**Votaw Ranch, W**	**39.18**	**91**	P		**P**		**13 50 34.5**	**+1.5**
	baz=39								
ECSD	**EROS Data Cent**	**39.27**	**84**	P		**P**		**13 50 34.0**	**+0.4**
	baz=39,SNR=41								
ECSD	**EROS Data Cent**	**39.27**	**84**	*e*P		**P**		**13 50 33.7**	**0.0**
	comp=Z,49nm,1.1s								
KSCO	**Kaye Shedlock'**	**39.43**	**95**	P		**P**		**13 50 37.2**	**+2.1**
	baz=39,SNR=26								
KSCO	**Kaye Shedlock'**	**39.43**	**95**	*e*P		**P**		**13 50 36.4**	**+1.2**
	comp=Z,111nm,0.8s								
N30A	**Huettle Ranch,**	**39.48**	**91**	P		**P**		**13 50 37.5**	**+2.0**
	baz=39								
P28A	**Saint Francis**	**39.48**	**93**	P		**P**		**13 50 37.1**	**+1.6**
	baz=39								
R26A	**Arlington**	**39.52**	**96**	P		**P**		**13 50 37.8**	**+1.9**
	baz=39,SNR=37								
O29A	**4D Ranch, Culb**	**39.59**	**92**	P		**P**		**13 50 38.1**	**+1.7**
	baz=40,SNR=11								
214A	**Organ Pipe Nat**	**39.63**	**112**	P		**P**		**13 50 38.9**	**+2.2**
	baz=40,SNR=42								
214A	**Organ Pipe Nat**	**39.63**	**112**	*e*P		**P**		**13 50 38.3**	**+1.5**
	comp=Z,68nm,1.0s								
M31A	**Lambtecht Ranc**	**39.68**	**89**	P		**P**		**13 50 38.9**	**+1.7**
	baz=40,SNR=8.6								
Q28A	**Sharon Springs**	**39.81**	**94**	P		**P**		**13 50 40.1**	**+1.8**
	baz=40								
CLNS	**Chul'man**	**39.84**	**303**	*e*P		**P**		**13 50 37.6**	**-0.7**
CLNS				*e**PP		**pP**		**13 50 46.2**	**+3.2**
CLNS				*e*				13 52 08.4	
CLNS				*e*				13 52 44.1	
CLNS				*e*S		**S**		**13 56 36.3**	**-5.5**
CLNS					pmax	pmax			
	comp=Z,40nm,0.8s								
CLNS					pmax	pmax			
	comp=N,23nm,0.9s								
CLNS					pmax	pmax			
	comp=E,27nm,0.9s								
CLNS					pmax	pmax			
	comp=Z,5.0nm,1.0s								
CLNS					pmax	pmax			
	comp=N,19nm,0.9s								
CLNS					pmax	pmax			
	comp=E,8.0nm,0.9s								
CLNS					smax	smax			
	comp=N,28nm,11.2s								
CLNS					smax	smax			
	comp=E,111nm,13.5s								
CLNS					MLR	MLR			
	comp=N,608nm,12.0s								
CLNS					MLR	MLR			
	comp=Z,2µm,15.0s								
CLNS					MLR	MLR			
	comp=E,899nm,15.0s								
R27A	**Eads**	**39.87**	**96**	P		**P**		**13 50 40.7**	**+1.9**
	baz=40,SNR=41								
T25A	**Trinidad**	**39.88**	**98**	P		**P**		**13 50 40.8**	**+1.8**
	baz=40,SNR=35								
P29A	**Atwood**	**39.89**	**93**	P		**P**		**13 50 40.9**	**+1.9**
	baz=40								
O30A	**MW Ranch, Wils**	**39.94**	**91**	P		**P**		**13 50 41.5**	**+2.2**
	baz=40								
N31A	**Bailey Ranch,**	**40.06**	**90**	P		**P**		**13 50 42.3**	**+2.0**
	baz=40								
BGNE	**Belgrade**	**40.08**	**88**	P		**P**		**13 50 42.1**	**+1.7**
	baz=40,SNR=28								
BGNE	**Belgrade**	**40.08**	**88**	*e*P		**P**		**13 50 41.6**	**+1.2**
	comp=E,340nm,0.9s								
HABR	**Khabarovsk**	**40.10**	**287**	*ce*P		**P**		**13 50 40.0**	**-0.4**
HABR				*i*				13 52 12.5	
HABR				*e*				13 52 43.9	
HABR				*e*S		**S**		**13 56 44.3**	**-1.4**
HABR				*e*SS		**SS**		**13 59 43.3**	**+0.4**
HABR				*e*				14 00 44.0	
HABR					pmax	pmax			
	comp=E,30nm,1.5s								
HABR					pmax	pmax			
	comp=Z,51nm,1.5s								
HABR					pmax	pmax			
	comp=N,7.0nm,0.8s								
HABR					MLR	MLR			
	comp=Z,501nm,18.0s								
ERM	**Erimo**	**40.22**	**273**		P		**P**	**13 50 42.9**	**+1.4**
	comp=Z,728nm,1.1s,SNR=24								
ERM	**Erimo**	**40.22**	**273**	*d i*P			**P**	**13 50 42.0**	**+0.5**
ERM					pmax	pmax			
	comp=Z,143nm,1.2s								
ERM	**Erimo**	**40.22**	**273**	*e*P			**P**	**13 50 42.0**	**+0.5**
	comp=Z,115nm,0.9s								
SPMN	**Marine on St.**	**40.26**	**80**	P			**P**	**13 50 43.1**	**+1.3**
	baz=40,SNR=44								
SPMN	**Marine on St.**	**40.26**	**80**	*e*P			**P**	**13 50 42.4**	**+0.6**
	comp=Z,71nm,0.7s								
S27A	**Las Animas**	**40.26**	**96**	P			**P**	**13 50 44.1**	**+2.0**
	baz=40								
T26A	**Comanche Natio**	**40.28**	**97**	P			**P**	**13 50 43.7**	**+1.3**
	baz=40,SNR=36								
P30A	**Seldom**	**40.30**	**92**	P			**P**	**13 50 43.9**	**+1.6**
	baz=40,SNR=19								
O31A	**Woolen Ranch,**	**40.35**	**91**	P			**P**	**13 50 44.4**	**+1.7**
	baz=40,SNR=14								
R28A	**Tribune**	**40.35**	**95**	P			**P**	**13 50 44.5**	**+1.7**
	baz=40,SNR=28								
TUC	**Tucson**	**40.35**	**109**	*e*P			**P**	**13 50 44.7**	**+1.9**
	comp=Z,58nm,1.4s								
TUC					LR	LR			
	comp=Z,371nm,22.0s								
Q29A	**Oakley**	**40.39**	**93**	P			**P**	**13 50 44.7**	**+1.6**
	baz=40,SNR=18								
N32A	**Stulken Farm,**	**40.46**	**89**	P			**P**	**13 50 45.4**	**+1.8**
	baz=40,SNR=11								
ANMO	**Albuquerque**	**40.48**	**102**	*c i*P			**P**	**13 50 45.4**	**+1.4**
ANMO					pmax	pmax			
	comp=Z,120nm,1.7s								
ANMO	**Albuquerque**	**40.48**	**102**	*e*P			**P**	**13 50 45.1**	**+1.1**
	comp=Z,13nm,0.9s								
ANMO					LR	LR			
	comp=Z,145nm,19.0s								
LAZ	**Ladron**	**40.55**	**104**	*e*P			**P**	**13 50 46.5**	**+1.9**
	comp=Z,16nm,0.8s								
L34A	**Svendsen Farm,**	**40.62**	**86**	P			**P**	**13 50 45.9**	**+1.0**
	baz=40,SNR=23								
R29A	**Marienthal**	**40.65**	**94**	P			**P**	**13 50 47.1**	**+1.9**
	baz=41,SNR=14								
Q30A	**Quinter**	**40.73**	**93**	P			**P**	**13 50 47.7**	**+1.9**
	baz=41,SNR=16								
P31A	**Stockton**	**40.78**	**91**	P			**P**	**13 50 48.1**	**+1.8**
	baz=41,SNR=16								
LENM	**Lemitar**	**40.82**	**104**	*e*P			**P**	**13 50 48.7**	**+1.9**
	comp=Z,38nm,0.8s								
T27A	**Campo**	**40.82**	**97**	P			**P**	**13 50 48.5**	**+1.7**
	baz=41,SNR=12								
O32A	**Brockman Farm,**	**40.83**	**90**	P			**P**	**13 50 47.6**	**+1.0**
	baz=41								
M34A	**Aspy Farms, Fr**	**40.84**	**87**	P			**P**	**13 50 47.5**	**+0.8**
	baz=41,SNR=9.0								
S28A	**Manter**	**40.86**	**96**	P			**P**	**13 50 48.8**	**+1.8**
	baz=41,SNR=70								
LPM	**Los Pinos Moun**	**40.88**	**103**	*e*P			**P**	**13 50 48.7**	**+1.4**
L35A	**Bielow Farm, R**	**40.96**	**85**	P			**P**	**13 50 48.1**	**+0.4**
	baz=41								
T28A	**Walsh**	**41.10**	**96**	P			**P**	**13 50 50.8**	**+1.8**
	baz=41,SNR=43								
P32A	**Huiting Farm,**	**41.12**	**91**	P			**P**	**13 50 50.4**	**+1.4**
	baz=41,SNR=34								
Q31A	**Ellis**	**41.14**	**92**	P			**P**	**13 50 51.2**	**+1.9**
	baz=41								
R30A	**Dighton**	**41.20**	**93**	P			**P**	**13 50 51.8**	**+2.0**
	baz=41,SNR=16								
U27A	**Thompson Grove**	**41.25**	**98**	P			**P**	**13 50 52.0**	**+1.7**
	baz=41,SNR=17								
S29A	**Ulysses**	**41.25**	**95**	P			**P**	**13 50 52.4**	**+2.2**
	baz=41,SNR=12								
KLR	**Kul'dur**	**41.27**	**290**	⇓*i*P			P	13 50 46.7	-3.4
KLR				*e*				13 50 47.0	
KLR					pmax	pmax			
	comp=E,92nm,1.8s								
KLR					pmax	pmax			
	comp=Z,200nm,1.8s								
KLR					MLR	MLR			
	comp=Z,2µm,13.0s								
O33A	**Hebron**	**41.33**	**89**	P			**P**	**13 50 51.8**	**+1.1**
	baz=41,SNR=25								
N34A	**Lincoln**	**41.36**	**87**	P			**P**	**13 50 51.6**	**+0.7**
	baz=41,SNR=18								
T29A	**Hugoton**	**41.51**	**95**	P			**P**	**13 50 54.3**	**+2.0**
	baz=41								
S30A	**Montezuma**	**41.58**	**94**	P			**P**	**13 50 54.8**	**+1.9**

comp=Z,99nm,1.0s
X28A Dimmitt 43.03 99 P P 13 51 06.2 +1.4
baz=43,SNR=17
Q35A Mercer Eighty, 43.03 89 P P 13 51 05.3 +0.7
baz=43,SNR=42
KBS Kingsbay 43.06 3 eP P 13 51 06.2 +1.9
comp=Z,22nm,1.0s
MSTX Muleshoe 43.16 100 P P 13 51 07.3 +1.6
baz=43,SNR=64
MSTX Muleshoe 43.16 100 eP P 13 51 06.7 +0.9
comp=Z,105nm,0.9s
JFWS Jewell Farm 43.19 80 eP P 13 51 05.7 -0.1
comp=Z,74nm,0.7s
Q36A Arnold C. Orve 43.27 89 P P 13 51 07.5 +1.0
baz=43,SNR=81
U32A Winter Ranch, 43.30 94 P P 13 51 08.5 +1.6
baz=43,SNR=5.4
V31A Spring Creek L 43.31 95 P P 13 51 09.2 +2.2
baz=43,SNR=6.0
CPRX Cap Rock 43.32 102 eP P 13 51 08.1 +1.0
comp=Z,6.0nm,0.8s
S34A Willow Spring 43.32 91 P P 13 51 07.6 +0.7
baz=43,SNR=36
R35A Emporia Munici 43.34 90 P P 13 51 07.9 +0.8
baz=43
X29A Tulia 43.35 98 P P 13 51 08.6 +1.2
baz=43,SNR=18
Y28A McKinney Farm, 43.48 99 P P 13 51 09.6 +1.2
baz=43,SNR=29
W31A Holland Ranch, 43.71 96 P P 13 51 11.7 +1.5
baz=44,SNR=11
R36A Gordon, Harris 43.71 89 P P 13 51 10.8 +0.7
baz=44,SNR=61
GDL2 Guadalupe Moun 43.71 103 eP P 13 51 11.8 +1.5
comp=Z,42nm,0.9s
U33A Lingo Farm, Me 43.73 93 P P 13 51 11.3 +1.0
baz=44,SNR=14
S35A Otter Creek Ra 43.75 91 P P 13 51 11.5 +1.1
baz=44,SNR=181
V32A Arapaho 43.78 95 P P 13 51 12.5 +1.8
baz=44
T34A McClaskey Farm 43.78 92 P P 13 51 11.6 +0.9
baz=44,SNR=37
X30A Coker Ranch, T 43.78 98 P P 13 51 12.2 +1.5
baz=44,SNR=16
Y29A Porterfield Fa 43.82 99 P P 13 51 12.6 +1.5
baz=44,SNR=52
Q37A Longview Farm, 43.86 88 P P 13 51 11.9 +0.6
baz=44,SNR=21
Z28A Tucker Farm, M 43.89 100 P P 13 51 12.5 +0.8
baz=44
BOD Bodaibo 43.90 309 eP P 13 51 10.6 -0.7
BOD pmax pmax
comp=Z,59nm,1.0s
CLNB Carlsbad 43.91 102 eP P 13 51 13.2 +1.3
comp=Z,3.0nm,0.3s
U34A Anderson Ranch 44.04 93 P P 13 51 13.6 +0.8
baz=44,SNR=23
U34A Anderson Ranch 44.04 93 eP P 13 51 13.3 +0.6
comp=Z,78nm,0.8s
R37A Teagarden Farm 44.08 89 P P 13 51 13.4 +0.4
baz=44,SNR=16
V33A Lossen Ranch, 44.10 94 P P 13 51 14.5 +1.2
baz=44
S36A Lake Cedric, C 44.11 90 P P 13 51 13.9 +0.7
baz=44,SNR=41
X31A McDonald Ranch 44.11 97 P P 13 51 14.9 +1.5
baz=44
W32A Sentinel 44.12 96 P P 13 51 15.1 +1.7
baz=44,SNR=18
Y30A Stafford Cattl 44.21 98 P P 13 51 15.7 +1.5
baz=44,SNR=11
T35A Sooner Cattle 44.22 91 P P 13 51 15.1 +0.9
baz=44,SNR=48
Z29A Hungry Hill Ra 44.27 99 P P 13 51 15.8 +1.1
baz=44,SNR=20
128A Castleberry Fa 44.36 101 P P 13 51 16.6 +1.2
baz=44,SNR=45
T36A Boggs Farm, Ca 44.45 91 P P 13 51 16.8 +0.8
baz=44,SNR=51
Y31A Rekieta Farm, 44.48 97 P P 13 51 17.1 +0.7
baz=44
V34A Guthrie 44.50 93 P P 13 51 17.8 +1.3
baz=44,SNR=14
V34A Guthrie 44.50 93 eP P 13 51 17.1 +0.7
comp=Z,282nm,1.6s
W33A Caddo, Fort Co 44.51 95 P P 13 51 18.0 +1.4
baz=44
USRK Ussuriysk Ar. 44.54 284 P P 13 51 15.7 -0.9
comp=Z,8.1nm,0.9s,baz=56,slow=7.7,SNR=13
USRK LR LR 14 10 14.6
comp=Z,316nm,20.5s,baz=43,slow=37
Z30A Sanderson Ranc 44.55 99 P P 13 51 18.1 +1.2
baz=44,SNR=32
X32A Elmer 44.64 96 P P 13 51 19.1 +1.5
baz=45,SNR=16
WMOK Wichita Mounta 44.66 95 eP P 13 51 18.7 +0.9
comp=Z,59nm,1.0s
WMOK LR LR
comp=Z,435nm,20.0s
228A UT Block 9, Go 44.70 101 P P 13 51 19.6 +1.4
baz=45,SNR=28
GLMI Grayling 44.77 74 P P 13 51 16.8 -1.7
comp=Z,69nm,0.7s
W34A Bridge Creek, 44.82 94 P P 13 51 20.3 +1.2
baz=45,SNR=12
W34A Bridge Creek, 44.82 94 eP P 13 51 19.8 +0.7
comp=Z,52nm,0.8s
Y32A R-V Farms, Ver 44.88 97 P P 13 51 21.0 +1.5
baz=45,SNR=23
T37A Cheneyville 18 44.91 90 P P 13 51 20.2 +0.5
baz=45,SNR=259
V35A Meyer Ranch, C 44.91 93 P P 13 51 20.5 +0.7
baz=45,SNR=9.7
X33A Lawton 44.96 95 P P 13 51 21.5 +1.4
baz=45,SNR=10
Z31A Sharp Cattle R 45.04 98 P P 13 51 21.6 +0.8
baz=45,SNR=21
130A Snyder 45.17 99 P P 13 51 23.2 +1.3
baz=45,SNR=16
229A Bryant Ranch, 45.22 101 P P 13 51 23.7 +1.4
baz=45,SNR=18
X34A Smith Ranch, M 45.27 95 P P 13 51 24.2 +1.6
baz=45,SNR=12
Y33A Hilltop Ranch, 45.31 96 P P 13 51 24.0 +1.1
baz=45,SNR=6.6
VLA Vladivostok 45.35 283 bi P P 13 51 22.2 -0.9
VLA i e 13 53 01.7
VLA e 13 53 08.8
VLA eS S 13 58 01.2 -1.9
VLA pmax pmax
comp=Z,28nm,1.2s
TUL1 Leonard 45.36 92 P P 13 51 24.0 +0.7
baz=45,SNR=27
TUL1 Leonard 45.36 92 eP P 13 51 23.6 +0.4
comp=Z,68nm,0.8s
W35A Tecumseh 45.36 93 P P 13 51 24.3 +1.1
baz=45,SNR=31
HDIL Hopedale 45.37 82 eP P 13 51 23.3 0.0
comp=Z,154nm,0.8s
V36A Jenks 45.37 92 P P 13 51 24.1 +0.7
baz=45
Z32A Haskell 45.40 97 P P 13 51 24.6 +0.9
baz=45,SNR=27
131A Roby 45.41 99 P P 13 51 24.8 +1.0
baz=45,SNR=12
MDJ Mudanjiang 45.48 286 eP P 13 51 23.0 -1.1
comp=Z,20nm,1.0s
329A Wagon Wheel Ra 45.51 101 P P 13 51 25.8 +1.2
baz=46,SNR=60
230A Sterling City 45.65 100 P P 13 51 27.0 +1.3
baz=46,SNR=38
W36A Wetumka 45.71 93 P P 13 51 27.1 +1.0
baz=46
V37A Hulbert 45.72 91 P P 13 51 26.7 +0.5
baz=46
Z33A Whitaker Ranch 45.79 97 P P 13 51 27.8 +1.0
baz=46,SNR=5.8
Y34A Reagan Ranch, 45.80 95 P P 13 51 28.5 +1.6
baz=46,SNR=27
ABTX Abilene, Hawle 45.84 98 P P 13 51 28.5 +1.3
baz=46,SNR=35
ABTX Abilene, Hawle 45.84 98 eP P 13 51 27.9 +0.7
comp=Z,123nm,1.0s
X35A Drake 45.88 94 P P 13 51 28.3 +0.9
baz=46,SNR=28
330A Mertzon 46.00 101 P P 13 51 29.5 +1.1
baz=46,SNR=107

231A Bronte 46.03 99 P P 13 51 29.5 +0.9
baz=46,SNR=24
X36A Centrahoma 46.08 93 P P 13 51 29.9 +0.9
baz=46,SNR=22
W37A Quinton 46.14 92 P P 13 51 30.4 +1.0
baz=46,SNR=38
Z34A Collier Ranch, 46.17 96 P P 13 51 30.9 +1.1
baz=46
Y35A Marietta 46.23 95 P P 13 51 31.6 +1.5
baz=46
133A Hamilton Ranch 46.24 97 P P 13 51 31.5 +1.3
baz=46,SNR=19
429A Davenport Ranc 46.24 102 P P 13 51 31.7 +1.3
baz=46,SNR=66
SCHQ Schefferville 46.33 53 P P 13 51 29.9 -0.8
comp=Z,18nm,0.7s,baz=325,slow=8.6,SNR=19
SCHQ LR LR 14 11 43.9
comp=Z,192nm,18.1s,baz=294,slow=37
SCHQ Schefferville 46.33 53 eP P 13 51 29.7 -1.1
comp=Z,20nm,0.8s
TXAR Lajitas Array 46.36 105 P P 13 51 32.9 +1.5
comp=Z,44nm,0.8s,baz=316,slow=5.8,SNR=270
TXAR LR LR 14 10 28.7
comp=Z,347nm,18.8s,baz=0.0,slow=35
TXAR Lajitas Array 46.36 105 P P 13 51 32.9 +1.5
TXAR pmax pmax
comp=Z,44nm,0.8s
TXAR MLR MLR
comp=Z,347nm,18.8s
232A Coleman 46.42 99 P P 13 51 32.8 +1.1
baz=46,SNR=98
430A Baggett Ranch, 46.45 101 P P 13 51 33.4 +1.3
baz=46,SNR=52
331A San Angelo 46.46 100 P P 13 51 32.9 +0.8
baz=46,SNR=15
529A Stev Forest Ra 46.47 103 P P 13 51 33.8 +1.6
baz=46,SNR=59
Z35A Perchaven, San 46.55 95 P P 13 51 34.1 +1.4
baz=46
X37A Clayton 46.58 93 P P 13 51 34.3 +1.4
baz=46,SNR=29
Y36A Durant 46.63 94 P P 13 51 34.9 +1.6
baz=47
SFIN Lafayette 46.65 81 P P 13 51 34.1 +0.8
baz=46,SNR=28
SFIN Lafayette 46.65 81 eP P 13 51 33.6 +0.2
comp=Z,61nm,0.8s
W38A Poteau 46.67 91 P P 13 51 34.5 +0.9
baz=47,SNR=38
134A White-Moore Ra 46.71 97 P P 13 51 35.1 +1.1
baz=47,SNR=12
233A Rising Star 46.71 98 P P 13 51 35.2 +1.3
baz=47,SNR=34
332A Millersview 46.76 99 P P 13 51 35.6 +1.1
baz=47,SNR=24
X38A Whitesboro 46.81 92 P P 13 51 36.0 +1.3
baz=47
MAJO Matsushiro 46.83 272 ⇓i P P 13 51 35.7 +0.9
MAJO pmax pmax
comp=Z,176nm,0.8s
MAJO Matsushiro 46.83 272 eP P 13 51 35.0 +0.2
comp=Z,22nm,0.6s
MAJO LR LR
comp=Z,213nm,22.0s
MAT Matsushiro 46.83 272 P P 13 51 35.0 +0.2
MAT S S 13 58 35.0 +11
MJAR Matsushiro Arr 46.83 272 P P 13 51 35.1 +0.2
comp=Z,7.4nm,0.6s,baz=37,slow=5.7,SNR=52
MJAR Matsushiro Arr 46.83 272 P P 13 51 35.1 +0.2
MJAR pmax pmax
comp=Z,7.0nm,0.6s
431A Sonora 46.87 101 P P 13 51 36.5 +1.3
baz=47,SNR=95
530A J-C Ranch, Com 46.91 102 P P 13 51 36.9 +1.3
baz=47,SNR=72
Y37A Hugo 46.92 93 P P 13 51 37.1 +1.6
baz=47
Z36A Blue Ridge 47.03 95 P P 13 51 37.8 +1.3
baz=47
AAM Ann Arbor 47.05 76 eP P 13 51 35.9 -0.5
135A Vickery Place, 47.07 96 P P 13 51 38.3 +1.5
baz=47
HIA Hailar 47.09 297 eP P 13 51 37.0 +0.2
comp=Z,13nm,0.6s
234A Clairette 47.12 97 P P 13 51 38.3 +1.1
baz=47,SNR=20
432A Menard 47.14 100 P P 13 51 38.4 +1.0
baz=47,SNR=47
333A Richland Sprin 47.21 99 P P 13 51 38.7 +0.8
baz=47,SNR=44
531A Rocksprings 47.31 101 P P 13 51 39.6 +0.9
baz=47,SNR=78
Y38A Idabel 47.43 93 P P 13 51 40.4 +0.8
baz=47
JCT Junction City 47.45 100 P P 13 51 40.7 +1.0
baz=47,SNR=64
JCT Junction City 47.45 100 eP P 13 51 40.8 +1.0
comp=Z,164nm,0.8s
WHTX Lake Whitney, 47.49 97 P P 13 51 40.9 +0.8
baz=47
WHTX Lake Whitney, 47.49 97 eP P 13 51 40.8 +0.8
comp=Z,129nm,1.2s
SIUC Southern Illin 47.49 85 eP P 13 51 40.1 +0.1
comp=Z,84nm,0.7s
Z37A Pogue Cattle C 47.52 94 P P 13 51 40.8 +0.6
baz=47
MIAR Mount Ida 47.57 91 eP P 13 51 41.0 +0.4
comp=Z,76nm,0.9s
MIAR LR LR
comp=Z,405nm,20.0s
334A Lometa 47.59 98 P P 13 51 41.9 +1.0
baz=48,SNR=23
136A Ennis 47.60 95 P P 13 51 41.8 +0.9
baz=48
433A Art 47.60 99 P P 13 51 41.8 +0.8
baz=48,SNR=30
532A Rocksprings 47.67 100 P P 13 51 42.2 +0.6
baz=48,SNR=12
Y39A Lockesburg 47.76 92 P P 13 51 42.8 +0.7
baz=48
Z38A Mt. Pleasant 47.82 93 P P 13 51 43.5 +0.9
baz=48
631A Perdido Creek 47.89 102 P P 13 51 43.7 +0.5
baz=48,SNR=50
137A Heron Place, G 47.91 95 P P 13 51 44.5 +1.1
baz=48
236A Katherine and 47.97 96 P P 13 51 44.9 +1.2
baz=48,SNR=5.3
434A Burnet 47.99 98 P P 13 51 45.0 +1.1
baz=48,SNR=86
CIT Chita 48.00 304 eP P 13 51 45.3 +1.5
CIT e 13 51 53.4
CIT pmax pmax
comp=Z,131nm,1.0s
UALR University of 48.05 90 eP P 13 51 44.1 -0.2
comp=Z,45nm,0.8s
335A Moody 48.06 97 P P 13 51 45.6 +1.1
baz=48,SNR=16
USIN University of 48.13 83 eP P 13 51 44.0 -0.9
comp=Z,82nm,0.7s
CN2 Changchun 48.16 288 ⇑P P 13 51 45.1 0.0
CN2 PMZ
comp=Z,10.0nm,0.9s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,300nm,14.0s
CN2 LE
comp=Z,300nm,14.0s
CN2 LZ
comp=Z,300nm,14.0s
533A Kerrville 48.17 100 P P 13 51 46.4 +1.0
baz=48,SNR=36
138A Matatall Enter 48.22 94 P P 13 51 46.9 +1.2
baz=48
632A Uvalde 48.23 101 P P 13 51 46.6 +0.8
baz=48,SNR=43
Z39A Irene McRaven, 48.25 93 P P 13 51 47.1 +1.2
baz=48
336A Riesel 48.28 97 P P 13 51 47.3 +1.1
baz=48,SNR=17
237A Washetta, Mont 48.35 95 P P 13 51 48.0 +1.4
baz=48
HBAR Harrisburg 48.35 88 P P 13 51 45.6 -1.0
435B Jarrell 48.37 98 P P 13 51 48.3 +1.4
baz=48,SNR=16
GNAR Gosnell 48.38 87 eP P 13 51 45.3 -1.6
534A Blanco 48.50 99 P P 13 51 49.0 +1.0

baz=48,SNR=32
GLAT Glass 48.54 86 eP P 13 51 47.6 -0.5
139A Bunkhouse Ranc 48.57 93 P P 13 51 49.7 +1.3
baz=48
633A Saathoff Ranch 48.59 100 P P 13 51 49.5 +1.0
baz=48,SNR=9.1
WCI Wyandotte Cave 48.65 82 eP P 13 51 47.7 -1.3
comp=Z,40nm,1.0s
238A Jacksonville 48.71 95 P P 13 51 50.7 +1.2
baz=49
732A Laxson Ranch, 48.76 102 P P 13 51 51.0 +1.1
baz=49,SNR=13
HALT Halls 48.78 86 eP P 13 51 50.3 +0.3
436A Wall Ranch, Ga 48.80 97 P P 13 51 51.7 +1.6
baz=49
337A Centerville 48.85 96 P P 13 51 52.2 +1.6
baz=49
ACSO Alum Creek Sta 48.90 78 eP P 13 51 50.4 -0.4
comp=Z,40nm,1.1s
535A Dale 48.97 98 P P 13 51 53.1 +1.6
baz=49
239A Gary 49.05 94 P P 13 51 53.5 +1.5
baz=49
634A China Grove, S 49.08 100 P P 13 51 53.6 +1.3
baz=49
437A Phantom Ranch, 49.09 96 P P 13 51 54.6 +2.2
baz=49
832A Faith Ranch, C 49.11 102 P P 13 51 53.9 +1.3
baz=49,SNR=24
733A Divot King Ran 49.12 101 P P 13 51 54.1 +1.5
baz=49,SNR=23
338A Crockett 49.12 95 P P 13 51 54.0 +1.4
baz=49
NATX Nacogdoches 49.15 94 P P 13 51 54.3 +1.5
baz=49,SNR=11
NATX Nacogdoches 49.15 94 eP P 13 51 53.8 +1.0
comp=Z,463nm,1.6s
536A Bastrop 49.20 98 P P 13 51 55.3 +2.1
baz=49
635A Leesville 49.38 99 P P 13 51 56.7 +2.1
baz=49,SNR=13
833A Chaparral WMA, 49.38 101 P P 13 51 56.2 +1.6
baz=49,SNR=12
734A La Parita Cree 49.40 100 P P 13 51 56.6 +1.9
baz=49,SNR=14
WVT Waverly 49.41 85 eP P 13 51 55.0 +0.1
comp=Z,51nm,0.8s
438A Sam Houston St 49.51 96 P P 13 51 57.7 +2.1
baz=49,SNR=11
339A Huntington 49.54 95 P P 13 51 57.6 +1.8
baz=50
537A Green Hill Far 49.59 97 P P 13 51 58.1 +1.9
baz=50
636A Smothers Creek 49.68 98 P P 13 51 59.3 +2.4
baz=50,SNR=16
735A Kenedy 49.78 100 P P 13 52 00.2 +2.5
baz=50
OXF Oxford 49.81 88 eP P 13 51 58.3 +0.5
comp=Z,458nm,0.8s
340A Bronson 49.82 94 P P 13 51 59.9 +2.0
baz=50
439A Center Grove, 49.85 95 P P 13 52 00.2 +2.0
baz=50
538A Harpers Horsep 49.92 96 P P 13 52 01.0 +2.4
baz=50
LONY Lake Ozonia 49.95 68 eP P 13 51 57.8 -1.0
comp=Z,22nm,0.8s
HKT Hockley 49.95 97 eP P 13 52 00.1 +1.2
comp=Z,165nm,1.5s
834A Tilden 49.98 101 P P 13 52 01.8 +2.6
baz=50,SNR=14
KSULL Ulleungdo 49.99 279 P P 13 52 00.0 +0.8
SNR=13
KSULL Ulleungdo 49.99 279 P P 13 52 00.0 +0.8
SNR=13
933A Laredo 50.02 102 P P 13 52 01.8 +2.3
baz=50,SNR=18
736A Circle Diamond 50.09 99 P P 13 52 02.5 +2.5
baz=50
637A Eagle Lake 50.09 98 P P 13 52 02.4 +2.3
baz=50
835A Beeville 50.23 100 P P 13 52 04.0 +3.0
baz=50,SNR=8.3
440A Kirbyville 50.31 95 P P 13 52 03.7 +2.0
baz=50,SNR=12
539A Cross D Ranch, 50.41 96 P P 13 52 04.8 +2.4
baz=50
934A Benavides 50.42 101 P P 13 52 05.2 +2.7
baz=50
SNY Shenyang 50.54 288 ⇑P P 13 52 04.4 +1.2
SNY S S 13 59 20.5 +4.0
SNY PMZ
comp=Z,90nm,0.9s
SNY PMZ
comp=Z,140nm,3.9s
SNY LN
comp=Z,350nm,14.4s
SNY LE
comp=Z,250nm,13.8s
SNY LZ
comp=Z,240nm,13.7s
737A Port Lavaca 50.57 98 P P 13 52 06.3 +2.6
baz=50
NCB Newcomb 50.60 68 eP P 13 52 03.1 -0.6
comp=Z,96nm,1.7s
KSSKC Sokcho 50.62 281 P P 13 52 05.6 +1.6
SNR=5.0
540A Vidor 50.73 95 P P 13 52 07.3 +2.5
baz=51
034A Hebbronville 50.77 102 P P 13 52 07.6 +2.5
baz=51
SEHB SEOHWA 50.78 281 P P 13 52 06.3 +1.2
SNR=31
SEHB SEOHWA 50.78 281 P P 13 52 06.3 +1.2
SNR=31
KSJMJ Jumunjin 50.81 281 P P 13 52 06.5 +1.2
SNR=35
KSJMJ Jumunjin 50.81 281 P P 13 52 06.5 +1.2
SNR=35
KSDGY Daegwallycong 50.99 281 P P 13 52 08.1 +1.3
SNR=13
KSDGY Daegwallycong 50.99 281 P P 13 52 08.1 +1.3
SNR=13
KSIJA INJE 51.06 281 P P 13 52 08.6 +1.3
SNR=19
KSIJA INJE 51.06 281 P P 13 52 08.6 +1.3
SNR=19
SWET Sewanee 51.11 84 eP P 13 52 07.3 -0.4
comp=Z,26nm,0.9s
035A Encino 51.17 101 P P 13 52 10.3 +2.2
baz=51
936A North Padre Is 51.20 100 P P 13 52 10.4 +2.1
baz=51
SSPA Standing Stone 51.22 73 eP P 13 52 08.4 -0.1
comp=Z,82nm,1.4s
KSTBA Taebaek 51.27 280 P P 13 52 10.2 +1.2
SNR=35
KSTBA Taebaek 51.27 280 P P 13 52 10.2 +1.2
SNR=35
KSCWO Cheorwon 51.30 282 P P 13 52 10.6 +1.5
SNR=9.3
KSCWO Cheorwon 51.30 282 P P 13 52 10.6 +1.5
SNR=9.3
ACCN Adirondack Com 51.30 68 eP P 13 52 08.7 -0.4
comp=Z,14nm,0.7s
KSULJ Uljin 51.35 279 P P 13 52 11.1 +1.6
SNR=5.8
KSULJ Uljin 51.35 279 P P 13 52 10.9 +1.4
SNR=9.5
KSCHC Chuncheon 51.38 281 P P 13 52 10.7 +1.0
SNR=31
KSCHC Chuncheon 51.38 281 P P 13 52 10.7 +1.0
SNR=31
KSRS Korea Array 51.56 281 P P 13 52 12.1 +1.1
KSRS LR LR 14 15 35.5
comp=Z,105nm,18.2s,baz=32,slow=38
KSRS Korea Array 51.56 281 P P 13 52 12.1 +1.1
KSRS pmax pmax
comp=Z,38nm,0.9s
KSRS MLR MLR
comp=Z,105nm,18.2s
035Z Hargill 51.57 102 P P 13 52 13.1 +1.9
baz=52,SNR=15
KSAR Wonju Array Be 51.59 281 P P 13 52 12.1 +0.8
PQI Presque Isle 51.60 61 eP P 13 52 09.6 -1.6
comp=Z,17nm,1.0s
YNCB YEONCHEON 51.64 282 P P 13 52 12.5 +0.9

SNR=19
YNCB YEONCHEON 51.64 282 P P 13 52 12.5 +0.9
SNR=19
CPCT Cooper Cave 51.68 83 eP P 13 52 11.6 -0.3
KSPHA Pohang 51.76 279 P P 13 52 13.9 +1.4
SNR=7.0
KSPHA Pohang 51.76 279 P P 13 52 13.9 +1.4
SNR=7.0
IRK Irkutsk 51.80 309 eP P 13 52 11.8 -0.8
IRK pmax pmax
comp=Z,56nm,0.8s
KSMUS Musan 51.84 282 P P 13 52 14.5 +1.4
SNR=18
TKL Tuckaleechee C 51.91 82 eP P 13 52 12.8 -0.8
KSICN Icheon 51.95 281 P P 13 52 15.7 +1.8
SNR=6.9
KSCHJ Chungju 51.97 280 P P 13 52 15.3 +1.1
SNR=9.8
PKME Peaks-Kenny Pk 52.03 64 eP P 13 52 13.6 -0.8
comp=Z,33nm,1.3s
KSSEO Seoul 52.06 282 P P 13 52 15.9 +1.2
SNR=6.2
KSSEO Seoul 52.06 282 P P 13 52 15.9 +1.2
SNR=6.2
KSGAH Ganghwa 52.14 282 P P 13 52 16.6 +1.3
SNR=5.7
KSSWO Suwon 52.20 281 P P 13 52 17.1 +1.3
SNR=7.1
INCN Inchon 52.21 282 eP P 13 52 16.5 +0.6
comp=Z,41nm,0.9s
LRAL Lakeview Retre 52.22 87 eP P 13 52 15.2 -0.8
comp=Z,14nm,0.6s
KSSAJ Sangju 52.23 280 P P 13 52 17.5 +1.5
SNR=9.4
KSBON Boeun 52.35 280 P P 13 52 18.2 +1.3
SNR=9.8
WVL Waterville 52.38 64 eP P 13 52 15.9 -1.1
comp=Z,68nm,1.5s
KSCEA Cheonan 52.39 281 P P 13 52 18.7 +1.5
SNR=13
KSCPR CHUPUNGNYEONG 52.47 280 P P 13 52 19.4 +1.5
SNR=8.9
TLY Talaya 52.47 309 P P 13 52 19.7 +2.0
comp=Z,205nm,0.7s,SNR=12
TLY Talaya 52.47 309 LR LR 14 17 09.7
comp=Z,920nm,18.0s,baz=35,slow=39
TLY Talaya 52.47 309 eP P 13 52 17.8 +0.1
TLY eS S 13 59 34.9 -8.2
TLY eSS **SS 14 03 19.0 -1.4**
TLY pmax pmax
comp=Z,26nm,0.7s
TLY MLR MLR
comp=Z,731nm,16.0s
TLY Talaya 52.47 309 eP P 13 52 18.1 +0.5
comp=Z,27nm,0.8s
BLA Blacksburg 52.49 78 eP P 13 52 17.6 -0.3
comp=Z,47nm,1.0s
ARCES ARCESS Array B 52.65 359 P P 13 52 18.1 -0.7
comp=Z,2.0nm,0.7s,baz=8.7,slow=8.8,SNR=5.8
ARCES LR LR 14 15 17.4
comp=Z,150nm,18.8s,baz=349,slow=37
ARCES ARCESS Array B 52.65 359 P P 13 52 18.1 -0.7
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES MLR MLR
comp=Z,150nm,18.8s
TJN Taejon 52.67 280 i P P 13 52 19.9 +0.6
VWCC Virginia Weste 52.69 78 eP P 13 52 19.1 -0.4
QUA2 Belchertown 52.77 68 eP P 13 52 19.7 -0.3
KSSES Seosan 52.83 281 P P 13 52 21.4 +0.9
SNR=9.5
KSBAR Backryungdo 52.83 284 P P 13 52 21.4 +0.9
SNR=13
YLE Yale 53.20 69 P P 13 52 23.2 +0.1
comp=Z,57nm,1.0s
EMMW East Machias 53.32 63 eP P 13 52 23.0 -0.9
comp=Z,32nm,0.8s
JNU Nakatsue 53.32 275 P P 13 52 24.2 0.0
comp=Z,20nm,0.7s,baz=355,slow=9.1,SNR=8.9
JSRW J. Sargeant Re 53.44 76 eP P 13 52 24.7 -0.2
MOY Mondy 53.56 311 eP P 13 52 27.4 +1.6
MOY pmax pmax
comp=Z,42nm,2.4s
KSJEU Jeongeup 53.57 280 P P 13 52 26.9 +1.0
SNR=8.5
KMSC Kings Mountain 53.59 81 P P 13 52 26.4 +0.3
baz=54,SNR=13
KMSC Kings Mountain 53.59 81 eP P 13 52 25.6 -0.5
comp=Z,33nm,0.9s
ZAK Zakamensk 53.61 308 ⇓iP P 13 52 25.0 -1.1
ZAK *e* 13 53 31.2
ZAK pmax pmax
comp=Z,9.0nm,0.8s
BRAL Brewton 53.77 88 eP P 13 52 26.8 -0.6
comp=Z,97nm,0.9s
LVZ Lovozero 54.02 355*c iP* **P 13 52 29.1 +0.3**
LVZ pmax pmax
comp=Z,39nm,1.2s
SONM Songino Array 54.21 304 P P 13 52 32.1 +1.4
comp=Z,44nm,0.7s,baz=42,slow=6.8,SNR=323
SONM LR LR 14 17 05.6
comp=Z,1μm,19.6s,baz=39,slow=38
SONM Songino Array 54.21 304 P P 13 52 32.1 +1.4
SONM pmax pmax
comp=Z,44nm,0.7s
SONM MLR MLR
comp=Z,1μm,19.6s
TIGA Tifton 55.27 85 eP P 13 52 37.2 -1.1
comp=Z,17nm,0.5s
BJI Beijing 55.58 292 P P 13 52 41.3 +0.9
BJI PP **PP 13 54 43.4 -0.8**
BJI S **S 14 00 25.9 +0.7**
BJI SS **SS 14 04 06.0 -3.6**
BJI PMZ
comp=Z,68nm,0.8s
BJI LN
comp=Z,380nm,19.5s
BJI LE
comp=Z,280nm,20.6s
BJI LZ
comp=Z,130nm,29.2s
BJT Baijiatuan 55.60 292 eP P 13 52 41.0 +0.4
comp=Z,58nm,0.6s
BJT LR LR
comp=Z,204nm,20.0s
HVS Khovu-Aksy 56.82 315*c iP* **P 13 52 50.1 +0.8**
HVS pmax pmax
comp=Z,152nm,1.1s
HHC Hu-ho-hao-te 57.20 296 eP P 13 52 53.3 +1.2
HHC PP **PP 13 55 01.8 +3.0**
HHC S **S 14 00 45.9 -1.1**
HHC sS **sS 14 00 53.8 -1.2**
HHC SS **SS 14 04 35.9 +0.6**
HHC PMZ
comp=Z,120nm,1.1s
HHC PMZ
comp=Z,320nm,6.8s
HHC LN
comp=Z,500nm,15.4s
HHC LE
comp=Z,360nm,15.9s
HHC LZ
comp=Z,520nm,15.9s
NVS Novosibirsk 57.42 323⇑*iP* **P 13 52 53.5 +0.2**
NVS pmax pmax
comp=Z,56nm,1.4s
NVS pmax pmax
comp=N,30nm,1.7s
NVS pmax pmax
comp=E,20nm,1.2s
TMCR Tamitsa 57.52 352 eP P 13 52 52.6 -1.3
TMCR pmax pmax
comp=Z,60nm,1.3s
ZAA0 Zalesovo Array 57.65 322 eP P 13 52 55.4 +0.4
ZALV Zalesovo Beam 57.65 322 P P 13 52 55.9 +0.9
comp=Z,27nm,0.9s,baz=33,slow=6.8,SNR=83
ZALV LR LR 14 20 06.3
comp=Z,585nm,21.1s,baz=70,slow=39
ZALV Zalesovo Beam 57.65 322 P P 13 52 55.9 +0.9
ZALV pmax pmax
comp=Z,27nm,0.9s
ZALV MLR MLR
comp=Z,585nm,21.1s
TIA Tai'an 58.06 288 ⇑P P 13 52 58.3 +0.2
TIA PMZ
comp=Z,20nm,1.0s
PRGR Permogore 59.31 348 eP P 13 53 04.3 -2.1
PRGR S **S 14 01 09.1 -4.6**
PRGR pmax pmax
comp=Z,58nm,0.9s
JOW Kunigami 59.66 273 eP P 13 53 08.6 -0.7
comp=Z,24nm,1.0s
SOKR Solikamsk 59.67 341*c iP* **P 13 53 08.7 -0.2**
SOKR pmax pmax
comp=Z,130nm,1.1s
SOKR MLR MLR
comp=Z,750nm,21.0s
NJ2 Nanjing 60.45 284 eP P 13 53 12.3 -2.4
NJ2 S **S 14 01 28.0 -1.1**
NJ2 PMZ
comp=Z,50nm,0.9s
NJ2 LN
comp=Z,440nm,16.6s
NJ2 LE
comp=Z,610nm,17.4s
NJ2 LZ
comp=Z,720nm,18.5s
FINES FINESS Array B 60.77 358 P P 13 53 15.8 -0.5
comp=Z,7.6nm,0.9s,baz=5.7,slow=7.7,SNR=13
FINES LR LR 14 23 50.4
comp=Z,123nm,18.6s,baz=20,slow=40
FINES FINESS Array B 60.77 358 P P 13 53 15.9 -0.5
FINES pmax pmax
comp=Z,7.0nm,0.9s
FINES MLR MLR
comp=Z,123nm,18.6s
NB2 NORSAR Subarra 60.84 7 P P 13 53 16.1 -0.9
comp=Z,5.6nm,0.8s,baz=352,slow=6.9
NOA NORSAR Array B 60.84 7 P P 13 53 16.3 -0.7
comp=Z,5.0nm,0.8s,baz=352,slow=6.8,SNR=16
NOA LR LR 14 20 51.1
comp=Z,82nm,18.9s,baz=320,slow=37
NOA NORSAR Array B 60.84 7 P P 13 53 16.3 -0.7
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA MLR MLR
comp=Z,82nm,18.9s
SVE Sverdlovsk 61.54 338*d iP* **P 13 53 22.2 +0.5**
SVE pmax pmax
comp=Z,101nm,1.0s
TEIG Tepich 61.80 97 eP P 13 53 23.8 -0.2
comp=Z,96nm,1.2s
GUMO Guam 61.96 249 LR LR 14 16 48.5
comp=Z,26nm,21.6s,baz=52,slow=33
ARU Arti 62.32 339 P P 13 53 27.8 +0.8
comp=Z,577nm,0.8s,SNR=38
ARU Arti 62.32 339*c iP* **P 13 53 26.8 -0.2**
ARU 13 54 04.3
ARU 13 55 43.8
ARU S **S 14 01 52.6 +0.3**
ARU SS **SS 14 05 52.7 -1.9**
ARU pmax pmax
comp=Z,91nm,0.8s
ARU MLR MLR
comp=Z,553nm,20.0s
ARU Arti 62.32 339 eP P 13 53 26.9 -0.1
comp=Z,84nm,0.9s
KURK Kurchatov 62.40 324 P P 13 53 28.6 +1.0
comp=Z,150nm,0.9s,SNR=22
KURK Kurchatov 62.40 324 P P 13 53 28.2 +0.6
KURK pmax pmax
comp=Z,20nm,0.8s
KURK Kurchatov 62.40 324 eP P 13 53 28.1 +0.6
comp=Z,38nm,0.8s
KURK LR LR
comp=Z,378nm,21.0s
BRVK Borovoye 62.74 330 P P 13 53 30.9 +1.1
comp=Z,458nm,0.8s,SNR=35
BRVK Borovoye 62.74 330 P P 13 53 30.1 +0.3
BRVK pmax pmax
comp=Z,104nm,0.9s
BRVK Borovoye 62.74 330 eP P 13 53 30.2 +0.4
comp=Z,60nm,0.8s
BRVK LR LR
comp=Z,556nm,19.0s
BVA0 Borovoye Array 62.74 330 *i* P P 13 53 30.1 +0.2
BVA0 pmax pmax
comp=Z,86nm,0.9s
BVAR Borovoye Array 62.74 330 LR LR 14 25 49.7
comp=Z,498nm,18.1s,baz=40,slow=41
GTA Gaotai 63.79 303 ⇑P P 13 53 37.8 +0.6
GTA pP **pP 13 53 42.4 +0.3**
GTA sP **sP 13 53 44.8 +0.9**
GTA PcP **PcP 13 54 12.8 -0.2**
GTA PP **PP 13 56 01.0 +4.0**
GTA S **S 14 02 14.8 +3.4**
GTA sS **sS 14 02 22.6 +3.1**
GTA SS SS 14 06 27.4 +8.8
GTA PMZ
comp=Z,98nm,1.0s
GTA PMZ
comp=Z,200nm,4.2s
GTA LN
comp=Z,800nm,17.1s
GTA LE
comp=Z,1μm,16.1s
GTA LZ
comp=Z,1μm,17.1s
XAN Xi'an 63.87 293 P P 13 53 37.6 0.0
XAN pP **pP 13 53 41.6 -1.0**
XAN sP **sP 13 53 44.1 -0.3**
XAN PP **PP 13 55 58.6 +0.9**
XAN S **S 14 02 09.6 -2.7**
XAN SS **SS 14 06 19.5 -0.4**
XAN PMZ
comp=Z,12nm,0.9s
XAN PMZ
comp=Z,20nm,4.1s
XAN LN
comp=Z,430nm,14.1s
XAN LE
comp=Z,110nm,12.4s
XAN LZ
comp=Z,200nm,13.2s
WHN Wuhan 63.96 286 ⇑P P 13 53 39.4 +1.2
BBSR BB Station 64.29 70 eP P 13 53 39.3 -1.0
comp=Z,48nm,0.9s
MK31 Makanchi Array 64.59 319 *i* P P 13 53 42.2 0.0
MK31 pmax pmax
comp=Z,28nm,0.7s
MKAR Makanchi Array 64.59 319 P P 13 53 42.4 +0.2
comp=Z,30nm,0.7s,baz=47,slow=6.7,SNR=260
MKAR LR LR 14 24 09.8
comp=Z,669nm,18.1s,baz=28,slow=38
MKAR Makanchi Array 64.59 319 P P 13 53 42.4 +0.2
MKAR pmax pmax
comp=Z,30nm,0.7s
MKAR MLR MLR
comp=Z,669nm,18.1s
LZH Lanzhou 64.65 298 ⇑P P 13 53 43.6 +0.7
LZH pP **pP 13 53 47.0 -0.8**
LZH sP **sP 13 53 50.3 +0.6**
LZH PMZ
comp=Z,100nm,1.0s
LZH PMZ
comp=Z,210nm,4.0s
LZH LN
comp=Z,720nm,13.9s
LZH LE
comp=Z,430nm,12.8s
LZH LZ
comp=Z,770nm,13.6s
WMQ Urumqi 65.16 314 P P 13 53 47.4 +1.4
WMQ pP **pP 13 53 52.1 +1.2**
WMQ sP **sP 13 53 54.4 +1.6**
WMQ PcP **PcP 13 54 19.8 +1.3**
WMQ PP **PP 13 56 13.0 +4.2**
WMQ S **S 14 02 31.5 +3.5**
WMQ sS **sS 14 02 36.3 +0.1**
WMQ SS **SS 14 06 42.8 +3.3**
WMQ PMZ
comp=Z,46nm,0.8s
WMQ PMZ
comp=Z,54nm,4.3s
WMQ LN
comp=Z,520nm,12.4s
WMQ LE
comp=Z,510nm,17.5s
WMQ LZ
comp=Z,350nm,19.2s
MOS Moscow 65.91 351 eP P 13 53 49.6 -0.9
MOS *e* 13 56 12.7
MOS pmax pmax
comp=Z,48nm,1.0s
OTUK Ortayu 66.50 326 P P 13 53 55.1 +0.6
OTUK pmax pmax
comp=Z,39nm,0.8s
OBN Obninsk 66.61 352 LR LR 14 27 12.8
comp=Z,112nm,18.6s,baz=31,slow=40
OBN Obninsk 66.61 352 ⇑iP P 13 53 54.2 -0.8
OBN *i* 13 54 23.5
OBN pmax pmax
comp=Z,72nm,1.7s
OBN MLR MLR
comp=Z,232nm,24.0s
AKTO Aktyubinsk 68.09 337 LR LR 14 25 32.7
comp=Z,154nm,19.5s,slow=38
AKTO Aktyubinsk 68.09 337 P P 13 54 04.6 +0.1
AKTO pmax pmax
comp=Z,74nm,0.8s
SUW Suwalki 68.24 360 eP P 13 54 04.4 -1.0
SUW Suwalki 68.24 360 eP P 13 54 04.4 -1.0
PDGK Podgornoye 68.58 319 P P 13 54 08.1 +0.5
PDGK pmax pmax
comp=Z,71nm,1.1s
AB31 Akbulak array 68.78 335 *i* P P 13 54 08.5 -0.3
AB31 pmax pmax
comp=Z,65nm,0.8s
LPSR Galich'ya Gora 68.90 350 eP P 13 54 08.5 -1.0
LPSR pmax pmax
comp=Z,20nm,0.9s
LPSR pmax pmax
comp=N,10.0nm,1.4s
LPSR pmax pmax
comp=E,3.0nm,0.5s
CD2 Chengdu 68.93 295 ⇓P P 13 54 10.4 +0.3
CD2 pP **pP 13 54 13.8 -1.3**
CD2 PcP **PcP 13 54 35.1 +0.7**
CD2 PP **PP 13 56 42.8 +0.9**
CD2 S **S 14 03 15.8 +2.0**
CD2 SKS **ScS 14 04 10.5 +0.6**
CD2 SS **SS 14 07 41.9 +3.4**
CD2 PMZ
comp=E,70nm,0.7s
CD2 PMZ
comp=E,160nm,5.2s
CD2 LN
comp=E,400nm,12.7s
CD2 LE
comp=E,460nm,13.2s
CD2 LZ
comp=E,680nm,14.2s
GTBY Guantanamo Bay 69.03 86 eP P 13 54 10.3 -0.5
MTDJ Mount Denham 69.14 89 eP P 13 54 12.1 +0.4
comp=E,83nm,0.7s
VRHR Novokhopersk 70.11 348 eP P 13 54 14.9 -2.1
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.4s
VSR Storozhevoye 70.25 349 eP P 13 54 17.2 -0.6
VSR pmax pmax
comp=Z,30nm,0.9s
VSR pmax pmax
comp=N,10.0nm,0.7s
VSR pmax pmax
comp=E,8.0nm,0.6s
TKM2 Tokmak 2 70.26 322 P P 13 54 19.6 +1.3
SNR=62
TKM2 Tokmak 2 70.26 322 P P 13 54 19.1 +0.8
TKM2 pmax pmax
comp=Z,61nm,0.9s
TKM2 Tokmak 2 70.26 322 eP P 13 54 19.2 +0.9
comp=Z,55nm,0.8s
USP Ospenovka 70.30 323 P P 13 54 19.6 +1.2
SNR=36
MENF Mencas 70.36 14 eP P 13 54 18.5 0.0
CHMS Chumysh 70.46 322 P P 13 54 20.8 +1.4
SNR=43
VORD Divnogorie 70.48 349 eP P 13 54 18.6 -0.7
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=N,180nm,0.7s
VORD pmax pmax
comp=E,90nm,0.8s
CLL Collm 70.64 7 *i* P P 13 54 19.3 -1.0
comp=Z,7.0nm,1.0s
CLL Lm MLR 14 31 00.0
CLL Collm 70.64 7 *i* P P 13 54 19.3 -1.0
CLL pmax pmax
comp=Z,7.0nm,1.0s
ULHL Ulahol 70.64 321 P P 13 54 21.8 +1.1
SNR=26
FRU Bishkek 70.66 322 ⇑iP P 13 54 21.0 +0.5
FRU pmax pmax
comp=Z,130nm,1.8s
KBK Karagaybulak 70.71 322 P P 13 54 22.3 +1.3
SNR=44
AAK Ala-Archa 70.87 322 P P 13 54 23.4 +1.3
SNR=23
AAK Ala-Archa 70.87 322 P P 13 54 23.0 +1.0
AAK pmax pmax
comp=Z,51nm,0.8s
EKS2 Erkin-Say 71.08 323 P P 13 54 24.6 +1.4
SNR=47
EKS2 Erkin-Say 71.08 323 eP P 13 54 24.1 +0.9
comp=Z,66nm,0.9s
BAIF Baives 71.10 13 ⇑iP P 13 54 22.5 -0.5
comp=Z,27nm,1.0s
BAIF Baives 71.10 13 ⇑iP P 13 54 22.5 -0.5
comp=Z,27nm,1.0s
KZA Kyzart 71.12 322 P P 13 54 25.1 +1.2
SNR=53
GIVF Givet 71.13 12 ⇑iP P 13 54 22.5 -0.7
comp=Z,36nm,1.0s
GIVF Givet 71.13 12 ⇑iP P 13 54 22.5 -0.7
comp=Z,36nm,1.0s
BRG Berggiesshubel 71.13 6 eP P 13 54 22.6 -0.7
comp=Z,9.4nm,1.1s
BRG Berggiesshubel 71.13 6 eP P 13 54 22.6 -0.7
BRG pmax pmax
comp=Z,9.0nm,1.1s
GYA Guiyang 71.18 290 P P 13 54 23.6 -0.4
GYA PP **PP 13 57 02.4 +0.9**
GYA S **S 14 03 37.8 -2.6**
GYA SS **SS 14 08 13.0 -0.4**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.2s
GYA LN
comp=Z,570nm,18.8s
GYA LE
comp=Z,560nm,19.2s
GYA LZ
comp=Z,590nm,18.5s
UCH Uchtor 71.23 322 P P 13 54 26.3 +1.7
SNR=20
KSP Ksiaz 71.28 5 eP P 13 54 23.1 -1.0
KSP Ksiaz 71.28 5 eP P 13 54 23.2 -0.9
SZP Santa 71.38 273 eP P 13 54 25.0 -0.1
comp=Z,31nm,0.7s
AKASG Malin Array Be 71.44 356 P P 13 54 23.8 -1.3
comp=Z,12nm,0.7s,baz=4.5,slow=5.7,SNR=62
AKASG LR LR 14 25 10.1
comp=Z,137nm,21.9s,baz=355,slow=35
AKBB Malin Array Si 71.44 356 eP P 13 54 23.7 -1.4
KIEV Kiev 71.45 356 ⇓iP P 13 54 23.5 -1.6
KIEV Kiev 71.45 356 eP P 13 54 23.7 -1.5
comp=Z,21nm,0.8s
KIEV LR LR
comp=Z,280nm,19.0s
AK01 Malin Array Si 71.45 356 eP P 13 54 23.9 -1.3
AK02 Malin Array Si 71.49 356 eP P 13 54 23.8 -1.6
PVCC Panska Ves 71.51 6 eP P 13 54 24.6 -0.9
PVCC *ep* **pP 13 54 27.2 -3.3**
PVCC Panska Ves 71.51 6 eP P 13 54 24.6 -0.9
PVCC *e* 13 54 27.2
AML Almayashu 71.58 323 P P 13 54 28.2 +1.6
SNR=32
UPC Upice 71.60 5 eP P 13 54 25.3 -0.8
UPC Upice 71.60 5 eP P 13 54 25.3 -0.8
MNAS Manas 71.64 324 P P 13 54 27.1 +0.4
MNAS pmax pmax
comp=Z,86nm,0.9s

NKC Novy Kostel 71.68 7 eP P 13 54 25.9 -0.7
NKC epP **pP 13 54 29.1 -2.5**
NKC Novy Kostel 71.68 7 eP P 13 54 25.9 -0.7
NKC e 13 54 29.1
KK31 Karatay Array 71.70 325 P **P 13 54 27.0 +0.2**
KK31 pmax pmax
comp=Z,44nm,1.0s
KKAR Karatay Array 71.70 325 eP P 13 54 27.0 +0.2
comp=Z,1.3nm,0.4s
ROSF Rostrenen 71.73 18 eP P 13 54 25.8 -1.1
comp=Z,55nm,1.2s
ROSF Rostrenen 71.73 18 eP P 13 54 25.8 -1.1
comp=Z,55nm,1.2s
FLN La Foliniere 71.75 16⇑ iP P 13 54 25.7 -1.3
comp=Z,25nm,0.9s
FLN eR
comp=Z,240nm,19.8s
FLN La Foliniere 71.75 16⇑ iP P 13 54 25.7 -1.3
comp=Z,25nm,0.9s
DPC Dobruska-Polom 71.77 5 eP P 13 54 26.7 -0.5
DPC epP **pP 13 54 29.7 -2.5**
DPC ex x 13 54 35.0
DPC ex x 13 54 37.9
DPC ePCP **PcP 13 54 44.7 -1.4**
DPC Dobruska-Polom 71.77 5 eP P 13 54 26.7 -0.5
DPC e 13 54 29.7
DPC e 13 54 35.0
DPC e 13 54 44.7
SDDR Presa de Saban 71.83 83 eP P 13 54 28.2 +0.2
comp=Z,35nm,0.8s
SGMF Saint Gilles 71.92 18⇑ iP P 13 54 27.1 -0.9
comp=Z,41nm,1.1s
SGMF Saint Gilles 71.92 18⇑ iP P 13 54 27.1 -0.9
comp=Z,41nm,1.1s
LDF La Druitiere 71.97 16 eP P 13 54 27.0 -1.3
comp=Z,16nm,0.9s
LDF La Druitiere 71.97 16 eP P 13 54 27.0 -1.3
comp=Z,16nm,0.9s
OJC Ojcow 72.01 2 eP P 13 54 27.5 -1.1
OJC Ojcow 72.01 2 eP P 13 54 27.5 -1.1
PRU Pruhonice 72.05 6 eP P 13 54 27.4 -1.4
PRU AMS AMS 14 39 10.0
comp=Z,200nm,16.6s
PRU Pruhonice 72.05 6 eP P 13 54 27.4 -1.4
PRU MLR MLR
comp=Z,200nm,16.6s
GRR Gorron 72.06 16⇑ iP P 13 54 27.8 -1.0
comp=Z,16nm,1.0s
GRR Gorron 72.06 16⇑ iP P 13 54 27.8 -1.0
comp=Z,16nm,1.0s
KRLC Kraliky 72.06 4 eP P 13 54 28.3 -0.6
KRLC epP **pP 13 54 31.4 -2.5**
KRLC esP **sP 13 54 36.2 +0.4**
KRLC ex x 13 54 39.8
KRLC Kraliky 72.06 4 eP P 13 54 28.3 -0.6
KRLC e 13 54 31.4
KRLC e 13 54 36.2
GRF Grafenberg Arr 72.13 8 eP P 13 54 29.2 -0.1
comp=Z,4.0nm,0.7s
GOPC GO Pecny, Ondr 72.14 6 eP P 13 54 26.8 -2.5
GOPC AMS AMS 14 39 10.0
comp=Z,200nm,14.5s
QUIF Quistinic 72.15 18 eP P 13 54 28.4 -1.0
QUIF Quistinic 72.15 18 eP P 13 54 28.4 -1.0
OKC Ostrava-Krasne 72.35 3 eP P 13 54 29.9 -0.7
OKC epP **pP 13 54 33.0 -2.6**
OKC ex x 13 54 41.4
OKC AMS AMS 14 31 10.0
comp=Z,100nm,17.0s
OKC Ostrava-Krasne 72.35 3 eP P 13 54 29.9 -0.7
OKC e 13 54 33.0
OKC MLR MLR
comp=Z,100nm,17.0s
LVV L'vov 72.44 359 eP P 13 54 28.1 -3.0
LANF Langenberg 72.55 10 eP P 13 54 31.4 -0.4
MEZF Maizieres J'vi 72.73 12 eP P 13 54 32.3 -0.6
comp=Z,18nm,1.1s
MEZF Maizieres J'vi 72.73 12 eP P 13 54 32.3 -0.6
comp=Z,18nm,1.1s
PAGF Fort de Pagny 72.75 12⇑ iP P 13 54 32.6 -0.4
comp=Z,6.7nm,0.9s
PAGF Fort de Pagny 72.75 12⇑ iP P 13 54 32.6 -0.4
comp=Z,6.7nm,0.9s
TREC Trest 72.79 5 eP P 13 54 32.4 -0.8
TREC AMS AMS 14 38 10.0
comp=Z,100nm,13.1s
TREC Trest 72.79 5 eP P 13 54 32.4 -0.8
TREC MLR MLR
comp=Z,100nm,13.1s
NIE Niedzica 72.82 2 eP P 13 54 33.0 -0.5
NIE Niedzica 72.82 2 eP P 13 54 33.0 -0.5
STHS Stebnicka Huta 72.84 1 eP P 13 54 33.6 +0.1
STHS pmax pmax
comp=Z,9.0nm,0.8s
STHS Stebnicka Huta 72.84 1 eP P 13 54 33.6 +0.1
KHC Kasperske Hory 72.85 6 eP P 13 54 32.9 -0.7
KHC epP **pP 13 54 35.9 -2.7**
KHC ePCP **PcP 13 54 46.5 -4.2**
KHC ex x 13 54 51.6
KHC AMS AMS 14 36 20.0
comp=Z,100nm,15.1s
KHC Kasperske Hory 72.85 6 eP P 13 54 32.9 -0.7
KHC e 13 54 35.9
KHC e 13 54 51.6
KHC MLR MLR
comp=Z,100nm,15.1s
KHC Kasperske Hory 72.85 6 eP P 13 54 33.0 -0.7
comp=Z,2.9nm,1.0s
SFTF Sexfontaines 73.02 12 eP P 13 54 33.8 -0.8
comp=Z,24nm,1.1s
SFTF Sexfontaines 73.02 12 eP P 13 54 33.8 -0.8
comp=Z,24nm,1.1s
CDF Champ du Feu 73.06 11⇑ iP P 13 54 34.2 -0.7
comp=Z,14nm,1.0s
CDF Champ du Feu 73.06 11⇑ iP P 13 54 34.2 -0.7
comp=Z,14nm,1.0s
THEF They Montfort 73.11 12 eP P 13 54 34.3 -0.8
GERES GERESS Array B 73.14 6 P **P 13 54 34.8 -0.7**
comp=Z,2.4nm,0.8s,baz=355,slow=4.3,SNR=24
GERES GERESS Array B 73.14 6 P **P 13 54 34.8 -0.7**
GERES pmax pmax
comp=Z,2.0nm,0.7s
KSH Kashi 73.17 320 P P 13 54 39.8 +4.0
KSH epP pP 13 54 44.8 +4.0
KSH esP sP 13 54 46.5 +3.8
KSH PcP **PcP 13 54 56.0 +3.6**
KSH PP **PP 13 57 20.0 +1.8**
KSH S **SKiKP 14 04 04.8 -1.9**
KSH ScS **ScS 14 04 43.4 -0.1**
KSH PMZ
comp=Z,65nm,1.0s
KSH PMZ
comp=Z,170nm,2.0s
KSH LN
comp=Z,180nm,8.0s
KSH LE
comp=Z,620nm,16.9s
KSH LZ
comp=Z,210nm,14.2s
PMOR Pomariorio Ree 73.22 171 eP P 13 54 36.5 +0.6
comp=Z,88nm,1.5s
ECH Echery 73.24 11⇑ eP P 13 54 35.2 -0.7
ECH Echery 73.24 11 eP P 13 54 34.9 -1.0
comp=Z,10nm,1.0s
BFO Black Forest 73.24 10 eP P 13 54 34.9 -1.1
comp=Z,2.8nm,0.8s
KOLS Kolonicke sedl 73.33 1 eP P 13 54 36.3 -0.1
KOLS pmax pmax
comp=Z,6.0nm,1.2s
KOLS Kolonicke sedl 73.33 1 eP P 13 54 36.3 -0.1
HAU Haudompre 73.36 12⇑ iP P 13 54 35.8 -0.9
comp=Z,23nm,0.9s
HAU eR
comp=Z,158nm,22.5s
HAU Haudompre 73.36 12⇑ iP P 13 54 35.8 -0.9
comp=Z,23nm,0.9s
VAH Vaihoa 73.47 171 eP P 13 54 37.9 +0.5
comp=Z,55nm,0.9s
SFK Sufi-Kurgan 73.56 322 P **P 13 54 38.4 +0.2**
SFK pmax pmax
comp=Z,61nm,0.9s
MOF Molkenrain 73.60 11⇑ eP P 13 54 37.2 -0.9
HINF Hinteralfeld 73.60 11⇑ iP P 13 54 37.1 -1.0
comp=Z,16nm,1.0s
HINF Hinteralfeld 73.60 11⇑ iP P 13 54 37.1 -1.0
comp=Z,16nm,1.0s
UZH Uzhgorod 73.63 1 eP P 13 54 38.2 0.0
UZH e 13 54 45.4
HYF Humbligny 73.65 14 eP P 13 54 37.7 -0.6
HYF Humbligny 73.65 14 eP P 13 54 37.7 -0.6
KECS Kecovo 73.76 2 eP P 13 54 38.4 -0.6
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 73.76 2 eP P 13 54 38.3 -0.7
LOR Lormes 73.80 13⇑ iP P 13 54 38.4 -0.9
comp=Z,32nm,1.1s
LOR eR
comp=Z,161nm,21.5s
LOR Lormes 73.80 13⇑ iP P 13 54 38.4 -0.9
comp=Z,32nm,1.1s
MFF Saint Martin d 73.91 16⇑ iP P 13 54 39.0 -0.8
comp=Z,31nm,0.9s
MFF Saint Martin d 73.91 16⇑ iP P 13 54 39.0 -0.8
comp=Z,31nm,0.9s
SSF Saint Saulge 73.96 14⇑ iP P 13 54 39.4 -0.8
comp=Z,39nm,1.0s
SSF Saint Saulge 73.96 14⇑ iP P 13 54 39.4 -0.8
comp=Z,39nm,1.0s
LOMF Lomont 74.06 11⇑ eP P 13 54 40.1 -0.7
TRPA Tarpa 74.13 0⇓ iP P 13 54 41.1 0.0
CONA Conrad Observa 74.17 5⇑ ipP P 13 54 39.9 -1.6
comp=Z,5.5nm,1.0s
AVF Avril sur Loir 74.21 14⇑ iP P 13 54 40.6 -1.0
comp=Z,28nm,0.9s
AVF Avril sur Loir 74.21 14⇑ iP P 13 54 40.6 -1.0
comp=Z,28nm,0.9s
KMI Kunming 74.23 292 P **P 13 54 41.8 -0.6**
KMI PMZ
comp=Z,11nm,0.5s
KMI LN
comp=Z,190nm,15.3s
KMI LE
comp=Z,190nm,14.8s
KMI LZ
comp=Z,190nm,13.2s
PSZ Piszkesteto 74.31 2⇑ iP P 13 54 42.3 0.0
BGF Bois d'Agland 74.37 14⇑ iP P 13 54 41.6 -1.0
comp=Z,42nm,1.0s
BGF Bois d'Agland 74.37 14⇑ iP P 13 54 41.6 -1.0
comp=Z,42nm,1.0s
SMF Signal de Mont 74.41 14⇑ iP P 13 54 41.7 -1.1
comp=Z,21nm,0.9s
SMF Signal de Mont 74.41 14⇑ iP P 13 54 41.7 -1.1
comp=Z,21nm,0.9s
TCF Toulx Ste Croi 74.55 15⇑ iP P 13 54 42.5 -1.2
comp=Z,23nm,1.0s
TCF Toulx Ste Croi 74.55 15⇑ iP P 13 54 42.5 -1.2
comp=Z,23nm,1.0s
BUR08 Bucovina Ar. S 74.61 358 eP P 13 54 43.1 -1.0
BURAR Bucovina Array 74.64 358⇑ iP P 13 54 43.7 -0.5
CABF La Chapelle 74.71 12⇑ iP P 13 54 44.1 -0.6
comp=Z,25nm,0.9s
CABF La Chapelle 74.71 12⇑ iP P 13 54 44.1 -0.6
comp=Z,25nm,0.9s
KBA Koelreinsper 74.88 7 *i* pP P **13 54 45.7 0.0**
comp=Z,19nm,1.4s,SNR=5.7
AGO Saint Agoulin 74.91 14⇑ eP P 13 54 45.3 -0.4
PLDF La Plantade 75.05 14⇑ eP P 13 54 46.2 -0.4
CELP Cerrillos 75.05 80 eP P 13 54 47.4 +0.6
OBIP Obispado Ponce 75.06 80 eP P 13 54 47.1 +0.2
comp=Z,36nm,0.9s
PYM Petit Puy Mans 75.19 14⇑ eP P 13 54 46.8 -0.6
SOKA Soboth 75.38 6⇑ ipP P 13 54 48.0 -0.4
comp=Z,8.1nm,1.3s
RJF Les Rejaudoux 75.42 16 eP P 13 54 47.5 -1.2
comp=Z,19nm,0.9s
RJF eR
comp=Z,194nm,21.2s
RJF Les Rejaudoux 75.42 16 eP P 13 54 47.5 -1.2
comp=Z,19nm,0.9s
DRGR 75.47 0⇓ iP P 13 54 48.3 -0.7
OBKA Obir 75.52 6 *i* pP P **13 54 48.8 -0.5**
comp=Z,13nm,0.8s,SNR=7.6
PPT Papeete 75.63 173 LR LR 14 21 02.2
comp=Z,189nm,19.1s,baz=317,slow=30
TIAR Tiarei 75.64 173 eP P 13 54 50.5 +0.5
comp=Z,21nm,0.9s
PPT2 Papeete2 75.65 173 eLR LR 14 18 03.6
comp=Z,279nm,23.2s,baz=355
LFF La Frestale 75.67 16⇑ iP P 13 54 49.2 -0.8
comp=Z,72nm,0.9s
LFF La Frestale 75.67 16⇑ iP P 13 54 49.2 -0.8
comp=Z,72nm,0.9s
TESR Tescani 75.71 357⇓ iP P 13 54 50.4 +0.1
QIZ Qiongzhong 75.72 283 P **P 13 54 48.8 -1.9**
QIZ pP **pP 13 54 52.5 -3.2**
QIZ S **S 14 04 30.8 -0.9**
QIZ PMZ
comp=Z,55nm,4.2s
LBL Lubilhac 75.73 14⇑ eP P 13 54 49.8 -0.7
LSA Lhasa 75.79 304 eP P 13 54 52.5 +0.9
comp=Z,53nm,0.9s
LPL La Plagne 75.86 12 eP P 13 54 51.4 -0.1
LPL La Plagne 75.86 12 eP P 13 54 51.4 -0.1
CAF Calviac 75.87 15⇑ iP P 13 54 50.4 -0.9
comp=Z,31nm,1.0s
CAF Calviac 75.87 15⇑ iP P 13 54 50.4 -0.9
comp=Z,31nm,1.0s
GOF Gofitskoye 75.87 346 eP P 13 54 50.7 -0.5
GOF pmax pmax
comp=Z,30nm,0.7s
LPG La Plagne 75.89 12 eP P 13 54 51.9 +0.2
comp=Z,24nm,1.3s
LPG La Plagne 75.89 12 eP P 13 54 51.9 +0.2
comp=Z,24nm,1.3s
PKSM Moragy 75.99 3⇑ iP P 13 54 51.2 -0.7
DZET Dzherino 76.14 325 P **P 13 54 53.8 +0.8**
DZET pmax pmax
comp=Z,72nm,1.2s
VIVF Saint-Julien-l 76.28 13⇑ iP P 13 54 52.9 -0.7
comp=Z,20nm,1.0s
VIVF Saint-Julien-l 76.28 13⇑ iP P 13 54 52.9 -0.7
comp=Z,20nm,1.0s
DOPR Dopca 76.28 358⇓ iP P 13 54 53.8 +0.2
VRI Vrincioaia 76.35 357⇓ iP P 13 54 54.2 +0.2
ORIF Oris-en-Rattie 76.36 12 eP P 13 54 53.6 -0.5
ORIF eR
comp=Z,161nm,23.0s
ORIF Oris-en-Rattie 76.36 12 eP P 13 54 53.6 -0.5
PLOR Plostina 76.37 357⇑ iP P 13 54 51.9 -2.2
BZS Buzias 76.64 1⇓ iP P 13 54 55.4 -0.2
MBDF Montbardon 76.65 12 eP P 13 54 55.9 +0.1
MBDF Montbardon 76.65 12 eP P 13 54 55.9 +0.1
VOIR 76.82 359⇓ iP P 13 54 56.5 -0.2
ARR Arges 76.89 359⇓ iP P 13 54 57.1 0.0
SIM Simferopol' 76.90 352 eP P 13 54 57.0 -0.1
SIM pmax pmax
comp=Z,6.0nm,0.8s
SIM MLR MLR
comp=Z,230nm,20.9s
PGAV Gavieira, Arco 76.93 23 eP P 13 54 55.5 -1.9
PGAV Gavieira, Arco 76.93 23 eLR LR 14 21 03.6
comp=Z,123nm,20.0s
PGAV Gavieira, Arco 76.93 23 eP P 13 54 55.5 -1.9
PGAV Gavieira, Arco 76.93 23 eLR LR 14 21 03.6
comp=Z,123nm,20.0s
LASF Ste Croix 76.94 14 eP P 13 54 56.9 -0.5
comp=Z,22nm,1.2s
LASF Ste Croix 76.94 14 eP P 13 54 56.9 -0.5
comp=Z,22nm,1.2s
CFR Carcaliu 77.00 356⇓ iP P 13 54 56.9 -0.7
KIV Kislovodsk 77.00 346 P **P 13 54 57.4 -0.4**
comp=Z,209nm,0.7s,SNR=6.7
KIV Kislovodsk 77.00 346 *c iP* P **13 54 57.6 -0.2**
KIV pmax pmax
comp=Z,23nm,0.7s
KIV Kislovodsk 77.00 346 eP P 13 54 57.5 -0.2
comp=Z,21nm,0.6s
SJPF Ste Jean 77.14 18 eP P 13 54 58.1 -0.4
comp=Z,10nm,0.8s
SJPF Ste Jean 77.14 18 eP P 13 54 58.1 -0.4
comp=Z,10nm,0.8s
KBZ Khabaz 77.20 345 P **P 13 54 58.7 0.0**
comp=Z,15nm,0.8s,baz=351,slow=6.4,SNR=38
KBZ LR LR 14 31 37.2
comp=Z,159nm,21.8s,baz=356,slow=38
KBZ Khabaz 77.20 345 P **P 13 54 58.7 0.0**
KBZ pmax pmax
comp=Z,15nm,0.8s
KBZ MLR MLR
comp=Z,159nm,21.8s
SMRF Simiane la Rot 77.25 13⇑ iP P 13 54 59.1 0.0
comp=Z,26nm,1.1s
SMRF Simiane la Rot 77.25 13⇑ iP P 13 54 59.1 0.0
comp=Z,26nm,1.1s
NCK Nalchik 77.33 345⇑ iP P 13 55 01.0 +1.5
PBRG Braganca 77.40 22 eP P 13 54 57.2 -2.8
PBRG Braganca 77.40 22 eP P 13 54 57.2 -2.8
TOUF Mont Tournerai 77.41 12 eP P 13 54 59.6 -0.6
AUTN L'Aution 77.44 11 eP P 13 54 59.0 -1.4
MTLF Montolieu 77.44 15⇑ iP P 13 54 59.4 -0.7
comp=Z,18nm,1.0s
MTLF Montolieu 77.44 15⇑ iP P 13 54 59.4 -0.7
comp=Z,18nm,1.0s
ETSF Etsaut 77.46 18⇑ iP P 13 54 59.9 -0.4
comp=Z,33nm,0.9s
ETSF Etsaut 77.46 18⇑ iP P 13 54 59.9 -0.4
comp=Z,33nm,0.9s
EPF Esparros 77.47 17 eP P 13 54 58.9 -1.5
comp=Z,6.9nm,0.9s
EPF Esparros 77.47 17 eP P 13 54 58.9 -1.5
comp=Z,6.9nm,0.9s
SBF Sospel 77.57 11 eP P 13 55 00.0 -0.9
comp=Z,36nm,0.9s
SBF Sospel 77.57 11 eP P 13 55 00.0 -0.9
comp=Z,36nm,0.9s
POLO Lamas de Olo 77.60 23 eP P 13 55 01.1 -0.1
POLO Lamas de Olo 77.60 23 eP P 13 55 01.1 -0.1
TLB Topalu 77.60 356⇑ iP P 13 55 00.7 -0.2
NEY Neytrino 77.69 345 *i* P P **13 55 01.2 -0.6**
NEY pmax pmax
comp=Z,2.0nm,0.8s
PVRL Vila Real 77.71 23 eP P 13 55 01.5 -0.2
PVRL Vila Real 77.71 23 eP P 13 55 01.5 -0.2
TIRR Tirgusor 77.71 356⇑ iP P 13 55 01.4 -0.2
TIRR Tirgusor 77.71 356 eP P 13 55 00.5 -1.1
comp=Z,8.5nm,0.8s
SOC Sochi 77.73 348 eP P 13 55 02.1 +0.4
SOC eS **S 14 04 51.4 -1.6**
SOC pmax pmax
comp=Z,26nm,0.8s
MVO Moncorvo 77.96 23 eP P 13 55 01.9 -1.2
MVO Moncorvo 77.96 23 eLR LR 14 25 58.9
comp=Z,206nm,19.8s
MVO Moncorvo 77.96 23 eP P 13 55 01.9 -1.2
MVO Moncorvo 77.96 23 eLR LR 14 25 58.9
comp=Z,206nm,19.8s
MSAB Monastry St. A 78.10 356⇑ iP P 13 55 04.0 +0.3
DIVS Divibare 78.14 2⇓ iP P 13 55 02.8 -1.3
PVIS Viseu 78.21 24 eP P 13 55 04.4 -0.1
PVIS Viseu 78.21 24 eP P 13 55 04.4 -0.1
MSVF Nonsavu 78.33 204 P **P 13 55 07.0 +1.7**
comp=Z,304nm,1.0s,SNR=7.5
MSVF Nonsavu 78.33 204 eP P 13 55 06.3 +1.0
comp=Z,63nm,1.0s
PGF Pioggiola 79.03 11⇑ iP P 13 55 08.3 -0.8
comp=Z,25nm,0.9s
PGF Pioggiola 79.03 11⇑ iP P 13 55 08.3 -0.8
comp=Z,25nm,0.9s
RAR Rarotonga 79.04 183 P **P 13 55 09.5 +0.5**
comp=Z,16nm,0.8s,baz=261,slow=4.2,SNR=7.1
RAR LR LR 14 24 45.5
comp=Z,97nm,18.3s,baz=356,slow=32
PCBR Castelo Branco 79.14 23 eP P 13 55 08.8 -0.7
comp=Z,32nm,1.4s
PCBR Castelo Branco 79.14 23 eP P 13 55 08.8 -0.7
comp=Z,32nm,1.4s
TAPN Taplejung 79.33 305 eP P 13 55 11.5 +0.3
comp=Z,94nm,0.9s
PMAFR Mafra 79.59 25 eP P 13 55 11.2 -0.9
PMAFR Mafra 79.59 25 eP P 13 55 11.2 -0.9
GUN Gumba 79.63 307 eP P 13 55 13.1 +0.2
comp=Z,55nm,0.8s
JIRN Jiri 79.71 306 eP P 13 55 13.7 +0.3
comp=Z,79nm,0.8s
JMB Yambol 79.75 357⇓ iP P 13 55 13.3 +0.4
ODAN Odare 79.89 305 eP P 13 55 14.3 +0.1
comp=Z,52nm,0.9s
KKN Kakani 79.99 307 eP P 13 55 14.8 +0.1
KBL Kabul 79.99 323 eP P 13 55 13.1 -1.5
comp=Z,10.0nm,0.8s
ESDC Sonseca Array 80.00 21 P **P 13 55 13.6 -0.7**
comp=Z,8.3nm,0.9s,baz=343,slow=5.3,SNR=39
ESDC LR LR 14 30 35.3
comp=Z,69nm,21.8s,baz=15,slow=36
ESLA Sonseca Array 80.00 21 eP P 13 55 13.6 -0.7
comp=Z,1.2nm,0.8s
PESTR Estremoz 80.05 24 eP P 13 55 13.6 -0.9
comp=Z,27nm,1.2s
PESTR Estremoz 80.05 24 eP P 13 55 13.6 -0.9
comp=Z,27nm,1.2s
PAB San Pablo 80.05 21 P **P 13 55 12.9 -1.7**
comp=Z,6.2nm,0.9s
GKN Gorkha 80.07 308 eP P 13 55 15.1 +0.1
comp=Z,86nm,1.0s
PKI Pulchoki 80.12 307 eP P 13 55 15.4 -0.1
comp=Z,48nm,0.9s
RAMN Ramite 80.16 306 eP P 13 55 15.5 -0.1
comp=Z,95nm,0.9s
DMN Daman 80.22 307 eP P 13 55 16.2 +0.2
comp=Z,46nm,0.9s
EVO Evora 80.28 24 eP P 13 55 17.8 +2.0
comp=Z,22nm,1.6s
EVO Evora 80.28 24 eP P 13 55 17.8 +2.0
comp=Z,22nm,1.6s
GNI Garni 80.44 343⇓ iP P 13 55 18.2 +1.4
GNI pmax pmax
comp=Z,22nm,1.8s
PNCL Nicolau / Gran 80.56 25 eP P 13 55 17.0 -0.3
PNCL Nicolau / Gran 80.56 25 eP P 13 55 17.0 -0.3
SDV Santo Domingo 80.58 88 eP P 13 55 17.0 -1.0
comp=Z,14nm,0.8s
KDZ Kurdzhali 80.59 358⇑ iP P 13 55 18.0 +0.5
MMB Musomiste 80.67 359⇓ iP P 13 55 18.1 +0.2
KOLN Koldanda 80.71 309 eP P 13 55 18.6 +0.1
comp=Z,58nm,0.8s
PBAR Barrancos 80.83 24 eP P 13 55 18.7 0.0
comp=Z,58nm,1.1s
PBAR Barrancos 80.83 24 eP P 13 55 18.7 0.0
comp=Z,58nm,1.1s
TBI Tubuai 81.38 173 eLR LR 14 20 48.2
comp=Z,276nm,32.8s,baz=350
CHTO Chiang Mai 81.42 292 eP P 13 55 20.4 -1.8
comp=Z,4.7nm,1.0s
PVAQ Vaqueiros 81.42 24 eP P 13 55 20.4 -1.5
PVAQ Vaqueiros 81.42 24 eLR LR 14 25 55.2
comp=Z,96nm,23.2s
PVAQ Vaqueiros 81.42 24 eP P 13 55 20.4 -1.5
PVAQ Vaqueiros 81.42 24 eLR LR 14 25 55.2
comp=Z,96nm,23.2s
PBDV Barranco-do-Ve 81.53 25 eP P 13 55 23.1 +0.6
PBDV Barranco-do-Ve 81.53 25 eP P 13 55 23.1 +0.6
CM31 Chiang Mai Arr 81.73 292 eP P 13 55 23.1 -0.7
comp=Z,6.3nm,0.7s
CMAR Chiang Mai Arr 81.73 292 P **P 13 55 23.2 -0.6**
comp=Z,7.4nm,0.8s,baz=14,slow=5.7,SNR=47
CMAR LR LR 14 33 58.5
comp=Z,126nm,20.5s,baz=19,slow=37
CMAR Chiang Mai Arr 81.73 292 P **P 13 55 23.2 -0.6**
CMAR pmax pmax
comp=Z,8.0nm,0.7s
CMAR MLR MLR
comp=Z,126nm,20.5s
ROSC El Rosal 82.00 94 P **P 13 55 26.5 +0.8**
comp=Z,5.9nm,0.4s,baz=352,slow=2.2,SNR=7.6
ANTO Ankara 82.05 352⇑ iP P 13 55 26.2 +0.9
ANTO Ankara 82.05 352 eP P 13 55 24.9 -0.4
comp=Z,15nm,0.8s
BR131 Keskin Array S 82.13 352 eP P 13 55 25.1 -0.7
comp=Z,7.7nm,0.8s
BRTR Keskin Array B 82.13 352 P **P 13 55 25.6 -0.2**
comp=Z,8.5nm,0.8s,baz=28,slow=2.9,SNR=48
BRTR LR LR 14 37 19.3
comp=Z,40nm,20.3s,baz=359,slow=40
FAKI Fak Fak 82.44 252 eP P 13 55 26.3 -1.2
comp=Z,34nm,0.8s
NDI New Delhi 82.44 314 eP P 13 55 27.0 -0.4
RKT Rikitea 82.97 160 eLR LR 14 21 28.4
comp=Z,374nm,35.2s
MALT Malatya 83.08 348⇓ iP P 13 55 31.8 +1.1
OTAV Otavalo 83.73 100 eP P 13 55 34.7 -0.1
comp=Z,12nm,0.9s
ISP Isparta 84.23 354 eP P 13 55 35.5 -1.2
ISP pmax pmax
comp=Z,12nm,1.0s
ISP Isparta 84.23 354⇓ iP P 13 55 37.3 +0.7
ISP Isparta 84.23 354 eP P 13 55 35.4 -1.2

	comp=Z,9.7nm,0.8s								
DZM	**Mont Dzumac**	**85.47**	**214**	*eP*		**P**		**13 55 44.1**	**+1.3**
	comp=Z,121nm,1.2s								
DZM	**Mont Dzumac**	**85.47**	**214**	P		**P**		**13 55 43.7**	**+0.9**
	comp=Z,32nm,0.9s,baz=270,slow=23,SNR=12								
LUWI	**Luwuk**	**85.73**	**261**	*eP*		**P**		**13 55 41.7**	**-2.5**
	comp=Z,62nm,0.8s								
KEST	**Kesra**	**85.82**	**11**	P		**P**		**13 55 43.7**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=293,slow=2.3,SNR=8.9								
KEST	**Kesra**	**85.82**	**11**	*eP*		**P**		**13 55 44.1**	**-0.5**
CTA	**Charters Tower**	**90.91**	**232**	P		**P**		**13 56 08.2**	**-0.6**
	comp=Z,28nm,0.8s,baz=24,slow=7.6,SNR=18								
CTA	**Charters Tower**	**90.91**	**232**	P		**P**		**13 56 08.2**	**-0.6**
CTA				pmax		pmax			
	comp=Z,28nm,0.8s								
CTAO	**Charters Tower**	**90.91**	**232**	*eP*		**P**		**13 56 08.1**	**-0.6**
	comp=Z,32nm,0.9s								
EIL	**Elat**	**92.00**	**350**	LR		LR		14 44 52.9	
	comp=Z,45nm,18.4s,baz=75,slow=40								
IPM	**Ipoh**	**92.55**	**283**	*eP*		**P**		**13 56 15.3**	**-1.3**
	comp=Z,6.2nm,0.8s								
PSI	**Prapat**	**95.06**	**283**	LR		LR		14 44 30.3	
	comp=Z,94nm,18.4s,baz=3.5,slow=39								
WRA	**Warramunga Arr**	**96.08**	**242**	P		**P**		**13 56 31.0**	**-1.5**
	comp=Z,2.2nm,0.9s,baz=38,slow=5.2,SNR=9.5								
WRA	**Warramunga Arr**	**96.08**	**242**	P		**P**		**13 56 31.0**	**-1.5**
WRA				pmax		pmax			
	comp=Z,3.0nm,1.0s								
RAYN	**Ar Rayn**	**96.55**	**339**	*eP*		**P**		**13 56 33.1**	**-1.8**
	comp=Z,8.6nm,0.9s								
ASAR	**Alice Springs**	**99.49**	**240**	P		**Pdif**		**13 56 47.0**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=34,slow=5.6,SNR=3.6								
ASAR	**Alice Springs**	**99.49**	**240**	P		**Pdif**		**13 56 47.0**	**-0.9**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
SAML	**Samuel**	**99.53**	**92**	*eP*		**Pdif**		**13 56 46.3**	**-1.9**
	comp=Z,4.3nm,1.0s								
PLCA	**Paso Flores**	**121.70**	**117**	PKP		**PKPdf**		**14 01 57.9**	**-0.4**
	comp=Z,6.7nm,1.0s,baz=331,slow=6.6,SNR=4.8								
PLCA	**Paso Flores**	**121.70**	**117**	PKIKP		**PKPdf**		**14 01 57.9**	**-0.4**
PLCA				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KMBO	**Kilima Mbogo**	**122.09**	**343**	PKP		**PKPdf**		**14 01 59.8**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=9.4,slow=7.7,SNR=4.5								
KMBO	**Kilima Mbogo**	**122.09**	**343**	PKIKP		**PKPdf**		**14 01 59.8**	**-0.4**
KMBO				pmax		pmax			
	comp=Z,1.0nm,0.6s								
LBTB	**Lobatse**	**146.89**	**356**	*e*PKPbc		**PKPdf**		**14 02 45.8**	**+0.3**
QSPA	**South Pole Qui**	**147.89**	**180**	*e*PKPdf		**PKPdf**		**14 02 42.7**	**-3.0**
QSPA				*e*PKPbc		**PKPbc**		**14 02 48.4**	**-0.4**
BOSA	**Boshof**	**150.49**	**356**	PKP		**PKPdf**		**14 02 50.5**	**-0.7**
	comp=Z,8.1nm,1.0s,baz=84,slow=6.8,SNR=4.0								
BOSA				PKPbc		**PKPbc**		**14 02 55.0**	**-1.5**
	comp=Z,14nm,1.0s,baz=308,slow=3.3,SNR=7.4								
BOSA	**Boshof**	**150.49**	**356**	PKIKP		**PKPdf**		**14 02 50.5**	**-0.7**
BOSA								14 02 55.0	
BOSA				pmax		pmax			
	comp=Z,8.0nm,1.0s								
BOSA				pmax		pmax			
	comp=Z,14nm,1.0s								
BOSA	**Boshof**	**150.49**	**356**	PKPdf		**PKPdf**		**14 02 50.0**	**-1.3**
BOSA				*e*PKPbc		**PKPbc**		**14 02 55.2**	**-1.4**
MAW	**Mawson**	**159.88**	**226**	PKP		**PKPdf**		**14 03 02.9**	**+0.4**
	comp=Z,4.0nm,0.9s,baz=350,slow=2.7,SNR=5.8								
MAW				PKPab		**PKPab**		**14 03 42.7**	**+0.7**
	comp=Z,9.1nm,0.9s,baz=163,slow=3.1,SNR=8.8								
MAW	**Mawson**	**159.88**	**226**	PKIKP		**PKPdf**		**14 03 02.9**	**+0.4**
MAW				pmax		pmax			
	comp=Z,4.0nm,0.9s								
MAW				pmax		pmax			
	comp=Z,9.0nm,0.9s								
SNAA	**Sanae**	**162.75**	**152**	P		PKPab		14 03 46.1	-8.5
SYO	**Syowa Base**	**166.87**	**207**	*e*P		**PKPab**		**14 04 09.8**	**-2.9**

*NNC **13** 13:46:14.1±2.1,39.31N×71.37E,h0km,mb4.0,mpv3.6,*
Error ellipse: s-maj=22.6km s-min=14.7km az=154.0
ISC 13 13:46:18.0±1.8,39.2N±0.1×71.33E±0.07,h43km,n17,
σ2s18/20,10C-6D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.86**	**64**	⇑Pn	Pn	13 46 43.5	-4.1
	20nm,0.2s						
SFK				⇓Lg	Lg	13 47 15.2	
	264nm,0.6s						
DZET	**Dzherino**	**1.99**	**259**	⇑Pn	**Pn**	**13 46 50.9**	**+1.7**
	23nm,0.5s						
DZET				⇑Lg	Lg	13 47 19.7	
	79nm,0.3s						
MNAS	**Manas**	**3.39**	**15**	⇓Pn	**Pn**	**13 47 09.2**	**+0.8**
	13nm,0.4s						
MNAS				⇑Lg	Lg	13 47 53.3	
	21nm,0.4s						
AML	**Almayashu**	**3.42**	**31**	P	**Pn**	**13 47 09.2**	**+0.1**
	SNR=41						
UCH	**Uchtor**	**3.86**	**38**	P	**Pn**	**13 47 14.7**	**-0.5**
	SNR=23						
EKS2	**Erkin-Say**	**3.91**	**28**	P	**Pn**	**13 47 16.2**	**+0.6**
	SNR=15						
KK31	**Karatay Array**	**3.93**	**351**	⇓Pn	**Pn**	**13 47 16.2**	**+0.4**
	10.0nm,0.5s,baz=174,slow=13						
KK31				⇓Sn	**Sn**	**13 48 06.6**	**+5.9**
	5.8nm,0.3s,baz=170,slow=23						
KK31				⇑Lg	Lg	13 48 17.7	
	22nm,0.5s,baz=166,slow=30						
KZA	**Kyzart**	**4.13**	**45**	P	**Pn**	**13 47 18.3**	**-0.6**
	SNR=36						
AAK	**Ala-Archa**	**4.17**	**34**	P	**Pn**	**13 47 19.4**	**+0.1**
	SNR=13						
AAK	**Ala-Archa**	**4.17**	**34**	⇑Pn	**Pn**	**13 47 19.3**	**+0.1**
	5.4nm,0.3s						
AAK				Sn	**Sn**	**13 48 10.7**	**+4.0**
	28nm,0.9s						
KBK	**Karagaybulak**	**4.39**	**37**	P	**Pn**	**13 47 22.5**	**+0.2**
	SNR=6.9						
CHMS	**Chumysh**	**4.58**	**33**	P	**Pn**	**13 47 24.9**	**+0.2**
	SNR=8.3						
USP	**Ospenovka**	**4.70**	**30**	P	**Pn**	**13 47 26.4**	**+0.1**
	SNR=9.3						
TKM2	**Tokmak 2**	**4.91**	**40**	P	**Pn**	**13 47 29.0**	**-0.4**
	SNR=6.7						
TKM2	**Tokmak 2**	**4.91**	**40**	⇓Pn	**Pn**	**13 47 28.9**	**-0.4**
	2.7nm,0.5s						
TKM2				⇑Lg	Lg	13 48 43.2	
	5.5nm,0.6s						
AB31	**Akbulak array**	**12.92**	**325**	⇑Pn	**Pn**	**13 49 16.2**	**-2.6**
	1.0nm,0.5s,baz=125,slow=14,SNR=31						
AB31				⇓Sn	**Sn**	**13 51 37.7**	**-3.5**
	2.1nm,0.7s,baz=135,slow=23,SNR=4.6						
AKTO	**Aktyubinsk**	**14.64**	**324**	⇑Pn	**P**	**13 49 47.9**	**+0.3**
	2.9nm,0.7s						
AKTO				⇑Sn	**Sn**	**13 52 20.5**	**-2.4**
	1.5nm,0.8s						

IDC 13 14:06:23.1±49.0,16.52S×175.22W,h0km,mb3.9/3,
mb1 4.0/3,mb1mx3.5/32,mbtmp3.9/3,Error ellipse:
s-maj=935.6km s-min=179.9km az=79.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.97**	**241**	P	P	14 14 16.4	+0.4
	0.8nm,0.6s,baz=73,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**47.89**	**258**	P	P	14 15 03.0	-0.4
	0.3nm,0.4s,baz=96,slow=7.1,SNR=6.9						
ASAR	**Alice Springs**	**48.11**	**253**	P	P	14 15 04.8	-0.3
	3.1nm,0.6s,baz=88,slow=8.5,SNR=47						

*IDC **13** 14:10:41.0±3.4,35.89N×70.79E,h0km,mb3.9/5,*
mb1 3.9/7,mb1mx3.5/46,mbtmp3.8/7,ML3.5/2,Error
ellipse: s-maj=71.7km s-min=27.2km az=138.0
*ISCJB **13** 14:10:51.9±0.5,36.11N±0.04×70.97E±0.07,h102km,*
mb3.8/4,Error ellipse: s-maj=9.5km s-min=3.4km
az=151.6
*NEIC **13** 14:10:55.4±1.0,36.27N×71.14E,h120km±10km,mb4.6/4,*
Error ellipse: s-maj=13.8km s-min=10.4km az=130.0
*NNC **13** 14:11:04.1±4.2,37.27N×70.85E,h0km,mb4.6,mpv4.3,*
Error ellipse: s-maj=34.6km s-min=23.4km az=167.0
ISC 13 14:10:53.1±0.7,36.17N±0.06×71.11E±0.08,h102km,n56,
σ1s82/61,mb3.9/4,8C-7D,Afghanistan-Tajikistan border
region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.35**	**227**	*e*Pn	Pn	14 11 35.7	+5.2
DZET	**Dzherino**	**3.19**	**326**	⇑Pn	**Pn**	**14 11 43.5**	**+1.9**
	37nm,0.1s						
DZET				⇑Lg	Lg	14 12 18.0	
	668nm,0.4s						
SFK	**Sufi-Kurgan**	**4.27**	**25**	⇓Pn	Pn	14 11 59.9	+3.7
	83nm,0.4s						
SFK				⇓Lg	Lg	14 12 46.5	
	25nm,0.2s						
DLH	**Dalhousie**	**5.41**	**131**	*e*P	Pn	14 12 16.0	+4.4
DLH				*e*S	**Sn**	**14 13 14.0**	**+1.3**
AML	**Almayashu**	**6.28**	**18**	P	**Pn**	**14 12 24.9**	**+1.4**
	SNR=101						
MNAS	**Manas**	**6.40**	**9**	⇓Pn	**Pn**	**14 12 26.3**	**+1.4**
	15nm,0.6s						
MNAS				⇓Sn	**Sn**	**14 13 33.7**	**-2.8**
	74nm,0.8s						
UCH	**Uchtor**	**6.60**	**23**	P	**Pn**	**14 12 29.6**	**+1.7**
	SNR=18						
KZA	**Kyzart**	**6.71**	**27**	P	**Pn**	**14 12 31.1**	**+1.7**
	SNR=17						
SDNR	**Sundarnagar**	**6.74**	**132**	*ex*	Pn	14 12 37.0	+7.4
SDNR				*e*S	**Sn**	**14 13 45.0**	**+0.1**
EKS2	**Erkin-Say**	**6.80**	**17**	P	**Pn**	**14 12 32.0**	**+1.7**
	SNR=19						
EKS2	**Erkin-Say**	**6.80**	**17**	*e*Pn	**Pn**	**14 12 31.1**	**+0.8**
	14nm,0.6s						
KK31	**Karatay Array**	**6.94**	**356**	⇓Pn	**Pn**	**14 12 33.1**	**+1.0**
	21nm,0.4s,baz=180,slow=12,SNR=120						
KK31				⇑Sn	**Sn**	**14 13 45.2**	**-4.3**
	24nm,0.6s,baz=187,slow=24,SNR=8.8						
KKAR	**Karatay Array**	**6.94**	**356**	*e*Pn	**Pn**	**14 12 32.8**	**+0.7**
	46nm,0.4s						
AAK	**Ala-Archa**	**6.96**	**21**	Pn	**Pn**	**14 12 35.1**	**+2.5**
	10nm,0.5s						
AAK				⇑Sn	**Sn**	**14 13 47.2**	**-3.1**
	51nm,0.9s						
KBK	**Karagaybulak**	**7.12**	**23**	P	**Pn**	**14 12 37.5**	**+2.7**
	SNR=6.9						
SMLA	**Simla**	**7.13**	**133**	*i* P	Pn	14 12 39.2	+4.5
SMLA				*i* S	**Sn**	**14 13 56.0**	**+1.8**
SMLA				*i* S	**Sn**	**14 13 56.5**	**+2.3**
SMLA				AML	AML	14 13 57.6	
	comp=N,1μm,0.2s						
SMLA				AML	AML	14 13 58.6	
	comp=E,2μm,0.3s						
ULHL	**Ulahol**	**7.25**	**32**	P	**Pn**	**14 12 38.1**	**+1.5**
	SNR=6.1						
CHMS	**Chumysh**	**7.37**	**21**	P	**Pn**	**14 12 40.0**	**+2.0**
	SNR=11						
USP	**Ospenovka**	**7.55**	**19**	P	**Pn**	**14 12 42.3**	**+1.9**
	SNR=18						
TKM2	**Tokmak 2**	**7.58**	**26**	P	**Pn**	**14 12 42.8**	**+1.8**
	SNR=16						
TKM2	**Tokmak 2**	**7.58**	**26**	⇑Pn	**Pn**	**14 12 42.7**	**+1.8**
	comp=E,7.7nm,0.5s						
TKM2				⇑Sn	**Sn**	**14 14 03.0**	**-2.2**
	comp=E,9.4nm,0.7s						
TKM2	**Tokmak 2**	**7.58**	**26**	*e*Pn	**Pn**	**14 12 42.1**	**+1.2**
	comp=E,11nm,0.5s						
KHET	**Khetri**	**9.00**	**152**	*e*S	**Sn**	**14 14 39.0**	**-0.9**
KHET				AML	AML	14 14 40.1	
	comp=N,156nm,0.2s						
KHET				AML	AML	14 14 41.3	
	comp=E,234nm,0.1s						
JOSI	**Joshimath**	**9.01**	**126**	*e*P	**Pn**	**14 13 02.5**	**+1.9**
JOSI				*e*S	**Sn**	**14 14 37.8**	**-2.7**
JOSI				AML	AML	14 14 40.2	
	comp=E,102nm,0.5s						
JOSI				AML	AML	14 14 42.6	
	comp=N,103nm,0.8s						
NDI	**New Delhi**	**9.07**	**144**	*e*S	**Sn**	**14 14 39.0**	**-2.6**
KUDL	**Kundal**	**9.21**	**149**	*e*S	**Sn**	**14 14 41.8**	**-3.1**
KALG	**Kalgarh**	**9.25**	**134**	*e*S	**Sn**	**14 14 42.8**	**-2.9**
SONA	**Sohna**	**9.38**	**146**	*e*P	**Pn**	**14 13 07.4**	**+2.0**
SONA				*e*S	**Sn**	**14 14 45.1**	**-3.8**
AGRA	**Agra**	**10.64**	**145**	*e*S	**Sn**	**14 15 15.5**	**-4.2**
AGRA				AML	AML	14 15 45.4	
	comp=E,66nm,0.1s						
AGRA				AML	AML	14 15 46.3	
	comp=N,70nm,0.5s						
KOLN	**Koldanda**	**13.50**	**125**	*e*P	**Pn**	**14 14 01.2**	**+0.5**
	comp=N,4.7nm,0.3s						
KOLN				*e*S	Sn	14 16 19.5	-10
MKAR	**Makanchi Array**	**13.51**	**35**	Pn	**Pn**	**14 14 00.9**	**+0.4**
	comp=N,0.1nm,0.3s,baz=220,slow=13,SNR=3.3						
GKN	**Gorkha**	**14.05**	**122**	*e*P	**Pn**	**14 14 08.8**	**+1.0**
	comp=N,18nm,0.5s						
DMN	**Daman**	**14.62**	**122**	*e*P	**Pn**	**14 14 16.5**	**+1.3**
KKN	**Kakani**	**14.63**	**121**	*e*P	**Pn**	**14 14 15.7**	**+0.4**
PKI	**Pulchoki**	**14.86**	**121**	*e*P	**Pn**	**14 14 19.3**	**+1.0**
	comp=N,5.6nm,0.2s						
GUN	**Gumba**	**14.98**	**119**	*e*P	**Pn**	**14 14 20.4**	**+0.6**
JIRN	**Jiri**	**15.35**	**119**	*e*P	**Pn**	**14 14 24.9**	**+0.4**
	comp=N,24nm,0.4s						
KURBB	**Kurchatov Arra**	**15.40**	**18**	Pn	**Pn**	**14 14 25.4**	**+0.8**
	comp=N,0.0nm,0.3s,baz=207,slow=11,SNR=5.8						
AB31	**Akbulak array**	**15.41**	**331**	⇑Pn	**Pn**	**14 14 24.6**	**-0.2**
	comp=N,1.5nm,0.4s,baz=141,slow=15,SNR=43						
AB31				⇓Sn	Sn	14 17 03.3	-12
	comp=N,2.8nm,0.6s,baz=173,slow=47,SNR=7.7						
ABKAR	**Akbulak array**	**15.41**	**331**	*e*P	**Pn**	**14 14 23.5**	**-1.3**
	comp=N,3.1nm,0.4s						
KURK	**Kurchatov**	**15.51**	**18**	Pn	**Pn**	**14 14 25.4**	**-0.6**
RAMN	**Ramite**	**16.07**	**121**	*e*P	**Pn**	**14 14 34.5**	**+1.1**
	comp=N,6.2nm,0.3s						
TAPN	**Taplejung**	**16.62**	**117**	*e*P	**Pn**	**14 14 41.1**	**+0.9**
	comp=N,23nm,0.6s						
ODAN	**Odare**	**16.68**	**119**	*e*P	**Pn**	**14 14 42.0**	**+1.1**
	comp=N,10nm,0.6s						
BVAR	**Borovoye Array**	**16.86**	**358**	P	**Pn**	**14 14 41.9**	**-0.7**
	comp=N,0.3nm,0.3s,baz=174,slow=14,SNR=8.6						
AKTO	**Aktyubinsk**	**17.11**	**330**	⇑Pn	**Pn**	**14 14 46.4**	**+0.6**
	comp=N,7.9nm,0.8s						
AKTO				⇓Sn	Sn	14 17 45.7	-10
	comp=N,8.9nm,1.0s						
AKTO	**Aktyubinsk**	**17.11**	**330**	P	**Pn**	**14 14 46.3**	**+0.6**
	comp=N,0.5nm,0.3s,baz=140,slow=7.6,SNR=28						
AKTO				S	Sn	14 17 43.9	-12
	comp=N,0.1nm,0.3s,baz=182,slow=23,SNR=2.0						
LSA	**Lhasa**	**18.00**	**105**	P	**P**	**14 14 55.6**	**-0.8**
ZAA0	**Zalesovo Array**	**20.18**	**24**	P	**P**	**14 15 21.0**	**+1.7**
ZALV	**Zalesovo Beam**	**20.18**	**24**	P	**P**	**14 15 20.1**	**+0.8**
	comp=N,1.5nm,0.4s,baz=221,slow=9.4,SNR=4.4						
TLY	**Talaya**	**27.80**	**46**	*e*P	**P**	**14 16 33.4**	**+1.0**
FINES	**FINESS Array B**	**37.80**	**326**	P	**P**	**14 17 59.8**	**+0.6**
	comp=N,0.9nm,0.4s,baz=120,slow=11,SNR=6.5						
ARCES	**ARCESS Array B**	**41.48**	**338**	P	**P**	**14 18 30.4**	**+0.8**
	comp=N,0.7nm,0.4s,baz=116,slow=8.6,SNR=9.7						
NB2	**NORSAR Subarra**	**44.69**	**323**	P	**P**	**14 18 55.3**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.69**	**323**	P	**P**	**14 18 55.9**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=96,slow=7.8,SNR=7.2						
TORD	**Torodi Ar. Bea**	**65.80**	**269**	P	**P**	**14 21 26.7**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=49,slow=5.6,SNR=7.7						

DJA 13 14:01:40.7±0.4,6°S±5°×10°5E±°,h76km±9km,M4.1/14,
mb4.7/1,MLv3.9/14,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.77**	**343**	P	Pn	14 01 58.4	+1.5
KASI				S	Sn	14 02 10.5	+1.6
CGJI	**Cibinong**	**1.02**	**109**	P	Pn	14 02 01.4	+1.6
KLI	**Kotabumi**	**1.40**	**6**	P	Sn	14 02 24.2	+1.5
LWLI	**Liwa**	**1.41**	**332**	P	Pn	14 02 06.0	+1.2
LWLI				S	Sn	14 02 24.6	+1.6
SBJI	**Serang**	**1.41**	**84**	P	Sn	14 02 29.0	+6.2
KLSI		**1.57**	**0**	P	Pn	14 02 07.4	+0.6
MDSI	**Maura Dua**	**1.85**	**343**	P	Pn	14 02 11.2	+0.6
MDSI				S	Sn	14 02 32.3	-0.9
CBJI	**Citeko**	**2.12**	**94**	P	Pn	14 02 18.7	+4.6
MNAI	**Manna**	**2.58**	**317**	P	Pn	14 02 21.2	+0.8
MNAI				S	Sn	14 02 50.7	-0.2
CNJI	**Cibinong**	**2.61**	**113**	P	Pn	14 02 21.2	+0.5
LEM	**Lembang**	**2.93**	**101**	P	Pn	14 02 26.2	+0.9
CISI	**Cisompet, Garu**	**3.33**	**113**	P	Pn	14 02 31.4	+0.8
CISI				S	Sn	14 03 07.5	-1.6
CMJI	**Cimerak**	**4.00**	**112**	P	Pn	14 02 40.1	+0.6
CMJI				S	Sn	14 03 22.0	-3.2
KPJI	**Karang Pucung**	**4.31**	**104**	P	Pn	14 02 45.6	+1.7
PPSI	**Pulau Pagai**	**5.85**	**306**	P	Pn	14 03 04.9	+0.1

GUC 13 14:17:08.2±0.5,37.12S×72.77W,h41km±2km,ML3.9,1D,
Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.39**	**315**	*e*P	Pn	14 17 17.5	-0.1
CCSP				*e*S	Sn	14 17 24.5	+0.4
CCSP				AML	AML	14 17 26.0	
	comp=N,16μm,0.2s						
LNCH	**Linares**	**1.58**	**37**	*e*P	Pn	14 17 34.5	+0.8
LNCH				*e*S	Sn	14 17 55.0	+2.0
TALC	**Talca**	**1.95**	**28**	⇓*e*P	Pn	14 17 39.5	+0.7
TALC				*e*S	Sn	14 18 03.0	+0.9
NICH	**Los Niches**	**2.46**	**31**	*e*P	Pn	14 17 46.8	+1.0
NICH				*e*S	Sn	14 18 15.3	+0.7
LNV	**Longovilo**	**3.35**	**20**	*e*P	Pn	14 17 57.6	-0.4
CHCH	**Chadas Angostu**	**3.62**	**29**	*e*P	Pn	14 18 02.2	+0.3
RCDM	**Rinconada Maip**	**3.96**	**24**	*e*P	Pn	14 18 06.1	-0.4
PLCA	**Paso Flores**	**4.00**	**155**	*e*P	Pn	14 18 08.1	+1.0
CLCH	**Cerro Calan**	**4.14**	**27**	*e*P	Pn	14 18 09.0	0.0
PEL	**Peldehue**	**4.32**	**24**	*e*P	Pn	14 18 11.3	-0.1
ROCH	**El Roble**	**4.38**	**20**	*e*P	Pn	14 18 11.3	-1.3

*ISCJB **13** 14:23:00.7±0.5,0.12S±0.05×123.29E±0.05,h100km,*
mb3.6/8,Error ellipse: s-maj=7.7km s-min=6.2km az=40.6
*IDC **13** 14:23:01.9±4.2,0.14S×123.24E,h96km±41km,mb3.3/8,*
mb1 3.5/9,mb1mx3.3/42,mbtmp3.7/9,Error ellipse:
s-maj=33.5km s-min=16.2km az=63.0
*DJA **13** 14:23:02.9±0.3,0.3S±3°×12.3E±°,h62km±8km,M4.2/17,*
mb4.4/7,mB4.7/3,MLv4.2/10,MLv4.2/17,Mw(mB)3.9/3
ISC 13 14:23:02.0±0.7,0.12S±0.06×123.30E±0.05,h100km,n23,
σ1s11/27,mb3.6/8,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.97**	**45**	P	**Pn**	**14 23 21.4**	**-0.6**
LUWI	**Luwuk**	**1.06**	**210**	P	**Pn**	**14 23 21.4**	**-1.7**
LUWI				S	**Sn**	**14 23 37.7**	**-1.2**
MRSI	**Marisa**	**1.48**	**293**	P	**Pn**	**14 23 25.7**	**-2.3**
APSI	**Ampana**	**1.83**	**244**	P	**Pn**	**14 23 31.9**	**-0.5**
APSI				S	**Sn**	**14 23 54.2**	**-1.4**
SANI	**Sanana**	**3.30**	**126**	P	**Pn**	**14 23 49.7**	**-2.1**
MPSI	**Mapaga**	**3.43**	**278**	P	**Pn**	**14 23 54.5**	**+1.0**
PCI	**Palu**	**3.55**	**257**	P	**Pn**	**14 23 55.6**	**+0.5**
KDI	**Kendari**	**3.88**	**190**	P	**Pn**	**14 23 59.5**	**0.0**
TTSI	**Tana Toraja**	**4.54**	**230**	P	**Pn**	**14 24 08.5**	**+0.1**
NLAI	**Namlea**	**4.90**	**129**	P	**Pn**	**14 24 14.4**	**+1.0**
SPSI	**Sidrap Palu**	**5.20**	**223**	P	**Pn**	**14 24 17.7**	**+0.2**
	50nm,0.6s,946nm0.2nm0.2nm						
KAPI	**Kappang**	**6.02**	**216**	P	**Pn**	**14 24 28.4**	**-0.1**
	13nm,0.3s,baz=44,slow=3.8,SNR=62						
KAPI				S	**Sn**	**14 25 34.2**	**-2.0**
	2.7nm,0.3s,baz=62,slow=20,SNR=2.0						
BKSI	**Bulukumba**	**6.07**	**212**	P	**Pn**	**14 24 29.3**	**+0.1**
	17nm,0.9s,0.1nm						
BSSI	**Bau Bau, Buton**	**6.61**	**205**	P	**Pn**	**14 24 37.3**	**+0.7**
	101nm,0.6s,0.4nm						
WRA	**Warramunga Arr**	**22.47**	**152**	P	**P**	**14 27 53.3**	**+0.1**
	2.9nm,0.5s,baz=334,slow=10.0,SNR=38						
ASAR	**Alice Springs**	**25.57**	**157**	P	**P**	**14 28 23.1**	**+1.3**
	0.6nm,0.5s,baz=339,slow=13,SNR=14						
STKA	**Stephens Creek**	**36.02**	**153**	P	**P**	**14 29 54.0**	**+0.4**
	1.2nm,1.0s,baz=321,slow=5.6,SNR=3.0						
MJAR	**Matsushiro Arr**	**39.01**	**19**	P	**P**	**14 30 18.3**	**-0.6**
	0.8nm,0.6s,baz=197,slow=10,SNR=4.4						
SONM	**Songino Array**	**49.98**	**345**	P	**P**	**14 31 47.4**	**+1.3**
	0.3nm,0.5s,baz=157,slow=9.2,SNR=4.1						
MKAR	**Makanchi Array**	**58.87**	**328**	P	**P**	**14 32 51.3**	**+0.9**
	0.4nm,0.5s,baz=122,slow=9.2,SNR=5.1						
MKAR				PcP	**PcP**	**14 33 37.7**	**-1.0**
	0.2nm,0.5s,baz=134,slow=3.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**62.54**	**336**	P	**P**	**14 33 15.4**	**+0.3**
	0.3nm,0.4s,baz=96,slow=7.4,SNR=1.8						
KURBB	**Kurchatov Arra**	**63.22**	**330**	P	**P**	**14 33 20.2**	**+0.6**
	0.2nm,0.4s,baz=124,slow=6.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**120.73**	**285**	PKP	**PKPdf**	**14 41 43.1**	**-0.3**
	0.2nm,0.4s,baz=100,slow=1.4,SNR=5.5						

*MDD **13** 14:26:55.5±4.5,35.76N×1.91E,h22km±12km,mb3.6/8,*
Error ellipse: s-maj=45.5km s-min=16.3km az=146.0,
PRXIMO SIN SOLUCIN
*CSEM **13** 14:26:58.4±1

24C-18D,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**1.07**	**266**	*e*PG	**Pg**	**14 32 12.6**	**-0.3**
LGTI				*e*SG	**Sg**	**14 32 30.2**	**+3.3**
PTH	**Pithoragarh**	**1.09**	**271**	*e*PG	Pb	14 32 08.9	-3.6
PTH				*e*SG	**Sb**	**14 32 23.5**	**-2.9**
KOLN	**Koldanda**	**2.57**	**133**	*e*Pn	**Pb**	**14 32 36.0**	**-1.7**
KOLN				*e*Sn	**Sn**	**14 33 05.0**	**+1.2**
	1μm,0.2s						
DDI	**Dehra Dun**	**3.06**	**286**	*e*P	**Pn**	**14 32 41.0**	**+1.4**
DDI				*e*P	Pb	14 32 42.4	-3.7
DDI				*e*S	**Sn**	**14 33 17.6**	**+1.8**
DDI				AML	AML	14 33 32.0	
	comp=N,3μm,0.7s						
DDI				AML	AML	14 33 32.2	
	comp=E,2μm,0.4s						
GKN	**Gorkha**	**3.17**	**118**	*e*Pn	**Pn**	**14 32 44.0**	**+2.8**
DMN	**Daman**	**3.73**	**120**	*e*Pn	**Pn**	**14 32 51.5**	**+2.6**
DMN				*e*Sn	**Sn**	**14 33 32.3**	**-0.2**
	comp=E,897nm,0.3s						
KKN	**Kakani**	**3.77**	**117**	*e*Pn	**Pn**	**14 32 52.0**	**+2.5**
NDI	**New Delhi**	**3.82**	**258**	*e*P	**Pn**	**14 32 52.0**	**+2.1**
NDI				*e*S	**Sn**	**14 33 32.5**	**-1.8**
PKI	**Pulchoki**	**3.98**	**119**	*e*Pn	**Pn**	**14 32 54.7**	**+2.3**
SMLA	**Simla**	**4.04**	**294**	*i* P	**Pn**	**14 32 55.0**	**+2.1**
SMLA				*i* S	**Sn**	**14 33 40.6**	**+0.9**
SMLA				AML	AML	14 34 01.6	
	comp=N,729nm,0.6s						
SMLA				AML	AML	14 34 07.2	
	comp=E,821nm,0.5s						
GUN	**Gumba**	**4.20**	**112**	*e*Pn	**Pn**	**14 32 57.8**	**+2.4**
GUN				*e*Sn	**Sn**	**14 33 42.1**	**-2.1**
	comp=E,960nm,0.2s						
SDNR	**Sundarnagar**	**4.35**	**298**	*e*P	Pn	14 33 01.0	+3.8
SDNR				*ex*	Sg	14 34 16.0	+4.3
JIRN	**Jiri**	**4.55**	**113**	*e*Pn	**Pn**	**14 33 02.7**	**+2.4**
JIRN				*e*Sn	**Sn**	**14 33 51.1**	**-1.9**
	comp=E,1μm,0.2s						
BHK	**Bhakra**	**4.75**	**294**	*e*P	Pn	14 33 06.0	+3.3
BHK				*ex*	**Sn**	**14 34 01.8**	**+4.6**
DHRM	**DHARAMSHALA**	**5.20**	**303**	*e*P	**Pn**	**14 33 10.8**	**+1.7**
DHRM				*e*S	**Sn**	**14 34 07.2**	**-1.5**
DHRM				AML	AML	14 34 46.7	
	comp=N,395nm,0.6s						
DHRM				AML	AML	14 34 48.9	
	comp=E,759nm,1.1s						
RAMN	**Ramite**	**5.21**	**118**	*e*Pn	**Pn**	**14 33 11.0**	**+1.8**
RAMN				*e*Sn	**Sn**	**14 34 06.4**	**-2.6**
	comp=E,2μm,0.2s						
DLH	**Dalhousie**	**5.59**	**304**	*e*P	**Pn**	**14 33 16.0**	**+1.6**
DLH				*e*S	**Sn**	**14 34 19.0**	**+0.7**
ODAN	**Odare**	**5.87**	**116**	*e*Pn	**Pn**	**14 33 20.5**	**+2.2**
ODAN				*e*Sn	**Sn**	**14 34 23.0**	**-2.2**
	comp=E,1μm,0.3s						
TAPN	**Taplejung**	**5.91**	**110**	*e*Pn	**Pn**	**14 33 21.3**	**+2.4**
TAPN				*e*Sn	**Sn**	**14 34 23.9**	**-2.4**
	comp=E,594nm,0.3s						
BOK	**Bokaro**	**6.95**	**144**	*e*P	**Pn**	**14 33 32.3**	**-0.7**
BOK				*e*S	**Sn**	**14 34 45.8**	**-5.7**
BOK				AML	AML	14 35 30.5	
	comp=N,189nm,0.7s						
BOK				AML	AML	14 35 33.3	
	comp=E,319nm,0.4s						
SARP	**Sargodha**	**7.94**	**290**	P	**Pn**	**14 33 45.8**	**-0.6**
CHCP	**Chirah Chowk**	**8.11**	**302**	P	**Pn**	**14 33 49.5**	**+0.6**
LSA	**Lhasa**	**8.43**	**87**	*e*Pn	**Pn**	**14 33 55.9**	**+2.3**
	comp=E,43nm,0.5s						
NGP	**Nagpur**	**8.63**	**195**	*e*P	**Pn**	**14 33 54.5**	**-1.6**
NGP				*e*S	Sn	14 35 23.1	-10
CEP	**Cherat**	**9.20**	**300**	P	**Pn**	**14 34 03.5**	**-0.4**
CEP				S	**Sn**	**14 35 44.0**	**-2.9**
SHL	**Shillong**	**10.05**	**111**	*e*P	**Pn**	**14 34 15.5**	**-0.2**
SHL				*e*S	Sn	14 36 00.5	-7.5
RPR	**Rampur**	**10.82**	**191**	*e*Pn	**Pn**	**14 34 24.6**	**-1.4**
RPR				Sn	Sn	14 36 17.6	-9.0
RPR				IVMsBB		14 38 42.6	
	comp=Z,605nm,7.5s						
KSH	**Kashi**	**10.93**	**337**	P	Pn	14 34 24.3	-3.3
SRSP	**Sriramsagar**	**10.94**	**196**	*e*Pn	**Pn**	**14 34 24.8**	**-3.0**
SRSP				Sn	Sn	14 36 21.5	-8.2
SRSP				IVMsBB		14 38 45.6	
	comp=Z,596nm,5.5s						
CHLP	**Challavanipeta**	**11.23**	**167**	*e*Pn	**Pn**	**14 34 30.3**	**-1.4**
CHLP				Sn	**Sn**	**14 36 31.6**	**-5.2**
CHLP				IVMsBB		14 39 01.2	
	comp=Z,395nm,6.3s						
KBL	**Kabul**	**11.66**	**298**	*e*Pn	**Pn**	**14 34 37.0**	**-0.7**
	comp=E,14nm,0.5s						
VIS	**Vishakhapatnam**	**11.89**	**171**	*i* P	**Pn**	**14 34 38.8**	**-1.8**
VIS				*i* x	x	14 36 35.8	
LATR	**Latur**	**11.95**	**203**	*e*P	Pn	14 34 38.0	-3.4
LATR				*e*S	Sn	14 36 41.0	-13
IMP	**Imphal**	**12.06**	**110**	*e*P	**Pn**	**14 34 42.0**	**-1.1**
IMP				*ex*	x	14 36 42.0	
PVM	**Polavaram**	**12.23**	**179**	*e*Pn	Pn	14 34 42.0	-3.4
PVM				Sn	Sn	14 36 53.1	-8.2
PVM				IVMs_BB	IVMs_BB	14 39 32.6	
	comp=Z,653nm,12.0s						
KLRI	**Killari**	**12.26**	**202**	*e*Pn	Pn	14 34 42.4	-3.3
KLRI				Sn	Sn	14 36 50.6	-11
SFK	**Sufi-Kurgan**	**12.32**	**330**	P	**Pn**	**14 34 45.9**	**-0.8**
SFK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
HYBB	**Hyderabad (bro**	**12.36**	**193**	*e*P	**Pn**	**14 34 44.1**	**-3.0**
HYBB				Sn	Sn	14 36 52.6	-12
HYBB				IVMs_BB	IVMs_BB	14 39 42.8	
	comp=Z,630nm,10.4s						
HYB	**Hyderabad**	**12.36**	**193**	*i* P	**Pn**	**14 34 47.0**	**-0.1**
HYB				*e*S	**Sn**	**14 37 06.0**	**+1.6**
POO	**Poona**	**12.98**	**214**	⇓*i* PS	Pn	14 34 52.0	-3.6
NJS	**Nagarjunasagar**	**13.08**	**189**	*e*Pn	Pn	14 34 53.0	-4.0
NJS				Sn	Sn	14 37 09.8	-12
NJS				IVMs_BB	IVMs_BB	14 40 24.2	
	comp=Z,651nm,4.4s						
SRLM	**Srisailam**	**13.59**	**191**	*e*Pn	Pn	14 34 59.9	-4.0
SRLM				Sn	Sn	14 37 22.4	-12
SRLM				IVMs_BB	IVMs_BB	14 39 57.3	
	comp=Z,707nm,4.1s						
ADKI	**Addanki**	**13.70**	**186**	*e*Pn	Pn	14 35 01.9	-3.5
ADKI				Sn	Sn	14 37 24.6	-13
PDGK	**Podgornoye**	**13.85**	**354**	P	**Pn**	**14 35 04.8**	**-2.5**
PDGK				pmax	pmax		
	comp=Z,11nm,0.5s						
DZET	**Dzherino**	**13.95**	**315**	P	Pn	14 35 04.7	-4.1
DZET				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TKM2	**Tokmak 2**	**14.16**	**342**	P	**P**	**14 35 18.2**	**-1.1**
TKM2				pmax	pmax		
	comp=Z,13nm,0.8s						
TKM2	**Tokmak 2**	**14.16**	**342**	*e*Pn	**Pn**	**14 35 10.9**	**-1.0**
	comp=Z,9.6nm,0.7s						
RCLA	**Racherla**	**14.21**	**190**	*e*Pn	Pn	14 35 07.4	-5.0
RCLA				Sn	Sn	14 37 36.4	-13
RCLA				IVMs_BB	IVMs_BB	14 41 27.2	
	comp=Z,1μm,3.9s						
AAK	**Ala-Archa**	**14.22**	**339**	P	**P**	**14 35 18.0**	**-1.9**
AAK				pmax	pmax		
	comp=Z,21nm,1.0s						
FRU	**Bishkek**	**14.37**	**339**	*e*P	**P**	**14 35 22.0**	**+0.7**
FRU				*e*		14 38 03.0	
EKS2	**Erkin-Say**	**14.48**	**337**	*e*Pn	**Pn**	**14 35 15.6**	**-0.6**
	comp=Z,23nm,0.8s						
MNAS	**Manas**	**14.80**	**333**	P	**Pn**	**14 35 18.1**	**-2.4**
MNAS				pmax	pmax		
	comp=Z,5.0nm,0.5s						
URV	**Uravakonda**	**15.03**	**196**	*e*Pn	Pn	14 35 18.2	-5.5
URV				Sn	Sn	14 37 55.8	-14
URV				IVMs_BB	IVMs_BB	14 41 11.2	
	comp=Z,822nm,4.5s						
WMQ	**Urumqi**	**15.10**	**18**	P	**Pn**	**14 35 24.8**	**+0.4**
WMQ				pP	**P**	**14 35 29.3**	**-0.2**
WMQ				sP	**sP**	**14 35 33.1**	**-4.2**
WMQ				PP	**pP**	**14 35 36.5**	**+1.7**
WMQ				S	**Sn**	**14 38 11.3**	**+0.3**
WMQ				PcP	**PcP**	**14 40 36.0**	**+4.6**
WMQ				PMZ			
	comp=Z,3.0nm,0.3s						
WMQ				PMZ			
	comp=Z,21nm,4.0s						
WMQ				LN			
	comp=Z,430nm,15.0s						
WMQ				LE			
	comp=Z,68nm,9.2s						
WMQ				LZ			
	comp=Z,200nm,21.0s						
SKHT	**Srikalahasti**	**15.81**	**186**	*e*Pn	**Pn**	**14 35 29.9**	**-3.8**
SKHT				Sn	Sn	14 38 18.3	-10
SKHT				IVMs_BB	IVMs_BB	14 41 45.9	
	comp=Z,791nm,4.4s						
KK31	**Karatay Array**	**16.14**	**330**	*i* P	**Pn**	**14 35 34.1**	**-3.8**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KKAR	**Karatay Array**	**16.14**	**330**	*e*Pn	**Pn**	**14 35 34.2**	**-3.7**
	comp=Z,3.5nm,0.4s						
MKAR	**Makanchi Array**	**17.24**	**2**	Pn	**Pn**	**14 35 49.3**	**-2.5**
	comp=Z,1.0nm,0.3s,baz=181,slow=12,SNR=42						
MKAR				LR	LR	14 43 39.1	
	comp=Z,214nm,19.6s,baz=182,slow=41						
MKAR	**Makanchi Array**	**17.24**	**2**	P	**Pn**	**14 35 49.3**	**-2.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,214nm,19.6s						
MK31	**Makanchi Array**	**17.24**	**2**	P	**Pn**	**14 35 48.9**	**-2.8**
MK31				pmax	pmax		
	comp=Z,26nm,1.0s						
MK31	**Makanchi Array**	**17.24**	**2**	*e*Pn	**Pn**	**14 35 49.2**	**-2.6**
GTA	**Gaotai**	**18.02**	**52**	*e*P	**Pn**	**14 35 59.8**	**-1.8**
GTA				pP	**P**	**14 36 04.6**	**+2.6**
GTA				sP	**sP**	**14 36 08.4**	**-1.4**
GTA				S	**Sn**	**14 39 17.5**	**-4.6**
GTA				sS	**S**	**14 39 25.3**	**-2.7**
GTA				SS	**SnSn**	**14 39 40.0**	**+4.2**
GTA				PMZ			
	comp=Z,6.0nm,1.3s						
GTA				PMZ			
	comp=Z,170nm,4.1s						
GTA				LN			
	comp=Z,220nm,12.0s						
GTA				LE			
	comp=Z,160nm,11.1s						
GTA				LZ			
	comp=Z,180nm,13.8s						
CHTO	**Chiang Mai**	**19.16**	**120**	P	Pn	14 36 23.2	+7.7
	comp=Z,50nm,1.1s						
CHTO	**Chiang Mai**	**19.16**	**120**	*e*P	**Pn**	**14 36 15.8**	**+0.3**
	comp=Z,13nm,1.1s						
CMMT	**Chiang Mai**	**19.17**	**120**	P	Pn	14 36 23.1	+7.6
	comp=Z,19nm,1.0s						
CD2	**Chengdu**	**19.31**	**80**	*e*P	**P**	**14 36 15.8**	**-0.3**
CD2				pP	**pP**	**14 36 21.9**	**+0.4**
CD2				sP	**sP**	**14 36 24.9**	**+1.0**
CD2				S	**Sn**	**14 39 52.0**	**-1.3**
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,180nm,5.0s						
CM31	**Chiang Mai Arr**	**19.38**	**121**	*e*P	**P**	**14 36 16.8**	**-0.1**
	comp=Z,3.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**19.38**	**121**	P	**P**	**14 36 16.9**	**0.0**
	comp=Z,0.5nm,0.3s,baz=307,slow=12,SNR=22						
CMAR	**Chiang Mai Arr**	**19.38**	**121**	P	**P**	**14 36 16.9**	**0.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KMI	**Kunming**	**19.40**	**98**	P	**Pn**	**14 36 19.8**	**+1.3**
KMI				pP	**pP**	**14 36 25.6**	**+2.9**
KMI				PMZ			
	comp=Z,13nm,0.8s						
LZH	**Lanzhou**	**19.89**	**65**	*e*P	**Pn**	**14 36 25.5**	**+1.3**
LZH				pP	**pP**	**14 36 31.3**	**+3.4**
LZH				sP	**sP**	**14 36 34.4**	**+4.1**
LZH				S	**S**	**14 39 59.6**	**-6.1**
LZH				sS	**Sn**	**14 40 10.3**	**+3.0**
LZH				PMZ			
	comp=Z,19nm,1.0s						
LZH				PMZ			
	comp=Z,150nm,6.3s						
LZH				LN			
	comp=Z,320nm,15.2s						
LZH				LE			
	comp=Z,390nm,14.9s						
LZH				LZ			
	comp=Z,330nm,15.5s						
KURBB	**Kurchatov Arra**	**21.18**	**355**	P	**P**	**14 36 35.3**	**-0.9**
	comp=Z,6.2nm,0.5s,baz=180,slow=10,SNR=199						
KURK	**Kurchatov**	**21.26**	**355**	P	**P**	**14 36 36.1**	**-1.0**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KURK	**Kurchatov**	**21.26**	**355**	*e*P	**P**	**14 36 35.9**	**-1.1**
UTHA	**Uthaitani**	**21.62**	**126**	P	P	14 36 48.7	+7.5
	comp=Z,10nm,0.9s,comp=Z,86nm						
LOEI	**Loei**	**21.70**	**119**	P	P	14 36 50.2	+8.1
	comp=Z,19nm,1.6s						
PBKT	**Sadao Pong**	**22.06**	**122**	P	**P**	**14 36 49.3**	**+3.4**
	comp=Z,22nm,1.0s						
PALK	**Pallekele**	**22.16**	**182**	P	**P**	**14 36 47.2**	**+0.1**
	comp=Z,11nm,0.9s,baz=27,slow=7.0,SNR=4.1						
PALK	**Pallekele**	**22.16**	**182**	P	**P**	**14 36 47.2**	**+0.1**
PALK				pmax	pmax		
	comp=Z,11nm,0.7s						
GYA	**Guiyang**	**22.45**	**92**	⇑*i* P	**P**	**14 36 49.8**	**-0.4**
GYA				pP	**pP**	**14 36 58.0**	**+2.4**
GYA				PP	**PnPn**	**14 37 19.8**	**+6.5**
GYA				S	**S**	**14 40 51.4**	**-4.5**
GYA				sS	**sS**	**14 41 01.6**	**-3.3**
GYA				SS	**SnSn**	**14 41 33.0**	**+8.5**
GYA				PMZ			
	comp=Z,20nm,1.0s						
GYA				PMZ			
	comp=Z,110nm,4.0s						
GYA				LN			
	comp=Z,470nm,14.5s						
GYA				LE			
	comp=Z,360nm,15.0s						
GYA				LZ			
	comp=Z,490nm,14.6s						
CHAI	**Chaiyaphum**	**23.24**	**121**	P	**P**	**14 37 00.4**	**+2.1**
	comp=Z,9.7nm,0.8s,comp=Z,81nm						
HVS	**Khovu-Aksy**	**23.44**	**20**	*i* P	**P**	**14 37 01.1**	**+0.9**
XAN	**Xi'an**	**23.73**	**72**	P	**P**	**14 37 02.4**	**-0.7**
XAN				PMZ			
	comp=Z,1.0nm,0.6s						
XAN				PMZ			
	comp=Z,9.0nm,3.9s						
ENH	**Enshi**	**24.28**	**81**	*e*P	**P**	**14 37 08.2**	**0.0**
	comp=Z,9.0nm,0.5s						
ZAA0	**Zalesovo Array**	**24.51**	**5**	*e*P	**P**	**14 37 09.6**	**-0.5**
ZALV	**Zalesovo Beam**	**24.51**	**5**	P	**P**	**14 37 09.8**	**-0.3**
	comp=Z,21nm,0.5s,baz=194,slow=10,SNR=163						
ZALV				LR	LR	14 48 13.1	
	comp=Z,165nm,18.6s,baz=248,slow=40						
ZALV	**Zalesovo Beam**	**24.51**	**5**	P	**P**	**14 37 09.8**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,21nm,0.5s						
ZALV				MLR	MLR		
	comp=Z,165nm,18.6s						
BVA0	**Borovoye Array**	**24.84**	**344**	*i* P	**P**	**14 37 12.7**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,12nm,0.8s						
BVAR	**Borovoye Array**	**24.84**	**344**	P	**P**	**14 37 12.9**	**-0.2**
	comp=Z,6.6nm,0.6s,baz=158,slow=12,SNR=30						
BVAR				LR	LR	14 47 46.4	
	comp=Z,215nm,19.4s,baz=85,slow=38						
BVAR	**Borovoye Array**	**24.84**	**344**	P	**P**	**14 37 12.9**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BVAR				MLR	MLR		
	comp=Z,215nm,19.4s						
BRVK	**Borovoye**	**24.89**	**344**	*c i* P	**P**	**14 37 14.1**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK	**Borovoye**	**24.89**	**344**	*e*P	**P**	**14 37 13.2**	**-0.3**
	comp=Z,5.7nm,0.6s						
NVS	**Novosibirsk**	**25.32**	**2**	*e*P	**P**	**14 37 15.9**	**-1.5**
NVS				*e*		14 37 27.7	
NVS				pmax	pmax		
	comp=Z,17nm,1.2s						
NVS				pmax	pmax		
	comp=N,18nm,1.5s						
AB31	**Akbulak array**	**25.62**	**326**	*i* P	**P**	**14 37 21.0**	**+0.8**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ABKAR	**Akbulak array**	**25.62**	**326**	*e*P	**P**	**14 37 21.0**	**+0.8**
	comp=Z,15nm,0.8s						
SONM	**Songino Array**	**26.50**	**40**	P	**P**	**14 37 29.9**	**+1.5**
	comp=Z,7.8nm,0.9s,baz=230,slow=8.9,SNR=49						
SONM	**Songino Array**	**26.50**	**40**	P	**P**	**14 37 29.9**	**+1.5**
SONM				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZAK	**Zakamensk**	**26.52**	**32**	*e*P	**P**	**14 37 28.1**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**26.93**	**57**	*e*P	**P**	**14 37 34.3**	**+2.0**
HHC				PP	**PnPn**	**14 38 19.3**	**+4.8**
HHC				S	**S**	**14 42 07.0**	**-1.5**
HHC				sS	**sS**	**14 42 17.1**	**-0.9**
HHC				SS	**SnSn**	**14 43 20.8**	**+6.8**
HHC				PMZ			
	comp=Z,18nm,0.8s						
HHC				PMZ			
	comp=Z,54nm,4.5s						
HHC				LN			
	comp=Z,120nm,10.9s						
HHC				LE			
	comp=Z,100nm,11.3s						
HHC				LZ			
	comp=Z,120nm,10.8s						
AKTO	**Aktyubinsk**	**27.33**	**326**	P	**P**	**14 37 35.6**	**-0.1**
	comp=Z,3.7nm,0.6s,baz=118,slow=8.4,SNR=19						
AKTO				LR	LR	14 49 28.7	
	comp=Z,185nm,20.5s,baz=140,slow=39						
AKTO	**Aktyubinsk**	**27.33**	**326**	P	**P**	**14 37 35.4**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TRTT	**Trang**	**27.56**	**138**	P	**P**	**14 37 41.0**	**+3.0**
	comp=Z,13nm,1.0s						
TLY	**Talaya**	**27.59**	**30**	LR	LR	14 49 32.7	
	comp=Z,147nm,18.7s,baz=219,slow=38						
BJI	**Beijing**	**30.20**	**60**	P	**P**	**14 38 03.0**	**+1.8**
BJI				PMZ			
	comp=Z,34nm,0.5s						
BJI				LN			
	comp=Z,140nm,15.1s						
BJI				LE			
	comp=Z,96nm,15.9s						
BJI				LZ			
	comp=Z,110nm,19.8s						
SVE	**Sverdlovsk**	**30.96**	**338**	*e*P	**P**	**14 38 08.1**	**+0.3**
ARU	**Arti**	**31.37**	**335**	*c i*P	**P**	**14 38 11.6**	**+0.2**
ARU						14 39 09.5	
ARU				S	**S**	**14 43 19.7**	**+2.0**
ARU				SS	**SnSn**	**14 45 01.4**	**-0.3**
ARU				pmax	pmax		
	comp=Z,11nm,1.0s						
ARU	**Arti**	**31.37**	**335**	*e*P	**P**	**14 38 11.7**	**+0.2**
	comp=Z,7.9nm,0.8s						
GSI	**Gunungsitoli**	**32.00**	**148**	*e*P	**P**	**14 38 18.7**	**+1.4**
	comp=Z,14nm,0.4s						
NJ2	**Nanjing**	**32.11**	**76**	*e*P	**P**	**14 38 19.6**	**+1.4**
NJ2				PMZ			
	comp=Z,20nm,0.8s						
BOD	**Bodaibo**	**36.14**	**29**	*e*P	**P**	**14 38 52.8**	**-0.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KSAR	**Wonju Array Be**	**39.18**	**66**	P	**P**	**14 39 18.2**	**-0.6**
KSRS	**Korea Array**	**39.21**	**66**	P	**P**	**14 39 18.2**	**-0.8**
	comp=Z,4.4nm,0.7s,baz=276,slow=9.0,SNR=31						
KSRS				LR	LR	14 56 59.7	
	comp=Z,66nm,19.6s,baz=289,slow=38						
KSRS	**Korea Array**	**39.21**	**66**	P	**P**	**14 39 18.3**	**-0.8**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSRS				MLR	MLR		
	comp=Z,66nm,19.6s						
PRGR	**Permogore**	**39.80**	**334**	*e*P	**P**	**14 39 22.6**	**-1.0**
PRGR				pmax	pmax		
	comp=Z,13nm,0.6s						
BRTR	**Keskin Array B**	**40.23**	**298**	P	**P**	**14 39 26.7**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=110,slow=9.6,SNR=6.0						
BRTR	**Keskin Array B**	**40.23**	**298**	P	**P**	**14 39 26.7**	**-1.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MDJ	**Mudanjiang**	**40.64**	**55**	P	**P**	**14 39 30.9**	**0.0**
MDJ				PMZ			
	comp=Z,7.0nm,0.7s						
MDJ				PMZ			
	comp=Z,38nm,3.9s						
OBN	**Obninsk**	**40.88**	**322**	*i* P	**P**	**14 39 32.3**	**-0.3**
OBN				pmax	pmax		
	comp=Z,14nm,0.5s						
OBN				MLR	MLR		
	comp=Z,84nm,17.0s						
USRK	**Ussuriysk Ar.**	**42.33**	**56**	P	**P**	**14 39 45.3**	**+0.6**
	comp=Z,3.6nm,0.6s,baz=266,slow=8.6,SNR=9.3						
USRK				LR	LR	14 59 43.3	
	comp=Z,52nm,21.0s,baz=281,slow=40						
TLCR				**43.89 306**	⇑P	**P**	**14 39 57.6**	**+0.3**
TLCR				**43.89 306**	⇑*i* P	**P**	**14 39 57.6**	**+0.3**
AKASG	**Malin Array Be**	**44.12**	**314**	P	**P**	**14 39 58.6**	**-0.5**
	comp=Z,2.4nm,0.6s,baz=80,slow=7.3,SNR=12						
AKASG				LR	LR	15 01 39.7	
	comp=Z,43nm,20.1s,baz=75,slow=41						
AKASG	**Malin Array Be**	**44.12**	**314**	P	**P**	**14 39 58.6**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG				MLR	MLR		
	comp=Z,43nm,20.1s						
AKBB	**Malin Array Si**	**44.12**	**314**	*e*P	**P**	**14 39 58.3**	**-0.8**
AK01	**Malin Array Si**	**44.13**	**314**	*e*P	**P**	**14 39 58.8**	**-0.4**
AK02	**Malin Array Si**	**44.13**	**314**	*e*P	**P**	**14 39 58.5**	**-0.7**
KIEV	**Kiev**	**44.13**	**314**	*e*P	**P**	**14 39 58.2**	**-1.0**
	comp=Z,5.1nm,0.8s						
PSN	**Preselentsi**	**44.31**	**304**	⇓P	**P**	**14 40 01.9**	**+1.1**
PSN	**Preselentsi**	**44.31**	**304**	⇓*i* P	**P**	**14 40 01.9**	**+1.1**
CFR	**Carcaliu**	**44.37**	**306**	⇓P	**P**	**14 40 01.6**	**+0.4**
CFR	**Carcaliu**	**44.37**	**306**	⇓*i* P	**P**	**14 40 01.6**	**+0.4**
TLB	**Topalu**	**44.42**	**305**	⇑P	**P**	**14 40 02.4**	**+0.8**
TLB	**Topalu**	**44.42**	**305**	⇑*i* P	**P**	**14 40 02.4**	**+0.8**
MSAB	**Monastry St. A**	**44.57**	**304**	⇑*i* P	**P**	**14 40 04.2**	**+1.4**
YAK	**Yakutsk**	**45.06**	**30**	*i* P	**P**	**14 40 06.4**	**0.0**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
VRI	**Vrincioaia**	**45.38**	**307**	⇓P	**P**	**14 40 10.2**	**+0.9**
VRI	**Vrincioaia**	**45.38**	**307**	⇓*i* P	**P**	**14 40 10.2**	**+0.9**
PLOR	**Plostina**	**45.43**	**307**	⇓P	**P**	**14 40 11.2**	**+1.5**
PLOR	**Plostina**	**45.43**	**307**	⇓*i* P	**P**	**14 40 11.2**	**+1.5**
TESR	**Tescani**	**45.45**	**308**	⇓*i* P	**P**	**14 40 10.6**	**+0.8**
MLR	**Muntele Rosu**	**45.92**	**306**	⇑P	**P**	**14 40 15.4**	**+1.7**
MLR	**Muntele Rosu**	**45.92**	**306**	⇑*i* P	**P**	**14 40 15.4**	**+1.7**
BURAR	**Bucovina Array**	**46.47**	**309**	⇑P	**P**	**14 40 18.5**	**+0.5**
BURAR	**Bucovina Array**	**46.47**	**309**	⇑*i* P	**P**	**14 40 18.5**	**+0.5**
BUR08	**Bucovina Ar. S**	**46.48**

comp=Z,62nm,21.6s
PKSM Moragy 51.00 307 ⇓P P 14 40 52.8 +0.2
PKSM Moragy 51.00 307 ⇓*i*P P 14 40 52.8 +0.2
OKC Ostrava-Krasne 51.16 312 *e*P P 14 40 54.8 +1.0
OKC Ostrava-Krasne 51.16 312 *e*P P 14 40 54.8 +1.0
KRLC Kraliky 52.03 312 *e*P P 14 41 00.9 +0.5
KRLC *e*pP pP 14 41 05.1 -1.3
KRLC Kraliky 52.03 312 *e*P P 14 41 00.9 +0.5
DPC Dobruska-Polom 52.32 313 *e*P P 14 41 03.2 +0.7
DPC *e*pP pP 14 41 08.1 -0.4
DPC Dobruska-Polom 52.32 313 *e*P P 14 41 03.2 +0.7
UPC Upice 52.51 313 *e*P P 14 41 03.9 0.0
UPC Upice 52.51 313 *e*P P 14 41 03.9 0.0
PRU Pruhonice 53.48 312 *e*P P 14 41 11.4 +0.4
PRU *e*pP pP 14 41 17.5 +0.4
PRU Pruhonice 53.48 312 *e*P P 14 41 11.4 +0.4
PRU *e* 14 41 17.5
BRG Berggiesshubel 53.80 313 *e*P P 14 41 13.6 +0.2
comp=Z,3.5nm,1.0s
BRG Berggiesshubel 53.80 313 *e*P P 14 41 13.6 +0.2
BRG pmax pmax
comp=Z,4.0nm,1.0s
CUC Castrocucco 53.84 300 *e*P P 14 41 13.7 -0.2
comp=Z,6.8nm,0.6s
GERES GERESS Array B 54.12 311 P P 14 41 15.2 -0.7
comp=Z,0.6nm,0.7s,baz=97,slow=5.5,SNR=6.3
GERES GERESS Array B 54.12 311 P P 14 41 15.2 -0.7
GERES pmax pmax
comp=Z,1.0nm,0.7s
KHC Kasperske Hory 54.18 311 *e*P P 14 41 12.8 -3.4
KHC *ex* x 14 41 15.9
KHC *e*pP pP 14 41 19.7 -2.5
KHC Kasperske Hory 54.18 311 *e*P P 14 41 12.8 -3.4
KHC *e* 14 41 19.7
NB2 NORSAR Subarra 55.12 326 P P 14 41 21.9 -0.9
comp=Z,5.6nm,0.6s,baz=88,slow=7.4
NOA NORSAR Array B 55.12 326 P P 14 41 22.0 -0.9
comp=Z,5.5nm,0.7s,baz=91,slow=7.2,SNR=22
NOA LR LR 15 06 31.0
comp=Z,64nm,21.4s,baz=80,slow=38
NOA NORSAR Array B 55.12 326 P P 14 41 22.0 -0.9
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA MLR MLR
comp=Z,64nm,21.4s
SEY Seymchan 55.49 32 *i*P P 14 41 24.8 -0.6
OPO Ambohidratompo 58.15 219 P P 14 41 45.0 0.0
comp=Z,1.5nm,0.5s,baz=34,slow=4.3,SNR=5.5
CDF Champ du Feu 58.40 311 *e*P P 14 41 45.9 -0.5
CDF Champ du Feu 58.40 311 *e*P P 14 41 45.9 -0.5
HINF Hinteralfeld 58.79 311 *e*P P 14 41 48.4 -0.7
comp=Z,3.8nm,0.7s
HINF Hinteralfeld 58.79 311 *e*P P 14 41 48.4 -0.7
comp=Z,3.8nm,0.7s
PETK Petropavlovsk- 58.91 43 LR LR 15 09 25.4
comp=Z,58nm,20.2s,baz=303,slow=38
HAU Haudompre 59.09 311 *e*P P 14 41 50.5 -0.6
HAU Haudompre 59.09 311 *e*P P 14 41 50.5 -0.6
SBF Sospel 59.20 306 *e*P P 14 41 51.7 -0.3
comp=Z,22nm,0.6s
SBF Sospel 59.20 306 *e*P P 14 41 51.7 -0.3
comp=Z,22nm,0.6s
LPG La Plagne 59.32 308 ⇑*i*P P 14 41 53.1 0.0
comp=Z,14nm,0.8s
LPG La Plagne 59.32 308 ⇑*i*P P 14 41 53.1 0.0
comp=Z,14nm,0.8s
LPL La Plagne 59.33 308 ⇑*i*P P 14 41 53.0 -0.1
comp=Z,15nm,0.6s
LPL La Plagne 59.33 308 ⇑*i*P P 14 41 53.0 -0.1
comp=Z,15nm,0.6s
PAGF Fort de Pagny 59.39 312 *e*P P 14 41 52.8 -0.4
PAGF Fort de Pagny 59.39 312 *e*P P 14 41 52.8 -0.4
MBDF Montbardon 59.47 307 *e*P P 14 41 53.8 -0.2
MBDF Montbardon 59.47 307 *e*P P 14 41 53.8 -0.2
CABF La Chapelle 59.54 309 *e*P P 14 41 54.1 -0.3
comp=Z,7.7nm,0.8s
CABF La Chapelle 59.54 309 *e*P P 14 41 54.1 -0.3
comp=Z,7.7nm,0.8s
GIVF Givet 59.68 313 *e*P P 14 41 55.0 -0.1
GIVF Givet 59.68 313 *e*P P 14 41 55.0 -0.1
KEST Kesra 59.81 296 P P 14 41 56.6 +0.2
comp=Z,1.9nm,1.0s,baz=319,slow=6.7,SNR=4.2
FRF La Foret Royal 59.82 306 *e*P P 14 41 55.8 -0.4
FRF La Foret Royal 59.82 306 *e*P P 14 41 55.8 -0.4
MEZF Maizieres J'vi 59.84 312 *e*P P 14 41 55.9 -0.4
MEZF Maizieres J'vi 59.84 312 *e*P P 14 41 55.9 -0.4
SFTF Sexfontaines 59.91 311 *e*P P 14 41 56.5 -0.3
SFTF Sexfontaines 59.91 311 *e*P P 14 41 56.5 -0.3
LMR La Mourre 59.97 306 *e*P P 14 41 56.8 -0.5
comp=Z,50nm,1.1s
LMR La Mourre 59.97 306 *e*P P 14 41 56.8 -0.5
comp=Z,50nm,1.1s
ORIF Oris-en-Rattie 60.05 307 *e*P P 14 41 57.5 -0.4
ORIF Oris-en-Rattie 60.05 307 *e*P P 14 41 57.5 -0.4
BAIF Baives 60.07 313 *e*P P 14 41 56.9 -0.9
BAIF Baives 60.07 313 *e*P P 14 41 56.9 -0.9
SMRF Simiane la Rot 60.48 306 *e*P P 14 42 00.8 0.0
SMRF Simiane la Rot 60.48 306 *e*P P 14 42 00.8 0.0
LOR Lormes 60.89 310 *e*P P 14 42 02.8 -0.7
LOR Lormes 60.89 310 *e*P P 14 42 02.8 -0.7
VIVF Saint-Julien-l 60.90 308 *e*P P 14 42 03.2 -0.4
VIVF Saint-Julien-l 60.90 308 *e*P P 14 42 03.2 -0.4
BILL Bilibino 61.04 25 *i*P P 14 42 03.8 -0.3
BILL pmax pmax
comp=Z,6.0nm,1.2s
SMF Signal de Mont 61.04 310 *e*P P 14 42 03.7 -0.8
comp=Z,6.2nm,0.8s
SMF Signal de Mont 61.04 310 *e*P P 14 42 03.7 -0.8
comp=Z,6.2nm,0.8s
SSF Saint Saulge 61.17 310 *e*P P 14 42 04.9 -0.5
SSF Saint Saulge 61.17 310 *e*P P 14 42 04.9 -0.5
AVF Avril sur Loir 61.34 310 *e*P P 14 42 05.6 -0.9
AVF Avril sur Loir 61.34 310 *e*P P 14 42 05.6 -0.9
TCF Toulx Ste Croi 62.22 310 *e*P P 14 42 11.5 -1.0
TCF Toulx Ste Croi 62.22 310 *e*P P 14 42 11.5 -1.0
CAF Calviac 62.67 308 *e*P P 14 42 15.3 -0.3
CAF Calviac 62.67 308 *e*P P 14 42 15.3 -0.3
RJF Les Rejaudoux 62.95 309 *e*P P 14 42 17.2 -0.2
RJF Les Rejaudoux 62.95 309 *e*P P 14 42 17.2 -0.2
MTLF Montolieu 63.00 306 *e*P P 14 42 17.8 +0.1
MTLF Montolieu 63.00 306 *e*P P 14 42 17.8 +0.1
LDF La Druitiere 63.16 313 *e*P P 14 42 18.8 +0.1
comp=Z,8.4nm,0.8s
LDF La Druitiere 63.16 313 *e*P P 14 42 18.8 +0.1
comp=Z,8.4nm,0.8s
FLN La Foliniere 63.35 313 *e*P P 14 42 19.1 -0.8
FLN La Foliniere 63.35 313 *e*P P 14 42 19.1 -0.8
MFF Saint Martin d 63.71 310 *e*P P 14 42 21.7 -0.7
MFF Saint Martin d 63.71 310 *e*P P 14 42 21.7 -0.7
EPF Esparros 64.40 307 *e*P P 14 42 26.5 -0.6
EPF Esparros 64.40 307 *e*P P 14 42 26.5 -0.6
SGMF Saint Gilles 64.82 313 *e*P P 14 42 29.0 -0.6
SGMF Saint Gilles 64.82 313 *e*P P 14 42 29.0 -0.6
ETSF Etsaut 65.07 307 *e*P P 14 42 31.3 -0.1
ETSF Etsaut 65.07 307 *e*P P 14 42 31.3 -0.1
ROSF Rostrenen 65.25 313 *e*P P 14 42 32.1 -0.3
ROSF Rostrenen 65.25 313 *e*P P 14 42 32.1 -0.3
QUIF Quistinic 65.31 313 *e*P P 14 42 32.7 -0.1
QUIF Quistinic 65.31 313 *e*P P 14 42 32.7 -0.1
SJPF Ste Jean 65.47 307 *e*P P 14 42 33.8 -0.1
SJPF Ste Jean 65.47 307 *e*P P 14 42 33.8 -0.1
ESDC Sonseca Array 68.56 304 P P 14 42 52.8 -0.9
comp=Z,1.2nm,0.7s,baz=57,slow=6.3,SNR=9.6
SUMG Summit 70.32 344 *i*P P 14 43 04.1 -0.3
comp=Z,4.5nm,0.7s
SUMG Summit 70.32 344 *i*P P 14 43 04.1 -0.3
SUMG pmax pmax
comp=Z,5.0nm,0.7s
SUMG Summit 70.32 344 *e*P P 14 43 03.8 -0.7
comp=Z,3.5nm,0.6s
WRA Warramunga Arr 70.82 127 P P 14 43 06.9 -0.9
comp=Z,1.3nm,0.5s,baz=321,slow=6.1,SNR=17
WRA Warramunga Arr 70.82 127 P P 14 43 06.9 -0.9
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRAB Tennant Creek 70.82 127 *ce*P P 14 43 06.2 -1.5
WRAB pmax pmax
comp=Z,32nm,2.5s
AS31 Alice Springs 73.06 131 *e*P P 14 43 20.3 -0.9
ASAR Alice Springs 73.06 131 P P 14 43 20.1 -1.0
comp=Z,0.8nm,0.4s,baz=314,slow=6.1,SNR=25
ASAR Alice Springs 73.06 131 P P 14 43 20.2 -1.0
ASAR pmax pmax
comp=Z,1.0nm,0.4s
TORD Torodi Ar. Bea 74.84 277 P P 14 43 31.1 -0.6
comp=Z,2.0nm,0.9s,baz=54,slow=4.2,SNR=6.3
COLA College 78.40 19 *e*P P 14 43 50.4 -0.7
comp=Z,4.5nm,1.0s
ILAR Eielson Array 78.75 19 P P 14 43 51.9 -1.2
comp=Z,1.6nm,0.8s,baz=297,slow=4.3,SNR=18
ILAR Eielson Array 78.75 19 P P 14 43 51.9 -1.2
ILAR pmax pmax
comp=Z,2.0nm,0.8s
BOSA Boshof 78.91 228 P P 14 43 52.8 -1.7
comp=Z,5.2nm,1.0s,baz=59,slow=6.0,SNR=3.6
BOSA Boshof 78.91 228 P P 14 43 52.8 -1.7
BOSA pmax pmax
comp=Z,5.0nm,1.0s
KDAK Kodiak Island 81.94 26 *i*P P 14 44 10.5 +0.2
DBIC Dimbokro 83.56 274 P P 14 44 18.6 -0.9
comp=Z,2.8nm,0.9s,baz=110,slow=10,SNR=3.2
DBIC LR LR 15 23 59.7
comp=Z,46nm,18.2s,baz=62,slow=38
DBIC Dimbokro 83.56 274 P P 14 44 18.6 -0.9
DBIC pmax pmax
comp=Z,3.0nm,0.9s
DBIC MLR MLR
comp=Z,46nm,18.2s
STKA Stephens Creek 83.60 132 P P 14 44 17.5 -1.7
comp=Z,0.7nm,0.4s,baz=314,slow=6.3,SNR=5.3
STKA Stephens Creek 83.60 132 P P 14 44 17.5 -1.7
STKA pmax pmax
comp=Z,1.0nm,0.4s
TRQA Tornquist 148.62 245 *e*PKPbc PKPbc 14 51 38.3 +0.4

IDC ***13*** *14:32:56.4±3.0,2°.11S×102°.37E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.4/41, mbtmp3.7/4, ML3.3/1, MS3.2/2, Ms1 3.3/2, ms1mx2.6/35, Error ellipse: s-maj=230.9km s-min=31.9km az=48.0*
DJA ***13*** *14:33:22.4±0.4, 3°.5S×4°×10°.3E±°, h30km, M3.5/8, MLv3.5/8*
ISC 13 14:32:57.3±1.2, 3.98S±0.08×100.61E±0.07, h10km, n17, σ1ᵍ**90/15, mb3.6/3, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**1.35**	**334**	S		**Sb**	**14 33 39.3**	**-0.8**
MASI	**Maura Aman, Be**	**1.83**	**63**	P		**Pb**	**14 33 30.8**	**0.0**
MASI				S		**Sn**	**14 33 49.0**	**-3.0**
MNAI	**Manna**	**2.37**	**99**	P		**Pg**	**14 33 44.9**	**+2.2**
MNAI				S		**Sg**	**14 34 13.8**	**+0.4**
LHSI	**Lahat**	**2.91**	**87**	P		**Pn**	**14 33 46.1**	**+2.5**
SDSI	**Sungai Dareh**	**3.14**	**15**	P		**Pg**	**14 33 58.8**	**+1.4**
LWLI	**Liwa**	**3.58**	**107**	P		**Pb**	**14 34 02.5**	**+1.6**
LWLI				S		**Sb**	**14 34 44.0**	**-0.5**
MDSI	**Maura Dua**	**3.59**	**98**	P		**Pb**	**14 33 58.0**	**-2.9**
KASI	**Kota Agung**	**4.16**	**112**	P		**Pb**	**14 34 10.0**	**-0.6**
KASI				S		**Pb**	**14 34 09.7**	**-0.9**
KLSI		**4.17**	**100**	P		Pn	14 34 05.5	+4.6
GSI	**Gunungsitoli**	**6.07**	**330**	S		**Pn**	**14 34 28.9**	**+1.8**
CNJI	**Cibinong**	**7.28**	**117**	S		Pn	14 34 48.9	+5.2
CISI	**Cisompet, Garu**	**8.00**	**117**	S		Pn	14 34 58.5	+4.8
CMAR	**Chiang Mai Arr**	**22.36**	**356**	LR		LR	14 45 48.4	
	comp=Z,31nm,18.3s,baz=25,slow=37							
PALK	**Palikelo**	**22.80**	**299**	LR		LR	14 48 26.6	
	σ1ᵍ19nm,18.6s,baz=8.2,slow=40							
WRA	**Warramunga Arr**	**36.49**	**119**	P		P	14 39 59.1	-3.9
	0.2nm,0.3s,baz=304,slow=9.2,SNR=5.0							
ASAR	**Alice Springs**	**37.62**	**124**	P		**P**	**14 40 10.5**	**-2.1**
	0.6nm,0.5s,baz=301,slow=8.0,SNR=20							
STKA	**Stephens Creek**	**47.39**	**131**	P		**P**	**14 41 31.6**	**-0.4**
	1.2nm,0.4s,baz=313,slow=8.4,SNR=6.9							

CASC 13 14:35:14.6±2.0, 13°.00N×89°.20W, h36km±51km, MD3.7, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.63**	**12**	⇑*i*P		Pn	14 35 26.9	-0.5
SNET	**Serv Nac Est T**	**0.68**	**357**	*e*P		Pn	14 35 27.5	-0.4
SNET				*e*S		Sn	14 35 38.2	+0.8
BOQS	**Boqueron**	**0.73**	**354**	*e*P		Pn	14 35 28.8	0.0
BOQS				*e*S		Sn	14 35 39.6	+0.7
LBRS	**Las Brisas**	**0.75**	**12**	*e*P		Pn	14 35 28.6	-0.2
LBRS				*e*S		Sn	14 35 39.3	+0.3
LFU	**La Fuente**	**0.75**	**6**	*e*P		Pn	14 35 28.6	-0.2
LFU				*e*S		Sn	14 35 39.8	+0.8
SBLS	**San Blas**	**0.93**	**334**	*e*P		Pn	14 35 31.2	-0.3
SNJE	**San Jose**	**0.95**	**335**	*e*P		Pn	14 35 31.6	-0.1
SNJE				*e*S		Sn	14 35 44.5	+0.2
RTR	**El Retiro**	**0.99**	**334**	*e*P		Pn	14 35 32.3	0.0
VSM	**San Miguel**	**1.00**	**65**	*e*P		Pn	14 35 32.1	-0.3
BLLM	**Bellamira**	**1.03**	**65**	*e*P		Pn	14 35 32.7	+0.1
BLLM				*e*S		Sn	14 35 47.0	+1.0
RBDL	**Robledal**	**1.20**	**337**	*e*P		Pn	14 35 35.5	+0.3
RBDL				*e*S		Sn	14 35 52.1	+1.6
CAHU	**Cacacuatique**	**1.23**	**51**	*e*P		Pn	14 35 35.5	0.0
CAHU				*e*S		Sn	14 35 52.1	+1.0
CNCH	**Conchagua**	**1.36**	**78**	*e*P		Pn	14 35 36.5	-0.7
NBG	**Las Nubes**	**1.93**	**325**	*e*P		Pn	14 35 48.3	+3.0
MRL	**Marmol**	**2.11**	**347**	*e*P		Pn	14 35 49.2	+1.6
MRL				*e*S		Sn	14 36 04.3	-8.5

IDC ***13*** *14:37:54.6±0.8, 29°.43N×81°.47E, h0km, mb4.0/15, mb1 4.1/17, mb1mx3.8/51, mbtmp4.0/17, ML4.3/2, Error ellipse: s-maj=23.9km s-min=14.6km az=44.0*
NEIC ***13*** *14:37:56.6±0.5, 29°.55N×81°.49E, h10km, mb4.6/4, Error ellipse: s-maj=12.5km s-min=7.6km az=40.0*
ISCJB ***13*** *14:37:58.2±0.3, 29°.70N±0°.05×81°.54E±0°.04, h27km, mb4.0/19, Error ellipse: s-maj=7.5km s-min=2.9km az=28.5*
NDI ***13*** *14:38:00.3±1.6, 29°.94N×81°.56E, h10km, ML4.0*
DMN ***13*** *14:38:03.3±0.4, 29°.47N×81°.54E, h10km, Ml5.1/6, Error ellipse: s-maj=14.9km s-min=7.1km az=26.0*
ISC 13 14:37:59.8±0.5, 29°.69N±0°.07×81°.57E±0°.04, h27km, n59, σ1ᵍ**68/71, mb4.0/19, Nepal**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**1.18**	**259**	*e*P		**Pn**	**14 38 20.6**	**+0.1**
LGTI				*e*S		**Sb**	**14 38 39.5**	**+3.2**
PTH	**Pithoragarh**	**1.19**	**264**	*e*PG		Pn	14 38 14.9	-5.9
PTH				*e*SG		**Sn**	**14 38 31.6**	**-4.5**
KOLN	**Koldanda**	**2.62**	**136**	*e*Pn		**Pn**	**14 38 42.2**	**+1.7**
KOLN				*e*Sn		**Sn**	**14 39 11.0**	**-0.5**
	2μm,0.4s							
DDI	**Dehra Dun**	**3.11**	**283**	*e*P		**Pn**	**14 38 48.1**	**+0.9**
DDI				*e*S		**Sn**	**14 39 24.2**	**+0.7**
DDI				AML	AML		14 39 37.2	
	comp=N,1μm,0.3s							
DDI				AML	AML		14 39 39.1	
	comp=E,997nm,0.7s							
GKN	**Gorkha**	**3.17**	**121**	*e*Pn		**Pn**	**14 38 51.0**	**+2.9**
DMN	**Daman**	**3.74**	**123**	*e*Pn		**Pn**	**14 38 58.2**	**+2.2**
DMN				*e*Sn		**Sn**	**14 39 38.1**	**-1.1**
	comp=E,789nm,0.5s							
KKN	**Kakani**	**3.77**	**119**	*e*Pn		**Pn**	**14 38 59.2**	**+2.8**
NDI	**New Delhi**	**3.93**	**256**	*e*P		**Pb**	**14 39 11.0**	**+2.5**
NDI				*e*S		**Sb**	**14 39 57.0**	**+1.4**
PKI	**Pulchoki**	**3.98**	**121**	*e*Pn		**Pn**	**14 39 01.4**	**+2.0**
SMLA	**Simla**	**4.06**	**292**	*i*P		**Pn**	**14 39 01.0**	**+0.8**
SMLA				*i*S		**Sn**	**14 39 46.2**	**-0.7**
SMLA				AML	AML		14 40 13.2	
	comp=N,585nm,0.8s							
SMLA				AML	AML		14 40 13.4	
	comp=E,470nm,0.6s							
GUN	**Gumba**	**4.18**	**114**	*e*Pn		**Pn**	**14 39 04.6**	**+2.5**
GUN				*e*Sn		**Sn**	**14 39 50.2**	**0.0**
	comp=E,553nm,0.3s							
SDNR	**Sundarnagar**	**4.36**	**296**	*e*P		**Pn**	**14 39 06.0**	**+1.7**
SDNR				*ex*		x	14 40 15.0	
JIRN	**Jiri**	**4.54**	**115**	*e*Pn		**Pn**	**14 39 09.1**	**+2.0**
JIRN				*e*Sn		**Sn**	**14 39 59.1**	**0.0**
	comp=E,938nm,0.3s							
DHRM	**DHARAMSHALA**	**5.19**	**301**	*e*P		**Pn**	**14 39 17.3**	**+1.3**
DHRM				*e*S		**Sn**	**14 40 11.3**	**-3.8**
DHRM				AML	AML		14 40 19.5	
	comp=E,234nm,0.6s							
DHRM				AML	AML		14 40 20.2	
	comp=N,271nm,0.4s							
RAMN	**Ramite**	**5.21**	**120**	*e*Pn		**Pn**	**14 39 18.0**	**+1.8**
RAMN				*e*Sn		**Sn**	**14 40 13.3**	**-2.2**
	comp=N,1μm,0.3s							
PONG	**Pong**	**5.33**	**296**	*ex*		Pn	14 39 10.0	-7.6
ODAN	**Odare**	**5.86**	**117**	*e*Pn		**Pn**	**14 39 27.3**	**+2.2**
ODAN				*e*Sn		**Sn**	**14 40 29.7**	**-1.8**
	comp=N,606nm,0.4s							
TAPN	**Taplejung**	**5.88**	**112**	*e*Pn		**Pn**	**14 39 27.6**	**+2.1**
TAPN				*e*Sn		**Sn**	**14 40 30.8**	**-1.5**
SARP	**Sargodha**	**7.97**	**288**	P		**Pn**	**14 39 52.4**	**-1.5**
CHCP	**Chirah Chowk**	**8.11**	**301**	P		**Pn**	**14 39 56.3**	**+0.5**
LSA	**Lhasa**	**8.34**	**88**	P		**Pn**	**14 40 01.6**	**+2.3**
THW	**Thamme Wali**	**8.96**	**293**	P		**Pn**	**14 40 05.9**	**-1.6**
CEP	**Cherat**	**9.20**	**299**	P		**Pn**	**14 40 10.1**	**-0.7**
CEP				S		**Sn**	**14 41 49.0**	**-4.5**
TKM2	**Tokmak 2**	**14.05**	**342**	Pn		**Pn**	**14 41 18.7**	**+1.4**
	comp=N,2.4nm,0.6s							
MK31	**Makanchi Array**	**17.09**	**2**	*e*P		**Pn**	**14 41 55.3**	**-1.4**
MKAR	**Makanchi Array**	**17.09**	**2**	Pn		**Pn**	**14 41 55.5**	**-1.2**
	comp=N,0.6nm,0.3s,baz=177,slow=12,SNR=14							
CHTO	**Chiang Mai**	**19.16**	**120**	*e*P		**P**	**14 42 18.9**	**-2.4**
CMAR	**Chiang Mai Arr**	**19.38**	**121**	P		**P**	**14 42 23.2**	**-0.4**
	comp=N,0.5nm,0.3s,baz=308,slow=12,SNR=4.9							
KURBB	**Kurchatov Arra**	**21.04**	**355**	P		**P**	**14 42 41.5**	**+0.2**
	comp=N,3.4nm,0.6s,baz=179,slow=10,SNR=24							
KURK	**Kurchatov**	**21.12**	**355**	*e*P		**P**	**14 42 42.3**	**+0.1**
ZAA0	**Zalesovo Array**	**24.36**	**5**	*e*P		**P**	**14 43 14.8**	**-0.5**
ZALV	**Zalesovo Beam**	**24.36**	**5**	P		**P**	**14 43 16.2**	**+0.9**
	comp=N,7.7nm,0.4s,baz=195,slow=10,SNR=41							
BVAR	**Borovoye Array**	**24.72**	**344**	P		**P**	**14 43 19.7**	**+1.1**
	comp=N,1.3nm,0.4s,baz=156,slow=12,SNR=8.4							
BRVK	**Borovoye**	**24.78**	**344**	P		**P**	**14 43 18.7**	**-0.4**
	comp=N,6.3nm,1.0s							
SONM	**Songino Array**	**26.33**	**40**	P		**P**	**14 43 35.4**	**+1.9**
	comp=N,1.8nm,0.6s,baz=230,slow=8.9,SNR=13							
AKTO	**Aktyubinsk**	**27.26**	**326**	P		**P**	**14 43 43.6**	**+2.0**
	comp=N,1.5nm,0.6s,baz=119,slow=8.2,SNR=3.6							
KSAR	**Wonju Array Be**	**39.04**	**66**	P		**P**	**14 45 24.9**	**+0.5**
KSRS	**Korea Array**	**39.07**	**66**	P		**P**	**14 45 24.9**	**+0.3**
	comp=N,1.7nm,0.6s,baz=275,slow=9.2,SNR=12							
BR131	**Keskin Array S**	**40.24**	**298**	*e*P		**P**	**14 45 34.5**	**0.0**
BRTR	**Keskin Array B**	**40.24**	**298**	P		**P**	**14 45 35.1**	**+0.7**
	comp=N,0.3nm,0.4s,baz=98,slow=10,SNR=2.8							
AKASG	**Malin Array Be**	**44.08**	**314**	P		**P**	**14 46 05.2**	**-0.2**
	comp=N,0.7nm,0.4s,baz=77,slow=7.6,SNR=4.3							
YAK	**Yakutsk**	**44.89**	**30**	P		**P**	**14 46 11.9**	**+0.3**
	comp=N,7.7nm,0.8s							
FINES	**FINESS Array B**	**48.01**	**328**	P		**P**	**14 46 36.5**	**+0.3**
	comp=N,4.3nm,0.6s,baz=113,slow=8.6,SNR=14							
ARCES	**ARCESS Array B**	**50.79**	**338**	P		**P**	**14 46 57.8**	**+0.5**
	comp=N,1.1nm,0.6s,baz=101,slow=7.7,SNR=8.4							
NB2	**NORSAR Subarra**	**55.05**	**326**	P		**P**	**14 47 28.4**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=90,slow=7.9							
NOA	**NORSAR Array B**	**55.05**	**326**	P		**P**	**14 47 28.6**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=90,slow=7.3,SNR=5.1							
LPG	**La Plagne**	**59.30**	**308**	*e*P		**P**	**14 47 59.4**	**-0.1**
	comp=Z,3.8nm,0.5s							
LPG	**La Plagne**	**59.30**	**308**	*e*P		**P**	**14 47 59.4**	**-0.1**
	comp=Z,3.8nm,0.5s							
LPL	**La Plagne**	**59.31**	**308**	*e*P		**P**	**14 47 59.4**	**-0.1**
LPL	**La Plagne**	**59.31**	**308**	*e*P		**P**	**14 47 59.4**	**-0.1**
SMRF	**Simiane la Rot**	**60.46**	**306**	*e*P		**P**	**14 48 05.6**	**-1.6**
SMRF	**Simiane la Rot**	**60.46**	**306**	*e*P		**P**	**14 48 05.6**	**-1.6**
VIVF	**Saint-Julien-l**	**60.88**	**308**	*e*P		**P**	**14 48 09.6**	**-0.4**
VIVF	**Saint-Julien-l**	**60.88**	**308**	*e*P		**P**	**14 48 09.6**	**-0.4**
WRA	**Warramunga Arr**	**70.84**	**128**	P		**P**	**14 49 12.7**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=319,slow=6.5,SNR=9.7							
WRAB	**Tennant Creek**	**70.84**	**128**	*e*P		**P**	**14 49 13.4**	**-1.1**
	comp=Z,3.7nm,0.9s							
ASAR	**Alice Springs**	**73.09**	**131**	P		**P**	**14 49 26.4**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=315,slow=6.1,SNR=18							
TORD	**Torodi Ar. Bea**	**74.91**	**277**	P		**P**	**14 49 36.9**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=56,slow=4.7,SNR=6.4							
ILAR	**Eielson Array**	**78.59**	**19**	P		**P**	**14 49 58.1**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=282,slow=3.9,SNR=4.6							

NIED ***13*** *14:47:00, 21°.90N×121°.30E, h50km, Mw3.8 Best double couple: M₀4.96000×10¹⁴ NP1:φ₀167.00000°, δ31.00000°, λ70.00000°. NP2:φ₀10.00000°, δ61.00000°, λ102.00000°.*
JMA ***13*** *14:47:34.8±0.5, 21°.89N×121°.28E, h60km, M3.7*
TAP ***13*** *14:47:35.6, 21°.84N×121°.39E, h23km±1km, ML3.6, D*
IDC ***13*** *14:47:41.6±11.0, 22°.56N×120°.61E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/38, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=212.2km s-min=40.8km az=135.0*
ISC 13 14:47:34.4±1.5, 21°.81N±0°.06×121°.51E±0°.04, h13km±9km, n51, σ1ᵍ**34/85, mb3.5/4, 1C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TSEB	**Hengchun, Pien**	**0.57**	**279**	*i*P		**Pg**	**14 47 46.2**	**+0.6**
	baz=277							
TSEB				S		**Sg**	**14 47 54.5**	**+1.2**
	baz=277							
TWK1	**Hengchun**	**0.67**	**282**	⇑*i*P		**Pg**	**14 47 46.9**	**-0.5**
	baz=293							
TWK1				S		**Sg**	**14 47 55.2**	**-1.1**
	baz=293							
HEN	**Hengchun**	**0.74**	**286**	P		**Pb**	**14 47 48.1**	**-1.0**
	baz=295							
HEN				S		**Sb**	**14 47 56.8**	**-2.4**
	baz=295							
TAW	**Tawu**	**0.79**	**314**	*e*P		**Pb**	**14 47 48.3**	**-1.6**
	baz=331							
TAW				*e*S		**Sb**	**14 47 57.7**	**-2.9**
	baz=331							
ECL	**Taimali**	**0.94**	**327**	P		**Pb**	**14 47 50.4**	**-2.2**
	baz=333							
ECL				*e*S		Sb	14 47 58.0	-6.9
	baz=333							
SCZT	**Fangliau**	**1.00**	**304**	*e*P		**Pb**	**14 47 52.1**	**-1.5**
	baz=319							
SCZT				*e*S		**Sb**	**14 48 03.9**	**-2.7**
	baz=319							
TTN	**Taitung**	**1.00**	**340**	*e*P		**Pb**	**14 47 53.4**	**-0.2**
	baz=347							
TWG	**Pinlang**	**1.09**	**338**	P		**Pb**	**14 47 52.9**	**-2.2**
	baz=332							
TWG				S		**Sb**	**14 48 05.3**	**-3.8**
	baz=332							
TWP	**Hsiaoliuchiu**	**1.19**	**297**	*e*

YUS	**Yu-Shan**	**1.75**	**343**	*e*P		**Pn**	**14 48 04.2**	**-0.7**
	baz=346							
CHN4	**Tsaushan**	**1.75**	**331**	P		**Pn**	**14 48 04.9**	**+0.4**
	baz=334							
CHN4				*e*S		**Sb**	**14 48 27.5**	**-0.8**
	baz=334							
ALS	**Alishan**	**1.82**	**339**	*e*P		**Pn**	**14 48 06.7**	**+1.1**
	baz=342							
ALS				*e*S		**Sb**	**14 48 29.4**	**-1.0**
	baz=342							
CHN5	**Tsauling**	**1.94**	**337**	*e*P		**Pn**	**14 48 08.1**	**+1.0**
	baz=339							
CHN5				*e*S		**Sb**	**14 48 33.7**	**0.0**
	baz=339							
ESL	**Shilin**	**2.00**	**358**	*e*P		**Pn**	**14 48 08.5**	**+0.7**
	baz=350							
SMLT	**Sun Moon Lake**	**2.14**	**345**	*e*P		**Pn**	**14 48 11.0**	**+1.1**
	baz=347							
SMLT				*e*S		**Sb**	**14 48 37.9**	**-1.7**
	baz=347							
TYC	**Yuchr**	**2.17**	**344**	*e*P		**Pn**	**14 48 11.3**	**+1.1**
	baz=346							
TYC				*e*S		**Sn**	**14 48 38.4**	**+1.4**
	baz=346							
WHF	**Hehuan Shan**	**2.34**	**355**	*e*P		**Pn**	**14 48 12.8**	**-0.1**
	baz=356							
WHF				*e*S		**Sn**	**14 48 40.9**	**-0.8**
	baz=356							
TWT	**Tachien**	**2.45**	**353**	*e*S		**Sn**	**14 48 45.5**	**+1.3**
	baz=5.0							
ENA	**Nanau**	**2.62**	**5**	*e*P		**Pn**	**14 48 18.3**	**+1.9**
	baz=355							
NNS	**Nan Shan**	**2.62**	**357**	*e*P		**Pb**	**14 48 20.3**	**-1.1**
	baz=359							
NNS				*e*S		**Sn**	**14 48 49.7**	**+1.4**
	baz=359							
ENTT	**Nioudou**	**2.82**	**1**	*e*P		**Pn**	**14 48 20.0**	**+0.8**
	baz=3.0							
TWE	**Neicheng**	**2.90**	**3**	*e*P		**Pn**	**14 48 23.4**	**+3.2**
	baz=5.0							
JYNG	**Yonagunijimaku**	**2.94**	**26**	P		**Pn**	**14 48 21.7**	**+0.9**
JYNG				*e*S		**Sn**	**14 48 55.9**	**-0.1**
YOJ	**Yonaguni jima**	**2.98**	**27**	P		**Pn**	**14 48 22.5**	**+1.2**
YOJ				*e*S		**Sn**	**14 48 57.0**	**+0.1**
HATJ	**Hateruma jima**	**3.08**	**43**	P		**Pn**	**14 48 23.7**	**+1.0**
HATJ				*e*S		**Sn**	**14 48 58.6**	**-0.8**
IRIF	**Iriomote-Funau**	**3.24**	**39**	P		**Pn**	**14 48 26.2**	**+1.3**
IRIF				*e*S		**Sn**	**14 49 02.0**	**-1.4**
JKRS	**Kuro-shima**	**3.34**	**43**	P		**Pn**	**14 48 26.3**	**0.0**
JKRS				*e*S		**Sn**	**14 49 05.1**	**-0.7**
JIJ	**Ishigaki jima**	**3.52**	**43**	P		**Pn**	**14 48 29.1**	**+0.4**
JIJ				*e*S		**Sn**	**14 49 08.1**	**-2.0**
JISG	**Ishigakijimahi**	**3.78**	**42**	P		**Pn**	**14 48 32.9**	**+0.6**
JISG				*e*S		**Sn**	**14 49 14.3**	**-2.4**
JTJ	**Tarama**	**4.07**	**46**	P		**Pn**	**14 48 37.5**	**+1.2**
JTJ				*e*S		**Sn**	**14 49 22.6**	**-1.2**
JIRB	**Irabujima**	**4.51**	**48**	P		**Pn**	**14 48 43.6**	**+1.2**
JIRB				*e*S		**Sn**	**14 49 33.7**	**-1.1**
JIKM	**Ikemajima**	**4.63**	**47**	P		**Pn**	**14 48 45.1**	**+1.1**
JIKM				*e*S		**Sn**	**14 49 36.6**	**-1.0**
JOGS	**Gusukube**	**4.63**	**50**	*e*S		**Sn**	**14 49 37.2**	**-0.5**
KSRS	**Korea Array**	**16.55**	**18**	Pn		**P**	**14 51 29.6**	**+1.0**
	0.1nm,0.3s,baz=200,slow=12,SNR=7.9							
CMAR	**Chiang Mai Arr**	**21.45**	**265**	P		**P**	**14 52 23.9**	**+1.4**
	0.5nm,0.3s,baz=63,slow=7.7,SNR=4.1							
SONM	**Songino Array**	**28.67**	**339**	P		**P**	**14 53 32.4**	**+1.4**
	0.4nm,0.8s,baz=169,slow=10,SNR=2.4							
MKAR	**Makanchi Array**	**40.27**	**318**	P		**P**	**14 55 10.8**	**-0.2**
	1.1nm,1.0s,baz=111,slow=9.2,SNR=5.6							
ZALV	**Zalesovo Beam**	**42.41**	**328**	P		**P**	**14 55 27.9**	**-0.6**
	0.9nm,0.6s,baz=111,slow=8.1,SNR=4.7							

ISCJB ***13*** *14:50:14.3±0.5, 7°.33S±0°.07×120°.32E±0°.10, h556km, mb3.7/9, Error ellipse: s-maj=13.1km s-min=8.9km az=168.6*

IDC ***13*** *14:50:15.5±0.7, 7°.24S×120°.47E, h550km±6km, mb3.2/10, mb1 3.3/13, mb1mx3.1/33, mbtmp4.1/13, Error ellipse: s-maj=26.5km s-min=9.8km az=71.0*

DJA ***13*** *14:50:17.2±0.6, 7°.5S×12°.0E±°, h527km±8km, M4.3/19, mb4.5/8, mB4.9/5, MLv4.3/19, Mw(mB)4.2/5, Mwp7.3/1*

ISC 13 14:50:15.5±0.7, 7°.34S±0°.09×120°.3E±0°.1, h556km, n28, σ1§33/31, mb3.7/9, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSSI	**Bau Bau, Buton**	**1.20**	**9**	P		**P**	**14 51 21.6**	**-1.4**
BKSI	**Bulukumba**	**2.01**	**355**	P		**P**	**14 51 24.8**	**-1.0**
MMRI	**Maumere**	**2.31**	**124**	P		**P**	**14 51 24.2**	**-3.0**
KAPI	**Kappang**	**2.37**	**347**	P		**P**	**14 51 27.5**	**-0.1**
	58nm,0.3s,baz=165,slow=2.7,SNR=286							
KAPI				S		**S**	**14 52 24.8**	**-1.2**
	baz=268,slow=20,SNR=3.4							
WBSI	**Waikabubak, Su**	**2.46**	**201**	P		**P**	**14 51 26.7**	**-1.3**
SPSI	**Sidrap Palu**	**3.39**	**351**	P		**P**	**14 51 33.1**	**-0.5**
TTSI	**Tana Toraja**	**4.29**	**354**	P		**P**	**14 51 43.2**	**+3.2**
SOEI	**Soe**	**4.60**	**122**	P		**P**	**14 51 44.9**	**+2.4**
IGBI	**Denpasar**	**5.32**	**254**	P		**P**	**14 51 48.4**	**+0.1**
	158nm,0.5s,4µm0.9nm							
MPSI	**Mapaga**	**7.63**	**357**	P		**P**	**14 52 10.1**	**+0.2**
	23nm,1.0s,322nm0.1nm							
SANI	**Sanana**	**7.72**	**47**	P		**P**	**14 52 09.6**	**-1.2**
	35nm,0.9s,0.1nm							
NLAI	**Namlea**	**7.90**	**59**	P		**P**	**14 52 14.0**	**+1.6**
	32nm,0.7s,1µm0.3nm							
MRSI	**Marisa**	**7.93**	**12**	P		**P**	**14 52 12.1**	**-0.7**
	47nm,0.7s,0.1nm							
KMSI	**Cibinong**	**8.67**	**25**	P		**P**	**14 52 21.5**	**+1.4**
	102nm,0.6s,0.4nm							
LEM	**Lembang**	**12.60**	**272**	S		S	14 55 24.8	+8.5
	3.1nm,0.3s,baz=359,slow=17,SNR=4.5							
SIJI	**Sorong**	**12.68**	**60**	P		**P**	**14 52 58.7**	**-2.5**
	0.8nm,0.3s,baz=199,slow=21,SNR=4.3							
WRA	**Warramunga Arr**	**18.50**	**134**	P		**P**	**14 53 57.4**	**-0.4**
	0.4nm,0.3s,baz=314,slow=10,SNR=13							
ASAR	**Alice Springs**	**20.83**	**143**	P		**P**	**14 54 18.9**	**0.0**
	1.0nm,0.4s,baz=320,slow=8.4,SNR=28							
ASAR				PcP		**PcP**	**14 58 03.5**	**+0.4**
	0.7nm,0.6s,baz=325,slow=1.6,SNR=7.5							
ASAR				ScP		**ScP**	**15 00 48.0**	**+0.3**
	0.4nm,0.7s,baz=328,slow=2.2,SNR=3.6							
STKA	**Stephens Creek**	**31.46**	**144**	P		**P**	**14 55 52.3**	**+0.2**
	2.2nm,0.4s,baz=330,slow=8.5,SNR=15							
STKA				PcP		**PcP**	**14 58 28.2**	**+0.1**
	1.0nm,0.4s,baz=330,slow=4.1,SNR=4.8							
KSRS	**Korea Array**	**45.12**	**9**	P		**P**	**14 57 42.6**	**-0.1**
	1.4nm,0.7s,baz=186,slow=7.7,SNR=13							
MJAR	**Matsushiro Arr**	**46.77**	**20**	P		**P**	**14 57 53.7**	**-1.5**
	1.8nm,0.6s,baz=198,slow=9.7,SNR=9.8							
USRK	**Ussuriysk Ar.**	**52.37**	**11**	P		**P**	**14 58 35.5**	**-0.7**
	2.0nm,0.5s,baz=199,slow=6.7,SNR=6.0							
SONM	**Songino Array**	**56.29**	**349**	P		**P**	**14 59 03.5**	**-0.3**
	1.4nm,0.6s,baz=163,slow=8.7,SNR=9.4							
MKAR	**Makanchi Array**	**63.59**	**332**	P		**P**	**14 59 53.0**	**+0.8**
	0.5nm,0.4s,baz=130,slow=8.4,SNR=9.5							
ZALV	**Zalesovo Beam**	**67.97**	**338**	P		**P**	**15 00 18.6**	**-0.5**
	0.8nm,0.3s,baz=147,slow=5.0,SNR=4.6							
PETK	**Petropavlovsk-**	**68.05**	**23**	P		**P**	**15 00 20.5**	**+0.8**
	2.0nm,0.7s,baz=194,slow=3.1,SNR=4.5							
VNDA	**Vanda**	**73.42**	**171**	P		**P**	**15 00 52.2**	**+1.3**
	1.3nm,0.5s,baz=308,slow=8.5,SNR=12							
TORD	**Torodi Ar. Bea**	**119.43**	**281**	PKP		**PKPdf**	**15 08 03.4**	**+0.3**
	0.5nm,0.6s,baz=43,slow=1.8,SNR=5.3							

IDC 13 14:51:51.7±7.5, 21°.87N×143°.21E, h320km±45km, mb3.1/7, mb1 3.3/8, mb1mx2.9/33, mbtmp3.8/8, Error ellipse: s-maj=83.6km s-min=29.4km az=2.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**5.29**	**350**	P		Pn	14 53 13.3	+0.1
	11nm,0.3s,baz=272,slow=23,SNR=16							
JCJ				S		S	14 54 18.9	0.0
	6.2nm,0.3s,baz=265,slow=23,SNR=1.7							
KSRS	**Korea Array**	**20.39**	**323**	P		P	14 56 05.8	+0.6
	0.6nm,0.6s,baz=151,slow=9.2,SNR=6.7							
MKAR	**Makanchi Array**	**54.60**	**313**	P		P	15 00 48.4	+0.5
	0.3nm,0.5s,baz=99,slow=7.3,SNR=2.6							
ILAR	**Eielson Array**	**61.88**	**27**	P		P	15 01 37.4	-0.1
	0.4nm,0.8s,baz=257,slow=5.5,SNR=7.3							
YKA	**Yellowknife Ar**	**76.29**	**28**	P		P	15 03 05.8	+0.3
	0.5nm,0.5s,baz=294,slow=6.1,SNR=2.3							
ARCES	**ARCESS Array B**	**78.77**	**341**	P		P	15 03 18.8	-0.2
	1.0nm,0.5s,baz=77,slow=8.6,SNR=8.0							
NVAR	**Mina Array Bea**	**83.02**	**51**	P		P	15 03 43.0	+0.8
	0.3nm,0.6s,baz=270,slow=4.2,SNR=2.8							
FINES	**FINESS Array B**	**83.03**	**334**	P		P	15 03 40.3	-1.1
	2.0nm,0.9s,baz=82,slow=4.6,SNR=12							

IDC ***13*** *15:06:44.5±0.9, 17°.59S×173°.01W, h0km, mb3.9/8, mb1 4.2/8, mb1mx3.9/28, mbtmp3.9/8, MS3.2/2, Ms1 3.2/2, ms1mx2.8/27, Error ellipse: s-maj=49.4km s-min=18.7km az=141.0*

NEIC ***13*** *15:06:46.1±0.5, 17°.57S×173°.06W, h10km, mb4.0/2, Error ellipse: s-maj=24.5km s-min=10.1km az=140.0*

ISCJB ***13*** *15:06:47.1±0.7, 17°.6S±0°.2×173°.1W±0°.2, h28km, mb4.0/9, MS3.1/2, Error ellipse: s-maj=34.7km s-min=14.4km az=142.0*

ISC 13 15:06:49.1±0.9, 17°.7S±0°.2×173°.0W±0°.2, h28km, n25, σ1§69/18, mb3.9/9, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**3.97**	**17**	*e*Pn		Pn	15 07 38.0	-10
RAR	**Rarotonga**	**12.93**	**108**	Pn		Pn	15 09 41.5	-10
	1.6nm,0.3s,baz=268,slow=6.6,SNR=4.5							
DZM	**Mont Dzumac**	**19.82**	**254**	*e*LR		LR	15 16 45.8	
	162nm,25.6s							
URZ	**Urewera**	**22.21**	**201**	P		**P**	**15 11 44.1**	**+0.7**
	10nm,0.8s,baz=261,slow=7.1,SNR=6.9							
PPT2	**Papeete2**	**22.30**	**93**	*e*LR		LR	15 16 30.5	
	159nm,29.0s							
PPT	**Papeete**	**22.31**	**93**	LR		LR	15 17 41.0	
	comp=Z,83nm,18.9s,baz=216,slow=29							
TBI	**Tubuai**	**22.71**	**108**	*e*LR		LR	15 16 50.8	
	146nm,29.5s							
STKA	**Stephens Creek**	**43.26**	**242**	P		**P**	**15 14 47.6**	**-0.8**
	1.4nm,0.9s,baz=87,slow=8.4,SNR=4.1							
STKA	**Stephens Creek**	**43.26**	**242**	*e*P		**P**	**15 14 48.0**	**-0.4**
	1.0nm,1.3s							
WRAB	**Tennant Creek**	**49.73**	**259**	*e*P		**P**	**15 15 38.4**	**-0.9**
	5.0nm,0.9s							
WRA	**Warramunga Arr**	**49.74**	**259**	P		**P**	**15 15 38.5**	**-0.9**
	1.4nm,0.7s,baz=97,slow=7.5,SNR=12							
AS31	**Alice Springs**	**49.80**	**254**	*e*P		**P**	**15 15 39.4**	**-0.5**
ASAR	**Alice Springs**	**49.81**	**254**	P		**P**	**15 15 39.5**	**-0.4**
	5.0nm,0.7s,baz=88,slow=8.8,SNR=77							
MJAR	**Matsushiro Arr**	**70.97**	**320**	LR		LR	15 45 18.4	
	comp=Z,9.6nm,21.2s,baz=355,slow=33							
NVAR	**Mina Array Bea**	**75.80**	**41**	P		**P**	**15 18 31.9**	**-1.0**
	0.7nm,0.7s,baz=238,slow=8.4,SNR=4.4							
TXAR	**Lajitas Array**	**81.58**	**56**	P		**P**	**15 19 04.2**	**-0.6**
	0.5nm,1.1s,baz=260,slow=5.4,SNR=3.1							
PDAR	**Pinedale Array**	**83.73**	**41**	P		**P**	**15 19 15.3**	**-0.6**
	0.2nm,0.4s,baz=220,slow=5.5,SNR=2.8							
ILAR	**Eielson Array**	**84.64**	**11**	P		**P**	**15 19 18.5**	**-1.2**
	0.6nm,0.8s,baz=227,slow=6.2,SNR=8.7							
AKASG	**Malin Array Be**	**142.63**	**337**	PKP		**PKPdf**	**15 26 20.4**	**+0.9**
	0.2nm,0.3s,baz=67,slow=0.7,SNR=2.3							
CLL	**Collm**	**146.16**	**353**	*e*PKPbc		**PKPab**	**15 26 27.0**	**-0.3**
	comp=Z,4.0nm,1.0s							
CLL				*i* PKiKP		**PKiKP**	**15 26 31.4**	**+1.5**
CLL				*i*			15 26 36.7	
	comp=Z,9.0nm,1.2s							
BRG	**Berggiesshubel**	**146.48**	**352**	*e*P		**PKPab**	**15 26 32.5**	**+4.0**
	comp=Z,2.4nm,1.0s							
BRG				*e*			15 26 39.8	
	comp=Z,8.6nm,1.4s							
DPC	**Dobruska-Polom**	**146.61**	**349**	*e*P		**PKPab**	**15 26 33.1**	**+4.0**
DPC				*ex*		x	15 26 38.6	
DPC				*ex*		x	15 26 45.1	
DPC				*ex*		x	15 26 53.8	
BRTR	**Keskin Array B**	**148.19**	**319**	PKPbc		**PKPbc**	**15 26 33.5**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=132,slow=2.1,SNR=3.4							
KHC	**Kasperske Hory**	**148.23**	**352**	*e*P		PKPab	15 26 39.9	+4.4
KHC				*ex*		x	15 26 45.6	
KHC				*ex*		x	15 26 59.2	
GERES	**GERESS Array B**	**148.49**	**352**	PKPbc		**PKPbc**	**15 26 32.4**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=53,slow=3.8,SNR=3.8							

DJA 13 15:11:05.8±0.8, 9°S±7°×11°8E±°, h124km±10km, M3.5/9, MLv3.5/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.39**	**134**	P		Pn	15 11 32.6	+0.3
SRBI	**Singaraja**	**3.19**	**280**	P		Pn	15 11 55.3	+0.6
IGBI	**Denpasar**	**3.20**	**267**	P		Pn	15 11 55.2	+0.4
IGBI				S		Sn	15 12 34.7	+2.0
BKSI	**Bulukumba**	**3.75**	**28**	P		Pn	15 12 02.1	0.0
MMRI	**Maumere**	**3.81**	**90**	P		Pn	15 12 03.3	+0.3
JAGI	**Jajag, Banyuwa**	**4.19**	**272**	P		Pn	15 12 06.9	-1.0

IDC ***13*** *15:43:05.0±1.5, 42°.71N×78°.10E, h0km, mb3.6/7, mb1 3.8/12, mb1mx3.6/35, mbtmp3.6/12, ML3.2/5, MS2.8/4, Ms1 2.9/4, ms1mx2.5/40, Error ellipse: s-maj=22.7km s-min=12.2km az=143.0*

KRNET ***13*** *15:43:06.9±0.1, 42°.68N×78°.07E, h12km, mb4.4*

NNC ***13*** *15:43:09.1±2.4, 43°.13N×78°.10E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=30.8km s-min=8.4km az=161.0*

MOS ***13*** *15:43:11.8±1.3, 43°.36N×77°.67E, h14km, mb4.2/3, Error ellipse: s-maj=11.9km s-min=9.2km az=87.9*

ISC 13 15:43:11.5±1.5, 42°.97N±0°.06×77°.91E±0°.05, h31km±11km, n59, σ1§71/69, mb3.6/6, 27C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ANVS	**Anan'yevo**	**0.26**	**224**	*i* P		Pb	15 43 13.0	-5.8
	baz=289							
KNDC	**Almaty**	**0.74**	**290**	⇑P		**Pb**	**15 43 25.1**	**-0.8**
	108nm,0.5s							
KNDC				⇑S		**Sn**	**15 43 37.3**	**+1.3**
	3µm,0.8s							
AAA	**Alma-Ata**	**0.77**	**293**	*e*PG		**Pn**	**15 43 26.0**	**-0.2**
ULHL	**Ulahol**	**1.43**	**240**	P		Pn	15 43 34.0	-1.5
	SNR=711							
ULHL	**Ulahol**	**1.43**	**240**	⇑*i*P		Pn	15 43 34.1	-1.5
	baz=252							
ULHL				⇑*i*S		**Sn**	**15 43 53.6**	**+0.2**
	baz=252							
TKM2	**Tokmak 2**	**1.70**	**269**	P		**Pb**	**15 43 40.6**	**-1.7**
	SNR=820							
TKM2	**Tokmak 2**	**1.70**	**269**	⇑P		**Pb**	**15 43 41.1**	**-1.2**
	406nm,0.2s							
TKM2				⇑S		**Sb**	**15 44 05.4**	**+2.0**
	876nm,0.1s							
TKM2	**Tokmak 2**	**1.70**	**269**	PN		**Pb**	**15 43 40.8**	**-1.5**
TKM2				S		**Sb**	**15 44 05.0**	**+1.6**
TKM2				pmax		pmax		
	comp=Z,261nm,0.4s							
TKM2				smax		smax		
	comp=N,1µm,0.5s							
TKM2	**Tokmak 2**	**1.70**	**269**	⇓*i*P		**Pb**	**15 43 41.1**	**-1.2**
	baz=278							
TKM2				⇓*i*S		**Sb**	**15 44 05.2**	**+1.8**
	baz=278							
NRN	**Naryn**	**2.10**	**223**	*e*P		**Pn**	**15 43 45.1**	**+0.4**
	baz=232							
NRN				*e*S		**Sn**	**15 44 12.4**	**+2.5**
	baz=232							
KZA	**Kyzart**	**2.16**	**246**	P		**Pn**	**15 43 46.6**	**+0.9**
	SNR=335							
KZA	**Kyzart**	**2.16**	**246**	⇑*i*P		**Pn**	**15 43 46.6**	**+0.9**
	baz=255							
KZA				⇑*i*S		**Sb**	**15 44 15.9**	**-0.9**
	baz=255							
KBK	**Karagaybulak**	**2.21**	**263**	P		**Pb**	**15 43 48.4**	**-2.4**
	SNR=112							
KBK	**Karagaybulak**	**2.21**	**263**	⇑*i*P		**Pb**	**15 43 48.4**	**-2.4**
	baz=270							
KBK				⇑*i*S		**Sb**	**15 44 19.8**	**+2.0**
	baz=270							
CHMS	**Chumysh**	**2.32**	**272**	P		**Pn**	**15 43 49.9**	**+2.3**
	SNR=75							
CHMS	**Chumysh**	**2.32**	**272**	⇑*i*P		**Pn**	**15 43 49.9**	**+2.3**
	baz=279							
CHMS				⇑*i*S		**Sb**	**15 44 23.6**	**+2.6**
	baz=279							
FRU	**Bishkek**	**2.43**	**268**	*i* PN		**Pn**	**15 43 50.5**	**+1.5**
FRU				*i*			15 44 26.5	
FRU				pmax		pmax		
	comp=Z,190nm,1.8s							
FRU				smax		smax		
	comp=N,940nm,1.2s							
USP	**Ospenovka**	**2.52**	**278**	P		**Pn**	**15 43 52.8**	**+2.5**
	SNR=213							
USP	**Ospenovka**	**2.52**	**278**	⇑*i*P		**Pn**	**15 43 52.8**	**+2.5**
	baz=284							
USP				⇑*i*S		**Sb**	**15 44 26.8**	**+0.2**
	baz=284							
AAK	**Ala-Archa**	**2.54**	**263**	P		**Pn**	**15 43 52.6**	**+1.9**
	SNR=47							
AAK	**Ala-Archa**	**2.54**	**263**	PN		**Pn**	**15 43 52.2**	**+1.5**
AAK				S		**Sb**	**15 44 28.9**	**+1.5**
AAK				pmax		pmax		
	comp=Z,135nm,0.8s							
AAK				smax		smax		
	comp=N,672nm,0.8s							
AAK	**Ala-Archa**	**2.54**	**263**	⇑*i*P		**Pn**	**15 43 53.2**	**+2.5**
	baz=270							
AAK				⇑*i*S		**Sb**	**15 44 28.7**	**+1.3**
	baz=270							
UCH	**Uchtor**	**2.62**	**255**	P		**Pn**	**15 43 54.0**	**+2.0**
	SNR=108							
UCH	**Uchtor**	**2.62**	**255**	⇑*i*P		**Pn**	**15 43 53.9**	**+1.9**
	baz=261							
UCH				⇑*i*S		**Sb**	**15 44 29.2**	**-0.7**
	baz=261							
EKS2	**Erkin-Say**	**3.06**	**266**	P		**Pn**	**15 43 59.9**	**+2.0**
	SNR=18							
AML	**Almayashu**	**3.23**	**256**	P		**Pb**	**15 44 05.5**	**-2.9**
	SNR=13							
MK31	**Makanchi Array**	**4.93**	**38**	⇓Pn		**Pn**	**15 44 24.5**	**+1.1**
	comp=N,2.0nm,0.2s,baz=211,slow=14,SNR=144							
MK31				⇑Sn		**Sn**	**15 45 21.6**	**+2.4**
	comp=N,13nm,0.5s							
MK31				⇑Lg		Lg	15 45 39.8	
	comp=N,46nm,0.9s,baz=218,slow=27,SNR=3.8							
MK31	**Makanchi Array**	**4.93**	**38**	PN		**Pn**	**15 44 24.3**	**+1.0**
MK31							15 45 21.6	
MK31							15 45 39.7	
MK31				pmax		pmax		
	comp=Z,10.0nm,0.2s							
MK31				smax		smax		
	comp=N,16nm,0.5s							
MK31				pmax		pmax		
	comp=N,10.0nm,0.3s							
MKAR	**Makanchi Array**	**4.93**	**38**	Pn		**Pn**	**15 44 24.5**	**+1.1**
	comp=N,1.4nm,0.3s,baz=209,slow=14,SNR=158							
MKAR				Sn		**Sn**	**15 45 21.3**	**+2.0**
	comp=N,2.8nm,0.3s,baz=221,slow=24,SNR=6.5							
MKAR				Lg		Lg	15 45 39.0	
	comp=N,9.1nm,0.3s,baz=219,slow=27,SNR=3.8							
MKAR				LR		LR	15 46 37.5	
	comp=N,46nm,20.3s,baz=228,slow=42							
MKAR	**Makanchi Array**	**4.93**	**38**	PN		**Pn**	**15 44 24.5**	**+1.1**
MKAR							15 45 21.3	
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MKAR				smax		smax		
	comp=N,3.0nm,0.3s							
MKAR				MLR		MLR		
	comp=Z,46nm,20.3s							
KK31	**Karatay Array**	**5.43**	**274**	⇓Pn		Pb	15 44 41.5	-4.1
	comp=Z,1.4nm,0.4s,baz=83,slow=14,SNR=86							
KK31				⇑Pg		Pn	15 44 49.9	+20
	comp=Z,9.5nm,0.5s,baz=84,slow=15,SNR=8.9							
KK31				Lg		Lg	15 45 59.8	
	comp=Z,30nm,0.5s,baz=91,slow=29,SNR=13							
KK31	**Karatay Array**	**5.43**	**274**	*i* PN		Pb	15 44 40.4	-5.1
KK31				*e*			15 44 48.6	
KK31				pmax		pmax		
	comp=Z,1.0nm,0.4s							
KK31				pmax		pmax		
	comp=Z,10.0nm,0.5s							
KK31				pmax		pmax		
	comp=N,63nm,0.7s							
KURBB	**Kurchatov Arra**	**7.67**	**3**	⇓Pn		**Pn**	**15 45 01.8**	**+0.9**
	comp=N,2.4nm,0.5s							
KURBB				⇓Lg		Lg	15 47 10.5	
	comp=N,118nm,0.6s							
KURBB	**Kurchatov Arra**	**7.67**	**3**	Pn		**Pn**	**15 45 01.2**	**+0.3**
	comp=N,0.1nm,0.3s,baz=173,slow=9.5,SNR=13							
KURBB				Sn		**Sn**	**15 46 30.2**	**+3.7**
	comp=N,0.3nm,0.3s,baz=189,slow=16,SNR=5.0							
KURBB				Lg		Lg	15 47 09.9	
	comp=N,1.0nm,0.3s,baz=182,slow=29,SNR=9.2							
KURK	**Kurchatov**	**7.76**	**3**	⇑Pn		**Pn**	**15 45 02.5**	**+0.2**
	comp=N,3.7nm,1.1s							
KURK				⇑Lg		Lg	15 47 14.1	
	comp=N,81nm,1.3s							
KURK	**Kurchatov**	**7.76**	**3**	P		**Pn**	**15 45 02.4**	**+0.2**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.9s							
KURK				pmax		pmax		
	comp=N,81nm,1.3s							
BVA0	**Borovoye Array**	**11.24**	**336**	⇓Pn		**Pn**	**15 45 50.5**	**+0.6**
	comp=N,5.4nm,1.0s,baz=153,slow=12,SNR=10							
BVA0				⇑Lg		Lg	15 49 04.4	
	comp=N,28nm,0.9s,baz=144,slow=26,SNR=5.7							
BVAR	**Borovoye Array**	**11.24**	**336**	Pn		**Pn**	**15 45 50.

ISC 13 16:04:33.6±1.1, 0.5S±0.1×132.92E±0.06, h32km, n13, σ1°41/10, mb3.7/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.60**	**128**	P	**Pb**	**16 05 01.3**	**-1.3**
RKPI				S	**Sb**	**16 05 23.3**	**+0.8**
SIJI	**Sorong**	**1.69**	**258**	Pn	**Pn**	**16 05 00.8**	**-0.1**
	28nm,0.3s,baz=238,slow=22,SNR=82						
SIJI				Sn	**Sb**	**16 05 26.0**	**+1.0**
	36nm,0.3s,baz=52,slow=22,SNR=22						
FAKI	**Fak Fak**	**2.48**	**196**	P	**Pb**	**16 05 15.6**	**-1.9**
WRA	**Warramunga Arr**	**19.35**	**176**	P	**Pn**	**16 08 58.4**	**+0.4**
	0.2nm,0.3s,baz=355,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**23.03**	**178**	P	**P**	**16 09 38.8**	**+2.5**
	2.3nm,0.8s,baz=5.4,slow=9.8,SNR=16						
CTA	**Charters Tower**	**23.42**	**147**	LR	LR	16 20 32.6	
	comp=Z,237nm,20.4s,baz=188,slow=41						
STKA	**Stephens Creek**	**32.25**	**166**	P	**P**	**16 10 59.2**	**-0.1**
	1.4nm,0.7s,baz=347,slow=12,SNR=4.6						
MJAR	**Matsushiro Arr**	**37.20**	**7**	LR	LR	16 25 21.1	
	comp=Z,13nm,20.0s,baz=50,slow=34						
CMAR	**Chiang Mai Arr**	**38.34**	**301**	P	**P**	**16 11 52.0**	**0.0**
	0.4nm,0.4s,baz=124,slow=7.8,SNR=3.8						
H11N1	**WAKE ISLAND Hy**	**38.90**	**57**	T	T	16 53 13.9	
	baz=244,slow=74						
H11N2	**WAKE ISLAND Hy**	**38.91**	**57**	T	T	16 53 14.9	
	baz=244,slow=74						
H11N3	**WAKE ISLAND Hy**	**38.92**	**57**	T	T	16 53 15.3	
	baz=244						
MKAR	**Makanchi Array**	**64.58**	**324**	P	**P**	**16 15 07.4**	**-0.5**
	0.3nm,0.6s,baz=127,slow=7.6,SNR=3.0						

MEX 13 16:05:47.2±0.8, 16.67N×99.29W, h15km±9km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.58**	**290**	*eP*	Pg	16 05 55.5	-3.2
ACX				eS	Sg	16 06 03.3	-3.2
CAIG	**El Cayaco**	**1.01**	**292**	*eP*	Pb	16 06 02.8	-3.6
CAIG				*i* S	Sb	16 06 15.1	-4.5
TLIG	**Tlapa**	**1.12**	**38**	*eP*	Pb	16 06 04.3	-4.3
TLIG				eS	Sb	16 06 18.7	-4.5
PNIG	**Pinotepa**	**1.15**	**104**	*eP*	Pn	16 06 05.7	-3.1
PNIG				*i* S	Sb	16 06 18.8	-4.7
MEIG	**Mezcala**	**1.29**	**346**	*i* P	Pn	16 06 06.8	-4.0
MEIG				*i* S	Sb	16 06 23.4	-4.4
PLIG	**Platanillo**	**1.73**	**353**	*eP*	Pn	16 06 14.0	-2.9
PLIG				*i* S	Sn	16 06 33.6	-5.1
ARIG	**Puente Sto Nin**	**1.90**	**328**	*eP*	Pn	16 06 16.5	-2.6
ARIG				eS	Sn	16 06 37.7	-5.1
ZIIG	**Zihuatanejo**	**2.28**	**294**	*eP*	Pn	16 06 22.1	-2.3
ZIIG				*i* S	Sn	16 06 47.6	-4.7
VHO	**Vista Hermosa**	**2.48**	**80**	*eP*	Pn	16 06 25.2	-2.1
VHO				*i* S	Sn	16 06 52.9	-4.7

IDC 13 16:07:16.7±1.8, 7.79N×91.16E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.3/38, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=38.3km s-min=35.7km az=47.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.38**	**268**	Pn	Pn	16 09 46.9	-0.1
	0.6nm,0.3s,baz=90,slow=12,SNR=6.4						
PALK				Sn	Sn	16 11 36.1	-8.1
	4.6nm,0.3s,baz=183,slow=19,SNR=12						
CMAR	**Chiang Mai Arr**	**13.03**	**35**	Pn	Pn	16 10 23.0	-0.3
	0.0nm,0.3s,baz=222,slow=14,SNR=3.9						
H08S3	**Diego Garcia H**	**24.11**	**231**	T	T	16 38 38.9	
	baz=52,slow=76,SNR=9.3						
H08S2	**Diego Garcia H**	**24.11**	**231**	T	T	16 38 55.0	
	baz=52,slow=76,SNR=7.4						
H08S1	**Diego Carcia H**	**24.13**	**231**	T	T	16 38 35.8	
	baz=52,slow=76,SNR=7.6						
SONM	**Songino Array**	**41.96**	**15**	P	P	16 15 09.4	-0.1
	0.4nm,0.7s,baz=219,slow=7.0,SNR=3.7						
WRA	**Warramunga Array**	**50.65**	**124**	P	P	16 16 18.1	-0.1
	0.4nm,0.8s,baz=302,slow=9.0,SNR=7.3						

MAN 13 16:16:21, 13.45N×120.26E, h30km, mb4.0, ML2.8, MS2.4, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.67**	**85**	*eP*	Pn	16 16 35.6	+1.0
BUSP	**Coron**	**1.44**	**183**	*eP*	Pb	16 16 46.5	-0.7
BUSP				eS	Sn	16 16 54.2	-8.7
ENPP	**El Nido**	**2.37**	**200**	*eP*	Pn	16 16 59.4	+1.5
CUYO	**Cuyo Island**	**2.68**	**164**	*eP*	Pn	16 17 03.5	+1.3
CUYO				eS	Sb	16 17 49.5	+8.5
GUIM	**Jordan**	**3.61**	**141**	*eP*	Pn	16 17 17.6	+2.6

NIED ***13*** *16:24:00, 43.90N×147.80E, h86km, Mw3.9 Best double couple: M0 6.70000×10^14 NP1:φ=39.00000°, δ=26.00000°, λ=-119.00000°. NP2:φ=250.00000°, δ=68.00000°, λ=-77.00000°.*

ISCJB ***13*** *16:24:04.4±0.6, 44.19N±0.05×147.73E±0.07, h100km±4km, mb3.7/14, Error ellipse: s-maj=10.2km s-min=5.3km az=136.2*

MOS ***13*** *16:24:04.9±1.2, 44.32N×147.71E, h107km, mb4.1/8, Error ellipse: s-maj=15.5km s-min=12.1km az=90.5*

BJI ***13*** *16:24:04.2, 44.03N×147.69E, h108km, mb4.5/3, mb4.8/3*

SKHL ***13*** *16:24:05.8±0.5, 44.18N×147.72E, h102km±9km, mb4.5/5, Ms4.2/1, msh5.8/3*

JMA ***13*** *16:24:06.1±0.2, 43.88N×147.76E, h92km, M4.0*

IDC ***13*** *16:24:06.3±2.5, 44.31N×147.66E, h100km±22km, mb3.5/13, mb1 3.7/16, mb1mx3.5/30, mbtmp3.8/16, Error ellipse: s-maj=18.3km s-min=15.6km az=140.0*

ISC 13 16:24:04.8±0.9, 44.16N±0.05×147.76E±0.06, h94km±7km, n68, σ1°25/78, mb3.6/14, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.73**	**247**	*eP*	**Pn**	**16 24 22.4**	**+0.5**
SHO				AMB	AMB	16 24 22.6	
	137nm,0.6s						
SHO				eS	**Sn**	**16 24 35.3**	**+0.5**
SHO				A	A	16 24 38.3	
	4μm,0.2s						
KUR	**Kuril'sk**	**1.07**	**4**	*i* PN	**Pn**	**16 24 25.9**	**+0.3**
KUR				*i* S	**Sn**	**16 24 40.6**	**-0.6**
KUR				pmax	pmax		
	comp=N,15nm,0.4s						
KUR				pmax	pmax		
	comp=E,29nm,0.4s						
KUR				pmax	pmax		
	comp=Z,113nm,0.4s						
KUR				smax	smax		
	comp=N,421nm,0.4s						
KUR				smax	smax		
	comp=E,1μm,0.4s						
KUR	**Kuril'sk**	**1.07**	**4**	*eP*	**Pn**	**16 24 25.9**	**+0.3**
KUR				AMB	AMB	16 24 26.4	
	comp=E,15nm,0.4s						
KUR				AMB	AMB	16 24 26.4	
	comp=E,29nm,0.4s						
KUR				AMB	AMB	16 24 26.4	
	comp=E,113nm,0.4s						
KUR				eS	**Sn**	**16 24 40.6**	**-0.6**
KUR				A	A	16 24 42.2	
	comp=E,420nm,0.4s						
KUR				A	A	16 24 42.2	
	comp=E,1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.38**	**265**	*d* PN	**Pn**	**16 24 29.7**	**+0.5**
YUK				*i* S	**Sn**	**16 24 47.2**	**-0.4**
YUK				pmax	pmax		
	comp=N,98nm,0.2s						
YUK				pmax	pmax		
	comp=E,190nm,0.2s						
YUK				pmax	pmax		
	comp=Z,195nm,0.2s						
YUK				smax	smax		
	comp=N,2μm,0.5s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.38**	**265**	*eP*	**Pn**	**16 24 29.7**	**+0.5**
YUK				AMB	AMB	16 24 31.0	
	comp=E,98nm,0.2s						
YUK				AMB	AMB	16 24 31.0	
	comp=E,191nm,0.2s						
YUK				AMB	AMB	16 24 31.0	
	comp=E,195nm,0.2s						
YUK				eS	**Sn**	**16 24 47.2**	**-0.4**
YUK				A	A	16 24 51.1	
	comp=E,2μm,0.5s						
YUK				A	A	16 24 51.1	
	comp=E,1μm,0.5s						
NEM2	**Nemuro 2**	**1.67**	**242**	P	**Pn**	**16 24 32.8**	**0.0**
NEM2				eS	**Sn**	**16 24 53.2**	**-0.9**
JRA	**Rausu**	**1.92**	**264**	P	**Pn**	**16 24 37.3**	**+1.3**
JRA				eS	**Sn**	**16 25 01.2**	**+1.4**
JNK	**Nakash**	**2.27**	**256**	P	**Pn**	**16 24 41.4**	**+0.7**
JNK				eS	**Sn**	**16 25 08.1**	**-0.1**
JAK	**Akkeshi**	**2.51**	**243**	P	**Pn**	**16 24 44.1**	**+0.2**
JAK				eS	**Sn**	**16 25 12.8**	**-1.1**
JTKR	**Abashiri--Toko**	**2.79**	**267**	P	**Pn**	**16 24 48.9**	**+1.4**
JTKR				eS	**Sn**	**16 25 20.9**	**+0.6**
JAR	**Ashorobuto**	**3.02**	**255**	P	**Pn**	**16 24 52.2**	**+1.5**
JAR				eS	**Sn**	**16 25 27.4**	**+1.4**
JOB	**Onbets**	**3.12**	**248**	P	**Pn**	**16 24 53.0**	**+1.0**
JOB				eS	**Sn**	**16 25 27.9**	**-0.5**
JCH	**Churui**	**3.56**	**246**	P	**Pn**	**16 24 58.4**	**+0.5**
JCH				eS	**Sn**	**16 25 37.9**	**-1.1**
JKK2	**Kamakawa 2**	**3.63**	**267**	P	**Pn**	**16 25 00.8**	**+1.9**
JKA	**Kamikawa-asahi**	**3.72**	**271**	*eP*	**Pn**	**16 25 02.1**	**+2.1**
ASAJ	**Asahikawa**	**3.72**	**271**	P	**Pn**	**16 25 02.0**	**+2.0**
	baz=65,slow=12						
JSE	**Soyaes**	**3.79**	**284**	P	**Pn**	**16 25 02.5**	**+1.6**
JFR	**Furan**	**3.88**	**257**	P	**Pn**	**16 25 04.5**	**+2.2**
JFR				eS	**Sn**	**16 25 47.5**	**+0.7**
ERM	**Erimo**	**4.00**	**239**	*eP*	**Pn**	**16 25 06.0**	**+2.2**
ERM	**Erimo**	**4.00**	**239**	*eP*	**Pn**	**16 25 06.0**	**+2.2**
JNBK	**Urakawa-nobuka**	**4.12**	**245**	P	**Pn**	**16 25 05.6**	**+0.2**
JNBK				eS	**Sn**	**16 25 51.3**	**-1.2**
JWK2	**Keihoku**	**4.33**	**287**	P	Pn	16 25 11.3	+2.9
YSS	**Yuzh-Sakhalins**	**4.49**	**310**	*eP*	**Pn**	**16 25 11.8**	**+1.3**
YSS				eS	**Sn**	**16 26 00.0**	**-1.5**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax	smax		
	comp=N,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.49**	**310**	*eP*	**Pn**	**16 25 11.8**	**+1.3**
YSS				AMB	AMB	16 25 12.1	
	comp=N,30nm,1.0s						
YSS				eS	**Sn**	**16 26 01.1**	**-0.4**
YSS				A	A	16 26 02.2	
	comp=N,33nm,0.9s						
YSS				AMS	AMS	16 28 09.6	
	comp=N,2μm,22.0s						
YSS				AMS	AMS	16 28 09.6	
	comp=N,3μm,22.0s						
JKB	**Kayabe**	**5.43**	**248**	P	**Pn**	**16 25 23.7**	**+0.4**
JKB				eS	**Sn**	**16 26 21.6**	**-2.8**
JOT	**Ohata**	**5.67**	**243**	P	**Pn**	**16 25 26.6**	**+0.1**
JOT				eS	**Sn**	**16 26 25.5**	**-4.7**
PETK	**Petropavlovsk-**	**11.10**	**33**	P	**Pn**	**16 26 38.9**	**-1.4**
	comp=N,0.1nm,0.3s,baz=146,slow=19,SNR=2.9						
USRK	**Ussuriysk Ar.**	**11.33**	**276**	P	**Pn**	**16 26 43.5**	**-0.1**
	comp=N,0.1nm,0.3s,baz=85,slow=13,SNR=6.0						
EKMR	**Ekimchan**	**13.22**	**318**	*erx*	rx	16 27 56.4	
YAK	**Yakutsk**	**20.80**	**336**	P	**P**	**16 28 34.7**	**-3.5**
	comp=N,1.2nm,0.6s,baz=323,slow=20,SNR=4.5						
SONM	**Songino Array**	**28.72**	**292**	P	**P**	**16 29 53.0**	**-0.2**
	comp=N,1.0nm,0.7s,baz=94,slow=8.0,SNR=8.3						
SONM	**Songino Array**	**28.72**	**292**	*eP*	**P**	**16 29 53.7**	**+0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**29.13**	**141**	T	T	17 00 55.1	
	baz=332,slow=76,SNR=90						
H11N1	**WAKE ISLAND Hy**	**29.14**	**141**	T	T	17 00 58.9	
	baz=332,slow=76,SNR=76						
H11N3	**WAKE ISLAND Hy**	**29.15**	**141**	T	T	17 00 59.1	
	baz=332,slow=76,SNR=80						
H11S1	**WAKE ISLAND Hy**	**30.11**	**142**	T	T	17 02 08.1	
	baz=333,slow=76,SNR=163						
H11S3	**WAKE ISLAND Hy**	**30.12**	**142**	T	T	17 02 05.2	
	baz=333,slow=76,SNR=145						
H11S2	**WAKE ISLAND Hy**	**30.13**	**142**	T	T	17 02 03.5	
	baz=333,slow=76,SNR=132						
QIZ	**Qiongzhong**	**40.35**	**244**	P	**P**	**16 31 32.1**	**-1.2**
QIZ				S	**S**	**16 37 35.0**	**+0.7**
QIZ				LN			
	comp=Z,130nm,12.6s						
QIZ				LZ			
	comp=Z,94nm,20.6s						
ILAR	**Eielson Array**	**40.89**	**37**	P	**P**	**16 31 37.5**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=262,slow=7.0,SNR=7.6						
ILAR	**Eielson Array**	**40.89**	**37**	*eP*	**P**	**16 31 38.2**	**+0.9**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**40.89**	**37**	*eP*	**P**	**16 31 38.1**	**+0.8**
MKAR	**Makanchi Array**	**44.79**	**297**	P	**P**	**16 32 08.8**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=79,slow=8.6,SNR=23						
MKAR	**Makanchi Array**	**44.79**	**297**	*eP*	**P**	**16 32 09.2**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**44.79**	**297**	*eP*	**P**	**16 32 09.2**	**+0.2**
ARCES	**ARCESS Array B**	**59.01**	**340**	P	**P**	**16 33 52.9**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=49,slow=8.3,SNR=8.4						
ARCES	**ARCESS Array B**	**59.01**	**340**	*eP*	**P**	**16 33 53.2**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**59.01**	**340**	*eP*	**P**	**16 33 53.2**	**-1.0**
FINES	**FINESS Array B**	**64.71**	**333**	P	**P**	**16 34 31.3**	**-1.1**
	comp=Z,2.3nm,0.6s,baz=47,slow=8.4,SNR=12						
FINES	**FINESS Array B**	**64.71**	**333**	P	**P**	**16 34 31.3**	**-1.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**64.97**	**194**	P	**P**	**16 34 35.4**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=6.5,slow=6.6,SNR=2.9						
NVAR	**Mina Array Bea**	**66.98**	**58**	P	**P**	**16 34 49.2**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=296,slow=6.1,SNR=5.2						
ASAR	**Alice Springs**	**68.68**	**194**	P	**P**	**16 34 59.5**	**+1.4**
	comp=Z,0.3nm,0.9s,baz=8.4,slow=7.3,SNR=2.6						
PDAR	**Pinedale Array**	**69.31**	**50**	P	**P**	**16 35 02.8**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=8.5,slow=3.0,SNR=3.8						
NOA	**NORSAR Array B**	**69.38**	**339**	P	**P**	**16 35 02.0**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=30,slow=6.4,SNR=7.9						
NOA	**NORSAR Array B**	**69.38**	**339**	P	**P**	**16 35 02.0**	**-0.1**
NOA	**NORSAR Array B**	**69.38**	**339**	*eP*	**P**	**16 35 02.0**	**-0.1**
AKASG	**Malin Array Be**	**71.51**	**324**	P	**P**	**16 35 15.1**	**0.0**
	comp=Z,0.6nm,0.4s,baz=43,slow=6.7,SNR=6.1						
AKASG	**Malin Array Be**	**71.51**	**324**	P	**P**	**16 35 15.1**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
STKA	**Stephens Creek**	**75.88**	**185**	*eP*	P	16 35 46.3	+5.6
STKA	**Stephens Creek**	**75.88**	**185**	*eP*	P	16 35 46.3	+5.6
CLL	**Collm**	**77.15**	**333**	*i* P	**P**	**16 35 47.8**	**-0.1**
	comp=Z,3.0nm,0.9s						
CLL	**Collm**	**77.15**	**333**	*i* P	**P**	**16 35 47.8**	**-0.1**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CLL	**Collm**	**77.15**	**333**	*eP*	**P**	**16 35 47.8**	**-0.1**
GERES	**GERESS Array B**	**79.01**	**331**	P	**P**	**16 35 59.0**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=21,slow=5.8,SNR=4.5						
GERES	**GERESS Array B**	**79.01**	**331**	*eP*	**P**	**16 35 58.6**	**+0.3**
TXAR	**Lajitas Array**	**82.05**	**57**	P	**P**	**16 36 15.7**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=298,slow=4.0,SNR=14						
TXAR	**Lajitas Array**	**82.05**	**57**	P	**P**	**16 36 15.7**	**+0.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

MAN 13 16:32:43, 9.67N×122.25E, h7km, mb4.8, ML3.7, MS3.7, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**1.01**	**19**	*eP*	Pb	16 33 02.9	+0.2
GUIM				eS	Sn	16 33 18.6	+0.7
TBP	**Tagbilaran**	**1.59**	**89**	*eP*	Pn	16 33 11.6	0.0
TBP				eS	Sg	16 33 43.2	+9.1
PAGZ	**Pagadian**	**2.13**	**148**	*eP*	Pn	16 33 20.0	+1.0
MSLP	**Maasin**	**2.61**	**80**	*eP*	Pn	16 33 27.3	+1.7
OCLP	**Ormoc**	**2.69**	**59**	*eP*	Pn	16 33 28.0	+1.2

IDC ***13*** *16:38:09.5±1.0, 7.81N×91.98E, h0km, mb3.8/9, mb1 4.0/12, mb1mx3.8/29, mbtmp3.9/12, ML4.2/3, MS3.2/14, Ms1 3.3/14, ms1mx3.1/36, Error ellipse: s-maj=30.7km s-min=16.6km az=54.0*

ISCJB ***13*** *16:38:10.8±0.5, 7.77N±0.08×91.97E±0.08, h25km, mb4.0/14, MS3.2/12, Error ellipse: s-maj=14.2km s-min=7.7km az=42.3*

NEIC ***13*** *16:38:13.8±2.4, 7.77N×91.96E, h31km±18km, mb4.3/5, Error ellipse: s-maj=11.8km s-min=6.9km az=45.0*

ISC 13 16:38:13.1±0.7, 7.8N±0.1×91.95E±0.09, h25km, n32, σ0°85/22, mb4.1/14, MS3.2/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.53**	**125**	Pn	**Pn**	**16 40 14.8**	**-0.4**
	2.2nm,0.3s,baz=319,slow=12,SNR=13						
KULM	**Kulim**	**8.99**	**106**	*eP*	**Pn**	**16 40 21.7**	**+0.2**
	14nm,0.6s						
IPM	**Ipoh**	**9.60**	**110**	*eP*	**Pn**	**16 40 29.9**	**0.0**
	7.1nm,0.6s						
PALK	**Pallekele**	**11.16**	**268**	Pn	**Pn**	**16 40 51.6**	**+0.3**
	3.0nm,0.3s,baz=92,slow=13,SNR=16						
PALK				Sn	Sn	16 42 41.8	-14
	9.0nm,0.3s,baz=238,slow=6.2,SNR=12						
PALK				LR	LR	16 44 17.8	
	comp=Z,257nm,21.8s,baz=78,slow=33						
CMAR	**Chiang Mai Arr**	**12.60**	**32**	Pn	**Pn**	**16 41 11.0**	**+0.2**
	0.3nm,0.3s,baz=227,slow=15,SNR=6.3						
CMAR				LR	LR	16 46 15.9	
	comp=Z,103nm,19.1s,baz=208,slow=39						
LSA	**Lhasa**	**21.81**	**358**	*eP*	**P**	**16 43 06.6**	**+2.6**
	14nm,1.1s						
H08S3	**Diego Garcia H**	**24.73**	**232**	T	T	17 09 55.9	
	baz=52,slow=75,SNR=68						
H08S2	**Diego Garcia H**	**24.73**	**232**	T	T	17 10 11.0	
	baz=52,slow=75,SNR=28						
H08S1	**Diego Carcia H**	**24.74**	**232**	T	T	17 09 49.1	
	baz=52,slow=75,SNR=22						
MK31	**Makanchi Array**	**39.73**	**350**	*eP*	**P**	**16 45 43.8**	**+0.1**
MKAR	**Makanchi Array**	**39.73**	**350**	P	**P**	**16 45 43.9**	**+0.2**
	0.6nm,0.5s,baz=167,slow=8.1,SNR=11						
MKAR				LR	LR	17 06 15.2	
	comp=Z,18nm,18.2s,baz=174,slow=42						
KKAR	**Karatay Array**	**39.90**	**335**	*eP*	**P**	**16 45 43.5**	**-1.5**
SONM	**Songino Array**	**41.75**	**15**	P	**P**	**16 46 00.3**	**-0.1**
	1.3nm,0.7s,baz=199,slow=9.6,SNR=11						
SONM				LR	LR	17 06 04.2	
	comp=Z,38nm,20.0s,baz=190,slow=40						
KSRS	**Korea Array**	**43.97**	**42**	LR	LR	17 05 53.9	
	comp=Z,24nm,18.2s,baz=274,slow=38						
KURK	**Kurchatov**	**44.20**	**348**	P	**P**	**16 46 19.6**	**-0.4**
	4.5nm,1.2s						
TLY	**Talaya**	**44.80**	**10**	LR	LR	17 04 32.9	
	comp=Z,24nm,19.8s,baz=198,slow=35						
ZALV	**Zalesovo Beam**	**46.38**	**354**	P	**P**	**16 46 37.4**	**+0.1**
	0.6nm,0.4s,baz=161,slow=9.2,SNR=5.8						
ZALV				LR	LR	17 10 18.1	
	comp=Z,26nm,19.8s,baz=248,slow=42						
ABKAR	**Akbulak array**	**49.29**	**333**	*eP*	**P**	**16 47 00.3**	**+0.4**
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**49.99**	**124**	P	**P**	**16 47 05.9**	**+0.2**
	1.6nm,0.8s,baz=306,slow=8.5,SNR=7.2						
WRAB	**Tennant Creek**	**50.00**	**124**	*eP*	**P**	**16 47 05.3**	**-0.5**
	4.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**50.27**	**37**	LR	LR	17 09 43.5	
	comp=Z,25nm,18.9s,baz=141,slow=38						
MJAR	**Matsushiro Arr**	**50.83**	**49**	P	**P**	**16 47 11.5**	**-0.3**
	0.3nm,0.4s,baz=258,slow=8.7,SNR=3.8						
MJAR				LR	LR	17 09 03.3	
	comp=Z,29nm,20.9s,baz=225,slow=36						
AS31	**Alice Springs**	**51.54**	**128**	*eP*	**P**	**16 47 17.7**	**+0.3**
ASAR	**Alice Springs**	**51.54**	**128**	P	**P**	**16 47 17.2**	**-0.2**
	0.6nm,0.7s,baz=300,slow=8.0,SNR=16						
ASAR				LR	LR	17 09 52.8	
	comp=Z,32nm,19.9s,baz=280,slow=37						
GUMO	**Guam**	**52.24**	**79**	LR	LR	17 09 56.5	
	comp=Z,12nm,19.3s,baz=184,slow=36						
BRTR	**Keskin Array B**	**60.85**	**311**	LR	LR	17 15 22.8	
	comp=Z,11nm,18.9s,baz=141,slow=37						
STKA	**Stephens Creek**	**61.63**	**133**	P	**P**	**16 48 29.9**	**+0.9**
	1.0nm,0.6s,baz=328,slow=7.7,SNR=4.3						
TIXI	**Tiksi**	**67.75**	**12**	*eP*	**P**	**16 49 06.7**	**-1.4**
	4.1nm,0.6s						
FINES	**FINESS Array B**	**71.78**	**333**	P	**P**	**16 49 32.6**	**-0.6**
	3.1nm,0.9s,baz=108,slow=7.5,SNR=3.8						
BOSA	**Boshof**	**73.71**	**237**	LR	LR	17 20 04.0	
	comp=Z,36nm,18.1s,baz=174,slow=34						
GERES	**GERESS Array B**	**76.44**	**318**	P	**P**	**16 50 01.4**	**+0.6**
	0.7nm,0.8s,baz=101,slow=8.1,SNR=4.9						
NOA	**NORSAR Array B**	**78.74**	**331**	LR	LR	17 28 47.0	
	comp=Z,21nm,19.9s,baz=115,slow=39						

WEL 13 16:50:38.0±0.7, 47.72S×165.75E, h33km, ML3.8/7, 1D, Error ellipse: s-maj=6.4km s-min=6.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**1.77**	**61**	PN	Pn	16 51 05.4	-0.9
APZ				SN	Sn	16 51 26.3	-1.3
APZ				AML	AML	16 51 27.7	
WHZ	**Wether Hill Ro**	**2.37**	**41**	PN	Pn	16 51 13.3	-1.2
WHZ				SN	Sn	16 51 40.6	-1.8
WHZ				AML	AML	16 51 42.1	
DCZ	**Deep Cove**	**2.44**	**24**	PN	Pn	16 51 15.4	0.0
DCZ				AML	AML	16 51 49.9	
DCZ				AML	AML	16 51 50.9	
DCZ				AML	AML	16 51 51.6	
SYZ	**Scrubby Hill**	**2.60**	**64**	PN	Pn	16 51 17.7	+0.1
SYZ				SN	Sn	16 51 47.5	-0.5
SYZ				AML	AML	16 51 51.3	
SYZ				AML	AML	16 51 54.1	
SYZ				AML	AML	16 51 58.4	
MLZ	**Mavora Lakes**	**2.90**	**36**	PN	Pn	16 51 50.5	-1.3
MLZ				AML	AML	16 51 55.5	
MLZ				AML	AML	16 51 58.0	
TUZ	**Tuapeka**	**3.20**	**58**	PN	Pn	16 51 25.6	-0.2
MSZ	**Milford Sound**	**3.40**	**27**	PN	P

34nm,0.1s,SNR=18
ELAN Lg Lg 16 57 15.5
9.5nm,0.1s,SNR=10
ELAN Lanestosa 1.02 350 Pg Pg 16 57 01.0 -0.7
3.1nm,0.2s,SNR=18
ELAN Lg Lg 16 57 16.3
9.5nm,0.1s,SNR=10
EARA Aranguren 1.31 65 Pg Pn 16 57 06.5 -0.1
1.0nm,0.1s,SNR=7.9
EARA Lg Lg 16 57 22.8
15nm,0.1s,SNR=7.9
EARA Aranguren 1.31 65 Pg Pn 16 57 06.5 -0.1
1.0nm,0.1s,SNR=7.9
EARA Lg Lg 16 57 23.2
11nm,0.1s,SNR=7.9
IUNC Unciti 1.36 67 Pg Pn 16 57 06.9 -0.4
6.5nm,0.1s,SNR=7.9
IUNC Lg Lg 16 57 24.8
39nm,0.2s,SNR=7.9
IUNC Unciti 1.36 67 Pg Pn 16 57 06.9 -0.4
6.5nm,0.1s,SNR=7.9
IUNC Lg Lg 16 57 24.8
39nm,0.2s,SNR=7.9
IUSE Utxeti 1.42 59 Pg Pn 16 57 07.3 -0.7
3.7nm,0.2s,SNR=7.9
IUSE Lg Lg 16 57 26.4
12nm,0.1s,SNR=7.9
IUSE Utxeti 1.42 59 Pg Pn 16 57 07.3 -0.7
3.7nm,0.2s,SNR=7.9
IUSE Lg Lg 16 57 26.4
12nm,0.1s,SNR=7.9
YNAR Nardues-Alduna 1.42 73 Pg Pg 16 57 09.3 -0.2
7.4nm,0.1s,SNR=7.9
YNAR Lg Lg 16 57 26.9
51nm,0.1s,SNR=7.9
YNAR Nardues-Alduna 1.42 73 Pg Pn 16 57 07.5 -0.5
7.4nm,0.1s,SNR=7.9
YNAR Lg Lg 16 57 26.4
51nm,0.1s,SNR=7.9
IZUN Zunzarren 1.43 63 Pg Pn 16 57 08.4 +0.2
1.6nm,0.1s,SNR=7.9
IZUN Lg Lg 16 57 27.2
9.9nm,0.1s,SNR=7.9
IZUN Zunzarren 1.43 63 Pg Pn 16 57 08.4 +0.2
1.6nm,0.1s,SNR=7.9
IZUN Lg Lg 16 57 27.2
9.9nm,0.1s,SNR=7.9
YSOS Sos del Rey Ca 1.54 81 Pg Pn 16 57 09.2 -0.5
2.9nm,0.1s,SNR=7.9
YSOS Lg Lg 16 57 30.4
61nm,0.1s,SNR=7.9
YSOS Sos del Rey Ca 1.54 81 Pg Pn 16 57 09.2 -0.5
2.9nm,0.1s,SNR=7.9
YSOS Lg Lg 16 57 30.4
61nm,0.1s,SNR=7.9
YARA Arangoiti 1.54 74 Pg Pn 16 57 09.7 -0.2
1.8nm,0.1s,SNR=7.9
YARA Lg Lg 16 57 30.5
18nm,0.1s,SNR=7.9
YARA Arangoiti 1.54 74 Pg Pn 16 57 09.7 -0.2
1.8nm,0.1s,SNR=7.9
YARA Lg Lg 16 57 30.5
18nm,0.1s,SNR=7.9
ELIZ Elizondo 1.55 52 ⇑Pg Pn 16 57 09.0 -0.8
0.9nm,0.2s,SNR=18
ELIZ Lg Lg 16 57 29.5
6.5nm,0.1s,SNR=8.8
ELIZ Elizondo 1.55 52 Pg Pn 16 57 09.0 -0.7
0.9nm,0.2s,SNR=18
ELIZ Lg Lg 16 57 29.5
6.5nm,0.1s,SNR=8.8
YUND Undues 1.57 77 Pg Pn 16 57 09.1 -1.0
1.0nm,0.1s,SNR=7.9
YUND Lg Lg 16 57 31.1
24nm,0.2s,SNR=7.9
YUND Undues 1.57 77 Pg Pn 16 57 09.1 -1.0
1.0nm,0.1s,SNR=7.9
YUND Lg Lg 16 57 31.1
24nm,0.2s,SNR=7.9
IELO Elcoad 1.57 66 Pn Pn 16 57 09.6 -0.6
1.0nm,0.1s,SNR=7.9
IELO Lg Lg 16 57 31.1
24nm,0.2s,SNR=7.9
IELO Elcoad 1.57 66 Pn Pn 16 57 09.6 -0.6
1.0nm,0.1s,SNR=7.9
IELO Lg Lg 16 57 31.1
12nm,0.2s,SNR=7.9
YASP Aspurt 1.59 71 Pg Pn 16 57 09.9 -0.4
3.2nm,0.1s,SNR=7.9
YASP Lg Lg 16 57 31.4
16nm,0.3s,SNR=7.9
YASP Aspurt 1.59 71 Pg Pn 16 57 09.9 -0.4
3.2nm,0.1s,SNR=7.9
YASP Lg Lg 16 57 31.4
16nm,0.3s,SNR=7.9
EALK Alkurruntz 1.59 51 Pn Pn 16 57 08.9 -1.3
0.7nm,0.1s,SNR=7.9
EALK Pg Pb 16 57 10.5 -1.1
0.8nm,0.1s,SNR=13
EALK Sn Sn 16 57 29.0 -1.8
5.7nm,0.2s,SNR=16
EALK Lg Lg 16 57 31.9
18nm,0.1s,SNR=7.9
EALK Alkurruntz 1.59 51 Pn Pn 16 57 08.9 -1.4
0.7nm,0.1s,SNR=7.9
EALK Alkurruntz 1.59 51 Pg Pn 16 57 10.5 +0.2
0.8nm,0.1s,SNR=13
EALK Sn Sn 16 57 29.2 -1.6
5.5nm,0.1s,SNR=16
EALK Lg Lg 16 57 32.1
31nm,0.3s,SNR=7.9
SJPF Ste Jean 1.70 58 *e*Pn Pn 16 57 11.3 -0.6
SJPF *e*Sn Sn 16 57 32.3 -1.4
17nm,0.3s
SJPF Ste Jean 1.70 58 Pn Pn 16 57 11.3 -0.6
SJPF Sn Sn 16 57 32.3 -1.4
8.6nm,0.3s
SJPF Ste Jean 1.70 58 *e*Pn Pn 16 57 11.3 -0.6
SJPF *e*Sn Sn 16 57 32.3 -1.4
8.6nm,0.3s
YBER Berdun 1.73 78 Pn Pn 16 57 11.2 -1.0
3.8nm,0.1s,SNR=7.9
YBER Sn Sn 16 57 33.5 -0.8
3.3nm,0.1s,SNR=7.9
YBER Berdun 1.73 78 Pn Pn 16 57 11.2 -1.0
3.8nm,0.1s,SNR=7.9
YBER Sn Sn 16 57 33.5 -0.8
3.3nm,0.1s,SNR=7.9
GUD Guadarrama 1.74 205 Pn Pn 16 57 10.6 -2.0
0.1nm,0.1s,SNR=20
GUD Pg Pb 16 57 12.4 -1.9
2.8nm,0.2s,SNR=7.9
GUD Sn Sn 16 57 34.1 -0.8
5.3nm,0.1s,SNR=7.9
GUD Guadarrama 1.74 205 Pn Pn 16 57 10.6 -2.0
0.1nm,0.1s,SNR=20
GUD Guadarrama 1.74 205 Pg Pn 16 57 12.6 0.0
2.8nm,0.2s,SNR=7.9
OSSF Osses 1.76 54 Pn Pn 16 57 11.8 -0.8
OSSF Sg Sn 16 57 33.5 -1.5
OSSF Osses 1.76 54 Pn Pn 16 57 11.8 -0.8
LARF Larrau 1.82 63 Pn Pn 16 57 12.9 -0.7
LARF Sg Sn 16 57 35.9 -0.8
LARF Larrau 1.82 63 Pn Pn 16 57 12.9 -0.7
EARI Arriondas 1.83 307 Pn Pn 16 57 13.4 -0.2
0.1nm,0.1s,SNR=7.9
EARI Pg Pb 16 57 15.4 -0.3
4.6nm,0.3s,SNR=7.9
EARI Sn Sn 16 57 35.9 -0.9
2.4nm,0.2s,SNR=7.9
EARI Lg Lg 16 57 39.9
1.7nm,0.1s,SNR=7.9
EARI Arriondas 1.83 307 Lg Lg 16 57 38.9
5.0nm,0.2s,SNR=7.9
EARI Arriondas 1.83 307 Pn Pn 16 57 13.5 -0.1
0.1nm,0.1s,SNR=7.9
EARI Arriondas 1.83 307 Pg Pb 16 57 15.7 0.0
4.6nm,0.3s,SNR=7.9
EARI Sn Sn 16 57 35.1 -1.7
1.2nm,0.1s,SNR=7.9
ETSF Etsaut 2.06 70 *e*Pn Pn 16 57 16.4 -0.5
ETSF *e*Sn Sn 16 57 41.0 -1.7
14nm,0.4s
ETSF Etsaut 2.06 70 Pn Pn 16 57 16.4 -0.5
ETSF Sn Sn 16 57 41.0 -1.7
7.0nm,0.4s
ETSF Etsaut 2.06 70 *e*Pn Pn 16 57 16.4 -0.5
ETSF *e*Sn Sn 16 57 41.0 -1.7
7.0nm,0.4s
ESAC San Caprasio 2.10 103 ⇓Pn Pn 16 57 16.4 -1.0
6.2nm,0.2s,SNR=18
ESAC Sn Sn 16 57 42.4 -1.2
14nm,0.2s,SNR=7.9
ESAC Lg Lg 16 57 48.8
24nm,0.2s,SNR=7.9
ESAC San Caprasio 2.10 103 Pn Pn 16 57 16.4 -1.0
6.2nm,0.2s,SNR=18
ESAC Sn Sn 16 57 42.4 -1.2
14nm,0.2s,SNR=7.9
ESAC Lg Lg 16 57 48.8
24nm,0.2s,SNR=7.9
ESDC Sonseca Array 2.62 193 Pn Pn 16 57 21.8 -2.7
0.3nm,0.2s,baz=13,slow=14,SNR=4.4
ESDC Pg Pb 16 57 28.8 -0.4
1.1nm,0.3s,baz=14,slow=18,SNR=26
ESDC Sn Sn 16 57 53.5 -2.9
1.4nm,0.1s,baz=14,slow=24,SNR=7.9
ESDC Lg Lg 16 58 02.5
4.3nm,0.1s,baz=14,slow=32,SNR=26
ESDC Sonseca Array 2.62 193 Pn Pn 16 57 21.9 -2.6
0.3nm,0.2s,baz=13,SNR=4.4
ESDC Sonseca Array 2.62 193 Pg Pb 16 57 27.9 -1.3
1.1nm,0.3s,baz=14,SNR=26
ESDC Sn Sn 16 57 53.7 -2.7
baz=14,SNR=7.9
ESDC Lg Lg 16 58 02.8
6.3nm,0.3s,baz=14,SNR=26
ECAL Calabor 2.65 265 ⇓Pn Pn 16 57 23.3 -1.7
1.2nm,0.2s,SNR=18
ECAL Lg Lg 16 58 05.9
5.3nm,0.1s,SNR=7.9
ECAL Calabor 2.65 265 Pg Pb 16 57 30.3 +0.5
1.2nm,0.1s,SNR=7.9
ECAL Calabor 2.65 265 Pn Pn 16 57 23.3 -1.7
1.2nm,0.2s,SNR=18
ECAL Lg Lg 16 58 07.4
5.3nm,0.1s,SNR=7.9
PBRG Braganca 2.67 262 *e*Pn Pn 16 57 23.4 -1.9
PBRG *e*Sg Sg 16 58 07.0 -1.2
PBRG A A 16 58 10.8
4.7nm,0.3s
PBRG Braganca 2.67 262 *e*Pn Pn 16 57 23.4 -1.9
PBRG *e*Sg Sg 16 58 07.0 -1.2
PBRG A A 16 58 10.8
4.7nm,0.3s
EPF Esparros 2.73 72 *e*Pn Pn 16 57 25.7 -0.4
EPF *e*Sn Sn 16 57 57.0 -2.2
5.3nm,0.2s
EPF Esparros 2.73 72 Pn Pn 16 57 25.7 -0.4
EPF Sn Sn 16 57 57.0 -2.2
2.7nm,0.2s
EPF Esparros 2.73 72 *e*Pn Pn 16 57 25.7 -0.4
EPF *e*Sn Sn 16 57 57.0 -2.2
2.7nm,0.2s
EMOS Mosqueruela 2.77 131 Pn Pn 16 57 26.7 -0.1
0.2nm,0.1s,SNR=8.8
EMOS Pg Pb 16 57 33.0 +0.9
1.0nm,0.1s,SNR=7.9
EMOS Lg Lg 16 58 09.0
5.9nm,0.3s,SNR=7.9
EMOS Mosqueruela 2.77 131 Pn Pn 16 57 26.7 -0.1
0.2nm,0.1s,SNR=8.8
EMOS Lg Lg 16 58 10.0
2.2nm,0.1s,SNR=7.9
ERTA Horta de San J 2.94 114 Pn Pn 16 57 28.1 -0.8
0.6nm,0.1s,SNR=7.9
ERTA Pg Pg 16 57 36.8 -1.8
1.3nm,0.2s,SNR=7.9
ERTA Lg Lg 16 58 16.0
3.7nm,0.1s,SNR=7.9
ERTA Horta de San J 2.94 114 Pn Pn 16 57 28.1 -0.8
0.6nm,0.1s,SNR=7.9
ERTA Horta de San J 2.94 114 Lg Lg 16 58 16.2
3.7nm,0.1s,SNR=7.9
MVO Moncorvo 3.06 251 Pn Pn 16 57 28.7 -1.9
0.8nm,0.1s,SNR=8.5
MVO Lg Lg 16 58 18.0
3.2nm,0.1s,SNR=7.4
MVO Moncorvo 3.06 251 Pn Pn 16 57 28.7 -1.9
0.8nm,0.1s,SNR=8.5
MVO Lg Lg 16 58 18.3
3.2nm,0.1s,SNR=7.4
MVO Moncorvo 3.06 251 *e*Pn Pn 16 57 28.8 -1.8
MVO *e*Sg Sg 16 58 19.7 -0.9
MVO A A 16 58 25.5
9.2nm,0.3s
MVO Moncorvo 3.06 251 *e*Pn Pn 16 57 28.8 -1.8
MVO *e*Sg Sg 16 58 19.7 -0.9
MVO A A 16 58 25.5
9.2nm,0.3s
EPLA Plasencia 3.07 226 Pg Pb 16 57 38.1 +1.3
0.7nm,0.1s,SNR=7.9
EPLA Sn Sn 16 58 04.4 -3.0
0.8nm,0.1s,SNR=7.9
EPLA Lg Lg 16 58 17.3
4.5nm,0.2s,SNR=9.0
EPLA Plasencia 3.07 226 Pg Pb 16 57 37.7 +0.8
0.7nm,0.1s,SNR=7.9
EPLA Plasencia 3.07 226 Lg Lg 16 58 18.3
3.0nm,0.1s,SNR=9.0
EPON Pontenova 3.11 292 Lg Lg 16 58 17.9
5.6nm,0.2s,SNR=4.0
EPON Pontenova 3.11 292 Lg Lg 16 58 21.8
5.6nm,0.2s,SNR=4.0
CSOR Sort 3.22 86 Pn Pn 16 57 32.6 -0.3
0.2nm,0.1s,SNR=7.9
CSOR Sn Sn 16 58 09.7 -1.6
2.1nm,0.2s,SNR=7.9
CSOR Lg Lg 16 58 23.5
0.8nm,0.3s,SNR=7.9
CSOR Sort 3.22 86 Pn Pn 16 57 32.6 -0.2
0.1nm,0.0s,SNR=7.9
CSOR Sn Sn 16 58 09.7 -1.6
0.9nm,0.2s,SNR=7.9
EPOB Poblet 3.32 104 Pn Pn 16 57 32.5 -1.6
0.3nm,0.1s,SNR=4.0
EPOB Sn Sn 16 58 10.0 -3.7
1.3nm,0.1s,SNR=7.9
EPOB Lg Lg 16 58 25.3
1.7nm,0.3s,SNR=7.9
EPOB Poblet 3.32 104 Pn Pn 16 57 32.5 -1.7
0.3nm,0.1s,SNR=4.0
EPOB Lg Lg 16 58 25.9
0.5nm,0.1s,SNR=7.9
PVRL Vila Real 3.51 256 *e*Pn Pn 16 57 34.8 -2.0
PVRL Vila Real 3.51 256 *e*Pn Pn 16 57 34.8 -2.0
EMIR Miracle 3.53 94 Pn Pn 16 57 36.5 -0.6
0.6nm,0.1s,SNR=7.9
EMIR Sn Sn 16 58 15.6 -3.3
2.1nm,0.1s,SNR=7.9
EMIR Miracle 3.53 94 Pn Pn 16 57 36.5 -0.6
0.6nm,0.1s,SNR=7.9
EMIR Sn Sn 16 58 16.1 -2.8
2.1nm,0.1s,SNR=7.9
POLO Lamas de Olo 3.54 258 *e*Pn Pn 16 57 35.3 -1.9
POLO *e*Sg Sg 16 58 33.7 -2.4
POLO Lamas de Olo 3.54 258 *e*Pn Pn 16 57 35.3 -1.9
POLO *e*Sg Sg 16 58 33.7 -2.4
EVIA Vianos 3.63 171 Pg Pb 16 57 49.0 +2.5
1.5nm,0.1s,SNR=7.9
EVIA Sn Sn 16 58 16.9 -4.4
1.9nm,0.1s,SNR=7.9
EVIA Lg Lg 16 58 34.8
13nm,0.2s,SNR=7.7
EVIA Vianos 3.63 171 Pg Pb 16 57 49.0 +2.5
1.5nm,0.1s,SNR=7.9
EVIA Sn Sn 16 58 17.0 -4.4
1.9nm,0.1s,SNR=7.9
EVIA Lg Lg 16 58 34.8
5.2nm,0.2s,SNR=7.7
PCAB Cabril 3.64 263 *e*Pn Pn 16 57 36.5 -2.0
PCAB *e*Sg Sg 16 58 36.4 -2.7
PCAB A A 16 58 41.3
4.2nm,0.6s
PCAB Cabril 3.64 263 *e*Pn Pn 16 57 36.5 -2.0
PCAB *e*Sg Sg 16 58 36.4 -2.7
PCAB A A 16 58 41.3
4.2nm,0.6s
ELOB Lobios 3.64 266 Pn Pn 16 57 36.6 -2.0
0.6nm,0.1s,SNR=5.9
ELOB Sn Sn 16 58 17.6 -4.0
0.3nm,0.1s,SNR=7.9
ELOB Lg Lg 16 58 36.1
0.9nm,0.1s,SNR=7.9
ELOB Lobios 3.64 266 Pn Pn 16 57 36.6 -2.0
0.6nm,0.1s,SNR=5.9
ELOB Sn Sn 16 58 17.8 -3.8
0.3nm,0.1s,SNR=7.9
ELOB Lg Lg 16 58 37.5
0.9nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 3.66 281 Pn Pn 16 57 37.1 -1.7
0.8nm,0.1s,SNR=7.9
EAGO Lg Lg 16 58 37.2
1.7nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 3.66 281 Pn Pn 16 57 37.1 -1.7
0.8nm,0.1s,SNR=7.9
EAGO Lg Lg 16 58 38.8
1.7nm,0.1s,SNR=7.9
PGAV Gavieira, Arco 3.78 268 *e*Pn Pn 16 57 38.5 -2.1
PGAV *e*Sg Sg 16 58 41.2 -2.7
PGAV A A 16 58 43.9
3.2nm,0.6s
PGAV Gavieira, Arco 3.78 268 *e*Pn Pn 16 57 38.5 -2.1
PGAV *e*Sg Sg 16 58 41.2 -2.7
PGAV A A 16 58 43.9
3.2nm,0.6s
ETOB Tobarra 3.80 160 Pn Pn 16 57 41.1 +0.4
0.3nm,0.1s,SNR=7.9
ETOB Pg Pg 16 57 52.2 -2.8
1.1nm,0.2s,SNR=7.9
ETOB Sn Sn 16 58 21.6 -3.9
0.4nm,0.1s,SNR=7.9
ETOB Lg Lg 16 58 41.9
2.4nm,0.2s,SNR=5.3
ETOB Tobarra 3.80 160 Pn Pn 16 57 39.8 -1.0
0.1nm,0.1s,SNR=7.9
ETOB Tobarra 3.80 160 Pg Pb 16 57 51.6 +2.3
1.1nm,0.2s,SNR=7.9
ETOB Sn Sn 16 58 21.4 -4.1
0.4nm,0.1s,SNR=7.9
ETOB Lg Lg 16 58 42.6
3.0nm,0.3s,SNR=5.3
CLLI Llivia 3.84 85 Pn Pn 16 57 41.1 -0.4
0.4nm,0.2s,SNR=7.9
CLLI Sn Sn 16 58 25.7 -1.1
0.4nm,0.2s,SNR=7.9
CLLI Llivia 3.84 85 Pn Pn 16 57 41.0 -0.5
0.4nm,0.2s,SNR=7.9
CLLI Sn Sn 16 58 25.1 -1.7
0.4nm,0.2s,SNR=7.9
LFF La Frestale 3.94 45 *e*Pn Pn 16 57 41.2 -1.4
LFF *e*Sn Sn 16 58 25.8 -3.0
3.8nm,0.4s
LFF La Frestale 3.94 45 Pn Pn 16 57 41.2 -1.4
LFF Sn Sn 16 58 25.8 -3.0
1.9nm,0.4s
LFF La Frestale 3.94 45 *e*Pn Pn 16 57 41.2 -1.4
LFF *e*Sn Sn 16 58 25.8 -3.0
1.9nm,0.4s
PCBR Castelo Branco 4.02 235 *e*Sg Sg 16 58 48.8 -2.5
PCBR A A 16 58 53.9
3.5nm,0.6s
PCBR Castelo Branco 4.02 235 *e*Sg Sg 16 58 48.8 -2.5
PCBR A A 16 58 53.9
3.5nm,0.6s
SESP Santiago Espad 4.14 173 Pn Pn 16 57 44.0 -1.5
0.4nm,0.1s,SNR=7.9
SESP Pg Pb 16 57 57.6 +2.4
0.4nm,0.2s,SNR=7.9
SESP Lg Lg 16 58 51.6
3.8nm,0.1s,SNR=7.9
SESP Santiago Espad 4.14 173 Lg Lg 16 58 52.6
3.8nm,0.1s,SNR=7.9
EBEN Beniarda 4.19 146 Pn Pn 16 57 46.8 +0.6
0.2nm,0.2s,SNR=7.9
EADA Adamuz 4.19 195 Pn Pn 16 57 44.6 -1.5
0.3nm,0.1s,SNR=7.9
EADA Pg Pg 16 57 59.4 -3.1
0.5nm,0.2s,SNR=7.9
EADA Sn Sn 16 58 30.6 -4.6
0.7nm,0.2s,SNR=7.9
EADA Lg Lg 16 58 53.6
2.0nm,0.1s,SNR=5.4
EADA Adamuz 4.19 195 Sn Sn 16 58 30.4 -4.8
0.4nm,0.1s,SNR=7.9
EADA Lg Lg 16 58 53.3
2.0nm,0.1s,SNR=5.4
CFON Fontmartina 4.23 94 ⇑Pn Pn 16 57 45.4 -1.3
2.9nm,0.1s,SNR=18
CFON Sn Sn 16 58 34.1 -2.0
2.6nm,0.2s,SNR=7.9
CFON Fontmartina 4.23 94 Pn Pn 16 57 45.4 -1.3
2.7nm,0.2s,SNR=18
CFON Sn Sn 16 58 34.1 -2.0
2.6nm,0.2s,SNR=7.9
PMRV Marv??o 4.24 230 *e*Pn Pn 16 57 46.2 -0.5
PMRV *e*Sn Sn 16 58 32.7 -3.5
PMRV *e*Sg Sg 16 58 56.7 -1.6
PMRV A A 16 59 01.9
3.1nm,0.4s
PMRV Marv??o 4.24 230 *e*Pn Pn 16 57 46.2 -0.5
PMRV *e*Sn Sn 16 58 32.7 -3.5
PMRV *e*Sg Sg 16 58 56.7 -1.6
PMRV A A 16 59 01.9
3.1nm,0.4s
EQES Quesada 4.42 179 Pn Pn 16 57 48.2 -1.2
0.1nm,0.2s,SNR=4.0
EQES Pg Pb 16 58 03.5 +3.5
0.4nm,0.1s,SNR=7.9
EQES Lg Lg 16 59 00.9
3.0nm,0.2s,SNR=7.9
EQES Quesada 4.42 179 Pn Pn 16 57 47.0 -2.4
0.1nm,0.1s,SNR=4.0
EQES Quesada 4.42 179 Pg Pb 16 58 03.5 +3.4
0.5nm,0.2s,SNR=7.9
EQES Lg Lg 16 59 01.2
3.0nm,0.2s,SNR=7.9
EHUE Huescar 4.43 174 Pg Pg 16 58 03.9 -3.4
0.5nm,0.1s,SNR=7.9
EHUE Lg Lg 16 59 02.1
1.4nm,0.2s,SNR=7.9
EHUE Huescar 4.43 174 Pg Pg 16 58 03.9 -3.4
0.6nm,0.2s,SNR=7.9
EHUE Lg Lg 16 59 02.3
1.4nm,0.2s,SNR=7.9
ECAB El Cabril 4.49 203 Pn Pn 16 57 47.8 -2.4
0.5nm,0.1s,SNR=7.9
ECAB Sn Sn 16 58 36.6 -5.8
1.4nm,0.1s,SNR=7.9
ECAB Lg Lg 16 59 00.7
0.6nm,0.1s,SNR=7.9
ECAB El Cabril 4.49 203 Pn Pn 16 57 47.7 -2.4
0.5nm,0.1s,SNR=7.9
ECAB Lg Lg 16 59 00.7
0.6nm,0.1s,SNR=7.9
SJAF Saint Jean de 4.51 85 Pn Pn 16 57 49.6 -0.9
0.2nm,0.1s,SNR=7.9
SJAF Saint Jean de 4.51 85 Pn Pn 16 57 49.6 -0.9
0.2nm,0.1s,SNR=7.9
EBAD Badajoz 4.53 221 Pn Pn 16 57 49.0 -1.7
0.2nm,0.1s,SNR=7.9
EBAD Sn Sn 16 58 38.3 -5.0
1.0nm,0.2s,SNR=7.9
EBAD Lg Lg 16 59 03.8
1.9nm,0.2s,SNR=7.9
EBAD Badajoz 4.53 221 Pn Pn 16 57 49.0 -1.7
0.2nm,0.1s,SNR=7.9
EBAD Lg Lg 16 59 04.9
1.9nm,0.2s,SNR=7.9
RJF Les Rejaudoux 4.59 46 *e*Pn Pn 16 57 49.4 -2.2
RJF *e*Sn Sn 16 58 41.1 -3.9
1.1nm,0.2s
RJF Les Rejaudoux 4.59 46 Pn Pn 16 57 49.4 -2.2
RJF Sn Sn 16 58 41.1 -3.9
0.6nm,0.2s
RJF Les Rejaudoux 4.59 46 *e*Pn Pn 16 57 49.4 -2.2
EMUR La Murta 4.63 160 Pg Pg 16 58 08.5 -2.5
0.5nm,0.2s,SNR=7.9
EMUR Lg Lg 16 59 08.9
1.7nm,0.3s,SNR=7.9
EMUR La Murta 4.63 160 Pg Pg 16 58 08.7 -2.3
0.5nm,0.2s,SNR=7.9
EMUR Lg Lg 16 59 09.1
0.3nm,0.2s,SNR=7.9
CAF Calviac 4.68 53 *e*Pn Pn 16 57 51.5 -1.3
CAF *e*Sn Sn 16 58 42.7 -4.4
1.0nm,0.2s
CAF Calviac 4.68 53 Pn Pn 16 57 51.5 -1.3
CAF Sn Sn 16 58 42.7 -4.4
0.0nm,0.2s
CAF Calviac 4.68 53 *e*Pn Pn 16 57 51.5 -1.3
EIBI Ibiza 4.71 131 Pn Pn 16 57 52.0 -1.2

0.4nm,0.2s,SNR=4.0
EIBI Ibiza 4.71 131 Pn Pn 16 57 52.0 -1.2
0.2nm,0.1s,SNR=4.0
PESTR Estremoz 4.74 226 *e*Pn Pn 16 57 52.0 -1.6
PESTR *e*Sn Sn 16 58 46.0 -2.6
PESTR *e*Sg Sg 16 59 13.2 -1.2
PESTR A A 16 59 18.2
3.5nm,0.5s
PESTR Estremoz 4.74 226 *e*Pn Pn 16 57 52.0 -1.6
PESTR *e*Sn Sn 16 58 46.0 -2.6
PESTR *e*Sg Sg 16 59 13.2 -1.2
PESTR A A 16 59 18.2
3.5nm,0.5s
MFF Saint Martin d 4.89 26 *e*Pn Pn 16 57 54.3 -1.3
MFF *e*Sn Sn 16 58 48.2 -4.0
1.2nm,0.2s
MFF Saint Martin d 4.89 26 Pn Pn 16 57 54.3 -1.3
MFF Sn Sn 16 58 48.2 -4.0
0.6nm,0.2s
MFF Saint Martin d 4.89 26 *e*Pn Pn 16 57 54.3 -1.3
PBAR Barrancos 5.00 217 *e*Pn Pn 16 57 57.3 +0.1
PBAR *e*Sn Sn 16 58 52.4 -2.7
PBAR *e*Sg Sg 16 59 22.1 -0.8
PBAR A A 16 59 28.6
6.9nm,0.5s
PBAR Barrancos 5.00 217 *e*Pn Pn 16 57 57.3 +0.1
PBAR *e*Sn Sn 16 58 52.4 -2.7
PBAR *e*Sg Sg 16 59 22.1 -0.8
PBAR A A 16 59 28.6
6.9nm,0.5s
EQUE Quentar 5.02 182 Lg Lg 16 59 20.0
1.2nm,0.5s,SNR=7.9
EQUE Quentar 5.02 182 Lg Lg 16 59 19.5
3.1nm,0.5s,SNR=7.9
EMIN Mina Concepcio 5.19 212 Pn Pn 16 57 58.5 -1.3
0.1nm,0.1s,SNR=4.0
EMIN Sn Sn 16 58 54.9 -4.8
0.2nm,0.1s,SNR=7.9
EMIN Lg Lg 16 59 25.3
0.3nm,0.2s,SNR=7.9
EMIN Mina Concepcio 5.19 212 Pn Pn 16 57 57.6 -2.2
0.1nm,0.1s,SNR=4.0
EMIN Sn Sn 16 58 54.9 -4.9
0.2nm,0.1s,SNR=7.9
EMIN Lg Lg 16 59 26.7
0.3nm,0.2s,SNR=7.9
EVO Evora 5.21 226 *e*Pn Pn 16 57 59.3 -0.8
EVO *e*Sg Sg 16 59 26.6 -2.9
2.7nm,0.3s
EVOP Sao Brissos 5.27 227 *e*Pn Pn 16 57 59.3 -1.6
EVOP *e*Sg Sg 16 59 26.6 -4.9
1.4nm,0.3s
EBER Berja 5.33 177 Lg Lg 16 59 31.6
1.6nm,0.3s,SNR=7.9
EBER Berja 5.33 177 Lg Lg 16 59 31.6
7.6nm,0.6s,SNR=7.9
TCF Toulx Ste Croi 5.62 42 *e*Pn Pn 16 58 04.3 -1.4
TCF *e*Sn Sn 16 59 05.8 -4.4
1.2nm,0.3s
TCF Toulx Ste Croi 5.62 42 Pn Pn 16 58 04.3 -1.4
TCF Sn Sn 16 59 05.8 -4.4
0.6nm,0.3s
TCF Toulx Ste Croi 5.62 42 *e*Pn Pn 16 58 04.3 -1.4
EGRO El Granado 5.73 216 Pn Pn 16 58 05.0 -2.2
0.2nm,0.2s,SNR=4.0
EGRO Sn Sn 16 59 07.5 -5.5
0.4nm,0.2s,SNR=7.9
EGRO Lg Lg 16 59 42.4
1.8nm,0.4s,SNR=7.9
EGRO El Granado 5.73 216 Pn Pn 16 58 05.0 -2.2
0.1nm,0.1s,SNR=7.9
PVAQ Vaqueiros 5.94 217 *e*Pn Pn 16 58 10.1 0.0
PVAQ *e*Sn Sn 16 59 14.6 -3.6
PVAQ *e*Sg Sg 16 59 51.8 -1.2
PVAQ A A 16 59 56.0
2.2nm,0.6s
PVAQ Vaqueiros 5.94 217 *e*Pn Pn 16 58 10.1 0.0
PVAQ *e*Sn Sn 16 59 14.6 -3.6
PVAQ *e*Sg Sg 16 59 51.8 -1.2
PVAQ A A 16 59 56.0
2.2nm,0.6s
BGF Bois d'Agland 6.12 43 *e*Pn Pn 16 58 11.2 -1.4
BGF *e*Sn Sn 16 59 17.9 -4.7
3.7nm,0.4s
BGF Bois d'Agland 6.12 43 Pn Pn 16 58 11.2 -1.4
BGF Sn Sn 16 59 17.9 -4.7
1.9nm,0.4s
BGF Bois d'Agland 6.12 43 *e*Pn Pn 16 58 11.2 -1.4
SSF Saint Saulge 6.80 42 *e*Pn Pn 16 58 20.4 -1.4
SSF *e*Sn Sn 16 59 33.9 -5.3
0.9nm,0.3s
SSF Saint Saulge 6.80 42 Pn Pn 16 58 20.4 -1.4
SSF Sn Sn 16 59 33.9 -5.3
0.4nm,0.3s
SSF Saint Saulge 6.80 42 *e*Pn Pn 16 58 20.4 -1.4
LOR Lormes 7.11 43 *e*Pn Pn 16 58 24.9 -1.3
baz=224
LOR *e*Sn Sn 16 59 41.6 -5.4
1.0nm,0.3s
LOR Lormes 7.11 43 Pn Pn 16 58 24.9 -1.3
LOR Sn Sn 16 59 41.6 -5.4
0.0nm,0.3s
LOR Lormes 7.11 43 *e*Pn Pn 16 58 24.9 -1.3
baz=224

ISCJB ***13*** *16:57:37.3±1.0, 58°11N±0°04×157°01W±0°08, h2km±6km, mb3.4/7, Error ellipse: s-maj=7.5km s-min=6.2km az=139.3*

NEIC ***13*** *16:57:37.0, 58°10N×157°04W, h12km, ML3.0(AEIC), After AEIC.*

IDC ***13*** *16:57:49.7±8.5, 58°45N×156°68W, h84km±72km, mb3.1/7, mb1 3.4/8, mb1mx3.2/46, mbtmp3.4/8, ML3.2/1, Error ellipse: s-maj=72.3km s-min=17.9km az=32.0*

ISC 13 16:57:38.8±1.3, 58°05N±0°05×156°88W±0°05, h4km±8km, n28, σ0§82/31, mb3.6/7, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK5	**Peulik 5**	**0.05**	**180**	P	**Pg**	**16 57 40.1**	**+0.2**
PLK1	**Peulik 1**	**0.28**	**149**	P	**Pg**	**16 57 44.6**	**+0.3**
PLK3	**Peulik 3**	**0.48**	**137**	P	**Pg**	**16 57 48.3**	**+0.2**
PLK3				S	**Sb**	**16 57 57.4**	**+0.1**
PLK4	**Peulik 4**	**0.50**	**146**	P	**Pg**	**16 57 48.5**	**+0.2**
KELA	**Mount Kelaz**	**0.72**	**56**	P	**Pg**	**16 57 52.8**	**+0.2**
KABU	**Katmai Buttres**	**0.88**	**74**	P	**Pg**	**16 57 55.6**	**+0.1**
KABU				S	**Sg**	**16 58 07.7**	**+0.8**
KVTA	**Katmai Vly 10**	**0.90**	**67**	P	**Pg**	**16 57 55.5**	**-0.6**
KBM	**Katmai Bkd Mtn**	**0.92**	**75**	P	**Pg**	**16 57 55.9**	**-0.5**
KAKN	**Katmai Knife C**	**0.99**	**75**	P	**Pg**	**16 57 57.3**	**+0.5**
KAKN				S	**Sg**	**16 58 11.1**	**+0.3**
KABR	**Katmai Barrier**	**1.02**	**84**	P	**Pg**	**16 57 58.3**	**0.0**
MCNL	**McNeil River**	**1.75**	**48**	P	**Pn**	**16 58 09.8**	**-0.1**
OHAK	**Old Harbor**	**2.10**	**112**	P	**Pb**	**16 58 15.9**	**-1.5**
OHAK				S	**Sb**	**16 58 43.4**	**-0.4**
VNHG	**Veniaminof 1**	**2.21**	**215**	P	**Pn**	**16 58 16.3**	**0.0**
AUP	**Augustine Pinn**	**2.23**	**52**	P	**Pn**	**16 58 16.8**	**+0.1**
KDAK	**Kodiak Island**	**2.31**	**95**	P	**Pb**	**16 58 19.1**	**-1.8**
ILW	**Iliamna West**	**2.80**	**42**	P	**Pn**	**16 58 25.0**	**+0.6**
RSO	**Redoubt South**	**3.22**	**39**	*e*Pn	**Pn**	**16 58 30.9**	**+0.7**
NCT	**North Crescent**	**3.23**	**37**	P	**Pn**	**16 58 30.4**	**0.0**
SDPT	**Sand Point**	**3.35**	**218**	P	**Pn**	**16 58 31.5**	**-0.3**
PPLA	**Purkeypile** 8.9nm,0.7s	**5.39**	**23**	*e*Pn	**Pn**	**16 59 01.0**	**+1.0**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=218,slow=13,SNR=11	**8.27**	**31**	P	**Pn**	**16 59 40.9**	**+1.6**
YKA	**Yellowknife Ar** 0.9nm,0.8s,baz=280,slow=12,SNR=3.4	**21.13**	**60**	P	**P**	**17 02 24.4**	**+0.2**
NVAR	**Mina Array Bea** 0.7nm,0.7s,baz=321,slow=9.7,SNR=4.5	**31.71**	**111**	P	P	17 04 06.1	+2.5
PDAR	**Pinedale Array** 0.4nm,0.5s,baz=321,slow=7.0,SNR=3.7	**33.02**	**97**	P	**P**	**17 04 16.9**	**+1.8**
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=316,slow=4.8,SNR=4.3	**46.30**	**105**	P	**P**	**17 06 06.2**	**+0.7**
SONM	**Songino Array** 0.3nm,0.5s,baz=46,slow=6.0,SNR=3.5	**54.28**	**304**	P	**P**	**17 07 06.2**	**+0.4**
BVAR	**Borovoye Array** 0.3nm,0.5s,baz=28,slow=6.5,SNR=2.6	**62.81**	**330**	P	**P**	**17 08 04.0**	**-0.9**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=14,slow=6.4,SNR=3.1	**64.66**	**319**	P	**P**	**17 08 16.2**	**-1.1**

IDC 13 17:01:30.9±4.5, 24°63S×177°00W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.7/37, mbtmp4.0/4, Error ellipse: s-maj=182.0km s-min=36.3km az=144.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 5.4nm,1.2s,baz=90,slow=11,SNR=7.3	**37.01**	**249**	P	P	17 08 41.0	-1.4
ASAR	**Alice Springs** 1.4nm,0.4s,baz=90,slow=7.5,SNR=108	**44.62**	**261**	P	P	17 09 45.6	+0.3
WRA	**Warramunga Arr** 1.0nm,0.4s,baz=104,slow=7.8,SNR=15	**45.09**	**266**	P	P	17 09 49.6	+0.5
ILAR	**Eielson Array** 0.3nm,0.7s,baz=198,slow=5.7,SNR=2.6	**92.12**	**12**	P	P	17 14 41.5	-0.1

IDC 13 17:04:24.8±1.4, 8°45N×91°58E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.4/39, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=37.2km s-min=24.2km az=61.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele** 0.4nm,0.3s,baz=86,slow=15,SNR=5.3	**10.84**	**265**	Pn	Pn	17 07 01.8	+0.4
PALK				Sn	Sn	17 08 52.3	-11
CMAR	**Chiang Mai Arr** 1.7nm,0.3s,baz=156,slow=17,SNR=7.3	**12.25**	**35**	Pn	Pn	17 07 21.9	+1.1
H08S3	**Diego Garcia H** baz=228,slow=13,SNR=4.3	**24.85**	**231**	T	T	17 36 05.3	
H08S2	**Diego Garcia H** baz=52,slow=75,SNR=22	**24.85**	**230**	T	T	17 36 04.3	
H08S1	**Diego Garcia H** baz=52,slow=75,SNR=24	**24.86**	**230**	T	T	17 36 05.9	
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=159,slow=7.9,SNR=5.6	**39.02**	**350**	P	P	17 11 53.2	0.0
SONM	**Songino Array** 0.4nm,0.7s,baz=191,slow=7.0,SNR=3.5	**41.21**	**15**	P	P	17 12 10.8	-0.7
WRA	**Warramunga Arr** 0.7nm,0.8s,baz=302,slow=8.5,SNR=3.4	**50.67**	**124**	P	P	17 13 26.2	-0.2
ASAR	**Alice Springs** 0.4nm,0.9s,baz=304,slow=7.9,SNR=4.4	**52.24**	**129**	P	P	17 13 38.2	0.0

IDC ***13*** *17:12:23.6±1.9, 5°88N×126°50E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.4/34, mbtmp3.8/4, Error ellipse: s-maj=149.5km s-min=23.9km az=65.0*

ISCJB ***13*** *17:12:34.0±0.7, 5°51N±0°05×126°59E±0°08, h66km, mb3.7/4, Error ellipse: s-maj=12.4km s-min=5.3km az=159.4*

MAN ***13*** *17:12:35, 5°66N×126°59E, h111km, mb4.9, ML3.8, MS3.9*

DJA ***13*** *17:12:40.9±1.4, 5°N±10°×12°7E±°, h163km±13km, M4.2/4, mb4.2/4, mB4.5/2, MLv4.3/4, MLv4.3/4, Mw(mB)3.7/2*

ISC 13 17:12:35.3±0.9, 5°49N±0°06×126°54E±0°10, h66km, n16, σ1§27/16, mb3.7/4, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.47**	**349**	*e*P	**Pn**	**17 12 58.8**	**-1.1**
GSPH	**General Santos**	**1.69**	**291**	⇓*i*P	**Pn**	**17 13 02.2**	**-0.6**
GSPH				*i* S	**Sn**	**17 13 23.2**	**-0.5**
SGSI	**Sangihe**	**2.06**	**209**	P	Pn	17 13 14.2	+6.5
SGSI				S	Sn	17 13 50.6	+18
BIPH	**Bislig**	**2.68**	**356**	⇑*i*P	Pn	17 13 19.4	+3.2
BIPH				*i* S	**Sn**	**17 13 48.0**	**+0.5**
BUKP	**Musuan**	**2.79**	**328**	*e*P	**Pn**	**17 13 17.5**	**-0.2**
BUKP				*e*S	**Sn**	**17 13 49.7**	**-0.5**
CGP	**Cagayan de Oro**	**3.47**	**328**	⇑*e*P	**Pn**	**17 13 27.3**	**+0.4**
CGP				*e*S	**Sn**	**17 14 06.5**	**-0.3**
BUTP	**Butuan**	**3.57**	**345**	*e*P	**Pn**	**17 13 28.5**	**+0.1**
PAGZ	**Pagadian**	**3.91**	**307**	*e*P	**Pn**	**17 13 33.8**	**+0.8**
MRSI	**Marisa** 31nm,0.7s,462nm0.1nm	**6.78**	**223**	P	Pn	17 14 17.0	+4.8
SANI	**Sanana** 20nm,0.6s,749nm0.1nm0.1nm	**7.51**	**184**	P	**Pn**	**17 14 24.1**	**+1.8**
APSI	**Ampana** 29nm,1.0s	**8.02**	**218**	P	Pn	17 14 38.3	+9.1
NLAI	**Namlea**	**8.69**	**176**	P	**Pn**	**17 14 40.7**	**+2.3**
NLAI				S	**Sn**	**17 16 12.0**	**-2.9**
WRA	**Warramunga Arr** 1.0nm,0.4s,baz=344,slow=10,SNR=10	**26.41**	**163**	P	**P**	**17 18 05.5**	**-0.5**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=342,slow=7.3,SNR=20	**29.86**	**166**	P	**P**	**17 18 36.5**	**-0.2**
STKA	**Stephens Creek** 1.3nm,0.3s,baz=340,slow=8.6,SNR=18	**39.84**	**160**	P	**P**	**17 20 01.9**	**-0.5**
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=118,slow=7.2,SNR=7.4	**56.01**	**325**	P	P	17 22 01.7	-5.6

MEX 13 17:13:32.5±0.5, 17°59N×95°53W, h64km±13km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.79**	**129**	*e*P	Pn	17 13 46.7	-1.4
CMIG				*i* S	Sn	17 13 57.5	-2.0
VHO	**Vista Hermosa**	**1.26**	**246**	*e*P	Pn	17 13 53.3	-1.1
VHO				*e*S	Sn	17 14 08.7	-2.0
HUIG	**Huatulco**	**1.90**	**197**	*i* P	Pn	17 14 01.9	-0.8
HUIG				*i* S	Sn	17 14 23.1	-2.4
TGIG		**2.44**	**109**	*i* P	Pn	17 14 09.5	-0.5
TGIG				*i* S	Sn	17 14 36.5	-2.3
PNIG	**Pinotepa**	**2.76**	**245**	*e*P	Pn	17 14 12.6	-1.8
PNIG				*i* S	Sn	17 14 45.8	-0.9
CCIG	**Comitan**	**3.50**	**111**	*i* P	Pn	17 14 23.8	-0.9
CCIG				*i* S	Sn	17 15 04.2	-0.8

IDC 13 17:19:12.1±27.0, 23°82S×175°26W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/30, mbtmp3.8/4, Error ellipse: s-maj=498.1km s-min=147.8km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 2.0nm,0.4s,baz=94,slow=11,SNR=9.2	**35.82**	**268**	P	P	17 26 14.0	+0.5
STKA	**Stephens Creek** 0.9nm,0.7s,baz=110,slow=11,SNR=4.1	**38.78**	**248**	P	P	17 26 39.5	+0.9
ASAR	**Alice Springs** 0.3nm,0.5s,baz=92,slow=7.1,SNR=14	**46.32**	**259**	P	P	17 27 39.5	-0.5
WRA	**Warramunga Arr** 0.9nm,0.5s,baz=105,slow=8.4,SNR=10	**46.74**	**265**	P	P	17 27 42.3	-1.1

IDC ***13*** *17:24:00.9±0.7, 15°92N×145°47E, h373km±7km, mb3.2/14, mb1 3.4/15, mb1mx3.3/25, mbtmp3.9/15, Error ellipse: s-maj=17.6km s-min=12.1km az=82.0*

ISCJB ***13*** *17:24:02.0±0.6, 15°90N±0°09×145°4E±0°1, h400km, mb3.5/15, Error ellipse: s-maj=18.7km s-min=11.9km az=178.0*

ISC 13 17:24:02.6±0.7, 15°78N±0°09×145°4E±0°2, h400km, n18, σ1§48/22, mb3.6/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 57nm,0.3s,baz=70,slow=0.3,SNR=202	**2.25**	**194**	P	**Pn**	**17 24 58.7**	**-1.5**
GUMO				S	**S**	**17 25 42.4**	**-4.3**
JOW	**Kunigami** 109nm,0.3s,baz=163,slow=19,SNR=13	**19.37**	**307**	P	**P**	**17 27 59.8**	**-1.4**
MJAR	**Matsushiro Arr** 0.1nm,0.4s,baz=176,slow=11,SNR=10	**21.65**	**344**	P	**P**	**17 28 20.8**	**-1.2**
MAT	**Matsushiro**	**21.65**	**344**	P	**P**	**17 28 21.1**	**-0.9**
KSRS	**Korea Array** 0.4nm,0.6s,baz=140,slow=9.0,SNR=3.8	**26.57**	**328**	P	**P**	**17 29 05.9**	**-0.2**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=22,slow=8.7,SNR=3.7	**37.14**	**197**	P	**P**	**17 30 39.0**	**+1.7**
WRA				PcP	**PcP**	**17 32 49.0**	**+1.2**
ASAR	**Alice Springs** 0.2nm,0.8s,baz=17,slow=7.0,SNR=3.5	**40.79**	**196**	P	**P**	**17 31 09.0**	**+1.8**
ASAR				PcP	**PcP**	**17 33 00.7**	**+1.3**
ASAR	0.3nm,0.4s,baz=26,slow=3.2,SNR=8.9			ScP	**ScP**	**17 36 11.8**	**+1.6**
CMAR	**Chiang Mai Arr** 0.4nm,1.0s,baz=19,slow=3.2,SNR=3.8	**44.41**	**280**	P	**P**	**17 31 37.1**	**+1.1**
SONM	**Songino Array** 0.6nm,0.4s,baz=88,slow=6.3,SNR=6.1	**45.28**	**323**	P	**P**	**17 31 42.8**	**+0.3**
SONM	0.6nm,0.5s,baz=124,slow=6.4,SNR=6.3			PcP	**PcP**	**17 33 14.7**	**+0.2**
SEY	**Seymchan** 0.5nm,0.6s,baz=136,slow=4.2,SNR=5.4	**47.35**	**4**	P	**P**	**17 31 57.8**	**-0.1**
	1.2nm,0.9s,baz=160,slow=10,SNR=4.2						
ZALV	**Zalesovo Beam** 0.9nm,0.4s,baz=103,slow=6.1,SNR=6.2	**60.17**	**324**	P	**P**	**17 33 29.8**	**0.0**
MKAR	**Makanchi Array** 1.3nm,0.3s,baz=91,slow=8.3,SNR=33	**60.31**	**315**	P	**P**	**17 33 31.7**	**+0.9**
ILAR	**Eielson Array** 1.0nm,0.4s,baz=250,slow=5.9,SNR=27	**66.37**	**26**	P	**P**	**17 34 08.9**	**-0.8**
YKA	**Yellowknife Ar** 1.4nm,0.5s,baz=288,slow=4.6,SNR=5.3	**80.67**	**28**	P	**P**	**17 35 32.5**	**+0.5**
NVAR	**Mina Array Bea** 2.6nm,0.6s,baz=269,slow=5.8,SNR=14	**85.14**	**52**	P	P	17 35 57.3	+1.8
ARCES	**ARCESS Array B** 2.5nm,0.9s,baz=60,slow=7.2,SNR=9.6	**85.17**	**342**	P	**P**	**17 35 54.6**	**-0.1**
FINES	**FINESS Array B** 1.4nm,0.4s,baz=88,slow=4.2,SNR=11	**89.41**	**335**	P	**P**	**17 36 13.8**	**-1.1**
PDAR	**Pinedale Array** 0.7nm,0.6s,baz=307,slow=0.7,SNR=4.5	**90.05**	**45**	P	**P**	**17 36 19.1**	**+0.5**

SKO ***13*** *17:31:00.1, 41°40N×19°40E, h59km*

TIR ***13*** *17:31:02.8±7.7, 41°26N×19°57E, h35km±925km, ML3.4*

IDC ***13*** *17:31:02.4±0.9, 41°37N×19°61E, h0km, mb3.7/6, mb1 3.6/14, mb1mx3.5/43, mbtmp3.5/14, ML3.2/7, MS2.7/5, Ms1 2.7/5, ms1mx2.4/52, Error ellipse: s-maj=14.1km s-min=11.0km az=32.0*

ISCJB ***13*** *17:31:03.6±0.1, 41°390N±0°010×19°56E±0°01, h10km, mb3.8/4, Error ellipse: s-maj=1.7km s-min=1.3km az=150.6*

LDG ***13*** *17:31:03.4±0.1, 41°43N×19°62E, h2km, Ml3.5/9, Error ellipse: s-maj=2.7km s-min=1.8km az=16.0*

ROM ***13*** *17:31:04.5±0.3, 41°29N×19°55E, h10km, Ml3.5/33, Error ellipse: s-maj=4.5km s-min=2.0km az=92.0*

PDG ***13*** *17:31:05.5±0.8, 41°37N×19°62E, h23km±1km, MD3.7/5, ML3.7/11, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*

PRU ***13*** *17:31:05.6, 41°29N×19°56E, h14km*

CSEM ***13*** *17:31:06.1±0.1, 41°36N×19°54E, h20km, ML3.3, Error ellipse: s-maj=1.8km s-min=1.5km az=46.0*

THE ***13*** *17:31:06.2, 41°34N×19°59E, h13km±1km, ML3.6/14, Error ellipse: s-maj=1.4km s-min=0.7km az=341.0*

BEO ***13*** *17:31:07.6±0.3, 41°50N×19°95E, h8km±2km, ML3.3/1*

ISC 13 17:31:04.9±0.6, 41°34N±0°02×19°57E±0°02, h21km±1km, n391, σ1§59/501, mb4.6/9, 45C-35D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.22**	**88**	*i* Pg	**Pb**	**17 31 11.0**	**+0.1**
TIR				*i* SG	**Sb**	**17 31 16.0**	**+1.0**
TIR	**Tirane**	**0.22**	**88**	P	**Pb**	**17 31 11.0**	**+0.1**
TIR				S	**Sb**	**17 31 14.7**	**-0.3**
TIR	**Tirane**	**0.22**	**88**	⇓*i*Pg	**Pb**	**17 31 10.8**	**-0.1**
TIR	**Tirane**	**0.22**	**88**	P	**Pb**	**17 31 11.0**	**+0.1**
TIR				S	**Sb**	**17 31 14.7**	**-0.3**
TIR	SNR=90			*i* Sg	**Sb**	**17 31 16.0**	**+1.0**
ULC	**Ulcinj**	**0.67**	**339**	⇑*i* Pg	**Pb**	**17 31 17.7**	**-0.3**
ULC				*e*Sg	**Sn**	**17 31 28.6**	**-0.5**
ULC	**Ulcinj**	**0.67**	**339**	⇑*i* Pg	**Pb**	**17 31 17.7**	**-0.3**
ULC				*e*Sg	**Sn**	**17 31 28.6**	**-0.5**
PHP	**Peshkopia**	**0.74**	**62**	*i* PG	**Pb**	**17 31 18.8**	**-0.3**
PHP				*i* SG	**Sn**	**17 31 30.4**	**-0.5**
PHP	**Peshkopia**	**0.74**	**62**	P	**Pb**	**17 31 18.8**	**-0.2**
PHP				S	**Sn**	**17 31 30.1**	**-0.8**
PHP	**Peshkopia**	**0.74**	**62**	P	**Pb**	**17 31 18.9**	**-0.2**
PHP				S	**Sn**	**17 31 30.1**	**-0.8**
PUK	**Puka**	**0.74**	**19**	*i* PG	**Pb**	**17 31 18.8**	**-0.4**
PUK				*i* SG	**Sn**	**17 31 32.1**	**+1.1**
PUK	**Puka**	**0.74**	**19**	*i* Pg	**Pb**	**17 31 18.8**	**-0.4**
PUK	SNR=91			*i* Sg	**Sn**	**17 31 32.1**	**+1.1**
	SNR=91						
DRME	**Dracevica, Mon**	**0.89**	**341**	⇓*i* Pg	**Pb**	**17 31 21.7**	**0.0**
DRME				*e*Sg	**Sn**	**17 31 36.8**	**+2.2**
DRME	**Dracevica, Mon**	**0.89**	**341**	⇓*i* Pg	**Pb**	**17 31 21.7**	**0.0**
DRME				*e*Sg	**Sn**	**17 31 36.8**	**+2.2**
BUM	**Brajici-Budva**	**1.08**	**332**	⇓*i* Pg	**Pb**	**17 31 25.6**	**+0.6**
BUM				*e*Sg	**Sn**	**17 31 42.5**	**+3.1**
BUM	**Brajici-Budva**	**1.08**	**332**	⇓*i* Pg	**Pb**	**17 31 25.6**	**+0.6**
BUM				*e*Sg	**Sn**	**17 31 42.5**	**+3.1**
PDG	**Podgorica**	**1.11**	**348**	P	**Pb**	**17 31 25.8**	**+0.3**
PDG				S	**Sn**	**17 31 44.0**	**+4.0**
PDG	**Podgorica**	**1.11**	**348**	⇓*i* Pg	**Pn**	**17 31 25.3**	**0.0**
PDG				*e*Sg	**Sn**	**17 31 42.1**	**+2.1**
PDG	**Podgorica**	**1.11**	**348**	Pn	**Pn**	**17 31 25.3**	**0.0**
PDG	1µm,0.6s			Sn	**Sn**	**17 31 42.3**	**+2.3**
PDG	**Podgorica**	**1.11**	**348**	Pn	**Pn**	**17 31 25.3**	**0.0**
PDG	**Podgorica**	**1.11**	**348**	⇓*i* Pg	**Pb**	**17 31 25.7**	**+0.3**
PDG				*e*Sg	**Sn**	**17 31 42.1**	**+2.1**
PDG	1µm,0.6s			Sn	**Sn**	**17 31 42.3**	**+2.3**
PDG				S	**Sn**	**17 31 44.0**	**+4.0**
TTG	**Podgorica**	**1.11**	**348**	⇓*i* Pg	**Pb**	**17 31 25.7**	**+0.3**
TTG				*e*Sg	**Sn**	**17 31 42.9**	**+2.9**
KBN	**Korca**	**1.17**	**127**	*i* PG	**Pb**	**17 31 28.0**	**+1.6**
KBN	**Korca**	**1.17**	**127**	P	**Pb**	**17 31 27.4**	**+1.0**
KBN				S	**Sn**	**17 31 44.2**	**+2.8**
KBN	**Korca**	**1.17**	**127**	P	**Pb**	**17 31 27.4**	**+1.0**
KBN	**Korca**	**1.17**	**127**	*i* Pg	**Pb**	**17 31 28.0**	**+1.6**
KBN	SNR=90			S	**Sn**	**17 31 44.2**	**+2.8**
PVY	**Plav**	**1.29**	**13**	⇓*i* Pg	**Pb**	**17 31 28.5**	**0.0**
PVY				*e*Sg	**Sb**	**17 31 47.1**	**+2.5**
PVY	**Plav**	**1.29**	**13**	⇓*i* Pg	**Pb**	**17 31 28.5**	**0.0**
PVY				*e*Sg	**Sb**	**17 31 47.1**	**+2.5**
HCY	**Herceg Novi**	**1.37**	**324**	⇑*i* Pg	**Pb**	**17 31 29.7**	**-0.1**
HCY				*e*Sg	**Sb**	**17 31 49.4**	**+2.6**
HCY	**Herceg Novi**	**1.37**	**324**	⇑*i* Pg	**Pb**	**17 31 29.7**	**-0.1**
HCY				*e*Sg	**Sb**	**17 31 49.4**	**+2.6**
NEST	**Nestorio**	**1.45**	**129**	P	**Pb**	**17 31 32.8**	**+1.5**
NEST				S	**Sb**	**17 31 50.3**	**+0.9**
NEST	**Nestorio**	**1.45**	**129**	P	**Pb**	**17 31 32.8**	**+1.5**
NEST				S	**Sb**	**17 31 50.3**	**+0.9**
FNA	**Florina**	**1.48**	**112**	P	**Pb**	**17 31 32.4**	**+0.8**
FNA				S	**Sb**	**17 31 52.0**	**+2.0**
FNA	**Florina**	**1.48**	**112**	P	**Pb**	**17 31 32.4**	**+0.8**
FNA				S	**Sb**	**17 31 52.0**	**+2.0**
SRN	**Sarande**	**1.50**	**167**	P	**Pb**	**17 31 32.2**	**+0.3**
SRN				S	**Sb**	**17 31 51.3**	**+0.9**
SRN	**Sarande**	**1.50**	**167**	P	**Pb**	**17 31 32.2**	**+0.3**
SRN				S	**Sb**	**17 31 51.3**	**+0.9**
NKME	**Niksic**	**1.50**	**342**	*e*Pg	**Pb**	**17 31 31.6**	**-0.4**
NKME				*e*Sg	**Sb**	**17 31 52.1**	**+1.9**
NKME	**Niksic**	**1.50**	**342**	*e*Pg	**Pb**	**17 31 31.6**	**-0.4**
NKME				*e*Sg	**Sb**	**17 31 52.5**	**+1.9**
MESG	**Mesagne** 610nm,0.4s	**1.50**	**241**	Pn	**Pn**	**17 31 30.9**	**+0.3**
MESG	**Mesagne** 610nm,0.4s	**1.50**	**241**	Pn	**Pn**	**17 31 30.9**	**+0.3**
SCTE	**Santa Cesarea** 807nm,0.5s	**1.52**	**214**	Pn	**Pn**	**17 31 31.5**	**+0.7**
SCTE	**Santa Cesarea** 807nm,0.5s	**1.52**	**214**	Pn	**Pn**	**17 31 31.5**	**+0.7**
NKY	**Niksic**	**1.53**	**344**	⇓*i* Pg	**Pb**	**17 31 32.4**	**-0.3**
NKY				*e*Sg	**Sb**	**17 31 53.3**	**+1.6**
NKY	**Niksic**	**1.53**	**344**	⇓*i* Pg	**Pb**	**17 31 32.4**	**-0.3**
NKY				*e*Sg	**Sb**	**17 31 53.3**

SGD	Sagiada	1.80	163	P	Pb	17 31 36.5	-0.6
SGD				S	Sb	17 32 00.6	+1.4
IGT	Igoumenitsa	1.90	162	P	Pb	17 31 37.8	-1.0
IGT				S	Sb	17 32 02.5	+0.4
IGT	Igoumenitsa	1.90	162	P	Pb	17 31 37.8	-1.0
IGT				S	Sb	17 32 02.5	+0.4
TAR1	Taranto	1.91	246	ePn	Pn	17 31 36.3	0.0
TAR1				Sn	Sb	17 32 05.1	+2.6
UPM	Unac-Piva	1.93	345	⇓iPn	Pb	17 31 38.6	-0.8
UPM				eSn	Sb	17 32 02.2	-0.9
UPM	Unac-Piva	1.93	345	⇓iPn	Pb	17 31 38.6	-0.8
UPM				eSn	Sb	17 32 02.2	-0.9
SJES	Sjenica	1.94	9	⇓iPg	Pb	17 31 39.2	-0.5
SJES				eSg	Sb	17 32 04.9	+1.4
SJES	Sjenica	1.94	9	⇓iPg	Pb	17 31 39.2	-0.5
JAN	Janina	1.94	149	P	Pb	17 31 39.2	-0.4
JAN				S	Sb	17 32 03.6	+0.1
JAN	Janina	1.94	149	P	Pb	17 31 39.2	-0.4
JAN				S	Sb	17 32 03.6	+0.1
KZN	Kozani	1.96	121	P	Pn	17 31 38.4	+1.3
KZN				S	Sb	17 32 03.8	-0.2
KZN	Kozani	1.96	121	P	Pn	17 31 38.4	+1.3
KZN				S	Sb	17 32 03.8	-0.2
NOCI	Noci 388nm,0.5s	1.97	255	Pn	Pn	17 31 37.8	+0.7
NOCI	Noci 388nm,0.5s	1.97	255	Pn	Pn	17 31 37.8	+0.7
PLE	Pljevlja	1.99	356	⇑iPn	Pn	17 31 38.9	+1.4
PLE				eSn	Sn	17 32 03.2	+1.3
PLE	Pljevlja	1.99	356	⇑iPn	Pn	17 31 38.9	+1.4
PLE				eSn	Sn	17 32 03.2	+1.3
BAI	Bari	2.04	264	ePn	Pn	17 31 38.7	+0.7
STON	Ston	2.07	318	ePn	Pn	17 31 38.5	+0.1
STON				Sn	Sn	17 32 03.4	-0.1
STON	Ston	2.07	318	ePn	Pn	17 31 38.5	+0.1
STON				Sn	Sn	17 32 03.4	-0.1
SELS	Selova	2.20	31	ePg	Pn	17 31 41.6	+1.3
SELS				eSg	Sn	17 32 07.2	+0.3
BARS	Barje	2.23	48	⇑iPg	Pn	17 31 42.0	+1.4
BARS				eSg	Sn	17 32 08.2	+0.6
BARS	Barje	2.23	48	⇑iPg	Pn	17 31 42.0	+1.4
BARS				eSg	Sn	17 32 08.2	+0.6
SG1	Sgolgore (BA)	2.24	258	ePn	Pb	17 31 43.5	-1.2
VAY	Valandovo	2.26	89	P	Pn	17 31 42.4	+1.4
VAY	Valandovo	2.26	89	ePn	Pn	17 31 42.8	+1.8
VAY	Valandovo	2.26	89	P	Pn	17 31 42.4	+1.4
VAY	Valandovo	2.26	89	ePn	Pn	17 31 42.8	+1.8
IVAS	Ivanjica	2.28	11	iPn	Pn	17 31 42.8	+1.5
IVAS	Ivanjica	2.28	11	iPn	Pn	17 31 42.8	+1.5
MATE	Matera 247nm,0.5s	2.28	253	Pn	Pn	17 31 43.1	+1.9
MATE	Matera 247nm,0.5s	2.28	253	Pn	Pn	17 31 43.1	+1.9
AMUR	Altamura 242nm,0.7s	2.28	260	Pn	Pn	17 31 41.7	+0.3
AMUR	Altamura 242nm,0.7s	2.28	260	Pn	Pn	17 31 41.7	+0.3
MIGL	Miglionico	2.48	254	Pn	Pn	17 31 45.9	+1.8
MIGL	Miglionico	2.48	254	Pn	Pn	17 31 45.9	+1.8
DSL	Palaion Diasel	2.50	152	P	Pn	17 31 46.8	+2.5
DSL	Palaion Diasel	2.50	152	P	Pn	17 31 46.8	+2.5
CDT	Castel del Mon	2.50	265	ePn	Pn	17 31 45.4	+1.0
KNT	Kendrikon	2.52	93	P	Pn	17 31 46.3	+1.7
KNT	Kendrikon	2.52	93	P	Pn	17 31 46.3	+1.7
BBLS	Lazići	2.53	357	ePn	Pn	17 31 46.5	+1.7
BBLS				eSn	Sn	17 32 17.1	+2.1
BBLS	Lazići	2.53	357	ePn	Pn	17 31 46.5	+1.7
BBLS				eSn	Sn	17 32 17.1	+2.1
MRVN	Minervino Murg 154nm,0.7s	2.56	265	Pn	Pn	17 31 46.1	+0.9
MRVN	Minervino Murg 154nm,0.7s	2.56	265	Pn	Pn	17 31 46.1	+0.9
THL	Klokotos Trika	2.57	133	P	Pn	17 31 47.2	+1.9
THL				S	Sb	17 32 19.5	-2.0
THL	Klokotos Trika	2.57	133	P	Pn	17 31 47.2	+1.9
THL				S	Sb	17 32 19.5	-2.0
THE	Thessaloniki	2.67	104	P	Pn	17 31 47.9	+1.3
THE	Thessaloniki	2.67	104	P	Pn	17 31 47.9	+1.3
LKD2	Lefkada island	2.68	162	P	Pn	17 31 48.1	+1.2
LKD2	Lefkada island	2.68	162	P	Pn	17 31 48.1	+1.2
GRUS	Gruza	2.68	18	iPn	Pn	17 31 48.4	+1.5
GRUS	Gruza	2.68	18	iPn	Pn	17 31 48.4	+1.5
MS1	Monte Sant'Ang	2.75	279	ePn	Pn	17 31 49.1	+1.3
PALZ	Palazzo San Ge	2.75	263	Pn	Pn	17 31 49.2	+1.3
PALZ	Palazzo San Ge	2.75	263	Pn	Pn	17 31 49.2	+1.3
MSAG	Monte S. Angel	2.77	279	Pn	Pn	17 31 48.5	+0.3
MSAG	Monte S. Angel	2.77	279	Pn	Pn	17 31 48.5	+0.3
DIVS	Divibare	2.77	6	P	Pn	17 31 49.2	+1.0
DIVS	Divibare	2.77	6	iPn	Pn	17 31 49.0	+0.8
DIVS	Divibare	2.77	6	⇑iP	Pn	17 31 49.2	+1.0
DIVS	Divibare	2.77	6	S	Sn	17 32 21.9	+0.8
DIVS	Divibare	2.77	6	iPn	Pn	17 31 49.0	+0.8
DIVS	Divibare	2.77	6	P	Pn	17 31 49.7	+1.5
HORT	Hortiatis	2.77	104	eP	Pn	17 31 49.0	+0.8
HORT	Hortiatis	2.77	104	P	Pn	17 31 49.3	+1.1
HORT	Hortiatis	2.77	104	P	Pn	17 31 49.3	+1.1
ACER	Acerenza 358nm,0.5s	2.80	260	Pn	Pn	17 31 50.0	+1.5
ACER	Acerenza 358nm,0.5s	2.80	260	Pn	Pn	17 31 50.0	+1.5
PIPA	Pietrapaola 149nm,0.6s	2.80	230	Pn	Pn	17 31 48.8	+0.3
PIPA	Pietrapaola 149nm,0.6s	2.80	230	Pn	Pn	17 31 48.8	+0.3
SGRT	San Giovanni R	2.90	279	Pn	Pn	17 31 50.4	+0.5
SGRT	San Giovanni R	2.90	279	Pn	Pn	17 31 50.4	+0.5
SOH	Sokhos	2.91	99	P	Pn	17 31 51.5	+1.5
SOH	Sokhos	2.91	99	P	Pn	17 31 51.5	+1.5
TRUS	Trudelj	2.95	12	⇑iPn	Pn	17 31 50.6	+0.1
TRUS	Trudelj	2.95	12	⇑iPn	Pn	17 31 50.6	+0.1
EVR	Evrytania	2.97	144	P	Pn	17 31 54.0	+3.1
EVR				S	Sn	17 32 28.2	+2.3
EVR	Evrytania	2.97	144	P	Pn	17 31 54.0	+3.1
EVR				S	Sn	17 32 28.2	+2.3
ZAPS	Zavoj	2.98	49	⇓iPn	Pn	17 31 53.2	+2.2
ZAPS	Zavoj	2.98	49	⇓iPn	Pn	17 31 53.2	+2.2
VTS	Vitosha	2.99	64	P	Pn	17 31 53.4	+2.2
VTS				S	Sn	17 32 29.8	+3.3
VTS	Vitosha	2.99	64	P	Pn	17 31 53.4	+2.2
VTS				S	Sn	17 32 29.8	+3.3
PDO	Prodromos	3.01	155	P	Pn	17 31 52.8	+1.5
PDO	Prodromos	3.01	155	P	Pn	17 31 52.8	+1.5
SIRI	Monte Sirino - 103nm,0.6s	3.04	249	Pn	Pn	17 31 52.8	+0.9
SIRI	Monte Sirino - 103nm,0.6s	3.04	249	Pn	Pn	17 31 52.8	+0.9
MAKR	Makrakomi, Fth	3.04	139	P	Pn	17 31 54.7	+2.9
MAKR				S	Sn	17 32 31.4	+3.8
MAKR	Makrakomi, Fth	3.04	139	P	Pn	17 31 54.7	+2.9
MAKR				S	Sn	17 32 31.4	+3.8
SRS	Serrai	3.04	93	P	Pn	17 31 53.3	+1.5
SRS	Serrai	3.04	93	P	Pn	17 31 53.3	+1.5
BOLS	Boljevac	3.05	34	ePn	Pn	17 31 51.7	-0.2
BOLS	Boljevac	3.05	34	ePn	Pn	17 31 51.7	-0.2
TIP	Timpagrande 51nm,0.8s	3.05	226	Pn	Pn	17 31 52.2	+0.3
TIP	Timpagrande 51nm,0.8s	3.05	226	Pn	Pn	17 31 52.2	+0.3
MTSN	Montesano sull 31nm,0.5s	3.09	251	Pn	Pn	17 31 54.1	+1.5
MTSN	Montesano sull 31nm,0.5s	3.09	251	Pn	Pn	17 31 54.1	+1.5
PLG	Polygyros	3.09	107	P	Pn	17 31 54.1	+1.5
PLG				S	Sn	17 32 32.5	+3.6
PLG	Polygyros	3.09	107	P	Pn	17 31 54.1	+1.5
PLG				S	Sn	17 32 32.5	+3.6
PVO	Paravola	3.11	150	P	Pn	17 31 55.2	+2.5
PVO				S	Sn	17 32 32.5	+3.3
PVO	Paravola	3.11	150	P	Pn	17 31 55.2	+2.5
PVO				S	Sn	17 32 32.5	+3.3
MMB	Musomiste	3.13	84	⇑iP	Pn	17 31 55.1	+2.0
MMB	Musomiste	3.13	84	S	Sn	17 32 28.1	-1.8
MMB	Musomiste	3.13	84	⇑iP	Pn	17 31 55.1	+2.0
AGG	Agios Georgios	3.14	137	eP	Pn	17 31 55.0	+1.9
AGG	Agios Georgios	3.14	137	P	Pn	17 31 55.5	+2.4
AGG				S	Sn	17 32 32.1	+2.2
AGG	Agios Georgios	3.14	137	P	Pn	17 31 55.5	+2.4
AGG				S	Sn	17 32 32.1	+2.2
CUC	Castrocucco 119nm,0.7s	3.16	246	Pn	Pn	17 31 54.6	+1.2
CUC	Castrocucco 119nm,0.7s	3.16	246	Pn	Pn	17 31 54.6	+1.2
SVIS	Svilajnac	3.16	22	eSn	Sn	17 32 30.5	-0.1
SERS	Sersale	3.19	225	Pn	Pn	17 31 53.8	-0.1
SERS	Sersale	3.19	225	Pn	Pn	17 31 53.8	-0.1
FYTO	Fytoko, Volos	3.22	126	P	Pn	17 31 56.7	+2.5
FYTO	Fytoko, Volos	3.22	126	P	Pn	17 31 56.7	+2.5
NVR	Nevrokopi	3.23	88	P	Pn	17 31 56.3	+1.9
NVR				S	Sn	17 32 34.6	+2.3
NVR	Nevrokopi	3.23	88	P	Pn	17 31 56.3	+1.9
NVR				S	Sn	17 32 34.6	+2.3
VLS	Valsamata	3.25	166	P	Pn	17 31 56.2	+1.4
VLS				S	Sn	17 32 34.2	+2.0
VLS	Valsamata	3.25	166	P	Pn	17 31 56.2	+1.4
VLS				S	Sn	17 32 34.9	+2.4
MGR	Morigerati	3.28	250	Pn	Pn	17 31 56.5	+1.4
MGR	Morigerati	3.28	250	Pn	Pn	17 31 56.5	+1.4
MOCO	Biccari - m.te 169nm,1.2s	3.32	272	Pn	Pn	17 31 57.6	+1.9
CDRU	Civita di Ruta 47nm,0.6s	3.34	257	Pn	Pn	17 31 56.9	+0.9
CDRU	Civita di Ruta 47nm,0.6s	3.34	257	Pn	Pn	17 31 56.9	+0.9
MELA	Melanico ??? S 318nm,0.8s	3.36	278	Pn	Pn	17 31 56.7	+0.6
MELA	Melanico ??? S 318nm,0.8s	3.36	278	Pn	Pn	17 31 56.7	+0.6
KFL	Anninata	3.36	163	P	Pn	17 31 57.9	+1.7
KFL				S	Sn	17 32 38.3	+2.9
KFL	Anninata	3.36	163	P	Pn	17 31 57.9	+1.7
KFL				S	Sn	17 32 38.3	+2.9
MCRV	Calabrutti - M 90nm,0.7s	3.37	262	Pn	Pn	17 31 57.1	+0.6
MCRV	Calabrutti - M 90nm,0.7s	3.37	262	Pn	Pn	17 31 57.1	+0.6
XOR	Xorichti	3.40	124	P	Pn	17 31 57.9	+1.2
XOR				S	Sn	17 32 36.2	-0.2
XOR	Xorichti	3.40	124	P	Pn	17 31 57.9	+1.2
XOR				S	Sn	17 32 36.2	-0.2
BULG	Bulgheria - Ca 100nm,0.7s	3.43	250	Pn	Pn	17 31 58.1	+0.9
BULG	Bulgheria - Ca 100nm,0.7s	3.43	250	Pn	Pn	17 31 58.1	+0.9
PAIG	Paliouri	3.43	113	P	Pn	17 31 58.7	+1.6
PAIG	Paliouri	3.43	113	P	Pn	17 31 58.7	+1.6
OUR	Ouranopolis	3.50	105	eP	Pn	17 31 58.8	+0.8
OUR	Ouranopolis	3.50	105	P	Pn	17 31 59.2	+1.2
OUR	Ouranopolis	3.50	105	P	Pn	17 31 59.2	+1.2
AXAR	Agios Charalam	3.50	136	P	Pn	17 32 00.5	+2.4
AXAR	Agios Charalam	3.50	136	P	Pn	17 32 00.5	+2.4
PSB1	Pescosannita 82nm,1.0s	3.59	270	Pn	Pn	17 32 02.0	+2.7
PSB1	Pescosannita 82nm,1.0s	3.59	270	Pn	Pn	17 32 02.0	+2.7
RLS	Riolos of Patr	3.59	155	P	Pn	17 31 01.1	+1.8
RLS	Riolos of Patr	3.59	155	P	Pn	17 31 01.1	+1.8
DSF	Desfina	3.71	141	P	Pn	17 32 02.4	+1.4
DSF				S	Sn	17 32 47.4	+3.4
DSF	Desfina	3.71	141	P	Pn	17 32 02.4	+1.4
DSF				S	Sn	17 32 47.4	+3.4
SMIA	Simia	3.72	130	P	Pn	17 32 03.8	+2.7
SMIA				S	Sn	17 32 46.4	+2.1
SMIA	Simia	3.72	130	P	Pn	17 32 03.8	+2.7
SMIA				S	Sn	17 32 46.4	+2.1
ATAL	Atalanti	3.74	134	P	Pn	17 32 03.5	+2.0
ATAL	Atalanti	3.74	134	P	Pn	17 32 03.5	+2.0
KAVA	Kavala	3.75	94	P	Pn	17 32 03.0	+1.5
KAVA	Kavala	3.75	94	P	Pn	17 32 03.0	+1.5
ZKS	Zakynthos	3.76	165	P	Pn	17 32 02.8	+1.1
ZKS	Zakynthos	3.76	165	P	Pn	17 32 02.8	+1.1
PLAC	Placanica	3.76	221	Pn	Pn	17 32 01.4	-0.3
PLAC	Placanica	3.76	221	Pn	Pn	17 32 01.4	-0.3
LKR	Lokris	3.76	134	P	Pn	17 32 03.7	+2.0
LKR	Lokris	3.76	134	P	Pn	17 32 03.7	+2.0
DRO	Drossia	3.77	153	P	Pn	17 32 03.4	+1.6
DRO	Drossia	3.77	153	P	Pn	17 32 03.4	+1.6
PAOL	Paolisi 48nm,0.7s	3.79	267	Pn	Pn	17 32 04.5	+2.4
PAOL	Paolisi 48nm,0.7s	3.79	267	Pn	Pn	17 32 04.5	+2.4
PTRJ	Pietraroja 119nm,0.6s	3.79	272	Pn	Pn	17 32 04.4	+2.2
PTRJ	Pietraroja 119nm,0.6s	3.79	272	Pn	Pn	17 32 04.4	+2.2
FGSL	Fruska Gora	3.82	3	ePn	Pn	17 32 02.9	+0.4
FRGS	Fruska Gora	3.82	3	ePn	Pn	17 32 02.9	+0.4
AOS	Alonnisos	3.95	122	eP	Pn	17 32 05.2	+1.0
AOS	Alonnisos	3.95	122	P	Pn	17 32 05.7	+1.5
AOS				S	Sn	17 32 47.3	-2.6
AOS	Alonnisos	3.95	122	P	Pn	17 32 05.7	+1.5
AOS				S	Sn	17 32 47.3	-2.6
MIDA	Miranda 33nm,0.5s	4.00	276	Pn	Pn	17 32 06.5	+1.4
MIDA	Miranda 33nm,0.5s	4.00	276	Pn	Pn	17 32 06.5	+1.4
VAGA	Valle Agricola 82nm,0.7s	4.01	273	Pn	Pn	17 32 07.3	+2.1
VAGA	Valle Agricola 82nm,0.7s	4.01	273	Pn	Pn	17 32 07.3	+2.1
GUR	Goura	4.02	147	P	Pn	17 32 07.9	+2.6
GUR	Goura	4.02	147	P	Pn	17 32 07.9	+2.6
MRKA	Markates	4.05	129	P	Pn	17 32 07.5	+1.8
MRKA	Markates	4.05	129	P	Pn	17 32 07.5	+1.8
AMT	Artemida-Makis	4.15	156	P	Pn	17 32 08.8	+1.8
AMT				S	Sn	17 32 57.1	+2.2
AMT	Artemida-Makis	4.15	156	P	Pn	17 32 08.8	+1.8
AMT				S	Sn	17 32 57.1	+2.2
CERA	Filignano 71nm,0.7s	4.18	275	Pn	Pn	17 32 09.8	+2.3
CERA	Filignano 71nm,0.7s	4.18	275	Pn	Pn	17 32 09.8	+2.3
CEL	Celeste	4.18	224	Pn	Pn	17 32 07.4	-0.1
CEL	Celeste	4.18	224	Pn	Pn	17 32 07.4	-0.1
UDBI	Udbina	4.24	320	ePn	Pn	17 32 09.7	+1.4
UDBI				Sn	Sn	17 32 58.2	+1.1
UDBI	Udbina	4.24	320	ePn	Pn	17 32 09.7	+1.4
UDBI				Sn	Sn	17 32 58.2	+1.1
SRE	Strehaia	4.26	38	⇓iP	Pn	17 32 07.0	-1.5
SRE	Strehaia	4.26	38	⇓iP	Pn	17 32 07.0	-1.5
VILL	Villia	4.29	137	P	Pn	17 32 10.6	+1.6
VILL	Villia	4.29	137	P	Pn	17 32 10.6	+1.6
KDZ	Kurdzhali	4.40	84	⇓iP	Pn	17 32 11.6	+1.1
KDZ	Kurdzhali	4.40	84	⇓iP	Pn	17 32 11.6	+1.1
VVLD	Villa Vallelon 40nm,0.9s	4.49	279	Pn	Pn	17 32 13.9	+2.1
VVLD	Villa Vallelon 40nm,0.9s	4.49	279	Pn	Pn	17 32 13.9	+2.1
RDO	Rodhopi	4.50	91	P	Pn	17 32 13.2	+1.3
RDO	Rodhopi	4.50	91	P	Pn	17 32 13.2	+1.3
VLX	Vlachokerasia	4.52	150	P	Pn	17 32 15.3	+3.0
VLX				S	Sn	17 33 06.6	+2.3
VLX	Vlachokerasia	4.52	150	P	Pn	17 32 15.3	+3.0
VLX				S	Sn	17 33 06.6	+2.3
BZS	Buzias	4.53	19	⇑iP	Pn	17 32 13.0	+0.8
BZS	Buzias	4.53	19	⇑iP	Pn	17 32 13.0	+0.8
BZS				S	Sn	17 33 02.4	-1.8
TERO	Teramo 37nm,0.4s	4.63	288	Pn	Pn	17 32 14.4	+0.8
TERO	Teramo 37nm,0.4s	4.63	288	Pn	Pn	17 32 14.4	+0.8
T0106	Roio Piano 43nm,0.7s	4.72	284	Pn	Pn	17 32 16.8	+1.8
PYL	PYLOS	4.75	158	P	Pn	17 32 15.8	+0.5
PYL	PYLOS	4.75	158	P	Pn	17 32 15.8	+0.5
GIUL	Giuliano Di Ro 14nm,0.5s	4.75	275	Pn	Pn	17 32 17.2	+1.9
GIUL	Giuliano Di Ro 14nm,0.5s	4.75	275	Pn	Pn	17 32 17.2	+1.9
DID	Didima	4.77	142	P	Pn	17 32 16.7	+1.2
DID				S	Sn	17 33 09.4	-0.8
DID	Didima	4.77	142	P	Pn	17 32 16.7	+1.2
DID				S	Sn	17 33 09.4	-0.8
KRND	KRANIDI	4.83	144	P	Pn	17 32 17.5	+1.2
KRND	KRANIDI	4.83	144	P	Pn	17 32 17.5	+1.2
ALN	Alexandroupoli	4.91	93	eP	Pn	17 32 17.7	+0.2
ALN	Alexandroupoli	4.91	93	P	Pn	17 32 18.9	+1.4
ALN	Alexandroupoli	4.91	93	P	Pn	17 32 18.9	+1.4
PKSM	Moragy	4.92	352	⇑iP	Pn	17 32 19.0	+1.5
PKSM	Moragy	4.92	352	ePn	Pn	17 32 18.2	+0.7
PKSM	Moragy	4.92	352	⇑iP	Pn	17 32 19.0	+1.5
PKSM	Moragy	4.92	352	e	Pn	17 32 18.2	+0.7
PKSM				e		17 33 21.8	
LNSS	Leonessa 52nm,0.5s	5.03	287	Pn	Pn	17 32 20.6	+1.4
LNSS	Leonessa 52nm,0.5s	5.03	287	Pn	Pn	17 32 20.6	+1.4
FDMO	Fiordimonte 25nm,0.6s	5.11	292	Pn	Pn	17 32 21.1	+0.9
FDMO	Fiordimonte 25nm,0.6s	5.11	292	Pn	Pn	17 32 21.1	+0.9
LOT	Lotru	5.12	35	⇑iP	Pn	17 32 22.0	+1.5
LOT	Lotru	5.12	35	⇑iP	Pn	17 32 22.0	+1.5
LOT				S	Sn	17 33 19.6	+0.6
CING	Cingoli 37nm,0.7s	5.14	295	Pn	Pn	17 32 21.1	+0.4
CING	Cingoli 37nm,0.7s	5.14	295	Pn	Pn	17 32 21.1	+0.4
SIRR	Siria	5.15	16	⇑iP	Pn	17 32 22.4	+1.6
SIRR	Siria	5.15	16	⇑iP	Pn	17 32 22.4	+1.6
SIRR				S	Sn	17 33 19.4	-0.2
BOJS	Bojanci	5.22	324	iPn	Pn	17 32 22.4	+0.7
BOJS	Bojanci	5.22	324	iPn	Pn	17 32 22.4	+0.7
SNTG	Esanatoglia 22nm,0.3s	5.28	293	Pn	Pn	17 32 22.8	+0.3
SNTG	Esanatoglia 22nm,0.3s	5.28	293	Pn	Pn	17 32 22.8	+0.3
GELI	Tayfur-Gelibol	5.32	98	eP	Pn	17 32 22.4	-0.7
GELI	Tayfur-Gelibol	5.32	98	eP	Pn	17 32 22.4	-0.7
PKS9	Tamasi	5.33	350	ePn	Pn	17 32 26.2	+3.0
PKS9	Tamasi	5.33	350	e	Pn	17 32 26.2	+3.0
PKS9				e		17 33 19.5	
JMB	Yambol	5.35	76	⇓iP	Pn	17 32 25.2	+1.6
JMB	Yambol	5.35	76	S	Sn	17 33 16.2	-8.4
JMB	Yambol	5.35	76	⇓iP	Pn	17 32 25.2	+1.6
ARR	Arges	5.46	41	⇑iP	Pn	17 32 25.6	+0.5
ARR	Arges	5.46	41	⇑iP	Pn	17 32 25.6	+0.5
ARR				S	Sn	17 33 27.6	+0.3
LPK	Lapseki	5.54	98	eP	Pn	17 32 26.0	-0.1
LPK	Lapseki	5.54	98	eP	Pn	17 32 26.0	-0.1
PIEI	Pieia 18nm,0.3s	5.65	295	Pn	Pn	17 32 28.0	+0.3
PIEI	Pieia 18nm,0.3s	5.65	295	Pn	Pn	17 32 28.0	+0.3
ATVO	AVT- Monte Val 29nm,0.6s	5.69	293	Pn	Pn	17 32 29.7	+1.5
ATVO	AVT- Monte Val 29nm,0.6s	5.69	293	Pn	Pn	17 32 29.7	+1.5
VOIR		5.72	42	⇑iP	Pn	17 32 30.2	+1.6
VOIR		5.72	42	⇑iP	Pn	17 32 30.2	+1.6
VOIR				S	Sn	17 33 34.0	+0.3
KYTH	Kithira	5.73	151	P	Pn	17 32 30.9	+2.1
KYTH	Kithira	5.73	151	P	Pn	17 32 30.9	+2.1
MGAB	Montegabbione 19nm,0.4s	5.76	288	Pn	Pn	17 32 31.2	+2.0
MGAB	Montegabbione 19nm,0.4s	5.76	288	Pn	Pn	17 32 31.2	+2.0
CHOS	Chios island	5.80	118	eP	Pn	17 32 31.1	+1.4
CHOS	Chios island	5.80	118	eP	Pn	17 32 31.1	+1.4
PARC	Parchiule 24nm,0.7s	5.89	295	Pn	Pn	17 32 32.1	+1.1
PARC	Parchiule 24nm,0.7s	5.89	295	Pn	Pn	17 32 32.1	+1.1
DRGR		5.90	21	⇑iP	Pn	17 32 31.8	+0.7
DRGR		5.90	21	S	Sn	17 33 36.0	-2.1
DRGR		5.90	21	⇑iP	Pn	17 32 31.8	+0.7
PKST	T"s	6.02	350	⇓e	Pn	17 32 38.7	+6.0
ANKY	Antikythira Is	6.20	151	P	Pn	17 32 36.7	+1.6
ANKY	Antikythira Is	6.20	151	P	Pn	17 32 36.7	+1.6
MLR	Muntele Rosu 0.2nm,0.3s,baz=154,slow=12,SNR=13	6.22	46	Pn	Pn	17 32 38.3	+2.7
MLR				Sn	Sn	17 33 47.5	+1.3
MLR	Muntele Rosu 0.1nm,0.3s,baz=252,slow=20,SNR=3.1	6.22	46	⇓iP	Pn	17 32 37.8	+2.2
MLR	Muntele Rosu	6.22	46	⇓iP	Pn	17 32 37.8	+2.2
MLR				S	Sn	17 33 49.5	+3.3
SOKA	Soboth	6.26	330	⇑iPn	Pn	17 32 35.9	-0.1
SOKA	Soboth	6.26	330	Pn	Pn	17 32 35.9	-0.1
APE	Apeiranthos	6.29	131	eP	Pn	17 32 37.6	+1.1
APE	Apeiranthos	6.29	131	eP	Pn	17 32 37.6	+1.1
OBKA	Obir	6.31	327	⇑iPn	Pn	17 32 36.9	+0.1
OBKA	Obir	6.31	327	Pn	Pn	17 32 36.9	+0.1
PSZ	Piszkesteto	6.58	2	⇓iP	Pn	17 32 41.6	+1.1
PSZ	Piszkesteto	6.58	2	S	Sn	17 33 56.6	+1.7
PSZ	Piszkesteto	6.58	2	⇓iP	Pn	17 32 41.6	+1.1
PSZ	Piszkesteto	6.58	2	⇓ePn	Pn	17 32 43.6	+3.1
PSZ	Piszkesteto	6.58	2	⇓e	Pn	17 32 43.6	+3.1
PSZ				e		17 33 53.0	
MSAB	Monastry St. A	6.67	63	⇓iP	Pn	17 32 43.0	+1.4
MSAB	Monastry St. A	6.67	63	⇓iP	Pn	17 32 43.0	+1.4
PSN	Preselentsi	6.78	67	⇓iP	Pn	17 32 43.7	+0.5
PSN	Preselentsi	6.78	67	⇓iP	Pn	17 32 43.7	+0.5
VRI	Vrincioaia	6.89	47	⇑iP

	1.5nm,0.4s								
MMAI	**Mount Meron Ar**	**15.10**	**118**	Pn	**Pn**	**17 34 36.9**	**-0.1**
	1.3nm,0.3s,baz=299,slow=12,SNR=4.3								
MMAI				LR	LR	17 41 33.2			
	comp=Z,19nm,19.2s,baz=190,slow=42								
KBZ	**Khabaz**	**17.35**	**74**	Pn	**P**	**17 35 07.9**	**+1.0**
	0.2nm,0.3s,baz=250,slow=11,SNR=3.7								
HFS	**Hagfors**	**19.17**	**351**	P	**Pn**	**17 35 27.6**	**-0.2**
	0.2nm,0.3s,baz=159,slow=13,SNR=4.5								
NOA	**NORSAR Array B**	**20.38**	**348**	LR	LR	17 44 35.6			
	comp=Z,13nm,20.9s,baz=275,slow=40								
EKA	**Eskdalemuir Ar**	**20.47**	**321**	P	Pn	17 35 42.7	-0.5		
	0.8nm,0.7s,baz=117,slow=10,SNR=3.7								
FINES	**FINESS Array B**	**20.52**	**9**	P	**P**	**17 35 40.5**	**-0.9**		
	1.6nm,0.7s,baz=183,slow=11,SNR=7.9								
TORD	**Torodi Ar. Bea**	**32.13**	**214**	P	**P**	**17 37 33.6**	**+2.7**		
	0.2nm,0.4s,baz=17,slow=9.8,SNR=2.2								
ZALV	**Zalesovo Beam**	**44.18**	**50**	P	**P**	**17 39 11.4**	**-0.6**		
	2.6nm,0.3s,baz=285,slow=9.0,SNR=12								
MKAR	**Makanchi Array**	**44.34**	**61**	P	**P**	**17 39 12.8**	**-0.6**		
	1.9nm,0.6s,baz=285,slow=6.7,SNR=26								
KOLN	**Koldanda**	**53.33**	**83**	*e*P	**P**	**17 40 21.2**	**-1.7**		
	4.0nm,0.5s								
GKN	**Gorkha**	**53.98**	**82**	*e*P	**P**	**17 40 25.9**	**-1.7**		
	11nm,0.7s								
KKN	**Kakani**	**54.58**	**82**	*e*P	**P**	**17 40 30.3**	**-1.7**		
PKI	**Pulchoki**	**54.79**	**82**	*e*P	**P**	**17 40 31.9**	**-1.8**		
GUN	**Gumba**	**54.96**	**82**	*e*P	**P**	**17 40 33.4**	**-1.5**		
	15nm,0.8s								
JIRN	**Jiri**	**55.33**	**82**	*e*P	**P**	**17 40 36.2**	**-1.4**		
	5.9nm,0.3s								
RAMN	**Ramite**	**56.02**	**82**	*e*P	**P**	**17 40 40.6**	**-1.8**		
	9.5nm,0.5s								
ODAN	**Odare**	**56.66**	**82**	*e*P	**P**	**17 40 45.7**	**-1.3**		
SONM	**Songino Array**	**59.05**	**52**	P	**P**	**17 41 03.6**	**+0.3**		
	0.2nm,0.3s,baz=318,slow=8.5,SNR=4.6								
TKL	**Tuckaleechee C**	**76.09**	**305**	LR	LR	18 15 42.8			
	comp=Z,30nm,18.7s,baz=342,slow=35								
ASAR	**Alice Springs**	**123.17**	**94**	PKP	**PKPdf**	**17 49 58.6**	**-1.6**		
	0.2nm,0.5s,baz=312,slow=1.7,SNR=6.4								

SKO ***13*** *17:36:04.3, 41˚39N×19˚53E, h52km*
ATH ***13*** *17:36:05.1, 41˚52N×19˚36E, h31km±12km, MD3.6/21*
IDC ***13*** *17:36:05.5±3.5, 41˚47N×19˚83E, h0km, mb3.8/3, mb1 3.6/5, mb1mx3.3/26, mbtmp3.5/5, ML2.6/2, MS2.7/1, Ms1 2.6/1, ms1mx2.0/39, Error ellipse: s-maj=49.5km s-min=16.8km az=31.0*
TIR ***13*** *17:36:06.1±5.9, 41˚36N×19˚43E, h3km±999km*
ISCJB ***13*** *17:36:07.0±0.3, 41˚34N±0˚01×19˚52E±0˚02, h5km±2km, mb3.8/2, Error ellipse: s-maj=2.7km s-min=1.9km az=148.5*
CSEM ***13*** *17:36:07.7±0.1, 41˚34N×19˚54E, h5km, ML2.9, Error ellipse: s-maj=2.5km s-min=1.7km az=62.0*
ROM ***13*** *17:36:08.0±0.1, 41˚31N×19˚54E, h10km, Ml3.1/14, Error ellipse: s-maj=3.1km s-min=2.0km az=165.0*
THE ***13*** *17:36:08.5, 41˚37N×19˚49E, h1˚km±1˚km, ML3.1/8, Error ellipse: s-maj=1.4km s-min=0.8km az=322.0*
PDG ***13*** *17:36:09.0±0.5, 41˚42N×19˚61E, h17˚km, MD3.4/3, ML3.3/11, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
BEO ***13*** *17:36:10.8±0.4, 41˚50N×20˚03E, h2km±4km, ML2.9/1*

ISC 13 17:36:08.2±0.8, 41˚38N±0˚01×19˚55E±0˚02, h17km±6km, n267, σ1°29/357, 24C-13D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.24**	**97**	*i* Pg	**Pg**	**17 36 13.4**	**-0.2**
TIR				*i* Sg	**Sb**	**17 36 19.1**	**+1.0**
TIR	**Tirane**	**0.24**	**97**	P	**Pg**	**17 36 13.6**	**-0.1**
TIR				S	**Sb**	**17 36 18.5**	**+0.4**
TIR	**Tirane**	**0.24**	**97**	⇓*i* Pg	**Pg**	**17 36 13.5**	**-0.2**
TIR				*e*Sg	**Sb**	**17 36 18.3**	**+0.2**
TIR	**Tirane**	**0.24**	**97**	Pn	**Pg**	**17 36 13.6**	**-0.1**
TIR				Sn	**Sb**	**17 36 18.4**	**+0.4**
	5µm,0.4s						
TIR	**Tirane**	**0.24**	**97**	⇓*i* Pg	**Pg**	**17 36 13.5**	**-0.2**
TIR				S	**Sb**	**17 36 18.5**	**+0.4**
ULC	**Ulcinj**	**0.63**	**339**	⇑*i* Pg	**Pb**	**17 36 20.4**	**-0.3**
ULC				*e*Sg	**Sb**	**17 36 30.2**	**+1.0**
ULC	**Ulcinj**	**0.63**	**339**	⇑*i* Pg	**Pb**	**17 36 20.4**	**-0.3**
ULC				*e*Sg	**Sb**	**17 36 30.2**	**+1.0**
PUK	**Puka**	**0.71**	**21**	*i* Pg	**Pg**	**17 36 21.3**	**-0.9**
PUK				*i* SG	**Sn**	**17 36 34.8**	**+0.7**
PUK	**Puka**	**0.71**	**21**	*i* Pg	**Pg**	**17 36 21.3**	**-0.9**
	SNR=91						
PUK				*i* Sg	**Sn**	**17 36 34.8**	**+0.7**
	SNR=91						
PHP	**Peshkopia**	**0.74**	**65**	*i* PG	**Pg**	**17 36 22.4**	**-0.3**
PHP				*i* SG	**Sn**	**17 36 35.8**	**+1.1**
PHP	**Peshkopia**	**0.74**	**65**	P	**Pb**	**17 36 23.0**	**+0.4**
PHP				S	**Sn**	**17 36 35.1**	**+0.4**
PHP	**Peshkopia**	**0.74**	**65**	*i* Pg	**Pg**	**17 36 22.4**	**-0.3**
	SNR=91						
PHP	**Peshkopia**	**0.74**	**65**	P	**Pb**	**17 36 23.0**	**+0.4**
PHP				S	**Sn**	**17 36 35.1**	**+0.4**
DRME	**Dracevica, Mon**	**0.85**	**342**	⇓*i* Pg	**Pn**	**17 36 25.1**	**-0.3**
DRME				*e*Sg	**Sn**	**17 36 38.0**	**+0.5**
DRME	**Dracevica, Mon**	**0.85**	**342**	⇓*i* Pg	**Pn**	**17 36 25.1**	**-0.3**
DRME				*e*Sg	**Sn**	**17 36 38.0**	**+0.5**
VLO	**Vlora**	**0.91**	**182**	P	**Pb**	**17 36 26.1**	**+0.6**
VLO	**Vlora**	**0.91**	**182**	P	**Pb**	**17 36 26.1**	**+0.6**
BUM	**Brajici-Budva**	**1.04**	**332**	⇑*i* Pg	**Pn**	**17 36 28.2**	**+0.1**
BUM				*e*Sg	**Sn**	**17 36 44.6**	**+2.3**
BUM	**Brajici-Budva**	**1.04**	**332**	⇑*i* Pg	**Pn**	**17 36 28.2**	**+0.1**
BUM				*e*Sg	**Sn**	**17 36 44.6**	**+2.3**
PDG	**Podgorica**	**1.07**	**348**	P	**Pn**	**17 36 28.4**	**0.0**
PDG				S	**Sn**	**17 36 44.8**	**+1.9**
PDG	**Podgorica**	**1.07**	**348**	*e*Pg	**Pn**	**17 36 29.4**	**+1.0**
PDG				*e*Sg	**Sn**	**17 36 44.8**	**+1.9**
PDG	**Podgorica**	**1.07**	**348**	Pn	**Pg**	**17 36 28.1**	**-0.9**
PDG				Sn	**Sn**	**17 36 45.3**	**+2.4**
	323nm,0.3s						
PDG	**Podgorica**	**1.07**	**348**	Pn	**Pg**	**17 36 28.1**	**-0.9**
PDG	**Podgorica**	**1.07**	**348**	P	**Pn**	**17 36 28.4**	**0.0**
PDG	**Podgorica**	**1.07**	**348**	*e*Pg	**Pn**	**17 36 29.4**	**+1.0**
PDG				S	**Sn**	**17 36 44.8**	**+1.9**
PDG				Sn	**Sn**	**17 36 45.3**	**+2.4**
	323nm,0.3s						
TTG	**Podgorica**	**1.07**	**348**	⇓*i* Pg	**Pb**	**17 36 28.2**	**-0.1**
TTG				*e*Sg	**Sn**	**17 36 45.4**	**+2.5**
KBN	**Korca**	**1.21**	**128**	*i* PG	**Pg**	**17 36 31.9**	**+0.4**
KBN	**Korca**	**1.21**	**128**	P	**Pg**	**17 36 31.3**	**-0.2**
KBN				S	**Sn**	**17 36 48.3**	**+2.0**
KBN	**Korca**	**1.21**	**128**	P	**Pg**	**17 36 31.3**	**-0.2**
KBN	**Korca**	**1.21**	**128**	*i* Pg	**Pg**	**17 36 31.9**	**+0.4**
	SNR=90						
KBN				S	**Sn**	**17 36 48.3**	**+2.0**
PVY	**Plav**	**1.25**	**14**	*e*Pg	**Pg**	**17 36 31.8**	**-0.6**
PVY				*e*Sg	**Sn**	**17 36 51.0**	**+3.4**
PVY	**Plav**	**1.25**	**14**	*e*Pg	**Pg**	**17 36 31.8**	**-0.6**
PVY				*e*Sg	**Sn**	**17 36 51.0**	**+3.4**
HCY	**Herceg Novi**	**1.32**	**324**	⇑*i* Pg	**Pb**	**17 36 32.7**	**+0.1**
HCY				*e*Sg	**Sg**	**17 36 53.2**	**+2.1**
HCY	**Herceg Novi**	**1.32**	**324**	⇑*i* Pg	**Pb**	**17 36 32.7**	**+0.1**
HCY				*e*Sg	**Sg**	**17 36 53.2**	**+2.1**
NKME	**Niksic**	**1.46**	**343**	⇓*i* Pg	**Pb**	**17 36 34.8**	**-0.1**
NKME				*e*Sg	**Sg**	**17 36 56.5**	**+1.3**
NKME	**Niksic**	**1.46**	**343**	⇓*i* Pg	**Pb**	**17 36 34.8**	**-0.1**
NKME				*e*Sg	**Sg**	**17 36 56.5**	**+1.3**
NKY	**Niksic**	**1.49**	**344**	⇑*i* Pg	**Pb**	**17 36 35.5**	**0.0**
NKY				*e*Sg	**Sg**	**17 36 56.9**	**+0.5**
NKY	**Niksic**	**1.49**	**344**	⇑*i* Pg	**Pb**	**17 36 35.5**	**0.0**
NKY				*e*Sg	**Sg**	**17 36 56.9**	**+0.5**
NEST	**Nestorio**	**1.49**	**130**	P	**Pb**	**17 36 35.5**	**0.0**
NEST				S	**Sb**	**17 36 55.5**	**+1.3**
NEST	**Nestorio**	**1.49**	**130**	*e*Pn	**Pn**	**17 36 34.6**	**+0.3**
NEST				*e*SN	**Sg**	**17 36 56.6**	**+0.2**
NEST	**Nestorio**	**1.49**	**130**	*e*Pn	**Pn**	**17 36 34.6**	**+0.3**
NEST	**Nestorio**	**1.49**	**130**	P	**Pb**	**17 36 35.5**	**0.0**
NEST				S	**Sb**	**17 36 55.5**	**+1.3**
NEST				*e*Sn	**Sg**	**17 36 56.6**	**+0.2**
FNA	**Florina**	**1.51**	**113**	P	**Pb**	**17 36 35.6**	**-0.1**
FNA				S	**Sg**	**17 36 56.2**	**-0.6**
FNA	**Florina**	**1.51**	**113**	*e*PN	**Pn**	**17 36 34.8**	**+0.3**
FNA				*e*SN	**Sb**	**17 36 56.0**	**+1.5**
FNA	**Florina**	**1.51**	**113**	*e*Pb	**Pn**	**17 36 34.8**	**+0.3**
FNA	**Florina**	**1.51**	**113**	P	**Pb**	**17 36 35.6**	**-0.1**
FNA				*e*Sn	**Sb**	**17 36 56.0**	**+1.5**
MESG	**Mesagne**	**1.51**	**239**	Pn	**Pn**	**17 36 35.0**	**+0.6**
	313nm,0.4s						
MESG	**Mesagne**	**1.51**	**239**	Pn	**Pn**	**17 36 35.0**	**+0.6**
	313nm,0.4s						
BEY	**Berane**	**1.51**	**10**	*e*Pg	**Pb**	**17 36 35.6**	**-0.3**
BEY				*e*Sg	**Sg**	**17 36 57.1**	**0.0**
IVA	**Berane**	**1.51**	**10**	*e*Pg	**Pb**	**17 36 35.6**	**-0.3**
IVA				*e*Sg	**Sg**	**17 36 57.1**	**0.0**
SKO	**Skopje**	**1.54**	**67**	P	**Pb**	**17 36 36.5**	**+0.3**
SKO				S	**Sg**	**17 36 57.9**	**+0.1**
SKO	**Skopje**	**1.54**	**67**	*e*Pn	**Pn**	**17 36 34.6**	**-0.2**
SKO				*e*Sg	**Sg**	**17 36 57.2**	**-0.7**
SKO	**Skopje**	**1.54**	**67**	*e*Pn	**Pn**	**17 36 34.6**	**-0.2**
SKO				*e*Sg	**Sg**	**17 36 57.2**	**-0.7**
SKO	**Skopje**	**1.54**	**67**	*e*Pn	**Pn**	**17 36 34.6**	**-0.2**
SKO	**Skopje**	**1.54**	**67**	P	**Pb**	**17 36 36.5**	**+0.3**
SKO				*e*Sg	**Sg**	**17 36 57.1**	**-0.7**
SRN	**Sarande**	**1.54**	**167**	*i* PG	**Pg**	**17 36 37.2**	**-0.6**
SRN	**Sarande**	**1.54**	**167**	P	**Pn**	**17 36 35.6**	**+0.8**
SRN	**Sarande**	**1.54**	**167**	P	**Pn**	**17 36 35.6**	**+0.8**
SRN	**Sarande**	**1.54**	**167**	*i* Pg	**Pg**	**17 36 37.2**	**-0.6**
	SNR=90						
SCTE	**Santa Cesarea**	**1.54**	**212**	Pn	**Pb**	**17 36 35.9**	**-0.4**
	336nm,0.3s						
SCTE	**Santa Cesarea**	**1.54**	**212**	Pn	**Pb**	**17 36 35.9**	**-0.4**
	336nm,0.3s						
KEK	**Kerkira**	**1.68**	**173**	P	**Pn**	**17 36 36.4**	**-0.3**
KEK	**Kerkira**	**1.68**	**173**	*e*PB	**Pn**	**17 36 37.3**	**+0.6**
KEK				*e*SN	**Sn**	**17 36 58.2**	**+0.4**
KEK	**Kerkira**	**1.68**	**173**	Pn	**Pn**	**17 36 36.3**	**-0.4**
	198nm,0.5s						
KEK	**Kerkira**	**1.68**	**173**	P	**Pn**	**17 36 36.4**	**-0.3**
KEK	**Kerkira**	**1.68**	**173**	*e*Pb	**Pn**	**17 36 37.3**	**+0.6**
KEK				*e*Sn	**Sn**	**17 36 58.2**	**+0.4**
BRY	**Bratogost**	**1.70**	**334**	⇑*i* Pn	**Pb**	**17 36 38.8**	**-0.2**
BRY				*e*Sn	**Sg**	**17 37 02.5**	**-0.4**
BRY	**Bratogost**	**1.70**	**334**	⇑*i* Pn	**Pb**	**17 36 38.8**	**-0.2**
BRY				*e*Sn	**Sg**	**17 37 02.5**	**-0.4**
SGD	**Sagiada**	**1.84**	**163**	P	**Pb**	**17 36 41.0**	**-0.5**
SGD	**Sagiada**	**1.84**	**163**	*e*PB	**Pb**	**17 36 40.9**	**-0.5**
SGD				*e*SN	**Sb**	**17 37 04.5**	**+0.4**
SGD	**Sagiada**	**1.84**	**163**	*e*Pb	**Pb**	**17 36 40.9**	**-0.5**
SGD				*e*Sn	**Sb**	**17 37 04.5**	**+0.4**
UPM	**Unac-Piva**	**1.88**	**346**	⇑*i* Pn	**Pb**	**17 36 42.1**	**-0.1**
UPM				*e*Sn	**Sb**	**17 37 06.1**	**+0.5**
UPM	**Unac-Piva**	**1.88**	**346**	⇑*i* Pn	**Pb**	**17 36 42.1**	**-0.1**
UPM				*e*Sn	**Sb**	**17 37 06.1**	**+0.5**
SJES	**Sjenica**	**1.91**	**9**	*i* Pg	**Pb**	**17 36 42.3**	**-0.3**
SJES				*e*Sg	**Sb**	**17 37 06.9**	**+0.7**
IGT	**Igoumenitsa**	**1.94**	**162**	P	**Pn**	**17 36 40.7**	**+0.3**
IGT				S	**Sn**	**17 37 05.4**	**+1.1**
IGT	**Igoumenitsa**	**1.94**	**162**	*e*PN	**Pn**	**17 36 40.0**	**-0.4**
IGT				*e*SN	**Sb**	**17 37 06.8**	**-0.2**
IGT	**Igoumenitsa**	**1.94**	**162**	*e*Pn	**Pn**	**17 36 40.0**	**-0.4**
IGT	**Igoumenitsa**	**1.94**	**162**	P	**Pn**	**17 36 40.7**	**+0.3**
IGT				S	**Sn**	**17 37 05.4**	**+1.1**
IGT				*e*Sn	**Sb**	**17 37 06.8**	**-0.2**
PLE	**Pljevlja**	**1.95**	**357**	⇑*i* Pn	**Pb**	**17 36 42.9**	**-0.5**
PLE				*e*Sn	**Sb**	**17 37 07.6**	**+0.1**
PLE	**Pljevlja**	**1.95**	**357**	⇑*i* Pn	**Pb**	**17 36 42.9**	**-0.5**
PLE				*e*Sn	**Sb**	**17 37 07.6**	**+0.1**
NOCI	**Noci**	**1.97**	**253**	Pn	**Pn**	**17 36 41.6**	**+0.9**
	155nm,0.4s						
NOCI	**Noci**	**1.97**	**253**	Pn	**Pn**	**17 36 41.6**	**+0.9**
	155nm,0.4s						
JAN	**Janina**	**1.99**	**150**	P	**Pn**	**17 36 40.7**	**-0.4**
JAN	**Janina**	**1.99**	**150**	*e*PB	**Pn**	**17 36 42.0**	**+0.9**
JAN				*e*SN	**Sn**	**17 37 07.2**	**+1.7**
JAN	**Janina**	**1.99**	**150**	P	**Pn**	**17 36 40.7**	**-0.4**
JAN	**Janina**	**1.99**	**150**	*e*Pb	**Pn**	**17 36 42.0**	**+0.9**
JAN				*e*Sn	**Sn**	**17 37 07.2**	**+1.7**
KZN	**Kozani**	**2.00**	**122**	P	**Pn**	**17 36 42.0**	**+0.7**
KZN				S	**Sn**	**17 37 08.3**	**+2.4**
KZN	**Kozani**	**2.00**	**122**	*e*PN	**Pn**	**17 36 41.9**	**+0.7**
KZN	**Kozani**	**2.00**	**122**	P	**Pn**	**17 36 42.0**	**+0.7**
KZN				S	**Sn**	**17 37 08.3**	**+2.4**
STON	**Ston**	**2.03**	**318**	*e*Pn	**Pn**	**17 36 42.8**	**+1.3**
STON				Sn	**Sn**	**17 37 06.9**	**+0.5**
STON	**Ston**	**2.03**	**318**	*e*Pn	**Pn**	**17 36 42.8**	**+1.3**
STON				Sn	**Sn**	**17 37 06.9**	**+0.5**
SELS	**Selova**	**2.18**	**32**	*e*Pn	**Pn**	**17 36 44.6**	**+0.9**
IVAS	**Ivanjica**	**2.24**	**11**	*e*Pn	**Pb**	**17 36 46.8**	**-1.5**
IVAS	**Ivanjica**	**2.24**	**11**	*e*Pn	**Pb**	**17 36 46.8**	**-1.5**
AMUR	**Altamura**	**2.27**	**259**	Pn	**Pn**	**17 36 45.6**	**+0.7**
AMUR	**Altamura**	**2.27**	**259**	Pn	**Pn**	**17 36 45.6**	**+0.7**
VAY	**Valandovo**	**2.28**	**90**	P	**Pn**	**17 36 46.6**	**+1.6**
VAY	**Valandovo**	**2.28**	**90**	*e*Pn	**Pn**	**17 36 45.4**	**+0.4**
VAY	**Valandovo**	**2.28**	**90**	*e*Pn	**Pn**	**17 36 45.4**	**+0.4**
VAY	**Valandovo**	**2.28**	**90**	*e*Pn	**Pn**	**17 36 45.4**	**+0.4**
VAY	**Valandovo**	**2.28**	**90**	P	**Pn**	**17 36 46.6**	**+1.6**
BBLS	**Lazići**	**2.49**	**358**	*e*Pn	**Pb**	**17 36 52.3**	**-0.2**
KNT	**Kendrikon**	**2.54**	**94**	P	**Pn**	**17 36 48.8**	**+0.2**
KNT	**Kendrikon**	**2.54**	**94**	*e*PN	**Pn**	**17 36 48.8**	**0.0**
KNT	**Kendrikon**	**2.54**	**94**	P	**Pn**	**17 36 48.8**	**+0.2**
DSL	**Palaion Diasel**	**2.54**	**152**	P	**Pn**	**17 36 49.5**	**+0.9**
DSL				S	**Sn**	**17 37 20.8**	**+1.7**
DSL	**Palaion Diasel**	**2.54**	**152**	P	**Pn**	**17 36 49.5**	**+0.9**
DSL				S	**Sn**	**17 37 20.8**	**+1.7**
MRVN	**Minervino Murg**	**2.55**	**264**	Pn	**Pn**	**17 36 49.9**	**+1.1**
MRVN	**Minervino Murg**	**2.55**	**264**	Pn	**Pn**	**17 36 49.9**	**+1.1**
LIT	**Litokhoron**	**2.58**	**119**	*e*PN	**Pn**	**17 36 50.0**	**+0.9**
LIT	**Litokhoron**	**2.58**	**119**	*e*Pn	**Pn**	**17 36 50.0**	**+0.9**
THL	**Klokotos Trika**	**2.61**	**133**	P	**Pn**	**17 36 51.4**	**+1.8**
THL				S	**Sn**	**17 37 23.8**	**+2.9**
THL	**Klokotos Trika**	**2.61**	**133**	*e*PN	**Pn**	**17 36 50.2**	**+0.6**
THL	**Klokotos Trika**	**2.61**	**133**	*e*Pn	**Pn**	**17 36 50.2**	**+0.6**
THL	**Klokotos Trika**	**2.61**	**133**	P	**Pn**	**17 36 51.4**	**+1.8**
THL				S	**Sn**	**17 37 23.8**	**+2.9**
GRUS	**Gruza**	**2.65**	**19**	*e*Pn	**Pb**	**17 36 52.9**	**-2.3**
GRUS	**Gruza**	**2.65**	**19**	*e*Pn	**Pb**	**17 36 52.9**	**-2.3**
THE	**Thessaloniki**	**2.69**	**105**	*e*PN	**Pn**	**17 36 51.0**	**+0.3**
THE	**Thessaloniki**	**2.69**	**105**	*e*Pn	**Pn**	**17 36 51.0**	**+0.3**
LKD2	**Lefkada island**	**2.72**	**161**	P	**Pn**	**17 36 50.6**	**-0.6**
LKD2	**Lefkada island**	**2.72**	**161**	*e*PN	**Pn**	**17 36 50.6**	**-0.6**
LKD2	**Lefkada island**	**2.72**	**161**	P	**Pn**	**17 36 50.6**	**-0.6**
DIVS	**Divibare**	**2.74**	**7**	P	**Pn**	**17 36 51.8**	**+0.4**
DIVS	**Divibare**	**2.74**	**7**	*e*Pn	**Pb**	**17 36 54.3**	**-2.4**
DIVS	**Divibare**	**2.74**	**7**	⇑*i* Pn	**Pb**	**17 36 54.5**	**-2.2**
DIVS	**Divibare**	**2.74**	**7**	S	**Sb**	**17 37 28.2**	**-1.8**
DIVS	**Divibare**	**2.74**	**7**	P	**Pn**	**17 36 51.8**	**+0.4**
DIVS	**Divibare**	**2.74**	**7**	*e*Pn	**Pb**	**17 36 54.3**	**-2.4**
HORT	**Hortiatis**	**2.80**	**105**	*e*PN	**Pn**	**17 36 51.8**	**-0.5**
HORT	**Hortiatis**	**2.80**	**105**	*e*Pn	**Pn**	**17 36 51.8**	**-0.5**
PIPA	**Pietrapaola**	**2.81**	**229**	Pn	**Pn**	**17 36 51.5**	**-0.9**
	57nm,0.4s						
PIPA	**Pietrapaola**	**2.81**	**229**	Pn	**Pn**	**17 36 51.5**	**-0.9**
	57nm,0.4s						
ZAPS	**Zavoj**	**2.97**	**49**	*e*Pn	**Pn**	**17 36 51.9**	**-2.7**
VTS	**Vitosha**	**2.99**	**65**	P	**Pn**	**17 36 56.6**	**+1.7**
VTS				S	**Sn**	**17 37 33.1**	**+2.7**
VTS	**Vitosha**	**2.99**	**65**	P	**Pn**	**17 36 56.6**	**+1.7**
VTS				S	**Sn**	**17 37 33.1**	**+2.7**
EVR	**Evrytania**	**3.01**	**144**	P	**Pn**	**17 36 56.7**	**+1.5**
EVR				S	**Sn**	**17 37 33.8**	**+2.9**
EVR	**Evrytania**	**3.01**	**144**	*e*PN	**Pn**	**17 36 55.2**	**0.0**
EVR				*e*SN	**Sn**	**17 37 32.2**	**+1.3**
EVR	**Evrytania**	**3.01**	**144**	*e*Pn	**Pn**	**17 36 55.2**	**0.0**
EVR	**Evrytania**	**3.01**	**144**	P	**Pn**	**17 36 56.7**	**+1.5**
EVR				*e*Sn	**Sn**	**17 37 32.2**	**+1.3**
EVR				S	**Sn**	**17 37 33.8**	**+2.9**
PDO	**Prodromos**	**3.05**	**155**	P	**Pn**	**17 36 55.5**	**-0.1**
PDO	**Prodromos**	**3.05**	**155**	*e*PN	**Pn**	**17 36 55.1**	**-0.5**
PDO	**Prodromos**	**3.05**	**155**	*e*Pn	**Pn**	**17 36 55.1**	**-0.5**
PDO	**Prodromos**	**3.05**	**155**	P	**Pn**	**17 36 55.5**	**-0.1**
SRS	**Serrai**	**3.06**	**94**	P	**Pn**	**17 36 57.0**	**+1.2**
SRS	**Serrai**	**3.06**	**94**	*e*PN	**Pn**	**17 36 55.7**	**-0.1**
SRS	**Serrai**	**3.06**	**94**	*e*Pn	**Pn**	**17 36 55.7**	**-0.1**
SRS	**Serrai**	**3.06**	**94**	P	**Pn**	**17 36 57.0**	**+1.2**
TIP	**Timpagrande**	**3.06**	**225**	P	**Pn**	**17 36 56.2**	**+0.3**
TIP	**Timpagrande**	**3.06**	**225**	P	**Pn**	**17 36 56.2**	**+0.3**
MAKR	**Makrakomi, Fth**	**3.08**	**139**	P	**Pn**	**17 36 57.6**	**+1.5**
MAKR	**Makrakomi, Fth**	**3.08**	**139**	*e*PN	**Pn**	**17 36 57.3**	**+1.2**
MAKR	**Makrakomi, Fth**	**3.08**	**139**	*e*Pn	**Pn**	**17 36 57.3**	**+1.2**
MAKR	**Makrakomi, Fth**	**3.08**	**139**	P	**Pn**	**17 36 57.6**	**+1.5**
MTSN	**Montesano sull**	**3.09**	**250**	Pn	**Pn**	**17 36 57.2**	**+1.0**
MTSN	**Montesano sull**	**3.09**	**250**	Pn	**Pn**	**17 36 57.2**	**+1.0**
PLG	**Polygyros**	**3.12**	**107**	P	**Pn**	**17 36 58.3**	**+1.6**
PLG	**Polygyros**	**3.12**	**107**	*e*PN	**Pn**	**17 36 56.6**	**-0.1**
PLG				*e*SN	**Sn**	**17 37 33.6**	**0.0**
PLG	**Polygyros**	**3.12**	**107**	*e*Pn	**Pn**	**17 36 56.6**	**-0.1**
PLG	**Polygyros**	**3.12**	**107**	P	**Pn**	**17 36 58.3**	**+1.6**
PLG				*e*Sn	**Sn**	**17 37 33.6**	**0.0**
MMB	**Musomiste**	**3.15**	**85**	⇑*i* P	**Pn**	**17 36 58.7**	**+1.7**
MMB	**Musomiste**	**3.15**	**85**	⇑*i* P	**Pn**	**17 36 58.7**	**+1.7**
CUC	**Castrocucco**	**3.16**	**245**	Pn	**Pn**	**17 36 59.2**	**+2.1**
	39nm,0.7s						
CUC	**Castrocucco**	**3.16**	**245**	Pn	**Pn**	**17 36 59.2**	**+2.1**
	39nm,0.7s						
AGG	**Agios Georgios**	**3.18**	**137**	P	**Pn**	**17 36 58.0**	**+0.6**
AGG				S	**Sn**	**17 37 38.3**	**+3.4**
AGG	**Agios Georgios**	**3.18**	**137**	*e*PN	**Pn**	**17 36 57.9**	**+0.6**
AGG	**Agios Georgios**	**3.18**	**137**	P	**Pn**	**17 36 58.0**	**+0.6**
AGG				S	**Sn**	**17 37 38.3**	**+3.4**
NVR	**Nevrokopi**	**3.25**	**89**	P	**Pn**	**17 37 00.0**	**+1.6**
NVR				S	**Sn**	**17 37 39.9**	**+3.2**
NVR	**Nevrokopi**	**3.25**	**89**	*e*PN	**Pn**	**17 36 58.6**	**+0.2**
NVR	**Nevrokopi**	**3.25**	**89**	*e*Pn	**Pn**	**17 36 58.6**	**+0.2**
NVR	**Nevrokopi**	**3.25**	**89**	P	**Pn**	**17 37 00.0**	**+1.6**
NVR				S	**Sn**	**17 37 39.9**	**+3.2**
MGR	**Morigerati**	**3.28**	**249**	Pn	**Pn**	**17 37 00.0**	**+1.3**
MGR	**Morigerati**	**3.28**	**249**	Pn	**Pn**	**17 37 00.0**	**+1.3**
VLS	**Valsamata**	**3.30**	**166**	P	**Pn**	**17 36 59.2**	**+0.1**
VLS				S	**Sn**	**17 37 34.4**	**-3.4**
VLS	**Valsamata**	**3.30**	**166**	*e*PN	**Pn**	**17 36 57.5**	**-1.6**
VLS	**Valsamata**	**3.30**	**166**	*e*Pn	**Pn**	**17 36 57.5**	**-1.6**
VLS	**Valsamata**	**3.30**	**166**	P	**Pn**	**17 36 59.2**	**+0.1**
VLS				S	**Sn**	**17 37 34.4**	**-3.4**
CDRU	**Civita di Ruta**	**3.33**	**256**	Pn	**Pn**	**17 36 59.9**	**+0.3**
	16nm,0.5s						
CDRU	**Civita di Ruta**	**3.33**	**256**	Pn	**Pn**	**17 36 59.9**	**+0.3**
	16nm,0.5s						
MCRV	**Calabrutti - M**	**3.36**

PALK Sn **Sn** **17 41 45.8 -2.2**
0.5nm,0.3s,baz=42,slow=12,SNR=4.5

CMAR Chiang Mai Arr 12.90 33 Pn **Pn** **17 40 12.7 -2.4**
0.1nm,0.3s,baz=220,slow=15,SNR=3.4

H08S3 Diego Garcia H 24.39 232 T T 18 08 47.8
baz=52,slow=75,SNR=21

H08S2 Diego Garcia H 24.39 232 T T 18 08 56.2
baz=52,slow=75,SNR=21

H08S1 Diego Garcia H 24.41 232 T T 18 08 47.2
baz=52,slow=75,SNR=20

MKAR Makanchi Array 39.87 350 P **P** **17 44 45.8 +1.5**
0.3nm,0.8s,baz=168,slow=8.0,SNR=2.8

SONM Songino Array 42.01 15 P **P** **17 45 01.8 -0.3**
0.3nm,0.7s,baz=190,slow=7.3,SNR=3.0

ZALV Zalesovo Beam 46.55 354 P **P** **17 45 40.5 +2.4**
0.2nm,0.3s,baz=188,slow=5.5,SNR=2.1

ASAR Alice Springs 51.65 128 P **P** **17 46 17.3 -0.4**
0.2nm,0.7s,baz=300,slow=7.8,SNR=3.3

GERES GERESS Array B 76.40 318 P **P** **17 49 01.6 +1.6**
0.3nm,0.7s,baz=113,slow=2.2,SNR=2.7

MOS ***13*** *17:51:20.3±1.0,5.°91S×147.°56E,h33km,mb5.2/35,Error ellipse: s-maj=14.6km s-min=7.2km az=89.7*

ISCJB ***13*** *17:51:22.1±0.8,6.°01S±0.°03×147.°67E±0.°03,h53km±7km, mb5.2/83,MS4.0/18,Error ellipse: s-maj=5.0km s-min=4.8km az=38.3*

BJI ***13*** *17:51:22.0,5.°91S×147.°92E,h60km,mb4.9/55,mB4.9/33, Ms4.6/30,Ms7 4.2/32*

GCMT ***13*** *17:51:23.5±0.2,6.°21S×147.°69E,h58km±1km,MW5.1/72, Moment Tensor Solution. s70,c101; s72,c114; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.93±.14; Mθθ-4.70±.10; Mφφ0.77±.13; Mrθ-0.35±.09; Mθφ1.29±.09; Mφr-1.24±.10; Best double couple: M=4.70600×10^16^ NP1:φ=263.00000°,δ49.00000°,λ62.00000°. NP2: φ=122.00000°,δ48.00000°,λ119.00000°. Principal axes: T 4.4230, Plg69.0000°, Azm104.0000°; N 0.5670, Plg21.0000°, Azm282.0000°; P -4.9900, Plg0.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***13*** *17:51:23.5±0.9,5.°97S×147.°62E,h54km±9km,mb5.2/29 Error ellipse: s-maj=5.9km s-min=5.4km az=65.0*

NEIC Felt at Kainantu.

IDC ***13*** *17:51:26.4±2.0,6.°05S×147.°57E,h75km±17km,mb4.7/21, mb1 4.8/25,mb1mx4.7/35,mbtmp5.0/25,MS3.9/19, Ms1 3.9/19,ms1mx3.8/24,Error ellipse: s-maj=15.2km s-min=9.0km az=76.0*

DJA ***13*** *17:51:30.8±0.6,6.°S±3.°×14.°7E±.°,h96km±4km,M5.3/44, mb5.3/44,mB5.7/16,MLv5.7/2,Mw(mB)5.2/16*

ISC 13 17:51:24.5±0.3,6.°06S±0.°04×147.°69E±0.°05,h61km±2km, h61km:pP-P,n332,σ1§48/385,mb5.2/82,12C-10D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.37**	**189**	*d* iP		**Pn**	**17 52 14.9**	**+0.2**
PMG	**Port Moresby**	**3.37**	**189**	*e*Pn		**Pn**	**17 52 15.2**	**+0.5**
PMG				*e*Sn		**Sn**	**17 52 55.2**	**+1.8**
JAY	**Jayapura**	**7.80**	**297**	P		Pn	17 53 19.3	+3.8
	160nm,1.0s,2μm0.7nm							
GENI	**Genyem**	**8.25**	**294**	P		**Pn**	**17 53 24.6**	**+3.0**
COEN	**Coen**	**9.02**	**209**	*e*Pn		**Pn**	**17 53 31.0**	**-1.1**
SMPI	**Sarmi**	**9.83**	**294**	P		**Pn**	**17 53 45.4**	**+2.2**
HNR	**Honiara**	**12.60**	**106**	*e*Pn		**Pn**	**17 54 20.3**	**-0.7**
CTA	**Charters Tower**	**14.02**	**186**	P		**Pn**	**17 54 41.9**	**+1.7**
	0.8nm,0.3s,baz=354,slow=15,SNR=10.0							
CTA				LR		LR	17 59 59.5	
	comp=Z,837nm,21.5s,baz=4.0,slow=37							
CTA	**Charters Tower**	**14.02**	**186**	P		**Pn**	**17 54 41.9**	**+1.7**
CTA				pmax		pmax		
	comp=Z,1.0nm,0.3s							
CTA				MLR		MLR		
	comp=Z,837nm,21.5s							
CTAO	**Charters Tower**	**14.02**	**186**	*e*Pn		**Pn**	**17 54 38.5**	**-1.7**
RKPI	**Ransiki, Papua**	**14.22**	**288**	P		**Pn**	**17 54 44.1**	**+1.2**
FAKI	**Fak Fak**	**15.71**	**281**	P		**P**	**17 55 05.0**	**-0.1**
SIJI	**Sorong**	**17.18**	**287**	P		**Pn**	**17 55 20.1**	**-0.5**
	comp=Z,3.9nm,0.3s,baz=117,slow=9.1,SNR=15							
WRAB	**Tennant Creek**	**18.93**	**222**	P		**P**	**17 55 40.0**	**-0.6**
	comp=Z,662nm,0.8s,SNR=97							
WRAB	**Tennant Creek**	**18.93**	**222**	*ce*P		**P**	**17 55 40.8**	**+0.2**
WRAB				pmax		pmax		
	comp=Z,235nm,0.8s							
WRAB	**Tennant Creek**	**18.93**	**222**	*e*P		**P**	**17 55 39.5**	**-1.2**
	comp=Z,87nm,0.8s							
WRA	**Warramunga Arr**	**18.94**	**222**	P		**P**	**17 55 40.6**	**-0.2**
	comp=Z,6.6nm,0.3s,baz=45,slow=11,SNR=97							
WRA				S		**S**	**17 59 08.9**	**-4.0**
	baz=43,slow=21,SNR=10							
WRA				PcP		**PcP**	**18 00 05.7**	**+0.9**
	comp=Z,1.9nm,0.3s,baz=31,slow=1.8,SNR=16							
WRA				ScP		**ScP**	**18 03 33.9**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=47,slow=2.5,SNR=5.7							
WRA				LR		LR	18 03 56.7	
	comp=Z,676nm,18.0s,baz=60,slow=40							
EIDS	**Eidsvold**	**19.47**	**171**	*e*P		**Pn**	**17 55 48.7**	**+0.4**
	comp=Z,116nm,0.9s							
GUMO	**Guam**	**19.72**	**352**	P		**Pn**	**17 55 51.6**	**+0.4**
	comp=Z,9.8nm,0.3s,baz=174,slow=10,SNR=14							
GUMO				LR		LR	18 03 21.4	
	comp=Z,218nm,18.4s,baz=173,slow=36							
GUMO	**Guam**	**19.72**	**352**	P		**Pn**	**17 55 51.6**	**+0.4**
GUMO				pmax		pmax		
	comp=Z,10.0nm,0.3s							
GUMO				MLR		MLR		
	comp=Z,218nm,18.4s							
NLAI	**Namlea**	**20.71**	**277**	P		**P**	**17 55 59.8**	**-0.3**
TNTI	**Ternate**	**21.39**	**288**	P		**P**	**17 56 09.4**	**+2.0**
AS01	**Alice Springs**	**21.93**	**216**	*e*P		**P**	**17 56 13.2**	**+0.1**
AS01				*e*ScP		**ScP**	**18 03 46.0**	**+3.4**
AS31	**Alice Springs**	**21.96**	**216**	*e*P		**P**	**17 56 13.8**	**+0.4**
ASAR	**Alice Springs**	**21.96**	**216**	P		**P**	**17 56 13.8**	**+0.4**
	comp=Z,42nm,0.6s,baz=50,slow=9.1,SNR=912							
ASAR				PcP		**PcP**	**18 00 11.4**	**+1.0**
	comp=Z,9.0nm,0.7s,baz=46,slow=2.3,SNR=8.1							
ASAR				ScP		**ScP**	**18 03 41.1**	**-1.6**
	comp=Z,1.5nm,0.7s,baz=32,slow=2.7,SNR=3.9							
ASAR				LR		LR	18 05 28.9	
	comp=Z,707nm,18.4s,baz=32,slow=38							
ASAR	**Alice Springs**	**21.96**	**216**	P		**P**	**17 56 13.9**	**+0.4**
ASAR							18 00 11.4	
ASAR				pmax		pmax		
	comp=Z,42nm,0.6s							
ASAR				pmax		pmax		
	comp=Z,9.0nm,0.7s							
ASAR				pmax		pmax		
	comp=N,2.0nm,0.7s							
ASAR				MLR		MLR		
	comp=Z,707nm,18.4s							
SANI	**Sanana**	**22.01**	**280**	P		**P**	**17 56 16.4**	**+2.4**
SOEI	**Soe**	**23.48**	**260**	P		**P**	**17 56 29.9**	**+0.6**
SOEI	**Soe**	**23.48**	**260**	*e*P		**P**	**17 56 26.4**	**-2.9**
	comp=Z,148nm,0.9s							
DZM	**Mont Dzumac**	**24.12**	**133**	*e*P		**P**	**17 56 35.5**	**+0.6**
	comp=Z,241nm,1.4s							
DZM				*e*S		**S**	**18 00 54.2**	**+5.4**
	comp=Z,492nm,26.0s							
DZM				*e*LR		LR	18 02 43.4	
	comp=Z,1μm,26.7s							
DZM	**Mont Dzumac**	**24.12**	**133**	P		**P**	**17 56 35.6**	**+0.6**
	comp=Z,30nm,0.6s,baz=90,slow=24,SNR=34							
ARMA	**Armidale**	**24.51**	**172**	*e*P		**P**	**17 56 39.6**	**+1.2**
	comp=Z,44nm,0.7s							
KMSI	**Cibinong**	**24.57**	**285**	P		**P**	**17 56 39.0**	**0.0**
FITZ	**Fitzroy Crossi**	**24.62**	**239**	*e*P		**P**	**17 56 40.6**	**+1.2**
	comp=Z,245nm,0.6s							
LUWI	**Luwuk**	**25.36**	**280**	P		**P**	**17 56 46.9**	**+0.7**
LUWI	**Luwuk**	**25.36**	**280**	*e*P		**P**	**17 56 44.1**	**-2.1**
	comp=Z,132nm,0.9s							
MMRI	**Maumere**	**25.37**	**263**	P		**P**	**17 56 45.6**	**-0.7**
MMRI	**Maumere**	**25.37**	**263**	*e*P		**P**	**17 56 43.9**	**-2.4**
	comp=Z,218nm,0.8s							
STKA	**Stephens Creek**	**26.31**	**192**	P		**P**	**17 56 54.9**	**+0.3**
	comp=Z,31nm,0.7s,baz=0.0,slow=9.0,SNR=56							
STKA				LR		LR	18 07 17.4	
	comp=Z,682nm,21.8s,baz=5.7,slow=36							
STKA	**Stephens Creek**	**26.31**	**192**	P		**P**	**17 56 54.9**	**+0.3**
STKA				pmax		pmax		
	comp=Z,31nm,0.7s							
STKA				MLR		MLR		
	comp=Z,682nm,21.8s							
STKA	**Stephens Creek**	**26.31**	**192**	P		**P**	**17 56 53.6**	**-1.0**
	comp=Z,9.3nm,1.0s							
APSI	**Ampana**	**26.48**	**280**	P		**P**	**17 56 57.1**	**+0.7**
MRSI	**Marisa**	**26.51**	**283**	P		**P**	**17 56 57.1**	**+0.5**
BSSI	**Bau Bau, Buton**	**27.05**	**268**	P		**P**	**17 57 02.3**	**+0.9**
WSI	**Waingapu**	**27.36**	**261**	P		**P**	**17 57 04.8**	**+0.5**
	comp=Z,480nm,1.0s,comp=Z,5μm							
BKSI	**Bulukumba**	**27.44**	**270**	P		**P**	**17 57 04.7**	**-0.3**
	comp=Z,57nm,0.7s							
KAPI	**Kappang**	**27.83**	**271**	P		**P**	**17 57 09.0**	**+0.6**
	comp=Z,182nm,1.0s,SNR=5.2							
KAPI	**Kappang**	**27.83**	**271**	P		**P**	**17 57 08.2**	**-0.2**
	comp=Z,21nm,0.7s,baz=93,slow=5.5,SNR=8.3							
KAPI	**Kappang**	**27.83**	**271**	*e*P		**P**	**17 57 07.3**	**-1.1**
	comp=Z,7.6nm,1.0s							
SPSI	**Sidrap Palu**	**27.89**	**273**	P		**P**	**17 57 08.5**	**-0.5**
	comp=Z,38nm,1.0s,comp=Z,490nm							
TTSI	**Tana Toraja**	**27.94**	**275**	P		**P**	**17 57 10.3**	**+0.9**
WBSI	**Waikabubak, Su**	**28.25**	**261**	P		**P**	**17 57 11.6**	**-0.7**
	comp=Z,103nm,1.0s,comp=Z,1μm							
PCI	**Palu**	**28.26**	**279**	P		**P**	**17 57 13.2**	**+0.9**
	comp=Z,74nm,1.1s,comp=Z,794nm							
MPSI	**Mapaga**	**28.46**	**282**	P		**P**	**17 57 14.0**	**-0.1**
BBOO	**Buckleboo**	**28.74**	**201**	*e*P		**P**	**17 57 17.4**	**+1.0**
	comp=Z,27nm,0.8s							
FORT	**Forrest**	**30.73**	**214**	*e*P		**P**	**17 57 34.3**	**+0.3**
	comp=Z,56nm,0.7s							
MBWA	**Marble Bar**	**30.96**	**238**	*e*P		**P**	**17 57 34.3**	**-1.8**
	comp=Z,45nm,1.1s							
MSVF	**Nonsavu**	**31.83**	**114**	*e*P		**P**	**17 57 43.2**	**-0.7**
	comp=Z,32nm,0.9s							
BBKI	**Banjar Baru**	**32.83**	**273**	P		**P**	**17 57 54.0**	**+1.3**
	comp=Z,50nm,0.9s							
CBIJ	**Chichi jima**	**33.39**	**351**	*e*P		**P**	**17 57 56.0**	**-1.3**
	comp=Z,177nm,0.8s							
JCJ	**Chichijima**	**33.39**	**351**	P		**P**	**17 57 56.9**	**-0.4**
	comp=Z,111nm,0.5s,baz=240,slow=5.8,SNR=19							
JCJ				LR		LR	18 09 24.0	
	comp=Z,139nm,20.8s,baz=147,slow=32							
PWJI	**Pagerwojo**	**35.66**	**265**	P		**P**	**17 58 16.6**	**-0.6**
PBKI	**Pangkalan Bun**	**36.06**	**274**	P		**P**	**17 58 22.6**	**+2.0**
SMRI	**Semarang**	**37.01**	**266**	*e*P		**P**	**17 58 26.9**	**-1.8**
JOW	**Kunigami**	**37.72**	**331**	P		**P**	**17 58 33.9**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=161,slow=8.5,SNR=5.3							
KPJI	**Karang Pucung**	**38.51**	**266**	P		**P**	**17 58 41.4**	**+0.1**
	comp=Z,100nm,0.8s							
CMJI	**Cimerak**	**38.98**	**265**	P		**P**	**17 58 44.3**	**-1.0**
	comp=Z,267nm,0.8s,comp=Z,2μm							
YULB	**Yu-li**	**39.01**	**320**	*e*P		**P**	**17 58 43.4**	**-2.0**
	comp=Z,16nm,0.9s							
SSLB	**Suanglung**	**39.51**	**320**	*e*P		**P**	**17 58 47.9**	**-1.7**
	comp=Z,37nm,1.5s							
CISI	**Cisompet, Garu**	**39.61**	**265**	P		**P**	**17 58 49.6**	**-1.0**
CISI	**Cisompet, Garu**	**39.61**	**265**	*e*P		**P**	**17 58 49.8**	**-0.8**
	comp=Z,239nm,0.9s							
CISI				*e*S		**S**	**18 04 49.7**	**-0.1**
LEM	**Lembang**	**39.82**	**267**	P		**P**	**17 58 52.5**	**0.0**
	comp=Z,156nm,0.9s							
LEM	**Lembang**	**39.82**	**267**	LR		LR	18 18 06.5	
	comp=Z,86nm,21.5s,baz=91,slow=40							
YHNB	**Yeheng**	**39.87**	**321**	*e*P		**P**	**17 58 52.3**	**-0.4**
	comp=Z,124nm,1.6s							
TPI	**Tanjungpandan**	**40.04**	**273**	P		**P**	**17 58 55.6**	**+1.4**
	comp=Z,91nm,0.9s,comp=Z,710nm							
CNJI	**Cibinong**	**40.30**	**266**	P		**P**	**17 58 55.5**	**-0.7**
	comp=Z,542nm,1.0s,comp=Z,4μm							
CBJI	**Citeko**	**40.59**	**267**	P		**P**	**17 58 58.1**	**-0.6**
	comp=Z,176nm,0.7s							
KNTN	**Kanton**	**40.59**	**87**	*e*P		**P**	**17 58 58.0**	**-0.7**
KNTN				*e*			17 58 60.0	
SKJI	**Sukabumi**	**40.87**	**266**	P		**P**	**17 59 00.0**	**-1.0**
PPBI	**Pangkal Pinang**	**41.62**	**274**	P		**P**	**17 59 08.5**	**+1.4**
URZ	**Urewera**	**41.70**	**144**	P		**P**	**17 59 09.2**	**+1.7**
	comp=Z,11nm,0.7s,baz=252,slow=8.0,SNR=5.7							
URZ				PcP		**PcP**	**18 01 01.4**	**-1.8**
	comp=Z,24nm,0.9s,baz=342,slow=1.5,SNR=6.3							
URZ				LR		LR	18 15 27.0	
	comp=Z,332nm,19.1s,baz=324,slow=34							
CGJI	**Cibinong**	**41.74**	**267**	P		**P**	**17 59 07.1**	**-1.0**
	comp=Z,163nm,1.1s,comp=Z,1μm							
XMIS	**Christmas Isla**	**41.81**	**261**	*e*P		**P**	**17 59 07.7**	**-1.0**
XMIS				*e*			17 59 09.8	
JNU	**Nakatsue**	**42.11**	**339**	P		**P**	**17 59 11.3**	**+0.4**
	comp=Z,23nm,0.7s,baz=150,slow=1.4,SNR=17							
JNU				LR		LR	18 13 46.8	
	comp=Z,152nm,20.3s,baz=163,slow=32							
JNU	**Nakatsue**	**42.11**	**339**	*e*P		**P**	**17 59 10.3**	**-0.6**
	comp=Z,67nm,1.3s							
RPZ	**Rata Peaks**	**42.76**	**155**	*e*P		**P**	**17 59 15.7**	**-0.3**
RPZ				*e*			17 59 17.8	
KLSI		**42.78**	**270**	P		**P**	**17 59 16.2**	**-0.4**
	comp=Z,35nm,2.8s							
KASI	**Kota Agung**	**42.97**	**268**	P		**P**	**17 59 16.4**	**-1.7**
	comp=Z,106nm,1.0s							
MJAR	**Matsushiro Arr**	**43.30**	**349**	P		**P**	**17 59 20.4**	**0.0**
	comp=Z,40nm,0.8s,baz=174,slow=8.2,SNR=74							
MJAR				LR		LR	18 16 23.7	
	comp=Z,46nm,18.3s,baz=160,slow=35							
MJAR	**Matsushiro Arr**	**43.30**	**349**	P		**P**	**17 59 20.4**	**0.0**
MJAR				pmax		pmax		
	comp=Z,40nm,0.8s							
MJAR				MLR		MLR		
	comp=Z,46nm,18.3s							
MAJO	**Matsushiro**	**43.30**	**349**	*c* iP		**P**	**17 59 20.6**	**+0.2**
MAJO				pmax		pmax		
	comp=Z,558nm,1.3s							
MAJO	**Matsushiro**	**43.30**	**349**	P		**P**	**17 59 18.4**	**-2.0**
	comp=Z,57nm,0.9s							
MDSI	**Maura Dua**	**43.35**	**270**	P		**P**	**17 59 20.3**	**-0.9**
	comp=Z,68nm,1.2s,comp=Z,1μm							
LWLI	**Liwa**	**43.43**	**269**	P		**P**	**17 59 21.1**	**-0.9**
LHSI	**Lahat**	**44.05**	**271**	P		**P**	**17 59 27.3**	**+0.5**
	comp=Z,48nm,1.1s							
MYKOM	**Kota Tinggi**	**44.46**	**279**	*e*P		**P**	**17 59 31.0**	**+0.9**
MYKOM				*e*pP		**pP**	**17 59 44.9**	**-0.8**
SSE	**Sheshan**	**44.80**	**327**	P		**P**	**17 59 32.8**	**+0.3**
SSE				S		**S**	**18 06 05.5**	**0.0**
SSE				PMZ				
	comp=Z,46nm,0.8s							
SSE				PMZ				
	comp=Z,75nm,4.7s							
SSE				LN				
	comp=Z,160nm,34.0s							
SSE				LE				
	comp=Z,150nm,34.0s							
SSE				LZ				
	comp=Z,200nm,27.9s							
QIZ	**Qiongzhong**	**44.85**	**305**	P		**P**	**17 59 34.1**	**+1.0**
QIZ				pP		**pP**	**17 59 47.3**	**-1.4**
QIZ				PP		**PP**	**18 01 19.5**	**+0.5**
QIZ				S		**S**	**18 06 09.0**	**+2.3**
QIZ				PMZ				
	comp=Z,19nm,1.4s							
QIZ				LZ				
	comp=Z,170nm,29.7s							
KSDAG	**Daegu**	**45.20**	**338**	P		**P**	**17 59 36.2**	**+0.6**
	SNR=6.7							
KSJEU	**Jeongeup**	**45.72**	**336**	P		**P**	**17 59 39.7**	**0.0**
	SNR=5.5							
KSBON	**Boeun**	**46.26**	**338**	P		**P**	**17 59 44.7**	**+0.8**
	SNR=5.4							
KSCHJ	**Chungju**	**46.52**	**338**	P		**P**	**17 59 46.6**	**+0.6**
	SNR=7.1							
KSCEA	**Cheonan**	**46.75**	**337**	P		**P**	**17 59 48.6**	**+0.8**
	SNR=7.2							
NJ2	**Nanjing**	**46.81**	**326**	*e*P		**P**	**17 59 48.9**	**+0.6**
NJ2				S		**S**	**18 06 35.0**	**+0.6**
NJ2				PMZ				
	comp=Z,40nm,0.6s							
NJ2				LN				
	comp=Z,180nm,24.2s							
NJ2				LE				
	comp=Z,380nm,19.5s							
KSDGY	**Daegwallycong**	**47.00**	**339**	P		**P**	**17 59 50.5**	**+0.7**
	SNR=6.1							
KSSES	**Seosan**	**47.03**	**337**	P		**P**	**17 59 50.5**	**+0.6**
	SNR=15							
KSRS	**Korea Array**	**47.06**	**338**	P		**P**	**17 59 50.5**	**+0.4**
	comp=Z,8.7nm,0.8s,baz=155,slow=8.6,SNR=62							
KSRS				PcP		**PcP**	**18 01 22.3**	**+0.9**
	comp=Z,4.4nm,0.8s,baz=162,slow=4.4,SNR=9.5							
KSRS	**Korea Array**	**47.06**	**338**	P		**P**	**17 59 50.6**	**+0.4**
KSRS							18 01 22.3	
KSRS				pmax		pmax		
	comp=Z,9.0nm,0.8s							
KSRS				pmax		pmax		
	comp=Z,4.0nm,0.8s							
KSAR	**Wonju Array Be**	**47.06**	**338**	P		**P**	**17 59 50.5**	**+0.4**
KSAR				PcP		**PcP**	**18 01 22.3**	**+0.9**
KS01	**Wonju Array Si**	**47.09**	**338**	*e*P		**P**	**17 59 50.5**	**+0.1**
KSJMJ	**Jumunjin**	**47.14**	**339**	P		**P**	**17 59 51.7**	**+0.9**
	SNR=11							
KSIJA	**INJE**	**47.46**	**339**	P		**P**	**17 59 53.9**	**+0.6**
	SNR=24							
INCN	**Inchon**	**47.57**	**337**	*e*P		**P**	**17 59 54.6**	**+0.4**
	comp=Z,46nm,1.3s							
SEHB	**SEOHWA**	**47.66**	**339**	P		**P**	**17 59 55.6**	**+0.7**
	SNR=6.0							
IPM	**Ipoh**	**47.76**	**282**	*e*P		**P**	**17 59 54.0**	**-2.0**
KSCWO	**Cheorwon**	**47.76**	**338**	P		**P**	**17 59 56.7**	**+1.1**
	SNR=7.3							
KSGAH	**Ganghwa**	**47.83**	**337**	P		**P**	**17 59 56.9**	**+0.7**
	SNR=22							
YNCB	**YEONCHEON**	**47.94**	**338**	P		**P**	**17 59 57.7**	**+0.7**
	SNR=14							
NONG	**Nongkai**	**50.06**	**300**	P		P	18 00 19.4	+5.8
	comp=Z,27nm,1.1s							
ASAJ	**Asahikawa**	**50.16**	**355**	P		**P**	**18 00 15.6**	**+1.8**
	comp=Z,16nm,0.9s,baz=172,slow=7.1							
ASAJ	**Asahikawa**	**50.16**	**355**	P		**P**	**18 00 15.6**	**+1.8**
ASAJ				pmax		pmax		
	comp=Z,16nm,0.9s							
ASAJ	**Asahikawa**	**50.16**	**355**	*e*P		**P**	**18 00 12.8**	**-1.0**
	comp=Z,27nm,0.9s							
TIA	**Tai'an**	**50.89**	**328**	⇑P		**P**	**18 00 18.9**	**-0.7**
TIA				PMZ				
	comp=Z,20nm,1.2s							
VLA	**Vladivostok**	**51.01**	**345**	⇓*i* P		**P**	**18 00 20.9**	**+0.6**
VLA				*e**PP		**pP**	**18 00 36.5**	**+0.4**
VLA				*e*			18 01 36.1	
VLA							18 02 17.8	
VLA				*e*S		**S**	**18 07 33.6**	**+0.6**
VLA				pmax		pmax		
	comp=Z,21nm,1.3s							
GYA	**Guiyang**	**51.24**	**311**	P		**P**	**18 00 25.0**	**+2.5**
GYA				pP		**pP**	**18 00 39.8**	**+1.4**
GYA				sP		**sP**	**18 00 48.3**	**+3.0**
GYA				PP		**PP**	**18 02 23.0**	**+3.0**
GYA				ScP		**ScP**	**18 05 29.6**	**+1.1**
GYA				S		**S**	**18 07 37.4**	**+0.4**
GYA				sS		**sS**	**18 08 04.0**	**+0.1**
GYA				SS		**SS**	**18 11 11.3**	**-2.1**
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,130nm,5.0s							
GYA				LN				
	comp=Z,850nm,18.3s							
GYA				LE				
	comp=Z,760nm,19.2s							
GYA				LZ				
	comp=Z,820nm,18.9s							
LOEI	**Loei**	**51.48**	**298**	P		**P**	**18 00 23.6**	**-0.7**
USRK	**Ussuriysk Ar.**	**51.99**	**346**	P		**P**	**18 00 28.2**	**+0.6**
	comp=Z,14nm,0.8s,baz=168,slow=7.1,SNR=41							
USRK				LR		LR	18 20 48.9	
	comp=Z,79nm,20.0s,baz=138,slow=34							
YSS	**Yuzh-Sakhalins**	**52.96**	**356**	*i* P		**P**	**18 00 35.3**	**+0.6**
YSS				pmax		pmax		
	comp=Z,20nm,1.3s							
RAR	**Rarotonga**	**52.98**	**112**	P		**P**	**18 00 36.2**	**+0.8**
	comp=Z,13nm,0.8s,baz=255,slow=5.3,SNR=5.4							
RAR	**Rarotonga**	**52.98**	**112**	P		**P**	**18 00 36.2**	**+0.8**
RAR				pmax		pmax		
	comp=Z,13nm,0.8s							
MDJ	**Mudanjiang**	**53.01**	**344**	P		**P**	**18 00 35.3**	**+0.2**
MDJ				sP		**sP**	**18 00 54.9**	**-3.1**
MDJ				S		**S**	**18 08 00.6**	**+0.2**
MDJ				sS		**sS**	**18 08 23.5**	**-3.9**
MDJ				PMZ				
	comp=Z,17nm,1.1s							
MDJ				PMZ				
	comp=Z,23nm,4.6s							
MDJ				LN				
	comp=Z,100nm,26.6s							
MDJ				LE				
	comp=Z,77nm,23.7s							
MDJ				LZ				
	comp=Z,170nm,26.6s							
CM01	**Chiang Mai Arr**	**53.86**	**298**	*e*P		**P**	**18 00 41.3**	**-0.6**
CM01				*e*			18 01 00.9	
CMAR	**Chiang Mai Arr**	**53.88**	**298**	P		**P**	**18 00 41.6**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=119,slow=5.6,SNR=12							
CMAR				LR		LR	18 26 03.7	
	comp=Z,18nm,18.4s,baz=125,slow=39							
CMAR	**Chiang Mai Arr**	**53.88**	**298**	*i* P		**P**	**18 00 44.0**	**+1.9**
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
XAN	**Xi'an**	**54.17**	**320**	P		**P**	**18 00 43.4**	**-0.5**
XAN				PMZ				
	comp=Z,4.0nm,0.9s							
BJI	**Beijing**	**54.29**	**330**	P		**P**	**18 00 44.1**	**-0.5**
BJI				S		**S**	**18 08 22.0**	**+4.1**
BJI				PMZ				
	comp=Z,14nm,1.5s							
BJI				LN				
	comp=Z,140nm,22.4s							
BJI				LE				
	comp=Z,140nm,24.0s							
BJI				LZ				
	comp=Z,180nm,30.5s							
HABR	**Khabarovsk**	**55.42**	**350**	*de*P		**P**	**18 00 51.5**	**-1.1**
HABR				*e**PP		**pP**	**18 01 06.5**	**-2.2**
HABR				*e*			18 01 50.3	
HABR				*e*			18 02 55.0	
HABR				*e*PPP		PPP	18 04 07.9	
HABR				*e*S		**S**	**18 08 32.6**	**-0.2**
HABR				*e*			18 10 33.5	
HABR				*e*SS		**SS**	**

PET eS S 18 09 29.9 +2.7
PET pmax pmax
comp=Z,31nm,0.8s
PPT2 Papeete2 62.22 107 eLR LR 18 20 32.1
comp=Z,163nm,26.5s
TIAR Tiarei 62.44 107 eP P 18 01 44.3 +2.4
comp=Z,14nm,0.8s
TVO Taravao 62.54 107 eP P 18 01 45.0 +2.4
comp=Z,12nm,0.8s
TBI Tubuai 62.72 113 eP P 18 01 45.9 +2.3
comp=Z,102nm,0.9s
TBI eS S 18 10 11.7 +3.6
comp=Z,90nm,30.0s
TBI Tubuai 62.72 113 eLR LR 18 20 48.2
comp=Z,212nm,39.2s
GTA Gaotai 63.23 320 eP P 18 01 47.5 +0.6
GTA pP pP 18 02 02.3 -0.9
GTA sP sP 18 02 08.8 -1.3
GTA PcP PcP 18 02 23.6 -0.2
GTA S S 18 10 15.6 +1.3
GTA sS sS 18 10 42.8 +0.9
GTA SS SS 18 14 25.4 +3.7
GTA PMZ
comp=Z,8.0nm,1.4s
GTA PMZ
comp=Z,80nm,5.4s
GTA LN
comp=Z,72nm,15.7s
GTA LE
comp=Z,86nm,14.7s
GTA LZ
comp=Z,57nm,18.5s
PMOR Pomariorio Ree 63.77 104 eP P 18 01 53.3 +2.6
comp=Z,143nm,1.0s
VAH Vaihoa 64.03 104 eP P 18 01 54.6 +2.2
comp=Z,78nm,1.1s
CIT Chita 64.77 337 eP P 18 01 57.4 +0.7
CIT e 18 02 05.3
CIT e 18 02 12.2
CIT e 18 02 28.7
CIT pmax pmax
comp=Z,59nm,1.3s
SONM Songino Array 64.79 331 P P 18 01 57.0 0.0
comp=Z,11nm,0.8s,baz=149,slow=6.2,SNR=58
SONM LR LR 18 29 29.6
comp=Z,200nm,21.4s,baz=138,slow=35
SONM PKP2bc 18 30 48.0
comp=Z,3.4nm,1.0s,baz=321,slow=0.5,SNR=17
SONM Songino Array 64.79 331 P P 18 01 57.0 0.0
SONM pmax pmax
comp=Z,11nm,0.8s
SONM MLR MLR
comp=Z,201nm,21.4s
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONA1 Songino Array 64.80 331 eP P 18 01 57.0 0.0
TAPN Taplejung 66.76 303 eP P 18 02 09.4 -0.9
comp=Z,13nm,0.6s
ODAN Odare 66.86 302 eP P 18 02 10.1 -0.7
comp=Z,16nm,0.8s
RAMN Ramite 67.55 302 eP P 18 02 13.5 -1.7
ZAK Zakamensk 68.02 331 ⇓iP P 18 02 15.6 -1.9
ZAK pmax pmax
comp=Z,16nm,1.0s
JIRN Jiri 68.13 303 eP P 18 02 18.1 -0.9
GUN Gumba 68.47 303 eP P 18 02 19.8 -1.3
comp=Z,19nm,0.5s
TLY Talaya 68.72 332 LR LR 18 31 12.7
comp=Z,86nm,20.3s,baz=128,slow=35
TLY Talaya 68.72 332 eP P 18 02 21.9 +0.2
TLY eS S 18 11 13.9 -6.4
TLY pmax pmax
comp=Z,14nm,1.3s
SEY Seymchan 68.89 2 P P 18 02 23.1 +0.6
comp=Z,13nm,1.0s,baz=172,slow=4.9,SNR=18
SEY Seymchan 68.89 2ceP P 18 02 22.4 -0.1
KKN Kakani 68.94 303 eP P 18 02 23.1 -0.8
DMN Daman 69.02 302 eP P 18 02 23.0 -1.4
comp=Z,19nm,0.6s
BOD Bodaibo 69.25 341 eP P 18 02 24.3 -0.6
BOD pmax pmax
comp=Z,14nm,0.9s
YAK Yakutsk 69.31 351 P P 18 02 25.2 +0.1
comp=Z,1.6nm,0.6s,baz=348,slow=22,SNR=11
YAK Yakutsk 69.31 351c iP P 18 02 25.1 0.0
YAK e 18 02 47.9
YAK e 18 05 00.2
YAK ePPP PPP 18 06 43.2
YAK eS S 18 11 23.7 -3.1
YAK e*SS SKiKP 18 12 05.1 -4.2
YAK e 18 12 15.8
YAK eSS SS 18 15 54.9 +0.1
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=Z,36nm,1.1s
YAK pmax pmax
comp=Z,38nm,3.0s
YAK pmax pmax
comp=E,18nm,2.6s
YAK pmax pmax
comp=N,25nm,3.0s
YAK smax smax
comp=N,36nm,3.5s
YAK smax smax
comp=E,14nm,2.4s
YAK Yakutsk 69.31 351 eP P 18 02 22.5 -2.6
comp=E,34nm,0.9s
GKN Gorkha 69.54 303 eP P 18 02 25.5 -2.0
comp=E,14nm,0.6s
MOY Mondy 69.96 331 eP P 18 02 30.0 +0.5
MOY pmax pmax
comp=Z,25nm,1.9s
KOLN Koldanda 70.34 302 eP P 18 02 30.8 -1.7
comp=Z,14nm,0.6s
VNDA Vanda 71.81 177 P P 18 02 41.4 +1.1
comp=Z,7.7nm,0.5s,baz=333,slow=6.9,SNR=104
VNDA Vanda 71.81 177 P P 18 02 41.4 +1.1
VNDA pmax pmax
comp=Z,8.0nm,0.5s
VNDA Vanda 71.81 177 eP P 18 02 39.9 -0.4
comp=Z,9.0nm,0.6s
SBA Scott Base 72.45 176 P P 18 02 44.8 +0.7
comp=Z,51nm,2.0s
WMQ Urumqi 73.28 319 P P 18 02 50.3 +0.6
WMQ pP pP 18 03 06.9 +0.5
WMQ sP sP 18 03 13.8 +0.7
WMQ sS sS 18 12 41.3 -0.7
WMQ ScS SKSac 18 12 48.9 -1.8
WMQ SS SS 18 17 00.8 +4.0
WMQ PMZ
comp=Z,2.0nm,1.0s
WMQ LN
comp=Z,93nm,7.5s
WMQ LE
comp=Z,81nm,8.2s
WMQ LZ
comp=Z,93nm,28.0s
BILL Bilibino 75.08 7c iP P 18 02 58.9 -0.6
BILL i 18 03 13.2
BILL i 18 05 46.5
BILL pmax pmax
comp=Z,15nm,1.2s
RKT Rikitea 76.02 112 eP P 18 03 07.3 +1.5
comp=Z,152nm,1.4s
RKT Rikitea 76.02 112 eLR LR 18 26 49.5
comp=Z,293nm,34.0s
MK01 Makanchi Array 77.97 320 eP P 18 03 15.3 -1.0
MK31 Makanchi Array 77.98 320 eP P 18 03 14.6 -1.8
MKAR Makanchi Array 77.98 320 P P 18 03 15.3 -1.1
comp=Z,8.9nm,0.8s,baz=104,slow=6.1,SNR=50
MKAR PKKPbc PKKPbc 18 22 17.1 -1.7
comp=Z,0.6nm,0.7s,baz=308,slow=2.7,SNR=9.1
MKAR LR LR 18 36 58.0
comp=Z,35nm,22.0s,baz=110,slow=35
MKAR Makanchi Array 77.98 320 P P 18 03 15.3 -1.1
MKAR pmax pmax
comp=Z,9.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR MLR MLR
comp=Z,35nm,22.0s
TIXI Tiksi 78.54 354 ⇓iP P 18 03 17.8 -1.1
TIXI pmax pmax
comp=Z,15nm,1.2s
TIXI Tiksi 78.54 354 e 17 48 10.3
TIXI eP P 18 03 17.7 -1.2
ZAA0 Zalesovo Array 79.43 328 eP P 18 03 21.4 -2.7
ZAA0 eP P 18 03 22.1 -2.0
ZALV Zalesovo Beam 79.43 328 P P 18 03 22.3 -1.8
comp=Z,7.4nm,0.5s,baz=113,slow=6.0,SNR=39
ZALV PKKPbc PKKPbc 18 22 13.8 -2.1
comp=Z,1.5nm,0.5s,baz=310,slow=2.6,SNR=7.4
ZALV LR LR 18 37 13.1
comp=Z,94nm,21.6s,baz=70,slow=35
ZALV Zalesovo Beam 79.43 328 P P 18 03 22.3 -1.8
ZALV pmax pmax
comp=Z,7.0nm,0.5s
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV MLR MLR
comp=Z,94nm,21.6s
KSH Kashi 79.93 312 P P 18 03 28.9 +1.5
KSH epP pP 18 03 44.3 0.0
KSH sP sP 18 03 49.5 -1.5
KSH PP PP 18 06 35.3 +5.5
KSH S S 18 13 27.4 +0.8
KSH SKS SKSac 18 13 38.1 -1.6
KSH sS sS 18 13 58.0 +2.8
KSH PMZ
comp=Z,6.0nm,0.7s
KSH PMZ
comp=Z,66nm,4.1s
KSH LN
comp=Z,160nm,5.7s
KSH LE
comp=Z,79nm,5.8s
KSH LZ
comp=Z,130nm,4.7s
NVS Novosibirsk 80.65 328 eP P 18 03 27.1 -3.6
NVS pmax pmax
comp=Z,13nm,1.4s
NVS pmax pmax
comp=N,3.0nm,1.0s
NVS pmax pmax
comp=E,7.0nm,1.2s
TKM2 Tokmak 2 81.17 315 P P 18 03 33.5 -0.6
SNR=7.2
KZA Kyzart 81.18 314 P P 18 03 34.7 +0.3
SNR=24
KURK Kurchatov 81.67 323 P P 18 03 35.0 -1.2
comp=E,26nm,0.9s,SNR=5.4
KURK Kurchatov 81.67 323 P P 18 03 33.7 -2.5
comp=E,10nm,0.9s
KURK P'P' 18 30 17.6
KURBB Kurchatov Arra 81.69 323 PKPPKP P'P'df 18 30 17.6 +5.3
comp=E,0.9nm,0.8s,baz=283,slow=2.9,SNR=6.4
UCH Uchtor 81.75 314 P P 18 03 37.5 0.0
SNR=6.7
AAK Ala-Archa 81.87 314 eP P 18 03 37.7 0.0
AML Almayashu 82.31 314 P P 18 03 40.3 0.0
SNR=8.5
EKS2 Erkin-Say 82.39 314 P P 18 03 40.2 -0.2
SNR=9.1
EKS2 Erkin-Say 82.39 314 eP P 18 03 39.2 -1.2
MAW Mawson 82.46 203 LR LR 18 38 14.1
comp=E,156nm,21.9s,baz=62,slow=34
RC01 Rabbit Creek A 82.48 26 eP P 18 03 39.4 -0.8
PMR Palmer 82.96 25 P P 18 03 40.5 -2.2
IM04 Indian Mountai 83.29 21 eP P 18 03 43.9 -0.5
TRF Thorofare Moun 83.34 24 eP P 18 03 44.2 -0.7
QSPA South Pole Qui 83.91 180 eP P 18 03 48.0 +0.3
comp=E,48nm,0.8s
MLY Manley 83.92 22 e 17 48 15.2
MLY eP P 18 03 48.5 +0.8
MCK McKinley 84.01 24 eP P 18 03 46.6 -1.5
COLA College 84.94 23 eP P 18 03 50.2 -2.4
COLD Coldfoot 85.15 20 eP P 18 03 53.0 -0.7
comp=E,4.0nm,0.9s
ILAR Eielson Array 85.27 23 P P 18 03 52.6 -1.8
comp=E,8.5nm,0.7s,baz=252,slow=5.0,SNR=80
ILAR PKKP PKKPdf 18 21 57.6 +2.6
comp=E,0.4nm,0.8s,baz=214,slow=0.7,SNR=4.1
ILAR LR LR 18 37 00.6
comp=E,70nm,21.3s,baz=264,slow=32
BRVK Borovoye 87.29 324 P P 18 04 02.1 -2.5
comp=E,43nm,0.8s,SNR=5.7
BRVK Borovoye 87.29 324ceP P 18 04 03.7 -0.9
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 87.29 324 eP P 18 04 02.4 -2.2
BRVK esP sP 18 04 30.3 +2.0
EGAK Eagle 87.54 24 eP P 18 04 05.2 -0.3
comp=Z,7.7nm,0.9s
HYT Haines Junctio 87.92 28 eP P 18 04 06.8 -0.8
DAWY Dawson 88.04 25 eP P 18 04 06.5 -1.5
SYO Syowa Base 90.77 200⇑eP P 18 04 19.5 -1.2
SYO Syowa Base 90.77 200⇓epP pP 18 04 36.0 -1.9
INK Inuvik 91.46 21 P P 18 04 23.4 -0.4
comp=Z,5.1nm,0.9s,baz=258,slow=4.8,SNR=3.4
INK Inuvik 91.46 21 P P 18 04 23.4 -0.4
INK pmax pmax
comp=Z,5.0nm,0.9s
ABKAR Akbulak array 93.07 319 eP P 18 04 28.9 -2.8
YBH Yreka Blue Hor 93.69 49 P P 18 04 35.1 +0.2
comp=Z,3.9nm,0.9s,baz=111,slow=1.9,SNR=4.2
YBH Yreka Blue Hor 93.69 49 P P 18 04 35.1 +0.2
YBH pmax pmax
comp=Z,5.0nm,1.0s
ARU Arti 94.52 326 P P 18 04 36.0 -2.2
ARU 18 08 24.8
ARU S SKSac 18 15 05.7 -2.4
PKM Mcpherson Peak baz=96 95.47 56 P P 18 04 44.0 +0.7
IR2C Iron Canyon 96.61 56 eP P 18 04 46.3 -2.0
LRMC Laurel Mtn Rad baz=97 97.24 55 P Pdif 18 04 51.6 +0.3
DAC Darwin (Calif) 97.34 54 eP Pdif 18 04 52.2 +0.4
MPMC Manual Prospec baz=98 97.42 55 P P 18 04 51.7 -0.4
NEW Newport 97.94 42 P Pdif 18 04 54.4 +0.3
comp=Z,4.5nm,0.7s,baz=253,slow=4.2,SNR=7.8
NEW Newport 97.94 42 P Pdif 18 04 54.4 +0.4
NEW pmax pmax
comp=Z,5.0nm,0.7s
NEW Newport 97.94 42 P Pdif 18 04 54.2 +0.2
baz=98
NEW Newport 97.94 42 eP Pdif 18 04 54.8 +0.7
PFO Pinyon Flats O 98.19 57 iP Pdif 18 04 59.0 +3.4
PFO Pinyon Flats O 98.19 57 P Pdif 18 04 56.2 +0.6
baz=98
MONP Monument Peak, baz=98 98.19 58 P Pdif 18 04 56.9 +1.1
BELC Belle Mtn. Jos baz=99 98.58 57 P P 18 04 57.0 -0.3
ELK Elko 99.28 50 eP Pdif 18 04 59.5 -0.9
SNAA Sanae 100.05 189 P Pdif 18 04 54.3 -8.6
PRGR Permogore 101.03 332 iP Pdif 18 05 05.0 -2.4
PRGR pmax pmax
comp=Z,11nm,0.9s
VNA1 Neumayer--Stat 101.76 188 P Pdif 18 05 10.9 +0.4
PDAR Pinedale Array 103.45 48 Pdiff Pdif 18 05 17.5 -1.4
comp=Z,1.0nm,0.8s,baz=256,slow=3.6,SNR=5.6
APA Apatity 104.70 339⇓iP Pdif 18 05 30.0 +6.4
APA pmax pmax
comp=Z,22nm,1.2s
APA MLR MLR
comp=Z,400nm,18.0s
J21A Lysite baz=105 104.94 47 P Pdif 18 05 25.3 -0.2
ARCES ARCESS Array B 106.53 342 Pdiff Pdif 18 05 29.9 -1.8
comp=Z,1.0nm,0.7s,baz=70,slow=7.9,SNR=4.6
ARCES PKKPbc PKKPbc 18 21 03.1 -1.9
comp=Z,3.0nm,1.0s,baz=255,slow=1.8,SNR=5.4
ARCES ARCESS Array B 106.53 342 P Pdif 18 05 29.9 -1.8
ARCES pmax pmax
comp=Z,1.0nm,0.7s
ARCES pmax pmax
comp=Z,3.0nm,1.0s
TXAR Lajitas Array 109.19 61 PKiKP PKiKP 18 09 47.1 -1.3
comp=Z,0.8nm,0.9s,baz=270,slow=0.9,SNR=7.8
TXAR PKKPbc PKKPbc 18 20 56.2 +0.8
comp=Z,0.4nm,0.5s,baz=100,slow=5.0,SNR=5.1
TXAR PKKP PKKPab 18 21 08.2 +1.1
comp=Z,0.5nm,0.6s,baz=115,slow=6.4,SNR=6.9
FINES FINESS Array B 110.03 334 Pdiff Pdif 18 05 46.0 -1.4
comp=Z,1.5nm,0.7s,baz=49,slow=4.2,SNR=8.4
FINES PKiKP PKiKP 18 09 47.6 -1.3
comp=Z,1.5nm,0.9s,baz=123,slow=5.1,SNR=4.2
BRTR Keskin Array B 112.29 310 PKiKP PKiKP 18 09 53.2 -0.9
comp=Z,0.5nm,0.6s,baz=95,slow=4.1,SNR=3.7
BRTR Keskin Array B 112.29 310 iPKiKP PKiKP 18 09 53.2 -0.9
BRTR pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 112.48 323 Pdiff Pdif 18 05 55.6 -2.9
comp=Z,0.5nm,0.6s,baz=72,slow=3.0,SNR=3.7
AKASG PKiKP PKiKP 18 09 52.2 -1.6
comp=Z,0.2nm,0.3s,baz=70,slow=1.7,SNR=3.7
AKASG PKKPbc PKKPbc 18 20 42.9 -2.3
comp=Z,0.8nm,0.5s,baz=263,slow=4.0,SNR=7.8
ECSD EROS Data Cent baz=113 112.63 45 P PKiKP 18 09 53.5 -0.9
333A Richland Sprin baz=113 113.03 59 P PKiKP 18 09 55.2 -0.3
434A Burnet baz=114 113.70 59 P PKiKP 18 09 56.3 -0.5
S35A Otter Creek Ra baz=114 114.18 51 P PKPdf 18 09 57.7 +0.2
W35A Tecumseh baz=114 114.21 54 P PKPdf 18 09 57.9 +0.3
T36A Boggs Farm, Ca baz=115 114.65 52 P PKPdf 18 09 58.5 0.0
R36A Gordon, Harris baz=115 114.68 51 P PKPdf 18 09 58.3 -0.1
S36A Lake Cedric, C baz=115 114.74 51 P PKPdf 18 09 58.6 0.0
X36A Centrahoma baz=115 114.74 55 P PKPdf 18 09 58.4 -0.3
BOSA Boshof 114.77 235 PKP PKPdf 18 09 59.4 +0.3
comp=Z,4.4nm,0.8s,baz=53,slow=3.0,SNR=6.9
BOSA Boshof 114.77 235 PKiKP PKPdf 18 09 59.4 +0.3
BOSA pmax pmax
comp=Z,4.0nm,0.8s
Y36A Durant baz=115 114.91 55 P PKPdf 18 09 59.0 0.0
W37A Quinton baz=115 115.38 54 P PKPdf 18 09 60.0 0.0
T37A Cheneyville 18 baz=115 115.39 52 P PKPdf 18 09 59.9 0.0
V37A Hulbert baz=116 115.47 53 P PKPdf 18 09 59.7 -0.3
X37A Clayton baz=116 115.53 55 P PKPdf 18 10 00.5 +0.3
X38A Whitesboro baz=116 115.95 54 P PKPdf 18 10 01.0 0.0
W38A Poteau baz=116 116.12 54 P PKPdf 18 10 01.4 +0.1
KOLS Kolonicke sedl 117.32 323 ePKiKP PKPdf 18 10 02.0 -1.2
KOLS Kolonicke sedl 117.32 323 ePKP PKPdf 18 10 02.0 -1.2
STHS Stebnicka Huta 117.73 324 ePKiKP PKPdf 18 10 04.1 +0.1
STHS Stebnicka Huta 117.73 324 ePKP PKPdf 18 10 04.1 +0.1
KECS Kecovo 118.58 323 ePKiKP PKPdf 18 10 05.2 -0.5
KECS Kecovo 118.58 323 ePKP PKPdf 18 10 05.2 -0.5
BRG Berggiesshubel 121.12 328 ePKP PKPdf 18 10 09.4 -1.0
comp=Z,4.7nm,1.2s
BRG Berggiesshubel 121.12 328 ePKiKP PKPdf 18 10 09.4 -1.0
BRG pmax pmax
comp=Z,5.0nm,1.2s
PRU Pruhonice 121.27 327 ePKPdf PKPdf 18 10 09.9 -0.9
PRU Pruhonice 121.27 327 ePKiKP PKPdf 18 10 09.9 -0.9
CLL Collm 121.37 328⇑iPKiKP PKPdf 18 10 10.0 -0.9
comp=Z,4.0nm,1.0s
CLL eSKSac SKSac 18 17 06.0 +1.3
CLL eSS SS 18 28 12.0 +0.1
CLL Lm MLR 19 03 00.0
comp=Z,100nm,20.9s
CLL Collm 121.37 328⇑iPKiKP PKPdf 18 10 10.0 -0.9
CLL e 18 17 06.0
CLL pmax pmax
comp=Z,4.0nm,1.0s
CONA Conrad Observa 121.58 324⇓iPKiKP PKPdf 18 10 10.5 -1.0
comp=Z,2.4nm,0.9s
PLCA Paso Flores 121.69 146 PKP PKPdf 18 10 12.8 +0.7
comp=Z,6.5nm,0.6s,baz=238,slow=1.8,SNR=25
PLCA Paso Flores 121.69 146 PKiKP PKPdf 18 10 12.8 +0.7
PLCA pmax pmax
comp=Z,7.0nm,0.6s
KHC Kasperske Hory 122.26 326 ePKPdf PKPdf 18 10 11.5 -1.3
KHC esPKP 18 10 35.2
KHC Kasperske Hory 122.26 326 ePKiKP PKPdf 18 10 11.5 -1.3
NKC Novy Kostel 122.27 328 ePKPdf PKPdf 18 10 11.7 -1.0
NKC Novy Kostel 122.27 328 ePKiKP PKPdf 18 10 11.7 -1.0
GERES GERESS Array B 122.34 326 PKP PKPdf 18 10 11.8 -1.2
comp=Z,1.4nm,0.6s,baz=70,slow=1.9,SNR=19
GERES PKKPbc PKKPab 18 20 09.1 +0.2
comp=Z,0.5nm,0.6s,baz=211,slow=1.7,SNR=5.9
GERES GERESS Array B 122.34 326 PKiKP PKPdf 18 10 11.8 -1.2
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES pmax pmax
comp=Z,1.0nm,0.6s
SADO Sadowa 123.93 39 PKP PKPdf 18 10 16.1 0.0
comp=Z,4.2nm,0.7s,baz=288,slow=6.4,SNR=5.4
SCHQ Schefferville 124.03 23 PKP PKPdf 18 10 14.9 -1.0
comp=Z,3.0nm,0.7s,baz=340,slow=1.7,SNR=6.2
WTTA Wattenberg 124.36 325⇓iPKiKP PKPdf 18 10 15.9 -1.1
comp=Z,12nm,1.1s
TKL Tuckaleechee C 124.43 51 PKP PKPdf 18 10 17.5 +0.2
comp=Z,12nm,0.8s,baz=185,slow=3.4,SNR=28
TKL Tuckaleechee C 124.43 51 PKiKP PKPdf 18 10 17.5 +0.2
TKL pmax pmax
comp=Z,12nm,0.8s
MOTA Moosalm 124.62 325⇓iPKPdf PKPdf 18 10 16.3 -1.2
comp=Z,6.6nm,0.9s
KMSC Kings Mountain baz=126 126.48 50 P PKPdf 18 10 21.3 0.0
HINF Hinteralfeld 126.67 328⇑iPKiKP PKPdf 18 10 20.2 -1.1
comp=Z,4.3nm,0.7s
HINF Hinteralfeld 126.67 328⇑iPKPdf PKPdf 18 10 20.2 -1.1
PAGF Fort de Pagny 126.78 329 ePKiKP PKPdf 18 10 20.1 -1.3
PAGF Fort de Pagny 126.78 329 ePKPdf PKPdf 18 10 20.1 -1.3
HAU Haudompre 126.81 328 ePKiKP PKPdf 18 10 20.6 -0.9
comp=Z,7.6nm,0.7s
HAU Haudompre 126.81 328 ePKPdf PKPdf 18 10 20.6 -0.9
JTS JuntasAbangare 127.77 82 PKP PKPdf 18 10 25.4 +1.1
comp=Z,5.0nm,0.7s,baz=58,slow=21,SNR=3.3
JTS JuntasAbangare 127.77 82 PKiKP PKPdf 18 10 25.4 +1.1
JTS pmax pmax
comp=Z,5.0nm,0.7s
LPG La Plagne 128.15 326 ePKiKP PKPdf 18 10 24.4 -0.1
LPG La Plagne 128.15 326 ePKPdf PKPdf 18 10 24.4 -0.1
TCF Toulx Ste Croi 130.07 329 ePKiKP PKPdf 18 10 26.9 -0.9
comp=Z,2.8nm,0.6s
TCF Toulx Ste Croi 130.07 329 ePKPdf PKPdf 18 10 26.9 -0.9
KEST Kesra 131.72 314 PKP PKPdf 18 10 31.7 +0.4
comp=Z,1.2nm,0.7s,baz=10,slow=3.4,SNR=4.4
ATAH Atahualpa 132.19 105 PKP PKPdf 18 10 34.9 +1.7
comp=Z,7.9nm,0.7s,baz=194,slow=4.2,SNR=5.2
LVC Limon Verde 134.24 130 PKP PKPdf 18 10 37.3 +0.7
comp=Z,24nm,0.7s,baz=256,slow=4.2
ROSC El Rosal 138.16 89 PKhKP PKPpre 18 10 37.4
comp=Z,6.3nm,0.4s,baz=100,slow=12,SNR=4.6
ROSC PKP PKPdf 18 10 44.7 +0.4
comp=Z,15nm,0.6s,baz=72,slow=18,SNR=6.4
LPAZ La Paz 138.18 123 PKhKP PKPpre 18 10 34.7
comp=Z,4.0nm,0.8s,baz=122,slow=0.5,SNR=6.9
LPAZ PKP PKPdf 18 10 45.4 +0.9
comp=Z,17nm,0.9s,baz=126,slow=1.1,SNR=4.9
LPAZ La Paz 138.18 123 PKHKP PKPpre 18 10 34.7
LPAZ 18 10 45.4
LPAZ pmax pmax
comp=Z,4.0nm,0.8s
LPAZ pmax pmax
comp=Z,17nm,0.9s
TOA0 Torodi Ar. Sit 145.77 284 eP PKPdf 18 10 56.9 -0.4
TORD Torodi Ar. Bea 145.77 284 PKPbc PKPdf 18 10 56.9 -0.4
comp=Z,13nm,0.5s,baz=70,slow=2.6,SNR=110
PCRV Puerto La Cruz 147.75 81 PKPbc PKPbc 18 11 02.3 -1.3
comp=Z,26nm,0.5s,baz=313,slow=2.3,SNR=22
PTGA Pitinga 151.58 103 PKPbc PKPbc 18 11 13.4 +0.3
comp=Z,56nm,0.7s,baz=241,slow=3.6,SNR=87
KIC Kosan Boka 152.59 272 eP PKPbc 18 11 14.5 -0.9
comp=Z,33nm,1.0s
DBIC Dimbokro 152.71 273 PKPbc PKPbc 18 11 14.8 -0.7
comp=Z,8.8nm,0.6s,baz=74,slow=3.4,SNR=13
DBIC Dimbokro 152.71 273 PKiKP PKPbc 18 11 14.9 -0.7
DBIC pmax pmax
comp=Z,9.0nm,0.6s
TIC Toumodi 152.87 273 eP PKPbc 18 11 16.1 +0.1
LIC Lamto 152.88 272 eP PKPbc 18 11 13.0 -3.0
BDFB Brasilia 153.41 144 PKP PKPdf 18 11 10.6 +1.0
comp=Z,19nm,0.8s,baz=182,slow=2.3,SNR=26
BDFB PKPbc PKiKP 18 11 17.3 0.0
comp=Z,44nm,0.6s,baz=220,slow=2.1,SNR=52
BDFB Brasilia 153.41 144 PKiKP PKPdf 18 11 10.6 +1.0
BDFB 18 11 17.3
BDFB pmax pmax
comp=Z,19nm,0.8s

BDFB pmax pmax
comp=Z,44nm,0.6s

LJU 13 18:09:03.3, 46°.11N × 14°.88E, h9km, ML0.4, 1C,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDKS	**Podkum**	**0.10**	**122**	⇑*i* Pg	Pg	18 09 06.0	+0.2
PDKS				*i* Sg	Sg	18 09 07.6	0.0
	comp=Z,14nm,0.2s						
VNDS	**Vrh nad Dolski**	**0.12**	**265**	*i* Pg	Pg	18 09 06.5	+0.3
VNDS				*i* Sg	Sg	18 09 08.3	+0.1
	comp=Z,5.0nm,0.1s						
VISS	**Visnje**	**0.31**	**185**	*i* Pg	Pg	18 09 09.6	+0.1
VISS				*i* Sg	Sg	18 09 14.0	+0.3

SKO ***13*** *18:21:03.6, 41°.40N × 19°.39E, h53km*
IDC ***13*** *18:21:05.9±8.6, 41°.43N × 19°.76E, h0km, mb3.6/3, mb1 3.5/4, mb1mx3.2/30, mbtmp3.5/4, ML2.7/1, Error ellipse: s-maj=162.0km s-min=24.6km az=31.0*
ATH ***13*** *18:21:06.3, 41°.46N × 19°.37E, h105km±7km*
TIR ***13*** *18:21:08.0±7.7, 41°.39N × 19°.53E, h25km±999km*
ROM ***13*** *18:21:08.1±0.1, 41°.29N × 19°.50E, h10km, MI3.2/12, Error ellipse: s-maj=1.7km s-min=1.2km az=161.0*
PDG ***13*** *18:21:09.0±0.4, 41°.39N × 19°.60E, h23km, MD3.1/3, ML3.0/10, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
ISCJB ***13*** *18:21:09.2±0.3, 41°.35N±0°.01 × 19°.55E±0°.02, h26km±3km, mb3.6/2, Error ellipse: s-maj=2.6km s-min=1.8km az=152.7*
CSEM ***13*** *18:21:09.5±0.1, 41°.37N × 19°.54E, h20km, ML2.8, Error ellipse: s-maj=1.8km s-min=1.4km az=55.0*
THE ***13*** *18:21:10.2, 41°.36N × 19°.61E, h20km±1km, ML3.1/8, Error ellipse: s-maj=1.6km s-min=0.8km az=303.0*
BEO ***13*** *18:21:11.5±0.3, 41°.52N × 19°.92E, h5km±3km, ML2.8/1*
ISC 13 18:21:08.8±0.9, 41°.38N±0°.01 × 19°.55E±0°.02, h22km±6km,
n257, σ1°.19/352, 32C-14D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.24**	**97**	*i* PG	**Pb**	**18 21 14.3**	**-0.5**
TIR				*i* SG	**Sb**	**18 21 19.2**	**+0.4**
TIR	**Tirane**	**0.24**	**97**	P	**Pb**	**18 21 14.5**	**-0.3**
TIR				S	**Sb**	**18 21 19.4**	**+0.6**
TIR	**Tirane**	**0.24**	**97**	⇑*i* Pg	**Pb**	**18 21 14.1**	**-0.7**
TIR				*e*Sg	**Sb**	**18 21 18.8**	**0.0**
TIR	**Tirane**	**0.24**	**97**	Pn	**Pb**	**18 21 14.3**	**-0.5**
TIR				Sn	**Sb**	**18 21 19.1**	**+0.3**
	4μm,0.4s						
TIR	**Tirane**	**0.24**	**97**	*e*Pb	**Pb**	**18 21 14.3**	**-0.5**
TIR				*i* Sg	**Sb**	**18 21 19.2**	**+0.4**
	SNR=90						
ULC	**Ulcinj**	**0.63**	**339**	⇓*i* Pg	**Pn**	**18 21 21.1**	**-1.4**
ULC				*e*Sg	**Sn**	**18 21 31.6**	**-0.3**
ULC	**Ulcinj**	**0.63**	**339**	⇓*i* Pg	**Pn**	**18 21 21.1**	**-1.4**
ULC				*e*Sg	**Sn**	**18 21 31.6**	**-0.3**
PUK	**Puka**	**0.71**	**21**	*i* PG	**Pn**	**18 21 22.3**	**-1.4**
PUK				*i* SG	**Sn**	**18 21 34.8**	**+0.8**
PUK	**Puka**	**0.71**	**21**	*i* Pg	**Pn**	**18 21 22.3**	**-1.4**
	SNR=91						
PUK				*i* Sg	**Sn**	**18 21 34.8**	**+0.8**
	SNR=91						
PHP	**Peshkopia**	**0.74**	**65**	*i* PG	**Pb**	**18 21 22.3**	**-0.7**
PHP				*i* SG	**Sn**	**18 21 33.8**	**-0.7**
PHP	**Peshkopia**	**0.74**	**65**	P	**Pn**	**18 21 22.8**	**-1.2**
PHP				S	**Sn**	**18 21 33.6**	**-0.9**
PHP	**Peshkopia**	**0.74**	**65**	*i* Pg	**Pb**	**18 21 22.3**	**-0.7**
	SNR=91						
PHP	**Peshkopia**	**0.74**	**65**	P	**Pn**	**18 21 22.8**	**-1.2**
PHP				*i* Sg	**Sn**	**18 21 33.8**	**-0.7**
	SNR=91						
DRME	**Dracevica, Mon**	**0.85**	**341**	⇑*i* Pg	**Pn**	**18 21 25.1**	**-0.4**
DRME				*e*Sg	**Sn**	**18 21 38.9**	**+1.5**
DRME	**Dracevica, Mon**	**0.85**	**341**	⇑*i* Pg	**Pn**	**18 21 25.1**	**-0.4**
DRME				*e*Sg	**Sn**	**18 21 38.9**	**+1.5**
VLO	**Vlora**	**0.91**	**183**	P	**Pn**	**18 21 27.3**	**+1.1**
VLO				S	**Sn**	**18 21 39.7**	**+1.1**
VLO	**Vlora**	**0.91**	**183**	P	**Pn**	**18 21 27.3**	**+1.1**
VLO				S	**Sn**	**18 21 39.7**	**+1.1**
BUM	**Brajici-Budva**	**1.05**	**332**	⇓*i* Pg	**Pb**	**18 21 28.9**	**+0.6**
BUM				*e*Sg	**Sn**	**18 21 45.2**	**+3.0**
BUM	**Brajici-Budva**	**1.05**	**332**	⇓*i* Pg	**Pb**	**18 21 28.9**	**+0.6**
BUM				*e*Sg	**Sn**	**18 21 45.2**	**+3.0**
PDG	**Podgorica**	**1.08**	**348**	P	**Pb**	**18 21 29.2**	**+0.4**
PDG				S	**Sn**	**18 21 45.5**	**+2.7**
PDG	**Podgorica**	**1.08**	**348**	⇓*i* Pg	**Pb**	**18 21 28.7**	**-0.1**
PDG				*e*Sg	**Sn**	**18 21 44.8**	**+2.0**
PDG	**Podgorica**	**1.08**	**348**	Pn	**Pb**	**18 21 29.0**	**+0.2**
PDG				Sn	**Sn**	**18 21 45.3**	**+2.5**
	284nm,0.3s						
PDG	**Podgorica**	**1.08**	**348**	P	**Pb**	**18 21 29.2**	**+0.4**
PDG				*e*Sg	**Sn**	**18 21 44.8**	**+2.0**
PDG				Sn	**Sn**	**18 21 45.3**	**+2.5**
	284nm,0.3s						
PDG				S	**Sn**	**18 21 45.5**	**+2.7**
TTG	**Podgorica**	**1.08**	**348**	⇑*i* Pg	**Pb**	**18 21 29.2**	**+0.4**
TTG				*e*Sg	**Sn**	**18 21 45.8**	**+3.0**
KBN	**Korca**	**1.20**	**128**	*i* PG	**Pb**	**18 21 31.4**	**+0.5**
KBN	**Korca**	**1.20**	**128**	P	**Pb**	**18 21 31.5**	**+0.5**
KBN				S	**Sb**	**18 21 47.3**	**+1.2**
KBN	**Korca**	**1.20**	**128**	*i* Pg	**Pb**	**18 21 31.4**	**+0.5**
	SNR=90						
KBN				S	**Sb**	**18 21 47.3**	**+1.2**
PVY	**Plav**	**1.25**	**14**	⇑*i* Pg	**Pb**	**18 21 31.9**	**0.0**
PVY				*e*Sg	**Sb**	**18 21 50.0**	**+2.3**
PVY	**Plav**	**1.25**	**14**	⇑*i* Pg	**Pb**	**18 21 31.9**	**0.0**
PVY				*e*Sg	**Sb**	**18 21 50.0**	**+2.3**
HCY	**Herceg Novi**	**1.33**	**324**	⇓*i* Pg	**Pb**	**18 21 33.1**	**0.0**
HCY				*e*Sg	**Sb**	**18 21 52.5**	**+2.8**
HCY	**Herceg Novi**	**1.33**	**324**	⇓*i* Pg	**Pb**	**18 21 33.1**	**0.0**
HCY				*e*Sg	**Sb**	**18 21 52.5**	**+2.8**
NKME	**Niksic**	**1.46**	**342**	⇑*i* Pg	**Pb**	**18 21 35.2**	**-0.1**
NKME				*e*Sg	**Sb**	**18 21 55.5**	**+2.0**
NKME	**Niksic**	**1.46**	**342**	⇑*i* Pg	**Pb**	**18 21 35.2**	**-0.1**
NKME				*e*Sg	**Sb**	**18 21 55.5**	**+2.0**
NEST	**Nestorio**	**1.49**	**130**	P	**Pb**	**18 21 35.5**	**-0.4**
NEST				S	**Sb**	**18 21 54.2**	**-0.2**
NEST	**Nestorio**	**1.49**	**130**	*e*P	**Pb**	**18 21 36.0**	**+0.1**
NEST				*e*S	**Sb**	**18 21 57.2**	**+2.8**
NEST	**Nestorio**	**1.49**	**130**	P	**Pb**	**18 21 35.5**	**-0.4**
NEST	**Nestorio**	**1.49**	**130**	*e*Pn	**Pb**	**18 21 36.0**	**+0.1**
NEST				S	**Sb**	**18 21 54.2**	**-0.2**
NEST				*e*Sn	**Sb**	**18 21 57.2**	**+2.8**
NKY	**Niksic**	**1.49**	**344**	⇓*i* Pg	**Pb**	**18 21 35.5**	**-0.5**
NKY				*e*Sg	**Sb**	**18 21 56.1**	**+1.5**
NKY	**Niksic**	**1.49**	**344**	⇓*i* Pg	**Pb**	**18 21 35.5**	**-0.5**
NKY				*e*Sg	**Sb**	**18 21 56.1**	**+1.5**
FNA	**Florina**	**1.50**	**113**	P	**Pb**	**18 21 35.6**	**-0.5**
FNA				S	**Sb**	**18 21 55.7**	**+1.0**
FNA	**Florina**	**1.50**	**113**	*e*P	**Pb**	**18 21 35.5**	**-0.5**
FNA				*e*S	**Sb**	**18 21 56.9**	**+2.2**
FNA	**Florina**	**1.50**	**113**	*e*Pn	**Pb**	**18 21 35.5**	**-0.5**
FNA				S	**Sb**	**18 21 55.7**	**+1.0**
FNA				*e*Sn	**Sb**	**18 21 56.9**	**+2.2**
MESG	**Mesagne**	**1.51**	**239**	Pn	**Pn**	**18 21 34.1**	**-0.4**
	367nm,0.5s						
MESG	**Mesagne**	**1.51**	**239**	Pn	**Pn**	**18 21 34.1**	**-0.4**
	367nm,0.5s						
BEY	**Berane**	**1.52**	**10**	*e*Pg	**Pb**	**18 21 35.9**	**-0.4**
BEY				*e*Sg	**Sb**	**18 21 56.2**	**+1.0**
IVA	**Berane**	**1.52**	**10**	*e*Pg	**Pb**	**18 21 35.9**	**-0.4**
IVA				*e*Sg	**Sb**	**18 21 56.2**	**+1.0**
SRN	**Sarande**	**1.53**	**167**	P	**Pb**	**18 21 35.7**	**-0.9**
SRN				S	**Sb**	**18 21 56.0**	**+0.5**
SRN	**Sarande**	**1.53**	**167**	P	**Pb**	**18 21 35.7**	**-0.9**
SRN				S	**Sb**	**18 21 56.0**	**+0.5**
SKO	**Skopje**	**1.54**	**67**	P	**Pb**	**18 21 36.6**	**0.0**
SKO				S	**Sb**	**18 21 56.6**	**+1.0**
SKO	**Skopje**	**1.54**	**67**	*e*Pn	**Pb**	**18 21 36.3**	**-0.4**
SKO				*e*Sg	**Sb**	**18 21 56.9**	**+1.2**
SKO	**Skopje**	**1.54**	**67**	*e*Pn	**Pb**	**18 21 36.2**	**-0.4**
SKO	**Skopje**	**1.54**	**67**	P	**Pb**	**18 21 36.6**	**0.0**
SKO				*e*Sg	**Sb**	**18 21 56.8**	**+1.2**
SCTE	**Santa Cesarea**	**1.54**	**213**	Pn	**Pn**	**18 21 34.7**	**-0.2**
	358nm,0.3s						
SCTE	**Santa Cesarea**	**1.54**	**213**	Pn	**Pn**	**18 21 34.7**	**-0.2**
	358nm,0.3s						
KEK	**Kerkira**	**1.67**	**173**	P	**Pn**	**18 21 37.0**	**+0.2**
KEK	**Kerkira**	**1.67**	**173**	*e*P	**Pn**	**18 21 36.9**	**+0.2**
KEK				*e*S	**Sb**	**18 22 00.4**	**+0.8**
KEK	**Kerkira**	**1.67**	**173**	Pn	**Pn**	**18 21 36.9**	**+0.2**
	195nm,0.5s						
KEK	**Kerkira**	**1.67**	**173**	P	**Pn**	**18 21 37.0**	**+0.2**
KEK				*e*Sn	**Sb**	**18 22 00.4**	**+0.8**
BRY	**Bratogost**	**1.70**	**334**	⇑*i* Pn	**Pb**	**18 21 39.1**	**-0.4**
BRY				*e*Sn	**Sb**	**18 22 01.2**	**+0.7**
BRY	**Bratogost**	**1.70**	**334**	⇑*i* Pn	**Pb**	**18 21 39.1**	**-0.4**
BRY				*e*Sn	**Sb**	**18 22 01.2**	**+0.7**
SGD	**Sagiada**	**1.84**	**163**	P	**Pb**	**18 21 40.5**	**-1.2**
SGD				S	**Sb**	**18 22 03.0**	**-1.3**
SGD	**Sagiada**	**1.84**	**163**	P	**Pb**	**18 21 40.5**	**-1.2**
SGD				S	**Sb**	**18 22 03.0**	**-1.3**
UPM	**Unac-Piva**	**1.89**	**346**	⇑*i* Pn	**Pb**	**18 21 41.5**	**-1.2**
UPM				*e*Sn	**Sb**	**18 22 05.2**	**-0.7**
UPM	**Unac-Piva**	**1.89**	**346**	⇑*i* Pn	**Pb**	**18 21 41.5**	**-1.2**
UPM				*e*Sn	**Sb**	**18 22 05.2**	**-0.7**
SJES	**Sjenica**	**1.91**	**9**	⇓*i* Pg	**Pb**	**18 21 42.5**	**-0.6**
SJES				*e*Sg	**Sb**	**18 22 07.5**	**+1.0**
SJES	**Sjenica**	**1.91**	**9**	⇓*i* Pg	**Pb**	**18 21 42.5**	**-0.6**
SJES				*e*Sg	**Sb**	**18 22 07.5**	**+1.0**
TAR1	**Taranto**	**1.92**	**244**	*e*Pn	**Pb**	**18 21 43.8**	**+0.7**
IGT	**Igoumenitsa**	**1.94**	**162**	P	**Pn**	**18 21 41.0**	**+0.6**
IGT	**Igoumenitsa**	**1.94**	**162**	*e*P	**Pn**	**18 21 40.8**	**+0.4**
IGT				*e*S	**Sb**	**18 22 05.7**	**-1.5**
IGT	**Igoumenitsa**	**1.94**	**162**	P	**Pn**	**18 21 41.0**	**+0.6**
IGT				*e*Sn	**Sb**	**18 22 05.7**	**-1.5**
PLE	**Pljevlja**	**1.96**	**357**	⇑*i* Pn	**Pb**	**18 21 42.0**	**-1.9**
PLE				*e*Sn	**Sb**	**18 22 06.9**	**-1.0**
PLE	**Pljevlja**	**1.96**	**357**	⇑*i* Pn	**Pb**	**18 21 42.0**	**-1.9**
PLE				*e*Sn	**Sb**	**18 22 06.9**	**-1.0**
NOCI	**Noci**	**1.97**	**253**	Pn	**Pn**	**18 21 40.6**	**-0.2**
	188nm,0.3s						
NOCI	**Noci**	**1.97**	**253**	Pn	**Pn**	**18 21 40.6**	**-0.2**
	188nm,0.3s						
JAN	**Janina**	**1.98**	**150**	P	**Pn**	**18 21 42.0**	**+0.9**
JAN				S	**Sb**	**18 22 07.4**	**-1.1**
JAN	**Janina**	**1.98**	**150**	*e*P	**Pn**	**18 21 41.7**	**+0.6**
JAN	**Janina**	**1.98**	**150**	*e*Pb	**Pn**	**18 21 41.7**	**+0.6**
JAN	**Janina**	**1.98**	**150**	P	**Pn**	**18 21 42.0**	**+0.9**
JAN				S	**Sb**	**18 22 07.4**	**-1.1**
KZN	**Kozani**	**2.00**	**122**	P	**Pn**	**18 21 42.0**	**+0.7**
KZN				S	**Sb**	**18 22 07.2**	**-1.7**
KZN	**Kozani**	**2.00**	**122**	P	**Pn**	**18 21 42.0**	**+0.7**
KZN				S	**Sb**	**18 22 07.2**	**-1.7**
STON	**Ston**	**2.03**	**318**	*e*Pn	**Pb**	**18 21 42.2**	**-2.8**
STON				Sn	**Sb**	**18 22 07.1**	**-2.7**
STON	**Ston**	**2.03**	**318**	*e*Pn	**Pb**	**18 21 42.2**	**-2.8**
STON				Sn	**Sb**	**18 22 07.1**	**-2.7**
BAI	**Bari**	**2.03**	**263**	*e*Pn	**Pb**	**18 21 42.2**	**-2.8**
SELS	**Selova**	**2.18**	**32**	*i* Pn	**Pn**	**18 21 44.6**	**+0.8**
SELS				*e*Sg	**Sb**	**18 22 11.5**	**-2.7**
BARS	**Barje**	**2.22**	**49**	*e*Pg	**Pb**	**18 21 47.0**	**-1.2**
BARS				*e*Sg	**Sn**	**18 22 11.7**	**+0.7**
IVAS	**Ivanjica**	**2.24**	**11**	*i* Pn	**Pb**	**18 21 46.2**	**-2.5**
IVAS	**Ivanjica**	**2.24**	**11**	*i* Pn	**Pb**	**18 21 46.2**	**-2.5**
AMUR	**Altamura**	**2.27**	**259**	Pn	**Pn**	**18 21 45.0**	**0.0**
AMUR	**Altamura**	**2.27**	**259**	Pn	**Pn**	**18 21 45.0**	**0.0**
VAY	**Valandovo**	**2.27**	**90**	P	**Pn**	**18 21 45.8**	**+0.8**
VAY	**Valandovo**	**2.27**	**90**	*e*Pn	**Pn**	**18 21 46.0**	**+1.0**
VAY	**Valandovo**	**2.27**	**90**	*e*Pn	**Pn**	**18 21 46.0**	**+1.0**
CDT	**Castel del Mon**	**2.49**	**264**	*e*Pn	**Pn**	**18 21 48.7**	**+0.7**
BBLS	**Lazići**	**2.49**	**358**	*e*Pn	**Pb**	**18 21 52.8**	**-0.1**
DSL	**Palaion Diasel**	**2.53**	**152**	P	**Pn**	**18 21 50.3**	**+1.7**
DSL				S	**Sn**	**18 22 20.7**	**+1.9**
DSL	**Palaion Diasel**	**2.53**	**152**	P	**Pn**	**18 21 50.3**	**+1.7**
DSL				S	**Sn**	**18 22 20.7**	**+1.9**
KNT	**Kendrikon**	**2.53**	**94**	P	**Pn**	**18 21 49.5**	**+0.9**
KNT	**Kendrikon**	**2.53**	**94**	*e*P	**Pn**	**18 21 49.2**	**+0.6**
KNT	**Kendrikon**	**2.53**	**94**	*e*Pn	**Pn**	**18 21 49.2**	**+0.6**
KNT	**Kendrikon**	**2.53**	**94**	P	**Pn**	**18 21 49.5**	**+0.9**
MRVN	**Minervino Murg**	**2.55**	**264**	Pn	**Pn**	**18 21 49.1**	**+0.2**
MRVN	**Minervino Murg**	**2.55**	**264**	Pn	**Pn**	**18 21 49.1**	**+0.2**
LIT	**Litokhoron**	**2.57**	**119**	*e*P	**Pn**	**18 21 49.7**	**+0.5**
LIT	**Litokhoron**	**2.57**	**119**	*e*Pn	**Pn**	**18 21 49.7**	**+0.5**
THL	**Klokotos Trika**	**2.61**	**133**	P	**Pn**	**18 21 50.3**	**+0.7**
THL				S	**Sn**	**18 22 22.1**	**+1.5**
THL	**Klokotos Trika**	**2.61**	**133**	P	**Pn**	**18 21 50.3**	**+0.7**
THL				S	**Sn**	**18 22 22.1**	**+1.5**
GRUS	**Gruza**	**2.65**	**19**	⇑*i* Pn	**Pn**	**18 21 51.8**	**+1.5**
GRUS	**Gruza**	**2.65**	**19**	⇑*i* Pn	**Pn**	**18 21 51.8**	**+1.5**
THE	**Thessaloniki**	**2.69**	**105**	P	**Pn**	**18 21 51.4**	**+0.7**
THE	**Thessaloniki**	**2.69**	**105**	*e*P	**Pn**	**18 21 51.2**	**+0.5**
THE	**Thessaloniki**	**2.69**	**105**	P	**Pn**	**18 21 51.4**	**+0.7**
LKD2	**Lefkada island**	**2.72**	**161**	P	**Pn**	**18 21 51.4**	**+0.2**
LKD2				S	**Sn**	**18 22 24.2**	**+0.8**
LKD2	**Lefkada island**	**2.72**	**161**	*e*P	**Pn**	**18 21 51.2**	**0.0**
LKD2	**Lefkada island**	**2.72**	**161**	P	**Pn**	**18 21 51.4**	**+0.2**
LKD2				S	**Sn**	**18 22 24.2**	**+0.8**
DIVS	**Divibare**	**2.74**	**7**	P	**Pn**	**18 21 52.9**	**+1.4**
DIVS	**Divibare**	**2.74**	**7**	*e*Pn	**Pn**	**18 21 52.5**	**+1.0**
DIVS	**Divibare**	**2.74**	**7**	⇑*i* P	**Pn**	**18 21 52.9**	**+1.4**
DIVS	**Divibare**	**2.74**	**7**	S	**Sn**	**18 22 23.8**	**-0.2**
DIVS	**Divibare**	**2.74**	**7**	*e*Pn	**Pn**	**18 21 52.5**	**+1.0**
DIVS	**Divibare**	**2.74**	**7**	P	**Pn**	**18 21 52.9**	**+1.4**
ACER	**Acerenza**	**2.79**	**259**	Pn	**Pn**	**18 21 53.4**	**+1.2**
	149nm,0.4s						
ACER	**Acerenza**	**2.79**	**259**	Pn	**Pn**	**18 21 53.4**	**+1.2**
	149nm,0.4s						
HORT	**Hortiatis**	**2.80**	**105**	P	**Pn**	**18 21 52.5**	**+0.2**
HORT	**Hortiatis**	**2.80**	**105**	*e*P	**Pn**	**18 21 52.5**	**+0.2**
HORT	**Hortiatis**	**2.80**	**105**	P	**Pn**	**18 21 52.5**	**+0.2**
PIPA	**Pietrapaola**	**2.81**	**229**	Pn	**Pn**	**18 21 52.0**	**-0.5**
PIPA	**Pietrapaola**	**2.81**	**229**	Pn	**Pn**	**18 21 52.0**	**-0.5**
LADO	**San Nicola del**	**2.87**	**224**	Pn	**Pn**	**18 21 52.8**	**-0.4**
LADO	**San Nicola del**	**2.87**	**224**	Pn	**Pn**	**18 21 52.8**	**-0.4**
SOH	**Sokhos**	**2.93**	**100**	*e*P	**Pn**	**18 21 54.8**	**+0.7**
SOH	**Sokhos**	**2.93**	**100**	*e*Pn	**Pn**	**18 21 54.8**	**+0.7**
ZAPS	**Zavoj**	**2.97**	**49**	*e*Pn	**Pn**	**18 21 56.3**	**+1.7**
ZAPS	**Zavoj**	**2.97**	**49**	*e*Pn	**Pn**	**18 21 56.3**	**+1.7**
VTS	**Vitosha**	**2.98**	**65**	P	**Pn**	**18 21 56.8**	**+1.8**
VTS				S	**Sn**	**18 22 30.2**	**+0.1**
VTS	**Vitosha**	**2.98**	**65**	⇑*i* P	**Pn**	**18 21 56.6**	**+1.6**
VTS	**Vitosha**	**2.98**	**65**	P	**Pn**	**18 21 56.8**	**+1.8**
VTS				S	**Sn**	**18 22 30.2**	**+0.1**
EVR	**Evrytania**	**3.00**	**144**	P	**Pn**	**18 21 55.9**	**+0.7**
EVR				S	**Sn**	**18 22 30.8**	**+0.2**
EVR	**Evrytania**	**3.00**	**144**	*e*P	**Pn**	**18 21 57.2**	**+2.0**
EVR	**Evrytania**	**3.00**	**144**	P	**Pn**	**18 21 55.9**	**+0.7**
EVR	**Evrytania**	**3.00**	**144**	*e*Pn	**Pn**	**18 21 57.2**	**+2.0**
EVR				S	**Sn**	**18 22 30.8**	**+0.2**
PDO	**Prodromos**	**3.04**	**155**	P	**Pn**	**18 21 56.3**	**+0.7**
PDO				S	**Sn**	**18 22 32.9**	**+1.5**
PDO	**Prodromos**	**3.04**	**155**	P	**Pn**	**18 21 56.3**	**+0.7**
PDO				S	**Sn**	**18 22 32.9**	**+1.5**
SRS	**Serrai**	**3.06**	**94**	P	**Pn**	**18 21 56.5**	**+0.7**
SRS	**Serrai**	**3.06**	**94**	*e*P	**Pn**	**18 21 56.5**	**+0.7**
SRS	**Serrai**	**3.06**	**94**	P	**Pn**	**18 21 56.5**	**+0.7**
MAKR	**Makrakomi, Fth**	**3.08**	**139**	P	**Pn**	**18 21 57.9**	**+1.8**
MAKR				S	**Sn**	**18 22 31.8**	**-0.5**
MAKR	**Makrakomi, Fth**	**3.08**	**139**	P	**Pn**	**18 21 57.9**	**+1.8**
MAKR				S	**Sn**	**18 22 31.8**	**-0.5**
PLG	**Polygyros**	**3.12**	**107**	P	**Pn**	**18 21 58.4**	**+1.7**
PLG	**Polygyros**	**3.12**	**107**	*e*P	**Pn**	**18 21 57.5**	**+0.8**
PLG	**Polygyros**	**3.12**	**107**	*e*Pn	**Pn**	**18 21 57.5**	**+0.8**
PLG	**Polygyros**	**3.12**	**107**	P	**Pn**	**18 21 58.4**	**+1.7**
MRLC	**Muro Lucano**	**3.13**	**260**	Pn	**Pn**	**18 21 58.1**	**+1.2**
MRLC	**Muro Lucano**	**3.13**	**260**	Pn	**Pn**	**18 21 58.1**	**+1.2**
MMB	**Musomiste**	**3.15**	**85**	⇑*i* P	**Pn**	**18 21 58.5**	**+1.4**
MMB	**Musomiste**	**3.15**	**85**	S	**Sn**	**18 22 35.0**	**+1.1**
MMB	**Musomiste**	**3.15**	**85**	⇑*i* P	**Pn**	**18 21 58.5**	**+1.4**
CUC	**Castrocucco**	**3.16**	**245**	Pn	**Pn**	**18 21 58.3**	**+1.1**
	43nm,0.7s						
CUC	**Castrocucco**	**3.16**	**245**	Pn	**Pn**	**18 21 58.3**	**+1.1**
	43nm,0.7s						
AGG	**Agios Georgios**	**3.17**	**137**	P	**Pn**	**18 21 58.5**	**+1.1**
AGG				S	**Sn**	**18 22 35.4**	**+0.8**
AGG	**Agios Georgios**	**3.17**	**137**	*e*P	**Pn**	**18 21 58.5**	**+1.1**
AGG	**Agios Georgios**	**3.17**	**137**	P	**Pn**	**18 21 58.5**	**+1.1**
AGG				S	**Sn**	**18 22 35.4**	**+0.8**
NVR	**Nevrokopi**	**3.25**	**89**	P	**Pn**	**18 21 59.6**	**+1.2**
NVR				S	**Sn**	**18 22 37.5**	**+1.1**
NVR	**Nevrokopi**	**3.25**	**89**	*e*P	**Pn**	**18 21 59.3**	**+0.9**
NVR	**Nevrokopi**	**3.25**	**89**	*e*Pn	**Pn**	**18 21 59.3**	**+0.9**
NVR	**Nevrokopi**	**3.25**	**89**	P	**Pn**	**18 21 59.6**	**+1.2**
NVR				S	**Sn**	**18 22 37.5**	**+1.1**
FYTO	**Fytoko, Volos**	**3.25**	**126**	P	**Pn**	**18 21 59.6**	**+1.1**
FYTO	**Fytoko, Volos**	**3.25**	**126**	P	**Pn**	**18 21 59.6**	**+1.1**
VLS	**Valsamata**	**3.29**	**166**	P	**Pn**	**18 21 59.2**	**+0.1**
VLS	**Valsamata**	**3.29**	**166**	*e*P	**Pn**	**18 21 59.2**	**+0.1**
CDRU	**Civita di Ruta**	**3.34**	**256**	Pn	**Pn**	**18 22 00.2**	**+0.5**
	25nm,0.6s						
CDRU	**Civita di Ruta**	**3.34**	**256**	Pn	**Pn**	**18 22 00.2**	**+0.5**
	25nm,0.6s						
MCRV	**Calabrutti - M**	**3.37**	**261**	Pn	**Pn**	**18 22 00.3**	**+0.2**
	34nm,0.5s						
MCRV	**Calabrutti - M**	**3.37**	**261**	Pn	**Pn**	**18 22 00.3**	**+0.2**
	34nm,0.5s						
KFL	**Anninata**	**3.40**	**163**	P	**Pn**	**18 22 01.5**	**+1.0**
KFL	**Anninata**	**3.40**	**163**	P	**Pn**	**18 22 01.5**	**+1.0**
XOR	**Xorichti**	**3.43**	**125**	P	**Pn**	**18 22 01.6**	**+0.6**
XOR				S	**Sn**	**18 22 40.9**	**-0.1**
XOR	**Xorichti**	**3.43**	**125**	*e*P	**Pn**	**18 22 02.2**	**+1.2**
XOR	**Xorichti**	**3.43**	**125**	P	**Pn**	**18 22 01.6**	**+0.6**
XOR	**Xorichti**	**3.43**	**125**	*e*Pn	**Pn**	**18 22 02.2**	**+1.2**
XOR				S	**Sn**	**18 22 40.9**	**-0.1**
EFP	**Efpalio**	**3.46**	**148**	P	**Pn**	**18 22 03.1**	**+1.8**
EFP	**Efpalio**	**3.46**	**148**	P	**Pn**	**18 22 03.1**	**+1.8**
PAIG	**Paliouri**	**3.46**	**113**	*e*P	**Pn**	**18 22 02.6**	**+1.3**
PAIG	**Paliouri**	**3.46**	**113**	*e*Pn	**Pn**	**18 22 02.6**	**+1.3**
OUR	**Ouranopolis**	**3.52**	**106**	*e*P	**Pn**	**18 22 02.6**	**+0.5**
OUR	**Ouranopolis**	**3.52**	**106**	*e*Pn	**Pn**	**18 22 02.6**	**+0.5**
AXAR	**Agios Charalam**	**3.53**	**137**	P	**Pn**	**18 22 03.8**	**+1.4**
AXAR	**Agios Charalam**	**3.53**	**137**	P	**Pn**	**18 22 03.8**	**+1.4**
KAVA	**Kavala**	**3.77**	**94**	*e*P	**Pn**	**18 22 06.2**	**+0.7**
KAVA	**Kavala**	**3.77**	**94**	*e*Pn	**Pn**	**18 22 06.2**	**+0.7**
ATAL	**Atalanti**	**3.78**	**134**	P	**Pn**	**18 22 06.6**	**+0.9**
ATAL	**Atalanti**	**3.78**	**134**	P	**Pn**	**18 22 06.6**	**+0.9**
ZKS	**Zakynthos**	**3.80**	**165**	P	**Pn**	**18 22 07.0**	**+1.0**
ZKS	**Zakynthos**	**3.80**	**165**	P	**Pn**	**18 22 07.0**	**+1.0**
DRO	**Drossia**	**3.80**	**153**	P	**Pn**	**18 22 07.1**	**+1.0**
DRO				S	**Sn**	**18 22 52.3**	**+2.1**
DRO	**Drossia**	**3.80**	**153**	P	**Pn**	**18 22 07.1**	**+1.0**
DRO				S	**Sn**	**18 22 52.3**	**+2.1**
SGG	**Gregorio Mates**	**3.89**	**272**	Pn	**Pn**	**18 22 08.9**	**+1.6**
	19nm,0.4s						
SGG	**Gregorio Mates**	**3.89**	**272**	Pn	**Pn**	**18

RAO	**Raoul Island**	**15.28**	**134**	P		**P**	19 14 26.6	**-0.7**
	74nm,0.3s,baz=92,slow=24,SNR=2.6							
CTA	**Charters Tower**	**21.93**	**264**	P		**P**	19 15 37.9	**0.0**
	2.6nm,0.4s,baz=89,slow=11,SNR=7.5							
STKA	**Stephens Creek**	**28.13**	**238**	P		**P**	19 16 34.5	**+0.8**
	2.5nm,0.6s,baz=56,slow=8.9,SNR=12							
WRA	**Warramunga Arr**	**33.12**	**263**	P		**P**	19 17 16.4	**-1.1**
	2.5nm,0.5s,baz=84,slow=6.7,SNR=26							
ASAR	**Alice Springs**	**33.41**	**256**	P		**P**	19 17 19.1	**-0.8**
	16nm,0.5s,baz=81,slow=8.9,SNR=492							
PETK	**Petropavlovsk-**	**72.62**	**353**	P		**P**	19 22 05.5	**+0.9**
	1.7nm,0.6s,baz=158,slow=12,SNR=2.8							
YBH	**Yreka Blue Hor**	**87.02**	**44**	P		**P**	19 23 23.7	**+1.8**
	1.7nm,0.8s,baz=152,slow=7.5,SNR=3.2							
ILAR	**Eielson Array**	**90.02**	**17**	P		**P**	19 23 33.6	**-1.7**
	0.5nm,0.8s,baz=230,slow=5.9,SNR=5.0							
ARCES	**ARCESS Array B**	**124.99**	**345**	PKP		**PKPdf**	19 29 33.5	**-0.8**
	2.5nm,1.0s,baz=58,slow=2.2,SNR=8.2							
GERES	**GERESS Array B**	**144.48**	**332**	PKP		**PKPab**	19 30 10.1	**-0.1**
	0.3nm,0.4s,baz=15,slow=5.5,SNR=5.0							

MEX 13 19:27:06.1±0.6, 14.84N×93.69W, h16km±999km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.97**	**28**	*e*P	Pb	19 27 21.0	-3.5
PCIG				*i* S	Sb	19 27 33.2	-4.0
CCIG	**Comitan**	**2.07**	**46**	*e*P	Pn	19 27 37.9	-2.6
CCIG				*e*S	Sn	19 28 01.2	-4.9
HUIG	**Huatulco**	**2.51**	**292**	*i* P	Pn	19 27 42.8	-3.5
HUIG				*i* S	Sn	19 28 12.5	-4.0
CMIG	**Matias Romero**	**2.52**	**333**	*e*P	Pn	19 27 43.7	-2.6
CMIG				*i* S	Sn	19 28 12.6	-4.1

MAN 13 19:57:24, 15.53N×119.75E, h18km, mb5.0, ML3.9, MS4.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.29**	**32**	*e*P	Pb	19 57 31.9	+1.2
BOLP	**Bolinao**	**0.86**	**11**	*e*P	Pb	19 57 39.8	-0.7
BOLP				*e*S	Sb	19 57 51.1	-0.6
BCPH	**Baguio City Da**	**1.17**	**43**	⇑*i*P	Sn	19 57 59.6	-1.8
BCPH				*i* S	Sg	19 58 02.6	+0.2
BALP	**Baler**	**1.77**	**83**	*e*P	Pn	19 57 54.0	+0.2
BALP				*e*S	Sn	19 58 16.8	+0.9
CAUP	**Cauayan**	**2.44**	**54**	*e*P	Pn	19 58 03.6	+0.6

PDA 13 19:59:29.1±0.5, 38.20N×25.90W, h15km, MD3.7, ML2.1, Error ellipse: s-maj=5.2km s-min=3.8km az=70.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSET	**Sete Cidades**	**0.40**	**160**	*e*P	Pg	19 59 36.0	-1.3
PSET				*e*S	Sg	19 59 41.3	-1.6
PSET				A	A	19 59 44.3	
	89nm,0.2s						
PDA	**Ponta Delgada**	**0.49**	**158**	*e*P	Pg	19 59 37.2	-1.7
PDA				*e*S	Sg	19 59 43.3	-2.2
PDA				A	A	19 59 44.8	
	110nm,0.2s						
BART	**Pico Bartolome**	**0.71**	**126**	*e*S	Sg	19 59 48.9	-3.8
BART				A	A	19 59 58.3	
	24nm,0.3s						
PSMA	**Santa Maria**	**1.35**	**153**	*e*P	Pn	19 59 49.1	-4.3
PSMA				*e*S	Sn	20 00 03.9	-7.2
PSMA				A	A	20 00 07.3	
	14nm,0.4s						
PSMN	**Pico do Norte,**	**1.37**	**151**	*e*S	Sn	20 00 04.7	-6.8
PSMN				A	A	20 00 06.2	
	7.0nm,0.3s						

IDC ***13*** *20:07:52.0±5.4, 6.29S×147.88E, h25km±35km, mb3.7/7, mb1 4.1/9, mb1mx3.8/26, mbtmp4.0/9, ML4.5/2, MS3.5/12, Ms1 3.5/12, ms1mx3.3/24, Error ellipse: s-maj=27.8km s-min=14.6km az=106.0*

ISCJB ***13*** *20:07:53.7±0.8, 6.33S±0.08×147.78E±0.2, h51km, mb3.8/7, MS3.5/10, Error ellipse: s-maj=22.4km s-min=11.9km az=0.1*

ISC 13 20:07:55.1±0.8, 6.27S±0.09×147.9E±0.2, h51km, n22, σ1s05/14, mb3.7/7, MS3.4/10, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**13.82**	**186**	Pn		**Pn**	**20 11 08.9**	**+0.4**
	0.3nm,0.3s,baz=358,slow=15,SNR=2.8							
SIJI	**Sorong**	**17.40**	**287**	P		**Pn**	**20 11 54.3**	**-0.2**
	0.6nm,0.3s,baz=96,slow=4.3,SNR=5.2							
SIJI				LR	LR	20 19 23.4		
	comp=Z,137nm,19.7s,baz=244,slow=40							
WRA	**Warramunga Arr**	**18.90**	**223**	P		**P**	**20 12 10.5**	**-1.1**
	2.3nm,0.3s,baz=47,slow=11,SNR=58							
GUMO	**Guam**	**19.35**	**351**	LR		LR	20 20 10.8	
	comp=Z,85nm,18.6s,baz=167,slow=37							
ASAR	**Alice Springs**	**21.89**	**216**	P		**P**	**20 12 43.6**	**-0.4**
	7.3nm,0.3s,baz=49,slow=9.3,SNR=310							
ASAR				S		**S**	**20 16 45.3**	**+2.0**
	3.7nm,0.9s,baz=27,slow=21,SNR=7.7							
ASAR				LR		LR	20 22 26.3	
	comp=Z,155nm,19.6s,baz=44,slow=40							
DZM	**Mont Dzumac**	**23.86**	**133**	LR		LR	20 21 23.4	
	comp=Z,401nm,19.3s,baz=0,slow=34							
STKA	**Stephens Creek**	**26.14**	**192**	P		**P**	**20 13 24.1**	**-0.5**
	5.4nm,0.4s,baz=14,slow=8.0,SNR=38							
STKA				LR		LR	20 24 17.1	
	comp=Z,186nm,20.0s,baz=19,slow=38							
KAPI	**Kappang**	**28.00**	**271**	LR		LR	20 27 34.0	
	comp=Z,77nm,20.0s,baz=102,slow=42							
H11S3	**WAKE ISLAND Hy**	**30.83**	**37**	T		T	20 46 52.3	
	baz=215,slow=74,SNR=13							
H11S2	**WAKE ISLAND Hy**	**30.84**	**37**	T		T	20 46 56.0	
	baz=215,slow=74,SNR=5.0							
H11S1	**WAKE ISLAND Hy**	**30.85**	**37**	T		T	20 46 54.0	
	baz=215,slow=74,SNR=5.0							
JNU	**Nakatsue**	**42.37**	**339**	LR		LR	20 29 58.2	
	comp=Z,54nm,21.0s,baz=138,slow=31							
MJAR	**Matsushiro Arr**	**43.54**	**349**	P		**P**	**20 15 55.0**	**+1.1**
	1.3nm,0.8s,baz=170,slow=7.2,SNR=4.0							
MJAR				LR		LR	20 33 06.6	
	comp=Z,320nm,18.9s,baz=105,slow=35							
KSRS	**Korea Array**	**47.31**	**338**	LR		LR	20 34 57.3	
	comp=Z,50nm,20.8s,baz=156,slow=34							
CMAR	**Chiang Mai Arr**	**54.13**	**298**	LR		LR	20 42 12.0	
	comp=Z,19nm,19.2s,baz=168,slow=38							
PETK	**Petropavlovsk-**	**59.74**	**7**	LR		LR	20 39 34.4	
	comp=Z,49nm,22.0s,baz=179,slow=32							
SONM	**Songino Array**	**65.06**	**331**	P		**P**	**20 18 29.9**	**-0.5**
	0.2nm,0.5s,baz=145,slow=5.3,SNR=3.3							
SONM				LR		LR	20 46 45.4	
	comp=Z,26nm,20.5s,baz=100,slow=36							
VNDA	**Vanda**	**71.59**	**177**	P		**P**	**20 19 10.3**	**-0.3**
	0.6nm,0.5s,baz=337,slow=7.4,SNR=6.8							
MKAR	**Makanchi Array**	**78.25**	**320**	P		**P**	**20 19 49.7**	**+0.1**
	0.1nm,0.3s,baz=92,slow=8.0,SNR=3.7							
ILAR	**Eielson Array**	**85.39**	**23**	P		**P**	**20 20 27.4**	**+0.6**
	0.2nm,0.9s,baz=251,slow=4.3,SNR=2.7							
TORD	**Torodi Ar. Bea**	**145.98**	**284**	PKPbc		**PKPdf**	**20 27 28.3**	**-1.2**
	0.4nm,0.4s,baz=87,slow=3.0,SNR=6.5							
BDFB	**Brasilia**	**153.15**	**144**	PKPbc		**PKPbc**	**20 27 47.1**	**-1.4**
	0.9nm,0.3s,baz=231,slow=7.2,SNR=3.3							
BDFB				PKPab		**PKPab**	**20 28 01.0**	**+1.0**
	3.1nm,0.8s,baz=172,slow=5.3,SNR=4.5							

SJA 13 20:18:05.9±1.4, 28.54S×67.85W, h124km±14km, ML3.2, MW3.8, 1D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACLC	**CERRO LA CRUZ**	**1.18**	**138**	*e*P	Pn	20 18 31.5	+1.2
ACLC				*e*S	Sn	20 18 49.7	+0.8
CYA	**Choya**	**1.81**	**87**	*e*S	Sn	20 19 01.2	0.0
CYA				AML	AML	20 19 03.9	
	comp=Z,174nm,0.6s						
AVFE	**Valle Fertil**	**2.14**	**171**	*e*P	Pn	20 18 42.5	+1.1
AVFE				*e*S	Sn	20 19 09.9	+1.3
APLL	**PUNTA DE LOS L**	**2.18**	**148**	*e*P	Pn	20 18 42.9	+1.1
AMOG	**MOGNA**	**2.45**	**193**	*e*P	Pn	20 18 46.1	+0.7
AMOG				*e*S	Sn	20 19 15.0	-0.7
RTLL	**Cerro Villicun**	**2.83**	**191**	*e*P	Pn	20 18 51.2	+1.0
RTLL				*e*S	Sn	20 19 24.8	+0.5
AHML	**Horco Molle**	**2.84**	**52**	*e*P	Pn	20 18 50.9	+0.6
FSA	**Cafayete**	**2.94**	**34**	*e*P	Pn	20 18 53.9	+2.1
CFAA	**Coronel Fontan**	**3.07**	**186**	*e*P	Pn	20 18 54.3	+1.0
CFAA				⇓*e*S	Sn	20 19 31.2	+1.4
RTCV	**Cerro Valdivia**	**3.36**	**190**	*e*P	Pn	20 18 58.3	+1.2
RTCV				*e*S	Sn	20 19 37.5	+0.7
RTLS	**Leoncito**	**3.48**	**201**	*e*P	Pn	20 19 00.0	+1.1
RTLS				*e*S	Sn	20 19 40.2	+0.3
AUSP	**Uspallata**	**3.90**	**199**	*e*P	Pn	20 19 06.1	+1.5
AUSP				*e*S	Sn	20 19 51.2	+1.2
ASAL	**Salagasta**	**4.12**	**192**	*e*P	Pn	20 19 08.0	+0.7

GUC 13 20:34:40.1±0.7, 36.89S×72.79W, h37km±4km, ML4.1, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.26**	**279**	*e*P	Pn	20 34 47.5	-0.9
CCSP				*e*S	Sn	20 34 53.1	-3.0
LNCH	**Linares**	**1.41**	**43**	*e*P	Pn	20 35 04.4	+1.1
LNCH				*e*S	Sn	20 35 23.2	+2.6
LNCH				AML	AML	20 35 33.2	
	comp=N,3μm,0.9s						
TALC	**Talca**	**1.76**	**33**	*e*S	Sn	20 35 31.8	+2.7
TALC				AML	AML	20 35 39.1	
	comp=E,5μm,0.4s						
NICH	**Los Niches**	**2.27**	**34**	*e*P	Pn	20 35 16.2	+1.2
NICH				AML	AML	20 35 57.3	
	comp=E,1μm,0.4s						
CLCH	**Cerro Calan**	**3.94**	**29**	*e*P	Pn	20 35 37.5	-0.7
CLCH				*e*S	Sn	20 36 22.1	-1.1
CLCH				AML	AML	20 36 48.0	
	comp=E,215nm,0.4s						

ISCJB ***13*** *20:42:41.3±0.4, 32.73N±0.03×115.93W±0.03, h14km±3km, Error ellipse: s-maj=4.6km s-min=3.6km az=25.5*

MEX ***13*** *20:42:41.9±0.8, 32.95N×116.00W, h16km±24km, MD3.7*

NEIC ***13*** *20:42:42.0, 32.71N×115.93W, h1km, ML3.0(PAS), After PAS.*

ECX ***13*** *20:42:42.2±0.5, 32.70N×115.93W, h2km, ML3.1*

ISC 13 20:42:41.1±0.9, 32.71N±0.02×115.92W±0.02, h14km±6km, n34, σ0s58/45, 5C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.06**	**183**	⇓*i*P		**Pg**	**20 42 43.2**	**-0.6**
IBP	**Imperial Bould**	**0.15**	**251**	P		**Pg**	**20 42 44.8**	**-0.2**
	baz=0.1							
WESC	**Westside Schoo**	**0.17**	**73**	⇑*e*P		**Pb**	**20 42 45.6**	**-0.4**
SGL	**Mount Signal**	**0.17**	**111**	⇑*i*P		**Pg**	**20 42 45.4**	**+0.2**
CRR	**Carrizo Plain**	**0.18**	**346**	⇓*i*P		**Pg**	**20 42 45.6**	**+0.3**
COK	**Cook Ranch**	**0.21**	**50**	⇓*i*P		**Pb**	**20 42 46.5**	**-0.2**
ERPC	**Ernies Place**	**0.22**	**82**	⇑*i*P		**Pb**	**20 42 46.8**	**-0.1**
SWSC	**Sam W. Stewart**	**0.25**	**24**	P		**Pg**	**20 42 46.7**	**+0.2**
	baz=0.3							
SWSC				S		**Sg**	**20 42 50.9**	**+0.8**
	baz=0.3							
DREC	**Desert Rsrch C**	**0.41**	**77**	*e*P		**Pb**	**20 42 50.4**	**+0.3**
MONP	**Monument Peak,**	**0.46**	**293**	P		**Pg**	**20 42 50.4**	**+0.2**
	baz=0.5							
MONP				S		**Sg**	**20 42 56.9**	**+0.5**
	baz=0.5							
CPBX	**Cerro Prieto**	**0.60**	**119**	*e*Pn		**Pg**	**20 42 52.2**	**-0.5**
CPBX				*e*S		**Sg**	**20 43 00.9**	**+0.3**
CPBX				IAML			20 43 04.5	
	comp=N,3μm,0.2s							
CPBX				⇓*e*			20 43 06.3	
CPBX				IAML			20 43 06.3	
	comp=E,4μm,0.5s							
BAR	**Barrett**	**0.64**	**267**	⇑*e*P		**Pg**	**20 42 53.7**	**+0.2**
MBIG	**Mexicali**	**0.68**	**116**	*e*P		**Pb**	**20 42 55.0**	**+0.3**
MBIG				*i* S		**Sn**	**20 43 06.2**	**-0.6**
CBX	**Cerro Bola**	**0.74**	**238**	*e*P		**Pg**	**20 42 55.5**	**-0.1**
CBX				*e*S		**Sg**	**20 43 04.6**	**-0.8**
CBX	**Cerro Bola**	**0.74**	**238**	*e*P		**Pg**	**20 42 55.5**	**-0.1**
CBX				*e*S		**Sg**	**20 43 04.6**	**-0.8**
CBX	**Cerro Bola**	**0.74**	**238**	⇑*e*P		**Pg**	**20 42 55.7**	**+0.1**
CBX				IAML			20 43 06.8	
	comp=E,898nm,0.2s							
CBX				*e*			20 43 06.8	
SDRC	**San Diego Road**	**0.86**	**272**	*e*P		**Pg**	**20 42 57.5**	**-0.3**
GLA	**Glamis**	**0.98**	**69**	P		**Pb**	**20 42 59.3**	**-0.6**
	baz=1.0							
GLA				S		**Sb**	**20 43 12.0**	**-0.7**
	baz=1.0							
PFO	**Pinyon Flats O**	**1.00**	**333**	P		**Pb**	**20 43 00.0**	**-0.3**
	baz=1.0							
PFO				S		**Sb**	**20 43 13.4**	**-0.1**
	baz=1.0							
PFO	**Pinyon Flats O**	**1.00**	**333**	*e*Pg		**Pb**	**20 43 00.0**	**-0.3**
PFO	**Pinyon Flats O**	**1.00**	**333**	*e*Pg		**Sb**	**20 43 13.8**	**+0.3**
109C	**Camp Elliot, M**	**1.01**	**280**	P		**Pb**	**20 43 00.1**	**-0.3**
	baz=1.0							
BC3	**Big Chuckawall**	**1.02**	**22**	P		**Pb**	**20 43 00.1**	**-0.5**
	baz=1.0							
BELC	**Belle Mtn. Jos**	**1.29**	**357**	P		**Pn**	**20 43 04.1**	**-0.7**
	baz=1.3							
MURC	**Murrieta**	**1.39**	**310**	Pb		**Pb**	**20 43 07.2**	**+0.2**
	baz=1.4							
Y12C	**Blythe**	**1.56**	**48**	P		**Pn**	**20 43 07.9**	**-0.5**
	baz=1.6							
SPIG	**San Pedro Mart**	**1.71**	**167**	*e*P		**Pn**	**20 43 11.4**	**+0.7**
SPIG				*i* S		**Sb**	**20 43 34.4**	**+0.5**
SPIG	**San Pedro Mart**	**1.71**	**167**	*e*P		**Pn**	**20 43 11.4**	**+0.7**
SPIG				*i* S		**Sb**	**20 43 34.4**	**+0.5**
SPX	**San Pedro Mart**	**1.71**	**167**	*e*P		**Pn**	**20 43 11.7**	**+0.9**
SPX				*i* S		**Sb**	**20 43 34.0**	**+0.1**
BFSC	**Mount Baldy Ra**	**2.11**	**317**	Pb		**Pb**	**20 43 19.7**	**+0.6**
	baz=2.1							
214A	**Organ Pipe Nat**	**2.74**	**105**	*e*Pn		**Pn**	**20 43 23.5**	**-1.2**
DAC	**Darwin (Calif)**	**3.82**	**339**	Pn		**Pn**	**20 43 39.3**	**-0.4**
TUC	**Tucson**	**4.36**	**94**	*e*Pn		**Pn**	**20 43 47.8**	**+0.8**
WUAZ	**Wupatki**	**4.70**	**52**	Pn		**Pn**	**20 43 53.5**	**+1.8**

ISCJB ***13*** *20:42:57.7±0.7, 32.71N±0.04×115.89W±0.03, h8km±4km, Error ellipse: s-maj=6.8km s-min=4.3km az=22.3*

NEIC ***13*** *20:42:59.6, 32.69N×115.93W, h5km, ML3.4(ECX), ML3.5(PAS), After PAS.*

NEIC Felt at Chula Vista, La Jolla, Oceanside, Palm Springs, Riverside, San Clemente, San Diego and Temecula.

ISC 13 20:42:58.4±1.1, 32.67N±0.04×115.95W±0.03, h11km±8km, n18, σ1s29/30, 1C, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBP	**Imperial Bould**	**0.12**	**267**	P		**Pg**	**20 43 02.6**	**+1.0**
	baz=0.1							
SWSC	**Sam W. Stewart**	**0.30**	**25**	P		**Pg**	**20 43 04.4**	**-0.1**
	baz=0.3							
SWSC				S		**Sg**	**20 43 08.2**	**-0.4**
	baz=0.3							
MONP	**Monument Peak,**	**0.46**	**299**	P		**Pb**	**20 43 08.1**	**-0.5**
	baz=0.5							
MONP				S		**Sb**	**20 43 14.3**	**-1.1**
	baz=0.5							
109C	**Camp Elliot, M**	**1.00**	**283**	P		**Pn**	**20 43 17.6**	**-0.7**
	baz=1.0							
GLA	**Glamis**	**1.02**	**68**	P		**Pb**	**20 43 16.8**	**-1.2**
	baz=1.0							
GLA				S		**Sb**	**20 43 29.4**	**-2.0**
	baz=1.0							
PFO	**Pinyon Flats O**	**1.03**	**336**	*e*Sg		**Sb**	**20 43 31.4**	**-0.5**
PFO	**Pinyon Flats O**	**1.03**	**336**	S		**Sb**	**20 43 30.8**	**-1.1**
	baz=1.0							
MURC	**Murrieta**	**1.41**	**312**	Pg		**Pg**	**20 43 24.7**	**-0.6**
	baz=1.4							
MURC				S		**Sg**	**20 43 42.9**	**-0.7**
	baz=1.4							
SPX	**San Pedro Mart**	**1.67**	**166**	⇑*e*		**Pg**	**20 43 31.5**	**+1.1**
SPX				IAML			20 43 31.5	
	comp=N,119nm,0.2s							
BFSC	**Mount Baldy Ra**	**2.12**	**318**	Pb		**Pb**	**20 43 37.1**	**+0.2**
	baz=2.1							
214A	**Organ Pipe Nat**	**2.75**	**104**	*e*Pn		**Pn**	**20 43 39.7**	**-2.6**
214A				*e*Sn		**Sn**	**20 44 17.2**	**+1.6**
DAC	**Darwin (Calif)**	**3.85**	**340**	Pn		**Pn**	**20 43 55.6**	**-2.0**
DAC				*e*Pg		**Pg**	**20 44 13.0**	**+0.8**
DAC				*e*Sn		**Sn**	**20 44 44.4**	**+1.4**
DAC				*e*Sg		**Sg**	**20 45 02.9**	**+0.9**
SHPR	**Sheep Range**	**3.88**	**9**	*e*Pn		**Pn**	**20 43 56.5**	**-1.6**
SHPR				*e*Pg		**Pg**	**20 44 14.0**	**+1.2**
SHPR				*e*Sn		**Sn**	**20 44 45.2**	**+1.4**
TUC	**Tucson**	**4.38**	**93**	*e*Pn		**Pn**	**20 44 04.1**	**-0.7**
TUC				*e*Sn		**Sn**	**20 44 57.8**	**+1.9**
WUAZ	**Wupatki**	**4.74**	**52**	*e*Pn		**Pn**	**20 44 10.5**	**+0.6**
WUAZ				*e*Pg		**Pg**	**20 44 30.0**	**+0.9**
R11A	**Troy Canyon, C**	**5.68**	**3**	*e*Pn		**Pn**	**20 44 24.4**	**+1.6**
	comp=N,2.0nm,0.6s							
MSU	**Marysvale**	**6.59**	**27**	*e*Pn		**Pn**	**20 44 35.6**	**+0.3**
	comp=N,1.8nm,0.5s							
121A	**Cookes Peak, D**	**6.89**	**89**	*e*Pn		**Pn**	**20 44 39.7**	**+0.3**
	comp=N,7.4nm,0.6s							

IDC ***13*** *20:43:35.8±1.9, 8.64N×92.11E, h0km, mb3.6/6, mb1 3.6/7, mb1mx3.4/33, mbtmp3.5/7, ML3.5/1, Error ellipse: s-maj=68.0km s-min=20.4km az=64.0*

ISCJB ***13*** *20:43:38.1±1.3, 8.7N±0.1×92.3E±0.2, h24km, mb3.5/6, Error ellipse: s-maj=35.5km s-min=17.2km az=159.1*

ISC 13 20:43:39.8±1.8, 8.7N±0.2×92.2E±0.3, h24km, n10, σ0s66/7, mb3.5/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.70**	**33**	Pn		**Pn**	**20 46 25.3**	**-0.1**
	0.1nm,0.3s,baz=213,slow=26,SNR=3.0							
H08S3	**Diego Garcia H**	**25.49**	**231**	T		T	21 14 42.7	
	baz=56							
H08S2	**Diego Garcia H**	**25.49**	**231**	T		T	21 15 11.8	
	baz=56,slow=74							
H08S1	**Diego Carcia H**	**25.51**	**231**	T		T	21 15 12.9	
	baz=56,slow=74							
MKAR	**Makanchi Array**	**38.90**	**349**	P		**P**	**20 51 03.5**	**-0.1**
	0.3nm,0.4s,baz=166,slow=9.0,SNR=7.0							
SONM	**Songino Array**	**40.82**	**15**	P		**P**	**20 51 20.2**	**+0.6**
	1.2nm,0.8s,baz=194,slow=9.8,SNR=9.0							
KURBB	**Kurchatov Arra**	**43.31**	**347**	P		**P**	**20 51 40.0**	**+0.2**
	0.7nm,0.7s,baz=170,slow=7.2,SNR=9.6							
ZALV	**Zalesovo Beam**	**45.52**	**354**	P		**P**	**20 51 56.2**	**-1.1**
	0.4nm,0.4s,baz=177,slow=7.2,SNR=4.0							
WRA	**Warramunga Arr**	**50.28**	**125**	P		**P**	**20 52 34.7**	**-0.1**
	0.6nm,1.0s,baz=301,slow=8.0,SNR=4.0							
ASAR	**Alice Springs**	**51.90**	**129**	P		**P**	**20 52 47.0**	**+0.1**
	0.7nm,1.1s,baz=300,slow=8.3,SNR=3.2							

NIED ***13*** *21:11:00,24.60N×121.30E, h8km, Mw3.8 Best double couple: M0 6.05000×10^14 NP1:φs21.00000°, δ51.00000°, λ-14.00000°. NP2:φs120.00000°, δ79.00000°, λ-141.00000°.*

BJI ***13*** *21:11:24.5,24.61N×121.37E, h9km, ML3.9/6*

JMA ***13*** *21:11:24.3,24.59N×121.33E, h0km, M4.2*

IDC ***13*** *21:11:25.0±1.1,24.46N×121.50E, h0km, mb3.5/5, mb1 3.5/7, mb1mx3.4/45, mbtmp3.5/7, ML2.7/2, MS2.7/2, Ms1 2.7/2, ms1mx2.4/26, Error ellipse: s-maj=37.8km s-min=19.7km az=66.0*

TAP ***13*** *21:11:25.1,24.60N×121.35E, h9km, ML4.3, B*

ISCJB ***13*** *21:11:25.8±0.2,24.62N±0.01×121.38E±0.01, h8km±2km, mb3.5/5, Error ellipse: s-maj=2.5km s-min=1.8km az=137.1*

IASPEI ***13*** *21:11:25.5±0.9,24.61N±0.02×121.35E±0.02, h10km±7km, mb3.5/5, Error ellipse: s-maj=3.3km s-min=2.3km az=117.1*

ISC 13 21:11:25.6±0.6, 24.61N±0.02×121.36E±0.02, h9km±4km, n98, σ0s95/147, mb3.5/5, 12C-22D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NSK	**Sanguang**	**0.07**	**3**	⇑*i*P		**Pg**	**21 11 27.5**	**-0.2**
	baz=11							
NNS	**Nan Shan**	**0.17**	**174**	⇑*i*P		**Pg**	**21 11 29.3**	**0.0**
	baz=170							
ENTT	**Nioudou**	**0.20**	**81**	⇓*i*P		**Pg**	**21 11 29.9**	**+0.2**
	baz=93							
TWE	**Neicheng**	**0.30**	**69**	⇓*i*P		**Pb**	**21 11 31.9**	**-1.4**
	baz=79							
NSTT	**Nanjuang**	**0.32**	**274**	⇓*i*P		**Pg**	**21 11 32.2**	**+0.2**
	baz=275							
NSTT				*e*S		**Sg**	**21 11 36.6**	**+0.2**
	baz=275							
ILA	**Ilan**	**0.39**	**66**	P		**Pg**	**21 11 33.1**	**-0.1**
	baz=68							
ILA				*e*S		**Sb**	**21 11 39.8**	**-1.0**
	baz=68							
NCU	**National Centr**	**0.39**	**337**	*i* P		**Pb**	**21 11 34.4**	**-0.3**
	baz=340							
TWT	**Tachien**	**0.39**	**205**	⇓*i*P		**Pg**	**21 11 33.2**	**-0.1**
	baz=205							
TWT				*i* S		**Sg**	**21 11 38.1**	**-0.4**
	baz=205							
ENA	**Nanau**	**0.40**	**117**	⇓*i*P		**Pb**	**21 11 33.5**	**-1.2**
	baz=115							
ENA				*e*S		**Sg**	**21 11 38.6**	**0.0**
	baz=115							
HSN	**Hsinchu**	**0.40**	**299**	*e*P		**Pb**	**21 11 34.2**	**-0.7**
	baz=306							
HSN				*e*S		**Sb**	**21 11 40.6**	**-0.4**
	baz=306							
TWA	**Mucha**	**0.42**	**29**	⇓*i*P		**Pb**	**21 11 34.2**	**-1.1**
	baz=41							
TWA				*i* S		**Sg**	**21 11 39.6**	**+0.1**
	baz=41							
TAP	**Taipei**	**0.45**	**18**	*i* P		**Pb**	**21 11 35.0**	**-0.7**
	baz=20							
TAP				*e*S		**Sg

	baz=198							
TYC	**Yuchr**	**0.84**	**213**	⇓*i*	P	**Pg**	**21 11 41.1**	**-0.6**
	baz=203							
TEGC	**Jichi Village**	**0.91**	**169**	*e*	P	**Pn**	**21 11 43.8**	**-0.8**
	baz=175							
WNT	**Mingjian**	**0.95**	**220**	*e*	P	**Pn**	**21 11 44.8**	**-0.3**
	baz=237							
WNT					S	**Sn**	**21 11 58.2**	**-0.7**
	baz=237							
EHY	**Hungye**	**1.10**	**182**	*i*	P	**Pg**	**21 11 45.9**	**-0.9**
	baz=178							
EHY					S	**Sb**	**21 12 01.3**	**+0.1**
	baz=178							
WGK	**Gukeng**	**1.17**	**218**	⇓*i*	P	**Pn**	**21 11 48.3**	**+0.2**
	baz=232							
WGK					S	**Sn**	**21 12 05.1**	**+0.9**
	baz=232							
YUS	**Yu-Shan**	**1.17**	**198**	⇑*i*	P	**Pb**	**21 11 46.9**	**-1.5**
	baz=204							
CHN5	**Tsauling**	**1.18**	**212**	⇓*i*	P	**Pn**	**21 11 48.4**	**-0.1**
	baz=226							
CHN5					S	**Sn**	**21 12 05.4**	**+0.7**
	baz=226							
ALS	**Alishan**	**1.20**	**205**	*e*	P	**Pb**	**21 11 48.0**	**-0.8**
	baz=197							
ALS					S	**Sn**	**21 12 06.6**	**+1.1**
	baz=197							
PCYT	**Pengchaiyu**	**1.21**	**32**	⇓*i*	P	**Pb**	**21 11 47.9**	**-0.8**
	baz=57							
WTCT	**Ta-ch'eng**	**1.23**	**233**	*e*	P	**Pn**	**21 11 47.5**	**-1.4**
	baz=229							
WTCT					S	**Sn**	**21 12 05.5**	**-0.2**
	baz=229							
TWF1	**Yuli**	**1.25**	**182**	⇑*i*	P	**Pn**	**21 11 48.7**	**-0.6**
	baz=179							
TWF1					S	**Sb**	**21 12 04.7**	**-1.0**
	baz=179							
CHN2	**Minshiung**	**1.34**	**217**	*e*	P	**Pb**	**21 11 50.7**	**-0.3**
	baz=232							
CHN2					S	**Sg**	**21 12 09.6**	**+0.8**
	baz=232							
CHY	**Chiayi**	**1.40**	**218**	*e*	P	**Pn**	**21 11 51.2**	**-0.1**
	baz=233							
CHY					S	**Sg**	**21 12 10.9**	**+0.4**
	baz=233							
WSF	**Szhu**	**1.42**	**227**		P	**Pn**	**21 11 51.1**	**-0.5**
	baz=223							
WSF					S	**Sg**	**21 12 10.8**	**-0.4**
	baz=223							
CHN4	**Tsaushan**	**1.43**	**209**	⇓*i*	P	**Pg**	**21 11 52.7**	**-0.5**
	baz=204							
CHN4					S	**Sg**	**21 12 13.1**	**+1.3**
	baz=204							
ELDTW	**Lidau**	**1.45**	**192**	*e*	P	**Pn**	**21 11 51.5**	**-0.5**
	baz=175							
JYNG	**Yonagunijimaku**	**1.46**	**96**		P	**Pn**	**21 11 51.6**	**-0.5**
JYNG					S	**Sg**	**21 12 11.5**	**-1.0**
CHKT	**Chengkung**	**1.50**	**180**	⇓	P	**Pn**	**21 11 52.4**	**-0.3**
	baz=161							
YOJ	**Yonaguni jima**	**1.52**	**95**		P	**Pn**	**21 11 52.2**	**-0.7**
YOJ					S	**Sn**	**21 12 12.0**	**-0.8**
YOJ	**Yonaguni jima**	**1.52**	**95**	⇑*i*	P	**Pn**	**21 11 52.1**	**-0.7**
	baz=83							
YOJ					S	**Sn**	**21 12 11.8**	**-0.9**
	baz=83							
WTP	**Ta-pu**	**1.52**	**207**	⇓	P	**Pb**	**21 11 53.7**	**-0.3**
	baz=219							
WTP					S	**Sg**	**21 12 15.4**	**+1.0**
	baz=219							
STYT	**Tauyuan**	**1.54**	**201**	*e*	P	**Pb**	**21 11 53.6**	**-0.7**
	baz=196							
STYT					S	**Sg**	**21 12 16.2**	**+1.0**
	baz=196							
TWK	**Hsinying**	**1.55**	**211**	⇓*i*	P	**Pb**	**21 11 54.1**	**-0.5**
	baz=225							
TWK					S	**Sg**	**21 12 16.5**	**+0.8**
	baz=225							
CHN1	**Nanshi**	**1.61**	**208**	⇓*i*	P	**Pb**	**21 11 54.8**	**-0.7**
	baz=215							
CHN1					S	**Sg**	**21 12 17.3**	**-0.1**
	baz=215							
CHN8	**Yiju**	**1.64**	**220**	*e*	P	**Pn**	**21 11 54.7**	**+0.1**
	baz=235							
CHN8					S	**Sb**	**21 12 17.2**	**+0.5**
	baz=235							
SGST	**Jiashian**	**1.68**	**205**	*e*	P	**Pb**	**21 11 56.5**	**-0.1**
	baz=190							
SGST					S	**Sg**	**21 12 19.4**	**-0.1**
	baz=190							
CHN3	**Shinhua**	**1.77**	**211**	*e*	P	**Pb**	**21 11 58.2**	**-0.1**
	baz=203							
CHN3					S	**Sg**	**21 12 23.2**	**+0.5**
	baz=203							
SCLT	**Jiali**	**1.78**	**217**	*e*	P	**Pb**	**21 11 57.9**	**-0.5**
	baz=228							
TWG	**Pinlang**	**1.80**	**188**	*e*	P	**Pn**	**21 11 56.3**	**-0.6**
	baz=182							
TTN	**Taitung**	**1.86**	**186**	*e*	P	**Pb**	**21 11 59.0**	**-0.7**
	baz=195							
TAI1	**Yung-k'ang**	**1.87**	**214**	*e*	P	**Pn**	**21 11 58.0**	**+0.2**
	baz=205							
PNG	**Penghu**	**1.94**	**238**	*e*	P	**Pn**	**21 11 56.9**	**-1.9**
	baz=235							
SSD	**Sandimen**	**1.97**	**200**	*e*	P	**Pb**	**21 12 01.2**	**-0.4**
	baz=192							
SSD					S	**Sb**	**21 12 26.8**	**+0.5**
	baz=192							
TWM1	**Shoushan**	**1.97**	**206**	*e*	P	**Pb**	**21 12 01.4**	**-0.4**
	baz=197							
SGLT	**Jiouru**	**2.04**	**203**	*e*	P	**Pg**	**21 12 05.0**	**+0.3**
	baz=194							
ECL	**Taimali**	**2.04**	**190**	*e*	P	**Pb**	**21 12 02.6**	**-0.2**
	baz=173							
WDGT	**Dungji**	**2.05**	**229**	*e*	P	**Pn**	**21 11 58.8**	**-1.5**
	baz=223							
WDGT					S	**Sb**	**21 12 28.0**	**-0.6**
	baz=223							
IRIF	**Iriomote-Funau**	**2.18**	**97**		P	**Pn**	**21 12 01.6**	**-0.5**
IRIF					S	**Sn**	**21 12 30.0**	**+0.8**
TAW	**Tawu**	**2.28**	**191**	*e*	P	**Pb**	**21 12 05.9**	**-1.1**
	baz=168							
TAW					S	**Sg**	**21 12 37.0**	**-2.0**
	baz=168							
HATJ	**Hateruma jima**	**2.30**	**103**		P	**Pb**	**21 12 05.1**	**-2.2**
SCZT	**Fangliau**	**2.33**	**197**	*e*	P	**Pn**	**21 12 05.4**	**+1.4**
	baz=207							
TWP	**Hsiaoliuchiu**	**2.43**	**202**	*e*	P	**Pb**	**21 12 09.1**	**-0.4**
	baz=192							
JKRS	**Kuro-shima**	**2.45**	**98**		P	**Pn**	**21 12 05.9**	**+0.2**
JKRS					S	**Sn**	**21 12 36.8**	**+1.0**
QZH	**Quanzhou**	**2.53**	**278**	⇑	Pn	**Pn**	**21 12 05.8**	**-1.1**
QZH					Sn	**Sn**	**21 12 33.8**	**-4.1**
QZH					SMN			
	1μm,0.6s							
QZH					SME			
	490nm,0.5s							
JIJ	**Ishigaki jima**	**2.55**	**95**		P	**Pn**	**21 12 07.5**	**+0.3**
JIJ					S	**Sn**	**21 12 38.1**	**-0.3**
HEN	**Hengchun**	**2.65**	**192**	*e*	P	**Pb**	**21 12 11.8**	**-1.5**
	baz=183							
KNM	**Kinmen**	**2.67**	**266**	*e*	P	**Pn**	**21 12 09.0**	**+0.2**
	baz=266							
JISG	**Ishigakijimahi**	**2.69**	**90**		P	**Pn**	**21 12 08.2**	**-0.9**
JISG					S	**Sn**	**21 12 41.7**	**-0.1**
TWK1	**Hengchun**	**2.70**	**191**	*e*	P	**Pn**	**21 12 10.5**	**+1.2**
	baz=196							
TSEB	**Hengchuen, Pin**	**2.73**	**189**	*e*	P	**Pn**	**21 12 11.3**	**+1.7**
	baz=167							
JTJ	**Tarama**	**3.05**	**89**		P	**Pn**	**21 12 14.6**	**+0.6**
JIRB	**Irabujima**	**3.48**	**86**		P	**Pn**	**21 12 20.5**	**+0.6**
JIKM	**Ikemajima**	**3.55**	**84**		P	**Pn**	**21 12 21.5**	**+0.6**
JOGS	**Gusukube**	**3.69**	**87**		P	**Pn**	**21 12 24.0**	**+1.2**
JKE	**Kume jima 2**	**5.20**	**70**		P	**Pn**	**21 12 44.8**	**+1.2**
JAGN	**Aguni-jima**	**5.67**	**68**		P	**Pn**	**21 12 51.7**	**+1.7**
JNTH	**Nagotoyohara**	**6.31**	**71**		P	**Pn**	**21 13 00.8**	**+1.9**
JIH	**Iheya**	**6.43**	**67**		P	**Pn**	**21 13 03.0**	**+2.5**
JOW	**Kunigami**	**6.62**	**69**		P	**Pn**	**21 13 04.5**	**+1.4**
JOW	**Kunigami**	**6.62**	**69**		Pn	**Pn**	**21 13 02.8**	**-0.3**
	0.2nm,0.3s,baz=128,slow=15,SNR=13							
NJ2	**Nanjing**	**7.74**	**344**	*e*	P	Pn	21 13 08.8	-10
NJ2					S	Sn	21 14 37.3	-8.8
NJ2					pmax	pmax		
	comp=Z,30nm,0.9s							
NJ2					smax	smax		
	comp=N,160nm,1.1s							
NJ2					smax	smax		
	comp=E,140nm,1.3s							
NJ2					LR	LR		
	comp=N,380nm,8.3s							
NJ2					LR	LR		
	comp=E,350nm,6.1s							
NJ2					LR	LR		
	comp=Z,2μm,6.2s							
WHN	**Wuhan**	**8.57**	**315**		P	**Pg**	**21 14 06.8**	**-3.0**
WHN					S	Sn	21 15 16.3	+9.5
WHN					LR	LR		
	comp=N,710nm,10.0s							
WHN					LR	LR		
	comp=E,830nm,13.6s							
KSRS	**Korea Array**	**13.98**	**22**		Pn	**Pn**	**21 14 44.9**	**+1.1**
	comp=E,0.2nm,0.3s,baz=204,slow=14,SNR=3.0							
KSRS					LR	LR	21 21 19.3	
	comp=E,26nm,19.1s,baz=226,slow=42							
CD2	**Chengdu**	**16.78**	**296**		P	**Pn**	**21 15 20.6**	**-0.4**
CD2					pP	**pP**	**21 15 25.6**	**-0.2**
CD2					sP	**sP**	**21 15 27.0**	**0.0**
CD2					S	**Sn**	**21 18 28.4**	**+0.8**
CD2					sS	**sS**	**21 18 43.5**	**+0.8**
CD2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
CD2					LR	LR		
	comp=N,280nm,12.1s							
CD2					LR	LR		
	comp=E,190nm,8.6s							
CD2					LR	LR		
	comp=Z,120nm,6.5s							
MJAR	**Matsushiro Arr**	**18.73**	**47**		LR	LR	21 23 10.0	
	comp=Z,29nm,20.4s,baz=235,slow=38							
SONM	**Songino Array**	**26.04**	**337**		P	**P**	**21 17 01.0**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=182,slow=3.8,SNR=3.2							
MKAR	**Makanchi Array**	**38.14**	**315**		P	**P**	**21 18 46.3**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=104,slow=10,SNR=4.3							
ZALV	**Zalesovo Beam**	**39.97**	**327**		P	P	21 19 04.5	+4.2
	comp=Z,0.4nm,0.5s,baz=120,slow=8.5,SNR=3.0							
WRA	**Warramunga Arr**	**46.05**	**163**		P	**P**	**21 19 49.4**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=345,slow=8.7,SNR=5.2							
ASAR	**Alice Springs**	**49.51**	**165**		P	**P**	**21 20 15.9**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=340,slow=7.3,SNR=6.2							

*ISCJB **13** 21:18:07.3±0.3, 11°.18S±0'.05×166°.32E±0'.07, h146km, mb4.1/30, Error ellipse: s-maj=9.9km s-min=7.3km az=170.9*
*IDC **13** 21:18:07.6±2.7, 11°.18S×166°.37E, h135km±23km, mb3.9/20, mb1 4.1/21, mb1mx3.9/39, mbtmp4.3/21, MS3.3/1, Ms1 3.3/1, ms1mx2.5/26, Error ellipse: s-maj=16.0km s-min=13.3km az=78.0*
*NEIC **13** 21:18:08.9±1.2, 11°.14S×166°.33E, h150km±10km, mb4.6/11, Error ellipse: s-maj=9.0km s-min=7.6km az=222.0*

ISC 13 21:18:08.6±0.4, 11°.19S±0'.06×166°.32E±0'.09, h146km, n68, σ0.9 97/68, mb4.4/36, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.51**	**285**	*e*Pn		**Pn**		**21 19 42.3**	**+0.2**
	148nm,0.8s								
DZM	**Mont Dzumac**	**10.82**	**179**	P		**Pn**		**21 20 41.0**	**+1.4**
	2.6nm,0.3s,baz=90,slow=24,SNR=24								
DZM				S		**Sn**		**21 22 39.3**	**0.0**
	1.5nm,0.3s,baz=91,slow=23,SNR=4.4								
DZM	**Mont Dzumac**	**10.82**	**179**	*e*Pn		**Pn**		**21 20 41.8**	**+2.2**
	17nm,0.8s								
DZM				*e*Sn		**Sn**		**21 22 37.3**	**-1.9**
AFI	**Afiamalu**	**21.55**	**100**	P		**P**		**21 22 45.7**	**-0.9**
URZ	**Urewera**	**28.63**	**162**	P		**P**		**21 23 51.7**	**+0.4**
	11nm,0.8s,baz=312,slow=14,SNR=3.4								
URZ	**Urewera**	**28.63**	**162**	*e*P		**P**		**21 23 51.4**	**0.0**
	14nm,0.9s								
H11S2	**WAKE ISLAND Hy**	**29.50**		1	T	T		21 55 02.5	
	baz=181,slow=76,SNR=6.2								
H11S3	**WAKE ISLAND Hy**	**29.50**		1	T	T		21 55 03.0	
	baz=181,slow=76,SNR=2.4								
H11S1	**WAKE ISLAND Hy**	**29.51**		1	T	T		21 55 02.5	
	baz=181,slow=76,SNR=4.0								
H11N1	**WAKE ISLAND Hy**	**30.72**		1	T	T		21 56 32.6	
	baz=184,slow=76								
H11N3	**WAKE ISLAND Hy**	**30.72**		1	T	T		21 56 34.8	
	baz=184,slow=76								
STKA	**Stephens Creek**	**30.73**	**224**	*e*P		**P**		**21 24 09.6**	**-0.4**
	0.8nm,1.1s								
H11N2	**WAKE ISLAND Hy**	**30.73**		1	T	T		21 56 33.8	
	baz=184,slow=76								
WRA	**Warramunga Arr**	**31.96**	**250**	P		**P**		**21 24 21.1**	**+0.1**
	1.2nm,0.6s,baz=79,slow=8.8,SNR=5.5								
ASAR	**Alice Springs**	**33.23**	**244**	P		**P**		**21 24 31.4**	**-0.6**
	0.4nm,0.5s,baz=71,slow=10.0,SNR=8.2								
ASAR				pP		**pP**		**21 25 00.5**	**-2.9**
	1.1nm,0.9s,baz=75,slow=10,SNR=4.0								
ASAR				PcP		**PcP**		**21 27 11.7**	**+0.4**
	1.5nm,0.8s,baz=61,slow=2.6,SNR=8.6								
ASAR				ScP		**ScP**		**21 30 44.5**	**+2.3**
	0.8nm,1.0s,baz=164,slow=2.3,SNR=4.1								
MBWA	**Marble Bar**	**45.68**	**251**	*e*P		**P**		**21 26 15.2**	**+0.1**
	26nm,1.2s								
JOW	**Kunigami**	**52.85**	**316**	P		**P**		**21 27 10.8**	**+1.4**
	1.1nm,0.5s,baz=154,slow=10,SNR=5.6								
MJAR	**Matsushiro Arr**	**54.36**	**332**	P		**P**		**21 27 18.4**	**-1.9**
	2.8nm,0.9s,baz=170,slow=10,SNR=7.0								
JNU	**Nakatsue**	**55.53**	**324**	P		**P**		**21 27 26.7**	**-2.0**
	4.5nm,0.7s,baz=310,slow=2.6,SNR=3.5								
LEM	**Lembang**	**58.07**	**269**	P		**P**		**21 27 47.6**	**+0.4**
	14nm,0.7s,baz=54,slow=6.4,SNR=4.9								
LEM					LR	LR		21 54 29.9	
	comp=Z,25nm,18.0s,baz=19,slow=38								
KSRS	**Korea Array**	**60.32**	**325**	P		**P**		**21 28 02.6**	**+0.7**
	1.6nm,0.6s,baz=139,slow=7.1,SNR=13								
KSAR	**Wonju Array Be**	**60.33**	**325**	P		**P**		**21 28 02.6**	**+0.6**
USRK	**Ussuriysk Ar.**	**63.33**	**333**	P		**P**		**21 28 23.3**	**+1.3**
	3.5nm,0.9s,baz=123,slow=23,SNR=9.5								
PETK	**Petropavlovsk-**	**64.47**	**354**	P		**P**		**21 28 28.6**	**-0.7**
	5.0nm,0.8s,baz=157,slow=8.0,SNR=5.4								
VNDA	**Vanda**	**66.36**	**181**	P		**P**		**21 28 40.7**	**-0.4**
	0.7nm,0.8s,baz=320,slow=4.4,SNR=4.8								
VNDA	**Vanda**	**66.36**	**181**	*e*P		**P**		**21 28 41.0**	**-0.1**
PSI	**Prapat**	**68.45**	**278**	P		**P**		**21 28 55.0**	**-0.6**
	4.8nm,0.8s,baz=175,slow=14,SNR=5.3								
CM31	**Chiang Mai Arr**	**72.69**	**293**	*e*P		**P**		**21 29 20.2**	**-0.8**
	8.9nm,1.0s								
CMAR	**Chiang Mai Arr**	**72.69**	**293**	P		**P**		**21 29 23.0**	**+2.0**
	6.9nm,0.8s,baz=116,slow=4.3,SNR=44								
CHTO	**Chiang Mai**	**72.80**	**294**	*e*P		**P**		**21 29 21.3**	**-0.3**
	8.8nm,1.1s								
QSPA	**South Pole Qui**	**78.81**	**180**	*e*P		**P**		**21 29 54.9**	**-0.2**
	1.9nm,1.0s								
SONM	**Songino Array**	**79.12**	**324**	P		**P**		**21 29 57.8**	**+0.7**
	2.3nm,0.7s,baz=143,slow=5.2,SNR=17								
TRF	**Thorofare Moun**	**81.48**	**18**	*e*P		**P**		**21 30 08.7**	**-0.7**
	3.7nm,0.7s								
LSA	**Lhasa**	**82.91**	**302**	*e*P		**P**		**21 30 17.6**	**-0.4**
	1.8nm,0.7s								
COLA	**College**	**83.25**	**18**	*e*P		**P**		**21 30 16.3**	**-1.9**
	8.1nm,0.8s								
ILAR	**Eielson Array**	**83.47**	**18**	P		**P**		**21 30 18.9**	**-0.6**
	2.1nm,0.6s,baz=261,slow=5.2,SNR=38								
YBH	**Yreka Blue Hor**	**83.59**	**45**	P		**P**		**21 30 20.5**	**-0.2**
	3.6nm,1.1s,baz=194,slow=8.3,SNR=4.2								
TAPN	**Taplejung**	**85.17**	**299**	*e*P		**P**		**21 30 30.9**	**+1.7**
ODAN	**Odare**	**85.32**	**298**	*e*P		**P**		**21 30 30.7**	**+0.8**
	20nm,0.6s								
EGAK	**Eagle**	**85.32**	**20**	*e*P		**P**		**21 30 28.4**	**-0.3**
	9.0nm,0.6s								
NVAR	**Mina Array Bea**	**85.69**	**50**	P		**P**		**21 30 32.2**	**+0.8**
	1.5nm,0.7s,baz=240,slow=9.6,SNR=7.5								
RAMN	**Ramite**	**86.02**	**298**	*e*P		**P**		**21 30 33.5**	**+0.1**
JIRN	**Jiri**	**86.55**	**299**	*e*P		**P**		**21 30 37.0**	**+0.8**
	10nm,0.9s								
PKI	**Pulchoki**	**87.20**	**299**	*e*P		**P**		**21 30 39.5**	**+0.3**
	29nm,1.1s								
KKN	**Kakani**	**87.37**	**299**	*e*P		**P**		**21 30 40.1**	**+0.2**
DMN	**Daman**	**87.47**	**299**	*e*P		**P**		**21 30 41.0**	**+0.6**
	24nm,0.8s								
GKN	**Gorkha**	**87.97**	**299**	*e*P		**P**		**21 30 42.7**	**0.0**
	22nm,0.8s								
KOLN	**Koldanda**	**88.81**	**298**	*e*P		**P**		**21 30 46.6**	**-0.1**
	11nm,0.7s								
PDAR	**Pinedale Array**	**93.24**	**47**	P		**P**		**21 31 07.8**	**+0.8**
	0.4nm,0.6s,baz=338,slow=3.5,SNR=4.0								
ZAA0	**Zalesovo Array**	**94.00**	**324**	*e*P		**P**		**21 31 08.8**	**-1.1**
ZALV	**Zalesovo Beam**	**94.00**	**324**	P		**P**		**21 31 09.9**	**0.0**
	2.0nm,0.6s,baz=117,slow=3.5,SNR=13								
MK31	**Makanchi Array**	**94.01**	**317**	*e*P		**P**		**21 31 09.9**	**-0.2**
MKAR	**Makanchi Array**	**94.01**	**317**	P		**P**		**21 31 10.6**	**+0.4**
	7.4nm,0.8s,baz=93,slow=6.4,SNR=62								
TXAR	**Lajitas Array**	**95.41**	**61**	P		**P**		**21 31 17.3**	**+0.2**
	0.2nm,0.6s,baz=232,slow=4.4,SNR=3.3								
KURK	**Kurchatov**	**97.11**	**320**	*e*P		**P**		**21 31 23.3**	**-0.8**
ARCES	**ARCESS Array B**	**116.62**	**346**	PKP		**PKPdf**		**21 36 34.5**	**-0.3**
	2.5nm,0.6s,baz=76,slow=1.6,SNR=16								
LPAZ	**La Paz**	**119.61**	**116**	*e*PP		PP		21 37 57.7	-9.3
FINES	**FINESS Array B**	**122.11**	**339**	PKP		**PKPdf**		**21 36 45.5**	**0.0**
	1.3nm,0.6s,baz=22,slow=2.1,SNR=13								
BOSA	**Boshof**	**125.39**	**223**	PKP		**PKPdf**		**21 36 53.4**	**+0.4**
	3.7nm,0.8s,baz=160,slow=7.8,SNR=3.8								
NB2	**NORSAR Subarra**	**126.99**	**345**	PKPdf		**PKPdf**		**21 36 54.3**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	**126.99**	**345**	PKP		**PKPdf**		**21 36 53.8**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=37,slow=2.0,SNR=5.2								
AKASG	**Malin Array Be**	**127.29**	**327**	PKP		**PKPdf**		**21 36 54.6**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=70,slow=1.2,SNR=3.5								
GERES	**GERESS Array B**	**136.08**	**334**	PKP		**PKPdf**		**21 37 12.9**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=90,slow=1.3,SNR=6.9								
BDFB	**Brasilia**	**136.80**	**127**	PKP		**PKPdf**		**21 37 14.9**	**0.0**
	comp=Z,2.3nm,0.7s,baz=236,slow=23,SNR=3.0								
KEST	**Kesra**	**147.87**	**323**	PKPbc		**PKPbc**		**21 37 37.2**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=128,slow=3.8,SNR=9.1								
KEST	**Kesra**	**147.87**	**323**	*e*PKPbc		**PKPbc**		**21 37 37.8**	**+0.8**
ESDC	**Sonseca Array**	**150.35**	**345**	PKPbc		**PKPbc**		**21 37 43.4**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=25,slow=2.7,SNR=10								
ESDC				PKPab		**PKPab**		**21 37 50.2**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=13,slow=4.5,SNR=6.8								
TORD	**Torodi Ar. Bea**	**164.84**	**279**	PKP		**PKPdf**		**21 37 56.4**	**+0.3**
	comp=Z,0.9nm,1.0s,baz=142,slow=0.9,SNR=4.7								
TORD				PKPab		**PKPab**		**21 38 52.9**	**-0.1**
	comp=Z,1.2nm,1.0s,baz=89,slow=3.2,SNR=3.8								

*ISCJB **13** 21:18:12.9±0.8, 4°.14N±0°.08×126°.17E±0°.09, h107km, mb3.7/6, Error ellipse: s-maj=12.6km s-min=10.8km az=6.8*
*IDC **13** 21:18:18.8±12.0, 3°.98N×125°.63E, h148km±121km, mb3.4/6, mb1 3.6/6, mb1mx3.2/37, mbtmp3.8/6, Error ellipse: s-maj=92.2km s-min=18.4km az=78.0*
*DJA **13** 21:18:25.5±0.5, 3°N±4°×12°6E±°, h50km, M4.5/12, mb4.7/7, mB5.3/5, MLv4.3/12, Mw(mB)4.7/5, Mwp5.6/1*

ISC 13 21:18:14.4±0.8, 4°.13N±0°.09×126°.13E±0°.10, h107km, n16, σ1.8 38/17, mb3.5/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.74**	**233**	P		**Pn**		**21 18 32.0**	**-0.9**
SGSI				S		**Sn**		**21 18 47.9**	**+1.1**
TNTI	**Ternate**	**3.56**	**160**	P		**Pn**		**21 19 09.0**	**+1.1**
KMSI	**Cibinong**	**4.13**	**211**	P		**Pn**		**21 19 15.1**	**-0.5**
MRSI	**Marisa**	**5.54**	**229**	P		**Pn**		**21 19 33.7**	**-0.9**
LUWI	**Luwuk**	**6.14**	**213**	P		**Pn**		**21 19 44.7**	**+2.0**
	126nm,1.1s,2μm0.4nm								
SANI	**Sanana**	**6.14**	**181**	P		**Pn**		**21 19 40.0**	**-2.8**
	86nm,1.1s,7μm0.8nm								
SANI				S		Sn		21 20 41.2	-10
	86nm,1.1s,7μm0.8nm								
APSI	**Ampana**	**6.72**	**222**	P		P		21 19 54.7	+4.1
	38nm,1.0s,0.1nm								
MPSI	**Mapaga**	**7.28**	**239**	P		**Pn**		**21 19 58.0**	**-0.1**
	5.6nm,0.8s,0.0nm								
NLAI	**Namlea**	**7.39**	**172**	P		**Pn**		**21 19 57.9**	**-1.7**
	54nm,0.4s,3μm0.4nm								
WRA	**Warramunga Arr**	**25.25**	**162**	P		**P**		**21 23 31.4**	**+0.7**
	1.3nm,0.7s,baz=339,slow=10,SNR=7.0								
ASAR	**Alice Springs**	**28.65**	**165**	P		**P**		**21 24 01.8**	**+0.5**
	0.3nm,0.4s,baz=345,slow=7.2,SNR=6.6								
KSRS	**Korea Array**	**33.20**	**3**	P		**P**		**21 24 42.9**	**+1.8**
	0.4nm,0.4s,baz=185,slow=10,SNR=3.1								
STKA	**Stephens Creek**	**38.72**	**159**	P		**P**		**21 25 28.7**	**+0.5**
	1.4nm,0.4s,baz=334,slow=9.6,SNR=3.3								
SONM	**Songino Array**	**46.73**	**342**	PcP		**PcP**		**21 28 04.6**	**0.0**
	0.3nm,0.6s,baz=129,slow=2.7,SNR=3.6								
MKAR	**Makanchi Array**	**56.88**	**325**	P		**P**		**21 27 47.0**	**-1.2**
	0.2nm,0.4s,baz=119,slow=7.4,SNR=5.6								
MKAR				pP		pP		21 28 26.4	+12
	0.2nm,0.5s,baz=119,slow=7.3,SNR=3.0								
MKAR				PcP		**PcP**		**21 28 41.4**	**-1.1**
	0.1nm,0.4s,baz=109,slow=4.4,SNR=4.0								
ARCES	**ARCESS Array B

LPAZ				S		**S**	21 37 59.2	-3.7	
	0.4nm,0.3s,baz=262,slow=18,SNR=5.2								
LPAZ	**La Paz**	**7.03**	**348**	*e*PKPdf		**Pn**	21 36 42.4	+0.3	
CFAA	**Coronel Fontan**	**8.50**	**190**	P		**Pn**	21 37 01.7	+1.4	
	0.1nm,0.3s,baz=42,slow=14,SNR=8.4								
CFAA				S		**S**	21 38 32.4	-4.0	
	0.2nm,0.3s,baz=143,slow=19,SNR=11								
SIV	**San Ignacio**	**8.84**	**37**	P		**Pn**	21 37 03.9	-0.9	
	1.0nm,0.3s,baz=243,slow=14,SNR=11								
BDFB	**Brasilia**	**19.03**	**70**	P		**Pn**	21 39 08.3	-1.5	
	0.7nm,0.3s,baz=236,slow=12,SNR=16								
TORD	**Torodi Ar. Bea**	**75.91**	**69**	P		**P**	21 46 24.4	+1.1	
	0.5nm,0.3s,baz=257,slow=5.8,SNR=27								
PDAR	**Pinedale Array**	**76.67**	**329**	P		**P**	21 46 29.1	+1.9	
	0.3nm,0.7s,baz=126,slow=4.6,SNR=2.8								
MKAR	**Makanchi Array**	**145.66**	**39**	PKPbc		**PKPab**	21 54 15.9	+2.1	
	0.5nm,0.5s,baz=312,slow=3.5,SNR=8.4								

ISCJB ***13*** *21:35:49.7±0.5, 4°.67S±0°.06×126°.74E±0°.07, h400km, mb3.3/6, Error ellipse: s-maj=9.5km s-min=8.1km az=1.0*
IDC ***13*** *21:35:49.8±2.6, 4°.73S×126°.51E, h395km±28km, mb3.1/7, mb1 3.3/9, mb1mx3.1/34, mbtmp3.9/9, Error ellipse: s-maj=39.2km s-min=9.8km az=74.0*
DJA ***13*** *21:35:49.9±0.6, 5°.5S±.8°×12°.7E±°, h416km±9km, M4.1/9, mb3.9/8, mB4.6/2, MLv4.2/9, Mw(mB)3.9/2*
ISC 13 21:35:50.5±0.7, 4°.73S±0°.07×126°.74E±0°.08, h400km, n15, σ1°77/20, mb3.3/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.52**	**14**	P	**Pn**	**21 36 45.0**	**+1.2**
NLAI				S	**S**	21 37 24.9	-1.9
SANI	**Sanana**	**2.76**	**344**	P	**Pn**	21 36 51.5	-0.3
SOEI	**Soe**	**5.56**	**206**	P	**Pn**	21 37 19.1	+0.5
	98nm,0.9s,1µm0.4nm						
FAKI	**Fak Fak**	**5.79**	**72**	P	**Pn**	21 37 21.1	+0.3
	61nm,0.6s,1µm0.4nm						
FAKI				S	**S**	21 38 32.1	-2.3
	61nm,0.6s,1µm0.4nm						
MMRI	**Maumere**	**5.92**	**229**	P	**Pn**	21 37 24.6	+2.3
	95nm,0.8s,0.3nm						
SIJI	**Sorong**	**5.93**	**50**	P	**Pn**	21 37 24.9	+2.6
	10nm,0.3s,baz=226,slow=8.6,SNR=25						
SIJI				S	**S**	21 38 40.4	+3.2
	2.3nm,0.3s,baz=81,slow=23,SNR=6.9						
SPSI	**Sidrap Palu**	**6.99**	**276**	P	**P**	21 37 34.7	0.0
	10nm,1.5s,0.1nm						
WRA	**Warramunga Arr**	**16.84**	**155**	P	**P**	21 39 22.6	-0.3
	1.4nm,0.3s,baz=334,slow=9.8,SNR=19						
WRA				S	**S**	21 42 17.0	-1.6
	0.7nm,0.3s,baz=326,slow=20,SNR=6.9						
ASAR	**Alice Springs**	**20.06**	**161**	P	**P**	21 39 55.9	+0.3
	3.0nm,0.3s,baz=346,slow=12,SNR=49						
ASAR				S	**S**	21 43 19.6	+3.8
	2.1nm,0.6s,baz=349,slow=22,SNR=11						
STKA	**Stephens Creek**	**30.39**	**154**	P	**P**	21 41 27.9	+0.2
	3.5nm,0.4s,baz=325,slow=8.0,SNR=11						
KSRS	**Korea Array**	**41.98**	**1**	P	**P**	21 43 04.5	+0.2
	0.8nm,0.5s,baz=174,slow=9.5,SNR=6.9						
MJAR	**Matsushiro Arr**	**42.43**	**14**	P	**P**	21 43 06.3	-1.7
	1.5nm,0.7s,baz=190,slow=9.0,SNR=5.6						
SONM	**Songino Array**	**55.31**	**343**	P	**P**	21 44 43.8	-0.6
	0.1nm,0.4s,baz=145,slow=5.3,SNR=2.2						
MKAR	**Makanchi Array**	**64.57**	**328**	P	**P**	21 45 46.1	-0.4
	0.2nm,0.3s,baz=115,slow=8.1,SNR=6.9						
VNDA	**Vanda**	**75.09**	**173**	P	**P**	21 46 48.7	-0.6
	0.4nm,0.6s,baz=309,slow=4.0,SNR=3.6						

DHMR 13 21:50:01.6±0.3, 12°.51N×46°.22E, h3km±34km, ML3.5, 1C-2D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**1.59**	**337**	⇓*i*P	Pn	21 50 31.1	+0.1
BDHA				*i* S	Sg	21 50 54.0	+0.7
BDHA				AML	AML	21 50 55.3	
	comp=E,624nm,0.7s						
LBOS		**1.65**	**325**	⇓*i*P	Pn	21 50 32.0	+0.1
LBOS				*i* S	Sg	21 50 55.9	+0.6
TRBA	**At Turbah**	**2.17**	**290**	⇑*i*P	Pn	21 50 40.3	+1.3
TRBA				*i* S	Sb	21 51 10.4	+0.9

IDC ***13*** *22:10:23.6±1.3, 38°.98N×21°.48E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.3/44, mbtmp3.7/5, Error ellipse: s-maj=57.3km s-min=25.4km az=131.0*
ISCJB ***13*** *22:10:25.0±0.3, 38°.96N±0°.01×21°.16E±0°.02, h7km±2km, mb3.6/5, Error ellipse: s-maj=2.2km s-min=1.8km az=153.2*
ATH ***13*** *22:10:24.8, 38°.94N×21°.20E, h17km±1km, MD3.5/43, ML3.1*
CSEM ***13*** *22:10:25.4±0.1, 38°.96N×21°.17E, h5km, ML3.2, Error ellipse: s-maj=2.4km s-min=1.9km az=63.0*
THE ***13*** *22:10:25.9, 38°.99N×21°.20E, h0km±1km, ML3.2/18, Error ellipse: s-maj=1.4km s-min=0.5km az=245.0*
ISC 13 22:10:25.0±0.7, 38°.95N±0°.01×21°.17E±0°.01, h9km±6km, n258, σ1°06/377, mb3.9/5, 7C-7D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSL	**Palaion Diasel**	**0.19**	**342**	P	**Pg**	**22 10 28.9**	**-0.1**
DSL	**Palaion Diasel**	**0.19**	**342**	P	**Pg**	22 10 28.9	-0.1
DSL				S	**Sg**	22 10 31.9	+0.1
PDO	**Prodromos**	**0.35**	**179**	P	**Pg**	22 10 32.3	+0.3
PDO				S	**Sb**	22 10 39.4	+0.2
PDO	**Prodromos**	**0.35**	**179**	*e*PB	**Pg**	22 10 32.3	+0.3
PDO				*e*SB	**Sg**	22 10 38.2	+1.6
PDO	**Prodromos**	**0.35**	**179**	P	**Pg**	22 10 32.3	+0.3
PDO				S	**Sg**	22 10 37.4	+0.8
PDO				*e*Sb	**Sg**	22 10 38.2	+1.6
LKD2	**Lefkada island**	**0.43**	**248**	P	**Pg**	22 10 34.3	+0.8
LKD2				S	**Sb**	22 10 42.3	+0.8
LKD2	**Lefkada island**	**0.43**	**248**	*e*PB	**Pg**	22 10 33.2	-0.3
LKD2				*e*SB	**Sb**	22 10 41.0	-0.5
LKD2	**Lefkada island**	**0.43**	**248**	*e*Pb	**Pg**	22 10 33.2	-0.3
LKD2	**Lefkada island**	**0.43**	**248**	P	**Pg**	22 10 34.3	+0.8
LKD2				S	**Sg**	22 10 39.9	+0.7
LKD2				*e*Sb	**Sb**	22 10 41.0	-0.5
PVO	**Paravola**	**0.43**	**140**	P	**Pg**	22 10 33.7	+0.2
PVO				S	**Sb**	22 10 41.7	+0.2
PVO	**Paravola**	**0.43**	**140**	P	**Pg**	22 10 33.7	+0.2
PVO				S	**Sb**	22 10 41.4	-0.1
EVR	**Evrytania**	**0.50**	**94**	P	**Pg**	22 10 35.0	+0.3
EVR				S	**Sg**	22 10 42.0	+0.7
EVR	**Evrytania**	**0.50**	**94**	*e*PB	**Pg**	22 10 34.8	+0.1
EVR				*e*SB	**Sg**	22 10 41.0	-0.3
EVR	**Evrytania**	**0.50**	**94**	P	**Pg**	22 10 35.0	+0.3
EVR				*e*Sb	**Sg**	22 10 41.0	-0.3
EVR				S	**Sg**	22 10 42.0	+0.7
JAN	**Janina**	**0.75**	**341**	P	**Pg**	22 10 39.2	-0.3
JAN				S	**Sb**	22 10 50.2	-0.4
JAN	**Janina**	**0.75**	**341**	*e*PB	**Pg**	22 10 39.0	-0.5
JAN				*e*SN	**Sb**	22 10 50.5	-0.1
JAN	**Janina**	**0.75**	**341**	P	**Pg**	22 10 39.2	-0.3
JAN				S	**Sg**	22 10 50.1	+0.9
MAKR	**Makrakomi, Fth**	**0.75**	**85**	P	**Pg**	22 10 39.9	+0.4
MAKR				S	**Sb**	22 10 51.4	+0.7
MAKR	**Makrakomi, Fth**	**0.75**	**85**	*e*PN	**Pg**	22 10 39.6	+0.1
MAKR				*e*SN	**Sg**	22 10 49.2	-0.1
MAKR	**Makrakomi, Fth**	**0.75**	**85**	*e*Pn	**Pg**	22 10 39.6	+0.1
MAKR	**Makrakomi, Fth**	**0.75**	**85**	P	**Pg**	22 10 39.9	+0.4
MAKR				*e*Sn	**Sg**	22 10 49.2	-0.1
MAKR				S	**Sb**	22 10 50.8	+0.1
EFP	**Efpalio**	**0.78**	**132**	P	**Pg**	22 10 40.3	+0.3
EFP				S	**Sb**	22 10 52.0	+0.6
EFP	**Efpalio**	**0.78**	**132**	*e*PN	**Pg**	22 10 39.4	-0.6
EFP				*e*SN	**Sg**	22 10 50.9	+0.8
EFP	**Efpalio**	**0.78**	**132**	*e*Pn	**Pg**	22 10 39.4	-0.6
EFP	**Efpalio**	**0.78**	**132**	P	**Pg**	22 10 40.3	+0.3
EFP				*e*Sn	**Sg**	22 10 50.9	+0.8
EFP				S	**Sb**	22 10 52.0	+0.6
UPR	**University Cam**	**0.82**	**144**	P	**Pb**	22 10 41.4	-0.1
UPR				S	**Sb**	22 10 54.1	+1.4
UPR	**University Cam**	**0.82**	**144**	P	**Pb**	22 10 41.4	-0.1
UPR				S	**Sb**	22 10 54.1	+1.4
IGT	**Igoumenitsa**	**0.87**	**312**	P	**Pb**	22 10 42.4	0.0
IGT				S	**Sb**	22 10 55.4	+1.2
IGT	**Igoumenitsa**	**0.87**	**312**	*e*PN	**Pg**	22 10 41.0	-0.8
IGT				*e*SN	**Sb**	22 10 55.6	+1.4
IGT	**Igoumenitsa**	**0.87**	**312**	*e*Pn	**Pg**	22 10 41.0	-0.8
IGT	**Igoumenitsa**	**0.87**	**312**	P	**Pb**	22 10 42.4	0.0
IGT				*e*Sn	**Sb**	22 10 55.6	+1.4
KFL	**Anninata**	**0.89**	**200**	P	**Pb**	22 10 43.6	+0.9
KFL	**Anninata**	**0.89**	**200**	P	**Pb**	22 10 43.6	+0.9
THL	**Klokotos Trika**	**0.90**	**47**	P	**Pg**	22 10 41.7	-0.6
THL	**Klokotos Trika**	**0.90**	**47**	*e*PN	**Pg**	22 10 41.6	-0.7
THL				*e*SN	**Sb**	22 10 55.1	+0.2
THL	**Klokotos Trika**	**0.90**	**47**	P	**Pg**	22 10 41.7	-0.6
THL				S	**Sb**	22 10 55.0	+0.2
VLS	**Valsamata**	**0.90**	**211**	P	**Pg**	22 10 40.9	-1.4
VLS				S	**Sn**	22 10 57.6	+0.6
VLS	**Valsamata**	**0.90**	**211**	*e*PN	**Pg**	22 10 40.5	-1.8
VLS				*e*SN	**Sg**	22 10 54.8	+0.8
VLS	**Valsamata**	**0.90**	**211**	*e*Pn	**Pg**	22 10 40.5	-1.8
VLS	**Valsamata**	**0.90**	**211**	P	**Pg**	22 10 40.9	-1.4
VLS				S	**Sg**	22 10 54.2	+0.2
AGG	**Agios Georgios**	**0.91**	**85**	P	**Pg**	22 10 42.4	-0.1
AGG				S	**Sb**	22 10 55.7	+0.5
AGG	**Agios Georgios**	**0.91**	**85**	*e*PN	**Pg**	22 10 42.4	-0.1
AGG				*e*SN	**Sg**	22 10 54.8	+0.5
AGG	**Agios Georgios**	**0.91**	**85**	P	**Pg**	22 10 42.4	-0.1
AGG				*e*Sn	**Sg**	22 10 54.8	+0.5
AGG				S	**Sb**	22 10 55.7	+0.5
RLS	**Riolos of Patr**	**0.92**	**165**	P	**Pb**	22 10 43.5	+0.3
RLS	**Riolos of Patr**	**0.92**	**165**	*e*PN	**Pg**	22 10 41.9	-0.9
RLS				*e*SN	**Sg**	22 10 55.4	+0.7
RLS	**Riolos of Patr**	**0.92**	**165**	*e*Pn	**Pg**	22 10 41.9	-0.9
RLS	**Riolos of Patr**	**0.92**	**165**	P	**Pb**	22 10 43.5	+0.3
RLS				*e*Sn	**Sg**	22 10 55.4	+0.7
KALE	**Kalithea**	**0.94**	**126**	P	**Pg**	22 10 43.3	+0.1
KALE				S	**Sn**	22 10 58.3	+0.1
KALE	**Kalithea**	**0.94**	**126**	*e*PN	**Pg**	22 10 43.3	-0.1
KALE				*e*SN	**Sg**	22 10 55.1	-0.3
KALE	**Kalithea**	**0.94**	**126**	P	**Pg**	22 10 43.3	+0.1
KALE				*e*Sn	**Sg**	22 10 55.1	-0.3
KALE				S	**Sn**	22 10 58.3	+0.1
SGD	**Sagiada**	**0.98**	**313**	P	**Pb**	22 10 44.6	+0.3
SGD	**Sagiada**	**0.98**	**313**	*e*PB	**Pg**	22 10 43.3	-0.6
SGD				*e*SN	**Sn**	22 10 59.0	-0.1
SGD	**Sagiada**	**0.98**	**313**	*e*Pb	**Pg**	22 10 43.3	-0.6
SGD	**Sagiada**	**0.98**	**313**	P	**Pb**	22 10 44.6	+0.3
SGD				*e*Sn	**Sn**	22 10 59.0	-0.1
DRO	**Drossia**	**1.08**	**157**	P	**Pb**	22 10 46.2	+0.2
DRO				S	**Sn**	22 11 03.5	+1.9
DRO	**Drossia**	**1.08**	**157**	*e*PN	**Pg**	22 10 44.8	-1.0
DRO				*e*SN	**Sg**	22 10 59.8	-0.1
DRO	**Drossia**	**1.08**	**157**	*e*Pn	**Pg**	22 10 44.8	-1.0
DRO	**Drossia**	**1.08**	**157**	P	**Pb**	22 10 46.2	+0.2
DRO				*e*Sn	**Sg**	22 10 59.0	-0.1
AXAR	**Agios Charalam**	**1.18**	**99**	P	**Pg**	22 10 47.6	0.0
AXAR				S	**Sn**	22 11 04.5	+0.6
AXAR	**Agios Charalam**	**1.18**	**99**	*e*PN	**Pg**	22 10 46.8	-0.8
AXAR				*e*SN	**Sb**	22 11 03.8	+0.9
AXAR	**Agios Charalam**	**1.18**	**99**	*e*Pn	**Pg**	22 10 46.8	-0.8
AXAR	**Agios Charalam**	**1.18**	**99**	P	**Pg**	22 10 47.6	0.0
AXAR				*e*Sn	**Sb**	22 11 03.8	+0.9
AXAR				S	**Sn**	22 11 04.5	+0.6
DSF	**Desfina**	**1.19**	**117**	P	**Pg**	22 10 47.2	-0.7
DSF				S	**Sn**	22 11 05.5	+1.2
DSF	**Desfina**	**1.19**	**117**	*e*PB	**Pg**	22 10 46.0	-1.9
DSF				*e*SN	**Sg**	22 11 02.2	-1.1
DSF	**Desfina**	**1.19**	**117**	*e*Pb	**Pg**	22 10 46.0	-1.9
DSF	**Desfina**	**1.19**	**117**	P	**Pg**	22 10 47.2	-0.7
DSF				*e*Sn	**Sg**	22 11 02.2	-1.1
DSF				S	**Sn**	22 11 05.5	+1.2
ZKS	**Zakynthos**	**1.29**	**194**	P	**Pg**	22 10 48.0	-1.8
ZKS	**Zakynthos**	**1.29**	**194**	*e*PB	**Pg**	22 10 47.7	-2.1
ZKS				*e*SN	**Sn**	22 11 07.8	+1.1
ZKS	**Zakynthos**	**1.29**	**194**	*e*Pb	**Pg**	22 10 47.7	-2.1
ZKS	**Zakynthos**	**1.29**	**194**	P	**Pg**	22 10 48.0	-1.8
ZKS				*e*Sn	**Sn**	22 11 07.8	+1.1
SRN	**Sarande**	**1.30**	**316**	P	**Pb**	22 10 50.2	+0.6
SRN				S	**Sn**	22 11 09.2	+2.3
SRN	**Sarande**	**1.30**	**316**	P	**Pb**	22 10 50.2	+0.6
SRN				S	**Sn**	22 11 09.2	+2.3
KEK	**Kerkira**	**1.31**	**306**	P	**Pb**	22 10 50.3	+0.5
KEK				S	**Sn**	22 11 10.1	+2.9
KEK	**Kerkira**	**1.31**	**306**	*e*PN	**Pn**	22 10 49.4	-0.1
KEK				*e*SN	**Sn**	22 11 08.9	+1.7
KEK	**Kerkira**	**1.31**	**306**	*e*Pn	**Pn**	22 10 49.4	-0.1
KEK	**Kerkira**	**1.31**	**306**	P	**Pb**	22 10 50.3	+0.5
KEK				*e*Sn	**Sn**	22 11 08.9	+1.7
KEK				S	**Sn**	22 11 10.1	+2.9
GUR	**Goura**	**1.37**	**137**	P	**Pg**	22 10 51.8	+0.5
GUR				S	**Sn**	22 11 14.1	+3.4
GUR	**Goura**	**1.37**	**137**	*e*PN	**Pn**	22 10 50.7	+0.3
GUR	**Goura**	**1.37**	**137**	*e*Pn	**Pn**	22 10 50.7	+0.3
GUR	**Goura**	**1.37**	**137**	P	**Pg**	22 10 51.8	+0.5
KZN	**Kozani**	**1.43**	**19**	P	**Pn**	22 10 51.1	-0.2
KZN				S	**Sn**	22 11 11.9	+1.6
KZN	**Kozani**	**1.43**	**19**	*e*PB	**Pn**	22 10 50.7	-0.6
KZN				*e*SN	**Sn**	22 11 11.7	+1.4
KZN	**Kozani**	**1.43**	**19**	*e*Pb	**Pn**	22 10 50.7	-0.6
KZN	**Kozani**	**1.43**	**19**	P	**Pn**	22 10 51.1	-0.2
KZN				*e*Sn	**Sn**	22 11 11.7	+1.4
FYTO	**Fytoko, Volos**	**1.45**	**71**	P	**Pb**	22 10 52.3	+0.1
FYTO				S	**Sg**	22 11 12.5	+0.9
FYTO	**Fytoko, Volos**	**1.45**	**71**	P	**Pb**	22 10 52.3	+0.1
FYTO				S	**Sg**	22 11 12.5	+0.9
LKR	**Lokris**	**1.46**	**101**	P	**Pn**	22 10 52.0	+0.4
LKR	**Lokris**	**1.46**	**101**	*e*PN	**Pn**	22 10 51.6	0.0
LKR				*e*SN	**Sg**	22 11 12.5	+0.5
LKR	**Lokris**	**1.46**	**101**	*e*Pn	**Pn**	22 10 51.6	0.0
LKR	**Lokris**	**1.46**	**101**	P	**Pn**	22 10 52.0	+0.4
LKR				*e*Sn	**Sg**	22 11 12.5	+0.5
NEST	**Nestorio**	**1.47**	**356**	P	**Pb**	22 10 52.9	+0.3
NEST				S	**Sg**	22 11 13.0	+0.8
NEST	**Nestorio**	**1.47**	**356**	*e*PN	**Pn**	22 10 52.2	+0.4
NEST				*e*SN	**Sg**	22 11 14.1	+1.9
NEST	**Nestorio**	**1.47**	**356**	*e*Pn	**Pn**	22 10 52.2	+0.4
NEST	**Nestorio**	**1.47**	**356**	P	**Pb**	22 10 52.9	+0.3
NEST				S	**Sg**	22 11 13.0	+0.8
NEST				*e*Sn	**Sg**	22 11 14.1	+1.9
ATAL	**Atalanti**	**1.47**	**100**	P	**Pn**	22 10 51.9	+0.2
ATAL	**Atalanti**	**1.47**	**100**	P	**Pn**	22 10 51.9	+0.2
AMT	**Artemida-Makis**	**1.48**	**163**	P	**Pg**	22 10 53.6	+0.2
AMT	**Artemida-Makis**	**1.48**	**163**	*e*PN	**Pn**	22 10 51.6	-0.3
AMT				*e*SN	**Sg**	22 11 13.1	+0.5
AMT	**Artemida-Makis**	**1.48**	**163**	*e*Pn	**Pn**	22 10 51.6	-0.3
AMT	**Artemida-Makis**	**1.48**	**163**	P	**Pg**	22 10 53.6	+0.2
AMT				*e*Sn	**Sg**	22 11 13.1	+0.5
THAL	**Thalero**	**1.48**	**127**	P	**Pg**	22 10 54.0	+0.5
THAL	**Thalero**	**1.48**	**127**	P	**Pg**	22 10 54.0	+0.5
LIT	**Litokhoron**	**1.54**	**41**	P	**Pn**	22 10 53.2	+0.5
LIT				S	**Sg**	22 11 14.2	-0.2
LIT	**Litokhoron**	**1.54**	**41**	*e*PN	**Pn**	22 10 52.8	+0.1
LIT				*e*SN	**Sg**	22 11 15.6	+1.2
LIT	**Litokhoron**	**1.54**	**41**	*e*Pn	**Pn**	22 10 52.8	+0.1
LIT	**Litokhoron**	**1.54**	**41**	P	**Pn**	22 10 53.2	+0.5
LIT				S	**Sg**	22 11 14.2	-0.2
LIT				*e*Sn	**Sg**	22 11 15.6	+1.2
SMIA	**Simia**	**1.59**	**92**	P	**Pb**	22 10 54.5	-0.1
SMIA				S	**Sg**	22 11 17.2	+1.0
SMIA	**Simia**	**1.59**	**92**	*e*PN	**Pn**	22 10 54.3	+0.9
SMIA				*e*SN	**Sn**	22 11 14.8	+0.7
SMIA	**Simia**	**1.59**	**92**	*e*Pn	**Pn**	22 10 54.3	+0.9
SMIA				*e*Sn	**Sn**	22 11 14.8	+0.7
SMIA				S	**Sg**	22 11 17.2	+1.0
XOR	**Xorichti**	**1.62**	**75**	P	**Pn**	22 10 54.4	+0.5
XOR				S	**Sg**	22 11 16.8	-0.5
XOR	**Xorichti**	**1.62**	**75**	*e*PN	**Pn**	22 10 54.2	+0.3
XOR				*e*SN	**Sb**	22 11 16.2	+0.4
XOR	**Xorichti**	**1.62**	**75**	P	**Pn**	22 10 54.4	+0.5
XOR				*e*Sn	**Sb**	22 11 16.2	+0.4
NEO	**Neokhori**	**1.64**	**77**	P	**Pn**	22 10 54.9	+0.8
NEO				S	**Sg**	22 11 17.9	+0.3
NEO	**Neokhori**	**1.64**	**77**	*e*PN	**Pn**	22 10 54.4	+0.3
NEO				*e*SN	**Sb**	22 11 16.5	+0.4
NEO	**Neokhori**	**1.64**	**77**	*e*Pn	**Pn**	22 10 54.4	+0.3
NEO	**Neokhori**	**1.64**	**77**	P	**Pn**	22 10 54.9	+0.8
NEO				*e*Sn	**Sb**	22 11 16.5	+0.4
NEO				S	**Sg**	22 11 17.9	+0.3
LTK	**Loutraki**	**1.69**	**123**	*e*PN	**Pb**	22 10 56.2	-0.1
LTK	**Loutraki**	**1.69**	**123**	*e*Pn	**Pb**	22 10 56.2	-0.1
KBN	**Korca**	**1.70**	**350**	P	**Pn**	22 10 56.0	+1.0
KBN				S	**Sg**	22 11 19.1	-0.5
KBN	**Korca**	**1.70**	**350**	P	**Pn**	22 10 56.0	+1.0
KBN				S	**Sg**	22 11 19.1	-0.5
SFD	**Strofades**	**1.70**	**184**	P	**Pg**	22 10 57.6	-0.1
SFD				S	**Sg**	22 11 19.8	+0.1
SFD	**Strofades**	**1.70**	**184**	*e*PN	**Pb**	22 10 57.0	+0.5
SFD				*e*SN	**Sb**	22 11 18.7	+0.7
SFD	**Strofades**	**1.70**	**184**	*e*Pn	**Pb**	22 10 57.0	+0.5
SFD	**Strofades**	**1.70**	**184**	P	**Pg**	22 10 57.6	-0.1
SFD				*e*Sn	**Sb**	22 11 18.7	+0.7
VIL2	**Platees**	**1.80**	**114**	*e*PN	**Pb**	22 10 58.7	+0.5
VIL2				*e*SN	**Sb**	22 11 21.7	+0.8
FNA	**Florina**	**1.84**	**5**	P	**Pb**	22 10 58.8	-0.1
FNA				S	**Sn**	22 11 21.3	+1.0
FNA	**Florina**	**1.84**	**5**	*e*PN	**Pb**	22 10 58.4	-0.5
FNA				*e*SN	**Sb**	22 11 22.4	+0.4
FNA	**Florina**	**1.84**	**5**	*e*Pn	**Pb**	22 10 58.4	-0.5
FNA	**Florina**	**1.84**	**5**	P	**Pb**	22 10 58.8	-0.1
FNA				S	**Sn**	22 11 21.3	+1.0
FNA				*e*Sn	**Sb**	22 11 22.4	+0.4
VLX	**Vlachokerasia**	**1.84**	**149**	P	**Pb**	22 10 59.3	+0.3
VLX				S	**Sg**	22 11 24.3	0.0
VLX	**Vlachokerasia**	**1.84**	**149**	*e*PN	**Pb**	22 10 58.9	-0.1
VLX	**Vlachokerasia**	**1.84**	**149**	*e*Pn	**Pb**	22 10 58.9	-0.1
VLX	**Vlachokerasia**	**1.84**	**149**	P	**Pb**	22 10 59.3	+0.3
VILL	**Villia**	**1.85**	**114**	P	**Pb**	22 10 59.0	-0.1
VILL				S	**Sb**	22 11 23.4	+1.0
VILL	**Villia**	**1.85**	**114**	*e*Pn	**Pb**	22 10 58.7	-0.4
VILL	**Villia**	**1.85**	**114**	P	**Pb**	22 10 59.0	-0.1
VILL				*e*Sn	**Sn**	22 11 21.7	+1.1
VILL				S	**Sb**	22 11 23.4	+1.0
ITM	**Ithomi**	**1.87**	**161**	P	**Pb**	22 10 59.4	+0.1
ITM	**Ithomi**	**1.87**	**161**	*e*PN	**Pb**	22 10 58.8	-0.5
ITM	**Ithomi**	**1.87**	**161**	*e*Pn	**Pb**	22 10 58.8	-0.5
ITM	**Ithomi**	**1.87**	**161**	P	**Pb**	22 10 59.4	+0.1
MRKA	**Markates**	**1.90**	**97**	P	**Pb**	22 10 59.2	-0.8
MRKA				S	**Sb**	22 11 25.0	+1.2
MRKA	**Markates**	**1.90**	**97**	*e*PB	**Pn**	22 10 57.2	-0.5
MRKA				*e*SN	**Sn**	22 11 22.0	+0.2
MRKA	**Markates**	**1.90**	**97**	*e*Pb	**Pn**	22 10 57.2	-0.5
MRKA	**Markates**	**1.90**	**97**	P	**Pb**	22 10 59.2	-0.8
MRKA				*e*Sn	**Sn**	22 11 22.0	+0.2
MRKA				S	**Sb**	22 11 25.0	+1.2
PYL	**PYLOS**	**2.10**	**167**	*e*PN	**Pn**	22 11 02.1	+1.7
PYL				*e*SN	**Sn**	22 11 27.1	+0.4
PYL	**PYLOS**	**2.10**	**167**	*e*Pn	**Pn**	22 11 02.1	+1.7
PYL				*e*Sn	**Sn**	22 11 27.1	+0.4
AOS	**Alonnisos**	**2.12**	**83**	P	**Pn**	22 11 01.2	+0.5
AOS				S	**Sb**	22 11 29.6	-0.5
AOS	**Alonnisos**	**2.12**	**83**	*e*PN	**Pn**	22 11 01.1	+0.4
AOS	**Alonnisos**	**2.12**	**83**	P	**Pn**	22 11 01.2	+0.5
AOS				S	**Sb**	22 11 29.6	-0.5
PAIG	**Paliouri**	**2.17**	**63**	P	**Pn**	22 11 01.3	-0.1
PAIG	**Paliouri**	**2.17**	**63**	*e*PB	**Pn**	22 11 00.5	+0.5
PAIG				*e*SN	**Sn**	22 11 29.2	+0.7
PAIG	**Paliouri**	**2.17**	**63

VRI	**Vrincioaia**	**8.04**	**29**	⇓*i*P		**Pn**	**22 12 25.1**	**+3.1**
VRI	**Vrincioaia**	**8.04**	**29**	⇓*i*P		**Pn**	**22 12 25.1**	**+3.1**
ARCES	**ARCESS Array B**	**30.73**	**3**	P		**P**	**22 16 39.4**	**-0.8**
	1.6nm,0.8s,baz=195,slow=9.9,SNR=4.4							
TORD	**Torodi Ar. Bea**	**30.95**	**219**	P		**P**	**22 16 43.9**	**+1.4**
	0.2nm,0.6s,baz=32,slow=9.0,SNR=5.8							
MKAR	**Makanchi Array**	**44.47**	**59**	P		P	22 18 33.5	-2.9
	0.2nm,0.6s,baz=285,slow=7.9,SNR=2.3							
ZALV	**Zalesovo Beam**	**44.80**	**49**	P		**P**	**22 18 36.6**	**-2.3**
	0.8nm,0.4s,baz=283,slow=8.8,SNR=5.7							
TLY	**Talaya**	**56.39**	**48**	P		**P**	**22 20 06.4**	**-0.1**
	1.6nm,0.8s,baz=169,slow=16,SNR=2.1							

CSEM ***13*** *22:21:53.0, 12.˚54N×46.˚28E, h13km, ML3.6*
DHMR 13 22:21:53.0±1.3, 12.˚54N×46.˚28E, h13km±125km, ML3.6, 1C-1D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ADEN	**Aden**	**1.28**	**281**	*i*	P	Pn	22 22 16.4	-0.2
ADEN				*i*	S	Sg	22 22 35.5	+1.0
ADEN	**Aden**	**1.28**	**281**	*i*	P	Pn	22 22 16.4	-0.3
ADEN				*i*	S	Sg	22 22 35.5	+1.0
BDHA	**Al Bayda'**	**1.59**	**334**	*i*	P	Pn	22 22 21.8	+0.6
BDHA				*i*	S	Sg	22 22 44.2	-0.5
BDHA					AML	AML	22 22 45.9	
	comp=N,960nm,0.5s							
BDHA	**Al Bayda'**	**1.59**	**334**	*i*	P	Pn	22 22 21.8	+0.6
BDHA				*i*	S	Sg	22 22 44.2	-0.6
	comp=N,480nm,0.5s							
LBOS		**1.66**	**323**	⇓*i*	P	Pn	22 22 22.9	+0.6
LBOS				*i*	S	Sb	22 22 45.4	+0.4
TRBA	**At Turbah**	**2.22**	**288**	⇑*i*	P	Pn	22 22 30.9	+1.1
TRBA				*i*	S	Sb	22 23 01.2	+0.3

MOS ***13*** *22:22:51.9±1.0, 3.˚79N×126.˚53E, h33km, mb5.2/38, MS4.0/18, Error ellipse: s-maj=12.3km s-min=6.1km az=112.0*
BJI ***13*** *22:22:51.7, 3.˚33N×126.˚76E, h71km, mb4.9/60, mB4.9/44, Ms4.4/58, Ms7 4.3/57*
IDC ***13*** *22:22:53.1±3.5, 3.˚75N×126.˚46E, h29km±24km, mb4.5/27, mb1 4.6/28, mb1mx4.6/31, mbtmp4.7/28, ML3.7/1, MS4.0/22, Ms1 4.1/22, ms1mx3.9/32, Error ellipse: s-maj=16.9km s-min=9.9km az=85.0*
ISCJB ***13*** *22:22:55.5±0.4, 3.˚77N±0.˚02×126.˚70E±0.˚03, h67km±3km, mb4.9/113, Error ellipse: s-maj=4.4km s-min=3.3km az=169.1*
NEIC ***13*** *22:22:57.0±0.7, 3.˚78N×126.˚64E, h66km±6km, mb5.1/49, Error ellipse: s-maj=6.8km s-min=4.3km az=84.0*
NEIC Felt [III] at Melonguanne.
DJA ***13*** *22:22:57.2±0.7, 4.˚N±2.˚×12.˚7E±.˚, h35km±6km, M5.0/67, mb5.0/67, mB5.4/39, MLv5.3/12, Mw(mB)4.9/39*
GCMT ***13*** *22:22:57.0±0.3, 3.˚77N×126.˚66E, h36km±1km, MW5.0/65, Moment Tensor Solution. s34,c42; s65,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.14±.20; Mθθ0.28±.13; Mφφ-2.42±.15; Mrθ0.37±.13; Mφθ-1.59±.10; Mφr3.10±.23; Best double couple: M0 4.13500×10^16 NP1:φ8.00000°, δ71.00000°, λ75.00000°. NP2: φ229.00000°, δ24.00000°, λ128.00000°. Principal axes: T 3.7560, Plg61.0000°, Azm255.0000°; N 0.7580, Plg15.0000°, Azm13.0000°; P -4.5140, Plg25.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
KLM ***13*** *22:22:58.9, 3.˚55N×126.˚61E, h84km, mb5.1, ML4.5, MS5.8*
ISC 13 22:22:57.7±0.3, 3.˚73N±0.˚03×126.˚64E±0.˚04, h69km±2km, h68km:pP-P, n366, σ1§55/407, mb5.0/113, 26C-37D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**1.11**	**268**	P		**Pn**	**22 23 14.6**	**-3.0**
SGSI				S		**Sn**	**22 23 30.1**	**-2.3**
TNTI	**Ternate**	**3.03**	**166**	P		**Pn**	**22 23 41.0**	**-2.4**
TNTI				S		**Sn**	**22 24 19.5**	**+1.0**
TNTI	**Ternate**	**3.03**	**166**	*e*Pn		**Pn**	**22 23 41.4**	**-1.9**
TNTI				*e*Sn		**Sn**	**22 24 19.6**	**+1.0**
MATI	**Mati**	**3.21**	**353**	*e*P		**Pn**	**22 23 45.2**	**-0.7**
MATI				*e*S		Sn	22 24 14.6	-8.4
DAV	**Davao City (W)**	**3.48**	**342**	*e*Pn		**Pn**	**22 23 49.1**	**-0.4**
DAV				*e*Sn		**Sn**	**22 24 32.4**	**+2.9**
KMSI	**Cibinong**	**4.11**	**220**	P		**Pn**	**22 23 59.0**	**+0.9**
CTBH	**Cotabato--PC H**	**4.21**	**326**	*e*P		**Pn**	**22 23 58.9**	**-0.5**
CTBH				*i*	S	**Sn**	**22 24 49.5**	**+2.2**
BUKP	**Musuan**	**4.41**	**339**	*e*P		**Pn**	**22 24 01.4**	**-0.8**
LBMI	**Labuha**	**4.43**	**169**	P		**Pn**	**22 24 02.0**	**-0.4**
BIPH	**Bislig**	**4.43**	**356**	⇓*e*P		Pn	22 24 06.8	+4.3
BIPH				*e*S		Sn	22 25 06.1	+13
CGP	**Cagayan de Oro**	**5.07**	**338**	⇓*e*P		**Pn**	**22 24 11.5**	**+0.2**
PAGZ	**Pagadian**	**5.22**	**322**	*e*P		**Pn**	**22 24 12.7**	**-0.6**
BUTP	**Butuan**	**5.30**	**349**	*e*P		**Pn**	**22 24 14.9**	**+0.5**
MRSI	**Marisa**	**5.70**	**236**	P		**Pn**	**22 24 20.5**	**+0.6**
	517nm,0.6s,5μm1.8nm							
SANI	**Sanana**	**5.78**	**186**	P		Pn	22 24 17.5	-3.5
	104nm,0.7s,3μm0.6nm							
SCPH	**Surigao**	**6.12**	**349**	*e*P		**Pn**	**22 24 27.0**	**+1.4**
LUWI	**Luwuk**	**6.12**	**219**	P		**Pn**	**22 24 26.7**	**+1.1**
	881nm,1.0s,8μm3.2nm							
LUWI	**Luwuk**	**6.12**	**219**	*e*Pn		**Pn**	**22 24 26.7**	**+1.1**
LUWI				*e*Sn		**Sn**	**22 25 34.5**	**+0.2**
LUWI				*e*Sn		Sn	22 25 38.6	+4.3
TOLI	**Toli-Toli**	**6.39**	**246**	*e*Pn		**Pn**	**22 24 28.2**	**-1.1**
SWI	**Sorong**	**6.49**	**135**	P		**Pn**	**22 24 29.6**	**-1.1**
	385nm,0.9s,5μm1.6nm							
SIJI	**Sorong**	**6.50**	**135**	Pn		**Pn**	**22 24 29.6**	**-1.3**
	1.5nm,0.3s,baz=336,slow=9.5,SNR=4.4							
SIJI					Sn	**Sn**	**22 25 41.0**	**-2.6**
	7.4nm,0.3s,baz=165,slow=20,SNR=3.2							
SIJI					LR	LR	22 27 22.2	
	comp=Z,3μm,21.0s,baz=348,slow=40							
TBP	**Tagbilaran**	**6.53**	**335**	*e*P		Pn	22 24 27.8	-3.4
APSI	**Ampana**	**6.80**	**227**	P		**Pn**	**22 24 37.3**	**+2.5**
	707nm,1.1s,6μm2.4nm							
NLAI	**Namlea**	**6.94**	**176**	P		**Pn**	**22 24 34.6**	**-2.2**
MPSI	**Mapaga**	**7.54**	**244**	P		**Pn**	**22 24 45.3**	**+0.3**
	73nm,0.7s,1μm0.4nm							
PCI	**Palu**	**8.21**	**236**	P		**Pn**	**22 24 55.6**	**+1.3**
	230nm,1.0s,1μm							
KDI	**Kendari**	**8.63**	**208**	P		**Pn**	**22 24 59.1**	**-0.9**
	105nm,1.1s,1μm							
FAKI	**Fak Fak**	**8.67**	**140**	P		**Pn**	**22 24 59.3**	**-1.1**
	145nm,1.1s,2μm							
FAKI	**Fak Fak**	**8.67**	**140**	*e*Pn		**Pn**	**22 24 59.0**	**-1.5**
RCP	**Roxas**	**8.68**	**334**	⇓*e*P		**Pn**	**22 25 01.3**	**+0.7**
TSM	**Tawau**	**8.77**	**274**	⇓P		**Pn**	**22 25 02.7**	**+0.9**
TTSI	**Tana Toraja**	**9.58**	**225**	P		**Pn**	**22 25 14.1**	**+1.1**
	131nm,1.2s,1μm							
SDKM	**Sandakan**	**9.60**	**282**	⇓P		**Pn**	**22 25 13.6**	**+0.3**
KDM	**Kudat**	**10.26**	**288**	⇓P		Pn	22 25 26.5	+4.3
SPSI	**Sidrap Palu**	**10.28**	**222**	P		**Pn**	**22 25 24.9**	**+2.4**
	53nm,1.2s,788nm							
KKM	**Kota Kinabalu**	**10.64**	**283**	⇓P		**Pn**	**22 25 30.2**	**+2.7**
KKM	**Kota Kinabalu**	**10.64**	**283**	*e*Pn		**Pn**	**22 25 28.7**	**+1.2**
KKM				*e*Sn		**Sn**	**22 27 24.7**	**-0.4**
KAPI	**Kappang**	**11.09**	**218**	LR		LR	22 30 23.5	
	comp=Z,2μm,19.7s,baz=57,slow=41							
KAPI	**Kappang**	**11.09**	**218**	*e*Pn		**Pn**	**22 25 34.5**	**+1.0**
BKSI	**Bulukumba**	**11.11**	**216**	P		**Pn**	**22 25 35.8**	**+2.0**
	31nm,0.9s,404nm							
KBKI	**Kotabaru**	**12.59**	**236**	P		**Pn**	**22 25 54.8**	**+0.8**
	52nm,1.3s,836nm							
MMRI	**Maumere**	**13.05**	**200**	*e*Pn		**Pn**	**22 26 00.2**	**-0.1**
SMPI	**Sarmi**	**13.34**	**115**	P		**Pn**	**22 26 03.8**	**-0.3**
	64nm,1.4s,4μm							
SOEI	**Soe**	**13.61**	**190**	*e*Pn		**Pn**	**22 26 08.1**	**+0.2**
SBUM	**Sibu**	**14.46**	**265**	⇑P		**P**	**22 26 22.0**	**-1.8**
SBUM	**Sibu**	**14.46**	**265**	*e*Pn		**Pn**	**22 26 20.3**	**+1.3**
GENI	**Genyem**	**14.91**	**115**	P		**P**	**22 26 29.1**	**+0.3**
SZP	**Santa**	**15.01**	**337**	*e*Pn		**Pn**	**22 26 25.9**	**-0.1**
STKI	**Sintang**	**15.59**	**257**	P		**P**	**22 26 36.1**	**-0.3**
	68nm,1.4s,8μm							
PBKI	**Pangkalan Bun**	**16.27**	**247**	P		**P**	**22 26 45.2**	**+1.2**
	160nm,1.1s,2μm							
SRBI	**Singaraja**	**16.36**	**224**	P		**P**	**22 26 45.4**	**+0.4**
	73nm,1.1s,2μm							
KSM	**Kuching**	**16.47**	**263**	⇑P		**P**	**22 26 46.9**	**+0.8**
KSM	**Kuching**	**16.47**	**263**	*e*Pn		**Pn**	**22 26 44.9**	**+0.3**
	43nm,0.8s							
ABJI	**Asem Bagus**	**16.86**	**227**	P		**P**	**22 26 53.3**	**+2.8**
	43nm,0.9s							
IGBI	**Denpasar**	**16.94**	**223**	P		**P**	**22 26 54.0**	**+2.7**
	97nm,1.1s,2μm							
BLJI	**Banyuglugur**	**17.30**	**229**	P		**P**	**22 26 58.5**	**+3.1**
	74nm,0.8s							
PWJI	**Pagerwojo**	**18.85**	**232**	P		**Pn**	**22 27 17.4**	**+3.7**
	46nm,1.1s							
SMRI	**Semarang**	**19.40**	**236**	P		**Pn**	**22 27 23.9**	**+3.7**
	56nm,1.9s							
PCJI	**Pacitan**	**19.45**	**232**	P		**P**	**22 27 18.6**	**-0.4**
	79nm,1.2s							
TWG	**Pinlang**	**19.73**	**345**	*e*P		**P**	**22 27 18.8**	**-3.1**
	111nm,0.7s							
UGM	**Wanagama**	**19.81**	**234**	P		**Pn**	**22 27 24.5**	**-0.5**
UGM	**Wanagama**	**19.81**	**234**	*e*P		**P**	**22 27 23.4**	**+0.5**
	196nm,1.5s							
TPI	**Tanjungpandan**	**20.04**	**251**	P		Pn	22 27 29.1	+1.3
	47nm,1.6s,533nm							
YULB	**Yu-li**	**20.21**	**346**	*e*P		**P**	**22 27 23.5**	**-3.7**
	22nm,0.7s							
TPUB	**Ta-pu**	**20.30**	**344**	*e*P		**P**	**22 27 25.2**	**-2.9**
	118nm,1.2s							
SSLB	**Suanglung**	**20.68**	**345**	*e*P		**P**	**22 27 28.8**	**-3.5**
	33nm,0.7s							
KPJI	**Karang Pucung**	**20.81**	**238**	P		**P**	**22 27 34.0**	**+0.2**
	62nm,0.8s							
NACB	**Ninganchiao**	**20.90**	**347**	*e*P		**P**	**22 27 31.8**	**-2.7**
	31nm,1.0s							
YOJ	**Yonaguni jima**	**20.90**	**351**	*e*P		**P**	**22 27 34.3**	**-0.3**
	36nm,1.1s							
PPBI	**Pangkal Pinang**	**21.31**	**254**	P		**P**	**22 27 43.9**	**+4.8**
	32nm,1.7s							
YHNB	**Yeheng**	**21.42**	**347**	*e*P		**P**	**22 27 38.8**	**-1.5**
	351nm,2.1s							
CMJI	**Cimerak**	**21.46**	**238**	P		P	22 27 45.5	+4.9
	64nm,1.7s							
LEM	**Lembang**	**21.70**	**241**	P		**P**	**22 27 46.6**	**+3.2**
	70nm,1.3s							
LEM	**Lembang**	**21.70**	**241**	P		**P**	**22 27 41.2**	**-2.2**
	25nm,0.9s,baz=343,slow=19,SNR=2.4							
LEM	**Lembang**	**21.70**	**241**	P		**P**	**22 27 41.2**	**-2.2**
LEM					pmax	pmax		
	comp=Z,25nm,1.0s							
FITZ	**Fitzroy Crossi**	**21.72**	**183**	*e*P		**P**	**22 27 42.8**	**-0.6**
	comp=Z,35nm,0.9s							
CISI	**Cisompet, Garu**	**21.88**	**239**	P		**P**	**22 27 47.3**	**+2.1**
	comp=Z,61nm,0.9s,comp=Z,3μm							
CISI	**Cisompet, Garu**	**21.88**	**239**	*e*P		**P**	**22 27 44.7**	**-0.5**
	comp=Z,36nm,0.6s							
CBJI	**Citeko**	**22.19**	**243**	P		**P**	**22 27 49.9**	**+1.4**
	comp=Z,165nm,1.0s,comp=Z,5μm							
CNJI	**Cibinong**	**22.35**	**241**	P		**P**	**22 27 49.0**	**-1.2**
	comp=Z,58nm,0.9s,comp=Z,1μm							
QIZ	**Qiongzhong**	**22.37**	**314**	P		**P**	**22 27 51.3**	**+0.8**
QIZ				pP		**pP**	**22 28 04.0**	**-1.0**
QIZ				sP		**sP**	**22 28 11.4**	**-2.1**
QIZ				S		**S**	**22 31 53.8**	**+1.8**
QIZ				sS		**sS**	**22 32 16.9**	**-0.1**
QIZ				PMZ				
	comp=Z,19nm,1.1s							
QIZ				LN				
	comp=Z,450nm,12.4s							
QIZ				LZ				
	comp=Z,730nm,24.7s							
PMBI	**Palembang**	**22.84**	**253**	P		P	22 28 00.3	+4.9
	comp=Z,237nm,1.1s,comp=Z,18μm							
MYKOM	**Kota Tinggi**	**22.84**	**266**	⇓P		**P**	**22 27 56.0**	**+0.4**
MYKOM	**Kota Tinggi**	**22.84**	**266**	*e*P		**P**	**22 27 55.7**	**+0.1**
	comp=Z,40nm,1.1s							
JOW	**Kunigami**	**23.02**	**4**	P		**P**	**22 27 56.0**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=200,slow=15,SNR=7.2							
JOW	**Kunigami**	**23.02**	**4**	*e*P		**P**	**22 27 56.1**	**-1.1**
	comp=Z,18nm,0.7s							
CGJI	**Cibinong**	**23.30**	**244**	P		**P**	**22 27 58.1**	**-1.9**
	comp=Z,112nm,1.1s,comp=Z,1μm							
KGM	**Kluang**	**23.35**	**266**	⇓P		**P**	**22 28 01.0**	**+0.5**
KLSI		**23.44**	**249**	P		**P**	**22 28 01.3**	**+0.1**
	comp=Z,115nm,1.1s							
KTGM	**Kuala Trenggan**	**23.49**	**275**	⇓P		**P**	**22 28 01.7**	**0.0**
JMBI	**JAMBI**	**23.60**	**257**	P		**P**	**22 28 05.0**	**+2.3**
	comp=Z,276nm,1.2s							
UBPT	**Khong Chiam**	**23.79**	**300**	P		**P**	**22 28 03.0**	**-1.4**
	comp=Z,122nm,1.3s,comp=Z,1μm							
MDSI	**Maura Dua**	**23.88**	**250**	P		**P**	**22 28 04.9**	**-0.3**
	comp=Z,42nm,0.7s							
KASI	**Kota Agung**	**23.95**	**248**	P		**P**	**22 28 10.0**	**+4.1**
	comp=Z,67nm,1.0s							
LWLI	**Liwa**	**24.18**	**249**	P		pP	22 28 21.2	-3.0
LHSI	**Lahat**	**24.29**	**252**	P		P	22 28 14.8	+5.9
	comp=Z,32nm,0.9s							
WRAB	**Tennant Creek**	**24.71**	**162**	P		**P**	**22 28 12.0**	**-0.7**
	comp=Z,474nm,0.8s,SNR=27							
WRAB	**Tennant Creek**	**24.71**	**162**	*ce*P		**P**	**22 28 11.4**	**-1.3**
WRAB					pmax	pmax		
	comp=Z,385nm,1.2s							
WRAB	**Tennant Creek**	**24.71**	**162**	*e*P		**P**	**22 28 11.3**	**-1.4**
	comp=Z,114nm,1.0s							
WRA	**Warramunga Arr**	**24.71**	**162**	P		**P**	**22 28 11.2**	**-1.5**
	comp=Z,38nm,0.9s,baz=343,slow=11,SNR=72							
WRA					S	**S**	**22 32 30.6**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=341,slow=16,SNR=5.1							
WRA	**Warramunga Arr**	**24.71**	**162**	P		**P**	**22 28 11.2**	**-1.5**
WRA					S	**S**	**22 32 30.6**	**+0.6**
WRA					pmax	pmax		
	comp=Z,38nm,0.9s							
WRA					smax	smax		
	comp=N,3.0nm,0.7s							
IPM	**Ipoh**	**25.56**	**273**	⇓P		**P**	**22 28 22.2**	**+1.6**
IPM	**Ipoh**	**25.56**	**273**	*e*P		**P**	**22 28 19.7**	**-0.9**
	comp=N,78nm,1.3s							
SDSI	**Sungai Dareh**	**25.62**	**260**	P		**P**	**22 28 25.5**	**+4.4**
	comp=N,24nm,1.4s,comp=N,25μm							
CHBT	**CHBT**	**25.65**	**292**	P		**P**	**22 28 23.0**	**+1.7**
	comp=N,27nm,1.0s,comp=N,638nm							
MBWA	**Marble Bar**	**25.65**	**195**	*e*P		**P**	**22 28 20.8**	**-0.4**
	comp=N,33nm,0.8s							
BKNI	**Bangkinang**	**25.80**	**263**	P		P	22 28 27.7	+5.0
	comp=N,81nm,1.1s							
SKNT	**Sakolnakorn**	**25.84**	**302**	P		**P**	**22 28 21.6**	**-1.4**
	comp=N,97nm,1.0s,comp=N,1μm							
SKLT	**Songkhla**	**26.12**	**279**	P		P	22 28 31.4	+5.8
NONG	**Nongkai**	**27.06**	**304**	P		**P**	**22 28 32.8**	**-1.1**
	comp=N,31nm,1.1s							
CHAI	**Chaiyaphum**	**27.09**	**298**	P		**P**	**22 28 33.7**	**-0.6**
	comp=N,9.2nm,0.8s,comp=N,122nm							
NAYO	**Nakonayok**	**27.09**	**294**	P		**P**	**22 28 36.0**	**+1.7**
	comp=N,172nm,1.1s,comp=N,9μm							
MNSI	**Mandailing Nat**	**27.19**	**264**	P		P	22 28 40.1	+4.8
	comp=N,39nm,0.8s							
PPSI	**Pulau Pagai**	**27.39**	**257**	P		P	22 28 41.9	+4.9
	comp=N,112nm,1.1s							
CBIJ	**Chichi jima**	**27.58**	**31**	P		**P**	**22 28 38.4**	**-0.1**
JCJ	**Chichijima**	**27.58**	**31**	P		**P**	**22 28 38.4**	**-0.1**
	comp=N,55nm,0.7s,baz=285,slow=19,SNR=5.4							
KRAB	**Krabi**	**27.65**	**281**	P		**P**	**22 28 39.2**	**-0.1**
	comp=N,20nm,0.6s,comp=N,234nm							
PSI	**Prapat**	**27.69**	**269**	P		**P**	**22 28 38.3**	**-1.5**
	comp=N,6.8nm,0.7s,baz=97,slow=6.5,SNR=7.3							
PSI	**Prapat**	**27.69**	**269**	P		**P**	**22 28 38.3**	**-1.5**
PSI					pmax	pmax		
	comp=Z,12nm,1.0s							
PSI	**Prapat**	**27.69**	**269**	*e*P		**P**	**22 28 38.9**	**-0.9**
AS31	**Alice Springs**	**28.14**	**166**	*e*P		**P**	**22 28 42.4**	**-1.2**
ASAR	**Alice Springs**	**28.14**	**166**	P		**P**	**22 28 42.5**	**-1.1**
	comp=Z,3.0nm,0.5s,baz=346,slow=7.1,SNR=61							
ASAR					S	S	22 33 32.0	+7.9
	comp=Z,1.7nm,0.9s,baz=349,slow=19,SNR=4.4							
ASAR					LR	LR	22 42 40.8	
	comp=Z,215nm,18.0s,baz=348,slow=42							
ASAR	**Alice Springs**	**28.14**	**166**	P		**P**	**22 28 42.5**	**-1.1**
ASAR					S	S	22 33 32.0	+7.9
ASAR					pmax	pmax		
	comp=Z,3.0nm,0.5s							
ASAR					smax	smax		
	comp=N,2.0nm,0.9s							
ASAR					MLR	MLR		
	comp=Z,215nm,18.0s							
PBKT	**Sadao Pong**	**28.25**	**299**	P		**P**	**22 28 44.5**	**-0.1**
	comp=Z,24nm,1.1s							
LOEI	**Loei**	**28.39**	**301**	P		P	22 28 41.9	-4.0
	comp=Z,46nm,1.1s							
PKDT	**Phuket**	**28.45**	**280**	P		P	22 28 53.9	+7.4
WHN	**Wuhan**	**29.08**	**338**	⇓P		**P**	**22 28 51.4**	**-0.5**
WHN					sP	**sP**	**22 29 18.5**	**+2.2**
WHN					LN			
	comp=Z,830nm,16.0s							
WHN					LE			
	comp=Z,1μm,18.4s							
WHN					LZ			
	comp=Z,2μm,20.5s							
NJ2	**Nanjing**	**29.10**	**346**	*e*P		**P**	**22 28 51.9**	**-0.1**
NJ2					S	**S**	**22 33 40.5**	**+1.5**
NJ2					PMZ			
	comp=Z,20nm,0.6s							
NJ2					LN			
	comp=Z,760nm,19.2s							
NJ2					LE			
	comp=Z,840nm,16.7s							
NJ2					LZ			
	comp=Z,6μm,17.4s							
UTHA	**Uthaitani**	**29.22**	**296**	P		pP	22 29 06.2	-3.5
JNU	**Nakatsue**	**29.50**	**7**	P		**P**	**22 28 56.2**	**+0.6**
	comp=Z,13nm,0.9s,baz=188,slow=10,SNR=5.7							
JNU	**Nakatsue**	**29.50**	**7**	*e*P		**P**	**22 28 55.4**	**-0.2**
	comp=Z,12nm,1.1s							
GYA	**Guiyang**	**29.61**	**322**	⇑*i*P		**P**	**22 28 58.8**	**+2.1**
GYA					pP	**pP**	**22 29 15.4**	**+2.2**
GYA					sP	**sP**	**22 29 23.8**	**+2.6**
GYA					PP	**PnPn**	**22 29 58.0**	**+3.5**
GYA					S	**S**	**22 33 48.3**	**+0.9**
GYA					sS	**sS**	**22 34 17.3**	**+1.7**
GYA					PMZ			
	comp=Z,20nm,0.8s							
GYA					PMZ			
	comp=Z,120nm,4.9s							
GYA					LN			
	comp=Z,650nm,16.8s							
GYA					LE			
	comp=Z,560nm,17.0s							
GYA					LZ			
	comp=Z,640nm,16.6s							
SUKH	**Sukhothai**	**29.79**	**299**	P		**P**	**22 28 59.1**	**+0.8**
	comp=Z,6.0nm,0.8s,comp=Z,61nm							
CMAR	**Chiang Mai Arr**	**30.79**	**300**	P		**P**	**22 29 06.2**	**-0.9**
	comp=Z,6.0nm,0.8s,baz=121,slow=7.8,SNR=42							
CMAR					ScP	**ScP**	**22 35 44.4**	**+4.2**
	comp=Z,0.4nm,0.4s,baz=149,slow=1.6,SNR=5.6							
CMAR					LR	LR	22 42 20.7	
	comp=Z,248nm,20.4s,baz=140,slow=38							
CMAR	**Chiang Mai Arr**	**30.79**	**300**	P		**P**	**22 29 06.3**	**-0.9**
CMAR							22 35 44.4	
CMAR					pmax	pmax		
	comp=Z,6.0nm,0.9s							
CMAR					MLR	MLR		
	comp=Z,248nm,20.4s							
CMMT	**Chiang Mai**	**30.94**	**301**	P		**P**	**22 29 07.9**	**-0.6**
	comp=Z,22nm,1.2s							
CHTO	**Chiang Mai**	**30.94**	**301**	P		**P**	**22 29 07.9**	**-0.6**
	comp=Z,75nm,1.3s							
CHTO	**Chiang Mai**	**30.94**	**301**	*e*P		**P**	**22 29 07.9**	**-0.6**
	comp=Z,13nm,0.9s							
KMI	**Kunming**	**31.31**	**315**	P		**P**	**22 29 11.0**	**-0.9**
KMI					pP	**pP**	**22 29 30.1**	**+1.7**
KMI					S	**S**	**22 34 13.5**	**-0.8**
KMI					PMZ			
	comp=Z,8.0nm,0.8s							
KMI					PMZ			
	comp=Z,140nm,5.9s							
KMI					LN			
	comp=Z,180nm,22.6s							
KMI					LE			
	comp=Z,430nm,23.8s							
KMI					LZ			
	comp=Z,670nm,27.3s							
MHMT	**Maesarieng**	**31.55**	**299**	P		**P**	**22 29 14.5**	**+0.6**
	comp=Z,20nm,1.1s							
TJN	**Taejon**	**32.49**	**1**	*e*P		**P**	**22 29 21.4**	**-0.4**
TIA	**Tai'an**	**33.49**	**346**	⇓P		**P**	**22 29 29.9**	**-0.7**
TIA					PMZ			
	comp=Z,30nm,1.1s							
KSAR	**Wonju Array Be**	**33.57**	**2**	P		**P**	**22 29 30.9**	**-0.3**
KSAR					PcP	**PcP**	**22 32 11.7**	**+1.3**
KSRS	**Korea Array**	**33.58**	**2**	P		**P**	**22 29 30.9**	**-0.4**
	comp=Z,4.4nm,0.5s,baz=180,slow=10,SNR=34							
KSRS					PcP	**PcP**	**22 32 11.7**	**+1.3**
	comp=Z,1.9nm,0.7s,baz=183,slow=1.9,SNR=4.3							
KSRS					LR	LR	22 44 29.2	
	comp=Z,178nm,19.6s,baz=190,slow=39							
KSRS	**Korea Array**	**33.58**	**2**	P		**P**	**22 29 30.9**	**-0.4**
KSRS							22 32 11.7	
KSRS					pmax	pmax		
	comp=Z,4.0nm,0.5s							
KSRS					pmax	pmax		
	comp=Z,2.0nm,0.7s							
KSRS					MLR	MLR		
	comp=Z,178nm,19.7s							
MAJO	**Matsushiro**	**34.34**	**17**	*i*P		P	22 29 42.5	+4.5
MAJO					pmax	pmax		
	com

comp=Z,9.0nm,0.6s
STKA MLR MLR
comp=Z,168nm,18.6s
STKA Stephens Creek 38.16 159 *e*P **P** **22 30 10.4 -0.1**
comp=Z,5.4nm,0.8s
STKA PcP **PcP** **22 32 25.1 +0.9**
LZH Lanzhou 38.45 330 *e*P **P** **22 30 13.1 -0.1**
LZH pP **pP** **22 30 30.5 +0.5**
LZH sP **sP** **22 30 38.8 +0.8**
LZH PMZ
comp=Z,25nm,1.0s
LZH PMZ
comp=Z,130nm,5.2s
LZH LN
comp=Z,490nm,17.6s
LZH LE
comp=Z,630nm,18.1s
LZH LZ
comp=Z,890nm,18.8s
HHC Hu-ho-hao-te 39.37 342 *e*P **P** **22 30 20.3 -0.4**
HHC PP **PnPn** **22 31 57.8 +2.2**
HHC S **S** **22 36 18.3 +1.1**
HHC PMZ
comp=Z,21nm,1.0s
HHC PMZ
comp=Z,98nm,6.3s
HHC LN
comp=Z,430nm,13.4s
HHC LE
comp=Z,250nm,13.1s
HHC LZ
comp=Z,520nm,13.2s
USRK Ussuriysk Ar. 40.57 6 P **P** **22 30 30.5 0.0**
comp=Z,3.0nm,0.4s,baz=193,slow=8.4,SNR=15
MDJ Mudanjiang 40.80 3 P **P** **22 30 32.8 +0.5**
MDJ pP **pP** **22 30 46.5 -2.8**
MDJ S **S** **22 36 41.8 +3.5**
MDJ PMZ
comp=Z,19nm,1.0s
MDJ PMZ
comp=Z,47nm,3.5s
MDJ LN
comp=Z,140nm,20.3s
MDJ LE
comp=Z,160nm,21.6s
MDJ LZ
comp=Z,180nm,22.0s
MDJ Mudanjiang 40.80 3 *e*P **P** **22 30 30.6 -1.7**
comp=Z,32nm,0.8s
ARMA Armidale 41.52 147 *e*P **P** **22 30 39.5 +0.9**
comp=Z,198nm,2.3s
LSA Lhasa 42.37 311 *e*P **P** **22 30 45.7 -0.3**
comp=Z,17nm,0.7s
ASAJ Asahikawa 42.61 17 *e*P **P** **22 30 47.7 +0.5**
comp=Z,8.6nm,1.0s
GTA Gaotai 43.05 329 *e*P **P** **22 30 49.5 -1.5**
GTA pP **pP** **22 31 08.1 +0.1**
GTA sP **sP** **22 31 16.8 +0.9**
GTA PcP **PcP** **22 32 40.0 -0.1**
GTA S **S** **22 37 09.3 -2.6**
GTA sS **sS** **22 37 40.8 -0.2**
GTA PMZ
comp=Z,4.0nm,1.3s
GTA PMZ
comp=Z,58nm,5.8s
GTA LN
comp=Z,300nm,19.5s
GTA LE
comp=Z,630nm,20.4s
GTA LZ
comp=Z,830nm,22.8s
YUK Yuzh-Kuril'sk 43.58 20 *i*P **P** **22 30 52.8 -2.1**
YUK *i* 22 32 34.3
YUK *i*PPP PPP 22 33 11.9
YUK *i*S **S** **22 37 22.3 +3.1**
YUK *i* 22 40 47.1
YUK *i*SSS SSS 22 41 16.8
TAPN Taplejung 43.94 306 *e*P **P** **22 30 57.2 -1.4**
comp=Z,24nm,0.5s
ODAN Odare 43.99 306 *e*P **P** **22 30 57.5 -1.4**
comp=Z,21nm,0.4s
RAMN Ramite 44.67 305 *e*P **P** **22 31 03.2 -1.2**
comp=Z,56nm,0.8s
HABR Khabarovsk 45.15 8 *e*P **P** **22 31 05.9 -1.5**
HABR *e**PP **pP** **22 31 20.9 -3.7**
HABR *e* 22 32 44.8
HABR *e* 22 32 52.0
HABR PPP PPP 22 33 32.1
HABR *e*S **S** **22 37 41.8 -0.1**
HABR *e* 22 40 56.5
HABR *e*SSS SSS 22 41 55.7
HABR pmax pmax
comp=Z,29nm,1.4s
HABR MLR MLR
comp=Z,135nm,19.0s
YSS Yuzh-Sakhalins 45.26 16 *i*P **P** **22 31 08.9 +0.6**
YSS pmax pmax
comp=Z,10.0nm,1.0s
JIRN Jiri 45.30 306 *e*P **P** **22 31 08.1 -1.3**
comp=Z,33nm,0.5s
KLR Kul'dur 45.54 5 *e*P P 22 31 06.0 -4.5
KLR pmax pmax
comp=Z,48nm,1.4s
GUN Gumba 45.65 306 *e*P **P** **22 31 10.9 -1.3**
comp=Z,42nm,0.5s
HIA Hailar 45.75 354 *e*P **P** **22 31 11.9 -0.3**
comp=Z,18nm,0.9s
PALK Pallekele 45.85 276 LR LR 22 53 31.8
comp=Z,160nm,18.4s,baz=107,slow=40
PKI Pulchoki 45.89 305 *e*P **P** **22 31 12.2 -1.9**
KKN Kakani 46.09 306 *e*P **P** **22 31 13.8 -1.7**
comp=Z,19nm,0.5s
DMN Daman 46.16 305 *e*P **P** **22 31 14.3 -1.8**
comp=Z,32nm,0.9s
DZM Mont Dzumac 46.61 125 *e*P P 22 31 26.7 +7.2
comp=Z,53nm,1.0s
DZM Mont Dzumac 46.61 125 *e*LR LR 22 44 39.5
comp=Z,271nm,26.4s
GKN Gorkha 46.69 306 *e*P **P** **22 31 18.3 -1.9**
comp=Z,17nm,0.5s
SONM Songino Array 47.27 341 P **P** **22 31 23.2 -1.1**
comp=Z,4.6nm,0.6s,baz=159,slow=8.8,SNR=32
SONM PcP **PcP** **22 32 54.7 +0.2**
comp=Z,3.9nm,0.9s,baz=163,slow=4.3,SNR=4.3
SONM LR LR 22 52 35.6
comp=Z,235nm,20.9s,baz=154,slow=38
SONM Songino Array 47.27 341 P **P** **22 31 23.2 -1.1**
SONM 22 32 54.7
SONM pmax pmax
comp=Z,5.0nm,0.6s
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM MLR MLR
comp=Z,235nm,20.9s
KOLN Koldanda 47.45 305 *e*P **P** **22 31 24.5 -1.6**
comp=Z,60nm,0.4s
ZAK Zakamensk 50.49 341 *e*P **P** **22 31 46.5 -2.4**
ZAK pmax pmax
comp=Z,4.0nm,1.6s
TLY Talaya 51.50 342 P **P** **22 31 55.7 -0.6**
comp=Z,4.6nm,0.7s,baz=234,slow=6.9,SNR=6.6
TLY Talaya 51.50 342 *e*P **P** **22 31 56.0 -0.3**
TLY pmax pmax
comp=Z,9.0nm,0.7s
TLY MLR MLR
comp=Z,208nm,19.0s
TLY Talaya 51.50 342 P **P** **22 31 55.7 -0.6**
comp=Z,1.2nm,0.9s
MOY Mondy 52.35 340 *e*P P 22 32 07.8 +5.1
MOY pmax pmax
comp=Z,18nm,1.4s
WMQ Urumqi 52.67 325 P **P** **22 32 04.3 -0.9**
WMQ pP **pP** **22 32 24.8 +2.0**
WMQ sP **sP** **22 32 32.4 +1.8**
WMQ PcP **PcP** **22 33 15.4 +1.1**
WMQ PP **PP** **22 34 06.3 +1.3**
WMQ ScP **ScP** **22 37 06.3 +0.5**
WMQ PcS **PcS** **22 37 11.3 -1.6**
WMQ S S 22 39 20.8 -7.1
WMQ sS **sS** **22 39 56.4 -1.3**
WMQ SS **SS** **22 43 06.4 -0.8**
WMQ PMZ
comp=Z,13nm,1.3s
WMQ PMZ
comp=Z,24nm,4.1s
WMQ LN
comp=Z,470nm,20.0s
WMQ LE
comp=Z,340nm,22.4s
WMQ LZ
comp=Z,460nm,23.6s
CLNS Chul'man 52.97 359 *e*P P 22 32 02.6 -4.5
CLNS pmax pmax
comp=Z,13nm,0.8s
CLNS pmax pmax
comp=N,13nm,1.1s
CLNS pmax pmax
comp=E,4.0nm,0.7s
BOD Bodaibo 54.85 352 *e*P **P** **22 32 20.8 +0.1**
BOD pmax pmax
comp=Z,16nm,1.5s
PETK Petropavlovsk- 55.46 22 P **P** **22 32 25.8 +0.5**
comp=Z,10nm,0.7s,baz=188,slow=6.0,SNR=8.4
PETK LR LR 22 55 14.5
comp=Z,69nm,20.9s,baz=208,slow=35
PETK Petropavlovsk- 55.46 22 P **P** **22 32 25.8 +0.5**
PETK pmax pmax
comp=Z,10.0nm,0.7s
PETK MLR MLR
comp=Z,69nm,20.9s
MKAR Makanchi Array 57.50 325 P **P** **22 32 38.5 -1.4**
comp=Z,8.7nm,0.4s,baz=120,slow=7.7,SNR=113
MKAR LR LR 22 59 12.1
comp=Z,280nm,18.6s,baz=114,slow=38
MKAR Makanchi Array 57.50 325 *e*P **P** **22 32 38.7 -1.3**
KSH Kashi 57.98 315 P **P** **22 32 43.8 +0.2**
KSH pP **pP** **22 33 04.1 +2.7**
KSH PcP **PcP** **22 33 34.4 -0.6**
KSH PP **PP** **22 34 53.1 +0.4**
KSH S **S** **22 40 43.0 +4.0**
KSH ScS **ScS** **22 42 27.3 0.0**
KSH SS **SS** **22 44 34.6 +3.4**
KSH PMZ
comp=Z,25nm,1.1s
KSH LN
comp=Z,38nm,4.0s
KSH LE
comp=Z,68nm,5.8s
KSH LZ
comp=Z,87nm,4.5s
YAK Yakutsk 58.21 2 *e*P **P** **22 32 44.7 +0.2**
YAK *e* 22 33 34.6
YAK *e* 22 34 55.1
YAK *e*S **S** **22 40 44.8 +3.9**
YAK *e* 22 42 28.0
YAK *e*SS **SS** **22 44 31.0 -2.6**
YAK pmax pmax
comp=Z,31nm,1.0s
YAK pmax pmax
comp=N,15nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,53nm,2.3s
YAK pmax pmax
comp=E,16nm,2.7s
YAK pmax pmax
comp=N,24nm,2.3s
YAK smax smax
comp=E,82nm,2.5s
YAK smax smax
comp=N,60nm,2.2s
YAK Yakutsk 58.21 2 *e*P **P** **22 32 45.4 +0.9**
comp=N,50nm,0.8s
ULHL Ulahol 58.96 318 P **P** **22 32 50.8 +0.3**
SNR=6.1
KZA Kyzart 59.55 318 P **P** **22 32 55.4 +0.7**
SNR=5.7
TKM2 Tokmak 2 59.68 319 P **P** **22 32 54.3 -1.1**
SNR=16
TKM2 Tokmak 2 59.68 319 *e*P **P** **22 32 53.8 -1.7**
comp=N,19nm,0.9s
KBK Karagaybulak 60.00 318 P **P** **22 32 58.1 +0.5**
SNR=15
UCH Uchtor 60.11 317 P **P** **22 32 59.4 +0.7**
SNR=32
CHMS Chumysh 60.28 318 P **P** **22 32 59.0 -0.3**
SNR=11
FRU Bishkek 60.30 318 *e*P **P** **22 32 58.0 -1.4**
ZAA0 Zalesovo Array 60.54 333 *e*P **P** **22 32 59.2 -1.6**
ZALV Zalesovo Beam 60.54 333 P **P** **22 32 58.8 -2.0**
comp=N,3.2nm,0.4s,baz=117,slow=6.1,SNR=19
ZALV LR LR 23 00 42.0
comp=N,153nm,19.8s,baz=70,slow=38
ZALV Zalesovo Beam 60.54 333 P **P** **22 32 58.8 -2.0**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV MLR MLR
comp=Z,153nm,19.8s
USP Ospenovka 60.56 319 P **P** **22 33 00.7 -0.5**
SNR=20
AML Almayashu 60.63 317 P **P** **22 33 02.1 0.0**
SNR=20
EKS2 Erkin-Say 60.79 318 P **P** **22 33 03.5 +0.6**
SNR=24
EKS2 Erkin-Say 60.79 318 *e*P **P** **22 33 01.9 -1.0**
comp=Z,35nm,1.2s
KBL Kabul 61.45 307 *e*P **P** **22 33 05.4 -2.2**
comp=Z,16nm,0.8s
KURK Kurchatov 61.69 328 *e*P **P** **22 33 06.9 -1.7**
comp=Z,52nm,1.1s
NVS Novosibirsk 61.83 333 *e*P **P** **22 33 07.0 -2.4**
NVS *e*S **S** **22 41 25.9 -1.7**
NVS *e* 22 42 52.4
NVS pmax pmax
comp=Z,16nm,1.1s
NVS pmax pmax
comp=N,7.0nm,1.0s
NVS smax smax
comp=E,24nm,2.2s
SEY Seymchan 62.05 13 LR LR 22 59 28.7
comp=E,120nm,20.9s,baz=186,slow=35
SEY Seymchan 62.05 13*c**e*P **P** **22 33 12.7 +1.9**
KKAR Karatay Array 63.17 317 *e*P **P** **22 33 18.0 -0.7**
BRVK Borovoye 67.34 327 P **P** **22 33 44.6 -0.8**
comp=E,268nm,1.1s,SNR=9.2
BRVK Borovoye 67.34 327*d*iP **P** **22 33 44.1 -1.3**
BRVK pmax pmax
comp=Z,53nm,1.2s
BRVK Borovoye 67.34 327 *e*P **P** **22 33 45.1 -0.3**
comp=Z,50nm,1.1s
TIXI Tiksi 67.84 1⇑ *i*P **P** **22 33 47.8 -0.4**
TIXI pmax pmax
comp=Z,12nm,1.2s
TIXI Tiksi 67.84 1 *e*P **P** **22 33 48.0 -0.2**
comp=Z,29nm,1.1s
SVE Sverdlovsk 73.91 328⇑ *e*P **P** **22 34 24.6 -0.7**
SVE pmax pmax
comp=Z,32nm,1.1s
ARU Arti 74.89 328 P **P** **22 34 29.9 -1.1**
comp=Z,137nm,0.7s,SNR=9.1
ARU Arti 74.89 328*c* *i*P **P** **22 34 29.8 -1.2**
ARU *PP **PcP** **22 34 44.6 0.0**
ARU 22 37 15.8
ARU S **S** **22 44 02.3 -0.5**
ARU SS **SS** **22 48 47.1 -5.0**
ARU pmax pmax
comp=Z,32nm,1.2s
ARU Arti 74.89 328 *e*P **P** **22 34 29.3 -1.7**
comp=Z,24nm,1.0s
SOKR Solikamsk 76.67 331*d* *i*P **P** **22 34 42.3 +1.2**
SOKR pmax pmax
comp=Z,20nm,1.4s
RAYN Ar Rayn 80.40 293 *e*P **P** **22 35 01.2 -1.3**
comp=Z,5.2nm,1.0s
OPO Ambohidratompo 81.21 251 LR LR 23 08 35.0
comp=Z,71nm,19.7s,baz=157,slow=34
KDAK Kodiak Island 81.93 32 *i*P **P** **22 35 11.3 +1.5**
ZEI Tsey 82.15 313 *e*P **P** **22 35 10.3 -1.3**
ZEI pmax pmax
comp=Z,12nm,0.5s
IM04 Indian Mountai 82.36 24 *e*P **P** **22 35 12.4 +0.5**
PRGR Permogore 82.46 332⇑ *i*P **P** **22 35 11.6 -0.8**
PRGR pmax pmax
comp=Z,20nm,0.6s
PPLA Purkeypile 82.67 27 *e*P **P** **22 35 13.0 -0.7**
comp=Z,26nm,1.3s
CAST Castle Rocks 82.77 27 *e*P **P** **22 35 16.0 +1.9**
comp=Z,145nm,2.6s
KBZ Khabaz 82.91 313 P **P** **22 35 13.8 -1.4**
comp=Z,1.1nm,0.5s,baz=34,slow=7.3,SNR=2.6
KBZ LR LR 23 17 00.8
comp=Z,70nm,21.4s,baz=69,slow=39
KBZ Khabaz 82.91 313 P **P** **22 35 13.8 -1.4**
KBZ pmax pmax
comp=Z,1.0nm,0.5s
KBZ MLR MLR
comp=Z,70nm,21.4s
BPAW Bear Paw Mtn. 83.32 26 *e*P **P** **22 35 16.4 -0.6**
comp=Z,11nm,1.4s
VNDA Vanda 83.44 173 P **P** **22 35 18.1 +0.8**
comp=Z,1.4nm,0.5s,baz=325,slow=6.8,SNR=19
VNDA LR LR 23 14 39.0
comp=Z,75nm,18.1s,baz=334,slow=37
VNDA Vanda 83.44 173 P **P** **22 35 18.1 +0.8**
VNDA pmax pmax
comp=Z,1.0nm,0.5s
VNDA MLR MLR
comp=Z,75nm,18.1s
TRF Thorofare Moun 83.58 27 *e*P **P** **22 35 17.8 -0.7**
comp=Z,27nm,1.1s
MAW Mawson 83.73 200 P **P** **22 35 19.1 +0.3**
comp=Z,2.7nm,0.8s,baz=129,slow=3.9,SNR=4.4
MAW Mawson 83.73 200 P **P** **22 35 19.1 +0.3**
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 83.73 200 *e*P **P** **22 35 20.3 +1.5**
COLD Coldfoot 83.92 23 *e*P **P** **22 35 19.4 -0.6**
comp=Z,19nm,1.0s
VRHR Novokhopersk 83.98 321 *e*P **P** **22 35 21.5 +1.0**
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,30nm,1.6s
MCK McKinley 84.20 26 *e*P **P** **22 35 20.3 -1.1**
comp=E,61nm,1.4s
CCB Clear Creek Bu 84.74 26 *e*P **P** **22 35 24.3 +0.2**
comp=E,18nm,1.2s
ILAR Eielson Array 85.14 25 P **P** **22 35 25.9 -0.2**
comp=E,0.7nm,0.5s,baz=250,slow=5.4,SNR=11
ILAR Eielson Array 85.14 25 P **P** **22 35 25.9 -0.2**
ILAR pmax pmax
comp=Z,1.0nm,0.5s
PPT Papeete 85.20 108 LR LR 23 07 43.1
comp=Z,111nm,21.6s,baz=309,slow=32
PPT2 Papeete2 85.20 108 *e*S **S** **22 45 54.2 +1.5**
comp=Z,74nm,24.2s
PPT2 Papeete2 85.20 108 *e*LR LR 23 02 21.1
comp=Z,235nm,25.0s
VORD Divnogorie 85.45 321 *e*P **P** **22 35 26.9 -1.0**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORD pmax pmax
comp=N,250nm,0.5s
VORD pmax pmax
comp=E,340nm,0.6s
VSR Storozhevoye 85.53 321 *e*P **P** **22 35 27.1 -1.2**
VSR pmax pmax
comp=Z,30nm,1.2s
VSR pmax pmax
comp=N,3.0nm,0.5s
VSR pmax pmax
comp=E,10.0nm,0.9s
DIV Divide 85.59 29 *e*P **P** **22 35 27.7 -0.8**
comp=E,32nm,1.0s
LPSR Galich'ya Gora 85.67 322 *e*P **P** **22 35 27.2 -1.8**
LPSR pmax pmax
comp=Z,20nm,1.1s
LPSR pmax pmax
comp=N,8.0nm,1.2s
LPSR pmax pmax
comp=E,20nm,1.5s
PAX Paxson 85.74 27 *e*P **P** **22 35 28.7 -0.6**
comp=E,87nm,2.4s
TBI Tubuai 85.87 114 *e*LR LR 23 02 37.0
comp=E,275nm,27.5s
TMCR Tamitsa 86.06 334 *e*P **P** **22 35 31.0 +0.4**
TMCR pmax pmax
comp=Z,26nm,0.8s
BMRM Bremner River 86.16 29 *e*P **P** **22 35 30.9 -0.4**
comp=Z,21nm,1.0s
MOS Moscow 86.39 325 *e*P **P** **22 35 30.4 -2.0**
MOS pmax pmax
comp=Z,68nm,1.2s
OBN Obninsk 87.01 325*c* *i*P **P** **22 35 34.5 -1.0**
OBN *i* 22 35 49.5
OBN pmax pmax
comp=Z,47nm,1.4s
OBN MLR MLR
comp=Z,162nm,23.0s
OBN Obninsk 87.01 325 *e*P **P** **22 35 34.9 -0.5**
comp=Z,56nm,1.2s
SIM Simferopol' 89.18 315 *e*P **P** **22 35 45.0 -1.1**
SIM pmax pmax
comp=Z,8.0nm,0.7s
SIM MLR MLR
comp=Z,60nm,20.5s
KMBO Kilima Mbogo 89.46 269 P **P** **22 35 47.9 -0.5**
comp=Z,6.1nm,0.9s,baz=76,slow=4.1,SNR=10
KMBO Kilima Mbogo 89.46 269*c**e*P **P** **22 35 48.7 +0.3**
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 89.46 269 *e*P **P** **22 35 48.8 +0.5**
comp=Z,3.4nm,1.1s
BRTR Keskin Array B 89.95 310 P **P** **22 35 48.4 -1.6**
comp=Z,4.9nm,1.0s,baz=124,slow=5.1,SNR=19
BRTR LR LR 23 24 24.2
comp=Z,26nm,18.3s,baz=67,slow=41
BRTR Keskin Array B 89.95 310*c**e*P **P** **22 35 49.2 -0.8**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 90.41 340 P **P** **22 35 50.4 -0.9**
comp=Z,5.9nm,0.7s,baz=78,slow=6.8,SNR=22
ARCES LR LR 23 22 06.1
comp=Z,81nm,20.1s,baz=84,slow=39
ARCES ARCESS Array B 90.41 340 P **P** **22 35 50.4 -0.9**
ARCES pmax pmax
comp=Z,6.0nm,0.7s
ARCES MLR MLR
comp=Z,81nm,20.1s
FINES FINESS Array B 91.79 332 P **P** **22 35 57.2 -0.6**
comp=Z,1.5nm,0.4s,baz=67,slow=4.2,SNR=26
FINES LR LR 23 21 14.7
comp=Z,156nm,20.1s,baz=72,slow=38
FINES FINESS Array B 91.79 332 P **P** **22 35 57.2 -0.6**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES MLR MLR
comp=Z,157nm,20.1s
AKASG Malin Array Be 91.83 321 P **P** **22 35 56.7 -1.6**
comp=Z,2.9nm,0.6s,baz=69,slow=4.3,SNR=22
AKASG LR LR 23 19 36.9
comp=Z,74nm,21.7s,baz=85,slow=37
AKASG Malin Array Be 91.83 321 P **P** **22 35 56.7 -1.6**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG MLR MLR
comp=Z,74nm,21.7s
KIEV Kiev 91.84 321 *e*P **P** **22 35 56.7 -1.6**
comp=Z,7.5nm,1.0s
SYO Syowa Base 92.40 201⇑ *e*PcP **PcP** **22 36 04.4 +3.3**
CFR Carcaliu 93.36 316⇓ *i*P sP 22 36 28.9 -3.0
TLB Topalu 93.52 315⇑ P **P** **22 36 05.9 -0.3**
TLB Topalu 93.52 315⇑ *i*P **P** **22 36 05.9 -0.3**
PSN Preselentsi 93.55 314⇑ *i*P sP 22 36 35.0 +2.2
TESR Tescani 94.17 317⇑ *i*P **P** **22 36 08.2 -1.0**
VRI Vrincioaia 94.23 316 ⇓ P **P** **22 36 09.4 -0.1**
VRI Vrincioaia 94.23 316 ⇓ *i*P **P** **22 36 09.4 -0.1**
ISR Istrita 94.48 316 ⇓ P **P** **22 36 12.7 +2.0**
ISR Istrita 94.48 316 ⇓ *i*P **P** **22 36 12.7 +2.0**
MLR Muntele Rosu 94.83 316 ⇓ P **P** **22 36 11.7 -0.7**
MLR Muntele Rosu 94.83 316 ⇓ *i*P **P** **22 36 11.7 -0.7**
SUW Suwalki 94.87 325 *e*P **P** **22 36 11.3 -0.9**
SUW Suwalki 94.87 325 *e*P **P** **22 36 11.4 -0.8**
JMB Yambol 94.90 313⇑ P **P** **22 36 12.6 0.0**
JMB Yambol 94.90 313⇑ *i*P **P** **22 36 12.6 0.0**
BURAR Bucovina Array 94.94 318⇑ P **P** **22 36 12.5 -0.3**
BURAR Bucovina Array 94.94 318⇑ *i*P **P** **22 36 12.5 -0.3**
VOIR 95.47 316 ⇓ P **P** **22 36 12.2 -3.0**
VOIR 95.47 316 ⇓ *i*P **P** **22 36 12.2 -3.0**
RDO Rodhopi 95.90 312 *e*P **P** **22 36 15.5 -1.7**
comp=Z,5.8nm,0.9s
KDZ Kurdzhali 95.90 312 ⇓ P **P** **22 36 16.1 -1.1**
KDZ Kurdzhali 95.90 312 ⇓ *i*P **P** **22 36 16.1 -1.1**
KWP Kalwaria Pacla 96.15 321 *e*P **P** **22 36 18.1 0.0**
KWP Kalwaria Pacla 96.15 321 *e*P **P** **22 36 18.1 0.0**

CJR	**Cluj-Napoca**	**96.20**	**318**	⇑P	**P**	**22**	**36**	**19.0 +0.5**
CJR	**Cluj-Napoca**	**96.20**	**318**	⇑*i*P	**P**	**22**	**36**	**19.0 +0.5**
LOT	**Lotru**	**96.35**	**316**	⇓*i*P	**P**	**22**	**36**	**18.9 -0.4**
KOLS	**Kolonicke sedl**	**96.58**	**320**	*e*P	**P**	**22**	**36**	**20.2 +0.1**
KOLS				*e*		22	36	35.1
KOLS	**Kolonicke sedl**	**96.58**	**320**	*e*P	**P**	**22**	**36**	**20.2 +0.1**
KOLS				*e*		22	36	35.1
UZH	**Uzhgorod**	**96.64**	**320**	⇓*i*P	**P**	**22**	**36**	**19.8 -0.6**
UZH				*i*		22	36	33.0
DRGR		**96.78**	**318**	⇓P	**P**	**22**	**36**	**20.7 -0.5**
DRGR		**96.78**	**318**	⇓*i*P	**P**	**22**	**36**	**20.7 -0.5**
STHS	**Stebnicka Huta**	**97.12**	**321**	*e*P	Pdif	22	36	22.9 +0.2
STHS				*e*		22	36	38.2
STS	**Stebnicka Huta**	**97.12**	**321**	*e*P	Pdif	22	36	22.9 +0.2
STHS				*e*		22	36	38.2
MMB	**Musomiste**	**97.15**	**313**	⇓P	**P**	**22**	**36**	**21.1 -1.8**
MMB	**Musomiste**	**97.15**	**313**	⇓*i*P	**P**	**22**	**36**	**21.1 -1.8**
SIRR	**Siria**	**97.61**	**317**	⇓*i*P	Pdif	22	36	25.3 +0.4
NIE	**Niedzica**	**97.71**	**321**	*e*P	Pdif	22	36	25.4 +0.1
NIE	**Niedzica**	**97.71**	**321**	*e*P	Pdif	22	36	25.5 +0.2
BZS	**Buzias**	**97.79**	**317**	⇓P	**P**	**22**	**36**	**23.4 -2.2**
BZS	**Buzias**	**97.79**	**317**	⇓*i*P	**P**	**22**	**36**	**23.4 -2.2**
KECS	**Kecovo**	**97.84**	**320**	*e*P	**P**	**22**	**36**	**23.9 -1.9**
KECS				*e*		22	40	20.1
KECS	**Kecovo**	**97.84**	**320**	*e*P	**P**	**22**	**36**	**23.9 -1.9**
KECS				*e*PP	**PP**	**22**	**40**	**20.1 -4.5**
PSZ	**Piszkesteto**	**98.37**	**319**	⇑P	**P**	**22**	**36**	**26.4 -1.9**
PSZ	**Piszkesteto**	**98.37**	**319**	⇑*i*P	**P**	**22**	**36**	**26.4 -1.9**
NB2	**NORSAR Subarra**	**98.74**	**334**	P	**P**	**22**	**36**	**27.7 -1.9**
	comp=Z,2.4nm,0.8s,baz=68,slow=4.6							
NOA	**NORSAR Array B**	**98.74**	**334**	P	**P**	**22**	**36**	**28.2 -1.4**
	comp=Z,2.1nm,0.7s,baz=66,slow=4.5,SNR=9.5							
NOA				LR	LR	23	25	52.3
	comp=Z,147nm,20.3s,baz=85,slow=38							
NOA	**NORSAR Array B**	**98.74**	**334**	P	**P**	**22**	**36**	**28.2 -1.4**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
NOA				MLR	MLR			
	comp=Z,147nm,20.3s							
DIVS	**Divibare**	**99.27**	**316**	⇑*i*P	**Pdif**	**22**	**36**	**32.4 0.0**
PKSM	**Moragy**	**99.65**	**318**	⇓P	**Pdif**	**22**	**36**	**33.3 -0.6**
PKSM	**Moragy**	**99.65**	**318**	⇓*i*P	**Pdif**	**22**	**36**	**33.3 -0.6**
KSP	**Ksiaz**	**99.79**	**323**	*e*P	**Pdif**	**22**	**36**	**34.9 +0.5**
KSP	**Ksiaz**	**99.79**	**323**	*e*P	**Pdif**	**22**	**36**	**34.9 +0.5**
DPC	**Dobruska-Polom**	**99.92**	**322**	*e*PDIFF	**Pdif**	**22**	**36**	**34.6 -0.5**
DPC				*ex*	x	22	36	39.9
DPC				*ep*P	**pP**	**22**	**36**	**51.6 -2.6**
DPC	**Dobruska-Polom**	**99.92**	**322**	*e*P	**Pdif**	**22**	**36**	**34.6 -0.5**
DPC				*e*		22	36	51.6
UPC	**Upice**	**100.06**	**323**	*e*PDIFF	**Pdif**	**22**	**36**	**34.6 -1.1**
UPC	**Upice**	**100.06**	**323**	*e*P	**Pdif**	**22**	**36**	**34.6 -1.1**
TREC	**Trest**	**100.77**	**322**	*e*PDIFF	**Pdif**	**22**	**36**	**38.3 -0.6**
TREC				*ep*P	pP	22	36	53.8 -4.3
TREC				AMS	AMS	23	28	20.0
TREC	**Trest**	**100.77**	**322**	*e*P	**Pdif**	**22**	**36**	**38.3 -0.6**
PVCC	**Panska Ves**	**100.92**	**323**	*e*PDIFF	**Pdif**	**22**	**36**	**39.9 +0.4**
PVCC	**Panska Ves**	**100.92**	**323**	*e*P	**Pdif**	**22**	**36**	**39.9 +0.4**
GOPC	**GO Pecny, Ondr**	**101.00**	**322**	*e*PDIFF	**Pdif**	**22**	**36**	**40.2 +0.3**
GOPC				AMS	AMS	23	25	10.0
	comp=Z,100nm,20.5s							
PRU	**Pruhonice**	**101.12**	**322**	*e*PDIFF	**Pdif**	**22**	**36**	**40.0 -0.4**
PRU				*ex*	x	22	36	44.2
PRU				*ex*	x	22	36	45.6
PRU				*ep*P	pP	22	36	57.1 -2.5
PRU				AMS	AMS	23	25	00.0
	comp=Z,200nm,19.7s							
PRU	**Pruhonice**	**101.12**	**322**	*e*P	**Pdif**	**22**	**36**	**40.0 -0.4**
PRU				MLR	MLR			
	comp=Z,200nm,19.7s							
PRA	**Prague**	**101.16**	**323**	AMS	AMS	23	23	40.0
	comp=Z,200nm,22.5s							
BRG	**Berggiesshubel**	**101.18**	**323**	*e*P	**Pdif**	**22**	**36**	**40.7 +0.1**
	comp=Z,24nm,1.9s							
BRG	**Berggiesshubel**	**101.18**	**323**	*e*P	**Pdif**	**22**	**36**	**40.7 +0.1**
BRG				pmax	pmax			
	comp=Z,24nm,2.0s							
CLL	**Collm**	**101.58**	**324**	*e*Pdif	**Pdif**	**22**	**36**	**42.0 -0.4**
CLL				*e*SSSS		23	03	06.0
CLL				Lm	MLR	23	25	00.0
	comp=Z,100nm,20.8s							
CLL	**Collm**	**101.58**	**324**	*e*P	**Pdif**	**22**	**36**	**42.0 -0.4**
KHC	**Kasperske Hory**	**102.00**	**322**	*e*PDIFF	**Pdif**	**22**	**36**	**43.2 -1.2**
KHC				*ex*	x	22	36	46.7
KHC				*ex*	x	22	36	49.2
KHC				*ep*P		22	37	00.4
KHC	**Kasperske Hory**	**102.00**	**322**	*e*P	**Pdif**	**22**	**36**	**43.2 -1.2**
GERES	**GERESS Array B**	**102.03**	**322**	P	**Pdif**	**22**	**36**	**43.9 -0.7**
	comp=Z,1.1nm,0.9s,baz=77,slow=5.8,SNR=11							
GERES	**GERESS Array B**	**102.03**	**322**	P	**Pdif**	**22**	**36**	**43.9 -0.7**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.9s							
NKC	**Novy Kostel**	**102.30**	**323**	*e*PDIFF	**Pdif**	**22**	**36**	**50.6 +4.9**
NKC				*ex*	x	22	36	55.5
NKC	**Novy Kostel**	**102.30**	**323**	*e*P	**Pdif**	**22**	**36**	**50.6 +4.9**
PDAR	**Pinedale Array**	**111.41**	**41**	PKKPab	PKKPab	22	52	29.1 -1.4
	comp=Z,1.0nm,0.8s,baz=98,slow=6.3,SNR=6.7							
TXAR	**Lajitas Array**	**121.67**	**52**	PKP	**PKPdf**	**22**	**41**	**45.3 +0.7**
	comp=Z,0.3nm,0.6s,baz=61,slow=0.7,SNR=8.4							
TORD	**Torodi Ar. Bea**	**122.83**	**288**	PKP	**PKPdf**	**22**	**41**	**46.7 -0.3**
	comp=Z,1.8nm,0.6s,baz=73,slow=1.7,SNR=33							
TORD				PKKPbc	**PKKPab**	**22**	**51**	**41.2 +1.1**
	comp=Z,0.2nm,0.5s,baz=261,slow=2.7,SNR=6.6							
DBIC	**Dimbokro**	**130.49**	**282**	PKP	**PKPdf**	**22**	**42**	**02.4 +0.7**
	comp=Z,7.3nm,1.0s,baz=160,slow=4.0,SNR=3.7							
DBIC	**Dimbokro**	**130.49**	**282**	PKIKP	**PKPdf**	**22**	**42**	**02.4 +0.7**
DBIC				pmax	pmax			
	comp=Z,7.0nm,1.0s							
LPAZ	**La Paz**	**160.86**	**132**	PKP	**PKPdf**	**22**	**42**	**53.8 +2.0**
	comp=Z,1.4nm,1.0s,baz=20,slow=5.7,SNR=4.8							
LPAZ	**La Paz**	**160.86**	**132**	PKIKP	**PKPdf**	**22**	**42**	**53.8 +2.0**
LPAZ				pmax	pmax			
	comp=Z,2.0nm,1.0s							

CSEM ***13*** *22:34:24.7, 42.78N×12.64E, h9km, MD1.7/5*

ROM 13 22:34:24.7±0.1, 42.78N×12.64E, h9km±1km, Md1.7/5, Ml0.7/4, Error ellipse: s-maj=2.3km s-min=0.6km az=112.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CESX	**Cesi**	**0.17**	**196**	Pg	Pg		22 34 29.0	+0.6
CESX				Sg	Sg		22 34 32.2	+1.3
	21nm,0.4s							
CESX	**Cesi**	**0.17**	**196**	Pg	Pg		22 34 29.0	+0.6
CESX				Sg	Sg		22 34 32.2	+1.3
	21nm,0.4s							
CESI	**CESI - Serrava**	**0.30**	**40**	Pg	Pb		22 34 31.8	-0.5
CESI				Sg	Sb		22 34 36.7	-0.8
	3.0nm,1.0s							
CESI	**CESI - Serrava**	**0.30**	**40**	Pg	Pb		22 34 31.8	-0.5
CESI				Sg	Sb		22 34 36.7	-0.8
	3.0nm,1.0s							
LNSS	**Leonessa**	**0.34**	**120**	Pg	Pg		22 34 32.1	+0.5
LNSS				Sg	Sb		22 34 37.9	-0.8
LNSS	**Leonessa**	**0.34**	**120**	Pg	Pg		22 34 32.1	+0.5
LNSS				Sg	Sb		22 34 37.9	-0.8
NRCA	**Norcia**	**0.35**	**80**	Pg	Pg		22 34 32.4	+0.6
NRCA				Sg	Sb		22 34 38.0	-1.0
	7.0nm,0.1s							
NRCA	**Norcia**	**0.35**	**80**	Pg	Pg		22 34 32.4	+0.6
NRCA				Sg	Sb		22 34 38.0	-1.0
	7.0nm,0.1s							
FDMO	**Fiordimonte**	**0.42**	**51**	Pg	Pb		22 34 33.7	-0.6
FDMO				Sg	Sb		22 34 40.0	-0.8
	5.0nm,0.2s							
FDMO	**Fiordimonte**	**0.42**	**51**	Pg	Pb		22 34 33.7	-0.6
FDMO				Sg	Sb		22 34 40.0	-0.8
	5.0nm,0.2s							

IDC ***13*** *22:45:36.3±1.4, 7.69N×91.90E, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.4/41, mbtmp3.6/6, ML3.9/2, Error ellipse: s-maj=38.9km s-min=23.4km az=60.0*

ISCJB ***13*** *22:45:37.5±0.9, 7.7N±0.1×91.8E±0.1, h24km, mb3.3/4, Error ellipse: s-maj=18.9km s-min=16.4km az=168.5*

ISC 13 22:45:39.8±1.2, 7.7N±0.2×91.9E±0.1, h24km, n9, σ0.931/6, mb3.3/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.08**	**269**	Pn	**Pn**		**22 48 17.0**	**+0.1**
	0.8nm,0.3s,baz=91,slow=13,SNR=5.3							
PALK				Sn	Sn		22 50 06.8	-13
	1.2nm,0.3s,baz=3.5,slow=19,SNR=5.3							
CMAR	**Chiang Mai Arr**	**12.73**	**32**	Pn	**Pn**		**22 48 39.8**	**+0.3**
	0.2nm,0.3s,baz=232,slow=14,SNR=5.7							
H08S3	**Diego Garcia H**	**24.59**	**232**	T	T		23 17 27.7	
	baz=52,slow=75,SNR=8.8							
H08S2	**Diego Garcia H**	**24.60**	**232**	T	T		23 17 28.6	
	baz=52,slow=75,SNR=8.2							
H08S1	**Diego Carcia H**	**24.61**	**232**	T	T		23 17 27.9	
	baz=52,slow=75,SNR=8.2							
MKAR	**Makanchi Array**	**39.82**	**350**	P	**P**		**22 53 11.2**	**0.0**
	0.2nm,0.5s,baz=166,slow=7.4,SNR=2.6							
SONM	**Songino Array**	**41.88**	**15**	P	**P**		**22 53 27.9**	**-0.4**
	0.4nm,0.7s,baz=190,slow=7.5,SNR=5.0							
WRA	**Warramunga Arr**	**50.01**	**124**	P	**P**		**22 54 32.8**	**+0.2**
	0.2nm,0.3s,baz=303,slow=9.0,SNR=3.8							
ASAR	**Alice Springs**	**51.55**	**128**	P	**P**		**22 54 44.1**	**-0.1**
	0.3nm,0.8s,baz=306,slow=8.4,SNR=3.3							

IDC 13 22:54:52.5±1.3, 8.00N×91.35E, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.5/40, mbtmp3.6/8, ML3.8/2, Error ellipse: s-maj=37.4km s-min=20.8km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.58**	**267**	Pn	Pn		22 57 25.3	-0.2
	0.9nm,0.3s,baz=82,slow=14,SNR=11							
PALK				Sn	Sn		22 59 14.1	-11
	1.8nm,0.3s,baz=2.4,slow=18,SNR=10							
CMAR	**Chiang Mai Arr**	**12.75**	**35**	Pn	Pn		22 57 56.2	+0.9
	0.2nm,0.3s,baz=236,slow=14,SNR=4.3							
H08S3	**Diego Garcia H**	**24.38**	**231**	T	T		23 26 40.7	
	baz=52,slow=75,SNR=6.5							
H08S2	**Diego Garcia H**	**24.39**	**231**	T	T		23 26 37.3	
	baz=52,slow=75,SNR=8.1							
H08S1	**Diego Carcia H**	**24.40**	**231**	T	T		23 26 25.5	
	baz=52,slow=75,SNR=7.5							
MKAR	**Makanchi Array**	**39.43**	**350**	P	P		23 02 24.3	0.0
	0.4nm,0.6s,baz=170,slow=8.7,SNR=5.0							
SONM	**Songino Array**	**41.71**	**15**	P	P		23 02 42.1	-1.2
	0.6nm,0.8s,baz=193,slow=4.4,SNR=3.8							
KURBB	**Kurchatov Arra**	**43.81**	**348**	P	P		23 03 00.4	+0.3
	0.6nm,0.9s,baz=174,slow=7.2,SNR=6.3							
ZALV	**Zalesovo Beam**	**46.12**	**355**	P	P		23 03 18.4	0.0
	0.3nm,0.9s,baz=172,slow=11,SNR=4.4							
WRA	**Warramunga Arr**	**50.60**	**124**	P	P		23 03 53.7	+0.1
	0.5nm,0.7s,baz=304,slow=9.5,SNR=3.7							
ASAR	**Alice Springs**	**52.14**	**128**	P	P		23 04 04.9	-0.2
	0.2nm,0.5s,baz=306,slow=7.5,SNR=3.9							

IDC 13 23:00:04.0±1.4, 8.44N×91.76E, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.4/34, mbtmp3.5/5, ML4.1/1, Error ellipse: s-maj=42.2km s-min=24.1km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.02**	**265**	Pn	Pn		23 02 42.2	-0.9
	1.2nm,0.3s,baz=100,slow=10,SNR=7.1							
PALK				Sn	Sn		23 04 34.0	-13
	0.6nm,0.3s,baz=141,slow=23,SNR=8.5							
H08S3	**Diego Garcia H**	**24.98**	**231**	T	T		23 31 28.8	
	baz=52,slow=76,SNR=15							
H08S2	**Diego Garcia H**	**24.98**	**231**	T	T		23 31 37.0	
	baz=52,slow=76,SNR=3.8							
H08S1	**Diego Carcia H**	**25.00**	**231**	T	T		23 31 32.4	
	baz=52,slow=76,SNR=7.6							
MKAR	**Makanchi Array**	**39.06**	**350**	P	P		23 07 33.6	+0.8
	0.2nm,0.7s,baz=177,slow=8.9,SNR=3.1							
SONM	**Songino Array**	**41.18**	**15**	P	P		23 07 49.4	-1.0
	0.4nm,0.8s,baz=198,slow=8.8,SNR=3.3							
WRA	**Warramunga Arr**	**50.52**	**124**	P	P		23 09 04.5	0.0
	0.6nm,0.9s,baz=308,slow=8.4,SNR=3.6							
ASAR	**Alice Springs**	**52.10**	**129**	P	P		23 09 16.2	-0.1
	0.5nm,0.7s,baz=309,slow=7.1,SNR=5.4							

MAN 13 23:04:18, 17.80N×120.61E, h36km, mb3.6, ML2.3, MS1.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.17**	**147**	*e*P	Pn		23 04 26.2	-1.1
ABRA				*e*S	Sn		23 04 30.4	-5.8
SIPP	**Brgy, Tapao**	**0.19**	**311**	⇑*e*P	Pn		23 04 26.3	-0.7
APYP	**Conner**	**0.60**	**84**	*e*P	Pn		23 04 31.7	+1.5
APYP				*e*S	Sn		23 04 40.0	+1.4

SKO ***13*** *23:13:46.8, 41.56N×20.34E, h15km, M2.3, ML2.7*
ATH ***13*** *23:13:47.2, 41.63N×20.41E, h12km±1km, MD3.5/22*
TIR ***13*** *23:13:47.2±28.0, 42.82N×21.76E, h0km±999km*
PDG ***13*** *23:13:48.0±0.6, 41.66N×20.33E, h8km, ML2.9/10, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
THE ***13*** *23:13:48.6, 41.69N×20.43E, h0km±2km, ML2.7/4, Error ellipse: s-maj=2.4km s-min=1.0km az=349.0*
BEO ***13*** *23:13:48.2±0.4, 41.57N×20.39E, h0km, ML2.5/1*
CSEM ***13*** *23:13:48.0±0.1, 41.64N×20.37E, h2km, ML2.5, Error ellipse: s-maj=3.4km s-min=2.0km az=56.0*

ISC 13 23:13:48.1±0.8, 41.62N±0.01×20.36E±0.01, h9km±5km, n208, σ1.919/293, 11C-19D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.09**	**42**	*i* Pg	**Pg**		**23 13 50.4**	**-0.1**
PHP				*i* SG	**Sg**		**23 13 53.0**	**+0.8**
PHP	**Peshkopia**	**0.09**	**42**	*i* Pg	**Pg**		**23 13 50.4**	**-0.1**
	SNR=90							
PHP				*i* Sg	**Sg**		**23 13 53.0**	**+0.8**
	SNR=90							
TIR	**Tirane**	**0.46**	**234**	*i* PG	**Pg**		**23 13 56.0**	**-1.1**
TIR				*i* SG	**Sg**		**23 14 03.9**	**+0.9**
TIR	**Tirane**	**0.46**	**234**	P	**Pg**		**23 13 56.1**	**-0.9**
TIR				S	**Sg**		**23 14 03.7**	**+0.6**
TIR	**Tirane**	**0.46**	**234**	*i* Pg	**Pg**		**23 13 55.9**	**-1.1**
TIR				*i*SG	**Sg**		**23 14 03.1**	**0.0**
PUK	**Puka**	**0.55**	**321**	*i* PG	**Pg**		**23 13 58.0**	**-0.8**
PUK				*i* SG	**Sg**		**23 14 06.3**	**+0.3**
PUK	**Puka**	**0.55**	**321**	*i* Pg	**Pg**		**23 13 58.0**	**-0.8**
	SNR=90							
PUK				*i* Sg	**Sg**		**23 14 06.3**	**+0.3**
	SNR=90							
SKO	**Skopje**	**0.88**	**66**	P	**Pg**		**23 14 04.9**	**-0.2**
SKO				S	**Sb**		**23 14 17.5**	**0.0**
SKO	**Skopje**	**0.88**	**66**	*i* Pg	**Pg**		**23 14 04.5**	**-0.6**
SKO				*i* Sg	**Sn**		**23 14 18.1**	**-1.6**
SKO	**Skopje**	**0.88**	**66**	*i* Pg	**Pg**		**23 14 04.4**	**-0.6**
SKO	**Skopje**	**0.88**	**66**	P	**Pg**		**23 14 04.9**	**-0.2**
SKO				S	**Sb**		**23 14 17.5**	**0.0**
SKO				*i* Sg	**Sn**		**23 14 18.1**	**-1.6**
ULC	**Ulcinj**	**0.90**	**293**	⇓*i*Pg	**Pg**		**23 14 03.5**	**-2.0**
ULC				*e*Sg	**Sb**		**23 14 17.9**	**-0.2**
ULC	**Ulcinj**	**0.90**	**293**	⇓*i*Pg	**Pg**		**23 14 03.5**	**-2.0**
ULC				*e*Sg	**Sb**		**23 14 17.9**	**-0.2**
PVY	**Plav**	**1.02**	**343**	⇓*i*PG	**Pg**		**23 14 05.9**	**-1.8**
PVY				*e*Sg	**Sb**		**23 14 21.6**	**-0.1**
PVY	**Plav**	**1.02**	**343**	⇓*i*Pg	**Pg**		**23 14 05.9**	**-1.8**
PVY				*e*Sg	**Sb**		**23 14 21.6**	**-0.1**
KBN	**Korca**	**1.04**	**162**	*i* PG	**Pn**		**23 14 08.5**	**-0.5**
KBN				*i* SG	**Sn**		**23 14 23.2**	**-0.6**
KBN	**Korca**	**1.04**	**162**	P	**Pn**		**23 14 08.6**	**-0.5**
KBN				S	**Sn**		**23 14 25.1**	**+1.3**
KBN	**Korca**	**1.04**	**162**	*i* Pg	**Pn**		**23 14 08.5**	**-0.5**
	SNR=90							
KBN				*i* Sg	**Sn**		**23 14 23.2**	**-0.6**
	SNR=90							
KBN				S	**Sn**		**23 14 25.1**	**+1.3**
DRME	**Dracevica, Mon**	**1.04**	**303**	⇓*i*Pg	**Pg**		**23 14 06.6**	**-1.6**
DRME				*e*Sg	**Sn**		**23 14 22.8**	**-0.9**
DRME	**Dracevica, Mon**	**1.04**	**303**	⇓*i*Pg	**Pg**		**23 14 06.6**	**-1.6**
DRME				*e*Sg	**Sn**		**23 14 22.8**	**-0.9**
FNA	**Florina**	**1.13**	**137**	P	**Pb**		**23 14 08.9**	**-1.0**
FNA				S	**Sn**		**23 14 26.7**	**+0.7**
FNA	**Florina**	**1.13**	**137**	*e*PG	**Pb**		**23 14 08.0**	**-1.9**
FNA				*e*SB	**Sb**		**23 14 24.1**	**-0.7**
FNA	**Florina**	**1.13**	**137**	*e*Pg	**Pb**		**23 14 08.0**	**-1.9**
FNA	**Florina**	**1.13**	**137**	P	**Pb**		**23 14 08.9**	**-1.0**
FNA				*e*Sb	**Sb**		**23 14 24.1**	**-0.7**
FNA				S	**Sn**		**23 14 26.7**	**+0.7**
PDG	**Podgorica**	**1.16**	**315**	P	**Pb**		**23 14 10.0**	**-0.3**
PDG				S	**Sn**		**23 14 26.4**	**0.0**
PDG	**Podgorica**	**1.16**	**315**	⇓*i*Pg	**Pb**		**23 14 08.2**	**-2.1**
PDG				*e*Sg	**Sn**		**23 14 26.9**	**+0.5**
PDG	**Podgorica**	**1.16**	**315**	⇓*i*Pg	**Pb**		**23 14 08.2**	**-2.1**
PDG	**Podgorica**	**1.16**	**315**	P	**Pb**		**23 14 10.0**	**-0.3**
PDG				S	**Sn**		**23 14 26.4**	**0.0**
TTG	**Podgorica**	**1.16**	**315**	⇓*i*Pg	**Pb**		**23 14 08.2**	**-2.1**
TTG				*e*Sg	**Sn**		**23 14 26.5**	**0.0**
BUM	**Brajici-Budva**	**1.29**	**302**	⇑*i*Pg	**Pn**		**23 14 10.9**	**-1.5**
BUM				*e*Sg	**Sg**		**23 14 30.6**	**+1.0**
BUM	**Brajici-Budva**	**1.29**	**302**	⇑*i*Pg	**Pn**		**23 14 10.9**	**-1.5**
BUM				*e*Sg	**Sg**		**23 14 30.6**	**+1.0**
BEY	**Berane**	**1.30**	**345**	⇓*i*Pg	**Pn**		**23 14 11.6**	**-1.0**
BEY				*e*Sg	**Sg**		**23 14 31.1**	**+1.1**
IVA	**Berane**	**1.30**	**345**	⇓*i*Pg	**Pn**		**23 14 11.6**	**-1.0**
IVA				*e*Sg	**Sg**		**23 14 31.1**	**+1.1**
NEST	**Nestorio**	**1.31**	**156**	P	**Pn**		**23 14 12.4**	**-0.3**
NEST	**Nestorio**	**1.31**	**156**	*e*PB	**Pn**		**23 14 11.8**	**-0.9**
NEST				*e*SB	**Sb**		**23 14 29.1**	**-0.8**
NEST	**Nestorio**	**1.31**	**156**	*e*Pb	**Pn**		**23 14 11.8**	**-0.9**
NEST	**Nestorio**	**1.31**	**156**	P	**Pn**		**23 14 12.4**	**-0.3**
NEST				*e*Sb	**Sb**		**23 14 29.1**	**-0.8**
VLO	**Vlora**	**1.32**	**210**	P	**Pg**		**23 14 14.9**	**+1.5**
VLO	**Vlora**	**1.32**	**210**	P	**Pg**		**23 14 14.9**	**+1.5**
NKME	**Niksic**	**1.55**	**318**	*e*Pg	**Pn**		**23 14 15.4**	**-0.6**
NKME				*e*Sg	**Sg**		**23 14 38.4**	**+0.3**
NKME	**Niksic**	**1.55**	**318**	*e*Pg	**Pn**		**23 14 15.4**	**-0.6**
NKME				*e*Sg	**Sg**		**23 14 38.4**	**+0.3**
NKY	**Niksic**	**1.57**	**320**	⇓*i*Pg	**Pn**		**23 14 16.4**	**+0.1**
NKY				*e*Sg	**Sg**		**23 14 39.1**	**+0.6**
NKY	**Niksic**	**1.57**	**320**	⇓*i*Pg	**Pn**		**23 14 16.4**	**+0.1**
NKY				*e*Sg	**Sg**		**23 14 39.1**	**+0.6**
BARS	**Barje**	**1.61**	**42**	*e*Pg	**Pb**		**23 14 17.8**	**-0.3**
BARS				*e*Sg	**Sg**		**23 14 40.3**	**+0.3**
BARS	**Barje**	**1.61**	**42**	*e*Pg	**Pb**		**23 14 17.8**	**-0.3**
HCY	**Herceg Novi**	**1.62**	**301**	⇑*i*Pg	**Pn**		**23 14 16.5**	**-0.4**
HCY				*e*Sg	**Sg**		**23 14 40.5**	**+0.4**
HCY	**Herceg Novi**	**1.62**	**301**	⇑*i*Pg	**Pn**		**23 14 16.5**	**-0.4**
HCY				*e*Sg	**Sg**		**23 14 40.5**	**+0.4**
SJES	**Sjenica**	**1.67**	**350**	⇑*i*Pg	**Pb**		**23 14 18.9**	**-0.2**
SJES				*e*Sg	**Sg**		**23 14 42.4**	**+0.7**
VAY	**Valandovo**	**1.69**	**99**	P	**Pb**		**23 14 18.1**	**-1.2**
VAY	**Valandovo**	**1.69**	**99**	*e*Pn	**Pb**		**23 14 18.1**	**-1.2**
VAY				*i* Sg	**Sg**		**23 14 42.1**	**-0.3**
VAY				*e*Lg	Lg		23 14 43.3	
	comp=E,58nm,0.5s							
VAY				*e*Lg	Lg		23 14 43.5	
	comp=N,75nm,0.7s							
VAY	**Valandovo**	**1.69**	**99**	P	**Pb**		**23 14 18.1**	**-1.2**
VAY				*i* Sg	**Sg**		**23 14 42.0**	**-0.3**
VAY				*e*Lg	Lg		23 14 43.2	
	comp=N,58nm,0.5s							
KZN	**Kozani**	**1.69**	**140**	P	**Pg**		**23 14 19.8**	**-0.7**
KZN				S	**Sg**		**23 14 43.2**	**+0.8**
KZN	**Kozani**	**1.69**	**140**	*e*PG	**Pn**		**23 14 18.0**	**+0.1**
KZN				*e*SB	**Sg**		**23 14 42.0**	**-0.4**
KZN	**Kozani**	**1.69**	**140**	*e*Pg	**Pn**		**23 14 18.0**	**+0.1**
KZN	**Kozani**	**1.69**	**140**	P	**Pg**		**23 14 19.8**	**-0.7**
KZN				*e*Sb	**Sg**		**23 14 42.0**	**-0.4**
KZN				S	**Sg**		**23 14 43.2**	**+0.8**
SELS	**Selova**	**1.70**	**19**	*e*Pn	**Pn**		**23 14 17.6**	**-0.4**
SRN	**Sarande**	**1.76**	**189**

PLG	Polygyros	2.65	117	*e*Pb	Pn	23 14 31.6	+0.6
PLG	Polygyros	2.65	117	P	Pn	23 14 31.9	+0.9
PLG				*e*Sn	Sn	23 15 03.3	0.0
PLG				S	Sn	23 15 05.2	+1.9
LKD2	Lefkada island	2.83	175	P	Pn	23 14 34.5	+0.8
LKD2	Lefkada island	2.83	175	*e*PN	Pn	23 14 34.4	+0.8
LKD2	Lefkada island	2.83	175	P	Pn	23 14 34.5	+0.8
EVR	Evrytania	2.92	157	P	Pn	23 14 36.6	+1.8
EVR	Evrytania	2.92	157	*e*PB	Pn	23 14 36.0	+1.2
EVR	Evrytania	2.92	157	*e*Pb	Pn	23 14 36.0	+1.2
EVR	Evrytania	2.92	157	P	Pn	23 14 36.6	+1.8
MAKR	Makrakomi, Fth	2.93	152	P	Pn	23 14 36.7	+1.7
MAKR	Makrakomi, Fth	2.93	152	*e*PB	Pn	23 14 36.6	+1.6
MAKR	Makrakomi, Fth	2.93	152	P	Pn	23 14 36.7	+1.7
TEKS	Tekeris	2.99	349	*e*Pn	Pn	23 14 37.9	+2.1
TEKS	Tekeris	2.99	349	*e*Pn	Pn	23 14 37.9	+2.1
AGG	Agios Georgios	3.00	149	P	Pn	23 14 37.7	+1.8
AGG	Agios Georgios	3.00	149	*e*PB	Pn	23 14 37.5	+1.6
AGG	Agios Georgios	3.00	149	P	Pn	23 14 37.7	+1.8
OUR	Ouranopolis	3.03	114	*e*PN	Pn	23 14 35.6	-0.6
OUR	Ouranopolis	3.03	114	*e*Pn	Pn	23 14 35.6	-0.6
PAIG	Paliouri	3.03	123	P	Pn	23 14 36.9	+0.6
PAIG	Paliouri	3.03	123	*e*PN	Pn	23 14 36.6	+0.3
PAIG	Paliouri	3.03	123	*e*Pn	Pn	23 14 36.6	+0.3
PAIG	Paliouri	3.03	123	P	Pn	23 14 36.9	+0.6
XOR	Xorichti	3.12	135	P	Pn	23 14 37.9	+0.4
XOR	Xorichti	3.12	135	*e*PN	Pn	23 14 38.1	+0.6
XOR	Xorichti	3.12	135	*e*Pn	Pn	23 14 38.1	+0.6
NEO	Neokhori	3.18	136	*e*PN	Pn	23 14 38.6	+0.3
NEO	Neokhori	3.18	136	*e*Pn	Pn	23 14 38.6	+0.3
KAVA	Kavala	3.19	100	P	Pn	23 14 39.5	+1.0
KAVA	Kavala	3.19	100	*e*PN	Pn	23 14 38.6	+0.1
KAVA	Kavala	3.19	100	*e*Pn	Pn	23 14 38.6	+0.1
KAVA	Kavala	3.19	100	P	Pn	23 14 39.5	+1.0
AXAR	Agios Charalam	3.35	148	*e*PN	Pn	23 14 41.5	+0.8
AXAR	Agios Charalam	3.35	148	*e*Pn	Pn	23 14 41.5	+0.8
EFP	Efpalio	3.40	159	*e*PN	Pn	23 14 43.0	+1.6
EFP	Efpalio	3.40	159	*e*Pn	Pn	23 14 43.0	+1.6
VLS	Valsamata	3.44	177	P	Pn	23 14 41.9	0.0
VLS	Valsamata	3.44	177	*e*PN	Pn	23 14 41.2	-0.7
VLS	Valsamata	3.44	177	*e*Pn	Pn	23 14 41.2	-0.7
VLS	Valsamata	3.44	177	P	Pn	23 14 41.9	0.0
SMIA	Simia	3.50	141	*e*PN	Pn	23 14 43.7	+1.0
SMIA	Simia	3.50	141	*e*Pn	Pn	23 14 43.7	+1.0
FGSL	Fruska Gora	3.56	354	*e*Pn	Pn	23 14 45.7	+2.1
FRGS	Fruska Gora	3.56	354	*e*Pn	Pn	23 14 45.7	+2.1
FRGS				*e*Sn	Sn	23 15 28.4	+2.6
LKR	Lokris	3.59	145	*e*PN	Pn	23 14 45.3	+1.4
LKR	Lokris	3.59	145	*e*Pn	Pn	23 14 45.3	+1.4
DSF	Desfina	3.61	152	P	Pn	23 14 46.8	+2.5
DSF	Desfina	3.61	152	*e*PN	Pn	23 14 45.3	+1.0
DSF	Desfina	3.61	152	*e*Pn	Pn	23 14 45.3	+1.0
DSF	Desfina	3.61	152	P	Pn	23 14 46.8	+2.5
AOS	Alonnisos	3.63	131	P	Pn	23 14 46.7	+2.1
AOS	Alonnisos	3.63	131	*e*PN	Pn	23 14 44.4	-0.2
AOS	Alonnisos	3.63	131	*e*Pn	Pn	23 14 44.4	-0.2
AOS	Alonnisos	3.63	131	P	Pn	23 14 46.7	+2.1
RLS	Riolos of Patr	3.66	166	*e*PN	Pn	23 14 47.3	+2.4
RLS	Riolos of Patr	3.66	166	*e*Pn	Pn	23 14 47.3	+2.4
KDZ	Kurdzhali	3.79	88	⇑*i*P	Pn	23 14 47.1	+0.4
KDZ	Kurdzhali	3.79	88	S	Sn	23 15 31.4	-0.1
KDZ	Kurdzhali	3.79	88	⇑*i*P	Pn	23 14 47.1	+0.4
MRKA	Markates	3.82	139	*e*PN	Pn	23 14 47.2	+0.1
MRKA	Markates	3.82	139	*e*Pn	Pn	23 14 47.2	+0.1
RDO	Rodhopi	3.92	95	P	Pn	23 14 49.6	+1.1
RDO	Rodhopi	3.92	95	*e*PN	Pn	23 14 48.8	+0.3
RDO	Rodhopi	3.92	95	*e*Pn	Pn	23 14 48.8	+0.3
RDO	Rodhopi	3.92	95	P	Pn	23 14 49.6	+1.1
GUR	Goura	3.98	157	P	Pn	23 14 51.3	+1.8
GUR	Goura	3.98	157	P	Pn	23 14 51.3	+1.8
SMTH	Samothraki Isl	4.08	105	*e*PN	Pn	23 14 50.7	+0.1
SMTH	Samothraki Isl	4.08	105	*e*Pn	Pn	23 14 50.7	+0.1
BZS	Buzias	4.10	12	S	Sn	23 15 41.4	+2.3
BZS	Buzias	4.10	12	S	Sn	23 15 41.4	+2.3
AMT	Artemida-Makis	4.21	165	P	Pn	23 14 54.7	+2.2
AMT	Artemida-Makis	4.21	165	*e*PN	Pn	23 14 54.9	+2.4
AMT	Artemida-Makis	4.21	165	P	Pn	23 14 54.7	+2.2
UDBI	Udbina	4.45	312	*e*Pn	Pn	23 14 57.8	+1.9
UDBI				Sn	Sn	23 15 52.0	+4.2
UDBI	Udbina	4.45	312	*e*Pn	Pn	23 14 57.7	+1.9
UDBI				Sn	Sn	23 15 51.9	+4.2
DID	Didima	4.67	151	P	Pn	23 15 01.1	+2.3
DID	Didima	4.67	151	P	Pn	23 15 01.1	+2.3
PKSM	Moragy	4.76	345	⇓*i*P	Pn	23 15 01.7	+1.7
PKSM	Moragy	4.76	345	S	Sn	23 15 56.7	+1.2
PKSM	Moragy	4.76	345	⇓*i*P	Pn	23 15 01.7	+1.7
VOIR		5.12	40	⇑*i*P	Pn	23 15 05.1	+0.1
VOIR		5.12	40	⇑*i*P	Pn	23 15 05.1	+0.1
VOIR				S	Sn	23 16 05.3	+1.0

IDC ***13*** *23:28:02.2±9.2, 36°.15N×70°.57E, h160km±96km, mb3.4/5, mb1 3.3/9, mb1mx3.0/47, mbtmp3.8/9, Error ellipse: s-maj=56.9km s-min=43.1km az=105.0*
ISCJB ***13*** *23:28:07.4±0.7, 36°.56N±0°.05×70°.56E±0°.09, h204km, mb3.4/4, Error ellipse: s-maj=9.9km s-min=6.5km az=165.3*
NNC ***13*** *23:28:15.9±6.2, 37°.33N×70°.80E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=51.9km s-min=37.3km az=167.0*

ISC 13 23:28:08.0±0.9, 36°.56N±0°.08×70°.60E±0°.09, h204km, n30, σ1℘10/33, mb3.6/4, 7C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.65**	**329**	⇓P	**Pn**	**23 28 54.0**	**+0.1**
	32nm,0.3s						
DZET				⇓Lg	Lg	23 29 28.0	
	333nm,0.5s						
SFK	**Sufi-Kurgan**	**4.14**	**33**	⇑Pn	**Pn**	**23 29 12.6**	**+0.7**
	19nm,0.5s						
SFK				⇑Lg	Lg	23 30 01.8	
	15nm,0.3s						
AML	**Almayashu**	**6.06**	**22**	P	**Pn**	**23 29 36.9**	**+0.4**
	SNR=157						
MNAS	**Manas**	**6.10**	**13**	⇓Pn	**Pn**	**23 29 37.3**	**+0.6**
	8.6nm,0.4s						
MNAS				⇑Sn	**S**	**23 30 45.3**	**-1.4**
	11nm,0.5s						
UCH	**Uchtor**	**6.42**	**27**	P	**Pn**	**23 29 41.5**	**+0.3**
	SNR=64						
KK31	**Karatay Array**	**6.54**	**359**	⇑Pn	**Pn**	**23 29 42.4**	**+0.2**
	6.8nm,0.2s,baz=168,slow=7.7,SNR=300						
KK31				⇓Sn	**S**	**23 30 54.0**	**-2.8**
	8.1nm,0.6s,baz=189,slow=23,SNR=6.1						
EKS2	**Erkin-Say**	**6.57**	**21**	P	**Pn**	**23 29 43.5**	**+0.8**
	SNR=32						
KZA	**Kyzart**	**6.59**	**32**	P	**Pn**	**23 29 43.2**	**0.0**
	SNR=19						
AAK	**Ala-Archa**	**6.77**	**25**	P	**Pn**	**23 29 46.2**	**+0.9**
	SNR=12						
AAK	**Ala-Archa**	**6.77**	**25**	⇑Pn	**Pn**	**23 29 46.1**	**+0.7**
	8.3nm,0.5s						
AAK				⇑Sn	**S**	**23 31 00.6**	**-2.0**
	7.2nm,0.6s						
KBK	**Karagaybulak**	**6.95**	**28**	P	**Pn**	**23 29 48.6**	**+0.9**
	SNR=13						
ULHL	**Ulahol**	**7.17**	**36**	P	**Pn**	**23 29 51.1**	**+0.6**
	SNR=9.0						
CHMS	**Chumysh**	**7.18**	**25**	P	**Pn**	**23 29 51.4**	**+0.8**
	SNR=19						
TKM2	**Tokmak 2**	**7.43**	**30**	P	**Pn**	**23 29 54.8**	**+0.8**
	SNR=12						
TKM2	**Tokmak 2**	**7.43**	**30**	⇑Pn	**Pn**	**23 29 54.7**	**+0.8**
	24nm,0.5s						
MKAR	**Makanchi Array**	**13.44**	**37**	P	**Pn**	**23 31 11.0**	**+0.3**
	0.3nm,0.3s,baz=220,slow=14,SNR=17						
KOLN	**Koldanda**	**14.06**	**125**	*e*P	**P**	**23 31 20.2**	**-0.3**
GKN	**Gorkha**	**14.61**	**122**	*e*P	**Pn**	**23 31 25.5**	**0.0**
	5.8nm,0.3s						
KURBB	**Kurchatov Arra**	**15.17**	**20**	P	**Pn**	**23 31 32.0**	**0.0**
	0.1nm,0.3s,baz=207,slow=11,SNR=3.6						
PKI	**Pulchoki**	**15.41**	**121**	*e*P	**P**	**23 31 35.7**	**+0.1**
JIRN	**Jiri**	**15.90**	**119**	*e*P	**P**	**23 31 40.0**	**-1.0**
BVAR	**Borovoye Array**	**16.46**	**360**	P	**Pn**	**23 31 48.6**	**+1.1**
	0.2nm,0.3s,baz=177,slow=10,SNR=4.7						
AKTO	**Aktyubinsk**	**16.57**	**331**	P	**Pn**	**23 31 48.7**	**-0.1**
	0.3nm,0.3s,baz=141,slow=11,SNR=9.3						
RAMN	**Ramite**	**16.63**	**121**	*e*P	**P**	**23 31 46.9**	**-2.0**
ZALV	**Zalesovo Beam**	**20.00**	**25**	P	**P**	**23 32 26.6**	**+1.8**
	0.9nm,0.4s,baz=212,slow=12,SNR=4.3						
FINES	**FINESS Array B**	**37.25**	**326**	P	**P**	**23 35 01.4**	**+1.7**
	2.3nm,0.9s,baz=111,slow=10,SNR=7.2						
ARCES	**ARCESS Array B**	**40.97**	**338**	P	**P**	**23 35 30.8**	**+0.5**
	0.9nm,0.6s,baz=122,slow=8.6,SNR=3.2						
NB2	**NORSAR Subarra**	**44.14**	**323**	P	**P**	**23 35 57.0**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=93,slow=8.6						
NOA	**NORSAR Array B**	**44.14**	**323**	P	**P**	**23 35 57.1**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=96,slow=7.8,SNR=5.5						
TORD	**Torodi Ar. Bea**	**65.39**	**268**	P	**P**	**23 38 27.7**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=50,slow=6.0,SNR=32						

IDC ***13*** *23:32:40.0±2.0, 8°.76S×147°.26E, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.8/27, mbtmp3.8/7, ML3.7/2, Error ellipse: s-maj=60.8km s-min=28.3km az=115.0*
ISCJB ***13*** *23:32:43.4±1.8, 8°.85S±0°.2×147°.1E±0°.3, h33km, mb3.9/5, Error ellipse: s-maj=53.8km s-min=16.7km az=23.9*

ISC 13 23:32:44.7±2.0, 8°.95S±0°.2×147°.2E±0°.4, h35km, n8, σ0℘81/8, mb4.1/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.61**	**227**	Pn	**Pn**	**23 36 34.2**	**-0.8**
	0.4nm,0.3s,baz=37,slow=14,SNR=4.3						
ASAR	**Alice Springs**	**19.45**	**219**	P	**Pn**	**23 37 10.2**	**+0.3**
	0.2nm,0.3s,baz=51,slow=10.0,SNR=14						
KSRS	**Korea Array**	**49.51**	**340**	P	**P**	**23 41 30.8**	**-1.1**
	0.7nm,0.3s,baz=162,slow=9.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	**54.83**	**300**	P	**P**	**23 42 12.4**	**+0.6**
	1.5nm,0.4s,baz=117,slow=5.4,SNR=4.3						
SONM	**Songino Array**	**67.02**	**331**	P	**P**	**23 43 35.2**	**+0.9**
	0.4nm,0.7s,baz=145,slow=5.3,SNR=2.7						
MKAR	**Makanchi Array**	**79.84**	**321**	P	**P**	**23 44 49.4**	**-0.3**
	0.3nm,0.6s,baz=96,slow=6.2,SNR=3.8						
ILAR	**Eielson Array**	**88.03**	**23**	P	**P**	**23 45 31.1**	**+0.1**
	1.2nm,0.8s,baz=258,slow=4.6,SNR=8.4						
TORD	**Torodi Ar. Bea**	**145.91**	**280**	PKPbc	**PKPab**	**23 52 22.1**	**0.0**
	0.6nm,0.8s,baz=93,slow=2.9,SNR=5.4						

DJA 13 23:50:13.5±0.9, 9°.5S×111°.8E×, h14km±5km, M4.3/12, mb4.4/2, MLv4.2/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.88**	**105**	P	Pn	23 50 44.0	-1.2
IGBI	**Denpasar**	**3.29**	**276**	P	Pn	23 51 06.1	+1.4
IGBI				S	Sn	23 51 41.5	-2.2
SRBI	**Singaraja**	**3.39**	**288**	P	Pn	23 51 03.1	-2.9
BSSI	**Bau Bau, Buton**	**3.63**	**34**	P	Pn	23 51 09.4	+0.1
MMRI	**Maumere**	**3.77**	**82**	P	Pn	23 51 12.7	+1.4
BKSI	**Bulukumba**	**4.17**	**23**	P	Pn	23 51 17.2	+0.4
SPSI	**Sidrap Palu**	**5.34**	**14**	P	Pn	23 51 32.7	-0.2
	24nm,0.7s,0.1nm						
TTSI	**Tana Toraja**	**6.24**	**13**	P	Pn	23 51 47.2	+1.9

IDC ***13*** *23:52:10.5±8.9, 21°.05S×176°.24W, h119km±77km, mb3.6/6, mb1 3.9/7, mb1mx3.7/24, mbtmp4.0/7, MS3.5/9, Ms1 3.5/9, ms1mx3.3/26, Error ellipse: s-maj=81.7km s-min=26.5km az=152.0*

ISC 13 23:52:09.6±1.4, 20°.8S±0°.5×176°.3W±0°.3, h100km, n30, σ1℘30/19, mb3.8/6, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.42**	**94**	LR	LR	23 59 59.8	
	comp=Z,176nm,20.6s,baz=282,slow=30						
DZM	**Mont Dzumac**	**16.13**	**262**	*e*LR	LR	23 59 24.2	
	523nm,24.9s						
DZM	**Mont Dzumac**	**16.13**	**262**	P	**Pn**	**23 55 50.6**	**0.0**
	0.2nm,0.3s,baz=91,slow=24,SNR=3.9						
DZM				LR	LR	00 01 03.0	
	comp=Z,393nm,18.0s,baz=180,slow=33						
URZ	**Urewera**	**18.30**	**197**	LR	LR	00 02 00.6	
	comp=Z,268nm,18.5s,baz=20,slow=33						
TBI	**Tubuai**	**24.97**	**101**	*e*LR	LR	00 03 18.3	
	459nm,29.0s,baz=263						
RPZ	**Rata Peaks**	**25.16**	**202**	LR	LR	00 07 02.2	
	comp=Z,132nm,21.4s,baz=9.5,slow=36						
PPT2	**Papeete2**	**25.41**	**87**	*e*LQ	LQ	00 02 20.1	
	286nm,26.2s						
PPT2				*e*LR	LR	00 03 28.5	
	475nm,27.5s						
PPT	**Papeete**	**25.42**	**87**	LR	LR	00 04 36.9	
	comp=Z,86nm,21.7s,baz=213,slow=29						
RKT	**Rikitea**	**38.29**	**101**	*e*LR	LR	00 09 09.7	
	303nm,33.5s						
STKA	**Stephens Creek**	**39.10**	**245**	P	**P**	**23 59 26.1**	**-1.2**
	1.7nm,0.6s,baz=96,slow=8.8,SNR=7.5						
STKA				LR	LR	00 13 42.5	
	comp=Z,96nm,18.4s,baz=174,slow=33						
ASAR	**Alice Springs**	**46.01**	**257**	P	P	00 00 20.4	-3.0
	1.8nm,0.9s,baz=90,slow=7.5,SNR=3.9						
WRA	**Warramunga Arr**	**46.15**	**262**	P	**P**	**00 00 25.2**	**+0.8**
	2.7nm,1.0s,baz=98,slow=8.1,SNR=7.8						
PETK	**Petropavlovsk-**	**77.00**	**344**	LR	LR	00 35 02.8	
	comp=Z,17nm,19.8s,baz=150,slow=33						
KSRS	**Korea Array**	**78.20**	**318**	LR	LR	00 36 19.2	
	comp=Z,9.8nm,18.9s,baz=190,slow=34						
NVAR	**Mina Array Bea**	**80.16**	**43**	P	**P**	**00 04 08.7**	**-0.4**
	1.0nm,0.8s,baz=219,slow=10,SNR=5.7						
TXAR	**Lajitas Array**	**85.88**	**57**	P	**P**	**00 04 38.3**	**-0.3**
	0.7nm,0.8s,baz=212,slow=6.8,SNR=8.7						
ILAR	**Eielson Array**	**88.29**	**12**	P	**P**	**00 04 49.0**	**-0.2**
	0.4nm,0.9s,baz=216,slow=5.0,SNR=4.2						
CMAR	**Chiang Mai Arr**	**91.74**	**289**	LR	LR	00 45 14.9	
	comp=Z,12nm,20.0s,baz=305,slow=35						
MKAR	**Makanchi Array**	**112.59**	**313**	PKiKP	**PKiKP**	**00 10 32.6**	**-1.6**
	0.3nm,0.7s,baz=48,slow=2.1,SNR=3.4						
AKASG	**Malin Array Be**	**144.06**	**332**	PKP	**PKPab**	**00 11 30.9**	**-0.1**
	0.5nm,0.4s,baz=38,slow=4.0,SNR=7.3						
BRTR	**Keskin Array B**	**148.24**	**313**	PKPbc	**PKPdf**	**00 11 42.7**	**+1.7**
	0.7nm,0.8s,baz=134,slow=3.6,SNR=5.4						
CLL	**Collm**	**148.71**	**349**	⇑*i*PKP	**PKPbc**	**00 11 44.7**	**-0.3**
	comp=Z,8.0nm,1.0s						
UPC	**Upice**	**148.82**	**345**	*e*P	**PKPbc**	**00 11 45.4**	**+0.1**
UPC				*ex*	x	00 11 50.8	
DPC	**Dobruska-Polom**	**148.89**	**344**	*e*P	**PKPbc**	**00 11 45.4**	**-0.2**
DPC				*ex*	x	00 11 50.1	
BRG	**Berggiesshubel**	**148.94**	**347**	*e*P	**PKPbc**	**00 11 45.4**	**-0.3**
	comp=Z,4.9nm,1.1s						
PVCC	**Panska Ves**	**149.14**	**346**	*e*P	**PKPbc**	**00 11 46.2**	**+0.1**
PRU	**Pruhonice**	**149.65**	**346**	*e*P	**PKPbc**	**00 11 46.8**	**-0.6**
PRU				*ex*	x	00 11 52.5	
TREC	**Trest**	**150.07**	**344**	*e*P	**PKPbc**	**00 11 47.5**	**-1.0**
KHC	**Kasperske Hory**	**150.67**	**347**	*e*P	**PKPdf**	**00 11 48.3**	**+3.9**
KHC				*ex*	x	00 11 52.6	
KHC				*ex*	x	00 11 55.3	
GERES	**GERESS Array B**	**150.91**	**346**	PKPbc	**PKPbc**	**00 11 49.3**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=48,slow=2.0,SNR=6.7						
GERES				PKPab	**PKPab**	**00 11 57.5**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=38,slow=3.2,SNR=3.3						

NEIC ***14*** *00:19:33.0, 58°.10N×156°.98W, h13km, ML2.9(AEIC), After AEIC.*
IDC ***14*** *00:19:34.8±2.7, 58°.52N×156°.79W, h0km, mb3.5/5, mb1 3.9/5, mb1mx3.5/26, mbtmp3.5/5, Error ellipse: s-maj=202.4km s-min=23.3km az=27.0*

ISC 14 00:19:33.6±1.6, 58°.07N±0°.05×156°.95W±0°.06, h4km±11km, n24, σ1℘07/28, mb3.6/5, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK5	**Peulik 5**	**0.08**	**153**	P	**Pg**	**00 19 35.7**	**+0.4**
PLWL	**Peulik Whale M**	**0.32**	**94**	P	**Pg**	**00 19 39.8**	**0.0**
PLWL				S	**Sg**	**00 19 44.2**	**+0.2**
PLK1	**Peulik 1**	**0.33**	**146**	P	**Pg**	**00 19 40.2**	**+0.3**
PLK3	**Peulik 3**	**0.53**	**136**	P	**Pg**	**00 19 44.1**	**+0.4**
PLK3				S	**Sg**	**00 19 52.0**	**+1.5**
KELA	**Mount Kelaz**	**0.74**	**59**	P	**Pg**	**00 19 47.2**	**-0.5**
KELA				S	**Sg**	**00 19 57.5**	**+0.2**
KABU	**Katmai Buttres**	**0.90**	**77**	P	**Pg**	**00 19 50.7**	**-0.2**
KVTA	**Katmai Vly 10**	**0.93**	**70**	P	**Pb**	**00 19 51.1**	**-1.2**
KBM	**Katmai Bkd Mtn**	**0.95**	**77**	P	**Pb**	**00 19 51.4**	**-1.1**
KCE	**Katmai Mt Cerb**	**0.95**	**79**	P	**Pg**	**00 19 51.7**	**-0.1**
KAKN	**Katmai Knife C**	**1.02**	**76**	P	**Pb**	**00 19 52.6**	**-1.3**
KAKN				S	**Sg**	**00 20 07.2**	**+0.7**
KABR	**Katmai Barrier**	**1.05**	**86**	P	**Pb**	**00 19 53.3**	**-1.1**
ANPB	**Aniakchak Plen**	**1.46**	**210**	P	**Pn**	**00 19 59.5**	**-1.3**
MCNL	**McNeil River**	**1.76**	**50**	P	**Pn**	**00 20 03.8**	**-1.1**
OHAK	**Old Harbor**	**2.14**	**112**	P	**Pb**	**00 20 10.7**	**-2.2**
OHAK				S	**Sb**	**00 20 39.0**	**-0.8**
AUI	**Augustine Isla**	**2.23**	**54**	P	**Pn**	**00 20 10.9**	**-0.4**
KDAK	**Kodiak Island**	**2.34**	**95**	P	**Pb**	**00 20 14.5**	**-1.8**
KDAK				S	**Sb**	**00 20 46.5**	**+0.8**
ILW	**Iliamna West**	**2.80**	**43**	P	**Pn**	**00 20 19.9**	**+0.6**
SVW2	**Sparrevohn**	**3.12**	**12**	P	Pb	00 20 24.7	-4.8
RDWB	**Redoubt West**	**3.21**	**39**	P	**Pn**	**00 20 26.1**	**+1.2**
NVAR	**Mina Array Bea**	**31.75**	**111**	P	**P**	**00 26 00.0**	**+1.3**
	1.1nm,0.9s,baz=294,slow=8.9,SNR=5.2						
PDAR	**Pinedale Array**	**33.06**	**97**	P	**P**	**00 26 11.4**	**+1.1**
	0.4nm,0.5s,baz=313,slow=6.0,SNR=4.0						
TXAR	**Lajitas Array**	**46.34**	**105**	P	P	00 28 04.3	+3.7
	0.4nm,0.8s,baz=308,slow=6.1,SNR=4.8						
SONM	**Songino Array**	**54.23**	**304**	P	**P**	**00 29 01.1**	**+0.9**
	0.6nm,0.7s,baz=30,slow=7.4,SNR=2.9						
MKAR	**Makanchi Array**	**64.61**	**319**	P	**P**	**00 30 11.3**	**-0.5**
	0.2nm,0.4s,baz=27,slow=6.2,SNR=3.1						

IDC 14 00:20:08.6±2.5, 9°.49N×90°.96E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/27, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=74.5km s-min=28.6km az=65.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.81**	**40**	Pn	Pn	00 22 59.3	+0.9
	0.2nm,0.3s,baz=225,slow=13,SNR=2.5						
H08S3	**Diego Garcia H**	**25.06**	**228**	T	T	00 51 38.6	
	baz=52,slow=75,SNR=31						
H08S2	**Diego Garcia H**	**25.06**	**228**	T	T	00 51 36.9	
	baz=52,slow=75,SNR=36						
H08S1	**Diego Garcia H**	**25.08**	**228**	T	T	00 51 39.4	
	baz=52,slow=75,SNR=31						
MKAR	**Makanchi Array**	**37.91**	**350**	P	P	00 27 29.1	+1.5
	0.3nm,0.7s,baz=174,slow=7.2,SNR=2.9						
SONM	**Songino Array**	**40.39**	**16**	P	P	00 27 47.8	-0.7
	0.5nm,0.7s,baz=193,slow=7.8,SNR=4.5						
ZALV	**Zalesovo Beam**	**44.61**	**355**	P	P	00 28 21.1	-1.5
	0.3nm,0.3s,baz=178,slow=7.2,SNR=3.7						
WRA	**Warramunga Arr**	**51.75**	**125**	P	P	00 29 18.4	0.0
	0.6nm,0.3s,baz=303,slow=8.5,SNR=3.2						

IDC 14 00:26:13.1±20.0, 8°.31N×91°.46E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.4/28, mbtmp3.4/5, Error ellipse: s-maj=375.8km s-min=71.7km az=166.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.43**	**35**	Pn	Pn	00 29 11.5	-0.1
	baz=208,slow=13,SNR=2.6						
H08S3	**Diego Garcia H**	**24.67**	**231**	T	T	00 57 48.9	
	baz=52,slow=75,SNR=5.9						
H08S2	**Diego Garcia H**	**24.67**	**231**	T	T	00 57 45.1	
	baz=52,slow=75,SNR=8.2						
H08S1	**Diego Carcia H**	**24.69**	**231**	T	T	00 57 41.9	
	baz=52,slow=75,SNR=7.2						
MKAR	**Makanchi Array**	**39.14**	**350**	P	P	00 33 42.4	-0.1
	0.2nm,0.7s,baz=168,slow=8.5,SNR=2.9						
SONM	**Songino Array**	**41.38**	**15**	P	P	00 34 01.3	+0.1
	0.4nm,0.6s,baz=197,slow=7.6,SNR=3.4						
KURBB	**Kurchatov Arra**	**43.52**	**348**	P	P	00 34 18.8	+0.5
	0.3nm,0.3s,baz=173,slow=8.4,SNR=4.2						
ZALV	**Zalesovo Beam**	**45.82**	**355**	P	P	00 34 35.6	-1.1
	0.2nm,0.3s,baz=166,slow=8.6,SNR=2.1						

SZGRF ***14*** *00:27:24.7, 17°.40S×176°.53W, h33km, Fiji Islands region*
IDC ***14*** *00:28:19.6±2.0, 15°.70S×177°.58W, h427km±21km, mb3.9/22, mb1 4.0/24, mb1mx4.0/28, mbtmp4.6/24, Error ellipse: s-maj=18.1km s-min=8.6km az=148.0*
ISCJB ***14*** *00:28:20.5±0.3

BBB **Bella Bella** 80.13 28 P P 00 39 43.4 +0.6
18nm,0.8s,baz=270,slow=2.0,SNR=3.0
CCUT **Cedar City** 80.31 47 *eP* P 00 39 45.3 +0.8
5.8nm,0.9s
PMR **Palmer** 80.43 13 *eP* P 00 39 43.9 -0.2
KNB **Kanab** 80.44 47 *eP* P 00 39 44.1 -1.0
5.1nm,0.8s
ELK **Elko** 80.61 43 P P 00 39 46.1 +0.1
3.3nm,0.9s,baz=252,slow=5.5,SNR=11
ELK **Elko** 80.61 43 *eP* P 00 39 46.0 0.0
7.8nm,1.2s
G08A **Pilot Rock** 80.69 38 *eP* P 00 39 46.3 +0.1
WUAZ **Wupatki** 80.79 49 *eP* P 00 39 47.2 +0.3
10nm,1.3s
BMRM **Bremner River** 80.97 16 *eP* P 00 39 47.6 +0.5
12nm,1.0s
HAWA **Hanford** 80.98 36 *eP* P 00 39 48.0 +0.5
12nm,0.9s
SCM **Sheep Creek Mo** 81.05 14 *eP* P 00 39 48.0 +0.4
14nm,0.9s
MFID **Camas Ranch** 81.59 40 *eP* P 00 39 51.7 +0.9
14nm,1.1s
MSU **Marysvale** 81.59 46 *eP* P 00 39 52.5 +1.4
TRF **Thorofare Moun** 81.84 12 *eP* P 00 39 51.1 -0.6
53nm,2.0s
DUG **Dugway, Tooele** 81.95 44 *eP* P 00 39 53.3 +0.5
6.1nm,0.9s
SEY **Seymchan** 81.98 347 P P 00 39 52.0 -0.1
8.6nm,0.6s,baz=142,slow=5.9,SNR=17
RND **Reindeer** 82.10 13 *eP* P 00 39 52.2 -0.7
23nm,1.3s
BGU **Big Grassy Mou** 82.15 44 *eP* P 00 39 54.0 +0.2
79nm,2.5s
MCK **McKinley** 82.37 12 *eP* P 00 39 53.9 -0.4
24nm,1.2s
HLID **Hailey** 82.55 41 *eP* P 00 39 56.8 +1.0
9.6nm,0.9s
TMUT **Trail Mountain** 82.62 46 *eP* P 00 39 57.5 +1.0
22nm,0.9s
BJI **Beijing** 82.92 315 P P 00 39 59.3 +1.8
BJI PMZ
14nm,0.7s
SRU **San Rafael Swe** 83.01 46 *eP* P 00 39 58.9 +0.7
15nm,1.0s
MLY **Manley** 83.18 11 *eP* P 00 39 57.9 -0.4
9.3nm,1.0s
WRH **Wood River Hil** 83.20 12 *eP* P 00 39 58.0 -0.4
32nm,1.2s
NEW **Newport** 83.38 36 P P 00 39 59.5 -0.2
1.6nm,0.6s,baz=221,slow=11,SNR=3.7
HDA **Harding Lake** 83.38 13 *eP* P 00 39 59.3 0.0
13nm,0.7s
CCB **Clear Creek Bu** 83.41 12 *eP* P 00 39 58.8 -0.7
18nm,0.8s
HWUT **Hardware Ranch** 83.45 44 *eP* P 00 40 00.2 -0.2
5.7nm,1.0s
LAZ **Ladron** 83.45 52 *eP* P 00 40 00.8 +0.2
IM04 **Indian Mountai** 83.52 10 *eP* P 00 39 59.7 -0.3
PV05 **Paradox Valley** 83.56 48 *eP* P 00 40 01.4 +0.3
MDM **Murphy Dome** 83.60 12 *eP* P 00 39 59.6 -0.8
18nm,1.0s
COLA **College** 83.60 12 *eP* P 00 39 59.9 -0.4
25nm,0.8s
DLBC **Dease Lake** 83.63 23 P P 00 40 01.0 +0.3
2.3nm,0.8s,baz=274,slow=7.8,SNR=4.3
IL1 **Eielson Array** 83.72 13 *eP* P 00 40 00.4 -0.5
ILAR **Eielson Array** 83.72 13 P P 00 40 00.3 -0.6
7.8nm,0.8s,baz=229,slow=5.4,SNR=62
PV09 **Paradox Valley** 83.72 47 *eP* P 00 40 03.0 +1.0
PV10 **Paradox Valley** 83.73 47 *eP* P 00 40 01.9 -0.1
BNM **Barren Site** 83.73 52 *eP* P 00 40 03.4 +1.3
PV01 **Paradox Valley** 83.96 48 *eP* P 00 40 03.9 +0.8
ANMO **Albuquerque** 84.18 51 P P 00 40 05.3 +1.1
5.1nm,0.9s,baz=200,slow=6.6,SNR=19
TX31 **Lajitas Ar. Si** 84.21 57 *eP* P 00 40 05.1 +0.7
TXAR **Lajitas Array** 84.21 57 P P 00 40 06.1 +1.7
6.7nm,0.9s,baz=224,slow=5.2,SNR=25
BILL **Billibino** 84.49 354 *eP* P 00 40 04.5 -0.2
15nm,0.7s
BSMT **Bassoo Peak** 84.49 37 *eP* P 00 40 05.5 0.0
DLMT **Dillon** 84.57 40 *eP* P 00 40 06.6 +0.7
12nm,0.9s
TPAW **Teton Pass** 84.72 42 *eP* P 00 40 07.7 +0.9
17nm,1.4s
REDW **Red Top Meadow** 84.73 42 *eP* P 00 40 07.0 +0.3
16nm,1.2s
FXWY **Fox Creek** 84.74 42 *eP* P 00 40 06.9 +0.1
6.8nm,1.0s
GYA **Guiyang** 84.75 299 *eP* P 00 40 08.3 +1.2
GYA pP **pP** 00 41 46.0 -1.9
GYA sP **sP** 00 42 30.6 -3.8
GYA PP **PP** 00 43 33.8 +2.5
GYA SKS **SKSac** 00 49 48.9 +0.7
GYA S **S** 00 49 58.3 +1.2
GYA PMZ
10.0nm,1.0s
SNOW **Snow King Moun** 84.84 42 *eP* P 00 40 08.1 +0.8
9.8nm,0.9s
DAWY **Dawson** 84.90 16 *eP* P 00 40 06.8 0.0
IMW **Indian Meadow** 84.92 42 *eP* P 00 40 08.6 +0.8
11nm,1.0s
CHMT **Chamberlain Mo** 84.92 38 *eP* P 00 40 08.0 +0.4
MOOW **Moose Ponds** 84.97 42 *eP* P 00 40 07.9 0.0
8.7nm,1.4s
LOHW **Long Hollow** 85.00 42 *eP* P 00 40 08.2 +0.1
19nm,1.8s
EGAK **Eagle** 85.03 15 *eP* P 00 40 07.4 -0.1
12nm,1.0s
S22A **4UR Ranch, Cre** 85.05 49 *eP* P 00 40 09.5 +0.9
6.5nm,1.0s
FLWY **Flagg Ranch** 85.16 42 *eP* P 00 40 10.1 +1.2
28nm,1.5s
COLD **Coldfoot** 85.26 10 *eP* P 00 40 09.2 +0.6
15nm,1.4s
BW06 **Boulder Array** 85.30 43 *eP* P 00 40 09.5 -0.1
16nm,1.7s
PDAR **Pinedale Array** 85.30 43 P P 00 40 09.6 -0.1
1.8nm,0.9s,baz=201,slow=1.3,SNR=13
H17A **Grant Village** 85.38 41 *eP* P 00 40 11.4 +1.5
8.4nm,0.9s
SMCO **Snowmass** 85.53 47 *eP* P 00 40 11.3 +0.3
17nm,2.0s
SDCO **Great Sand Dun** 86.01 49 *eP* P 00 40 13.5 +0.3
2.1nm,0.9s
MAW **Mawson** 86.06 200 P P 00 40 13.9 +1.4
8.3nm,1.0s,baz=91,slow=4.4,SNR=13
MAW **Mawson** 86.06 200 *eP* P 00 40 14.5 +2.0
2.0nm,0.9s
HHC **Hu-ho-hao-te** 86.44 314 *eP* P 00 40 12.1 -2.8
HHC PP **PP** 00 43 45.4 +0.9
HHC S **S** 00 50 11.6 -1.1
HHC SS **SS** 00 56 07.6 +1.6
HHC PMZ
13nm,1.2s
HHC PMZ
51nm,7.5s
T25A **Trinidad** 86.57 50 *eP* P 00 40 15.0 -0.8
3.3nm,0.9s
GCMT **Greycliff** 86.59 40 *eP* P 00 40 16.1 +0.5
KMI **Kunming** 87.64 297 P P 00 40 23.8 +2.7
KMI PMZ
13nm,0.6s
EDM **Edmonton** 88.00 33 *eP* P 00 40 22.1 +0.2
28nm,1.4s
CD2 **Chengdu** 88.66 303 *eP* P 00 40 26.0 +0.5
CMAR **Chiang Mai Arr** 88.98 289 P P 00 40 29.4 +2.2
0.6nm,0.3s,baz=114,slow=3.9,SNR=6.0
RSSD **Black Hills** 89.52 44 *eP* P 00 40 29.4 0.0
9.2nm,1.0s
LZH **Lanzhou** 90.30 307 *eP* P 00 40 32.8 -0.4
LZH pP **pP** 00 42 13.5 -1.8
LZH sP **sP** 00 42 59.4 -2.0
LZH PMZ
13nm,1.0s
DGMT **Dagmar** 91.10 40 *eP* P 00 40 37.3 +0.9
22nm,1.0s
YKA **Yellowknife Ar** 92.13 24 P P 00 40 40.6 -0.2
1.4nm,0.8s,baz=229,slow=7.3,SNR=3.5
SONM **Songino Array** 92.54 319 P P 00 40 43.3 +0.1
0.8nm,0.7s,baz=141,slow=3.9,SNR=4.7
KSU1 **Kansas State U** 93.02 50 *eP* P 00 40 46.7 +1.2
9.5nm,1.0s
ECSD **EROS Data Cent** 94.42 46 *eP* P 00 40 51.6 -0.2
24nm,1.9s
MKAR **Makanchi Array** 108.30 315 PKiKP PKiKP 00 45 57.7 +0.5
0.7nm,0.8s,baz=75,slow=1.3,SNR=4.9

KURK **Kurchatov** 110.85 319 PKiKP PKiKP 00 46 02.5 +0.7
KURBB **Kurchatov Arra** 110.90 319 PKiKP PKiKP 00 46 02.5 +0.6
0.6nm,0.8s,baz=114,slow=1.9,SNR=6.7
BVAR **Borovoye Array** 115.77 322 PKP PKPdf 00 46 11.4 +0.2
1.7nm,0.5s,baz=102,slow=2.5,SNR=11
BDFB **Brasilia** 121.16 120 PKP PKPdf 00 46 23.3 +0.5
1.2nm,0.4s,baz=154,slow=6.0,SNR=3.5
AKTO **Aktyubinsk** 123.83 321 PKP PKPdf 00 46 27.7 +0.9
1.4nm,0.8s,baz=123,slow=2.3,SNR=6.0
ARCES **ARCESS Array B** 124.45 350 PKP PKPdf 00 46 27.9 +0.5
2.2nm,0.4s,baz=24,slow=1.7,SNR=30
FINES **FINESS Array B** 131.44 345 PKP PKPdf 00 46 39.8 -1.0
1.4nm,0.6s,baz=115,slow=1.9,SNR=11
NOA **NORSAR Array B** 134.44 354 PKP PKPdf 00 46 47.2 +0.5
1.2nm,0.8s,baz=14,slow=4.2,SNR=3.3
AKASG **Malin Array Be** 139.11 334 PKP PKPdf 00 46 56.0 +0.6
0.9nm,0.6s,baz=42,slow=2.4,SNR=6.1
AK11 **Malin Array Si** 139.15 334 *e*PKPdf PKPdf 00 46 55.4 -0.2
MALT **Malatya** 141.29 312 ⇑*i*P PKPpre 00 46 50.2
KMBO **Kilima Mbogo** 141.70 247 PKhKP PKPpre 00 46 59.8
0.5nm,0.3s,baz=70,slow=0.3,SNR=3.9
KWP **Kalwaria Pacla** 142.50 338 *e*PKP PKPdf 00 46 59.4 -2.2
BUR04 **Bucovina Ar. S** 143.16 334 *e*PKPdf PKPdf 00 47 02.2 -0.8
BURAR **Bucovina Array** 143.17 334 ⇑*i*P PKPdf 00 47 02.8 -0.2
KSP **Ksiaz** 143.36 345 *e*PKP PKPdf 00 47 02.4 -0.7
IBBN **Ibbenburen** 143.39 355 *e*PKPbc PKPdf 00 47 02.4 -0.7
NIE **Niedzica** 143.50 340 *e*PKP PKPdf 00 47 03.1 -0.3
CLL **Collm** 143.64 349 *e*PKPbc PKPdf 00 47 02.7 -0.8
CLL **Collm** 143.64 349 ⇑*i*PKPdf PKPdf 00 47 02.9 -0.6
CLL *i* 00 47 04.0
comp=Z,9.0nm,1.0s
CLL **Collm** 143.64 349 *e*PKPpre PKPab 00 47 02.2 +0.4
CFR **Carcaliu** 143.65 329 ⇑*i*P PKPdf 00 47 03.9 +0.2
UPC **Upice** 143.74 345 *e*PKP PKPdf 00 47 03.1 -0.7
UPC *ex* x 00 47 05.7
OKC **Ostrava-Krasne** 143.79 343 *e*PKP PKPdf 00 47 02.9 -1.0
DPC **Dobruska-Polom** 143.81 345 *e*PKP PKPdf 00 47 03.5 -0.5
DPC *ex* x 00 48 45.9
DPC *ex* x 00 49 05.4
TRPA **Tarpa** 143.81 337 ⇑*i*P PKPdf 00 47 03.3 -0.6
BMR **Baia Mare** 143.82 336 ⇑*i*P PKPdf 00 47 03.9 -0.1
VRI **Vrincioaia** 143.83 331 ⇓*i*P PKPdf 00 47 04.6 +0.5
BRG **Berggiesshubel** 143.87 348 *e*PKP PKPdf 00 47 03.8 -0.1
comp=Z,11nm,1.6s
BRG *i* 00 47 09.1
comp=Z,2.9nm,0.8s
PLOR **Plostina** 143.88 331 ⇑*i*P PKPdf 00 47 04.3 +0.1
BRTR **Keskin Array B** 143.88 317 PKP PKPdf 00 47 04.2 -0.4
comp=Z,19nm,0.9s,baz=89,slow=2.1,SNR=94
KRLC **Kraliky** 143.95 344 *e*PKP PKPdf 00 47 03.8 -0.4
MORC **Moravsky Berou** 144.01 343 ⇓*i*P PKPdf 00 47 04.6 +0.3
TIRR **Tirgusor** 144.01 328 ⇑*i*P PKPdf 00 47 05.2 +0.8
TIRR **Tirgusor** 144.01 328 *e*PKPdf PKPdf 00 47 04.2 -0.2
PVCC **Panska Ves** 144.06 347 *e*PKP PKPdf 00 47 04.2 -0.1
PVCC *ex* x 00 47 07.6
HARR **Harsova** 144.10 328 ⇓*i*P PKPdf 00 47 05.2 +0.7
TLB **Topalu** 144.12 328 ⇑*i*P PKPdf 00 47 04.9 +0.3
BUG **Bochum--Univer** 144.29 355 *e*PKPbc PKPdf 00 47 04.6 -0.1
ANTO **Ankara** 144.35 318 ⇓*i*P PKPdf 00 47 06.4 +1.1
ANTO **Ankara** 144.35 318 *e*PKPbc PKPdf 00 47 05.7 +0.5
DOPP **Dopca** 144.37 332 ⇑*i*P PKPdf 00 47 06.0 +1.0
BR231 **Keskin MP Arra** 144.38 318 *e*PKPbc PKPdf 00 47 04.7 -0.6
ISR **Istrita** 144.47 330 ⇑*i*P PKPdf 00 47 07.0 +1.7
MLR **Muntele Rosu** 144.47 331 ⇓*i*P PKPdf 00 47 06.7 +1.3
PRA **Prague** 144.52 347 *e*PKP PKPdf 00 47 05.6 +0.5
MOX **Moxa** 144.52 350 *e*PKPbc PKPdf 00 47 05.3 +0.2
CJR **Cluj-Napoca** 144.55 335 ⇑*i*P PKPdf 00 47 04.7 -0.7
PRU **Pruhonice** 144.57 347 *e*PKP PKPdf 00 47 05.7 +0.5
PRU *ep*PKP **pPKPdf** 00 48 54.7 +1.0
MSAB **Monastry St. A** 144.57 328 ⇓*i*P PKPdf 00 47 07.2 +1.8
GOPC **GO Pecny, Ondr** 144.59 346 *e*PKP PKPdf 00 47 05.9 +0.6
TANN **Tannenbergstha** 144.59 349 *e*PKPbc PKPdf 00 47 06.3 +1.0
UBBA **Unterbreizbach** 144.60 352 *e*PKPbc PKPdf 00 47 05.7 +0.6
PSN **Preselentsi** 144.67 327 ⇑*i*P PKPbc 00 47 00.8 -4.8
SECR 144.76 331 ⇑*i*P PKPab 00 47 07.6 +1.3
NKC **Novy Kostel** 144.77 349 *e*PKP PKPab 00 47 06.1 -0.1
NKC *ex* x 00 47 09.0
DRGR 144.85 336 ⇑*i*P PKPab 00 47 06.8 +0.1
VOIR 144.93 332 ⇓*i*P PKPab 00 47 07.8 +0.8
SULR 144.93 330 ⇓*i*P PKPab 00 47 08.7 +1.8
PSZ **Piszkesteto** 144.94 339 ⇑*i*P PKPdf 00 47 03.5 -2.5
PSZ **Piszkesteto** 144.94 339 *e*PKPdf PKPab 00 47 06.8 -0.1
TREC **Trest** 144.99 345 *e*PKP PKPab 00 47 07.0 -0.1
BEBN **Eben Emael** 145.05 356 PKP PKPab 00 47 07.7 +0.5
UCC **Uccle** 145.11 358 PKP PKPab 00 47 07.2 -0.2
UCC **Uccle** 145.11 358 *e*PKPdf PKPab 00 47 07.1 -0.2
ARR **Arges** 145.17 332 ⇑*i*P PKPab 00 47 08.8 +0.9
MEM **Membach** 145.22 356 PKP PKPab 00 47 08.1 +0.3
MEM **Membach** 145.22 356 *e*PKPdf PKPab 00 47 07.6 -0.2
ROTZ **Rotzenmuhle** 145.26 349 *e*PKPbc PKPab 00 47 08.3 +0.3
TNS **Taunus Mts** 145.38 353 *e*PKPbc PKPab 00 47 08.7 +0.1
SNF **Seneffe** 145.40 358 PKP PKPab 00 47 08.8 +0.3
BCLA **Clavier** 145.45 357 PKP PKPab 00 47 08.5 -0.2
LOT **Lotru** 145.49 333 ⇓*i*P PKPab 00 47 09.1 -0.1
GRF **Grafenberg Arr** 145.51 350 *e*PKPbc PKPab 00 47 08.8 -0.5
GRFO **Grafenberg** 145.51 350 *e*PKPdf PKPab 00 47 07.9 -1.1
KHC **Kasperske Hory** 145.59 347 *e*PKP PKPab 00 47 08.4 -1.4
KHC **Kasperske Hory** 145.59 347 *e*PKPdf PKPab 00 47 08.2 -1.2
BUD **Budapest** 145.61 340 ⇑*e*P PKPab 00 47 09.3 -0.1
WET **Wettzell** 145.72 348 *e*PKPbc PKPab 00 47 09.7 -0.2
DOU **Dourbes** 145.81 358 PKP PKPab 00 47 09.8 -0.3
GEC2 **GERESS Array S** 145.83 347 *e*PKPbc PKPab 00 47 10.3 -0.1
GEC2 **GERESS Array S** 145.83 347 *e*PKPdf PKPbc 00 47 08.6 -0.4
GERES **GERESS Array B** 145.83 347 PKPbc PKPab 00 47 09.3 -1.1
comp=Z,3.5nm,0.6s,baz=23,slow=3.5,SNR=31
PKSG 145.89 341 ⇑*e*P PKPab 00 47 10.3 -0.3
PKS7 **Kunszentmiklos** 145.94 339 ⇓*e*P PKPab 00 47 10.7 0.0
CSKK **Cs˝ákako** 145.96 341 ⇓*e*P PKPbc 00 47 08.8 -0.5
SZH **Strazhica** 146.12 329 *e*P PKPab 00 47 10.7 -0.9
PKST **T˝s** 146.12 341 ⇑*e*P PKPbc 00 47 08.4 -1.4
WLF **Walferdange** 146.15 356 PKP PKPab 00 47 11.5 +0.1
WLF **Walferdange** 146.15 356 *e*PKPbc PKPab 00 47 11.1 -0.2
SOP **Sopron** 146.19 343 ⇓*e*pP PKPab 00 47 11.4 -0.3
BZS **Buzias** 146.25 335 ⇑*i*P PKPbc 00 47 09.8 -0.4
PKS2 **Kecel** 146.41 339 ⇓*e*P PKPab 00 47 12.0 -0.6
ALT **Altintas** 146.52 319 P PKPab 00 47 11.7 -1.8
MOA **Molln** 146.64 345 ⇑*i*PKPab PKPab 00 47 12.1 -1.5
comp=Z,8.8nm,0.8s,SNR=7.5
PKS9 **Tamasi** 146.64 340 ⇓*e*P PKPab 00 47 12.2 -1.3
PKSM **Moragy** 146.85 339 ⇑*i*P PKPab 00 47 13.1 -1.3
PKSM **Moragy** 146.85 339 ⇓*e*P PKPab 00 47 12.6 -1.8
FUR **Furstenfeldbru** 146.97 349 *e*PKPbc PKPab 00 47 13.5 -1.4
RJOB **Jochberg** 147.08 347 *e*PKPbc PKPab 00 47 13.9 -1.5
MPEP **Malo Peshtene** 147.12 331 *e*P PKPab 00 47 13.3 -2.3
BFO **Black Forest** 147.26 353 *e*PKPbc PKPab 00 47 14.1 -1.9
BFO **Black Forest** 147.26 353 *e*PKPdf PKPdf 00 47 09.7 -0.1
SOKA **Soboth** 147.53 344 *i* PKPdf PKPdf 00 47 11.1 +0.7
comp=Z,9.0nm,1.2s,SNR=6.2
KDZ **Kurdzhali** 147.55 327 ⇓*i*P PKPab 00 47 15.4 -2.0
KDZ **Kurdzhali** 147.55 327 *e*P PKPbc 00 47 14.0 +0.1
WATA **Walderalm** 147.71 348 ⇑*i*PKiKP PKiKP 00 47 15.1 -0.8
comp=Z,6.1nm,0.6s,SNR=5.8
ALN **Alexandroupoli** 147.74 325 *e*P PKPbc 00 47 14.1 -0.2
WTTA **Wattenberg** 147.77 348 *i* PKiKP PKiKP 00 47 15.2 -0.8
comp=Z,15nm,0.7s,SNR=7.6
MOTA **Moosalm** 147.79 349 ⇓*i*PKiKP PKiKP 00 47 15.4 -0.6
comp=Z,7.7nm,0.8s,SNR=7.1
RDO **Rodhopi** 147.84 326 *e*P PKPbc 00 47 15.1 +0.5
RDO **Rodhopi** 147.84 326 *e*PKPbc PKPbc 00 47 14.5 -0.1
DAVA **Damuels** 148.06 350 *i* PKiKP PKiKP 00 47 16.4 -0.2
comp=Z,16nm,1.0s,SNR=5.2
ABTA **Abfaltersbach** 148.08 347 *i* PKPbc PKPbc 00 47 15.1 0.0
comp=Z,12nm,0.7s,SNR=6.3
PDKS **Podkum** 148.11 343 *i* PKPbc PKPbc 00 47 15.2 0.0
DIVS **Divibare** 148.15 336 P PKPbc 00 47 16.4 +1.0
DIVS **Divibare** 148.15 336 ⇓*i*P PKPbc 00 47 13.8 -1.6
SMTH **Samothraki Isl** 148.32 325 P PKPdf 00 47 11.7 -0.1
SMTH **Samothraki Isl** 148.32 325 *e*P PKPbc 00 47 15.8 -0.1
VOJS **Vojsko** 148.43 345 *i* PKPbc PKPbc 00 47 15.8 -0.3
MMB **Musomiste** 148.46 329 ⇑*i*P PKPbc 00 47 16.5 +0.3
MMB **Musomiste** 148.46 329 *e*P PKPbc 00 47 16.6 +0.3
BOJS **Bojanci** 148.54 343 *i* PKPbc PKPbc 00 47 17.0 +0.7
KKB **Krupnik** 148.57 330 *e*P PKPbc 00 47 17.4 +0.9
NVR **Nevrokopi** 148.57 328 P PKPbc 00 47 16.4 -0.1
NVR **Nevrokopi** 148.57 328 *e*P PKPbc 00 47 16.8 +0.3
FUORN **Ofenpass-Fuorn** 148.64 350 *e*PKPdf PKPdf 00 47 12.6 +0.1
FUORN *e*PKPbc PKiKP 00 47 18.0 +0.1
LIA **Limnos Island** 148.91 325 P PKPbc 00 47 17.4 +0.1
SIGR **SIGRI** 149.00 323 P PKPbc 00 47 16.9 -0.6
SIGR **SIGRI** 149.00 323 *e*P PKPbc 00 47 17.5 0.0
KNT **Kendrikon** 149.20 329 *e*P PKPbc 00 47 17.5 -0.5

OUR **Ouranopolis** 149.25 327 P PKPbc 00 47 18.0 -0.2
OUR **Ouranopolis** 149.25 327 *e*P PKPbc 00 47 17.9 -0.2
SENIN **Lac Senin/Sane** 149.31 353 *e*PKPdf PKPdf 00 47 14.9 +1.4
CHOS **Chios island** 149.43 322 P PKPbc 00 47 18.8 +0.1
CHOS **Chios island** 149.43 322 *e*P PKPbc 00 47 19.1 +0.4
ARG **Arkhangelos** 149.45 316 *e*P PKPbc 00 47 19.2 +0.5
PHP **Peshkopia** 149.94 332 P PKPbc 00 47 20.0 +0.2
FNA **Florina** 150.23 330 P PKPbc 00 47 20.0 -0.5
FNA **Florina** 150.23 330 *e*P PKPbc 00 47 20.8 +0.3
XOR **Xorichti** 150.37 326 *e*P PKPbc 00 47 20.8 -0.1
KARP **Karpathos** 150.47 316 *e*P PKPbc 00 47 21.8 +0.6
NEST **Nestorio** 150.67 330 P PKPbc 00 47 22.0 +0.4
NEST **Nestorio** 150.67 330 *e*P PKPbc 00 47 22.3 +0.7
THL **Klokotos Trika** 150.84 328 *e*P PKPbc 00 47 21.7 -0.2
ATAL **Atalanti** 150.95 326 P PKPbc 00 47 21.4 -0.8
LKR **Lokris** 150.99 325 *e*P PKPbc 00 47 22.3 0.0
AGG **Agios Georgios** 151.08 327 *e*P PKPbc 00 47 22.1 -0.4
AGG **Agios Georgios** 151.08 327 *e*PKPdf PKPdf 00 47 16.1 -0.2
AGG *e*PKPbc PKiKP 00 47 22.3 -0.6
AXAR **Agios Charalam** 151.09 326 P PKPbc 00 47 22.8 +0.3
AXAR **Agios Charalam** 151.09 326 *e*P PKPbc 00 47 23.2 +0.7
THR3 **Thira Island,** 151.09 319 P PKPbc 00 47 22.4 -0.2
THR6 **Thira Island,** 151.13 319 P PKPbc 00 47 22.8 +0.1
VIL2 **Platees** 151.15 325 *e*P PKPbc 00 47 22.9 +0.2
MAKR **Makrakomi, Fth** 151.19 327 *e*P PKPbc 00 47 23.5 +0.7
DSF **Desfina** 151.42 326 *e*P PKPbc 00 47 23.3 0.0
EVR **Evrytania** 151.43 327 P PKPbc 00 47 23.2 -0.2
EVR **Evrytania** 151.43 327 *e*P PKPbc 00 47 24.0 +0.6
LTK **Loutraki** 151.46 325 *e*P PKPbc 00 47 22.7 -0.7
DSL **Palaion Diasel** 151.63 328 *e*P PKPbc 00 47 24.3 +0.5
KALE **Kalithea** 151.64 326 *e*P PKPbc 00 47 24.5 +0.6
NPS **Neapolis** 151.66 317 P PKPbc 00 47 24.9 +1.0
NPS **Neapolis** 151.66 317 *e*P PKPbc 00 47 24.7 +0.8
DID **Didima** 151.66 324 P PKPbc 00 47 23.3 -0.6
DID **Didima** 151.66 324 *e*P PKPbc 00 47 23.2 -0.6
SGD **Sagiada** 151.69 330 *e*P PKPbc 00 47 22.0 -1.8
IGT **Igoumenitsa** 151.70 330 *e*P PKPbc 00 47 24.2 +0.3
KRND **KRANIDI** 151.80 323 *e*P PKPbc 00 47 23.7 -0.4
LAST **Lasithi** 151.81 317 *e*P PKPbc 00 47 25.2 +0.8
KEK **Kerkira** 151.81 331 *e*P PKPbc 00 47 24.6 +0.5
GUR **Goura** 151.86 325 P PKPbc 00 47 24.1 -0.3
GUR **Goura** 151.86 325 *e*P PKPbc 00 47 24.6 +0.2
PDO **Prodromos** 151.99 328 P PKPbc 00 47 25.3 +0.7
PDO **Prodromos** 151.99 328 *e*P PKPbc 00 47 25.2 +0.7
LKD2 **Lefkada island** 152.12 329 *e*P PKPbc 00 47 24.5 -0.4
DRO **Drossia** 152.19 326 *e*P PKPbc 00 47 26.1 +1.1
VLX **Vlachokerasia** 152.25 324 *e*P PKPbc 00 47 25.8 +0.5
SIVA **Sivas** 152.33 318 *e*P PKPbc 00 47 26.9 +1.5
VLI **Veliai** 152.38 323 *e*P PKPbc 00 47 26.0 +0.5
AMT **Artemida-Makis** 152.50 325 *e*P PKPbc 00 47 24.7 -1.0
PYL **PYLOS** 152.94 324 *e*P PKPbc 00 47 26.5 -0.2
ESDC **Sonseca Array** 155.62 12 PKP PKPdf 00 47 24.4 +1.7
comp=Z,0.5nm,0.9s,baz=344,slow=1.3,SNR=2.9
ESDC PKPab PKPab 00 47 51.5 +0.1
comp=Z,0.5nm,0.6s,baz=346,slow=4.9,SNR=4.3
KEST **Kesra** 159.27 344 PKPab PKPab 00 48 06.7 -0.7
comp=Z,0.4nm,0.5s,baz=311,slow=9.3,SNR=3.6
TORD **Torodi Ar. Bea** 177.21 165 PKP PKPdf 00 47 39.9 +0.3
comp=Z,1.7nm,0.9s,baz=270,slow=8.6,SNR=7.6
TORD PKPab PKPab 00 49 27.1 +0.2
comp=Z,1.2nm,0.9s,baz=222,slow=3.6,SNR=4.4

IDC 14 00:42:25.8±4.8, **23.88S**×**177.51W**, **h0**km, **mb3.7**/3, **mb1 3.9**/3, **mb1mx3.7**/18, **mbtmp3.7**/3, **Error ellipse: s-maj=189.6km s-min=63.9km az=145.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.84**	**248**	P	P		00 49 35.2	-0.7
	0.7nm,0.5s,baz=95,slow=12,SNR=2.8							
ASAR	**Alice Springs**	**44.28**	**260**	P	P		00 50 37.2	-0.4
	0.7nm,0.5s,baz=91,slow=7.1,SNR=17							
WRA	**Warramunga Arr**	**44.68**	**265**	P	P		00 50 41.8	+1.0
	0.5nm,0.5s,baz=103,slow=8.3,SNR=3.0							
BRTR	**Keskin Array B**	**149.36**	**308**	PKPbc	PKPbc		01 02 16.6	-0.5
	0.3nm,0.6s,baz=97,slow=3.3,SNR=2.8							

CRAAG ***14*** *01:00:14.8, 35˚.44N*×*0˚.32E, Ml3.6*
ISCJB ***14*** *01:00:17.1*±*0.6, 35˚.59N*±*0˚.05*×*0˚.22E*±*0˚.04, h25*km±*9km, Error ellipse: s-maj=9.1km s-min=5.4km az=159.0*
MDD ***14*** *01:00:17.3*±*0.5, 35˚.58N*×*0˚.21E, h0*km*, mb3.6/9, Error ellipse: s-maj=5.4km s-min=3.8km az=174.0, PRXIMO*
CSEM ***14*** *01:00:17.1*±*0.3, 35˚.57N*×*0˚.25E, h20km, ML3.6, Error ellipse: s-maj=7.3km s-min=4.3km az=5.0*

ISC 14 01:00:17.7±1.2, **35.59N**±0.05×**0.24E**±0.03, **h23**km±13km, **n59**, **σ1.33/84, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ODJA	**Bouhanifia**	**0.41**	**230**	P	**Pb**		**01 00 25.4**	**-1.0**
ODJA	**Bouhanifia**	**0.41**	**230**	P	**Pb**		**01 00 25.4**	**-1.0**
ODJA	**Bouhanifia**	**0.41**	**230**	P	**Pb**		**01 00 25.4**	**-1.0**
OJGS	**Djebel Guires**	**0.42**	**102**	P	**Pb**		**01 00 26.7**	**0.0**
OJGS	**Djebel Guires**	**0.42**	**102**	P	**Pb**		**01 00 26.7**	**0.0**
OJGS	**Djebel Guires**	**0.42**	**102**	P	**Pb**		**01 00 26.7**	**0.0**
OKGL	**Djebel Kef Gue**	**0.55**	**36**	P	**Pb**		**01 00 26.2**	**-2.6**
	51nm,0.1s,SNR=7.9							
OKGL				S	**Sb**		**01 00 37.3**	**+1.0**
	1μm,0.4s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**0.55**	**36**	P	**Pb**		**01 00 26.2**	**-2.6**
	51nm,0.1s,SNR=7.9							
OKGL				S	**Sb**		**01 00 37.3**	**+1.0**
	1μm,0.4s,SNR=7.9							
USTO	**Oran**	**0.66**	**282**	P	**Sn**		**01 00 43.0**	**+1.8**
USTO	**Oran**	**0.66**	**282**	P	**Sn**		**01 00 43.0**	**+1.8**
EANR	**'Ain N'Sour**	**0.78**	**63**	P	**Pb**		**01 00 31.5**	**-1.2**
EANR	**'Ain N'Sour**	**0.78**	**63**	P	**Pb**		**01 00 31.5**	**-1.2**
EANR	**'Ain N'Sour**	**0.78**	**63**	P	**Pb**		**01 00 31.5**	**-1.2**
ETRT	**Tiaret**	**0.89**	**103**	P	**Pb**		**01 00 33.1**	**-1.4**
ETRT	**Tiaret**	**0.89**	**103**	P	**Pb**		**01 00 33.1**	**-1.4**
ETRT	**Tiaret**	**0.89**	**103**	P	**Pb**		**01 00 33.1**	**-1.4**
ECHF	**Ech Chlef**	**1.05**	**58**	P	**Pn**		**01 00 36.5**	**-0.6**
ECHA	**Ech Chlef**	**1.07**	**58**	P	**Pn**		**01 00 36.5**	**-0.8**
ECHA	**Ech Chlef**	**1.07**	**58**	P	**Pn**		**01 00 36.5**	**-0.8**
EBNR	**Beni Rached**	**1.26**	**56**	P	**Pn**		**01 00 40.3**	**+0.4**
EBNR	**Beni Rached**	**1.26**	**56**	P	**Pn**		**01 00 40.3**	**+0.4**
EMHD	**Djebel Mahouad**	**2.29**	**74**	P	Pn		01 00 45.5	-8.6
EMHD	**Djebel Mahouad**	**2.29**	**74**	P	Pn		01 00 45.5	-8.6
ENIJ	**Nijar**	**2.41**	**306**	P	**Pn**		**01 00 55.0**	**-0.7**
	6.2nm,0.2s,SNR=7.9							
ENIJ				S	**Sn**		**01 01 22.5**	**-2.0**
	4.3nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**2.41**	**306**	P	**Pn**		**01 00 55.0**	**-0.7**
	5.5nm,0.2s,SNR=7.9							
ENIJ				S	**Sn**		**01 01 22.1**	**-2.4**
	16nm,0.6s,SNR=7.9							
EMUR	**La Murta**	**2.54**	**333**	P	**Pn**		**01 00 57.1**	**-0.4**
	1.6nm,0.3s,SNR=8.1							
EMUR				S

ETOB				S		Sn	01 01 47.5 -0.6
	3.5nm,0.3s,SNR=5.5						
ETOB	**Tobarra**	**3.36**	**335**	P		**Pn**	**01 01 09.1 +0.2**
	2.8nm,0.3s,SNR=32						
ETOB				S		Sn	01 01 47.5 -0.6
	3.5nm,0.3s,SNR=5.5						
SESP	**Santiago Espad**	**3.37**	**319**	P		**Pn**	**01 01 10.3 +1.3**
	2.6nm,0.1s,SNR=7.9						
SESP				S		Sn	01 01 49.6 +1.2
	7.6nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.37**	**319**	P		**Pn**	**01 01 10.2 +1.2**
	2.6nm,0.1s,SNR=7.9						
SESP				S		Sn	01 01 48.5 +0.1
	7.5nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**3.38**	**300**	P		**Pn**	**01 01 10.3 +1.2**
	1.5nm,0.2s,SNR=10						
EQUE				S		Sn	01 01 50.0 +1.5
	2.1nm,0.3s,SNR=4.0						
EQUE	**Quentar**	**3.38**	**300**	P		**Pn**	**01 01 09.8 +0.7**
	3.5nm,0.4s,SNR=10						
EQUE				S		Sn	01 01 47.7 -0.8
	2.4nm,0.3s,SNR=4.0						
EQES	**Quesada**	**3.46**	**311**	P		**Pn**	**01 01 11.8 +1.6**
	3.6nm,0.3s,SNR=52						
EQES				S		Sn	01 01 52.7 +2.3
	4.1nm,0.2s						
EQES	**Quesada**	**3.46**	**311**	P		**Pn**	**01 01 11.8 +1.6**
	3.6nm,0.3s,SNR=52						
EQES				S		Sn	01 01 53.2 +2.8
	4.2nm,0.3s						
EIBI	**Ibiza**	**3.54**	**14**	P		**Pn**	**01 01 12.1 +0.9**
	1.7nm,0.2s,SNR=9.7						
EIBI				S		Sn	01 01 52.7 +0.4
	0.5nm,0.3s						
EIBI	**Ibiza**	**3.54**	**14**	P		**Pn**	**01 01 11.9 +0.7**
	1.3nm,0.3s,SNR=9.7						
EIBI				S		Sn	01 01 52.2 -0.1
	10nm,1.0s						
SELV	**Sierra Elvira**	**3.60**	**298**	P		**Pn**	**01 01 14.9 +2.8**
	4.6nm,0.5s,SNR=7.9						
SELV	**Sierra Elvira**	**3.60**	**298**	P		**Pn**	**01 01 11.8 -0.3**
	1.0nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**3.75**	**325**	P		**Pn**	**01 01 16.6 +2.4**
	1.9nm,0.2s,SNR=7.9						
EVIA				S		Sn	01 01 59.2 +1.6
	11nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**3.75**	**325**	P		**Pn**	**01 01 14.8 +0.6**
	1.9nm,0.2s,SNR=7.9						
EVIA				S		Sn	01 01 57.4 -0.2
	11nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**4.17**	**285**	P		**Pn**	**01 01 20.0 0.0**
	0.5nm,0.2s,SNR=4.0						
EMIJ				S		Sn	01 02 05.7 -2.4
	0.7nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.17**	**285**	P		**Pn**	**01 01 19.0 -1.0**
	0.5nm,0.2s,SNR=4.0						
EMIJ				S		Sn	01 02 05.7 -2.4
	2.8nm,0.7s,SNR=7.9						
EADA	**Adamuz**	**4.64**	**305**	P		Pn	01 01 30.1 +3.7
	0.0nm,0.3s,SNR=7.9						
EADA				S		Sn	01 02 19.7 +0.2
	0.5nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**4.64**	**305**	P		Pn	01 01 30.1 +3.7
	0.3nm,0.3s,SNR=7.9						
EADA				S		Sn	01 02 19.7 +0.2
	4.0nm,0.7s,SNR=7.9						
EMOS	**Mosqueruela**	**4.79**	**353**	P		**Pn**	**01 01 30.3 +1.6**
	0.0nm,0.2s,SNR=7.0						
EMOS				S		Sn	01 02 24.6 +1.0
	0.6nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**4.79**	**353**	P		**Pn**	**01 01 30.1 +1.4**
	3.1nm,0.9s,SNR=7.0						
ECAB	**El Cabril**	**5.17**	**300**	P		**Pn**	**01 01 34.0 +0.3**
	0.4nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**5.17**	**300**	P		**Pn**	**01 01 33.1 -0.6**
	0.4nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**5.26**	**322**	P		**Pn**	**01 01 36.5 +1.6**
	0.4nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**6.12**	**327**	P		**Pn**	**01 01 48.9 +2.2**
	0.2nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**6.59**	**301**	P		**Pn**	**01 01 53.7 +0.5**
	0.7nm,0.4s,SNR=4.0						
EBAD	**Badajoz**	**6.59**	**301**	P		**Pn**	**01 01 53.4 +0.2**
	0.4nm,0.2s,SNR=4.0						

*CSEM **14** 01:01:18.4,35.37N×0.25E,h0km,mb3.4/5*
MDD 14 01:01:20.2±2.5,35.44N×0.19E,h0km,mb3.2/4,Error ellipse: s-maj=25.1km s-min=7.5km az=158.0,PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKGL	**Djebel Kef Gue**	**0.70**	**32**	P	Pg	01 01 33.2	-0.5
	13nm,0.4s,SNR=7.9						
OKGL				S	Sg	01 01 42.6	-0.3
	88nm,0.1s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**0.70**	**32**	P	Pg	01 01 32.7	-1.0
	4.2nm,0.1s,SNR=7.9						
OKGL				S	Sg	01 01 41.7	-1.2
	146nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**2.47**	**309**	P	Pn	01 02 00.2	-1.6
	1.9nm,0.2s,SNR=7.9						
ENIJ				S	Sn	01 02 26.2	-6.4
	3.0nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.88**	**301**	P	Pn	01 02 05.9	-1.8
	1.1nm,0.3s,SNR=12						
EBER				S	Sn	01 02 40.2	-3.1
	2.1nm,0.3s						
EBER	**Berja**	**2.88**	**301**	P	Pn	01 02 05.0	-2.7
	3.0nm,0.3s,SNR=12						
EBER				S	Sn	01 02 38.9	-4.4
	5.6nm,0.5s						
SESP	**Santiago Espad**	**3.46**	**321**	P	Pn	01 02 14.5	-1.0
	1.3nm,0.1s,SNR=7.9						
SESP				S	Sn	01 02 53.9	-3.5
	1.9nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.46**	**321**	P	Pn	01 02 14.2	-1.4
	1.3nm,0.1s,SNR=7.9						
SESP				S	Sn	01 02 55.8	-1.6
	2.6nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**3.48**	**337**	P	Pn	01 02 13.5	-2.4
	0.5nm,0.2s,SNR=14						
ETOB				S	Sn	01 02 50.9	-7.0
	0.5nm,0.4s						
ETOB	**Tobarra**	**3.48**	**337**	P	Pn	01 02 12.9	-2.9
	2.8nm,0.3s,SNR=14						
ETOB				S	Sn	01 02 55.3	-2.6
	4.8nm,0.7s						
EQES	**Quesada**	**3.52**	**313**	P	Pn	01 02 16.1	-0.4
	1.0nm,0.2s,SNR=7.9						
EQES				S	Sn	01 02 56.4	-2.6
	1.2nm,0.3s,SNR=7.9						
EQES	**Quesada**	**3.52**	**313**	P	Pn	01 02 15.1	-1.3
	1.0nm,0.2s,SNR=7.9						
EQES				S	Sn	01 02 57.3	-1.7
	1.2nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.69**	**14**	P	Pn	01 02 18.2	-0.4
	0.2nm,0.2s,SNR=4.0						
EIBI	**Ibiza**	**3.69**	**14**	P	Pn	01 02 15.4	-3.2
	0.3nm,0.1s,SNR=4.0						
EIBI				S	Sn	01 02 58.2	-4.7
	1.5nm,0.5s,SNR=7.9						
EVIA	**Vianos**	**3.85**	**327**	S	Sn	01 03 04.5	-2.4
	2.0nm,0.3s,SNR=4.0						
EVIA	**Vianos**	**3.85**	**327**	S	Sn	01 03 04.5	-2.4
	2.0nm,0.3s,SNR=7.9						

*IDC **14** 01:02:16.4±1.4,24.36N×122.72E,h0km,mb3.8/4, mb1 3.9/5,mb1mx3.5/25,mbtmp3.8/5,ML2.7/1,Error ellipse: s-maj=42.4km s-min=26.8km az=65.0*
*ISCJB **14** 01:02:24.2±0.3,24.42N±0.02×122.91E±0.01,h68km±4km, mb3.7/4,Error ellipse: s-maj=3.8km s-min=2.2km az=173.0*
*JMA **14** 01:02:24.2±0.1,24.46N×122.90E,h68km±1km,M3.4*
*TAP **14** 01:02:24.8,24.39N×122.85E,h25km±1km,ML3.9,D*
ISC 14 01:02:24.5±0.9,24.41N±0.03×122.92E±0.02,h63km±6km, n77,σ0.99/141,mb3.8/4,3C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.05**	**33**	P	**Pn**	**01 02 34.1**	**+0.3**
JYNG				S	**Sn**	**01 02 41.1**	**+0.6**
YOJ	**Yonaguni jima**	**0.10**	**59**	P	**Pn**	**01 02 34.2**	**+0.3**
YOJ				S	**Sn**	**01 02 41.2**	**+0.5**
IRIF	**Iriomote-Funau**	**0.74**	**96**	P	**Pn**	**01 02 39.7**	**+0.2**
IRIF				S	**Sn**	**01 02 51.3**	**+0.8**
HATJ	**Hateruma jima**	**0.88**	**113**	P	**Pn**	**01 02 42.0**	**+0.8**
HATJ				S	**Sn**	**01 02 55.0**	**+1.5**
TWC	**Suao**	**0.99**	**282**	P	**Pn**	**01 02 42.4**	**-0.1**
	baz=283						
TWC				S	**Sn**	**01 02 54.8**	**-1.1**
	baz=283						
EGS		**0.99**	**296**	P	**Pn**	**01 02 42.6**	**0.0**
	baz=298						
EGS				*e*S	**Sn**	**01 02 55.4**	**-0.6**
	baz=298						
JKRS	**Kuro-shima**	**1.01**	**100**	P	**Pn**	**01 02 43.4**	**+0.6**
JKRS				S	**Sn**	**01 02 57.2**	**+0.8**
ENA	**Nanau**	**1.07**	**271**	*i* P	**Pn**	**01 02 43.7**	**+0.1**
	baz=271						
ENA				S	**Sn**	**01 02 57.4**	**-0.5**
	baz=271						
JIJ	**Ishigaki jima**	**1.12**	**92**	P	**Pn**	**01 02 44.1**	**-0.1**
JIJ				S	**Sn**	**01 02 58.8**	**-0.1**
ILA	**Ilan**	**1.12**	**289**	*e*P	**Pn**	**01 02 44.5**	**+0.3**
	baz=290						
ILA				*e*S	**Sn**	**01 02 58.9**	**-0.1**
	baz=290						
TWE	**Neicheng**	**1.18**	**285**	P	**Pn**	**01 02 45.1**	**+0.1**
	baz=286						
TWE				S	**Sn**	**01 02 59.9**	**-0.4**
	baz=286						
NWF	**Wu-fen Shan**	**1.22**	**303**	P	**Pn**	**01 02 45.8**	**+0.1**
	baz=304						
NWF				*e*S	**Sn**	**01 03 01.7**	**+0.2**
	baz=304						
TWD	**Chiawan**	**1.25**	**255**	P	**Pn**	**01 02 45.7**	**-0.2**
	baz=254						
TWD				S	**Sn**	**01 03 01.5**	**-0.5**
	baz=254						
ENTT	**Nioudou**	**1.25**	**281**	P	**Pn**	**01 02 46.7**	**+0.7**
	baz=281						
ENTT				*e*S	**Sn**	**01 03 01.9**	**-0.1**
	baz=281						
HWA	**Hwalien**	**1.27**	**250**	⇑P	**Pn**	**01 02 46.3**	**+0.1**
	baz=249						
HWA				*e*S	**Sn**	**01 03 02.1**	**-0.4**
	baz=249						
JISG	**Ishigakijimahi**	**1.28**	**82**	P	**Pn**	**01 02 46.2**	**-0.2**
JISG				S	**Sn**	**01 03 02.6**	**-0.1**
TWA	**Mucha**	**1.34**	**295**	P	**Pn**	**01 02 47.4**	**+0.2**
	baz=296						
TWA				S	**Sn**	**01 03 04.1**	**0.0**
	baz=296						
NNS	**Nan Shan**	**1.41**	**271**	P	**Pn**	**01 02 48.4**	**+0.3**
	baz=271						
NNS				*e*S	**Sn**	**01 03 05.7**	**-0.2**
	baz=271						
TAP1	**Taipei**	**1.41**	**297**	*e*P	**Pn**	**01 02 48.9**	**+0.8**
	baz=297						
TAP1				*e*S	**Sn**	**01 03 06.6**	**+0.8**
	baz=297						
TAP	**Taipei**	**1.43**	**296**	*e*P	**Pn**	**01 02 48.9**	**+0.6**
	baz=297						
TAP				*e*S	**Sn**	**01 03 06.5**	**+0.3**
	baz=297						
PCYT	**Pengchaiyu**	**1.44**	**328**	⇓P	**Pn**	**01 02 49.0**	**+0.6**
	baz=330						
PCYT				*e*S	**Sn**	**01 03 07.4**	**+1.0**
	baz=330						
NSK	**Sanguang**	**1.44**	**281**	⇑P	**Pn**	**01 02 49.3**	**+0.7**
	baz=281						
NSK				S	**Sn**	**01 03 06.6**	**-0.1**
	baz=281						
TWY	**Chenhua**	**1.47**	**306**	*e*P	**Pn**	**01 02 49.3**	**+0.4**
	baz=307						
TWY				*e*S	**Sn**	**01 03 08.0**	**+0.7**
	baz=307						
ESL	**Shilin**	**1.48**	**247**	P	**Pn**	**01 02 48.6**	**-0.5**
	baz=245						
ESL				*e*S	**Sn**	**01 03 07.3**	**-0.2**
	baz=245						
TWS1	**Kuangyinshan**	**1.53**	**297**	P	**Pn**	**01 02 50.2**	**+0.6**
	baz=298						
TWS1				*e*S	**Sn**	**01 03 09.1**	**+0.5**
	baz=298						
WHF	**Hehuan Shan**	**1.53**	**260**	⇑P	**Pn**	**01 02 50.0**	**-0.1**
	baz=260						
WHF				*e*S	**Sn**	**01 03 08.6**	**-0.7**
	baz=260						
TWT	**Tachien**	**1.60**	**265**	*e*P	**Pn**	**01 02 51.6**	**+0.9**
	baz=264						
TWT				*e*S	**Sn**	**01 03 10.7**	**+0.2**
	baz=264						
JTJ	**Tarama**	**1.64**	**82**	P	**Pn**	**01 02 51.5**	**+0.3**
JTJ				S	**Sn**	**01 03 11.7**	**+0.4**
NCU	**National Centr**	**1.67**	**290**	*e*P	**Pn**	**01 02 52.4**	**+0.8**
	baz=290						
NCU				*e*S	**Sn**	**01 03 12.5**	**+0.5**
	baz=290						
EHY	**Hungye**	**1.71**	**239**	P	**Pn**	**01 02 51.9**	**-0.3**
	baz=237						
EHY				*e*S	**Sn**	**01 03 12.3**	**-0.8**
	baz=237						
NSTT	**Nanjuang**	**1.76**	**278**	*e*P	**Pn**	**01 02 53.7**	**+0.9**
	baz=277						
NSTT				*e*S	**Sn**	**01 03 14.3**	**+0.1**
	baz=277						
HSN	**Hsinchu**	**1.81**	**283**	*e*P	**Pn**	**01 02 54.0**	**+0.5**
	baz=284						
HSN				*e*S	**Sn**	**01 03 15.4**	**-0.1**
	baz=284						
TWF1	**Yuli**	**1.82**	**235**	P	**Pn**	**01 02 53.6**	**0.0**
	baz=233						
TWF1				*e*S	**Sn**	**01 03 12.7**	**-2.9**
	baz=233						
SMLT	**Sun Moon Lake**	**1.92**	**254**	P	**Pn**	**01 02 55.8**	**+0.8**
	baz=254						
SMLT				S	**Sn**	**01 03 18.1**	**0.0**
	baz=254						
CHKT	**Chengkung**	**1.93**	**228**	*e*P	**Pn**	**01 02 55.0**	**-0.1**
	baz=226						
TYC	**Yuchr**	**1.95**	**255**	*e*P	**Pn**	**01 02 56.3**	**+1.0**
	baz=254						
TYC				*e*S	**Sn**	**01 03 19.0**	**+0.2**
	baz=254						
TWQ1	**Liyutan**	**1.96**	**269**	*e*P	**Pn**	**01 02 56.8**	**+1.3**
	baz=268						
TWQ1				*e*S	**Sn**	**01 03 19.3**	**+0.3**
	baz=268						
NSY	**Sanyi**	**1.96**	**271**	*e*P	**Pn**	**01 02 56.7**	**+1.2**
	baz=270						
NSY				*e*S	**Sn**	**01 03 19.5**	**+0.2**
	baz=270						
YUS	**Yu-Shan**	**2.02**	**243**	*e*P	**Pn**	**01 02 57.5**	**+0.8**
	baz=242						
TCU	**Taichung**	**2.06**	**263**	*e*P	**Pn**	**01 02 57.8**	**+0.9**
	baz=262						
TCU				*e*S	**Sn**	**01 03 21.9**	**+0.3**
	baz=262						
JIRB	**Irabujima**	**2.10**	**78**	P	**Pn**	**01 02 57.5**	**+0.2**
JIRB				S	**Sn**	**01 03 23.3**	**+1.0**
WNT	**Mingjian**	**2.11**	**256**	*e*P	**Pn**	**01 02 59.5**	**+2.0**
	baz=255						
WNT				*e*S	**Sn**	**01 03 25.2**	**+2.5**
	baz=255						
ELDTW	**Lidau**	**2.12**	**235**	*e*P	**Pn**	**01 02 57.6**	**-0.2**
	baz=234						
ELDTW				*e*S	**Sn**	**01 03 23.3**	**+0.1**
	baz=234						
ALS	**Alishan**	**2.13**	**246**	*e*P	**Pn**	**01 02 59.3**	**+1.2**
	baz=244						
ALS				S	**Sn**	**01 03 23.2**	**-0.5**
	baz=244						
JIKM	**Ikemajima**	**2.18**	**76**	P	**Pn**	**01 02 58.8**	**+0.3**
CHN5	**Tsauling**	**2.20**	**249**	*e*P	**Pn**	**01 03 00.6**	**+1.7**
	baz=248						
CHN5				*e*S	**Sn**	**01 03 25.5**	**+0.4**
	baz=248						
WGK	**Gukeng**	**2.27**	**252**	*e*P	**Pn**	**01 03 01.4**	**+1.7**
	baz=251						
WGK				*e*S	**Sn**	**01 03 27.1**	**+0.5**
	baz=251						
JOGS	**Gusukube**	**2.29**	**81**	P	**Pn**	**01 03 00.2**	**+0.2**
TTN	**Taitung**	**2.31**	**225**	*e*P	**Pn**	**01 03 01.4**	**+1.1**
	baz=223						
TTN				*e*S	**Sn**	**01 03 29.5**	**+1.9**
	baz=223						
TWG	**Pinlang**	**2.32**	**227**	*e*P	**Pn**	**01 03 00.2**	**-0.1**
	baz=226						
TWG				*e*S	**Sn**	**01 03 27.1**	**-0.7**
	baz=226						
STYT	**Tauyuan**	**2.34**	**238**	*e*P	**Pn**	**01 03 01.9**	**+1.2**
	baz=237						
STYT				*e*S	**Sn**	**01 03 28.5**	**+0.2**
	baz=237						
CHN4	**Tsaushan**	**2.38**	**244**	*e*P	**Pn**	**01 03 03.1**	**+2.0**
	baz=243						
CHN4				*e*S	**Sn**	**01 03 29.6**	**+0.4**
	baz=243						
WTP	**Ta-pu**	**2.41**	**242**	*e*P	**Pn**	**01 03 03.5**	**+1.8**
	baz=240						
WTP				*e*S	**Sn**	**01 03 30.5**	**+0.5**
	baz=240						
CHY	**Chiayi**	**2.46**	**249**	*e*P	**Pn**	**01 03 03.2**	**+1.0**
	baz=248						
CHY				*e*S	**Sn**	**01 03 31.5**	**+0.4**
	baz=248						
TWK	**Hsinying**	**2.50**	**243**	*e*P	**Pn**	**01 03 04.8**	**+2.0**
	baz=242						
TWK				*e*S	**Sn**	**01 03 32.5**	**+0.2**
	baz=242						
CHN1	**Nanshi**	**2.51**	**241**	*e*P	**Pn**	**01 03 04.7**	**+1.8**
	baz=240						
CHN1				*e*S	**Sn**	**01 03 32.9**	**+0.5**
	baz=240						
SGST	**Jiashian**	**2.52**	**239**	*e*P	**Pn**	**01 03 05.2**	**+2.1**
	baz=237						
SGST				*e*S	**Sn**	**01 03 33.0**	**+0.4**
	baz=237						
WSF	**Szhu**	**2.58**	**253**	*e*P	**Pn**	**01 03 04.9**	**+1.0**
	baz=252						
WSF				*e*S	**Sn**	**01 03 34.8**	**+0.6**
	baz=252						
SSD	**Sandimen**	**2.67**	**232**	*e*P	**Pn**	**01 03 07.3**	**+2.1**
	baz=231						
SSD				*e*S	**Sn**	**01 03 37.0**	**+0.5**
	baz=231						
LAY	**Lan-yu**	**2.67**	**208**	*e*P	**Pn**	**01 03 04.2**	**-1.1**
	baz=206						
LAY				*e*S	**Sn**	**01 03 32.9**	**-3.7**
	baz=206						
CHN3	**Shinhua**	**2.69**	**241**	*e*P	**Pn**	**01 03 06.8**	**+1.4**
	baz=240						
CHN3				*e*S	**Sn**	**01 03 37.5**	**+0.7**
	baz=240						
TWM1	**Shoushan**	**2.78**	**236**	*e*P	Pn	01 03 10.2	+3.5
	baz=234						
TWM1				*e*S	**Sn**	**01 03 39.8**	**+0.7**
	baz=234						
SGLT	**Jiouru**	**2.79**	**233**	*e*P	**Pn**	**01 03 08.4**	**+1.6**
	baz=232						
SGLT				*e*S	**Sn**	**01 03 40.0**	**+0.8**
	baz=232						
SCZT	**Fangliau**	**2.93**	**227**	*e*P	**Pn**	**01 03 10.9**	**+2.2**
	baz=225						
SCZT				*e*S	**Sn**	**01 03 43.5**	**+0.8**
	baz=225						
TSEB	**Hengchuen, Pin**	**3.11**	**217**	*e*P	**Pn**	**01 03 13.1**	**+1.9**
	baz=216						
TSEB				S	**Sn**	**01 03 48.6**	**+1.4**
	baz=216						
HEN	**Hengchun**	**3.12**	**220**	*e*P	**Pn**	**01 03 12.8**	**+1.5**
	baz=219						
HEN				S	**Sn**	**01 03 48.2**	**+0.7**
	baz=219						
TWK1	**Hengchun**	**3.13**	**219**	*e*P	**Pn**	**01 03 12.8**	**+1.3**
	baz=217						
TWK1				S	**Sn**	**01 03 48.4**	**+0.7**
	baz=217						
PNG	**Penghu**	**3.19**	**255**	*e*P	**Pn**	**01 03 12.4**	**+0.2**
	baz=254						
PNG				*e*S	**Sn**	**01 03 49.4**	**+0.3**
	baz=254						
WDGT	**Dungji**	**3.19**	**250**	*e*P	**Pn**	**01 03 12.9**	**+0.6**
	baz=248						
WDGT				*e*S	**Sn**	**01 03 49.7**	**+0.5**
	baz=248						
JKE	**Kume jima 2**	**3.99**	**61**	P	**Pn**	**01 03 24.4**	**+1.3**
KNM	**Kinmen**	**4.09**	**271**	*e*P	**Pn**	**01 03 25.7**	**+1.2**
	baz=270						
JOW	**Kunigami**	**5.40**	**62**	P	**Pn**	**01 03 41.2**	**-1.3**
JOW	**Kunigami**	**5.40**	**62**	Pn	**Pn**	**01 03 40.9**	**-1.6**
	0.5nm,0.3s,baz=236,slow=18,SNR=8.8						
MKAR	**Makanchi Array**	**39.28**	**315**	P	**P**	**01 09 46.0**	**-1.2**
	0.5nm,0.8s,baz=102,slow=8.5,SNR=5.2						
WRA	**Warramunga Arr**	**45.47**	**165**	P	**P**	**01 10 37.4**	**-0.2**
	0.9nm,0.7s,baz=346,slow=8.7,SNR=5.2						
ASAR	**Alice Springs**	**48.97**	**167**	P	**P**	**01 11 04.9**	**+0.1**
	0.5nm,0.4s,baz=348,slow=7.1,SNR=7.3						
STKA	**Stephens Creek**	**58.75**	**161**	P	**P**	**01 12 15.6**	**-0.4**
	1.9nm,0.9s,baz=347,slow=14,SNR=2.9						

TAP 14 01:02:57.3,23.19N×121.56E,h13km,ML3.2,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.20**	**244**	*e*P	Pb	01 03 02.4	-0.5
	baz=242						
CHKT				*e*S	Sb	01 03 06.0	-0.6
	baz=242						
TWF1	**Yuli**	**0.29**	**304**	*e*P	Pb	01 03 05.3	+0.9
	baz=304						
TWF1				*e*S	Sb	01 03 08.8	-0.5
	baz=304						
EHY	**Hungye**	**0.38**	**325**	*e*P	Pb	01 03 05.6	-0.4
	baz=325						
EHY				*e*S	Sb	01 03 11.4	-0.5
	baz=325						
ELDTW	**Lidau**	**0.50**	**270**	P	Pb	01 03 07.8	-0.4
	baz=269						
ELDTW				*e*S	Sb	01 03 15.4	0.0
	baz=269						
TWG	**Pinlang**	**0.58**	**231**	*e*P	Pg	01 03 08.8	+0.2
	baz=230						
TWG				*e*S	Sb	01 03 17.8	+0.3
	baz=230						
YUS	**Yu-Shan**	**0.63**	**298**	*e*P	Pg	01 03 10.4	+0.1
	baz=298						
YUS				*e*S	Sg	01 03 19.4	+0.3
	baz=298						
YUS	**Yu-Shan**	**0.63**	**298**	*e*S	Sg	01 03 19.5	+0.4
	baz=242						
STYT	**Tauyuan**	**0.74**	**268**	*e*P	Pg	01 03 11.9	+0.1
	baz=267						
STYT				*e*S	Sb	01 03 22.4	+0.1
	baz=267						
ALS	**Alishan**	**0.76**	**295**	*e*P	Pg	01 03 12.5	0.0
	baz=294						
WTP	**Ta-pu**	**0.87**	**274**	*e*P	Pb	01 03 14.3	-0.1
	baz=273						
CHN4	**Tsaushan**	**0.90**	**280**	*e*P	Pb	01 03 14.8	-0.1
	baz=280						
CHN5	**Tsauling**	**0.91**	**297**	*e*P	Pg	01 03 14.9	-0.1
	baz=296						
SGST	**Jiashian**	**0.91**	**263**	*e*P	Pg	01 03 14.8	0.0
	baz=263						
CHN1	**Nanshi**	**0.95**	**270**	*e*P	Pb	01 03 15.9	+0.2
	baz=269						
TWK	**Hsinying**	**0.99**	**275**	*e*P	Pb	01 03 16.3	-0.1
	baz=274						
WGK	**Gukeng**	**1.04**	**299**	*e*P	Pb	01 03 16.8	-0.4
	baz=298						

*IDC **14** 01:17:08.8±1.1,7.34N×92.12E,h0km,mb3.5/6,mb1 3.8/8, mb1mx3.5/47,mbtmp3.7/8,ML4.5/2,MS3.3/6,Ms1 3.3/6, ms1mx3.0/31,Error ellipse: s-maj=35.5km s-min=20.9km az=54.0*
*ISCJB **14** 01:17:10.1±0.8,7.3N±0.1×92.1E±0.1,h24km,mb3.5/6, MS3.4/4,Error ellipse: s-maj=15.8km s-min=13.5km az=139.0*
ISC 14 01:17:12.4±1.1,7.3N±0.1×92.1E±0.1,h24km,n23, σ1°12/14,mb3.8/10,MS3.4/4,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.30**	**271**	Pn	**Pn**	**01 19 52.6**	**0.0**
	2.3nm,0.3s,baz=77,slow=14,SNR=5.

TAPN	**Taplejung**	**20.36**	**349**	*eP*	**P**	**01 21 47.3**	**-0.3**
	21nm,0.6s							
JIRN	**Jiri**	**21.00**	**345**	*eP*	**P**	**01 21 53.7**	**-0.9**
	13nm,0.7s							
GUN	**Gumba**	**21.32**	**345**	*eP*	**P**	**01 21 56.5**	**-1.5**
	23nm,0.9s							
GKN	**Gorkha**	**21.76**	**342**	*eP*	**P**	**01 22 01.2**	**-1.4**
	3.5nm,0.3s							
KOLN	**Koldanda**	**21.89**	**339**	*eP*	**P**	**01 22 03.1**	**-0.8**
	11nm,0.7s							
H08S3	**Diego Garcia H**	**24.55**	**233**	T	T	01 48 44.4		
	baz=52,slow=76,SNR=37							
H08S2	**Diego Garcia H**	**24.55**	**233**	T	T	01 48 45.6		
	baz=52,slow=76,SNR=44							
H08S1	**Diego Carcia H**	**24.57**	**233**	T	T	01 48 45.6		
	baz=52,slow=76,SNR=32							
MKAR	**Makanchi Array**	**40.23**	**350**	P	**P**	**01 24 46.0**	**-1.2**
	0.3nm,0.5s,baz=159,slow=8.8,SNR=6.0							
MKAR				LR	LR	01 44 46.1		
	comp=Z,29nm,19.7s,baz=176,slow=41							
SONM	**Songino Array**	**42.18**	**14**	P	**P**	**01 25 03.4**	**+0.1**
	0.8nm,0.7s,baz=195,slow=8.2,SNR=5.6							
SONM				LR	LR	01 43 07.9		
	comp=Z,46nm,21.1s,baz=124,slow=37							
H01W3	**Cape Leeuwin H**	**46.84**	**155**	T	T	02 16 32.1		
	baz=330							
H01W2	**Cape Leeuwin H**	**46.86**	**155**	T	T	02 16 30.4		
	baz=330							
H01W1	**Cape Leeuwin H**	**46.86**	**155**	T	T	02 16 32.1		
	baz=330							
ZALV	**Zalesovo Beam**	**46.88**	**354**	P	**P**	**01 25 40.1**	**-0.4**
	0.5nm,0.3s,baz=182,slow=6.5,SNR=5.1							
WRA	**Warramunga Arr**	**49.61**	**124**	P	**P**	**01 26 02.7**	**+0.5**
	0.6nm,1.0s,baz=302,slow=8.4,SNR=3.5							
ASAR	**Alice Springs**	**51.13**	**128**	P	**P**	**01 26 13.2**	**-0.5**
	0.4nm,0.9s,baz=309,slow=7.7,SNR=3.1							
KBZ	**Khabaz**	**56.16**	**319**	LR	LR	01 52 03.9		
	comp=Z,34nm,20.6s,baz=120,slow=37							
GERES	**GERESS Array B**	**76.90**	**318**	P	**P**	**01 29 03.5**	**+0.7**
	0.1nm,0.2s,baz=76,slow=4.1,SNR=2.3							
MSKU	**Masuku**	**78.80**	**267**	LR	LR	02 02 22.9		
	comp=Z,36nm,18.4s,baz=128,slow=34							

DDA **14** *01:25:27.1,34˚.71N×26˚.68E,h3km,MD3.6*
IDC **14** *01:25:33.9±0.9,35˚.27N×27˚.10E,h0km,mb3.8/8, mb1 3.6/16,mb1mx3.5/32,mbtmp3.5/16,ML3.3/5,MS3.6/1, Ms1 3.6/1,ms1mx2.4/38, Error ellipse: s-maj=18.9km s-min=12.5km az=178.0*
ISK **14** *01:25:34.4,35˚.20N×27˚.01E,h5km,ML3.5*
CSEM **14** *01:25:36.5±0.2,35˚.10N×27˚.08E,h10km,ML3.5, Error ellipse: s-maj=4.3km s-min=3.3km az=178.0*
HLW **14** *01:25:36.5,35˚.48N×26˚.90E,h28km±6km,Md3.7,Ml3.3*
ATH **14** *01:25:36.5,35˚.20N×27˚.05E,h24km, MD4.0/55*
ISCJB **14** *01:25:36.1±0.6,35˚.07N±0˚.02×27˚.10E±0˚.02,h26km±5km, mb3.7/11,MS3.6/1, Error ellipse: s-maj=3.3km s-min=2.7km az=9.6*
THE **14** *01:25:37.6,35˚.22N×27˚.04E,h3km±1km,ML3.5/4, Error ellipse: s-maj=2.2km s-min=0.8km az=146.0*

ISC 14 01:25:35.9±1.0,35˚.12N±0˚.03×27˚.09E±0˚.02,h17km±6km, n263,σ1§62/279,mb3.9/11,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.43**	**7**	P		**Pg**		**01 25 44.0**	**-0.8**
KARP				S		**Sg**		**01 25 50.6**	**-0.1**
KARP	**Karpathos**	**0.43**	**7**	*e*PB		**Pg**		**01 25 43.9**	**-0.8**
KARP				*e*SB		**Sg**		**01 25 50.5**	**-0.1**
KARP	**Karpathos**	**0.43**	**7**	*e*Pb		**Pg**		**01 25 43.9**	**-0.8**
KARP				*e*Sb		**Sg**		**01 25 50.5**	**-0.1**
NPS	**Neapolis**	**1.22**	**277**	P		**Pn**		**01 25 58.3**	**0.0**
NPS				S		**Sg**		**01 26 16.0**	**+0.5**
NPS	**Neapolis**	**1.22**	**277**	*e*PN		**Pb**		**01 25 58.9**	**+0.3**
NPS				*e*SN		**Sn**		**01 26 15.0**	**+0.6**
NPS	**Neapolis**	**1.22**	**277**	P		**Pn**		**01 25 58.3**	**0.0**
NPS	**Neapolis**	**1.22**	**277**	*e*Pn		**Pb**		**01 25 58.9**	**+0.3**
NPS				*e*Sn		**Sn**		**01 26 15.0**	**+0.6**
NPS				S		**Sg**		**01 26 16.0**	**+0.5**
LAST	**Lasithi**	**1.32**	**272**	*e*PN		**Pb**		**01 26 00.5**	**+0.1**
LAST	**Lasithi**	**1.32**	**272**	*e*Pn		**Pb**		**01 26 00.5**	**+0.1**
ARG	**Arkhangelos**	**1.38**	**37**	P		**Pn**		**01 26 01.6**	**+0.3**
ARG				S		**Sb**		**01 26 19.7**	**+1.1**
ARG	**Arkhangelos**	**1.38**	**37**	*e*PN		**Pb**		**01 26 01.7**	**+0.4**
ARG	**Arkhangelos**	**1.38**	**37**	*e*Pn		**Pb**		**01 26 01.7**	**+0.4**
ARG				S		**Sb**		**01 26 19.7**	**+1.1**
DAT	**Datca**	**1.65**	**14**	*e*PN		**Pn**		**01 26 04.9**	**+0.6**
DAT				*e*SN		**Sb**		**01 26 27.0**	**+0.4**
DAT	**Datca**	**1.65**	**14**	*e*Pn		**Pn**		**01 26 04.9**	**+0.6**
DAT				*e*Sn		**Sb**		**01 26 27.0**	**+0.4**
IDI	**Anoyia**	**1.81**	**276**	Pn		**Pb**		**01 26 08.1**	**-0.6**
	132nm,0.3s,baz=93,slow=15,SNR=984								
IDI				Sn		**Sb**		**01 26 31.2**	**+0.1**
	25nm,0.3s,baz=144,slow=19,SNR=4.8								
IDI				LR		LR		01 27 06.1	
	comp=Z,356nm,19.8s,baz=109,slow=51								
SANT	**Santorini**	**1.82**	**314**	P		**Pn**		**01 26 07.1**	**+0.5**
SANT	**Santorini**	**1.82**	**314**	*e*PN		**Pn**		**01 26 07.2**	**+0.6**
SANT	**Santorini**	**1.82**	**314**	*e*Pn		**Pn**		**01 26 07.2**	**+0.6**
THR6	**Thira Island,**	**1.85**	**312**	P		**Pn**		**01 26 07.3**	**+0.4**
THR6	**Thira Island,**	**1.85**	**312**	P		**Pn**		**01 26 07.3**	**+0.4**
THR7	**Fira-Santorini**	**1.88**	**314**	P		**Pn**		**01 26 07.9**	**+0.6**
THR7	**Fira-Santorini**	**1.88**	**314**	P		**Pn**		**01 26 07.9**	**+0.6**
THR3	**Thira Island,**	**1.88**	**314**	P		**Pn**		**01 26 07.8**	**+0.5**
THR3	**Thira Island,**	**1.88**	**314**	P		**Pn**		**01 26 07.8**	**+0.5**
THR2	**Thira island,**	**1.89**	**315**	P		**Pn**		**01 26 08.0**	**+0.6**
THR2	**Thira island,**	**1.89**	**315**	P		**Pn**		**01 26 08.0**	**+0.6**
THR5	**Thira Island,**	**1.92**	**313**	*e*PN		**Pn**		**01 26 08.1**	**+0.2**
THR5	**Thira Island,**	**1.92**	**313**	P		**Pn**		**01 26 08.1**	**+0.2**
THR5	**Thira Island,**	**1.92**	**313**	P		**Pn**		**01 26 08.1**	**+0.2**
BODT	**Bodrum**	**1.95**	**5**	*e*PN		**Pn**		**01 26 08.9**	**+0.6**
BODT				*e*SN		**Sn**		**01 26 34.0**	**+1.7**
BODT	**Bodrum**	**1.95**	**5**	*e*Pn		**Pn**		**01 26 08.9**	**+0.6**
BODT				*e*Sn		**Sn**		**01 26 34.0**	**+1.7**
DALY	**Dalyan (Mu˘la**	**2.12**	**36**	*e*PN		**Pn**		**01 26 12.0**	**+1.5**
DALY	**Dalyan (Mu˘la**	**2.12**	**36**	*e*Pn		**Pn**		**01 26 12.0**	**+1.5**
TURN	**Turunc**	**2.14**	**35**	*i* P		**Pn**		**01 26 08.4**	**-2.4**
TURN				*i* S		**Sn**		**01 26 37.6**	**+0.7**
TURN	**Turunc**	**2.14**	**35**	*i* P		**Pn**		**01 26 08.4**	**-2.4**
TURN				*i* S		**Sn**		**01 26 37.6**	**+0.7**
YER	**Yerkesik**	**2.23**	**25**	*e*PN		**Pn**		**01 26 13.6**	**+1.4**
YER	**Yerkesik**	**2.23**	**25**	*e*Pn		**Pn**		**01 26 13.6**	**+1.4**
KSL	**Kastellorizon**	**2.27**	**62**	*e*PB		**Pb**		**01 26 15.3**	**-1.2**
APE	**Apeiranthos**	**2.32**	**327**	*e*PN		**Pn**		**01 26 13.7**	**+0.2**
APE	**Apeiranthos**	**2.32**	**327**	P		**Pn**		**01 26 13.5**	**+0.1**
APE				S		**Sn**		**01 26 41.6**	**0.0**
APE	**Apeiranthos**	**2.32**	**327**	*e*PN		**Pn**		**01 26 13.6**	**+0.2**
APE	**Apeiranthos**	**2.32**	**327**	*e*Pn		**Pn**		**01 26 13.6**	**+0.2**
APE				S		**Sn**		**01 26 41.6**	**0.0**
AKAS	**Kas**	**2.33**	**61**	*i* P		**Pn**		**01 26 15.0**	**+1.4**
AKAS				*i* S		**Sg**		**01 26 51.1**	**+0.2**
AKAS	**Kas**	**2.33**	**61**	*i* P		**Pn**		**01 26 15.0**	**+1.4**
VAM	**Vamos**	**2.38**	**278**	*e*PB		**Pb**		**01 26 17.4**	**-1.0**
VAM	**Vamos**	**2.38**	**278**	*e*Pb		**Pb**		**01 26 17.4**	**-1.0**
GVD	**Gavdhos**	**2.48**	**264**	*e*PB		**Pb**		**01 26 19.3**	**-0.8**
GVD	**Gavdhos**	**2.48**	**264**	*e*Pb		**Pb**		**01 26 19.3**	**-0.8**
SMG	**Samos**	**2.59**	**356**	P		**Pn**		**01 26 17.9**	**+0.8**
SMG				S		**Sn**		**01 26 48.4**	**+0.2**
SMG	**Samos**	**2.59**	**356**	*e*PN		**Pn**		**01 26 18.2**	**+1.1**
SMG				*e*SN		**Sn**		**01 26 48.7**	**+0.5**
SMG	**Samos**	**2.59**	**356**	P		**Pn**		**01 26 17.9**	**+0.8**
SMG	**Samos**	**2.59**	**356**	*e*Pn		**Pn**		**01 26 18.2**	**+1.1**
SMG				S		**Sn**		**01 26 48.4**	**+0.2**
AYDN	**Tasoluk**	**2.61**	**14**	*i* P		**Pn**		**01 26 19.3**	**+1.9**
AYDN				*i* S		**Sb**		**01 26 52.9**	**-1.3**
AYDN	**Tasoluk**	**2.61**	**14**	*i* P		**Pn**		**01 26 19.3**	**+1.9**
AYDN				*i* S		**Sb**		**01 26 52.9**	**-1.3**
MHLO	**Agia Marina, M**	**2.69**	**306**	P		**Pn**		**01 26 18.9**	**+0.5**
MHLO	**Agia Marina, M**	**2.69**	**306**	*e*PN		**Pn**		**01 26 20.0**	**+1.6**
MHLO	**Agia Marina, M**	**2.69**	**306**	P		**Pn**		**01 26 18.9**	**+0.5**
MHLO	**Agia Marina, M**	**2.69**	**306**	*e*Pn		**Pn**		**01 26 20.0**	**+1.6**
ELL	**Elmali**	**2.80**	**54**	*e*PN		**Pn**		**01 26 22.2**	**+2.1**
ELL	**Elmali**	**2.80**	**54**	*e*Pn		**Pn**		**01 26 22.2**	**+2.1**
AYDB	**Zeytinkoy-Aydi**	**2.89**	**13**	*e*PN		**Pn**		**01 26 22.4**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**2.89**	**13**	*e*Pn		**Pn**		**01 26 22.4**	**+1.0**
GOLH	**Golhisar**	**2.91**	**43**	*i* P		Pn		01 26 24.8	+3.3
GOLH				*i* S		**Sg**		**01 27 10.8**	**+1.4**
GOLH	**Golhisar**	**2.91**	**43**	*i* P		Pn		01 26 24.8	+3.3
DENT	**Denizli**	**3.06**	**30**	*e*PN		**Pn**		**01 26 25.4**	**+1.8**
DENT	**Denizli**	**3.06**	**30**	*e*Pn		**Pn**		**01 26 25.4**	**+1.8**
ZEY	**˙zmir**	**3.15**	**352**	*i* P		**Pn**		**01 26 25.2**	**+0.4**
ZEY				*i* S		**Sn**		**01 27 02.4**	**+0.5**
ANKY	**Antikythira Is**	**3.18**	**285**	P		**Pn**		**01 26 26.7**	**+1.6**
ANKY	**Antikythira Is**	**3.18**	**285**	*e*PN		**Pn**		**01 26 26.8**	**+1.6**
ANKY	**Antikythira Is**	**3.18**	**285**	*e*Pn		**Pn**		**01 26 26.8**	**+1.6**
BLCB	**Balcova**	**3.26**	**359**	*e*PN		**Pn**		**01 26 27.5**	**+1.2**
BLCB	**Balcova**	**3.26**	**359**	*e*Pn		**Pn**		**01 26 27.5**	**+1.2**
CHOS	**Chios island**	**3.37**	**346**	*e*PN		**Pn**		**01 26 29.0**	**+1.2**
CHOS	**Chios island**	**3.37**	**346**	P		**Pn**		**01 26 28.5**	**+0.7**
CHOS				S		**Sn**		**01 27 08.0**	**+0.6**
CHOS	**Chios island**	**3.37**	**346**	*e*PN		**Pn**		**01 26 28.8**	**+1.0**
CHOS				*e*SN		**Sn**		**01 27 08.3**	**+0.9**
CHOS	**Chios island**	**3.37**	**346**	P		**Pn**		**01 26 28.5**	**+0.7**
CHOS	**Chios island**	**3.37**	**346**	*e*Pn		**Pn**		**01 26 28.8**	**+1.0**
CHOS				S		**Sn**		**01 27 08.0**	**+0.6**
ANTB	**Antalya**	**3.39**	**57**	*e*PN		**Pn**		**01 26 30.6**	**+2.6**
ANTB	**Antalya**	**3.39**	**57**	*e*Pn		**Pn**		**01 26 30.6**	**+2.6**
KYTH	**Kithira**	**3.50**	**291**	*e*PN		**Pn**		**01 26 31.1**	**+1.5**
KYTH	**Kithira**	**3.50**	**291**	*e*Pn		**Pn**		**01 26 31.1**	**+1.5**
BCK	**Bucak**	**3.67**	**49**	*e*PN		**Pn**		**01 26 34.2**	**+2.3**
BCK	**Bucak**	**3.67**	**49**	*e*Pn		**Pn**		**01 26 34.2**	**+2.3**
VLI	**Veliai**	**3.73**	**297**	P		**Pn**		**01 26 33.9**	**+1.1**
VLI	**Veliai**	**3.73**	**297**	*e*PN		**Pn**		**01 26 34.2**	**+1.4**
VLI				*e*SN		**Sn**		**01 27 15.7**	**-0.6**
VLI	**Veliai**	**3.73**	**297**	P		**Pn**		**01 26 33.9**	**+1.1**
VLI	**Veliai**	**3.73**	**297**	*e*Pn		**Pn**		**01 26 34.2**	**+1.4**
VLI				*e*Sn		**Sn**		**01 27 15.7**	**-0.6**
KHL	**Karahalli**	**3.75**	**31**	*e*PN		**Pn**		**01 26 34.9**	**+1.9**
KHL	**Karahalli**	**3.75**	**31**	*e*Pn		**Pn**		**01 26 34.9**	**+1.9**
AKS	**Akhisar**	**3.80**	**9**	*e*PN		**Pn**		**01 26 35.2**	**+1.5**
AKS	**Akhisar**	**3.80**	**9**	*e*Pn		**Pn**		**01 26 35.2**	**+1.5**
ISP	**Isparta**	**3.86**	**45**	*e*PN		**Pn**		**01 26 37.7**	**+3.0**
ISP	**Isparta**	**3.86**	**45**	*e*Pn		**Pn**		**01 26 37.7**	**+3.0**
KRND	**KRANIDI**	**3.91**	**306**	*e*PN		**Pn**		**01 26 36.9**	**+1.8**
KRND	**KRANIDI**	**3.91**	**306**	*e*Pn		**Pn**		**01 26 36.9**	**+1.8**
DID	**Didima**	**3.92**	**309**	*e*PN		**Pn**		**01 26 37.2**	**+1.8**
DID	**Didima**	**3.92**	**309**	*e*Pn		**Pn**		**01 26 37.2**	**+1.8**
NAIG	**Nisos Aigina**	**3.92**	**313**	*e*PN		**Pn**		**01 26 36.8**	**+1.4**
NAIG	**Nisos Aigina**	**3.92**	**313**	*e*Pn		**Pn**		**01 26 36.8**	**+1.4**
ATH	**Athens Observa**	**3.94**	**317**	*e*PN		**Pn**		**01 26 36.6**	**+1.0**
ATH	**Athens Observa**	**3.94**	**317**	*e*Pn		**Pn**		**01 26 36.6**	**+1.0**
SUTC	**Sutluce-Ispart**	**3.94**	**52**	*e*PN		**Pn**		**01 26 38.4**	**+2.7**
SUTC	**Sutluce-Ispart**	**3.94**	**52**	*e*Pn		**Pn**		**01 26 38.4**	**+2.7**
SLUM		**3.95**	**204**	P		**Pn**		**01 26 37.5**	**+1.8**
	baz=200								
SLUM				AMP				01 27 00.0	
	comp=E,50μm,0.6s,logA/T=4.9,baz=200								
SLUM		**3.95**	**204**	P		**Pn**		**01 26 37.5**	**+1.8**
HMAT	**Matruh**	**4.01**	**180**	S		**Sn**		**01 27 23.8**	**+0.5**
	baz=177								
PRK	**Paraskevi**	**4.17**	**351**	*e*PN		**Pn**		**01 26 40.1**	**+1.3**
PRK	**Paraskevi**	**4.17**	**351**	*e*Pn		**Pn**		**01 26 40.1**	**+1.3**
SIGR	**SIGRI**	**4.20**	**347**	*e*PN		**Pn**		**01 26 39.1**	**-0.1**
SIGR	**SIGRI**	**4.20**	**347**	*e*Pn		**Pn**		**01 26 40.1**	**+0.9**
SIGR	**SIGRI**	**4.20**	**347**	*e*Pn		**Pn**		**01 26 40.1**	**+0.9**
VILL	**Villia**	**4.30**	**316**	*e*PN		**Pn**		**01 26 42.8**	**+2.2**
VIL2	**Platees**	**4.36**	**316**	*e*PN		**Pn**		**01 26 42.8**	**+1.4**
GAZI	**Gazipasa**	**4.39**	**74**	*i* P		**Pn**		**01 26 42.3**	**+0.4**
GAZI				*i* S		**Sn**		**01 27 30.8**	**-1.9**
GAZI	**Gazipasa**	**4.39**	**74**	*i* P		**Pn**		**01 26 42.3**	**+0.4**
GAZI				*i* S		**Sn**		**01 27 30.8**	**-1.9**
LTK	**Loutraki**	**4.41**	**312**	*e*PN		**Pn**		**01 26 45.0**	**+2.9**
LTK	**Loutraki**	**4.41**	**312**	*e*Pn		**Pn**		**01 26 45.0**	**+2.9**
VLX	**Vlachokerasia**	**4.42**	**302**	*e*PN		**Pn**		**01 26 45.0**	**+2.6**
VLX	**Vlachokerasia**	**4.42**	**302**	*e*Pn		**Pn**		**01 26 45.0**	**+2.6**
MRKA	**Markates**	**4.55**	**323**	*e*PN		**Pn**		**01 26 45.8**	**+1.8**
MRKA	**Markates**	**4.55**	**323**	*e*Pn		**Pn**		**01 26 45.8**	**+1.8**
ALT	**Altintas**	**4.61**	**31**	*e*PN		**Pn**		**01 26 46.9**	**+2.0**
ALT	**Altintas**	**4.61**	**31**	P		**Pn**		**01 26 46.4**	**+1.5**
ALT	**Altintas**	**4.61**	**31**	P		**Pn**		**01 26 46.4**	**+1.5**
ALT	**Altintas**	**4.61**	**31**	*e*Pn		**Pn**		**01 26 46.9**	**+2.0**
DST	**Dursunbey**	**4.64**	**15**	*e*PN		**Pn**		**01 26 47.5**	**+2.2**
DST	**Dursunbey**	**4.64**	**15**	*e*Pn		**Pn**		**01 26 47.5**	**+2.2**
PYL	**PYLOS**	**4.69**	**294**	*e*PN		**Pn**		**01 26 46.9**	**+1.0**
PYL	**PYLOS**	**4.69**	**294**	*e*Pn		**Pn**		**01 26 46.9**	**+1.0**
TVSB	**Tavsanli**	**4.72**	**23**	*e*PN		**Pn**		**01 26 48.1**	**+1.7**
TVSB	**Tavsanli**	**4.72**	**23**	*e*Pn		**Pn**		**01 26 48.1**	**+1.7**
HDMB	**Hadim**	**4.74**	**66**	*e*PN		Pn		01 26 50.1	+3.3
HDMB	**Hadim**	**4.74**	**66**	*e*Pn		Pn		01 26 50.1	+3.3
GUR	**Goura**	**4.75**	**308**	*e*PN		**Pn**		**01 26 49.5**	**+2.7**
GUR	**Goura**	**4.75**	**308**	*e*Pn		**Pn**		**01 26 49.5**	**+2.7**
AOS	**Alonnisos**	**4.79**	**329**	*e*PN		**Pn**		**01 26 48.2**	**+1.0**
AOS	**Alonnisos**	**4.79**	**329**	*e*PN		**Pn**		**01 26 48.8**	**+1.5**
AOS	**Alonnisos**	**4.79**	**329**	*e*Pn		**Pn**		**01 26 48.8**	**+1.5**
LKR	**Lokris**	**4.81**	**318**	*e*PN		**Pn**		**01 26 49.8**	**+2.2**
LKR	**Lokris**	**4.81**	**318**	*e*Pn		**Pn**		**01 26 49.8**	**+2.2**
SMIA	**Simia**	**4.87**	**322**	*e*PN		**Pn**		**01 26 50.7**	**+2.2**
SMIA	**Simia**	**4.87**	**322**	*e*Pn		**Pn**		**01 26 50.7**	**+2.2**
DSF	**Desfina**	**4.92**	**313**	*e*PN		**Pn**		**01 26 51.0**	**+1.8**
DSF	**Desfina**	**4.92**	**313**	*e*Pn		**Pn**		**01 26 51.0**	**+1.8**
LIA	**Limnos Island**	**5.01**	**343**	*e*PN		**Pn**		**01 26 51.2**	**+1.0**
LIA	**Limnos Island**	**5.01**	**343**	*e*Pn		**Pn**		**01 26 51.2**	**+1.0**
KONT	**Konya--Tatoy**	**5.09**	**55**	*e*PN		Pn		01 26 54.8	+3.3
KONT	**Konya--Tatoy**	**5.09**	**55**	*e*Pn		Pn		01 26 54.8	+3.3
KALE	**Kalithea**	**5.14**	**311**	*e*PN		**Pn**		**01 26 55.1**	**+2.9**
KALE	**Kalithea**	**5.14**	**311**	*e*Pn		**Pn**		**01 26 55.1**	**+2.9**
GADA	**Gvkgeada**	**5.15**	**350**	*e*PN		**Pn**		**01 26 53.9**	**+1.7**
GADA	**Gvkgeada**	**5.15**	**350**	*e*Pn		**Pn**		**01 26 53.9**	**+1.7**
DRO	**Drossia**	**5.17**	**305**	*e*PN		**Pn**		**01 26 55.2**	**+2.6**
DRO	**Drossia**	**5.17**	**305**	*e*Pn		**Pn**		**01 26 55.2**	**+2.6**
NEO	**Neokhori**	**5.20**	**325**	*e*PN		**Pn**		**01 26 55.6**	**+2.7**
NEO	**Neokhori**	**5.20**	**325**	*e*Pn		**Pn**		**01 26 55.6**	**+2.7**
KCTX	**Karacabey (Bur**	**5.23**	**11**	*e*PN		**Pn**		**01 26 55.8**	**+2.4**
KCTX	**Karacabey (Bur**	**5.23**	**11**	*e*Pn		**Pn**		**01 26 55.8**	**+2.4**
LADK	**Ladik-KONYA**	**5.24**	**53**	*e*PN		**Pn**		**01 26 56.6**	**+3.1**
LADK	**Ladik-KONYA**	**5.24**	**53**	*e*Pn		**Pn**		**01 26 56.6**	**+3.1**
EDC	**Edincik**	**5.25**	**6**	*e*PN		**Pn**		**01 26 55.8**	**+2.1**
EDC	**Edincik**	**5.25**	**6**	*e*Pn		**Pn**		**01 26 55.8**	**+2.1**
XOR	**Xorichti**	**5.26**	**325**	*e*PN		**Pn**		**01 26 55.6**	**+1.8**
XOR	**Xorichti**	**5.26**	**325**	*e*Pn		**Pn**		**01 26 55.6**	**+1.8**
KDHN	**Kadinhani**	**5.27**	**48**	*i* P		**Pn**		**01 26 55.5**	**+1.5**
KDHN				*i* S		**Sn**		**01 27 56.4**	**+2.0**
KDHN	**Kadinhani**	**5.27**	**48**	*i* P		**Pn**		**01 26 55.5**	**+1.5**
KDHN				*i* S		**Sn**		**01 27 56.4**	**+2.0**
GELI	**Tayfur-Gelibol**	**5.29**	**355**	*e*PN		**Pn**		**01 26 56.2**	**+2.0**
GELI	**Tayfur-Gelibol**	**5.29**	**355**	*e*Pn		**Pn**		**01 26 56.2**	**+2.0**
EFP	**Efpalio**	**5.31**	**310**	*e*PN		**Pn**		**01 26 57.8**	**+3.3**
EFP	**Efpalio**	**5.31**	**310**	*e*Pn		**Pn**		**01 26 57.8**	**+3.3**
RLS	**Riolos of Patr**	**5.39**	**305**	*e*PN		**Pn**		**01 26 59.3**	**+3.7**
RLS	**Riolos of Patr**	**5.39**	**305**	*e*Pn		**Pn**		**01 26 59.3**	**+3.7**
AGG	**Agios Georgios**	**5.45**	**317**	*e*PN		**Pn**		**01 26 59.9**	**+3.5**
AGG	**Agios Georgios**	**5.45**	**317**	*e*Pn		**Pn**		**01 26 59.9**	**+3.5**
PAIG	**Paliouri**	**5.51**	**332**	*e*PN		**Pn**		**01 26 58.6**	**+1.4**
PAIG	**Paliouri**	**5.51**	**332**	*e*Pn		**Pn**		**01 26 58.6**	**+1.4**
MAKR	**Makrakomi, Fth**	**5.55**	**316**	*e*PN		Pn		01 27 01.4	+3.6
MAKR	**Makrakomi, Fth**	**5.55**	**316**	*e*Pn		Pn		01 27 01.4	+3.6
ARMT	**Armutlu**	**5.61**	**14**	*e*PN		**Pn**		**01 27 01.4**	**+2.7**
ARMT	**Armutlu**	**5.61**	**14**	*e*Pn		**Pn**		**01 27 01.4**	**+2.7**
ENEZ	**Enez**	**5.66**	**353**	*e*PN		**Pn**		**01 27 01.8**	**+2.6**
ENEZ	**Enez**	**5.66**	**353**	*e*Pn		**Pn**		**01 27 01.8**	**+2.6**
EVR	**Evrytania**	**5.68**	**313**	*e*PN		**Pn**		**01 27 02.3**	**+2.7**
EVR	**Evrytania**	**5.68**	**313**	*e*Pn		**Pn**		**01 27 02.3**	**+2.7**
ALN	**Alexandroupoli**	**5.83**	**352**	*e*PN		**Pn**		**01 27 04.0**	**+2.5**
ALN	**Alexandroupoli**	**5.83**	**352**	*e*Pn		**Pn**		**01 27 03.0**	**+1.5**
ALN	**Alexandroupoli**	**5.83**	**352**	*e*Pn		**Pn**		**01 27 03.0**	**+1.5**
PDO	**Prodromos**	**5.87**	**308**	*e*PN		Pn		01 27 06.2	+4.0
PDO	**Prodromos**	**5.87**	**308**	*e*Pn		Pn		01 27 06.2	+4.0
GULT	**Gulveren**	**5.96**	**26**	*e*PN		**Pn**		**01 27 06.2**	**+2.8**
GULT	**Gulveren**	**5.96**	**26**	*e*Pn		**Pn**		**01 27 06.2**	**+2.8**
THL	**Klokotos Trika**	**6.00**	**319**	*e*PN		Pn		01 27 07.8	+3.8
THL	**Klokotos Trika**	**6.00**	**319**	*e*Pn		Pn		01 27 07.8	+3.8
SWA2		**6.02**	**194**	P		**Pn**		**01 27 05.5**	**+1.3**
	baz=192								
SWA2				S		**Sn**		**01 28 08.8**	**-4.0**
	baz=192								
SWA2		**6.02**	**194**	P		**Pn**		**01 27 05.5**	**+1.3**
VLS	**Valsamata**	**6.05**	**302**	*e*PN		Pn		01 27 08.1	+3.4
VLS	**Valsamata**	**6.05**	**302**	*e*Pn		Pn		01 27 08.1	+3.4
RDO	**Rodhopi**	**6.14**	**349**	*e*PN		**Pn**		**01 27 07.8**	**+2.0**
RDO	**Rodhopi**	**6.14**	**349**	*e*Pn		**Pn**		**01 27 07.8**	**+2.0**
LIT	**Litokhoron**	**6.17**	**325**	*e*PN		**Pn**		**01 27 09.0**	**+2.7**
LIT	**Litokhoron**	**6.17**	**325**	*e*Pn		**Pn**		**01 27 09.0**	**+2.7**
DSL	**Palaion Diasel**	**6.24**	**312**	*e*PN		**Pn**		**01 27 08.8**	**+1.5**
DSL	**Palaion Diasel**	**6.24**	**312**	*e*Pn		**Pn**		**01 27 08.8**	**+1.5**
LKD2	**Lefkada island**	**6.32**	**307**	*e*PN		**Pn**		**01 27 11.0**	**+2.6**
LKD2	**Lefkada island**	**6.32**	**307**	*e*Pn		**Pn**		**01 27 11.0**	**+2.6**
SRS	**Serrai**	**6.59**	**336**	*e*PN		**Pn**		**01 27 13.6**	**+1.5**
SRS	**Serrai**	**6.59**	**336**	*e*Pn		**Pn**		**01 27 13.6**	**+1.5**
GLL	**Jalalah**	**6.77**	**143**	P		**Pn**		**01 27 16.4

POWZ	**Post Office Ro**	**1.38**	**125**	PN	Pn	01 50 30.5	+0.1		
OGWZ	**Otaki Gorge**	**1.39**	**151**	⇑PN	Pn	01 50 30.6	+0.1		
MRZ	**Mangatainoka R**	**1.45**	**137**	PN	Pn	01 50 31.0	+0.1		
MRZ				AML	AML	01 50 58.5			
MRZ				AML	AML	01 50 58.5			
PNHZ	**Pukenui**	**1.50**	**103**	PN	Pn	01 50 31.6	+0.1		
HOWZ	**Holdsworth Sta**	**1.60**	**145**	PN	Pn	01 50 32.1	-0.1		
DVHZ	**Dannevirke**	**1.60**	**116**	PN	Pn	01 50 32.5	+0.2		
PRWZ	**Pori Road**	**1.60**	**127**	PN	Pn	01 50 32.5	+0.3		
KRHZ	**Kereru**	**1.61**	**92**	PN	Pn	01 50 32.4	+0.1		
TCW	**Tory Channel**	**1.61**	**180**	PN	Pn	01 50 32.2	-0.1		
TCW				AML	AML	01 51 00.8			
TCW				AML	AML	01 51 01.0			
CAW	**Cannon Point**	**1.62**	**159**	PN	Pn	01 50 32.3	-0.1		
CAW				AML	AML	01 51 01.1			
CAW				AML	AML	01 51 01.8			
TIWZ	**Tintock**	**1.69**	**134**	PN	Pn	01 50 32.9	-0.2		
TIWZ				AML	AML	01 51 02.5			
TIWZ				AML	AML	01 51 04.6			
WPHZ	**Waipukurau**	**1.72**	**106**	SN	S	01 51 01.4	-0.5		
NNZ	**Nelson**	**1.76**	**203**	⇑PN	Pn	01 50 32.8	-0.8		
BKZ	**Black Stump Fm**	**1.76**	**76**	⇓PN	Pn	01 50 33.1	-0.6		
BKZ				AML	AML	01 51 00.5			
BKZ				AML	AML	01 51 01.2			
MTW	**Mount Morrison**	**1.81**	**150**	PN	Pn	01 50 33.8	-0.3		
MTW				AML	AML	01 51 04.5			
MTW				AML	AML	01 51 04.7			
QRZ	**Quartz Range**	**1.82**	**227**	PN	Pn	01 50 32.4	-1.8		
TUWZ	**Tuamarina**	**1.85**	**188**	PN	Pn	01 50 34.1	-0.3		
TUWZ				AML	AML	01 51 03.9			
TUWZ				AML	AML	01 51 05.2			
BHW	**Baring Head**	**1.86**	**166**	PN	Pn	01 50 34.2	-0.3		
BHW				AML	AML	01 51 04.5			
BHW				AML	AML	01 51 05.3			
MCHZ	**McNeill Hill**	**1.87**	**86**	⇓PN	Pn	01 50 35.3	+0.6		
TMWZ	**Te Maipa**	**1.94**	**141**	PN	Pn	01 50 35.3	-0.1		
MSWZ	**Moikau Station**	**1.95**	**158**	PN	Pn	01 50 35.1	-0.4		
MSWZ				AML	AML	01 51 06.4			
PAWZ	**Paruwai Farm**	**1.98**	**154**	PN	Pn	01 50 35.5	-0.2		
PAWZ				AML	AML	01 51 07.4			
PAWZ				AML	AML	01 51 08.2			
KAHZ	**Kahuranaki**	**2.00**	**96**	PN	Pn	01 50 36.6	+0.5		
NMHZ	**Naumai**	**2.01**	**76**	PN	Pn	01 50 36.5	+0.3		
PXZ	**Pawanui**	**2.03**	**103**	PN	Pn	01 50 36.5	+0.3		
PXZ				AML	AML	01 51 09.7			
PXZ				AML	AML	01 51 09.8			
PXZ				AML	AML	01 51 10.3			
PXZ				AML	AML	01 51 10.4			
TRWZ	**Traveller**	**2.09**	**150**	PN	Pn	01 50 36.8	-0.1		
PLWZ	**Palliser**	**2.10**	**160**	PN	Pn	01 50 36.5	-0.5		
ARHZ	**Aropaoanui**	**2.12**	**82**	PN	Pn	01 50 37.3	+0.1		
BSWZ	**Blackbirch Sta**	**2.13**	**188**	PN	Pn	01 50 37.1	-0.1		
BSWZ				AML	AML	01 51 09.8			
BSWZ				AML	AML	01 51 11.1			
CKHZ	**Cape Kidnapper**	**2.15**	**92**	PN	Pn	01 50 38.0	+0.5		
CKHZ				SN	S	01 51 09.1	-0.2		
RAHZ	**Arahi**	**2.27**	**73**	PN	Pn	01 50 38.5	-0.3		
WHHZ	**Waihua**	**2.34**	**78**	PN	Pn	01 50 39.3	-0.2		
WHHZ				SN	S	01 51 11.7	-1.1		
THZ	**Tophouse**	**2.40**	**206**	⇑PN	Pn	01 50 38.8	-1.3		
URZ	**Urewera**	**2.57**	**60**	⇓PN	Pn	01 50 39.9	-2.0		
URZ				AML	AML	01 51 18.3			
KNZ	**Kokohu**	**2.69**	**79**	PN	Pn	01 50 42.6	-0.6		
MWZ	**Matawai**	**2.82**	**64**	⇓PN	Pn	01 50 43.1	-1.7		
MWZ				AML	AML	01 51 22.0			
MWZ				AML	AML	01 51 22.9			
RIZ	**Rimuhau**	**2.84**	**73**	PN	Pn	01 50 44.3	-0.8		
DSZ	**Denniston Nort**	**2.86**	**221**	⇑PN	Pn	01 50 43.2	-2.0		
PRGZ	**Paritu Road**	**2.87**	**78**	⇑PN	Pn	01 50 44.8	-0.6		
KHZ	**Kahutara**	**2.87**	**191**	PN	Pn	01 50 44.1	-1.1		
KHZ				AML	AML	01 51 21.9			
KHZ				AML	AML	01 51 22.7			
TKGZ	**Te Karaka**	**3.00**	**68**	⇑PN	Pn	01 50 46.0	-0.8		
TWGZ	**Tauwhareparae**	**3.21**	**65**	PN	Pn	01 50 48.1	-1.3		
CNGZ	**Carnagh Statio**	**3.25**	**71**	PN	Pn	01 50 49.0	-0.6		
HAZ	**Te Kaha**	**3.29**	**57**	PN	Pn	01 50 47.3	-2.9		
PUZ	**Puketiti**	**3.45**	**65**	SN	S	01 51 31.4	-4.1		
PUZ				AML	AML	01 51 34.3			
LTZ	**Lake Taylor**	**3.53**	**205**	PN	Pn	01 50 50.9	-2.0		
MXZ	**Matakaoa Point**	**3.75**	**58**	PN	Pn	01 50 53.5	-2.1		
OXZ	**Oxford**	**4.09**	**204**	PN	Pn	01 50 56.9	-2.8		
MQZ	**McQueen's Vall**	**4.28**	**196**	PN	Pn	01 50 59.0	-3.1		
WVZ	**Waitaha Valley**	**4.38**	**216**	PN	Pn	01 51 00.8	-2.5		
RPZ	**Rata Peaks**	**4.77**	**209**	PN	Pn	01 51 05.5	-2.7		
FGZ	**Fox Glacier**	**5.25**	**220**	*e*PN	Pn	01 51 09.5	-4.6		
LBZ	**Lake Benmore**	**5.68**	**211**	PN	Pn	01 51 16.1	-3.5		
ODZ	**Otahua Downs**	**6.07**	**205**	PN	Pn	01 51 22.4	-2.3		
JCZ	**Jackson Bay**	**6.09**	**221**	PN	Pn	01 51 21.3	-3.7		

*ISCJB **14** 01:51:34.5±0.6,26°.38S±0°.04×27°.38E±0°.05,h15km±5km, mb3.9/5,Error ellipse: s-maj=8.5km s-min=4.0km az=41.5*
*IDC **14** 01:51:34.7±1.0,26°.45S×27°.29E, h0km, mb3.9/5, mb1 4.0/11,mb1mx3.8/31,mbtmp4.0/11,ML3.8/4,Error ellipse: s-maj=19.7km s-min=12.5km az=85.0*
*PRE **14** 01:51:34.8±2.7,26°.46S×27°.37E, h2km,ML3.5*
ISC 14 01:51:35.0±1.0,**26°.41S**±0°.03×**27°.34E**±0°.04,**h11**km±7km, **n26**,σ1°**92**/44,**mb4.0**/5,**1C-4D**,**South Africa**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.25**	**76**	⇑*i*P		**Pg**	**01 51 40.1**	**-0.1**
KLOF				*e*S		**Sg**	**01 51 42.7**	**-1.0**
KLOF				AML	AML	01 51 45.0		
	comp=Z,7μm,0.2s							
BFSD	**Buffelsfontein**	**0.68**	**227**	⇓*i*P		**Pb**	**01 51 48.7**	**-0.2**
BFSD				*e*S		**Sg**	**01 51 56.7**	**-0.4**
BFSD				AML	AML	01 51 58.1		
	comp=Z,860nm,0.2s							
MOAB	**Moab Khotsong**	**0.75**	**220**	*e*P		**Pb**	**01 51 50.2**	**-0.1**
MOAB				*e*S		**Sg**	**01 51 58.9**	**-0.6**
MOAB				AML	AML	01 52 06.2		
	comp=Z,513nm,0.2s							
TLEK	**Tau Lekoa**	**0.82**	**227**	⇓*i*P		**Pb**	**01 51 51.4**	**+0.1**
TLEK				*e*S		**Sg**	**01 52 00.5**	**-1.0**
TLEK				AML	AML	01 52 07.1		
	comp=Z,429nm,0.2s							
SEK	**Senekal**	**1.92**	**173**	⇓*i*P		**Pb**	**01 52 10.4**	**+0.2**
SEK				*e*S		**Sb**	**01 52 34.5**	**+0.2**
SEK				AML	AML	01 52 35.4		
	comp=Z,873nm,0.3s							
SWZ	**Schweizer**	**1.96**	**246**	*e*P		**Pn**	**01 52 08.7**	**+0.4**
SWZ				*e*S		**Sb**	**01 52 35.3**	**+0.1**
SWZ				AML	AML	01 52 48.3		
	comp=Z,173nm,0.5s							
LBTB	**Lobatse**	**2.10**	**311**	*e*P		**Pb**	**01 52 12.7**	**-0.5**
LBTB				*e*S		**Sb**	**01 52 40.7**	**+1.4**
LBTB				AML	AML	01 52 42.0		
	comp=Z,782nm,0.2s							
LBTB	**Lobatse**	**2.10**	**311**	Pn		**Pb**	**01 52 12.6**	**-0.5**
	comp=Z,52nm,0.3s,baz=137,slow=16,SNR=696							
LBTB				Lg	Lg	01 52 41.2		
	comp=Z,220nm,0.3s,baz=48,slow=23,SNR=127							
BOSA	**Boshof**	**2.87**	**220**	⇓*i*P		**Pn**	**01 52 21.9**	**+1.0**
BOSA				*e*S		**Sn**	**01 52 57.1**	**+1.6**
BOSA				AML	AML	01 53 04.0		
	comp=Z,144nm,0.5s							
BOSA	**Boshof**	**2.87**	**220**	Pn		**Pn**	**01 52 21.9**	**+1.0**
	comp=Z,9.1nm,0.3s,baz=38,slow=13,SNR=177							
BOSA				Lg	Lg	01 53 02.5		
	comp=Z,61nm,0.3s,baz=320,slow=13,SNR=23							
HVD	**Gariep Dam**	**4.49**	**201**	*e*P		**Pn**	**01 52 43.4**	**+0.3**
HVD				*e*S		**Sn**	**01 53 32.7**	**-2.7**
HVD				AML	AML	01 54 10.7		
	comp=Z,50nm,0.4s							
KSD	**Kokstad**	**4.50**	**157**	*e*P		**Pn**	**01 52 45.0**	**+1.7**
KSD				*e*S		**Sn**	**01 53 33.0**	**-2.8**
KSD				AML	AML	01 53 59.5		
	comp=Z,34nm,0.3s							
MSNA	**Messina**	**4.73**	**32**	*e*P		**Pn**	**01 52 47.4**	**+1.1**
MSNA				*e*S		**Sn**	**01 53 40.6**	**-0.6**
MSNA				AML	AML	01 54 03.0		
	comp=Z,34nm,0.2s							
UPI	**Upington**	**5.75**	**249**	*e*P		**Pn**	**01 53 01.0**	**+0.6**
UPI				*e*S		**Sn**	**01 54 04.4**	**-2.1**
UPI				AML	AML	01 54 37.9		
	comp=Z,63nm,0.5s							
MATP	**Matopo**	**6.05**	**10**	Pn		**Pn**	**01 53 05.6**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=186,slow=13,SNR=84							
MATP				Sn		**Sn**	**01 54 12.8**	**-1.1**
	comp=Z,4.2nm,0.3s,baz=180,slow=9.9,SNR=6.3							
MATP				Lg	Lg	01 54 41.5		
	comp=Z,5.4nm,0.3s,baz=107,slow=19,SNR=13							
GRM	**Grahamstown**	**6.92**	**186**	*e*P		**Pn**	**01 53 16.2**	**-0.2**
GRM				*e*S		**Sn**	**01 54 30.8**	**-4.4**
GRM				AML	AML	01 55 19.4		
	comp=Z,28nm,0.5s							
SUR	**Sutherland**	**8.24**	**222**	*e*P		**Pn**	**01 53 36.0**	**+1.4**
SUR				*e*S		**Sn**	**01 55 04.3**	**-3.5**
SUR				AML	AML	01 55 58.8		
	comp=Z,21nm,0.8s							
SUR	**Sutherland**	**8.24**	**222**	Pn		**Pn**	**01 53 35.2**	**+0.6**
	comp=Z,2.1nm,0.3s,baz=30,slow=8.5,SNR=22							
SUR				Sn		**Sn**	**01 55 03.7**	**-4.2**
	comp=Z,2.7nm,0.3s,baz=137,slow=23,SNR=6.8							
SUR				Lg	Lg	01 55 49.1		
	comp=Z,4.4nm,0.3s,baz=306,slow=22,SNR=5.0							
LSZ	**Lusaka**	**11.10**	**4**	*e*P		**Pn**	**01 54 14.7**	**+0.8**
LSZ				*e*S		**Sn**	**01 56 14.0**	**-4.3**
LSZ	**Lusaka**	**11.10**	**4**	Pn		**Pn**	**01 54 14.0**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=181,slow=13,SNR=17							
LSZ				Sn		**Sn**	**01 56 12.7**	**-5.5**
	comp=Z,0.5nm,0.3s,baz=108,slow=13,SNR=3.9							
LSZ				Lg	Lg	01 57 20.2		
	comp=Z,0.7nm,0.3s,baz=106,slow=21,SNR=3.2							
TSUM	**Tsumeb**	**11.50**	**307**	Pn		**Pn**	**01 54 18.8**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=126,slow=12,SNR=7.6							
TSUM				Sn	Sn	01 56 21.8	-6.3	
	comp=Z,0.3nm,0.3s,baz=221,slow=20,SNR=3.6							
TSUM				Lg	Lg	01 57 35.4		
	comp=Z,0.6nm,0.3s,baz=56,slow=19,SNR=3.9							
TORD	**Torodi Ar. Bea**	**46.56**	**325**	P		**P**	**02 00 04.1**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=153,slow=7.1,SNR=69							
SNAA	**Sanae**	**48.32**	**192**	P		**P**	**02 00 17.4**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=20,slow=6.4,SNR=16							
QSPA	**South Pole Qui**	**63.78**	**180**	P		**P**	**02 02 08.0**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=261,slow=1.2,SNR=5.1							
ESDC	**Sonseca Array**	**71.94**	**335**	P		**P**	**02 02 59.7**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=154,slow=5.5,SNR=6.7							
FINES	**FINESS Array B**	**87.54**	**359**	P		**P**	**02 04 24.5**	**+2.1**
	comp=Z,1.5nm,1.0s,baz=193,slow=11,SNR=3.2							

*IDC **14** 02:00:48.5±0.9,15°.39S×172°.81W,h0km,mb3.8/9, mb1 4.1/9,mb1mx4.0/21,mbtmp3.8/9,MS3.6/4,Ms1 3.6/4, ms1mx3.1/27,Error ellipse: s-maj=45.0km s-min=20.5km az=140.0*
*ISCJB **14** 02:00:51.5±0.7,15°.4S±0°.2×172°.9W±0°.2,h29km,mb3.7/9, MS3.7/3,Error ellipse: s-maj=33.1km s-min=15.5km az=135.7*
ISC 14 02:00:53.1±0.9,**15°.4S**±0°.2×**172°.8W**±0°.2,**h29**km,**n25**, σ0°**99**/13,**mb3.7**/9,**MS3.8**/3,**Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**14.53**	**198**	LR		LR	02 09 08.8	
	comp=Z,151nm,20.7s,baz=26,slow=34							
DZM	**Mont Dzumac**	**20.71**	**248**	*e*LR		LR	02 10 46.9	
	174nm,28.0s							
PPT2	**Papeete2**	**22.38**	**99**	*e*LR		LR	02 11 06.2	
	82nm,23.5s							
TBI	**Tubuai**	**23.37**	**113**	*e*LR		LR	02 11 19.9	
	73nm,28.8s							
URZ	**Urewera**	**24.41**	**199**	P		**P**	**02 06 09.6**	**+0.5**
	5.0nm,0.5s,baz=96,slow=19,SNR=2.9							
RPZ	**Rata Peaks**	**31.36**	**203**	LR		LR	02 19 02.3	
	comp=Z,186nm,18.5s,baz=12,slow=35							
RKT	**Rikitea**	**36.45**	**108**	*e*T		T	02 45 57.3	
	2.3nm,0.4s							
H11S2	**WAKE ISLAND Hy**	**39.29**	**328**	T		T	02 49 00.1	
	baz=149,slow=74,SNR=34							
H11S3	**WAKE ISLAND Hy**	**39.30**	**328**	T		T	02 49 00.6	
	baz=149,SNR=6.4							
H11S1	**WAKE ISLAND Hy**	**39.30**	**328**	T		T	02 49 01.2	
	baz=149,slow=74,SNR=12							
H11N3	**WAKE ISLAND Hy**	**40.22**	**330**	T		T	02 51 15.8	
	baz=146							
H11N1	**WAKE ISLAND Hy**	**40.23**	**330**	T		T	02 51 18.1	
	baz=146							
H11N2	**WAKE ISLAND Hy**	**40.24**	**330**	T		T	02 51 15.8	
	baz=146							
STKA	**Stephens Creek**	**44.51**	**240**	P		**P**	**02 09 02.5**	**+0.3**
	2.9nm,1.1s,baz=108,slow=9.6,SNR=3.4							
WRA	**Warramunga Arr**	**50.38**	**257**	P		**P**	**02 09 47.0**	**-1.1**
	0.6nm,0.8s,baz=94,slow=9.4,SNR=2.7							
ASAR	**Alice Springs**	**50.63**	**252**	P		**P**	**02 09 49.4**	**-0.6**
	0.5nm,0.6s,baz=85,slow=8.2,SNR=6.1							
ASAR				LR		LR	02 29 54.8	
	comp=Z,67nm,19.7s,baz=130,slow=34							
NVAR	**Mina Array Bea**	**73.98**	**42**	P		**P**	**02 12 26.5**	**+0.2**
	0.4nm,0.7s,baz=239,slow=10,SNR=3.6							
KSRS	**Korea Array**	**76.58**	**315**	P		**P**	**02 12 42.0**	**+1.1**
	0.4nm,0.3s,baz=106,slow=3.0,SNR=4.8							
TXAR	**Lajitas Array**	**80.17**	**56**	P		**P**	**02 13 01.8**	**+0.7**
	1.1nm,1.0s,baz=220,slow=7.5,SNR=6.7							
PDAR	**Pinedale Array**	**81.92**	**42**	P		**P**	**02 13 08.2**	**-2.1**
	0.3nm,0.7s,baz=210,slow=2.9,SNR=3.4							
PDAR				LR		LR	02 41 42.8	
	comp=Z,41nm,20.4s,baz=259,slow=30							
ILAR	**Eielson Array**	**82.37**	**11**	P		**P**	**02 13 11.6**	**-0.3**
	0.6nm,0.8s,baz=213,slow=5.6,SNR=5.9							
TREC	**Trest**	**145.56**	**350**	*e*P		**PKPab**	**02 20 29.3**	**+0.4**
KHC	**Kasperske Hory**	**145.99**	**352**	*e*P		**PKPab**	**02 20 31.6**	**+1.0**
KHC				*ex*		x	02 20 44.3	
KHC				*ex*		x	02 20 57.4	
GERES	**GERESS Array B**	**146.26**	**352**	PKPbc		**PKPdf**	**02 20 29.8**	**-0.1**
	0.1nm,0.4s,baz=48,slow=4.4,SNR=4.8							
BRTR	**Keskin Array B**	**146.54**	**321**	PKPbc		**PKPbc**	**02 20 31.4**	**-0.7**
	1.4nm,1.0s,baz=84,slow=3.8,SNR=7.0							

*IDC **14** 02:06:27.4±2.2,7°.49N×91°.70E, h0km,mb3.9/5,mb1 4.0/6, mb1mx3.6/33,mbtmp3.9/6,ML4.5/1,MS3.0/1,Ms1 3.0/1, ms1mx2.4/33,Error ellipse: s-maj=78.4km s-min=22.8km az=67.0*
*ISCJB **14** 02:06:31.3±1.5,7°.6N±0°.1×92°.0E±0°.3,h33km,mb3.8/5, MS3.0/1,Error ellipse: s-maj=40.6km s-min=18.3km az=164.8*
ISC 14 02:06:33.4±1.7,**7°.6N**±0°.2×**91°.9E**±0°.3,**h35**km,**n10**,σ0°**90**/6, **mb3.8**/5,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.78**	**32**	Pn		**Pn**	**02 09 32.5**	**-0.2**
	0.8nm,0.3s,baz=228,slow=14,SNR=5.2							
H08S3	**Diego Garcia H**	**24.57**	**232**	T		T	02 38 17.5	
	baz=51							
H08S2	**Diego Garcia H**	**24.58**	**232**	T		T	02 38 21.1	
	baz=51							
H08S1	**Diego Garcia H**	**24.59**	**232**	T		T	02 38 22.6	
	baz=51							
MKAR	**Makunchi Array**	**39.92**	**350**	P		**P**	**02 14 04.3**	**+0.1**
	0.4nm,0.6s,baz=154,slow=7.8,SNR=4.8							
SONM	**Songino Array**	**41.95**	**15**	P		**P**	**02 14 22.0**	**+1.0**
	1.2nm,0.7s,baz=194,slow=9.1,SNR=8.3							
ZALV	**Zalesovo Beam**	**46.58**	**354**	P		**P**	**02 14 56.5**	**-1.2**
	1.3nm,0.3s,baz=168,slow=7.4,SNR=2.3							
WRA	**Warramunga Arr**	**49.92**	**124**	P		**P**	**02 15 24.0**	**-0.1**
	0.8nm,0.9s,baz=302,slow=8.5,SNR=3.1							
MJAR	**Matsushiro Arr**	**50.99**	**49**	LR		LR	02 36 29.1	
	comp=Z,15nm,21.8s,baz=165,slow=35							
STKA	**Stephens Creek**	**61.53**	**132**	P		**P**	**02 16 47.2**	**+0.1**
	1.1nm,0.7s,baz=288,slow=6.4,SNR=3.7							

*IDC **14** 02:06:36.3±1.0,16°.66S×178°.41W,h0km,mb3.8/7, mb1 4.2/7,mb1mx4.0/18,mbtmp3.8/7,Error ellipse: s-maj=49.7km s-min=22.5km az=145.0*
*ISCJB **14** 02:06:39.8±0.9,16°.85S±0°.3×178°.4W±0°.2,h33km,mb3.8/7, Error ellipse: s-maj=42.2km s-min=19.5km az=144.8*
ISC 14 02:06:41.7±0.9,**16°.7S**±0°.3×**178°.5W**±0°.2,**h35**km,**n7**, σ0°**47**/7,**mb3.7**/7,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.20**	**240**	P		**P**	**02 14 07.1**	**+0.5**
	1.6nm,0.5s,baz=91,slow=8.9,SNR=6.6							
WRA	**Warramunga Arr**	**44.83**	**258**	P		**P**	**02 14 52.6**	**-0.2**
	0.9nm,0.6s,baz=97,slow=7.4,SNR=5.7							
ASAR	**Alice Springs**	**45.10**	**253**	P		**P**	**02 14 54.6**	**-0.3**
	8.2nm,0.6s,baz=88,slow=8.1,SNR=101							
VNDA	**Vanda**	**61.66**	**185**	P		**P**	**02 16 55.5**	**-0.1**
	0.3nm,0.5s,baz=351,slow=12,SNR=3.3							
NVAR	**Mina Array Bea**	**78.57**	**44**	P		**P**	**02 18 40.6**	**+0.6**
	0.5nm,0.7s,baz=217,slow=5.7,SNR=2.9							
ILAR	**Eielson Array**	**84.70**	**13**	P		**P**	**02 19 11.3**	**-0.3**
	0.2nm,0.6s,baz=224,slow=6.2,SNR=5.4							
TXAR	**Lajitas Array**	**85.37**	**58**	P		**P**	**02 19 15.6**	**-0.3**
	0.3nm,0.7s,baz=218,slow=5.7,SNR=4.0							

*KRNET **14** 02:13:03.4±0.1,40°.90N×74°.88E,h12km,mb3.1*
*NNC **14** 02:13:05.7±1.1,40°.91N×74°.83E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=13.4km s-min=4.4km az=122.0*
ISC 14 02:13:03.9±1.1,**40°.90N**±0°.03×**74°.84E**±0°.03,**h16**km±11km, **n32**,σ1°**08**/48,**28C-16D**,**Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.02**	**58**	⇑*i*P		**Pn**	**02 13 24.0**	**+0.1**
	baz=57							
NRN				⇑*i*S		**Sg**	**02 13 36.4**	**-0.9**
	baz=57							
KZA	**Kyzart**	**1.22**	**15**	P		**Pb**	**02 13 27.1**	**+0.3**
	SNR=44							
KZA	**Kyzart**	**1.22**	**15**	⇑*i*P		**Pb**	**02 13 26.9**	**+0.2**
	baz=13							
KZA				⇑*i*S		**Sn**	**02 13 43.6**	**+0.7**
	baz=13							
UCH	**Uchtor**	**1.35**	**350**	P		**Pg**	**02 13 29.8**	**-0.2**
	SNR=78							
UCH	**Uchtor**	**1.35**	**350**	⇑*i*P		**Pg**	**02 13 29.7**	**-0.2**
	baz=348							
UCH				⇑*i*S		**Sg**	**02 13 49.2**	**+1.6**
	baz=348							
SFK	**Sufi-Kurgan**	**1.35**	**229**	⇓P		**Pb**	**02 13 29.1**	**+0.2**
	6.0nm,0.4s							
SFK				⇓S		**Sg**	**02 13 49.9**	**+2.3**
	44nm,0.6s							
SFK	**Sufi-Kurgan**	**1.35**	**229**	⇑*e*P		**Pg**	**02 13 30.0**	**0.0**
	baz=230							
SFK				⇑*i*S		**Sg**	**02 13 48.4**	**+0.8**
	baz=230							
AML	**Almayashu**	**1.50**	**325**	P		**Pg**	**02 13 32.7**	**-0.1**
	SNR=52							
AML	**Almayashu**	**1.50**	**325**	⇓*i*P		**Pg**	**02 13 32.7**	**-0.1**
	baz=324							
AML				⇓*i*S		**Sg**	**02 13 52.8**	**+0.4**
	baz=324							
ULHL	**Ulahol**	**1.71**	**38**	P		**Pb**	**02 13 35.4**	**+0.5**
	SNR=53							
ULHL	**Ulahol**	**1.71**	**38**	⇓*i*P		**Pg**	**02 13 35.6**	**-1.1**
	baz=37							
ULHL				⇓*i*S		**Sb**	**02 13 57.2**	**+1.0**
	baz=37							
AAK	**Ala-Archa**	**1.75**	**352**	P		**Pg**	**02 13 36.6**	**-0.9**
	SNR=30							
AAK	**Ala-Archa**	**1.75**	**352**	⇑Pg		**Pg**	**02 13 37.5**	**-0.1**
	21nm,0.4s							
AAK				⇓Lg		Lg	02 14 03.0	
	79nm,0.6s							
AAK	**Ala-Archa**	**1.75**	**352**	⇑*i*P		**Pg**	**02 13 37.4**	**-0.1**
	baz=351							
AAK				⇑*i*S		**Sg**	**02 14 01.4**	**+1.1**
	baz=351							
KBK	**Karagaybulak**	**1.75**	**3**	P		**Pg**	**02 13 37.3**	**-0.3**
	SNR=23							
KBK	**Karagaybulak**	**1.75**	**3**	⇑*i*P		**Pg**	**02 13 37.3**	**-0.3**
	baz=2.0							
KBK				⇑*i*S		**Sg**	**02 14 00.4**	**-0.1**
	baz=2.0							
EKS2	**Erkin-Say**	**1.93**	**336**	P		**Pg**	**02 13 40.1**	**-0.8**
	SNR=24							
EKS2	**Erkin-Say**	**1.93**	**336**	⇑*i*P		**Pg**	**02 13 40.4**	**-0.6**
	baz=335							
EKS2				⇑*i*S		**Sg**	**02 14 07.1**	**+1.1**
	baz=335							
EKS	**Erkin-Say**	**1.93**	**336**	⇑*i*P		**Pg**	**02 13 40.9**	**-0.1**
	baz=335							
EKS				⇑*i*S		**Sg**	**02 14 07.6**	**+1.5**
	baz=335							
TKM2	**Tokmak 2**	**2.10**	**15**	P		**Pg**	**02 13 43.0**	**-1.1**
	SNR=39							
TKM2	**Tokmak 2**	**2.10**	**15**	⇓Pg		**Pg**	**02 13 43.2**	**-0.9**
	18nm,0.6s							
TKM2				⇓Lg		Lg	02 14 12.1	
	105nm,0.6s							
TKM2	**Tokmak 2**	**2.10**	**15**	⇑*i*P		**Pg**	**02 13 43.2**	**-0.9**
	baz=15							
TKM2				⇑*i*S		**Sg**	**02 14 11.2**	**-0.1**
	baz=15							
CHMS	**Chum

JIH				S	**Sn**	**02 57 54.7**	**-0.4**
JJT2	**Tamagusuku 2**	**1.05**	**254**	P	**Pb**	**02 57 42.8**	**-0.1**
JJT2				S	**Sb**	**02 57 56.1**	**-0.1**
JTK	**Tokunoshima**	**1.35**	**3**	P	**Pn**	**02 57 46.3**	**-0.2**
JTK				S	**Sn**	**02 58 00.8**	**-2.8**
JAGN	**Aguni-jima**	**1.47**	**277**	P	**Pb**	**02 57 48.9**	**-1.1**
JAGN				S	**Sb**	**02 58 06.1**	**-2.2**
JAMN	**Amaminishikomi**	**1.83**	**8**	P	**Pn**	**02 57 52.7**	**-0.3**
JKE	**Kume jima 2**	**1.88**	**267**	P	**Pn**	**02 57 53.6**	**0.0**
JKE				S	**Sn**	**02 58 15.8**	**-0.6**
JAM	**Amami Oshima**	**2.08**	**18**	P	**Pn**	**02 57 56.0**	**-0.4**
JAM				S	**Sn**	**02 58 20.4**	**-1.1**
JZK	**Kikaishima**	**2.12**	**27**	P	**Pn**	**02 57 57.4**	**+0.4**
JZK				S	**Sn**	**02 58 21.9**	**-0.5**
JMZ	**Minamidaito 2**	**2.19**	**106**	P	**Pn**	**02 57 57.3**	**-0.7**
JMZ				S	**Sn**	**02 58 21.0**	**-3.3**
JTAJ	**Takarajima**	**2.73**	**6**	P	**Pn**	**02 58 05.1**	**-0.3**
JTAJ				S	**Sn**	**02 58 36.1**	**-1.4**
JOGS	**Gusukube**	**3.54**	**243**	*e*S	**Sn**	**02 58 58.2**	**+0.6**
JIRB	**Irabujima**	**3.70**	**245**	P	**Pn**	**02 58 19.0**	**+0.3**
JIRB				*e*S	**Sn**	**02 58 59.2**	**-2.3**
JTJ	**Tarama**	**4.17**	**246**	*e*S	**Sn**	**02 59 09.4**	**-3.6**
JISG	**Ishigakijimahi**	**4.51**	**247**	P	**Pn**	**02 58 28.8**	**-1.1**
JISG				S	**Sn**	**02 59 16.5**	**-5.0**
JIJ	**Ishigaki jima**	**4.75**	**245**	P	**Pn**	**02 58 32.0**	**-1.1**
JIJ				*e*S	Sn	02 59 20.4	-6.9
JNU	**Nakatsue**	**6.89**	**14**	Pn	**Pn**	**02 59 01.6**	**-1.0**
	0.8nm,0.3s,baz=225,slow=2.9,SNR=4.6						
JNU				Sn	**Sn**	**03 00 18.6**	**-1.6**
	0.4nm,0.3s,baz=247,slow=11,SNR=1.9						
NACB	**Ninganchiao**	**6.96**	**253**	*e*Pn	**Pn**	**02 59 00.7**	**-2.8**
YULB	**Yu-li**	**7.51**	**248**	*e*Pn	Pn	02 59 07.6	-3.6
YULB				*e*S	Sn	03 00 28.1	-7.4
SSLB	**Suanglung**	**7.64**	**252**	*e*Pn	**Pn**	**02 59 13.2**	**+0.2**
KSAR	**Wonju Array Be**	**11.01**	**356**	Pn	**Pn**	**02 59 58.9**	**-0.2**
KSRS	**Korea Array**	**11.02**	**356**	Pn	**Pn**	**02 59 58.9**	**-0.3**
	0.1nm,0.3s,baz=172,slow=13,SNR=4.4						
KSRS				LR	LR	03 04 43.0	
	comp=Z,51nm,18.1s,baz=169,slow=40						
SONM	**Songino Array**	**27.70**	**326**	P	**P**	**03 03 11.4**	**+2.0**
	2.6nm,0.8s,baz=140,slow=9.3,SNR=18						
MKAR	**Makanchi Array**	**41.83**	**312**	P	**P**	**03 05 10.5**	**-0.4**
	0.2nm,0.3s,baz=88,slow=10,SNR=8.2						
MKAR				PcP	**PcP**	**03 07 06.9**	**+0.4**
	0.5nm,0.8s,baz=66,slow=3.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**42.44**	**322**	P	**P**	**03 05 15.0**	**-0.7**
	2.0nm,0.6s,baz=103,slow=8.2,SNR=5.1						
WRA	**Warramunga Arr**	**46.40**	**173**	P	**P**	**03 05 48.3**	**+0.7**
	0.9nm,0.6s,baz=355,slow=8.6,SNR=6.3						
ASAR	**Alice Springs**	**50.04**	**174**	P	**P**	**03 06 17.4**	**+1.7**
	1.2nm,0.9s,baz=356,slow=7.9,SNR=10						
ABKAR	**Akbulak array**	**56.93**	**313**	*e*P	**P**	**03 07 06.3**	**+0.3**
	0.8nm,0.6s						
ILAR	**Eielson Array**	**63.99**	**28**	P	**P**	**03 07 53.4**	**-0.6**
	0.2nm,0.6s,baz=253,slow=6.7,SNR=5.5						
KBZ	**Khabaz**	**69.48**	**309**	P	**P**	**03 08 30.2**	**+0.9**
	1.4nm,0.5s,baz=98,slow=6.0,SNR=4.9						
ARCES	**ARCESS Array B**	**70.03**	**339**	P	**P**	**03 08 32.8**	**+0.4**
	1.6nm,0.8s,baz=54,slow=9.1,SNR=2.7						
FINES	**FINESS Array B**	**72.37**	**331**	P	**P**	**03 08 50.6**	**+0.5**
	2.0nm,0.7s,baz=83,slow=6.0,SNR=7.0						
AKASG	**Malin Array Be**	**75.76**	**320**	P	**P**	**03 09 07.1**	**+0.5**
	1.5nm,0.6s,baz=55,slow=6.0,SNR=6.7						
BRTR	**Keskin Array B**	**77.37**	**308**	P	**P**	**03 09 16.9**	**+0.8**
	2.2nm,0.8s,baz=91,slow=5.8,SNR=12						
NB2	**NORSAR Subarra**	**79.39**	**334**	P	**P**	**03 09 26.8**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=52,slow=5.6						
NOA	**NORSAR Array B**	**79.39**	**334**	P	**P**	**03 09 26.8**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=51,slow=5.7,SNR=4.8						
CLL	**Collm**	**84.32**	**325**	*j* *i*P	**P**	**03 09 54.0**	**+1.2**
	comp=Z,6.0nm,0.9s						
GERES	**GERESS Array B**	**85.39**	**323**	P	**P**	**03 09 59.2**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=35,slow=3.3,SNR=7.1						

IDC *14* **03:24:22.7**±1.9**,5°.38S**×**151°.77E, h0**km**, mb3.7/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=125.0km s-min=27.3km az=126.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.30**	**228**	P	P	03 29 23.2	+1.2
	2.2nm,0.5s,baz=52,slow=9.9,SNR=13						
ASAR	**Alice Springs**	**25.04**	**222**	P	P	03 29 48.4	-0.5
	2.0nm,0.8s,baz=57,slow=8.7,SNR=23						
ILAR	**Eielson Array**	**83.08**	**22**	P	P	03 36 50.5	+0.5
	0.2nm,0.7s,baz=252,slow=4.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**149.50**	**287**	PKPbc	**PKPbc**	03 44 13.9	-1.2
	0.6nm,0.4s,baz=73,slow=2.1,SNR=27						

NIED ***14*** *03:30:00.25°.80N×130°.10E, h5km, Mw3.9 Best double couple: M0 9.08000×10*14 *NP1:*ϕ*s 11.00000°, δ 43.00000°, λ -153.00000°. NP2:*ϕ*s 260.00000°, δ 72.00000°, λ -50.00000°.*

IDC ***14*** *03:30:14.8*±*1.1, 25°.83N×128°.88E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/25, mbtmp3.4/6, ML3.1/2, MS2.8/1, Ms1 3.0/1, ms1mx2.4/22, Error ellipse: s-maj=55.6km s-min=20.4km az=86.0*

JMA ***14*** *03:30:19.0*±*0.1, 25°.78N×130°.08E, h40km, M3.7*

ISC 14 03:30:17.4±3.0**, 25°.82N**±0°.05×**130°.02E**±0°.04**, h17**km±22**km, n24,** σ1°**58**/34**, mb3.4/4, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**1.08**	**90**	P	**Pb**	**03 30 37.4**	**-0.2**
JMZ				S	**Sb**	**03 30 49.9**	**-1.6**
JOW	**Kunigami**	**1.86**	**303**	P	**Pb**	**03 30 50.5**	**-0.4**
JOW				S	**Sn**	**03 31 11.7**	**+0.2**
JNTH	**Nagotoyohara**	**1.92**	**292**	P	**Pb**	**03 30 51.1**	**-0.8**
JNTH				S	**Sn**	**03 31 12.6**	**-0.4**
JOKE	**Okinoerabujima**	**2.01**	**320**	P	**Pb**	**03 30 52.9**	**-0.5**
JOKE				S	**Sn**	**03 31 15.9**	**+0.7**
JJT2	**Tamagusuku 2**	**2.07**	**279**	P	**Pb**	**03 30 53.7**	**-0.7**
JJT2				S	**Sn**	**03 31 17.7**	**+1.1**
JTK	**Tokunoshima**	**2.18**	**334**	P	**Pb**	**03 30 55.2**	**-1.1**
JTK				S	**Sn**	**03 31 19.8**	**+0.5**
JIH	**Iheya**	**2.20**	**304**	P	**Pb**	**03 30 55.3**	**-1.4**
JIH				S	**Sn**	**03 31 20.7**	**+0.8**
JZK	**Kikaishima**	**2.48**	**359**	P	**Pb**	**03 31 00.2**	**-1.3**
JZK				*e*S	**Sn**	**03 31 28.5**	**+1.6**
JAMN	**Amaminishikomi**	**2.53**	**343**	P	**Pn**	**03 30 59.9**	**+2.3**
JAMN				S	**Sn**	**03 31 27.3**	**-0.6**
JAM	**Amami Oshima**	**2.60**	**352**	P	**Pn**	**03 31 00.8**	**+2.1**
JAM				S	**Sn**	**03 31 29.7**	**-0.2**
JAGN	**Aguni-jima**	**2.61**	**288**	P	**Pn**	**03 31 01.0**	**+2.3**
JAGN				S	**Sn**	**03 31 30.8**	**+0.9**
JKE	**Kume jima 2**	**2.95**	**281**	P	**Pn**	**03 31 04.8**	**+1.4**
JKE				S	**Sn**	**03 31 37.6**	**-0.8**
JTAJ	**Takarajima**	**3.40**	**348**	P	**Pn**	**03 31 11.8**	**+2.3**
JTAJ				S	**Sn**	**03 31 48.3**	**-1.1**
JOGS	**Gusukube**	**4.31**	**257**	P	**Pn**	**03 31 23.8**	**+1.7**
JOGS				*e*S	**Sn**	**03 32 11.4**	**-0.5**
JIRB	**Irabujima**	**4.49**	**258**	S	**Sn**	**03 32 15.8**	**-0.7**
JTJ	**Tarama**	**4.96**	**257**	P	Pn	03 31 32.2	+1.2
JTJ				S	**Sn**	**03 32 25.2**	**-2.7**
JIJ	**Ishigaki jima**	**5.52**	**256**	S	**Sn**	**03 32 38.0**	**-3.8**
JNU	**Nakatsue**	**7.31**	**6**	Pn	**Pn**	**03 32 04.2**	**+0.8**
	0.2nm,0.3s,baz=210,slow=20,SNR=2.6						
JNU				Sn	**Sn**	**03 33 23.1**	**-3.0**
	0.3nm,0.3s,baz=285,slow=18,SNR=2.4						
KSRS	**Korea Array**	**11.73**	**352**	Pn	**Pn**	**03 33 03.6**	**-0.3**
	0.2nm,0.3s,baz=174,slow=14,SNR=3.8						
SONM	**Songino Array**	**28.78**	**326**	P	P	03 36 09.0	-5.3
	0.3nm,0.6s,baz=147,slow=8.6,SNR=2.2						
CMAR	**Chiang Mai Arr**	**29.65**	**262**	LR	LR	03 48 36.7	
	comp=Z,19nm,18.2s,baz=80,slow=38						
WRA	**Warramunga Arr**	**45.68**	**174**	P	P	03 38 38.7	+1.3
	0.8nm,0.9s,baz=354,slow=8.5,SNR=3.4						
ASAR	**Alice Springs**	**49.34**	**175**	P	P	03 39 06.5	+0.7
	0.4nm,0.8s,baz=8.7,slow=14,SNR=3.0						
ILAR	**Eielson Array**	**64.03**	**28**	P	P	03 40 53.3	+3.5
	0.2nm,0.7s,baz=296,slow=6.7,SNR=3.7						

NIED ***14*** *03:40:00.34°.40N×141°.80E, h8km, Mw4.2 Best double couple: M0 2.18000×10*15 *NP1:*ϕ*s 152.00000°, δ 30.00000°, λ 36.00000°. NP2:*ϕ*s 31.00000°, δ 73.00000°, λ 115.00000°.*

JMA ***14*** *03:40:43.8*±*0.3, 34°.37N×141°.78E, h25km*±*2km, M3.7*

IDC ***14*** *03:40:43.8*±*0.7, 34°.42N×141°.54E, h0km, mb3.9/14, mb1 4.1/19, mb1mx4.0/29, mbtmp3.9/19, ML4.0/3, MS3.4/8, Ms1 3.4/8, ms1mx3.1/39, Error ellipse: s-maj=19.5km s-min=16.3km az=56.0*

ISCJB ***14*** *03:40:45.1*±*0.5, 34°.41N*±*0°.04×141°.71E*±*0°.05, h27km, mb3.9/17, MS3.3/6, Error ellipse: s-maj=7.5km s-min=4.4km az=41.9*

NEIC ***14*** *03:40:46.2*±*2.8, 34°.48N×141°.62E, h16km*±*17km, mb4.3/3, Error ellipse: s-maj=9.1km s-min=7.3km az=87.0*

ISC 14 03:40:47.4±0.5**, 34°.35N**±0°.05×**141°.54E**±0°.06**, h27**km**, n52,** σ1°**41**/48**, mb3.9**/17**, MS3.4**/6**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.55**	**303**	P	**Pb**	**03 40 57.4**	**-0.8**
BSO1				*e*S	**Sn**	**03 41 07.0**	**-0.1**
BSO2	**Boso 2**	**0.76**	**302**	*e*S	**Sn**	**03 41 13.6**	**+1.1**
BSO3	**Boso 3**	**0.96**	**298**	P	Pn	03 41 04.4	-0.5
BSO4	**Boso 4**	**1.18**	**303**	P	**Pb**	**03 41 08.4**	**-0.6**
KTR	**Katsuura**	**1.28**	**309**	*e*S	**Sb**	**03 41 27.5**	**+0.6**
CHOJ	**Chosi**	**1.46**	**338**	*e*S	**Sn**	**03 41 28.1**	**-2.1**
JIM2	**Oshima 3**	**1.78**	**282**	P	Pn	03 41 16.1	-0.3
JIM2				*e*S	**Sb**	**03 41 39.4**	**-1.8**
JHJ2	**Mitsune**	**1.89**	**230**	P	Pn	03 41 18.0	+0.1
JKO	**Kozu shima**	**1.99**	**266**	P	Pn	03 41 19.7	+0.4
MJAR	**Matsushiro Arr**	**3.49**	**310**	Pn	Pn	03 41 40.1	+0.2
	11nm,0.3s,baz=162,slow=12,SNR=59						
MJAR				Sn	**Sn**	**03 42 22.2**	**+1.9**
	9.1nm,0.3s,baz=196,slow=22,SNR=5.9						
MAJO	**Matsushiro**	**3.49**	**310**	*e*Pn	**Pn**	**03 41 39.6**	**-0.3**
MAJO				*e*S	**Sn**	**03 42 22.3**	**+2.0**
MAT	**Matsushiro**	**3.49**	**310**	P	Pn	03 41 39.8	-0.1
MAT				S	**Sn**	**03 42 21.5**	**+1.2**
CBIJ	**Chichi jima**	**7.25**	**175**	Pn	**Pn**	**03 42 32.8**	**+1.1**
CBIJ				Sn	**Sn**	**03 43 48.7**	**-4.4**
JCJ	**Chichijima**	**7.25**	**175**	Pn	**Pn**	**03 42 32.8**	**+1.1**
	6.5nm,0.3s,baz=106,slow=19,SNR=2.4						
JCJ				Sn	**Sn**	**03 43 48.7**	**-4.4**
	7.6nm,0.3s,baz=294,slow=19,SNR=4.1						
ERM	**Erimo**	**7.76**	**9**	*e*Pn	Pn	03 42 34.5	-4.0
ERM				*e*S	Sn	03 43 55.5	-10
JNU	**Nakatsue**	**8.96**	**265**	Pn	**Pn**	**03 42 57.4**	**+2.3**
	0.5nm,0.3s,baz=84,slow=2.5,SNR=3.4						
ASAJ	**Asahikawa**	**9.79**	**4**	Pn	**Pn**	**03 43 04.5**	**-1.8**
	1.1nm,0.3s,baz=159,slow=16,SNR=5.5						
ASAJ				Sn	Sn	03 44 47.1	-8.1
	baz=233,slow=20						
KSRS	**Korea Array**	**11.47**	**290**	Pn	**Pn**	**03 43 30.8**	**+1.5**
	baz=102,slow=14,SNR=17						
KSRS				LR	LR	03 48 24.2	
	comp=Z,181nm,18.4s,baz=108,slow=40						
KSAR	**Wonju Array Be**	**11.49**	**289**	Pn	**Pn**	**03 43 30.8**	**+1.1**
USRK	**Ussuriysk Ar.**	**12.30**	**326**	Pn	**Pn**	**03 43 38.1**	**-2.5**
	0.2nm,0.3s,baz=143,slow=14,SNR=4.8						
USRK				LR	LR	03 48 35.0	
	comp=Z,168nm,20.3s,baz=129,slow=38						
GUMO	**Guam**	**20.89**	**171**	LR	LR	03 51 51.4	
	comp=Z,62nm,20.7s,baz=80,slow=32						
PETK	**Petropavlovsk-**	**22.00**	**27**	LR	LR	03 57 32.0	
	comp=Z,28nm,18.0s,baz=205,slow=46						
H11N2	**WAKE ISLAND Hy**	**26.78**	**116**	T	T	04 14 31.8	
	baz=309,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**26.78**	**116**	T	T	04 14 28.1	
	baz=309,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**26.80**	**116**	T	T	04 14 32.8	
	baz=309,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**27.40**	**119**	T	T	04 15 33.2	
	baz=312,slow=75,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**27.40**	**119**	T	T	04 15 23.7	
	baz=312,slow=75,SNR=8.4						
H11S2	**WAKE ISLAND Hy**	**27.42**	**119**	T	T	04 15 23.3	
	baz=312,slow=75,SNR=4.8						
YAK	**Yakutsk**	**28.71**	**348**	LR	LR	03 58 53.7	
	comp=Z,136nm,18.8s,baz=168,slow=38						
SONM	**Songino Array**	**29.44**	**308**	P	**P**	**03 46 49.2**	**+0.4**
	2.1nm,1.0s,baz=109,slow=8.2,SNR=10.0						
CMAR	**Chiang Mai Arr**	**40.98**	**258**	P	**P**	**03 48 27.9**	**-0.3**
	1.8nm,1.0s,baz=42,slow=6.9,SNR=5.0						
CMAR				LR	LR	04 07 19.4	
	comp=Z,27nm,19.1s,baz=220,slow=39						
ZALV	**Zalesovo Beam**	**43.83**	**314**	P	**P**	**03 48 50.6**	**-0.3**
	0.9nm,0.3s,baz=102,slow=6.2,SNR=4.0						
ZALV				PcP	**PcP**	**03 50 36.9**	**0.0**
	1.0nm,0.6s,baz=96,slow=4.3,SNR=3.1						
MK31	**Makanchi Array**	**45.67**	**304**	*e*P	**P**	**03 49 05.1**	**-0.6**
MKAR	**Makanchi Array**	**45.67**	**304**	P	**P**	**03 49 06.1**	**+0.3**
	1.7nm,0.7s,baz=90,slow=10,SNR=14						
KURK	**Kurchatov**	**47.70**	**310**	*e*P	**P**	**03 49 20.8**	**-0.7**
	10.0nm,1.0s						
ILAR	**Eielson Array**	**51.72**	**31**	P	**P**	**03 49 51.8**	**-0.1**
	0.9nm,0.9s,baz=254,slow=6.0,SNR=8.7						
BVAR	**Borovoye Array**	**52.48**	**314**	LR	LR	04 14 10.0	
	comp=Z,85nm,18.4s,baz=73,slow=38						
WRAB	**Tennant Creek**	**54.41**	**188**	*e*P	**P**	**03 50 13.2**	**+1.0**
WRA	**Warramunga Arr**	**54.42**	**188**	P	**P**	**03 50 13.2**	**+0.9**
	1.1nm,0.7s,baz=4.6,slow=7.6,SNR=4.4						
KKAR	**Karatay Array**	**54.59**	**302**	*e*P	**P**	**03 50 13.6**	**+0.2**
	1.9nm,0.7s						
ASAR	**Alice Springs**	**58.15**	**188**	P	**P**	**03 50 39.8**	**+0.9**
	0.6nm,0.8s,baz=13,slow=10,SNR=6.9						
ABKAR	**Akbulak array**	**59.76**	**311**	*e*P	**P**	**03 50 49.5**	**-0.3**
	1.3nm,0.5s						
ARCES	**ARCESS Array B**	**66.54**	**340**	LR	LR	04 25 51.1	
	comp=Z,43nm,18.1s,baz=43,slow=41						
KBZ	**Khabaz**	**72.73**	**311**	P	**P**	**03 52 13.2**	**+0.2**
	1.5nm,0.7s,baz=77,slow=18,SNR=3.2						
AKASG	**Malin Array Be**	**76.48**	**323**	P	**P**	**03 52 34.6**	**0.0**
	1.1nm,0.6s,baz=38,slow=5.7,SNR=5.1						
NVAR	**Mina Array Bea**	**76.52**	**53**	P	**P**	**03 52 35.9**	**+0.5**
	0.5nm,0.7s,baz=302,slow=5.2,SNR=4.0						
NOA	**NORSAR Array B**	**76.70**	**338**	P	**P**	**03 52 34.7**	**-1.0**
	1.1nm,0.9s,baz=42,slow=5.3,SNR=2.9						
PDAR	**Pinedale Array**	**79.48**	**45**	P	**P**	**03 52 53.4**	**+1.6**
	0.2nm,0.3s,baz=324,slow=4.5,SNR=2.7						
BRTR	**Keskin Array B**	**80.71**	**312**	P	**P**	**03 52 58.9**	**+0.5**
	0.7nm,0.8s,baz=150,slow=1.6,SNR=4.4						
TXAR	**Lajitas Array**	**91.67**	**52**	P	**P**	**03 53 53.0**	**+0.3**
	baz=309,0.8s,baz=298,slow=1.9,SNR=3.0						
TXAR	**Lajitas Array**	**91.67**	**52**	P	**P**	**03 53 53.0**	**+0.3**
LPAZ	**La Paz**	**147.88**	**63**	PKPbc	**PKPbc**	**04 00 31.9**	**+0.6**
	0.7nm,0.6s,baz=31,slow=2.8,SNR=5.6						

NIED ***14*** *03:53:00.31°.20N×141°.70E, h5km, Mw4.0 Best double couple: M0 1.24000×10*15 *NP1:*ϕ*s 158.00000°, δ 29.00000°, λ 36.00000°. NP2:*ϕ*s 35.00000°, δ 73.00000°, λ 114.00000°.*

IDC ***14*** *03:53:44.6*±*0.7, 31°.09N×141°.43E, h0km, mb4.0/18, mb1 4.2/20, mb1mx4.1/29, mbtmp4.0/20, ML4.0/2, MS3.1/3, Ms1 3.2/3, ms1mx2.7/36, Error ellipse: s-maj=25.7km s-min=14.3km az=70.0*

ISCJB ***14*** *03:53:47.3*±*0.5, 31°.22N*±*0°.03×141°.7E*±*0°.1, h37km, mb4.1/22, MS3.8/2, Error ellipse: s-maj=13.6km s-min=3.6km az=165.1*

JMA ***14*** *03:53:47.3*±*0.3, 31°.24N×141°.71E, h35km, M4.0*

NEIC ***14*** *03:53:48.4*±*1.9, 31°.10N×141°.45E, h25km*±*13km, mb4.3/4, Error ellipse: s-maj=11.7km s-min=5.7km az=75.0*

ISC 14 03:53:49.8±0.6**, 31°.15N**±0°.06×**141°.6E**±0°.1**, h37**km**, n52,** σ1°**25**/56**, mb4.1**/22**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.45**	**322**	P	**Pn**	**03 54 26.1**	**-1.0**
JHJ2	**Mitsune**	**2.47**	**323**	P	**Pn**	**03 54 26.4**	**-1.0**
JHJ2				*e*S	**Sn**	**03 54 54.8**	**-1.5**
JHJ2	**Mitsune**	**2.47**	**323**	*e*Pn	**Pn**	**03 54 26.1**	**-1.4**
JHJ2				*e*S	**Sn**	**03 54 55.2**	**-1.1**
BSO1	**Boso 1**	**3.54**	**352**	P	Pn	03 54 39.9	-1.7
BSO1				*e*S	**Sn**	**03 55 20.4**	**-1.5**
BSO3	**Boso 3**	**3.76**	**346**	P	Pn	03 54 46.0	+1.1
BSO3				*e*S	**Sn**	**03 55 26.7**	**-1.0**
CBIJ	**Chichi jima**	**4.07**	**172**	P	Pn	03 54 50.1	+0.6
CBIJ				*e*S	**Sn**	**03 55 37.2**	**+1.3**
CBIJ	**Chichi jima**	**4.07**	**172**	Pn	**Pn**	**03 54 49.2**	**-0.3**
CBIJ				Sn	**Sn**	**03 55 32.0**	**-3.9**
JCJ	**Chichijima**	**4.07**	**172**	Pn	**Pn**	**03 54 49.2**	**-0.3**
	14nm,0.3s,baz=294,slow=21,SNR=10.0						
JCJ				Sn	**Sn**	**03 55 32.0**	**-3.9**
	14nm,0.3s,baz=9.6,slow=16,SNR=4.5						
JCJ				LR	LR	03 56 30.3	
	comp=Z,253nm,18.6s,baz=127,slow=41						
JHU	**Hanno**	**5.07**	**338**	P	**Pn**	**03 55 02.8**	**-0.4**
JHU				*e*S	**Sn**	**03 56 00.3**	**-0.2**
JRY	**Ryogami san**	**5.35**	**336**	P	Pn	03 55 07.4	+0.3
JRY				*e*S	**Sn**	**03 56 06.6**	**-0.8**
JHO	**Hitachi**	**5.52**	**351**	P	**Pn**	**03 55 07.5**	**-1.8**
JAG	**Ashikaga**	**5.56**	**342**	P	**Pn**	**03 55 09.5**	**-0.4**
JAG				*e*S	**Sn**	**03 56 09.7**	**-2.8**
MJAR	**Matsushiro Arr**	**6.07**	**333**	Pn	**Pn**	**03 55 17.0**	**+0.1**
	2.4nm,0.3s,baz=158,slow=11,SNR=26						
MJAR				Sn	**Sn**	**03 56 24.6**	**-0.6**
	baz=125,slow=25,SNR=3.3						
MAJO	**Matsushiro**	**6.07**	**333**	*e*P	**Pn**	**03 55 18.0**	**+1.0**
	9.5nm,0.3s						
MAJO				*e*S	**Sn**	**03 56 26.1**	**+0.9**
MAT	**Matsushiro**	**6.07**	**333**	P	**Pn**	**03 55 17.4**	**+0.4**
MAT				S	**Sn**	**03 56 25.2**	**0.0**
JFK	**Kawauchi**	**6.23**	**355**	P	**Pn**	**03 55 17.0**	**-2.2**
JFK				*e*S	Sn	03 56 22.1	-7.1
JMK	**Ichinoseki**	**7.79**	**358**	P	**Pn**	**03 55 40.1**	**-0.5**
JMK				*e*S	Sn	03 56 59.7	-7.8
ERM	**Erimo**	**10.92**	**6**	*e*Pn	**Pn**	**03 56 22.0**	**-1.4**
KSRS	**Korea Array**	**12.92**	**303**	Pn	Pn	03 56 55.4	+4.6
	0.2nm,0.3s,baz=115,slow=12,SNR=6.8						
KSRS				LR	LR	04 02 03.2	
	comp=Z,77nm,18.1s,baz=114,slow=39						
KSAR	**Wonju Array Be**	**12.95**	**303**	Pn	Pn	03 56 55.4	+4.3
H11N2	**WAKE ISLAND Hy**	**25.47**	**110**	T	T	04 26 01.0	
	baz=306						
H11N1	**WAKE ISLAND Hy**	**25.47**	**111**	T	T	04 25 47.6	
	baz=306						
H11N3	**WAKE ISLAND Hy**	**25.48**	**111**	T	T	04 25 45.5	
	baz=306						
H11S3	**WAKE ISLAND Hy**	**25.96**	**113**	T	T	04 26 39.7	
	baz=306,slow=76						
H11S1	**WAKE ISLAND Hy**	**25.97**	**113**	T	T	04 26 38.0	
	baz=306,slow=76						
H11S2	**WAKE ISLAND Hy**	**25.98**	**113**	T	T	04 26 40.9	
	baz=306,slow=76						
SONM	**Songino Array**	**31.52**	**312**	P	**P**	**04 00 08.8**	**+0.4**
	1.3nm,0.7s,baz=113,slow=8.2,SNR=9.7						
TLY	**Talaya**	**34.54**	**318**	LR	LR	04 15 34.1	
	comp=Z,880nm,19.6s,baz=99,slow=38						
CMAR	**Chiang Mai Arr**	**40.48**	**262**	P	**P**	**04 01 24.2**	**-1.0**
	0.8nm,0.4s,baz=67,slow=6.9,SNR=3.2						
CMAR				LR	LR	04 19 40.0	
	comp=Z,20nm,18.6s,baz=310,slow=39						
ZALV	**Zalesovo Beam**	**46.14**	**317**	P	**P**	**04 02 10.1**	**-0.2**
	1.2nm,0.3s,baz=90,slow=5.8,SNR=3.4						
MK31	**Makanchi Array**	**47.56**	**307**	*e*P	**P**	**04 02 21.7**	**0.0**
MKAR	**Makanchi Array**	**47.56**	**307**	P	**P**	**04 02 21.4**	**-0.3**
	0.9nm,0.5s,baz=87,slow=8.9,SNR=13						
KURK	**Kurchatov**	**49.83**	**312**	*e*P	**P**	**04 02 38.1**	**-0.9**
	1.7nm,0.6s						
KURBB	**Kurchatov Arra**	**49.89**	**312**	P	**P**	**04 02 39.4**	**0.0**
	2.0nm,0.6s,baz=89,slow=7.1,SNR=22						
WRAB	**Tennant Creek**	**51.26**	**189**	*e*P	**P**	**04 02 49.4**	**-0.6**
	1.9nm,0.3s						
WRA	**Warramunga Arr**	**51.27**	**189**	P	**P**	**04 02 49.3**	**-0.8**
	1.9nm,0.4s,baz=5.8,slow=7.6,SNR=12						
BVAR	**Borovoye Array**	**54.75**	**316**	P	**P**	**04 03 15.1**	**-0.4**
	0.7nm,0.4s,baz=83,slow=12,SNR=4.5						
AS31	**Alice Springs**	**54.99**	**189**	*e*P	**P**	**04 03 17.3**	**-0.2**
ASAR	**Alice Springs**	**55.00**	**189**	P	**P**	**04 03 17.1**

	33nm,0.7s									
H08S3	**Diego Garcia H**	**24.43**	**231**	T	T	04 30 50.8				
	baz=52,slow=76,SNR=4.6									
H08S2	**Diego Garcia H**	**24.44**	**231**	T	T	04 30 44.2				
	baz=52,slow=76,SNR=5.8									
H08S1	**Diego Garcia H**	**24.45**	**231**	T	T	04 30 49.7				
	baz=52,slow=76,SNR=4.8									
MKAR	**Makanchi Array**	**39.36**	**350**	P	**P**	**04 06 40.7**	**+0.2**			
	1.2nm,0.8s,baz=169,slow=8.0,SNR=10									
SONM	**Songino Array**	**41.64**	**15**	P	**P**	**04 06 58.0**	**-1.5**			
	1.8nm,0.8s,baz=194,slow=8.1,SNR=12									
KURBB	**Kurchatov Arra**	**43.74**	**348**	P	**P**	**04 07 16.8**	**+0.5**			
	1.7nm,0.7s,baz=171,slow=7.4,SNR=17									
BVAR	**Borovoye Array**	**47.96**	**343**	P	**P**	**04 07 50.1**	**+0.5**			
	2.3nm,0.8s,baz=148,slow=8.7,SNR=9.0									
AKTO	**Aktyubinsk**	**50.49**	**333**	P	**P**	**04 08 09.7**	**+0.8**			
	1.4nm,0.7s,baz=107,slow=11,SNR=5.2									
WRA	**Warramunga Arr**	**50.64**	**124**	P	**P**	**04 08 09.9**	**-0.6**			
	1.2nm,1.0s,baz=305,slow=9.3,SNR=4.7									
ASAR	**Alice Springs**	**52.18**	**128**	P	**P**	**04 08 22.7**	**+0.6**			
	0.7nm,0.8s,baz=306,slow=7.7,SNR=4.3									
BRTR	**Keskin Array B**	**60.22**	**311**	P	**P**	**04 09 19.6**	**+0.2**			
	0.5nm,0.8s,baz=66,slow=3.6,SNR=2.8									
FINES	**FINESS Array B**	**71.26**	**333**	P	**P**	**04 10 29.1**	**-0.9**			
	1.8nm,0.8s,baz=152,slow=9.0,SNR=4.7									
GERES	**GERESS Array B**	**75.84**	**318**	P	**P**	**04 10 57.6**	**+0.3**			
	0.6nm,0.6s,baz=108,slow=4.3,SNR=5.1									

*SJA **14** 04:03:28.0±0.5,34.°65S×74.°57W,h40km,ML3.7,MW3.2*
*IDC **14** 04:03:40.9±1.7,35.°14S×73.°29W,h0km,mb3.6/2,*
mb1 3.8/4,mb1mx3.6/17,mbtmp3.5/4,ML3.6/2,Error
ellipse: s-maj=61.4km s-min=31.6km az=68.0
*GUC **14** 04:03:42.3±0.5,35.°06S×72.°56W,h13km±5km,ML4.1*

ISC 14 04:03:41.0±2.4,35.°05S±0.°05×72.°56W±0.°09,h4km±15km,
n31,σ1§52/32,5C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
TALC	**Talca**	**0.84**	**115**	⇑*i*P		**Pg**	**04**	**03**	**57.2**	**+0.2**
TALC				*i* S		**Sg**	**04**	**04**	**08.7**	**+0.8**
NICH	**Los Niches**	**1.09**	**88**	⇑*i*P		**Pb**	**04**	**04**	**01.7**	**-0.8**
NICH				*e*S		**Sb**	**04**	**04**	**16.9**	**-0.3**
LNCH	**Linares**	**1.12**	**136**	⇑*i*P		**Pb**	**04**	**04**	**02.1**	**-0.8**
LNCH				*i* S		**Sb**	**04**	**04**	**16.8**	**-1.1**
LNV	**Longovilo**	**1.45**	**41**	*e*P		**Pn**	**04**	**04**	**07.6**	**-0.4**
LNV				*i* S		**Sn**	**04**	**04**	**26.4**	**-1.0**
CHCH	**Chadas Angostu**	**1.93**	**55**	⇑*i*P		**Pb**	**04**	**04**	**16.3**	**-0.5**
CHCH				*i* S		**Sn**	**04**	**04**	**40.2**	**+0.7**
TACH	**Talagante**	**1.94**	**44**	⇑*i*P		**Pn**	**04**	**04**	**15.1**	**+0.4**
SAN	**Santiago**	**2.24**	**45**	*e*P		**Pn**	**04**	**04**	**20.2**	**+1.3**
SAN				*e*S		**Sb**	**04**	**04**	**48.8**	**-1.4**
SJCH	**San Jose de Ma**	**2.30**	**53**	*e*P		**Pn**	**04**	**04**	**21.7**	**+1.8**
SJCH				*e*S		**Sb**	**04**	**04**	**50.9**	**-1.1**
CLCH	**Cerro Calan**	**2.35**	**46**	*e*P		**Pn**	**04**	**04**	**22.1**	**+1.6**
CLCH				*e*S		**Sb**	**04**	**04**	**52.1**	**-1.3**
CLCH				AML		AML	04 04 56.7			
	comp=N,1μm,0.6s									
PEL	**Peldehue**	**2.46**	**40**	*e*P		**Pn**	**04**	**04**	**23.3**	**+1.3**
PEL				AML		AML	04 04 59.7			
	comp=N,1μm,0.4s									
AAGR	**Agrelo**	**3.67**	**59**	*i* P		**Pb**	**04**	**04**	**44.2**	**-2.2**
ARCO	**CERRO ARCO**	**3.73**	**55**	*i* P		Pb	04 04 44.5			-3.1
ARCO				*i* S		**Sg**	**04**	**05**	**40.5**	**-0.5**
ARCO				AML		AML	04 05 42.2			
	comp=Z,46nm,0.5s									
AUSP	**Uspallata**	**3.87**	**44**	*e*P		**Pn**	**04**	**04**	**44.1**	**+2.6**
AUSP				*i* P		Pb	04 04 45.2			-4.7
AUSP				*i* S		**Sb**	**04**	**05**	**41.7**	**+4.4**
ASAL	**Salagasta**	**3.95**	**53**	*e*P		Pn	04 04 46.2			+3.6
RTLS	**Leoncito**	**4.24**	**41**	*i* P		**Pn**	**04**	**04**	**49.1**	**+2.5**
RTLS				*i* S		**Sb**	**04**	**05**	**48.4**	**+0.5**
RTCV	**Cerro Valdivia**	**4.62**	**48**	*i* P		**Pn**	**04**	**04**	**53.8**	**+2.0**
CFAA	**Coronel Fontan**	**4.99**	**48**	*i* P		**Pn**	**04**	**04**	**58.2**	**+1.4**
RTLL	**Cerro Villicun**	**5.05**	**44**	*i* P		**Pn**	**04**	**04**	**58.1**	**+0.5**
RTLL				*i* S		Sb	04 06 04.4			-6.7
ACAN	**Cantantal**	**5.27**	**60**	*e*P		Pn	04 05 05.9			+5.4
AMOG	**MOGNA**	**5.34**	**41**	*i* P		**Pn**	**04**	**05**	**01.4**	**-0.1**
AMOG				*e*P		Pb	04 05 01.9			-13
PLCA	**Paso Flores**	**5.89**	**165**	Pn		**Pn**	**04**	**05**	**09.4**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=339,slow=10,SNR=8.7									
PLCA				Lg		Lg	04 06 41.5			
	comp=Z,0.3nm,0.3s,baz=256,slow=17,SNR=3.2									
AVFE	**Valle Fertil**	**6.13**	**46**	*i* P		**Pn**	**04**	**05**	**11.7**	**-0.8**
AVFE				AML		AML	04 06 38.0			
	comp=Z,14nm,0.7s									
LPAZ	**La Paz**	**19.10**	**13**	P		**Pn**	**04**	**08**	**06.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=198,slow=16,SNR=3.9									
TXAR	**Lajitas Array**	**70.44**	**331**	P		**P**	**04**	**14**	**56.0**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=157,slow=9.2,SNR=9.5									
TORD	**Torodi Ar. Bea**	**84.97**	**70**	P		P	04 16 22.2			+4.3
	comp=Z,0.6nm,1.1s,baz=224,slow=3.6,SNR=4.0									
H11S2	**WAKE ISLAND Hyl**	**25.32**	**269**	T		T	06 40 34.8			
	baz=111									
H11S1	**WAKE ISLAND Hyl**	**25.33**	**269**	T		T	06 40 38.5			
	baz=111									
H11S3	**WAKE ISLAND Hyl**	**25.34**	**269**	T		T	06 40 31.2			
	baz=111									
H11N3	**WAKE ISLAND Hyl**	**25.76**	**270**	T		T	06 41 05.0			
	baz=126									
H11N1	**WAKE ISLAND Hyl**	**25.77**	**270**	T		T	06 41 04.6			
	baz=126									
H11N2	**WAKE ISLAND Hyl**	**25.78**	**270**	T		T	06 41 06.0			
	baz=126									

IDC 14 04:11:45.9±59.0,29.°85S×177.°70E,h0km,mb3.5/3,
mb1 3.7/3,mb1mx3.4/25,mbtmp3.5/3,Error ellipse:
s-maj=1047.0km s-min=158.5km az=96.0,North of New
Zealand

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
HAZ	**Te Kaha**	**7.89**	**180**	*e*PN		Pn	04 13 37.7			-4.1
HAZ				SN		Sn	04 14 50.8			-21
PUZ	**Puketiti**	**8.22**	**177**	*e*PN		Pn	04 13 40.8			-5.6
PUZ				SN		Sn	04 14 52.4			-28
URZ	**Urewera**	**8.40**	**183**	PN		Pn	04 13 45.1			-3.8
URZ				SN		Sn	04 15 01.9			-23
STKA	**Stephens Creek**	**30.97**	**257**	P		P	04 18 05.0			+0.1
	0.4nm,0.3s,baz=98,slow=14,SNR=2.2									
ASAR	**Alice Springs**	**39.41**	**268**	P		P	04 19 17.1			-0.6
	0.3nm,0.8s,baz=107,slow=7.6,SNR=4.9									
WRA	**Warramunga Arr**	**40.35**	**274**	P		P	04 19 25.8			+0.2
	0.2nm,0.3s,baz=112,slow=8.0,SNR=3.0									

*IDC **14** 04:13:40.6±1.0,28.°13N×57.°26E,h0km,mb3.9/15,*
mb1 4.0/17,mb1mx3.8/43,mbtmp3.9/17,ML2.8/2,Error
ellipse: s-maj=22.9km s-min=16.4km az=177.0
*ISCJB **14** 04:13:44.2±0.3,28.°17N±0.°02×57.°42E±0.°05,h30km,*
mb3.8/17,Error ellipse: s-maj=6.2km s-min=3.4km az=5.2
*CSEM **14** 04:13:44.7±0.2,28.°18N×57.°41E,h20km,ML4.0,Error*
ellipse: s-maj=9.3km s-min=5.6km az=91.0
*NEIC **14** 04:13:45.8,28.°33N×57.°12E,h15km,mb3.8/4,*
ML4.0(THR),MN4.0(TEH),After THR.
*TEH **14** 04:13:45.5,28.°18N×57.°32E,h32km,ML4.0*
*THR **14** 04:13:45.8±0.8,28.°33N×57.°12E,h15km±5km,ML4.0*
*DSN **14** 04:13:49.2±0.9,27.°83N×57.°30E,h15km,mb3.4/8,ML4.1/5,*
Error ellipse: s-maj=34.8km s-min=6.7km az=122.0
*OMAN **14** 04:14:11.9±99.0,25.°98N×56.°97E,h8km,Error ellipse:*
s-maj=29.5km s-min=5.1km az=24.0

ISC 14 04:13:44.8±0.6,28.°15N±0.°05×57.°44E±0.°05,h30km,n105,
σ1§40/102,mb3.8/17,7C-7D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
IBND	**Bandar-abas**	**1.06**	**229**	*e*Sg		**Sb**	**04**	**14**	**19.0**	**+0.9**
IBND				*e*Pg		**Pb**	**04**	**14**	**04.8**	**+0.2**
IBND				*e*			04 14 22.5			
	comp=Z,33μm,0.1s									
BNDS	**Bandar-Abbas**	**1.35**	**237**	*e*Pg		**Pb**	**04**	**14**	**08.8**	**-0.8**
BNDS	**Bandar-Abbas**	**1.35**	**237**	*e*Pg		**Pb**	**04**	**14**	**08.8**	**-0.8**
BNDS	**Bandar-Abbas**	**1.35**	**237**	Pg		**Pn**	**04**	**14**	**08.0**	**+0.2**
CHMN	**Cheshme madani**	**1.71**	**3**	*e*Pn		**Pn**	**04**	**14**	**12.8**	**-0.1**
KRBR	**Kerman**	**1.92**	**342**	*e*Pg		**Pn**	**04**	**14**	**16.3**	**+0.5**
KRBR				AML		AML	04 14 49.7			
	comp=E,1μm,0.4s									
KRBR				AML		AML	04 14 51.4			
	comp=N,2μm,0.3s									
KRBR	**Kerman**	**1.92**	**342**	*e*Pg		**Pn**	**04**	**14**	**16.3**	**+0.5**
	comp=N,2μm,0.3s									
KRBR	**Kerman**	**1.92**	**342**	Pg		**Pn**	**04**	**14**	**16.0**	**+0.2**
KHGB	**Koh Gabri**	**2.37**	**339**	*e*Pn		**Pn**	**04**	**14**	**23.4**	**+1.4**
BANOM	**Banah**	**2.44**	**205**	P		**Pn**	**04**	**14**	**23.6**	**+0.9**
BANOM				S		**Sn**	**04**	**14**	**50.9**	**-0.6**
BANOM	**Banah**	**2.44**	**205**	⇓P		**Pn**	**04**	**14**	**23.8**	**+1.1**
	SNR=60									
BANOM	**Banah**	**2.44**	**205**	⇓P		**Pn**	**04**	**14**	**23.6**	**+0.9**
BANOM				⇓S		**Sn**	**04**	**14**	**50.9**	**-0.6**
ZHSF	**Zahedan**	**3.27**	**63**	*e*Pn		**Pb**	**04**	**14**	**41.3**	**-0.9**
ZHSF	**Zahedan**	**3.27**	**63**	Pn		**Pb**	**04**	**14**	**41.0**	**-1.2**
ZHSF	**Zahedan**	**3.27**	**63**	Pn		**Pb**	**04**	**14**	**41.0**	**-1.2**
HATD	**Hatta, Dubai**	**3.51**	**200**	P		**Pn**	**04**	**14**	**37.8**	**+0.4**
	SNR=6.0									
HATD	**Hatta, Dubai**	**3.51**	**200**	⇑*i*P		**Pn**	**04**	**14**	**37.8**	**+0.4**
	SNR=6.0									
NAZ	**Nazwa, Dubai**	**3.53**	**207**	P		**Pn**	**04**	**14**	**39.4**	**+1.8**
	SNR=11									
NAZ	**Nazwa, Dubai**	**3.53**	**207**	⇓*i*P		**Pn**	**04**	**14**	**39.4**	**+1.8**
	SNR=11									
ASHO	**Ashiyiah**	**3.67**	**200**	P		**Pn**	**04**	**14**	**41.0**	**+1.4**
ASHO	**Ashiyiah**	**3.67**	**200**	⇑P		**Pn**	**04**	**14**	**39.8**	**+0.3**
ASHO	**Ashiyiah**	**3.67**	**200**	⇑P		**Pn**	**04**	**14**	**41.0**	**+1.4**
FAQ	**Al Faqa, Dubai**	**3.77**	**206**	P		**Pn**	**04**	**14**	**42.2**	**+1.2**
FAQ	**Al Faqa, Dubai**	**3.77**	**206**	⇑P		**Pn**	**04**	**14**	**42.2**	**+1.2**
IBAF	**Bafgh**	**3.80**	**335**	*e*Pn		**Pn**	**04**	**14**	**43.2**	**+1.8**
IBAF				*e*			04 14 56.8			
	comp=Z,988nm,0.2s									
IBAF	**Bafgh**	**3.80**	**335**	*e*Pn		**Pn**	**04**	**14**	**43.2**	**+1.8**
IBAF	**Bafgh**	**3.80**	**335**	Pn		**Pn**	**04**	**14**	**43.2**	**+1.8**
GHIR	**Ghir-Karzin**	**3.93**	**273**	*e*Pn		**Pn**	**04**	**14**	**44.3**	**+1.0**
GHIR				AML		AML	04 16 45.6			
	comp=N,274nm,0.3s									
GHIR				AML		AML	04 16 46.0			
	comp=E,260nm,0.7s									
GHIR	**Ghir-Karzin**	**3.93**	**273**	Pn		**Pn**	**04**	**14**	**44.0**	**+0.7**
GHIR	**Ghir-Karzin**	**3.93**	**273**	Pn		**Pn**	**04**	**14**	**44.0**	**+0.7**
ASUD	**Al Ashush, Dub**	**3.99**	**209**	P		**Pn**	**04**	**14**	**46.2**	**+2.3**
	SNR=7.1									
ASUD	**Al Ashush, Dub**	**3.99**	**209**	⇑*i*P		**Pn**	**04**	**14**	**46.2**	**+2.3**
	SNR=7.1									
IMEH	**Mehriz**	**4.06**	**323**	*e*Pn		**Pn**	**04**	**14**	**47.0**	**+1.9**
IMEH	**Mehriz**	**4.06**	**323**	*e*Pn		**Pn**	**04**	**14**	**47.0**	**+1.9**
IMEH	**Mehriz**	**4.06**	**323**	Pn		**Pn**	**04**	**14**	**47.0**	**+1.9**
IPAR	**Pars**	**4.20**	**295**	*e*Pn		**Pn**	**04**	**14**	**48.1**	**+1.0**
IPAR	**Pars**	**4.20**	**295**	Pn		**Pn**	**04**	**14**	**48.1**	**+1.0**
IPAR	**Pars**	**4.20**	**295**	Pn		**Pn**	**04**	**14**	**48.1**	**+1.0**
IKOO	**Kooshah**	**4.47**	**17**	*e*Pn		Pn	04 14 55.0			+4.2
IKOO				*e*			04 15 07.0			
	comp=Z,1μm,0.2s									
IKOO	**Kooshah**	**4.47**	**17**	Pn		Pn	04 14 54.9			+4.2
IKOO	**Kooshah**	**4.47**	**17**	Pn		Pn	04 14 54.9			+4.2
HOQ	**Hoqain**	**4.55**	**182**	P		**Pn**	**04**	**14**	**51.7**	**0.0**
HOQ	**Hoqain**	**4.55**	**182**	⇑P		**Pn**	**04**	**14**	**51.7**	**0.0**
ICHK	**Chekchek**	**4.85**	**328**	*e*Pn		**Pn**	**04**	**14**	**58.0**	**+2.0**
ICHK	**Chekchek**	**4.85**	**328**	*e*Pn		**Pn**	**04**	**14**	**58.0**	**+2.0**
ICHK	**Chekchek**	**4.85**	**328**	Pn		**Pn**	**04**	**14**	**58.0**	**+2.0**
ARQ	**Araqi**	**4.86**	**190**	P		**Pn**	**04**	**14**	**59.0**	**+3.0**
	SNR=61									
ARQ	**Araqi**	**4.86**	**190**	P		**Pn**	**04**	**14**	**59.0**	**+3.0**
	SNR=61									
ISAD	**Sadrabad**	**4.97**	**320**	*e*Pn		**Pn**	**04**	**14**	**59.8**	**+2.2**
ISAD	**Sadrabad**	**4.97**	**320**	*e*Pn		**Pn**	**04**	**14**	**59.8**	**+2.2**
ISAD	**Sadrabad**	**4.97**	**320**	Pn		**Pn**	**04**	**14**	**59.8**	**+2.2**
SMDO	**Samad**	**5.10**	**174**	P		**Pn**	**04**	**15**	**00.2**	**+0.9**
SMDO	**Samad**	**5.10**	**174**	⇓P		**Pn**	**04**	**15**	**00.2**	**+0.9**
IKAZ	**Kazeroun**	**5.17**	**290**	*e*			04 15 11.4			
	comp=N,2μm,0.1s									
IKAZ				*e*Pn		**Pn**	**04**	**15**	**03.1**	**+2.6**
BSY	**Bisya**	**5.39**	**182**	⇓P		**Pn**	**04**	**15**	**05.8**	**+2.6**
	SNR=10									
BSYO	**Bisya**	**5.40**	**182**	P		**Pn**	**04**	**15**	**05.8**	**+2.4**
	SNR=10									
TABS	**Tabas**	**5.49**	**357**	*e*Pn		**Pn**	**04**	**15**	**07.1**	**+2.5**
TABS	**Tabas**	**5.49**	**357**	*e*Pn		**Pn**	**04**	**15**	**07.1**	**+2.5**
WBK	**Wadi Bani Khal**	**5.69**	**166**	⇑P		**Pn**	**04**	**15**	**08.6**	**+1.3**
JMDO	**Jabal Madar**	**5.79**	**174**	⇓P		**Pn**	**04**	**15**	**10.4**	**+1.8**
SHRT	**Shahrakht**	**6.00**	**23**	*e*Pn		Pn	04 15 15.6			+4.0
SHRT	**Shahrakht**	**6.00**	**23**	*e*Pn		Pn	04 15 15.6			+4.0
IZEF	**Zefreh**	**6.47**	**318**	*e*Pn		**Pn**	**04**	**15**	**19.1**	**+0.8**
IZEF	**Zefreh**	**6.47**	**318**	*e*Pn		**Pn**	**04**	**15**	**19.1**	**+0.8**
IZEF	**Zefreh**	**6.47**	**318**	Pn		**Pn**	**04**	**15**	**19.0**	**+0.8**
IPIR	**Pirpir**	**7.24**	**310**	*e*Pn		**Pn**	**04**	**15**	**28.9**	**0.0**
IPIR	**Pirpir**	**7.24**	**310**	*e*Pn		**Pn**	**04**	**15**	**28.9**	**0.0**
IPIR	**Pirpir**	**7.24**	**310**	Pn		**Pn**	**04**	**15**	**28.8**	**0.0**
KHMZ	**Khomeyn**	**8.50**	**313**	*e*Pn		**Pn**	**04**	**15**	**46.6**	**+0.5**
KHMZ	**Khomeyn**	**8.50**	**313**	*e*Pn		**Pn**	**04**	**15**	**46.6**	**+0.5**
SNGE	**Sanandaj**	**11.04**	**311**	*e*PN5		**Pn**	**04**	**16**	**21.4**	**+0.5**
SNGE	**Sanandaj**	**11.04**	**311**	Pn		**Pn**	**04**	**16**	**21.0**	**+0.1**
SNGE	**Sanandaj**	**11.04**	**311**	Pn		**Pn**	**04**	**16**	**21.0**	**+0.1**
ABTO	**Aybut**	**11.40**	**200**	⇓P		**Pn**	**04**	**16**	**24.1**	**-1.6**
	SNR=7.2									
IDHR	**Dehrash**	**11.48**	**307**	*e*Pn		**Pn**	**04**	**16**	**24.9**	**-1.9**
IDHR				*e*			04 16 43.7			
	comp=Z,218nm,0.1s									
IDHR	**Dehrash**	**11.48**	**307**	*e*Pn		**Pn**	**04**	**16**	**25.0**	**-1.9**
IDHR	**Dehrash**	**11.48**	**307**	Pn		**Pn**	**04**	**16**	**24.9**	**-1.9**
RAYN	**Ar Rayn**	**11.70**	**249**	*e*Pn		Pn	04 16 26.0			-3.8
	comp=Z,2.4nm,0.3s									
GNI	**Garni**	**15.91**	**322**	Pn		**Pn**	**04**	**17**	**27.6**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=308,slow=12,SNR=2.1									
ASF	**Jabal al Asfar**	**18.21**	**289**	P		**Pn**	**04**	**17**	**54.0**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=45,slow=7.1,SNR=3.2									
EKS2	**Erkin-Say**	**19.62**	**38**	*e*P		**Pn**	**04**	**18**	**12.7**	**+0.3**
	comp=Z,2.3nm,0.7s									
EKS2	**Erkin-Say**	**19.62**	**38**	*e*P		**Pn**	**04**	**18**	**12.7**	**+0.3**
	comp=Z,2.3nm,0.7s									
ABKAR	**Akbulak array**	**21.16**	**5**	*e*P		**P**	**04**	**18**	**28.4**	**+1.0**
	comp=Z,4.5nm,0.6s									
ABKAR	**Akbulak array**	**21.16**	**5**	*e*P		**P**	**04**	**18**	**28.4**	**+1.0**
	comp=Z,4.5nm,0.6s									
AKTO	**Aktyubinsk**	**22.26**	**1**	P		**P**	**04**	**18**	**40.1**	**+0.9**
	comp=Z,4.9nm,0.4s,baz=175,slow=8.8,SNR=21									
BRTR	**Keskin Array B**	**22.80**	**307**	P		**P**	**04**	**18**	**45.5**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=104,slow=10,SNR=13									
BR131	**Keskin Array S**	**22.80**	**307**	*e*P		**P**	**04**	**18**	**44.0**	**-1.3**
	comp=Z,2.0nm,0.8s									
BR131	**Keskin Array S**	**22.80**	**307**	*e*P		**P**	**04**	**18**	**44.0**	**-1.3**
	comp=Z,2.0nm,0.8s									
BVAR	**Borovoye Array**	**26.64**	**18**	P		**P**	**04**	**19**	**21.6**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=198,slow=9.3,SNR=11									
MKAR	**Makanchi Array**	**26.93**	**40**	P		**P**	**04**	**19**	**24.6**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=223,slow=8.4,SNR=8.0									
KURBB	**Kurchatov Arra**	**27.55**	**30**	P		**P**	**04**	**19**	**30.0**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=230,slow=8.5,SNR=11									
KURK	**Kurchatov**	**27.66**	**30**	*e*P		**P**	**04**	**19**	**30.7**	**+0.9**
	comp=Z,1.5nm,0.5s									
KURK	**Kurchatov**	**27.66**	**30**	*e*P		**P**	**04**	**19**	**30.7**	**+0.9**
	comp=Z,1.6nm,0.5s									
IDI	**Anoyia**	**28.50**	**293**	P		**P**	**04**	**19**	**37.3**	**-0.3**
	comp=Z,1.5nm,0.2s,baz=61,slow=13,SNR=5.2									
AKASG	**Malin Array Be**	**31.02**	**324**	P		**P**	**04**	**19**	**58.1**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=130,slow=8.4,SNR=4.1									
ZALV	**Zalesovo Beam**	**32.64**	**30**	P		**P**	**04**	**20**	**14.6**	**+0.7**
	comp=Z,3.4nm,0.3s,baz=249,slow=10,SNR=9.4									
FINES	**FINESS Array B**	**39.30**	**337**	P		**P**	**04**	**21**	**09.8**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=128,slow=9.0,SNR=4.5									
GERES	**GERESS Array B**	**39.31**	**314**	P		**P**	**04**	**21**	**09.7**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=100,slow=6.9,SNR=4.4									
SONM	**Songino Array**	**42.48**	**49**	P		**P**	**04**	**21**	**38.5**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=247,slow=9.5,SNR=5.5									
ARCES	**ARCESS Array B**	**45.34**	**345**	P		**P**	**04**	**21**	**59.6**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=137,slow=8.1,SNR=7.1									
TOA0	**Torodi Ar. Sit**	**53.83**	**266**	*e*P		**P**	**04**	**23**	**03.8**	**-1.4**
TOA0	**Torodi Ar. Sit**	**53.83**	**266**	*e*P		**P**	**04**	**23**	**03.8**	**-1.4**
TORD	**Torodi Ar. Bea**	**53.83**	**266**	P		**P**	**04**	**23**	**03.5**	**-1.7**
	comp=Z,1.5nm,0.6s,baz=66,slow=6.7,SNR=32									
WRA	**Warramunga Arr**	**88.33**	**114**	P		**P**	**04**	**26**	**35.3**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=317,slow=3.9,SNR=3.3									
ASAR	**Alice Springs**	**89.87**	**117**	P		**P**	**04**	**26**	**43.1**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=300,slow=4.9,SNR=3.8									

*BJI **14** 04:14:47.8,28.°30N×57.°10E,h10km,mb4.6/11,mB4.7/9,*
Ms4.2/4,Ms7 4.1/1
*IDC **14** 04:14:48.7±0.7,28.°20N×57.°34E,h0km,mb4.2/23,*
mb1 4.3/27,mb1mx4.2/45,mbtmp4.2/27,ML4.0/4,MS3.1/2,
Ms1 3.2/2,ms1mx2.7/36,Error ellipse: s-maj=18.2km
s-min=12.3km az=172.0
*TEH **14** 04:14:50.7,28.°32N×57.°35E,h17km,ML4.3*
*CSEM **14** 04:14:51.4±0.2,28.°29N×57.°30E,h15km,mb4.4/39,Ms3.2,*
Error ellipse: s-maj=7.4km s-min=5.7km az=125.0
*MOS **14** 04:14:52.1±1.3,28.°22N×57.°32E,h33km,mb4.4/22,Error*
ellipse: s-maj=13.1km s-min=7.0km az=114.9

*NEIC **14** 04:14:53.5,28.°32N×57.°21E,h14km,mb4.2/17,*
ML4.4(THR),MN4.3(TEH),After THR.
*THR **14** 04:14:53.5±0.7,28.°32N×57.°21E,h14km±8km,ML4.4*
*DSN **14** 04:14:55.9±0.2,28.°21N×56.°82E,h15km,mb4.2/4,ML4.6/3,*
Error ellipse: s-maj=16.1km s-min=4.7km az=274.0

ISC 14 04:14:52.0±0.5,28.°23N±0.°03×57.°32E±0.°04,h19km±1km,
h19km:pP-P,n255,σ1§27/270,mb4.4/62,21C-4D,
Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
IBND	**Bandar-abas**	**1.04**	**222**	*e*Pg		**Pg**	**04**	**15**	**13.0**	**+0.7**
IBND				*e*			04 15 30.4			
	comp=Z,22μm,0.2s									
IBND	**Bandar-abas**	**1.04**	**222**	*e*Pg		**Pg**	**04**	**15**	**13.0**	**+0.7**
IBND	**Bandar-abas**	**1.04**	**222**	Pg		**Pg**	**04**	**15**	**13.0**	**+0.7**
BNDS	**Bandar-Abbas**	**1.31**	**231**	*e*Pg		**Pg**	**04**	**15**	**17.3**	**-0.2**
BNDS				*e*Sg		**Sg**	**04**	**15**	**35.5**	**+0.8**
BNDS				AML		AML	04 15 37.0			
	comp=N,6μm,0.6s									
BNDS	**Bandar-Abbas**	**1.31**	**231**	*e*Pg		**Pg**	**04**	**15**	**17.3**	**-0.2**
BNDS				Sg		**Sg**	**04**	**15**	**35.0**	**+0.3**
BNDS	**Bandar-Abbas**	**1.31**	**231**	Pg		**Pb**	**04**	**15**	**17.0**	**+0.9**
BNDS				Sg		**Sg**	**04**	**15**	**35.0**	**+0.3**
KRBR	**Kerman**	**

MK31	**Makanchi Array**	**26.94**	**40**	*eP*		**P**	**04 20 32.5**	**+0.4**
MK31	**Makanchi Array**	**26.94**	**40**	*eP*		**P**	**04 20 32.5**	**+0.4**
MKAR	**Makanchi Array**	**26.94**	**40**	P		**P**	**04 20 32.5**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=225,slow=8.3,SNR=16							
MKAR	**Makanchi Array**	**26.94**	**40**	P		**P**	**04 20 32.5**	**+0.4**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KURBB	**Kurchatov Arra**	**27.54**	**30**	P		**P**	**04 20 38.4**	**+1.0**
	comp=Z,4.5nm,0.6s,baz=230,slow=8.4,SNR=24							
KURK	**Kurchatov**	**27.64**	**30**	P		**P**	**04 20 38.4**	**+0.1**
KURK				pmax	pmax			
	comp=Z,5.0nm,0.6s							
KURK	**Kurchatov**	**27.64**	**30**	*eP*		**P**	**04 20 38.8**	**+0.5**
	comp=Z,2.3nm,0.6s							
KURK	**Kurchatov**	**27.64**	**30**	*eP*		**P**	**04 20 38.8**	**+0.5**
	comp=Z,2.3nm,0.6s							
IDI	**Anoyia**	**28.37**	**293**	P		**P**	**04 20 45.2**	**+0.1**
	comp=Z,3.3nm,0.3s,baz=315,slow=3.2,SNR=10							
WMQ	**Urumqi**	**28.87**	**49**	P		**P**	**04 20 52.4**	**+3.0**
WMQ				pP		**pP**	**04 20 56.8**	**+1.4**
WMQ				sP		**sP**	**04 20 59.4**	**+1.6**
WMQ				PMZ				
	comp=Z,3.0nm,0.5s							
WMQ				PMZ				
	comp=Z,11nm,4.8s							
WMQ				LN				
	comp=Z,81nm,5.4s							
WMQ				LE				
	comp=Z,72nm,6.8s							
TESR	**Tescani**	**30.18**	**316**	*i*P		**P**	**04 21 01.1**	**+0.2**
TESR	**Tescani**	**30.18**	**316**	*i*P		**P**	**04 21 01.1**	**+0.2**
MLR	**Muntele Rosu**	**30.19**	**313**	P		**P**	**04 21 02.1**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=282,slow=23,SNR=5.8							
MLR	**Muntele Rosu**	**30.19**	**313**	P		**P**	**04 21 02.1**	**+0.9**
MLR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MLR	**Muntele Rosu**	**30.19**	**313**	*i*P		**P**	**04 21 03.8**	**+2.6**
AKASG	**Malin Array Be**	**30.89**	**324**	P		**P**	**04 21 06.1**	**-1.0**
	comp=Z,2.8nm,0.7s,baz=131,slow=8.6,SNR=14							
AKASG	**Malin Array Be**	**30.89**	**324**	P		**P**	**04 21 06.1**	**-1.0**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KIEV	**Kiev**	**30.90**	**324**	*i*P		**P**	**04 21 06.0**	**-1.2**
KIEV	**Kiev**	**30.90**	**324**	*i*P		**P**	**04 21 06.0**	**-1.2**
KIEV	**Kiev**	**30.90**	**324**	*eP*		**P**	**04 21 05.9**	**-1.2**
	comp=Z,5.3nm,0.7s							
BURAR	**Bucovina Array**	**31.55**	**317**	*i*P		**P**	**04 21 13.2**	**+0.1**
BURAR	**Bucovina Array**	**31.55**	**317**	*i*P		**P**	**04 21 13.2**	**+0.1**
BUR08	**Bucovina Ar. S**	**31.57**	**317**	*eP*		**P**	**04 21 13.0**	**-0.3**
BUR08	**Bucovina Ar. S**	**31.57**	**317**	*eP*		**P**	**04 21 13.0**	**-0.3**
BOLS	**Boljevac**	**32.28**	**308**	*i*P		**P**	**04 21 18.3**	**-1.1**
ZALV	**Zalesovo Beam**	**32.63**	**30**	P		**P**	**04 21 22.6**	**+0.2**
	comp=Z,8.8nm,0.3s,baz=248,slow=10,SNR=24							
ZALV	**Zalesovo Beam**	**32.63**	**30**	P		**P**	**04 21 22.6**	**+0.2**
ZALV				pmax	pmax			
	comp=Z,9.0nm,0.3s							
SELS	**Selova**	**32.69**	**307**	*i* P		**P**	**04 21 22.1**	**-1.0**
GRUS	**Gruza**	**33.16**	**308**	*i* P		**P**	**04 21 26.8**	**-0.3**
IVAS	**Ivanjica**	**33.47**	**307**	*i* P		**P**	**04 21 29.4**	**-0.5**
KOLS	**Kolonicke sedl**	**33.89**	**317**	*eP*		**P**	**04 21 34.0**	**+0.5**
KOLS				pmax	pmax			
	comp=Z,14nm,0.8s							
KOLS	**Kolonicke sedl**	**33.89**	**317**	*eP*		**P**	**04 21 34.0**	**+0.5**
	comp=Z,14nm,0.8s							
KOLS	**Kolonicke sedl**	**33.89**	**317**	*e*		**P**	**04 21 34.0**	**+0.5**
BBLS	**Lazići**	**34.06**	**307**	*i* P		**P**	**04 21 34.6**	**-0.5**
TEKS	**Tekeris**	**34.16**	**309**	*i* P		**P**	**04 21 35.5**	**-0.3**
STHS	**Stebnicka Huta**	**34.71**	**318**	*eP*		**P**	**04 21 38.4**	**-2.2**
STHS				pmax	pmax			
	comp=Z,2.0nm,1.3s							
STHS	**Stebnicka Huta**	**34.71**	**318**	*eP*		**P**	**04 21 38.4**	**-2.2**
	comp=Z,2.0nm,1.3s							
STHS	**Stebnicka Huta**	**34.71**	**318**	*eP*		**P**	**04 21 38.4**	**-2.2**
KECS	**Kecovo**	**34.80**	**316**	*eP*		**P**	**04 21 39.1**	**-2.2**
KECS				pmax	pmax			
	comp=Z,1.0nm,1.1s							
KECS	**Kecovo**	**34.80**	**316**	*eP*		**P**	**04 21 39.1**	**-2.2**
	comp=Z,1.0nm,1.1s							
KECS	**Kecovo**	**34.80**	**316**	*eP*		**P**	**04 21 39.1**	**-2.2**
KMBO	**Kilima Mbogo**	**34.97**	**217**	P		**P**	**04 21 44.8**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=39,slow=16,SNR=3.7							
KMBO	**Kilima Mbogo**	**34.97**	**217**	*ceP*		**P**	**04 21 44.9**	**+1.5**
KMBO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PKSM	**Moragy**	**35.22**	**311**	*i*P		**P**	**04 21 44.0**	**-1.0**
PKSM	**Moragy**	**35.22**	**311**	*i*P		**P**	**04 21 44.0**	**-1.0**
OJC	**Ojcow**	**35.89**	**318**	*eP*		**P**	**04 21 50.3**	**-0.4**
	comp=Z,9.5nm,0.7s							
OJC	**Ojcow**	**35.89**	**318**	*eP*		**P**	**04 21 50.3**	**-0.4**
	comp=Z,9.5nm,0.7s							
GTA	**Gaotai**	**36.72**	**61**	*eP*		**P**	**04 21 58.3**	**+0.2**
GTA				pP		**pP**	**04 22 02.8**	**-1.3**
GTA				sP		**sP**	**04 22 05.3**	**-1.2**
GTA				PMZ				
	comp=Z,5.0nm,1.2s							
MORC	**Moravsky Berou**	**37.07**	**317**	*i*P		**P**	**04 22 00.5**	**-0.3**
MORC	**Moravsky Berou**	**37.07**	**317**	*i*P		**P**	**04 22 00.5**	**-0.3**
DPC	**Dobruska-Polom**	**38.01**	**317**	*eP*		**P**	**04 22 07.5**	**-1.3**
DPC				*ep*P		**pP**	**04 22 16.8**	**+2.0**
DPC	**Dobruska-Polom**	**38.01**	**317**	*eP*		**P**	**04 22 07.5**	**-1.3**
DPC				*e*			04 22 16.8	
DPC	**Dobruska-Polom**	**38.01**	**317**	*eP*		**P**	**04 22 07.5**	**-1.3**
MOA	**Molln**	**38.55**	**312**	*i*P		**P**	**04 22 12.7**	**-0.6**
	comp=Z,4.1nm,0.6s							
MOA	**Molln**	**38.55**	**312**	P		**P**	**04 22 12.7**	**-0.6**
	comp=Z,4.1nm,0.6s							
GERES	**GERESS Array B**	**39.17**	**314**	P		**P**	**04 22 17.9**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=115,slow=9.0,SNR=12							
GERES				PcP		**PcP**	**04 24 26.7**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=107,slow=5.2,SNR=4.1							
GERES	**GERESS Array B**	**39.17**	**314**	P		**P**	**04 22 17.9**	**-0.8**
GERES							04 24 26.7	
GERES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
FINES	**FINESS Array B**	**39.18**	**337**	P		**P**	**04 22 17.7**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=141,slow=11,SNR=8.1							
FINES	**FINESS Array B**	**39.18**	**337**	*ceP*		**P**	**04 22 18.1**	**-0.3**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KHC	**Kasperske Hory**	**39.33**	**314**	*eP*		**P**	**04 22 18.3**	**-1.6**
KHC				*ep*P		**pP**	**04 22 23.3**	**-2.6**
KHC				*es*P		**sP**	**04 22 28.7**	**+0.4**
KHC	**Kasperske Hory**	**39.33**	**314**	*eP*		**P**	**04 22 18.3**	**-1.6**
KHC				*e*			04 22 28.7	
KHC	**Kasperske Hory**	**39.33**	**314**	P		**P**	**04 22 18.3**	**-1.6**
KHC	**Kasperske Hory**	**39.33**	**314**	*eP*		**P**	**04 22 18.4**	**-1.6**
	comp=Z,2.3nm,0.9s							
LZH	**Lanzhou**	**39.85**	**67**	*eP*		**P**	**04 22 26.0**	**+1.5**
LZH				pP		**pP**	**04 22 30.3**	**-0.3**
LZH				sP		**sP**	**04 22 31.8**	**-1.2**
LZH				PMZ				
	comp=Z,14nm,1.0s							
WTTA	**Wattenberg**	**40.15**	**311**	*i*P		**P**	**04 22 25.6**	**-1.3**
	comp=Z,6.2nm,0.6s							
WTTA	**Wattenberg**	**40.15**	**311**	P		**P**	**04 22 25.6**	**-1.3**
	comp=Z,6.2nm,0.6s							
CD2	**Chengdu**	**40.25**	**75**	*eP*		**P**	**04 22 29.0**	**+1.2**
MOTA	**Moosalm**	**40.52**	**311**	*i*P		**P**	**04 22 28.9**	**-1.0**
	comp=Z,4.8nm,0.5s							
MOTA	**Moosalm**	**40.52**	**311**	P		**P**	**04 22 28.9**	**-1.0**
	comp=Z,4.8nm,0.5s							
FETA	**Feichten**	**40.71**	**310**	*i*P		**P**	**04 22 30.2**	**-1.3**
	comp=Z,5.6nm,0.6s							
FETA	**Feichten**	**40.71**	**310**	P		**P**	**04 22 30.2**	**-1.3**
	comp=Z,5.6nm,0.6s							
KEST	**Kesra**	**41.05**	**293**	P		**P**	**04 22 34.7**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=50,slow=2.9,SNR=6.4							
DAVA	**Damuels**	**41.33**	**311**	*i*P		**P**	**04 22 34.9**	**-1.7**
	comp=Z,9.8nm,0.6s							
DAVA	**Damuels**	**41.33**	**311**	P		**P**	**04 22 34.9**	**-1.7**
	comp=Z,9.8nm,0.6s							
PGF	**Pioggiola**	**41.36**	**303**	*eP*		**P**	**04 22 35.4**	**-1.4**
	comp=Z,13nm,0.7s							
PGF	**Pioggiola**	**41.36**	**303**	*eP*		**P**	**04 22 35.4**	**-1.4**
	comp=Z,13nm,0.7s							
SONM	**Songino Array**	**42.51**	**49**	P		**P**	**04 22 46.2**	**0.0**
	comp=Z,1.9nm,0.7s,baz=262,slow=8.7,SNR=10							
SONM	**Songino Array**	**42.51**	**49**	P		**P**	**04 22 46.2**	**0.0**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.7s							
SBF	**Sospel**	**42.60**	**305**	*eP*		**P**	**04 22 45.2**	**-1.7**
	comp=Z,48nm,0.8s							
SBF	**Sospel**	**42.60**	**305**	*eP*		**P**	**04 22 45.2**	**-1.7**
	comp=Z,48nm,0.8s							
SENIN	**Lac Senin/Sane**	**42.94**	**309**	*eP*		**P**	**04 22 48.9**	**-1.0**

MBDF	**Montbardon**	**43.14**	**306**	*eP*		**P**	**04 22 49.8**	**-1.6**
	comp=Z,9.6nm,0.5s								
MBDF	**Montbardon**	**43.14**	**306**	*eP*		**P**	**04 22 49.8**	**-1.6**
	comp=Z,9.6nm,0.5s								
FRF	**La Foret Royal**	**43.15**	**305**	*eP*		**P**	**04 22 49.8**	**-1.5**
	comp=Z,15nm,0.9s								
FRF	**La Foret Royal**	**43.15**	**305**	*eP*		**P**	**04 22 49.8**	**-1.5**
	comp=Z,15nm,0.9s								
LPG	**La Plagne**	**43.23**	**308**	*eP*		**P**	**04 22 50.5**	**-1.7**
	comp=Z,11nm,0.7s								
LPG	**La Plagne**	**43.23**	**308**	*eP*		**P**	**04 22 50.5**	**-1.7**
	comp=Z,11nm,0.7s								
LPL	**La Plagne**	**43.24**	**308**	*eP*		**P**	**04 22 50.7**	**-1.6**
LPL	**La Plagne**	**43.24**	**308**	*eP*		**P**	**04 22 50.7**	**-1.6**
CABF	**La Chapelle**	**43.80**	**309**	*eP*		**P**	**04 22 55.4**	**-1.2**
	comp=Z,7.2nm,0.6s								
CABF	**La Chapelle**	**43.80**	**309**	*eP*		**P**	**04 22 55.4**	**-1.2**
	comp=Z,7.2nm,0.6s								
VIVF	**Saint-Julien-l**	**44.64**	**306**	*eP*		**P**	**04 23 01.6**	**-1.7**
	comp=Z,8.9nm,0.9s								
VIVF	**Saint-Julien-l**	**44.64**	**306**	*eP*		**P**	**04 23 01.6**	**-1.7**
	comp=Z,8.9nm,0.9s								
SFTF	**Sexfontaines**	**44.70**	**311**	*eP*		**P**	**04 23 02.8**	**-0.9**
SFTF	**Sexfontaines**	**44.70**	**311**	*eP*		**P**	**04 23 02.8**	**-0.9**
SFTF	**Sexfontaines**	**44.70**	**311**	*eP*		**P**	**04 23 02.8**	**-0.9**
SSB	**Saint Sauveur**	**44.76**	**307**	*eP*		**P**	**04 23 02.9**	**-1.4**
	comp=Z,5.0nm,0.8s								
SSB	**Saint Sauveur**	**44.76**	**307**	*eP*		**P**	**04 23 02.9**	**-1.4**
	comp=Z,5.0nm,0.8s								
NB2	**NORSAR Subarra**	**44.86**	**330**	P		**P**	**04 23 03.6**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=113,slow=7.9								
NB2	**NORSAR Subarra**	**44.86**	**330**	P		**P**	**04 23 03.6**	**-1.2**
	comp=Z,0.9nm,0.7s,SNR=4.5								
NOA	**NORSAR Array B**	**44.86**	**330**	P		**P**	**04 23 04.1**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=117,slow=8.0,SNR=4.6								
NOA				LR		LR	04 44 32.9		
	comp=Z,22nm,20.9s,baz=105,slow=40								
NOA	**NORSAR Array B**	**44.86**	**330**	P		**P**	**04 23 04.1**	**-0.7**
NOA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
NOA				MLR	MLR				
	comp=Z,22nm,21.0s								
KEV	**Kevo**	**45.07**	**346**	*eP*		**P**	**04 23 06.2**	**-0.1**
	comp=Z,3.6nm,0.6s								
KEV	**Kevo**	**45.07**	**346**	*eP*		**P**	**04 23 06.2**	**-0.1**
	comp=Z,3.6nm,0.6s								
LASF	**Ste Croix**	**45.19**	**305**	*eP*		**P**	**04 23 06.3**	**-1.4**
	comp=Z,8.2nm,0.7s								
LASF	**Ste Croix**	**45.19**	**305**	*eP*		**P**	**04 23 06.3**	**-1.4**
	comp=Z,4.1nm,0.7s								
LASF	**Ste Croix**	**45.19**	**305**	*eP*		**P**	**04 23 06.3**	**-1.4**
	comp=Z,8.2nm,0.7s								
ARCES	**ARCESS Array B**	**45.24**	**345**	P		**P**	**04 23 07.2**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=139,slow=8.2,SNR=12								
ARCES	**ARCESS Array B**	**45.24**	**345**	P		**P**	**04 23 07.3**	**-0.4**
ARCES				pmax	pmax				
	comp=Z,2.0nm,0.6s								
SMF	**Signal de Mont**	**45.35**	**309**	*eP*		**P**	**04 23 07.3**	**-1.6**
	comp=Z,7.6nm,0.6s								
SMF	**Signal de Mont**	**45.35**	**309**	*eP*		**P**	**04 23 07.3**	**-1.6**
	comp=Z,3.8nm,0.6s								
SMF	**Signal de Mont**	**45.35**	**309**	*eP*		**P**	**04 23 07.3**	**-1.6**
	comp=Z,7.6nm,0.6s								
LOR	**Lormes**	**45.39**	**310**	*eP*		**P**	**04 23 07.4**	**-1.8**
	comp=Z,5.4nm,0.6s								
LOR	**Lormes**	**45.39**	**310**	*eP*		**P**	**04 23 07.4**	**-1.8**
	comp=Z,2.7nm,0.6s								
LOR	**Lormes**	**45.39**	**310**	*eP*		**P**	**04 23 07.4**	**-1.8**
	comp=Z,5.4nm,0.6s								
SSF	**Saint Saulge**	**45.61**	**309**	*eP*		**P**	**04 23 09.6**	**-1.3**
	comp=Z,9.5nm,0.6s								
SSF	**Saint Saulge**	**45.61**	**309**	*eP*		**P**	**04 23 09.6**	**-1.3**
	comp=Z,4.8nm,0.6s								
SSF	**Saint Saulge**	**45.61**	**309**	*eP*		**P**	**04 23 09.6**	**-1.3**
	comp=Z,9.5nm,0.6s								
AVF	**Avril sur Loir**	**45.69**	**309**	*eP*		**P**	**04 23 09.8**	**-1.8**
	comp=Z,7.8nm,0.8s								
AVF	**Avril sur Loir**	**45.69**	**309**	*eP*		**P**	**04 23 09.8**	**-1.8**
	comp=Z,3.9nm,0.8s								
AVF	**Avril sur Loir**	**45.69**	**309**	*eP*		**P**	**04 23 09.8**	**-1.8**
	comp=Z,7.8nm,0.8s								
HHC	**Hu-ho-hao-te**	**45.75**	**59**	*eP*		**P**	**04 23 13.0**	**+0.7**
HHC				S		**S**	**04 29 56.6**	**+1.7**
HHC				PMZ					
	comp=Z,22nm,1.0s								
HHC				PMZ					
	comp=Z,67nm,6.1s								
BGF	**Bois d'Agland**	**46.03**	**309**	*eP*		**P**	**04 23 13.4**	**-0.8**
	comp=Z,8.0nm,0.6s								
BGF	**Bois d'Agland**	**46.03**	**309**	*eP*		**P**	**04 23 13.4**	**-0.8**
	comp=Z,4.0nm,0.6s								
BGF	**Bois d'Agland**	**46.03**	**309**	*eP*		**P**	**04 23 13.4**	**-0.8**
	comp=Z,8.0nm,0.6s								
MTLF	**Montolieu**	**46.36**	**304**	*eP*		**P**	**04 23 16.2**	**-0.7**
	comp=Z,12nm,0.8s								
MTLF	**Montolieu**	**46.36**	**304**	*eP*		**P**	**04 23 16.2**	**-0.7**
	comp=Z,5.8nm,0.8s								
MTLF	**Montolieu**	**46.36**	**304**	*eP*		**P**	**04 23 16.2**	**-0.7**
	comp=Z,12nm,0.8s								
TCF	**Toulx Ste Croi**	**46.45**	**308**	*eP*		**P**	**04 23 15.8**	**-1.8**
TCF	**Toulx Ste Croi**	**46.45**	**308**	*eP*		**P**	**04 23 15.8**	**-1.8**
TCF	**Toulx Ste Croi**	**46.45**	**308**	*eP*		**P**	**04 23 15.8**	**-1.8**
CAF	**Calviac**	**46.50**	**306**	*eP*		**P**	**04 23 17.2**	**-0.8**
	comp=Z,5.9nm,0.6s								
CAF	**Calviac**	**46.50**	**306**	*eP*		**P**	**04 23 17.2**	**-0.8**
	comp=Z,3.0nm,0.6s								
CAF	**Calviac**	**46.50**	**306**	*eP*		**P**	**04 23 17.2**	**-0.8**
	comp=Z,5.9nm,0.6s								
RJF	**Les Rejaudoux**	**46.90**	**307**	*eP*		**P**	**04 23 19.5**	**-1.6**
RJF	**Les Rejaudoux**	**46.90**	**307**	*eP*		**P**	**04 23 19.5**	**-1.6**
RJF	**Les Rejaudoux**	**46.90**	**307**	*eP*		**P**	**04 23 19.5**	**-1.6**
LFF	**La Frestale**	**47.44**	**306**	*eP*		**P**	**04 23 23.9**	**-1.4**
LFF	**La Frestale**	**47.44**	**306**	*eP*		**P**	**04 23 23.9**	**-1.4**
LFF	**La Frestale**	**47.44**	**306**	*eP*		**P**	**04 23 23.9**	**-1.4**
LDF	**La Druitiere**	**48.16**	**311**	*eP*		**P**	**04 23 29.4**	**-1.4**
LDF	**La Druitiere**	**48.16**	**311**	*eP*		**P**	**04 23 29.4**	**-1.4**
LDF	**La Druitiere**	**48.16**	**311**	*eP*		**P**	**04 23 29.4**	**-1.4**
BOD	**Bodaibo**	**48.94**	**36**	*eP*		**P**	**04 23 35.1**	**-1.6**
BOD				pmax	pmax				
	comp=Z,6.0nm,1.4s								
BOD	**Bodaibo**	**48.94**	**36**	*eP*		**P**	**04 23 35.1**	**-1.6**
	comp=Z,6.0nm,1.4s								
ESDC	**Sonseca Array**	**51.22**	**300**	P		**P**	**04 23 53.7**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=72,slow=7.6,SNR=8.2								
ESLA	**Sonseca Array**	**51.22**	**300**	*eP*		**P**	**04 23 53.7**	**-0.6**
	comp=Z,0.3nm,0.8s								
ESLA	**Sonseca Array**	**51.22**	**300**	*eP*		**P**	**04 23 53.7**	**-0.6**
	comp=Z,0.3nm,0.8s								
TOA0	**Torodi Ar. Sit**	**53.73**	**266**	*eP*		**P**	**04 24 11.4**	**-1.8**
TOA0	**Torodi Ar. Sit**	**53.73**	**266**	*eP*		**P**	**04 24 11.4**	**-1.8**
TORD	**Torodi Ar. Bea**	**53.73**	**266**	P		**P**	**04 24 11.8**	**-1.4**
	comp=Z,4.8nm,0.5s,baz=64,slow=7.2,SNR=30								
CN2	**Changchun**	**55.77**	**54**	*eP*		**P**	**04 24 30.0**	**+2.4**
TIXI	**Tiksi**	**57.67**	**21**	*ceP*		**P**	**04 24 40.7**	**+0.1**
TIXI				pmax	pmax				
	comp=Z,6.0nm,2.5s								
TIXI	**Tiksi**	**57.67**	**21**	*eP*		**P**	**04 24 40.7**	**+0.1**
	comp=Z,6.0nm,2.5s								
KSAR	**Wonju Array Be**	**58.76**	**61**	P		**P**	**04 24 47.5**	**-1.3**
KSAR	**Wonju Array Be**	**58.76**	**61**	P		**P**	**04 24 47.5**	**-1.3**
KSRS	**Korea Array**	**58.79**	**61**	P		**P**	**04 24 47.6**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=278,slow=7.2,SNR=7.3								
KSRS	**Korea Array**	**58.79**	**61**	P		**P**	**04 24 47.6**	**-1.4**
KSRS				pmax	pmax				
	comp=Z,1.0nm,0.6s								
BOSA	**Boshof**	**64.33**	**211**	*eP*		**P**	**04 25 26.2**	**-0.3**
	comp=Z,9.4nm,1.1s								
BOSA	**Boshof**	**64.33**	**211**	*eP*		**P**	**04 25 26.2**	**-0.3**
	comp=Z,9.4nm,1.1s								
SUMG	**Summit**	**65.05**	**341**	*i* P		**P**	**04 25 31.1**	**+0.1**
	comp=Z,5.0nm,0.8s								
SUMG	**Summit**	**65.05**	**341**	*i* P		**P**	**04 25 31.1**	**+0.1**
SUMG				pmax	pmax				
	comp=Z,5.0nm,0.8s								
SUMG	**Summit**	**65.05**	**341**	*eP*		**P**	**04 25 31.1**	**+0.1**
	comp=Z,134nm,3.0s								
SUMG	**Summit**	**65.05**	**341**	*eP*		**P**	**04 25 31.1**	**+0.1**
	comp=Z,134nm,3.0s								
BILL	**Bilibino**	**70.84**	**22**	*eP*		**P**	**04 26 07.8**	**+0.8**
BILL				pmax	pmax				
	comp=Z,2.0nm,1.2s								
BILL	**Bilibino**	**70.84**	**22**	*eP*		**P**	**04 26 07.8**	**+0.8**
	comp=Z,2.0nm,1.2s								
PETK	**Petropavlovsk-**	**73.76**	**38**	P		**P**	**04 26 24.4**	**-0.4**
	comp=Z,4.8nm,0.9s,baz=255,slow=17,SNR=3.4								
PETK	**Petropavlovsk-**	**73.76**	**38**	P		**P**	**04 26 24.4**	**-0.4**
PETK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
ILAR	**Eielson Array**	**85.40**	**10**	P		**P**	**04 27 26.2**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=316,slow=4.9,SNR=3.4								
WRA	**Warramunga Arr**	**88.45**	**114**	P		**P**	**04 27 43.7**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=316,slow=4.0,SNR=6.9								
WRA	**Warramunga Arr**	**88.45**	**114**	P		**P**	**04 27 43.7**	**+0.3**
WRA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
ASAR	**Alice Springs**	**90.00**	**117**	P		**P**	**04 27 50.6**	**0.0**
	comp=Z,0.4nm,0.5s,baz=305,slow=4.8,SNR=7.6								
TXAR	**Lajitas Array**	**119.94**	**341**	PKP		**PKPdf**	**04 33 40.8**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=207,slow=0.8,SNR=3.7								

CSEM ***14*** *04:21:22.4, 42.90N×12.64E, h6km, MD1.7/6*
ROM 14 04:21:22.4±0.1, 42.90N×12.64E, h6km±2km, Md1.7/6, Ml1.0/5, Error ellipse: s-maj=1.7km s-min=1.0km az=168.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CESI	**CESI - Serrava**	**0.22**	**61**	Pg	Pg	04 21 27.8	+0.9
CESI				Sg	Sg	04 21 31.6	+1.6
	7.0nm,0.4s						
CESI	**CESI - Serrava**	**0.22**	**61**	Pg	Pg	04 21 27.8	+0.9
CESI				Sg	Sg	04 21 31.6	+1.6
	7.0nm,0.4s						
CESX	**Cesi**	**0.29**	**189**	Pg	Pg	04 21 28.9	+0.8
CESX				Sg	Sb	04 21 34.1	-1.1
	44nm,0.4s						
CESX	**Cesi**	**0.29**	**189**	Pg	Pg	04 21 28.9	+0.8
CESX				Sg	Sb	04 21 34.1	-1.1
	44nm,0.4s						
NRCA	**Norcia**	**0.35**	**100**	Pg	Pg	04 21 30.1	+0.7
NRCA				Sg	Sb	04 21 36.0	-1.2
	18nm,0.1s						
NRCA	**Norcia**	**0.35**	**100**	Pg	Pg	04 21 30.1	+0.7
NRCA				Sg	Sb	04 21 36.0	-1.2
	18nm,0.1s						
FDMO	**Fiordimonte**	**0.36**	**67**	Pg	Pg	04 21 30.1	+0.7
FDMO				Sg	Sb	04 21 36.6	-0.6
	9.0nm,0.2s						
FDMO	**Fiordimonte**	**0.36**	**67**	Pg	Pg	04 21 30.1	+0.7
FDMO				Sg	Sb	04 21 36.6	-0.6
	9.0nm,0.2s						
MGAB	**Montegabbione**	**0.39**	**272**	Pg	Pg	04 21 30.9	+0.9
MGAB				Sg	Sb	04 21 37.7	-0.4
	16nm,0.5s						
MGAB	**Montegabbione**	**0.39**	**272**	Pg	Pg	04 21 30.9	+0.9
MGAB				Sg	Sb	04 21 37.7	-0.4
	16nm,0.5s						
LNSS	**Leonessa**	**0.42**	**135**	Pg	Pg	04 21 31.3	+0.7
LNSS				Sg	Sb	04 21 38.7	-0.3
LNSS	**Leonessa**	**0.42**	**135**	Pg	Pg	04 21 31.3	+0.7
LNSS				Sg	Sb	04 21 38.7	-0.3

MEX 14 04:27:59.8±0.5, 16.81N×99.14W, h13km±8km, MD3.8, Near coast of Guerrero

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

KOK	Koryaka	1.46	326	*e*P		Pn	04 40 59.2	-0.8
KOK	Koryaka	1.46	326	PN		Pn	04 40 59.2	-0.8
KRX	Arik	1.52	328	*i* P		Pn	04 40 59.6	-1.1
KRX				*e*S		Sn	04 41 19.7	+0.2
PETK	Petropavlovsk-	1.73	307	P		Pn	04 41 03.6	0.0
	130nm,0.3s,baz=124,slow=19,SNR=520							
PETK				S		Sn	04 41 23.7	-0.9
	55nm,0.3s,baz=102,slow=24,SNR=6.4							
PETK				LR	LR		04 41 54.4	
	comp=Z,689nm,18.7s,baz=67,slow=53							
PETK	Petropavlovsk-	1.73	307	PN		Pn	04 41 03.6	0.0
PETK				S		Sn	04 41 23.7	-0.9
PETK				pmax	pmax			
	comp=Z,130nm,0.3s							
PETK				smax	smax			
	comp=N,55nm,0.3s							
APC	Apacha	1.93	297	*i* P		Pn	04 41 06.7	+0.5
APC				*i* S		Sb	04 41 32.6	-1.0
APC	Apacha	1.93	297	PN		Pn	04 41 06.7	+0.5
APC				S		Sb	04 41 32.6	-1.0
KII	Karymskiy	1.98	351	*e*S		Sn	04 41 33.1	+2.2
MIPR	Malaya Ipel'ka	2.00	277	*i* P		Pn	04 41 08.0	+0.7
GNL	Ganaly	2.04	323	*i* P		Pn	04 41 07.8	-0.1
GNL				*e*S		Sn	04 41 34.3	+2.0
GNL	Ganaly	2.04	323	PN		Pn	04 41 07.8	-0.1
GNL				S		Sn	04 41 34.3	+2.0
PAU	Pauzhetka	2.07	254	*e*P		Pn	04 41 08.8	+0.6
PAU				*e*S		Sb	04 41 35.7	-2.1
PAU	Pauzhetka	2.07	254	PN		Pn	04 41 08.8	+0.6
PAU				S		Sb	04 41 35.7	-2.1
MKZ	Mys Kozlova	2.69	22	*i* P		Pn	04 41 16.1	-0.6
MKZ				*e*S		Sn	04 41 45.4	-2.7
MKZ	Mys Kozlova	2.69	22	PN		Pn	04 41 16.1	-0.6
SKR	Severo-Kuril's	2.80	241	*e*P		Pn	04 41 18.8	+0.6
SKR				*e*S		Sn	04 41 53.1	+2.2
SKR	Severo-Kuril's	2.80	241	*d i* PN		Pn	04 41 19.3	+1.1
KZV	Kizimen	3.04	3	*e*P		Pn	04 41 22.1	+0.4
KZV				*e*S		Sn	04 41 58.6	+1.5
TUMR	Tumrok	3.21	2	*e*P		Pn	04 41 24.8	+0.8
TUMR				*e*S		Sn	04 42 03.8	+2.7
TUMR	Tumrok	3.21	2	PN		Pn	04 41 24.8	+0.8
TUMR				S		Sn	04 42 03.8	+2.7
KMNR	Kamenistaya	3.68	2	P		Pn	04 41 31.7	+1.2
KMNR	Kamenistaya	3.68	2	PN		Pn	04 41 31.7	+1.2
ESO	Esso	3.92	349	*e*P		Pn	04 41 34.4	+0.7
ESO	Esso	3.92	349	PN		Pn	04 41 34.4	+0.7
KLY	Klyuchi	4.26	5	S		Sn	04 42 30.7	+3.9
KBTR	Krutoberegovo	4.46	21	*e*P		Pn	04 41 41.7	+0.7
KBTR	Krutoberegovo	4.46	21	PN		Pn	04 41 41.7	+0.7
BDR	Baidarnaya	4.55	9	*e*P		Pn	04 41 47.6	+5.2
BDR				*e*S		Sb	04 42 43.5	-5.6
SMKR	Semkarok	4.59	10	*e*P		Pn	04 41 45.7	+2.8
SMKR	Semkarok	4.59	10	PN		Pn	04 41 45.7	+2.8
SRKR	Sorokina	4.63	8	*e*P		Pn	04 41 48.2	+4.7
SRKR				*e*S		Sn	04 42 42.5	+6.3
SRKR	Sorokina	4.63	8	PN		Pn	04 41 48.2	+4.7
SRKR				S		Sn	04 42 42.5	+6.3
BKI	Bering	4.74	46	*e*P		Sn	04 41 44.3	-0.5
BKI				*e*S		Sn	04 42 33.5	-5.1
BKI	Bering	4.74	46	PN		Pn	04 41 44.3	-0.5
SEY	Seymchan	11.61	342	P		Pn	04 43 22.0	+3.1
	comp=N,0.1nm,0.3s,baz=96,slow=7.7,SNR=3.6							
SEY				LR	LR		04 48 27.9	
	comp=N,180nm,18.0s,baz=125,slow=41							
UGL	Uglegorsk	11.78	262	*e*PN		Pn	04 43 14.5	-6.9
BILL	Bilibino	16.30	8	*ce*P		P	04 44 25.6	+1.0
BILL				pmax	pmax			
	comp=Z,2.0nm,0.7s							
HABR	Khabarovsk	16.32	267	*e*P		P	04 44 23.5	-1.4
HABR				pmax	pmax			
	comp=Z,8.0nm,0.9s							
HABR				MLR	MLR			
	comp=Z,118nm,19.0s							
YAK	Yakutsk	19.07	313	*e*P		Pn	04 44 58.2	+2.1
YAK				pmax	pmax			
	comp=E,2.0nm,0.9s							
YAK				pmax	pmax			
	comp=Z,14nm,0.9s							
YAK				pmax	pmax			
	comp=N,4.0nm,0.9s							
USRK	Ussuriysk Ar.	20.18	258	LR	LR		04 53 47.3	
	comp=N,111nm,18.9s,baz=21,slow=39							
MAJO	Matsushiro	21.88	233	*i* P		P	04 45 27.3	+1.5
MAJO				pmax	pmax			
	comp=Z,56nm,0.9s							
MJAR	Matsushiro Arr	21.88	233	P		P	04 45 27.5	+1.7
	comp=Z,3.7nm,0.6s,baz=18,slow=12,SNR=7.1							
MJAR	Matsushiro Arr	21.88	233	P		P	04 45 27.5	+1.7
MJAR				pmax	pmax			
	comp=Z,4.0nm,0.6s							
TIXI	Tiksi	23.98	336	*i* P		P	04 45 44.3	-2.5
TIXI				pmax	pmax			
	comp=Z,12nm,0.8s							
KSRS	Korea Array	26.79	250	P		P	04 46 13.1	+0.4
	comp=Z,0.6nm,0.3s,baz=46,slow=11,SNR=6.2							
KSRS				LR	LR		04 55 17.4	
	comp=Z,28nm,21.4s,baz=38,slow=33							
KSRS	Korea Array	26.79	250	P		P	04 46 13.1	+0.4
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSRS				MLR	MLR			
	comp=Z,28nm,21.4s							
ILAR	Eielson Array	29.58	44	P		P	04 46 38.5	+1.2
	comp=Z,0.3nm,0.7s,baz=256,slow=7.3,SNR=4.0							
H11N2	WAKE ISLAND Hy	32.74	168	T		T	05 22 43.9	
	baz=352,slow=76,SNR=115							
H11N3	WAKE ISLAND Hy	32.75	168	T		T	05 22 49.2	
	baz=352,slow=76,SNR=77							
H11N1	WAKE ISLAND Hy	32.75	168	T		T	05 23 05.3	
	baz=352,slow=76,SNR=84							
H11S1	WAKE ISLAND Hy	33.92	169	T		T	05 24 23.1	
	baz=352							
H11S3	WAKE ISLAND Hy	33.93	169	T		T	05 24 24.3	
	baz=352							
H11S2	WAKE ISLAND Hy	33.94	169	T		T	05 24 24.8	
	baz=352							
SONM	Songino Array	34.08	285	P		P	04 47 15.3	-1.8
	comp=Z,0.5nm,0.5s,baz=75,slow=5.1,SNR=4.3							
SONM				LR	LR		05 02 45.4	
	comp=Z,134nm,18.0s,baz=70,slow=39							
SONM	Songino Array	34.08	285	P		P	04 47 15.3	-1.8
SONM				pmax	pmax			
	comp=Z,1.0nm,0.5s							
SONM				MLR	MLR			
	comp=Z,134nm,18.0s							
RES	Resolute Bay	44.29	22	P		P	04 48 42.0	+0.2
	comp=Z,2.0nm,0.9s,baz=304,slow=2.8,SNR=4.6							
RES	Resolute Bay	44.29	22	P		P	04 48 42.0	+0.2
RES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KURK	Kurchatov	48.22	303	P		P	04 49 10.5	-2.4
KURK				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KURBB	Kurchatov Arra	48.32	302	P		P	04 49 10.5	-3.2
	comp=Z,1.2nm,0.4s,baz=60,slow=7.4,SNR=4.9							
MKAR	Makanchi Array	48.54	296	P		P	04 49 12.4	-3.1
	comp=Z,0.8nm,0.5s,baz=56,slow=7.0,SNR=22							
MKAR	Makanchi Array	48.54	296	*ce*P		P	04 49 16.7	+1.1
BRVK	Borovoye	51.00	309	*i* P		P	04 49 30.6	-3.5
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ARCES	ARCESS Array B	54.23	342	P		P	04 49 56.0	-1.8
	comp=Z,2.7nm,0.8s,baz=41,slow=7.8,SNR=11							
ARCES				LR	LR		05 18 02.6	
	comp=Z,29nm,18.2s,baz=7.0,slow=42							
ARCES	ARCESS Array B	54.23	342	P		P	04 49 56.0	-1.8
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ARCES				MLR	MLR			
	comp=Z,29nm,18.2s							
NVAR	Mina Array Bea	56.15	69	P		P	04 50 14.3	+2.0
	comp=Z,0.3nm,0.7s,baz=302,slow=7.3,SNR=2.6							
CMAR	Chiang Mai Arr	57.91	259	P		P	04 50 24.4	-0.3
	comp=Z,1.0nm,0.4s,baz=20,slow=6.8,SNR=5.7							
CMAR				LR	LR		05 17 40.2	
	comp=Z,19nm,19.5s,baz=210,slow=38							
CMAR	Chiang Mai Arr	57.91	259	P		P	04 50 24.5	-0.3
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
CMAR				MLR	MLR			
	comp=Z,19nm,19.5s							
PDAR	Pinedale Array	58.08	60	P		P	04 50 28.2	+2.3
	comp=Z,0.2nm,0.5s,baz=340,slow=4.8,SNR=2.6							
FINES	FINESS Array B	61.02	337	P		P	04 50 43.9	-1.7
	comp=Z,2.3nm,0.6s,baz=39,slow=7.3,SNR=9.6							
FINES	FINESS Array B	61.02	337	P		P	04 50 43.9	-1.7
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
NB2	NORSAR Subarra	64.50	344	P		P	04 51 07.4	-1.4
	comp=Z,1.4nm,0.5s,baz=22,slow=6.9							
NOA	NORSAR Array B	64.50	344	P		P	04 51 07.7	-1.1
	comp=Z,0.5nm,0.5s,baz=101,slow=13,SNR=11							
NOA				LR	LR		05 22 26.8	
	comp=Z,11nm,19.3s,baz=110,slow=39							
NOA	NORSAR Array B	64.50	344	P		P	04 51 07.7	-1.1
NOA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NOA				MLR	MLR			
	comp=Z,11nm,19.3s							
AKASG	Malin Array Be	69.45	329	P		P	04 51 38.2	-2.1
	comp=Z,4.9nm,0.5s,baz=30,slow=6.9,SNR=18							
AKASG	Malin Array Be	69.45	329	P		P	04 51 38.3	-2.1
AKASG				pmax	pmax			
	comp=Z,5.0nm,0.5s							
KIV	Kislovodsk	70.13	317	*e*P		P	04 51 43.1	-1.7
KIV				pmax	pmax			
	comp=Z,5.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,29nm,17.0s							
KBZ	Khabaz	70.23	317	P		P	04 51 44.0	-1.2
	comp=Z,1.5nm,0.6s,baz=64,slow=15,SNR=2.4							
KBZ	Khabaz	70.23	317	P		P	04 51 44.0	-1.2
KBZ				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TXAR	Lajitas Array	71.10	67	P		P	04 51 52.6	+1.7
	comp=Z,0.3nm,0.5s,baz=297,slow=4.5,SNR=9.8							
WRA	Warramunga Arr	75.14	205	P		P	04 52 14.5	-0.1
	comp=Z,0.9nm,1.0s,baz=21,slow=5.7,SNR=5.3							
WRA				pP		PcP	04 52 32.1	+4.1
	comp=Z,1.1nm,0.6s,baz=18,slow=6.3,SNR=5.9							
WRA	Warramunga Arr	75.14	205	P		P	04 52 14.5	-0.1
WRA				*PP		PcP	04 52 32.1	+4.1
WRA				pmax	pmax			
	comp=Z,1.0nm,1.0s							
WRA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GERES	GERESS Array B	75.42	338	P		P	04 52 15.7	-0.5
	comp=Z,0.5nm,0.7s,baz=31,slow=8.4,SNR=4.0							
GERES				LR	LR		05 30 48.8	
	comp=Z,31nm,19.2s,baz=46,slow=40							
BRTR	Keskin Array B	77.36	320	P		P	04 52 26.1	-1.2
	comp=Z,1.3nm,0.6s,baz=32,slow=3.8,SNR=7.3							
BRTR	Keskin Array B	77.36	320	*i* P		P	04 52 26.2	-1.1
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ASAR	Alice Springs	78.81	204	P		P	04 52 36.5	+1.3
	comp=Z,0.4nm,0.5s,baz=14,slow=4.7,SNR=4.9							
ASAR				pP		PcP	04 52 53.3	+9.5
	comp=Z,0.8nm,0.6s,baz=14,slow=5.4,SNR=4.7							

IDC ***14*** *04:46:34.0±1.0, 7.70N×92.00E, h0km, mb3.8/8, mb1 4.0/11, mb1mx3.8/37, mbtmp3.9/11, ML4.0/3, MS3.1/6, Ms1 3.2/6, ms1mx2.9/33, Error ellipse: s-maj=35.5km s-min=16.1km az=57.0*

ISCJB ***14*** *04:46:35.3±0.6, 7.60N±0.08×92.00E±0.09, h24km, mb3.8/10, MS3.0/3, Error ellipse: s-maj=15.5km s-min=6.7km az=137.5*

ISC 14 04:46:37.6±0.8, 7.66N±0.10×92.0E±0.1, h24km, n27, σ0s86/19, mb3.9/12, MS3.2/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.42**	**125**	Pn	**Pn**	**04 48 39.1**	**+0.7**
	1.2nm,0.3s,baz=330,slow=11,SNR=9.8						
PSI				Sn	**Sn**	**04 50 12.4**	**-0.4**
	1.2nm,0.3s,baz=159,slow=14,SNR=4.3						
PSI				LR	LR	04 52 30.9	
	comp=Z,184nm,21.5s,baz=240,slow=42						
PALK	**Pallekele**	**11.20**	**269**	Pn	**Pn**	**04 49 16.3**	**-0.2**
	2.7nm,0.3s,baz=89,slow=11,SNR=9.3						
PALK				Sn	Sn	04 51 05.9	-15
	4.3nm,0.3s,baz=349,slow=15,SNR=7.3						
PALK				LR	LR	04 53 05.1	
	comp=Z,170nm,19.3s,baz=87,slow=35						
CMAR	**Chiang Mai Arr**	**12.68**	**32**	Pn	**Pn**	**04 49 36.5**	**-0.2**
	0.1nm,0.3s,baz=230,slow=15,SNR=3.7						
CMAR				LR	LR	04 54 42.7	
	comp=Z,60nm,19.4s,baz=205,slow=39						
RAMN	**Ramite**	**19.86**	**346**	*e*P	**Pn**	**04 51 11.2**	**+2.2**
	17nm,0.5s						
TAPN	**Taplejung**	**20.00**	**349**	*e*P	**Pn**	**04 51 10.2**	**-0.5**
	25nm,0.7s						
JIRN	**Jiri**	**20.64**	**345**	*e*P	Pn	04 51 17.0	-1.4
	9.7nm,0.5s						
PKI	**Pulchoki**	**20.76**	**343**	*e*P	Pn	04 51 18.6	-1.2
	9.8nm,0.5s						
GUN	**Gumba**	**20.96**	**345**	*e*P	**P**	**04 51 19.4**	**0.0**
	32nm,0.8s						
KKN	**Kakani**	**21.01**	**343**	*e*P	**P**	**04 51 20.8**	**+1.0**
GKN	**Gorkha**	**21.40**	**342**	*e*P	**P**	**04 51 23.7**	**-0.2**
	12nm,0.5s						
KOLN	**Koldanda**	**21.52**	**339**	*e*P	**P**	**04 51 25.1**	**-0.2**
	19nm,0.7s						
H08S3	**Diego Garcia H**	**24.68**	**232**	T	T	05 18 16.7	
	baz=52,slow=75,SNR=26						
H08S2	**Diego Garcia H**	**24.68**	**232**	T	T	05 18 18.8	
	baz=52,slow=75,SNR=27						
H08S1	**Diego Garcia H**	**24.70**	**232**	T	T	05 18 17.4	
	baz=52,slow=75,SNR=16						
JOW	**Kunigami**	**39.34**	**57**	LR	LR	05 10 47.8	
	comp=Z,5.0nm,19.1s,baz=133,slow=37						
MKAR	**Makanchi Array**	**39.87**	**350**	P	**P**	**04 54 08.6**	**-0.8**
	0.5nm,0.5s,baz=169,slow=8.1,SNR=8.4						
SONM	**Songino Array**	**41.87**	**15**	P	**P**	**04 54 25.6**	**-0.4**
	1.6nm,0.7s,baz=195,slow=8.4,SNR=7.3						
KURBB	**Kurchatov Arra**	**44.27**	**348**	P	**P**	**04 54 45.0**	**-0.1**
	1.3nm,0.9s,baz=170,slow=6.9,SNR=11						
ZALV	**Zalesovo Beam**	**46.52**	**354**	P	**P**	**04 55 02.0**	**-0.9**
	0.7nm,0.3s,baz=138,slow=9.0,SNR=2.1						
WRA	**Warramunga Arr**	**49.89**	**124**	P	**P**	**04 55 30.1**	**+0.6**
	0.6nm,0.7s,baz=309,slow=8.2,SNR=3.0						
MJAR	**Matsushiro Arr**	**50.89**	**49**	LR	LR	05 18 32.3	
	comp=Z,25nm,19.0s,baz=90,slow=38						
ASAR	**Alice Springs**	**51.43**	**128**	P	**P**	**04 55 42.0**	**+0.8**
	0.5nm,0.8s,baz=304,slow=8.0,SNR=3.3						
ASAR				PcP	**PcP**	**04 56 55.7**	**+0.2**
	0.3nm,0.7s,baz=317,slow=5.0,SNR=4.1						
BRTR	**Keskin Array B**	**60.96**	**311**	P	P	04 56 54.5	+5.3
	0.6nm,0.6s,baz=118,slow=5.6,SNR=3.7						
STKA	**Stephens Creek**	**61.51**	**133**	P	**P**	**04 56 51.6**	**-1.3**
	2.1nm,1.1s,baz=279,slow=13,SNR=3.0						
FINES	**FINESS Array B**	**71.91**	**333**	P	**P**	**04 57 59.2**	**+0.5**
	1.6nm,0.8s,baz=111,slow=7.6,SNR=2.8						
GERES	**GERESS Array B**	**76.57**	**318**	P	P	04 58 30.4	+4.1
	0.8nm,0.7s,baz=97,slow=3.3,SNR=6.0						
NOA	**NORSAR Array B**	**78.87**	**331**	LR	LR	05 37 20.6	
	comp=Z,22nm,18.5s,baz=230,slow=39						

IDC 14 04:55:32.1±4.3, 19.21N×145.71E, h160km±40km, mb3.1/4, mb1 3.4/6, mb1mx3.1/28, mbtmp3.7/6, Error ellipse: s-maj=45.0km s-min=20.4km az=89.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**8.50**	**338**	P	Pn	04 57 33.0	+1.0
	4.8nm,0.3s,baz=108,slow=19,SNR=4.8						
JCJ				S	Sn	04 59 05.0	-1.7
	3.1nm,0.3s,baz=301,slow=19,SNR=2.7						
MJAR	**Matsushiro Arr**	**18.49**	**341**	P	P	04 59 35.9	0.0
	0.7nm,0.3s,baz=160,slow=11,SNR=3.6						
KSRS	**Korea Array**	**23.92**	**323**	P	P	05 00 31.9	+0.6
	1.4nm,0.5s,baz=149,slow=9.8,SNR=7.1						
WRA	**Warramunga Arr**	**40.47**	**197**	P	P	05 02 54.9	-0.3
	0.4nm,0.6s,baz=6.0,slow=8.7,SNR=4.1						
SONM	**Songino Array**	**42.76**	**321**	P	P	05 03 13.7	0.0
	0.3nm,0.6s,baz=134,slow=10,SNR=3.1						
ILAR	**Eielson Array**	**63.19**	**26**	P	P	05 05 42.4	-0.4
	0.2nm,0.5s,baz=262,slow=6.1,SNR=4.3						

IDC ***14*** *05:12:22.5±1.4, 11.13S×165.90E, h0km, mb4.1/6, mb1 4.3/7, mb1mx3.9/32, mbtmp4.1/7, MS3.3/10, Ms1 3.4/10, ms1mx3.2/28, Error ellipse: s-maj=45.6km s-min=26.1km az=120.0*

NEIC ***14*** *05:12:28.1±1.6, 11.20S×165.90E, h38km±13km, mb4.0/2, Error ellipse: s-maj=18.1km s-min=11.5km az=59.0*

ISCJB ***14*** *05:12:29.2±0.9, 11.25S±0.08×165.74E±0.10, h61km, mb4.0/8, Error ellipse: s-maj=15.8km s-min=8.3km az=144.3*

ISC 14 05:12:30.6±1.1, 11.2S±0.1×165.8E±0.1, h61km, n24, σ1s28/15, mb4.0/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.03**	**287**	*e*Pn	**Pn**	**05 13 55.8**	**-1.4**
	267nm,0.7s						
HNR				*e*Sn	**Sn**	**05 15 04.9**	**0.0**
DZM	**Mont Dzumac**	**10.81**	**177**	*e*Pn	**Pn**	**05 15 00.7**	**-1.9**
	24nm,0.5s						
DZM				*e*LR	LR	05 17 29.9	
	323nm,25.1s						
DZM	**Mont Dzumac**	**10.81**	**177**	Pn	**Pn**	**05 15 01.0**	**-1.7**
	baz=90,slow=20						
DZM	**Mont Dzumac**	**10.81**	**177**	*e*Pn	**Pn**	**05 15 00.8**	**-1.9**
	18nm,0.6s						
DZM				*e*Sn	**Sn**	**05 17 04.2**	**+2.1**
URZ	**Urewera**	**28.77**	**161**	LR	LR	05 28 37.9	
	comp=Z,160nm,18.0s,baz=342,slow=34						
H11S2	**WAKE ISLAND Hy**	**29.54**	**2**	T	T	05 48 54.3	
	baz=181,slow=76,SNR=65						
H11S3	**WAKE ISLAND Hy**	**29.54**	**2**	T	T	05 48 54.7	
	baz=181,slow=76,SNR=44						
H11S1	**WAKE ISLAND Hy**	**29.55**	**2**	T	T	05 48 55.7	
	baz=181,slow=76,SNR=32						
STKA	**Stephens Creek**	**30.35**	**224**	P	**P**	**05 18 37.2**	**+0.5**
	2.5nm,0.9s,baz=8.3,slow=15,SNR=3.1						
WRAB	**Tennant Creek**	**31.46**	**250**	*e*P	**P**	**05 18 47.2**	**+0.6**
	2.2nm,0.6s						
WRA	**Warramunga Arr**	**31.47**	**250**	P	**P**	**05 18 47.6**	**+0.9**
	2.4nm,0.6s,baz=82,slow=9.2,SNR=8.7						
WRA				LR	LR	05 31 50.8	
	comp=Z,101nm,18.6s,baz=260,slow=37						
GUMO	**Guam**	**32.23**	**319**	LR	LR	05 32 33.6	
	comp=Z,46nm,18.5s,baz=114,slow=38						
ASAR	**Alice Springs**	**32.76**	**244**	P	**P**	**05 18 58.0**	**0.0**
	1.8nm,0.8s,baz=74,slow=9.8,SNR=15						
ASAR				PcP	**PcP**	**05 21 42.8**	**+0.4**
	0.6nm,0.9s,baz=65,slow=3.3,SNR=3.1						
ASAR				LR	LR	05 31 26.1	
	comp=Z,53nm,20.5s,baz=98,slow=35						
RAR	**Rarotonga**	**34.45**	**111**	LR	LR	05 30 21.3	
	comp=Z,85nm,18.0s,baz=288,slow=31						
SIJI	**Sorong**	**35.80**	**284**	LR	LR	05 34 22.0	
	comp=Z,72nm,19.9s,baz=64,slow=37						
PPT2	**Papeete2**	**43.60**	**104**	*e*LR	LR	05 32 53.5	
	52nm,23.8s						
TBI	**Tubuai**	**44.22**	**112**	*e*LR	LR	05 33 12.8	
	112nm,26.2s						
MJAR	**Matsushiro Arr**	**54.15**	**333**	LR	LR	05 42 50.8	
	comp=Z,13nm,20.9s,baz=265,slow=34						
JNU	**Nakatsue**	**55.25**	**324**	LR	LR	05 41 58.4	
	comp=Z,28nm,21.1s,baz=114,slow=32						
PETK	**Petropavlovsk-**	**64.45**	**355**	LR	LR	05 47 02.1	
	comp=Z,14nm,18.7s,baz=109,slow=32						
VNDA	**Vanda**	**66.32**	**181**	*e*P	**P**	**05 23 12.1**	**-0.1**
	0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**72.23**	**294**	P	**P**	**05 23 51.0**	**+1.2**
	1.3nm,0.6s,baz=118,slow=3.7,SNR=8.0						
CMAR				LR	LR	05 57 31.9	
	comp=Z,8.3nm,18.0s,baz=95,slow=38						
ILAR	**Eielson Array**	**83.66**	**18**	P	**P**	**05 24 52.0**	**-0.3**
	0.4nm,0.6s,baz=244,slow=5.4,SNR=9.2						
MKAR	**Makanchi Array**	**93.69**	**317**	P	**P**	**05 25 41.1**	**+0.5**
	0.7nm,0.7s,baz=88,slow=5.8,SNR=7.0						

ISCJB ***14*** *05:30:33.8±0.2, 62.18N±0.02×149.40W±0.04, h69km±5km, mb3.7/2, Error ellipse: s-maj=3.1km s-min=3.0km az=165.8*

IDC ***14*** *05:30:36.0±5.7, 62.29N×149.62W, h74km±43km, mb3.5/2, mb1 3.8/5, mb1mx3.3/31, mbtmp3.8/5, ML3.6/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/31, Error ellipse: s-maj=43.8km s-min=34.5km az=32.0*

NEIC ***14*** *05:30:35.7, 62.16N×149.40W, h44km, ML3.6(AEIC), After AEIC.*

NEIC Felt [II] at Palmer. Also felt at Anchorage, Eagle River, Talkeetna and Wasilla.

ISC 14 05:30:34.4±0.9, 62.17N±0.03×149.40W±0.03, h53km±9km, n107, σ1s03/115, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRAP	**Trapper Creek**	**0.43**	**294**	P	**Pn**	**05 30 45.1**	**0.0**
CUT	**Chulitna**	**0.47**	**301**	P	**Pn**	**05 30 45.6**	**+0.1**
PMR	**Palmer**	**0.59**	**168**	P	**Pn**	**05 30 46.4**	**-0.5**
PMR				S	**Sn**	**05 30 55.8**	**0.0**
SML	**Sawmill**	**0.62**	**125**	P	**Pn**	**05 30 47.2**	**-0.1**
SML				S	**Sn**	**05 30 57.2**	**+0.6**
SUA	**Susitna One**	**0.95**	**223**	P	**Pn**	**05 30 51.8**	**+0.2**
SUA				S	**Sn**	**05 31 05.6**	**+1.2**
SKT	**Skwentna**	**1.02**	**260**	P	**Pn**	**05 30 52.2**	**-0.3**
SCM	**Sheep Creek Mo**	**1.03**	**108**	P	**Pn**	**05 30 53.0**	**+0.3**
FIB	**Fire Island**	**1.07**	**201**	P	**Pn**	**05 30 54.0**	**+0.9**
RC01	**Rabbit Creek A**	**1.09**	**189**	P	**Pn**	**05 30 53.3**	**-0.1**
RC01				S	**Sn**	**05 31 09.1**	**+1.6**
RND	**Reindeer**	**1.27**	**11**	P	**Pn**	**05 30 56.4**	**+0.5**
DHY	**Denali Highway**	**1.31**	**45**	P	**Pn**	**05 30 56.7**	**+0.3**
PTE	**Portage**	**1.32**	**172**	P	**Pn**	**05 30 57.1**	**+0.7**
**ST

PTPK	Patty Peak	3.45	103	P	Pn	05 31 26.6 +0.9
AUI	Augustine Isla	3.46	217	P	Pn	05 31 27.2 +1.5
GRIN	Grindle Hills	3.49	120	P	Pn	05 31 27.4 +1.2
KIAG	Kiagna River	3.59	107	P	Pn	05 31 27.8 +0.1
BCA3	Beaver Creek A	3.63	72	P	Pn	05 31 29.2 +1.2
PS06	TAPS Pump Stn6	3.71	358	P	Pn	05 31 29.9 +0.8
ISLE	Juniper Island	3.74	112	P	Pn	05 31 29.8 +0.1
KULT	Kultieth River	3.76	118	P	Pn	05 31 30.8 +0.9
BARK	Barkley Ridge	3.77	115	P	Pn	05 31 30.7 +0.6
MCNL	McNeil River	3.85	221	P	Pn	05 31 32.6 +1.5
BARN	Barnard Glacie	3.86	103	P	Pn	05 31 32.1 +0.8
BAGL	Bagley Icefiel	3.90	112	P	Pn	05 31 32.2 +0.5
GRNC	Granite Creek	3.94	108	P	Pn	05 31 32.8 +0.3
MESA	MESA	4.12	116	P	Pn	05 31 36.2 +1.3
LOGN	Logan Glacier	4.24	105	P	Pn	05 31 37.2 +0.7
IM04	Indian Mountai	4.28	335	*e*Pn	Pn	05 31 37.8 +0.8
IM04				*e*Sn	Sn	05 32 25.7 +0.2
IM3	Indian Mountai	4.28	335	P	Pn	05 31 37.6 +0.7
RKAV	Rock Avalanche	4.32	112	P	Pn	05 31 38.5 +0.9
TABL	Table Mountain	4.34	110	P	Pn	05 31 38.6 +0.6
EGAK	Eagle	4.53	51	P	Pn	05 31 41.3 +1.0
KDAK	Kodiak Island	4.68	201	P	Pn	05 31 41.9 -0.5
PS05	TAPS Pump Stn5	4.70	354	P	Pn	05 31 44.0 +1.4
KAKN	Katmai Knife C	4.80	219	P	Pn	05 31 44.7 +0.6
KABR	Katmai Barrier	4.91	217	P	Pn	05 31 46.3 +0.6
DAWY	Dawson	4.92	63	P	Pn	05 31 46.9 +1.1
COLD	Coldfoot	5.09	356	P	Pn	05 31 49.1 +1.0
OHAK	Old Harbor	5.33	203	P	Pn	05 31 52.3 +0.9
BM3	Burnt Mountain	5.66	19	P	Pn	05 31 56.7 +0.9
HYT	Haines Junctio	5.85	98	P	Pn	05 31 58.5 -0.1
DHAK	Deception Hill	6.30	114	P	Pn	05 32 05.3 +0.6
TNA	Tin City	8.85	301	*e*Pn	Pn	05 33 41.0 +1.7
TNA				*e*Sn	Sn	05 34 18.6 +1.2
INK	Inuvik	9.05	40	P	Pn	05 32 45.0 +2.9
	0.8nm,0.3s,baz=242,slow=16,SNR=13					
INK				S	Sn	05 34 23.1 +0.8
	1.9nm,0.3s,baz=208,slow=21,SNR=7.2					
YKA	Yellowknife Ar	16.05	73	P	P	05 34 19.1 +0.4
	0.1nm,0.3s,baz=283,slow=11,SNR=4.5					
PDAR	Pinedale Array	30.37	111	LR	LR	05 49 02.3
	comp=Z,38nm,20.5s,baz=256,slow=36					
ARCES	ARCESS Array B	48.53	2	P	P	05 39 10.1 -1.3
	4.0nm,1.1s,baz=359,slow=8.1,SNR=3.8					
MKAR	Makanchi Array	63.79	323	P	P	05 40 58.1 -2.4
	0.2nm,0.5s,baz=38,slow=7.3,SNR=3.7					

ISCJB ***14*** *05:49:29.5±0.6, 15°.71N±0°.06×93°.97W±0°.03, h88km±3km, mb3.8/11, Error ellipse: s-maj=9.9km s-min=5.1km az=5.6*
NEIC ***14*** *05:49:32.5, 15°.79N×94°.01W, h72km, mb4.0/11, MD4.1(MEX), After MEX.*
MEX ***14*** *05:49:32.5±1.1, 15°.79N×94°.01W, h72km±18km, MD4.1*
IDC ***14*** *05:49:32.0±2.3, 16°.02N×93°.76W, h87km±12km, mb3.4/7, mb1 3.8/10, mb1mx3.5/30, mbtmp3.9/10, Error ellipse: s-maj=31.1km s-min=13.3km az=15.0*

ISC 14 05:49:30.7±0.8, 15.77N±0°.06×93.97W±0°.03, h85km±7km, n141, σ1§09/146, mb3.8/11, 50C-55D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.73**	**95**	*e*P	**Pn**	**05 49 47.0**	**0.0**
PCIG				*i* S	**Sn**	**05 49 59.0**	**-0.2**
PCIG		**0.73**	**95**	*e*P	**Pn**	**05 49 47.0**	**0.0**
PCIG				*i* S	**Sn**	**05 49 59.0**	**-0.2**
TGIG		**1.29**	**39**	*e*P	**Pn**	**05 49 53.3**	**-0.3**
TGIG				*i* S	**Sn**	**05 50 09.3**	**-1.6**
TGIG		**1.29**	**39**	*e*P	**Pn**	**05 49 53.3**	**-0.3**
TGIG				*i* S	**Sn**	**05 50 09.3**	**-1.6**
CMIG	**Matias Romero**	**1.58**	**326**	*i* P	**Pn**	**05 49 57.5**	**+0.2**
CMIG				*i* S	**Sn**	**05 50 16.1**	**-1.2**
CMIG	**Matias Romero**	**1.58**	**326**	P	**Pn**	**05 49 57.6**	**+0.2**
	105nm,0.3s,baz=150,slow=12,SNR=2448						
CMIG				S	**Sn**	**05 50 17.4**	**0.0**
	194nm,0.3s,baz=88,slow=21,SNR=35						
CMIG	**Matias Romero**	**1.58**	**326**	*i* P	**Pn**	**05 49 57.5**	**+0.2**
CMIG				*i* S	**Sn**	**05 50 16.1**	**-1.2**
CCIG	**Comitan**	**1.83**	**74**	*i* P	**Pn**	**05 50 01.9**	**+1.1**
CCIG				*i* S	**Sn**	**05 50 23.3**	**-0.2**
CCIG	**Comitan**	**1.83**	**74**	*i* P	**Pn**	**05 50 01.9**	**+1.1**
CCIG				*i* S	**Sn**	**05 50 23.3**	**-0.2**
HUIG	**Huatulco**	**2.06**	**270**	*e*P	**Pn**	**05 50 02.5**	**-1.1**
HUIG				*i* S	**Sn**	**05 50 26.2**	**-2.4**
HUIG	**Huatulco**	**2.06**	**270**	*e*P	**Pn**	**05 50 02.5**	**-1.1**
HUIG				*i* S	**Sn**	**05 50 26.2**	**-2.4**
VHO	**Vista Hermosa**	**2.95**	**296**	*e*P	**Pn**	**05 50 16.2**	**+0.5**
VHO				*i* S	**Sn**	**05 50 49.5**	**-0.8**
VHO	**Vista Hermosa**	**2.95**	**296**	*e*P	**Pn**	**05 50 16.2**	**+0.5**
VHO				*i* S	**Sn**	**05 50 49.5**	**-0.8**
PNIG	**Pinotepa**	**4.04**	**279**	*e*P	**Pn**	**05 50 30.6**	**+0.2**
PNIG				*i* S	**Sn**	**05 51 16.7**	**+0.1**
PNIG	**Pinotepa**	**4.04**	**279**	*e*P	**Pn**	**05 50 30.6**	**+0.2**
PNIG				*i* S	**Sn**	**05 51 16.7**	**+0.1**
TEIG	**Tepich**	**7.00**	**50**	P	**Pn**	**05 51 08.5**	**-2.1**
	14nm,0.3s,baz=37,slow=3.5,SNR=167						
TEIG				S	**Sn**	**05 52 22.9**	**-5.8**
	21nm,0.3s,baz=28,slow=20,SNR=15						
JTS	**JuntasAbangare**	**10.34**	**121**	P	**Pn**	**05 51 56.3**	**+0.1**
	1.0nm,0.3s,baz=330,slow=16,SNR=7.2						
034A	**Hebbronville**	**12.06**	**339**	⇑S	Sn	05 54 24.9	-7.2
	baz=12						
934A	**Benavides**	**12.51**	**341**	⇑S	Sn	05 54 34.3	-8.7
	baz=12						
834A	**Tilden**	**13.01**	**342**	⇑S	Sn	05 54 44.6	-10
	baz=13						
736A	**Circle Diamond**	**13.43**	**348**	⇓S	Sn	05 54 56.8	-8.5
	baz=14						
833A	**Chaparral WMA,**	**13.46**	**339**	⇓P	**Pn**	**05 52 40.8**	**+2.6**
	baz=14						
833A				⇑S	Sn	05 54 57.2	-9.0
	baz=14						
733A	**Divot King Ran**	**13.79**	**340**	⇓S	Sn	05 55 04.5	-10
	baz=14						
635A	**Leesville**	**14.00**	**346**	⇓S	Sn	05 55 09.2	-10
	baz=14						
732A	**Laxson Ranch,**	**14.04**	**338**	⇓P	**Pn**	**05 52 48.5**	**+2.8**
	baz=14						
634A	**China Grove, S**	**14.13**	**344**	⇓S	Sn	05 55 13.6	-8.9
	baz=14						
539A	**Cross D Ranch,**	**14.29**	**357**	⇑S	Sn	05 55 18.1	-8.1
	baz=14						
537A	**Green Hill Far**	**14.40**	**352**	⇑S	Sn	05 55 18.9	-10
	baz=14						
534A	**Blanco**	**14.78**	**345**	⇑P	**Pn**	**05 52 56.1**	**+0.7**
	baz=15,SNR=5.4						
534A				⇑S	Sn	05 55 26.7	-12
	baz=15						
533A	**Kerrville**	**14.97**	**343**	⇓P	**P**	**05 53 00.2**	**-1.2**
	baz=15						
532A	**Rocksprings**	**15.29**	**340**	⇑P	**P**	**05 53 04.6**	**-0.3**
	baz=15						
434A	**Burnet**	**15.48**	**346**	⇓P	**Pn**	**05 53 05.5**	**+1.2**
	baz=16						
531A	**Rocksprings**	**15.55**	**338**	⇓P	**Pn**	**05 53 06.6**	**+1.4**
	baz=16						
JCT	**Junction City**	**15.59**	**341**	⇓P	**P**	**05 53 08.0**	**-0.2**
	baz=16,SNR=5.9						
JCT	**Junction City**	**15.59**	**341**	*e*P	**P**	**05 53 09.4**	**+1.3**
335A	**Moody**	**15.76**	**349**	⇓P	**Pn**	**05 53 08.9**	**+1.2**
	baz=16						
432A	**Menard**	**15.95**	**341**	⇑P	**Pn**	**05 53 11.2**	**+1.0**
	baz=16						
334A	**Lometa**	**15.97**	**347**	⇑P	**P**	**05 53 13.0**	**+0.5**
	baz=16						
431A	**Sonora**	**16.04**	**339**	⇑P	**Pn**	**05 53 12.5**	**+1.2**
	baz=16						
529A	**Stev Forest Ra**	**16.17**	**333**	⇓P	**P**	**05 53 14.8**	**+0.1**
	baz=16,SNR=5.4						
TXAR	**Lajitas Array**	**16.18**	**328**	P	**Pn**	**05 53 14.4**	**+1.2**
	0.1nm,0.3s,baz=146,slow=13,SNR=8.6						
430A	**Baggett Ranch,**	**16.36**	**337**	⇑P	**P**	**05 53 16.8**	**0.0**
	baz=16						
429A	**Davenport Ranc**	**16.47**	**335**	⇓P	**P**	**05 53 18.1**	**+0.1**
	baz=16,SNR=7.1						
331A	**San Angelo**	**16.55**	**340**	⇓P	**Pn**	**05 53 18.7**	**+1.0**
	baz=17						
330A	**Mertzon**	**16.90**	**338**	⇑P	**P**	**05 53 23.8**	**+1.1**
	baz=17						
231A	**Bronte**	**17.10**	**341**	⇑P	**P**	**05 53 25.6**	**+0.7**
	baz=17						
230A	**Sterling City**	**17.31**	**339**	⇓P	**P**	**05 53 28.1**	**+0.8**
	baz=17,SNR=7.6						
ABTX	**Abilene, Hawle**	**17.55**	**344**	⇑P	**P**	**05 53 31.5**	**+1.7**
	baz=18						
229A	**Bryant Ranch,**	**17.63**	**337**	⇓P	**Pn**	**05 53 32.2**	**+1.2**
	baz=18						
Z33A	**Whitaker Ranch**	**17.97**	**347**	⇑P	**Pn**	**05 53 35.7**	**+0.7**
	baz=18						
228A	**UT Block 9, Go**	**18.07**	**336**	⇓P	**Pn**	**05 53 37.3**	**+1.0**
	baz=18						
Z32A	**Haskell**	**18.16**	**345**	⇓P	**P**	**05 53 37.4**	**+0.9**
	baz=18,SNR=5.8						
Z31A	**Sharp Cattle R**	**18.34**	**343**	⇑P	**P**	**05 53 39.5**	**+0.9**
	baz=18						
128A	**Castleberry Fa**	**18.47**	**337**	⇑P	**P**	**05 53 41.2**	**+1.1**
	baz=18						
Z30A	**Sanderson Ranc**	**18.60**	**341**	⇓P	**P**	**05 53 42.3**	**+0.9**
	baz=19,SNR=6.3						
Y33A	**Hilltop Ranch,**	**18.64**	**348**	⇑P	**P**	**05 53 42.3**	**+0.5**
	baz=19						
MIAR	**Mount Ida**	**18.70**	**1**	*e*Pn	**P**	**05 53 42.5**	**+0.1**
	4.2nm,0.8s						
X35A	**Drake**	**18.74**	**352**	⇓P	**P**	**05 53 43.6**	**+0.7**
	baz=19						
Z29A	**Hungry Hill Ra**	**18.77**	**339**	⇓P	**P**	**05 53 44.3**	**+1.0**
	baz=19						
Y32A	**R-V Farms, Ver**	**18.81**	**346**	⇑P	**Pn**	**05 53 45.1**	**0.0**
	baz=19,SNR=7.7						
Y31A	**Rekieta Farm,**	**18.98**	**344**	⇑P	**P**	**05 53 46.8**	**+1.2**
	baz=19,SNR=9.0						
Z28A	**Tucker Farm, M**	**19.03**	**338**	⇑P	**P**	**05 53 46.9**	**+0.7**
	baz=19,SNR=8.1						
X33A	**Lawton**	**19.13**	**349**	⇓P	**P**	**05 53 47.3**	**+0.2**
	baz=19,SNR=6.1						
X32A	**Elmer**	**19.18**	**347**	⇓P	**P**	**05 53 48.8**	**+1.2**
	baz=19,SNR=9.3						
W38A	**Poteau**	**19.22**	**359**	⇑P	**P**	**05 53 48.9**	**+0.7**
	baz=19						
Y29A	**Porterfield Fa**	**19.30**	**340**	⇑P	**P**	**05 53 50.1**	**+1.0**
	baz=19,SNR=8.4						
W37A	**Quinton**	**19.33**	**356**	⇓P	**P**	**05 53 50.1**	**+0.8**
	baz=19						
WMOK	**Wichita Mounta**	**19.37**	**348**	*e*P	**P**	**05 53 50.4**	**+0.5**
	2.2nm,0.8s						
W35A	**Tecumseh**	**19.48**	**353**	⇓P	**P**	**05 53 51.6**	**+0.7**
	baz=20						
X31A	**McDonald Ranch**	**19.54**	**345**	⇑P	**P**	**05 53 52.4**	**+0.8**
	baz=20						
Y28A	**McKinney Farm,**	**19.54**	**339**	⇑P	**P**	**05 53 52.4**	**+0.7**
	baz=20,SNR=13						
W34A	**Bridge Creek,**	**19.68**	**351**	⇓P	**P**	**05 53 53.4**	**+0.3**
	baz=20						
W33A	**Caddo, Fort Co**	**19.72**	**349**	⇑P	**P**	**05 53 54.4**	**+0.9**
	baz=20						
MSTX	**Muleshoe**	**19.78**	**338**	⇑P	**P**	**05 53 55.3**	**+0.9**
	baz=20						
MSTX	**Muleshoe**	**19.78**	**338**	*e*P	**P**	**05 53 55.5**	**+1.1**
	9.3nm,1.0s						
W32A	**Sentinel**	**19.84**	**347**	⇑P	**P**	**05 53 55.4**	**+0.5**
	baz=20						
X29A	**Tulia**	**19.85**	**341**	⇓P	**P**	**05 53 55.4**	**+0.3**
	baz=20,SNR=6.1						
W31A	**Holland Ranch,**	**20.06**	**346**	⇓P	**P**	**05 53 58.1**	**+0.8**
	baz=20						
X28A	**Dimmitt**	**20.08**	**340**	⇓P	**P**	**05 53 58.3**	**+0.7**
	baz=20						
V34A	**Guthrie**	**20.23**	**352**	⇓P	**P**	**05 53 59.3**	**+0.2**
	baz=20						
V34A	**Guthrie**	**20.23**	**352**	*e*P	**P**	**05 53 59.0**	**0.0**
	3.6nm,0.4s						
AMTX	**Amarillo**	**20.25**	**341**	⇑P	**P**	**05 54 00.3**	**+0.9**
	baz=20						
AMTX	**Amarillo**	**20.25**	**341**	*e*P	**P**	**05 54 00.1**	**+0.7**
	4.6nm,0.4s						
V33A	**Loesen Ranch,**	**20.34**	**350**	⇑P	**P**	**05 54 00.5**	**+0.3**
	baz=20						
V32A	**Arapaho**	**20.38**	**348**	⇑P	**P**	**05 54 00.7**	**0.0**
	baz=20						
W29A	**Amarillo**	**20.46**	**342**	⇓P	**P**	**05 54 02.0**	**+0.3**
	baz=20						
V31A	**Spring Creek L**	**20.60**	**346**	⇑P	**P**	**05 54 03.2**	**+0.1**
	baz=21,SNR=6.0						
121A	**Cookes Peak, D**	**20.88**	**326**	⇑P	**P**	**05 54 08.4**	**+2.1**
	baz=21,SNR=7.7						
121A	**Cookes Peak, D**	**20.88**	**326**	*e*P	Pn	05 54 09.4	-0.1
	8.9nm,0.9s						
U33A	**Lingo Farm, Me**	**20.91**	**351**	⇑P	**P**	**05 54 07.1**	**+0.8**
	baz=21						
V28A	**Channing**	**21.22**	**341**	⇓P	**P**	**05 54 10.6**	**+0.8**
	baz=21						
U30A	**WK&E Inc. Balk**	**21.51**	**345**	⇑P	**P**	**05 54 14.7**	**+1.8**
	baz=22,SNR=5.7						
S35A	**Otter Creek Ra**	**21.92**	**355**	⇓P	**P**	**05 54 16.8**	**-0.4**
	baz=22						
U27A	**Thompson Grove**	**22.03**	**341**	⇓P	**P**	**05 54 18.5**	**0.0**
	baz=22						
ANMO	**Albuquerque**	**22.14**	**332**	P	**P**	**05 54 19.1**	**-0.6**
	1.2nm,0.8s,baz=155,slow=12,SNR=5.2						
ANMO	**Albuquerque**	**22.14**	**332**	*e*P	**P**	**05 54 21.4**	**+1.7**
	1.4nm,0.9s						
T29A	**Hugoton**	**22.27**	**344**	⇓P	**P**	**05 54 21.7**	**+0.7**
	baz=22						
S31A	**Mullinville**	**22.30**	**348**	⇑P	**P**	**05 54 21.9**	**+0.6**
	baz=22						
S30A	**Montezuma**	**22.53**	**346**	⇓P	**P**	**05 54 24.2**	**+0.4**
	baz=23						
S29A	**Ulysses**	**22.66**	**345**	⇓P	**P**	**05 54 25.2**	**+0.1**
	baz=23,SNR=6.0						
S28A	**Manter**	**22.84**	**344**	⇑P	**P**	**05 54 27.3**	**+0.4**
	baz=23						
R32A	**Long Quarter,**	**22.95**	**350**	⇑P	**P**	**05 54 27.2**	**-0.8**
	baz=23						
R31A	**Burdett**	**22.96**	**349**	⇓P	**P**	**05 54 27.8**	**-0.3**
	baz=23,SNR=7.1						
T26A	**Comanche Natio**	**22.96**	**340**	⇓P	**P**	**05 54 28.6**	**+0.3**
	baz=23						
Q35A	**Mercer Eighty,**	**23.07**	**356**	⇓P	**P**	**05 54 28.1**	**-1.0**
	baz=23						
R30A	**Dighton**	**23.11**	**347**	⇓P	**P**	**05 54 30.1**	**+0.6**
	baz=23,SNR=5.8						
T25A	**Trinidad**	**23.21**	**338**	⇓P	**P**	**05 54 31.6**	**+0.9**
	baz=23						
R29A	**Marienthal**	**23.43**	**346**	⇑P	**P**	**05 54 33.4**	**+0.8**
	baz=24						
R28A	**Tribune**	**23.52**	**344**	⇑P	**P**	**05 54 33.4**	**0.0**
	baz=24,SNR=6.0						
P35A	**Duane Minner,**	**23.74**	**356**	⇓P	**P**	**05 54 34.7**	**-0.5**
	baz=24						
R27A	**Eads**	**23.74**	**343**	⇓P	**P**	**05 54 36.1**	**+0.7**
	baz=24						
Q30A	**Quinter**	**23.76**	**348**	⇓P	**P**	**05 54 36.0**	**+0.5**
	baz=24						
Q29A	**Oakley**	**23.84**	**346**	⇑P	**P**	**05 54 37.1**	**+0.9**
	baz=24						
R26A	**Arlington**	**23.95**	**341**	⇑P	**P**	**05 54 39.3**	**+2.0**
	baz=24						
P32A	**Huiting Farm,**	**24.10**	**351**	⇑P	**P**	**05 54 38.8**	**+0.2**
	baz=24						
P31A	**Brockton**	**24.13**	**350**	⇓P	**P**	**05 54 39.2**	**+0.5**
	baz=24						
SDCO	**Great Sand Dun**	**24.14**	**337**	⇑P	**P**	**05 54 39.6**	**+0.4**
	baz=24						
Q28A	**Sharon Springs**	**24.21**	**345**	⇑P	**P**	**05 54 40.5**	**+0.9**
	baz=24						
P30A	**Selden**	**24.31**	**348**	⇓P	**P**	**05 54 41.4**	**+1.0**
	baz=24						
KSCO	**Kaye Shedlock'**	**24.37**	**343**	⇓P	**P**	**05 54 41.7**	**+0.7**
	baz=24						
Q26A	**Hugo**	**24.54**	**342**	⇑P	**P**	**05 54 43.0**	**+0.3**
	baz=25						
R23A	**Moffat**	**24.66**	**337**	⇓P	**P**	**05 54 45.7**	**+1.8**
	baz=25						
P28A	**Saint Francis**	**24.67**	**345**	⇓P	**P**	**05 54 45.1**	**+1.3**
	baz=25,SNR=5.5						
O31A	**Woolen Ranch,**	**24.74**	**350**	⇑P	**P**	**05 54 44.4**	**+0.1**
	baz=25						
P27A	**Ficken Ranch,**	**24.86**	**344**	⇓P	**P**	**05 54 47.3**	**+1.8**
	baz=25,SNR=5.5						
SMCO	**Snowmass**	**25.96**	**336**	*e*P	P	05 55 00.7	+4.9
	4.5nm,1.3s						
ECSD	**EROS Data Cent**	**27.96**	**356**	*e*P	**P**	**05 55 12.7**	**-0.6**
	2.8nm,0.8s						
PDAR	**Pinedale Array**	**30.04**	**337**	P	**P**	**05 55 30.0**	**-2.0**
	0.2nm,0.4s,baz=145,slow=6.5,SNR=2.7						
NVAR	**Mina Array Bea**	**31.10**	**321**	P	**P**	**05 55 43.3**	**+1.8**
	1.0nm,0.7s,baz=132,slow=9.0,SNR=8.4						
AGMN	**Agassiz Nation**	**32.47**	**358**	*e*P	**P**	**05 55 51.6**	**-1.4**
	4.6nm,0.9s						
B30A	**Myrvik Farm, E**	**32.78**	**355**	⇓P	**P**	**05 55 54.5**	**-1.3**
	baz=33,SNR=5.7						
D22A	**Cohagen**	**32.89**	**345**	⇑P	**P**	**05 55 57.1**	**+0.4**
	baz=33,SNR=6.4						
B29A	**Wagenman Farm,**	**32.90**	**353**	⇓P	**P**	**05 55 56.5**	**-0.3**
	baz=33,SNR=6.1						
MCMT	**McKenzie Canyo**	**33.06**	**335**	*e*P	P	05 56 01.9	+3.4
A30A	**Hoffart Farm,**	**33.27**	**355**	⇓P	**P**	**05 55 58.8**	**-1.1**
	baz=33,SNR=9.8						
A29A	**Manning Farm,**	**33.34**	**354**	⇓P	**P**	**05 55 59.8**	**-0.8**
	baz=33,SNR=9.6						
FFC	**Flin Flon**	**39.37**	**353**	*e*P	**P**	**05 56 51.4**	**-0.4**
	3.4nm,0.6s						
YKA	**Yellowknife Ar**	**48.88**	**347**	P	**P**	**05 58 07.3**	**-0.3**
	2.5nm,0.6s,baz=151,slow=7.2,SNR=9.8						
ILAR	**Eielson Array**	**60.47**	**337**	P	**P**	**05 59 31.6**	**+0.1**
	0.4nm,0.7s,baz=151,slow=4.1,SNR=5.2						
ILAR				pP	**pP**	**05 59 53.1**	**+0.3**
	0.2nm,0.5s,baz=129,slow=5.4,SNR=4.6						
NOA	**NORSAR Array B**	**83.50**	**28**	P	**P**	**06 01 47.6**	**-1.5**
	0.9nm,0.7s,baz=291,slow=5.2,SNR=3.2						
ARCES	**ARCESS Array B**	**85.05**	**18**	P	**P**	**06 01 57.0**	**+0.2**
	1.5nm,0.7s,baz=298,slow=5.2,SNR=7.4						

IDC ***14*** *06:26:50.0±1.7, 7°.74S×127°.43E, h0km, mb4.2/1, mb1 4.5/4, mb1mx3.8/34, mbtmp4.4/4, ML4.6/3, Error ellipse: s-maj=58.9km s-min=29.6km az=72.0*
ISCJB ***14*** *06:27:01.3±0.8, 7°.60S±0°.06×128°.90E±0°.08, h131km, mb4.0/1, Error ellipse: s-maj=11.1km s-min=8.5km az=13.5*
DJA ***14*** *06:27:02.6±1.7, 8°S±7°×12°9E±°, h227km±29km, M4.4/6, mb4.1/2, mB4.8/2, MLv4.5/6, Mw(mB)4.0/2*

ISC 14 06:27:01.1±0.9, 7.57S±0°.06×128.87E±0°.08, h131km, n9, σ4§20/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.44**	**100**	P	Pn	06 27 44.9	+4.3
SAUI				S	**Sn**	**06 28 15.6**	**+4.6**
AAI	**Ambon**	**3.91**	**350**	P	Pn	06 28 04.1	+4.3
SOEI	**Soe**	**5.04**	**244**	P	Pn	06 28 21.0	+6.0
	72nm,1.0s,2µm0.7nm						
SOEI				S	**Sn**	**06 29 14.0**	**+1.6**
	72nm,1.0s,2µm0.7nm						
FAKI	**Fak Fak**	**5.71**	**36**	P	**Pn**	**06 28 24.0**	**+0.2**
FAKI				S	**Sn**	**06 29 23.9**	**-4.4**
LBMI	**Labuha**	**7.01**	**349**	P	Pn	06 28 37.2	-4.2
SIJI	**Sorong**	**7.07**	**20**	Pn	**Pn**	**06 28 45.2**	**+3.2**
	2.9nm,0.3s,baz=216,slow=19,SNR=5.2						
SIJI				Sn	**Sn**	**06 29 57.7**	**-3.4**
	4.2nm,0.3s,baz=117,slow=23,SNR=7.8						
WRA	**Warramunga Arr**	**13.40**	**157**	Pn	**Pn**	**06 30 06.7**	**+0.5**
	4.9nm,0.3s,baz=329,slow=14,SNR=96						
WRA				Sn	**Sn**	**06 32 29.0**	**-5.2**
	3.4nm,0.3s,baz=331,slow=22,SNR=10						
ASAR	**Alice Springs**	**16.72**	**164**	P	**P**	**06 30 50.5**	**+2.6**
	1.4nm,0.3s,baz=341,slow=9.8,SNR=68						
ASAR				S	**Sn**	**06 33 47.8**	**-6.4**
	0.3nm,0.3s,baz=334,slow=21,SNR=4.4						
MKAR	**Makanchi Array**	**68.09**	**327**	P	**P**	**06 37 47.7**	**+1.0**
	1.6nm,0.5s,baz=121,slow=7.8,SNR=27						

IDC 14 06:45:35.9±2.7, 6°.83S×148°.19E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.4/24, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=74.7km s-min=42.7km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.72**	**225**	P	P	06 49 54.8	-1.5
	0.2nm,0.3s,baz=51,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**21.65**	**218**	P	P	06 50 27.1	-1.0
	0.8nm,0.4s,baz=53,slow=8.9,SNR=37						
STKA	**Stephens Creek**	**25.67**	**193**	P	P	06 51 08.5	+1.0
	0.6nm,0.4s,baz=29,slow=9.1,SNR=6.1						
TORD	**Torodi Ar. Bea**	**146.44**	**283**	PKPbc	PKPbc	07 05 19.5	-0.5
	0.2nm,0.3s,baz=74,slow=5.1,SNR=5.7						

DJA 14 06:55:32.2±0.9, 0°N±6°×122°3E±°, h106km±12km, M3.6/5, MLv3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.18**	**207**	P	Pn	06 55 55.8	+0.7
LUWI				S	Sn	06 56 13.7	+1.4
MRSI	**Marisa**	**1.43**	**288**	P	Pn	06 55 58.3	+0.3
MRSI				S	Sn	06 56 18.2	+0.7
APSI	**Ampana**	**1.89**	**241**	P	Pn	06 56 03.4	-0.3
APSI				S	Sn	06 56 27.5	+0.2
SANI	**Sanana**	**3.38**	**127**	P	Pn	06 56 22.4	-0.8
MPSI	**Mapaga**	**3.42**	**275**	P	Pn	06 56 24.0	+0.3

**IDC 14 06:55:40.2±31.0, 1°.03S×102°.70E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.4/34, mbtmp3.8/3, Error ellipse

CBX eS Sb 07 03 02.5 -1.9
CBX Cerro Bola 1.14 276 eP Pg 07 02 48.7 -0.1
CBX eS Sb 07 03 02.5 -1.9
CBX Cerro Bola 1.14 276‖ eP Pb 07 02 48.2 -1.1
CBX eS Sg 07 03 03.7 +0.1
CBX IAML 07 03 09.6
comp=E,17µm,0.5s
MONP Monument Peak, 1.15 307 P Pb 07 02 47.3 -2.2
baz=1.1
MONP S Sg 07 03 03.9 0.0
baz=1.1
SPIG San Pedro Mart 1.16 186 eP Pb 07 02 48.9 -0.8
SPIG i S Sg 07 03 05.8 +1.4
SPIG San Pedro Mart 1.16 186 eP Pb 07 02 48.9 -0.8
SPIG i S Sg 07 03 05.8 +1.4
SPIG San Pedro Mart 1.16 186‖ eP Pb 07 02 48.9 -0.8
SPX San Pedro Mart 1.16 186 eP Pb 07 02 49.0 -0.8
SPX i S Sb 07 03 05.1 -0.2
SPX San Pedro Mart 1.16 186‖ eP Pb 07 02 49.0 -0.8
SPX eS Sn 07 03 06.4 -0.3
ECNX Esteban Cantu 1.21 243‖ eP Pn 07 02 50.0 -0.7
ECNX eS Sn 07 03 07.2 -0.4
BAR Barrett 1.23 293‖ eP Pn 07 02 49.3 -1.6
PBX Punta Banda 1.28 249‖ eP Pn 07 02 50.6 -0.9
PBX eS Sn 07 03 08.6 -0.5
BC3 Big Chuckawall 1.45 356 P Pn 07 02 50.8 -3.2
baz=1.4
SDRC San Diego Road 1.47 292‖ eP Pn 07 02 52.4 -1.7
109C Camp Elliot, M 1.65 295 P Pn 07 02 54.9 -1.7
baz=1.6
109C Sb Sb 07 03 17.9 -1.1
baz=1.6
Y12C Blythe 1.68 23 P Pn 07 02 54.3 -2.8
baz=1.6
PFO Pinyon Flats O 1.69 326 P Pn 07 02 54.4 -2.9
baz=1.7
PFO Pinyon Flats O 1.69 326 ePn Pn 07 02 54.4 -2.9
PFO eSn Sg 07 03 20.7 -0.6
BELC Belle Mtn. Jos 1.88 343 P Pn 07 02 56.9 -3.0
baz=1.8
IRM Iron Mountain 1.95 4 P Pn 07 02 58.2 -2.6
baz=1.9
MURC Murrieta 2.10 312 P Pn 07 03 00.6 -2.2
baz=2.1
MURC Sb Sb 07 03 32.1 0.0
baz=2.1
214A Organ Pipe Nat 2.15 96 P Pn 07 03 00.8 -2.7
baz=2.1
214A Organ Pipe Nat 2.15 96 ePn Pn 07 03 01.0 -2.5
214A ePg Pg 07 03 09.3 +1.2
214A eSn Sb 07 03 32.9 -0.5
PDMCI Parker Dam,Lak 2.31 25 Sb Sb 07 03 37.0 -1.0
baz=2.3
BBRC Big Bear Solar 2.45 327 P Pn 07 03 06.0 -1.8
baz=2.4
GMRC Granite Mounta 2.58 354 P Pn 07 03 07.4 -2.1
baz=2.5
BFSC Mount Baldy Ra 2.82 317 P Pn 07 03 10.9 -1.9
baz=2.8
BFSC Sb Sb 07 03 52.8 +0.1
baz=2.8
SCI San Clemente I 2.83 287 P Pn 07 03 11.1 -1.7
baz=2.8
CIS Catalina Islan 2.86 296 P Pn 07 03 11.7 -1.6
baz=2.8
CIS Sb Sb 07 03 54.3 +0.6
baz=2.8
FMP Fort Macarthur 2.91 302 Pb Pb 07 03 17.7 -1.6
baz=2.9
FMP Sb Sb 07 03 55.6 +0.2
baz=2.9
DECC Green Verdugo 3.24 310 Pb Pb 07 03 24.3 -0.6
baz=3.2
DECC Sb Sb 07 04 06.1 +1.3
baz=3.2
TUQ Turquoise Moun 3.26 351 P Pn 07 03 16.8 -2.0
baz=3.2
EDW2 Edwards Air Fo 3.47 321 P Pn 07 03 20.5 -1.3
baz=3.4
EDW2 Sb Sb 07 04 13.7 +2.2
baz=3.4
BLG Laguna Peak, P 3.67 302 Sb Sb 07 04 15.3 -1.7
baz=3.6
OSI Osito Audit: C 3.72 311 Sb Sb 07 04 19.2 +0.5
baz=3.7
LRMC Laurel Mtn Rad 3.81 330 P Pn 07 03 24.9 -1.5
baz=3.8
TUC Tucson 3.85 87 ePn Pn 07 03 24.0 -2.9
TUC ePg Pg 07 03 41.0 +0.3
TUC i S Sn 07 04 09.4 -3.2
TUC eSn Sb 07 04 13.4 -8.9
BSC Santa Cruz Isl 4.03 297 P Pn 07 03 29.0 -0.4
baz=4.0
MPMC Manual Prospec 4.24 336 P Pn 07 03 31.2 -1.2
baz=4.2
SHPR Sheep Range 4.29 2 ePn Pn 07 03 31.9 -1.1
SHPR ePg Pg 07 03 50.3 +1.2
SHPR eSn Sn 07 04 23.8 +0.1
SHPR eSg Sg 07 04 43.7 -1.0
ISA Isabella, Lake 4.33 324 P Pn 07 03 32.3 -1.3
baz=4.3
DAC Darwin (Calif) 4.47 336 ePn Pn 07 03 36.0 +0.4
DAC ePg Pg 07 03 53.1 +0.5
DAC eSn Sn 07 04 28.6 +0.4
PKM Mcpherson Peak 4.61 307 P Pn 07 03 36.7 -0.8
baz=4.6
WUAZ Wupatki 4.66 44 P Pn 07 03 38.2 0.0
baz=4.6
WUAZ Wupatki 4.66 44 ePn Pn 07 03 38.0 -0.2
WUAZ eSn Sn 07 04 34.0 +1.3
TPNV Topopah Spring 4.79 351 P Pn 07 03 39.0 -0.9
baz=4.8
W18A Petrified Fore 5.49 57 P Pn 07 03 49.5 -0.1
baz=5.5
W18A Petrified Fore 5.49 57 ePn Pn 07 03 49.8 +0.2
W18A eSn Sn 07 04 53.9 +0.6
CCUT Cedar City 5.57 16 ePn Pn 07 03 51.2 +0.5
CCUT ePg Pg 07 04 12.4 -1.2
CCUT eSn Sn 07 04 56.3 +1.0
TPH Tonopah 6.06 346 ePn Pn 07 03 58.8 +1.4
TPH ePg Pg 07 04 25.3 +2.3
TPH eSn Sn 07 05 06.4 -0.9
R11A Troy Canyon, C 6.13 358 P Pn 07 03 57.6 -0.9
baz=6.1
R11A Troy Canyon, C 6.13 358 ePn Pn 07 03 57.5 -0.9
R11A ePg Pg 07 04 24.9 +0.5
R11A eSn Sn 07 05 10.5 +1.4
121A Cookes Peak, D 6.39 85 P Pn 07 04 00.7 -1.2
baz=6.4
121A Cookes Peak, D 6.39 85 ePn Pn 07 04 00.3 -1.6
121A eSn Sn 07 05 12.6 -2.8
NVAR Mina Array Bea 6.67 339 Pn Pn 07 04 10.0 +4.2
comp=E,0.2nm,0.3s,baz=162,slow=15,SNR=4.0
NVAR Pg Pg 07 04 32.8 -1.9
comp=E,0.4nm,0.3s,baz=318,slow=24,SNR=6.1
MVU Marysvale 6.78 21 ePn Pn 07 04 09.5 +2.2
MVU ePg Pg 07 04 37.0 +0.3
MVU eSn Sn 07 05 22.7 -2.3
MSU Marysvale 6.79 21 ePn Pn 07 04 09.9 +2.3
MSU ePg Pg 07 04 38.7 +1.6
MSU eSn Sn 07 05 32.1 +6.6
Y22D IRIS PASSCAL I 7.29 73 P Pn 07 04 14.1 -0.2
baz=7.3
MVCO Mesa Verde 7.51 47 P Pn 07 04 18.6 +1.1
baz=7.5
MVCO Mesa Verde 7.51 47 ePn Pn 07 04 19.0 +1.5
MVCO eSg Sg 07 06 29.1 +0.9
ANMO Albuquerque 7.89 67 Pn Pn 07 04 22.1 -0.4
comp=E,0.4nm,0.3s,baz=243,slow=14,SNR=15
ANMO Lg Lg 07 06 35.1
comp=E,0.3nm,0.3s,baz=197,slow=17,SNR=3.1
ANMO LR LR 07 07 31.1
comp=E,872nm,21.7s,baz=250,slow=40
SRU San Rafael Swe 7.92 28 ePn Pn 07 04 24.8 +1.8
SRU ePg Pg 07 04 54.1 -4.4
SRU eSn Sn 07 05 53.2 +0.1
PV01 Paradox Valley 8.09 41 ePn Pn 07 04 27.1 +1.8
PV01 ePg Pg 07 05 01.2 -0.7
PV01 eSn Sn 07 05 59.6 +2.2
PV01 eSg Sg 07 06 40.5 -6.3
PV04 Paradox Valley 8.10 39 ePn Pn 07 04 26.4 +1.0
PV04 ePg Pg 07 05 00.2 -1.8
PV04 eSg Sg 07 06 44.2 -2.7
ELK Elko 8.52 0 Pn Pn 07 04 31.9 +0.6
comp=E,0.2nm,0.3s,baz=216,slow=5.4,SNR=5.4
ELK Lg Lg 07 07 02.3
comp=E,0.3nm,0.3s,baz=111,slow=4.2,SNR=6.3
S22A 4UR Ranch, Cre 8.89 49 P Pn 07 04 37.1 +0.7
baz=8.9
JLU Jordanelle 8.94 19 ePn Pn 07 04 36.9 -0.1
JLU ePg Pg 07 05 17.6 -0.5
JLU eSg Sg 07 07 17.5 +3.6
LPIG La Paz 9.21 150 LR LR 07 08 08.8
comp=E,451nm,21.4s,baz=338,slow=37
O20A White River Ci 9.76 34 ePn Pn 07 04 51.0 +2.7
O20A eSn Sn 07 06 35.5 -2.8
SDCO Great Sand Dun 9.77 53 ePn Pn 07 04 50.4 +2.0
SDCO eSn Sn 07 06 38.1 -0.6
HVU Hansel Valley 9.77 11 ePn Pn 07 04 48.8 +0.5
R23A Moffat 9.80 50 P Pn 07 04 49.3 +0.5
baz=9.8
HWUT Hardware Ranch 9.85 17 ePn Pn 07 04 52.1 +2.7
P22A Eagle 10.12 41 P Pn 07 04 55.4 +2.2
baz=10
T25A Trinidad 10.24 58 P Pn 07 04 56.3 +1.5
baz=10
TXAR Lajitas Array 10.43 103 Pn Pn 07 04 58.0 +0.7
comp=E,1.9nm,0.3s,baz=289,slow=13,SNR=70
TXAR Lg Lg 07 07 52.2
comp=E,0.2nm,0.3s,baz=272,slow=31,SNR=3.4
TXAR LR LR 07 09 22.0
comp=E,434nm,18.5s,baz=0.0,slow=41
O22A Kremmling 10.64 39 P Pn 07 05 02.0 +1.6
baz=11
MSTX Muleshoe 10.68 77 P Pn 07 05 01.9 +1.3
baz=11
MSTX Muleshoe 10.68 77 ePn Pn 07 05 03.4 +2.7
128A Castleberry Fa 10.86 84 P Pn 07 05 03.1 -0.1
baz=11
ISCO Idaho Springs 10.91 43 P Pn 07 05 06.3 +2.2
baz=11
ISCO Idaho Springs 10.91 43 ePn Pn 07 05 06.8 +2.7
Z28A Tucker Farm, M 10.95 81 P Pn 07 05 07.0 +2.6
baz=11
O23A Lake Granby, G 11.02 41 P Pn 07 05 07.6 +2.1
baz=11
Y28A McKinney Farm, 11.10 78 P Pn 07 05 09.6 +3.0
baz=11
U27A Thompson Grove 11.16 64 P Pn 07 05 10.8 +3.5
baz=11
YBH Yreka Blue Hor 11.19 330 LR LR 07 09 53.8
comp=E,465nm,18.1s,baz=256,slow=40
X28A Dimmitt 11.22 75 P Pn 07 05 12.0 +4.0
baz=11
129A Stewart Farms, 11.38 84 P Pn 07 05 14.3 +3.9
baz=11
R26A Arlington 11.45 55 P Pn 07 05 15.6 +4.3
baz=11
T27A Campo 11.45 62 P Pn 07 05 13.1 +1.8
baz=11
N23A Red Feather La 11.48 38 P Pn 07 05 16.1 +4.2
baz=11
PDAR Pinedale Array 11.49 22 Pn Pn 07 05 14.8 +2.9
baz=210,slow=10,SNR=2.3
Z29A Hungry Hill Ra 11.52 81 P Pn 07 05 13.8 +1.7
baz=12
429A Davenport Ranc 11.58 94 P Pn 07 05 18.2 +5.2
baz=12
X29A Tulia 11.61 75 P Pn 07 05 18.3 +4.8
baz=12
AMTX Amarillo 11.69 73 P Pn 07 05 18.6 +4.1
baz=12
R27A Eads 11.90 56 P Pn 07 05 20.6 +3.2
baz=12
T28A Walsh 11.93 62 P Pn 07 05 21.3 +3.5
baz=12
J05D Fort Rock, OR 12.00 339 P Pn 07 05 25.2 +6.4
baz=12
330A Mertzon 12.06 90 P Pn 07 05 23.7 +4.1
baz=12
430A Baggett Ranch, 12.11 93 P Pn 07 05 24.1 +3.8
baz=12
530A J-C Ranch, Com 12.15 96 P Pn 07 05 26.7 +5.9
baz=12
IMW Indian Meadow 12.17 15 ePn Pn 07 05 19.9 -1.3
X30A Coker Ranch, T 12.29 76 P Pn 07 05 24.7 +1.9
baz=12
FLWY Flagg Ranch 12.40 16 ePn Pn 07 05 25.7 +1.4
J20A Shoshoni 12.51 25 P Pn 07 05 28.0 +2.3
baz=12
431A Sonora 12.66 93 P Pn 07 05 31.2 +3.4
baz=13
331A San Angelo 12.71 90 P Pn 07 05 31.5 +3.0
baz=13
MCMT McKenzie Canyo 12.75 8 ePn Pn 07 05 27.7 -1.4
MCMT eLg Lg 07 09 17.9
Y31A Rekieta Farm, 12.75 78 P Pn 07 05 31.2 +2.1
baz=13
531A Rocksprings 12.82 95 P Pn 07 05 34.1 +4.1
baz=13
I04A Tendick Farm, 12.84 336 P Pn 07 05 35.0 +4.9
baz=13
631A Perdido Creek 12.98 99 P Pn 07 05 34.7 +2.6
baz=13
X31A McDonald Ranch 13.05 75 P Pn 07 05 34.1 +1.1
baz=13
332A Millersview 13.28 89 P Pn 07 05 37.2 +1.0
baz=13
DLMT Dillon 13.31 8 ePn Pn 07 05 38.2 +1.6
432A Menard 13.31 92 P Pn 07 05 38.3 +1.6
baz=13
532A Rocksprings 13.37 95 P Pn 07 05 40.9 +3.5
baz=13
JCT Junction City 13.38 93 P Pn 07 05 40.7 +3.1
baz=13
JCT Junction City 13.38 93 ePn Pn 07 05 40.8 +3.1
H20A Greybull 13.53 23 P Pn 07 05 42.1 +2.4
baz=14
133A Hamilton Ranch 13.87 84 P Pn 07 05 45.3 +1.0
baz=14
433A Art 13.93 92 P Pn 07 05 47.4 +2.3
baz=14
633A Saathoff Ranch 14.14 97 P P 07 05 51.4 -4.3
baz=14
W33A Caddo, Fort Co 14.34 74 P Pn 07 05 53.7 +3.0
baz=14
T32A Huddler Ranch, 14.37 65 P Pn 07 05 54.0 +2.9
baz=14
134A White-Moore Ra 14.58 84 P Pn 07 05 56.5 +2.6
baz=14
534A Blanco 14.60 94 P Pn 07 05 56.8 +2.6
baz=15
434A Burnet 14.62 91 P Pn 07 05 56.9 +2.3
baz=15
933A Laredo 14.65 104 P P 07 05 57.7 -3.7
baz=15
CHMT Chamberlain Mo 14.77 6 ePn P 07 06 01.9 -1.0
X34A Smith Ranch, M 14.81 76 P Pn 07 05 59.5 +2.4
baz=15
T33A Patterson Ranc 14.87 66 P Pn 07 05 59.6 +1.7
baz=15
W34A Bridge Creek, 14.91 74 P Pn 07 06 00.8 +2.2
baz=15
V34A Guthrie 15.20 71 P Pn 07 06 04.3 +1.9
baz=15
W35A Tecumseh 15.64 74 P P 07 06 10.0 -2.4
baz=16
V35A Meyer Ranch, C 15.74 72 P P 07 06 11.4 -2.1
baz=16
136A Ennis 15.89 84 P P 07 06 12.8 -2.3
baz=16
NEW Newport 16.10 356 Pn P 07 06 17.1 -0.3
comp=E,0.1nm,0.3s,baz=182,slow=9.2,SNR=6.2
NEW LR LR 07 12 41.3
comp=E,356nm,19.2s,baz=180,slow=38
D21A La Casta Ranch 16.15 21 P P 07 06 15.7 -2.4
baz=16
V36A Jenks 16.46 72 P P 07 06 20.6 -0.9
baz=16
TUL1 Leonard 16.60 72 ePn Pn 07 06 20.2 -0.2
comp=E,9.2nm,0.9s
Y37A Hugo 16.61 79 P P 07 06 21.2 -1.9
baz=17
X38A Whitesboro 17.28 76 P Pn 07 06 27.9 -1.1
baz=17
W38A Poteau 17.56 75 P P 07 06 34.4 +0.8
baz=18
R37A Teagarden Farm 17.80 64 P P 07 06 36.6 +0.3
baz=18
Y39A Lockesburg 17.88 79 P P 07 06 37.4 +0.2
baz=18
B23A Brockton 18.02 23 P P 07 06 40.5 +1.8
baz=18
A22A Carney Farms, 18.20 20 P P 07 06 44.3 +3.6
baz=18
MIAR Mount Ida 18.31 77 eP P 07 06 43.4 +1.4
comp=E,5.9nm,0.8s
ECSD EROS Data Cent 18.66 47 P Pn 07 06 48.5 +2.4
baz=19
ECSD EROS Data Cent 18.66 47 eP Pn 07 06 47.8 +1.8
comp=E,4.7nm,1.1s
A28A Rude Farm, Bot 20.17 30 P Pn 07 07 03.9 -0.2
baz=20
A30A Hoffart Farm, 21.05 33 P P 07 07 13.5 +1.7
baz=21
EDM Edmonton 21.05 3 eP P 07 07 12.8 +1.1
comp=E,5.8nm,0.7s
AGMN Agassiz Nation 21.79 37 P P 07 07 21.4 +1.8
baz=22
AGMN Agassiz Nation 21.79 37 eP P 07 07 21.0 +1.4
comp=E,4.6nm,0.9s
BBB Bella Bella 22.04 339 LR LR 07 16 29.0
comp=E,323nm,20.7s,baz=158,slow=38
WVT Waverly 23.05 73 eP P 07 07 35.1 +1.9
comp=E,3.3nm,0.9s
CMIG Matias Romero 23.84 124 LR LR 07 16 10.1
comp=E,375nm,19.4s,baz=283,slow=35
TKL Tuckaleechee C 26.34 74 LR LR 07 19 08.8
comp=E,516nm,18.5s,baz=276,slow=38
DLBC Dease Lake 28.07 344 LR LR 07 20 18.6
comp=E,284nm,18.6s,baz=174,slow=38
SADO Sadowa 30.72 55 LR LR 07 20 54.4
comp=E,205nm,20.5s,baz=258,slow=36
ILAR Eielson Array 37.93 339 P P 07 09 47.8 +2.7
comp=E,0.4nm,0.5s,baz=150,slow=8.0,SNR=9.7
ILAR LR LR 07 25 27.0
comp=E,91nm,20.5s,baz=178,slow=36
SCHQ Schefferville 40.74 42 LR LR 07 27 45.1
comp=E,105nm,20.1s,baz=323,slow=38
PPT2 Papeete2 59.40 219 eLR LR 07 30 01.3
comp=E,63nm,22.5s
NOA NORSAR Array B 77.42 24 LR LR 07 48 07.6
comp=E,37nm,20.8s,baz=70,slow=36
MJAR Matsushiro Arr 83.06 309 LR LR 07 45 10.5
comp=E,14nm,21.1s,baz=130,slow=31

IDC ***14*** *07:02:47.5±0.5,3˚.72N×126˚.36E,h0km,mb4.4/18, mb1 4.5/19,mb1mx4.3/39,mbtmp4.4/19,ML4.5/1,MS3.5/17, Ms1 3.5/17,ms1mx3.4/39,Error ellipse: s-maj=30.0km s-min=12.1km az=68.0*

BJI ***14*** *07:02:51.4,3˚.44N×126˚.77E,h47km,mb4.7/29,mB4.8/18, Ms4.3/16,Ms7 4.1/12*

ISCJB ***14*** *07:02:53.1±0.2,3˚.73N±0˚.03×126˚.71E±0˚.04,h45km, mb4.5/32,MS3.5/15,Error ellipse: s-maj=6.5km s-min=3.3km az=152.8*

DJA ***14*** *07:02:53.4±0.7,4˚N±6˚×12˚7E±˚,h10km,M4.6/11,mb4.8/8, mB5.0/5,MLv4.7/11,Mw(mB)4.3/5*

NEIC ***14*** *07:02:54.8±1.2,3˚.69N×126˚.39E,h48km±11km,mb4.7/14, Error ellipse: s-maj=12.1km s-min=7.0km az=58.0*

ISC 14 07:02:55.0±0.4,3˚.77N±0˚.04×126˚.75E±0˚.05,h45km,n84, σ1§61/104,mb4.5/32,MS3.5/15,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.22**	**266**	P	**Pn**	**07 03 14.0**	**-1.7**
SGSI				S	**Sn**	**07 03 34.6**	**+3.6**
TNTI	**Ternate**	**3.05**	**168**	P	**Pn**	**07 03 41.6**	**+0.9**
TNTI	**Ternate**	**3.05**	**168**	ePn	**Pn**	**07 03 40.8**	**+0.1**
TNTI				eSn	**Sn**	**07 04 14.1**	**-1.8**
MATI	**Mati**	**3.19**	**351**	eP	**Pn**	**07 03 43.9**	**+1.2**
MATI				eS	**Sn**	**07 04 15.0**	**-4.5**
BUKP	**Musuan**	**4.41**	**338**	eP	**Pn**	**07 04 01.8**	**+2.3**
LBMI	**Labuha**	**4.45**	**170**	P	**Pn**	**07 04 01.0**	**+1.0**
CGP	**Cagayan de Oro**	**5.08**	**336**‖	eP	Pn	07 04 23.4	+15
PAGZ	**Pagadian**	**5.25**	**321**	eP	**Pn**	**07 04 12.4**	**+1.3**
MRSI	**Marisa**	**5.81**	**236**	P	**Pn**	**07 04 20.2**	**+1.4**
MRSI	123nm,0.6s,2µm0.5nm			S	**Sn**	**07 05 23.7**	**-0.5**
SANI	123nm,0.6s,2µm0.5nm **Sanana**	**5.83**	**188**	P	**Pn**	**07 04 17.1**	**-1.9**
LUWI	31nm,0.8s,820nm0.2nm **Luwuk**	**6.22**	**220**	P	Pn	07 04 30.9	+6.6
LUWI	**Luwuk**	**6.22**	**220**	ePn	Pn	07 04 19.6	-4.8
SWI	**Sorong**	**6.45**	**136**	P	**Pn**	**07 04 28.9**	**+1.5**
SWI	97nm,0.9s,0.4nm			S	**Sn**	**07 05 40.7**	**+1.0**
SIJI	97nm,0.9s,0.4nm **Sorong**	**6.45**	**136**	Pn	**Pn**	**07 04 28.3**	**+0.7**
SIJI	9.5nm,0.3s,baz=331,slow=9.2,SNR=24			Sn	**Sn**	**07 05 41.5**	**+1.6**
SIJI	1.2nm,0.3s,baz=178,slow=20,SNR=8.6			LR	LR	07 07 17.7	
APSI	comp=Z,503nm,21.9s,baz=66,slow=40 **Ampana**	**6.90**	**228**	P	Pn	07 04 37.4	+3.7
NLAI	176nm,0.8s,1µm0.6nm **Namlea**	**6.97**	**177**	P	**Pn**	**07 04 33.9**	**-0.8**
FAKI	54nm,0.6s,948nm0.2nm **Fak Fak**	**8.63**	**140**	P	**Pn**	**07 04 58.6**	**+1.2**
FAKI	54nm,0.8s,590nm **Fak Fak**	**8.63**	**140**	ePn	**Pn**	**07 04 59.5**	**+2.1**
FAKI				eSn	**Sn**	**07 06 33.5**	**+0.1**
TTSI	**Tana Toraja**	**9.69**	**226**	P	Pn	07 05 16.5	+4.6
SPSI	**Sidrap Palu**	**10.38**	**222**	P	Pn	07 05 27.1	+5.7
KAPI	**Kappang**	**11.18**	**219**	LR	LR	07 10 15.3	
KAPI	comp=Z,422nm,20.2s,baz=50,slow=41 **Kappang**	**11.18**	**219**	ePn	Pn	07 05 28.5	-3.9
GENI	**Genyem**	**14.83**	**115**	P	**P**	**07 06 28.4**	**+1.4**
GUMO	**Guam**	**20.38**	**60**	LR	LR	07 13 58.7	
FITZ	comp=Z,199nm,21.9s,baz=243,slow=32 **Fitzroy Crossi**	**21.77**	**183**	eP	**P**	**07 07 42.1**	**-0.9**
LEM	6.1nm,0.6s **Lembang**	**21.81**	**241**	LR	LR	07 16 42.9	
QIZ	comp=Z,243nm,20.7s,baz=22,slow=39 **Qiongzhong**	**22.42**	**314**	P	**P**	**07 07 48.6**	**-1.5**
QIZ				S	**S**	**07 11 51.5**	**-2.2**
WRAB	**Tennant Creek**	**24.71**	**163**	eP	**P**	**07 08 12.1**	**-0.2**
WRA	40nm,0.8s **Warramunga Arr**	**24.72**	**163**	P	**P**	**07 08 10.8**	**-1.5**
JCJ	24nm,0.8s,baz=344,slow=10,SNR=110 **Chichijima**	**27.49**	**31**	LR	LR	07 17 37.8	
PSI	comp=Z,116nm,20.3s,baz=134,slow=32 **Prapat**	**27.80**	**269**	LR	LR	07 21 30.5	
AS31	comp=Z,190nm,19.0s,baz=70,slow=41 **Alice Springs**	**28.15**	**166**	eP	**P**	**07 08 43.5**	**+0.2**
ASAR	**Alice Springs**	**28.15**	**166**	P	**P**	**07 08 42.1**	**-1.1**
ASAR	2.0nm,0.6s,baz=344,slow=6.8,SNR=43			PcP	**PcP**	**07 11 56.3**	**-0.3**
WHN	1.5nm,0.7s,baz=347,slow=2.6,SNR=5.6 **Wuhan**	**29.09**	**338**	P	P	07 08 56.5	+5.1
NJ2	**Nanjing**	**29.09**	**346**	eP	**P**	**07 08 51.3**	**-0.1**
NJ2	20nm,0.6s			PMZ			
JNU	**Nakatsue**	**29.45**	**7**	LR	LR	07 20 17.4	
GYA	comp=Z,40nm,20.7s,baz=182,slow=36 **Guiyang**	**29.65**	**322**	eP	**P**	**07 08 57.8**	**+1.2**
GYA				pP	**pP**	**07 09 08.6**	**0.0**
GYA				sP	**sP**	**07 09 15.3**	**+1.3**
GYA				PP	**PnPn**	**07 09 54.3**	**+1.2**
GYA				S	**S**	**07 13 49.0**	**-0.3**
GYA				sS	**sS**	**07 14 08.5**	**-0.9**
GYA				SS	**SnSn**	**07 15 24.3**	**+3.0**
GYA	10.0nm,0.8s			PMZ			
GYA	90nm,4.9s			PMZ			
GYA	480nm,16.2s			LN			
GYA	420nm,17.4s			LE			
GYA	490nm,16.8s			LZ			
CMAR	**Chiang Mai Arr**	**30.87**	**300**	P	P	07 09 04.0	-3.4
CMAR	1.0nm,0.4s,baz=110,slow=6.9,SNR=6.7			LR	LR	07 23 44.0	
KMI	comp=Z,67nm,18.3s,baz=154,slow=41 **Kunming**	**31.36**	**315**	P	**P**	**07 09 13.8**	**+1.9**
KMI	10.0nm,1.2s			PMZ			
KSAR	**Wonju Array Be**	**33.52**	**2**	P	**P**	**07 09 30.2**	**-0.1**
KSRS	**Korea Array**	**33.54**	**2**	P	**P**	**07 09 30.2**	**-0.2**
KSRS	1.8nm,0.6s,baz=182,slow=9.5,SNR=9.8			LR	LR	07 24 30.2	
CD2	comp=Z,58nm,19.5s,baz=188,slow=39 **Chengdu**	**34.62**	**324**	eP	**P**	**07 09 40.0**	**-0.1**

CD2				pP		**pP**	07 09 51.8	-0.4
CD2				PP		**PP**	07 10 59.0	-0.2
CD2				PcP		**PcP**	07 12 13.5	-0.4
CD2				S		**S**	07 15 06.9	+0.3
CD2				sS		**sS**	07 15 27.3	+0.5
CD2				PMZ				
	10.0nm,0.5s							
CD2				PMZ				
	120nm,5.2s							
CD2				LE				
	240nm,19.0s							
BJT	**Baijiatuau**	**37.33**	**347**	*eP*		**P**	07 10 04.1	+1.1
	23nm,0.8s							
BJI	**Beijing**	**37.35**	**347**	P		**P**	07 10 03.8	+0.6
BJI				S		**S**	07 15 52.3	+4.3
BJI				PMZ				
	39nm,0.8s							
STKA	**Stephens Creek**	**38.16**	**159**	P		**P**	07 10 09.3	-0.9
	14nm,0.8s,baz=341,slow=8.1,SNR=25							
STKA				PcP		**PcP**	07 12 24.6	+0.2
	3.2nm,0.6s,baz=350,slow=6.6,SNR=3.4							
STKA	**Stephens Creek**	**38.16**	**159**	*eP*		**P**	07 10 10.1	-0.2
STKA				PcP		**PcP**	07 12 24.6	+0.2
LZH	**Lanzhou**	**38.48**	**330**	*eP*		**P**	07 10 14.6	+1.6
LZH				pP		**pP**	07 10 25.6	+0.4
LZH				sP		**sP**	07 10 30.3	-0.2
LZH				PMZ				
	14nm,1.0s							
LZH				PMZ				
	62nm,5.2s							
LZH				LN				
	200nm,13.8s							
LZH				LE				
	140nm,12.8s							
LZH				LZ				
	220nm,14.4s							
HHC	**Hu-ho-hao-te**	**39.36**	**342**	*eP*		**P**	07 10 19.8	-0.5
HHC				PP		**PnPn**	07 11 58.4	+4.0
HHC				S		**S**	07 16 21.8	+3.1
HHC				sS		**sS**	07 16 42.3	+3.2
HHC				SS		**SS**	07 19 11.3	-2.7
HHC				PMZ				
	26nm,1.0s							
HHC				PMZ				
	64nm,6.0s							
HHC				LN				
	130nm,13.5s							
HHC				LE				
	280nm,13.8s							
CN2	**Changchun**	**39.88**	**359**	*eP*		P	07 10 28.5	+4.1
CN2				PMZ				
	10.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**40.52**	**6**	P		**P**	07 10 29.4	-0.3
	1.4nm,0.5s,baz=196,slow=12,SNR=7.2							
USRK				LR		LR	07 25 21.9	
	comp=Z,57nm,21.9s,baz=180,slow=33							
MDJ	**Mudanjiang**	**40.75**	**3**	P		**P**	07 10 32.8	+1.2
MDJ				PMZ				
	9.0nm,0.7s							
ARMA	**Armidale**	**41.49**	**147**	*eP*		**P**	07 10 39.6	+1.6
	68nm,1.8s							
GTA	**Gaotai**	**43.07**	**329**	*eP*		**P**	07 10 50.0	-0.8
GTA				pP		**pP**	07 11 02.3	-0.8
GTA				sP		**sP**	07 11 07.8	-0.6
GTA				S		**S**	07 17 12.3	-1.5
GTA				SS		SS	07 20 19.5	-7.9
GTA				PMZ				
	5.0nm,1.1s							
GTA				PMZ				
	78nm,5.6s							
GTA				LN				
	190nm,18.1s							
GTA				LE				
	130nm,21.4s							
GTA				LZ				
	180nm,17.6s							
DZM	**Mont Dzumac**	**46.55**	**125**	P		**P**	07 11 20.0	+1.3
	11nm,0.7s,baz=270,slow=24,SNR=4.5							
SONM	**Songino Array**	**47.26**	**341**	P		**P**	07 11 22.4	-1.5
	1.4nm,0.7s,baz=152,slow=8.9,SNR=11							
SONM				LR		LR	07 31 40.6	
	comp=Z,76nm,21.1s,baz=186,slow=37							
WMQ	**Urumqi**	**52.70**	**325**	P		**P**	07 12 05.9	+0.7
WMQ				pP		**pP**	07 12 18.5	+0.7
WMQ				sP		**sP**	07 12 23.8	+0.7
WMQ				PcP		**PcP**	07 13 15.6	+1.0
WMQ				PMZ				
	9.0nm,0.4s							
WMQ				PMZ				
	12nm,5.2s							
WMQ				LN				
	54nm,18.2s							
WMQ				LE				
	67nm,19.5s							
WMQ				LZ				
	91nm,25.0s							
PETK	**Petropavlovsk-**	**55.38**	**22**	P		**P**	07 12 24.5	0.0
	6.3nm,0.9s,baz=193,slow=10,SNR=3.7							
PETK				LR		LR	07 36 19.6	
	comp=Z,9.9nm,20.2s,baz=182,slow=36							
MK31	**Makanchi Array**	**57.53**	**325**	*eP*		**P**	07 12 38.5	-1.4
MKAR	**Makanchi Array**	**57.53**	**325**	P		**P**	07 12 38.3	-1.7
	2.2nm,0.5s,baz=121,slow=7.6,SNR=30							
MKAR				LR		LR	07 38 36.3	
	comp=Z,58nm,19.6s,baz=96,slow=38							
MKAR	**Makanchi Array**	**57.53**	**325**	*eP*		**P**	07 12 39.1	-0.9
KSH	**Kashi**	**58.03**	**315**	*eP*		**P**	07 12 46.5	+2.8
KSH				*epP*		**pP**	07 12 59.3	+2.8
KSH				sP		**sP**	07 13 03.1	+1.4
KSH				*ePP*		PP	07 14 58.8	+6.1
TKM2	**Tokmak 2**	**59.73**	**319**	*eP*		**P**	07 12 55.3	-0.3
	3.7nm,0.8s							
ZALV	**Zalesovo Beam**	**60.56**	**333**	P		**P**	07 12 58.6	-2.1
	1.4nm,0.7s,baz=115,slow=5.8,SNR=5.7							
KURK	**Kurchatov**	**61.71**	**327**	*eP*		**P**	07 13 07.2	-1.5
	10nm,0.6s							
KKAR	**Karatay Array**	**63.21**	**317**	*eP*		**P**	07 13 17.5	-1.3
	3.0nm,0.7s							
BRVK	**Borovoye**	**67.36**	**327**	*eP*		**P**	07 13 45.5	0.0
	6.2nm,1.0s							
ABKAR	**Akbulak array**	**72.13**	**321**	*eP*		**P**	07 14 13.9	-1.0
	2.4nm,0.6s							
ARU	**Arti**	**74.91**	**328**	*eP*		**P**	07 14 30.4	-0.7
	4.4nm,0.8s							
BPAW	**Bear Paw Mtn.**	**83.24**	**26**	*eP*		**P**	07 15 18.0	+1.5
	14nm,2.3s							
VNDA	**Vanda**	**83.47**	**173**	P		**P**	07 15 16.7	-0.7
	1.5nm,1.0s,baz=313,slow=8.6,SNR=6.8							
VNDA	**Vanda**	**83.47**	**173**	*eP*		**P**	07 15 17.4	0.0
TRF	**Thorofare Moun**	**83.49**	**27**	*eP*		**P**	07 15 17.6	-0.4
	12nm,1.2s							
COLD	**Coldfoot**	**83.84**	**23**	*eP*		**P**	07 15 21.6	+2.0
	5.6nm,0.8s							
PMR	**Palmer**	**83.90**	**29**	*eP*		**P**	07 15 21.3	+1.4
	7.1nm,0.9s							
ILAR	**Eielson Array**	**85.06**	**25**	P		**P**	07 15 24.9	-0.8
	1.7nm,1.0s,baz=253,slow=5.8,SNR=12							
ILAR				LR		LR	08 07 49.5	
	comp=Z,8.4nm,18.0s,baz=172,slow=46							
PPT	**Papeete**	**85.11**	**108**	LR		LR	07 50 23.5	
	comp=Z,52nm,18.3s,baz=118,slow=33							
BRTR	**Keskin Array B**	**90.01**	**310**	P		**P**	07 15 47.6	-2.7
	1.5nm,0.8s,baz=115,slow=5.6,SNR=6.9							
BRTR				LR		LR	08 02 40.6	
	comp=Z,29nm,18.8s,baz=314,slow=40							
ARCES	**ARCESS Array B**	**90.41**	**340**	P		**P**	07 15 48.8	-2.6
	2.1nm,0.7s,baz=76,slow=7.6,SNR=4.8							
FINES	**FINESS Array B**	**91.80**	**332**	P		**P**	07 15 56.6	-1.3
	1.2nm,0.8s,baz=74,slow=6.8,SNR=3.7							
AKASG	**Malin Array Be**	**91.87**	**321**	P		**P**	07 15 55.5	-3.0
	0.3nm,0.3s,baz=64,slow=5.7,SNR=5.0							
BUR08	**Bucovina Ar. S**	**94.99**	**318**	*eP*		**P**	07 16 12.5	-0.6
NB2	**NORSAR Subarra**	**98.76**	**334**	P		**P**	07 16 28.0	-1.8
	comp=Z,1.5nm,0.7s,baz=68,slow=4.6							
NOA	**NORSAR Array B**	**98.76**	**334**	P		**P**	07 16 27.1	-2.6
	comp=Z,1.0nm,0.7s,baz=68,slow=4.5,SNR=4.6							
NOA				LR		LR	08 05 33.9	
	comp=Z,34nm,19.9s,baz=75,slow=38							
TXAR	**Lajitas Array**	**121.56**	**52**	PKP		**PKPdf**	07 21 44.6	0.0
	comp=Z,0.1nm,0.6s,baz=219,slow=3.2,SNR=3.6							

IDC 14 07:06:13.8±6.2, 4.05N×127.04E, h73km±68km, mb3.7/4, mb1 4.0/5, mb1mx3.5/44, mbtmp4.1/5, ML4.4/1, Error ellipse: s-maj=132.8km s-min=24.0km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.46**	**139**	P	Pn	07 07 46.4	+0.1
	8.9nm,0.3s,baz=327,slow=19,SNR=10.0						
WRA	**Warramunga Arr**	**24.89**	**164**	P	P	07 11 28.1	-1.9
	5.7nm,0.9s,baz=343,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**28.35**	**167**	P	P	07 12 02.8	+1.7
	0.5nm,0.3s,baz=343,slow=11,SNR=5.3						
STKA	**Stephens Creek**	**38.32**	**160**	P	P	07 13 27.5	0.0
	2.3nm,0.6s,baz=349,slow=9.3,SNR=6.3						
MKAR	**Makanchi Array**	**57.47**	**325**	P	P	07 15 55.2	-0.1
	0.9nm,0.6s,baz=124,slow=7.7,SNR=6.6						

*IDC **14** 07:14:10.2±1.3, 7.69N×91.86E, h0km, mb3.3/5, mb1 3.6/6, mb1mx3.4/50, mbtmp3.5/6, ML4.1/1, Error ellipse: s-maj=44.2km s-min=21.8km az=55.0*
*ISCJB **14** 07:14:11.4±0.9, 7.6N±0.2×91.7E±0.1, h24km, mb3.4/5, Error ellipse: s-maj=23.2km s-min=17.0km az=26.9*
ISC 14 07:14:13.6±1.1, 7.7N±0.2×91.8E±0.1, h24km, n9, σ0.8s28/6, mb3.4/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.02**	**269**	Pn	**Pn**	**07 16 49.9**	**0.0**
	1.3nm,0.3s,baz=84,slow=12,SNR=4.2						
H08S3	**Diego Garcia H**	**24.55**	**232**	T	T	07 45 53.6	
	baz=52,slow=75,SNR=5.0						
H08S2	**Diego Garcia H**	**24.55**	**232**	T	T	07 45 39.7	
	baz=52,slow=75,SNR=8.2						
H08S1	**Diego Carcia H**	**24.56**	**232**	T	T	07 45 55.9	
	baz=52,slow=75,SNR=7.0						
MKAR	**Makanchi Array**	**39.83**	**350**	P	**P**	**07 21 45.0**	**0.0**
	0.3nm,0.6s,baz=172,slow=9.6,SNR=3.7						
SONM	**Songino Array**	**41.90**	**15**	P	**P**	**07 22 02.2**	**-0.1**
	0.6nm,0.6s,baz=186,slow=5.5,SNR=3.0						
BVAR	**Borovoye Array**	**48.47**	**343**	P	**P**	**07 22 54.3**	**+0.1**
	0.2nm,0.4s,baz=156,slow=7.9,SNR=2.4						
WRA	**Warramunga Arr**	**50.04**	**124**	P	**P**	**07 23 06.5**	**-0.3**
	0.3nm,0.8s,baz=310,slow=7.9,SNR=4.4						
ASAR	**Alice Springs**	**51.58**	**128**	P	**P**	**07 23 18.7**	**+0.3**
	0.4nm,1.0s,baz=294,slow=7.8,SNR=3.1						

*IDC **14** 07:55:02.6±1.2, 7.78N×92.08E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.6/33, mbtmp3.7/8, ML4.2/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/35, Error ellipse: s-maj=37.5km s-min=19.5km az=61.0*
*ISCJB **14** 07:55:04.2±0.8, 7.7N±0.1×92.0E±0.1, h25km, mb3.7/6, Error ellipse: s-maj=17.0km s-min=13.1km az=144.9*
ISC 14 07:55:06.2±1.0, 7.8N±0.1×92.1E±0.1, h25km, n18, σ0.9s80/16, mb3.8/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.28**	**268**	Pn	**Pn**	**07 57 45.5**	**-0.5**
	0.8nm,0.3s,baz=91,slow=17,SNR=3.7						
PALK				Sn	Sn	07 59 36.0	-15
	1.7nm,0.3s,baz=346,slow=19,SNR=5.3						
PALK				LR	LR	08 01 08.6	
	comp=Z,76nm,21.5s,baz=92,slow=32						
CMAR	**Chiang Mai Arr**	**12.57**	**31**	Pn	**Pn**	**07 58 03.0**	**-0.5**
	0.6nm,0.3s,baz=234,slow=14,SNR=5.1						
RAMN	**Ramite**	**19.78**	**345**	*eP*	**Pn**	**07 59 36.8**	**+0.2**
	8.9nm,0.5s						
TAPN	**Taplejung**	**19.92**	**349**	*eP*	**Pn**	**07 59 37.8**	**-0.5**
	26nm,1.1s						
JIRN	**Jiri**	**20.57**	**345**	*eP*	**P**	**07 59 44.6**	**+1.0**
PKI	**Pulchoki**	**20.69**	**343**	*eP*	**P**	**07 59 46.1**	**+1.1**
GUN	**Gumba**	**20.88**	**344**	*eP*	**P**	**07 59 48.2**	**+1.1**
	20nm,0.7s						
GKN	**Gorkha**	**21.33**	**342**	*eP*	**P**	**07 59 52.5**	**+0.8**
	11nm,0.8s						
KOLN	**Koldanda**	**21.46**	**339**	*eP*	**P**	**07 59 53.9**	**+0.8**
	16nm,0.7s						
H08S3	**Diego Garcia H**	**24.79**	**232**	T	T	08 26 36.3	
	baz=56,slow=74,SNR=5.2						
H08S2	**Diego Garcia H**	**24.80**	**232**	T	T	08 26 34.9	
	baz=56,slow=74,SNR=3.6						
H08S1	**Diego Carcia H**	**24.81**	**232**	T	T	08 26 46.2	
	baz=56						
MKAR	**Makanchi Array**	**39.79**	**349**	P	**P**	**08 02 37.9**	**+0.6**
	1.0nm,0.8s,baz=168,slow=8.4,SNR=8.4						
SONM	**Songino Array**	**41.76**	**14**	P	**P**	**08 02 53.3**	**-0.3**
	1.1nm,0.7s,baz=204,slow=10,SNR=3.1						
ZALV	**Zalesovo Beam**	**46.43**	**354**	P	**P**	**08 03 29.9**	**-0.8**
	0.8nm,0.5s,baz=176,slow=7.1,SNR=2.5						
BVAR	**Borovoye Array**	**48.46**	**343**	P	**P**	**08 03 46.9**	**+0.3**
	1.0nm,0.7s,baz=154,slow=11,SNR=5.2						
WRA	**Warramunga Arr**	**49.88**	**124**	P	**P**	**08 03 57.5**	**-0.5**
	0.5nm,0.9s,baz=300,slow=8.6,SNR=3.9						
ASAR	**Alice Springs**	**51.43**	**129**	P	**P**	**08 04 10.9**	**+1.2**
	0.4nm,0.8s,baz=300,slow=7.3,SNR=3.0						
ASAR				PcP	**PcP**	**08 05 23.8**	**-0.3**
	0.3nm,0.6s,baz=294,slow=4.9,SNR=4.6						

*IDC **14** 08:11:34.3±1.0, 28.12N×57.30E, h0km, mb3.9/14, mb1 4.0/15, mb1mx3.8/40, mbtmp3.9/15, ML3.4/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/44, Error ellipse: s-maj=23.5km s-min=18.2km az=9.0*
*DSN **14** 08:11:37.5±0.0, 28.26N×57.72E, h35km±22km, mb3.6/8, ML4.1/5, Error ellipse: s-maj=10.9km s-min=4.5km az=302.0*
*ISCJB **14** 08:11:38.5±0.4, 28.18N±0.03×57.48E±0.06, h30km, mb3.8/14, Error ellipse: s-maj=7.0km s-min=3.9km az=1.8*
*THR **14** 08:11:39.7±0.5, 28.31N×57.17E, h14km±5km, ML3.9*
*CSEM **14** 08:11:40.3±0.3, 28.12N×57.32E, h20km, ML3.9, Error ellipse: s-maj=9.9km s-min=5.5km az=89.0*
*TEH **14** 08:11:40.5, 28.18N×57.32E, h26km, ML3.9*
*OMAN **14** 08:11:45.1±99.0, 27.59N×57.39E, h8km, Error ellipse: s-maj=27.6km s-min=3.0km az=8.0*
ISC 14 08:11:39.5±0.7, 28.18N±0.04×57.44E±0.07, h30km, n78, σ1.9s30/68, mb3.8/14, 6C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBND	**Bandar-abas**	**1.08**	**228**	*ePg*	**Pn**	**08 11 59.1**	**+0.5**
IBND				*e*		08 12 16.1	
	comp=Z,40μm,0.2s						
IBND	**Bandar-abas**	**1.08**	**228**	*ePg*	**Pn**	**08 11 59.1**	**+0.5**
BNDS	**Bandar-Abbas**	**1.37**	**236**	*ePg*	**Pn**	**08 12 03.1**	**+0.4**
BNDS				AML	AML	08 12 23.3	
	comp=N,2μm,0.4s						
BNDS				AML	AML	08 12 25.7	
	comp=E,2μm,0.4s						
BNDS	**Bandar-Abbas**	**1.37**	**236**	*ePg*	**Pn**	**08 12 03.1**	**+0.4**
	comp=E,2μm,0.4s						
CHMN	**Cheshme madani**	**1.68**	**3**	*ePn*	**Pn**	**08 12 07.4**	**+0.3**
CHMN	**Cheshme madani**	**1.68**	**3**	*ePn*	**Pn**	**08 12 07.4**	**+0.3**
KRBR	**Kerman**	**1.89**	**342**	*ePg*	**Pn**	**08 12 10.8**	**+0.8**
KRBR				AML	AML	08 12 44.0	
	comp=E,1μm,0.5s						
KRBR				AML	AML	08 12 45.8	
	comp=N,1μm,0.5s						
KRBR	**Kerman**	**1.89**	**342**	*ePg*	**Pn**	**08 12 10.8**	**+0.8**
	comp=N,1μm,0.5s						
KHGB	**Koh Gabri**	**2.34**	**339**	*ePn*	**Pb**	**08 12 20.5**	**-0.7**
BANOM	**Banah**	**2.47**	**205**	P	**Pn**	**08 12 18.2**	**+0.5**
BANOM				S	**Sn**	**08 12 48.8**	**+1.9**
BANOM	**Banah**	**2.47**	**205**	⇑P	**Pn**	**08 12 18.2**	**+0.5**
BANOM	**Banah**	**2.47**	**205**	⇑*eP*	**Pn**	**08 12 18.0**	**+0.3**
	SNR=29						
BANOM				⇓S	**Sn**	**08 12 48.8**	**+1.9**
ZHSF	**Zahedan**	**3.25**	**63**	*ePn*	Pn	08 12 34.7	+6.1
ZHSF	**Zahedan**	**3.25**	**63**	*ePn*	Pn	08 12 34.7	+6.1
HATD	**Hatta, Dubai**	**3.54**	**200**	P	**Pn**	**08 12 31.7**	**-0.8**
	SNR=6.6						
HATD	**Hatta, Dubai**	**3.54**	**200**	⇑*iP*	**Pn**	**08 12 31.7**	**-0.8**
	SNR=6.6						
NAZ	**Nazwa, Dubai**	**3.56**	**207**	P	**Pn**	**08 12 32.2**	**-0.4**
NAZ	**Nazwa, Dubai**	**3.56**	**207**	⇓P	**Pn**	**08 12 32.2**	**-0.4**
ASHO	**Ashiyiah**	**3.70**	**200**	P	**Pn**	**08 12 35.3**	**+0.7**
	SNR=10						
ASHO	**Ashiyiah**	**3.70**	**200**	P	**Pn**	**08 12 36.2**	**+1.6**
	SNR=10						
ASHO	**Ashiyiah**	**3.70**	**200**	⇓*iP*	**Pn**	**08 12 35.3**	**+0.7**
	SNR=10						
IBAF	**Bafgh**	**3.77**	**335**	*ePn*	**Pn**	**08 12 37.3**	**+1.6**
IBAF				*e*		08 13 37.4	
	comp=Z,1μm,0.4s						
IBAF	**Bafgh**	**3.77**	**335**	*ePn*	**Pn**	**08 12 37.3**	**+1.6**

GHIR	**Ghir-Karzin**	**3.93**	**273**	*ePn*	**Pn**	**08 12 38.6**	**+0.7**
GHIR	**Ghir-Karzin**	**3.93**	**273**	*ePn*	**Pn**	**08 12 38.6**	**+0.7**
ISRV	**Sarvestan**	**3.98**	**289**	*ePn*	**Pn**	**08 12 40.1**	**+1.3**
ISRV				*e*		08 13 34.8	
	comp=Z,2μm,0.2s						
ISRV	**Sarvestan**	**3.98**	**289**	*ePn*	**Pn**	**08 12 40.1**	**+1.3**
ASUD	**Al Ashush, Dub**	**4.01**	**209**	P	**Pn**	**08 12 40.0**	**+1.0**
	SNR=12						
ASUD	**Al Ashush, Dub**	**4.01**	**209**	⇑*iP*	**Pn**	**08 12 40.0**	**+1.0**
	SNR=12						
IMEH	**Mehriz**	**4.03**	**323**	*ePn*	**Pn**	**08 12 41.3**	**+1.9**
IMEH				*e*		08 12 55.7	
	comp=Z,865nm,0.1s						
IMEH	**Mehriz**	**4.03**	**323**	*ePn*	**Pn**	**08 12 41.3**	**+1.9**
IPAR	**Pars**	**4.19**	**294**	*ePn*	**Pn**	**08 12 42.7**	**+1.1**
IPAR				*e*		08 14 05.3	
	comp=Z,1μm,0.4s						
IPAR	**Pars**	**4.19**	**294**	*ePn*	**Pn**	**08 12 42.7**	**+1.1**
IKOO	**Kooshah**	**4.44**	**17**	*ePn*	Pn	08 12 48.4	+3.4
IKOO				*e*		08 14 08.8	
	comp=E,2μm,0.2s						
IKOO	**Kooshah**	**4.44**	**17**	*ePn*	Pn	08 12 48.4	+3.4
HOQ	**Hoqain**	**4.58**	**181**	P	**Pn**	**08 12 46.5**	**-0.3**
HOQ	**Hoqain**	**4.58**	**181**	⇓P	**Pn**	**08 12 46.5**	**-0.3**
ARQ	**Araqi**	**4.89**	**190**	P	**Pn**	**08 12 53.4**	**+2.3**
	SNR=59						
ARQ	**Araqi**	**4.89**	**190**	P	**Pn**	**08 12 53.4**	**+2.3**
	SNR=59						
ISAD	**Sadrabad**	**4.94**	**320**	*ePn*	**Pn**	**08 12 54.1**	**+2.1**
ISAD				*e*		08 14 31.9	
	comp=E,435nm,0.2s						
ISAD	**Sadrabad**	**4.94**	**320**	*ePn*	**Pn**	**08 12 54.1**	**+2.1**
SMDO	**Samad**	**5.13**	**174**	P	**Pn**	**08 12 54.7**	**+0.3**
SMDO	**Samad**	**5.13**	**174**	⇑P	**Pn**	**08 12 54.7**	**+0.3**
IKAZ	**Kazeroun**	**5.16**	**289**	*ePn*	**Pn**	**08 12 56.5**	**+1.6**
IKAZ				*e*		08 13 57.6	
	comp=Z,3μm,0.2s						
IKAZ	**Kazeroun**	**5.16**	**289**	*ePn*	**Pn**	**08 12 56.5**	**+1.6**
BSY	**Bisya**	**5.42**	**182**	⇑P	**Pn**	**08 13 00.7**	**+2.4**
BSYO	**Bisya**	**5.43**	**182**	P	**Pn**	**08 13 00.7**	**+2.3**
TABS	**Tabas**	**5.46**	**357**	*ePn*	**Pn**	**08 13 01.1**	**+2.2**
TABS	**Tabas**	**5.46**	**357**	*ePn*	**Pn**	**08 13 01.1**	**+2.2**
WBK	**Wadi Bani Khal**	**5.72**	**166**	P	**Pn**	**08 13 03.0**	**+0.6**
WBK	**Wadi Bani Khal**	**5.72**	**166**	⇓P	**Pn**	**08 13 03.0**	**+0.6**
SHRT	**Shahrakht**	**5.97**	**24**	*ePn*	Pn	08 13 09.9	+4.0
SHRT	**Shahrakht**	**5.97**	**24**	*ePn*	Pn	08 13 09.9	+4.0
NASN	**Na'in**	**6.09**	**320**	*ePn*	**Pn**	**08 13 08.6**	**+0.8**
NASN	**Na'in**	**6.09**	**320**	*ePn*	**Pn**	**08 13 08.6**	**+0.8**
IPIR	**Pirpir**	**7.22**	**310**	*ePn*	**Pn**	**08 13 25.5**	**+2.3**
IPIR				*e*		08 14 51.1	
	comp=N,284nm,0.2s						
IPIR	**Pirpir**	**7.22**	**310**	*ePn*	**Pn**	**08 13 25.5**	**+2.3**
SNGE	**Sanandaj**	**11.02**	**311**	*ePn*	**Pn**	**08 14 16.1**	**+0.9**
SNGE	**Sanandaj**	**11.02**	**311**	*ePn*	**Pn**	**08 14 16.1**	**+0.9**
ABTO	**Aybut**	**11.43**	**200**	P	Pn	08 14 18.6	-2.2
	SNR=8.4						
ABTO	**Aybut**	**11.43**	**200**	P	Pn	08 14 18.6	-2.2
	SNR=8.4						
GNI	**Garni**	**15.88**	**322**	LR	LR	08 21 58.1	
	comp=N,57nm,19.4s,baz=22,slow=39						
KBZ	**Khabaz**	**19.43**	**327**	P	**P**	**08 16 02.6**	**-0.7**
	comp=N,0.1nm,0.3s,baz=140,slow=0.9,SNR=2.2						
MMAI	**Mount Meron Ar**	**19.56**	**290**	LR	LR	08 25 48.1	
	comp=N,41nm,18.4s,baz=185,slow=44						
AKTO	**Aktyubinsk**	**22.23**	**1**	P	**P**	**08 16 34.0**	**+0.4**
	comp=N,4.7nm,0.4s,baz=175,slow=9.5,SNR=24						
BRTR	**Keskin Array B**	**22.78**	**307**	P	**P**	**08 16 38.9**	**-0.9**
	comp=N,2.1nm,0.8s,baz=111,slow=9.4,SNR=12						
BVAR	**Borovoye Array**	**26.61**	**18**	P	**P**	**08 17 15.9**	**+0.9**
	comp=N,1.6nm,0.5s,baz=198,slow=8.6,SNR=10						
MKAR	**Makanchi Array**	**26.91**	**40**	P	**P**	**08 17 17.9**	**0.0**
	comp=N,0.8nm,0.7s,baz=223,slow=7.6,SNR=9.5						
KURBB	**Kurchatov Arra**	**27.53**	**30**	P	**P**	**08 17 24.4**	**+1.1**
	comp=N,1.6nm,0.7s,baz=229,slow=8.6,SNR=14						
AKASG	**Malin Array Be**	**30.99**	**324**	P	**P**	**08 17 52.7**	**-1.4**
	comp=N,0.6nm,0.5s,baz=129,slow=8.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**32.62**	**30**	P	**P**	**08 18 08.4**	**+0.1**
	comp=N,4.5nm,0.3s,baz=245,slow=11,SNR=4.0						
FINES	**FINESS Array B**	**39.27**	**337**	P	P	08 19 02.5	-2.7
	comp=N,0.4nm,0.4s,baz=134,slow=12,SNR=4.4						
GERES	**GERESS Array B**	**39.28**	**314**	P	**P**	**08 19 04.0**	**-1.5**
	comp=N,0.4nm,0.5s,baz=123,slow=12,SNR=4.1						
ARCES	**ARCESS Array B**	**45.31**	**345**	P	**P**	**08 19 53.6**	**-0.6**
	comp=N,1.5nm,0.8s,baz=133,slow=9.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**53.83**	**266**	P	**P**	**08 20 58.1**	**-1.8**
	comp=N,1.5nm,0.6s,baz=61,slow=6.8,SNR=14						
KSRS	**Korea Array**	**58.72**	**61**	P	P	08 21 33.1	-1.4
	comp=N,0.4nm,0.3s,baz=282,slow=5.6,SNR=3.6						
WRA	**Warramunga Arr**	**88.34**	**114**	P	**P**	**08 24 28.9**	**+0.2**
	comp=N,0.7nm,0.9s,baz=315,slow=4.1,SNR=4.9						
ASAR	**Alice Springs**	**89.89**	**117**	P	**P**	**08 24 37.0**	**+1.1**
	comp=N,0.3nm,0.8s,baz=311,slow=4.8,SNR=3.4						

**IDC 14 08:24:41.2±7.0, 6

GERES	**GERESS Array B**	**76.30**	**318**	P		**P**	**08 45 49.1**	**+1.8**	
	0.3nm,0.2s,baz=72,slow=6.3,SNR=3.0								
NOA	**NORSAR Array B**	**78.62**	**331**	LR		LR	09 24 35.3		
	comp=Z,24nm,19.2s,baz=115,slow=39								

IDC ***14*** *08:42:05.8±10.0, 36.65N×71.97E, h207km±126km, mb3.2/2, mb1 3.0/5, mb1mx2.8/40, mbtmp3.6/5, Error ellipse: s-maj=113.4km s-min=53.6km az=120.0*
NNC ***14*** *08:42:18.9±4.8, 37.35N×71.90E, h215km±43km, mb2.0, mpv3.2, Error ellipse: s-maj=48.3km s-min=17.1km az=158.0*

ISC 14 08:42:05.6±1.8, 36.7N±0.1×72.1E±0.1, h200km, n9, σ2≤89/9, 2C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.35**	**311**	⇓P		Pn	08 43 06.9	+7.3
	17nm,0.3s							
DZET				⇓S		**Sn**	**08 43 46.3**	**+4.5**
	150nm,0.4s							
SFK	**Sufi-Kurgan**	**3.52**	**18**	⇓P		Pn	08 43 07.7	+6.0
	2.5nm,0.2s							
SFK				⇓S		**Sn**	**08 43 48.8**	**+3.0**
	26nm,0.3s							
AAK	**Ala-Archa**	**6.25**	**17**	⇑P		Pn	08 43 43.7	+7.6
	2.1nm,0.7s							
AAK				⇓S		**Sn**	**08 44 48.6**	**+0.7**
	1.7nm,0.3s							
KK31	**Karatay Array**	**6.54**	**350**	⇑P		Pn	08 43 46.8	+6.9
	0.2nm,0.3s,baz=162,slow=13,SNR=4.8							
KK31				⇓S		**Sn**	**08 44 50.5**	**-4.1**
	0.5nm,0.2s,baz=174,slow=21,SNR=7.2							
MKAR	**Makanchi Array**	**12.66**	**34**	P		**Pn**	**08 44 60.0**	**+1.3**
	0.2nm,0.3s,baz=221,slow=11,SNR=9.5							
KURBB	**Kurchatov Arra**	**14.70**	**16**	P		**Pn**	**08 45 23.4**	**-0.5**
	0.0nm,0.3s,baz=204,slow=11,SNR=3.7							
ZALV	**Zalesovo Beam**	**19.41**	**23**	P		**P**	**08 46 16.6**	**+0.2**
	0.3nm,0.3s,baz=218,slow=9.1,SNR=2.5							
ARCES	**ARCESS Array B**	**41.33**	**337**	P		**P**	**08 49 30.6**	**-0.6**
	2.3nm,0.9s,baz=107,slow=7.8,SNR=4.1							
TORD	**Torodi Ar. Bea**	**66.59**	**269**	P		**P**	**08 52 33.5**	**-1.2**
	0.2nm,0.4s,baz=43,slow=5.2,SNR=4.1							

BJI 14 09:07:44.5, 37.97N×120.83E, h6km, ML3.8/6, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DL2	**Dalian**	**1.12**	**34**	Pg	Pg	09 08 04.9	-1.2
DL2				Sg	Sg	09 08 19.8	-0.9
DL2				SMN			
	3μm,0.6s						
DL2				SME			
	2μm,0.6s						
TIA	**Tai'an**	**3.44**	**240**	Pg	Pb	09 08 46.3	+0.4
TIA				Sg	Sb	09 09 27.8	-0.3
TIA				SMN			
	120nm,0.5s						
TIA				SME			
	60nm,0.4s						

IDC 14 09:26:19.3±4.3, 0.75S×136.79E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/30, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=197.7km s-min=27.1km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.22**	**187**	P		P	09 30 44.1	-1.1
	0.1nm,0.3s,baz=5.8,slow=11,SNR=5.7							
ASAR	**Alice Springs**	**22.95**	**187**	P		P	09 31 25.9	+0.5
	1.6nm,0.8s,baz=13,slow=11,SNR=12							
MKAR	**Makanchi Array**	**67.08**	**323**	P		P	09 37 14.7	+0.1
	0.1nm,0.5s,baz=116,slow=6.6,SNR=2.5							

PDA 14 09:35:02.6±1.2, 39.41N×29.78W, h5km, MD3.5, ML2.6, Error ellipse: s-maj=28.6km s-min=10.6km az=47.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.15**	**132**	*e*P	Pg	09 35 20.0	-4.6
PCED				*e*S	Sg	09 35 33.1	-6.4
PCED				A	A	09 35 36.0	
	35nm,0.3s						
CALA	**Caldeira**	**1.18**	**134**	*e*S	Sg	09 35 34.8	-6.0
PCAN	**Candelaria**	**1.38**	**133**	*e*P	Pn	09 35 23.8	-4.8
PCAN				*e*S	Sb	09 35 39.9	-7.1
PCAN				A	A	09 35 42.0	
	35nm,0.2s						
ROSA	**Rosais**	**1.38**	**119**	*e*S	Sb	09 35 39.4	-7.6
ROSA				A	A	09 35 44.6	
	19nm,0.5s						
PICO	**Pico**	**1.39**	**130**	*e*P	Pn	09 35 24.2	-4.6
PICO				*e*S	Sb	09 35 40.3	-7.1
PGRA	**Graciosa**	**1.45**	**105**	*e*P	Pg	09 35 36.9	+6.5

NIED ***14*** *09:40:00, 25.80N×130.00E, h5km, Mw4.1 Best double couple: M₀1.40000×10¹⁵ NP1:φs20.00000°, δ23.00000°, λ-159.00000°. NP2:φs270.00000°, δ82.00000°, λ-68.00000°.*
JMA ***14*** *09:40:24.5±0.1, 25.77N×130.04E, h40km, M3.5*
IDC ***14*** *09:40:25.4±1.6, 25.86N×129.86E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.5/37, mbtmp3.8/6, ML3.1/1, MS2.8/5, Ms1 2.8/5, ms1mx2.6/29, Error ellipse: s-maj=52.0km s-min=22.9km az=67.0*
ISCJB ***14*** *09:40:26.4±0.7, 25.88N±0.05×129.99E±0.04, h33km, mb3.8/5, Error ellipse: s-maj=6.5km s-min=5.2km az=5.7*

ISC 14 09:40:26.8±1.2, 25.76N±0.07×130.03E±0.04, h35km, n23, σ2≤09/30, mb3.8/5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMZ	**Minamidaito 2**	**1.08**	**86**	P	**Pn**	**09 40 43.3**	**-2.1**
JMZ				S	**Sn**	**09 40 56.8**	**-2.4**
JOW	**Kunigami**	**1.90**	**305**	P	**Pn**	**09 40 55.7**	**-1.1**
JOW				S	**Sn**	**09 41 17.9**	**-1.7**
JOW	**Kunigami**	**1.90**	**305**	Pn	**Pn**	**09 40 55.6**	**-1.2**
	baz=119,slow=17						
JNTH	**Nagotoyohara**	**1.96**	**293**	P	**Pn**	**09 40 56.2**	**-1.3**
JNTH				S	**Sn**	**09 41 18.2**	**-2.6**
JOKE	**Okinoerabujima**	**2.06**	**321**	P	**Pn**	**09 40 58.3**	**-0.7**
JOKE				S	**Sn**	**09 41 20.7**	**-2.8**
JJT2	**Tamagusuku 2**	**2.09**	**281**	P	**Pn**	**09 40 58.7**	**-0.6**
JJT2				S	**Sn**	**09 41 23.4**	**-0.7**
JTK	**Tokunoshima**	**2.24**	**335**	P	**Pn**	**09 41 00.5**	**-0.9**
JTK				S	**Sn**	**09 41 25.5**	**-2.3**
JIH	**Iheya**	**2.24**	**305**	P	**Pn**	**09 41 01.0**	**-0.5**
JIH				S	**Sn**	**09 41 25.3**	**-2.7**
JZK	**Kikaishima**	**2.55**	**359**	P	**Pn**	**09 41 05.8**	**+0.1**
JZK				*e*S	**Sn**	**09 41 34.4**	**-1.1**
JAMN	**Amaminishikomi**	**2.59**	**343**	P	**Pn**	**09 41 05.2**	**-1.0**
JAMN				*e*S	**Sn**	**09 41 33.3**	**-3.2**
JAGN	**Aguni-jima**	**2.64**	**289**	P	**Pn**	**09 41 06.1**	**-0.8**
JAGN				S	**Sn**	**09 41 36.1**	**-1.5**
JAM	**Amami Oshima**	**2.67**	**352**	P	**Pn**	**09 41 06.4**	**-1.0**
JAM				*e*S	**Sn**	**09 41 35.0**	**-3.5**
JKE	**Kume jima 2**	**2.97**	**282**	P	**Pn**	**09 41 09.9**	**-1.6**
JKE				*e*S	**Sn**	**09 41 42.2**	**-3.7**
JNU	**Nakatsue**	**7.38**	**6**	Pn	**Pn**	**09 42 12.8**	**+0.7**
	0.3nm,0.3s,baz=254,slow=7.4,SNR=3.7						
JNU				LR	LR	09 45 24.4	
	comp=Z,69nm,19.4s,baz=159,slow=41						
KSRS	**Korea Array**	**11.80**	**352**	LR	LR	09 48 11.3	
	comp=Z,22nm,20.1s,baz=195,slow=40						
MJAR	**Matsushiro Arr**	**12.82**	**31**	LR	LR	09 47 59.7	
	comp=Z,38nm,18.4s,baz=205,slow=35						
GUMO	**Guam**	**18.47**	**128**	LR	LR	09 50 33.7	
	comp=Z,31nm,21.9s,baz=60,slow=33						
USRK	**Ussuriysk Ar.**	**18.47**	**4**	LR	LR	09 51 57.4	
	comp=Z,52nm,18.6s,baz=6.9,slow=38						
MKAR	**Makanchi Array**	**43.05**	**312**	P	**P**	**09 48 25.7**	**+2.4**
	1.3nm,0.8s,baz=102,slow=10,SNR=14						
ZALV	**Zalesovo Beam**	**43.60**	**323**	P	**P**	**09 48 29.9**	**+2.4**
	2.1nm,0.3s,baz=116,slow=5.0,SNR=7.2						
WRA	**Warramunga Arr**	**45.62**	**174**	P	P	09 48 48.2	+4.3
	0.5nm,0.8s,baz=355,slow=8.4,SNR=4.1						
KURBB	**Kurchatov Arra**	**46.31**	**316**	P	**P**	**09 48 51.8**	**+2.7**
	1.3nm,0.8s,baz=104,slow=8.6,SNR=7.3						
BVAR	**Borovoye Array**	**51.70**	**318**	P	**P**	**09 49 33.0**	**+2.6**
	0.8nm,0.7s,baz=114,slow=9.9,SNR=4.4						

SJA ***14*** *09:48:39.4±1.1, 33.46S×73.61W, h40km, ML4.8*
IDC ***14*** *09:48:46.1±0.8, 33.93S×72.03W, h0km, mb4.0/6, mb1 4.2/8, mb1mx4.0/26, mbtmp4.1/8, ML4.3/2, MS4.0/4, Ms1 4.0/4, ms1mx3.5/17, Error ellipse: s-maj=25.7km s-min=15.2km az=108.0*
GUC ***14*** *09:48:48.7±0.7, 33.99S×72.17W, h7km±2km, ML4.6*
NEIC ***14*** *09:48:49.4±0.8, 33.80S×72.14W, h25km, mb4.4/3, Error ellipse: s-maj=20.6km s-min=11.9km az=94.0*

ISC 14 09:48:46.2±1.7, 33.90S±0.03×72.30W±0.05, h5km±10km, n53, σ1≤44/69, mb4.3/7, MS3.8/3, 6C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.74**	**95**	⇓*i*P	**Pb**	**09 49 01.8**	**+0.2**
IHA	**Instituto Hidr**	**1.03**	**32**	⇑*i*P	**Pn**	**09 49 08.3**	**+1.0**
IHA				*i* S	**Sn**	**09 49 23.1**	**+0.9**
CHCH	**Chadas Angostu**	**1.37**	**92**	⇑*i*P	**Pn**	**09 49 11.7**	**-0.4**
NICH	**Los Niches**	**1.41**	**141**	⇑*i*P	**Pn**	**09 49 11.7**	**-0.9**
NICH				*i* S	**Sb**	**09 49 29.4**	**-2.0**
SAN	**Santiago**	**1.44**	**72**	⇓*i*P	**Pg**	**09 49 13.5**	**-0.3**
SAN				*i* S	**Sb**	**09 49 31.6**	**-0.5**
PCH	**Pirque**	**1.51**	**80**	⇓*i*P	**Pb**	**09 49 14.3**	**-0.6**
PCH				*i* S	**Sn**	**09 49 33.8**	**-0.5**
FSR	**Penalolen**	**1.54**	**75**	*e*P	**Pg**	**09 49 15.6**	**-0.1**
FSR				*i* S	**Sg**	**09 49 35.6**	**0.0**
LACH	**Col Las Americ**	**1.54**	**74**	*e*P	**Pb**	**09 49 14.9**	**-0.4**
LACH				*i* S	**Sn**	**09 49 34.6**	**-0.3**
PEL	**Peldehue**	**1.55**	**61**	⇑*i*P	**Pg**	**09 49 15.6**	**-0.2**
PEL				*i* S	**Sg**	**09 49 35.4**	**-0.5**
PEL				AML	AML	09 49 44.3	
	comp=E,19μm,0.5s						
CLCH	**Cerro Calan**	**1.56**	**72**	⇓*i*P	**Pb**	**09 49 15.2**	**-0.3**
CLCH				*i* S	**Sb**	**09 49 35.1**	**-0.4**
CLCH				AML	AML	09 49 44.1	
	comp=E,10μm,0.4s						
TALC	**Talca**	**1.59**	**160**	⇑*i*P	**Pb**	**09 49 15.6**	**-0.5**
TALC				*i* S	**Sn**	**09 49 35.1**	**-0.9**
SJCH	**San Jose de Ma**	**1.64**	**81**	⇑*i*P	**Pn**	**09 49 15.3**	**-0.5**
SJCH				*i* S	**Sn**	**09 49 36.8**	**-0.6**
YECH	**El Yeso**	**1.86**	**83**	*e*P	**Pb**	**09 49 20.8**	**-0.1**
YECH				AML	AML	09 49 57.4	
	comp=N,11μm,0.5s						
LNCH	**Linares**	**2.03**	**164**	⇓*i*P	**Pn**	**09 49 21.4**	**+0.4**
LNCH				*i* S	**Sn**	**09 49 46.9**	**+0.2**
AUSP	**Uspallata**	**2.96**	**56**	*i* P	**Pb**	**09 49 37.6**	**-2.0**
AUSP				*i* S	**Sg**	**09 50 22.1**	**+0.6**
ARCO	**CERRO ARCO**	**3.01**	**70**	*i* P	**Pb**	**09 49 39.3**	**-1.1**
ARCO				*i* S	**Sg**	**09 50 25.8**	**+2.8**
ARCO				AML	AML	09 50 28.6	
	comp=Z,808nm,0.6s						
AAGR	**Agrelo**	**3.01**	**75**	*i* P	**Pb**	**09 49 39.7**	**-0.7**
AAGR				*i* S	**Sg**	**09 50 26.7**	**+3.7**
ASAL	**Salagasta**	**3.18**	**67**	*i* P	**Pb**	**09 49 42.6**	**-0.7**
ASAL				*i* S	**Sg**	**09 50 28.9**	**+0.4**
RTLS	**Leoncito**	**3.28**	**51**	*i* P	Pn	09 49 41.7	+3.1
RTLS				*i* S	**Sb**	**09 50 28.3**	**+2.8**
RTCV	**Cerro Valdivia**	**3.76**	**58**	*i* P	Pn	09 49 48.1	+3.2
RTCV				*i* S	**Sb**	**09 50 40.6**	**+1.6**
SJA	**San Juan**	**3.94**	**54**	*i* P	**Pn**	**09 49 48.5**	**+1.1**
SJA				*i* S	**Sb**	**09 50 44.0**	**-0.3**
SJA				AML	AML	09 51 01.0	
	comp=Z,558nm,0.6s						
CANA	**Caviahue**	**4.10**	**166**	*i* P	Pn	09 49 53.2	+3.5
CANA				*i* S	**Sb**	**09 50 49.4**	**+0.4**
CFAA	**Coronel Fontan**	**4.12**	**57**	Pn	**Pn**	**09 49 49.9**	**0.0**
	comp=Z,0.9nm,0.3s,baz=226,slow=12,SNR=41						
CFAA				Lg	Lg	09 50 51.0	
	comp=Z,8.0nm,0.3s,baz=65,slow=12,SNR=6.9						
CFAA				LR	LR	09 51 23.0	
	comp=Z,55nm,19.0s,baz=224,slow=40						
CFAA	**Coronel Fontan**	**4.12**	**57**	*i* P	**Pn**	**09 49 52.2**	**+2.3**
CFAA				*i* S	**Sb**	**09 50 49.4**	**+0.1**
RTLL	**Cerro Villicun**	**4.12**	**53**	*i* P	**Pn**	**09 49 52.6**	**+2.7**
RTLL				*i* S	**Sb**	**09 50 47.8**	**-1.6**
AMOG	**MOGNA**	**4.37**	**49**	*i* P	**Pn**	**09 49 56.0**	**+2.7**
AMOG				*i* P	**Pn**	**09 49 56.0**	**+2.7**
ACAN	**Cantantal**	**4.59**	**71**	*i* P	Pn	09 49 59.9	+3.6
LCO	**Las Campanas**	**5.06**	**16**	*e*Pn	Pn	09 49 57.9	-5.2
LCO	**Las Campanas**	**5.06**	**16**	*e*P	**Pn**	**09 50 04.2**	**+1.2**
LCO				*e*S	**Sg**	**09 51 25.7**	**-3.2**
AVFE	**Valle Fertil**	**5.22**	**53**	*i* P	**Pn**	**09 50 07.6**	**+2.6**
AVFE				AML	AML	09 51 25.7	
	comp=Z,771nm,0.8s						
ACLC	**CERRO LA CRUZ**	**6.38**	**47**	*e*P	**Pn**	**09 50 23.8**	**+2.8**
PLCA	**Paso Flores**	**6.96**	**169**	Pn	**Pn**	**09 50 29.6**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=342,slow=9.0,SNR=9.2						
PLCA				Lg	Lg	09 52 24.2	
	comp=Z,0.8nm,0.3s,baz=264,slow=12,SNR=4.7						
CYA	**Choya**	**7.78**	**47**	*e*P	**Pn**	**09 50 39.1**	**-1.1**
AHML	**Horco Molle**	**9.30**	**42**	*e*P	**Pn**	**09 50 57.8**	**-3.2**
TRQA	**Tornquist**	**9.34**	**119**	*e*Pn	**Pn**	**09 51 01.7**	**+0.2**
	comp=Z,15nm,0.9s						
FSA	**Cafayete**	**9.50**	**37**	*e*P	**Pn**	**09 51 03.3**	**-0.6**
SLA	**San Lorenzo**	**10.90**	**35**	*e*P	**Pn**	**09 51 24.2**	**+1.2**
LVC	**Limon Verde**	**11.63**	**16**	Pn	Pn	09 51 29.7	-3.5
	comp=Z,39nm,0.3s,baz=220,slow=3.8,SNR=9.3						
LVC				Lg	Lg	09 54 44.7	
	comp=Z,60nm,0.3s,baz=61,slow=6.2,SNR=8.1						
LVC				LR	LR	09 56 30.0	
	comp=Z,2μm,21.7s,baz=207,slow=40						
CPUP	**Villa Florida**	**14.98**	**64**	*e*Pn	**Pn**	**09 52 17.1**	**-1.6**
	comp=Z,0.1nm,0.6s						
LPAZ	**La Paz**	**17.94**	**13**	P	**P**	**09 52 58.4**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=184,slow=6.3,SNR=49						
LPAZ	**La Paz**	**17.94**	**13**	P	**P**	**09 52 58.4**	**+0.7**
	comp=Z,7.8nm,0.8s						
SIV	**San Ignacio**	**20.50**	**32**	P	**P**	**09 53 25.1**	**-0.2**
	comp=Z,5.8nm,0.6s						
SIV				LR	LR	10 02 47.8	
	comp=Z,388nm,18.9s,baz=200,slow=41						
SAML	**Samuel**	**26.21**	**21**	*e*P	**P**	**09 54 22.3**	**+0.3**
	comp=Z,6.6nm,0.8s						
BDFB	**Brasilia**	**28.46**	**56**	P	**P**	**09 54 41.1**	**-1.3**
	comp=Z,3.6nm,0.8s,baz=257,slow=9.8,SNR=4.2						
BDFB				LR	LR	10 07 23.9	
	comp=Z,380nm,19.4s,baz=221,slow=40						
SNAA	**Sanae**	**51.76**	**158**	P	**P**	**09 57 54.0**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=279,slow=5.6,SNR=6.7						
QSPA	**South Pole Qui**	**56.34**	**180**	P	**P**	**09 58 29.5**	**+1.6**
	comp=Z,3.2nm,1.0s,baz=165,slow=3.0,SNR=6.1						
TXAR	**Lajitas Array**	**69.54**	**331**	P	**P**	**09 59 58.1**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=153,slow=8.7,SNR=11						
WVT	**Waverly**	**71.16**	**347**	*e*P	**P**	**10 00 05.3**	**-0.4**
	comp=Z,3.9nm,0.7s						
DBIC	**Dimbokro**	**75.35**	**71**	LR	LR	10 30 59.7	
	comp=Z,43nm,18.9s,baz=192,slow=34						
TORD	**Torodi Ar. Bea**	**84.38**	**70**	P	**P**	**10 01 19.9**	**0.0**
	comp=Z,2.1nm,0.7s,baz=280,slow=6.1,SNR=17						
WRA	**Warramunga Arr**	**120.74**	**209**	PKP	**PKPdf**	**10 07 39.3**	**-0.7**
	comp=Z,0.6nm,1.1s,baz=157,slow=1.7,SNR=5.1						
ZALV	**Zalesovo Beam**	**154.26**	**32**	PKPbc	**PKPbc**	**10 08 46.5**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=316,slow=2.8,SNR=10						
MKAR	**Makanchi Array**	**156.86**	**49**	PKPab	**PKPab**	**10 09 10.9**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=298,slow=2.6,SNR=7.3						

SJA ***14*** *09:53:43.3±0.5, 33.89S×73.23W, h10km, MD3.6*
GUC ***14*** *09:53:54.7±0.6, 34.00S×72.14W, h7km±2km, ML3.2*

ISC 14 09:53:54.1±2.5, 34.02S±0.04×72.10W±0.08, h4km±17km, n21, σ1≤27/32, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.58**	**84**	⇓*i*P	**Pb**	**09 54 07.4**	**+0.6**
LNV				*i* S	**Sb**	**09 54 16.5**	**+1.1**
TACH	**Talagante**	**1.04**	**70**	⇓*i*P	**Pn**	**09 54 14.1**	**-1.4**
TACH				*i* S	**Sb**	**09 54 29.1**	**+0.4**
IHA	**Instituto Hidr**	**1.06**	**21**	⇑*i*P	**Pb**	**09 54 13.9**	**-1.2**
IHA				*i* S	**Sb**	**09 54 29.0**	**-0.3**
CHCH	**Chadas Angostu**	**1.21**	**86**	*e*P	**Pn**	**09 54 17.1**	**-0.7**
NICH	**Los Niches**	**1.22**	**144**	*e*P	**Pn**	**09 54 17.7**	**-0.2**
NICH				*i* S	**Sn**	**09 54 34.6**	**-0.3**
SAN	**Santiago**	**1.33**	**65**	⇑*i*P	**Pn**	**09 54 19.0**	**-0.5**
SAN				*i* S	**Sn**	**09 54 37.1**	**-0.6**
PCH	**Pirque**	**1.38**	**74**	*e*P	**Pn**	**09 54 19.9**	**-0.3**
PCH				*i* S	**Sn**	**09 54 39.0**	**0.0**
TALC	**Talca**	**1.43**	**164**	⇑*i*P	**Pn**	**09 54 20.8**	**0.0**
TALC				*i* S	**Sn**	**09 54 39.8**	**-0.2**
SJCH	**San Jose de Ma**	**1.50**	**76**	⇑*i*P	**Pn**	**09 54 21.3**	**-0.7**
SJCH				*i* S	**Sn**	**09 54 41.8**	**-0.3**
SJCH				AML	AML	09 54 47.9	
	comp=E,564nm,0.4s						
LNCH	**Linares**	**1.87**	**167**	*e*P	**Pn**	**09 54 27.6**	**+0.7**
AAGR	**Agrelo**	**2.89**	**72**	*i* P	**Pb**	**09 54 44.9**	**-1.4**
AUSP	**Uspallata**	**2.90**	**53**	*i* P	**Pn**	**09 54 43.0**	**+1.7**
AUSP				*i* S	**Sg**	**09 55 27.4**	**+0.1**
ARCO	**CERRO ARCO**	**2.90**	**67**	*e*P	**Pb**	**09 54 47.1**	**+0.6**
ASAL	**Salagasta**	**3.09**	**63**	*i* P	Pn	09 54 46.8	+3.1
ASAL				*i* S	**Sg**	**09 55 33.1**	**-0.2**
RTLS	**Leoncito**	**3.24**	**48**	*i* P	**Pn**	**09 54 47.5**	**+1.5**
RTLS				*i* S	**Sb**	**09 55 35.1**	**+2.9**
RTCV	**Cerro Valdivia**	**3.69**	**55**	*i* P	**Pn**	**09 54 54.3**	**+2.3**
CFAA	**Coronel Fontan**	**4.05**	**55**	*e*P	**Pn**	**09 54 58.6**	**+1.7**
RTLL	**Cerro Villicun**	**4.07**	**50**	*i* P	**Pn**	**09 54 58.5**	**+1.3**
RTLL				*i* S	**Sb**	**09 55 54.1**	**-1.8**
AMOG	**MOGNA**	**4.33**	**46**	*e*P	**Pn**	**09 55 01.5**	**+0.7**
ACAN	**Cantantal**	**4.47**	**68**	*e*P	Pn	09 55 08.1	+5.3
AVFE	**Valle Fertil**	**5.17**	**51**	*e*P	**Pn**	**09 55 13.5**	**+1.2**
AVFE				*e*S	**Sb**	**09 56 25.1**	**-2.5**

SJA ***14*** *10:01:13.1±1.0, 34.20S×73.24W, h10km, ML4.1, MW3.7*
IDC ***14*** *10:01:23.1±1.5, 34.05S×71.88W, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.7/16, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=60.6km s-min=22.5km az=81.0*
GUC ***14*** *10:01:26.1±0.6, 34.00S×72.19W, h8km±2km, ML3.7*

ISC 14 10:01:23.5±1.7, 34.00S±0.04×72.28W±0.07, h5km±10km, n27, σ1≤57/46, 3C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.72**	**87**	⇓*i*P	**Pb**	**10 01 39.1**	**+0.6**
LNV				*i* S	**Sb**	**10 01 48.6**	**-0.2**
TACH	**Talagante**	**1.17**	**73**	⇓*i*P	**Pg**	**10 01 46.1**	**+0.2**
TACH				*i* S	**Sb**	**10 02 01.4**	**-0.3**
NICH	**Los Niches**	**1.32**	**139**	⇑*i*P	**Pg**	**10 01 49.1**	**+0.2**
NICH				*i* S	**Sn**	**10 02 06.7**	**0.0**
CHCH	**Chadas Angostu**	**1.35**	**88**	*e*P	**Pb**	**10 01 49.1**	**-0.2**
CHCH				*i* S	**Sb**	**10 02 06.4**	**-0.6**
SAN	**Santiago**	**1.45**	**68**	*e*P	**Pb**	**10 01 51.0**	**0.0**
SAN				*e*S	**Sn**	**10 02 09.5**	**-0.4**
TALC	**Talca**	**1.49**	**159**	⇑*i*P	**Pg**	**10 01 52.1**	**0.0**
TALC				*i* S	**Sg**	**10 02 11.4**	**-0.1**
PCH	**Pirque**	**1.52**	**76**	⇑*i*P	**Pb**	**10 01 51.9**	**-0.3**
PCH				*i* S	**Sb**	**10 02 11.6**	**-0.1**
FSR	**Penalolen**	**1.55**	**71**	*e*P	**Pg**	**10 01 53.4**	**+0.3**
FSR				*i* S	**Sb**	**10 02 13.8**	**+0.6**
CLCH	**Cerro Calan**	**1.57**	**68**	*e*P	**Pb**	**10 01 52.7**	**-0.4**
CLCH				*e*S	**Sb**	**10 02 12.8**	**-0.5**
CLCH				AML	AML	10 02 21.7	
	comp=E,2μm,0.4s						
SJCH	**San Jose de Ma**	**1.64**	**78**	⇓*i*P	**Pn**	**10 01 53.0**	**-0.1**
SJCH				*i* S	**Sn**	**10 02 14.1**	**-0.5**
SJCH				AML	AML	10 02 20.0	
	comp=E,2μm,0.4s						
LNCH	**Linares**	**1.93**	**163**	⇓*i*P	**Pg**	**10 02 00.3**	**-0.1**
LNCH				*i* S	**Sg**	**10 02 25.0**	**-0.4**
AUSP	**Uspallata**	**3.00**	**55**	*e*P	**Pb**	**10 02 15.7**	**-1.9**
AUSP				*e*S	**Sg**	**10 03 01.1**	**+1.1**
AAGR	**Agrelo**	**3.02**	**73**	*e*P	**Pb**	**10 02 15.9**	**-1.9**
AAGR				*e*S	**Sg**	**10 03 01.8**	**+1.3**
ARCO	**CERRO ARCO**	**3.03**	**69**	*e*P	**Pb**	**10 02 16.0**	**-2.0**
ARCO				IAML		10 02 23.5	
	comp=Z,360nm,0.6s						
ASAL	**Salagasta**	**3.21**	**65**	*e*P	**Pb**	**10 02 18.5**	**-2.5**
ASAL				*e*S	**Sg**	**10 03 06.3**	**-0.2**
RTLS	**Leoncito**	**3.33**	**50**	*e*P	Pb	10 02 20.0	-3.2
RTLS				*e*S	**Sg**	**10 03 09.5**	**-1.0**
RTCV	**Cerro Valdivia**	**3.80**	**57**	*e*P	Pn	10 02 26.1	+3.4
RTCV				*e*S	**Sb**	**10 03 20.1**	**+2.8**
SJA	**San Juan**	**3.99**	**53**	*e*S	**Sb**	**10 03 23.8**	**+1.0**
SJA				IAML		10 03 50.8	
	comp=Z,135nm,0.8s						
CFAA	**Coronel Fontan**	**4.16**	**56**	*e*P	**Pn**	**10 02 30.6**	**+2.9**
CFAA				*e*S	**Sb**	**10 03 28.5**	**+0.8**
RTLL	**Cerro Villicun**	**4.17**	**51**	*e*P	**Pn**	**10 02 30.6**	**+2.8**
RTLL				*e*S	**Sb**	**10 03 28.2**	**+0.2**

ERM	**Erimo**	**9.01**	**3**	*d*	*i*P		Pn	10 09 40.6	-3.6
ERM					pmax		pmax		
	comp=Z,94nm,1.0s								
ERM	**Erimo**	**9.01**	**3**	*e*	Pn		Pn	10 09 40.7	-3.6
	comp=Z,63nm,0.6s								
JNU	**Nakatsue**	**9.72**	**274**		Pn		**Pn**	**10 09 53.5**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=173,slow=3.2,SNR=10.0								
JNU					LR		LR	10 14 02.5	
	comp=Z,323nm,19.0s,baz=99,slow=40								
ASAJ	**Asahikawa**	**11.10**	**1**		Pn		**Pn**	**10 10 09.7**	**-3.1**
	comp=Z,16nm,0.3s,baz=220,slow=8.0,SNR=66								
ASAJ	**Asahikawa**	**11.10**	**1**		P		**Pn**	**10 10 09.7**	**-3.1**
ASAJ					pmax		pmax		
	comp=Z,16nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**11.33**	**13**	*e*	P		Pn	10 10 11.8	-4.2
YUK					pmax		pmax		
	comp=N,23nm,0.4s								
YUK					pmax		pmax		
	comp=E,35nm,0.4s								
YUK					pmax		pmax		
	comp=Z,59nm,0.4s								
KSRS	**Korea Array**	**12.69**	**295**		Pn		**Pn**	**10 10 37.0**	**+2.5**
	comp=Z,0.5nm,0.3s,baz=102,slow=13,SNR=15								
KSRS					LR		LR	10 15 52.7	
	comp=Z,294nm,20.5s,baz=104,slow=39								
KSRS	**Korea Array**	**12.69**	**295**		P		**Pn**	**10 10 37.1**	**+2.5**
KSRS					pmax		pmax		
	comp=Z,1.0nm,0.3s								
KSRS					MLR		MLR		
	comp=Z,294nm,20.5s								
KSAR	**Wonju Array Be**	**12.71**	**294**		Pn		**Pn**	**10 10 37.0**	**+2.1**
TJN	**Taejon**	**12.87**	**289**	*i*	P		**Pn**	**10 10 39.7**	**+2.6**
KUR	**Kuril'sk**	**12.91**	**17**		P		**Pn**	**10 10 37.6**	**+0.1**
KUR					pmax		pmax		
	comp=N,25nm,0.1s								
KUR					pmax		pmax		
	comp=E,27nm,0.1s								
KUR					pmax		pmax		
	comp=Z,61nm,2.7s								
KUR					pmax		pmax		
	comp=N,98nm,1.5s								
KUR					pmax		pmax		
	comp=E,436nm,4.7s								
USRK	**Ussuriysk Ar.**	**13.84**	**327**		Pn		**Pn**	**10 10 49.0**	**-1.3**
	comp=E,0.4nm,0.3s,baz=137,slow=11,SNR=34								
YSS	**Yuzh-Sakhalins**	**13.94**	**1**	⇑	*i*P		Pn	10 10 48.2	-3.4
YSS					*e*S		Sn	10 13 18.0	-7.9
YSS					pmax		pmax		
	comp=Z,60nm,1.0s								
MDJ	**Mudanjiang**	**15.31**	**323**		P		**Pn**	**10 11 08.1**	**-2.1**
MDJ					S		**Sn**	**10 13 57.4**	**-2.0**
MDJ					ScP		**ScP**	**10 19 48.6**	**+0.4**
MDJ					PcS		**PcS**	**10 19 49.8**	**-0.1**
MDJ					PMZ				
	comp=Z,10.0nm,1.0s								
MDJ					PMZ				
	comp=Z,26nm,2.9s								
MDJ					LN				
	comp=Z,380nm,14.4s								
MDJ					LE				
	comp=Z,320nm,12.7s								
MDJ	**Mudanjiang**	**15.31**	**323**	*e*	Pn		**Pn**	**10 11 09.7**	**-0.5**
	comp=Z,30nm,1.0s								
UGL	**Uglegorsk**	**16.06**	**359**	*e*	P		**P**	**10 11 24.2**	**+1.0**
UGL				*e*	S		**Sn**	**10 14 12.2**	**-5.4**
HABR	**Khabarovsk**	**16.43**	**342**	*de*	P		**Pn**	**10 11 21.2**	**-3.4**
HABR				*e*	S		**Sn**	**10 14 22.5**	**-4.0**
HABR					pmax		pmax		
	comp=E,19nm,1.3s								
HABR					pmax		pmax		
	comp=Z,69nm,1.3s								
HABR					pmax		pmax		
	comp=N,31nm,1.3s								
HABR					MLR		MLR		
	comp=Z,178nm,18.0s								
CN2	**Changchun**	**17.11**	**314**	⇑	P		**Pn**	**10 11 32.4**	**-0.9**
CN2				*e*	sP		**sP**	**10 11 39.0**	**-2.4**
CN2				*e*	S		**Sn**	**10 14 41.3**	**-1.9**
CN2					PMZ				
	comp=Z,30nm,0.7s								
CN2					PMZ				
	comp=Z,200nm,4.0s								
CN2					LN				
	comp=Z,500nm,13.0s								
CN2					LE				
	comp=Z,500nm,13.0s								
KLR	**Kul'dur**	**18.08**	**337**	*e*	P		Pn	10 11 38.2	-7.0
KLR					pmax		pmax		
	comp=E,26nm,1.4s								
KLR					pmax		pmax		
	comp=Z,43nm,1.4s								
GUMO	**Guam**	**19.45**	**173**		P		**P**	**10 11 58.7**	**-2.0**
	comp=Z,6.4nm,0.3s,baz=48,slow=1.2,SNR=9.5								
GUMO					LR		LR	10 21 27.8	
	comp=Z,56nm,19.7s,baz=20,slow=43								
GUMO	**Guam**	**19.45**	**173**		P		**P**	**10 11 58.7**	**-2.0**
GUMO					pmax		pmax		
	comp=Z,6.0nm,0.3s								
GUMO					MLR		MLR		
	comp=Z,57nm,19.7s								
NJ2	**Nanjing**	**19.92**	**274**	*e*	P		**Pn**	**10 12 08.3**	**+0.7**
NJ2					S		**Sn**	**10 15 51.0**	**-0.3**
NJ2					LN				
	comp=Z,650nm,17.4s								
NJ2					LE				
	comp=Z,2μm,16.6s								
NJ2					LZ				
	comp=Z,3μm,18.4s								
NKL	**Nikolayevsk**	**20.18**	**357**	*e*	P		**P**	**10 12 08.0**	**-0.5**
NKL					pmax		pmax		
	comp=Z,55nm,1.1s								
NKL					pmax		pmax		
	comp=N,500nm,8.0s								
NKL					MLR		MLR		
	comp=N,400nm,16.0s								
NKL					MLR		MLR		
	comp=E,500nm,16.0s								
YHNB	**Yeheng**	**20.23**	**251**	*e*	Pn		**P**	**10 12 08.0**	**-1.4**
	comp=E,83nm,1.5s								
YULB	**Yu-li**	**20.93**	**248**	*e*	P		**P**	**10 12 16.6**	**-0.3**
	comp=E,13nm,0.8s								
SSLB	**Suanglung**	**21.00**	**250**	*e*	P		**P**	**10 12 16.6**	**-1.1**
TIA	**Tai'an**	**21.08**	**286**	⇑	P		**P**	**10 12 17.9**	**-0.6**
TIA					S		**S**	**10 16 06.9**	**-5.7**
TIA					PMZ				
	comp=E,10.0nm,0.7s								
TIA					LN				
	comp=E,530nm,15.8s								
TIA					LE				
	comp=E,1μm,16.8s								
TIA					LZ				
	comp=E,2μm,15.8s								
BJI	**Beijing**	**22.21**	**296**		P		**P**	**10 12 32.3**	**+1.8**
BJI					S		**S**	**10 16 34.8**	**+0.3**
BJI					PMZ				
	comp=E,17nm,0.8s								
BJI					PMZ				
	comp=E,100nm,4.1s								
BJI					LN				
	comp=E,190nm,13.8s								
BJI					LE				
	comp=E,540nm,15.3s								
BJT	**Baijiatuao**	**22.21**	**296**	*e*	P		**P**	**10 12 31.0**	**+0.5**
PETK	**Petropavlovsk-**	**22.88**	**24**		LR		LR	10 25 06.9	
	comp=E,121nm,18.1s,baz=230,slow=46								
HIA	**Hailar**	**23.46**	**321**	*e*	P		**P**	**10 12 42.4**	**-1.1**
	comp=E,13nm,0.6s								
WHN	**Wuhan**	**24.00**	**272**		P		**P**	**10 12 47.3**	**-1.5**
WHN					S		**S**	**10 16 58.9**	**-6.2**
WHN					LN				
	comp=E,760nm,10.8s								
WHN					LE				
	comp=E,550nm,11.8s								
WHN					LZ				
	comp=E,850nm,14.6s								
H11N2	**WAKE ISLAND Hy**	**25.50**	**115**		T		T	10 39 43.3	
	baz=307,slow=75,SNR=13								
H11N1	**WAKE ISLAND Hy**	**25.50**	**115**		T		T	10 39 44.6	
	baz=307,slow=75,SNR=16								
H11N3	**WAKE ISLAND Hy**	**25.52**	**115**		T		T	10 39 41.6	
	baz=307,slow=75,SNR=18								
HHC	**Hu-ho-hao-te**	**25.82**	**297**	*e*	P		**P**	**10 13 07.8**	**+2.4**
HHC					PP		**PnPn**	**10 13 46.6**	**+4.3**
HHC					S		**S**	**10 17 32.8**	**-1.5**
HHC					sS		**sS**	**10 17 39.8**	**-2.4**
HHC					SS		**SnSn**	**10 18 37.4**	**+7.4**
HHC					PMZ				
	comp=E,17nm,0.8s								
HHC					PMZ				
	comp=E,130nm,4.0s								
HHC					LN				
	comp=E,200nm,10.6s								
HHC					LE				
	comp=E,410nm,10.5s								
HHC					LZ				
	comp=E,320nm,11.0s								
H11S3	**WAKE ISLAND Hy**	**26.08**	**118**		T		T	10 40 34.3	
	baz=311,slow=76,SNR=5.9								
H11S1	**WAKE ISLAND Hy**	**26.09**	**118**		T		T	10 40 32.4	
	baz=311,slow=76,SNR=6.1								
H11S2	**WAKE ISLAND Hy**	**26.10**	**118**		T		T	10 40 35.6	
	baz=311,slow=76,SNR=7.3								
CLNS	**Chul'man**	**26.73**	**338**	*e*	P		**P**	**10 13 13.3**	**0.0**
CLNS				*e*	*i*PP		**pP**	**10 13 23.0**	**+4.9**
CLNS				*e*				10 13 56.5	
CLNS				*e*	PPP		PPP	10 14 04.3	
CLNS				*e*				10 16 33.5	
CLNS				*e*	S		**S**	**10 17 49.8**	**+1.6**
CLNS				*e*	SS		SnSn	10 19 05.1	+13
CLNS					pmax		pmax		
	comp=Z,14nm,1.1s								
CLNS					pmax		pmax		
	comp=N,17nm,1.6s								
CLNS					pmax		pmax		
	comp=E,7.0nm,1.1s								
CLNS					pmax		pmax		
	comp=Z,10.0nm,1.1s								
CLNS					pmax		pmax		
	comp=E,5.0nm,1.2s								
CLNS					pmax		pmax		
	comp=N,11nm,0.9s								
CLNS					smax		smax		
	comp=N,96nm,13.1s								
CLNS					smax		smax		
	comp=E,104nm,15.6s								
CLNS					MLR		MLR		
	comp=E,212nm,13.0s								
CLNS					MLR		MLR		
	comp=N,228nm,16.0s								
CLNS					MLR		MLR		
	comp=Z,297nm,16.0s								
XAN	**Xi'an**	**27.91**	**281**		P		**P**	**10 13 20.8**	**-3.5**
XAN					S		S	10 17 58.8	-8.6
XAN					PMZ				
	comp=Z,2.0nm,0.7s								
XAN					PMZ				
	comp=Z,11nm,4.8s								
XAN					LN				
	comp=Z,200nm,15.6s								
XAN					LE				
	comp=Z,120nm,15.6s								
YAK	**Yakutsk**	**30.18**	**348**		LR		LR	10 28 05.7	
	comp=Z,145nm,18.1s,baz=188,slow=41								
YAK	**Yakutsk**	**30.18**	**348**	*e*	P			10 13 57.0	+13
YAK				*e*	*i*PP		pP	10 14 05.2	+16
YAK				*e*				10 16 48.2	
YAK				*e*				10 24 25.7	
YAK					pmax		pmax		
	comp=Z,24nm,1.0s								
YAK					pmax		pmax		
	comp=N,5.0nm,1.2s								
YAK					pmax		pmax		
	comp=E,3.0nm,1.0s								
YAK					MLR		MLR		
	comp=Z,226nm,15.0s								
YAK					MLR		MLR		
	comp=N,150nm,13.0s								
YAK					MLR		MLR		
	comp=E,127nm,16.0s								
SEY	**Seymchan**	**30.60**	**9**		P		**P**	**10 13 47.9**	**+0.1**
	comp=E,5.4nm,0.6s,baz=190,slow=8.1,SNR=14								
SEY	**Seymchan**	**30.60**	**9**	⇓	*i*P		**P**	**10 13 47.2**	**-0.5**
SONM	**Songino Array**	**30.88**	**309**		P		**P**	**10 13 51.9**	**+1.3**
	comp=E,13nm,0.9s,baz=114,slow=9.4,SNR=20								
SONM					LR		LR	10 28 47.1	
	comp=E,258nm,18.5s,baz=80,slow=41								
SONM	**Songino Array**	**30.88**	**309**		P		**P**	**10 13 51.9**	**+1.3**
SONM					pmax		pmax		
	comp=Z,13nm,0.9s								
SONM					MLR		MLR		
	comp=Z,258nm,18.5s								
BOD	**Bodaibo**	**31.43**	**331**	*e*	P		**P**	**10 13 55.5**	**+0.4**
BOD					pmax		pmax		
	comp=Z,29nm,1.0s								
GYA	**Guiyang**	**31.66**	**268**		P		**P**	**10 13 57.8**	**+0.2**
GYA					PP		**PnPn**	**10 15 02.4**	**+1.1**
GYA					S		**S**	**10 19 06.0**	**-0.4**
GYA					ScP		**ScP**	**10 20 32.3**	**+0.2**
GYA					SS		**SnSn**	**10 20 54.8**	**+2.1**
GYA					PMZ				
	comp=Z,20nm,0.8s								
GYA					PMZ				
	comp=Z,120nm,4.9s								
GYA					LN				
	comp=Z,540nm,17.8s								
GYA					LE				
	comp=Z,520nm,18.0s								
GYA					LZ				
	comp=Z,490nm,17.6s								
LZH	**Lanzhou**	**31.82**	**286**	*e*	P		**P**	**10 14 01.8**	**+2.8**
LZH					pP		**pP**	**10 14 05.0**	**+1.2**
LZH					sP		**sP**	**10 14 07.3**	**+1.5**
LZH					PMZ				
	comp=Z,15nm,1.0s								
LZH					PMZ				
	comp=Z,63nm,4.2s								
LZH					LN				
	comp=Z,430nm,17.2s								
LZH					LE				
	comp=Z,990nm,18.2s								
LZH					LZ				
	comp=Z,610nm,17.8s								
QIZ	**Qiongzhong**	**32.30**	**253**		P		**P**	**10 14 02.3**	**-0.8**
QIZ					S		**S**	**10 19 15.8**	**-0.5**
QIZ					LN				
	comp=Z,210nm,19.2s								
CD2	**Chengdu**	**32.78**	**277**	*e*	P		**P**	**10 14 06.4**	**-1.0**
CD2					pP		**pP**	**10 14 09.5**	**-2.7**
CD2					PP		**PP**	**10 15 20.3**	**-1.2**
CD2					PcP		**PcP**	**10 16 51.8**	**-0.6**
CD2					S		**S**	**10 19 23.8**	**0.0**
CD2					PMZ				
	comp=Z,20nm,0.5s								
CD2					PMZ				
	comp=Z,120nm,5.2s								
CD2					LN				
	comp=Z,400nm,12.7s								
CD2					LE				
	comp=Z,860nm,15.1s								
CD2					LZ				
	comp=Z,1μm,15.1s								
ZAK	**Zakamensk**	**33.55**	**313**	*e*	P		**P**	**10 14 11.0**	**-2.9**
ZAK					pmax		pmax		
	comp=Z,5.0nm,1.4s								
TLY	**Talaya**	**33.71**	**315**		P		**P**	**10 14 16.9**	**+1.7**
	comp=Z,6.3nm,0.7s,baz=117,slow=7.9,SNR=4.2								
TLY					LR		LR	10 29 08.8	
	comp=Z,259nm,18.0s,baz=109,slow=38								
TLY	**Talaya**	**33.71**	**315**	*e*	P			10 14 18.4	+3.2
TLY				*e*	S		**S**	**10 19 33.5**	**-4.2**
TLY					pmax		pmax		
	comp=Z,16nm,1.1s								
TLY					MLR		MLR		
	comp=Z,243nm,15.0s								
GTA	**Gaotai**	**34.75**	**293**	*e*	P		**P**	**10 14 25.4**	**+0.9**
GTA					PcP		**PcP**	**10 17 01.0**	**+3.0**
GTA					S		**S**	**10 19 56.9**	**+2.6**
GTA					ScP		**ScP**	**10 20 39.1**	**-3.6**
GTA					PMZ				
	comp=Z,5.0nm,1.5s								
GTA					PMZ				
	comp=Z,63nm,5.4s								
GTA					LN				
	comp=Z,140nm,15.2s								
GTA					LE				
	comp=Z,270nm,17.1s								
GTA					LZ				
	comp=Z,340nm,16.1s								
KMI	**Kunming**	**35.43**	**268**		P		**P**	**10 14 31.3**	**+0.7**
KMI					S		**S**	**10 20 04.3**	**-0.9**
KMI					PMZ				
	comp=Z,6.0nm,0.7s								
KMI					LN				
	comp=Z,190nm,14.1s								
KMI					LE				
	comp=Z,180nm,19.4s								
KMI					LZ				
	comp=Z,220nm,13.5s								
BILL	**Bilibino**	**37.68**	**14**	⇓	*i*P		**P**	**10 14 49.5**	**+0.5**
BILL					pmax		pmax		
	comp=Z,8.0nm,0.8s								
BILL					MLR		MLR		
	comp=Z,87nm,20.0s								
MRSI	**Marisa**	**37.68**	**215**		P		**P**	**10 14 49.6**	**+0.1**
	comp=Z,91nm,1.1s,comp=Z,914nm								
APSI	**Ampana**	**39.03**	**214**		P		**P**	**10 14 59.7**	**-1.2**
	comp=Z,167nm,0.8s,comp=Z,2μm								
TIXI	**Tiksi**	**39.39**	**353**	⇓	*i*P		**P**	**10 15 03.5**	**+0.3**
TIXI					pmax		pmax		
	comp=Z,3.0nm,1.0s								
HVS	**Khovu-Aksy**	**39.65**	**312**	*e*	P		**P**	**10 15 05.7**	**-0.1**
HVS					pmax		pmax		
	comp=Z,132nm,1.1s								
KRAR	**Krasnoyarsk**	**41.02**	**319**	*e*	P		**P**	**10 15 18.1**	**+1.1**
KRAR					pmax		pmax		
	comp=Z,13nm,1.2s								
CMAR	**Chiang Mai Arr**	**41.50**	**261**		P		**P**	**10 15 21.1**	**-0.3**
	comp=Z,1.7nm,0.3s,baz=48,slow=7.2,SNR=4.9								
CMAR					LR		LR	10 35 48.6	
	comp=Z,139nm,18.8s,baz=94,slow=41								
CMAR	**Chiang Mai Arr**	**41.50**	**261**		P		**P**	**10 15 21.1**	**-0.3**
CMAR					pmax		pmax		
	comp=Z,2.0nm,0.3s								
CMAR					MLR		MLR		
	comp=Z,139nm,18.8s								
SPSI	**Sidrap Palu**	**42.59**	**215**		P		**P**	**10 15 29.1**	**-1.2**
	comp=Z,37nm,0.8s								
KSM	**Kuching**	**43.53**	**231**	*e*	P		**P**	**10 15 37.8**	**-0.1**
	comp=Z,14nm,0.6s								
WMQ	**Urumqi**	**43.54**	**301**		P		**P**	**10 15 36.9**	**-0.9**
WMQ					pP		**pP**	**10 15 41.4**	**-1.3**
WMQ					sP		**sP**	**10 15 43.9**	**-0.8**
WMQ					PP		**PP**	**10 17 19.8**	**+0.8**
WMQ					PcP		**PcP**	**10 17 26.4**	**+1.0**
WMQ					S		**S**	**10 22 03.4**	**-2.8**
WMQ					LN				
	comp=Z,63nm,8.0s								
WMQ					LE				
	comp=Z,91nm,11.0s								
BKSI	**Bulukumba**	**43.61**	**213**		P		P	10 15 35.5	-3.0
	comp=Z,18nm,0.9s								
ZAA0	**Zalesovo Array**	**45.33**	**315**	*e*	P		**P**	**10 15 52.4**	**+0.6**
ZALV	**Zalesovo Beam**	**45.33**	**315**		P		**P**	**10 15 51.9**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=106,slow=7.3,SNR=8.8								
ZALV					PcP		**PcP**	**10 17 30.0**	**-1.3**
	comp=Z,6.1nm,0.7s,baz=103,slow=3.4,SNR=6.1								
ZALV					ScP		**ScP**	**10 21 24.9**	**+1.6**
	comp=Z,1.3nm,0.7s,baz=56,slow=0.5,SNR=3.6								
ZALV					LR		LR	10 36 10.5	
	comp=Z,121nm,18.7s,baz=70,slow=38								
ZALV	**Zalesovo Beam**	**45.33**	**315**		P		**P**	**10 15 51.9**	**+0.1**
ZALV								10 17 30.0	
ZALV					pmax		pmax		
	comp=Z,2.0nm,0.6s								
ZALV					pmax		pmax		
	comp=Z,6.0nm,0.7s								
ZALV					pmax		pmax		
	comp=N,1.0nm,0.7s								
ZALV					MLR		MLR		
	comp=Z,121nm,18.7s								
NVS	**Novosibirsk**	**46.30**	**317**	*e*	P		**P**	**10 16 00.6**	**+1.1**
NVS					pmax		pmax		
	comp=N,6.0nm,0.7s								
NVS					pmax		pmax		
	comp=E,16nm,0.7s								
NVS					pmax		pmax		
	comp=Z,20nm,0.7s								
MK31	**Makanchi Array**	**47.07**	**306**	*e*	P		**P**	**10 16 06.5**	**+0.7**
MKAR	**Makanchi Array**	**47.07**	**306**		P		**P**	**10 16 06.7**	**+0.9**
	comp=Z,7.5nm,0.5s,baz=90,slow=9.8,SNR=37								
MKAR					LR		LR	10 37 24.3	
	comp=Z,110nm,18.8s,baz=88,slow=38								
MKAR	**Makanchi Array**	**47.07**	**306**		P		**P**	**10 16 06.7**	**+0.9**
MKAR					pmax		pmax		
	comp=Z,8.0nm,0.5s								
MKAR					MLR		MLR		
	comp=Z,110nm,18.8s								
TAPN	**Taplejung**	**47.23**	**278**	*e*	P		**P**	**10 16 08.6**	**+1.1**
	comp=Z,41nm,1.0s								
ODAN	**Odare**	**47.67**	**278**	*e*	P		**P**	**10 16 11.1**	**+0.2**
RAMN	**Ramite**	**48.29**	**278**	*e*	P		**P**	**10 16 16.2**	**+0.4**
	comp=Z,87nm,0.9s								
JIRN	**Jiri**	**48.38**	**279**	*e*	P		**P**	**10 16 17.0**	**+0.4**
	comp=Z,64nm,0.8s								
GUN	**Gumba**	**48.55**	**280**	*e*	P		**P**	**10 16 19.5**	**+1.7**
	comp=Z,82nm,0.9s								
ABJI	**Asem Bagus**	**48.66**	**219**		P		**P**	**10 16 18.1**	**-0.1**
	comp=Z,90nm,1.2s								
PKI	**Pulchoki**	**49.06**	**280**	*e*	P		**P**	**10 16 23.0**	**+1.3**
	comp=Z,36nm,0.9s								
KKN	**Kakani**	**49.09**	**280**	*e*	P		**P**	**10 16 23.8**	**+2.0**
	comp=Z,50nm,0.9s								
KURK	**Kurchatov**	**49.16**	**311**		P		**P**	**10 16 23.0**	**+1.2**
KURK					pmax		pmax		
	comp=Z,4.0nm,0.5s								
KURK	**Kurchatov**	**49.16**	**311**		P		**P**	**10 16 22.9**	**+1.2**
KURBB	**Kurchatov Arra**	**49.22**	**311**		P		**P**	**10 16 22.9**	**+0.7**
	comp=Z,4.1nm,0.5s,baz=86,slow=7.2,SNR=50								
GKN	**Gorkha**	**49.54**	**280**	*e*	P		**P**	**10 16 25.8**	**+0.6**
	comp=Z,27nm,0.6s								
KDAK	**Kodiak Island**	**49.59**	**40**	*i*	P		**P**	**10 16 25.3**	**+0.4**
PWJI	**Pagerwojo**	**50.15**	**221**		P		**P**	**10 16 28.4**	**-1.3**
	comp=Z,121nm,0.7s								
KOLN	**Koldanda**	**50.48**	**281**	*e*	P		**P**	**10 16 33.1**	**+0.7**
	comp=Z,20nm,0.6s								
PSI	**Prapat**	**50.60**	**243**		P		**P**	**10 16 33.3**	**0.0**
	comp=Z,8.6nm,0.7s,baz=16,slow=6.6,SNR=7.4								
PSI					PcP		**PcP**	**10 17 50.4**	**-0.6**
	comp=Z,6.0nm,0.7s,baz=316,slow=5.3,SNR=3.8								
PSI	**Prapat**	**50.60**	**243**		P		**P**	**10 16 33.3**	**0.0**
PSI								10 17 50.4	
PSI					pmax		pmax		
	comp=Z,9.0nm,0.7s								
PSI					pmax		pmax		
	comp=Z,6.0nm,0.7s								
KPJI	**Karang Pucung**	**51.24**	**225**		P		**P**	**10 16 38.1**	**+0.2**
	comp=Z,155nm,0.9s								
MNSI	**Mandailing Nat**	**51.45**	**240**		P		**P**	**10 16 39.2**	**-0.4**
	comp=Z,27nm,0.8s								
LEM	**Lembang**	**51.62**	**226**		P		**P**	**10 16 41.1**	**+0.1**
	comp=Z,254nm,0.9s,comp=Z,2μm								
MDSI	**Maura Dua**	**52.01**	**232**		P		**P**	**10 16 43.3**	**-0.4**
	comp=Z,116nm,0.9s,comp=Z,1μm								
COLA	**College**	**52.07**	**31**	*e*	P		**P**	**10 16 42.0**	**-1.5**
COLA					pmax		pmax		
	comp=Z,6.0nm,1.1s								
TKM2	**Tokmak 2**	**52.38**	**301**	*e*	P		**P**	**10 16 46.9**	**+0.4**
	comp=Z,5.4nm,0.6s								
ILAR	**Eielson Array**	**52.48**	**31**		P		**P**	**10 16 46.7**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=257,slow=5.8,SNR=22								
ILAR					LR		LR	10 40 34.0	
	comp=Z,17nm,20.0s,baz=260,slow=38								
ILAR	**Eielson Array**	**52.48**	**31**		P		**P**	**10 16 46.7**	**+0.1**
ILAR					pmax		pmax		
	comp=Z,1.0nm,0.6s								
ILAR					MLR		MLR		
	comp=Z,17nm,20.0s								
KSH	**Kashi**	**52.92**	**297**	*e*	P		P	10 16 55.4	+5.0
KSH				*e*	pP		pP	10 16 58.9	+3.5
KSH				*e*	sP		sP	10 17 03.5	+6.1
KSH					PcP		**PcP**	**10 18 03.5**	**+4.2**
KSH				*e*	PP		PP	10 18 58.6	+8.7
KSH					PcS		**PcS**	**10 21 59.0**	**+0.9**
KSH					S		**S**	**10 24 23.1**	**+3.9**
KSH					ScS		**ScS**	**10 26 40.3**	**+0.5**
KSH					PMZ				
	comp=Z,35nm,4.5s								
KSH					LN

WRA **Warramunga Arr** 53.22 190 P P 10 16 51.4 -1.1
WRA 10 18 00.1
WRA pmax pmax
comp=Z,18nm,0.7s
WRA pmax pmax
comp=Z,5.0nm,0.8s
KIP Kipapa 53.56 87 *i* P P 10 16 52.6 -2.6
KIP pmax pmax
comp=Z,247nm,2.5s
BVAR Borovoye Array 53.97 315 P P 10 16 57.8 +0.1
comp=Z,1.4nm,0.5s,baz=90,slow=7.4,SNR=8.9
BVAR PcP PcP 10 18 03.3 +0.4
comp=Z,2.7nm,0.6s,baz=96,slow=6.0,SNR=3.8
BVAR Borovoye Array 53.97 315 P P 10 16 57.8 +0.1
BVAR 10 18 03.3
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 54.02 315 *i* P P 10 16 59.7 +1.6
BRVK pmax pmax
comp=Z,13nm,1.2s
BRVK Borovoye 54.02 315 *e*P P 10 16 58.0 -0.2
comp=Z,6.9nm,0.8s
AS31 Alice Springs 56.94 189 *e*P P 10 17 18.4 -1.0
ASAR Alice Springs 56.94 189 P P 10 17 18.5 -0.9
comp=Z,5.0nm,0.6s,baz=16,slow=12,SNR=54
ASAR PcP PcP 10 18 15.8 +1.2
comp=Z,5.8nm,0.8s,baz=11,slow=3.9,SNR=12
ASAR LR LR 10 43 34.6
comp=Z,32nm,18.4s,baz=31,slow=38
ASAR PKP2bc 10 47 22.7
comp=Z,0.3nm,0.7s,baz=188,slow=1.1,SNR=9.0
ASAR Alice Springs 56.94 189 P P 10 17 18.5 -0.9
ASAR 10 18 15.8
ASAR pmax pmax
comp=Z,5.0nm,0.6s
ASAR pmax pmax
comp=Z,6.0nm,0.8s
ASAR MLR MLR
comp=Z,32nm,18.4s
ARU Arti 59.98 320 *d* *i*P P 10 17 40.2 0.0
ARU 10 18 29.5
ARU 10 19 50.0
ARU S S 10 25 52.2 +0.4
ARU pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 61.23 312 *e*P P 10 17 49.2 +0.3
comp=Z,3.8nm,0.6s
AKTO Aktyubinsk 62.05 314 P P 10 17 54.2 -0.1
comp=Z,2.5nm,0.8s,baz=98,slow=7.0,SNR=12
AKTO Aktyubinsk 62.05 314 P P 10 17 54.3 -0.1
AKTO pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 64.54 181 P P 10 18 10.5 -0.4
comp=Z,4.3nm,0.6s,baz=344,slow=6.7,SNR=10
STKA LR LR 10 50 33.5
comp=Z,84nm,18.2s,baz=207,slow=40
STKA Stephens Creek 64.54 181 P P 10 18 10.5 -0.4
STKA pmax pmax
comp=Z,4.0nm,0.6s
STKA MLR MLR
comp=Z,84nm,18.2s
RES Resolute Bay 66.29 14 *e*P P 10 18 21.9 +0.1
comp=Z,6.5nm,0.8s
APA Apatity 66.72 337 ⇓ *i*P P 10 18 28.5 +3.9
APA pmax pmax
comp=Z,22nm,1.2s
APA MLR MLR
comp=Z,300nm,19.0s
YKA Yellowknife Ar 66.87 29 P P 10 18 25.7 0.0
comp=Z,5.3nm,0.7s,baz=298,slow=6.2,SNR=16
YKA Yellowknife Ar 66.87 29 P P 10 18 25.7 0.0
YKA pmax pmax
comp=Z,5.0nm,0.7s
ARCES ARCESS Array B 68.07 340 P P 10 18 33.6 +0.4
comp=Z,2.0nm,0.6s,baz=51,slow=6.9,SNR=9.3
ARCES LR LR 10 53 08.5
comp=Z,99nm,19.9s,baz=82,slow=40
ARCES ARCESS Array B 68.07 340 P P 10 18 33.6 +0.4
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES MLR MLR
comp=Z,99nm,20.0s
I03D Drain, OR 70.81 50 ⇑P P 10 18 51.4 +0.8
baz=71
I04A Tendick Farm, 71.37 50 ⇓P P 10 18 54.3 +0.3
baz=71
G05D Wamic, OR 71.38 48 ⇓P P 10 18 54.8 +0.7
baz=71
I05D Terrebonne, OR 71.79 49 ⇑P P 10 18 57.3 +0.6
baz=72
J04D Umpqua Nationa 71.82 50 ⇑P P 10 18 57.8 +0.8
baz=72
OBN Obninsk 71.85 324 *e*P P 10 18 56.6 0.0
OBN *i* 10 19 08.3
OBN pmax pmax
comp=Z,13nm,0.4s
OBN MLR MLR
comp=Z,160nm,19.0s
M02C Callahan 72.22 52 ⇑P P 10 19 00.5 +1.2
baz=72
J05D Fort Rock, OR 72.36 50 ⇑P P 10 19 01.3 +1.1
baz=72
RAO Raoul Island 72.42 144 LR LR 10 42 51.2
comp=Z,112nm,21.4s,baz=275,slow=29
NEW Newport 72.43 44 ⇓P P 10 19 01.3 +0.9
baz=72
N02D Trinity Center 72.51 52 ⇓P P 10 19 01.9 +0.8
baz=72
M04C Macdoel 72.70 51 ⇑P P 10 19 02.9 +0.8
baz=73
FINES FINESS Array B 72.78 333 P P 10 19 02.5 +0.4
comp=Z,4.3nm,0.8s,baz=79,slow=4.9,SNR=14
FINES FINESS Array B 72.78 333 P P 10 19 02.5 +0.4
FINES pmax pmax
comp=Z,4.0nm,0.8s
WALA Waterton Lakes 73.86 42 *e*P P 10 19 09.4 +0.6
comp=Z,6.9nm,0.7s
KBZ Khabaz 74.21 312 P P 10 19 12.1 +1.3
comp=Z,4.6nm,0.8s,baz=90,slow=3.4,SNR=13
KBZ Khabaz 74.21 312 P P 10 19 12.1 +1.3
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KIV Kislovodsk 74.22 312 *e*P P 10 19 12.1 +1.0
KIV pmax pmax
comp=Z,10.0nm,0.8s
YBMT Yellow Bay 74.43 43 *e*P P 10 19 13.3 +1.1
comp=Z,2.0nm,0.7s
SWMT Swartz Lake 74.62 43 *e*P P 10 19 13.9 +0.6
comp=Z,5.7nm,1.1s
SUMG Summit 74.71 0 *e*P P 10 19 14.8 +1.1
comp=Z,3.4nm,0.7s
MSO Missoula 75.02 44 ⇓P P 10 19 16.2 +0.5
baz=75
SLMT Seeley Lake 75.06 43 *e*P P 10 19 16.4 +0.5
comp=Z,8.2nm,0.7s
LRM Limekiln Ridge 76.44 44 *e*P P 10 19 24.8 +0.8
comp=Z,103nm,0.7s
HLID Hailey 76.49 47 ⇑P P 10 19 24.9 +0.7
baz=76
NVAR Mina Array Bea 76.72 53 P P 10 19 26.1 +0.4
comp=Z,2.6nm,0.6s,baz=296,slow=5.9,SNR=28
EGMT Eagleton 76.73 41 ⇓P P 10 19 26.0 +0.6
baz=77,SNR=7.3
A19A Klindworth Far 76.77 40 ⇓P P 10 19 26.3 +0.7
baz=77,SNR=13
MLAC Mammoth, Mammo 76.78 54 ⇓P P 10 19 26.4 +0.4
baz=77
B19A Brinkman Farms 76.93 40 ⇓P P 10 19 27.1 +0.6
baz=77,SNR=18
ANN Anapa 76.96 315 *e*P P 10 19 26.8 +0.2
ANN *e* 10 19 37.3
ANN *e* 10 22 23.0
ANN *e*S S 10 29 16.5 +2.3
ANN pmax pmax
comp=Z,21nm,1.2s
BOZ Bozeman (W) 77.01 44 ⇓P P 10 19 27.9 +0.8
baz=77,SNR=7.7
A20A Cobblestone Ra 77.23 40 ⇓P P 10 19 28.8 +0.6
baz=77,SNR=7.8
B20A Solberg Farm, 77.44 40 ⇑P P 10 19 29.5 +0.2
baz=77
VES Vestal, Richgr 77.55 55 ⇓P P 10 19 30.0 -0.1
baz=77
QLMT Earthquake Lak 77.58 44 *e*P P 10 19 31.7 +1.3
A21A Bergtoll Ranch 77.70 39 ⇑P P 10 19 31.2 +0.5
baz=78,SNR=6.9
C20A Veseth Ranch, 77.87 41 ⇓P P 10 19 32.6 +0.8
baz=78,SNR=6.0
URZ Urewera 77.88 153 LR LR 10 48 04.1
comp=Z,81nm,20.1s,baz=286,slow=31
B21A Ellsworth Farm 77.99 40 ⇓P P 10 19 33.0 +0.6
baz=78,SNR=13
AKASG Malin Array Be 78.02 323 P P 10 19 32.2 -0.2
comp=Z,2.5nm,0.5s,baz=45,slow=6.0,SNR=5.5
AKASG LR LR 10 57 25.1
comp=Z,140nm,18.0s,baz=50,slow=38
AKASG Malin Array Be 78.02 323 P P 10 19 32.2 -0.2
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG MLR MLR
comp=Z,141nm,18.0s
AKBB Malin Array Si 78.02 323 *e*P P 10 19 32.6 +0.2
AK01 Malin Array Si 78.03 323 *e*P P 10 19 32.7 +0.2
ISA Isabella, Lake 78.06 55 ⇑P P 10 19 33.1 +0.1
baz=78
GRAC Grapevine Rang 78.11 54 ⇓P P 10 19 34.0 +0.7
baz=78
A22A Carney Farms, 78.23 39 ⇓P P 10 19 34.2 +0.5
baz=78,SNR=30
NB2 NORSAR Subarra 78.23 338 P P 10 19 33.6 +0.1
comp=Z,3.9nm,0.6s,baz=40,slow=5.6
NOA NORSAR Array B 78.23 339 P P 10 19 33.3 -0.2
comp=Z,3.0nm,0.6s,baz=39,slow=5.6,SNR=14
NOA LR LR 10 59 10.5
comp=Z,100nm,19.5s,baz=45,slow=40
NOA NORSAR Array B 78.23 338 P P 10 19 33.3 -0.2
NOA pmax pmax
comp=Z,3.0nm,0.6s
NOA MLR MLR
comp=Z,100nm,19.5s
C21A Desert Coulee 78.30 40 ⇓P P 10 19 35.2 +1.1
baz=78,SNR=13
H17A Grant Village 78.33 44 ⇓P P 10 19 37.4 +2.8
baz=78,SNR=8.8
H17A Grant Village 78.33 44 *e*P P 10 19 37.3 +2.8
comp=Z,21nm,1.4s
MPMC Manual Prospec 78.53 54 ⇑P P 10 19 36.1 +0.3
baz=78
R11A Troy Canyon, C 78.57 52 ⇓P P 10 19 36.4 +0.4
baz=78
B22A Reddig Ranch S 78.61 39 ⇑P P 10 19 36.3 +0.5
baz=78,SNR=12
RLMT Red Lodge 78.68 43 ⇑P P 10 19 37.3 +0.9
baz=78,SNR=7.2
LRMC Laurel Mtn Rad 78.70 55 ⇑P P 10 19 36.9 +0.3
baz=79
FURC Furnace Creek, 78.74 54 ⇑P P 10 19 37.1 +0.5
baz=79
D21A La Casta Ranch 78.81 41 ⇑P P 10 19 37.6 +0.7
baz=79,SNR=8.4
EDW2 Edwards Air Fo 78.81 56 ⇓P P 10 19 37.7 +0.6
baz=79
TPNV Topopah Spring 78.89 53 ⇑P P 10 19 37.9 +0.2
baz=79,SNR=6.7
C22A Vida 79.00 40 ⇓P P 10 19 38.3 +0.3
baz=79
B23A Brockton 79.04 39 ⇓P P 10 19 38.6 +0.5
baz=79,SNR=41
E21A Keefer Ranch, 79.08 41 ⇑P P 10 19 39.6 +1.2
baz=79
H19A Powell 79.10 44 ⇑P P 10 19 39.8 +1.1
baz=79
D22A Cohagen 79.20 40 ⇑P P 10 19 39.9 +0.8
baz=79,SNR=20
G20A Bridger 79.22 43 ⇑P P 10 19 39.3 0.0
baz=79
A24A Westby 79.27 38 ⇑P P 10 19 39.8 +0.4
baz=79,SNR=5.5
C23A Lambert 79.34 39 ⇓P P 10 19 40.5 +0.7
baz=79,SNR=10
DUG Dugway, Tooele 79.35 49 ⇓P P 10 19 40.9 +0.8
baz=79,SNR=8.0
BFSC Mount Baldy Ra 79.39 56 ⇑P P 10 19 40.9 +0.5
baz=79
GSC Goldstone, Bar 79.41 55 ⇑P P 10 19 41.1 +0.6
baz=79
SCI San Clemente I 79.44 58 ⇑P P 10 19 40.5 -0.1
baz=79
SHOC Shoshone, Teco 79.44 54 ⇓P P 10 19 40.8 +0.3
baz=79
DGMT Dagmar 79.45 38 ⇓P P 10 19 41.3 +0.8
baz=79
LAO LASA Array 79.46 41 ⇑P P 10 19 41.2 +0.7
baz=79,SNR=9.2
I19A Meeteetse 79.47 44 ⇑P P 10 19 41.4 +0.6
baz=79
A25A Svangstu Ranch 79.72 38 ⇑P P 10 19 42.3 +0.5
baz=80
E22A Miles City 79.76 41 ⇓P P 10 19 43.0 +0.8
baz=80
H20A Greybull 79.78 43 ⇑P P 10 19 43.1 +0.7
baz=80
G21A Lodge Grass 79.79 42 ⇓P P 10 19 43.2 +0.7
baz=80
BW06 Boulder Array 79.88 45 *e*P P 10 19 42.9 -0.2
comp=Z,2.5nm,0.7s
PDAR Pinedale Array 79.88 45 P P 10 19 43.5 +0.4
comp=Z,2.6nm,0.7s,baz=328,slow=2.0,SNR=28
J19A Crowheart 79.89 45 ⇓P P 10 19 44.2 +1.1
baz=80,SNR=11
BBRC Big Bear Solar 79.89 56 ⇓P P 10 19 43.8 +0.5
baz=80
C24A Savage 79.92 39 ⇑P P 10 19 43.4 +0.5
baz=80,SNR=5.1
TUQ Turquoise Moun 79.94 54 ⇓P P 10 19 44.0 +0.6
baz=80
HEC Hector,Ludlow 79.99 55 ⇑P P 10 19 44.3 +0.6
baz=80
I20A Worland 80.03 44 ⇑P P 10 19 44.8 +1.1
baz=80,SNR=12
MURC Murrieta 80.05 56 ⇑P P 10 19 44.4 +0.5
baz=80
E23A Ismay 80.08 40 ⇓P P 10 19 44.8 +0.9
baz=80,SNR=14
B25A Knox Farm, Ray 80.12 38 ⇑P P 10 19 45.1 +1.1
baz=80,SNR=7.6
D24A Glendive 80.23 40 ⇓P P 10 19 45.7 +1.1
baz=80
H21A Big Horn, Sher 80.25 43 ⇓P P 10 19 45.7 +0.8
baz=80
A26A Wade Farm, Ken 80.30 37 ⇑P P 10 19 45.4 +0.5
baz=80,SNR=5.9
G22A Birney 80.31 42 ⇑P P 10 19 45.6 +0.4
baz=80
J20A Shoshoni 80.41 44 ⇑P P 10 19 46.5 +0.7
baz=80,SNR=9.0
C25A Freed Ranch, W 80.42 39 ⇓P P 10 19 46.2 +0.6
baz=80
GMRC Granite Mounta 80.48 55 ⇑P P 10 19 46.8 +0.4
baz=80
F23A Volborg 80.50 41 ⇑P P 10 19 46.9 +0.8
baz=80,SNR=12
B26A Jensen Ranch, 80.53 38 ⇑P P 10 19 47.4 +1.2
baz=80
E24A Baker 80.58 40 ⇑P P 10 19 47.9 +1.3
baz=80
I21A Big Trails, Te 80.59 44 ⇑P P 10 19 48.0 +1.1
baz=80
H22A Clearmont 80.66 42 ⇑P P 10 19 47.8 +0.7
baz=80
A27A Ledoux Ranch, 80.66 37 ⇑P P 10 19 47.4 +0.5
baz=80
BELC Belle Mtn. Jos 80.67 56 ⇓P P 10 19 47.2 -0.2
baz=80
RPZ Rata Peaks 80.70 159 LR LR 10 49 59.4
comp=Z,50nm,19.9s,baz=284,slow=32
MSU Marysvale 80.70 50 *e*P P 10 19 48.4 +0.8
comp=Z,1.7nm,0.8s
D25A Fairfield 80.74 39 ⇓P P 10 19 48.3 +0.9
baz=81,SNR=5.8
J21A Lysite 80.78 44 ⇑P P 10 19 48.5 +0.6
baz=81,SNR=6.5
G23A Biddle 80.83 42 ⇑P P 10 19 48.5 +0.5
baz=81
C26A Wahner Farm, P 80.95 38 ⇑P P 10 19 49.1 +0.6
baz=81,SNR=6.2
F24A Ekalaka 80.95 41 ⇑P P 10 19 48.7 +0.1
baz=81,SNR=6.8
MONP Monument Peak, 80.99 57 ⇑P P 10 19 49.2 0.0
baz=81
B27A Peters Farms, 81.01 37 ⇑P P 10 19 49.4 +0.6
baz=81
I22A 9 Mile Ranch, 81.01 43 ⇓P P 10 19 49.9 +0.9
baz=81,SNR=7.4
E25A Miller Ranch, 81.11 40 ⇑P P 10 19 49.9 +0.5
baz=81,SNR=7.3
IRM Iron Mountain 81.17 55 ⇑P P 10 19 50.0 +0.1
baz=81
A28A Rude Farm, Bot 81.18 36 ⇑P P 10 19 50.1 +0.4
baz=81,SNR=7.9
BC3 Big Chuckawall 81.24 56 ⇑P P 10 19 50.8 +0.4
baz=81
D26A Manning 81.28 39 ⇑P P 10 19 50.7 +0.4
baz=81,SNR=5.9
G24A Alzada 81.29 41 ⇓P P 10 19 50.5 +0.1
baz=81
J22A Midwest 81.31 43 ⇓P P 10 19 51.1 +0.5
baz=81,SNR=26
C27A Sayler Ranch, 81.33 38 ⇑P P 10 19 51.3 +0.8
baz=81
B28A Dugan Ranch, T 81.43 37 ⇓P P 10 19 52.0 +1.0
baz=81
F25A Bowman 81.44 40 ⇓P P 10 19 51.8 +0.6
baz=81
H24A Dirks Ranch, A 81.58 42 ⇓P P 10 19 51.9 0.0
baz=81,SNR=6.5
A29A Manning Farm, 81.68 36 ⇓P P 10 19 53.4 +1.1
baz=82
D27A Center 81.71 38 ⇓P P 10 19 53.3 +0.8
baz=82
K22A Casper 81.74 44 ⇓P P 10 19 53.5 +0.5
baz=82,SNR=7.0
PMOR Pomariorio Ree 81.78 114 *e*T T 11 49 49.8
comp=Z,1.9nm,0.2s
PDMCI Parker Dam,Lak 81.78 54 ⇑P P 10 19 53.5 +0.4
baz=82
Y12C Blythe 81.83 55 ⇓P P 10 19 53.9 +0.5
baz=82
C28A Hausauer Farms 81.90 37 ⇓P P 10 19 54.1 +0.6
baz=82
F26A Lodgepole 81.91 40 ⇑P P 10 19 54.0 +0.4
baz=82,SNR=6.3
G25A Newell 81.92 41 ⇓P P 10 19 54.0 +0.3
baz=82
BUR08 Bucovina Ar. S 82.00 323 *e*P P 10 19 54.9 +0.7
GLA Glamis 82.01 56 ⇓P P 10 19 54.7 +0.3
baz=82
BURAR Bucovina Array 82.02 323 ⇑P P 10 19 55.2 +1.0
BURAR Bucovina Array 82.02 323 ⇑*i*P P 10 19 55.2 +1.0
CFR Carcaliu 82.05 319 ⇑P P 10 19 56.3 +2.1
CFR Carcaliu 82.05 319 ⇑*i*P P 10 19 56.3 +2.1
PPT Papeete 82.06 117 LR LR 10 55 05.6
comp=Z,67nm,18.7s,baz=314,slow=35
PPT2 Papeete2 82.07 117 *e*LR LR 10 45 02.5
comp=Z,97nm,25.0s
A30A Hoffart Farm, 82.13 36 ⇑P P 10 19 55.0 +0.3
baz=82
D28A Regan 82.15 38 ⇑P P 10 19 55.3 +0.4
baz=82
BR131 Keskin Array S 82.18 313 *e*P P 10 19 55.6 +0.3
comp=Z,3.3nm,0.8s
BRTR Keskin Array B 82.19 313 P P 10 19 56.5 +1.2
comp=Z,2.2nm,0.6s,baz=119,slow=4.0,SNR=19
BRTR LR LR 11 01 03.7
comp=Z,30nm,19.1s,baz=310,slow=39
BRTR Keskin Array B 82.19 313 P P 10 19 56.5 +1.2
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR MLR MLR
comp=Z,30nm,19.1s
K23A Bowen Ranch, D 82.20 44 ⇓P P 10 19 55.4 0.0
baz=82
MDND Maddock 82.21 37 ⇑P P 10 19 55.5 +0.3
baz=82
MDND Maddock 82.21 37 P P 10 19 55.8 +0.6
comp=Z,16nm,1.0s
O20A White River Ci 82.23 47 ⇓P P 10 19 56.2 +0.6
baz=82
O20A White River Ci 82.23 47 *e*P P 10 19 56.0 +0.4
comp=Z,10nm,0.9s
F27A Lemmon 82.25 40 ⇑P P 10 19 55.9 +0.5
baz=82,SNR=7.2
G26A Maurine 82.31 40 ⇓P P 10 19 56.1 +0.4
baz=82,SNR=11
J24A Dixon Ranch, L 82.40 43 ⇓P P 10 19 56.3 -0.1
baz=82
B30A Myrvik Farm, E 82.44 36 ⇓P P 10 19 56.7 +0.3
baz=82,SNR=7.5
I25A Rochford 82.49 42 ⇑P P 10 19 57.0 +0.1
baz=82
E28A Huff 82.49 38 ⇑P P 10 19 56.9 +0.3
baz=82
G27A Dupree 82.61 40 ⇑P P 10 19 57.8 +0.5
baz=82,SNR=6.0
H26A Fairpoint 82.64 41 ⇑P P 10 19 57.9 +0.4
baz=82
D29A Pettibone, Tap 82.74 38 ⇑P P 10 19 58.1 +0.2
baz=83
OJC Ojcow 82.87 327 *e*P P 10 19 59.2 +0.7
OJC *e* 10 20 11.7
OJC Ojcow 82.87 327 *e*P P 10 19 59.2 +0.7
OJC *e* 10 20 11.7
C30A Mose, Pekin 82.87 37 ⇑P P 10 19 59.3 +0.7
baz=83
F28A McLaughlin 82.91 39 ⇓P P 10 19 58.9 0.0
baz=83
WUAZ Wupatki 82.95 52 ⇓P P 10 20 00.1 +0.6
baz=83
I26A New Underwood 82.97 41 ⇓P P 10 19 59.6 +0.3
baz=83
DOPR Dopca 83.01 321 ⇑*i*P P 10 20 01.0 +1.7
TRPA Tarpa 83.01 324 ⇑*i*P P 10 20 00.6 +1.4
H27A Howes 83.01 41 ⇓P P 10 19 59.9 +0.5
baz=83,SNR=7.1
MLR Muntele Rosu 83.03 321 ⇑P P 10 20 00.1 +0.5
MLR Muntele Rosu 83.03 321 ⇑*i*P P 10 20 00.1 +0.5
D30A Buchanan 83.13 37 ⇓P P 10 20 00.9 +0.9
baz=83
N23A Red Feather La 83.16 45 ⇑P P 10 20 01.6 +1.1
baz=83,SNR=10
NIE Niedzica 83.19 326 *e*P P 10 20 01.5 +1.3
NIE *e* 10 20 12.5
NIE Niedzica 83.19 326 *e*P P 10 20 01.6 +1.3
NIE *e* 10 20 12.6
PV01 Paradox Valley 83.23 49 *e*P P 10 20 01.3 +0.4
O22A Kremmling 83.25 46 ⇓P P 10 20 01.5 +0.4
baz=83
K25A Mack Ranch, Ha 83.30 43 ⇑P P 10 20 01.6 +0.5
baz=83
J26A Sides Ranch, S 83.31 42 ⇓P P 10 20 01.6 +0.6
baz=83
G28A Parade 83.36 40 ⇓P P 10 20 01.7 +0.5
baz=83
I27A Quinn 83.39 41 ⇓P P 10 20 02.0 +0.6
baz=83
F29A Eureka 83.43 39 ⇓P P 10 20 01.9 +0.4
baz=83
E30A Jud 83.46 38 ⇓P P 10 20 01.8 +0.2
baz=83
P22A Eagle 83.47 47 ⇓P P 10 20 03.0 +0.9
baz=83
L25A Engebretsen Ra 83.53 43 ⇑P P 10 20 03.0 +0.8
baz=83,SNR=8.9
VOIR 83.54 321 ⇑P P 10 20 03.6 +1.5
VOIR 83.54 321 ⇑*i*P P 10 20 03.6 +1.5
H28A Mission Ridge 83.56 40 ⇓P P 10 20 02.7 +0.5
baz=83
O23A Lake Granby, G 83.60 46 ⇓P P 10 20 03.9 +1.0
baz=83
K26A Motz Farm, Whi 83.64 43 ⇑P P 10 20 02.9 +0.2
baz=84
AGMN Agassiz Nation 83.75 35 ⇑P P 10 20 02.9 -0.2
baz=84
G29A Hoven 83.81 39 ⇓P P 10 20 03.9 +0.4
baz=84
MVCO Mesa Verde 83.83 49 ⇓P P 10 20 04.7 +0.8
baz=84
OKC Ostrava-Krasne 83.89 327 AMS AMS 11 04 20.0
comp=Z,100nm,17.5s
I28A Midland 83.92 41 ⇑P P 10 20 04.3 +0.3
baz=84,SNR=7.9
M25A Palm-Egli Farm 83.94 44 ⇑P P 10 20 04.7 +0.3
baz=84
J27A Elkhorn Farm, 83.94 42 ⇓P P 10 20 04.7 +0.4
baz=84,SNR=5.5
KSP Ksiaz 83.98 329 *e*P P 10 20 05.3 +1.1
KSP *e* 10 20 13.2
KSP Ksiaz 83.98 329 *e*P P 10 20 05.3 +1.1
KSP *e* 10 20 13.2
H29A Onida 84.03 40 ⇑P P 10 20 05.0 +0.4

	baz=84								
214A	**Organ Pipe Nat**	84.03	56	⇓P		P	10 20 04.6	-0.3	
	baz=84								
ISCO	**Idaho Springs**	84.04	46	⇑P		P	10 20 06.0	+0.9	
	baz=84,SNR=6.1								
ISCO	**Idaho Springs**	84.04	46	*e*P		P	10 19 57.3	-7.8	
	comp=Z,4.8nm,0.7s								
L26A	**Underwood Farm**	84.12	43	⇓P		P	10 20 05.5	+0.3	
	baz=84								
P23A	**Jefferson**	84.16	46	⇓P		P	10 20 06.7	+0.9	
	baz=84								
K27A	**Flueckinger Fa**	84.17	42	⇑P		P	10 20 05.9	+0.4	
	baz=84								
MORC	**Moravsky Berou**	84.21	328	⇑P		P	10 20 05.9	+0.5	
MORC	**Moravsky Berou**	84.21	328	⇑*i*P		P	10 20 05.9	+0.5	
G30A	**Faulkton**	84.26	39	⇑P		P	10 20 05.9	+0.2	
	baz=84								
J28A	**Allard Ranch,**	84.26	41	⇑P		P	10 20 06.2	+0.3	
	baz=84,SNR=7.2								
KRLC	**Kraliky**	84.33	328	*e*P		P	10 20 06.2	+0.1	
KRLC				*ex*		x	10 20 18.9		
KRLC	**Kraliky**	84.33	328	*e*P		P	10 20 06.2	+0.1	
KRLC				*e*			10 20 18.9		
DPC	**Dobruska-Polom**	84.33	329	*e*P		P	10 20 07.0	+0.9	
DPC				*ex*		x	10 20 18.0		
DPC	**Dobruska-Polom**	84.33	329	*e*P		P	10 20 07.0	+0.9	
DPC				*e*			10 20 18.0		
UPC	**Upice**	84.35	329	*e*P		P	10 20 06.1	0.0	
UPC	**Upice**	84.35	329	*e*P		P	10 20 06.1	0.0	
I29A	**Vivian Onida**	84.38	40	⇓P		P	10 20 06.3	-0.1	
	baz=84								
PSZ	**Piszkesteto**	84.44	325	⇑P		P	10 20 07.7	+1.0	
PSZ	**Piszkesteto**	84.44	325	⇑*i*P		P	10 20 07.7	+1.0	
M26A	**McRoberts Ranc**	84.45	43	⇓P		P	10 20 07.7	+0.8	
	baz=84								
S22A	**4UR Ranch, Cre**	84.56	48	⇑P		P	10 20 08.7	+0.9	
	baz=84								
K28A	**Ten Mile Ranch**	84.65	42	⇑P		P	10 20 08.6	+0.7	
	baz=84								
J29A	**Okreek**	84.77	41	⇑P		P	10 20 08.8	+0.4	
	baz=85								
Q24A	**Divide**	84.84	46	⇓P		P	10 20 09.7	+0.5	
	baz=85								
R23A	**Moffat**	84.90	47	⇓P		P	10 20 10.9	+1.4	
	baz=85								
I30A	**Oacoma**	84.92	40	⇓P		P	10 20 09.3	+0.1	
	baz=85								
PVCC	**Panska Ves**	84.96	330	*e*P		P	10 20 10.6	+1.5	
PVCC				*ex*		x	10 20 21.8		
PVCC	**Panska Ves**	84.96	330	*e*P		P	10 20 10.6	+1.5	
PVCC				*e*			10 20 21.8		
BRG	**Berggiesshubel**	84.96	330	*e*PKP		P	10 20 09.5	+0.3	
	comp=Z,5.0nm,0.8s								
BRG	**Berggiesshubel**	84.96	330	*e*P		P	10 20 09.5	+0.3	
BRG					pmax	pmax			
	comp=Z,5.0nm,0.8s								
CLL	**Collm**	85.02	331	*e*P		P	10 20 09.0	-0.4	
	comp=Z,6.0nm,0.6s								
CLL				*es*P		sP	10 20 16.0	-0.6	
CLL				*e*			10 20 21.0		
CLL	**Collm**	85.02	331	*e*P		P	10 20 09.0	-0.4	
CLL					pmax	pmax			
	comp=Z,6.0nm,0.6s								
BZS	**Buzias**	85.19	323	⇑P		P	10 20 10.6	+0.2	
BZS	**Buzias**	85.19	323	⇑*i*P		P	10 20 10.6	+0.2	
K29A	**Lazy Trails An**	85.20	41	⇓P		P	10 20 10.3	-0.3	
	baz=85,SNR=5.5								
N27A	**Anderson Farm,**	85.22	44	⇑P		P	10 20 11.1	+0.3	
	baz=85								
J30A	**Dallas**	85.28	40	⇓P		P	10 20 11.1	+0.1	
	baz=85								
GOPC	**GO Pecny, Ondr**	85.32	329	*e*P		P	10 20 11.1	+0.1	
GOPC					AMS	AMS	11 05 50.0		
	comp=Z,200nm,15.9s								
PRU	**Pruhonice**	85.37	329	*e*P		P	10 20 11.9	+0.7	
PRU				*ex*		x	10 20 24.2		
PRU					AMS	AMS	11 05 10.0		
	comp=Z,200nm,16.9s								
PRU	**Pruhonice**	85.37	329	*e*P		P	10 20 11.9	+0.7	
PRU				*e*			10 20 24.2		
PRU					MLR	MLR			
	comp=Z,200nm,16.9s								
SDCO	**Great Sand Dun**	85.38	47	⇓P		P	10 20 12.7	+0.8	
	baz=85,SNR=11								
OGNE	**Ogallala**	85.42	43	⇓P		P	10 20 12.1	+0.3	
	baz=85								
TREC	**Trest**	85.48	328		AMS	AMS	11 02 20.0		
	comp=Z,100nm,16.3s								
M28A	**Bar X Bar Ranc**	85.51	43	⇑P		P	10 20 12.5	+0.3	
	baz=85								
P26A	**Davis Ranch, A**	85.55	45	⇑P		P	10 20 13.0	+0.4	
	baz=85								
K30A	**Basset**	85.65	41	⇓P		P	10 20 12.9	+0.1	
	baz=86								
O27A	**Beecher Island**	85.65	44	⇑P		P	10 20 12.6	-0.4	
	baz=86								
TBI	**Tubuai**	85.72	121	*e*LR		LR	10 20 01.7		
	comp=Z,104nm,26.8s								
TBI	**Tubuai**	85.72	121	*e*LR		LR	10 46 33.0		
	comp=Z,89nm,24.8s								
Q26A	**Hugo**	85.85	46	⇑P		P	10 20 14.1	+0.1	
	baz=86								
N28A	**Pribbeno Ranch**	85.88	43	⇓P		P	10 20 14.0	-0.1	
	baz=86								
P27A	**Ficken Ranch,**	86.00	45	⇓P		P	10 20 15.1	+0.4	
	baz=86								
O28A	**Krutsinger Ran**	86.11	44	⇓P		P	10 20 15.4	+0.2	
	baz=86								
R26A	**Arlington**	86.29	46	⇑P		P	10 20 16.7	+0.5	
	baz=86								
N29A	**Votaw Ranch, W**	86.31	43	⇓P		P	10 20 16.4	+0.2	
	baz=86								
KSCO	**Kaye Shedlock'**	86.33	45	⇓P		P	10 20 16.6	+0.2	
	baz=86								
L31A	**Butterfield Fa**	86.41	41	⇓P		P	10 20 17.2	+0.6	
	baz=86								
KHC	**Kasperske Hory**	86.43	329	*e*P		P	10 20 16.8	+0.2	
KHC				*ex*		x	10 20 28.9		
KHC	**Kasperske Hory**	86.43	329	*e*P		P	10 20 16.8	+0.2	
KHC				*e*			10 20 28.9		
T25A	**Trinidad**	86.44	47	⇑P		P	10 20 17.3	+0.2	
	baz=86								
P28A	**Saint Francis**	86.48	44	⇓P		P	10 20 17.3	+0.3	
	baz=86								
ANMO	**Albuquerque**	86.51	50	*i* P		P	10 20 17.3	-0.1	
ANMO					pmax	pmax			
	comp=Z,17nm,1.2s								
ANMO	**Albuquerque**	86.51	50	*e*P		P	10 20 16.6	-0.8	
	comp=Z,3.4nm,1.1s								
ECSD	**EROS Data Cent**	86.54	39	⇓P		P	10 20 16.8	-0.4	
	baz=86								
GERES	**GERESS Array B**	86.59	329	P		P	10 20 17.2	-0.3	
	comp=Z,0.4nm,0.5s,baz=46,slow=3.9,SNR=4.2								
R27A	**Eads**	86.69	46	⇓P		P	10 20 18.3	+0.1	
	baz=86								
Q28A	**Sharon Springs**	86.76	45	⇑P		P	10 20 18.5	0.0	
	baz=87								
T26A	**Comanche Natio**	86.92	47	⇑P		P	10 20 19.4	0.0	
	baz=87								
O30A	**MW Ranch, Wils**	87.06	43	⇓P		P	10 20 19.5	-0.3	
	baz=87								
R28A	**Tribune**	87.25	45	⇑P		P	10 20 20.6	-0.2	
	baz=87								
P30A	**Selden**	87.37	43	⇓P		P	10 20 20.6	-0.8	
	baz=87								
Q29A	**Oakley**	87.38	44	⇑P		P	10 20 22.5	+1.0	
	baz=87								
SPMN	**Marine on St.**	87.41	36	⇓P		P	10 20 21.5	+0.1	
	baz=87								
SPMN	**Marine on St.**	87.41	36	*e*P		P	10 20 21.6	+0.3	
	comp=Z,3.0nm,0.5s								
S28A	**Manter**	87.68	46	⇓P		P	10 20 23.2	+0.3	
	baz=88								
Q30A	**Quinter**	87.77	44	⇓P		P	10 20 23.1	-0.2	
	baz=88								
T28A	**Walsh**	87.86	46	⇑P		P	10 20 23.4	-0.4	
	baz=88								
P31A	**Stockton**	87.89	43	⇓P		P	10 20 23.4	-0.4	
	baz=88								
R30A	**Dighton**	88.19	44	⇑P		P	10 20 25.3	0.0	
	baz=88								
P32A	**Huiting Farm,**	88.26	43	⇑P		P	10 20 25.7	+0.1	
	baz=88								
R31A	**Burdett**	88.63	44	⇓P		P	10 20 26.7	-0.7	
	baz=88								
Q32A	**Meitler Ranch,**	88.72	43	⇓P		P	10 20 27.3	-0.4	
	baz=88								
SCHQ	**Schefferville**	88.96	16	P		P	10 20 28.4	-0.2	
	comp=Z,2.2nm,0.6s,baz=45,slow=4.9,SNR=5.5								
SCHQ					LR	LR	11 02 39.7		
	comp=Z,17nm,21.9s,baz=100,slow=37								
S31A	**Mullinville**	89.10	44	⇓P		P	10 20 29.4	-0.2	
	baz=89								
Q33A	**Connelly Farm,**	89.12	43	⇑P		P	10 20 29.1	-0.5	
	baz=89								
P34A	**Walnut Farm, R**	89.31	42	⇓P		P	10 20 30.2	-0.3	
	baz=89								
S32A	**Newby Ranch, P**	89.37	44	⇑P		P	10 20 30.4	-0.4	
	baz=89								
MSTX	**Muleshoe**	89.49	49	⇑P		P	10 20 31.4	-0.2	
	baz=89								
AMTX	**Amarillo**	89.58	48	⇑P		P	10 20 32.3	+0.4	
	baz=89								
AMTX	**Amarillo**	89.58	48	*e*P		P	10 20 32.1	+0.2	
	comp=Z,2.7nm,0.6s								
Q34A	**Chapman**	89.68	42	⇑P		P	10 20 32.3	+0.1	
	baz=90								
KSU1	**Kansas State U**	89.75	42	⇑P		P	10 20 32.0	-0.5	
	baz=90								
P35A	**Duane Minner,**	89.78	41	⇑P		P	10 20 31.8	-0.9	
	baz=90								
X29A	**Tulia**	89.85	48	⇓P		P	10 20 33.6	+0.3	
	baz=90								
Y28A	**McKinney Farm,**	89.86	49	⇓P		P	10 20 33.5	+0.2	
	baz=90								
Z28A	**Tucker Farm, M**	90.17	49	⇑P		P	10 20 34.9	+0.1	
	baz=90								
Q35A	**Mercer Eighty,**	90.23	42	⇓P		P	10 20 34.1	-0.7	
	baz=90								
128A	**Castleberry Fa**	90.54	50	⇑P		P	10 20 35.6	-0.9	
	baz=90								
Z29A	**Hungry Hill Ra**	90.62	49	⇑P		P	10 20 36.0	-0.9	
	baz=90								
X31A	**McDonald Ranch**	90.80	47	⇑P		P	10 20 37.2	-0.3	
	baz=91								
S35A	**Otter Creek Ra**	90.89	43	⇑P		P	10 20 37.5	-0.4	
	baz=91								
R36A	**Gordon, Harris**	90.91	42	⇓P		P	10 20 37.8	-0.2	
	baz=91								
Z30A	**Sanderson Ranc**	90.97	49	⇓P		P	10 20 38.1	-0.4	
	baz=91								
V33A	**Lossen Ranch,**	91.02	45	⇑P		P	10 20 38.1	-0.5	
	baz=91								
S36A	**Lake Cedric, C**	91.28	42	⇑P		P	10 20 39.6	-0.1	
	baz=91								
R37A	**Teagarden Farm**	91.29	41	⇑P		P	10 20 39.2	-0.6	
	baz=91								
T35A	**Sooner Cattle**	91.31	43	⇑P		P	10 20 39.3	-0.6	
	baz=91								
X32A	**Elmer**	91.36	47	⇓P		P	10 20 40.2	0.0	
	baz=91								
W33A	**Caddo, Fort Co**	91.37	46	⇓P		P	10 20 40.8	+0.7	
	baz=91								
229A	**Bryant Ranch,**	91.40	50	⇓P		P	10 20 40.6	+0.1	
	baz=91								
130A	**Snyder**	91.53	49	⇓P		P	10 20 40.9	-0.1	
	baz=91								
Y32A	**R-V Farms, Ver**	91.55	47	⇑P		P	10 20 40.6	-0.5	
	baz=91								
Z31A	**Sharp Cattle R**	91.57	48	⇑P		P	10 20 41.3	+0.1	
	baz=91								
T36A	**Boggs Farm, Ca**	91.58	43	⇓P		P	10 20 41.0	-0.1	
	baz=91								
329A	**Wagon Wheel Ra**	91.60	50	⇓P		P	10 20 41.8	+0.4	
	baz=91								
W34A	**Bridge Creek,**	91.73	45	⇓P		P	10 20 42.0	+0.2	
	baz=92								
TXAR	**Lajitas Array**	91.88	53	P		P	10 20 43.5	+0.7	
	comp=Z,2.4nm,0.6s,baz=306,slow=3.3,SNR=56								
TXAR	**Lajitas Array**	91.88	53	P		P	10 20 43.5	+0.7	
TXAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
230A	**Sterling City**	91.90	50	⇓P		P	10 20 42.9	+0.1	
	baz=92								
Z32A	**Haskell**	91.99	48	⇓P		P	10 20 42.9	-0.2	
	baz=92								
Y33A	**Hilltop Ranch,**	92.05	47	⇑P		P	10 20 43.1	-0.2	
	baz=92								
T37A	**Cheneyville 18**	92.08	42	⇑P		P	10 20 43.3	-0.1	
	baz=92								
X34A	**Smith Ranch, M**	92.12	46	⇑P		P	10 20 43.1	-0.6	
	baz=92								
LPL	**La Plagne**	92.15	331	*e*P		P	10 20 43.8	-0.1	
LPL	**La Plagne**	92.15	331	*e*P		P	10 20 43.8	-0.1	
LPG	**La Plagne**	92.16	331	*e*P		P	10 20 44.0	0.0	
	comp=Z,5.6nm,0.6s								
LPG	**La Plagne**	92.16	331	*e*P		P	10 20 44.0	0.0	
	comp=Z,5.6nm,0.6s								
429A	**Davenport Ranc**	92.22	51	⇑P		P	10 20 44.1	-0.1	
	baz=92								
529A	**Stev Forest Ra**	92.33	52	⇓P		P	10 20 44.8	0.0	
	baz=92								
TUL1	**Leonard**	92.43	44	⇑P		P	10 20 44.8	-0.2	
	baz=92								
AVF	**Avril sur Loir**	92.44	333	*e*P		P	10 20 44.8	-0.1	
	comp=Z,9.7nm,0.8s								
AVF	**Avril sur Loir**	92.44	333	*e*P		P	10 20 44.8	-0.1	
	comp=Z,9.7nm,0.8s								
Z33A	**Whitaker Ranch**	92.45	47	⇓P		P	10 20 45.0	-0.2	
	baz=92								
430A	**Baggett Ranch,**	92.54	51	⇓P		P	10 20 45.0	-0.8	
	baz=92								
W36A	**Wetumka**	92.71	45	⇓P		P	10 20 46.0	-0.3	
	baz=92								
X35A	**Drake**	92.78	45	⇑P		P	10 20 46.6	-0.1	
	baz=93								
530A	**J-C Ranch, Com**	92.89	51	⇓P		P	10 20 47.8	+0.5	
	baz=93								
ORIF	**Oris-en-Rattie**	92.99	331	*e*P		P	10 20 48.1	+0.5	
	comp=Z,5.5nm,0.6s								
ORIF	**Oris-en-Rattie**	92.99	331	*e*P		P	10 20 48.1	+0.5	
	comp=Z,5.5nm,0.6s								
431A	**Sonora**	93.02	50	⇑P		P	10 20 47.7	-0.3	
	baz=93								
X36A	**Centrahoma**	93.03	45	⇓P		P	10 20 48.0	+0.2	
	baz=93								
332A	**Millersview**	93.11	49	⇑P		P	10 20 48.3	0.0	
	baz=93								
W37A	**Quinton**	93.18	44	⇓P		P	10 20 48.5	0.0	
	baz=93								
233A	**Rising Star**	93.22	48	⇑P		P	10 20 48.8	0.0	
	baz=93								
134A	**White-Moore Ra**	93.35	47	⇑P		P	10 20 49.4	0.0	
	baz=93								
531A	**Rocksprings**	93.40	51	⇑P		P	10 20 50.2	+0.5	
	baz=93								
X37A	**Clayton**	93.60	44	⇓P		P	10 20 50.7	+0.3	
	baz=93								
333A	**Richland Sprin**	93.63	49	⇑P		P	10 20 51.1	+0.4	
	baz=94								
JCT	**Junction City**	93.67	50	⇑P		P	10 20 50.9	0.0	
	baz=94								
W38A	**Poteau**	93.76	44	⇑P		P	10 20 51.2	0.0	
	baz=94								
532A	**Rocksprings**	93.84	50	⇑P		P	10 20 51.6	-0.2	
	baz=94								
631A	**Perdido Creek**	93.88	51	⇓P		P	10 20 51.7	-0.1	
	baz=94								
334A	**Lometa**	94.09	48	⇓P		P	10 20 52.9	+0.1	
	baz=94								
632A	**Uvalde**	94.33	51	⇑P		P	10 20 54.0	+0.1	
	baz=94								
MIAR	**Mount Ida**	94.68	43	*e*P		P	10 20 55.2	-0.2	
	comp=Z,2.5nm,0.7s								
236A	**Katherine and**	94.70	47	⇑P		P	10 20 55.3	-0.2	
	baz=94								
732A	**Laxson Ranch,**	94.72	51	⇑P		P	10 20 56.4	+0.6	
	baz=95								
534A	**Blanco**	94.82	50	⇑P		P	10 20 56.3	+0.1	
	baz=95								
832A	**Faith Ranch, C**	95.01	52	⇓P		P	10 20 57.5	+0.4	
	baz=95								
933A	**Laredo**	95.92	52	⇓P		P	10 21 02.2	+1.0	
	baz=96								
736A	**Circle Diamond**	96.45	49	⇓P		P	10 21 04.0	+0.5	
	baz=96								
034A	**Hebbronville**	96.68	52	⇓P		P	10 21 04.6	0.0	
	baz=96								
TORD	**Torodi Ar. Bea**	120.77	314	PKP		PKPdf	10 26 26.0	-0.8	
	comp=Z,0.8nm,0.7s,baz=353,slow=2.9,SNR=10								
TORD				PKKPbc		PKKPab	10 36 33.2	-0.8	
	comp=Z,0.9nm,0.7s,baz=210,slow=4.0,SNR=5.1								
QSPA	**South Pole Qui**	122.75	180	*e*PKPdf		PKPdf	10 26 28.3	-0.8	
BOSA	**Boshof**	126.59	257	PKP		PKPdf	10 26 37.8	+0.1	
	comp=Z,2.4nm,0.7s,baz=35,slow=2.6,SNR=3.6								
BOSA	**Boshof**	126.59	257	PKIKP		PKPdf	10 26 37.8	+0.1	
BOSA					pmax	pmax			
	comp=Z,2.0nm,0.7s								
SAML	**Samuel**	146.33	50	*e*PKPdf		PKPdf	10 27 14.5	+0.2	
LPAZ	**La Paz**	147.76	66	PKPbc		PKPbc	10 27 20.2	0.0	
	comp=Z,8.8nm,0.8s,baz=353,slow=3.6,SNR=26								
LPAZ	**La Paz**	147.76	66	PKP2		PKPbc	10 27 20.2	0.0	
LPAZ					pmax	pmax			
	comp=Z,9.0nm,0.8s								
LPAZ	**La Paz**	147.76	66	*e*PKPdf		PKPdf	10 27 17.9	+0.5	
LPAZ				PKPbc		PKPbc	10 27 20.2	0.0	
LVC	**Limon Verde**	150.48	78	PKPbc		PKPbc	10 27 27.3	+0.9	
	comp=Z,24nm,0.7s,baz=260,slow=3.2,SNR=10								
SIV	**San Ignacio**	152.80	57	PKPbc		PKPbc	10 27 31.4	-0.2	
	comp=Z,7.4nm,0.8s,baz=272,slow=2.0,SNR=14								

SJA ***14*** *10:24:59.4±0.8, 34°.33S×73°.36W, h37km±40km, ML3.5*
GUC ***14*** *10:25:12.3±0.5, 33°.98S×72°.20W, h40km±2km, ML3.2*

ISC 14 10:25:11.3±2.0, 34°.04S±0°.04×72°.15W±0°.10, h5km±12km, n16, σ1°.62/27, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	0.62	83	⇓*i*P	Pb	10 25 25.0	+0.4
LNV				*i* S	Sn	10 25 35.0	-2.0
TACH	**Talagante**	1.07	70	⇑*i*P	Pg	10 25 32.0	0.0
TACH				*i* S	Sn	10 25 47.4	-0.9
IHA	**Instituto Hidr**	1.09	23	*i* P	Pb	10 25 31.2	-1.5
NICH	**Los Niches**	1.23	142	*i* P	Pn	10 25 35.0	-0.1
NICH				*i* S	Sn	10 25 52.1	0.0
NICH				AML	AML	10 25 58.1	
	comp=E,2μm,0.8s						
CHCH	**Chadas Angostu**	1.25	86	*i* P	Pb	10 25 35.1	-0.3
CHCH				*i* S	Sn	10 25 52.4	-0.2
SAN	**Santiago**	1.37	65	*i* P	Pn	10 25 36.4	-0.7
SAN				*i* S	Sb	10 25 54.4	-0.8
SAN				AML	AML	10 25 56.6	
	comp=N,305nm,0.7s						
TALC	**Talca**	1.42	163	*i* P	Pb	10 25 38.0	-0.4
TALC				*i* S	Sg	10 25 57.0	-0.1
TALC				AML	AML	10 26 03.2	
	comp=N,896nm,0.3s						
SJCH	**San Jose de Ma**	1.54	76	*i* P	Pn	10 25 38.8	-0.8
SJCH				AML	AML	10 26 06.0	
	comp=N,246nm,0.6s						
AAGR	**Agrelo**	2.93	72	*i* P	Pn	10 26 01.3	+2.7
AUSP	**Uspallata**	2.94	53	*i* P	Pn	10 26 00.3	+1.4
AUSP				*i* S	Sg	10 26 46.4	+0.7
RTLS	**Leoncito**	3.27	48	*i* P	Pn	10 26 05.3	+1.8
RTLS				*i* S	Sg	10 26 55.0	-1.5
RTCV	**Cerro Valdivia**	3.73	55	*i* P	Pn	10 26 12.3	+2.8
RTCV				*i* P	Pn	10 26 12.3	+2.8
CFAA	**Coronel Fontan**	4.09	55	*i* P	Pn	10 26 16.7	+2.2
CFAA				*i* S	Sb	10 27 13.4	-0.1
RTLL	**Cerro Villicun**	4.11	50	*i* P	Pn	10 26 16.5	+1.7
RTLL				*i* S	Sb	10 27 13.2	-0.8
ACAN	**Cantantal**	4.51	68	*i* P	Pn	10 26 23.1	+2.8
AVFE	**Valle Fertil**	5.20	51	*i* P	Pn	10 26 32.1	+2.2
AVFE				AML	AML	10 27 46.9	
	comp=Z,13nm,0.6s						

NNC 14 10:26:49.3±10.0, 36°.99N×71°.32E, h0km, mb3.6, mpv3.2, 3C-3D, Error ellipse: s-maj=94.6km s-min=37.5km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	2.68	313	⇑Pn	Pn	10 27 33.5	-0.4
	32nm,0.3s						
DZET				⇑Sn	Sb	10 28 09.6	-2.3
	135nm,0.5s						
SFK	**Sufi-Kurgan**	3.47	29	⇓Pn	Pn	10 27 44.3	-0.5
	0.5nm,0.2s						
SFK				⇓Sn	Sn	10 28 30.3	+3.4
	3.9nm,0.2s						
KK31	**Karatay Array**	6.14	354	⇑Pn	Pn	10 28 17.5	-3.7
	0.5nm,0.4s,baz=179,slow=11,SNR=14						
KK31				⇓Sn	Sn	10 29 26.4	-5.7
	1.1nm,0.3s,baz=176,slow=22,SNR=13						

JMA ***14*** *10:36:01.0±0.5, 32°.96N×142°.53E, h77km, M3.3*
IDC ***14*** *10:36:03.0±3.4, 32°.52N×141°.43E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/38, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=120.9km s-min=19.3km az=69.0*

ISC 14 10:36:03.5±1.3, 32°.83N±0°.06×142°.3E±0°.1, h33km, n14, σ1°.28/22, mb3.7/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	2.11	278	P	Pn	10 36 37.1	+0.7
JHJ2				*e*S	Sb	10 37 05.8	-1.0
BSO1	**Boso 1**	2.13	329	P	Pn	10 36 34.9	-1.4
BSO1				*e*S	Sn	10 37 00.9	-0.4
BSO3	**Boso 3**	2.47	323	P	Pn	10 36 40.6	-0.6
BSO4	**Boso 4**	2.71	323	P	Pn	10 36 44.3	-0.3
BSO4				*e*S	Sn	10 37 16.6	+0.5
JOD2	**Odawara 2**	3.61	313	P	Pn	10 36 55.7	-1.4
JYN	**Shimod**	4.10	312	P	Pn	10 37 04.5	+0.6
JYN				S	Sn	10 37 51.5	+0.8
JRY	**Ryogami san**	4.25	320	P	Pn	10 37 04.9	-1.0
JRY				S	Sn	10 37 53.3	-1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSA	**Cafayete**	**0.45**	**113**	*e*P	Pb	10 50 34.1	-0.1
FSA				*e*S	Sb	10 50 42.2	+0.9
FSA				IAML		10 50 46.1	
	comp=Z,868nm,0.6s						
AHML	**Horco Molle**	**1.34**	**130**	*e*P	Pg	10 50 49.5	+0.1
AHML				IAML		10 51 13.5	
	comp=Z,259nm,0.3s						
SLA	**San Lorenzo**	**1.48**	**37**	*e*P	Pn	10 50 50.5	-0.4
SLA				IAML		10 51 19.6	
	comp=Z,467nm,0.5s						
AZAP	**Zapla**	**2.12**	**37**	*e*P	Pb	10 51 02.1	-0.5
AZAP				IAML		10 51 37.2	
	comp=Z,440nm,0.6s						
CYA	**Choya**	**2.58**	**167**	*e*P	Pb	10 51 08.3	-2.1
CYA				IAML		10 51 47.7	
	comp=Z,156nm,0.7s						
ASTB	**Santa Barbara**	**2.67**	**43**	*e*P	Pb	10 51 10.4	-1.5
HJA	**Humahuaca**	**2.87**	**20**	*e*P	Pb	10 51 13.5	-2.2
ALOL	**LOMAS DE OLMED**	**3.09**	**48**	*e*P	Pn	10 51 15.3	+2.4
ACLC	**CERRO LA CRUZ**	**3.52**	**187**	*e*P	Pn	10 51 17.5	-1.5

*ROM **14** 10:52:57.2±0.1, 46°.12N×13°.48E, h10km±1km, Md2.1/5, Ml1.5/4, Error ellipse: s-maj=4.7km s-min=1.3km az=51.0*
*CSEM **14** 10:52:57.5±0.1, 46°.09N×13°.42E, h15km, ML2.1/9, Error ellipse: s-maj=2.5km s-min=1.5km az=31.0*
*VIE **14** 10:52:57.5±0.3, 46°.09N×13°.45E, h12km±3km, ML1.7/1, Error ellipse: s-maj=2.1km s-min=1.2km az=37.0 2 km SE of Cividale*

LJU 14 10:52:57.4, 46°.08N×13°.43E, h15km, ML1.4, 14C-9D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLI	**Coloredo**	**0.07**	**326**	⇓*i*P	Pg	10 53 00.2	-0.1
COLI				*i* Sg	Sg	10 53 02.1	-0.1
COLI	**Coloredo**	**0.07**	**326**	⇓*i*P	Pg	10 53 00.2	-0.1
COLI				*i* Sg	Sg	10 53 02.1	-0.1
SABO	**M.te Sabotino**	**0.15**	**130**	⇑*e*Pg	Pb	10 53 01.8	-0.3
SABO				*e*Sg	Sb	10 53 05.0	-0.2
SABO	**M.te Sabotino**	**0.15**	**130**	Pg	Pb	10 53 01.8	-0.3
SABO				Sg	Sb	10 53 05.1	-0.1
	440nm,0.2s						
SABO	**M.te Sabotino**	**0.15**	**130**	⇑*e*Pg	Pb	10 53 01.8	-0.3
SABO				*e*Sg	Sb	10 53 05.0	-0.2
ROBS	**Robic**	**0.17**	**18**	⇓*i*Pg	Pg	10 53 01.6	-0.1
ROBS				*i* Sg	Sg	10 53 04.5	+0.1
	comp=Z,64nm,0.1s						
ROBS	**Robic**	**0.17**	**18**	Pg	Pg	10 53 01.6	-0.1
ROBS				*i* Sg	Sg	10 53 04.6	+0.1
	comp=Z,64nm,0.1s						
DRE	**Drenchia**	**0.17**	**58**	⇑*e*Pg	Pg	10 53 01.8	0.0
DRE				*e*Sg	Sg	10 53 04.9	+0.2
DRE	**Drenchia**	**0.17**	**58**	⇑*e*Pg	Pg	10 53 01.8	0.0
DRE				*e*Sg	Sg	10 53 04.9	+0.2
BAD	**Bernadia**	**0.20**	**320**	⇓*i*Pg	Pg	10 53 02.0	-0.1
BAD				*i* Sg	Sg	10 53 05.4	0.0
BAD	**Bernadia**	**0.20**	**320**	⇓*i*Pg	Pg	10 53 02.0	-0.2
BAD				*i* Sg	Sg	10 53 05.4	0.0
VINO	**Villanova**	**0.20**	**330**	⇓*i*Pg	Pg	10 53 02.0	-0.2
VINO				*i* Sg	Sg	10 53 05.3	-0.1
VINO	**Villanova**	**0.20**	**330**	Pg	Pg	10 53 02.0	-0.2
VINO				Sg	Sg	10 53 05.4	0.0
	comp=Z,49nm,0.3s						
VINO	**Villanova**	**0.20**	**330**	⇓*i*Pg	Pg	10 53 02.0	-0.2
VINO				*i* Sg	Sg	10 53 05.3	-0.1
BUA	**Buia**	**0.26**	**303**	⇑*e*Pg	Pg	10 53 03.2	+0.3
BUA				*e*Sg	Sb	10 53 07.8	-0.3
BUA	**Buia**	**0.26**	**303**	⇑*e*Pg	Pg	10 53 03.2	+0.3
BUA				*e*Sg	Sb	10 53 07.8	-0.2
CADS	**Cadrg**	**0.26**	**55**	*i* Pg	Pg	10 53 03.0	0.0
CADS				*i* Sg	Sg	10 53 07.2	+0.3
	comp=Z,10.0nm,0.1s						
CADS	**Cadrg**	**0.26**	**55**	*i* Pg	Pg	10 53 03.0	-0.1
CADS				*i* Sg	Sg	10 53 07.2	+0.2
	comp=Z,10.0nm,0.1s						
VOJS	**Vojsko**	**0.32**	**99**	⇑*i*Pg	Pg	10 53 04.1	0.0
VOJS				*i* Sg	Sb	10 53 09.4	-0.6
	comp=Z,20nm,0.1s						
VOJS	**Vojsko**	**0.32**	**99**	⇑*i*Pg	Pg	10 53 04.1	-0.1
VOJS				*i* Sg	Sg	10 53 09.4	+0.6
	comp=Z,20nm,0.1s						
PTCC	**Patocco-Chiusa**	**0.33**	**351**	Pg	Pg	10 53 04.0	-0.3
PTCC				Sg	Sg	10 53 09.1	0.0
	comp=Z,20nm,0.2s						
PTCC	**Patocco-Chiusa**	**0.33**	**351**	Pg	Pg	10 53 04.0	-0.3
PTCC				Sg	Sg	10 53 09.1	0.0
	comp=Z,20nm,0.2s						
LSR	**Lussari**	**0.40**	**10**	⇑*e*Pg	Pg	10 53 05.4	-0.4
LSR				*e*Sg	Sb	10 53 12.4	-0.3
LSR	**Lussari**	**0.40**	**10**	⇑*e*Pg	Pg	10 53 05.4	-0.4
LSR				*e*Sg	Sb	10 53 12.4	-0.3
TRI	**Trieste**	**0.44**	**148**	*e*Pg	Pg	10 53 06.0	-0.2
TRI				*e*Sg	Sg	10 53 12.5	+0.4
TRI	**Trieste**	**0.44**	**148**	Pg	Pg	10 53 06.1	-0.1
TRI				Sg	Sb	10 53 13.2	0.0
TRI	**Trieste**	**0.44**	**148**	Pg	Pg	10 53 06.1	-0.1
TRI				*e*Sg	Sg	10 53 12.5	+0.4
GORS	**Gorjuse**	**0.46**	**59**	*i* Pg	Pg	10 53 06.3	-0.4
	comp=Z,5.0nm,0.1s						
GORS	**Gorjuse**	**0.46**	**59**	*i* Pg	Pg	10 53 06.3	-0.4
	comp=Z,5.0nm,0.1s						
ACOM	**Acomizza, Ital**	**0.47**	**7**	⇑*e*Pg	Pg	10 53 06.7	-0.4
ACOM	**Acomizza, Ital**	**0.47**	**7**	⇑*e*Pg	Pg	10 53 06.7	-0.4
JAVS	**Javornik**	**0.48**	**113**	*i* Pg	Pg	10 53 06.9	-0.1
JAVS				*i* Sg	Sb	10 53 14.4	-0.3
	comp=Z,3.0nm,0.1s						
JAVS	**Javornik**	**0.48**	**113**	*i* Pg	Pg	10 53 06.9	-0.2
JAVS				*i* Sg	Sb	10 53 14.4	-0.3
	comp=Z,3.0nm,0.1s						
ZOU	**Zoufplan**	**0.57**	**327**	*e*Pg	Pg	10 53 08.5	-0.5
CRNS	**Crni Vrh**	**0.58**	**90**	*i* Pg	Pg	10 53 08.5	-0.4
CRNS				*i* Sg	Sb	10 53 17.8	+0.4
SKDS	**Skadanscina**	**0.67**	**142**	*i* Pg	Pg	10 53 09.9	-0.7
SKDS				*i* Sg	Sb	10 53 20.8	+0.7
	comp=Z,9.0nm,0.1s						
SKDS	**Skadanscina**	**0.67**	**142**	*i* Pg	Pg	10 53 09.9	-0.7
SKDS				*i* Sg	Sb	10 53 20.8	+0.7
	comp=Z,9.0nm,0.1s						
MOZS	**Mozjanca**	**0.73**	**73**	*e*Pg	Pn	10 53 12.8	-0.6
	comp=Z,3.0nm,0.1s						
MOZS	**Mozjanca**	**0.73**	**73**	*e*Pg	Pn	10 53 12.8	-0.6
	comp=Z,3.0nm,0.1s						
CEY	**Cerknica**	**0.77**	**116**	*i* Sg	Sb	10 53 23.6	+0.5
CEY	**Cerknica**	**0.77**	**116**	*i* Sg	Sb	10 53 23.6	+0.5
VNDS	**Vrh nad Dolski**	**0.88**	**88**	*i* Pg	Pb	10 53 14.3	-0.3
VNDS				*e*Sg	Sn	10 53 27.8	-0.3
	comp=Z,3.0nm,0.1s						
ABTA	**Abfaltersbach**	**0.92**	**317**	⇑*i*Pg	Pn	10 53 16.1	+0.1
ABTA				⇑*i*Sg	Sg	10 53 28.1	+0.5
	comp=Z,1.9nm,0.2s						
ABTA	**Abfaltersbach**	**0.92**	**317**	Pg	Pn	10 53 16.1	+0.1
ABTA				Sg	Sg	10 53 28.1	+0.5
	comp=Z,1.9nm,0.2s						
VISS	**Visnje**	**1.02**	**105**	*i* Pg	Pn	10 53 17.6	+0.4
VISS				*i* Sg	Sn	10 53 31.0	-0.3
	comp=Z,2.0nm,0.1s						
VISS	**Visnje**	**1.02**	**105**	*i* Pg	Pn	10 53 17.6	+0.4
VISS				*i* Sg	Sn	10 53 31.0	-0.3
	comp=Z,2.0nm,0.1s						
PDKS	**Podkum**	**1.09**	**90**	*i* Sg	Sn	10 53 34.5	+1.4
	comp=Z,4.0nm,0.2s						
PDKS	**Podkum**	**1.09**	**90**	*i* Sg	Sn	10 53 34.5	+1.3
	comp=Z,4.0nm,0.2s						
GBRS	**Gornja Briga**	**1.11**	**119**	*i* Pg	Pg	10 53 20.0	+1.1
CGRP	**Cima Grappa**	**1.16**	**261**	⇓*e*Pg	Pg	10 53 20.4	+0.5
CGRP				*e*Sg	Sg	10 53 36.6	+1.4
CGRP	**Cima Grappa**	**1.16**	**261**	⇓*e*Pg	Pg	10 53 20.4	+0.4
CGRP				*e*Sg	Sg	10 53 36.6	+1.4
BOJS	**Bojanci**	**1.40**	**114**	*i* Pg	Pg	10 53 24.3	0.0
BOJS				*i* Sg	Sg	10 53 43.4	+0.9
BOJS	**Bojanci**	**1.40**	**114**	*i* Pg	Pg	10 53 24.3	0.0
BOJS				*i* Sg	Sg	10 53 43.4	+0.9
CRES	**Cresnjev**	**1.44**	**99**	*i* Sg	Sg	10 53 45.4	+1.2
CRES	**Cresnjev**	**1.44**	**99**	*i* Sg	Sg	10 53 45.0	+1.2
PANI	**Panarotta**	**1.48**	**270**	*e*Pg	Pb	10 53 25.0	+0.1
PANI				*e*Sg	Sg	10 53 44.8	-0.8
PANI	**Panarotta**	**1.48**	**270**	*e*Pg	Pb	10 53 25.0	+0.1
PANI				*e*Sg	Sg	10 53 44.8	-0.8

DDA 14 11:08:05.5, 40°.26N×28°.33E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	**Uludag**	**0.63**	**100**	*i* P	Pg	11 08 17.7	-0.3
DURS	**Dursunbey**	**0.66**	**170**	*i* P	Pg	11 08 18.6	+0.1
DURS				*i* S	Sg	11 08 28.1	+0.9
SART	**Tekirdag**	**0.98**	**297**	*i* P	Pg	11 08 24.2	-0.3
SART				*i* S	Sn	11 08 39.5	-0.5

*NIED **14** 11:10:00, 31°.00N×129°.80E, h5km, Mw4.0 Best double couple: M0 1.15000×10^15 NP1:φ8 116.00000°, δ59.00000°, λ4.00000°. NP2:φ8 24.00000°, δ86.00000°, λ149.00000°.*
*ISCJB **14** 11:10:13.9±1.9, 31°.03N±0°.03×129°.80E±0°.05, h13km±13km, mb3.5/8, MS3.1/9, Error ellipse: s-maj=6.7km s-min=4.4km az=164.1*
*JMA **14** 11:10:14.6, 31°.04N×129°.83E, h11km±1km, M3.9*
JMA Felt I J1.
*IDC **14** 11:10:14.1±1.0, 30°.82N×129°.55E, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.6/26, mbtmp3.6/10, ML2.9/3, MS3.1/11, Ms1 3.2/11, ms1mx3.0/33, Error ellipse: s-maj=34.4km s-min=18.5km az=87.0*

ISC 14 11:10:14.2±1.4, 31°.02N±0°.03×129°.85E±0°.06, h5km±10km, n27, σ0 95/26, mb3.5/8, MS3.1/9, 2C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKC	**Kuchinoerabu**	**0.63**	**152**	⇑P	**Pg**	**11 10 27.1**	**+0.8**
JKC				*e*S	**Sg**	**11 10 35.7**	**+1.2**
JSJ	**Shimokoshiki**	**0.67**	**350**	⇑P	**Pg**	**11 10 26.7**	**-0.3**
JSJ				*e*S	**Sg**	**11 10 35.7**	**+0.1**
JSU	**Suzuyama**	**0.71**	**47**	⇓P	**Pg**	**11 10 28.2**	**+0.4**
JSU				*e*S	**Sg**	**11 10 37.5**	**+0.5**
JTSR	**Tashiro 2**	**0.93**	**81**	⇓P	**Pg**	**11 10 32.1**	**0.0**
JTSR				*e*S	**Sg**	**11 10 44.1**	**-0.1**
JYAK	**Yakushimahirau**	**0.97**	**144**	P	**Pg**	**11 10 32.7**	**0.0**
JYAK				*e*S	**Sg**	**11 10 45.7**	**+0.5**
JTN	**Tanegashima 3**	**1.04**	**110**	P	**Pb**	**11 10 34.0**	**-0.6**
JTN				*e*S	**Sg**	**11 10 47.7**	**+0.1**
JNN	**Nakanoshima**	**1.18**	**179**	P	**Pn**	**11 10 36.2**	**-1.0**
JNN				*e*S	**Sb**	**11 10 52.1**	**-0.4**
JNU	**Nakatsue**	**2.27**	**22**	Pn	**Pg**	**11 10 57.1**	**-0.6**
	35nm,0.3s,baz=322,slow=7.7,SNR=55						
JNU				Sn	**Sg**	**11 11 26.9**	**-0.3**
	39nm,0.3s,baz=303,slow=9.5,SNR=7.4						
JOW	**Kunigami**	**4.39**	**199**	Pn	**Pn**	**11 11 20.2**	**-1.3**
	0.2nm,0.3s,baz=155,slow=26,SNR=8.1						
KSRS	**Korea Array**	**6.61**	**347**	Pn	**Pn**	**11 11 52.7**	**+0.8**
	0.3nm,0.3s,baz=164,slow=14,SNR=8.2						
KSRS				Sn	**Sn**	**11 13 07.8**	**+0.1**
	0.4nm,0.3s,baz=171,slow=25,SNR=3.7						
KSRS				LR	LR	11 14 57.9	
	comp=Z,78nm,18.1s,baz=172,slow=42						
MJAR	**Matsushiro Arr**	**8.87**	**49**	LR	LR	11 16 12.1	
	comp=Z,91nm,20.5s,baz=220,slow=39						
GUMO	**Guam**	**22.18**	**138**	LR	LR	11 22 14.9	
	comp=Z,30nm,19.1s,baz=81,slow=32						
SONM	**Songino Array**	**24.55**	**320**	LR	LR	11 25 20.4	
	comp=Z,46nm,19.7s,baz=228,slow=37						
TLY	**Talaya**	**28.25**	**324**	LR	LR	11 28 22.5	
	comp=Z,47nm,19.1s,baz=121,slow=38						
PETK	**Petropavlovsk-**	**29.92**	**34**	LR	LR	11 27 57.4	
	comp=Z,29nm,18.4s,baz=156,slow=35						
CMAR	**Chiang Mai Arr**	**30.62**	**253**	LR	LR	11 30 18.5	
	comp=Z,44nm,19.1s,baz=170,slow=40						
SEY	**Seymchan**	**35.04**	**18**	LR	LR	11 30 59.1	
	comp=Z,61nm,20.8s,baz=40,slow=35						
ZALV	**Zalesovo Beam**	**39.44**	**319**	P	**P**	**11 17 44.4**	**-0.6**
	0.3nm,0.3s,baz=116,slow=6.6,SNR=2.0						
MKAR	**Makanchi Array**	**39.59**	**307**	P	**P**	**11 17 45.4**	**-1.0**
	0.3nm,0.7s,baz=93,slow=8.7,SNR=2.7						
WRA	**Warramunga Arr**	**50.85**	**175**	P	**P**	**11 19 14.6**	**-1.4**
	0.6nm,0.8s,baz=356,slow=8.0,SNR=2.9						
ASAR	**Alice Springs**	**54.52**	**175**	P	**P**	**11 19 41.7**	**-1.3**
	0.3nm,0.8s,baz=19,slow=12,SNR=3.7						
ILAR	**Eielson Array**	**59.57**	**30**	P	P	11 20 21.4	+3.1
	0.3nm,0.8s,baz=282,slow=7.7,SNR=4.7						
ARCES	**ARCESS Array B**	**66.09**	**338**	LR	LR	11 54 47.6	
	comp=Z,31nm,19.6s,baz=88,slow=40						
FINES	**FINESS Array B**	**69.42**	**330**	P	**P**	**11 21 24.7**	**+1.9**
	0.7nm,0.6s,baz=101,slow=9.9,SNR=3.7						
BRTR	**Keskin Array B**	**75.24**	**308**	P	**P**	**11 21 59.7**	**+1.5**
	0.9nm,0.8s,baz=124,slow=6.4,SNR=4.3						
BRTR				LR	LR	12 00 56.0	
	comp=Z,10nm,18.2s,baz=106,slow=40						
NB2	**NORSAR Subarra**	**75.66**	**334**	P	P	11 22 07.1	+7.0
	comp=Z,1.5nm,0.6s,baz=50,slow=5.9						
NOA	**NORSAR Array B**	**75.66**	**334**	P	**P**	**11 22 01.6**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=50,slow=5.6,SNR=2.5						
NOA				LR	LR	11 56 55.6	
	comp=Z,14nm,18.5s,baz=245,slow=37						

*IDC **14** 11:16:11.6±1.6, 35°.56S×72°.01W, h0km, mb4.0/3, mb1 3.9/5, mb1mx3.8/15, mbtmp3.8/5, ML3.5/2, Error ellipse: s-maj=41.1km s-min=28.5km az=92.0*
*ISCJB **14** 11:16:20.3±0.7, 35°.02S±0°.04×71°.9W±0°.1, h60km±7km, mb3.9/3, Error ellipse: s-maj=15.0km s-min=5.7km az=12.9*
*NEIC **14** 11:16:20.0, 34°.99S×71°.87W, h43km, MG4.2(GUC), After GUC.*
NEIC Felt [II] at Curico, Pencahue, San Javier and Talca.
*GUC **14** 11:16:20.9±0.6, 34°.99S×71°.87W, h43km±1km, ML4.2*

ISC 14 11:16:21.0±1.1, 35°.01S±0°.05×71°.9W±0°.1, h50km±11km, n24, σ1 02/33, mb4.0/3, 2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.43**	**154**	⇓*e*P	**Pn**	**11 16 31.6**	**+0.2**
TALC				*i* S	**Sn**	**11 16 39.3**	**+0.4**
NICH	**Los Niches**	**0.52**	**89**	⇓*i*P	**Pn**	**11 16 32.4**	**-0.1**
NICH				*i* S	**Sn**	**11 16 40.9**	**+0.1**
LNCH	**Linares**	**0.86**	**166**	*e*P	**Pn**	**11 16 37.4**	**+0.5**
LNCH				*e*S	**Sn**	**11 16 49.9**	**+1.4**
LNV	**Longovilo**	**1.12**	**20**	*e*P	**Pn**	**11 16 40.5**	**+0.1**
CHCH	**Chadas Angostu**	**1.47**	**43**	*e*P	**Pn**	**11 16 45.6**	**+0.4**
TACH	**Talagante**	**1.56**	**30**	*e*P	**Pn**	**11 16 46.8**	**+0.4**
PCH	**Pirque**	**1.78**	**39**	*e*P	**Pn**	**11 16 50.1**	**+0.6**
SAN	**Santiago**	**1.85**	**33**	*e*P	**Pn**	**11 16 50.9**	**+0.6**
SJCH	**San Jose de Ma**	**1.85**	**43**	*e*P	**Pn**	**11 16 50.4**	**0.0**
SJCH				*e*S	**Sn**	**11 17 13.8**	**+1.0**
LACH	**Col Las Americ**	**1.91**	**36**	*e*P	**Pn**	**11 16 51.7**	**+0.5**
LACH				*e*S	**Sn**	**11 17 16.3**	**+2.2**
CLCH	**Cerro Calan**	**1.95**	**35**	*e*P	**Pn**	**11 16 52.1**	**+0.3**
CLCH				*e*S	**Sn**	**11 17 16.3**	**+1.1**
CLCH				AML	AML	11 17 27.2	
	comp=N,3μm,0.7s						
IHA	**Instituto Hidr**	**1.99**	**5**	*e*P	**Pn**	**11 16 52.3**	**0.0**
YECH	**El Yeso**	**2.00**	**48**	*e*P	**Pn**	**11 16 53.8**	**+1.2**
YECH				*e*S	**Sn**	**11 17 17.9**	**+1.4**
YECH				AML	AML	11 17 21.3	
	comp=E,2μm,0.3s						
PEL	**Peldehue**	**2.11**	**28**	*e*P	**Pn**	**11 16 54.6**	**+0.8**
PEL				*e*S	**Sn**	**11 17 19.7**	**+0.8**
PEL				AML	AML	11 17 26.1	
	comp=N,3μm,0.3s						
CFAA	**Coronel Fontan**	**4.56**	**43**	Pn	**Pn**	**11 17 28.9**	**+1.4**
	comp=N,0.5nm,0.3s,baz=211,slow=13,SNR=36						
CFAA				Sn	Sn	11 18 27.8	+8.5
	comp=N,0.6nm,0.3s,baz=272,slow=14,SNR=4.4						
PLCA	**Paso Flores**	**5.80**	**170**	Pg	**Pn**	**11 17 46.5**	**+1.9**
	comp=N,1.0nm,0.3s,baz=348,slow=12,SNR=9.6						
LCO	**Las Campanas**	**6.07**	**10**	Pn	**Pn**	**11 17 48.0**	**-0.4**
TRQA	**Tornquist**	**8.52**	**114**	*e*Pn	**Pn**	**11 18 21.9**	**+0.3**
CPUP	**Villa Florida**	**15.20**	**59**	Pn	**Pn**	**11 19 49.8**	**-2.6**
LPAZ	**La Paz**	**18.95**	**11**	P	**Pn**	**11 20 39.8**	**+0.1**
	comp=N,0.2nm,0.3s,baz=182,slow=9.0,SNR=5.3						
LPAZ	**La Paz**	**18.95**	**11**	*e*Pn	**P**	**11 20 37.2**	**-1.4**
LPAZ				P	**Pn**	**11 20 39.8**	**+0.1**
TXAR	**Lajitas Array**	**70.69**	**331**	P	**P**	**11 27 32.0**	**+0.4**
	comp=N,0.1nm,0.5s,baz=156,slow=7.7,SNR=4.4						
DBIC	**Dimbokro**	**75.37**	**71**	P	**P**	**11 27 59.3**	**-0.2**
	comp=N,8.0nm,1.1s,baz=248,slow=6.1,SNR=3.3						
TORD	**Tordi Ar. Bea**	**84.42**			**P**	**11 28 48.5**	**+0.1**
	comp=N,1.2nm,0.8s,baz=246,slow=4.1,SNR=5.5						

*CSEM **14** 11:23:53.4, 44°.39N×29°.43E, h5km, MD3.1/3*
BUC 14 11:23:53.4±1.6, 44°.39N×29°.43E, h5km±4km, MD3.1/3, 24C-6D, Error ellipse: s-maj=12.3km s-min=4.5km az=119.0, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFOR	**EFORIE**	**0.66**	**242**	S	Sb	11 24 15.8	-0.9
EFOR	**EFORIE**	**0.66**	**242**	*i* S	Sb	11 24 15.8	-0.9
EFOR	**EFORIE**	**0.66**	**242**	*i* S	Sb	11 24 15.8	-0.9
TIRR	**Tirgusor**	**0.73**	**276**	⇑*i*P	Pb	11 24 08.3	-0.4
TIRR	**Tirgusor**	**0.73**	**276**	⇑*i*P	Pb	11 24 08.3	-0.4
TIRR				*i* S	Sb	11 24 18.1	-0.9
TIRR	**Tirgusor**	**0.73**	**276**	⇑*i*P	Pb	11 24 08.3	-0.4
TIRR				*i* S	Sb	11 24 18.1	-0.9
TLCR		**0.91**	**331**	⇓*i*P	Pb	11 24 11.8	+0.1
TLCR		**0.91**	**331**	⇓*i*P	Pb	11 24 11.8	+0.1
TLCR		**0.91**	**331**	⇓*i*P	Pb	11 24 11.8	+0.1
TLB	**Topalu**	**1.01**	**282**	⇑*i*P	Pb	11 24 13.5	+0.1
TLB	**Topalu**	**1.01**	**282**	⇑*i*P	Pb	11 24 13.5	+0.1
TLB				*i* S	Sn	11 24 28.7	-0.2
TLB	**Topalu**	**1.01**	**282**	⇑*i*P	Pb	11 24 13.5	+0.1
TLB				*i* S	Sn	11 24 28.7	-0.2
PSN	**Preselentsi**	**1.15**	**232**	⇓*i*P	Pn	11 24 17.1	+1.0
PSN	**Preselentsi**	**1.15**	**232**	⇓*i*P	Pn	11 24 17.1	+1.0
PSN				*i* S	Sn	11 24 34.7	+2.6
PSN	**Preselentsi**	**1.15**	**232**	⇓*i*P	Pn	11 24 17.1	+1.0
PSN				*i* S	Sn	11 24 34.7	+2.6
MSAB	**Monastry St. A**	**1.19**	**256**	⇑*i*P	Pb	11 24 16.5	0.0
MSAB	**Monastry St. A**	**1.19**	**256**	⇑*i*P	Pb	11 24 16.5	0.0
MSAB				*i* S	Sn	11 24 34.0	+0.7
MSAB	**Monastry St. A**	**1.19**	**256**	⇑*i*P	Pb	11 24 16.5	0.0
MSAB				*i* S	Sn	11 24 34.0	+0.7
CFR	**Carcaliu**	**1.21**	**311**	⇑*i*P	Pn	11 24 18.6	+1.6
CFR	**Carcaliu**	**1.21**	**311**	⇑*i*P	Pn	11 24 18.6	+1.6
CFR	**Carcaliu**	**1.21**	**311**	⇑*i*P	Pn	11 24 18.6	+1.6
VRI	**Vrincioaia**	**2.42**	**309**	⇑*i*P	Pn	11 24 34.5	+0.9
VRI	**Vrincioaia**	**2.42**	**309**	⇑*i*P	Pn	11 24 34.5	+0.9
VRI	**Vrincioaia**	**2.42**	**309**	⇑*i*P	Pn	11 24 34.5	+0.9
PLOR	**Plostina**	**2.45**	**308**	⇑*i*P	Pn	11 24 34.6	+0.5
PLOR	**Plostina**	**2.45**	**308**	⇑*i*P	Pn	11 24 34.6	+0.5
PLOR	**Plostina**	**2.45**	**308**	⇑*i*P	Pn	11 24 34.6	+0.5
MLR	**Muntele Rosu**	**2.71**	**295**	⇑*i*P	Pn	11 24 38.9	+1.1
MLR	**Muntele Rosu**	**2.71**	**295**	⇑*i*P	Pn	11 24 38.9	+1.1
MLR	**Muntele Rosu**	**2.71**	**295**	⇑*i*P	Pn	11 24 38.9	+1.1
VOIR		**3.29**	**290**	⇑*i*P	Pn	11 24 47.2	+1.6
VOIR		**3.29**	**290**	⇑*i*P	Pn	11 24 47.2	+1.6
VOIR		**3.29**	**290**	⇑*i*P	Pn	11 24 47.2	+1.6

IDC 14 11:31:41.5±8.0, 8°.31N×92°.98E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/26, mbtmp3.4/3, Error ellipse: s-maj=404.7km s-min=31.0km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.64**	**29**	Sn	Sn	11 35 37.5	-62
	0.2nm,0.3s,baz=229,slow=28,SNR=4.1						
MKAR	**Makanchi Array**	**39.42**	**348**	P	P	11 39 13.1	-0.2
	0.6nm,0.9s,baz=158,slow=7.8,SNR=3.7						
WRA	**Warramunga Arr**	**49.45**	**125**	P	P	11 40 33.5	-0.4
	0.4nm,0.8s,baz=304,slow=8.7,SNR=5.7						
ASAR	**Alice Springs**	**51.08**	**129**	P	P	11 40 46.4	+0.2
	0.3nm,0.8s,baz=302,slow=7.8,SNR=4.2						

*ISCJB **14** 11:39:02.3±0.5, 38°.71N±0°.04×122°.85W±0°.07, h8km, Error ellipse: s-maj=8.6km s-min=3.8km az=147.6*
*NEIC **14** 11:39:02.7, 38°.80N×122°.78W, h4km, MW3.7(BRK), After NCEDC.*
NEIC Felt [III] at Healdsburg. Also felt at Calistoga, Cloverdale, Middletown, Napa, Petaluma, Saint Helena, Santa Rosa and Windsor.

ISC 14 11:39:02.7±0.9, 38°.74N±0°.04×122°.90W±0°.06, h8km, n27, σ1 02/29, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPS	**Hopland Field**	**0.28**

H08S1 Diego Carcia H 27.01 249 T T 12 21 58.2
baz=70,slow=75,SNR=9.2
WRA Warramunga Arr 42.09 123 P **P** **11 56 36.9 -2.2**
0.6nm,0.3s,baz=305,slow=9.0,SNR=11
ASAR Alice Springs 43.55 128 P **P** **11 56 48.8 -2.1**
0.2nm,0.5s,baz=301,slow=8.0,SNR=9.5
SONM Songino Array 46.12 8 P **P** **11 57 11.1 0.0**
0.9nm,0.5s,baz=189,slow=11,SNR=3.6
MK31 Makanchi Array 46.46 345 *e*P **P** **11 57 13.6 0.0**
MKAR Makanchi Array 46.46 345 P **P** **11 57 14.0 +0.4**
0.8nm,0.4s,baz=157,slow=9.0,SNR=18
KURBB Kurchatov Arra 50.96 344 P **P** **11 57 48.7 +0.6**
1.3nm,0.5s,baz=165,slow=7.0,SNR=12
KURK Kurchatov 51.02 344 *e*P **P** **11 57 48.0 -0.6**
1.5nm,0.5s
KURK P **P** **11 57 48.7 +0.1**
ZALV Zalesovo Beam 52.72 350 P **P** **11 58 00.2 -0.9**
2.0nm,0.3s,baz=172,slow=6.6,SNR=7.2
ABKAR Akbulak array 56.94 331 *e*P **P** **11 58 31.4 -0.4**
0.6nm,0.7s
CASY Casey 68.89 174 *e*P **P** **11 59 51.4 +0.5**
FINES FINESS Array B 79.41 332 P **P** **12 00 52.1 -0.3**
0.3nm,0.3s,baz=108,slow=6.2,SNR=4.5
ARCES ARCESS Array B 81.83 340 P **P** **12 01 04.9 -0.4**
1.3nm,0.8s,baz=346,slow=1.9,SNR=4.7

IDC 14 11:50:37.0±3.1, 30.82S×178.66W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/29, mbtmp3.8/2, Error ellipse: s-maj=179.6km s-min=45.7km az=164.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.52**	**268**	P	P	11 58 34.1	-0.4
	0.4nm,0.3s,baz=108,slow=7.5,SNR=11						
WRA	**Warramunga Arr**	**43.55**	**273**	P	P	11 58 42.6	-0.2
	0.4nm,0.3s,baz=111,slow=8.1,SNR=12						
FINES	**FINESS Array B**	**145.34**	**339**	PKPbc	PKPbc	12 10 14.4	-1.4
	0.8nm,0.6s,baz=80,slow=1.6,SNR=5.1						
BRTR	**Keskin Array B**	**152.29**	**298**	PKP	PKPdf	12 10 25.2	-3.0
	0.4nm,0.4s,baz=32,slow=3.7,SNR=3.4						
BRTR				PKPbc	PKiKP	12 10 36.7	+1.4
	0.5nm,0.4s,baz=77,slow=3.1,SNR=3.8						

*BJI **14** 11:51:55.8, 26.25S×27.40E, h4km, mb5.0/12, mB5.1/9, Ms4.9/7, Ms7 4.5/7*
*ISCJB **14** 11:51:56.5±0.5, 26.45S±0.02×27.51E±0.03, h11km±3km, mb4.7/50, Error ellipse: s-maj=5.2km s-min=3.0km az=30.8*
*NEIC **14** 11:51:56.3, 26.42S×27.47E, h2km, mb5.0/27, After PRE.*
NEIC Felt at Fochville, Johannesburg and Pretoria.
*IDC **14** 11:51:56.4±0.5, 26.40S×27.38E, h0km, mb4.6/20, mb1 4.7/26, mb1mx4.5/38, mbtmp4.6/26, ML4.1/5, MS2.4/2, Ms1 2.4/2, ms1mx2.3/35, Error ellipse: s-maj=13.3km s-min=10.7km az=87.0*
*PRE **14** 11:51:56.4±2.3, 26.47S×27.50E, h2km, ML4.2*

ISC 14 11:51:57.6±0.5, 26.42S±0.02×27.48E±0.03, h10km±3km, n200, σ1§53/240, mb4.8/50, 6C-9D, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.13**	**59**	*e*P	**Pg**	**11 51 59.8**	**-1.1**
KLOF				*e*S	**Sg**	**11 52 01.2**	**-2.0**
KLOF				AML	AML	11 52 01.7	
	comp=Z,76μm,0.2s						
KLOF	**Kloof**	**0.13**	**59**	*e*P	**Pg**	**11 51 59.7**	**-1.1**
KLOF				*e*S	**Sg**	**11 52 01.1**	**-2.0**
PRYS	**Parys**	**0.52**	**192**	*e*P	**Pg**	**11 52 07.3**	**-0.3**
PRYS				*e*S	**Sg**	**11 52 12.8**	**-1.8**
PRYS				AML	AML	11 52 20.1	
	comp=Z,14μm,0.6s						
PRYS	**Parys**	**0.52**	**192**	*e*P	**Pg**	**11 52 07.4**	**-0.3**
PRYS				*e*S	**Sg**	**11 52 14.6**	**0.0**
BFSD	**Buffelsfontein**	**0.77**	**234**	⇑*i*P	**Pg**	**11 52 12.3**	**-0.1**
BFSD				*e*S	**Sg**	**11 52 21.5**	**-0.9**
BFSD				AML	AML	11 52 32.2	
	comp=Z,3μm,0.6s						
BFSD	**Buffelsfontein**	**0.77**	**234**	⇓*i*P	**Pg**	**11 52 12.1**	**-0.3**
BFSD				*e*S	**Sg**	**11 52 21.3**	**-1.1**
MOAB	**Moab Khotsong**	**0.83**	**227**	*e*P	**Pg**	**11 52 13.7**	**0.0**
MOAB				*e*S	**Sg**	**11 52 23.8**	**-0.8**
MOAB				AML	AML	11 52 25.8	
	comp=Z,3μm,0.4s						
TLEK	**Tau Lekoa**	**0.90**	**233**	*e*P	**Pg**	**11 52 14.5**	**-0.6**
TLEK				*e*S	**Sg**	**11 52 24.4**	**-2.5**
TLEK				AML	AML	11 52 38.4	
	comp=Z,2μm,0.7s						
SLR	**Silverton**	**0.99**	**47**	⇑*i*P	**Pg**	**11 52 15.3**	**-1.4**
SLR				*e*S	**Sg**	**11 52 27.5**	**-2.1**
SEK	**Senekal**	**1.90**	**176**	*e*P	**Pb**	**11 52 31.7**	**-0.8**
SEK				*e*S	**Sn**	**11 52 53.5**	**-0.8**
SEK				AML	AML	11 52 58.2	
	comp=Z,3μm,0.5s						
SEK	**Senekal**	**1.90**	**176**	⇑*i*P	**Pb**	**11 52 32.4**	**-0.1**
SEK				*e*S	**Sb**	**11 52 56.2**	**-0.1**
SWZ	**Schweizer**	**2.07**	**248**	*e*P	**Pn**	**11 52 31.9**	**-0.6**
SWZ				*e*S	**Sb**	**11 53 00.0**	**-1.1**
SWZ				AML	AML	11 53 02.3	
	comp=Z,6μm,0.5s						
SWZ	**Schweizer**	**2.07**	**248**	*e*P	**Pn**	**11 52 31.8**	**-0.7**
SWZ				*e*S	**Sn**	**11 52 59.8**	**+1.5**
LBTB	**Lobatse**	**2.20**	**309**	⇓*i*P	**Pn**	**11 52 35.3**	**+1.0**
LBTB				*e*S	**Sn**	**11 53 03.3**	**+1.7**
LBTB				AML	AML	11 53 19.2	
	comp=Z,1μm,0.7s						
LBTB	**Lobatse**	**2.20**	**309**	Pn	**Pn**	**11 52 35.1**	**+0.8**
	comp=Z,262nm,0.3s,baz=144,slow=14,SNR=1071						
LBTB				Lg	Lg	11 53 03.2	
	comp=Z,2μm,0.3s,baz=147,slow=21,SNR=59						
LBTB				LR	LR	11 53 09.7	
	comp=Z,36nm,20.3s,baz=114,slow=35						
LBTB				Rg	Rg	11 53 12.4	
	comp=Z,10μm,1.1s,baz=158,slow=2.8,SNR=28						
LBTB	**Lobatse**	**2.20**	**309**	*e*Pn	**Pn**	**11 52 35.1**	**+0.8**
LBTB				Lg	Lg	11 53 03.2	
LBTB				*e*Sn	**Sb**	**11 53 04.3**	**-0.6**
LBTB				Rg	Rg	11 53 12.4	
LBTB				*e*Sg	**Sg**	**11 53 13.4**	**+5.0**
BOSA	**Boshof**	**2.95**	**222**	*e*P	**Pn**	**11 52 44.7**	**+0.1**
BOSA				*e*S	**Sn**	**11 53 19.4**	**-0.6**
BOSA				AML	AML	11 53 27.9	
	comp=Z,586nm,0.3s						
BOSA	**Boshof**	**2.95**	**222**	Pn	**Pn**	**11 52 44.7**	**+0.1**
	comp=Z,24nm,0.3s,baz=46,slow=14,SNR=357						
BOSA				Sn	**Sn**	**11 53 19.5**	**-0.6**
	comp=Z,39nm,0.3s,baz=56,slow=16,SNR=11						
BOSA				Lg	Lg	11 53 27.6	
	comp=Z,206nm,0.3s,baz=322,slow=19,SNR=24						
KSD	**Kokstad**	**4.45**	**158**	*e*P	**Pn**	**11 53 03.9**	**-1.3**
KSD				*e*S	**Sn**	**11 53 54.8**	**-2.3**
KSD				AML	AML	11 54 26.3	
	comp=Z,160nm,0.6s						
KSD	**Kokstad**	**4.45**	**158**	*e*P	**Pn**	**11 53 06.9**	**+1.7**
KSD				*e*S	**Sn**	**11 53 56.4**	**-0.7**
HVD	**Gariep Dam**	**4.52**	**202**	*e*P	**Pn**	**11 53 05.2**	**-1.0**
HVD				*e*S	**Sn**	**11 53 56.8**	**-2.1**
HVD				AML	AML	11 54 24.8	
	comp=Z,276nm,0.8s						
HVD	**Gariep Dam**	**4.52**	**202**	*e*P	**Pn**	**11 53 06.1**	**-0.1**
HVD				*e*S	**Sn**	**11 53 56.5**	**-2.4**
MSNA	**Messina**	**4.67**	**30**	*e*P	**Pn**	**11 53 08.7**	**+0.5**
MSNA				*e*S	**Sn**	**11 53 59.7**	**-2.8**
MSNA				AML	AML	11 54 27.2	
	comp=Z,458nm,0.8s						
MSNA	**Messina**	**4.67**	**30**	*e*P	**Pn**	**11 53 08.8**	**+0.5**
MSNA				*e*S	**Sn**	**11 54 00.0**	**-2.5**
UPI	**Upington**	**5.87**	**249**	*e*P	**Pn**	**11 53 23.8**	**-0.9**
UPI				*e*S	**Sn**	**11 54 29.8**	**-2.2**
UPI				AML	AML	11 55 03.0	
	comp=Z,368nm,0.6s						
UPI	**Upington**	**5.87**	**249**	*e*P	**Pn**	**11 53 24.2**	**-0.5**
UPI				*e*S	**Sn**	**11 54 27.5**	**-4.5**
MATP	**Matopo**	**6.04**	**9**	Pn	**Pn**	**11 53 26.6**	**-0.5**
	comp=Z,21nm,0.3s,baz=190,slow=13,SNR=269						
MATP				Sn	**Sn**	**11 54 32.8**	**-3.5**
	comp=Z,17nm,0.3s,baz=122,slow=22,SNR=11						
MATP				Lg	Lg	11 55 02.5	
	comp=Z,76nm,0.3s,baz=110,slow=21,SNR=10						
MATP				LR	LR	11 55 53.7	
	comp=Z,91nm,18.6s,baz=190,slow=39						
SOE	**Somerset East**	**6.49**	**194**	*e*P	**Pn**	**11 53 34.0**	**+0.8**
SOE				*e*S	**Sn**	**11 54 45.5**	**-1.9**
GRM	**Grahamstown**	**6.92**	**187**	*e*P	**Pn**	**11 53 39.4**	**+0.2**
GRM				*e*S	**Sn**	**11 54 52.2**	**-5.8**
GRM				AML	AML	11 55 43.4	
	comp=Z,238nm,0.6s						
GRM	**Grahamstown**	**6.92**	**187**	*e*P	**Pn**	**11 53 39.2**	**+0.1**
GRM				*e*S	**Sn**	**11 54 52.7**	**-5.3**
BUFB	**Buffelsbos**	**8.06**	**196**	*e*P	**Pn**	**11 53 54.5**	**-0.2**
BUFB				*e*S	**Sn**	**11 55 20.2**	**-5.7**
BUFB				AML	AML	11 55 24.4	
	comp=Z,14nm,0.2s						
BUFB	**Buffelsbos**	**8.06**	**196**	*e*P	**Pn**	**11 53 54.5**	**-0.2**
SUR	**Sutherland**	**8.31**	**223**	*e*P	**Pn**	**11 53 59.0**	**+0.6**
SUR				*e*S	**Sn**	**11 55 28.3**	**-4.1**
SUR				AML	AML	11 55 57.8	
	comp=Z,63nm,0.6s						
SUR	**Sutherland**	**8.31**	**223**	Pn	**Pn**	**11 53 59.2**	**+0.8**
	comp=Z,5.5nm,0.3s,baz=50,slow=15,SNR=53						
SUR				Sn	**Sn**	**11 55 30.0**	**-2.5**
	comp=Z,7.8nm,0.3s,baz=327,slow=22,SNR=5.6						
SUR				Lg	Lg	11 56 15.5	
	comp=Z,28nm,0.3s,baz=314,slow=17,SNR=7.2						
SUR	**Sutherland**	**8.31**	**223**	*e*Pn	**Pn**	**11 53 58.5**	**+0.1**
SUR				Sn	**Sn**	**11 55 30.0**	**-2.5**
SUR				Lg	Lg	11 56 15.5	
LSZ	**Lusaka**	**11.11**	**4**	*e*P	**Pn**	**11 54 38.3**	**+1.6**
LSZ				*e*S	**Sn**	**11 56 35.9**	**-5.2**
LSZ	**Lusaka**	**11.11**	**4**	Pn	**Pn**	**11 54 34.9**	**-1.8**
	comp=Z,4.2nm,0.3s,baz=190,slow=12,SNR=26						
LSZ				Sn	Sn	11 56 33.8	-7.2
	comp=Z,2.9nm,0.3s,baz=76,slow=13,SNR=5.9						
LSZ				Lg	Lg	11 57 41.2	
	comp=Z,2.4nm,0.3s,baz=92,slow=15,SNR=4.5						
LSZ	**Lusaka**	**11.11**	**4**	*e*Pn	**Pn**	**11 54 34.1**	**-2.6**
LSZ				Sn	Sn	11 56 33.8	-7.2
LSZ				Lg	Lg	11 57 41.2	
TSUM	**Tsumeb**	**11.61**	**306**	Pn	**Pn**	**11 54 42.3**	**-1.3**
	comp=Z,10nm,0.3s,baz=123,slow=10,SNR=95						
TSUM				Sn	**Sn**	**11 56 48.4**	**-5.0**
	comp=Z,1.8nm,0.3s,baz=18,slow=22,SNR=3.9						
TSUM				Lg	Lg	11 57 56.9	
	comp=Z,3.0nm,0.3s,baz=54,slow=21,SNR=7.1						
TSUM	**Tsumeb**	**11.61**	**306**	*e*Pn	**Pn**	**11 54 41.8**	**-1.7**
TSUM				Sn	**Sn**	**11 56 48.4**	**-5.0**
TSUM				Lg	Lg	11 57 56.9	
KMBO	**Kilima Mbogo**	**26.85**	**22**	P	**P**	**11 57 38.7**	**0.0**
	comp=Z,0.7nm,0.3s,baz=203,slow=12,SNR=3.8						
KMBO	**Kilima Mbogo**	**26.85**	**22**	P	**P**	**11 57 39.4**	**+0.7**
	comp=Z,3.6nm,1.1s						
MSKU	**Masuku**	**28.00**	**329**	P	**P**	**11 57 47.4**	**-1.4**
	comp=Z,5.6nm,0.5s,baz=178,slow=12,SNR=4.5						
KIC	**Kosan Boka**	**45.14**	**312**	*e*P	**P**	**12 00 14.3**	**-0.3**
	comp=Z,90nm,1.6s						
DBIC	**Dimbokro**	**45.45**	**312**	P	**P**	**12 00 15.8**	**-1.2**
	comp=Z,5.3nm,0.7s,baz=97,slow=6.8,SNR=5.8						
TIC	**Toumodi**	**45.54**	**312**	*e*P	**P**	**12 00 17.4**	**-0.3**
TOA0	**Torodi Ar. Sit**	**46.64**	**324**	*e*P	**P**	**12 00 24.8**	**-1.6**
TOA0	**Torodi Ar. Sit**	**46.64**	**324**	*e*P	**P**	**12 00 25.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**46.64**	**324**	P	**P**	**12 00 25.9**	**-0.5**
	comp=Z,15nm,0.9s,baz=142,slow=6.7,SNR=52						
SNAA	**Sanae**	**48.34**	**192**	*e*P	P	12 00 31.3	-7.8
	comp=Z,17nm,0.8s						
TAM	**Tamanrasset**	**53.34**	**335**	*e*P	**P**	**12 01 16.9**	**-0.4**
	comp=Z,4.8nm,1.1s						
QSPA	**South Pole Qui**	**63.77**	**180**	P	**P**	**12 02 29.9**	**+0.3**
	comp=Z,4.4nm,0.8s,baz=202,slow=1.2,SNR=13						
QSPA	**South Pole Qui**	**63.77**	**180**	*e*P	**P**	**12 02 29.8**	**+0.2**
	comp=Z,7.4nm,1.0s						
AGG	**Agios Georgios**	**65.28**	**356**	*e*P	**P**	**12 02 41.5**	**+2.1**
	comp=Z,14nm,1.2s						
BR131	**Keskin Array S**	**66.05**	**5**	*e*P	**P**	**12 02 45.4**	**+0.8**
	comp=Z,2.3nm,0.8s						
BRTR	**Keskin Array B**	**66.05**	**5**	P	**P**	**12 02 45.1**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=176,slow=9.7,SNR=13						
RDO	**Rodnopi**	**67.25**	**358**	*e*P	**P**	**12 02 53.5**	**+1.5**
	comp=Z,24nm,1.1s						
BDFB	**Brasilia**	**70.43**	**262**	P	**P**	**12 03 12.4**	**-0.3**
	comp=Z,10nm,0.9s,baz=136,slow=3.4,SNR=7.9						
DIVS	**Divibare**	**70.51**	**354**	⇓*i*P	**P**	**12 03 14.6**	**+2.2**
TLB	**Topalu**	**70.66**	**0**	⇓*i*P	**P**	**12 03 14.3**	**+1.2**
PGF	**Pioggiola**	**70.71**	**346**	*e*P	**P**	**12 03 14.2**	**+0.5**
	comp=Z,14nm,0.8s						
PGF	**Pioggiola**	**70.71**	**346**	*e*P	**P**	**12 03 14.2**	**+0.5**
	comp=Z,14nm,0.8s						
CFR	**Carcaliu**	**71.25**	**0**	⇑*i*P	**P**	**12 03 18.1**	**+1.4**
VOIR		**71.55**	**358**	⇑*i*P	**P**	**12 03 19.7**	**+1.1**
MLR	**Muntele Rosu**	**71.58**	**359**	⇓*i*P	**P**	**12 03 20.3**	**+1.4**
PLOR	**Plostina**	**71.93**	**359**	⇑*i*P	**P**	**12 03 21.6**	**+0.7**
VRI	**Vrincioaia**	**71.94**	**359**	⇓*i*P	**P**	**12 03 22.3**	**+1.4**
ESDC	**Sonseca Array**	**72.00**	**335**	P	**P**	**12 03 22.1**	**+0.6**
	comp=Z,2.9nm,0.5s,baz=154,slow=6.3,SNR=21						
PAB	**San Pablo**	**72.03**	**335**	*e*P	**P**	**12 03 22.2**	**+0.4**
	comp=Z,10nm,1.1s						
PKSM	**Moragy**	**72.73**	**354**	⇓*i*P	**P**	**12 03 26.7**	**+1.1**
VNDA	**Vanda**	**72.81**	**171**	P	**P**	**12 03 26.0**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=244,slow=3.7,SNR=17						
SMRF	**Simiane la Rot**	**72.88**	**344**	*e*P	**P**	**12 03 28.2**	**+1.6**
	comp=Z,35nm,1.2s						
SMRF	**Simiane la Rot**	**72.88**	**344**	*e*P	**P**	**12 03 28.2**	**+1.6**
	comp=Z,35nm,1.2s						
DRGR		**72.99**	**357**	⇓*i*P	P	12 03 20.5	-6.8
MTLF	**Montolieu**	**73.20**	**341**	*e*P	**P**	**12 03 28.9**	**+0.4**
MTLF	**Montolieu**	**73.20**	**341**	*e*P	**P**	**12 03 28.9**	**+0.4**
SBA	**Scott Base**	**73.23**	**172**	*e*P	**P**	**12 03 30.4**	**+2.1**
	comp=Z,4.6nm,0.7s						
MBDF	**Montbardon**	**73.29**	**345**	*e*P	**P**	**12 03 30.6**	**+1.4**
MBDF	**Montbardon**	**73.29**	**345**	*e*P	**P**	**12 03 30.6**	**+1.4**
LASF	**Ste Croix**	**73.42**	**342**	*e*P	**P**	**12 03 30.7**	**+0.9**
	comp=Z,16nm,0.9s						
LASF	**Ste Croix**	**73.42**	**342**	*e*P	**P**	**12 03 30.7**	**+0.9**
	comp=Z,16nm,0.9s						
EPF	**Esparros**	**73.48**	**340**	*e*P	**P**	**12 03 30.9**	**+0.7**
	comp=Z,25nm,0.9s						
EPF	**Esparros**	**73.48**	**340**	*e*P	**P**	**12 03 30.9**	**+0.7**
	comp=Z,25nm,0.9s						
ETSF	**Etsaut**	**73.65**	**339**	*e*P	**P**	**12 03 31.8**	**+0.6**
	comp=Z,14nm,0.8s						
ETSF	**Etsaut**	**73.65**	**339**	*e*P	**P**	**12 03 31.8**	**+0.6**
	comp=Z,14nm,0.8s						
ORIF	**Oris-en-Rattie**	**73.68**	**344**	*e*P	**P**	**12 03 32.7**	**+1.3**
ORIF	**Oris-en-Rattie**	**73.68**	**344**	*e*P	**P**	**12 03 32.7**	**+1.3**
BURAR	**Bucovina Array**	**73.72**	**358**	⇓*i*P	**P**	**12 03 34.0**	**+2.5**
BUR08	**Bucovina Ar. S**	**73.75**	**358**	*e*P	**P**	**12 03 33.7**	**+2.0**
TRQA	**Tornquist**	**73.84**	**235**	*e*P	**P**	**12 03 33.4**	**+0.7**
	comp=Z,9.1nm,0.8s						
VIVF	**Saint-Julien-l**	**73.93**	**343**	*e*P	**P**	**12 03 33.4**	**+0.6**
VIVF	**Saint-Julien-l**	**73.93**	**343**	*e*P	**P**	**12 03 33.4**	**+0.6**
LPG	**La Plagne**	**74.02**	**345**	*e*P	**P**	**12 03 34.2**	**+0.6**
LPG	**La Plagne**	**74.02**	**345**	*e*P	**P**	**12 03 34.2**	**+0.6**
LPL	**La Plagne**	**74.04**	**345**	*e*P	**P**	**12 03 34.3**	**+0.6**
LPL	**La Plagne**	**74.04**	**345**	*e*P	**P**	**12 03 34.3**	**+0.6**
SJPF	**Ste Jean**	**74.06**	**339**	*e*P	**P**	**12 03 34.1**	**+0.5**
	comp=Z,8.9nm,0.6s						
SJPF	**Ste Jean**	**74.06**	**339**	*e*P	**P**	**12 03 34.1**	**+0.5**
	comp=Z,8.9nm,0.6s						
CAF	**Calviac**	**74.70**	**342**	*e*P	**P**	**12 03 38.0**	**+0.7**
	comp=Z,20nm,0.9s						
CAF	**Calviac**	**74.70**	**342**	*e*P	**P**	**12 03 38.0**	**+0.7**
	comp=Z,20nm,0.9s						
LFF	**La Frestale**	**75.09**	**341**	*e*P	**P**	**12 03 40.2**	**+0.7**
LFF	**La Frestale**	**75.09**	**341**	*e*P	**P**	**12 03 40.2**	**+0.7**
RJF	**Les Rejaudoux**	**75.20**	**341**	*e*P	**P**	**12 03 40.6**	**+0.5**
RJF	**Les Rejaudoux**	**75.20**	**341**	*e*P	**P**	**12 03 40.6**	**+0.5**
CABF	**La Chapelle**	**75.22**	**345**	*e*P	**P**	**12 03 41.0**	**+0.7**
	comp=Z,12nm,0.8s						
CABF	**La Chapelle**	**75.22**	**345**	*e*P	**P**	**12 03 41.0**	**+0.7**
	comp=Z,12nm,0.8s						
SMF	**Signal de Mont**	**75.81**	**343**	*e*P	**P**	**12 03 44.0**	**+0.4**
	comp=Z,16nm,0.8s						
SMF	**Signal de Mont**	**75.81**	**343**	*e*P	**P**	**12 03 44.0**	**+0.4**
	comp=Z,16nm,0.8s						
TCF	**Toulx Ste Croi**	**75.91**	**342**	*e*P	**P**	**12 03 45.1**	**+0.9**
TCF	**Toulx Ste Croi**	**75.91**	**342**	*e*P	**P**	**12 03 45.1**	**+0.9**
GERES	**GERESS Array B**	**75.93**	**351**	P	**P**	**12 03 44.5**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=163,slow=5.0,SNR=18						
AVF	**Avril sur Loir**	**76.07**	**343**	*e*P	**P**	**12 03 45.7**	**+0.7**
	comp=Z,32nm,0.9s						
AVF	**Avril sur Loir**	**76.07**	**343**	*e*P	**P**	**12 03 45.7**	**+0.7**
	comp=Z,32nm,0.9s						
KHC	**Kasperske Hory**	**76.23**	**351**	*e*P	**P**	**12 03 46.3**	**+0.4**
KHC	**Kasperske Hory**	**76.23**	**351**	*e*P	**P**	**12 03 46.5**	**+0.5**
	comp=Z,3.3nm,1.0s						
SSF	**Saint Saulge**	**76.28**	**343**	*e*P	**P**	**12 03 46.5**	**+0.3**
	comp=Z,17nm,0.9s						
SSF	**Saint Saulge**	**76.28**	**343**	*e*P	**P**	**12 03 46.5**	**+0.3**
	comp=Z,17nm,0.9s						
LOR	**Lormes**	**76.38**	**344**	*e*P	**P**	**12 03 47.2**	**+0.4**
	comp=Z,8.6nm,0.6s						
LOR	**Lormes**	**76.38**	**344**	*e*P	**P**	**12 03 47.2**	**+0.4**
	comp=Z,8.6nm,0.6s						
HAU	**Haudompre**	**76.48**	**346**	*e*P	**P**	**12 03 48.0**	**+0.6**
	comp=Z,21nm,1.0s						
HAU	**Haudompre**	**76.48**	**346**	*e*P	**P**	**12 03 48.0**	**+0.6**
	comp=Z,21nm,1.0s						
CDF	**Champ du Feu**	**76.66**	**346**	*e*P	**P**	**12 03 48.8**	**+0.3**
CDF	**Champ du Feu**	**76.66**	**346**	*e*P	**P**	**12 03 48.8**	**+0.3**
KRLC	**Kraliky**	**76.74**	**353**	*e*P	**P**	**12 03 50.2**	**+1.3**
KIEV	**Kiev**	**76.79**	**1**	*e*P	**P**	**12 03 49.8**	**+0.8**
	comp=Z,8.3nm,0.9s						
AKASG	**Malin Array Be**	**76.79**	**1**	P	**P**	**12 03 49.3**	**+0.3**
	comp=Z,5.0nm,0.8s,baz=184,slow=5.3,SNR=24						
MFF	**Saint Martin d**	**76.86**	**341**	*e*P	**P**	**12 03 50.3**	**+0.8**
	comp=Z,29nm,0.8s						
MFF	**Saint Martin d**	**76.86**	**341**	*e*P	**P**	**12 03 50.3**	**+0.8**
	comp=Z,29nm,0.8s						
PRU	**Pruhonice**	**76.93**	**351**	*e*P	**P**	**12 03 51.0**	**+1.2**
SFTF	**Sexfontaines**	**76.97**	**345**	*e*P	**P**	**12 03 51.1**	**+1.0**
SFTF	**Sexfontaines**	**76.97**	**345**	*e*P	**P**	**12 03 51.1**	**+1.0**
DPC	**Dobruska-Polom**	**77.07**	**353**	*e*P	**P**	**12 03 52.2**	**+1.5**
DPC				*ex*	x	12 03 56.7	
UPC	**Upice**	**77.26**	**353**	*e*P	**P**	**12 03 53.3**	**+1.6**
NKC	**Novy Kostel**	**77.47**	**350**	*e*P	**P**	**12 03 54.7**	**+1.8**
BRG	**Berggiesshubel**	**77.88**	**351**	*e*P	**P**	**12 03 56.7**	**+1.6**
	comp=Z,4.6nm,1.1s						
GIVF	**Givet**	**78.79**	**345**	*e*P	**P**	**12 04 00.5**	**+0.3**
GIVF	**Givet**	**78.79**	**345**	*e*P	**P**	**12 04 00.5**	**+0.3**
DOU	**Dourbes**	**78.84**	**345**	P	**P**	**12 04 01.3**	**+0.8**
BAIF	**Baives**	**78.89**	**345**	*e*P	**P**	**12 04 01.7**	**+0.9**
	comp=Z,18nm,0.9s						
BAIF	**Baives**	**78.89**	**345**	*e*P	**P**	**12 04 01.7**	**+0.9**
	comp=Z,18nm,0.9s						
BCLA	**Clavier**	**78.98**	**346**	P	**P**	**12 04 02.9**	**+1.7**
	comp=Z,8.1nm,0.9s						
KSH	**Kashi**	**79.67**	**36**	P	**P**	**12 04 04.1**	**-1.4**
KSH				*e*PcP	**PcP**	**12 04 12.5**	**-0.7**
KSH				S	S	12 14 01.6	-6.3
KSH				PMZ			
	comp=Z,13nm,1.3s						
KSH				PMZ			
	comp=Z,82nm,4.1s						
KSH				LN			
	comp=Z,74nm,5.5s						
KSH				LE			
	comp=Z,92nm,8.9s						
KSH				LZ			
	comp=Z,66nm,6.5s						
KKAR	**Karatay Array**	**79.70**	**31**	*e*P	**P**	**12 04 06.7**	**+1.3**
ABKAR	**Akbulak array**	**80.71**	**21**	*e*P	**P**	**12 04 10.6**	**-0.1**
	comp=Z,3.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**82.45**	**65**	P	**P**	**12 04 21.5**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=248,slow=5.0,SNR=6.5						
LSA	**Lhasa**	**82.65**	**52**	*e*P	**P**	**12 04 23.7**	**+1.7**
	comp=Z,14nm,0.8s						
ARU	**Arti**	**86.63**	**17**	*e*P	**P**	**12 04 42.0**	**+1.1**
	comp=Z,9.2nm,0.8s						
FINES	**FINESS Array B**	**87.56**	**359**	P	**P**	**12 04 46.1**	**+1.0**
	comp=Z,5.6nm,0.7s,baz=150,slow=8.1,SNR=17						
LPAZ	**La Paz**	**87.76**	**253**	P	**P**	**12 04 48.3**	**+0.2**
	comp=Z,4.7nm,0.9s,baz=103,slow=4.9,SNR=15						
MK31	**Makanchi Array**	**88.08**	**34**	*e*P	**P**	**12 04 48.4**	**+0.2**
MKAR	**Makanchi Array**	**88.08**	**34**	P	**P**	**12 04 48.7**	**+0.6**
	comp=Z,4.1nm,0.8s,baz=230,slow=4.0,SNR=35						
NB2	**NORSAR Subarra**	**88.14**	**352**	P	**P**	**12 04 49.3**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=169,slow=4.6						
NOA	**NORSAR Array B**	**88.14**	**352**	P	**P**	**12 04 49.2**	**+1.1**
	comp=Z,1.9nm,0.8s,baz

GMRC	Granite Mounta baz=147	147.34	294	P		PKPab	12 11 43.1	-0.6
TPNV	Topopah Spring baz=148	147.57	298	P		PKPbc	12 11 43.4	+0.8
SHOC	Shoshone, Teco baz=148	147.74	296	P		PKPab	12 11 44.1	-1.1
HEC	Hector,Ludlow baz=148	147.89	294	P		PKPab	12 11 44.8	-1.1
PFO	Pinyon Flats O	148.08	292	P		PKPbc	12 11 44.6	+0.7
FURC	Furnace Creek, baz=148	148.13	297	P		PKPab	12 11 45.9	-0.8
LON	Longmire	148.37	318	*e*PKPbc		PKPbc	12 11 44.7	+0.5
MPMC	Manual Prospec baz=149	148.69	297	P		PKPbc	12 11 46.6	+1.0
DAC	Darwin (Calif)	148.74	297	*e*PKPab		PKPab	12 11 47.8	-1.6
NVAR	Mina Array Bea comp=Z,2nm,0.7s,baz=88,slow=3.7,SNR=17	148.91	301	PKPbc		PKPbc	12 11 47.2	+1.2
LRMC	Laurel Mtn Rad baz=149	148.92	295	P		PKPbc	12 11 47.6	+1.5
EDW2	Edwards Air Fo baz=149	149.24	294	P		PKPbc	12 11 48.2	+1.4
ISA	Isabella, Lake baz=150	149.53	296	P		PKPbc	12 11 48.7	+1.2

IDC ***14*** *12:05:39.5±2.3, 35.°99N×141.°37E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/31, mbtmp3.4/5, ML3.1/1, MS2.5/2, Ms1 2.5/2, ms1mx2.2/33, Error ellipse: s-maj=61.0km s-min=22.3km az=52.0*

ISCJB ***14*** *12:05:43.0±1.1, 36.°13N±0.°05×141.°4E±0.°1, h42km±10km, mb3.4/4, Error ellipse: s-maj=13.6km s-min=7.7km az=8.2*

JMA ***14*** *12:05:44.2±0.2, 36.°12N×141.°23E, h48km±2km, M3.1*

ISC 14 12:05:43.3±1.8, 36.°16N±0.°06×141.°4E±0.°1, h27km±12km, n20, σ0§75/17, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.61	222	P	Pb	12 05 55.5	+0.2
CHOJ				S	Sb	12 06 03.6	+0.1
JHO	Hitachi	0.78	306	P	Pb	12 05 58.0	-0.3
JYT	Yasato	0.94	275	P	Pn	12 05 59.9	-0.8
ONAJ	Iwakimizuishiy	1.04	335	P	Pn	12 06 02.3	+0.1
ONAJ				S	Sn	12 06 15.1	-0.9
JFK	Kawauchi	1.27	342	P	Pn	12 06 05.4	+0.1
JFK				*e*S	Sn	12 06 20.6	-0.9
JAG	Ashikaga	1.56	280	P	Pn	12 06 08.8	-0.5
MJAR	Matsushiro Arr 4.1nm,0.3s,baz=96,slow=12,SNR=58	2.57	280	Pn	Pn	12 06 23.6	+0.5
MJAR				Sn	Sn	12 06 53.9	+0.4
MAT	Matsushiro	2.57	280	P	Pn	12 06 23.3	+0.1
MAT				S	Sn	12 06 52.9	-0.7
JNU	Nakatsue comp=Z,39nm,21.5s,baz=127,slow=40	9.15	254	LR	LR	12 11 42.5	
KSRS	Korea Array comp=Z,21nm,19.3s,baz=196,slow=39	10.85	281	LR	LR	12 12 43.2	
H11N2	WAKE ISLAND Hy baz=311,slow=75,SNR=14	27.75	119	T	T	12 40 44.4	
H11N1	WAKE ISLAND Hy baz=311,slow=75,SNR=14	27.76	119	T	T	12 40 42.6	
H11N3	WAKE ISLAND Hy baz=311,slow=75,SNR=20	27.77	119	T	T	12 40 43.6	
SONM	Songino Array 0.4nm,0.3s,baz=99,slow=10,SNR=2.2	28.24	305	P	P	12 11 35.5	+1.3
H11S1	WAKE ISLAND Hy baz=313,slow=75,SNR=35	28.43	121	T	T	12 41 39.9	
H11S3	WAKE ISLAND Hy baz=313,slow=75,SNR=22	28.43	121	T	T	12 41 34.8	
H11S2	WAKE ISLAND Hy baz=313,slow=75,SNR=14	28.45	121	T	T	12 41 37.8	
MKAR	Makanchi Array 0.3nm,0.6s,baz=90,slow=9.0,SNR=4.4	44.55	303	P	P	12 13 53.3	+0.6
WRA	Warramunga Arr 0.3nm,0.3s,baz=3.7,slow=7.3,SNR=10	56.19	188	P	P	12 15 19.7	-1.2
ASAR	Alice Springs 0.2nm,0.6s,baz=22,slow=10,SNR=4.8	59.91	188	P	P	12 15 46.4	-0.6

SJA ***14*** *12:11:20.5±0.6, 35.°97S×76.°38W, h39km, ML4.1*

GUC ***14*** *12:11:48.0±0.6, 35.°87S×73.°43W, h30km±5km, ML4.3*

ISC 14 12:11:45.9±2.3, 35.°85S±0.°05×73.°7W±0.°1, h10km, n14, σ2§20/20, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	1.09	156	*e*P	Pg	12 12 07.5	+0.6
CCSP				*i* S	Sg	12 12 19.5	-1.6
LNCH	Linares	1.68	91	⇑*i* P	Pn	12 12 13.6	-1.7
LNCH				*i* S	Sn	12 12 32.9	-4.0
TALC	Talca	1.72	75	⇓*i* P	Pn	12 12 14.4	-1.4
TALC				*i* S	Sn	12 12 34.2	-3.6
NICH	Los Niches	2.16	68	*e*P	Pn	12 12 21.6	-0.3
NICH				*i* S	Sn	12 12 46.1	-2.6
CANA	Caviahue	2.92	135	*e*P	Pn	12 12 32.2	-0.2
CANA	comp=Z,174nm,0.7s			AML	AML	12 13 21.6	
CANA				*i* S	Sg	12 13 24.3	+4.7
PEL	Peldehue	3.65	43	*e*P	Pn	12 12 41.9	-0.6
PEL				*i* S	Sn	12 13 23.9	-1.7
PEL	comp=N,394nm,0.6s			AML	AML	12 13 49.7	
AAGR	Agrelo	4.85	57	⇓*e*P	Pn	12 12 59.8	+0.7
AUSP	Uspallata	5.07	46	*i* P	Pn	12 13 02.5	+0.3
AUSP				*i* S	Sb	12 14 04.8	+2.5
ASAL	Salagasta	5.15	52	*i* P	Pn	12 13 03.5	+0.3
ASAL				*i* S	Sb	12 14 20.5	+2.4
RTLS	Leoncito	5.43	43	*e*P	Pn	12 13 07.7	+0.5
RTLS				*e*S	Sb	12 14 27.6	+1.2
RTCV	Cerro Valdivia	5.83	48	*e*P	Pn	12 13 11.7	-0.7
RTLL	Cerro Villicun	6.25	45	*e*P	Pn	12 13 17.2	-1.0
ACAN	Cantantal	6.45	58	*e*P	Pn	12 13 19.9	-1.0
AVFE	Valle Fertil	7.33	47	*e*P	Pn	12 13 30.5	-2.6

SJA ***14*** *12:18:40.6±0.7, 35.°53S×72.°29W, h40km±34km, ML3.9*

ISCJB ***14*** *12:18:56.8±1.2, 34.°73S±0.°04×71.°9W±0.°1, h28km±8km, Error ellipse: s-maj=15.1km s-min=5.9km az=11.0*

GUC ***14*** *12:18:57.1±0.6, 34.°76S×71.°80W, h41km±1km, ML3.6*

ISC 14 12:18:57.5±2.6, 34.°78S±0.°04×71.°9W±0.°1, h35km±7km, n19, σ1§13/32, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.59	112	⇑*i* P	Pn	12 19 08.6	-0.9
NICH				*i* S	Sb	12 19 17.0	-1.1
TALC	Talca	0.65	161	⇓*i* P	Pn	12 19 10.2	0.0
TALC				*i* S	Sn	12 19 19.8	+0.4
LNV	Longovilo	0.92	26	*e*P	Pn	12 19 12.7	-1.2
LNV				*i* S	Sn	12 19 25.1	-0.8
LNCH	Linares	1.09	167	*e*P	Pn	12 19 16.8	+0.5
LNCH				*e*S	Sb	12 19 31.6	-0.3
CHCH	Chadas Angostu	1.33	51	⇑*i* P	Pn	12 19 19.1	-0.6
CHCH				*i* S	Sn	12 19 35.8	-0.5
TACH	Talagante	1.38	36	⇑*i* P	Pn	12 19 19.8	-0.5
TACH				*i* S	Sn	12 19 37.6	+0.2
SAN	Santiago	1.68	38	*e*P	Pn	12 19 24.0	-0.4
SAN				*e*S	Sn	12 19 44.4	-0.3
SJCH	San Jose de Ma	1.71	49	*e*P	Pn	12 19 24.0	-1.0
SJCH				*i* S	Sn	12 19 45.3	-0.4
SJCH	comp=E,710nm,0.4s			AML	AML	12 19 50.7	
CLCH	Cerro Calan	1.79	40	*e*P	Pn	12 19 25.6	-0.4
CLCH				*e*S	Sn	12 19 47.3	-0.2
CLCH	comp=N,1μm,0.4s			AML	AML	12 19 53.7	
PEL	Peldehue	1.92	32	*e*P	Pn	12 19 27.9	+0.1
PEL				*e*S	Sn	12 19 50.9	+0.1
PEL	comp=N,2μm,0.4s			AML	AML	12 19 55.9	
AAGR	Agrelo	3.06	57	*e*P	Pn	12 19 46.5	+2.9
AUSP	Uspallata	3.30	40	*e*P	Pn	12 19 48.6	+1.5
AUSP				*i* S	Sb	12 20 38.0	+2.5
ASAL	Salagasta	3.36	50	*e*P	Pn	12 19 50.2	+2.6
RTLS	Leoncito	3.69	37	*e*P	Pn	12 19 53.7	+1.4
RTLS				*i* S	Sb	12 20 45.9	-0.7
RTCV	Cerro Valdivia	4.05	45	*e*P	Pn	12 19 58.0	+0.9
CFAA	Coronel Fontan	4.41	45	*e*P	Pn	12 20 02.1	0.0
RTLL	Cerro Villicun	4.49	41	*e*P	Pn	12 20 03.3	+0.2
RTLL				*i* S	Sn	12 21 01.5	+7.4
AMOG	MOGNA	4.79	38	*e*P	Pn	12 20 07.2	-0.1
AVFE	Valle Fertil	5.56	44	*e*P	Pn	12 20 16.6	-1.3
AVFE				*e*S	Sn	12 21 20.4	-0.3
AVFE	comp=Z,26nm,0.5s			AML	AML	12 21 32.1	

NIED ***14*** *12:46:00, 41.°20N×142.°20E, h53km, Mw4.0 Best double couple: M0 1.26000×10^15 NP1:ϕ§236.00000°, δ70.00000°, λ180.00000°. NP2:ϕ§326.00000°, δ§90.00000°, λ20.00000°.*

ISCJB ***14*** *12:46:35.9±0.4, 41.°18N±0.°03×142.°25E±0.°05, h56km±4km, mb3.9/17, MS2.9/1, Error ellipse: s-maj=6.8km s-min=3.9km az=40.3*

MOS ***14*** *12:46:35.2±1.3, 41.°14N×142.°37E, h64km, mb4.3/10, Error ellipse: s-maj=16.2km s-min=8.6km az=74.2*

JMA ***14*** *12:46:36.3±0.1, 41.°19N×142.°20E, h54km±3km, M4.1*

JMA Felt II J1.

IDC ***14*** *12:46:37.6±1.9, 41.°10N×142.°24E, h64km±16km, mb3.6/16, mb1 3.8/20, mb1mx3.7/30, mbtmp3.9/20, MS2.6/6, Ms1 2.6/6, ms1mx2.5/38, Error ellipse: s-maj=17.1km s-min=10.9km az=116.0*

ISC 14 12:46:37.0±0.9, 41.°18N±0.°04×142.°27E±0.°04, h55km±9km, n71, σ1§53/78, mb4.3/26, 10C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	Ohata	0.94	283	⇓P	Pn	12 46 52.6	-1.4
JANG	Nango	0.99	216	⇑P	Pn	12 46 53.7	-1.0
JANG				*e*S	Sn	12 47 06.5	-1.2
JTM	Tenmabayashi	0.99	247	⇓P	Pn	12 46 53.8	-0.9
JTM				*e*S	Sn	12 47 06.4	-1.4
JEM	Erimo	1.07	38	⇑P	Pn	12 46 56.0	+0.2
JEM				*e*S	Sn	12 47 10.5	+0.8
JNBK	Urakawa-nobuka	1.16	18	⇑P	Pn	12 46 56.9	-0.1
JKB	Kayabe	1.17	308	⇓P	Pn	12 46 55.6	-1.4
JKB				*e*S	Sn	12 47 10.0	-2.0
JSR	Shiriuchi	1.44	285	⇓P	Pn	12 46 59.8	-0.9
JNB	Noboribetsu	1.58	325	⇓P	Pn	12 47 01.2	-1.5
JNB				*e*S	Sn	12 47 20.5	-1.6
JAH	Hinai	1.59	232	⇑P	Pn	12 47 02.3	-0.4
JAH				*e*S	Sn	12 47 21.4	-0.7
JBT2	Biratori 2	1.60	3	⇑P	Pn	12 47 03.0	+0.1
JCH	Churui	1.65	29	P	Pn	12 47 03.8	+0.2
JCH				*e*S	Sn	12 47 24.1	+0.4
JYM2	Yakumo 2	1.70	304	⇓P	Pn	12 47 03.4	-0.9
JYM2				*e*S	Sn	12 47 24.5	-0.5
JEW	Eniwo	1.77	340	⇑P	Pn	12 47 05.2	0.0
JEW				*e*S	Sn	12 47 26.5	-0.1
JOM	Ohasama	1.86	204	⇑P	Pn	12 47 05.9	-0.6
JFR	Furan	2.00	7	⇑P	Pn	12 47 08.4	0.0
ASAJ	Asahikawa baz=214,slow=9.9	2.95	5	P	Pn	12 47 21.9	+0.6
ASAJ	baz=163,slow=19			S	Sn	12 47 58.4	+3.0
YUK	Yuzh-Kuril'sk	3.90	42	*c i* P	Pn	12 47 34.0	-0.3
YUK				*i* S	Sn	12 48 15.7	-3.0
YUK	comp=Z,104nm,0.3s			pmax	pmax		
YUK	comp=N,18nm,0.1s			pmax	pmax		
YUK	comp=E,35nm,0.1s			pmax	pmax		
YUK	comp=N,709nm,0.4s			smax	smax		
YUK	comp=E,500nm,0.4s			smax	smax		
MJAR	Matsushiro Arr comp=E,3.4nm,0.3s,baz=25,slow=13,SNR=36	5.61	216	P	Pn	12 47 58.6	+0.8
MJAR	comp=E,49nm,21.4s,baz=55,slow=42			LR	LR	12 50 27.4	
MJAR	Matsushiro Arr	5.61	216	P	Pn	12 47 58.6	+0.8
MJAR	comp=Z,3.0nm,0.3s			pmax	pmax		
MJAR	comp=Z,49nm,21.4s			MLR	MLR		
KUR	Kuril'sk	5.76	43	⇑*i* P	Pn	12 48 00.0	+0.2
KUR				*i* S	Sn	12 49 03.1	-1.3
KUR	comp=Z,15nm,0.4s			pmax	pmax		
KUR	comp=E,10.0nm,0.3s			pmax	pmax		
KUR	comp=N,12nm,0.2s			pmax	pmax		
KUR	comp=Z,37nm,2.2s			smax	smax		
KUR	comp=N,16nm,0.4s			smax	smax		
KUR	comp=E,72nm,0.4s			pmax	pmax		
KUR	comp=N,159nm,2.5s			pmax	pmax		
KUR	comp=E,338nm,2.5s			pmax	pmax		
YSS	Yuzh-Sakhalins	5.79	3	*e*P	Pn	12 48 00.0	-0.1
YSS				*e*S	Sn	12 49 01.2	-3.9
YSS	comp=Z,30nm,0.4s			pmax	pmax		
USRK	Ussuriysk Ar. comp=Z,1.2nm,0.3s,baz=95,slow=15,SNR=26	8.15	295	P	Pn	12 48 33.4	+0.8
USRK	comp=Z,52nm,20.8s,baz=60,slow=37			LR	LR	12 51 37.5	
KSRS	Korea Array comp=Z,0.4nm,0.3s,baz=64,slow=14,SNR=15	11.72	256	P	Pn	12 49 23.4	+2.2
KSRS	comp=Z,0.6nm,0.3s,baz=69,slow=25,SNR=7.6			S	Sn	12 51 34.5	+4.0
KSRS	comp=Z,38nm,21.5s,baz=111,slow=33			LR	LR	12 53 01.3	
KSRS	Korea Array	11.72	256	P	Pn	12 49 23.5	+2.2
KSRS				S	Sn	12 51 34.5	+4.0
KSRS	comp=N,1.0nm,0.3s			smax	smax		
KSRS	comp=Z,38nm,21.5s			MLR	MLR		
JNU	Nakatsue comp=Z,36nm,18.8s,baz=21,slow=37	12.12	232	LR	LR	12 53 58.8	
PETK	Petropavlovsk-comp=Z,0.2nm,0.3s,baz=215,slow=13,SNR=3.8	15.85	36	P	Pn	12 50 13.3	-3.1
JOW	Kunigami comp=Z,7.6nm,18.0s,baz=300,slow=36	18.39	223	LR	LR	12 57 44.3	
SEY	Seymchan comp=Z,0.7nm,0.3s,baz=194,slow=8.8,SNR=7.9	22.60	12	P	P	12 51 29.9	-2.7
SEY	Seymchan comp=Z,1.0nm,0.3s	22.60	12	P	P	12 51 29.9	-2.7
SONM	Songino Array comp=Z,1.1nm,0.4s,baz=91,slow=12,SNR=3.5	26.26	297	P	P	12 52 07.3	+0.3
SONM	Songino Array comp=Z,1.0nm,0.4s	26.26	297	P	P	12 52 07.3	+0.3
SONM				pmax	pmax		
H11N2	WAKE ISLAND Hy baz=319,slow=75,SNR=128	29.95	128	T	T	13 24 22.7	
H11N1	WAKE ISLAND Hy baz=319,slow=74,SNR=160	29.95	128	T	T	13 24 22.7	
H11N3	WAKE ISLAND Hy baz=319,slow=75,SNR=114	29.96	128	T	T	13 24 24.4	
H11S1	WAKE ISLAND Hy baz=323,slow=76,SNR=118	30.78	130	T	T	13 25 29.0	
H11S3	WAKE ISLAND Hy baz=323,slow=76,SNR=110	30.79	130	T	T	13 25 27.9	
H11S2	WAKE ISLAND Hy baz=323,slow=76,SNR=76	30.80	130	T	T	13 25 25.1	
ZALV	Zalesovo Beam comp=Z,3.1nm,0.4s,baz=83,slow=7.6,SNR=15	39.73	309	P	P	12 54 05.0	+1.2
ZALV	comp=Z,16nm,20.6s,baz=175,slow=35			LR	LR	13 09 58.9	
ZALV	Zalesovo Beam	39.73	309	P	P	12 54 05.0	+1.2
ZALV	comp=Z,3.0nm,0.4s			pmax	pmax		
ZALV	comp=Z,17nm,20.6s			MLR	MLR		
MKAR	Makanchi Array comp=Z,3.3nm,0.5s,baz=82,slow=13,SNR=32	42.60	298	P	P	12 54 28.2	+0.7
MKAR	Makanchi Array comp=Z,3.0nm,0.5s	42.60	298	P	P	12 54 28.2	+0.7
MKAR				pmax	pmax		
CMAR	Chiang Mai Arr comp=Z,0.4nm,0.4s,baz=41,slow=7.2,SNR=2.7	43.31	252	P	P	12 54 33.8	+0.2
KURK	Kurchatov	44.00	305	P	P	12 54 38.2	-0.5
KURK	comp=Z,3.0nm,0.4s			pmax	pmax		
KURBB	Kurchatov Arra comp=Z,2.9nm,0.4s,baz=80,slow=8.8,SNR=22	44.08	305	P	P	12 54 38.2	-1.1
ILAR	Eielson Array comp=Z,0.4nm,0.5s,baz=260,slow=5.8,SNR=13	45.67	34	P	P	12 54 52.5	+0.7
TAPN	Taplejung comp=Z,22nm,0.9s	46.44	271	*e*P	P	12 55 00.2	+1.5
ODAN	Odare comp=Z,13nm,0.5s	46.94	270	*e*P	P	12 55 03.0	+0.4
RAMN	Ramite comp=Z,31nm,0.7s	47.49	271	*e*P	P	12 55 07.8	+1.0
GUN	Gumba comp=Z,34nm,0.4s	47.53	272	*e*P	P	12 55 08.6	+1.4
KKN	Kakani comp=Z,18nm,0.7s	48.05	273	*e*P	P	12 55 12.3	+1.2
PKI	Pulchoki comp=Z,9.4nm,0.5s	48.06	272	*e*P	P	12 55 12.2	+0.9
DMN	Daman comp=Z,7.7nm,0.3s	48.27	272	*e*P	P	12 55 13.0	+0.1
GKN	Gorkha comp=Z,6.7nm,0.3s	48.42	273	*e*P	P	12 55 15.1	+1.2
KOLN	Koldanda comp=Z,11nm,0.6s	49.32	274	*e*P	P	12 55 21.8	+0.9
INK	Inuvik comp=Z,1.1nm,0.5s,baz=302,slow=8.8,SNR=6.4	50.42	29	P	P	12 55 29.0	+0.7
INK	Inuvik comp=Z,1.0nm,0.5s	50.42	29	P pmax	P pmax	12 55 29.0	+0.7
WRA	Warramunga Arr comp=Z,0.9nm,0.5s,baz=6.3,slow=6.9,SNR=26	61.25	189	P	P	12 56 44.1	-2.2
WRA	Warramunga Arr comp=Z,1.0nm,0.5s	61.25	189	P pmax	P pmax	12 56 44.1	-2.2
ASAR	Alice Springs comp=Z,0.5nm,0.4s,baz=4.7,slow=7.2,SNR=24	64.98	188	P	P	12 57 09.7	-1.3
ASAR	Alice Springs comp=Z,1.0nm,0.4s	64.98	188	P pmax	P pmax	12 57 09.7	-1.3
FINES	FINESS Array B comp=Z,0.5nm,0.4s,baz=56,slow=7.1,SNR=4.8	65.47	332	P	P	12 57 12.8	-1.0
FINES	FINESS Array B comp=Z,1.0nm,0.4s	65.47	332	P pmax	P pmax	12 57 12.8	-1.0
HFS	Hagfors comp=Z,0.8nm,0.3s,baz=57,slow=9.0,SNR=4.1	70.59	335	P	P	12 57 45.7	-0.3
HFS	Hagfors comp=Z,1.0nm,0.3s	70.59	335	P pmax	P pmax	12 57 45.7	-0.3
NB2	NORSAR Subarra comp=Z,0.3nm,0.3s,baz=40,slow=6.2	70.63	337	P	P	12 57 49.1	+2.9
NOA	NORSAR Array B comp=Z,0.6nm,0.7s,baz=38,slow=6.3,SNR=2.6	70.63	337	P	P	12 57 45.3	-0.9
NOA	NORSAR Array B comp=Z,1.0nm,0.7s	70.63	337	P pmax	P pmax	12 57 45.3	-0.9
AKASG	Malin Array Be comp=Z,0.3nm,0.3s,baz=42,slow=5.9,SNR=2.7	71.44	322	P	P	12 57 50.1	-1.1
NVAR	Mina Array Bea comp=Z,0.2nm,0.5s,baz=318,slow=6.6,SNR=2.6	72.01	55	P	P	12 57 57.0	+1.8
PDAR	Pinedale Array comp=Z,0.1nm,0.4s,baz=325,slow=1.4,SNR=2.3	74.31	47	P	P	12 58 08.1	-0.7
TXAR	Lajitas Array comp=Z,0.0nm,0.3s,baz=96,slow=23,SNR=2.0	87.08	53	P	P	12 59 17.8	+0.9

IDC ***14*** *13:04:30.5±2.0, 1.°27N×96.°98E, h0km, mb3.9/7, mb1 3.8/9, mb1mx3.6/28, mbtmp3.8/9, ML3.2/2, Error ellipse: s-maj=44.3km s-min=26.9km az=45.0*

NEIC ***14*** *13:04:32.7±3.7, 1.°40N×96.°87E, h13km±20km, mb4.6/1, Error ellipse: s-maj=28.1km s-min=16.3km az=63.0*

ISCJB ***14*** *13:04:33.4±1.0, 1.°4N±0.°1×96.°95E±0.°08, h28km, mb4.0/8, Error ellipse: s-maj=18.2km s-min=7.8km az=33.6*

DJA ***14*** *13:04:36.2±1.1, 1.°N±11'×9.°7E±', h24km±6km, M3.7/3, mb4.0/1, MLv3.6/3*

ISC 14 13:04:35.6±1.2, 1.°4N±0.°1×97.°1E±0.°1, h28km, n23, σ0§81/18, mb4.0/8, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.51	101	P	Pn	13 04 46.5	-0.5
GSI				S	Sn	13 04 54.6	-0.3
GSI	Gunungsitoli	0.51	101	⇑*i* Pg	Pn	13 04 46.5	-0.5
GSI				*e*Sg	Sb	13 04 53.5	+0.2
SNSI	Sinabang, Aceh	1.25	323	P	Pb	13 04 58.4	-0.1
PSI	Prapat 1.8nm,0.3s,baz=238,slow=3.7,SNR=7.9	2.31	53	Pn	Pn	13 05 12.2	+0.3
MNSI	Mandailing Nat	2.58	103	P	Pn	13 05 16.0	+0.5
KULM	Kulim	5.26	43	*e*Pn	Pn	13 05 53.2	+0.8
CMAR	Chiang Mai Arr 0.1nm,0.3s,baz=191,slow=12,SNR=4.2	17.05	6	Pn	Pn	13 08 31.1	-1.1
H08S2	Diego Garcia H baz=70,slow=75,SNR=772	26.11	250	T	T	13 37 08.5	
H08S3	Diego Garcia H baz=70,slow=75,SNR=554	26.11	250	T	T	13 37 04.8	
H08S1	Diego Carcia H baz=70,slow=75,SNR=790	26.13	250	T	T	13 37 12.4	
H01W3	Cape Leeuwin H baz=334,slow=76,SNR=17	39.48	158	T	T	13 53 44.3	
H01W2	Cape Leeuwin H baz=334,slow=76,SNR=16	39.49	158	T	T	13 53 43.3	
H01W1	Cape Leeuwin H baz=334,slow=76,SNR=13	39.49	158	T	T	13 53 44.6	
WRA	Warramunga Arr 0.6nm,0.8s,baz=302,slow=9.1,SNR=4.9	42.25	122	P	P	13 12 25.8	-1.0
AS31	Alice Springs	43.62	127	*e*P	P	13 12 40.1	+2.2
TKM2	Tokmak 2 2.3nm,0.3s	45.58	338	*e*P	P	13 12 49.8	-3.7
KSAR	Wonju Array Be	45.73	35	P	P	13 12 54.1	-0.3
KSRS	Korea Array 1.2nm,0.8s,baz=226,slow=8.4,SNR=9.3	45.76	35	P	P	13 12 54.1	-0.5
SONM	Songino Array 1.3nm,0.7s,baz=198,slow=14,SNR=3.5	46.95	9	P	P	13 13 03.7	-0.3
MKAR	Makanchi Array 0.8nm,0.7s,baz=150,slow=7.4,SNR=6.5	47.02	346	P	P	13 13 04.7	+0.2
USRK	Ussuriysk Ar. 0.3nm,0.8s,baz=230,slow=7.4,SNR=5.7	52.66	31	P	P	13 13 48.0	+0.6
ZALV	Zalesovo Beam 1.2nm,0.4s,baz=189,slow=6.3,SNR=9.2	53.34	351	P	P	13 13 52.6	+0.4
BVAR	Borovoye Array 0.9nm,0.7s,baz=148,slow=8.7,SNR=6.0	56.02	341	P	P	13 14 11.5	-0.2

IDC ***14*** *13:05:32.3±15.0, 10.°63N×121.°23E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.4/25, mbtmp3.8/4, ML4.8/1, Error ellipse: s-maj=321.4km s-min=130.4km az=14.0*

ISCJB ***14*** *13:07:22.5±0.6, 0.°20S±0.°07×123.°96E±0.°06, h110km, mb3.2/3, Error ellipse: s-maj=10.1km s-min=7.6km az=18.5*

DJA ***14*** *13:07:23.1±0.5, 0.°S±5.°×12.°4E±', h110km±6km, M4.2/13, mb4.2/5, mB4.9/3, MLv4.2/13, Mw(mB)4.2/3*

ISC 14 13:07:23.2±1.2, 0.°10S±0.°07×124.°01E±0.°06, h110km, n14, σ1§58/15, mb3.0/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.67	357	P	Pn	13 07 41.5	+0.1
KMSI				S	Sn	13 07 57.2	+2.2
LUWI	Luwuk	1.55	233	P	Pn	13 07 51.4	+0.7
LUWI				S	Sn	13 08 13.7	+2.1
MRSI	Marisa	2.15	285	P	Pn	13 07 55.8	-2.3
APSI	Ampana	2.50	251	P	Pn	13 08 01.4	-1.2
SANI	Sanana	2.77	134	P	Pn	13 08 04.8	-1.4
MPSI	Mapaga	4.13	276	P	Pn	13 08 23.8	-0.6
NLAI	Namlea	4.39	135	P	Pn	13 08 28.5	+0.6
TTSI	Tana Toraja 39nm,0.9s,1μm0.3nm	5.11	235	P	Pn	13 08 36.3	-1.3
AAI	Ambon 34nm,0.5s,0.2nm	5.50	131	P	Pn	13 08 43.7	+0.9
SPSI	Sidrap Palu	5.72	228	P	Pn	13 08 45.8	0.0
SIJI	Sorong 4.0nm,0.3s,baz=297,slow=11,SNR=14	7.30	96	Pn	Pn	13 09 08.3	+1.1
WRA	Warramunga Arr 0.4nm,0.6s,baz=336,slow=10,SNR=9.8	22.17	153	P	P	13 12 09.7	-0.8
ASAR	Alice Springs 0.4nm,0.9s,baz=333,slow=9.1,SNR=6.7	25.32	158	P	P	13 12 37.5	-2.4
STKA	Stephens Creek 0.9nm,0.6s,baz=326,slow=7.4,SNR=4.7	35.72	154	P	P	13 14 01.3	-10

SKHL ***14*** *13:11:30.5±1.2, 55.°08N×143.°33E, h10km, mb4.0/5*

ISCJB ***14*** *13:11:31.4±0.5, 54.°96N±0.°04×143.°56E±0.°07, h10km, mb3.6/7, Error ellipse: s-maj=6.4km s-min=4.3km az=40.2*

IDC ***14*** *13:11:31.6±0.9, 54.°93N×143.°84E, h0km, mb3.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**1.47**	**203**	*e*Pg	**Pb**	**13 11 59.5**	**-0.4**
OKH				AMB	AMB	13 12 03.0	
	230nm,0.4s						
OKH				*e*Sg	**Sg**	**13 12 19.0**	**-0.7**
OKH				A	A	13 12 22.2	
	900nm,0.5s						
OKH				A	A	13 12 22.2	
	700nm,0.5s						
OKH	**Okha**	**1.47**	**203**	*e*PN	**Pg**	**13 11 59.9**	**-0.8**
OKH				*e*S	**Sb**	**13 12 18.3**	**-0.3**
OKH				smax	smax		
	comp=N,1.0nm,0.5s						
OKH				smax	smax		
	comp=E,1.0nm,0.5s						
NKL	**Nikolayevsk**	**2.59**	**229**	*e*Pb	**Pn**	**13 12 14.9**	**+0.4**
NKL				AMB	AMB	13 12 15.0	
	comp=E,32nm,0.3s						
NKL				AMB	AMB	13 12 15.0	
	comp=E,38nm,0.3s						
NKL				*i* Pg	**Pg**	**13 12 20.0**	**-2.2**
NKL				AMB	AMB	13 12 21.3	
	comp=E,50nm,0.5s						
NKL				*e*Sb	**Sn**	**13 12 44.3**	**-1.6**
NKL				A	A	13 12 47.0	
	comp=E,150nm,0.4s						
NKL				*e*Sg	**Sg**	**13 12 54.5**	**-1.2**
NKL	**Nikolayevsk**	**2.59**	**229**	*i* PN	**Pn**	**13 12 14.7**	**+0.2**
NKL				*e*		13 12 46.0	
NKL				pmax	pmax		
	comp=N,32nm,0.3s						
NKL				pmax	pmax		
	comp=E,38nm,0.3s						
NKL				pmax	pmax		
	comp=Z,38nm,0.3s						
NKL				pmax	pmax		
	comp=N,150nm,0.4s						
TYV	**Tymovskoe**	**4.11**	**191**	*e*P	**Pn**	**13 12 37.1**	**+1.7**
TYV				*e*Sg	Sg	13 13 53.1	+8.5
GRNR	**Gornyy**	**6.14**	**231**	*e*Pg	**Pg**	**13 13 28.8**	**-1.3**
GRNR				AMB	AMB	13 13 29.0	
	comp=N,4.0nm,0.5s						
GRNR				*e*Sg	**Sg**	**13 14 52.5**	**+3.0**
GRNR				A	A	13 14 57.4	
	comp=N,25nm,0.8s						
EKMR	**Ekimchan**	**6.72**	**259**	*e*P	Pn	13 13 13.4	+2.1
EKMR				*e*Pg	**Pg**	**13 13 39.4**	**-1.8**
EKMR				AMB	AMB	13 13 46.4	
	comp=N,5.0nm,0.5s						
EKMR				*e*Sg	**Sg**	**13 15 06.6**	**-1.5**
EKMR				A	A	13 15 16.9	
	comp=N,24nm,0.8s						
EKMR				A	A	13 15 16.9	
	comp=N,5.0nm,0.8s						
EKMR				A	A	13 15 16.9	
	comp=N,7.0nm,0.8s						
PETK	**Petropavlovsk-**	**8.32**	**97**	Pn	**Pn**	**13 13 33.2**	**0.0**
	comp=N,1.6nm,0.3s,baz=305,slow=10,SNR=73						
PETK				Sn	**Sn**	**13 15 06.7**	**-0.4**
	comp=N,0.7nm,0.3s,baz=44,slow=17,SNR=4.1						
BMKR	**Bomnak**	**8.71**	**275**	*e*P	**Pn**	**13 13 39.9**	**+1.4**
BMKR				*e*Sg	**Sg**	**13 16 15.4**	**+3.6**
SEY	**Seymchan**	**9.16**	**25**	Pn	**Pn**	**13 13 45.2**	**+0.5**
	comp=N,0.4nm,0.3s,baz=202,slow=14,SNR=11						
SEY				Sn	**Sn**	**13 15 21.9**	**-5.8**
	comp=N,0.4nm,0.3s,baz=17,slow=19,SNR=3.4						
YASR	**Yasnyy**	**9.50**	**267**	*e*P	**Pn**	**13 13 49.0**	**-0.3**
YASR				AMB	AMB	13 13 49.7	
	comp=N,2.0nm,0.5s						
JNU	**Nakatsue**	**23.62**	**208**	P	**P**	**13 16 44.3**	**+0.6**
	comp=N,3.0nm,0.7s,baz=135,slow=8.2,SNR=4.9						
ILAR	**Eielson Array**	**34.37**	**45**	P	**P**	**13 18 20.2**	**+1.0**
	comp=N,0.8nm,0.7s,baz=289,slow=8.6,SNR=12						
ILAR	**Eielson Array**	**34.37**	**45**	P	**P**	**13 18 20.2**	**+1.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**54.10**	**328**	P	**P**	**13 20 57.5**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=46,slow=11,SNR=4.8						
FINES	**FINESS Array B**	**54.10**	**328**	P	**P**	**13 20 57.5**	**+0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVAR	**Mina Array Bea**	**63.65**	**60**	P	**P**	**13 22 05.5**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=332,slow=5.3,SNR=3.6						
PDAR	**Pinedale Array**	**64.45**	**51**	P	**P**	**13 22 10.3**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=340,slow=6.7,SNR=2.9						
WRA	**Warramunga Arr**	**74.98**	**189**	P	**P**	**13 23 14.1**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=3.1,slow=6.4,SNR=2.7						
ASAR	**Alice Springs**	**78.71**	**189**	P	**P**	**13 23 35.8**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=4.6,slow=5.7,SNR=4.9						

*IDC **14** 13:24:11.1±4.3,20.09S×178.72W,h619km±52km, mb3.1/11,mb1 3.5/12,mb1mx3.3/23,mbtmp4.1/12,Error ellipse: s-maj=23.5km s-min=21.4km az=109.0*

ISC 14 13:24:08.9±0.7,20.3S±0.1×178.5W±0.1,h600km,n18, σ1§34/18,mb3.7/11,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.14**	**260**	P	**P**	**13 27 11.0**	**+1.7**
	1.3nm,0.3s,baz=270,slow=24,SNR=10						
URZ	**Urewera**	**18.33**	**191**	P	**P**	**13 27 44.1**	**-3.2**
	1.3nm,0.3s,baz=263,slow=3.1,SNR=14						
ASAR	**Alice Springs**	**44.09**	**257**	P	**P**	**13 31 25.3**	**-0.3**
	3.5nm,0.7s,baz=91,slow=7.5,SNR=62						
ASAR				PcP	**PcP**	**13 32 56.7**	**-0.6**
	0.5nm,0.6s,baz=102,slow=3.5,SNR=5.7						
WRA	**Warramunga Arr**	**44.14**	**262**	P	**P**	**13 31 25.2**	**-0.8**
	2.3nm,0.3s,baz=97,slow=7.5,SNR=148						
VNDA	**Vanda**	**58.11**	**185**	P	**P**	**13 33 07.5**	**+1.9**
	0.4nm,0.3s,baz=19,slow=6.9,SNR=6.8						
MJAR	**Matsushiro Arr**	**69.72**	**324**	P	**P**	**13 34 18.8**	**-1.0**
	1.3nm,0.6s,baz=156,slow=5.9,SNR=4.1						
PETK	**Petropavlovsk-**	**75.91**	**345**	P	**P**	**13 34 54.4**	**-0.4**
	2.7nm,0.8s,baz=115,slow=40,SNR=3.1						
KSRS	**Korea Array**	**76.38**	**319**	P	**P**	**13 34 57.9**	**+0.2**
	0.5nm,0.5s,baz=164,slow=6.1,SNR=5.1						
NVAR	**Mina Array Bea**	**81.19**	**44**	P	**P**	**13 35 24.5**	**+1.1**
	0.5nm,0.6s,baz=220,slow=8.2,SNR=5.6						
TXAR	**Lajitas Array**	**87.34**	**58**	P	**P**	**13 35 55.0**	**+1.4**
	0.2nm,0.7s,baz=190,slow=6.0,SNR=4.5						
ILAR	**Eielson Array**	**88.19**	**13**	P	**P**	**13 35 55.2**	**-1.3**
	0.8nm,0.5s,baz=216,slow=5.2,SNR=19						
PDAR	**Pinedale Array**	**89.13**	**43**	P	**P**	**13 36 02.0**	**+0.3**
	0.7nm,0.7s,baz=150,slow=3.3,SNR=4.3						
CMAR	**Chiang Mai Arr**	**89.57**	**290**	P	**P**	**13 36 05.0**	**+0.9**
	1.5nm,0.9s,baz=114,slow=3.3,SNR=5.8						
ARCES	**ARCESS Array B**	**128.59**	**349**	PKP	**PKPdf**	**13 42 07.4**	**-0.6**
	2.0nm,0.9s,baz=75,slow=1.4,SNR=4.5						
AKASG	**Malin Array Be**	**142.56**	**331**	PKhKP	PKPpre	13 42 30.2	
	1.6nm,0.4s,baz=42,slow=4.3,SNR=9.0						
BRTR	**Keskin Array B**	**146.31**	**312**	PKPbc	**PKPbc**	**13 42 42.6**	**-1.2**
	0.7nm,0.5s,baz=137,slow=5.1,SNR=4.4						
CLL	**Collm**	**147.71**	**346**	*i* P	**PKPbc**	**13 42 46.8**	**0.0**
	comp=Z,5.0nm,0.6s						
GERES	**GERESS Array B**	**149.83**	**344**	PKPbc	**PKPbc**	**13 42 52.0**	**-0.3**
	comp=Z,0.3nm,0.2s,baz=129,slow=1.9,SNR=4.6						

IDC 14 13:43:24.5±1.8,32.17S×178.19W,h0km,mb3.9/2, mb1 4.1/3,mb1mx3.7/22,mbtmp3.8/3,ML3.4/1,MS2.5/1, Ms1 2.5/1,ms1mx2.2/25,Error ellipse: s-maj=42.7km s-min=35.6km az=106.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.20**	**211**	Pn	Pn	13 45 11.1	+0.1
	0.7nm,0.3s,baz=67,slow=13,SNR=9.2						
URZ				Sn	Sn	13 46 31.8	-1.6
	1.8nm,0.3s,baz=177,slow=20,SNR=8.4						
URZ				LR	LR	13 47 54.7	
	comp=Z,36nm,18.4s,baz=161,slow=38						
ASAR	**Alice Springs**	**42.89**	**269**	P	P	13 51 25.2	+0.2
	0.9nm,0.8s,baz=105,slow=7.3,SNR=18						
WRA	**Warramunga Arr**	**44.03**	**274**	P	P	13 51 34.0	-0.2
	0.8nm,0.3s,baz=112,slow=8.1,SNR=40						
FINES	**FINESS Array B**	**146.74**	**339**	PKPbc	PKPdf	14 03 06.4	+0.5
	2.5nm,0.7s,baz=29,slow=4.4,SNR=8.2						
TORD	**Torodi Ar. Bea**	**161.07**	**180**	PKPab	PKPab	14 04 10.2	-0.1
	0.4nm,0.6s,baz=162,slow=5.1,SNR=5.2						

IDC 14 13:46:43.1±3.7,21.98S×177.92W,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.5/23,mbtmp3.6/3,ML5.4/1,Error ellipse: s-maj=73.8km s-min=48.1km az=60.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.24**	**180**	Pn	Pn	13 48 30.6	+0.5
	68nm,0.3s,baz=330,slow=20,SNR=3.7						
STKA	**Stephens Creek**	**37.23**	**246**	P	P	13 53 55.4	-1.2
	1.8nm,1.0s,baz=135,slow=16,SNR=3.9						
ASAR	**Alice Springs**	**44.27**	**258**	P	P	13 54 54.4	-0.5
	0.2nm,0.5s,baz=99,slow=7.1,SNR=5.2						
WRA	**Warramunga Arr**	**44.49**	**264**	P	P	13 54 57.4	+0.8
	0.4nm,0.3s,baz=98,slow=8.2,SNR=15						
AKASG	**Malin Array Be**	**144.34**	**330**	PKP	PKPdf	14 06 20.2	-0.8
	0.2nm,0.2s,baz=52,slow=1.5,SNR=3.7						

IDC 14 14:04:41.0±2.4,16.30S×176.21W,h0km,mb4.2/4, mb1 4.5/4,mb1mx3.9/26,mbtmp4.2/4,Error ellipse: s-maj=162.8km s-min=30.0km az=148.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.25**	**240**	P	P	14 12 28.3	+0.2
	1.5nm,0.6s,baz=84,slow=11,SNR=11						
WRA	**Warramunga Arr**	**47.01**	**258**	P	P	14 13 14.3	-0.3
	1.8nm,0.6s,baz=93,slow=8.1,SNR=40						
ASAR	**Alice Springs**	**47.27**	**253**	P	P	14 13 16.2	-0.3
	11nm,0.5s,baz=88,slow=7.9,SNR=306						
NVAR	**Mina Array Bea**	**76.81**	**43**	P	P	14 16 35.2	0.0
	0.3nm,0.5s,baz=223,slow=9.1,SNR=3.5						

GUC 14 14:19:59.6±0.8,35.40S×72.62W,h12km±9km,ML4.0,2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.80**	**90**	⇑*i*P	Pg	14 20 14.1	-1.0
TALC				*i* S	Sg	14 20 25.5	-0.2
LNCH	**Linares**	**0.94**	**118**	⇑*i*P	Pg	14 20 16.5	-1.2
LNCH				*i* S	Sg	14 20 29.5	-0.5
NICH	**Los Niches**	**1.20**	**71**	*e*P	Pn	14 20 21.3	-0.9
NICH				*i* S	Sb	14 20 37.4	-0.5
CLCH	**Cerro Calan**	**2.64**	**41**	*e*P	Pn	14 20 43.4	+1.3
CLCH				*e*S	Sn	14 21 16.5	+2.3
CLCH				AML	AML	14 21 24.4	
	comp=E,566nm,0.5s						
PEL	**Peldehue**	**2.76**	**36**	*e*P	Pn	14 20 45.2	+1.4
PEL				AML	AML	14 21 33.8	
	comp=N,604nm,0.3s						

GUC 14 14:23:36.8±0.7,34.91S×71.88W,h40km±2km,ML4.1, 6C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.53**	**157**	⇑*i*P	Pn	14 23 48.5	+0.5
TALC				*i* S	Sn	14 23 56.6	+0.8
NICH	**Los Niches**	**0.55**	**100**	⇓*i*P	Pn	14 23 48.3	+0.1
NICH				*i* S	Sn	14 23 56.7	+0.5
LNCH	**Linares**	**0.96**	**166**	⇓*i*P	Pn	14 23 54.3	+0.4
TACH	**Talagante**	**1.48**	**32**	⇑*i*P	Pn	14 24 01.8	+0.8
PCH	**Pirque**	**1.72**	**42**	⇑*i*P	Pn	14 24 05.3	+1.0
PCH				*i* S	Sn	14 24 27.1	+1.9
SAN	**Santiago**	**1.77**	**35**	⇓*i*P	Pn	14 24 06.0	+0.9
SAN				*i* S	Sn	14 24 28.4	+2.0
SJCH	**San Jose de Ma**	**1.79**	**45**	*e*P	Pn	14 24 05.8	+0.5
SJCH				*i* S	Sn	14 24 28.7	+1.7
CLCH	**Cerro Calan**	**1.88**	**37**	⇑*i*P	Pn	14 24 07.4	+0.8
CLCH				*i* S	Sn	14 24 31.4	+2.2
CLCH				AML	AML	14 24 34.7	
	comp=N,3μm,0.4s						
YECH	**El Yeso**	**1.94**	**51**	⇑*i*P	Pn	14 24 06.4	-1.3
YECH				*i* S	Sn	14 24 31.4	+0.3
PEL	**Peldehue**	**2.02**	**30**	⇑*i*P	Pn	14 24 09.7	+1.2
PEL				*e*S	Sn	14 24 34.9	+2.2
PEL				AML	AML	14 24 43.3	
	comp=E,2μm,0.3s						

IDC 14 14:33:26.9±2.0,4.04N×127.19E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.5/23,mbtmp3.7/4,MS3.1/2,Ms1 3.2/2, ms1mx2.4/31,Error ellipse: s-maj=171.7km s-min=23.2km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**19.86**	**60**	LR	LR	14 44 30.3	
	comp=Z,29nm,20.0s,baz=82,slow=33						
WRA	**Warramunga Arr**	**24.85**	**164**	P	P	14 38 51.0	-0.2
	2.0nm,0.8s,baz=345,slow=9.5,SNR=12						
ASAR	**Alice Springs**	**28.31**	**167**	P	P	14 39 22.1	-0.4
	0.3nm,0.6s,baz=342,slow=7.4,SNR=6.3						
STKA	**Stephens Creek**	**38.26**	**160**	P	P	14 40 49.5	+0.5
	1.1nm,0.4s,baz=336,slow=7.9,SNR=5.0						
MKAR	**Makanchi Array**	**57.56**	**325**	P	P	14 43 18.4	-0.1
	0.4nm,0.4s,baz=119,slow=7.1,SNR=11						
ARCES	**ARCESS Array B**	**90.32**	**340**	LR	LR	15 33 25.1	
	comp=Z,18nm,18.9s,baz=292,slow=40						

*IDC **14** 14:55:22.3±1.1,16.90N×147.54E,h0km,mb3.6/8, mb1 3.9/9,mb1mx3.6/39,mbtmp3.7/9,ML4.1/1,Error ellipse: s-maj=34.1km s-min=17.7km az=91.0*

*ISCJB **14** 14:55:26.7±1.0,16.92N±0.09×147.4E±0.2,h41km, mb3.6/8,Error ellipse: s-maj=26.0km s-min=9.6km az=19.8*

ISC 14 14:55:28.3±1.1,16.9N±0.1×147.5E±0.2,h41km,n9, σ0§47/11,mb3.7/8,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.13**	**218**	Pn	**Pn**	**14 56 28.6**	**-0.3**
	10nm,0.3s,baz=54,slow=19,SNR=7.9						
GUMO				Sn	**Sn**	**14 57 16.2**	**+0.1**
	7.2nm,0.3s,baz=47,slow=19,SNR=3.4						
MJAR	**Matsushiro Arr**	**21.23**	**339**	P	**P**	**15 00 09.8**	**-0.9**
	1.2nm,0.6s,baz=169,slow=10,SNR=5.5						
WRA	**Warramunga Arr**	**38.81**	**200**	P	**P**	**15 02 49.1**	**-0.3**
	0.7nm,0.5s,baz=24,slow=9.2,SNR=13						
WRA				PcP	**PcP**	**15 05 00.0**	**-0.2**
	0.2nm,0.5s,baz=16,slow=3.3,SNR=3.1						
ASAR	**Alice Springs**	**42.43**	**199**	P	**P**	**15 03 19.2**	**0.0**
	0.3nm,0.7s,baz=18,slow=7.4,SNR=8.6						
SONM	**Songino Array**	**45.60**	**322**	P	**P**	**15 03 44.8**	**+0.2**
	1.5nm,0.7s,baz=120,slow=10,SNR=3.5						
CMAR	**Chiang Mai Arr**	**46.16**	**280**	P	**P**	**15 03 50.0**	**+0.7**
	1.5nm,0.9s,baz=69,slow=6.4,SNR=10						
ZALV	**Zalesovo Beam**	**60.47**	**323**	P	**P**	**15 05 33.7**	**-0.1**
	0.7nm,0.4s,baz=104,slow=6.1,SNR=3.4						
MKAR	**Makanchi Array**	**60.93**	**314**	P	**P**	**15 05 37.1**	**-0.1**
	0.3nm,0.7s,baz=96,slow=6.5,SNR=2.6						
NVAR	**Mina Array Bea**	**82.91**	**52**	P	**P**	**15 07 49.8**	**+0.4**
	0.5nm,0.8s,baz=282,slow=4.2,SNR=3.8						

*KRNET **14** 14:59:17.2±0.1,41.30N×74.53E,h15km,mb3.3*

*KNET **14** 14:59:18.8±0.5,41.38N×74.53E,h11km±2km,ml2.8,Error ellipse: s-maj=3.6km s-min=2.7km az=38.0*

*NNC **14** 14:59:18.1±0.9,41.32N×74.52E,h0km,mb3.5,mpv3.3, Error ellipse: s-maj=16.3km s-min=4.9km az=111.0*

ISC 14 14:59:17.8±1.2,41.30N±0.03×74.56E±0.03,h8km±10km, n35,σ0§54/54,36C-21D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.92**	**358**	P	**Pg**	**14 59 35.7**	**0.0**
	197nm,0.2s,SNR=204						
UCH				⇓S	**Sg**	**14 59 48.7**	**+1.1**
	292nm,0.1s						
UCH	**Uchtor**	**0.92**	**358**	⇑*i*P	**Pg**	**14 59 35.6**	**0.0**
	baz=359						
UCH				⇑*i*S	**Sg**	**14 59 48.6**	**+0.9**
	baz=359						
KZA	**Kyzart**	**0.93**	**34**	P	**Pg**	**14 59 35.7**	**-0.1**
	50nm,0.2s,SNR=101						
KZA				⇑S	**Sg**	**14 59 48.9**	**+1.0**
	98nm,0.2s						
KZA	**Kyzart**	**0.93**	**34**	⇑*i*P	**Pg**	**14 59 35.5**	**-0.3**
	baz=35						
KZA				⇑*i*S	**Sg**	**14 59 48.8**	**+0.8**
	baz=35						
AML	**Almayashu**	**1.05**	**322**	P	**Pg**	**14 59 37.3**	**-0.7**
	140nm,0.2s,SNR=306						
AML				⇓S	**Sg**	**14 59 51.2**	**-0.5**
	325nm,0.4s						
AML	**Almayashu**	**1.05**	**322**	⇑*i*P	**Pg**	**14 59 37.2**	**-0.8**
	baz=323						
AML				⇑*i*S	**Sg**	**14 59 50.9**	**-0.8**
	baz=323						
NRN	**Naryn**	**1.09**	**83**	⇓*i*P	**Pg**	**14 59 38.2**	**-0.7**
	baz=83						
NRN				⇓*i*S	**Sg**	**14 59 52.5**	**-0.6**
	baz=83						
AAK	**Ala-Archa**	**1.33**	**358**	⇓P	**Pn**	**14 59 43.0**	**+0.1**
	65nm,0.3s,SNR=34						
AAK				⇑S	**Sn**	**15 00 01.1**	**+0.1**
	96nm,0.2s						
AAK	**Ala-Archa**	**1.33**	**358**	⇓P	**Pn**	**14 59 42.8**	**-0.1**
	22nm,0.3s						
AAK				⇑S	**Sg**	**15 00 00.8**	**+0.1**
	62nm,0.4s						
AAK	**Ala-Archa**	**1.33**	**358**	⇑*i*P	**Pn**	**14 59 42.9**	**-0.1**
	baz=359						
AAK				⇑*i*S	**Sn**	**15 00 00.9**	**0.0**
	baz=359						
KBK	**Karagaybulak**	**1.38**	**12**	⇓P	**Pn**	**14 59 43.8**	**+0.1**
	52nm,0.1s,SNR=90						
KBK	**Karagaybulak**	**1.38**	**12**	⇑*i*P	**Pn**	**14 59 43.6**	**-0.1**
	baz=13						
KBK				⇑*i*S	**Sg**	**15 00 02.6**	**+0.3**
	baz=13						
EKS2	**Erkin-Say**	**1.48**	**337**	⇓P	**Pn**	**14 59 45.2**	**+0.3**
	11nm,0.1s,SNR=31						
EKS2	**Erkin-Say**	**1.48**	**337**	⇑*i*P	**Pn**	**14 59 45.0**	**+0.1**
	baz=338						
EKS2				⇑*i*S	**Sb**	**15 00 04.6**	**0.0**
	baz=338						
EKS	**Erkin-Say**	**1.48**	**337**	⇑*e*P	**Pb**	**14 59 45.4**	**-0.3**
	baz=338						
EKS				⇑*i*S	**Sb**	**15 00 05.0**	**+0.3**
	baz=338						
SFK	**Sufi-Kurgan**	**1.52**	**212**	⇓P	**Pn**	**14 59 44.7**	**-0.9**
	16nm,0.3s						
SFK				⇑S	**Sg**	**15 00 07.7**	**+1.1**
	44nm,0.3s						
SFK	**Sufi-Kurgan**	**1.52**	**212**	⇓*e*P	**Pn**	**14 59 45.3**	**-0.2**
	baz=212						
SFK				⇓*i*S	**Sg**	**15 00 07.5**	**+0.9**
	baz=212						
ULHL	**Ulahol**	**1.57**	**53**	P	**Pb**	**14 59 47.5**	**+0.1**
	14nm,0.2s,SNR=96						
ULHL	**Ulahol**	**1.57**	**53**	⇓*i*P	**Pb**	**14 59 47.3**	**-0.1**
	baz=53						
ULHL				⇓*i*S	**Sg**	**15 00 08.9**	**+0.4**
	baz=53						
CHMS	**Chumysh**	**1.70**	**5**	⇓P	**Pb**	**14 59 49.6**	**+0.1**
	38nm,0.3s,SNR=31						
CHMS	**Chumysh**	**1.70**	**5**	⇑*i*P	**Pb**	**14 59 49.4**	**0.0**
	baz=6.0						
CHMS				⇑*i*S	**Sg**	**15 00 12.1**	**-0.4**
	baz=6.0						
TKM2	**Tokmak 2**	**1.79**	**25**	⇑P	**Pb**	**14 59 51.3**	**+0.3**
	22nm,0.2s,SNR=28						
TKM2	**Tokmak 2**	**1.79**	**25**	⇑P	**Pb**	**14 59 51.5**	**+0.4**
	12nm,0.3s						
TKM2				⇓S	**Sg**	**15 00 15.9**	**+0.5**
	79nm,0.5s						
TKM2	**Tokmak 2**	**1.79**	**25**	⇑*i*P	**Pb**	**14 59 51.2**	**+0.1**
	baz=26						
TKM2				⇑*i*S	**Sg**	**15 00 15.3**	**-0.2**
	baz=26						
USP	**Ospenovka**	**1.96**	**359**	⇓P	**Pb**	**14 59 54.3**	**+0.4**
	39nm,0.1s,SNR=84						
USP	**Ospenovka**	**1.96**	**359**	⇑*i*P	**Pb**	**14 59 54.0**	**+0.1**
	baz=359						
USP				⇑*i*S	**Sg**	**15 00 19.9**	**-1.0**
	baz=359						
ARK	**Arkit**	**2.01**	**285**	⇑*i*P	**Pb**	**14 59 55.4**	**+0.7**
	baz=285						
ARK				⇑*e*S	**Sg**	**15 00 22.0**	**-0.3**
	baz=285						
KNDC	**Almaty**	**2.62**	**42**	⇓Pg	**Pn**	**15 00 00.9**	**+0.3**
	5.8nm,0.2s						
KNDC				⇑Lg	Lg	15 00 42.0	
	58nm,0.4s						
BTK	**Batken**	**3.10**	**248**	⇑*i*P	**Pn**	**15 00 08.4**	**+1.2**
	baz=247						
BTK				⇑*i*S	**Sn**	**15 00 43.8**	**-0.7**
	baz=247						
KK31	**Karatay Array**	**3.50**	**302**	⇑Pg	**Pb**	**15 00 20.1**	**+0.1**
	5.6nm,0.5s,baz=127,slow=16,SNR=41						
KK31				⇓Lg	Lg	15 01 06.5	
	3.9nm,0.3s,baz=124,slow=30,SNR=12						
PDGK	**Podgornoye**	**4.18**	**59**	⇓Pg	**Pb**	**15 00 31.3**	**-0.3**
	1.8nm,0.6s						
PDGK				⇓Lg	Lg	15 01 30.9	
	7.4nm,0.5s						
OTUK	**Ortayu**	**7.12**	**348**	⇑Lg	Lg	15 03 01.1	
	4.5nm,0.8s						
MK31	**Makanchi Array**	**7.82**	**43**	⇓Pn	**Pn**	**15 01 12.1**	**+0.2**
	0.3nm,0.5s,baz=220,slow=13,SNR=3.6						
MK31				⇑Lg	Lg	15 03 26.2	
	2.9nm,1.1s,baz=227,slow=29,SNR=4.3						
KURBB	**Kurchatov Arra**	**9.72**	**15**	⇑Lg	Lg	15 04 29.1	
	8.4nm,0.9s						
KURK	**Kurchatov**	**9.83**	**15**	⇑Lg	Lg	15 04 29.1	
	2.9nm,0.9s						

DJA 14 15:11:51.1±1.0,2.S±9.×14.0E±°,h13km±9km,M3.9/5, mb4.9/1,MLv3.5/5,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.51**	**144**	P	Pg	15 12 01.4	+0.1
GENI	**Genyem**	**0.54**	**205**	P	Pg	15 12 00.4	-1.4
GENI				S	Sb	15 12 11.3	+1.1
SMPI	**Sarmi**	**1.69**	**274**	P	Pn	15 12 17.3	-3.1
SMPI				S	Sn	15 12 41.9	0.0
WAMI	**Wamena**	**2.45**	**224**	P	Pn	15 12 30.3	-0.5

*SJA **14** 15:13:43.3±0.8,35.08S×73.27W,h40km,ML3.8,MW4.5*

*ISCJB **14** 15:13:60.0±1.4,34.73S±0.05×71.78W±0.1,h30km±9km, Error ellipse: s-maj=17.2km s-min=6.3km az=16.8*

*GUC **14** 15:14:00.1±0.6,34.75S×71.72W,h41km±1km,ML3.6*

**ISC 14 15:13:59.

ACAN	**Cantantal**	**4.54**	**59**	*e*P	**Pn**	**15 15 08.0**	**+0.6**
AMOG	**MOGNA**	**4.67**	**37**	*e*P	**Pn**	**15 15 09.5**	**+0.3**
AVFE	**Valle Fertil**	**5.45**	**43**	*e*P	**Pn**	**15 15 19.2**	**-0.6**
AVFE				IAML		15 16 32.5	
	comp=Z,19nm,0.5s						

IDC 14 15:24:20.4±1.8, 6°59.59S×130°73.73E, h0km, mb3.9/1, mb1 4.0/4, mb1mx3.6/31, mbtmp3.8/4, ML3.7/3, Error ellipse: s-maj=83.0km s-min=27.6km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.70**	**5**	Pn	Pn	15 25 46.5	0.0
	1.4nm,0.3s,baz=167,slow=18,SNR=8.9						
SIJI				Sn	Sn	15 26 44.6	-8.1
	1.6nm,0.3s,baz=199,slow=23,SNR=9.3						
WRA	**Warramunga Arr**	**13.73**	**166**	Pn	Pn	15 27 36.5	-0.1
	0.5nm,0.3s,baz=349,slow=13,SNR=15						
WRA				Sn	Sn	15 30 01.8	-8.3
	0.6nm,0.3s,baz=344,slow=21,SNR=7.1						
ASAR	**Alice Springs**	**17.25**	**170**	P	Pn	15 28 23.1	+0.1
	0.3nm,0.3s,baz=350,slow=13,SNR=24						
ASAR				S	Sn	15 31 26.4	-9.4
	0.1nm,0.3s,baz=358,slow=29,SNR=5.0						
MKAR	**Makanchi Array**	**68.28**	**326**	P	P	15 35 23.4	0.0
	0.6nm,0.5s,baz=118,slow=7.8,SNR=10						

*IDC **14** 15:24:31.2±0.5, 34°.35S×73°.47W, h0km, mb4.4/12, mb1 4.5/16, mb1mx4.3/40, mbtmp4.4/16, ML4.5/4, MS3.8/13, Ms1 3.7/13, ms1mx3.6/24, Error ellipse: s-maj=24.3km s-min=14.2km az=86.0*

*ISCJB **14** 15:24:33.0±1.3, 34°.33S±0°.03×73°.46W±0°.03, h20km±10km, mb4.5/21, MS3.8/11, Error ellipse: s-maj=5.6km s-min=4.5km az=149.0*

*SJA **14** 15:24:32.0±1.0, 34°.19S×73°.69W, h40km, ML4.2*

*GUC **14** 15:24:33.7±0.8, 34°.33S×73°.41W, h32km±3km, ML4.9*

*NEIC **14** 15:24:35.7±2.2, 34°.34S×73°.37W, h28km±15km, mb4.7/13, Error ellipse: s-maj=12.1km s-min=5.2km az=81.0*

NEIC Felt at Curico, Rancagua and Santa Cruz.

ISC 14 15:24:34.1±1.1, 34°.33S±0°.04×73°.47W±0°.06, h18km±4km, n95, σ1°54/120, mb4.6/21, MS3.9/11, 7C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.75**	**78**	⇑*i*P	**Pn**	**15 25 02.1**	**-1.4**
TALC	**Talca**	**1.85**	**126**	⇑*i*P	**Pn**	**15 25 04.1**	**-0.9**
TALC				*i* S	**Sn**	**15 25 26.5**	**-1.4**
NICH	**Los Niches**	**1.97**	**111**	*e*P	**Pn**	**15 25 06.0**	**-0.6**
NICH				*i* S	**Sn**	**15 25 29.9**	**-0.9**
LNCH	**Linares**	**2.16**	**135**	⇑*i*P	**Pn**	**15 25 10.1**	**+0.9**
LNCH				*i* S	**Sn**	**15 25 36.5**	**+1.0**
TACH	**Talagante**	**2.21**	**73**	⇑*i*P	**Pn**	**15 25 08.5**	**-1.4**
SAN	**Santiago**	**2.49**	**70**	*e*P	**Pn**	**15 25 12.9**	**-0.9**
SAN				*i* S	**Sn**	**15 25 42.4**	**-1.4**
PCH	**Pirque**	**2.56**	**75**	⇑*i*P	**Pn**	**15 25 14.0**	**-0.7**
PCH				*i* S	**Sn**	**15 25 44.2**	**-1.2**
LACH	**Col Las Americ**	**2.60**	**71**	*i* S	**Sn**	**15 25 45.0**	**-1.4**
PEL	**Peldehue**	**2.60**	**64**	⇑*i*P	**Pn**	**15 25 14.9**	**-0.5**
PEL				*i* S	**Sn**	**15 25 45.5**	**-1.0**
PEL				AML	AML	15 25 47.8	
	comp=N,7μm,0.5s						
CLCH	**Cerro Calan**	**2.61**	**70**	⇓*i*P	**Pn**	**15 25 14.7**	**-0.8**
CLCH				*i* S	**Sn**	**15 25 45.8**	**-1.0**
CLCH				AML	AML	15 25 53.7	
	comp=E,3μm,0.3s						
YECH	**El Yeso**	**2.89**	**78**	*e*P	**Pn**	**15 25 21.5**	**+1.9**
YECH				*i* S	**Sn**	**15 25 56.3**	**+2.3**
YECH				AML	AML	15 25 59.2	
	comp=N,6μm,0.4s						
AUSP	**Uspallata**	**4.01**	**60**	*i* P	**Pn**	**15 25 36.6**	**+1.7**
AUSP				*i* S	**Sn**	**15 26 23.5**	**+1.8**
CANA	**Caviahue**	**4.05**	**152**	*e*P	**Pn**	**15 25 37.2**	**+1.8**
AAGR	**Agrelo**	**4.06**	**74**	*i* P	**Pn**	**15 25 37.0**	**+1.5**
AAGR				*i* S	**Sn**	**15 26 24.0**	**+1.4**
ARCO	**CERRO ARCO**	**4.07**	**70**	*i* P	**Pn**	**15 25 37.2**	**+1.6**
ARCO				*i* S	**Sn**	**15 26 24.8**	**+2.0**
ARCO				AML	AML	15 26 40.4	
	comp=Z,168nm,0.5s						
ASAL	**Salagasta**	**4.24**	**67**	*i* P	**Pn**	**15 25 40.0**	**+2.0**
ASAL				*i* S	**Sn**	**15 26 28.2**	**+1.1**
RTLS	**Leoncito**	**4.32**	**55**	*i* P	**Pn**	**15 25 40.4**	**+1.3**
RTLS				*i* S	**Sn**	**15 26 29.8**	**+0.7**
RTCV	**Cerro Valdivia**	**4.81**	**61**	*i* P	**Pn**	**15 25 46.6**	**+0.8**
RTCV				*i* S	**Sn**	**15 26 41.1**	**+0.1**
RTLL	**Cerro Villicun**	**5.16**	**56**	*e*P	**Pn**	**15 25 51.5**	**+1.0**
RTLL				*e*S	**Sn**	**15 26 50.2**	**+0.6**
CFAA	**Coronel Fontan**	**5.17**	**60**	Pn	**Pn**	**15 25 50.0**	**-0.6**
	comp=Z,1.9nm,0.3s,baz=229,slow=14,SNR=28						
CFAA				Sn	**Sn**	**15 26 49.7**	**-0.1**
	comp=Z,5.6nm,0.3s,baz=343,slow=19,SNR=16						
CFAA				LR	LR	15 27 47.9	
	comp=Z,65nm,20.9s,baz=234,slow=38						
CFAA	**Coronel Fontan**	**5.17**	**60**	*i* P	**Pn**	**15 25 51.1**	**+0.5**
CFAA				*i* S	**Sn**	**15 26 49.9**	**+0.1**
AMOG	**MOGNA**	**5.39**	**53**	*e*P	**Pn**	**15 25 54.2**	**+0.5**
ACAN	**Cantantal**	**5.64**	**71**	*i* P	**Pn**	**15 25 57.8**	**+0.7**
LCO	**Las Campanas**	**5.80**	**25**	*e*Pn	**Pn**	**15 25 57.4**	**-2.1**
	comp=Z,26nm,0.3s						
LCO				*e*Sn	Sn	15 26 60.0	-5.7
AVFE	**Valle Fertil**	**6.26**	**56**	*i* P	**Pn**	**15 26 05.2**	**-0.4**
AVFE				AML	AML	15 27 20.4	
	comp=Z,91nm,0.5s						
PLCA	**Paso Flores**	**6.80**	**161**	Pn	**Pn**	**15 26 11.3**	**-1.8**
	comp=Z,4.2nm,0.3s,baz=327,slow=12,SNR=16						
PLCA				LR	LR	15 28 55.7	
	comp=Z,723nm,21.6s,baz=4.0,slow=39						
PLCA	**Paso Flores**	**6.80**	**161**	*e*Pn	**Pn**	**15 26 12.8**	**-0.3**
APLL	**PUNTA DE LOS L**	**7.06**	**58**	*i* P	**Pn**	**15 26 15.2**	**-1.4**
APLL				*i* P	**Pn**	**15 26 15.2**	**-1.4**
CYA	**Choya**	**8.79**	**50**	*e*P	Pn	15 26 37.1	-3.3
TRQA	**Tornquist**	**10.01**	**115**	*e*Pn	**Pn**	**15 26 57.4**	**+0.4**
	comp=Z,16nm,0.9s						
FSA	**Cafayete**	**10.43**	**40**	*e*P	**Pn**	**15 27 00.8**	**-2.3**
LVC	**Limon Verde**	**12.34**	**20**	Pn	**Pn**	**15 27 29.8**	**+0.7**
	comp=Z,11nm,0.3s,baz=197,slow=17,SNR=2.1						
LVC				LR	LR	15 32 24.6	
	comp=Z,1μm,19.1s,baz=221,slow=38						
LPAZ	**La Paz**	**18.59**	**16**	P	**Pn**	**15 28 51.8**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=172,slow=8.8,SNR=11						
LPAZ	**La Paz**	**18.59**	**16**	*e*P	**Pn**	**15 28 52.7**	**+1.4**
EFI	**East Falkland**	**20.61**	**152**	*e*P	**P**	**15 29 12.2**	**+0.1**
USHA	**Ushuaia**	**20.80**	**172**	P	**P**	**15 29 14.0**	**-0.2**
	comp=Z,14nm,0.9s,baz=357,slow=17,SNR=2.2						
SIV	**San Ignacio**	**21.39**	**34**	P	**P**	**15 29 21.1**	**+0.2**
	comp=Z,6.3nm,0.8s,baz=220,slow=8.9,SNR=13						
ATAH	**Atahualpa**	**27.44**	**349**	LR	LR	15 38 44.2	
	comp=Z,146nm,19.7s,baz=189,slow=31						
BDFB	**Brasilia**	**29.50**	**57**	LR	LR	15 44 08.8	
	comp=Z,355nm,20.1s,baz=226,slow=40						
OTAV	**Otavalo**	**34.70**	**351**	*e*P	**P**	**15 31 24.9**	**+1.5**
	comp=Z,16nm,1.4s						
SNAA	**Sanae**	**51.73**	**158**	P	**P**	**15 33 40.0**	**0.0**
	comp=Z,6.2nm,1.0s,baz=277,slow=6.9,SNR=42						
QSPA	**South Pole Qui**	**55.91**	**180**	P	**P**	**15 34 11.0**	**+0.3**
	comp=Z,14nm,1.0s,baz=145,slow=3.2,SNR=24						
QSPA	**South Pole Qui**	**55.91**	**180**	*e*P	**P**	**15 34 11.2**	**+0.5**
SYO	**Syowa Base**	**66.00**	**159**	⇑*e*P	**P**	**15 35 17.2**	**-1.7**
TBI	**Tubuai**	**66.09**	**257**	*e*S	**S**	**15 44 08.3**	**+0.4**
	comp=Z,60nm,28.2s						
TBI	**Tubuai**	**66.09**	**257**	*e*LR	LR	15 55 21.1	
	comp=Z,194nm,30.2s						
PPT2	**Papeete2**	**69.01**	**263**	*e*S	**S**	**15 44 43.4**	**+0.1**
	comp=Z,78nm,24.0s						
PPT2	**Papeete2**	**69.01**	**263**	*e*LR	LR	15 56 33.5	
	comp=Z,202nm,29.5s						
PPT	**Papeete**	**69.02**	**263**	LR	LR	15 59 39.9	
	comp=Z,88nm,18.1s,baz=161,slow=31						
JCT	**Junction City**	**69.08**	**336**	*e*P	**P**	**15 35 39.6**	**+0.7**
	comp=Z,6.9nm,0.8s						
TXAR	**Lajitas Array**	**69.45**	**332**	P	**P**	**15 35 42.0**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=144,slow=8.7,SNR=10						
TXAR				LR	LR	16 01 36.8	
	comp=Z,71nm,18.8s,baz=0.0,slow=32						
TKL	**Tuckaleechee C**	**70.28**	**351**	LR	LR	16 02 59.5	
	comp=Z,25nm,18.9s,slow=33						
WVT	**Waverly**	**71.36**	**348**	*e*P	**P**	**15 35 52.8**	**+0.2**
	comp=Z,15nm,1.0s						
MAW	**Mawson**	**73.20**	**164**	P	**P**	**15 36 03.5**	**+0.1**
	comp=Z,6.7nm,0.9s,baz=207,slow=6.2,SNR=13						
MAW				LR	LR	16 07 36.6	
	comp=Z,118nm,19.0s,baz=241,slow=35						
MAW	**Mawson**	**73.20**	**164**	*e*P	**P**	**15 36 03.6**	**+0.1**
	comp=Z,5.2nm,1.4s						
121A	**Cookes Peak, D**	**73.92**	**330**	P	**P**	**15 36 08.8**	**+0.6**
DBIC	**Dimbokro**	**76.41**	**72**	P	**P**	**15 36 23.1**	**+0.3**
	comp=Z,8.5nm,0.6s,baz=217,slow=7.0,SNR=9.5						
DBIC				LR	LR	16 07 25.9	
	comp=Z,58nm,19.0s,baz=201,slow=34						
DBIC	**Dimbokro**	**76.41**	**72**	*e*P	**P**	**15 36 23.1**	**+0.3**
	comp=Z,18nm,0.9s						
SADO	**Sadowa**	**78.89**	**356**	LR	LR	16 09 21.4	
	comp=Z,8.6nm,21.3s,baz=189,slow=34						
SMCO	**Snowmass**	**79.44**	**334**	*e*P	**P**	**15 36 40.8**	**+1.2**
	comp=Z,6.7nm,1.1s						
ECSD	**EROS Data Cent**	**80.50**	**343**	*e*P	**P**	**15 36 44.8**	**+0.1**
	comp=Z,12nm,1.0s						
MSU	**Marysvale**	**80.87**	**330**	*e*P	**P**	**15 36 48.5**	**+1.4**
	comp=Z,1.8nm,1.2s						
BOSA	**Boshof**	**80.97**	**118**	P	**P**	**15 36 48.1**	**+0.1**
	comp=Z,7.7nm,0.9s,baz=247,slow=7.9,SNR=5.1						
BOSA				LR	LR	16 05 57.0	
	comp=Z,54nm,21.3s,baz=176,slow=31						
BOSA	**Boshof**	**80.97**	**118**	*e*P	**P**	**15 36 48.1**	**+0.1**
	comp=Z,10.0nm,1.0s						
K22A	**Casper**	**82.36**	**336**	*e*P	**P**	**15 36 55.5**	**+0.7**
	comp=Z,8.7nm,1.1s						
HWUT	**Hardware Ranch**	**83.27**	**332**	*e*P	**P**	**15 36 59.9**	**+0.3**
	comp=Z,16nm,1.5s						
NVAR	**Mina Array Bea**	**83.48**	**326**	P	**P**	**15 37 01.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=160,slow=5.6,SNR=3.6						
PDAR	**Pinedale Array**	**83.53**	**334**	P	**P**	**15 37 01.0**	**0.0**
	comp=Z,1.8nm,1.1s,baz=145,slow=3.3,SNR=7.0						
HVU	**Hansel Valley**	**83.89**	**332**	*e*P	**P**	**15 37 02.0**	**-0.8**
	comp=Z,4.7nm,0.9s						
ELK	**Elko**	**84.03**	**329**	P	**P**	**15 37 03.2**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=134,slow=4.4,SNR=4.5						
TOA0	**Torodi Ar. Sit**	**85.44**	**71**	*e*P	**P**	**15 37 10.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**85.44**	**71**	P	**P**	**15 37 10.8**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=269,slow=4.7,SNR=20						
TORD				LR	LR	16 14 06.5	
	comp=Z,54nm,18.0s,baz=170,slow=35						
MCMT	**McKenzie Canyo**	**86.51**	**333**	*e*P	**P**	**15 37 16.9**	**+1.0**
	comp=Z,3.2nm,1.1s						
FRB	**Frobisher Bay**	**97.82**	**2**	LR	LR	16 24 39.2	
	comp=Z,16nm,18.0s,baz=269,slow=37						
WRA	**Warramunga Arr**	**119.89**	**210**	PKP	**PKPdf**	**15 43 22.7**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=157,slow=1.7,SNR=9.5						
SEY	**Seymchan**	**139.71**	**329**	PKP	**PKPdf**	**15 43 59.9**	**0.0**
	comp=Z,3.6nm,1.0s,baz=81,slow=5.3,SNR=5.8						
BVAR	**Borovoye Array**	**148.33**	**43**	PKP	**PKPdf**	**15 44 14.9**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=251,slow=4.4,SNR=4.1						
BVAR				PKPbc	**PKPbc**	**15 44 19.0**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=298,slow=3.2,SNR=11						
YAK	**Yakutsk**	**148.62**	**339**	PKPbc	**PKPbc**	**15 44 18.8**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=241,slow=19,SNR=3.7						
KURBB	**Kurchatov Arra**	**153.92**	**43**	PKP	**PKPdf**	**15 44 23.8**	**0.0**
	comp=Z,0.4nm,0.7s,baz=290,slow=2.8,SNR=3.5						
KURBB				PKPbc	**PKPbc**	**15 44 31.4**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=294,slow=3.0,SNR=9.5						
KURK	**Kurchatov**	**153.93**	**43**	PKP	**PKPdf**	**15 44 23.9**	**0.0**
KURK				PKPbc	**PKPbc**	**15 44 31.4**	**-0.4**
KSH	**Kashi**	**155.10**	**69**	*e*PKPbc	**PKPdf**	**15 44 29.5**	**+3.4**
KSH				pPKP	**pPKPdf**	**15 44 35.0**	**+2.7**
KSH				PKS	**PKSdf**	**15 48 03.8**	**+3.5**
KSH				*e*PP	**PP**	**15 48 28.9**	**+1.5**
KSH				SKS	**SKSdf**	**15 51 33.0**	**+1.2**
KSH				SKKS	**SKKSac**	**15 55 18.5**	**+2.4**
KSH				PPMZ			
	comp=Z,83nm,4.4s						
KSH				LN			
	comp=Z,270nm,9.5s						
KSH				LE			
	comp=Z,130nm,6.2s						
KSH				LZ			
	comp=Z,58nm,4.3s						
ZALV	**Zalesovo Beam**	**155.13**	**31**	PKP	**PKPdf**	**15 44 24.4**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=298,slow=3.1,SNR=5.2						
ZALV				PKPbc	PKPbc	15 44 34.1	
	comp=Z,2.2nm,0.8s,baz=300,slow=2.9,SNR=8.0						
MKAR	**Makanchi Array**	**157.87**	**48**	PKP	**PKPdf**	**15 44 28.9**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=132,slow=2.1,SNR=6.4						
MKAR				PKPab	**PKPab**	**15 45 00.9**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=311,slow=4.6,SNR=5.6						
KSRS	**Korea Array**	**162.39**	**286**	PKP	**PKPdf**	**15 44 33.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=21,slow=1.7,SNR=6.0						
KSAR	**Wonju Array Be**	**162.42**	**286**	PKP	**PKPdf**	**15 44 33.8**	**-0.9**
CN2	**Changchun**	**162.56**	**308**	*e*PKP	**PKPdf**	**15 44 37.4**	**+2.8**
WMQ	**Urumqi**	**162.60**	**51**	*e*PKP	**PKPdf**	**15 44 34.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**162.81**	**155**	PKP	**PKPdf**	**15 44 35.3**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=212,slow=2.9,SNR=4.3						
NJ2	**Nanjing**	**169.43**	**261**	*e*PKP	**PKPdf**	**15 44 40.1**	**-0.3**
KMI	**Kunming**	**170.26**	**159**	PKP	**PKPdf**	**15 44 40.6**	**-0.9**
GYA	**Guiyang**	**172.16**	**181**	*e*PKP	**PKPdf**	**15 44 41.0**	**-1.3**
GYA				PKPab	**PKPab**	**15 46 07.0**	**+1.4**
GYA				PKS	**PKSdf**	**15 48 11.8**	**-3.0**
GYA				PPMZ			
	comp=Z,90nm,7.9s						
HHC	**Hu-ho-hao-te**	**172.36**	**330**	*e*PKP	**PKPdf**	**15 44 38.3**	**-3.6**
HHC				PP	**PP**	**15 49 59.0**	**+1.9**
HHC				SKS	**SKSdf**	**15 51 37.3**	**-7.0**
HHC				SS	**SS**	**16 11 03.0**	**-3.8**
HHC				PPMZ			
	comp=Z,45nm,9.5s						
HHC				LN			
	comp=Z,91nm,21.7s						
HHC				LE			
	comp=Z,100nm,22.0s						
HHC				LZ			
	comp=Z,60nm,21.5s						
GTA	**Gaotai**	**172.60**	**45**	*e*PKP	**PKPdf**	**15 44 42.5**	**+0.4**
GTA				sPKP		15 44 49.5	
GTA				PKPab	**PKPab**	**15 46 08.3**	**+0.8**
CD2	**Chengdu**	**175.87**	**145**	PKP	**PKPdf**	**15 44 43.0**	**-0.3**
LZH	**Lanzhou**	**177.19**	**51**	*e*PKP	**PKPdf**	**15 44 40.5**	**-3.1**
LZH				pPKP	**pPKPdf**	**15 44 44.8**	**-5.0**
LZH				sPKP		15 44 48.0	

*NIED **14** 15:28:00.25°.80N×130°.10E, h5km, Mw3.9 Best double couple: M0 8.23000×10^14 NP1:φs 61.00000°, δ20.00000°, λ-107.00000°. NP2:φs 259.00000°, δ71.00000°, λ-84.00000°.*

*IDC **14** 15:28:55.5±1.0, 25°.73N×129°.91E, h0km, mb3.9/7, mb1 3.9/10, mb1mx3.8/45, mbtmp3.8/10, ML3.1/3, MS2.8/4, Ms1 2.8/4, ms1mx2.5/41, Error ellipse: s-maj=43.6km s-min=15.5km az=71.0*

*JMA **14** 15:28:56.5±0.1, 25°.82N×130°.07E, h42km, M3.5*

*ISCJB **14** 15:28:57.9±0.5, 25°.88N±0°.03×130°.00E±0°.04, h33km, mb4.0/9, MS3.1/1, Error ellipse: s-maj=5.2km s-min=4.4km az=42.6*

*NEIC **14** 15:28:57.2±0.5, 25°.76N×129°.96E, h10km, mb4.1/2, Error ellipse: s-maj=20.7km s-min=7.9km az=74.0*

ISC 14 15:28:59.9±0.8, 25°.84N±0°.06×130°.01E±0°.05, h35km, n30, σ1°83/40, mb3.9/9, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**1.09**	**91**	P	Pn	15 29 15.1	-3.5
JMZ				S	**Sn**	**15 29 27.9**	**-4.6**
JOW	**Kunigami**	**1.84**	**303**	P	**Pn**	**15 29 27.8**	**-1.3**
JOW				S	**Sn**	**15 29 49.3**	**-1.9**
JOW	**Kunigami**	**1.84**	**303**	Pn	**Pn**	**15 29 27.7**	**-1.4**
	5.5nm,0.3s,baz=126,slow=16,SNR=82						
JOW				Sn	**Sn**	**15 29 49.5**	**-1.7**
	8.1nm,0.3s,baz=288,slow=19,SNR=20						
JNTH	**Nagotoyohara**	**1.91**	**291**	P	**Pn**	**15 29 28.2**	**-1.8**
JNTH				S	**Sn**	**15 29 50.5**	**-2.3**
JOKE	**Okinoerabujima**	**1.99**	**320**	P	**Pn**	**15 29 30.0**	**-1.0**
JOKE				S	**Sn**	**15 29 52.7**	**-2.0**
JJT2	**Tamagusuku 2**	**2.06**	**279**	P	**Pn**	**15 29 30.7**	**-1.3**
JJT2				S	**Sn**	**15 29 55.0**	**-1.5**
JTK	**Tokunoshima**	**2.15**	**334**	P	**Pn**	**15 29 32.2**	**-1.1**
JTK				S	**Sn**	**15 29 56.9**	**-1.9**
JIH	**Iheya**	**2.19**	**303**	P	**Pn**	**15 29 32.5**	**-1.2**
JIH				S	**Sn**	**15 29 57.7**	**-1.8**
JZK	**Kikaishima**	**2.46**	**359**	*e*S	**Sn**	**15 30 05.1**	**-1.3**
JAMN	**Amaminishikomi**	**2.50**	**343**	P	**Pn**	**15 29 36.8**	**-1.3**
JAMN				S	**Sn**	**15 30 04.3**	**-3.1**
JAM	**Amami Oshima**	**2.58**	**352**	P	**Pn**	**15 29 38.0**	**-1.2**
JAM				S	**Sn**	**15 30 06.4**	**-3.0**
JAGN	**Aguni-jima**	**2.60**	**287**	P	**Pn**	**15 29 38.2**	**-1.2**
JAGN				S	**Sn**	**15 30 07.8**	**-1.9**
JKE	**Kume jima 2**	**2.94**	**280**	P	**Pn**	**15 29 42.0**	**-2.1**
JKE				S	**Sn**	**15 30 14.9**	**-3.3**
JTAJ	**Takarajima**	**3.37**	**348**	P	**Pn**	**15 29 48.6**	**-1.5**
JTAJ				*e*S	**Sn**	**15 30 26.3**	**-2.6**
JNU	**Nakatsue**	**7.29**	**6**	Pn	**Pn**	**15 30 44.8**	**+0.8**
	0.5nm,0.3s,baz=180,slow=11,SNR=7.3						
JNU				LR	LR	15 33 40.9	
	comp=Z,31nm,21.5s,baz=216,slow=38						
KSAR	**Wonju Array Be**	**11.70**	**352**	Pn	**Pn**	**15 31 45.3**	**+1.0**
KSRS	**Korea Array**	**11.71**	**352**	Pn	**Pn**	**15 31 45.3**	**+0.9**
	0.1nm,0.3s,baz=174,slow=14,SNR=4.1						
KSRS				LR	LR	15 36 18.9	
	comp=Z,47nm,20.6s,baz=160,slow=38						
USRK	**Ussuriysk Ar.**	**18.38**	**5**	P	**Pn**	**15 33 13.0**	**+1.1**
	0.2nm,0.3s,baz=157,slow=10,SNR=4.2						
GUMO	**Guam**	**18.53**	**128**	LR	LR	15 38 36.0	
	comp=Z,31nm,21.0s,baz=340,slow=31						
MK31	**Makanchi Array**	**42.99**	**312**	*e*P	P	15 36 58.9	+3.2
MKAR	**Makanchi Array**	**42.99**	**312**	P	**P**	**15 36 56.9**	**+1.1**
	0.6nm,0.7s,baz=104,slow=9.6,SNR=20						
ZALV	**Zalesovo Beam**	**43.53**	**322**	P	**P**	**15 37 00.9**	**+1.0**
	1.7nm,0.7s,baz=106,slow=7.6,SNR=8.2						
WRAB	**Tennant Creek**	**45.70**	**174**	*e*P	**P**	**15 37 17.8**	**+0.2**
	3.7nm,0.8s						
WRA	**Warramunga Arr**	**45.71**	**174**	P	**P**	**15 37 17.2**	**-0.4**
	1.3nm,0.7s,baz=354,slow=8.5,SNR=8.5						
KURK	**Kurchatov**	**46.20**	**317**	*e*P	**P**	**15 37 23.1**	**+1.8**
	1.9nm,0.8s						
AS31	**Alice Springs**	**49.36**	**175**	*e*P	**P**	**15 37 47.0**	**+0.9**
ASAR	**Alice Springs**	**49.36**	**175**	P	**P**	**15 37 46.1**	**+0.1**
	0.7nm,0.7s,baz=6.3,slow=9.3,SNR=8.3						
STKA	**Stephens Creek**	**58.45**	**168**	P	**P**	**15 38 52.5**	**+0.2**
	1.4nm,0.6s,baz=25,slow=6.2,SNR=5.3						
BRTR	**Keskin Array B**	**78.53**	**309**	P	**P**	**15 40 59.1**	**+1.1**
	0.9nm,0.9s,baz=88,slow=2.8,SNR=4.0						
NOA	**NORSAR Array B**	**80.36**	**334**	P	**P**	**15 41 08.4**	**+1.0**
	0.8nm,0.7s,baz=52,slow=5.3,SNR=3.8						
NOA				LR	LR	16 20 28.4	
	comp=Z,8.5nm,18.1s,baz=265,slow=38						

*IDC **14** 15:38:08.8±0.8, 17°.46S×167°.83E, h0km, mb4.0/12, mb1 4.2/13, mb1mx4.1/31, mbtmp4.1/13, ML4.0/1, MS3.5/4, Ms1 3.6/4, ms1mx3.0/24, Error ellipse: s-maj=26.1km s-min=17.7km az=94.0*

*ISCJB **14** 15:38:11.5±0.5, 17°.53S±0°.07×167°.74E±0°.08, h27km, mb4.1/13, MS3.6/4, Error ellipse: s-maj=11.2km s-min=10.0km az=153.4*

*NEIC **14** 15:38:14.3±2.3, 17°.50S×167°.73E, h34km±17km, mb4.4/3, Error ellipse: s-maj=9.2km s-min=8.1km az=211.0*

ISC 14 15:38:13.3±0.6, 17°.62S±0°.06×167°.7E±0°.1, h27km, n38, σ1°31/38, mb4.2/13, MS3.6/4, 4C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.57**	**194**	*e*Pn	**Pn**	**15 39 21.6**	**+0.7**
	43nm,0.4s						
DZM				*e*Sn	**Sn**	**15 40 12.7**	**-0.5**
	109nm,0.4s						
DZM				*e*LR	LR	15 40 38.5	
	1μm,25.6s						
DZM	**Mont Dzumac**	**4.57**	**194**	Pn	**Pn**	**15 39 21.9**	**+1.0**
	6.5nm,0.3s,baz=90,slow=20,SNR=56						
DZM				Sn	**Sn**	**15 40 09.8**	**-3.4**
	6.1nm,0.3s,baz=270,slow=20,SNR=4.1						
DZM	**Mont Dzumac**	**4.57**	**194**	*e*Pn	**Pn**	**15 39 21.4**	**+0.6**
DZM				Sn	**Sn**	**15 40 09.8**	**-3.4**
MSVF	**Nonsavu**	**9.90**	**92**	P	**Pn**	**15 40 34.9**	**+0.9**
HNR	**Honiara**	**11.07**	**316**	P	**Pn**	**15 40 52.0**	**+2.0**
HNR	**Honiara**	**11.07**	**316**	P	**Pn**	**15 40 48.3**	**-1.7**
	120nm,0.8s						
CTA	**Charters Tower**	**20.41**	**260**	P	Pn	15 42 50.9	+0.2
	7.1nm,1.1s,baz=85,slow=17,SNR=1.6						
CTAO	**

IDC **14** *16:22:41.5±37.0, 8°.85N×126°.92E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/24, mbtmp3.8/3, Error ellipse: s-maj=650.0km s-min=246.2km az=153.0*

ISC 14 16:22:36.0±2.1, 10°.0N±0°.2×126°.1E±0°.1, h35km, n14, σ1s 81/10, mb3.8/3, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.67**	**248**	*i*	**Pn**	**16 22 50.7**	**+1.6**
SCPH				*e*	**Sn**	**16 22 57.8**	**-0.6**
PLP	**Palo**	**1.59**	**315**	↑ *e*	Pn	16 23 09.4	+7.7
PLP				*e*	Sn	16 23 36.0	+15
BIPH	**Bislig**	**1.85**	**173**	↑ *e*	**Pn**	**16 23 08.4**	**+3.1**
BIPH				*e*	**Sn**	**16 23 25.6**	**-1.9**
CGP	**Cagayan de Oro**	**2.11**	**222**	↓ *e*	**Pn**	**16 23 10.2**	**+1.4**
TBP	**Tagbilaran**	**2.25**	**262**	*e*	**Pn**	**16 23 12.2**	**+1.4**
TBP				*e*	**Sn**	**16 23 37.1**	**-0.4**
WRA	**Warramunga Arr**	**30.87**	**165**	P	**P**	**16 28 47.7**	**-1.6**
	0.4nm,0.7s,baz=347,slow=9.3,SNR=3.3						
ASAR	**Alice Springs**	**34.35**	**167**	P	**P**	**16 29 18.8**	**-0.9**
	0.4nm,0.3s,baz=351,slow=7.1,SNR=35						
H11S3	**WAKE ISLAND Hy**	**40.12**	**73**	T	T	17 13 14.4	
	baz=276,slow=74,SNR=9.8						
H11S1	**WAKE ISLAND Hy**	**40.14**	**73**	T	T	17 13 13.4	
	baz=276,slow=74,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**40.14**	**73**	T	T	17 13 13.8	
	baz=276						
H11N1	**WAKE ISLAND Hy**	**40.47**	**71**	T	T	17 13 41.2	
	baz=264,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**40.47**	**71**	T	T	17 13 40.0	
	baz=264,slow=75,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**40.48**	**71**	T	T	17 13 42.6	
	baz=264,slow=75,SNR=14						
STKA	**Stephens Creek**	**44.23**	**161**	P	**P**	**16 30 41.8**	**-0.2**
	1.4nm,0.4s,baz=340,slow=7.9,SNR=10						

BJI **14** *16:52:38.8, 0°.15S×98°.43E, h6km, mb4.4/29, mB4.7/20, Ms4.3/21, Ms7 4.1/16*

KLM **14** *16:52:41.8, 0°.15N×98°.06E, h3km, mb4.6, ML4.6, MS6.0*

ISCJB **14** *16:52:42.8±0.9, 0°.27N±0°.03×98°.28E±0°.03, h9km±5km, mb4.3/43, MS3.6/6, Error ellipse: s-maj=6.6km s-min=4.6km az=42.5*

IDC **14** *16:52:43.3±0.5, 0°.36N×98°.42E, h0km, mb4.2/22, mb1 4.3/26, mb1mx4.2/38, mbtmp4.2/26, ML4.0/4, MS3.6/5, Ms1 3.6/5, ms1mx3.1/37, Error ellipse: s-maj=15.1km s-min=11.6km az=61.0*

NEIC **14** *16:52:44.5±1.4, 0°.34N×98°.35E, h7km±8km, mb4.5/11, Error ellipse: s-maj=7.7km s-min=4.9km az=45.0*

MOS **14** *16:52:46.8±0.9, 0°.40N×98°.47E, h36km, mb4.5/33, Error ellipse: s-maj=12.4km s-min=7.3km az=106.7*

DJA **14** *16:52:48.2±0.3, 0°.7N±3°×9°.8E±°, h30km, M4.8/13, mb4.8/11, mB5.3/6, MLv4.8/13, Mw(mB)4.7/6*

ISC 14 16:52:45.5±0.5, 0°.26N±0°.04×98°.32E±0°.04, h14km±2km, h14km:pP-P, n141, σ1s 56/156, mb4.4/43, MS3.6/6, 7C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.27**	**324**	P	**Pn**	**16 53 06.8**	**-2.0**
GSI				S	**Sb**	**16 53 25.1**	**-0.3**
GSI	**Gunungsitoli**	**1.27**	**324**	*e*Pg	**Pn**	**16 53 07.3**	**-1.5**
MNSI	**Mandailing Nat**	**1.37**	**67**	P	**Pn**	**16 53 09.8**	**-0.4**
MNSI				S	**Sg**	**16 53 28.9**	**-0.9**
PSI	**Prapat**	**2.59**	**14**	Pn	**Pn**	**16 53 24.1**	**-3.1**
	24nm,0.3s,baz=184,slow=13,SNR=31						
PSI	**Prapat**	**2.59**	**14**	P	**Pn**	**16 53 24.1**	**-3.1**
PSI				pmax	pmax		
	comp=Z,24nm,0.3s						
BKNI	**Bangkinang**	**2.73**	**89**	P	**Pb**	**16 53 32.6**	**-1.4**
BKNI				S	**Sg**	**16 54 10.0**	**-3.1**
BKNI	**Bangkinang**	**2.73**	**89**	Pn	**Pn**	**16 53 29.1**	**+0.2**
BKNI				*e*Pg	**Pg**	**16 53 37.2**	**-0.5**
SNSI	**Sinabang, Aceh**	**2.92**	**317**	P	**Pn**	**16 53 31.1**	**-0.3**
TSI	**Tuntungan**	**3.23**	**4**	P	**Pn**	**16 53 37.5**	**+1.8**
SDSI	**Sungai Dareh**	**3.33**	**111**	P	**Pg**	**16 53 46.7**	**-2.7**
PPSI	**Pulau Pagai**	**3.45**	**151**	P	**Pb**	**16 53 44.4**	**-2.0**
FRIM	**Kepong**	**4.44**	**48**	↑P	Pb	16 53 59.4	-3.8
IPM	**Ipoh**	**4.99**	**33**	↓P	**Pn**	**16 54 00.7**	**+0.7**
IPM	**Ipoh**	**4.99**	**33**	*e*Pn	**Pn**	**16 54 00.7**	**+0.7**
KGM	**Kluang**	**5.30**	**71**	↓P	**Pn**	**16 54 04.2**	**0.0**
JMBI	**JAMBI**	**5.65**	**109**	P	Pg	16 54 37.7	+4.0
MYKOM	**Kota Tinggi**	**5.74**	**75**	↓P	**Pn**	**16 54 10.4**	**+0.2**
MNAI	**Manna**	**6.53**	**135**	P	**Pn**	**16 54 23.8**	**+2.7**
	comp=Z,159nm,0.7s,comp=Z,0.9nm						
LHSI	**Lahat**	**6.60**	**128**	P	Pn	16 54 26.8	+4.7
	comp=Z,82nm,0.9s,comp=Z,0.4nm						
KTGM	**Kuala Trenggan**	**6.96**	**44**	↑P	**Pn**	**16 54 29.8**	**+2.7**
MDSI	**Maura Dua**	**7.52**	**129**	P	**Pn**	**16 54 36.9**	**+2.1**
	comp=Z,48nm,1.1s,comp=Z,536nmcomp=Z,0.1nm						
LWLI	**Liwa**	**7.77**	**133**	P	Pn	16 54 44.6	+6.3
KLSI		**8.08**	**128**	P	Pn	16 54 45.6	+3.2
	comp=Z,53nm,0.8s,comp=Z,5μm						
KASI	**Kota Agung**	**8.43**	**133**	P	**Pn**	**16 54 49.3**	**+2.0**
	comp=Z,65nm,1.1s,comp=Z,761nm						
CGJI	**Cibinong**	**10.04**	**133**	P	**Pn**	**16 55 09.4**	**0.0**
	comp=Z,24nm,0.8s,comp=Z,3μm						
CNJI	**Cibinong**	**11.57**	**131**	P	**Pn**	**16 55 28.3**	**-2.0**
LEM	**Lembang**	**11.65**	**127**	Pn	**Pn**	**16 55 32.9**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=290,slow=16,SNR=2.3						
LEM	**Lembang**	**11.65**	**127**	P	**Pn**	**16 55 32.9**	**+1.3**
LEM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSM	**Kuching**	**12.05**	**84**	↑P	**P**	**16 55 51.9**	**+2.1**
CISI	**Cisompet, Garu**	**12.25**	**130**	P	**Pn**	**16 55 42.1**	**+2.4**
	comp=Z,51nm,0.7s						
CISI	**Cisompet, Garu**	**12.25**	**130**	*e*Pn	**Pn**	**16 55 38.8**	**-0.9**
	comp=Z,32nm,0.6s						
CMJI	**Cimerak**	**12.88**	**129**	P	**Pn**	**16 55 46.2**	**-2.1**
	comp=Z,42nm,1.0s						
KPJI	**Karang Pucung**	**13.00**	**126**	P	**Pn**	**16 55 48.6**	**-1.3**
SBUM	**Sibu**	**14.07**	**81**	↓P	**P**	**16 56 14.1**	**+1.9**
BTM	**Bintulu**	**15.05**	**79**	↑P	**P**	**16 56 25.6**	**+2.5**
CM31	**Chiang Mai Arr**	**18.09**	**2**	*e*P	**Pn**	**16 56 55.9**	**-0.7**
	comp=Z,3.5nm,0.3s						
CMAR	**Chiang Mai Arr**	**18.09**	**2**	P	**Pn**	**16 56 55.9**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=193,slow=11,SNR=16						
CMAR				LR	LR	17 05 19.9	
	comp=Z,172nm,18.3s,baz=188,slow=42						
KKM	**Kota Kinabalu**	**18.77**	**72**	*e*P	**Pn**	**16 57 06.0**	**+1.1**
	comp=Z,28nm,0.8s						
PALK	**Pallekele**	**18.89**	**292**	P	**Pn**	**16 57 07.5**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=113,slow=13,SNR=2.6						
TSM	**Tawau**	**19.94**	**78**	↑P	**Pn**	**16 57 18.4**	**-0.6**
QIZ	**Qiongzhong**	**21.81**	**31**	P	**P**	**16 57 38.3**	**+0.9**
QIZ				S	**S**	**17 01 42.3**	**+3.9**
QIZ				LN			
	comp=Z,240nm,15.9s						
QIZ				LE			
	comp=Z,190nm,12.8s						
KAPI	**Kappang**	**22.04**	**104**	P	**P**	**16 57 39.9**	**0.0**
	comp=Z,3.1nm,0.6s,baz=270,slow=16,SNR=2.3						
LUWI	**Luwuk**	**24.49**	**93**	*e*P	**P**	**16 58 05.4**	**+0.9**
	comp=Z,25nm,0.6s						
KMI	**Kunming**	**25.08**	**9**	P	**P**	**16 58 10.1**	**+0.1**
KMI				S	**S**	**17 02 34.0**	**-0.4**
KMI				PMZ			
	comp=Z,3.0nm,1.3s						
KMI				LN			
	comp=Z,240nm,13.3s						
KMI				LE			
	comp=Z,210nm,16.2s						
KMI				LZ			
	comp=Z,250nm,14.8s						
H08S2	**Diego Garcia H**	**26.92**	**252**	T	T	17 26 26.7	
	baz=74						
H08S3	**Diego Garcia H**	**26.92**	**253**	T	T	17 26 27.1	
	baz=74						
H08S1	**Diego Carcia H**	**26.94**	**253**	T	T	17 26 28.2	
	baz=74						
LSA	**Lhasa**	**30.06**	**347**	*e*P	**P**	**16 58 55.3**	**+0.4**
	comp=Z,8.2nm,0.8s						
CD2	**Chengdu**	**30.92**	**9**	*e*P	**P**	**16 59 03.0**	**+1.1**
CD2				pP	**pP**	**16 59 04.9**	**-1.4**
CD2				S	**S**	**17 04 10.1**	**+4.3**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
SIJI	**Sorong**	**32.97**	**92**	LR	LR	17 13 46.4	
	comp=Z,80nm,21.5s,baz=126,slow=38						
WHN	**Wuhan**	**33.75**	**25**	P	**P**	**16 59 28.5**	**+1.8**
XAN	**Xi'an**	**35.04**	**15**	P	**P**	**16 59 36.3**	**-1.7**
XAN				PP	**PnPn**	**17 00 52.8**	**-2.5**
XAN				S	**S**	**17 05 06.3**	**-3.6**
XAN				PMZ			
	comp=Z,12nm,4.7s						
XAN				LN			
	comp=Z,120nm,13.7s						
XAN				LE			
	comp=Z,62nm,14.9s						
LZH	**Lanzhou**	**36.01**	**8**	*e*P	**P**	**16 59 47.3**	**+0.9**
LZH				pP	**pP**	**16 59 50.3**	**-0.5**
LZH				sP	**sP**	**16 59 52.1**	**-0.5**
LZH				PMZ			
	comp=Z,13nm,1.0s						
NJ2	**Nanjing**	**37.10**	**30**	*e*P	**P**	**16 59 54.3**	**-1.2**
NJ2				S	**S**	**17 05 43.0**	**+1.6**
NJ2				LN			
	comp=Z,450nm,16.2s						
NJ2				LE			
	comp=Z,390nm,12.6s						
NJ2				LZ			
	comp=Z,570nm,23.3s						
NWAO	**Narrogin (SRO)**	**37.52**	**153**	P	**P**	**16 59 59.6**	**+0.5**
	comp=Z,8.6nm,0.8s,baz=330,slow=9.6,SNR=3.2						
NWAO	**Narrogin (SRO)**	**37.52**	**153**	P	**P**	**16 59 59.6**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GTA	**Gaotai**	**38.99**	**2**	*e*P	**P**	**17 00 11.3**	**-0.2**
GTA				pP	**pP**	**17 00 15.8**	**-0.2**
GTA				sP	**sP**	**17 00 18.3**	**+0.5**
GTA				S	**ScP**	**17 06 12.0**	**+2.0**
GTA				sS	**sS**	**17 06 20.0**	**+2.6**
GTA				SS	**SnSn**	**17 08 59.0**	**-2.5**
GTA				PMZ			
	comp=Z,5.0nm,1.5s						
GTA				PMZ			
	comp=Z,100nm,4.5s						
GTA				LN			
	comp=Z,65nm,17.1s						
GTA				LE			
	comp=Z,140nm,18.1s						
WRA	**Warramunga Arr**	**40.60**	**122**	P	**P**	**17 00 23.5**	**-1.6**
	comp=Z,1.5nm,0.7s,baz=302,slow=9.0,SNR=6.8						
WRA				PcP	**PcP**	**17 02 27.6**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=306,slow=2.8,SNR=4.0						
WRA	**Warramunga Arr**	**40.60**	**122**	P	**P**	**17 00 23.5**	**-1.6**
WRA						17 02 27.6	
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRAB	**Tennant Creek**	**40.60**	**122**	*e*P	P	17 00 33.0	+7.9
WRAB				pmax	pmax		
	comp=Z,20nm,1.3s						
ASAR	**Alice Springs**	**41.94**	**127**	P	**P**	**17 00 35.0**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=298,slow=7.7,SNR=24						
ASAR				PcP	**PcP**	**17 02 31.6**	**0.0**
	comp=Z,1.1nm,0.6s,baz=306,slow=3.1,SNR=7.0						
ASAR				LR	LR	17 20 31.5	
	comp=Z,76nm,19.2s,baz=298,slow=40						
ASAR	**Alice Springs**	**41.94**	**127**	P	**P**	**17 00 35.1**	**-1.1**
ASAR						17 02 31.6	
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR				MLR	MLR		
	comp=Z,76nm,19.2s						
AS31	**Alice Springs**	**41.94**	**127**	*e*P	**P**	**17 00 35.0**	**-1.1**
HHC	**Hu-ho-hao-te**	**42.15**	**15**	*e*P	**P**	**17 00 37.8**	**+0.1**
HHC				PP	PP	17 02 21.0	+5.6
HHC				S	**S**	**17 07 01.8**	**+4.6**
HHC				SS	**SS**	**17 10 03.8**	**-1.5**
HHC				PMZ			
	comp=Z,16nm,0.9s						
HHC				PMZ			
	comp=Z,61nm,5.2s						
HHC				LN			
	comp=Z,230nm,13.5s						
HHC				LE			
	comp=Z,150nm,12.7s						
HHC				LZ			
	comp=Z,180nm,13.1s						
BJI	**Beijing**	**42.81**	**20**	P	**P**	**17 00 43.3**	**+0.5**
BJI				S	**S**	**17 07 08.3**	**+1.7**
BJI				PMZ			
	comp=Z,30nm,0.7s						
BJI				PMZ			
	comp=Z,98nm,4.3s						
BJI				LN			
	comp=Z,140nm,13.6s						
BJI				LE			
	comp=Z,160nm,13.2s						
KSH	**Kashi**	**44.08**	**335**	*e*P	**P**	**17 00 55.3**	**+2.0**
KSH				sP	**sP**	**17 01 02.4**	**+2.8**
WMQ	**Urumqi**	**44.39**	**349**	P	**P**	**17 00 57.0**	**+1.3**
WMQ				PMZ			
	comp=Z,9.0nm,0.4s						
WMQ				PMZ			
	comp=Z,52nm,4.1s						
JNU	**Nakatsue**	**44.79**	**40**	P	**P**	**17 00 57.0**	**-1.9**
	comp=Z,7.1nm,0.8s,baz=192,slow=5.2,SNR=5.4						
TJN	**Taejon**	**44.91**	**34**	*e*P	**P**	**17 00 58.1**	**-1.7**
KSAR	**Wonju Array Be**	**45.97**	**33**	P	**P**	**17 01 07.0**	**-1.2**
KSRS	**Korea Array**	**46.00**	**33**	P	**P**	**17 01 07.0**	**-1.4**
	comp=Z,5.2nm,0.8s,baz=222,slow=8.5,SNR=42						
KSRS	**Korea Array**	**46.00**	**33**	P	**P**	**17 01 07.0**	**-1.4**
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TKM2	**Tokmak 2**	**47.11**	**337**	*e*P	**P**	**17 01 16.4**	**-0.9**
	comp=Z,3.3nm,0.8s						
EKS2	**Erkin-Say**	**47.62**	**335**	*e*P	**P**	**17 01 21.9**	**+0.7**
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**47.90**	**7**	P	**P**	**17 01 22.8**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=193,slow=6.1,SNR=5.5						
SONM	**Songino Array**	**47.90**	**7**	P	**P**	**17 01 22.8**	**-0.5**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MK31	**Makanchi Array**	**48.42**	**345**	*e*P	**P**	**17 01 27.1**	**-0.1**
MKAR	**Makanchi Array**	**48.42**	**345**	P	**P**	**17 01 27.1**	**-0.1**
	comp=Z,3.4nm,0.5s,baz=156,slow=8.1,SNR=58						
MKAR				LR	LR	17 25 30.2	
	comp=Z,32nm,18.0s,baz=157,slow=41						
MKAR	**Makanchi Array**	**48.42**	**345**	P	**P**	**17 01 27.1**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,32nm,18.0s						
KKAR	**Karatay Array**	**49.39**	**333**	*e*P	**P**	**17 01 34.9**	**+0.2**
CN2	**Changchun**	**49.65**	**26**	*e*P	**P**	**17 01 37.3**	**+0.7**
ZAK	**Zakamensk**	**50.11**	**4**	*e*P	**P**	**17 01 37.8**	**-2.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s						
TLY	**Talaya**	**51.43**	**4**	*e*P	**P**	**17 01 51.0**	**+1.0**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TLY				MLR	MLR		
	comp=Z,146nm,17.0s						
STKA	**Stephens Creek**	**51.90**	**132**	P	**P**	**17 01 54.1**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=319,slow=8.3,SNR=5.4						
STKA				LR	LR	17 25 03.7	
	comp=Z,92nm,20.2s,baz=229,slow=37						
STKA	**Stephens Creek**	**51.90**	**132**	P	**P**	**17 01 54.1**	**+0.2**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
STKA				MLR	MLR		
	comp=Z,92nm,20.2s						
STKA	**Stephens Creek**	**51.90**	**132**	*e*P	**P**	**17 01 54.8**	**+0.9**
	comp=Z,0.5nm,0.6s						
MDJ	**Mudanjiang**	**52.15**	**28**	P	**P**	**17 01 56.4**	**+0.9**
MDJ				PMZ			
	comp=Z,3.0nm,0.7s						
MDJ				PMZ			
	comp=Z,26nm,3.4s						
HIA	**Hailar**	**52.18**	**18**	*e*P	**P**	**17 01 54.3**	**-1.4**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**52.98**	**344**	*e*P	**P**	**17 02 01.4**	**-0.2**
	comp=Z,6.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**53.01**	**30**	P	**P**	**17 02 00.9**	**-0.9**
	comp=Z,5.4nm,1.0s,baz=216,slow=7.1,SNR=8.7						
OPO	**Ambohidratompo**	**53.57**	**247**	P	**P**	**17 02 08.0**	**+1.4**
	comp=Z,3.0nm,0.8s,baz=92,slow=6.7,SNR=2.6						
ZAA0	**Zalesovo Array**	**54.66**	**350**	*e*P	**P**	**17 02 11.8**	**-1.9**
ZALV	**Zalesovo Beam**	**54.66**	**350**	P	**P**	**17 02 13.3**	**-0.4**
	comp=Z,3.8nm,0.6s,baz=165,slow=6.0,SNR=27						
ZALV	**Zalesovo Beam**	**54.66**	**350**	P	**P**	**17 02 13.3**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NVS	**Novosibirsk**	**55.79**	**350**	*e*P	**P**	**17 02 21.0**	**-0.9**
NVS				pmax	pmax		
	comp=N,3.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,2.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KLR	**Kul'dur**	**56.60**	**26**	*e*P	P	17 02 23.0	-4.8
BRVK	**Borovoye**	**57.56**	**340**	*e*P	**P**	**17 02 33.6**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BOD	**Bodaibo**	**58.73**	**10**	*e*P	**P**	**17 02 42.0**	**-0.6**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ABKAR	**Akbulak array**	**58.86**	**332**	*e*P	**P**	**17 02 42.8**	**-1.0**
	comp=Z,3.7nm,0.8s						
KMBO	**Kilima Mbogo**	**61.08**	**269**	P	**P**	**17 03 00.6**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=43,slow=8.5,SNR=4.1						
KMBO	**Kilima Mbogo**	**61.08**	**269**	*c*eP	**P**	**17 03 02.0**	**+2.1**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GNI	**Garni**	**62.74**	**316**	*e*P	**P**	**17 03 09.6**	**-0.9**
GNI				pmax	pmax		
	comp=Z,5.0nm,1.3s						
SVE	**Sverdlovsk**	**63.97**	**338**	*e*P	**P**	**17 03 18.0**	**-0.1**
ARU	**Arti**	**64.48**	**337**	*d i*P	**P**	**17 03 21.0**	**-0.4**
ARU						17 05 38.3	
ARU				S	**S**	**17 11 57.6**	**-2.3**
ARU				SS	**SS**	**17 16 04.3**	**-6.0**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KBZ	**Khabaz**	**65.51**	**319**	P	**P**	**17 03 28.5**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=122,slow=6.1,SNR=7.5						
KBZ	**Khabaz**	**65.51**	**319**	P	**P**	**17 03 28.5**	**+0.1**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIV	**Kislovodsk**	**65.74**	**319**	*e*P	**P**	**17 03 29.5**	**-0.6**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,27nm,17.0s						
YAK	**Yakutsk**	**66.01**	**16**	*e*P	**P**	**17 03 29.5**	**-1.8**
YAK				*e*		17 04 02.4	
YAK				*e*S	S	17 12 12.0	-6.5
YAK				*e**SS	sS	17 12 52.6	+26
YAK				*e*		17 13 15.7	
YAK				*e*SS	**SS**	**17 16 36.9**	**+3.0**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.5s						
YAK				pmax	pmax		
	comp=Z,66nm,3.3s						
YAK				pmax	pmax		
	comp=E,26nm,2.7s						
YAK				pmax	pmax		
	comp=N,28nm,3.0s						
YAK				smax	smax		
	comp=N,36nm,3.5s						
YAK				smax	smax		
	comp=E,20nm,3.5s						
YAK	**Yakutsk**	**66.01**	**16**	*e*P	**P**	**17 03 29.6**	**-1.6**
	comp=E,8.7nm,0.8s						
ANN	**Anapa**	**69.54**	**318**	*e**PP	P	17 03 50.0	-3.8
ANN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRTR	**Keskin Array B**	**70.56**	**312**	P	**P**	**17 03 59.5**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=129,slow=7.6,SNR=9.8						
BRTR	**Keskin Array B**	**70.56**	**312**	*ce*P	**P**	**17 03 59.4**	**-1.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MAW	**Mawson**	**72.06**	**194**	P	**P**	**17 04 10.0**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=27,slow=9.0,SNR=2.8						
MAW	**Mawson**	**72.06**	**194**	P	**P**	**17 04 10.0**	**+1.3**
MAW				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TIXI	**Tiksi**	**73.91**	**10**	*i* P	**P**	**17 04 17.8**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TIXI	**Tiksi**	**73.91**	**10**	*e*P	**P**	**17 04 18.4**	**-1.3**
	comp=Z,2.3nm,0.6s						
OBN	**Obninsk**	**74.00**	**328**	*e*P	**P**	**17 04 21.3**	**+0.8**
OBN				pmax	pmax		
	comp=Z,8.0nm,1.4s						
SEY	**Seymchan**	**74.19**	**23**	*i* P	**P**	**17 04 21.6**	**+0.2**
BOSA	**Boshof**	**75.28**	**240**	P	**P**	**17 04 29.3**	**+0.6**
	comp=Z,3.3nm,1.0s,baz=63,slow=4.5,SNR=1.8						
BOSA	**Boshof**	**75.28**	**240**	P	**P**	**17 04 29.3**	**+0.6**
BOSA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BUR08	**Bucovina Ar. S**	**78.48**	**319**	*e*P	**P**	**17 04 46.8**	**+0.5**
KOLS	**Kolonicke sedl**	**80.65**	**320**	*e*P	**P**	**17 04 58.5**	**+0.5**
KOLS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KOLS	**Kolonicke sedl**	**80.65**	**320**	*e*P	**P**	**17 04 58.5**	**+0.5**
KOLS				*e*PCP	**pP**	**17 05 02.3**	**-0.4**
FINES	**FINESS Array B**	**81.34**	**332**	P	**P**	**17 05 01.2**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=120,slow=6.8,SNR=9.1						
FINES	**FINESS Array B**	**81.34**	**332**	P	**P**	**17 05 01.2**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
STHS	**Stebnicka Huta**	**81.40**	**320**	*e*P	**P**	**17 05 02.9**	**+0.9**
STHS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
STHS	**Stebnicka Huta**	**81.40**	**320**	*e*P	**P**	**17 05 02.9**	**+0.9**
BILL	**Bilibino**	**81.64**	**21**	*e*P	**P**	**17 05 02.5**	**-0.3**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.2s						
KECS	**Kecovo**	**81.74**	**319**	*e*P	**P**	**17 05 02.4**	**-1.4**
KECS				pmax	pmax		
	comp=Z,424nm,7.1s						
KECS	**Kecovo**	**81.74**	**319**	*e*P	**P**	**17 05 02.4**	**-1.4**
ARCES	**ARCESS Array B**	**83.79**	**340**	P	**P**	**17 05 13.9**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=95,slow=4.7,SNR=15						
ARCES	**ARCESS Array B**	**83.79**	**340**	P	**P**	**17 05 13.9**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VNDA	**Vanda**	**84.69**	**169**	P	**P**	**17 05 19.5**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=323,slow=7.2,SN

KASI S Sn 17 12 07.7 +0.9
CGJI Cibinong 4.06 116 P Pn 17 11 56.6 +0.1
CISI Cisompet, Garu 6.36 115 P Pn 17 12 27.3 -1.0

NIED **14** *17:17:00.24˙00N×121˙70E,h5km,Mw4.8 Best double couple: M₀1.58000×10¹⁶ NP1:φ₁252.00000°,δ9.00000°, λ112.00000°. NP2:φ₂50.00000°,δ81.00000°,λ86.00000°.*
IDC **14** *17:17:41.8±0.5,24˙05N×121˙76E,h0km,mb4.2/19, mb1 4.3/22,mb1mx4.2/40,mbtmp4.1/22,ML3.3/3,MS3.7/12, Ms1 3.7/12,ms1mx3.4/33,Error ellipse: s-maj=17.5km s-min=13.1km az=69.0*
MOS **14** *17:17:43.6±0.9,24˙10N×121˙80E,h26km,mb4.5/24,Error ellipse: s-maj=14.2km s-min=7.6km az=101.3*
NEIC **14** *17:17:44.3±0.6,24˙04N×121˙73E,h14km±3km,mb4.4/14, ML4.8(TAP),Error ellipse: s-maj=5.7km s-min=4.6km az=126.0*
NEIC Felt at T'ao-yuan. Recorded [4 TAP] in Hua-lien; [3 TAP] in Nan-t'ou; [2 TAP] in I-lan, T'ai-chung and Yun-lin; [1 TAP] in Chang-hua, Hsin-chu, Miao-li, T'ai-tung and T'ao-yuan.
JMA **14** *17:17:44.2±0.2,24˙00N×121˙67E,h7km±3km,M4.4*
BJI **14** *17:17:44.6,24˙11N×121˙65E,h6km,mb4.3/28,mB4.4/19, ML4.6/9,Ms4.4/31,Ms7 4.3/27*
TAP **14** *17:17:45.8,24˙05N×121˙63E,h16km,ML4.8,B*
ISCJB **14** *17:17:45.6±0.2,24˙05N±0˙01×121˙68E±0˙01,h29km±1km, mb4.3/41,MS3.7/12,Error ellipse: s-maj=2.5km s-min=1.7km az=139.0*

ISC 14 17:17:44.2±0.5**,24°03N**±0˙02×**121°71E**±0˙01**,h14**km±2km**, n206,**σ1**$10**/270**,mb4.4**/49**,MS3.7**/12**,14C-27D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.11**	**240**	⇓*i*P			**Pb**	**17 17 49.4**	**+1.3**
	baz=188								
TWD	**Chiawan**	**0.11**	**295**	⇑*i*P			**Pb**	**17 17 48.8**	**+0.7**
TWD				*e*S			**Sb**	**17 17 50.9**	**+0.2**
	baz=327								
NACB	**Ninganchiao**	**0.17**	**323**	*e*P			**Pg**	**17 17 48.8**	**+0.4**
ESF	**Shoufeng Towns**	**0.24**	**229**	⇓*i*P			**Pb**	**17 17 51.5**	**+1.1**
	baz=218								
ESF				*e*S			**Sb**	**17 17 55.2**	**+0.7**
	baz=218								
EHP	**Heping Village**	**0.28**	**6**	*e*P			**Pb**	**17 17 52.5**	**+1.5**
	baz=22								
EHP				*e*S			**Sb**	**17 17 56.9**	**+1.4**
	baz=22								
ESL	**Shilin**	**0.33**	**229**	⇑*i*P			**Pg**	**17 17 52.0**	**+0.9**
	baz=215								
TEGC	**Jichi Village**	**0.36**	**206**	⇓*i*P			**Pn**	**17 17 54.3**	**-0.6**
	baz=189								
TEGC				*e*S			**Sn**	**17 18 01.7**	**-0.1**
	baz=189								
ENA	**Nanau**	**0.40**	**4**	⇑*i*P			**Pb**	**17 17 53.8**	**+0.8**
	baz=9.0								
WHF	**Hehuan Shan**	**0.42**	**286**	⇑*i*P			**Pg**	**17 17 53.3**	**+0.5**
	baz=286								
NNS	**Nan Shan**	**0.51**	**323**	⇑*i*P			**Pb**	**17 17 55.2**	**+0.2**
	baz=329								
NNS				*e*S			**Sg**	**17 18 01.9**	**+0.7**
	baz=329								
TWT	**Tachien**	**0.53**	**294**	⇑*i*P			**Pb**	**17 17 55.8**	**+0.4**
	baz=295								
TWT				*i* S			**Sg**	**17 18 02.4**	**+0.3**
	baz=295								
TWC	**Suao**	**0.59**	**13**	⇓*i*P			**Pn**	**17 17 57.8**	**-0.3**
	baz=15								
TWC				*e*S			**Sb**	**17 18 05.6**	**+1.1**
	baz=15								
ENTT	**Nioudou**	**0.62**	**348**	⇑*i*P			**Pb**	**17 17 57.6**	**+0.8**
	baz=354								
ENTT				S			**Sb**	**17 18 06.1**	**+0.7**
	baz=354								
EHY	**Hungye**	**0.63**	**214**	⇓*i*P			**Pg**	**17 17 56.7**	**+0.1**
	baz=217								
EHY				*e*S			**Sb**	**17 18 07.1**	**+1.4**
	baz=217								
TWE	**Neicheng**	**0.69**	**357**	⇑*i*P			**Pn**	**17 17 59.0**	**-0.4**
	baz=3.0								
TWE				*e*S			**Sn**	**17 18 09.5**	**-0.5**
	baz=3.0								
YHNB	**Yeheng**	**0.70**	**334**	*e*Pg			**Pg**	**17 17 58.1**	**+0.1**
NSK	**Sanguang**	**0.72**	**334**	⇑*i*P			**Pb**	**17 17 59.1**	**+0.6**
	baz=338								
NSK				*i* S			**Sg**	**17 18 08.1**	**+0.4**
	baz=338								
ILA	**Ilan**	**0.73**	**3**	*i* P			**Pn**	**17 17 59.8**	**-0.3**
	baz=2.0								
ILA				S			**Sn**	**17 18 10.4**	**-0.6**
	baz=2.0								
SSLB	**Suanglung**	**0.73**	**251**	*e*Pg			**Pg**	**17 17 58.3**	**-0.2**
YULB	**Yu-li**	**0.74**	**211**	*e*Pg			**Pg**	**17 17 57.7**	**-1.0**
SMLT	**Sun Moon Lake**	**0.76**	**259**	⇓*i*P			**Pg**	**17 17 59.4**	**+0.4**
	baz=256								
SMLT				*e*S			**Sg**	**17 18 08.2**	**-0.7**
	baz=256								
TWF1	**Yuli**	**0.78**	**209**	⇓*e*P			**Pg**	**17 17 58.8**	**-0.6**
	baz=211								
TYC	**Yuchr**	**0.79**	**261**	⇓*i*P			**Pg**	**17 17 59.8**	**+0.2**
	baz=259								
TYC				*e*S			**Sg**	**17 18 09.6**	**-0.4**
	baz=259								
EGS		**0.83**	**14**	⇑*i*P			**Pn**	**17 18 02.3**	**+0.8**
	baz=24								
EGS				*e*S			**Sn**	**17 18 13.0**	**-0.6**
	baz=24								
NSTT	**Nanjuang**	**0.88**	**313**	⇑*i*P			**Pn**	**17 18 02.2**	**0.0**
	baz=315								
NSTT				S			**Sb**	**17 18 12.9**	**0.0**
	baz=315								
YUS	**Yu-Shan**	**0.88**	**232**	⇓*i*P			**Pb**	**17 18 01.9**	**+0.4**
	baz=218								
YUS				*e*S			**Sb**	**17 18 12.5**	**-0.8**
	baz=218								
TWQ1	**Liyutan**	**0.91**	**290**	⇓*i*P			**Pg**	**17 18 02.7**	**+0.8**
	baz=300								
TWQ1				*e*S			**Sb**	**17 18 14.0**	**+0.3**
	baz=300								
NSY	**Sanyi**	**0.95**	**294**	⇓*i*P			**Pn**	**17 18 04.0**	**+0.9**
	baz=303								
NSY				*i* S			**Sg**	**17 18 15.6**	**+0.7**
	baz=303								
WNT	**Mingjian**	**0.95**	**261**	⇓*i*P			**Pn**	**17 18 03.7**	**+0.6**
	baz=259								
WNT				*e*S			**Sg**	**17 18 16.1**	**+1.0**
	baz=259								
TCU	**Taichung**	**0.95**	**277**	⇓*i*P			**Pn**	**17 18 03.9**	**+0.8**
	baz=277								
TCU				*i* S			**Sg**	**17 18 16.4**	**+1.3**
	baz=277								
TWA	**Mucha**	**0.95**	**353**	⇑*i*P			**Pn**	**17 18 03.9**	**+0.7**
	baz=350								
TWA				*e*S			**Sn**	**17 18 16.1**	**-0.4**
	baz=350								
TATO	**Taipei**	**0.96**	**348**	*e*Pg			**Pn**	**17 18 03.5**	**+0.2**
ALS	**Alishan**	**0.98**	**238**	⇓*i*P			**Pb**	**17 18 03.6**	**+0.5**
	baz=227								
ALS				*e*S			**Sb**	**17 18 16.4**	**+0.4**
	baz=227								
CHKT	**Chengkung**	**0.98**	**199**	*e*P			**Pb**	**17 18 03.1**	**+0.1**
	baz=209								
TAP1	**Taipei**	**1.02**	**350**	P			**Pn**	**17 18 05.0**	**+1.0**
	baz=351								
TAP1				*i* S			**Sn**	**17 18 17.8**	**-0.2**
	baz=351								
TAP	**Taipei**	**1.02**	**350**	*e*P			**Pn**	**17 18 05.3**	**+1.2**
	baz=351								
TAP				*e*S			**Sn**	**17 18 18.1**	**0.0**
	baz=351								
HSN	**Hsinchu**	**1.02**	**319**	*e*P			**Pn**	**17 18 05.5**	**+1.5**
	baz=334								
NWF	**Wu-fen Shan**	**1.04**	**4**	*i* P			**Pn**	**17 18 05.5**	**+1.2**
	baz=348								
NWF				*e*S			**Sn**	**17 18 19.6**	**+0.9**
	baz=348								
CHN5	**Tsauling**	**1.04**	**246**	⇓*i*P			**Pg**	**17 18 05.0**	**+0.7**
	baz=242								
NCU	**National Centr**	**1.05**	**333**	*e*P			**Pg**	**17 18 05.5**	**+1.0**
	baz=335								
NCU				*e*S			**Sn**	**17 18 20.4**	**+1.5**
	baz=335								
ELDTW	**Lidau**	**1.05**	**217**	*e*P			**Pb**	**17 18 03.7**	**-0.6**
	baz=214								
ELDTW				*e*S			**Sb**	**17 18 18.4**	**+0.5**
	baz=214								
TWS1	**Kuangyinshan**	**1.10**	**346**	*e*P			**Pg**	**17 18 05.6**	**+0.2**
	baz=1.0								
TWS1				S			**Sn**	**17 18 22.2**	**+2.2**
	baz=1.0								
WGK	**Gukeng**	**1.10**	**252**	⇓*i*P			**Pn**	**17 18 05.9**	**+0.7**
	baz=250								
WGK				*e*S			**Sn**	**17 18 21.5**	**+1.3**
	baz=250								
JYNG	**Yonaguni jima**	**1.20**	**69**	P			**Pg**	**17 18 08.1**	**+0.7**
JYNG				S			**Sg**	**17 18 23.9**	**+0.8**
CHN4	**Tsaushan**	**1.23**	**237**	⇓*i*P			**Pg**	**17 18 08.2**	**+0.3**
	baz=224								
CHN4				S			**Sg**	**17 18 25.5**	**+1.6**
	baz=224								
STYT	**Tauyuan**	**1.23**	**225**	⇓*i*P			**Pn**	**17 18 07.3**	**+0.3**
	baz=223								
STYT				*e*S			**Sg**	**17 18 24.6**	**+0.6**
	baz=223								
CHN2	**Minshiung**	**1.23**	**246**	*e*P			**Pb**	**17 18 08.0**	**+0.7**
	baz=244								
TWY	**Chenhua**	**1.24**	**355**	*e*P			**Pg**	**17 18 09.3**	**+1.1**
	baz=345								
YOJ	**Yonaguni jima**	**1.26**	**70**	P			**Pg**	**17 18 08.9**	**+0.3**
YOJ				S			**Sg**	**17 18 26.6**	**+1.6**
YOJ	**Yonaguni jima**	**1.26**	**70**	⇓*i*P			**Pg**	**17 18 09.0**	**+0.5**
	baz=88								
YOJ				*e*S			**Sg**	**17 18 26.8**	**+1.7**
	baz=88								
YOJ	**Yonaguni jima**	**1.26**	**70**	*e*Pg			**Pg**	**17 18 08.7**	**+0.1**
WTP	**Ta-pu**	**1.27**	**232**	⇓*i*P			**Pb**	**17 18 08.7**	**+0.7**
	baz=230								
WTP				*e*S			**Sg**	**17 18 26.9**	**+1.5**
	baz=230								
CHY	**Chiayi**	**1.29**	**246**	*e*P			**Pb**	**17 18 08.7**	**+0.4**
	baz=243								
WTCT	**Ta-ch'eng**	**1.32**	**263**	P			**Pb**	**17 18 09.1**	**+0.4**
	baz=262								
WTCT				S			**Sb**	**17 18 26.8**	**+1.4**
	baz=262								
TWG	**Pinlang**	**1.34**	**206**	*e*P			**Pn**	**17 18 07.0**	**-1.5**
	baz=187								
TWG	**Pinlang**	**1.34**	**206**	*e*Pg			**Pn**	**17 18 05.8**	**-2.7**
TWK	**Hsinying**	**1.35**	**236**	⇓*i*P			**Pb**	**17 18 09.8**	**+0.5**
	baz=234								
TWK				*e*S			**Sg**	**17 18 29.1**	**+1.1**
	baz=234								
CHN1	**Nanshi**	**1.37**	**232**	⇓*i*P			**Pb**	**17 18 10.1**	**+0.4**
	baz=222								
CHN1				*e*S			**Sg**	**17 18 30.8**	**+2.2**
	baz=222								
TTN	**Taitung**	**1.37**	**202**	*e*P			**Pn**	**17 18 08.3**	**-0.6**
	baz=200								
SGST	**Jiashian**	**1.40**	**228**	⇓*i*P			**Pb**	**17 18 10.7**	**+0.6**
	baz=226								
SGST				*e*S			**Sg**	**17 18 31.1**	**+1.7**
	baz=226								
WSF	**Szhu**	**1.42**	**254**	⇑*i*P			**Pb**	**17 18 10.9**	**+0.5**
	baz=253								
WSF				*e*S			**Sb**	**17 18 29.7**	**+1.4**
	baz=253								
CHN8	**Yiju**	**1.53**	**244**	*e*P			**Pn**	**17 18 11.9**	**+0.8**
	baz=243								
CHN8				*e*S			**Sg**	**17 18 33.9**	**+0.2**
	baz=243								
CHN3	**Shinhua**	**1.56**	**233**	⇓*i*P			**Pb**	**17 18 13.9**	**+1.1**
	baz=232								
CHN3				*e*S			**Sg**	**17 18 35.4**	**+1.0**
	baz=232								
ECL	**Taimali**	**1.59**	**206**	*e*P			**Pn**	**17 18 10.2**	**-1.6**
	baz=191								
SSD	**Sandimen**	**1.62**	**218**	*e*P			**Pn**	**17 18 12.9**	**+0.6**
	baz=227								
PCYT	**Pengchaiyu**	**1.62**	**12**	*e*P			**Pb**	**17 18 13.6**	**-0.4**
	baz=12								
SCLT	**Jiali**	**1.63**	**239**	⇓P			**Pb**	**17 18 14.2**	**+0.2**
	baz=238								
SCLT				*e*S			**Sb**	**17 18 35.6**	**+1.1**
	baz=238								
TAI1	**Yung-k'ang**	**1.68**	**234**	*e*P			**Pn**	**17 18 13.2**	**+0.1**
	baz=234								
TWM1	**Shoushan**	**1.69**	**225**	*e*P			**Pb**	**17 18 16.1**	**+1.1**
	baz=224								
SGLT	**Jiouru**	**1.72**	**221**	*e*P			**Pb**	**17 18 16.4**	**+0.9**
	baz=233								
TAW	**Tawu**	**1.83**	**204**	*e*P			**Pb**	**17 18 18.3**	**+0.9**
	baz=190								
IRIF	**Iriomote-Funau**	**1.87**	**80**	P			**Pb**	**17 18 17.2**	**-0.9**
IRIF				S			**Sb**	**17 18 42.5**	**+1.1**
HATJ	**Hateruma jima**	**1.92**	**89**	P			**Pb**	**17 18 18.1**	**-0.8**
HATJ				S			**Sb**	**17 18 42.0**	**-0.7**
SCZT	**Fangliau**	**1.93**	**211**	*e*P			**Pb**	**17 18 18.5**	**-0.7**
	baz=213								
KAU	**Kaohsiung**	**1.94**	**222**	*e*P			**Pg**	**17 18 22.0**	**+0.4**
	baz=239								
LAY	**Lan-yu**	**1.99**	**184**	*e*P			**Pn**	**17 18 16.2**	**-1.2**
	baz=181								
PNG	**Penghu**	**2.03**	**257**	*e*P			**Pn**	**17 18 18.1**	**+0.2**
	baz=257								
PNG				*e*S			**Sn**	**17 18 42.9**	**-0.1**
	baz=257								
WDGT	**Dungji**	**2.03**	**248**	*e*P			**Pn**	**17 18 18.6**	**+0.7**
	baz=234								
WDGT				*e*S			**Sb**	**17 18 45.3**	**-0.7**
	baz=234								
TWP	**Hsiaoliuchiu**	**2.09**	**217**	*e*P			**Pb**	**17 18 20.9**	**-0.9**
	baz=235								
JKRS	**Kuro-shima**	**2.11**	**84**	P			**Pb**	**17 18 21.2**	**-1.0**
JKRS				S			**Sb**	**17 18 48.6**	**+0.3**
HEN	**Hengchun**	**2.21**	**204**	*e*P			**Pn**	**17 18 21.6**	**+1.2**
	baz=190								
TWK1	**Hengchun**	**2.24**	**202**	*e*P			**Pn**	**17 18 21.2**	**+0.3**
	baz=188								
JIJ	**Ishigaki jima**	**2.25**	**81**	P			**Pn**	**17 18 22.4**	**+1.5**
JIJ				S			**Sn**	**17 18 50.0**	**+1.5**
TSEB	**Hengchuen, Pin**	**2.25**	**200**	*e*P			**Pn**	**17 18 21.0**	**0.0**
	baz=187								
JISG	**Ishigakijimahi**	**2.44**	**76**	P			**Pn**	**17 18 24.6**	**+1.0**
JISG				S			**Sn**	**17 18 54.4**	**+1.3**
JTJ	**Tarama**	**2.80**	**77**	P			**Pn**	**17 18 30.1**	**+1.6**
JTJ				S			**Sb**	**17 19 05.5**	**-2.5**
QZH	**Quanzhou**	**2.98**	**288**	Pn			**Pn**	**17 18 30.9**	**-0.1**
QZH				Sn			**Sn**	**17 19 04.6**	**-2.0**
QZH				SMN					
	4μm,1.2s								
QZH				SME					
	1μm,0.7s								
KNM	**Kinmen**	**3.02**	**278**	*e*P			**Pn**	**17 18 32.7**	**+1.2**
	baz=276								
JIRB	**Irabujima**	**3.25**	**75**	P			**Pn**	**17 18 36.6**	**+1.8**
JIRB				S			**Sn**	**17 19 16.1**	**+2.8**
JIKM	**Ikemajima**	**3.34**	**74**	P			**Pn**	**17 18 38.4**	**+2.4**
JIKM				*e*S			**Sn**	**17 19 18.4**	**+2.9**
JMJ	**Miyako jima 2**	**3.36**	**76**	P			**Pn**	**17 18 38.6**	**+2.4**
JMJ				S			**Sn**	**17 19 19.9**	**+4.0**
JOGS	**Gusukube**	**3.45**	**77**	P			**Pn**	**17 18 39.9**	**+2.4**
JOGS				*e*S			**Sn**	**17 19 21.6**	**+3.5**
JKE	**Kume jima 2**	**5.13**	**63**	P			**Pn**	**17 19 02.6**	**+1.9**
JAGN	**Aguni-jima**	**5.62**	**62**	P			**Pn**	**17 19 09.4**	**+2.1**
JNTH	**Nagotoyohara**	**6.23**	**65**	P			**Pn**	**17 19 16.5**	**+0.8**
JIH	**Iheya**	**6.39**	**61**	P			**Pn**	**17 19 19.3**	**+1.3**
SZP	**Santa**	**6.55**	**191**	*e*Pn			**Pn**	**17 19 22.6**	**+2.4**
	69nm,0.8s								
JOW	**Kunigami**	**6.56**	**63**	P			**Pn**	**17 19 20.7**	**+0.5**
JOW	**Kunigami**	**6.56**	**63**	Pn			**Pn**	**17 19 20.0**	**-0.3**
	0.9nm,0.3s,baz=148,slow=13,SNR=29								
JOW	**Kunigami**	**6.56**	**63**	*e*P			**Pn**	**17 19 21.2**	**+1.0**
	baz=70								
JOKE	**Okinoerabujima**	**7.02**	**60**	P			**Pn**	**17 19 26.7**	**+0.1**
JTK	**Tokunoshima**	**7.51**	**59**	P			**Pn**	**17 19 33.3**	**-0.1**
JAMN	**Amaminishikomi**	**7.91**	**56**	P			**Pn**	**17 19 38.2**	**-0.6**
JAM	**Amami Oshima**	**8.32**	**57**	P			**Pn**	**17 19 44.3**	**-0.1**
NJ2	**Nanjing**	**8.38**	**343**	*e*P			**Pn**	**17 19 45.1**	**-0.1**
NJ2				S			**Sn**	**17 21 19.6**	**+0.1**
NJ2				PMZ					
	70nm,1.0s								
NJ2				SMN					
	390nm,0.8s								
NJ2				SME					
	410nm,0.8s								
NJ2				LN					
	3μm,11.9s								
NJ2				LE					
	3μm,10.8s								
NJ2				LZ					
	3μm,10.3s								
WHN	**Wuhan**	**9.21**	**316**	⇑P			**Pn**	**17 19 56.1**	**-0.5**
WHN				S			Sn	17 21 34.0	-6.1
WHN				LN					
	4μm,11.8s								
WHN				LE					
	3μm,11.2s								
WHN				LZ					
	5μm,10.2s								
JNU	**Nakatsue**	**12.12**	**40**	Pn			**Pn**	**17 20 38.0**	**+1.6**
	0.1nm,0.3s,baz=181,slow=15,SNR=3.9								
JNU				LR			LR	17 26 22.1	
	comp=Z,419nm,18.1s,baz=209,slow=43								
TJN	**Taejon**	**13.23**	**20**	*e*P			**Pn**	**17 20 50.9**	**-0.8**
GYA	**Guiyang**	**13.83**	**283**	P			**Pn**	**17 21 02.1**	**+2.1**
GYA				LN					
	520nm,14.3s								
GYA				LE					
	1μm,10.8s								
GYA				LZ					
	2μm,13.0s								
KSAR	**Wonju Array Be**	**14.38**	**20**	Pn			**Pn**	**17 21 07.8**	**+0.5**
KSRS	**Korea Array**	**14.40**	**20**	Pn			**Pn**	**17 21 07.8**	**+0.2**
	0.2nm,0.3s,baz=201,slow=12,SNR=13								
KSRS				LR			LR	17 27 14.4	
	comp=Z,194nm,20.2s,baz=204,slow=40								
XAN	**Xi'an**	**14.97**	**315**	P			**Pn**	**17 21 15.4**	**0.0**
XAN				S			Sn	17 23 55.4	-5.7
XAN				PMZ					
	3.0nm,1.0s								
XAN				LN					
	470nm,4.8s								
XAN				LE					
	220nm,4.9s								
XAN				LZ					
	110nm,4.4s								
KMI	**Kunming**	**17.29**	**278**	P			**P**	**17 21 49.1**	**+2.2**
KMI				PMZ					
	6.0nm,1.3s								
KMI				LN					
	950nm,9.2s								
KMI				LE					
	2μm,8.7s								
KMI				LZ					
	2μm,8.7s								
CD2	**Chengdu**	**17.33**	**297**	P			**Pn**	**17 21 46.3**	**+0.5**
CD2				pP			**pP**	**17 21 50.3**	**-0.9**
CD2				sP			**sP**	**17 21 51.8**	**-1.3**
CD2				S			**Sn**	**17 24 59.3**	**+0.8**
CD2				PMZ					
	20nm,0.5s								
CD2				PMZ					
	180nm,5.2s								
CD2				LN					
	840nm,9.2s								
CD2				LE					
	850nm,7.4s								
CD2				LZ					
	1μm,7.2s								
MJAR	**Matsushiro Arr**	**18.90**	**45**	P			**P**	**17 22 03.6**	**-0.8**
	0.1nm,0.3s,baz=236,slow=9.8,SNR=6.9								
MJAR				LR			LR	17 30 16.8	
	comp=Z,145nm,20.1s,baz=235,slow=40								
USRK	**Ussuriysk Ar.**	**21.81**	**20**	P			**P**	**17 22 36.6**	**+0.8**
	2.9nm,0.7s,baz=211,slow=8.5,SNR=6.5								
USRK				LR			LR	17 31 48.7	
	comp=Z,123nm,19.6s,baz=176,slow=39								
CHTO	**Chiang Mai**	**21.81**	**261**	*e*P			**P**	**17 22 37.6**	**+1.5**
	6.2nm,0.9s								
CM31	**Chiang Mai Arr**	**21.92**	**260**	*e*P			**P**	**17 22 39.0**	**+1.7**
	4.4nm,0.8s								
CMAR	**Chiang Mai Arr**	**21.92**	**260**	P			**P**	**17 22 39.0**	**+1.7**
	3.0nm,0.8s,baz=62,slow=8.3,SNR=26								
CMAR				PcP			**PcP**	**17 26 36.9**	**+0.5**
	0.6nm,0.7s,baz=29,slow=1.0,SNR=4.3								
CMAR				LR			LR	17 31 38.8	
	comp=Z,204nm,19.6s,baz=78,slow=38								
CMAR	**Chiang Mai Arr**	**21.92**	**260**	P			**P**	**17 22 39.0**	**+1.7**
CMAR								17 26 36.9	
CMAR				pmax			pmax		
	comp=Z,3.0nm,0.8s								
CMAR				pmax			pmax		
	comp=Z,1.0nm,0.7s								
CMAR				MLR			MLR		
	comp=Z,204nm,19.6s								
GTA	**Gaotai**	**24.03**	**315**	*e*P			**P**	**17 22 59.3**	**+0.4**
GTA				pP			**pP**	**17 23 02.6**	**-0.7**
GTA				sP			**sP**	**17 23 05.3**	**+0.2**
GTA				PcP			**PcP**	**17 26 41.0**	**+0.5**
GTA				S			**S**	**17 27 15.9**	**+0.2**
GTA				sS			**sS**	**17 27 23.0**	**+0.1**
GTA				SS			SnSn	17 28 09.1	+13
GTA				PMZ					
	comp=Z,3.0nm,1.2s								
GTA				PMZ					
	comp=Z,59nm,4.4s								
GTA				LN					
	comp=Z,340nm,13.3s								
GTA				LE					
	comp=Z,650nm,12.3s								
GTA				LZ					
	comp=Z,780nm,12.8s								
GUMO	**Guam**	**24.22**	**111**	LR			LR	17 32 09.2	
	comp=Z,77nm,19.7s,baz=293,slow=36								
KSM	**Kuching**	**25.00**	**208**	*e*P			**P**	**17 23 07.8**	**+0.1**
	comp=Z,24nm,1.0s								
HIA	**Hailar**	**25.23**	**357**	*e*P			**P**	**17 23 08.9**	**-0.7**
HIA				pmax			pmax		
	comp=Z,7.0nm,1.3s								
SONM	**Songino Array**	**26.70**	**337**	P			**P**	**17 23 23.5**	**+0.5**
	comp=Z,5.9nm,0.9s,baz=156,slow=9.3,SNR=12								
SONM				LR			LR	17 34 37.2	
	comp=Z,162nm,20.9s,baz=100,slow=38								
SONM	**Songino Array**	**26.70**	**337**	P			**P**	**17 23 23.5**	**+0.5**
SONM				pmax			pmax		
	comp=Z,6.0nm,0.9s								
SONM				MLR			MLR		
	comp=Z,162nm,20.9s								
LSA	**Lhasa**	**27.79**	**288**	*e*P			**P**	**17 23 34.2**	**+0.8**
	comp=Z,280nm,0.3s								
ZAK	**Zakamensk**	**29.95**	**336**	*e*P			**P**	**17 23 50.5**	**-1.5**
ZAK				pmax			pmax		
	comp=Z,1.0nm,1.1s								
TAPN	**Taplejung**	**30.76**	**283**	*e*P			**P**	**17 23 58.4**	**-1.2**
	comp=Z,31nm,1.0s								
TLY	**Talaya**	**30.89**	**338**	*e*P			**P**	**17 24 00.0**	**-0.2**
TLY				pmax			pmax		
	comp=Z,3.0nm,0.6s								
TLY				MLR			MLR		
	comp=Z,154nm,13.0s								
ODAN	**Odare**	**31.06**	**283**	*e*P			**P**	**17 24 00.1**	**-2.1**
	comp=Z,21nm,0.8s								
**RAMN

PETK	**Petropavlovsk-**	**39.73**	**34**	LR	LR	17 43 05.1	
	comp=Z,90nm,18.2s,baz=224,slow=38						
ZAA0	**Zalesovo Array**	**40.63**	**327**	*eP*	**P**	**17 25 22.8**	**-0.8**
ZALV	**Zalesovo Beam**	**40.63**	**327**	P	**P**	**17 25 23.1**	**-0.4**
	comp=Z,6.1nm,0.7s,baz=115,slow=8.1,SNR=23						
ZALV				LR	LR	17 43 38.0	
	comp=Z,127nm,18.2s,baz=70,slow=38						
ZALV	**Zalesovo Beam**	**40.63**	**327**	P	**P**	**17 25 23.1**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ZALV				MLR	MLR		
	comp=Z,127nm,18.2s						
NVS	**Novosibirsk**	**41.89**	**327**	*eP*	**P**	**17 25 32.3**	**-1.6**
H11N1	**WAKE ISLAND Hy**	**42.02**	**87**	T	T	18 10 58.5	
	baz=276						
H11N2	**WAKE ISLAND Hy**	**42.02**	**87**	T	T	18 11 01.1	
	baz=276						
H11N3	**WAKE ISLAND Hy**	**42.03**	**87**	T	T	18 10 50.3	
	baz=276						
H11S3	**WAKE ISLAND Hy**	**42.14**	**89**	T	T	18 10 50.7	
	baz=284						
H11S1	**WAKE ISLAND Hy**	**42.15**	**89**	T	T	18 10 49.1	
	baz=284,slow=74						
H11S2	**WAKE ISLAND Hy**	**42.16**	**89**	T	T	18 10 50.1	
	baz=284,slow=74						
TKM2	**Tokmak 2**	**42.23**	**308**	*eP*	**P**	**17 25 38.3**	**+1.1**
	comp=Z,4.4nm,0.9s						
KURK	**Kurchatov**	**42.52**	**320**	P	**P**	**17 25 39.4**	**+0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**42.52**	**320**	*eP*	**P**	**17 25 38.7**	**-0.3**
	comp=Z,6.1nm,0.9s						
KURBB	**Kurchatov Arra**	**42.53**	**320**	P	**P**	**17 25 39.4**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=109,slow=8.6,SNR=13						
SEY	**Seymchan**	**43.96**	**20**	P	**P**	**17 25 50.8**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=323,slow=18,SNR=3.8						
SEY	**Seymchan**	**43.96**	**20**	P	**P**	**17 25 50.8**	**+0.3**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**45.41**	**163**	P	**P**	**17 26 01.9**	**-0.7**
	comp=Z,3.1nm,0.6s,baz=344,slow=8.7,SNR=23						
WRA				PcP	**PcP**	**17 27 40.6**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=341,slow=4.2,SNR=4.5						
WRA	**Warramunga Arr**	**45.41**	**163**	P	**P**	**17 26 01.9**	**-0.7**
WRA						17 27 40.6	
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KKAR	**Karatay Array**	**45.94**	**307**	*eP*	**P**	**17 26 07.8**	**+1.1**
	comp=Z,2.6nm,0.7s						
KBL	**Kabul**	**46.66**	**296**	*eP*	**P**	**17 26 14.5**	**+1.8**
	comp=Z,10.0nm,1.0s						
TIXI	**Tiksi**	**47.82**	**3**	*iP*	**P**	**17 26 18.7**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TIXI	**Tiksi**	**47.82**	**3**	*eP*	**P**	**17 26 19.3**	**-1.6**
	comp=Z,5.2nm,0.8s						
BVAR	**Borovoye Array**	**48.09**	**321**	P	**P**	**17 26 23.6**	**+0.3**
	comp=Z,2.6nm,0.5s,baz=105,slow=7.7,SNR=18						
BVAR				PcP	**PcP**	**17 27 50.0**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=126,slow=4.2,SNR=5.1						
BVAR	**Borovoye Array**	**48.09**	**321**	P	**P**	**17 26 23.6**	**+0.3**
BVAR						17 27 50.0	
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**48.16**	**321**	*eP*	**P**	**17 26 22.9**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AS31	**Alice Springs**	**48.87**	**165**	*eP*	**P**	**17 26 29.0**	**-0.6**
ASAR	**Alice Springs**	**48.87**	**165**	P	**P**	**17 26 29.6**	**0.0**
	comp=Z,2.6nm,0.6s,baz=343,slow=6.8,SNR=64						
ASAR	**Alice Springs**	**48.87**	**165**	P	**P**	**17 26 29.6**	**0.0**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BILL	**Bilibino**	**51.66**	**20**	*eP*	**P**	**17 26 48.2**	**-2.0**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ABKAR	**Akbulak array**	**53.89**	**314**	*eP*	**P**	**17 27 07.3**	**+0.4**
	comp=Z,3.8nm,0.6s						
SVE	**Sverdlovsk**	**54.45**	**324**	*eP*	**P**	**17 27 11.2**	**+0.3**
ARU	**Arti**	**55.52**	**323**	*d iP*	**P**	**17 27 18.5**	**-0.1**
ARU						17 28 16.0	
ARU				S	**S**	**17 35 04.7**	**+1.4**
ARU				SS	**SS**	**17 38 43.9**	**-4.0**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ARU	**Arti**	**55.52**	**323**	*eP*	**P**	**17 27 17.9**	**-0.7**
	comp=Z,4.4nm,0.6s						
STKA	**Stephens Creek**	**58.76**	**160**	P	**P**	**17 27 42.6**	**+0.8**
	comp=Z,4.3nm,0.6s,baz=336,slow=6.8,SNR=23						
STKA	**Stephens Creek**	**58.76**	**160**	P	**P**	**17 27 42.6**	**+0.8**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KBZ	**Khabaz**	**65.95**	**309**	P	**P**	**17 28 29.9**	**0.0**
	comp=Z,2.6nm,0.8s,baz=78,slow=4.9,SNR=8.0						
KBZ	**Khabaz**	**65.95**	**309**	P	**P**	**17 28 29.9**	**0.0**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIV	**Kislovodsk**	**66.06**	**309**	*eP*	**P**	**17 28 30.6**	**-0.2**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,41nm,17.0s						
NEY	**Neytrino**	**66.16**	**308**	*i P*	**P**	**17 28 30.5**	**-1.1**
LVZ	**Lovozero**	**66.88**	**336**	*eP*	**P**	**17 28 34.5**	**-1.0**
LVZ				pmax	pmax		
	comp=Z,38nm,1.1s						
BPAW	**Bear Paw Mtn.**	**67.50**	**28**	*eP*	**P**	**17 28 40.1**	**+0.6**
	comp=Z,1.0nm,0.8s						
TRF	**Thorofare Moun**	**67.91**	**29**	*eP*	**P**	**17 28 43.7**	**+1.4**
	comp=Z,5.6nm,0.8s						
OBN	**Obninsk**	**67.92**	**322**	*eP*	**P**	**17 28 43.1**	**+0.9**
OBN				*e*		17 28 54.2	
OBN				*e*		17 31 19.5	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,45nm,19.0s						
ILAR	**Eielson Array**	**69.13**	**27**	P	**P**	**17 28 49.4**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=292,slow=8.5,SNR=13						
ILAR	**Eielson Array**	**69.13**	**27**	P	**P**	**17 28 49.4**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
EGAK	**Eagle**	**71.50**	**27**	*eP*	**P**	**17 29 04.2**	**0.0**
	comp=Z,3.5nm,0.6s						
FINES	**FINESS Array B**	**71.82**	**330**	P	**P**	**17 29 05.5**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=48,slow=2.8,SNR=8.1						
FINES				LR	LR	18 03 27.1	
	comp=Z,140nm,18.8s,baz=72,slow=38						
FINES	**FINESS Array B**	**71.82**	**330**	P	**P**	**17 29 05.5**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,140nm,18.8s						
BR131	**Keskin Array S**	**73.65**	**307**	*eP*	**P**	**17 29 17.8**	**+0.2**
	comp=Z,0.6nm,0.4s						
BRTR	**Keskin Array B**	**73.65**	**307**	P	**P**	**17 29 17.8**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=105,slow=5.7,SNR=12						
BRTR	**Keskin Array B**	**73.65**	**307**	*i P*	**P**	**17 29 17.7**	**+0.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NB2	**NORSAR Subarra**	**78.58**	**332**	P	**P**	**17 29 44.4**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=59,slow=5.6						
NOA	**NORSAR Array B**	**78.58**	**332**	P	**P**	**17 29 43.9**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=58,slow=5.6,SNR=6.3						
NOA				LR	LR	18 07 15.4	
	comp=Z,69nm,18.8s,baz=85,slow=38						
NOA	**NORSAR Array B**	**78.58**	**332**	P	**P**	**17 29 43.9**	**-1.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,69nm,18.8s						
CLL	**Collm**	**82.46**	**323**	*eP*	P	17 30 01.0	-5.1
YKA	**Yellowknife Ar**	**82.92**	**23**	P	**P**	**17 30 07.5**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=315,slow=5.3,SNR=8.8						
YKA	**Yellowknife Ar**	**82.92**	**23**	P	**P**	**17 30 07.5**	**-0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**83.26**	**321**	P	**P**	**17 30 10.1**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=42,slow=4.2,SNR=7.2						
GERES	**GERESS Array B**	**83.26**	**321**	P	**P**	**17 30 10.1**	**-0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WALA	**Waterton Lakes**	**91.98**	**33**	*eP*	**P**	**17 30 54.4**	**+1.7**
SLMT	**Seeley Lake**	**93.39**	**34**	*eP*	**P**	**17 30 59.7**	**+0.5**
NVAR	**Mina Array Bea**	**96.21**	**43**	P	**P**	**17 31 11.3**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=313,slow=3.7,SNR=2.2						
SDV	**Santo Domingo**	**145.13**	**22**	*eP*	**PKPbc**	**17 37 20.4**	**-1.4**

IDC **14** *17:34:15.8±1.1, 7.°69N×91.°98E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.6/40, mbtmp3.7/11, ML3.9/2, MS3.3/4, Ms1 3.3/4, ms1mx2.9/33, Error ellipse: s-maj=33.2km s-min=19.7km az=51.0*

ISCJB **14** *17:34:17.1±0.7, 7.°68N±0.°09×91.°90E±0.°09, h24km, mb3.9/15, MS3.3/4, Error ellipse: s-maj=13.7km s-min=11.2km az=136.7*

NEIC **14** *17:34:20.7±0.6, 7.°67N×91.°91E, h35km, mb4.3/6, Error ellipse: s-maj=12.7km s-min=11.6km az=220.0*

ISC 14 17:34:19.1±1.0, 7.°6N±0.°1×91.°9E±0.°1, h24km, n34, σ1s72/27, mb4.1/18, MS3.3/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.12**	**269**			Pn	**Pn**	**17 36 57.1**	**+0.2**
	1.1nm,0.3s,baz=90,slow=14,SNR=6.9								
PALK						Sn	Sn	17 38 47.0	-14
	2.3nm,0.3s,baz=180,slow=20,SNR=4.6								
CM31	**Chiang Mai Arr**	**12.76**	**32**	*e*	Pn	**Pn**	**17 37 20.7**	**+1.5**	
CMAR	**Chiang Mai Arr**	**12.76**	**32**		Pn	**Pn**	**17 37 17.3**	**-1.8**	
	0.2nm,0.3s,baz=231,slow=14,SNR=8.2								
ODAN	**Odare**	**19.61**	**348**	*eP*		**Pn**	**17 38 51.6**	**+4.1**	
RAMN	**Ramite**	**19.87**	**346**	*eP*		Pn	17 38 55.4	+4.7	
	16nm,0.4s								
TAPN	**Taplejung**	**20.02**	**349**	*eP*		**P**	**17 38 48.3**	**-2.4**	
	47nm,1.1s								
PKI	**Pulchoki**	**20.78**	**344**	*eP*		**P**	**17 38 59.1**	**+0.2**	
	84nm,1.5s								
GUN	**Gumba**	**20.97**	**345**	*eP*		P	17 38 55.9	-5.1	
	15nm,0.7s								
KKN	**Kakani**	**21.02**	**343**	*eP*		**P**	**17 38 59.0**	**-2.4**	
	25nm,1.2s								
LEM	**Lembang**	**21.24**	**132**	LR		LR	17 47 41.9		
	comp=Z,120nm,18.8s,baz=232,slow=38								
GKN	**Gorkha**	**21.41**	**342**	*eP*		**P**	**17 39 01.0**	**-4.5**	
	51nm,1.3s								
KOLN	**Koldanda**	**21.53**	**340**	*eP*		**P**	**17 39 07.4**	**+0.5**	
	20nm,0.7s								
LSA	**Lhasa**	**21.97**	**358**	*eP*		**P**	**17 39 14.2**	**+2.3**	
	17nm,0.9s								
H08S3	**Diego Garcia H**	**24.59**	**232**	T		T	18 06 03.6		
	baz=52,slow=75,SNR=29								
H08S2	**Diego Garcia H**	**24.60**	**232**	T		T	18 06 05.4		
	baz=52,slow=75,SNR=33								
H08S1	**Diego Carcia H**	**24.61**	**232**	T		T	18 06 10.6		
	baz=52,slow=75,SNR=23								
EKS2	**Erkin-Say**	**38.38**	**338**	*eP*		**P**	**17 41 36.9**	**-1.8**	
	6.6nm,0.9s								
MK31	**Makanchi Array**	**39.89**	**350**	*eP*		**P**	**17 41 50.6**	**-0.5**	
MKAR	**Makanchi Array**	**39.89**	**350**	P		**P**	**17 41 50.9**	**-0.2**	
	0.7nm,0.7s,baz=160,slow=8.0,SNR=9.5								
MKAR						LR	LR	18 02 34.0	
	comp=Z,16nm,18.6s,baz=158,slow=43								
KKAR	**Karatay Array**	**40.03**	**335**	*eP*		**P**	**17 41 52.7**	**+0.4**	
	2.6nm,0.7s								
SONM	**Songino Array**	**41.92**	**15**	P		**P**	**17 42 07.4**	**-0.6**	
	0.3nm,0.3s,baz=318,slow=2.0,SNR=4.3								
KURBB	**Kurchatov Arra**	**44.29**	**348**	P		**P**	**17 42 27.1**	**+0.2**	
	1.0nm,0.8s,baz=169,slow=6.8,SNR=9.2								
KURK	**Kurchatov**	**44.36**	**348**	*eP*		**P**	**17 42 26.4**	**-1.0**	
	4.4nm,1.0s								
ZALV	**Zalesovo Beam**	**46.55**	**354**	P		**P**	**17 42 44.4**	**-0.3**	
	0.4nm,0.4s,baz=168,slow=7.6,SNR=5.0								
ZALV						LR	LR	18 04 49.6	
	comp=Z,35nm,21.4s,baz=250,slow=39								
BVAR	**Borovoye Array**	**48.54**	**343**	P		**P**	**17 43 00.2**	**-0.1**	
	0.6nm,0.5s,baz=148,slow=8.6,SNR=5.9								
BRVK	**Borovoye**	**48.60**	**343**	*eP*		**P**	**17 42 59.0**	**-1.8**	
ABKAR	**Akbulak array**	**49.42**	**333**	*eP*		**P**	**17 43 07.3**	**+0.3**	
	2.1nm,0.8s								
WRA	**Warramunga Arr**	**49.93**	**124**	P		**P**	**17 43 12.2**	**+0.7**	
	0.7nm,0.6s,baz=302,slow=9.1,SNR=4.2								
WRAB	**Tennant Creek**	**49.94**	**124**	*eP*		**P**	**17 43 12.2**	**+0.8**	
ASAR	**Alice Springs**	**51.47**	**128**	P		**P**	**17 43 22.6**	**-0.4**	
	0.4nm,0.8s,baz=300,slow=7.8,SNR=4.2								
BRTR	**Keskin Array B**	**60.93**	**311**	P		**P**	**17 44 31.4**	**+0.8**	
	0.1nm,0.3s,baz=78,slow=6.6,SNR=2.2								
TIXI	**Tiksi**	**67.92**	**12**	*eP*		**P**	**17 45 14.7**	**-0.7**	
	3.7nm,0.8s								
FINES	**FINESS Array B**	**71.91**	**333**	P		**P**	**17 45 39.7**	**-0.4**	
	2.1nm,1.0s,baz=122,slow=7.0,SNR=2.9								
BOSA	**Boshof**	**73.59**	**237**	LR		LR	18 10 53.4		
	comp=Z,40nm,21.8s,baz=154,slow=30								

IDC **14** *17:39:38.6±0.8, 7.°64N×91.°95E, h0km, mb3.7/13, mb1 3.8/16, mb1mx3.7/38, mbtmp3.7/16, ML3.5/3, Error ellipse: s-maj=20.9km s-min=17.3km az=55.0*

ISCJB **14** *17:39:39.9±0.6, 7.°57N±0.°10×91.°90E±0.°09, h24km, mb3.7/13, Error ellipse: s-maj=15.3km s-min=11.2km az=36.7*

ISC 14 17:39:42.1±0.7, 7.°7N±0.°1×91.°97E±0.°10, h24km, n19, σ1s03/16, mb3.8/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.45**	**125**			Pn	**Pn**	**17 41 43.2**	**-0.1**
	1.1nm,0.3s,baz=316,slow=11,SNR=4.6								
PALK	**Pallekele**	**11.18**	**269**			Pn	**Pn**	**17 42 19.3**	**-1.2**
	0.7nm,0.3s,baz=191,slow=14,SNR=4.9								
PALK						Sn	Sn	17 44 10.4	-14
	0.9nm,0.3s,baz=140,slow=12,SNR=6.1								
CMAR	**Chiang Mai Arr**	**12.69**	**32**		Pn	**Pn**	**17 42 39.0**	**-2.1**	
	0.0nm,0.3s,baz=233,slow=14,SNR=2.7								
H08S3	**Diego Garcia H**	**24.66**	**232**	T		T	18 11 23.0		
	baz=54								
H08S2	**Diego Garcia H**	**24.67**	**232**	T		T	18 11 27.3		
	baz=54								
H08S1	**Diego Carcia H**	**24.68**	**232**	T		T	18 11 26.4		
	baz=54								
MKAR	**Makanchi Array**	**39.85**	**350**	P		**P**	**17 47 13.0**	**-0.7**	
	1.0nm,0.8s,baz=171,slow=8.1,SNR=9.1								
SONM	**Songino Array**	**41.86**	**15**	P		**P**	**17 47 30.8**	**+0.4**	
	0.8nm,0.7s,baz=198,slow=8.9,SNR=2.1								
KSRS	**Korea Array**	**44.04**	**42**	P		**P**	**17 47 48.6**	**+0.6**	
	0.2nm,0.4s,baz=249,slow=8.7,SNR=4.2								
KURBB	**Kurchatov Arra**	**44.24**	**348**	P		**P**	**17 47 49.7**	**+0.2**	
	0.4nm,0.2s,baz=171,slow=6.8,SNR=9.3								
TLY	**Talaya**	**44.91**	**10**	P		**P**	**17 47 54.3**	**-0.5**	
	1.0nm,0.5s,baz=0.0,slow=2.0,SNR=3.4								
ZALV	**Zalesovo Beam**	**46.50**	**354**	P		**P**	**17 48 08.7**	**+1.4**	
	0.8nm,0.6s,baz=163,slow=11,SNR=5.9								
BVAR	**Borovoye Array**	**48.51**	**343**	P		**P**	**17 48 23.1**	**+0.1**	
	0.6nm,0.5s,baz=156,slow=3.9,SNR=5.9								
WRA	**Warramunga Arr**	**49.92**	**124**	P		**P**	**17 48 34.6**	**+0.3**	
	0.9nm,0.7s,baz=307,slow=8.4,SNR=4.6								
OPO	**Ambohidratompo**	**51.29**	**239**	P		**P**	**17 48 43.9**	**-0.9**	
	2.2nm,0.8s,baz=52,slow=19,SNR=2.9								
ASAR	**Alice Springs**	**51.46**	**128**	P		**P**	**17 48 46.0**	**+0.1**	
	0.6nm,0.8s,baz=301,slow=7.8,SNR=6.2								
BRTR	**Keskin Array B**	**60.93**	**311**	P		**P**	**17 49 54.6**	**+1.1**	
	0.3nm,0.7s,baz=102,slow=6.9,SNR=2.4								
FINES	**FINESS Array B**	**71.88**	**333**	P		**P**	**17 51 04.4**	**+1.5**	
	0.6nm,0.7s,baz=114,slow=6.8,SNR=2.6								
GERES	**GERESS Array B**	**76.54**	**318**	P		**P**	**17 51 30.8**	**+0.3**	
	0.1nm,0.3s,baz=76,slow=4.8,SNR=2.9								

GUC 14 18:12:35.2±0.6, 34.°74S×71.°79W, h34km±2km, ML3.7, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.53**	**120**			*i* P	Pn	18 12 46.3	0.0
NICH						*i* S	Sn	18 12 54.5	+0.5
TALC	**Talca**	**0.67**	**169**			*e* P	Pb	18 12 48.4	-0.2
TALC						*i* S	Sb	18 12 57.7	0.0
LNV	**Longovilo**	**0.84**	**22**			*i* P	Pn	18 12 50.6	0.0
LNV						*i* S	Sb	18 13 02.3	-0.3
LNCH	**Linares**	**1.11**	**172**			*i* P	Pn	18 12 55.1	+0.7
LNCH						*i* S	Sb	18 13 09.6	-0.7
CHCH	**Chadas Angostu**	**1.24**	**50**			*i* P	Pn	18 12 57.0	+0.9
CHCH						*i* S	Sb	18 13 13.4	-0.5
TACH	**Talagante**	**1.29**	**33**			*e* P	Pn	18 12 57.8	+0.9
PCH	**Pirque**	**1.54**	**44**			*i* P	Pn	18 13 01.6	+1.3
PCH						*i* S	Sb	18 13 21.9	-0.6
SAN	**Santiago**	**1.59**	**36**			*e* P	Pb	18 13 02.5	-1.6
SAN						*i* S	Sb	18 13 22.7	-1.1
CLCH	**Cerro Calan**	**1.69**	**38**			*i* P	Pn	18 13 03.7	+1.2
CLCH						*i* S	Sb	18 13 26.0	-1.0
CLCH						AML	AML	18 13 30.7	
	comp=N,1μm,0.8s								
PEL	**Peldehue**	**1.84**	**30**			*e* P	Pn	18 13 06.2	+1.8
PEL						*i* S	Sb	18 13 29.4	-1.6
PEL						AML	AML	18 13 33.7	
	comp=N,996nm,0.5s								

PDA 14 18:28:25.1±1.1, 38.°60N×29.°51W, h10km, MD4.0, ML3.0, Error ellipse: s-maj=11.2km s-min=8.0km az=170.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.63**	**91**			*e* P	Pg	18 28 35.7	-1.8
CALA						*e* S	Sg	18 28 43.5	-2.5
CALA						*e* T	T	18 29 12.7	
PCED	**Cedros**	**0.64**	**87**			*e* P	Pg	18 28 35.1	-2.3
PCED						*e* S	Sg	18 28 43.1	-2.7
PCED						A	A	18 28 43.8	
	322nm,0.4s								
PCED						*e* T	T	18 29 08.7	
HOR	**Horta**	**0.69**	**95**			*e* P	Pg	18 28 36.3	-2.2
HOR						*e* S	Sg	18 28 44.7	-2.9
PCAN	**Candelaria**	**0.81**	**99**			*i* P	Pg	18 28 37.8	-3.1
PCAN						*e* S	Sg	18 28 47.9	-3.7
PCAN						A	A	18 28 50.3	
	167nm,0.3s								
PICO	**Pico**	**0.86**	**96**			*e* P	Pg	18 28 38.9	-2.8
PPNO	**Prainha do Nor**	**0.99**	**97**			*e* P	Pg	18 28 40.6	-3.6
PPNO						*e* S	Sg	18 28 51.1	-6.0
PPNO						A	A	18 28 52.9	
	194nm,0.4s								
PPNO						*e* T	T	18 29 50.0	
ROSA	**Rosais**	**1.00**	**83**			*e* P	Pg	18 28 40.3	-4.1
ROSA						*e* S	Sg	18 28 51.7	-5.8
ROSA						A	A	18 28 59.5	
	157nm,0.4s								
ROSA						*e* T	T	18 29 34.1	
PMAN	**Manadas**	**1.11**	**88**			*e* P	Pb	18 28 41.8	-4.7
PMAN						*e* T	T	18 29 38.3	
PGRA	**Graciosa**	**1.27**	**70**			*e* S	Sb	18 28 58.9	-6.7
PGRA						A	A	18 29 03.7	
	56nm,0.4s								
PGRA						*e* T	T	18 29 49.0	

ISCJB **14** *18:46:20.3±0.6, 6.°91N±0.°07×73.°02W±0.°08, h166km, mb3.4/2, Error ellipse: s-maj=12.9km s-min=6.0km az=40.1*

FUNV **14** *18:46:21.2, 6.°80N×73.°09W, h167km, MW3.5*

IDC **14** *18:46:21.6±4.8, 6.°72N×73.°00W, h170km±31km, mb3.2/2, mb1 3.6/3, mb1mx3.0/42, mbtmp3.7/3, Error ellipse: s-maj=81.9km s-min=29.7km az=85.0*

ISC 14 18:46:21.0±1.0, 6.°87N±0.°08×72.°99W±0.°09, h166km, n20, σ0s86/25, 10D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.19**	**34**			*i* P	**Pn**	**18 46 49.6**	**+0.4**
CAPV						*e* S	**Sn**	**18 47 11.1**	**+0.1**
ROSC	**El Rosal**	**2.40**	**214**	P			**Pn**	**18 47 01.7**	**-0.6**
	26nm,0.3s,baz=345,slow=1.8,SNR=138								
ROSC				S			**Sn**	**18 47 32.9**	**-1.2**
	55nm,0.3s,baz=252,slow=20,SNR=23								
VIGV	**El Vigia**	**2.54**	**39**			*i* P	**Pn**	**18 47 04.1**	**+0.6**
VIGV						*e* S	**Sn**	**18 47 35.0**	**-1.4**
SOCV	**Socops**	**2.54**	**56**			*e* P	**Pn**	**18 47 04.3**	**+0.8**
SOCV						*e* S	**Sn**	**18 47 36.0**	**-0.4**
VIRV	**Villa del Rosa**	**3.65**	**9**			*i* P	**Pn**	**18 47 16.6**	**-0.7**
VIRV						*e* S	**Sn**	**18 47 59.0**	**-2.3**
QARV	**Quebrada Arrib**	**4.12**	**36**			*i* P	**Pn**	**18 47 24.0**	**+0.7**
SANV	**Sanarito**	**4.30**	**52**			*i* P	**Pn**	**18 47 25.9**	**+0.1**
CURV	**Curarigua**	**4.33**	**44**			*i* P	**Pn**	**18 47 26.4**	**+0.3**
DABV	**Dabajuro**	**4.65**	**30**			*e* P	**Pn**	**18 47 30.8**	**+0.6**
TEPV	**Terepaima**	**4.86**	**50**			*i* P	**Pn**	**18 47 33.2**	**+0.3**
SIQV	**Siquisique**	**4.90**	**40**			*i* P	**Pn**	**18 47 33.6**	**+0.1**
BAUV	**El Baul**	**5.32**	**67**			*e* P	**Pn**	**18 47 37.9**	**-1.1**
MAPV	**Macapo**	**5.37**	**56**			*i* P	**Pn**	**18 47 39.7**	**+0.1**
MONV	**Montecano**	**5.86**	**30**			*e* P	**Pn**	**18 47 45.4**	**-0.7**
TURV	**Turiamo**	**6.21**	**55**			*e* P	**Pn**	**18 47 50.3**	**-0.5**
BIRV	**Birongo**	**7.55**	**61**			*e* P	**Pn**	**18 48 08.1**	**-0.4**
TXAR	**Lajitas Array**	**36.52**	**312**	P			**P**	**18 53 11.9**	**+1.1**
	0.2nm,0.5s,baz=133,slow=9.3,SNR=4.4								
YKA	**Yellowknife Ar**	**63.26

KUR				*e*S	**Sn**	**18 58 48.6**	**-1.7**
KUR				A	A	18 58 54.2	
	comp=N,270nm,0.3s						
KUR				A	A	18 58 54.2	
	comp=N,380nm,0.3s						
SHO	**Shikotan**	**1.08 176**		*e*P	**Pn**	**18 58 29.1**	**-1.3**
SHO				AMB	AMB	18 58 29.3	
	comp=N,250nm,0.3s						
SHO				*e*S	**Sn**	**18 58 50.3**	**-2.8**
SHO				A	A	18 58 50.9	
	comp=N,275nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.10 214**	*c*	*i*PN	**Pn**	**18 58 30.7**	**+0.2**
YUK				*i* S	**Sn**	**18 58 53.5**	**+0.2**
YUK				pmax	pmax		
	comp=N,26nm,0.4s						
YUK				pmax	pmax		
	comp=E,64nm,0.4s						
YUK				pmax	pmax		
	comp=Z,210nm,0.4s						
YUK				smax	smax		
	comp=N,406nm,0.6s						
YUK				smax	smax		
	comp=E,202nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.10 214**		*e*P	**Pn**	**18 58 30.7**	**+0.2**
YUK				AMB	AMB	18 58 31.2	
	comp=E,26nm,0.4s						
YUK				AMB	AMB	18 58 31.2	
	comp=E,64nm,0.4s						
YUK				AMB	AMB	18 58 31.2	
	comp=E,211nm,0.4s						
YUK				*e*S	**Sn**	**18 58 53.5**	**+0.2**
YUK				A	A	18 58 57.1	
	comp=E,410nm,0.6s						
YUK				A	A	18 58 57.1	
	comp=E,200nm,0.6s						
JRA	**Rausu**	**1.53 229**		P	**Pn**	**18 58 35.1**	**+1.0**
JRA				*e*S	**Sn**	**18 59 00.1**	**+0.4**
NEM2	**Nemuro 2**	**1.73 204**		P	**Pn**	**18 58 35.3**	**-0.8**
NEM2				*e*S	**Sn**	**18 59 00.6**	**-2.7**
JNK	**Nakash**	**1.98 227**		P	**Pn**	**18 58 39.3**	**+0.7**
JTKR	**Abashiri--Toko**	**2.24 245**		P	**Pn**	**18 58 42.3**	**+1.0**
JTKR				*e*S	**Sn**	**18 59 13.7**	**+1.0**
JAK	**Akkeshi**	**2.44 217**		P	**Pn**	**18 58 43.5**	**-0.1**
JAK				*e*S	**Sn**	**18 59 14.9**	**-1.8**
JMP	**Maruseppu**	**2.58 250**		P	**Pn**	**18 58 46.3**	**+1.0**
JAR	**Ashorobuto**	**2.69 233**		P	**Pn**	**18 58 48.0**	**+1.5**
JSE	**Soyaes**	**2.93 272**		P	**Pn**	**18 58 50.9**	**+1.6**
JKK2	**Kamakawa 2**	**3.04 251**		P	**Pn**	**18 58 52.3**	**+1.6**
JKK2				*e*S	**Sn**	**18 59 32.0**	**+2.6**
JKA	**Kamikawa-asahi**	**3.06 256**		*e*P	**Pn**	**18 58 53.0**	**+2.1**
ASAJ	**Asahikawa**	**3.06 256**		P	**Pn**	**18 58 53.0**	**+2.1**
	baz=107,slow=4.6						
JCH	**Churui**	**3.37 227**		P	**Pn**	**18 58 54.9**	**+0.3**
JCH				*e*S	**Sn**	**18 59 34.3**	**-2.2**
YSS	**Yuzh-Sakhalins**	**3.41 307**	⇓	*i*PN	**Pn**	**18 58 55.2**	**+0.1**
YSS				*e*S	**Sn**	**18 59 37.2**	**-0.2**
YSS				pmax	pmax		
	comp=Z,20nm,0.4s						
YSS				smax	smax		
	comp=E,70nm,1.1s						
YSS	**Yuzh-Sakhalins**	**3.41 307**		*e*P	**Pn**	**18 58 55.2**	**+0.1**
YSS				AMB	AMB	18 58 56.6	
	comp=E,20nm,0.4s						
YSS				*e*S	**Sn**	**18 59 38.0**	**+0.6**
YSS				A	A	18 59 39.8	
	comp=E,70nm,1.0s						
ERM	**Erimo**	**3.92 223**		*e*PN	**Pn**	**18 59 02.4**	**+1.0**
ERM	**Erimo**	**3.92 223**		*e*P	**Pn**	**18 59 02.4**	**+1.0**
JNBK	**Urakawa-nobuka**	**3.93 229**		P	**Pn**	**18 59 00.9**	**-0.6**
JNBK				*e*S	**Sn**	**18 59 44.9**	**-4.0**
JKB	**Kayabe**	**5.15 235**		P	**Pn**	**18 59 16.7**	**-0.4**
JKB				*e*S	**Sn**	**19 00 13.0**	**-3.9**
UGL	**Uglegorsk**	**5.21 324**		*e*PN	**Pn**	**18 59 15.7**	**-2.1**
UGL				*e*S	**Sn**	**19 00 15.1**	**-3.2**
PET	**Petropavlovsk**	**11.25 40**		*e*PN	**Pn**	**19 00 37.1**	**+0.8**
PET	**Petropavlovsk**	**11.25 40**		*e*P	**Pn**	**19 00 37.1**	**+0.8**
EKMR	**Ekimchan**	**12.13 317**		*e*rx	rx	19 00 47.3	
SEY	**Seymchan**	**18.31 8**		P	**P**	**19 01 59.7**	**-0.8**
	comp=E,0.5nm,0.3s,baz=198,slow=11,SNR=15						
SEY	**Seymchan**	**18.31 8**		*e*P	**P**	**19 02 00.8**	**+0.3**
SEY	**Seymchan**	**18.31 8**		*e*P	**P**	**19 02 00.8**	**+0.3**
HIA	**Hailar**	**18.82 293**		*e*P	**P**	**19 02 05.0**	**-1.2**
HIA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
HIA	**Hailar**	**18.82 293**		*e*P	**P**	**19 02 05.0**	**-1.2**
YAK	**Yakutsk**	**19.77 336**		P	**P**	**19 02 13.6**	**-2.7**
	comp=Z,0.0nm,0.3s,baz=141,slow=9.1,SNR=7.0						
YAK	**Yakutsk**	**19.77 336**		*e*P	**P**	**19 02 14.3**	**-2.0**
ZALV	**Zalesovo Beam**	**40.03 306**		P	**P**	**19 05 17.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=97,slow=6.0,SNR=2.4						
ZALV	**Zalesovo Beam**	**40.03 306**		P	**P**	**19 05 17.0**	**-0.2**
ILAR	**Eielson Array**	**40.71 37**		P	**P**	**19 05 22.5**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=274,slow=8.3,SNR=11						
ILAR	**Eielson Array**	**40.71 37**		*e*P	**P**	**19 05 22.9**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**40.71 37**		*e*P	**P**	**19 05 22.9**	**+0.3**
MKAR	**Makanchi Array**	**43.76 296**		P	**P**	**19 05 48.4**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=79,slow=8.2,SNR=10						
MKAR	**Makanchi Array**	**43.76 296**		P	**P**	**19 05 48.4**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**45.53 31**		P	**P**	**19 06 02.5**	**+1.5**
	comp=Z,5.6nm,0.3s,baz=24,slow=7.0,SNR=3.9						
INK	**Inuvik**	**45.53 31**		P	**P**	**19 06 02.5**	**+1.5**
INK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
SPITS	**Spitsbergen Ar**	**53.54 349**		P	**P**	**19 07 00.1**	**-1.4**
	comp=Z,4.6nm,1.1s,baz=62,slow=9.6,SNR=5.2						
SPITS	**Spitsbergen Ar**	**53.54 349**		P	**P**	**19 07 00.1**	**-1.4**
SPITS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ARCES	**ARCESS Array B**	**58.01 339**		P	**P**	**19 07 31.6**	**-1.7**
	comp=Z,2.1nm,1.0s,baz=36,slow=6.7,SNR=3.9						
ARCES	**ARCESS Array B**	**58.01 339**		P	**P**	**19 07 31.6**	**-1.7**
ARCES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	**FINESS Array B**	**63.66 333**		P	**P**	**19 08 10.0**	**-1.5**
	comp=Z,1.4nm,0.5s,baz=47,slow=6.5,SNR=20						
FINES	**FINESS Array B**	**63.66 333**		P	**P**	**19 08 10.0**	**-1.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**65.56 193**		P	**P**	**19 08 25.4**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=9.0,slow=6.8,SNR=8.7						
WRA	**Warramunga Arr**	**65.56 193**		P	**P**	**19 08 25.4**	**+1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NVAR	**Mina Array Bea**	**67.20 58**		P	**P**	**19 08 36.7**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=278,slow=5.5,SNR=3.6						
NB2	**NORSAR Subarra**	**68.37 338**		P	**P**	**19 08 40.5**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**68.37 338**		P	**P**	**19 08 40.6**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=28,slow=6.5,SNR=13						
HFS	**Hagfors**	**68.46 337**		P	**P**	**19 08 40.9**	**-1.2**
	comp=Z,1.2nm,0.3s,baz=32,slow=5.8,SNR=21						
HFS	**Hagfors**	**68.46 337**		P	**P**	**19 08 40.9**	**-1.2**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAR	**Alice Springs**	**69.28 193**		P	**P**	**19 08 49.5**	**+1.9**
	comp=Z,0.2nm,0.4s,baz=11,slow=6.6,SNR=8.3						
CLL	**Collm**	**76.11 332**		*e*P	**P**	**19 09 29.0**	**+1.6**
CLL	**Collm**	**76.11 332**		*e*P	**P**	**19 09 29.0**	**+1.6**
CLL	**Collm**	**76.11 332**		*e*P	**P**	**19 09 29.0**	**+1.6**
BRTR	**Keskin Array B**	**76.49 313**		P	**P**	**19 09 31.0**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=106,slow=3.0,SNR=3.1						
GERES	**GERESS Array B**	**77.96 330**		P	**P**	**19 09 38.2**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=42,slow=6.3,SNR=5.5						
TXAR	**Lajitas Array**	**82.24 56**		P	**P**	**19 10 01.9**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=297,slow=3.5,SNR=5.6						

*ISCJB **14** 19:06:08.1±0.9, 7.5N±0.1×91.8E±0.1, h10km, mb3.5/5, Error ellipse: s-maj=18.5km s-min=16.8km az=175.0*
*IDC **14** 19:06:08.8±1.3, 7.56N×91.80E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.4/42, mbtmp3.5/7, ML3.6/2, Error ellipse: s-maj=38.4km s-min=21.5km az=60.0*
ISC 14 19:06:10.3±1.1, 7.5N±0.2×91.8E±0.1, h10km, n7, σ0.8 63/7, mb3.4/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.00 269**		Pn	**Pn**	**19 08 48.3**	**+0.3**
	0.4nm,0.3s,baz=93,slow=16,SNR=3.9						
PALK				Sn	Sn	19 10 39.2	-12
	0.6nm,0.3s,baz=155,slow=14,SNR=4.4						
CMAR	**Chiang Mai Arr**	**12.89 32**		Pn	**Pn**	**19 09 14.6**	**+0.8**
	0.1nm,0.3s,baz=230,slow=15,SNR=7.6						
MKAR	**Makanchi Array**	**39.96 350**		P	**P**	**19 13 44.7**	**-0.2**
	0.2nm,0.7s,baz=162,slow=7.8,SNR=2.6						
SONM	**Songino Array**	**42.04 15**		P	**P**	**19 14 01.7**	**-0.5**
	1.9nm,0.5s,baz=201,slow=7.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**46.62 354**		P	**P**	**19 14 38.0**	**-0.6**
	0.5nm,0.6s,baz=178,slow=8.1,SNR=3.0						
WRA	**Warramunga Arr**	**49.98 124**		P	**P**	**19 15 04.8**	**-0.3**
	0.2nm,0.5s,baz=307,slow=8.2,SNR=3.7						
ASAR	**Alice Springs**	**51.51 128**		P	**P**	**19 15 16.9**	**+0.3**
	0.4nm,1.0s,baz=305,slow=7.6,SNR=2.8						

*JMA **14** 19:37:21.7±0.3, 44.02N×148.27E, h0km, M4.0*
*SKHL **14** 19:37:22.1±0.3, 44.47N×148.48E, h34km±1km, mb4.5/4*
ISC 14 19:37:18.9±3.4, 44.39N±0.08×148.7E±0.2, h58km±34km, n17, σ2.2 03/29, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.05 324**		*e*P	**Pn**	**19 37 38.0**	**+0.5**
KUR				AMB	AMB	19 37 40.0	
	130nm,0.3s						
KUR				*e*S	**Sn**	**19 37 50.2**	**-1.1**
KUR				A	A	19 37 50.9	
	429nm,0.4s						
KUR				A	A	19 37 50.9	
	330nm,0.4s						
SHO	**Shikotan**	**1.47 250**		*e*P	**Pn**	**19 37 43.9**	**+0.8**
SHO				AMB	AMB	19 37 44.2	
	100nm,0.4s						
SHO				*e*S	**Sn**	**19 37 59.9**	**-1.3**
SHO				A	A	19 38 00.4	
	1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.10 261**		*e*P	**Pn**	**19 37 52.7**	**+1.1**
YUK				AMB	AMB	19 37 55.2	
	160nm,0.2s						
YUK				*e*S	**Sn**	**19 38 15.6**	**-0.9**
YUK				A	A	19 38 18.6	
	300nm,0.4s						
YUK				A	A	19 38 18.6	
	150nm,0.4s						
NEM2	**Nemuro 2**	**2.39 246**		P	**Pn**	**19 37 56.6**	**+0.9**
NEM2				*e*S	**Sn**	**19 38 22.1**	**-1.7**
JRA	**Rausu**	**2.64 261**		P	**Pn**	**19 38 01.2**	**+2.2**
JRA				*e*S	**Sn**	**19 38 30.3**	**+0.5**
JNK	**Nakash**	**3.01 256**		P	**Pn**	**19 38 05.9**	**+1.8**
JNK				*e*S	**Sn**	**19 38 38.4**	**-0.5**
JAK	**Akkeshi**	**3.24 246**		P	**Pn**	**19 38 08.6**	**+1.3**
JAK				*e*S	**Sn**	**19 38 43.2**	**-1.4**
JTKR	**Abashiri--Toko**	**3.50 265**		P	**Pn**	**19 38 13.3**	**+2.5**
JAR	**Ashorobuto**	**3.75 255**		P	**Pn**	**19 38 16.9**	**+2.6**
JAR				*e*S	**Sn**	**19 38 57.8**	**+0.6**
JCH	**Churui**	**4.29 247**		P	**Pn**	**19 38 23.5**	**+1.8**
JCH				*e*S	**Sn**	**19 39 09.2**	**-1.2**
JKK2	**Kamakawa 2**	**4.34 265**		P	**Pn**	**19 38 25.3**	**+2.9**
JNBK	**Urakawa-nobuka**	**4.84 246**		P	**Pn**	**19 38 30.9**	**+1.7**
YSS	**Yuzh-Sakhalins**	**4.92 304**		*e*P	**Pn**	**19 38 31.1**	**+0.9**
YSS				AMB	AMB	19 38 39.3	
	193nm,1.0s						
YSS				*e*S	**Sn**	**19 39 22.9**	**-2.8**
YSS				A	A	19 39 26.9	
	206nm,0.4s						
JKB	**Kayabe**	**6.16 249**		P	**Pn**	**19 38 48.8**	**+1.5**
JKB				*e*S	**Sn**	**19 39 52.9**	**-3.5**
JOT	**Ohata**	**6.39 245**		P	**Pn**	**19 38 51.4**	**+0.9**
JOT				*e*S	**Sn**	**19 39 57.2**	**-4.8**
JANG	**Nango**	**6.68 236**		P	**Pn**	**19 38 54.9**	**+0.5**
JOSM	**Okushiri--Mats**	**7.14 254**		P	**Pn**	**19 39 02.8**	**+2.1**

*IDC **14** 19:43:39.9±1.4, 7.40N×91.85E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/45, mbtmp3.5/6, ML3.7/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/22, Error ellipse: s-maj=41.2km s-min=23.4km az=55.0*
*ISCJB **14** 19:43:40.9±0.9, 7.4N±0.1×91.8E±0.1, h24km, mb3.4/4, Error ellipse: s-maj=19.0km s-min=16.4km az=3.4*
ISC 14 19:43:43.2±1.2, 7.4N±0.2×91.8E±0.1, h24km, n9, σ1.8 06/6, mb3.5/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.04 270**		Pn	**Pn**	**19 46 19.5**	**-0.3**
	0.8nm,0.3s,baz=95,slow=16,SNR=7.3						
PALK				Sn	Sn	19 48 09.0	-14
	1.0nm,0.3s,baz=165,slow=20,SNR=8.2						
PALK				LR	LR	19 50 18.3	
	comp=Z,40nm,18.5s,baz=100,slow=36						
CMAR	**Chiang Mai Arr**	**12.96 32**		Pn	**Pn**	**19 46 45.4**	**-0.5**
	0.1nm,0.3s,baz=215,slow=12,SNR=3.7						
H08S3	**Diego Garcia H**	**24.42 233**		T	T	20 15 14.4	
	baz=49						
H08S2	**Diego Garcia H**	**24.42 233**		T	T	20 15 29.1	
	baz=49						
H08S1	**Diego Carcia H**	**24.44 233**		T	T	20 15 29.4	
	baz=49						
MKAR	**Makanchi Array**	**40.06 350**		P	**P**	**19 51 16.1**	**-0.5**
	0.2nm,0.7s,baz=162,slow=7.3,SNR=2.2						
ZALV	**Zalesovo Beam**	**46.72 354**		P	**P**	**19 52 11.8**	**+1.7**
	0.4nm,0.6s,baz=169,slow=8.5,SNR=2.5						
WRA	**Warramunga Arr**	**49.90 124**		P	**P**	**19 52 35.0**	**-0.2**
	0.5nm,0.8s,baz=309,slow=7.9,SNR=5.7						
ASAR	**Alice Springs**	**51.42 128**		P	**P**	**19 52 46.8**	**+0.1**
	0.7nm,1.1s,baz=297,slow=7.7,SNR=4.2						

*IDC **14** 19:58:02.2±1.6, 6.07S×151.59E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/27, mbtmp3.9/5, MS2.8/1, Ms1 2.8/1, ms1mx2.3/20, Error ellipse: s-maj=74.9km s-min=24.2km az=115.0*
*ISCJB **14** 19:58:06.6±1.4, 6.1S±0.2×151.6E±0.4, h41km, mb3.7/5, MS2.6/1, Error ellipse: s-maj=63.1km s-min=21.0km az=24.9*
ISC 14 19:58:08.2±1.6, 6.1S±0.3×151.5E±0.5, h41km, n7, σ0.5 58/6, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**20.66 341**		LR	LR	20 08 56.5	
	comp=Z,25nm,21.2s,baz=102,slow=32						
WRA	**Warramunga Arr**	**21.63 229**		P	**P**	**20 02 54.5**	**-0.7**
	0.7nm,0.6s,baz=56,slow=9.7,SNR=4.9						
ASAR	**Alice Springs**	**24.33 222**		P	**P**	**20 03 22.5**	**+0.1**
	2.1nm,0.6s,baz=56,slow=8.9,SNR=26						
STKA	**Stephens Creek**	**27.27 199**		P	**P**	**20 03 49.1**	**+0.3**
	3.3nm,1.0s,baz=29,slow=10,SNR=3.2						
ZALV	**Zalesovo Beam**	**81.54 327**		P	**P**	**20 10 21.8**	**+0.4**
	0.4nm,0.4s,baz=114,slow=4.4,SNR=2.8						
ILAR	**Eielson Array**	**83.84 22**		P	**P**	**20 10 32.8**	**-0.5**
	0.9nm,0.7s,baz=244,slow=5.4,SNR=7.4						
TORD	**Torodi Ar. Bea**	**149.47 285**		PKPbc	**PKPbc**	**20 17 54.4**	**+0.2**
	0.8nm,0.6s,baz=103,slow=2.7,SNR=6.6						

*CSEM **14** 19:26:39.9±0.6, 50.44N×18.83E, h2km, ML2.2/6, Error ellipse: s-maj=13.6km s-min=4.9km az=5.0*
PRU 14 19:26:40.9, 50.37N×18.85E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.12 131**		*e*Pg	Pg	19 26 43.3	+0.1
CHZP				*e*Sg	Sg	19 26 45.0	+0.2
OJC	**Ojcow**	**0.63 104**		*e*Pg	Pg	19 26 52.4	-0.6
OJC				*e*Sg	Sg	19 27 01.4	+0.3
OJC	**Ojcow**	**0.63 104**		*e*Pg	Pg	19 26 52.4	-0.6
OJC				*e*Sg	Sg	19 27 01.4	+0.3
OKC	**Ostrava-Krasne**	**0.70 221**		*e*PG	Pg	19 26 54.1	-0.2
OKC				*e*SG	Sg	19 27 03.8	+0.4
	comp=Z,4.7nm,0.2s						
OKC	**Ostrava-Krasne**	**0.70 221**		Pg	Pg	19 26 54.1	-0.2
OKC				Sg	Sg	19 27 03.8	+0.4
	4.7nm,0.2s						
MORC	**Moravsky Berou**	**1.03 235**		*e*Pg	Pg	19 27 01.2	+0.4
MORC				*e*Sg	Sb	19 27 15.1	-0.7
NIE	**Niedzica**	**1.34 135**		*e*Pg	Pg	19 27 06.5	-0.2
NIE				*e*Sg	Sg	19 27 24.3	+0.1
NIE	**Niedzica**	**1.34 135**		*e*Pg	Pg	19 27 06.5	-0.2
NIE				*e*Sg	Sg	19 27 24.3	+0.1
DPC	**Dobruska-Polom**	**1.62 270**		*e*PG	Pn	19 27 10.9	+0.1
DPC				*e*SG	Sg	19 27 33.3	+0.2
	comp=Z,2.6nm,0.5s						
DPC	**Dobruska-Polom**	**1.62 270**		Pg	Pn	19 27 10.9	+0.1
DPC				Sg	Sg	19 27 33.3	+0.2
	2.6nm,0.5s						
VRAC	**Vranov**	**1.81 235**		*e*Pn	Pb	19 27 14.8	-0.1
VRAC				*e*Sg	Sn	19 27 37.5	+0.5
TREC	**Trest**	**2.43 245**		*e*SG	Sg	19 27 58.5	-0.5
	comp=Z,1.4nm,0.3s						
TREC	**Trest**	**2.43 245**		Sg	Sg	19 27 58.5	-0.5
	1.4nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.65 262**		*e*SG	Sg	19 28 05.3	-0.9
	comp=Z,1.8nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.65 262**		Sg	Sg	19 28 05.3	-0.9
	1.8nm,0.4s						
PRU	**Pruhonice**	**2.80 264**		*e*PG	Pb	19 27 32.8	+1.1
PRU				*e*SG	Sg	19 28 09.9	-0.8
	comp=Z,1.7nm,0.5s						
PRU	**Pruhonice**	**2.80 264**		Pg	Pb	19 27 32.8	+1.1
PRU				Sg	Sg	19 28 09.9	-0.8
	1.7nm,0.5s						
BRG	**Berggiesshubel**	**3.17 281**		SG	Sg	19 28 27.0	+4.4
	1.2nm,0.5s						
KHC	**Kasperske Hory**	**3.64 252**		*e*PG	Pb	19 27 47.9	+1.8
KHC				*e*SG	Sg	19 28 36.5	-1.4
	comp=Z,1.5nm,0.5s						
KHC	**Kasperske Hory**	**3.64 252**		Pg	Pb	19 27 47.9	+1.8
KHC				Sg	Sg	19 28 36.5	-1.4
	1.5nm,0.5s						

BUC 14 19:28:56.3±1.6, 45.31N×25.93E, h24km±13km, MD2.5/3, 4C-10D, Error ellipse: s-maj=12.5km s-min=8.3km az=70.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.18**	**2**	⇓ *i*P	Pb	19 29 01.8	0.0
MLR				S	Sb	19 29 07.1	+1.6
MLR	**Muntele Rosu**	**0.18**	**2**	⇓ *i*P	Pb	19 29 01.8	0.0
MLR				*i* S	Sb	19 29 07.1	+1.6
SECR		**0.29 161**		S	Sb	19 29 08.9	+1.1
SECR		**0.29 161**		*i* S	Sb	19 29 08.9	+1.1
ISR	**Istrita**	**0.47 114**		⇓ *i*P	Pb	19 29 06.3	+0.2
ISR				S	Sn	19 29 14.6	-0.7
ISR	**Istrita**	**0.47 114**		⇓ *i*P	Pb	19 29 06.3	+0.2
ISR				*i* S	Sn	19 29 14.6	-0.7
VOIR		**0.64 282**		⇑ *i*P	Pn	19 29 09.5	-0.5
VOIR		**0.64 282**		⇑ *i*P	Pn	19 29 09.5	-0.5
VOIR				*i* S	Sn	19 29 19.8	+0.3
PLOR	**Plostina**	**0.74**	**43**	⇑ *i*P	Pn	19 29 11.8	+0.5
PLOR	**Plostina**	**0.74**	**43**	⇑ *i*P	Pn	19 29 11.8	+0.5
PLOR				*i* S	Sn	19 29 23.3	+1.4
VRI	**Vrincioaia**	**0.79**	**45**	⇓ *i*P	Pn	19 29 12.8	+0.8
VRI	**Vrincioaia**	**0.79**	**45**	⇓ *i*P	Pn	19 29 12.8	+0.8
VRI				*i* S	Sn	19 29 23.6	+0.6
CFR	**Carcaliu**	**1.56**	**94**	⇓ *i*P	Pn	19 29 23.0	+0.5
CFR	**Carcaliu**	**1.56**	**94**	⇓ *i*P	Pn	19 29 23.0	+0.5
CFR				*i* S	Sb	19 29 44.2	+0.4
TIRR	**Tirgusor**	**1.96 115**		⇓ *i*P	Pb	19 29 29.7	-1.5
TIRR	**Tirgusor**	**1.96 115**		⇓ *i*P	Pb	19 29 29.7	-1.5
TIRR				*i* S	Sb	19 29 54.5	-0.7

*CASC **14** 20:06:59.6±3.9, 13.00N×92.21W, h0km±87km, MD3.7*
*ISCJB **14** 20:07:04.5±0.4, 15.00N±0.07×91.45W±0.06, h212km±4km, mb3.6/8, Error ellipse: s-maj=13.8km s-min=6.1km az=31.9*
*IDC **14** 20:07:06.7±0.9, 15.13N×91.06W, h212km±8km, mb3.4/8, mb1 3.6/11, mb1mx3.4/31, mbtmp4.0/11, Error ellipse: s-maj=24.2km s-min=12.2km az=62.0*
*MEX **14** 20:07:08.1±0.5, 15.12N×91.57W, h220km±8km, MD4.1*
ISC 14 20:07:05.8±0.6, 15.02N±0.07×91.40W±0.05, h211km±5km, n29, σ1.5 55/41, mb3.7/8, 2C, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.74 198**	⇑	*e*P	**Pn**	**20 07 34.5**	**-0.6**
JAT				*e*S	**S**	**20 07 57.8**	**-0.3**
FUG	**Fuego 3**	**0.79 137**		*e*P	**Pn**	**20 07 34.7**	**-0.9**
PCG	**Pacaya**	**0.99 129**		*e*P	**Pn**	**20 07 36.2**	**-0.7**
PCG				*e*S	x	20 08 07.8	
NBG	**Las Nubes**	**1.11 113**	⇑	*e*P	**Pn**	**20 07 37.3**	**-0.4**
IXG	**Ixpaco**	**1.25 133**		*e*P	**Pn**	**20 07 36.6**	**-2.0**
CCIG	**Comitan**	**1.44 331**		*i* P	**Pn**	**20 07 40.5**	**+0.4**
CCIG				*i* S	**S**	**20 08 06.5**	**-0.2**
MRL	**Marmol**	**1.65 88**		*e*P	**Pn**	**20 07 40.6**	**-1.3**
MRL				*e*S	**S**	**20 08 08.3**	**-1.4**
PCIG		**1.88 291**		*e*P	**Pn**	**20 07 43.9**	**0.0**
PCIG				*i* S	**S**	**20 08 12.1**	**-1.1**
RBDL	**Robledal**	**1.89 118**		*e*P	**Pn**	**20 07 42.4**	**-1.8**
TGIG		**2.41 317**		*e*P	**Pn**	**20 07 49.7**	**+0.3**
TGIG				*i* S	**S**	**20 08 21.2**	**-1.8**
CMIG	**Matias Romero**	**3.93 302**		*i* P	**Pn**	**20 08 07.2**	**+0.1**
CMIG				*i* S	**S**	**20 08 51.5**	**-3.4**
CMIG	**Matias Romero**	**3.93 302**		P	**Pn**	**20 08 07.2**	**+0.1**
	15nm,0.3s,baz=148,slow=9.9,SNR=141						
CMIG				S	**S**

TEIG	**Tepich**	**5.97**	**29**	P		**Pn**	**20 08 31.6**	**-1.2**	
	29nm,0.3s,baz=237,slow=0.8,SNR=100								
JTS	**JuntasAbangare**	**7.86**	**126**	P		**Pn**	**20 08 56.1**	**-1.1**	
	2.8nm,0.3s,baz=320,slow=16,SNR=11								
JTS				S		S	20 10 16.4	-10	
	0.9nm,0.3s,baz=306,slow=19,SNR=2.8								
TXAR	**Lajitas Array**	**18.20**	**324**	P		**Pn**	**20 11 06.0**	**+0.3**	
	0.1nm,0.3s,baz=143,slow=10.0,SNR=6.5								
NVAR	**Mina Array Bea**	**33.26**	**320**	P		**P**	**20 13 25.6**	**+2.1**	
	0.5nm,0.7s,baz=134,slow=8.9,SNR=3.6								
NVAR				pP		**pP**	**20 14 08.6**	**+2.0**	
	0.3nm,0.5s,baz=270,slow=4.4,SNR=2.7								
LPAZ	**La Paz**	**38.68**	**143**	P		**P**	**20 14 10.1**	**0.0**	
	2.1nm,0.7s,baz=327,slow=10,SNR=12								
SCHQ	**Schefferville**	**44.07**	**20**	P		**P**	**20 14 52.0**	**-0.8**	
	6.3nm,0.6s,baz=212,slow=6.9,SNR=10								
YKA	**Yellowknife Ar**	**50.17**	**346**	P		**P**	**20 15 40.4**	**+0.8**	
	1.1nm,0.7s,baz=150,slow=7.8,SNR=3.1								
YKA				pP		**pP**	**20 16 26.2**	**+0.2**	
	0.9nm,0.7s,baz=137,slow=7.9,SNR=2.7								
PLCA	**Paso Flores**	**58.75**	**162**	P		**P**	**20 16 42.4**	**+0.6**	
	2.6nm,0.9s,baz=357,slow=10,SNR=3.5								
ILAR	**Eielson Array**	**62.14**	**336**	P		**P**	**20 17 05.3**	**+1.0**	
	0.6nm,0.6s,baz=172,slow=3.9,SNR=4.6								
ILAR				pP		**pP**	**20 17 53.3**	**+0.8**	
	0.2nm,0.4s,baz=227,slow=12,SNR=1.6								
ESDC	**Sonseca Array**	**78.63**	**52**	P		**P**	**20 18 43.1**	**-1.5**	
	0.2nm,0.4s,baz=280,slow=5.2,SNR=2.9								
ARCES	**ARCESS Array B**	**84.99**	**18**	P		**P**	**20 19 15.9**	**-1.1**	
	1.1nm,0.7s,baz=301,slow=5.2,SNR=3.9								
MAW	**Mawson**	**124.85**	**168**	PKP		**PKPdf**	**20 25 40.3**	**+0.4**	
	0.8nm,0.5s,baz=139,slow=2.9,SNR=7.4								
WRA	**Warramunga Arr**	**136.20**	**257**	PKP		**PKPdf**	**20 26 04.0**	**+1.2**	
	0.6nm,0.4s,baz=88,slow=2.7,SNR=12								
ASAR	**Alice Springs**	**136.55**	**251**	PKP		**PKPdf**	**20 26 05.7**	**+2.2**	
	0.3nm,0.6s,baz=88,slow=1.9,SNR=4.2								
CMAR	**Chiang Mai Arr**	**145.21**	**343**	PKPbc		**PKPdf**	**20 26 18.6**	**-0.6**	
	0.8nm,0.5s,baz=350,slow=3.7,SNR=7.0								

*SJA **14** 20:30:49.7±1.1,34.˚78S×73.˚26W,h40km,ML4.0*
*IDC **14** 20:30:58.0±1.2,34.˚54S×72.˚37W,h0km,mb3.7/2, mb1 4.0/3,mb1mx3.7/27,mbtmp3.8/3,ML3.4/2,MS2.3/1, Ms1 2.3/1,ms1mx2.3/18,Error ellipse: s-maj=44.2km s-min=37.8km az=140.0*
*GUC **14** 20:31:03.2±0.6,34.˚12S×72.˚22W,h10km±2km,ML3.9*
ISC 14 20:31:03.0±1.9,34.˚18S±0.˚04×72.˚34W±0.˚08,h26km±12km, n33,σ1°80/48,4C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.80**	**74**	⇓	*i*P		**Pb**	**20 31 17.0**	**-1.3**
NICH	**Los Niches**	**1.23**	**132**	⇓	*i*P		**Pn**	**20 31 24.7**	**+0.3**
NICH					*i*S		**Sb**	**20 31 41.6**	**+0.5**
TACH	**Talagante**	**1.28**	**66**	⇓	*i*P		**Pn**	**20 31 24.1**	**-1.1**
TACH					*i*S		**Sn**	**20 31 39.9**	**-1.5**
IHA	**Instituto Hidr**	**1.29**	**27**		*e*P		**Pn**	**20 31 24.9**	**-0.4**
IHA					*i*S		**Sn**	**20 31 40.7**	**-1.0**
TALC	**Talca**	**1.35**	**155**	⇑	*i*P		**Pb**	**20 31 27.0**	**-0.6**
TALC					*i*S		**Sb**	**20 31 45.5**	**+1.1**
CHCH	**Chadas Angostu**	**1.42**	**81**	⇑	*i*P		**Pn**	**20 31 26.7**	**-0.4**
SAN	**Santiago**	**1.57**	**63**		*e*P		**Pn**	**20 31 28.9**	**-0.3**
SAN					*e*S		**Sn**	**20 31 48.4**	**-0.4**
PCH	**Pirque**	**1.62**	**70**	⇑	*i*P		**Pn**	**20 31 30.0**	**+0.1**
PCH					*i*S		**Sn**	**20 31 49.8**	**-0.2**
CLCH	**Cerro Calan**	**1.69**	**63**	⇑	*i*P		**Pn**	**20 31 30.9**	**0.0**
CLCH					*i*S		**Sn**	**20 31 51.7**	**0.0**
CLCH					AML		AML	20 32 01.1	
	comp=E,2μm,0.4s								
PEL	**Peldehue**	**1.72**	**54**	⇓	*i*P		**Pn**	**20 31 31.6**	**+0.3**
PEL					AML		AML	20 32 04.5	
	comp=N,4μm,0.3s								
YECH	**El Yeso**	**1.94**	**75**		AML		AML	20 32 04.3	
	comp=N,2μm,0.5s								
AAGR	**Agrelo**	**3.12**	**71**		*e*P		**Pb**	**20 31 55.2**	**-2.7**
AAGR					*i*S		**Sb**	**20 32 38.4**	**+2.7**
ARCO	**CERRO ARCO**	**3.14**	**66**		*e*P		**Pb**	**20 31 56.6**	**-1.6**
ARCO					*i*S		**Sb**	**20 32 39.2**	**+3.0**
ARCO					AML		AML	20 32 51.3	
	comp=Z,143nm,0.6s								
AUSP	**Uspallata**	**3.15**	**53**		*e*P		**Pn**	**20 31 53.7**	**+2.6**
AUSP					*i*P		Pb	20 31 55.2	-3.3
AUSP					*i*S		**Sb**	**20 32 40.8**	**+4.2**
ASAL	**Salagasta**	**3.33**	**63**		*e*P		**Pb**	**20 31 58.6**	**-2.8**
ASAL					*i*S		**Sb**	**20 32 44.2**	**+2.6**
RTLS	**Leoncito**	**3.49**	**48**		*e*P		**Pn**	**20 31 58.5**	**+2.7**
RTLS					*i*S		**Sb**	**20 32 49.0**	**+2.8**
RTCV	**Cerro Valdivia**	**3.94**	**55**		*e*P		**Pn**	**20 32 04.5**	**+2.7**
RTCV					*i*S		**Sb**	**20 32 57.8**	**-1.2**
CFAA	**Coronel Fontan**	**4.30**	**54**	Pn			**Pn**	**20 32 08.0**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=216,slow=12,SNR=12								
CFAA				Lg			Lg	20 33 10.8	
	comp=Z,1.2nm,0.3s,baz=1.0,slow=15,SNR=5.6								
CFAA				LR			LR	20 33 57.7	
	comp=Z,41nm,21.6s,baz=218,slow=40								
CFAA	**Coronel Fontan**	**4.30**	**54**	*i*	P		**Pn**	**20 32 08.3**	**+1.6**
RTLL	**Cerro Villicun**	**4.32**	**50**		*e*P		**Pn**	**20 32 08.5**	**+1.5**
RTLL					*i*S		**Sb**	**20 33 07.7**	**-2.3**
AMOG	**MOGNA**	**4.58**	**46**	*i*	P		**Pn**	**20 32 12.1**	**+1.5**
ACAN	**Cantantal**	**4.72**	**68**	*i*	P		**Pn**	**20 32 13.3**	**+0.8**
AVFE	**Valle Fertil**	**5.42**	**51**		*e*P		**Pn**	**20 32 24.0**	**+1.8**
AVFE					*e*S		Sb	20 33 33.8	-7.7
AVFE					AML		AML	20 33 40.2	
	comp=Z,42nm,1.1s								
ACHE	**Chepes**	**5.65**	**59**		*e*P		**Pn**	**20 32 26.6**	**+1.2**
CYA	**Choya**	**8.00**	**46**		*e*P		**Pn**	**20 32 54.6**	**-2.9**
LPAZ	**La Paz**	**18.21**	**13**	P			**P**	**20 35 16.0**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=194,slow=7.2,SNR=11								
TXAR	**Lajitas Array**	**69.77**	**331**	P			**P**	**20 42 12.4**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=159,slow=7.7,SNR=3.3								
TORD	**Torodi Ar. Bea**	**84.50**	**70**	P			**P**	**20 43 34.5**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=257,slow=5.5,SNR=5.1								
WRA	**Warramunga Arr**	**120.48**	**209**	PKP			**PKPdf**	**20 49 50.0**	**-2.7**
	comp=Z,0.6nm,0.8s,baz=168,slow=2.0,SNR=6.7								
BVAR	**Borovoye Array**	**147.58**	**43**	PKPbc			**PKPab**	**20 50 45.6**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=200,slow=3.8,SNR=4.6								
KURBB	**Kurchatov Arra**	**153.17**	**43**	PKPbc			**PKPbc**	**20 50 58.2**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=304,slow=2.8,SNR=10								
KURBB				PKPab			**PKPab**	**20 51 07.6**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=303,slow=3.0,SNR=5.8								
ZALV	**Zalesovo Beam**	**154.51**	**32**	PKPbc			**PKPbc**	**20 51 00.8**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=243,slow=1.7,SNR=5.7								
ZALV				PKPab			**PKPab**	**20 51 14.9**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=335,slow=6.6,SNR=3.6								
MKAR	**Makanchi Array**	**157.07**	**49**	PKPab			**PKPab**	**20 51 26.8**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=329,slow=4.2,SNR=4.2								

NNC 14 20:49:19.7±4.9,37.˚65N×71.˚63E,h0km,mb3.7,mpv3.4, 8C-1D,Error ellipse: s-maj=45.9km s-min=14.2km az=163.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.49**	**298**	⇑	Pn		Pn	20 49 58.8	-3.0
	27nm,0.5s								
DZET				⇑	Sn		Sb	20 50 35.3	-1.6
	51nm,0.3s								
SFK	**Sufi-Kurgan**	**2.77**	**31**	⇑	Pn		Pn	20 50 06.4	+0.6
	3.4nm,0.2s								
SFK				⇑	Sn		Sn	20 50 41.7	+1.5
	23nm,0.4s								
AAK	**Ala-Archa**	**5.44**	**23**	⇑	Pn		Pn	20 50 44.5	+2.2
	0.9nm,0.3s								
AAK				⇑	Sn		Sn	20 51 44.4	-1.3
	4.9nm,0.6s								
KK31	**Karatay Array**	**5.51**	**351**	⇑	Pn		Pn	20 50 45.2	+2.1
	2.4nm,0.3s,baz=172,slow=12,SNR=66								
KK31				⇑	Sn		Sn	20 51 45.7	-1.6
	3.3nm,0.5s,baz=164,slow=22,SNR=7.1								
AB31	**Akbulak array**	**14.35**	**328**	⇓	P		Pn	20 52 42.2	-1.9
	0.1nm,0.2s,baz=134,slow=14,SNR=3.1								

MEX 14 21:11:19.1±0.4,16.˚29N×98.˚27W,h8km±3km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**53**	*i*	P		Pg	21 11 22.2	-0.6
PNIG					*e*S		Sg	21 11 25.1	-0.2
TLIG	**Tlapa**	**1.30**	**347**		*e*P		Pn	21 11 40.0	-3.7
TLIG					*e*S		Sb	21 11 55.7	-5.2
VHO	**Vista Hermosa**	**1.67**	**62**		*e*P		Pn	21 11 45.4	-3.5
VHO					*i*S		Sn	21 12 04.8	-5.7
CAIG	**El Cayaco**	**2.06**	**292**	*i*	P		Pn	21 11 51.5	-2.4
CAIG					*i*S		Sn	21 12 14.6	-5.2
HUIG	**Huatulco**	**2.14**	**104**	*i*	P		Pn	21 11 51.2	-4.0
HUIG					*i*S		Sn	21 12 17.9	-4.0

*ISCJB **14** 21:14:59.6±0.5,7.˚60N±0.˚05×91.˚86E±0.˚07,h25km, mb3.8/9,MS3.2/8,Error ellipse: s-maj=9.8km s-min=7.0km az=155.6*
*IDC **14** 21:14:59.1±1.3,7.˚81N×91.˚99E,h0km,mb3.7/6,mb1 3.8/9, mb1mx3.6/41,mbtmp3.7/9,ML3.9/3,MS3.2/10,Ms1 3.2/10, ms1mx3.0/35,Error ellipse: s-maj=37.3km s-min=18.6km az=57.0*
*NEIC **14** 21:15:02.2±2.7,7.˚67N×91.˚85E,h28km±21km,mb4.0/4, Error ellipse: s-maj=11.5km s-min=7.7km az=72.0*
*BJI **14** 21:15:03.1,7.˚98N×91.˚75E,h25km,mb4.3/10,mB4.5/5, Ms4.1/2*
ISC 14 21:15:01.9±0.6,7.˚61N±0.˚07×91.˚93E±0.˚08,h25km,n44, σ1°26/38,mb3.8/9,MS3.2/8,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**8.42**	**138**		*e*P	n	**Pn**	**21 17 03.5**	**+1.0**
PSI	**Prapat**	**8.45**	**124**		P	n	**Pn**	**21 17 03.8**	**+0.9**
	0.9nm,0.3s,baz=331,slow=12,SNR=7.0								
PSI						Sn	**Sn**	**21 18 35.4**	**-2.2**
	0.6nm,0.3s,baz=319,slow=19,SNR=2.0								
IPM	**Ipoh**	**9.56**	**108**		*e*P	n	**Pn**	**21 17 18.7**	**+0.5**
PALK	**Pallekele**	**11.14**	**269**		P	n	**Pn**	**21 17 40.8**	**+1.0**
	1.3nm,0.3s,baz=81,slow=13,SNR=13								
PALK						Sn	Sn	21 19 30.0	-14
	1.4nm,0.3s,baz=180,slow=20,SNR=6.9								
PALK						LR	LR	21 21 29.3	
	comp=Z,184nm,18.5s,baz=84,slow=35								
PALK	**Pallekele**	**11.14**	**269**		*e*P	n	**Pn**	**21 17 40.0**	**+0.3**
PALK					*e*S	n	Sn	21 19 31.0	-13
CM01	**Chiang Mai Arr**	**12.74**	**32**		*e*P	n	**Pn**	**21 18 03.0**	**+1.4**
CM31	**Chiang Mai Arr**	**12.76**	**32**		*e*P	n	**Pn**	**21 17 59.9**	**-2.1**
CMAR	**Chiang Mai Arr**	**12.76**	**32**		P	n	**Pn**	**21 17 59.9**	**-2.1**
	0.2nm,0.3s,baz=230,slow=14,SNR=8.4								
CMAR						LR	LR	21 22 44.2	
	comp=Z,48nm,19.4s,baz=200,slow=37								
CHTO	**Chiang Mai**	**13.06**	**31**		*e*P	n	**Pn**	**21 18 07.6**	**+1.5**
KMI	**Kunming**	**20.25**	**29**		P	n	Pn	21 19 37.0	-0.9
KMI						PMZ			
	6.0nm,1.8s								
COCO	**West Island**	**20.26**	**166**		*e*P		**P**	**21 19 35.0**	**-0.7**
	118nm,0.4s								
SBUM	**Sibu**	**20.85**	**103**		*e*P		Pn	21 19 44.7	0.0
	4.6nm,0.9s								
LEM	**Lembang**	**21.22**	**132**		LR		LR	21 29 27.0	
	comp=Z,87nm,18.2s,baz=286,slow=41								
LSA	**Lhasa**	**21.99**	**358**		*e*P		**P**	**21 19 55.4**	**+0.6**
	7.0nm,0.9s								
H08S3	**Diego Garcia H**	**24.59**	**232**		T		T	21 46 36.1	
	baz=52,slow=75,SNR=29								
H08S2	**Diego Garcia H**	**24.60**	**232**		T		T	21 46 32.8	
	baz=52,slow=75,SNR=37								
H08S1	**Diego Carcia H**	**24.61**	**232**		T		T	21 46 33.8	
	baz=52,slow=75,SNR=29								
CD2	**Chengdu**	**25.69**	**24**		*e*P		**P**	**21 20 30.0**	**-0.2**
GTA	**Gaotai**	**32.45**	**11**		*e*P		**P**	**21 21 30.9**	**+0.5**
GTA					pP		**pP**	**21 21 38.5**	**+0.7**
GTA					sP		**sP**	**21 21 41.8**	**+0.9**
GTA					PMZ				
	8.0nm,1.6s								
GTA					PMZ				
	38nm,4.5s								
GTA					LN				
	200nm,19.0s								
GTA					LE				
	330nm,19.0s								
WMQ	**Urumqi**	**36.26**	**355**		*e*P		**P**	**21 22 03.5**	**+0.2**
HHC	**Hu-ho-hao-te**	**37.44**	**25**		*e*P		**P**	**21 22 14.3**	**+0.9**
HHC					S		**S**	**21 28 00.6**	**0.0**
HHC					PMZ				
	15nm,0.9s								
HHC					PMZ				
	65nm,5.6s								
BJI	**Beijing**	**38.91**	**30**		P		**P**	**21 22 24.9**	**-0.7**
BJI					PMZ				
	9.0nm,0.8s								
MK01	**Makanchi Array**	**39.89**	**350**		*e*P		**P**	**21 22 31.6**	**-2.1**
MK32	**Makanchi Array**	**39.91**	**350**		*e*P		**P**	**21 22 33.2**	**-0.7**
MKAR	**Makanchi Array**	**39.91**	**350**		P		**P**	**21 22 33.2**	**-0.7**
	0.6nm,0.7s,baz=172,slow=9.5,SNR=9.7								
MKAR						LR	LR	21 44 24.5	
	comp=Z,16nm,18.2s,baz=156,slow=44								
SONA0	**Songino Array**	**41.94**	**15**		*e*P		**P**	**21 22 49.8**	**-0.9**
SONM	**Songino Array**	**41.94**	**15**		P		**P**	**21 22 49.8**	**-0.9**
	1.4nm,0.7s,baz=196,slow=8.9,SNR=8.0								
SONM						LR	LR	21 42 47.0	
	comp=Z,33nm,21.4s,baz=226,slow=40								
SONA1	**Songino Array**	**41.95**	**15**		*e*P		**P**	**21 22 48.8**	**-2.1**
MRIV	**Mauritius Mete**	**43.77**	**230**		*e*P		**P**	**21 23 04.1**	**-1.7**
KSRS	**Korea Array**	**44.12**	**42**		LR		LR	21 44 12.4	
	comp=Z,22nm,18.6s,baz=199,slow=40								
KURBB	**Kurchatov Arra**	**44.30**	**348**		P		**P**	**21 23 09.4**	**-0.3**
	0.9nm,0.8s,baz=168,slow=7.1,SNR=11								
KURK	**Kurchatov**	**44.37**	**348**		*e*P		**P**	**21 23 09.4**	**-0.8**
CN2	**Changchun**	**46.44**	**33**		*e*P		**P**	**21 23 28.0**	**+1.3**
ZAA0	**Zalesovo Array**	**46.56**	**354**		*e*P		**P**	**21 23 27.1**	**-0.4**
ZALV	**Zalesovo Beam**	**46.56**	**354**		P		**P**	**21 23 26.1**	**-1.5**
	0.5nm,0.6s,baz=183,slow=19,SNR=4.2								
ZALV						LR	LR	21 45 16.9	
	comp=Z,32nm,20.9s,baz=250,slow=39								
ZAA1	**Zalesovo Array**	**46.57**	**354**		*e*P		**P**	**21 23 26.1**	**-1.5**
ABKAR	**Akbulak array**	**49.44**	**333**		*e*P		**P**	**21 23 50.3**	**+0.5**
	0.5nm,0.5s								
WRA	**Warramunga Arr**	**49.91**	**124**		P		**P**	**21 23 55.3**	**+1.3**
	0.8nm,0.7s,baz=304,slow=8.6,SNR=6.2								
AS12	**Alice Springs**	**51.45**	**128**		*e*P		**P**	**21 24 07.4**	**+1.9**
ASAR	**Alice Springs**	**51.45**	**128**		P		**P**	**21 24 07.4**	**+1.9**
	0.4nm,0.9s,baz=302,slow=8.0,SNR=3.4								
GUMO	**Guam**	**52.30**	**79**		LR		LR	21 46 24.8	
	comp=Z,15nm,20.2s,baz=86,slow=36								
TIXI	**Tiksi**	**67.93**	**12**		*e*P		**P**	**21 25 57.5**	**-0.7**
	1.8nm,0.6s								
BOSA	**Boshof**	**73.59**	**237**		LR		LR	21 56 25.8	
	comp=Z,25nm,18.0s,baz=174,slow=34								
TORD	**Torodi Ar. Bea**	**88.52**	**283**		LR		LR	22 05 44.4	
	comp=Z,14nm,18.0s,baz=170,slow=34								

*IDC **14** 21:21:32.2±0.9,15.˚54S×173.˚23W,h0km,mb4.0/8, mb1 4.3/8,mb1mx4.0/30,mbtmp4.0/8,MS3.3/5,Ms1 3.3/5, ms1mx2.9/27,Error ellipse: s-maj=46.8km s-min=18.4km az=139.0*
*ISCJB **14** 21:21:36.6±0.7,15.˚5S±0.˚2×173.˚4W±0.˚2,h42km,mb4.0/8, MS3.3/5,Error ellipse: s-maj=37.8km s-min=15.5km az=136.8*
ISC 14 21:21:38.1±0.9,15.˚6S±0.˚3×173.˚3W±0.˚3,h42km,n21, σ0°48/9,mb3.9/8,MS3.3/5,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PAE	**Paea**	**22.80**	**99**		*e*T		T	21 49 45.4	
	2.6nm,0.3s								
PPT	**Papeete**	**22.80**	**98**		LR		LR	21 32 28.2	
	comp=Z,39nm,21.7s,baz=310,slow=29								
PPT2	**Papeete2**	**22.80**	**98**		*e*LR		LR	21 31 42.4	
	59nm,24.5s								
TBI	**Tubuai**	**23.73**	**113**		*e*T		T	21 50 57.3	
	7.6nm,0.3s								
URZ	**Urewera**	**24.15**	**199**		P		**P**	**21 26 50.7**	**+0.4**
	18nm,0.6s,baz=6.8,slow=3.0,SNR=15								
URZ					LR		LR	21 36 02.4	
	comp=Z,74nm,18.2s,baz=31,slow=36								
PMOR	**Pomariorio Ree**	**24.48**	**92**		*e*T		T	21 51 51.0	
	2.0nm,0.3s								
RKT	**Rikitea**	**36.83**	**108**		*e*T		T	22 07 18.3	
	4.8nm,0.4s								
H11S2	**WAKE ISLAND Hy**	**39.16**	**329**		T		T	22 09 29.3	
	baz=146,slow=74								
H11S3	**WAKE ISLAND Hy**	**39.18**	**329**		T		T	22 09 30.0	
	baz=146,slow=74								
H11S1	**WAKE ISLAND Hy**	**39.18**	**329**		T		T	22 09 32.7	
	baz=146								
H11N3	**WAKE ISLAND Hy**	**40.11**	**330**		T		T	22 11 59.4	
	baz=146,slow=75								
H11N1	**WAKE ISLAND Hy**	**40.12**	**330**		T		T	22 11 57.7	
	baz=146								
H11N2	**WAKE ISLAND Hy**	**40.13**	**330**		T		T	22 12 03.1	
	baz=146,slow=75								
STKA	**Stephens Creek**	**44.06**	**240**	P			**P**	**21 29 41.9**	**-0.3**
	1.4nm,0.7s,baz=96,slow=10.0,SNR=5.0								
WRA	**Warramunga Arr**	**49.93**	**257**	P			**P**	**21 30 28.1**	**-0.1**
	0.5nm,0.4s,baz=95,slow=6.7,SNR=13								
ASAR	**Alice Springs**	**50.18**	**252**	P			**P**	**21 30 30.1**	**0.0**
	4.6nm,0.6s,baz=87,slow=7.9,SNR=93								
ASAR				LR			LR	21 50 16.7	
	comp=Z,54nm,19.0s,baz=88,slow=34								
NVAR	**Mina Array Bea**	**74.36**	**42**	P			**P**	**21 33 12.4**	**+0.5**
	1.6nm,0.8s,baz=227,slow=10,SNR=12								
TXAR	**Lajitas Array**	**80.60**	**56**	P			**P**	**21 33 46.5**	**-0.3**
	0.5nm,0.9s,baz=234,slow=4.2,SNR=4.4								
TXAR				LR			LR	22 04 24.7	
	comp=Z,12nm,18.1s,baz=0.0,slow=32								
PDAR	**Pinedale Array**	**82.30**	**42**	P			**P**	**21 33 54.9**	**-0.8**
	0.5nm,0.6s,baz=192,slow=4.4,SNR=3.7								
PDAR				LR			LR	22 02 26.9	
	comp=Z,24nm,20.1s,baz=262,slow=30								
ILAR	**Eielson Array**	**82.58**	**11**	P			**P**	**21 33 56.6**	**+0.3**
	0.3nm,0.7s,baz=223,slow=7.3,SNR=3.2								
BRTR	**Keskin Array B**	**146.36**	**321**	PKPbc			**PKPab**	**21 41 16.2**	**+0.4**
	0.3nm,0.4s,baz=97,slow=4.1,SNR=2.9								

CASC 14 21:37:15.6±2.2,13.˚33N×91.˚64W,h74km±114km,MD3.9, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.98**	**360**		*e*P		Pn	21 37 35.1	+0.9
FUG	**Fuego 3**	**1.35**	**35**		*e*P		Pn	21 37 38.8	-0.2
IXG	**Ixpaco**	**1.42**	**54**		*e*P		Pn	21 37 38.5	-1.4
NBG	**Las Nubes**	**1.77**	**45**		*e*P		Pn	21 37 45.8	+1.2
SBLS	**San Blas**	**2.02**	**75**		*e*P		Pn	21 37 48.2	+0.3
SBLS					*e*S		Sn	21 38 14.4	+1.8
SNJE	**San Jose**	**2.05**	**75**		*e*P		Pn	21 37 48.8	+0.6
RBDL	**Robledal**	**2.05**	**67**		*e*P		Pn	21 37 48.3	0.0
BOQS	**Boqueron**	**2.33**	**80**		*e*P		Pn	21 37 53.5	+1.5
LFRS	**El Faro**	**2.52**	**83**		*e*P		Pn	21 37 54.9	+0.4
MRL	**Marmol**	**2.56**	**47**		*e*P		Pn	21 37 59.0	+3.9

*SJA **14** 21:41:37.4±1.1,34.˚12S×73.˚44W,h40km,ML3.5*
*GUC **14** 21:41:47.8±0.6,34.˚15S×72.˚24W,h11km±2km,ML3.7*
ISC 14 21:41:46.3±2.6,34.˚21S±0.˚05×72.˚3W±0.˚1,h9km±12km,n18, σ2°07/28,3C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.78**	**71**	⇓	*i*P		**Pg**	**21 42 01.6**	**+0.3**
LNV					*i*S		**Sg**	**21 42 11.5**	**+0.1**
NICH	**Los Niches**	**1.18**	**132**		*e*P		**Pn**	**21 42 09.2**	**+0.1**
NICH					*i*S		**Sb**	**21 42 25.2**	**+0.9**
TACH	**Talagante**	**1.26**	**64**	⇑	*i*P		**Pn**	**21 42 08.6**	**-1.5**
TACH					*i*S		**Sb**	**21 42 25.1**	**-1.5**
TALC	**Talca**	**1.30**	**156**	⇑	*i*P		**Pn**	**21 42 11.7**	**+1.0**
TALC					*i*S		**Sb**	**21 42 29.0**	**+1.2**
SAN	**Santiago**	**1.56**	**61**		*e*P		**Pn**	**21 42 13.5**	**-0.7**
PCH	**Pirque**	**1.59**	**69**	⇓	*i*P		**Pn**	**21 42 14.8**	**-0.1**
CLCH	**Cerro Calan**	**1.68**	**61**	⇑	*i*P		**Pn**	**21 42 15.6**	**-0.3**
CLCH					*i*S		**Sn**	**21 42 36.9**	**-0.6**
CLCH					AML		AML	21 42 45.5	
	comp=E,1μm,0.5s								
PEL	**Peldehue**	**1.71**	**52**	⇓	*i*P		**Pn**	**21 42 16.1**	**-0.3**
PEL					*i*S		**Sn**	**21 42 38.1**	**-0.3**
P

KK31	**Karatay Array**	**5.95**	**352**	⇑Pn	**Pn**	**22 07 04.5**	**-0.2**
	1.2nm,0.2s,baz=180,slow=14,SNR=50							
KK31				⇑Sn	**Sn**	**22 08 10.6**	**-0.9**
	1.8nm,0.3s,baz=180,slow=24,SNR=14							
CHMS	**Chumysh**	**6.28**	**22**	P	**Pn**	**22 07 08.8**	**-0.4**
	SNR=5.2							

ISCJB ***14*** *22:11:51.7±0.2, 63°.60N±0°.02×147°.48W±0°.05, h93km±3km, mb3.7/8, Error ellipse: s-maj=4.1km s-min=3.2km az=162.8*

NEIC ***14*** *22:11:52.9, 63°.58N×147°.53W, h84km, MG3.5(AEIC), After AEIC.*

IDC ***14*** *22:11:53.2±3.0, 63°.74N×148°.00W, h88km±21km, mb3.5/8, mb1 3.6/10, mb1mx3.4/38, mbtmp3.7/10, Error ellipse: s-maj=42.4km s-min=14.8km az=52.0*

ISC 14 22:11:53.0±0.7, 63°.61N±0°.03×147°.55W±0°.03, h88km±6km, n83, σ1§08/97, mb3.9/8, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHY	**Denali Highway**	**0.54**	**172**	P	**Pn**	**22 12 07.5**	**-0.5**
DHY				S	**Sn**	**22 12 18.5**	**-0.7**
RND	**Reindeer**	**0.62**	**251**	P	**Pn**	**22 12 08.4**	**-0.3**
RND				S	**Sn**	**22 12 20.3**	**+0.1**
MCK	**McKinley**	**0.63**	**282**	P	**Pn**	**22 12 08.4**	**-0.3**
MCK				S	**Sn**	**22 12 19.9**	**-0.4**
PS10	**TAPS Pump St10**	**0.82**	**103**	P	**Pn**	**22 12 10.5**	**-0.1**
PS10				S	**Sn**	**22 12 24.4**	**+0.7**
HDA	**Harding Lake**	**0.84**	**18**	P	**Pn**	**22 12 10.9**	**+0.2**
HDA				S	**Sn**	**22 12 23.7**	**-0.2**
WRH	**Wood River Hil**	**0.90**	**345**	P	**Pn**	**22 12 11.2**	**-0.1**
WRH				S	**Sn**	**22 12 24.8**	**-0.2**
PS08	**TAPS Pump Stn8**	**0.99**	**19**	P	**Pn**	**22 12 12.4**	**0.0**
PS08				S	**Sn**	**22 12 26.6**	**-0.3**
BWN	**Browne**	**1.02**	**304**	P	**Pn**	**22 12 11.9**	**-0.9**
BWN				S	**Sn**	**22 12 26.2**	**-1.3**
CCB	**Clear Creek Bu**	**1.04**	**354**	P	**Pn**	**22 12 12.9**	**-0.1**
CCB				S	**Sn**	**22 12 27.5**	**-0.6**
PAX	**Paxson**	**1.14**	**124**	*e*Pn	**Pn**	**22 12 13.8**	**-0.4**
PAX				*e*Sn	**Sn**	**22 12 29.2**	**-1.0**
HUR	**Hurricane**	**1.14**	**237**	P	**Pn**	**22 12 13.8**	**-0.4**
ILAR	**Eielson Array**	**1.20**	**14**	P	**Pn**	**22 12 14.8**	**-0.1**
	145nm,0.3s,baz=193,slow=13,SNR=4185							
ILAR				S	**Sn**	**22 12 30.5**	**-0.9**
	84nm,0.3s,baz=187,slow=23,SNR=24							
ILB	**Eielson Array**	**1.20**	**14**	P	**Pn**	**22 12 14.8**	**-0.1**
IL1	**Eielson Array**	**1.20**	**14**	P	**Pn**	**22 12 14.5**	**-0.4**
TRF	**Thorofare Moun**	**1.24**	**264**	P	**Pn**	**22 12 15.7**	**+0.1**
MDM	**Murphy Dome**	**1.39**	**348**	P	**Pn**	**22 12 17.3**	**+0.1**
BPAW	**Bear Paw Mtn.**	**1.60**	**289**	P	**Pn**	**22 12 19.4**	**-0.5**
HARP	**HAARP**	**1.63**	**137**	P	**Pn**	**22 12 20.1**	**-0.2**
TRAP	**Trapper Creek**	**1.78**	**225**	P	**Pn**	**22 12 21.8**	**-0.3**
SCM	**Sheep Creek Mo**	**1.79**	**177**	P	**Pn**	**22 12 21.7**	**-0.7**
MLY	**Manley**	**1.99**	**317**	P	**Pn**	**22 12 25.1**	**+0.1**
PMR	**Palmer**	**2.16**	**201**	P	**Pn**	**22 12 27.7**	**+0.6**
PPLA	**Purkeypile**	**2.22**	**253**	P	**Pn**	**22 12 28.3**	**+0.1**
WASW	**Wrangell South**	**2.29**	**136**	P	**Pn**	**22 12 28.7**	**-0.5**
PS06	**TAPS Pump Stn6**	**2.44**	**338**	P	**Pn**	**22 12 31.5**	**+0.6**
SKT	**Skwentna**	**2.46**	**230**	P	**Pn**	**22 12 30.9**	**-0.3**
VLZ	**Valdez**	**2.55**	**167**	P	**Pn**	**22 12 30.8**	**-1.6**
JPK	**Jack Peak**	**2.60**	**170**	P	**Pn**	**22 12 31.6**	**-1.6**
SUA	**Susitna One**	**2.62**	**216**	P	**Pn**	**22 12 34.5**	**+1.1**
DIV	**Divide**	**2.63**	**161**	P	**Pn**	**22 12 32.0**	**-1.5**
BCA3	**Beaver Creek A**	**2.66**	**99**	P	**Pn**	**22 12 32.8**	**-1.1**
RC01	**Rabbit Creek A**	**2.73**	**203**	P	**Pn**	**22 12 36.9**	**+2.1**
GLI	**Glacier Island**	**2.75**	**175**	P	**Pn**	**22 12 33.8**	**-1.3**
GLB	**Gilahina Butte**	**2.78**	**140**	P	**Pn**	**22 12 35.4**	**-0.1**
STLK	**Strandline Lak**	**2.91**	**225**	P	**Pn**	**22 12 37.8**	**+0.5**
BMRM	**Bremner River**	**2.99**	**151**	P	**Pn**	**22 12 36.9**	**-1.5**
EGAK	**Eagle**	**3.03**	**64**	P	**Pn**	**22 12 38.6**	**-0.1**
VRDI	**Verde Repeater**	**3.06**	**140**	P	**Pn**	**22 12 38.7**	**-0.7**
MCARA	**McCarthy VSAT**	**3.07**	**135**	P	**Pn**	**22 12 40.3**	**+0.9**
FYU	**Fort Yukon**	**3.12**	**17**	P	**Pn**	**22 12 40.8**	**+0.8**
EYAK	**Cordova Ski Ar**	**3.19**	**164**	P	**Pn**	**22 12 39.7**	**-1.3**
CKN	**Chakachatna No**	**3.22**	**224**	P	**Pn**	**22 12 42.5**	**+1.0**
SPBG	**Spurr Blockage**	**3.26**	**226**	P	**Pn**	**22 12 43.0**	**+1.0**
BGL	**Barrier Glacie**	**3.26**	**226**	P	**Pn**	**22 12 42.5**	**+0.4**
HIN	**Hinchinbrook I**	**3.27**	**171**	P	**Pn**	**22 12 41.0**	**-1.1**
CKL	**Chakachamna La**	**3.29**	**225**	P	**Pn**	**22 12 43.5**	**+1.0**
GOAT	**Goat Mountain**	**3.32**	**155**	P	**Pn**	**22 12 41.6**	**-1.2**
SLKM	**Skilak Lake**	**3.36**	**203**	P	**Pn**	**22 12 43.7**	**+0.3**
PTPK	**Patty Peak**	**3.39**	**134**	P	**Pn**	**22 12 44.2**	**+0.3**
PS05	**TAPS Pump Stn5**	**3.47**	**339**	P	**Pn**	**22 12 45.8**	**+1.1**
RAGM	**Ragged Mountai**	**3.51**	**156**	P	**Pn**	**22 12 44.8**	**-0.5**
IM04	**Indian Mountai**	**3.57**	**314**	*e*Pn	**Pn**	**22 12 46.8**	**+0.6**
IM04				*e*Sn	**Sn**	**22 13 21.9**	**-5.3**
KIAG	**Kiagna River**	**3.63**	**136**	P	**Pn**	**22 12 46.0**	**-1.0**
SEW	**Seward**	**3.63**	**195**	P	**Pn**	**22 12 47.2**	**+0.2**
DAWY	**Dawson**	**3.64**	**79**	P	**Pn**	**22 12 46.7**	**-0.4**
BERG	**Berg Lake**	**3.70**	**149**	P	**Pn**	**22 12 47.0**	**-0.9**
BARN	**Barnard Glacie**	**3.75**	**130**	P	**Pn**	**22 12 49.1**	**+0.3**
KHIT	**Khitrov Hills**	**3.77**	**146**	P	**Pn**	**22 12 47.7**	**-1.2**
NICHA	**Nichawak Mount**	**3.79**	**152**	P	**Pn**	**22 12 48.0**	**-1.0**
COLD	**Coldfoot**	**3.80**	**344**	P	**Pn**	**22 12 50.1**	**+0.9**
DFR	**Drift River**	**3.88**	**221**	P	**Pn**	**22 12 51.2**	**+0.9**
ISLE	**Juniper Island**	**3.89**	**139**	P	**Pn**	**22 12 48.7**	**-1.9**
GRNC	**Granite Creek**	**3.96**	**134**	P	**Pn**	**22 12 50.7**	**-1.0**
SUCK	**Suckling Hills**	**3.98**	**152**	P	**Pn**	**22 12 50.4**	**-1.2**
RSO	**Redoubt South**	**4.00**	**220**	P	**Pn**	**22 12 51.6**	**-0.6**
BARK	**Barkley Ridge**	**4.00**	**141**	P	**Pn**	**22 12 51.0**	**-1.1**
BAGL	**Bagley Icefiel**	**4.05**	**138**	P	**Pn**	**22 12 51.4**	**-1.2**
KULT	**Kultieth River**	**4.07**	**144**	P	**Pn**	**22 12 52.1**	**-0.9**
LOGN	**Logan Glacier**	**4.15**	**129**	P	**Pn**	**22 12 54.2**	**+0.1**
BRLK	**Bradley Lake**	**4.18**	**204**	P	**Pn**	**22 12 54.4**	**0.0**
RKAV	**Rock Avalanche**	**4.43**	**136**	P	**Pn**	**22 12 56.9**	**-1.0**
ILW	**Iliamna West**	**4.44**	**219**	P	**Pn**	**22 12 58.4**	**+0.3**
HYT	**Haines Junctio**	**5.47**	**116**	P	**Pn**	**22 13 11.9**	**-0.1**
INK	**Inuvik**	**7.40**	**44**	P	**Pn**	**22 13 38.3**	**+0.2**
	1.1nm,0.3s,baz=243,slow=15,SNR=8.9							
INK				S	**Sn**	**22 14 57.8**	**-2.6**
	0.5nm,0.3s,baz=285,slow=20,SNR=3.4							
YKA	**Yellowknife Ar**	**14.88**	**79**	P	**P**	**22 15 22.3**	**+0.3**
	0.1nm,0.3s,baz=286,slow=10,SNR=3.1							
PDAR	**Pinedale Array**	**30.16**	**116**	P	**P**	**22 17 56.7**	**+1.9**
	0.8nm,0.8s,baz=350,slow=8.4,SNR=6.2							
NVAR	**Mina Array Bea**	**30.69**	**131**	P	**P**	**22 18 01.5**	**+2.2**
	0.4nm,0.6s,baz=330,slow=6.5,SNR=3.3							
TXAR	**Lajitas Array**	**44.17**	**120**	P	**P**	**22 19 54.7**	**+1.8**
	0.1nm,0.4s,baz=324,slow=6.0,SNR=3.3							
TXAR				PcP	**PP**	**22 21 37.7**	**+0.4**
	0.1nm,0.6s,baz=352,slow=5.6,SNR=2.5							
ARCES	**ARCESS Array B**	**47.04**	**3**	P	**P**	**22 20 14.5**	**-0.4**
	2.6nm,0.9s,baz=358,slow=6.3,SNR=5.1							
FINES	**FINESS Array B**	**55.17**	**4**	P	**P**	**22 21 15.1**	**-0.7**
	0.7nm,0.4s,baz=6.7,slow=11,SNR=8.9							
ZALV	**Zalesovo Beam**	**55.92**	**326**	P	**P**	**22 21 19.9**	**-1.4**
	1.0nm,0.3s,baz=34,slow=6.1,SNR=4.9							
MKAR	**Makanchi Array**	**63.13**	**324**	P	**P**	**22 22 09.3**	**-1.6**
	0.7nm,0.5s,baz=42,slow=7.5,SNR=15							
AKASG	**Malin Array Be**	**66.00**	**2**	P	**P**	**22 22 29.1**	**-0.4**
	0.5nm,0.3s,baz=360,slow=6.1,SNR=4.1							

IDC 14 22:22:37.9±19.0, 8°.37S×117°.89E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.2/29, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=356.4km s-min=189.6km az=178.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.64**	**128**	P	P	22 27 07.7	-0.7
	0.1nm,0.3s,baz=301,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**21.60**	**137**	P	P	22 27 30.4	+0.8
	0.4nm,0.3s,baz=311,slow=9.2,SNR=6.7						
STKA	**Stephens Creek**	**32.13**	**140**	P	P	22 29 07.0	-0.2
	0.8nm,0.5s,baz=324,slow=11,SNR=3.5						

NEIC ***14*** *22:33:20.5, 17°.10N×94°.39W, h154km, MD4.1(MEX), After MEX.*

MEX 14 22:33:20.5±1.0, 17°.10N×94°.39W, h154km±9km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.47**	**269**	*i* P	Pn	22 33 40.9	-1.3
CMIG				*i* S	Sn	22 33 56.1	-2.6
CMIG	**Matias Romero**	**0.47**	**269**	*i* P	Pn	22 33 40.9	-1.3
CMIG				*i* S	Sn	22 33 56.1	-2.6
TGIG		**1.25**	**104**	*i* P	Pn	22 33 47.3	-0.7
TGIG				*i* S	Sn	22 34 07.0	-2.0
TGIG		**1.25**	**104**	*i* P	Pn	22 33 47.3	-0.7
TGIG				*i* S	Sn	22 34 07.0	-2.0
HUIG	**Huatulco**	**2.11**	**232**	*i* P	Pn	22 33 55.0	-2.2
HUIG				*i* S	Sn	22 34 24.2	-1.2
HUIG	**Huatulco**	**2.11**	**232**	*i* P	Pn	22 33 55.0	-2.2
HUIG				*i* S	Sn	22 34 24.2	-1.2
VHO	**Vista Hermosa**	**2.24**	**270**	*i* P	Pn	22 33 58.5	-0.5
VHO				*i* S	Sn	22 34 27.2	-1.3
VHO	**Vista Hermosa**	**2.24**	**270**	*i* P	Pn	22 33 58.5	-0.5
VHO				*i* S	Sn	22 34 27.2	-1.3
CCIG	**Comitan**	**2.31**	**110**	*i* P	Pn	22 33 57.6	-2.1
CCIG				*i* S	Sn	22 34 28.1	-1.8
CCIG	**Comitan**	**2.31**	**110**	*i* P	Pn	22 33 57.6	-2.1
CCIG				*i* S	Sn	22 34 28.1	-1.8
TPIG	**Tehuac#an**	**3.12**	**295**	*i* S	Sn	22 34 45.7	-2.3
TPIG	**Tehuac#an**	**3.12**	**295**	*i* S	Sn	22 34 45.7	-2.3
PNIG	**Pinotepa**	**3.65**	**259**	*e*P	Pn	22 34 14.3	-2.0
PNIG				*i* S	Sn	22 34 57.5	-2.2
PNIG	**Pinotepa**	**3.65**	**259**	*e*P	Pn	22 34 14.3	-2.0
PNIG				*i* S	Sn	22 34 57.5	-2.2
TLIG	**Tlapa**	**4.02**	**277**	*i* P	Pn	22 34 20.7	-0.6
TLIG				*i* S	Sn	22 35 06.2	-2.3

ISCJB ***14*** *22:40:02.2±0.4, 4°.22S×0°.06×127°.31E±0°.05, h300km, mb3.6/7, Error ellipse: s-maj=8.3km s-min=7.1km az=34.6*

IDC ***14*** *22:40:05.2±2.7, 4°.16S×127°.57E, h319km±34km, mb3.4/8, mb1 3.6/10, mb1mx3.3/43, mbtmp4.1/10, Error ellipse: s-maj=50.0km s-min=12.0km az=70.0*

DJA ***14*** *22:40:06.0±0.9, 4°.5S×10°.×12°.7E±°, h274km±5km, M3.9/10, mb4.5/1, mB5.6/1, MLv3.6/10, Mw(mB)5.2/1*

ISC 14 22:40:03.2±0.7, 4°.25S±0°.08×127°.35E±0°.08, h300km, n25, σ1§28/29, mb3.9/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**1.04**	**346**	P	**Pn**	**22 40 43.6**	**-0.3**
NLAI				S	**S**	**22 41 13.1**	**-3.0**
MSAI	**Masohi**	**1.81**	**60**	P	**Pn**	**22 40 47.4**	**-1.2**
MSAI				S	**S**	**22 41 21.5**	**-3.2**
BNDI	**Bandanaira**	**2.56**	**96**	P	**Pn**	**22 40 53.9**	**-0.9**
SANI	**Sanana**	**2.58**	**328**	P	**Pn**	**22 40 54.3**	**-0.7**
LBMI	**Labuha**	**3.59**	**2**	P	Pn	22 41 00.2	-5.0
FAKI	**Fak Fak**	**5.07**	**75**	P	**Pn**	**22 41 21.3**	**-0.3**
SIJI	**Sorong**	**5.16**	**49**	P	**Pn**	**22 41 22.9**	**+0.2**
	3.9nm,0.3s,baz=218,slow=19,SNR=26						
SIJI				S	**S**	**22 42 24.6**	**-2.0**
	7.1nm,0.3s,baz=210,slow=23,SNR=11						
SWI	**Sorong**	**5.16**	**49**	P	**Pn**	**22 41 24.8**	**+2.1**
RKPI	**Ransiki, Papua**	**7.34**	**68**	P	**Pn**	**22 41 50.5**	**+1.6**
WRA	**Warramunga Arr**	**17.02**	**157**	P	**P**	**22 43 43.2**	**+0.7**
	2.4nm,0.3s,baz=336,slow=11,SNR=61						
WRA				S	**S**	**22 46 42.6**	**-1.8**
	0.4nm,0.3s,baz=338,slow=20,SNR=7.7						
ASAR	**Alice Springs**	**20.31**	**162**	P	**P**	**22 44 17.9**	**+0.4**
	5.8nm,0.4s,baz=342,slow=11,SNR=82						
ASAR				S	**S**	**22 47 47.1**	**+0.1**
	1.1nm,0.9s,baz=348,slow=22,SNR=5.4						
STKA	**Stephens Creek**	**30.56**	**156**	P	**P**	**22 45 50.8**	**+1.1**
	1.3nm,0.4s,baz=324,slow=9.0,SNR=7.1						
CMAR	**Chiang Mai Arr**	**35.96**	**310**	P	**P**	**22 46 37.6**	**+1.4**
	1.6nm,0.4s,baz=136,slow=7.1,SNR=13						
ODAN	**Odare**	**49.48**	**311**	*e*P	**P**	**22 48 23.8**	**-0.5**
TAPN	**Taplejung**	**49.50**	**312**	*e*P	**P**	**22 48 24.5**	**-0.1**
	6.3nm,0.3s						
RAMN	**Ramite**	**50.12**	**311**	*e*P	**P**	**22 48 29.1**	**-0.1**
	16nm,0.5s						
GUN	**Gumba**	**51.17**	**311**	*e*P	**P**	**22 48 37.2**	**+0.1**
	11nm,0.4s						
PKI	**Pulchoki**	**51.35**	**311**	*e*P	**P**	**22 48 37.7**	**-0.7**
GKN	**Gorkha**	**52.16**	**311**	*e*P	**P**	**22 48 44.2**	**+0.1**
	9.4nm,0.4s						
KOLN	**Koldanda**	**52.83**	**310**	*e*P	**P**	**22 48 49.3**	**+0.2**
	4.8nm,0.5s						
MKAR	**Makanchi Array**	**64.50**	**327**	P	**P**	**22 50 08.9**	**+0.4**
	1.2nm,0.5s,baz=124,slow=8.1,SNR=18						
ZALV	**Zalesovo Beam**	**67.98**	**334**	P	**P**	**22 50 30.0**	**-0.2**
	0.3nm,0.3s,baz=139,slow=6.3,SNR=4.2						
KURBB	**Kurchatov Arra**	**68.81**	**329**	P	**P**	**22 50 35.5**	**+0.1**
	0.7nm,0.6s,baz=135,slow=5.4,SNR=11						
BVAR	**Borovoye Array**	**74.35**	**328**	P	**P**	**22 51 08.7**	**+0.4**
	0.4nm,0.6s,baz=123,slow=5.3,SNR=3.8						
AKTO	**Aktyubinsk**	**80.30**	**323**	P	**P**	**22 51 41.3**	**+0.1**
	0.4nm,0.3s,baz=141,slow=6.5,SNR=3.9						

IDC ***14*** *22:45:53.5±1.9, 0°.80N×126°.67E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/41, mbtmp3.5/3, Error ellipse: s-maj=161.0km s-min=25.0km az=66.0*

ISCJB ***14*** *22:45:57.7±0.9, 0°.22N±0°.10×125°.95E±0°.09, h47km, mb3.5/3, Error ellipse: s-maj=15.2km s-min=11.5km az=34.9*

DJA ***14*** *22:45:58.4±1.3, 0°.N±8°.×12°.6E±°, h54km±43km, M3.6/7, MLv3.6/7*

ISC 14 22:45:59.6±1.2, 0°.23N±0°.08×125°.95E±0°.07, h47km, n10, σ2§25/9, mb3.5/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.51**	**69**	P	**Pn**	**22 46 22.5**	**-1.8**
LBMI	**Labuha**	**1.77**	**119**	P	**Pn**	**22 46 28.0**	**+0.1**
KMSI	**Cibinong**	**2.00**	**280**	P	**Pn**	**22 46 29.9**	**-1.1**
SANI	**Sanana**	**2.26**	**179**	P	**Pn**	**22 46 33.0**	**-1.6**
NLAI	**Namlea**	**3.63**	**162**	P	**Pn**	**22 46 51.3**	**-2.1**
MSAI	**Masohi**	**4.63**	**140**	P	**Pn**	**22 47 05.0**	**-2.2**
SWI	**Sorong**	**5.42**	**102**	P	Pn	22 47 31.4	+13
WRA	**Warramunga Arr**	**21.67**	**158**	P	**P**	**22 50 48.2**	**+1.7**
	1.7nm,0.5s,baz=339,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**24.98**	**163**	P	**P**	**22 51 22.4**	**+3.4**
	0.6nm,0.3s,baz=351,slow=15,SNR=11						
MKAR	**Makanchi Array**	**60.01**	**327**	P	**P**	**22 56 01.4**	**-0.1**
	0.1nm,0.3s,baz=126,slow=7.4,SNR=3.0						

IDC ***14*** *22:46:25.2±1.5, 7°.49N×91°.83E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.5/51, mbtmp3.7/7, ML3.9/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/30, Error ellipse: s-maj=40.6km s-min=25.7km az=52.0*

ISC 14 22:46:28.0±1.4, 7°.4N±0°.2×91°.4E±0°.1, h35km, n19, σ2§12/6, mb3.6/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.63**	**270**	Pn	Pn	22 49 05.3	+7.2
	1.3nm,0.3s,baz=93,slow=13,SNR=12						
PALK				Sn	**Sn**	**22 50 54.7**	**-1.3**
	1.8nm,0.3s,baz=15,slow=19,SNR=8.5						
PALK				LR	LR	22 52 32.6	
	comp=Z,72nm,21.2s,baz=98,slow=33						
CMAR	**Chiang Mai Arr**	**13.21**	**33**	Pn	**Pn**	**22 49 31.5**	**-1.8**
	0.1nm,0.3s,baz=230,slow=14,SNR=3.1						
ODAN	**Odare**	**19.74**	**349**	*e*P	Pn	22 51 05.0	+8.2
	20nm,0.9s						
RAMN	**Ramite**	**19.98**	**347**	*e*P	Pn	22 51 09.1	+9.3
TAPN	**Taplejung**	**20.16**	**350**	*e*P	Pn	22 51 10.0	+8.1
	30nm,1.0s						
PKI	**Pulchoki**	**20.86**	**345**	*e*P	Pn	22 51 17.8	+7.6
	18nm,1.1s						
GUN	**Gumba**	**21.07**	**346**	*e*P	P	22 51 19.7	+10
	24nm,0.7s						
LEM	**Lembang**	**21.46**	**131**	LR	LR	22 59 38.7	
	comp=Z,80nm,18.9s,baz=234,slow=37						
GKN	**Gorkha**	**21.48**	**343**	*e*P	P	22 51 23.9	+10
	10nm,0.7s						
KOLN	**Koldanda**	**21.58**	**341**	*e*P	P	22 51 25.5	+10
	13nm,0.7s						
H08S3	**Diego Garcia H**	**24.07**	**232**	T	T	23 18 11.5	
	baz=52,slow=76,SNR=2.8						
H08S2	**Diego Garcia H**	**24.07**	**232**	T	T	23 18 14.1	
	baz=52,slow=76,SNR=5.6						
H08S1	**Diego Carcia H**	**24.09**	**232**	T	T	23 18 15.0	
	baz=52,slow=76,SNR=2.8						
MKAR	**Makanchi Array**	**40.03**	**350**	P	**P**	**22 54 01.4**	**+1.7**
	0.5nm,0.8s,baz=170,slow=8.2,SNR=3.3						
KURBB	**Kurchatov Arra**	**44.41**	**348**	P	**P**	**22 54 37.3**	**+2.1**
	1.0nm,0.8s,baz=168,slow=7.0,SNR=6.6						
ZALV	**Zalesovo Beam**	**46.73**	**355**	P	**P**	**22 54 54.7**	**+1.1**
	0.2nm,0.3s,baz=155,slow=7.6,SNR=2.5						
BVAR	**Borovoye Array**	**48.62**	**343**	P	P	22 55 11.2	+2.9
	0.6nm,0.8s,baz=141,slow=8.4,SNR=3.6						
WRA	**Warramunga Arr**	**50.21**	**124**	P	**P**	**22 55 20.9**	**0.0**
	0.3nm,0.7s,baz=308,slow=7.8,SNR=2.3						
ARCES	**ARCESS Array B**	**74.81**	**341**	LR	LR	23 32 59.5	
	comp=Z,21nm,19.8s,baz=345,slow=37						

ROM 14 23:17:16.5±0.2, 43°.59N×12°.99E, h10km, Md1.6/2, Ml0.8/2, Error ellipse: s-maj=2.7km s-min=0.9km az=68.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARVD	**Arcevia**	**0.10**	**199**	Pg	Pg	23 17 19.7	+0.6
ARVD				Sg	Sg	23 17 21.7	+0.7
	23nm,0.2s						
FSSB	**Fossombrone**	**0.18**	**303**	Pg	Pg	23 17 21.1	+0.6
FSSB				Sg	Sg	23 17 24.4	+1.2
	19nm,0.1s						
PIEI	**Pieia**	**0.33**	**260**	Pg	Pg	23 17 23.7	+0.5
PIEI				Sg	Sb	23 17 29.2	-0.9

IDC ***14*** *23:21:45.9±0.5, 17°.72N×119°.37E, h0km, mb4.1/23, mb1 4.2/26, mb1mx4.1/40, mbtmp4.1/26, ML3.8/3, MS3.7/20, Ms1 3.7/20, ms1mx3.5/35, Error ellipse: s-maj=18.8km s-min=12.4km az=69.0*

ISCJB ***14*** *23:21:48.0±1.2, 17°.78N±0°.03×119°.43E±0°.04, h24km±8km, mb4.5/66, MS3.7/23, Error ellipse: s-maj=6.3km s-min=5.0km az=146.0*

NEIC ***14*** *23:21:48.9±2.4, 17°.75N×119°.43E, h20km±15km, mb4.9/28, Error ellipse: s-maj=6.2km s-min=5.4km az=101.0*

MOS ***14*** *23:21:49.4±0.9, 17°.83N×119°.38E, h33km, mb4.6/32, Error ellipse: s-maj=15.0km s-min=6.8km az=122.2*

BJI ***14*** *23:21:54.8, 18°.50N×119°.30E, h20km, mb4.4/32, mB4.6/23, Ms4.2/25, Ms7 4.0/24*

DJA ***14*** *23:22:08.1±3.0, 18°.N±13°.×12°.0E±1°.2, h251km±38km, M4.2/12, mb4.2/12, mB5.0/3, Mw(mB)4.3/3*

ISC 14 23:21:49.5±0.5, 17°.80N±0°.05×119°.47E±0°.05, h23km±2km, h23km:pP-P, n216, σ1§20/220, mb4.6/64, MS3.7/23, 28C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**0.94**	**82**	⇑*e*P	**Pb**	**23 22 07.0**	**-0.3**
SZP	**Santa**	**0.97**	**105**	*e*Pn	**Pb**	**23 22 07.4**	**-0.2**
SZP				*e*Sn	**Sb**	**23 22 18.8**	**-1.2**
BCPH	**Baguio City Da**	**1.76**	**143**	⇑*i*P	**Pn**	**23 22 18.8**	**-0.1**
BCPH				*i* S	**Sn**	**23 22 40.4**	**-0.2**
YULB	**Yu-li**	**5.82**	**17**	*e*Pn	**Pn**	**23 23 15.7**	**+1.2**
SSLB	**Suanglung**	**6.12**	**13**	*e*Pn	**Pn**	**23 23 16.5**	**-2.0**
NACB	**Ninganchiao**	**6.64**	**17**	*e*Pn	**Pn**	**23 23 24.8**	**-0.9**
YHNB	**Yeheng**	**7.06**	**14**	*e*Pn	**Pn**	**23 23 32.6**	**+1.0**
QIZ	**Qiongzhong**	**9.22**	**279**	P	Pn	23 23 57.0	-4.3
QIZ				S	Sn	23 25 33.4	-11
QIZ				LR	LR		
	comp=N,590nm,11.3s						
QIZ				LR	LR		
	comp=Z,890nm,19.4s						
QIZ	**Qiongzhong**	**9.22**	**279**	*e*Pn	Pn	23 23 56.9	-4.3
QIZ				*e*Sn	Sn	23 25 32.1	-12
JOW	**Kunigami**	**12.12**	**41**	Pn	**Pn**	**23 24 41.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=176,slow=14,SNR=3.5						
JOW				LR	LR	23 29 18.4	
	comp=Z,9.0nm,19.4s,baz=349,slow=37						
SBUM	**Sibu**	**16.83**	**206**	*e*Pn	**Pn**	**23 25 42.0**	**-1.9**
	comp=Z,21nm,1.2s						
KMI	**Kunming**	**17.19**	**298**	P	**P**	**23 25 52.9**	**+3.0**
KMI				pP	**pP**	**23 26 00.1**	**+3.8**
KMI				PMZ			
	comp=Z,14nm,1.3s						
KMI				PMZ			
	comp=Z,100nm,5.6s						
KMI				LN			
	comp=Z,320nm,9.5s						
KMI				LE			
	comp=Z,730nm,

HHC sP **sP** **23 27 11.4 -0.6**
HHC S **S** **23 31 13.9 -3.8**
HHC sS sS 23 31 19.3 -10
HHC PMZ
comp=Z,30nm,0.9s
HHC PMZ
comp=Z,140nm,3.7s
HHC LN
comp=Z,200nm,10.6s
HHC LE
comp=Z,220nm,10.5s
HHC LZ
comp=Z,200nm,9.9s
GUMO Guam 24.79 96 LR LR 23 36 16.2
comp=Z,219nm,18.7s,baz=266,slow=35
PSI Prapat 25.07 236 P **P** **23 27 12.2 -0.3**
comp=Z,5.1nm,0.8s,baz=357,slow=9.5,SNR=3.8
PSI LR LR 23 36 04.3
comp=Z,105nm,20.0s,baz=34,slow=34
PSI Prapat 25.07 236 P **P** **23 27 12.3 -0.3**
PSI pmax pmax
comp=Z,5.0nm,0.8s
PSI MLR MLR
comp=Z,105nm,20.0s
GTA Gaotai 27.48 326 *e*P **P** **23 27 35.4 +1.2**
GTA pP **pP** **23 27 40.5 -0.6**
GTA sP **sP** **23 27 43.4 -0.6**
GTA PMZ
comp=Z,7.0nm,1.5s
GTA PMZ
comp=Z,57nm,5.0s
GTA LN
comp=Z,260nm,18.1s
GTA LE
comp=Z,290nm,16.6s
GTA LZ
comp=Z,570nm,17.1s
USRK Ussuriysk Ar. 28.35 19 P **P** **23 27 44.0 +2.2**
comp=Z,1.1nm,0.7s,baz=216,slow=11,SNR=3.9
LSA Lhasa 28.42 300 *e*P **P** **23 27 43.5 +0.3**
comp=Z,8.3nm,1.1s
ODAN Odare 30.95 293 *e*P **P** **23 28 05.3 0.0**
comp=Z,47nm,1.2s
RAMN Ramite 31.66 293 *e*P **P** **23 28 11.6 +0.1**
comp=Z,54nm,1.1s
SONA0 Songino Array 31.81 343 *e*P **P** **23 28 12.5 0.0**
SONM Songino Array 31.81 343 P **P** **23 28 12.5 0.0**
comp=Z,2.0nm,0.7s,baz=164,slow=11,SNR=3.9
SONM LR LR 23 40 48.3
comp=Z,191nm,20.8s,baz=206,slow=36
SONM Songino Array 31.81 343 P **P** **23 28 12.5 0.0**
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM MLR MLR
comp=Z,191nm,20.8s
SONA1 Songino Array 31.82 343 *e*P **P** **23 28 13.3 +0.7**
GUN Gumba 32.46 294 *e*P **P** **23 28 19.0 +0.3**
comp=Z,42nm,0.9s
PKI Pulchoki 32.81 293 *e*P **P** **23 28 21.3 -0.4**
comp=Z,24nm,1.0s
KLR Kul'dur 32.89 15 *e*P **P** **23 28 19.7 -2.1**
KLR pmax pmax
comp=Z,56nm,1.8s
KKN Kakani 32.96 294 *e*P **P** **23 28 22.7 -0.2**
comp=Z,18nm,0.9s
DMN Daman 33.08 293 *e*P **P** **23 28 23.9 -0.1**
comp=Z,56nm,1.2s
GKN Gorkha 33.55 294 *e*P **P** **23 28 27.5 -0.6**
comp=Z,43nm,1.0s
KOLN Koldanda 34.42 293 *e*P **P** **23 28 35.3 -0.4**
comp=Z,20nm,1.0s
ZAK Zakamensk 35.00 342 *e*P **P** **23 28 39.3 -0.9**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
TLY Talaya 36.06 343 *e*P P 23 28 58.1 +8.9
TLY pmax pmax
comp=Z,3.0nm,0.6s
TLY MLR MLR
comp=Z,67nm,14.0s
PALK Pallekele 39.19 259 LR LR 23 44 17.7
comp=Z,75nm,19.4s,baz=73,slow=35
PALK Pallekele 39.19 259 *e*P **P** **23 29 15.6 -0.6**
comp=Z,88nm,1.9s
BOD Bodaibo 40.16 355 *e*P **P** **23 29 23.7 0.0**
BOD pmax pmax
comp=Z,4.0nm,1.6s
WRAB Tennant Creek 40.24 158 *e*P P 23 29 29.2 +4.5
WRAB pmax pmax
comp=Z,34nm,1.1s
WRA Warramunga Arr 40.25 158 P **P** **23 29 22.8 -2.0**
comp=Z,2.8nm,0.7s,baz=337,slow=9.2,SNR=5.7
WRA Warramunga Arr 40.25 158 P **P** **23 29 22.8 -2.0**
WRA pmax pmax
comp=Z,3.0nm,0.7s
MK01 Makanchi Array 42.06 322 *e*P **P** **23 29 40.4 +0.9**
MK01 *e*PcP **PcP** **23 31 33.7 -0.4**
MK32 Makanchi Array 42.07 322 *e*P **P** **23 29 40.5 +0.9**
MK32 *e*PcP **PcP** **23 31 34.0 -0.2**
MKAR Makanchi Array 42.07 322 P **P** **23 29 40.5 +0.9**
comp=Z,2.4nm,0.7s,baz=120,slow=9.5,SNR=25
MKAR PcP **PcP** **23 31 34.0 -0.2**
comp=Z,1.4nm,0.6s,baz=188,slow=1.8,SNR=11
MKAR LR LR 23 48 23.7
comp=Z,168nm,19.4s,baz=119,slow=38
MKAR Makanchi Array 42.07 322 P **P** **23 29 40.5 +0.9**
MKAR 23 31 34.0
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR MLR MLR
comp=Z,168nm,19.4s
AS12 Alice Springs 43.56 161 *e*P **P** **23 29 51.0 -0.8**
ASAR Alice Springs 43.56 161 P **P** **23 29 51.0 -0.8**
comp=Z,2.4nm,0.6s,baz=336,slow=6.5,SNR=24
ASAR LR LR 23 50 11.4
comp=Z,53nm,20.4s,baz=339,slow=39
ASAR Alice Springs 43.56 161 P **P** **23 29 51.1 -0.8**
ASAR pmax pmax
comp=Z,2.0nm,0.6s
ASAR MLR MLR
comp=Z,53nm,20.4s
AS01 Alice Springs 43.57 161 *e*P **P** **23 29 52.2 +0.3**
YAK Yakutsk 44.77 7 *e*P P 23 30 09.2 +8.2
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=Z,33nm,0.8s
ZAA0 Zalesovo Array 44.90 332 *e*P **P** **23 30 02.2 -0.1**
ZALV Zalesovo Beam 44.90 332 P **P** **23 30 02.4 +0.2**
comp=Z,1.1nm,0.7s,baz=116,slow=6.9,SNR=7.1
ZALV PcP **PcP** **23 31 42.6 -0.9**
comp=Z,1.0nm,0.6s,baz=126,slow=3.8,SNR=3.6
ZALV LR LR 23 49 08.5
comp=Z,88nm,18.6s,baz=70,slow=37
ZALV Zalesovo Beam 44.90 332 P **P** **23 30 02.4 +0.2**
ZALV 23 31 42.6
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV MLR MLR
comp=Z,88nm,18.7s
ZAA1 Zalesovo Array 44.90 332 *e*P **P** **23 30 02.4 +0.1**
ZAA1 *e*PcP **PcP** **23 31 42.6 -0.9**
EKS2 Erkin-Say 45.89 313 *e*P **P** **23 30 11.2 +0.7**
comp=Z,14nm,1.4s
KURK Kurchatov 46.16 325 P **P** **23 30 13.2 +1.0**
KURK pmax pmax
comp=Z,11nm,0.8s
KURK Kurchatov 46.16 325 *e*P **P** **23 30 13.1 +0.8**
comp=Z,23nm,1.0s
KURBB Kurchatov Arra 46.16 325 P **P** **23 30 13.2 +0.9**
comp=Z,11nm,0.8s,baz=122,slow=8.1,SNR=75
NVS Novosibirsk 46.19 332 *e*P **P** **23 30 12.1 -0.3**
NVS pmax pmax
comp=N,17nm,2.1s
NVS pmax pmax
comp=E,17nm,2.1s
NVS pmax pmax
comp=Z,26nm,2.1s
KKAR Karatay Array 48.32 312 *e*P **P** **23 30 30.1 +0.9**
BVAR Borovoye Array 51.75 324 P **P** **23 30 55.8 +0.7**
comp=Z,2.8nm,0.6s,baz=120,slow=9.6,SNR=28
BVAR PcP **PcP** **23 32 07.7 -0.5**
comp=Z,1.1nm,0.5s,baz=116,slow=4.8,SNR=4.0
BVAR Borovoye Array 51.75 324 P **P** **23 30 55.8 +0.7**
BVAR 23 32 07.7
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 51.83 324 *d*/P **P** **23 30 53.5 -2.2**
BRVK pmax pmax
comp=Z,9.0nm,1.1s
BRVK Borovoye 51.83 324 *e*P **P** **23 30 56.5 +0.8**
comp=Z,16nm,0.7s
BBOO Buckleboo 52.77 162 *e*P **P** **23 31 01.6 -1.2**
comp=Z,15nm,0.8s
STKA Stephens Creek 53.76 157 P **P** **23 31 11.6 +1.4**
comp=Z,2.5nm,0.5s,baz=306,slow=5.3,SNR=2.4
STKA LR LR 23 55 33.2
comp=Z,36nm,18.0s,baz=21,slow=38
STKA Stephens Creek 53.76 157 P **P** **23 31 11.6 +1.4**
STKA pmax pmax
comp=Z,3.0nm,0.5s
STKA MLR MLR
comp=Z,36nm,18.0s
TIXI Tiksi 54.13 4 *e*P **P** **23 31 11.8 -0.5**
TIXI pmax pmax
comp=Z,9.0nm,1.2s
TIXI Tiksi 54.13 4 *e*P **P** **23 31 12.0 -0.3**
comp=Z,23nm,1.1s
ABKAR Aktubak array 56.90 318 *e*P **P** **23 31 32.1 -0.5**
BILL Bilibino 58.21 19 *e*P **P** **23 31 41.4 -0.1**
BILL pmax pmax
comp=Z,4.0nm,1.4s
BILL MLR MLR
comp=Z,37nm,17.0s
SVE Sverdlovsk 58.34 326 *e*P **P** **23 31 43.4 +0.7**
SVE pmax pmax
comp=Z,22nm,1.3s
AKTO Aktyubinsk 58.35 319 P **P** **23 31 43.0 +0.1**
comp=Z,3.4nm,0.7s,baz=93,slow=9.6,SNR=10
AKTO Aktyubinsk 58.35 319 P **P** **23 31 43.0 +0.1**
AKTO pmax pmax
comp=Z,3.0nm,0.7s
ARU Arti 59.34 326 *d*/P **P** **23 31 48.8 -0.8**
ARU 23 33 56.9
ARU S **S** **23 39 52.8 -4.0**
ARU pmax pmax
comp=Z,10.0nm,1.7s
ARU Arti 59.34 326 *e*P **P** **23 31 49.5 -0.1**
comp=Z,6.0nm,0.8s
GNI Garni 67.20 307 *e*P **P** **23 32 40.9 -1.4**
GNI pmax pmax
comp=Z,8.0nm,1.6s
GNI Garni 67.20 307 *e*P **P** **23 32 43.8 +1.5**
comp=Z,14nm,1.2s
ZEI Tsey 67.64 310 *e*P **P** **23 32 44.4 -0.6**
ZEI pmax pmax
comp=Z,12nm,0.5s
KBZ Khabaz 68.31 311 P **P** **23 32 48.5 -0.4**
comp=Z,5.5nm,1.1s,baz=82,slow=8.0,SNR=6.1
KBZ LR LR 00 06 08.0
comp=Z,99nm,18.3s,baz=66,slow=39
KBZ Khabaz 68.31 311 P **P** **23 32 48.5 -0.4**
KBZ pmax pmax
comp=Z,6.0nm,1.1s
KBZ MLR MLR
comp=Z,99nm,18.3s
KIV Kislovodsk 68.44 311 *e*P **P** **23 32 49.4 -0.5**
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,93nm,17.0s
KIV Kislovodsk 68.44 311 *e*P **P** **23 32 50.5 +0.6**
comp=Z,12nm,0.7s
NEY Neytrino 68.47 310 *e*P **P** **23 32 49.9 -0.3**
NEY pmax pmax
comp=Z,1.0nm,1.1s
VRHR Novokhopersk 68.76 319 *e*P P 23 32 58.8 +7.2
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=N,6.0nm,0.5s
VRHR pmax pmax
comp=E,5.0nm,0.5s
RAYN Ar Rayn 68.77 289 *e*P **P** **23 32 52.1 -0.1**
comp=E,13nm,0.9s
VORD Divnogorie 70.24 319 *e*P P 23 33 07.8 +7.1
VORD pmax pmax
comp=Z,4.0nm,0.6s
VORD pmax pmax
comp=N,9.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.9s
VSR Storozhevoye 70.30 319 *e*P P 23 33 08.0 +6.9
VSR pmax pmax
comp=Z,8.0nm,0.7s
VSR pmax pmax
comp=N,2.0nm,0.5s
VSR pmax pmax
comp=E,10.0nm,1.0s
LPSR Galich'ya Gora 70.35 320 *e*P P 23 33 09.2 +7.8
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR pmax pmax
comp=N,3.0nm,0.5s
LPSR pmax pmax
comp=E,10.0nm,1.5s
OBN Obninsk 71.56 323 *e*P **P** **23 33 08.0 -0.7**
OBN pmax pmax
comp=Z,8.0nm,1.3s
OBN MLR MLR
comp=Z,57nm,16.0s
MALT Malatya 72.29 305 ⇑P **P** **23 33 14.0 +0.4**
MALT Malatya 72.29 305 ⇑*i*P **P** **23 33 14.0 +0.4**
IM04 Indian Mountai 72.58 25 *e*P **P** **23 33 15.7 +1.0**
SPU Mount Spurr 73.85 30 *e*P **P** **23 33 22.5 +0.2**
MLY Manley 73.94 26 *e*P **P** **23 33 24.3 +1.6**
comp=Z,16nm,0.8s
BPAW Bear Paw Mtn. 73.96 27 *e*P **P** **23 33 24.2 +1.4**
comp=Z,2.7nm,1.0s
TRF Thorofare Moun 74.36 28 *e*P **P** **23 33 23.8 -1.5**
comp=Z,12nm,1.3s
ARA0 ARCESS Array S 74.86 339 *e*P **P** **23 33 29.3 +1.4**
ARCES ARCESS Array B 74.86 339 P **P** **23 33 29.3 +1.4**
comp=Z,2.1nm,0.9s,baz=57,slow=9.9,SNR=3.7
ARCES LR LR 00 09 21.9
comp=Z,55nm,18.1s,baz=85,slow=38
ARCES ARCESS Array B 74.86 339 P **P** **23 33 29.3 +1.4**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES MLR MLR
comp=Z,55nm,18.1s
MCK McKinley 74.91 27 *e*P **P** **23 33 26.4 -1.9**
comp=Z,14nm,1.0s
MDM Murphy Dome 75.01 26 *e*P **P** **23 33 30.3 +1.4**
comp=Z,17nm,1.0s
WRH Wood River Hil 75.15 27 *e*P **P** **23 33 31.3 +1.6**
comp=Z,8.3nm,0.8s
ILAR Eielson Array 75.61 26 P **P** **23 33 32.8 +0.5**
comp=Z,0.6nm,0.8s,baz=286,slow=6.6,SNR=6.1
ILAR Eielson Array 75.61 26 P **P** **23 33 32.8 +0.5**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILB Eielson Array 75.61 26 *e*P **P** **23 33 32.8 +0.5**
BR101 Keskin Array S 75.71 307 *e*P **P** **23 33 33.1 -0.5**
BRTR Keskin Array B 75.71 307 P **P** **23 33 33.1 -0.5**
comp=Z,0.6nm,0.8s,baz=137,slow=4.4,SNR=3.9
BRTR LR LR 00 12 11.4
comp=Z,35nm,18.4s,baz=63,slow=40
SCM Sheep Creek Mo 75.98 29 *e*P **P** **23 33 34.3 -0.3**
comp=Z,10nm,0.8s
FIA0 FINESS Array S 76.15 330 *e*P **P** **23 33 35.2 -0.3**
FINES FINESS Array B 76.15 330 P **P** **23 33 35.2 -0.3**
comp=Z,0.8nm,0.6s,baz=62,slow=5.2,SNR=12
FINES LR LR 00 08 50.5
comp=Z,95nm,19.7s,baz=58,slow=37
FINES FINESS Array B 76.15 330 P **P** **23 33 35.2 -0.3**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES MLR MLR
comp=Z,95nm,19.7s
BR231 Keskin MP Arra 76.34 308 *e*P **P** **23 33 34.1 -3.0**
AKASG Malin Array Be 76.59 319 P **P** **23 33 36.8 -1.4**
comp=Z,1.1nm,0.6s,baz=61,slow=6.4,SNR=7.9
AKASG LR LR 00 10 47.2
comp=Z,43nm,19.3s,baz=90,slow=38
AKASG Malin Array Be 76.59 319 P **P** **23 33 36.8 -1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG MLR MLR
comp=Z,43nm,19.3s
AKBB Malin Array Si 76.59 319 *e*P **P** **23 33 36.8 -1.4**
KIEV Kiev 76.61 319 *e*P **P** **23 33 36.9 -1.3**
CSS Prodhromos 76.94 303 *e*P **P** **23 33 38.8 -1.7**
comp=Z,3.3nm,0.7s
EGAK Eagle 77.99 26 *e*P **P** **23 33 46.8 +1.1**
comp=Z,5.7nm,0.9s
CFR Carcaliu 78.52 314 ⇑P **P** **23 33 47.4 -1.6**
CFR Carcaliu 78.52 314 ⇑*i*P **P** **23 33 47.3 -1.7**
DAWY Dawson 78.93 26 *e*P **P** **23 33 52.6 +1.5**
MSAB Monastry St. A 78.99 313 ⇑*i*P **P** **23 33 51.9 +0.2**
TESR Tescani 79.20 315 ⇑*i*P **P** **23 33 52.6 -0.2**
VRI Vrincioaia 79.31 315 ⇑P **P** **23 33 54.0 +0.6**
VRI Vrincioaia 79.31 315 ⇑*i*P **P** **23 33 54.0 +0.6**
PLOR Plostina 79.37 315 ⇑P **P** **23 33 53.1 -0.7**
PLOR Plostina 79.37 315 ⇑*i*P **P** **23 33 53.1 -0.7**
BURAR Bucovina Array 79.87 317 ⇓P **P** **23 33 54.3 -2.3**
BURAR Bucovina Array 79.87 317 ⇓*i*P **P** **23 33 54.3 -2.3**
BUR04 Bucovina Ar. S 79.87 317 *e*P **P** **23 33 56.1 -0.4**
MLR Muntele Rosu 79.94 315 ⇑P **P** **23 33 57.3 +0.3**
MLR Muntele Rosu 79.94 315 ⇑*i*P **P** **23 33 57.3 +0.3**
VOIR 80.56 315 ⇑P **P** **23 34 01.1 +0.8**
VOIR 80.56 315 ⇑*i*P **P** **23 34 01.1 +0.8**
HUMR Humele 80.85 314 ⇑*i*P P 23 33 55.3 -6.5
KOLS Kolonicke sedl 81.39 319 *e*P **P** **23 34 06.2 +1.6**
KOLS pmax pmax
comp=Z,5.0nm,1.2s
KOLS Kolonicke sedl 81.39 319 *e*P **P** **23 34 06.2 +1.6**
DRGR 81.74 316 ⇑P **P** **23 34 06.7 +0.2**
DRGR 81.74 316 ⇑*i*P **P** **23 34 06.7 +0.2**
DEV Deva 81.88 315 ⇑P **P** **23 34 05.7 -1.5**
STHS Stebnicka Huta 81.89 319 *e*P P 23 34 02.6 -4.6
STHS pmax pmax
comp=Z,3.0nm,1.5s
STHS Stebnicka Huta 81.89 319 *e* P 23 34 02.6 -4.6
MMB Musomiste 82.57 311 ⇑P **P** **23 34 09.9 -1.0**
MMB Musomiste 82.57 311 ⇑*i*P **P** **23 34 09.9 -1.0**
VTS Vitosha 82.64 312 ⇑P **P** **23 34 11.4 0.0**
VTS Vitosha 82.64 312 ⇑*i*P **P** **23 34 11.4 0.0**
KMBO Kilima Mbogo 82.94 267 P **P** **23 34 13.6 0.0**
comp=Z,2.4nm,0.7s,baz=45,slow=3.1,SNR=4.9
KMBO Kilima Mbogo 82.94 267 P **P** **23 34 13.6 0.0**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO Kilima Mbogo 82.94 267 *e*P **P** **23 34 12.0 -1.6**
comp=Z,77nm,1.6s
NB2 NORSAR Subarra 83.10 332 P **P** **23 34 12.2 -1.1**
comp=Z,3.5nm,0.9s,baz=66,slow=4.6
NB200 NORSAR Array S 83.10 332 *e*P **P** **23 34 12.7 -0.6**
NOA NORSAR Array B 83.10 332 P **P** **23 34 12.7 -0.6**
comp=Z,0.8nm,0.7s,baz=66,slow=4.5,SNR=4.2
NOA LR LR 00 13 45.1
comp=Z,82nm,19.0s,baz=75,slow=38
NOA NORSAR Array B 83.10 332 P **P** **23 34 12.7 -0.6**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA MLR MLR
comp=Z,82nm,19.0s
DIVS Divibare 84.40 314 ⇑*i*P P 23 34 12.5 -7.9
KRLC Kraliky 84.41 321 *e*P **P** **23 34 19.5 -0.7**
KRLC *e*pP **pP** **23 34 26.2 -1.6**
KRLC *e*sP **sP** **23 34 28.6 -1.9**
KRLC Kraliky 84.41 321 *e*P **P** **23 34 19.5 -0.7**
KRLC *e* 23 34 28.6
DPC Dobruska-Polom 84.58 321 *e*P **P** **23 34 20.5 -0.6**
DPC *e*pP **pP** **23 34 29.8 +1.1**
DPC Dobruska-Polom 84.58 321 *e*P **P** **23 34 20.5 -0.6**
DPC *e* 23 34 29.8
PKSM Moragy 84.59 317 ⇑P **P** **23 34 21.2 +0.1**
PKSM Moragy 84.59 317 ⇑*i*P **P** **23 34 21.2 +0.1**
TREC Trest 85.47 320 *e*P **P** **23 34 26.0 +0.4**
TREC *e*pP **pP** **23 34 33.9 +0.8**
TREC Trest 85.47 320 *e*P **P** **23 34 26.0 +0.4**
TREC *e* 23 34 33.9
PVCC Panska Ves 85.56 322 *e*P **P** **23 34 26.1 +0.2**
PVCC *e*pP **pP** **23 34 34.8 +1.3**
PVCC Panska Ves 85.56 322 *e*P **P** **23 34 26.1 +0.2**
PVCC *e* 23 34 34.8
GOPC GO Pecny, Ondr 85.66 321 *e*P **P** **23 34 25.7 -0.8**
GOPC *e*pP **pP** **23 34 34.6 +0.5**
PRU Pruhonice 85.78 321 *e*P **P** **23 34 25.1 -1.9**
PRU *e*pP **pP** **23 34 34.4 -0.2**
PRU Pruhonice 85.78 321 *e*P **P** **23 34 25.1 -1.9**
PRU *e* 23 34 34.4
BRG Berggiesshubel 85.79 322 *e*P **P** **23 34 27.2 +0.2**
comp=Z,9.7nm,1.3s
BRG *e* 23 34 34.9
comp=Z,12nm,1.2s
BRG *e* 23 57 42.7
comp=Z,6.8nm,1.4s
BRG Berggiesshubel 85.79 322 *e*P **P** **23 34 27.2 +0.2**
BRG *e* 23 34 34.9
BRG pmax pmax
comp=Z,10.0nm,1.3s
BRG pmax pmax
comp=Z,12nm,1.2s
BRG pmax pmax
comp=Z,7.0nm,1.4s
PRA Prague 85.81 321 *e*P **P** **23 34 26.6 -0.6**
PRA *e*pP **pP** **23 34 35.3 +0.5**
PRA Prague 85.81 321 *e*P **P** **23 34 26.6 -0.6**
PRA *e* 23 34 35.3
CLL Collm 86.16 323 *i* P **P** **23 34 28.3 -0.6**
comp=Z,14nm,1.5s
CLL *i* PcP **PcP** **23 34 32.1 +0.6**
CLL *i* sP **sP** **23 34 36.5 -2.7**
comp=Z,11nm,1.3s
CLL LmV 00 12 00.0
comp=Z,100nm,19.8s
CLL Collm 86.16 323 *i* P **P** **23 34 28.3 -0.6**
CLL *i* 23 34 36.5
CLL pmax pmax
comp=Z,14nm,1.5s
KHC Kasperske Hory 86.69 321 *e*P **P** **23 34 30.9 -0.7**
KHC *e*pP **PcP** **23 34 35.5 +1.5**
KHC *e*sP **sP** **23 34 40.0 -1.9**
KHC Kasperske Hory 86.69 321 *e*P **P** **23 34 30.9 -0.7**
KHC *e* 23 34 40.0
GERES GERESS Array B 86.73 320 P **P** **23 34 31.1 -0.7**
comp=Z,0.9nm,0.9s,baz=84,slow=5.5,SNR=7.7
GERES LR LR 00 16 27.7
comp=Z,56nm,19.2s,baz=85,slow=38
GERES GERESS Array B 86.73 320 P **P** **23 34 31.2 -0.7**
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES MLR MLR
comp=Z,56nm,19.2s
NKC Novy Kostel 86.92 322 *e*P **P** **23 34 31.8 -0.9**
NKC *e*pP **pP** **23 34 41.5 +1.2**
NKC Novy Kostel 86.92 322 *e*P **P** **23 34 31.8 -0.9**
NKC *e* 23 34 41.5
CEL Celeste 89.36 310 *e*P **P** **23 34 44.5 -0.1**
comp=Z,18nm,1.1s
YKA Yellowknife Ar 89.45 22 P **P** **23 34 45.0 +0.6**
comp=Z,1.0nm,0.7s,baz=310,slow=4.1,SNR=4.0
YKA Yellowknife Ar 89.45 22 P **P** **23 34 45.0 +0.6**
YKA pmax pmax
comp=Z,1.0nm,0.7s
LPG La Plagne 92.46 320 *e*P pP 23 35 03.2 -3.5
comp=Z,25nm,1.0s
LPL La Plagne 92.46 320 *e*P pP 23 35 03.1 -3.6
comp=Z,42nm,1.2s
PPT Papeete 96.10 106 LR LR 00 15 38.7
comp=Z,25nm,18.2s,baz=259,slow=34
VNDA Vanda 98.25 171 LR LR 00 20 22.9
comp=Z,26nm,18.1s,baz=346,slow=36
TXAR Lajitas Array 117.32 42 PKP **PKPdf** **23 40 33.8 -0.1**
comp=Z,0.2nm,0.5s,baz=333,slow=1.0,SNR=6.0

PRU 14 23:31:25.1, 50.28N×18.98E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.01**	**35**	*e*Pg		Pg	23 31 26.8	+1.4
OJC	**Ojcow**	**0.53**	**96**	*e*Pg		Pg	23 31 34.9	-0.4
OJC				*e*Sg		Sg	23 31 42.9	+0.7
OKC	**Ostrava-Krasne**	**0.70**	**231**	*e*SG		Sg	23 31 47.6	+0.1
KRLC	**Kraliky**	**1.43**	**263**	*e*PG		Pn	23 31 51.2	-1.2
KRLC				*e*SG		Sg	23 32 10.9	-0.3

DPC	**Dobruska-Polom**	**1.71**	**273**	*e*SG	Sg	23	32	19.9	-0.2

VIE 14 23:31:51.2±0.3, 46°42.N×15°11.E, h0km, mb0.4/1, ML0.8/2, 3C-1D, Error ellipse: s-maj=2.8km s-min=1.6km az=5.0
24 km NNW of Celje Suspected Mining induced., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SOKA	**Soboth**	**0.27**	**349**	⇓*e*Pg	Pg	23	31	56.3	-0.2
	3.2nm,0.3s								
SOKA				⇑*e*Sg	Sg	23	31	60.0	-0.1
	2.2nm,0.3s								
OBKA	**Obir**	**0.40**	**284**	⇑*i*Pg	Pg	23	31	58.9	-0.1
OBKA				⇑*e*Sg	Sg	23	32	04.6	+0.4
	7.1nm,0.3s								

ROM 14 23:33:23.9±0.0, 41°.85N×13°.67E, h7km, Md1.5/3, Ml0.5/1, Error ellipse: s-maj=0.2km s-min=0.1km az=65.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
VVLD	**Villa Vallelon**	**0.04**	**303**	Pg	Pg	23	33	25.7	+0.1
VVLD				Sg	Sg	23	33	27.0	+0.2
	32nm,0.2s								
POFI	**Posta Fibreno**	**0.13**	**167**	Pg	Pg	23	33	27.2	+0.3
POFI				Sg	Sg	23	33	29.7	+0.8
	11nm,0.3s								
SDI	**San Donato**	**0.17**	**143**	Pg	Pg	23	33	28.0	+0.5
SDI				Sg	Sg	23	33	31.0	+1.0
	5.0nm,0.2s								

*IDC **14** 23:46:44.5±1.2, 36°.03N×22°.15E, h0km, mb3.7/7, mb1 3.6/10, mb1mx3.5/37, mbtmp3.5/10, ML3.0/3, MS2.4/1, Ms1 2.4/1, ms1mx1.9/45, Error ellipse: s-maj=23.6km s-min=20.2km az=30.0*
*ISCJB **14** 23:46:45.8±0.8, 35°.72N±0°.03×21°.94E±0°.04, h18km±5km, mb3.5/7, Error ellipse: s-maj=6.9km s-min=3.7km az=39.7*
*ATH **14** 23:46:46.3, 35°.75N×21°.96E, h25km±1km, ML3.7*
*CSEM **14** 23:46:46.9±0.3, 35°.78N×21°.99E, h10km, ML3.6, Error ellipse: s-maj=7.8km s-min=3.1km az=37.0*
*THE **14** 23:46:49.8, 35°.82N×22°.07E, h56km±4km, ML3.6/6, Error ellipse: s-maj=4.2km s-min=0.7km az=48.0*

ISC 14 23:46:47.0±1.4, 35°.79N±0°.04×22°.00E±0°.04, h15km±9km, n234, σ1°14/257, mb3.6/7, 1C, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KYTH	**Kithira**	**0.97**	**60**	P	**Pg**	**23**	**47**	**05.6**	**-0.3**
KYTH	**Kithira**	**0.97**	**60**	*e*Pn	**Pg**	23	47	05.5	-0.3
KYTH	**Kithira**	**0.97**	**60**	P	**Pg**	23	47	05.6	-0.3
ANKY	**Antikythira Is**	**1.06**	**86**	P	**Pb**	**23**	**47**	**07.7**	**+0.6**
ANKY				S	**Sg**	23	47	21.4	-0.1
ANKY	**Antikythira Is**	**1.06**	**86**	*e*PN	**Pg**	**23**	**47**	**07.1**	**-0.5**
ANKY				*e*SN	**Sn**	23	47	23.2	+1.4
ANKY	**Antikythira Is**	**1.06**	**86**	*e*Pn	**Pg**	**23**	**47**	**07.1**	**-0.5**
ANKY	**Antikythira Is**	**1.06**	**86**	P	**Pb**	**23**	**47**	**07.7**	**+0.6**
ANKY				S	**Sg**	23	47	21.4	-0.1
ANKY				*e*Sn	**Sn**	23	47	23.2	+1.4
PYL	**PYLOS**	**1.12**	**350**	P	**Pb**	**23**	**47**	**08.4**	**+0.4**
PYL				S	**Sn**	23	47	24.0	+0.7
PYL	**PYLOS**	**1.12**	**350**	*e*PN	**Pb**	**23**	**47**	**08.5**	**+0.4**
PYL				*e*SN	**Sn**	23	47	25.0	+1.7
PYL	**PYLOS**	**1.12**	**350**	*e*Pn	**Pb**	**23**	**47**	**08.5**	**+0.4**
PYL				S	**Sn**	23	47	24.0	+0.7
PYL				*e*Sn	**Sn**	23	47	25.0	+1.7
VLI	**Veliai**	**1.20**	**39**	P	**Pn**	**23**	**47**	**09.5**	**+0.3**
VLI				S	**Sb**	23	47	25.0	+0.4
VLI	**Veliai**	**1.20**	**39**	*e*PN	**Pn**	**23**	**47**	**09.7**	**+0.5**
VLI				*e*SN	**Sn**	23	47	27.1	+2.0
VLI	**Veliai**	**1.20**	**39**	*e*Pn	**Pn**	**23**	**47**	**09.7**	**+0.5**
VLI				S	**Sb**	23	47	25.0	+0.4
VLI				*e*Sn	**Sn**	23	47	27.1	+2.0
ITM	**Ithomi**	**1.39**	**358**	P	**Pn**	**23**	**47**	**12.1**	**+0.3**
ITM				S	**Sn**	23	47	30.2	+0.4
ITM	**Ithomi**	**1.39**	**358**	*e*PN	**Pn**	**23**	**47**	**12.2**	**+0.4**
ITM				*e*SN	**Sg**	23	47	32.0	+0.2
ITM	**Ithomi**	**1.39**	**358**	P	**Pn**	**23**	**47**	**12.1**	**+0.3**
ITM				S	**Sn**	23	47	30.2	+0.4
ITM				*e*Sn	**Sg**	23	47	32.0	+0.2
VLX	**Vlachokerasia**	**1.60**	**11**	P	**Pn**	**23**	**47**	**15.3**	**+0.4**
VLX				S	**Sn**	23	47	35.3	-0.1
VLX	**Vlachokerasia**	**1.60**	**11**	*e*PN	**Pn**	**23**	**47**	**16.3**	**+1.4**
VLX				*e*SN	**Sb**	23	47	37.9	+1.4
VLX	**Vlachokerasia**	**1.60**	**11**	P	**Pn**	**23**	**47**	**15.3**	**+0.4**
VLX	**Vlachokerasia**	**1.60**	**11**	*e*Pn	**Pn**	**23**	**47**	**16.3**	**+1.4**
VLX				S	**Sn**	23	47	35.3	-0.1
VLX				*e*Sn	**Sb**	23	47	37.9	+1.4
AMT	**Artemida-Makis**	**1.75**	**353**	P	**Pn**	**23**	**47**	**17.3**	**+0.5**
AMT	**Artemida-Makis**	**1.75**	**353**	*e*PN	**Pn**	**23**	**47**	**17.8**	**+1.0**
AMT				*e*SN	**Sn**	23	47	40.1	+1.2
AMT	**Artemida-Makis**	**1.75**	**353**	P	**Pn**	**23**	**47**	**17.3**	**+0.5**
AMT	**Artemida-Makis**	**1.75**	**353**	*e*Pn	**Pn**	**23**	**47**	**17.8**	**+1.0**
AMT				*e*Sn	**Sn**	23	47	40.1	+1.2
VAM	**Vamos**	**1.84**	**101**	*e*PB	**Pn**	**23**	**47**	**18.5**	**+0.5**
VAM	**Vamos**	**1.84**	**101**	*e*Pb	**Pn**	**23**	**47**	**18.5**	**+0.5**
KRND	**KRANIDI**	**1.84**	**30**	P	**Pn**	**23**	**47**	**17.8**	**-0.2**
KRND	**KRANIDI**	**1.84**	**30**	*e*PB	**Pn**	**23**	**47**	**18.0**	**0.0**
KRND	**KRANIDI**	**1.84**	**30**	P	**Pn**	**23**	**47**	**17.8**	**-0.2**
GVD	**Gavdhos**	**1.96**	**118**	P	**Pn**	**23**	**47**	**20.7**	**+1.1**
GVD	**Gavdhos**	**1.96**	**118**	*e*PN	**Pn**	**23**	**47**	**21.0**	**+1.4**
GVD	**Gavdhos**	**1.96**	**118**	P	**Pn**	**23**	**47**	**20.7**	**+1.1**
GVD	**Gavdhos**	**1.96**	**118**	*e*Pn	**Pn**	**23**	**47**	**21.0**	**+1.4**
DID	**Didima**	**1.98**	**30**	P	**Pn**	**23**	**47**	**19.4**	**-0.6**
DID				S	**Sn**	23	47	44.7	+0.2
DID	**Didima**	**1.98**	**30**	P	**Pn**	**23**	**47**	**19.4**	**-0.6**
DID				S	**Sn**	23	47	44.7	+0.2
ZKS	**Zakynthos**	**2.13**	**333**	P	**Pn**	**23**	**47**	**22.9**	**+0.8**
ZKS	**Zakynthos**	**2.13**	**333**	P	**Pn**	**23**	**47**	**22.9**	**+0.8**
MHLO	**Agia Marina, M**	**2.14**	**65**	P	**Pn**	**23**	**47**	**21.6**	**-0.6**
MHLO	**Agia Marina, M**	**2.14**	**65**	*e*PN	**Pn**	**23**	**47**	**22.9**	**+0.7**
MHLO	**Agia Marina, M**	**2.14**	**65**	P	**Pn**	**23**	**47**	**21.6**	**-0.6**
MHLO	**Agia Marina, M**	**2.14**	**65**	*e*Pn	**Pn**	**23**	**47**	**22.9**	**+0.7**
GUR	**Goura**	**2.16**	**7**	P	**Pn**	**23**	**47**	**23.0**	**+0.5**
GUR	**Goura**	**2.16**	**7**	*e*PB	**Pn**	**23**	**47**	**23.8**	**+1.3**
GUR	**Goura**	**2.16**	**7**	P	**Pn**	**23**	**47**	**23.0**	**+0.5**
GUR	**Goura**	**2.16**	**7**	*e*Pb	**Pn**	**23**	**47**	**23.8**	**+1.3**
DRO	**Drossia**	**2.17**	**354**	P	**Pn**	**23**	**47**	**23.7**	**+1.1**
DRO				S	**Sn**	23	47	49.7	+0.6
DRO	**Drossia**	**2.17**	**354**	P	**Pn**	**23**	**47**	**23.7**	**+1.1**
DRO				S	**Sn**	23	47	49.7	+0.6
ACOR	**Acrocorinthos**	**2.21**	**18**	P	**Pn**	**23**	**47**	**24.0**	**+0.9**
ACOR	**Acrocorinthos**	**2.21**	**18**	P	**Pn**	**23**	**47**	**24.0**	**+0.9**
VTN	**Vitineika**	**2.22**	**343**	P	**Pn**	**23**	**47**	**24.9**	**+1.7**
VTN	**Vitineika**	**2.22**	**343**	P	**Pn**	**23**	**47**	**24.9**	**+1.7**
KLV	**Kalavryta, Ach**	**2.25**	**3**	P	**Pn**	**23**	**47**	**24.4**	**+0.7**
KLV	**Kalavryta, Ach**	**2.25**	**3**	P	**Pn**	**23**	**47**	**24.4**	**+0.7**
RLS	**Riolos of Patr**	**2.30**	**350**	P	**Pn**	**23**	**47**	**25.7**	**+1.4**
RLS	**Riolos of Patr**	**2.30**	**350**	*e*PB	**Pn**	**23**	**47**	**26.1**	**+1.8**
RLS	**Riolos of Patr**	**2.30**	**350**	P	**Pn**	**23**	**47**	**25.7**	**+1.4**
RLS	**Riolos of Patr**	**2.30**	**350**	*e*Pb	**Pn**	**23**	**47**	**26.1**	**+1.8**
THAL	**Thalero**	**2.30**	**13**	P	**Pn**	**23**	**47**	**24.7**	**+0.3**
THAL	**Thalero**	**2.30**	**13**	P	**Pn**	**23**	**47**	**24.7**	**+0.3**
IDI	**Anoyia**	**2.41**	**101**	Pn	**Pn**	**23**	**47**	**25.6**	**-0.4**
	1.6nm,0.3s,baz=319,slow=20,SNR=21								
IDI				LR	LR	23	48	45.6	
	comp=Z,74nm,20.0s,baz=274,slow=52								
KFL	**Anninata**	**2.51**	**338**	P	**Pn**	**23**	**47**	**28.3**	**+1.1**
KFL	**Anninata**	**2.51**	**338**	P	**Pn**	**23**	**47**	**28.3**	**+1.1**
ATH	**Athens Observa**	**2.58**	**32**	*e*PN	**Pn**	**23**	**47**	**29.7**	**+1.6**
ATH	**Athens Observa**	**2.58**	**32**	*e*Pn	**Pn**	**23**	**47**	**29.7**	**+1.6**
VILL	**Villia**	**2.59**	**24**	P	**Pn**	**23**	**47**	**29.5**	**+1.1**
VILL	**Villia**	**2.59**	**24**	P	**Pn**	**23**	**47**	**29.5**	**+1.1**
KALE	**Kalithea**	**2.60**	**2**	P	**Pn**	**23**	**47**	**29.2**	**+0.7**
KALE	**Kalithea**	**2.60**	**2**	P	**Pn**	**23**	**47**	**29.2**	**+0.7**
EFP	**Efpalio**	**2.63**	**358**	P	**Pn**	**23**	**47**	**30.4**	**+1.5**
EFP	**Efpalio**	**2.63**	**358**	*e*PB	**Pn**	**23**	**47**	**30.9**	**+2.0**
EFP	**Efpalio**	**2.63**	**358**	P	**Pn**	**23**	**47**	**30.4**	**+1.5**
EFP	**Efpalio**	**2.63**	**358**	*e*Pb	**Pn**	**23**	**47**	**30.9**	**+2.0**
VLS	**Valsamata**	**2.63**	**335**	P	**Pn**	**23**	**47**	**29.9**	**+1.0**
VLS	**Valsamata**	**2.63**	**335**	*e*PN	**Pn**	**23**	**47**	**30.1**	**+1.2**
VLS	**Valsamata**	**2.63**	**335**	P	**Pn**	**23**	**47**	**29.9**	**+1.0**
DSF	**Desfina**	**2.65**	**9**	P	**Pn**	**23**	**47**	**29.8**	**+0.6**
DSF	**Desfina**	**2.65**	**9**	*e*PN	**Pn**	**23**	**47**	**29.6**	**+0.4**
DSF	**Desfina**	**2.65**	**9**	P	**Pn**	**23**	**47**	**29.8**	**+0.6**
THR5	**Thira Island,**	**2.79**	**76**	*e*P	**Pn**	**23**	**47**	**31.1**	**+0.1**
THR5	**Thira Island,**	**2.79**	**76**	P	**Pn**	**23**	**47**	**31.1**	**+0.1**
THR3	**Thira Island,**	**2.83**	**76**	P	**Pn**	**23**	**47**	**32.0**	**+0.4**
THR3	**Thira Island,**	**2.83**	**76**	P	**Pn**	**23**	**47**	**32.0**	**+0.4**
PVO	**Paravola**	**2.84**	**353**	P	**Pn**	**23**	**47**	**33.2**	**+1.4**
PVO	**Paravola**	**2.84**	**353**	P	**Pn**	**23**	**47**	**33.2**	**+1.4**
PDO	**Prodromos**	**2.88**	**347**	P	**Pn**	**23**	**47**	**33.4**	**+1.1**
PDO	**Prodromos**	**2.88**	**347**	P	**Pn**	**23**	**47**	**33.4**	**+1.1**
LAST	**Lasithi**	**2.91**	**101**	P	**Pn**	**23**	**47**	**33.6**	**+0.8**
LAST	**Lasithi**	**2.91**	**101**	P	**Pn**	**23**	**47**	**33.6**	**+0.8**
LKR	**Lokris**	**2.96**	**15**	P	**Pn**	**23**	**47**	**33.7**	**+0.2**
LKR	**Lokris**	**2.96**	**15**	*e*PN	**Pn**	**23**	**47**	**33.6**	**+0.1**
LKR	**Lokris**	**2.96**	**15**	P	**Pn**	**23**	**47**	**33.7**	**+0.2**
NPS	**Neapolis**	**3.00**	**99**	*e*PN	**Pn**	**23**	**47**	**34.9**	**+0.9**
NPS	**Neapolis**	**3.00**	**99**	*e*Pn	**Pn**	**23**	**47**	**34.9**	**+0.9**
ATAL	**Atalanti**	**3.01**	**15**	P	**Pn**	**23**	**47**	**34.3**	**+0.2**
ATAL	**Atalanti**	**3.01**	**15**	P	**Pn**	**23**	**47**	**34.3**	**+0.2**
AXAR	**Agios Charalam**	**3.02**	**10**	P	**Pn**	**23**	**47**	**34.9**	**+0.7**
AXAR	**Agios Charalam**	**3.02**	**10**	*e*PN	**Pn**	**23**	**47**	**36.4**	**+2.2**
AXAR	**Agios Charalam**	**3.02**	**10**	P	**Pn**	**23**	**47**	**34.9**	**+0.7**
AXAR	**Agios Charalam**	**3.02**	**10**	*e*Pn	**Pn**	**23**	**47**	**36.4**	**+2.2**
APE	**Apeiranthos**	**3.12**	**65**	*e*P	**Pn**	**23**	**47**	**35.8**	**+0.1**
APE	**Apeiranthos**	**3.12**	**65**	P	**Pn**	**23**	**47**	**36.1**	**+0.4**
APE	**Apeiranthos**	**3.12**	**65**	*e*PN	**Pn**	**23**	**47**	**37.0**	**+1.3**
APE	**Apeiranthos**	**3.12**	**65**	P	**Pn**	**23**	**47**	**36.1**	**+0.4**
APE	**Apeiranthos**	**3.12**	**65**	*e*Pn	**Pn**	**23**	**47**	**37.0**	**+1.3**
MRKA	**Markates**	**3.17**	**23**	P	**Pn**	**23**	**47**	**37.0**	**+0.6**
MRKA	**Markates**	**3.17**	**23**	P	**Pn**	**23**	**47**	**37.0**	**+0.6**
LKD2	**Lefkada island**	**3.17**	**341**	P	**Pn**	**23**	**47**	**37.9**	**+1.5**
LKD2	**Lefkada island**	**3.17**	**341**	*e*PN	**Pn**	**23**	**47**	**38.1**	**+1.7**
LKD2	**Lefkada island**	**3.17**	**341**	P	**Pn**	**23**	**47**	**37.9**	**+1.5**
MAKR	**Makrakomi, Fth**	**3.22**	**2**	*e*PN	**Pn**	**23**	**47**	**38.8**	**+2.3**
MAKR	**Makrakomi, Fth**	**3.22**	**2**	*e*Pn	**Pn**	**23**	**47**	**39.3**	**+2.3**
SMIA	**Simia**	**3.23**	**17**	P	**Pn**	**23**	**47**	**38.2**	**+1.1**
SMIA	**Simia**	**3.23**	**17**	*e*PN	**Pn**	**23**	**47**	**38.8**	**+1.7**
SMIA	**Simia**	**3.23**	**17**	P	**Pn**	**23**	**47**	**38.2**	**+1.1**
SMIA	**Simia**	**3.23**	**17**	*e*Pn	**Pn**	**23**	**47**	**38.8**	**+1.7**
AGG	**Agios Georgios**	**3.23**	**5**	*e*P	**Pn**	**23**	**47**	**38.8**	**+1.6**
AGG	**Agios Georgios**	**3.23**	**5**	P	**Pn**	**23**	**47**	**38.6**	**+1.4**
AGG	**Agios Georgios**	**3.23**	**5**	*e*PN	**Pn**	**23**	**47**	**39.0**	**+1.8**
AGG	**Agios Georgios**	**3.23**	**5**	P	**Pn**	**23**	**47**	**38.6**	**+1.4**
AGG	**Agios Georgios**	**3.23**	**5**	*e*Pn	**Pn**	**23**	**47**	**39.0**	**+1.8**
DSL	**Palaion Diasel**	**3.41**	**348**	P	**Pn**	**23**	**47**	**41.2**	**+1.5**
DSL				S	**Sn**	23	48	20.5	+0.7
DSL	**Palaion Diasel**	**3.41**	**348**	P	**Pn**	**23**	**47**	**41.2**	**+1.5**
DSL				S	**Sn**	23	48	20.5	+0.7
NEO	**Neokhori**	**3.64**	**15**	P	**Pn**	**23**	**47**	**43.2**	**+0.4**
NEO	**Neokhori**	**3.64**	**15**	P	**Pn**	**23**	**47**	**43.2**	**+0.4**
FYTO	**Fytoko, Volos**	**3.69**	**11**	P	**Pn**	**23**	**47**	**44.2**	**+0.8**
FYTO	**Fytoko, Volos**	**3.69**	**11**	P	**Pn**	**23**	**47**	**44.2**	**+0.8**
AOS	**Alonnisos**	**3.69**	**23**	*e*P	**Pn**	**23**	**47**	**43.8**	**+0.4**
AOS	**Alonnisos**	**3.69**	**23**	P	**Pn**	**23**	**47**	**44.0**	**+0.5**
AOS	**Alonnisos**	**3.69**	**23**	*e*PN	**Pn**	**23**	**47**	**43.9**	**+0.5**
AOS	**Alonnisos**	**3.69**	**23**	P	**Pn**	**23**	**47**	**44.0**	**+0.5**
XOR	**Xorichti**	**3.69**	**15**	P	**Pn**	**23**	**47**	**43.4**	**-0.1**
XOR	**Xorichti**	**3.69**	**15**	*e*PN	**Pn**	**23**	**47**	**43.6**	**+0.1**
XOR	**Xorichti**	**3.69**	**15**	*e*Pn	**Pn**	**23**	**47**	**43.6**	**+0.1**
THL	**Klokotos Trika**	**3.77**	**0**	P	**Pn**	**23**	**47**	**45.5**	**+1.0**
THL	**Klokotos Trika**	**3.77**	**0**	P	**Pn**	**23**	**47**	**45.5**	**+1.0**
IGT	**Igoumenitsa**	**3.96**	**341**	*e*P	**Pn**	**23**	**47**	**47.4**	**+0.2**
IGT	**Igoumenitsa**	**3.96**	**341**	P	**Pn**	**23**	**47**	**47.4**	**+0.2**
IGT	**Igoumenitsa**	**3.96**	**341**	*e*PN	**Pn**	**23**	**48**	**0.0**	**+0.8**
IGT	**Igoumenitsa**	**3.96**	**341**	P	**Pn**	**23**	**47**	**47.4**	**+0.2**
IGT	**Igoumenitsa**	**3.96**	**341**	*e*Pn	**Pn**	**23**	**48**	**0.0**	**+0.8**
JAN	**Janina**	**3.96**	**347**	P	**Pn**	**23**	**47**	**48.6**	**+1.4**
JAN	**Janina**	**3.96**	**347**	P	**Pn**	**23**	**47**	**48.6**	**+1.4**
SGD	**Sagiada**	**4.06**	**340**	P	**Pn**	**23**	**47**	**49.1**	**+0.6**
SGD	**Sagiada**	**4.06**	**340**	P	**Pn**	**23**	**47**	**49.1**	**+0.6**
CHOS	**Chios island**	**4.15**	**50**	*e*P	**Pn**	**23**	**47**	**51.1**	**+1.3**
CHOS	**Chios island**	**4.15**	**50**	P	**Pn**	**23**	**47**	**50.5**	**+0.6**
CHOS	**Chios island**	**4.15**	**50**	P	**Pn**	**23**	**47**	**50.5**	**+0.6**
KEK	**Kerkira**	**4.28**	**337**	P	**Pn**	**23**	**47**	**52.0**	**+0.4**
KEK	**Kerkira**	**4.28**	**337**	P	**Pn**	**23**	**47**	**52.0**	**+0.4**
LIT	**Litokhoron**	**4.32**	**5**	P	**Pn**	**23**	**47**	**52.8**	**+0.7**
LIT	**Litokhoron**	**4.32**	**5**	P	**Pn**	**23**	**47**	**52.8**	**+0.7**
PAIG	**Paliouri**	**4.34**	**17**	P	**Pn**	**23**	**47**	**52.4**	**+0.1**
PAIG	**Paliouri**	**4.34**	**17**	*e*PN	**Pn**	**23**	**47**	**52.2**	**-0.1**
PAIG	**Paliouri**	**4.34**	**17**	P	**Pn**	**23**	**47**	**52.4**	**+0.1**
SRN	**Sarande**	**4.38**	**339**	P	**Pn**	**23**	**47**	**53.3**	**+0.4**
SRN	**Sarande**	**4.38**	**339**	P	**Pn**	**23**	**47**	**53.3**	**+0.4**
BODT	**Bodrum**	**4.47**	**72**	*e*P	**Pn**	**23**	**47**	**54.4**	**+0.2**
BODT	**Bodrum**	**4.47**	**72**	*e*P	**Pn**	**23**	**47**	**54.4**	**+0.2**
KZN	**Kozani**	**4.51**	**358**	P	**Pn**	**23**	**47**	**55.8**	**+1.0**
KZN	**Kozani**	**4.51**	**358**	P	**Pn**	**23**	**47**	**55.8**	**+1.0**
BDRM	**Kayabasi**	**4.57**	**72**	*i*P	**Pn**	**23**	**47**	**57.7**	**+2.1**
BDRM	**Kayabasi**	**4.57**	**72**	*i*P	**Pn**	**23**	**47**	**57.7**	**+2.1**
NEST	**Nestorio**	**4.67**	**351**	P	**Pn**	**23**	**47**	**58.5**	**+1.4**
NEST	**Nestorio**	**4.67**	**351**	*e*PN	**Pn**	**23**	**47**	**58.7**	**+1.6**
NEST	**Nestorio**	**4.67**	**351**	P	**Pn**	**23**	**47**	**58.5**	**+1.4**
OUR	**Ouranopolis**	**4.80**	**18**	*e*P	**Pn**	**23**	**47**	**58.5**	**-0.2**
OUR	**Ouranopolis**	**4.80**	**18**	*e*PN	**Pn**	**23**	**48**	**00.6**	**+1.9**
OUR	**Ouranopolis**	**4.80**	**18**	*e*P	**Pn**	**23**	**47**	**58.5**	**-0.2**
OUR	**Ouranopolis**	**4.80**	**18**	*e*Pn	**Pn**	**23**	**48**	**00.6**	**+1.9**
HORT	**Hortiatis**	**4.88**	**10**	*e*P	**Pn**	**23**	**47**	**59.6**	**-0.2**
HORT	**Hortiatis**	**4.88**	**10**	P	**Pn**	**23**	**47**	**59.7**	**-0.2**
HORT	**Hortiatis**	**4.88**	**10**	P	**Pn**	**23**	**47**	**59.7**	**-0.2**
KBN	**Korca**	**4.92**	**349**	P	**Pn**	**23**	**48**	**01.8**	**+1.4**
KBN	**Korca**	**4.92**	**349**	P	**Pn**	**23**	**48**	**01.8**	**+1.4**
FNA	**Florina**	**5.01**	**355**	*e*P	**Pn**	**23**	**48**	**01.5**	**-0.1**
FNA	**Florina**	**5.01**	**355**	P	**Pn**	**23**	**48**	**02.0**	**+0.4**
FNA	**Florina**	**5.01**	**355**	*e*PN	**Pn**	**23**	**48**	**02.9**	**+1.3**
FNA	**Florina**	**5.01**	**355**	P	**Pn**	**23**	**48**	**02.0**	**+0.4**
FNA	**Florina**	**5.01**	**355**	*e*Pn	**Pn**	**23**	**48**	**02.9**	**+1.3**
AYDN	**Tasoluk**	**5.08**	**67**	*i*P	**Pn**	**23**	**48**	**02.5**	**-0.1**
AYDN	**Tasoluk**	**5.08**	**67**	*i*P	**Pn**	**23**	**48**	**02.5**	**-0.1**
SOH	**Sokhos**	**5.13**	**12**	P	**Pn**	**23**	**48**	**03.6**	**+0.3**
SOH	**Sokhos**	**5.13**	**12**	*e*PN	**Pn**	**23**	**48**	**04.4**	**+1.1**
SOH	**Sokhos**	**5.13**	**12**	P	**Pn**	**23**	**48**	**03.6**	**+0.3**
SOH	**Sokhos**	**5.13**	**12**	*e*Pn	**Pn**	**23**	**48**	**04.4**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**5.19**	**64**	*e*P	**Pn**	**23**	**48**	**05.8**	**+1.6**
AYDB	**Zeytinkoy-Aydi**	**5.19**	**64**	*e*P	**Pn**	**23**	**48**	**05.8**	**+1.6**
GADA	**Gvkgeada**	**5.36**	**34**	*e*P	**Pn**	**23**	**48**	**08.7**	**+2.2**
GADA	**Gvkgeada**	**5.36**	**34**	*e*P	**Pn**	**23**	**48**	**08.7**	**+2.2**
KNT	**Kendrikon**	**5.41**	**7**	*e*P	**Pn**	**23**	**48**	**07.5**	**+0.4**
KNT	**Kendrikon**	**5.41**	**7**	P	**Pn**	**23**	**48**	**07.8**	**+0.7**
KNT	**Kendrikon**	**5.41**	**7**	*e*PN	**Pn**	**23**	**48**	**09.1**	**+2.0**
KNT	**Kendrikon**	**5.41**	**7**	P	**Pn**	**23**	**48**	**07.8**	**+0.7**
KNT	**Kendrikon**	**5.41**	**7**	*e*Pn	**Pn**	**23**	**48**	**09.1**	**+2.0**
TURN	**Turunc**	**5.44**	**77**	*i*P	**Pn**	23	48	04.9	-2.6
TURN	**Turunc**	**5.44**	**77**	*i*P	**Pn**	23	48	04.9	-2.6
SRS	**Serrai**	**5.46**	**13**	P	**Pn**	**23**	**48**	**07.6**	**-0.2**
SRS	**Serrai**	**5.46**	**13**	*e*PN	**Pn**	**23**	**48**	**09.5**	**+1.7**
SRS	**Serrai**	**5.46**	**13**	P	**Pn**	**23**	**48**	**07.6**	**-0.2**
SRS	**Serrai**	**5.46**	**13**	*e*Pn	**Pn**	**23**	**48**	**09.5**	**+1.7**
DALY	**Dalyan (Mu˘la**	**5.47**	**77**	*e*P	**Pn**	**23**	**48**	**10.4**	**+2.4**
DALY	**Dalyan (Mu˘la**	**5.47**	**77**	*e*P	**Pn**	**23**	**48**	**10.4**	**+2.4**
VAY	**Valandovo**	**5.54**	**4**	*e*Pn	**Pn**	**23**	**48**	**07.9**	**-0.9**
GELI	**Tayfur-Gelibol**	**5.80**	**36**	*e*P	**Pn**	**23**	**48**	**13.0**	**+0.6**
GELI	**Tayfur-Gelibol**	**5.80**	**36**	*e*P	**Pn**	**23**	**48**	**13.0**	**+0.6**
ALN	**Alexandroupoli**	**6.01**	**31**	*e*P	**Pn**	**23**	**48**	**17.0**	**+1.7**
ALN	**Alexandroupoli**	**6.01**	**31**	*e*P	**Pn**	**23**	**48**	**17.0**	**+1.7**
AKAS	**Kas**	**6.18**	**84**	*i*P	Pn	23	48	14.7	-3.2
AKAS				*i*S	Sn	23	49	20.7	-7.6
KRBG	**Karabiga-Canak**	**6.21**	**41**	*e*P	**Pn**	**23**	**48**	**20.2**	**+2.1**
KRBG	**Karabiga-Canak**	**6.21**	**41**	*e*P	**Pn**	**23**	**48**	**20.2**	**+2.1**
GOLH	**Golhisar**	**6.26**	**74**	*i*P	**Pn**	**23**	**48**	**19.9**	**+1.0**
GOLH	**Golhisar**	**6.26**	**74**	*i*P	**Pn**	**23**	**48**	**19.9**	**+1.0**
ELL	**Elmali**	**6.46**	**79**	*e*P	**Pn**	**23**	**48**	**22.8**	**+1.1**
ELL	**Elmali**	**6.46**	**79**	*e*P	**Pn**	**23**	**48**	**22.8**	**+1.1**
BARS	**Barje**	**7.01**	**359**	⇑*i*Pn	**Pn**	**23**	**48**	**28.7**	**-0.4**
CTKS	**Kestanelik-??a**	**7.45**	**41**	*e*P	**Pn**	**23**	**48**	**37.9**	**+2.7**
CTKS	**Kestanelik-??a**	**7.45**	**41**	*e*P	**Pn**	**23**	**48**	**37.9**	**+2.7**
ERMK	**Ermenek**	**8.86**	**81**	*i*P	**Pn**	**23**	**48**	**53.5**	**-1.2**
ERMK	**Ermenek**	**8.86**	**81**	*i*P	**Pn**	**23**	**48**	**53.5**	**-1.2**
UDBI	**Udbina**	**9.94**	**333**	*e*Pn	**Pn**	**23**	**49**	**08.4**	**-0.9**
UDBI				S	Sn	23	50	51.8	-8.7
UDBI	**Udbina**	**9.94**	**333**	*e*Pn	**Pn**	**23**	**49**	**08.4**	**-0.9**
BRTR	**Keskin Array B**	**10.02**	**63**	Pn	Pn	23	49	07.5	-2.9
	0.1nm,0.3s,baz=232,slow=7.1,SNR=2.9								
NVLJ	**Novalja**	**10.31**	**330**	*e*Pn	**Pn**	**23**	**49**	**13.5**	**-0.8**
NVLJ				S	Sn	23	50	59.6	-10
NVLJ	**Noval

M_{rr}4.52; $M_{\theta\theta}$-2.14; $M_{\phi\phi}$-2.37; $M_{r\theta}$0.13; $M_{\theta\phi}$-2.44; $M_{\phi r}$5.02; Best double couple: $M_0$6.80000×10^{16} NP1:ϕ_b242.00000°, δ28.00000°, λ133.00000°. NP2:ϕ_b16.00000°, δ70.00000°, λ70.00000°. Principal axes: T 7.2800, Plg60.0000°, Azm256.0000°; N -1.0300, Plg18.0000°, Azm23.0000°; P -6.2400, Plg22.0000°, Azm121.0000°; After TAP.

NEIC Felt [II] at T'ai-chung and Taipei. Felt in much of Taiwan. Recorded [4 TAP] in Hua-lien, I-lan and Nan-t'ou; [3 TAP] in T'ai-chung and T'ai-tung; [2 TAP] in Chia-i, Chang-hua, Hsin-chu, T'ai-pei, T'ao-yuan and Yun-lin; [1 TAP] in Kao-hsiung, Miao-li, P'ing-tung and T'ai-nan.

IDC ***15*** *00:31:18.5±1.9,24.05N×121.75E,h28km±13km,mb4.7/36, mb1 4.8/39,mb1mx4.7/43,mbtmp4.8/39,ML3.9/3,MS4.7/27, Ms1 4.8/27,ms1mx4.6/34 Error ellipse: s-maj=11.6km s-min=9.3km az=75.0*

BKK ***15*** *00:31:18.9±2.8,25°N±23°×12°2E±2°7,h10km,M4.6/18, mB5.1/7,mb4.8/18,Mw(mB)4.5/7*

ISCJB ***15*** *00:31:18.1±0.2,24.05N±0.01×121.65E±0.01,h31km±1km, mb5.1/236,MS5.0/169,Error ellipse: s-maj=2.0km s-min=1.5km az=137.8*

SZGRF ***15*** *00:31:36.4,27.70N×120.14E,h33km,mb4.9,Near coast of southeastern China*

ISC 15 00:31:18.4±0.3,24.02N±0.02×121.69E±0.02,h25km±1km, h25km;pP-P,n970,σ1s50/1052,mb5.2/244,MS5.0/169, 87C-56D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.09**	**242**	⇓*i*P	**Pb**	**00 31 21.6**	**-1.4**
	baz=186						
TWD	**Chiawan**	**0.11**	**305**	⇑*i*P	**Pb**	**00 31 21.0**	**-2.1**
	baz=338						
TWD				S	**Sb**	**00 31 23.7**	**-2.6**
	baz=338						
NACB	**Ninganchiao**	**0.18**	**331**	*e*Pg	**Pb**	**00 31 21.4**	**-2.5**
NACB				*e*Sg	**Sb**	**00 31 24.2**	**-3.3**
ESF	**Shoufeng Towns**	**0.22**	**229**	⇓*i*P	**Pb**	**00 31 23.6**	**-0.7**
	baz=218						
ESF				S	**Sb**	**00 31 27.5**	**-0.9**
	baz=218						
EHP	**Heping Village**	**0.29**	**9**	*e*P	**Pb**	**00 31 24.8**	**-0.6**
	baz=23						
EHP				S	**Sb**	**00 31 29.6**	**-0.6**
	baz=23						
ESL	**Shilin**	**0.31**	**229**	⇑*i*P	**Pb**	**00 31 24.1**	**-1.5**
	baz=215						
TEGC	**Jichi Village**	**0.34**	**204**	⇓*i*P	**Pb**	**00 31 26.4**	**+0.5**
	baz=188						
TEGC				*e*S	**Sn**	**00 31 33.2**	**-0.6**
	baz=188						
WHF	**Hehuan Shan**	**0.41**	**288**	⇑*i*P	**Pb**	**00 31 25.5**	**-2.0**
	baz=288						
ENA	**Nanau**	**0.41**	**6**	⇑*i*P	**Pb**	**00 31 26.1**	**-1.0**
	baz=9.0						
ENA				S	**Sb**	**00 31 32.9**	**-0.2**
	baz=9.0						
NNS	**Nan Shan**	**0.51**	**325**	⇑*i*P	**Pb**	**00 31 27.5**	**-1.4**
	baz=330						
NNS				*e*S	**Sb**	**00 31 35.0**	**-1.0**
	baz=330						
TWT	**Tachien**	**0.53**	**297**	⇑*i*P	**Pb**	**00 31 28.1**	**-1.1**
	baz=296						
TWC	**Suao**	**0.61**	**14**	⇑*i*P	**Pb**	**00 31 30.0**	**-0.5**
	baz=16						
EHY	**Hungye**	**0.61**	**214**	⇓*i*P	**Pb**	**00 31 28.9**	**-1.6**
	baz=206						
ENTT	**Nioudou**	**0.63**	**350**	⇑*i*P	**Pb**	**00 31 30.0**	**-0.9**
	baz=356						
TWE	**Neicheng**	**0.70**	**358**	⇑*i*P	**Pb**	**00 31 31.4**	**-0.6**
	baz=5.0						
YHNB	**Yeheng**	**0.71**	**336**	*e*Pg	**Pb**	**00 31 30.8**	**-1.4**
YHNB				*e*Pn	Pn	00 31 36.9	+3.9
SSLB	**Suanglung**	**0.71**	**251**	*e*Pg	**Pb**	**00 31 30.3**	**-1.9**
SSLB				*e*Sg	**Sb**	**00 31 37.3**	**-4.3**
YULB	**Yu-li**	**0.72**	**210**	*e*Pg	**Pb**	**00 31 30.6**	**-1.7**
YULB				*e*Sn	**Sb**	**00 31 41.4**	**-0.4**
NSK	**Sanguang**	**0.72**	**335**	⇑*i*P	**Pb**	**00 31 31.4**	**-1.0**
	baz=349						
SMLT	**Sun Moon Lake**	**0.74**	**260**	⇓*i*P	**Pb**	**00 31 31.5**	**-1.2**
	baz=257						
SMLT				S	**Sb**	**00 31 41.2**	**-1.2**
	baz=257						
ILA	**Ilan**	**0.75**	**4**	⇑*i*P	**Pb**	**00 31 32.6**	**-0.2**
	baz=360						
ILA				S	**Sn**	**00 31 43.0**	**-0.9**
	baz=360						
TWF1	**Yuli**	**0.76**	**209**	⇓*e*P	**Pb**	**00 31 31.0**	**-2.0**
	baz=210						
TYC	**Yuchr**	**0.77**	**262**	⇓*i*P	**Pb**	**00 31 31.9**	**-1.3**
	baz=258						
EGS		**0.85**	**15**	⇑*i*P	**Pn**	**00 31 34.8**	**-0.1**
EGS	baz=18			*e*S	**Sn**	**00 31 46.7**	**+0.2**
	baz=18						
YUS	**Yu-Shan**	**0.86**	**232**	⇓*i*P	**Pb**	**00 31 34.2**	**-0.8**
	baz=227						
NSTT	**Nanjuang**	**0.88**	**314**	⇑P	**Pb**	**00 31 34.5**	**-0.5**
	baz=317						
TWQ1	**Liyutan**	**0.90**	**292**	⇓*i*P	**Pb**	**00 31 35.0**	**-0.4**
	baz=300						
TWQ1				*e*S	**Sn**	**00 31 47.4**	**-0.3**
	baz=300						
WNT	**Mingjian**	**0.93**	**262**	⇓*i*P	**Pn**	**00 31 35.9**	**0.0**
	baz=259						
WNT				*i* S	**Sn**	**00 31 48.2**	**-0.3**
	baz=259						
NSY	**Sanyi**	**0.94**	**295**	⇓*i*P	**Pn**	**00 31 36.2**	**+0.2**
	baz=304						
NSY				*e*S	**Sn**	**00 31 48.1**	**-0.5**
	baz=304						
TCU	**Taichung**	**0.94**	**278**	⇓*i*P	**Pn**	**00 31 36.1**	**+0.1**
	baz=277						
ALS	**Alishan**	**0.96**	**238**	⇓*i*P	**Pb**	**00 31 35.8**	**-0.7**
	baz=227						
ALS				*e*S	**Sn**	**00 31 49.4**	**-0.1**
	baz=227						
CHKT	**Chengkung**	**0.96**	**198**	*e*P	**Pb**	**00 31 35.1**	**-1.3**
	baz=195						
CHKT				S	**Sn**	**00 31 50.8**	**+1.5**
	baz=195						
TWA	**Mucha**	**0.96**	**354**	⇑*i*P	**Pb**	**00 31 36.2**	**-0.3**
	baz=343						
TWA				*e*S	**Sn**	**00 31 49.0**	**-0.3**
	baz=343						
TATO	**Taipei**	**0.97**	**349**	*e*Pg	**Pb**	**00 31 36.1**	**-0.5**
TATO				*e*Sg	**Sb**	**00 31 47.0**	**-2.0**
CHN5	**Tsauling**	**1.02**	**246**	⇓*i*P	**Pn**	**00 31 37.2**	**0.0**
	baz=230						
HSN	**Hsinchu**	**1.02**	**320**	⇓*e*P	**Pb**	**00 31 37.9**	**+0.5**
	baz=324						
HSN				*e*S	**Sn**	**00 31 51.0**	**+0.3**
	baz=324						
TAP1	**Taipei**	**1.03**	**351**	⇓*e*P	**Pn**	**00 31 37.0**	**-0.2**
	baz=354						
TAP	**Taipei**	**1.03**	**351**	*e*P	**Pb**	**00 31 37.2**	**-0.4**
	baz=352						
TAP				S	**Sn**	**00 31 50.6**	**-0.3**
	baz=352						
ELDTW	**Lidau**	**1.03**	**217**	⇓*e*P	**Pn**	**00 31 35.3**	**-2.1**
	baz=214						
ELDTW				*e*S	**Sb**	**00 31 50.6**	**-0.3**
	baz=214						
NWF	**Wu-fen Shan**	**1.05**	**4**	⇓*i*P	**Pb**	**00 31 37.8**	**-0.3**
	baz=7.0						
NCU	**National Centr**	**1.05**	**334**	⇓*e*P	**Pb**	**00 31 38.0**	**0.0**
	baz=335						
NCU				*e*S	**Sn**	**00 31 51.4**	**-0.1**
	baz=335						
WGK	**Gukeng**	**1.08**	**252**	⇓*i*P	**Pb**	**00 31 38.2**	**-0.3**
	baz=249						
TWS1	**Kuangyinshan**	**1.11**	**347**	*e*P	**Pb**	**00 31 38.7**	**-0.2**
	baz=2.0						
TWS1				*e*S	**Sn**	**00 31 54.0**	**+1.3**
	baz=2.0						
CHN4	**Tsaushan**	**1.21**	**237**	⇓*i*P	**Pb**	**00 31 40.2**	**-0.4**
	baz=234						
STYT	**Tauyuan**	**1.21**	**225**	⇓*i*P	**Pn**	**00 31 39.6**	**-0.2**
	baz=222						
CHN2	**Minshiung**	**1.21**	**247**	*e*P	**Pb**	**00 31 40.1**	**-0.6**
	baz=244						
JYNG	**Yonagunijimaku**	**1.22**	**69**	P	**Pn**	**00 31 40.3**	**+0.4**
JYNG				S	**Sb**	**00 31 56.9**	**+0.6**
WTP	**Ta-pu**	**1.25**	**232**	⇓*i*P	**Pb**	**00 31 40.8**	**-0.6**
	baz=230						
TWY	**Chenhua**	**1.25**	**356**	*e*P	**Pb**	**00 31 40.8**	**-0.6**
	baz=345						
TWY				S	**Sb**	**00 31 58.0**	**+0.8**
	baz=345						
CHY	**Chiayi**	**1.27**	**246**	⇓*i*P	**Pb**	**00 31 41.0**	**-0.7**
	baz=243						
YOJ	**Yonaguni jima**	**1.28**	**70**	P	**Pn**	**00 31 41.2**	**+0.4**
YOJ				*e*S	**Sb**	**00 31 58.9**	**+0.9**
YOJ	**Yonaguni jima**	**1.28**	**70**	*e*P	**Pn**	**00 31 41.1**	**+0.4**
YOJ						00 31 53.9	
YOJ	**Yonaguni jima**	**1.28**	**70**	⇓*i*P	**Pn**	**00 31 41.2**	**+0.4**
	baz=87						
YOJ				*e*S	**Sn**	**00 31 57.5**	**+0.4**
	baz=87						
YOJ	**Yonaguni jima**	**1.28**	**70**	*e*Pn	**Pn**	**00 31 41.1**	**+0.4**
YOJ				*e*Sn	**Sn**	**00 31 53.9**	**-3.3**
WTCT	**Ta-ch'eng**	**1.30**	**263**	⇓*e*P	**Pb**	**00 31 41.4**	**-0.8**
	baz=262						
WTCT				*e*S	**Sb**	**00 31 58.3**	**-0.1**
	baz=262						
TWG	**Pinlang**	**1.32**	**206**	⇓*e*P	**Pn**	**00 31 39.1**	**-2.2**
	baz=188						
TWG	**Pinlang**	**1.32**	**206**	*e*Pn	**Pn**	**00 31 38.5**	**-2.8**
TWG				*e*Sn	**Sn**	**00 31 58.1**	**0.0**
TWK	**Hsinying**	**1.33**	**236**	⇓*i*P	**Pn**	**00 31 42.0**	**+0.5**
	baz=234						
TWK				*e*S	**Sb**	**00 32 00.3**	**+0.8**
	baz=234						
CHN1	**Nanshi**	**1.35**	**232**	⇓*i*P	**Pn**	**00 31 42.3**	**+0.6**
	baz=231						
CHN1				*e*S	**Sb**	**00 32 01.2**	**+1.2**
	baz=231						
TTN	**Taitung**	**1.35**	**202**	*e*P	**Pn**	**00 31 40.5**	**-1.3**
	baz=201						
SGST	**Jiashian**	**1.38**	**228**	⇓*i*P	**Pb**	**00 31 42.9**	**-0.7**
	baz=226						
SGST				*e*S	**Sb**	**00 32 01.7**	**+0.9**
	baz=226						
WSF	**Szhu**	**1.40**	**255**	⇑*i*P	**Pb**	**00 31 43.2**	**-0.6**
	baz=253						
WSF				*e*S	**Sb**	**00 32 01.8**	**+0.6**
	baz=253						
CHN8	**Yiju**	**1.51**	**244**	⇓*i*P	**Pb**	**00 31 44.8**	**-1.0**
	baz=243						
CHN8				*e*S	**Sb**	**00 32 04.8**	**+0.2**
	baz=243						
CHN3	**Shinhua**	**1.54**	**233**	*e*P	**Pb**	**00 31 46.0**	**-0.2**
	baz=232						
CHN3				*e*S	**Sb**	**00 32 06.5**	**+1.2**
	baz=232						
ECL	**Taimali**	**1.57**	**206**	*e*P	**Pn**	**00 31 43.2**	**-1.5**
	baz=192						
SSD	**Sandimen**	**1.60**	**218**	⇑*e*P	**Pn**	**00 31 45.2**	**+0.1**
	baz=229						
SSD				*e*S	**Sb**	**00 32 08.8**	**+1.8**
	baz=229						
SCLT	**Jiali**	**1.61**	**239**	*e*P	**Pn**	**00 31 46.2**	**+0.9**
	baz=238						
SCLT				*e*S	**Sb**	**00 32 07.0**	**-0.3**
	baz=238						
PCYT	**Pengchaiyu**	**1.64**	**12**	*e*P	**Pn**	**00 31 46.2**	**+0.6**
	baz=351						
PCYT				*e*S	**Sb**	**00 32 10.0**	**+1.7**
	baz=351						
TAI1	**Yung-k'ang**	**1.66**	**234**	⇓P	**Pb**	**00 31 47.3**	**-1.0**
	baz=234						
TWM1	**Shoushan**	**1.67**	**225**	⇓*i*P	**Pb**	**00 31 48.2**	**-0.3**
	baz=224						
SGLT	**Jiouru**	**1.69**	**221**	*e*P	**Pb**	**00 31 48.1**	**-0.8**
	baz=233						
TAW	**Tawu**	**1.81**	**204**	*e*P	**Pn**	**00 31 46.0**	**-1.9**
	baz=192						
IRIF	**Iriomote-Funau**	**1.89**	**80**	P	**Pn**	**00 31 49.6**	**+0.5**
IRIF				S	**Sn**	**00 32 13.5**	**+1.4**
SCZT	**Fangliau**	**1.91**	**211**	*e*P	**Pn**	**00 31 49.1**	**-0.3**
	baz=213						
SCZT				*e*S	**Sb**	**00 32 15.9**	**-0.1**
	baz=213						
KAU	**Kaohsiung**	**1.92**	**222**	*e*P	**Pn**	**00 31 49.7**	**+0.2**
	baz=239						
HATJ	**Hateruma jima**	**1.93**	**88**	P	**Pn**	**00 31 50.4**	**+0.7**
HATJ				S	**Sn**	**00 32 14.8**	**+1.6**
LAY	**Lan-yu**	**1.98**	**184**	*e*P	**Pn**	**00 31 48.7**	**-1.6**
	baz=181						
PNG	**Penghu**	**2.01**	**258**	⇓*i*P	**Pn**	**00 31 50.7**	**0.0**
	baz=256						
PNG				*e*S	**Sn**	**00 32 15.3**	**+0.3**
	baz=256						
WDGT	**Dungji**	**2.01**	**248**	⇓*i*P	**Pn**	**00 31 50.9**	**+0.2**
	baz=234						
WDGT				*e*S	**Sn**	**00 32 14.9**	**-0.2**
	baz=234						
TWP	**Hsiaoliuchiu**	**2.06**	**217**	*e*P	**Pn**	**00 31 53.1**	**+1.6**
	baz=235						
JKRS	**Kuro-shima**	**2.13**	**84**	P	**Pn**	**00 31 53.5**	**+1.1**
JKRS				S	**Sb**	**00 32 20.3**	**-2.0**
HEN	**Hengchun**	**2.19**	**204**	*e*P	**Pn**	**00 31 54.0**	**+0.8**
	baz=196						
TWK1	**Hengchun**	**2.22**	**202**	*e*P	**Pn**	**00 31 53.8**	**+0.1**
	baz=194						
TWK1				*e*S	**Sb**	**00 32 24.1**	**-0.8**
	baz=194						
TSEB	**Hengchuen, Pin**	**2.23**	**199**	*e*P	**Pn**	**00 31 54.0**	**+0.2**
	baz=192						
TSEB				*e*S	**Sb**	**00 32 23.3**	**-1.9**
	baz=192						
JIJ	**Ishigaki jima**	**2.27**	**81**	P	**Pn**	**00 31 54.8**	**+0.5**
JIJ				S	**Sn**	**00 32 21.3**	**-0.1**
JISG	**Ishigakijimahi**	**2.46**	**76**	P	**Pn**	**00 31 57.1**	**+0.2**
JISG				S	**Sn**	**00 32 27.7**	**+1.6**
JTJ	**Tarama**	**2.82**	**77**	P	**Pn**	**00 32 02.7**	**+0.9**
JTJ				S	**Sn**	**00 32 36.5**	**+1.5**
QZH	**Quanzhou**	**2.97**	**289**	⇑*i*Pn	**Pn**	**00 32 02.5**	**-1.4**
QZH				Sn	**Sn**	**00 32 37.3**	**-1.5**
QZH				SMN			
	19μm,0.9s						
QZH				SME			
	11μm,0.9s						
KNM	**Kinmen**	**3.00**	**278**	*e*P	**Pn**	**00 32 05.1**	**+0.8**
	baz=275						
JIRB	**Irabujima**	**3.27**	**75**	P	**Pn**	**00 32 08.9**	**+0.7**
JIRB				S	**Sn**	**00 32 49.2**	**+2.9**
JIKM	**Ikemajima**	**3.36**	**74**	P	**Pn**	**00 32 10.4**	**+1.0**
JIKM				S	**Sn**	**00 32 51.7**	**+3.2**
JMJ	**Miyako jima 2**	**3.38**	**76**	P	**Pn**	**00 32 11.6**	**+2.0**
JMJ				S	**Sn**	**00 32 51.9**	**+3.0**
JMJ	**Miyako jima 2**	**3.38**	**76**	*e*P	**Pn**	**00 32 09.2**	**-0.3**
	baz=77						
JOGS	**Gusukube**	**3.47**	**77**	P	**Pn**	**00 32 13.0**	**+2.2**
JOGS				S	**Sn**	**00 32 53.7**	**+2.6**
JKE	**Kume jima 2**	**5.16**	**62**	P	**Pn**	**00 32 34.7**	**+0.7**
JKE				*e*S	**Sn**	**00 33 34.7**	**+1.9**
JAGN	**Aguni-jima**	**5.64**	**62**	P	**Pn**	**00 32 41.3**	**+0.7**
PIP	**Pasuquin**	**5.75**	**190**	⇑*i*P	**Sn**	**00 33 42.8**	**-4.7**
SIPP	**Brgy, Tapao**	**6.17**	**191**	⇓*e*P	**Pn**	**00 32 50.2**	**+2.2**
JNTH	**Nagotoyohara**	**6.25**	**65**	P	**Pn**	**00 32 48.7**	**-0.3**
CVP	**Callao Caves**	**6.29**	**179**	⇓*i*P	**Pn**	**00 32 49.8**	**+0.2**
JIH	**Iheya**	**6.42**	**61**	P	**Pn**	**00 32 51.3**	**0.0**
JIH				S	**Sn**	**00 34 04.1**	**+0.3**
SZP	**Santa**	**6.54**	**190**	*e*Pn	**Pn**	**00 32 55.2**	**+2.2**
SZP				*e*Sn	**Sn**	**00 34 03.5**	**-3.3**
JOW	**Kunigami**	**6.58**	**63**	P	**Pn**	**00 32 53.0**	**-0.6**
JOW				S	**Sn**	**00 34 07.9**	**+0.1**
JOW	**Kunigami**	**6.58**	**63**	Pn	**Pn**	**00 32 53.0**	**-0.6**
	4.0nm,0.3s,baz=181,slow=9.4,SNR=55						
JOW				Sn	**Sn**	**00 34 06.6**	**-1.2**
	baz=139,slow=20,SNR=1.6						
JOW	**Kunigami**	**6.58**	**63**	⇓*e*P	**Pn**	**00 32 52.7**	**-0.9**
	baz=70						
JOKE	**Okinoerabujima**	**7.04**	**60**	P	**Pn**	**00 32 59.0**	**-1.0**
SSE	**Sheshan**	**7.06**	**356**	P	**Pn**	**00 33 00.1**	**-0.1**
SSE				S	**Sn**	**00 34 22.1**	**+2.4**
SSE				SMN			
	960nm,1.2s						
SSE				SME			
	1μm,1.2s						
SSE				LN			
	2μm,16.3s						
SSE				LE			
	22μm,16.3s						
SSE				LZ			
	14μm,11.8s						
HKC	**Hong Kong Obse**	**7.12**	**258**	P	**Pn**	**00 33 00.0**	**-1.1**
JTK	**Tokunoshima**	**7.54**	**59**	P	**Pn**	**00 33 05.6**	**-1.1**
JTK				S	**Sn**	**00 34 30.0**	**-1.4**
GZH	**Guangzhou**	**7.71**	**265**	Pg	Pn	00 33 04.0	-5.2
GZH				Sg	Sn	00 34 21.9	-14
GZH				smax	smax		
	comp=N,4μm,1.4s						
GZH				smax	smax		
	comp=E,3μm,1.0s						
JAMN	**Amaminishikomi**	**7.93**	**56**	P	**Pn**	**00 33 10.9**	**-1.2**
JAMN				*e*S	**Sn**	**00 34 40.5**	**-0.6**
JAM	**Amami Oshima**	**8.35**	**57**	P	**Pn**	**00 33 16.6**	**-1.2**
NJ2	**Nanjing**	**8.39**	**343**	*e*P	**Pn**	**00 33 16.6**	**-1.8**
NJ2				*e*	pP	00 33 20.8	
NJ2				pP	pP	00 33 22.8	
NJ2				sP		00 34 51.0	
NJ2				S	**Sn**		**-1.2**
	comp=E,130nm,1.0s			PMZ			
NJ2				SMN			
	comp=E,4μm,1.1s						
NJ2				SME			
	comp=E,2μm,1.1s						
NJ2				LN			
	comp=E,26μm,9.8s						
NJ2				LE			
	comp=E,59μm,12.0s						
NJ2				LZ			
	comp=E,86μm,12.0s						
JTAJ	**Takarajima**	**8.45**	**51**	P	**Pn**	**00 33 20.4**	**+1.2**
JZK	**Kikaishima**	**8.58**	**58**	P	**Pn**	**00 33 20.7**	**-0.4**
JMZ	**Minamidaito 2**	**8.84**	**76**	P	Pn	00 33 21.0	-3.5
WHN	**Wuhan**	**9.21**	**316**	⇓P	**Pn**	**00 33 28.0**	**-1.7**
WHN				LN			
	comp=E,69μm,12.0s						
WHN				LE			
	comp=E,56μm,10.7s						
WHN				LZ			
	comp=E,94μm,10.3s						
TGY	**Tagaytay City**	**9.89**	**184**	LR	LR	00 37 50.5	
	comp=E,19nm,19.1s,baz=2.0,slow=40						
QIZ	**Qiongzhong**	**12.09**	**248**	P	**Pn**	**00 34 09.9**	**+0.7**
QIZ				pP	P	00 34 16.1	-5.6
QIZ				sP		00 34 21.3	
QIZ				S	**Sn**	**00 36 26.4**	**+3.1**
QIZ				sS		00 36 39.6	
QIZ				PMZ			
	comp=E,66nm,1.0s						
QIZ				PMZ			
	comp=E,490nm,9.6s						
QIZ				LN			
	comp=E,9μm,14.6s						
QIZ				LZ			
	comp=E,7μm,15.1s						
QIZ	**Qiongzhong**	**12.09**	**248**	*e*Pn	**Pn**	**00 34 10.8**	**+1.6**
QIZ				*e*Sn	**Sn**	**00 36 19.9**	**-3.4**
JNU	**Nakatsue**	**12.14**	**40**	Pn	**Pn**	**00 34 11.9**	**+2.1**
	comp=E,0.8nm,0.3s,baz=220,slow=11,SNR=10						
JNU				LR	LR	00 39 45.9	
	comp=E,8μm,18.2s,baz=220,slow=42						
JNU	**Nakatsue**	**12.14**	**40**	*e*Pn	**Pn**	**00 34 12.5**	**+2.7**
JNU				*e*Sn	Sn	00 36 18.0	-6.3
KSJEU	**Jeongeup**	**12.30**	**20**	⇑P	Pn	00 34 17.0	+5.0
	SNR=7.9						
ENH	**Enshi**	**12.52**	**302**	*e*Pn	P	00 34 21.6	-4.9
ENH				*e*Sn	**Sn**	**00 36 31.6**	**-2.1**
KSGUS	**GUNSAN**	**12.76**	**19**	P	Pn	00 34 23.5	+5.3
	SNR=12						
TIA	**Tai'an**	**12.78**	**343**	⇑P	**Pn**	**00 34 18.8**	**+0.3**
TIA				sP		00 34 26.3	
TIA				S	**Sn**	**00 36 44.8**	**+4.9**
TIA				sS		00 36 51.9	
TIA				SS	**SnSn**	**00 36 58.8**	**+6.3**
TIA				PMZ			
	comp=E,10.0nm,0.6s						
TIA				PMZ			
	comp=E,850nm,8.1s						
TIA				LN			
	comp=E,21μm,9.4s						
TIA				LE			
	comp=E,8μm,12.5s						
TIA				LZ			
	comp=E,26μm,10.9s						
TJN	**Taejon**	**13.25**	**20**	*i*P	**Pn**	**00 34 24.7**	**-0.3**
KSDAG	**Daegu**	**13.27**	**26**	P	P	00 34 31.2	-3.5
	SNR=10.0						
KSYOC	**YEONGCHEON**	**13.46**	**26**	P	**P**	**00 34 34.3**	**-2.6**
	SNR=7.7						
KSBON	**Boeun**	**13.51**	**22**	⇓P	P	00 34 33.7	-3.8
	SNR=14						
KSCEA	**Cheonan**	**13.63**	**19**	⇓P	P	00 34 35.0	-3.8
	SNR=15						
KSEUS	**ULSEONG**	**13.69**	**25**	P	**P**	**00 34 37.2**	**-2.2**
	SNR=7.3						
JHIK	**Hikimi**	**13.76**	**38**	P	P	00 34 36.4	-3.8
GYA	**Guiyang**	**13.81**	**283**	P	**Pn**	**00 34 32.8**	**0.0**
GYA				pP	**P**	**00 34 41.0**	**0.0**
GYA				PP	**PnPn**	**00 34 44.8**	**+4.0**
GYA				S	**Sn**	**00 37 06.0**	**+0.4**
GYA				sS	sS	00 37 17.3	
GYA				PMZ			
	comp=E,40nm,0.8s						
GYA				PMZ			
	comp=E,190nm,4.9s						
GYA				LN			
	comp=E,32μm,12.3s						
GYA				LE			
	comp=E,28μm,12.8s						
GYA				LZ			
	comp=E,40μm,12.0s						
INCN	**Inchon**	**14.07**	**16**	P	**P**	**00 34 44.6**	**+0.9**
	SNR=17						
INCN	**Inchon**	**14.07**	**16**	*e*Pn	Pn	00 34 39.9	+3.7
KSGAH	**Ganghwa**	**14.24**	**16**	⇑P	**P**	**00 34 46.6**	**+1.1**
	SNR=9.2						
KSULJ	**Uljin**	**14.28**	**26**	P	**P**	**00 34 45.3**	**-0.7**
	SNR=17						
JGT	**Gotsu**	**14.35**	**38**	P	**Pn**	**00 34 43.1**	**+3.2**
KS15	**Wonju Array Si**	**14.39**	**20**	*e*Pn	**Pn**	**00 34 42.5**	**+1.9**
KSRS	**Korea Array**	**14.42**	**20**	Pn	**Pn**	**00 34 42.5**	**+1.6**
	comp=E,0.8nm,0.3s,baz=200,slow=12,SNR=4.5						
KSRS				Lg	Lg	00 38 58.9	
	baz=211,slow=26,SNR=4.3						
KSRS				LR	LR	00 40 47.2	
	comp=E,4μm,20.8s,baz=204,slow=40						
KS01	**Wonju Array Si**	**14.43**	**20**	*e*Pn	**Pn**	**00 34 40.6**	**-0.4**
KSTBA	**Taebaek**	**14.47**	**24**	P	**P**	**00 34 46.1**	**-2.1**
	SNR=21						
KSMUS	**Musan**	**14.49**	**16**	⇓P	**P**	**00 34 48.7**	**+0.4**
	SNR=19						
YNCB	**YEONCHEON**	**14.68**	**17**	⇑P	**P**	**00 34 51.3**	**+0.9**
	SNR=16						
DL2	**Dalian**	**14.84**	**360**	⇓*i*P	**Pn**	**00 34 48.0**	**+1.4**
DL2				S	**Sn**	**00 37 31.1**	**+0.8**
DL2				PMZ			
	comp=E,19nm,0.5s						
DL2				PMZ			
	comp=E,190nm,4.9s						
DL2				LN			
	comp=E,5μm,12.2s						
DL2				LE			
	comp=E,2μm,7.8s						
DL2				LZ			
	comp=E,6μm,11.8s						
KSDGY	**Daegwallyeong**	**14.88**	**22**	P	**P**	**00 34 52.3**	**-0.4**
	SNR=8.5						
**KSIJ

comp=E,19μm,12.4s
TIY LE
comp=E,11μm,11.6s
TIY LZ
comp=E,18μm,12.4s
BJT Baijiatuau 16.62 345 *e*P **P 00 35 11.1 -0.8**
BJT pmax pmax
comp=Z,571nm,2.5s
BJT Baijiatuau 16.62 345 *e*Pn **P 00 35 11.1 -0.8**
comp=Z,571nm,2.5s
BJI Beijing 16.64 345 P **P 00 35 13.1 +1.0**
BJI S **S 00 38 21.5 -3.3**
BJI PMZ
comp=Z,15nm,1.6s
BJI LN
comp=Z,12μm,12.0s
BJI LE
comp=Z,5μm,12.4s
BJI LZ
comp=Z,3μm,14.1s
KMI Kunming 17.28 278 ⇑P **Pn 00 35 17.8 -0.5**
KMI pP **pP 00 35 26.6 +0.2**
KMI sP **sP 00 35 31.0 +1.4**
KMI PP **PnPn 00 35 33.3 +4.9**
KMI S **Sn 00 38 27.3 -2.6**
KMI SS **SnSn 00 38 48.9 +5.6**
KMI PMZ
comp=Z,42nm,1.9s
KMI PMZ
comp=Z,580nm,3.1s
KMI LN
comp=Z,18μm,11.5s
KMI LE
comp=Z,32μm,9.0s
KMI LZ
comp=Z,36μm,8.7s
CD2 Chengdu 17.32 297 P **Pn 00 35 18.1 -0.5**
CD2 pP **pP 00 35 28.0 +1.3**
CD2 sP **sP 00 35 32.3 +2.4**
CD2 S **Sn 00 38 30.0 -0.7**
CD2 PMZ
comp=Z,150nm,0.9s
CD2 PMZ
comp=Z,2μm,5.6s
CD2 LN
comp=Z,16μm,9.6s
CD2 LE
comp=Z,24μm,7.2s
CD2 LZ
comp=Z,25μm,9.4s
UBPT Khong Chiam 17.56 243 P **P 00 35 25.2 +2.7**
comp=Z,152nm,2.6s,comp=Z,3μm
KDM Kudat 17.63 196 ⇑P **P 00 35 25.8 +2.5**
SNY Shenyang 17.83 5 ⇓P **P 00 35 26.8 +1.5**
SNY S **S 00 38 47.3 -1.8**
SNY PMZ
comp=Z,29nm,2.2s
SNY PMZ
comp=Z,1μm,6.2s
SNY LN
comp=Z,3μm,15.7s
SNY LE
comp=Z,11μm,16.3s
SNY LZ
comp=Z,8μm,12.0s
SKNT Sakolnakorn 18.00 250 P **P 00 35 30.1 +2.7**
comp=Z,262nm,1.3s,comp=Z,4μm
JHJ2 Mitsune 18.30 56 *e*P **Pn 00 35 33.4 +2.9**
comp=Z,800nm,1.2s
KKM Kota Kinabalu 18.63 197 ⇑P **Pn 00 35 36.2 +1.3**
CBIJ Chichi jima 18.74 76 *e*P **Pn 00 35 36.1 +0.1**
comp=Z,481nm,1.3s
JCJ Chichijima 18.74 76 P **P 00 35 33.9 -1.6**
comp=Z,2.3nm,0.3s,baz=274,slow=16,SNR=9.3
JCJ LR LR 00 40 45.9
comp=Z,482nm,20.7s,baz=262,slow=30
CBI Chichi jima 18.75 76 *e*P **P 00 35 33.9 -1.6**
SDKM Sandakan 18.78 194 ⇑P **Pn 00 35 37.5 +1.0**
HHC Hu-ho-hao-te 18.81 336 *e*P **Pn 00 35 38.3 +1.5**
HHC pP **pP 00 35 45.6 +2.5**
HHC PP **PnPn 00 35 54.5 +5.2**
HHC PMZ
comp=Z,35nm,0.9s
HHC PMZ
comp=Z,3μm,4.6s
HHC LN
comp=Z,7μm,9.3s
HHC LE
comp=Z,3μm,9.1s
HHC LZ
comp=Z,8μm,9.6s
MAJO Matsushiro 18.92 45 *e*P **Pn 00 35 39.8 +1.7**
MAJO pmax pmax
comp=Z,23nm,1.1s
MAJO Matsushiro 18.92 45 *e*P **Pn 00 35 39.8 +1.7**
comp=Z,23nm,1.1s
MAT Matsushiro 18.92 45 P **Pn 00 35 38.9 +0.8**
MAT S **S 00 39 10.6 -0.2**
MJAR Matsushiro Arr 18.92 45 P **P 00 35 35.2 -2.2**
comp=Z,0.2nm,0.3s,baz=234,slow=9.8,SNR=10
MJAR LR LR 00 43 49.5
comp=Z,3μm,20.5s,baz=235,slow=40
BTO Baotou 19.23 332 *e*P **Pn 00 35 46.5 +4.6**
LZH Lanzhou 19.54 312 P **Pn 00 35 46.6 +0.9**
LZH pP pP 00 35 56.5 +5.3
LZH sP **sP 00 35 58.0 +3.5**
LZH S **S 00 39 19.3 -4.5**
LZH sS **Sn 00 39 28.3 +3.8**
LZH SS **SnSn 00 39 47.1 +8.3**
LZH PMZ
comp=Z,360nm,1.1s
LZH PMZ
comp=Z,3μm,4.1s
LZH LN
comp=Z,10μm,14.4s
LZH LE
comp=Z,16μm,13.1s
LZH LZ
comp=Z,24μm,15.8s
TSM Tawau 19.95 191 ⇑P **Pn 00 35 50.0 -0.5**
CN2 Changchun 19.97 8 *e*P **P 00 35 49.4 +0.6**
CN2 *es*P **sP 00 35 56.4 -2.5**
CN2 *e*S **S 00 39 28.6 -3.6**
CN2 PMZ
comp=Z,20nm,1.0s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,4μm,14.0s
CN2 LE
comp=Z,2μm,14.0s
CN2 LZ
comp=Z,3μm,17.0s
CRAI Chiangrai 20.10 263 P **P 00 35 48.7 -1.7**
comp=Z,53nm,2.1s,comp=Z,4μm
SGSI Sangihe 20.55 169 P Pn 00 35 58.2 +0.6
comp=Z,210nm,0.3s,comp=Z,26μm
UTTA Uttaradit 20.70 256 P Pn 00 35 58.6 -0.7
comp=Z,8.0nm,1.1s,comp=Z,81nm
PBKT Sadao Pong 20.78 253 P Pn 00 35 59.5 -0.8
comp=Z,109nm,1.1s,comp=Z,2μm
VLA Vladivostok 20.83 21ĸ *i*P **P 00 35 58.4 +0.3**
VLA *i* 00 36 16.5
VLA *e*S **S 00 39 48.8 -0.4**
VLA pmax pmax
comp=Z,59nm,1.6s
CMAI Chiengmai2 21.38 263 P **P 00 36 06.3 +1.8**
comp=Z,58nm,1.5s
NAYO Nakonayok 21.50 247 P **P 00 36 07.2 +1.7**
comp=Z,54nm,0.7s
MDJ Mudanjiang 21.54 16 P **P 00 36 07.9 +2.2**
MDJ pP **pP 00 36 16.4 +3.8**
MDJ S **S 00 40 06.8 +3.6**
MDJ PMZ
comp=Z,29nm,1.2s
MDJ PMZ
comp=Z,160nm,6.9s
MDJ LN
comp=Z,4μm,18.4s
MDJ LE
comp=Z,9μm,16.5s
MDJ LZ
comp=Z,5μm,14.5s
MDJ Mudanjiang 21.54 16 *e*P **P 00 36 06.0 +0.3**
comp=Z,46nm,1.1s
MDJ LR LR
comp=Z,2μm,21.0s
SUKH Sukhothai 21.61 257 P **P 00 36 08.5 +1.7**
comp=Z,14nm,1.1s,comp=Z,183nm
CMMT Chiang Mai 21.79 261 P **P 00 36 10.0 +1.4**
comp=Z,83nm,1.2s
CHTO Chiang Mai 21.79 261 *e*P **P 00 36 10.1 +1.4**
CHTO pmax pmax
comp=Z,76nm,1.1s
CHTO MLR MLR
comp=Z,6μm,19.0s
CHTO Chiang Mai 21.79 261 P **P 00 36 10.3 +1.6**
SNR=27
CHTO Chiang Mai 21.79 261 *e*P **P 00 36 10.1 +1.4**
comp=Z,76nm,1.1s
CHTO LR LR
comp=Z,6μm,19.0s
USRK Ussuriysk Ar. 21.83 20 P **P 00 36 08.0 -0.8**
comp=Z,7.4nm,0.7s,baz=210,slow=9.0,SNR=18
USRK LR LR 00 45 21.2
comp=Z,2μm,19.0s,baz=188,slow=39
CM01 Chiang Mai Arr 21.90 260 *e*P **P 00 36 09.9 +0.1**
CM31 Chiang Mai Arr 21.90 260 *e*P **P 00 36 11.2 +1.3**
CMAR Chiang Mai Arr 21.90 260 P **P 00 36 11.2 +1.3**
comp=Z,16nm,0.8s,baz=64,slow=8.6,SNR=78
CMAR PcP **PcP 00 40 09.0 +0.2**
comp=Z,1.0nm,0.3s,baz=78,slow=1.4,SNR=5.4
CMAR LR LR 00 45 11.1
comp=Z,4μm,19.9s,baz=76,slow=38
CMAR Chiang Mai Arr 21.90 260 P **P 00 36 11.2 +1.3**
CMAR 00 40 09.0
CMAR pmax pmax
comp=Z,16nm,0.8s
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR MLR MLR
comp=Z,4μm,19.9s
BTM Bintulu 22.30 203 ⇑P **P 00 36 13.2 -1.0**
UTHA Uthaitani 22.54 252 P **P 00 36 19.4 +2.7**
comp=Z,7.7nm,1.0s
MHMT Maesarieng 22.90 260 P **P 00 36 22.1 +1.6**
comp=Z,29nm,1.3s
GTOI Gorontalo 23.28 177 P P 00 36 31.8 +7.5
SBUM Sibu 23.32 205 ⇑P **P 00 36 23.7 -1.0**
SBUM Sibu 23.32 205 *e*P **P 00 36 23.3 -1.4**
comp=Z,108nm,0.7s
SRDT SRDT 23.36 250 P **P 00 36 27.0 +1.9**
comp=Z,231nm,1.5s
MRSI Marisa 23.40 179 P **P 00 36 26.8 +1.3**
comp=Z,70nm,0.9s
KMSI Cibinong 23.41 174 P P 00 36 36.4 +11
MPSI Mapaga 23.61 184 P **P 00 36 27.3 -0.2**
comp=Z,42nm,1.0s,comp=Z,870nm
KHLT Khaolaem Dam 23.61 251 P P 00 36 36.1 +8.5
comp=Z,29nm,1.5s
TNTI Ternate 23.75 166 P **P 00 36 29.4 +0.4**
comp=Z,140nm,1.0s,comp=Z,3μm
TNTI Ternate 23.75 166 *e*P **P 00 36 28.9 0.0**
comp=Z,826nm,1.9s
GTA Gaotai 24.03 315 ⇑P **P 00 36 31.8 +0.2**
GTA pP **pP 00 36 35.0 -4.0**
GTA sP **sP 00 36 38.4 -3.7**
GTA PcP **PcP 00 40 13.3 +0.3**
GTA S **S 00 40 46.9 -0.5**
GTA sS **sS 00 40 55.0 -4.6**
GTA PMZ
comp=Z,22nm,1.4s
GTA PMZ
comp=Z,1μm,5.7s
GTA LN
comp=Z,6μm,13.8s
GTA LE
comp=Z,13μm,12.2s
GTA LZ
comp=Z,15μm,13.3s
GUMO Guam 24.23 111 P **P 00 36 33.2 -0.3**
comp=Z,70nm,0.4s,baz=221,slow=4.0,SNR=11
GUMO LR LR 00 45 41.9
comp=Z,2μm,19.9s,baz=285,slow=36
GUMO Guam 24.23 111 P **P 00 36 33.2 -0.3**
GUMO pmax pmax
comp=Z,70nm,0.4s
GUMO MLR MLR
comp=Z,2μm,19.9s
GUMO Guam 24.23 111 *e*P **P 00 36 34.9 +1.4**
comp=Z,1μm,1.5s
GUMO LR LR
comp=Z,183nm,19.0s
APSI Ampana 24.78 180 P **P 00 36 43.1 +4.7**
comp=Z,143nm,1.1s,comp=Z,1μm
PCI Palu 24.84 184 P P 00 36 43.8 +4.8
comp=Z,113nm,1.0s,comp=Z,2μm
LUWI Luwuk 24.93 177 P P 00 36 45.1 +5.3
comp=Z,226nm,1.4s
LUWI Luwuk 24.93 177 *e*P **P 00 36 39.0 -0.7**
comp=Z,203nm,1.0s
LUWI *e*S **S 00 41 08.8 +6.8**
KSM Kuching 24.98 208 ⇑P **P 00 36 40.4 +0.2**
KSM Kuching 24.98 208 *e*P **P 00 36 39.8 -0.4**
comp=Z,171nm,1.0s
KSM LR LR
comp=Z,1μm,20.0s
LBMI Labuha 25.15 166 P **P 00 36 43.3 +1.5**
comp=Z,110nm,1.5s,comp=Z,3μm
HIA Hailar 25.25 357 *e*P **P 00 36 43.1 +0.7**
HIA pmax pmax
comp=Z,41nm,1.1s
HIA MLR MLR
comp=Z,3μm,21.0s
HIA Hailar 25.25 357 *e*P **P 00 36 43.0 +0.7**
comp=Z,41nm,1.1s
HIA LR LR
comp=Z,3μm,21.0s
ERM Erimo 25.30 40 *e*P **P 00 36 42.0 -0.9**
ERM pmax pmax
comp=Z,32nm,1.3s
ERM Erimo 25.30 40 PFAKE 00 37 00.0 +17
ERM LR LR
comp=Z,2μm,20.0s
KTGM Kuala Trenggan 25.77 227 ⇑P **P 00 36 49.3 +1.9**
STKI Sintang 25.79 204 P **P 00 36 48.7 +1.1**
comp=Z,122nm,0.8s
SANI Sanana 26.25 170 P **P 00 36 52.1 +0.4**
comp=Z,45nm,0.9s,comp=Z,628nm
ASAJ Asahikawa 26.36 35 P **P 00 36 51.1 -1.4**
comp=Z,6.2nm,0.3s,baz=246,slow=12,SNR=3.3
ASAJ Asahikawa 26.36 35 P **P 00 36 51.1 -1.4**
ASAJ pmax pmax
comp=Z,6.0nm,0.3s
ASAJ Asahikawa 26.36 35 *e*P **P 00 36 51.1 -1.4**
comp=Z,29nm,1.1s
KLR Kul'dur 26.38 15 *e*P **P 00 36 48.8 -3.8**
KLR *e*S **S 00 41 22.5 -1.8**
KLR pmax pmax
comp=Z,68nm,1.6s
KLR MLR MLR
comp=E,10μm,17.5s
KLR MLR MLR
comp=Z,9μm,13.0s
SWI Sorong 26.42 158 P **P 00 36 56.6 +3.3**
comp=Z,31nm,1.2s
SIJI Sorong 26.43 158 P **P 00 36 53.2 -0.2**
comp=Z,16nm,0.7s,baz=340,slow=9.5,SNR=7.7
ULN Ulaanbaatar 26.49 338 PFAKE 00 37 10.0 +16
ULN LR LR
comp=Z,5μm,22.0s
SURT Suratani 26.51 239 P **P 00 36 57.7 +3.6**
comp=Z,18nm,1.0s
HABR Khabarovsk 26.60 20 *e*P **P 00 36 51.6 -3.0**
HABR *e**PP **pP 00 37 01.1 -0.9**
HABR *e**SP **sP 00 37 05.3 +0.2**
HABR 00 37 32.6
HABR *e* 00 40 15.3
HABR *e*S **S 00 41 24.5 -3.3**
HABR *e**SS **sS 00 41 41.1 +1.0**
HABR *e*SS **SnSn 00 42 29.7 -1.5**
HABR *e* 00 47 42.9
HABR pmax pmax
comp=Z,7.0nm,0.6s
KRAB Krabi 26.65 238 P **P 00 36 58.1 +2.7**
SONA0 Songino Array 26.70 337 *e*P **P 00 36 55.4 -0.3**
SONM Songino Array 26.70 337 P **P 00 36 55.4 -0.3**
comp=Z,25nm,0.9s,baz=158,slow=9.7,SNR=51
SONM LR LR 00 48 09.0
comp=Z,3μm,20.9s,baz=147,slow=38
SONM Songino Array 26.70 337 P **P 00 36 55.4 -0.3**
SONM pmax pmax
comp=Z,25nm,0.9s
SONM MLR MLR
comp=Z,3μm,20.9s
SONA1 Songino Array 26.71 337 *e*P **P 00 36 54.6 -1.1**
TTSI Tana Toraja 26.96 184 P **P 00 37 02.9 +4.8**
comp=Z,40nm,0.8s,comp=Z,1μm
KULM Kulim 27.51 231 ⇑P **P 00 37 05.1 +2.0**
KULM Kulim 27.51 231 *e*P **P 00 37 05.1 +2.0**
comp=Z,31nm,1.2s
KULM LR LR
comp=Z,2μm,19.0s
NLAI Namlea 27.60 168 P **P 00 37 05.1 +1.2**
comp=Z,170nm,1.1s,comp=Z,1μmcomp=Z,3μm
LSA Lhasa 27.78 288 P **P 00 37 07.3 +1.3**
LSA S **S 00 41 51.3 +3.5**
LSA PMZ
comp=Z,10.0nm,0.7s
LSA PMZ
comp=Z,320nm,5.4s
LSA LN
comp=Z,2μm,14.0s
LSA LE
comp=Z,8μm,14.4s
LSA LZ
comp=Z,12μm,13.0s
LSA Lhasa 27.78 288 *e*P **P 00 37 07.7 +1.7**
LSA pmax pmax
comp=Z,36nm,0.9s
LSA MLR MLR
comp=Z,3μm,20.0s
LSA Lhasa 27.78 288 *e*P **P 00 37 07.7 +1.7**
comp=Z,36nm,0.9s
LSA LR LR
comp=Z,3μm,20.0s
IPM Ipoh 27.82 229 ⇑P **P 00 37 06.1 +0.1**
IPM Ipoh 27.82 229 *e*P **P 00 37 07.2 +1.3**
comp=Z,74nm,1.5s
SPSI Sidrap Palu 27.88 184 P P 00 37 15.9 +10
MYKOM Kota Tinggi 28.04 221 ⇑P **P 00 37 09.3 +1.4**
MYKOM Kota Tinggi 28.04 221 *e*P **P 00 37 06.8 -1.1**
comp=Z,32nm,1.0s
KGM Kluang 28.18 222 ⇑P **P 00 37 08.6 -0.5**
FRIM Kepong 28.32 226 ⇑P **P 00 37 11.9 +1.5**
YSS Yuzh-Sakhalins 28.43 31⇑*e*P **P 00 37 12.0 +1.0**
YSS *e*PPP PPP 00 38 22.0
YSS *e*S **S 00 41 54.0 -2.7**
YSS *e*SSS SSS 00 43 42.0
YSS pmax pmax
comp=Z,40nm,1.1s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=N,2μm,15.0s
YSS MLR MLR
comp=E,2μm,16.0s
YSS Yuzh-Sakhalins 28.43 31 PFAKE 00 37 20.0 +9.0
YSS LR LR
comp=Z,425nm,19.0s
FAKI Fak Fak 28.68 158 P **P 00 37 11.3 -2.2**
comp=Z,58nm,1.2s,comp=Z,747nm
FAKI Fak Fak 28.68 158 *e*P **P 00 37 13.5 -0.1**
comp=Z,49nm,1.0s
KAPI Kappang 28.92 184 P **P 00 37 14.9 -0.7**
comp=Z,6.6nm,0.7s,baz=350,slow=20,SNR=4.2
KAPI LR LR 00 49 25.4
comp=Z,646nm,20.8s,baz=360,slow=38
KAPI Kappang 28.92 184 *e*P **P 00 37 14.9 -0.7**
KAPI LR LR
comp=Z,758nm,22.0s
TPI Tanjungpandan 29.91 209 P **P 00 37 25.3 +0.8**
comp=Z,79nm,1.0s,comp=Z,761nm
ZAK Zakamensk 29.96 336 *e*P P 00 37 21.4 -3.3
ZAK pmax pmax
comp=Z,7.0nm,1.1s
PPBI Pangkal Pinang 30.10 212 P **P 00 37 27.7 +1.6**
comp=Z,36nm,0.9s,comp=Z,3μm
PSI Prapat 30.48 230 P **P 00 37 31.0 +1.4**
comp=Z,24nm,0.8s,baz=16,slow=7.5,SNR=16
PSI LR LR 00 50 24.3
comp=Z,1μm,19.1s,baz=47,slow=37
PSI Prapat 30.48 230 *e*P **P 00 37 31.0 +1.4**
TAPN Taplejung 30.75 284 *e*P **P 00 37 33.1 +0.9**
comp=Z,167nm,1.1s
TLY Talaya 30.90 338 P **P 00 37 32.7 -0.2**
comp=Z,6.0nm,0.7s,baz=168,slow=8.0
TLY LR LR 00 50 44.0
comp=Z,2μm,18.9s,baz=140,slow=38
TLY Talaya 30.90 338*c i*P **P 00 37 32.0 -0.9**
TLY *e*PPP PPP 00 38 50.9
TLY *e*S S 00 42 28.5 -7.0
TLY *e*SSS SSS 00 44 12.2
TLY pmax pmax
comp=Z,39nm,1.5s
TLY MLR MLR
comp=Z,4μm,14.0s
TLY Talaya 30.90 338 P **P 00 37 32.7 -0.2**
SNR=17
TLY Talaya 30.90 338 *e*P **P 00 37 32.9 0.0**
comp=Z,20nm,1.0s
TLY LR LR
comp=Z,410nm,21.0s
ODAN Odare 31.05 283 *e*P **P 00 37 35.4 +0.6**
comp=Z,86nm,0.9s
IRK Irkutsk 31.17 339 *e*P **P 00 37 34.1 -1.1**
IRK *e* 00 48 00.4
IRK pmax pmax
comp=Z,66nm,1.4s
MNSI Mandailing Nat 31.50 226 P **P 00 37 39.4 +0.9**
comp=Z,82nm,1.1s
RAMN Ramite 31.75 283 *e*P **P 00 37 41.4 +0.4**
comp=Z,159nm,1.2s
MOY Mondy 31.85 335 *e*P **P 00 37 40.7 -0.7**
JIRN Jiri 32.09 284 *e*P **P 00 37 44.3 +0.2**
PDSI Padang 32.23 223 P P 00 37 49.5 +4.5
comp=Z,17nm,1.0s,comp=Z,6μm
GUN Gumba 32.36 285 *e*P **P 00 37 47.1 +0.7**
comp=Z,385nm,1.6s
BLJI Banyuglugur 32.54 195 P **P 00 37 47.6 0.0**
comp=Z,102nm,0.7s,comp=Z,3μm
PKI Pulchoki 32.78 284 *e*P **P 00 37 50.3 +0.2**
comp=Z,116nm,1.4s
LHSI Lahat 32.85 215 P **P 00 37 52.5 +2.2**
comp=Z,67nm,0.8s
KKN Kakani 32.89 284 *e*P **P 00 37 51.3 +0.4**
comp=Z,135nm,1.4s
KLSI 32.98 212 P **P 00 37 52.6 +1.1**
comp=Z,90nm,1.2s,comp=Z,2μm
DMN Daman 33.05 284 *e*P **P 00 37 52.8 +0.4**
comp=Z,99nm,1.1s
MDSI Maura Dua 33.08 213 P **P 00 37 52.6 +0.3**
comp=Z,45nm,0.9s
WOJI Wonogiri, Jawa 33.36 200 P **P 00 37 55.8 +1.0**
comp=Z,136nm,0.8s,comp=Z,3μm
GKN Gorkha 33.45 285 *e*P **P 00 37 55.9 +0.1**
comp=Z,133nm,1.3s
LWLI Liwa 33.59 213 P **P 00 37 59.7 +2.8**
comp=Z,142nm,0.8s,comp=Z,156μm
LEM Lembang 33.59 206 P P 00 38 02.2 +5.2
comp=Z,74nm,1.2s
LEM Lembang 33.59 206 P **P 00 37 57.8 +0.7**
comp=Z,34nm,0.7s,baz=38,slow=19,SNR=6.5
SOEI Soe 33.66 175 P P 00 38 12.8 +15
KASI Kota Agung 33.81 212 P **P 00 37 59.8 +1.1**
comp=Z,70nm,0.9s
WMQ Urumqi 34.10 314 P **P 00 38 01.9 +0.8**
WMQ pP **pP 00 38 11.3 +2.7**
WMQ sP **sP 00 38 15.3 +3.6**
WMQ PP **PnPn 00 39 14.5 -0.5**
WMQ PcP **PcP 00 40 38.3 +0.1**
WMQ S **S 00 43 25.8 +0.2**
WMQ sS **sS 00 43 39.8 +1.8**
WMQ SS **SnSn 00 45 32.3 -1.7**
WMQ ScS **ScS 00 48 19.8 -3.9**
WMQ PMZ
comp=Z,16nm,0.8s
WMQ PMZ
comp=Z,420nm,5.6s
WMQ LN
comp=Z,6μm,13.0s
WMQ LE
comp=Z,8μm,13.0s
WMQ LZ
comp=Z,3μm,12.5s
BOD Bodaibo 34.22 353 *e*P **P 00 37 59.7 -2.1**
BOD pmax pmax
comp=Z,7.0nm,2.1s

KOLN	**Koldanda**	**34.38**	**285**	*e*P	**P**	**00 38 04.2**	**+0.3**		
	comp=Z,53nm,0.8s								
HVS	**Khovu-Aksy**	**34.61**	**329**	*e*P	**P**	**00 38 04.4**	**-1.0**		
HVS				pmax	pmax				
	comp=Z,39nm,1.1s								
YAK	**Yakutsk**	**38.38**	**6**	*e*P	**P**	**00 38 34.4**	**-2.9**		
YAK				*e**PP	**pP**	**00 38 45.7**	**+0.8**		
YAK				*e*		00 40 49.9			
YAK				*e*S	S	00 44 23.4	-7.0		
YAK				*e**SS	**ScP**	**00 44 39.2**	**+2.4**		
YAK				*e*		00 48 43.7			
YAK				pmax	pmax				
	comp=Z,19nm,0.8s								
YAK				pmax	pmax				
	comp=N,11nm,1.2s								
YAK				pmax	pmax				
	comp=E,5.0nm,1.5s								
YAK				pmax	pmax				
	comp=Z,13nm,0.6s								
YAK				smax	smax				
	comp=N,28nm,2.0s								
YAK				smax	smax				
	comp=E,18nm,2.5s								
YAK				MLR	MLR				
	comp=Z,3µm,17.0s								
YAK				MLR	MLR				
	comp=N,2µm,13.0s								
YAK				MLR	MLR				
	comp=E,1µm,14.0s								
YAK	**Yakutsk**	**38.38**	**6**	PFAKE		00 38 50.0	+13		
YAK				LR	LR				
	comp=Z,1µm,22.0s								
MK01	**Makanchi Array**	**38.76**	**316**	*e*P	**P**	**00 38 40.3**	**-0.5**		
MK01				*e*PcP	**PcP**	**00 40 50.3**	**-1.8**		
MK01				*e*S	**S**	**00 44 37.6**	**+0.9**		
MK31	**Makanchi Array**	**38.78**	**316**	*i* P	**P**	**00 38 40.6**	**-0.3**		
MK31				pmax	pmax				
	comp=Z,115nm,1.6s								
MK32	**Makanchi Array**	**38.78**	**316**	*e*P	**P**	**00 38 41.0**	**0.0**		
MK32				*e*PcP	**PcP**	**00 40 51.3**	**-0.8**		
MK32				*e*S	**S**	**00 44 39.1**	**+2.2**		
MKAR	**Makanchi Array**	**38.78**	**316**	P	**P**	**00 38 41.0**	**0.0**		
	comp=Z,13nm,0.8s,baz=104,slow=9.9,SNR=82								
MKAR				PcP	**PcP**	**00 40 51.3**	**-0.8**		
	comp=Z,7.6nm,0.8s,baz=99,slow=4.5,SNR=4.7								
MKAR				ScP	**ScP**	**00 44 39.1**	**+0.4**		
	comp=Z,3.5nm,0.9s,baz=110,slow=4.3,SNR=9.1								
MKAR				LR	LR	00 55 52.2			
	comp=Z,3µm,18.1s,baz=103,slow=38								
MKAR	**Makanchi Array**	**38.78**	**316**	*e*P	**P**	**00 38 41.0**	**0.0**		
MKAR				*e*		00 40 15.4			
MKAR	**Makanchi Array**	**38.78**	**316**	*e*P	**P**	**00 38 41.0**	**0.0**		
MKAR				*e*PP	**PnPn**	**00 40 15.4**	**+3.2**		
PDGK	**Podgornoye**	**39.55**	**310**	P	**P**	**00 38 47.9**	**+0.5**		
PDGK				pmax	pmax				
	comp=Z,82nm,1.2s								
PETK	**Petropavlovsk-**	**39.75**	**34**	LR	LR	00 56 38.1			
	comp=Z,2µm,18.2s,baz=224,slow=38								
NDI	**New Delhi**	**39.95**	**287**	*e*P	**P**	**00 38 50.5**	**-0.4**		
PET	**Petropavlovsk**	**40.19**	**34**	*e*P	**P**	**00 38 54.8**	**+2.3**		
PET				*e*S	**S**	**00 45 00.9**	**+3.1**		
PET				MLR	MLR				
	comp=Z,2µm,18.0s								
PET				MLR	MLR				
	comp=Z,2µm,20.0s								
PET	**Petropavlovsk**	**40.19**	**34**	PFAKE		00 39 10.0	+17		
PET				LR	LR				
	comp=Z,2µm,21.0s								
ZAA0	**Zalesovo Array**	**40.63**	**327**	*e*P	**P**	**00 38 54.3**	**-1.9**		
ZAA0				*e*PcP	**PcP**	**00 40 56.5**	**-1.3**		
ZALV	**Zalesovo Beam**	**40.63**	**327**	P	**P**	**00 38 55.1**	**-1.1**		
	comp=Z,26nm,0.8s,baz=116,slow=8.0,SNR=58								
ZALV				PcP	**PcP**	**00 40 56.2**	**-1.5**		
	comp=Z,1.8nm,0.6s,baz=108,slow=4.7,SNR=2.7								
ZALV				ScP	**ScP**	**00 44 44.9**	**-0.9**		
	comp=Z,2.0nm,0.8s,baz=132,slow=2.2,SNR=5.2								
ZALV				LR	LR	00 55 41.6			
	comp=Z,998nm,20.7s,baz=70,slow=36								
ZALV	**Zalesovo Beam**	**40.63**	**327**	P	**P**	**00 38 55.1**	**-1.1**		
ZALV						00 40 56.3			
ZALV				pmax	pmax				
	comp=Z,26nm,0.8s								
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.6s								
ZALV				pmax	pmax				
	comp=N,2.0nm,0.8s								
ZALV				MLR	MLR				
	comp=Z,998nm,20.7s								
ZAA1	**Zalesovo Array**	**40.64**	**327**	*e*P	**P**	**00 38 55.1**	**-1.1**		
ZAA1				*e*PcP	**PcP**	**00 40 56.2**	**-1.5**		
ZAA1				*e*ScP	**ScP**	**00 44 44.9**	**-0.9**		
KSH	**Kashi**	**41.38**	**303**	P	P	00 39 06.3	+3.6		
KSH				pP	pP	00 39 15.4	+5.1		
KSH				sP	sP	00 39 20.1	+6.7		
KSH				PP	**PnPn**	**00 40 45.4**	**+2.3**		
KSH				PcS	**PcS**	**00 44 54.5**	**+2.5**		
KSH				S	**S**	**00 45 22.0**	**+5.8**		
KSH				sS	sS	00 45 34.4	+5.7		
KSH				SS	**SS**	**00 48 20.1**	**-0.3**		
KSH				ScS	**ScS**	**00 49 03.5**	**-1.8**		
KSH				PMZ					
	comp=Z,53nm,1.4s								
KSH				PMZ					
	comp=Z,300nm,4.0s								
KSH				LN					
	comp=Z,2µm,14.4s								
KSH				LE					
	comp=Z,1µm,10.6s								
KSH				LZ					
	comp=Z,2µm,12.7s								
PMG	**Port Moresby**	**41.51**	**140**	*e*P	**P**	**00 39 04.9**	**+1.1**		
PMG				pmax	pmax				
	comp=Z,400nm,1.3s								
PMG				MLR	MLR				
	comp=Z,960nm,22.0s								
PMG	**Port Moresby**	**41.51**	**140**	*e*P	**P**	**00 39 04.9**	**+1.1**		
	comp=Z,400nm,1.3s								
PMG				LR	LR				
	comp=Z,960nm,22.0s								
ULHL	**Ulahol**	**41.63**	**307**	P	**P**	**00 39 05.8**	**+0.9**		
	SNR=16								
NVS	**Novosibirsk**	**41.90**	**327**⇑	*i* P	**P**	**00 39 05.1**	**-1.4**		
NVS				*e*		00 40 54.2			
NVS				pmax	pmax				
	comp=N,33nm,1.8s								
NVS				pmax	pmax				
	comp=E,38nm,1.8s								
NVS				pmax	pmax				
	comp=Z,67nm,1.8s								
NVS				pmax	pmax				
	comp=N,19nm,1.6s								
NVS				pmax	pmax				
	comp=E,15nm,1.6s								
NVS				pmax	pmax				
	comp=Z,23nm,1.6s								
H11S3	**WAKE ISLAND Hy**	**42.16**	**89**	T	T	01 24 25.7			
	baz=162,slow=74,SNR=549								
H11S1	**WAKE ISLAND Hy**	**42.17**	**89**	T	T	01 24 19.5			
	baz=284,slow=74,SNR=209								
H11S2	**WAKE ISLAND Hy**	**42.18**	**89**	T	T	01 25 04.7			
	SNR=236								
TKM2	**Tokmak 2**	**42.23**	**308**	P	**P**	**00 39 10.8**	**+0.9**		
	SNR=18								
TKM2	**Tokmak 2**	**42.23**	**308**	*e*P	**P**	**00 39 10.7**	**+0.9**		
TKM2				pmax	pmax				
	comp=Z,45nm,1.1s								
TKM2				MLR	MLR				
	comp=Z,2µm,22.0s								
TKM2	**Tokmak 2**	**42.23**	**308**	*e*P	**P**	**00 39 10.7**	**+0.9**		
	comp=Z,45nm,1.1s								
TKM2				LR	LR				
	comp=Z,2µm,22.0s								
KZA	**Kyzart**	**42.32**	**307**	P	**P**	**00 39 12.2**	**+1.4**		
	SNR=9.3								
KURK	**Kurchatov**	**42.52**	**320**	P	**P**	**00 39 11.8**	**+0.1**		
	comp=Z,106nm,1.3s,SNR=17								
KURK	**Kurchatov**	**42.52**	**320**	*e*P	**P**	**00 39 10.9**	**-0.8**		
KURK				*e*		00 41 02.6			
KURK				pmax	pmax				
	comp=Z,63nm,1.7s								
KURK				MLR	MLR				
	comp=Z,1µm,20.0s								
KURK	**Kurchatov**	**42.52**	**320**	P	**P**	**00 39 11.7**	**+0.1**		
	SNR=32								
KURK	**Kurchatov**	**42.52**	**320**	*e*P	**P**	**00 39 10.9**	**-0.8**		
	comp=Z,63nm,1.7s								
KURK				*e*PP	PP	00 40 41.0	-9.3		
KURK				*e*PcP	**PcP**	**00 41 02.6**	**-1.4**		
KURK				LR	LR				
	comp=Z,1µm,20.0s								
KURBB	**Kurchatov Arra**	**42.53**	**320**	P	**P**	**00 39 11.6**	**-0.2**		
	comp=Z,12nm,0.9s,baz=107,slow=7.8,SNR=47								
KURBB				PcP	**PcP**	**00 41 02.6**	**-1.5**		
	comp=Z,4.5nm,1.0s,baz=111,slow=3.3,SNR=3.9								
KURBB				ScP	**ScP**	**00 44 51.6**	**-1.7**		
	comp=Z,2.6nm,0.9s,baz=100,slow=3.9,SNR=7.6								
KBK	**Karagaybulak**	**42.65**	**308**	P	**P**	**00 39 14.4**	**+1.2**		
	SNR=10.0								
CHMS	**Chumysh**	**42.85**	**308**	P	**P**	**00 39 15.3**	**+0.7**		
	SNR=10								
UCH	**Uchtor**	**42.89**	**307**	P	**P**	**00 39 16.9**	**+1.5**		
	SNR=18								
FRU	**Bishkek**	**42.92**	**308**	*e*P	**P**	**00 39 16.0**	**+0.8**		
FRU				*e*		00 39 32.0			
FRU				pmax	pmax				
	comp=Z,80nm,1.6s								
AAK	**Ala-Archa**	**42.97**	**307**	*e*P	**P**	**00 39 17.0**	**+1.2**		
AAK				pmax	pmax				
	comp=Z,16nm,1.0s								
AAK	**Ala-Archa**	**42.97**	**307**	*e*P	**P**	**00 39 17.0**	**+1.2**		
	comp=Z,16nm,1.0s								
COEN	**Coen**	**43.19**	**149**	*e*P	**P**	**00 39 18.6**	**+1.1**		
	comp=Z,101nm,1.0s								
SFK	**Sufi-Kurgan**	**43.33**	**303**	P	**P**	**00 39 19.5**	**+0.7**		
SFK				pmax	pmax				
	comp=Z,49nm,1.3s								
AML	**Almayashu**	**43.47**	**307**	P	**P**	**00 39 21.5**	**+1.4**		
	SNR=9.7								
EKS2	**Erkin-Say**	**43.50**	**307**	P	**P**	**00 39 20.9**	**+0.9**		
	SNR=5.6								
EKS2	**Erkin-Say**	**43.50**	**307**	*e*P	**P**	**00 39 20.8**	**+0.9**		
EKS2				*e*		00 41 07.1			
EKS2				pmax	pmax				
	comp=Z,17nm,1.1s								
EKS2				MLR	MLR				
	comp=Z,2µm,19.0s								
EKS2	**Erkin-Say**	**43.50**	**307**	*e*P	**P**	**00 39 20.8**	**+0.8**		
	comp=Z,17nm,1.1s								
EKS2				*e*PP	**PcP**	**00 41 07.1**	**-0.6**		
EKS2				LR	LR				
	comp=Z,2µm,19.0s								
SEY	**Seymchan**	**43.98**	**20**	P	**P**	**00 39 22.7**	**-0.6**		
	comp=Z,3.7nm,0.8s,baz=220,slow=6.0,SNR=6.8								
SEY				PcP	**PcP**	**00 41 07.9**	**-0.8**		
	comp=Z,3.0nm,0.5s,baz=187,slow=5.8,SNR=3.9								
SEY	**Seymchan**	**43.98**	**20**	*i* P	**P**	**00 39 22.5**	**-0.8**		
WRAB	**Tennant Creek**	**45.39**	**163**	P	**P**	**00 39 34.2**	**-0.9**		
	comp=Z,153nm,0.9s,SNR=14								
WRAB	**Tennant Creek**	**45.39**	**163**	*i* P	**P**	**00 39 33.2**	**-1.9**		
WRAB				pmax	pmax				
	comp=Z,98nm,1.7s								
WRA	**Warramunga Arr**	**45.40**	**163**	P	**P**	**00 39 33.9**	**-1.2**		
	comp=Z,16nm,0.9s,baz=344,slow=8.5,SNR=42								
WRA				PcP	**PcP**	**00 41 13.3**	**-0.9**		
	comp=Z,6.7nm,0.8s,baz=345,slow=4.1,SNR=6.8								
OTUK	**Ortayu**	**45.64**	**315**	P	**P**	**00 39 36.9**	**+0.1**		
OTUK				pmax	pmax				
	comp=Z,66nm,2.2s								
KK31	**Karatay Array**	**45.94**	**307**	*i* P	**P**	**00 39 39.4**	**+0.1**		
KK31				pmax	pmax				
	comp=Z,6.0nm,0.5s								
KKAR	**Karatay Array**	**45.94**	**307**	*e*P	**P**	**00 39 39.9**	**+0.6**		
KKAR				*e*		00 41 15.5			
KKAR	**Karatay Array**	**45.94**	**307**	*e*P	**P**	**00 39 39.9**	**+0.6**		
KKAR				*e*PcP	**PcP**	**00 41 15.5**	**-0.5**		
KBL	**Kabul**	**46.65**	**296**	*e*P	**P**	**00 39 46.5**	**+1.2**		
KBL				pmax	pmax				
	comp=Z,75nm,1.3s								
KBL	**Kabul**	**46.65**	**296**	*e*P	**P**	**00 39 46.5**	**+1.2**		
	comp=Z,75nm,1.3s								
DZET	**Dzherino**	**46.85**	**301**	P	**P**	**00 39 46.9**	**+0.3**		
DZET				pmax	pmax				
	comp=Z,28nm,0.9s								
TIXI	**Tiksi**	**47.83**	**3**	*e*P	**P**	**00 39 51.7**	**-1.9**		
TIXI				pmax	pmax				
	comp=Z,63nm,1.2s								
TIXI				MLR	MLR				
	comp=Z,1µm,19.0s								
TIXI	**Tiksi**	**47.83**	**3**	*e*P	**P**	**00 39 51.7**	**-1.9**		
	comp=Z,63nm,1.2s								
TIXI				LR	LR				
	comp=Z,1µm,19.0s								
BVA0	**Borovoye Array**	**48.09**	**321**	*i* P	**P**	**00 39 55.2**	**-0.7**		
BVA0				pmax	pmax				
	comp=Z,38nm,1.3s								
BVAR	**Borovoye Array**	**48.09**	**321**	P	**P**	**00 39 55.6**	**-0.3**		
	comp=Z,11nm,0.6s,baz=107,slow=8.1,SNR=63								
BVAR				PcP	**PcP**	**00 41 22.8**	**-0.6**		
	comp=Z,6.5nm,0.6s,baz=117,slow=3.1,SNR=6.1								
BVAR				ScP	**ScP**	**00 45 14.8**	**-1.5**		
	comp=Z,1.7nm,0.8s,baz=120,slow=5.2,SNR=4.7								
BVAR	**Borovoye Array**	**48.09**	**321**	P	**P**	**00 39 55.6**	**-0.3**		
BVAR						00 41 22.8			
BVAR				pmax	pmax				
	comp=Z,11nm,0.6s								
BVAR				pmax	pmax				
	comp=Z,7.0nm,0.6s								
BVAR				pmax	pmax				
	comp=N,2.0nm,0.9s								
BRVK	**Borovoye**	**48.16**	**321**	P	**P**	**00 39 56.7**	**+0.2**		
	comp=N,161nm,1.0s,SNR=20								
BRVK	**Borovoye**	**48.16**	**321**	*c i* P	**P**	**00 39 56.2**	**-0.2**		
BRVK				pmax	pmax				
	comp=Z,22nm,0.8s								
BRVK	**Borovoye**	**48.16**	**321**	P	**P**	**00 39 56.6**	**+0.1**		
	SNR=21								
BRVK	**Borovoye**	**48.16**	**321**	*e*P	**P**	**00 39 56.3**	**-0.2**		
	comp=Z,37nm,1.1s								
BRVK				LR	LR				
	comp=Z,630nm,20.0s								
AS12	**Alice Springs**	**48.86**	**165**	*e*P	**P**	**00 40 01.7**	**-0.4**		
AS12				*e*PcP	**PcP**	**00 41 25.6**	**-0.9**		
AS12				*e*ScP	**ScP**	**00 45 18.3**	**-1.7**		
ASAR	**Alice Springs**	**48.86**	**165**	P	**P**	**00 40 01.7**	**-0.4**		
	comp=Z,9.2nm,0.7s,baz=343,slow=7.0,SNR=55								
ASAR				PcP	**PcP**	**00 41 25.6**	**-0.9**		
	comp=Z,5.7nm,0.8s,baz=1.1,slow=2.9,SNR=5.4								
ASAR				ScP	**ScP**	**00 45 18.3**	**-1.7**		
	comp=Z,1.4nm,0.9s,baz=357,slow=5.0,SNR=3.2								
ASAR	**Alice Springs**	**48.86**	**165**	P	**P**	**00 40 01.7**	**-0.4**		
ASAR						00 41 25.6			
ASAR				pmax	pmax				
	comp=Z,9.0nm,0.7s								
ASAR				pmax	pmax				
	comp=Z,6.0nm,0.8s								
ASAR				pmax	pmax				
	comp=N,1.0nm,0.9s								
AS01	**Alice Springs**	**48.87**	**165**	*e*P	**P**	**00 40 01.2**	**-1.0**		
AS01				*e*PcP	**PcP**	**00 41 25.7**	**-0.8**		
AS01				*e*ScP	**ScP**	**00 45 20.6**	**+0.6**		
CTAO	**Charters Tower**	**49.95**	**149**	PFAKE		00 40 20.0	+10		
CTAO				LR	LR				
	comp=Z,1µm,19.0s								
HNR	**Honiara**	**50.02**	**127**	PFAKE		00 40 20.0	+8.9		
HNR				LR	LR				
	comp=Z,753nm,22.0s								
IMYA	**Miami**	**53.84**	**298**	*e*P	**P**	**00 40 40.7**	**+1.1**		
AB31	**Akbulak array**	**53.89**	**314**	*i* P	**P**	**00 40 39.3**	**-0.2**		
AB31				pmax	pmax				
	comp=Z,27nm,0.8s								
ABKAR	**Akbulak array**	**53.89**	**314**	*e*P	**P**	**00 40 39.6**	**+0.1**		
ABKAR				*e*PcP	**PcP**	**00 41 43.6**	**-1.3**		
ADK	**Adak**	**54.06**	**42**	PFAKE		00 40 50.0	+9.3		
ADK				LR	LR				
	comp=Z,762nm,21.0s								
ISRO	**Mashad**	**54.35**	**298**	*e*P	**P**	**00 40 41.6**	**-1.7**		
SVE	**Sverdlovsk**	**54.45**	**324**⇓	*e*P	**P**	**00 40 43.2**	**-0.3**		
SVE				*e*		00 42 53.9			
SVE				*e*S	**S**	**00 48 20.1**	**-0.5**		
SVE				pmax	pmax				
	comp=Z,77nm,1.8s								
SVE				MLR	MLR				
	comp=Z,3µm,15.0s								
IMOG	**Moghan**	**54.47**	**298**	*e*P	**P**	**00 40 45.1**	**+0.7**		
FORT	**Forrest**	**54.83**	**173**	*e*P	**P**	**00 40 45.8**	**-0.7**		
	comp=Z,64nm,0.7s								
FORT				*e*PcP	**PcP**	**00 41 47.8**	**-0.8**		
IKRD	**Kardeh**	**55.07**	**299**	*e*P	P	00 40 44.0	-4.7		
IKOO	**Kooshah**	**55.19**	**294**	*e*P	**P**	**00 40 49.5**	**-0.2**		
AKTO	**Aktyubinsk**	**55.22**	**316**	P	**P**	**00 40 49.0**	**-0.2**		
	comp=Z,11nm,1.0s,baz=101,slow=8.7,SNR=27								
AKTO	**Aktyubinsk**	**55.22**	**316**	*e*P	**P**	**00 40 49.0**	**-0.2**		
ARU	**Arti**	**55.52**	**323**	P	**P**	**00 40 50.5**	**-0.8**		
	comp=Z,204nm,0.7s,SNR=14								
ARU	**Arti**	**55.52**	**323**	*d i* P	**P**	**00 40 50.2**	**-1.0**		
ARU						00 41 50.1			
ARU						00 42 53.8			
ARU				PPP	PPP	00 44 05.0			
ARU				S	**S**	**00 48 34.6**	**-0.3**		
ARU						00 50 33.0			
ARU				SS	**SS**	**00 52 19.6**	**0.0**		
ARU				pmax	pmax				
	comp=Z,60nm,1.7s								
ARU				MLR	MLR				
	comp=Z,982nm,14.0s								
ARU	**Arti**	**55.52**	**323**	*e*P	**P**	**00 40 50.4**	**-0.8**		
	comp=Z,23nm,0.7s								
ARU				LR	LR				
	comp=Z,805nm,21.0s								
NWAO	**Narrogin (SRO)**	**56.79**	**184**	*e*P	**P**	**00 41 00.4**	**-0.1**		
NWAO				pmax	pmax				
	comp=Z,35nm,0.9s								
NWAO				MLR	MLR				
	comp=Z,1.0nm,22.0s								
NWAO	**Narrogin (SRO)**	**56.79**	**184**	*e*P	**P**	**00 41 00.4**	**-0.1**		
	comp=Z,35nm,0.9s								
NWAO				LR	LR				
	comp=Z,1.0nm,22.0s								
SOKR	**Solikamsk**	**56.92**	**327**	*c i* P	**P**	**00 41 00.5**	**-0.6**		
SOKR				S	**S**	**00 48 55.0**	**+1.7**		
SOKR				pmax	pmax				
	comp=Z,30nm,1.4s								
SOKR				MLR	MLR				
	comp=Z,3µm,17.0s								
BBOO	**Buckleboo**	**58.15**	**166**	*e*P	**P**	**00 41 09.9**	**-0.2**		
	comp=Z,163nm,1.9s								
IBAF	**Bafgh**	**58.21**	**293**	*e*P	**P**	**00 41 09.9**	**-1.0**		
BANOM	**Banah**	**58.74**	**287**	⇑P	**P**	**00 41 15.8**	**+1.2**		
STKA	**Stephens Creek**	**58.75**	**160**	P	**P**	**00 41 13.9**	**-0.4**		
	comp=Z,16nm,0.6s,baz=336,slow=6.4,SNR=60								
STKA				LR	LR	01 08 15.7			
	comp=Z,248nm,20.8s,baz=353,slow=38								
STKA	**Stephens Creek**	**58.75**	**160**	P	**P**	**00 41 13.9**	**-0.4**		
STKA				pmax	pmax				
	comp=Z,16nm,0.6s								
STKA				MLR	MLR				
	comp=Z,248nm,20.8s								
STKA	**Stephens Creek**	**58.75**	**160**	*e*P	**P**	**00 41 13.7**	**-0.6**		
	comp=Z,3.5nm,0.6s								
IMEH	**Mehriz**	**59.05**	**293**	*e*P	**P**	**00 41 14.4**	**-2.5**		
HATD	**Hatta, Dubai**	**59.15**	**286**	⇓P	**P**	**00 41 18.6**	**+1.2**		
NAZ	**Nazwa, Dubai**	**59.52**	**286**	⇑P	**P**	**00 41 20.3**	**+0.3**		
FAQ	**Al Faqa, Dubai**	**59.65**	**286**	⇓P	**P**	**00 41 20.5**	**-0.3**		
ISAD	**Sadrabad**	**59.72**	**294**	*e*P	**P**	**00 41 18.5**	**-3.1**		
IFIR	**Firoozkooh**	**59.84**	**298**	*e*P	**P**	**00 41 22.3**	**0.0**		
ASUD	**Al Ashush, Dub**	**59.91**	**286**	⇑P	**P**	**00 41 23.9**	**+1.2**		
IDMV	**Damavand**	**60.42**	**298**	*e*P	**P**	**00 41 25.4**	**-1.0**		
IZEF	**Zefreh**	**60.66**	**295**	*e*P	**P**	**00 41 26.2**	**-1.8**		
IKLH	**Kolahrood**	**61.20**	**296**	*e*P	**P**	**00 41 32.0**	**+0.4**		
IPIR	**Pirpir**	**61.89**	**295**	*e*P	**P**	**00 41 35.4**	**-1.0**		
DZM	**Mont Dzumac**	**63.18**	**133**	*e*S	**S**	**00 50 15.0**	**0.0**		
	comp=Z,2µm,29.6s								
DZM	**Mont Dzumac**	**63.18**	**133**	*e*LR	LR	01 00 39.4			
	comp=Z,2µm,24.4s								
IHRS	**Heris**	**63.87**	**302**	*e*P	**P**	**00 41 48.9**	**-0.5**		
IBST	**Bostanabad**	**64.11**	**302**	*e*P	**P**	**00 41 50.3**	**-0.7**		
IMRD	**Marand**	**64.83**	**303**	*e*P	**P**	**00 41 54.9**	**-0.7**		
DUS	**Dusheti**	**64.94**	**307**	P	P	00 42 07.0	+11		
DUS	**Dusheti**	**64.94**	**307**	P	P	00 42 07.0	+11		
TBLG	**Delisi**	**64.98**	**306**	P	P	**00 41 56.4**	**+0.1**		
TBLG	**Delisi**	**64.98**	**306**	P	**P**	**00 41 56.4**	**+0.1**		
IDHR	**Dehrash**	**65.13**	**299**	*e*P	**P**	**00 41 56.1**	**-1.6**		
GNI	**Garni**	**65.28**	**305**	*c i* P	**P**	**00 41 56.5**	**-2.0**		
GNI				pmax	pmax				
	comp=Z,28nm,1.2s								
GNI	**Garni**	**65.28**	**305**	P	**P**	**00 41 59.7**	**+1.3**		
	SNR=8.9								
GNI	**Garni**	**65.28**	**305**	⇓P	**P**	**00 41 59.3**	**+0.8**		
GNI	**Garni**	**65.28**	**305**	*e*P	**P**	**00 41 59.8**	**+1.3**		
	comp=Z,30nm,1.0s								
GNI				LR	LR				
	comp=Z,661nm,21.0s								
ZEI	**Tsey**	**65.40**	**308**	*e*P	**P**	**00 41 58.0**	**-1.2**		
ZEI				pmax	pmax				
	comp=Z,60nm,1.5s								
NCK	**Nalchik**	**65.49**	**308**	*e*P	**P**	**00 41 58.5**	**-1.1**		
VRHR	**Novokhopersk**	**65.57**	**317**	*e*P	**P**	**00 41 57.2**	**-2.7**		
VRHR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
VRHR				pmax	pmax				
	comp=N,10.0nm,0.6s								
VRHR				pmax	pmax				
	comp=E,8.0nm,0.5s								
GOF	**Gofitskoye**	**65.60**	**310**⇑	*i* P	**P**	**00 42 00.2**	**0.0**		
GOF				pmax	pmax				
	comp=Z,20nm,0.8s								
ONI	**Oni**	**65.76**	**308**	P	**P**	**00 42 02.1**	**+0.7**		
ONI	**Oni**	**65.76**	**308**	P	**P**	**00 42 02.1**	**+0.7**		
TMCR	**Tamitsa**	**65.91**	**332**	*e*P	**P**	**00 42 00.9**	**-1.0**		
TMCR				*e*		00 42 32.3			
TMCR				*e*		00 44 26.7			
TMCR				pmax	pmax				
	comp=Z,50nm,1.2s								
KBZ	**Khabaz**	**65.94**	**309**	P	**P**	**00 42 02.5**	**0.0**		
	comp=Z,12nm,0.9s,baz=122,slow=4.4,SNR=22								
KBZ				LR	LR	01 15 35.1			
	comp=Z,702nm,18.6s,baz=70,slow=40								
KIV	**Kislovodsk**	**66.05**	**309**	*e*P	**P**	**00 42 01.8**	**-1.5**		
KIV	**Kislovodsk**	**66.05**	**309**	P	**P**	**00 42 03.6**	**+0.3**		
	comp=Z,177nm,1.1s,SNR=8.0								
KIV	**Kislovodsk**	**66.05**	**309**	*e*P

comp=E,660nm,14.0s
VSR Storozhevoye 67.08 317 *e*P **P 00 42 08.3 -1.3**
VSR pmax pmax
comp=N,9.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=E,30nm,1.9s
VSR MLR MLR
comp=Z,1µm,14.0s
VSR MLR MLR
comp=N,600nm,16.0s
VSR MLR MLR
comp=E,390nm,12.0s
PPLA Purkeypile 67.16 30 *e*P **P 00 42 11.8 +1.6**
comp=E,25nm,0.9s
MOS Moscow 67.22 322 *e*P **P 00 42 07.9 -2.4**
MOS *e* 00 42 23.3
MOS *e* 00 42 34.0
MOS *e* 00 44 39.1
MOS *e*S **S 00 51 04.0 +0.6**
MOS pmax pmax
comp=Z,64nm,1.3s
MOS pmax pmax
comp=Z,200nm,2.0s
MOS MLR MLR
comp=E,2µm,14.0s
MOS MLR MLR
comp=Z,2µm,14.0s
RSO Redoubt South 67.25 32 *e*P **P 00 42 13.5 +2.7**
COLD Coldfoot 67.38 25 *e*P **P 00 42 11.7 +0.4**
comp=Z,23nm,1.4s
APA Apatity 67.40 335⇑ *i*P **P 00 42 11.2 -0.1**
APA *i* 00 42 28.5
APA *i*S **S 00 51 01.0 -4.3**
APA *i* 00 51 42.0
APA pmax pmax
comp=Z,47nm,1.2s
APA MLR MLR
comp=Z,2µm,12.0s
SPU Mount Spurr 67.48 32 *e*P **P 00 42 12.7 +0.6**
MLY Manley 67.48 27 *e*P **P 00 42 12.8 +0.8**
comp=Z,27nm,1.1s
BPAW Bear Paw Mtn. 67.52 28 *e*P **P 00 42 12.8 +0.5**
comp=Z,38nm,2.1s
KDAK Kodiak Island 67.77 35 *e*P **P 00 42 14.9 +1.1**
KDAK pmax pmax
comp=Z,32nm,0.8s
KDAK MLR MLR
comp=Z,1µm,20.0s
KDAK Kodiak Island 67.77 35 *e*P **P 00 42 14.9 +1.1**
comp=Z,32nm,0.8s
KDAK LR LR
comp=Z,1µm,20.0s
OBN Obninsk 67.92 322 *c i*P **P 00 42 13.4 -1.4**
OBN *e* 00 44 42.2
OBN pmax pmax
comp=Z,33nm,1.2s
OBN MLR MLR
comp=Z,955nm,19.0s
OBN Obninsk 67.92 322 *e*P **P 00 42 14.0 -0.7**
comp=Z,92nm,1.6s
OBN LR LR
comp=Z,879nm,20.0s
TRF Thorofare Moun 67.93 29 *e*P **P 00 42 16.2 +1.2**
comp=Z,18nm,0.7s
VRTB Varto-Mus 67.97 304 *e*P **P 00 42 16.3 +0.6**
BWN Browne 68.17 28 *e*P **P 00 42 15.6 -0.6**
comp=Z,99nm,1.0s
SOC Sochi 68.23 309 *c i*P **P 00 42 15.9 -1.1**
SOC *e* 00 44 43.4
SOC *e*S **S 00 51 13.1 -3.0**
SOC *e*SS **SS 00 55 43.5 +4.6**
SOC *e*SSS SSS 00 58 36.7
SOC pmax pmax
comp=Z,19nm,0.9s
SOC MLR MLR
comp=Z,2µm,18.0s
BRLK Bradley Lake 68.29 33 *e*P **P 00 42 18.0 +0.8**
comp=Z,38nm,0.8s
MCK McKinley 68.47 29 *e*P **P 00 42 18.6 +0.4**
MCK pmax pmax
comp=Z,32nm,1.2s
MCK McKinley 68.47 29 *e*P **P 00 42 18.6 +0.4**
comp=Z,32nm,1.2s
KOPT Kop Dagi 68.48 305 *i*P **P 00 42 20.2 +1.2**
MDM Murphy Dome 68.55 27 *e*P **P 00 42 19.1 +0.5**
comp=Z,53nm,1.1s
RND Reindeer 68.57 29 *e*P **P 00 42 18.5 -0.4**
RND pmax pmax
comp=Z,64nm,0.7s
RND Reindeer 68.57 29 *e*P **P 00 42 18.5 -0.4**
comp=Z,64nm,0.7s
WRH Wood River Hil 68.70 28 *e*P **P 00 42 21.1 +1.5**
comp=Z,17nm,0.9s
COLA College 68.72 27 *e*P **P 00 42 21.2 +1.6**
COLA pmax pmax
comp=Z,91nm,0.3s
COLA MLR MLR
comp=Z,5182µm,21.0s
COLA College 68.72 27 *e*P **P 00 42 21.2 +1.6**
comp=Z,91nm,0.3s
COLA LR LR
comp=Z,5182µm,21.0s
CCB Clear Creek Bu 68.79 28 *e*P **P 00 42 21.0 +0.9**
comp=Z,6.9nm,0.8s
PMR Palmer 68.79 31 *e*P **P 00 42 19.7 -0.5**
PMR Palmer 68.79 31 *e*P **P 00 42 19.7 -0.5**
RAYN Ar Rayn 68.84 287 P **P 00 42 20.5 -0.7**
comp=Z,80nm,1.3s,SNR=8.2
RAYN Ar Rayn 68.84 287 *e*P **P 00 42 20.9 -0.3**
comp=Z,35nm,1.4s
RAYN LR LR
comp=Z,652nm,19.0s
MARD Mardin 68.93 302 *i*P **P 00 42 22.4 +0.7**
SEW Seward 68.94 32 *e*P **P 00 42 22.7 +1.6**
comp=Z,30nm,0.9s
ILAR Eielson Array 69.15 27 P **P 00 42 21.2 -1.2**
comp=Z,3.8nm,0.6s,baz=301,slow=8.6,SNR=16
ILAR LR LR 01 16 14.8
comp=Z,419nm,19.0s,baz=284,slow=39
ILAR Eielson Array 69.15 27 P **P 00 42 21.2 -1.2**
ILAR pmax pmax
comp=Z,4.0nm,0.6s
ILAR MLR MLR
comp=Z,419nm,19.0s
ILB Eielson Array 69.15 27 *e*P **P 00 42 21.2 -1.2**
KEV Kevo 69.30 338 PFAKE 00 42 40.0 +17
KEV LR LR
comp=Z,744nm,20.0s
KELT Kelkit 69.38 306 *i*P **P 00 42 24.2 -0.3**
ANN Anapa 69.55 311 *e*P **P 00 42 23.1 -2.1**
ANN *e*PPP PPP 00 46 36.6
ANN *e*S **S 00 51 30.9 -0.7**
ANN *e*SS **SS 00 55 57.1 -2.0**
ANN pmax pmax
comp=Z,86nm,2.0s
SCM Sheep Creek Mo 69.58 30 *e*P **P 00 42 25.4 +0.2**
SCM pmax pmax
comp=Z,46nm,0.7s
SCM Sheep Creek Mo 69.58 30 *e*P **P 00 42 25.4 +0.2**
comp=Z,46nm,0.7s
ARA0 ARCESS Array S 69.86 338 *e*P **P 00 42 26.8 +0.1**
ARCES ARCESS Array B 69.86 338 P **P 00 42 26.8 +0.1**
comp=Z,6.9nm,0.7s,baz=71,slow=9.1,SNR=13
ARCES LR LR 01 16 27.2
comp=Z,833nm,19.2s,baz=62,slow=39
ARCES ARCESS Array B 69.86 338 P **P 00 42 26.8 +0.1**
ARCES pmax pmax
comp=Z,7.0nm,0.7s
ARCES MLR MLR
comp=Z,833nm,19.2s
SUSE Susehri 70.14 306 *i*P **P 00 42 28.4 -0.7**
PAX Paxson 70.16 29 *e*P **P 00 42 30.8 +2.0**
PAX pmax pmax
comp=Z,35nm,1.4s
PAX Paxson 70.16 29 *e*P **P 00 42 30.8 +2.0**
comp=Z,35nm,1.4s
KEMA Kemaliye 70.17 305 *i*P **P 00 42 30.1 +0.9**
KBS Kingsbay 70.28 349 PFAKE 00 42 40.0 +11
KBS LR LR
comp=Z,2µm,22.0s
MSEY Mahe Island 70.44 255 PFAKE 00 42 40.0 +8.8
MSEY LR LR
comp=Z,657nm,20.0s
MALT Malatya 70.47 304 *e*P **P 00 42 29.4 -1.7**

MALT Malatya 70.47 304⇓ *i*P **P 00 42 31.7 +0.6**
DIV Divide 70.47 31 *e*P **P 00 42 31.5 +0.8**
comp=Z,36nm,1.2s
AKCD Akcadag 70.86 304 *i*P **P 00 42 34.5 +0.9**
BMRM Bremner River 71.06 31 *e*P **P 00 42 35.0 +0.7**
comp=Z,22nm,0.9s
SVSK Karacayir 71.11 306 *e*P **P 00 42 34.7 -0.1**
RAGM Ragged Mountai 71.19 32 *e*P **P 00 42 36.1 +1.1**
comp=Z,57nm,1.2s
GZT Gaziantep 71.39 303 *i*P **P 00 42 37.5 +0.8**
EGAK Eagle 71.52 27 *e*P **P 00 42 36.8 -0.1**
comp=Z,18nm,0.6s
EGAK LR LR
comp=Z,404nm,19.0s
HAVZ Havza 71.73 307 *i*P **P 00 42 38.8 +0.2**
SIM Simferopol' 71.79 312⇑ *e*P **P 00 42 38.1 -0.8**
SIM *e* 00 42 59.0
SIM *e*S **S 00 52 01.0 +3.2**
SIM pmax pmax
comp=Z,20nm,0.7s
FIA0 FINESS Array S 71.82 330 *e*P **P 00 42 38.1 -0.6**
FIA0 FINESS Array S 71.82 330 *e*P **P 00 42 38.1 -0.6**
FINES FINESS Array B 71.82 330 P **P 00 42 38.1 -0.6**
comp=Z,8.7nm,0.7s,baz=84,slow=7.9,SNR=34
FINES LR LR 01 16 59.9
comp=Z,2µm,19.3s,baz=76,slow=38
FINES FINESS Array B 71.82 330 P **P 00 42 38.1 -0.6**
FINES pmax pmax
comp=Z,9.0nm,0.7s
FINES MLR MLR
comp=Z,2µm,19.3s
KMRS Kahramanmaras 71.86 304 *e*P **P 00 42 37.8 -1.7**
HCB Kahramanmara˜ 71.89 303 *i*P **P 00 42 40.5 +0.8**
PINB Pinarbasi 71.90 305 *i*P **P 00 42 39.8 -0.2**
KAMA Osmaniye 72.12 303 *i*P **P 00 42 41.2 +0.1**
BOYT Boyabat 72.22 308 *i*P **P 00 42 40.8 -0.8**
ANDN Andirin 72.26 304 *i*P **P 00 42 42.2 +0.2**
VSU Vasula 72.37 327 *e*P **P 00 42 41.1 -0.9**
VSU pmax pmax
comp=Z,70nm,1.2s
DAWY Dawson 72.47 27 *e*P **P 00 42 42.9 +0.2**
CORM Corum 72.78 307 *e*P **P 00 42 43.1 -1.9**
MICGM Minsk 72.94 322 *e*P **P 00 42 44.0 -1.5**
MNK Minsk 72.97 323 *e*P **P 00 42 44.0 -1.7**
TOS Tosya 72.97 308 *e*P **P 00 42 45.9 -0.2**
AVNT Avonos 73.03 305 *i*P **P 00 42 46.2 -0.3**
CDAG Cicekdag 73.13 306 *i*P **P 00 42 46.9 -0.2**
INK Inuvik 73.20 22 P **P 00 42 45.8 -1.0**
comp=Z,19nm,0.8s,baz=309,slow=7.3,SNR=17
INK Inuvik 73.20 22 *e*P **P 00 42 46.2 -0.6**
INK pmax pmax
comp=Z,22nm,0.9s
INK Inuvik 73.20 22 *e*P **P 00 42 46.2 -0.6**
comp=Z,22nm,0.9s
AKASG Malin Array Be 73.30 318 P **P 00 42 46.3 -1.4**
comp=Z,2.1nm,0.6s,baz=59,slow=5.8,SNR=18
AKASG LR LR 01 16 36.2
comp=Z,514nm,18.0s,baz=50,slow=37
AKASG Malin Array Be 73.30 318 P **P 00 42 46.3 -1.4**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG MLR MLR
comp=Z,514nm,18.0s
AKBB Malin Array Si 73.30 318 *e*P **P 00 42 46.3 -1.4**
AKBB Malin Array Si 73.30 318 *e*P **P 00 42 46.3 -1.4**
KIEV Kiev 73.31 318 *e*P **P 00 42 46.4 -1.4**
KIEV pmax pmax
comp=Z,33nm,1.4s
KIEV MLR MLR
comp=Z,694nm,19.0s
KIEV Kiev 73.31 318 *e*P **P 00 42 46.4 -1.4**
comp=Z,33nm,1.4s
KIEV LR LR
comp=Z,694nm,19.0s
KARA Karaisali 73.33 304 *e*P **P 00 42 47.8 -0.4**
NIG Nigde 73.41 305 *e*P **P 00 42 48.3 -0.7**
BR101 Keskin Array S 73.64 307 *e*P **P 00 42 50.1 -0.1**
BRTR Keskin Array B 73.64 307 P **P 00 42 50.1 -0.1**
comp=Z,6.9nm,0.7s,baz=106,slow=6.3,SNR=57
BRTR LR LR 01 19 40.6
comp=Z,359nm,19.5s,baz=68,slow=39
BRTR Keskin Array B 73.64 307 P **P 00 42 50.1 -0.1**
BRTR pmax pmax
comp=Z,7.0nm,0.7s
BRTR MLR MLR
comp=Z,359nm,19.5s
AFSR Af˜ar-Bala (A 74.15 306 *e*P **P 00 42 52.1 -0.9**
SULT Sultanhani-AKS 74.20 305 *e*P **P 00 42 52.7 -0.7**
ANTO Ankara 74.22 307 *e*P **P 00 42 53.6 +0.2**
ANTO pmax pmax
comp=Z,25nm,1.0s
ANTO MLR MLR
comp=Z,490nm,20.0s
ANTO Ankara 74.22 307⇑ *i*P **P 00 42 53.3 -0.2**
ANTO Ankara 74.22 307 P **P 00 42 53.2 -0.2**
SNR=9.5
ANTO Ankara 74.22 307 *e*P **P 00 42 53.6 +0.2**
comp=Z,25nm,1.0s
ANTO LR LR
comp=Z,490nm,20.0s
LOD Lodumlu 74.23 307 *e*P **P 00 42 53.0 -0.5**
BR231 Keskin MP Arra 74.24 307 *e*P P 00 42 50.2 -3.4
HYT Haines Junctio 74.41 30 *e*P **P 00 42 55.2 +1.1**
BCAM Yenicaga 74.45 308 *i*P **P 00 42 54.6 -0.2**
LFK Lefkose 75.12 302 *e*P **P 00 42 59.1 +0.4**
KDHN Kadinhani 75.14 306 *i*P **P 00 42 58.2 -0.7**
ERMK Ermenek 75.16 304 *i*P **P 00 42 58.7 -0.4**
KIZT Kizilcal 75.20 306 *e*P **P 00 42 57.5 -1.7**
SVRH Sivrihisar-ESK 75.28 307 *e*P **P 00 42 58.6 -1.0**
BTAS Taskesti 75.30 308 *i*P **P 00 42 58.7 -0.9**
HDMB Hadim 75.37 304 *e*P **P 00 42 60.0 -0.4**
CSS Prodhromos 75.38 302 *e*P **P 00 42 58.8 -1.4**
CSS Prodhromos 75.38 302 *e*P **P 00 42 59.6 -0.5**
comp=Z,5.2nm,0.7s
CSS LR LR
comp=Z,108nm,19.0s
LEF Lefka 75.67 302 *e*P P 00 42 58.1 -3.7
GULT Gulveren 75.69 308 *e*P **P 00 43 00.9 -1.1**
SUW Suwalki 75.71 323 *e*P **P 00 43 00.3 -1.3**
SUW Suwalki 75.71 323 *e*P **P 00 43 00.4 -1.2**
GAZI Gazipasa 75.74 303 *i*P **P 00 43 01.0 -1.3**
CFR Carcaliu 75.76 313⇑ *i*P **P 00 43 01.1 -1.0**
TIRR Tirgusor 75.81 312 *e*P **P 00 43 01.5 -0.9**
TIRR pmax pmax
comp=Z,16nm,1.1s
TIRR Tirgusor 75.81 312⇑ *i*P **P 00 43 01.5 -0.9**
TIRR Tirgusor 75.81 312 *e*P **P 00 43 01.5 -0.9**
comp=Z,16nm,1.1s
SKAG Skagway 75.93 31 *e*P P 00 43 06.0 +3.2
TLB Topalu 76.02 313⇑ *i*P **P 00 43 03.0 -0.6**
PETR Petresti 76.17 314⇑ *i*P **P 00 43 05.6 +1.2**
PSN Preselentsi 76.23 312⇑ *i*P **P 00 43 04.7 -0.1**
ADVT Abdulvahap 76.25 308 *e*P **P 00 43 04.8 -0.2**
TESR Tescani 76.28 315⇑ *i*P **P 00 43 04.3 -0.8**
MSAB Monastry St. A 76.34 312⇓ *i*P **P 00 43 05.0 -0.4**
VRI Vrincioaia 76.45 314⇑ *i*P **P 00 43 06.2 +0.1**
GRER 76.46 314⇓ *i*P **P 00 43 07.3 +1.2**
PLOR Plostina 76.51 314⇑ *i*P **P 00 43 06.3 -0.1**
BESE Bessie Mountai 76.51 32 *e*P **P 00 43 08.5 +2.3**
comp=Z,16nm,1.3s
BUY Buyukada 76.55 309 *i*P **P 00 43 06.8 +0.1**
ISP Isparta 76.56 306 PFAKE 00 43 20.0 +13
ISP LR LR
comp=Z,368nm,20.0s
DAG Danmarks Havn 76.60 351 *i*P **P 00 43 05.3 -1.0**
comp=Z,5.0nm,1.0s
DAG Danmarks Havn 76.60 351 *i*P **P 00 43 05.3 -1.0**
DAG pmax pmax
comp=Z,5.0nm,1.0s
LVV L'vov 76.74 319 *e*P P 00 43 04.2 -3.4
ULDT Uludag 76.78 308 *i*P **P 00 43 07.8 -0.5**
TVSB Tavsanli 76.78 307 *e*P **P 00 43 07.3 -0.9**
BURAR Bucovina Array 76.80 316⇑ *i*P **P 00 43 08.2 +0.1**
BUR04 Bucovina Ar. S 76.81 316 *e*P **P 00 43 06.9 -1.2**
GDZ Gediz 76.89 307 *i*P **P 00 43 08.4 -0.5**
KORT Korkueli 76.97 305 *i*P **P 00 43 08.4 -0.9**
MLR Muntele Rosu 77.10 314⇑ *i*P **P 00 43 09.8 -0.1**
SULR 77.18 313⇑ *i*P **P 00 43 10.6 +0.4**
DOPR Dopca 77.29 315⇑ *i*P **P 00 43 10.6 -0.2**
ELL Elmali 77.39 305 *e*P **P 00 43 10.2 -1.5**
DURS Dursunbey 77.45 308 *i*P **P 00 43 11.1 -0.8**
DEMI Demirci 77.47 307 *i*P **P 00 43 11.3 -0.7**
KWP Kalwaria Pacla 77.60 319 *e*P **P 00 43 11.9 -0.6**

KWP Kalwaria Pacla 77.60 319 *e*P **P 00 43 11.9 -0.6**
VOIR 77.70 314⇑ *i*P **P 00 43 13.7 +0.5**
JMB Yambol 77.76 311⇑ *i*P **P 00 43 13.1 -0.3**
BEL Belsk 77.87 321 *e*P **P 00 43 13.5 -0.3**
BEL Belsk 77.87 321 *e*P **P 00 43 13.6 -0.3**
EDRB Edirne 77.87 310 *e*P **P 00 43 13.0 -1.1**
BALY Balya 78.01 308 *i*P **P 00 43 14.2 -0.8**
HUMR Humele 78.09 313⇑ *i*P **P 00 43 14.9 -0.3**
KOLS Kolonicke sedl 78.14 318 *e*P **P 00 43 14.3 -1.1**
KOLS pmax pmax
comp=Z,3.0nm,1.1s
KOLS Kolonicke sedl 78.14 318 *e*P **P 00 43 14.3 -1.1**
CJR Cluj-Napoca 78.16 316⇑ *i*P **P 00 43 15.9 +0.2**
AYDB Zeytinkoy-Aydi 78.47 306 *e*P **P 00 43 16.7 -0.9**
STHS Stebnicka Huta 78.57 319 *e*P **P 00 43 18.0 +0.2**
STHS pmax pmax
comp=Z,2.0nm,1.1s
STHS Stebnicka Huta 78.57 319 *e*P **P 00 43 18.0 +0.2**
AYDN Tasoluk 78.58 306 *i*P **P 00 43 18.0 -0.2**
NB2 NORSAR Subarra 78.59 332 P **P 00 43 16.0 -1.7**
comp=Z,17nm,1.0s,baz=59,slow=5.9
NB2 NORSAR Subarra 78.59 332 P **P 00 43 16.0 -1.7**
baz=59,slow=5.9
NB200 NORSAR Array S 78.59 332 *e*P **P 00 43 16.3 -1.4**
NOA NORSAR Array B 78.59 332 P **P 00 43 16.3 -1.4**
comp=Z,7.0nm,0.7s,baz=58,slow=5.7,SNR=28
NOA LR LR 01 20 48.2
comp=Z,1µm,18.9s,baz=65,slow=38
NOA NORSAR Array B 78.59 332 P **P 00 43 16.3 -1.4**
NOA pmax pmax
comp=Z,7.0nm,0.7s
NOA MLR MLR
comp=Z,1µm,18.9s
GELI Tayfur-Gelibol 78.59 309 *e*P **P 00 43 16.6 -1.5**
WRAK Wrangell Islan 78.65 33 PFAKE 00 43 30.0 +12
WRAK LR LR
comp=Z,457nm,21.0s
DRGR 78.70 316⇑ *i*P **P 00 43 18.1 -0.6**
ALN Alexandroupoli 78.71 310 *e*P **P 00 43 17.2 -1.5**
RES Resolute Bay 78.75 9 P **P 00 43 17.2 -1.1**
comp=Z,8.2nm,0.8s,baz=338,slow=8.4,SNR=5.4
RES Resolute Bay 78.75 9 *e*P **P 00 43 17.9 -0.4**
RES pmax pmax
comp=Z,10.0nm,0.9s
RES Resolute Bay 78.75 9 *e*P **P 00 43 17.9 -0.4**
comp=Z,9.9nm,0.9s
DLBC Dease Lake 78.85 31 P **P 00 43 20.1 +0.8**
comp=Z,7.0nm,0.7s,baz=284,slow=7.0,SNR=17
DLBC Dease Lake 78.85 31 *e*P **P 00 43 20.6 +1.3**
KDZ Kurdzhali 78.87 311⇑ *i*P **P 00 43 19.3 -0.3**
GCAM G?zelcaml? 79.04 306 *i*P **P 00 43 20.1 -0.5**
OJC Ojcow 79.10 320 *i*P **P 00 43 20.1 -0.6**
OJC Ojcow 79.10 320⇑ *i*P **P 00 43 20.1 -0.6**
OJC Ojcow 79.10 320 *e*P **P 00 43 20.5 -0.2**
comp=Z,26nm,1.0s
BOZC Bozcaada 79.10 309 *i*P **P 00 43 20.5 -0.4**
NIE Niedzica 79.12 319 *e*P **P 00 43 20.9 0.0**
NIE Niedzica 79.12 319 *e*P **P 00 43 20.9 0.0**
ZEY ˙zmir 79.38 307 *i*P **P 00 43 22.0 -0.5**
KECS Kecovo 79.40 318 *e*P P 00 43 18.5 -3.9
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 79.40 318 *e* P 00 43 18.5 -3.9
BZS Buzias 79.86 315⇑ *i*P **P 00 43 24.2 -0.7**
KONO Kongsberg 79.98 331 PFAKE 00 43 40.0 +15
KONO LR LR
comp=Z,3µm,19.0s
PSZ Piszkesteto 79.99 318 *e*P **P 00 43 25.7 0.0**
PSZ pmax pmax
comp=Z,14nm,1.0s
PSZ MLR MLR
comp=Z,735nm,19.0s
PSZ Piszkesteto 79.99 318⇑ *i*P **P 00 43 26.0 +0.3**
PSZ Piszkesteto 79.99 318 *e*P **P 00 43 25.7 0.0**
comp=Z,14nm,1.0s
PSZ LR LR
comp=Z,735nm,19.0s
VTS Vitosha 80.02 312⇑ *i*P **P 00 43 26.0 -0.1**
MMB Musomiste 80.06 311⇑ *i*P **P 00 43 25.2 -1.0**
OKC Ostrava-Krasne 80.22 320 *e*P **P 00 43 27.0 +0.2**
OKC *e*x x 00 43 38.3
OKC *e*x x 00 43 48.6
OKC *e*PP **PP 00 46 30.8 +1.8**
OKC *e*S **S 00 53 29.5 -0.9**
OKC AMS AMS 01 21 40.0
comp=Z,900nm,14.8s
OKC Ostrava-Krasne 80.22 320 *e*P **P 00 43 27.0 +0.2**
OKC *e* 00 43 38.3
OKC *e* 00 46 30.8
OKC *e*S **S 00 53 29.5 -0.9**
OKC MLR MLR
comp=Z,900nm,14.8s
APE Apeiranthos 80.53 306⇑ *i*P P 00 43 23.5 -5.3
MORC Moravsky Berou 80.60 320 *e*P **P 00 43 28.4 -0.5**
MORC pmax pmax
comp=Z,137nm,1.7s
MORC Moravsky Berou 80.60 320⇑ *i*P **P 00 43 29.3 +0.4**
MORC Moravsky Berou 80.60 320 *e*P **P 00 43 28.4 -0.5**
comp=Z,137nm,1.7s
XMAS Kiritimati 80.83 92 PFAKE 00 43 40.0 +9.3
XMAS LR LR
comp=Z,1µm,20.0s
KSP Ksiaz 80.85 322 *e*P **P 00 43 29.8 -0.4**
KSP Ksiaz 80.85 322 *e*P **P 00 43 29.9 -0.3**
SANT Santorini 80.86 306 PFAKE 00 43 40.0 +9.4
SANT LR LR
comp=Z,342nm,22.0s
KRLC Kraliky 80.91 321 *e*P **P 00 43 29.9 -0.7**
KRLC *e*pP **PcP 00 43 33.8 -3.3**
KRLC *e*sP **sP 00 43 40.8 -0.8**
KRLC *e*x x 00 43 48.2
KRLC Kraliky 80.91 321 *e*P **P 00 43 29.9 -0.7**
KRLC *e* 00 43 40.8
KRLC *e* 00 43 48.2
VAY Valandovo 80.96 311 *e*P P 00 43 26.8 -4.2
DPC Dobruska-Polom 81.05 321 *e*P **P 00 43 30.8 -0.5**
DPC *e*pP **PcP 00 43 35.0 -2.7**
DPC *e*sP **sP 00 43 41.0 -1.4**
DPC *e*x x 00 43 48.5
DPC *e*x x 00 43 53.7
DPC *e*PP **PP 00 46 37.7 +1.8**
DPC *e*S **S 00 53 39.7 +0.5**
DPC *e*SS **SS 00 58 57.2 +4.0**
DPC AMS AMS 01 22 30.0
comp=Z,1µm,14.3s
DPC Dobruska-Polom 81.05 321 *e*P **P 00 43 30.8 -0.5**
DPC *e* 00 43 41.0
DPC *e* 00 43 48.5
DPC *e* 00 46 37.7
DPC *e*S **S 00 53 39.7 +0.5**
DPC *e*SS **SS 00 58 57.2 +4.0**
DPC MLR MLR
comp=Z,1µm,14.3s
UPC Upice 81.16 322 *e*P **P 00 43 29.7 -2.1**
UPC *e*sP **sP 00 43 41.3 -1.6**
UPC *e*x x 00 43 49.5
UPC *e*x x 00 43 55.1
UPC Upice 81.16 322 *e*P **P 00 43 29.7 -2.1**
UPC *e* 00 43 41.3
VRAC Vranov 81.36 320⇓ *i*P **P 00 43 33.3 +0.3**
PKSM Moragy 81.50 317⇑ *i*P **P 00 43 33.1 -0.6**
DIVS Divibare 81.54 314⇑ *i*P **P 00 43 33.0 -1.1**
PVCC Panska Ves 81.97 322 *e*P **P 00 43 35.6 -0.5**
PVCC *e*pP **pP 00 43 45.0 +0.8**
PVCC *e*x x 00 43 58.0
PVCC *e*S **S 00 53 47.9 -0.6**
PVCC AMS AMS 01 24 10.0
comp=Z,1µm,14.5s
PVCC Panska Ves 81.97 322 *e*P **P 00 43 35.6 -0.5**
PVCC *e* 00 43 45.0
PVCC *e*S **S 00 53 47.9 -0.6**
PVCC MLR MLR
comp=Z,1µm,14.5s
TREC Trest 82.02 321 *e*P **P 00 43 36.0 -0.4**
TREC *e*pP **pP 00 43 45.1 +0.6**
TREC *e*x x 00 43 58.4
TREC *e*PP **PP 00 46 45.1 +1.3**
TREC *e*S **S 00 53 45.0 -4.2**
TREC *e*SS **SS 00 59 06.3 -1.3**
TREC AMS AMS 01 23 30.0
comp=Z,1µm,15.9s
TREC Trest 82.02 321 *e*P **P 00 43 36.0 -0.4**
TREC *e* 00 43 45.1

TREC e 00 46 45.1
TREC eS **S** **00 53 45.0 -4.2**
TREC eSS **SS** **00 59 06.3 -1.3**
TREC MLR MLR
comp=Z,1µm,15.9s
AGG Agios Georgios 82.07 309 eP **P** **00 43 34.6 -2.3**
AGG pmax pmax
comp=Z,10.0nm,0.8s
AGG Agios Georgios 82.07 309 eP **P** **00 43 34.6 -2.3**
comp=Z,9.9nm,0.8s
GOPC GO Pecny, Ondr 82.13 321 eP **P** **00 43 36.6 -0.4**
GOPC ex x 00 43 47.6
GOPC ex x 00 43 54.2
GOPC ex x 00 43 58.9
GOPC ePP **PP** **00 46 45.3 +0.5**
GOPC eS **S** **00 53 48.5 -1.8**
GOPC eSS **SS** **00 59 08.5 -0.7**
GOPC AMS AMS 01 23 10.0
comp=Z,1µm,14.2s
BRG Berggiesshubel 82.15 322 eP **P** **00 43 37.2 +0.2**
comp=Z,8.3nm,1.3s
BRG e 00 43 54.6
comp=Z,16nm,1.6s
BRG PP **PP** **00 46 46.0 +1.1**
BRG S **S** **00 53 47.0 -3.4**
BRG SS **SS** **00 59 06.0 -3.4**
comp=N,1µm,14.6s
comp=E,910nm,12.9s
comp=Z,2µm,13.7s
BRG Berggiesshubel 82.15 322 eP **P** **00 43 35.6 -1.5**
comp=Z,13nm,1.6s
BRG Berggiesshubel 82.15 322 eP **P** **00 43 37.2 +0.2**
BRG e 00 43 54.6
BRG 00 46 46.0
BRG S **S** **00 53 47.0 -3.4**
BRG SS **SS** **00 59 06.0 -3.4**
BRG pmax pmax
comp=Z,8.0nm,1.3s
BRG pmax pmax
comp=Z,16nm,1.6s
BRG MLR MLR
comp=N,1µm,14.6s
BRG MLR MLR
comp=E,910nm,12.9s
BRG MLR MLR
comp=Z,2µm,13.7s
PRU Pruhonice 82.23 322 eP **P** **00 43 36.2 -1.3**
PRU epP **PcP** **00 43 40.9 -1.9**
PRU esP **sP** **00 43 46.3 -2.3**
PRU ex x 00 43 58.9
PRU ePP **PP** **00 46 46.6 +1.0**
PRU eS **S** **00 53 50.6 -0.7**
PRU eSS **SS** **00 59 06.5 -4.2**
PRU AMS AMS 01 24 40.0
comp=Z,1µm,15.8s
PRU Pruhonice 82.23 322 eP **P** **00 43 36.2 -1.3**
PRU e 00 43 46.3
PRU e 00 46 46.6
PRU eS **S** **00 53 50.6 -0.7**
PRU eSS **SS** **00 59 06.5 -4.2**
PRU MLR MLR
comp=Z,1µm,15.8s
PRA Prague 82.26 322 eP **P** **00 43 37.0 -0.6**
PRA ex x 00 43 48.3
PRA ex x 00 44 01.0
PRA eS **S** **00 53 51.8 +0.3**
PRA eSS **SS** **00 59 07.8 -3.2**
PRA AMS AMS 01 24 50.0
comp=Z,1µm,14.6s
PRA Prague 82.26 322 eP **P** **00 43 37.0 -0.6**
PRA e 00 43 48.3
PRA eS **S** **00 53 51.8 +0.3**
PRA eSS **SS** **00 59 07.8 -3.2**
PRA MLR MLR
comp=Z,1µm,14.6s
CONA Conrad Observa 82.43 319⇑ *i* P **P** **00 43 38.5 -0.2**
comp=Z,16nm,1.5s,SNR=6.3
CLL Collm 82.46 323 eP **P** **00 43 37.6 -1.1**
comp=Z,9.0nm,1.6s
CLL Collm 82.46 323 eP **P** **00 43 38.0 -0.6**
comp=Z,7.0nm,1.0s
CLL eSP **sP** **00 43 46.0 -3.7**
CLL *i* 00 44 00.8
comp=Z,17nm,1.1s
CLL ePP **PP** **00 46 45.0 -2.4**
CLL eS **S** **00 53 53.0 -0.6**
CLL ePS **PnS** **00 54 42.0 -2.7**
CLL eSS **SS** **00 59 18.0 +4.0**
CLL e 01 03 30.0
CLL Collm 82.46 323 eP **P** **00 43 38.0 -0.6**
CLL pmax pmax
comp=Z,21nm,1.1s
CLL Collm 82.46 323 eP **P** **00 43 38.0 -0.6**
comp=Z,21nm,1.1s
SUMG Summit 82.71 354 *i* P **P** **00 43 39.2 -0.9**
comp=Z,9.7nm,0.9s
SUMG Summit 82.71 354 *i* P **P** **00 43 39.2 -0.9**
SUMG pmax pmax
comp=Z,10.0nm,0.9s
SUMG Summit 82.71 354 eP **P** **00 43 38.7 -1.3**
comp=Z,183nm,2.8s
TIR Tirane 82.80 312 PFAKE 00 43 50.0 +9.4
TIR LR LR
comp=Z,433nm,19.0s
KOGS Kog 82.87 318 eP **P** **00 43 40.0 -0.9**
YKA Yellowknife Ar 82.94 23 P **P** **00 43 40.4 -0.5**
comp=Z,12nm,0.7s,baz=313,slow=5.0,SNR=23
YKA Yellowknife Ar 82.94 23 P **P** **00 43 40.4 -0.5**
YKA pmax pmax
comp=Z,12nm,0.7s
YKB5 Yellowknife Ar 82.94 23 eP **P** **00 43 39.6 -1.3**
ARSA Arzberg 82.94 319⇑ *i* P **P** **00 43 40.4 -1.0**
comp=Z,6.6nm,1.2s
KHC Kasperske Hory 83.20 321 eP **P** **00 43 41.4 -1.2**
KHC epP **PcP** **00 43 45.8 -1.3**
KHC esP **sP** **00 43 53.2 -0.5**
KHC ex x 00 44 05.6
KHC ePP **PP** **00 46 54.7 +1.1**
KHC eS **S** **00 54 00.9 -0.4**
KHC eSS **SS** **00 59 22.0 -3.1**
KHC AMS AMS 01 23 40.0
comp=Z,1µm,14.4s
KHC Kasperske Hory 83.20 321 eP **P** **00 43 41.4 -1.2**
KHC e 00 43 53.2
KHC e 00 46 54.7
KHC eS **S** **00 54 00.9 -0.4**
KHC eSS **SS** **00 59 22.0 -3.1**
KHC MLR MLR
comp=Z,1µm,14.4s
KHC Kasperske Hory 83.20 321 eP **P** **00 43 42.2 -0.3**
comp=Z,13nm,1.7s
TANN Tannenbergstha 83.20 323 eP **P** **00 43 41.8 -0.8**
comp=Z,17nm,1.7s
GEC2 GERESS Array S 83.26 321 eP **P** **00 43 42.2 -0.8**
comp=Z,13nm,1.3s
GEC2 GERESS Array S 83.26 321 eP **P** **00 43 42.6 -0.5**
GEC2 GERESS Array S 83.26 321 eP **P** **00 43 42.6 -0.5**
GERES GERESS Array B 83.26 321 P **P** **00 43 42.5 -0.5**
comp=Z,4.4nm,0.9s,baz=55,slow=5.1,SNR=26
GERES LR LR 01 23 56.4
comp=Z,735nm,19.7s,baz=54,slow=38
GERES GERESS Array B 83.26 321 P **P** **00 43 42.5 -0.5**
GERES pmax pmax
comp=Z,4.0nm,0.9s
GERES MLR MLR
comp=Z,735nm,19.7s
NKC Novy Kostel 83.30 322 eP **P** **00 43 41.8 -1.3**
NKC epP **pP** **00 43 51.7 +0.5**
NKC ex x 00 44 05.2
NKC ePP **PP** **00 46 55.4 +1.1**
NKC AMS AMS 01 24 40.0
comp=Z,1µm,12.9s
NKC Novy Kostel 83.30 322 eP **P** **00 43 41.8 -1.3**
NKC e 00 43 51.7
NKC e 00 46 55.4
NKC MLR MLR
comp=Z,1µm,12.9s
MOA Molln 83.41 320⇑ *i* P **P** **00 43 43.3 -0.5**
comp=Z,27nm,1.7s,SNR=5.2
SOKA Soboth 83.51 318⇑ eP **P** **00 43 43.3 -1.0**
comp=Z,13nm,1.4s,SNR=7.9
MOX Moxa 83.55 323 eP **P** **00 43 43.9 -0.5**
comp=Z,20nm,1.9s
WET Wettzell 83.59 321 eP **P** **00 43 44.6 0.0**
comp=Z,20nm,2.1s
CLZ Clausthal 83.62 324 eP **P** **00 43 44.3 -0.4**
comp=Z,20nm,1.3s
CRES Cresnjev 83.65 318 eP **P** **00 43 44.0 -1.0**
ROTZ Rotzenmuhle 83.66 322 eP **P** **00 43 44.9 0.0**
comp=Z,17nm,1.3s
OBKA Obir 83.88 318⇑ eP **P** **00 43 45.3 -0.9**
comp=Z,10nm,1.0s
BOJS Bojanci 83.93 317 *i* P **P** **00 43 45.8 -0.6**
BOJS e 00 54 05.4
ABPO Ambohimpanom 84.22 246 eP **P** **00 43 48.8 +0.3**
ABPO pmax pmax
comp=Z,36nm,1.1s
ABPO MLR MLR
comp=Z,471nm,19.0s
ABPO Ambohimpanom 84.22 246 eP **P** **00 43 48.8 +0.3**
comp=Z,36nm,1.1s
ABPO LR LR
comp=Z,471nm,19.0s
GRF Grafenberg Arr 84.25 322 eP **P** **00 43 47.5 -0.5**
comp=Z,46nm,1.7s
GRFO Grafenberg 84.25 322 eP **P** **00 43 47.9 -0.1**
GRFO pmax pmax
comp=Z,31nm,1.3s
GRFO Grafenberg 84.25 322 eP **P** **00 43 47.9 -0.1**
comp=Z,31nm,1.3s
CEY Cerknica 84.33 318 *i* P **P** **00 43 47.4 -1.0**
CEY e 00 54 11.3
RJOB Jochberg 84.33 320 eP **P** **00 43 48.5 0.0**
comp=Z,7.0nm,1.1s
UBBA Unterbreizbach 84.34 324 eP **P** **00 43 47.7 -0.5**
comp=Z,36nm,2.1s
IBBN Ibbenburen 84.74 326 eP **P** **00 43 49.9 -0.4**
comp=Z,25nm,1.5s
ABTA Abfaltersbach 84.99 319⇑ *i* P **P** **00 43 50.0 -1.9**
comp=Z,11nm,1.1s,SNR=6.2
FUR Furstenfeldbru 85.00 321 eP **P** **00 43 51.2 -0.6**
comp=Z,37nm,1.2s
WTTA Wattenberg 85.25 320⇓ *i* P **P** **00 43 52.8 -0.5**
comp=Z,14nm,1.1s,SNR=5.1
KMBO Kilima Mbogo 85.37 267 P **P** **00 43 54.6 +0.1**
comp=Z,3.4nm,0.7s,baz=52,slow=3.9,SNR=8.7
KMBO LR LR 01 21 42.9
comp=Z,181nm,21.1s,baz=31,slow=35
KMBO Kilima Mbogo 85.37 267 *ceP* **P** **00 43 55.7 +1.2**
KMBO pmax pmax
comp=Z,3.0nm,0.7s
KMBO Kilima Mbogo 85.37 267 P **P** **00 43 56.0 +1.5**
SNR=5.8
KMBO Kilima Mbogo 85.37 267 eP **P** **00 43 55.6 +1.1**
comp=Z,211nm,1.9s
KMBO LR LR
comp=Z,213nm,19.0s
BUG Bochum--Univer 85.47 325 eP **P** **00 43 53.6 -0.4**
comp=Z,24nm,1.2s
TNS Taunus Mts 85.50 324 eP **P** **00 43 54.3 0.0**
comp=Z,34nm,2.2s
CUC Castrocucco 86.16 312 PFAKE 00 44 10.0 +12
CUC LR LR
comp=Z,249nm,22.0s
FUORN Ofenpass-Fuorn 86.39 320 eP **P** **00 43 58.8 -0.2**
comp=Z,14nm,0.9s
BFO Black Forest 86.59 322 eP **P** **00 44 00.0 +0.3**
comp=Z,12nm,1.6s
BFO Black Forest 86.59 322 PFAKE 00 44 10.0 +10
BFO LR LR
comp=Z,1µm,20.0s
AQU L'Aquila 86.62 315 PFAKE 00 44 10.0 +10
AQU LR LR
comp=Z,588nm,22.0s
CEL Celeste 86.93 311 eP **P** **00 43 59.8 -1.8**
comp=Z,72nm,1.3s
CEL LR LR
comp=Z,496nm,21.0s
TUE Stuetta 87.00 320 PFAKE 00 44 10.0 +8.0
TUE LR LR
comp=Z,2µm,22.0s
WLF Walferdange 87.05 324 eP **P** **00 44 02.0 +0.2**
comp=Z,30nm,1.1s
WLF Walferdange 87.05 324 eP **P** **00 44 02.5 +0.7**
WLF pmax pmax
comp=Z,25nm,1.1s
WLF MLR MLR
comp=Z,939nm,19.0s
WLF Walferdange 87.05 324 eP **P** **00 44 02.5 +0.7**
comp=Z,26nm,1.1s
WLF LR LR
comp=Z,939nm,19.0s
ECH Echery 87.31 322 PFAKE 00 44 10.0 +6.8
ECH LR LR
comp=Z,937nm,20.0s
VLC Villacollemand 87.60 318 PFAKE 00 44 20.0 +15
VLC LR LR
comp=Z,877nm,22.0s
NLWA Neilton Lookou 87.71 38 eP **P** **00 44 07.5 +2.4**
comp=Z,49nm,1.2s
NLWA LR LR
comp=Z,364nm,20.0s
A05A Maple Falls 87.80 36 eP **P** **00 44 06.9 +1.5**
comp=Z,24nm,1.1s
PAGF Fort de Pagny 87.91 323 eP **P** **00 44 05.2 -0.8**
comp=Z,6.0nm,0.9s
PAGF Fort de Pagny 87.91 323 eP **P** **00 44 05.2 -0.8**
ESK Eskdalemuir 88.11 332 PFAKE 00 44 20.0 +13
ESK LR LR
comp=Z,2µm,19.0s
MEZF Maizieres J'vi 88.31 324 eP **P** **00 44 07.0 -0.9**
MEZF Maizieres J'vi 88.31 324 eP **P** **00 44 07.0 -0.9**
B06A Marblemount 88.40 36 eP **P** **00 44 09.5 +1.3**
comp=Z,31nm,0.9s
NIHS Ingelmoor High 88.44 37 eP **P** **00 44 08.7 +0.2**
SFTF Sexfontaines 88.48 323 eP **P** **00 44 07.6 -1.1**
comp=Z,54nm,1.3s
SFTF Sexfontaines 88.48 323 eP **P** **00 44 07.6 -1.1**
D05A Enumclaw 88.89 38 eP **P** **00 44 12.6 +2.0**
comp=Z,38nm,0.9s
WDD Wield Dalam 89.03 309 PFAKE 00 44 20.0 +8.5
WDD LR LR
comp=Z,193nm,20.0s
LPG La Plagne 89.05 320 eP **P** **00 44 11.0 -0.8**
comp=Z,23nm,0.8s
LPG La Plagne 89.05 320 eP **P** **00 44 11.0 -0.8**
LPG La Plagne 89.05 320 eP **P** **00 44 11.0 -0.8**
LPL La Plagne 89.05 320 eP **P** **00 44 10.9 -0.9**
comp=Z,23nm,0.8s
LPL La Plagne 89.05 320 eP **P** **00 44 10.9 -0.9**
LPL La Plagne 89.05 320 eP **P** **00 44 10.9 -0.9**
SFJD Kangerlussuaq 89.08 357 PFAKE 00 44 20.0 +8.9
SFJD LR LR
comp=Z,466nm,19.0s
CLTB Caltabellotta 89.11 311 PFAKE 00 44 20.0 +8.0
CLTB LR LR
comp=Z,224nm,20.0s
LON Longmire 89.24 38 eP **P** **00 44 13.6 +1.2**
LON pmax pmax
comp=Z,17nm,1.0s
LON Longmire 89.24 38 eP **P** **00 44 13.6 +1.2**
comp=Z,17nm,1.0s
PGF Pioggiola 89.31 317 eP **P** **00 44 11.9 -1.0**
comp=Z,33nm,1.0s
PGF Pioggiola 89.31 317 eP **P** **00 44 11.9 -1.0**
PGF Pioggiola 89.31 317 eP **P** **00 44 11.9 -1.0**
F04A Amboy 89.36 39 eP **P** **00 44 14.5 +1.7**
EDM Edmonton 89.52 30 eP **P** **00 44 14.3 +0.8**
EDM Edmonton 89.52 30 eP **P** **00 44 14.3 +0.8**
LTY Liberty 89.58 37 eP **P** **00 44 15.2 +1.2**
B08A Colville Reser 89.65 36 eP **P** **00 44 15.5 +1.2**
comp=Z,35nm,1.0s
LOR Lormes 89.68 323 eP **P** **00 44 12.9 -1.5**
comp=Z,16nm,0.9s
LOR eR
comp=Z,1µm,17.5s
LOR Lormes 89.68 323 eP **P** **00 44 12.9 -1.5**
LOR Lormes 89.68 323 eP **P** **00 44 12.9 -1.5**
ORIF Oris-en-Rattie 89.89 320 eP **P** **00 44 14.5 -1.0**
comp=Z,9.1nm,0.7s
ORIF eR
comp=Z,1µm,17.8s
ORIF Oris-en-Rattie 89.89 320 eP **P** **00 44 14.5 -1.0**
ORIF Oris-en-Rattie 89.89 320 eP **P** **00 44 14.5 -1.0**
SSF Saint Saulge 89.99 323 eP **P** **00 44 14.5 -1.3**
comp=Z,17nm,1.1s
SSF Saint Saulge 89.99 323 eP **P** **00 44 14.5 -1.3**
SSF Saint Saulge 89.99 323 eP **P** **00 44 14.5 -1.3**
SMF Signal de Mont 90.05 322 eP **P** **00 44 14.8 -1.3**
comp=Z,22nm,0.8s
SMF Signal de Mont 90.05 322 eP **P** **00 44 14.8 -1.3**
H04A Detroit Lake 90.20 40 eP **P** **00 44 18.8 +1.9**
comp=Z,35nm,1.3s
AVF Avril sur Loir 90.24 323 eP **P** **00 44 15.7 -1.3**
comp=Z,23nm,0.9s
AVF Avril sur Loir 90.24 323 eP **P** **00 44 15.7 -1.3**
AVF Avril sur Loir 90.24 323 eP **P** **00 44 15.7 -1.3**
HYF Humbligny 90.34 323 eP **P** **00 44 16.7 -0.8**
HYF Humbligny 90.34 323 eP **P** **00 44 16.7 -0.8**
CASY Casey 90.41 184 PFAKE 00 44 30.0 +13
CASY LR LR
comp=Z,602nm,20.0s
SSB Saint Sauveur 90.46 321 PFAKE 00 44 30.0 +12
SSB LR LR
comp=Z,537nm,19.0s
C09A Chrisman Ranch 90.55 36 eP **P** **00 44 19.8 +1.4**
comp=Z,31nm,1.1s
I04A Tendick Farm, 90.58 41 P **P** **00 44 19.9 +1.2**
baz=90
VIVF Saint-Julien-l 90.63 321 eP **P** **00 44 17.7 -1.2**
comp=Z,15nm,1.0s
VIVF Saint-Julien-l 90.63 321 eP **P** **00 44 17.7 -1.2**
VIVF Saint-Julien-l 90.63 321 eP **P** **00 44 17.7 -1.2**
D08A Wollman Farm, 90.66 37 eP **P** **00 44 20.4 +1.5**
BGF Bois d'Agland 90.66 323 eP **P** **00 44 17.7 -1.2**
comp=Z,26nm,1.1s
BGF Bois d'Agland 90.66 323 eP **P** **00 44 17.7 -1.2**
BGF Bois d'Agland 90.66 323 eP **P** **00 44 17.7 -1.2**
VSL Villasalto 90.70 314 PFAKE 00 44 30.0 +11
VSL LR LR
comp=Z,197nm,20.0s
HAWA Hanford 90.72 37 eP **P** **00 44 21.0 +1.7**
comp=Z,26nm,1.1s
HAWA LR LR
comp=Z,283nm,20.0s
G06A Carlson Farm, 90.78 39 eP **P** **00 44 21.4 +1.7**
comp=Z,239nm,2.4s
NEW Newport 90.88 35 P **P** **00 44 20.4 +0.5**
comp=Z,18nm,0.9s,baz=296,slow=4.0,SNR=23
NEW Newport 90.88 35 eP **P** **00 44 20.7 +0.7**
NEW pmax pmax
comp=Z,25nm,1.0s
NEW MLR MLR
comp=Z,496nm,20.0s
NEW Newport 90.88 35 P **P** **00 44 20.9 +1.0**
baz=91
NEW Newport 90.88 35 eP **P** **00 44 20.7 +0.7**
comp=Z,25nm,1.0s
NEW LR LR
comp=Z,496nm,20.0s
I05D Terrebonne, OR 90.90 40 P **P** **00 44 22.0 +1.8**
baz=91
J04D Umpqua Nationa 91.07 41 P **P** **00 44 22.9 +1.6**
baz=91
MBAR Mbarara 91.11 270 PFAKE 00 44 30.0 +8.1
MBAR LR LR
comp=Z,485nm,19.0s
TCF Toulx Ste Croi 91.17 323 eP **P** **00 44 20.4 -1.0**
comp=Z,15nm,1.0s
TCF Toulx Ste Croi 91.17 323 eP **P** **00 44 20.4 -1.0**
TCF Toulx Ste Croi 91.17 323 eP **P** **00 44 20.4 -1.0**
E09A Wood Farm, Sta 91.41 37 eP **P** **00 44 24.1 +1.6**
comp=Z,16nm,1.0s
DRV Dumont d'Urvil 91.46 173 S SKSac 00 54 41.0 -11
DRV SS **SS** **01 01 28.0 +1.8**
DRV L L 01 11 00.0
DRV R 01 15 00.0
YBH Yreka Blue Hor 91.56 42 P **P** **00 44 23.7 +0.3**
comp=Z,4.1nm,0.9s,baz=297,slow=6.8,SNR=3.3
YBH Yreka Blue Hor 91.56 42 P **P** **00 44 23.7 +0.3**
YBH pmax pmax
comp=Z,4.0nm,0.9s
YBH Yreka Blue Hor 91.56 42 eP **P** **00 44 23.6 +0.3**
comp=Z,118nm,2.5s
J05D Fort Rock, OR 91.57 41 P **P** **00 44 24.7 +1.2**
baz=91
M02C Callahan 91.67 43 P **P** **00 44 25.6 +1.7**
baz=92
G08A Pilot Rock 91.70 38 eP **P** **00 44 25.2 +1.2**
comp=Z,27nm,1.8s
WALA Waterton Lakes 92.00 33 eP **P** **00 44 26.1 +0.8**
M04C Macdoel 92.07 42 P **P** **00 44 27.0 +1.2**
baz=92
CAF Calviac 92.08 322 eP **P** **00 44 25.1 -0.5**
comp=Z,36nm,1.1s
CAF Calviac 92.08 322 eP **P** **00 44 25.1 -0.5**
CAF Calviac 92.08 322 eP **P** **00 44 25.1 -0.5**
K05A Summer Lake 92.10 41 eP **P** **00 44 27.8 +1.8**
comp=Z,25nm,1.0s
I07A Izee 92.12 39 eP **P** **00 44 27.4 +1.5**
RJF Les Rejaudoux 92.16 322 eP **P** **00 44 25.4 -0.5**
comp=Z,59nm,1.1s
RJF eR
comp=Z,1µm,18.2s
RJF Les Rejaudoux 92.16 322 eP **P** **00 44 25.4 -0.5**
RJF Les Rejaudoux 92.16 322 eP **P** **00 44 25.4 -0.5**
F10A Beach Ranch, E 92.24 37 eP **P** **00 44 27.8 +1.4**
comp=Z,7.2nm,0.8s
BSMT Bassoo Peak 92.35 34 eP **P** **00 44 28.4 +1.4**
FCC Fort Churchill 92.36 18 eP **P** **00 44 25.8 -0.7**
FCC Fort Churchill 92.36 18 eP **P** **00 44 25.8 -0.7**
BLMT Blacktail Moun 92.46 34 eP **P** **00 44 29.1 +1.6**
JTMT Jette 92.67 34 eP **P** **00 44 29.6 +1.2**
KEST Kesra 92.72 311 P **P** **00 44 28.2 -0.6**
comp=Z,2.0nm,0.9s,baz=76,slow=17,SNR=3.6
KEST LR LR 01 33 08.3
comp=Z,63nm,18.3s,baz=349,slow=40
YBMT Yellow Bay 92.74 34 eP **P** **00 44 30.0 +1.2**
SWMT Swartz Lake 92.97 34 eP **P** **00 44 30.7 +0.9**
FFC Flin Flon 93.10 24 P **P** **00 44 29.0 -1.0**
comp=Z,156nm,1.1s,SNR=15
FFC Flin Flon 93.10 24 eP **P** **00 44 29.8 -0.3**
FFC pmax pmax
comp=Z,30nm,1.0s
FFC MLR MLR
comp=Z,531nm,21.0s
FFC Flin Flon 93.10 24 eP **P** **00 44 29.8 -0.3**
comp=Z,30nm,1.0s
FFC LR LR
comp=Z,531nm,21.0s
SLMT Seeley Lake 93.41 34 eP **P** **00 44 32.5 +0.6**
MSO Missoula 93.45 35 P **P** **00 44 32.5 +0.5**
baz=93
MSO Missoula 93.45 35 eP **P** **00 44 32.5 +0.5**
comp=Z,20nm,1.4s
WVOR Wild Horse Val 93.61 40 eP **P** **00 44 34.4 +1.5**
WVOR pmax pmax
comp=Z,15nm,1.4s
WVOR MLR MLR
comp=Z,299nm,20.0s
WVOR Wild Horse Val 93.61 40 eP **P** **00 44 34.4 +1.5**
comp=Z,15nm,1.4s
WVOR LR LR
comp=Z,299nm,20.0s
CHMT Chamberlain Mo 93.75 34 eP **P** **00 44 34.0 +0.5**
EPF Esparros 94.22 321 eP **P** **00 44 34.7 -0.9**
comp=Z,8.1nm,0.9s
EPF Esparros 94.22 321 eP **P** **00 44 34.7 -0.9**
EPF Esparros 94.22 321 eP **P** **00 44 34.7 -0.9**
A19A Klindworth Far 94.58 31 P **P** **00 44 37.5 +0.4**
baz=94
MFID Camas Ranch 94.63 38 eP **P** **00 44 38.6 +1.1**
comp=Z,8.3nm,1.1s
EGMT Eagleton 94.74 32 P **P** **00 44 38.1 +0.3**
baz=94
EGMT Eagleton 94.74 32 eP **P** **00 44 38.4 +0.5**
comp=Z,17nm,0.9s
EGMT LR LR
comp=Z,314nm,20.0s
B19A Brinkman Farms 94.82 31 P **P** **00 44 38.1 -0.1**
baz=95
LRM Limekiln Ridge 94.89 35 eP **P** **00 44 39.6 +0.8**
A20A Cobblestone Ra 95.00 30 P **P** **00 44 38.7 -0.3**
baz=95
DLMT Dillon 95.12 35 eP **P** **00 44 40.8 +1.0**
comp=Z,13nm,1.1s
CMB Columbia Colle 95.15 44 eP **P** **00 44 40.6 +0.7**
CMB pmax pmax
comp=Z,10.0nm,1.1s
CMB Columbia Colle 95.15 44 eP **P** **00 44 40.6 +0.7**
comp=Z,9.6nm,1.1s
B20A Solberg Farm, 95.27 31 P **P** **00 44 39.9 -0.4**
baz=95
HLID Hailey 95.32 37 P **P** **00 44 40.7 0.0**
baz=95

HLID	**Hailey**	**95.32**	**37**	*e*P	**P**	**00 44 42.0**	**+1.2**
	comp=Z,8.6nm,1.1s						
HLID				LR	LR		
	comp=Z,336nm,19.0s						
MCMT	**McKenzie Canyo**	**95.34**	**36**	*e*P	**P**	**00 44 42.2**	**+1.3**
A21A	**Bergtoll Ranch**	**95.37**	**30**	P	**P**	**00 44 40.9**	**+0.2**
	baz=95						
BOZ	**Bozeman (W)**	**95.43**	**34**	P	**P**	**00 44 41.5**	**+0.3**
	baz=95						
BMN	**Battle Mountai**	**95.68**	**41**	*e*P	**P**	**00 44 44.8**	**+2.4**
BMN				pmax	pmax		
	comp=Z,13nm,1.4s						
BMN	**Battle Mountai**	**95.68**	**41**	*e*P	**P**	**00 44 44.8**	**+2.4**
	comp=Z,13nm,1.4s						
C20A	**Veseth Ranch,**	**95.79**	**31**	P	**P**	**00 44 42.9**	**+0.3**
	baz=96						
A22A	**Carney Farms,**	**95.83**	**29**	P	**P**	**00 44 42.6**	**-0.2**
	baz=96						
PPT	**Papeete**	**95.86**	**107**	LR	LR	01 19 41.3	
	comp=Z,328nm,21.4s,baz=333,slow=30						
PPT2	**Papeete2**	**95.87**	**107**	*e*S	**S**	**00 55 57.0**	**-3.5**
	comp=Z,232nm,27.5s						
PPT2				*e*SS	**SS**	**01 02 35.0**	**+3.6**
	comp=Z,164nm,25.5s						
PPT2	**Papeete2**	**95.87**	**107**	*e*LR	LR	01 15 49.9	
	comp=Z,795nm,23.5s,baz=294						
C21A	**Desert Coulee**	**96.14**	**31**	P	**P**	**00 44 43.9**	**-0.3**
	baz=96						
NV01	**Mina Array Sit**	**96.24**	**43**	*e*P	**P**	**00 44 45.6**	**+0.5**
NVAR	**Mina Array Bea**	**96.24**	**43**	P	**P**	**00 44 45.3**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=279,slow=4.9,SNR=11						
B22A	**Reddig Ranch S**	**96.30**	**30**	P	**P**	**00 44 44.6**	**-0.3**
	baz=96						
D21A	**La Casta Ranch**	**96.74**	**31**	P	**P**	**00 44 47.0**	**0.0**
	baz=96						
C22A	**Vida**	**96.76**	**30**	P	**P**	**00 44 46.9**	**-0.1**
	baz=96						
LKWY	**Lake**	**96.81**	**35**	PFAKE		00 45 00.0	+12
LKWY				LR	LR		
	comp=Z,812nm,20.0s						
DGMT	**Dagmar**	**96.98**	**29**	PFAKE		00 45 00.0	+12
DGMT				LR	LR		
	comp=Z,479nm,22.0s						
RLMT	**Red Lodge**	**97.00**	**34**	P	Pdif	00 44 48.9	+0.4
	baz=97						
RLMT	**Red Lodge**	**97.00**	**34**	PFAKE		00 45 00.0	+11
RLMT				LR	LR		
	comp=Z,367nm,20.0s						
D22A	**Cohagen**	**97.06**	**31**	P	Pdif	00 44 48.5	+0.1
	baz=97						
TPH	**Tonopah**	**97.13**	**43**	*e*P	Pdif	00 44 50.1	+0.9
TPH				pmax	pmax		
	comp=Z,13nm,1.3s						
TPH	**Tonopah**	**97.13**	**43**	*e*P	Pdif	00 44 50.0	+0.9
	comp=Z,13nm,1.3s						
LAO	**LASA Array**	**97.37**	**31**	P	Pdif	00 44 50.3	+0.4
	baz=97						
LAO	**LASA Array**	**97.37**	**31**	PFAKE		00 45 00.0	+10
LAO				LR	LR		
	comp=Z,393nm,20.0s						
AHID	**Auburn Hatcher**	**97.67**	**36**	PFAKE		00 45 00.0	+8.5
AHID				LR	LR		
	comp=Z,390nm,19.0s						
ISA	**Isabella, Lake**	**97.79**	**45**	P	Pdif	00 44 52.1	+0.1
	baz=98						
R11A	**Troy Canyon, C**	**97.97**	**42**	*e*P	Pdif	00 44 55.0	+2.1
	comp=Z,11nm,1.9s						
HWUT	**Hardware Ranch**	**98.19**	**37**	PFAKE		00 45 10.0	+16
HWUT				LR	LR		
	comp=Z,474nm,20.0s						
TBI	**Tubuai**	**98.20**	**112**	*e*LR	LR	01 16 45.0	
	comp=Z,315nm,33.5s,baz=303						
DUG	**Dugway, Tooele**	**98.42**	**39**	PFAKE		00 45 10.0	+15
DUG				LR	LR		
	comp=Z,351nm,19.0s						
F23A	**Volborg**	**98.47**	**31**	P	**P**	**00 44 54.8**	**0.0**
	baz=98						
BW06	**Boulder Array**	**98.49**	**35**	PFAKE		00 45 10.0	+15
BW06				LR	LR		
	comp=Z,366nm,19.0s						
ESDC	**Sonseca Array**	**98.86**	**321**	LR	LR	01 33 59.3	
	comp=Z,293nm,18.1s,baz=35,slow=38						
PAB	**San Pablo**	**99.17**	**321**	PFAKE		00 45 10.0	+12
PAB				LR	LR		
	comp=Z,615nm,19.0s						
LSZ	**Lusaka**	**99.20**	**257**	PFAKE		00 45 10.0	+11
LSZ				LR	LR		
	comp=Z,800nm,21.0s						
J22A	**Midwest**	**99.63**	**33**	P	**Pdif**	**00 44 59.9**	**-0.2**
	baz=99						
F27A	**Lemmon**	**99.92**	**29**	P	**Pdif**	**00 45 01.8**	**+0.5**
	baz=100						
G26A	**Maurine**	**100.10**	**30**	P	**Pdif**	**00 45 01.9**	**-0.2**
	baz=100						
RSSD	**Black Hills**	**100.31**	**32**	*e*P	**Pdif**	**00 45 03.6**	**+0.4**
RSSD	**Black Hills**	**100.31**	**32**	*e*Pdif	**Pdif**	**00 45 03.6**	**+0.4**
PFO	**Pinyon Flats O**	**100.36**	**46**	PFAKE		00 45 20.0	+16
PFO				LR	LR		
	comp=Z,579nm,22.0s						
I25A	**Rochford**	**100.53**	**32**	P	**Pdif**	**00 45 04.0**	**-0.2**
	baz=100						
AGMN	**Agassiz Nation**	**100.53**	**24**	PFAKE		00 45 20.0	+16
AGMN				LR	LR		
	comp=Z,509nm,19.0s						
G30A	**Faulkton**	**101.76**	**28**	P	**Pdif**	**00 45 09.3**	**-0.1**
	baz=102						
WUAZ	**Wupatki**	**102.37**	**42**	PFAKE		00 45 20.0	+7.5
WUAZ				LR	LR		
	comp=Z,332nm,19.0s						
EYMN	**Ely**	**102.41**	**22**	PFAKE		00 45 20.0	+7.8
EYMN				LR	LR		
	comp=Z,553nm,19.0s						
TAM	**Tamanrasset**	**102.49**	**302**	PFAKE		00 45 30.0	+17
TAM				LR	LR		
	comp=Z,333nm,19.0s						
ISCO	**Idaho Springs**	**102.69**	**35**	PFAKE		00 45 30.0	+16
ISCO				LR	LR		
	comp=Z,361nm,21.0s						
MVCO	**Mesa Verde**	**102.93**	**39**	PFAKE		00 45 30.0	+15
MVCO				LR	LR		
	comp=Z,319nm,20.0s						
OGNE	**Ogallala**	**103.67**	**33**	PFAKE		00 45 30.0	+12
OGNE				LR	LR		
	comp=Z,373nm,22.0s						
ECSD	**EROS Data Cent**	**103.97**	**28**	PFAKE		00 45 30.0	+11
ECSD				LR	LR		
	comp=Z,369nm,20.0s						
SDCO	**Great Sand Dun**	**104.23**	**37**	PFAKE		00 45 30.0	+9.1
SDCO				LR	LR		
	comp=Z,297nm,19.0s						
TUC	**Tucson**	**104.85**	**44**	PFAKE		00 45 40.0	+16
TUC				LR	LR		
	comp=Z,444nm,20.0s						
SBA	**Scott Base**	**105.00**	**171**	PFAKE		00 49 50.0	
SBA				LR	LR		
	comp=Z,319nm,19.0s						
ANMO	**Albuquerque**	**105.69**	**39**	PFAKE		00 49 50.0	
ANMO				LR	LR		
	comp=Z,369nm,20.0s						
JFWS	**Jewell Farm**	**107.19**	**24**	PFAKE		00 49 50.0	
JFWS				LR	LR		
	comp=Z,526nm,20.0s						
GLMI	**Grayling**	**107.40**	**19**	PFAKE		00 50 00.0	
GLMI				LR	LR		
	comp=Z,568nm,19.0s						
KSU1	**Kansas State U**	**107.71**	**30**	PFAKE		00 50 00.0	
KSU1				LR	LR		
	comp=Z,373nm,21.0s						
HDIL	**Hopedale**	**109.58**	**25**	PFAKE		00 50 00.0	
HDIL				LR	LR		
	comp=Z,457nm,19.0s						
AAM	**Ann Arbor**	**109.98**	**20**	PFAKE		00 50 00.0	
AAM				LR	LR		
	comp=Z,663nm,20.0s						
TSUM	**Tsumeb**	**110.06**	**257**	PFAKE		00 50 00.0	
TSUM				LR	LR		
	comp=Z,614nm,21.0s						
WMOK	**Wichita Mounta**	**110.08**	**35**	PFAKE		00 50 00.0	
WMOK				LR	LR		
	comp=Z,327nm,19.0s						
LONY	**Lake Ozonia**	**110.09**	**12**	PFAKE		00 50 00.0	
LONY				LR	LR		
	comp=Z,369nm,20.0s						
PKME	**Peaks-Kenny Pk**	**110.33**	**8**	PFAKE		00 50 00.0	
PKME				LR	LR		
	comp=Z,471nm,20.0s						

RKT	**Rikitea**	**110.62**	**107**	*e*LR	LR	01 22 45.1	
	comp=Z,519nm,25.8s,baz=292						
TOA0	**Torodi Ar. Sit**	**110.72**	**296**	*e*PKiKP	**PKiKP**	**00 49 48.5**	**-1.4**
TORD	**Torodi Ar. Bea**	**110.72**	**296**	PKiKP	**PKiKP**	**00 49 48.4**	**-1.5**
	comp=Z,1.2nm,0.6s,baz=19,slow=3.7,SNR=12						
TORD				PKKPab	**PKKPab**	**01 00 58.1**	**-1.7**
	comp=Z,0.9nm,0.9s,baz=250,slow=2.9,SNR=3.6						
NCB	**Newcomb**	**110.79**	**12**	PFAKE		00 50 00.0	
NCB				LR	LR		
	comp=Z,679nm,22.0s						
TXAR	**Lajitas Array**	**111.33**	**42**	PKiKP	**PKiKP**	**00 49 50.4**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=259,slow=0.3,SNR=5.3						
ACSO	**Alum Creek Sta**	**112.07**	**20**	PFAKE		00 50 00.0	
ACSO				LR	LR		
	comp=Z,383nm,21.0s						
JCT	**Junction City**	**112.77**	**38**	PFAKE		00 50 10.0	
JCT				LR	LR		
	comp=Z,293nm,20.0s						
MIAR	**Mount Ida**	**112.82**	**31**	PFAKE		00 50 10.0	
MIAR				LR	LR		
	comp=Z,339nm,20.0s						
QSPA	**South Pole Qui**	**113.81**	**180**	PFAKE		00 50 10.0	
QSPA				LR	LR		
	comp=Z,177nm,20.0s						
PTCN	**Pitcairn Islan**	**115.45**	**107**	PFAKE		00 50 10.0	+11
PTCN				LR	LR		
	comp=Z,2μm,20.0s						
CBN	**Corbin Frederi**	**115.57**	**17**	PFAKE		00 50 10.0	+11
CBN				LR	LR		
	comp=Z,403nm,20.0s						
BLA	**Blacksburg**	**115.63**	**19**	PFAKE		00 50 10.0	+11
BLA				LR	LR		
	comp=Z,395nm,20.0s						
GOGA	**Godfrey**	**118.06**	**24**	PFAKE		00 50 20.0	+16
GOGA				LR	LR		
	comp=Z,438nm,22.0s						
CNNC	**Cliffs of the**	**118.21**	**18**	PFAKE		00 50 20.0	+16
CNNC				LR	LR		
	comp=Z,430nm,21.0s						
BRAL	**Brewton**	**118.74**	**28**	PFAKE		00 50 20.0	+15
BRAL				LR	LR		
	comp=Z,462nm,21.0s						
NHSC	**New Hope**	**119.49**	**21**	PFAKE		00 50 20.0	+14
NHSC				LR	LR		
	comp=Z,447nm,19.0s						
DBIC	**Dimbokro**	**119.62**	**293**	PKP	**PKPdf**	**00 50 05.6**	**-1.4**
	comp=Z,6.8nm,0.8s,baz=44,slow=2.7,SNR=4.4						
BBSR	**BB Station**	**123.60**	**6**	PFAKE		00 50 30.0	+16
BBSR				LR	LR		
	comp=Z,264nm,22.0s						
TEIG	**Tepich**	**127.22**	**36**	PFAKE		00 50 30.0	+8.6
TEIG				LR	LR		
	comp=Z,312nm,22.0s						
GRTK	**Grand Turk**	**133.06**	**16**	PFAKE		00 50 40.0	+7.5
GRTK				LR	LR		
	comp=Z,376nm,19.0s						
GTBY	**Guantanamo Bay**	**133.35**	**22**	PFAKE		00 50 50.0	+17
GTBY				LR	LR		
	comp=Z,296nm,20.0s						
MTDJ	**Mount Denham**	**134.01**	**26**	PFAKE		00 50 50.0	+16
MTDJ				LR	LR		
	comp=Z,384nm,22.0s						
SDDR	**Presa de Saban**	**135.43**	**18**	PFAKE		00 50 50.0	+13
SDDR				LR	LR		
	comp=Z,378nm,20.0s						
JTS	**JuntasAbangare**	**137.10**	**40**	PFAKE		00 50 50.0	+10
JTS				LR	LR		
	comp=Z,311nm,22.0s						
SJG	**San Juan**	**137.43**	**11**	PFAKE		00 50 50.0	+9.3
SJG				LR	LR		
	comp=Z,230nm,20.0s						
ANWB	**Willy Bob**	**138.43**	**5**	PFAKE		00 51 00.0	+17
ANWB				LR	LR		
	comp=Z,271nm,21.0s						
BCIP	**Isla Barro Col**	**140.88**	**35**	PFAKE		00 51 00.0	+13
BCIP				LR	LR		
	comp=Z,174nm,21.0s						
FDF	**Fort de France**	**141.39**	**4**	PFAKE		00 51 00.0	+12
FDF				LR	LR		
	comp=Z,246nm,22.0s						
BBGH	**Gun Hill**	**143.05**	**2**	PFAKE		00 51 00.0	+9.0
BBGH				LR	LR		
	comp=Z,589nm,22.0s						
GRGR	**Grenville**	**143.92**	**6**	PFAKE		00 51 00.0	+7.5
GRGR				LR	LR		
	comp=Z,254nm,21.0s						
SDV	**Santo Domingo**	**145.15**	**22**	*e*PKPbc	**PKPbc**	**00 50 53.3**	**-1.1**
SDV				LR	LR		
	comp=Z,342nm,20.0s						
ROSC	**El Rosal**	**147.33**	**31**	*e*PKPdf	**PKPbc**	**00 51 01.1**	**-0.1**
OTAV	**Otavalo**	**148.96**	**42**	*e*PKPbc	**PKPbc**	**00 51 04.8**	**-0.8**
OTAV				LR	LR		
	comp=Z,282nm,20.0s						
RCBR	**Riachuelo**	**151.87**	**306**	*e*PKPbc	**PKPbc**	**00 51 11.7**	**-0.3**
RCBR				LR	LR		
	comp=Z,410nm,21.0s						
SAML	**Samuel**	**164.31**	**18**	PFAKE		00 51 30.0	+9.4
SAML				LR	LR		
	comp=Z,425nm,20.0s						
TRQA	**Tornquist**	**165.66**	**168**	PFAKE		00 51 30.0	+8.8
TRQA				LR	LR		
	comp=Z,417nm,20.0s						
BDFB	**Brasilia**	**167.23**	**309**	PKP	**PKPdf**	**00 51 21.9**	**-1.2**
	comp=Z,1.1nm,0.4s,baz=135,slow=2.9,SNR=3.4						
BDFB				PKPab	**PKPab**	**00 52 27.6**	**-0.1**
	comp=Z,4.7nm,0.7s,baz=72,slow=7.4,SNR=6.8						
BDFB	**Brasilia**	**167.23**	**309**	PKIKP	**PKPdf**	**00 51 21.9**	**-1.2**
BDFB						00 52 27.6	
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BDFB				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LPAZ	**La Paz**	**168.00**	**52**	*e*PKIKP	**PKPdf**	**00 51 24.6**	**+0.3**
LPAZ	**La Paz**	**168.00**	**52**	*e*PKPdf	**PKPdf**	**00 51 24.6**	**+0.3**

TAP 15 00:33:01.4,24.04N×121.61E,h16km,ML4.0,3C,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.04**	**340**	*i*P	Pg	00 33 04.5	+0.1
	baz=351						
TWD				*i* S	Sg	00 33 06.7	+0.4
	baz=351						
ESF	**Shoufeng Towns**	**0.19**	**210**	*e*P	Pb	00 33 06.7	+0.1
	baz=215						
ESL	**Shilin**	**0.28**	**216**	*e*P	Pg	00 33 07.4	-0.1
	baz=220						
ESL				*i* S	Sg	00 33 11.7	+0.1
	baz=220						
EHP	**Heping Village**	**0.29**	**24**	*e*P	Pg	00 33 08.0	+0.3
	baz=25						
WHF	**Hehuan Shan**	**0.33**	**288**	*i*P	Pg	00 33 08.8	-0.1
	baz=281						
WHF				*i* S	Sg	00 33 13.8	-0.3
	baz=281						
TEGC	**Jichi Village**	**0.34**	**191**	*e*P	Pb	00 33 09.2	+0.2
	baz=190						
ENA	**Nanau**	**0.40**	**17**	*e*P	Pg	00 33 09.7	0.0
	baz=10.0						
ENA				*e*S	Sb	00 33 16.5	+0.4
	baz=10.0						
TWT	**Tachien**	**0.45**	**298**	*i*P	Pb	00 33 11.4	+0.1
	baz=297						
TWT				*i* S	Sb	00 33 17.9	0.0
	baz=297						
NNS	**Nan Shan**	**0.45**	**331**	P	Pg	00 33 10.8	+0.1
	baz=331						
NNS				*e*S	Sg	00 33 17.3	+0.3
	baz=331						
EHY	**Hungye**	**0.59**	**207**	*e*P	Pg	00 33 12.7	-0.5
	baz=206						
ENTT	**Nioudou**	**0.60**	**356**	*e*P	Pb	00 33 13.6	0.0
	baz=357						
TWC	**Suao**	**0.61**	**21**	*e*P	Pg	00 33 13.3	0.0
	baz=16						
SMLT	**Sun Moon Lake**	**0.67**	**257**	*e*P	Pb	00 33 15.2	+0.3
	baz=256						
NSK	**Sanguang**	**0.67**	**340**	*e*P	Pb	00 33 15.4	+0.5
	baz=349						
TWE	**Neicheng**	**0.68**	**4**	*e*P	Pb	00 33 15.3	+0.3
	baz=5.0						
TWF1	**Yuli**	**0.74**	**203**	*e*P	Pg	00 33 15.7	-0.3
	baz=210						
YUS	**Yu-Shan**	**0.82**	**228**	*e*P	Pb	00 33 17.1	-0.7
	baz=227						
CHN5	**Tsauling**	**0.96**	**243**	*e*P	Pn	00 33 22.3	+1.9
	baz=230						
ELDTW	**Lidau**	**1.01**	**213**	*e*P	Pb	00 33 19.8	-0.9
	baz=202						
NWF	**Wu-fen Shan**	**1.04**	**8**	*e*P	Pg	00 33 22.6	+1.0
	baz=8.0						

ISCJB ***15*** *00:37:43.0±0.3,59.74N±0.03×153.20W±0.06, h124km±3km, mb3.5/3, Error ellipse: s-maj=5.6km s-min=4.2km az=42.6*

IDC ***15*** *00:37:45.1±7.1,59.97N×153.20W,h114km±61km, mb3.2/3, mb1 3.6/6, mb1mx3.1/44, mbtmp3.8/6, Error ellipse: s-maj=57.9km s-min=30.7km az=41.0*

NEIC ***15*** *00:37:45.2,59.72N×153.17W,h111km, MG3.2(AEIC), After AEIC.*

ISC 15 00:37:43.9±0.9,59.74N±0.04×153.19W±0.05, h118km±6km, n88, σ0.9 80/95, mb3.4/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPT	**Oil Point**	**0.09**	**193**	P	**Pn**	**00 38 00.0**	**0.0**
ILS	**Iliamna Low So**	**0.23**	**16**	P	**Pn**	**00 38 00.4**	**0.0**
ILW	**Iliamna West**	**0.32**	**5**	P	**Pn**	**00 38 00.6**	**-0.3**
AUL	**Augustine Lava**	**0.38**	**199**	P	**Pn**	**00 38 01.2**	**+0.3**
AUL				S	**Sn**	**00 38 13.6**	**-0.2**
AUW	**Augustine West**	**0.40**	**201**	P	**Pn**	**00 38 01.2**	**+0.2**
AUI	**Augustine Isla**	**0.42**	**197**	P	**Pn**	**00 38 01.2**	**+0.1**
AUI				S	**Sn**	**00 38 13.4**	**-0.7**
RSO	**Redoubt South**	**0.76**	**17**	P	**Pn**	**00 38 03.9**	**+0.2**
RDWB	**Redoubt West**	**0.77**	**13**	P	**Pn**	**00 38 03.7**	**0.0**
RDWB				S	**Sn**	**00 38 18.3**	**-0.5**
HOM	**Homer**	**0.79**	**95**	P	**Pn**	**00 38 04.1**	**+0.4**
RDN	**Redoubt North**	**0.81**	**15**	P	**Pn**	**00 38 04.4**	**+0.4**
MCNL	**McNeil River**	**0.81**	**227**	P	**Pn**	**00 38 03.7**	**-0.2**
NCT	**North Crescent**	**0.83**	**9**	P	**Pn**	**00 38 04.4**	**+0.2**
DFR	**Drift River**	**0.89**	**16**	P	**Pn**	**00 38 04.8**	**+0.1**
BRLK	**Bradley Lake**	**1.17**	**88**	P	**Pn**	**00 38 07.2**	**-0.2**
BRLK				S	**Sn**	**00 38 24.8**	**-0.5**
NKA	**Nikishka**	**1.40**	**43**	P	**Pn**	**00 38 11.7**	**+1.7**
CKL	**Chakachamna La**	**1.52**	**16**	P	**Pn**	**00 38 12.0**	**+0.5**
CKN	**Chakachatna No**	**1.57**	**18**	P	**Pn**	**00 38 12.5**	**+0.5**
SPBG	**Spurr Blockage**	**1.58**	**15**	P	**Pn**	**00 38 12.8**	**+0.7**
SPBG				S	**Sn**	**00 38 34.1**	**+0.5**
BGL	**Barrier Glacie**	**1.58**	**14**	P	**Pn**	**00 38 12.9**	**+0.7**
SLKM	**Skilak Lake**	**1.68**	**61**	P	**Pn**	**00 38 13.9**	**+0.7**
KAKN	**Katmai Knife C**	**1.74**	**215**	P	**Pn**	**00 38 14.2**	**+0.1**
KAKN				S	**Sn**	**00 38 36.3**	**-0.7**
KVTA	**Katmai Vly 10**	**1.74**	**219**	P	**Pn**	**00 38 14.2**	**+0.2**
SVW2	**Sparrevohn**	**1.81**	**320**	P	**Pn**	**00 38 14.6**	**-0.2**
KABU	**Katmai Buttres**	**1.83**	**217**	P	**Pn**	**00 38 15.5**	**+0.4**
KABR	**Katmai Barrier**	**1.86**	**211**	P	**Pn**	**00 38 15.5**	**0.0**
VOGL	**Vogel Lake**	**1.86**	**46**	P	**Pn**	**00 38 16.9**	**+1.5**
STLK	**Strandline Lak**	**1.89**	**20**	P	**Pn**	**00 38 16.8**	**+0.9**
SEW	**Seward**	**1.92**	**77**	P	**Pn**	**00 38 16.2**	**0.0**
KDAK	**Kodiak Island**	**1.99**	**171**	P	**Pn**	**00 38 16.1**	**-0.8**
SUA	**Susitna One**	**2.11**	**34**	P	**Pn**	**00 38 19.5**	**+0.9**
RC01	**Rabbit Creek A**	**2.19**	**50**	P	**Pn**	**00 38 20.0**	**+0.6**
SKT	**Skwentna**	**2.39**	**19**	P	**Pn**	**00 38 22.4**	**+0.3**
OHAK	**Old Harbor**	**2.52**	**181**	P	**Pn**	**00 38 22.6**	**-1.2**
PLK2	**Peulik 2**	**2.57**	**221**	P	**Pn**	**00 38 25.1**	**+0.7**
PLK3	**Peulik 3**	**2.61**	**219**	P	**Pn**	**00 38 25.7**	**+0.7**
SML	**Sawmill**	**3.16**	**47**	P	**Pn**	**00 38 31.6**	**-0.5**
PPLA	**Purkeypile**	**3.21**	**8**	P	**Pn**	**00 38 34.1**	**+1.3**
GLI	**Glacier Island**	**3.24**	**67**	P	**Pn**	**00 38 32.7**	**-0.5**
HIN	**Hinchinbrook I**	**3.42**	**76**	P	**Pn**	**00 38 35.3**	**-0.2**
TT01	**Tatalina**	**3.46**	**338**	P	**Pn**	**00 38 36.0**	**-0.1**
MID	**Middleton Isla**	**3.50**	**92**	P	**Pn**	**00 38 36.7**	**+0.2**
JPK	**Jack Peak**	**3.53**	**65**	P	**Pn**	**00 38 37.8**	**+0.8**
SCM	**Sheep Creek Mo**	**3.56**	**51**	P	**Pn**	**00 38 37.0**	**-0.4**
VLZ	**Valdez**	**3.67**	**65**	P	**Pn**	**00 38 39.4**	**+0.5**
EYAK	**Cordova Ski Ar**	**3.81**	**74**	P	**Pn**	**00 38 40.7**	**+0.1**
DIV	**Divide**	**3.93**	**66**	P	**Pn**	**00 38 43.2**	**+0.8**
TRF	**Thorofare Moun**	**3.98**	**19**	P	**Pn**	**00 38 43.0**	**-0.1**
GOAT	**Goat Mountain**	**4.31**	**75**	P	**Pn**	**00 38 47.4**	**-0.1**
RAGM	**Ragged Mountai**	**4.32**	**78**	P	**Pn**	**00 38 47.5**	**-0.1**
DHY	**Denali Highway**	**4.36**	**37**	P	**Pn**	**00 38 48.2**	**0.0**
BMRM	**Bremner River**	**4.44**	**70**	P	**Pn**	**00 38 49.1**	**-0.1**
MCK	**McKinley**	**4.49**	**25**	P	**Pn**	**00 38 50.5**	**+0.7**
BPAW	**Bear Paw Mtn.**	**4.50**	**12**	P	**Pn**	**00 38 49.6**	**-0.3**
NICHA	**Nichawak Mount**	**4.66**	**80**	P	**Pn**	**00 38 52.5**	**+0.4**
HARP	**HAARP**	**4.73**	**52**	P	**Pn**	**00 38 53.3**	**+0.3**
BERG	**Berg Lake**	**4.80**	**78**	P	**Pn**	**00 38 54.3**	**+0.4**
WASW	**Wrangell South**	**4.93**	**60**	P	**Pn**	**00 38 56.2**	**+0.3**
PAX	**Paxson**	**4.93**	**46**	P	**Pn**	**00 38 56.2**	**+0.2**
KHIT	**Khitrov Hills**	**5.03**	**78**	P	**Pn**	**00 38 57.5**	**+0.4**
VRDI	**Verde Repeater**	**5.04**	**69**	P	**Pn**	**00 38 57.5**	**+0.1**
KULT	**Kultieth River**	**5.28**	**80**	P	**Pn**	**00 39 00.5**	**-0.1**
WRH	**Wood River Hil**	**5.32**	**25**	P	**Pn**	**00 39 00.1**	**-0.7**
BARK	**Barkley Ridge**	**5.40**	**78**	P	**Pn**	**00 39 02.3**	**+0.1**
MLY	**Manley**	**5.43**	**11**	P	**Pn**	**00 39 03.3**	**+0.8**
ISLE	**Juniper Island**	**5.49**	**76**	P	**Pn**	**00 39 03.6**	**+0.3**
PTPK	**Patty Peak**	**5.50**	**70**	P	**Pn**	**00 39 04.1**	**+0.5**
KIAG	**Kiagna River**	**5.51**	**73**	P	**Pn**	**00 39 04.5**	**+0.7**
CCB	**Clear Creek Bu**	**5.53**	**25**	P	**Pn**	**00 39 03.2**	**-0.5**
BAGL	**Bagley Icefiel**	**5.60**	**78**	P	**Pn**	**00 39 06.0**	**+1.3**
MESA	**MESA**	**5.67**	**81**	P	**Pn**	**00 39 06.2**	**+0.4**
YAH	**Yahtse**	**5.77**	**79**	P	**Pn**	**00 39 08.3**	**+1.1**
GRNC	**Granite Creek**	**5.79**	**75**	P	**Pn**	**00 39 07.7**	**+0.3**
ILAR	**Eielson Array**	**5.84**	**28**	P	**Pn**	**00 39 07.2**	**-0.8**
	3.0nm,0.3s,baz=215,slow=14,SNR=122						
ILAR				S	**Sn**	**00 40 09.3**	**-4.3**
	1.0nm,0.3s,baz=198,slow=16,SNR=4.7						
ILB	**Eielson Array**	**5.84**	**28**	P	**Pn**	**00 39 07.2**	**-0.8**
IL1	**Eielson Array**	**5.84**	**28**	P	**Pn**	**00 39 07.2**	**-0.7**
RKAV	**Rock Avalanche**	**5.97**	**79**	P	**Pn**	**00 39 11.1**	**+1.2**
TABL	**Table Mountain**	**6.07**	**78**	P	**Pn**	**00 39 12.0**	**+0.7**
CHX	**Chaix Hills**	**6.09**	**82**	P	**Pn**	**00 39 12.5**	**+1.1**
BCA3	**Beaver Creek A**	**6.41**	**54**	P	**Pn**	**00 39 15.6**	**-0.1**
EGAK	**Eagle**	**7.55**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCR	**Jicaral**	**1.09**	**16**	*e*P	**Pn**	**01 04 55.5**	**-0.9**
JCR				*e*S	**Sb**	**01 05 12.0**	**+1.1**
VCR	**Vista de Mar**	**1.34**	**351**	*e*P	**Pn**	**01 04 57.3**	**-2.5**
VCR				*e*S	**Sb**	**01 05 19.4**	**+1.2**
CGA2	**Cerro Gallo 2**	**1.53**	**38**	*e*P	**Pn**	**01 05 02.8**	**+0.3**
CGA2				*e*S	**Sb**	**01 05 23.4**	**-0.3**
JTS	**JuntasAbangare**	**1.55**	**17**	Pn	**Pn**	**01 05 02.1**	**-0.6**
	93nm,0.3s,baz=79,slow=10.0,SNR=430						
JTS				Sn	**Sb**	**01 05 23.9**	**-0.4**
	307nm,0.3s,baz=217,slow=20,SNR=23						
JTS				LR	LR	01 05 28.8	
	comp=Z,310nm,21.3s,baz=203,slow=35						
JTS	**JuntasAbangare**	**1.55**	**17**	*e*Pn	**Pn**	**01 05 02.0**	**-0.6**
JTS				*e*Sn	**Sb**	**01 05 23.3**	**-1.0**
NY14	**Universidad de**	**1.84**	**356**	*i* P	**Pn**	**01 05 05.7**	**-1.0**
NY14				*i* S	**Sn**	**01 05 27.7**	**-1.4**
AMAS	**Alto Masis**	**1.85**	**13**	*i* P	**Pn**	**01 05 06.5**	**-0.3**
CUI	**Cuipilapa**	**1.86**	**8**	*i* P	**Pn**	**01 05 06.5**	**-0.5**
CUI				*i* S	**Sn**	**01 05 30.9**	**+1.2**
COLC	**Colonia**	**1.87**	**6**	*i* P	**Pn**	**01 05 06.4**	**-0.7**
LIM1	**Limonal**	**1.90**	**5**	*i* P	**Pn**	**01 05 06.3**	**-1.2**
LIM1				*i* S	**Sn**	**01 05 31.2**	**+0.7**
URSC	**Urasca**	**1.91**	**57**	*e*P	**Pn**	**01 05 09.0**	**+1.1**
URSC				*e*S	**Sn**	**01 05 32.9**	**+1.7**
HORNC	**Hornillas**	**1.92**	**7**	*i* P	**Pn**	**01 05 07.0**	**-0.8**
MESS	**Mesas**	**1.94**	**6**	*i* P	**Pn**	**01 05 07.6**	**-0.6**
GPS2	**Hotel Rinc¯‡n**	**1.94**	**2**	*i* P	**Pn**	**01 05 07.1**	**-1.0**
PTEN	**Parque Tenorio**	**1.95**	**12**	*i* P	**Pn**	**01 05 08.1**	**-0.2**
LAPC	**Finca la Perla**	**1.96**	**359**	*i* P	**Pn**	**01 05 07.1**	**-1.2**
LAPC				*i* S	**Sn**	**01 05 30.8**	**-1.2**
GPS1	**Guardaparques**	**1.97**	**2**	*i* P	**Pn**	**01 05 07.4**	**-1.0**
GPS1				*i* S	**Sn**	**01 05 32.0**	**-0.3**
GBS3	**Finca Las Im¯¡**	**1.97**	**359**	*i* P	**Pn**	**01 05 07.3**	**-1.2**
BUEV	**Buena Vista**	**1.99**	**0**	*i* P	**Pn**	**01 05 07.6**	**-1.2**
GB1A	**Borinquen Arri**	**2.01**	**0**	*i* P	**Pn**	**01 05 08.0**	**-1.1**
GB1A				*i* S	**Sn**	**01 05 32.6**	**-0.7**
GBS2	**Las Lilas**	**2.03**	**359**	*i* P	**Pn**	**01 05 08.1**	**-1.2**
CNCH	**Conchagua**	**5.05**	**332**	*e*P	**Pn**	**01 05 49.7**	**-1.1**
CNCH				*e*S	Sn	01 06 36.5	-12
VSM	**San Miguel**	**5.39**	**329**	*e*P	**Pn**	**01 05 55.4**	**-0.3**
VSM				*e*S	Sn	01 06 46.7	-10
BCIP	**Isla Barro Col**	**5.52**	**86**	*e*Pn	Pn	01 06 01.0	+3.7
BCIP				*e*S	**Sn**	**01 06 56.2**	**-3.6**
CAHU	**Cacacuatique**	**5.65**	**331**	*e*P	**Pn**	**01 05 58.6**	**-0.7**
LFRS	**El Faro**	**5.99**	**324**	*e*P	**Pn**	**01 06 02.4**	**-1.4**
LBRS	**Las Brisas**	**6.07**	**324**	*e*P	**Pn**	**01 06 04.1**	**-0.8**
LFU	**La Fuente**	**6.12**	**324**	*e*P	**Pn**	**01 06 04.2**	**-1.4**
BOQS	**Boqueron**	**6.20**	**323**	*e*P	**Pn**	**01 06 06.3**	**-0.5**
BOQS				*e*S	Sn	01 07 06.0	-11
MRL	**Marmol**	**7.51**	**327**	*e*P	**Pn**	**01 06 26.3**	**+1.5**
NBG	**Las Nubes**	**7.51**	**320**	*e*P	**Pn**	**01 06 26.5**	**+1.5**
FUG	**Fuego 3**	**7.73**	**317**	*e*P	**Pn**	**01 06 29.2**	**+1.3**
FUG				*e*S	**Sn**	**01 07 58.4**	**+3.7**
JAT	**Jato**	**8.20**	**313**	*e*P	**Pn**	**01 06 36.5**	**+2.3**
OTAV	**Otavalo**	**10.97**	**140**	*e*Pn	**Pn**	**01 07 12.4**	**-0.1**
ROSC	**El Rosal**	**11.68**	**109**	Pn	Pn	01 07 28.5	+6.3
	0.2nm,0.3s,baz=276,slow=19,SNR=6.0						
ROSC	**El Rosal**	**11.68**	**109**	*e*Pn	Pn	01 07 27.1	+5.0
TEIG	**Tepich**	**11.70**	**347**	Pn	**Pn**	**01 07 24.6**	**+2.6**
	0.5nm,0.3s,baz=153,slow=16,SNR=5.1						
TEIG				LR	LR	01 12 12.8	
	comp=Z,233nm,18.8s,baz=142,slow=39						
TEIG	**Tepich**	**11.70**	**347**	*e*Pn	**Pn**	**01 07 22.8**	**+0.8**
CMIG	**Matias Romero**	**12.37**	**313**	Pn	**Pn**	**01 07 31.8**	**+0.6**
	1.8nm,0.3s,baz=120,slow=8.2,SNR=12						
CMIG				Sn	Sn	01 09 56.1	+7.8
	0.4nm,0.3s,baz=126,slow=17,SNR=2.0						
CMIG				LR	LR	01 11 47.3	
	comp=Z,194nm,20.2s,baz=154,slow=35						
ATAH	**Atahualpa**	**17.30**	**156**	P	**P**	**01 08 38.0**	**-0.3**
	baz=312,slow=12,SNR=5.3						
ATAH				LR	LR	01 14 35.6	
	comp=Z,398nm,18.4s,baz=329,slow=35						
AOPR	**Arecibo Observ**	**20.45**	**60**	*e*Pn	Pn	01 09 15.2	+0.5
	108nm,1.6s						
OBIP	**Obispado Ponce**	**20.45**	**61**	*e*Pn	Pn	01 09 15.8	+1.1
	45nm,0.9s						
CELP	**Cerrillos**	**20.49**	**61**	*e*P	Pn	01 09 16.0	+0.9
PCRV	**Puerto La Cruz**	**20.54**	**84**	P	Pn	01 09 21.7	+5.9
	14nm,0.9s,baz=229,slow=4.9,SNR=3.9						
SJG	**San Juan**	**20.88**	**62**	*e*P	Pn	01 09 19.8	+0.2
	32nm,1.0s						
035A	**Encino**	**21.68**	**328**	⇓P	**P**	**01 09 25.1**	**-0.4**
	baz=22						
034A	**Hebbronville**	**22.09**	**327**	⇓P	**P**	**01 09 29.5**	**-0.5**
	baz=22						
934A	**Benavides**	**22.43**	**328**	⇓P	**P**	**01 09 33.0**	**-0.6**
	baz=22						
835A	**Beeville**	**22.65**	**330**	⇓P	**P**	**01 09 35.2**	**-0.7**
	baz=23						
540A	**Vidor**	**22.76**	**341**	⇑P	**P**	**01 09 37.1**	**0.0**
	baz=23						
933A	**Laredo**	**22.84**	**327**	⇑P	**P**	**01 09 37.6**	**-0.4**
	baz=23						
736A	**Circle Diamond**	**22.85**	**333**	⇓P	**P**	**01 09 38.4**	**+0.3**
	baz=23						
834A	**Tilden**	**22.87**	**329**	⇑P	**P**	**01 09 39.0**	**+0.7**
	baz=23						
637A	**Eagle Lake**	**22.95**	**335**	⇓P	**P**	**01 09 39.8**	**+0.7**
	baz=23						
735A	**Kenedy**	**23.11**	**331**	⇓P	**P**	**01 09 40.9**	**+0.2**
	baz=23						
636A	**Smothers Creek**	**23.30**	**334**	⇓P	**P**	**01 09 42.7**	**+0.1**
	baz=23						
833A	**Chaparral WMA,**	**23.47**	**328**	⇑P	**P**	**01 09 44.3**	**-0.1**
	baz=24						
537A	**Green Hill Far**	**23.50**	**336**	⇓P	**P**	**01 09 44.8**	**+0.2**
	baz=24						
733A	**Divot King Ran**	**23.73**	**328**	⇓P	**P**	**01 09 46.5**	**-0.4**
	baz=24						
832A	**Faith Ranch, C**	**23.75**	**327**	⇓P	**P**	**01 09 46.6**	**-0.5**
	baz=24						
438A	**Sam Houston St**	**23.78**	**338**	⇑P	**P**	**01 09 46.6**	**-0.6**
	baz=24						
634A	**China Grove, S**	**23.81**	**331**	⇓P	**P**	**01 09 46.9**	**-0.6**
	baz=24						
536A	**Bastrop**	**23.82**	**334**	⇑P	**P**	**01 09 46.7**	**-0.9**
	baz=24						
340A	**Bronson**	**23.85**	**342**	⇑P	**P**	**01 09 47.3**	**-0.7**
	baz=24						
339A	**Huntington**	**23.99**	**340**	⇑P	**P**	**01 09 48.4**	**-0.8**
	baz=24						
535A	**Dale**	**24.00**	**333**	⇓P	**P**	**01 09 49.1**	**-0.3**
	baz=24						
732A	**Laxson Ranch,**	**24.10**	**327**	⇓P	**P**	**01 09 49.8**	**-0.5**
	baz=24,SNR=6.3						
LRAL	**Lakeview Retre**	**24.16**	**357**	*e*P	**P**	**01 09 51.1**	**+0.2**
	20nm,1.3s						
338A	**Crockett**	**24.27**	**339**	⇑P	**P**	**01 09 51.3**	**-0.5**
	baz=24						
633A	**Saathoff Ranch**	**24.28**	**330**	⇓P	**P**	**01 09 51.3**	**-0.6**
	baz=24						
534A	**Blanco**	**24.41**	**332**	⇑P	**P**	**01 09 52.7**	**-0.5**
	baz=24,SNR=10						
NATX	**Nacogdoches**	**24.41**	**341**	*e*P	**P**	**01 09 53.1**	**0.0**
	30nm,1.0s						
239A	**Gary**	**24.59**	**341**	⇓P	**P**	**01 09 54.4**	**-0.3**
	baz=25						
632A	**Uvalde**	**24.62**	**329**	⇓P	**P**	**01 09 54.5**	**-0.7**
	baz=25						
435B	**Jarrell**	**24.65**	**334**	⇑P	**P**	**01 09 54.9**	**-0.4**
	baz=25						
533A	**Kerrville**	**24.71**	**331**	⇑P	**P**	**01 09 54.9**	**-1.0**
	baz=25						
238A	**Jacksonville**	**24.79**	**340**	⇑P	**P**	**01 09 55.7**	**-0.8**
	baz=25						
336A	**Riesel**	**24.87**	**336**	⇑P	**P**	**01 09 56.4**	**-0.9**
	baz=25						
631A	**Perdido Creek**	**24.96**	**327**	⇓P	**P**	**01 09 57.5**	**-0.7**
	baz=25,SNR=15						
434A	**Burnet**	**24.98**	**333**	⇓P	**P**	**01 09 56.8**	**-1.5**
	baz=25,SNR=8.8						
335A	**Moody**	**25.02**	**335**	⇓P	**P**	**01 09 57.0**	**-1.6**
	baz=25						
237A	**Washetta, Mont**	**25.03**	**339**	⇑P	**P**	**01 09 57.6**	**-1.1**
	baz=25						
532A	**Rocksprings**	**25.18**	**329**	⇑P	**P**	**01 09 58.9**	**-1.4**
	baz=25,SNR=12						
236A	**Katherine and**	**25.29**	**337**	⇓P	**P**	**01 10 00.1**	**-1.0**
	baz=25						
433A	**Art**	**25.30**	**332**	⇑P	**P**	**01 09 60.0**	**-1.3**
	baz=25						
334A	**Lometa**	**25.41**	**334**	⇓P	**P**	**01 10 01.4**	**-0.7**
	baz=26,SNR=11						
JCT	**Junction City**	**25.42**	**330**	⇑P	**P**	**01 10 01.3**	**-1.1**
	baz=26						
531A	**Rocksprings**	**25.54**	**328**	⇑P	**P**	**01 10 03.1**	**-0.4**
	baz=26,SNR=13						
WHTX	**Lake Whitney,**	**25.65**	**336**	⇑P	**P**	**01 10 03.7**	**-0.7**
	baz=26						
JSC	**Jenkinsville**	**25.65**	**8**	*e*P	**P**	**01 10 05.2**	**+0.9**
	12nm,1.0s						
333A	**Richland Sprin**	**25.73**	**332**	⇑P	**P**	**01 10 04.3**	**-0.9**
	baz=26,SNR=31						
432A	**Menard**	**25.74**	**331**	⇑P	**P**	**01 10 04.4**	**-0.8**
	baz=26						
Z38A	**Mt. Pleasant**	**25.89**	**341**	⇑P	**P**	**01 10 05.9**	**-0.6**
	baz=26						
530A	**J-C Ranch, Com**	**25.95**	**327**	⇓P	**P**	**01 10 06.6**	**-0.6**
	baz=26,SNR=7.3						
431A	**Sonora**	**25.99**	**329**	⇑P	**P**	**01 10 07.3**	**-0.3**
	baz=26,SNR=16						
Z37A	**Pogue Cattle C**	**26.05**	**340**	⇑P	**P**	**01 10 07.3**	**-0.7**
	baz=26						
135A	**Vickery Place,**	**26.13**	**337**	⇓P	**P**	**01 10 07.7**	**-1.0**
	baz=26						
332A	**Millersview**	**26.14**	**331**	⇓P	**P**	**01 10 07.5**	**-1.3**
	baz=26,SNR=19						
233A	**Rising Star**	**26.28**	**333**	⇑P	**P**	**01 10 09.6**	**-0.5**
	baz=26,SNR=19						
430A	**Baggett Ranch,**	**26.40**	**328**	⇑P	**P**	**01 10 10.7**	**-0.5**
	baz=26,SNR=17						
331A	**San Angelo**	**26.41**	**330**	⇓P	**P**	**01 10 10.7**	**-0.6**
	baz=26,SNR=24						
134A	**White-Moore Ra**	**26.41**	**335**	⇓P	**P**	**01 10 10.2**	**-1.0**
	baz=26						
KMSC	**Kings Mountain**	**26.49**	**8**	⇓P	**P**	**01 10 11.3**	**-0.6**
	baz=27						
KMSC	**Kings Mountain**	**26.49**	**8**	*e*P	**P**	**01 10 12.2**	**+0.3**
	12nm,1.1s						
232A	**Coleman**	**26.51**	**332**	⇑P	**P**	**01 10 11.7**	**-0.5**
	baz=27,SNR=12						
429A	**Davenport Ranc**	**26.62**	**327**	⇑P	**P**	**01 10 12.4**	**-0.8**
	baz=27,SNR=15						
TXAR	**Lajitas Array**	**26.66**	**322**	P	**P**	**01 10 14.6**	**+0.9**
	3.9nm,0.9s,baz=140,slow=9.1,SNR=21						
TXAR				PcP	**PcP**	**01 13 37.5**	**+0.3**
	0.4nm,0.9s,baz=168,slow=4.6,SNR=4.0						
MIAR	**Mount Ida**	**26.70**	**345**	*e*P	**P**	**01 10 13.1**	**-0.7**
	7.1nm,0.9s						
Z35A	**Perchaven, San**	**26.75**	**338**	⇓P	**P**	**01 10 13.5**	**-0.9**
	baz=27						
TKL	**Tuckaleechee C**	**26.78**	**3**	P	**P**	**01 10 16.9**	**+2.4**
	5.5nm,0.8s,baz=169,slow=13,SNR=8.0						
133A	**Hamilton Ranch**	**26.79**	**334**	⇓P	**P**	**01 10 13.3**	**-1.5**
	baz=27,SNR=10						
330A	**Mertzon**	**26.86**	**329**	⇓P	**P**	**01 10 14.5**	**-0.9**
	baz=27,SNR=9.9						
231A	**Bronte**	**26.86**	**331**	⇑P	**P**	**01 10 14.1**	**-1.3**
	baz=27						
Z34A	**Collier Ranch,**	**27.04**	**337**	⇑P	**P**	**01 10 15.8**	**-1.1**
	baz=27						
PTGA	**Pitinga**	**27.06**	**109**	P	**P**	**01 10 16.9**	**-0.4**
	0.6nm,0.3s,baz=334,slow=8.8,SNR=2.1						
ABTX	**Abilene, Hawle**	**27.13**	**333**	⇑P	**P**	**01 10 15.9**	**-1.9**
	baz=27,SNR=11						
ABTX	**Abilene, Hawle**	**27.13**	**333**	*e*P	**P**	**01 10 19.2**	**+1.5**
	32nm,1.0s						
230A	**Sterling City**	**27.21**	**330**	⇑P	**P**	**01 10 16.6**	**-2.0**
	baz=27						
X37A	**Clayton**	**27.25**	**342**	⇓P	**P**	**01 10 17.9**	**-0.9**
	baz=27						
Z33A	**Whitaker Ranch**	**27.31**	**335**	⇓P	**P**	**01 10 17.9**	**-1.5**
	baz=27						
329A	**Wagon Wheel Ra**	**27.34**	**328**	⇑P	**P**	**01 10 18.2**	**-1.5**
	baz=27						
W38A	**Poteau**	**27.45**	**344**	⇓P	**P**	**01 10 19.5**	**-1.1**
	baz=28						
Y34A	**Reagan Ranch,**	**27.50**	**337**	⇓P	**P**	**01 10 19.7**	**-1.3**
	baz=28						
131A	**Roby**	**27.51**	**332**	⇓P	**P**	**01 10 19.6**	**-1.6**
	baz=28						
X36A	**Centrahoma**	**27.55**	**340**	⇑P	**P**	**01 10 20.3**	**-1.1**
	baz=28						
X35A	**Drake**	**27.61**	**339**	⇑P	**P**	**01 10 21.2**	**-0.8**
	baz=28						
229A	**Bryant Ranch,**	**27.63**	**329**	⇓P	**P**	**01 10 21.2**	**-1.1**
	baz=28						
130A	**Snyder**	**27.72**	**331**	⇑P	**P**	**01 10 21.3**	**-1.8**
	baz=28						
W37A	**Quinton**	**27.78**	**342**	⇓P	**P**	**01 10 22.5**	**-1.0**
	baz=28						
Y33A	**Hilltop Ranch,**	**27.88**	**336**	⇓P	**P**	**01 10 23.6**	**-0.9**
	baz=28						
W36A	**Wetumka**	**28.03**	**341**	⇑P	**P**	**01 10 24.5**	**-1.2**
	baz=28						
X34A	**Smith Ranch, M**	**28.10**	**338**	⇑P	**P**	**01 10 25.5**	**-1.0**
	baz=28						
228A	**UT Block 9, Go**	**28.16**	**328**	⇓P	**P**	**01 10 25.1**	**-1.9**
	baz=28						
Y32A	**R-V Farms, Ver**	**28.21**	**335**	⇑P	**P**	**01 10 25.6**	**-1.9**
	baz=28						
W35A	**Tecumseh**	**28.25**	**340**	⇓P	**P**	**01 10 25.9**	**-1.9**
	baz=28						
X33A	**Lawton**	**28.30**	**337**	⇑P	**P**	**01 10 27.4**	**-0.8**
	baz=28						
SAML	**Samuel**	**28.30**	**128**	*e*P	**P**	**01 10 28.3**	**-0.1**
	2.9nm,1.0s						
Z30A	**Sanderson Ranc**	**28.36**	**331**	⇑P	**P**	**01 10 27.7**	**-1.2**
	baz=28						
128A	**Castleberry Fa**	**28.50**	**329**	⇓P	**P**	**01 10 28.7**	**-1.4**
	baz=29						
X32A	**Elmer**	**28.51**	**335**	⇓P	**P**	**01 10 29.1**	**-1.0**
	baz=29						
Y31A	**Rekieta Farm,**	**28.53**	**334**	⇑P	**P**	**01 10 29.5**	**-0.8**
	baz=29						
WMOK	**Wichita Mounta**	**28.58**	**337**	*e*P	**P**	**01 10 29.7**	**-1.0**
	12nm,1.2s						
TUL1	**Leonard**	**28.60**	**342**	⇑P	**P**	**01 10 29.9**	**-1.0**
	baz=29						
Z29A	**Hugry Hill Ra**	**28.62**	**331**	⇓P	**P**	**01 10 29.7**	**-1.5**
	baz=29						
W34A	**Bridge Creek,**	**28.64**	**339**	⇓P	**P**	**01 10 30.5**	**-0.8**
	baz=29						
W34A	**Bridge Creek,**	**28.64**	**339**	*e*P	**P**	**01 10 30.6**	**-0.8**
	27nm,1.0s						
Y30A	**Stafford Cattl**	**28.75**	**332**	⇑P	**P**	**01 10 31.1**	**-1.1**
	baz=29						
V35A	**Meyer Ranch, C**	**28.80**	**340**	⇑P	**P**	**01 10 31.2**	**-1.4**
	baz=29						
W33A	**Caddo, Fort Co**	**28.83**	**337**	⇑P	**P**	**01 10 31.9**	**-1.0**
	baz=29						
Z28A	**Tucker Farm, M**	**28.98**	**330**	⇑P	**P**	**01 10 32.6**	**-1.7**
	baz=29						
X31A	**McDonald Ranch**	**28.98**	**335**	⇓P	**P**	**01 10 32.9**	**-1.4**
	baz=29						
V34A	**Guthrie**	**29.09**	**339**	⇓P	**P**	**01 10 33.5**	**-1.8**
	baz=29						
Y29A	**Porterfield Fa**	**29.09**	**331**	⇑P	**P**	**01 10 34.2**	**-1.2**
	baz=29						
X30A	**Coker Ranch, T**	**29.21**	**333**	⇑P	**P**	**01 10 34.8**	**-1.6**
	baz=29,SNR=5.4						
V33A	**Lossen Ranch,**	**29.35**	**338**	⇑P	**P**	**01 10 35.6**	**-1.9**
	baz=30						
T37A	**Cheneyville 18**	**29.49**	**344**	⇓P	**P**	**01 10 36.8**	**-1.9**
	baz=30						
V32A	**Arapaho**	**29.55**	**337**	⇓P	**P**	**01 10 37.7**	**-1.6**
	baz=30						
X29A	**Tulia**	**29.59**	**332**	⇑P	**P**	**01 10 37.5**	**-2.3**
	baz=30						
MSTX	**Muleshoe**	**29.71**	**330**	*e*P	**P**	**01 10 41.2**	**+0.3**
	8.2nm,0.9s						
U33A	**Lingo Farm, Me**	**29.84**	**339**	⇑P	**P**	**01 10 40.0**	**-1.9**
	baz=30						
AMTX	**Amarillo**	**29.94**	**333**	*e*P	**P**	**01 10 43.6**	**+0.8**
	14nm,1.1s						
LPAZ	**La Paz**	**30.23**	**145**	P	**P**	**01 10 46.6**	**+0.4**
	1.0nm,0.8s,baz=340,slow=9.8,SNR=4.7						
LPAZ				LR	LR	01 23 29.5	
	comp=Z,136nm,20.0s,baz=314,slow=38						
S36A	**Lake Cedric, C**	**30.23**	**344**	⇑P	**P**	**01 10 43.8**	**-1.5**
	baz=30						
S35A	**Otter Creek Ra**	**30.40**	**343**	⇑P	**P**	**01 10 45.1**	**-1.7**
	baz=30						
R34A	**Isabella, Hill**	**31.25**	**342**	⇑P	**P**	**01 10 53.0**	**-1.3**
	baz=31						
S31A	**Mullinville**	**31.39**	**338**	⇓P	**P**	**01 10 54.4**	**-1.2**
	baz=32						
R33A	**Olander Ranch,**	**31.49**	**341**	⇓P	**P**	**01 10 55.8**	**-0.6**
	baz=32						
Q34A	**Chapman**	**31.73**	**343**	⇓P	**P**	**01 10 57.8**	**-0.7**
	baz=32						
U27A	**Thompson Grove**	**31.73**	**333**	⇑P	**P**	**01 10 57.2**	**-1.6**
	baz=32						
S30A	**Montezuma**	**31.78**	**337**	⇑P	**P**	**01 10 58.4**	**-0.6**
	baz=32						
R32A	**Long Quarter,**	**31.84**	**340**	⇓P	**P**	**01 10 58.8**	**-0.6**
	baz=32						
Q33A	**Connelly Farm,**	**32.07**	**342**	⇑P	**P**	**01 11 00.2**	**-1.3**
	baz=32						
R30A	**Dighton**	**32.27**	**338**	⇑P	**P**	**01 11 02.5**	**-0.8**
	baz=32						
P34A	**Walnut Farm, R**	**32.28**	**343**	⇓P	**P**	**01 11 01.7**	**-1.7**
	baz=32						
Q32A	**Meitler Ranch,**	**32.30**	**341**	⇑P	**P**	**01 11 02.2**	**-1.4**
	baz=32						
ANMO	**Albuquerque**	**32.39**	**327**	*e*P	**P**	**01 11 05.3**	**+0.7**
	4.8nm,1.0s						
SSPA	**Standing Stone**	**32.41**	**11**	*e*P	**P**	**01 11 04.7**	**+0.3**
	7.2nm,0.8s						
Q31A	**Ellis**	**32.59**	**340**	⇑P	**P**	**01 11 05.1**	**-1.0**
	baz=33						
Q30A	**Quinter**	**32.86**	**338**	⇑P	**P**	**01 11 07.5**	**-1.0**
	baz=33						
P32A	**Huiting Farm,**	**32.88**	**341**	⇑P	**P**	**01 11 07.3**	**-1.4**
	baz=33						
O33A	**Hebron**	**32.99**	**343**	⇓P	**P**	**01 11 09.5**	**-0.1**
	baz=33						
P31A	**Stockton**	**33.05**	**340**	⇑P	**P**	**01 11 09.8**	**-0.3**
	baz=33						
P29A	**Atwood**	**33.67**	**338**	⇓P	**P**	**01 11 14.3**	**-1.2**
	baz=34						
SDCO	**Great Sand Dun**	**34.06**	**331**	⇑P	**P**	**01 11 18.2**	**-1.1**
	baz=34,SNR=10						
214A	**Organ Pipe Nat**	**34.31**	**316**	⇑P	**P**	**01 11 18.4**	**-2.8**
	baz=34						
SIV	**San Ignacio**	**34.46**	**136**	P	**P**	**01 11 23.5**	**+0.9**
	1.6nm,0.8s,baz=322,slow=13,SNR=5.8						
SIV				LR	LR	01 23 33.5	
	comp=Z,84nm,21.5s,baz=351,slow=33						
R23A	**Moffat**	**34.57**	**331**	⇑P	**P**	**01 11 21.9**	**-1.7**
	baz=35,SNR=6.4						
S22A	**4UR Ranch, Cre**	**34.71**	**329**	⇓P	**P**	**01 11 23.7**	**-1.2**
	baz=35						
N28A	**Pribbeno Ranch**	**34.84**	**338**	⇑P	**P**	**01 11 25.2**	**-0.5**
	baz=35						
MVCO	**Mesa Verde**	**35.17**	**327**	⇑P	**P**	**01 11 27.6**	**-1.2**
	baz=35						
OGNE	**Ogallala**	**35.25**	**338**	⇑P	**P**	**01 11 28.2**	**-1.0**
	baz=35						
OGNE	**Ogallala**	**35.25**	**338**	*e*P	**P**	**01 11 29.5**	**+0.3**
	24nm,1.2s						
N27A	**Anderson Farm,**	**35.32**	**337**	⇑P	**P**	**01 11 28.2**	**-1.7**
	baz=35						
P23A	**Jefferson**	**35.52**	**332**	⇓P	**P**	**01 11 30.5**	**-1.3**
	baz=36,SNR=6.5						
WUAZ	**Wupatki**	**35.63**	**322**	⇓P	**P**	**01 11 30.9**	**-1.8**
	baz=36						
WUAZ	**Wupatki**	**35.63**	**322**	*e*P	**P**	**01 11 34.7**	**+2.0**
	6.5nm,0.9s						
ISCO	**Idaho Springs**	**35.76**	**333**	⇓P	**P**	**01 11 33.0**	**-0.9**
	baz=36						
ISCO	**Idaho Springs**	**35.76**	**333**	*e*P	**P**	**01 11 35.4**	**+1.5**
	13nm,1.5s						
PV01	**Paradox Valley**	**35.90**	**328**	*e*P	**P**	**01 11 35.1**	**+0.1**
	40nm,1.0s						
L28A	**Connealy Angus**	**36.00**	**339**	⇑P	**P**	**01 11 35.2**	**-0.5**
	baz=36						
P22A	**Eagle**	**36.12**	**332**	⇑P	**P**	**01 11 36.3**	**-0.6**
	baz=36						
ECSD	**EROS Data Cent**	**36.15**	**346**	⇑P	**P**	**01 11 35.2**	**-1.6**
	baz=36,SNR=5.2						
ECSD	**EROS Data Cent**	**36.15**	**346**	*e*P	**P**	**01 11 36.2**	**-0.6**
	5.5nm,1.0s						
PV04	**Paradox Valley**	**36.27**	**328**	*e*P	**P**	**01 11 40.0**	**+1.9**
GLA	**Glamis**	**36.34**	**316**	⇑P	**P**	**01 11 37.4**	**-1.2**
	baz=36						
J30A	**Dallas**	**36.53**	**343**	⇓P	**P**	**01 11 38.9**	**-1.2**
	baz=37						
K28A	**Ten Mile Ranch**	**36.57**	**340**	⇓P	**P**	**01 11 39.5**	**-1.1**
	baz=37						
PTN	**Potsdam (NY)**	**36.77**	**12**	*e*P	**P**	**01 11 42.5**	**+0.4**
	23nm,0.8s						
SPMN	**Marine on St.**	**36.85**	**351**	⇓P	**P**	**01 11 41.9**	**-0.9**
	baz=37						
SPMN	**Marine on St.**	**36.85**	**351**	*e*P	**P**	**01 11 41.5**	**-1.3**
	6.0nm,0.7s						
J29A	**Okreek**	**36.86**	**342**	⇑P	**P**	**01 11 42.1**	**-0.9**
	baz=37						
LONY	**Lake Ozonia**	**36.91**	**13**	*e*P	**P**	**01 11 43.3**	**0.0**
	10.0nm,1.1s						
SWSC	**Sam W. Stewart

	baz=40							
E27A	**Carson**	39.97	343	⇓	P	P	01 12 07.7	-1.4
	baz=40							
HWUT	**Hardware Ranch**	40.02	329	*e*	P	P	01 12 09.5	-0.2
	8.9nm,1.0s							
HWUT				*e*	PcP	PcP	01 14 15.3	+0.8
R11A	**Troy Canyon, C**	40.03	322	⇓	P	P	01 12 09.0	-0.8
	baz=40							
J19A	**Crowheart**	40.08	333	⇑	P	P	01 12 07.8	-2.4
	baz=40,SNR=6.1							
I20A	**Worland**	40.22	334	⇓	P	P	01 12 10.5	-0.8
	baz=40,SNR=10							
BGU	**Big Grassy Mou**	40.29	327	*e*	P	P	01 12 12.8	+0.8
	10.0nm,1.3s							
ISA	**Isabella, Lake**	40.30	317	⇑	P	P	01 12 10.8	-1.1
	baz=40							
GRAC	**Grapevine Rang**	40.32	319	⇑	P	P	01 12 11.6	-0.5
	baz=40							
AGMN	**Agassiz Nation**	40.35	349	⇑	P	P	01 12 12.2	+0.1
	baz=40							
F24A	**Ekalaka**	40.38	339	⇓	P	P	01 12 12.3	-0.2
	baz=40							
D28A	**Regan**	40.38	344	⇑	P	P	01 12 11.9	-0.6
	baz=40							
SBC	**Santa Barbara**	40.51	314	⇑	P	P	01 12 12.4	-1.2
	baz=40							
G22A	**Birney**	40.52	337	⇑	P	P	01 12 12.6	-1.1
	baz=41							
H20A	**Greybull**	40.60	335	⇑	P	P	01 12 13.7	-0.6
	baz=41							
I19A	**Meeteetse**	40.66	334	⇓	P	P	01 12 14.2	-0.8
	baz=41							
G21A	**Lodge Grass**	40.88	336	⇓	P	P	01 12 15.6	-1.1
	baz=41							
E24A	**Baker**	40.95	340	⇓	P	P	01 12 16.4	-0.8
	baz=41							
F22A	**Rosebud**	40.98	338	⇓	P	P	01 12 16.8	-0.6
	baz=41							
REDW	**Red Top Meadow**	40.98	331	*e*	P	P	01 12 18.8	+1.0
	26nm,1.2s							
SNOW	**Snow King Moun**	41.01	332	*e*	P	P	01 12 18.4	+0.4
	20nm,1.1s							
LOHW	**Long Hollow**	41.06	332	*e*	P	P	01 12 19.0	+0.7
	9.2nm,1.3s							
C27A	**Sayler Ranch,**	41.12	343	⇑	P	P	01 12 17.7	-0.8
	baz=41							
TPAW	**Teton Pass**	41.13	332	*e*	P	P	01 12 19.9	+1.0
	16nm,1.2s							
H19A	**Powell**	41.16	334	⇑	P	P	01 12 18.4	-0.7
	baz=41							
MOOW	**Moose Ponds**	41.23	332	*e*	P	P	01 12 20.4	+0.7
	6.3nm,1.0s							
E23A	**Ismay**	41.24	339	⇓	P	P	01 12 19.1	-0.4
	baz=41							
FXWY	**Fox Creek**	41.27	332	*e*	P	P	01 12 21.3	+1.2
	6.3nm,1.3s							
G20A	**Bridger**	41.28	335	⇑	P	P	01 12 19.9	-0.1
	baz=41							
C26A	**Wahner Farm, P**	41.39	343	⇑	P	P	01 12 19.9	-0.8
	baz=42							
E22A	**Miles City**	41.42	338	⇑	P	P	01 12 21.1	0.0
	baz=42							
IMW	**Indian Meadow**	41.43	332		P	P	01 12 22.2	+0.7
	14nm,1.6s							
D24A	**Glendive**	41.45	340	⇑	P	P	01 12 21.1	-0.2
	baz=42							
A30A	**Hoffart Farm,**	41.45	347	⇓	P	P	01 12 21.7	+0.5
	baz=42							
C25A	**Freed Ranch, W**	41.63	342	⇑	P	P	01 12 22.4	-0.4
	baz=42							
RLMT	**Red Lodge**	41.65	334	⇑	P	P	01 12 22.5	-0.6
	baz=42							
RLMT	**Red Lodge**	41.65	334	*e*	P	P	01 12 23.4	+0.3
	10.0nm,1.3s							
A29A	**Manning Farm,**	41.65	346	⇓	P	P	01 12 22.4	-0.4
	baz=42							
B27A	**Peters Farms,**	41.68	344	⇑	P	P	01 12 22.3	-0.8
	baz=42							
F20A	**Billings**	41.73	336	⇓	P	P	01 12 23.4	-0.2
	baz=42							
LAO	**LASA Array**	41.74	338	⇓	P	P	01 12 23.5	-0.1
	baz=42							
NVAR	**Mina Array Bea**	41.76	320		P	P	01 12 24.5	+0.3
	3.9nm,0.8s,baz=135,slow=8.1,SNR=22							
NVAR					PcP	PcP	01 14 21.3	+1.0
	0.9nm,0.7s,baz=138,slow=5.0,SNR=4.1							
D23A	**Lindsay**	41.79	340	⇑	P	P	01 12 24.0	-0.1
	baz=42							
C24A	**Savage**	41.84	341	⇑	P	P	01 12 24.3	-0.1
	baz=42							
A28A	**Rude Farm, Bot**	41.89	345	⇓	P	P	01 12 24.1	-0.7
	baz=42							
E21A	**Keefer Ranch,**	41.93	338	⇑	P	P	01 12 24.9	-0.2
	baz=42							
B25A	**Knox Farm, Ray**	42.10	342	⇑	P	P	01 12 26.2	-0.4
	baz=42							
D22A	**Cohagen**	42.11	339	⇓	P	P	01 12 26.5	-0.2
	baz=42							
BMN	**Battle Mountai**	42.33	323	*e*	P	P	01 12 28.7	0.0
	11nm,1.1s							
C23A	**Lambert**	42.33	340	⇓	P	P	01 12 28.2	-0.3
	baz=42							
A26A	**Wade Farm, Ken**	42.34	344	⇑	P	P	01 12 28.2	-0.3
	baz=42							
GCMT	**Greycliff**	42.35	335	*e*	P	P	01 12 29.6	+0.9
C22A	**Vida**	42.52	340	⇑	P	P	01 12 29.7	-0.3
	baz=43,SNR=7.6							
WAKR	**Walker**	42.53	319	*e*	P	P	01 12 30.8	+0.3
A25A	**Svangstu Ranch**	42.69	343	⇓	P	P	01 12 30.6	-0.7
	baz=43							
B23A	**Brockton**	42.84	341	⇓	P	P	01 12 32.6	0.0
	baz=43							
HLID	**Hailey**	42.88	329	⇓	P	P	01 12 32.7	-0.5
	baz=43							
HLID	**Hailey**	42.88	329	*e*	P	P	01 12 34.5	+1.4
	12nm,1.6s							
A24A	**Westby**	42.94	342	⇓	P	P	01 12 33.5	+0.1
	baz=43							
C21A	**Desert Coulee**	43.02	339	⇑	P	P	01 12 33.6	-0.5
	baz=43							
MCMT	**McKenzie Canyo**	43.03	331	*e*	P	P	01 12 35.6	+1.1
B22A	**Reddig Ranch S**	43.04	340	⇑	P	P	01 12 33.2	-0.9
	baz=43							
BOZ	**Bozeman (W)**	43.09	333	⇑	P	P	01 12 34.3	-0.5
	baz=43,SNR=12							
BOZ	**Bozeman (W)**	43.09	333	*e*	P	P	01 12 35.4	+0.6
	7.4nm,0.9s							
C20A	**Veseth Ranch,**	43.26	338	⇑	P	P	01 12 35.4	-0.6
	baz=43							
DLMT	**Dillon**	43.31	332	*e*	P	P	01 12 37.6	+1.0
	28nm,1.9s							
LRM	**Limekiln Ridge**	43.59	333	*e*	P	P	01 12 39.6	+0.7
	42nm,1.2s							
A22A	**Carney Farms,**	43.61	340	⇓	P	P	01 12 38.6	-0.2
	baz=44							
B20A	**Solberg Farm,**	43.87	338	⇑	P	P	01 12 40.3	-0.6
	baz=44,SNR=5.8							
A21A	**Bergtoll Ranch**	43.95	340	⇓	P	P	01 12 40.8	-0.7
	baz=44							
EGMT	**Eagleton**	44.18	337	⇑	P	P	01 12 43.0	-0.4
	baz=44							
EGMT	**Eagleton**	44.18	337	*e*	P	P	01 12 44.3	+0.8
	39nm,1.9s							
A20A	**Cobblestone Ra**	44.20	339	⇑	P	P	01 12 42.9	-0.7
	baz=44							
BDFB	**Brasilia**	44.29	123		P	P	01 12 43.4	-1.4
	2.0nm,0.7s,baz=252,slow=9.6,SNR=3.0							
WVOR	**Wild Horse Val**	44.42	325	*e*	P	P	01 12 46.2	+0.7
	15nm,1.1s							
A19A	**Klindworth Far**	44.54	338	⇓	P	P	01 12 46.2	-0.1
	baz=45							
MSO	**Missoula**	45.03	332	⇓	P	P	01 12 50.0	-0.3
	baz=45							
MSO	**Missoula**	45.03	332	*e*	P	P	01 12 50.8	+0.5
	7.7nm,1.0s							
BMO	**Blue Mountains**	45.28	328	*e*	P	P	01 12 51.8	-0.5
	3.3nm,1.0s							
I07A	**Izee**	45.95	326	*e*	P	P	01 12 57.2	-0.5
BSMT	**Bassoo Peak**	46.18	333	*e*	P	P	01 12 59.0	-0.4
YBH	**Yreka Blue Hor**	46.43	321		P	P	01 13 00.4	-1.0
	4.0nm,0.9s,baz=76,slow=8.3,SNR=3.3							
WALA	**Waterton Lakes**	46.70	334	*e*	P	P	01 13 04.2	+0.7
	10nm,1.2s							
G03D	**McMinnville, O**	48.77	325	⇑	P	P	01 13 18.8	-0.5
	baz=49							
YKA	**Yellowknife Ar**	57.64	344		P	P	01 14 24.5	+0.2
	7.5nm,0.9s,baz=138,slow=6.9,SNR=12							
DLBC	**Dease Lake**	60.05	335	*e*	P	P	01 14 41.7	+0.4
INK	**Inuvik**	67.27	343	*e*	P	P	01 15 29.8	+1.2
	14nm,1.0s							
ILAR	**Eielson Array**	70.15	336		P	P	01 15 46.8	+0.1
	2.8nm,0.9s,baz=130,slow=4.4,SNR=16							
MCK	**McKinley**	70.60	335	*e*	P	P	01 15 50.0	+0.5
	12nm,1.1s							
BPAW	**Bear Paw Mtn.**	71.58	335	*e*	P	P	01 15 55.7	+0.3
	1.9nm,1.1s							
ESDC	**Sonseca Array**	77.88	51		P	P	01 16 33.5	+1.1
	2.5nm,0.7s,baz=278,slow=5.7,SNR=13							
TORD	**Torodi Ar. Bea**	85.24	77		P	P	01 17 11.0	-0.8
	0.7nm,0.8s,baz=271,slow=3.5,SNR=3.7							
NOA	**NORSAR Array B**	85.57	29		P	P	01 17 13.8	+1.2
	1.6nm,1.0s,baz=278,slow=4.9,SNR=3.0							
GERES	**GERESS Array B**	89.39	41		P	P	01 17 31.7	+0.4
	0.3nm,0.8s,baz=297,slow=4.3,SNR=3.6							
H11S2	**WAKE ISLAND Hyl**	03.89	292		T	T	03 14 22.8	
	baz=72							
H11S1	**WAKE ISLAND Hyl**	03.89	292		T	T	03 14 16.1	
	baz=72							
H11S3	**WAKE ISLAND Hyl**	03.91	292		T	T	03 14 17.2	
	baz=72							
MKAR	**Makanchi Array**	123.58	10		PKP	PKPdf	01 23 34.3	+2.2
	0.1nm,0.4s,baz=45,slow=2.4,SNR=2.7							
WMQ	**Urumqi**	127.26	6	*e*	PKP	PKPdf	01 23 41.0	+1.7
HHC	**Hu-ho-hao-te**	128.18	344	*e*	PKP	PKPdf	01 23 40.3	-0.9
HHC					PP	PP	01 25 42.5	-1.1
HHC					SS	SS	01 42 57.9	+2.1
NJ2	**Nanjing**	133.23	331	*e*	PKP	PKPdf	01 23 51.6	+0.8
LZH	**Lanzhou**	134.51	349	*e*	PKP	PKPdf	01 23 51.1	-2.3
LZH					sPKP		01 23 56.5	
CD2	**Chengdu**	139.55	348		PKP	PKPdf	01 24 03.0	+0.3
ASAR	**Alice Springs**	139.62	244		PKP	PKPdf	01 24 03.2	+0.3
	0.3nm,0.6s,baz=97,slow=1.9,SNR=2.1							
WRA	**Warramunga Arr**	140.03	249		PKP	PKPdf	01 24 02.7	-1.0
	0.7nm,0.7s,baz=88,slow=1.4,SNR=1.8							
CMAR	**Chiang Mai Arr**	152.58	351		PKPbc	PKPbc	01 24 31.1	-0.7
	0.6nm,0.3s,baz=347,slow=3.7,SNR=3.1							

*SJA **15** 01:08:53.3±0.9, 34.°44S×73.°87W, h5km±15km, ML4.1*
*IDC **15** 01:09:04.7±0.8, 34.°82S×72.°37W, h0km, mb4.0/8, mb1 4.3/10, mb1mx4.1/17, mbtmp4.0/10, ML4.3/2, MS3.2/2, Ms1 3.2/2, ms1mx3.0/17, Error ellipse: s-maj=28.3km s-min=18.6km az=92.0*
*NEIC **15** 01:09:08.0, 34.°81S×72.°40W, h26km, mb4.3/2, ML4.6(GUC), After GUC.*
NEIC Felt [II] at Curico and Talca.
*GUC **15** 01:09:08.1±0.6, 34.°81S×72.°40W, h26km±3km, ML4.6*

ISC 15 01:09:06.6±2.7, 34.°74S±0.°03×72.°46W±0.°08, h11km±16km, n43, σ1s67/54, mb4.1/9, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	0.94	135	⇓*i*	P	Pb	01 09 23.7	-1.3
TALC				*i*	S	Sb	01 09 34.9	-2.6
NICH	**Los Niches**	1.04	105	⇑	P	Pb	01 09 25.9	-0.8
LNV	**Longovilo**	1.16	48	⇑	P	Pn	01 09 28.7	-0.1
CHCH	**Chadas Angostu**	1.69	62	⇓	P	Pn	01 09 37.2	+1.1
PCH	**Pirque**	1.96	56	*e*	P	Pn	01 09 41.3	+1.5
PCH				*i*	S	Sb	01 10 06.2	-0.6
SAN	**Santiago**	1.96	50	⇓	P	Pb	01 09 42.1	-0.3
SAN				*i*	S	Sb	01 10 07.6	+0.8
LACH	**Col Las Americ**	2.05	52	*e*	P	Pn	01 09 42.5	+1.5
LACH				*e*	S	Sn	01 10 08.0	+1.3
SJCH	**San Jose de Ma**	2.06	59	*e*	P	Pn	01 09 42.3	+1.1
SJCH				*i*	S	Sb	01 10 08.6	-1.0
CLCH	**Cerro Calan**	2.08	51	⇓	P	Pn	01 09 42.4	+0.9
CLCH				*e*	S	Sb	01 10 09.6	-0.7
CLCH					AML	AML	01 10 13.9	
	comp=N,7μm,0.5s							
PEL	**Peldehue**	2.17	43	⇓*i*	P	Pn	01 09 44.0	+1.4
PEL				*e*	S	Sb	01 10 12.1	-0.6
PEL					AML	AML	01 10 17.0	
	comp=N,8μm,0.5s							
YECH	**El Yeso**	2.24	62		AML	AML	01 10 15.0	
	comp=N,4μm,0.5s							
CANA	**Caviahue**	3.34	161	*i*	P	Pn	01 10 00.7	+1.8
CANA				*i*	S	Sb	01 10 50.3	+3.6
CANA					AML	AML	01 10 57.5	
	comp=Z,176nm,0.6s							
AAGR	**Agrelo**	3.44	62	*i*	P	Pb	01 10 04.6	-2.9
AAGR				*i*	S	Sg	01 10 58.0	+1.0
ARCO	**CERRO ARCO**	3.49	58	*i*	P	Pn	01 10 04.6	+3.7
ARCO				*i*	S	Sg	01 10 56.8	-1.9
ARCO					AML	AML	01 11 05.0	
	comp=Z,208nm,0.5s							
AUSP	**Uspallata**	3.58	47	*i*	P	Pn	01 10 04.5	+2.1
AUSP				*i*	S	Sb	01 10 57.8	+4.0
ASAL	**Salagasta**	3.70	56	*i*	P	Pn	01 10 07.6	+3.8
ASAL				*i*	S	Sb	01 11 01.8	+4.8
RTLS	**Leoncito**	3.95	43	*i*	P	Pn	01 10 08.6	+1.2
RTLS				*i*	S	Sb	01 11 03.8	-0.5
RTCV	**Cerro Valdivia**	4.35	50	*i*	P	Pn	01 10 14.6	+1.9
RTCV				*i*	P	Pn	01 10 14.6	+1.9
RTCV				*i*	S	Sb	01 11 14.7	-1.0
CFAA	**Coronel Fontan**	4.72	50		Pn	Pn	01 10 19.2	+1.4
	comp=Z,0.5nm,0.3s,baz=200,slow=9.0,SNR=16							
CFAA					Sn	Sn	01 11 13.9	+1.4
	comp=Z,0.9nm,0.3s,baz=234,slow=13,SNR=3.9							
CFAA					Lg	Lg	01 11 26.6	
	comp=Z,2.4nm,0.3s,baz=125,slow=22,SNR=6.7							
CFAA					LR	LR	01 12 04.5	
	comp=Z,34nm,20.0s,baz=230,slow=38							
CFAA	**Coronel Fontan**	4.72	50	*i*	P	Pn	01 10 19.8	+2.1
RTLL	**Cerro Villicun**	4.77	46	*i*	P	Pn	01 10 19.8	+1.4
RTLL				*i*	S	Sb	01 11 24.2	-3.4
ACAN	**Cantantal**	5.04	62	*i*	P	Pn	01 10 24.9	+2.7
AMOG	**MOGNA**	5.04	42	*i*	P	Pn	01 10 22.8	+0.5
LCO	**Las Campanas**	5.90	15	*e*	Pn	Pn	01 10 33.6	-0.6
	comp=Z,23nm,0.4s							
LCO				*e*	S	Sn	01 11 41.0	-1.0
PLCA	**Paso Flores**	6.17	166		Pn	Pn	01 10 38.0	+0.2
	comp=Z,2.1nm,0.3s,baz=336,slow=12,SNR=16							
PLCA					Lg	Lg	01 12 12.2	
	comp=Z,0.8nm,0.3s,baz=267,slow=16,SNR=2.8							
PLCA	**Paso Flores**	6.17	166	*e*	Pn	Pn	01 10 36.8	-0.9
	comp=Z,13nm,0.7s							
PLCA				*e*	S	Sb	01 12 08.1	0.0
PLCA					Lg	Lg	01 12 12.2	
TRQA	**Tornquist**	9.07	114	*e*	Pn	Pn	01 11 17.9	+0.4
LVC	**Limon Verde**	12.47	15		LR	LR	01 17 21.5	
	comp=Z,986nm,20.8s,baz=229,slow=40							
LPAZ	**La Paz**	18.78	13		P	Pn	01 13 28.1	+1.2
	comp=Z,0.3nm,0.3s,baz=201,slow=6.9,SNR=9.4							
LPAZ	**La Paz**	18.78	13	*e*	P	Pn	01 13 28.1	+1.2
	comp=Z,5.8nm,0.9s							
SIV	**San Ignacio**	21.28	32		P	P	01 13 52.9	-0.3
	comp=Z,4.3nm,0.7s,baz=220,slow=9.5,SNR=9.4							
QSPA	**South Pole Qui**	55.50	180		P	P	01 18 41.4	0.0
	comp=Z,1.8nm,0.9s,baz=155,slow=5.2,SNR=3.1							
TXAR	**Lajitas Array**	70.21	331		P	P	01 20 20.4	+0.8
	comp=Z,1.4nm,0.6s,baz=155,slow=8.5,SNR=20							
WVT	**Waverly**	71.95	347	*e*	P	P	01 20 29.2	-0.7
	comp=Z,8.2nm,0.8s							
MAW	**Mawson**	72.57	164		P	P	01 20 33.0	-0.3
	comp=Z,1.2nm,0.9s,baz=259,slow=5.2,SNR=2.8							
BOSA	**Boshof**	80.03	118		P	P	01 21 14.7	-1.9
	comp=Z,4.2nm,0.9s,baz=207,slow=9.0,SNR=2.7							
PDAR	**Pinedale Array**	84.26	333		P	P	01 21 39.4	+1.1
	comp=Z,0.5nm,0.3s,baz=134,slow=7.7,SNR=3.6							
NVAR	**Mina Array Bea**	84.29	326		P	P	01 21 38.9	+0.3
	comp=Z,0.8nm,0.7s,baz=159,slow=6.3,SNR=7.9							
TORD	**Torodi Ar. Bea**	84.78	70		P	P	01 21 40.5	-0.8
	comp=Z,0.5nm,0.8s,baz=242,slow=3.6,SNR=6.9							
WRA	**Warramunga Arr**	119.95	209		PKP	PKPdf	01 27 56.2	-1.6
	comp=Z,0.5nm,0.3s,baz=157,slow=1.5,SNR=4.0							
H11N3	**WAKE ISLAND Hyl**	25.84	270		T	T	03 46 48.2	
	baz=115,slow=78,SNR=5.6							
H11N1	**WAKE ISLAND Hyl**	25.86	270		T	T	03 46 48.8	
	baz=115,slow=78,SNR=16							
H11N2	**WAKE ISLAND Hyl**	25.86	270		T	T	03 46 49.6	
	baz=115,slow=78,SNR=8.1							

NNC 15 01:43:13.3±0.7, 47.°28N×82.°50E, h15km±5km, mb3.6, mpv3.2, 30C-12D, Error ellipse: s-maj=10.1km s-min=4.1km az=97.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK05	**Makanchi Array**	0.50	197	⇑	P	Pb	01 43 24.1	+0.2
MK05				⇓	S	Sb	01 43 32.2	+1.1
MK31	**Makanchi Array**	0.50	197	⇓	P	Pb	01 43 24.2	+0.3
	11nm,0.2s,baz=223,slow=14							
MK31				⇓	S	Sb	01 43 32.6	+1.5
	278nm,0.4s,baz=53,slow=25,SNR=82							
MK06	**Makanchi Array**	0.52	194	⇑	P	Pb	01 43 24.3	+0.1
MK06				⇓	S	Sb	01 43 32.5	+1.0
MK02	**Makanchi Array**	0.52	195	⇑	P	Pb	01 43 24.3	0.0
MK02				⇓	S	Sb	01 43 32.6	+0.9
MK01	**Makanchi Array**	0.52	195	⇑	P	Pb	01 43 24.3	+0.1
MK01				⇓	S	Sb	01 43 32.7	+1.0
MK04	**Makanchi Array**	0.52	196	⇑	P	Pb	01 43 24.4	+0.2
MK04				⇓	S	Sb	01 43 32.7	+1.0
MK09	**Makanchi Array**	0.52	197	⇑	P	Pb	01 43 24.4	+0.2
MK09				⇓	S	Sb	01 43 33.0	+1.4
MK03	**Makanchi Array**	0.53	195	⇑	P	Pb	01 43 24.4	+0.1
MK03				⇓	S	Sb	01 43 32.5	+0.7
MK07	**Makanchi Array**	0.54	194	⇓	P	Pb	01 43 24.5	0.0
MK07				⇓	S	Sb	01 43 33.0	+0.9
MK08	**Makanchi Array**	0.54	196	⇑	P	Pb	01 43 24.7	+0.2
MK08				⇓	S	Sb	01 43 33.5	+1.4
KURBB	**Kurchatov Arra**	4.25	323	⇑	Pn	Pn	01 44 19.3	+1.9
	1.8nm,0.5s							
KURBB				⇓	Pg	Pg	01 44 31.5	-3.1
	6.5nm,0.4s							
KURBB				⇑	Lg	Lg	01 45 30.7	
	205nm,0.6s							
KURK	**Kurchatov**	4.29	325	⇓	Pn	Pn	01 44 19.3	+1.4
	0.4nm,0.3s							
KURK				⇑	Pg	Pb	01 44 30.6	+2.3
	4.7nm,0.5s							
KURK				⇑	Lg	Lg	01 45 30.6	
	46nm,0.5s							
PDGK	**Podgornoye**	4.48	209		Pn	Pn	01 44 23.3	+2.7
PDGK				⇑	Sn	Sn	01 45 13.1	+0.6
	9.8nm,0.8s							
PDGK				⇓	Lg	Lg	01 45 32.9	
	13nm,0.4s							
TKM2	**Tokmak 2**	6.54	231	⇑	Pn	Pn	01 44 51.7	+2.4
	2.2nm,0.8s							
TKM2				⇑	Lg	Lg	01 46 43.9	
	10nm,1.1s							
OTUK	**Ortayu**	6.92	282	⇑	Sn	Sn	01 46 11.2	-1.5
	0.3nm,0.2s							
OTUK				⇑	Lg	Lg	01 46 49.1	
	20nm,0.7s							
KK31	**Karatay Array**	9.43	248	⇑	Pn	Pn	01 45 29.9	+1.2
	0.8nm,0.5s,baz=63,slow=12,SNR=25							
KK31				⇑	Sn	Sn	01 47 14.6	+0.2
	0.3nm,0.3s							
KK31				⇓	Lg	Lg	01 48 11.4	
	3.9nm,0.7s,baz=0.0,slow=0.1,SNR=5.7							
BVA0	**Borovoye Array**	9.67	311	⇑	Pn	Pn	01 45 32.1	+0.3
	1.2nm,0.8s,baz=256,slow=50,SNR=3.5							
BVA0				⇑	Sn	Sn	01 47 18.0	-2.0
	1.6nm,0.6s,baz=119,slow=24,SNR=5.5							
BVA0				⇓	Lg	Lg	01 48 20.3	
	4.9nm,0.9s							
BRVK	**Borovoye**	9.74	311	⇓	Pn	Pn	01 45 33.2	+0.4
	3.5nm,1.4s							
BRVK				⇑	Sn	Sn	01 47 20.9	-0.9
	3.0nm,0.8s							
BRVK				⇑	Lg	Lg	01 48 23.5	
	9.7nm,0.7s							
AB31	**Akbulak array**	15.14	286	⇑	Pn	P	01 46 53.0	+1.4
	0.1nm,0.3s,baz=90,slow=11,SNR=6.0							

IDC 15 01:54:13.9±31.0, 20.°10S×178.°14W, h448km±327km, mb3.2/5, mb1 3.3/5, mb1mx3.1/25, mbtmp4.1/5, MS3.5/1, Ms1 3.5/1, ms1mx2.8/10, Error ellipse: s-maj=193.3km s-min=70.6km az=47.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	9.11	179		LR	01 59 32.4	
	comp=Z,289nm,21.0s,baz=3.0,slow=35						
CTA	**Charters Tower**	33.40	264		P	02 00 14.1	+0.1
	2.3nm,0.3s,baz=108,slow=13,SNR=3.9						
STKA	**Stephens Creek**	37.84	244		P	02 00 50.7	-0.2
	1.9nm,0.9s,baz=90,slow=12,SNR=4.4						
ASAR	**Alice Springs**	44.48	256		P	02 01 44.2	0.0
	1.8nm,0.6s,baz=95,slow=8.4,SNR=20						
WRA	**Warramunga Arr**	44.52	262		P	02 01 43.9	-0.6
	0.4nm,0.3s,baz=97,slow=7.4,SNR=3.0						
QSPA	**South Pole Qui**	69.97	180		P	02 04 38.9	0.0
	1.9nm,0.8s,baz=27,slow=0.9,SNR=7.8						

WEL 15 02:06:21.9±0.2, 41.°29S×172.°60E, h190km±2km, ML3.6/9, 2C, Error ellipse: s-maj=2.2km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QRZ	**Quartz Range**	0.46	354		PN	Pn	02 06 47.4	-

MRSI	**Marisa**	**6.69**	**219**	P		**Pn**	**02 11 02.6**	**+2.9**
	145nm,0.6s,2μm0.6nm							
MRSI				S		**Sn**	**02 12 16.0**	**+1.5**
	145nm,0.6s,2μm0.6nm							
LUWI	**Luwuk**	**7.53**	**206**	P		Pn	02 11 15.7	+4.5
	110nm,0.6s,3μm0.6nm							
LUWI	**Luwuk**	**7.53**	**206**	*e*Pn		Pn	02 11 15.1	+3.9
	49nm,0.4s							
LUWI				*e*S		Sn	02 12 43.8	+8.8
SANI	**Sanana**	**7.75**	**181**	P		**Pn**	**02 11 12.6**	**-1.6**
	44nm,0.4s,2μm0.3nm							
SANI				S		Sn	02 12 34.1	-6.4
	44nm,0.4s,2μm0.3nm							
APSI	**Ampana**	**7.98**	**214**	P		Pn	02 11 22.1	+4.8
	118nm,0.6s,1μm							
MPSI	**Mapaga**	**8.21**	**229**	P		Pn	02 11 25.2	+4.8
	8.5nm,1.2s,607nm							
SWI	**Sorong**	**8.35**	**142**	P		**Pn**	**02 11 23.7**	**+1.3**
SIJI	**Sorong**	**8.36**	**142**	P		**Pn**	**02 11 22.1**	**-0.4**
	6.0nm,0.3s,baz=340,slow=15,SNR=9.1							
SIJI				S		**Sn**	**02 12 51.8**	**-3.5**
	1.1nm,0.3s,baz=288,slow=20,SNR=2.5							
SIJI				LR		LR	02 14 54.4	
	comp=Z,52nm,18.3s,baz=288,slow=39							
NLAI	**Namlea**	**8.99**	**174**	P		**Pn**	**02 11 29.4**	**-1.7**
	68nm,0.4s,4μm							
NLAI				S		**Sn**	**02 13 05.8**	**-4.9**
	68nm,0.4s,4μm							
KAPI	**Kappang**	**12.44**	**211**	P		**Pn**	**02 12 20.8**	**+2.9**
	0.9nm,0.3s,baz=354,slow=5.6,SNR=3.6							
GUMO	**Guam**	**20.06**	**66**	LR		LR	02 20 04.7	
	comp=Z,24nm,20.6s,baz=100,slow=32							
WRAB	**Tennant Creek**	**26.79**	**163**	*e*P		**P**	**02 14 56.1**	**+0.1**
	2.4nm,0.4s							
WRA	**Warramunga Arr**	**26.79**	**163**	P		**P**	**02 14 56.0**	**-0.1**
	2.0nm,0.4s,baz=343,slow=9.8,SNR=19							
AS31	**Alice Springs**	**30.22**	**166**	*e*P		**P**	**02 15 26.7**	**+0.1**
ASAR	**Alice Springs**	**30.22**	**166**	P		**P**	**02 15 26.8**	**+0.2**
	3.8nm,0.5s,baz=345,slow=7.1,SNR=50							
ASAR				LR		LR	02 27 41.5	
	comp=Z,30nm,20.1s,baz=201,slow=36							
KSAR	**Wonju Array Be**	**31.58**	**3**	P		**P**	**02 15 39.9**	**+1.5**
KSRS	**Korea Array**	**31.59**	**3**	P		**P**	**02 15 39.9**	**+1.4**
	1.6nm,0.5s,baz=186,slow=9.7,SNR=11							
KSRS				LR		LR	02 29 13.4	
	comp=Z,13nm,20.4s,baz=200,slow=38							
USRK	**Ussuriysk Ar.**	**38.64**	**7**	P		**P**	**02 16 40.5**	**+1.7**
	1.6nm,0.5s,baz=194,slow=8.6,SNR=3.6							
STKA	**Stephens Creek**	**40.23**	**159**	P		**P**	**02 16 53.1**	**+0.8**
	9.4nm,0.4s,baz=340,slow=7.7,SNR=56							
STKA				PcP		**PcP**	**02 18 54.9**	**+0.1**
	1.8nm,0.7s,baz=328,slow=5.6,SNR=3.6							
STKA	**Stephens Creek**	**40.23**	**159**	*e*P		**P**	**02 16 52.5**	**+0.2**
	5.0nm,1.1s							
STKA				PcP		**PcP**	**02 18 54.9**	**+0.1**
H11S3	**WAKE ISLAND Hy**	**41.53**	**69**	T		T	03 00 57.7	
	baz=258,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hy**	**41.55**	**69**	T		T	03 00 57.6	
	baz=258,slow=75,SNR=13							
H11S2	**WAKE ISLAND Hy**	**41.55**	**69**	T		T	03 00 57.5	
	baz=258,slow=75,SNR=26							
H11N1	**WAKE ISLAND Hy**	**42.00**	**67**	T		T	03 01 47.5	
	baz=255,slow=75,SNR=7.0							
H11N2	**WAKE ISLAND Hy**	**42.01**	**67**	T		T	03 01 50.6	
	baz=255,slow=75,SNR=5.2							
H11N3	**WAKE ISLAND Hy**	**42.02**	**67**	T		T	03 01 51.7	
	baz=255,slow=75,SNR=5.1							
MK31	**Makanchi Array**	**55.55**	**325**	*e*P		**P**	**02 18 50.2**	**-0.2**
MK31				*e*PcP		**PcP**	**02 19 48.8**	**-0.5**
MKAR	**Makanchi Array**	**55.55**	**325**	P		**P**	**02 18 50.0**	**-0.4**
	0.8nm,0.5s,baz=120,slow=7.2,SNR=15							
MKAR				PcP		**PcP**	**02 19 48.8**	**-0.6**
	1.2nm,0.6s,baz=113,slow=4.0,SNR=5.8							
MKAR				ScP		**ScP**	**02 23 40.1**	**-0.4**
	0.3nm,0.7s,baz=136,slow=4.3,SNR=3.3							
TIXI	**Tiksi**	**65.84**	**1**	*e*P		**P**	**02 19 59.8**	**0.0**
	2.4nm,0.5s							
COLD	**Coldfoot**	**82.28**	**23**	*e*P		**P**	**02 21 36.3**	**+0.7**
	2.2nm,0.9s							
ILAR	**Eielson Array**	**83.56**	**26**	P		**P**	**02 21 41.8**	**-0.5**
	0.5nm,0.6s,baz=251,slow=5.0,SNR=8.4							
VNDA	**Vanda**	**85.50**	**173**	P		**P**	**02 21 52.5**	**+0.7**
	1.5nm,0.5s,baz=317,slow=6.7,SNR=23							
BRTR	**Keskin Array B**	**88.26**	**310**	P		**P**	**02 22 04.6**	**-1.6**
	0.7nm,0.8s,baz=94,slow=5.0,SNR=4.9							
BRTR				LR		LR	03 08 29.7	
	comp=Z,21nm,18.4s,baz=252,slow=40							
ARCES	**ARCESS Array B**	**88.34**	**340**	P		**P**	**02 22 05.0**	**-0.7**
	2.4nm,0.8s,baz=78,slow=6.5,SNR=7.8							
FINES	**FINESS Array B**	**89.76**	**332**	P		**P**	**02 22 11.2**	**-1.3**
	0.7nm,0.5s,baz=87,slow=4.2,SNR=8.7							
NOA	**NORSAR Array B**	**96.71**	**334**	LR		LR	03 09 32.0	
	comp=Z,10nm,18.6s,baz=225,slow=37							
TXAR	**Lajitas Array**	**120.84**	**55**	PKP		**PKPdf**	**02 28 07.6**	**+0.6**
	0.3nm,0.6s,baz=254,slow=0.2,SNR=4.6							
TORD	**Torodi Ar. Bea**	**121.68**	**289**	PKP		**PKPdf**	**02 28 08.2**	**-0.6**
	1.6nm,0.8s,baz=48,slow=2.0,SNR=12							

NEIC ***15*** *02:38:17.1, 16°.04N×96°.60W, h13km, MD4.0(MEX), After MEX.*

MEX 15 02:38:17.1±0.5, 16°.04N×96°.60W, h13km±5km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.54**	**120**	*e*P	Pg	02 38 26.4	-1.4
HUIG				*i* S	Sg	02 38 34.0	-1.0
HUIG	**Huatulco**	**0.54**	**120**	*e*P	Pg	02 38 26.4	-1.4
HUIG				*i* S	Sg	02 38 34.0	-1.0
VHO	**Vista Hermosa**	**1.04**	**353**	*e*P	Pb	02 38 33.6	-3.6
VHO				*e*S	Sb	02 38 47.3	-3.7
VHO	**Vista Hermosa**	**1.04**	**353**	*e*P	Pb	02 38 33.6	-3.6
VHO				*e*S	Sb	02 38 47.3	-3.7
OXX	**Oaxaca**	**1.04**	**353**	*e*P	Pb	02 38 30.3	-7.1
OXX				*e*S	Sb	02 38 43.1	-8.1
OXX	**Oaxaca**	**1.04**	**353**	*e*P	Pb	02 38 30.3	-7.1
OXX				*e*S	Sb	02 38 43.1	-8.1
PNIG	**Pinotepa**	**1.51**	**284**	*e*P	Pn	02 38 40.5	-3.5
PNIG				*i* S	Sn	02 38 58.7	-5.0
PNIG	**Pinotepa**	**1.51**	**284**	*e*P	Pn	02 38 40.5	-3.5
PNIG				*i* S	Sn	02 38 58.7	-5.0
CMIG	**Matias Romero**	**1.95**	**57**	*e*P	Pn	02 38 46.7	-3.2
CMIG				*i* S	Sn	02 39 09.4	-4.9
CMIG	**Matias Romero**	**1.95**	**57**	*e*P	Pn	02 38 46.7	-3.2
CMIG				*i* S	Sn	02 39 09.4	-4.9
TLIG	**Tlapa**	**2.42**	**309**	*e*P	Pn	02 38 53.9	-2.8
TLIG				*e*S	Sn	02 39 21.9	-4.4
TPIG	**Tehuac#an**	**2.48**	**343**	*i* P	Pn	02 38 54.7	-2.8
TPIG				*i* S	Sn	02 39 22.7	-5.2
TPIG	**Tehuac#an**	**2.48**	**343**	*i* P	Pn	02 38 54.7	-2.8
TPIG				*i* S	Sn	02 39 22.7	-5.2
ACX	**Acapulco**	**3.24**	**285**	*e*P	Pn	02 39 08.4	+0.7
ACX	**Acapulco**	**3.24**	**285**	*e*P	Pn	02 39 08.4	+0.7
TGIG		**3.42**	**77**	*i* P	Pn	02 39 07.5	-2.7
TGIG				*i* S	Sn	02 39 47.7	-3.0
TGIG		**3.42**	**77**	*i* P	Pn	02 39 07.5	-2.7
TGIG				*i* S	Sn	02 39 47.7	-3.0
CAIG	**El Cayaco**	**3.66**	**286**	*e*P	Pn	02 39 09.7	-3.8
CAIG	**El Cayaco**	**3.66**	**286**	*e*P	Pn	02 39 09.7	-3.8
CCIG	**Comitan**	**4.29**	**86**	*e*P	Pn	02 39 20.6	-1.8
CCIG				*i* S	Sn	02 40 08.7	-4.0
CCIG	**Comitan**	**4.29**	**86**	*e*P	Pn	02 39 20.6	-1.8
CCIG				*i* S	Sn	02 40 08.7	-4.0
TEIG	**Tepich**	**8.94**	**61**	*e*Pn	Pn	02 40 20.9	-5.1
TEIG				*e*S	Sn	02 41 54.7	-12

DJA 15 02:48:22.5±1.0, 7°.5S×107°.5E, h10km, M3.6/5, MLv3.6/5, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.73**	**75**	P	Pg	02 48 36.2	-0.5
CGJI				S	Sg	02 48 46.7	+0.4
SBJI	**Serang**	**1.33**	**59**	P	Pn	02 48 46.7	-0.5
SBJI				S	Sg	02 49 07.2	+1.8
KASI	**Kota Agung**	**1.36**	**339**	P	Pn	02 48 45.6	-2.0
KASI				S	Sb	02 49 02.7	-3.0
BLSI	**Bandar Lampung**	**1.46**	**10**	P	Pn	02 48 47.8	-1.1
BLSI				S	Sn	02 49 07.4	-0.7
CBJI	**Citeko**	**1.90**	**78**	P	Pn	02 48 55.2	+0.2
KLSI		**2.12**	**353**	P	Pn	02 48 59.5	+1.5
CNJI	**Cibinong**	**2.19**	**103**	P	Pg	02 49 05.9	+1.4
MDSI	**Maura Dua**	**2.44**	**341**	P	Pn	02 49 02.9	+0.4

ISCJB ***15*** *02:59:59.7±0.3, 21°.42S±0°.03×69°.89W±0°.06, h59km±3km, mb4.3/23, MS3.4/2, Error ellipse: s-maj=8.9km s-min=4.1km az=172.3*

NEIC ***15*** *02:59:59.0, 21°.44S×69°.92W, h51km, mb4.5/15, After GUC.*

NEIC Felt [IV] at Oficina Maria Elena and Tocopilla and [II] at Calama.

GUC ***15*** *02:59:59.4±0.6, 21°.44S×69°.92W, h51km±3km, ML5.0*

IDC ***15*** *03:00:00.6±0.6, 21°.31S×69°.79W, h54km±5km, mb3.7/8, mb1 4.0/11, mb1mx3.9/24, mbtmp4.1/11, MS3.2/5, Ms1 3.2/5, ms1mx3.0/18, Error ellipse: s-maj=17.2km s-min=7.1km az=63.0*

ISC 15 03:00:00.2±0.6, 21°.39S±0°.03×69°.88W±0°.06, h52km±5km, n55, σ1§10/58, mb4.3/23, 3C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB07	**IPOC Station P**	**0.34**	**181**	⇑*i*P	**Pn**	**03 00 09.4**	**-0.7**
PB07				*i* S	**Sn**	**03 00 16.2**	**-0.9**
PB07				AML	AML	03 00 17.2	
	comp=N,112μm,0.7s						
PB01	**IPOC Station P**	**0.50**	**47**	⇓*i*P	**Pn**	**03 00 11.9**	**+0.2**
PB01				*i* S	**Sn**	**03 00 20.7**	**+0.7**
PB01				AML	AML	03 00 21.0	
	comp=N,282μm,0.2s						
PATCX	**Punta Patache**	**0.62**	**336**	⇑*i*P	**Pn**	**03 00 12.9**	**-0.2**
PATCX				*i* S	**Sn**	**03 00 23.1**	**+0.6**
PATCX				AML	AML	03 00 23.3	
	comp=E,73μm,0.2s						
PB09	**IPOC Station P**	**0.72**	**124**	⇑*i*P	**Pn**	**03 00 14.4**	**0.0**
PB09				*i* S	**Sn**	**03 00 25.1**	**+0.3**
PB09				AML	AML	03 00 26.2	
	comp=N,103μm,0.7s						
PB04	**IPOC Station P**	**0.95**	**157**	⇓*i*P	**Pn**	**03 00 16.7**	**-0.6**
PB04				*i* S	**Sn**	**03 00 29.9**	**+0.1**
PB06	**IPOC Station P**	**1.34**	**168**	⇓*i*P	**Pn**	**03 00 21.9**	**-0.9**
PB06				*i* S	**Sn**	**03 00 39.5**	**-0.1**
LVC	**Limon Verde**	**1.52**	**144**	P	**Pn**	**03 00 26.0**	**+0.8**
	comp=N,9μm,0.3s,baz=342,slow=10,SNR=1141						
LVC				S	**Sn**	**03 00 44.8**	**+0.9**
	comp=N,35μm,0.3s,baz=226,slow=19,SNR=67						
LVC				LR	LR	03 00 54.1	
	comp=N,962nm,20.3s,baz=316,slow=35						
LVC	**Limon Verde**	**1.52**	**144**	*e*Pn	**Pn**	**03 00 26.0**	**+0.8**
LVC				*e*S	**Sn**	**03 00 45.5**	**+1.6**
PSGC	**Pisagua**	**1.80**	**353**	⇓*i*P	**Pn**	**03 00 29.3**	**+0.4**
PSGC				*i* S	**Sn**	**03 00 52.6**	**+2.0**
MNMC	**Minimini**	**2.26**	**7**	⇓*i*P	**Pn**	**03 00 36.7**	**+1.3**
MNMC				AML	AML	03 01 27.4	
	comp=E,12μm,0.3s						
LPAZ	**La Paz**	**5.34**	**18**	P	Pn	03 01 22.0	+4.1
	comp=E,8.1nm,0.3s,baz=188,slow=7.3,SNR=273						
LPAZ				LR	LR	03 03 50.6	
	comp=E,527nm,21.5s,baz=132,slow=44						
LPAZ	**La Paz**	**5.34**	**18**	*e*Pn	Pn	03 01 22.1	+4.1
LPAZ				*e*S	Sn	03 01 53.4	-25
LCO	**Las Campanas**	**7.63**	**185**	Pn	Pn	03 01 45.1	-3.8
LCO				*e*S	**Sn**	**03 03 15.0**	**+0.9**
SIV	**San Ignacio**	**9.92**	**59**	P	**Pn**	**03 02 19.7**	**-0.6**
	comp=E,3.5nm,0.3s,baz=249,slow=14,SNR=39						
SIV				S	**Sn**	**03 04 08.5**	**-1.7**
	baz=292,slow=19,SNR=1.8						
SIV				LR	LR	03 05 54.1	
	comp=E,89nm,20.8s,baz=270,slow=36						
CFAA	**Coronel Fontan**	**10.28**	**172**	P	**Pn**	**03 02 28.1**	**+3.1**
	comp=E,1.0nm,0.3s,baz=351,slow=14,SNR=24						
CFAA				S	**Sn**	**03 04 21.8**	**+2.9**
	comp=E,0.1nm,0.3s,baz=0.0,slow=20,SNR=2.8						
CFAA				LR	LR	03 06 52.7	
	comp=E,22nm,20.6s,baz=350,slow=40						
NNA	**Nana**	**11.48**	**323**	P	Pn	03 02 45.3	+3.8
	comp=E,1.5nm,0.3s,baz=139,slow=9.3,SNR=3.4						
NNA				S	**Sn**	**03 04 46.8**	**-1.5**
	comp=E,3.0nm,0.3s,baz=242,slow=3.9,SNR=4.2						
SAML	**Samuel**	**13.95**	**29**	*e*Pn	Pn	03 03 07.8	-7.4
SAML				*e*S	S	03 06 00.2	-7.7
PLCA	**Paso Flores**	**19.29**	**182**	P	**P**	**03 04 20.9**	**+0.1**
	comp=E,0.3nm,0.3s,baz=4.8,slow=15,SNR=5.2						
BDFB	**Brasilia**	**21.50**	**78**	P	**P**	**03 04 44.1**	**-0.8**
	comp=E,2.6nm,0.5s,baz=257,slow=9.9,SNR=4.7						
BDFB				LR	LR	03 14 05.3	
	comp=E,120nm,21.3s,baz=240,slow=40						
PTGA	**Pitinga**	**22.70**	**27**	P	**P**	**03 04 57.0**	**-0.6**
	comp=E,4.3nm,0.5s,baz=210,slow=21,SNR=12						
OTAV	**Otavalo**	**23.07**	**338**	*e*P	**P**	**03 04 59.7**	**-2.1**
	comp=E,13nm,1.1s						
ROSC	**El Rosal**	**26.44**	**350**	LR	LR	03 16 58.5	
	comp=E,130nm,21.2s,baz=206,slow=39						
WVT	**Waverly**	**59.67**	**343**	*e*P	**P**	**03 09 57.9**	**-1.3**
	comp=E,5.2nm,0.7s						
MIAR	**Mount Ida**	**60.01**	**337**	*e*P	**P**	**03 10 01.1**	**-0.4**
	comp=E,7.7nm,0.8s						
MIAR				*e*		03 10 20.6	
TXAR	**Lajitas Array**	**60.02**	**326**	P	**P**	**03 10 01.3**	**-0.6**
	comp=E,0.8nm,0.7s,baz=138,slow=7.6,SNR=8.0						
SNAA	**Sanae**	**62.68**	**161**	pP	pP	03 10 35.0	+1.4
	comp=E,0.9nm,0.7s,baz=276,slow=9.4,SNR=5.2						
ANMO	**Albuquerque**	**65.92**	**328**	*e*P	**P**	**03 10 41.5**	**+0.5**
	comp=E,2.7nm,0.8s						
ANMO				*e*		03 11 02.0	
SDCO	**Great Sand Dun**	**67.69**	**330**	*e*P	**P**	**03 10 53.2**	**+0.8**
	comp=E,7.3nm,1.0s						
SDCO				*e*		03 11 07.8	
WUAZ	**Wupatki**	**68.91**	**325**	*e*P	**P**	**03 11 01.4**	**+1.5**
	comp=E,7.8nm,1.0s						
SMCO	**Snowmass**	**69.53**	**330**	*e*P	**P**	**03 11 04.8**	**+0.9**
	comp=E,3.4nm,0.9s						
SMCO				*e*		03 11 25.4	
DBIC	**Dimbokro**	**69.57**	**74**	pP	pP	03 11 18.5	-0.4
	comp=E,5.8nm,0.8s,baz=215,slow=7.4,SNR=3.0						
O20A	**White River Ci**	**70.89**	**330**	*e*P	**P**	**03 11 12.9**	**+0.9**
	comp=E,7.8nm,0.9s						
MSU	**Marysvale**	**71.58**	**326**	*e*P	**P**	**03 11 17.6**	**+1.4**
	comp=E,7.5nm,1.2s						
MSU				*e*		03 11 32.4	
JLU	**Jordanelle**	**72.79**	**328**	*e*P	**P**	**03 11 24.4**	**+1.0**
	comp=E,5.1nm,0.9s						
DUG	**Dugway, Tooele**	**73.17**	**327**	*e*P	**P**	**03 11 26.6**	**+1.0**
	comp=E,5.0nm,1.0s						
R11A	**Troy Canyon, C**	**73.28**	**324**	*e*P	**P**	**03 11 27.7**	**+1.4**
	comp=E,2.6nm,0.9s						
PDAR	**Pinedale Array**	**73.57**	**331**	P	**P**	**03 11 28.1**	**+0.2**
	comp=E,0.3nm,0.5s,baz=124,slow=4.8,SNR=3.4						
PDAR				pP	**PcP**	**03 11 43.4**	**-0.3**
	comp=E,0.7nm,0.4s,baz=132,slow=8.2,SNR=4.2						
HWUT	**Hardware Ranch**	**73.61**	**329**	*e*P	**P**	**03 11 28.4**	**+0.2**
	comp=E,7.4nm,0.9s						
NVAR	**Mina Array Bea**	**74.85**	**323**	P	**P**	**03 11 36.6**	**+1.1**
	comp=E,1.1nm,0.8s,baz=166,slow=6.0,SNR=7.1						
NVAR				pP	**pP**	**03 11 51.9**	**+1.5**
	comp=E,0.7nm,0.6s,baz=158,slow=7.3,SNR=3.6						
FLWY	**Flagg Ranch**	**75.11**	**331**	*e*P	**P**	**03 11 38.1**	**+1.2**
	comp=E,4.3nm,0.6s						
HLID	**Hailey**	**76.47**	**328**	*e*P	**P**	**03 11 46.2**	**+1.6**
	comp=E,2.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**78.17**	**71**	P	**P**	**03 11 53.9**	**-0.7**
	comp=E,0.5nm,0.5s,baz=239,slow=2.0,SNR=16						
TORD				pP	**pP**	**03 12 09.4**	**0.0**
	comp=E,1.3nm,0.5s,baz=254,slow=5.3,SNR=7.6						
BOSA	**Boshof**	**84.30**	**118**	pP	pP	03 12 41.1	-1.0
	comp=E,6.1nm,0.9s,baz=237,slow=3.1,SNR=3.3						
MAW	**Mawson**	**84.69**	**164**	P	**P**	**03 12 28.2**	**+0.1**
	comp=E,1.9nm,0.9s,baz=263,slow=5.7,SNR=4.3						
MAW				pP	**pP**	**03 12 43.2**	**+0.1**
	comp=E,1.9nm,0.7s,baz=211,slow=6.2,SNR=4.3						
YKA	**Yellowknife Ar**	**90.78**	**341**	P	**P**	**03 12 57.0**	**-0.2**
	comp=E,0.7nm,0.6s,baz=135,slow=4.4,SNR=3.9						
YKA				pP	**pP**	**03 13 11.9**	**-0.4**
	comp=E,1.4nm,0.7s,baz=136,slow=3.9,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**26.97**	**278**	T	T	05 38 28.6	
	baz=102,slow=74,SNR=699						
H11S1	**WAKE ISLAND Hy**	**26.97**	**278**	T	T	05 38 29.3	
	baz=102,slow=74,SNR=511						
H11S3	**WAKE ISLAND Hy**	**26.98**	**278**	T	T	05 38 30.0	
	baz=102,slow=74,SNR=420						
H11N3	**WAKE ISLAND Hy**	**27.05**	**279**	T	T	05 38 37.2	
	baz=102,slow=74,SNR=241						
H11N2	**WAKE ISLAND Hy**	**27.06**	**279**	T	T	05 38 35.1	
	baz=102,slow=74,SNR=230						
H11N1	**WAKE ISLAND Hy**	**27.06**	**279**	T	T	05 38 33.2	
	baz=102,slow=74,SNR=166						
ASAR	**Alice Springs**	**129.58**	**209**	PKP	**PKPdf**	**03 19 03.8**	**-0.3**
	comp=E,0.6nm,0.7s,baz=132,slow=2.6,SNR=3.4						
WRA	**Warramunga Arr**	**132.58**	**212**	PKP	**PKPdf**	**03 19 09.8**	**0.0**
	comp=E,0.8nm,0.6s,baz=156,slow=2.0,SNR=6.0						
USRK	**Ussuriysk Ar.**	**150.92**	**327**	PKPbc	**PKPbc**	**03 19 47.4**	**+0.3**
	comp=E,0.8nm,0.6s,baz=249,slow=1.4,SNR=5.9						
MJAR	**Matsushiro Arr**	**151.29**	**308**	PKPbc	**PKPbc**	**03 19 48.1**	**-0.1**
	comp=E,1.9nm,0.7s,baz=142,slow=1.0,SNR=6.0						

NIED ***15*** *03:12:00, 32°.90N×142°.50E, h5km, Mw4.0 Best double couple: M₀9.61000×10¹⁴ NP1:φ₀320.00000°, δ19.00000°, λ-106.00000°. NP2:φ₀156.00000°, δ72.00000°, λ-85.00000°.*

IDC ***15*** *03:12:02.2±1.0, 32°.84N×142°.42E, h0km, mb3.7/5, mb1 4.1/8, mb1mx3.8/25, mbtmp3.8/8, ML3.9/2, MS2.6/1, Ms1 2.6/1, ms1mx2.1/35, Error ellipse: s-maj=34.5km s-min=20.6km az=93.0*

JMA ***15*** *03:12:05.9±0.5, 32°.94N×142°.52E, h65km, M3.7*

ISCJB ***15*** *03:12:06.1±0.7, 32°.96N±0°.06×142°.48E±0°.07, h33km, mb3.7/5, Error ellipse: s-maj=10.3km s-min=6.0km az=40.0*

ISC 15 03:12:06.7±0.7, 32°.90N±0°.06×142°.35E±0°.06, h33km, n25, σ1§75/33, mb3.9/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.09**	**327**	P	**Pn**	**03 12 39.8**	**+0.9**
BSO1				S	**Sb**	**03 13 05.8**	**-3.2**
JHJ2	**Mitsune**	**2.14**	**276**	P	**Pn**	**03 12 41.5**	**+1.5**
JHJ2				S	**Sb**	**03 13 09.5**	**-1.4**
JHCJ	**Hachijojimakas**	**2.15**	**275**	P	**Pb**	**03 12 42.6**	**-2.4**
BSO2	**Boso 2**	**2.28**	**325**	S	**Sb**	**03 13 11.9**	**-2.6**
BSO3	**Boso 3**	**2.44**	**322**	P	**Pn**	**03 12 45.4**	**+1.5**
BSO4	**Boso 4**	**2.67**	**322**	P	**Pn**	**03 12 49.3**	**+2.0**
BSO4				S	**Sn**	**03 13 21.3**	**+2.8**
JOD2	**Odawara 2**	**3.59**	**312**	P	**Pn**	**03 13 00.8**	**+0.8**
JOD2				*e*S	**Sn**	**03 13 40.8**	**-0.5**
JYN	**Shimob**	**4.08**	**310**	P	**Pn**	**03 13 09.4**	**+2.6**
JYN				*e*S	**Sn**	**03 13 55.7**	**+2.2**
JRY	**Ryogami san**	**4.22**	**318**	P	**Pn**	**03 13 09.7**	**+1.0**
JRY				S	**Sn**	**03 13 58.8**	**+2.0**
JAG	**Ashikaga**	**4.25**	**327**	P	**Pn**	**03 13 10.4**	**+1.3**
JAG				S	**Sn**	**03 13 57.7**	**+0.1**
JFT	**Otama**	**4.89**	**341**	P	**Pn**	**03 13 18.3**	**+0.4**
JFT				*e*S	**Sn**	**03 14 11.2**	**-2.2**
MJAR	**Matsushiro Arr**	**4.98**	**318**	Pn	**Pn**	**03 13 20.6**	**+1.4**
	2.3nm,0.3s,baz=153,slow=11,SNR=22						
MJAR				Sn	**Sn**	**03 14 17.9**	**+2.3**
	3.7nm,0.3s,baz=240,slow=24,SNR=6.2						
MAT	**Matsushiro**	**4.99**	**318**	P	**Pn**	**03 13 21.4**	**+2.2**
MAT				S	**Sn**	**03 14 16.9**	**+1.2**
MAT	**Matsushiro**	**4.99**	**318**	P	Pn	03 13 22.7	+3.5
JCJ	**Chichijima**	**5.79**	**181**	Pn	**Pn**	**03 13 28.2**	**-2.0**
	baz=350,slow=17						
JCJ				Sn	Sn	03 14 28.6	-6.8
	11nm,0.3s,baz=23,slow=18,SNR=5.1						
ASAJ	**Asahikawa**	**11.20**	**1**	Pn	**Pn**	**03 14 42.6**	**-1.8**
	1.4nm,0.3s,baz=214,slow=14,SNR=7.8						
KSRS	**Korea Array**	**12.64**	**295**	LR	LR	03 20 57.6	
	comp=Z,27nm,18.8s,baz=79,slow=42						
ILAR	**Eielson Array**	**52.61**	**31**	P	**P**	**03 21 17.5**	**+0.5**
	0.4nm,0.6s,baz=263,slow=6.3,SNR=7.3						
WRA	**Warramunga Arr**	**53.10**	**189**	P	**P**	**03 21 20.9**	**-0.1**
	0.8nm,0.5s,baz=8.0,slow=7.6,SNR=11						
WRA				pP	**pP**	**03 21 32.1**	**+1.1**
	0.9nm,0.5s,baz=6.5,slow=7.7,SNR=4.2						
ASAR	**Alice Springs**	**56.82**	**189**	pP	pP	03 22 00.4	+2.4
	0.4nm,0.7s,baz=14,slow=8.0,SNR=2.9						
YKA	**Yellowknife Ar**	**67.01**	**29**	P	**P**	**03 22 56.2**	**+0.3**
	1.3nm,0.7s,baz=300,slow=6.7,SNR=4.9						
NVAR	**Mina Array Bea**	**76.86**	**53**	P	**P**	**03 23 56.9**	**+1.1**

KURBB	**Kurchatov Arra** 3.9nm,0.6s	**11.22**	**299**	⇑Pn	Pn	03 17 53.4	-3.4
KURBB	39nm,0.8s			⇑Lg	Lg	03 21 00.6	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=102,slow=14,SNR=16	**11.22**	**299**	Pn	**Pn**	**03 17 54.0**	**-2.8**
KURBB	0.2nm,0.3s,baz=106,slow=34,SNR=5.6			Lg	Lg	03 21 01.5	
BVA0	**Borovoye Array** 6.1nm,0.8s,baz=114,slow=13,SNR=14	**16.74**	**303**	⇓Pn	**Pn**	**03 19 10.2**	**-0.7**
BVAR	**Borovoye Array** 0.6nm,0.3s,baz=112,slow=10,SNR=9.8	**16.74**	**303**	Pn	**Pn**	**03 19 07.4**	**-3.4**
BRVK	**Borovoye** 10nm,1.2s	**16.81**	**303**	⇑Pn	**Pn**	**03 19 10.6**	**-1.2**
ARCES	**ARCESS Array B** 2.2nm,0.6s,baz=71,slow=8.7,SNR=12	**40.26**	**330**	P	**P**	**03 22 52.4**	**-0.7**
FINES	**FINESS Array B** 2.2nm,1.0s,baz=96,slow=5.7,SNR=3.5	**40.86**	**317**	P	**P**	**03 22 57.7**	**-0.4**
SPITS	**Spitsbergen Ar** comp=Z,16nm,18.4s,baz=15,slow=42	**42.70**	**343**	LR	LR	03 44 51.2	
BRTR	**Keskin Array B** 1.5nm,0.7s,baz=74,slow=8.3,SNR=10	**43.75**	**284**	P	**P**	**03 23 24.2**	**+2.1**
VRAC	**Vranov** comp=Z,16nm,18.8s,baz=86,slow=39	**50.01**	**303**	LR	LR	03 47 16.4	
ILAR	**Eielson Array** 0.6nm,0.7s,baz=314,slow=4.9,SNR=9.8	**59.60**	**26**	P	**P**	**03 25 19.9**	**0.0**
TORD	**Torodi Ar. Bea** 0.5nm,0.9s,baz=53,slow=4.2,SNR=6.6	**82.27**	**281**	P	**P**	**03 27 39.4**	**+1.1**

*TIF **15** 03:18:29.4,42°.54N×43°.50E,h10km*
*CSEM **15** 03:18:29.8±0.9,42°.64N×43°.34E,h2km,MD3.0,Error ellipse: s-maj=53.3km s-min=10.6km az=143.0*
*DDA **15** 03:18:30.3,42°.02N×43°.79E,h6km,MD3.0*
ISC 15 03:18:29.6±2.7,42°.6N±0°.3×43°.3E±0°.1,h2km±18km,n10, σ0s62/20,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.12**	**84**	P	**Pg**	**03 18 32.0**	**+0.1**
ONI				S	**Sg**	**03 18 33.6**	**+0.1**
ONI	**Oni**	**0.12**	**84**	P	**Sg**	**03 18 32.0**	**+0.1**
ONI				S	**Sg**	**03 18 33.6**	**+0.1**
ARTV	**Artvin**	**1.72**	**217**	*i* P	**Pn**	**03 19 01.0**	**+0.2**
ARTV				*i* S	**Sb**	**03 19 24.6**	**+0.3**
ARTV	**Artvin**	**1.72**	**217**	*i* P	**Pn**	**03 19 01.0**	**+0.2**
ARTV				*i* S	**Sb**	**03 19 24.6**	**+0.3**
DBOC	**Borcka**	**1.73**	**225**	*i* P	**Pb**	**03 19 01.5**	**-0.5**
DBOC				*i* S	**Sg**	**03 19 25.2**	**+0.1**
DBOC	**Borcka**	**1.73**	**225**	*i* P	**Pb**	**03 19 01.5**	**-0.5**
DBOC				*i* S	**Sg**	**03 19 25.2**	**+0.1**
DBAD	**Bademkaya**	**1.96**	**218**	*i* P	**Pb**	**03 19 05.7**	**-0.4**
DBAD				*i* S	**Sb**	**03 19 32.1**	**+1.1**
DBAD	**Bademkaya**	**1.96**	**218**	*i* P	**Pb**	**03 19 05.7**	**-0.4**
DBAD				*i* S	**Sb**	**03 19 32.1**	**+1.1**
DDEM	**Demirkent**	**2.04**	**215**	*i* P	**Pb**	**03 19 07.2**	**-0.2**
DDEM				*i* S	**Sb**	**03 19 32.1**	**-1.1**
DDEM	**Demirkent**	**2.04**	**215**	*i* P	**Pb**	**03 19 07.2**	**-0.2**
DDEM				*i* S	**Sb**	**03 19 32.1**	**-1.1**

MAN 15 03:29:40,11°.16N×125°.00E,h38km,mb4.3,ML3.1,MS2.9, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.03**	**187**	*e*P	Pn	03 29 59.1	+1.2
MSLP				*e*S	Sn	03 30 14.1	+3.1
SCPH	**Surigao**	**1.45**	**160**	*e*P	Pn	03 30 09.3	+5.6
SCPH				*e*S	Sn	03 30 30.0	+8.5
GUIM	**Jordan**	**2.42**	**258**	*e*P	Pn	03 30 18.1	+1.1
DCPH	**Dipolog City**	**3.03**	**212**	*e*P	Pn	03 30 26.5	+1.1
PAGZ	**Pagadian**	**3.65**	**206**	*e*P	Pn	03 30 36.3	+2.2

*CSEM **15** 03:38:53.3±0.1,40°.82N×15°.18E,h19km,ML2.4/10,Error ellipse: s-maj=3.3km s-min=2.0km az=66.0*
ROM 15 03:38:53.8±0.1,40°.82N×15°.18E,h13km±1km,Md2.5/22, Ml2.1/17,Error ellipse: s-maj=1.2km s-min=0.8km az=74.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCRV	**Calabrutti - M**	**0.04**	**197**	Pg	Pg	03 38 56.6	+0.2
MCRV				Sg	Sg	03 38 58.6	+0.4
MCRV	323nm,0.1s **Calabrutti - M**	**0.04**	**197**	Pg	Pg	03 38 56.6	+0.2
MCRV	323nm,0.1s			Sg	Sg	03 38 58.6	+0.4
SNAL	**S. Angelo Dei**	**0.11**	**11**	Pg	Pg	03 38 57.1	+0.1
SNAL	799nm,0.5s			Sg	Sg	03 38 59.9	+0.6
SNAL	**S. Angelo Dei**	**0.11**	**11**	Pg	Pg	03 38 57.1	+0.1
SNAL	799nm,0.5s			Sg	Sg	03 38 59.9	+0.6
CSSN	**Cassano Irpino**	**0.13**	**289**	Pg	Pg	03 38 57.3	0.0
CSSN	106nm,0.2s			Sg	Sg	03 39 00.1	+0.4
CSSN	**Cassano Irpino**	**0.13**	**289**	Pg	Pg	03 38 57.3	0.0
CSSN	106nm,0.2s			Sg	Sg	03 39 00.1	+0.4
CAFE	**Carife**	**0.21**	**11**	Pg	Pg	03 38 58.7	0.0
CAFE	373nm,0.6s			Sg	Sb	03 39 03.1	-0.6
CAFE	**Carife**	**0.21**	**11**	Pg	Pg	03 38 58.7	0.0
CAFE	373nm,0.6s			Sg	Sb	03 39 03.1	-0.6
MRLC	**Muro Lucano**	**0.24**	**105**	Pg	Pg	03 38 59.2	+0.2
MRLC	302nm,0.3s			Sg	Sb	03 39 03.7	-0.6
MRLC	**Muro Lucano**	**0.24**	**105**	Pg	Pg	03 38 59.2	+0.2
MRLC	302nm,0.3s			Sg	Sb	03 39 03.7	-0.6
SGO	**Sicignano**	**0.28**	**160**	Pg	Pg	03 39 00.0	+0.4
SGO	154nm,0.3s			Sg	Sb	03 39 04.8	-0.5
SGO	**Sicignano**	**0.28**	**160**	Pg	Pg	03 39 00.0	+0.4
SGO	154nm,0.3s			Sg	Sb	03 39 04.8	-0.5
CDRU	**Civita di Ruta**	**0.34**	**164**	Pg	Pg	03 39 00.9	0.0
CDRU	168nm,0.2s			Sg	Sb	03 39 06.6	-0.7
CDRU	**Civita di Ruta**	**0.34**	**164**	Pg	Pg	03 39 00.9	0.0
CDRU	168nm,0.2s			Sg	Sb	03 39 06.6	-0.7
MRB1	**Monte Rocchett** 217nm,0.4s	**0.35**	**333**	Pg	Pg	03 39 00.9	0.0
MRB1	**Monte Rocchett** 217nm,0.4s	**0.35**	**333**	Pg	Pg	03 39 00.9	0.0
VULT	**Monte Vulture**	**0.35**	**67**	Pg	Pg	03 39 01.1	-0.1
VULT	391nm,0.3s			Sg	Sg	03 39 06.9	+0.8
VULT	**Monte Vulture**	**0.35**	**67**	Pg	Pg	03 39 01.1	-0.1
VULT	391nm,0.3s			Sg	Sg	03 39 06.9	+0.8
PSB1	**Pescosannita** 52nm,0.6s	**0.49**	**325**	Pg	Pg	03 39 03.6	0.0
PSB1	**Pescosannita** 52nm,0.6s	**0.49**	**325**	Pg	Pg	03 39 03.6	0.0
CMPR	**Campora**	**0.51**	**170**	Pg	Pg	03 39 04.2	+0.3
CMPR	70nm,0.3s			Sg	Sb	03 39 11.8	-0.3
CMPR	**Campora**	**0.51**	**170**	Pg	Pg	03 39 04.2	+0.3
CMPR	70nm,0.3s			Sg	Sb	03 39 11.8	-0.3
MOCO	**Biccari - m.te**	**0.55**	**358**	Pg	Pb	03 39 05.3	-0.2
ACER	**Acerenza**	**0.58**	**93**	Pg	Pg	03 39 04.7	-0.5
ACER	99nm,0.5s			Sg	Sb	03 39 13.8	-0.2
ACER	**Acerenza**	**0.58**	**93**	Pg	Pg	03 39 04.7	-0.5
ACER	99nm,0.5s			Sg	Sb	03 39 13.8	-0.2
MCEL	**Monticello**	**0.68**	**136**	Pg	Pg	03 39 07.0	-0.2
MCEL	**Monticello**	**0.68**	**136**	Pg	Pg	03 39 07.0	-0.2
MTSN	**Montesano sull** 26nm,0.5s	**0.70**	**142**	Pg	Pg	03 39 07.4	-0.2
MTSN	**Montesano sull** 26nm,0.5s	**0.70**	**142**	Pg	Pg	03 39 07.4	-0.2
PTRJ	**Pietraroja** 129nm,0.6s	**0.73**	**318**	Pg	Pg	03 39 08.3	0.0
PTRJ	**Pietraroja** 129nm,0.6s	**0.73**	**318**	Pg	Pg	03 39 08.3	0.0
BULG	**Bulgheria - Ca** 91nm,0.3s	**0.76**	**169**	Pg	Pg	03 39 08.2	-0.4
BULG	**Bulgheria - Ca**	**0.76**	**169**	Pg	Pg	03 39 08.2	-0.4
MRVN	**Minervino Murg** 71nm,0.5s	**0.80**	**72**	Pg	Pg	03 39 08.8	-0.7
MRVN	**Minervino Murg** 71nm,0.5s	**0.80**	**72**	Pg	Pg	03 39 08.8	-0.7
SIRI	**Monte Sirino -** 48nm,0.3s	**0.82**	**140**	Pg	Pg	03 39 09.1	-0.8
SIRI	**Monte Sirino -** 48nm,0.3s	**0.82**	**140**	Pg	Pg	03 39 09.1	-0.8
CDT	**Castel del Mon**	**0.87**	**72**	*e*Pg	Pg	03 39 10.6	-0.1
CDT				Sg	Sb	03 39 23.1	+0.8
MELA	**Melanico ??? S**	**0.89**	**357**	Pg	Pn	03 39 11.6	-0.4
MELA	**Melanico ??? S**	**0.89**	**357**	Pg	Pn	03 39 11.6	-0.4
SCHR	**S. Chirico Rap** 18nm,0.6s	**0.92**	**132**	Pg	Pg	03 39 11.2	-0.5
SGRT	**San Giovanni R** 63nm,0.4s	**1.03**	**24**	Pg	Pb	03 39 12.2	-1.4
SGRT	**San Giovanni R** 63nm,0.4s	**1.03**	**24**	Pg	Pb	03 39 12.2	-1.4
MSAG	**Monte S. Angel** 66nm,0.3s	**1.05**	**31**	Pg	Pb	03 39 13.1	-0.8
MSAG	**Monte S. Angel** 66nm,0.3s	**1.05**	**31**	Pg	Pb	03 39 13.1	-0.8
MS1	**Monte Sant'Ang**	**1.05**	**33**	*e*Pg	Pb	03 39 13.9	-0.1
MS1				Sg	Sn	03 39 30.3	+1.3

*ISCJB **15** 03:39:03.9±0.3,27°.88N±0°.04×66°.13E±0°.04,h10km, mb3.8/16,MS3.2/11,Error ellipse: s-maj=6.6km s-min=4.4km az=154.8*
*IDC **15** 03:39:05.5±1.1,28°.03N×65°.97E,h0km,mb3.8/16, mb1 3.9/16,mb1mx3.8/32,mbtmp3.8/16,MS3.3/11, Ms1 3.3/11,ms1mx3.0/37,Error ellipse: s-maj=25.2km s-min=19.5km az=175.0*
*CSEM **15** 03:39:28.5±53.0,27°.16N×64°.49E,h10km,mb3.9,Ms3.9, Error ellipse: s-maj=1283.2km s-min=82.3km az=66.0*
*DSN **15** 03:39:45.2×99.0,27°.48N×63°.19E,h74km±5km,mb3.9/8, Ms3.9/8,Error ellipse: s-maj=220.6km s-min=17.0km az=252.0*
*OMAN **15** 03:39:53.5±99.0,26°.63N×62°.64E,h75km,Error ellipse: s-maj=172.9km s-min=15.7km az=248.0*
ISC 15 03:39:06.2±0.6,27°.95N±0°.07×66°.08E±0°.06,h10km,n49, σ1s19/41,mb3.8/16,MS3.3/11,6C-5D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**5.68**	**145**	*e*P	Pn	03 40 28.1	-2.6
BHJ				*e*S	**Sn**	**03 41 34.5**	**-1.4**
BHJ	comp=N,90nm,0.5s			AML	AML	03 41 43.3	
BHJ	comp=E,93nm,0.5s			AML	AML	03 41 44.3	
THW	**Thamme Wali**	**6.87**	**44**	⇑P	**Pn**	**03 40 47.1**	**0.0**
CEP	**Cherat**	**7.70**	**39**	⇑P	**Pn**	**03 40 58.6**	**-0.1**
CEP				S	**Sn**	**03 42 28.0**	**+1.9**
CHCP	**Chirah Chowk**	**8.40**	**46**	⇓P	**Pn**	**03 41 08.4**	**+0.3**
SMDO	**Samad** SNR=14	**8.74**	**238**	P	**Pn**	**03 41 12.8**	**0.0**
SMDO	**Samad** SNR=14	**8.74**	**238**	P	**Pn**	**03 41 12.8**	**0.0**
BANOM	**Banah** SNR=17	**8.96**	**259**	P	**Pn**	**03 41 15.9**	**+0.1**
BANOM	**Banah** SNR=17	**8.96**	**259**	⇑P	**Pn**	**03 41 15.9**	**+0.1**
BANOM	**Banah** SNR=19	**8.96**	**259**	⇓*i*P	**Pn**	**03 41 16.0**	**+0.1**
HOQ	**Hoqain** SNR=10	**9.02**	**243**	P	**Pn**	**03 41 15.6**	**-1.0**
HOQ	**Hoqain** SNR=10	**9.02**	**243**	⇓P	**Pn**	**03 41 15.6**	**-1.0**
JMDO	**Jabal Madar** SNR=7.6	**9.11**	**234**	P	**Pn**	**03 41 18.6**	**+0.7**
JMDO	**Jabal Madar** SNR=7.6	**9.11**	**234**	P	**Pn**	**03 41 18.6**	**+0.7**
HATD	**Hatta, Dubai**	**9.45**	**253**	P	**Pn**	**03 41 21.2**	**-1.3**
HATD	**Hatta, Dubai**	**9.45**	**253**	⇓P	**Pn**	**03 41 21.2**	**-1.3**
ASHO	**Ashiyiah**	**9.56**	**252**	P	**Pn**	**03 41 23.3**	**-0.7**
ASHO	**Ashiyiah**	**9.56**	**252**	⇑P	**Pn**	**03 41 23.3**	**-0.7**
ASHO	**Ashiyiah**	**9.56**	**252**	⇑P	**Pn**	**03 41 23.4**	**-0.7**
NAZ	**Nazwa, Dubai**	**9.79**	**255**	P	Pn	03 41 29.2	+2.0
NAZ	**Nazwa, Dubai**	**9.79**	**255**	⇓P	Pn	03 41 29.2	+2.0
DHRM	**DHARAMSHALA**	**9.83**	**62**	*e*P	**Pn**	**03 41 28.3**	**+0.4**
DHRM				*e*S	**Sn**	**03 43 15.9**	**-2.6**
DHRM	comp=N,112nm,0.5s			AML	AML	03 43 22.6	
DHRM	comp=E,133nm,0.6s			AML	AML	03 43 24.8	
NDI	**New Delhi**	**9.84**	**83**	*e*P	**Pn**	**03 41 28.0**	**+0.2**
NDI				*e*S	**Sn**	**03 43 16.0**	**-2.4**
FAQ	**Al Faqa, Dubai** SNR=9.1	**9.93**	**254**	P	Pn	03 41 32.3	+3.2
FAQ	**Al Faqa, Dubai** SNR=9.1	**9.93**	**254**	*i* P	Pn	03 41 32.3	+3.2
SMLA	**Simla**	**10.16**	**69**	*e*P	**Pn**	**03 41 32.4**	**+0.2**
SMLA				*e*S	**Sn**	**03 43 23.1**	**-3.1**
SMLA	comp=E,97nm,0.7s			AML	AML	03 43 45.9	
SMLA	comp=N,52nm,0.6s			AML	AML	03 43 48.0	
ASUD	**Al Ashush, Dub**	**10.20**	**254**	P	Pn	03 41 34.9	+2.2
ASUD	**Al Ashush, Dub**	**10.20**	**254**	⇑P	Pn	03 41 34.9	+2.2
BHPL	**Bhopal**	**11.26**	**112**	*e*P	**Pn**	**03 41 49.1**	**+1.8**
BHPL				*e*S	Sn	03 43 48.1	-5.1
BHPL	comp=E,33nm,0.2s			AML	AML	03 44 31.4	
BHPL	comp=N,19nm,1.1s			AML	AML	03 44 35.1	
GNI	**Garni** comp=N,44nm,21.6s,baz=98,slow=36	**21.41**	**310**	LR	LR	03 51 54.5	
MKAR	**Makanchi Array** comp=N,1.9nm,0.5s,baz=204,slow=10,SNR=24	**22.72**	**30**	P	**P**	**03 44 08.9**	**+0.7**
MKAR	comp=N,148nm,21.4s,baz=217,slow=41			LR	LR	03 54 38.6	
AKTO	**Aktyubinsk** comp=N,2.2nm,0.7s,baz=169,slow=12,SNR=7.5	**23.28**	**347**	P	**P**	**03 44 13.7**	**-0.3**
AKTO	comp=N,72nm,18.0s,baz=155,slow=40			LR	LR	03 54 36.1	
KURBB	**Kurchatov Arra** comp=N,1.3nm,0.7s,baz=208,slow=8.6,SNR=8.2	**24.54**	**19**	P	**P**	**03 44 25.0**	**-1.0**
BVAR	**Borovoye Array** comp=N,1.4nm,0.5s,baz=186,slow=8.9,SNR=9.1	**25.25**	**6**	P	**P**	**03 44 31.9**	**-0.5**
MMAI	**Mount Meron Ar** comp=N,27nm,19.9s,baz=155,slow=39	**26.86**	**288**	LR	LR	03 56 37.2	
ZALV	**Zalesovo Beam** comp=N,1.1nm,0.5s,baz=223,slow=9.0,SNR=4.8	**29.39**	**23**	P	**P**	**03 45 09.6**	**+0.1**
ZALV	comp=N,85nm,19.9s,baz=250,slow=39			LR	LR	03 58 07.0	
AKASG	**Malin Array Be** comp=N,0.4nm,0.4s,baz=112,slow=7.4,SNR=4.4	**35.91**	**319**	P	**P**	**03 46 04.9**	**-1.7**
MLR	**Muntele Rosu** comp=N,0.3nm,0.4s,baz=140,slow=7.9,SNR=4.0	**36.19**	**310**	P	P	03 46 10.7	+1.6
TLY	**Talaya** comp=N,82nm,19.7s,baz=230,slow=40	**36.73**	**39**	LR	LR	04 03 27.6	
SONM	**Songino Array** comp=N,101nm,21.5s,baz=68,slow=39	**36.97**	**46**	LR	LR	04 03 10.0	
KMBO	**Kilima Mbogo** comp=N,26nm,20.0s,baz=359,slow=37	**40.02**	**229**	LR	LR	04 04 01.5	
FINES	**FINESS Array B** comp=N,0.9nm,0.5s,baz=121,slow=9.9,SNR=11	**42.74**	**333**	P	**P**	**03 47 02.9**	**-0.5**
GERES	**GERESS Array B** comp=N,0.6nm,0.7s,baz=115,slow=4.7,SNR=3.7	**45.03**	**312**	P	**P**	**03 47 21.0**	**-1.1**
ARCES	**ARCESS Array B** comp=N,1.5nm,0.6s,baz=141,slow=6.2,SNR=7.5	**47.72**	**342**	P	**P**	**03 47 43.1**	**+0.2**
ARCES	comp=N,42nm,19.3s,baz=124,slow=37			LR	LR	04 08 06.7	
NOA	**NORSAR Array B** comp=N,0.9nm,0.8s,baz=109,slow=7.6,SNR=3.2	**49.08**	**328**	P	**P**	**03 47 53.9**	**+0.4**
NOA	comp=N,17nm,18.4s,baz=90,slow=38			LR	LR	04 10 14.5	
KSRS	**Korea Array** comp=N,0.6nm,0.4s,baz=274,slow=8.2,SNR=5.5	**52.08**	**63**	P	**P**	**03 48 18.4**	**+1.9**
KSRS	comp=N,26nm,18.6s,baz=145,slow=37			LR	LR	04 11 24.3	
ESDC	**Sonseca Array** comp=N,0.6nm,0.6s,baz=63,slow=7.7,SNR=4.1	**58.03**	**301**	P	**P**	**03 49 00.1**	**+0.6**
TORD	**Torodi Ar. Bea** comp=N,0.7nm,0.8s,baz=69,slow=6.1,SNR=11	**61.45**	**270**	P	**P**	**03 49 23.0**	**-0.3**
ASAR	**Alice Springs** comp=N,0.5nm,0.5s,baz=312,slow=5.6,SNR=7.6	**83.10**	**121**	P	**P**	**03 51 33.6**	**+1.0**
ILAR	**Eielson Array** comp=N,0.2nm,0.5s,baz=318,slow=4.6,SNR=3.9	**84.08**	**14**	P	**P**	**03 51 38.5**	**+1.6**

*IDC **15** 03:43:02.1±0.9,7°.91N×91°.85E,h0km,mb4.1/12, mb1 4.2/15,mb1mx4.0/32,mbtmp4.1/15,ML4.1/3,MS3.3/2, Ms1 3.3/2,ms1mx2.7/39,Error ellipse: s-maj=30.1km s-min=17.1km az=49.0*
*ISCJB **15** 03:43:04.2±0.5,7°.93N±0°.09×91°.90E±0°.09,h25km, mb4.2/20,Error ellipse: s-maj=15.1km s-min=9.9km az=43.7*
*NEIC **15** 03:43:07.6±0.4,7°.94N×91°.82E,h35km,mb4.1/6,Error ellipse: s-maj=12.3km s-min=7.8km az=44.0*
ISC 15 03:43:05.7±0.6,7°.9N±0°.1×91°.88E±0°.09,h25km,n38, σ0s77/37,mb4.1/20,4C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 0.7nm,0.3s,baz=318,slow=14,SNR=4.2	**8.63**	**125**	Pn	**Pn**	**03 45 10.4**	**+1.2**
PSI	0.3nm,0.3s,baz=345,slow=19,SNR=3.1			Sn	**Sn**	**03 46 43.6**	**-2.3**
PSI	comp=Z,149nm,18.2s,baz=324,slow=43			LR	LR	03 49 19.9	
GSI	**Gunungsitoli** 98nm,0.6s	**8.65**	**139**	*e*Pn	Pn	03 45 14.4	+5.0
GSI				*e*S	x	03 45 24.9	
PALK	**Pallekele** 1.4nm,0.3s,baz=67,slow=13,SNR=5.6	**11.10**	**268**	Pn	**Pn**	**03 45 43.8**	**+0.8**
PALK	2.1nm,0.3s,baz=205,slow=19,SNR=7.5			Sn	Sn	03 47 34.6	-12
PALK	comp=Z,183nm,19.1s,baz=61,slow=37			LR	LR	03 49 46.7	
PALK	**Pallekele**	**11.10**	**268**	*e*Pn	**Pn**	**03 45 41.5**	**-1.5**
PALK				*e*S	Sn	03 47 36.3	-10
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=234,slow=14,SNR=7.6	**12.56**	**32**	Pn	**Pn**	**03 46 03.1**	**+0.1**
H08S3	**Diego Garcia H** baz=52,slow=76,SNR=40	**24.72**	**232**	T	T	04 14 36.2	
H08S2	**Diego Garcia H** baz=52,slow=76,SNR=33	**24.73**	**232**	T	T	04 14 36.2	
H08S1	**Diego Garcia H** baz=52,slow=76,SNR=39	**24.74**	**232**	T	T	04 14 36.2	
EKS2	**Erkin-Say** 2.1nm,0.7s	**38.14**	**338**	*e*P	**P**	**03 50 24.7**	**+1.6**
MKAR	**Makanchi Array** 1.4nm,0.8s,baz=167,slow=8.3,SNR=14	**39.64**	**350**	P	**P**	**03 50 35.2**	**-0.3**
SONM	**Songino Array** 3.6nm,0.8s,baz=196,slow=8.6,SNR=9.4	**41.69**	**15**	P	**P**	**03 50 52.6**	**+0.1**
KURBB	**Kurchatov Arra** 2.4nm,0.9s,baz=168,slow=6.7,SNR=17	**44.04**	**348**	P	**P**	**03 51 11.4**	**+0.1**
KURBB	0.5nm,0.6s,baz=167,slow=2.7,SNR=5.4			PcP	**PcP**	**03 52 57.1**	**+0.6**
KURK	**Kurchatov** 2.2nm,0.9s	**44.10**	**348**	*e*P	**P**	**03 51 11.8**	**-0.1**
KURK				PcP	**PcP**	**03 52 57.1**	**+0.3**
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=170,slow=9.0,SNR=6.1	**46.30**	**354**	P	**P**	**03 51 28.5**	**-0.6**
BVAR	**Borovoye Array** 0.9nm,0.5s,baz=138,slow=7.1,SNR=7.5	**48.30**	**343**	P	**P**	**03 51 44.7**	**-0.1**
ABKAR	**Akbulak array** 0.6nm,0.5s	**49.18**	**333**	*e*P	**P**	**03 51 51.4**	**-0.3**
WRA	**Warramunga Arr** 3.1nm,0.8s,baz=303,slow=8.6,SNR=10	**50.10**	**124**	P	**P**	**03 51 59.7**	**+0.6**
AKTO	**Aktyubinsk** 0.6nm,0.4s,baz=113,slow=13,SNR=4.1	**50.90**	**333**	P	**P**	**03 52 05.1**	**+0.4**
BR131	**Keskin Array S** 0.3nm,0.4s	**60.74**	**311**	*e*P	**P**	**03 53 15.2**	**-0.4**
BRTR	**Keskin Array B** 1.3nm,0.8s,baz=117,slow=7.3,SNR=9.7	**60.74**	**311**	P	**P**	**03 53 15.2**	**-0.5**
STKA	**Stephens Creek** 1.5nm,0.8s,baz=322,slow=12,SNR=2.8	**61.74**	**133**	P	**P**	**03 53 22.8**	**+0.5**
TIXI	**Tiksi** 11nm,0.9s	**67.68**	**12**	*e*P	**P**	**03 53 60.0**	**-0.4**
FINES	**FINESS Array B** 2.0nm,0.8s,baz=72,slow=6.2,SNR=6.2	**71.67**	**333**	P	**P**	**03 54 24.2**	**-0.9**
GERES	**GERESS Array B** 1.8nm,0.8s,baz=87,slow=5.5,SNR=12	**76.34**	**318**	P	**P**	**03 54 52.8**	**-0.1**
LPG	**La Plagne** 17nm,1.1s	**81.03**	**315**	⇑*i*P	**P**	**03 55 19.6**	**+0.6**
LPG	**La Plagne** 17nm,1.1s	**81.03**	**315**	⇑*i*P	**P**	**03 55 19.6**	**+0.6**
LPL	**La Plagne** 18nm,0.9s	**81.04**	**315**	⇑*i*P	**P**	**03 55 19.6**	**+0.6**
LPL	**La Plagne** 18nm,0.9s	**81.04**	**315**	⇑*i*P	**P**	**03 55 19.6**	**+0.6**
HAU	**Haudompre**	**81.22**	**317**	*e*P	**P**	**03 55 19.7**	**+0.1**
HAU	**Haudompre**	**81.22**	**317**	*e*P	**P**	**03 55 19.7**	**+0.1**
SFTF	**Sexfontaines**	**82.09**	**318**	*e*P	**P**	**03 55 25.3**	**+1.1**
SFTF	**Sexfontaines**	**82.09**	**318**	*e*P	**P**	**03 55 25.3**	**+1.1**
SMF	**Signal de Mont** 17nm,1.3s	**82.99**	**316**	*e*P	**P**	**03 55 28.9**	**-0.1**
SMF	**Signal de Mont** 17nm,1.3s	**82.99**	**316**	*e*P	**P**	**03 55 28.9**	**-0.1**
AVF	**Avril sur Loir** 9.4nm,1.0s	**83.32**	**316**	*e*P	**P**	**03 55 30.7**	**+0.1**
AVF	**Avril sur Loir** 9.4nm,1.0s	**83.32**	**316**	*e*P	**P**	**03 55 30.7**	**+0.1**
ILAR	**Eielson Array** 0.3nm,0.7s,baz=297,slow=4.0,SNR=5.2	**95.58**	**22**	P	**P**	**03 56 28.0**	**-0.6**
NVAR	**Mina Array Bea** 0.3nm,0.5s,baz=96,slow=0.9,SNR=2.7	**126.04**	**29**	PKP	**PKPdf**	**04 02 07.1**	**+0.5**

*JMA **15** 03:45:52.8±0.5,30°.68N×138°.60E,h485km,M3.4*
*IDC **15** 03:45:53.1±1.7,30°.50N×138°.87E,h452km±31km,mb3.2/5, mb1 3.2/8,mb1mx2.8/38,mbtmp3.9/8,Error ellipse: s-maj=89.1km s-min=14.0km az=79.0*
ISC 15 03:45:52.8±0.9,30°.50N±0°.08×138°.7E±0°.1,h440km,n17, σ1s74/19,mb3.5/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.78**	**20**	P	P	03 47 01.3	+4.0
JWZ	**Kozaga**	**3.94**	**321**	P	**P**	**03 47 08.3**	**+1.6**
HMMJ	**Hamamatsu 2**	**4.42**	**350**	P	**P**	**03 47 13.9**	**+2.9**
BSO3	**Boso 3**	**4.56**	**19**	P	**P**	**03 47 14.4**	**+2.4**
JCJ	**Chichijima** 4.4nm,0.3s,baz=270,slow=16,SNR=5.2	**4.57**	**137**	P	**P**	**03 47 12.8**	**+0.1**
JCJ	14nm,0.3s,baz=278,slow=23,SNR=8.3			S	**S**	**03 48 17.4**	**-0.2**
BSO1	**Boso 1**	**4.58**	**24**	P	**P**	**03 47 14.4**	**+2.6**
BSO4	**Boso 4**	**4.69**	**17**	P	**P**	**03 47 15.3**	**+1.8**
JRY	**Ryogami san**	**5.51**	**2**	P	**P**	**03 47 23.5**	**+1.9**
JRY				*e*S	**S**	**03 48 34.4**	**+0.2**
JAG	**Ashikaga**	**5.95**	**6**	P	**P**	**03 47 26.6**	**+0.5**
MJAR	**Matsushiro Ar** 0.6nm,0.3s,baz=175,slow=12,SNR=7.3	**6.04**	**356**	P	**P**	**03 47 28.1**	**+1.1**
JHO	**Hitachi**	**6.30**	**14**	P	**P**	**03 47 30.8**	**+1.1**
JHO				S	**S**	**03 48 45.4**	**-3.6**
USRK	**Ussuriysk Ar.** 0.3nm,0.3s,baz=146,slow=9.0,SNR=6.1	**14.67**	**341**	P	**P**	**03 49 00.5**	**+0.1**
WRA	**Warramunga Arr** 1.5nm,0

*THE **15** 03:48:15.8, 41.60N×20.41E, h9km±2km, ML2.5/1, Error ellipse: s-maj=2.4km s-min=1.5km az=15.0*
*BEO **15** 03:48:15.5±0.5, 41.57N×20.42E, h6km±4km, ML2.2/4*
*CSEM **15** 03:48:15.6±0.2, 41.61N×20.36E, h2km, ML2.8, Error ellipse: s-maj=3.7km s-min=3.0km az=48.0*

ISC 15 03:48:15.9±0.8, 41.60N±0.02×20.37E±0.02, h11km±5km, n39, σ0.89/74, 1D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.10**	**33**	*i* PG	**Pg**	**03 48 18.5**	**-0.3**
PHP				*i* SG	**Sg**	**03 48 20.8**	**0.0**
PHP	**Peshkopia**	**0.10**	**33**	P	**Pg**	**03 48 18.4**	**-0.3**
PHP				S	**Sg**	**03 48 20.8**	**0.0**
PHP	**Peshkopia**	**0.10**	**33**	P	**Pg**	**03 48 18.4**	**-0.3**
PHP				S	**Sg**	**03 48 20.8**	**0.0**
TIR	**Tirane**	**0.45**	**236**	*i* PG	**Pg**	**03 48 24.0**	**-0.8**
TIR				*i* SG	**Sg**	**03 48 31.6**	**+0.7**
TIR	**Tirane**	**0.45**	**236**	P	**Pg**	**03 48 23.8**	**-1.0**
TIR				S	**Sg**	**03 48 31.1**	**+0.3**
TIR	**Tirane**	**0.45**	**236**	⇓*i* Pg	**Pg**	**03 48 23.8**	**-1.0**
TIR				*e*Sg	**Sg**	**03 48 30.8**	**0.0**
TIR	**Tirane**	**0.45**	**236**	*i* Pg	**Pg**	**03 48 24.0**	**-0.8**
	SNR=100						
TIR				*e*Sg	**Sg**	**03 48 30.8**	**0.0**
TIR				S	**Sg**	**03 48 31.1**	**+0.3**
PUK	**Puka**	**0.57**	**322**	*i* PG	**Pg**	**03 48 26.6**	**-0.4**
PUK				*i* SG	**Sg**	**03 48 34.2**	**+0.3**
PUK	**Puka**	**0.57**	**322**	*i* Pg	**Pg**	**03 48 26.6**	**-0.4**
	SNR=97						
PUK				*i* Sg	**Sg**	**03 48 34.2**	**-0.3**
	SNR=97						
SKO	**Skopje**	**0.89**	**65**	P	**Pg**	**03 48 32.7**	**-0.3**
SKO				S	**Sb**	**03 48 45.3**	**+0.1**
SKO	**Skopje**	**0.89**	**65**	*e*Pg	**Pg**	**03 48 32.5**	**-0.6**
SKO				*e*Sg	**Sb**	**03 48 44.8**	**-0.3**
SKO	**Skopje**	**0.89**	**65**	*e*Pg	**Pg**	**03 48 32.4**	**-0.6**
SKO	**Skopje**	**0.89**	**65**	P	**Pg**	**03 48 32.7**	**-0.3**
SKO				*e*Sg	**Sb**	**03 48 44.8**	**-0.3**
SKO				S	**Sb**	**03 48 45.3**	**+0.1**
KBN	**Korca**	**1.03**	**162**	P	**Pg**	**03 48 35.3**	**-0.4**
KBN				S	**Sn**	**03 48 50.7**	**0.0**
KBN	**Korca**	**1.03**	**162**	P	**Pg**	**03 48 35.3**	**-0.4**
KBN				S	**Sn**	**03 48 50.7**	**0.0**
FNA	**Florina**	**1.12**	**137**	P	**Pg**	**03 48 36.0**	**-1.4**
FNA				S	**Sg**	**03 48 52.0**	**+0.1**
FNA	**Florina**	**1.12**	**137**	P	**Pg**	**03 48 36.0**	**-1.4**
FNA				S	**Sg**	**03 48 52.0**	**+0.1**
PDG	**Podgorica**	**1.17**	**315**	P	**Pg**	**03 48 36.9**	**-1.6**
PDG				S	**Sn**	**03 48 55.9**	**+1.7**
PDG	**Podgorica**	**1.17**	**315**	*e*Pg	**Pg**	**03 48 36.7**	**-1.8**
PDG				*e*Sg	**Sn**	**03 48 55.8**	**+1.6**
PDG	**Podgorica**	**1.17**	**315**	P	**Pg**	**03 48 36.9**	**-1.6**
PDG				*e*Sg	**Sn**	**03 48 55.8**	**+1.6**
NEST	**Nestorio**	**1.29**	**156**	P	**Pn**	**03 48 40.3**	**+0.3**
NEST				S	**Sb**	**03 48 56.3**	**-0.6**
NEST	**Nestorio**	**1.29**	**156**	P	**Pn**	**03 48 40.3**	**+0.3**
NEST				S	**Sb**	**03 48 56.3**	**-0.6**
BARS	**Barje**	**1.62**	**41**	*e*Pg	**Pg**	**03 48 46.3**	**-0.8**
BARS				*e*Sg	**Sg**	**03 49 07.7**	**-0.5**
BARS	**Barje**	**1.62**	**41**	*e*Pg	**Pg**	**03 48 46.3**	**-0.8**
BARS				*e*Sg	**Sg**	**03 49 07.7**	**-0.5**
VAY	**Valandovo**	**1.68**	**99**	*e*Pn	**Pb**	**03 48 47.1**	**+0.2**
VAY				*e*Sg	**Sg**	**03 49 10.3**	**+0.4**
VAY				*e*Lg	Lg	03 49 11.8	
	comp=E,16nm,0.6s						
VAY				*e*Lg	Lg	03 49 11.8	
	comp=N,29nm,0.6s						
VAY	**Valandovo**	**1.68**	**99**	*e*Pn	**Pb**	**03 48 47.0**	**+0.2**
VAY				*e*Sg	**Sg**	**03 49 10.3**	**+0.4**
VAY				*e*Lg	Lg	03 49 11.8	
	comp=N,29nm,0.6s						
SJES	**Sjenica**	**1.69**	**350**	*e*Pg	**Pb**	**03 48 47.0**	**0.0**
SJES				*e*Sg	**Sg**	**03 49 10.6**	**+0.4**
SJES	**Sjenica**	**1.69**	**350**	*e*Pg	**Pb**	**03 48 47.0**	**0.0**
SJES				*e*Sg	**Sg**	**03 49 10.6**	**+0.4**
SELS	**Selova**	**1.71**	**19**	*e*Pn	**Pn**	**03 48 44.9**	**-0.8**
IVAS	**Ivanjica**	**1.98**	**356**	*e*Pn	**Pn**	**03 48 49.1**	**-0.4**
IVAS				*e*Sg	**Sg**	**03 49 18.3**	**-1.4**
IVAS	**Ivanjica**	**1.98**	**356**	*e*Pn	**Pn**	**03 48 49.1**	**-0.4**
IVAS				*e*Sg	**Sg**	**03 49 18.3**	**-1.4**
STON	**Ston**	**2.35**	**304**	*e*Pn	**Pn**	**03 48 55.4**	**+0.9**
STON				Sn	**Sb**	**03 49 26.2**	**-1.1**
STON	**Ston**	**2.35**	**304**	*e*Pn	**Pn**	**03 48 55.4**	**+0.9**
STON				Sn	**Sb**	**03 49 26.2**	**-1.1**
TEKS	**Tekeris**	**3.01**	**349**	*e*Pn	**Pn**	**03 49 05.2**	**+1.6**
TEKS	**Tekeris**	**3.01**	**349**	*e*Pn	**Pn**	**03 49 05.2**	**+1.6**
UDBI	**Udbina**	**4.46**	**313**	*e*Pn	**Pn**	**03 49 25.9**	**+2.3**
UDBI	**Udbina**	**4.46**	**313**	*e*Pn	**Pn**	**03 49 25.8**	**+2.3**
NVLJ	**Novalja**	**5.00**	**308**	*i* Pn	**Pn**	**03 49 31.6**	**+0.7**
NVLJ				Sn	**Sn**	**03 50 28.7**	**+0.2**
NVLJ	**Novalja**	**5.00**	**308**	*i* Pn	**Pn**	**03 49 31.5**	**+0.7**
NVLJ				Sn	**Sn**	**03 50 28.7**	**+0.2**

*NIED **15** 03:49:00, 32.10N×129.40E, h5km, Mw3.9 Best double couple: M0 7.37000×10^14 NP1:φs40.00000°, δ41.00000°, λ-113.00000°. NP2:φs250.00000°, δ53.00000°, λ-71.00000°.*
*ISCJB **15** 03:49:33.9±1.1, 32.06N±0.05×129.37E±0.05, h12km±9km, mb3.5/4, MS4.1/1, Error ellipse: s-maj=8.4km s-min=6.2km az=37.1*
*JMA **15** 03:49:33.9±0.1, 32.07N×129.39E, h1km±2km, M3.6*
*IDC **15** 03:49:33.2±1.5, 31.93N×129.41E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/25, mbtmp3.5/5, ML3.1/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/33, Error ellipse: s-maj=50.3km s-min=26.6km az=78.0*

ISC 15 03:49:33.3±1.6, 32.02N±0.06×129.39E±0.04, h1km±11km, n15, σ1.8/08/20, mb3.6/4, 4C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSJ	**Shimokoshiki**	**0.44**	**141**	⇑P	**Pb**	**03 49 43.2**	**-0.6**
JSJ				*e*S	**Sb**	**03 49 50.0**	**-0.9**
NGSJ	**Nagasakinomoza**	**0.70**	**29**	⇑P	**Pg**	**03 49 47.0**	**+0.2**
NGSJ				*e*S	**Sg**	**03 49 56.1**	**+0.2**
JHD	**Hondo**	**0.77**	**55**	P	**Pg**	**03 49 48.5**	**+0.4**
JHD				*e*S	**Sg**	**03 49 58.9**	**+0.8**
JFJ	**Fukue jima 2**	**0.83**	**320**	⇑P	**Pg**	**03 49 50.1**	**+0.8**
JFU				*e*S	**Sb**	**03 50 01.0**	**+0.9**
JZO	**Okuchi**	**1.03**	**83**	P	**Pb**	**03 49 54.2**	**+0.2**
JSU	**Suzuyama**	**1.04**	**119**	⇑P	**Pb**	**03 49 54.4**	**+0.3**
JSU				*e*S	**Sb**	**03 50 08.9**	**+0.6**
JIU2	**Izumi 2**	**1.31**	**66**	P	**Pg**	**03 49 58.1**	**-0.4**
JTA	**Tamana**	**1.35**	**45**	P	**Pn**	**03 49 58.4**	**-0.9**
KSRS	**Korea Array**	**5.55**	**348**	Pn	**Pn**	**03 50 57.2**	**+0.1**
	0.6nm,0.3s,baz=165,slow=14,SNR=5.1						
KSRS				Pg	**Pg**	**03 51 16.9**	**-2.8**
	1.0nm,0.3s,baz=165,slow=17,SNR=10.0						
KSRS				Sn	**Sn**	**03 52 00.1**	**-1.4**
	0.3nm,0.3s,baz=174,slow=28,SNR=4.1						
KSRS				Lg	Lg	03 52 25.8	
	1.5nm,0.3s,baz=176,slow=32,SNR=6.3						
USRK	**Ussuriysk Ar.**	**12.33**	**9**	LR	LR	03 57 23.3	
	comp=Z,72nm,20.6s,baz=161,slow=38						
ZALV	**Zalesovo Beam**	**38.44**	**318**	P	**P**	**03 56 58.0**	**+1.6**
	0.3nm,0.3s,baz=96,slow=10,SNR=2.1						
ASAR	**Alice Springs**	**55.54**	**175**	P	**P**	**03 59 09.7**	**-0.6**
	0.7nm,0.8s,baz=7.3,slow=10,SNR=3.0						
ILAR	**Eielson Array**	**58.90**	**30**	P	**P**	**03 59 34.4**	**+0.9**
	0.3nm,0.9s,baz=262,slow=6.3,SNR=2.6						
BRTR	**Keskin Array B**	**74.32**	**307**	P	**P**	**04 01 12.6**	**-0.2**
	0.8nm,0.9s,baz=79,slow=7.5,SNR=4.4						
ASF	**Jabal al Asfar**	**75.62**	**299**	LR	LR	04 38 35.0	
	comp=Z,114nm,21.5s,baz=316,slow=39						

GUC 15 04:03:38.9±0.5, 28.40S×71.33W, h34km±3km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.53**	**109**	*e*P	Pn	04 03 50.1	0.0
VACH				*e*S	Sb	04 03 57.8	0.0
VACH				AML	AML	04 03 58.0	
	comp=N,37μm,0.1s						
CPCH	**Copiapo**	**1.35**	**40**	*e*P	Pn	04 04 02.4	+1.0
CPCH				*e*S	Sb	04 04 20.1	-0.6
CDCH	**Caldera**	**1.40**	**19**	*e*P	Pn	04 04 01.5	-0.5
CDCH				*e*S	Sn	04 04 19.9	+0.6
CDCH				AML	AML	04 04 21.7	

	comp=N,716nm,0.3s						
LSCH	**La Serena**	**1.50**	**177**	*e*P	Pn	04 04 04.7	+1.2
LSCH				*e*S	Sb	04 04 24.3	-0.8
TLL	**Tololo Astrono**	**1.82**	**166**	*e*P	Pn	04 04 09.6	+1.4
TLL				*e*S	Sb	04 04 33.5	-1.1
TLL				AML	AML	04 04 39.1	
	comp=N,2μm,0.4s						

*TIR **15** 04:05:27.7±0.7, 41.62N×20.38E, h24km±3km, ML2.7*
*ATH **15** 04:05:29.4, 41.65N×20.42E, h12km±2km, MD3.5/8*
*THE **15** 04:05:29.6, 41.60N×20.38E, h0km±3km, ML2.5/3, Error ellipse: s-maj=3.5km s-min=1.1km az=295.0*
*PDG **15** 04:05:29.7±0.4, 41.58N×20.35E, h7km, ML2.6/11, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
*BEO **15** 04:05:29.7±0.3, 41.59N×20.36E, h0km, ML2.2/1*
*SKO **15** 04:05:30.4, 41.36N×20.33E, h15km, M2.0, ML2.4*
*CSEM **15** 04:05:30.0±0.1, 41.61N×20.37E, h2km, ML2.7, Error ellipse: s-maj=3.7km s-min=2.6km az=49.0*

ISC 15 04:05:29.5±1.0, 41.59N±0.01×20.35E±0.01, h2km±9km, n89, σ0.88/152, 8C-13D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.12**	**36**	*i* PG	**Pg**	**04 05 32.2**	**+0.3**
PHP				*i* SG	**Sg**	**04 05 34.8**	**+1.4**
PHP	**Peshkopia**	**0.12**	**36**	P	**Pg**	**04 05 32.3**	**+0.5**
PHP				S	**Sg**	**04 05 33.8**	**+0.4**
PHP	**Peshkopia**	**0.12**	**36**	P	**Pg**	**04 05 32.3**	**+0.5**
PHP				S	**Sg**	**04 05 33.8**	**+0.4**
PHP				*i* Sg	Sg	04 05 34.8	+1.2
	SNR=154						
TIR	**Tirane**	**0.44**	**237**	*i* PG	**Pg**	**04 05 37.8**	**-0.1**
TIR				*i* SG	**Sg**	**04 05 44.8**	**+1.2**
TIR	**Tirane**	**0.44**	**237**	P	**Pg**	**04 05 37.7**	**-0.2**
TIR				S	**Sg**	**04 05 45.2**	**+1.7**
TIR	**Tirane**	**0.44**	**237**	⇓*i* Pg	**Pg**	**04 05 37.5**	**-0.4**
TIR				*e*Sg	**Sg**	**04 05 44.3**	**+0.8**
TIR	**Tirane**	**0.44**	**237**	*i* Pg	**Pg**	**04 05 37.8**	**-0.1**
	SNR=94						
TIR				*e*Sg	**Sg**	**04 05 44.3**	**+0.8**
TIR				S	**Sg**	**04 05 45.2**	**+1.7**
PUK	**Puka**	**0.57**	**323**	*i* PG	**Pg**	**04 05 39.6**	**-0.8**
PUK				*i* SG	**Sg**	**04 05 47.5**	**-0.3**
PUK	**Puka**	**0.57**	**323**	*i* Pg	**Pg**	**04 05 39.6**	**-0.8**
	SNR=92						
PUK				*i* Sg	**Sg**	**04 05 47.5**	**-0.3**
	SNR=92						
PRZK	**Prizren**	**0.69**	**26**	P	**Pg**	**04 05 42.3**	**-0.5**
ZATK	**Zatriq**	**0.88**	**13**	P	**Pg**	**04 05 45.3**	**-1.1**
SKO	**Skopje**	**0.90**	**65**	P	**Pg**	**04 05 46.5**	**-0.3**
SKO				S	**Sb**	**04 05 59.5**	**-0.9**
SKO	**Skopje**	**0.90**	**65**	P	**Pg**	**04 05 46.5**	**-0.3**
SKO				S	**Sb**	**04 05 59.5**	**-0.9**
ULC	**Ulcinj**	**0.91**	**295**	P	**Pg**	**04 05 45.8**	**-1.1**
ULC				*e*Sg	**Sb**	**04 06 00.8**	**+0.2**
ULC	**Ulcinj**	**0.91**	**295**	⇑*i* Pg	**Pg**	**04 05 45.6**	**-1.3**
ULC				*e*Sg	**Sb**	**04 06 00.8**	**+0.2**
PVY	**Plav**	**1.05**	**344**	⇑*i* Pg	**Pg**	**04 05 48.5**	**-1.1**
PVY				*e*Sg	**Sb**	**04 06 05.2**	**+0.5**
PVY	**Plav**	**1.05**	**344**	⇑*i* Pg	**Pg**	**04 05 48.5**	**-1.1**
PVY				*e*Sg	**Sb**	**04 06 05.2**	**+0.5**
PEJK	**Peje**	**1.05**	**357**	P	**Pg**	**04 05 49.4**	**-0.3**
DRME	**Dracevica, Mon**	**1.05**	**305**	⇓*i* Pg	**Pg**	**04 05 48.4**	**-1.3**
DRME				*e*Sg	**Sb**	**04 06 06.0**	**+1.2**
DRME	**Dracevica, Mon**	**1.05**	**305**	⇓*i* Pg	**Pg**	**04 05 48.4**	**-1.3**
DRME				*e*Sg	**Sb**	**04 06 06.0**	**+1.2**
FNA	**Florina**	**1.12**	**136**	P	**Pg**	**04 05 50.3**	**-0.6**
FNA				S	**Sb**	**04 06 06.7**	**+0.1**
FNA	**Florina**	**1.12**	**136**	*e*PG	**Pg**	**04 05 50.1**	**-0.8**
FNA				*e*SB	**Sb**	**04 06 06.6**	**0.0**
FNA	**Florina**	**1.12**	**136**	P	**Pg**	**04 05 50.3**	**-0.6**
FNA				*e*Sb	**Sb**	**04 06 06.6**	**0.0**
PDG	**Podgorica**	**1.17**	**316**	P	**Pg**	**04 05 50.9**	**-1.1**
PDG				S	**Sn**	**04 06 09.3**	**-0.2**
PDG	**Podgorica**	**1.17**	**316**	*e*Pg	**Pg**	**04 05 50.4**	**-1.6**
PDG				*e*Sg	**Sg**	**04 06 06.7**	**-0.4**
PDG	**Podgorica**	**1.17**	**316**	⇑*i* Pg	**Pg**	**04 05 51.1**	**-0.9**
PDG				*e*Sg	**Sg**	**04 06 06.7**	**-0.4**
PDG				S	**Sn**	**04 06 09.3**	**-0.2**
TTG	**Podgorica**	**1.17**	**316**	⇑*i* Pg	**Pg**	**04 05 51.1**	**-0.9**
TTG				*e*Sg	**Sn**	**04 06 10.1**	**+0.6**
GJIK	**Gjilan**	**1.19**	**43**	S	**Sb**	**04 06 08.5**	**-0.2**
NEST	**Nestorio**	**1.29**	**155**	P	**Pg**	**04 05 54.2**	**0.0**
NEST				S	**Sn**	**04 06 12.8**	**+0.3**
NEST	**Nestorio**	**1.29**	**155**	*e*PG	**Pg**	**04 05 54.1**	**-0.1**
NEST				*e*SB	**Sn**	**04 06 12.5**	**0.0**
NEST	**Nestorio**	**1.29**	**155**	P	**Pg**	**04 05 54.2**	**0.0**
NEST				*e*Sb	**Sn**	**04 06 12.5**	**0.0**
BUM	**Brajici-Budva**	**1.30**	**304**	⇓*i* Pg	**Pg**	**04 05 53.4**	**-1.0**
BUM				*e*Sg	**Sn**	**04 06 14.2**	**+1.5**
BUM	**Brajici-Budva**	**1.30**	**304**	⇓*i* Pg	**Pg**	**04 05 53.4**	**-1.0**
BUM				*e*Sg	**Sn**	**04 06 14.2**	**+1.5**
BEY	**Berane**	**1.33**	**345**	⇓*i* Pg	**Pg**	**04 05 54.7**	**-0.2**
BEY				*e*Sg	**Sn**	**04 06 15.1**	**+1.6**
IVA	**Berane**	**1.33**	**345**	⇓*i* Pg	**Pg**	**04 05 54.7**	**-0.2**
IVA				*e*Sg	**Sn**	**04 06 15.1**	**+1.6**
SMRK	**Smrekonice**	**1.35**	**19**	P	**Pb**	**04 05 55.5**	**-0.2**
SMRK				S	**Sn**	**04 06 15.4**	**+1.3**
NKME	**Niksic**	**1.57**	**319**	*e*Sg	**Sg**	**04 06 21.7**	**+1.8**
NKME	**Niksic**	**1.57**	**319**	⇓*i* Pg	**Pn**	**04 05 58.3**	**-0.2**
NKME				*e*Sg	**Sg**	**04 06 21.7**	**+1.8**
NKY	**Niksic**	**1.58**	**321**	⇑*i* PN	**Pn**	**04 05 58.9**	**+0.2**
NKY				*e*Sn	**Sg**	**04 06 22.8**	**+2.4**
NKY	**Niksic**	**1.58**	**321**	⇑*i* PN	**Pn**	**04 05 58.9**	**+0.2**
NKY				*e*Sn	**Sg**	**04 06 22.8**	**+2.4**
HCY	**Herceg Novi**	**1.63**	**302**	*e*Sn	**Sg**	**04 06 23.2**	**+1.4**
HCY	**Herceg Novi**	**1.63**	**302**	⇓*i* PN	**Pn**	**04 05 58.9**	**-0.3**
HCY				*e*Sn	**Sg**	**04 06 23.2**	**+1.4**
BARS	**Barje**	**1.64**	**41**	*e*Pn	**Pb**	**04 06 00.2**	**-0.3**
BARS				*e*Sg	**Sb**	**04 06 21.6**	**-0.1**
KZN	**Kozani**	**1.67**	**139**	P	**Pb**	**04 06 00.6**	**-0.5**
KZN				S	**Sb**	**04 06 22.7**	**0.0**
KZN	**Kozani**	**1.67**	**139**	*e*PB	**Pg**	**04 06 01.4**	**-0.2**
KZN				*e*SB	**Sg**	**04 06 23.4**	**+0.1**
KZN	**Kozani**	**1.67**	**139**	P	**Pb**	**04 06 00.6**	**-0.5**
KZN	**Kozani**	**1.67**	**139**	*e*Pb	**Pg**	**04 06 01.4**	**-0.2**
KZN				S	**Sb**	**04 06 22.7**	**0.0**
KZN				*e*Sb	**Sg**	**04 06 23.4**	**+0.1**
VAY	**Valandovo**	**1.69**	**98**	P	**Pn**	**04 06 00.0**	**-0.1**
VAY				S	**Sn**	**04 06 22.2**	**-0.1**
VAY	**Valandovo**	**1.69**	**98**	*i* Pn	**Pb**	**04 06 01.0**	**-0.3**
VAY				*i* Sg	**Sg**	**04 06 23.9**	**+0.1**
VAY				*e*Lg	Lg	04 06 24.1	
	comp=N,40nm,0.7s						
VAY				*e*Lg	Lg	04 06 24.6	
	comp=E,27nm,0.6s						
VAY	**Valandovo**	**1.69**	**98**	⇓*i* Pg	**Pn**	**04 06 00.3**	**+0.2**
VAY				*e*Sg	**Sn**	**04 06 22.0**	**-0.3**
VAY	**Valandovo**	**1.69**	**98**	P	**Pn**	**04 06 00.0**	**-0.1**
VAY	**Valandovo**	**1.69**	**98**	⇓*i* Pg	**Pn**	**04 06 00.3**	**+0.2**
VAY	**Valandovo**	**1.69**	**98**	*i* Pn	**Pb**	**04 06 01.0**	**-0.3**
VAY				*i* Sg	**Sn**	**04 06 22.2**	**-0.1**
VAY				*i* Sg	**Sg**	**04 06 23.9**	**+0.1**
VAY				*e*Lg	Lg	04 06 24.1	
	comp=E,40nm,0.7s						
SJES	**Sjenica**	**1.69**	**351**	⇑*i* Pg	**Pn**	**04 06 00.8**	**+0.5**
SJES				*e*Sg	**Sg**	**04 06 24.2**	**+0.2**
SELS	**Selova**	**1.73**	**19**	*e*Pn	**Pn**	**04 05 59.4**	**-1.2**
BRY	**Bratogost**	**1.88**	**315**	*e*Pn	**Pn**	**04 06 03.7**	**+0.9**
BRY				*e*Sn	**Sg**	**04 06 29.6**	**-0.3**
BRY	**Bratogost**	**1.88**	**315**	*e*Pn	**Pn**	**04 06 03.7**	**+0.9**
BRY				*e*Sn	**Sg**	**04 06 29.6**	**-0.3**
PLE	**Pljevlja**	**1.88**	**338**	⇓*i* Pn	**Pb**	**04 06 04.0**	**-0.6**
PLE				*e*Sn	**Sb**	**04 06 29.2**	**+0.6**
PLE	**Pljevlja**	**1.88**	**338**	⇓*i* Pn	**Pb**	**04 06 04.0**	**-0.6**
PLE				*e*Sn	**Sb**	**04 06 29.2**	**+0.6**
KEK	**Kerkira**	**1.92**	**193**	*e*PN	**Pb**	**04 06 04.6**	**-0.7**
KEK	**Kerkira**	**1.92**	**193**	*e*Pn	**Pb**	**04 06 04.6**	**-0.7**
UPM	**Unac-Piva**	**1.94**	**327**	*e*Pn	**Pb**	**04 06 04.7**	**-0.9**
UPM	**Unac-Piva**	**1.94**	**327**	P	**Pb**	**04 06 05.7**	**+0.1**
UPM				*e*Sn	**Sg**	**04 06 31.5**	**-0.2**
UPM	**Unac-Piva**	**1.94**	**327**	*e*Pn	**Pb**	**04 06 04.7**	**-0.9**
UPM				*e*Sn	**Sg**	**04 06 31.5**	**-0.2**
KNT	**Kendrikon**	**1.96**	**102**	P	**Pn**	**04 06 03.9**	**0.0**
KNT	**Kendrikon**	**1.96**	**102**	*e*PN	**Pn**	**04 06 04.1**	**+0.2**
KNT	**Kendrikon**	**1.96**	**102**	*e*Pn	**Pn**	**04 06 04.1**	**+0.2**
IVAS	**Ivanjica**	**1.99**	**356**	*e*Pn	**Pn**	**04 06 04.1**	**-0.2**
IVAS				*e*Sg	**Sg**	**04 06 33.0**	**-0.5**
IVAS	**Ivanjica**	**1.99**	**356**	*e*Pn	**Pn**	**04 06 04.1**	**-0.2**
IVAS				*e*Sg	**Sg**	**04 06 33.0**	**-0.5**
GRUS	**Gruza**	**2.31**	**7**	*e*Pn	**Pn**	**04 06 09.5**	**+0.8**
GRUS	**Gruza**	**2.31**	**7**	*e*Pn	**Pn**	**04 06 09.5**	**+0.8**
STON	**Ston**	**2.35**	**304**	*e*Pn	**Pn**	**04 06 10.4**	**+1.3**
STON				Sn	**Sb**	**04 06 40.8**	**-1.2**
STON	**Ston**	**2.35**	**304**	*e*Pn	**Pn**	**04 06 10.4**	**+1.3**
STON				Sn	**Sb**	**04 06 40.7**	**-1.2**
BBLS	**Lazi?i**	**2.38**	**343**	*e*Pg	**Pn**	**04 06 10.9**	**+1.3**
BBLS	**Lazi?i**	**2.38**	**343**	*e*Pg	**Pn**	**04 06 10.9**	**+1.3**
ZAPS	**Zavoj**	**2.39**	**44**	*e*Pn	**Pn**	**04 06 10.8**	**+1.1**
ZAPS				*e*Sn	**Sn**	**04 06 40.2**	**+0.7**
ZAPS	**Zavoj**	**2.39**	**44**	*e*Pn	**Pn**	**04 06 10.8**	**+1.1**
ZAPS				*e*Sn	**Sn**	**04 06 40.2**	**+0.7**
THL	**Klokotos Trika**	**2.39**	**147**	*e*PN	**Pb**	**04 06 11.7**	**-1.5**
THL	**Klokotos Trika**	**2.39**	**147**	*e*Pn	**Pb**	**04 06 11.7**	**-1.5**
DSL	**Palaion Diasel**	**2.52**	**167**	*e*PN	**Pb**	**04 06 13.8**	**-1.7**
DSL	**Palaion Diasel**	**2.52**	**167**	*e*Pn	**Pb**	**04 06 13.8**	**-1.7**
DIVS	**Divibare**	**2.52**	**354**	*e*Pn	**Pn**	**04 06 11.7**	**+0.1**
DIVS	**Divibare**	**2.52**	**354**	*e*Pn	**Pn**	**04 06 11.7**	**+0.1**
AGG	**Agios Georgios**	**2.98**	**149**	*e*PN	**Pn**	**04 06 19.5**	**+1.7**
AGG	**Agios Georgios**	**2.98**	**149**	*e*Pn	**Pn**	**04 06 19.5**	**+1.7**
TEKS	**Tekeris**	**3.02**	**349**	*e*Pn	**Pn**	**04 06 19.2**	**+0.8**
TEKS	**Tekeris**	**3.02**	**349**	*e*Pn	**Pn**	**04 06 19.2**	**+0.8**
NVLJ	**Novalja**	**4.99**	**308**	*e*Pn	**Pn**	**04 06 44.9**	**-0.5**
NVLJ				Sn	**Sn**	**04 07 42.8**	**-1.0**
NVLJ	**Novalja**	**4.99**	**308**	*e*Pn	**Pn**	**04 06 44.9**	**-0.5**
NVLJ				Sn	**Sn**	**04 07 42.7**	**-1.0**

IDC 15 04:22:12.8±10.0, 2.36N×126.54E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/47, mbtmp3.7/3, Error ellipse: s-maj=235.1km s-min=173.1km az=76.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.45**	**161**	P	P	04 27 25.1	+1.2
	0.3nm,0.3s,baz=340,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**26.84**	**165**	P	P	04 27 55.9	+0.7
	0.5nm,0.5s,baz=342,slow=7.4,SNR=9.0						
STKA	**Stephens Creek**	**36.92**	**158**	P	P	04 29 22.1	-1.5
	1.4nm,0.4s,baz=342,slow=9.6,SNR=6.2						

*BJI **15** 04:26:55.8, 32.64N×116.19W, h4km, mb5.4/26, mB5.8/30, Ms5.8/35, Ms7 5.5/34*
*ISCJB **15** 04:26:56.4±0.3, 32.67N±0.01×115.882W±0.010, h1km±2km, mb5.5/256, MS5.7/278, Error ellipse: s-maj=1.9km s-min=1.2km az=23.8*
*IDC **15** 04:26:57.8±0.4, 32.75N×115.84W, h0km, mb5.0/40, mb1 5.0/48, mb1mx5.0/48, mbtmp4.9/48, ML4.6/7, MS5.5/36, Ms1 5.5/36, ms1mx5.4/39, Error ellipse: s-maj=10.9km s-min=6.8km az=63.0*
*IASPEI **15** 04:26:57.5±1.0, 32.72N±0.02×115.94W±0.02, h18km±6km, mb5.5/265, MS5.7/287, Error ellipse: s-maj=3.6km s-min=2.8km az=170.7*
*MOS **15** 04:26:58.6±0.8, 32.76N×115.88W, h13km, mb5.7/81, MS5.8/71, Error ellipse: s-maj=5.2km s-min=3.2km az=81.1*
*GCMT **15** 04:26:58.5±0.1, 32.66N×115.98W, h13km, MW5.8/132, Moment Tensor Solution. s110,c222; s132,c398; Duration: 1s9 Moment tensor: Scale 10^17 Nm; Mrr-1.77±.05; Mθθ-5.23±.05; Mφφ 7.00±.06; Mrθ-0.59±.11; Mθφ-1.30±.04; Mφr-0.02±.11; Best double couple: M0 6.29800×10^

CBX Cerro Bola 0.72 239 ⇑eP Pg 04 27 12.2 -0.1
CBX eS Sg 04 27 22.2 +0.5
CBX IAML 04 27 23.4
comp=N,367µm,0.6s
CBX e 04 27 23.4
RDX Rancho Dawling 0.76 181 ⇓iP Pg 04 27 12.2 -0.8
SDRC San Diego Road 0.85 274 ⇑eP Pg 04 27 14.0 -0.8
SDRC eS Sg 04 27 25.1 -0.8
RII Riito 0.97 122 iPn Pg 04 27 17.2 +0.1
GLA Glamis 1.00 68 ⇑P Pg 04 27 15.5 -2.1
baz=1.0
GLA ⇑S Sg 04 27 28.4 -2.2
baz=1.0
109C Camp Elliot, M 1.01 282 ⇑P Pg 04 27 16.3 -1.5
baz=1.0
109C ⇑S Sg 04 27 29.7 -1.2
baz=1.0
PFO Pinyon Flats O 1.02 335 eP Pg 04 27 16.3 -1.8
PFO e 04 27 30.1
PFO Pinyon Flats O 1.02 335 ⇑P Pg 04 27 16.2 -1.8
baz=1.0
PFO ⇓S Sg 04 27 30.4 -1.0
baz=1.0
PFO Pinyon Flats O 1.02 335 ePn Pg 04 27 16.2 -1.8
PFO eSn Sg 04 27 30.1 -1.3
BC3 Big Chuckawall 1.05 22 ⇑P Pg 04 27 16.3 -2.3
baz=1.0
PBX Punta Banda 1.16 216 eP Pg 04 27 19.7 -0.9
ECNX Esteban Cantu 1.17 209 eP Pg 04 27 19.9 -1.1
ZAX El Zacaton 1.20 194 ⇓eP Pg 04 27 20.4 -1.1
BELC Belle Mtn. Jos 1.31 358 ⇑P Pn 04 27 20.4 -3.1
baz=1.3
MURC Murrieta 1.40 311 ⇑P Pn 04 27 22.0 -2.7
baz=1.4
MURC ⇓S Sb 04 27 41.7 -1.6
baz=1.4
Y12C Blythe 1.59 48 ⇑P Pn 04 27 24.0 -3.2
baz=1.6
IRM Iron Mountain 1.61 24 ⇑P Pn 04 27 24.6 -3.0
baz=1.6
SPIG San Pedro Mart 1.68 166 eP Pn 04 27 27.1 -1.7
SPIG iS Sn 04 27 48.6 -2.3
SPIG San Pedro Mart 1.68 166 eP Pn 04 27 27.1 -1.7
SPIG iS Sn 04 27 48.6 -2.3
SPIG San Pedro Mart 1.68 166 ⇓eP Pn 04 27 27.1 -1.7
SPX San Pedro Mart 1.68 166 eP Pn 04 27 27.5 -1.3
SPX iS Sn 04 27 49.1 -1.8
SPX San Pedro Mart 1.68 166 ⇓eP Pn 04 27 27.1 -1.7
SPX ⇑e 04 27 55.4
SPX IAML 04 27 55.4
comp=N,75µm,0.7s
BBRC Big Bear Solar 1.78 333 ⇓P Pn 04 27 27.9 -2.1
baz=1.8
BBRC ⇓Sb Sn 04 27 53.5 +0.4
baz=1.8
GMRC Granite Mounta 2.10 6 ⇑P Pn 04 27 31.6 -2.8
baz=2.1
BFSC Mount Baldy Ra 2.12 317 ⇓P Pn 04 27 32.4 -2.2
baz=2.1
BFSC ⇓Sb Sb 04 28 03.8 -0.2
baz=2.1
SSK Sunset Peak 2.12 316 ePn Pn 04 27 32.5 -2.1
HEC Hector,Ludlow 2.17 351 ⇓P Pn 04 27 32.6 -2.6
baz=2.2
CIS Catalina Islan 2.20 290 ⇑P Pn 04 27 33.1 -2.5
baz=2.2
CIS ⇑S Sn 04 28 01.8 -1.4
baz=2.2
PDMCI Parker Dam,Lak 2.20 42 ⇓P Pn 04 27 33.2 -2.4
baz=2.2
SCI San Clemente I 2.22 278 ⇑P Pn 04 27 34.4 -1.5
baz=2.2
SCI ⇓S Sn 04 28 02.3 -1.4
baz=2.2
FMP Fort Macarthur 2.23 298 ⇑P Pn 04 27 33.5 -2.5
baz=2.2
FMP ⇑Sb Sb 04 28 06.6 -0.5
baz=2.2
NEE2 Needles Airpor 2.35 27 ⇑P Pn 04 27 35.2 -2.5
baz=2.3
RRX Edison Barstow 2.36 338 ⇑P Pn 04 27 35.6 -2.3
baz=2.4
RRX ⇑S Sn 04 28 05.9 -1.3
baz=2.4
FLSC Flash Two Peak 2.46 338 ePn Pn 04 27 37.1 -2.2
DECC Green Verdugo 2.54 309 ⇑P Pn 04 27 38.0 -2.3
baz=2.5
DECC ⇓Sb Sb 04 28 16.1 0.0
baz=2.5
GSC Goldstone, Bar 2.71 345 ⇑P Pn 04 27 40.4 -2.3
baz=2.7
GSC ⇓Sb Sb 04 28 21.9 +0.9
baz=2.7
214A Organ Pipe Nat 2.74 105 ⇓P Pn 04 27 39.6 -3.5
baz=2.7
TUQ Turquoise Moun 2.74 0 ⇑P Pn 04 27 40.7 -2.5
baz=2.7
TUQ ⇑Sb Sb 04 28 23.8 +1.8
baz=2.7
EDW2 Edwards Air Fo 2.78 322 ⇓P Pn 04 27 41.6 -2.0
baz=2.8
EDW2 ⇑Sb Sb 04 28 24.2 +1.2
baz=2.8
BLG Laguna Peak, P 2.98 299 ⇓P Pn 04 27 43.7 -2.7
baz=3.0
BLG ⇓Sb Sb 04 28 29.8 +1.1
baz=3.0
OSI Osito Audit: C 3.02 310 ⇑P Pn 04 27 45.0 -2.0
baz=3.0
OSI ⇑Sb Sb 04 28 31.8 +1.8
baz=3.0
LRMC Laurel Mtn Rad 3.14 333 ⇑P Pn 04 27 46.5 -2.2
baz=3.1
LRMC ⇑Sb Sb 04 28 34.9 +1.4
baz=3.1
SHOC Shoshone, Teco 3.22 355 ⇑P Pn 04 27 47.4 -2.3
baz=3.2
SHOC ⇓Sb Sb 04 28 36.3 +0.7
baz=3.2
TJR Tejon Ranch 3.31 316 ePn Pn 04 27 49.6 -1.2
BSC Santa Cruz Isl 3.36 294 ⇓P Pn 04 27 49.1 -2.5
baz=3.4
ARVC Arvin 3.43 316 ⇑P Pn 04 27 50.9 -1.6
baz=3.4
ARVC ⇑Sb Sb 04 28 42.8 +1.3
baz=3.4
ABL Mount Abel 3.49 309 ePn Pn 04 27 52.5 -1.0
MPMC Manual Prospec 3.60 339 ⇑P Pn 04 27 52.9 -2.2
baz=3.6
SBC Santa Barbara 3.61 300 ⇓P Pn 04 27 52.9 -2.1
baz=3.6
SBC ⇑Sb Sb 04 28 49.1 +2.3
baz=3.6
ISA Isabella, Lake 3.64 325 ⇑P Pn 04 27 53.4 -2.1
baz=3.6
ISA ⇓Sb Sb 04 28 49.3 +1.5
baz=3.6
WOFM Oak Flat 3.66 322 ePn Pn 04 27 53.9 -1.9
DAC Darwin (Calif) 3.84 339 eP Pn 04 27 56.3 -2.0
DAC e 04 28 48.3
DAC Darwin (Calif) 3.84 339 ePn Pn 04 27 56.3 -2.0
DAC eSn Sn 04 28 48.3 +4.4
FURC Furnace Creek, 3.85 349 ⇓P Pn 04 27 56.1 -2.2
baz=3.8
SHPR Sheep Range 3.86 9 ePn Pn 04 27 56.5 -2.2
SHPR eSn Sb 04 28 55.4 +1.1
PKM Mcpherson Peak 3.92 305 ⇓P Pn 04 27 57.7 -1.7
baz=3.9
CRGC Crocker Grade 4.05 310 ePn Pn 04 28 00.8 -0.4
VES Vestal, Richgr 4.09 321 ⇑P Pn 04 27 59.8 -1.8
baz=4.1
CWC Cottonwood Cre 4.14 335 ⇓P Pn 04 28 00.8 -1.7
baz=4.1
TPNV Topopah Spring 4.26 357 eP Pn 04 28 02.8 -1.3
TPNV Topopah Spring 4.26 357 ⇓P Pn 04 28 02.6 -1.5
baz=4.3
TPNV Topopah Spring 4.26 357 ePn Pn 04 28 02.8 -1.3
TPNV eSn Sb 04 29 03.7 -2.1
SMMC Simmler 4.27 309 ⇓P Pn 04 28 02.2 -2.0
baz=4.3
SMMC ⇓Sb Sb 04 29 07.7 +1.7
baz=4.3
TUC Tucson 4.37 94 eP Pn 04 28 02.1 -3.4
TUC Tucson 4.37 94 ePn Pn 04 28 02.1 -3.4
GRAC Grapevine Rang 4.46 345 ⇑P Pn 04 28 05.3 -1.4
baz=4.5

RCTC Rector, Farmer 4.53 324 ⇑P Pn 04 28 06.0 -1.7
baz=4.5
PTRM Twissleman Ran 4.62 311 ePn Pn 04 28 07.4 -1.5
WUAZ Wupatki 4.72 52 ⇑P Pn 04 28 09.0 -1.4
baz=4.7
WUAZ Wupatki 4.72 52 ePn Pn 04 28 09.1 -1.4
ICU Indian Springs 4.75 20 ePn Pn 04 28 10.4 -0.4
TIN Tinemaha, Big 4.75 337 ⇓P Pn 04 28 09.6 -1.2
baz=4.7
KNB Kanab 5.02 30 eP Pn 04 28 13.9 -0.7
KNB Kanab 5.02 30 ePn Pn 04 28 13.8 -0.7
EKU East Kanab 5.21 32 ePn Pn 04 28 16.4 -0.8
CCUT Cedar City 5.29 23 ePn Pn 04 28 17.8 -0.5
MLAC Mammoth, Mammo 5.48 335 ⇑P Pn 04 28 20.8 -0.1
baz=5.5
TPH Tonopah 5.48 349 eP Pn 04 28 20.0 -0.9
TPH Tonopah 5.48 349 ePn Pn 04 28 20.0 -0.9
ARUT Antelope Range 5.48 21 eP Pn 04 28 20.2 -0.7
ARUT Antelope Range 5.48 21 ePn Pn 04 28 20.2 -0.7
BHU Blowhard Mount 5.50 26 ePn Pn 04 28 21.1 -0.3
HSIG 5.63 129 eP Pn 04 28 20.3 -2.5
HSIG 5.63 129 eP Pn 04 28 20.3 -2.5
R11A Troy Canyon, C 5.66 3 ⇑P Pn 04 28 22.2 -1.1
baz=5.7
R11A Troy Canyon, C 5.66 3 ePn Pn 04 28 22.4 -0.9
W18A Petrified Fore 5.70 63 ⇓P Pn 04 28 22.8 -1.0
baz=5.7
W18A Petrified Fore 5.70 63 ePn Pn 04 28 23.0 -0.9
DWU Dry Willow Pea 5.91 23 ePn Pn 04 28 26.3 -0.6
NV01 Mina Array Sit 6.05 342 ePn Pn 04 28 28.2 -0.5
NV01 eSn Sn 04 29 32.2 -6.2
NVAR Mina Array Bea 6.05 342 Pn Pn 04 28 27.9 -0.8
comp=N,8.4nm,0.3s,baz=164,slow=14,SNR=117
NVAR Pg Pb 04 28 49.5 +5.1
comp=N,46nm,0.3s,baz=157,slow=17,SNR=36
NVAR Sn Sn 04 29 36.0 -2.5
comp=N,20nm,0.3s,baz=171,slow=18,SNR=2.2
NVAR Lg Lg 04 30 08.9
baz=174,slow=25,SNR=2.3
BTU Barney Top 6.05 32 ePn Pn 04 28 28.9 0.0
SRIG Santa Rosalia 6.23 148 iP Pn 04 28 30.5 -0.5
SRIG iS Sn 04 29 41.0 -1.6
SRIG Santa Rosalia 6.23 148 iP Pn 04 28 30.5 -0.5
SRIG iS Sn 04 29 41.0 -1.6
CMB Columbia Colle 6.46 327 eP Pn 04 28 33.1 -1.1
CMB Columbia Colle 6.46 327 ePn Pn 04 28 33.1 -1.1
WAKR Walker 6.47 335 ePn Pn 04 28 38.6 +4.1
MVU Marysvale 6.55 27 ePn Pn 04 28 36.0 +0.4
MSU Marysvale 6.57 27 eP Pn 04 28 36.1 +0.2
MSU Marysvale 6.57 27 ePn Pn 04 28 36.1 +0.2
MMU Miners Mountai 6.68 33 ePn Pn 04 28 37.7 +0.3
121A Cookes Peak, D 6.88 89 ⇓P Pn 04 28 38.2 -1.8
baz=6.9
WCU Willow Creek 7.00 25 ePn Pn 04 28 42.0 +0.2
CGIG 7.17 107 eP Pn 04 28 41.6 -2.5
CGIG i S Sn 04 30 01.4 -4.7
CGIG 7.17 107 eP Pn 04 28 41.6 -2.5
CGIG i S Sn 04 30 01.4 -4.7
SAC San Andreas 7.22 314 eP Pn 04 28 45.6 +1.1
SAC San Andreas 7.22 314 ePn Pn 04 28 45.6 +1.1
FSU Fish Springs 7.32 16 ePn Pn 04 28 45.3 -0.7
SGU Sterling 7.36 27 ePn Pn 04 28 47.2 +0.5
LAZ Ladron 7.54 74 ePn Pn 04 28 48.7 -0.4
MVCO Mesa Verde 7.59 51 ⇑P Pn 04 28 49.7 -0.2
baz=7.6
MVCO Mesa Verde 7.59 51 ePn Pn 04 28 50.5 +0.6
TMUT Trail Mountain 7.63 29 ePn Pn 04 28 52.8 +2.3
LENM Lemitar 7.63 76 ePn Pn 04 28 49.3 -1.2
Y22D IRIS PASSCAL I 7.66 77 ⇑P Pn 04 28 49.8 -1.0
baz=7.6
PV05 Paradox Valley 7.75 44 ePn Pn 04 28 55.5 +3.4
SRU San Rafael Swe 7.77 33 eP Pn 04 28 53.2 +0.9
SRU San Rafael Swe 7.77 33 ePn Pn 04 28 53.2 +0.9
BMN Battle Mountai 7.80 353 eP Pn 04 28 52.8 +0.1
BMN Battle Mountai 7.80 353 ePn Pn 04 28 52.8 +0.1
MCCM Marconi Confer 7.86 316 ePn Pn 04 28 53.6 +0.2
NLU North Lily Min 7.89 22 ePn Pn 04 28 55.8 +1.8
DUG Dugway, Tooele 7.90 18 eP Pn 04 28 54.6 +0.5
DUG Dugway, Tooele 7.90 18 ⇓P Pn 04 28 53.6 -0.5
baz=7.9
DUG Dugway, Tooele 7.90 18 ePn Pn 04 28 54.6 +0.5
BNM Barren Site 7.91 77 ePn Pn 04 28 53.7 -0.7
LPM Los Pinos Moun 7.94 76 ePn Pn 04 28 54.0 -0.6
PV10 Paradox Valley 7.99 43 ePn Pn 04 28 56.7 +1.4
PV09 Paradox Valley 8.02 42 ePn Pn 04 28 57.5 +1.7
ELK Elko 8.06 4 Pn Pn 04 28 55.7 -0.7
comp=N,1.7nm,0.3s,baz=189,slow=12,SNR=48
ELK Pg Pg 04 29 31.2 -1.7
comp=N,8.7nm,0.3s,baz=204,slow=16,SNR=21
ELK Lg Lg 04 31 10.9
comp=N,4.6nm,0.3s,baz=274,slow=16,SNR=2.3
ELK LR LR 04 32 19.8
comp=N,62µm,18.2s,baz=180,slow=40
ELK Elko 8.06 4 ePn Pn 04 28 55.9 -0.5
PV04 Paradox Valley 8.07 43 ePn Pn 04 28 58.6 +2.1
MPU Maple Canyon 8.09 24 ePn Pn 04 28 58.3 +1.5
PV01 Paradox Valley 8.10 46 ePn Pn 04 28 58.5 +1.6
ANMO Albuquerque 8.20 71 Pn Pn 04 28 57.5 -0.8
comp=N,3.9nm,0.3s,baz=262,slow=12,SNR=150
ANMO Lg Lg 04 31 15.8
comp=N,6.0nm,0.3s,baz=163,slow=19,SNR=2.9
ANMO LR LR 04 32 12.2
comp=N,56µm,18.3s,baz=258,slow=39
ANMO Albuquerque 8.20 71 eP Pn 04 28 57.9 -0.3
ANMO Albuquerque 8.20 71 ePn Pn 04 28 57.9 -0.3
ROA Roan Cliffs 8.29 31 ePn Pn 04 29 00.5 +0.9
PV15 Paradox Valley 8.29 45 ePn Pn 04 28 59.3 -0.2
ARGU Argyle Ridge 8.35 30 ePn Pn 04 29 01.2 +0.9
BGU Big Grassy Mou 8.55 15 ePn Pn 04 29 02.8 -0.1
HOPS Hopland Field 8.55 319 ePn Pn 04 29 01.9 -1.0
CTU Camp Tracy 8.67 22 ePn Pn 04 29 04.8 +0.2
JLU Jordanelle 8.68 23 ePn Pn 04 29 07.0 +2.1
HRU Hogsback Ridge 8.71 21 ePn Pn 04 29 01.3 -3.9
HTU Hoyt Peak 8.82 24 ePn Pn 04 29 07.9 +1.0
NAIU Northern Antel 8.83 19 ePn Pn 04 29 07.8 +1.0
FPU Francis Peak 8.95 20 ePn Pn 04 29 09.5 +0.9
S22A 4UR Ranch, Cre 8.99 53 ⇓P Pn 04 29 08.6 -0.6
baz=9.0
S22A 4UR Ranch, Cre 8.99 53 ePn Pn 04 29 09.4 +0.2
EPU East Promontor 9.13 17 ePn Pn 04 29 12.0 +1.0
TCUT Toone Canyon 9.16 22 ePn Pn 04 29 12.7 +1.2
KCPM Cahto Peak 9.33 321 ePn Pn 04 29 21.7 +8.1
KIPM Iron Peak 9.36 322 ePn Pn 04 29 15.3 +1.2
HVU Hansel Valley 9.42 15 eP Pn 04 29 15.3 +0.4
HVU Hansel Valley 9.42 15 ePn Pn 04 29 15.3 +0.4
MTUT Morton Thiokol 9.42 16 ePn Pn 04 29 15.2 +0.3
WVUT Wellsville 9.45 18 ePn Pn 04 29 16.6 +1.2
WDC Whiskeytown Da 9.50 328 eP Pn 04 29 17.0 +1.2
WDC Whiskeytown Da 9.50 328 ePn Pn 04 29 17.0 +1.2
S23A Nye Farm, Mont 9.54 56 ⇓P Pn 04 29 16.1 -0.6
baz=9.5
HWUT Hardware Ranch 9.56 20 ePn Pn 04 29 18.6 +1.8
RSUT Red Spur Mount 9.63 21 ePn Pn 04 29 20.3 +2.3
O20A White River Ci 9.67 38 ⇑P Pn 04 29 19.1 +0.6
baz=9.7
O20A White River Ci 9.67 38 ePn Pn 04 29 19.9 +1.4
HDU Hyde Park 9.69 19 ePn Pn 04 29 20.4 +1.8
SMCO Snowmass 9.73 46 ePn Pn 04 29 21.3 +1.9
KMRM Mail Ridge 9.78 322 ePn Pn 04 29 20.6 +0.7
GDL2 Guadalupe Moun 9.79 90 ePn Pn 04 29 20.7 +0.8
MLI Malad Range 9.80 17 ePn Pn 04 29 21.9 +1.6
NPI North Pocatell 9.83 15 ePn Pn 04 29 21.4 +0.9
LPIG La Paz 9.88 149 eP Pn 04 29 20.7 -0.4
LPIG i S Sn 04 31 12.1 -0.3
LPIG La Paz 9.88 149 Pn Pn 04 29 22.8 +1.7
baz=131,slow=6.3,SNR=16
LPIG Lg Lg 04 32 13.7
comp=N,0.9nm,0.3s,baz=180,slow=13,SNR=3.0
LPIG LR LR 04 33 10.6
comp=N,37µm,18.7s,baz=342,slow=38
LPIG La Paz 9.88 149 ePn Pn 04 29 22.8 +1.7
LPIG i S Sn 04 31 12.1 -0.3
N02D Trinity Center 9.89 329 ⇓P Pn 04 29 22.5 +1.2
baz=9.9
R23A Moffat 9.90 54 ⇑P Pn 04 29 21.8 +0.1
baz=9.9
SDCO Great Sand Dun 9.91 56 ⇓P Pn 04 29 21.3 -0.5
baz=9.9
SDCO Great Sand Dun 9.91 56 ePn Pn 04 29 21.9 +0.1
WVOR Wild Horse Val 9.96 348 eP Pn 04 29 23.9 +1.5
WVOR Wild Horse Val 9.96 348 ePn Pn 04 29 23.9 +1.5
BEI Bear River Ran 9.97 18 ePn Pn 04 29 25.4 +2.8

P22A Eagle 10.12 44 ⇓P Pn 04 29 27.1 +2.4
baz=10
CLNB Carlsbad 10.19 89 ePn Pn 04 29 26.8 +1.4
M04C Macdoel 10.22 334 ⇑P Pn 04 29 26.0 0.0
baz=10,SNR=8.1
Q23A Hartsel 10.28 50 ⇓P Pn 04 29 28.6 +1.7
baz=10
KHMM Horse Mountain 10.29 325 ePn Pn 04 29 30.7 +3.9
M02C Callahan 10.30 330 ⇑P Pn 04 29 29.0 +2.1
baz=10
SLBS Sierra La Lagu 10.40 148 ePn Pn 04 29 31.8 +3.4
T25A Trinidad 10.45 62 ⇓P Pn 04 29 29.3 +0.2
baz=10
T25A Trinidad 10.45 62 ePn Pn 04 29 30.4 +1.3
YBH Yreka Blue Hor 10.52 331 Pn Pn 04 29 32.8 +2.8
comp=N,0.5nm,0.3s,baz=122,slow=8.1,SNR=24
YBH Lg Lg 04 32 20.0
comp=N,0.2nm,0.3s,baz=93,slow=11,SNR=5.4
YBH LR LR 04 34 07.1
comp=N,33µm,18.6s,baz=283,slow=41
YBH Yreka Blue Hor 10.52 331 ePn Pn 04 29 33.0 +3.1
P23A Jefferson 10.55 48 ⇑P Pn 04 29 32.5 +1.9
baz=10
HPIG 10.60 120 eP Pn 04 29 29.5 -1.6
HPIG 10.60 120 eP Pn 04 29 29.5 -1.6
MFID Camas Ranch 10.71 0 ePn Pn 04 29 34.5 +1.9
Q24A Divide 10.76 51 ⇑P Pn 04 29 33.7 +0.2
baz=11
Q24A Divide 10.76 51 ePn Pn 04 29 34.7 +1.3
AHID Auburn Hatcher 10.76 19 ePn Pn 04 29 35.2 +1.8
K05A Summer Lake 10.76 340 ePn Pn 04 29 37.0 +3.7
HLID Hailey 10.93 6 ⇓P Pn 04 29 37.9 +2.4
baz=11
HLID Hailey 10.93 6 ePn Pn 04 29 36.6 +1.0
K04D Chiloquin, OR 10.94 337 ⇑P Pn 04 29 37.9 +2.2
baz=11
ISCO Idaho Springs 10.94 47 eP Pn 04 29 37.4 +1.5
ISCO Idaho Springs 10.94 47 ⇑P Pn 04 29 37.9 +2.0
baz=11
ISCO Idaho Springs 10.94 47 ePn Pn 04 29 37.4 +1.5
KTRM Thompson Ridge 10.94 329 ePn Pn 04 29 40.1 +4.4
TX31 Lajitas Ar. Si 11.04 104 ePn Pn 04 29 37.3 +0.2
LTX Lajitas 11.04 104 eP Pn 04 29 36.9 -0.2
LTX Lajitas 11.04 104 ePn Pn 04 29 36.9 -0.2
TXAR Lajitas Array 11.04 104 Pn Pn 04 29 36.9 -0.2
comp=N,4.5nm,0.3s,baz=284,slow=12,SNR=127
TXAR Lg Lg 04 32 48.0
comp=N,0.9nm,0.3s,baz=297,slow=28,SNR=3.5
TXAR LR LR 04 34 22.6
comp=N,39µm,18.8s,baz=0.0,slow=40
T26A Comanche Natio 11.07 63 ⇓P Pn 04 29 37.2 -0.3
baz=11
MSTX Muleshoe 11.08 80 ⇑P Pn 04 29 37.8 +0.1
baz=11
MSTX Muleshoe 11.08 80 ePn Pn 04 29 37.8 +0.1
L02D Cave Junction, 11.24 329 ⇓P Pn 04 29 42.1 +2.3
baz=11
BW06 Boulder Array 11.25 25 ePn Pn 04 29 41.8 +1.7
PD31 Pinedale Array 11.25 25 ePn Pn 04 29 42.0 +1.9
PDAR Pinedale Array 11.25 25 Pn Pn 04 29 42.0 +1.9
comp=N,0.9nm,0.3s,baz=188,slow=9.0,SNR=134
PDAR Lg Lg 04 32 51.9
baz=224,slow=21,SNR=1.9
PDAR LR LR 04 34 19.7
comp=N,38µm,18.4s,baz=220,slow=40
V27A Dan Oppiter Fa 11.27 71 ⇓P Pn 04 29 40.7 +0.5
baz=11
228A UT Block 9, Go 11.29 89 ⇓P Pn 04 29 41.2 +0.7
baz=11
128A Castleberry Fa 11.34 87 ⇓P Pn 04 29 40.9 -0.2
baz=11
HUMO Hull Mountain 11.36 333 ePn Pn 04 29 45.4 +4.1
RWWY Rawlins 11.36 35 ePn Pn 04 29 42.1 +0.5
J05D Fort Rock, OR 11.38 340 ⇓P Pn 04 29 43.1 +1.4
baz=11,SNR=41
REDW Red Top Meadow 11.38 19 ePn Pn 04 29 43.7 +1.8
Z28A Tucker Farm, M 11.39 83 ⇓P Pn 04 29 41.7 -0.2
baz=11
U27A Thompson Grove 11.43 67 ⇓P Pn 04 29 43.0 +0.6
baz=11
N23A Red Feather La 11.45 41 ⇓P Pn 04 29 43.8 +1.0
baz=11
N23A Red Feather La 11.45 41 ePn Pn 04 29 45.5 +2.7
TPAW Teton Pass 11.47 19 ePn Pn 04 29 44.5 +1.4
BBOR Butler Butte 11.49 334 ePn Pn 04 29 46.4 +3.1
SNOW Snow King Moun 11.50 19 ePn Pn 04 29 44.5 +1.0
Y28A McKinney Farm, 11.52 80 ⇓P Pn 04 29 44.3 +0.7
baz=12
FXWY Fox Creek 11.59 18 ePn Pn 04 29 47.1 +2.3
X28A Dimmitt 11.60 77 ⇑P Pn 04 29 45.0 +0.3
baz=12
J04D Umpqua Nationa 11.61 337 ⇑P Pn 04 29 48.0 +3.1
baz=12,SNR=22
R26A Arlington 11.61 58 ⇓P Pn 04 29 45.6 +0.7
baz=12
W28A Vega 11.68 74 ⇑P Pn 04 29 46.6 +0.7
baz=12
LOHW Long Hollow 11.68 19 ePn Pn 04 29 48.8 +2.8
T27A Campo 11.69 64 ⇓P Pn 04 29 47.2 +1.1
baz=12
I07A Izee 11.72 347 ePn Pn 04 29 50.6 +4.3
V28A Channing 11.75 71 ⇑P Pn 04 29 48.3 +1.4
baz=12
S27A Las Animas 11.77 61 ⇑P Pn 04 29 47.5 +0.4
baz=12
MOOW Moose Ponds 11.77 19 ePn Pn 04 29 49.2 +2.0
Q26A Hugo 11.84 55 ⇑P Pn 04 29 48.7 +0.7
baz=12
129A Stewart Farms, 11.86 86 ⇑P Pn 04 29 48.9 +0.7
baz=12
IMW Indian Meadow 11.86 18 ePn Pn 04 29 51.1 +2.7
J19A Crowheart 11.87 25 ⇓P Pn 04 29 49.5 +1.0
baz=12
U28A Mallet 11.89 68 ⇓P Pn 04 29 50.2 +1.5
baz=12
329A Wagon Wheel Ra 11.89 92 ⇑P Pn 04 29 48.9 +0.1
baz=12
Z29A Hungry Hill Ra 11.96 83 ⇓P Pn 04 29 50.2 +0.5
baz=12
229A Bryant Ranch, 11.97 90 ⇓P Pn 04 29 50.6 +0.9
baz=12
529A Stev Forest Ra 11.99 99 ⇑P Pn 04 29 50.1 0.0
baz=12
PHWY Pilot Hill 11.99 41 ePn Pn 04 29 50.8 +0.5
Y29A Porterfield Fa 11.99 81 ⇓P Pn 04 29 51.0 +0.8
baz=12
X29A Tulia 12.00 78 ⇓P Pn 04 29 50.7 +0.5
baz=12
AMTX Amarillo 12.06 76 ⇑P Pn 04 29 51.2 +0.2
baz=12
AMTX Amarillo 12.06 76 ePn Pn 04 29 51.2 +0.2
R27A Eads 12.07 59 ⇓P Pn 04 29 52.2 +1.0
baz=12
FLWY Flagg Ranch 12.09 18 ePn Pn 04 29 53.2 +1.6
W29A Amarillo 12.12 75 ⇑P Pn 04 29 52.1 +0.3
baz=12
429A Davenport Ranc 12.14 96 ⇓P Pn 04 29 51.9 -0.2
baz=12
KEBM Edson Butte 12.14 329 ePn Pn 04 29 55.8 +3.7
T28A Walsh 12.17 65 ⇑P Pn 04 29 53.7 +1.1
baz=12
I04A Tendick Farm, 12.20 337 ⇑P Pn 04 29 56.4 +3.6
baz=12,SNR=58
P26A Davis Ranch, A 12.27 52 ⇑P Pn 04 29 55.7 +1.8
baz=12
J20A Shoshoni 12.31 28 ⇑P Pn 04 29 55.6 +1.2
baz=12
V29A Stinnett 12.34 71 ⇑P Pn 04 29 56.1 +1.3
baz=12
MCMT McKenzie Canyo 12.36 10 ePn Pn 04 29 56.9 +1.6
I05D Terrebonne, OR 12.38 342 ⇓P Pn 04 29 59.2 +3.9
baz=12,SNR=60
YFT Old Faithful 12.40 17 ePn Pn 04 29 59.5 +3.7
H17A Grant Village 12.42 18 ⇓P Pn 04 29 58.9 +2.9
baz=12
H17A Grant Village 12.42 18 ePn Pn 04 29 58.0 +2.0
K22A Casper 12.42 34 ⇑P Pn 04 29 55.9 -0.1
baz=12
K22A Casper 12.42 34 ePn Pn 04 29 55.9 -0.1
I03D Drain, OR 12.44 334 ⇓P Pn 04 29 57.6 +1.5
baz=12,SNR=6.7
Z30A Sanderson Ranc 12.45 83 ⇑P Pn 04 29 56.1 -0.2
baz=12
S28A Manter 12.48 63 ⇓P Pn 04 29 58.1 +1.3
baz=12
KSCO Kaye Shedlock' 12.50 56 ⇓P Pn 04 29 57.9 +0.9

	baz=12						
KSCO	Kaye Shedlock'	12.50	56	ePn	Pn	04 29 59.1	+2.1
J21A	Lysite baz=13	12.56	30	⇑P	Pn	04 29 58.3	+0.4
I19A	Meeteetse baz=13	12.57	24	⇓P	Pn	04 29 59.7	+1.7
230A	Sterling City baz=12	12.57	90	⇑P	Pn	04 29 58.3	+0.3
YMR	Madison River	12.57	16	ePn	Pn	04 30 01.5	+3.3
330A	Mertzon baz=13	12.59	92	⇓P	Pn	04 29 59.3	+1.0
YHB	Horse Butte	12.60	16	ePn	Pn	04 30 01.4	+2.9
130A	Snyder baz=13	12.62	86	⇑P	Pn	04 29 58.8	+0.1
LKWY	Lake	12.62	18	eP	Pn	04 30 02.3	+3.5
LKWY	Lake	12.62	18	ePn	Pn	04 30 02.3	+3.5
QLMT	Earthquake Lak	12.62	15	ePn	Pn	04 30 02.7	+3.9
Y30A	Stafford Cattl baz=13	12.64	81	⇓P	Pn	04 30 00.5	+1.6
O26A	Horse Wrangler baz=13	12.64	50	⇓P	Pn	04 30 01.2	+2.2
YMC	Maple Creek	12.65	16	ePn	Pn	04 30 02.4	+3.2
430A	Baggett Ranch, baz=13	12.65	95	⇓P	Pn	04 30 00.2	+1.1
U29A	Oasis Ranch, S baz=13	12.65	69	⇓P	Pn	04 30 00.0	+0.9
X30A	Coker Ranch, T baz=13	12.68	78	⇓P	Pn	04 30 00.0	+0.5
YNR	Norris Junctio	12.69	17	ePn	Pn	04 30 03.5	+3.8
YHH	Holmes Hill	12.71	17	ePn	Pn	04 30 03.4	+3.2
530A	J-C Ranch, Com baz=13	12.72	98	⇓P	Pn	04 30 01.7	+1.6
P27A	Ficken Ranch, baz=13	12.78	54	⇑P	Pn	04 30 01.8	+0.9
I20A	Worland baz=13	12.80	26	⇓P	Pn	04 30 02.5	+1.4
G08A	Pilot Rock	12.80	350	ePn	Pn	04 30 05.3	+4.2
R28A	Tribune baz=13	12.81	60	⇓P	Pn	04 30 02.1	+0.8
T29A	Hugoton baz=13	12.81	66	⇑P	Pn	04 30 01.9	+0.6
M25A	Palm-Egli Farm baz=13	12.88	44	⇓P	Pn	04 30 05.9	+3.6
DLMT	Dillon	12.92	11	ePn	Pn	04 30 07.2	+4.5
H04A	Detroit Lake	12.93	340	ePn	Pn	04 30 06.3	+3.4
K23A	Bowen Ranch, D baz=13	12.93	36	⇓P	Pn	04 30 02.7	-0.3
V30A	Spur Ranch, Mi baz=13	12.98	72	⇓P	Pn	04 30 04.7	+1.1
W30A	Crocket Farms baz=13	12.99	75	⇑P	Pn	04 30 05.2	+1.4
I21A	Big Trails, Te baz=13	13.01	29	⇓P	Pn	04 30 04.6	+0.6
N26A	Koester Ranch, baz=13	13.02	48	⇑P	Pn	04 30 05.4	+1.2
G06A	Carlson Farm,	13.05	345	ePn	Pn	04 30 08.7	+4.2
Q28A	Sharon Springs baz=13	13.08	57	⇓P	Pn	04 30 05.4	+0.5
S29A	Ulysses baz=13	13.08	64	⇑P	Pn	04 30 04.6	-0.3
131A	Roby baz=13	13.10	86	⇑P	Pn	04 30 05.1	-0.1
H19A	Powell baz=13	13.13	22	⇑P	Pn	04 30 07.3	+1.6
O27A	Beecher Island baz=13	13.16	52	⇑P	Pn	04 30 06.8	+0.8
U30A	WK&E Inc. Balk baz=13	13.16	69	⇓P	Pn	04 30 05.8	-0.2
Y31A	Rekieta Farm, baz=13	13.17	80	⇓P	Pn	04 30 06.8	+0.7
COR	Corvallis	13.20	336	eP	Pn	04 30 08.3	+1.9
COR	Corvallis	13.20	336	ePn	Pn	04 30 08.3	+1.9
431A	Sonora baz=13	13.20	95	⇓P	Pn	04 30 07.3	+0.7
G05D	Wamic, OR baz=13,SNR=41	13.21	343	⇑P	Pn	04 30 08.7	+2.0
231A	Bronte baz=13	13.23	89	⇓P	Pn	04 30 07.1	+0.1
331A	San Angelo baz=13	13.23	92	⇑P	Pn	04 30 07.2	+0.1
Z31A	Sharp Cattle R baz=13	13.27	83	⇓P	Pn	04 30 07.6	+0.1
H20A	Greybull baz=13	13.31	25	⇑P	Pn	04 30 09.3	+1.3
F10A	Beach Ranch, E	13.31	356	ePn	Pn	04 30 11.7	+3.6
K24A	Anderson Ranch baz=13	13.32	38	⇑P	Pn	04 30 09.1	+0.8
R29A	Marienthal baz=13	13.33	60	⇑P	Pn	04 30 09.6	+1.2
P28A	Saint Francis baz=13	13.35	55	⇑P	Pn	04 30 09.0	+0.3
BOZ	Bozeman (W)	13.36	13	eP	Pn	04 30 11.9	+3.1
BOZ	Bozeman (W) baz=13	13.36	13	⇑P	Pn	04 30 11.9	+3.1
BOZ	Bozeman (W)	13.36	13	ePn	Pn	04 30 11.9	+3.1
T30A	Plains baz=13	13.38	67	⇓P	Pn	04 30 08.3	-0.7
531A	Rocksprings baz=13	13.38	97	⇑P	Pn	04 30 09.7	+0.7
LRM	Limekiln Ridge	13.39	11	ePn	Pn	04 30 11.9	+2.6
L25A	Engebretsen Ra baz=13	13.39	42	⇓P	Pn	04 30 09.6	+0.4
I22A	9 Mile Ranch, baz=13	13.41	31	⇑P	Pn	04 30 09.7	+0.2
X31A	McDonald Ranch baz=13	13.43	77	⇑P	Pn	04 30 10.6	+0.9
M26A	McRoberts Ranc baz=13	13.44	46	⇑P	Pn	04 30 12.0	+2.1
N27A	Anderson Farm, baz=13	13.44	49	⇓P	Pn	04 30 11.3	+1.3
RLMT	Red Lodge baz=13	13.45	21	⇑P	Pn	04 30 11.3	+1.2
J23A	Dilts Ranch, B baz=13	13.46	34	⇑P	Pn	04 30 09.0	-1.1
W31A	Holland Ranch, baz=14	13.51	75	⇓P	Pn	04 30 11.7	+0.9
631A	Perdido Creek baz=14	13.56	100	⇓P	Pn	04 30 12.3	+0.8
S30A	Montezuma baz=14	13.58	64	⇑P	Pn	04 30 11.7	-0.1
O28A	Krutsinger Ran baz=14	13.60	53	⇓P	Pn	04 30 12.6	+0.6
Q29A	Oakley baz=14	13.62	59	⇑P	Pn	04 30 13.1	+0.9
V31A	Spring Creek L baz=14	13.66	73	⇑P	Pn	04 30 13.4	+0.5
ABTX	Abilene, Hawle baz=14	13.73	86	⇓P	Pn	04 30 13.5	-0.2
ABTX	Abilene, Hawle	13.73	86	ePn	Pn	04 30 14.0	+0.2
G03D	McMinnville, O baz=14,SNR=8.1	13.74	338	⇓P	Pn	04 30 13.8	0.0
K25A	Mack Ranch, Ha baz=14	13.75	40	⇓P	Pn	04 30 14.5	+0.4
U31A	Nine Bar Ranch baz=14	13.76	70	⇓P	Pn	04 30 13.4	-0.7
H21A	Big Horn, Sher baz=14	13.79	28	⇓P	Pn	04 30 13.8	-0.8
332A	Millersview baz=14	13.80	91	⇑P	Pn	04 30 13.8	-0.9
232A	Coleman baz=14	13.80	89	⇓P	Pn	04 30 14.0	-0.8
Z32A	Haskell baz=14	13.83	83	⇓P	Pn	04 30 14.3	-0.8
L26A	Underwood Farm baz=14	13.83	44	⇑P	Pn	04 30 15.5	+0.3
J24A	Dixon Ranch, L baz=14	13.84	37	⇓P	Pn	04 30 13.2	-2.1
OGNE	Ogallala baz=14	13.84	50	⇑P	Pn	04 30 16.5	+1.2
432A	Menard baz=14	13.85	93	⇓P	Pn	04 30 15.7	+0.3
Y32A	R-V Farms, Ver baz=14	13.85	80	⇑P	Pn	04 30 15.4	0.0
G20A	Bridger baz=14	13.87	23	⇓P	Pn	04 30 16.1	+0.4
E09A	Wood Farm, Sta	13.91	354	ePn	Pn	04 30 19.4	+3.1
R30A	Dighton baz=14	13.92	62	⇑P	Pn	04 30 15.9	-0.5
I23A	Meade Ranch, G baz=14	13.92	33	⇑P	Pn	04 30 16.6	+0.2
532A	Rocksprings baz=14	13.93	96	⇓P	Pn	04 30 17.2	+0.7
JCT	Junction City	13.93	95	eP	Pn	04 30 17.6	+1.1
JCT	Junction City baz=14	13.93	95	⇓P	Pn	04 30 16.6	+0.1
JCT	Junction City	13.93	95	ePn	Pn	04 30 17.6	+1.1
P29A	Atwood	13.94	56	⇑P	Pn	04 30 17.5	+0.9
	baz=14						
M27A	Reverse DX Ran baz=14	13.94	47	⇓P	Pn	04 30 17.3	+0.7
GCMT	Greycliff	13.95	18	ePn	Pn	04 30 17.9	+1.0
HAWA	Hanford	13.97	350	ePn	Pn	04 30 20.5	+3.5
RSW	Rattlesnake Hi	13.98	349	ePn	Pn	04 30 20.7	+3.5
X32A	Elmer baz=14	13.99	78	⇑P	Pn	04 30 17.3	0.0
N28A	Pribbeno Ranch baz=14	14.03	51	⇓P	Pn	04 30 17.4	-0.5
H22A	Clearmont baz=14	14.04	29	⇓P	Pn	04 30 17.7	-0.3
T31A	Randall Ranch, baz=14	14.05	67	⇓P	Pn	04 30 17.6	-0.5
W32A	Sentinel baz=14	14.07	75	⇑P	Pn	04 30 18.6	+0.1
F04A	Amboy	14.14	341	ePn	Pn	04 30 21.7	+2.4
E07A	Sunnyside	14.18	349	ePn	Pn	04 30 23.1	+3.3
632A	Uvalde baz=14	14.19	99	⇑P	Pn	04 30 20.1	0.0
K26A	Motz Farm, Whi baz=14	14.19	42	⇓P	Pn	04 30 20.2	0.0
Q30A	Quinter baz=14	14.20	59	⇑P	Pn	04 30 19.4	-0.8
MSO	Missoula baz=14	14.21	6	⇓P	Pn	04 30 22.8	+2.4
MSO	Missoula	14.21	6	ePn	Pn	04 30 22.7	+2.3
G21A	Lodge Grass baz=14	14.23	26	⇓P	Pn	04 30 20.8	+0.1
I24A	Kummerle Ranc baz=14	14.24	35	⇑P	Pn	04 30 20.4	-0.4
O29A	4D Ranch, Culb baz=14	14.26	54	⇑P	Pn	04 30 21.7	+0.7
732A	Laxson Ranch, baz=14	14.29	102	⇑P	Pn	04 30 21.4	+0.1
V32A	Arapaho baz=14	14.30	73	⇑P	Pn	04 30 21.9	+0.3
L27A	T5 Ranch, Ells baz=14	14.31	45	⇓P	Pn	04 30 23.8	+2.1
J25A	Sunshine Ranch baz=14	14.32	38	⇓P	Pn	04 30 22.9	+1.0
S31A	Mullinville baz=14	14.32	65	⇑P	Pn	04 30 21.0	-0.9
133A	Hamilton Ranch baz=14	14.34	86	⇑P	Pn	04 30 22.0	-0.1
HRY	Holter Researc	14.36	11	ePn	Pn	04 30 25.7	+3.3
CHMT	Chamberlain Mo	14.36	7	ePn	Pn	04 30 24.8	+2.3
P30A	Selden baz=14	14.40	57	⇑P	Pn	04 30 23.8	+0.8
F20A	Billings baz=14	14.41	22	⇓P	Pn	04 30 22.9	-0.2
233A	Rising Star baz=14	14.42	88	⇓P	Pn	04 30 22.5	-0.7
H23A	Clabaugh Cattl baz=14	14.42	32	⇓P	Pn	04 30 22.1	-1.1
WMOK	Wichita Mounta	14.42	77	eP	Pn	04 30 22.8	-0.5
WMOK	Wichita Mounta	14.42	77	ePn	Pn	04 30 22.8	-0.5
Z33A	Whitaker Ranch baz=14	14.43	83	⇑P	Pn	04 30 22.8	-0.5
U32A	Winter Ranch, baz=14	14.43	71	⇑P	Pn	04 30 23.0	-0.4
832A	Faith Ranch, C baz=14	14.44	104	⇓P	Pn	04 30 22.5	-1.0
F04D	Rainier, OR baz=14	14.45	340	⇑P	Pn	04 30 24.7	+1.2
333A	Richland Sprin baz=14	14.45	91	⇑P	Pn	04 30 23.3	-0.3
433A	Art baz=14	14.46	93	⇓P	Pn	04 30 24.1	+0.3
F03A	Seaside	14.47	338	ePn	Pn	04 30 26.0	+2.1
R31A	Burdett baz=14	14.48	63	⇑P	Pn	04 30 23.0	-1.1
M28A	Bar X Bar Ranc baz=14	14.50	49	⇑P	Pn	04 30 24.8	+0.4
Y33A	Hilltop Ranch, baz=14	14.53	80	⇓P	Pn	04 30 25.0	+0.3
D08A	Wollman Farm,	14.54	352	ePn	Pn	04 30 26.8	+2.1
G22A	Birney baz=15	14.57	28	⇓P	Pn	04 30 24.0	-1.4
X33A	Lawton baz=15	14.64	78	⇓P	Pn	04 30 25.7	-0.6
T32A	Huddler Ranch, baz=15	14.65	67	⇑P	Pn	04 30 25.3	-1.1
J26A	Sides Ranch, S baz=15	14.65	40	⇑P	Pn	04 30 27.0	+0.6
SLMT	Seeley Lake	14.66	7	ePn	Pn	04 30 28.8	+2.3
533A	Kerrville baz=15	14.67	96	⇓P	Pn	04 30 27.7	+1.0
N29A	Votaw Ranch, W baz=15	14.70	52	⇓P	Pn	04 30 27.2	+0.2
W33A	Caddo, Fort Co baz=15	14.71	76	⇓P	Pn	04 30 26.4	-0.7
633A	Saathoff Ranch baz=15	14.71	98	⇓P	Pn	04 30 28.5	+1.2
RSSD	Black Hills	14.72	36	eP	Pn	04 30 28.2	+0.7
RSSD	Black Hills	14.72	36	ePn	Pn	04 30 28.2	+0.7
K27A	Flueckinger Fa baz=15	14.73	43	⇓P	Pn	04 30 27.1	-0.4
L28A	Connealy Angus baz=15	14.75	47	⇓P	Pn	04 30 26.7	-1.0
LON	Longmire	14.75	344	eP	Pn	04 30 29.2	+1.5
LON	Longmire	14.75	344	ePn	Pn	04 30 29.2	+1.5
S32A	Newby Ranch, P baz=15	14.77	65	⇑P	Pn	04 30 26.5	-1.5
F21A	Absaloka Mine, baz=15	14.77	25	⇑P	Pn	04 30 27.3	-0.8
O30A	MW Ranch, Wils baz=15	14.79	55	⇑P	Pn	04 30 27.0	-1.3
I25A	Rochford baz=15	14.80	37	⇑P	Pn	04 30 28.2	-0.4
Q31A	Ellis baz=15	14.81	60	⇑P	Pn	04 30 27.5	-1.0
733A	Divot King Ran baz=15	14.85	101	⇑P	Pn	04 30 30.0	+0.9
SWMT	Swartz Lake	14.88	5	ePn	Pn	04 30 31.7	+2.2
833A	Chaparral WMA, baz=15	14.90	103	⇓P	Pn	04 30 29.5	-0.3
V33A	Losen Ranch, baz=15	14.93	73	⇑P	Pn	04 30 29.3	-0.8
G23A	Biddle baz=15	14.93	30	⇑P	Pn	04 30 29.0	-1.2
H24A	Dirks Ranch, A baz=15	14.95	33	⇑P	Pn	04 30 28.7	-1.6
M29A	Burnside Ranch baz=15	14.97	50	⇑P	Pn	04 30 29.3	-1.4
LTY	Liberty	15.00	347	ePn	Pn	04 30 33.0	+2.0
P31A	Stockton baz=15	15.01	58	⇓P	Pn	04 30 30.8	-0.4
N30A	Hueftle Ranch, baz=15	15.04	53	⇓P	Pn	04 30 31.3	-0.4
134A	White-Moore Ra baz=15	15.05	86	⇓P	Pn	04 30 30.6	-1.1
F22A	Rosebud baz=15	15.05	27	⇓P	Pn	04 30 30.0	-1.8
234A	Clairette baz=15	15.06	88	⇑P	Pn	04 30 30.8	-1.1
334A	Lometa baz=15	15.07	90	⇓P	Pn	04 30 31.5	-0.6
JTMT	Jette	15.10	4	ePn	Pn	04 30 35.1	+2.7
Z34A	Collier Ranch, baz=15	15.13	83	⇑P	Pn	04 30 31.9	-1.0
R32A	Long Quarter, baz=15	15.13	63	⇓P	Pn	04 30 30.4	-2.5
434A	Burnet baz=15	15.14	92	⇑P	Pn	04 30 32.7	-0.4
534A	Blanco baz=15	15.15	95	⇓P	Pn	04 30 32.7	-0.4
U33A	Lingo Farm, Me baz=15	15.15	71	⇑P	Pn	04 30 31.6	-1.4
T33A	Patterson Ranc baz=15	15.16	68	⇓P	Pn	04 30 30.9	-2.3
BSMT	Bassoo Peak	15.17	3	ePn	Pn	04 30 35.9	+2.4
X34A	Smith Ranch, M baz=15	15.20	78	⇑P	Pn	04 30 33.3	-0.4
C09A	Chrisman Ranch comp=N,2µm,2.8s	15.20	354	ePn	Pn	04 30 35.2	+1.5
D05A	Enumclaw comp=N,2µm,2.0s	15.20	344	ePn	P	04 30 36.4	-2.4
J27A	Elkhorn Farm, baz=15	15.21	42	⇓P	Pn	04 30 33.7	-0.2
YBMT	Yellow Bay	15.23	5	ePn	Pn	04 30 36.4	+2.2
K28A	Ten Mile Ranch baz=15	15.25	45	⇑P	Pn	04 30 35.5	+1.0
Y34A	Reagan Ranch, baz=15	15.25	80	⇓P	Pn	04 30 33.2	-1.2
I26A	New Underwood baz=15	15.26	38	⇓P	Pn	04 30 34.8	+0.3
933A	Laredo baz=15	15.27	105	⇓P	Pn	04 30 34.6	-0.1
ETW	Entiat	15.27	349	ePn	Pn	04 30 36.8	+2.1
W34A	Bridge Creek, baz=15	15.28	75	⇓P	Pn	04 30 34.3	-0.5
W34A	Bridge Creek, comp=N,470nm,1.5s	15.28	75	ePn	Pn	04 30 35.5	+0.6
O31A	Woolen Ranch, baz=15	15.29	56	⇓P	Pn	04 30 34.8	-0.2
H25A	Fruitdale baz=15	15.30	35	⇑P	Pn	04 30 34.7	-0.4
F23A	Volborg baz=15	15.34	29	⇑P	Pn	04 30 33.9	-1.7
BLMT	Blacktail Moun	15.36	4	ePn	Pn	04 30 38.1	+2.2
E21A	Keefer Ranch, baz=15	15.41	24	⇓P	Pn	04 30 35.8	-0.7
734A	La Parita Cree baz=15	15.42	100	⇑P	Pn	04 30 36.8	+0.2
Q32A	Meitler Ranch, baz=15	15.42	61	⇑P	Pn	04 30 35.1	-1.6
L29A	Maesberg Ranch baz=15	15.43	48	⇓P	Pn	04 30 33.6	-3.2
634A	China Grove, S baz=15	15.43	98	⇓P	Pn	04 30 36.4	-0.4
G24A	Alzada baz=15	15.45	32	⇓P	Pn	04 30 34.4	-2.7
S33A	Kaszmaul Farm, baz=15	15.46	67	⇑P	Pn	04 30 34.8	-2.4
M30A	Dale-Ortello V baz=16	15.54	51	⇑P	Pn	04 30 38.5	+0.2
V34A	Guthrie baz=16	15.55	73	⇑P	Pn	04 30 38.4	+0.1
V34A	Guthrie comp=N,403nm,1.4s	15.55	73	ePn	Pn	04 30 38.3	0.0
NEW	Newport comp=N,1.0nm,0.3s,baz=175,slow=13,SNR=96	15.59	357	Pn	Pn	04 30 40.0	+1.2
NEW	comp=N,0.1nm,0.3s,baz=68,slow=18,SNR=3.9			Lg	Lg	04 35 09.4	
NEW	comp=N,19µm,21.4s,baz=183,slow=39			LR	LR	04 37 01.2	
NEW	Newport baz=16	15.59	357	⇓P	Pn	04 30 40.1	+1.2
NEW	Newport comp=N,2µm,2.0s	15.59	357	ePn	Pn	04 30 40.7	+1.9
P32A	Huiting Farm, baz=16	15.61	59	⇓P	Pn	04 30 38.3	-0.8
U34A	Anderson Ranch baz=16	15.61	71	⇓P	Pn	04 30 38.2	-0.9
U34A	Anderson Ranch comp=N,222nm,1.1s	15.61	71	ePn	Pn	04 30 39.1	-0.1
135A	Vickery Place, baz=16	15.61	85	⇓P	Pn	04 30 37.8	-1.4
WHTX	Lake Whitney, baz=16	15.64	88	⇑P	Pn	04 30 38.7	-0.8
WHTX	Lake Whitney, comp=N,1000nm,1.5s	15.64	88	ePn	Pn	04 30 39.1	-0.4
ALCT	Alcott Element	15.65	345	ePn	P	04 30 45.7	+2.0
ALCT				eSn	Sn	04 33 38.7	+5.5
R33A	Olander Ranch, baz=16	15.65	64	⇓P	Pn	04 30 38.1	-1.6
834A	Tilden baz=16	15.67	102	⇑P	Pn	04 30 40.1	+0.2
Z35A	Perchaven, San baz=16	15.69	83	⇑P	Pn	04 30 39.0	-1.2
H26A	Fairpoint baz=16	15.71	37	⇓P	Pn	04 30 40.9	+0.5
I27A	Quinn baz=16	15.71	40	⇑P	Pn	04 30 40.7	+0.2
E22A	Miles City baz=16	15.72	26	⇑P	Pn	04 30 39.3	-1.3
435B	Jarrell baz=16	15.73	92	⇓P	Pn	04 30 40.3	-0.4
J28A	Allard Ranch, baz=16	15.75	43	⇓P	Pn	04 30 40.8	-0.2
335A	Moody baz=16	15.77	90	⇑P	Pn	04 30 40.2	-1.0
G25A	Newell baz=16	15.81	34	⇓P	Pn	04 30 41.2	-0.6
N31A	Bailey Ranch, baz=16	15.83	54	⇑P	Pn	04 30 40.5	-1.5
LAO	LASA Array baz=16	15.84	25	⇓P	Pn	04 30 41.9	-0.2
F24A	Ekalaka baz=16	15.85	31	⇓P	Pn	04 30 40.8	-1.4
L30A	Spencer Herefo baz=16	15.85	50	⇑P	Pn	04 30 43.4	+1.1
B08A	Colville Reser comp=N,914nm,2.3s	15.87	352	ePn	Pn	04 30 43.7	+1.3
NLWA	Neilton Lookou comp=N,2µm,2.0s	15.88	340	ePn	Pn	04 30 44.0	+1.4
934A	Benavides baz=16	15.89	104	⇓P	Pn	04 30 43.4	+0.6
D21A	La Casta Ranch baz=16	15.90	23	⇑P	Pn	04 30 43.3	+0.4
X35A	Drake baz=16	15.90	79	⇓P	Pn	04 30 41.5	-1.4
K29A	Lazy Trails An baz=16	15.91	46	⇓P	Pn	04 30 44.0	+1.0
535A	Dale baz=16	15.91	95	⇓P	Pn	04 30 43.0	0.0
635A	Leesville baz=16	15.91	97	⇓P	Pn	04 30 43.4	+0.4
Q33A	Connelly Farm, baz=16	15.96	62	⇑P	Pn	04 30 41.6	-2.1
034A	Hebbronville baz=16	15.97	106	⇑P	Pn	04 30 44.8	+1.0
T34A	McClaskey Farm baz=16	15.98	69	⇓P	Pn	04 30 42.8	-1.1
W35A	Tecumseh baz=16	16.01	76	⇓P	Pn	04 30 42.6	-1.8
EGMT	Eagleton baz=16	16.02	15	⇑P	Pn	04 30 46.2	+1.8
EGMT	Eagleton comp=N,853nm,1.8s	16.02	15	ePn	P	04 30 46.5	-1.5
E23A	Ismay baz=16	16.02	27	⇑P	Pn	04 30 43.5	-1.0
735A	Kenedy baz=16	16.04	99	⇑P	Pn	04 30 46.0	+1.3
M31A	Lambtecht Ranc baz=16	16.05	53	⇑P	Pn	04 30 44.2	-0.6
O32A	Brockman Farm, baz=16	16.07	57	⇑P	Pn	04 30 43.8	-1.3
H27A	Howes baz=16	16.08	38	⇑P	Pn	04 30 46.0	+0.8
V35A	Meyer Ranch, C baz=16	16.09	74	⇑P	Pn	04 30 44.4	-1.0
I28A	Midland baz=16	16.15	41	⇑P	Pn	04 30 46.1	0.0
C20A	Veseth Ranch, baz=16	16.17	20	⇑P	Pn	04 30 47.0	+0.6
S34A	Willow Spring baz=16	16.17	67	⇓P	Pn	04 30 44.6	-1.8
P33A	Williams Farm, baz=16	16.20	60	⇓P	Pn	04 30 44.8	-1.9
835A	Beeville baz=16	16.21	101	⇑P	Pn	04 30 48.2	+1.3
R34A	Isabella, Hill baz=16	16.21	65	⇓P	Pn	04 30 45.6	-1.3
336A	Riesel baz=16	16.24	89	⇑P	Pn	04 30 47.0	-0.3
D22A	Cohagen baz=16	16.25	24	⇑P	Pn	04 30 47.0	-0.4
N32A	Stulken Farm, baz=16	16.26	55	⇓P	Pn	04 30 47.5	-0.1
J29A	Okreek baz=16	16.27	44	⇑P	Pn	04 30 47.8	+0.1
G26A	Maurine baz=16	16.28	35	⇑P	Pn	04 30 47.5	-0.2
K30A	Basset baz=16	16.29	48	⇓P	Pn	04 30 48.4	+0.4
536A	Bastrop baz=16	16.32	94	⇓P	Pn	04 30 47.8	-0.6
F25A	Bowman baz=16	16.34	32	⇓P	Pn	04 30 48.4	-0.2
B06A	Marblemount comp=N,978nm,2.1s	16.36	347	ePn	P	04 30 51.1	-0.5
436A	Wall Ranch, Ga baz=16	16.39	92	⇓P	Pn	04 30 49.0	-0.2
236A	Katherine and baz=16	16.41	87	⇑P	Pn	04 30 49.2	-0.3
X36A	Centrahoma baz=16	16.42	78	⇑P	Pn	04 30 48.4	-1.2
WALA	Waterton Lakes	16.43	5	ePn	P	04 30 51.8	-0.8
E24A	Baker baz=16	16.47	29	⇓P	Pn	04 30 49.9	-0.3
636A	Smothers Creek baz=16	16.48	96	⇑P	Pn	04 30 51.5	+1.1
035A	Encino	16.49	106	⇓P	P	04 30 52.6	-0.6

baz=16
T35A **Sooner Cattle** 16.50 70 ⇑P Pn 04 30 49.2 -1.3
baz=16
O33A **Hebron** 16.50 58 ⇓P Pn 04 30 48.8 -1.7
baz=16
L31A **Butterfield Fa** 16.53 50 ⇓P Pn 04 30 51.2 +0.2
baz=16
C21A **Desert Coulee** 16.54 21 ⇑P Pn 04 30 50.8 -0.3
baz=16
W36A **Wetumka** 16.54 76 ⇓P Pn 04 30 49.6 -1.5
baz=16
Q34A **Chapman** 16.60 63 ⇓P Pn 04 30 51.6 -0.3
baz=17
B19A **Brinkman Farms** 16.61 16 ⇓P Pn 04 30 53.0 +1.0
baz=17
D23A **Lindsay** 16.62 26 ⇑P Pn 04 30 51.3 -0.8
baz=17
736A **Circle Diamond** 16.62 98 ⇓P Pn 04 30 53.3 +1.1
baz=17
BGNE **Belgrade** 16.63 53 ⇑P Pn 04 30 51.9 -0.4
baz=17
BGNE **Belgrade** 16.63 53 *e*Pn P 04 30 53.8 -1.0
comp=N,333nm,1.1s
F26A **Lodgepole** 16.65 34 ⇓P Pn 04 30 51.7 -0.8
baz=17
I29A **Vivian Onida** 16.65 43 ⇑P Pn 04 30 52.9 +0.4
baz=17
H28A **Mission Ridge** 16.67 40 ⇑P Pn 04 30 52.4 -0.3
baz=17
G27A **Dupree** 16.67 36 ⇑P Pn 04 30 53.6 +0.8
baz=17
035Z **Hargill** 16.72 107 ⇑P Pn 04 30 54.5 +1.0
baz=17
J30A **Dallas** 16.72 46 ⇓P P 04 30 55.2 -0.6
baz=17
S35A **Otter Creek Ra** 16.78 67 ⇓P Pn 04 30 53.1 -1.1
baz=17
E25A **Miller Ranch,** 16.81 31 ⇑P Pn 04 30 54.5 0.0
baz=17
B20A **Solberg Farm,** 16.83 18 ⇑P Pn 04 30 55.7 +1.0
baz=17
PNT **Penticton** 16.84 352 *e*P P 04 30 56.5 -0.5
PNT **Penticton** 16.84 352 *e*Pn P 04 30 56.5 -0.5
C22A **Vida** 16.86 24 ⇑P Pn 04 30 55.1 0.0
baz=17
P34A **Walnut Farm, R** 16.87 61 ⇓P Pn 04 30 54.3 -1.1
baz=17
KSU1 **Kansas State U** 16.90 62 ⇑P Pn 04 30 54.8 -0.9
baz=17
KSU1 **Kansas State U** 16.90 62 *e*Pn Pn 04 30 55.1 -0.6
comp=N,2μm,2.3s
D24A **Glendive** 16.91 28 ⇑P Pn 04 30 55.7 -0.1
baz=17
PGC **Sidney** 16.92 343 *e*Pn P 04 30 56.9 -0.9
437A **Phantom Ranch,** 16.94 91 ⇑P Pn 04 30 55.2 -1.0
baz=17
A05A **Maple Falls** 16.94 346 *e*Pn P 04 30 57.1 -0.9
comp=N,271nm,1.3s
TUL1 **Leonard** 16.95 73 ⇓P Pn 04 30 55.5 -0.8
baz=17
TUL1 **Leonard** 16.95 73 *e*Pn Pn 04 30 55.6 -0.6
comp=N,130nm,0.9s
936A **North Padre Is** 16.95 103 ⇑P Pn 04 30 56.4 0.0
baz=17
537A **Green Hill Far** 16.95 94 ⇑P Pn 04 30 56.5 +0.1
baz=17
F27A **Lemmon** 16.98 35 ⇓P Pn 04 30 56.4 -0.3
baz=17
G28A **Parade** 16.99 39 ⇓P Pn 04 30 57.1 +0.4
baz=17
137A **Heron Place, G** 17.00 85 ⇓P Pn 04 30 56.1 -0.8
baz=17
R35A **Emporia Munici** 17.01 65 ⇓P Pn 04 30 55.8 -1.3
baz=17
T36A **Boggs Farm, Ca** 17.02 70 ⇓P Pn 04 30 56.6 -0.6
baz=17
237A **Washetta, Mont** 17.02 87 ⇓P Pn 04 30 56.2 -1.0
baz=17
Z37A **Pogue Cattle C** 17.06 83 ⇑P Pn 04 30 56.8 -0.8
baz=17
H29A **Onida** 17.08 41 ⇓P Pn 04 30 57.9 0.0
baz=17
I30A **Oacoma** 17.10 44 ⇓P Pn 04 30 58.4 +0.3
baz=17
637A **Eagle Lake** 17.10 96 ⇓P Pn 04 30 58.5 +0.3
baz=17
A19A **Klindworth Far** 17.10 16 ⇓P P 04 30 59.3 -0.6
baz=17
B21A **Ellsworth Farm** 17.10 21 ⇑P Pn 04 30 58.7 +0.6
baz=17
C23A **Lambert** 17.16 25 ⇑P Pn 04 30 59.4 +0.5
baz=17
W37A **Quinton** 17.20 76 ⇓P Pn 04 30 58.6 -0.8
baz=17
737A **Port Lavaca** 17.21 98 ⇓P P 04 31 00.8 -0.4
baz=17
E26A **Carlson Angus** 17.21 33 ⇑P Pn 04 30 59.3 -0.2
baz=17
C24A **Savage** 17.21 27 ⇓P Pn 04 30 58.6 -1.0
baz=17
X37A **Clayton** 17.23 78 ⇑P Pn 04 30 58.9 -0.8
baz=17
Q35A **Mercer Eighty,** 17.27 64 ⇑P Pn 04 30 59.2 -1.1
baz=17
B22A **Reddig Ranch S** 17.31 23 ⇑P Pn 04 31 00.5 -0.2
baz=17
D25A **Fairfield** 17.35 30 ⇓P Pn 04 31 01.2 -0.2
baz=17
S36A **Lake Cedric, C** 17.36 67 ⇑P Pn 04 31 00.3 -1.1
baz=17
HKT **Hockley** 17.39 94 *e*P P 04 31 02.6 -0.5
HKT pmax pmax
comp=Z,4μm,2.7s
HKT **Hockley** 17.39 94 *e*Pn P 04 31 02.6 -0.5
comp=Z,4μm,2.7s
P35A **Duane Minner,** 17.46 61 ⇑P Pn 04 31 02.0 -0.7
baz=17
438A **Sam Houston St** 17.51 91 ⇓P Pn 04 31 02.9 -0.5
baz=18
338A **Crockett** 17.54 89 ⇓P Pn 04 31 03.9 +0.2
baz=18
N34A **Lincoln** 17.54 57 ⇑P Pn 04 31 02.9 -0.8
baz=18
R36A **Gordon, Harris** 17.55 66 ⇑P Pn 04 31 03.0 -0.8
baz=18
138A **Matatall Enter** 17.55 84 ⇓P Pn 04 31 03.5 -0.3
baz=18
F28A **McLaughlin** 17.57 37 ⇓P P 04 31 04.8 -0.3
baz=18
Z38A **Mt. Pleasant** 17.59 82 ⇑P Pn 04 31 03.4 -0.9
baz=18
G29A **Hoven** 17.60 40 ⇓P Pn 04 31 04.2 -0.2
baz=18
E27A **Carson** 17.60 35 ⇓P Pn 04 31 04.7 +0.3
baz=18
238A **Jacksonville** 17.60 87 ⇑P Pn 04 31 03.8 -0.7
baz=18
538A **Harpers Horsep** 17.61 93 ⇓P Pn 04 31 04.7 +0.1
baz=18
A21A **Bergtoll Ranch** 17.64 20 ⇑P P 04 31 05.6 -0.3
baz=18
D26A **Manning** 17.64 32 ⇑P Pn 04 31 04.9 0.0
baz=18
Q36A **Arnold C. Orve** 17.73 64 ⇓P Pn 04 31 05.2 -0.7
baz=18
M34A **Aspy Farms, Fr** 17.74 55 ⇓P Pn 04 31 05.5 -0.6
baz=18
O35A **Humboldt** 17.77 59 ⇓P Pn 04 31 06.2 -0.3
baz=18
B23A **Brockton** 17.79 24 ⇓P P 04 31 07.6 0.0
baz=18
T37A **Cheneyville 18** 17.79 70 ⇓P Pn 04 31 05.8 -1.0
baz=18
C25A **Freed Ranch, W** 17.82 29 ⇓P Pn 04 31 07.6 +0.4
baz=18
738A **Farr-Stevens R** 17.85 97 ⇓P Pn 04 31 07.4 0.0
baz=18
W38A **Poteau** 17.94 76 ⇓P Pn 04 31 07.9 -0.7
baz=18
A22A **Carney Farms,** 17.94 22 ⇓P Pn 04 31 08.9 +0.3
baz=18
G30A **Faulkton** 17.99 41 ⇑P Pn 04 31 08.4 -0.7
baz=18
NATX **Nacogdoches** 18.02 87 ⇑P Pn 04 31 09.3 -0.3
baz=18
F29A **Eureka** 18.06 39 ⇑P Pn 04 31 09.2 -0.9
baz=18
R37A **Teagarden Farm** 18.06 66 ⇓P Pn 04 31 09.2 -1.0
baz=18
L34A **Svendsen Farm,** 18.07 54 ⇓P Pn 04 31 10.0 -0.2
baz=18
DGMT **Dagmar** 18.08 26 ⇓P P 04 31 10.7 0.0
baz=18
DGMT **Dagmar** 18.08 26 *e*P P 04 31 11.1 +0.3
comp=Z,1μm,2.1s
P36A **Good Intent, A** 18.09 62 ⇑P Pn 04 31 10.3 -0.2
baz=18
439A **Center Grove,** 18.10 90 ⇓P Pn 04 31 09.8 -0.8
baz=18
D27A **Center** 18.11 33 ⇓P Pn 04 31 10.5 -0.2
baz=18
E28A **Huff** 18.12 36 ⇓P P 04 31 11.3 +0.1
baz=18
139A **Bunkhouse Ranc** 18.13 84 ⇓P Pn 04 31 10.1 -0.9
baz=18
239A **Gary** 18.15 86 ⇑P Pn 04 31 10.7 -0.5
baz=18
N35A **Tabor** 18.16 58 ⇑P Pn 04 31 11.0 -0.3
baz=18
339A **Huntington** 18.18 89 ⇓P Pn 04 31 11.6 +0.1
baz=18
A23A **Redstone** 18.25 24 ⇓P P 04 31 13.2 +0.6
baz=18
Z39A **Irene McRaven,** 18.26 82 ⇑P Pn 04 31 12.1 -0.5
baz=18
539A **Cross D Ranch,** 18.29 92 ⇓P Pn 04 31 12.8 -0.1
baz=18
B25A **Knox Farm, Ray** 18.31 28 ⇓P Pn 04 31 12.6 -0.5
baz=18
C26A **Wahner Farm, P** 18.40 31 ⇑P Pn 04 31 13.8 -0.4
baz=18
O36A **Bolckow** 18.42 60 ⇓P Pn 04 31 14.3 -0.2
baz=18
Q37A **Longview Farm,** 18.47 64 ⇑P P 04 31 14.3 -0.8
baz=18
F30A **Leola** 18.49 40 ⇓P P 04 31 15.3 0.0
baz=18
C27A **Sayler Ranch,** 18.57 32 ⇓P Pn 04 31 17.2 +0.8
baz=19
D28A **Regan** 18.62 34 ⇑P P 04 31 16.6 -0.1
baz=19
E29A **Napoleon** 18.65 37 ⇑P P 04 31 16.3 -0.7
baz=19
L35A **Bielow Farm, R** 18.70 54 ⇓P P 04 31 17.3 -0.2
baz=19
MIAR **Mount Ida** 18.71 78 *e*P P 04 31 17.5 -0.2
MIAR pmax pmax
comp=Z,3μm,2.7s
MIAR **Mount Ida** 18.71 78 *e*P P 04 31 17.5 -0.2
comp=Z,3μm,2.7s
ECSD **EROS Data Cent** 18.72 48 ⇑P P 04 31 18.0 +0.2
baz=19
ECSD **EROS Data Cent** 18.72 48 *e*P Pn 04 31 18.4 +0.3
comp=Z,148nm,1.2s
340A **Bronson** 18.73 88 ⇑P Pn 04 31 18.2 -0.1
baz=19
B26A **Jensen Ranch,** 18.77 29 ⇑P P 04 31 18.5 +0.1
baz=19
440A **Kirbyville** 18.79 90 ⇓P Pn 04 31 19.3 +0.2
baz=19
A25A **Svangstu Ranch** 18.87 27 ⇓P Pn 04 31 20.0 +0.1
baz=19
540A **Vidor** 18.89 92 ⇓P Pn 04 31 20.5 +0.3
baz=19
E30A **Jud** 18.98 38 ⇑P P 04 31 20.5 -0.2
baz=19
D29A **Pettibone, Tap** 19.00 36 ⇓P P 04 31 20.0 -0.9
baz=19
C28A **Hausauer Farms** 19.09 34 ⇓P P 04 31 20.9 -0.8
baz=19
B27A **Peters Farms,** 19.20 31 ⇑P Pn 04 31 23.6 -0.4
baz=19
A26A **Wade Farm, Ken** 19.26 29 ⇑P P 04 31 23.7 0.0
baz=19
D30A **Buchanan** 19.46 37 ⇑P P 04 31 25.5 -0.3
baz=19
MDND **Maddock** 19.55 34 ⇑P P 04 31 26.7 -0.1
baz=20
MDND **Maddock** 19.55 34 *e*P P 04 31 27.4 +0.5
comp=Z,461nm,1.1s
A27A **Ledoux Ranch,** 19.63 30 ⇑P P 04 31 28.1 +0.3
baz=20
B28A **Dugan Ranch, T** 19.63 32 ⇓P Pn 04 31 28.6 -0.5
baz=20
UALR **University of** 19.72 77 *e*P Pn 04 31 29.7 -0.5
comp=Z,2μm,2.8s
C30A **Mose, Pekin** 20.00 36 ⇓P P 04 31 30.9 -0.9
baz=20
A28A **Rude Farm, Bot** 20.02 31 ⇑P P 04 31 32.8 +0.8
baz=20
B29A **Wagenman Farm,** 20.11 34 ⇑P P 04 31 32.8 -0.1
baz=20
A29A **Manning Farm,** 20.49 33 ⇑P P 04 31 37.5 +0.4
baz=20
B30A **Myrvik Farm, E** 20.58 35 ⇓P P 04 31 38.1 0.0
baz=21
EDM **Edmonton** 20.61 4 *e*P P 04 31 38.0 -0.4
EDM **Edmonton** 20.61 4 *e*P P 04 31 38.0 -0.4
A30A **Hoffart Farm,** 20.93 34 ⇓P P 04 31 42.0 0.0
baz=21
PBMO **Poplar Bluff** 21.33 72 *e*P P 04 31 46.0 -0.2
comp=Z,1μm,2.3s
BBB **Bella Bella** 21.41 339 P P 04 31 47.7 +0.8
comp=Z,27nm,0.7s,baz=133,slow=8.5,SNR=17
BBB LR LR 04 40 41.7
comp=Z,33μm,18.8s,baz=164,slow=39
VBMS **Vicksburg** 21.44 84 *e*P P 04 31 48.2 +0.8
comp=Z,4μm,2.3s
SLM **Saint Louis** 21.67 67 *e*P P 04 31 50.2 +0.3
SLM pmax pmax
comp=Z,2μm,2.3s
SLM MLR MLR
comp=Z,32μm,19.0s
SLM **Saint Louis** 21.67 67 *e*P P 04 31 50.2 +0.3
comp=Z,2μm,2.3s
SLM LR LR
comp=Z,32μm,19.0s
AGMN **Agassiz Nation** 21.72 38 ⇓P P 04 31 49.6 -0.8
baz=22
AGMN **Agassiz Nation** 21.72 38 *e*P P 04 31 50.3 -0.1
comp=Z,402nm,1.1s
AGMN LR LR
comp=Z,7μm,18.0s
SPMN **Marine on St.** 21.83 48 ⇓P P 04 31 51.5 0.0
baz=22
SPMN **Marine on St.** 21.83 48 *e*P P 04 31 52.2 +0.7
comp=Z,330nm,1.5s
SPMN LR LR
comp=Z,50μm,19.0s
PARMO **Parma** 21.87 72 *e*P P 04 31 52.4 +0.4
PVMO **Portageville** 21.90 73 PFAKE 04 32 00.0 +7.6
PVMO LR LR
comp=Z,29μm,18.0s
OXF **Oxford** 22.15 78 *e*P P 04 31 55.1 0.0
OXF pmax pmax
comp=Z,526nm,1.4s
OXF MLR MLR
comp=Z,38μm,19.0s
OXF **Oxford** 22.15 78 *e*P P 04 31 55.1 0.0
comp=Z,526nm,1.4s
OXF LR LR
comp=Z,38μm,19.0s
HALT **Halls** 22.18 74 *e*P P 04 31 55.9 +0.5
GLAT **Glass** 22.23 73 *e*P P 04 31 56.2 +0.4
SIUC **Southern Illin** 22.36 70 *e*P P 04 31 57.0 -0.3
comp=Z,364nm,1.6s
SIUC LR LR
comp=Z,37μm,18.0s
UTMT **University of** 22.57 73 *e*P P 04 32 00.3 +0.7
comp=Z,399nm,1.4s
JFWS **Jewell Farm** 22.64 56 *e*P P 04 32 00.6 +0.3
JFWS pmax pmax
comp=Z,128nm,1.0s
JFWS MLR MLR
comp=Z,29μm,18.0s
JFWS **Jewell Farm** 22.64 56 *e*P P 04 32 00.6 +0.3
comp=Z,128nm,1.0s
JFWS LR LR
comp=Z,29μm,18.0s
HDIL **Hopedale** 22.72 62 *e*P P 04 32 01.2 +0.2
comp=Z,17nm,1.0s
HDIL LR LR
comp=Z,1μm,18.0s
OLIL **Olney** 23.34 67 *e*P P 04 32 08.2 +0.7
comp=Z,258nm,1.1s
OLIL LR LR
comp=Z,36μm,18.0s
WVT **Waverly** 23.41 74 *e*P P 04 32 09.2 +1.0
WVT pmax pmax
comp=Z,1μm,2.5s
WVT MLR MLR
comp=Z,20μm,20.0s
WVT **Waverly** 23.41 74 *e*P P 04 32 09.2 +1.0
comp=Z,1μm,2.5s
WVT LR LR
comp=Z,20μm,20.0s
USIN **University of** 23.61 69 *e*P P 04 32 10.6 +0.4
comp=Z,2μm,2.9s
USIN LR LR
comp=Z,38μm,18.0s
EYMN **Ely** 23.93 43 *e*P P 04 32 12.9 -0.4
comp=Z,115nm,1.4s
EYMN LR LR
comp=Z,19μm,19.0s
FFC **Flin Flon** 24.14 20 P P 04 32 14.3 -0.9
comp=Z,567nm,0.8s,SNR=42
FFC **Flin Flon** 24.14 20 *e*P P 04 32 14.7 -0.5
FFC pmax pmax
comp=Z,470nm,1.8s
FFC MLR MLR
comp=Z,15μm,18.0s
FFC **Flin Flon** 24.14 20 *e*P P 04 32 14.7 -0.5
comp=Z,470nm,1.8s
FFC LR LR
comp=Z,15μm,18.0s
LRAL **Lakeview Retre** 24.28 81 *e*P P 04 32 17.9 +1.2
comp=Z,252nm,1.6s
LRAL LR LR
comp=Z,14μm,19.0s
SFIN **Lafayette** 24.33 63 ⇓P P 04 32 17.1 0.0
baz=24
SFIN **Lafayette** 24.33 63 *e*P P 04 32 17.2 +0.2
comp=Z,917nm,2.2s
SFIN LR LR
comp=Z,24μm,18.0s
CMIG **Matias Romero** 24.54 124 P P 04 32 20.3 +1.3
comp=Z,20nm,0.7s,baz=307,slow=9.8,SNR=16
CMIG LR LR 04 41 00.7
comp=Z,22μm,20.5s,baz=280,slow=34
BRAL **Brewton** 24.55 86 *e*P P 04 32 20.1 +0.9
comp=Z,2μm,1.8s
BRAL LR LR
comp=Z,11μm,21.0s
BLO **Bloomington** 24.61 66 *e*P P 04 32 19.9 +0.3
BLO MLR MLR
comp=Z,8μm,21.0s
BLO **Bloomington** 24.61 66 *e*P P 04 32 19.9 +0.3
BLO LR LR
comp=Z,8μm,21.0s
WCI **Wyandotte Cave** 24.71 69 *e*P P 04 32 20.7 +0.2
WCI pmax pmax
comp=Z,78nm,1.2s
WCI MLR MLR
comp=Z,25μm,18.0s
WCI **Wyandotte Cave** 24.71 69 *e*P P 04 32 20.7 +0.2
comp=Z,78nm,1.2s
WCI LR LR
comp=Z,25μm,18.0s
SWET **Sewanee** 24.97 76 *e*P P 04 32 23.0 0.0
CRAG **Craig** 25.77 337 *e*P P 04 32 30.4 +0.5
comp=Z,887nm,2.6s
CPCT **Cooper Cave** 26.11 75 *e*P P 04 32 33.1 -0.2
WRAK **Wrangell Islan** 26.32 339 *e*P P 04 32 35.9 +1.0
comp=Z,112nm,1.3s
WRAK LR LR
comp=Z,900nm,19.0s
TKL **Tuckaleechee C** 26.71 75 P P 04 32 38.3 -0.3
comp=Z,6.5nm,0.8s,baz=289,slow=7.1,SNR=20
TKL Lg Lg 04 40 58.7
comp=Z,11nm,1.2s,baz=189,slow=19,SNR=3.9
TKL LR LR 04 43 43.4
comp=Z,26μm,18.4s,baz=264,slow=38
TKL **Tuckaleechee C** 26.71 75 *e*P P 04 32 39.1 +0.4
TZTN **Tazewell** 26.86 73 *e*P P 04 32 40.0 0.0
comp=Z,586nm,2.6s
GLMI **Grayling** 27.09 54 *e*P P 04 32 42.1 +0.1
comp=Z,104nm,1.0s
GLMI LR LR
comp=Z,20μm,20.0s
AAM **Ann Arbor** 27.21 60 *e*P P 04 32 43.4 +0.3
AAM pmax pmax
comp=Z,120nm,1.4s
AAM MLR MLR
comp=Z,6μm,18.0s
AAM **Ann Arbor** 27.21 60 *e*P P 04 32 43.4 +0.3
comp=Z,120nm,1.4s
AAM LR LR
comp=Z,6μm,18.0s
TIGA **Tifton** 27.38 84 ⇑P P 04 32 45.4 +0.6
baz=27
TIGA **Tifton** 27.38 84 *e*P P 04 32 45.7 +1.0
comp=Z,643nm,2.1s
ACSO **Alum Creek Sta** 27.44 65 *e*P P 04 32 45.8 +0.6
comp=Z,190nm,1.0s
ACSO LR LR
comp=Z,7μm,19.0s
DLBC **Dease Lake** 27.46 344 P P 04 32 45.6 +0.4
comp=Z,23nm,0.8s,baz=169,slow=7.6,SNR=26
DLBC LR LR 04 44 30.6
comp=Z,19μm,21.3s,baz=164,slow=38
DLBC **Dease Lake** 27.46 344 *e*P P 04 32 46.3 +1.0
TEIG **Tepich** 27.61 110 P P 04 32 45.6 -1.2
comp=Z,4.0nm,0.8s,baz=292,slow=12,SNR=2.3
TEIG LR LR 04 44 57.4
comp=Z,8μm,20.6s,baz=280,slow=39
TEIG **Tepich** 27.61 110 *e*P P 04 32 47.3 +0.5
comp=Z,24nm,0.9s
TEIG LR LR
comp=Z,8μm,21.0s
KMSC **Kings Mountain** 28.73 75 ⇓P P 04 32 57.5 +0.8
baz=29
KMSC **Kings Mountain** 28.73 75 *e*P P 04 32 56.1 -0.7
comp=Z,633nm,2.8s
KMSC LR LR
comp=Z,27μm,20.0s
BESE **Bessie Mountai** 28.87 339 *e*P P 04 32 58.6 +0.8
comp=Z,29nm,1.2s
BESE LR LR
comp=Z,6μm,18.0s
JSC **Jenkinsville** 28.88 77 *e*P P 04 32 57.7 -0.4
JSC pmax pmax
comp=Z,375nm,2.3s
JSC **Jenkinsville** 28.88 77 *e*P P 04 32 57.7 -0.4
comp=Z,375nm,2.3s
BLA **Blacksburg** 29.35 71 *e*P P 04 33 02.8 +0.6
BLA pmax pmax
comp=Z,257nm,1.8s
BLA MLR MLR
comp=Z,25μm,21.0s
BLA **Blacksburg** 29.35 71 *e*P P 04 33 02.8 +0.6
comp=Z,257nm,1.8s
BLA LR LR
comp=Z,25μm,21.0s
VWCC **Virginia Weste** 29.70 71 *e*P P 04 33 05.6 +0.2
SKAG **Skagway** 29.74 340 *e*P P 04 33 05.6 +0.2
comp=Z,301nm,2.6s
YKA **Yellowknife Ar** 29.84 1 P P 04 33 05.8 -0.4
comp=Z,3.1nm,0.6s,baz=179,slow=9.2,SNR=26
YKA PcP PcP 04 36 09.5 +0.2
comp=Z,2.4nm,0.8s,baz=168,slow=2.1,SNR=3.8
YKA **Yellowknife Ar** 29.84 1 P P 04 33 05.8 -0.4
YKA 04 36 09.5
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKB5 **Yellowknife Ar** 29.84 1 *e*P P 04 33 05.0 -1.2
YKB5 *e*PcP PcP 04 36 09.1 -0.2
FCC **Fort Churchill** 29.93 23 *e*P P 04 33 07.2 +0.1
FCC **Fort Churchill** 29.93 23 *e*P P 04 33 07.2 +0.1
CSU **Charleston Sou** 30.05 80 *e*P P 04 33 09.8 +1.4
DHAK **Deception Hill** 30.33 337 PFAKE 04 33 20.0 +9.3
DHAK LR LR
comp=Z,9μm,20.0s
SNET **Serv Nac Est T** 30.84 122 PFAKE 04 33 30.0 +14
SNET LR LR
comp=Z,33μm,20.0s
SADO **Sadowa** 30.88 56 P P 04 33 15.3 -0.4
comp=Z,7.3nm,0.8s,baz=276,slow=11,SNR=5.8
SADO LR LR 04 46 02.3
comp=Z,18μm,19.9s,baz=276,slow=37
SSPA **Standing Stone** 31.34 64 *e*P P 04 33 20.6 +0.8
comp=Z,673nm,2.6s

SSPA ePcP PcP 04 36 12.9 -0.7
SSPA LR LR
comp=Z,5µm,22.0s
JSRW J. Sargeant Re 31.35 70 eP P 04 33 19.8 -0.1
JSRW ePcP PcP 04 36 13.3 -0.5
MMNY Mt. Morris Dam 31.48 60 eP P 04 33 21.4 +0.4
comp=Z,212nm,1.3s
MMNY ePcP PcP 04 36 12.9 -1.1
MMNY LR LR
comp=Z,46µm,20.0s
HYT Haines Junctio 31.49 340 eP P 04 33 20.9 -0.1
HYT ePcP PcP 04 36 14.0 +0.2
CNNC Cliffs of the 31.53 75 PFAKE 04 33 30.0 +8.5
CNNC LR LR
comp=Z,27µm,19.0s
URVA University of 31.63 70 eP P 04 33 22.3 0.0
CBN Corbin Frederi 31.73 69 eP P 04 33 23.5 +0.3
comp=Z,79nm,1.1s
CBN LR LR
comp=Z,37µm,18.0s
MVL Millersville 32.50 66 eP P 04 33 30.6 +0.6
comp=Z,93nm,1.5s
KSPA Keystone Colle 32.98 63 eP P 04 33 34.8 +0.6
comp=Z,158nm,1.8s
KSPA LR LR
comp=Z,9µm,20.0s
LUPA Lehigh Univers 33.26 65 eP P 04 33 37.3 +0.7
comp=Z,147nm,2.8s
LUPA LR LR
comp=Z,3µm,18.0s
RAGM Ragged Mountai 33.52 334 eP P 04 33 40.5 +1.8
comp=Z,50nm,1.2s
RAGM LR LR
comp=Z,7µm,19.0s
PTN Potsdam (NY) 33.78 57 eP P 04 33 41.6 +0.5
PTN pmax pmax
comp=Z,123nm,1.3s
PTN MLR MLR
comp=Z,39µm,20.0s
PTN Potsdam (NY) 33.78 57 eP P 04 33 41.6 +0.5
comp=Z,123nm,1.3s
PTN LR LR
comp=Z,39µm,20.0s
BMRM Bremner River 33.89 335 eP P 04 33 42.8 +0.8
comp=Z,37nm,1.2s
BMRM ePcP PcP 04 36 19.8 -0.6
BMRM LR LR
comp=Z,11µm,18.0s
LONY Lake Ozonia 34.07 57 eP P 04 33 44.0 +0.3
comp=Z,456nm,2.9s
LONY LR LR
comp=Z,24µm,20.0s
NCB Newcomb 34.27 59 PFAKE 04 34 00.0 +15
NCB LR LR
comp=Z,22µm,19.0s
PAL Palisades 34.37 64 eP P 04 33 46.9 +0.6
PAL pmax pmax
comp=Z,598nm,2.7s
PAL MLR MLR
comp=Z,15µm,22.0s
PAL Palisades 34.37 64 eP P 04 33 46.9 +0.6
comp=Z,598nm,2.7s
PAL LR LR
comp=Z,15µm,22.0s
DIV Divide 34.42 335 eP P 04 33 47.9 +1.4
comp=Z,58nm,1.4s
DIV LR LR
comp=Z,8µm,19.0s
TRY Troy 34.59 61 eP P 04 33 48.3 +0.1
comp=Z,38nm,1.1s
TRY LR LR
comp=Z,23µm,20.0s
DAWY Dawson 34.63 342 eP P 04 33 49.3 +1.0
DAWY LR LR
comp=Z,16µm,18.0s
ACCN Adirondack Com 34.63 60 eP P 04 33 48.7 +0.2
comp=Z,47nm,1.0s
ACCN LR LR
comp=Z,19µm,18.0s
SSN San Juan del S 34.87 121 PFAKE 04 34 00.0 +9.1
SSN LR LR
comp=Z,5µm,19.0s
MENT Mentasta 35.00 338 eP P 04 33 52.7 +1.2
YLE Yale 35.10 63 PFAKE 04 34 00.0 +7.4
YLE LR LR
comp=Z,10µm,18.0s
SEW Seward 35.18 331 eP P 04 33 54.2 +1.2
comp=Z,188nm,1.7s
SEW LR LR
comp=Z,6µm,18.0s
KDAK Kodiak Island 35.29 326 eP P 04 33 55.1 +1.2
KDAK pmax pmax
comp=Z,443nm,2.2s
KDAK MLR MLR
comp=Z,8µm,20.0s
KDAK Kodiak Island 35.29 326 eP P 04 33 55.1 +1.2
comp=Z,443nm,2.2s
KDAK LR LR
comp=Z,8µm,20.0s
SCM Sheep Creek Mo 35.45 335 eP P 04 33 56.5 +1.1
SCM pmax pmax
comp=Z,270nm,1.8s
SCM MLR MLR
comp=Z,7µm,18.0s
SCM Sheep Creek Mo 35.45 335 eP P 04 33 56.5 +1.1
comp=Z,270nm,1.8s
SCM LR LR
comp=Z,7µm,18.0s
QUA2 Belchertown 35.55 62 eP P 04 33 57.1 +0.7
comp=Z,416nm,2.6s
BRLK Bradley Lake 35.58 330 eP P 04 33 58.1 +1.6
comp=Z,101nm,1.3s
BRLK LR LR
comp=Z,5µm,18.0s
PAX Paxson 35.58 337 PFAKE 04 34 10.0 +13
PAX LR LR
comp=Z,8µm,20.0s
HNH Hanover 35.65 59 PFAKE 04 34 10.0 +13
HNH LR LR
comp=Z,24µm,18.0s
EGAK Eagle 35.66 342 eP P 04 33 58.1 +1.0
comp=Z,94nm,1.5s
EGAK LR LR
comp=Z,12µm,20.0s
RC01 Rabbit Creek A 35.88 333 PFAKE 04 34 10.0 +11
RC01 LR LR
comp=Z,6µm,18.0s
PMR Palmer 35.96 334 eP P 04 34 00.9 +1.2
PMR pmax pmax
comp=Z,179nm,1.4s
PMR Palmer 35.96 334 eP P 04 34 00.9 +1.2
comp=Z,179nm,1.4s
FFD Franklin Falls 36.10 60 eP P 04 34 01.9 +0.8
comp=Z,260nm,2.4s
HRV Adam Dziewonsk 36.14 61 eP P 04 34 02.8 +1.3
HRV pmax pmax
comp=Z,749nm,3.0s
HRV MLR MLR
comp=Z,23µm,20.0s
HRV Adam Dziewonsk 36.14 61 eP P 04 34 02.8 +1.3
comp=Z,748nm,3.0s
HRV LR LR
comp=Z,23µm,20.0s
BRYW Bryant College 36.15 62 eP P 04 34 00.9 -0.7
comp=Z,80nm,1.5s
JTS JuntasAbangare 36.20 121 eP P 04 34 03.2 +0.8
JTS pmax pmax
comp=Z,21nm,0.8s
JTS MLR MLR
comp=Z,18µm,21.0s
JTS JuntasAbangare 36.20 121 eP P 04 34 03.1 +0.8
comp=Z,21nm,0.8s
JTS LR LR
comp=Z,18µm,21.0s
RSO Redoubt South 36.74 330 eP P 04 34 07.9 +1.3
SPU Mount Spurr 36.85 332 eP P 04 34 08.5 +1.1
RND Reindeer 37.01 336 eP P 04 34 08.5 -0.2
RND pmax pmax
comp=Z,24nm,0.9s
RND MLR MLR
comp=Z,7µm,20.0s
RND Reindeer 37.01 336 eP P 04 34 08.5 -0.2
comp=Z,24nm,0.9s
RND LR LR
comp=Z,7µm,20.0s
HDA Harding Lake 37.06 338 eP P 04 34 09.9 +0.9
comp=Z,76nm,1.6s
HDA LR LR
comp=Z,8µm,19.0s
INK Inuvik 37.08 349 P P 04 34 08.8 -0.3
comp=Z,20nm,0.8s,baz=150,slow=8.8,SNR=32
INK Inuvik 37.08 349 eP P 04 34 09.9 +0.8
INK pmax pmax
comp=Z,147nm,1.6s
INK MLR MLR
comp=Z,24µm,20.0s
INK Inuvik 37.08 349 eP P 04 34 09.9 +0.8
comp=Z,147nm,1.6s
INK LR LR
comp=Z,24µm,20.0s
MCK McKinley 37.25 336 eP P 04 34 11.9 +1.1
MCK pmax pmax
comp=Z,72nm,1.0s
MCK MLR MLR
comp=Z,11µm,20.0s
MCK McKinley 37.25 336 eP P 04 34 11.8 +1.1
comp=Z,72nm,1.0s
MCK LR LR
comp=Z,11µm,20.0s
IL1 Eielson Array 37.29 339 eP P 04 34 11.8 +0.8
IL1 ePcP PcP 04 36 31.0 +0.7
ILAR Eielson Array 37.29 339 P P 04 34 11.8 +0.7
comp=Z,18nm,0.9s,baz=151,slow=8.0,SNR=144
ILAR LR LR 04 49 47.5
comp=Z,9µm,18.6s,baz=155,slow=37
ILAR Eielson Array 37.29 339 P P 04 34 11.8 +0.7
ILAR pmax pmax
comp=Z,18nm,0.9s
ILAR MLR MLR
comp=Z,9µm,18.6s
ILB Eielson Array 37.29 339 eP P 04 34 11.8 +0.7
MTDJ Mount Denham 37.32 103 PFAKE 04 34 20.0 +8.1
MTDJ LR LR
comp=Z,4µm,19.0s
WRH Wood River Hil 37.46 338 eP P 04 34 13.0 +0.5
comp=Z,63nm,1.3s
WRH LR LR
comp=Z,11µm,18.0s
CCB Clear Creek Bu 37.49 338 eP P 04 34 12.7 0.0
comp=Z,37nm,1.5s
CCB LR LR
comp=Z,9µm,18.0s
TRF Thorofare Moun 37.53 335 eP P 04 34 14.0 +0.7
comp=Z,246nm,1.7s
TRF LR LR
comp=Z,10µm,18.0s
CHGN Chignik 37.55 322 eP P 04 34 14.6 +1.4
POHA Pohakuloa 37.57 260 PFAKE 04 34 30.0 +16
POHA LR LR
comp=Z,10µm,22.0s
WVL Waterville 37.58 58 eP P 04 34 14.4 +0.7
comp=Z,172nm,1.6s
WVL LR LR
comp=Z,32µm,18.0s
COLA College 37.66 338 eP P 04 34 15.4 +1.2
COLA e 04 36 30.7
COLA pmax pmax
comp=Z,60nm,1.3s
COLA MLR MLR
comp=Z,9µm,19.0s
COLA College 37.66 338 eP P 04 34 15.4 +1.2
comp=Z,60nm,1.3s
COLA ePcP PcP 04 36 30.7 -0.7
COLA LR LR
comp=Z,9µm,19.0s
BWN Browne 37.71 337 eP P 04 34 15.1 +0.5
comp=Z,117nm,1.1s
BWN ePcP PcP 04 36 31.5 -0.1
BWN LR LR
comp=Z,8µm,18.0s
MDM Murphy Dome 37.84 338 eP P 04 34 16.2 +0.4
comp=Z,28nm,1.0s
MDM LR LR
comp=Z,9µm,20.0s
PKME Peaks-Kenny Pk 37.87 57 PFAKE 04 34 30.0 +14
PKME LR LR
comp=Z,18µm,22.0s
PPLA Purkeypile 37.89 334 eP P 04 34 14.7 -1.6
comp=Z,185nm,1.3s
PPLA LR LR
comp=Z,4µm,20.0s
FYU Fort Yukon 38.12 342 eP P 04 34 19.8 +1.8
comp=Z,268nm,1.5s
FYU LR LR
comp=Z,15µm,18.0s
BPAW Bear Paw Mtn. 38.18 336 eP P 04 34 19.3 +0.6
SVW2 Sparrevohn 38.26 330 eP P 04 34 19.8 +0.6
GTBY Guantanamo Bay 38.51 99 eP P 04 34 22.6 +0.8
comp=Z,255nm,1.9s
GTBY LR LR
comp=Z,6µm,18.0s
MLY Manley 38.69 337 eP P 04 34 23.9 +1.1
comp=Z,41nm,0.9s
MLY LR LR
comp=Z,9µm,18.0s
KIP Kipapa 38.89 264 eP P 04 34 26.6 +1.6
KIP pmax pmax
comp=Z,194nm,1.4s
KIP MLR MLR
comp=Z,7µm,18.0s
KIP Kipapa 38.89 264 eP P 04 34 26.6 +1.6
comp=Z,194nm,1.4s
KIP LR LR
comp=Z,7µm,18.0s
EMMW East Machias 39.15 58 eP P 04 34 27.6 +0.6
comp=Z,63nm,1.0s
EMMW LR LR
comp=Z,24µm,19.0s
COLD Coldfoot 39.97 340 eP P 04 34 34.6 +1.1
comp=Z,111nm,1.7s
COLD LR LR
comp=Z,9µm,20.0s
IM04 Indian Mountai 40.27 337 eP P 04 34 36.7 +0.7
BCIP Isla Barro Col 40.72 117 PFAKE 04 34 50.0 +10
BCIP LR LR
comp=Z,5µm,20.0s
SCHQ Schefferville 40.73 42 P P 04 34 38.2 -1.7
comp=Z,40nm,1.2s,baz=261,slow=8.4,SNR=11
SCHQ LR LR 04 52 09.0
comp=Z,7µm,20.2s,baz=262,slow=37
SCHQ Schefferville 40.73 42 eP P 04 34 38.6 -1.4
comp=Z,73nm,1.3s
PAYG Puerto Ayora 41.07 139 PFAKE 04 34 50.0 +6.8
PAYG LR LR
comp=Z,19µm,21.0s
GRTK Grand Turk 41.14 94 PFAKE 04 35 00.0 +16
GRTK LR LR
comp=Z,5µm,20.0s
UNV Unalaska Valle 41.38 316 eP P 04 34 45.3 0.0
comp=Z,312nm,1.7s
UNV LR LR
comp=Z,4µm,20.0s
SDDR Presa de Saban 42.14 98 PFAKE 04 35 00.0 +8.0
SDDR LR LR
comp=Z,7µm,19.0s
FRB Frobisher Bay 42.67 29 P P 04 34 54.4 -1.3
comp=Z,22nm,0.8s,baz=242,slow=8.7,SNR=7.3
BBSR BB Station 42.85 76 PFAKE 04 35 10.0 +12
BBSR LR LR
comp=Z,4µm,22.0s
RES Resolute Bay 43.34 8 P P 04 35 00.7 -0.2
comp=Z,17nm,0.7s,baz=205,slow=9.2,SNR=23
RES Resolute Bay 43.34 8 P P 04 35 00.7 -0.2
RES pmax pmax
comp=Z,17nm,0.7s
RES Resolute Bay 43.34 8 eP P 04 35 01.2 +0.2
comp=Z,67nm,1.3s
SPIA Saint Paul Isl 44.05 320 PFAKE 04 35 20.0 +13
SPIA LR LR
comp=Z,4µm,22.0s
TNA Tin City 45.19 332 PFAKE 04 35 30.0 +14
TNA LR LR
comp=Z,4µm,18.0s
DRLN Deer Lake 45.95 51 eP P 04 35 22.6 +0.5
comp=Z,292nm,2.0s
DRLN LR LR
comp=Z,32µm,19.0s
CRPR Cabo Rojo, PR 46.09 96 PFAKE 04 35 40.0 +16
CRPR LR LR
comp=Z,3µm,20.0s
AOPR Arecibo Observ 46.23 96 eP P 04 35 24.7 -0.1
comp=Z,282nm,2.1s
OBIP Obispado Ponce 46.50 96 eP P 04 35 27.1 +0.3
comp=Z,109nm,1.4s
CELP Cerrillos 46.51 96 eP P 04 35 27.1 +0.2
ICMP Isla Caja de M 46.64 96 eP P 04 35 28.5 +0.5
SJG San Juan 46.85 95 eP P 04 35 29.7 +0.1
SJG pmax pmax
comp=Z,2µm,2.3s
SJG MLR MLR
comp=Z,12µm,19.0s
SJG San Juan 46.85 95 eP P 04 35 29.7 +0.1
comp=Z,2µm,2.3s
SJG LR LR
comp=Z,12µm,19.0s
HUMP Col San Antoni 47.09 95 eP P 04 35 32.9 +1.4
comp=Z,365nm,2.4s
HUMP LR LR
comp=Z,4µm,19.0s
TAOE Nuku Hiva Isla 47.32 213 eS S 04 42 26.8 -0.9
comp=Z,1µm,25.6s
TAOE LQ LQ 04 46 51.8
comp=Z,7µm,24.3s
TAOE LR LR 04 48 53.1
comp=Z,9µm,27.8s
ROSC El Rosal 47.66 116 P P 04 35 37.5 +1.1
comp=Z,20nm,1.2s,baz=302,slow=4.8,SNR=21
ROSC LR LR 04 58 59.9
comp=Z,3µm,18.3s,baz=348,slow=40
ROSC El Rosal 47.66 116 eP P 04 35 38.9 +2.5
STVI Saint Thomas 47.74 94 PFAKE 04 35 50.0 +13
STVI LR LR
comp=Z,4µm,19.0s
OTAV Otavalo 47.82 125 eP P 04 35 38.9 +1.2
comp=Z,95nm,1.5s
OTAV LR LR
comp=Z,3µm,22.0s
SDV Santo Domingo 48.04 109 eP P 04 35 41.1 +2.0
comp=Z,46nm,1.2s
SDV LR LR
comp=Z,8µm,18.0s
XMAS Kiritimati 49.45 241 PFAKE 04 36 00.0 +10
XMAS LR LR
comp=Z,6µm,20.0s
SMRT St. Maarten 49.46 94 eP P 04 35 49.1 -0.8
comp=Z,662nm,2.5s
KULLO Kullorsuaq 50.58 17 ⇓ iP P 04 35 58.0 +0.5
comp=Z,140nm,1.3s
KULLO i S S 04 43 19.0 +7.0
comp=Z,8µm,14.0s
ANWB Willy Bob 50.72 93 PFAKE 04 36 10.0 +11
ANWB LR LR
comp=Z,3µm,20.0s
SFJD Kangerlussuaq 50.75 27 ⇓ iP P 04 35 59.2 +0.3
comp=Z,132nm,1.3s
comp=Z,11µm,15.0s
SFJD Kangerlussuaq 50.75 27 P P 04 35 58.8 -0.2
comp=Z,29nm,0.8s,baz=267,slow=6.8,SNR=10
SFJD Kangerlussuaq 50.75 27 ⇓ iP P 04 35 59.2 +0.3
SFJD pmax pmax
comp=Z,130nm,1.3s
SFJD MLR MLR
comp=Z,11µm,15.0s
SFJD Kangerlussuaq 50.75 27 eP P 04 35 59.5 +0.6
comp=Z,272nm,1.6s
SFJD LR LR
comp=Z,11µm,19.0s
MIDW Midway 52.51 282 PFAKE 04 36 20.0 +7.3
MIDW LR LR
comp=Z,5µm,21.0s
ALE Alert 53.23 8 P P 04 36 16.8 -0.5
comp=Z,169nm,1.5s,SNR=10
GRGR Grenville 53.58 99 PFAKE 04 36 30.0 +9.3
GRGR LR LR
comp=Z,4µm,20.0s
BBGH Gun Hill 54.80 97 PFAKE 04 36 40.0 +10
BBGH LR LR
comp=Z,6µm,21.0s
SUMG Summit 55.42 21 ⇓ iP P 04 36 34.0 +0.2
comp=Z,62nm,0.9s
SUMG eS S 04 44 22.0 +3.1
SUMG Summit 55.42 21 ⇓ iP P 04 36 34.0 +0.2
SUMG eS S 04 44 22.0 +3.1
SUMG pmax pmax
comp=Z,62nm,0.9s
SUMG Summit 55.42 21 eP P 04 36 33.8 0.0
comp=Z,302nm,1.8s
BILL Bilibino 55.59 334 d iP P 04 36 34.7 +0.1
BILL e 04 37 28.5
BILL e 04 38 39.4
BILL pmax pmax
comp=Z,63nm,1.2s
BILL MLR MLR
comp=Z,4µm,18.0s
BILL Bilibino 55.59 334 eP P 04 36 34.9 +0.3
comp=Z,101nm,1.5s
NNA Nana 58.03 133 PFAKE 04 37 00.0 +7.4
NNA LR LR
comp=Z,3µm,20.0s
RKT Rikitea 58.40 201 eS S 04 44 58.2 -0.1
comp=Z,2µm,26.8s
RKT LQ LQ 04 51 36.2
comp=Z,5µm,33.0s
RKT LR LR 04 53 59.3
comp=Z,2µm,30.0s,baz=20
PPT Papeete 59.44 218 P P 04 37 04.1 +1.8
comp=Z,24nm,1.0s,baz=116,slow=0.8,SNR=3.9
PPT LR LR 04 55 46.3
comp=Z,3µm,20.6s,baz=29,slow=29
PPT Papeete 59.44 218 eP P 04 37 02.8 +0.6
PPT2 Papeete2 59.46 218 eS S 04 45 13.7 +1.3
comp=Z,3µm,27.2s
PPT2 eSS SS 04 49 05.2 -2.7
comp=Z,514nm,25.8s
PPT2 LQ LQ 04 52 03.9
comp=Z,7µm,25.5s
PPT2 LR LR 04 54 30.1
comp=Z,4µm,22.8s,baz=22
DAG Danmarks Havn 60.10 15 ⇓ iP P 04 37 05.3 -0.8
comp=Z,23nm,0.9s
comp=Z,10µm,15.0s
DAG Danmarks Havn 60.10 15 ⇓ iP P 04 37 05.3 -0.8
DAG pmax pmax
comp=Z,19nm,0.9s
DAG MLR MLR
comp=Z,10µm,15.0s
PET Petropavlovsk 62.03 317 d iP P 04 37 19.1 -0.4
PET i S S 04 45 47.1 +2.6
PET pmax pmax
comp=Z,45nm,1.0s
PET pmax pmax
comp=Z,600nm,6.5s
PET pmax pmax
comp=Z,300nm,17.3s
PET Petropavlovsk 62.03 317 eP P 04 37 19.4 -0.1
comp=Z,39nm,1.0s
SEY Seymchan 62.19 329 d iP P 04 37 20.7 +0.2
PTGA Pitinga 62.28 111 eP P 04 37 22.2 +0.4
comp=Z,23nm,1.1s
PTGA LR LR
comp=Z,5µm,21.0s
PEA2 Petropavlovsk- 62.55 317 eP P 04 37 23.2 +0.2
PEA0 Petropavlovsk- 62.55 317 eP P 04 37 23.2 +0.1
PETK Petropavlovsk- 62.55 317 P P 04 37 23.2 +0.2
comp=Z,35nm,1.0s,baz=91,slow=12,SNR=21
PETK LR LR 05 01 31.3
comp=Z,465nm,21.5s,baz=76,slow=33
BORG Borgarnes 62.84 29 PFAKE 04 37 40.0 +15
BORG LR LR
comp=Z,8µm,19.0s
KNTN Kanton 63.40 247 PFAKE 04 37 40.0 +11
KNTN LR LR
comp=Z,5µm,21.0s
TBI Tubuai 64.26 214 eS S 04 46 14.7 +1.8
comp=Z,1µm,34.0s
TBI eLQ LQ 04 53 56.0
comp=Z,9µm,32.5s
TBI eLR LR 04 56 36.7
comp=Z,3µm,28.5s,baz=29
KBS Kingsbay 64.71 10 eP P 04 37 37.0 +0.1
KBS pmax pmax
comp=Z,429nm,1.5s
KBS MLR MLR
comp=Z,31µm,18.0s
KBS Kingsbay 64.71 10 eP P 04 37 37.0 +0.1
comp=Z,429nm,1.5s
KBS LR LR
comp=Z,31µm,18.0s
SAML Samuel 65.08 120 eP P 04 37 38.3 -1.9
comp=Z,9.6nm,1.0s
SAML LR LR

comp=Z,1µm,18.0s
SPA0 Spitsbergen Ar 65.87 10 *e*P **P 04 37 44.4 -0.1**
SPA0 *e*S **S 04 46 32.2 +0.7**
SPA0 Spitsbergen Ar 65.87 10 *e*P **P 04 37 44.8 +0.3**
SPITS Spitsbergen Ar 65.87 10 P **P 04 37 44.8 +0.3**
comp=Z,37nm,1.2s,baz=15,slow=10,SNR=6.0
SPITS Spitsbergen Ar 65.87 10 P **P 04 37 44.8 +0.3**
SPITS pmax pmax
comp=Z,37nm,1.2s
HSPB Hornsund (broa 66.60 11 *e*P **P 04 37 49.5 +0.3**
HSPB IAMs_20 IAMs_20 05 05 38.5
comp=Z,7µm,18.3s
TIXI Tiksi 66.67 342 *d i*P **P 04 37 48.8 -0.8**
TIXI pmax pmax
comp=Z,74nm,1.2s
TIXI Tiksi 66.67 342 *e*P **P 04 37 48.9 -0.8**
comp=Z,101nm,1.4s
TIXI *e*PcP **PcP 04 38 16.4 -2.4**
TIXI LR LR
comp=Z,3µm,19.0s
LPAZ La Paz 66.78 129 P **P 04 37 50.8 -1.1**
comp=Z,2.3nm,0.9s,baz=327,slow=6.5,SNR=7.4
LPAZ LR LR 05 04 21.1
comp=Z,3µm,21.4s,baz=327,slow=34
LPAZ La Paz 66.78 129 *e*P **P 04 37 51.2 -0.7**
LPAZ pmax pmax
comp=Z,8.0nm,0.6s
LPAZ La Paz 66.78 129 *e*P **P 04 37 51.1 -0.7**
comp=Z,8.2nm,0.6s
HOPEN Hopen 68.36 9 *e*P **P 04 37 59.8 -0.5**
HOPEN *e*S **S 04 47 03.2 +1.6**
H11N3 WAKE ISLAND Hy 69.09 281 T T 05 53 25.4
baz=63,slow=75,SNR=3.0
H11N2 WAKE ISLAND Hy 69.10 281 T T 05 53 32.2
baz=63,slow=75,SNR=4.4
H11N1 WAKE ISLAND Hy 69.11 281 T T 05 53 33.5
baz=63,slow=75,SNR=3.6
WAKE Wake Island 69.51 280 PFAKE 04 38 20.0 +12
WAKE LR LR
comp=Z,3µm,21.0s
H11S1 WAKE ISLAND Hy 69.84 279 T T 05 53 55.4
baz=64
H11S2 WAKE ISLAND Hy 69.85 279 T T 05 54 05.4
baz=64
H11S3 WAKE ISLAND Hy 69.86 279 T T 05 53 56.4
baz=64
AFI Afiamalu 70.65 238 PFAKE 04 38 30.0 +15
AFI LR LR
comp=Z,3µm,19.0s
LVC Limon Verde 70.99 134 *e*P **P 04 38 18.2 +0.7**
comp=Z,28nm,1.1s
NKL Nikolayevsk 71.86 322 *e*P **P 04 38 20.0 -2.1**
NKL *e* 04 47 43.0
NKL pmax pmax
comp=Z,70nm,1.2s
NKL MLR MLR
comp=N,1µm,17.0s
NKL MLR MLR
comp=E,2µm,17.0s
YAK Yakutsk 71.95 333 P **P 04 38 21.8 -0.7**
comp=E,2.2nm,0.5s,baz=240,slow=23,SNR=8.7
YAK Yakutsk 71.95 333 *d*P **P 04 38 22.1 -0.4**
YAK *e**PP **pP 04 38 27.2 +3.0**
YAK *e* 04 38 40.8
YAK *e*PPP PPP 04 42 44.9
YAK *e*S **S 04 47 43.5 -0.4**
YAK *e* 04 48 26.4
YAK *e*SS **SS 04 52 22.0 +2.5**
YAK pmax pmax
comp=Z,49nm,1.3s
YAK pmax pmax
comp=E,34nm,1.6s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK smax smax
comp=E,304nm,8.8s
YAK smax smax
comp=N,573nm,11.6s
YAK MLR MLR
comp=N,2µm,18.0s
YAK MLR MLR
comp=Z,3µm,18.0s
YAK MLR MLR
comp=E,2µm,18.0s
YAK Yakutsk 71.95 333 *e*P **P 04 38 21.8 -0.7**
YAK LR LR
comp=Z,3µm,20.0s
TRO Tromso 72.83 15 *e*P **P 04 38 26.3 -1.4**
TRO *e*S **S 04 47 56.7 +2.9**
TRO IAMs_20 IAMs_20 05 11 14.4
comp=Z,6µm,19.1s
HAMF Hammerfest 72.99 13 *e*P **P 04 38 28.4 -0.2**
HAMF *e*S **S 04 47 56.4 +0.8**
HAMF *e*SS **SS 04 52 39.3 +4.3**
HAMF IAMs_20 IAMs_20 05 09 54.5
comp=Z,6µm,20.5s
YUK Yuzh-Kuril'sk 73.41 312 *i*P **P 04 38 30.1 -1.4**
YUK S **S 04 47 59.8 -1.4**
YSS Yuzh-Sakhalins 73.85 316 ⇓ *i*P **P 04 38 34.0 0.0**
YSS *e**SP **sP 04 38 39.5 +3.1**
YSS *e* 04 38 46.0
YSS *e*S **S 04 48 06.0 0.0**
YSS *e*SS **SS 04 52 56.0 +6.9**
YSS pmax pmax
comp=Z,70nm,1.1s
YSS MLR MLR
comp=E,2µm,19.0s
YSS MLR MLR
comp=Z,800nm,19.0s
YSS Yuzh-Sakhalins 73.85 316 *e*P **P 04 38 33.6 -0.4**
comp=Z,106nm,1.3s
YSS LR LR
comp=Z,600nm,21.0s
ARA0 ARCESS Array S 74.26 13 *e*P **P 04 38 35.9 -0.2**
ARCES ARCESS Array B 74.26 13 P **P 04 38 36.0 0.0**
comp=Z,20nm,0.9s,baz=324,slow=6.0,SNR=20
ARCES LR LR 05 14 00.3
comp=Z,5µm,19.3s,baz=333,slow=38
ARCES ARCESS Array B 74.26 13 P **P 04 38 36.1 0.0**
ARCES pmax pmax
comp=Z,20nm,0.9s
ARCES MLR MLR
comp=Z,5µm,19.3s
ARE0 ARCESS Array S 74.26 13 *e*P **P 04 38 33.8 -2.3**
ARE0 *e*S **S 04 48 11.4 +1.3**
ARE0 *e*SS **SS 04 52 55.5 +1.0**
ARE0 IAMs_20 IAMs_20 05 10 05.3
comp=Z,5µm,21.1s
KEV Kevo 74.36 13 PFAKE 04 38 50.0 +13
KEV LR LR
comp=Z,7µm,20.0s
SUE Sulen 74.92 26 *e*P **P 04 38 41.7 +1.7**
SUE *e*S **S 04 48 19.2 +1.7**
DSB Dublin 74.93 36 *e*P **P 04 38 40.2 0.0**
comp=Z,119nm,1.9s
DSB LR LR
comp=Z,5µm,19.0s
AKN Aaknes 74.96 24 *e*P **P 04 38 40.8 +0.5**
ESK Eskdalemuir 75.24 33 *e*P **P 04 38 42.3 +0.3**
ESK pmax pmax
comp=Z,93nm,1.7s
ESK MLR MLR
comp=Z,4µm,18.0s
ESK Eskdalemuir 75.24 33 *e*P **P 04 38 42.3 +0.3**
comp=Z,93nm,1.7s
ESK LR LR
comp=Z,4µm,18.0s
EKA Eskdalemuir Ar 75.25 33 P **P 04 38 41.3 -0.8**
comp=Z,4.6nm,0.6s,baz=312,slow=4.7,SNR=28
TBLU Trondheim 75.29 22 *e* **S 04 48 24.2 +2.6**
TBLU IAMs_20 IAMs_20 05 11 09.6
comp=Z,6µm,21.5s
ASAJ Asahikawa 75.40 313 *e*P **P 04 38 42.6 -0.5**
comp=Z,80nm,1.3s
ASAJ LR LR
comp=Z,1µm,18.0s
ERM Erimo 76.15 311 *e*P **P 04 38 46.9 -0.5**
ERM pmax pmax
comp=Z,93nm,1.2s
ERM MLR MLR
comp=Z,2µm,21.0s
ERM Erimo 76.15 311 *e*P **P 04 38 46.9 -0.5**
comp=Z,94nm,1.2s
ERM LR LR
comp=Z,2µm,21.0s
BLS5 Blasjo 76.64 26 *e*P **P 04 38 51.8 +1.8**
BLS5 IAMs_20 IAMs_20 05 09 04.9
comp=Z,4µm,19.7s
NBO02 NORSAR Array S 77.07 24 *e*P **P 04 38 52.7 +0.4**
CLNS Chul'man 77.11 331 *e*P **P 04 38 51.8 -0.9**
CLNS pmax pmax
comp=Z,23nm,1.0s
CLNS pmax pmax
comp=N,10.0nm,0.8s
NB2 NORSAR Subarra 77.19 23 P **P 04 38 53.1 0.0**
comp=Z,76nm,1.7s,baz=316,slow=5.6
NB2 NORSAR Subarra 77.19 23 P **P 04 38 53.1 0.0**
baz=316,slow=5.6
NB200 NORSAR Array S 77.19 23 *e*P **P 04 38 52.4 -0.7**
NOA NORSAR Array B 77.19 23 P **P 04 38 52.4 -0.7**
comp=Z,6.1nm,0.8s,baz=317,slow=5.6,SNR=14
NOA LR LR 05 14 40.4
comp=Z,3µm,18.2s,baz=325,slow=37
NOA NORSAR Array B 77.19 23 P **P 04 38 52.4 -0.7**
NOA pmax pmax
comp=Z,6.0nm,0.9s
NOA MLR MLR
comp=Z,3µm,18.2s
LVZ Lovozero 77.32 11 P **P 04 38 54.3 +0.6**
comp=Z,486nm,1.0s,SNR=5.2
LVZ Lovozero 77.32 11 *d i*P **P 04 38 54.2 +0.6**
LVZ pmax pmax
comp=Z,124nm,1.2s
LVZ Lovozero 77.32 11 *e*P **P 04 38 54.0 +0.3**
comp=Z,113nm,1.1s
LVZ LR LR
comp=Z,6µm,18.0s
HABR Khabarovsk 77.39 320 *de*P **P 04 38 53.2 -1.1**
HABR *e**PP **pP 04 38 54.8 -1.3**
HABR *e**SP **sP 04 38 55.5 -1.2**
HABR *e* 04 39 03.4
HABR *e* 04 41 47.3
HABR PPP PPP 04 43 34.5
HABR *e*S **S 04 48 44.8 -0.4**
HABR *e* 04 49 11.7
HABR *e*SS **SS 04 53 44.1 +1.4**
HABR *e*SSS SSS 04 57 08.0
HABR pmax pmax
comp=Z,13nm,1.5s
HABR pmax pmax
comp=E,22nm,1.5s
HABR pmax pmax
comp=N,5.0nm,0.6s
HABR MLR MLR
comp=Z,797nm,19.0s
APA Apatity 77.41 12 ⇓ *i*P **P 04 38 54.5 +0.4**
APA *i* 04 39 00.0
APA *i* 04 41 52.0
APA *i*S **S 04 48 47.0 +2.2**
APA *i*PS PnS 04 49 34.0 +11
APA *i*SS **SS 04 53 46.0 +3.9**
APA pmax pmax
comp=Z,96nm,1.5s
APA MLR MLR
comp=Z,5µm,18.0s
NC602 NORSAR Array S 77.53 24 *e*P **P 04 38 56.2 +1.4**
NC602 *e*S **S 04 48 51.0 +4.7**
KONO Kongsberg 77.64 25 *e*P **P 04 38 56.1 +0.6**
KONO *e*S **S 04 48 51.1 +3.6**
KONO IAMs_20 IAMs_20 05 11 59.8
comp=Z,4µm,18.0s
KONO Kongsberg 77.64 25 *e*P **P 04 38 56.5 +1.0**
KONO pmax pmax
comp=Z,49nm,1.3s
KONO MLR MLR
comp=Z,5µm,20.0s
KONO Kongsberg 77.64 25 *e*P **P 04 38 56.5 +1.0**
comp=Z,49nm,1.3s
KONO LR LR
comp=Z,5µm,20.0s
DYA Yadsworthy 77.81 37 PFAKE 04 39 10.0 +13
DYA LR LR
comp=Z,6µm,19.0s
HOMB Homborsund 78.21 26 *e*P **P 04 38 58.9 +0.2**
HFS Hagfors 78.69 23 P **P 04 39 01.9 +0.6**
comp=Z,16nm,0.8s,baz=323,slow=2.2,SNR=22
HFS Hagfors 78.69 23 P **P 04 39 01.9 +0.6**
HFS pmax pmax
comp=Z,16nm,0.8s
KLR Kul'dur 78.70 322 *e*P P 04 38 57.1 -4.5
KLR *e* 04 38 57.5
KLR *e*S **S 04 48 54.5 -4.8**
KLR pmax pmax
comp=Z,85nm,1.8s
ROSF Rostrenen 79.42 39 *e*P **P 04 39 05.0 -0.6**
comp=Z,149nm,1.5s
ROSF Rostrenen 79.42 39 *e*P **P 04 39 05.0 -0.6**
ROSF Rostrenen 79.42 39 *e*P **P 04 39 05.0 -0.6**
PMOZ Porto Moniz, M 79.51 58 *e*P P 04 39 09.9 +3.4
PMOZ Porto Moniz, M 79.51 58 *e*LR LR 05 04 51.0
comp=Z,3µm,18.0s
PMOZ Porto Moniz, M 79.51 58 *e*P P 04 39 09.9 +3.4
PMOZ Porto Moniz, M 79.51 58 *e*LR LR 05 04 51.0
comp=Z,3µm,18.0s
QUIF Quistinic 79.74 39 *e*P **P 04 39 06.9 -0.4**
comp=Z,231nm,1.7s
QUIF Quistinic 79.74 39 *e*P **P 04 39 06.9 -0.4**
QUIF Quistinic 79.74 39 *e*P **P 04 39 06.9 -0.4**
MUD Monsted U'grnd 79.76 27 *i*P **P 04 39 08.2 +1.0**
comp=Z,131nm,1.6s
comp=Z,6µm,23.0s
MUD Monsted U'grnd 79.76 27 *e*P **P 04 39 08.2 +1.0**
MUD pmax pmax
comp=Z,130nm,1.6s
MUD MLR MLR
comp=Z,6µm,23.0s
PMAR Madeira 79.76 58 *e*P **P 04 39 10.9 +3.0**
PMAR Madeira 79.76 58 *e*P **P 04 39 10.9 +3.0**
SGMF Saint Gilles 79.85 39 *e*P **P 04 39 07.4 -0.5**
comp=Z,115nm,1.5s
SGMF Saint Gilles 79.85 39 *e*P **P 04 39 07.4 -0.5**
SGMF Saint Gilles 79.85 39 *e*P **P 04 39 07.4 -0.5**
PMPST Porto Santo, M 79.98 57 *e*P **P 04 39 09.8 +0.9**
PMPST Porto Santo, M 79.98 57 *e*P **P 04 39 09.8 +0.9**
PMPS Porto Santo 80.00 57 *e*P **P 04 39 11.0 +2.0**
PMPS Porto Santo 80.00 57 *e*P **P 04 39 11.0 +2.0**
PGAV Gavieira, Arco 80.37 46 *e*P **P 04 39 13.5 +2.5**
PGAV Gavieira, Arco 80.37 46 *e*LQ LQ 05 04 05.8
PGAV *e*LR LR 05 06 05.5
comp=Z,4µm,16.0s
PGAV Gavieira, Arco 80.37 46 *e*P **P 04 39 13.5 +2.5**
PGAV Gavieira, Arco 80.37 46 *e*LQ LQ 05 04 05.8
PGAV *e*LR LR 05 06 05.5
comp=Z,4µm,16.0s
BOD Bodaibo 80.59 335 ⇓ *i*P **P 04 39 09.9 -1.8**
BOD pmax pmax
comp=Z,33nm,1.3s
FLN La Foliniere 80.61 37 *e*P **P 04 39 11.9 -0.1**
comp=Z,71nm,1.0s
FLN *e*R
comp=Z,5µm,17.8s
FLN La Foliniere 80.61 37 *e*P **P 04 39 11.9 -0.1**
FLN La Foliniere 80.61 37 *e*P **P 04 39 11.9 -0.1**
GRR Gorron 80.65 38 *e*P **P 04 39 12.3 +0.1**
comp=Z,161nm,1.5s
GRR Gorron 80.65 38 *e*P **P 04 39 12.3 +0.1**
GRR Gorron 80.65 38 *e*P **P 04 39 12.3 +0.1**
PCAB Cabril 80.67 46 *e*P **P 04 39 12.7 +0.2**
comp=Z,63nm,1.6s
PCAB Cabril 80.67 46 *e*P **P 04 39 12.7 +0.2**
comp=Z,63nm,1.6s
BDFB Brasilia 80.71 115 P **P 04 39 13.6 +0.5**
comp=Z,7.5nm,0.8s,baz=318,slow=4.9,SNR=5.8
BDFB LR LR 05 19 42.6
comp=Z,2µm,19.6s,baz=304,slow=39
BDFB Brasilia 80.71 115 P **P 04 39 13.6 +0.5**
BDFB pmax pmax
comp=Z,8.0nm,0.9s
BDFB MLR MLR
comp=Z,2µm,19.6s
BDFB Brasilia 80.71 115 *e*P **P 04 39 14.2 +1.2**
LDF La Druitiere 80.90 37 *e*P **P 04 39 13.5 0.0**
comp=Z,56nm,1.1s
LDF La Druitiere 80.90 37 *e*P **P 04 39 13.5 0.0**
LDF La Druitiere 80.90 37 *e*P **P 04 39 13.5 0.0**
CPUP Villa Florida 80.96 129 *e*P **P 04 39 13.9 -0.1**
CPUP Villa Florida 80.96 129 *e*P **P 04 39 13.9 -0.1**
POLO Lamas de Olo 81.01 46 *e*P **P 04 39 14.5 +0.1**
comp=Z,40nm,1.5s
POLO Lamas de Olo 81.01 46 *e*P **P 04 39 14.5 +0.1**
comp=Z,40nm,1.5s
PVRL Vila Real 81.11 46 *e*P **P 04 39 15.4 +0.5**
comp=Z,100nm,1.7s
PVRL Vila Real 81.11 46 *e*P **P 04 39 15.4 +0.5**
comp=Z,100nm,1.7s
FIA0 FINESS Array S 81.26 17 *e*P **P 04 39 15.7 +0.5**
FIA0 FINESS Array S 81.26 17 *e*P **P 04 39 15.7 +0.5**
FINES FINESS Array B 81.26 17 P **P 04 39 15.7 +0.5**
comp=Z,15nm,0.8s,baz=349,slow=3.9,SNR=41
FINES LR LR 05 13 44.2
comp=Z,3µm,19.4s,baz=324,slow=35
TMCR Tamitsa 81.31 11 *e*P **P 04 39 16.1 +0.7**
TMCR pmax pmax
comp=Z,86nm,1.2s
PCAS Casmilo, Conde 81.34 48 *e*P **P 04 39 15.9 -0.2**
comp=Z,114nm,1.7s
PCAS Casmilo, Conde 81.34 48 *e*P **P 04 39 15.9 -0.2**
comp=Z,114nm,1.7s
PBRG Braganca 81.39 46 *e*P **P 04 39 16.4 0.0**
PBRG Braganca 81.39 46 *e*P **P 04 39 16.4 0.0**
COP Copenhagen 81.57 27 *i*P **P 04 39 17.1 +0.2**
comp=Z,3µm,23.0s
COP Copenhagen 81.57 27 *e*P **P 04 39 17.1 +0.2**
COP MLR MLR
comp=Z,3µm,23.0s
MVO Moncorvo 81.60 46 *e*P **P 04 39 17.5 0.0**
comp=Z,85nm,1.3s
MVO Moncorvo 81.60 46 *e*S **S 04 49 34.4 +4.1**
MVO *e*SS **SS 04 54 46.2 -0.1**
MVO *e*LQ LQ 05 03 04.0
MVO *e*LR LR 05 06 00.0
comp=Z,3µm,16.0s
MVO Moncorvo 81.60 46 *e*P **P 04 39 17.5 0.0**
comp=Z,85nm,1.3s
MVO Moncorvo 81.60 46 *e*S **S 04 49 34.4 +4.1**
MVO *e*SS **SS 04 54 46.2 -0.1**
MVO *e*LQ LQ 05 03 04.0
MVO *e*LR LR 05 06 00.0
comp=Z,3µm,16.0s
UCC Uccle 81.64 34 P **P 04 39 17.2 -0.2**
UCC Uccle 81.64 34 PFAKE 04 39 30.0 +13
UCC LR LR
comp=Z,7µm,18.0s
USRK Ussuriysk Ar. 81.64 318 P **P 04 39 17.4 -0.1**
comp=Z,30nm,1.1s,baz=54,slow=4.9,SNR=72
USRK LR LR 05 13 36.1
comp=Z,551nm,19.3s,baz=32,slow=34
PTOM Tomar 81.65 48 *e*P **P 04 39 18.3 +0.6**
comp=Z,97nm,1.4s
PTOM Tomar 81.65 48 *e*P **P 04 39 18.3 +0.6**
comp=Z,97nm,1.4s
LIS Lisbon 81.70 49 *e*P **P 04 39 17.7 -0.3**
LIS AMS AMS 05 13 11.7
comp=Z,7µm,20.2s
LIS Lisbon 81.70 49 *e*P **P 04 39 17.7 -0.3**
SNF Seneffe 81.80 34 P **P 04 39 19.1 +0.9**
WTSB Winterswijk 81.94 32 *e*P **P 04 39 19.1 +0.2**
comp=Z,105nm,1.4s
BSEG Bad Segeberg 82.03 29 *e*P **P 04 39 20.1 +0.7**
comp=Z,47nm,1.3s
BAIF Baives 82.07 34 *e*P **P 04 39 19.7 0.0**
BAIF Baives 82.07 34 *e*P **P 04 39 19.7 0.0**
BAIF Baives 82.07 34 *e*P **P 04 39 19.7 0.0**
PCBR Castelo Branco 82.10 48 *e*P **P 04 39 20.1 0.0**
comp=Z,48nm,1.2s
PCBR Castelo Branco 82.10 48 *e*P **P 04 39 20.1 0.0**
comp=Z,48nm,1.2s
IBBN Ibbenburen 82.12 31 *e*P **P 04 39 20.7 +0.8**
comp=Z,153nm,1.5s
MFF Saint Martin d 82.16 39 *e*P **P 04 39 20.1 -0.2**
comp=Z,96nm,1.2s
MFF Saint Martin d 82.16 39 *e*P **P 04 39 20.1 -0.2**
MFF Saint Martin d 82.16 39 *e*P **P 04 39 20.1 -0.2**
DOU Dourbes 82.22 34 P **P 04 39 21.6 +1.1**
comp=Z,25nm,2.2s
BEBN Eben Emael 82.25 33 P **P 04 39 22.0 +1.4**
comp=Z,11nm,2.2s
GIVF Givet 82.33 34 *e*P **P 04 39 21.2 +0.1**
comp=Z,92nm,1.2s
GIVF Givet 82.33 34 *e*P **P 04 39 21.2 +0.1**
GIVF Givet 82.33 34 *e*P **P 04 39 21.2 +0.1**
BCLA Clavier 82.34 33 P **P 04 39 22.0 +0.9**
comp=Z,24nm,1.5s
MJAR Matsushiro Arr 82.36 309 P **P 04 39 21.1 -0.4**
comp=Z,13nm,1.0s,baz=34,slow=3.6,SNR=35
MJAR LR LR 05 09 10.1
comp=Z,1µm,21.4s,baz=90,slow=31
MAJO Matsushiro 82.36 309 *d*P **P 04 39 20.3 -1.2**
MAJO pmax pmax
comp=Z,259nm,1.2s
MAJO Matsushiro 82.36 309 *e*P **P 04 39 20.9 -0.6**
comp=Z,75nm,1.3s
MAT Matsushiro 82.36 309 P **P 04 39 20.4 -1.1**
MAT S **S 04 49 37.0 -1.2**
VLA Vladivostok 82.36 317 ⇑ *i*P **P 04 39 19.2 -1.5**
VLA *i**PP **pP 04 39 21.5 -1.6**
VLA *e* 04 39 24.2
VLA *e* 04 42 28.3
VLA *e*S **S 04 49 37.3 -0.6**
VLA pmax pmax
comp=Z,37nm,1.1s
HGN Heimansgroeve 82.39 33 *e*P **P 04 39 19.5 -1.8**
comp=Z,176nm,1.7s
HGN Heimansgroeve 82.39 33 *e*S **S 04 49 42.5 +4.6**
HGN *e*SS SS 04 54 39.7 -18
HGN *e*SSS SSS 04 58 36.0
PMRV Marv??o 82.40 48 *e*P **P 04 39 21.9 +0.2**
comp=Z,46nm,1.3s
PMRV Marv??o 82.40 48 *e*S **S 04 49 32.5 -6.0**
PMRV *e*SS **SS 04 54 58.6 +0.4**
PMRV Marv??o 82.40 48 *e*LR LR 05 06 13.2
comp=Z,3µm,18.0s
PMRV Marv??o 82.40 48 *e*P **P 04 39 21.9 +0.2**
comp=Z,46nm,1.3s
PMRV Marv??o 82.40 48 *e*S **S 04 49 32.5 -6.0**
PMRV *e*SS **SS 04 54 58.6 +0.4**
PMRV Marv??o 82.40 48 *e*LR LR 05 06 13.2
comp=Z,3µm,18.0s
PNCL Nicolau / Gran 82.45 49 *e*Pn **P 04 39 24.9 +3.0**
PNCL Nicolau / Gran 82.45 49 *e*Pn **P 04 39 24.9 +3.0**
EVOP Sao Brissos 82.47 49 *e*P **P 04 39 21.9 -0.1**
EVOP Sao Brissos 82.47 49 *e*P **P 04 39 21.9 -0.1**
BUG Bochum--Univer 82.52 32 *e*P **P 04 39 22.3 +0.3**
comp=Z,105nm,1.6s
MEM Membach 82.53 33 P **P 04 39 23.1 +1.0**
comp=Z,40nm,1.6s
MEM Membach 82.53 33 *e*P **P 04 39 22.4 +0.3**
MEM pmax pmax
comp=Z,88nm,1.3s
MEM MLR MLR
comp=Z,6µm,18.0s
MEM Membach 82.53 33 *e*P **P 04 39 22.4 +0.3**
comp=Z,88nm,1.3s
MEM LR LR
comp=Z,6µm,18.0s
EVO Evora 82.53 49 *e*P **P 04 39 21.9 -0.5**
comp=Z,54nm,1.1s
EVO *e*R
comp=Z,9µm,20.0s
EVO Evora 82.53 49 *e*P **P 04 39 22.7 +0.3**
comp=Z,35nm,1.4s
EVO Evora 82.53 49 *e*P **P 04 39 22.7 +0.3**
comp=Z,35nm,1.4s
PESTR Estremoz 82.60 48 *e*P **P 04 39 23.1 +0.3**
comp=Z,42nm,1.7s
PESTR Estremoz 82.60 48 *e*P **P 04 39 23.1 +0.3**
comp=Z,42nm,1.7s
PTEO Sao Teotonio 82.66 50 *e*Pn P 04 39 28.6 +5.6
PTEO Sao Teotonio 82.66 50 *e*Pn P 04 39 28.6 +5.6
MDJ Mudanjiang 82.72 319 P **P 04 39 22.3 -0.9**
MDJ PP **PP 04 42 32.0 -0.4**
MDJ S **S 04 49 40.3 -1.3**
MDJ SS **SS 04 55 06.9 +4.3**
MDJ PMZ
comp=Z,13nm,1.1s
MDJ PMZ
comp=Z,240nm,6.3s
MDJ LN
comp=Z,1µm,48.0s
MDJ LE
comp=Z,750nm,49.9s
MDJ LZ
comp=Z,1µm,16.6s
MDJ Mudanjiang 82.72 319 *e*P **P 04 39 22.1 -1.1**
comp=Z,50nm,1.6s
MDJ LR LR
comp=Z,1µm,19.0s

RGN **Rugen** 82.77 27 PFAKE 04 39 30.0 +6.8
RGN LR LR
comp=Z,6µm,19.0s
PFVI Vila Bisbo 82.83 50 *e*Pn **P** **04 39 25.8 +1.9**
PFVI Vila Bisbo 82.83 50 *e*Pn **P** **04 39 25.8 +1.9**
MORF Marmelete 82.84 50 *e*P **P** **04 39 22.9 -1.2**
MORF *e*S **S** **04 49 42.4 -0.8**
MORF AMS AMS 05 09 50.7
comp=E,6µm,19.5s
MORF Marmelete 82.84 50 *e*P **P** **04 39 22.9 -1.2**
MORF *e*S **S** **04 49 42.4 -0.8**
MORF Marmelete 82.84 50 *e*P **P** **04 39 24.4 +0.3**
comp=E,82nm,1.9s
MORF Marmelete 82.84 50 *e*P **P** **04 39 24.4 +0.3**
comp=E,82nm,1.9s
BSD Bornholm Skovb 82.93 26⇓*i*P **P** **04 39 24.5 +0.4**
comp=E,120nm,1.7s
comp=Z,4µm,20.0s
BSD Bornholm Skovb 82.93 26⇓*i*P **P** **04 39 24.5 +0.4**
BSD pmax pmax
comp=Z,120nm,1.7s
BSD MLR MLR
comp=Z,4µm,20.0s
PCVE Castro Verde 83.05 50 *e*P **P** **04 39 25.2 +0.2**
comp=Z,18nm,2.0s
PCVE Castro Verde 83.05 50 *e*P **P** **04 39 25.2 +0.2**
comp=Z,18nm,2.0s
HYF Humbligny 83.17 37 *e*P **P** **04 39 25.7 +0.2**
HYF Humbligny 83.17 37 *e*P **P** **04 39 25.7 +0.2**
WLF Walferdange 83.25 34 P **P** **04 39 27.4 +1.5**
comp=Z,73nm,1.5s
WLF Walferdange 83.25 34 *e*P **P** **04 39 26.6 +0.7**
comp=Z,162nm,1.5s
WLF Walferdange 83.25 34 *e*P **P** **04 39 27.1 +1.2**
WLF pmax pmax
comp=Z,120nm,1.3s
WLF MLR MLR
comp=Z,7µm,19.0s
WLF Walferdange 83.25 34 *e*P **P** **04 39 27.1 +1.2**
comp=Z,120nm,1.3s
WLF LR LR
comp=Z,7µm,19.0s
PBDV Barranco-do-Ve 83.34 50 *e*Pn **P** **04 39 27.8 +1.2**
comp=Z,88nm,1.5s
PBDV Barranco-do-Ve 83.34 50 *e*Pn **P** **04 39 27.8 +1.2**
comp=Z,88nm,1.5s
PBAR Barrancos 83.36 49 *e*P **P** **04 39 26.6 -0.1**
comp=Z,98nm,1.8s
PBAR Barrancos 83.36 49 *e*P **P** **04 39 26.6 -0.1**
comp=Z,98nm,1.8s
PVAQ Vaqueiros 83.39 50 *e*P **P** **04 39 27.0 +0.2**
comp=Z,56nm,1.6s
PVAQ Vaqueiros 83.39 50 *e*S **S** **04 49 50.4 +1.8**
PVAQ Vaqueiros 83.39 50 *e*LR LR 05 07 02.4
comp=Z,6µm,20.0s
PVAQ Vaqueiros 83.39 50 *e*P **P** **04 39 27.0 +0.2**
comp=Z,56nm,1.6s
PVAQ Vaqueiros 83.39 50 *e*S **S** **04 49 50.4 +1.8**
PVAQ Vaqueiros 83.39 50 *e*LR LR 05 07 02.4
comp=Z,6µm,20.0s
MEZF Maizieres J'vi 83.53 35 *e*P **P** **04 39 27.3 0.0**
comp=Z,187nm,1.4s
MEZF Maizieres J'vi 83.53 35 *e*P **P** **04 39 27.3 0.0**
CLZ Clausthal 83.58 30 *e*P **P** **04 39 28.1 +0.5**
comp=Z,183nm,1.6s
TCF Toulx Ste Croi 83.60 38 *e*P **P** **04 39 27.4 -0.4**
comp=Z,169nm,1.5s
TCF Toulx Ste Croi 83.60 38 *e*P **P** **04 39 27.4 -0.4**
TCF Toulx Ste Croi 83.60 38 *e*P **P** **04 39 27.4 -0.4**
LFF La Frestale 83.71 40 *e*P **P** **04 39 28.4 +0.1**
comp=Z,252nm,1.5s
LFF La Frestale 83.71 40 *e*P **P** **04 39 28.4 +0.1**
LFF La Frestale 83.71 40 *e*P **P** **04 39 28.4 +0.1**
SFTF Sexfontaines 83.73 35 *e*P **P** **04 39 28.2 -0.2**
comp=Z,217nm,1.4s
SFTF Sexfontaines 83.73 35 *e*P **P** **04 39 28.2 -0.2**
SSF Saint Saulge 83.75 37 *e*P **P** **04 39 28.4 -0.1**
comp=Z,242nm,1.5s
SSF Saint Saulge 83.75 37 *e*P **P** **04 39 28.4 -0.1**
SSF Saint Saulge 83.75 37 *e*P **P** **04 39 28.4 -0.1**
BGF Bois d'Agland 83.75 37 *e*P **P** **04 39 28.2 -0.3**
comp=Z,274nm,1.4s
BGF Bois d'Agland 83.75 37 *e*P **P** **04 39 28.2 -0.3**
BGF Bois d'Agland 83.75 37 *e*P **P** **04 39 28.2 -0.3**
PUL Pulkovo 83.76 16 *e*P **P** **04 39 29.5 +1.3**
PUL pmax pmax
comp=Z,144nm,1.3s
LOR Lormes 83.79 36 *e*P **P** **04 39 28.6 -0.1**
comp=Z,309nm,1.4s
LOR *e*R
comp=Z,6µm,19.0s
LOR Lormes 83.79 36 *e*P **P** **04 39 28.6 -0.1**
LOR Lormes 83.79 36 *e*P **P** **04 39 28.6 -0.1**
SJPF Ste Jean 83.81 42 *e*P **P** **04 39 28.1 -0.8**
comp=Z,55nm,1.3s
SJPF Ste Jean 83.81 42 *e*P **P** **04 39 28.1 -0.8**
SJPF Ste Jean 83.81 42 *e*P **P** **04 39 28.1 -0.8**
PAGF Fort de Pagny 83.82 35 *e*P **P** **04 39 29.1 +0.3**
comp=Z,76nm,1.4s
PAGF Fort de Pagny 83.82 35 *e*P **P** **04 39 29.1 +0.3**
AVF Avril sur Loir 83.85 37 *e*P **P** **04 39 28.6 -0.4**
comp=Z,256nm,1.5s
AVF Avril sur Loir 83.85 37 *e*P **P** **04 39 28.6 -0.4**
AVF Avril sur Loir 83.85 37 *e*P **P** **04 39 28.6 -0.4**
RJF Les Rejaudoux 83.89 39 *e*P **P** **04 39 29.0 -0.3**
comp=Z,257nm,1.5s
RJF *e*R
comp=Z,6µm,22.0s
RJF Les Rejaudoux 83.89 39 *e*P **P** **04 39 29.0 -0.3**
RJF Les Rejaudoux 83.89 39 *e*P **P** **04 39 29.0 -0.3**
TNS Taunus Mts 83.91 32 *e*P **P** **04 39 29.9 +0.6**
comp=Z,89nm,1.8s
SACV Santiago Islan 83.98 76 PFAKE 04 39 40.0 +10
SACV LR LR
comp=Z,3µm,21.0s
VSU Vasula 83.98 19*d*i*P* **P** **04 39 29.5 +0.1**
VSU pmax pmax
comp=Z,175nm,1.3s
UBBA Unterbreizbach 84.17 31 *e*P **P** **04 39 30.8 +0.4**
comp=Z,70nm,1.5s
THEF They Montfort 84.17 35⇑*e*P **P** **04 39 31.7 +1.0**
SMF Signal de Mont 84.20 37 *e*P **P** **04 39 30.2 -0.6**
comp=Z,116nm,1.3s
SMF Signal de Mont 84.20 37 *e*P **P** **04 39 30.2 -0.6**
SMF Signal de Mont 84.20 37 *e*P **P** **04 39 30.2 -0.6**
PAB San Pablo 84.20 46 *e*P **P** **04 39 31.4 +0.3**
PAB pmax pmax
comp=Z,60nm,1.4s
PAB MLR MLR
comp=Z,4µm,19.0s
PAB San Pablo 84.20 46 *e*P **P** **04 39 31.4 +0.3**
comp=Z,60nm,1.4s
PAB LR LR
comp=Z,4µm,19.0s
PLCA Paso Flores 84.22 147 P **P** **04 39 31.8 +1.0**
comp=Z,25nm,1.1s,baz=329,slow=4.4,SNR=16
PLCA LR LR 05 10 30.6
comp=Z,2µm,19.2s,baz=334,slow=31
PLCA Paso Flores 84.22 147 *e*P **P** **04 39 32.1 +1.3**
comp=Z,289nm,2.1s
ETSF Etsaut 84.32 42 *e*P **P** **04 39 31.8 +0.2**
comp=Z,140nm,1.5s
ETSF Etsaut 84.32 42 *e*P **P** **04 39 31.8 +0.2**
ETSF Etsaut 84.32 42 *e*P **P** **04 39 31.8 +0.2**
ESDC Sonseca Array 84.36 46 P **P** **04 39 32.2 +0.3**
comp=Z,9.0nm,1.0s,baz=311,slow=4.6,SNR=25
ESDC LR LR 05 15 36.3
comp=Z,4µm,18.9s,baz=305,slow=35
PYM Petit Puy Mans 84.38 38⇑*e*P **P** **04 39 33.2 +1.4**
CAF Calviac 84.43 39 *e*P **P** **04 39 31.7 -0.4**
comp=Z,139nm,1.3s
CAF Calviac 84.43 39 *e*P **P** **04 39 31.7 -0.4**
CAF Calviac 84.43 39 *e*P **P** **04 39 31.7 -0.4**
HAU Haudompre 84.50 35 *e*P **P** **04 39 32.1 -0.3**
comp=Z,226nm,1.4s
HAU *e*R
comp=Z,8µm,18.0s
HAU Haudompre 84.50 35 *e*P **P** **04 39 32.1 -0.3**
HAU Haudompre 84.50 35 *e*P **P** **04 39 32.1 -0.3**
LANF Langenberg 84.50 33⇑*e*P **P** **04 39 33.3 +1.0**
RUE Ruedersdorf 84.51 28 PFAKE 04 39 40.0 +7.8
RUE LR LR
comp=Z,5µm,18.0s
PLDF La Plantade 84.55 38⇑*e*P **P** **04 39 34.2 +1.5**
HIA Hailar 84.57 327 PFAKE 04 39 40.0 +7.3
HIA LR LR
comp=Z,3µm,20.0s
CDF Champ du Feu 84.66 34 *e*P **P** **04 39 33.0 -0.2**
comp=Z,127nm,1.3s
CDF Champ du Feu 84.66 34 *e*P **P** **04 39 33.0 -0.2**
CDF Champ du Feu 84.66 34 *e*P **P** **04 39 33.0 -0.2**
EPF Esparros 84.74 41 *e*P **P** **04 39 33.3 -0.4**
comp=Z,149nm,1.7s
EPF Esparros 84.74 41 *e*P **P** **04 39 33.3 -0.4**
EPF Esparros 84.74 41 *e*P **P** **04 39 33.3 -0.4**
ECH Echery 84.74 34⇑*e*P **P** **04 39 34.1 +0.5**
RCBR Riachuelo 84.78 100 PFAKE 04 39 50.0 +16
RCBR LR LR
comp=Z,3µm,19.0s
LBL Lubilhac 84.85 38⇑*e*P **P** **04 39 36.3 +2.1**
HINF Hinteralfeld 84.88 35 *e*P **P** **04 39 33.9 -0.4**
comp=Z,161nm,1.4s
COLF Collangettes 84.89 38⇑*e*P **P** **04 39 35.0 +0.6**
MOF Molkenrain 84.99 35⇑*e*P **P** **04 39 35.4 +0.5**
MOX Moxa 84.99 30 *e*P **P** **04 39 34.8 0.0**
comp=Z,41nm,1.5s
MOX *e*L L 05 16 36.5
comp=Z,7µm,18.3s
CLL Collm 85.08 29 *e*P **P** **04 39 34.8 -0.3**
comp=Z,31nm,1.5s
CLL Collm 85.08 29⇓*i*P **P** **04 39 34.6 -0.5**
comp=Z,29nm,1.5s
CLL *e* 04 39 45.0
CLL *e*PP **PP** **04 42 48.0 -3.4**
CLL *e*S **S** **04 50 03.0 -2.0**
CLL *e*PS **PnS** **04 50 59.0 +0.2**
CLL *e*SS **SS** **04 55 41.0 +4.0**
CLL *e*SSS SSS 04 59 12.0
CLL Lm MLR 05 16 00.0
comp=N,8µm,18.6s
CLL Lm MLR 05 16 00.0
comp=E,5µm,19.4s
CLL Collm 85.08 29⇓*i*P **P** **04 39 34.6 -0.5**
CLL *e* 04 39 45.0
CLL *e*S **S** **04 50 03.0 -2.0**
CLL pmax pmax
comp=Z,29nm,1.5s
CLL Collm 85.08 29 *e*P **P** **04 39 35.4 +0.3**
comp=Z,20nm,1.2s
CLL LR LR
comp=Z,6µm,18.0s
LOMF Lomont 85.19 35⇑*e*P **P** **04 39 36.7 +0.8**
BFO Black Forest 85.21 34 P **P** **04 39 36.6 +0.7**
comp=Z,121nm,1.3s,SNR=5.1
BFO Black Forest 85.21 34 *e*P **P** **04 39 36.4 +0.4**
comp=Z,54nm,1.4s
BFO Black Forest 85.21 34 *e*P **P** **04 39 36.3 +0.4**
BFO pmax pmax
comp=Z,42nm,1.3s
BFO MLR MLR
comp=Z,6µm,18.0s
BFO Black Forest 85.21 34 *e*P **P** **04 39 36.3 +0.4**
comp=Z,42nm,1.3s
BFO LR LR
comp=Z,6µm,18.0s
GKP Gorka Klasztor 85.23 26 *e*P **P** **04 39 36.3 +0.5**
GKP LMZ LR 05 16 11.2
GKP Gorka Klasztor 85.23 26 *e*P **P** **04 39 36.4 +0.6**
GKP MLR MLR
comp=Z,5µm,20.4s
STU Stuttgart 85.30 33 *e*P **P** **04 39 36.6 +0.3**
comp=Z,38nm,1.3s
STU Stuttgart 85.30 33 PFAKE 04 39 50.0 +14
STU LR LR
comp=Z,7µm,18.0s
CABF La Chapelle 85.35 36 *e*P **P** **04 39 36.5 -0.2**
comp=Z,179nm,1.5s
CABF La Chapelle 85.35 36 *e*P **P** **04 39 36.5 -0.2**
CABF La Chapelle 85.35 36 *e*P **P** **04 39 36.5 -0.2**
CN2 Changchun 85.51 320 *e*P **P** **04 39 36.3 -1.2**
CN2 *e*S S 04 50 02.3 -7.3
CN2 PMZ
comp=Z,10.0nm,1.4s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,900nm,22.0s
CN2 LE
comp=Z,800nm,22.0s
CN2 LZ
comp=Z,1µm,19.0s
TANN Tannenbergstha 85.53 30 *e*P **P** **04 39 37.5 0.0**
comp=Z,83nm,2.3s
GRF Grafenberg Arr 85.53 31 *e*P **P** **04 39 38.1 +0.6**
comp=Z,152nm,2.3s
GRF *e*L L 05 18 22.5
comp=Z,7µm,19.1s
GRFO Grafenberg 85.53 31 *e*P **P** **04 39 38.6 +1.1**
GRFO pmax pmax
comp=Z,31nm,1.2s
GRFO MLR MLR
comp=Z,8µm,18.0s
GRFO Grafenberg 85.53 31 *e*P **P** **04 39 38.6 +1.1**
comp=Z,31nm,1.2s
GRFO LR LR
comp=Z,8µm,18.0s
MTLF Montolieu 85.57 40 *e*P **P** **04 39 37.7 -0.1**
comp=Z,47nm,1.3s
MTLF Montolieu 85.57 40 *e*P **P** **04 39 37.7 -0.1**
MTLF Montolieu 85.57 40 *e*P **P** **04 39 37.7 -0.1**
NKC Novy Kostel 85.66 30 *e*P **P** **04 39 38.5 +0.4**
NKC *e*x x 04 39 48.1
NKC *e*PP **PP** **04 42 52.5 -3.7**
NKC AMS AMS 05 19 20.0
comp=Z,5µm,16.2s
NKC Novy Kostel 85.66 30 *e*P **P** **04 39 38.5 +0.4**
NKC *e* 04 39 48.1
NKC *e* 04 42 52.5
NKC MLR MLR
comp=Z,5µm,16.2s
BRG Berggiesshubel 85.80 29 *e*P **P** **04 39 38.8 +0.1**
comp=Z,20nm,1.1s
BRG Berggiesshubel 85.80 29 S S 04 50 19.0 +6.9
BRG SS **SS** **04 55 50.0 +2.5**
comp=N,7µm,18.8s
comp=E,7µm,18.5s
comp=Z,5µm,17.4s
BRG Berggiesshubel 85.80 29 *e*P **P** **04 39 38.9 +0.1**
comp=Z,20nm,1.1s
BRG Berggiesshubel 85.80 29 *e*P **P** **04 39 38.8 +0.1**
BRG SS SS 04 55 50.0 +2.5
BRG pmax pmax
comp=Z,21nm,1.1s
BRG MLR MLR
comp=N,7µm,18.8s
BRG MLR MLR
comp=E,7µm,18.5s
BRG MLR MLR
comp=Z,5µm,17.4s
OG01 Vacheresse 85.84 36⇑*e*P **P** **04 39 39.9 +0.7**
VIVF Saint-Julien-l 85.85 38 *e*P **P** **04 39 38.8 -0.4**
comp=Z,37nm,1.2s
VIVF Saint-Julien-l 85.85 38 *e*P **P** **04 39 38.8 -0.4**
VIVF Saint-Julien-l 85.85 38 *e*P **P** **04 39 38.8 -0.4**
ROTZ Rotzenmuhle 85.90 31 *e*P **P** **04 39 39.5 +0.2**
comp=Z,27nm,1.6s
LASF Ste Croix 85.95 39 *e*P **P** **04 39 39.3 -0.4**
comp=Z,20nm,0.9s
LASF Ste Croix 85.95 39 *e*P **P** **04 39 39.3 -0.4**
PVCC Panska Ves 86.32 29 *e*P **P** **04 39 41.9 +0.6**
PVCC *e*x x 04 39 46.8
PVCC *e*x x 04 39 52.3
PVCC *e*PP **PP** **04 43 03.6 +2.1**
PVCC *e*SKS S 04 50 10.7 -6.5
PVCC *e*S **ScS** **04 50 22.2 -3.7**
PVCC AMS AMS 05 19 50.0
comp=Z,6µm,16.7s
PVCC Panska Ves 86.32 29 *e*P **P** **04 39 41.9 +0.6**
PVCC *e* 04 39 46.8
PVCC *e* 04 43 03.6
PVCC *e* 04 50 10.7
PVCC MLR MLR
comp=Z,6µm,16.7s
ORIF Oris-en-Rattie 86.42 37 *e*P **P** **04 39 41.6 -0.5**
comp=Z,34nm,1.1s
ORIF *e*R
comp=Z,5µm,20.5s
ORIF Oris-en-Rattie 86.42 37 *e*P **P** **04 39 41.6 -0.5**
ORIF Oris-en-Rattie 86.42 37 *e*P **P** **04 39 41.6 -0.5**
LPL La Plagne 86.44 36 *e*P **P** **04 39 42.3 0.0**
LPL La Plagne 86.44 36 *e*P **P** **04 39 42.3 0.0**
LPL La Plagne 86.44 36 *e*P **P** **04 39 42.3 0.0**
LPG La Plagne 86.46 36 *e*P **P** **04 39 42.5 0.0**
LPG La Plagne 86.46 36 *e*P **P** **04 39 42.5 0.0**
LPG La Plagne 86.46 36 *e*P **P** **04 39 42.5 0.0**
PRA Prague 86.61 29 AMS AMS 05 21 10.0
comp=Z,6µm,16.5s
WET Wettzell 86.66 31 *e*P **P** **04 39 42.9 -0.2**
comp=Z,18nm,1.3s
FUR Furstenfeldbru 86.68 32 *e*P **P** **04 39 43.6 +0.4**
comp=Z,33nm,1.2s
DAVA Damuels 86.69 34⇓*i*pP **P** **04 39 43.5 +0.1**
comp=Z,17nm,1.1s
SUW Suwalki 86.70 23 *e*P **P** **04 39 42.3 -0.8**
SUW LMZ LR 05 18 35.2
SUW Suwalki 86.70 23 *e*P **P** **04 39 42.3 -0.8**
SUW MLR MLR
comp=Z,5µm,21.4s
PRU Pruhonice 86.72 29 *e*P **P** **04 39 42.9 -0.4**
PRU *ex* x 04 39 52.5
PRU *e*PP **PP** **04 43 07.7 +3.0**
PRU *e*SKS S 04 50 12.5 -8.7
PRU *e*S **SKKSac** **04 50 23.3 +4.3**
PRU *e*PS **PnS** **04 51 12.7 -6.0**
PRU AMS AMS 05 17 10.0
comp=Z,5µm,17.5s
PRU Pruhonice 86.72 29 *e*P **P** **04 39 42.9 -0.4**
PRU *e* 04 39 52.5
PRU *e* 04 43 07.7
PRU *e* 04 50 12.5
PRU *e* 04 51 12.7
PRU MLR MLR
comp=Z,5µm,17.5s
BNI Bardonecchia 86.73 37 PFAKE 04 39 50.0 +6.3
BNI LR LR
comp=Z,4µm,19.0s
KSP Ksiaz 86.77 28 *e*P **P** **04 39 43.4 -0.1**
KSP *e*S S 04 50 11.0 -11
KSP LMZ LR 05 13 54.1
KSP Ksiaz 86.77 28 *e*P **P** **04 39 43.4 -0.1**
KSP *e*S S 04 50 11.0 -11
GOPC GO Pecny, Ondr 86.88 29 *e*P **P** **04 39 44.2 +0.1**
GOPC *ex* x 04 39 50.3
GOPC *ex* x 04 39 55.6
GOPC *e*PP **PP** **04 43 01.8 -4.3**
GOPC *e*SKS S 04 50 14.6 -8.2
GOPC *e*S **SKKSac** **04 50 25.3 +5.0**
GOPC *ex* x 04 51 12.8
GOPC AMS AMS 05 17 10.0
comp=Z,6µm,18.1s
UPC Upice 86.92 28 *e*P **P** **04 39 44.1 -0.2**
UPC Upice 86.92 28 *e*P **P** **04 39 44.1 -0.2**
SMRF Simiane la Rot 86.92 38 *e*P **P** **04 39 44.3 -0.2**
SMRF Simiane la Rot 86.92 38 *e*P **P** **04 39 44.3 -0.2**
RETA Reutte 86.95 33⇓*i*pP **P** **04 39 44.8 +0.2**
comp=Z,22nm,1.2s,SNR=7.7
KHC Kasperske Hory 86.97 30 *e*P **P** **04 39 44.1 -0.5**
KHC *e*SKS S 04 50 14.4 -9.3
KHC *e*S **ScS** **04 50 28.4 -3.1**
KHC *e*PS **PnS** **04 51 15.3 -6.5**
KHC AMS AMS 05 19 30.0
comp=Z,7µm,17.1s
KHC Kasperske Hory 86.97 30 *e*P **P** **04 39 44.1 -0.5**
KHC *e* 04 50 14.4
KHC *e* 04 51 15.3
KHC MLR MLR
comp=Z,7µm,17.1s
KHC Kasperske Hory 86.97 30 *e*P **P** **04 39 43.7 -0.9**
comp=Z,5.8nm,1.3s
KHC LR LR
comp=Z,3µm,18.0s
MBDF Montbardon 87.01 37 *e*P **P** **04 39 44.5 -0.5**
comp=Z,33nm,1.1s
MBDF Montbardon 87.01 37 *e*P **P** **04 39 44.5 -0.5**
MBDF Montbardon 87.01 37 *e*P **P** **04 39 44.5 -0.5**
TUE Stuetta 87.03 34 PFAKE 04 40 00.0 +15
TUE LR LR
comp=Z,5µm,18.0s
DAVOX Davos/Dischmat 87.06 34 P **P** **04 39 45.1 -0.1**
comp=Z,5.5nm,0.8s,baz=309,slow=9.1,SNR=6.5
DPC Dobruska-Polom 87.17 28 *e*P **P** **04 39 45.5 -0.1**
DPC *ex* x 04 39 55.8
DPC *e*PP PP 04 43 03.1 -5.3
DPC *e*S **S** **04 50 27.8 +2.2**
DPC AMS AMS 05 21 20.0
comp=Z,4µm,15.5s
DPC Dobruska-Polom 87.17 28 *e*P **P** **04 39 45.5 -0.1**
DPC *e* 04 39 55.8
DPC *e* 04 50 27.8
DPC MLR MLR
comp=Z,4µm,15.5s
MOTA Moosalm 87.21 33⇓*i*pP **P** **04 39 45.8 -0.1**
comp=Z,14nm,0.9s,SNR=7.2
GEC2 GERESS Array S 87.24 31 *e*P **P** **04 39 45.7 -0.3**
comp=Z,11nm,1.1s
GEC2 GERESS Array S 87.24 31 *e*P **P** **04 39 45.2 -0.8**
GEC2 GERESS Array S 87.24 31 *e*P **P** **04 39 45.2 -0.8**
GERES GERESS Array B 87.24 31 P **P** **04 39 45.4 -0.6**
comp=Z,9.5nm,1.2s,baz=336,slow=2.9,SNR=22
GERES LR LR 05 19 55.1
comp=Z,5µm,20.5s,baz=323,slow=36
GERES GERESS Array B 87.24 31 P **P** **04 39 45.4 -0.6**
GERES pmax pmax
comp=Z,10.0nm,1.2s
GERES MLR MLR
comp=Z,5µm,20.5s
FETA Feichten 87.28 33⇓*i*PcP **P** **04 39 46.7 +0.4**
comp=Z,33nm,1.2s,SNR=12
FUORN Ofenpass-Fuorn 87.36 34 *e*P **P** **04 39 47.3 +0.5**
comp=Z,31nm,0.9s
FUORN LR LR
comp=Z,7µm,19.0s
WTTA Wattenberg 87.52 33⇓*i*pP **P** **04 39 47.4 -0.1**
comp=Z,23nm,1.4s,SNR=6.7
KRLC Kraliky 87.57 28 *e*P **P** **04 39 47.6 +0.1**
KRLC Kraliky 87.57 28 *e*P **P** **04 39 47.6 +0.1**
TREC Trest 87.65 29 *e*P **P** **04 39 47.8 -0.1**
TREC *ex* x 04 39 57.5
TREC *e*PP PP 04 43 05.9 -6.3
TREC *e*SKS **SKSac** **04 50 19.5 +3.0**
TREC *ex* x 04 51 19.7
TREC AMS AMS 05 17 40.0
comp=Z,6µm,17.9s
TREC Trest 87.65 29 *e*P **P** **04 39 47.8 -0.1**
TREC *e* 04 39 57.5
TREC *e* 04 50 19.5
TREC MLR MLR
comp=Z,6µm,17.9s
BEL Belsk 87.68 25 *e*P **P** **04 39 47.9 0.0**
BEL LMZ LR 05 14 25.3
BEL Belsk 87.68 25 *e*P **P** **04 39 47.9 0.0**
MNK Minsk 87.72 20 *e*P **P** **04 39 47.0 -1.0**
MNK *e* 04 39 47.0
MNK *e* 04 43 12.0
MNK *e*PPP PPP 04 45 12.0
MNK *e* 04 50 14.0
MNK *e*S **S** **04 50 34.0 +3.4**
MNK *e*SS **SS** **04 56 12.0 -3.3**
MNK MLR MLR
comp=Z,9µm,18.0s
MNK MLR MLR
comp=Z,7µm,18.0s
MNK MLR MLR
comp=N,10µm,16.0s
MICGM Minsk 87.73 20 *e*P **P** **04 39 47.0 -1.1**
CALN Calern 87.76 38 *e*P **P** **04 39 49.9 +1.3**
FRF La Foret Royal 87.77 38 *e*P **P** **04 39 47.6 -0.9**
comp=N,85nm,1.2s
FRF La Foret Royal 87.77 38 *e*P **P** **04 39 47.6 -0.9**
FRF La Foret Royal 87.77 38 *e*P **P** **04 39 47.6 -0.9**
LMR La Mourre 87.85 38 *e*P **P** **04 39 48.0 -0.9**
comp=N,66nm,1.3s
LMR La Mourre 87.85 38 *e*P **P** **04 39 48.0 -0.9**
LMR La Mourre 87.85 38 *e*P **P** **04 39 48.0 -0.9**
SNY Shenyang 87.86 320 ⇓P **P** **04 39 49.1 +0.1**
SNY PP **PP** **04 43 09.8 -4.4**
SNY S **SKSac** **04 50 20.3 +2.4**
SNY PMZ
comp=N,23nm,2.5s
SNY PMZ
comp=N,430nm,6.7s

SNY LN
comp=N,660nm,26.5s
SNY LE
comp=N,2µm,20.0s
SNY LZ
comp=N,1µm,19.1s
VRAC Vranov 88.09 29 ⇓P P 04 39 49.9 -0.1
VRAC Vranov 88.09 29 ⇓*i*P P 04 39 49.9 -0.1
MORC Moravsky Berou 88.11 28 ⇓P P 04 39 50.0 -0.1
MORC Moravsky Berou 88.11 28 ⇓*i*P P 04 39 50.0 -0.1
MORC Moravsky Berou 88.11 28 *e*P P 04 39 49.9 -0.1
comp=N,57nm,1.3s
MORC LR LR
comp=Z,18µm,18.0s
MOA Molln 88.24 31 ⇓*i*PcP P 04 39 50.3 -0.5
comp=Z,21nm,1.4s,SNR=7.6
OKC Ostrava-Krasne 88.30 28 *e*P P 04 39 51.1 +0.2
OKC *e*PP **PP 04 43 16.5 -0.9**
OKC *e*SKS **SKSac 04 50 21.1 +0.8**
OKC *e*S **S 04 50 37.1 +0.8**
OKC AMS AMS 05 20 00.0
comp=Z,3µm,18.2s
OKC Ostrava-Krasne 88.30 28 *e*P P 04 39 51.1 +0.2
OKC *e* 04 43 16.5
OKC *e* 04 50 21.1
OKC *e* 04 50 37.1
OKC MLR MLR
comp=Z,3µm,18.2s
KSRS Korea Array 88.30 314 P P 04 39 51.6 +0.5
comp=Z,4.4nm,0.8s,baz=56,slow=4.5,SNR=23
KSRS LR LR 05 14 30.2
comp=Z,550nm,20.7s,baz=32,slow=32
KRAR Krasnoyarsk 88.30 344 *e*P P 04 39 50.1 -0.6
KRAR pmax pmax
comp=Z,50nm,1.2s
KS01 Wonju Array Si 88.30 314 *e*P P 04 39 50.2 -1.0
ABTA Abfaltersbach 88.30 33 ⇓*i*PcP P 04 39 50.8 -0.3
comp=Z,14nm,1.2s,SNR=6.3
KS15 Wonju Array Si 88.33 314 *e*P P 04 39 51.6 +0.3
IRK Irkutsk 88.41 337 *e*P P 04 39 50.8 -0.6
IRK *e* 04 39 58.8
IRK pmax pmax
comp=Z,125nm,1.6s
KBA Koelnbreinsper 88.42 32 ⇓*i*PcP P 04 39 51.2 -0.6
comp=Z,12nm,1.1s,SNR=6.3
OJC Ojcow 88.62 27 *e*P P 04 39 52.1 -0.4
OJC *e*S **S 04 50 42.9 +3.5**
OJC LMZ LR 05 14 53.9
OJC Ojcow 88.62 27 *e*P P 04 39 52.1 -0.4
OJC pmax pmax
comp=Z,25nm,1.5s
OJC Ojcow 88.62 27 *e*P P 04 39 52.1 -0.4
comp=Z,25nm,1.5s
CONA Conrad Observa 88.87 30 ⇓*i*PcP P 04 39 53.6 -0.1
comp=Z,16nm,1.5s,SNR=7.2
INCN Inchon 89.05 315 PFAKE 04 40 10.0 +15
INCN LR LR
comp=Z,1µm,22.0s
MOS Moscow 89.07 15 *e*P P 04 39 52.9 -1.5
MOS *e* 04 40 01.9
MOS *e* 04 50 21.9
MOS *e*S **S 04 50 46.8 +3.5**
MOS *e*PS **PS 04 51 53.7 +6.3**
MOS pmax pmax
comp=Z,51nm,1.2s
MOS MLR MLR
comp=N,3µm,17.0s
MOS MLR MLR
comp=Z,4µm,17.0s
TLY Talaya 89.09 337 P P 04 39 55.2 +0.6
comp=Z,183nm,1.6s,SNR=7.8
TLY Talaya 89.09 337 P P 04 39 55.4 +0.8
comp=Z,9.7nm,0.7s,baz=16,slow=4.9,SNR=7.7
TLY LR LR 05 22 44.8
comp=Z,2µm,18.3s,baz=26,slow=38
TLY Talaya 89.09 337 *d*P P 04 39 55.1 +0.5
TLY *e* 04 43 22.1
TLY *e*S **SKSac 04 50 26.8 +1.8**
TLY *e*SS SS 04 56 44.3 +8.8
TLY pmax pmax
comp=Z,62nm,1.4s
TLY MLR MLR
comp=Z,2µm,18.0s
TLY Talaya 89.09 337 *e*P P 04 39 55.7 +1.1
comp=Z,62nm,1.3s
TLY LR LR
comp=Z,2µm,18.0s
VLC Villacollemand 89.22 35 PFAKE 04 40 10.0 +15
VLC LR LR
comp=Z,4µm,20.0s
TJN Taejon 89.34 314 *e*P P 04 39 54.9 -1.1
SOP Sopron 89.35 30 ⇓*e*P P 04 39 55.9 0.0
OBKA Obir 89.39 32 ⇓*i*P P 04 39 55.2 -1.1
comp=Z,15nm,1.0s,SNR=7.5
OBN Obninsk 89.42 15 *d*LR LR 05 21 45.2
comp=Z,5µm,18.4s,baz=348,slow=37
OBN Obninsk 89.42 15 *d*iP P 04 39 55.8 -0.2
OBN *e* 04 43 23.0
OBN pmax pmax
comp=Z,61nm,1.7s
OBN MLR MLR
comp=Z,5µm,21.0s
OBN Obninsk 89.42 15 PFAKE 04 40 10.0 +14
OBN LR LR
comp=Z,5µm,18.0s
NIE Niedzica 89.47 27 *e*P P 04 39 56.6 +0.1
NIE *e*S **S 04 50 53.2 +5.8**
NIE LMZ LR 05 15 22.0
NIE Niedzica 89.47 27 *e*P P 04 39 56.6 +0.1
NIE *e*S **S 04 50 53.3 +5.8**
SOKA Soboth 89.48 31 ⇓*i*P P 04 39 55.6 -1.0
comp=Z,25nm,1.4s,SNR=14
MOZS Mozjanca 89.51 32 *e*P P 04 39 54.3 -2.5
TRI Trieste 89.65 33 PFAKE 04 40 10.0 +13
TRI LR LR
comp=Z,5µm,18.0s
STHS Stebnicka Huta 89.82 26 *e*P P 04 39 59.1 +1.0
STHS pmax pmax
comp=Z,9.0nm,0.9s
STHS Stebnicka Huta 89.82 26 *e*P P 04 39 59.1 +1.0
STHS *e*PP **PP 04 43 28.3 -1.3**
STHS *e* 04 44 55.5
MOY Mondy 89.96 338 *e*P P 04 39 59.8 +0.9
MOY pmax pmax
comp=Z,134nm,2.4s
HNR Honiara 90.13 259 PFAKE 04 40 10.0 +10
HNR LR LR
comp=Z,27µm,20.0s
KWP Kalwaria Pacla 90.19 25 *e*P P 04 40 00.1 +0.3
KWP LMZ LR 05 16 28.8
KWP Kalwaria Pacla 90.19 25 *e*P P 04 40 00.1 +0.3
KECS Kecovo 90.30 27 *e*P P 04 39 59.9 -0.4
KECS pmax pmax
comp=Z,5.0nm,1.2s
KECS Kecovo 90.30 27 *e*P P 04 39 59.9 -0.4
PKST T''s 90.30 29 ⇓*e*P P 04 40 00.4 0.0
ZAK Zakamensk 90.31 336 *e*P P 04 39 58.9 -1.6
ZAK pmax pmax
comp=Z,20nm,1.6s
GUMO Guam 90.32 286 LR LR 05 20 11.7
comp=Z,540nm,18.1s,baz=60,slow=35
GUMO Guam 90.32 286 PFAKE 04 40 10.0 +9.0
GUMO LR LR
comp=Z,2µm,22.0s
BOJS Bojanci 90.48 32 *e*P P 04 39 59.1 -2.1
BOJS *e*SKSac **SKSac 04 50 37.9 +4.5**
BOJS *e*S **ScS 04 50 39.4 -1.2**
LVV L'vov 90.50 25 *e*P P 04 40 00.8 -0.4
LVV *e* 04 40 11.4
LVV *e*S **S 04 50 53.8 -3.1**
PSZ Piszkesteto 90.53 28 ⇑P P 04 40 02.1 +0.6
PSZ Piszkesteto 90.53 28 ⇑*i*P P 04 40 02.1 +0.6
PSZ Piszkesteto 90.53 28 *e*P P 04 40 01.6 +0.1
comp=Z,52nm,1.6s
PSZ LR LR
comp=Z,4µm,18.0s
PSZ Piszkesteto 90.53 28 ⇓*e*P P 04 40 01.8 +0.3
KOLS Kolonicke sedl 90.61 26 *e*P P 04 40 01.2 -0.6
KOLS pmax pmax
comp=Z,16nm,1.4s
KOLS Kolonicke sedl 90.61 26 *e*P P 04 40 01.2 -0.6
SVE Sverdlovsk 90.79 2 ⇓*i*P P 04 40 03.0 +0.6
SVE *e* 04 43 42.7
SVE *e*S **SKSac 04 50 33.8 -0.9**

SVE pmax pmax
comp=Z,64nm,1.5s
SVE MLR MLR
comp=Z,2µm,16.0s
ULN Ulaanbaatar 91.03 333 PFAKE 04 40 20.0 +16
ULN LR LR
comp=Z,3µm,22.0s
ARU Arti 91.11 3 P P 04 40 04.2 +0.3
comp=Z,142nm,1.1s,SNR=6.0
ARU Arti 91.11 3 *d*iP P 04 40 04.1 +0.2
ARU 04 43 42.5
ARU PPP PPP 04 45 39.7
ARU S S 04 50 55.2 -7.0
ARU SP **SPn 04 52 13.7 +4.4**
ARU SS **SS 04 57 02.1 -2.1**
ARU pmax pmax
comp=Z,74nm,1.7s
ARU MLR MLR
comp=Z,3µm,19.0s
ARU Arti 91.11 3 *e*P P 04 40 04.2 +0.3
comp=Z,147nm,1.8s
ARU LR LR
comp=Z,3µm,18.0s
NVS Novosibirsk 91.28 349 *e*P P 04 40 03.9 -0.8
NVS *e* 04 43 39.6
NVS *e*S **S 04 51 06.2 +2.4**
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=E,27nm,1.4s
NVS pmax pmax
comp=Z,70nm,1.4s
NVS pmax pmax
comp=Z,25nm,1.8s
NVS smax smax
comp=N,86nm,3.2s
NVS smax smax
comp=E,75nm,3.2s
SONA1 Songino Array 91.30 333 *e*P P 04 40 05.5 +0.4
SONA0 Songino Array 91.31 333 *e*P P 04 40 05.7 +0.5
SONM Songino Array 91.31 333 P P 04 40 05.7 +0.5
comp=E,3.0nm,0.6s,baz=45,slow=4.4,SNR=14
SONM Songino Array 91.31 333 P P 04 40 05.7 +0.5
SONM pmax pmax
comp=Z,3.0nm,0.6s
PKSM Moragy 91.39 30 ⇓P P 04 40 04.4 -1.0
PKSM Moragy 91.39 30 ⇓*i*P P 04 40 04.3 -1.1
PKSM Moragy 91.39 30 ⇓*e*P P 04 40 04.4 -1.0
AKASG Malin Array Be 91.45 21 P P 04 40 05.1 -0.5
comp=Z,20nm,1.1s,baz=322,slow=4.1,SNR=34
AKASG LR LR 05 22 25.1
comp=Z,3µm,18.3s,baz=300,slow=36
AKASG Malin Array Be 91.45 21 *i*P P 04 40 05.3 -0.3
AKASG pmax pmax
comp=Z,21nm,1.1s
AKBB Malin Array Si 91.45 21 *e*P P 04 40 05.1 -0.5
AKBB Malin Array Si 91.45 21 *e*P P 04 40 05.1 -0.5
KIEV Kiev 91.45 21 *d*iP P 04 40 04.5 -1.1
KIEV Kiev 91.45 21 *e*P P 04 40 04.8 -0.8
comp=Z,45nm,1.4s
KIEV LR LR
comp=Z,5µm,22.0s
AK11 Malin Array Si 91.45 21 *e*P P 04 40 04.5 -1.1
ZAA1 Zalesovo Array 91.86 348 *e*P P 04 40 07.8 +0.3
ZAA0 Zalesovo Array 91.87 348 *e*P P 04 40 07.1 -0.3
ZALV Zalesovo Beam 91.87 348 P P 04 40 07.8 +0.3
comp=Z,11nm,0.6s,baz=7.5,slow=4.4,SNR=42
ZALV LR LR 05 29 15.6
comp=Z,999nm,18.3s,baz=64,slow=41
DZM Mont Dzumac 91.90 245 *e*S S 04 51 08.7 -1.8
comp=Z,582nm,27.6s
DZM Mont Dzumac 91.90 245 *e*PS PS 04 52 23.5 +2.7
comp=Z,1µm,30.8s
DZM *e*SS SS 04 57 15.3 -4.0
comp=Z,1µm,27.6s
DZM Mont Dzumac 91.90 245 *e*LR LR 05 09 30.5
comp=Z,4µm,31.6s
VSL Villasalto 92.10 39 PFAKE 04 40 20.0 +11
VSL LR LR
comp=Z,2µm,19.0s
LPSR Galich'ya Gora 92.28 15 *e*P P 04 40 09.4 0.0
LPSR pmax pmax
comp=Z,30nm,1.3s
LPSR pmax pmax
comp=N,10.0nm,1.0s
LPSR pmax pmax
comp=E,7.0nm,0.7s
LPSR MLR MLR
comp=Z,3µm,19.0s
LPSR MLR MLR
comp=N,3µm,18.0s
LPSR MLR MLR
comp=E,2µm,15.0s
BUR04 Bucovina Ar. S 92.78 25 *e*P P 04 40 12.0 0.0
BURAR Bucovina Array 92.78 25 ⇓P P 04 40 12.3 +0.3
BURAR Bucovina Array 92.78 25 ⇓*i*P P 04 40 12.3 +0.3
BJI Beijing 93.05 323 P P 04 40 13.5 +0.3
BJI PP **PP 04 43 57.0 +1.7**
BJI S **S 04 51 18.4 -1.8**
BJI SS **SS 04 57 33.0 -0.1**
BJI PMZ
comp=E,11nm,1.4s
BJI PMZ
comp=E,250nm,7.2s
BJI LN
comp=E,2µm,18.6s
BJI LE
comp=E,970nm,17.4s
BJI LZ
comp=E,2µm,29.5s
BJT Baijiatuau 93.07 323 PFAKE 04 40 20.0 +6.7
BJT LR LR
comp=Z,2µm,20.0s
BZS Buzias 93.09 28 ⇓P P 04 40 12.8 -0.5
BZS Buzias 93.09 28 ⇓*i*P P 04 40 12.8 -0.5
VSR Storozhevoye 93.62 15 *e*P P 04 40 15.3 -0.3
VSR pmax pmax
comp=Z,50nm,1.6s
VSR pmax pmax
comp=N,20nm,1.1s
VSR pmax pmax
comp=E,6.0nm,0.5s
VSR MLR MLR
comp=Z,3µm,18.0s
VSR MLR MLR
comp=N,9µm,19.0s
VSR MLR MLR
comp=E,870nm,23.0s
DIVS Divibare 93.66 30 ⇓*i*P P 04 40 15.6 -0.5
VORD Divnogorie 93.89 15 *e*P P 04 40 16.5 -0.3
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,40nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD MLR MLR
comp=Z,4µm,18.0s
VORD MLR MLR
comp=N,2µm,17.0s
VORD MLR MLR
comp=E,1µm,16.0s
DOPR Dopca 94.25 26 ⇑*i*P P 04 40 18.2 -0.4
VRHR Novokhopersk 94.26 14 *e*P P 04 40 18.6 0.0
VRHR pmax pmax
comp=Z,40nm,1.2s
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.6s
BRVK Borovoye 94.44 356 P P 04 40 19.1 -0.3
comp=E,169nm,0.9s,SNR=7.9
BRVK Borovoye 94.44 356 *d*iP P 04 40 19.6 +0.3
BRVK pmax pmax
comp=Z,31nm,1.2s
BRVK Borovoye 94.44 356 *e*P P 04 40 19.7 +0.3
comp=Z,31nm,1.0s
BRVK LR LR
comp=Z,4µm,20.0s
BVAR Borovoye Array 94.47 356 P P 04 40 20.0 +0.5
comp=Z,8.4nm,0.8s,baz=0.0,slow=1.9,SNR=47
BVAR Borovoye Array 94.47 356 P P 04 40 20.0 +0.5
BVAR pmax pmax
comp=Z,8.0nm,0.8s
KIS Kishinev 94.56 23 *e*P P 04 40 19.0 -1.0
KIS Kishinev 94.56 23 *e*PP PP 04 44 04.0 -2.8

KIS Kishinev 94.56 23 *e*PS PS 04 52 42.0 -6.5
KIS LRM MLR 05 24 16.0
comp=Z,1µm,15.0s
KIS Kishinev 94.56 23 *e*P P 04 40 19.0 -1.0
KIS *e* 04 44 04.0
KIS *e* 04 50 48.0
KIS *e*S S 04 51 23.0 -10
KIS *e*PS **PS 04 52 42.0 -6.5**
KIS MLR MLR
comp=Z,6µm,17.0s
KIS MLR MLR
comp=N,6µm,18.0s
KIS MLR MLR
comp=E,1µm,15.0s
VOIR 94.57 26 ⇓P P 04 40 20.0 -0.2
VOIR 94.57 26 ⇓*i*P P 04 40 20.0 -0.2
HHC Hu-ho-hao-te 94.71 326 *e*P P 04 40 19.8 -1.2
HHC PP **PP 04 44 10.8 +2.4**
HHC SKS **SKSac 04 50 52.5 -4.8**
HHC S **S 04 51 31.3 -3.7**
HHC sS **sS 04 51 40.8 +2.8**
HHC SS **SS 04 57 58.1 +1.2**
HHC PMZ
comp=E,23nm,1.4s
HHC PMZ
comp=E,220nm,8.3s
HHC LN
comp=E,1µm,17.8s
HHC LE
comp=E,2µm,17.7s
HHC LZ
comp=E,2µm,18.0s
KEST Kesra 94.81 42 P P 04 40 21.4 -0.1
comp=E,3.6nm,1.1s,baz=266,slow=9.4,SNR=4.0
KEST LR LR 05 22 32.5
comp=E,777nm,18.9s,baz=271,slow=35
KEST Kesra 94.81 42 *e*P P 04 40 20.6 -1.0
VRI Vrincioaia 94.82 25 ⇓P P 04 40 21.3 0.0
VRI Vrincioaia 94.82 25 ⇓*i*P P 04 40 21.3 0.0
MLR Muntele Rosu 94.86 26 ⇓P P 04 40 21.3 -0.3
MLR Muntele Rosu 94.86 26 ⇓*i*P P 04 40 21.3 -0.3
JOW Kunigami 94.97 306 PFAKE 04 40 30.0 +7.7
JOW LR LR
comp=Z,1µm,22.0s
CUC Castrocucco 95.01 35 PFAKE 04 40 30.0 +7.7
CUC LR LR
comp=Z,3µm,18.0s
TIA Tai'an 95.38 320 ⇓P P 04 40 24.3 +0.3
TIA PMZ
comp=Z,190nm,7.0s
TIA LN
comp=Z,1µm,18.2s
TIA LE
comp=Z,1µm,17.6s
TIA LZ
comp=Z,910nm,24.6s
CLTB Caltabellotta 95.54 38 PFAKE 04 40 40.0 +15
CLTB LR LR
comp=Z,2µm,18.0s
TIR Tirane 95.82 32 PFAKE 04 40 40.0 +14
TIR LR LR
comp=Z,5µm,19.0s
CFR Carcaliu 95.91 25 ⇓P P 04 40 25.7 -0.5
CFR Carcaliu 95.91 25 ⇓*i*P P 04 40 25.7 -0.5
KURK Kurchatov 95.97 351 *e*P P 04 40 26.1 -0.3
KURK *e* 04 44 21.0
KURK pmax pmax
comp=Z,22nm,1.3s
KURK MLR MLR
comp=Z,2µm,18.0s
KURK Kurchatov 95.97 351 *e*P P 04 40 26.1 -0.3
comp=Z,22nm,1.3s
KURK *e*PP **PP 04 44 21.0 +3.4**
KURK LR LR
comp=Z,2µm,18.0s
KURBB Kurchatov Arra 96.07 351 P P 04 40 26.6 -0.3
comp=Z,17nm,1.1s,baz=12,slow=4.6,SNR=52
BFZ Birch Farm 96.14 225 PFAKE 04 40 40.0 +13
BFZ LR LR
comp=Z,2µm,21.0s
VTS Vitosha 96.23 29 ⇓P P 04 40 27.3 -0.7
VTS Vitosha 96.23 29 ⇓*i*P P 04 40 27.3 -0.7
CEL Celeste 96.39 36 PFAKE 04 40 40.0 +11
CEL LR LR
comp=Z,5µm,18.0s
TLB Topalu 96.39 25 ⇓P P 04 40 27.9 -0.5
TLB Topalu 96.39 25 ⇓*i*P P 04 40 27.9 -0.5
TIRR Tirgusor 96.64 25 *e*P P 04 40 29.3 -0.2
TIRR pmax pmax
comp=Z,26nm,1.2s
TIRR MLR MLR
comp=Z,3µm,20.0s
TIRR Tirgusor 96.64 25 ⇓*i*P P 04 40 29.3 -0.2
TIRR Tirgusor 96.64 25 *e*P P 04 40 29.3 -0.2
comp=Z,26nm,1.2s
TIRR LR LR
comp=Z,3µm,20.0s
SSE Sheshan 96.69 314 P P 04 40 27.0 -3.0
SSE S S 04 51 45.3 -7.0
SSE SS SS 04 58 18.1 -7.4
SSE PMZ
comp=Z,37nm,0.7s
SSE PMZ
comp=Z,140nm,11.1s
SSE LN
comp=Z,720nm,20.6s
SSE LE
comp=Z,680nm,20.6s
SSE LZ
comp=Z,1µm,17.5s
AKTO Aktyubinsk 97.07 4 P P 04 40 31.1 -0.3
comp=Z,3.1nm,0.9s,baz=354,slow=6.8,SNR=12
AKTO PP **PP 04 44 23.4 -2.7**
comp=Z,0.5nm,0.3s,baz=11,slow=10,SNR=3.0
PSN Preselentsi 97.23 25 ⇓P Pdif 04 40 32.6 +0.3
PSN Preselentsi 97.23 25 ⇓*i*P Pdif 04 40 32.6 +0.3
NJ2 Nanjing 97.42 316 *e*P P 04 40 32.3 -1.0
NJ2 S **S 04 52 00.0 +1.5**
NJ2 PMZ
comp=Z,30nm,1.2s
NJ2 LN
comp=Z,2µm,21.0s
NJ2 LE
comp=Z,2µm,22.0s
NJ2 LZ
comp=Z,8µm,18.0s
WDD Wield Dalam 97.52 39 PFAKE 04 40 40.0 +6.2
WDD LR LR
comp=Z,2µm,20.0s
JMB Yambol 97.68 27 ⇓P Pdif 04 40 34.3 0.0
JMB Yambol 97.68 27 ⇓*i*P Pdif 04 40 34.3 0.0
SIM Simferopol' 98.07 21 P **P 04 40 34.6 -1.4**
SIM *e* 04 44 33.0
SIM pmax pmax
comp=Z,30nm,8.6s
SIM pmax pmax
comp=Z,80nm,9.7s
SIM MLR MLR
comp=Z,4µm,17.0s
ABKAR Akbulak array 98.34 3 *e*P P 04 40 37.1 0.0
AGG Agios Georgios 98.81 32 PFAKE 04 40 50.0 +10
AGG LR LR
comp=Z,5µm,20.0s
ANN Anapa 99.16 19 *e*P Pdif 04 40 38.8 -2.1
ANN *e* 04 44 41.2
ANN *e* 04 51 18.0
ANN pmax pmax
comp=Z,37nm,1.2s
ANN MLR MLR
comp=Z,7µm,17.0s
MK32 Makanchi Array 99.20 347 *e*P Pdif 04 40 40.5 -0.5
MK32 *e*PP **PP 04 44 40.5 -2.0**
MKAR Makanchi Array 99.20 347 P Pdif 04 40 40.5 -0.5
comp=Z,4.1nm,1.0s,baz=355,slow=4.3,SNR=28
MKAR PP **PP 04 44 40.5 -2.0**
comp=Z,0.4nm,0.8s,baz=54,slow=2.5,SNR=2.6
MKAR LR LR 05 31 49.1
comp=Z,1µm,18.3s,baz=360,slow=39
MK01 Makanchi Array 99.22 347 *e*P Pdif 04 40 40.2 -0.9
PMG Port Moresby 100.80 266 PFAKE 04 41 00.0 +11
PMG LR LR
comp=Z,11µm,20.0s
WMQ Urumqi 100.86 343 P Pdif 04 40 48.9 +0.3
WMQ PP **PP 04 44 58.3 +3.1**
WMQ SKS **SKSac 04 51 29.1 +0.6**

WMQ				S	**Sdif**	**04 52 22.9**	**-4.4**	
WMQ				SS	**SS**	**04 59 23.1**	**+0.3**	
WMQ				PMZ				
	comp=Z,9.0nm,0.6s							
WMQ				PMZ				
	comp=Z,140nm,8.0s							
WMQ				LN				
	comp=Z,2μm,21.5s							
WMQ				LE				
	comp=Z,1μm,22.1s							
WMQ				LZ				
	comp=Z,2μm,29.5s							
SOC	**Sochi**	**100.90**	**18**	*e*P	**Pdif**	**04 40 45.5**	**-3.1**	
SOC				*e*		04 44 55.8		
SOC				*e*S	**SKSac**	**04 51 24.9**	**-3.6**	
SOC				MLR	MLR			
	comp=Z,3μm,13.0s							
WHN	**Wuhan**	**101.14**	**317**	P	**Pdif**	**04 40 41.3**	**-8.6**	
NACB	**Ninganchiao**	**101.22**	**308**	PFAKE		04 41 00.0	+10	
NACB				LR	LR			
	comp=Z,1μm,20.0s							
KIV	**Kislovodsk**	**101.27**	**16**	*e*P	**Pdif**	**04 40 49.4**	**-1.0**	
KIV				*e*		04 51 29.4		
KIV				*e*PS	**PS**	**04 54 02.5**	**+1.2**	
KIV				*e*SS	SS	04 59 32.4	+3.9	
KIV				*e*SSS	SSS	05 03 22.6		
KIV				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KIV				MLR	MLR			
	comp=Z,4μm,20.0s							
KIV	**Kislovodsk**	**101.27**	**16**	PFAKE		04 41 00.0	+10	
KIV				LR	LR			
	comp=Z,4μm,19.0s							
XAN	**Xi'an**	**101.36**	**323**	SS	SS	04 59 41.1	+11	
XAN				LR	LR			
	comp=N,1μm,18.5s							
XAN				LR	LR			
	comp=E,390nm,16.0s							
XAN				LR	LR			
	comp=Z,690nm,18.5s							
KBZ	**Khabaz**	**101.53**	**15**	PP	PP	04 44 52.8	-7.3	
	comp=Z,1.2nm,0.8s,baz=263,slow=8.1,SNR=1.9							
SSLB	**Suanglung**	**101.92**	**308**	PFAKE		04 41 00.0	+6.4	
SSLB				LR	LR			
	comp=Z,800nm,21.0s							
YULB	**Yu-li**	**101.96**	**308**	PFAKE		04 41 10.0	+16	
YULB				LR	LR			
	comp=Z,600nm,22.0s							
LZH	**Lanzhou**	**102.11**	**328**	*e*P	**Pdif**	**04 40 52.3**	**-2.1**	
LZH				pP		04 40 55.8		
LZH				PP	**PP**	**04 45 03.1**	**-2.0**	
LZH				PMZ				
	comp=Z,14nm,1.0s							
LZH				PMZ				
	comp=Z,68nm,5.2s							
LZH				LN				
	comp=Z,3μm,17.3s							
LZH				LE				
	comp=Z,2μm,15.4s							
LZH				LZ				
	comp=Z,3μm,18.0s							
ANTO	**Ankara**	**102.21**	**24**	PFAKE		04 41 10.0	+15	
ANTO				LR	LR			
	comp=Z,3μm,22.0s							
SANT	**Santorini**	**102.39**	**31**	PFAKE		04 41 10.0	+15	
SANT				LR	LR			
	comp=Z,2μm,20.0s							
TPUB	**Ta-pu**	**102.47**	**308**	PFAKE		04 41 10.0	+14	
TPUB				LR	LR			
	comp=Z,900nm,21.0s							
TWG	**Pinlang**	**102.50**	**308**	PFAKE		04 41 10.0	+14	
TWG				LR	LR			
	comp=Z,2μm,20.0s							
BR101	**Keskin Array S**	**102.63**	**24**	*e*Pdif	**Pdif**	**04 40 52.8**	**-3.8**	
BR101				*e*PP	**PP**	**04 45 07.7**	**-1.1**	
BR101				*e*PKKPbc	**PKKPbc**	**04 56 54.1**	**-1.9**	
BRTR	**Keskin Array B**	**102.63**	**24**	P	**Pdif**	**04 40 52.8**	**-3.8**	
	comp=Z,0.3nm,0.5s,baz=279,slow=2.4,SNR=4.6							
BRTR				PP	**PP**	**04 45 07.7**	**-1.1**	
	comp=Z,0.6nm,0.8s,baz=338,slow=3.4,SNR=4.2							
BRTR				PKKPbc	**PKKPbc**	**04 56 54.1**	**-1.9**	
	comp=Z,0.7nm,0.8s,baz=150,slow=6.0,SNR=4.7							
BRTR	**Keskin Array B**	**102.63**	**24**	P	**Pdif**	**04 40 52.8**	**-3.8**	
BRTR						04 45 07.7		
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
GVD	**Gavdhos**	**103.05**	**33**	PFAKE		04 41 10.0	+12	
GVD				LR	LR			
	comp=Z,10μm,21.0s							
ISP	**Isparta**	**103.20**	**27**	PFAKE		04 41 10.0	+11	
ISP				LR	LR			
	comp=Z,4μm,20.0s							
TKM2	**Tokmak 2**	**104.02**	**351**	PFAKE		04 41 10.0	+7.1	
TKM2				LR	LR			
	comp=Z,3μm,18.0s							
ENH	**Enshi**	**104.03**	**321**	PFAKE		04 41 10.0	+7.1	
ENH				LR	LR			
	comp=Z,2μm,20.0s							
AAK	**Ala-Archa**	**104.44**	**352**	PFAKE		04 41 20.0	+15	
AAK				LR	LR			
	comp=Z,2μm,19.0s							
EKS2	**Erkin-Say**	**104.49**	**353**	PFAKE		04 41 20.0	+15	
EKS2				LR	LR			
	comp=Z,3μm,18.0s							
TOA0	**Torodi Ar. Sit**	**105.04**	**63**	*e*Pdif	**Pdif**	**04 41 05.9**	**-1.6**	
TOA0				*e*PP	**PP**	**04 45 28.2**	**+0.5**	
TORD	**Torodi Ar. Bea**	**105.04**	**63**	Pdiff	**Pdif**	**04 41 05.9**	**-1.6**	
	comp=Z,1.8nm,1.1s,baz=298,slow=7.8,SNR=4.3							
TORD				PP	**PP**	**04 45 28.2**	**+0.5**	
	comp=Z,1.3nm,1.2s,baz=290,slow=4.4,SNR=3.6							
GNI	**Garni**	**105.35**	**15**	PFAKE		04 45 30.0		
GNI				LR	LR			
	comp=Z,3μm,21.0s							
EIDS	**Eidsvold**	**105.59**	**250**	PFAKE		04 45 30.0		
EIDS				LR	LR			
	comp=Z,2μm,20.0s							
CD2	**Chengdu**	**106.44**	**325**	Pdif	**Pdif**	**04 41 11.4**	**-2.2**	
CD2				PP	**PP**	**04 45 35.3**	**-2.0**	
CD2				S	**Sdif**	**04 53 10.3**	**-4.0**	
CD2				SS	**SS**	**05 00 38.6**	**-1.8**	
CD2				PPMZ				
	comp=Z,220nm,6.8s							
CD2				LN				
	comp=Z,2μm,19.6s							
CD2				LE				
	comp=Z,2μm,21.5s							
CD2				LZ				
	comp=Z,2μm,17.1s							
COEN	**Coen**	**106.47**	**264**	PFAKE		04 45 40.0		
COEN				LR	LR			
	comp=Z,2μm,22.0s							
CSS	**Prodhromos**	**106.78**	**26**	PFAKE		04 45 40.0		
CSS				LR	LR			
	comp=Z,600nm,20.0s							
CTAO	**Charters Tower**	**106.93**	**257**	PFAKE		04 45 40.0		
CTAO				LR	LR			
	comp=Z,2μm,21.0s							
ARMA	**Armidale**	**107.56**	**245**	PFAKE		04 45 40.0		
ARMA				LR	LR			
	comp=Z,2μm,21.0s							
GYA	**Guiyang**	**108.56**	**320**	Pdif	**Pdif**	**04 41 21.8**	**-1.4**	
GYA				PP	**PP**	**04 45 55.5**	**+2.4**	
GYA				PKS		04 49 01.6		
GYA				SS	SS	05 01 07.6	-2.0	
GYA				PPMZ				
	comp=Z,280nm,8.0s							
GYA				LN				
	comp=Z,220nm,20.5s							
GYA				LE				
	comp=Z,190nm,21.0s							
GYA				LZ				
	comp=Z,250nm,20.2s							
FAKI	**Fak Fak**	**109.89**	**280**	PFAKE		04 45 40.0		
FAKI				LR	LR			
	comp=Z,2μm,20.0s							
ASF	**Jabal al Asfar**	**110.58**	**24**	Pdiff	**Pdif**	**04 41 32.8**	**+0.7**	
	comp=Z,0.5nm,0.3s,baz=324,slow=8.7,SNR=3.0							
KMI	**Kunming**	**111.71**	**322**	PKP	**PKiKP**	**04 45 32.9**	**-2.1**	
KMI				PP	**PP**	**04 46 16.4**	**+0.5**	
KMI				SKKS		04 53 10.5		
KMI				SS	**SS**	**05 01 49.3**	**-2.6**	
KMI				PPMZ				
	comp=Z,140nm,7.8s							
KMI				LN				
	comp=Z,780nm,19.0s							
KMI				LE				
	comp=Z,1μm,18.0s							
KMI				LZ				
	comp=Z,1μm,19.0s							
TNTI	**Ternate**	**111.82**	**286**	PFAKE		04 45 50.0		
TNTI				LR	LR			
	comp=Z,1μm,18.0s							
QIZ	**Qiongzhong**	**112.47**	**313**	Pdif	**Pdif**	**04 41 38.3**	**-2.3**	
QIZ				PP	**PP**	**04 46 20.0**	**-1.4**	
QIZ				S	**Sdif**	**04 54 00.4**	**-4.4**	
QIZ				SS	**SS**	**05 02 02.4**	**+0.2**	
QIZ				LN				
	comp=Z,1μm,17.3s							
QIZ				LZ				
	comp=Z,1μm,17.3s							
QIZ	**Qiongzhong**	**112.47**	**313**	PFAKE		04 45 50.0		
QIZ				LR	LR			
	comp=Z,1μm,19.0s							
LSA	**Lhasa**	**112.85**	**335**	PFAKE		04 45 50.0		
LSA				LR	LR			
	comp=Z,3μm,21.0s							
KBL	**Kabul**	**112.97**	**356**	PFAKE		04 45 50.0		
KBL				LR	LR			
	comp=Z,3μm,21.0s							
STKA	**Stephens Creek**	**115.94**	**247**	PKP	**PKPdf**	**04 45 42.0**	**-0.5**	
	comp=Z,3.1nm,0.7s,baz=69,slow=5.3,SNR=5.6							
STKA	**Stephens Creek**	**115.94**	**247**	*e*PKIKP	**PKPdf**	**04 45 41.6**	**-0.9**	
STKA	**Stephens Creek**	**115.94**	**247**	*e*PKPdf	**PKPdf**	**04 45 41.6**	**-0.9**	
TAU	**Tasmania Unive**	**115.94**	**234**	PFAKE		04 45 50.0	+8.0	
TAU				LR	LR			
	comp=Z,1μm,18.0s							
LUWI	**Luwuk**	**116.60**	**287**	PFAKE		04 46 00.0	+16	
LUWI				LR	LR			
	comp=Z,800nm,22.0s							
WRAB	**Tennant Creek**	**116.73**	**263**	PFAKE		04 46 00.0	+16	
WRAB				LR	LR			
	comp=Z,3μm,20.0s							
WRA	**Warramunga Arr**	**116.75**	**263**	PKP	**PKPdf**	**04 45 43.9**	**-0.4**	
	comp=Z,6.4nm,1.0s,baz=63,slow=2.2,SNR=21							
TOLI	**Toli-Toli**	**116.88**	**290**	PFAKE		04 46 00.0	+15	
TOLI				LR	LR			
	comp=Z,500nm,20.0s							
KKM	**Kota Kinabalu**	**117.28**	**298**	PFAKE		04 46 00.0	+14	
KKM				LR	LR			
	comp=Z,700nm,22.0s							
AS01	**Alice Springs**	**118.72**	**259**	*e*PKPdf	**PKPdf**	**04 45 47.1**	**-1.0**	
AS12	**Alice Springs**	**118.75**	**259**	*e*PKPdf	**PKPdf**	**04 45 47.1**	**-1.0**	
AS12				*e*PKKPbc	**PKKPbc**	**04 56 03.1**	**+0.1**	
ASAR	**Alice Springs**	**118.75**	**259**	PKP	**PKPdf**	**04 45 47.1**	**-1.0**	
	comp=Z,4.2nm,0.8s,baz=77,slow=1.6,SNR=29							
ASAR				PKKPbc	**PKKPbc**	**04 56 03.1**	**+0.1**	
	comp=Z,0.6nm,0.7s,baz=233,slow=4.0,SNR=5.4							
ASAR	**Alice Springs**	**118.75**	**259**	PKIKP	**PKPdf**	**04 45 47.2**	**-1.0**	
ASAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
CHTO	**Chiang Mai**	**118.88**	**322**	PFAKE		04 46 00.0	+11	
CHTO				LR	LR			
	comp=Z,1μm,19.0s							
SBA	**Scott Base**	**119.08**	**194**	PFAKE		04 46 00.0	+13	
SBA				LR	LR			
	comp=Z,600nm,19.0s							
CM31	**Chiang Mai Arr**	**119.18**	**322**	*e*PKPdf	**PKPdf**	**04 45 48.8**	**-0.4**	
CMAR	**Chiang Mai Arr**	**119.18**	**322**	PKP	**PKPdf**	**04 45 48.8**	**-0.4**	
	comp=Z,2.2nm,0.4s,baz=341,slow=2.2,SNR=15							
CMAR	**Chiang Mai Arr**	**119.18**	**322**	PKIKP	**PKPdf**	**04 45 48.8**	**-0.4**	
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
VNDA	**Vanda**	**119.98**	**194**	PKP	**PKPdf**	**04 45 49.4**	**+0.5**	
	comp=Z,1.3nm,1.0s,baz=99,slow=1.6,SNR=2.9							
SOEI	**Soe**	**120.24**	**278**	PFAKE		04 46 00.0	+8.6	
SOEI				LR	LR			
	comp=Z,1μm,20.0s							
BBOO	**Buckleboo**	**120.62**	**249**	PFAKE		04 46 00.0	+8.6	
BBOO				LR	LR			
	comp=Z,2μm,20.0s							
MMRI	**Maumere**	**121.33**	**280**	PFAKE		04 46 00.0	+6.7	
MMRI				LR	LR			
	comp=Z,1μm,22.0s							
KAPI	**Kappang**	**121.35**	**286**	PKP	**PKPdf**	**04 45 53.4**	**0.0**	
	comp=Z,3.7nm,0.4s,baz=176,slow=4.5,SNR=4.0							
KAPI	**Kappang**	**121.35**	**286**	*e*PKPdf	**PKPdf**	**04 45 53.1**	**-0.3**	
KAPI				LR	LR			
	comp=Z,800nm,21.0s							
RAYN	**Ar Rayn**	**121.36**	**20**	PFAKE		04 46 00.0	+6.7	
RAYN				LR	LR			
	comp=Z,2μm,22.0s							
QSPA	**South Pole Qui**	**122.52**	**180**	*e*PKPdf	**PKPdf**	**04 45 54.2**	**+0.1**	
QSPA				LR	LR			
	comp=Z,800nm,18.0s							
SBUM	**Sibu**	**122.64**	**298**	PFAKE		04 46 10.0	+14	
SBUM				LR	LR			
	comp=Z,600nm,20.0s							
MSKU	**Masuku**	**123.51**	**68**	PFAKE		04 46 10.0	+12	
MSKU				LR	LR			
	comp=Z,2μm,20.0s							
KSM	**Kuching**	**124.70**	**299**	*e*PKPdf	**PKPdf**	**04 45 60.0**	**+0.1**	
KSM				LR	LR			
	comp=Z,600nm,21.0s							
DRV	**Dumont d'Urvil**	**125.07**	**208**	SS	SS	05 04 38.0	-6.9	
DRV				L	L	05 18 00.0		
DRV				R		05 24 00.0		
KULM	**Kulim**	**128.69**	**311**	PFAKE		04 46 20.0	+13	
KULM				LR	LR			
	comp=Z,1μm,22.0s							
IPM	**Ipoh**	**129.06**	**309**	PFAKE		04 46 20.0	+12	
IPM				LR	LR			
	comp=Z,1μm,19.0s							
MYKOM	**Kota Tinggi**	**129.13**	**304**	PFAKE		04 46 20.0	+12	
MYKOM				LR	LR			
	comp=Z,1μm,20.0s							
DAMY	**Dhamar**	**129.38**	**25**	PFAKE		04 46 20.0	+11	
DAMY				LR	LR			
	comp=Z,2μm,22.0s							
LHMI	**Lhok Sumawe**	**131.04**	**314**	PFAKE		04 46 20.0	+8.1	
LHMI				LR	LR			
	comp=Z,1μm,22.0s							
PSI	**Prapat**	**131.69**	**310**	PKP	**PKPdf**	**04 46 12.0**	**-1.3**	
	comp=Z,2.6nm,0.4s,baz=321,slow=5.2,SNR=5.9							
PSI	**Prapat**	**131.69**	**310**	*e*PKIKP	**PKPdf**	**04 46 12.2**	**-1.1**	
PSI				MLR	MLR			
	comp=Z,1μm,22.0s							
PSI	**Prapat**	**131.69**	**310**	*e*PKPdf	**PKPdf**	**04 46 12.2**	**-1.1**	
PSI				LR	LR			
	comp=Z,1μm,22.0s							
FURI	**Furi**	**132.08**	**35**	PFAKE		04 46 30.0	+16	
FURI				LR	LR			
	comp=Z,2μm,19.0s							
BKNI	**Bangkinang**	**132.12**	**306**	PFAKE		04 46 30.0	+16	
BKNI				LR	LR			
	comp=Z,1μm,19.0s							
TSUM	**Tsumeb**	**136.42**	**84**	*e*P	**PKPdf**	**04 46 19.8**	**-2.2**	
TSUM	**Tsumeb**	**136.42**	**84**	*e*PKPdf	**PKPdf**	**04 46 22.2**	**+0.2**	
TSUM				LR	LR			
	comp=Z,2μm,20.0s							
PALK	**Pallekele**	**137.22**	**335**	PFAKE		04 46 40.0	+16	
PALK				LR	LR			
	comp=Z,2μm,21.0s							
WIN	**Windhoek**	**137.48**	**89**	*e*P	**PKPdf**	**04 46 23.6**	**-0.3**	
WIN				AMS	AMS	05 41 32.3		
	comp=Z,744nm,20.8s							
KMBO	**Kilima Mbogo**	**139.73**	**44**	*e*P	**PKPdf**	**04 46 29.9**	**+1.4**	
KMBO	**Kilima Mbogo**	**139.73**	**44**	PKP	**PKPdf**	**04 46 28.8**	**+0.3**	
	comp=Z,2.5nm,0.8s,baz=206,slow=1.9,SNR=4.2							
KMBO	**Kilima Mbogo**	**139.73**	**44**	PKIKP	**PKPdf**	**04 46 28.8**	**+0.3**	
KMBO				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KMBO	**Kilima Mbogo**	**139.73**	**44**	*e*PKPdf	**PKPdf**	**04 46 30.2**	**+1.7**	
KMBO				LR	LR			
	comp=Z,11μm,20.0s							
SYO	**Syowa Base**	**141.07**	**166**	*e*P	**PKPdf**	**04 46 27.7**	**-1.1**	
LSZ	**Lusaka**	**143.15**	**71**	*e*P	PKPbc	04 46 31.0	-0.1	
LSZ	**Lusaka**	**143.15**	**71**	*e*PKIKP	PKPbc	04 46 31.3	+0.1	
LSZ				MLR	MLR			
	comp=Z,2μm,22.0s							
LSZ	**Lusaka**	**143.15**	**71**	*e*PKPpre	PKPbc	04 46 31.3	+0.1	
LSZ				LR	LR			
	comp=Z,2μm,22.0s							
MAW	**Mawson**	**145.04**	**179**	PKPbc	**PKPbc**	**04 46 35.0**	**-0.2**	
	comp=Z,30nm,1.1s,baz=193,slow=5.1,SNR=44							
MAW	**Mawson**	**145.04**	**179**	PKIKP	**PKPbc**	**04 46 35.0**	**-0.2**	
MAW				pmax	pmax			
	comp=Z,30nm,1.1s							
MAW	**Mawson**	**145.04**	**179**	*e*PKPbc	**PKPab**	**04 46 35.3**	**+0.1**	
LBTB	**Lobatse**	**145.59**	**87**	*e*P	**PKPdf**	**04 46 38.1**	**-0.2**	
LBTB				AMS	AMS	05 55 36.9		
	comp=Z,2μm,19.0s							
LBTB	**Lobatse**	**145.59**	**87**	*e*PKIKP	**PKPbc**	**04 46 38.5**	**0.0**	
LBTB	**Lobatse**	**145.59**	**87**	*e*PKPdf	**PKPbc**	**04 46 38.5**	**0.0**	
BOSA	**Boshof**	**146.49**	**93**	*e*P	**PKPbc**	**04 46 40.5**	**-0.7**	
BOSA				AMS	AMS	05 52 08.6		
	comp=Z,2μm,21.0s							
BOSA	**Boshof**	**146.49**	**93**	PKPbc	**PKPdf**	**04 46 40.4**	**+0.7**	
	comp=Z,23nm,0.8s,baz=285,slow=2.6,SNR=25							
BOSA	**Boshof**	**146.49**	**93**	PKP2	**PKPdf**	**04 46 40.4**	**+0.7**	
BOSA				pmax	pmax			
	comp=Z,23nm,0.8s							
BOSA	**Boshof**	**146.49**	**93**	*e*PKPdf	**PKPdf**	**04 46 40.5**	**+0.7**	
HVD	**Gariep Dam**	**147.22**	**97**	*e*P	**PKPbc**	**04 46 42.8**	**-0.5**	
HVD				AMS	AMS	05 50 07.4		
	comp=Z,6μm,58.6s							
WDLM	**Western Deep L**	**147.63**	**89**	*e*P	**PKPbc**	**04 46 44.2**	**-0.3**	
PRYS	**Parys**	**147.74**	**89**	*e*P	**PKPbc**	**04 46 44.1**	**-0.7**	
SLR	**Silverton**	**148.11**	**87**	*e*P	**PKPdf**	**04 46 43.3**	**+0.7**	
SLR				AMS	AMS	05 45 51.9		
	comp=Z,2μm,19.3s							
MSNA	**Messina**	**148.22**	**80**	*e*P	**PKPbc**	**04 46 45.5**	**-0.5**	
SEK	**Senekal**	**148.40**	**92**	*e*P	**PKPbc**	**04 46 46.2**	**-0.3**	
MSEY	**Mahe Island**	**151.00**	**18**	PFAKE		04 47 00.0	-0.4	
MSEY				LR	LR			
	comp=Z,2μm,21.0s							
ABPO	**Ambohimpanom**	**159.67**	**52**	PFAKE		04 47 10.0	+11	
ABPO				LR	LR			
	comp=Z,4μm,20.0s							

NEIC 15 04:29:55.7, 32.73N×115.97W, h6km, ML3.8(PAS), **1D, After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRR	**Carrizo Plain**	**0.16**	**359**	*e*P		Pg	04 29 58.7	-0.2
SCI	**Mount Signal**	**0.22**	**112**	*e*P		Pg	04 29 59.9	-0.2
COK	**Cook Ranch**	**0.23**	**59**	*e*P		Pg	04 30 00.4	+0.1
SWSC	**Sam W. Stewart**	**0.25**	**34**	↓*i*P		Pg	04 30 00.4	-0.3
ERPC	**Ernies Place**	**0.26**	**87**	*e*P		Pg	04 30 00.9	+0.2
PFO	**Pinyon Flats O**	**0.97**	**335**	*e*Pg		Pg	04 30 13.2	-1.3
PFO				*e*S		Sg	04 30 26.7	-0.6

*IDC **15** 04:36:03.0±3.0, 32.38N×116.13W, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.6/26, mbtmp3.5/5, ML3.2/3, Error ellipse: s-maj=58.7km s-min=17.4km az=43.0*
*ISCJB **15** 04:36:06.5±0.4, 32.70N±0.02×115.88W±0.02, h13km±3km, mb3.8/2, Error ellipse: s-maj=3.5km s-min=3.1km az=14.2*
*NEIC **15** 04:36:07.6, 32.68N×115.92W, h12km, ML4.1(PAS), After PAS.*
NEIC Felt at San Diego.
*ECX **15** 04:36:07.9±0.6, 32.68N×115.91W, h3km, MD3.9, ML4.1*

ISC 15 04:36:06.9±0.8, 32.67N±0.02×115.91W±0.02, h12km±6km, n47, σ1°14/66, 3C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBP	**Imperial Bould**	**0.15**	**267**	P		**Pg**	**04 36 10.9**	**+0.3**
	baz=0.2							
RMX	**La Rumorosa**	**0.15**	**245**	↑*e*P		**Pg**	**04 36 11.0**	**+0.3**
RMX				*e*S		**Sg**	**04 36 13.7**	**+0.3**
ERPC	**Ernies Place**	**0.22**	**71**	↑*i*P		**Pg**	**04 36 12.3**	**+0.6**
COK	**Cook Ranch**	**0.24**	**41**	↑*i*P		**Pg**	**04 36 12.2**	**+0.2**
SWSC	**Sam W. Stewart**	**0.29**	**20**	P		**Pg**	**04 36 12.7**	**-0.2**
	baz=0.3							
SWSC				S		**Sg**	**04 36 16.5**	**-0.4**
	baz=0.3							
MONP	**Monument Peak,**	**0.48**	**297**	P		**Pg**	**04 36 16.6**	**+0.1**
	baz=0.5							
MONP				S		**Sg**	**04 36 22.7**	**-0.2**
	baz=0.5							
CPBX	**Cerro Prieto**	**0.57**	**116**	↓*e*P		**Pg**	**04 36 18.9**	**+0.8**
CPBX				*e*S		**Sg**	**04 36 26.7**	**+1.0**
CPBX				*e*			04 36 31.2	
CPBX				IAML			04 36 31.2	
	comp=E,40μm,0.3s							
RDX	**Rancho Dawling**	**0.74**	**182**	↓*e*P		**Pg**	**04 36 21.4**	**+0.1**
RDX				*e*S		**Sg**	**04 36 31.4**	**+0.3**
RDX				IAML			04 36 35.7	
	comp=N,4μm,0.6s							
RDX				↓*e*			04 36 35.7	
GLA	**Glamis**	**0.99**	**67**	P		**Pb**	**04 36 24.8**	**-1.2**
	baz=1.0							
GLA				S		**Sb**	**04 36 37.2**	**-1.8**
	baz=1.0							
109C	**Camp Elliot, M**	**1.03**	**283**	P		**Pb**	**04 36 25.8**	**-0.8**
	baz=1.0							
109C				S		**Sb**	**04 36 39.0**	**-1.1**
	baz=1.0							
PFO	**Pinyon Flats O**	**1.04**	**334**	P		**Pb**	**04 36 25.7**	**-1.3**
	baz=1.0							
PFO	**Pinyon Flats O**	**1.04**	**334**	*e*Pg		**Pb**	**04 36 25.6**	**-1.4**
PFO				*e*S		**Sb**	**04 36 39.4**	**-1.2**
BC3	**Big Chuckawall**	**1.06**	**21**	P		**Pb**	**04 36 25.7**	**-1.5**
	baz=1.0							
BC3				S		**Sb**	**04 36 38.6**	**-2.4**
	baz=1.0							
ZAX	**El Zacaton**	**1.19**	**195**	*e*P		**Pn**	**04 36 29.5**	**0.0**
ZAX				*e*S		**Sg**	**04 36 45.4**	**0.0**
BELC	**Belle Mtn. Jos**	**1.33**	**357**	P		**Pn**	**04 36 29.7**	**-1.7**
	baz=1.3							
MURC	**Murrieta**	**1.42**	**311**	P		**Pn**	**04 36 30.1**	**-2.5**
	baz=1.4							
MURC				S		**Sn**	**04 36 51.4**	**+0.1**
	baz=1.4							
Y12C	**Blythe**	**1.59**	**47**	P		**Pn**	**04 36 33.5**	**-1.3**
	baz=1.6							
IRM	**Iron Mountain**	**1.62**	**23**	P		**Pn**	**04 36 34.1**	**-1.2**
	baz=1.6							
BBRC	**Big Bear Solar**	**1.80**	**332**	P		**Pn**	**04 36 37.4**	**-0.5**
	baz=1.8							
GMRC	**Granite Mounta**	**2.12**	**6**	P		**Pn**	**04 36 41.3**	**-0.9**
	baz=2.1							
BFSC	**Mount Baldy Ra**	**2.14**	**317**	Pb		**Pb**	**04 36 45.6**	**-0.1**
	baz=2.1							
BFSC				Sb		**Sb**	**04 37 12.7**	**+0.5**
	baz=2.1							
HEC	**Hector,Ludlow**	**2.18**	**351**	P		**Pn**	**04 36 42.2**	**-0.9**
	baz=2.1							
SCI	**San Clemente I**	**2.24**	**279**	P		**Pn**	**04 36 44.4**	**+0.6**
	baz=2.2							
FMP	**Fort Macarthur**	**2.25**	**298**	Pb		**Pb**	**04 36 47.4**	**-0.1**
	baz=2.2							
FMP				Sb		**Sb**	**04 37 17.0**	**+1.7**
	baz=2.2							
214A	**Organ Pipe Nat**	**2.72**	**104**	Pn		**Pn**	**04 36 49.2**	**

MVU				*e*Pg		**Pg**	**04 38 14.2**	**+1.7**
MSU	**Marysvale**	**6.58**	**27**	*e*Pn		Pn	04 37 47.6	+4.0
121A	**Cookes Peak, D**	**6.86**	**89**	P		**Pn**	**04 37 47.5**	**+0.1**
	baz=6.8							
MVCO	**Mesa Verde**	**7.59**	**51**	*e*Pn		**Pn**	**04 37 58.9**	**+1.4**
ELK	**Elko**	**8.08**	**4**	Pn		Pn	04 38 11.0	+6.8
	comp=N,0.1nm,0.3s,baz=299,slow=18,SNR=1.1							
ELK				Pg		**Pg**	**04 38 41.4**	**-0.1**
	comp=N,0.3nm,0.3s,baz=203,slow=16,SNR=4.8							
ELK				Lg		Lg	04 40 23.2	
	comp=N,0.1nm,0.3s,baz=149,slow=12,SNR=1.7							
ANMO	**Albuquerque**	**8.19**	**71**	Pn		**Pn**	**04 38 07.5**	**+1.8**
	comp=N,0.2nm,0.3s,baz=253,slow=17,SNR=1.6							
ANMO				Lg		Lg	04 40 16.9	
	comp=N,0.1nm,0.3s,baz=118,slow=15,SNR=1.4							
TXAR	**Lajitas Array**	**11.02**	**104**	Pn		**Pn**	**04 38 45.1**	**+0.7**
	comp=N,0.1nm,0.3s,baz=293,slow=14,SNR=1.3							
INK	**Inuvik**	**37.10**	**349**	P		**P**	**04 43 16.4**	**-0.3**
	comp=N,2.8nm,0.3s,baz=198,slow=6.4,SNR=1.3							
ILAR	**Eielson Array**	**37.31**	**339**	P		**P**	**04 43 18.4**	**-0.2**
	comp=N,0.2nm,0.8s,baz=138,slow=8.2,SNR=1.6							

NEIC 15 04:36:33.4, 32.69N×115.92W, h6km, ML3.9(PAS)**, 2C, After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESC	**Westside Schoo**	**0.17**	**65**	⇑*iP*	Pg	04 36 36.5	-0.3
SWSC	**Sam W. Stewart**	**0.28**	**22**	*eP*	Pg	04 36 38.4	-0.4
SWSC				*i* S	Sg	04 36 42.4	-0.1
BTCC	**Brunts Corner**	**0.67**	**61**	⇑*iP*	Pg	04 36 45.2	-1.1
EML	**El Monte Cty P**	**0.81**	**285**	*eP*	Pg	04 36 48.2	-0.8
PFO	**Pinyon Flats O**	**1.03**	**334**	Pg	Pg	04 36 52.0	-1.3

NEIC 15 04:40:37.9, 32.67N×115.93W, h14km, ML3.9(PAS)**, After PAS., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flats O**	**1.04**	**335**	*e*Pg	Pb	04 40 56.6	-1.3
PFO				*e*S	Sb	04 41 09.4	-2.2
214A	**Organ Pipe Nat**	**2.74**	**104**	Pn	Pn	04 41 20.9	-0.7
214A				*e*Pg	Pg	04 41 30.2	-0.3
214A				*e*S	Sg	04 42 09.6	+3.6
SHPR	**Sheep Range**	**3.88**	**9**	Pn	Pn	04 41 33.5	-4.0
SHPR				*e*Pg	Pg	04 41 51.0	-1.6
SHPR				*e*S	Sb	04 42 37.5	+4.0
TUC	**Tucson**	**4.37**	**93**	*e*Pn	Pn	04 41 43.4	-0.6
TUC				*e*S	Sn	04 42 36.8	+2.0
WUAZ	**Wupatki**	**4.73**	**52**	*e*Pn	Pn	04 41 49.9	+0.7
WUAZ				*e*S	Sg	04 43 07.8	-2.6
CCUT	**Cedar City**	**5.31**	**23**	Pn	Pn	04 41 57.5	+0.3

ISCJB 15 04:43:10.3±0.4, 32.72N±0.02×115.96W±0.03, h12km±3km, Error ellipse: s-maj=4.4km s-min=3.7km az=37.5
NEIC 15 04:43:10.8, 32.69N×115.95W, h12km, ML3.7(PAS), After PAS.
ECX 15 04:43:11.3±0.6, 32.70N×115.95W, h4km, MD3.5, ML3.7
ISC 15 04:43:10.3±0.9, 32.70N±0.02×115.96W±0.02, h15km±6km, n25, σ1°88/40, 10C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMX	**La Rumorosa**	**0.14**	**227**	⇑*iP*	**Pg**	**04 43 14.2**	**0.0**
RMX				*e*S	**Sg**	**04 43 16.6**	**-0.2**
CRR	**Carrizo Plain**	**0.19**	**357**	⇓*iP*	**Pg**	**04 43 14.7**	**0.0**
WESC	**Westside Schoo**	**0.20**	**72**	⇑*iP*	**Pg**	**04 43 14.9**	**0.0**
WESC	**Westside Schoo**	**0.20**	**72**	⇑*iP*	**Pg**	**04 43 14.9**	**0.0**
WESC				*e*S	**Sb**	**04 43 18.5**	**-0.7**
SGL	**Mount Signal**	**0.20**	**104**	⇑*iP*	**Pg**	**04 43 14.8**	**-0.2**
SGL	**Mount Signal**	**0.20**	**104**	⇑*iP*	**Pg**	**04 43 14.8**	**-0.2**
COK	**Cook Ranch**	**0.24**	**52**	⇑*iP*	**Pg**	**04 43 15.8**	**+0.1**
ERPC	**Ernies Place**	**0.25**	**80**	⇑*iP*	**Pb**	**04 43 16.0**	**-0.5**
SWSC	**Sam W. Stewart**	**0.28**	**29**	⇑*iP*	**Pg**	**04 43 16.1**	**-0.1**
DREC	**Desert Rsrch C**	**0.44**	**76**	*eP*	**Pb**	**04 43 19.6**	**-0.1**
BAR	**Barrett**	**0.60**	**268**	*eP*	**Pg**	**04 43 22.3**	**+0.1**
BAR				*e*S	**Sg**	**04 43 30.4**	**+0.2**
CPBX	**Cerro Prieto**	**0.62**	**117**	*eP*	**Pg**	**04 43 22.4**	**0.0**
CPBX				*e*S	**Sb**	**04 43 30.8**	**-0.5**
CPBX				⇑*e*		04 43 33.7	
CPBX				IAML		04 43 33.7	
	comp=E,17μm,0.4s						
CPBX				⇑*e*		04 43 34.8	
CPBX				IAML		04 43 34.8	
	comp=N,13μm,0.5s						
CBX	**Cerro Bola**	**0.71**	**237**	*eP*	**Pg**	**04 43 24.3**	**+0.1**
CBX				*e*S	**Sb**	**04 43 34.0**	**0.0**
COA	**Coachella**	**0.72**	**77**	⇓*iP*	**Pg**	**04 43 24.0**	**-0.3**
RDX	**Rancho Dawling**	**0.77**	**179**	*eP*	**Pg**	**04 43 24.6**	**-0.6**
RDX				*e*S	**Sg**	**04 43 34.9**	**-0.6**
RDX				IAML		04 43 38.5	
	comp=N,1μm,0.4s						
RDX				⇓*e*		04 43 38.5	
SDRC	**San Diego Road**	**0.83**	**273**	*eP*	**Pg**	**04 43 26.3**	**-0.1**
PFO	**Pinyon Flats O**	**1.00**	**335**	*e*Pg	**Pb**	**04 43 29.4**	**+0.1**
PFO				*e*S	**Sb**	**04 43 42.5**	**0.0**
PBX	**Punta Banda**	**1.16**	**215**	*eP*	**Pb**	**04 43 31.7**	**-0.3**
PBX				*e*S	**Sg**	**04 43 47.5**	**-0.2**
ECNX	**Esteban Cantu**	**1.17**	**208**	*eP*	**Pn**	**04 43 31.6**	**-0.6**
ECNX				*e*S	**Sb**	**04 43 47.6**	**+0.3**
ZAX	**El Zacaton**	**1.21**	**193**	*eP*	**Pn**	**04 43 32.8**	**0.0**
ZAX				*e*S	**Sb**	**04 43 48.5**	**0.0**
SPX	**San Pedro Mart**	**1.70**	**166**	*eP*	**Pn**	**04 43 40.7**	**+1.0**
SPX				*e*S	**Sb**	**04 44 04.0**	**+1.2**
SPX				⇓*e*		04 44 06.4	
SPX				AML	AML	04 44 06.4	
	comp=E,356nm,0.9s						
DAC	**Darwin (Calif)**	**3.82**	**340**	*e*Pn	**Pn**	**04 44 10.5**	**+1.8**
DAC				*e*Pg	**Pg**	**04 44 21.6**	**-1.8**
DAC				*e*S	**Sg**	**04 45 10.2**	**-2.7**
SHPR	**Sheep Range**	**3.85**	**10**	Pn	**Pn**	**04 44 10.8**	**+1.7**
SHPR				*e*Pg	**Pg**	**04 44 24.3**	**+0.1**
SHPR				*e*S	**Sg**	**04 45 13.1**	**-1.0**
WUAZ	**Wupatki**	**4.73**	**52**	Pn	**Pn**	**04 44 22.5**	**+1.3**
CCUT	**Cedar City**	**5.29**	**23**	Pn	**Pn**	**04 44 30.6**	**+1.7**

ISCJB 15 04:46:15.0±1.0, 5.8N±0.2×123.9E±0.3, h550km, mb3.8/5, Error ellipse: s-maj=47.6km s-min=14.0km az=158.8
IDC 15 04:46:17.3±2.1, 5.84N×124.10E, h561km±27km, mb3.2/5, mb1 3.4/6, mb1mx3.0/25, mbtmp4.3/6, Error ellipse: s-maj=55.9km s-min=10.8km az=67.0
ISC 15 04:46:16.4±0.9, 5.8N±0.2×124.0E±0.3, h550km, n7, σ0°75/10, mb4.0/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**9.82**	**133**	P	**P**	**04 48 32.7**	**+0.1**
	3.2nm,0.3s,baz=314,slow=13,SNR=8.8						
WRA	**Warramunga Arr**	**27.55**	**159**	P	**P**	**04 51 19.1**	**-0.7**
	3.9nm,0.4s,baz=340,slow=9.3,SNR=24						
WRA				S	**S**	**04 55 23.2**	**+0.4**
	0.3nm,0.6s,baz=333,slow=14,SNR=1.5						
ASAR	**Alice Springs**	**30.87**	**162**	P	**P**	**04 51 48.6**	**+0.2**
	4.3nm,0.5s,baz=342,slow=7.1,SNR=57						
ASAR				S	**S**	**04 56 12.6**	**-1.5**
	0.8nm,0.8s,baz=344,slow=13,SNR=5.5						
STKA	**Stephens Creek**	**41.08**	**157**	P	**P**	**04 53 13.6**	**+1.0**
	3.1nm,0.7s,baz=331,slow=8.5,SNR=8.4						
MKAR	**Makanchi Array**	**54.31**	**326**	P	**P**	**04 54 51.5**	**+0.2**
	1.6nm,0.5s,baz=120,slow=8.0,SNR=17						
MKAR				PcP	**PcP**	**04 55 46.6**	**-0.2**
	0.4nm,0.5s,baz=123,slow=4.5,SNR=4.2						
ILAR	**Eielson Array**	**84.36**	**26**	P	**P**	**04 57 50.3**	**-0.3**
	0.2nm,0.7s,baz=235,slow=5.0,SNR=5.7						
TORD	**Torodi Ar. Bea**	**119.72**	**289**	PKP	**PKPdf**	**05 04 05.0**	**-0.2**
	0.2nm,0.5s,baz=73,slow=1.2,SNR=6.0						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMX	**La Rumorosa**	**0.14**	**214**	*eP*	**Pg**	**04 47 27.7**	**-0.1**
RMX				*e*S	**Sg**	**04 47 30.4**	**-0.2**
RMX				⇓*e*		04 47 30.8	
RMX				IAML		04 47 30.8	
	comp=N,11μm,0.1s						
CRR	**Carrizo Plain**	**0.17**	**4**	*e*Pn	**Pg**	**04 47 27.9**	**0.0**
WESC	**Westside Schoo**	**0.21**	**80**	*eP*	**Pg**	**04 47 28.0**	**-0.7**
WESC				*e*S	**Sg**	**04 47 31.4**	**-0.7**
COK	**Cook Ranch**	**0.25**	**59**	⇑*iP*	**Pg**	**04 47 28.9**	**-0.4**
SWSC	**Sam W. Stewart**	**0.27**	**36**	⇑*iP*	**Pg**	**04 47 29.2**	**-0.3**
ERPC	**Ernies Place**	**0.27**	**85**	⇑*iP*	**Pb**	**04 47 29.1**	**-0.4**
DREC	**Desert Rsrch C**	**0.46**	**79**	*eP*	**Pg**	**04 47 32.9**	**0.0**
BAR	**Barrett**	**0.58**	**266**	*eP*	**Pg**	**04 47 35.8**	**+0.6**
BAR				*e*S	**Sb**	**04 47 44.3**	**+0.8**
CPBX	**Cerro Prieto**	**0.65**	**118**	*e*Pn	**Pg**	**04 47 35.2**	**-1.2**
CPBX				*e*S	**Sg**	**04 47 43.7**	**-1.3**
CPBX				⇑*e*		04 47 45.4	
CPBX				IAML		04 47 45.4	
	comp=N,9μm,0.2s						
CBX	**Cerro Bola**	**0.70**	**235**	*eP*	**Pb**	**04 47 38.0**	**+0.4**
CBX				*e*S	**Sb**	**04 47 47.8**	**+0.6**
CBX				IAML		04 47 59.8	
	comp=E,2μm,0.5s						
CBX				⇓*e*		04 47 59.8	
RDX	**Rancho Dawling**	**0.79**	**177**	*eP*	**Pg**	**04 47 38.1**	**-1.0**
RDX				IAML		04 47 49.5	
	comp=N,2μm,0.3s						
RDX				*e*		04 47 49.5	
PFO	**Pinyon Flats O**	**0.97**	**336**	*e*Pg	**Pg**	**04 47 42.1**	**-0.4**
PFO				*e*S	**Sg**	**04 47 56.4**	**+1.2**
PBX	**Punta Banda**	**1.16**	**213**	*eP*	**Pg**	**04 47 45.5**	**-0.6**
PBX				*e*S	**Sb**	**04 48 01.1**	**+0.9**
ECNX	**Esteban Cantu**	**1.18**	**206**	*eP*	**Pg**	**04 47 45.6**	**-0.9**
ECNX				*e*S	**Sb**	**04 48 01.2**	**+0.3**
ZAX	**El Zacaton**	**1.23**	**192**	*eP*	**Pb**	**04 47 46.3**	**-0.3**
ZAX				*e*S	**Sb**	**04 48 02.5**	**+0.4**
ECBX	**El Chinero**	**1.48**	**147**	*e*Pn	**Pn**	**04 47 48.8**	**-0.7**
ECBX				*e*S	**Sn**	**04 48 08.1**	**-0.4**
SPX	**San Pedro Mart**	**1.73**	**165**	*eP*	**Pn**	**04 47 54.6**	**+1.2**
214A	**Organ Pipe Nat**	**2.79**	**105**	Pn	**Pb**	**04 48 13.2**	**+0.1**
214A				*e*S	**Sg**	**04 48 56.1**	**+2.7**
DAC	**Darwin (Calif)**	**3.79**	**340**	*e*Pn	**Pn**	**04 48 23.5**	**+2.0**
DAC				*e*Pg	**Pg**	**04 48 35.0**	**-1.2**
DAC				*e*S	**Sg**	**04 49 23.2**	**-2.1**
WUAZ	**Wupatki**	**4.73**	**53**	*e*Pn	**Pn**	**04 48 35.7**	**+1.2**
WUAZ				*e*Pg	Pg	04 48 51.4	-2.9
CMB	**Columbia Colle**	**6.41**	**327**	Pn	**Pn**	**04 48 57.7**	**+0.4**
CMB				*e*S	**Sg**	**04 50 45.0**	**-4.2**

ISCJB 15 04:56:48.9±0.4, 32.72N±0.02×115.95W±0.03, h11km±3km, Error ellipse: s-maj=4.5km s-min=3.6km az=29.7
ECX 15 04:56:49.9±0.6, 32.71N×115.95W, h2km, MD3.3, ML3.6
NEIC 15 04:56:49.8, 32.71N×115.95W, h6km, ML3.6(PAS), After PAS.
ISC 15 04:56:49.8±0.9, 32.68N±0.02×115.97W±0.02, h9km±8km, n25, σ1°32/43, 8C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMX	**La Rumorosa**	**0.12**	**230**	⇑*iP*	**Pg**	**04 56 52.8**	**+0.2**
RMX				*e*S	**Sg**	**04 56 55.2**	**+0.5**
RMX				⇓*e*		04 56 56.1	
RMX				IAML		04 56 56.1	
	comp=N,17μm,0.3s						
CRR	**Carrizo Plain**	**0.21**	**0**	⇑*iP*	**Pg**	**04 56 53.2**	**-0.8**
WESC	**Westside Schoo**	**0.22**	**68**	⇑*iP*	**Pg**	**04 56 53.4**	**-0.8**
WESC				*e*S	**Sg**	**04 56 56.8**	**-0.4**
COK	**Cook Ranch**	**0.27**	**50**	⇑*iP*	**Pg**	**04 56 54.3**	**-0.8**
SWSC	**Sam W. Stewart**	**0.30**	**29**	⇓*iP*	**Pg**	**04 56 54.6**	**-1.1**
DREC	**Desert Rsrch C**	**0.46**	**74**	⇓*eP*	**Pg**	**04 56 58.4**	**-0.3**
BAR	**Barrett**	**0.59**	**270**	*eP*	**Pg**	**04 57 01.1**	**-0.2**
CPBX	**Cerro Prieto**	**0.62**	**115**	*eP*	**Pg**	**04 57 01.1**	**-0.6**
CPBX				*e*S	**Sg**	**04 57 10.1**	**+0.3**
CBX	**Cerro Bola**	**0.69**	**238**	⇑*eP*	**Pg**	**04 57 03.2**	**+0.1**
CBX				*e*S	**Sg**	**04 57 13.0**	**+0.8**
CBX				*e*		04 57 14.0	
CBX				IAML		04 57 14.0	
	comp=E,3μm,0.2s						
COA	**Coachella**	**0.74**	**75**	⇑*iP*	**Pg**	**04 57 02.9**	**-1.1**
RDX	**Rancho Dawling**	**0.75**	**178**	⇓*eP*	**Pg**	**04 57 03.6**	**-0.7**
RDX				*e*S	**Sg**	**04 57 14.5**	**+0.5**
SDRC	**San Diego Road**	**0.82**	**274**	*eP*	**Pg**	**04 57 04.9**	**-0.7**
PFO	**Pinyon Flats O**	**1.01**	**336**	*e*Pg	**Pg**	**04 57 07.6**	**-1.7**
PFO				*e*S	**Sg**	**04 57 21.4**	**-1.1**
PBX	**Punta Banda**	**1.13**	**215**	*eP*	**Pb**	**04 57 10.8**	**-0.8**
PBX				*e*S	**Sb**	**04 57 26.4**	**-0.1**
ECNX	**Esteban Cantu**	**1.15**	**208**	*eP*	**Pb**	**04 57 11.1**	**-0.8**
ECNX				*e*S	**Sb**	**04 57 26.8**	**-0.2**
ZAX	**El Zacaton**	**1.19**	**193**	*eP*	**Pn**	**04 57 11.7**	**-1.0**
SPX	**San Pedro Mart**	**1.69**	**165**	*eP*	**Pn**	**04 57 19.3**	**-0.4**
SPX				*e*S	**Sb**	**04 57 43.2**	**+0.6**
SPX				⇓*e*		04 57 44.7	
SPX				IAML		04 57 44.7	
	comp=E,304nm,0.5s						
SPX				AML	AML	04 57 45.7	
	comp=N,428nm,0.2s						
SPX				⇑*e*		04 57 45.7	
214A	**Organ Pipe Nat**	**2.77**	**104**	*e*Pn	**Pn**	**04 57 32.3**	**-2.1**
214A				*e*Pg	**Pg**	**04 57 43.2**	**+0.4**
214A				*e*S	**Sg**	**04 58 20.7**	**+2.0**
DAC	**Darwin (Calif)**	**3.83**	**340**	*e*Pn	**Pn**	**04 57 48.8**	**-0.4**
DAC				*e*Pg	**Pb**	**04 57 59.2**	**+1.5**
DAC				*e*S	**Sg**	**04 58 52.3**	**-0.6**
SHPR	**Sheep Range**	**3.88**	**10**	*e*Pn	**Pn**	**04 57 48.4**	**-1.3**
SHPR				*e*Pg	**Pg**	**04 58 03.9**	**-0.1**
SHPR				*e*S	**Sb**	**04 58 46.6**	**+1.1**
TUC	**Tucson**	**4.40**	**93**	*e*Pn	**Pn**	**04 57 54.9**	**-1.9**
TUC				*e*Pg	**Pg**	**04 58 12.6**	**-1.5**
TUC				*e*S	**Sb**	**04 59 05.3**	**+4.8**
WUAZ	**Wupatki**	**4.75**	**52**	Pn	**Pn**	**04 58 01.6**	**-0.2**
WUAZ				*e*Pg	**Pg**	**04 58 18.3**	**-2.5**
CCUT	**Cedar City**	**5.31**	**23**	*e*Pn	**Pn**	**04 58 09.6**	**+0.1**
TPH	**Tonopah**	**5.48**	**350**	*e*Pn	**Pn**	**04 58 12.3**	**+0.5**
TPH				*e*Pg	Pb	04 58 29.7	+3.9
MSU	**Marysvale**	**6.59**	**27**	*e*Pn	**Pn**	**04 58 29.3**	**+2.2**

IDC 15 04:57:07.6±3.5, 58.07S×24.86W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.7/15, mbtmp3.9/2, Error ellipse: s-maj=120.6km s-min=47.9km az=169.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**49.62**	**13**	T	T	05 59 09.9	
	baz=187,slow=75,SNR=6.3						
H10S3	**ASCENSION HYDR**	**49.63**	**13**	T	T	05 59 11.4	
	baz=187,slow=75,SNR=6.9						
H10S1	**ASCENSION HYDR**	**49.64**	**13**	T	T	05 59 11.9	
	baz=187,slow=75,SNR=9.3						
H10N1	**ASCENSION HYDR**	**50.74**	**13**	T	T	06 00 33.3	
	baz=191						
H10N3	**ASCENSION HYDR**	**50.74**	**13**	T	T	06 00 35.6	
	baz=191,slow=74						
H10N2	**ASCENSION HYDR**	**50.76**	**13**	T	T	06 00 34.5	
	baz=191,slow=74						
LPAZ	**La Paz**	**52.58**	**304**	P	P	05 06 23.5	-0.2
	1.3nm,0.5s,baz=142,slow=2.6,SNR=8.4						
TORD	**Torodi Ar. Bea**	**74.24**	**27**	P	P	05 08 46.2	0.0
	0.9nm,1.2s,baz=199,slow=6.7,SNR=10.0						
ILAR	**Eielson Array**	**152.39**	**308**	PKPbc	PKPbc	05 17 03.8	-0.1
	0.3nm,0.5s,baz=127,slow=2.9,SNR=8.6						

BJI 15 04:59:43.7, 32.53N×116.26W, h16km, mb5.6/2, mB5.6/2
NEIC 15 04:59:45.5, 32.70N×115.95W, h11km, mb4.1/10, ML4.3(ECX), ML4.6(PAS), After PAS.
NEIC Felt at Brawley.
IDC 15 04:59:45.4±1.1, 32.72N×115.79W, h0km, mb4.2/4, mb1 4.2/11, mb1mx3.9/31, mbtmp3.9/11, ML3.5/7, MS3.7/1, Ms1 3.7/1, ms1mx3.5/34, Error ellipse: s-maj=17.7km s-min=10.6km az=44.0
ECX 15 04:59:45.8±0.8, 32.71N×115.95W, h3km, MD4.3, ML4.6
ISC 15 04:59:45.9±0.8, 32.71N±0.02×115.96W±0.02, h10km±5km, n204, σ1°73/219, mb4.1/7, 9C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBP	**Imperial Bould**	**0.12**	**248**	P	**Pg**	**04 59 48.3**	**-0.6**
	baz=0.1						
RMX	**La Rumorosa**	**0.14**	**223**	⇑*eP*	**Pg**	**04 59 48.6**	**-0.6**
WESC	**Westside Schoo**	**0.20**	**75**	⇑*iP*	**Pg**	**04 59 49.1**	**-1.0**
WESC				*e*S	**Sg**	**04 59 52.7**	**-0.3**
SWSC	**Sam W. Stewart**	**0.27**	**31**	P	**Pg**	**04 59 50.3**	**-1.1**
	baz=0.3						
SWSC				S	**Sg**	**04 59 54.2**	**-0.9**
	baz=0.3						
SWSC	**Sam W. Stewart**	**0.27**	**31**	⇓*iP*	**Pg**	**04 59 50.5**	**-0.9**
MONP	**Monument Peak,**	**0.43**	**296**	P	**Pg**	**04 59 53.8**	**-0.5**
	baz=0.4						
MONP				S	**Sg**	**04 59 60.0**	**0.0**
	baz=0.4						
DREC	**Desert Rsrch C**	**0.45**	**77**	⇑*eP*	**Pg**	**04 59 54.1**	**-0.5**
BAR	**Barrett**	**0.60**	**268**	⇑*eP*	**Pg**	**04 59 56.9**	**-0.6**
BAR				⇓*iP*	**Pg**	**04 59 56.9**	**-0.6**
BAR				*e*S	**Sg**	**05 00 05.2**	**-0.2**
CPBX	**Cerro Prieto**	**0.63**	**117**	⇑*eP*	**Pg**	**04 59 57.0**	**-1.0**
CPBX				*e*S	**Sg**	**05 00 05.9**	**-0.3**
CPBX				IAML		05 00 10.0	
	comp=E,122μm,0.4s						
CPBX				*e*		05 00 10.0	
CPBX				⇑*e*		05 00 10.9	
CPBX				IAML		05 00 10.9	
	comp=N,56μm,0.4s						
CBX	**Cerro Bola**	**0.71**	**237**	⇑*eP*	**Pg**	**04 59 59.0**	**-0.6**
CBX				IAML		05 00 14.4	
	comp=E,43μm,0.9s						
RDX	**Rancho Dawling**	**0.78**	**179**	⇓*eP*	**Pg**	**04 59 59.3**	**-1.5**
RDX				*e*S	**Sg**	**05 00 09.7**	**-1.3**
RDX				⇓*e*		05 00 14.4	
RDX				IAML		05 00 14.4	
	comp=N,10μm,0.4s						
SDRC	**San Diego Road**	**0.83**	**272**	⇑*eP*	**Pg**	**05 00 00.7**	**-1.1**
SDRC				*e*S	**Sg**	**05 00 12.0**	**-0.6**
109C	**Camp Elliot, M**	**0.98**	**281**	P	**Pg**	**05 00 03.3**	**-1.4**
	baz=1.0						
109C				S	**Sg**	**05 00 16.2**	**-1.2**
	baz=1.0						
PFO	**Pinyon Flats O**	**0.99**	**336**	P	**Pg**	**05 00 03.3**	**-1.7**
	baz=1.0						
PFO				Sb	**Sg**	**05 00 16.7**	**-1.2**
	baz=1.0						
PFO	**Pinyon Flats O**	**0.99**	**336**	*e*Pg	**Pg**	**05 00 03.3**	**-1.7**
PFO				*e*S	**Sg**	**05 00 17.1**	**-0.8**
GLA	**Glamis**	**1.02**	**70**	P	**Pg**	**05 00 02.9**	**-2.5**
	baz=1.0						
GLA				S	**Sg**	**05 00 15.6**	**-3.1**
	baz=1.0						
BC3	**Big Chuckawall**	**1.04**	**24**	P	**Pg**	**05 00 03.4**	**-2.4**
	baz=1.0						
BC3				S	**Sg**	**05 00 18.2**	**-1.2**
	baz=1.0						
PBX	**Punta Banda**	**1.16**	**214**	*eP*	**Pb**	**05 00 06.7**	**-1.3**
PBX				*e*S	**Sb**	**05 00 22.1**	**-0.9**
ECNX	**Esteban Cantu**	**1.18**	**207**	*eP*	**Pb**	**05 00 07.1**	**-1.2**
ECNX				*e*S	**Sb**	**05 00 22.7**	**-1.0**
ZAX	**El Zacaton**	**1.22**	**193**	*eP*	**Pn**	**05 00 07.6**	**-1.4**
ZAX				*e*S	**Sb**	**05 00 23.6**	**-1.3**
BELC	**Belle Mtn. Jos**	**1.29**	**359**	P	**Pn**	**05 00 07.5**	**-2.6**
	baz=1.3						
MURC	**Murrieta**	**1.37**	**311**	S	**Sb**	**05 00 28.7**	**-0.5**
	baz=1.4						
SPX	**San Pedro Mart**	**1.71**	**165**	*eP*	**Pn**	**05 00 15.8**	**-0.2**
SPX				*e*S	**Sb**	**05 00 39.3**	**+0.1**
SPX				⇑*e*		05 00 46.7	
SPX				IAML		05 00 46.7	
	comp=E,3μm,0.7s						
BBRC	**Big Bear Solar**	**1.75**	**333**	P	**Pn**	**05 00 15.1**	**-1.4**
	baz=1.8						
BFSC	**Mount Baldy Ra**	**2.08**	**318**	Sb	**Sb**	**05 00 50.6**	**+0.8**
	baz=2.1						
HEC	**Hector,Ludlow**	**2.14**	**352**	P	**Pn**	**05 00 19.8**	**-1.9**
	baz=2.1						
CIS	**Catalina Islan**	**2.16**	**289**	S	**Sn**	**05 00 49.8**	**+0.9**
	baz=2.2						
SCI	**San Clemente I**	**2.19**	**278**	P	**Pn**	**05 00 22.0**	**-0.3**
	baz=2.2						
SCI				S	**Sn**	**05 00 50.1**	**+0.6**
	baz=2.2						
FMP	**Fort Macarthur**	**2.20**	**298**	Sb	**Sb**	**05 00 54.0**	**+1.1**
	baz=2.2						
DECC	**Green Verdugo**	**2.51**	**309**	Sb	**Sb**	**05 01 03.1**	**+1.2**
	baz=2.5						
GSC	**Goldstone, Bar**	**2.68**	**345**	P	**Pn**	**05 00 27.4**	**-1.8**
	baz=2.7						
TUQ	**Turquoise Moun**	**2.72**	**1**	P	**Pn**	**05 00 27.9**	**-1.9**
	baz=2.7						
EDW2	**Edwards Air Fo**	**2.75**	**323**	Sb	**Sb**	**05 01 10.0**	**+1.1**
	baz=2.8						
214A	**Organ Pipe Nat**	**2.77**	**105**	*e*Pn	**Pn**	**05 00 27.7**	**-2.6**
214A				*e*Pg	**Pg**	**05 00 38.3**	**-0.7**
214A				*e*S	**Sg**	**05 01 18.0**	**+3.1**
BLG	**Laguna Peak, P**	**2.95**	**299**	Sb	**Sb**	**05 01 15.6**	**+1.1**
	baz=3.0						
LRMC	**Laurel Mtn Rad**	**3.11**	**333**	Sb	**Sb**	**05 01 21.4**	**+2.0**
	baz=3.1						
ARVC	**Arvin**	**3.39**	**316**	Sb	**Sb**	**05 01 29.5**	**+2.1**
	baz=3.4						
MPMC	**Manual Prospec**	**3.58**	**340**	P	**Pn**	**05 00 40.2**	**-1.4**
	baz=3.6						
ISA	**

MVCO	Mesa Verde	7.60	52	P	Pn	05 01 38.5	+1.7
	baz=7.6						
MVCO	Mesa Verde	7.60	52	*e*Pn	Pn	05 01 38.9	+2.1
MVCO				*e*Pg	Pg	05 02 12.6	+1.3
MVCO				*e*S	Sg	05 03 43.5	-6.2
TMUT	Trail Mountain	7.62	29	*e*Pn	Pn	05 01 36.0	-1.3
	comp=E,26nm,0.7s						
TMUT				*e*Pg	Pg	05 02 10.5	-1.3
TMUT				*e*S	Sg	05 03 45.4	-5.1
LENM	Lemitar	7.65	77	*e*Pn	Pn	05 01 37.2	-0.4
Y22D	IRIS PASSCAL I	7.69	77	P	Pn	05 01 38.2	+0.2
	baz=7.7						
SRU	San Rafael Swe	7.76	33	*e*Pn	Pn	05 01 42.0	+2.9
BMN	Battle Mountai	7.78	353	*e*Pn	Pn	05 01 40.4	+1.2
DUG	Dugway, Tooele	7.89	18	*e*Pn	Pn	05 01 45.9	+5.1
LPM	Los Pinos Moun	7.96	76	*e*Pn	Pn	05 01 41.2	-0.6
	comp=E,8.6nm,0.6s						
PV10	Paradox Valley	7.99	43	*e*Pn	Pn	05 01 44.1	+1.9
	comp=E,1μm,0.7s						
ELK	Elko	8.04	4	Pn	Pn	05 01 43.8	+0.9
	comp=E,0.1nm,0.3s,baz=196,slow=12,SNR=2.1						
ELK				Pg	Pg	05 02 17.1	-2.8
	comp=E,0.9nm,0.3s,baz=203,slow=15,SNR=12						
ELK				Lg	Lg	05 03 59.9	
	comp=E,0.3nm,0.3s,baz=281,slow=13,SNR=3.5						
ELK	Elko	8.04	4	*e*Pn	Pn	05 01 47.7	+4.8
ELK				Pg	Pg	05 02 17.1	-2.8
ELK				*e*S	Sg	05 03 59.2	-4.8
ELK				Lg	Lg	05 03 59.9	
PV04	Paradox Valley	8.08	43	*e*Pn	Pn	05 01 45.4	+2.0
PV01	Paradox Valley	8.11	46	*e*Pn	Pn	05 01 43.6	-0.2
PV01				*e*S	Sb	05 03 52.2	+8.6
ANMO	Albuquerque	8.22	72	Pn	Pn	05 01 45.2	-0.2
	comp=E,0.4nm,0.3s,baz=263,slow=12,SNR=25						
ANMO				Pg	Pb	05 02 02.2	-6.2
	comp=E,0.5nm,0.3s,baz=227,slow=19,SNR=6.8						
ANMO				Lg	Lg	05 04 02.2	
	comp=E,0.4nm,0.3s,baz=162,slow=20,SNR=2.6						
ANMO	Albuquerque	8.22	72	*e*Pn	Pn	05 01 45.5	+0.2
ANMO				Pg	Pb	05 02 02.2	-6.2
ANMO				Lg	Lg	05 04 02.2	
BGU	Big Grassy Mou	8.53	15	*e*Pn	Pn	05 01 53.1	+3.5
	comp=E,30nm,1.3s						
JLU	Jordanelle	8.67	23	*e*Pn	Pn	05 01 54.2	+2.6
S22A	4UR Ranch, Cre	9.00	54	P	Pn	05 01 57.4	+1.2
	baz=9.0						
HWUT	Hardware Ranch	9.55	20	*e*Pn	Pn	05 02 04.8	+1.2
O20A	White River Ci	9.67	38	*e*Pn	Pn	05 02 05.9	+0.6
SMCO	Snowmass	9.73	46	*e*Pn	Pn	05 02 08.1	+1.9
LPIG	La Paz	9.91	148	LR	LR	05 05 12.1	
	comp=E,451nm,21.2s,baz=50,slow=33						
R23A	Moffat	9.91	54	P	Pn	05 02 09.8	+1.1
	baz=9.9						
SDCO	Great Sand Dun	9.92	57	P	Pn	05 02 09.1	+0.3
	baz=9.9						
SLBS	Sierra La Lagu	10.44	148	*e*Pn	Pn	05 02 13.5	-2.1
YBH	Yreka Blue Hor	10.49	331	Pn	Pn	05 02 19.9	+3.6
	comp=E,0.1nm,0.3s,baz=130,slow=17,SNR=3.3						
YBH				Lg	Lg	05 05 23.0	
	comp=E,0.0nm,0.3s,baz=72,slow=19,SNR=2.7						
ISCO	Idaho Springs	10.95	47	P	Pn	05 02 26.2	+3.4
	baz=11						
ISCO	Idaho Springs	10.95	47	*e*Pn	Pn	05 02 25.5	+2.7
TXAR	Lajitas Array	11.07	104	Pn	Pn	05 02 24.4	0.0
	comp=E,0.4nm,0.3s,baz=287,slow=13,SNR=23						
TXAR				Lg	Lg	05 05 28.4	
	comp=E,0.1nm,0.3s,baz=274,slow=23,SNR=3.0						
T26A	Comanche Natio	11.09	63	P	Pn	05 02 26.3	+1.7
	baz=11						
MSTX	Muleshoe	11.11	80	P	Pn	05 02 25.9	+1.1
	baz=11						
MSTX	Muleshoe	11.11	80	*e*Pn	Pn	05 02 25.8	+0.9
BW06	Boulder Array	11.24	25	*e*Pn	Pn	05 02 30.2	+3.4
	comp=E,3.8nm,1.0s						
PDAR	Pinedale Array	11.25	25	Pn	Pn	05 02 30.1	+3.3
	comp=E,0.1nm,0.3s,baz=221,slow=11,SNR=11						
PDAR				Lg	Lg	05 05 39.9	
	comp=E,0.1nm,0.3s,baz=190,slow=21,SNR=2.7						
228A	UT Block 9, Go	11.32	89	P	Pn	05 02 29.4	+1.6
	baz=11						
128A	Castleberry Fa	11.36	87	P	Pn	05 02 28.7	+0.3
	baz=11						
REDW	Red Top Meadow	11.37	19	*e*Pn	Pn	05 02 34.0	+5.5
Z28A	Tucker Farm, M	11.42	83	P	Pn	05 02 30.2	+1.1
	baz=11						
U27A	Thompson Grove	11.45	67	P	Pn	05 02 31.7	+2.2
	baz=11						
Y28A	McKinney Farm,	11.54	80	P	Pn	05 02 32.6	+1.8
	baz=12						
X28A	Dimmitt	11.62	77	P	Pn	05 02 34.3	+2.4
	baz=12						
R26A	Arlington	11.62	58	P	Pn	05 02 33.1	+1.1
	baz=12						
T27A	Campo	11.71	65	P	Pn	05 02 34.8	+1.7
	baz=12						
J19A	Crowheart	11.86	25	P	Pn	05 02 38.1	+2.9
	baz=12						
Z29A	Hungry Hill Ra	11.99	84	P	Pn	05 02 37.7	+0.8
	baz=12						
Y29A	Porterfield Fa	12.02	81	P	Pn	05 02 40.5	+3.2
	baz=12						
529A	Stev Forest Ra	12.02	99	P	Pn	05 02 38.5	+1.2
	baz=12						
AMTX	Amarillo	12.08	76	*e*Pn	Pn	05 02 40.1	+2.0
429A	Davenport Ranc	12.17	96	P	Pn	05 02 39.7	+0.3
	baz=12						
T28A	Walsh	12.19	65	P	Pn	05 02 41.8	+2.2
	baz=12						
J20A	Shoshoni	12.30	28	P	Pn	05 02 45.3	+4.1
	baz=12						
MCMT	McKenzie Canyo	12.34	10	*e*Pn	Pn	05 02 44.0	+2.1
O26A	Horse Wrangler	12.65	50	P	Pn	05 02 49.5	+3.6
	baz=13						
Y30A	Stafford Cattl	12.66	81	P	Pn	05 02 48.9	+2.9
	baz=13						
X30A	Coker Ranch, T	12.71	78	P	Pn	05 02 49.1	+2.5
	baz=13						
530A	J-C Ranch, Com	12.75	98	P	Pn	05 02 50.3	+3.1
	baz=13						
R28A	Tribune	12.82	60	P	Pn	05 02 50.3	+2.0
	baz=13						
DLMT	Dillon	12.90	11	*e*Pn	Pn	05 02 55.1	+5.7
I21A	Big Trails, Te	13.00	29	P	Pn	05 02 53.8	+3.0
	baz=13						
Y31A	Rekieta Farm,	13.19	80	P	Pn	05 02 55.3	+2.0
	baz=13						
431A	Sonora	13.23	95	P	Pn	05 02 56.7	+2.8
	baz=13						
Z31A	Sharp Cattle R	13.29	83	P	Pn	05 02 56.0	+1.3
	baz=13						
R29A	Marienthal	13.34	61	P	Pn	05 02 57.5	+2.1
	baz=13						
LRM	Limekiln Ridge	13.38	11	*e*Pn	Pn	05 02 58.8	+2.9
	comp=E,80nm,1.7s						
531A	Rocksprings	13.41	97	P	Pn	05 02 59.0	+2.8
	baz=13						
RLMT	Red Lodge	13.44	21	*e*Pn	Pn	05 03 00.3	+3.5
X31A	McDonald Ranch	13.45	77	P	Pn	05 02 57.8	+1.0
	baz=13						
W31A	Holland Ranch,	13.53	75	P	Pn	05 03 00.2	+2.3
	baz=14						
631A	Perdido Creek	13.59	100	P	Pn	05 03 00.9	+2.2
	baz=14						
V31A	Spring Creek L	13.68	73	P	Pn	05 03 03.7	+3.7
	baz=14						
332A	Millersview	13.82	91	P	Pn	05 03 03.7	+1.7
	baz=14						
232A	Coleman	13.83	89	P	Pn	05 03 03.2	+1.2
	baz=14						
Z32A	Haskell	13.85	83	P	Pn	05 03 02.8	+0.6
	baz=14						
432A	Menard	13.88	93	P	Pn	05 03 04.6	+2.0
	baz=14						
532A	Rocksprings	13.95	96	P	Pn	05 03 06.0	+2.3
	baz=14						
JCT	Junction City	13.96	95	P	Pn	05 03 05.9	+2.2
	baz=14						
JCT	Junction City	13.96	95	*e*Pn	Pn	05 03 06.1	+2.4
X32A	Elmer	14.02	78	P	Pn	05 03 05.9	+1.4
	baz=14						
N28A	Pribbeno Ranch	14.04	51	P	Pn	05 03 06.7	+1.9
	baz=14						
W32A	Sentinel	14.09	76	P	Pn	05 03 07.3	+1.7
	baz=14						
MSO	Missoula	14.19	6	P	P	05 03 11.9	-2.6
	baz=14						
MSO	Missoula	14.19	6	*e*Pn	Pn	05 03 10.5	+3.6
632A	Uvalde	14.22	99	P	Pn	05 03 08.4	+1.0
	baz=14						
O29A	4D Ranch, Culb	14.27	54	P	Pn	05 03 10.8	+2.7
	baz=14						
V32A	Arapaho	14.32	73	P	Pn	05 03 11.6	+2.9
	baz=14						
CHMT	Chamberlain Mo	14.34	8	*e*Pn	Pn	05 03 11.4	+2.3
	comp=E,5.8nm,1.0s						
133A	Hamilton Ranch	14.37	86	P	Pn	05 03 10.8	+1.5
	baz=14						
233A	Rising Star	14.44	88	P	Pn	05 03 10.9	+0.5
	baz=14						
Z33A	Whitaker Ranch	14.45	83	P	Pn	05 03 11.7	+1.2
	baz=14						
333A	Richland Sprin	14.47	91	P	Pn	05 03 11.4	+0.5
	baz=14						
433A	Art	14.49	93	P	Pn	05 03 12.0	+1.0
	baz=14						
Y33A	Hilltop Ranch,	14.55	80	P	Pn	05 03 13.3	+1.4
	baz=14						
533A	Kerrville	14.70	96	P	Pn	05 03 15.5	+1.6
	baz=15						
RSSD	Black Hills	14.72	36	*e*Pn	Pn	05 03 13.9	-0.4
	comp=E,11nm,1.6s						
Q31A	Ellis	14.82	60	P	Pn	05 03 17.8	+2.2
	baz=15						
SWMT	Swartz Lake	14.86	5	*e*Pn	Pn	05 03 15.5	-0.6
	comp=E,4.4nm,0.8s						
JTMT	Jette	15.08	4	*e*Pn	Pn	05 03 20.9	+1.9
334A	Lometa	15.10	90	P	Pn	05 03 20.4	+1.1
	baz=15						
BSMT	Bassoo Peak	15.15	3	*e*Pn	Pn	05 03 19.9	-0.2
	comp=E,12nm,1.1s						
434A	Burnet	15.17	92	P	Pn	05 03 21.2	+0.9
	baz=15						
534A	Blanco	15.18	95	P	Pn	05 03 21.6	+1.2
	baz=15						
YBMT	Yellow Bay	15.21	5	*e*Pn	P	05 03 23.6	-2.2
	comp=E,3.7nm,0.9s						
933A	Laredo	15.30	105	P	P	05 03 23.9	-2.9
	baz=15						
Q32A	Meitler Ranch,	15.43	61	P	P	05 03 25.8	-2.4
	baz=15						
NEW	Newport	15.57	357	Pn	P	05 03 28.0	-1.7
	comp=E,0.1nm,0.3s,baz=172,slow=11,SNR=10						
NEW	Newport	15.57	357	P	P	05 03 28.1	-1.6
	baz=16						
NEW	Newport	15.57	357	*e*Pn	Pn	05 03 25.8	+0.5
	comp=E,12nm,1.0s						
WHTX	Lake Whitney,	15.66	88	*e*Pn	Pn	05 03 26.8	+0.2
	comp=E,38nm,1.1s						
335A	Moody	15.79	90	P	P	05 03 29.9	-2.3
	baz=16						
LAO	LASA Array	15.83	25	*e*Pn	P	05 03 31.2	-1.4
	comp=E,9.4nm,0.9s						
V35A	Meyer Ranch, C	16.11	74	P	Pn	05 03 32.7	+0.3
	baz=16						
236A	Katherine and	16.44	87	P	P	05 03 37.8	-1.6
	baz=16						
O33A	Hebron	16.51	58	P	Pn	05 03 38.1	+0.6
	baz=16						
T36A	Boggs Farm, Ca	17.04	70	P	P	05 03 44.9	-1.1
	baz=17						
O34A	Beatrice	17.19	59	P	Pn	05 03 46.3	+0.2
	baz=17						
X37A	Clayton	17.25	78	P	P	05 03 47.7	-0.7
	baz=17						
Q35A	Mercer Eighty,	17.28	64	P	P	05 03 48.3	-0.4
	baz=17						
HKT	Hockley	17.42	94	*e*Pn	P	05 03 49.6	-0.6
	comp=E,90nm,2.0s						
T37A	Cheneyville 18	17.81	70	P	P	05 03 54.4	-0.1
	baz=18						
P36A	Good Intent, A	18.11	62	P	P	05 03 58.1	+0.3
	baz=18						
E28A	Huff	18.12	36	P	P	05 04 00.3	+2.3
	baz=18						
Y39A	Lockesburg	18.32	80	P	P	05 04 01.3	+1.1
	baz=18						
ECSD	EROS Data Cent	18.72	48	P	Pn	05 04 07.0	+2.0
	baz=19						
MIAR	Mount Ida	18.73	78	*e*Pn	Pn	05 04 05.2	+0.1
	comp=E,20nm,1.1s						
B29A	Wagenman Farm,	20.10	34	P	Pn	05 04 23.7	+2.3
	baz=20						
B30A	Myrvik Farm, E	20.58	35	P	Pn	05 04 27.9	+0.8
	baz=21						
EDM	Edmonton	20.59	4	*e*P	P	05 04 25.8	+0.9
A30A	Hoffart Farm,	20.93	34	P	Pn	05 04 30.7	-0.5
	baz=21						
PBMO	Poplar Bluff	21.35	72	*e*P	P	05 04 36.9	+3.8
AGMN	Agassiz Nation	21.72	38	P	P	05 04 39.2	+2.0
	baz=22						
AGMN	Agassiz Nation	21.72	38	*e*P	P	05 04 39.1	+2.0
	comp=E,6.9nm,0.8s						
OXF	Oxford	22.17	78	*e*P	P	05 04 44.3	+2.3
	comp=E,11nm,1.0s						
DLBC	Dease Lake	27.43	344	P	P	05 05 34.1	+2.5
	comp=E,2.6nm,0.9s,baz=129,slow=8.8,SNR=4.9						
INK	Inuvik	37.05	349	P	P	05 06 57.4	+1.8
	comp=E,2.0nm,0.3s,baz=183,slow=6.6,SNR=3.6						
ILAR	Eielson Array	37.27	339	P	P	05 06 58.8	+1.3
	comp=E,1.3nm,0.8s,baz=150,slow=6.9,SNR=17						
BPAW	Bear Paw Mtn.	38.15	336	*e*P	P	05 07 05.1	+0.1
	comp=E,1.8nm,1.2s						
IM04	Indian Mountai	40.24	337	*e*P	P	05 07 23.0	+0.5
USRK	Ussuriysk Ar.	81.61	318	P	P	05 12 06.5	+2.5
	comp=E,1.5nm,0.8s,baz=82,slow=3.1,SNR=4.3						
HHC	Hu-ho-hao-te	94.67	326	*e*P	P	05 13 06.0	-1.4
HHC				S	S	05 24 16.8	-4.0
HHC				PMZ			
	comp=E,26nm,1.4s						
HHC				PMZ			
	comp=E,160nm,8.3s						
NJ2	Nanjing	97.38	316	*e*P	P	05 13 19.4	-0.4
WMQ	Urumqi	100.83	343	P	Pdif	05 13 34.6	-0.5
WMQ	Urumqi	100.83	343	P	Pdif	05 13 35.6	+0.5
LZH	Lanzhou	102.08	328	*e*P	Pdif	05 13 39.0	-1.9
LZH				pP		05 13 43.1	
LZH				PMZ			
	comp=E,14nm,1.0s						
CD2	Chengdu	106.41	325	Pdif	Pdif	05 13 57.8	-2.3
WRA	Warramunga Arr	116.72	263	PKP	PKPdf	05 18 32.7	+1.8
	comp=E,0.8nm,0.9s,baz=65,slow=2.2,SNR=2.8						

*ISCJB **15** 05:08:43.6±0.4,32.66N±0.03×115.89W±0.03,h20km±5km, Error ellipse: s-maj=5.5km s-min=4.3km az=137.2*
*ECX **15** 05:08:44.8±0.6,32.64N×115.90W,h3km±1km,MD3.3, ML3.5*
*NEIC **15** 05:08:44.4,32.64N×115.90W,h13km,ML3.5(PAS),After PAS.*

ISC 15 05:08:43.6±0.9,32.64N±0.03×115.92W±0.03,h17km±6km, n25,σ0s64/32,10C-5D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RMX	La Rumorosa	0.14	253	*e*P		Pg	Sg	05 08 48.0	0.0
RMX				*e*S			Sg	05 08 50.5	-0.2
RMX				*e*				05 08 50.7	
RMX				IAML				05 08 50.7	
	comp=N,14μm,0.2s								
SGL	Mount Signal	0.16	88	⇑*i*P		Pg		05 08 47.4	-0.6
SGL	Mount Signal	0.16	88	⇑*i*P		Pg		05 08 47.4	-0.6
WESC	Westside Schoo	0.19	53	⇑*i*P		Pg		05 08 48.3	-0.1
WESC	Westside Schoo	0.19	53	⇑*e*P		Pg		05 08 48.2	-0.1
WESC				*e*S		Sg		05 08 51.9	+0.2
ERPC	Ernies Place	0.23	65	⇑*i*P		Pg		05 08 49.1	+0.1
CRR	Carrizo Plain	0.25	349	⇑*i*P		Pg		05 08 49.4	+0.2
CRR	Carrizo Plain	0.25	349	⇑*i*P		Pg		05 08 49.4	+0.2
COK	Cook Ranch	0.26	38	⇑*i*P		Pg		05 08 49.6	+0.2
COK	Cook Ranch	0.26	38	⇑*i*P		Pg		05 08 49.6	+0.2
SWSC	Sam W. Stewart	0.31	19	⇓*i*P		Pg		05 08 50.3	0.0
SWSC				*i*	S	Sg		05 08 54.8	-0.2
SWSC	Sam W. Stewart	0.31	19	⇓*i*P		Pg		05 08 50.3	0.0
DREC	Desert Rsrch C	0.43	68	⇑*i*P		Pg		05 08 52.8	+0.4
CPBX	Cerro Prieto	0.56	113	*e*P		Pg		05 08 54.8	-0.1
CPBX				*e*S		Sg		05 09 02.5	+0.1
CPBX				⇓*e*				05 09 04.7	
CPBX				IAML				05 09 04.7	
	comp=N,8μm,0.2s								
CPBX				⇓*e*				05 09 06.1	
CPBX				IAML				05 09 06.1	
	comp=E,12μm,0.2s								
BAR	Barrett	0.64	273	*e*P		Pg		05 08 56.5	+0.2
CBX	Cerro Bola	0.71	243	*e*P		Pg		05 08 58.0	+0.3
CBX				*e*S		Sg		05 09 07.6	+0.4
CBX				IAML				05 09 11.1	
	comp=E,2μm,0.4s								
CBX				⇓*e*				05 09 11.1	
RDX	Rancho Dawling	0.71	182	*e*P		Pg		05 08 57.2	-0.6
RDX				IAML				05 09 07.7	
	comp=N,2μm,0.3s								
SDRC	San Diego Road	0.87	276	*i* P		Pg		05 09 00.5	-0.2
PFO	Pinyon Flats O	1.06	335	*e*Pg		Pg		05 09 02.3	-2.0
PFO				*e*Sg		Sg		05 09 17.2	-1.0
PBX	Punta Banda	1.13	218	*e*P		Pb		05 09 04.7	0.0
ECNX	Esteban Cantu	1.14	211	*e*P		Pb		05 09 04.6	-0.4
ZAX	El Zacaton	1.17	195	*e*P		Pb		05 09 05.2	-0.2
ZAX				*e*S		Sb		05 09 20.9	+0.6
214A	Organ Pipe Nat	2.72	104	*e*Pn		Pn		05 09 25.3	-1.2
WUAZ	Wupatki	4.73	52	*e*Pn		Pn		05 09 55.2	+0.8
CCUT	Cedar City	5.32	22	*e*Pn		Pn		05 10 04.0	+1.4

*IDC **15** 05:11:19.5±2.6,54.06N×86.60E,h0km,mb1 2.9/2, mb1mx2.8/32,mbtmp2.9/2,ML2.5/2,Error ellipse: s-maj=21.9km s-min=12.8km az=61.0*
*NNC **15** 05:11:27.5±5.1,53.77N×85.76E,h0km,mb3.2,mpv2.8, Error ellipse: s-maj=39.2km s-min=31.5km az=6.0*

ISC 15 05:11:25.2±4.4,54.2N±0.2×86.0E±0.2,h35km,n7, σ1s29/10,4C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.75	253	*i*				05 18 00.0	
	baz=84,slow=320,SNR=1.0								
ZALV	Zalesovo Beam	0.75	253	Pg		Pn		05 11 38.2	-1.1
	0.6nm,0.3s,baz=86,slow=17,SNR=4.6								
ZALV				Lg		Lg		05 11 55.8	
	1.2nm,0.3s,baz=79,slow=27,SNR=8.5								
KURK	Kurchatov	5.71	236	⇓Pn		Pn		05 12 49.8	+2.5
	1.1nm,1.2s								
KURK				⇓Sn		Sn		05 13 51.0	-0.5
	0.5nm,0.9s								
KURK				⇑Lg		Lg		05 14 21.8	
	1.4nm,1.1s								
KURBB	Kurchatov Arra	5.81	235	⇑Pn		Pn		05 12 49.2	+0.5
	0.8nm,0.4s,baz=60,slow=14								
KURBB				⇑Sn		Sn		05 13 53.2	-0.9
	1.2nm,0.7s								
KURBB				⇑Lg		Lg		05 14 24.2	
	3.2nm,1.1s								
KURBB	Kurchatov Arra	5.81	235	Pn		Pn		05 12 50.3	+1.5
	0.1nm,0.3s,baz=56,slow=14,SNR=7.7								
KURBB				Lg		Lg		05 14 27.3	
	0.0nm,0.3s,baz=58,slow=33,SNR=2.6								
MK31	Makanchi Array	7.76	199	Pn		Pn		05 13 15.5	-0.1
	0.4nm,0.7s,baz=26,slow=13,SNR=17								
MK31				⇓Sn		Sn		05 14 41.7	-0.5
	1.2nm,1.1s								
MK31				⇓Lg		Lg		05 15 23.0	
	1.1nm,0.8s,baz=32,slow=32,SNR=6.0								
MKAR	Makanchi Array	7.76	199	Pn		Pn		05 13 15.2	-0.5
	0.1nm,0.3s,baz=25,slow=14,SNR=10								
MKAR				Sn		Sn		05 14 42.6	+0.4
	0.1nm,0.3s,baz=21,slow=25,SNR=3.8								
MKAR				Lg		Lg		05 15 24.2	
	0.0nm,0.3s,baz=21,slow=29,SNR=4.1								

IDC 15 05:22:07.4±5.3,22.14S×68.35W,h0km,mb3.6/1, mb1 3.7/2,mb1mx3.4/16,mbtmp3.6/2,ML3.5/1,MS3.5/1, Ms1 3.5/1,ms1mx3.3/18,Error ellipse: s-maj=158.3km s-min=54.9km az=69.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.83	2	Pn		Pn	Pn	05 23 35.6	-0.2
	0.7nm,0.3s,baz=175,slow=6.5,SNR=29								
RPN	Rapa Nui	37.47	254	LR		LR		05 40 14.0	
	comp=Z,78nm,21.2s,baz=26,slow=29								
TORD	Torodi Ar. Bea	77.08	70	P		P	P	05 34 03.1	+0.1
	0.3nm,0.5s,baz=251,slow=5.8,SNR=6.7								
H11S2	WAKE ISLAND Hyl	28.47	276	T		T		08 01 23.1	
	baz=106								
H11S1	WAKE ISLAND Hyl	28.48	277	T		T		08 01 17.1	
	baz=106								
H11S3	WAKE ISLAND Hyl	28.49	276	T		T		08 01 24.4	
	baz=106								
H11N3	WAKE ISLAND Hyl	28.56	278	T		T		08 01 22.4	
	baz=99								
H11N2	WAKE ISLAND Hyl	28.58	278	T		T		08 01 21.8	
	baz=99								
H11N1	WAKE ISLAND Hyl	28.58	278	T		T		08 01 26.2	
	baz=99								
MKAR	Makanchi Array	145.84	37	PKPbc		PKPdf		05 41 47.7	-0.4
	0.4nm,0.8s,baz=283,slow=3.2,SNR=4.3								

*ISCJB **15** 05:23:19.3±0.7,9.36S±0.08×117.77E±0.06,h71km, mb3.8/1,Error ellipse: s-maj=11.3km s-min=8.2km az=25.3*
*DJA **15** 05:23:21.8±0.7,9.3S±8×11.8E±∗,h57km±9km,M4.4/11, mb4.4/3,mB5.0/2,MLv4.4/11,Mw(mB)4.3/2*
*IDC **15** 05:23:26.0±5.3,7.63S×119.37E,h127km±50km,mb3.2/2, mb1 3.1/3,mb1mx3.0/25,mbtmp3.5/3,Error ellipse: s-maj=117.3km s-min=13.8km az=51.0*

ISC 15 05:23:21.6±1.3,9.3S±0.1×117.71E±0.07,h71km,n10, σ0s97/10,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IGBI	Denpasar	2.58	280	P		Pn		05 24 01.1	+0.1
JAGI	Jajag, Banyuwa	3.61	283	P		Pn		05 24 14.0	-1.1
BSSI	Bau Bau, Buton	4.17	42	P		Pn		05 24 22.6	-0.1
BLJI	Banyuglugur	4.35	290	P		Pn		05 24 25.8	+0.6
BKSI	Bulukumba	4.61	31	P		Pn		05 24 27.6	-1.2
SPSI	Sidrap Palu	5.67	21	P		Pn		05 24 43.8	+0.5
	17nm,0.7s,0.1nm								
TTSI	Tana Toraja	6.55	19	P		Pn		05 24 55.8	+0.5
	21nm,0.6s,614nm0.1nm								
WRA	Warramunga Arr	19.24	125	P		P		05 27 39.1	-1.3
	0.1nm,0.3s,baz=302,slow=12,SNR=2.2		

ERPC	**Ernies Place**	**0.21**	**56**	⇑	*i*P		**Pb**	**05 31 04.7**	**+0.3**
COK	**Cook Ranch**	**0.25**	**29**	⇑	*i*P		**Pg**	**05 31 04.8**	**+0.9**
CRR	**Carrizo Plain**	**0.27**	**342**	⇑	*i*P		**Pg**	**05 31 04.3**	**+0.1**
SWSC	**Sam W. Stewart**	**0.32**	**11**	⇑	*i*P		**Pg**	**05 31 05.3**	**+0.3**
DREC	**Desert Rsrch C**	**0.40**	**63**		*e*P		**Pb**	**05 31 08.4**	**+0.8**
CPBX	**Cerro Prieto**	**0.52**	**113**		*e*Pn		Pg	05 31 02.0	-6.8
CPBX					*e*S		**Sg**	**05 31 10.4**	**-5.3**
CPBX				⇓	*e*			05 31 21.0	
CPBX					IAML			05 31 21.1	
	comp=E,16μm,0.3s								
BAR	**Barrett**	**0.68**	**275**		*e*P		**Pg**	**05 31 11.8**	**+0.1**
RDX	**Rancho Dawling**	**0.70**	**185**		*e*P		**Pb**	**05 31 13.2**	**+0.4**
CBX	**Cerro Bola**	**0.74**	**245**		*e*P		**Pg**	**05 31 13.5**	**0.0**
CBX					*e*S		**Sg**	**05 31 22.8**	**+0.2**
CBX					IAML			05 31 28.6	
	comp=E,3μm,1.0s								
CBX				⇑	*e*			05 31 28.6	
SDRC	**San Diego Road**	**0.91**	**277**		*e*P		**Pb**	**05 31 15.6**	**-0.7**
PFO	**Pinyon Flats O**	**1.10**	**334**		*e*Pg		**Pb**	**05 31 19.0**	**-0.6**
PFO					*e*Sg		**Sb**	**05 31 32.6**	**-1.3**
ZAX	**El Zacaton**	**1.16**	**197**		*e*P		**Pg**	**05 31 21.1**	**+0.3**
ZAX					*e*			05 31 43.3	
ZAX					IAML			05 31 45.4	
	comp=E,2μm,0.7s								
ZAX				⇑	*e*			05 31 45.4	
ECBX	**El Chinero**	**1.34**	**149**		*e*Pn		**Pn**	**05 31 22.8**	**-0.4**
ECBX					*e*S		**Sg**	**05 31 41.3**	**-0.5**
214A	**Organ Pipe Nat**	**2.68**	**104**		*e*Pn		**Pn**	**05 31 43.6**	**+2.1**
DAC	**Darwin (Calif)**	**3.91**	**339**		*e*Pn		**Pn**	**05 31 59.3**	**+0.6**
SHPR	**Sheep Range**	**3.92**	**8**		*e*Pn		**Pn**	**05 31 58.7**	**0.0**
TUC	**Tucson**	**4.31**	**93**		*e*Pn		**Pn**	**05 32 05.2**	**+1.2**
WUAZ	**Wupatki**	**4.72**	**51**		*e*Pn		**Pn**	**05 32 11.2**	**+1.5**
CCUT	**Cedar City**	**5.33**	**22**		*e*Pn		**Pn**	**05 32 18.0**	**-0.2**
	comp=E,11nm,1.2s								
MVU	**Marysvale**	**6.58**	**26**		*e*Pn		**Pn**	**05 32 38.2**	**+2.9**
	comp=E,2.5nm,0.4s								
MSU	**Marysvale**	**6.60**	**26**		Pn		**Pn**	**05 32 35.0**	**-0.7**
	comp=E,4.2nm,0.7s								
121A	**Cookes Peak, D**	**6.83**	**89**		*e*Pn		**Pn**	**05 32 39.6**	**+0.9**
	comp=E,9.0nm,0.4s								
PV01	**Paradox Valley**	**8.11**	**45**		*e*Pn		**Pn**	**05 32 58.2**	**+1.8**
	comp=E,230nm,0.5s								

*ISCJB **15** 05:34:15.8±0.3, 32°.72N±0°.02×115°.95W±0°.02, h12km±2km, mb3.3/1, MS4.3/1, Error ellipse: s-maj=2.6km s-min=2.1km az=17.7*
*NEIC **15** 05:34:16.8, 32°.71N×115°.96W, h6km, ML4.3(PAS), After PAS.*
NEIC Felt at Chula Vista, Escondido, Moreno Valley, San Clemente, San Diego, San Jacinto and Santee. Also felt at Tijuana, Baja California.
*ECX **15** 05:34:17.0±0.6, 32°.73N×115°.96W, h3km, MD4.2, ML4.4*
*MEX **15** 05:34:17.1±0.9, 32°.85N×115°.95W, h16km±22km, MD4.5*
*IDC **15** 05:34:17.7±1.7, 32°.82N×115°.66W, h0km, mb3.4/1, mb1 3.8/8, mb1mx3.6/47, mbtmp3.5/8, ML3.4/7, MS3.9/3, Ms1 3.9/3, ms1mx3.5/20, Error ellipse: s-maj=25.5km s-min=10.4km az=41.0*

ISC 15 05:34:16.4±0.7, 32.72N±0°.02×115.96W±0°.02, h10km±5km, n119, σ1§43/138, 8C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBP	**Imperial Bould**	**0.13**	**245**	P	**Pg**	**05 34 19.2**	**-0.2**
	baz=0.1						
IBP				S	**Sg**	**05 34 21.7**	**+0.1**
	baz=0.1						
RMX	**La Rumorosa**	**0.15**	**223**	*e*P	**Pg**	**05 34 19.8**	**0.0**
CRR	**Carrizo Plain**	**0.17**	**356**	⇓ *i*P	**Pg**	**05 34 20.0**	**-0.1**
WESC	**Westside Schoo**	**0.19**	**77**	⇑ *i*P	**Pg**	**05 34 20.6**	**+0.1**
COK	**Cook Ranch**	**0.23**	**55**	⇑ *i*P	**Pg**	**05 34 21.4**	**+0.2**
ERPC	**Ernies Place**	**0.25**	**83**	⇑ *i*P	**Pg**	**05 34 21.8**	**+0.4**
SWSC	**Sam W. Stewart**	**0.26**	**31**	P	**Pg**	**05 34 21.4**	**-0.3**
	baz=0.3						
SWSC				S	**Sg**	**05 34 25.5**	**+0.2**
	baz=0.3						
SWSC	**Sam W. Stewart**	**0.26**	**31**	⇑ *i*P	**Pg**	**05 34 21.7**	**0.0**
MONP	**Monument Peak,**	**0.43**	**294**	P	**Pb**	**05 34 25.0**	**-1.2**
	baz=0.4						
MONP				S	**Sb**	**05 34 30.9**	**-1.8**
	baz=0.4						
DREC	**Desert Rsrch C**	**0.44**	**78**	*e*P	**Pg**	**05 34 25.4**	**+0.5**
BAR	**Barrett**	**0.61**	**267**	⇑ *i*P	**Pg**	**05 34 28.0**	**-0.1**
BAR				*e*S	**Sg**	**05 34 36.1**	**0.0**
CPBX	**Cerro Prieto**	**0.62**	**118**	*e*P	**Pg**	**05 34 28.4**	**-0.1**
CPBX				*i* S	**Sb**	**05 34 38.4**	**+0.2**
CPBX	**Cerro Prieto**	**0.62**	**118**	*e*Pn	Pg	05 34 16.5	-12
CPBX				*e*S	Sg	05 34 25.5	-11
CPBX				⇑ *e*		05 34 29.4	
CPBX				IAML		05 34 29.4	
	comp=E,60μm,0.4s						
MBIG	**Mexicali**	**0.71**	**115**	*e*P	**Pg**	**05 34 30.1**	**0.0**
MBIG				*i* S	**Sg**	**05 34 38.8**	**-0.5**
CBX	**Cerro Bola**	**0.72**	**236**	*e*P	**Pg**	**05 34 29.9**	**-0.3**
CBX				*e*S	**Sg**	**05 34 39.5**	**-0.3**
CBX	**Cerro Bola**	**0.72**	**236**	*e*P	**Pg**	**05 34 29.9**	**-0.3**
CBX				*e*S	**Sg**	**05 34 39.5**	**-0.3**
CBX	**Cerro Bola**	**0.72**	**236**	⇑ *i*P	**Pg**	**05 34 30.2**	**-0.1**
CBX				*e*S	**Sg**	**05 34 40.1**	**+0.4**
CBX				IAML		05 34 40.9	
	comp=E,13μm,0.3s						
CBX				⇓ *e*		05 34 40.9	
RDX	**Rancho Dawling**	**0.79**	**179**	⇓ *e*P	**Pg**	**05 34 30.7**	**-0.8**
SDRC	**San Diego Road**	**0.83**	**272**	⇑ *e*P	**Pg**	**05 34 31.8**	**-0.6**
SDRC				*e*S	**Sg**	**05 34 42.6**	**-0.6**
109C	**Camp Elliot, M**	**0.98**	**280**	P	**Pg**	**05 34 34.4**	**-0.9**
	baz=1.0						
109C				S	**Sg**	**05 34 47.2**	**-0.9**
	baz=1.0						
PFO	**Pinyon Flats O**	**0.99**	**335**	P	**Pg**	**05 34 34.5**	**-0.9**
	baz=1.0						
PFO				S	**Sg**	**05 34 47.7**	**-0.5**
	baz=1.0						
PFO	**Pinyon Flats O**	**0.99**	**335**	*e*Pg	**Pg**	**05 34 34.4**	**-0.9**
PFO				*e*Sg	**Sb**	**05 34 48.0**	**-0.8**
GLA	**Glamis**	**1.01**	**70**	P	**Pg**	**05 34 34.3**	**-1.4**
	baz=1.0						
GLA				S	**Sg**	**05 34 47.1**	**-1.7**
	baz=1.0						
BC3	**Big Chuckawall**	**1.03**	**24**	P	**Pg**	**05 34 34.7**	**-1.4**
	baz=1.0						
BC3				S	**Sg**	**05 34 49.3**	**-0.2**
	baz=1.0						
PBX	**Punta Banda**	**1.17**	**214**	*e*P	**Pg**	**05 34 38.0**	**-0.8**
ECNX	**Esteban Cantu**	**1.19**	**208**	*e*P	**Pg**	**05 34 38.2**	**-1.0**
ZAX	**El Zacaton**	**1.23**	**193**	*e*P	**Pg**	**05 34 38.9**	**-1.0**
ZAX				*e*S	**Sg**	**05 34 55.1**	**-0.8**
ZAX				IAML		05 34 57.2	
	comp=N,12μm,0.6s						
ZAX				⇓ *e*		05 34 57.2	
BELC	**Belle Mtn. Jos**	**1.28**	**358**	P	**Pg**	**05 34 38.6**	**-2.4**
	baz=1.3						
BELC				S	**Sg**	**05 34 54.4**	**-3.3**
	baz=1.3						
MURC	**Murrieta**	**1.37**	**311**	P	**Pn**	**05 34 40.3**	**-1.2**
	baz=1.4						
MURC				S	**Sg**	**05 34 58.9**	**-1.5**
	baz=1.4						
ECBX	**El Chinero**	**1.46**	**148**	*e*Pn	Pn	05 34 37.5	-5.3
ECBX				*e*S	**Sn**	**05 34 57.3**	**-4.6**
ECBX				*e*		05 35 00.8	
ECBX				IAML		05 35 00.8	
	comp=N,6μm,0.6s						
Y12C	**Blythe**	**1.58**	**49**	P	**Pn**	**05 34 42.7**	**-1.8**
	baz=1.6						
IRM	**Iron Mountain**	**1.59**	**25**	P	**Pn**	**05 34 43.1**	**-1.5**
	baz=1.6						
SPIG	**San Pedro Mart**	**1.71**	**166**	*e*P	**Pn**	**05 34 45.0**	**-1.6**
SPIG				*i* S	**Sn**	**05 35 07.0**	**-1.7**
SPIG	**San Pedro Mart**	**1.71**	**166**	*e*P	**Pn**	**05 34 45.0**	**-1.6**
SPIG				*i* S	**Sn**	**05 35 07.0**	**-1.7**
SPX	**San Pedro Mart**	**1.72**	**166**	*e*P	**Pn**	**05 34 44.9**	**-1.7**
SPX				*i* S	**Sn**	**05 35 06.4**	**-2.4**
SPX	**San Pedro Mart**	**1.72**	**166**	*e*P	**Pn**	**05 34 46.7**	**+0.1**
BBRC	**Big Bear Solar**	**1.74**	**333**	P	**Pn**	**05 34 46.2**	**-0.7**
	baz=1.7						
GMRC	**Granite Mounta**	**2.07**	**7**	P	**Pn**	**05 34 50.1**	**-1.3**
	baz=2.1						
BFSC	**Mount Baldy Ra**	**2.08**	**317**	P	**Pn**	**05 34 50.6**	**-0.9**
	baz=2.1						
BFSC				Sb	**Sb**	**05 35 20.2**	**-0.1**
	baz=2.1						
HEC	**Hector,Ludlow**	**2.13**	**352**	P	**Pn**	**05 34 50.9**	**-1.2**
	baz=2.1						
HEC				S	**Sn**	**05 35 16.5**	**-2.2**
	baz=2.1						
CIS	**Catalina Islan**	**2.17**	**289**	S	**Sn**	**05 35 20.0**	**+0.5**
	baz=2.2						
PDMCI	**Parker Dam,Lak**	**2.19**	**43**	P	**Pn**	**05 34 51.7**	**-1.2**
	baz=2.2						
SCI	**San Clemente I**	**2.20**	**278**	P	**Pn**	**05 34 53.1**	**+0.2**
	baz=2.2						
SCI				S	**Sn**	**05 35 20.6**	**+0.3**
	baz=2.2						
FMP	**Fort Macarthur**	**2.20**	**298**	Pb	**Pb**	**05 34 55.7**	**-0.5**
	baz=2.2						
FMP				Sb	**Sb**	**05 35 23.4**	**-0.1**
	baz=2.2						
RRX	**Edison Barstow**	**2.33**	**338**	Pg	**Pg**	**05 34 59.3**	**-1.7**
	baz=2.3						
NEE2	**Needles Airpor**	**2.33**	**28**	Sb	**Sb**	**05 35 28.8**	**+1.4**
	baz=2.3						
DECC	**Green Verdugo**	**2.51**	**308**	Pb	**Pb**	**05 35 00.8**	**-0.7**
	baz=2.5						
DECC				Sb	**Sb**	**05 35 33.7**	**+1.2**
	baz=2.5						
GSC	**Goldstone, Bar**	**2.67**	**345**	P	**Pn**	**05 34 58.7**	**-0.9**
	baz=2.7						
GSC				S	**Sn**	**05 35 30.5**	**-1.7**
	baz=2.7						
TUQ	**Turquoise Moun**	**2.71**	**1**	P	**Pn**	**05 34 59.0**	**-1.2**
	baz=2.7						
EDW2	**Edwards Air Fo**	**2.75**	**322**	P	**Pn**	**05 34 59.9**	**-0.6**
	baz=2.8						
EDW2				Sb	**Sb**	**05 35 40.2**	**+0.9**
	baz=2.8						
214A	**Organ Pipe Nat**	**2.77**	**105**	P	**Pn**	**05 34 58.5**	**-2.3**
	baz=2.8						
OSI	**Osito Audit: C**	**2.99**	**310**	Sb	**Sb**	**05 35 46.2**	**0.0**
	baz=3.0						
LRMC	**Laurel Mtn Rad**	**3.11**	**333**	P	**Pn**	**05 35 04.8**	**-0.8**
	baz=3.1						
SHOC	**Shoshone, Teco**	**3.19**	**355**	P	**Pn**	**05 35 05.7**	**-0.9**
	baz=3.2						
ARVC	**Arvin**	**3.39**	**316**	P	**Pn**	**05 35 09.2**	**-0.2**
	baz=3.4						
ARVC				Sb	**Sb**	**05 36 00.4**	**+2.5**
	baz=3.4						
MPMC	**Manual Prospec**	**3.57**	**340**	P	**Pn**	**05 35 11.2**	**-0.8**
	baz=3.6						
ISA	**Isabella, Lake**	**3.61**	**325**	P	**Pn**	**05 35 11.7**	**-0.7**
	baz=3.6						
DAC	**Darwin (Calif)**	**3.80**	**340**	*e*Pn	**Pn**	**05 35 14.9**	**-0.3**
PKM	**Mcpherson Peak**	**3.88**	**305**	P	**Pn**	**05 35 16.3**	**0.0**
	baz=3.9						
VES	**Vestal, Richgr**	**4.05**	**321**	P	**Pn**	**05 35 18.1**	**-0.3**
	baz=4.1						
TPNV	**Topopah Spring**	**4.23**	**357**	P	**Pn**	**05 35 21.1**	**0.0**
	baz=4.2						
TUC	**Tucson**	**4.39**	**94**	*e*P	**Pn**	**05 35 21.5**	**-1.6**
GRAC	**Grapevine Rang**	**4.43**	**345**	P	**Pn**	**05 35 23.8**	**+0.2**
	baz=4.4						
WUAZ	**Wupatki**	**4.72**	**52**	P	**Pn**	**05 35 28.2**	**+0.4**
	baz=4.7						
CCUT	**Cedar City**	**5.27**	**23**	*e*Pn	**Pn**	**05 35 36.5**	**+1.1**
TPH	**Tonopah**	**5.45**	**349**	Pn	**Pn**	**05 35 38.6**	**+0.8**
W18A	**Petrified Fore**	**5.70**	**63**	P	**Pn**	**05 35 42.2**	**+0.9**
	baz=5.7						
W18A	**Petrified Fore**	**5.70**	**63**	*e*Pn	**Pn**	**05 35 42.1**	**+0.9**
NVAR	**Mina Array Bea**	**6.01**	**342**	Pn	**Pn**	**05 35 46.4**	**+0.8**
	comp=N,0.4nm,0.3s,baz=162,slow=15,SNR=5.3						
NVAR				Pg	Pg	05 36 07.1	-4.4
	comp=N,3.0nm,0.3s,baz=166,slow=18,SNR=17						
NVAR				Lg	Lg	05 37 27.7	
	comp=N,0.3nm,0.3s,baz=154,slow=30,SNR=2.2						
CMB	**Columbia Colle**	**6.42**	**327**	*e*Pn	**Pn**	**05 35 51.9**	**+0.8**
WAKR	**Walker**	**6.43**	**335**	Pn	**Pn**	**05 35 53.0**	**+1.6**
MVU	**Marysvale**	**6.53**	**27**	*e*Pn	**Pn**	**05 35 55.1**	**+2.4**
MSU	**Marysvale**	**6.55**	**27**	*e*Pn	Pn	05 35 56.8	+3.8
121A	**Cookes Peak, D**	**6.89**	**89**	P	**Pn**	**05 35 57.2**	**-0.5**
	baz=6.9						
LAZ	**Ladron**	**7.55**	**75**	*e*Pn	**Pn**	**05 36 06.7**	**0.0**
MVCO	**Mesa Verde**	**7.59**	**52**	P	**Pn**	**05 36 09.5**	**+2.3**
	baz=7.6						
LENM	**Lemitar**	**7.64**	**77**	*e*Pn	**Pn**	**05 36 08.5**	**+0.5**
Y22D	**IRIS PASSCAL I**	**7.68**	**77**	P	**Pn**	**05 36 09.0**	**+0.6**
	baz=7.7						
ELK	**Elko**	**8.04**	**4**	Pn	**Pn**	**05 36 15.7**	**+2.3**
	comp=N,0.1nm,0.3s,baz=229,slow=19,SNR=2.6						
ELK				Pg	**Pg**	**05 36 49.2**	**-1.0**
	comp=N,0.5nm,0.3s,baz=208,slow=13,SNR=9.6						
ELK				Lg	Lg	05 38 26.5	
	comp=N,0.3nm,0.3s,baz=247,slow=18,SNR=2.1						
ANMO	**Albuquerque**	**8.21**	**72**	Pn	**Pn**	**05 36 16.4**	**+0.7**
	comp=N,0.5nm,0.3s,baz=260,slow=12,SNR=11						
ANMO				Lg	Lg	05 38 29.9	
	comp=N,0.1nm,0.3s,baz=317,slow=19,SNR=2.3						
ANMO				LR	LR	05 39 02.5	
	comp=N,663nm,19.5s,baz=33,slow=36						
R23A	**Moffat**	**9.90**	**54**	P	**Pn**	**05 36 40.7**	**+1.7**
	baz=9.9						
SDCO	**Great Sand Dun**	**9.91**	**57**	P	**Pn**	**05 36 40.6**	**+1.4**
	baz=9.9						
SDCO	**Great Sand Dun**	**9.91**	**57**	*e*Pn	**Pn**	**05 36 40.4**	**+1.2**
LPIG	**La Paz**	**9.91**	**149**	LR	LR	05 40 02.0	
	comp=N,368nm,18.2s,baz=8.5,slow=35						
YBH	**Yreka Blue Hor**	**10.48**	**331**	Pn	Pn	05 36 52.8	+6.0
	comp=N,0.1nm,0.3s,baz=150,slow=8.1,SNR=2.0						
P23A	**Jefferson**	**10.54**	**48**	P	**Pn**	**05 36 49.1**	**+1.3**
	baz=10						
TXAR	**Lajitas Array**	**11.07**	**104**	Pn	**Pn**	**05 36 55.8**	**+0.9**
	comp=N,0.2nm,0.3s,baz=286,slow=13,SNR=12						
TXAR				Lg	Lg	05 39 59.6	
	comp=N,0.0nm,0.3s,baz=278,slow=27,SNR=2.9						
MSTX	**Muleshoe**	**11.10**	**80**	P	**Pn**	**05 36 57.1**	**+1.8**
	baz=11						
PDAR	**Pinedale Array**	**11.23**	**25**	Pn	**Pn**	**05 37 00.2**	**+3.0**
	comp=N,0.0nm,0.3s,baz=194,slow=11,SNR=4.1						
PDAR				Lg	Lg	05 40 11.1	
	comp=N,0.1nm,0.3s,baz=212,slow=25,SNR=2.6						
128A	**Castleberry Fa**	**11.35**	**87**	P	**Pn**	**05 36 59.5**	**+0.7**
	baz=11						
U27A	**Thompson Grove**	**11.44**	**68**	P	**Pn**	**05 37 01.9**	**+2.0**
	baz=11						
Y28A	**McKinney Farm,**	**11.53**	**80**	P	**Pn**	**05 37 03.2**	**+2.0**
	baz=12						
T27A	**Campo**	**11.70**	**65**	P	**Pn**	**05 37 06.5**	**+3.0**
	baz=12						
Y29A	**Porterfield Fa**	**12.01**	**81**	P	Pn	05 37 11.5	+3.8
	baz=12						
T28A	**Walsh**	**12.18**	**65**	P	**Pn**	**05 37 13.2**	**+3.1**
	baz=12						
P26A	**Davis Ranch, A**	**12.26**	**53**	P	Pn	05 37 14.7	+3.5
	baz=12						
K22A	**Casper**	**12.41**	**34**	P	**Pn**	**05 37 14.3**	**+1.1**
	baz=12						
130A	**Snyder**	**12.63**	**86**	P	**Pn**	**05 37 18.3**	**+2.1**
	baz=13						
Y30A	**Stafford Cattl**	**12.65**	**81**	P	Pn	05 37 20.3	+3.8
	baz=13						
Y31A	**Rekieta Farm,**	**13.18**	**80**	P	**Pn**	**05 37 24.1**	**+0.4**
	baz=13						
332A	**Millersview**	**13.82**	**91**	P	**Pn**	**05 37 33.1**	**+0.8**
	baz=14						
432A	**Menard**	**13.87**	**93**	P	**Pn**	**05 37 35.0**	**+1.9**
	baz=14						
532A	**Rocksprings**	**13.95**	**96**	P	**Pn**	**05 37 36.1**	**+1.9**
	baz=14						
W32A	**Sentinel**	**14.08**	**76**	P	**Pn**	**05 37 38.9**	**+3.0**
	baz=14						
MSO	**Missoula**	**14.18**	**6**	P	P	05 37 41.6	-3.3
	baz=14						
V32A	**Arapaho**	**14.31**	**73**	P	**P**	**05 37 44.7**	**-1.6**
	baz=14						
P30A	**Selden**	**14.40**	**57**	P	**Pn**	**05 37 43.3**	**+3.0**
	baz=14						
Z33A	**Whitaker Ranch**	**14.44**	**83**	P	**Pn**	**05 37 42.8**	**+1.9**
	baz=14						
333A	**Richland Sprin**	**14.47**	**91**	P	**Pn**	**05 37 43.0**	**+1.8**
	baz=14						
Y33A	**Hilltop Ranch,**	**14.54**	**80**	P	**Pn**	**05 37 44.8**	**+2.6**
	baz=14						
234A	**Clairette**	**15.08**	**88**	P	**Pn**	**05 37 51.3**	**+1.8**
	baz=15						
334A	**Lometa**	**15.10**	**90**	P	**Pn**	**05 37 51.5**	**+1.7**
	baz=15						
X34A	**Smith Ranch, M**	**15.21**	**78**	P	**Pn**	**05 37 53.3**	**+2.1**
	baz=15						
NEW	**Newport**	**15.56**	**357**	Pn	**P**	**05 38 00.2**	**+0.1**
	comp=N,0.1nm,0.3s,baz=182,slow=11,SNR=5.6						
B29A	**Wagenman Farm,**	**20.09**	**34**	P	Pn	05 38 53.9	+2.1
	baz=20						
A29A	**Manning Farm,**	**20.48**	**33**	P	Pn	05 38 56.8	+0.4
	baz=20						
AGMN	**Agassiz Nation**	**21.71**	**38**	P	**P**	**05 39 09.3**	**+1.8**
	baz=22						
ILAR	**Eielson Array**	**37.26**	**339**	P	**P**	**05 41 31.0**	**+3.0**
	comp=N,0.4nm,0.8s,baz=157,slow=6.9,SNR=8.4						
SPITS	**Spitsbergen Ar**	**65.84**	**10**	LR	LR	06 15 36.5	
	comp=N,197nm,18.2s,baz=140,slow=38						

*NNC **15** 05:45:43.8±0.7, 42°.06N×77°.61E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=4.6km s-min=3.6km az=169.0*
*KRNET **15** 05:45:44.4±0.1, 42°.06N×77°.50E, h13km, mb3.7*
*BJI **15** 05:45:45.6, 42°.20N×77°.60E, h5km, ML3.2/7*

ISC 15 05:45:43.6±1.5, 42°.11N±0°.06×77°.64E±0°.04, h2km±12km, n37, σ1§28/46, 36C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**1.05**	**278**	P	**Pg**	**05 46 03.6**	**-0.1**
	SNR=531						
ULHL	**Ulahol**	**1.05**	**278**	⇑ *i*P	**Pg**	**05 46 03.6**	**-0.1**
	baz=281						
ULHL				⇑ *i*S	**Sg**	**05 46 17.4**	**+0.1**
	baz=281						
KNDC	**Almaty**	**1.21**	**336**	⇑ P	**Pg**	**05 46 07.6**	**+0.7**
	324nm,0.3s						
KNDC				⇑ S	**Sn**	**05 46 24.7**	**-0.2**
	529nm,0.6s						
NRN	**Naryn**	**1.40**	**242**	⇑ *i*P	**Pn**	**05 46 09.9**	**-0.6**
	baz=241						
NRN				⇑ *i*S	**Sn**	**05 46 28.2**	**-1.5**
	baz=241						
TKM2	**Tokmak 2**	**1.71**	**299**	P	**Pb**	**05 46 15.4**	**-0.6**
	SNR=299						
TKM2	**Tokmak 2**	**1.71**	**299**	⇓ P	**Pb**	**05 46 15.2**	**-0.8**
	72nm,0.3s						
TKM2				⇓ S	**Sb**	**05 46 38.6**	**+0.5**
	413nm,0.5s						
TKM2	**Tokmak 2**	**1.71**	**299**	⇑ *i*P	**Pb**	**05 46 15.4**	**-0.6**
	baz=302						
TKM2				⇑ *i*S	**Sb**	**05 46 38.6**	**+0.5**
	baz=302						
KZA	**Kyzart**	**1.78**	**270**	P	**Pb**	**05 46 16.5**	**-0.7**
	SNR=206						
KZA	**Kyzart**	**1.78**	**270**	⇑ *i*P	**Pb**	**05 46 16.4**	**-0.8**
	baz=271						
KZA				⇑ *i*S	**Sb**	**05 46 40.3**	**+0.1**
	baz=271						
PDGK	**Podgornoye**	**1.83**	**48**	⇓ Pg	**Pb**	**05 46 17.9**	**+0.2**
	30nm,0.4s						
PDGK				⇑ Lg	Lg	05 46 42.4	
	134nm,0.5s						
KBK	**Karagaybulak**	**2.07**	**286**	P	**Pb**	**05 46 21.4**	**-0.6**
	SNR=104						
KBK	**Karagaybulak**	**2.07**	**286**	⇑ *i*P	**Pb**	**05 46 21.4**	**-0.6**
	baz=288						
KBK				⇑ *i*S	**Sg**	**05 46 49.6**	**-0.4**
	baz=288						
CHMS	**Chumysh**	**2.31**	**294**	P	**Pb**	**05 46 24.8**	**-1.3**
	SNR=24						
CHMS	**Chumysh**	**2.31**	**294**	⇑ *i*P	**Pb**	**05 46 24.7**	**-1.3**
	baz=296						
CHMS				⇑ *i*S	**Sb**	**05 46 55.2**	**+0.1**
	baz=296						
UCH	**Uchtor**	**2.33**	**274**	P	**Pb**	**05 46 25.9**	**-0.7**
	SNR=85						
UCH	**Uchtor**	**2.33**	**274**	⇑ *i*P	**Pb**	**05 46 25.9**	**-0.7**
	baz=275						
UCH				⇑ *i*S	**Sb**	**05 46 56.8**	**+0.8**
	baz=275						
AAK	**Ala-Archa**	**2.39**	**284**	P	**Pb**	**05 46 26.5**	**-1.0**
	SNR=34						
AAK	**Ala-Archa**	**2.39**	**284**	⇓ Pg	**Pb**	**05 46 26.5**	**-1.0**
	57nm,0.7s						
AAK				⇓ Lg	Lg	05 46 58.7	
	131nm,0.6s						
AAK	**Ala-Archa**	**2.39**	**284**	⇑ *i*P	**Pb**	**05 46 26.5**	**-1.0**
	baz=285						
AAK				⇑ *i*S	**Sb**	**05 46 58.0**	**+0.5**
	baz=285						
USP	**Ospenovka**	**2.59**	**298**	P	**Pb**	**05 46 29.1**	**-1.6**
	SNR=49						
USP	**Ospenovka**	**2.59**	**298**	⇑ *i*P	**Pb**	**05 46 28.8**	**-2.0**
	baz=300						
USP				⇑ *i*S	**Sb**	**05 47 02.7**	**-0.4**
	baz=300						
EKS	**Erkin-Say**	**2.91**	**282**	⇑ *i*P	**Pb**	**05 46 34.6**	**-1.7**
	baz=284						
EKS				⇑ *i*S	**Sb**	**05 47 13.5**	**+1.1**
	baz=284						
EKS2	**Erkin-Say**	**2.91**	**282**	P	**Pb**	**05 46 34.2**	**-2.2**
	SNR=40						
EKS2	**Erkin-Say**	**2.91**	**282**	⇑ *i*P	**Pb**	**05 46 34.0**	**-2.4**
	baz=284						
EKS2				⇑ *i*S	**Sb**	**05 47 14.2**	**+1.7**
	baz=284						
AML	**Almayashu**	**2.94**	**272**	P	**Pb**	**05 46 36.8**	**-0.1**
	SNR=47						
**A

STKA	**Stephens Creek**	**36.34**	**156**	P	**P**	**06 01 16.6**	**+0.7**
	1.7nm,0.7s,baz=336,slow=12,SNR=3.4						

IDC 15 05:58:33.2±4.3, 8°23'N×92°73'E, h32km±6km, mb3.3/5, mb1 3.5/5, mb1mx3.2/38, mbtmp3.5/5, MS4.0/2, Ms1 4.0/2, ms1mx3.5/19, Error ellipse: s-maj=210.9km s-min=20.3km az=57.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**29.99**	**115**	LR	LR	06 16 34.2	
	comp=Z,280nm,21.2s,baz=291,slow=36						
MKAR	**Makanchi Array**	**39.45**	**349**	P	P	06 05 58.7	-1.8
	0.1nm,0.4s,baz=154,slow=7.4,SNR=2.1						
MKAR				pP	pP	06 06 10.1	+0.1
	1.3nm,0.8s,baz=170,slow=8.4,SNR=8.3						
KURBB	**Kurchatov Arra**	**43.88**	**347**	P	P	06 06 37.8	+1.2
	0.5nm,0.7s,baz=167,slow=6.8,SNR=4.8						
KURBB				pP	pP	06 06 46.3	+0.2
	1.6nm,0.8s,baz=169,slow=6.8,SNR=14						
ZALV	**Zalesovo Beam**	**46.03**	**354**	P	P	06 06 52.6	-1.1
	0.5nm,0.4s,baz=144,slow=18,SNR=1.6						
ZALV				pP	pP	06 07 04.0	+0.7
	1.3nm,0.8s,baz=160,slow=10,SNR=2.2						
BVAR	**Borovoye Array**	**48.21**	**342**	P	P	06 07 10.9	+0.1
	0.4nm,0.5s,baz=150,slow=6.0,SNR=1.7						
BVAR				pP	pP	06 07 19.3	-1.1
	1.3nm,0.8s,baz=155,slow=7.4,SNR=3.7						
WRA	**Warramunga Arr**	**49.60**	**125**	P	P	06 07 22.1	+0.2
	0.8nm,1.1s,baz=304,slow=9.0,SNR=4.7						
WRA				pP	pP	06 07 31.1	-0.5
	0.4nm,1.0s,baz=303,slow=9.4,SNR=1.3						
BRTR	**Keskin Array B**	**61.14**	**311**	LR	LR	06 37 43.7	
	comp=Z,118nm,21.1s,baz=128,slow=38						

ISCJB 15 06:08:27.7±0.4, 32°.73N×0°.02×115°.96W±0°.03, h13km±3km, Error ellipse: s-maj=4.1km s-min=3.8km az=18.8
ECX 15 06:08:28.9±0.6, 32°.69N×115°.94W, h4km, MD3.2, ML3.4
NEIC 15 06:08:28.5, 32°.69N×115°.95W, h14km, ML3.8(PAS), After PAS.
ISC 15 06:08:28.1±0.9, 32°.69N±0°.02×115°.97W±0°.03, h13km±6km, n27, σ0s58/38, 12C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMX	**La Rumorosa**	**0.13**	**227**	⇑eP	**Pg**	**06 08 31.8**	**+0.3**
RMX				eS	**Sg**	**06 08 34.2**	**+0.2**
CRR	**Carrizo Plain**	**0.20**	**360**	⇓iP	**Pg**	**06 08 32.5**	**+0.1**
CRR	**Carrizo Plain**	**0.20**	**360**	⇓iP	**Pg**	**06 08 32.5**	**+0.1**
SGL	**Mount Signal**	**0.21**	**101**	⇑iP	**Pg**	**06 08 32.3**	**-0.3**
WESC	**Westside Schoo**	**0.21**	**71**	⇑iP	**Pg**	**06 08 32.6**	**0.0**
WESC	**Westside Schoo**	**0.21**	**71**	⇑iP	**Pg**	**06 08 32.7**	**0.0**
COK	**Cook Ranch**	**0.26**	**52**	⇑iP	**Pg**	**06 08 33.6**	**+0.1**
COK	**Cook Ranch**	**0.26**	**52**	⇑iP	**Pg**	**06 08 33.6**	**+0.1**
ERPC	**Ernies Place**	**0.26**	**78**	⇑iP	**Pg**	**06 08 33.7**	**+0.2**
SWSC	**Sam W. Stewart**	**0.29**	**30**	⇓iP	**Pg**	**06 08 33.9**	**-0.1**
DREC	**Desert Rsrch C**	**0.45**	**75**	⇑eP	**Pg**	**06 08 37.4**	**+0.3**
BAR	**Barrett**	**0.59**	**269**	⇑eP	**Pg**	**06 08 39.9**	**+0.3**
BAR				eS	**Sg**	**06 08 48.0**	**+0.5**
CPBX	**Cerro Prieto**	**0.62**	**116**	ePn	**Pg**	**06 08 39.9**	**-0.3**
CPBX				eS	**Sg**	**06 08 48.5**	**+0.1**
CPBX				e		06 08 54.1	
CPBX				IAML		06 08 54.1	
	comp=E,7μm,0.2s						
CPBX				IAML		06 08 54.8	
	comp=N,6μm,0.3s						
CPBX				e		06 08 54.8	
CBX	**Cerro Bola**	**0.70**	**238**	⇑eP	**Pg**	**06 08 41.8**	**+0.1**
CBX				eS	**Sb**	**06 08 51.5**	**-0.3**
CBX				IAML		06 08 55.5	
	comp=N,2μm,0.6s						
CBX				⇓e		06 08 55.5	
RDX	**Rancho Dawling**	**0.76**	**178**	⇓eP	**Pg**	**06 08 42.1**	**-0.7**
RDX				eS	**Sg**	**06 08 52.3**	**-0.6**
RDX				⇑e		06 08 53.5	
SDRC	**San Diego Road**	**0.82**	**273**	⇑eP	**Pg**	**06 08 43.7**	**-0.3**
PFO	**Pinyon Flats O**	**1.00**	**336**	ePg	**Pb**	**06 08 46.2**	**-1.2**
PFO				eSg	**Sb**	**06 08 59.7**	**-0.9**
PBX	**Punta Banda**	**1.14**	**214**	eP	**Pb**	**06 08 49.4**	**-0.3**
PBX				eS	**Sb**	**06 09 04.6**	**+0.1**
ECNX	**Esteban Cantu**	**1.16**	**208**	eP	**Pb**	**06 08 49.3**	**-0.7**
ECNX				eS	**Sb**	**06 09 04.8**	**-0.2**
ECBX	**El Chinero**	**1.44**	**147**	ePn	**Pn**	**06 08 54.0**	**+0.1**
ECBX				eS	**Sb**	**06 09 13.3**	**+0.2**
ECBX				IAML		06 09 16.8	
	comp=E,303nm,0.4s						
ECBX				e		06 09 16.8	
SPX	**San Pedro Mart**	**1.70**	**165**	eP	**Pn**	**06 08 58.3**	**+0.6**
SPX				eS	**Sb**	**06 09 20.8**	**+0.1**
214A	**Organ Pipe Nat**	**2.77**	**104**	ePn	**Pn**	**06 09 11.7**	**-0.5**
DAC	**Darwin (Calif)**	**3.82**	**340**	ePn	**Pn**	**06 09 26.9**	**0.0**
DAC				Sn	**Sn**	**06 10 13.5**	**+1.8**
SHPR	**Sheep Range**	**3.86**	**10**	ePn	**Pn**	**06 09 27.1**	**-0.3**
TUC	**Tucson**	**4.40**	**94**	ePn	**Pn**	**06 09 36.3**	**+1.7**
WUAZ	**Wupatki**	**4.74**	**52**	ePn	**Pn**	**06 09 39.7**	**+0.2**
CCUT	**Cedar City**	**5.30**	**23**	ePn	**Pn**	**06 09 47.2**	**0.0**
	comp=E,7.0nm,1.1s						

CSEM 15 06:21:31.3, 46°.07N×15°.18E, h0km, ML0.3
LJU 15 06:21:31.3, 46°.07N×15°.18E, h10km, ML0.3, 6C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDKS	**Podkum**	**0.13**	**265**	⇑iPg	Pg	06 21 34.6	+0.2
PDKS				iSg	Sg	06 21 36.6	0.0
	comp=Z,8.0nm,0.1s						
PDKS	**Podkum**	**0.13**	**265**	Pg	Pg	06 21 34.6	+0.2
PDKS				iSg	Sg	06 21 36.6	0.0
	comp=Z,8.0nm,0.1s						
LEGS	**Legarje**	**0.16**	**142**	iPg	Pg	06 21 35.1	+0.3
LEGS				iSg	Sg	06 21 37.6	+0.4
LEGS	**Legarje**	**0.16**	**142**	iPg	Pg	06 21 35.1	+0.3
LEGS				iSg	Sg	06 21 37.7	+0.4
DOBS	**Dobrina**	**0.22**	**69**	⇑iPg	Pg	06 21 35.8	0.0
DOBS				iSg	Sg	06 21 39.2	+0.2
	comp=Z,3.0nm,0.1s						
DOBS	**Dobrina**	**0.22**	**69**	⇑iPg	Pg	06 21 35.8	-0.1
DOBS				iSg	Sg	06 21 39.2	+0.2
	comp=Z,2.0nm,0.1s						
CRES	**Cresnjev**	**0.32**	**142**	iSg	Sg	06 21 41.9	0.0
	comp=Z,1.0nm,0.1s						
CRES	**Cresnjev**	**0.32**	**142**	iSg	Sg	06 21 41.9	0.0
	comp=Z,1.0nm,0.1s						
GOLS	**Golise**	**0.32**	**101**	⇑iPg	Pg	06 21 37.9	+0.2
GOLS				iSg	Sg	06 21 42.4	+0.4
	comp=Z,1.0nm,0.1s						
GOLS	**Golise**	**0.32**	**101**	⇑iPg	Pg	06 21 37.9	+0.2
GOLS				iSg	Sg	06 21 42.4	+0.4
	comp=Z,1.0nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.33**	**275**	⇑iPg	Pg	06 21 38.0	0.0
VNDS				iSg	Sg	06 21 42.8	+0.3
	comp=Z,1.0nm,0.1s						
VISS	**Visnje**	**0.36**	**221**	iPg	Pg	06 21 38.5	0.0
VISS				iSg	Sg	06 21 43.8	+0.5
	comp=Z,1.0nm,0.1s						
VISS	**Visnje**	**0.36**	**221**	iPg	Pg	06 21 38.5	0.0
VISS				iSg	Sg	06 21 43.8	+0.5
	comp=Z,1.0nm,0.1s						

CSEM 15 06:22:27.4±0.3, 41°.86N×13°.64E, h20km, MD1.6, Error ellipse: s-maj=13.1km s-min=7.4km az=10.0
ROM 15 06:22:28.5±0.3, 41°.82N×13°.61E, h8km±3km, Md1.6/4, Ml0.9/1, Error ellipse: s-maj=2.5km s-min=1.1km az=29.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VVLD	**Villa Vallelon**	**0.05**	**12**	Pg	Pg	06 22 30.5	+0.2
VVLD				Sg	Sg	06 22 31.8	+0.2
	102nm,0.1s						
VVLD	**Villa Vallelon**	**0.05**	**12**	Pg	Pg	06 22 30.5	+0.2
VVLD				Sg	Sg	06 22 31.8	+0.2
	102nm,0.1s						
POFI	**Posta Fibreno**	**0.13**	**143**	Pg	Pg	06 22 32.0	+0.5
POFI				Sg	Sg	06 22 34.3	+0.8
	32nm,0.3s						
POFI	**Posta Fibreno**	**0.13**	**143**	Pg	Pg	06 22 32.0	+0.5
POFI				Sg	Sg	06 22 34.3	+0.8
	32nm,0.3s						
SDI	**San Donato**	**0.19**	**127**	Pg	Pg	06 22 32.7	+0.3
SDI				Sg	Sg	06 22 36.2	+1.1
	16nm,0.2s						
SDI	**San Donato**	**0.19**	**127**	Pg	Pg	06 22 32.7	+0.3
SDI				Sg	Sg	06 22 36.2	+1.1
	16nm,0.2s						
GUAR	**Guarcino**	**0.22**	**263**	Pg	Pg	06 22 34.1	+1.0
GUAR				Sg	Sg	06 22 37.3	+1.1
GUAR	**Guarcino**	**0.22**	**263**	Pg	Pg	06 22 34.1	+1.0
GUAR				Sg	Sg	06 22 37.3	+1.1

NEIC 15 06:23:49.7, 32°.68N×115°.93W, h8km, ML3.5(PAS), 1C-1D, After PAS., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.18**	**99**	eP	Pg	06 23 52.4	-1.0
WESC	**Westside Schoo**	**0.19**	**64**	⇑iP	Pg	06 23 53.2	-0.3
ERPC	**Ernies Place**	**0.24**	**74**	eP	Pg	06 23 54.4	-0.1
COK	**Cook Ranch**	**0.24**	**45**	eP	Pg	06 23 54.4	-0.2
SWSC	**Sam W. Stewart**	**0.29**	**24**	⇓iP	Pg	06 23 54.8	-0.7
SWSC				eS	Sg	06 23 58.3	-1.0
PFO	**Pinyon Flats O**	**1.03**	**335**	ePg	Pg	06 24 08.2	-1.4
PFO				eSg	Sg	06 24 21.2	-2.0
DAC	**Darwin (Calif)**	**3.84**	**340**	ePn	Pn	06 24 48.2	-1.2
SHPR	**Sheep Range**	**3.87**	**9**	ePn	Pn	06 24 48.1	-1.7
TUC	**Tucson**	**4.37**	**93**	ePn	Pn	06 24 51.9	-4.5
CCUT	**Cedar City**	**5.30**	**23**	ePn	Pn	06 25 08.1	-1.4

IDC 15 06:26:43.9±0.9, 21°.42S×66°.67W, h198km±16km, mb3.5/1, mb1 3.2/5, mb1mx3.0/24, mbtmp3.7/5, Error ellipse: s-maj=26.4km s-min=11.3km az=114.0
SJA 15 06:26:44.7±0.7, 21°.37S×66°.67W, h223km±8km, ML2.8
ISCJB 15 06:26:45.5±0.6, 21°.35S±0°.04×66°.76W±0°.06, h200km, mb3.6/1, Error ellipse: s-maj=8.7km s-min=5.8km az=159.3
ISC 15 06:26:44.8±1.1, 21°.34S±0°.06×66°.76W±0°.07, h200km, n12, σ1s60/19, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.42**	**126**	iP	**Pn**	**06 27 20.6**	**+2.2**
YJA				iS	**Sn**	**06 27 47.2**	**+2.8**
HJA	**Humahuaca**	**2.24**	**146**	iP	**Pn**	**06 27 28.4**	**+2.1**
HJA				iS	**Sn**	**06 28 00.0**	**+1.3**
LVC	**Limon Verde**	**2.37**	**237**	P	**Pn**	**06 27 28.1**	**+0.6**
	91nm,0.3s,baz=37,slow=9.1,SNR=29						
LVC				S	**Sn**	**06 28 00.3**	**-0.6**
	278nm,0.3s,baz=70,slow=7.9,SNR=30						
AZAP	**Zapla**	**3.27**	**152**	iP	**Pn**	**06 27 38.5**	**+0.5**
AZAP				iS	**Sn**	**06 28 19.6**	**0.0**
AZAP				AML	AML	06 28 21.9	
	comp=Z,18nm,0.4s						
ASTB	**Santa Barbara**	**3.34**	**142**	iP	**Pn**	**06 27 40.0**	**+1.2**
ASTB				iS	**Sn**	**06 28 20.2**	**-0.8**
SLA	**San Lorenzo**	**3.56**	**161**	iP	**Pn**	**06 27 42.1**	**+0.8**
SLA				AML	AML	06 28 37.7	
	comp=Z,8.6nm,0.6s						
ALOL	**LOMAS DE OLMED**	**3.56**	**134**	iP	**Pn**	**06 27 41.7**	**+0.4**
ALOL				iP	**Pn**	**06 27 41.7**	**+0.4**
LPAZ	**La Paz**	**5.19**	**345**	P	**Pn**	**06 28 04.7**	**+2.4**
	comp=Z,1.7nm,0.3s,baz=145,slow=7.8,SNR=82						
LPAZ				S	**Sn**	**06 29 03.8**	**+0.5**
	baz=290,slow=18,SNR=1.9						
SIV	**San Ignacio**	**7.57**	**46**	P	**Pn**	**06 28 33.0**	**+0.5**
	comp=Z,2.7nm,0.3s,baz=262,slow=12,SNR=34						
SIV				S	**Sn**	**06 29 55.8**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=320,slow=18,SNR=3.8						
CFAA	**Coronel Fontan**	**10.31**	**187**	P	**Pn**	**06 29 05.9**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=6.4,slow=6.8,SNR=15						
TORD	**Torodi Ar. Bea**	**75.42**	**69**	P	**P**	**06 38 06.0**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=255,slow=5.6,SNR=13						
MKAR	**Makanchi Array**	**144.31**	**37**	PKP	PKPbc	06 45 55.7	-0.2
	comp=Z,0.3nm,0.4s,baz=328,slow=3.0,SNR=4.6						

ISCJB 15 06:32:11.9±0.3, 32°.69N±0°.02×115°.89W±0°.03, h23km±3km, Error ellipse: s-maj=4.2km s-min=3.9km az=161.1
NEIC 15 06:32:12.8, 32°.70N×115°.92W, h14km, ML3.5(PAS), After PAS.
ECX 15 06:32:13.3±0.5, 32°.70N×115°.93W, h4km, MD3.3, ML3.5
MEX 15 06:32:13.1±0.4, 32°.78N×115°.85W, h16km±13km, MD3.7
ISC 15 06:32:12.0±0.8, 32°.66N±0°.02×115°.92W±0°.02, h17km±6km, n34, σ0s75/50, 10C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMX	**La Rumorosa**	**0.15**	**248**	⇑iP	**Pb**	**06 32 16.5**	**+0.1**
RMX				eS	**Sg**	**06 32 19.0**	**-0.2**
WESC	**Westside Schoo**	**0.18**	**57**	⇑iP	**Pg**	**06 32 16.5**	**-0.1**
WESC				eS	**Sg**	**06 32 19.9**	**+0.1**
ERPC	**Ernies Place**	**0.23**	**68**	⇑iP	**Pg**	**06 32 17.6**	**+0.3**
COK	**Cook Ranch**	**0.25**	**40**	⇑iP	**Pg**	**06 32 17.5**	**-0.1**
SWSC	**Sam W. Stewart**	**0.30**	**20**	⇑iP	**Pg**	**06 32 17.9**	**-0.5**
DREC	**Desert Rsrch C**	**0.42**	**70**	eP	**Pb**	**06 32 21.2**	**+0.3**
CPBX	**Cerro Prieto**	**0.57**	**115**	eP	**Pg**	**06 32 23.3**	**0.0**
CPBX				eS	**Sb**	**06 32 32.3**	**+1.1**
CPBX	**Cerro Prieto**	**0.57**	**115**	ePn	**Pg**	**06 32 23.2**	**0.0**
CPBX				eS	**Sb**	**06 32 31.6**	**+0.4**
CLIC	**Calipatria**	**0.58**	**34**	⇑iP	**Pg**	**06 32 23.4**	**-0.1**
BAR	**Barrett**	**0.64**	**272**	⇑eP	**Pb**	**06 32 24.6**	**0.0**
BAR				eS	**Sb**	**06 32 33.0**	**-0.3**
MBIG	**Mexicali**	**0.66**	**112**	eP	**Pg**	**06 32 24.3**	**-0.5**
MBIG				eS	**Sg**	**06 32 31.8**	**-1.8**
COA	**Coachella**	**0.70**	**73**	⇑iP	**Pg**	**06 32 25.4**	**-0.3**
CBX	**Cerro Bola**	**0.72**	**242**	eP	**Pb**	**06 32 26.1**	**0.0**
CBX				iS	**Sb**	**06 32 36.4**	**+0.7**
CBX	**Cerro Bola**	**0.72**	**242**	eP	**Pb**	**06 32 26.1**	**0.0**
CBX				iS	**Sb**	**06 32 36.4**	**+0.7**
CBX	**Cerro Bola**	**0.72**	**242**	⇑eP	**Pb**	**06 32 26.6**	**+0.5**
CBX				eS	**Sb**	**06 32 36.4**	**+0.7**
CBX				⇓e		06 32 39.6	
CBX				IAML		06 32 39.6	
	comp=E,2μm,0.3s						
RDX	**Rancho Dawling**	**0.73**	**182**	eP	**Pg**	**06 32 26.5**	**+0.2**
RDX				IAML		06 32 37.5	
	comp=N,2μm,0.3s						
SDRC	**San Diego Road**	**0.87**	**275**	eP	**Pb**	**06 32 28.4**	**-0.2**
PFO	**Pinyon Flats O**	**1.05**	**335**	ePn	**Pb**	**06 32 30.4**	**-1.4**
PFO				eSn	**Sb**	**06 32 44.4**	**-0.9**
PBX	**Punta Banda**	**1.14**	**217**	eP	**Pg**	**06 32 30.9**	**-0.2**
ECNX	**Esteban Cantu**	**1.16**	**210**	eP	**Pg**	**06 32 34.1**	**-0.2**
ZAX	**El Zacaton**	**1.18**	**195**	eP	**Pg**	**06 32 34.9**	**0.0**
ZAX				eS	**Sg**	**06 32 50.8**	**+0.5**
ECBX	**El Chinero**	**1.39**	**148**	ePn	**Pn**	**06 32 35.2**	**-1.3**
ECBX				eS	**Sn**	**06 32 54.7**	**+0.3**
ECBX				⇑e		06 32 57.2	
ECBX				IAML		06 32 57.2	
	comp=N,514nm,0.2s						
SPIG	**San Pedro Mart**	**1.65**	**167**	eP	**Pn**	**06 32 39.9**	**-0.5**
SPIG				iS	**Sn**	**06 33 00.7**	**-0.7**
SPIG	**San Pedro Mart**	**1.65**	**167**	eP	**Pn**	**06 32 39.9**	**-0.5**
SPIG				iS	**Sn**	**06 33 00.7**	**-0.7**
SPX	**San Pedro Mart**	**1.65**	**166**	eP	**Pn**	**06 32 39.8**	**-0.7**
SPX				iS	**Sn**	**06 33 00.0**	**-1.4**
SPX	**San Pedro Mart**	**1.65**	**166**	eP	**Pn**	**06 32 43.0**	**+0.1**
SPX				eS	**Sg**	**06 33 05.5**	**+0.1**
214A	**Organ Pipe Nat**	**2.72**	**104**	ePn	**Pn**	**06 32 54.3**	**-0.6**
DAC	**Darwin (Calif)**	**3.87**	**339**	Pn	**Pn**	**06 33 12.6**	**+1.8**
SHPR	**Sheep Range**	**3.89**	**9**	ePn	**Pn**	**06 33 11.4**	**+0.3**
TUC	**Tucson**	**4.35**	**93**	ePn	**Pn**	**06 33 18.4**	**+1.1**
WUAZ	**Wupatki**	**4.72**	**52**	Pn	**Pn**	**06 33 23.4**	**+0.8**
CCUT	**Cedar City**	**5.31**	**22**	Pn	**Pn**	**06 33 31.0**	**+0.4**
	comp=N,2.3nm,0.7s						
MVU	**Marysvale**	**6.56**	**26**	Pn	**Pn**	**06 33 49.5**	**+1.6**
	comp=N,1.4nm,0.4s						
121A	**Cookes Peak, D**	**6.86**	**89**	ePn	**Pn**	**06 33 52.5**	**+0.5**
	comp=N,4.1nm,0.5s						

DJA 15 06:34:22.2±1.0, 8°S±5°×107°E±°, h11km±6km, M3.6/7, MLv3.6/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.72**	**42**	P	Pg	06 34 36.5	+0.2
CISI				S	Sg	06 34 46.2	+0.3
CNJI	**Cibinong**	**0.81**	**346**	P	Pg	06 34 37.3	-0.6
CNJI				S	Sg	06 34 47.7	-0.8
CMJI	**Cimerak**	**1.15**	**74**	P	Pb	06 34 42.4	-1.7
CMJI				S	Sb	06 34 57.7	-1.4
LEM	**Lembang**	**1.30**	**13**	P	Pn	06 34 46.1	-0.4
LEM				S	Sb	06 35 03.3	-0.4
SKJI	**Sukabumi**	**1.33**	**325**	P	Pn	06 34 44.6	-2.2
KPJI	**Karang Pucung**	**1.76**	**64**	P	Pn	06 34 52.4	-0.2
CGJI	**Cibinong**	**2.19**	**312**	P	Pn	06 34 55.9	-2.7

IDC 15 06:37:14.5±1.1, 3°.54N×126°.58E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/24, mbtmp4.0/6, ML4.0/1, Error ellipse: s-maj=106.7km s-min=18.3km az=63.0
ISCJB 15 06:37:18.7±1.0, 3°.8N±0°.2×127°.3E±0°.3, h53km, mb3.9/5, Error ellipse: s-maj=53.4km s-min=10.9km az=142.8
ISC 15 06:37:21.1±1.2, 3°.7N±0°.3×127°.1E±0°.4, h53km, n7, σ0s81/8, mb4.1/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.18**	**138**	Pn	**Pn**	**06 38 50.9**	**+1.0**
	3.2nm,0.3s,baz=108,slow=22,SNR=3.7						
SIJI				Sn	**Sn**	**06 39 58.2**	**-1.0**
	1.7nm,0.3s,baz=216,slow=19,SNR=3.4						
WRA	**Warramunga Arr**	**24.57**	**163**	P	**P**	**06 42 36.0**	**-0.3**
	4.4nm,0.7s,baz=337,slow=11,SNR=12						
ASAR	**Alice Springs**	**28.02**	**167**	P	**P**	**06 43 07.0**	**-0.4**
	0.5nm,0.6s,baz=350,slow=7.7,SNR=8.7						
STKA	**Stephens Creek**	**38.00**	**160**	P	**P**	**06 44 34.2**	**0.0**
	2.4nm,0.6s,baz=343,slow=8.5,SNR=8.1						
MKAR	**Makanchi Array**	**57.77**	**325**	P	**P**	**06 47 06.9**	**+0.1**
	0.8nm,0.4s,baz=122,slow=8.0,SNR=17						
ZALV	**Zalesovo Beam**	**60.76**	**333**	P	**P**	**06 47 26.6**	**-0.8**
	0.6nm,0.4s,baz=134,slow=6.2,SNR=1.8						
TORD	**Torodi Ar. Bea**	**123.27**	**288**	PKP	**PKPdf**	**06 56 13.8**	**+0.6**
	0.4nm,0.9s,baz=80,slow=1.2,SNR=2.4						

ISCJB 15 06:46:07.9±0.5, 32°.71N±0°.04×115°.91W±0°.04, h19km±5km, Error ellipse: s-maj=6.2km s-min=5.0km az=172.2
NEIC 15 06:46:09.0, 32°.70N×115°.92W, h12km, ML3.6(PAS), After PAS.
ECX 15 06:46:09.4±0.6, 32°.69N×115°.93W, h4km, MD3.4, ML3.6
MEX 15 06:46:10.7±0.8, 32°.41N×115°.87W, h16km±999km, MD3.8
ISC 15 06:46:08.2±0.9, 32°.65N±0°.04×115°.92W±0°.02, h15km±7km, n26, σ0s70/31, 5C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMX	**La Rumorosa**	**0.14**	**249**	⇑iP	**Pg**	**06 46 12.4**	**+0.3**
RMX				eS	**Sg**	**06 46 15.2**	**+0.5**
WESC	**Westside Schoo**	**0.20**	**57**	⇑iP	**Pg**	**06 46 12.5**	**-0.3**
DREC	**Desert Rsrch C**	**0.43**	**69**	eP	**Pg**	**06 46 17.2**	**+0.3**
CPBX	**Cerro Prieto**	**0.57**	**114**	eP	**Pg**	**06 46 19.5**	**0.0**
CPBX				iS	**Sg**	**06 46 27.2**	**0.0**
CPBX	**Cerro Prieto**	**0.57**	**114**	eP	**Pb**	**06 46 20.0**	**0.0**
CPBX				eS	**Sb**	**06 46 28.8**	**+0.8**
CPBX				IAML		06 46 30.7	
	comp=N,14μm,0.3s						
CPBX				⇓e		06 46 30.7	
BAR	**Barrett**	**0.63**	**273**	⇑eP	**Pg**	**06 46 20.7**	**+0.1**
MBIG	**Mexicali**	**0.66**	**111**	eP	**Pg**	**06 46 20.9**	**-0.2**
MBIG				eS	**Sg**	**06 46 28.2**	**-1.7**
CBX	**Cerro Bola**	**0.71**	**242**	iP	**Pg**	**06 46 22.4**	**+0.2**
CBX				eS	**Sg**	**06 46 29.8**	**-1.8**
CBX	**Cerro Bola**	**0.71**	**242**	iP	**Pg**	**06 46 22.4**	**+0.2**
CBX				eS	**Sg**	**06 46 29.8**	**-1.8**
CBX	**Cerro Bola**	**0.71**	**242**	⇑eP	**Pb**	**06 46 22.6**	**+0.2**
CBX				eS	**Sb**	**06 46 32.1**	**+0.1**
CBX				IAML		06 46 36.4	
	comp=N,3μm,0.5s						
CBX				⇓e		06 46 36.4	
RDX	**Rancho Dawling**	**0.72**	**181**	iP	**Pg**	**06 46 22.5**	**+0.2**
RDX				⇑e		06 46 33.7	
RDX				IAML		06 46 33.7	
	comp=N,1μm,0.3s						
SDRC	**San Diego Road**	**0.86**	**276**	eP	**Pg**	**06 46 24.4**	**-0.5**
ECNX	**Esteban Cantu**	**1.14**	**210**	iP	**Pn**	**06 46 30.1**	**+0.3**
ZAX	**El Zacaton**	**1.17**	**195**	eP	**Pb**	**06 46 30.6**	**+0.3**
ZAX				eS	**Sg**	**06 46 46.6**	**+0.4**
ECBX	**El Chinero**	**1.39**	**148**	ePn	**Pn**	**06 46 32.4**	**-0.7**
ECBX				eS	**Sb**	**06 46 51.6**	**+0.1**
SPIG	**San Pedro Mart**	**1.65**	**166**	eP	Pn	06 46 32.6	-4.4
SPIG				iS	Sn	06 46 49.5	-8.6
SPIG	**San Pedro Mart**	**1.65**	**166**	eP	Pn	06 46 32.6	-4.4
SPIG				iS	Sn	06 46 49.5	-8.6
SPX	**San Pedro Mart**	**1.65**	**166**	eP	Pn	06 46 32.9	-4.1
SPX				iS	Sn	06 46 48.9	-9.3
SPX	**San Pedro Mart**	**1.65**	**166**	eP	**Pb**	**06 46 38.6**	**+0.1**
DAC	**Darwin (Calif)**	**3.87**	**340**	Pn	Pn	06 46 59.3	-8.1
SHPR	**Sheep Range**	**3.90**	**9**	Pn	**Pn**	**06 47 08.3**	**+0.5**
TUC	**Tucson**	**4.36**	**93**	ePn	**Pn**	**06 47 14.8**	**+0.8**
WUAZ	**Wupatki**	**4.74**	**52**	ePn	**Pn**	**06 47 19.2**	**0.0**
**C

SPX	**San Pedro Mart**	**1.66**	**166**	*e*P	**Pb**	**06 52 57.0**	**+0.1**
SPX				IAML		06 53 22.1	
	comp=N,256nm,0.4s						
SPX				⇓*e*		06 53 22.1	
SPX				⇓*e*		06 53 22.6	
214A	**Organ Pipe Nat**	**2.73**	**104**	*e*Pn	**Pn**	**06 53 10.1**	**+0.5**
SHPR	**Sheep Range**	**3.88**	**9**	Pn	Pn	06 53 30.0	+4.4
TUC	**Tucson**	**4.36**	**93**	*e*Pn	**Pn**	**06 53 33.2**	**+1.2**
WUAZ	**Wupatki**	**4.73**	**52**	*e*Pn	**Pn**	**06 53 38.1**	**+0.9**
CMB	**Columbia Colle**	**6.48**	**327**	*e*Pn	**Pn**	**06 54 03.7**	**+2.5**
	comp=N,5.6nm,0.4s						
MSU	**Marysvale**	**6.59**	**27**	Pn	**Pn**	**06 54 04.4**	**+1.6**
	comp=N,0.9nm,0.5s						
121A	**Cookes Peak, D**	**6.87**	**89**	*e*Pn	**Pn**	**06 54 07.2**	**+0.6**
	comp=N,3.1nm,0.5s						

IDC ***15*** *06:54:58.8±2.6,8°.50S×113°.69E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/31, mbtmp3.4/3, Error ellipse: s-maj=150.6km s-min=25.9km az=49.0*
ISCJB ***15*** *06:55:03.3±1.2,9°.3S±0°.1×113°.00E±0°.04, h61km±16km, mb3.4/3, Error ellipse: s-maj=19.0km s-min=6.6km az=7.9*
DJA ***15*** *06:55:03.8±0.9,9°.S±4°×11°.3E±°, h29km±10km, M4.0/13, MLv4.0/13*

ISC 15 06:55:03.7±1.7,9°.4S±0°.1×113°.01E±0°.05, h51km±21km, n11,σ1§12/16, mb3.4/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.43**	**52**	P	**Pn**	**06 55 26.7**	**-0.6**
JAGI				S	**Sn**	**06 55 44.1**	**-1.0**
BLJI	**Banyuglugur**	**1.71**	**20**	P	**Pn**	**06 55 31.7**	**+0.7**
BLJI				S	**Sn**	**06 55 52.8**	**+1.1**
PWJI	**Pagerwojo**	**1.79**	**318**	P	**Pn**	**06 55 31.2**	**-0.9**
PWJI				S	**Sn**	**06 55 52.0**	**-1.7**
ABJI	**Asem Bagus**	**1.97**	**38**	P	**Pn**	**06 55 36.0**	**+1.3**
IGBI	**Denpasar**	**2.18**	**76**	P	**Pn**	**06 55 37.6**	**+0.1**
IGBI				S	**Sn**	**06 56 03.0**	**-0.3**
KMMI	**Kalianget**	**2.48**	**23**	P	**Pn**	**06 55 42.6**	**+0.9**
UGM	**Wanagama**	**2.85**	**300**	P	**Pn**	**06 55 47.2**	**+0.5**
UGM				S	**Sn**	**06 56 20.4**	**+0.6**
KPJI	**Karang Pucung**	**4.51**	**296**	P	**Pn**	**06 56 10.9**	**+1.4**
WRA	**Warramunga Arr**	**23.13**	**119**	P	**P**	**07 00 05.4**	**-0.3**
	0.4nm,0.7s,baz=298,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**24.52**	**128**	P	**P**	**07 00 20.1**	**+1.4**
	0.6nm,0.5s,baz=302,slow=8.3,SNR=7.8						
MKAR	**Makanchi Array**	**62.26**	**337**	P	**P**	**07 05 19.3**	**-1.1**
	0.3nm,0.5s,baz=138,slow=6.7,SNR=4.6						

IDC ***15*** *06:55:07.0±1.1,7°.73N×92°.01E, h0km, mb3.8/7, mb1 4.1/10, mb1mx3.8/43, mbtmp4.0/10, ML4.3/3, MS3.5/9, Ms1 3.5/9, ms1mx3.2/40, Error ellipse: s-maj=34.5km s-min=18.3km az=54.0*
ISCJB ***15*** *06:55:08.2±0.6,7°.66N±0°.07×92°.04E±0°.08, h24km, mb3.9/10, MS3.5/7, Error ellipse: s-maj=13.2km s-min=7.1km az=135.8*
NEIC ***15*** *06:55:11.8±0.7,7°.69N×92°.03E, h36km±8km, mb4.1/3, Error ellipse: s-maj=9.0km s-min=6.2km az=46.0*

ISC 15 06:55:10.4±0.7,7°.68N±0°.10×92°.05E±0°.09, h24km, n36, σ0§67/27, mb3.9/12, MS3.4/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.39**	**125**	Pn	**Pn**	**06 57 11.9**	**+1.3**
	1.4nm,0.3s,baz=315,slow=14,SNR=3.4						
PSI				Sn	**Sn**	**06 58 42.8**	**-1.9**
	1.2nm,0.3s,baz=4.4,slow=13,SNR=3.1						
PSI				LR	LR	07 01 03.5	
	comp=Z,324nm,20.1s,baz=234,slow=42						
KULM	**Kulim**	**8.87**	**105**	*e*Pn	**Pn**	**06 57 17.9**	**+0.7**
PALK	**Pallekele**	**11.26**	**269**	Pn	**Pn**	**06 57 50.2**	**+0.2**
	5.5nm,0.3s,baz=84,slow=13,SNR=19						
PALK				Sn	Sn	06 59 40.6	-15
	2.9nm,0.3s,baz=0.0,slow=19,SNR=8.8						
PALK				LR	LR	07 01 50.9	
	comp=Z,183nm,18.2s,baz=76,slow=36						
CMAR	**Chiang Mai Arr**	**12.64**	**31**	Pn	**Pn**	**06 58 09.6**	**+0.9**
	0.6nm,0.3s,baz=236,slow=14,SNR=6.1						
CHTO	**Chiang Mai**	**12.94**	**31**	*e*Pn	**Pn**	**06 58 13.6**	**+0.7**
ODAN	**Odare**	**19.58**	**347**	*e*P	**Pn**	**06 59 37.9**	**-0.5**
RAMN	**Ramite**	**19.85**	**346**	*e*P	**Pn**	**06 59 41.0**	**-0.7**
	27nm,0.6s						
TAPN	**Taplejung**	**19.99**	**349**	*e*P	**P**	**06 59 42.0**	**+0.4**
	33nm,0.8s						
PKI	**Pulchoki**	**20.76**	**343**	*e*P	**P**	**06 59 50.1**	**+0.2**
	15nm,0.6s						
DMN	**Daman**	**20.88**	**342**	*e*P	**P**	**06 59 51.1**	**-0.1**
GUN	**Gumba**	**20.95**	**345**	*e*P	**P**	**06 59 52.2**	**+0.2**
	31nm,0.7s						
KKN	**Kakani**	**21.00**	**343**	*e*P	**P**	**06 59 52.4**	**-0.1**
LEM	**Lembang**	**21.19**	**132**	LR	LR	07 07 50.2	
	comp=Z,126nm,18.3s,baz=297,slow=36						
GKN	**Gorkha**	**21.39**	**342**	*e*P	**P**	**06 59 56.8**	**+0.2**
	40nm,0.8s						
KOLN	**Koldanda**	**21.52**	**339**	*e*P	**P**	**06 59 58.2**	**+0.2**
	33nm,0.7s						
LSA	**Lhasa**	**21.92**	**358**	*e*P	**P**	**07 00 02.0**	**-0.6**
	8.5nm,0.6s						
H08S3	**Diego Garcia H**	**24.74**	**232**	T	T	07 26 45.7	
	baz=52,slow=75,SNR=53						
H08S2	**Diego Garcia H**	**24.74**	**232**	T	T	07 26 51.8	
	baz=52,slow=75,SNR=77						
H08S1	**Diego Garcia H**	**24.75**	**232**	T	T	07 26 53.0	
	baz=52,slow=75,SNR=66						
KAPI	**Kappang**	**30.38**	**114**	*e*P	**P**	**07 01 20.1**	**-0.8**
MKAR	**Makanchi Array**	**39.86**	**350**	P	**P**	**07 02 41.7**	**-0.4**
	1.6nm,0.8s,baz=168,slow=8.3,SNR=16						
MKAR				LR	LR	07 23 03.1	
	comp=Z,46nm,18.1s,baz=158,slow=42						
KKAR	**Karatay Array**	**40.03**	**335**	*e*P	**P**	**07 02 43.4**	**-0.2**
	1.2nm,0.6s						
SONM	**Songino Array**	**41.83**	**14**	P	**P**	**07 02 58.2**	**-0.3**
	1.3nm,0.6s,baz=193,slow=5.8,SNR=3.5						
SONM				LR	LR	07 22 41.1	
	comp=Z,84nm,21.0s,baz=258,slow=40						
KSRS	**Korea Array**	**43.98**	**42**	LR	LR	07 22 45.0	
	comp=Z,44nm,18.4s,baz=135,slow=38						
KURBB	**Kurchatov Arra**	**44.26**	**348**	P	**P**	**07 03 18.0**	**+0.1**
	1.3nm,0.7s,baz=170,slow=7.3,SNR=15						
KURK	**Kurchatov**	**44.33**	**348**	P	**P**	**07 03 18.0**	**-0.4**
ZALV	**Zalesovo Beam**	**46.50**	**354**	P	**P**	**07 03 35.5**	**-0.1**
	0.7nm,0.5s,baz=163,slow=10,SNR=4.6						
ZALV				LR	LR	07 27 27.4	
	comp=Z,43nm,18.1s,baz=68,slow=42						
H01W3	**Cape Leeuwin H**	**47.20**	**155**	T	T	07 54 31.0	
	baz=328						
H01W2	**Cape Leeuwin H**	**47.21**	**155**	T	T	07 54 25.1	
	baz=328						
H01W1	**Cape Leeuwin H**	**47.22**	**155**	T	T	07 54 37.8	
	baz=328						
ABKAR	**Akbulak array**	**49.43**	**333**	*e*P	**P**	**07 03 58.3**	**-0.1**
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**49.85**	**124**	P	**P**	**07 04 02.7**	**+0.6**
	0.9nm,0.6s,baz=303,slow=8.9,SNR=9.9						
AKTO	**Aktyubinsk**	**51.14**	**333**	LR	LR	07 27 56.9	
	comp=Z,46nm,19.2s,slow=39						
ASAR	**Alice Springs**	**51.40**	**128**	P	**P**	**07 04 14.6**	**+0.9**
	0.3nm,0.3s,baz=310,slow=7.7,SNR=4.3						
AKASG	**Malin Array Be**	**67.02**	**322**	LR	LR	07 38 39.0	
	comp=Z,60nm,18.9s,baz=220,slow=39						
GERES	**GERESS Array B**	**76.59**	**318**	P	**P**	**07 06 58.8**	**-0.3**
	0.3nm,0.2s,baz=110,slow=8.5,SNR=4.3						

GUC 15 06:59:00.3±0.6,35°.43S×73°.31W, h13km±10km, ML3.8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.82**	**149**	*e*P	Pb	06 59 16.4	0.0
COCH				*e*S	Sb	06 59 27.9	+0.7
U65B	**HualaæØ**	**1.33**	**70**	*e*P	Pn	06 59 24.7	+0.2
U65B				*e*S	Sg	06 59 43.4	+0.3
TALC	**Talca**	**1.37**	**89**	*e*P	Pb	06 59 25.6	-0.2
TALC				*e*S	Sg	06 59 45.0	+0.6
LNCH	**Linares**	**1.45**	**107**	*e*P	Pb	06 59 27.1	-0.1
LNCH				*e*S	Sg	06 59 47.4	+0.3
NICH	**Los Niches**	**1.75**	**77**	*e*P	Pb	06 59 31.7	-0.6
NICH				*e*S	Sg	06 59 55.6	-1.2
U69B	**Peumo**	**2.04**	**59**	*e*P	Pb	06 59 36.6	-0.6
U73B	**San Pedro**	**2.17**	**46**	*e*P	Pb	06 59 38.2	-1.2
CLCH	**Cerro Calan**	**3.06**	**49**	*e*P	Pn	06 59 51.0	+2.6
CLCH				AML	AML	07 00 47.6	
	comp=E,254nm,0.6s						
PEL	**Peldehue**	**3.15**	**44**	*e*P	Pn	06 59 52.0	+2.3
PEL				AML	AML	07 00 46.0	
	comp=E,186nm,0.8s						

IDC 15 07:22:00.1±2.9,54°.23N×86°.74E, h0km, mb1 2.8/2, mb1mx2.8/29, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=24.3km s-min=14.9km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.16**	**257**	*i*		07 30 10.0	
	baz=74,slow=311,SNR=0.7						
ZALV	**Zalesovo Beam**	**1.16**	**257**	Pg	Pg	07 22 21.1	-1.2
	2.6nm,0.3s,baz=76,slow=17,SNR=36						
ZALV				Lg	Lg	07 22 38.6	
	1.5nm,0.3s,baz=80,slow=21,SNR=8.7						
ZALV				Rg	Rg	07 22 48.0	
	13nm,0.8s,baz=74,slow=32,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.18**	**238**	Pn	Pn	07 23 33.4	+0.9
	0.1nm,0.3s,baz=52,slow=14,SNR=10						
KURBB				Lg	Lg	07 25 15.9	
	0.0nm,0.3s,baz=57,slow=35,SNR=2.4						
MKAR	**Makanchi Array**	**7.96**	**203**	Pn	Pn	07 23 58.1	+1.1
	0.1nm,0.3s,baz=26,slow=14,SNR=12						
MKAR				Sn	Sn	07 25 26.7	-1.1
	0.1nm,0.3s,baz=21,slow=28,SNR=3.8						
MKAR				Lg	Lg	07 26 14.1	
	0.1nm,0.3s,baz=28,slow=31,SNR=6.5						

SKO ***15*** *07:31:08.5, 41°.12N×22°.98E, h15km, M3.4, ML3.9*
ATH ***15*** *07:31:08.6, 41°.17N×22°.93E, h12km, MD3.5/39, ML3.8*
IDC ***15*** *07:31:09.2±0.8, 41°.14N×23°.01E, h0km, mb3.8/12, mb1 3.9/19, mb1mx3.7/38, mbtmp3.7/19, ML3.2/5, MS3.0/8, Ms1 3.0/8, ms1mx2.7/44, Error ellipse: s-maj=12.6km s-min=10.6km az=25.0*
IASPEI ***15*** *07:31:09.6±0.9, 41°.14N±0°.02×22°.99E±0°.02, h4km±7km, mb3.8/11, MS3.2/4, Error ellipse: s-maj=3.1km s-min=2.3km az=3.9*
ISCJB ***15*** *07:31:09.1±0.3, 41°.155N±0°.009×23°.03E±0°.01, h4km±2km, mb3.8/11, MS3.5/4, Error ellipse: s-maj=1.7km s-min=1.4km az=147.6*
SOF ***15*** *07:31:10.5, 41°.23N×22°.98E, h0km, MD3.6*
THE ***15*** *07:31:10.3, 41°.13N×23°.03E, h3km±1km, ML3.8/30, Error ellipse: s-maj=1.4km s-min=0.8km az=38.0*
CSEM ***15*** *07:31:10.0±0.1, 41°.13N×23°.02E, h2km, MD3.5, Error ellipse: s-maj=1.6km s-min=1.5km az=68.0*
PDG ***15*** *07:31:10.0±0.5, 41°.13N×23°.04E, h12km, ML3.6/11, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
BEO ***15*** *07:31:11.7±0.7, 41°.20N×22°.93E, h7km±3km, ML3.8/1*
PRU ***15*** *07:31:12.0, 41°.20N×22°.91E, h0km*

ISC 15 07:31:09.6±0.9, 41°.13N±0°.01×22°.98E±0°.01, h3km±6km, n404, σ1§04/546, mb3.8/11, MS3.2/4, 67C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.07**	**295**	*e*PG	**Pg**	**07 31 11.1**	**0.0**
KNT	**Kendrikon**	**0.07**	**295**	P	**Pg**	**07 31 11.1**	**0.0**
KNT				S	**Sg**	**07 31 12.1**	**0.0**
KNT	**Kendrikon**	**0.07**	**295**	*e*PG	**Pg**	**07 31 11.1**	**0.0**
KNT				*e*SG	**Sg**	**07 31 12.3**	**+0.2**
KNT	**Kendrikon**	**0.07**	**295**	P	**Pg**	**07 31 11.1**	**0.0**
KNT				*e*Sg	**Sg**	**07 31 12.3**	**+0.2**
VAY	**Valandovo**	**0.36**	**301**	P	**Pg**	**07 31 16.7**	**+0.1**
VAY				S	**Sg**	**07 31 21.8**	**+0.4**
VAY	**Valandovo**	**0.36**	**301**	*i* Pg	**Pg**	**07 31 17.2**	**+0.5**
VAY				*i* Sg	**Sg**	**07 31 22.1**	**+0.8**
VAY				*e*Lg	Lg	07 31 22.4	
	comp=N,17μm,0.7s						
VAY				*e*Lg	Lg	07 31 22.4	
	comp=E,8μm,0.6s						
VAY	**Valandovo**	**0.36**	**301**	⇑*i* Pg	**Pg**	**07 31 16.6**	**0.0**
VAY				*e*Sg	**Sg**	**07 31 21.9**	**+0.5**
VAY	**Valandovo**	**0.36**	**301**	P	**Pg**	**07 31 16.7**	**+0.1**
VAY	**Valandovo**	**0.36**	**301**	*i* Pg	**Pg**	**07 31 17.1**	**+0.5**
VAY				*e*Sg	**Sg**	**07 31 21.9**	**+0.5**
VAY				*e*Lg	Lg	07 31 22.3	
	comp=E,17μm,0.7s						
SOH	**Sokhos**	**0.42**	**138**	P	**Pg**	**07 31 17.9**	**+0.3**
SOH				S	**Sg**	**07 31 24.3**	**+1.3**
SOH	**Sokhos**	**0.42**	**138**	*e*PB	**Pg**	**07 31 24.3**	**+0.1**
SOH				*e*SB	**Sg**	**07 31 25.2**	**-1.2**
SOH	**Sokhos**	**0.42**	**138**	*e*Pb	**Pg**	**07 31 17.8**	**+0.2**
SOH				S	**Sg**	**07 31 24.3**	**+1.3**
SOH				*e*Sb	**Sb**	**07 31 25.2**	**-1.2**
SRS	**Serrai**	**0.46**	**92**	P	**Pg**	**07 31 18.4**	**0.0**
SRS				S	**Sg**	**07 31 24.5**	**+0.1**
SRS	**Serrai**	**0.46**	**92**	*e*PG	**Pg**	**07 31 18.4**	**0.0**
SRS				*e*SB	**Sg**	**07 31 25.1**	**+0.7**
SRS	**Serrai**	**0.46**	**92**	P	**Pg**	**07 31 18.4**	**0.0**
SRS				S	**Sg**	**07 31 24.5**	**+0.1**
SRS				*e*Sb	**Sg**	**07 31 25.1**	**+0.7**
THE	**Thessaloniki**	**0.50**	**182**	P	**Pg**	**07 31 19.6**	**+0.5**
THE				S	**Sb**	**07 31 27.4**	**-1.2**
THE	**Thessaloniki**	**0.50**	**182**	*e*PB	**Pg**	**07 31 19.6**	**+0.5**
THE				*e*SB	**Sg**	**07 31 26.5**	**+0.9**
THE	**Thessaloniki**	**0.50**	**182**	P	**Pg**	**07 31 19.6**	**+0.5**
THE				*e*Sb	**Sg**	**07 31 26.5**	**+0.9**
THE				S	**Sb**	**07 31 27.4**	**-1.2**
HORT	**Hortiatis**	**0.54**	**171**	*e*PG	**Pg**	**07 31 20.4**	**+0.2**
HORT				*e*SG	**Sb**	**07 31 29.6**	**-0.3**
HORT	**Hortiatis**	**0.54**	**171**	P	**Pg**	**07 31 20.5**	**+0.5**
HORT				S	**Sg**	**07 31 28.6**	**+1.6**
HORT	**Hortiatis**	**0.54**	**171**	*e*PB	**Pg**	**07 31 20.5**	**+0.5**
HORT				*e*SB	**Sg**	**07 31 28.8**	**+1.8**
HORT	**Hortiatis**	**0.54**	**171**	P	**Pg**	**07 31 20.5**	**+0.5**
HORT				*e*Sb	**Sg**	**07 31 28.8**	**+1.8**
HORT				*e*Sg	**Sb**	**07 31 29.6**	**-0.3**
NVR	**Nevrokopi**	**0.70**	**71**	P	**Pg**	**07 31 22.7**	**-0.2**
NVR				S	**Sg**	**07 31 33.0**	**+1.0**
NVR	**Nevrokopi**	**0.70**	**71**	*e*PB	**Pg**	**07 31 22.8**	**-0.2**
NVR				*e*SB	**Sg**	**07 31 32.8**	**+0.8**
NVR	**Nevrokopi**	**0.70**	**71**	*e*Pb	**Pg**	**07 31 22.8**	**-0.2**
NVR				*e*Sb	**Sg**	**07 31 32.8**	**+0.8**
MMB	**Musomiste**	**0.72**	**51**	⇓*i* P	**Pg**	**07 31 23.0**	**-0.5**
MMB				S	**Sg**	**07 31 32.7**	**-0.1**
MMB	**Musomiste**	**0.72**	**51**	*i* P	**Pg**	**07 31 23.8**	**+0.3**
MMB	**Musomiste**	**0.72**	**51**	*i* P	**Pg**	**07 31 23.8**	**+0.3**
KKB	**Krupnik**	**0.74**	**6**	*i* P	**Pg**	**07 31 22.7**	**-1.1**
KKB	**Krupnik**	**0.74**	**6**	*i* P	**Pg**	**07 31 22.7**	**-1.1**
PLG	**Polygyros**	**0.83**	**155**	P	**Pg**	**07 31 25.3**	**-0.3**
PLG				S	**Sb**	**07 31 38.2**	**-0.2**
PLG	**Polygyros**	**0.83**	**155**	*e*PG	**Pg**	**07 31 25.4**	**-0.2**
PLG				*e*SB	**Sg**	**07 31 37.4**	**+1.0**
PLG	**Polygyros**	**0.83**	**155**	*e*Pg	**Pg**	**07 31 25.4**	**-0.2**
PLG				*e*Sb	**Sg**	**07 31 37.4**	**+1.0**
PLG				S	**Sb**	**07 31 38.2**	**-0.2**
LIT	**Litokhoron**	**1.10**	**200**	P	**Pg**	**07 31 30.3**	**-0.3**
LIT				S	**Sg**	**07 31 45.4**	**+0.6**
LIT	**Litokhoron**	**1.10**	**200**	*e*PB	**Pg**	**07 31 30.2**	**-0.3**
LIT				*e*SB	**Sb**	**07 31 45.8**	**-0.1**
LIT	**Litokhoron**	**1.10**	**200**	P	**Pg**	**07 31 30.3**	**-0.3**
LIT				S	**Sg**	**07 31 45.4**	**+0.6**
OUR	**Ouranopolis**	**1.10**	**136**	*e*PN	**Pg**	**07 31 30.5**	**-0.2**
OUR				*e*SN	**Sn**	**07 31 47.1**	**-0.4**
OUR	**Ouranopolis**	**1.10**	**136**	P	**Pg**	**07 31 30.0**	**-0.7**
OUR				S	**Sn**	**07 31 47.2**	**-0.4**
OUR	**Ouranopolis**	**1.10**	**136**	*e*PB	**Pg**	**07 31 30.4**	**-0.2**
OUR	**Ouranopolis**	**1.10**	**136**	P	**Pg**	**07 31 30.0**	**-0.7**
OUR	**Ouranopolis**	**1.10**	**136**	*e*Pn	**Pg**	**07 31 30.5**	**-0.2**
OUR				*e*Sn	**Sn**	**07 31 47.1**	**-0.4**
KAVA	**Kavala**	**1.17**	**96**	P	**Pg**	**07 31 31.4**	**-0.5**
KAVA				S	**Sb**	**07 31 48.0**	**+0.2**
KAVA	**Kavala**	**1.17**	**96**	*e*PB	**Pg**	**07 31 31.7**	**-0.2**
KAVA				*e*SB	**Sg**	**07 31 47.4**	**+0.4**
KAVA	**Kavala**	**1.17**	**96**	P	**Pg**	**07 31 31.4**	**-0.5**
KAVA	**Kavala**	**1.17**	**96**	*e*Pb	**Pg**	**07 31 31.7**	**-0.2**
KAVA				*e*Sb	**Sg**	**07 31 47.4**	**+0.4**
KAVA				S	**Sb**	**07 31 48.0**	**+0.2**
KZN	**Kozani**	**1.24**	**229**	P	**Pg**	**07 31 33.6**	**+0.3**
KZN				S	**Sn**	**07 31 52.3**	**+1.3**
KZN	**Kozani**	**1.24**	**229**	*e*PB	**Pg**	**07 31 33.1**	**-0.2**
KZN	**Kozani**	**1.24**	**229**	*e*Pb	**Pg**	**07 31 33.1**	**-0.2**
KZN	**Kozani**	**1.24**	**229**	P	**Pg**	**07 31 33.6**	**+0.3**
KZN				S	**Sn**	**07 31 52.3**	**+1.3**

FNA	**Florina**	**1.27**	**255**	*e*PN	**Pg**	**07 31 33.4**	**-0.4**
FNA	**Florina**	**1.27**	**255**	P	**Pg**	**07 31 33.2**	**-0.6**
FNA				S	**Sn**	**07 31 52.7**	**+1.0**
FNA	**Florina**	**1.27**	**255**	*e*PB	**Pg**	**07 31 33.1**	**-0.7**
FNA	**Florina**	**1.27**	**255**	P	**Pg**	**07 31 33.2**	**-0.6**
FNA				S	**Sn**	**07 31 52.7**	**+1.0**
PAIG	**Paliouri**	**1.31**	**156**	P	**Pn**	**07 31 33.4**	**-1.4**
PAIG				S	**Sn**	**07 31 52.7**	**-0.1**
PAIG	**Paliouri**	**1.31**	**156**	*e*PN	**Pn**	**07 31 33.4**	**-1.4**
PAIG	**Paliouri**	**1.31**	**156**	P	**Pn**	**07 31 33.4**	**-1.4**
PAIG				S	**Sn**	**07 31 52.7**	**-0.1**
RZN	**Rozhen**	**1.42**	**66**	*i* P	**Pb**	**07 31 36.8**	**0.0**
RZN	**Rozhen**	**1.42**	**66**	*i* P	**Pb**	**07 31 36.8**	**0.0**
SKO	**Skopje**	**1.43**	**306**	P	**Pn**	**07 31 36.5**	**+0.1**
SKO				S	**Sb**	**07 31 54.4**	**-1.1**
SKO	**Skopje**	**1.43**	**306**	*e*Pg	**Pn**	**07 31 36.0**	**-0.4**
SKO				*e*Sg	**Sb**	**07 31 54.9**	**-0.6**
SKO	**Skopje**	**1.43**	**306**	*e*PG	**Pn**	**07 31 36.7**	**+0.3**
SKO				*e*Sg	**Sn**	**07 31 56.3**	**+0.5**
SKO	**Skopje**	**1.43**	**306**	P	**Pn**	**07 31 36.5**	**+0.1**
SKO				S	**Sb**	**07 31 54.4**	**-1.1**
SKO				*e*Sg	**Sn**	**07 31 56.3**	**+0.5**
VTS	**Vitosha**	**1.47**	**7**	P	**Pn**	**07 31 36.9**	**-0.2**
VTS				S	**Sb**	**07 31 55.7**	**-1.1**
VTS	**Vitosha**	**1.47**	**7**	⇑*i* Pg	**Pn**	**07 31 36.8**	**-0.3**
VTS				*e*Sg	**Sb**	**07 31 56.0**	**-0.8**
VTS	**Vitosha**	**1.47**	**7**	⇑*i* P	**Pn**	**07 31 36.9**	**-0.2**
VTS	**Vitosha**	**1.47**	**7**	S	**Sg**	**07 31 57.3**	**+0.5**
VTS	**Vitosha**	**1.47**	**7**	*i* P	**Pn**	**07 31 37.0**	**-0.2**
VTS	**Vitosha**	**1.47**	**7**	*i* P	**Pn**	**07 31 37.0**	**-0.2**
VTS				S	**Sb**	**07 31 55.7**	**-1.1**
VTS				*e*Sg	**Sb**	**07 31 56.0**	**-0.8**
PLD	**Plovdiv**	**1.61**	**52**	P	**Pb**	**07 31 39.9**	**-0.1**
PLD				S	**Sg**	**07 32 01.9**	**+0.4**
PLD	**Plovdiv**	**1.61**	**52**	*e*Pn	**Pg**	**07 31 41.5**	**+1.0**
PLD				*e*Sg	**Pg**	**07 32 03.5**	**+2.0**
PLD	**Plovdiv**	**1.61**	**52**	*i* P	**Pg**	**07 31 41.2**	**+0.7**
PLD	**Plovdiv**	**1.61**	**52**	P	**Pb**	**07 31 39.9**	**-0.1**
PLD	**Plovdiv**	**1.61**	**52**	*e*Pn	**Pg**	**07 31 41.5**	**+1.0**
PLD				S	**Sg**	**07 32 01.9**	**+0.4**
PLD				*e*Sg	**Sg**	**07 32 03.5**	**+2.0**
NEST	**Nestorio**	**1.63**	**245**	P	**Pb**	**07 31 40.5**	**+0.1**
NEST				S	**Sg**	**07 32 02.3**	**+0.2**
NEST	**Nestorio**	**1.63**	**245**	*e*PB	**Pn**	**07 31 39.8**	**+0.5**
NEST	**Nestorio**	**1.63**	**245**	*e*Pb	**Pn**	**07 31 39.8**	**+0.5**
NEST	**Nestorio**	**1.63**	**245**	P	**Pb**	**07 31 40.5**	**+0.1**
NEST				S	**Sg**	**07 32 02.3**	**+0.2**
PGB	**Panagyurishte**	**1.67**	**32**	*i* P	**Pb**	**07 31 41.3**	**+0.3**
PGB	**Panagyurishte**	**1.67**	**32**	*i* P	**Pb**	**07 31 41.3**	**+0.3**
FYTO	**Fytoko, Volos**	**1.72**	**181**	P	**Pn**	**07 31 40.3**	**-0.1**
FYTO				S	**Sn**	**07 32 02.2**	**-0.7**
FYTO	**Fytoko, Volos**	**1.72**	**181**	P	**Pn**	**07 31 40.3**	**-0.1**
FYTO				S	**Sn**	**07 32 02.2**	**-0.7**
THL	**Klokotos Trika**	**1.73**	**206**	P	**Pn**	**07 31 40.6**	**0.0**
THL				S	**Sb**	**07 32 04.3**	**+0.2**
THL	**Klokotos Trika**	**1.73**	**206**	*e*PN	**Pn**	**07 31 40.5**	**0.0**
THL				*e*SN	**Sb**	**07 32 04.4**	**+0.3**
THL	**Klokotos Trika**	**1.73**	**206**	P	**Pn**	**07 31 40.6**	**0.0**
THL				S	**Sb**	**07 32 04.3**	**+0.2**
KBN	**Korca**	**1.74**	**254**	P	**Pb**	**07 31 41.7**	**-0.5**
KBN	**Korca**	**1.74**	**254**	P	**Pb**	**07 31 41.7**	**-0.5**
XOR	**Xorichti**	**1.77**	**175**	P	**Pn**	**07 31 41.1**	**0.0**
XOR				S	**Sn**	**07 32 03.6**	**-0.6**
XOR	**Xorichti**	**1.77**	**175**	*e*PN	**Pn**	**07 31 41.2**	**+0.1**
XOR	**Xorichti**	**1.77**	**175**	*e*Pn	**Pn**	**07 31 41.2**	**+0.1**
XOR				S	**Sn**	**07 32 03.6**	**-0.6**
NEO	**Neokhori**	**1.83**	**174**	P	**Pn**	**07 31 42.0**	**0.0**
NEO				S	**Sn**	**07 32 04.7**	**-1.0**
NEO	**Neokhori**	**1.83**	**174**	*e*PN	**Pn**	**07 31 41.9**	**0.0**
NEO	**Neokhori**	**1.83**	**174**	P	**Pn**	**07 31 42.0**	**0.0**
NEO				S	**Sn

SELS	**Selova**	**2.50**	**327**	*e*Pn	**Pn**	07 31 50.6	-0.6	**UPM**	**Unac-Piva**	**3.67**	**306**	⇓*i*Pn	**Pn**	07 32 08.3	+0.9
IGT	**Igoumenitsa**	**2.58**	**233**	*e*PN	**Pn**	07 31 53.0	+0.8	UPM				*e*Sn	**Sn**	07 32 52.8	+1.5
IGT	**Igoumenitsa**	**2.58**	**233**	*e*Pn	**Pn**	07 31 53.0	+0.8	**UPM**	**Unac-Piva**	**3.67**	**306**	⇓*i*Pn	**Pn**	07 32 08.3	+0.9
SGD	**Sagiada**	**2.59**	**235**	P	**Pb**	07 31 55.3	-1.3	UPM				*e*Sn	**Sn**	07 32 52.8	+1.5
SGD				S	**Sb**	07 32 27.6	-1.3	**DIVS**	**Divibare**	**3.70**	**324**	⇑*i*Pn	**Pn**	07 32 07.2	-0.5
SGD	**Sagiada**	**2.59**	**235**	*e*PN	**Pn**	07 31 52.9	+0.5	**DIVS**	**Divibare**	**3.70**	**324**	⇑*i*P	**Pn**	07 32 07.1	-0.6
SGD	**Sagiada**	**2.59**	**235**	*e*Pn	**Pn**	07 31 52.9	+0.5	**DIVS**	**Divibare**	**3.70**	**324**	⇑*i*Pn	**Pn**	07 32 07.2	-0.5
SGD	**Sagiada**	**2.59**	**235**	P	**Pb**	07 31 55.3	-1.3	**HUMR**	**Humele**	**3.70**	**23**	⇑*i*P	**Pn**	07 32 08.0	+0.4
SGD				S	**Sb**	07 32 27.6	-1.3	**HUMR**	**Humele**	**3.70**	**23**	⇑*i*P	**Pn**	07 32 08.0	+0.4
SRN	**Sarande**	**2.59**	**242**	P	**Pb**	07 31 55.0	-1.7	**KRND**	**KRANIDI**	**3.75**	**178**	*e*PN	**Pn**	07 32 08.9	+0.7
SRN				S	**Sb**	07 32 27.0	-2.0	**KRND**	**KRANIDI**	**3.75**	**178**	*e*Pn	**Pn**	07 32 08.9	+0.7
SRN	**Sarande**	**2.59**	**242**	P	**Pb**	07 31 55.0	-1.7	**BRY**	**Bratogost**	**3.75**	**300**	⇑*i*Pn	**Pn**	07 32 10.4	+1.9
SRN				S	**Sb**	07 32 27.0	-2.0	BRY				*e*Sn	**Sn**	07 32 55.0	+1.7
PVY	**Plav**	**2.69**	**304**	*e*Pn	**Pn**	07 31 55.2	+1.3	**BRY**	**Bratogost**	**3.75**	**300**	⇑*i*Pn	**Pn**	07 32 10.4	+1.9
PVY				*e*Sn	**Sn**	07 32 28.9	+1.9	BRY				*e*Sn	**Sn**	07 32 55.0	+1.7
DSF	**Desfina**	**2.74**	**188**	P	**Pn**	07 31 54.5	0.0	**VLX**	**Vlachokerasia**	**3.79**	**187**	P	**Pn**	07 32 10.1	+1.2
DSF				S	**Sn**	07 32 28.6	+0.5	**VLX**	**Vlachokerasia**	**3.79**	**187**	*e*PN	**Pn**	07 32 10.1	+1.2
DSF	**Desfina**	**2.74**	**188**	*e*PN	**Pn**	07 31 54.2	-0.3	**VLX**	**Vlachokerasia**	**3.79**	**187**	P	**Pn**	07 32 10.1	+1.2
DSF	**Desfina**	**2.74**	**188**	*e*Pn	**Pn**	07 31 54.2	-0.3	**EDC**	**Edincik**	**3.79**	**100**	*e*PN	**Pn**	07 32 09.1	+0.2
DSF	**Desfina**	**2.74**	**188**	P	**Pn**	07 31 54.5	0.0	**EDC**	**Edincik**	**3.79**	**100**	*e*Pn	**Pn**	07 32 09.1	+0.2
DSF				S	**Sn**	07 32 28.6	+0.5	**BBLS**	**Lazići**	**3.80**	**317**	⇑*i*Pn	**Pn**	07 32 08.9	-0.2
GELI	**Tayfur-Gelibol**	**2.75**	**104**	*e*PN	**Pn**	07 31 54.8	+0.3	**BBLS**	**Lazići**	**3.80**	**317**	⇑*i*Pn	**Pn**	07 32 08.9	-0.2
GELI	**Tayfur-Gelibol**	**2.75**	**104**	*e*Pn	**Pn**	07 31 54.8	+0.3	**ZKS**	**Zakynthos**	**3.83**	**207**	P	**Pn**	07 32 11.8	+2.4
BOLS	**Boljevac**	**2.80**	**345**	*e*Pn	**Pn**	07 31 55.7	+0.4	**ZKS**	**Zakynthos**	**3.83**	**207**	P	**Pn**	07 32 11.8	+2.4
BOLS				*e*Sg	**Sg**	07 32 38.7	-0.9	**SLVT**	**Silivri**	**3.95**	**87**	*e*PN	**Pn**	07 32 11.0	0.0
BOLS	**Boljevac**	**2.80**	**345**	*e*Pn	**Pn**	07 31 55.7	+0.4	**SLVT**	**Silivri**	**3.95**	**87**	*e*Pn	**Pn**	07 32 11.0	0.0
BOLS				*e*Sg	**Sg**	07 32 38.7	-0.9	**ITM**	**Ithomi**	**4.03**	**192**	*e*PB	**Pn**	07 32 15.3	+3.1
KALE	**Kalithea**	**2.81**	**194**	P	**Pn**	07 31 56.0	+0.5	**KCTX**	**Karacabey (Bur**	**4.17**	**100**	*e*PN	**Pn**	07 32 14.5	+0.3
KALE				S	**Sn**	07 32 30.4	+0.5	**KCTX**	**Karacabey (Bur**	**4.17**	**100**	*e*Pn	**Pn**	07 32 14.5	+0.3
KALE	**Kalithea**	**2.81**	**194**	*e*PN	**Pn**	07 31 55.9	+0.5	**TEKS**	**Tekeris**	**4.26**	**325**	*e*Pn	**Pn**	07 32 14.9	-0.4
KALE	**Kalithea**	**2.81**	**194**	P	**Pn**	07 31 56.0	+0.5	**TEKS**	**Tekeris**	**4.26**	**325**	*e*Pn	**Pn**	07 32 14.9	-0.4
KALE				S	**Sn**	07 32 30.4	+0.5	**IZM**	**Izmir**	**4.28**	**128**	*e*PN	**Pn**	07 32 16.5	+0.8
KEK	**Kerkira**	**2.81**	**241**	P	**Pb**	07 31 58.7	-1.8	**IZM**	**Izmir**	**4.28**	**128**	*e*Pn	**Pn**	07 32 16.5	+0.8
KEK				S	**Sb**	07 32 33.2	-2.1	**STON**	**Ston**	**4.30**	**296**	*e*PN	**Pn**	07 32 18.1	+2.1
KEK	**Kerkira**	**2.81**	**241**	*e*PN	**Pn**	07 31 55.4	0.0	**STON**	**Ston**	**4.30**	**296**	*e*Pn	**Pn**	07 32 18.0	+2.1
KEK	**Kerkira**	**2.81**	**241**	*e*Pn	**Pn**	07 31 55.4	0.0	**STON**	**Ston**	**4.30**	**296**	*e*Pn	**Pn**	07 32 18.0	+2.1
KEK	**Kerkira**	**2.81**	**241**	P	**Pb**	07 31 58.7	-1.8	**PYL**	**PYLOS**	**4.34**	**193**	P	**Pn**	07 32 18.0	+1.6
KEK				S	**Sb**	07 32 33.2	-2.1	**PYL**	**PYLOS**	**4.34**	**193**	P	**Pn**	07 32 18.0	+1.6
EFP	**Efpalio**	**2.83**	**197**	P	**Pn**	07 31 56.1	+0.5	**BGKT**	**Bogazkoy**	**4.37**	**87**	*e*PN	**Pn**	07 32 18.0	+1.2
EFP				S	**Sb**	07 32 33.5	-2.1	**BGKT**	**Bogazkoy**	**4.37**	**87**	*e*Pn	**Pn**	07 32 18.0	+1.2
EFP	**Efpalio**	**2.83**	**197**	*e*PN	**Pn**	07 31 56.0	+0.5	**VLI**	**Veliai**	**4.41**	**180**	*e*PN	**Pn**	07 32 16.7	-0.6
EFP	**Efpalio**	**2.83**	**197**	P	**Pn**	07 31 56.1	+0.5	**VLI**	**Veliai**	**4.41**	**180**	*e*Pn	**Pn**	07 32 16.7	-0.6
EFP				S	**Sb**	07 32 33.5	-2.1	**ARMT**	**Armutlu**	**4.49**	**95**	*e*PN	**Pn**	07 32 19.5	+1.0
EZN	**Ezine**	**2.86**	**116**	*e*PN	**Pn**	07 31 56.5	+0.4	**ARMT**	**Armutlu**	**4.49**	**95**	*e*Pn	**Pn**	07 32 19.5	+1.0
EZN	**Ezine**	**2.86**	**116**	*e*Pn	**Pn**	07 31 56.5	+0.4	**APE**	**Apeiranthos**	**4.51**	**153**	*e*PN	**Pn**	07 32 19.2	+0.4
PDO	**Prodromos**	**2.88**	**209**	P	**Pn**	07 31 59.1	+2.7	**APE**	**Apeiranthos**	**4.51**	**153**	⇑*i*P	**Pn**	07 32 19.3	+0.4
PDO				S	**Sb**	07 32 35.0	-2.3	**APE**	**Apeiranthos**	**4.51**	**153**	*e*Pn	**Pn**	07 32 19.2	+0.4
PDO	**Prodromos**	**2.88**	**209**	*e*PN	**Pn**	07 31 56.7	+0.3	**VOIR**		**4.56**	**19**	⇑*i*P	**Pn**	07 32 20.0	+0.5
PDO	**Prodromos**	**2.88**	**209**	*e*Pn	**Pn**	07 31 56.7	+0.3	**VOIR**		**4.56**	**19**	⇑*i*P	**Pn**	07 32 20.0	+0.5
PDO	**Prodromos**	**2.88**	**209**	P	**Pn**	07 31 59.1	+2.7	VOIR				S	**Sn**	07 33 11.0	-2.0
PDO				S	**Sb**	07 32 35.0	-2.3	**KLYT**	**Kilyos**	**4.57**	**86**	*e*PN	**Pn**	07 32 20.7	+1.1
BEY	**Berane**	**2.89**	**308**	⇑*i*Pn	**Pn**	07 31 57.2	+0.7	**KLYT**	**Kilyos**	**4.57**	**86**	*e*Pn	**Pn**	07 32 20.7	+1.1
BEY				*e*Sn	**Sn**	07 32 34.4	+2.6	**BZS**	**Buzias**	**4.59**	**348**	*e*Pn	**Pn**	07 32 19.7	-0.2
IVA	**Berane**	**2.89**	**308**	⇑*i*Pn	**Pn**	07 31 57.2	+0.7	**BZS**	**Buzias**	**4.59**	**348**	⇑*i*P	**Pn**	07 32 19.6	-0.3
IVA				*e*Sn	**Sn**	07 32 34.4	+2.6	**BZS**	**Buzias**	**4.59**	**348**	*e*Pn	**Pn**	07 32 19.7	-0.2
EDRB	**Edirne**	**2.91**	**75**	*e*PN	**Pn**	07 31 56.7	-0.2	**PSN**	**Preselentsi**	**4.62**	**55**	⇑*i*P	**Pn**	07 32 20.1	-0.1
EDRB	**Edirne**	**2.91**	**75**	P	**Pn**	07 31 56.6	-0.2	**PSN**	**Preselentsi**	**4.62**	**55**	⇑*i*P	**Pn**	07 32 20.1	-0.1
EDRB	**Edirne**	**2.91**	**75**	*e*Pn	**Pn**	07 31 56.7	-0.2	**MSAB**	**Monastry St. A**	**4.64**	**49**	⇑*i*P	**Pn**	07 32 21.5	+1.0
SIGR	**SIGRI**	**2.92**	**130**	*e*PN	**Pn**	07 31 57.7	+0.8	**MSAB**	**Monastry St. A**	**4.64**	**49**	S	**Sg**	07 33 38.0	-0.5
SIGR	**SIGRI**	**2.92**	**130**	P	**Pn**	07 31 57.7	+0.8	**MSAB**	**Monastry St. A**	**4.64**	**49**	⇑*i*P	**Pn**	07 32 21.5	+1.0
SIGR				S	**Sn**	07 32 30.9	-1.5	**FGSL**	**Fruska Gora**	**4.64**	**331**	⇑*i*Pn	**Pn**	07 32 19.5	-1.1
SIGR	**SIGRI**	**2.92**	**130**	*e*PN	**Pn**	07 31 57.2	+0.3	**FRGS**	**Fruska Gora**	**4.64**	**331**	⇑*i*Pn	**Pn**	07 32 19.5	-1.1
SIGR	**SIGRI**	**2.92**	**130**	*e*Pn	**Pn**	07 31 57.2	+0.3	**DEV**	**Deva**	**4.75**	**359**	⇑*i*P	**Pn**	07 32 23.1	+1.1
SIGR	**SIGRI**	**2.92**	**130**	P	**Pn**	07 31 57.7	+0.8	**DEV**	**Deva**	**4.75**	**359**	⇑*i*P	**Pn**	07 32 23.1	+1.1
SIGR				S	**Sn**	07 32 30.9	-1.5	**ISR**	**Istrita**	**4.76**	**32**	⇑*i*P	**Pn**	07 32 23.3	+1.0
ULC	**Ulcinj**	**2.93**	**288**	⇑*i*Pn	**Pn**	07 31 58.8	+1.8	**ISR**	**Istrita**	**4.76**	**32**	⇑*i*P	**Pn**	07 32 23.3	+1.0
ULC				*e*Sn	**Sn**	07 32 35.6	+2.9	**MLR**	**Muntele Rosu**	**4.86**	**25**	Pn	**Pn**	07 32 25.3	+1.6
ULC	**Ulcinj**	**2.93**	**288**	⇑*i*Pn	**Pn**	07 31 58.8	+1.8	comp=E,1.1nm,0.3s,baz=202,slow=8.1,SNR=22							
ULC				*e*Sn	**Sn**	07 32 35.6	+2.9	MLR				Sn	**Sn**	07 33 21.6	+1.0
LPK	**Lapseki**	**2.97**	**104**	*e*PN	**Pn**	07 31 57.7	+0.1	comp=E,0.4nm,0.3s,baz=299,slow=19,SNR=1.9							
LPK	**Lapseki**	**2.97**	**104**	*e*Pn	**Pn**	07 31 57.7	+0.1	MLR				Lg	Lg	07 33 47.5	
JMB	**Yambol**	**3.00**	**62**	P	**Pn**	07 31 57.1	-0.9	comp=E,1.9nm,0.3s,baz=10,slow=2.1,SNR=5.3							
JMB				S	**Sn**	07 32 34.1	-0.4	MLR				LR	LR	07 34 32.0	
JMB	**Yambol**	**3.00**	**62**	⇑*i*P	**Pn**	07 31 57.4	-0.7	comp=E,40nm,19.5s,baz=244,slow=42							
JMB	**Yambol**	**3.00**	**62**	S	**Sg**	07 32 44.4	-1.7	**MLR**	**Muntele Rosu**	**4.86**	**25**	⇑*i*P	**Pn**	07 32 25.0	+1.3
JMB	**Yambol**	**3.00**	**62**	P	**Pn**	07 31 57.1	-0.9	**MLR**	**Muntele Rosu**	**4.86**	**25**	⇑*i*P	**Pn**	07 32 25.0	+1.3
JMB				S	**Sn**	07 32 34.1	-0.4	**AYDB**	**Zeytinkoy-Aydi**	**4.95**	**128**	*e*PN	**Pn**	07 32 26.7	+1.8
DRME	**Dracevica, Mon**	**3.04**	**292**	⇑*i*Pn	**Pn**	07 32 00.0	+1.5	**AYDB**	**Zeytinkoy-Aydi**	**4.95**	**128**	*e*Pn	**Pn**	07 32 26.7	+1.8
DRME				*e*Sn	**Sn**	07 32 38.0	+2.7	**TLB**	**Topalu**	**5.07**	**45**	⇑*i*P	**Pn**	07 32 27.8	+1.3
DRME	**Dracevica, Mon**	**3.04**	**292**	⇑*i*Pn	**Pn**	07 32 00.0	+1.5	**TLB**	**Topalu**	**5.07**	**45**	⇑*i*P	**Pn**	07 32 27.8	+1.3
DRME				*e*Sn	**Sn**	07 32 38.0	+2.7	**DOPR**	**Dopca**	**5.14**	**19**	⇑*i*P	**Pn**	07 32 28.2	+0.8
PDG	**Podgorica**	**3.08**	**296**	P	**Pn**	07 32 00.0	+1.0	**DOPR**	**Dopca**	**5.14**	**19**	⇑*i*P	**Pn**	07 32 28.2	+0.8
PDG	**Podgorica**	**3.08**	**296**	*e*Pn	**Pb**	07 32 02.2	-2.7	**GRER**		**5.15**	**33**	⇑*i*P	**Pn**	07 32 29.6	+2.1
PDG	**Podgorica**	**3.08**	**296**	P	**Pn**	07 32 00.0	+1.0	**GRER**		**5.15**	**33**	⇑*i*P	**Pn**	07 32 29.6	+2.1
PDG	**Podgorica**	**3.08**	**296**	⇑*i*Pn	**Pn**	07 32 00.0	+1.0	**TIRR**	**Tirgusor**	**5.20**	**48**	*e*PN	**Pn**	07 32 28.9	+0.7
PDG				*e*Sn	**Sn**	07 32 38.6	+2.3	**TIRR**	**Tirgusor**	**5.20**	**48**	⇑*i*P	**Pn**	07 32 29.0	+0.8
TTG	**Podgorica**	**3.08**	**296**	⇑*i*Pn	**Pn**	07 32 00.8	+1.8	**TIRR**	**Tirgusor**	**5.20**	**48**	*e*Pn	**Pn**	07 32 28.9	+0.7
TTG				*e*Sn	**Sn**	07 32 38.6	+2.3	**TVSB**	**Tavsanli**	**5.23**	**107**	*e*PN	**Pn**	07 32 30.4	+1.6
ZIMR		**3.08**	**34**	⇓*i*P	**Pb**	07 32 05.6	+0.6	**TVSB**	**Tavsanli**	**5.23**	**107**	*e*Pn	**Pn**	07 32 30.4	+1.6
ZIMR		**3.08**	**34**	S	**Sg**	07 32 49.2	+0.7	**PLOR**	**Plostina**	**5.42**	**28**	⇑*i*P	**Pn**	07 32 31.7	+0.4
SJES	**Sjenica**	**3.09**	**315**	*e*Pn	**Pn**	07 31 59.8	+0.5	**PLOR**	**Plostina**	**5.42**	**28**	⇑*i*P	**Pn**	07 32 31.7	+0.4
THAL	**Thalero**	**3.10**	**185**	P	**Pn**	07 31 59.9	+0.5	**VRI**	**Vrincioaia**	**5.46**	**29**	*e*PN	**Pn**	07 32 32.5	+0.7
THAL				S	**Sn**	07 32 37.2	+0.3	**VRI**	**Vrincioaia**	**5.46**	**29**	⇑*i*P	**Pn**	07 32 32.8	+1.0
THAL	**Thalero**	**3.10**	**185**	P	**Pn**	07 31 59.9	+0.5	**VRI**	**Vrincioaia**	**5.46**	**29**	*e*Pn	**Pn**	07 32 32.5	+0.7
THAL				S	**Sn**	07 32 37.2	+0.3	**VRI**	**Vrincioaia**	**5.46**	**29**	⇑*i*P	**Pn**	07 32 32.8	+1.0
LTK	**Loutraki**	**3.10**	**180**	P	**Pn**	07 31 59.7	+0.3	**CFR**	**Carcaliu**	**5.53**	**41**	⇓*i*P	**Pn**	07 32 34.1	+1.4
LTK				S	**Sn**	07 32 36.5	-0.6	**CFR**	**Carcaliu**	**5.53**	**41**	⇓*i*P	**Pn**	07 32 34.1	+1.4
LTK	**Loutraki**	**3.10**	**180**	*e*PN	**Pn**	07 31 59.8	+0.3	**PKSM**	**Moragy**	**5.97**	**330**	*e*Pn	**Pn**	07 32 38.3	-0.5
LTK	**Loutraki**	**3.10**	**180**	*e*Pn	**Pn**	07 31 59.8	+0.3	**PKSM**	**Moragy**	**5.97**	**330**	⇑*i*P	**Pn**	07 32 38.6	-0.2
LTK				S	**Sn**	07 32 36.5	-0.6	**PKSM**	**Moragy**	**5.97**	**330**	⇓*e*Pn	**Pn**	07 32 38.3	-0.5
PRK	**Paraskevi**	**3.15**	**126**	P	**Pn**	07 32 00.8	+0.8	**PKSM**	**Moragy**	**5.97**	**330**	⇑*i*P	**Pn**	07 32 38.6	-0.2
PRK				S	**Sn**	07 32 39.6	+1.6	PKSM				*e*Sn	**Sn**	07 33 47.5	-0.2
PRK	**Paraskevi**	**3.15**	**126**	*e*PN	**Pn**	07 32 01.1	+1.0	**PKSM**	**Moragy**	**5.97**	**330**	⇓*e*	**Pn**	07 32 38.3	-0.5
PRK	**Paraskevi**	**3.15**	**126**	P	**Pn**	07 32 00.8	+0.8	PKSM				*e*		07 33 47.5	
PRK				S	**Sn**	07 32 39.6	+1.6	**IDI**	**Anoyia**	**6.02**	**165**	Pn	**Pn**	07 32 41.6	+2.0
KLV	**Kalavryta, Ach**	**3.15**	**192**	P	**Pn**	07 32 00.5	+0.4	comp=E,0.7nm,0.3s,baz=342,slow=11,SNR=5.5							
KLV	**Kalavryta, Ach**	**3.15**	**192**	*e*PN	**Pn**	07 32 00.5	+0.4	IDI				LR	LR	07 35 14.1	
KLV	**Kalavryta, Ach**	**3.15**	**192**	P	**Pn**	07 32 00.5	+0.4	comp=E,124nm,18.7s,baz=280,slow=41							
ATH	**Athens Observa**	**3.21**	**170**	*e*PN	**Pn**	07 32 00.8	0.0	**BURAR**	**Bucovina Array**	**6.68**	**13**	⇓*i*P	**Pn**	07 32 49.3	+0.7
ATH				*e*SN	**Sn**	07 32 39.7	+0.2	**BURAR**	**Bucovina Array**	**6.68**	**13**	⇓*i*P	**Pn**	07 32 49.3	+0.7
ATH	**Athens Observa**	**3.21**	**170**	*e*Pn	**Pn**	07 32 00.8	0.0	**BEHE**	**Becsehely**	**6.97**	**322**	*e*PKPPKPdf	Sn	07 34 18.9	+6.6
ATH				*e*Sn	**Sn**	07 32 39.7	+0.2	**BOJS**	**Bojanci**	**7.13**	**310**	*i* Pn	**Pn**	07 32 56.4	+1.7
GRUS	**Gruza**	**3.23**	**329**	⇑*i*Pn	**Pn**	07 32 00.4	-0.7	**BOJS**	**Bojanci**	**7.13**	**310**	*i* Pn	**Pn**	07 32 56.4	+1.7
GRUS	**Gruza**	**3.23**	**329**	⇑*i*Pn	**Pn**	07 32 00.4	-0.7	**KIS**	**Kishinev**	**7.21**	**34**	*e*	Pb	07 33 07.0	-8.4
GUR	**Goura**	**3.23**	**189**	*e*PN	**Pn**	07 32 01.5	+0.2	**VISS**	**Visnje**	**7.54**	**311**	*i* Pn	**Pn**	07 33 03.4	+3.0
GUR	**Goura**	**3.23**	**189**	*e*Pn	**Pn**	07 32 01.5	+0.2	**VISS**	**Visnje**	**7.54**	**311**	*i* Pn	**Pn**	07 33 03.4	+3.0
BUM	**Brajici-Budva**	**3.28**	**292**	⇑*i*Pn	**Pn**	07 32 03.8	+1.9	**KECS**	**Kecovo**	**7.56**	**347**	*e*Pn	**Pn**	07 33 02.8	+2.2
BUM				*e*Sn	**Sn**	07 32 43.8	+2.4	**KECS**	**Kecovo**	**7.56**	**347**	*e*PN	**Pn**	07 33 02.8	+2.2
BUM	**Brajici-Budva**	**3.28**	**292**	⇑*i*Pn	**Pn**	07 32 03.8	+1.9	KECS				*e*SN	Sn	07 34 18.7	-8.1
BUM				*e*Sn	**Sn**	07 32 43.8	+2.4	**SKDS**	**Skadanscina**	**7.88**	**307**	*i* Pn	**Pn**	07 33 08.2	+3.1
RLS	**Riolos of Patr**	**3.29**	**201**	*e*PN	**Pn**	07 32 02.5	+0.6	**CRNS**	**Crni Vrh**	**8.03**	**311**	*i* Pn	**Pn**	07 33 09.7	+2.6
RLS	**Riolos of Patr**	**3.29**	**201**	*e*Pn	**Pn**	07 32 02.5	+0.6	**ARSA**	**Arzberg**	**8.13**	**321**	*e*Pn	**Pn**	07 33 09.0	+0.5
KRBG	**Karabiga-Canak**	**3.36**	**101**	*e*PN	**Pn**	07 32 03.2	+0.3	**ARSA**	**Arzberg**	**8.13**	**321**	*e*Pn	**Pn**	07 33 09.0	+0.5
KRBG	**Karabiga-Canak**	**3.36**	**101**	*e*Pn	**Pn**	07 32 03.2	+0.3	**BRTR**	**Keskin Array B**	**8.25**	**96**	Pn	**Pn**	07 33 10.7	+0.4
SVIS	**Svilajnac**	**3.39**	**338**	*e*Pn	**Pb**	07 32 08.1	-2.2	comp=E,0.1nm,0.3s,baz=269,slow=12,SNR=5.0							
NKY	**Niksic**	**3.42**	**301**	⇑*i*Pn	**Pn**	07 32 05.2	+1.4	BRTR				Sn	**Sn**	**07 34 42.3**	**-1.7**
NKY				*e*Sn	**Sn**	07 32 46.1	+1.2	comp=E,0.2nm,0.3s,baz=278,slow=20,SNR=3.2							
NKY	**Niksic**	**3.42**	**301**	⇑*i*Pn	**Pn**	07 32 05.2	+1.4	**STHS**	**Stebnicka Huta**	**8.38**	**352**	*e*PN	Pn	07 33 17.3	+5.5
NKY				*e*Sn	**Sn**	07 32 46.1	+1.2	**VRAC**	**Vranov**	**9.33**	**333**	LR	LR	07 37 30.2	
NKME	**Niksic**	**3.42**	**300**	⇓*i*Pn	**Pn**	07 32 05.8	+2.0	comp=E,60nm,18.1s,baz=154,slow=41							
NKME				*e*Sn	**Sn**	07 32 47.0	+2.1	**OKC**	**Ostrava-Krasne**	**9.34**	**340**	AMS	AMS	07 37 40.0	
NKME	**Niksic**	**3.42**	**300**	⇓*i*Pn	**Pn**	07 32 05.8	+2.0	comp=E,200nm,12.2s							
NKME				*e*Sn	**Sn**	07 32 47.0	+2.1	**TREC**	**Trest**	**9.72**	**330**	AMS	AMS	07 37 40.0	
PLE	**Pljevlja**	**3.46**	**311**	⇓*i*Pn	**Pn**	07 32 05.3	+0.9	comp=E,200nm,6.9s							
PLE				*e*Sn	**Sn**	07 32 48.1	+2.2	**GERES**	**GERESS Array B**	**10.13**	**323**	Pn	**Pn**	**07 33 37.0**	**+1.1**
PLE	**Pljevlja**	**3.46**	**311**	⇓*i*Pn	**Pn**	07 32 05.3	+0.9	baz=136,slow=16,SNR=2.7							
PLE				*e*Sn	**Sn**	07 32 48.1	+2.2	**DPC**	**Dobruska-Polom**	**10.32**	**336**	AMS	AMS	07 38 20.0	
KFL	**Anninata**	**3.46**	**210**	P	**Pn**	07 32 06.4	+2.1	comp=E,200nm,7.1s							
KFL	**Anninata**	**3.46**	**210**	P	**Pn**	07 32 06.4	+2.1	**KHC**	**Kasperske Hory**	**10.39**	**323**	*e*S	**Sn**	**07 35 37.4**	**+1.0**
VLS	**Valsamata**	**3.48**	**213**	*e*PB	**Pn**	07 32 07.3	+2.7	KHC				AMS	AMS	07 38 00.0	
SRE	**Strehaia**	**3.53**	**3**	⇑*i*P	**Pn**	07 32 05.1	-0.2	comp=E,200nm,8.7s							
SRE	**Strehaia**	**3.53**	**3**	⇑*i*P	**Pn**	07 32 05.1	-0.2	**GOPC**	**GO Pecny, Ondr**	**10.49**	**330**	AMS	AMS	07 38 00.0	
MRMT	**Marmara Adasi**	**3.54**	**97**	*e*PN	**Pn**	07 32 05.2	-0.3	comp=E,100nm,11.4s							
MRMT	**Marmara Adasi**	**3.54**	**97**	*e*Pn	**Pn**	07 32 05.2	-0.3	**AKASG**	**Malin Array Be**	**10.51**	**22**	Pn	**Pn**	**07 33 39.8**	**-1.2**
HCY	**Herceg Novi**	**3.60**	**293**	⇑*i*Pn	**Pn**	07 32 08.1	+1.8	comp=E,0.7nm,0.3s,baz=209,slow=12,SNR=4.4							
HCY				*e*Sn	**Sn**	07 32 51.1	+1.7	**PRU**	**Pruhonice**	**10.64**	**329**	AMS	AMS	07 37 50.0	
HCY	**Herceg Novi**	**3.60**	**293**	⇑*i*Pn	**Pn**	07 32 08.1	+1.8	comp=E,100nm,12.4s							
HCY				*e*Sn	**Sn**	07 32 51.1	+1.7	**DAVOX**	**Davos/Dischmat**	**11.00**	**305**	LR	LR	07 38 49.1	
CHOS	**Chios island**	**3.62**	**138**	*e*PN	**Pn**	07 32 07.2	+0.6	comp=E,144nm,18.8s,baz=110,slow=42							
CHOS	**Chios island**	**3.62**	**138**	P	**Pn**	07 32 07.2	+0.6	**LPG**	**La Plagne**	**12.60**	**296**	*e*P	**Pn**	**07 34 10.8**	**+0.9**
CHOS	**Chios island**	**3.62**	**138**	*e*PN	**Pn**	07 32 07.5	+0.9	comp=E,3.0nm,0.4s							
CHOS	**Chios island**	**3.62**	**138**	P	**Pn**	07 32 07.2	+0.6	**LPG**	**La Plagne**	**12.60**	**296**	*e*P	**Pn**	**07 34 10.8**	**+0.9**
CHOS	**Chios island**	**3.62**	**138**	*e*Pn	**Pn**	07 32 07.5	+0.9	comp=E,3.0nm,0.4s							
DID	**Didima**	**3.63**	**177**	P	**Pn**	07 32 06.9	+0.3	**LPL**	**La Plagne**	**12.62**	**296**	*e*P	**Pn**	**07 34 10.7**	**+0.6**
DID				S	**Sn**	07 32 49.9	0.0	comp=E,2.8nm,0.3s							
DID	**Didima**	**3.63**	**177**	P	**Pn**	07 32 06.9	+0.3	**LPL**	**La Plagne**	**12.62**	**296**	*e*P	**Pn**	**07 34 10.7**	**+0.6**
DID				S	**Sn**	07 32 49.9	0.0	comp=E,2.0nm,0.3s							
TRUS	**Trudelj**	**3.63**	**329**	⇑*i*Pn	**Pn**	07 32 04.9	-1.7	**MMAI**	**Mount Meron Ar**	**12.79**	**125**	Pn	**Pn**	**07 34 12.8**	**+0.4**
TRUS	**Trudelj**	**3.63**	**329**	⇑*i*Pn	**Pn**	07 32 04.9	-1.7	baz=356,slow=8.7,SNR=2.2							
								MMAI				LR	LR	07 39 29.1	
								comp=E,38nm,20.8s,baz=325,slow=39							
								HFS	**Hagfors**	**19.88**	**346**	P	**P**	**07 35 41.9**	**+0.1**
								comp=E,0.1nm,0.3s,baz=190,slow=16,SNR=3.1							
								FINES	**FINESS Array B**	**20.43**	**4**	P	**P**	**07 35 46.6**	**-1.1**
								comp=E,1.0nm,0.7s,baz=164,slow=16,SNR=4.3							
								FINES				LR	LR	07 44 16.6	
								comp=E,88nm,19.7s,baz=184,slow=39							
								NB2	**NORSAR Subarra**	**21.20**	**344**	P	**P**	**07 35 56.0**	**0.0**
								comp=Z,0.0nm,0.9s,baz=153,slow=10							
								NB2	**NOR

LFRS	**El Faro**	**2.74**	**104**	*e*P		**Pn**	**08 03 38.0**	**-0.4**
TGIG		**2.77**	**333**	*e*P		**Pn**	**08 03 38.0**	**-0.7**
TGIG				*e*S		**Sn**	**08 04 12.2**	**+0.9**
CMIG	**Matias Romero**	**4.06**	**313**	*e*P		**Pn**	**08 03 55.2**	**-0.8**
CMIG				*e*S		**Sn**	**08 04 42.4**	**-0.1**
CMIG	**Matias Romero**	**4.06**	**313**	P		**Pn**	**08 03 56.3**	**+0.3**
	comp=Z,12nm,0.3s,baz=131,slow=10,SNR=165							
CMIG				S		Sn	08 04 54.8	+12
	comp=Z,28nm,0.3s,baz=349,slow=21,SNR=4.6							
CMIG				LR		LR	08 05 12.8	
	comp=Z,82nm,19.7s,baz=118,slow=31							
TEIG	**Tepich**	**6.78**	**29**	P		**Pn**	**08 04 32.1**	**-0.9**
	comp=Z,84nm,0.3s,baz=300,slow=0.8,SNR=356							
TEIG				S		Sn	08 05 44.3	-4.4
	baz=306,slow=22,SNR=4.5							
JTS	**JuntasAbangare**	**7.79**	**120**	P		**Pn**	**08 04 46.3**	**-0.5**
	comp=Z,2.0nm,0.3s,baz=321,slow=5.9,SNR=17							
TXAR	**Lajitas Array**	**18.55**	**326**	P		**Pn**	**08 07 07.5**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=141,slow=8.3,SNR=15							
TXAR				PcP		**PcP**	**08 11 31.8**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=177,slow=3.4,SNR=4.8							
TKL	**Tuckaleechee C**	**22.45**	**17**	P		**P**	**08 07 46.1**	**-1.4**
	comp=Z,6.9nm,0.8s,baz=191,slow=14,SNR=13							
ANMO	**Albuquerque**	**24.43**	**330**	P		**P**	**08 08 07.9**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=140,slow=10,SNR=4.8							
PDAR	**Pinedale Array**	**32.22**	**335**	PcP		**PcP**	**08 12 02.6**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=122,slow=8.6,SNR=3.6							
NVAR	**Mina Array Bea**	**33.56**	**321**	P		**P**	**08 09 30.6**	**+3.1**
	comp=Z,2.4nm,0.6s,baz=129,slow=8.6,SNR=22							
NVAR				PcP		**PcP**	**08 12 08.3**	**+2.1**
	comp=Z,1.7nm,0.7s,baz=136,slow=3.3,SNR=9.9							
LPAZ	**La Paz**	**38.35**	**142**	P		**P**	**08 10 09.3**	**+0.2**
	comp=Z,1.1nm,1.1s,baz=288,slow=9.6,SNR=3.6							
SIV	**San Ignacio**	**42.76**	**134**	P		**P**	**08 10 44.1**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=299,slow=5.7,SNR=6.0							
SCHQ	**Schefferville**	**44.87**	**20**	P		**P**	**08 10 58.8**	**-2.3**
	comp=Z,5.8nm,0.9s,baz=227,slow=8.4,SNR=5.1							
YKA	**Yellowknife Ar**	**50.77**	**347**	P		**P**	**08 11 45.3**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=150,slow=7.5,SNR=14							
BDFB	**Brasilia**	**52.52**	**123**	P		**P**	**08 11 58.9**	**-1.5**
	comp=Z,2.1nm,0.5s,baz=218,slow=6.0,SNR=3.8							
ILAR	**Eielson Array**	**62.63**	**337**	P		**P**	**08 13 09.9**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=114,slow=5.2,SNR=17							
TORD	**Torodi Ar. Bea**	**90.11**	**76**	P		P	08 15 43.5	-3.1
	comp=Z,0.6nm,1.1s,baz=292,slow=4.5,SNR=3.2							
MKAR	**Makanchi Array**	**118.95**	**5**	PKP		**PKPdf**	**08 21 32.8**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=4.8,slow=1.5,SNR=3.6							
WRA	**Warramunga Arr**	**135.66**	**256**	PKP		**PKPdf**	**08 22 09.2**	**+2.6**
	comp=Z,0.4nm,0.5s,baz=23,slow=0.7,SNR=5.1							
ASAR	**Alice Springs**	**135.95**	**251**	PKP		**PKPdf**	**08 22 08.7**	**+1.6**
	comp=Z,0.6nm,1.0s,baz=99,slow=2.9,SNR=3.2							
CMAR	**Chiang Mai Arr**	**145.76**	**342**	PKPbc		**PKPbc**	**08 22 25.4**	**0.0**
	comp=Z,4.6nm,0.6s,baz=331,slow=3.5,SNR=14							

JMA 15 08:03:48.6±0.3, 32.97N×142.45E, h23km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**2.08**	**324**	P		Pn	08 04 22.9	+1.5
BSO1				S		Sb	08 04 48.8	-1.0
JHJ2	**Mitsune**	**2.22**	**274**	P		Pn	08 04 25.2	+1.3
JHJ2				S		Sn	08 04 51.9	+1.3
BSO3	**Boso 3**	**2.44**	**319**	P		Pn	08 04 28.3	+1.6
BSO3				S		Sb	08 04 59.1	-1.7
BSO4	**Boso 4**	**2.67**	**320**	P		Pn	08 04 32.0	+1.9
BSO4				S		Sb	08 05 05.2	-2.7
JOD2	**Odawara 2**	**3.61**	**310**	S		Sn	08 05 25.6	+0.6
JHO	**Hitachi**	**3.95**	**337**	P		Pn	08 04 49.8	+2.0
JYN	**Shimob**	**4.10**	**309**	S		Sn	08 05 40.2	+2.9
JRY	**Ryogami san**	**4.22**	**317**	P		Pn	08 04 53.8	+2.2
JRY				S		Sn	08 05 42.2	+2.0

*ISCJB **15** 08:08:28.6±0.3, 33.23N±0.04×96.21E±0.04, h10km, mb4.0/20, MS3.9/23, Error ellipse: s-maj=5.7km s-min=4.5km az=158.9*
*IDC **15** 08:08:28.5±0.7, 33.23N×96.20E, h0km, mb3.9/17, mb1 4.1/20, mb1mx4.0/45, mbtmp4.0/20, ML4.0/3, MS3.8/27, Ms1 3.9/27, ms1mx3.8/35, Error ellipse: s-maj=23.2km s-min=13.9km az=49.0*
*BJI **15** 08:08:30.2, 33.38N×96.31E, h6km, mb4.5/9, mB4.5/5, ML4.3/9, Ms4.4/21, Ms7 4.3/11*
*NEIC **15** 08:08:35.0±1.1, 33.30N×96.27E, h46km±11km, mb4.5/7, Error ellipse: s-maj=9.7km s-min=7.1km az=61.0*
ISC 15 08:08:30.1±0.5, 33.29N±0.07×96.28E±0.05, h10km, n67, σ1§29/55, mb4.1/20, MS3.9/23, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**5.66**	**232**	*e*Pn		Pn	08 09 58.0	+3.4
	125nm,0.7s							
GTA	**Gaotai**	**6.74**	**24**	*e*Pn		Pn	08 10 12.4	+3.2
GTA				Sn		Sn	08 11 32.6	+6.5
GTA				LN				
	1μm,9.7s							
GTA				LE				
	3μm,9.7s							
CD2	**Chengdu**	**6.77**	**108**	Pn		**Pn**	**08 10 09.0**	**-0.6**
CD2				Sn		**Sn**	**08 11 22.3**	**-4.5**
CD2				Sg		**Sg**	**08 12 06.3**	**-1.1**
CD2				SMN				
	160nm,1.2s							
CD2				SME				
	90nm,1.0s							
CD2				LN				
	4μm,5.9s							
CD2				LE				
	3μm,5.9s							
CD2				LZ				
	3μm,5.5s							
LZH	**Lanzhou**	**6.83**	**64**	Pn		Pn	08 10 14.8	+4.4
LZH				Pg		Pb	08 10 31.8	+2.9
LZH				SMN				
	170nm,1.4s							
LZH				SME				
	98nm,1.1s							
LZH				LN				
	3μm,5.9s							
LZH				LE				
	2μm,6.8s							
LZH				LZ				
	1μm,7.8s							
SHL	**Shillong**	**8.60**	**208**	*e*P		**Pn**	**08 10 36.0**	**+1.2**
SHL				AMB		AMB	08 10 39.2	
	comp=Z,12nm,2.0s							
SHL				*ex*		x	08 12 11.0	
TAPN	**Taplejung**	**9.48**	**234**	*e*P		**Pn**	**08 10 48.7**	**+1.7**
	comp=Z,53nm,0.8s							
KMI	**Kunming**	**9.90**	**144**	P		**Pn**	**08 10 54.8**	**+2.2**
KMI				pP			08 11 00.4	
KMI				PMZ				
	comp=Z,24nm,0.8s							
KMI				LN				
	comp=Z,2μm,6.4s							
KMI				LE				
	comp=Z,2μm,8.8s							
KMI				LZ				
	comp=Z,1μm,8.8s							
ODAN	**Odare**	**10.02**	**233**	*e*P		**Pn**	**08 10 55.9**	**+1.6**
	comp=Z,62nm,0.5s							
GUN	**Gumba**	**10.44**	**242**	*e*P		**Pn**	**08 11 00.3**	**+0.1**
	comp=Z,21nm,0.4s							
RAMN	**Ramite**	**10.49**	**236**	*e*P		**Pn**	**08 11 01.0**	**+0.2**
	comp=Z,24nm,0.5s							
XAN	**Xi'an**	**10.56**	**82**	P		Pn	08 11 04.8	+3.3
XAN				S		**Sn**	**08 13 01.0**	**+1.1**
XAN				LN				
	comp=Z,1μm,13.9s							
XAN				LE				
	comp=Z,340nm,10.7s							
KKN	**Kakani**	**10.95**	**243**	*e*P		**Pn**	**08 11 05.6**	**-1.5**
	comp=Z,22nm,0.5s							
PKI	**Pulchoki**	**10.98**	**242**	*e*P		**Pn**	**08 11 07.1**	**-0.4**
	comp=Z,29nm,0.6s							
DMN	**Daman**	**11.18**	**243**	*e*P		**Pn**	**08 11 08.6**	**-1.6**
	comp=Z,27nm,0.8s							
GYA	**Guiyang**	**11.29**	**124**	*e*P		**Pn**	**08 11 14.3**	**+2.7**
GKN	**Gorkha**	**11.32**	**245**	*e*P		**Pn**	**08 11 10.0**	**-2.1**
	comp=Z,19nm,0.7s							
KOLN	**Koldanda**	**12.23**	**247**	*e*P		Pn	08 11 19.8	-4.8
	comp=Z,18nm,0.6s							
BOK	**Bokaro**	**13.14**	**227**	*e*P		**Pn**	**08 11 36.4**	**-0.4**
BOK				AMB		AMB	08 11 38.0	
	comp=Z,24nm,0.9s							
CMAR	**Chiang Mai Arr**	**14.96**	**170**	Pn		**Pn**	**08 12 02.4**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=339,slow=12,SNR=6.3							
CMAR				LR		LR	08 17 02.3	
	comp=Z,110nm,18.7s,baz=348,slow=34							
SMLA	**Simla**	**16.32**	**268**	*e*P		**Pn**	**08 12 20.5**	**+1.1**
SMLA				AMB		AMB	08 12 25.5	
	comp=Z,8.4nm,1.3s							
SONM	**Songino Array**	**16.41**	**25**	Pn		**P**	**08 12 22.7**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=209,slow=14,SNR=13							
SONM				LR		LR	08 19 08.7	
	comp=Z,411nm,20.4s,baz=234,slow=39							
DHRM	**DHARAMSHALA**	**16.84**	**272**	*e*P		**Pn**	**08 12 25.8**	**-0.4**
DHRM				AMB		AMB	08 12 37.5	
	comp=Z,19nm,1.0s							
MKAR	**Makanchi Array**	**17.19**	**326**	P		**Pn**	**08 12 28.9**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=138,slow=13,SNR=31							
MKAR				LR		LR	08 19 39.4	
	comp=Z,359nm,20.5s,baz=138,slow=39							
TKM2	**Tokmak 2**	**18.87**	**307**	*e*P		**Pn**	**08 12 53.1**	**+2.0**
	comp=Z,9.1nm,1.0s							
NJ2	**Nanjing**	**19.04**	**88**	*e*P		Pn	08 12 59.5	+6.4
NJ2				LN				
	comp=Z,2μm,11.0s							
NJ2				LE				
	comp=Z,1μm,16.0s							
TLY	**Talaya**	**19.15**	**14**	LR		LR	08 20 40.7	
	comp=Z,216nm,18.8s,baz=190,slow=38							
BHPL	**Bhopal**	**19.37**	**244**	*e*P		**Pn**	**08 12 58.0**	**+0.9**
BHPL				AMB		AMB	08 13 00.8	
	comp=Z,13nm,0.9s							
EKS2	**Erkin-Say**	**20.01**	**304**	*e*P		**Pn**	**08 13 04.3**	**-0.4**
	comp=Z,7.1nm,0.8s							
KURBB	**Kurchatov Arra**	**21.68**	**328**	P		**P**	**08 13 20.9**	**0.0**
	comp=Z,9.2nm,0.7s,baz=137,slow=11,SNR=91							
KURK	**Kurchatov**	**21.71**	**329**	*e*P		**P**	**08 13 21.5**	**+0.4**
	comp=Z,11nm,0.8s							
ZAA0	**Zalesovo Array**	**22.20**	**342**	*e*P		**P**	**08 13 27.5**	**+1.1**
ZALV	**Zalesovo Beam**	**22.20**	**342**	P		**P**	**08 13 26.5**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=165,slow=11,SNR=9.5							
ZALV				LR		LR	08 22 20.0	
	comp=Z,151nm,18.2s,baz=254,slow=37							
KBL	**Kabul**	**22.62**	**281**	*e*P		**P**	**08 13 31.7**	**+0.4**
KBL				*e*P		**pP**	**08 13 31.8**	**-2.3**
CN2	**Changchun**	**24.99**	**57**	*e*P		**P**	**08 13 57.0**	**+3.1**
CN2				*es*P		sP	08 14 04.0	+5.8
CN2				*e*S		**S**	**08 18 17.8**	**+0.1**
CN2				PMZ				
	comp=Z,10.0nm,0.7s							
CN2				PMZ				
	comp=Z,200nm,3.0s							
CN2				LN				
	comp=Z,200nm,11.0s							
CN2				LE				
	comp=Z,200nm,11.0s							
CN2				LZ				
	comp=Z,200nm,11.0s							
KSAR	**Wonju Array Be**	**26.04**	**72**	P		**P**	**08 14 03.6**	**+0.2**
KSRS	**Korea Array**	**26.07**	**72**	P		**P**	**08 14 03.6**	**0.0**
	comp=Z,0.9nm,0.7s,baz=278,slow=8.8,SNR=4.6							
KSRS				LR		LR	08 24 27.4	
	comp=Z,218nm,19.3s,baz=267,slow=37							
BVAR	**Borovoye Array**	**27.06**	**325**	P		**P**	**08 14 13.5**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=132,slow=8.7,SNR=2.9							
BVAR				LR		LR	08 25 04.2	
	comp=Z,316nm,21.1s,baz=122,slow=37							
USRK	**Ussuriysk Ar.**	**29.69**	**58**	LR		LR	08 28 03.8	
	comp=Z,282nm,18.0s,baz=256,slow=40							
AKTO	**Aktyubinsk**	**32.80**	**313**	P		**P**	**08 15 04.2**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=121,slow=12,SNR=6.6							
AKTO				LR		LR	08 30 05.9	
	comp=Z,132nm,18.1s,baz=103,slow=40							
MJAR	**Matsushiro Arr**	**34.34**	**73**	LR		LR	08 29 08.7	
	comp=Z,162nm,18.2s,baz=255,slow=36							
YAK	**Yakutsk**	**35.76**	**26**	LR		LR	08 31 06.6	
	comp=Z,307nm,20.7s,baz=238,slow=38							
KBZ	**Khabaz**	**42.40**	**300**	P		**P**	**08 16 24.4**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=82,slow=7.1,SNR=3.8							
KBZ				LR		LR	08 37 11.0	
	comp=Z,185nm,19.3s,baz=70,slow=41							
SEY	**Seymchan**	**45.62**	**32**	LR		LR	08 37 50.1	
	comp=Z,225nm,18.8s,baz=215,slow=38							
PETK	**Petropavlovsk-**	**47.36**	**46**	LR		LR	08 37 22.3	
	comp=Z,73nm,21.3s,baz=267,slow=36							
GUMO	**Guam**	**48.22**	**102**	LR		LR	08 36 55.4	
	comp=Z,62nm,20.5s,baz=324,slow=35							
BRTR	**Keskin Array B**	**49.87**	**296**	P		**P**	**08 17 23.0**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=101,slow=6.4,SNR=4.9							
AKASG	**Malin Array Be**	**51.01**	**311**	P		**P**	**08 17 30.8**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=75,slow=6.7,SNR=5.4							
AKASG				LR		LR	08 40 47.0	
	comp=Z,93nm,18.1s,baz=80,slow=38							
FINES	**FINESS Array B**	**52.02**	**325**	P		**P**	**08 17 39.5**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=97,slow=6.0,SNR=4.0							
FINES				LR		LR	08 41 22.6	
	comp=Z,77nm,18.7s,baz=101,slow=38							
ARCES	**ARCESS Array B**	**52.53**	**335**	P		**P**	**08 17 44.0**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=80,slow=7.5,SNR=6.4							
ARCES				LR		LR	08 41 53.1	
	comp=Z,147nm,20.3s,baz=87,slow=38							
DPC	**Dobruska-Polom**	**59.14**	**313**	*e*P		**P**	**08 18 31.6**	**+0.8**
DPC				*ex*		x	08 18 35.8	
DPC				*ep*P		pP	08 18 40.5	+6.4
NB2	**NORSAR Subarra**	**59.19**	**326**	P		**P**	**08 18 29.9**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=76,slow=6.9							
NOA	**NORSAR Array B**	**59.19**	**326**	P		**P**	**08 18 30.3**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=76,slow=7.0,SNR=8.1							
NOA				LR		LR	08 45 34.8	
	comp=Z,126nm,19.7s,baz=80,slow=38							
GERES	**GERESS Array B**	**61.21**	**312**	P		**P**	**08 18 44.3**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=60,slow=8.1,SNR=6.5							
GERES				LR		LR	08 46 45.8	
	comp=Z,110nm,19.1s,baz=82,slow=38							
WRAB	**Tennant Creek**	**64.20**	**140**	*e*P		**P**	**08 19 05.7**	**+0.5**
	comp=Z,15nm,1.5s							
WRA	**Warramunga Arr**	**64.20**	**140**	P		**P**	**08 19 04.8**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=320,slow=9.0,SNR=11							
KMBO	**Kilima Mbogo**	**65.15**	**251**	P		**P**	**08 19 11.8**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=39,slow=13,SNR=3.6							
KMBO	**Kilima Mbogo**	**65.15**	**251**	*e*P		**P**	**08 19 12.0**	**+0.1**
	comp=Z,5.6nm,1.1s							
LPG	**La Plagne**	**66.85**	**310**	*e*P		**P**	**08 19 22.3**	**-0.2**
	comp=Z,16nm,0.8s							
LPL	**La Plagne**	**66.86**	**310**	*e*P		**P**	**08 19 21.8**	**-0.7**
ASAR	**Alice Springs**	**67.03**	**143**	P		**P**	**08 19 23.7**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=328,slow=6.7,SNR=14							
ASAR				LR		LR	08 51 15.6	
	comp=Z,46nm,19.2s,baz=298,slow=38							
ORIF	**Oris-en-Rattie**	**67.65**	**310**	*e*P		**P**	**08 19 26.8**	**-0.6**
KEST	**Kesra**	**69.27**	**300**	LR		LR	08 56 02.6	
	comp=Z,15nm,18.6s,baz=316,slow=41							
ILAR	**Eielson Array**	**70.64**	**24**	P		**P**	**08 19 46.1**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=314,slow=6.4,SNR=5.3							
ILAR				LR		LR	08 53 39.0	
	comp=Z,94nm,18.7s,baz=330,slow=38							
STKA	**Stephens Creek**	**77.64**	**142**	LR		LR	08 59 56.8	
	comp=Z,81nm,18.6s,baz=351,slow=40							
TORD	**Torodi Ar. Bea**	**86.66**	**283**	P		**P**	**08 21 14.2**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=39,slow=5.4,SNR=5.3							
TORD				LR		LR	09 03 19.1	
	comp=Z,75nm,18.7s,baz=355,slow=38							
BOSA	**Boshof**	**91.19**	**236**	LR		LR	08 59 55.0	
	comp=Z,77nm,20.1s,baz=358,slow=34							
DBIC	**Dimbokro**	**95.61**	**282**	LR		LR	09 08 46.2	
	comp=Z,72nm,18.6s,baz=40,slow=38							

*MEX **15** 08:11:22.8±1.4, 33.03N×115.95W, h16km±40km, MD3.7*
*ISCJB **15** 08:11:23.5±0.4, 32.74N±0.02×115.94W±0.03, h13km±3km, Error ellipse: s-maj=4.1km s-min=3.8km az=21.4*
*NEIC **15** 08:11:24.4, 32.71N×115.95W, h0km, ML3.6(PAS), After PAS.*
*ECX **15** 08:11:24.7±0.6, 32.71N×115.94W, h3km, MD3.4, ML3.7*
ISC 15 08:11:23.7±0.8, 32.68N±0.02×115.93W±0.02, h13km±5km, n38, σ0§91/51, 9C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YUH	**Yuha Desert**	**0.04**	**171**	*e*Pn		**Pg**	**08 11 25.5**	**-0.5**
RMX	**La Rumorosa**	**0.15**	**238**	⇑*i*P		**Pg**	**08 11 27.6**	**+0.1**
RMX				*e*S		**Sg**	**08 11 30.2**	**+0.1**
RMX				⇓*e*			08 11 31.1	
RMX				IAML			08 11 31.1	
	comp=N,16μm,0.4s							
SGL	**Mount Signal**	**0.18**	**101**	⇑*i*P		**Pg**	**08 11 28.0**	**+0.2**
WESC	**Westside Schoo**	**0.18**	**65**	⇑*i*P		**Pg**	**08 11 28.1**	**+0.2**
WESC				*e*S		**Sg**	**08 11 31.6**	**+0.9**
CRR	**Carrizo Plain**	**0.21**	**351**	⇓*i*P		**Pg**	**08 11 27.9**	**-0.4**
ERPC	**Ernies Place**	**0.23**	**75**	⇑*i*P		**Pg**	**08 11 29.3**	**+0.6**
COK	**Cook Ranch**	**0.24**	**46**	⇑*i*P		**Pg**	**08 11 29.0**	**+0.2**
CPBX	**Cerro Prieto**	**0.59**	**116**	*e*P		**Pb**	**08 11 35.9**	**0.0**
CPBX				*i* S		Sn	**08 11 47.3**	**-0.1**
CPBX	**Cerro Prieto**	**0.59**	**116**	*e*Pn		Pg	08 11 30.9	-4.4
CPBX				*e*S		**Sg**	**08 11 39.6**	**-3.5**
CPBX				⇑*e*			08 11 42.7	
CPBX				IAML			08 11 42.7	
	comp=E,18μm,0.6s							
BAR	**Barrett**	**0.63**	**270**	⇑*i*P		**Pg**	**08 11 36.0**	**0.0**
MBIG	**Mexicali**	**0.68**	**114**	*e*P		**Pb**	**08 11 37.4**	**0.0**
MBIG				*i* S		**Sb**	**08 11 46.7**	**0.0**
CBX	**Cerro Bola**	**0.72**	**239**	*e*P		**Pg**	**08 11 37.7**	**0.0**
CBX				*i* S		**Sg**	**08 11 47.9**	**+0.7**
CBX	**Cerro Bola**	**0.72**	**239**	⇑*i*P		**Pg**	**08 11 37.7**	**0.0**
CBX				*i* S		**Sg**	**08 11 47.9**	**+0.7**
CBX	**Cerro Bola**	**0.72**	**239**	⇑*i*P		**Pg**	**08 11 38.0**	**+0.3**
CBX				*e*S		**Sg**	**08 11 47.7**	**+0.4**
RDX	**Rancho Dawling**	**0.75**	**181**	⇓*e*P		**Pg**	**08 11 38.3**	**-0.1**
RDX				IAML			08 11 49.7	
	comp=N,2μm,0.3s							
SDRC	**San Diego Road**	**0.86**	**274**	⇑*e*P		**Pg**	**08 11 39.8**	**-0.5**
PFO	**Pinyon Flats O**	**1.02**	**335**	*e*Pg		**Pb**	**08 11 42.1**	**-1.3**
PFO				*e*Sg		**Sb**	**08 11 55.7**	**-1.2**
PBX	**Punta Banda**	**1.16**	**216**	*e*P		**Pb**	**08 11 45.4**	**-0.2**
ECNX	**Esteban Cantu**	**1.17**	**209**	*e*P		**Pb**	**08 11 46.0**	**+0.1**
ECNX				*e*S		**Sg**	**08 12 01.8**	**+0.3**
ZAX	**El Zacaton**	**1.20**	**194**	*e*P		**Pb**	**08 11 46.5**	**+0.1**
ZAX				*e*S		**Sn**	**08 12 02.6**	**0.0**
ECBX	**El Chinero**	**1.42**	**148**	*e*Pn		**Pn**	**08 11 48.3**	**-0.9**
ECBX				*e*S		**Sn**	**08 12 07.7**	**-0.1**
SPIG	**San Pedro Mart**	**1.68**	**166**	*e*P		**Pn**	**08 11 53.1**	**0.0**
SPIG				*i* S		**Sg**	**08 12 17.7**	**-0.1**
SPIG	**San Pedro Mart**	**1.68**	**166**	*e*P		**Pn**	**08 11 53.1**	**0.0**
SPIG				*i* S		**Sg**	**08 12 17.7**	**-0.1**
SPX	**San Pedro Mart**	**1.68**	**166**	*e*P		**Pn**	**08 11 53.2**	**0.0**
SPX				*i* S		**Sb**	**08 12 16.5**	**+0.6**
SPX	**San Pedro Mart**	**1.68**	**166**	*e*P		**Pn**	**08 11 54.1**	**+1.0**
SPX				IAML			08 12 20.8	
	comp=E,364nm,0.7s							
214A	**Pegan Pipe Nat**	**2.74**	**105**	*e*Pn		**Pn**	**08 12 05.9**	**-1.5**
DAC	**Darwin (Calif)**	**3.84**	**339**	*e*Pn		**Pn**	**08 12 22.5**	**-0.3**
SHPR	**Sheep Range**	**3.87**	**9**	*e*Pn		**Pn**	**08 12 23.4**	**+0.3**
SHPR				*e*Pg		**Pg**	**08 12 38.3**	**+0.5**
TUC	**Tucson**	**4.36**	**94**	*e*Pn		**Pn**	**08 12 29.9**	**+0.1**
WUAZ	**Wupatki**	**4.72**	**52**	*e*Pn		**Pn**	**08 12 36.1**	**+1.3**
CCUT	**Cedar City**	**5.29**	**23**	*e*Pn		**Pn**	**08 12 44.3**	**+1.6**
	comp=E,4.4nm,0.8s							
TPH	**Tonopah**	**5.48**	**349**	*e*Pn		**Pn**	**08 12 46.4**	**+1.1**
	comp=E,6.1nm,0.7s							
TPH				*e*Pg		Pb	08 13 04.4	+4.9
R11A	**Troy Canyon, C**	**5.66**	**3**	*e*Pg		**Pg**	**08 13 11.1**	**-1.1**
	comp=E,2.8nm,0.6s							
W18A	**Petrified Fore**	**5.69**	**63**	*e*Pn		**Pn**	**08 12 49.6**	**+1.4**
	comp=E,9.7nm,0.6s							
MVU	**Marysvale**	**6.55**	**26**	*e*Pn		Pn	08 13 06.1	+6.1
	comp=E,3.4nm,0.7s							
MSU	**Marysvale**	**6.57**	**27**	*e*Pn		Pn	08 13 05.1	+4.8
	comp=E,2.9nm,0.6s							
121A	**Cookes Peak, D**	**6.87**	**89**	*e*Pn		**Pn**	**08 13 04.6**	**+0.2**
	comp=E,12nm,0.5s							
SRU	**San Rafael Swe**	**7.77**	**33**	*e*Pn		**Pn**	**08 13 19.4**	**+2.7**
	comp=E,3.2nm,0.6s							

*IASPEI **15** 08:14:45.8±0.8, 32.68N±0.02×115.89W±0.02, h16km±4km, MS3.2/3, Error ellipse: s-maj=3.2km s-min=2.5km az=169.5*
*ISCJB **15** 08:14:46.0±0.3, 32.69N±0.01×115.89W±0.02, h10km±2km, mb3.0/1, MS3.2/3, Error ellipse: s-maj=2.4km s-min=2.3km az=17.8*
*IDC **15** 08:14:46.9±2.1, 32.75N×115.80W, h0km, mb3.1/1, mb1 3.7/6, mb1mx3.5/47, mbtmp3.3/6, ML3.5/5, MS3.2/9, Ms1 3.2/9, ms1mx3.1/15, Error ellipse: s-maj=32.8km s-min=13.0km az=42.0*
*ECX **15** 08:14:47.2±0.7, 32.69N×115.91W, h3km, MD4.0, ML4.2*
*NEIC **15** 08:14:47.0, 32.69N×115.91W, h4km, ML3.9(ECX), ML4

baz=1.0
BC3 Big Chuckawall 1.06 20 P **Pg** 08 15 05.1 -2.1
baz=1.0
BC3 S **Sg** 08 15 18.3 -2.7
baz=1.0
PFO Pinyon Flats O 1.06 334 P **Pg** 08 15 05.1 -2.1
baz=1.0
PFO S **Sg** 08 15 18.9 -2.2
baz=1.0
PFO Pinyon Flats O 1.06 334 *e*Pg **Pg** 08 15 04.8 -2.4
PFO *e*Sg **Sg** 08 15 19.0 -2.1
PBX Punata Banda 1.16 218 *e*P **Pg** 08 15 08.1 -0.8
PBX *e*S **Sb** 08 15 23.8 +0.6
PBX Punata Banda 1.16 218 *e*P **Pg** 08 15 08.1 -0.8
PBX *e*S **Sb** 08 15 23.8 +0.6
ECNX Esteban Cantu 1.17 211 *e*P **Pg** 08 15 08.2 -0.9
ECNX *e*S **Sb** 08 15 24.1 +0.5
ECNX Esteban Cantu 1.17 211 *e*P **Pg** 08 15 08.2 -0.9
ECNX *e*S **Sb** 08 15 24.1 +0.5
ZAX El Zacaton 1.19 196 *e*P **Pg** 08 15 08.8 -0.7
ZAX *e*S **Sn** 08 15 25.3 +0.5
ZAX IAML 08 15 28.6
comp=N,8µm,0.4s
ZAX *e* 08 15 28.6
BELC Belle Mtn. Jos 1.34 356 P **Pn** 08 15 09.2 -1.8
baz=1.3
ECBX El Chinero 1.38 149 *e*Pn **Pn** 08 15 10.3 -1.1
ECBX *e*S **Sb** 08 15 29.6 0.0
MURC Murrieta 1.45 311 P **Pn** 08 15 11.2 -1.1
baz=1.4
MURC S **Sn** 08 15 31.1 -0.1
baz=1.4
Y12C Blythe 1.58 46 P **Pn** 08 15 12.8 -1.4
baz=1.6
IRM Iron Mountain 1.62 22 P **Pn** 08 15 13.5 -1.3
baz=1.6
SPIG San Pedro Mart 1.65 167 *e*P **Pn** 08 15 15.3 -0.1
SPIG *i* S **Sn** 08 15 32.3 -4.2
SPIG San Pedro Mart 1.65 167 *e*P **Pn** 08 15 15.3 -0.1
SPIG *i* S **Sn** 08 15 32.3 -4.2
SPX San Pedro Mart 1.65 167 *e*P **Pn** 08 15 13.8 -1.6
SPX *i* S Sn 08 15 30.6 -5.9
SPX San Pedro Mart 1.65 167 *e*Pn **Pg** 08 15 17.5 -0.9
SPX *e*S **Sg** 08 15 39.1 -0.7
BBRC Big Bear Solar 1.82 332 P **Pn** 08 15 16.9 -0.8
baz=1.8
BBRC S **Sn** 08 15 39.4 -1.2
baz=1.8
GMRC Granite Mounta 2.12 5 P **Pn** 08 15 20.7 -1.1
baz=2.1
GMRC Sg **Sg** 08 15 53.6 -1.4
baz=2.1
BFSC Mount Baldy Ra 2.16 317 P **Pn** 08 15 21.6 -0.7
baz=2.1
BFSC Sb **Sb** 08 15 52.0 -0.3
baz=2.1
PDMCI Parker Dam,Lak 2.19 41 P **Pn** 08 15 22.0 -0.6
baz=2.2
HEC Hector,Ludlow 2.20 350 P **Pn** 08 15 21.7 -1.1
baz=2.2
CIS Catalina Islan 2.24 290 P **Pn** 08 15 24.0 +0.8
baz=2.2
CIS S **Sn** 08 15 51.7 +1.0
baz=2.2
SCI San Clemente I 2.26 279 P **Pn** 08 15 23.7 +0.2
baz=2.2
FMP Fort Macarthur 2.27 298 Pb **Pb** 08 15 26.3 -1.1
baz=2.2
FMP Sb **Sb** 08 15 55.5 +0.1
baz=2.2
NEE2 Needles Airpor 2.35 26 P **Pn** 08 15 24.6 -0.2
baz=2.3
RRX Edison Barstow 2.40 338 Pg **Pb** 08 15 29.9 +0.3
baz=2.4
DECC Green Verdugo 2.59 309 Pb **Pb** 08 15 32.0 -0.8
baz=2.6
DECC Sb **Sb** 08 16 05.5 +1.1
baz=2.6
214A Organ Pipe Nat 2.70 104 P **Pn** 08 15 28.2 -1.4
baz=2.7
214A Organ Pipe Nat 2.70 104 *e*Pn **Pn** 08 15 28.5 -1.1
214A *e*Pg **Pg** 08 15 37.8 -0.6
GSC Goldstone, Bar 2.75 344 Pg **Pb** 08 15 36.8 +1.2
baz=2.7
TUQ Turquoise Moun 2.77 359 P **Pn** 08 15 29.6 -1.1
baz=2.8
EDW2 Edwards Air Fo 2.82 322 Pb **Pb** 08 15 37.0 +0.1
baz=2.8
EDW2 Sb **Sb** 08 16 12.4 +1.1
baz=2.8
BLG Laguna Peak, P 3.03 299 Sb **Sb** 08 16 18.9 +1.9
baz=3.0
LRMC Laurel Mtn Rad 3.19 333 P **Pn** 08 15 35.9 -0.5
baz=3.2
SHOC Shoshone, Teco 3.25 354 P **Pn** 08 15 36.5 -0.7
baz=3.2
ARVC Arvin 3.47 316 Sb **Sb** 08 16 31.8 +2.0
baz=3.4
MPMC Manual Prospec 3.64 339 P **Pn** 08 15 42.0 -0.7
baz=3.6
DAC Darwin (Calif) 3.88 339 *e*Pn **Pn** 08 15 44.9 -1.0
DAC *e*Pg **Pb** 08 15 57.6 +2.8
SHPR Sheep Range 3.88 9 *e*Pn **Pn** 08 15 45.9 -0.1
SHPR *e*Pg **Pg** 08 16 01.6 +0.5
FURC Furnace Creek, 3.89 348 P **Pn** 08 15 45.9 +0.1
baz=3.9
VES Vestal, Richgr 4.13 321 P **Pn** 08 15 48.9 -0.4
baz=4.1
TPNV Topopah Spring 4.29 356 P **Pn** 08 15 51.5 -0.1
baz=4.3
TUC Tucson 4.33 93 *e*Pn **Pn** 08 15 52.0 0.0
GRAC Grapevine Rang 4.50 345 P **Pn** 08 15 54.2 -0.1
baz=4.5
WUAZ Wupatki 4.71 51 P **Pn** 08 15 58.0 +0.7
baz=4.7
WUAZ Wupatki 4.71 51 *e*Pn **Pn** 08 15 58.4 +1.1
WUAZ *e*Sg **Sg** 08 17 17.0 -0.8
CCUT Cedar City 5.30 22 *e*Pn **Pn** 08 16 06.6 +1.1
comp=N,1.0nm,0.6s
TPH Tonopah 5.51 349 *e*Pn **Pn** 08 16 09.3 +0.9
TPH *e*Pg Pb 08 16 27.7 +5.0
W18A Petrified Fore 5.67 63 P **Pn** 08 16 12.0 +1.4
baz=5.7
W18A Petrified Fore 5.67 63 *e*Pn **Pn** 08 16 12.0 +1.4
W18A *e*Sg **Sg** 08 17 49.2 +0.4
R11A Troy Canyon, C 5.68 2 *e*Pg **Pg** 08 16 34.0 -1.5
NVAR Mina Array Bea 6.09 342 Pn **Pn** 08 16 17.7 +1.4
comp=N,0.2nm,0.3s,baz=166,slow=16,SNR=4.4
NVAR Pg Pg 08 16 38.4 -4.8
comp=N,1.5nm,0.3s,baz=154,slow=17,SNR=13
NVAR Lg Lg 08 17 59.8
baz=161,slow=35,SNR=1.9
WAKR Walker 6.51 335 *e*Pg **Pg** 08 16 48.5 -2.8
MVU Marysvale 6.56 26 *e*Pn Pn 08 16 27.5 +4.7
MSU Marysvale 6.58 26 *e*Pn Pn 08 16 27.8 +4.7
comp=N,5.9nm,1.2s
121A Cookes Peak, D 6.84 89 P **Pn** 08 16 26.6 -0.1
baz=6.8
121A Cookes Peak, D 6.84 89 *e*Pn **Pn** 08 16 27.0 +0.3
comp=N,8.8nm,0.5s
DUG Dugway, Tooele 7.92 17 *e*Pg **Pg** 08 17 16.5 -1.7
DUG *e*Sg **Sg** 08 19 00.8 +0.1
PV04 Paradox Valley 8.07 43 *e*Pn Pn 08 16 47.6 +4.1
PV04 *e*Pg **Pg** 08 17 19.6 -1.5
PV04 *e*Sg **Sg** 08 19 02.6 -2.9
ELK Elko 8.09 4 Pg **Pg** 08 17 19.9 -1.6
comp=N,0.3nm,0.3s,baz=200,slow=16,SNR=8.5
ELK Lg Lg 08 19 02.1
comp=N,0.1nm,0.3s,baz=220,slow=3.5,SNR=2.6
ELK LR LR 08 20 07.6
comp=N,153nm,18.9s,baz=168,slow=40
ANMO Albuquerque 8.17 71 Pn **Pn** 08 16 46.3 +1.3
comp=N,0.2nm,0.3s,baz=261,slow=15,SNR=3.9
ANMO Lg Lg 08 19 06.2
comp=N,0.1nm,0.3s,baz=12,slow=20,SNR=3.3
ANMO LR LR 08 20 09.2
comp=N,149nm,18.4s,baz=287,slow=40
HWUT Hardware Ranch 9.57 20 *e*Pn Pn 08 17 09.1 +5.0
comp=N,2.0nm,0.3s
LPIG La Paz 9.84 149 LR LR 08 20 48.7
comp=N,94nm,20.7s,baz=10,slow=37
YBH Yreka Blue Hor 10.56 331 LR LR 08 21 56.4
comp=N,99nm,18.6s,baz=221,slow=41
TXAR Lajitas Array 11.00 104 Pn Pn 08 17 26.9 +3.3
comp=N,0.1nm,0.3s,baz=290,slow=12,SNR=9.0
TXAR Lg Lg 08 20 44.4
comp=N,0.0nm,0.3s,baz=291,slow=25,SNR=5.0
TXAR LR LR 08 22 08.6
comp=N,101nm,18.2s,baz=0.0,slow=40
MSTX Muleshoe 11.05 80 P **Pn** 08 17 27.5 +3.1
baz=11
MSTX Muleshoe 11.05 80 *e*Pn Pn 08 17 28.2 +3.9
comp=N,29nm,1.1s
PDAR Pinedale Array 11.26 25 Pn **Pn** 08 17 30.1 +2.8
comp=N,0.1nm,0.3s,baz=216,slow=12,SNR=7.6
631A Perdido Creek 13.52 100 P Pn 08 18 02.7 +4.7
baz=14
532A Rocksprings 13.88 96 P P 08 18 07.7 -3.6
baz=14
Z33A Whitaker Ranch 14.39 83 P **P** 08 18 14.8 -2.0
baz=14
X33A Lawton 14.62 78 P **P** 08 18 18.0 -1.2
baz=15
334A Lometa 15.04 90 P **P** 08 18 22.8 -1.2
baz=15
434A Burnet 15.11 92 P **P** 08 18 23.5 -1.3
baz=15
NEW Newport 15.62 357 Pn **P** 08 18 30.0 -0.4
comp=N,0.1nm,0.3s,baz=157,slow=15,SNR=2.7
NEW LR LR 08 24 57.3
comp=N,71nm,19.0s,baz=167,slow=39
H26A Fairpoint 15.71 37 P **P** 08 18 30.4 -1.0
baz=16
F24A Ekalaka 15.85 31 P **P** 08 18 32.9 -0.1
baz=16
EGMT Eagleton 16.04 15 P **Pn** 08 18 33.8 +2.2
baz=16
ECSD EROS Data Cent 18.71 48 P **Pn** 08 19 09.7 +4.7
baz=19
B29A Wagenman Farm, 20.11 33 P Pn 08 19 24.6 +2.9
baz=20
A30A Hoffart Farm, 20.94 34 P Pn 08 19 32.6 +1.2
baz=21
BBB Bella Bella 21.44 339 LR LR 08 28 38.5
comp=N,86nm,19.7s,baz=172,slow=39
TKL Tuckaleechee C 26.68 75 LR LR 08 31 21.6
comp=N,72nm,21.2s,baz=272,slow=37
DLBC Dease Lake 27.50 344 LR LR 08 32 28.1
comp=N,104nm,19.9s,baz=180,slow=39
ILAR Eielson Array 37.33 339 P **P** 08 21 59.9 +1.8
comp=N,0.2nm,0.8s,baz=142,slow=9.0,SNR=3.3

*NNC **15** 08:15:36.3±5.8, 54°.71N×86°.00E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=44.8km s-min=38.8km az=169.0*
*IDC **15** 08:15:37.6±3.0, 54°.59N×86°.25E, h0km, mb1 2.9/2, mb1mx2.8/37, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=23.7km s-min=14.5km az=42.0*
ISC 15 08:15:37.9±4.8, 54°.8N±0°.2×86°.2E±0°.2, h35km, n7, σ1$54/9, 7C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**223**	*i*		08 22 40.0	
ZALV	**Zalesovo Beam**	**1.22**	**223**	Pg	**Pn**	**08 15 56.4**	**-2.1**
	1.4nm,0.3s,baz=51,slow=16,SNR=8.8						
ZALV				Lg	Lg	08 16 12.5	
	3.5nm,0.3s,baz=52,slow=28,SNR=15						
ZALV				Rg	Rg	08 16 30.4	
	28nm,1.2s,baz=53,slow=30,SNR=7.7						
KURK	**Kurchatov**	**6.20**	**231**	⇑Pn	**Pn**	**08 17 06.4**	**-0.5**
	1.7nm,1.3s						
KURK				⇑Sn	**Sn**	**08 18 18.3**	**+1.9**
	0.6nm,1.1s						
KURK				⇑Lg	Lg	08 18 50.0	
	2.1nm,1.3s						
KURBB	**Kurchatov Arra**	**6.31**	**231**	⇑Pn	**Pn**	**08 17 08.2**	**-0.1**
	2.4nm,0.7s,baz=49,slow=13						
KURBB				⇑Sn	**Sn**	**08 18 18.3**	**-0.8**
	2.1nm,0.7s,baz=38,slow=20						
KURBB				⇑Lg	Lg	08 18 51.7	
	8.4nm,1.3s						
KURBB	**Kurchatov Arra**	**6.31**	**231**	Pn	**Pn**	**08 17 10.3**	**+2.0**
	0.1nm,0.3s,baz=50,slow=13,SNR=9.4						
KURBB				Lg	Lg	08 18 56.5	
	0.0nm,0.3s,baz=51,slow=34,SNR=8.6						
MK31	**Makanchi Array**	**8.44**	**199**	⇓Pn	**Pn**	**08 17 37.8**	**+0.2**
	0.3nm,0.6s,baz=3.2,slow=28,SNR=11						
MK31				Sn	**Sn**	**08 19 11.0**	**-0.6**
	0.4nm,0.5s,baz=257,slow=25,SNR=8.4						
MK31				⇑Lg	Lg	08 19 57.9	
	2.4nm,1.1s						
MKAR	**Makanchi Array**	**8.44**	**199**	Pn	**Pn**	**08 17 38.7**	**+1.1**
	0.1nm,0.3s,baz=23,slow=14,SNR=8.4						

*MEX **15** 08:16:47.5±0.8, 33°.13N×115°.98W, h16km±22km, MD3.5*
*ISCJB **15** 08:16:50.3±0.3, 32°.70N±0°.02×115°.90W±0°.02, h10km±2km, Error ellipse: s-maj=2.9km s-min=2.5km az=38.2*
*NEIC **15** 08:16:51.4, 32°.68N×115°.91W, h6km, ML3.8(ECX), ML4.0(PAS), After PAS.*
*ECX **15** 08:16:51.5±0.5, 32°.69N×115°.92W, h3km, MD3.8, ML4.0*
ISC 15 08:16:50.5±0.8, 32°.68N±0°.02×115°.92W±0°.02, h14km±5km, n55, σ0$93/91, 3C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBP	**Imperial Bould**	**0.15**	**264**	P	**Pg**	**08 16 54.3**	**0.0**
	baz=0.1						
IBP				S	**Sg**	**08 16 57.1**	**+0.2**
	baz=0.1						
IBP	**Imperial Bould**	**0.15**	**264**	*e*P	**Pg**	**08 16 54.4**	**0.0**
IBP				*e*S	**Sg**	**08 16 57.1**	**+0.2**
RMX	**La Rumorosa**	**0.15**	**241**	*e*P	**Pg**	**08 16 54.6**	**+0.1**
RMX				*e*S	**Sg**	**08 16 56.7**	**-0.4**
RMX	**La Rumorosa**	**0.15**	**241**	*e*P	**Pg**	**08 16 54.6**	**+0.1**
RMX				*e*S	**Sg**	**08 16 57.1**	**0.0**
WESC	**Westside Schoo**	**0.18**	**63**	*e*P	**Pg**	**08 16 54.6**	**-0.1**
WESC				*e*S	**Sg**	**08 16 58.0**	**+0.5**
WESC	**Westside Schoo**	**0.18**	**63**	*e*P	**Pg**	**08 16 54.6**	**-0.1**
WESC				*e*S	**Sg**	**08 16 58.0**	**+0.5**
ERPC	**Ernies Place**	**0.23**	**73**	*i* P	**Pg**	**08 16 55.7**	**+0.2**
ERPC	**Ernies Place**	**0.23**	**73**	*i* P	**Pg**	**08 16 55.7**	**+0.2**
COK	**Cook Ranch**	**0.23**	**43**	*e*P	**Pg**	**08 16 56.2**	**+0.5**
COK	**Cook Ranch**	**0.23**	**43**	*e*Pn	**Pg**	**08 16 55.8**	**+0.2**
SWSC	**Sam W. Stewart**	**0.28**	**21**	P	**Pg**	**08 16 56.3**	**-0.2**
	baz=0.3						
SWSC				S	**Sg**	**08 17 00.2**	**-0.2**
	baz=0.3						
SWSC	**Sam W. Stewart**	**0.28**	**21**	*e*P	**Pg**	**08 16 56.3**	**-0.2**
SWSC	**Sam W. Stewart**	**0.28**	**21**	⇓*i* P	**Pg**	**08 16 56.3**	**-0.2**
CBKC	**Canebrake**	**0.36**	**308**	*e*P	**Pg**	**08 16 58.4**	**+0.6**
CBKC	**Canebrake**	**0.36**	**308**	*e*Pn	**Pg**	**08 16 58.4**	**+0.6**
MONP	**Monument Peak,**	**0.47**	**297**	P	**Pg**	**08 17 00.2**	**+0.2**
	baz=0.5						
MONP				S	**Sg**	**08 17 06.6**	**+0.3**
	baz=0.5						
CPBX	**Cerro Prieto**	**0.58**	**116**	*e*P	**Pg**	**08 17 02.1**	**+0.2**
CPBX				*i* S	**Sn**	**08 17 14.4**	**+0.6**
BAR	**Barrett**	**0.64**	**270**	*e*P	**Pg**	**08 17 03.1**	**+0.1**
BAR				*e*S	**Sg**	**08 17 11.0**	**-0.4**
BAR	**Barrett**	**0.64**	**270**	⇑*e*P	**Pg**	**08 17 03.1**	**+0.1**
BAR				*e*S	**Sg**	**08 17 11.6**	**+0.2**
MBIG	**Mexicali**	**0.67**	**114**	*e*P	**Pg**	**08 17 03.2**	**-0.3**
MBIG				*i* S	**Sn**	**08 17 14.6**	**-1.2**
CBX	**Cerro Bola**	**0.73**	**240**	*e*P	**Pg**	**08 17 03.3**	**-1.4**
CBX				*e*S	**Sg**	**08 17 14.8**	**+0.5**
CBX	**Cerro Bola**	**0.73**	**240**	*i* P	**Pg**	**08 17 05.0**	**+0.3**
CBX				*e*S	**Sg**	**08 17 14.9**	**+0.5**
CBX	**Cerro Bola**	**0.73**	**240**	⇑*i*P	**Pg**	**08 17 05.0**	**+0.3**
CBX				*e*S	**Sg**	**08 17 14.9**	**+0.5**
RDX	**Rancho Dawling**	**0.75**	**182**	*e*P	**Pg**	**08 17 04.7**	**-0.4**
RDX				*e*S	**Sg**	**08 17 14.6**	**-0.3**
RDX	**Rancho Dawling**	**0.75**	**182**	*e*P	**Pg**	**08 17 04.7**	**-0.4**
RDX				⇓*e*		08 17 18.4	
RDX				IAML		08 17 18.4	
	comp=N,3µm,0.4s						
SDRC	**San Diego Road**	**0.86**	**274**	*e*P	**Pg**	**08 17 07.0**	**-0.3**
GLA	**Glamis**	**0.99**	**68**	P	**Pb**	**08 17 08.4**	**-1.2**
	baz=1.0						
GLA				S	**Sb**	**08 17 21.2**	**-1.4**
	baz=1.0						
109C	**Camp Elliot, M**	**1.02**	**282**	P	**Pb**	**08 17 09.7**	**-0.4**
	baz=1.0						
109C				S	**Sb**	**08 17 22.9**	**-0.4**
	baz=1.0						
PFO	**Pinyon Flats O**	**1.03**	**334**	P	**Pb**	**08 17 09.4**	**-0.9**
	baz=1.0						
PFO				S	**Sb**	**08 17 22.9**	**-0.9**
	baz=1.0						
PFO	**Pinyon Flats O**	**1.03**	**334**	*e*Pg	**Pb**	**08 17 09.4**	**-0.9**
PFO				*e*Sg	**Sb**	**08 17 23.0**	**-0.8**
BC3	**Big Chuckawall**	**1.05**	**22**	P	**Pb**	**08 17 09.4**	**-1.2**
	baz=1.0						
PBX	**Punata Banda**	**1.16**	**216**	*e*P	**Pn**	**08 17 11.6**	**-0.8**
PBX				*e*S	**Sb**	**08 17 27.6**	**+0.4**
PBX	**Punata Banda**	**1.16**	**216**	*e*Pn	**Pn**	**08 17 11.6**	**-0.8**
PBX				*e*S	**Sb**	**08 17 27.6**	**+0.4**
ECNX	**Esteban Cantu**	**1.17**	**210**	*e*P	**Pn**	**08 17 12.0**	**-0.6**
ECNX				*e*S	**Sb**	**08 17 28.1**	**+0.4**
ECNX	**Esteban Cantu**	**1.17**	**210**	*e*P	**Pn**	**08 17 12.2**	**-0.4**
ECNX				*e*S	**Sb**	**08 17 28.1**	**+0.4**
ZAX	**El Zacaton**	**1.20**	**195**	*e*P	**Pn**	**08 17 12.7**	**-0.3**
ZAX				*e*S	**Sb**	**08 17 29.1**	**+0.5**
BELC	**Belle Mtn. Jos**	**1.32**	**357**	P	**Pn**	**08 17 13.5**	**-1.3**
	baz=1.3						
ECBX	**El Chinero**	**1.41**	**148**	*e*Pn	**Pn**	**08 17 13.3**	**-2.5**
ECBX				*e*S	**Sn**	**08 17 32.5**	**-1.7**
MURC	**Murrieta**	**1.42**	**311**	Pg	**Pb**	**08 17 16.8**	**+0.1**
	baz=1.4						
MURC				Sb	**Sb**	**08 17 35.1**	**+0.3**
	baz=1.4						
Y12C	**Blythe**	**1.58**	**47**	P	**Pn**	**08 17 17.2**	**-1.0**
	baz=1.6						
SPIG	**San Pedro Mart**	**1.67**	**167**	*e*P	**Pn**	**08 17 19.9**	**+0.1**
SPIG				*i* S	**Sb**	**08 17 44.0**	**+1.6**
SPIG	**San Pedro Mart**	**1.67**	**167**	*e*P	**Pn**	**08 17 19.9**	**+0.1**
SPIG				*i* S	**Sb**	**08 17 44.0**	**+1.6**
SPX	**San Pedro Mart**	**1.67**	**167**	*e*P	**Pb**	**08 17 21.0**	**-0.3**
SPX				*e*S	**Sb**	**08 17 43.8**	**+1.3**
SPX	**San Pedro Mart**	**1.67**	**167**	*e*P	**Pb**	**08 17 21.0**	**-0.3**
SPX				*e*S	**Sb**	**08 17 43.6**	**+1.2**
BBRC	**Big Bear Solar**	**1.79**	**332**	Sg	**Sb**	**08 17 47.4**	**+1.8**
	baz=1.8						
BFSC	**Mount Baldy Ra**	**2.13**	**317**	Pb	**Pb**	**08 17 29.3**	**+0.3**
	baz=2.1						
BFSC				Sb	**Sb**	**08 17 56.4**	**+0.9**
	baz=2.1						
CIS	**Catalina Islan**	**2.21**	**290**	S	**Sb**	**08 17 56.4**	**-1.2**
	baz=2.2						
SCI	**San Clemente I**	**2.23**	**278**	P	**Pn**	**08 17 28.0**	**+0.8**
	baz=2.2						
FMP	**Fort Macarthur**	**2.24**	**298**	Pb	**Pb**	**08 17 30.8**	**0.0**
	baz=2.2						
FMP				Sb	**Sb**	**08 18 00.2**	**+1.7**
	baz=2.2						
DECC	**Green Verdugo**	**2.55**	**309**	Sb	**Sb**	**08 18 08.8**	**+1.3**
	baz=2.5						
214A	**Organ Pipe Nat**	**2.73**	**104**	*e*Pg	**Pg**	**08 17 45.3**	**+2.5**
214A				*e*Sg	**Sg**	**08 18 18.7**	**+0.5**
EDW2	**Edwards Air Fo**	**2.79**	**322**	Sb	**Sb**	**08 18 16.1**	**+1.7**
	baz=2.8						
DAC	**Darwin (Calif)**	**3.85**	**339**	*e*Pg	**Pg**	**08 18 03.1**	**-1.1**
DAC				*e*Sg	**Sg**	**08 18 55.0**	**+0.8**
WUAZ	**Wupatki**	**4.71**	**52**	Pg	**Pg**	**08 18 23.4**	**+2.6**
WAKR	**Walker**	**6.48**	**335**	Pn	**Pn**	**08 18 27.9**	**+2.2**
	comp=N,46nm,1.2s						
WAKR				*e*Sg	**Sg**	**08 20 16.9**	**-1.6**

*ISCJB **15** 08:19:25.3±0.3, 31°.30S±0°.03×68°.37W±0°.04, h115km±3km, mb4.1/13, Error ellipse: s-maj=5.8km s-min=4.7km az=23.4*
*NEIC **15** 08:19:25.6±0.4, 31°.30S×68°.28W, h104km±4km, mb4.3/6, MD4.7(SJA), Error ellipse: s-maj=10.5km s-min=6.8km az=83.0*
NEIC Felt [III] at San Juan.
*IDC **15** 08:19:25.9±0.4, 31°.33S×68°.30W, h104km±2km, mb3.9/10, mb1 4.0/13, mb1mx3.8/27, mbtmp4.3/13, Error ellipse: s-maj=21.2km s-min=10.0km az=87.0*
*GUC **15** 08:19:25.2±0.5, 31°.31S×68°.91W, h204km±7km, ML4.2*
*SJA **15** 08:19:25.4±0.5, 31°.27S×68°.42W, h107km±2km, ML4.5, MW4.6*
ISC 15 08:19:25.9±0.5, 31°.30S±0°.04×68°.38W±0°.04, h108km±3km, n58, σ0$95/74, mb4.2/13, 3C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.09**	**252**	*i* P	**Pn**	**08 19 40.9**	**-0.1**
SJA	**San Juan**	**0.27**	**215**	*i* P	**Pn**	**08 19 41.7**	**+0.3**
SJA				*i* S	**Sn**	**08 19 53.1**	**+0.1**
CFAA	**Coronel Fontan**	**0.33**	**159**	P	**Pn**	**08 19 42.0**	**+0.3**
	104nm,0.3s,baz=326,slow=3.0						
CFAA				S	**Sn**	**08 19 53.8**	**+0.4**
	609nm,0.3s,baz=165,slow=12,SNR=14						
CFAA	**Coronel Fontan**	**0.33**	**159**	*i* P	**Pn**	**08 19 41.7**	**+0.1**
CFAA				*i* S	**Sn**	**08 19 53.7**	**+0.2**
RTCV	**Cerro Valdivia**	**0.58**	**194**	*i* P	**Pn**	**08 19 43.4**	**+0.2**
RTLS	**Leoncito**	**0.93**	**237**	*i* P	**Pn**	**08 19 47.1**	**+0.6**
AVFE	**Valle Fertil**	**1.02**	**51**	*i* P	**Pn**	**08 19 47.9**	**+0.6**
AVFE				*i* S	**Sn**	**08 20 04.2**	**+0.9**
AVFE				AML	AML	08 20 04.8	
	comp=Z,31µm,0.4s						
AUSP	**Uspallata**	**1.26**	**223**	*i* P	**Pn**	**08 19 50.8**	**+0.7**
ASAL	**Salagasta**	**1.34**	**197**	*i* P	**Pn**	**08 19 51.5**	**+0.7**
ACAN	**Cantantal**	**1.40**	**134**	*i* P	**Pn**	**08 19 52.4**	**+0.9**
ARCO	**CERRO ARCO**	**1.61**	**197**	*i* P	**Pn**	**08 19 54.8**	**+0.7**
ARCO				AML	AML	08 20 18.6	
	comp=Z,2µm,0.3s						
AAGR	**Agrelo**	**1.82**	**192**	*i* P	**Pn**	**08 19 57.5**	**+0.9**
APLL	**PUNTA DE LOS L**	**1.83**	**61**	*i* P	**Pn**	**08 19 57.2**	**+0.5**
ACLC	**CERRO LA CRUZ**	**2.24**	**34**	*i* P	**Pn**	**08 20 02.2**	**+0.2**
TLL	**Tololo Astrono**	**2.38**	**298**	⇑*e*P	**Pn**	**08 20 04.6**	**+0.7**
TLL				*e*S	**Sn**	**08 20 34.4**	**+1.4**
PEL	**Peldehue**	**2.68**	**226**	⇓*e*P	**Pn**	**08 20 08.1**	**+0.4**
PEL				*e*S	**Sn**	**08 20 40.5**	**+0.6**
CLCH	**Cerro Calan**	**2.78**	**221**	*e*P	**Pn**	**08 20 09.6**	**+0.7**
CLCH				*e*S	**Sn**	**08 20 43.5**	**+1.5**
CLCH				AML	AML	08 20 52.6	
	comp=E,1µm,0.4s						
LACH	**Col Las Americ**	**2.81**	**220**	*e*P	**Pn**	**08 20 09.9**	**+0.5**
LACH				*e*S	**Sn**	**08 20 44.2**	**+1.2**
LACH				AML	AML	08 20 50.6	
	comp=N,494nm,0.3s						
LSCH	**La Serena**	**2.84**	**299**	*e*P	**Pn**	**08 20 09.1**	**-0.5**
LSCH				*e*S	**Sn**	**08 20 42.1**	**-1.2**
LSCH				AML	AML	08 20 48.0	
	comp=N,897nm,0.3s						
STL	**Santa Lucia**	**2.87**	**221**	⇓*e*P	**Pn**	**08 20 10.3**	**+0.2**
STL				*e*S	**Sn**	**08 20 44.8**	**+0.7**
STL				*e*S	**Sn**	**08 20 45.0**	**+0.9**
STL				AML	AML	08 20 48.6	
	comp=E,193nm,0.6s						
LCO	**Las Campanas**	**3.04**	**318**	*e*Pn	**Pn**	**08 20 13.1**	**+0.4**
LCO				*e*Sn	**Sn**	**08 20 49.4**	**+0.7**
LCO	**Las Campanas**	**3.04**	**318**	AML	AML	08 20 51.8	
	comp=E,2µm,0.4s						
VACH	**Vallenar**	**3.41**	**322**	*e*P	**Pn**	**08 20 17.1**	**-0.3**
CYA	**Choya**	**3.62**	**39**	AML	AML	08 21 26.1	
	comp=Z,567nm,0.6s						
U73B	**San Pedro**	**3.66**	**224**	⇑*e*P	**Pn**	**08 20 19.1**	**-1.5**
U73B				*e*S	**Sn**	**08 21 00.2**	**-2.8**
AHML	**Horco Molle**	**5.23**	**31**	AML	AML	08 22 23.1	
	comp=Z,120nm,0.7s						
FSA	**Cafayete**	**5.59**	**22**	AML	AML	08 22 31.5	
	comp=Z,200nm,0.8s						
TRQA	**Tornquist**	**8.55**	**144**	*e*Pn	**Pn**	**08 21 26.2**	**-0.6**
	comp=Z,30nm,0.5s						
LVC	**Limon Verde**	**8.67**	**357**	P	**Pn**	**08 21 27.6**	**-1.1**
	comp=Z,142nm,0.3s,baz=154,slow=12,SNR=27						
PLCA	**Paso Flores**	**9.58**	**190**	P	**Pn**	**08 21 39.1**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=19,slow=10,SNR=7.0						
CPUP	**Villa Florida**	**10.88**	**66**	*e*Pn	**Pn**	**08 21 55.6**	**-2.9**
	comp=Z,0.9nm,0.8s						
LPAZ	**La Paz**	**14.95**	**1**	P	**Pn**	**08 22 52.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=208,slow=6.8,SNR=10						
SAML	**Samuel**	**22.76**	**13**	*e*P	**P**	**08 24 20.5**	**+1.3**
	comp=Z,18nm,1.5s						
SAML				*e*		08 24 41.9	
USHA	**Ushuaia**	**23.52**	**180**	P	**P**	**08 24 26.2**	**+0.3**
	comp=Z,24nm,0.7s,baz=343,slow=8.7,SNR=18	

comp=Z,0.5nm,0.7s,baz=148,slow=8.1,SNR=7.5
TXAR pP **pP** **08 30 47.5 +0.6**
comp=Z,0.7nm,0.7s,baz=143,slow=7.1,SNR=6.5
WVT Waverly 69.52 343 *eP* **P** **08 30 22.5 -0.2**
WVT *e* 08 30 50.3
DBIC Dimbokro 71.37 70 P **P** **08 30 34.3 -0.2**
comp=Z,4.9nm,1.0s,baz=225,slow=7.2,SNR=4.2
MAW Mawson 74.86 163 P **P** **08 30 54.9 +0.7**
comp=Z,4.6nm,0.7s,baz=208,slow=5.6,SNR=13
MAW Mawson 74.86 163 *eP* **P** **08 30 54.2 +0.1**
comp=Z,1.1nm,0.8s
TSUM Tsumeb 76.94 105 *eP* **P** **08 31 08.6 +1.5**
comp=Z,14nm,1.3s
BOSA Boshof 78.54 116 P **P** **08 31 16.6 +0.7**
comp=Z,6.9nm,0.9s,baz=225,slow=5.1,SNR=5.6
TORD Torodi Ar. Bea 80.36 68 P **P** **08 31 25.5 -0.1**
comp=Z,4.9nm,0.7s,baz=280,slow=6.9,SNR=53
TORD pP **pP** **08 31 53.3 0.0**
comp=Z,2.0nm,0.7s,baz=244,slow=5.8,SNR=5.2
TORD sP **sP** **08 32 05.7 +0.8**
comp=Z,2.5nm,0.8s,baz=270,slow=5.5,SNR=4.4
PDAR Pinedale Array 82.84 331 P **P** **08 31 39.1 +0.8**
comp=Z,0.5nm,0.7s,baz=106,slow=5.3,SNR=4.4
PDAR pP **pP** **08 32 05.8 -0.5**
comp=Z,0.9nm,0.9s,baz=124,slow=3.9,SNR=4.7
NVAR Mina Array Bea 83.52 323 pP pP 08 32 09.1 -0.8
comp=Z,0.6nm,0.7s,baz=172,slow=6.9,SNR=4.9
ASAR Alice Springs 121.33 204 PKP **PKPdf** **08 38 05.7 -1.2**
comp=Z,0.3nm,0.4s,baz=137,slow=1.4,SNR=8.7
WRA Warramunga Arr 124.58 206 PKP **PKPdf** **08 38 12.4 -0.8**
comp=Z,1.1nm,0.6s,baz=160,slow=1.6,SNR=32
WRA pPKP **pPKPdf** **08 38 42.2 -0.5**
comp=Z,1.1nm,1.1s,baz=155,slow=1.6,SNR=2.6
WRAB Tennant Creek 124.58 206 *e*PKPdf **PKPdf** **08 38 12.3 -0.9**
KKAR Karatay Array 145.52 58 *e*PKPdf **PKPdf** **08 38 51.0 -0.2**
TKM2 Tokmak 2 149.24 58 *e*PKPdf **PKPdf** **08 38 57.7 0.0**
TKM2 *e*PKPbc **PKPbc** **08 39 02.5 +0.4**
TKM2 *e*PKPab **PKPab** **08 39 06.5 -0.4**
ZAA0 Zalesovo Array 150.30 33 *e*PKPbc **PKPbc** **08 39 04.1 +0.2**
ZALV Zalesovo Beam 150.30 33 PKPbc **PKPbc** **08 39 04.2 +0.3**
comp=Z,6.5nm,0.7s,baz=304,slow=3.6,SNR=20
ZALV pPKPbc **pPKPbc** **08 39 32.6 -0.6**
comp=Z,3.0nm,0.6s,baz=295,slow=3.2,SNR=5.7
MKAR Makanchi Array 152.67 47 PKPbc **PKPbc** **08 39 09.7 0.0**
comp=Z,2.4nm,0.8s,baz=300,slow=2.4,SNR=15
MKAR pPKPbc **pPKPbc** **08 39 39.1 +0.1**
comp=Z,1.1nm,0.6s,baz=321,slow=2.5,SNR=3.9

KRNET 15 08:22:35.9±0.1, 41°.35N×79°.65E, mb2.7, 18C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo**	**2.06**	**315**	⇓	*iP*		Pn	08 23 09.1	-3.0
	baz=315								
ANVS				⇓	*iS*		Sn	08 23 33.7	-5.0
	baz=315								
ULHL	**Ulahol**	**2.70**	**291**	⇑	*iP*		Pn	08 23 17.5	-3.4
	baz=290								
ULHL				⇑	*iS*		Sn	08 23 48.7	-5.9
	baz=290								
ULHL	**Ulahol**	**2.70**	**291**	⇑	*iP*		Pn	08 23 17.5	-3.4
	baz=292								
ULHL				⇑	*iS*		Sn	08 23 48.8	-5.8
	baz=292								
NRN	**Naryn**	**2.75**	**273**	⇑	*iP*		Pn	08 23 18.2	-3.5
	baz=273								
NRN				⇑	*iS*		Sn	08 23 50.7	-5.2
	baz=273								
KZA	**Kyzart**	**3.38**	**284**	⇑	*iP*		Pn	08 23 28.6	-1.8
	baz=284								
KZA				⇑	*iS*		Sn	08 24 08.2	-3.4
	baz=284								
KZA	**Kyzart**	**3.38**	**284**	⇑	*iP*		Pn	08 23 28.6	-1.8
	baz=285								
KZA				⇑	*iS*		Sn	08 24 08.1	-3.5
	baz=285								
TKM2	**Tokmak 2**	**3.40**	**299**	⇑	*iP*		Pn	08 23 29.5	-1.0
	baz=299								
TKM2				⇑	*iS*		Sn	08 24 09.9	-1.9
	baz=299								
TKM2	**Tokmak 2**	**3.40**	**299**	⇑	*iP*		Pn	08 23 29.5	-1.0
	baz=301								
TKM2				⇑	*iS*		Sn	08 24 09.9	-1.9
	baz=301								
SFK	**Sufi-Kurgan**	**4.86**	**256**	⇑	*iP*		Pn	08 23 47.8	-2.8
	baz=256								
SFK				⇑	*iS*		Sn	08 24 41.8	-6.0
	baz=256								
ARK	**Arkit**	**5.78**	**277**	⇑	*iP*		Pn	08 23 59.2	-3.9
	baz=277								
ARK				⇑	*iS*		Sn	08 25 02.2	-8.1
	baz=277								

*NEIC **15** 08:32:34.2, 14°.64N×94°.60W, h16km, MD4.3(MEX), After MEX.*

MEX 15 08:32:34.2±0.7, 14°.64N×94°.60W, h16km±12km, MD4.3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**1.70**	**51**	*i*	P		Pn	08 32 59.1	-4.1
PCIG				*i*	S		Sn	08 33 19.5	-5.1
PCIG		**1.70**	**51**	*i*	P		Pn	08 32 59.1	-4.1
PCIG				*i*	S		Sn	08 33 19.5	-5.1
HUIG	**Huatulco**	**1.84**	**308**	*e*	P		Pn	08 33 02.1	-3.0
HUIG				*i*	S		Sn	08 33 22.5	-5.7
HUIG	**Huatulco**	**1.84**	**308**	*e*	P		Pn	08 33 02.1	-3.0
HUIG				*i*	S		Sn	08 33 22.5	-5.7
CMIG	**Matias Romero**	**2.45**	**354**	*i*	P		Pn	08 33 11.3	-2.3
CMIG				*i*	S		Sn	08 33 39.5	-3.7
CMIG	**Matias Romero**	**2.45**	**354**	*i*	P		Pn	08 33 11.3	-2.3
CMIG				*i*	S		Sn	08 33 39.5	-3.7
CCIG	**Comitan**	**2.88**	**55**	*e*	P		Pn	08 33 16.9	-2.8
CCIG	**Comitan**	**2.88**	**55**	*e*	P		Pn	08 33 16.9	-2.8
VHO	**Vista Hermosa**	**3.17**	**320**	*i*	P		Pn	08 33 21.7	-2.1
VHO				*i*	S		Sn	08 33 58.2	-3.3
VHO	**Vista Hermosa**	**3.17**	**320**	*i*	P		Pn	08 33 21.7	-2.1
VHO				*i*	S		Sn	08 33 58.2	-3.3

*IDC **15** 08:33:14.9±2.6, 36°.45N×141°.51E, h0km, mb3.4/1, mb1 3.7/2, mb1mx3.3/31, mbtmp3.5/2, ML2.1/1, Error ellipse: s-maj=41.3km s-min=20.6km az=24.0*
*ISCJB **15** 08:33:15.1±1.5, 36°.96N±0°.05×141°.72E±0°.08, h18km±7km, mb3.5/1, Error ellipse: s-maj=11.5km s-min=7.4km az=18.3*
*JMA **15** 08:33:16.7±0.2, 36°.95N×141°.61E, h49km±3km, M3.6*
ISC 15 08:33:11.7±2.2, 36°.89N±0°.05×141°.69E±0°.08, h3km±12km, n20, σ1§18/23, 4C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.75**	**287**	⇓	*iP*		**Pn**	**08 33 29.9**	**+0.7**
ONAJ					S		**Sn**	**08 33 39.4**	**-1.7**
JFK	**Kawauchi**	**0.81**	**307**	⇑	*iP*		**Pn**	**08 33 30.5**	**+0.4**
JFK					S		**Sb**	**08 33 40.1**	**+0.3**
JHO	**Hitachi**	**0.94**	**253**		P		**Pn**	**08 33 32.8**	**+1.0**
JHO					S		**Sn**	**08 33 44.8**	**-1.0**
JMM	**Marumori**	**1.21**	**324**	⇑	*iP*		**Pn**	**08 33 36.2**	**+0.7**
JMM					S		**Sg**	**08 33 50.2**	**-0.4**
JFT	**Otama**	**1.25**	**301**	⇑	*iP*		**Pn**	**08 33 37.9**	**+1.8**
JFT					S		**Sb**	**08 33 52.8**	**+0.3**
JIO	**Ouri**	**1.59**	**350**	⇑	*iP*		**Pn**	**08 33 41.3**	**+0.6**
JIO					S		**Sn**	**08 33 58.8**	**-3.0**
JFY	**Yanaizu**	**1.67**	**289**		P		**Pg**	**08 33 44.5**	**+0.8**
JFY					S		**Sg**	**08 34 05.0**	**-0.3**
JOU	**Okura**	**1.69**	**331**		P		**Pb**	**08 33 43.6**	**+0.2**
JOU					S		**Sn**	**08 34 04.1**	**-0.2**
JYS	**Shirataka**	**1.86**	**316**		P		**Pb**	**08 33 46.6**	**+0.3**
JYS					S		**Sb**	**08 34 09.5**	**-0.4**
JAG	**Ashikaga**	**1.86**	**256**		P		**Pg**	**08 33 46.6**	**-0.6**
MJAR	**Matsushiro Arr**	**2.82**	**264**		Pg		**Pb**	**08 34 01.6**	**-1.1**
	4.0nm,0.3s,baz=90,slow=15,SNR=23								
MJAR					Lg		Lg	08 34 39.5	
	5.1nm,0.3s,baz=90,slow=25,SNR=11								
MAT	**Matsushiro**	**2.82**	**264**		P		**Pb**	**08 34 01.3**	**-1.4**
MAT					S		**Sn**	**08 34 33.9**	**+1.7**
USRK	**Ussuriysk Ar.**	**10.38**	**318**		Pn		Pn	08 35 49.0	+7.6
	0.2nm,0.3s,baz=141,slow=12,SNR=4.5								
H11N2	**WAKE ISLAND Hy**	**27.88**	**121**		T		T	09 08 20.0	
	baz=314,slow=75,SNR=12								
H11N1	**WAKE ISLAND Hy**	**27.89**	**121**		T		T	09 08 21.6	
	baz=314,slow=75,SNR=11								
H11N3	**WAKE ISLAND Hy**	**27.90**	**121**		T		T	09 08 21.4	
	baz=314,slow=75,SNR=11								
H11S1	**WAKE ISLAND Hy**	**28.59**	**123**		T		T	09 09 18.8	
	baz=316,slow=76,SNR=8.4								
H11S3	**WAKE ISLAND Hy**	**28.59**	**123**		T		T	09 09 27.4	
	baz=316,slow=76,SNR=8.6								
H11S2	**WAKE ISLAND Hy**	**28.61**	**123**		T		T	09 09 19.8	
	baz=316,slow=76,SNR=5.3								
WRA	**Warramunga Arr**	**56.95**	**188**		P		**P**	**08 42 58.8**	**+0.5**
	0.2nm,0.5s,baz=4.8,slow=6.7,SNR=7.9								

NNC 15 08:38:23.0±2.1, 51°.88N×75°.77E, h0km, mb3.1, mpv2.7, 7C-4D, Error ellipse: s-maj=59.5km s-min=11.7km az=27.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.13**	**122**	⇓	*e*Pn		Pn	08 39 00.2	+0.3
	1.2nm,0.5s								
KURK				⇑	Sn		Sb	08 39 28.6	-0.9
	7.2nm,1.2s								
KURK				⇓	Rg		Rg	08 39 39.6	
	3.9nm,1.5s								
KURK	**Kurchatov**	**2.13**	**122**	*e*	PKPbc		Pn	08 39 00.6	+0.8
KURBB	**Kurchatov Arra**	**2.14**	**125**	⇓	Pn		Pn	08 39 00.3	+0.3
	2.8nm,0.7s,baz=306,slow=19								
KURBB				⇑	Sn		Sb	08 39 29.9	+0.1
	11nm,0.5s,baz=313,slow=30								
KURBB				⇑	Rg		Rg	08 39 39.7	
	5.9nm,0.8s								
BVA0	**Borovoye Array**	**3.49**	**291**	⇑	Sn		Sn	08 40 02.4	+1.9
	2.6nm,0.7s,baz=116,slow=28,SNR=3.6								
BRVK	**Borovoye**	**3.56**	**292**	⇑	Sn		Sn	08 40 02.6	+0.4
	3.3nm,0.5s								
MK31	**Makanchi Array**	**6.63**	**138**	⇑	Pn		Pn	08 39 52.8	-8.9
	1.2nm,0.7s								
MK31				⇑	Sn		Sn	08 41 15.2	-2.9
	0.3nm,0.5s								
MK31				⇓	Lg		Lg	08 41 54.2	
	1.2nm,0.7s,baz=339,slow=19,SNR=3.0								

IDC 15 08:59:58.1±8.0, 21°.78S×171°.15E, h70km±56km, mb3.6/2, mb1 4.0/3, mb1mx3.4/30, mbtmp4.0/3, ML2.7/1, Error ellipse: s-maj=145.0km s-min=53.4km az=178.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.38**	**265**		P		Pn	09 01 02.0	-0.3
	0.4nm,0.3s,baz=90,slow=24,SNR=27								
DZM					S		Sn	09 01 52.6	+0.5
	4.5nm,0.3s,baz=90,slow=24,SNR=15								
ASAR	**Alice Springs**	**34.35**	**260**		P		P	09 06 38.5	+0.2
	1.6nm,0.8s,baz=82,slow=9.4,SNR=26								
WRA	**Warramunga Arr**	**34.40**	**266**		P		P	09 06 38.8	0.0
	0.6nm,0.3s,baz=97,slow=8.5,SNR=28								
TORD	**Torodi Ar. Bea**	**166.78**	**231**		PKP		PKPdf	09 19 57.0	+0.6
	1.5nm,1.3s,baz=134,slow=4.2,SNR=2.5								
TORD					PKPab		PKPab	09 20 58.1	-1.5
	0.5nm,1.1s,baz=237,slow=19,SNR=2.2								

*IDC **15** 09:08:47.9±2.8, 53°.60N×87°.89E, h0km, mb1 3.3/2, mb1mx3.1/37, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=23.9km s-min=14.8km az=56.0*
*NNC **15** 09:08:52.7±3.2, 53°.45N×87°.36E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=25.2km s-min=20.4km az=14.0*
ISC 15 09:08:52.7±3.9, 53°.7N±0°.1×87°.8E±0°.2, h35km, n8, σ1§11/12, 7C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.76**	**281**	*i*				09 20 20.0	
	baz=99,slow=317,SNR=5.1								
ZALV	**Zalesovo Beam**	**1.76**	**281**		Pg		**Pn**	**09 09 20.9**	**+0.1**
	3.4nm,0.3s,baz=104,slow=15,SNR=30								
ZALV					Lg		Lg	09 09 46.5	
	6.1nm,0.3s,baz=106,slow=26,SNR=19								
KURK	**Kurchatov**	**6.34**	**246**	⇑	Pn		**Pn**	**09 10 23.6**	**+0.1**
	0.7nm,0.8s								
KURK				⇑	Sn		**Sn**	**09 11 33.0**	**-1.6**
	1.4nm,0.9s								
KURK				⇑	Lg		Lg	09 12 07.8	
	9.4nm,1.4s								
KURBB	**Kurchatov Arra**	**6.43**	**246**	⇑	Pn		**Pn**	**09 10 25.0**	**+0.2**
	1.5nm,0.3s								
KURBB				⇑	Sn		**Sn**	**09 11 36.1**	**-0.9**
	6.4nm,0.7s								
KURBB				⇑	Lg		Lg	09 12 12.1	
	14nm,0.7s								
KURBB	**Kurchatov Arra**	**6.43**	**246**		Pn		**Pn**	**09 10 24.8**	**0.0**
	0.2nm,0.3s,baz=62,slow=14,SNR=16								
KURBB					Sn		**Sn**	**09 11 39.6**	**+2.7**
	0.1nm,0.3s,baz=66,slow=23,SNR=4.0								
KURBB					Lg		Lg	09 12 14.0	
	0.1nm,0.3s,baz=64,slow=31,SNR=7.0								
MK31	**Makanchi Array**	**7.70**	**209**	⇑	Pn		**Pn**	**09 10 41.8**	**-0.5**
	1.6nm,0.8s,baz=28,slow=13,SNR=16								
MK31				⇓	Sn		**Sn**	**09 12 08.3**	**0.0**
	2.8nm,1.1s,baz=28,slow=24,SNR=5.6								
MK31					Lg		Lg	09 12 49.0	
	7.7nm,1.1s,baz=36,slow=31,SNR=6.6								
MKAR	**Makanchi Array**	**7.70**	**209**		Pn		**Pn**	**09 10 42.7**	**+0.4**
	0.3nm,0.3s,baz=29,slow=14,SNR=16								
MKAR					Sn		**Sn**	**09 12 08.6**	**+0.3**
	0.1nm,0.3s,baz=31,slow=26,SNR=10								
MKAR					Lg		Lg	09 12 50.3	
	0.1nm,0.3s,baz=36,slow=30,SNR=5.6								
BVAR	**Borovoye Array**	**10.40**	**274**		Sn		**Sn**	**09 13 14.0**	**-0.4**
	0.1nm,0.3s,baz=79,slow=23,SNR=6.9								

*IDC **15** 09:14:26.3±0.9, 7°.33N×91°.61E, h0km, mb3.9/10, mb1 4.1/13, mb1mx3.8/41, mbtmp4.0/13, ML4.3/3, MS3.3/13, Ms1 3.3/13, ms1mx3.1/41, Error ellipse: s-maj=31.7km s-min=16.4km az=47.0*
*ISCJB **15** 09:14:27.1±0.6, 7°.33N±0°.07×91°.67E±0°.06, h20km, mb4.1/15, MS3.3/11, Error ellipse: s-maj=11.8km s-min=5.9km az=34.7*
*NEIC **15** 09:14:31.1±0.5, 7°.27N×91°.62E, h35km, mb4.3/5, Error ellipse: s-maj=11.7km s-min=7.7km az=223.0*
ISC 15 09:14:29.2±0.7, 7°.3N±0°.1×91°.6E±0°.1, h20km, n34, σ0§62/20, mb4.0/15, MS3.5/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**2.33**	**96**	*e*	P		Pn	09 15 05.7	-0.6
CMBY				*e*	S		Sn	09 15 31.6	-2.8
CMBY					AML	AML		09 15 35.5	
	comp=N,8μm,0.4s								
CMBY					AML	AML		09 15 40.4	
	comp=E,5μm,0.5s								
PBA	**Port Blair**	**4.51**	**14**	*e*	P		Pn	09 15 33.3	-3.2
PBA				*e*	S		Sn	09 16 19.9	-8.5
PBA					AML	AML		09 16 31.6	
	comp=N,300nm,0.5s								
PBA					AML	AML		09 16 31.8	
	comp=E,312nm,0.5s								
DGPR	**DIGLIPUR**	**6.03**	**12**	*e*	P		Pn	09 15 55.2	-2.1
DGPR				*e*	S		Sn	09 16 56.3	-9.4
PSI	**Prapat**	**8.54**	**121**		Pn		**Pn**	**09 16 32.1**	**+0.2**
	comp=E,1.0nm,0.3s,baz=331,slow=15,SNR=3.9								
PSI					Sn		**Sn**	**09 18 07.3**	**-0.5**
	comp=E,2.0nm,0.3s,baz=271,slow=23,SNR=6.1								
PALK	**Pallekele**	**10.81**	**271**		Pn		**Pn**	**09 17 03.2**	**+0.2**
	comp=E,5.1nm,0.3s,baz=87,slow=13,SNR=16								
PALK					Sn		Sn	09 18 55.3	-8.2
	comp=E,6.2nm,0.3s,baz=161,slow=19,SNR=14								
PALK					LR		LR	09 20 39.7	
	comp=E,295nm,21.3s,baz=87,slow=34								
PALK	**Pallekele**	**10.81**	**271**	*e*	Pn		**Pn**	**09 17 02.9**	**-0.1**
	comp=E,18nm,0.7s								
PALK					Sn		Sn	09 18 55.3	-8.2
CMAR	**Chiang Mai Arr**	**13.23**	**32**		Pn		Pn	09 17 35.0	-1.0
	comp=E,0.7nm,0.3s,baz=228,slow=14,SNR=15								
CMAR					LR		LR	09 22 34.3	
	comp=E,33nm,18.4s,baz=210,slow=37								
LEM	**Lembang**	**21.24**	**131**		LR		LR	09 27 30.0	
	comp=E,194nm,19.5s,baz=232,slow=37								
LSA	**Lhasa**	**22.33**	**359**	*e*	P		**P**	**09 19 28.0**	**+1.7**
	comp=E,22nm,0.8s								
H08S3	**Diego Garcia H**	**24.12**	**233**		T		T	09 46 24.6	
	baz=52,slow=75,SNR=6.6								
H08S2	**Diego Garcia H**	**24.13**	**233**		T		T	09 46 24.7	
	baz=52,slow=75,SNR=7.1								
H08S1	**Diego Carcia H**	**24.14**	**233**		T		T	09 46 25.9	
	baz=52,slow=75,SNR=7.3								
MKAR	**Makanchi Array**	**40.19**	**350**		P		**P**	**09 22 03.7**	**-0.5**
	comp=E,1.2nm,0.7s,baz=168,slow=8.2,SNR=14								
MKAR					LR		LR	09 39 44.4	
	comp=E,28nm,20.4s,baz=161,slow=38								
KKAR	**Karatay Array**	**40.23**	**336**	*e*	P		**P**	**09 22 04.4**	**-0.2**
	comp=E,1.3nm,0.6s								
SONM	**Songino Array**	**42.35**	**15**		P		**P**	**09 22 22.0**	**-0.2**
	comp=E,2.9nm,0.8s,baz=210,slow=8.3,SNR=5.8								
JNU	**Nakatsue**	**44.55**	**49**		LR		LR	09 41 44.6	
	comp=E,52nm,19.0s,baz=227,slow=37								
KSRS	**Korea Array**	**44.59**	**42**		LR		LR	09 41 07.3	
	comp=E,22nm,19.8s,baz=286,slow=36								
ZAA0	**Zalesovo Array**	**46.88**	**355**	*e*	P		**P**	**09 22 58.4**	**+0.4**
ZALV	**Zalesovo Beam**	**46.88**	**355**		P		**P**	**09 22 57.6**	**-0.3**
	comp=E,1.9nm,0.6s,baz=162,slow=10.0,SNR=7.9								
ZALV					LR		LR	09 44 53.2	
	comp=E,51nm,20.6s,baz=264,slow=39								
BVAR	**Borovoye Array**	**48.80**	**343**		P		**P**	**09 23 12.2**	**-0.7**
	comp=E,0.4nm,0.4s,baz=112,slow=12,SNR=3.1								
ABKAR	**Akbulak array**	**49.60**	**333**	*e*	P		**P**	**09 23 18.3**	**-0.7**
	comp=E,2.2nm,0.6s								
WRA	**Warramunga Arr**	**49.99**	**124**		P		**P**	**09 23 22.9**	**+0.3**
	comp=E,0.6nm,0.4s,baz=305,slow=8.4,SNR=13								
WRAB	**Tennant Creek**	**50.00**	**124**	*e*	P		**P**	**09 23 22.4**	**-0.2**
	comp=E,1.0nm,0.6s								
AKTO	**Aktyubinsk**	**51.31**	**333**		P		**P**	**09 23 31.8**	**-0.2**
	comp=E,0.9nm,0.6s,baz=110,slow=12,SNR=4.5								
MJAR	**Matsushiro Arr**	**51.45**	**48**		LR		LR	09 46 33.6	
	comp=E,18nm,20.1s,baz=195,slow=38								
ASAR	**Alice Springs**	**51.49**	**128**		P		**P**	**09 23 34.4**	**+0.6**
	comp=E,1.0nm,0.7s,baz=298,slow=7.4,SNR=13								
ASAR					LR		LR	09 45 01.3	
	comp=E,26nm,21.9s,baz=294,slow=36								
GUMO	**Guam**	**52.69**	**78**		LR		LR	09 45 30.7	
	comp=E,11nm,20.0s,baz=202,slow=35								
BRTR	**Keskin Array B**	**60.93**	**312**		P		**P**	**09 24 40.6**	**-0.6**
	comp=E,0.6nm,0.6s,baz=124,slow=7.6,SNR=3.5								
TIXI	**Tiksi**	**68.34**	**12**	*e*	P		**P**	**09 25 28.1**	**-0.7**
	comp=E,9.2nm,0.8s								
FINES	**FINESS Array B**	**72.08**	**333**		P		**P**	**09 25 52.3**	**+0.4**
	comp=E,1.5nm,0.7s,baz=138,slow=8.6,SNR=3.7								
ARCES	**ARCESS Array B**	**74.99**	**341**		LR		LR	10 02 09.5	
	comp=E,31nm,19.8s,baz=94,slow=38								
GERES	**GERESS Array B**	**76.60**	**318**		P		**P**	**09 26 19.3**	**+0.7**
	comp=E,0.5nm,0.2s,baz=57,slow=7.2,SNR=4.6								
NOA	**NORSAR Array B**	**79.03**	**331**		LR		LR	10 05 03.8	
	comp=E,25nm,18.7s,baz=100,slow=38								
SPITS	**Spitsbergen Ar**	**79.92**	**348**		LR		LR	10 05 59.6	
	comp=E,40nm,21.6s,baz=215,slow=39								

*ISCJB **15** 09:16:22.7±0.8, 59°.30N±0°.03×27°.2E±0°.1, h0km, Error ellipse: s-maj=7.7km s-min=3.6km az=16.8*
*NAO **15** 09:16:23.4±1.1, 59°.30N×26°.85E, ML2.4*
*BER **15** 09:16:23.9±3.0, 59°.33N×27°.07E, h0km, ML2.4(NAO), Suspected explosion*
*CSEM **15** 09:16:23.0±0.4, 59°.31N×27°.25E, h2km, ML2.4, Error ellipse: s-maj=9.4km s-min=4.0km az=100.0, Mining explosion.*
*HEL **15** 09:16:24.7±0.2, 59°.32N×27°.10E, h0km, ML1.8, Explosion*
ISC 15 09:16:22.8±1.0, 59°.32N±0°.03×27°.21E±0°.05, h0km, n38, σ1§17/51, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VSU	**Vasula**		**0.89**	**196**	Pg	**Pg**		**09 16 39.5**	**-0.4**
VSU					Lg	Lg		09 16 51.1	
VSU	**Vasula**		**0.89**	**196**	Pg	**Pg**		**09 16 39.5**	**-0.4**
VSU					Lg	Lg		09 16 51.1	
VSU	**Vasula**		**0.89**	**196**	*e*P	**Pg**		**09 16 40.4**	**+0.4**
VSU					*e*S	**Sg**		**09 16 51.2**	**-0.3**
VSU	**Vasula**		**0.89**	**196**	Pg	**Pg**		**09 16 39.5**	**-0.4**
VSU	**Vasula**		**0.89**	**196**	P	**Pg**		**09 16 40.3**	**+0.4**
VSU					Lg	Lg		09 16 51.1	
	SNR=22								
VJF	**Virojoki**		**1.24**	**8**	*e*P	**Pg**		**09 16 46.8**	**+0.2**
VJF					*e*SB	**Sb**		**09 17 03.7**	**+0.2**
VJF	**Virojoki**		**1.24**	**8**	P	**Pg**		**09 16 46.7**	**+0.2**
VJF					Sb	**Sb**		**09 17 03.7**	**+0.2**
PVF	**Pernaja**		**1.41**	**332**	*e*P	**Pn**		**09 16 49.5**	**-0.2**
PVF					MSG			09 17 06.2	
	comp=Z,12nm,0.2s								
PVF					*e*S	**Sg**		**09 17 07.5**	**-0.5**
PVF	**Pernaja**		**1.41**	**332**	P	**Pn**		**09 16 49.5**	**-0.2**
PVF					S	**Sg**		**09 17 07.5**	**-0.5**
SRPE	**Suurupi**		**1.46**	**277**	*e*P	**Pn**		**09 16 50.0**	**-0.4**
SRPE					*e*SB	**Sg**		**09 17 09.2**	**-0.3**
SRPE	**Suurupi**		**1.46**	**277**	P	**Pn**		**09 16 49.9**	**-0.4**
SRPE					Sb	**Sg**		**09 17 09.2**	**-0.3**
MEF	**Metsahovi**		**1.69**	**304**	*e*P	**Pb**		**09 16 54.4**	**-0.4**
MEF					*e*S	**Sn**		**09 17 15.3**	**-0.5**
MEF					MSG			09 17 17.3	
	comp=Z,8.0nm,0.1s					

SNR=2.4

IDC ***15*** *09:21:44.6±1.2, 7°.27N×91°.57E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/41, mbtmp3.6/5, ML4.6/2, MS3.5/2, Ms1 3.5/2, ms1mx2.7/44, Error ellipse: s-maj=40.4km s-min=19.7km az=56.0*

ISCJB ***15*** *09:21:47.0±0.9, 7°.3N±0°.1×91°.5E±0°.1, h33km, mb3.7/5, MS3.5/1, Error ellipse: s-maj=18.5km s-min=16.2km az=14.6*

ISC 15 09:21:49.4±1.2, 7°.3N±0°.2×91°.5E±0°.1, h35km, n12, σ1§14/7, mb3.6/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.61**	**121**	LR	LR	09 27 22.6	
	comp=Z,150nm,18.0s,baz=289,slow=39						
PALK	**Pallekele**	**10.75**	**271**	Pn	**Pn**	**09 24 20.8**	**-0.3**
	8.3nm,0.3s,baz=87,slow=12,SNR=23						
CMAR	**Chiang Mai Arr**	**13.22**	**32**	Pn	**Pn**	**09 24 54.1**	**-0.7**
	0.7nm,0.3s,baz=225,slow=14,SNR=4.5						
LEM	**Lembang**	**21.31**	**131**	LR	LR	09 36 15.6	
	comp=Z,187nm,18.1s,baz=232,slow=41						
H08S3	**Diego Garcia H**	**24.11**	**232**	T	T	09 53 49.6	
	baz=60						
H08S2	**Diego Garcia H**	**24.11**	**232**	T	T	09 53 49.6	
	baz=60						
H08S1	**Diego Carcia H**	**24.13**	**232**	T	T	09 53 44.0	
	baz=60						
MKAR	**Makanchi Array**	**40.14**	**350**	P	**P**	**09 29 22.8**	**+0.8**
	1.8nm,0.3s,baz=165,slow=7.9,SNR=12						
KURBB	**Kurchatov Arra**	**44.52**	**348**	P	**P**	**09 29 56.7**	**-0.8**
	0.2nm,0.4s,baz=176,slow=7.3,SNR=3.0						
ZALV	**Zalesovo Beam**	**46.82**	**355**	P	**P**	**09 30 17.4**	**+1.7**
	0.6nm,0.3s,baz=168,slow=7.4,SNR=3.0						
WRA	**Warramunga AR**	**50.06**	**124**	P	**P**	**09 30 41.7**	**+0.5**
	0.4nm,0.7s,baz=304,slow=8.8,SNR=20						
ASAR	**Alice Springs**	**51.57**	**128**	P	**P**	**09 30 52.0**	**-0.5**
	0.3nm,0.4s,baz=300,slow=7.7,SNR=12						

GUC 15 09:22:56.4±0.8, 35°.10S×72°.83W, h38km±8km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.02**	**107**	*eP*	Pn	09 23 15.3	+1.1
TALC				*eS*	Sn	09 23 29.8	+2.4
LNCH	**Linares**	**1.25**	**127**	*eP*	Pn	09 23 18.9	+1.6
LNCH				*eS*	Sn	09 23 36.1	+3.2
LNCH				AML	AML	09 23 37.8	
	comp=E,3μm,0.7s						
NICH	**Los Niches**	**1.32**	**86**	*eP*	Pn	09 23 20.3	+2.0
NICH				AML	AML	09 23 47.4	
	comp=E,1μm,0.7s						
CHCH	**Chadas Angostu**	**2.14**	**58**	*eP*	Pn	09 23 32.4	+2.7
CLCH	**Cerro Calan**	**2.55**	**49**	*eP*	Pn	09 23 38.2	+2.8
CLCH				AML	AML	09 24 31.9	
	comp=E,381nm,2.1s						

BJI ***15*** *09:42:42.6, 1°.55N×96°.75E, h25km, mb4.7/23, mB4.8/19, Ms4.3/13, Ms7 4.0/13*

ISCJB ***15*** *09:42:47.6±0.8, 1°.92N±0°.04×96°.62E±0°.05, h33km±6km, mb4.3/23, MS3.7/13, Error ellipse: s-maj=9.4km s-min=5.5km az=146.0*

IDC ***15*** *09:42:48.2±0.9, 1°.92N×96°.63E, h27km±3km, mb4.1/15, mb1 4.2/17, mb1mx4.0/38, mbtmp4.3/17, ML4.1/2, MS3.7/14, Ms1 3.7/14, ms1mx3.3/46, Error ellipse: s-maj=23.0km s-min=12.5km az=53.0*

NEIC ***15*** *09:42:49.4±0.4, 1°.92N×96°.65E, h35km, mb4.4/12, Error ellipse: s-maj=9.6km s-min=5.7km az=218.0*

DJA ***15*** *09:42:50.2±1.0, 2°.N±4°×97°.E±1°.0, h10km, M4.7/4, MLv4.7/4*

KLM ***15*** *09:42:50.5, 1°.99N×96°.68E, h35km, mb4.4, ML4.1, MS5.6*

ISC 15 09:42:49.2±0.6, 1°.99N±0°.05×96°.69E±0°.06, h33km±1km, h33km:pP-P, n95, σ1§47/113, mb4.4/30, MS3.7/13, 3C-6D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.11**	**128**	P	**Pn**	**09 43 08.5**	**-0.1**
GSI				S	**Sb**	**09 43 24.1**	**-0.2**
GSI	**Gunungsitoli**	**1.11**	**128**	*e*Pn	**Pn**	**09 43 08.5**	**-0.1**
GSI				*e*Sn	**Sn**	**09 43 22.2**	**-0.6**
PSI	**Prapat**	**2.37**	**70**	Pn	**Pn**	**09 43 26.4**	**+0.4**
	6.2nm,0.3s,baz=269,slow=5.3,SNR=30						
PSI				LR	LR	09 44 05.8	
	comp=Z,916nm,19.9s,baz=291,slow=32						
PSI	**Prapat**	**2.37**	**70**	*e*Pn	**Pn**	**09 43 26.3**	**+0.3**
TSI	**Tuntungan**	**2.40**	**51**	P	**Pn**	**09 43 28.3**	**+2.1**
MNSI	**Mandailing Nat**	**3.12**	**112**	P	**Pn**	**09 43 38.4**	**+2.2**
LHMI	**Lhok Sumawe**	**3.23**	**5**	P	**Pn**	**09 43 38.7**	**+1.0**
LHMI				S	**Sn**	**09 44 18.2**	**+3.2**
LHMI	**Lhok Sumawe**	**3.23**	**5**	*e*Pn	**Pn**	**09 43 38.4**	**+0.7**
LHMI				*e*Sn	**Sn**	**09 44 11.4**	**-3.6**
BKNI	**Bangkinang**	**4.65**	**111**	P	Pn	09 44 02.2	+5.0
PDSI	**Padang**	**4.74**	**127**	P	Pn	09 44 04.5	+6.0
IPM	**Ipoh**	**4.99**	**60**	⇓P	**Pn**	**09 44 03.1**	**+1.2**
IPM	**Ipoh**	**4.99**	**60**	*e*Pn	**Pn**	**09 44 03.0**	**+1.2**
FRIM	**Kepong**	**5.08**	**76**	⇓P	**Pn**	**09 44 03.2**	**+0.1**
KULM	**Kulim**	**5.13**	**50**	*e*Pn	**Pn**	**09 44 04.3**	**+0.4**
SKLT	**Songkhla**	**6.47**	**37**	P	**Pn**	**09 44 25.1**	**+2.9**
	39nm,0.8s,1μm,0.3nm						
TRTT	**Trang**	**6.53**	**27**	P	**Pn**	**09 44 23.0**	**-0.1**
	59nm,0.6s,814nm0.3nm						
KGM	**Kluang**	**6.62**	**90**	⇓P	**Pn**	**09 44 24.7**	**+0.3**
KRAB	**Krabi**	**6.68**	**22**	P	**Pn**	**09 44 25.3**	**+0.2**
	118nm,0.8s,5μm64nm						
MYKOM	**Kota Tinggi**	**7.16**	**91**	⇓P	**Pn**	**09 44 32.6**	**+0.9**
MYKOM	**Kota Tinggi**	**7.16**	**91**	*e*Pn	**Pn**	**09 44 33.1**	**+1.4**
SURT	**Suratani**	**7.23**	**17**	P	**Pn**	**09 44 32.6**	**-0.1**
	19nm,0.8s,0.1nm						
KTGM	**Kuala Trenggan**	**7.24**	**63**	⇓P	**Pn**	**09 44 34.4**	**+1.6**
SURA	**Surathani**	**7.71**	**22**	P	**Pn**	**09 44 38.9**	**-0.3**
	46nm,0.7s,5μm0.2nm						
MDSI	**Maura Dua**	**9.87**	**131**	P	**Pn**	**09 45 09.7**	**+0.9**
KSM	**Kuching**	**13.62**	**92**	⇑P	**Pn**	**09 46 02.9**	**+2.7**
PBKT	**Sadao Pong**	**15.09**	**16**	P	**P**	**09 46 25.2**	**+0.2**
	20nm,0.9s						
XMIS	**Christmas Isla**	**15.26**	**144**	*e*Pn	Pn	09 46 16.4	-6.1
	263nm,2.0s						
SBUM	**Sibu**	**15.52**	**88**	⇑P	**Pn**	**09 46 27.2**	**+1.4**
SBUM	**Sibu**	**15.52**	**88**	*e*Pn	**Pn**	**09 46 27.0**	**+1.1**
	14nm,1.1s						
SUKH	**Sukhothai**	**15.67**	**10**	P	**P**	**09 46 31.4**	**0.0**
	5.5nm,1.2s						
UTTA	**Uttaradit**	**16.11**	**13**	P	**P**	**09 46 36.8**	**+0.4**
	4.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.52**	**8**	Pn	**P**	**09 46 40.4**	**-0.5**
	1.0nm,0.3s,baz=198,slow=11,SNR=43						
CMAR				LR	LR	09 53 14.6	
	comp=Z,271nm,20.4s,baz=202,slow=38						
LAMP	**Lampang**	**16.68**	**10**	P	**P**	**09 46 43.6**	**+0.9**
	5.5nm,1.0s						
CHTO	**Chiang Mai**	**16.87**	**7**	P	**P**	**09 46 44.5**	**-0.3**
	60nm,1.1s						
CHTO	**Chiang Mai**	**16.87**	**7**	*e*Pn	**Pn**	**09 46 42.2**	**-0.7**
	12nm,1.0s						
CHTO				*e*Sn	**Sn**	**09 49 49.0**	**-0.5**
KKM	**Kota Kinabalu**	**19.88**	**78**	⇑P	**Pn**	**09 47 19.8**	**-0.1**
KKM	**Kota Kinabalu**	**19.88**	**78**	*e*P	**P**	**09 47 18.9**	**+0.8**
	20nm,0.8s						
KKM				*e*S	**S**	**09 50 60.0**	**-0.5**
SDKM	**Sandakan**	**20.77**	**79**	⇓P	Pn	09 47 30.5	+0.2
QIZ	**Qiongzhong**	**21.28**	**36**	P	**P**	**09 47 30.9**	**-2.2**
QIZ				S	**S**	**09 51 28.0**	**+0.1**
QIZ				LN			
	400nm,19.3s						
QIZ				LE			
	180nm,19.7s						
QIZ				LZ			
	440nm,14.8s						
KMI	**Kunming**	**23.73**	**14**	P	**P**	**09 47 59.8**	**+1.0**
KMI				pP	**pP**	**09 48 07.4**	**-0.7**
KMI				S	**S**	**09 52 09.8**	**-2.3**
KMI				SS	SnSn	09 53 02.3	+10
KMI				PMZ			
	12nm,1.2s						
KMI				PMZ			
	130nm,4.8s						
KMI				LN			
	260nm,11.5s						
KMI				LE			
	320nm,16.2s						
KMI				LZ			
	290nm,12.9s						
KAPI	**Kappang**	**24.07**	**107**	P	**P**	**09 48 01.5**	**-0.3**
	7.2nm,0.6s,baz=303,slow=6.0,SNR=4.9						
KAPI	**Kappang**	**24.07**	**107**	*e*P	**P**	**09 48 01.6**	**-0.3**
	8.4nm,0.6s						
H08S2	**Diego Garcia H**	**25.97**	**248**	T	T	10 15 03.9	
	baz=69,slow=76,SNR=502						
H08S3	**Diego Garcia H**	**25.97**	**248**	T	T	10 15 03.3	
	baz=69,slow=76,SNR=364						
H08S1	**Diego Carcia H**	**25.98**	**248**	T	T	10 15 05.0	
	baz=69,slow=76,SNR=495						
ODAN	**Odare**	**26.29**	**341**	*e*P	**P**	**09 48 22.9**	**+0.7**
	27nm,0.7s						
RAMN	**Ramite**	**26.64**	**340**	*e*P	**P**	**09 48 27.0**	**+1.7**
	25nm,0.6s						
TAPN	**Taplejung**	**26.65**	**342**	*e*P	**P**	**09 48 26.7**	**+1.3**
	18nm,0.4s						
PKI	**Pulchoki**	**27.64**	**338**	*e*P	**P**	**09 48 35.1**	**+0.7**
	12nm,0.5s						
GUN	**Gumba**	**27.77**	**339**	*e*P	**P**	**09 48 36.8**	**+1.2**
	34nm,0.5s						
DMN	**Daman**	**27.79**	**338**	*e*P	**P**	**09 48 38.0**	**+2.4**
	8.4nm,0.3s						
KKN	**Kakani**	**27.88**	**338**	*e*P	**P**	**09 48 37.2**	**+0.7**
GKN	**Gorkha**	**28.32**	**337**	*e*P	**P**	**09 48 41.4**	**+1.1**
KOLN	**Koldanda**	**28.53**	**335**	*e*P	**P**	**09 48 43.3**	**+1.1**
	24nm,0.6s						
CD2	**Chengdu**	**29.53**	**12**	*e*P	**P**	**09 48 52.0**	**+1.1**
XAN	**Xi'an**	**33.88**	**18**	P	**P**	**09 49 27.8**	**-1.2**
XAN				PMZ			
	2.0nm,0.8s						
XAN				PMZ			
	11nm,5.1s						
LZH	**Lanzhou**	**34.57**	**10**	*e*P	**P**	**09 49 38.0**	**+2.8**
LZH				pP	**pP**	**09 49 47.8**	**+3.0**
LZH				sP	**sP**	**09 49 52.1**	**+3.3**
LZH				PMZ			
	14nm,1.0s						
GTA	**Gaotai**	**37.36**	**4**	*e*P	**P**	**09 49 59.1**	**+0.2**
GTA				pP	**pP**	**09 50 07.5**	**-1.1**
GTA				sP	**sP**	**09 50 11.5**	**-1.1**
GTA				S	**S**	**09 55 44.8**	**0.0**
GTA				sS	**sS**	**09 56 00.0**	**-0.8**
GTA				SS	**SnSn**	**09 58 17.8**	**-5.2**
GTA				PMZ			
	19nm,1.1s						
GTA				PMZ			
	60nm,6.4s						
GTA				LN			
	120nm,17.6s						
GTA				LE			
	140nm,15.7s						
GTA				LZ			
	110nm,17.6s						
H01W3	**Cape Leeuwin H**	**40.16**	**158**	T	T	10 32 57.7	
	baz=334,slow=76,SNR=46						
H01W2	**Cape Leeuwin H**	**40.17**	**158**	T	T	10 32 59.1	
	baz=334,slow=76,SNR=86						
H01W1	**Cape Leeuwin H**	**40.18**	**158**	T	T	10 33 04.6	
	baz=334,slow=76,SNR=37						
HHC	**Hu-ho-hao-te**	**40.96**	**17**	*e*P	**P**	**09 50 30.5**	**+1.5**
HHC				PcP	**PcP**	**09 52 28.4**	**-0.5**
HHC				ScP	**ScP**	**09 56 11.8**	**-4.6**
HHC				S	**S**	**09 56 42.0**	**+3.1**
HHC				PMZ			
	12nm,0.9s						
HHC				PMZ			
	110nm,6.0s						
HHC				LN			
	170nm,13.2s						
HHC				LE			
	220nm,13.5s						
HHC				LZ			
	140nm,13.4s						
BJI	**Beijing**	**41.81**	**23**	P	**P**	**09 50 36.5**	**+0.7**
BJI				S	**S**	**09 56 51.9**	**+0.6**
BJI				SS	**SS**	**09 59 58.5**	**+0.3**
BJI				PMZ			
	16nm,1.2s						
BJI				LN			
	230nm,17.7s						
BJI				LE			
	89nm,13.8s						
BJI				LZ			
	98nm,18.3s						
WMQ	**Urumqi**	**42.42**	**350**	*e*P	**P**	**09 50 43.0**	**+2.2**
WMQ				pP	**pP**	**09 50 52.8**	**+2.2**
WMQ				sP	**sP**	**09 50 56.8**	**+2.2**
WMQ				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,58nm,4.5s						
WMQ				LR	LR		
	comp=N,13nm,11.2s						
WMQ				LR	LR		
	comp=E,12nm,12.3s						
WMQ				LR	LR		
	comp=Z,11nm,18.6s						
WMQ	**Urumqi**	**42.42**	**350**	*e*P	**P**	**09 50 42.0**	**+1.2**
WMQ				pP	**pP**	**09 50 51.8**	**+1.2**
WMQ				sP	**sP**	**09 50 55.8**	**+1.2**
WMQ				PMZ			
	comp=Z,21nm,0.6s						
WMQ				PMZ			
	comp=Z,42nm,4.2s						
WMQ				LN			
	comp=Z,54nm,17.6s						
WMQ				LE			
	comp=Z,24nm,18.5s						
WRA	**Warramunga Arr**	**42.88**	**122**	P	**P**	**09 50 44.9**	**0.0**
	comp=Z,4.2nm,0.6s,baz=301,slow=9.1,SNR=39						
WRAB	**Tennant Creek**	**42.89**	**122**	*e*P	**P**	**09 50 45.0**	**0.0**
	comp=Z,4.2nm,0.5s						
ASAR	**Alice Springs**	**44.27**	**127**	P	**P**	**09 50 56.1**	**0.0**
	comp=Z,0.3nm,0.5s,baz=300,slow=8.3,SNR=8.2						
ASAR				pP	**pP**	**09 51 04.5**	**-1.5**
	comp=Z,1.7nm,0.6s,baz=299,slow=7.5,SNR=8.4						
TKM2	**Tokmak 2**	**44.90**	**338**	*e*P	**P**	**09 51 02.4**	**+1.4**
	comp=Z,5.2nm,0.6s						
EKS2	**Erkin-Say**	**45.39**	**336**	*e*P	**P**	**09 51 06.5**	**+1.7**
	comp=Z,3.8nm,0.7s						
KSAR	**Wonju Array Be**	**45.47**	**35**	P	**P**	**09 51 05.6**	**+0.2**
KSAR				pP	**pP**	**09 51 13.8**	**-1.4**
KSRS	**Korea Array**	**45.50**	**35**	P	**P**	**09 51 05.6**	**0.0**
	comp=Z,4.5nm,0.8s,baz=224,slow=9.1,SNR=26						
KSRS				pP	**pP**	**09 51 13.8**	**-1.6**
	comp=Z,5.8nm,1.0s,baz=221,slow=9.4,SNR=6.6						
KSRS				LR	LR	10 11 56.4	
	comp=Z,126nm,18.1s,baz=216,slow=38						
MKAR	**Makanchi Array**	**46.36**	**346**	P	**P**	**09 51 12.8**	**+0.5**
	comp=Z,6.9nm,0.7s,baz=159,slow=9.3,SNR=78						
MKAR				LR	LR	10 14 10.7	
	comp=Z,75nm,20.2s,baz=164,slow=41						
MKAR	**Makanchi Array**	**46.36**	**346**	*e*P	**P**	**09 51 12.9**	**+0.6**
SONM	**Songino Array**	**46.44**	**9**	P	**P**	**09 51 13.6**	**+0.6**
	comp=Z,5.2nm,0.9s,baz=170,slow=9.0,SNR=11						
SONM				pP	**pP**	**09 51 21.1**	**-1.8**
	comp=Z,5.3nm,0.8s,baz=202,slow=8.4,SNR=6.6						
KKAR	**Karatay Array**	**47.13**	**334**	*e*P	**P**	**09 51 19.9**	**+1.5**
	comp=Z,1.4nm,0.5s						
GUMO	**Guam**	**49.00**	**74**	LR	LR	10 11 18.1	
	comp=Z,41nm,21.9s,baz=230,slow=35						
KURK	**Kurchatov**	**50.91**	**345**	*e*P	**P**	**09 51 47.8**	**+0.7**
	comp=Z,20nm,1.4s						
KURK				*e*pP	**pP**	**09 51 57.3**	**+0.2**
MJAR	**Matsushiro Arr**	**51.46**	**43**	P	**P**	**09 51 51.2**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=226,slow=8.7,SNR=9.8						
MJAR				pP	**pP**	**09 52 00.1**	**-1.5**
	comp=Z,3.4nm,0.9s,baz=220,slow=7.8,SNR=6.3						
USRK	**Ussuriysk Ar.**	**52.37**	**32**	P	**P**	**09 51 59.0**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=242,slow=5.4,SNR=9.0						
USRK				pP	**pP**	**09 52 07.2**	**-0.9**
	comp=Z,3.7nm,0.9s,baz=236,slow=8.8,SNR=3.5						
USRK				LR	LR	10 16 27.9	
	comp=Z,163nm,19.1s,baz=203,slow=38						
ZAA0	**Zalesovo Array**	**52.71**	**351**	*e*P	**P**	**09 52 00.6**	**+0.1**
ZALV	**Zalesovo Beam**	**52.71**	**351**	P	**P**	**09 52 01.0**	**+0.5**
	comp=Z,11nm,0.4s,baz=178,slow=7.0,SNR=52						
ZALV				pP	**pP**	**09 52 08.9**	**-1.6**
	comp=Z,7.9nm,0.6s,baz=182,slow=6.6,SNR=7.1						
ZALV				LR	LR	10 18 56.6	
	comp=Z,49nm,19.5s,baz=70,slow=41						
STKA	**Stephens Creek**	**54.26**	**132**	P	**P**	**09 52 11.7**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=347,slow=8.7,SNR=3.9						
STKA				pP	**pP**	**09 52 21.1**	**-1.3**
	comp=Z,2.3nm,0.6s,baz=291,slow=7.3,SNR=4.2						
STKA				LR	LR	10 16 43.0	
	comp=Z,71nm,21.0s,baz=320,slow=38						
BRVK	**Borovoye**	**55.41**	**341**	*e*P	**P**	**09 52 19.2**	**-1.0**
	comp=Z,3.9nm,0.6s						
ABKAR	**Akbulak array**	**56.58**	**332**	*e*P	**P**	**09 52 29.0**	**+0.3**
	comp=Z,2.1nm,0.6s						
BRTR	**Keskin Array B**	**68.21**	**312**	P	**P**	**09 53 46.5**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=141,slow=8.3,SNR=5.2						
BRTR				LR	LR	10 27 24.8	
	comp=Z,14nm,18.1s,baz=108,slow=39						
AKASG	**Malin Array Be**	**74.33**	**322**	P	**P**	**09 54 23.0**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=89,slow=5.3,SNR=5.2						
FINES	**FINESS Array B**	**79.07**	**333**	P	**P**	**09 54 49.6**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=98,slow=6.8,SNR=10						
ARCES	**ARCESS Array B**	**81.63**	**340**	P	**P**	**09 55 04.0**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=97,slow=5.0,SNR=16						
ARCES				LR	LR	10 34 33.5	
	comp=Z,50nm,19.6s,baz=100,slow=38						
GERES	**GERESS Array B**	**83.89**	**319**	P	**P**	**09 55 16.4**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=97,slow=5.4,SNR=5.0						
HFS	**Hagfors**	**84.79**	**330**	LR	LR	10 37 49.6	
	comp=Z,30nm,18.2s,baz=117,slow=39						
NOA	**NORSAR Array B**	**86.07**	**331**	LR	LR	10 38 11.8	
	comp=Z,32nm,19.8s,baz=105,slow=39						
SPITS	**Spitsbergen Ar**	**86.08**	**348**	LR	LR	10 38 53.5	
	comp=Z,54nm,21.6s,baz=300,slow=39						
VNDA	**Vanda**	**86.69**	**169**	LR	LR	10 30 21.3	
	comp=Z,59nm,19.1s,baz=312,slow=33						
TXAR	**Lajitas Array**	**143.26**	**31**	PKP	PKPbc	10 02 18.1	+0.1
	comp=Z,0.3nm,0.5s,baz=19,slow=1.5,SNR=9.5						

CSEM ***15*** *09:43:03.1±0.1, 46°.22N×7°.33E, h5km, ML2.1/15, Error ellipse: s-maj=1.9km s-min=1.6km az=95.0*

GEN ***15*** *09:43:03.5, 46°.19N×7°.33E, h4km, ML1.2*

LDG ***15*** *09:43:04.0±0.1, 46°.22N×7°.33E, h3km, Md2.2/3, Ml2.2/11, Error ellipse: s-maj=1.2km s-min=0.8km az=105.0*

ZUR 15 09:43:03.6, 46°.22N×7°.32E, h3km±1km, ML1.5/7, 8C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SENIN	**Lac Senin/Sane**	**0.14**	**355**	⇑*i*Pg	Pg	09 43 06.7	0.0
	767nm,0.3s						
SENIN				*i* Sg	Sg	09 43 08.9	0.0
	767nm,0.3s						
SENIN	**Lac Senin/Sane**	**0.14**	**355**	⇑*i*Pg	Pg	09 43 06.7	0.0
	767nm,0.3s						
SENIN				*i* Sg	Sg	09 43 08.9	0.0
	767nm,0.3s						
GRYON	**Gryon**	**0.15**	**281**	⇓*i*Pg	Pg	09 43 06.8	+0.1
	174nm,0.1s						
GRYON				*i* Sg	Sg	09 43 09.1	+0.3
	174nm,0.1s						
GRYON	**Gryon**	**0.15**	**281**	⇓*i*Pg	Pg	09 43 06.8	+0.1
	174nm,0.1s						
GRYON				*i* Sg	Sg	09 43 09.1	+0.3
	174nm,0.1s						
SALAN	**Lac Salanfe**	**0.25**	**252**	⇑*i*Pg	Pg	09 43 08.9	+0.1
	49nm,0.2s						
SALAN				*i* Sg	Sg	09 43 12.3	0.0
	49nm,0.2s						
SALAN	**Lac Salanfe**	**0.25**	**252**	⇑*i*Pg	Pg	09 43 08.9	+0.1
	49nm,0.2s						
SALAN				*i* Sg	Sg	09 43 12.3	0.0
	49nm,0.2s						
LKBD	**Leukerbad**	**0.27**	**52**	*i* Pg	Pg	09 43 09.1	0.0
	80nm,0.5s						
LKBD	**Leukerbad**	**0.27**	**52**	*i* Pg	Pg	09 43 09.1	0.0
	80nm,0.5s						
LKBD2	**Leukerbad 2**	**0.27**	**56**	*i* Pg	Pg	09 43 09.2	0.0
	24nm,0.1s						
LKBD2	**Leukerbad 2**	**0.27**	**56**	*i* Pg	Pg	09 43 09.2	0.0
	24nm,0.1s						
AIGLE	**Aigle**	**0.28**	**296**	⇑*i*Pg	Pg	09 43 09.4	+0.3
	94nm,0.4s						
AIGLE	**Aigle**	**0.28**	**296**	⇑*i*Pg	Pg	09 43 09.4	+0.3
	94nm,0.4s						
EMV	**Vieux Emosson**	**0.33**	**241**	⇑*i*Pg	Pg	09 43 10.3	0.0
	125nm,0.3s						
EMV				*i* Sg	Sg	09 43 14.7	-0.2
	125nm,0.3s						
EMV	**Vieux Emosson**	**0.33**	**241**	⇑*i*Pg	Pg	09 43 10.3	0.0
	125nm,0.3s						
EMV				*i* Sg	Sg	09 43 14.7	-0.2
	125nm,0.3s						
SATI	**Passo dei Sala**	**0.52**	**132**	P	Pg	09 43 13.2	-0.8
SATI				S	Sg	09 43 19.8	-1.3
CIRO	**Champorcher**	**0.65**	**164**	P	Pg	09 43 15.4	-1.0
CIRO				S	Sg	09 43 23.6	-1.4
LPL	**La Plagne**	**0.81**	**210**	*e*Pg	Pg	09 43 19.7	+0.1
LPL				*e*Sg	Sg	09 43 30.3	-0.1
	3.5nm,0.3s						
LPL	**La Plagne**	**0.81**	**210**	*e*Pg	Pg	09 43 19.7	+0.1
LPL				*e*Sg	Sg	09 43 30.3	-0.1
	1.8nm,0.3s						
LPG	**La Plagne**	**0.82**	**209**	*e*Pg	Pg	09 43 20.0	+0.2
LPG				*e*Sg	Sg	09 43 30.6	-0.2
	5.7nm,0.2s						
LPG	**La Plagne**	**0.82**	**209**	*e*Pg	Pg	09 43 20.0	+0.2
LPG				*e*Sg	Sg	09 43 30.6	-0.2
	2.8nm,0.2s						
CABF	**La Chapelle**	**0.94**	**295**	*e*Pg	Pg	09 43 21.9	+0.2
CABF				*e*Sg	Sg	09 43 34.1	+0.1
	8.1nm,0.3s						
CABF	**La Chapelle**	**0.94**	**295**	*e*Pg	Pg	09 43 21.9	+0.2
CABF				*e*Sg	Sg	09 43 34.1	+0.1
	4.1nm,0.3s						
MBDF	**Montbardon**	**1.54**	**195**	*e*Pg	Pb	09 43 32.9	-0.1
MBDF				*e*Sg	Sn	09 43 52.9	0.0
	3.3nm,0.3s						
MBDF	**Montbardon**	**1.54**	**195**	*e*Pg	Pb	09 43 32.9	-0.1
MBDF				*e*Sg	Sn	09 43 52.9	0.0
	1.6nm,0.3s						
HINF	**Hinteralfeld**	**1.63**	**349**	*e*Pn	Pn	09 43 32.1	-1.1
HINF	**Hinteralfeld**	**1.63**	**349**	*e*Pg	Pb	09 43 34.5	+0.2
HINF				*e*Sg	Sb	09 43 55.5	+0.2
	2.8nm,0.3s						
HINF	**Hinteralfeld**	**1.63**	**349**	*e*Pn	Pn

Error ellipse: s-maj=3.2km s-min=2.4km az=21.6
*MEX **15** 09:51:18.5±1.0, 32.°93N×115.°91W, h16km±26km, MD3.5*
*ECX **15** 09:51:19.1±0.7, 32.°70N×115.°93W, h3km, MD3.3, ML3.6*
*NEIC **15** 09:51:19.0, 32.°69N×115.°93W, h5km, ML3.6(PAS), After PAS.*
NEIC Felt at Coronado, El Cajon, Laguna Beach, San Diego and Vista.

ISC 15 09:51:18.5±0.9, 32.°67N±0.°02×115.°94W±0.°02, h10km±6km, n40, σ1§18/80, 10C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMX	**La Rumorosa**	**0.14**	**240⇑**	*eP*	**Pg**	**09 51 22.2**	**+0.4**
RMX				*eS*	**Sg**	**09 51 24.7**	**+0.6**
SGL	**Mount Signal**	**0.18**	**97⇑**	*iP*	**Pg**	**09 51 22.2**	**-0.2**
WESC	**Westside Schoo**	**0.20**	**63⇑**	*eP*	**Pg**	**09 51 22.4**	**-0.2**
WESC				*eS*	**Sg**	**09 51 25.6**	**+0.2**
CRR	**Carrizo Plain**	**0.22**	**353⇓**	*iP*	**Pg**	**09 51 22.7**	**-0.4**
COK	**Cook Ranch**	**0.25**	**45⇑**	*iP*	**Pg**	**09 51 23.4**	**-0.2**
SWSC	**Sam W. Stewart**	**0.29**	**24⇓**	*iP*	**Pg**	**09 51 23.9**	**-0.6**
DREC	**Desert Rsrch C**	**0.44**	**72⇑**	*eP*	**Pg**	**09 51 27.3**	**+0.2**
CPBX	**Cerro Prieto**	**0.59**	**115**	*iP*	**Pg**	**09 51 30.3**	**+0.2**
CPBX	**Cerro Prieto**	**0.59**	**115⇑**	*eP*	**Pg**	**09 51 30.0**	**0.0**
CPBX				*eS*	**Sg**	**09 51 38.7**	**+0.9**
BAR	**Barrett**	**0.62**	**271⇑**	*eP*	**Pg**	**09 51 30.7**	**+0.1**
BAR				*eS*	**Sg**	**09 51 39.2**	**+0.5**
MBIG	**Mexicali**	**0.68**	**113**	*eP*	**Pg**	**09 51 31.7**	**0.0**
MBIG				*iS*	**Sg**	**09 51 40.6**	**+0.1**
CBX	**Cerro Bola**	**0.71**	**240**	*iP*	**Pg**	**09 51 32.6**	**+0.3**
CBX				*iS*	**Sb**	**09 51 42.8**	**-0.1**
CBX	**Cerro Bola**	**0.71**	**240**	*iP*	**Pg**	**09 51 32.6**	**+0.3**
CBX				*iS*	**Sb**	**09 51 42.8**	**-0.1**
CBX	**Cerro Bola**	**0.71**	**240⇑**	*eP*	**Pg**	**09 51 32.6**	**+0.3**
CBX				*eS*	**Sg**	**09 51 42.5**	**+1.0**
CBX				IAML		09 51 44.0	
	comp=E,3μm,0.3s						
CBX				⇑*e*		09 51 44.0	
COA	**Coachella**	**0.71**	**74⇑**	*iP*	**Pg**	**09 51 31.8**	**-0.6**
RDX	**Rancho Dawling**	**0.74**	**180**	*eP*	**Pg**	**09 51 32.6**	**-0.2**
RDX				*eS*	**Sg**	**09 51 43.1**	**+0.5**
RDX				⇓*e*		09 51 43.8	
RDX				IAML		09 51 43.8	
	comp=N,2μm,0.2s						
SDRC	**San Diego Road**	**0.85**	**275**	*eP*	**Pg**	**09 51 34.5**	**-0.4**
PFO	**Pinyon Flats O**	**1.03**	**335**	*ePg*	**Pb**	**09 51 36.9**	**-1.7**
PFO				*eSg*	**Sb**	**09 51 50.1**	**-2.2**
PBX	**Punta Banda**	**1.14**	**216**	*eP*	**Pb**	**09 51 40.0**	**-0.4**
PBX				*eS*	**Sb**	**09 51 55.5**	**+0.2**
ECNX	**Esteban Cantu**	**1.16**	**209**	*eP*	**Pb**	**09 51 40.3**	**-0.4**
ECNX				*eS*	**Sb**	**09 51 55.7**	**-0.1**
ZAX	**El Zacaton**	**1.19**	**194**	*eP*	**Pn**	**09 51 40.9**	**-0.4**
ZAX				*eS*	**Sb**	**09 51 56.8**	**+0.1**
ECBX	**El Chinero**	**1.41**	**148**	*ePn*	**Pn**	**09 51 43.3**	**-1.0**
ECBX				*eS*	**Sn**	**09 52 02.6**	**-0.4**
SPIG	**San Pedro Mart**	**1.67**	**166**	*iP*	**Pn**	**09 51 48.0**	**-0.2**
SPIG				*iS*	**Sn**	**09 52 10.1**	**+0.3**
SPIG	**San Pedro Mart**	**1.67**	**166**	*iP*	**Pn**	**09 51 48.0**	**-0.2**
SPX	**San Pedro Mart**	**1.67**	**166**	*eP*	**Pn**	**09 51 47.1**	**-1.1**
SPX	**San Pedro Mart**	**1.67**	**166**	*eP*	**Pn**	**09 51 48.5**	**+0.3**
SPX				*eS*	**Sb**	**09 52 11.9**	**+1.1**
SPX				⇓*e*		09 52 14.0	
SPX				IAML		09 52 14.0	
	comp=E,389nm,0.9s						
214A	**Organ Pipe Nat**	**2.74**	**104**	*ePn*	**Pn**	**09 52 00.1**	**-2.5**
214A				*ePg*	**Pg**	**09 52 11.9**	**+0.8**
214A				*eSn*	**Sn**	**09 52 37.0**	**+1.1**
DAC	**Darwin (Calif)**	**3.85**	**340**	*ePn*	**Pn**	**09 52 17.5**	**-0.5**
DAC				*eSn*	**Sn**	**09 53 03.4**	**0.0**
SHPR	**Sheep Range**	**3.88**	**9**	*ePn*	**Pn**	**09 52 18.3**	**-0.1**
SHPR				*ePg*	**Pg**	**09 52 34.0**	**+1.2**
SHPR				*eSn*	**Sn**	**09 53 01.1**	**-3.0**
SHPR				*eSg*	**Sg**	**09 53 25.9**	**+2.8**
TUC	**Tucson**	**4.37**	**93**	*ePn*	**Pn**	**09 52 23.5**	**-1.6**
TUC				*ePg*	**Pg**	**09 52 43.3**	**+1.0**
WUAZ	**Wupatki**	**4.73**	**52**	*ePn*	**Pn**	**09 52 30.3**	**+0.1**
WUAZ				*eSn*	**Sn**	**09 53 27.6**	**+2.4**
CCUT	**Cedar City**	**5.31**	**23**	*ePn*	**Pn**	**09 52 38.5**	**+0.5**
	comp=E,3.5nm,0.7s						
CCUT				*eSn*	**Sn**	**09 53 37.2**	**-2.2**
TPH	**Tonopah**	**5.49**	**349**	*ePn*	**Pn**	**09 52 41.5**	**+0.8**
	comp=E,4.5nm,0.7s						
TPH				*ePg*	**Pg**	**09 53 04.4**	**+0.7**
R11A	**Troy Canyon, C**	**5.67**	**3**	*ePn*	**Pn**	**09 52 44.7**	**+1.6**
	comp=E,2.5nm,0.8s						
R11A				*ePg*	**Pg**	**09 53 06.1**	**-1.1**
W18A	**Petrified Fore**	**5.71**	**63**	*ePn*	**Pn**	**09 52 44.7**	**+1.1**
	comp=E,9.8nm,0.6s						
W18A				*ePg*	**Pg**	**09 53 05.9**	**-2.0**
W18A				*eSn*	**Sn**	**09 53 50.7**	**+1.4**
W18A				*eSg*	**Sg**	**09 54 24.2**	**+2.5**
MVU	**Marysvale**	**6.56**	**26**	*ePn*	**Pn**	**09 52 53.5**	**-1.8**
	comp=E,2.5nm,0.6s						
MVU				*ePg*	**Pg**	**09 53 26.5**	**+2.3**
MVU				*eSn*	**Sn**	**09 54 11.5**	**+1.1**
MSU	**Marysvale**	**6.58**	**27**	*ePn*	**Pn**	**09 52 55.6**	**-0.1**
	comp=E,3.8nm,0.7s						
MSU				*ePg*	**Pg**	**09 53 25.9**	**+1.3**
MSU				*eSn*	**Sn**	**09 54 12.4**	**+1.5**
MSU				*eSg*	**Sg**	**09 54 52.4**	**+2.5**
121A	**Cookes Peak, D**	**6.88**	**89**	*ePn*	**Pn**	**09 52 59.1**	**-0.6**
	comp=E,7.4nm,0.6s						
121A				*eSn*	**Sn**	**09 54 15.8**	**-2.3**
SRU	**San Rafael Swe**	**7.78**	**33**	*ePn*	**Pn**	**09 53 12.7**	**+0.6**
	comp=E,3.0nm,0.7s						
SRU				*ePg*	**Pg**	**09 53 47.3**	**-0.2**
SRU				*eSn*	**Sn**	**09 54 41.1**	**+0.7**
SRU				*eSg*	**Sg**	**09 55 26.9**	**-1.5**
PV04	**Paradox Valley**	**8.09**	**43**	*ePn*	**Pn**	**09 53 17.1**	**+0.8**
PV04				*ePg*	Pg	09 53 50.0	-3.4
PV04				*eSg*	**Sg**	**09 55 39.3**	**+1.1**

IDC 15 10:04:37.4±7.5, 8.°47N×92.°71E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/48, mbtmp3.4/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/29, Error ellipse: s-maj=390.5km s-min=23.1km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.36**	**132**	LR	LR	10 10 06.6	
	comp=Z,100nm,20.2s,baz=258,slow=39						
CMAR	**Chiang Mai Arr**	**11.63**	**31**	Lg	Lg	10 11 00.1	
	0.3nm,0.3s,baz=212,slow=32,SNR=4.8						
H08S3	**Diego Garcia H**	**25.73**	**232**	T	T	10 36 15.0	
	baz=52,slow=75,SNR=11						
H08S2	**Diego Garcia H**	**25.74**	**232**	T	T	10 36 13.4	
	baz=52,slow=75,SNR=13						
H08S1	**Diego Garcia H**	**25.75**	**232**	T	T	10 36 07.0	
	baz=52,slow=75,SNR=11						
MKAR	**Makanchi Array**	**39.21**	**349**	P	P	10 12 07.0	-0.4
	0.4nm,0.5s,baz=149,slow=9.3,SNR=3.7						
KURBB	**Kurchatov Arra**	**43.64**	**347**	P	P	10 12 43.8	+0.1
	0.3nm,0.4s,baz=170,slow=7.1,SNR=4.9						
WRA	**Warramunga Arr**	**49.76**	**125**	P	P	10 13 30.7	-1.4
	0.5nm,0.9s,baz=302,slow=8.6,SNR=3.2						
ASAR	**Alice Springs**	**51.38**	**129**	P	P	10 13 45.5	+1.2
	0.3nm,0.6s,baz=302,slow=7.9,SNR=2.6						

*SJA **15** 10:13:44.2±0.7, 35.°30S×72.°61W, h50km, ML4.2*
*ISCJB **15** 10:13:54.2±0.6, 34.°94S±0.°03×71.°85W±0.°09, h57km±5km, mb4.2/19, MS3.5/1, Error ellipse: s-maj=12.7km s-min=4.9km az=13.1*
*IDC **15** 10:13:54.5±0.6, 34.°90S×71.°70W, h44km±4km, mb4.0/11, mb1 4.2/15, mb1mx4.1/27, mbtmp4.3/15, ML4.5/3, MS3.1/2, Ms1 3.1/2, ms1mx2.8/18, Error ellipse: s-maj=21.1km s-min=13.9km az=89.0*
*GUC **15** 10:13:54.4±0.4, 34.°88S×71.°86W, h40km, ML4.8*
*NEIC **15** 10:13:54.7±0.3, 34.°87S×71.°77W, mb4.4/9, Error ellipse: s-maj=10.6km s-min=6.7km az=84.0*

ISC 15 10:13:54.5±0.6, 34.°92S±0.°04×71.°86W±0.°07, h46km±4km, h45km:pP-P, n66, σ1§18/84, mb4.3/19, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.51**	**159⇓**	*iP*	**Pn**	**10 14 05.8**	**+0.1**
TALC				*iS*	**Sn**	**10 14 14.3**	**+0.7**
NICH	**Los Niches**	**0.53**	**99⇓**	*iP*	**Pn**	**10 14 06.0**	**+0.1**
NICH				*iS*	**Sn**	**10 14 14.3**	**+0.4**
LNV	**Longovilo**	**1.03**	**21⇓**	*iP*	**Pn**	**10 14 12.4**	**-0.2**
LNV				⇑*iS*	**Sn**	**10 14 26.0**	**+0.1**
CHCH	**Chadas Angostu**	**1.40**	**46**	*i* P	**Pn**	**10 14 18.2**	**+0.5**
CHCH				*i* S	**Sn**	**10 14 36.7**	**+1.6**
TACH	**Talagante**	**1.48**	**31**	*eP*	**Pn**	**10 14 19.2**	**+0.5**
TACH				*i* S	**Sn**	**10 14 38.0**	**+1.1**
PCH	**Pirque**	**1.71**	**41**	*i* P	**Pn**	**10 14 22.8**	**+0.8**
PCH				*i* S	**Sn**	**10 14 44.2**	**+1.5**
SAN	**Santiago**	**1.77**	**35**	*i* P	**Pn**	**10 14 23.4**	**+0.6**
SAN				*i* S	**Sn**	**10 14 45.3**	**+1.2**
SJCH	**San Jose de Ma**	**1.79**	**45**	*i* P	**Pn**	**10 14 23.7**	**+0.7**
SJCH				*i* S	**Sn**	**10 14 45.9**	**+1.3**
LACH	**Col Las Americ**	**1.83**	**37**	*eP*	**Pn**	**10 14 24.1**	**+0.5**
LACH				*i* S	**Sn**	**10 14 46.7**	**+1.0**
CLCH	**Cerro Calan**	**1.88**	**36**	*eP*	**Pn**	**10 14 24.9**	**+0.6**
CLCH				*eS*	**Sn**	**10 14 47.8**	**+1.0**
CLCH				AML	AML	10 14 53.0	
	comp=N,18μm,0.6s						
YECH	**El Yeso**	**1.93**	**50**	AML	AML	10 15 02.1	
	comp=N,11μm,0.6s						
PEL	**Peldehue**	**2.02**	**29**	*eP*	**Pn**	**10 14 26.7**	**+0.4**
PEL				*eS*	**Sn**	**10 14 51.2**	**+0.9**
PEL				AML	AML	10 15 00.2	
	comp=N,13μm,0.4s						
AAGR	**Agrelo**	**3.12**	**55**	*i* P	**Pn**	**10 14 43.6**	**+2.4**
AAGR				*i* P	**Pn**	**10 14 43.6**	**+2.4**
ARCO	**CERRO ARCO**	**3.20**	**50**	*i* P	**Pn**	**10 14 44.4**	**+1.9**
ARCO				*i* S	Sn	10 15 29.9	+10
ARCO				AML	AML	10 15 39.8	
	comp=Z,326nm,0.6s						
AUSP	**Uspallata**	**3.39**	**38**	*i* P	**Pn**	**10 14 47.5**	**+2.3**
AUSP				*eP*	**Pn**	**10 14 47.8**	**+2.6**
AUSP				*i* S	Sn	10 15 33.9	+10
ASAL	**Salagasta**	**3.43**	**48**	*i* P	**Pn**	**10 14 48.2**	**+2.7**
ASAL				*eP*	Pn	10 14 49.1	+3.6
RTLS	**Leoncito**	**3.78**	**35**	*eP*	**Pn**	**10 14 53.1**	**+2.5**
RTCV	**Cerro Valdivia**	**4.13**	**43**	*i* P	**Pn**	**10 14 56.6**	**+1.5**
CFAA	**Coronel Fontan**	**4.49**	**44**	P	**Pn**	**10 15 00.2**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=203,slow=19,SNR=50						
CFAA				LR	LR	10 16 57.1	
	comp=Z,59nm,21.5s,baz=223,slow=42						
CFAA	**Coronel Fontan**	**4.49**	**44**	*eP*	**Pn**	**10 15 00.9**	**+0.8**
CFAA				*eS*	Sn	10 15 57.7	+6.6
ACAN	**Cantantal**	**4.71**	**57**	*eP*	**Pn**	**10 15 04.9**	**+1.8**
AMOG	**MOGNA**	**4.88**	**36**	*eP*	**Pn**	**10 15 06.4**	**+1.0**
AVFE	**Valle Fertil**	**5.64**	**42**	*eP*	**Pn**	**10 15 15.7**	**-0.2**
PLCA	**Paso Flores**	**5.89**	**170**	P	**Pn**	**10 15 21.3**	**+2.0**
	comp=Z,2.8nm,0.3s,baz=338,slow=11,SNR=26						
LCO	**Las Campanas**	**5.97**	**10**	*ePn*	**Pn**	**10 15 20.0**	**-0.7**
	comp=Z,41nm,0.5s						
LCO				*eSn*	**Sn**	**10 16 26.9**	**-1.1**
LCO	**Las Campanas**	**5.97**	**10**	*eP*	**Pn**	**10 15 20.0**	**-0.7**
APLL	**PUNTA DE LOS L**	**6.37**	**46**	*eP*	**Pn**	**10 15 25.4**	**-0.5**
ACLC	**CERRO LA CRUZ**	**6.88**	**39**	*eP*	**Pn**	**10 15 31.4**	**-1.6**
CYA	**Choya**	**8.27**	**40**	*eP*	Pn	10 15 48.1	-3.8
TRQA	**Tornquist**	**8.55**	**114**	*ePn*	**Pn**	**10 15 55.6**	**-0.1**
	comp=Z,16nm,0.8s						
TRQA				*eSn*	**Sn**	**10 17 28.2**	**-2.7**
FSA	**Cafayete**	**10.14**	**31**	*eP*	**Pn**	**10 16 15.0**	**-2.7**
LVC	**Limon Verde**	**12.53**	**13**	P	**Pn**	**10 16 49.4**	**-1.1**
	comp=Z,9.8nm,0.3s,baz=182,slow=7.4,SNR=3.7						
LPAZ	**La Paz**	**18.86**	**11**	P	**Pn**	**10 18 12.6**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=183,slow=7.3,SNR=38						
SIV	**San Ignacio**	**21.19**	**30**	P	**P**	**10 18 35.1**	**-1.1**
	comp=Z,14nm,0.7s,baz=221,slow=9.7,SNR=46						
BDFB	**Brasilia**	**28.74**	**54**	P	**P**	**10 19 46.7**	**-1.3**
	comp=Z,4.1nm,0.7s,baz=208,slow=5.7,SNR=5.6						
BDFB				LR	LR	10 31 35.0	
	comp=Z,124nm,20.1s,baz=226,slow=37						
SNAA	**Sanae**	**50.68**	**158**	P	**P**	**10 22 48.8**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=316,slow=7.2,SNR=8.3						
QSPA	**South Pole Qui**	**55.32**	**180**	P	**P**	**10 23 23.5**	**+0.2**
	comp=Z,5.1nm,0.9s,baz=163,slow=2.9,SNR=13						
QSPA	**South Pole Qui**	**55.32**	**180**	*eP*	**P**	**10 23 24.5**	**+1.2**
	comp=Z,4.8nm,0.9s						
QSPA				*ep*P	**pP**	**10 23 36.8**	**+0.6**
TBI	**Tubuai**	**67.25**	**257**	*e*LR	LR	10 45 12.6	
	comp=Z,87nm,27.8s						
PPT2	**Papeete2**	**70.25**	**262**	*e*LR	LR	10 46 26.0	
	comp=Z,51nm,25.5s						
TXAR	**Lajitas Array**	**70.61**	**331**	P	**P**	**10 25 05.7**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=159,slow=8.6,SNR=12						
TXAR				pP	**pP**	**10 25 18.8**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=154,slow=7.7,SNR=5.2						
TXAR				sP	**sP**	**10 25 24.1**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=156,slow=8.3,SNR=4.1						
WVT	**Waverly**	**72.24**	**346**	*eP*	**P**	**10 25 14.3**	**-0.4**
	comp=Z,9.1nm,0.8s						
MAW	**Mawson**	**72.26**	**163**	P	**P**	**10 25 15.4**	**+0.9**
	comp=Z,4.1nm,0.8s,baz=208,slow=9.8,SNR=7.9						
TUL1	**Leonard**	**73.92**	**340**	*eP*	**P**	**10 25 24.2**	**-0.4**
	comp=Z,3.0nm,0.6s						
DBIC	**Dimbokro**	**75.34**	**71**	P	**P**	**10 25 32.8**	**-0.6**
	comp=Z,4.6nm,0.6s,baz=221,slow=4.5,SNR=7.6						
DBIC				pP	**PcP**	**10 25 46.3**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=192,slow=7.9,SNR=1.9						
DBIC	**Dimbokro**	**75.34**	**71**	*eP*	**P**	**10 25 33.2**	**-0.1**
DBIC				pP	**PcP**	**10 25 46.3**	**-0.2**
ACSO	**Alum Creek Sta**	**75.48**	**351**	*eP*	**P**	**10 25 33.2**	**-0.4**
	comp=Z,9.2nm,0.8s						
BOSA	**Boshof**	**79.52**	**117**	P	**P**	**10 25 56.8**	**0.0**
	comp=Z,6.9nm,0.8s,baz=267,slow=3.2,SNR=11						
ECSD	**EROS Data Cent**	**81.47**	**342**	*eP*	**P**	**10 26 05.8**	**-0.7**
	comp=Z,3.4nm,0.9s						
CCUT	**Cedar City**	**81.76**	**328**	*eP*	**P**	**10 26 10.2**	**+1.7**
	comp=Z,1.7nm,0.9s						
SRU	**San Rafael Swe**	**81.89**	**331**	*eP*	**P**	**10 26 09.7**	**+0.6**
	comp=Z,1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**84.39**	**70**	P	**P**	**10 26 21.8**	**-0.5**
	comp=Z,4.3nm,0.7s,baz=280,slow=5.5,SNR=27						
TORD				pP	**pP**	**10 26 34.8**	**-1.1**
	comp=Z,2.9nm,1.0s,baz=249,slow=4.0,SNR=5.8						
HWUT	**Hardware Ranch**	**84.43**	**331**	*eP*	**P**	**10 26 22.8**	**+0.7**
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**84.65**	**333**	P	**P**	**10 26 24.1**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=132,slow=4.2,SNR=4.5						
NVAR	**Mina Array Bea**	**84.72**	**325**	P	**P**	**10 26 25.0**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=156,slow=5.0,SNR=4.1						
HVU	**Hansel Valley**	**85.06**	**331**	*eP*	**P**	**10 26 25.7**	**+0.4**
	comp=Z,1.3nm,0.5s						
PPLA	**Purkeypile**	**116.32**	**330**	*e*PKPdf	**PKPdf**	**10 32 33.1**	**+0.8**
WRA	**Warramunga Arr**	**120.03**	**209**	PKP	**PKPdf**	**10 32 39.6**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=168,slow=1.6,SNR=6.8						
WRA				pPKP	**pPKPdf**	**10 32 54.6**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=157,slow=1.6,SNR=1.7						
H11N3	**WAKE ISLAND Hyl**	**26.33**	**270**	T	T	12 51 48.8	
	baz=118,slow=74,SNR=3.6						
H11N1	**WAKE ISLAND Hyl**	**26.35**	**270**	T	T	12 51 58.8	
	baz=118,slow=74,SNR=6.4						
H11N2	**WAKE ISLAND Hyl**	**26.35**	**270**	T	T	12 51 52.1	
	baz=118						
BVAR	**Borovoye Array**	**147.85**	**44**	PKPbc	**PKPbc**	**10 33 34.2**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=252,slow=3.0,SNR=6.9						
BVAR				pPKPbc	**pPKPbc**	**10 33 46.6**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=338,slow=1.6,SNR=3.1						
KURBB	**Kurchatov Arra**	**153.43**	**45**	PKPbc	**PKPbc**	**10 33 47.0**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=301,slow=2.8,SNR=8.1						
KURBB				pPKPbc	**PKPab**	**10 33 59.6**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=294,slow=2.9,SNR=4.3						
KURK	**Kurchatov**	**153.44**	**44**	PKPbc	**PKPbc**	**10 33 47.0**	**-0.3**
KURK				pPKPbc	**PKPab**	**10 33 59.6**	**-0.1**
ZALV	**Zalesovo Beam**	**154.92**	**34**	PKPbc	**PKPbc**	**10 33 48.1**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=331,slow=5.6,SNR=2.6						
MKAR	**Makanchi Array**	**157.25**	**51**	PKPab	**PKPab**	**10 34 16.1**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=291,slow=3.8,SNR=6.9						

*BJI **15** 10:34:05.8, 3.°90N×126.°80E, h23km, mb4.6/25, mB4.8/20, Ms4.5/15, Ms7 4.1/16*
*ISCJB **15** 10:34:08.9±0.3, 3.°95N±0.°03×126.°88E±0.°04, h36km, mb4.6/28, MS3.4/12, Error ellipse: s-maj=5.7km s-min=3.7km az=158.8*
*IDC **15** 10:34:10.3±2.4, 3.°68N×126.°39E, h35km±18km, mb4.1/13, mb1 4.3/14, mb1mx4.0/38, mbtmp4.3/14, ML4.6/1, MS3.4/13, Ms1 3.4/13, ms1mx3.2/37, Error ellipse: s-maj=35.4km s-min=11.1km az=69.0*
*NEIC **15** 10:34:13.6±1.2, 3.°83N×126.°83E, h71km±11km, mb4.6/14, Error ellipse: s-maj=13.4km s-min=7.0km az=49.0*
*DJA **15** 10:34:17.2±0.5, 3.°1N±4.°×12.°7E±.°, h50km±5km, M4.6/16, mB5.1/8, mb4.7/16, MLv4.7/6, Mw(mB)4.4/8*

ISC 15 10:34:10.6±0.4, 3.°94N±0.°05×126.°87E±0.°05, h36km, n82, σ1§82/105, mb4.6/33, MS3.5/12, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.37**	**260**	P	**Pn**	**10 34 31.2**	**-2.0**
SGSI				S	**Sn**	**10 34 54.1**	**+4.1**
TNTI	**Ternate**	**3.18**	**171**	*ePn*	**Pn**	**10 34 58.2**	**0.0**
TNTI				*eSn*	**Sn**	**10 35 35.3**	**+0.4**
MRSI	**Marisa**	**6.01**	**235**	P	**Pn**	**10 35 37.3**	**+0.2**
	212nm,0.7s,2μm0.8nm						
MRSI				S	**Sn**	**10 36 43.5**	**-1.2**
	212nm,0.7s,2μm0.8nm						
SANI	**Sanana**	**6.01**	**188**	P	**Pn**	**10 35 34.6**	**-2.5**
	38nm,0.8s,1μm0.3nm						
SANI				S	**Sn**	**10 36 40.8**	**-4.0**
	38nm,0.8s,1μm0.3nm						
LUWI	**Luwuk**	**6.42**	**220**	*ePn*	**Pn**	**10 35 44.5**	**+1.7**
LUWI				*eSn*	**Sn**	**10 36 58.9**	**+4.0**
SIJI	**Sorong**	**6.49**	**137**	Pn	**Pn**	**10 35 46.4**	**+2.7**
	12nm,0.3s,baz=335,slow=12,SNR=46						
SIJI				Sn	**Sn**	**10 36 58.1**	**+1.6**
	3.0nm,0.3s,baz=119,slow=22,SNR=9.2						
SIJI				LR	LR	10 38 47.0	
	comp=Z,396nm,20.2s,baz=316,slow=42						
APSI	**Ampana**	**7.10**	**227**	P	**Pn**	**10 35 55.1**	**+3.0**
	257nm,1.2s,2μm0.8nm						
MPSI	**Mapaga**	**7.83**	**243**	P	**Pn**	**10 36 04.6**	**+2.5**
	22nm,1.0s,267nm0.1nm						
PCI	**Palu**	**8.52**	**236**	P	Pn	10 36 26.4	+15
FAKI	**Fak Fak**	**8.67**	**142**	P	**Pn**	**10 36 13.9**	**+0.2**
	97nm,0.8s						
FAKI	**Fak Fak**	**8.67**	**142**	*ePn*	**Pn**	**10 36 16.3**	**+2.6**
FAKI				*eSn*	**Sn**	**10 37 53.0**	**+2.7**
TTSI	**Tana Toraja**	**9.89**	**226**	P	**Pn**	**10 36 32.2**	**+1.8**
	45nm,1.2s,434nm						
SPSI	**Sidrap Palu**	**10.58**	**222**	P	**Pn**	**10 36 41.5**	**+1.6**
	17nm,1.1s						
KAPI	**Kappang**	**11.39**	**219**	LR	LR	10 41 09.0	
	comp=Z,161nm,21.8s,baz=49,slow=38						
KAPI	**Kappang**	**11.39**	**219**	*ePn*	**Pn**	**10 36 52.8**	**+1.9**
SBUM	**Sibu**	**14.71**	**265**	*eP*	**Pn**	**10 37 37.4**	**+1.2**
GENI	**Genyem**	**14.79**	**116**	P	**P**	**10 37 43.2**	**+0.5**
	274nm,1.0s						
STKI	**Sintang**	**15.86**	**256**	P	**P**	**10 37 55.0**	**+0.3**
	35nm,0.7s						
KSM	**Kuching**	**16.73**	**262**	*eP*	**P**	**10 38 03.5**	**-0.9**
	11nm,0.6s						
GUMO	**Guam**	**20.19**	**61**	LR	LR	10 45 16.0	
	comp=Z,99nm,21.8s,baz=216,slow=32						
LEM	**Lembang**	**22.00**	**241**	LR	LR	10 47 57.3	
	comp=Z,174nm,19.2s,baz=48,slow=39						
QIZ	**Qiongzhong**	**22.40**	**313**	P	**P**	**10 39 04.9**	**-1.3**
QIZ				S	**S**	**10 43 08.0**	**-2.3**
QIZ				LZ			
	150nm,29.4s						
MDSI	**Maura Dua**	**24.17**	**250**	P	**P**	**10 39 24.7**	**+0.9**
	18nm,1.0s						
WRAB	**Tennant Creek**	**24.83**	**163**	*eP*	**P**	**10 39 28.4**	**-1.4**
	39nm,0.8s						
WRAB				*eS*	**S**	**10 43 50.9**	**+0.5**
WRA	**Warramunga Arr**	**24.84**	**163**	P	**P**	**10 39 27.9**	**-2.0**
	30nm,0.7s,baz=343,slow=11,SNR=115						
WRA				S	**S**	**10 43 49.6**	**-0.8**
	2.4nm,0.8s,baz=335,slow=20,SNR=6.0						
WRA				ScP	**ScP**	**10 46 40.5**	**-1.4**
	0.7nm,1.1s,baz=300,slow=7.2,SNR=4.8						
MNSI	**Mandailing Nat**	**27.45**	**264**	P	P	10 40 00.2	+6.7
	21nm,0.9s						
ASAR	**Alice Springs**	**28.28**	**166**	P	**P**	**10 39 59.0**	**-1.8**

690nm,13.0s
USRK Ussuriysk Ar. 40.35 6 P P 10 41 46.7 +1.9
1.5nm,0.6s,baz=207,slow=7.0,SNR=4.2
ARMA Armidale 41.56 147 eP P 10 41 56.1 +1.0
145nm,2.5s
GTA Gaotai 42.99 329 eP P 10 42 10.4 +3.7
GTA pP pP 10 42 18.0 +0.7
GTA sP sP 10 42 21.3 -0.3
GTA PMZ
4.0nm,1.0s
TAPN Taplejung 44.01 306 eP P 10 42 13.0 -2.3
11nm,0.6s
ODAN Odare 44.07 305 eP P 10 42 13.9 -1.8
16nm,0.6s
GUN Gumba 45.72 306 eP P 10 42 27.4 -1.6
14nm,0.4s
GKN Gorkha 46.77 305 eP P 10 42 35.1 -1.9
4.8nm,0.3s
KOLN Koldanda 47.52 305 eP P 10 42 41.3 -1.7
19nm,0.4s
WMQ Urumqi 52.64 325 P P 10 43 23.1 +1.8
WMQ pP pP 10 43 30.8 -1.3
WMQ sP sP 10 43 33.9 -2.5
WMQ pmax pmax
comp=Z,89nm,0.6s
WMQ pmax pmax
comp=Z,130nm,5.1s
WMQ LR LR
comp=N,25nm,15.6s
WMQ LR LR
comp=E,31nm,16.2s
WMQ LR LR
comp=Z,69nm,26.0s
WMQ Urumqi 52.64 325 P P 10 43 22.1 +0.8
WMQ pP pP 10 43 29.8 -2.3
WMQ sP sP 10 43 32.9 -3.5
WMQ PMZ
comp=Z,4.0nm,0.5s
WMQ PMZ
comp=Z,13nm,5.2s
WMQ LN
comp=Z,33nm,18.9s
WMQ LE
comp=Z,23nm,19.5s
WMQ LZ
comp=Z,69nm,21.2s
PETK Petropavlovsk- 55.19 22 LR LR 11 07 45.0
comp=Z,11nm,20.5s,baz=200,slow=36
MKAR Makanchi Array 57.47 325 P P 10 43 55.0 -1.1
comp=Z,3.0nm,0.4s,baz=118,slow=7.7,SNR=50
MKAR LR LR 11 10 20.9
comp=Z,57nm,18.7s,baz=106,slow=38
MKAR Makanchi Array 57.47 325 eP P 10 43 54.7 -1.4
KSH Kashi 58.00 315 eP P 10 44 01.0 +0.9
KSH epP pP 10 44 11.5 +0.5
KSH PP PP 10 46 10.3 +1.4
KSH S S 10 52 01.8 +3.4
KSH sS sS 10 52 15.8 -0.5
KSH PMZ
comp=Z,68nm,3.7s
KSH LN
comp=Z,100nm,5.0s
KSH LE
comp=Z,100nm,4.6s
KZA Kyzart 59.56 317 P P 10 44 11.8 +0.6
SNR=6.6
TKM2 Tokmak 2 59.69 318 P P 10 44 12.2 +0.3
SNR=6.1
TKM2 Tokmak 2 59.69 318 eP P 10 44 12.0 +0.1
comp=Z,3.8nm,0.8s
UCH Uchtor 60.12 317 P P 10 44 15.8 +0.6
SNR=10
ZALV Zalesovo Beam 60.47 333 P P 10 44 15.7 -1.1
comp=Z,0.9nm,0.5s,baz=133,slow=6.4,SNR=4.2
ZALV LR LR 11 12 55.6
comp=Z,43nm,18.8s,baz=70,slow=38
USP Ospenovka 60.56 318 P P 10 44 17.5 -0.2
SNR=5.5
AML Almayashu 60.64 317 P P 10 44 19.1 +0.5
SNR=5.6
EKS2 Erkin-Say 60.79 317 P P 10 44 19.9 +0.5
SNR=6.3
EKS2 Erkin-Say 60.79 317 eP P 10 44 18.7 -0.6
comp=Z,5.6nm,0.7s
KURK Kurchatov 61.64 327 eP P 10 44 23.9 -0.8
comp=Z,8.9nm,0.4s
KKAR Karatay Array 63.18 317 eP P 10 44 34.8 -0.4
comp=Z,3.2nm,0.6s
BRVK Borovoye 67.30 327 eP P 10 45 02.2 +0.5
comp=Z,7.5nm,0.9s
ABKAR Akbulak array 72.08 321 eP P 10 45 29.9 -1.3
comp=Z,3.8nm,0.6s
ARU Arti 74.84 328 eP P 10 45 46.7 -0.6
comp=Z,3.5nm,0.5s
VNDA Vanda 83.61 173 P P 10 46 35.0 +0.2
comp=Z,0.5nm,0.5s,baz=316,slow=5.5,SNR=5.1
VNDA Vanda 83.61 173 eP P 10 46 33.7 -1.1
comp=Z,1.5nm,1.0s
COLD Coldfoot 83.65 23 eP P 10 46 34.0 -1.2
comp=Z,4.0nm,1.0s
ILAR Eielson Array 84.86 25 P P 10 46 44.4 +3.0
comp=Z,0.8nm,1.0s,baz=243,slow=7.3,SNR=5.9
BRTR Keskin Array B 90.00 310 P P 10 47 04.7 -2.3
comp=Z,0.6nm,0.6s,baz=72,slow=3.8,SNR=4.9
ARCES ARCESS Array B 90.30 340 P P 10 47 07.6 +0.1
comp=Z,1.7nm,0.7s,baz=72,slow=5.9,SNR=4.4
ARCES LR LR 11 30 58.0
comp=Z,23nm,19.7s,baz=274,slow=38
FINES FINESS Array B 91.72 332 P P 10 47 13.0 -1.2
comp=Z,1.4nm,0.6s,baz=46,slow=8.2,SNR=5.5
FINES LR LR 11 31 58.9
comp=Z,22nm,18.2s,baz=43,slow=38
QSPA South Pole Qui 93.84 180 eP P 10 47 23.8 -0.3
comp=Z,1.8nm,0.9s
NOA NORSAR Array B 98.67 334 LR LR 11 37 09.8
comp=Z,30nm,19.1s,baz=260,slow=38
SRU San Rafael Swe 112.05 45 ePKPdf PKiKP 10 52 41.5 -1.4
TORD Torodi Ar. Bea 122.99 288 PKP PKPdf 10 53 03.1 -1.2
comp=Z,0.4nm,0.8s,baz=75,slow=1.0,SNR=4.1

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*ISCJB **15** 10:39:39.4±0.6,19.°1S±0.°2×172.°64W±0.°10,h13km, mb3.9/10,MS3.4/2,Error ellipse: s-maj=26.5km s-min=13.1km az=172.2*
*IDC **15** 10:39:40.1±0.9, 18.°80S×172.°74W,h0km,mb3.9/9, mb1 4.3/10,mb1mx4.1/26,mbtmp4.0/10,ML3.5/1,MS3.3/2, Ms1 3.2/2,ms1mx2.8/26,Error ellipse: s-maj=41.8km s-min=19.6km az=156.0*
*NEIC **15** 10:39:44.8±0.6,19.°01S×172.°64W,h35km,mb4.4/1,Error ellipse: s-maj=27.8km s-min=13.8km az=172.0*
ISC 15 10:39:41.8±0.7,18.°9S±0.°2×172.°7W±0.°1,h13km,n20, σ1§14/18,mb3.9/10,1D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.02**	**10**	*e*Pn		Pn	Pn	10 40 47.7	-9.2
RAR	**Rarotonga**	**12.32**	**103**	Pn		**Pn**	**Pn**	**10 42 36.1**	**-0.8**
	2.6nm,0.3s,baz=269,slow=7.6,SNR=7.9								
STKA	**Stephens Creek**	**43.02**	**243**	P		**P**	**P**	**10 47 40.8**	**-0.5**
	5.1nm,1.1s,baz=78,slow=8.9,SNR=4.6								
ASAR	**Alice Springs**	**49.80**	**255**	P		**P**	**P**	**10 48 34.5**	**-0.3**
	2.7nm,0.5s,baz=92,slow=7.4,SNR=46								
ASAR				PcP		**PcP**	**PcP**	**10 49 57.2**	**+1.8**
	1.7nm,0.9s,baz=103,slow=4.1,SNR=6.5								
WRAB	**Tennant Creek**	**49.83**	**260**	*e*P		**P**	**P**	**10 48 33.9**	**-1.0**
	2.2nm,0.5s								
WRA	**Warramunga Arr**	**49.84**	**260**	P		**P**	**P**	**10 48 33.2**	**-1.7**
	2.1nm,0.5s,baz=97,slow=5.8,SNR=42								
SIJI	**Sorong**	**57.79**	**281**	LR		LR	LR	11 12 44.7	
	comp=Z,24nm,19.2s,baz=76,slow=34								
MJAR	**Matsushiro Arr**	**72.06**	**320**	P		**P**	**P**	**10 51 04.1**	**-1.7**
	0.9nm,0.7s,baz=153,slow=6.1,SNR=4.7								
NVAR	**Mina Array Bea**	**76.45**	**41**	P		**P**	**P**	**10 51 32.1**	**+0.6**
	0.5nm,0.7s,baz=224,slow=8.3,SNR=3.9								
KSRS	**Korea Array**	**79.14**	**316**	P		**P**	**P**	**10 51 47.1**	**+0.8**
	0.3nm,0.3s,baz=141,slow=7.9,SNR=4.1								
KSAR	**Wonju Array Be**	**79.16**	**316**	P		**P**	**P**	**10 51 47.1**	**+0.7**
TXAR	**Lajitas Array**	**81.97**	**55**	P		**P**	**P**	**10 52 02.2**	**+0.4**
	0.4nm,0.9s,baz=218,slow=7.9,SNR=4.2								
PDAR	**Pinedale Array**	**84.38**	**41**	P		**P**	**P**	**10 52 14.3**	**+0.1**
	0.6nm,0.7s,baz=207,slow=1.7,SNR=4.7								
MAW	**Mawson**	**84.73**	**198**	LR		LR	LR	11 33 04.2	
	comp=Z,15nm,18.9s,baz=63,slow=38								
ILAR	**Eielson Array**	**85.71**	**11**	P		**P**	**P**	**10 52 18.9**	**-1.1**
	0.2nm,0.6s,baz=221,slow=6.5,SNR=4.7								
KMBO	**Kilima Mbogo**	**144.53**	**239**	PKP		**PKPdf**	**PKPdf**	**10 59 20.8**	**+1.5**
	3.3nm,0.7s,baz=37,slow=1.7,SNR=7.8								
CLL	**Collm**	**147.34**	**353**	⇓*i*	PKPbc	**PKPbc**	**PKPbc**	**10 59 25.7**	**+0.7**
	comp=Z,7.0nm,0.9s								
BRG	**Berggiesshubel**	**147.66**	**352**	*e*P		**PKPab**	**PKPab**	**10 59 27.3**	**-0.8**
	comp=Z,3.6nm,0.9s								
BRTR	**Keskin Array B**	**149.26**	**318**	PKPbc		**PKPbc**	**PKPbc**	**10 59 32.1**	**+1.4**
	comp=Z,2.7nm,0.8s,baz=101,slow=2.5,SNR=6.6								
GERES	**GERESS Array B**	**149.68**	**352**	PKPbc		**PKPbc**	**PKPbc**	**10 59 32.2**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=26,slow=3.4,SNR=7.5								

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*BYKL **15** 10:48:01.6±0.2,53.°30N×108.°50E*
*MOS **15** 10:48:01.3±1.0,53.°29N×108.°58E,h14km,mb4.2/1,Error ellipse: s-maj=20.5km s-min=10.3km az=53.4*
ISC 15 10:47:59.5±1.1,53.°28N±0.°02×108.°65E±0.°02,h3km±10km, n41,σ1§58/78,9C-7D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OGRR	**Ongureny**	**0.73**	**300**	⇑*i*	Pg	**Pg**	**Pg**	**10 48 14.1**	**+0.6**
	312nm,0.3s								
OGRR				⇓*i*	Pg	**Pg**	**Pg**	**10 48 14.1**	**+0.6**
	284nm,0.3s								
OGRR				⇑*i*	Pg	**Pg**	**Pg**	**10 48 14.1**	**+0.6**
	494nm,0.3s								
OGRR				*e*				10 48 19.8	
OGRR				*i*	Sg	**Sg**	**Sg**	**10 48 23.1**	**+0.2**
OGRR				Pmax					
	450nm,0.2s								
OGRR				Smax					
	1μm,0.1s								
OGRR	**Ongureny**	**0.73**	**300**	⇑*i*	PG	**Pg**	**Pg**	**10 48 14.1**	**+0.6**
OGRR				*e*				10 48 23.1	
OGRR				pmax	pmax				
	comp=Z,448nm,0.3s								
OGRR				smax	smax				
	comp=E,1μm,0.2s								
SYVR	**Suvo**	**0.89**	**64**	⇑*i*	Pg	**Pn**	**Pn**	**10 48 19.2**	**+0.3**
	comp=E,9.0nm,0.4s								
SYVR				⇑*i*	Pg	**Pn**	**Pn**	**10 48 19.2**	**+0.3**
	comp=E,13nm,0.4s								
SYVR				⇑*i*	Pg	**Pn**	**Pn**	**10 48 19.2**	**+0.3**
	comp=E,24nm,0.4s								
SYVR				*e*				10 48 25.8	
SYVR				*i*	Sg	**Sn**	**Sn**	**10 48 32.3**	**0.0**
SYVR				*e*Sb		Sb	Sb	10 48 36.9	+7.1
SYVR				Pmax					
	comp=E,49nm,0.2s								
SYVR				Smax					
	comp=E,354nm,0.4s								
SYVR	**Suvo**	**0.89**	**64**	*e*PG		**Pn**	**Pn**	**10 48 19.2**	**+0.3**
SYVR				*e*				10 48 32.2	
SYVR				pmax	pmax				
	comp=Z,48nm,0.2s								
SYVR				smax	smax				
	comp=N,439nm,0.2s								
ZRHB	**Zarechye**	**1.17**	**232**	*e*Pg		**Pn**	**Pn**	**10 48 22.1**	**-0.6**
ZRHB				*e*Pb		**Pg**	**Pg**	**10 48 23.4**	**+1.6**
ZRHB				*i*	Sg	**Sn**	**Sn**	**10 48 37.2**	**-1.9**
ZRHB				*e*Sb		**Sg**	**Sg**	**10 48 41.3**	**+4.4**
ZRHB				max					
	comp=N,258nm,0.3s								
ZRHB				max					
	comp=N,2μm,0.4s								
TRG	**Tyrgan**	**1.49**	**250**	⇓*i*	Pn	**Pn**	**Pn**	**10 48 26.7**	**-0.5**
TRG				*e*Pg		**Pb**	**Pb**	**10 48 27.5**	**-0.3**
TRG				*i*	Sg	**Sb**	**Sb**	**10 48 45.9**	**-1.2**
TRG				*e*Sb		**Sg**	**Sg**	**10 48 48.1**	**+0.8**
TRG				Pmax					
	comp=N,65nm,0.2s								
TRG				max					
	comp=N,1μm,0.3s								
TRG	**Tyrgan**	**1.49**	**250**	*e*PG		**Pn**	**Pn**	**10 48 26.7**	**-0.5**
TRG				*e*				10 48 45.9	
TRG				pmax	pmax				
	comp=Z,70nm,0.1s								
TRG				smax	smax				
	comp=N,1μm,0.3s								
KAB	**Kabansk**	**1.73**	**225**	*e*Pg		**Pg**	**Pg**	**10 48 32.2**	**-0.5**
KAB				*e*Sg		**Sg**	**Sg**	**10 48 55.4**	**+0.2**
KAB				*e*				10 48 58.7	
KAB				Pmax					
	comp=N,167nm,0.4s								
KAB				max					
	comp=N,975nm,1.0s								
KAB	**Kabansk**	**1.73**	**225**	*e*PN		**Pg**	**Pg**	**10 48 32.1**	**-0.6**
KAB				*e*				10 48 55.4	
KAB				pmax	pmax				
	comp=Z,190nm,0.4s								
KAB				smax	smax				
	comp=E,988nm,0.6s								
HRMR	**Khuramsha**	**1.96**	**213**	⇑*i*	Pg	**Pb**	**Pb**	**10 48 36.0**	**+0.2**
	comp=E,184nm,0.6s								
HRMR				⇑*i*	Pg	**Pb**	**Pb**	**10 48 36.0**	**+0.2**
	comp=E,119nm,0.6s								
HRMR				⇓*i*	Pg	**Pb**	**Pb**	**10 48 36.0**	**+0.2**
	comp=E,201nm,0.6s								
HRMR				*e*Sg		**Sg**	**Sg**	**10 49 02.4**	**+0.1**
HRMR				Pmax					
	comp=E,750nm,0.2s								
HRMR				Smax					
	comp=E,2μm,0.3s								
YLYR	**Ulyunkhan**	**2.18**	**42**	⇓*i*	Pn	**Pb**	**Pb**	**10 48 39.4**	**-0.1**
YLYR				⇓*i*	Pg	**Pg**	**Pg**	**10 48 41.3**	**+0.1**
	comp=E,28nm,0.7s								
YLYR				⇓*i*	Pg	**Pg**	**Pg**	**10 48 41.3**	**+0.1**
	comp=E,23nm,0.7s								
YLYR				⇓*i*	Pg	**Pg**	**Pg**	**10 48 41.3**	**+0.1**
	comp=E,34nm,0.7s								
YLYR				*i*	Sg	**Sg**	**Sg**	**10 49 11.3**	**+1.9**
YLYR				Pmax					
	comp=E,47nm,0.3s								
YLYR				Smax					
	comp=E,135nm,0.3s								
YLYR	**Ulyunkhan**	**2.18**	**42**	*e*PN		**Pb**	**Pb**	**10 48 39.3**	**-0.2**
YLYR				*e*				10 48 41.3	
YLYR				*e*				10 49 11.0	
YLYR				pmax	pmax				
	comp=Z,47nm,0.3s								
YLYR				smax	smax				
	comp=E,136nm,0.3s								
NIZ	**Nizh Angarsk**	**2.55**	**11**	*e*Pn		**Pb**	**Pb**	**10 48 45.6**	**-0.3**
NIZ				*e*Pg		**Pg**	**Pg**	**10 48 46.3**	**-2.1**
NIZ				*e*Sg		**Sg**	**Sg**	**10 49 20.6**	**-0.8**
NIZ				*e*				10 49 21.7	
NIZ				Pmax					
	comp=E,40nm,0.3s								
NIZ				max					
	comp=E,106nm,0.5s								
NIZ	**Nizh Angarsk**	**2.55**	**11**	*e*PN		**Pb**	**Pb**	**10 48 44.8**	**-1.1**
NIZ				*e*				10 48 47.8	
NIZ				*e*				10 49 18.3	
NIZ				pmax	pmax				
	comp=Z,36nm,0.3s								
NIZ				smax	smax				
	comp=N,105nm,0.5s								
LSTR	**Listvyanka**	**2.73**	**240**	⇑*i*	Pn	**Pn**	**Pn**	**10 48 44.6**	**+0.4**
LSTR				*e*Pg		**Pb**	**Pb**	**10 48 48.7**	**-0.2**
LSTR				*e*				10 49 16.9	
LSTR				*e*Sg		**Sb**	**Sb**	**10 49 23.0**	**+0.3**
LSTR				Pmax					
	comp=N,10.0nm,0.3s								
LSTR				Smax					
	comp=N,71nm,0.6s								
LSTR	**Listvyanka**	**2.73**	**240**	*e*PN		**Pn**	**Pn**	**10 48 44.6**	**+0.4**
LSTR				*e*				10 48 49.1	
LSTR				*e*				10 49 22.5	
LSTR				pmax	pmax				
	comp=Z,10.0nm,0.3s								
LSTR				smax	smax				
	comp=N,76nm,1.3s								
IRK	**Irkutsk**	**2.86**	**250**	Pg		**Pb**	**Pb**	**10 48 50.6**	**-0.5**
IRK				*i*	Sg	**Sb**	**Sb**	**10 49 27.2**	**+0.7**
IRK				Smax					
	comp=N,585nm,0.5s								
IRK	**Irkutsk**	**2.86**	**250**	*e*PN		**Pb**	**Pb**	**10 48 51.2**	**+0.1**
IRK				*e*S		**Sn**	**Sn**	**10 49 19.2**	**-1.7**
IRK				*e*				10 49 26.0	
IRK				pmax	pmax				
	comp=Z,248nm,0.1s								
IRK				smax	smax				
	comp=N,593nm,0.3s								
KMO	**Kumora**	**3.00**	**29**	*e*Pn		**Pn**	**Pn**	**10 48 49.6**	**+1.6**
KMO				*i*	Pg	**Pg**	**Pg**	**10 48 55.8**	**-1.2**
KMO				*e*Sg		**Sg**	**Sg**	**10 49 36.2**	**+0.3**
KMO				Pmax					
	comp=N,81nm,0.3s								
KMO				Smax					
	comp=N,132nm,1.0s								
KMO	**Kumora**	**3.00**	**29**	*e*PN		**Pn**	**Pn**	**10 48 48.9**	**+0.9**
KMO				*e*				10 48 55.3	
KMO				*e*S		**Sn**	**Sn**	**10 49 26.3**	**+1.9**
KMO				*e*				10 49 35.9	
KMO				pmax	pmax				
	comp=Z,81nm,0.4s								
KMO				smax	smax				
	comp=E,131nm,1.0s								
CIT	**Chita**	**3.24**	**111**	*e*Sg		**Sg**	**Sg**	**10 49 45.9**	**+2.4**
CIT				Smax					
	comp=E,266nm,0.2s								
YOA	**Uoyan**	**3.37**	**31**	*e*Sg		**Sg**	**Sg**	**10 49 48.2**	**+0.6**
YOA				Smax					
	comp=E,234nm,0.2s								
TLY	**Talaya**	**3.46**	**244**	*e*Pg		**Pb**	**Pb**	**10 49 01.6**	**+0.3**
TLY				*e*Sg		**Sb**	**Sb**	**10 49 45.3**	**+1.6**
TLY				Pmax					
	comp=E,9.0nm,0.3s								
TLY				Smax					
	comp=E,96nm,0.7s								
TLY	**Talaya**	**3.46**	**244**	*e*PN		**Pb**	**Pb**	**10 49 01.6**	**+0.3**
TLY				*e*				10 49 44.7	
TLY				pmax	pmax				
	comp=Z,7.0nm,0.3s								
TLY				smax	smax				
	comp=N,95nm,0.3s								
UKT	**Uakit**	**3.65**	**51**	*e*Pn		Pn	Pn	10 49 00.4	+3.4
UKT				*e*Pg		**Pb**	**Pb**	**10 49 07.4**	**+2.7**
UKT				*e*				10 49 45.3	
UKT				*e*Sg		**Sg**	**Sg**	**10 49 57.2**	**+0.4**
UKT				*e*				10 50 02.4	
UKT				Pmax					
	comp=N,14nm,0.7s								
UKT				max					
	comp=N,72nm,1.0s								
UKT	**Uakit**	**3.65**	**51**	*e*PN		Pn	Pn	10 49 00.1	+3.1
UKT				*e*				10 49 06.7	
UKT				*e*				10 49 55.0	
UKT				pmax	pmax				
	comp=Z,13nm,0.7s								
UKT				smax	smax				
	comp=E,65nm,0.7s								
SVKR	**Severomuysk**	**4.02**	**43**	Sg		**Sg**	**Sg**	**10 50 07.2**	**-1.4**
SVKR				*e*				10 50 10.8	
SVKR				max					
	comp=E,151nm,0.3s								
ARS	**Arshan**	**4.04**	**253**	*e*Pn		**Pn**	**Pn**	**10 49 03.9**	**+1.7**
ARS				*e*Pg		**Pb**	**Pb**	**10 49 10.9**	**-0.3**
ARS				*e*				10 49 50.9	
ARS				*e*Sg		**Sb**	**Sb**	**10 50 02.3**	**+1.9**
ARS				Pmax					
	comp=E,23nm,0.6s								
ARS				Smax					
	comp=E,240nm,0.9s								
ARS	**Arshan**	**4.04**	**253**	*e*PN		**Pb**	**Pb**	**10 49 13.5**	**+2.3**
KPC	**Khapcheranga**	**4.27**	**146**	*i*	Pn	**Pn**	**Pn**	**10 49 06.9**	**+1.4**
KPC				*e*Pg		Pg	Pg	10 49 18.2	-3.2
KPC				*e*Sn		**Sn**	**Sn**	**10 49 55.8**	**-0.1**
KPC				*e*Sg		**Sg**	**Sg**	**10 50 14.4**	**-2.3**
KPC				Pmax					
	comp=E,7.0nm,0.2s								
KPC				Smax					
	comp=E,98nm,1.4s								
ZAK	**Zakamensk**	**4.42**	**231**	*e*		**Pb**	**Pb**	**10 49 15.2**	**-2.6**
ZAK				Pg		Pg	Pg	10 49 20.4	-3.8
ZAK				*e*Sn		**Sn**	**Sn**	**10 49 56.3**	**-3.2**
ZAK				*e*Sg		**Sg**	**Sg**	**10 50 17.1**	**-4.3**
ZAK				Pmax					
	comp=E,9.0nm,0.8s								
ZAK				Smax					
	comp=E,37nm,0.6s								
MOY	**Mondy**	**4.95**	**254**	*e*Pn		Pn	Pn	10 49 17.5	+2.7
MOY				*e*Pg		**Pb**	**Pb**	**10 49 27.8**	**+0.9**
MOY				*e*Sg		Sb	Sb	10 50 31.9	+5.0
MOY				Pmax					
	comp=E,8.0nm,0.6s								
MOY				Smax					
	comp=E,91nm,1.8s								
MOY	**Mondy**	**4.95**	**254**	*e*PN		Pn	Pn	10 49 17.6	+2.7
MOY				*e*				10 49 30.1	
MOY				*e*S		**Sn**	**Sn**	**10 50 10.6**	**-2.1**
NLYR	**Nelyaty**	**5.19**	**49**	*e*Pn		Pn	Pn	10 49 21.9	+3.9
NLYR				*e*Pg		Pg	Pg	10 49 35.8	-3.0
NLYR				*e*Sg		**Sg**	**Sg**	**10 50 45.1**	**-0.8**
NLYR				Pmax					
	comp=E,5.0nm,0.5s								
NLYR				Smax					
	comp=E,96nm,1.3s								
NLYR	**Nelyaty**	**5.19**	**49**	*e*PN		**Pg**	**Pg**	**10 49 36.7**	**-2.1**
NLYR				*e*				10 50 44.0	
NLYR				pmax	pmax				
	comp=Z,16nm,1.0s								
NLYR				smax	smax				
	comp=N,95nm,1.5s								
ORL	**Orlik**	**5.40**	**266**	*e*Pn		Pn	Pn	10 49 23.8	+2.8
ORL				*e*Sn		**Sn**	**Sn**	**10 50 23.6**	**-0.2**
ORL				*e*Sg		Sb	Sb	10 50 45.6	+5.8
ORL				Smax					
	comp=N,49nm,0.8s								
ORL	**Orlik**	**5.40**	**266**	*e*PN		Pn	Pn	10 49 23.5	+2.5
ORL				*e*				10 49 38.4	
ORL				*e*				10 50 45.2	
ORL				pmax	pmax				
	comp=Z,12nm,0.5s								
ORL				smax	smax				
	comp=N,50nm,1.1s								
BOD	**Bodaibo**	**5.47**	**32**	*e*Pg		Pb	Pb	10 49 39.3	+3.8
BOD				*e*Sg		**Sg**	**Sg**	**10 50 51.6**	**-3.3**
BOD				Pmax					
	comp=N,3.0nm,0.3s								
BOD				Smax					
	comp=N,17nm,1.1s								
CRS	**Chara**	**6.60**	**53**	*e*Pg		Pg	Pg	10 50 01.8	-4.1
CRS				*e*Sg		**Sg**	**Sg**	**10 51 28.1**	**-3.2**
CRS				Pmax					
	comp=N,2.0nm,0.5s								
CRS				Smax					
	comp=N,101nm,2.1s								
TUP	**Tupik**	**6.79**	**76**	*e*Pn		**Pn**	**Pn**	**10 49 42.5**	**+2.6**
TUP				*e*Pg		Pg	Pg	10 50 05.6	-3.8
TUP				*e*Sg		**Sg**	**Sg**	**10 51 33.7**	**-3.5**
TUP				Pmax					
	comp=N,1.0nm,0.5s								
TUP				Smax					
	comp=N,122nm,1.3s								
TUP	**Tupik**	**6.79**	**76**	*e*PN		**Pn**	**Pn**	**10 49 42.6**	**+2.6**
TUP				*e*				10 50 04.8	
TUP				*e*S		**Sn**	**Sn**	**10 50 58.5**	**+0.9**
TUP				*e*				10 51 32.3	
TUP				pmax	pmax				
	comp=Z,4.0nm,0.7s								
TUP				smax	smax				
	comp=N,117nm,1.3s								

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*ISCJB **15** 11:05:41.0±0.9,5.°1S±0.°1×151.°3E±0.°2,h129km,mb3.6/7, Error ellipse: s-maj=26.0km s-min=16.7km az=9.0*
*IDC **15** 11:05:49.1±2.7,5.°04S×151.°15E,h192km±21km,mb3.5/8, mb1 3.7/10,mb1mx3.4/29,mbtmp4.1/10,Error ellipse: s-maj=31.4km s-min=15.4km az=94.0*
ISC 15 11:05:42.7±1.0,5.°0S±0.°1×151.°3E±0.°2,h129km,n11, σ1§50/10,mb3.8/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.80**	**198**	P		P	**P**	**11 09 21.9**	**+2.6**
	0.4nm,0.3s,baz=34,slow=13,SNR=5.3								
GUMO	**Guam**	**19.54**	**341**	P		P	**Pn**	**11 10 03.8**	**+0.9**
	3.4nm,0.3s,baz=165,slow=20,SNR=2.5								
SIJI	**Sorong**	**20.45**	**281**	P		P	**P**	**11 10 10.4**	**+0.2**
	6.4nm,0.4s,baz=142,slow=10,SNR=7.8								
WRA	**Warramunga Arr**	**22.24**	**227**	P		P	**P**	**11 10 28.7**	**-0.4**
	2.2nm,0.5s,baz=51,slow=10,SNR=19								
WRA				ScP		ScP	ScP	11 17 38.9	-7.6
	0.9nm,0.8s,baz=51,slow=2.9,SNR=8.2								
ASAR	**Alice Springs**	**25.04**	**220**	P		P	**P**	**11 10 54.8**	**-0.3**
	1.2nm,0.6s,baz=53,slow=8.8,SNR=32								
ASAR				ScP		ScP	ScP	11 17 46.5	-7.5
	0.5nm,0.7s,baz=34,slow=2.9,SNR=6.9								
STKA	**Stephens Creek**	**28.26**	**198**	P		P	**P**	**11 11 22.8**	**-1.1**

1.4nm,0.6s,baz=38,slow=13,SNR=4.6
MKAR Makanchi Array 79.51 319 P **P** **11 17 33.6 -1.6**
0.7nm,0.7s,baz=98,slow=7.5,SNR=8.0
ZALV Zalesovo Beam 80.50 327 P P 11 17 37.8 -2.5
0.8nm,0.5s,baz=106,slow=5.4,SNR=3.9
QSPA South Pole Qui 84.97 180 P **P** **11 18 02.4 -1.0**
0.5nm,0.7s,baz=3.7,slow=0.3,SNR=5.8
NVAR Mina Array Bea 93.35 52 P **P** **11 18 44.0 +0.2**
0.4nm,0.6s,baz=260,slow=6.6,SNR=4.1
TORD Torodi Ar. Bea 148.97 287 PKPbc **PKPdf** **11 25 14.3 +1.9**
1.2nm,0.7s,baz=85,slow=2.4,SNR=8.8

IDC 15 11:35:38.0±4.2, 4°55S×133°31E, h0km, mb4.1/1, mb1 3.7/4, mb1mx3.5/32, mbtmp3.6/4, ML3.2/3, MS3.2/2, Ms1 3.1/2, ms1mx2.5/24, Error ellipse: s-maj=232.5km s-min=23.7km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**4.18**	**331**	Pn		Pn	11 36 44.7	+1.5
	0.7nm,0.3s,baz=41,slow=23,SNR=5.3							
SIJI				Sn		Sn	11 37 32.0	-0.9
	1.0nm,0.3s,baz=70,slow=22,SNR=7.8							
WRA	**Warramunga Arr**	**15.34**	**176**	Pn		Pn	11 39 14.4	-1.6
	0.1nm,0.3s,baz=357,slow=13,SNR=6.6							
ASAR	**Alice Springs**	**19.02**	**178**	P		Pn	11 40 02.3	0.0
	0.2nm,0.3s,baz=352,slow=9.9,SNR=14							
ASAR				LR		LR	11 46 59.8	
	comp=Z,61nm,18.3s,baz=283,slow=36							
STKA	**Stephens Creek**	**28.28**	**165**	LR		LR	11 53 47.6	
	comp=Z,44nm,19.9s,baz=8.2,slow=38							
MKAR	**Makanchi Array**	**68.06**	**325**	P		P	11 46 39.4	-0.2
	0.8nm,0.4s,baz=113,slow=8.0,SNR=16							

*JMA **15** 11:39:45.7±0.1, 28.91N×140.26E, h453km, M3.3*
*IDC **15** 11:39:46.4±1.1, 28.74N×139.63E, h420km±29km, mb2.8/4, mb1 2.9/6, mb1mx2.7/41, mbtmp3.6/6, Error ellipse: s-maj=78.5km s-min=15.6km az=74.0*
ISC 15 11:39:46.4±0.9, 28°87N±0.07×139°9E±0.2, h424km, n17, σ1§18/22, mb3.0/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.68**	**131**	P		**P**	**11 40 49.7**	**+0.6**
CBIJ				*e*S		**S**	**11 41 40.5**	**+0.7**
JCJ	**Chichijima**	**2.68**	**131**	P		**P**	**11 40 50.1**	**+1.1**
	26nm,0.3s,baz=332,slow=22,SNR=18							
JCJ				S		**S**	**11 41 40.6**	**+0.7**
	38nm,0.3s,baz=286,slow=22,SNR=15							
JHHJ	**Haha-jima-NKT**	**3.01**	**137**	P		**P**	**11 40 52.3**	**+0.8**
JHHJ				S		**S**	**11 41 44.5**	**+0.2**
BSO1	**Boso 1**	**5.84**	**9**	P		**P**	**11 41 18.1**	**+0.8**
BSO1				*e*S		**S**	**11 42 32.6**	**+0.7**
BSO3	**Boso 3**	**5.94**	**5**	*e*S		**S**	**11 42 33.5**	**-0.7**
BSO4	**Boso 4**	**6.12**	**3**	*e*S		**S**	**11 42 38.0**	**+0.1**
JIE	**Ise**	**6.14**	**334**	P		**P**	**11 41 23.9**	**+2.8**
JOD2	**Odawara 2**	**6.41**	**354**	P		**P**	**11 41 25.2**	**+1.3**
JHU	**Hanno**	**6.98**	**356**	P		**P**	**11 41 30.4**	**-0.1**
JRY	**Ryogami san**	**7.18**	**353**	P		**P**	**11 41 33.0**	**+0.4**
JAG	**Ashikaga**	**7.55**	**357**	P		**P**	**11 41 36.8**	**+0.2**
JHO	**Hitachi**	**7.74**	**4**	P		**P**	**11 41 39.7**	**+1.0**
JHO				*e*S		**S**	**11 43 08.7**	**-1.9**
MJAR	**Matsushiro Arr**	**7.78**	**350**	P		**P**	**11 41 41.5**	**+2.3**
	0.5nm,0.3s,baz=178,slow=12,SNR=5.4							
MKAR	**Makanchi Array**	**47.80**	**308**	P		**P**	**11 47 42.8**	**-0.7**
	0.2nm,0.4s,baz=91,slow=10,SNR=3.3							
WRA	**Warramunga Arr**	**48.82**	**187**	P		**P**	**11 47 50.8**	**-0.6**
	0.3nm,0.3s,baz=2.3,slow=7.9,SNR=19							
ASAR	**Alice Springs**	**52.55**	**187**	P		**P**	**11 48 17.7**	**-1.1**
	0.1nm,0.3s,baz=13,slow=11,SNR=4.2							
FINES	**FINESS Array B**	**75.47**	**333**	P		**P**	**11 50 44.9**	**-0.3**
	0.4nm,0.3s,baz=32,slow=8.2,SNR=5.9							

IDC 15 11:47:33.8±1.9, 18°07S×177°30W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/29, mbtmp4.0/4, Error ellipse: s-maj=157.6km s-min=31.2km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**39.48**	**242**	P		P	11 55 06.9	+0.7
	1.1nm,0.4s,baz=69,slow=8.6,SNR=5.9							
WRA	**Warramunga Arr**	**45.64**	**260**	P		P	11 55 56.1	-0.4
	1.2nm,0.4s,baz=98,slow=6.7,SNR=57							
ASAR	**Alice Springs**	**45.77**	**254**	P		P	11 55 57.0	-0.5
	1.7nm,0.4s,baz=89,slow=8.6,SNR=35							
TXAR	**Lajitas Array**	**85.19**	**57**	P		P	12 00 12.7	+0.1
	0.3nm,0.7s,baz=217,slow=6.1,SNR=4.5							

*BJI **15** 11:54:37.6, 2.32S×100.13E, h25km, mb4.6/11, mB4.7/6*
*IDC **15** 11:54:38.7±1.2, 1.91S×99.60E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.0/33, mbtmp4.2/12, ML3.3/1, MS3.5/14, Ms1 3.5/14, ms1mx3.2/33, Error ellipse: s-maj=39.8km s-min=17.7km az=54.0*
*ISCJB **15** 11:54:42.2±0.4, 1.89S±0.04×99.54E±0.04, h33km, mb4.5/16, MS3.4/13, Error ellipse: s-maj=6.5km s-min=4.1km az=143.1*
*DJA **15** 11:54:43.9±0.7, 2°S±2°×10°0E±°, h16km±9km, M4.6/20, mb4.6/10, mB5.9/2, MLv4.5/20, Mw(mB)5.5/2*
*NEIC **15** 11:54:43.4±3.0, 1.88S×99.66E, h30km±19km, mb4.6/7, Error ellipse: s-maj=16.3km s-min=8.2km az=222.0*
ISC 15 11:54:43.0±0.8, 1.84S±0.04×99.64E±0.06, h23km±5km, n66, σ1§50/61, mb4.7/20, MS3.5/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PPSI	**Pulau Pagai**	**0.99**	**158**	P		**Pb**	**11 54 59.5**	**-2.0**
PPSI				S		**Sn**	**11 55 18.0**	**+3.2**
PDSI	**Padang**	**1.23**	**42**	P		**Pb**	**11 55 05.8**	**+0.2**
PDSI				S		**Sn**	**11 55 19.9**	**-0.8**
SDSI	**Sungai Dareh**	**2.00**	**63**	P		**Pb**	**11 55 17.5**	**-1.2**
SDSI				S		**Sb**	**11 55 42.9**	**-0.3**
BKNI	**Bangkinang**	**2.56**	**33**	P		**Pb**	**11 55 26.2**	**-2.1**
BKNI				S		**Sn**	**11 55 49.2**	**-4.4**
BKNI	**Bangkinang**	**2.56**	**33**	*e*Pn		**Pn**	**11 55 23.1**	**0.0**
BKNI				*e*Sg		**Sb**	**11 56 04.0**	**+4.6**
MNSI	**Mandailing Nat**	**2.61**	**359**	P		**Pn**	**11 55 25.0**	**+1.2**
MNSI				S		**Sn**	**11 55 56.5**	**+1.6**
MASI	**Maura Aman, Be**	**2.90**	**117**	P		**Pn**	**11 55 29.4**	**+1.5**
MASI				S		Sn	11 55 55.1	-7.0
GSI	**Gunungsitoli**	**3.74**	**326**	P		**Pn**	**11 55 40.0**	**+0.7**
GSI				S		x	11 56 01.0	
GSI	**Gunungsitoli**	**3.74**	**326**	*e*Pn		**Pn**	**11 55 39.5**	**+0.2**
GSI				*e*Sn		**Sn**	**11 56 22.6**	**-0.1**
MNAI	**Manna**	**4.15**	**127**	P		**Pn**	**11 55 45.8**	**+0.8**
LHSI	**Lahat**	**4.35**	**117**	P		**Pn**	**11 55 49.4**	**+1.6**
PSI	**Prapat**	**4.66**	**351**	Pn		**Pn**	**11 55 50.7**	**-1.4**
	1.4nm,0.3s,baz=150,slow=11,SNR=18							
PSI				LR		LR	11 58 02.4	
	comp=Z,1μm,19.5s,baz=150,slow=44							
MDSI	**Maura Dua**	**5.24**	**120**	P		**Pn**	**11 56 01.5**	**+1.5**
	31nm,0.9s,0.2nm							
TSI	**Tuntungan**	**5.41**	**349**	P		**Pn**	**11 56 03.6**	**+1.3**
	243nm,0.9s,0.9nm							
LWLI	**Liwa**	**5.43**	**126**	P		**Pn**	**11 56 04.6**	**+2.0**
	76nm,0.8s,8μm0.5nm							
TPRI	**Tanjung Pinang**	**5.60**	**61**	P		**Pn**	**11 56 07.0**	**+2.1**
	94nm,0.8s,13μm1.2nm							
KLSI		**5.82**	**119**	P		**Pn**	**11 56 09.4**	**+1.5**
	45nm,0.9s,0.2nm							
KASI	**Kota Agung**	**6.08**	**127**	P		**Pn**	**11 56 10.6**	**-0.9**
	37nm,0.7s,0.3nm							
IPM	**Ipoh**	**6.42**	**12**	*e*Pn		**Pn**	**11 56 18.9**	**+2.7**
	22nm,0.6s							
IPM				*e*Sn		**Sn**	**11 57 30.8**	**+1.9**
LEM	**Lembang**	**9.37**	**122**	LR		LR	12 00 56.3	
	comp=Z,119nm,21.9s,baz=265,slow=40							
CM31	**Chiang Mai Arr**	**20.18**	**358**	*e*P		**P**	**11 59 16.7**	**+0.6**
	1.3nm,0.4s							
CMAR	**Chiang Mai Arr**	**20.18**	**358**	P		**P**	**11 59 16.0**	**-0.1**
	2.1nm,0.5s,baz=186,slow=10,SNR=15							
CMAR				LR		LR	12 07 30.4	
	comp=Z,194nm,20.0s,baz=186,slow=38							
CHTO	**Chiang Mai**	**20.53**	**358**	*e*P		**P**	**11 59 18.9**	**-1.0**
	4.8nm,1.0s							
H08S2	**Diego Garcia H**	**27.65**	**257**	T		T	12 29 04.6	
	baz=79,slow=76,SNR=246							
H08S3	**Diego Garcia H**	**27.66**	**257**	T		T	12 29 00.1	
	baz=79,slow=76,SNR=254							
H08S1	**Diego Garcia H**	**27.67**	**257**	T		T	12 29 06.0	
	baz=79,slow=76,SNR=248							
TAPN	**Taplejung**	**31.21**	**339**	*e*P		**P**	**12 01 02.5**	**+1.4**
	38nm,1.0s							
RAMN	**Ramite**	**31.26**	**337**	*e*P		**P**	**12 01 02.7**	**+1.2**
	15nm,0.8s							
PKI	**Pulchoki**	**32.29**	**336**	*e*P		**P**	**12 01 11.1**	**+0.5**
LSA	**Lhasa**	**32.39**	**346**	*e*P		**P**	**12 01 13.1**	**+1.4**
	6.8nm,0.6s							
GUN	**Gumba**	**32.40**	**337**	*e*P		**P**	**12 01 12.6**	**+1.0**
	21nm,0.6s							
DMN	**Daman**	**32.45**	**335**	*e*P		**P**	**12 01 12.8**	**+0.9**
KKN	**Kakani**	**32.53**	**336**	*e*P		**P**	**12 01 13.3**	**+0.7**
	6.6nm,0.5s							
GKN	**Gorkha**	**32.99**	**335**	*e*P		**P**	**12 01 17.2**	**+0.7**
H01W3	**Cape Leeuwin H**	**35.55**	**159**	T		T	12 39 49.5	
	baz=336,slow=75,SNR=30							
H01W2	**Cape Leeuwin H**	**35.56**	**159**	T		T	12 39 48.5	
	baz=336,slow=75,SNR=35							
H01W1	**Cape Leeuwin H**	**35.56**	**159**	T		T	12 39 46.8	
	baz=336,slow=75,SNR=24							
XAN	**Xi'an**	**36.74**	**13**	P		**P**	**12 01 46.9**	**-1.8**
XAN				PMZ				
	2.0nm,0.8s							
XAN				PMZ				
	20nm,5.7s							
WRA	**Warramunga Arr**	**38.38**	**120**	P		**P**	**12 02 02.0**	**-0.9**
	0.3nm,0.5s,baz=307,slow=9.4,SNR=16							
ASAR	**Alice Springs**	**39.64**	**126**	P		**P**	**12 02 12.7**	**-0.7**
	1.0nm,0.9s,baz=301,slow=7.4,SNR=6.5							
ASAR				LR		LR	12 20 38.0	
	comp=Z,80nm,19.4s,baz=288,slow=39							
JOW	**Kunigami**	**39.68**	**42**	LR		LR	12 18 46.2	
	comp=Z,4.3nm,19.0s,baz=311,slow=36							
GTA	**Gaotai**	**41.05**	**0**	*e*P		**P**	**12 02 27.8**	**+3.0**
GTA				pP		**pP**	**12 02 31.8**	**-0.1**
GTA				sP		**sP**	**12 02 34.5**	**-0.2**
GTA				PMZ				
	3.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**43.85**	**13**	*e*P		P	12 02 53.5	+5.9
HHC				S		S	12 09 24.8	+7.3
HHC				pmax		pmax		
	comp=Z,21nm,1.0s							
HHC				pmax		pmax		
	comp=Z,58nm,6.3s							
KSAR	**Wonju Array Be**	**47.03**	**31**	P		**P**	**12 03 12.1**	**-0.7**
KSRS	**Korea Array**	**47.06**	**31**	P		**P**	**12 03 12.1**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=221,slow=8.0,SNR=10							
KSRS				LR		LR	12 23 03.4	
	comp=Z,39nm,21.2s,baz=190,slow=36							
GUMO	**Guam**	**47.39**	**70**	LR		LR	12 26 20.7	
	comp=Z,13nm,18.2s,baz=226,slow=40							
STKA	**Stephens Creek**	**49.53**	**132**	LR		LR	12 24 20.5	
	comp=Z,64nm,21.3s,baz=271,slow=36							
TKM2	**Tokmak 2**	**49.54**	**337**	*e*P		**P**	**12 03 33.0**	**+0.7**
	comp=Z,5.9nm,0.8s							
SONM	**Songino Array**	**49.82**	**6**	P		**P**	**12 03 33.7**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=183,slow=7.5,SNR=5.7							
SONM				LR		LR	12 27 23.5	
	comp=Z,63nm,18.1s,baz=256,slow=39							
MK31	**Makanchi Array**	**50.77**	**345**	*e*P		**P**	**12 03 41.4**	**0.0**
MKAR	**Makanchi Array**	**50.77**	**345**	P		**P**	**12 03 41.7**	**+0.4**
	comp=Z,6.2nm,0.7s,baz=148,slow=8.2,SNR=77							
MKAR				LR		LR	12 27 33.5	
	comp=Z,37nm,21.3s,baz=160,slow=39							
USRK	**Ussuriysk Ar.**	**54.18**	**28**	P		**P**	**12 04 06.6**	**0.0**
	comp=Z,13nm,0.8s,baz=224,slow=5.2,SNR=28							
USRK				LR		LR	12 30 10.2	
	comp=Z,59nm,18.4s,baz=199,slow=39							
KURK	**Kurchatov**	**55.35**	**344**	*e*P		**P**	**12 04 14.9**	**-0.1**
	comp=Z,11nm,0.8s							
ZAA0	**Zalesovo Array**	**56.94**	**350**	*e*P		**P**	**12 04 26.1**	**-0.1**
ZALV	**Zalesovo Beam**	**56.94**	**350**	P		**P**	**12 04 26.3**	**0.0**
	comp=Z,16nm,0.8s,baz=176,slow=5.7,SNR=49							
ABKAR	**Akbulak array**	**61.33**	**332**	*e*P		**P**	**12 04 56.2**	**-0.6**
	comp=Z,5.0nm,0.8s							
AKTO	**Aktyubinsk**	**63.04**	**332**	P		**P**	**12 05 07.3**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=170,slow=2.3,SNR=6.0							
YAK	**Yakutsk**	**67.67**	**15**	*e*P		**P**	**12 05 37.0**	**-1.0**
	comp=Z,27nm,0.8s							
KBZ	**Khabaz**	**67.95**	**319**	P		**P**	**12 05 40.0**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=151,slow=8.8,SNR=5.1							
MAW	**Mawson**	**70.36**	**194**	LR		LR	12 29 23.3	
	comp=Z,63nm,20.4s,baz=59,slow=30							
VNDA	**Vanda**	**82.39**	**169**	LR		LR	12 40 24.2	
	comp=Z,24nm,20.2s,baz=337,slow=33							
FINES	**FINESS Array B**	**83.80**	**332**	P		**P**	**12 07 09.5**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=75,slow=2.2,SNR=5.9							
FINES				LR		LR	12 48 33.7	
	comp=Z,15nm,18.1s,baz=36,slow=39							
NOA	**NORSAR Array B**	**90.83**	**331**	LR		LR	12 51 47.3	
	comp=Z,12nm,18.4s,baz=90,slow=38							
TXAR	**Lajitas Array**	**144.79**	**37**	PKP		PKPbc	12 14 18.2	+0.3
	comp=Z,3.2nm,0.7s,baz=278,slow=1.3,SNR=53							
MIAR	**Mount Ida**	**145.20**	**19**	*e*PKPbc		**PKPbc**	**12 14 18.6**	**-0.3**
JCT	**Junction City**	**146.07**	**31**	*e*PKPbc		**PKPdf**	**12 14 21.3**	**+0.3**

IDC 15 12:21:27.0±1.9, 6.70S×128.35E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.5/26, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=64.2km s-min=31.0km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**6.49**	**27**	Pn		Pn	12 23 03.9	+0.1
	1.8nm,0.3s,baz=192,slow=23,SNR=13							
SIJI				Sn		Sn	12 24 05.1	-14
	2.3nm,0.3s,baz=226,slow=22,SNR=12							
WRA	**Warramunga Arr**	**14.39**	**157**	Pn		Pn	12 24 50.8	-1.4
	0.3nm,0.3s,baz=334,slow=13,SNR=19							
WRA				Sn		Sn	12 27 20.6	-12
	0.5nm,0.3s,baz=338,slow=22,SNR=12							
ASAR	**Alice Springs**	**17.69**	**163**	Pn		P	12 25 36.3	+0.2
	0.1nm,0.3s,baz=346,slow=10.0,SNR=4.1							
ASAR				Sn		Sn	12 28 44.0	-9.0
	0.1nm,0.3s,baz=317,slow=34,SNR=3.9							
MKAR	**Makanchi Array**	**67.09**	**328**	P		P	12 32 22.4	0.0
	0.3nm,0.5s,baz=127,slow=6.2,SNR=4.2							

*IDC **15** 12:48:30.5±1.0, 1.69N×121.27E, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.7/36, mbtmp4.1/6, ML3.7/1, MS3.2/3, Ms1 3.3/3, ms1mx2.6/34, Error ellipse: s-maj=74.3km s-min=18.6km az=64.0*
*ISCJB **15** 12:48:34.1±0.6, 1.21N±0.04×119.99E±0.05, h33km, mb4.0/6, MS3.1/2, Error ellipse: s-maj=6.7km s-min=6.0km az=167.9*
*DJA **15** 12:48:35.0±0.4, 1°N±3°×12°0E±°, h10km, M4.1/15, mb4.2/4, MLv4.1/15*
*NEIC **15** 12:48:38.1±1.0, 1.40N×120.52E, h62km±10km, mb4.1/1, Error ellipse: s-maj=34.2km s-min=11.3km az=57.0*
ISC 15 12:48:34.9±1.0, 1.25N±0.08×119.94E±0.06, h35km, n26, σ1§89/29, mb4.2/6, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TOLI	**Toli-Toli**	**0.86**	**99**	*e*Pg		**Pn**	**12 48 49.2**	**-1.4**
TOLI				*e*Sg		**Sn**	**12 49 01.1**	**-0.8**
MPSI	**Mapaga**	**0.91**	**183**	P		**Pn**	**12 48 48.8**	**-2.4**
MPSI				S		**Sn**	**12 48 59.8**	**-3.3**
MRSI	**Marisa**	**2.14**	**111**	P		**Pn**	**12 49 07.8**	**-0.3**
MRSI				S		**Sn**	**12 49 37.0**	**+3.5**
PCI	**Palu**	**2.15**	**183**	P		**Pn**	**12 49 08.4**	**+0.1**
PCI				S		**Sn**	**12 49 35.1**	**+1.4**
APSI	**Ampana**	**2.74**	**142**	P		**Pn**	**12 49 17.4**	**+0.9**
APSI				S		**Sn**	**12 49 50.6**	**+2.2**
GTOI	**Gorontalo**	**3.13**	**101**	P		Pn	12 49 43.0	+21
LUWI	**Luwuk**	**3.63**	**129**	P		**Pn**	**12 49 31.6**	**+2.9**
LUWI				S		**Sn**	**12 50 09.1**	**-1.2**
LUWI	**Luwuk**	**3.63**	**129**	*e*Pn		**Pn**	**12 49 28.5**	**-0.1**
BKB	**Balikpapan**	**3.94**	**231**	P		**Pn**	**12 49 31.0**	**-1.9**
KMSI	**Cibinong**	**4.09**	**99**	P		**Pn**	**12 49 32.9**	**-2.1**
KMSI				S		Sn	12 50 39.8	+18
TTSI	**Tana Toraja**	**4.27**	**182**	P		Pn	12 49 43.5	+6.0
TTSI				S		**Sn**	**12 50 28.2**	**+2.1**
SPSI	**Sidrap Palu**	**5.18**	**182**	P		**Pn**	**12 49 51.8**	**+1.7**
	33nm,0.7s,0.1nm							
KKM	**Kota Kinabalu**	**6.04**	**322**	*e*Pn		Pn	12 50 06.7	+4.8
	11nm,0.6s							
KAPI	**Kappang**	**6.23**	**182**	Pn		Pn	12 50 11.1	+6.7
	1.3nm,0.3s,baz=3.0,slow=5.5,SNR=5.0							
KAPI				LR		LR	12 52 59.5	
	comp=Z,198nm,18.2s,baz=349,slow=39							
BKSI	**Bulukumba**	**6.53**	**178**	P		**Pn**	**12 50 09.5**	**+0.9**
	14nm,0.8s,0.0nm							
SANI	**Sanana**	**6.88**	**118**	P		**Pn**	**12 50 13.2**	**-0.1**
WRAB	**Tennant Creek**	**25.36**	**147**	*e*P		**P**	**12 53 57.0**	**-1.9**
	3.3nm,0.4s							
WRA	**Warramunga Arr**	**25.36**	**147**	P		**P**	**12 53 57.1**	**-1.9**
	5.4nm,0.6s,baz=335,slow=9.5,SNR=103							
WRA				PcP		**PcP**	**12 57 30.9**	**-0.3**
	0.5nm,0.7s,baz=329,slow=2.1,SNR=5.8							
WRA				LR		LR	13 06 46.8	
	comp=Z,69nm,18.2s,baz=70,slow=44							
CMAR	**Chiang Mai Arr**	**26.78**	**311**	LR		LR	13 05 58.9	
	comp=Z,33nm,19.0s,baz=174,slow=38							
AS31	**Alice Springs**	**28.25**	**152**	*e*P		**P**	**12 54 23.2**	**-1.8**
ASAR	**Alice Springs**	**28.25**	**152**	P		**P**	**12 54 23.6**	**-1.4**
	2.1nm,0.4s,baz=336,slow=11,SNR=57							
ASAR				PcP		**PcP**	**12 57 38.2**	**+0.2**
	0.6nm,0.6s,baz=344,slow=2.7,SNR=5.0							
STKA	**Stephens Creek**	**38.82**	**150**	P		**P**	**12 55 55.4**	**-1.3**
	4.2nm,0.7s,baz=324,slow=8.7,SNR=10							
STKA	**Stephens Creek**	**38.82**	**150**	*e*P		**P**	**12 55 55.8**	**-0.8**
MKAR	**Makanchi Array**	**55.97**	**330**	P		P	12 58 13.4	+3.5
	0.3nm,0.5s,baz=134,slow=8.6,SNR=6.3							
KURBB	**Kurchatov Arra**	**60.38**	**331**	P		**P**	**12 58 43.0**	**+2.5**
	0.5nm,0.8s,baz=137,slow=6.9,SNR=5.8							
KURK	**Kurchatov**	**60.39**	**331**	P		**P**	**12 58 43.0**	**+2.4**

*ISCJB **15** 12:53:00.5±0.3, 43.53N±0.04×144.61E±0.04, h152km±2km, mb3.8/13, Error ellipse: s-maj=6.8km s-min=4.9km az=161.5*
*MOS **15** 12:53:00.9±1.2, 43.59N×144.62E, h162km, mb4.0/9, Error ellipse: s-maj=18.6km s-min=11.3km az=80.9*
*IDC **15** 12:53:01.8±1.4, 43.56N×144.63E, h151km±10km, mb3.6/11, mb1 3.6/13, mb1mx3.4/35, mbtmp3.9/13, Error ellipse: s-maj=18.8km s-min=14.0km az=101.0*
*JMA **15** 12:53:01.9±0.1, 43.52N×144.61E, h148km±1km, M3.3*
*SKHL **15** 12:53:02.3±0.5, 43.74N×144.45E, h142km±2km, mb5.1/2, msh4.9/4*
ISC 15 12:53:01.5±0.7, 43°53N±0.05×144°61E±0.04, h149km±5km, n52, σ0§81/71, mb3.8/13, 2C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNK	**Nakash**	**0.10**	**56**	P		**Pn**	**12 53 21.8**	**+0.3**
JNK				*e*S		**Sn**	**12 53 36.5**	**-0.2**
JAK	**Akkeshi**	**0.54**	**173**	P		**Pn**	**12 53 23.0**	**+0.1**
JAK				*e*S		**Sn**	**12 53 38.7**	**-0.5**
JRA	**Rausu**	**0.55**	**42**	P		**Pn**	**12 53 23.3**	**+0.3**
JRA				*e*S		**Sn**	**12 53 39.6**	**+0.3**
JAR	**Ashorobuto**	**0.65**	**249**	P		**Pn**	**12 53 24.2**	**+0.6**
JAR				*e*S		**Sn**	**12 53 40.6**	**+0.2**
JTKR	**Abashiri--Toko**	**0.67**	**311**	P		**Pn**	**12 53 24.0**	**+0.3**
JTKR				*e*S		**Sn**	**12 53 40.1**	**-0.5**
JOB	**Onbets**	**0.84**	**222**	P		**Pn**	**12 53 25.4**	**+0.5**
JOB				*e*S		**Sn**	**12 53 42.9**	**+0.2**
NEM2	**Nemuro 2**	**0.84**	**101**	P		**Pn**	**12 53 24.7**	**-0.2**
NEM2				*e*S		**Sn**	**12 53 41.3**	**-1.4**
JMP	**Maruseppu**	**1.02**	**298**	P		**Pn**	**12 53 26.5**	**+0.1**
JMP				*e*S		**Sn**	**12 53 44.6**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**1.04**	**61**	*c i*PN		**Pn**	**12 53 27.2**	**+0.7**
YUK				*i* S		**Sn**	**12 53 46.3**	**+0.8**
YUK				pmax		pmax		
	comp=E,27nm,0.2s							
YUK				pmax		pmax		
	comp=Z,245nm,0.2s							
YUK				pmax		pmax		
	comp=N,13nm,0.1s							
YUK				smax		smax		
	comp=E,426nm,0.5s							
YUK				smax		smax		
	comp=N,225nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.04**	**61**	*e*P		**Pn**	**12 53 27.2**	**+0.7**
YUK				AMB		AMB	12 53 27.6	
	comp=N,10.0nm,0.2s							
YUK				AMB		AMB	12 53 27.6	
	comp=N,27nm,0.2s							
YUK				AMB		AMB	12 53 27.6	
	comp=N,245nm,0.2s							
YUK				*e*S		**Sn**	**12 53 46.3**	**+0.8**
YUK				A		A	12 53 49.7	
	comp=N,225nm,0.4s							
YUK				A		A	12 53 49.7	
	comp=N,426nm,0.4s							
JCH	**Churui**	**1.29**	**225**	P		**Pn**	**12 53 28.9**	**0.0**
JCH				*e*S		**Sn**	**12 53 48.7**	**-1.0**
JKK2	**Kamakawa 2**	**1.39**	**285**	P		**Pn**	**12 53 30.3**	**+0.4**
JKK2				*e*S		**Sn**	**12 53 51.3**	**-0.2**
JFR	**Furan**	**1.51**	**257**	P		**Pn**	**12 53 31.5**	**+0.3**
JFR				*e*S		**Sn**	**12 53 54.2**	**+0.4**
JKA

KURK pmax pmax
comp=Z,4.0nm,0.6s
KURK Kurchatov 44.12 303 *eP* **P 13 00 55.5 +0.8**
KURBB Kurchatov Arra 44.20 303 P **P 13 00 55.5 +0.1**
comp=Z,3.9nm,0.6s,baz=70,slow=8.7,SNR=26
RES Resolute Bay 55.70 16 P **P 13 02 21.2 -0.5**
comp=Z,3.1nm,0.6s,baz=300,slow=5.7,SNR=5.7
RES Resolute Bay 55.70 16 P **P 13 02 21.2 -0.5**
RES pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 58.80 339 P **P 13 02 43.4 -0.2**
comp=Z,1.5nm,0.7s,baz=50,slow=8.4,SNR=3.7
ARCES ARCESS Array B 58.80 339 P **P 13 02 43.4 -0.2**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 63.86 191 P **P 13 03 18.6 +0.5**
comp=Z,0.6nm,0.8s,baz=8.1,slow=6.8,SNR=4.0
WRA Warramunga Arr 63.86 191 P **P 13 03 18.6 +0.5**
WRA pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 64.22 332 P **P 13 03 19.4 -0.5**
comp=Z,3.3nm,0.5s,baz=59,slow=7.1,SNR=15
FINES FINESS Array B 64.22 332 *eP* **P 13 03 19.6 -0.4**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 64.22 332 *eP* **P 13 03 19.6 -0.4**
ASAR Alice Springs 67.58 191 P **P 13 03 41.5 -0.4**
comp=Z,0.4nm,0.9s,baz=8.5,slow=6.9,SNR=3.3
NB2 NORSAR Subarra 69.12 338 P **P 13 03 51.0 -0.2**
comp=Z,0.5nm,0.4s,baz=32,slow=6.5
NOA NORSAR Array B 69.12 338 P **P 13 03 50.9 -0.2**
comp=Z,0.9nm,0.6s,baz=36,slow=6.1,SNR=3.9
NOA NORSAR Array B 69.12 338 P **P 13 03 50.9 -0.2**
NOA pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 84.29 55 P **P 13 05 17.2 +0.3**
comp=Z,0.2nm,0.8s,baz=308,slow=4.4,SNR=3.0

DJA 15 13:11:58.4±1.1, 5°N±8°×9°6E±°, h100km±8km, M3.8/5, MLv3.8/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**0.53**	**85**	P	Pn	13 12 13.3	-1.1
LHMI				S	Sn	13 12 30.2	+3.9
TSI	**Tuntungan**	**2.71**	**128**	S	Sn	13 13 13.3	+0.7
GSI	**Gunungsitoli**	**4.02**	**163**	P	Pn	13 12 59.4	+1.5

IDC 15 13:15:41.1±1.6, 4°70S×146°22E, h0km, mb3.8/3, mb1 4.3/5, mb1mx3.7/33, mbtmp4.1/5, ML4.3/2, Error ellipse: s-maj=89.2km s-min=25.9km az=113.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**15.30**	**180**	Pn	Pn	13 19 20.2	+1.6
0.6nm,0.3s,baz=356,slow=14,SNR=7.3							
WRA	**Warramunga Arr**	**19.06**	**216**	P	P	13 20 04.5	-0.8
1.4nm,0.3s,baz=40,slow=11,SNR=84							
ASAR	**Alice Springs**	**22.29**	**211**	P	P	13 20 40.2	0.0
12nm,1.1s,baz=48,slow=8.0,SNR=69							
STKA	**Stephens Creek**	**27.38**	**189**	P	P	13 21 28.4	+0.1
1.2nm,0.5s,baz=23,slow=12,SNR=4.7							
ILAR	**Eielson Array**	**84.60**	**23**	P	P	13 28 16.2	0.0
0.2nm,0.6s,baz=251,slow=4.7,SNR=3.8							

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*IDC **15** 13:16:56.2±0.7, 45°09S×81°32W, h0km, mb4.3/13, mb1 4.4/15, mb1mx4.4/19, mbtmp4.3/15, ML4.3/2, MS4.2/13, Ms1 4.2/13, ms1mx4.0/18, Error ellipse: s-maj=26.5km s-min=15.1km az=97.0*

*NEIC **15** 13:16:58.0±7.5, 45°06S×81°31W, h13km±45km, mb4.8/16, Error ellipse: s-maj=19.2km s-min=9.4km az=88.0*

*GCMT **15** 13:16:58.0±0.4, 45°01S×81°81W, h16km±1km, MW4.9/74, Moment Tensor Solution. s22,c25; s74,c94; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.49±.15; Mθθ 1.21±.15; Mϕϕ-0.71±.14; Mrθ 0.36±.34; Mϕϕ-2.41±.11; Mϕr-0.82±.38; Best double couple: Mo2.73900×10^16^ NP1:ϕs348.00000°, δ89.00000°, λ-19.00000°. NP2: ϕs79.00000°, δ71.00000°, λ-179.00000°. Principal axes: T 3.0090, Plg12.0000°, Azm35.0000°; N -0.5360, Plg71.0000°, Azm165.0000°; P -2.4690, Plg14.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **15** 13:16:59.6±0.4, 45°10S±0°07×81°2W±0°1, h33km, mb4.6/31, MS4.3/10 Error ellipse: s-maj=12.9km s-min=9.6km az=11.6*

*BJI **15** 13:17:00.4, 45°10S×81°20W, h38km, mB4.7/1, Ms7 4.6/1*

ISC 15 13:17:01.2±0.5, 45°05S±0°09×81°3W±0°1, h35km, n67, σ1§38/57, mb4.6/31, MS4.2/10, 1C, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**8.99**	**65**	Pn	**Pn**	**13 19 07.7**	**-0.9**
PLCA	1.6nm,0.3s,baz=245,slow=14,SNR=34			Sn	Sn	13 21 01.5	+13
PLCA	0.4nm,0.3s,baz=53,slow=20,SNR=3.0			LR	LR	13 22 15.3	
PLCA	comp=Z,1μm,19.5s,baz=250,slow=35 **Paso Flores**	**8.99**	**65**	*eP*	**Pn**	**13 19 07.4**	**-1.2**
PLCA	17nm,0.8s			Sn	Sn	13 21 01.5	+13
USHA	**Ushuaia**	**12.81**	**144**	LR	LR	13 24 07.9	
CFAA	comp=Z,914nm,20.2s,baz=344,slow=34 **Coronel Fontan**	**16.86**	**42**	Pn	**Pn**	**13 20 52.9**	**-1.5**
CFAA	0.1nm,0.3s,baz=227,slow=9.2,SNR=4.0			LR	LR	13 26 29.5	
LVC	comp=Z,143nm,19.0s,baz=207,slow=34 **Limon Verde**	**24.57**	**28**	P	**P**	**13 22 17.9**	**-0.2**
LVC	48nm,0.8s,baz=212,slow=9.6,SNR=8.9			LR	LR	13 29 40.3	
LVC	comp=Z,2μm,20.1s,baz=204,slow=31 **Limon Verde**	**24.57**	**28**	*eP*	**P**	**13 22 18.6**	**+0.5**
CPUP	**Villa Florida**	**26.82**	**54**	*eP*	**P**	**13 22 38.7**	**+0.7**
RPN	2.0nm,1.4s **Rapa Nui**	**28.65**	**299**	LR	LR	13 30 51.6	
LPAZ	comp=Z,510nm,20.3s,baz=156,slow=29 **La Paz**	**30.74**	**25**	P	**P**	**13 23 13.9**	**+0.1**
LPAZ	2.7nm,0.7s,baz=171,slow=5.0,SNR=11 **La Paz**	**30.74**	**25**	*eP*	**P**	**13 23 14.5**	**+0.7**
ATAH	**Atahualpa**	**37.85**	**5**	P	**P**	**13 24 16.6**	**+1.5**
BDFB	10nm,1.0s,baz=149,slow=5.9,SNR=4.8 **Brasilia**	**40.55**	**54**	P	**P**	**13 24 38.3**	**+1.1**
BDFB	8.7nm,0.8s,baz=217,slow=8.0,SNR=8.7			LR	LR	13 41 55.9	
SNAA	comp=Z,446nm,18.9s,baz=182,slow=37 **Sanae**	**44.45**	**154**	P	**P**	**13 25 07.9**	**-0.4**
OTAV	1.1nm,0.9s,baz=249,slow=8.6,SNR=5.4 **Otavalo**	**45.16**	**4**	*eP*	**P**	**13 25 15.6**	**+0.6**
QSPA	19nm,1.4s **South Pole Qui**	**45.20**	**180**	P	**P**	**13 25 14.0**	**-0.5**
QSPA	1.8nm,0.9s,baz=138,slow=6.7,SNR=9.3 **South Pole Qui**	**45.20**	**180**	*eP*	**P**	**13 25 14.3**	**-0.1**
RKT	**Rikitea**	**48.55**	**278**	eLR	LR	13 39 22.3	
ROSC	303nm,28.8s **El Rosal**	**50.07**	**9**	LR	LR	13 45 26.1	
SBA	comp=Z,495nm,18.0s,baz=208,slow=34 **Scott Base**	**50.72**	**195**	*eP*	**P**	**13 25 56.8**	**+0.1**
VNDA	3.1nm,1.1s **Vanda**	**51.77**	**194**	P	**P**	**13 26 05.0**	**+0.3**
VNDA	2.2nm,1.0s,baz=130,slow=7.7,SNR=5.9			LR	LR	13 45 28.6	
VNDA	comp=Z,223nm,18.2s,baz=123,slow=33 **Vanda**	**51.77**	**194**	*eP*	**P**	**13 26 05.0**	**+0.3**
SYO	6.8nm,1.4s **Syowa Base**	**58.21**	**159**	*ePP*	**P**	**13 26 54.0**	**+2.8**
TBI	**Tubuai**	**58.64**	**267**	eLQ	LQ	13 41 48.2	
TBI	250nm,33.0s			eLR	LR	13 43 53.2	
PPT2	119nm,30.0s **Papeete2**	**62.47**	**272**	eLQ	LQ	13 43 28.1	
PPT2	313nm,34.5s			eLR	LR	13 45 39.6	
PPT	115nm,24.0s **Papeete**	**62.49**	**272**	LR	LR	13 46 08.0	
MAW	comp=Z,85nm,21.0s,baz=145,slow=28 **Mawson**	**64.46**	**166**	P	**P**	**13 27 33.3**	**-0.1**
MAW	2.5nm,0.8s,baz=216,slow=9.1,SNR=5.1			LR	LR	13 54 54.5	
TXAR	comp=Z,143nm,18.1s,baz=237,slow=35 **Lajitas Array**	**76.78**	**340**	P	**P**	**13 28 49.3**	**+0.3**
TXAR	1.7nm,0.9s,baz=156,slow=9.6,SNR=8.5			LR	LR	13 57 04.5	
BOSA	comp=Z,110nm,19.1s,baz=0.0,slow=31 **Boshof**	**80.89**	**121**	P	**P**	**13 29 12.8**	**+0.9**
BOSA	4.3nm,1.1s,baz=220,slow=3.0,SNR=2.3			LR	LR	14 00 02.4	
WMOK	comp=Z,95nm,21.2s,baz=214,slow=32 **Wichita Mounta**	**80.98**	**345**	*eP*	**P**	**13 29 10.9**	**-0.9**
TUL1	9.1nm,1.1s **Leonard**	**81.64**	**348**	*eP*	**P**	**13 29 13.2**	**-2.1**
214A	16nm,1.0s **Organ Pipe Nat**	**81.82**	**333**	*eP*	**P**	**13 29 17.6**	**+1.2**
JSRW	11nm,1.3s **J. Sargeant Re**	**82.42**	**3**	P	**P**	**13 29 20.1**	**+0.8**
LAZ	**Ladron**	**82.48**	**339**	*eP*	**P**	**13 29 21.1**	**+1.1**
ANMO	7.4nm,1.4s **Albuquerque**	**82.82**	**339**	*eP*	**P**	**13 29 22.3**	**+0.6**
PV01	6.8nm,1.1s **Paradox Valley**	**86.38**	**339**	P	**P**	**13 29 37.8**	**-1.8**
SHPR	562nm,1.1s **Sheep Range**	**86.76**	**333**	*eP*	**P**	**13 29 42.8**	**+1.3**
MSU	17nm,1.3s **Marysvale**	**87.71**	**336**	*eP*	**P**	**13 29 48.0**	**+1.9**
SRU	11nm,1.3s **San Rafael Swe**	**87.81**	**338**	*eP*	**P**	**13 29 46.9**	**+0.4**
JFWS	**Jewell Farm**	**87.94**	**353**	*eP*	**P**	**13 29 45.8**	**-1.0**
R11A	16nm,0.9s **Troy Canyon, C**	**88.58**	**334**	*eP*	**P**	**13 29 49.0**	**-1.2**
DZM	6.0nm,1.2s **Mont Dzumac**	**89.17**	**239**	eLR	LR	13 58 21.0	
ECSD	241nm,24.7s **EROS Data Cent**	**89.44**	**349**	P	**P**	**13 29 53.0**	**-0.8**
DUG	6.3nm,1.0s **Dugway, Tooele**	**89.45**	**336**	*eP*	**P**	**13 29 55.0**	**+0.8**
NVAR	13nm,1.1s **Mina Array Bea**	**89.54**	**332**	P	**P**	**13 29 55.4**	**+0.7**
HWUT	1.6nm,0.9s,baz=159,slow=7.4,SNR=6.4 **Hardware Ranch**	**90.42**	**338**	*eP*	**P**	**13 29 58.5**	**-0.3**
BW06	9.9nm,1.2s **Boulder Array**	**90.99**	**340**	*eP*	**P**	**13 30 01.0**	**-0.4**
PDAR	3.7nm,1.0s **Pinedale Array**	**90.99**	**340**	P	**P**	**13 30 01.8**	**+0.4**
MCMT	1.3nm,0.8s,baz=161,slow=3.5,SNR=8.4 **McKenzie Canyo**	**93.76**	**338**	P	**P**	**13 30 16.0**	**+1.8**
STKA	1.2nm,1.1s **Stephens Creek**	**94.08**	**215**	LR	LR	14 04 35.4	
TORD	comp=Z,279nm,19.6s,baz=201,slow=30 **Torodi Ar. Bea**	**94.31**	**76**	P	**P**	**13 30 16.1**	**-1.0**
H11S2	0.5nm,0.7s,baz=224,slow=4.0,SNR=4.9 **WAKE ISLAND Hyl**	**18.31**	**268**	T	T	15 44 36.3	
H11S1	baz=132,slow=75,SNR=19 **WAKE ISLAND Hyl**	**18.33**	**268**	T	T	15 44 41.4	
H11S3	baz=132,slow=75,SNR=8.1 **WAKE ISLAND Hyl**	**18.33**	**268**	T	T	15 44 39.4	
H11N3	baz=132,slow=75,SNR=16 **WAKE ISLAND Hyl**	**18.97**	**269**	T	T	15 45 30.5	
H11N1	baz=131 **WAKE ISLAND Hyl**	**18.98**	**269**	T	T	15 45 30.2	
H11N2	baz=131 **WAKE ISLAND Hyl**	**18.99**	**269**	T	T	15 45 27.9	
ILAR	baz=131 **Eielson Array**	**120.77**	**333**	PKP	**PKPdf**	**13 35 50.0**	**+1.7**
BRTR	0.5nm,0.9s,baz=122,slow=1.2,SNR=3.0 **Keskin Array B**	**132.81**	**72**	PKP	**PKPdf**	**13 36 13.7**	**+1.5**
SEY	0.5nm,0.6s,baz=238,slow=4.9,SNR=2.4 **Seymchan**	**145.01**	**320**	PKPbc	**PKPbc**	**13 36 31.8**	**-1.1**
ABKAR	2.5nm,0.9s,baz=65,slow=20,SNR=8.0 **Akbulak array**	**153.51**	**67**	*e*PKPbc	**PKPbc**	**13 36 53.8**	**-1.4**
NJ2	**Nanjing**	**159.65**	**237**	*e*PKP	**PKPdf**	**13 36 56.3**	**+0.3**
KMI	**Kunming**	**159.85**	**191**	PKP	**PKPdf**	**13 36 57.0**	**+0.3**
KMI	71nm,18.4s			LZ			
KSH	**Kashi**	**162.30**	**100**	*e*PKP	**PKPdf**	**13 36 59.6**	**+0.8**
KSH				*es*PKP		13 37 11.3	
KSH				*e*PP	**PP**	**13 41 31.3**	**+0.1**
CD2	**Chengdu**	**165.34**	**197**	PKP	**PKPdf**	**13 37 00.8**	**-0.9**
HHC	**Hu-ho-hao-te**	**169.68**	**251**	*e*PKP	**PKPdf**	**13 37 02.3**	**-2.3**
HHC				PP	**PP**	**13 42 10.3**	**+1.2**
HHC				SKS	**SKSdf**	**13 43 59.5**	**-5.8**
HHC				SS	**SS**	**14 03 02.3**	**-2.3**
HHC	73nm,9.9s			PPMZ			
LZH	**Lanzhou**	**170.23**	**205**	*e*PKP	**PKPdf**	**13 37 05.1**	**0.0**
LZH				pPKP	**pPKPdf**	**13 37 15.5**	**-1.1**
LZH				sPKP		13 37 19.3	
WMQ	**Urumqi**	**172.03**	**95**	*e*PKP	**PKPdf**	**13 37 06.0**	**+0.3**

IDC 15 13:22:47.9±5.9, 20°18S×178°47E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/18, mbtmp3.2/2, Error ellipse: s-maj=317.8km s-min=92.1km az=158.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.36**	**262**	P	P	13 30 36.2	+0.2
0.3nm,0.8s,baz=97,slow=8.3,SNR=1.6							
ASAR	**Alice Springs**	**41.36**	**257**	P	P	13 30 35.5	-0.5
0.2nm,0.4s,baz=86,slow=8.6,SNR=2.1							
BRTR	**Keskin Array B**	**144.14**	**311**	PKP	PKPdf	13 42 25.6	-0.5
0.5nm,0.5s,baz=66,slow=3.5,SNR=3.5							

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*NIED **15** 13:23:00, 32°90N×142°50E, h11km, Mw3.8 Best double couple: Mo6.62000×10^14^ NP1:ϕs58.00000°, δ32.00000°, λ-27.00000°. NP2:ϕs171.00000°, δ76.00000°, λ-119.00000°.*

*IDC **15** 13:23:19.3±0.7, 32°80N×142°70E, h0km, mb3.8/13, mb1 4.0/17, mb1mx3.9/37, mbtmp3.9/17, ML3.5/4, MS2.8/6, Ms1 2.9/6, ms1mx2.6/30, Error ellipse: s-maj=20.6km s-min=16.0km az=83.0*

*NEIC **15** 13:23:20.7±0.6, 32°88N×142°67E, h10km, mb4.1/2, Error ellipse: s-maj=11.8km s-min=10.0km az=81.0*

*ISCJB **15** 13:23:22.2±0.5, 32°86N±0°04×142°51E±0°05, h33km, mb3.9/16, MS2.8/4, Error ellipse: s-maj=7.4km s-min=4.4km az=143.6*

*JMA **15** 13:23:22.4±0.3, 32°90N×142°50E, h70km, M4.0*

ISC 15 13:23:23.8±0.6, 32°83N±0°05×142°55E±0°07, h33km, n49, σ1§87/58, mb3.9/16, MS2.6/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.24**	**325**	P	**Pn**	**13 23 56.9**	**-1.2**
BSO1				*eS*	**Sn**	**13 24 23.2**	**-1.1**
JHJ2	**Mitsune**	**2.31**	**278**	P	**Pn**	**13 23 58.4**	**-1.2**
JHJ2				*eS*	**Sn**	**13 24 26.6**	**-0.4**
JHJ2	**Mitsune**	**2.31**	**278**	*eP*	**Pn**	**13 23 58.0**	**-1.6**
JHCJ	**Hachijojimakas**	**2.33**	**277**	P	**Pn**	**13 23 58.3**	**-1.5**
JHCJ				*eS*	**Sn**	**13 24 25.6**	**-1.7**
BSO2	**Boso 2**	**2.43**	**322**	*eS*	**Sn**	**13 24 29.2**	**-0.1**
BSO3	**Boso 3**	**2.60**	**320**	P	**Pn**	**13 24 02.2**	**-1.1**
BSO3				*eS*	**Sn**	**13 24 32.7**	**-0.8**
BSO4	**Boso 4**	**2.83**	**320**	P	**Pn**	**13 24 06.1**	**-0.5**
BSO4				*eS*	**Sn**	**13 24 39.9**	**+0.4**
KTR	**Katsuura**	**2.96**	**322**	P	**Pn**	**13 24 07.5**	**-1.0**
KTR				S	**Sn**	**13 24 41.2**	**-1.7**
JOD2	**Odawara 2**	**3.76**	**311**	P	**Pn**	**13 24 17.5**	**-2.0**
JOD2				*eS*	**Sn**	**13 25 00.7**	**-2.0**
JYN	**Shimob**	**4.25**	**310**	P	**Pn**	**13 24 25.1**	**-1.3**
JYN				*eS*	**Sn**	**13 25 12.8**	**-2.1**
JRY	**Ryogami san**	**4.38**	**317**	P	**Pn**	**13 24 26.7**	**-1.4**
JRY				*eS*	**Sn**	**13 25 15.9**	**-2.0**
JAG	**Ashikaga**	**4.40**	**325**	P	**Pn**	**13 24 27.3**	**-1.0**
JAG				*eS*	**Sn**	**13 25 15.0**	**-3.4**
JFT	**Otama**	**5.01**	**339**	P	**Pn**	**13 24 35.6**	**-1.1**
JFT				*eS*	**Sn**	**13 25 28.6**	**-4.9**
JIE	**Ise**	**5.12**	**289**	P	**Pn**	**13 24 37.4**	**-0.8**
MJAR	**Matsushiro Arr**	**5.14**	**317**	Pn	**Pn**	**13 24 37.8**	**-0.8**
	3.3nm,0.3s,baz=154,slow=11,SNR=67						
MAJO	**Matsushiro**	**5.15**	**317**	*eP*	**Pn**	**13 24 38.3**	**-0.3**
	14nm,0.4s						
MAT	**Matsushiro**	**5.15**	**317**	P	**Pn**	**13 24 38.1**	**-0.5**
MAT				S	**Sn**	**13 25 34.4**	**-2.5**
MAT	**Matsushiro**	**5.15**	**317**	P	**Pn**	**13 24 38.5**	**-0.1**
MAT				*eS*	**Sn**	**13 25 35.5**	**-1.4**
CBIJ	**Chichi jima**	**5.73**	**183**	Pn	**Pn**	**13 24 45.7**	**-0.9**
CBIJ				Sn	**Sn**	**13 25 45.7**	**-5.5**
JCJ	**Chichijima**	**5.73**	**183**	Pn	**Pn**	**13 24 45.7**	**-0.9**
	5.0nm,0.3s,baz=356,slow=19,SNR=10.0						
JCJ				Sn	**Sn**	**13 25 45.7**	**-5.5**
	19nm,0.3s,baz=259,slow=22,SNR=6.8						
JWZ	**Kozaga**	**5.77**	**279**	P	**Pn**	**13 24 47.7**	**+0.5**
ERM	**Erimo**	**9.18**	**3**	*eP*	**Pn**	**13 25 30.8**	**-3.0**
JNU	**Nakatsue**	**9.81**	**275**	Pn	**Pn**	**13 25 44.4**	**+1.8**
	0.3nm,0.3s,baz=137,slow=6.1,SNR=4.4						
JNU				LR	LR	13 29 16.0	
	comp=Z,63nm,20.9s,baz=63,slow=36						
ASAJ	**Asahikawa**	**11.27**	**0**	Pn	**Pn**	**13 26 00.1**	**-2.3**
	baz=163,slow=19						
ASAJ	**Asahikawa**	**11.27**	**0**	*eP*	Pn	13 25 58.7	-3.7
KSRS	**Korea Array**	**12.83**	**295**	Pn	**Pn**	**13 26 25.8**	**+2.0**
	0.1nm,0.3s,baz=102,slow=14,SNR=5.0						
KSRS				LR	LR	13 32 31.6	
	comp=Z,47nm,18.6s,baz=245,slow=43						
KSAR	**Wonju Array Be**	**12.85**	**295**	Pn	**Pn**	**13 26 25.8**	**+1.6**
PETK	**Petropavlovsk-**	**23.00**	**24**	LR	LR	13 38 55.8	
	comp=Z,22nm,18.8s,baz=264,slow=41						
SEY	**Seymchan**	**30.76**	**9**	P	**P**	**13 29 36.8**	**+1.0**
	1.0nm,0.5s,baz=172,slow=8.9,SNR=7.6						
SONM	**Songino Array**	**31.05**	**310**	P	P	13 29 43.2	+4.5
	1.8nm,0.6s,baz=113,slow=9.6,SNR=2.4						
TLY	**Talaya**	**33.88**	**315**	LR	LR	13 44 06.5	
	comp=Z,7.9nm,18.2s,baz=248,slow=37						
CMAR	**Chiang Mai Arr**	**41.54**	**261**	LR	LR	13 49 18.7	
	comp=Z,4.8nm,19.0s,baz=320,slow=37						
ZALV	**Zalesovo Beam**	**45.50**	**316**	P	**P**	**13 31 41.9**	**+2.1**
	0.3nm,0.4s,baz=90,slow=7.2,SNR=2.1						
MK31	**Makanchi Array**	**47.23**	**306**	*eP*	**P**	**13 31 53.8**	**+0.2**
MKAR	**Makanchi Array**	**47.23**	**306**	P	**P**	**13 31 55.2**	**+1.6**
	1.1nm,0.5s,baz=87,slow=9.4,SNR=13						
KURK	**Kurchatov**	**49.33**	**311**	*eP*	**P**	**13 32 10.3**	**+0.7**
	3.1nm,0.8s						
KURBB	**Kurchatov Arra**	**49.39**	**311**	P	**P**	**13 32 11.2**	**+1.1**
	1.7nm,0.6s,baz=87,slow=7.4,SNR=26						
ILAR	**Eielson Array**	**52.58**	**31**	P	**P**	**13 32 34.2**	**+0.3**
	0.5nm,0.7s,baz=261,slow=6.4,SNR=12						
WRA	**Warramunga Arr**	**53.06**	**190**	P	**P**	**13 32 37.9**	**0.0**
	1.0nm,0.7s,baz=8.6,slow=7.7,SNR=11						
BVAR	**Borovoye Array**	**54.14**	**315**	P	**P**	**13 32 45.7**	**+0.2**
	0.6nm,0.7s,baz=91,slow=5.9,SNR=4.0						
ASAR	**Alice Springs**	**56.79**	**189**	P	**P**	**13 33 04.1**	**-0.8**
	0.4nm,0.8s,baz=1.1,slow=7.2,SNR=3.6						
ABKAR	**Akbulak array**	**61.40**	**312**	*eP*	**P**	**13 33 37.4**	**+0.8**
	0.7nm,0.4s						
YKA	**Yellowknife Ar**	**66.98**	**29**	P	**P**	**13 34 11.5**	**-1.4**
	0.7nm,0.5s,baz=296,slow=7.0,SNR=3.8						
FINES	**FINESS Array B**	**72.97**	**333**	P	**P**	**13 34 50.3**	**+0.6**
	2.7nm,0.8s,baz=87,slow=5.8,SNR=5.2						
NOA	**NORSAR Array B**	**78.42**	**338**	P	**P**	**13 35 21.9**	**+0.9**
	0.9nm,0.7s,baz=39,slow=5.7,SNR=3.6						
BRTR	**Keskin Array B**	**82.35**	**313**	P	**P**	**13 35 44.2**	**+1.5**
	0.5nm,0.5s,baz=206,slow=34,SNR=3.2						
SCHQ	**Schefferville**	**89.10**	**16**	LR	LR	14 19 54.3	
	comp=Z,28nm,19.6s,baz=257,slow=38						
TXAR	**Lajitas Array**	**91.92**	**53**	P	**P**	**13 36 31.0**	**+1.6**
	0.5nm,0.7s,baz=314,slow=3.2,SNR=7.1						
LPAZ	**La Paz**	**147.75**	**67**	PKPbc	**PKPab**	**13 43 08.2**	**-0.7**
	0.5nm,0.4s,baz=0.0,slow=2.0,SNR=4.2						

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*IDC **15** 13:55:45.9±0.9, 32°90N×142°58E, h0km, mb3.5/7, mb1 3.7/10, mb1mx3.5/32, mbtmp3.6/10, ML3.7/2, MS3.4/1, Ms1 3.4/1, ms1mx2.3/26, Error ellipse: s-maj=29.8km s-min=17.1km az=85.0*

*ISCJB **15** 13:55:48.7±0.6, 32°88N±0°06×142°44E±0°09, h33km, mb3.5/7, MS3.4/1, Error ellipse: s-maj=13.6km s-min=5.3km az=144.4*

*JMA **15** 13:55:48.6±0.4, 32°90N×142°51E, h71km, M3.3*

ISC 15 13:55:50.0±0.9, 32°85N±0°07×142°5E±0°1, h33km, n23, σ1§47/31, mb3.6/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.19**	**325**	P	**Pn**	**13 56 23.1**	**-0.5**
BSO1				*eS*	**Sn**	**13 56 49.7**	**+0.4**
JHJ2	**Mitsune**	**2.26**	**277**	P	**Pn**	**13 56 25.1**	**+0.1**
BSO2	**Boso 2**	**2.38**	**323**	*eS*	**Sn**	**13 56 53.9**	**-0.4**
BSO3	**Boso 3**	**2.55**	**320**	P	**Pn**	**13 56 28.4**	**-0.3**
BSO3				S	**Sn**	**13 56 57.7**	**-0.8**
BSO4	**Boso 4**	**2.78**	**321**	P	**Pn**	**13 56 32.4**	**+0.3**
JOD2	**Odawara 2**	**3.71**	**311**	P	**Pn**	**13 56 43.8**	**-1.1**
JOD2				*eS*	**Sn**	**13 57 26.4**	**-1.1**
JYN	**Shimob**	**4.20**	**310**	P	**Pn**	**13 56 52.4**	**+0.6**
JYN				S	**Sn**	**13 57 39.6**	**-0.1**
JRY	**Ryogami san**	**4.33**	**318**	P	**Pn**	**13 56 51.7**	**-1.8**
JRY				*eS*	**Sn**	**13 57 42.5**	**-0.3**
JAG	**Ashikaga**	**4.35**	**326**	P	**Pn**	**13 56 54.1**	**+0.3**
JAG				*eS*	**Sn**	**13 57 42.0**	**-1.4**
JFT	**Otama**	**4.98**	**340**	P	**Pn**	**13 57 01.8**	**-0.6**
JFT				*eS*	**Sn**	**13 57 54.2**	**-4.6**
MJAR	**Matsushiro Arr**	**5.09**	**317**	Pn	**Pn**	**13 57 03.8**	**-0.2**
	1.0nm,0.3s,baz=154,slow=12,SNR=12						
MJAR				Sn	**Sn**	**13 58 01.3**	**-0.4**
	0.9nm,0.3s,baz=60,slow=23,SNR=5.8						
MAT	**Matsushiro**	**5.10**	**317**	P	**Pn**	**13 57 04.7**	**+0.7**
MAT				S	**Sn**	**13 58 00.8**	**-0.9**
MAT	**Matsushiro**	**5.10**	**317**	P	**Pn**	**13 57 05.3**	**+1.3**
MAT				*eS*	**Sn**	**13 58 02.0**	**+0.2**
JCJ	**Chichijima**	**5.74**	**183**	Pn	**Pn**	**13 57 11.7**	**-1.2**
	5.8nm,0.3s,baz=356,slow=19,SNR=10						
JCJ				Sn	**Sn**	**13 58 13.0**	**-4.7**
	6.6nm,0.3s,baz=290,slow=22,SNR=5.5						
ASAJ	**Asahikawa**	**11.25**	**0**	Pn	Pn	13 58 25.6	-2.8
	baz=225,slow=10.0						
SEY	**Seymchan**	**30.75**	**9**	P	**P**	**14 02 02.3**	**+0.5**
	1.0nm,0.7s,baz=207,slow=7.9,SNR=3.7						
KAPI	**Kappang**	**43.40**	**214**	LR	LR	14 24 22.9	
	comp=Z,47nm,18.0s,baz=162,slow=40						
MKAR	**Makanchi Array**	**47.18**	**306**	P	**P**	**14 04 20.6**	**+1.3**
	0.5nm,0.8s,baz=87,slow=9.4,SNR=4.9						
KURBB	**Kurchatov Arra**	**49.34**	**311**	P	**P**	**14 04 36.8**	**+0.9**
	0.8nm,0.7s,baz=85,slow=7.9,SNR=8.1						
ILAR	**Eielson Array**	**52.59**	**31**	P	**P**	**14 05 00.4**	**+0.2**
	0.2nm,0.6s,baz=264

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LSP	Las Mesas	2.07	230	⇑eP	Pn	14 20 32.9	-2.8
LSP	Las Mesas	2.07	230	eS	Sn	14 20 57.9	-3.7
CRPR	Cabo Rojo, PR	2.20	227	⇑eP	Pn	14 20 34.3	-3.2
CRPR				eS	Sn	14 21 00.7	-4.1
IDE	Isla Desecheo	2.24	240	⇓eP	Pn	14 20 35.2	-3.0

IDC 15 14:26:14.1±2.1, 11°.37S×113°.83E, h0^{km}, mb3.5/5, mb1 3.7/5, mb1mx3.6/25, mbtmp3.6/5, Error ellipse: s-maj=79.9km s-min=14.5km az=46.0
DJA 15 14:26:24.7±0.7, 11°S±13°×11°4E±°, h205^{km}±14^{km}, M4.1/12, mb4.2/3, mB4.8/2, MLv4.1/12, Mw(mB)4.0/2
ISC 15 14:26:18.4±1.1, 11°.10S±0°.08×113°.76E±0°.07, h25^{km}, n14, σ2^{s}00/17, mb3.8/5, South of Jawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	2.64	8	P	Pb	14 27 03.1	-2.0
JAGI				S	Sb	14 27 37.3	+0.2
IGBI	Denpasar	2.65	31	P	Pb	14 27 04.7	-0.4
IGBI				S	Sb	14 27 38.9	+1.7
DNP	Denpasar	2.80	31	S	Sb	14 27 41.1	-0.5
ABJI	Asem Bagus	3.32	8	P	Pn	14 27 12.7	+4.0
BLJI	Banyuglugur	3.34	357	P	Pb	14 27 13.2	-3.7
PWJI	Pagerwojo	3.62	328	P	Pn	14 27 12.4	-0.4
PWJI				S	Sn	14 27 55.0	+0.2
UGM	Wanagama	4.50	315	P	Pn	14 27 25.7	+0.7
UGM				S	Sn	14 28 13.5	-3.1
KPJI	Karang Pucung	6.06	308	S	Sn	14 28 51.1	-4.0
CISI	Cisompet, Garu	6.84	300	P	Pn	14 27 59.5	+2.2
	52nm,0.8s,1μm0.3nm						
WRA	Warramunga Arr	21.67	116	P	P	14 31 06.2	-1.2
	0.7nm,0.8s,baz=290,slow=11,SNR=6.0						
WRA				S	S	14 34 57.5	-8.8
	0.3nm,0.6s,baz=283,slow=25,SNR=6.6						
ASAR	Alice Springs	22.89	126	P	P	14 31 18.8	-1.6
	0.4nm,0.9s,baz=304,slow=9.6,SNR=4.1						
ASAR				S	S	14 35 26.9	-2.0
	1.8nm,0.9s,baz=296,slow=23,SNR=7.0						
CMAR	Chiang Mai Arr	32.81	333	P	P	14 32 52.8	+2.8
	0.8nm,0.6s,baz=163,slow=9.7,SNR=6.2						
KSRS	Korea Array	50.09	15	P	P	14 35 12.6	+1.3
	0.7nm,0.7s,baz=189,slow=7.1,SNR=4.6						
MKAR	Makanchi Array	64.14	337	P	P	14 36 51.0	+0.4
	1.1nm,0.6s,baz=146,slow=7.4,SNR=13						

JMA 15 14:44:33.6±0.3, 34°.35N×141°.86E, h21^{km}±2^{km}, M2.8
IDC 15 14:44:34.7±1.3, 34°.32N×141°.82E, h0^{km}, mb3.4/4, mb1 3.6/5, mb1mx3.4/28, mbtmp3.3/5, ML3.3/1, Error ellipse: s-maj=38.9km s-min=25.1km az=78.0
ISCJB 15 14:44:36.1±0.9, 34°.34N±0°.08×141°.7E±0°.1, h27^{km}, mb3.4/4, Error ellipse: s-maj=15.2km s-min=8.2km az=136.8
ISC 15 14:44:38.5±1.2, 34°.4N±0°.1×141°.6E±0°.1, h27^{km}, n11, σ1^{s}40/14, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.60	296	P	Pb	14 44 48.5	-1.6
BSO1				eS	Sn	14 44 59.1	-0.2
BSO3	Boso 3	1.01	294	P	Pn	14 44 55.3	-1.3
BSO4	Boso 4	1.22	300	P	Pn	14 44 59.6	-0.1
CHOJ	Chosi	1.45	334	P	Pn	14 45 01.2	-1.8
CHOJ				eS	Sn	14 45 21.4	+0.2
JIM2	Oshima 3	1.84	281	P	Pn	14 45 07.0	-1.4
MJAR	Matsushiro Arr	3.52	309	Pn	Pn	14 45 31.2	-0.2
	2.4nm,0.3s,baz=121,slow=8.6,SNR=27						
MAT	Matsushiro	3.52	309	P	Pn	14 45 31.0	-0.5
MAT				S	Sn	14 46 14.8	+2.5
MKAR	Makanchi Array	45.71	304	P	P	14 52 59.4	+2.2
	0.2nm,0.5s,baz=92,slow=9.6,SNR=3.6						
ILAR	Eielson Array	51.65	31	P	P	14 53 42.4	-0.1
	0.4nm,0.7s,baz=277,slow=7.4,SNR=5.5						
WRA	Warramunga Arr	54.47	188	P	P	14 54 03.3	-0.5
	0.3nm,0.5s,baz=5.8,slow=7.6,SNR=6.3						
ASAR	Alice Springs	58.20	188	P	P	14 54 30.7	+0.4
	0.3nm,0.8s,baz=20,slow=11,SNR=4.1						

NNC 15 15:16:30.2±4.4, 38°.12N×70°.63E, h0^{km}, mb3.6, mpv3.3, 4C-4D, Error ellipse: s-maj=36.5km s-min=17.1km az=167.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZET	Dzherino	1.57	297	⇑P	Pn	15 16 58.3	-1.3
	44nm,0.5s						
DZET				⇓S	Sn	15 17 20.8	0.0
	185nm,0.4s						
KK31	Karatay Array	4.98	359	⇓Pn	Pn	15 17 50.6	+4.2
	0.9nm,0.3s,baz=0.0,slow=0.1,SNR=10						
KK31				⇑Pg	Pb	15 17 59.4	+1.0
	1.6nm,0.7s,baz=180,slow=14,SNR=5.0						
KK31				⇑Sn	Sn	15 18 44.7	0.0
	2.1nm,0.5s						
KK31				⇓Lg	Lg	15 19 06.8	
	4.5nm,0.6s,baz=178,slow=29,SNR=4.5						
AB31	Akbulak array	13.54	329	⇓Pn	Pn	15 19 41.8	-1.7
	0.3nm,0.5s,baz=146,slow=11,SNR=11						
AKTO	Aktyubinsk	15.24	328	⇑Pn	P	15 20 09.5	-2.3
	2.4nm,1.5s						

IDC 15 15:20:01.4±51.0, 14°.86S×170°.43W, h0^{km}, mb3.8/3, mb1 4.0/3, mb1mx3.6/31, mbtmp3.8/3, Error ellipse: s-maj=1020.0km s-min=198.7km az=79.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	46.79	240	P	P	15 28 32.8	-0.2
	0.8nm,0.4s,baz=93,slow=12,SNR=3.5						
WRA	Warramunga Arr	52.75	256	P	P	15 29 18.9	+0.2
	0.4nm,0.8s,baz=92,slow=6.8,SNR=8.2						
ASAR	Alice Springs	53.00	251	P	P	15 29 20.1	-0.4
	1.6nm,0.6s,baz=92,slow=7.3,SNR=46						

SJA 15 15:24:25.0±0.7, 31°.54S×70°.20W, h98^{km}±6^{km}, ML3.5, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.81	108	i P	Pn	15 24 44.9	+1.2
RTLS				i S	Sn	15 24 59.9	+2.2
AUSP	Uspallata	0.97	135	i P	Pn	15 24 46.2	+0.8
AUSP				i P	Pn	15 24 46.2	+0.8
AUSP				i S	Sn	15 25 02.4	+1.7
SJA	San Juan	1.40	90	i P	Pn	15 24 51.0	+1.0
RTCV	Cerro Valdivia	1.45	103	i P	Pn	15 24 51.6	+0.9
RTCV				i S	Sn	15 25 11.2	+1.1
RTLL	Cerro Villicun	1.49	82	i P	Pn	15 24 52.1	+0.9
RTLL				i S	Sn	15 25 12.4	+1.5
ASAL	Salagasta	1.56	132	i P	Pn	15 24 53.1	+1.1
ASAL				i S	Sn	15 25 14.4	+1.8
AMOG	MOGNA	1.58	68	i P	Pn	15 24 54.0	+1.7
CFAA	Coronel Fontan	1.68	93	i P	Pn	15 24 54.4	+0.9
CFAA				i S	Sn	15 25 16.1	+1.1
ARCO	CERRO ARCO	1.68	141	i P	Pn	15 24 55.0	+1.3
ARCO				i S	Sn	15 25 16.6	+1.1
ARCO				AML	AML	15 25 20.7	
	comp=Z,419nm,0.7s						
AAGR	Agrelo	1.93	143	i P	Pn	15 24 57.9	+1.2
AAGR				i S	Sn	15 25 22.8	+1.9

ISCJB 15 15:29:51.3±0.7, 17°.5N±0°.2×46°.4W±0°.1, h12^{km}, mb4.0/13, MS3.3/9, Error ellipse: s-maj=22.2km s-min=14.5km az=178.6
IDC 15 15:29:51.1±0.9, 17°.48N×46°.38W, h0^{km}, mb3.9/10, mb1 4.1/10, mb1mx3.9/31, mbtmp3.9/10, MS3.3/9, Ms1 3.3/9, ms1mx3.0/32, Error ellipse: s-maj=30.0km s-min=19.7km az=1.0
NEIC 15 15:29:52.6±0.7, 17°.45N×46°.36W, h10^{km}, mb4.3/3, Error ellipse: s-maj=22.0km s-min=14.3km az=181.0
ISC 15 15:29:53.0±0.8, 17°.4N±0°.2×46°.4W±0°.1, h12^{km}, n24, σ1^{s}04/14, mb4.1/13, MS3.3/9, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	30.10	249	LR	LR	15 50 33.2	
	comp=Z,22nm,18.1s,baz=29,slow=41						
BDFB	Brasilia	32.91	183	LR	LR	15 48 39.4	
	comp=Z,28nm,19.2s,baz=38,slow=34						
LPAZ	La Paz	39.79	214	P	P	15 37 26.2	-0.7
	1.0nm,0.3s,baz=22,slow=4.1,SNR=3.7						
H10N3	ASCENSION HYDR	40.27	126	T	T	16 20 31.4	
	baz=309						
H10N2	ASCENSION HYDR	40.27	126	T	T	16 20 30.5	
	baz=309						
H10N1	ASCENSION HYDR	40.29	126	T	T	16 20 32.3	
	baz=309						
H10S3	ASCENSION HYDR	40.85	127	T	T	16 21 16.5	
	baz=309						
H10S1	ASCENSION HYDR	40.85	127	T	T	16 21 17.6	
	baz=309						
H10S2	ASCENSION HYDR	40.87	127	T	T	16 21 17.9	
	baz=309						
DBIC	Dimbokro	41.88	100	P	P	15 37 44.0	+0.4
	2.8nm,0.8s,baz=170,slow=6.1,SNR=3.5						
DBIC				LR	LR	15 52 44.7	
	comp=Z,40nm,18.5s,baz=256,slow=33						
DBIC	Dimbokro	41.88	100	eP	P	15 37 44.2	+0.6
	4.2nm,0.8s						
TORD	Torodi Ar. Bea	46.46	88	P	P	15 38 20.1	-0.2
	1.2nm,0.9s,baz=300,slow=8.6,SNR=5.1						
TORD				LR	LR	15 55 16.7	
	comp=Z,84nm,20.6s,baz=215,slow=33						
TXAR	Lajitas Array	53.46	294	P	P	15 39 14.9	+1.4
	0.8nm,1.0s,baz=97,slow=7.4,SNR=3.0						
TXAR				LR	LR	16 01 29.2	
	comp=Z,17nm,20.4s,baz=0.0,slow=36						
GERES	GERESS Array B	57.43	43	P	P	15 39 41.5	-0.3
	0.4nm,0.4s,baz=265,slow=5.7,SNR=5.4						
CLL	Collm	57.51	40	i P	P	15 39 42.9	+0.8
	comp=Z,7.0nm,1.1s						
BW06	Boulder Array	58.77	310	eP	P	15 39 50.3	-1.2
	comp=Z,2.6nm,1.1s						
PDAR	Pinedale Array	58.77	310	P	P	15 39 50.3	-1.2
	comp=Z,1.7nm,1.0s,baz=92,slow=7.2,SNR=7.2						
PDAR				LR	LR	16 03 20.7	
	comp=Z,28nm,19.6s,baz=76,slow=34						
NOA	NORSAR Array B	59.38	29	P	P	15 39 54.9	-0.3
	comp=Z,1.1nm,0.8s,baz=248,slow=7.0,SNR=3.4						
NOA				LR	LR	16 01 26.4	
	comp=Z,19nm,19.0s,baz=240,slow=32						
RES	Resolute Bay	62.93	347	LR	LR	16 06 29.1	
	comp=Z,45nm,21.7s,slow=35						
ELK	Elko	62.94	307	eP	P	15 40 21.2	+1.4
	comp=Z,2.4nm,0.9s						
AKASG	Malin Array Be	67.61	42	P	P	15 40 48.2	-1.4
	comp=Z,0.7nm,0.6s,baz=272,slow=5.9,SNR=4.8						
BRTR	Keskin Array B	71.49	53	P	P	15 41 15.2	+1.1
	comp=Z,1.4nm,0.8s,baz=264,slow=4.3,SNR=6.9						
ILAR	Eielson Array	78.80	335	P	P	15 41 54.9	-0.6
	comp=Z,2.1nm,0.8s,baz=73,slow=4.7,SNR=24						
ZALV	Zalesovo Beam	97.55	27	LR	LR	16 26 41.5	
	comp=Z,8.6nm,18.7s,baz=70,slow=35						

ISCJB 15 15:31:03.9±0.6, 28°.09N±0°.04×139°.6E±0°.1, h400^{km}, mb2.9/4, Error ellipse: s-maj=12.9km s-min=4.8km az=166.3
IDC 15 15:31:04.6±1.3, 28°.02N×139°.62E, h394^{km}±25^{km}, mb2.7/4, mb1 2.9/7, mb1mx2.7/25, mbtmp3.5/7, Error ellipse: s-maj=67.5km s-min=13.5km az=74.0
JMA 15 15:31:05.1±0.3, 28°.16N×139°.93E, h414^{km}, M3.5
ISC 15 15:31:05.1±0.7, 28°.17N±0°.07×139°.7E±0°.1, h400^{km}, n20, σ1^{s}79/34, mb2.8/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.45	115	P	Pn	15 32 04.5	+0.4
CBIJ				S	S	15 32 50.7	-1.1
JCJ	Chichijima	2.45	115	P	Pn	15 32 04.5	+0.4
	17nm,0.3s,baz=24,slow=1.3,SNR=12						
JCJ				S	S	15 32 50.4	-1.4
	34nm,0.3s,baz=301,slow=20,SNR=8.8						
JHHJ	Haha-jima-NKT	2.68	124	P	Pn	15 32 05.8	-0.1
JHHJ				S	S	15 32 53.7	-1.2
BSO1	Boso 1	6.56	9	P	P	15 32 45.6	+1.8
BSO1				S	S	15 34 04.3	+1.0
BSO3	Boso 3	6.65	6	P	P	15 32 45.1	0.0
BSO3				S	S	15 34 05.3	-0.4
BSO4	Boso 4	6.82	4	S	S	15 34 09.2	-0.3
JOD2	Odawara 2	7.09	356	P	P	15 32 52.4	+2.1
JHU	Hanno	7.67	357	P	Pn	15 32 56.5	+0.3
JHU				S	S	15 34 25.2	-2.0
JRY	Ryogami san	7.86	355	P	P	15 32 59.8	+1.0
JRY				S	S	15 34 31.1	0.0
JYT	Yasato	8.05	3	P	P	15 33 01.7	+0.8
JYT				S	S	15 34 31.8	-3.2
JAG	Ashikaga	8.24	359	P	Pn	15 33 02.7	0.0
JAG				S	S	15 34 33.4	-5.7
MJAR	Matsushiro Arr	8.45	352	P	P	15 33 05.7	+0.3
	0.2nm,0.3s,baz=170,slow=11,SNR=3.4						
JHO	Hitachi	8.45	5	P	P	15 33 06.3	+0.9
JHO				S	S	15 34 40.1	-3.5
JFK	Kawauchi	9.23	6	P	Pn	15 33 15.4	+1.3
JFK				S	S	15 34 57.3	-2.7
JMK	Ichinoseki	10.83	6	P	Pn	15 33 33.8	+1.2
USRK	Ussuriysk Ar.	17.15	341	P	P	15 34 43.2	+2.7
	0.4nm,0.3s,baz=166,slow=8.8,SNR=6.0						
MKAR	Makanchi Array	48.09	309	P	P	15 39 05.5	-0.9
	0.2nm,0.7s,baz=103,slow=6.2,SNR=2.7						
MKAR				PcP	pP	15 40 27.1	+0.9
	0.1nm,0.5s,baz=98,slow=2.9,SNR=2.9						
WRA	Warramunga Arr	48.11	187	P	P	15 39 05.3	-1.4
	0.2nm,0.3s,baz=6.6,slow=7.7,SNR=10						
WRA				PcP	pP	15 40 26.8	+0.2
	0.3nm,0.4s,baz=360,slow=4.1,SNR=9.0						
ASAR	Alice Springs	51.84	187	P	P	15 39 33.1	-1.2
	0.2nm,0.5s,baz=359,slow=6.8,SNR=11						
ASAR				PcP	PcP	15 40 40.1	-0.8
	0.2nm,0.7s,baz=352,slow=1.9,SNR=3.4						
FINES	FINESS Array B	76.01	333	P	P	15 42 09.3	+0.1
	1.0nm,0.7s,baz=86,slow=5.7,SNR=5.6						

IDC 15 15:42:03.5±9.4, 19°.67N×147°.31E, h0^{km}, mb3.4/3, mb1 3.6/3, mb1mx3.3/26, mbtmp3.4/3, Error ellipse: s-maj=335.8km s-min=30.7km az=78.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.37	199	P	P	15 49 51.8	+0.3
	0.7nm,0.7s,baz=21,slow=8.7,SNR=6.4						
ASAR	Alice Springs	45.01	197	P	P	15 50 20.5	-0.6
	0.3nm,0.7s,baz=14,slow=7.4,SNR=8.0						
MKAR	Makanchi Array	58.90	313	P	P	15 52 04.4	0.0
	0.3nm,0.7s,baz=92,slow=7.2,SNR=3.5						

MAN 15 15:52:33, 10°.35N×125°.18E, h10^{km}, mb4.3, ML3.1, MS2.9, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.38	236	eP	Pb	15 52 42.0	+0.1
MSLP				eS	Sb	15 52 49.1	+1.3
SCPH	Surigao	0.64	151	eP	Pn	15 52 47.5	-0.6
SCPH				eS	Sn	15 52 58.7	+0.3
OCLP	Ormoc	0.89	321	eP	Pb	15 52 51.0	+0.3
OCLP				eS	Sn	15 53 04.9	+0.2
GUIM	Jordan	2.56	276	eP	Pn	15 53 16.7	+2.1

ISCJB 15 16:05:55.8±0.6, 23°.77S±0°.06×179°.9E±0°.1, h518^{km}, mb4.1/8, Error ellipse: s-maj=14.9km s-min=7.4km az=10.0
IDC 15 16:05:55.6±2.0, 23°.70S×179°.98E, h502^{km}±21^{km}, mb3.6/8, mb1 3.8/10, mb1mx3.4/32, mbtmp4.5/10, Error ellipse: s-maj=22.5km s-min=15.6km az=161.0
ISC 15 16:05:56.6±0.7, 23°.90S±0°.09×180°.0W±0°.1, h518^{km}, n29, σ1^{s}55/38, mb4.1/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	13.95	187	PN	P	16 08 58.4	+3.1
HAZ				eSN	S	16 11 19.7	-2.9
URZ	Urewera	14.53	189	P	P	16 09 02.0	+0.6
	1.9nm,0.3s,baz=281,slow=3.7,SNR=11						
URZ				S	S	16 11 33.4	-0.5
	2.4nm,0.3s,baz=116,slow=21,SNR=8.0						
URZ	Urewera	14.53	189	PN	P	16 09 01.9	+0.6
URZ				SN	S	16 11 34.6	+0.7
MWZ	Matawai	14.55	188	PN	P	16 09 03.7	+2.1
MWZ				SN	S	16 11 34.7	+0.3
BKZ	Black Stump Fm	15.52	190	ePN	P	16 09 12.2	+0.5
BHHZ	Black Hill Sta	15.90	191	PN	P	16 09 14.4	-1.3
BHHZ				SN	S	16 11 58.5	-1.1
TSZ	Takapari Road	16.48	191	SN	S	16 12 08.1	-1.4
MRZ	Mangatainoka R	17.13	192	PN	P	16 09 26.3	-1.5
MRZ				eSN	S	16 12 16.5	-3.9
TCW	Tory Channel	17.92	194	PN	P	16 09 36.3	+1.2
QRZ	Quartz Range	18.01	199	PN	P	16 09 37.0	+1.1
TUWZ	Tuamarina	18.21	195	PN	P	16 09 37.3	-0.4
THZ	Tophouse	18.78	197	PN	P	16 09 43.0	0.0
THZ				SN	S	16 12 44.4	-2.9
RAR	Rarotonga	18.86	86	P	P	16 09 45.2	+1.2
	0.6nm,0.3s,baz=147,slow=15,SNR=3.0						
KHZ	Kahutara	19.24	195	PN	P	16 09 46.5	-0.6
OXZ	Oxford	20.47	197	PN	P	16 09 57.7	-0.5
MQZ	McQueen's Vall	20.67	195	PN	P	16 10 00.8	+0.8
RPZ	Rata Peaks	21.10	198	P	P	16 10 05.9	+1.9
	9.1nm,0.5s,baz=337,slow=0.2,SNR=12						
STKA	Stephens Creek	34.73	248	P	P	16 12 03.9	+0.8
	5.2nm,0.5s,baz=96,slow=10,SNR=26						
ASAR	Alice Springs	42.04	261	P	P	16 13 02.5	-0.2
	17nm,0.8s,baz=98,slow=7.4,SNR=354						
ASAR				ScP	ScP	16 17 48.2	+1.4
	3.1nm,0.8s,baz=108,slow=4.3,SNR=16						
WRA	Warramunga Arr	42.42	266	P	P	16 13 04.8	-0.9
	14nm,0.5s,baz=93,slow=8.5,SNR=436						
WRA				ScP	ScP	16 17 49.9	+1.5
	1.6nm,0.8s,baz=95,slow=3.8,SNR=7.3						
MAW	Mawson	77.76	200	P	P	16 17 00.5	+1.0
	1.6nm,0.5s,baz=155,slow=7.8,SNR=2.3						
NVAR	Mina Array Bea	84.74	44	P	P	16 17 34.5	-1.6
	0.2nm,0.4s,baz=222,slow=4.0,SNR=3.6						
CMAR	Chiang Mai Arr	89.53	290	P	P	16 17 59.3	+0.4
	1.2nm,0.8s,baz=120,slow=3.1,SNR=7.2						
TXAR	Lajitas Array	90.42	58	P	P	16 18 02.7	-0.2
	0.9nm,0.7s,baz=214,slow=6.0,SNR=13						
MKAR	Makanchi Array	112.16	313	PKiKP	PKiKP	16 23 31.0	-1.9
	0.1nm,0.6s,baz=64,slow=3.8,SNR=3.2						
HFS	Hagfors	142.54	349	PKhKP	PKPpre	16 24 24.3	
	1.0nm,0.3s,baz=82,slow=3.1,SNR=9.2						
AKASG	Malin Array Be	144.97	327	PKP	PKPdf	16 24 32.6	-1.7
	0.9nm,0.5s,baz=40,slow=3.9,SNR=6.1						
BRTR	Keskin Array B	147.58	307	PKP	PKPdf	16 24 40.7	+1.4
	0.4nm,0.6s,baz=134,slow=4.4,SNR=2.5						
BRTR				PKPbc	PKPbc	16 24 44.3	+1.5
	1.2nm,0.6s,baz=79,slow=4.3,SNR=5.9						
MMAI	Mount Meron Ar	147.71	294	PKPbc	PKPbc	16 24 43.1	-0.1
	2.8nm,0.5s,baz=59,slow=5.2,SNR=7.7						

WEL 15 16:08:40.3±0.4, 37°.21S×175°.86E, h261^{km}±6^{km}, ML3.6/8, 1C, Error ellipse: s-maj=8.5km s-min=6.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.45	137	PN	Pn	16 09 19.5	+0.3
URZ				SN	S	16 09 49.0	-1.0
HAZ	Te Kaha	1.62	110	⇑PN	Pn	16 09 20.8	+0.2
HAZ				SN	S	16 09 51.0	-1.3
MWZ	Matawai	1.74	131	PN	Pn	16 09 21.9	+0.5
MWZ				SN	S	16 09 52.9	-1.1
RAHZ	Arahi	1.96	151	PN	Pn	16 09 23.8	+0.5
RAHZ				SN	S	16 09 57.1	-0.3
MXZ	Matakaoa Point	1.98	101	PN	Pn	16 09 23.7	+0.3
BKZ	Black Stump Fm	2.02	166	PN	Pn	16 09 23.9	+0.1
BKZ				SN	S	16 09 56.9	-1.6
WMGZ	Waiomatatini S	2.12	108	PN	Pn	16 09 24.9	+0.2
WMGZ				SN	S	16 09 58.2	-1.6
WNVZ	Wahianoa	2.13	186	PN	Pn	16 09 25.5	+0.5
MOVZ	Moawhango	2.20	182	PN	Pn	16 09 25.4	-0.1
ARHZ	Aropaoanui	2.24	157	PN	Pn	16 09 25.7	-0.1
BHHZ	Black Hill Sta	2.29	176	PN	Pn	16 09 26.1	-0.2
MCHZ	McNeill Hill	2.33	164	PN	Pn	16 09 26.6	0.0
KRHZ	Kereru	2.47	171	PN	Pn	16 09 27.4	-0.6
TSZ	Takapari Road	2.85	178	PN	Pn	16 09 30.6	-1.3
MRZ	Mangatainoka R	3.46	184	PN	Pn	16 09 36.1	-2.2
BFZ	Birch Farm	3.48	175	PN	Pn	16 09 36.3	-2.3
OGWZ	Otaki Gorge	3.65	188	PN	Pn	16 09 38.8	-1.7
KIW	Kapiti Island	3.73	191	PN	Pn	16 09 39.2	-2.2
TCW	Tory Channel	4.19	197	PN	Pn	16 09 44.4	-2.2
TUWZ	Tuamarina	4.47	199	PN	Pn	16 09 47.8	-2.2

IDC 15 16:26:40.9±9.2, 21°.22S×67°.36W, h98^{km}±67^{km}, mb3.2/2, mb1 3.4/3, mb1mx3.3/19, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=82.3km s-min=42.8km az=28.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.96	351	P	Pn	16 27 53.8	+0.1
	1.0nm,0.3s,baz=191,slow=6.9,SNR=11						
LPAZ				S	Sn	16 28 50.5	+0.3
	0.3nm,0.3s,baz=187,slow=8.8,SNR=1.4						
TXAR	Lajitas Array	61.24	324	P	P	16 36 46.6	+0.7
	0.3nm,0.8s,baz=149,slow=4.2,SNR=2.8						
TORD	Torodi Ar. Bea	75.90	70	P	P	16 38 17.7	+0.4
	0.5nm,0.6s,baz=260,slow=5.3,SNR=7.0						
MKAR	Makanchi Array	144.55	37	PKP	PKPab	16 46 03.2	-1.4
	0.5nm,0.7s,baz=324,slow=3.6,SNR=6.8						

MEX 15 16:28:42.1±0.8, 25°.18N×99°.87W, h5^{km}, MD3.5, Northern Mexico

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LNIG	Linares	0.46	127	i P	Pg	16 28 51.1	0.0
LNIG				i S	Sg	16 28 56.6	-0.5
ANIG	Ahuacatlan	5.93	227	eP	Pn	16 30 08.0	-2.8
MAIG	Mazatlaan	6.30	253	eP	Pn	16 30 13.0	-2.8

NEIC 15 16:32:32.2, 32°.71N×115°.96W, h13^{km}, ML3.6(PAS), After PAS.
NEIC Felt [II] at San Diego. Also felt at Carlsbad, Chula Vista, Encinitas, Escondido, La Jolla, Ramona and Santee. Felt at Mexicali, Baja California.
MEX 15 16:32:33.3±0.7, 32°.71N×115°.95W, h18^{km}±16^{km}, MD3.7
ISC 15 16:32:30.8±1.1, 32°.65N±0°.03×115°.98W±0°.03, h13^{km}±10^{km}, n19, σ1^{s}27/33, California-Baja California border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.61	112	eP	Pb	16 32 44.0	+0.6
CPBX				i S	Sn	16 32 54.0	-0.9
CBX	Cerro Bola	0.67	240	eP	Pb	16 32 45.2	+0.8
CBX				eS	Sg	16 32 53.1	+0.3
CBX	Cerro Bola	0.67	240	eP	Pb	16 32 45.2	+0.8
CBX				eS	Sg	16 32 53.1	+0.3
MBIG	Mexicali	0.70	110	eP	Pb	16 32 45.2	+0.4
MBIG				i S	Sg	16 32 53.0	-0.6
PFO	Pinyon Flats O	1.03	337	eP	Pb	16 32 49.5	-1.1
PFO				eS	Sb	16 33 03.4	-0.7
SPIG	San Pedro Mart	1.66	165	i P	Pn	16 32 59.8	-0.1
SPIG				i S	Sn	16 33 20.4	-0.8
SPIG	San Pedro Mart	1.66	165	i P	Pn	16 32 59.8	-0.1
SPIG				i S	Sn	16 33 20.4	-0.8
SPX	San Pedro Mart	1.66	165	eP	Pn	16 32 59.1	-0.8
SPX				i S	Sn	16 33 19.6	-1.6
PASC	Pasadena Art C	2.39	310	ePn	Pb	16 33 12.7	-0.9
PASC				eSg	Sb	16 33 44.4	+1.4
214A	Organ Pipe Nat	2.77	104	ePn	Pn	16 33 13.6	-1.2
214A				ePg	Pg	16 33 25.7	+1.9
DAC	Darwin (Calif)	3.85	340	ePn	Pn	16 33 31.0	+1.1
DAC				ePg	Pb	16 33 41.4	+2.7
SHPR	Sheep Range	3.90	10	ePn	Pn	16 33 31.4	+0.9
SHPR				ePg	Pg	16 33 44.4	-1.2
TUC	Tucson	4.40	93	ePn	Pn	16 33 36.8	-0.5
TUC				Pg	Pb	16 33 51.7	+3.7
WUAZ	Wupatki	4.77	52	ePn	Pn	16 33 43.6	+1.2
WUAZ				ePg	Pg	16 34 01.2	-1.0
TPH	Tonopah	5.50	350	Pn	Pn	16 33 53.6	+1.0
	2.4nm,0.4s						
R11A	Troy Canyon, C	5.69	3	Pg	Pg	16 34 17.7	-2.1
	1.3nm,0.5s						
W18A	Petrified Fore	5.74	63	Pn	Pn	16 33 57.4	+1.6

	12nm,0.7s								
W18A					Pg		Pb	16 34 16.2	+5.3
MVU	**Marysvale**	**6.59**	**27**		Pn		**Pn**	**16 34 10.0**	**+2.5**
	2.5nm,0.7s								
MVU					*e*Pg		**Pg**	**16 34 35.5**	**-1.5**
121A	**Cookes Peak, D**	**6.91**	**89**		*e*Pn		**Pn**	**16 34 12.2**	**+0.3**
	5.8nm,0.3s								

IDC ***15*** *16:59:44.7±1.2,23°.66S×115°.32W,h0km,mb3.7/6, mb1 4.1/6,mb1mx3.9/23,mbtmp3.7/6,MS3.6/4,Ms1 3.7/4, ms1mx3.3/19,Error ellipse: s-maj=44.2km s-min=26.8km az=44.0*

ISC 15 16:59:45.4±1.3,23°.8S±0°.3×115°.5W±0°.2,h10km,n23, σ0°71/10,mb3.9/6,MS3.6/3,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.46**	**122**	LR	LR	17 03 12.5	
	comp=Z,658nm,20.8s,baz=356,slow=32						
RKT	**Rikitea**	**17.92**	**268**	*e*LQ	LQ	17 07 08.6	
	1µm,27.5s						
RKT				*e*LR	LR	17 08 02.0	
	443nm,25.2s						
TBI	**Tubuai**	**31.13**	**264**	*e*LR	LR	17 14 08.5	
	183nm,24.5s						
PPT2	**Papeete2**	**32.45**	**274**	*e*LR	LR	17 14 20.5	
	265nm,27.8s						
PPT	**Papeete**	**32.46**	**274**	LR	LR	17 15 03.4	
	comp=Z,135nm,20.3s,baz=163,slow=28						
CFAA	**Coronel Fontan**	**42.27**	**111**	P	**P**	**17 07 40.0**	**+0.7**
	0.2nm,0.4s,baz=263,slow=8.0,SNR=4.7						
LPAZ	**La Paz**	**44.92**	**90**	P	**P**	**17 08 00.6**	**-0.9**
	2.0nm,0.7s,baz=248,slow=6.5,SNR=7.6						
ROSC	**El Rosal**	**49.17**	**60**	LR	LR	17 24 53.2	
	comp=Z,33nm,20.6s,baz=214,slow=31						
TXAR	**Lajitas Array**	**54.02**	**13**	P	**P**	**17 09 09.9**	**-0.1**
	0.2nm,0.5s,baz=186,slow=8.2,SNR=3.5						
NVAR	**Mina Array Bea**	**61.95**	**357**	P	**P**	**17 10 06.3**	**+0.6**
	0.5nm,0.5s,baz=167,slow=4.5,SNR=2.4						
VNDA	**Vanda**	**65.36**	**194**	LR	LR	17 31 36.8	
	comp=Z,84nm,21.6s,baz=85,slow=29						
PDAR	**Pinedale Array**	**66.45**	**5**	P	**P**	**17 10 35.4**	**+0.3**
	0.4nm,0.4s,baz=188,slow=5.5,SNR=3.4						
YKA	**Yellowknife Ar**	**85.99**	**0**	P	**P**	**17 12 25.2**	**-0.2**
	0.6nm,0.7s,baz=171,slow=4.4,SNR=2.9						
H11S2	**WAKE ISLAND Hy**	**86.75**	**292**	T	T	18 48 21.4	
	baz=116,slow=75,SNR=63						
H11S1	**WAKE ISLAND Hy**	**86.76**	**292**	T	T	18 48 24.3	
	baz=116,slow=75,SNR=56						
H11S3	**WAKE ISLAND Hy**	**86.77**	**292**	T	T	18 48 22.7	
	baz=116,slow=75,SNR=61						
H11N3	**WAKE ISLAND Hy**	**87.12**	**293**	T	T	18 48 38.5	
	baz=118,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**87.13**	**293**	T	T	18 48 44.0	
	baz=118,slow=75,SNR=17						
H11N2	**WAKE ISLAND Hy**	**87.13**	**293**	T	T	18 48 47.9	
	baz=118,slow=75,SNR=61						
ZALV	**Zalesovo Beam**	**146.25**	**338**	PKPbc	**PKPdf**	**17 19 24.6**	**-0.2**
	0.4nm,0.4s,baz=0.0,slow=3.3,SNR=2.5						
CMAR	**Chiang Mai Arr**	**147.53**	**267**	PKPbc	**PKPab**	**17 19 32.5**	**-0.2**
	1.2nm,0.9s,baz=11,slow=1.2,SNR=6.7						
BRTR	**Keskin Array B**	**149.49**	**51**	PKPbc	**PKPbc**	**17 19 36.3**	**+1.0**
	2.1nm,0.9s,baz=203,slow=0.9,SNR=7.7						
MKAR	**Makanchi Array**	**152.98**	**333**	PKPbc	**PKPbc**	**17 19 42.2**	**-0.8**
	0.6nm,0.8s,baz=75,slow=1.6,SNR=3.6						

ISCJB ***15*** *17:06:10.9±0.3,32°.75N±0°.02×115°.89W±0°.03,h23km±3km, Error ellipse: s-maj=4.4km s-min=4.1km az=150.8*
MEX ***15*** *17:06:12.3±0.7,32°.86N×115°.86W,h16km±14km,MD3.8*
NEIC ***15*** *17:06:12.0,32°.69N×115°.91W,h14km,ML3.7(PAS),After PAS.*
ECX ***15*** *17:06:12.5±0.6,32°.69N×115°.91W,h3km,MD3.5,ML3.7*

ISC 15 17:06:10.9±0.9,32°.72N±0°.02×115°.90W±0°.02,h16km±6km, n38,σ0°62/52,9C-6D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.07**	**198**	⇑*i*P	**Pg**	**17 06 14.0**	**0.0**
WESC	**Westside Schoo**	**0.14**	**73**	⇑*i*P	**Pb**	**17 06 15.7**	**+0.4**
WESC				*e*S	**Sb**	**17 06 19.0**	**+0.8**
SGL	**Mount Signal**	**0.16**	**115**	⇑*i*P	**Pb**	**17 06 15.5**	**0.0**
CRR	**Carrizo Plain**	**0.18**	**340**	⇓*i*P	**Pb**	**17 06 16.1**	**+0.2**
RMX	**La Rumorosa**	**0.19**	**234**	⇑*e*P	**Pg**	**17 06 15.9**	**+0.2**
RMX				*e*S	**Sg**	**17 06 18.4**	**-0.3**
RMX				IAML		17 06 18.8	
	comp=N,13µm,0.2s						
RMX				*e*		17 06 18.8	
COK	**Cook Ranch**	**0.19**	**47**	⇑*i*P	**Pb**	**17 06 16.7**	**+0.6**
ERPC	**Ernies Place**	**0.20**	**82**	⇑*i*P	**Pb**	**17 06 16.8**	**+0.6**
SWSC	**Sam W. Stewart**	**0.24**	**21**	⇓*i*P	**Pb**	**17 06 17.2**	**+0.3**
CPBX	**Cerro Prieto**	**0.58**	**121**	*i* P	**Pn**	**17 06 23.8**	**-0.8**
CPBX				*i* S	**Sn**	**17 06 32.7**	**-1.2**
CPBX	**Cerro Prieto**	**0.58**	**121**	*e*Pn	**Pb**	**17 06 23.1**	**+0.3**
CPBX				*e*S	**Sb**	**17 06 31.1**	**+0.3**
BAR	**Barrett**	**0.66**	**267**	⇑*i*P	**Pb**	**17 06 24.1**	**+0.1**
MBIG	**Mexicali**	**0.67**	**117**	*e*P	**Pg**	**17 06 24.0**	**0.0**
MBIG				*i* S	**Sg**	**17 06 32.8**	**0.0**
CBX	**Cerro Bola**	**0.76**	**238**	*e*P	**Pb**	**17 06 26.2**	**+0.2**
CBX				*i* S	**Sb**	**17 06 36.2**	**0.0**
CBX	**Cerro Bola**	**0.76**	**238**	*e*P	**Pb**	**17 06 26.2**	**+0.2**
CBX				*i* S	**Sb**	**17 06 36.2**	**0.0**
CBX	**Cerro Bola**	**0.76**	**238**	⇑*i*P	**Pb**	**17 06 26.0**	**+0.1**
CBX				*e*S	**Sg**	**17 06 35.9**	**0.0**
CBX				⇓*e*		17 06 39.8	
CBX				IAML		17 06 39.8	
	comp=N,4µm,0.4s						
RDX	**Rancho Dawling**	**0.79**	**183**	⇓*e*P	**Pb**	**17 06 25.9**	**-0.5**
RDX				IAML		17 06 37.0	
	comp=N,2µm,0.3s						
RDX				⇓*e*		17 06 37.0	
SDRC	**San Diego Road**	**0.88**	**271**	⇑*e*P	**Pg**	**17 06 27.9**	**-0.2**
PFO	**Pinyon Flats O**	**1.01**	**332**	*e*Pn	**Pb**	**17 06 29.7**	**-0.4**
PFO				*e*Sg	**Sb**	**17 06 42.0**	**-1.2**
PBX	**Punta Banda**	**1.20**	**216**	*e*P	**Pb**	**17 06 33.4**	**+0.1**
ECNX	**Esteban Cantu**	**1.21**	**210**	*e*P	**Pn**	**17 06 33.5**	**+0.1**
ZAX	**El Zacaton**	**1.24**	**195**	*e*P	**Pb**	**17 06 34.1**	**0.0**
ZAX				*e*S	**Sb**	**17 06 49.9**	**0.0**
ECBX	**El Chinero**	**1.43**	**150**	*e*Pn	**Pn**	**17 06 36.0**	**-0.2**
ECBX				*e*S	**Sb**	**17 06 55.3**	**0.0**
ECBX				⇓*e*		17 06 56.7	
ECBX				IAML		17 06 56.7	
	comp=E,1µm,0.4s						
ECBX				IAML		17 06 58.5	
	comp=N,777nm,0.4s						
SPIG	**San Pedro Mart**	**1.71**	**168**	*e*P	**Pn**	**17 06 41.1**	**+0.7**
SPIG				*i* S	**Sn**	**17 07 02.6**	**+0.6**
SPIG	**San Pedro Mart**	**1.71**	**168**	*e*P	**Pn**	**17 06 41.1**	**+0.7**
SPIG				*i* S	**Sn**	**17 07 02.6**	**+0.6**
SPIG	**San Pedro Mart**	**1.71**	**168**	*e*P	**Pn**	**17 06 41.5**	**+1.1**
SPX	**San Pedro Mart**	**1.71**	**167**	*e*P	**Pn**	**17 06 41.5**	**+1.1**
SPX				*i* S	**Sn**	**17 07 01.2**	**-0.8**
SPX	**San Pedro Mart**	**1.71**	**167**	*e*P	**Pn**	**17 06 41.5**	**+1.1**
PASC	**Pasadena Art C**	**2.40**	**308**	Pn	**Pn**	**17 06 50.0**	**+0.4**
PASC				*e*Sg	**Sb**	**17 07 23.4**	**+0.2**
214A	**Organ Pipe Nat**	**2.72**	**105**	*e*Pn	**Pn**	**17 06 53.1**	**-1.0**
DAC	**Darwin (Calif)**	**3.82**	**339**	*e*Pn	Pn	17 07 05.4	-3.9
SHPR	**Sheep Range**	**3.83**	**9**	*e*Pn	**Pn**	**17 07 10.8**	**+1.4**
TUC	**Tucson**	**4.34**	**94**	*e*Pn	**Pn**	**17 07 15.3**	**-1.1**
WUAZ	**Wupatki**	**4.68**	**52**	*e*Pn	**Pn**	**17 07 20.5**	**-0.5**
CCUT	**Cedar City**	**5.25**	**23**	*e*Pn	**Pn**	**17 07 28.2**	**-0.8**
	comp=N,5.5nm,0.9s						
TPH	**Tonopah**	**5.46**	**349**	Pn	**Pn**	**17 07 31.8**	**0.0**
	comp=N,3.6nm,0.6s						
R11A	**Troy Canyon, C**	**5.62**	**2**	*e*Pg	**Pg**	**17 07 58.9**	**+0.2**
	comp=N,2.0nm,0.7s						
MSU	**Marysvale**	**6.53**	**27**	Pn	**Pn**	**17 07 47.4**	**+0.8**
121A	**Cookes Peak, D**	**6.84**	**89**	*e*Pn	**Pn**	**17 07 51.5**	**+0.6**
	comp=N,6.0nm,0.4s						

SKHL ***15*** *17:11:41.8±0.8,47°.75N×155°.12E,h50km±8km,mb4.6/6*
KRSC ***15*** *17:11:42.2±2.4,48°.40N×154°.26E,h243km±38km,ML4.1*
MOS ***15*** *17:11:47.0±1.1,48°.88N×153°.59E,h211km,mb4.2/1,Error ellipse: s-maj=32.5km s-min=6.1km az=63.3*
IDC ***15*** *17:11:48.8±2.5,49°.06N×153°.09E,h192km±28km,mb2.9/5, mb1 3.2/8,mb1mx3.0/36,mbtmp3.5/8,Error ellipse: s-maj=51.6km s-min=14.0km az=135.0*

ISC 15 17:11:48.3±0.7,48°.90N±0°.09×153°.49E±0°.09,h200km,n84, σ1°67/90,mb3.3/5,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.47**	**43**	*e*P	**Pn**	**17 12 32.0**	**+0.2**
SKR				*e*S	**Sn**	**17 13 08.5**	**+2.8**
SKR	**Severo-Kuril's**	**2.47**	**43**	*e*PN	Pn	17 12 17.5	-14
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR	**Severo-Kuril's**	**2.47**	**43**	*e*P	Pn	17 12 26.7	-5.1
SKR				AMB	AMB	17 12 29.3	
	comp=Z,187nm,0.7s						
SKR				*e*S	**Sn**	**17 13 01.0**	**-4.8**
SKR				A	A	17 13 03.1	
	comp=Z,143nm,0.4s						
PAU	**Pauzhetka**	**3.34**	**38**	*e*P	**Pn**	**17 12 41.4**	**-0.5**
PAU				*e*S	**Sn**	**17 13 24.8**	**+0.8**
PAU	**Pauzhetka**	**3.34**	**38**	PN	**Pn**	**17 12 41.4**	**-0.5**
PAU				S	**Sn**	**17 13 24.8**	**+0.8**
PAU	**Pauzhetka**	**3.34**	**38**	*e*P	**Pn**	**17 12 40.2**	**-1.7**
PAU				AMB	AMB	17 12 43.7	
	comp=Z,203nm,1.0s						
PAU				*e*S	**Sn**	**17 13 23.3**	**-0.7**
PAU				A	A	17 13 34.3	
	comp=Z,222nm,0.6s						
MIPR	**Malaya Ipel'ka**	**3.97**	**30**	*e*P	**Pn**	**17 12 49.7**	**0.0**
ASAK	**Asacha**	**4.48**	**37**	*e*P	**Pn**	**17 12 56.3**	**+0.2**
APC	**Apacha**	**4.65**	**28**	*e*P	**Pn**	**17 12 57.4**	**-0.8**
APC	**Apacha**	**4.65**	**28**	PN	**Pn**	**17 12 57.4**	**-0.8**
MTVR	**Mutnovka**	**4.67**	**38**	*e*P	**Pn**	**17 12 58.2**	**-0.3**
MTVR				*e*S	**Sn**	**17 13 52.8**	**-1.1**
RUS	**Russkaya**	**4.77**	**40**	*e*P	**Pn**	**17 12 58.3**	**-1.3**
RUS				*e*S	**Sn**	**17 13 51.9**	**-4.0**
RUS	**Russkaya**	**4.77**	**40**	PN	**Pn**	**17 12 58.3**	**-1.3**
RUS				S	**Sn**	**17 13 51.9**	**-4.0**
RUS	**Russkaya**	**4.77**	**40**	*e*P	**Pn**	**17 12 58.3**	**-1.3**
PETK	**Petropavlovsk-**	**4.98**	**31**	P	**Pn**	**17 13 02.2**	**-0.2**
	comp=Z,2.2nm,0.3s,baz=173,slow=13,SNR=46						
PETK	**Petropavlovsk-**	**4.98**	**31**	PN	**Pn**	**17 13 02.2**	**-0.2**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PET	**Petropavlovsk**	**5.26**	**36**	*e*P	**Pn**	**17 13 05.6**	**-0.3**
PET				*e*S	**Sn**	**17 14 05.7**	**-1.6**
PET	**Petropavlovsk**	**5.26**	**36**	*e*PN	**Pn**	**17 13 05.3**	**-0.7**
PET				*e*S	**Sn**	**17 14 07.5**	**+0.2**
PET				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PET				smax	smax		
	comp=E,9.0nm,0.6s						
PET				smax	smax		
	comp=N,18nm,0.5s						
PET	**Petropavlovsk**	**5.26**	**36**	*e*P	**Pn**	**17 13 05.3**	**-0.7**
PET				AMB	AMB	17 13 05.6	
	comp=N,5.0nm,0.5s						
PET				*e*S	**Sn**	**17 14 07.5**	**+0.2**
PET				A	A	17 14 08.2	
	comp=N,18nm,0.5s						
PET				A	A	17 14 08.2	
	comp=N,9.0nm,0.5s						
KUR	**Kuril'sk**	**5.31**	**228**	*e*PN	**Pn**	**17 13 06.6**	**0.0**
KUR				*i* S	**Sn**	**17 14 10.6**	**+2.2**
KUR				pmax	pmax		
	comp=E,6.0nm,0.4s						
KUR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
KUR				pmax	pmax		
	comp=N,7.0nm,0.1s						
KUR				smax	smax		
	comp=N,11nm,0.1s						
KUR				smax	smax		
	comp=E,21nm,0.1s						
KUR	**Kuril'sk**	**5.31**	**228**	*e*P	**Pn**	**17 13 06.6**	**0.0**
KUR				AMB	AMB	17 13 10.8	
	comp=E,8.0nm,0.4s						
KUR				AMB	AMB	17 13 10.8	
	comp=E,6.0nm,0.4s						
KUR				AMB	AMB	17 13 10.8	
	comp=E,10.0nm,0.4s						
KUR				*e*S	**Sn**	**17 14 10.6**	**+2.2**
KUR				A	A	17 14 14.1	
	comp=E,11nm,0.1s						
KUR				A	A	17 14 14.1	
	comp=E,22nm,0.1s						
KOK	**Koryaka**	**5.47**	**34**	*e*P	**Pn**	**17 13 09.2**	**+0.5**
KOK	**Koryaka**	**5.47**	**34**	PN	**Pn**	**17 13 09.2**	**+0.5**
KOK	**Koryaka**	**5.47**	**34**	*e*P	**Pn**	**17 13 09.2**	**+0.5**
UGLR	**Uglovaya**	**5.47**	**36**	*e*P	**Pn**	**17 13 09.2**	**+0.4**
AVH	**Avacha**	**5.48**	**35**	*e*P	**Pn**	**17 13 09.5**	**+0.6**
AVH				*e*S	**Sn**	**17 14 13.3**	**+0.8**
AVH	**Avacha**	**5.48**	**35**	PN	**Pn**	**17 13 09.5**	**+0.6**
AVH				S	**Sn**	**17 14 13.3**	**+0.8**
SMAR	**Somma**	**5.51**	**35**	*e*P	**Pn**	**17 13 09.9**	**+0.6**
SMAR	**Somma**	**5.51**	**35**	PN	**Pn**	**17 13 09.9**	**+0.6**
KRER	**Koryakskii**	**5.52**	**35**	*e*P	**Pn**	**17 13 10.4**	**+1.0**
KRX	**Arik**	**5.52**	**34**	*e*P	**Pn**	**17 13 09.5**	**+0.1**
SDLR	**Sedlovina**	**5.55**	**36**	*e*P	**Pn**	**17 13 09.5**	**-0.2**
SDLR				*e*S	**Sn**	**17 14 10.8**	**-3.3**
SDLR	**Sedlovina**	**5.55**	**36**	PN	**Pn**	**17 13 09.5**	**-0.2**
SDLR				S	**Sn**	**17 14 10.8**	**-3.3**
GNL	**Ganaly**	**5.56**	**28**	*e*P	**Pn**	**17 13 07.2**	**-2.6**
GNL	**Ganaly**	**5.56**	**28**	PN	**Pn**	**17 13 07.2**	**-2.6**
SPN	**Mys Shipunski**	**5.89**	**42**	*e*P	**Pn**	**17 13 12.6**	**-1.4**
SPN				*e*S	Sn	17 14 14.0	-7.8
SPN	**Mys Shipunski**	**5.89**	**42**	PN	**Pn**	**17 13 12.6**	**-1.4**
SPN				S	Sn	17 14 14.0	-7.8
SPN	**Mys Shipunski**	**5.89**	**42**	*e*P	**Pn**	**17 13 12.6**	**-1.4**
SHO	**Shikotan**	**6.82**	**225**	*e*P	**Pn**	**17 13 23.2**	**-2.9**
SHO				AMB	AMB	17 13 24.8	
	comp=E,125nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**7.17**	**230**	*d i*PN	**Pn**	**17 13 29.0**	**-1.7**
YUK				*i* S	**Sn**	**17 14 50.3**	**-1.6**
YUK				pmax	pmax		
	comp=Z,166nm,0.5s						
YUK				pmax	pmax		
	comp=N,10.0nm,0.2s						
YUK				pmax	pmax		
	comp=E,19nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**7.17**	**230**	*e*P	**Pn**	**17 13 29.0**	**-1.7**
YUK				AMB	AMB	17 13 29.8	
	comp=E,10.0nm,0.3s						
YUK				AMB	AMB	17 13 29.8	
	comp=E,20nm,0.3s						
YUK				AMB	AMB	17 13 29.8	
	comp=E,166nm,0.3s						
YUK				*e*S	**Sn**	**17 14 50.3**	**-1.6**
JRA	**Rausu**	**7.62**	**233**	P	**Pn**	**17 13 34.8**	**-1.7**
MKZ	**Mys Kozlova**	**7.63**	**39**	*e*P	**Pn**	**17 13 34.1**	**-2.5**
MKZ				*e*S	Sn	17 14 52.9	-10
MKZ	**Mys Kozlova**	**7.63**	**39**	PN	**Pn**	**17 13 34.1**	**-2.5**
NEM2	**Nemuro 2**	**7.71**	**227**	P	Pn	17 13 33.3	-4.5
NEM2				*e*S	Sn	17 14 54.9	-10
ESO	**Esso**	**7.72**	**22**	*e*P	**Pn**	**17 13 38.0**	**+0.2**
ESO	**Esso**	**7.72**	**22**	PN	**Pn**	**17 13 38.0**	**+0.2**
JNK	**Nakash**	**8.07**	**232**	P	**Pn**	**17 13 39.5**	**-2.9**
JTKR	**Abashiri--Toko**	**8.25**	**237**	P	**Pn**	**17 13 43.7**	**-1.0**
JAK	**Akkeshi**	**8.50**	**229**	P	Pn	17 13 43.5	-4.5
JAK				*e*S	Sn	17 15 13.5	-10
JMP	**Maruseppu**	**8.53**	**239**	P	**Pn**	**17 13 47.8**	**-0.7**
JAR	**Ashorobuto**	**8.77**	**234**	P	**Pn**	**17 13 49.4**	**-2.1**
JAR				*e*S	Sn	17 15 22.9	-7.0
JKA	**Kamikawa-asahi**	**8.90**	**242**	*e*P	**Pn**	**17 13 52.9**	**-0.3**
ASAJ	**Asahikawa**	**8.90**	**242**	P	**Pn**	**17 13 52.6**	**-0.7**
ASAJ	**Asahikawa**	**8.90**	**242**	P	**Pn**	**17 13 52.9**	**-0.3**
	baz=63,slow=2.7						
JKK2	**Kamakawa 2**	**8.96**	**240**	P	**Pn**	**17 13 53.6**	**-0.4**
JOB	**Onbets**	**9.01**	**232**	P	Pn	17 13 51.0	-3.6
KBTR	**Krutoberegovo**	**9.26**	**34**	*e*P	**Pn**	**17 13 54.6**	**-3.2**
KBTR	**Krutoberegovo**	**9.26**	**34**	PN	**Pn**	**17 13 54.6**	**-3.2**
JCH	**Churui**	**9.46**	**232**	P	Pn	17 13 55.9	-4.6
JCH				*e*S	Sn	17 15 36.0	-10
JAB	**Ashibetsu**	**9.49**	**240**	P	**Pn**	**17 14 01.9**	**+1.0**
JFR	**Furan**	**9.50**	**237**	P	**Pn**	**17 13 59.9**	**-1.1**
JBT2	**Biratori 2**	**9.88**	**236**	P	Pn	17 14 02.8	-3.1
BKI	**Bering**	**9.94**	**46**	*e*P	**Pn**	**17 14 04.7**	**-1.9**
BKI				*e*S	Sn	17 15 42.9	-15
BKI	**Bering**	**9.94**	**46**	PN	**Pn**	**17 14 04.7**	**-1.9**
ERM	**Erimo**	**10.00**	**230**	*e*PN	Pn	17 14 03.9	-3.5
JEM	**Erimo**	**10.00**	**230**	P	Pn	17 14 03.5	-3.9
JNBK	**Urakawa-nobuka**	**10.02**	**233**	P	Pn	17 14 02.8	-4.9
JNBK				*e*S	Sn	17 15 46.4	-13
JTM	**Tenmabayashi**	**11.97**	**232**	P	Pn	17 14 27.0	-5.7
JANG	**Nango**	**12.04**	**229**	P	Pn	17 14 28.0	-5.7
SEY	**Seymchan**	**14.09**	**358**	P	**Pn**	**17 14 58.7**	**-0.2**
	comp=E,0.1nm,0.3s,baz=341,slow=23,SNR=4.7						
SEY				S	**Sn**	**17 17 35.1**	**-1.1**
	comp=E,0.2nm,0.3s,baz=103,slow=22,SNR=5.8						
MJA0	**Matsu Arr-Jizo**	**16.63**	**228**	*e*P	**Pn**	**17 15 31.4**	**+1.2**
MAJO	**Matsushiro**	**16.65**	**228**	*e*P	**Pn**	**17 15 31.3**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,36nm,1.4s						
MAJO	**Matsushiro**	**16.65**	**228**	*e*P	**Pn**	**17 15 31.3**	**+0.9**
MJAR	**Matsushiro Arr**	**16.65**	**228**	P	**P**	**17 15 28.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=18,slow=12,SNR=6.4						
MJAR	**Matsushiro Arr**	**16.65**	**228**	*e*P	**Pn**	**17 15 31.4**	**+1.0**
KSRS	**Korea Array**	**21.77**	**248**	P	**P**	**17 16 23.0**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=50,slow=11,SNR=3.4						
TIK	**Tiksi**	**25.48**	**342**	*e*P	P	17 17 20.6	+23
ILAR	**Eielson Array**	**34.73**	**40**	P	**P**	**17 18 20.3**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=254,slow=4.8,SNR=4.7						
ARU	**Arti**	**53.62**	**317**	*e*P	P	17 21 11.7	+23
WRA	**Warramunga Arr**	**70.62**	**199**	P	**P**	**17 22 43.5**	**+1.6**
	comp=Z,0.2nm,0.8s,baz=18,slow=5.9,SNR=4.6						
WRA	**Warramunga Arr**	**70.62**	**199**	*e*P	**Pn**	**17 22 44.3**	**+2.4**
ASAR	**Alice Springs**	**74.33**	**199**	P	**P**	**17 23 05.8**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=13,slow=5.1,SNR=5.8						
TXAR	**Lajitas Array**	**76.22**	**61**	P	**P**	**17 23 17.2**	**+2.4**
	comp=Z,0.3nm,0.5s,baz=299,slow=4.8,SNR=5.9						

BJI ***15*** *17:22:15.9,7°.49S×130°.29E,h173km,mb4.5/22,mB4.6/13*
ISCJB ***15*** *17:22:20.1±0.3,6°.74S±0°.03×129°.76E±0°.04,h150km, mb4.5/27,Error ellipse: s-maj=5.6km s-min=4.1km az=9.0*
IDC ***15*** *17:22:23.8±2.0,6°.71S×129°.77E,h165km±18km,mb4.0/15, mb1 4.1/17,mb1mx4.0/27,mbtmp4.5/17,MS3.3/1, Ms1 3.3/1,ms1mx2.3/23,Error ellipse: s-maj=17.6km s-min=9.3km az=79.0*
NEIC ***15*** *17:22:24.1±0.5,6°.73S×129°.73E,h172km±5km,mb4.6/16, Error ellipse: s-maj=7.1km s-min=5.0km az=61.0*
DJA ***15*** *17:22:25.1±0.2,7°.5±2°×13°.0E±°,h183km±5km,M4.8/16, mb4.5/16,mB5.2/4,MLv5.0/14,Mw(mB)4.6/4*

ISC 15 17:22:21.7±0.4,6°.77S±0°.04×129°.84E±0°.05,h150km,n99, σ1°52/104,mb4.7/36,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.89**	**130**	P	Pn	17 23 01.3	+5.8
SAUI				S	Sn	17 23 29.8	+8.3
SAUI	**Saumlaki**	**1.89**	**130**	*e*Pn	Pn	17 23 01.4	+5.9
SAUI				*e*Sn	**Sn**	**17 23 22.4**	**+0.8**
BNDI	**Bandanaira**	**2.23**	**2**	P	Pn	17 23 04.0	+4.4
BNDI				S	Sn	17 23 37.5	+8.7
AAI	**Ambon**	**3.47**	**332**	P	Pn	17 23 18.9	+3.8
MSAI	**Masohi**	**3.52**	**345**	P	Pn	17 23 20.1	+4.4
NLAI	**Namlea**	**4.44**	**322**	P	Pn	17 23 32.4	+4.6
FAKI	**Fak Fak**	**4.52**	**32**	P	**Pn**	**17 23 30.7**	**+1.9**
FAKI				S	**Sn**	**17 24 19.3**	**-1.7**
FAKI	**Fak Fak**	**4.52**	**32**	*e*Pn	**Pn**	**17 23 30.4**	**+1.6**
FAKI				*e*Sn	Sn	17 24 11.6	-10
SIJI	**Sorong**	**6.03**	**14**	P	**Pn**	**17 23 49.9**	**+0.9**
	39nm,0.3s,baz=125,slow=23,SNR=121						
SIJI				S	**Sn**	**17 24 53.5**	**-3.6**
	23nm,0.3s,baz=306,slow=7.2,SNR=5.6						
SANI	**Sanana**	**6.06**	**321**	P	Pn	17 23 52.4	+3.2
	109nm,1.0s,1µm0.4nm						
SANI				S	**Sn**	**17 25 03.3**	**+5.6**
	109nm,1.0s,1µm0.4nm						
SOEI	**Soe**	**6.26**	**241**	P	**Pn**	**17 23 54.5**	**+2.5**
	79nm,0.8s,2µm1.6nm						
SOEI				S	**Sn**	**17 25 02.2**	**-0.5**
	79nm,0.8s,2µm1.6nm						
SOEI	**Soe**	**6.26**	**241**	*e*Pn	**Pn**	**17 23 54.3**	**+2.3**
SOEI				*e*Sn	**Sn**	**17 24 59.3**	**-3.4**
RKPI	**Ransiki, Papua**	**6.78**	**40**	P	**Pn**	**17 24 02.0**	**+3.1**
	357nm,0.6s,19µm5.9nm						
RKPI				S	**Sn**	**17 25 14.9**	**-0.2**
	357nm,0.6s,19µm5.9nm						
MMRI	**Maumere**	**7.75**	**256**	P	**Pn**	**17 24 14.2**	**+2.3**
	50nm,1.0s,0.6nm						
MMRI	**Maumere**	**7.75**	**256**	*e*Pn	**Pn**	**17 24 12.9**	**+1.0**
TNTI	**

HHC	Hu-ho-hao-te	50.27	342	*e*P		P		17 31 03.3	+0.4
HHC				S		S		17 37 59.3	-4.7
HHC				PMZ					
	22nm,0.9s								
HHC				PMZ					
	87nm,6.2s								
USRK	Ussuriysk Ar.	50.77	2	P		P		17 31 06.7	+0.3
	2.2nm,0.5s,baz=180,slow=7.9,SNR=6.2								
PALK	Pallekele	50.96	285	P		P		17 31 02.5	-6.0
ODAN	Odare	52.98	311	*e*P		P		17 31 22.7	-0.8
	9.3nm,0.4s								
TAPN	Taplejung	53.01	312	*e*P		P		17 31 23.0	-0.7
	16nm,0.4s								
RAMN	Ramite	53.63	311	*e*P		P		17 31 27.8	-0.4
	30nm,0.5s								
GTA	Gaotai	53.69	331	*e*P		P		17 31 28.5	+0.2
GTA				pP		pP		17 32 08.4	+5.5
GTA				sP		sP		17 32 27.9	+8.4
GTA				PMZ					
	5.0nm,1.1s								
GUN	Gumba	54.68	311	*e*P		P		17 31 35.2	-0.7
	17nm,0.4s								
PKI	Pulchoki	54.85	311	*e*P		P		17 31 36.0	-1.1
	9.4nm,0.5s								
KKN	Kakani	55.06	311	*e*P		P		17 31 37.7	-0.8
	8.0nm,0.5s								
DMN	Daman	55.10	310	*e*P		P		17 31 38.0	-0.8
	13nm,0.6s								
GKN	Gorkha	55.66	311	*e*P		P		17 31 41.9	-0.8
	31nm,0.3s								
KOLN	Koldanda	56.33	310	*e*P		P		17 31 46.9	-0.6
	8.9nm,0.3s								
SONM	Songino Array	58.17	342	P		P		17 32 00.7	+0.8
	2.3nm,0.4s,baz=162,slow=6.8,SNR=8.2								
SONA1	Songino Array	58.18	342	*e*P		P		17 32 00.5	+0.4
CASY	Casey	60.90	189	P		P		17 32 17.7	-0.5
WMQ	Urumqi	63.11	327	P		P		17 32 34.6	+1.2
WMQ				PcP		PcP		17 33 10.6	+0.9
WMQ				pP		pP		17 33 15.8	+6.7
WMQ				sP		sP		17 33 34.9	+9.5
WMQ				PP		PP		17 34 56.8	+2.5
WMQ				pmax		pmax			
	comp=Z,9.0nm,0.5s								
WMQ				pmax		pmax			
	comp=Z,140nm,4.7s								
WMQ				LR		LR			
	comp=N,92nm,8.7s								
WMQ				LR		LR			
	comp=E,99nm,7.5s								
WMQ				LR		LR			
	comp=Z,22nm,15.4s								
WMQ	Urumqi	63.11	327	P		P		17 32 34.0	+0.6
WMQ				pP		PcP		17 33 15.3	+5.6
WMQ				sP		sP		17 33 34.3	+8.9
WMQ				PMZ					
	comp=Z,24nm,0.5s								
WMQ				PMZ					
	comp=Z,12nm,5.6s								
WMQ				LN					
	comp=Z,13nm,8.9s								
WMQ				LE					
	comp=Z,12nm,7.5s								
WMQ				LZ					
	comp=Z,11nm,10.2s								
PETK	Petropavlovsk-	64.16	18	P		P		17 32 40.9	+0.9
	comp=Z,3.0nm,0.7s,baz=186,slow=9.6,SNR=3.1								
KSH	Kashi	67.74	318	*e*P		P		17 33 01.8	-1.6
KSH				*e*pP		pP		17 33 40.3	+0.8
KSH				sP		sP		17 34 01.0	+5.3
MK01	Makanchi Array	67.92	327	*e*P		P		17 33 04.6	+0.3
MK31	Makanchi Array	67.94	327	*e*P		P		17 33 04.4	0.0
MKAR	Makanchi Array	67.94	327	P		P		17 33 04.5	+0.2
	comp=Z,16nm,0.4s,baz=116,slow=8.2,SNR=366								
MKAR	Makanchi Array	67.94	327	*e*P		P		17 33 04.7	+0.3
YAK	Yakutsk	68.60	360	*e*P		P		17 33 08.0	0.0
	comp=Z,15nm,0.7s								
TKM2	Tokmak 2	69.70	321	*e*P		P		17 33 15.2	-0.3
	comp=Z,5.9nm,0.6s								
EKS2	Erkin-Say	70.73	320	*e*P		P		17 33 22.3	+0.6
	comp=Z,7.4nm,0.6s								
ZAA0	Zalesovo Array	71.31	334	*e*P		P		17 33 23.8	-1.0
ZALV	Zalesovo Beam	71.31	334	P		P		17 33 24.0	-0.8
	comp=Z,7.8nm,0.6s,baz=141,slow=5.6,SNR=34								
KURK	Kurchatov	72.24	329	*e*P		P		17 33 30.4	0.0
	comp=Z,13nm,0.5s								
VNDA	Vanda	72.69	173	P		P		17 33 33.3	+0.6
	comp=Z,1.3nm,0.6s,baz=324,slow=8.1,SNR=7.8								
KKAR	Karatay Array	73.06	319	*e*P		P		17 33 35.1	-0.4
MAW	Mawson	75.10	201	P		P		17 33 48.0	+1.2
	comp=Z,4.4nm,0.6s,baz=86,slow=5.7,SNR=10.0								
MAW	Mawson	75.10	201	*e*P		P		17 33 47.2	+0.4
	comp=Z,1.1nm,0.8s								
BRVK	Borovoye	77.85	328	*e*P		P		17 34 02.3	-0.2
	comp=Z,7.6nm,0.8s								
TIXI	Tiksi	78.26	360	*e*P		P		17 34 03.2	-1.2
	comp=Z,3.7nm,0.5s								
ABKAR	Akbulak array	82.23	322	*e*P		P		17 34 25.3	-0.8
ARU	Arti	85.42	328	*e*P		P		17 34 40.9	-1.2
	comp=Z,5.8nm,0.8s								
RAYN	Ar Rayn	87.50	294	*e*P		P		17 34 53.2	0.0
	comp=Z,10nm,0.6s								
CCB	Clear Creek Bu	92.80	25	*e*P		P		17 35 14.3	-2.5
	comp=Z,16nm,2.0s								
ILAR	Eielson Array	93.21	25	P		P		17 35 17.0	-1.7
	comp=Z,1.1nm,0.8s,baz=269,slow=4.2,SNR=7.0								
TXAR	Lajitas Array	124.95	59	PKP		PKPdf		17 41 05.5	+0.7
	comp=Z,0.4nm,0.7s,baz=233,slow=1.4,SNR=4.6								
TORD	Torodi Ar. Bea	128.60	281	PKP		PKPdf		17 41 11.4	-0.6
	comp=Z,1.0nm,0.6s,baz=62,slow=2.2,SNR=9.6								
JTS	JuntasAbangare	145.43	82	PKPbc		PKPab		17 41 44.0	+0.4
	comp=Z,2.9nm,0.5s,baz=216,slow=20,SNR=3.5								
LPAZ	La Paz	151.00	142	PKPbc		PKPbc		17 41 59.6	+1.0
	comp=Z,3.1nm,0.4s,baz=44,slow=2.1,SNR=11								

SJA 15 17:30:28.4±1.0, 27.72S×64.65W, h11km±4km, ML3.6, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AHML	Horco Molle	1.12	327	*i* P		Pn	17 30 50.4	+0.3
AHML				*i* S		Sn	17 31 05.5	-0.1
AHML				AML		AML	17 31 06.8	
	comp=Z,1μm,0.5s							
CYA	Choya	1.24	235	*i* P		Pb	17 30 52.1	+0.1
CYA				*i* S		Sg	17 31 08.7	0.0
CYA				AML		AML	17 31 09.5	
	comp=Z,2μm,0.3s							
FSA	Cafayete	2.03	323	*i* P		Pb	17 31 04.6	-1.0
FSA				*i* S		Sb	17 31 31.4	+0.3
ACLC	CERRO LA CRUZ	2.64	230	*i* P		Pb	17 31 14.1	-1.9
ACLC				*i* S		Sb	17 31 47.5	-1.2
SLA	San Lorenzo	3.09	345	*i* P		Pn	17 31 20.1	+2.7
SLA				*i* S		Sb	17 31 58.2	-3.3
SLA				AML		AML	17 32 21.8	
	comp=Z,146nm,0.7s							
APLL	PUNTA DE LOS L	3.13	211	*i* P		Pn	17 31 20.2	+2.4
APLL				*i* S		Sb	17 31 59.1	-3.3
ALOL	LOMAS DE OLMED	3.94	9	*i* P		Pn	17 31 31.8	+2.8
ALOL				*i* P		Pn	17 31 31.8	+2.8
HJA	Humahuaca	4.55	351	*i* P		Pn	17 31 41.6	+3.8

IDC ***15*** *17:36:06.2±0.6, 27.88S×72.47W, h0km, mb4.7/7, mb1 4.7/10, mb1mx4.3/31, mbtmp4.6/10, ML4.2/2, MS3.6/15, Ms1 3.5/15, ms1mx3.5/17, Error ellipse: s-maj=24.0km s-min=19.0km az=89.0*

SJA ***15*** *17:36:08.6±0.7, 27.91S×72.46W, h40km, ML4.2*

ISCJB ***15*** *17:36:09.9±0.3, 27.83S±0.03×72.31W±0.05, h33km, mb4.6/20, MS3.6/12, Error ellipse: s-maj=7.2km s-min=3.5km az=144.9*

BJI ***15*** *17:36:09.0, 27.08S×71.66W, h22km, mB4.7/1*

NEIC ***15*** *17:36:11.9±0.3, 27.86S×72.30W, h35km, mb4.7/16, Error ellipse: s-maj=11.1km s-min=7.6km az=60.0*

ISC 15 17:36:11.5±0.4, 27.85S±0.05×72.40W±0.07, h35km, n95, σ1$31/101, mb4.6/20, MS3.6/12, 1C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LCO	Las Campanas	1.89	128	*e*Pn		Pn	17 36 39.3	-2.2
LCO				*e*Sn		Sn	17 37 00.8	-3.5
AMOG	MOGNA	4.59	133	*i* P		Pn	17 37 19.3	+0.8
AMOG				*i* S		Sn	17 38 11.0	+0.3
RTLS	Leoncito	4.77	146	*i* P		Pn	17 37 21.9	+0.8
RTLL	Cerro Villicun	4.87	136	*i* P		Pn	17 37 22.8	+0.6
RTLL				*i* S		Sn	17 38 16.6	-0.8
ACLC	CERRO LA CRUZ	5.04	109	*i* P		Pn	17 37 25.1	+0.3
ACLC				*i* S		Sn	17 38 21.9	0.0
AUSP	Uspallata	5.08	150	*i* P		Pn	17 37 25.7	+0.3
AVFE	Valle Fertil	5.15	124	*i* P		Pn	17 37 26.1	0.0
AVFE				*e*P		Pn	17 37 26.9	+0.8
AVFE				*e*S		Sn	17 38 24.6	+0.2
AVFE				AML		AML	17 38 30.7	
	comp=Z,250nm,0.8s							
CFAA	Coronel Fontan	5.21	137	Pn		Pn	17 37 27.4	+0.5
	comp=Z,3.7nm,0.3s,baz=316,slow=11,SNR=71							
CFAA				Sn		Sn	17 38 24.9	-0.8
	comp=Z,2.1nm,0.3s,baz=56,slow=21,SNR=23							
CFAA				LR		LR	17 38 52.6	
	comp=Z,17nm,19.5s,baz=329,slow=32							
CFAA	Coronel Fontan	5.21	137	*i* P		Pn	17 37 26.8	-0.1
CFAA				*i* S		Sn	17 38 24.7	-1.0
RTCV	Cerro Valdivia	5.22	141	*i* P		Pn	17 37 27.0	-0.1
ASAL	Salagasta	5.64	148	*i* P		Pn	17 37 32.0	-0.9
APLL	PUNTA DE LOS L	5.73	118	*i* P		Pn	17 37 33.7	-0.4
ARCO	CERRO ARCO	5.81	150	*i* P		Pn	17 37 36.3	+1.0
ARCO				AML		AML	17 39 09.9	
	comp=Z,81nm,1.1s							
CYA	Choya	5.86	97	*e*P		Pn	17 37 36.5	+0.7
CYA				AML		AML	17 38 48.1	
	comp=Z,70nm,0.6s							
FSA	Cafayete	5.97	74	*i* P		Pn	17 37 39.4	+1.9
ACHE	Chepes	5.99	125	*e*P		Pn	17 37 38.0	+0.3
LVC	Limon Verde	6.10	32	Pn		Pn	17 37 38.6	-0.8
	comp=Z,440nm,0.3s,baz=221,slow=9.4,SNR=79							
LVC				Sn		Sn	17 38 48.8	+0.7
	comp=Z,414nm,0.3s,baz=339,slow=17,SNR=14							
LVC	Limon Verde	6.10	32	*e*Pn		Pn	17 37 38.3	-1.1
LVC				*e*Sn		Sn	17 38 45.9	-2.2
ACAN	Cantantal	6.31	136	*e*P		Pn	17 37 42.0	-0.1
AHML	Horco Molle	6.38	82	*i* P		Pn	17 37 43.3	+0.3
AHML				AML		AML	17 39 26.4	
	comp=Z,27nm,0.7s							
LPAZ	La Paz	12.17	20	Pn		Pn	17 39 01.9	-1.1
	comp=Z,1.1nm,0.3s,baz=193,slow=6.4,SNR=20							
LPAZ				LR		LR	17 43 49.3	
	comp=Z,133nm,20.3s,baz=212,slow=38							
LPAZ	La Paz	12.17	20	*e*Pn		Pn	17 39 01.2	-1.7
TRQA	Tornquist	13.41	142	*e*Pn		Pn	17 39 16.2	-3.1
	comp=Z,15nm,0.6s							
CPUP	Villa Florida	13.52	87	Pn		Pn	17 39 20.0	-0.7
SIV	San Ignacio	15.79	44	Pn		Pn	17 39 46.0	-5.3
	comp=Z,0.7nm,0.3s,baz=251,slow=8.5,SNR=8.8							
SIV				LR		LR	17 46 42.1	
	comp=Z,245nm,21.8s,baz=282,slow=40							
NNA	Nana	16.32	344	LR		LR	17 44 39.9	
	comp=Z,388nm,22.0s,baz=182,slow=31							
SAML	Samuel	20.72	27	*e*P		P	17 40 49.6	+0.6
ATAH	Atahualpa	21.38	343	LR		LR	17 47 37.8	
	comp=Z,139nm,21.5s,baz=195,slow=32							
BDFB	Brasilia	25.65	67	P		P	17 41 37.8	-0.4
	comp=Z,13nm,0.8s,baz=255,slow=9.4,SNR=15							
BDFB				LR		LR	17 51 29.9	
	comp=Z,149nm,18.9s,baz=227,slow=36							
BDFB	Brasilia	25.65	67	*e*P		P	17 41 38.8	+0.7
USHA	Ushuaia	27.11	175	LR		LR	17 53 13.9	
	comp=Z,145nm,19.1s,baz=238,slow=38							
PTGA	Pitinga	29.49	26	*e*P		P	17 42 12.1	-0.3
	comp=Z,9.1nm,1.1s							
ROSC	El Rosal	32.57	356	LR		LR	17 55 52.7	
	comp=Z,88nm,19.4s,baz=200,slow=36							
SDV	Santo Domingo	36.56	3	*e*P		P	17 43 12.4	-1.9
	comp=Z,8.0nm,1.1s							
SNAA	Sanae	57.41	159	P		P	17 45 55.8	-0.4
	comp=Z,2.6nm,0.7s,baz=272,slow=7.0,SNR=21							
SNAA	Sanae	57.41	159	*e*P		P	17 45 47.5	-8.7
	comp=Z,7.1nm,0.7s							
JCT	Junction City	63.64	334	*e*P		P	17 46 39.9	+0.8
	comp=Z,17nm,1.3s							
TXAR	Lajitas Array	64.26	330	P		P	17 46 43.8	+0.5
	comp=Z,0.9nm,0.6s,baz=145,slow=8.9,SNR=13							
TXAR				LR		LR	18 10 02.5	
	comp=Z,40nm,19.6s,baz=0.0,slow=32							
TX31	Lajitas Ar. Si	64.26	330	*e*P		P	17 46 43.6	+0.4
WVT	Waverly	65.28	346	*e*P		P	17 46 48.6	-1.0
	comp=Z,5.3nm,1.0s							
MSTX	Muleshoe	67.89	333	*e*P		P	17 47 07.1	+0.6
	comp=Z,14nm,1.1s							
SBA	Scott Base	69.02	191	P		P	17 47 15.0	+2.1
VNDA	Vanda	70.06	191	LR		LR	18 12 20.9	
	comp=Z,33nm,18.4s,baz=171,slow=31							
SYO	Syowa Base	71.70	159	*e*P		P	17 47 29.3	-0.1
SDCO	Great Sand Dun	72.26	333	*e*P		P	17 47 34.1	+0.7
	comp=Z,47nm,2.8s							
WUAZ	Wupatki	72.97	328	*e*P		P	17 47 38.9	+1.3
	comp=Z,8.3nm,1.1s							
DBIC	Dimbokro	73.60	73	P		P	17 47 42.6	+1.0
	comp=Z,7.8nm,0.6s,baz=217,slow=5.3,SNR=12							
DBIC				LR		LR	18 17 03.2	
	comp=Z,32nm,21.9s,baz=173,slow=33							
DBIC	Dimbokro	73.60	73	*e*P		P	17 47 42.3	+0.7
	comp=Z,11nm,0.8s							
SMCO	Snowmass	74.08	333	*e*P		P	17 47 45.3	+0.9
	comp=Z,7.2nm,1.3s							
KNB	Kanab	74.87	327	*e*P		P	17 47 50.5	+1.8
	comp=Z,9.1nm,1.2s							
CCUT	Cedar City	75.56	327	*e*P		P	17 47 54.8	+2.1
	comp=Z,6.9nm,1.1s							
MVU	Marysvale	75.79	329	*e*P		P	17 47 54.3	+0.3
	comp=Z,46nm,2.7s							
DAC	Darwin (Calif)	76.68	324	*e*P		P	17 47 58.3	-0.7
	comp=Z,9.9nm,1.4s							
PDAR	Pinedale Array	78.16	333	LR		LR	18 19 40.5	
	comp=Z,19nm,18.7s,baz=185,slow=33							
MAW	Mawson	79.15	164	P		P	17 48 12.9	+0.7
	comp=Z,10nm,0.8s,baz=198,slow=4.5,SNR=17							
MAW				LR		LR	18 23 38.7	
	comp=Z,46nm,18.2s,baz=242,slow=36							
MAW	Mawson	79.15	164	*e*P		P	17 48 12.6	+0.5
	comp=Z,2.6nm,0.8s							
MCMT	McKenzie Canyo	81.20	332	*e*P		P	17 48 24.4	+0.7
TSUM	Tsumeb	81.25	107	*e*P		P	17 48 25.5	+0.9
TOA0	Torodi Ar. Sit	82.46	71	*e*P		P	17 48 31.0	+0.3
TORD	Torodi Ar. Bea	82.46	71	P		P	17 48 31.4	+0.7
	comp=Z,13nm,0.9s,baz=248,slow=4.7,SNR=37							
TORD				LR		LR	18 23 00.3	
	comp=Z,24nm,19.6s,baz=225,slow=34							
SCHQ	Schefferville	82.48	3	LR		LR	18 25 49.0	
	comp=Z,21nm,19.3s,baz=300,slow=36							
BOSA	Boshof	83.24	119	P		P	17 48 35.3	+0.4
	comp=Z,9.4nm,0.8s,baz=264,slow=3.0,SNR=8.9							
BOSA				LR		LR	18 21 10.0	
	comp=Z,47nm,20.2s,baz=167,slow=32							
LBTB	Lobatse	85.20	116	*e*P		P	17 48 45.2	+0.4
	comp=Z,16nm,1.3s							
CASY	Casey	86.14	181	P		P	17 48 45.8	-2.7
LSZ	Lusaka	92.03	108	P		P	17 49 20.0	+2.5
ASAR	Alice Springs	122.84	209	PKP		PKPdf	17 55 03.1	-1.3
	comp=Z,1.0nm,1.0s,baz=129,slow=1.5,SNR=7.8							
WRA	Warramunga Arr	125.89	212	PKP		PKPdf	17 55 09.8	-0.6
	comp=Z,1.3nm,0.8s,baz=151,slow=1.6,SNR=16							
WRAB	Tennant Creek	125.90	212	P		PKPdf	17 55 09.9	-0.5
SEY	Seymchan	134.49	333	PKP		PKPdf	17 55 26.7	+1.5
	comp=Z,1.0nm,0.7s,baz=110,slow=6.7,SNR=6.0							
ABKAR	Akbulak array	137.89	46	P		PKPdf	17 55 33.0	+1.1
KAPI	Kappang	145.28	202	PKPbc		PKPab	17 55 46.1	0.0
	comp=Z,13nm,0.7s,baz=191,slow=1.8,SNR=8.5							
KAPI	Kappang	145.28	202	*e*P		PKPdf	17 55 46.3	0.0
KKAR	Karatay Array	146.49	53	*e*P		PKPbc	17 55 48.8	-0.2
ASAJ	Asahikawa	147.65	309	*e*P		PKPbc	17 55 51.8	-0.3
KURK	Kurchatov	148.34	36	*e*P		PKPdf	17 55 51.3	+1.0
EKS2	Erkin-Say	148.92	53	*e*P		PKPdf	17 55 53.4	+1.8
ZAA0	Zalesovo Array	149.03	26	*e*P		PKPdf	17 55 51.9	+0.6
ZALV	Zalesovo Beam	149.03	26	PKP		PKPdf	17 55 51.7	+0.4
	comp=Z,21nm,0.8s,baz=267,slow=2.5,SNR=14							
ZALV				PKPbc		PKiKP	17 55 56.1	-0.6
	comp=Z,21nm,0.8s,baz=308,slow=3.3,SNR=45							
AAK	Ala-Archa	149.43	52	P		PKPbc	17 55 58.9	+1.8
	SNR=6.0							
CHMS	Chumysh	149.49	52	P		PKPbc	17 55 58.5	+1.6
	SNR=11							
UCH	Uchtor	149.57	53	P		PKPbc	17 56 00.1	+2.3
	SNR=8.8							
KBK	Karagaybulak	149.74	52	P		PKPbc	17 55 59.6	+1.8
	SNR=6.1							
TKM2	Tokmak 2	150.10	51	P		PKPbc	17 56 00.5	+1.8
	SNR=6.2							
TKM2	Tokmak 2	150.10	51	*e*P		PKPdf	17 55 53.8	+0.1
KSH	Kashi	151.37	58	*e*PKPbc		PKPbc	17 56 02.8	+1.1
KSH				*e*pPKP		PKPab	17 56 10.4	+0.4
KSH				sPKP			17 56 16.8	
KSH				*e*PP		PP	17 59 49.1	+8.0
MK31	Makanchi Array	152.58	40	*e*PKPdf		PKPdf	17 55 58.0	+0.9
MK31				*e*PKPbc		PKiKP	17 56 04.3	0.0
MKAR	Makanchi Array	152.58	40	PKPbc		PKPbc	17 56 04.3	+0.2
	comp=Z,8.7nm,1.1s,baz=306,slow=1.9,SNR=24							
MJAR	Matsushiro Arr	152.78	296	PKPbc		PKPbc	17 56 04.9	+0.1
	comp=Z,1.4nm,0.8s,baz=158,slow=2.9,SNR=5.0							
WMQ	Urumqi	157.41	40	*e*PKP		PKPdf	17 56 02.3	-1.5
HHC	Hu-ho-hao-te	166.63	347	*e*PKP		PKPdf	17 56 08.9	-4.4
HHC				PP		PP	18 01 02.5	-0.2
HHC				PPMZ				
	comp=Z,65nm,9.7s							
GTA	Gaotai	166.78	27	*e*PKP		PKPdf	17 56 15.3	+1.8
NJ2	Nanjing	169.38	296	*e*PKP		PKPdf	17 56 16.4	+1.1
LZH	Lanzhou	171.20	20	*e*PKP		PKPdf	17 56 15.4	-1.1
LZH				pPKP		pPKPdf	17 56 24.1	-3.9
LZH				sPKP			17 56 28.1	
KMI	Kunming	174.87	121	PKP		PKPdf	17 56 19.3	+0.9
CD2	Chengdu	175.47	47	PKP		PKPdf	17 56 16.8	-1.3

WEL 15 17:42:30.9±0.3, 41.18S×172.91E, h147km±2km, ML3.6/13, 5C-6D, Error ellipse: s-maj=2.0km s-min=1.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNZ	Nelson	0.36	96	PN		Pn	17 42 51.2	-0.1
NNZ				SN		Sn	17 43 05.9	-0.9
QRZ	Quartz Range	0.45	321	⇓PN		Pn	17 42 51.7	0.0
QRZ				SN		Sn	17 43 05.9	-1.6
THZ	Tophouse	0.58	180	⇑PN		Pn	17 42 52.6	+0.1
THZ				SN		Sn	17 43 07.7	-1.2
TUWZ	Tuamarina	0.82	108	⇑PN		Pn	17 42 54.1	+0.2
TUWZ				AML		AML	17 43 11.7	
TUWZ				AML		AML	17 43 12.8	
DUWZ	D'Urville Isla	0.85	64	PN		Pn	17 42 54.4	+0.2
DUWZ				SN		Sn	17 43 11.8	-0.2
BSWZ	Blackbirch Sta	0.90	127	PN		Pn	17 42 54.7	+0.1
BSWZ				AML		AML	17 43 15.2	
DSZ	Denniston Nort	1.00	235	⇓PN		Pn	17 42 55.1	-0.4
TCW	Tory Channel	1.03	92	PN		Pn	17 42 55.9	+0.2
TCW				AML		AML	17 43 14.7	
TCW				AML		AML	17 43 15.3	
CMWZ	Cape Campbell	1.13	120	PN		Pn	17 42 56.9	+0.3
KHZ	Kahutara	1.32	159	⇓PN		Pn	17 42 58.4	0.0
KHZ				AML		AML	17 43 18.0	
KHZ				AML		AML	17 43 18.5	
WEL	Wellington	1.41	95	PN		Pn	17 42 59.0	-0.3
BHW	Baring Head	1.50	99	PN		Pn	17 42 59.7	-0.5
BHW				AML		AML	17 43 22.6	
BHW				AML		AML	17 43 22.7	
CAW	Cannon Point	1.63	88	PN		Pn	17 43 01.2	-0.5
CAW				AML		AML	17 43 25.5	
CAW				AML		AML	17 43 26.5	
LTZ	Lake Taylor	1.67	196	PN		Pn	17 43 01.7	-0.4
OGWZ	Otaki Gorge	1.75	79	PN		Pn	17 43 02.7	-0.3
MSWZ	Moikau Station	1.78	98	PN		Pn	17 43 02.7	-0.6
MSWZ				AML		AML	17 43 27.5	
MSWZ				AML		AML	17 43 27.5	
PLWZ	Palliser	1.81	103	⇑PN		Pn	17 43 03.2	-0.5
PAWZ	Paruwai Farm	1.91	97	PN		Pn	17 43 04.1	-0.7
PAWZ				SN		Sn	17 43 28.5	-2.3
PAWZ				AML		AML	17 43 30.3	
NMEZ	Namu Road	1.92	23	PN		Pn	17 43 05.5	+0.6
MTW	Mount Morrison	1.96	90	PN		Pn	17 43 04.6	-0.7
MTW				AML		AML	17 43 30.3	
MTW				AML		AML	17 43 30.7	
HOWZ	Holdsworth Sta	1.99	83	PN		Pn	17 43 05.2	-0.6
NWEZ	Newall Road	2.04	21	PN		Pn	17 43 05.4	-1.0
LREZ	Lake Rotokare	2.06	34	PN		Pn	17 43 07.4	+0.7
KHEZ	Kahui Hut	2.07	25	PN		Pn	17 43 07.0	+0.2
PREZ	Palmer Road	2.07	28	PN		Pn	17 43 07.1	+0.3
MRZ	Mangatainoka R	2.09	77	⇑PN		Pn	17 43 06.1	-0.8
MRZ				AML		AML	17 43 34.2	
MRZ				AML		AML	17 43 35.2	
TRWZ	Traveller	2.11	97	PN		Pn	17 43 06.6	-0.5
TRWZ				AML		AML	17 43 35.0	
NEZ	North Egmont	2.11	26	PN		Pn	17 43 07.1	-0.2
WAZ	Wanganui	2.13	49	PN		Pn	17 43 07.8	+0.4
PKE	Pukeiti	2.15	23	PN		Pn	17 43 07.9	+0.2
DREZ	Durham Road	2.22	27	PN		Pn	17 43 08.6	0.0
OXZ

KEMA				*i* S	**Sn**	17 44 33.3	-0.3	
BEST	**Besiri**	**1.31**	**131**	*i* P	**Pg**	17 44 16.0	-0.1	
BEST				*i* S	**Sn**	17 44 35.9	+1.9	
ILIC	**ilic-Erzincan**	**1.32**	**302**	*e*PN	**Pg**	17 44 16.7	+0.4	
ILIC	**ilic-Erzincan**	**1.32**	**302**	*e*Pn	**Pg**	17 44 16.7	+0.4	
MALT	**Malatya**	**1.33**	**251**	*e*PN	**Pg**	17 44 16.5	0.0	
MALT	**Malatya**	**1.33**	**251**	*e*Pn	**Pg**	17 44 16.5	0.0	
MAZI	**Mazidag**	**1.35**	**166**	*e*PN	**Pg**	17 44 16.2	-0.5	
MAZI	**Mazidag**	**1.35**	**166**	*e*Pn	**Pg**	17 44 16.2	-0.5	
KELT	**Kelkit**	**1.50**	**337**	*i* P	**Pb**	17 44 19.3	-0.2	
KELT				*i* S	**Sg**	17 44 40.5	+1.2	
KELT	**Kelkit**	**1.50**	**337**	*i* P	**Pb**	17 44 19.3	-0.2	
KELT				*i* S	**Sg**	17 44 40.5	+1.2	
EZM	**Erzurum**	**1.54**	**42**	*e*PN	**Pg**	17 44 20.5	0.0	
ERZM	**Erzurum**	**1.54**	**42**	*i* P	**Pg**	17 44 20.7	+0.2	
ERZM				*i* S	Sg	17 44 46.6	+6.1	
ERZM	**Erzurum**	**1.54**	**42**	*i* P	**Pg**	17 44 20.7	+0.2	
ERZM				*i* S	Sg	17 44 46.6	+6.1	
MARD	**Mardin**	**1.57**	**157**	*i* P	**Pb**	17 44 19.9	-0.6	
MARD				*i* S	**Sg**	17 44 41.2	-0.1	
URFA	**Urfa**	**1.63**	**216**	*e*PN	**Pb**	17 44 21.1	-0.4	
URFA	**Urfa**	**1.63**	**216**	*e*Pn	**Pb**	17 44 21.1	-0.4	
EKAR	**Karacoban**	**1.66**	**72**	*i* P	**Pg**	17 44 24.2	+1.4	
EKAR				*i* S	Sg	17 44 52.3	+7.9	
EKAR	**Karacoban**	**1.66**	**72**	*i* P	**Pg**	17 44 24.2	+1.4	
EKAR				*i* S	Sg	17 44 52.3	+7.9	
AKCD	**Akcadag**	**1.71**	**255**	*i* P	**Pg**	17 44 23.6	-0.2	
AKCD				*i* S	Sg	17 44 54.6	+8.6	
AKCD	**Akcadag**	**1.71**	**255**	*i* P	**Pg**	17 44 23.6	-0.2	
AKCD				*i* S	Sg	17 44 54.6	+8.6	
GUMT	**Gumushane**	**1.74**	**346**	*e*PN	**Pb**	17 44 23.6	+0.2	
GUMT	**Gumushane**	**1.74**	**346**	*e*Pn	**Pb**	17 44 23.7	+0.2	
TATV	**Tatvan**	**1.78**	**98**	*i* P	**Pg**	17 44 24.1	-0.9	
TATV				*i* S	**Sg**	17 44 50.3	+2.3	
TATV	**Tatvan**	**1.78**	**98**	*i* P	**Pg**	17 44 24.1	-0.9	
TATV				*i* S	**Sg**	17 44 50.3	+2.3	
DARE	**Darende-Malaty**	**2.00**	**265**	*e*PN	**Pb**	17 44 26.5	-1.3	
DARE	**Darende-Malaty**	**2.00**	**265**	*e*Pn	**Pb**	17 44 26.5	-1.3	
SUSE	**Susehri**	**2.02**	**316**	*i* P	**Pb**	17 44 28.7	+0.5	
SUSE				*i* S	**Sg**	17 44 55.8	+0.1	
SUSE	**Susehri**	**2.02**	**316**	*i* P	**Pb**	17 44 28.7	+0.5	
SUSE				*i* S	**Sg**	17 44 55.8	+0.1	
EATA	**Eleskirt**	**2.21**	**59**	*i* P	**Pg**	17 44 32.7	-0.5	
EATA	**Eleskirt**	**2.21**	**59**	*i* P	**Pg**	17 44 32.7	-0.5	
KTUT	**Trabzon**	**2.23**	**355**	*e*PN	**Pb**	17 44 30.3	-1.4	
KTUT	**Trabzon**	**2.23**	**355**	*e*Pn	**Pb**	17 44 30.3	-1.4	
SIRT	**Sirnak**	**2.29**	**123**	*e*PN	**Pb**	17 44 30.9	-1.8	
SIRT	**Sirnak**	**2.29**	**123**	*e*Pn	**Pb**	17 44 30.9	-1.8	
ESPY	**Espiye-Giresun**	**2.37**	**335**	*e*PN	**Pb**	17 44 32.3	-1.8	
ESPY	**Espiye-Giresun**	**2.37**	**335**	*e*Pn	**Pb**	17 44 32.3	-1.8	
GEVA	**Gevas**	**2.42**	**100**	*i* P	**Pb**	17 44 34.4	-0.7	
GEVA	**Gevas**	**2.42**	**100**	*i* P	**Pb**	17 44 34.4	-0.7	
AGRB	**Hanur-Agry**	**2.44**	**70**	*e*PN	**Pb**	17 44 33.1	-2.4	
AGRB	**Hanur-Agry**	**2.44**	**70**	*e*Pn	**Pb**	17 44 33.1	-2.4	
DBAD	**Bademkaya**	**2.59**	**29**	*i* P	**Pb**	17 44 35.5	-2.5	
DBAD	**Bademkaya**	**2.59**	**29**	*i* P	**Pb**	17 44 35.5	-2.5	
SVSK	**Karacayir**	**2.61**	**297**	*e*PN	**Pb**	17 44 36.0	-2.2	
SVSK	**Karacayir**	**2.61**	**297**	*e*Pn	**Pb**	17 44 36.0	-2.2	
RSDY	**Resadiye-TOKAT**	**2.65**	**309**	*e*PN	**Pb**	17 44 36.5	-2.3	
RSDY	**Resadiye-TOKAT**	**2.65**	**309**	*e*Pn	**Pb**	17 44 36.5	-2.3	
DAGI	**Agillar**	**2.73**	**32**	*i* P	**Pn**	17 44 37.2	+1.7	
DAGI				*i* S	Sn	17 44 46.8	-22	
KMRS	**Kahramanmaras**	**2.77**	**244**	*e*PN	**Pn**	17 44 37.9	+1.9	
KMRS	**Kahramanmaras**	**2.77**	**244**	*e*Pn	**Pn**	17 44 37.9	+1.9	
DBOC	**Borcka**	**2.87**	**26**	*i* P	**Pn**	17 44 38.9	+1.4	
DBOC	**Borcka**	**2.87**	**26**	*i* P	**Pn**	17 44 38.8	+1.4	
BCA	**Borcka**	**2.94**	**24**	*e*PN	**Pn**	17 44 40.2	+1.8	
BCA	**Borcka**	**2.94**	**24**	*e*Pn	**Pn**	17 44 40.2	+1.8	
HKR	**Hakkari**	**3.16**	**111**	*e*PN	**Pn**	17 44 43.0	+1.5	
HKR	**Hakkari**	**3.16**	**111**	*e*Pn	**Pn**	17 44 43.0	+1.5	
CUKT	**Cukurca**	**3.21**	**117**	*e*PN	**Pn**	17 44 43.8	+1.6	
CUKT	**Cukurca**	**3.21**	**117**	*e*Pn	**Pn**	17 44 43.8	+1.6	
MSL	**Mosul** baz=320	**3.40**	**133**	*e*Pn	x	17 44 46.1		
MSL				*i* Sn	x	17 45 26.9		

*ISCJB **15** 18:00:13.1±0.3,5.°10N±0.°03×126.°90E±0.°05,h76km, mb4.1/21,Error ellipse: s-maj=6.9km s-min=4.1km az=166.7*
*NEIC **15** 18:00:14.6±0.9,5.°16N×126.°90E,h75km±9km,mb4.3/10, Error ellipse: s-maj=11.4km s-min=6.2km az=74.0*
*IDC **15** 18:00:15.0±3.2,5.°14N×126.°89E,h77km±31km,mb3.9/13, mb1 4.0/14,mb1mx3.7/33,mbtmp4.2/14,MS3.2/3, Ms1 3.2/3,ms1mx2.6/34,Error ellipse: s-maj=22.2km s-min=13.4km az=73.0*
*MAN **15** 18:00:21,5.°37N×126.°28E,h13km,mb5.2,ML4.2,MS4.4*
*DJA **15** 18:00:26.0±0.9,4.°4N×12.°7E±.°,h69km±9km,M4.4/13, mb4.5/10,mB4.9/6,MLv4.5/13,Mw(mB)4.1/6*
ISC 15 18:00:14.5±0.5,5.°10N±0.°05×126.°88E±0.°07,h76km,n50, σ1§17/47,**mb4.3**/21,**1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.94**	**342**	*e*P		**Pn**	**18 00 46.4**	**+0.9**
SGSI	**Sangihe**	**1.94**	**224**	P		**Pn**	**18 00 44.8**	**-0.7**
SGSI				S		Sn	18 01 07.2	-1.9
DAV	**Davao City (W)**	**2.35**	**327**	*e*Pn		Pn	18 00 48.9	-2.1
BUKP	**Musuan**	**3.30**	**327**	*e*P		**Pn**	**18 01 05.9**	**+2.0**
BUKP				*e*S		**Sn**	**18 01 40.1**	**-2.0**
CGP	**Cagayan de Oro**	**3.98**	**327**	‖*e*P		Pn	18 01 20.6	+7.5
CGP				*e*S		Sn	18 02 07.2	+8.6
BUTP	**Butuan**	**4.04**	**342**	*e*P		Pn	18 01 18.3	+4.3
TNTI	**Ternate**	**4.32**	**173**	P		**Pn**	**18 01 18.5**	**+0.6**
TNTI	**Ternate**	**4.32**	**173**	*e*Pn		**Pn**	**18 01 18.3**	**+0.5**
TNTI				*e*Sn		**Sn**	**18 02 06.2**	**-0.9**
PAGZ	**Pagadian**	**4.42**	**308**	*e*P		**Pn**	**18 01 20.3**	**+1.1**
KMSI	**Cibinong**	**5.34**	**213**	P		**Pn**	**18 01 32.3**	**+0.6**
MSLP	**Maasin**	**5.39**	**338**	*e*P		Pn	18 01 37.0	+4.6
MRSI	**Marisa** 41nm,0.6s,594nm0.2nm	**6.73**	**227**	P		**Pn**	**18 01 50.8**	**0.0**
SANI	**Sanana** 24nm,1.1s,908nm0.3nm	**7.15**	**187**	P		**Pn**	**18 01 53.4**	**-3.1**
SANI				S		Sn	18 03 06.0	-10
LUWI	**Luwuk** 81nm,0.7s,712nm0.4nm	**7.35**	**214**	P		**Pn**	**18 02 01.1**	**+1.9**
LUWI	**Luwuk** 44nm,0.6s	**7.35**	**214**	*e*Pn		**Pn**	**18 02 01.1**	**+1.9**
SIJI	**Sorong** 1.1nm,0.3s,baz=221,slow=23,SNR=9.5	**7.37**	**143**	P		**Pn**	**18 02 01.2**	**+1.6**
SIJI				S		**Sn**	**18 03 22.1**	**+0.3**
APSI	**Ampana** 48nm,1.1s,532nm0.2nm	**7.93**	**221**	P		Pn	18 02 10.3	+3.2
NLAI	**Namlea** 30nm,0.6s,1μm0.4nm	**8.28**	**178**	P		**Pn**	**18 02 10.4**	**-1.5**
MPSI	**Mapaga** 10nm,1.2s,0.1nm	**8.42**	**236**	P		**Pn**	**18 02 15.7**	**+1.9**
KKM	**Kota Kinabalu**	**10.65**	**276**	*e*Pn		**Pn**	**18 02 45.1**	**+0.7**
KAPI	**Kappang** comp=Z,97nm,20.3s,baz=71,slow=34	**12.31**	**215**	LR		LR	18 07 08.9	
KSM	**Kuching** 14nm,0.8s	**16.92**	**258**	*e*Pn		**P**	**18 04 08.3**	**+0.9**
YHNB	**Yeheng**	**20.17**	**345**	*e*P		**P**	**18 04 44.2**	**+1.2**
LEM	**Lembang** 16nm,0.8s,baz=326,slow=18,SNR=5.1	**22.58**	**239**	P		**P**	**18 05 09.3**	**+0.3**
LEM						LR	18 15 21.5	
WRAB	**Tennant Creek** 5.7nm,0.8s	**25.94**	**164**	*e*P		**P**	**18 05 41.8**	**+1.9**
WRA	**Warramunga Arr** 3.0nm,0.6s,baz=344,slow=10,SNR=27	**25.94**	**164**	P		**P**	**18 05 40.9**	**+0.9**
KULM	**Kulim**	**26.12**	**272**	P		**P**	**18 05 41.1**	**-0.6**
CBIJ	**Chichi jima**	**26.30**	**32**	P		**P**	**18 05 43.1**	**-0.1**
JCJ	**Chichijima** 16nm,0.4s,baz=287,slow=19,SNR=4.2	**26.30**	**32**	P		**P**	**18 05 43.1**	**-0.1**
MBWA	**Marble Bar** 9.9nm,0.9s	**27.02**	**195**	*e*P		**P**	**18 05 49.3**	**-0.3**
ASAR	**Alice Springs** 0.7nm,0.5s,baz=344,slow=6.8,SNR=27	**29.40**	**167**	P		**P**	**18 06 11.6**	**+0.8**
ASAR					PcP	**PcP**	**18 09 15.0**	**-0.4**
CMAR	**Chiang Mai Arr** 0.6nm,0.7s,baz=343,slow=1.3,SNR=5.1	**30.33**	**298**	P		**P**	**18 06 19.2**	**+0.1**
NWAO	**Narrogin (SRO)** 0.3nm,0.6s,baz=96,slow=7.4,SNR=2.8	**38.91**	**193**	P		**P**	**18 07 33.3**	**+0.5**
STKA	**Stephens Creek** 16nm,0.8s,baz=334,slow=5.5,SNR=9.5	**39.35**	**160**	P		**P**	**18 07 37.5**	**+0.9**
STKA	**Stephens Creek** 3.0nm,0.7s,baz=321,slow=11,SNR=7.2	**39.35**	**160**	*e*P		**P**	**18 07 36.0**	**-0.6**
	0.7nm,0.7s							
LSA	**Lhasa** 1.8nm,0.6s	**41.66**	**310**	*e*P		**P**	**18 07 56.8**	**+0.5**
MK31	**Makanchi Array**	**56.53**	**325**	*e*P		**P**	**18 09 48.8**	**-0.2**
MKAR	**Makanchi Array** 1.5nm,0.5s,baz=117,slow=8.0,SNR=17	**56.53**	**325**	P		**P**	**18 09 48.6**	**-0.4**
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=136,slow=6.6,SNR=5.5	**59.45**	**333**	P		**P**	**18 10 11.1**	**+1.8**
KURK	**Kurchatov** 3.7nm,0.6s	**60.68**	**327**	*e*P		**P**	**18 10 17.1**	**-0.6**
BRVK	**Borovoye** 5.0nm,0.7s	**66.33**	**327**	*e*P		P	18 10 58.8	+3.8
TIXI	**Tiksi** 2.1nm,0.4s	**66.48**	**1**	*e*P		**P**	**18 10 56.2**	**+0.6**
ABKAR	**Akbulak array** 1.4nm,0.7s	**71.19**	**320**	*e*P		**P**	**18 11 24.7**	**-0.6**
ARU	**Arti** 3.3nm,0.6s	**73.87**	**327**	*e*P		**P**	**18 11 39.6**	**-1.5**
ILAR	**Eielson Array** 0.5nm,0.6s,baz=241,slow=5.5,SNR=6.5	**83.82**	**25**	P		**P**	**18 12 35.0**	**-0.3**
VNDA	**Vanda** 1.0nm,0.8s,baz=294,slow=5.7,SNR=4.8	**84.75**	**173**	P		**P**	**18 12 40.8**	**+1.0**
ARCES	**ARCESS Array B** 1.3nm,0.7s,baz=69,slow=6.6,SNR=3.9	**89.22**	**340**	P		**P**	**18 13 01.3**	**-0.4**
FINES	**FINESS Array B** 1.0nm,0.6s,baz=64,slow=4.4,SNR=7.1	**90.70**	**332**	P		**P**	**18 13 08.5**	**-0.2**
IDI	**Anoyia** comp=Z,11nm,18.5s,baz=150,slow=38	**96.80**	**306**	LR		LR	19 02 13.5	
TORD	**Tordoii Ar. Bea** 0.6nm,0.7s,baz=60,slow=2.6,SNR=3.6	**122.62**	**289**	PKP		**PKPdf**	**18 19 02.4**	**-0.1**

*ISCJB **15** 18:13:14.9±0.4,6.°86S±0.°08×108.°26E±0.°04,h231km±3km, mb3.8/7,Error ellipse: s-maj=14.3km s-min=4.7km az=20.3*
*DJA **15** 18:13:14.9±0.3,7.°5S±7.°×10.°8E±.°,h232km±3km,M4.2/25, mb4.5/12,mB5.6/2,MLv4.1/25,Mw(mB)5.1/2*
*IDC **15** 18:13:15.8±0.6,6.°64S×108.°41E,h227km±6km,mb3.7/6, mb1 3.9/6,mb1mx3.4/36,mbtmp4.3/6,Error ellipse: s-maj=29.9km s-min=12.8km az=52.0*
ISC 15 18:13:15.7±0.7,6.°84S±0.°09×108.°27E±0.°05,h229km±5km, n32,σ1§22/48,**mb3.8**/7,**Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LEM	**Lembang**	**0.65**	**271**	P		**Pn**	**18 13 47.3**	**+0.4**
LEM				S		**S**	**18 14 11.9**	**+0.7**
LEM	**Lembang** 60nm,0.3s,baz=29,slow=4.3,SNR=190	**0.65**	**271**	P		**Pn**	**18 13 47.5**	**+0.7**
LEM				S		**S**	**18 14 12.7**	**+1.5**
KPJI	**Karang Pucung**	**0.82**	**127**	P		**Pn**	**18 13 48.0**	**+0.5**
KPJI				S		**S**	**18 14 13.0**	**+0.7**
CISI	**Cisompet, Garu**	**0.84**	**212**	P		**Pn**	**18 13 47.0**	**-0.7**
CISI				S		**S**	**18 14 12.0**	**-0.8**
CMJI	**Cimerak**	**0.96**	**169**	P		**Pn**	**18 13 48.0**	**-0.2**
CMJI				S		**S**	**18 14 11.6**	**-2.2**
CNJI	**Cibinong**	**1.22**	**247**	P		**Pn**	**18 13 49.7**	**-0.2**
CNJI				S		**S**	**18 14 15.1**	**-1.5**
CBJI	**Citeko**	**1.47**	**286**	P		**Pn**	**18 13 51.1**	**-0.7**
SKJI	**Sukabumi**	**1.71**	**264**	P		**Pn**	**18 13 54.1**	**+0.3**
SKJI				S		**S**	**18 14 23.8**	**+0.4**
SMRI	**Semarang**	**2.17**	**96**	P		**Pn**	**18 13 58.5**	**+0.4**
SBJI	**Serang**	**2.24**	**288**	P		**S**	**18 14 34.2**	**+1.8**
UGM	**Wanagama**	**2.48**	**116**	P		**Pn**	**18 14 00.9**	**-0.4**
UGM				S		**S**	**18 14 35.6**	**-1.3**
CGJI	**Cibinong**	**2.57**	**275**	P		**Pn**	**18 14 01.4**	**-0.8**
CGJI				S		**S**	**18 14 35.3**	**-3.2**
UWJI	**Ujung Watu**	**2.69**	**81**	P		**Pn**	**18 14 03.9**	**+0.4**
TBJI	**Tambak Boyo**	**3.55**	**90**	P		**Pn**	**18 14 13.7**	**+0.4**
PWJI	**Pagerwojo**	**3.70**	**109**	P		**Pn**	**18 14 14.1**	**-0.9**
PWJI				S		**S**	**18 15 00.3**	**-1.3**
KASI	**Kota Agung**	**3.97**	**289**	P		**Pn**	**18 14 18.5**	**+0.2**
KASI				S		**S**	**18 15 05.4**	**-2.1**
LWLI	**Liwa**	**4.56**	**293**	P		**Pn**	**18 14 26.7**	**+1.1**
LWLI				S		**S**	**18 15 21.9**	**+1.2**
MDSI	**Maura Dua**	**4.69**	**300**	P		**Pn**	**18 14 27.6**	**+0.5**
BLJI	**Banyuglugur** 52nm,0.4s,0.3nm	**5.36**	**100**	P		**Pn**	**18 14 35.4**	**0.0**
LHSI	**Lahat** 43nm,0.8s,0.2nm	**5.59**	**302**	P		**Pn**	**18 14 39.0**	**+0.7**
MNAI	**Manna** 394nm,0.5s,22μm2.6nm	**5.83**	**295**	P		**Pn**	**18 14 40.7**	**-0.7**
ABJI	**Asem Bagus** 108nm,0.6s,0.4nm	**5.99**	**100**	P		**Pn**	**18 14 44.1**	**+0.7**
BKNI	**Bangkinang** 76nm,0.5s	**10.13**	**314**	P		**Pn**	**18 15 35.9**	**-0.4**
MNSI	**Mandalling Nat** 39nm,0.7s	**11.52**	**311**	P		**Pn**	**18 15 50.7**	**-3.2**
GSI	**Gunungsitoli** 39nm,0.5s	**13.39**	**307**	P		Pn	18 16 12.7	-4.5
CMAR	**Chiang Mai Arr** 0.6nm,0.4s,baz=172,slow=8.4,SNR=14	**26.77**	**340**	P		**P**	**18 18 34.2**	**-0.5**
WRA	**Warramunga Arr** 1.0nm,0.5s,baz=298,slow=12,SNR=41	**28.45**	**120**	P		**P**	**18 18 50.0**	**+0.2**
WRA				PcP		**PcP**	**18 21 55.1**	**-0.8**
ASAR	**Alice Springs** 5.9nm,0.7s,baz=303,slow=8.4,SNR=135	**29.77**	**127**	P		**P**	**18 19 02.1**	**+0.8**
ASAR				PcP		**PcP**	**18 21 59.4**	**+0.2**
ASAR	0.4nm,0.3s,baz=300,slow=1.9,SNR=4.8			S		**S**	**18 23 39.8**	**-1.0**
ASAR	1.0nm,0.8s,baz=297,slow=14,SNR=8.3			ScP		**ScP**	**18 25 19.9**	**+0.5**
STKA	**Stephens Creek** 13nm,0.5s,baz=310,slow=8.7,SNR=67	**39.82**	**133**	P		**P**	**18 20 28.5**	**+1.4**
MKAR	**Makanchi Array** 0.1nm,0.6s,baz=156,slow=8.6,SNR=2.3	**58.17**	**339**	P		**P**	**18 22 43.8**	**-2.0**
MKAR	0.8nm,0.7s,baz=152,slow=7.9,SNR=5.9			pP		**pP**	**18 23 38.1**	**+1.0**
MAW	**Mawson** 1.3nm,0.6s,baz=27,slow=9.0,SNR=2.2	**67.89**	**197**	P		**P**	**18 23 50.8**	**+1.6**
VNDA	**Vanda** 1.0nm,0.4s,baz=331,slow=5.9,SNR=14	**75.90**	**170**	P		**P**	**18 24 38.1**	**+1.5**

*CSEM **15** 18:16:19.1±0.2,39.°54N×16.°19E,h20km,ML2.8/4,Error ellipse: s-maj=5.6km s-min=2.8km az=67.0*
ROM 15 18:16:18.4±0.3,39.°54N×16.°20E,h3km±3km,Md2.6/23, **Ml2.2**/17,**Error ellipse: s-maj=3.0km s-min=1.4km az=61.0,Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MMN	**Mormanno**	**0.39**	**336**	Pg		Pb	18 16 27.2	-0.7
MMN				Sg		Sb	18 16 32.9	-1.3
MMN	**Mormanno** 255nm,0.2s	**0.39**	**336**	Pg		Pb	18 16 27.2	-0.7
MMN				Sg		Sb	18 16 32.9	-1.3
CUC	**Castrocucco** 255nm,0.2s	**0.54**	**327**	Pg		Pb	18 16 29.8	-0.8
CUC				Sg		Sb	18 16 38.4	-0.5
CUC	**Castrocucco** 117nm,0.3s	**0.54**	**327**	Pg		Pb	18 16 29.8	-0.8
CUC				Sg		Sb	18 16 38.4	-0.5
ORI	**Oriolo Calabro** 49nm,0.8s	**0.56**	**20**	Pg		Pg	18 16 29.7	+0.5
ORI				Sg		Sb	18 16 38.5	-0.8
ORI	**Oriolo Calabro** 308nm,0.4s	**0.56**	**20**	Pg		Pg	18 16 29.7	+0.5
ORI				Sg		Sb	18 16 38.5	-0.8
TIP	**Timpagrande** 49nm,0.8s	**0.56**	**129**	Pg		Pb	18 16 30.5	-0.5
TIP				Sg		Sb	18 16 39.1	-0.4
TIP	**Timpagrande** 49nm,0.8s	**0.56**	**129**	Pg		Pb	18 16 30.5	-0.5
TIP				Sg		Sb	18 16 39.1	-0.4
SERS	**Sersale** 73nm,0.3s	**0.63**	**143**	Pg		Pb	18 16 31.7	-0.5
SERS	**Sersale** 73nm,0.3s	**0.63**	**143**	Pg		Pb	18 16 31.7	-0.5
LADO	**San Nicola del** 207nm,0.6s	**0.66**	**112**	Pg		Pg	18 16 31.7	+0.6
LADO	**San Nicola del** 207nm,0.6s	**0.66**	**112**	Pg		Pg	18 16 31.7	+0.6
SCHR	**S. Chirico Rap** 42nm,0.5s	**0.67**	**352**	Pg		Pg	18 16 32.1	+0.7
SIRI	**Monte Sirino -** 109nm,0.3s	**0.69**	**339**	Pg		Pb	18 16 33.1	-0.2
SIRI	**Monte Sirino -** 109nm,0.3s	**0.69**	**339**	Pg		Pb	18 16 33.1	-0.2
GRI	**Girifalco** 96nm,0.4s	**0.73**	**166**	Pg		Pb	18 16 34.6	+0.7
GRI	**Girifalco**	**0.73**	**166**	Pg		Pb	18 16 34.6	+0.7
	96nm,0.4s							
MGR	**Morigerati**	**0.78**	**321**	Pg		Pg	18 16 33.9	+0.5
MGR				Sg		Sb	18 16 46.2	+0.6
MGR	**Morigerati**	**0.78**	**321**	Pg		Pg	18 16 33.9	+0.5
MGR				Sg		Sb	18 16 46.2	+0.6
MTSN	**Montesano sull** 26nm,0.4s	**0.80**	**335**	Pg		Pb	18 16 35.1	-0.1
MTSN	**Montesano sull** 26nm,0.4s	**0.80**	**335**	Pg		Pb	18 16 35.1	-0.1
BULG	**Bulgheria - Ca** 111nm,0.4s	**0.83**	**311**	Pg		Pb	18 16 35.8	+0.2
BULG	**Bulgheria - Ca** 111nm,0.4s	**0.83**	**311**	Pg		Pb	18 16 35.8	+0.2
MCEL	**Monticello** 50nm,0.6s	**0.84**	**339**	Pg		Pb	18 16 35.5	-0.3
MCEL	**Monticello** 50nm,0.6s	**0.84**	**339**	Pg		Pb	18 16 35.5	-0.3
CMPR	**Campora** 48nm,0.5s	**1.04**	**319**	Pg		Pg	18 16 38.3	-0.2
CMPR	**Campora** 48nm,0.5s	**1.04**	**319**	Pg		Pg	18 16 38.3	-0.2
MIGL	**Miglionico**	**1.08**	**10**	Pg		Pg	18 16 39.4	+0.2
MIGL	**Miglionico**	**1.08**	**10**	Pg		Pg	18 16 39.4	+0.2
PLAC	**Placanica**	**1.10**	**170**	Pg		Pn	18 16 41.1	+0.3
PLAC	**Placanica**	**1.10**	**170**	Pg		Pn	18 16 41.1	+0.3
CDRU	**Civita di Ruta** 27nm,0.2s	**1.17**	**324**	Pg		Pg	18 16 40.6	-0.5
CDRU	**Civita di Ruta** 27nm,0.2s	**1.17**	**324**	Pg		Pg	18 16 40.6	-0.5
SGO	**Sicignano** 21nm,0.4s	**1.23**	**326**	Pg		Pg	18 16 41.7	-0.4
SGO	**Sicignano** 21nm,0.4s	**1.23**	**326**	Pg		Pg	18 16 41.7	-0.4
CEL	**Celeste** 40nm,0.5s	**1.30**	**191**	Pg		Pg	18 16 42.8	-0.6
CEL	**Celeste** 40nm,0.5s	**1.30**	**191**	Pg		Pg	18 16 42.8	-0.6
MSCL	**Scilla**	**1.34**	**194**	Pg		Pn	18 16 43.4	-0.7
MSCL	**Scilla**	**1.34**	**194**	Pg		Pn	18 16 43.4	-0.7
MSRU	**Castanea** 116nm,0.4s	**1.38**	**203**	Pg		Pn	18 16 43.7	-0.9
MSRU	**Castanea** 116nm,0.4s	**1.38**	**203**	Pg		Pn	18 16 43.7	-0.9
AMUR	**Altamura**	**1.40**	**13**	Pg		Pg	18 16 46.2	+0.8
AMUR	**Altamura**	**1.40**	**13**	Pg		Pg	18 16 46.2	+0.8
NOCI	**Noci**	**1.42**	**28**	Pg		Pg	18 16 45.9	+0.3
NOCI	**Noci**	**1.42**	**28**	Pg		Pg	18 16 45.9	+0.3
MCRV	**Calabrutti - M** 20nm,0.7s	**1.47**	**328**	Pg		Pg	18 16 46.9	+0.1
MCRV	**Calabrutti - M** 20nm,0.7s	**1.47**	**328**	Pg		Pg	18 16 46.9	+0.1

*CSEM **15** 18:16:43.9±0.4,44.°34N×17.°76E,h2km,ML1.9,Error ellipse: s-maj=15.9km s-min=5.5km az=10.0*
BEO 15 18:16:45.6±0.9,44.°32N×17.°75E,h0km,ML1.9/7,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HAPS	**Han Pijesak,Bl**	**0.90**	**105**	*e*Pg		Pb	18 17 04.5	+0.3
HAPS				*e*Sg		Sg	18 17 13.6	-1.1
BBLS	**Lazići**	**1.28**	**110**	*i* Pg		Pg	18 17 08.3	-1.9
BBLS				*e*Sg		Sb	18 17 27.3	-0.4
BBLS	**Lazići**	**1.28**	**110**	*i* Pg		Pg	18 17 08.3	-1.9
BBLS				*e*Sg		Sb	18 17 27.3	-0.4
TEKS	**Tekeris**	**1.29**	**79**	*i* Pg		Pg	18 17 08.7	-1.8
TEKS				*e*Sg		Sg	18 17 26.4	-0.9
TEKS	**Tekeris**	**1.29**	**79**	*i* Pg		Pg	18 17 08.7	-1.8
TEKS				*e*Sg		Sg	18 17 26.4	-0.9
UDBI	**Udbina**	**1.44**	**279**	*e*Pn		Pn	18 17 10.3	-2.7
UDBI				Sn		Sb	18 17 32.5	+0.2
UDBI	**Udbina**	**1.44**	**279**	*e*Pn		Pn	18 17 10.3	-2.7
UDBI				Sn		Sb	18 17 32.4	+0.1
STON	**Ston**	**1.45**	**181**	*e*Pn		Pn	18 17 10.8	-2.2
STON				Sn		Sg	18 17 31.4	-0.7
STON	**Ston**	**1.45**	**181**	*e*Pn		Pn	18 17 10.8	-2.2
DIVS	**Divibare**	**1.63**	**97**	*e*Pg		Pb	18 17 14.6	-1.1
DIVS				*e*Sg		Sn	18 17 36.9	-0.5
DIVS	**Divibare**	**1.63**	**97**	*e*Pg		Pb	18 17 14.6	-1.1
DIVS				*e*Sg		Sn	18 17 36.9	-0.5
IVAS	**Ivanjica**	**1.89**	**112**	*e*Pg		Pn	18 17 18.4	-0.8
IVAS				*e*Sg		Sg	18 17 47.1	+0.6
IVAS	**Ivanjica**	**1.89**	**112**	*e*Pg		Pn	18 17 18.4	-0.8
IVAS		

STVI	Saint Thomas	1.16 157	ePn	Pb	19 05 53.6	-0.1		
STVI			eSn	Sb	19 06 04.5	-3.8		
ABV	Anegada	1.25 123	eP	Pb	19 05 54.8	-0.5		
ABV	Anegada	1.25 123	eS	Sb	19 06 11.2	+0.3		
ABV	Anegada	1.25 123	eP	Pb	19 05 54.8	-0.5		
ABV			eS	Sb	19 06 11.2	+0.3		
TBVI	Tortola	1.27 142	eP	Pb	19 05 54.8	-0.7		
TBVI			eS	Sb	19 06 12.1	+0.7		
TBVI	Tortola	1.27 142	eP	Pb	19 05 54.8	-0.7		
TBVI			eS	Sb	19 06 12.1	+0.7		
TBVI	Tortola	1.27 142	ePn	Pb	19 05 55.0	-0.6		
TBVI			eSn	Sb	19 06 13.4	+2.0		
HUMP	Col San Antoni	1.33 197	eP	Pb	19 05 55.9	-0.8		
HUMP	Col San Antoni	1.33 197	eP	Pb	19 05 55.9	-0.8		
HUMP	Col San Antoni	1.33 197	ePn	Pn	19 05 55.0	-0.5		
HUMP			eSn	Sn	19 06 12.3	-0.1		
SJG	San Juan	1.47 208	eP	Pn	19 05 57.7	+0.4		
SJG			eS	Sb	19 06 17.4	+0.2		
SJG	San Juan	1.47 208	eP	Pn	19 05 57.7	+0.4		
SJG			eS	Sb	19 06 17.4	+0.2		
SJG	San Juan	1.47 208	ePn	Pn	19 05 57.1	-0.2		
SJG			eSn	Sn	19 06 16.0	+0.2		
AOPR	Arecibo Observ	1.64 230	eP	Pn	19 05 60.0	+0.2		
AOPR	Arecibo Observ	1.64 230	eS	Sn	19 06 21.1	+1.0		
AOPR	Arecibo Observ	1.64 230	eP	Pn	19 05 60.0	+0.2		
AOPR			eS	Sn	19 06 21.1	+1.0		
AOPR	Arecibo Observ	1.64 230	ePn	Pn	19 05 59.6	-0.1		
AOPR			eSn	Sn	19 06 20.9	+0.7		
CELP	Cerrillos	1.72 219	eP	Pn	19 06 01.0	+0.1		
CELP			eS	Sb	19 06 23.6	-0.9		
CELP	Cerrillos	1.72 219	eP	Pn	19 06 01.0	+0.1		
CELP			eS	Sb	19 06 23.6	-0.9		
CELP	Cerrillos	1.72 219	ePn	Pn	19 06 00.9	+0.1		
CELP			eSn	Sb	19 06 25.9	+1.3		
OBIP	Obispado Ponce	1.76 219	eP	Pn	19 06 01.7	+0.3		
OBIP	Obispado Ponce	1.76 219	eS	Sn	19 06 24.2	+1.1		
OBIP	Obispado Ponce	1.76 219	eP	Pn	19 06 01.7	+0.3		
OBIP			eS	Sn	19 06 24.2	+1.1		
OBIP	Obispado Ponce	1.76 219	ePn	Pn	19 06 01.9	+0.5		
OBIP			eSn	Sb	19 06 28.0	+2.3		
ICMP	Isla Caja de M	1.84 214	ePn	Pn	19 06 03.0	+0.5		
ICMP			eSn	Sb	19 06 27.5	-0.5		
AGP	Aguadilla	1.90 238	ePn	Pn	19 06 03.0	-0.4		
AGP			eSn	Sn	19 06 26.1	-0.5		
GBPR	Guanica, Bosqu	1.99 224	eP	Pn	19 06 05.1	+0.7		
GBPR	Guanica, Bosqu	1.99 224	eP	Pn	19 06 05.1	+0.7		
LSP	Las Mesas	2.00 232	eP	Pn	19 06 05.3	+0.7		
LSP	Las Mesas	2.00 232	eP	Pn	19 06 05.3	+0.7		
LSP	Las Mesas	2.00 232	ePn	Pn	19 06 05.0	+0.4		
LSP			eSn	Sn	19 06 29.6	+0.7		
MPR	Mayaguez	2.01 234	ePn	Pn	19 06 02.9	-1.9		
MPR			eSn	Sb	19 06 32.7	-0.2		
CRPR	Cabo Rojo, PR	2.12 229	eS	Sn	19 06 32.4	+0.5		
CRPR	Cabo Rojo, PR	2.12 229	eP	Pn	19 06 06.5	+0.2		
CRPR	Cabo Rojo, PR	2.12 229	eP	Pn	19 06 06.5	+0.2		
CRPR			eS	Sn	19 06 32.4	+0.5		
CRPR	Cabo Rojo, PR	2.12 229	ePn	Pn	19 06 07.1	+0.8		
CRPR			eSn	Sn	19 06 32.0	+0.1		
IDE	Isla Desecheo	2.19 242	eP	Pn	19 06 07.6	+0.4		
IDE	Isla Desecheo	2.19 242	eP	Pn	19 06 07.6	+0.4		
SDDR	Presa de Saban	5.55 266	eP	Pn	19 06 54.3	+0.8		
SDDR	Presa de Saban	5.55 266	eP	Pn	19 06 54.3	+0.8		
SDDR	Presa de Saban	5.55 266	ePn	Pn	19 06 54.0	+0.5		
ROSC	El Rosal	16.88 212	LR	LR	19 17 27.6			
	comp=Z,48nm,18.1s,baz=5.0,slow=42							
PTGA	Pitinga	20.73 164	P	P	19 10 10.7	-0.6		
	2.8nm,0.6s,baz=340,slow=12,SNR=5.1							
PTGA			LR	LR	19 19 14.3			
	comp=Z,60nm,18.2s,baz=340,slow=40							
JTS	JuntasAbangare	20.91 247	P	P	19 10 13.2	-0.1		
	6.3nm,0.8s,baz=97,slow=6.1,SNR=3.5							
OTAV	Otavalo	22.94 215	eP	P	19 10 37.5	+2.1		
	15nm,1.4s							
ATAH	Atahualpa	29.32 207	LR	LR	19 23 52.2			
	comp=Z,77nm,21.2s,baz=26,slow=38							
TXAR	Lajitas Array	36.05 293	P	P	19 12 32.5	+0.2		
	1.2nm,0.7s,baz=110,slow=10.0,SNR=16							
PDAR	Pinedale Array	43.73 312	P	P	19 13 36.1	0.0		
	0.4nm,0.4s,baz=96,slow=8.3,SNR=2.1							
PDAR			LR	LR	19 33 31.3			
	comp=Z,19nm,18.6s,baz=86,slow=38							
NVAR	Mina Array Bea	49.30 304	P	P	19 14 20.5	+0.7		
	0.4nm,0.6s,baz=80,slow=7.7,SNR=2.5							
TORD	Torodi Ar. Bea	64.41 84	P	P	19 16 07.6	+0.6		
	0.4nm,0.7s,baz=282,slow=7.2,SNR=2.8							
TORD			LR	LR	19 42 48.7			
	comp=Z,22nm,18.7s,baz=215,slow=35							
NOA	NORSAR Array B	66.75 31	LR	LR	19 43 48.2			
	comp=Z,16nm,18.5s,baz=330,slow=34							
ILAR	Eielson Array	68.97 333	P	P	19 16 34.6	-0.7		
	6.3nm,0.3s,baz=111,slow=4.9,SNR=7.9							
FINES	FINESS Array B	73.86 30	LR	LR	19 44 20.5			
	comp=Z,14nm,21.3s,baz=250,slow=32							
KSH	Kashi	111.17 31	ePKP	PKiKP	19 24 03.6	-0.9		
KSH			sPKP		19 24 17.3			
KSH			ePP	PP	19 24 45.6	+2.7		
WMQ	Urumqi	112.42 21	ePKP	PKiKP	19 24 04.1	-2.6		
NJ2	Nanjing	128.65 355	ePKP	PKPdf	19 24 35.4	-2.6		
ASAR	Alice Springs	161.52 253	PKPab	PKPab	19 26 16.4	-0.2		
	0.4nm,0.7s,baz=103,slow=4.7,SNR=8.9							

ISCJB ***15*** *19:14:42.7±0.3, 70.˙18N±0.˙02×13.˙28E±0.˙07, h10km, mb4.0/19, MS3.0/4, Error ellipse: s-maj=3.9km s-min=2.9km az=36.5*

CSEM ***15*** *19:14:42.7±0.1, 70.˙27N×12.˙96E, h2km, mb4.1/8, Error ellipse: s-maj=3.6km s-min=2.6km az=100.0*

IDC ***15*** *19:14:43.8±0.7, 70.˙23N×12.˙98E, h0km, mb3.9/13, mb1 4.0/19, mb1mx3.8/43, mbtmp3.9/19, ML3.9/6, MS2.9/7, Ms1 2.9/7, ms1mx2.6/36, Error ellipse: s-maj=13.9km s-min=8.9km az=94.0*

NAO ***15*** *19:14:43.5±1.0, 70.˙29N×13.˙41E, ML3.3*

HEL ***15*** *19:14:44.6±0.2, 70.˙27N×13.˙23E, h10km, ML4.1, ML3.2(BER), ML2.4(UPP)*

NEIC ***15*** *19:14:45.0±0.3, 70.˙22N×13.˙05E, h10km, mb4.2/9, Error ellipse: s-maj=6.8km s-min=5.3km az=99.0*

BER ***15*** *19:14:45.8±1.6, 70.˙29N×13.˙09E, h15km±46km, MD3.3, ML3.2, ML3.3(NAO)*

KOLA ***15*** *19:14:49.5, 71.˙93N×16.˙13E, h0km*

UPP ***15*** *19:14:51.6, 69.˙92N×14.˙15E, h0km, ML2.4*

ISC 15 19:14:44.7±0.4, 70.˙18N±0.˙03×13.˙38E±0.˙04, h10km, n251, σ1§66/294, mb4.1/19, MS3.0/4, 4D, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TRO	Tromso			i P	Pn		19 15 18.3	-0.1
TRO				eS	Sn		19 15 41.7	-1.7
TRO				IAML			19 15 42.4	
	comp=Z,894nm,0.4s							
TRO	Tromso			eP	Pn		19 15 18.3	-0.1
TRO				eS	Sn		19 15 41.1	-2.2
TRO	Tromso			i P	Pn		19 15 18.3	-0.1
	SNR=62							
LOF	Lofoten	2.06	178	eP	Pn		19 15 19.0	-0.3
LOF				eS	Sn		19 15 45.0	0.0
LOF				IAML			19 15 45.9	
	comp=Z,821nm,0.3s							
LOF	Lofoten	2.06	178	eP	Pn		19 15 19.0	-0.3
LOF				eS	Sn		19 15 45.0	0.0
LOF				IAML			19 15 45.9	
	comp=Z,821nm,0.3s							
LOF	Lofoten	2.06	178	eP	Pn		19 15 19.0	-0.3
	SNR=62							
LOF				eS	Sn		19 15 45.0	0.0
	SNR=62							
KIF	Kilpisjarvi	2.86	111	eP	Pn		19 15 32.0	+1.8
KIF				eS	Sn		19 16 05.2	+0.6
	SNR=62							
KIF	Kilpisjarvi	2.86	111	eP	Pn		19 15 32.0	+1.9
KIF				eS	Sn		19 16 05.4	+0.8
KIF				MSN			19 16 07.5	
	comp=Z,568nm,0.3s							
KIF	Kilpisjarvi	2.86	111	eP	Pn		19 15 32.0	+1.8
	SNR=62							
KIF				eS	Sn		19 16 05.2	+0.6
	SNR=62							
HAMF	Hammerfest	3.50	78	i P	Pn		19 15 39.3	+0.2
HAMF				i			19 15 47.1	
HAMF				eS	Sn		19 16 18.1	-2.5
HAMF	Hammerfest	3.50	78	i P	Pn		19 15 39.3	+0.2
	SNR=62							
KTK1	Kautokeino	3.65	104	eP	Pn		19 15 43.3	+2.2
KTK1				eS	Sn		19 16 23.6	-0.5
KTK1				IAML			19 16 27.2	
	comp=N,377nm,0.4s							
KTK1	Kautokeino	3.65	104	eP	Pn		19 15 43.1	+1.9
KTK1				eS	Sn		19 16 23.8	-0.3
KTK1	Kautokeino	3.65	104	P	Pn		19 15 43.0	+1.9
KTK1				eS	Sn		19 16 23.6	-0.5
	SNR=59							
KONS	Konsvik	3.70	182	eP	Pn		19 15 42.2	+0.4
KONS				eS	Sn		19 16 23.7	-1.6
KONS				IAML			19 16 27.3	
	comp=Z,116nm,0.4s							
KONS	Konsvik	3.70	182	eP	Pn		19 15 42.2	+0.4
KONS				eS	Sn		19 16 23.7	-1.6
KONS				IAML			19 16 27.3	
	comp=Z,116nm,0.4s							
KONS	Konsvik	3.70	182	P	Pn		19 15 42.2	+0.4
LANU	Lannavaara	3.75	121	eP	Pn		19 15 44.8	+2.2
LANU	Lannavaara	3.75	121	P	Pn		19 15 44.7	+2.2
FLOS	Flostrand	3.86	180	eP	Pn		19 15 45.1	+1.0
FLOS				eS	Sn		19 16 30.4	+1.1
FLOS				IAML			19 16 34.2	
	comp=Z,156nm,0.4s							
FLOS	Flostrand	3.86	180	eP	Pn		19 15 45.1	+1.0
FLOS				eS	Sn		19 16 30.4	+1.1
FLOS				IAML			19 16 34.2	
	comp=Z,156nm,0.4s							
FLOS	Flostrand	3.86	180	P	Pn		19 15 45.0	+1.0
FLOS				S	Sn		19 16 30.4	+1.1
STOK	Stokkvaagen	3.87	182	eP	Pn		19 15 44.6	+0.5
STOK				eS	Sn		19 16 26.9	-2.6
STOK				IAML			19 16 30.8	
	comp=Z,113nm,0.5s							
STOK	Stokkvaagen	3.87	182	eP	Pn		19 15 44.6	+0.5
STOK				eS	Sn		19 16 26.9	-2.6
STOK				IAML			19 16 30.8	
	comp=Z,113nm,0.5s							
STOK	Stokkvaagen	3.87	182	P	Pn		19 15 44.6	+0.5
STOK				eS	Sn		19 16 26.9	-2.6
	SNR=59							
MOR8	Moi Rana	4.04	174	eP	Pn		19 15 46.4	-0.2
MOR8				eS	Sn		19 16 31.4	-2.5
MOR8				IAML			19 16 35.6	
	comp=Z,136nm,0.4s							
MOR8	Moi Rana	4.04	174	eP	Pn		19 15 46.4	-0.2
MOR8				eS	Sn		19 16 31.4	-2.5
MOR8				IAML			19 16 35.6	
	comp=Z,136nm,0.4s							
MOR8	Moi Rana	4.04	174	P	Pn		19 15 46.3	-0.2
MOR8				eS	Sn		19 16 31.4	-2.5
	SNR=59							
HEF	Hetta	4.06	111	eP	Pn		19 15 48.8	+2.0
HEF				eS	Sn		19 16 35.0	+0.7
HEF	Hetta	4.06	111	eP	Pn		19 15 48.7	+1.8
HEF				eS	Sn		19 16 33.9	-0.4
HEF				MSN			19 16 37.4	
	comp=Z,84nm,0.2s							
HEF	Hetta	4.06	111	P	Pn		19 15 48.6	+1.8
HEF				eS	Sn		19 16 35.0	+0.7
	SNR=59							
ARA0	ARCESS Array S	4.24	93	Pn	Pn		19 15 50.6	+1.3
	baz=274,slow=12							
ARA0				Sn	Sn		19 16 37.7	-1.1
	baz=285,slow=22							
ARA0	ARCESS Array S	4.24	93	Pn	Pn		19 15 50.6	+1.3
	baz=274,slow=12							
ARA0				Sn	Sn		19 16 37.7	-1.1
	baz=285,slow=22							
ARA0	ARCESS Array S	4.24	93	eP	Pn		19 15 50.6	+1.3
ARA0				eS	Sn		19 16 37.7	-1.1
ARA0	ARCESS Array S	4.24	93	P	Pn		19 15 50.6	+1.3
ARCES	ARCESS Array B	4.24	93	Pn	Pn		19 15 50.7	+1.4
	comp=Z,8.4nm,0.3s,baz=296,slow=11,SNR=379							
ARCES				Sn	Sn		19 16 38.0	-0.8
	comp=Z,45nm,0.3s,baz=278,slow=20,SNR=7.6							
ARE0	ARCESS Array S	4.24	93	eP	Pn		19 15 50.8	+1.4
ARE0				eS	Sn		19 16 37.8	-1.0
ARE0				IAML			19 16 54.7	
	comp=Z,213nm,0.3s							
ARE0	ARCESS Array S	4.24	93	eP	Pn		19 15 50.7	+1.4
ARE0				eP	Pn		19 15 50.8	+1.4
ARE0				eS	Sn		19 15 37.8	-1.0
ARE0				IAML			19 16 54.7	
	comp=Z,213nm,0.3s							
ARE0	ARCESS Array S	4.24	93	ePn	Pn		19 15 50.3	+1.0
ARE0	ARCESS Array S	4.24	93	P	Pn		19 15 50.6	+1.3
ARE0	ARCESS Array S	4.24	93	ePn	Pn		19 15 50.3	+1.0
ARE0				eSn	Sn		19 16 38.5	-0.3
BJO1	Bjornoya	4.67	19	eP	Pn		19 15 53.0	-2.1
BJO1				eS	Sn		19 16 41.5	-7.8
BJO1				IAML			19 16 43.2	
	comp=Z,51nm,0.4s							
BJO1	Bjornoya	4.67	19	P	Pn		19 15 53.0	-2.1
BJO	Bjornoya	4.69	19	Pn	Pn		19 15 52.8	-2.6
BJO	Bjornoya	4.69	19	Pn	Pn		19 15 52.9	-2.6
BJO				eP	Pn		19 15 53.0	-2.4
BJO				eS	Sn		19 16 41.5	-8.4
BJO				IAML			19 16 43.2	
	comp=Z,51nm,0.4s							
BJO	Bjornoya	4.69	19	eP	Pn		19 15 52.8	-2.6
BJO	Bjornoya	4.69	19	Pn	Pn		19 15 52.8	-2.6
	SNR=62							
KEV	Kevo	4.71	89	eP	Pn		19 15 56.7	+1.1
KEV				eS	Sn		19 16 49.1	-1.0
KEV	Kevo	4.71	89	eP	Pn		19 15 56.9	+1.3
KEV				eS	Sn		19 16 48.0	-2.1
KEV				MSN			19 16 51.0	
	comp=Z,171nm,0.3s							
KEV	Kevo	4.71	89	ePn	Pn		19 15 56.5	+0.9
KEV	Kevo	4.71	89	P	Pn		19 15 56.8	+1.1
KEV				eS	Sn		19 16 49.1	-1.0
	SNR=59							
KEV	Kevo	4.71	89	ePn	Pn		19 15 56.5	+0.9
KEV				eSn	Sn		19 16 46.5	-3.7
LILU	Lilltraesk	5.49	150	eP	Pn		19 16 08.0	+1.5
LILU				eS	Sn		19 17 08.6	-1.0
LILU	Lilltraesk	5.49	150	P	Pn		19 16 07.9	+1.5
LILU	Lilltraesk	5.49	150	P	Pn		19 16 08.0	+1.5
LILU				S	Sn		19 17 08.6	-1.0
SGF	Sodankyl	5.50	114	eP	Pn		19 16 07.8	+1.2
SGF	Sodankyl	5.50	114	P	Pn		19 16 07.7	+1.2
NSS	Namsos	5.70	186	eP	Pn		19 16 10.4	+1.2
NSS				eS	Sn		19 17 12.8	-1.8
NSS				IAML			19 17 18.5	
	comp=Z,34nm,0.4s							
NSS	Namsos	5.70	186	eP	Pn		19 16 10.4	+1.2
NSS				eS	Sn		19 17 12.8	-1.8
NSS				IAML			19 17 18.5	
	comp=Z,34nm,0.4s							
NSS	Namsos	5.70	186	P	Pn		19 16 10.4	+1.2
RNF	Rovaniemi	5.88	121	eP	Pn		19 16 12.7	+0.9
RNF	Rovaniemi	5.88	121	P	Pn		19 16 12.6	+0.9
SVAU	Svanoeiden	6.19	154	eP	Pn		19 16 17.9	+2.0
SVAU	Svanoeiden	6.19	154	P	Pn		19 16 17.9	+2.0
SVAU	Svanoeiden	6.19	154	P	Pn		19 16 17.9	+2.0
VRF	Varrio	6.32	105	eP	Pn		19 16 18.9	+1.0
VRF				eS	Sn		19 17 27.1	-3.0
VRF				MSN			19 17 30.8	
	comp=Z,114nm,0.3s							
VRF	Varrio	6.32	105	P	Pn		19 16 18.8	+1.0
BURU	Burvik	6.40	147	eP	Pn		19 16 21.1	+2.1
BURU				eS	Sn		19 17 29.3	-2.7
BURU	Burvik	6.40	147	P	Pn		19 16 21.0	+2.1
BURU	Burvik	6.40	147	P	Pn		19 16 21.1	+2.1
BURU				S	Sn		19 17 29.3	-2.7
BREU	Bredtraesk	6.63	160	eP	Pn		19 16 23.1	+1.0
BREU	Bredtraesk	6.63	160	P	Pn		19 16 23.1	+1.0
BREU	Bredtraesk	6.63	160	P	Pn		19 16 23.1	+1.0
NOD	Norderasen	6.79	174	eP	Pn		19 16 25.7	+1.4
NOD				eS	Sn		19 17 40.1	-1.4
NOD	Norderasen	6.79	174	P	Pn		19 16 25.7	+1.4
NOD	Norderasen	6.79	174	P	Pn		19 16 25.7	+1.4
NOD				S	Sn		19 17 40.1	-1.4
HSPB	Hornsund (broa	6.89	4	eP	Pn		19 16 22.4	-3.1
HSPB				eS	Sn		19 17 31.5	-12
HSPB				IAML			19 17 35.8	
	comp=Z,4.4nm,0.5s							
HSPB	Hornsund (broa	6.89	4	eP	Pn		19 16 22.4	-3.1
	SNR=57							
HSP	Hornsund	6.90	4	Pn	Pn		19 16 22.2	-3.4
HSP	Hornsund	6.90	4	Pn	Pn		19 16 22.2	-3.4
UMAU	Umeaa	6.93	152	eP	Pn		19 16 27.8	+1.7
UMAU	Umeaa	6.93	152	P	Pn		19 16 27.8	+1.7
UMAU	Umeaa	6.93	152	P	Pn		19 16 27.8	+1.7
OUL	Oulu	6.98	131	eP	Pn		19 16 28.4	+1.5
OUL	Oulu	6.98	131	P	Pn		19 16 28.3	+1.5
SOLU	Sollefteaa	7.13	166	eP	Pn		19 16 29.9	+1.0
SOLU	Sollefteaa	7.13	166	P	Pn		19 16 29.8	+1.0
SOLU	Sollefteaa	7.13	166	P	Pn		19 16 29.9	+1.0
HOPEN	Hopen	7.17	22	Pn	Pn		19 16 27.1	-2.2
HOPEN	Hopen	7.17	22	eP	Pn		19 16 27.2	-2.2
HOPEN				eS	Sn		19 17 40.0	-11
HOPEN				IAML			19 17 44.6	
	comp=Z,26nm,0.4s							
HOPEN	Hopen	7.17	22	eP	Pn		19 16 27.2	-2.2
HOPEN				eS	Sn		19 17 40.0	-11
HOPEN				IAML			19 17 44.6	
	comp=Z,26nm,0.4s							
HOPEN	Hopen	7.17	22	eP	Pn		19 16 27.2	-2.2
	SNR=57							
MSF	Maaselka	7.25	119	eP	Pn		19 16 31.3	+0.7
MSF	Maaselka	7.25	119	P	Pn		19 16 31.2	+0.7
JNW	Jan Mayen West	7.29	287	eP	Pn		19 16 26.6	-4.5
JNW	Jan Mayen West	7.29	287	eP	Pn		19 16 26.6	-4.5
JNW	Jan Mayen West	7.29	287	P	Pn		19 16 26.6	-4.5
JMI	Jan Mayen	7.40	286	eP	Pn		19 16 28.6	-4.0
JMI	Jan Mayen	7.40	286	eP	Pn		19 16 28.6	-4.0
JMI	Jan Mayen	7.40	286	P	Pn		19 16 28.5	-4.0
KU6	Riekki	7.43	116	eP	Pn		19 16 33.6	+0.6
KU6	Riekki	7.43	116	P	Pn		19 16 33.6	+0.6
APA0	Apatity Array	7.52	101	Pn	Pn		19 16 34.6	+0.4
	baz=308,slow=12							
APA0				Sn	Sn		19 17 53.8	-5.7
	baz=300,slow=28							
APA0	Apatity Array	7.52	101	Pn	Pn		19 16 34.6	+0.4
	baz=308,slow=12							
APA0				Sn	Sn		19 17 53.8	-5.7
	baz=300,slow=28							
APA0	Apatity Array	7.52	101	eP	Pn		19 16 34.6	+0.4
APA0				eS	Sn		19 17 53.8	-5.7
APA0	Apatity Array	7.52	101	P	Pn		19 16 34.4	+0.2
APA0				S	Sn		19 17 53.7	-5.7
APA0	Apatity Array	7.52	101	Pn	Pn		19 16 34.7	+0.4
	baz=308,slow=12,SNR=62							
APA	Apatity	7.68	100	P	Pn		19 16 36.5	+0.1
APA				S	Sn		19 17 56.9	-6.3
HEMU	Hemsoen	7.76	164	eP	Pn		19 16 38.2	+0.7
HEMU	Hemsoen	7.76	164	P	Pn		19 16 38.2	+0.7
HEMU	Hemsoen	7.76	164	P	Pn		19 16 38.2	+0.7
LVZ	Lovozero	7.94	97	eP	Pn		19 16 40.2	+0.1
	comp=Z,37nm,0.6s							
LVZ	Lovozero	7.94	97	eP	Pn		19 16 40.2	+0.1
	comp=Z,37nm,0.6s							
LVZ				eSn	Sn		19 18 00.7	-9.2
MOL	Molde	7.99	200	eP	Pn		19 16 39.3	-1.3
MOL				eS	Sn		19 18 03.3	-7.6
MOL				IAML			19 18 08.2	
	comp=Z,19nm,0.4s							
MOL	Molde	7.99	200	eP	Pn		19 16 39.3	-1.3
MOL				eS	Sn		19 18 03.3	-7.6
MOL				IAML			19 18 08.2	
	comp=Z,19nm,0.4s							
MOL	Molde	7.99	200	eP	Pn		19 16 39.3	-1.3
	SNR=57							
VAF	Ylistaro	8.05	148	eP	Pn		19 16 43.0	+1.4
VAF				eS	Sn		19 18 08.2	-4.2
VAF	Ylistaro	8.05	148	P	Pn		19 16 42.9	+1.4
SPA0	Spitsbergen Ar	8.09	4	Pn	Pn		19 16 39.6	-2.3
	baz=177,slow=14							
SPA0				Sn	Sn		19 18 01.9	-11
	baz=189,slow=28							
SPA0	Spitsbergen Ar	8.09	4	Pn	Pn		19 16 39.6	-2.3
	baz=177,slow=14							
SPA0				eP	Pn		19 16 40.3	-1.7
SPA0				Sn	Sn		19 18 01.9	-11
	baz=189,slow=28							
SPA0	Spitsbergen Ar	8.09	4	e	Pn		19 16 39.6	-2.3
SPA0				eP	Pn		19 16 40.3	-1.7
SPA0				e			19 18 01.9	
SPA0	Spitsbergen Ar	8.09	4	Pn	Pn		19 16 39.7	-2.3
	baz=177,slow=14,SNR=62							
SPITS	Spitsbergen Ar	8.09	4	Pn	Pn		19 16 40.3	-1.7
	baz=162,slow=17,SNR=39							
HASU	Hassela	8.16	169	eP	Pn		19 16 43.9	+0.8
HASU				eS	Sn		19 18 10.7	-4.5
HASU	Hassela	8.16	169	P	Pn		19 16 43.8	+0.8
HASU	Hassela	8.16	169	P	Pn		19 16 43.9	+0.8
HASU				S	Sn		19 18 10.7	-4.5
KJN	Kajaani	8.26	131	eP	Pn		19 16 45.3	+0.9
KJN				MSN			19 18 16.1	
	comp=Z,30nm,0.2s							
KJN	Kajaani	8.26	131	P	Pn		19 16 45.2	+0.9
AKN	Aaknes	8.43	201	Pn	Pn		19 16 46.7	-0.1
AKN	Aaknes	8.43	201	eP	Pn		19 16 45.8	-1.0
AKN				Pn	Pn		19 16 46.7	-0.1
AKN				eS	Sn		19 18 15.4	-6.5
AKN				IAML			19 18 20.3	
	comp=Z,17nm,0.7s							
AKN	Aaknes	8.43	201	eP	Pn		19 16 45.8	-1.0
AKN				e			19 16 46.7	
AKN				eS	Sn		19 18 15.4	-6.5
AKN				IA

HFS				Sn	Sn	19 18 57.3	-5.2
	comp=Z,1.8nm,0.3s,baz=15,slow=23,SNR=7.9						
HFS				LR	LR	19 20 26.0	
	comp=Z,14nm,20.8s,baz=312,slow=34						
HFS	**Hagfors**	**10.09**	**179**	*eP*	**Pn**	19 17 09.9	+0.5
OSTU	**Oestervaala**	**10.11**	**169**	*eP*	**Pn**	19 17 09.8	+0.1
OSTU	**Oestervaala**	**10.11**	**169**	P	**Pn**	19 17 09.8	+0.1
OSTU	**Oestervaala**	**10.11**	**169**	P	**Pn**	19 17 09.8	+0.1
GRAU	**Graesoe**	**10.11**	**165**	*eP*	**Pn**	19 17 10.2	+0.5
GRAU				*eS*	**Sn**	19 18 57.5	-5.5
GRAU	**Graesoe**	**10.11**	**165**	P	**Pn**	19 17 10.2	+0.5
GRAU	**Graesoe**	**10.11**	**165**	P	**Pn**	19 17 10.2	+0.5
GRAU				S	**Sn**	19 18 57.5	-5.5
FIA1	**FINESS Array S**	**10.17**	**143**	*ePn*	**Pn**	19 17 11.2	+0.7
FIA1	**FINESS Array S**	**10.17**	**143**	*ePn*	**Pn**	19 17 11.2	+0.7
FIA1				*eSn*	Sn	19 18 57.1	-7.3
FIA0	**FINESS Array S**	**10.17**	**143**	Pn	**Pn**	19 17 11.4	+0.9
	baz=339,slow=10						
FIA0				Sn	Sn	19 18 58.4	-6.1
	baz=345,slow=22						
FIA0	**FINESS Array S**	**10.17**	**143**	Pn	**Pn**	19 17 11.4	+0.9
	baz=339,slow=10						
FIA0				Sn	Sn	19 18 58.4	-6.1
	baz=345,slow=22						
FIA0	**FINESS Array S**	**10.17**	**143**	*eP*	**Pn**	19 17 11.4	+0.9
FIA0				*eS*	Sn	19 18 58.4	-6.1
FIA0	**FINESS Array S**	**10.17**	**143**	P	**Pn**	19 17 11.4	+0.9
FINES	**FINESS Array B**	**10.17**	**143**	Pn	**Pn**	19 17 11.6	+1.1
	comp=Z,2.0nm,0.3s,baz=338,slow=10,SNR=81						
FINES				Sn	Sn	19 18 58.3	-6.1
	comp=Z,6.1nm,0.3s,baz=345,slow=19,SNR=16						
ASK	**Askoy**	**10.30**	**203**	*eP*	**Pn**	19 17 11.8	-0.5
ASK	**Askoy**	**10.30**	**203**	*eP*	**Pn**	19 17 11.8	-0.5
AAL	**Aland**	**10.41**	**161**	*eP*	**Pn**	19 17 14.3	+0.5
AAL				*eS*	Sn	19 19 03.8	-6.5
AAL	**Aland**	**10.41**	**161**	P	**Pn**	19 17 14.2	+0.5
AAL	**Aland**	**10.41**	**161**	P	**Pn**	19 17 13.8	0.0
KONO	**Kongsberg**	**10.69**	**190**	*ePn*	**Pn**	19 17 14.8	-2.9
BORG	**Borgarnes**	**14.20**	**265**	LR	LR	19 22 20.3	
	comp=Z,81nm,21.2s,baz=95,slow=32						
EKA	**Eskdalemuir Ar**	**16.60**	**215**	Pn	**Pn**	19 18 36.2	-1.0
	baz=18,slow=12,SNR=7.6						
ESK	**Eskdalemuir**	**16.63**	**215**	Pn	**Pn**	19 18 36.3	-1.2
ESK	**Eskdalemuir**	**16.63**	**215**	Pn	**Pn**	19 18 36.3	-1.2
NKC	**Novy Kostel**	**20.02**	**182**	*eP*	Pn	19 19 24.1	+5.1
NKC				*ex*	x	19 19 30.7	
MORC	**Moravsky Berou**	**20.56**	**172**	P	Pn	19 19 27.3	+1.8
	comp=Z,18nm,1.1s						
AKASG	**Malin Array Be**	**20.91**	**151**	P	**P**	19 19 28.1	+1.2
	comp=Z,5.2nm,0.6s,baz=341,slow=11,SNR=16						
AKBB	**Malin Array Si**	**20.91**	**151**	*eP*	**P**	19 19 27.9	+1.0
AKBB	**Malin Array Si**	**20.91**	**151**	*eP*	**P**	19 19 27.9	+1.0
KIEV	**Kiev**	**20.91**	**151**	*eP*	**P**	19 19 28.0	+1.0
	comp=Z,14nm,0.9s						
KIEV	**Kiev**	**20.91**	**151**	*eP*	**P**	19 19 27.9	+1.0
	comp=Z,14nm,0.9s						
AK01	**Malin Array Si**	**20.92**	**151**	*eP*	**P**	19 19 27.7	+0.7
AK01	**Malin Array Si**	**20.92**	**151**	*eP*	**P**	19 19 27.7	+0.7
AK02	**Malin Array Si**	**20.95**	**151**	*eP*	**P**	19 19 28.2	+0.9
AK02	**Malin Array Si**	**20.95**	**151**	*eP*	**P**	19 19 28.2	+0.9
KHC	**Kasperske Hory**	**21.11**	**180**	*eP*	**P**	19 19 32.0	+2.8
KHC				*epP*	pP	19 19 40.3	+8.2
KHC				*ex*	x	19 19 44.8	
KHC	**Kasperske Hory**	**21.11**	**180**	P	**P**	19 19 32.0	+2.8
GERES	**GERESS Array B**	**21.40**	**179**	P	**P**	19 19 35.0	+2.7
	comp=Z,2.2nm,0.8s,baz=9.2,slow=11,SNR=15						
GERES				LR	LR	19 28 27.8	
	comp=Z,31nm,18.1s,baz=60,slow=38						
BUR08	**Bucovina Ar. S**	**23.32**	**160**	*eP*	**P**	19 19 52.6	-0.1
BUR08	**Bucovina Ar. S**	**23.32**	**160**	*eP*	**P**	19 19 52.6	-0.1
ARU	**Arti**	**23.77**	**102**	*eP*	**P**	19 19 58.0	+1.1
	comp=Z,11nm,0.6s						
ARU	**Arti**	**23.77**	**102**	*eP*	**P**	19 19 58.0	+1.1
	comp=Z,11nm,0.6s						
AKTO	**Aktyubinsk**	**28.61**	**110**	P	P	19 20 44.2	+3.5
	comp=Z,0.7nm,0.4s,baz=300,slow=8.6,SNR=4.3						
AKTO				LR	LR	19 32 29.4	
	comp=Z,42nm,19.5s,baz=340,slow=37						
ABKAR	**Akbulak array**	**30.25**	**109**	*eP*	**P**	19 20 56.7	+1.4
	comp=Z,2.3nm,0.8s						
ABKAR	**Akbulak array**	**30.25**	**109**	*eP*	**P**	19 20 56.7	+1.4
	comp=Z,2.3nm,0.8s						
BRVK	**Borovoye**	**30.47**	**94**	*eP*	**P**	19 20 58.8	+1.6
BRVK	**Borovoye**	**30.47**	**94**	*eP*	**P**	19 20 58.8	+1.6
BVAR	**Borovoye Array**	**30.53**	**94**	P	**P**	19 21 00.1	+2.3
	comp=Z,3.1nm,0.7s,baz=322,slow=9.4,SNR=13						
TIP	**Timpagrande**	**31.11**	**175**	P	**P**	19 21 04.4	+1.3
TIP	**Timpagrande**	**31.11**	**175**	P	**P**	19 21 04.4	+1.3
BR131	**Keskin Array S**	**32.31**	**150**	*eP*	**P**	19 21 14.3	+0.7
	comp=Z,0.5nm,0.5s						
BR131	**Keskin Array S**	**32.31**	**150**	*eP*	**P**	19 21 14.3	+0.7
	comp=Z,0.5nm,0.5s						
BRTR	**Keskin Array B**	**32.31**	**150**	P	P	19 21 17.2	+3.6
	comp=Z,1.6nm,0.6s,baz=342,slow=6.3,SNR=8.4						
TIXI	**Tiksi**	**32.31**	**32**	*eP*	**P**	19 21 14.3	+1.1
TIXI	**Tiksi**	**32.31**	**32**	*eP*	**P**	19 21 14.3	+1.1
ZALV	**Zalesovo Beam**	**34.67**	**80**	P	**P**	19 21 35.9	+2.0
	comp=Z,1.1nm,0.5s,baz=321,slow=9.3,SNR=4.7						
KURK	**Kurchatov**	**35.27**	**89**	*eP*	**P**	19 21 40.8	+1.7
	comp=Z,5.9nm,1.1s						
KURK	**Kurchatov**	**35.27**	**89**	*eP*	**P**	19 21 40.8	+1.7
	comp=Z,6.0nm,1.1s						
KURBB	**Kurchatov Arra**	**35.32**	**89**	P	**P**	19 21 41.7	+2.2
	comp=Z,1.4nm,0.5s,baz=331,slow=6.9,SNR=21						
SCHQ	**Schefferville**	**36.84**	**288**	LR	LR	19 34 12.5	
	comp=Z,46nm,20.2s,baz=254,slow=32						
CSS	**Prodhromos**	**36.91**	**152**	P	**P**	19 21 55.2	+1.9
CSS	**Prodhromos**	**36.91**	**152**	P	**P**	19 21 55.2	+1.9
KKAR	**Karatay Array**	**39.14**	**103**	*eP*	**P**	19 22 14.7	+2.7
	comp=Z,1.9nm,0.8s						
KKAR	**Karatay Array**	**39.14**	**103**	*eP*	**P**	19 22 14.7	+2.7
	comp=Z,1.9nm,0.8s						
MK31	**Makanchi Array**	**39.88**	**89**	*eP*	**P**	19 22 20.0	+1.8
MK31	**Makanchi Array**	**39.88**	**89**	*eP*	**P**	19 22 20.0	+1.8
MKAR	**Makanchi Array**	**39.88**	**89**	P	**P**	19 22 20.3	+2.1
	comp=Z,1.2nm,0.6s,baz=343,slow=8.0,SNR=18						
MKAR				LR	LR	19 39 09.6	
	comp=Z,24nm,19.4s,baz=296,slow=37						
EKS2	**Erkin-Say**	**40.62**	**100**	P	**P**	19 22 25.5	+1.0
EKS2	**Erkin-Say**	**40.62**	**100**	P	**P**	19 22 25.6	+1.0
BILL	**Bilibino**	**40.82**	**15**	*eP*	**P**	19 22 25.3	-0.3
	comp=Z,3.8nm,0.9s						
BILL	**Bilibino**	**40.82**	**15**	*eP*	**P**	19 22 25.3	-0.3
	comp=Z,3.8nm,0.9s						
TKM2	**Tokmak 2**	**41.01**	**98**	P	**P**	19 22 29.3	+1.5
	comp=Z,3.6nm,0.9s						
TKM2	**Tokmak 2**	**41.01**	**98**	P	**P**	19 22 29.3	+1.5
	comp=Z,3.6nm,0.9s						
ILAR	**Eielson Array**	**44.63**	**348**	P	**P**	19 22 56.5	-0.1
	comp=Z,0.9nm,0.8s,baz=359,slow=6.1,SNR=9.6						
GTA	**Gaotai**	**52.35**	**78**	*eP*	**P**	19 23 59.3	+2.8
GTA				pP	pP	19 24 06.3	+6.6
GTA				sP	sP	19 24 08.8	+7.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TOA0	**Torodi Ar. Sit**	**57.46**	**194**	*eP*	**P**	19 24 34.5	+1.0
TOA0	**Torodi Ar. Sit**	**57.46**	**194**	*eP*	**P**	19 24 34.5	+1.0
TORD	**Torodi Ar. Bea**	**57.46**	**194**	P	**P**	19 24 34.8	+1.3
	comp=Z,2.8nm,0.8s,baz=359,slow=7.1,SNR=20						
USRK	**Ussuriysk Ar.**	**57.62**	**48**	P	**P**	19 24 33.9	-0.4
	comp=Z,1.3nm,0.7s,baz=342,slow=6.6,SNR=4.8						
WMOK	**Wichita Mounta**	**64.71**	**302**	P	**P**	19 25 23.3	+0.7
WMOK	**Wichita Mounta**	**64.71**	**302**	P	**P**	19 25 23.3	+0.7
MJAR	**Matsushiro Arr**	**66.40**	**46**	P	**P**	19 25 34.0	+0.5
	comp=Z,0.2nm,0.4s,baz=352,slow=7.6,SNR=4.7						
TXAR	**Lajitas Array**	**71.17**	**305**	P	**P**	19 26 02.6	-0.8
	comp=Z,0.2nm,0.6s,baz=46,slow=3.6,SNR=4.3						
ASAR	**Alice Springs**	**122.28**	**69**	PKP	**PKPdf**	19 33 39.2	-0.1
	comp=Z,0.6nm,0.7s,baz=342,slow=1.7,SNR=6.4						

*NEIC **15** 19:29:08.0, 19°.10N×64°.80W, h89km, MG3.7(RSPR), After RSPR.*

RSPR 15 19:29:08.6, 19°.10N×64°.79W, h89km±14km, MD3.6/8, 9C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.57**	**130**↑	*eP*	Pn	19 29 21.5	-2.4
TBVI	**Tortola**	**0.70**	**166**↑	*eP*	Pn	19 29 24.2	-0.8
STVI	**Saint Thomas**	**0.76**	**192**↑	*eP*	Pn	19 29 24.6	-1.1
STVI	**Saint Thomas**	**0.76**	**192**	*eS*	Sn	19 29 38.6	+0.2
STVI	**Saint Thomas**	**0.76**	**192**	*ePn*	Pn	19 29 24.2	-1.5
STVI				*eSn*	Sn	19 29 37.3	-1.1
HUMP	**Col San Antoni**	**1.39**	**227**↓	*eP*	Pn	19 29 32.6	-0.3
SJG	**San Juan**	**1.62**	**233**↑	*eP*	Pn	19 29 35.3	-0.6
SJG				*eS*	Sn	19 29 56.3	-0.2
SJG	**San Juan**	**1.62**	**233**	*ePn*	Pn	19 29 35.2	-0.7
CELP	**Cerrillos**	**1.98**	**239**↓	*eP*	Pn	19 29 40.5	-0.1
CELP				*eS*	Sn	19 30 04.0	-0.9
CELP	**Cerrillos**	**1.98**	**239**	*ePn*	Pn	19 29 40.0	-0.5
CELP				*eSn*	Sn	19 30 04.5	-0.4
AOPR	**Arecibo Observ**	**2.01**	**248**↑	*eP*	Pn	19 29 40.4	-0.6
OBIP	**Obispado Ponce**	**2.02**	**239**↑	*eP*	Pn	19 29 40.8	-0.2
OBIP	**Obispado Ponce**	**2.02**	**239**	*ePn*	Pn	19 29 40.7	-0.3
ICMP	**Isla Caja de M**	**2.04**	**234**	*ePn*	Pn	19 29 41.3	-0.1
GBPR	**Guanica, Bosqu**	**2.27**	**241**↓	*eP*	Pn	19 29 45.6	+1.2
LSP	**Las Mesas**	**2.36**	**247**↑	*eP*	Pn	19 29 45.6	0.0
LSP	**Las Mesas**	**2.36**	**247**	*ePn*	Pn	19 29 44.5	-1.2
CRPR	**Cabo Rojo, PR**	**2.45**	**244**↑	*eP*	Pn	19 29 46.4	-0.5
CRPR	**Cabo Rojo, PR**	**2.45**	**244**	*ePn*	Pn	19 29 46.2	-0.6
SDDR	**Presa de Saban**	**6.15**	**270**↑	*eP*	Pn	19 30 36.2	-0.7
SDDR	**Presa de Saban**	**6.15**	**270**	*ePn*	Pn	19 30 36.0	-1.0
	23nm,0.6s						
SDDR				*eSn*	Sn	19 31 41.2	-4.7

IDC 15 20:08:37.0±2.9, 10°.48N×90°.86E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/27, mbtmp3.2/3, ML3.5/1, Error ellipse: s-maj=75.7km s-min=36.6km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.14**	**44**	Pn	Pn	20 11 17.8	+0.1
	0.1nm,0.3s,baz=235,slow=14,SNR=4.5						
H08S3	**Diego Garcia H**	**25.65**	**226**	T	T	20 40 45.7	
	baz=50						
H08S2	**Diego Garcia H**	**25.66**	**226**	T	T	20 40 39.7	
	baz=50						
H08S1	**Diego Garcia H**	**25.67**	**226**	T	T	20 40 34.4	
	baz=50						
MKAR	**Makanchi Array**	**36.92**	**350**	P	P	20 15 47.5	-0.1
	0.3nm,0.7s,baz=169,slow=8.4,SNR=3.5						
WRA	**Warramunga Arr**	**52.40**	**125**	P	P	20 17 51.4	-0.1
	0.2nm,0.7s,baz=309,slow=8.4,SNR=2.6						

*ISCJB **15** 20:18:36.4±0.5, 5°.49S±0°.05×128°.9E±0°.1, h300km, mb3.7/10, Error ellipse: s-maj=17.2km s-min=6.5km az=172.7*

*IDC **15** 20:18:39.2±1.7, 5°.49S×129°.21E, h319km±18km, mb3.4/10, mb1 3.5/13, mb1mx3.3/34, mbtmp4.1/13, Error ellipse: s-maj=27.2km s-min=8.9km az=76.0*

ISC 15 20:18:37.6±0.7, 5°.53S±0°.07×129°.0E±0°.2, h300km, n13, σ1§33/17, mb3.8/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.14**	**26**	P	**Pn**	20 19 59.2	+2.3
	1.8nm,0.3s,baz=215,slow=22,SNR=15						
SIJI				S	**S**	20 20 59.4	-1.3
	6.3nm,0.3s,baz=224,slow=22,SNR=15						
WRA	**Warramunga Arr**	**15.23**	**161**	P	**P**	20 21 58.7	+1.4
	1.5nm,0.3s,baz=340,slow=11,SNR=90						
WRA				S	**S**	20 24 41.0	-2.2
	0.3nm,0.3s,baz=344,slow=21,SNR=5.2						
ASAR	**Alice Springs**	**18.64**	**166**	P	**P**	20 22 35.7	+1.5
	1.0nm,0.3s,baz=344,slow=9.9,SNR=76						
ASAR				S	**S**	20 25 48.5	-2.1
	0.3nm,0.3s,baz=349,slow=22,SNR=10						
STKA	**Stephens Creek**	**28.73**	**157**	P	**P**	20 24 09.1	+1.1
	2.1nm,0.7s,baz=332,slow=9.3,SNR=5.7						
JCJ	**Chichijima**	**34.84**	**21**	P	**P**	20 25 00.5	-0.6
	24nm,0.7s,baz=274,slow=19,SNR=2.7						
CMAR	**Chiang Mai Arr**	**38.05**	**309**	P	**P**	20 25 28.5	+0.4
	0.4nm,0.6s,baz=129,slow=7.1,SNR=3.5						
KSRS	**Korea Array**	**42.77**	**359**	P	**P**	20 26 06.4	+0.2
	1.0nm,0.6s,baz=170,slow=9.5,SNR=3.8						
USRK	**Ussuriysk Ar.**	**49.57**	**3**	P	**P**	20 26 57.8	-1.0
	0.8nm,0.4s,baz=181,slow=6.9,SNR=4.1						
MKAR	**Makanchi Array**	**66.47**	**327**	P	**P**	20 28 55.6	+0.2
	1.2nm,0.4s,baz=114,slow=8.5,SNR=35						
MKAR				PcP	**PcP**	20 29 22.2	-0.2
	0.7nm,0.9s,baz=120,slow=5.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**69.84**	**334**	P	**P**	20 29 15.3	-0.7
	1.5nm,0.5s,baz=120,slow=5.6,SNR=6.6						
KURBB	**Kurchatov Arra**	**70.76**	**329**	P	**P**	20 29 21.7	+0.1
	2.3nm,0.8s,baz=129,slow=4.9,SNR=27						
AKTO	**Aktyubinsk**	**82.32**	**322**	P	**P**	20 30 25.6	-0.5
	0.6nm,0.4s,baz=122,slow=9.5						
ILAR	**Eielson Array**	**92.44**	**25**	P	**P**	20 31 13.2	-1.1
	0.2nm,0.5s,baz=270,slow=1.8,SNR=3.4						

*BJI **15** 20:30:45.4, 64°.40N×21°.60E, h10km, mb4.5/2, mB4.4/2, Ms4.0/2*

*IDC **15** 20:30:48.2±0.7, 64°.45N×21°.22E, h0km, mb3.5/4, mb1 3.6/13, mb1mx3.5/39, mbtmp3.5/13, ML3.6/8, MS2.4/3, Ms1 2.5/3, ms1mx2.1/38, Error ellipse: s-maj=9.4km s-min=8.0km az=122.0*

*CSEM **15** 20:30:49.8±0.1, 64°.50N×21°.27E, h15km, mb4.0/4, Error ellipse: s-maj=3.0km s-min=2.1km az=115.0*

*BER **15** 20:30:50.9±2.9, 64°.52N×21°.39E, h10km, MD3.7, ML3.5, ML3.4(NAO)*

*NAO **15** 20:30:50.2±1.4, 64°.53N×21°.44E, h11km±11km, ML3.4*

*UPP **15** 20:30:51.4, 64°.50N×21°.25E, h22km, ML2.8*

*NEIC **15** 20:30:51.4, 64°.50N×21°.25E, h22km, mb4.1/7, ML3.6(HEL), ML3.6(UPP), After UPP.*

NEIC Felt [IV] at Skelleftea and [III] at Umea. Also felt at Lulea and Ornskoldsvik. Felt at Haukipudas, Kalajoki, Kokkola, Pedersorenkunta, Pietarsaari, Tornio and Ylivieska, Finland.

*HEL **15** 20:30:51.2±0.1, 64°.49N×21°.32E, h22km, ML3.5, ML3.5(BER), ML2.8(UPP)*

*KOLA **15** 20:30:51.5, 67°.10N×18°.96E, h0km*

ISC 15 20:30:49.3±0.5, 64°.48N±0°.01×21°.16E±0°.02, h24km±3km, n284, σ1§94/401, mb3.6/8, 9C-5D, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BURU	**Burvik**	**0.14**	**43**	*i* P	**Pb**	20 30 55.4	+1.3
BURU				*i* S	**Sb**	20 30 58.4	+1.1
BURU	**Burvik**	**0.14**	**43**	P	**Pb**	20 30 55.4	+1.3
BURU				S	**Sb**	20 30 58.4	+1.1
BURU	**Burvik**	**0.14**	**43**	P	**Pb**	20 30 55.4	+1.3
BURU				S	**Sb**	20 30 58.5	+1.1
BURU	**Burvik**	**0.14**	**43**	P	**Pb**	20 30 55.4	+1.3
BURU				S	**Sb**	20 30 58.5	+1.1
BURU	**Burvik**	**0.14**	**43**	⇑P	**Pb**	20 30 55.4	+1.3
BURU				S	**Sb**	20 30 58.5	+1.1
UMAU	**Umeaa**	**0.64**	**199**	*i* P	**Pn**	20 31 03.7	+0.8
UMAU				*i* S	**Sn**	20 31 12.3	+0.1
UMAU	**Umeaa**	**0.64**	**199**	P	**Pn**	20 31 03.6	+0.8
UMAU				S	**Sn**	20 31 12.2	+0.1
UMAU	**Umeaa**	**0.64**	**199**	P	**Pn**	20 31 03.6	+0.8
UMAU				S	**Sn**	20 31 12.4	+0.2
UMAU	**Umeaa**	**0.64**	**199**	P	**Pn**	20 31 03.7	+0.8
UMAU				S	**Sn**	20 31 12.3	+0.1
UMAU	**Umeaa**	**0.64**	**199**	⇑P	**Pn**	20 31 03.7	+0.8
UMAU				S	**Sn**	20 31 12.3	+0.1
SVAU	**Svanoeiden**	**0.69**	**272**	⇓*i* P	**Pn**	20 31 05.0	+1.5
SVAU				*i* S	**Sn**	20 31 15.0	+1.6
SVAU	**Svanoeiden**	**0.69**	**272**	P	**Pn**	20 31 04.9	+1.5
SVAU				S	**Sn**	20 31 14.9	+1.6
SVAU	**Svanoeiden**	**0.69**	**272**	P	**Pn**	20 31 05.0	+1.5
SVAU				S	**Sn**	20 31 15.0	+1.6
SVAU	**Svanoeiden**	**0.69**	**272**	P	**Pn**	20 31 05.0	+1.5
SVAU				S	**Sn**	20 31 15.0	+1.6
SVAU	**Svanoeiden**	**0.69**	**272**	⇓P	**Pn**	20 31 05.0	+1.5
SVAU				S	**Sn**	20 31 15.0	+1.6
LILU	**Lilltraesk**	**0.98**	**326**	*i* P	**Pn**	20 31 09.3	+1.8
LILU				*i* S	**Sn**	20 31 22.2	+1.6
LILU	**Lilltraesk**	**0.98**	**326**	P	**Pn**	20 31 09.2	+1.8
LILU				S	**Sn**	20 31 22.2	+1.6
LILU	**Lilltraesk**	**0.98**	**326**	P	**Pn**	20 31 09.3	+1.8
LILU				S	**Sn**	20 31 22.3	+1.6
LILU	**Lilltraesk**	**0.98**	**326**	P	**Pn**	20 31 09.3	+1.8
LILU				S	**Sn**	20 31 22.2	+1.6
LILU	**Lilltraesk**	**0.98**	**326**	P	**Pn**	20 31 09.3	+1.8
LILU				S	**Sn**	20 31 22.2	+1.6
SJUU	**Sjulsmark**	**1.05**	**10**↑	*i* P	**Pb**	20 31 09.5	+0.9
SJUU				*i* S	**Sn**	20 31 22.9	+0.7
SJUU	**Sjulsmark**	**1.05**	**10**	P	**Pb**	20 31 09.5	+0.9
SJUU				S	**Sn**	20 31 22.9	+0.7
SJUU	**Sjulsmark**	**1.05**	**10**	P	**Pb**	20 31 09.6	+0.9
SJUU				S	**Sn**	20 31 23.0	+0.7
SJUU	**Sjulsmark**	**1.05**	**10**	P	**Pb**	20 31 09.5	+0.9
SJUU				S	**Sn**	20 31 22.9	+0.7
SJUU	**Sjulsmark**	**1.05**	**10**	P	**Pb**	20 31 09.5	+0.9
SJUU				S	**Sn**	20 31 22.9	+0.7
VAF	**Ylistaro**	**1.60**	**154**	*eP*	**Pb**	20 31 18.3	+0.3
VAF				*eS*	**Sb**	20 31 38.5	+0.8
VAF				*eSB*	**Sn**	20 31 39.1	+3.2
VAF				MSG		20 31 40.3	
	comp=Z,459nm,0.1s						
VAF	**Ylistaro**	**1.60**	**154**	P	**Pb**	20 31 18.3	+0.3
VAF				S	**Sb**	20 31 38.5	+0.8
VAF				Sb	**Sn**	20 31 39.0	+3.2
VAF	**Ylistaro**	**1.60**	**154**	*eP*	**Pb**	20 31 18.3	+0.3
VAF				*eS*	**Sb**	20 31 38.5	+0.8
KALU	**Kalix**	**1.67**	**33**	*eP*	**Pb**	20 31 19.1	-0.1
KALU				*ePB*	**Pb**	20 31 19.5	+0.3
KALU				*eS*	**Sb**	20 31 40.1	+0.4
KALU	**Kalix**	**1.67**	**33**	P	**Pb**	20 31 19.1	-0.1
KALU	**Kalix**	**1.67**	**33**	Pb	**Pb**	20 31 19.5	+0.3
KALU				S	**Sb**	20 31 40.1	+0.4
OUL	**Oulu**	**2.12**	**71**	*eP*	**Pn**	20 31 24.0	+0.8
OUL				*eS*	**Sn**	20 31 49.9	+1.2
OUL				*eSB*	**Sb**	20 31 52.8	+0.1
OUL	**Oulu**	**2.12**	**71**	P	**Pn**	20 31 23.9	+0.8
OUL				S	**Sn**	20 31 49.9	+1.2
OUL	**Oulu**	**2.12**	**71**	*eP*	**Pn**	20 31 24.0	+0.8
OUL				*eS*	**Sn**	20 31 49.9	+1.2
ERTU	**Ertsjaerv**	**2.12**	**11**	*eP*	**Pn**	20 31 25.1	+1.9
ERTU				*ePB*	**Pb**	20 31 27.0	-0.1
ERTU				*eS*	**Sb**	20 31 51.3	-1.6
ERTU				*eSB*	**Sn**	20 31 54.2	+5.4
ERTU	**Ertsjaerv**	**2.12**	**11**	P	**Pn**	20 31 25.1	+1.9
ERTU				S	**Sb**	20 31 51.3	-1.6
HEMU	**Hemsoen**	**2.29**	**219**	*eP*	**Pb**	20 31 28.7	-1.2
HEMU				*eS*	**Sb**	20 31 56.8	-0.8
HEMU	**Hemsoen**	**2.29**	**219**	P	**Pb**	20 31 28.6	-1.2
HEMU				S	**Sb**	20 31 56.8	-0.8
HEMU	**Hemsoen**	**2.29**	**219**	P	**Pb**	20 31 28.7	-1.2
HEMU	**Hemsoen**	**2.29**	**219**	P	**Pb**	20 31 28.7	-1.2
HEMU				S	**Sb**	20 31 56.8	-0.8
HEMU	**Hemsoen**	**2.29**	**219**	P	**Pb**	20 31 28.7	-1.2
HEMU				S	**Sb**	20 31 56.8	-0.8
PAJU	**Pajala**	**2.68**	**17**	*eP*	**Pn**	20 31 32.4	+1.5
PAJU				*eS*	**Sn**	20 32 03.8	+1.3
PAJU	**Pajala**	**2.68**	**17**	P	**Pn**	20 31 32.3	+1.5
PAJU				S	**Sn**	20 32 03.8	+1.3
PAJU	**Pajala**	**2.68**	**17**	P	**Pn**	20 31 32.4	+1.5
PAJU	**Pajala**	**2.68**	**17**	P	**Pn**	20 31 32.4	+1.5
PAJU				S	**Sn**	20 32 03.8	+1.3
PAJU	**Pajala**	**2.68**	**17**	P	**Pn**	20 31 32.4	+1.5
PAJU				S	**Sn**	20 32 03.8	+1.3
SUF	**Sumiainen**	**2.85**	**126**	*eP*	**Pn**	20 31 34.9	+1.7
SUF				*eS*	**Sn**	20 32 07.6	+0.9
SUF				MSG		20 32 22.0	
	comp=Z,273nm,0.2s						
SUF	**Sumiainen**	**2.85**	**126**	P	**Pn**	20 31 34.9	+1.7
SUF				S	**Sn**	20 32 07.6	+0.9
SUF	**Sumiainen**	**2.85**	**126**	*eP*	**Pn**	20 31 34.9	+1.7
SUF				S	**Sn**	20 32 07.6	+0.9
KEF	**Keuruu**	**2.87**	**143**	*eP*

FIA0	**FINESS Array S**	**3.79**	**141**		Pn		**Pn**	**20 31 48.3**	**+2.2**
	SNR=50								
FIA0	**FINESS Array S**	**3.79**	**141**		Pg		**Pb**	**20 31 57.4**	**+2.1**
	SNR=91								
FIA0					Sn		**Sn**	**20 32 30.8**	**+0.9**
	SNR=50								
FIA0					Lg		Lg	20 32 45.7	
	SNR=1.1								
FIA1	**FINESS Array S**	**3.79**	**141**		*e*Pn		**Pn**	**20 31 48.0**	**+1.9**
FIA1	**FINESS Array S**	**3.79**	**141**		*e*Pb		**Pb**	**20 31 57.1**	**+1.8**
FIA1	**FINESS Array S**	**3.79**	**141**		*e*Pn		**Pn**	**20 31 48.0**	**+1.9**
FIA1					*e*Pb		**Pb**	**20 31 57.1**	**+1.8**
FIA1					*e*Pg		Pb	20 32 02.1	+6.7
FIA1					*e*Sn		**Sn**	**20 32 31.5**	**+1.7**
FIA1					*e*Sg		**Sb**	**20 32 44.8**	**+4.1**
FINES	**FINESS Array B**	**3.79**	**141**		Pn		**Pn**	**20 31 48.3**	**+2.2**
	comp=Z,2.3nm,0.3s,baz=319,slow=11,SNR=80								
FINES					Sn		**Sn**	**20 32 27.8**	**-2.0**
	comp=Z,9.4nm,0.3s,baz=335,slow=17,SNR=7.5								
FINES					Lg		Lg	20 32 44.2	
	comp=Z,112nm,0.3s,baz=333,slow=24,SNR=33								
STOK	**Stokkvaagen**	**3.88**	**302**		*e*P		**Pn**	**20 31 49.6**	**+2.4**
STOK	**Stokkvaagen**	**3.88**	**302**		*e*P		**Pn**	**20 31 49.6**	**+2.4**
STOK	**Stokkvaagen**	**3.88**	**302**		P		**Pn**	**20 31 49.6**	**+2.4**
KONS	**Konsvik**	**3.91**	**305**		*e*P		**Pn**	**20 31 50.2**	**+2.4**
KONS	**Konsvik**	**3.91**	**305**		*e*P		**Pn**	**20 31 50.2**	**+2.4**
	SNR=49								
ROTU	**Roteberg**	**3.92**	**221**		P		**Pn**	**20 31 50.6**	**+2.6**
ROTU					S		**Sn**	**20 32 34.9**	**+1.7**
ROTU	**Roteberg**	**3.92**	**221**		P		**Pn**	**20 31 50.6**	**+2.6**
ROTU					S		**Sn**	**20 32 34.9**	**+1.7**
NSS	**Namsos**	**3.97**	**275**		*e*P		**Pn**	**20 31 51.6**	**+3.0**
NSS	**Namsos**	**3.97**	**275**		*e*P		**Pn**	**20 31 51.6**	**+3.0**
	SNR=49								
KU6	**Riekki**	**3.98**	**63**		*e*P		**Pn**	**20 31 49.4**	**+0.5**
KU6					*e*S		**Sn**	**20 32 32.9**	**-1.8**
KU6					MSG			20 32 52.6	
	comp=Z,160nm,0.2s								
KU6	**Riekki**	**3.98**	**63**		P		**Pn**	**20 31 49.3**	**+0.5**
KU6					S		**Sn**	**20 32 32.8**	**-1.8**
IGGU	**Iggoen**	**4.03**	**208**		P		Pn	20 31 52.9	+3.5
IGGU					S		**Sn**	**20 32 38.4**	**+2.6**
IGGU	**Iggoen**	**4.03**	**208**		P		Pn	20 31 52.9	+3.5
IGGU					S		**Sn**	**20 32 38.4**	**+2.6**
HEF	**Hetta**	**4.07**	**13**		*e*P		**Pn**	**20 31 51.2**	**+1.3**
HEF					*e*S		**Sn**	**20 32 36.2**	**-0.5**
HEF					MSG			20 33 00.4	
	comp=Z,83nm,0.2s								
HEF	**Hetta**	**4.07**	**13**		P		**Pn**	**20 31 51.2**	**+1.3**
HEF					S		**Sn**	**20 32 36.2**	**-0.5**
FORU	**Forsmark**	**4.34**	**200**		P		Pn	20 31 57.0	+3.4
FORU	**Forsmark**	**4.34**	**200**		P		Pn	20 31 57.0	+3.4
GRAU	**Graesoe**	**4.34**	**197**		P		Pn	20 31 57.1	+3.5
GRAU					S		**Sn**	**20 32 45.4**	**+2.0**
GRAU	**Graesoe**	**4.34**	**197**		P		Pn	20 31 57.1	+3.5
GRAU					S		**Sn**	**20 32 45.4**	**+2.0**
AAL	**Aland**	**4.36**	**188**		*e*P		**Pn**	**20 31 56.2**	**+2.4**
AAL	**Aland**	**4.36**	**188**		P		**Pn**	**20 31 56.2**	**+2.4**
AAL					S		**Sn**	**20 32 46.3**	**+2.5**
AAL	**Aland**	**4.36**	**188**		P		**Pn**	**20 31 56.3**	**+2.5**
AAL					S		**Sn**	**20 32 46.3**	**+2.5**
KIF	**Kilpisjarvi**	**4.54**	**358**		Pn		**Pn**	**20 31 59.2**	**+2.8**
KIF					Pg		**Pb**	**20 32 11.1**	**+2.9**
KIF					Lg		Lg	20 33 11.0	
KIF	**Kilpisjarvi**	**4.54**	**358**		Pn		**Pn**	**20 31 59.2**	**+2.8**
KIF					*e*			20 32 04.9	
KIF					Lg		Lg	20 33 11.0	
KIF	**Kilpisjarvi**	**4.54**	**358**		Pn		**Pn**	**20 31 59.2**	**+2.8**
	SNR=50								
KIF					Lg		Lg	20 33 11.0	
KTK1	**Kautokeino**	**4.62**	**9**		*e*P		**Pn**	**20 31 59.2**	**+1.7**
KTK1					IAML			20 33 21.2	
	comp=N,147nm,0.3s								
KTK1	**Kautokeino**	**4.62**	**9**		*e*P		**Pn**	**20 31 59.2**	**+1.7**
	SNR=49								
OSTU	**Oestervaala**	**4.66**	**206**		P		**Pn**	**20 32 00.8**	**+2.7**
OSTU					S		**Sn**	**20 32 54.5**	**+3.2**
OSTU	**Oestervaala**	**4.66**	**206**		P		**Pn**	**20 32 00.8**	**+2.7**
OSTU					S		**Sn**	**20 32 54.5**	**+3.2**
FALU	**Falun**	**4.70**	**214**		P		Pn	20 32 01.9	+3.2
FALU	**Falun**	**4.70**	**214**		P		Pn	20 32 01.9	+3.2
LOF	**Lofoten**	**4.78**	**323**		*e*P		**Pn**	**20 32 01.8**	**+2.2**
LOF					IAML			20 33 23.2	
	comp=Z,237nm,0.5s								
LOF	**Lofoten**	**4.78**	**323**		*e*P		**Pn**	**20 32 01.8**	**+2.2**
	SNR=49								
UPP	**Uppsala**	**4.93**	**201**		P		Pn	20 32 04.8	+3.1
UPP	**Uppsala**	**4.93**	**201**		P		Pn	20 32 04.8	+3.1
NRTU	**Norrtaelje**	**4.97**	**195**		P		**Pn**	**20 32 05.2**	**+2.9**
NRTU	**Norrtaelje**	**4.97**	**195**		P		**Pn**	**20 32 05.2**	**+2.9**
TBLU	**Trondheim**	**4.97**	**261**		*e*P		**Pn**	**20 32 03.3**	**+0.9**
TBLU					*e*S		**Sn**	**20 32 56.1**	**-2.9**
TBLU	**Trondheim**	**4.97**	**261**		*e*P		**Pn**	**20 32 03.3**	**+0.9**
	SNR=49								
BACU	**Backbrunna**	**5.02**	**204**		P		**Pn**	**20 32 05.4**	**+2.5**
BACU	**Backbrunna**	**5.02**	**204**		P		**Pn**	**20 32 05.4**	**+2.5**
TRO	**Tromso**	**5.25**	**351**		*e*P		**Pn**	**20 32 07.2**	**+1.2**
TRO					*e*Sg		Sb	20 33 32.3	+10
TRO					IAML			20 33 36.7	
	comp=Z,145nm,0.6s								
TRO	**Tromso**	**5.25**	**351**		*e*P		**Pn**	**20 32 07.2**	**+1.2**
	SNR=49								
ARA0	**ARCESS Array S**	**5.35**	**17**		Pn		**Pn**	**20 32 08.2**	**+0.6**
	baz=198,slow=14								
ARA0					Sn		**Sn**	**20 33 06.9**	**-1.4**
	baz=194,slow=28								
ARA0					Lg		Lg	20 33 30.6	
	baz=194,slow=28								
ARA0	**ARCESS Array S**	**5.35**	**17**		Pn		**Pn**	**20 32 08.2**	**+0.6**
	baz=198,slow=14								
ARA0					Sn		**Sn**	**20 33 06.9**	**-1.4**
	baz=194,slow=28								
ARA0					Lg		Lg	20 33 30.6	
	baz=194,slow=28								
ARA0	**ARCESS Array S**	**5.35**	**17**		Pn		**Pn**	**20 32 08.1**	**+0.6**
	SNR=50								
ARA0					Sn		**Sn**	**20 33 06.9**	**-1.4**
	SNR=50								
ARA0					Lg		Lg	20 33 30.6	
ARCES	**ARCESS Array B**	**5.35**	**17**		Pn		**Pn**	**20 32 08.1**	**+0.6**
	comp=Z,2.2nm,0.3s,baz=193,slow=14,SNR=240								
ARCES					Lg		Lg	20 33 30.6	
	comp=Z,22nm,0.3s,baz=191,slow=30,SNR=15								
ARCES					LR		LR	20 34 20.9	
	comp=Z,61nm,19.2s,baz=177,slow=40								
ARE0	**ARCESS Array S**	**5.35**	**17**		*e*Pn		**Pn**	**20 32 07.8**	**+0.2**
ARE0	**ARCESS Array S**	**5.35**	**17**		*e*Pn		**Pn**	**20 32 07.8**	**+0.2**
ARE0					*e*			20 32 13.4	
ARE0					*e*Sn		**Sn**	**20 33 06.3**	**-2.0**
ARE0					*e*Sg		**Sb**	**20 33 30.4**	**+4.8**
HFS	**Hagfors**	**5.58**	**222**		Pn		**Pn**	**20 32 12.9**	**+2.2**
	baz=41,slow=12								
HFS					Sn		**Sn**	**20 33 14.7**	**+0.8**
	baz=33,slow=22								
HFS					Lg		Lg	20 33 42.9	
	baz=39,slow=28								
HFS	**Hagfors**	**5.58**	**222**		Pn		**Pn**	**20 32 12.9**	**+2.2**
	baz=41,slow=12								
HFS					Sn		**Sn**	**20 33 14.7**	**+0.8**
	baz=33,slow=22								
HFS					Lg		Lg	20 33 42.9	
	baz=39,slow=28								
HFS	**Hagfors**	**5.58**	**222**		Pn		**Pn**	**20 32 12.4**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=37,slow=13,SNR=43								
HFS					Sn		**Sn**	**20 33 13.6**	**-0.3**
	comp=Z,9.7nm,0.3s,baz=37,slow=24,SNR=8.4								
HFS					Lg		Lg	20 33 39.5	
	comp=Z,15nm,0.3s,baz=42,slow=31,SNR=6.5								
HFS					LR		LR	20 34 24.5	
	comp=Z,34nm,18.2s,baz=328,slow=39								
HFS	**Hagfors**	**5.58**	**222**		Pn		**Pn**	**20 32 12.9**	**+2.2**
	SNR=50								
HFS					Lg		Lg	20 33 42.9	
	SNR=53								
UDD	**Uddeholm**	**5.64**	**222**		P		**Pn**	**20 32 14.2**	**+2.7**
UDD	**Uddeholm**	**5.64**	**222**		P		**Pn**	**20 32 14.2**	**+2.7**
NYNU	**Nynaeshamn**	**5.70**	**197**		P		**Pn**	**20 32 14.9**	**+2.6**
NYNU	**Nynaeshamn**	**5.70**	**197**		P		**Pn**	**20 32 14.9**	**+2.6**
NB2	**NORSAR Subarra**	**5.72**	**237**		Pn		**Pn**	**20 32 15.3**	**+2.6**
	baz=46,slow=14								
NB2					Lg		Lg	20 33 48.5	
	baz=48,slow=37								
NB2	**NORSAR Subarra**	**5.72**	**237**		Pn		**Pn**	**20 32 15.3**	**+2.6**
	SNR=50								
NB2					Lg		Lg	20 33 48.5	
NOA	**NORSAR Array B**	**5.72**	**237**		Pn		**Pn**	**20 32 11.2**	**-1.5**
	comp=Z,1.2nm,0.3s,baz=234,slow=6.5,SNR=22								
NOA					Sn		**Sn**	**20 33 16.7**	**-0.9**
	comp=Z,8.6nm,0.3s,baz=47,slow=17,SNR=5.1								
NOA					Lg		Lg	20 33 44.6	
	comp=Z,35nm,0.3s,baz=48,slow=26,SNR=11								
NOA					LR		LR	20 34 19.4	
	comp=Z,28nm,19.8s,baz=170,slow=37								
ESKU	**Eskilstuna**	**5.73**	**205**		P		**Pn**	**20 32 15.1**	**+2.3**
ESKU	**Eskilstuna**	**5.73**	**205**		P		**Pn**	**20 32 15.1**	**+2.3**
APA0	**Apatity Array**	**5.75**	**52**		Pn		**Pn**	**20 32 12.5**	**-0.5**
	baz=240,slow=14								
APA0					Lg		Lg	20 33 46.2	
	baz=247,slow=28								
APA0	**Apatity Array**	**5.75**	**52**		Pn		**Pn**	**20 32 12.5**	**-0.5**
	baz=240,slow=14								
APA0					Lg		Lg	20 33 46.2	
	baz=247,slow=28								
APA0	**Apatity Array**	**5.75**	**52**		P		**Pn**	**20 32 12.3**	**-0.7**
APA0					S		**Sn**	**20 33 13.1**	**-4.9**
APA0	**Apatity Array**	**5.75**	**52**		Pn		**Pn**	**20 32 12.5**	**-0.5**
	SNR=50								
APA0					Lg		Lg	20 33 46.2	
	SNR=9.6								
KEV	**Kevo**	**5.76**	**21**		Pn		**Pn**	**20 32 13.0**	**-0.2**
KEV					Sn		**Sn**	**20 33 15.6**	**-2.8**
KEV					Lg		Lg	20 33 44.6	
KEV	**Kevo**	**5.76**	**21**		Pn		**Pn**	**20 32 13.0**	**-0.2**
KEV					Sn		**Sn**	**20 33 15.6**	**-2.8**
KEV					Lg		Lg	20 33 44.6	
KEV	**Kevo**	**5.76**	**21**		Pn		**Pn**	**20 32 13.0**	**-0.2**
	SNR=50								
KEV					Lg		Lg	20 33 44.6	
KEV	**Kevo**	**5.76**	**21**		*e*Pn		**Pn**	**20 32 12.9**	**-0.2**
	comp=Z,31nm,0.4s								
KEV					*e*Pg		**Pb**	**20 32 31.8**	**+2.8**
KEV					*e*Sn		**Sn**	**20 33 15.7**	**-2.8**
KEV					*e*Sg		**Sb**	**20 33 42.8**	**+5.4**
APA	**Apatity**	**5.87**	**53**		P		**Pn**	**20 32 14.7**	**0.0**
APA					S		**Sn**	**20 33 17.2**	**-3.9**
NAO01	**NORSAR Array S**	**5.97**	**237**		*e*Pn		**Pn**	**20 32 18.4**	**+2.3**
	comp=Z,11nm,0.3s								
NAO01	**NORSAR Array S**	**5.97**	**237**		*e*Pg		Pb	20 32 43.7	+11
NAO01	**NORSAR Array S**	**5.97**	**237**		*e*Pn		**Pn**	**20 32 18.4**	**+2.3**
	comp=Z,11nm,0.3s								
NAO01					*e*Pg		Pb	20 32 43.6	+11
NAO01					*e*Sn		**Sn**	**20 33 24.8**	**+1.1**
NAO01					*e*Sg		Sb	20 33 57.7	+14
DOMB	**Dombas**	**5.98**	**251**		*e*P		Pb	20 32 25.2	-7.5
DOMB					*e*S		**Sn**	**20 33 37.9**	**0.0**
DOMB					*e*Sg		Sb	20 33 57.8	+14
DOMB					IAML			20 34 03.1	
	comp=Z,58nm,0.3s								
ASKU	**Askersund**	**6.36**	**211**		P		**Pn**	**20 32 23.7**	**+2.3**
ASKU	**Askersund**	**6.36**	**211**		P		**Pn**	**20 32 23.7**	**+2.3**
MOL	**Molde**	**6.38**	**259**		*e*P		**Pn**	**20 32 23.6**	**+2.0**
MOL					*e*S		**Sn**	**20 33 32.2**	**-1.4**
MOL					*e*			20 34 04.2	
MOL	**Molde**	**6.38**	**259**		*e*P		**Pn**	**20 32 23.6**	**+2.0**
	SNR=47								
LVZ	**Lovozero**	**6.44**	**52**		*e*Pn		**Pn**	**20 32 21.3**	**-1.2**
	comp=Z,134nm,0.5s								
LVZ	**Lovozero**	**6.44**	**52**		*e*Pn		**Pn**	**20 32 21.3**	**-1.2**
	comp=Z,134nm,0.5s								
LVZ					*e*Pb		Pb	20 32 32.9	-7.6
LVZ					*e*Sn		**Sn**	**20 33 30.2**	**-5.1**
LVZ					*e*Sg		Sb	20 34 05.3	+8.3
FINU	**Finntorp**	**6.53**	**223**		P		**Pn**	**20 32 25.9**	**+2.1**
FINU	**Finntorp**	**6.53**	**223**		P		**Pn**	**20 32 25.9**	**+2.1**
VSU	**Vasula**	**6.60**	**154**		Pn		**Pn**	**20 32 26.1**	**+1.4**
VSU					Sn		**Sn**	**20 33 37.1**	**-2.0**
VSU					Lg		Lg	20 34 13.0	
VSU	**Vasula**	**6.60**	**154**		Pn		**Pn**	**20 32 26.1**	**+1.4**
VSU					Sn		**Sn**	**20 33 37.1**	**-2.0**
VSU					Lg		Lg	20 34 13.0	
VSU	**Vasula**	**6.60**	**154**		Pn		**Pn**	**20 32 26.1**	**+1.4**
	SNR=50								
VSU					Lg		Lg	20 34 13.0	
	SNR=18								
NASU	**Vaermlandsnaes**	**6.74**	**218**		P		**Pn**	**20 32 28.4**	**+1.9**
NASU	**Vaermlandsnaes**	**6.74**	**218**		P		**Pn**	**20 32 28.4**	**+1.9**
AKN	**Aaknes**	**6.78**	**257**		Pn		**Pn**	**20 32 29.1**	**+2.0**
AKN	**Aaknes**	**6.78**	**257**		*e*P		**Pn**	**20 32 29.1**	**+2.0**
AKN					*e*			20 32 35.4	
AKN					*e*S		**Sn**	**20 33 43.4**	**-0.1**
AKN					IAML			20 34 32.5	
	comp=Z,83nm,0.4s								
AKN	**Aaknes**	**6.78**	**257**		*e*P		**Pn**	**20 32 29.1**	**+2.0**
	SNR=47								
LNKU	**Linkoeping**	**6.84**	**206**		P		**Pn**	**20 32 30.6**	**+2.6**
LNKU	**Linkoeping**	**6.84**	**206**		P		**Pn**	**20 32 30.6**	**+2.6**
VSTU	**Vaestervik**	**7.20**	**200**		P		**Pn**	**20 32 35.0**	**+2.1**
VSTU	**Vaestervik**	**7.20**	**200**		P		**Pn**	**20 32 35.0**	**+2.1**
STRU	**Stroemstad**	**7.22**	**225**		P		**Pn**	**20 32 34.8**	**+1.6**
STRU	**Stroemstad**	**7.22**	**225**		P		**Pn**	**20 32 34.8**	**+1.6**
KONO	**Kongsberg**	**7.27**	**233**		*e*P		**Pn**	**20 32 35.6**	**+1.7**
KONO	**Kongsberg**	**7.27**	**233**		*e*Pn		**Pn**	**20 32 35.1**	**+1.2**
KONO	**Kongsberg**	**7.27**	**233**		*e*P		**Pn**	**20 32 35.6**	**+1.7**
	SNR=47								
KONO	**Kongsberg**	**7.27**	**233**		*e*Pn		**Pn**	**20 32 35.1**	**+1.2**
KONO					*e*Sn		**Sn**	**20 33 54.1**	**-1.5**
KONO					*e*Sg		Sb	20 34 34.5	+14
VANU	**Vaenersborg**	**7.41**	**220**		P		**Pn**	**20 32 36.9**	**+1.1**
VANU	**Vaenersborg**	**7.41**	**220**		P		**Pn**	**20 32 36.9**	**+1.1**
HYA	**Hoyanger**	**7.61**	**251**		*e*P		**Pn**	**20 32 40.7**	**+2.2**
HYA					*e*S		**Sn**	**20 34 00.2**	**-3.7**
HYA	**Hoyanger**	**7.61**	**251**		*e*P		**Pn**	**20 32 40.7**	**+2.2**
	SNR=47								
FOO	**Floro**	**7.87**	**256**		*e*P		**Pn**	**20 32 43.5**	**+1.5**
FOO					IAML			20 35 07.3	
	comp=Z,10.0nm,0.4s								
FOO	**Floro**	**7.87**	**256**		*e*P		**Pn**	**20 32 43.5**	**+1.5**
	SNR=47								
ASK	**Askoy**	**8.40**	**249**		*e*P		**Pn**	**20 32 50.4**	**+1.1**
ASK					*e*S		**Sn**	**20 34 19.9**	**-3.3**
ASK					*e*Sg		Sb	20 35 07.9	+15
ASK					IAML			20 35 19.4	
	comp=Z,74nm,0.6s								
BLS5	**Blasjo**	**8.57**	**240**		*e*P		Pn	20 32 55.3	+3.5
BLS5					*e*S		**Sn**	**20 34 25.2**	**-2.4**
BLS5					*e*Sg			20 35 16.0	
BLS5					IAML			20 35 18.8	
	comp=Z,59nm,0.5s								
BLS5	**Blasjo**	**8.57**	**240**		*e*P		Pn	20 32 55.3	+3.5
	SNR=47								
HOMB	**Homborsund**	**8.69**	**230**		*e*P		**Pn**	**20 32 54.0**	**+0.7**
HOMB	**Homborsund**	**8.69**	**230**		*e*P		**Pn**	**20 32 54.0**	**+0.7**
	SNR=47								
SNART	**Snartemo**	**9.08**	**234**		*e*P		**Pn**	**20 32 59.6**	**+1.0**
SNART	**Snartemo**	**9.08**	**234**		*e*P		**Pn**	**20 32 59.6**	**+1.0**
	SNR=47								
IZAR	**Zarasai**	**9.12**	**162**		*e*P		Pn	20 32 51.2	-8.0
IZAR					*e*S		**Sn**	**20 34 43.1**	**+2.2**
IZAR					AML		AML	20 35 55.4	
	comp=Z,42nm,0.7s								
KMY	**Karmoy**	**9.18**	**242**		*e*P		Pn	20 33 06.6	+6.7
ISAL	**Salakas**	**9.28**	**162**		*e*P		Pn	20 33 06.9	+5.6
ISAL					*e*S		**Sn**	**20 34 40.0**	**-4.8**
ISAL					AML		AML	20 35 57.2	
	comp=Z,32nm,1.0s								
IIGN	**Ignalina**	**9.51**	**162**		*e*P		Pn	20 33 13.5	+9.0
IIGN					*e*S		Sn	20 34 43.1	-7.3
IIGN					AML		AML	20 35 56.4	
	comp=Z,67nm,0.5s								
BSD	**Bornholm Skovb**	**9.90**	**201**		*i* P		**Pn**	**20 33 09.9**	**0.0**
BSD					*i* S		Sn	20 34 52.5	-7.7
BSD	**Bornholm Skovb**	**9.90**	**201**		*i* P		**Pn**	**20 33 10.0**	**0.0**
	SNR=46								
SUW	**Suwalki**	**10.55**	**173**		*e*P		**Pn**	**20 33 19.4**	**+0.6**
SUW					*e*S		**Sn**	**20 35 14.3**	**-1.8**
SUW	**Suwalki**	**10.55**	**173**		*e*P		**Pn**	**20 33 19.5**	**+0.6**
RGN	**Rugen**	**10.72**	**205**		*e*Pn		**Pn**	**20 33 23.0**	**+1.9**
RGN	**Rugen**	**10.72**	**205**		*e*Pn		**Pn**	**20 33 23.0**	**+1.9**
GKP	**Gorka Klasztor**	**11.43**	**192**		*e*P		**Pn**	**20 33 31.4**	**+0.6**
GKP					*e*S		**Sn**	**20 35 35.8**	**-1.7**
GKP	**Gorka Klasztor**	**11.43**	**192**		*e*P		**Pn**	**20 33 31.4**	**+0.6**
OBN	**Obninsk**	**12.14**	**133**		Sn		Sn	20 35 41.8	-13
	comp=Z,3.4nm,0.3s,baz=187,slow=23,SNR=3.5								
OBN					Lg		Lg	20 37 06.8	
	comp=Z,4.2nm,0.3s,baz=193,slow=23,SNR=6.9								
OBN	**Obninsk**	**12.14**	**133**		*e*Pn		**Pn**	**20 33 37.9**	**-2.7**
OBN					*e*Sn		Sn	20 35 44.5	-11
SPA0	**Spitsbergen Ar**	**13.84**	**356**		Pn		**Pn**	**20 34 03.6**	**0.0**
	baz=152,slow=18								
SPA0	**Spitsbergen Ar**	**13.84**	**356**		Pn		**Pn**	**20 34 03.6**	**0.0**
	baz=152,slow=18								
SPA0	**Spitsbergen Ar**	**13.84**	**356**		Pn		**Pn**	**20 34 03.6**	**0.0**
	SNR=50								
SPITS	**Spitsbergen Ar**	**13.84**	**356**		Pn		**Pn**	**20 34 02.9**	**-0.7**
	baz=164,slow=15,SNR=12								
CLL	**Collm**	**13.89**	**202**		*e*Pn		**Pn**	**20 34 02.0**	**-2.3**
CLL					*e*			20 34 14.0	
CLL					*e*Sn		Sn	20 36 24.0	-14
CLL					*e*Sb		S	20 37 30.0	+31
CLL					*e*Sg			20 38 15.0	
KSP	**Ksiaz**	**13.92**	**193**		*e*P		**Pn**	**20 34 03.0**	**-1.8**
BRG	**Berggiesshubel**	**14.17**	**199**		*i* P		**Pn**	**20 34 06.0**	**-2.1**
	comp=Z,6.8nm,0.5s								
BRG					*e*			20 36 35.6	
UPC	**Upice**	**14.28**	**193**		*e*P		**Pn**	**20 34 07.8**	**-1.9**
UPC					*ex*		x	20 36 38.0	
UPC					*e*S		**Sn**	**20 36 42.8**	**-4.3**
UPC					*ex*		x	20 38 25.7	
OJC	**Ojcow**	**14.32**	**184**		*e*P		**Pn**	**20 34 07.3**	**-3.0**
OJC					*e*S		Sn	20 36 39.2	-9.0
DPC	**Dobruska-Polom**	**14.40**	**193**		*e*P		**Pn**	**20 34 09.6**	**-1.9**
DPC					*ex*		x	20 36 40.8	
DPC					*ex*		x	20 38 32.0	
PVCC	**Panska Ves**	**14.42**	**197**		*e*P		**Pn**	**20 34 09.6**	**-2.1**
PVCC					*ex*		x	20 36 41.5	
PVCC					*e*S		**Sn**	**20 36 50.9**	**+0.3**
PVCC					*ex*		x	20 38 30.0	
AKASG	**Malin Array Be**	**14.46**	**159**		Pn		Pn	20 34 06.9	-5.3
	comp=Z,2.5nm,0.3s,baz=341,slow=12,SNR=4.8								
AKASG					Lg		Lg	20 38 17.4	
	comp=Z,1.3nm,0.3s,baz=344,slow=30,SNR=6.9								
AKBB	**Malin Array Si**	**14.46**	**159**		Pn		**Pn**	**20 34 09.0**	**-3.2**
AKBB					*e*Sn		Sn	20 36 39.1	-12
KBS	**Kingsbay**	**14.76**	**353**		Pn		**P**	**20 34 20.1**	**-1.9**
KBS	**Kingsbay**	**14.76**	**353**		Pn		**P**	**20 34 20.1**	**-1.9**
MORC	**Moravsky Berou**	**14.87**	**189**	⇑	*i*P		**Pn**	**20 34 15.8**	**-2.0**
MORC	**Moravsky Berou**	**14.87**	**189**		*e*Pn		**Pn**	**20 34 14.9**	**-3.0**
MORC					*e*Sn		Sn	20 36 45.2	-17
KWP	**Kalwaria Pacla**	**14.91**	**176**		*e*P		**Pn**	**20 34 17.9**	**-0.5**
KWP					*e*S		Sn	20 36 54.5	-8.2
PRU	**Pruhonice**	**14.95**	**197**		*e*P		**Pn**	**20 34 17.1**	**-1.8**
PRU					*ex*		x	20 34 24.8	
PRU					*ex*		x	20 34 28.0	
PRU					*ex*		x	20 36 54.3	
PRU					*e*S		**Sn**	**20 37 06.0**	**+2.4**
PRU					*ex*		x	20 38 47.1	
GOPC	**GO Pecny, Ondr**	**15.00**	**196**		*e*P		**Pn**	**20 34 17.6**	**-1.9**
GOPC					*ex*		x	20 34 23.7	
NKC	**Novy Kostel**	**15.02**	**202**		*e*P		**Pn**	**20 34 17.9**	**-1.8**
NKC					*ex*		x	20 36 56.3	
NKC					*e*S		**Sn**	**20 37 06.1**	**+1.0**
STHS	**Stebnicka Huta**	**15.11**	**180**		*e*		**Pn**	**20 34 17.9**	**-3.0**
STHS					*e*			20 36 51.1	
NIE	**Niedzica**	**15.11**	**182**		*e*P		**Pn**	**20 34 19.8**	**-1.2**
EKA	**Eskdalemuir Ar**	**15.15**	**244**		Pn		**Pn**	**20 34 21.7**	**+0.3**
	baz=38,sl

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYN	**Shimob**	**0.28**	**240**	P	**Pn**	**20 32 56.1**	**-0.2**
JYN				S	**Sn**	**20 33 13.7**	**+0.6**
JRY	**Ryogami san**	**0.38**	**7**	P	**Pn**	**20 32 57.2**	**+0.7**
JRY				S	**Sn**	**20 33 14.1**	**+0.3**
JOD2	**Odawara 2**	**0.42**	**152**	P	**Pn**	**20 32 56.6**	**-0.1**
JOD2				S	**Sn**	**20 33 13.7**	**-0.2**
SHZ3	**Shizuoka 3**	**0.77**	**222**	P	**Pn**	**20 32 58.9**	**+0.3**
SHZ3				S	**Sn**	**20 33 17.7**	**+0.4**
JIZS	**Izushimoda**	**0.92**	**178**	P	**Pn**	**20 32 59.4**	**-0.1**
JIZS				S	**Sn**	**20 33 18.8**	**-0.2**
JAG	**Ashikaga**	**0.93**	**32**	P	**Pn**	**20 32 59.9**	**+0.3**
JAG				S	**Sn**	**20 33 18.9**	**-0.3**
JIM2	**Oshima 3**	**1.04**	**152**	P	**Pn**	**20 33 00.6**	**+0.1**
JIM2				S	**Sn**	**20 33 20.5**	**-0.2**
MJAR	**Matsushiro Arr**	**1.04**	**330**	P	**Pn**	**20 32 60.0**	**-0.5**
	11nm,0.3s,baz=192,slow=14,SNR=123						
MJAR				S	**Sn**	**20 33 19.3**	**-1.5**
	11nm,0.3s,baz=108,slow=19,SNR=18						
MAT	**Matsushiro**	**1.04**	**330**	P	**Pn**	**20 33 00.6**	**+0.1**
MAT				S	**Sn**	**20 33 20.4**	**-0.4**
MAT	**Matsushiro**	**1.04**	**330**	P	**Pn**	**20 33 00.6**	**+0.1**
MAT				S	**Sn**	**20 33 20.1**	**-0.7**
KSRS	**Korea Array**	**8.97**	**285**	P	**Pn**	**20 34 40.8**	**+0.5**
	0.2nm,0.3s,baz=106,slow=13,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**29.32**	**115**	T	T	21 08 16.6	
	baz=311						
H11N1	**WAKE ISLAND Hy**	**29.33**	**115**	T	T	21 08 17.7	
	baz=311						
H11N3	**WAKE ISLAND Hy**	**29.34**	**115**	T	T	21 08 17.7	
	baz=311						
MKAR	**Makanchi Array**	**43.12**	**303**	P	**P**	**20 40 17.7**	**-0.4**
	0.6nm,0.8s,baz=90,slow=8.0,SNR=5.0						
BVAR	**Borovoye Array**	**49.99**	**313**	P	**P**	**20 41 13.1**	**+1.6**
	0.3nm,0.4s,baz=101,slow=6.0,SNR=4.1						
WRA	**Warramunga Arr**	**50.44**	**185**	P	**P**	**20 41 50.5**	**-1.2**
	0.9nm,0.5s,baz=0.6,slow=7.6,SNR=32						

CASC 15 20:55:54.0±1.3, 9°91N×82°79W, h13km±27km, MD4.0, 1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URSC	**Urasca**	**0.98**	**266**	*eP*	Pb	20 56 12.0	-1.2
BUS	**Buena Vista**	**1.02**	**250**	⇓*eP*	Pb	20 56 12.9	-1.2
BUS				*eS*	Sb	20 56 27.4	-0.4
ACR	**Cerro Adams**	**1.30**	**197**	*eP*	Pn	20 56 16.5	-1.5
QCR	**Quepos**	**1.44**	**251**	*eP*	Pn	20 56 19.5	-0.3
QCR				*eS*	Sb	20 56 39.4	+0.4
CGA2	**Cerro Gallo 2**	**1.66**	**274**	*eP*	Pn	20 56 22.1	-0.9
JCR	**Jicaral**	**2.29**	**269**	*eP*	Pn	20 56 32.2	+0.5
JCR				*eS*	Sb	20 57 04.5	+0.8

IDC 15 21:04:29.6±0.9, 16°27S×173°88W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/25, mbtmp3.8/5, MS3.2/9, Ms1 3.2/9, ms1mx3.1/26, Error ellipse: s-maj=42.2km s-min=24.1km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.46**	**250**	*e*LR	LR	21 14 06.0	
	214nm,26.6s						
PPT2	**Papeete2**	**23.28**	**97**	*e*LQ	LQ	21 14 12.2	
	239nm,26.2s						
PPT2				*e*LR	LR	21 15 11.7	
	111nm,27.0s						
PPT	**Papeete**	**23.28**	**97**	LR	LR	21 16 05.0	
	comp=Z,41nm,19.9s,baz=203,slow=30						
URZ	**Urewera**	**23.30**	**198**	P	P	21 09 38.4	-0.8
	5.8nm,0.7s,baz=102,slow=9.3,SNR=2.6						
RKT	**Rikitea**	**37.17**	**107**	*e*T	T	21 50 59.9	
	1.4nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**39.48**	**330**	T	T	21 52 32.9	
	baz=149,slow=76,SNR=8.9						
H11S3	**WAKE ISLAND Hy**	**39.49**	**330**	T	T	21 52 28.6	
	baz=149,slow=76,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**39.49**	**330**	T	T	21 52 34.0	
	baz=149,slow=76,SNR=9.7						
H11N3	**WAKE ISLAND Hy**	**40.44**	**331**	T	T	21 53 43.6	
	baz=150,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**40.45**	**331**	T	T	21 53 41.5	
	baz=150,slow=76,SNR=8.4						
H11N2	**WAKE ISLAND Hy**	**40.46**	**331**	T	T	21 53 44.9	
	baz=150,slow=76,SNR=9.1						
WRA	**Warramunga Arr**	**49.21**	**258**	P	P	21 13 19.7	-0.3
	1.1nm,1.0s,baz=96,slow=7.9,SNR=4.9						
ASAR	**Alice Springs**	**49.41**	**253**	P	P	21 13 22.1	+0.5
	0.9nm,0.6s,baz=90,slow=8.0,SNR=12						
ASAR				LR	LR	21 32 32.6	
	comp=Z,56nm,19.1s,baz=104,slow=34						
GUMO	**Guam**	**50.42**	**304**	LR	LR	21 34 05.9	
	comp=Z,16nm,18.0s,baz=100,slow=35						
JCJ	**Chichijima**	**60.63**	**315**	LR	LR	21 33 41.7	
	comp=Z,20nm,21.4s,baz=268,slow=29						
VNDA	**Vanda**	**62.47**	**186**	LR	LR	21 36 50.9	
	comp=Z,15nm,20.1s,baz=351,slow=31						
MJAR	**Matsushiro Arr**	**69.31**	**320**	LR	LR	21 40 02.5	
	comp=Z,19nm,21.6s,baz=135,slow=31						
PETK	**Petropavlovsk-**	**73.31**	**343**	LR	LR	21 48 27.7	
	comp=Z,7.1nm,18.6s,baz=126,slow=36						
USRK	**Ussuriysk Ar.**	**77.80**	**323**	LR	LR	21 49 14.3	
	comp=Z,16nm,18.3s,baz=161,slow=34						
TXAR	**Lajitas Array**	**81.47**	**56**	P	P	21 16 48.7	-0.5
	0.1nm,0.4s,baz=212,slow=4.9,SNR=4.7						
TXAR				LR	LR	21 44 42.3	
	comp=Z,17nm,21.1s,baz=0.0,slow=30						
PDAR	**Pinedale Array**	**83.21**	**42**	P	P	21 16 58.5	+0.3
	0.3nm,0.4s,baz=224,slow=3.8,SNR=3.7						
BRTR	**Keskin Array B**	**146.53**	**320**	PKPbc	PKPdf	21 24 12.2	+0.2
	1.4nm,1.1s,baz=66,slow=3.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**174.71**	**125**	PKPab	PKPab	21 26 16.7	+0.5
	0.3nm,0.8s,baz=225,slow=5.9,SNR=3.3						

IDC 15 21:09:56.2±2.4, 16°86S×174°27W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.6/27, mbtmp3.5/3, Error ellipse: s-maj=192.1km s-min=30.8km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**39.80**	**331**	T	T	21 58 18.9	
	baz=149,slow=76,SNR=4.1						
H11S3	**WAKE ISLAND Hy**	**39.81**	**331**	T	T	21 58 24.8	
	baz=149,slow=76,SNR=3.4						
H11S1	**WAKE ISLAND Hy**	**39.82**	**331**	T	T	21 58 12.2	
	baz=149,slow=76,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**40.78**	**332**	T	T	21 59 36.1	
	baz=150,slow=76,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**40.77**	**332**	T	T	21 59 37.7	
	baz=150,slow=76,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**40.80**	**332**	T	T	21 59 37.6	
	baz=150,slow=76,SNR=3.8						
WRA	**Warramunga Arr**	**48.72**	**258**	P	P	21 18 43.0	+0.1
	0.3nm,0.5s,baz=91,slow=8.1,SNR=5.1						
ASAR	**Alice Springs**	**48.88**	**253**	P	P	21 18 43.7	-0.5
	0.9nm,0.5s,baz=93,slow=7.4,SNR=5.7						
TXAR	**Lajitas Array**	**82.11**	**56**	P	P	21 22 19.1	-0.2
	0.1nm,0.4s,baz=215,slow=7.7,SNR=2.2						
BRTR	**Keskin Array B**	**146.73**	**319**	PKPbc	PKPbc	21 29 40.2	-0.4
	0.3nm,0.5s,baz=45,slow=6.7,SNR=2.1						

*IDC **15** 21:12:09.6±4.7, 13°53N×87°64W, h0km, mb3.5/5, mb1 4.0/6, mb1mx3.7/25, mbtmp3.6/6, ML3.3/1, Error ellipse: s-maj=103.1km s-min=59.2km az=12.0*
*ISCJB **15** 21:12:20.2±0.5, 13°04N±0°07×88°80W±0°05, h80km±6km, mb3.5/5, Error ellipse: s-maj=13.5km s-min=4.2km az=30.4*
*CASC **15** 21:12:21.0±2.1, 12°94N×88°83W, h37km±999km, MD3.9, ML3.8*

ISC 15 21:12:21.2±1.0, 13°08N±0°08×88°80W±0°05, h69km±9km, n32, σ1°35/40, mb3.6/5, 11C-4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.53**	**356**	⇑*eP*	**Pn**	**21 12 34.4**	**0.0**
LFRS	**El Faro**	**0.60**	**334**	⇑*iP*	**Pn**	**21 12 34.7**	**-0.3**
VSM	**San Miguel**	**0.61**	**56**	⇓*iP*	**Pn**	**21 12 35.4**	**+0.1**
LBRS	**Las Brisas**	**0.70**	**340**	⇓*eP*	**Pn**	**21 12 36.3**	**+0.3**
LFU	**La Fuente**	**0.73**	**335**	⇑*iP*	**Pn**	**21 12 36.7**	**+0.3**
SNET	**Serv Nac Est T**	**0.74**	**325**	⇑*iP*	**Pn**	**21 12 36.2**	**-0.3**
SNET				*eS*	**Sn**	**21 12 47.8**	**0.0**
SNET				AML	AML	21 12 49.4	
	comp=Z,3μm,0.3s						
BOQS	**Boqueron**	**0.80**	**324**	⇓*eP*	**Pn**	**21 12 37.5**	**0.0**
BOQS				*eS*	**Sn**	**21 12 50.0**	**+0.6**
CAHU	**Cacacuatique**	**0.89**	**40**	⇓*eP*	**Pn**	**21 12 39.0**	**+0.5**
CAHU				*eS*	**Sn**	**21 12 53.2**	**+1.9**
CNCH	**Conchagua**	**0.96**	**78**	⇓*eP*	**Pn**	**21 12 39.0**	**-0.2**
CNCH				*eS*	**Sn**	**21 12 53.4**	**+0.9**
SBLS	**San Blas**	**1.10**	**313**	⇑*eP*	**Pn**	**21 12 41.2**	**+0.1**
SNJE	**San Jose**	**1.11**	**315**	⇑*eP*	**Pn**	**21 12 41.3**	**+0.1**
SNJE				*eS*	**Sn**	**21 12 57.1**	**+1.0**
RTR	**El Retiro**	**1.16**	**315**	⇑*iP*	**Pn**	**21 12 42.2**	**+0.4**
RBDL	**Robledal**	**1.34**	**320**	⇑*eP*	**Pn**	**21 12 44.7**	**+0.5**
TGUH	**Tegucigalpa,Un**	**1.77**	**57**	*eP*	**Pn**	**21 12 50.5**	**+0.8**
IXG	**Ixpaco**	**1.94**	**304**	⇑*eP*	**Pn**	**21 12 52.2**	**0.0**
NBG	**Las Nubes**	**2.12**	**315**	*eP*	**Pn**	**21 12 56.7**	**+2.0**
CNGN	**Cerro Negro**	**2.13**	**105**	⇑*eP*	**Pn**	**21 12 53.8**	**-0.8**
MRL	**Marmol**	**2.16**	**336**	*eP*	**Pn**	**21 12 57.5**	**+2.5**
COPN	**Copaltepe**	**2.33**	**112**	*eP*	**Pn**	**21 12 55.9**	**-1.4**
FUG	**Fuego 3**	**2.41**	**305**	*eP*	**Pn**	**21 13 00.0**	**+1.5**
JAT	**Jato**	**3.02**	**294**	*eP*	**Pn**	**21 13 07.1**	**+0.5**
JCR	**Jicaral**	**4.83**	**131**	*eP*	**Pn**	**21 13 31.1**	**-0.4**
JCR				*eS*	Sn	21 14 44.4	+18
CGA2	**Cerro Gallo 2**	**5.22**	**125**	*eP*	**Pn**	**21 13 38.3**	**+1.4**
CGA2				*eS*	**Sn**	**21 14 36.5**	**+0.6**
URSC	**Urasca**	**5.88**	**123**	*eP*	**Pn**	**21 13 48.3**	**+2.4**
URSC				*eS*	**Sn**	**21 14 55.7**	**+3.6**
BUS	**Buena Vista**	**6.06**	**125**	*eP*	**Pn**	**21 13 50.0**	**+1.5**
BUS				*eS*	**Sn**	**21 14 55.1**	**-1.6**
CMIG	**Matias Romero**	**7.10**	**305**	Pn	**Pn**	**21 14 04.0**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=142,slow=12,SNR=3.9						
CMIG				Sn	**Sn**	**21 15 22.7**	**+0.9**
	comp=Z,1.8nm,0.3s,baz=52,slow=19,SNR=5.6						
TXAR	**Lajitas Array**	**21.26**	**322**	P	**P**	**21 17 02.6**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=134,slow=11,SNR=7.3						
PDAR	**Pinedale Array**	**34.61**	**333**	P	**P**	**21 19 00.9**	**-3.0**
	comp=Z,0.3nm,0.4s,baz=131,slow=9.7,SNR=2.3						
NVAR	**Mina Array Bea**	**36.37**	**319**	P	**P**	**21 19 19.8**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=153,slow=12,SNR=3.0						
YKA	**Yellowknife Ar**	**52.67**	**345**	P	P	21 21 24.2	-4.0
	comp=Z,1.4nm,0.7s,baz=143,slow=7.4,SNR=6.0						
ILAR	**Eielson Array**	**64.92**	**336**	P	**P**	**21 22 51.3**	**-1.8**
	comp=Z,0.6nm,0.9s,baz=144,slow=3.2,SNR=4.4						
WRA	**Warramunga Arr**	**138.17**	**255**	PKP	**PKPdf**	**21 31 38.9**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=92,slow=2.2,SNR=4.4						

*CSEM **15** 21:13:27.6±0.2, 43°27N×46°20E, h2km, mb4.0, Error ellipse: s-maj=6.0km s-min=2.8km az=28.0*
*MOS **15** 21:13:27.2±0.8, 43°28N×46°26E, h12km, mb4.0/1, Error ellipse: s-maj=6.8km s-min=5.6km az=122.4*
*TIF **15** 21:13:27.1, 43°23N×46°23E, h13km±2km*
*AZER **15** 21:13:29.7±13.0, 42°95N×45°98E, h7km, Error ellipse: s-maj=8.2km s-min=5.2km az=354.0*

ISC 15 21:13:27.6±1.0, 43°26N±0°03×46°24E±0°02, h9km±8km, n93, σ0°97/161, 17C-17D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.35**	**124**	*e*PG	**Pg**	**21 13 35.0**	**+0.6**
DLMR				*e*S	**Sb**	**21 13 41.0**	**-0.5**
DLMR	**Dylym**	**0.35**	**124**	*e*Pg	**Pg**	**21 13 35.0**	**+0.6**
DLMR				*e*Sg	**Sb**	**21 13 41.0**	**-0.5**
BTLR	**Botlikh**	**0.60**	**181**	*i*PG	**Pg**	**21 13 38.7**	**-0.5**
BTLR				*e*S	**Sg**	**21 13 47.0**	**0.0**
BTLR				pmax	pmax		
	comp=Z,106nm,0.2s						
BTLR	**Botlikh**	**0.60**	**181**	*i* Pg	**Pg**	**21 13 38.7**	**-0.5**
	comp=Z,106nm,0.2s						
BTLR				*e*Sg	**Sg**	**21 13 47.0**	**0.0**
KRNR	**Karanay**	**0.66**	**131**	*e*PG	**Pg**	**21 13 40.0**	**-0.3**
KRNR				*i* S	**Sg**	**21 13 49.5**	**+0.6**
KRNR				pmax	pmax		
	comp=Z,57nm,0.2s						
KRNR	**Karanay**	**0.66**	**131**	*e*Pg	**Pg**	**21 13 40.0**	**-0.3**
	comp=Z,57nm,0.2s						
KRNR				*i* Sg	**Sg**	**21 13 49.5**	**+0.6**
UNCR	**Uncukul**	**0.68**	**143**	*i* PG	**Pg**	**21 13 40.8**	**0.0**
UNCR				*i* S	**Sb**	**21 13 50.5**	**-0.7**
UNCR				pmax	pmax		
	comp=Z,67nm,0.2s						
UNCR	**Uncukul**	**0.68**	**143**	*i* Pg	**Pg**	**21 13 40.8**	**0.0**
	comp=Z,67nm,0.2s						
UNCR				*i* Sg	**Sb**	**21 13 50.5**	**-0.7**
BUJR	**Buynaksk**	**0.77**	**124**	*e*PG	**Pn**	**21 13 44.5**	**-0.2**
BUJR				*e*S	**Sn**	**21 13 57.0**	**+0.6**
BUJR	**Buynaksk**	**0.77**	**124**	*e*Pg	**Pn**	**21 13 44.5**	**-0.2**
XNZR	**Khunzakh**	**0.80**	**154**	*i* PG	**Pg**	**21 13 42.5**	**-0.5**
XNZR				*i* S	**Sg**	**21 13 53.5**	**+0.1**
XNZR				pmax	pmax		
	comp=Z,146nm,0.1s						
XNZR	**Khunzakh**	**0.80**	**154**	*i* Pg	**Pg**	**21 13 42.5**	**-0.5**
	comp=Z,146nm,0.1s						
XNZR				*i* Sg	**Sg**	**21 13 53.5**	**+0.1**
ARKR	**Arakani**	**0.86**	**140**	*e*PG	**Pg**	**21 13 44.2**	**0.0**
ARKR				*i* S	**Sb**	**21 13 56.0**	**-0.4**
ARKR	**Arakani**	**0.86**	**140**	*e*Pg	**Pg**	**21 13 44.2**	**0.0**
ARKR				*i* Sg	**Sb**	**21 13 56.0**	**-0.4**
GNBR	**Gunib**	**1.02**	**148**	*i* PG	**Pb**	**21 13 47.6**	**+0.1**
GNBR				*e*S	**Sn**	**21 14 02.2**	**-0.4**
GNBR	**Gunib**	**1.02**	**148**	*i* Pg	**Pb**	**21 13 47.6**	**+0.1**
GNBR				*e*Sg	**Sn**	**21 14 02.2**	**-0.4**
SNJR	**Sundja**	**1.06**	**260**	⇑*i*PG	**Pn**	**21 13 48.2**	**-0.4**
SNJR				*e*S	**Sn**	**21 14 03.1**	**-0.4**
SNJR	**Sundja**	**1.06**	**260**	*i* Pg	**Pn**	**21 13 48.2**	**-0.4**
SNJR				*e*Sg	**Sn**	**21 14 03.1**	**-0.4**
VLKR	**Vladikavkaz**	**1.16**	**260**	*e*PG	**Pb**	**21 13 49.5**	**-0.3**
VLKR				*e*S	**Sn**	**21 14 06.0**	**0.0**
VLKR	**Vladikavkaz**	**1.16**	**260**	*e*Pg	**Pb**	**21 13 49.5**	**-0.3**
VLKR				*e*Sg	**Sn**	**21 14 06.0**	**0.0**
TRKR	**Terskaya**	**1.19**	**293**	⇑*i*PG	**Pg**	**21 13 50.4**	**0.0**
TRKR				*i* S	**Sn**	**21 14 07.6**	**+1.0**
TRKR	**Terskaya**	**1.19**	**293**	*i* Pg	**Pg**	**21 13 50.4**	**0.0**
TRKR				*i* Sg	**Sn**	**21 14 07.6**	**+1.0**
BTKR	**Batakoyurt**	**1.24**	**276**	⇓*i*PG	**Pb**	**21 13 50.9**	**-0.3**
BTKR				*e*S	**Sn**	**21 14 08.5**	**+0.5**
BTKR	**Batakoyurt**	**1.24**	**276**	*i* Pg	**Pb**	**21 13 50.9**	**-0.3**
BTKR				*e*Sg	**Sn**	**21 14 08.5**	**+0.5**
KMKR	**Kumukh**	**1.30**	**150**	*i* PG	**Pn**	**21 13 51.5**	**-0.5**
KMKR				*e*S	**Sg**	**21 14 10.5**	**+1.2**
KMKR				pmax	pmax		
	comp=Z,84nm,0.2s						
KMKR	**Kumukh**	**1.30**	**150**	*i* Pg	**Pn**	**21 13 51.5**	**-0.5**
	comp=Z,84nm,0.2s						
KMKR				*e*Sg	**Sg**	**21 14 10.5**	**+1.2**
ARNR	**Ardon**	**1.43**	**267**	⇑*i*PG	**Pn**	**21 13 53.5**	**-0.2**
ARNR				*e*S	**Sg**	**21 14 13.5**	**-0.1**
ARNR	**Ardon**	**1.43**	**267**	*i* Pg	**Pn**	**21 13 53.5**	**-0.2**
ARNR				*e*Sg	**Sg**	**21 14 13.5**	**-0.1**
LACR	**Lac**	**1.49**	**254**	⇑*i*PG	**Pn**	**21 13 53.0**	**-1.6**
LACR				*i* S	**Sn**	**21 14 13.3**	**-0.8**
LACR	**Lac**	**1.49**	**254**	*i* Sg	**Sn**	**21 14 13.3**	**-0.8**
URKR	**Urkarakh**	**1.50**	**136**	*i* PG	**Pg**	**21 13 56.0**	**-0.4**
URKR				*i* S	**Sg**	**21 14 17.0**	**+1.1**
URKR	**Urkarakh**	**1.50**	**136**	*i* Pg	**Pg**	**21 13 56.0**	**-0.4**
URKR				*i* Sg	**Sg**	**21 14 17.0**	**+1.1**
PRTR	**Priterechnaya**	**1.50**	**290**	⇑*i*PG	**Pb**	**21 13 55.3**	**-0.3**
PRTR				*i* S	**Sg**	**21 14 16.6**	**+0.7**
PRTR	**Priterechnaya**	**1.50**	**290**	*i* Pg	**Pb**	**21 13 55.3**	**-0.3**
PRTR				*i* Sg	**Sg**	**21 14 16.6**	**+0.7**
STDR	**Stavd-Durt**	**1.59**	**275**	⇓*i*PG	**Pb**	**21 13 56.7**	**-0.4**
STDR				*e*S	**Sg**	**21 14 18.8**	**+0.1**
STDR	**Stavd-Durt**	**1.59**	**275**	*i* Pg	**Pb**	**21 13 56.7**	**-0.4**
STDR				*e*Sg	**Sg**	**21 14 18.8**	**+0.1**
KORR	**Kora**	**1.60**	**264**	*e*PG	**Pn**	**21 13 55.9**	**-0.1**
KORR				*i* S	**Sb**	**21 14 17.8**	**+0.3**
KORR	**Kora**	**1.60**	**264**	*e*Pg	**Pn**	**21 13 55.9**	**-0.1**
KORR				*i* Sg	**Sb**	**21 14 17.8**	**+0.3**
DUS	**Dusheti**	**1.63**	**225**	P	**Pb**	**21 13 57.2**	**-0.6**
DUS				S	**Sg**	**21 14 19.6**	**-0.3**
DUS	**Dusheti**	**1.63**	**225**	PN	**Pb**	**21 13 57.2**	**-0.6**
DUS				S	**Sg**	**21 14 19.6**	**-0.3**
DUS	**Dusheti**	**1.63**	**225**	P	**Pb**	**21 13 57.2**	**-0.6**
DUS				S	**Sg**	**21 14 19.6**	**-0.3**
ZKTA	**Zakatala**	**1.65**	**170**	⇑Pn	**Pb**	**21 13 57.7**	**-0.4**
	SNR=25						
ZKTA				⇓Sn	**Sb**	**21 14 19.5**	**+0.6**
LSNR	**Lesken**	**1.76**	**271**	ePN	**Pb**	**21 13 59.2**	**-0.8**
LSNR				*e*S	**Sg**	**21 14 23.1**	**-1.1**
LSNR	**Lesken**	**1.76**	**271**	*e*Pn	**Pb**	**21 13 59.2**	**-0.8**
LSNR				*e*Sg	**Sg**	**21 14 23.1**	**-1.1**
ZEI	**Tsey**	**1.78**	**255**	*e*PN	**Pn**	**21 13 57.8**	**-0.8**
SEAG	**Tbilisi Sea**	**1.83**	**216**	P	**Pn**	**21 13 59.3**	**+0.1**
SEAG				S	**Sb**	**21 14 24.0**	**-0.3**
SEAG	**Tbilisi Sea**	**1.83**	**216**	P	**Pn**	**21 13 59.3**	**+0.1**
SEAG				S	**Sb**	**21 14 24.0**	**-0.3**
TBLG	**Delisi**	**1.89**	**216**	P	**Pb**	**21 14 01.4**	**-0.8**
TBLG				S	**Sb**	**21 14 25.8**	**-0.1**
TBLG	**Delisi**	**1.89**	**216**	PN	**Pb**	**21 14 01.4**	**-0.8**
TBLG	**Delisi**	**1.89**	**216**	P	**Pb**	**21 14 01.4**	**-0.8**
TBLG				S	**Sb**	**21 14 25.8**	**-0.1**
DGRG	**David-gareji**	**1.92**	**200**	P	**Pb**	**21 14 03.0**	**+0.2**
DGRG				S	**Sg**	**21 14 30.2**	**+0.9**
DGRG	**David-gareji**	**1.92**	**200**	PN	**Pb**	**21 14 03.0**	**+0.2**
DGRG				S	**Sg**	**21 14 30.2**	**+0.9**
DGRG	**David-gareji**	**1.92**	**200**	P	**Pb**	**21 14 03.0**	**+0.2**
DGRG				Sg	**Sg**	**21 14 30.2**	**+0.9**
DIGR	**Digorskoe uzhe**	**1.98**	**260**	*e*PN	**Pn**	**21 14 00.9**	**-0.5**
DIGR	**Digorskoe uzhe**	**1.98**	**260**	*e*Pn	**Pn**	**21 14 00.9**	**-0.5**
ONI	**Oni**	**2.15**	**253**	P	**Pn**	**21 14 04.8**	**+1.1**
ONI				S	**Sb**	**21 14 33.8**	**+0.3**
ONI	**Oni**	**2.15**	**253**	PN	**Pn**	**21 14 04.8**	**+1.1**
ONI				S	**Sb**	**21 14 33.8**	**+0.3**
ONI	**Oni**	**2.15**	**253**	P	**Pn**	**21 14 04.8**	**+1.1**
ONI				S	**Sb**	**21 14 33.8**	**+0.3**
SEKA	**Sheki**	**2.17**	**160**	⇓Pn	**Pb**	**21 14 05.5**	**-1.6**
	SNR=16						
SEKA				⇓Sn	**Sb**	**21 14 33.9**	**-0.2**
SEKA	**Sheki**	**2.17**	**160**	Pn	**Pb**	**21 14 05.5**	**-1.6**
	SNR=16						
SEKA				Sn	**Sb**	**21 14 33.9**	**-0.2**
QZX	**Qazax, Azerbai**	**2.29**	**197**	⇓Pn	**Pb**	**21 14 07.3**	**-1.9**
	SNR=26						
QZX				⇑Sn	**Sn**	**21 14 35.2**	**+1.3**
QZX	**Qazax, Azerbai**	**2.29**	**197**	Pn	**Pb**	**21 14 07.3**	**-1.9**
	SNR=26						
QZX				Sn	**Sn**	**21 14 35.2**	**+1.3**
QUBA	**Quba, Azerbaij**	**2.54**	**138**	⇑Pn	**Pb**	**21 14 13.0**	**-0.2**
QUBA				⇑Sn	**Sb**	**21 14 46.8**	**+2.3**
QUBA	**Quba, Azerbaij**	**2.54**	**138**	Pn	**Pb**	**21 14 13.0**	**-0.2**
GANJ	**Ganja**	**2.62**	**179**	⇓Pn	**Pb**	**21 14 10.8**	**+0.8**
GANJ				⇓Sn	**Sn**	**21 14 43.1**	**+1.3**
GANJ	**Ganja**	**2.62**	**179**	Pn	**Pn**	**21 14 10.8**	**+0.8**
GANJ				Sn	**Sn**	**21 14 43.1**	**+1.3**
IML	**Ismayilli**	**2.86**	**149**	⇑Pn	**Pb**	**21 14 17.0**	**-1.8**
IML				⇑Sn	**Sb**	**21 14 53.1**	**-0.8**
IML	**Ismayilli**	**2.86**	**149**	Pn	**Pb**	**21 14 17.0**	**-1.8**
IML				Sn	**Sb**	**21 14 53.1**	**-0.8**
GOF	**Gofitskoye**	**2.92**	**309**	*e*PN	**Pg**	**21 14 25.0**	**+1.5**
GOF				*e*S	**Sg**	**21 14 59.0**	**-2.2**
GOF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GOF				smax	smax		
	comp=N,30nm,0.8s						
GOF				smax	smax		
	comp=E,20nm,0.8s						
GOF	**Gofitskoye**	**2.92**	**309**	*e*Sb	**Sg**	**21 14 59.0**	**-2.2**
SIZA	**Siyzn**	**2.95**	**137**	⇓Sn	**Sb**	**21 14 55.5**	**-0.9**
SIZA	**Siyzn**	**2.95**	**137**	Sn	**Sb**	**21 14 55.5**	**-0.9**
PQL	**Pirkuli**	**3.03**	**144**	⇓Pn	**Pb**	**21 14 19.1**	**-2.6**
	SNR=4.3						
PQL				⇓Sn	**Sb**	**21 14 57.9**	**-1.0**
PQL	**Pirkuli**	**3.03**	**144**	Pn	**Pb**	**21 14 19.1**	**-2.6**
	SNR=4.3						
PQL				Sn	**Sb**	**21 14 57.9**	**-1.0**
ATGJ	**Altiaghaj**	**3.13**	**139**	⇑Pn	**Pb**	**21 14

Ms1 3.3/8,ms1mx3.0/29,Error ellipse: s-maj=13.6km s-min=9.4km az=39.0
*DJA **15** 21:51:21.6±0.2,9°S×3°×11°3E±°,h51^{km}±6km,M4.8/29, mb4.8/29,mB5.3/9,MLv4.9/4,MLv4.9/29,Mw(mB)4.7/9*
*NEIC **15** 21:51:21.1±0.5,9.29S×113.55E,h66^{km}±5^{km},mb4.7/15, Error ellipse: s-maj=7.7km s-min=4.2km az=210.0*
ISC 15 21:51:20.7±1.0,**9°39S**±0.06×**113°48E**±0.04,**h64**^{km}±9^{km}, **n115**,σ1ᵍ**45**/129,**mb4.5**/35,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLJI	**Banyuglugur**	**1.64**	**4**	P	**Pn**	**21 51 48.2**	**+0.8**
BLJI				S	**Sn**	**21 52 09.4**	**+1.8**
IGBI	**Denpasar**	**1.74**	**71**	P	**Pn**	**21 51 48.3**	**-0.4**
IGBI				S	**Sn**	**21 52 10.8**	**+0.8**
ABJI	**Asem Bagus**	**1.75**	**25**	P	**Pn**	**21 51 50.8**	**+1.9**
DNP	**Denpasar**	**1.85**	**67**	P	**Pn**	**21 51 50.3**	**+0.1**
DNP				S	**Sn**	**21 52 14.4**	**+1.8**
PWJI	**Pagerwojo**	**2.15**	**309**	P	**Pn**	**21 51 54.3**	**+0.1**
PWJI				S	**Sn**	**21 52 19.7**	**-0.1**
GRJI	**Gresik**	**2.66**	**338**	P	**Pn**	**21 52 02.6**	**+1.4**
GRJI				S	**Sn**	**21 52 32.6**	**+0.4**
TBJI	**Tambak Boyo**	**3.03**	**328**	P	**Pn**	**21 52 08.5**	**+2.3**
TBJI				S	**Sn**	**21 52 44.1**	**+2.8**
UGM	**Wanagama**	**3.27**	**296**	P	**Pn**	**21 52 10.7**	**+1.1**
UGM				S	**Sn**	**21 52 50.8**	**+3.4**
UGM	**Wanagama**	**3.27**	**296**	*e*Pn	**Pn**	**21 52 10.6**	**+0.9**
UGM				*e*Sn	**Sn**	**21 52 45.7**	**-1.8**
BWJI	**Bawean**	**3.61**	**347**	S	**Sn**	**21 52 58.7**	**+3.0**
SMRI	**Semarang**	**3.81**	**308**	P	**Pn**	**21 52 18.8**	**+1.9**
SMRI	**Semarang**	**3.81**	**308**	*e*Pn	**Pn**	**21 52 17.7**	**+0.8**
SMRI				*e*Sn	**Sn**	**21 53 00.1**	**-0.4**
UWJI	**Ujung Watu**	**3.88**	**319**	P	**Pn**	**21 52 19.0**	**+1.1**
UWJI				S	**Sn**	**21 53 03.0**	**+0.8**
KPJI	**Karang Pucung**	**4.95**	**294**	P	**Pn**	**21 52 34.5**	**+2.0**
KPJI				S	**Sn**	**21 53 29.3**	**+0.9**
CMJI	**Cimerak**	**5.23**	**287**	S	**Sn**	**21 53 32.3**	**-3.0**
CISI	**Cisompet, Garu** 215nm,0.6s,6µm1.6nm	**5.89**	**288**	P	**Pn**	**21 52 45.6**	**+0.1**
CISI				S	**Sn**	**21 53 50.1**	**-1.7**
	215nm,0.6s,6µm1.6nm						
CISI	**Cisompet, Garu**	**5.89**	**288**	*e*Pn	**Pn**	**21 52 46.5**	**+0.9**
CISI				*e*Sn	**Sn**	**21 53 51.4**	**-0.4**
BBKI	**Banjar Baru** 297nm,0.8s,1.8nm	**6.05**	**13**	P	**Pn**	**21 52 49.7**	**+2.1**
LEM	**Lembang** 77nm,1.1s,0.4nm	**6.34**	**293**	P	Pn	21 52 55.6	+3.8
LEM	**Lembang** 1.4nm,0.3s,baz=78,slow=18,SNR=2.5	**6.34**	**293**	P	**Pn**	**21 52 53.0**	**+1.3**
LEM				S	**Sn**	**21 54 04.0**	**+1.1**
	1.6nm,0.3s,baz=35,slow=11,SNR=3.3						
LEM				LR	LR	21 55 49.1	
	comp=Z,146nm,21.1s,baz=64,slow=42						
CNJI	**Cibinong** 100nm,0.7s,1µm0.6nm	**6.62**	**288**	P	**Pn**	**21 52 57.4**	**+2.0**
WSI	**Waingapu** 507nm,0.6s,4.6nm	**6.73**	**93**	P	**Pn**	**21 52 57.6**	**+0.7**
KAPI	**Kappang** 14nm,0.3s,baz=220,slow=4.7,SNR=23	**7.59**	**55**	P	**Pn**	**21 53 08.3**	**-0.5**
KAPI				S	**Sn**	**21 54 29.8**	**-3.5**
	2.8nm,0.3s,baz=198,slow=20,SNR=3.4						
KAPI				LR	LR	21 56 36.0	
	comp=Z,216nm,18.6s,baz=261,slow=42						
KAPI	**Kappang**	**7.59**	**55**	*e*Pn	**Pn**	**21 53 09.0**	**+0.3**
KAPI				*e*Sn	Sn	21 54 22.0	-11
BSSI	**Bau Bau, Buton** 137nm,0.8s,1µm0.4nm	**7.66**	**66**	P	**Pn**	**21 53 09.8**	**+0.1**
BKSI	**Bulukumba** 46nm,0.7s,639nm0.2nm0.2nm	**7.73**	**59**	P	**Pn**	**21 53 10.5**	**-0.1**
XMIS	**Christmas Isla**	**7.79**	**261**	*e*Pn	**Pn**	**21 53 10.0**	**-1.5**
XMIS				*e*Sn	Sn	21 54 26.7	-12
SBJI	**Serang** 84nm,0.6s,0.5nm	**7.98**	**294**	P	**Pn**	**21 53 17.0**	**+3.0**
CGJI	**Cibinong** 88nm,0.6s,1µm	**8.19**	**289**	P	**Pn**	**21 53 18.1**	**+1.1**
SPSI	**Sidrap Palu** 18nm,0.9s	**8.25**	**50**	P	**Pn**	**21 53 18.8**	**+1.0**
MMRI	**Maumere** 69nm,0.4s	**8.68**	**86**	P	**Pn**	**21 53 22.0**	**-1.7**
MMRI	**Maumere**	**8.68**	**86**	*e*Pn	**Pn**	**21 53 21.8**	**-1.9**
TTSI	**Tana Toraja** 42nm,0.8s,440nm	**8.91**	**45**	P	Pn	21 53 30.3	+3.5
STKI	**Sintang** 24nm,1.2s	**9.61**	**348**	P	**Pn**	**21 53 39.5**	**+3.2**
KLI	**Kotabumi** 56nm,0.5s,4µm	**9.67**	**297**	P	**Pn**	**21 53 39.0**	**+1.8**
KASI	**Kota Agung** 34nm,0.7s	**9.70**	**293**	P	**Pn**	**21 53 39.9**	**+2.3**
KLSI	28nm,1.0s,25µm	**9.86**	**298**	P	**Pn**	**21 53 42.5**	**+2.7**
SOEI	**Soe** 76nm,0.6s	**10.64**	**93**	P	**Pn**	**21 53 50.9**	**+0.3**
SOEI	**Soe**	**10.64**	**93**	*e*Pn	**Pn**	**21 53 50.6**	**0.0**
MNAI	**Manna**	**11.58**	**295**	*e*Pn	**Pn**	**21 54 02.4**	**-0.9**
MPSI	**Mapaga** 12nm,1.6s	**11.59**	**34**	P	**Pn**	**21 54 06.0**	**+2.6**
SBUM	**Sibu**	**11.83**	**354**	*e*Pn	**Pn**	**21 54 08.5**	**+1.8**
MRSI	**Marisa**	**12.93**	**41**	P	P	21 54 34.5	+4.4
MBWA	**Marble Bar**	**13.15**	**153**	*e*Pn	Pn	21 54 19.1	-5.7
MBWA				*e*Sn	Sn	21 56 31.5	-18
SANI	**Sanana** 30nm,0.8s	**14.42**	**60**	P	**P**	**21 54 44.3**	**-2.4**
NLAI	**Namlea** 28nm,0.5s	**14.85**	**67**	P	**P**	**21 54 51.7**	**+0.2**
KKM	**Kota Kinabalu** 14nm,0.9s	**15.58**	**10**	*e*Pn	**Pn**	**21 54 54.3**	**-2.4**
PSI	**Prapat** comp=Z,254nm,18.6s,baz=112,slow=36	**18.90**	**309**	LR	LR	22 02 32.6	
GSI	**Gunungsitoli** 23nm,1.4s	**19.08**	**303**	*e*P	**P**	**21 55 33.6**	**-4.7**
KULM	**Kulim** 58nm,2.1s	**19.40**	**318**	*e*P	**P**	**21 55 40.8**	**-0.9**
SIJI	**Sorong** 2.6nm,0.3s,baz=277,slow=4.6,SNR=8.2	**19.62**	**65**	P	**P**	**21 55 42.4**	**-1.8**
FAKI	**Fak Fak**	**19.73**	**72**	P	**P**	**21 55 43.8**	**-1.6**
FAKI	**Fak Fak** 198nm,1.9s	**19.73**	**72**	*e*P	**P**	**21 55 44.1**	**-1.3**
WRA	**Warramunga Arr** 8.3nm,0.7s,baz=297,slow=11,SNR=99	**22.71**	**120**	P	**P**	**21 56 16.9**	**-0.6**
WRA				PcP	**PcP**	**22 00 09.3**	**+1.5**
	1.4nm,0.5s,baz=308,slow=1.6,SNR=8.1						
WRA				S	**S**	**22 00 22.4**	**+0.9**
	0.9nm,0.7s,baz=286,slow=21,SNR=2.5						
WRA				LR	LR	22 05 35.5	
	comp=Z,109nm,20.0s,baz=305,slow=38						
WRAB	**Tennant Creek** 11nm,0.8s	**22.72**	**120**	*e*P	**P**	**21 56 17.2**	**-0.3**
AS12	**Alice Springs**	**24.13**	**129**	*e*P	**P**	**21 56 31.4**	**+0.5**
AS12				*e*PcP	**PcP**	**22 00 12.4**	**+1.7**
ASAR	**Alice Springs** 5.3nm,0.5s,baz=302,slow=8.5,SNR=77	**24.13**	**129**	P	**P**	**21 56 31.4**	**+0.5**
ASAR				PcP	**PcP**	**22 00 12.4**	**+1.7**
	2.1nm,0.5s,baz=310,slow=1.8,SNR=13						
AS01	**Alice Springs**	**24.17**	**128**	*e*P	**P**	**21 56 31.1**	**-0.1**
FORT	**Forrest** 288nm,2.2s	**25.25**	**149**	*e*P	**P**	**21 56 41.1**	**+0.2**
COEN	**Coen** 251nm,2.6s	**29.42**	**102**	*e*P	**P**	**21 57 18.6**	**+0.1**
CM01	**Chiang Mai Arr**	**31.13**	**333**	*e*P	**P**	**21 57 34.5**	**+1.0**
CM31	**Chiang Mai Arr**	**31.17**	**333**	*e*P	**P**	**21 57 34.2**	**+0.4**
CMAR	**Chiang Mai Arr** 3.2nm,0.8s,baz=165,slow=8.5,SNR=20	**31.17**	**333**	P	**P**	**21 57 34.2**	**+0.4**
CMAR				LR	LR	22 10 57.8	
	comp=Z,55nm,18.1s,baz=162,slow=38						
BBOO	**Buckleboo** 140nm,2.0s	**31.27**	**141**	*e*P	**P**	**21 57 33.5**	**-1.2**
CTAO	**Charters Tower** 86nm,1.8s	**33.36**	**112**	*e*P	**P**	**21 57 54.7**	**+1.5**
STKA	**Stephens Creek** 15nm,0.6s,baz=318,slow=8.3,SNR=46	**34.34**	**135**	P	**P**	**21 58 02.7**	**+1.2**
STKA				PcP	**PcP**	**22 00 37.7**	**+1.3**
	1.3nm,0.4s,baz=360,slow=5.4,SNR=3.0						
STKA				LR	LR	22 12 47.2	
	comp=Z,48nm,21.2s,baz=254,slow=37						
STKA	**Stephens Creek** 2.6nm,0.6s	**34.34**	**135**	*e*P	**P**	**21 58 02.9**	**+1.4**
STKA				*e*PcP	**PcP**	**22 00 37.7**	**+1.3**
H08S2	**Diego Garcia H** baz=95,slow=75,SNR=10	**40.56**	**269**	T	T	22 41 59.9	
H08S3	**Diego Garcia H** baz=95,slow=75,SNR=9.6	**40.57**	**269**	T	T	22 42 04.5	
H08S1	**Diego Carcia H** baz=95,slow=75,SNR=8.4	**40.58**	**269**	T	T	22 41 58.8	
ODAN	**Odare** 17nm,0.5s	**44.04**	**326**	*e*P	**P**	**21 59 22.5**	**-0.2**
TAPN	**Taplejung** 13nm,0.6s	**44.25**	**326**	*e*P	**P**	**21 59 24.6**	**+0.2**
LSA	**Lhasa** 4.0nm,0.9s	**44.42**	**332**	*e*P	**P**	**21 59 26.6**	**+0.6**
RAMN	**Ramite** 5.5nm,0.4s	**44.56**	**325**	*e*P	**P**	**21 59 26.7**	**-0.1**
GUN	**Gumba** 18nm,0.5s	**45.70**	**325**	*e*P	**P**	**21 59 35.7**	**-0.3**
PKI	**Pulchoki**	**45.71**	**324**	*e*P	**P**	**21 59 35.2**	**-0.9**
DMN	**Daman** 14nm,0.5s	**45.92**	**324**	*e*P	**P**	**21 59 36.9**	**-0.7**
KKN	**Kakani** 8.0nm,0.6s	**45.95**	**324**	*e*P	**P**	**21 59 37.2**	**-0.6**
GKN	**Gorkha** 8.9nm,0.4s	**46.49**	**324**	*e*P	**P**	**21 59 41.3**	**-0.6**
KOLN	**Koldanda** 12nm,0.5s	**46.92**	**323**	*e*P	**P**	**21 59 44.7**	**-0.7**
KS15	**Wonju Array Si**	**48.51**	**15**	*e*P	**P**	**21 59 56.7**	**-0.5**
KS15				*e*PcP	**PcP**	**22 01 23.2**	**+0.8**
KSRS	**Korea Array** 0.9nm,0.4s,baz=200,slow=7.8,SNR=5.4	**48.53**	**15**	P	**P**	**21 59 56.7**	**-0.7**
KSRS				PcP	**PcP**	**22 01 23.2**	**+0.8**
	1.1nm,0.6s,baz=206,slow=5.6,SNR=3.5						
KSRS				LR	LR	22 21 36.8	
	comp=Z,11nm,19.0s,baz=235,slow=38						
MAJO	**Matsushiro** 107nm,2.6s	**51.27**	**26**	*e*P	**P**	**22 00 16.0**	**-2.2**
MJAR	**Matsushiro Arr** 3.5nm,0.8s,baz=199,slow=9.0,SNR=9.0	**51.27**	**26**	P	**P**	**22 00 16.0**	**-2.2**
USRK	**Ussuriysk Ar.** 3.1nm,0.7s,baz=205,slow=6.8,SNR=8.8	**55.92**	**16**	P	**P**	**22 00 51.0**	**-1.1**
SONA0	**Songino Array**	**57.32**	**354**	*e*P	**P**	**22 01 02.0**	**-0.1**
SONM	**Songino Array** 7.0nm,0.4s,baz=173,slow=8.4,SNR=22	**57.32**	**354**	P	**P**	**22 01 02.0**	**-0.1**
SONA1	**Songino Array**	**57.33**	**354**	*e*P	**P**	**22 01 01.9**	**-0.4**
MK01	**Makanchi Array**	**62.45**	**336**	*e*P	**P**	**22 01 36.6**	**-0.6**
MK32	**Makanchi Array**	**62.47**	**336**	*e*P	**P**	**22 01 37.1**	**-0.3**
MKAR	**Makanchi Array** 2.9nm,0.5s,baz=149,slow=7.4,SNR=46	**62.47**	**336**	P	**P**	**22 01 37.1**	**-0.3**
TKM2	**Tokmak 2** 2.4nm,0.7s	**62.48**	**329**	*e*P	**P**	**22 01 37.5**	**-0.2**
KURBB	**Kurchatov Arra** 1.2nm,0.8s,baz=152,slow=5.3,SNR=11	**67.03**	**337**	P	**P**	**22 02 06.1**	**-0.8**
MAW	**Mawson** 2.5nm,0.8s,baz=108,slow=3.2,SNR=3.3	**67.06**	**199**	P	**P**	**22 02 08.1**	**+1.3**
KURK	**Kurchatov**	**67.07**	**337**	*e*P	**P**	**22 02 06.5**	**-0.7**
ZAA0	**Zalesovo Array**	**67.60**	**342**	*e*P	**P**	**22 02 09.3**	**-1.1**
ZALV	**Zalesovo Beam** 2.0nm,0.4s,baz=157,slow=4.3,SNR=9.3	**67.60**	**342**	P	**P**	**22 02 09.4**	**-1.0**
ZAA1	**Zalesovo Array**	**67.61**	**342**	*e*P	**P**	**22 02 09.4**	**-1.1**
BVAR	**Borovoye Array** 0.8nm,0.6s,baz=147,slow=12,SNR=4.4	**72.18**	**334**	P	**P**	**22 02 38.1**	**-0.5**
VNDA	**Vanda** 1.6nm,0.8s,baz=293,slow=6.2,SNR=8.0	**72.49**	**170**	P	**P**	**22 02 41.3**	**+1.2**
AKTO	**Aktyubinsk** 1.5nm,0.4s,baz=88,slow=10,SNR=4.1	**76.52**	**327**	P	**P**	**22 03 04.0**	**0.0**
ARU	**Arti** 8.1nm,1.2s	**79.62**	**332**	*e*P	**P**	**22 03 20.7**	**-0.2**
MATP	**Matapo** 2.4nm,0.8s,baz=102,slow=8.4,SNR=4.1	**82.11**	**251**	P	**P**	**22 03 36.1**	**+0.9**
BR101	**Keskin Array S**	**88.22**	**311**	*e*P	**P**	**22 04 05.8**	**+0.5**
BRTR	**Keskin Array B** 1.5nm,0.8s,baz=128,slow=6.9,SNR=9.3	**88.22**	**311**	P	**P**	**22 04 05.8**	**+0.5**
OBN	**Obninsk** comp=Z,10nm,18.7s,baz=90,slow=40	**90.25**	**326**	LR	LR	22 51 10.0	
FIA0	**FINESS Array S**	**96.94**	**331**	*e*P	**P**	**22 04 43.5**	**-1.3**
FINES	**FINESS Array B** 3.1nm,1.0s,baz=134,slow=8.2,SNR=5.1	**96.94**	**331**	P	**P**	**22 04 43.5**	**-1.3**
ILAR	**Eielson Array** 0.1nm,0.4s,baz=235,slow=3.2,SNR=3.0	**102.55**	**26**	P	**Pdif**	**22 05 07.5**	**-2.4**
ILB	**Eielson Array**	**102.55**	**26**	*e*Pdif	**Pdif**	**22 05 07.5**	**-2.4**
TORD	**Torodi Ar. Bea** 0.6nm,1.0s,baz=47,slow=1.8,SNR=6.9	**113.17**	**280**	PKiKP	**PKiKP**	**22 09 51.5**	**-0.4**
YKA	**Yellowknife Ar** 0.8nm,0.6s,baz=263,slow=9.9,SNR=3.1	**116.72**	**23**	PKP	**PKPdf**	**22 09 58.1**	**+0.7**
NVAR	**Mina Array Bea** 0.4nm,0.2s,baz=262,slow=5.4,SNR=2.8	**125.44**	**49**	PKP	**PKPdf**	**22 10 15.4**	**+0.2**
TXAR	**Lajitas Array** 0.4nm,0.6s,baz=268,slow=3.8,SNR=4.8	**139.98**	**55**	PKhKP	PKPpre	22 10 36.7	
LPAZ	**La Paz** 0.3nm,0.4s,baz=190,slow=6.1,SNR=2.3	**154.43**	**176**	PKPbc	**PKPbc**	**22 11 15.7**	**-0.1**
LPAZ				PKPab	**PKPab**	**22 11 31.4**	**+1.5**
	1.0nm,0.7s,baz=201,slow=3.5,SNR=4.3						

*BJI **15** 22:04:11.0,42°.12N×81°.00E,h8^{km},mb4.1/7,mB4.3/5, ML3.9/6,Ms3.4/2,Ms7 3.4/1*
*IDC **15** 22:04:11.5±0.8,42°.02N×81°.06E,h0^{km},mb3.8/8, mb1 3.9/13,mb1mx3.7/44,mbtmp3.8/13,ML3.4/5,MS3.1/4, Ms1 3.2/4,ms1mx2.6/34,Error ellipse: s-maj=19.3km s-min=16.3km az=63.0*
*ISCJB **15** 22:04:12.6±0.3,42°.15N±0°.04×81°.10E±0°.04,h10^{km}, mb4.1/12,MS3.3/2,Error ellipse: s-maj=5.9km s-min=4.1km az=1.0*
*NNC **15** 22:04:13.9±2.8,42°.18N×81°.18E,h0^{km},mb4.4,mpv4.2, Error ellipse: s-maj=21.9km s-min=14.9km az=151.0*
*NEIC **15** 22:04:21.0±0.8,42°.39N×81°.02E,h66^{km}±10^{km},mb4.1/3, Error ellipse: s-maj=9.7km s-min=7.4km az=163.0*
ISC 15 22:04:14.4±0.4,**42°.25N**±0°.05×**81°.10E**±0°.03,**h10**^{km},**n65**, σ2ᵍ**25**/72,**mb3.9**/12,**15C-11D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye** 130nm,0.4s	**1.60**	**313**	⇑P	**Pn**	**22 04 42.5**	**-0.2**
PDGK				⇑S	**Sb**	**22 05 06.6**	**+2.3**
	289nm,0.5s						
KNDC	**Almaty** 224nm,1.0s	**3.20**	**289**	⇑Pn	Pn	22 05 08.1	+3.4
KNDC				⇑Sn	**Sb**	**22 05 50.5**	**+0.2**
	461nm,0.9s						
ULHL	**Ulahol** SNR=32	**3.61**	**272**	P	**Pn**	**22 05 11.4**	**+0.9**
TKM2	**Tokmak 2** SNR=46	**4.12**	**281**	P	**Pn**	**22 05 19.9**	**+2.3**
TKM2	**Tokmak 2** 49nm,0.6s	**4.12**	**281**	⇓Pn	**Pn**	**22 05 20.1**	**+2.5**
TKM2				⇓Sn	**Sb**	**22 06 13.6**	**-3.4**
	146nm,0.7s						
TKM2	**Tokmak 2**	**4.12**	**281**	*e*Pn	**Pn**	**22 05 19.8**	**+2.3**
TKM2				*e*Sn	**Sn**	**22 06 05.6**	**-0.3**
KZA	**Kyzart** SNR=35	**4.35**	**270**	P	**Pn**	**22 05 23.4**	**+2.5**
KBK	**Karagaybulak** SNR=38	**4.57**	**277**	P	**Pn**	**22 05 25.4**	**+1.7**
MK01	**Makanchi Array**	**4.60**	**10**	*e*Pn	**Pn**	**22 05 27.1**	**+3.1**
MK01				*e*Sn	**Sn**	**22 06 14.6**	**-2.9**
MK31	**Makanchi Array** 4.8nm,0.2s,baz=192,slow=13,SNR=805	**4.62**	**10**	⇑Pn	Pn	22 05 27.6	+3.3
MK31				⇑Sn	Sn	22 06 25.2	+7.1
	57nm,1.1s,baz=181,slow=25,SNR=3.5						
MK31				⇓Lg	Lg	22 06 40.7	
	29nm,0.5s,baz=192,slow=30,SNR=5.4						
MK32	**Makanchi Array**	**4.62**	**10**	*e*Pn	**Pn**	**22 05 27.3**	**+3.0**
MK32				*e*Sn	Sn	22 06 25.4	+7.4
MK32				*e*Lg	Lg	22 06 42.6	
MKAR	**Makanchi Array** 10nm,0.3s,baz=192,slow=10,SNR=155	**4.62**	**10**	Pn	**Pn**	**22 05 27.3**	**+3.1**
MKAR				Sn	Sn	22 06 25.4	+7.4
	5.5nm,0.3s,baz=179,slow=23,SNR=4.5						
MKAR				Lg	Lg	22 06 42.6	
	11nm,0.3s,baz=189,slow=32,SNR=9.0						
MKAR				LR	LR	22 07 22.4	
	comp=Z,48nm,18.3s,baz=216,slow=39						
MKAR	**Makanchi Array**	**4.62**	**10**	*e*Pn	**Pn**	**22 05 27.4**	**+3.1**
MKAR				*e*Sn	**Sn**	**22 06 14.2**	**-3.8**
CHMS	**Chumysh** SNR=6.2	**4.74**	**281**	P	Pn	22 05 29.9	+3.9
KSH	**Kashi**	**4.75**	**237**	Pn	Pb	22 05 33.4	-4.4
KSH				Sn	**Sb**	**22 06 36.3**	**+1.3**
KSH				smax	smax		
	comp=N,68nm,0.9s						
KSH				smax	smax		
	comp=E,74nm,1.1s						
UCH	**Uchtor** SNR=22	**4.89**	**272**	P	**Pn**	**22 05 30.7**	**+2.3**
AAK	**Ala-Archa** SNR=9.5	**4.90**	**277**	P	**Pb**	**22 05 43.0**	**+2.6**
AAK	**Ala-Archa** comp=E,6.8nm,0.7s	**4.90**	**277**	⇑Pn	**Pn**	**22 05 29.5**	**+1.2**
AAK				⇓Pg	**Pb**	**22 05 40.8**	**+0.4**
	comp=E,65nm,0.9s						
AAK				⇓Lg	Lg	22 06 46.8	
	comp=E,78nm,0.8s						
AAK	**Ala-Archa**	**4.90**	**277**	*e*Pn	**Pn**	**22 05 30.9**	**+2.6**
AAK				*e*Sn	**Sn**	**22 06 31.0**	**+5.8**
USP	**Ospenovka** SNR=6.0	**4.96**	**284**	P	**Pn**	**22 05 30.5**	**+1.5**
EKS2	**Erkin-Say** SNR=17	**5.43**	**277**	P	**Pb**	**22 05 52.1**	**+2.7**
EKS2	**Erkin-Say**	**5.43**	**277**	*e*Pn	Pn	22 05 38.8	+3.3
EKS2				*e*Sn	**Sn**	**22 06 37.7**	**-0.5**
AML	**Almayashu** SNR=25	**5.50**	**271**	P	**Pb**	**22 05 49.5**	**-1.2**
SFK	**Sufi-Kurgan** comp=E,35nm,1.4s	**6.16**	**251**	⇑Pg	**Pb**	**22 06 03.3**	**+1.5**
SFK				⇑Lg	Lg	22 07 27.2	
	comp=E,72nm,1.4s						
KK31	**Karatay Array** comp=E,6.5nm,0.6s,baz=192,slow=30	**7.85**	**280**	⇓Pg	**Pb**	**22 06 33.6**	**+3.1**
KK31				⇑Lg	Lg	22 08 23.0	
	comp=E,12nm,0.6s,baz=82,slow=30						
KKAR	**Karatay Array**	**7.85**	**280**	*e*Pn	**Pn**	**22 06 11.4**	**+2.8**
KKAR				*e*Sn	**Sn**	**22 07 38.3**	**+0.8**
KURBB	**Kurchatov Arra** comp=E,3.3nm,0.6s	**8.56**	**349**	⇓Pn	**Pn**	**22 06 19.5**	**+1.2**
KURBB				⇑Lg	Lg	22 08 49.0	
	comp=E,150nm,1.6s						
KURBB	**Kurchatov Arra** comp=E,0.1nm,0.3s,baz=175,slow=12,SNR=3.9	**8.56**	**349**	Pn	**Pn**	**22 06 21.1**	**+2.8**
KURBB				Lg	Lg	22 08 46.9	
	comp=E,0.5nm,0.3s,baz=172,slow=29,SNR=11						
OTUK	**Ortayu** comp=E,3.4nm,0.5s	**8.61**	**317**	⇑Pn	**Pn**	**22 06 20.9**	**+2.0**
OTUK				⇑Lg	Lg	22 08 49.0	
	comp=E,77nm,1.8s						
KURK	**Kurchatov** comp=E,6.9nm,1.1s	**8.64**	**349**	⇓Pn	**Pn**	**22 06 20.3**	**+0.9**
KURK				⇓Lg	Lg	22 08 49.5	
	comp=E,22nm,1.0s						
KURK	**Kurchatov**	**8.64**	**349**	*e*Pn	**Pn**	**22 06 21.1**	**+1.8**
CHCP	**Chirah Chowk**	**10.57**	**218**	P	**Pn**	**22 06 44.2**	**-1.7**
CEP	**Cherat**	**11.10**	**224**	⇓P	**Pn**	**22 06 52.2**	**-1.0**
CEP				S	**Sn**	**22 08 52.0**	**-5.4**
ZAA0	**Zalesovo Array**	**11.97**	**11**	*e*Pn	**Pn**	**22 07 06.1**	**+1.2**
ZALV	**Zalesovo Beam** comp=E,0.5nm,0.3s,baz=196,slow=13,SNR=6.4	**11.97**	**11**	Pn	**Pn**	**22 07 05.1**	**+0.3**
ZAA1	**Zalesovo Array**	**11.97**	**11**	*e*Pn	**Pn**	**22 07 05.1**	**+0.2**
THW	**Thamme Wali**	**12.00**	**221**	P	**Pn**	**22 07 04.3**	**-1.2**
BVA0	**Borovoye Array** comp=E,11nm,1.1s	**12.96**	**330**	⇑Lg	Lg	22 11 05.4	
BVAR	**Borovoye Array** comp=E,0.2nm,0.3s,baz=138,slow=12,SNR=3.8	**12.96**	**330**	Pn	**Pn**	**22 07 21.0**	**+2.6**
GTA	**Gaotai**	**14.45**	**95**	*e*P	**Pn**	**22 07 39.8**	**+0.8**
GTA				pP	**P**	**22 07 43.3**	**-2.6**
GTA				sP		22 07 46.1	
GTA				S	**Sn**	**22 10 22.1**	**+2.8**
GTA				sS	S	22 10 28.3	-11
GTA				SS	**SnSn**	**22 10 39.4**	**+7.8**
GTA	comp=E,4.0nm,0.9s			PMZ			
GTA	comp=E,94nm,4.3s			PMZ			
GTA	comp=E,93nm,14.7s			LN			
GTA	comp=E,63nm,15.7s			LE			
LSA	**Lhasa**	**14.92**	**144**	*e*Pn	**P**	**22 07 51.3**	**-0.2**
AB31	**Akbulak array** comp=E,0.9nm,0.5s,baz=101,slow=13,SNR=24	**16.31**	**303**	⇓Pn	**Pn**	**22 08 02.8**	**-0.6**
ABKAR	**Akbulak array** comp=E,1.2nm,0.4s	**16.31**	**303**	*e*Pn	**Pn**	**22 08 02.8**	**-0.6**
AKTO	**Aktyubinsk** comp=E,4.1nm,1.4s	**17.86**	**305**	⇑Pn	**Pn**	**22 08 21.8**	**-1.0**
AKTO	**Aktyubinsk** comp=E,0.1nm,0.3s,baz=106,slow=15,SNR=2.5	**17.86**	**305**	P	**Pn**	**22 08 23.6**	**+0.7**
AKTO				LR	LR	22 15 28.1	
	comp=E,77nm,18.1s,baz=102,slow=38						
SONA0	**Songino Array**	**18.69**	**64**	*e*P	**Pn**	**22 08 33.3**	**+0.2**
SONM	**Songino Array** comp=E,0.3nm,0.3s,baz=262,slow=12,SNR=8.4	**18.69**	**64**	P	**Pn**	**22 08 33.3**	**+0.2**
ARU	**Arti** comp=E,6.3nm,0.6s	**20.29**	**322**	*e*P	**P**	**22 08 50.7**	**+0.7**
CM31	**Chiang Mai Arr**	**28.16**	**142**	*e*P	**P**	**22 10 08.4**	**+1.6**
CMAR	**Chiang Mai Arr** comp=E,0.5nm,0.7s,baz=316,slow=8.8,SNR=4.1	**28.16**	**142**	P	**P**	**22 10 08.4**	**+1.6**
PALK	**Pallekele** comp=E,59nm,19.1s,baz=360,slow=40	**34.83**	**181**	LR	LR	22 27 17.5	
RAYN	**Ar Rayn** comp=E,60nm,2.9s	**34.91**	**249**	*e*P	**P**	**22 11 05.2**	**-1.1**
BR101	**Keskin Array S**	**35.55**	**282**	*e*P	**P**	**22 11 11.4**	**-0.4**
BRTR	**Keskin Array B** comp=E,1.0nm,0.7s,baz=92,slow=9.1,SNR=6.5	**35.55**	**282**	P	**P**	**22 11 11.4**	**-0.4**
KS15	**Wonju Array Si**	**35.89**	**82**	*e*P	**P**	**22 11 14.2**	**-0.3**
KSRS	**Korea Array** comp=E,0.9nm,0.4s,baz=292,slow=9.2,SNR=4.0	**35.91**	**82**	P	**P**	**22 11 14.2**	**-0.4**
KEV	**Kevo** comp=E,79nm,1.6s	**38.78**	**333**	*e*P	P	22 11 35.4	-3.2
NB200	**NORSAR Array S**	**44.81**	**320**	*e*P	**P**	**22 12 27.7**	**-0.4**
NOA	**NORSAR Array B** comp=E,0.7nm,0.8s,baz=83,slow=7.2,SN

MAW					LR	LR	22 30 16.7	
	comp=Z,196nm,18.2s,baz=240,slow=36							
MAW	**Mawson**	**38.71**	**143**	*e*P	**P**		**22 14 17.9**	**-1.5**
	2.9nm,0.9s							
SBA	**Scott Base**	**40.40**	**187**	*e*P	**P**		**22 14 34.3**	**+0.9**
	19nm,0.9s							
VNDA	**Vanda**	**40.99**	**186**	P	**P**		**22 14 39.3**	**+0.9**
	14nm,0.9s,baz=182,slow=7.2,SNR=66							
VNDA	**Vanda**	**40.99**	**186**	*e*P	**P**		**22 14 39.3**	**+0.9**
	17nm,0.9s							
LVC	**Limon Verde**	**44.82**	**315**	*e*P	**P**		**22 15 11.2**	**+1.0**
	103nm,2.1s							
LVC				*e*PcP	**PcP**		**22 16 51.9**	**-0.1**
BDFB	**Brasilia**	**46.40**	**344**	P	**P**		**22 15 22.3**	**-0.4**
	7.9nm,1.0s,baz=153,slow=8.1,SNR=8.3							
BDFB				LR	LR		22 31 49.6	
	comp=Z,125nm,21.0s,baz=186,slow=32							
BDFB	**Brasilia**	**46.40**	**344**	*e*P	**P**		**22 15 22.8**	**+0.2**
BDFB				*e*PP	PP		22 17 07.8	-3.8
CASY	**Casey**	**50.36**	**163**	*e*P	**P**		**22 15 52.8**	**+0.3**
	18nm,0.9s							
LPAZ	**La Paz**	**50.45**	**319**	P	**P**		**22 15 54.5**	**+0.1**
	2.4nm,0.5s,baz=152,slow=6.7,SNR=14							
LPAZ				PcP	**PcP**		**22 17 12.9**	**+0.4**
	2.8nm,0.8s,baz=137,slow=4.6,SNR=4.7							
LPAZ				LR	LR		22 37 13.0	
	comp=Z,95nm,21.2s,baz=150,slow=36							
LPAZ	**La Paz**	**50.45**	**319**	*e*P	**P**		**22 15 54.9**	**+0.5**
	19nm,1.4s							
LPAZ				*e*PcP	**PcP**		**22 17 12.9**	**+0.4**
BOSA	**Boshof**	**51.59**	**80**	P	**P**		**22 16 01.9**	**-0.4**
	4.6nm,0.8s,baz=204,slow=5.3,SNR=6.2							
H10S2	**ASCENSION HYDR**	**54.57**	**26**	T	T		23 16 02.5	
	baz=192,slow=75,SNR=606							
H10S3	**ASCENSION HYDR**	**54.58**	**26**	T	T		23 16 02.7	
	baz=192,slow=75,SNR=979							
H10S1	**ASCENSION HYDR**	**54.59**	**26**	T	T		23 16 03.8	
	baz=192,slow=75,SNR=744							
LBTB	**Lobatse**	**54.79**	**78**	P	**P**		**22 16 26.1**	**+0.2**
	6.1nm,0.7s,baz=212,slow=8.6,SNR=12							
LBTB	**Lobatse**	**54.79**	**78**	*e*P	**P**		**22 16 25.1**	**-0.9**
	71nm,1.5s							
RCBR	**Riachuelo**	**55.34**	**0**	*e*P	**P**		**22 16 29.8**	**-0.1**
	72nm,1.6s							
H10N1	**ASCENSION HYDR**	**55.69**	**26**	T	T		23 17 15.6	
	baz=192,slow=75,SNR=527							
H10N3	**ASCENSION HYDR**	**55.69**	**26**	T	T		23 17 19.9	
	baz=192,slow=75,SNR=727							
H10N2	**ASCENSION HYDR**	**55.70**	**26**	T	T		23 17 26.8	
	baz=192,slow=75,SNR=603							
SAML	**Samuel**	**55.97**	**327**	*e*P	**P**		**22 16 34.5**	**+0.2**
	40nm,0.9s							
MATP	**Matopo**	**60.09**	**78**	P	**P**		**22 17 03.0**	**-0.3**
	4.9nm,0.7s,baz=214,slow=6.7,SNR=7.4							
PTGA	**Pitinga**	**63.11**	**333**	*e*P	**P**		**22 17 22.4**	**-1.2**
	13nm,0.8s							
LSZ	**Lusaka**	**64.40**	**74**	P	**P**		**22 17 32.5**	**+0.2**
	8.2nm,0.8s,baz=179,slow=6.3,SNR=13							
OTAV	**Otavalo**	**69.35**	**314**	*e*P	**P**		**22 18 04.8**	**+0.6**
	82nm,1.5s							
KIC	**Kosan Boka**	**71.71**	**33**	*e*P	**P**		**22 18 18.2**	**+0.2**
	52nm,1.0s							
TIC	**Toumodi**	**71.91**	**33**	*e*P	**P**		**22 18 19.3**	**+0.1**
DBIC	**Dimbokro**	**71.98**	**33**	P	**P**		**22 18 20.2**	**+0.6**
	19nm,0.9s,baz=180,slow=7.4,SNR=10							
DBIC				LR	LR		22 42 50.1	
	comp=Z,81nm,21.1s,baz=154,slow=30							
DBIC	**Dimbokro**	**71.98**	**33**	*e*P	**P**		**22 18 19.2**	**-0.3**
	22nm,0.9s							
ROSC	**El Rosal**	**72.31**	**320**	LR	LR		22 51 22.0	
	comp=Z,72nm,19.5s,baz=173,slow=37							
RKT	**Rikitea**	**74.18**	**251**	*e*T	T		23 39 33.8	
	2.3nm,0.3s							
SDV	**Santo Domingo**	**75.04**	**324**	*e*P	**P**		**22 18 37.9**	**+0.1**
	21nm,0.8s							
TOA0	**Torodi Ar. Sit**	**79.97**	**37**	*e*P	**P**		**22 19 04.2**	**-0.9**
TOA0	**Torodi Ar. Sit**	**79.97**	**37**	*e*P	**P**		**22 19 05.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**79.97**	**37**	P	**P**		**22 19 05.5**	**+0.4**
	20nm,0.9s,baz=198,slow=6.4,SNR=66							
TORD				LR	LR		22 47 37.0	
	comp=Z,153nm,20.6s,baz=215,slow=30							
KMBO	**Kilima Mbogo**	**81.02**	**76**	LR	LR		22 52 10.5	
	comp=Z,106nm,18.4s,baz=163,slow=34							
PPT2	**Papeete2**	**85.47**	**241**	*e*LR	LR		22 46 35.0	
	187nm,22.0s							
STKA	**Stephens Creek**	**87.14**	**178**	LR	LR		22 56 53.3	
	comp=Z,83nm,18.1s,baz=195,slow=34							
AS12	**Alice Springs**	**94.95**	**171**	*e*PP	PP		22 24 06.2	-0.4
ASAR	**Alice Springs**	**94.95**	**171**	PP	PP		22 24 06.2	-0.4
	0.9nm,0.8s,baz=187,slow=9.5,SNR=5.0							
WRA	**Warramunga Arr**	**98.68**	**171**	P	**P**		**22 20 33.5**	**-1.9**
	0.7nm,0.8s,baz=182,slow=3.9,SNR=3.3							
WRA				LR	LR		23 04 27.4	
	comp=Z,222nm,19.1s,baz=195,slow=35							
GEC2	**GERESS Array S**	**116.82**	**34**	*e*PKPdf	**PKPdf**		**22 25 38.4**	**-1.1**
GERES	**GERESS Array B**	**116.82**	**34**	PKP	**PKPdf**		**22 25 38.4**	**-1.1**
	0.2nm,0.3s,baz=240,slow=5.5,SNR=2.7							
AKASG	**Malin Array Be**	**123.18**	**44**	PKP	**PKPdf**		**22 25 51.1**	**-0.4**
	254nm,1.1s,baz=243,slow=1.6,SNR=6.4							
AKBB	**Malin Array Si**	**123.18**	**44**	*e*PKPdf	**PKPdf**		**22 25 51.1**	**-0.4**
CM31	**Chiang Mai Arr**	**126.83**	**123**	*e*PKPdf	**PKPdf**		**22 25 59.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**126.83**	**123**	PKP	**PKPdf**		**22 25 59.0**	**-0.6**
	1.0nm,0.3s,baz=250,slow=2.2,SNR=5.1							
NB2	**NORSAR Subarra**	**127.26**	**27**	PKPdf	**PKPdf**		**22 25 58.5**	**-0.6**
	comp=Z,5.8nm,1.4s,baz=202,slow=1.9							
NB200	**NORSAR Array S**	**127.26**	**27**	*e*PKPdf	**PKPdf**		**22 25 59.0**	**-0.1**
NOA	**NORSAR Array B**	**127.26**	**27**	PKP	**PKPdf**		**22 25 59.0**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=208,slow=2.1,SNR=6.7							
FIA0	**FINESS Array S**	**131.26**	**34**	*e*PKPdf	**PKPdf**		**22 26 05.4**	**-1.2**
FINES	**FINESS Array B**	**131.26**	**34**	PKP	**PKPdf**		**22 26 05.4**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=147,slow=4.5,SNR=11							
QIZ	**Qiongzhong**	**131.44**	**135**	PKP	**PKPdf**		**22 26 09.3**	**+1.0**
QIZ				PP	**PP**		**22 28 28.0**	**+1.2**
QIZ				SS	SS		22 46 03.0	+3.2
QIZ				LZ				
	comp=Z,780nm,16.1s							
ABKAR	**Akbulak array**	**133.98**	**65**	*e*PKPdf	**PKPdf**		**22 26 12.3**	**+0.1**
KMI	**Kunming**	**134.33**	**123**	PKP	**PKPdf**		**22 26 15.3**	**+1.4**
YKA	**Yellowknife Ar**	**136.99**	**318**	PKP	**PKPdf**		**22 26 16.3**	**-1.0**
	comp=Z,2.9nm,1.0s,baz=133,slow=2.2,SNR=6.3							
YKB5	**Yellowknife Ar**	**136.99**	**318**	*e*PKPdf	**PKPdf**		**22 26 16.1**	**-1.2**
GYA	**Guiyang**	**137.08**	**127**	*e*Pdif	**Pdif**		**22 23 25.8**	**-0.2**
GYA				PKP	**PKPdf**		**22 26 19.0**	**+0.1**
GYA				PP	**PP**		**22 29 06.4**	**+3.5**
GYA				PPMZ				
	comp=Z,120nm,8.0s							
ARA0	**ARCESS Array S**	**137.63**	**27**	*e*PKPdf	**PKPdf**		**22 26 19.3**	**+1.0**
ARCES	**ARCESS Array B**	**137.63**	**27**	PKP	**PKPdf**		**22 26 19.3**	**+1.0**
	comp=Z,3.2nm,0.7s,baz=230,slow=3,SNR=12							
CD2	**Chengdu**	**139.86**	**121**	PKP	**PKPdf**		**22 26 23.3**	**-0.4**
CD2				sPKP			22 26 30.5	
CD2				PP	**PP**		**22 29 19.9**	**-0.2**
CD2				SKS	**SKSdf**		**22 33 32.9**	**-1.0**
CD2				SKKS	**SKKSac**		**22 36 12.1**	**-1.5**
CD2				SS	**SS**		**22 47 42.1**	**+1.1**
CD2				PPMZ				
	comp=Z,140nm,5.2s							
BRVK	**Borovoye**	**141.26**	**68**	*e*PKPdf	**PKPdf**		**22 26 24.6**	**-0.9**
MK01	**Makanchi Array**	**142.51**	**84**	*e*PKPpre	PKPpre		22 26 23.3	
MK32	**Makanchi Array**	**142.52**	**84**	*e*PKPpre	PKPpre		22 26 23.1	
MKAR	**Makanchi Array**	**142.52**	**84**	PKhKP	PKPpre		22 26 23.1	
	comp=Z,0.5nm,0.7s,baz=191,slow=1.2,SNR=5.3							
MKAR	**Makanchi Array**	**142.52**	**84**	*e*PKPpre	PKPpre		22 26 24.6	
WMQ	**Urumqi**	**142.96**	**92**	PKP	**PKPdf**		**22 26 29.8**	**+0.9**
WMQ				PP	**PP**		**22 29 42.3**	**+3.1**
WMQ				PPMZ				
	comp=Z,27nm,10.0s							
HYT	**Haines Junctio**	**144.15**	**305**	*e*PKPdf	**PKPab**		**22 26 28.6**	**+0.4**
GTA	**Gaotai**	**145.29**	**109**	⇑PKPbc	**PKPbc**		**22 26 33.8**	**+0.8**
GTA				pPKP	PKiKP		22 26 44.3	+7.2
GTA				PP	**PP**		**22 29 57.5**	**+4.4**
GTA				SKS	**SKSdf**		**22 33 37.4**	**-4.7**
GTA				SKKS	**SKKSac**		**22 36 41.5**	**-3.3**
GTA				SS	**SS**		**22 48 43.6**	**-0.6**
GTA				PPMZ				
	comp=Z,110nm,5.7s							
GTA				LN				
	comp=Z,92nm,15.4s							
GTA				LE				
	comp=Z,83nm,17.1s							
GTA				LZ				
	comp=Z,70nm,15.7s							
DAWY	**Dawson**	**146.68**	**309**	*e*PKPdf	**PKPdf**		**22 26 31.5**	**-3.2**
INK	**Inuvik**	**146.76**	**318**	PKPbc	**PKPdf**		**22 26 35.7**	**+1.2**
	comp=Z,11nm,0.5s,baz=131,slow=2.5,SNR=12							
INK	**Inuvik**	**146.76**	**318**	*e*PKPdf	**PKPdf**		**22 26 35.5**	**+1.0**

BMRM	**Bremner River**	**147.09**	**302**	*e*PKPdf	**PKPdf**		**22 26 37.8**	**+2.4**
DIV	**Divide**	**147.66**	**301**	*e*PKPbc	**PKPbc**		**22 26 39.2**	**0.0**
EGAK	**Eagle**	**147.71**	**309**	*e*PKPdf	**PKPdf**		**22 26 38.2**	**+1.9**
ZAA0	**Zalesovo Array**	**148.50**	**76**	*e*PKPdf	**PKPdf**		**22 26 35.6**	**-2.2**
ZALV	**Zalesovo Beam**	**148.50**	**76**	PKP	**PKPdf**		**22 26 35.5**	**-2.4**
	comp=Z,2.2nm,0.7s,baz=251,slow=4.5,SNR=3.9							
ZALV				PKPbc	**PKPbc**		**22 26 40.5**	**-1.0**
	comp=Z,2.7nm,0.8s,baz=250,slow=4.4,SNR=8.8							
ZAA1	**Zalesovo Array**	**148.50**	**76**	*e*PKPdf	**PKPdf**		**22 26 35.5**	**-2.4**
ZAA1				*e*PKPbc	**PKPbc**		**22 26 40.5**	**-1.0**
ILAR	**Eielson Array**	**149.88**	**307**	PKPbc	**PKPbc**		**22 26 43.9**	**-0.8**
	comp=Z,11nm,0.9s,baz=160,slow=2.0,SNR=72							
ILB	**Eielson Array**	**149.88**	**307**	*e*PKPbc	**PKPbc**		**22 26 43.9**	**-0.8**
RND	**Reindeer**	**150.04**	**304**	*e*PKPbc	**PKPbc**		**22 26 45.2**	**0.0**
CCB	**Clear Creek Bu**	**150.18**	**306**	*e*PKPbc	**PKPbc**		**22 26 44.4**	**-1.0**
WRH	**Wood River Hil**	**150.21**	**306**	*e*PKPbc	**PKPbc**		**22 26 44.8**	**-0.7**
MCK	**McKinley**	**150.22**	**304**	*e*PKPbc	**PKPbc**		**22 26 45.4**	**-0.2**
COLA	**College**	**150.29**	**307**	*e*PKPbc	**PKPbc**		**22 26 45.5**	**-0.1**
MDM	**Murphy Dome**	**150.48**	**307**	*e*PKPbc	**PKPbc**		**22 26 45.3**	**-0.8**
BWN	**Browne**	**150.62**	**305**	*e*PKPbc	**PKPbc**		**22 26 46.4**	**-0.1**
TRF	**Thorofare Moun**	**150.64**	**303**	*e*PKPbc	**PKPbc**		**22 26 46.4**	**-0.3**
BPAW	**Bear Paw Mtn.**	**151.20**	**304**	*e*PKPbc	**PKPbc**		**22 26 47.2**	**-0.6**
MLY	**Manley**	**151.48**	**306**	*e*PKPbc	**PKPbc**		**22 26 48.2**	**-0.3**
HHC	**Hu-ho-hao-te**	**151.61**	**121**	*e*PKPbc	**PKPdf**		**22 26 41.8**	**-1.6**
HHC				PKS	PKSdf		22 30 12.3	-5.7
HHC				PP	**PP**		**22 30 30.3**	**+0.4**
HHC				SKS	**SKSdf**		**22 33 47.4**	**-3.2**
HHC				SS	**SS**		**22 49 53.8**	**-1.1**
HHC				PPMZ				
	comp=Z,33nm,9.6s							
HHC				LN				
	comp=Z,120nm,20.3s							
HHC				LE				
	comp=Z,140nm,21.3s							
HHC				LZ				
	comp=Z,99nm,21.3s							
COLD	**Coldfoot**	**152.09**	**311**	*e*PKPdf	**PKPdf**		**22 26 45.4**	**+2.3**
BJI	**Beijing**	**152.75**	**129**	PKPbc	**PKPdf**		**22 26 45.8**	**+0.9**
BJI				PP	**PP**		**22 30 36.9**	**+0.8**
BJI				SKS	**SKSdf**		**22 33 53.3**	**+1.6**
BJI				SS	**SS**		**22 50 10.8**	**+3.8**
BJI				PPMZ				
	comp=Z,49nm,4.7s							
BJI				LN				
	comp=Z,120nm,5.0s							
BJI				LE				
	comp=Z,76nm,4.2s							
BJI				LZ				
	comp=Z,38nm,25.9s							
IM04	**Indian Mountai**	**153.01**	**307**	*e*PKPbc	**PKPbc**		**22 26 51.4**	**-0.5**
IM04				*e*PKPab	**PKPab**		**22 27 02.5**	**-1.0**
BILL	**Bilibino**	**168.37**	**315**	*e*PKPab	**PKPab**		**22 28 10.2**	**-0.1**

TIR 15 22:45:27.5±0.6, 39.96N×20.63E, h6km±10km, ML2.5, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.49**	**261**	*i* PG	Pb	22 45 39.0	+0.6
SRN				*i* SG	Sb	22 45 47.6	+1.7
KBN	**Korca**	**0.67**	**10**	*i* PG	Pb	22 45 42.0	+0.1
KBN				*i* SG	Sb	22 45 52.8	+1.3

*IDC **15** 22:53:32.2±0.8, 14.57S×173.82W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.0/28, mbtmp4.0/7, MS3.9/10, Ms1 3.8/10, ms1mx3.7/21, Error ellipse: s-maj=36.7km s-min=20.3km az=130.0*

*ISCJB **15** 22:53:35.3±0.8, 14.5S±0.2×173.9W±0.2, h33km, mb3.9/7, MS3.9/9, Error ellipse: s-maj=32.4km s-min=17.7km az=38.7*

ISC 15 22:53:37.4±0.8, 14.5S±0.2×173.9W±0.2, h35km, n34, σ1§78/15, mb3.9/7, MS4.0/9, 5C-2D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.00**	**118**	LR	LR	23 00 50.2	
	comp=Z,313nm,21.6s,baz=291,slow=29						
DZM	**Mont Dzumac**	**20.12**	**245**	*e*LR	LR	23 03 03.7	
	870nm,26.2s						
DZM	**Mont Dzumac**	**20.12**	**245**	LR	LR	23 04 44.0	
	comp=Z,456nm,20.6s,baz=359,slow=33						
PPT	**Papeete**	**23.56**	**101**	LR	LR	23 04 59.0	
	comp=Z,199nm,21.3s,baz=262,slow=29						
PPT2	**Papeete2**	**23.57**	**101**	*e*LQ	LQ	23 03 05.0	
	907nm,27.8s						
PPT2				*e*LR	LR	23 04 05.4	
	536nm,25.0s,baz=267						
PAE	**Paea**	**23.57**	**101**	*e*T	T	23 21 15.8	
	3.6nm,0.3s						
TBI	**Tubuai**	**24.70**	**115**	*e*LR	LR	23 04 42.3	
	532nm,26.5s						
URZ	**Urewera**	**24.97**	**197**	P	**P**	**22 58 58.1**	**+0.3**
	4.4nm,0.8s,baz=299,slow=13,SNR=1.9						
URZ				LR	LR	23 07 37.9	
	comp=Z,478nm,20.1s,baz=20,slow=34						
RKT	**Rikitea**	**37.73**	**109**	*e*LR	LR	23 10 26.7	
	428nm,29.8s						
RKT	**Rikitea**	**37.73**	**109**	*e*T	T	23 39 01.4	
	2.8nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**37.95**	**329**	T	T	23 42 28.6	
	baz=147,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**37.96**	**329**	T	T	23 42 28.1	
	baz=147,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**37.97**	**329**	T	T	23 42 05.5	
	baz=147,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**38.90**	**330**	T	T	23 43 30.7	
	baz=149,slow=76,SNR=3.0						
H11N1	**WAKE ISLAND Hy**	**38.90**	**330**	T	T	23 43 31.1	
	baz=149,slow=76,SNR=7.7						
H11N2	**WAKE ISLAND Hy**	**38.91**	**330**	T	T	23 43 32.0	
	baz=149,slow=76,SNR=4.1						
STKA	**Stephens Creek**	**44.08**	**239**	LR	LR	23 17 31.8	
	comp=Z,75nm,21.3s,baz=27,slow=33						
WRA	**Warramunga Arr**	**49.59**	**256**	P	**P**	**23 02 25.5**	**-0.1**
	1.3nm,0.5s,baz=90,slow=7.3,SNR=36						
ASAR	**Alice Springs**	**49.94**	**251**	P	**P**	**23 02 27.1**	**-1.2**
	7.0nm,0.6s,baz=86,slow=8.0,SNR=113						
ASAR				LR	LR	23 21 45.6	
	comp=Z,178nm,21.7s,baz=92,slow=34						
VNDA	**Vanda**	**64.22**	**186**	P	**P**	**23 04 08.3**	**0.0**
	0.9nm,0.8s,baz=334,slow=2.3,SNR=4.8						
VNDA				LR	LR	23 31 23.4	
	comp=Z,30nm,18.5s,baz=8.0,slow=35						
USRK	**Ussuriysk Ar.**	**76.38**	**323**	LR	LR	23 36 17.0	
	comp=Z,102nm,18.7s,baz=188,slow=34						
TXAR	**Lajitas Array**	**80.51**	**56**	P	**P**	**23 05 45.9**	**-0.6**
	0.4nm,0.8s,baz=239,slow=9.0,SNR=3.3						
TXAR				LR	LR	23 33 20.0	
	comp=Z,75nm,21.6s,baz=0.0,slow=30						
ILAR	**Eielson Array**	**81.66**	**11**	P	**P**	**23 05 52.8**	**+1.1**
	0.3nm,0.6s,baz=198,slow=5.7,SNR=3.6						
PDAR	**Pinedale Array**	**81.92**	**42**	P	**P**	**23 05 52.5**	**-1.2**
	0.4nm,0.4s,baz=197,slow=4.7,SNR=3.7						
PDAR				LR	LR	23 36 15.0	
	comp=Z,60nm,18.9s,baz=238,slow=31						
MLR	**Muntele Rosu**	**144.85**	**336**	⇑*i*P	**PKPdf**	**23 13 12.0**	**+0.9**
KHC	**Kasperske Hory**	**144.92**	**351**	*e*P	**PKPdf**	**23 13 11.8**	**+0.9**
KHC				*ex*	x	23 13 18.6	
KHC				*ex*	x	23 13 25.7	
DRGR		**144.94**	**340**	⇑*i*P	**PKPdf**	**23 13 15.5**	**+4.4**
BRTR	**Keskin Array B**	**145.16**	**321**	PKPbc	**PKPdf**	**23 13 12.8**	**+1.0**
	4.0nm,0.9s,baz=94,slow=1.6,SNR=15						
GERES	**GERESS Array B**	**145.18**	**351**	PKPbc	**PKPdf**	**23 13 13.3**	**+1.8**
	0.7nm,0.7s,baz=53,slow=3.9,SNR=3.2						
VOIR		**145.25**	**336**	⇓*i*P	**PKPbc**	**23 13 08.6**	**-2.8**
PSN	**Preselentsi**	**145.32**	**331**	⇑*i*P	PKPdf	23 13 18.1	+6.4
BZS	**Buzias**	**146.33**	**340**	⇑*i*P	PKPab	23 13 21.5	+6.1
PKSM	**Moragy**	**146.68**	**344**	⇑*i*P	**PKPdf**	**23 13 14.1**	**+0.2**
VTS	**Vitosha**	**148.36**	**336**	⇓*i*P	**PKPab**	**23 13 24.1**	**+0.4**

*ISCJB **15** 23:00:43.5±0.6, 7.25N±0.09×91.74E±0.09, h20km, mb4.0/9, MS3.5/3, Error ellipse: s-maj=16.0km s-min=6.9km az=44.5*

*IDC **15** 23:00:43.2±0.9, 7.39N×91.76E, h0km, mb3.9/8, mb1 4.2/11, mb1mx3.9/32, mbtmp4.0/11, ML4.2/3, MS3.6/4, Ms1 3.6/4, ms1mx3.0/29, Error ellipse: s-maj=31.6km s-min=17.2km az=47.0*

ISC 15 23:00:45.8±0.8, 7.3N±0.1×91.71E±0.10, h20km, n26, σ0§85/22, mb4.3/15, MS3.5/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.46**	**121**	Pn	**Pn**	**23 02 47.3**	**-0.1**
	1.1nm,0.3s,baz=225,slow=4.3,SNR=2.3						
PSI				Sn	**Sn**	**23 04 21.6**	**-0.7**
	1.8nm,0.3s,baz=71,slow=18,SNR=3.6						
PALK	**Pallekele**	**10.92**	**271**	Pn	**Pn**	**23 03 19.7**	**-1.3**
	7.9nm,0.3s,baz=85,slow=14,SNR=44						
PALK				Sn	Sn	23 05 12.1	-11
	5.8nm,0.3s,baz=355,slow=16,SNR=10						
PALK				LR	LR	23 07 15.4	
	comp=Z,317nm,18.1s,baz=84,slow=36						
CMAR	**Chiang Mai Arr**	**13.15**	**32**	Pn	**Pn**	**23 03 51.4**	**-0.2**
	0.3nm,0.3s,baz=232,slow=14,SNR=22						
ODAN	**Odare**	**19.90**	**349**	*e*P	**P**	**23 05 17.1**	**+0.7**
	19nm,0.5s						
RAMN	**Ramite**	**20.15**	**347**	*e*P	**P**	**23 05 20.2**	**+1.0**
	24nm,0.5s						
TAPN	**Taplejung**	**20.32**	**350**	*e*P	**P**	**23 05 21.9**	**+0.9**
	75nm,0.9s						
PKI	**Pulchoki**	**21.04**	**344**	*e*P	**P**	**23 05 29.0**	**+0.1**
	46nm,1.0s						
DMN	**Daman**	**21.16**	**344**	*e*P	**P**	**23 05 30.2**	**+0.1**
	22nm,0.6s						
LEM	**Lembang**	**21.18**	**131**	LR	LR	23 13 47.3	
	comp=Z,182nm,19.8s,baz=239,slow=37						
GUN	**Gumba**	**21.25**	**346**	*e*P	**P**	**23 05 31.5**	**+0.4**
	82nm,0.6s						
KKN	**Kakani**	**21.29**	**344**	*e*P	**P**	**23 05 32.1**	**+0.7**
	26nm,0.8s						
GKN	**Gorkha**	**21.67**	**343**	*e*P	**P**	**23 05 35.5**	**+0.1**
	38nm,0.6s						
KOLN	**Koldanda**	**21.78**	**340**	*e*P	**P**	**23 05 36.9**	**+0.3**
	41nm,0.7s						
DANN	**Dangsing**	**22.26**	**341**	*e*P	**P**	**23 05 42.0**	**+0.1**
H08S3	**Diego Garcia H**	**24.23**	**233**	T	T	23 32 46.8	
	baz=52,slow=75,SNR=13						
H08S2	**Diego Garcia H**	**24.23**	**233**	T	T	23 32 52.0	
	baz=52,slow=75,SNR=11						
H08S1	**Diego Carcia H**	**24.24**	**233**	T	T	23 32 51.9	
	baz=52,slow=75,SNR=5.0						
MKAR	**Makanchi Array**	**40.19**	**350**	P	**P**	**23 08 20.5**	**-0.3**
	1.6nm,0.7s,baz=163,slow=8.9,SNR=12						
MKAR				LR	LR	23 28 26.9	
	comp=Z,43nm,18.6s,baz=164,slow=42						
SONM	**Songino Array**	**42.30**	**15**	P	**P**	**23 08 36.7**	**-1.6**
	1.8nm,0.6s,baz=184,slow=9.8,SNR=3.4						
ZALV	**Zalesovo Beam**	**46.86**	**354**	P	**P**	**23 09 14.3**	**-0.1**
	1.5nm,0.5s,baz=169,slow=8.6,SNR=14						
ZALV				LR	LR	23 31 10.5	
	comp=Z,77nm,21.7s,baz=250,slow=39						
WRA	**Warramunga Arr**	**49.92**	**124**	P	**P**	**23 09 39.2**	**+0.7**
	1.5nm,0.9s,baz=304,slow=8.8,SNR=9.2						
ASAR	**Alice Springs**	**51.42**	**128**	P	**P**	**23 09 50.7**	**+0.9**
	1.5nm,0.8s,baz=311,slow=7.2,SNR=12						
BRTR	**Keskin Array B**	**61.00**	**312**	P	**P**	**23 10 59.1**	**+1.0**
	0.5nm,0.7s,baz=99,slow=9.5,SNR=3.1						
FINES	**FINESS Array B**	**72.11**	**333**	P	**P**	**23 12 07.9**	**-0.7**
	1.9nm,0.8s,baz=120,slow=7.7,SNR=4.0						
GERES	**GERESS Array B**	**76.66**	**318**	P	**P**	**23 12 37.2**	**+1.7**
	0.2nm,0.3s,baz=157,slow=5.2,SNR=2.5						
BRG	**Berggiesshubel**	**76.66**	**320**	*e*(P)	P	23 12 43.1	+7.8
	17nm,1.7s						

IDC 15 23:21:41.9±1.6, 7.33N×91.50E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.5/31, mbtmp3.7/5, ML4.0/2, Error ellipse: s-maj=41.0km s-min=28.2km az=50.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.71**	**270**	Pn	Pn	23 24 16.7	-

32C-13D, Nicobar Islands region

Code	Station Name	Δ°	ΔZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMBY	**CAMPBELL BAY**	**2.09**	**101**	*e*P	**Pn**	**23 25 02.4**	**+1.6**
CMBY				*e*S	**Sn**	**23 25 27.9**	**+2.2**
CMBY				AML	AML	23 25 31.1	
	comp=E,19μm,0.4s						
CMBY				AML	AML	23 25 35.4	
	comp=N,12μm,0.5s						
PBA	**Port Blair**	**4.30**	**12**	*e*P	Pn	23 25 29.5	-1.7
PBA				*e*S	Sn	23 26 17.1	-3.3
LHMI	**Lhok Sumawe**	**5.51**	**113**	P	**Pn**	**23 25 47.9**	**+0.2**
	comp=N,168nm,1.1s,comp=N,3μmcomp=N,2.6nm						
LHMI				S	**Sn**	**23 26 49.5**	**-0.5**
	comp=N,168nm,1.1s,comp=N,3μmcomp=N,2.6nm						
LHMI	**Lhok Sumawe**	**5.51**	**113**	*e*Pn	**Pn**	**23 25 47.0**	**-0.7**
LHMI				*e*Sn	**Sn**	**23 26 50.5**	**+0.5**
DGPR	**DIGLIPUR**	**5.82**	**10**	*ex*	x	23 25 47.3	
DGPR				*e*P	**Pn**	**23 25 51.0**	**-1.1**
DGPR				*e*S	**Sn**	**23 26 53.3**	**-4.6**
PKDT	**Phuket**	**6.44**	**85**	P	**Pn**	**23 26 01.8**	**+1.2**
	comp=N,135nm,1.1s,comp=N,3μmcomp=N,0.8nm						
SURT	**Suratani**	**7.04**	**77**	P	**Pn**		
	comp=N,65nm,1.1s,comp=N,594nmcomp=N,0.2nm						
KRAB	**Krabi**	**7.32**	**83**	P	**Pn**	**23 26 13.6**	**+1.0**
	comp=N,113nm,1.0s,comp=N,1μmcomp=N,0.5nm						
TRTT	**Trang**	**7.78**	**86**	P	**Pn**	**23 26 19.8**	**+0.8**
	comp=N,58nm,1.1s,comp=N,904nmcomp=N,0.4nm						
SURA	**Surathani**	**7.89**	**77**	P	**Pn**	**23 26 22.6**	**+2.1**
	comp=N,170nm,0.8s,comp=N,11μmcomp=N,0.8nm						
GSI	**Gunungsitoli**	**8.33**	**137**	P	Pn	23 26 23.1	-3.4
	comp=N,43nm,1.1s,comp=N,2μm						
GSI				S	**Sn**	**23 27 54.0**	**-5.6**
	comp=N,43nm,1.1s,comp=N,2μm						
GSI	**Gunungsitoli**	**8.33**	**137**	*e*Pn	**Pn**	**23 26 24.8**	**-1.7**
GSI				*e*Sn	Sn	23 27 53.0	-6.5
PSI	**Prapat**	**8.40**	**123**	Pn	**Pn**	**23 26 28.6**	**+1.0**
	comp=N,1.3nm,0.3s,baz=327,slow=15,SNR=6.5						
PSI				Sn	**Sn**	**23 27 59.6**	**-1.9**
	comp=N,4.1nm,0.3s,baz=254,slow=13,SNR=8.4						
KULM	**Kulim**	**8.99**	**103**	*e*Pn	**Pn**	**23 26 34.5**	**-1.1**
IPM	**Ipoh**	**9.57**	**107**	*e*Pn	**Pn**	**23 26 42.6**	**-1.0**
IPM				*e*Sn	**Sn**	**23 28 26.9**	**-3.3**
MNSI	**Mandailing Nat**	**10.12**	**130**	P	**Pn**	**23 26 50.4**	**-0.8**
	comp=N,38nm,0.3s,comp=N,1μm						
MNSI				S	**Sn**	**23 28 38.4**	**-5.3**
	comp=N,38nm,0.3s,comp=N,1μm						
PALK	**Pallekele**	**11.06**	**270**	Pn	Pn	23 26 59.0	-5.1
	comp=N,26nm,0.3s,baz=92,slow=12,SNR=30						
PALK				Sn	Sn	23 28 49.9	-17
	comp=N,28nm,0.3s,baz=156,slow=18,SNR=13						
PALK				LR	LR	23 30 35.7	
	comp=N,3μm,21.8s,baz=83,slow=34						
PALK	**Pallekele**	**11.06**	**270**	P	Pn	23 26 59.0	-5.1
PALK				pmax	pmax		
	comp=Z,27nm,0.3s						
PALK				MLR	MLR		
	comp=Z,3μm,21.8s						
PALK	**Pallekele**	**11.06**	**270**	*e*Pn	Pn	23 26 59.6	-4.5
PALK				*e*Sn	Sn	23 28 49.5	-17
PALK				*e*Lg	Lg	23 30 35.7	
MHMT	**Maesarieng**	**12.22**	**28**	P	**Pn**	**23 27 21.4**	**+1.5**
	comp=Z,71nm,0.9s						
PBKT	**Sadao Pong**	**12.73**	**44**	P	**Pn**	**23 27 29.6**	**+2.7**
	comp=Z,30nm,1.0s						
CM01	**Chiang Mai Arr**	**12.94**	**32**	*e*Pn	Pn	23 27 20.5	-9.2
CM31	**Chiang Mai Arr**	**12.96**	**31**	*e*Pn	**Pn**	**23 27 29.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**12.96**	**31**	Pn	**Pn**	**23 27 29.9**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=225,slow=13,SNR=38						
MYKOM	**Kota Tinggi**	**13.19**	**114**	*e*Pn	**Pn**	**23 27 30.8**	**-2.4**
VIS	**Vishakhapatnam**	**13.19**	**322**	*i* P	Pn	23 27 28.5	-4.6
VIS				*i* S	Sn	23 29 42.0	-17
VIS				*i* S	Sn	23 29 42.0	-17
VIS				*ex*	x	23 29 50.9	
	comp=E,93nm,0.7s						
VIS				*ex*	x	23 29 55.9	
	comp=N,90nm,1.6s						
CHTO	**Chiang Mai**	**13.26**	**31**	*e*P	**Pn**	**23 27 33.4**	**-0.7**
CHTO	**Chiang Mai**	**13.26**	**31**	*e*Pn	**Pn**	**23 27 33.4**	**-0.7**
CMMT	**Chiang Mai**	**13.26**	**31**	P	**Pn**	**23 27 34.7**	**+0.6**
	comp=N,45nm,1.5s,comp=N,715nm						
UTTA	**Uttaradit**	**13.31**	**39**	P	**Pn**	**23 27 37.7**	**+2.9**
	comp=N,8.5nm,0.9s,comp=N,76nm						
CHLP	**Challavanipeta**	**13.38**	**326**	*e*Pn	Pn	23 27 30.9	-4.9
CHLP				IAmb	IAmb	23 27 44.4	
	comp=Z,52nm,0.7s						
CHLP				Sn	Sn	23 29 45.8	-18
CHLP				IVMs_BB	IVMs_BB	23 31 47.5	
	comp=Z,906nm,20.5s						
SKHT	**Srikalahasti**	**13.49**	**299**	*e*Pn	**Pn**	**23 27 35.8**	**-1.5**
SKHT				IAmb	IAmb	23 27 52.6	
	comp=Z,52nm,1.0s						
SKHT				Sn	Sn	23 29 47.2	-19
SKHT				IVMs_BB	IVMs_BB	23 37 02.7	
	comp=Z,788nm,15.1s						
PVM	**Polavaram**	**13.97**	**315**	*e*Pn	Pn	23 27 39.1	-4.7
PVM				IAmb	IAmb	23 27 51.4	
	comp=Z,27nm,1.3s						
PVM				Sn	Sn	23 29 57.1	-21
PVM				IVMs_BB	IVMs_BB	23 34 39.7	
	comp=Z,518nm,22.8s						
CMAI	**Chiengmai2**	**14.26**	**29**	P	**Pn**	**23 27 48.1**	**+0.2**
	comp=Z,64nm,1.0s						
ADKI	**Addanki**	**14.34**	**307**	*e*Pn	Pn	23 27 45.1	-3.7
ADKI				IAmb	IAmb	23 28 06.0	
	comp=Z,23nm,0.9s						
ADKI				Sn	Sn	23 30 04.2	-23
ADKI				IVMsBB		23 33 17.1	
	comp=Z,1000nm,5.4s						
TRD	**Trivandrum**	**14.80**	**275**	⇓ *ix*	P	23 28 05.2	+4.6
TRD				*i* S	**Sn**	**23 30 38.2**	**+0.2**
SKNT	**Sakolnakorn**	**15.18**	**50**	P	**Pn**	**23 28 01.7**	**+1.6**
	comp=Z,42nm,1.3s,comp=Z,2μm						
NJS	**Nagarjunasagar**	**15.26**	**308**	*e*Pn	**Pn**	**23 28 00.1**	**-1.1**
NJS				IAmb	IAmb	23 28 12.3	
	comp=Z,24nm,1.0s						
NJS				Sn	Sn	23 30 27.8	-22
NJS				IVMs_BB	IVMs_BB	23 34 38.0	
	comp=Z,862nm,4.5s						
SRLM	**Srisailam**	**15.34**	**305**	*e*Pn	**Pn**	**23 28 02.1**	**-0.2**
SRLM				IAmb	IAmb	23 28 16.3	
	comp=Z,21nm,0.7s						
SRLM				Sn	Sn	23 30 31.1	-20
SRLM				IVMs_BB	IVMs_BB	23 34 52.1	
	comp=Z,927nm,5.2s						
UBPT	**Khong Chiam**	**15.46**	**58**	P	**Pn**	**23 28 04.9**	**+1.1**
	comp=Z,76nm,1.0s,comp=Z,902nm						
LHSI	**Lahat**	**16.13**	**133**	P	Pn	23 28 06.7	-5.8
	comp=Z,68nm,1.1s						
URV	**Uravakonda**	**16.15**	**299**	*e*Pn	**Pn**	**23 28 08.3**	**-4.5**
URV				IAmb	IAmb	23 28 23.3	
	comp=Z,30nm,0.9s						
URV				Sn	Sn	23 30 52.9	-18
URV				IVMs_BB	IVMs_BB	23 34 08.6	
	comp=Z,1μm,4.8s						
HYB	**Hyderabad**	**16.35**	**309**	*i* P	**Pn**	**23 28 15.0**	**-0.2**
HYB				*e*S	**Sn**	**23 31 16.0**	**+0.2**
HYBB	**Hyderabad (bro**	**16.35**	**309**	*e*Pn	**Pn**	**23 28 15.3**	**0.0**
HYBB				IAmb	IAmb	23 28 24.2	
	comp=Z,24nm,1.0s						
HYBB				Sn	**Sn**	**23 31 10.1**	**-5.8**
HYBB				IVMs_BB	IVMs_BB	23 35 02.8	
	comp=Z,885nm,5.2s						
RPR	**Rampur**	**16.69**	**314**	*e*Pn	**Pn**	**23 28 15.9**	**-3.6**
RPR				IAmb	IAmb	23 28 23.3	
	comp=Z,58nm,1.4s						
RPR				Sn	Sn	23 31 05.2	-19
RPR				IVMs_BB	IVMs_BB	23 36 42.5	
	comp=Z,1μm,6.1s						
MDSI	**Maura Dua**	**17.06**	**134**	P	**Pn**	**23 28 21.5**	**-2.7**
	comp=Z,33nm,1.0s,comp=Z,793nm						
PPBI	**Pangkal Pinang**	**17.13**	**123**	P	**P**	**23 28 27.6**	**+1.1**
	comp=Z,40nm,1.2s,comp=Z,2μm						
IMP	**Imphal**	**17.39**	**6**	*e*P	**Pn**	**23 28 28.0**	**-0.3**
IMP				*ex*	x	23 31 53.0	
SRSP	**Sriramsagar**	**17.42**	**312**	*e*Pn	**P**	**23 28 29.8**	**0.0**
SRSP				IAmb	IAmb	23 28 40.2	
	comp=Z,23nm,1.1s						
SRSP				Sn	Sn	23 31 22.6	-19
SRSP				IVMs_BB	IVMs_BB	23 37 26.7	
	comp=Z,650nm,4.1s						
KLSI		**17.60**	**133**	P	**Pn**	**23 28 28.0**	**-2.9**
	comp=Z,65nm,1.2s,comp=Z,3μm						
SHL	**Shillong**	**18.05**	**0**	*e*P	**P**	**23 28 37.0**	**+0.2**
SHL				*ex*	x	23 32 04.0	
KLRI	**Killari**	**18.25**	**307**	*e*Pn	**P**	**23 28 38.5**	**-0.4**
KLRI				IAmb	IAmb	23 28 44.9	
	comp=Z,59nm,1.2s						
KLRI				Sn	Sn	23 31 37.8	-24
KLRI				IVMs_BB	IVMs_BB	23 35 01.1	
	comp=Z,1μm,5.6s						
ODAN	**Odare**	**19.80**	**348**	*e*P	**P**	**23 28 55.4**	**-0.7**
	comp=Z,90nm,0.9s						
RAMN	**Ramite**	**20.06**	**346**	*e*P	**P**	**23 28 58.9**	**0.0**
	comp=Z,223nm,1.0s						
COCO	**West Island**	**20.10**	**166**	*e*P	**P**	**23 28 57.7**	**-1.3**
COCO				pmax	pmax		
	comp=Z,1μm,2.3s						
COCO	**West Island**	**20.10**	**166**	*e*P	**P**	**23 28 57.7**	**-1.3**
	comp=Z,1μm,2.3s						
TAPN	**Taplejung**	**20.21**	**349**	*e*P	**P**	**23 29 00.0**	**-0.6**
	comp=Z,392nm,1.1s						
KMI	**Kunming**	**20.45**	**29**	P	Pn	23 29 05.4	-0.1
KMI				pP	pP	23 29 13.8	+2.2
KMI				sP	sP	23 29 18.3	+2.7
KMI				PP	**PnPn**	**23 29 27.0**	**+6.0**
KMI				S	**S**	**23 32 45.8**	**-4.9**
KMI				sS	Sn	23 32 59.5	+4.2
KMI				PMZ			
	comp=Z,36nm,1.1s						
KMI				PMZ			
	comp=Z,130nm,3.1s						
KMI				LN			
	comp=Z,660nm,13.9s						
KMI				LE			
	comp=Z,550nm,15.8s						
KMI				LZ			
	comp=Z,700nm,14.2s						
POO	**Poona**	**20.71**	**304**	*ex*	Pn	23 29 13.0	+4.7
SBUM	**Sibu**	**20.87**	**103**	*e*P	**P**	**23 29 08.3**	**+0.7**
	comp=Z,36nm,1.1s						
STKI	**Sintang**	**20.88**	**110**	P	Pn	23 29 09.1	-1.2
	comp=Z,96nm,1.1s						
QIZ	**Qiongzhong**	**20.95**	**55**	*e*P	Pn	23 29 10.4	-0.6
	comp=Z,196nm,1.8s						
PKI	**Pulchoki**	**20.96**	**344**	*e*P	**P**	**23 29 07.6**	**-1.1**
	comp=Z,357nm,1.4s						
DMN	**Daman**	**21.08**	**343**	*e*P	**P**	**23 29 09.6**	**-0.4**
	comp=Z,78nm,0.7s						
CNJI	**Cibinong**	**21.12**	**134**	P	**P**	**23 29 10.4**	**+0.2**
LEM	**Lembang**	**21.15**	**132**	LR	LR	23 37 27.3	
	comp=Z,1μm,21.5s,baz=276,slow=37						
GUN	**Gumba**	**21.16**	**345**	*e*P	**P**	**23 29 10.0**	**-0.9**
	comp=Z,250nm,0.8s						
KKN	**Kakani**	**21.20**	**344**	*e*P	**P**	**23 29 10.1**	**-1.1**
	comp=Z,96nm,1.0s						
GKN	**Gorkha**	**21.59**	**342**	*e*P	**P**	**23 29 14.3**	**-1.0**
	comp=Z,112nm,0.7s						
KOLN	**Koldanda**	**21.70**	**340**	*e*P	**P**	**23 29 15.4**	**-1.2**
	comp=Z,103nm,0.8s						
LSA	**Lhasa**	**22.18**	**358**	*e*P	**P**	**23 29 20.0**	**-2.0**
LSA				pmax	pmax		
	comp=Z,93nm,0.9s						
LSA	**Lhasa**	**22.18**	**358**	*e*P	**P**	**23 29 20.0**	**-2.0**
	comp=Z,93nm,0.9s						
XMIS	**Christmas Isla**	**22.46**	**142**	*e*P	**P**	**23 29 26.7**	**+2.0**
	comp=Z,86nm,1.2s						
SMRI	**Semarang**	**23.45**	**127**	*e*P	P	23 29 41.6	+6.8
	comp=Z,108nm,1.1s						
GYA	**Guiyang**	**23.60**	**35**	⇑ *i*P	**P**	**23 29 35.8**	**-0.5**
GYA				pP	**pP**	**23 29 45.8**	**+0.6**
GYA				PP	**PnPn**	**23 30 09.4**	**+5.4**
GYA				S	**S**	**23 33 45.0**	**-3.9**
GYA				sS	**sS**	**23 34 01.3**	**-2.7**
GYA				SS	**SnSn**	**23 34 33.8**	**+6.4**
GYA				PMZ			
	comp=Z,20nm,1.0s						
GYA				PMZ			
	comp=Z,120nm,4.9s						
GYA				LN			
	comp=Z,580nm,16.8s						
GYA				LE			
	comp=Z,520nm,17.2s						
GYA				LZ			
	comp=Z,610nm,16.6s						
KKM	**Kota Kinabalu**	**24.23**	**92**	*e*P	**P**	**23 29 44.3**	**+2.0**
	comp=Z,272nm,2.3s						
H08S3	**Diego Garcia H**	**24.42**	**233**	T	T	23 56 25.7	
	baz=52,slow=75,SNR=7.5						
H08S2	**Diego Garcia H**	**24.43**	**233**	T	T	23 56 14.6	
	baz=52,slow=75,SNR=72						
H08S1	**Diego Garcia H**	**24.44**	**233**	T	T	23 56 34.7	
	baz=52,slow=75,SNR=7.3						
H08N1	**Diego Garcia H**	**24.88**	**237**	T	T	23 56 42.4	
	baz=37,slow=72,SNR=4.2						
H08N2	**Diego Garcia H**	**24.88**	**237**	T	T	23 56 33.0	
	baz=37,slow=72,SNR=4.8						
H08N3	**Diego Garcia H**	**24.90**	**237**	T	T	23 56 37.4	
	baz=37,slow=72,SNR=7.3						
NDI	**New Delhi**	**25.27**	**329**	*e*P	**P**	**23 29 50.0**	**-1.4**
CD2	**Chengdu**	**25.89**	**24**	P	**P**	**23 29 56.6**	**-0.5**
CD2				pP	**pP**	**23 30 06.0**	**-0.3**
CD2				sP	**sP**	**23 30 10.3**	**+0.2**
CD2				PcP	**PcP**	**23 33 24.8**	**-1.0**
CD2				S	**S**	**23 34 25.1**	**-0.2**
CD2				PMZ			
	comp=Z,70nm,0.8s						
CD2				PMZ			
	comp=Z,160nm,5.6s						
CD2				LN			
	comp=Z,730nm,16.6s						
CD2				LE			
	comp=Z,810nm,16.5s						
CD2				LZ			
	comp=Z,500nm,12.1s						
ENH	**Enshi**	**28.12**	**34**	*e*P	**P**	**23 30 19.2**	**+2.1**
	comp=Z,16nm,0.9s						
XAN	**Xi'an**	**30.83**	**28**	P	**P**	**23 30 39.8**	**-1.4**
XAN				pP	**pP**	**23 30 49.4**	**-0.9**
XAN				sP	**sP**	**23 30 53.4**	**-0.8**
XAN				PP	**PnPn**	**23 31 39.3**	**-2.8**
XAN				S	S	23 35 36.5	-6.4
XAN				sS	**sS**	**23 35 53.8**	**-4.3**
XAN				PMZ			
	comp=Z,2.0nm,1.0s						
XAN				LN			
	comp=Z,380nm,21.6s						
XAN				LE			
	comp=Z,190nm,18.3s						
XAN				LZ			
	comp=Z,170nm,20.0s						
WHN	**Wuhan**	**31.20**	**40**	⇑P	**P**	**23 30 44.3**	**-0.1**
WHN				LN			
	comp=Z,850nm,11.0s						
WHN				LE			
	comp=Z,580nm,10.2s						
WHN				LZ			
	comp=Z,1μm,14.8s						
GTA	**Gaotai**	**32.65**	**11**	⇑P	**P**	**23 30 57.6**	**+0.4**
GTA				pP	**pP**	**23 31 07.1**	**+0.7**
GTA				sP	**sP**	**23 31 11.1**	**+0.8**
GTA				S	**S**	**23 36 09.4**	**-2.0**
GTA				sS	**sS**	**23 36 24.9**	**-1.7**
GTA				SS	**SnSn**	**23 38 04.3**	**-3.5**
GTA				PMZ			
	comp=Z,9.0nm,1.1s						
GTA				PMZ			
	comp=Z,130nm,5.7s						
GTA				LN			
	comp=Z,250nm,18.1s						
GTA				LE			
	comp=Z,210nm,19.0s						
GTA				LZ			
	comp=Z,220nm,20.9s						
KSH	**Kashi**	**35.00**	**338**	P	**P**	**23 31 17.0**	**-0.7**
KSH				*es*P	**sP**	**23 31 32.3**	**+1.5**
KSH				PcP	**PcP**	**23 33 53.8**	**+4.3**
KSH				S	**S**	**23 36 47.3**	**-0.5**
KSH				PcS	**PcS**	**23 37 37.8**	**+1.4**
KSH				PMZ			
	comp=Z,190nm,6.7s						
KSH				LN			
	comp=Z,200nm,10.2s						
KSH				LE			
	comp=Z,360nm,10.4s						
WMQ	**Urumqi**	**36.45**	**355**	P	**P**	**23 31 32.3**	**+2.4**
WMQ				pP	**pP**	**23 31 41.9**	**+2.7**
WMQ				sP	**sP**	**23 31 45.9**	**+2.9**
WMQ				PP	**PP**	**23 32 56.3**	**+3.1**
WMQ				sS	**sS**	**23 37 26.9**	**+1.9**
WMQ				SS	**SnSn**	**23 39 36.8**	**-2.8**
WMQ				pmax	pmax		
	comp=Z,18nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,85nm,4.5s						
WMQ				LR	LR		
	comp=N,350nm,18.6s						
WMQ				LR	LR		
	comp=E,460nm,19.5s						
WMQ				LR	LR		
	comp=Z,390nm,21.0s						
WMQ	**Urumqi**	**36.45**	**355**	P	**P**	**23 31 30.3**	**+0.4**
WMQ				pP	**pP**	**23 31 40.0**	**+0.8**
WMQ				sP	**sP**	**23 31 44.0**	**+1.0**
WMQ				PP	**PP**	**23 32 54.3**	**+1.1**
WMQ				S	**S**	**23 37 08.9**	**-0.8**
WMQ				sS	**sS**	**23 37 25.0**	**0.0**
WMQ				SS	**SnSn**	**23 39 33.9**	**-5.7**
WMQ				PMZ			
	comp=Z,36nm,1.2s						
WMQ				PMZ			
	comp=Z,100nm,4.5s						
WMQ				LN			
	comp=Z,440nm,12.5s						
WMQ				LE			
	comp=Z,480nm,14.6s						
WMQ				LZ			
	comp=Z,390nm,21.2s						
ULHL	**Ulahol**	**37.34**	**341**	P	**P**	**23 31 37.0**	**-0.6**
	SNR=7.4						
KZA	**Kyzart**	**37.52**	**340**	P	**P**	**23 31 39.2**	**-0.3**
	SNR=8.1						
HHC	**Hu-ho-hao-te**	**37.65**	**25**	*e*P	**P**	**23 31 41.3**	**+1.1**
HHC				pP	**pP**	**23 31 49.8**	**+0.3**
HHC				PP	**PnPn**	**23 33 07.6**	**0.0**
HHC				S	**S**	**23 37 28.4**	**+0.3**
HHC				sS	**ScP**	**23 37 41.3**	**-1.3**
HHC				SS	**SnSn**	**23 40 00.8**	**-7.9**
HHC				PMZ			
	comp=Z,19nm,0.9s						
HHC				PMZ			
	comp=Z,140nm,5.6s						
HHC				LN			
	comp=Z,320nm,13.5s						
HHC				LE			
	comp=Z,430nm,13.5s						
HHC				LZ			
	comp=Z,260nm,13.5s						
UCH	**Uchtor**	**37.91**	**339**	P	**P**	**23 31 42.2**	**-0.6**
	SNR=13						
AML	**Almayashu**	**38.13**	**338**	P	**P**	**23 31 44.6**	**0.0**
	SNR=24						
KBK	**Karagaybulak**	**38.14**	**340**	P	**P**	**23 31 44.2**	**-0.2**
	SNR=35						
TKM2	**Tokmak 2**	**38.15**	**341**	P	**P**	**23 31 43.8**	**-0.8**
	SNR=12						
TKM2	**Tokmak 2**	**38.15**	**341**	*e*P	**P**	**23 31 44.0**	**-0.6**
TKM2				pmax	pmax		
	comp=Z,15nm,0.8s						
TKM2	**Tokmak 2**	**38.15**	**341**	*e*P	**P**	**23 31 44.0**	**-0.6**
	comp=Z,15nm,0.8s						
AAK	**Ala-Archa**	**38.27**	**339**	*e*P	**P**	**23 31 45.7**	**+0.1**
AAK				pmax	pmax		
	comp=Z,28nm,1.1s						
AAK	**Ala-Archa**	**38.27**	**339**	*e*P	**P**	**23 31 45.7**	**+0.1**
	comp=Z,28nm,1.1s						
FRU	**Bishkek**	**38.41**	**339**	*e*P	**P**	**23 31 46.0**	**-0.5**
FRU				pmax	pmax		
	comp=Z,50nm,2.1s						
CHMS	**Chumysh**	**38.51**	**340**	P	**P**	**23 31 46.8**	**-0.5**
	SNR=5.4						
EKS2	**Erkin-Say**	**38.56**	**338**	P	**P**	**23 31 47.6**	**-0.3**
	SNR=17						
EKS2	**Erkin-Say**	**38.56**	**338**	*e*P	**P**	**23 31 47.6**	**-0.3**
EKS2				pmax	pmax		
	comp=Z,20nm,0.8s						
EKS2	**Erkin-Say**	**38.56**	**338**	*e*P	**P**	**23 31 47.6**	**-0.3**
	comp=Z,20nm,0.8s						
USP	**Ospenovka**	**38.83**	**340**	P	**P**	**23 31 49.1**	**-1.0**
	SNR=34						
BJI	**Beijing**	**39.11**	**30**	P	**P**	**23 31 54.3**	**+2.0**
BJI				S	**S**	**23 37 51.8**	**+1.8**
BJI				PMZ			
	comp=Z,6.0nm,0.6s						
BJI				LN			
	comp=Z,290nm,18.4s						
BJI				LE			
	comp=Z,440nm,20.6s						
BJI				LZ			
	comp=Z,300nm,23.9s						
MBWA	**Marble Bar**	**39.44**	**137**	*e*P	**P**	**23 31 55.6**	**+0.2**
	comp=Z,120nm,2.5s						
MK01	**Makanchi Array**	**40.06**	**350**	*e*P	**P**	**23 31 58.9**	**-1.4**
MK31	**Makanchi Array**	**40.09**	**350**	*e*P	**P**	**23 31 59.6**	**-0.8**
MK31	**Makanchi Array**	**40.09**	**350**	*e*P	**P**	**23 31 59.6**	**-0.8**
MK32	**Makanchi Array**	**40.09**	**350**	*e*P	**P**	**23 31 59.5**	**-0.9**
MKAR	**Makanchi Array**	**40.09**	**350**	P	**P**	**23 31 59.5**	**-0.9**
	comp=Z,10nm,0.8s,baz=163,slow=8.5,SNR=41						
MKAR				LR	LR	23 49 52.2	
	comp=Z,342nm,21.9s,baz=162,slow=38						
MKAR	**Makanchi Array**	**40.09**	**350**	*e*P	**P**	**23 31 59.7**	**-0.8**
MKAR	**Makanchi Array**	**40.09**	**350**	*e*P	**P**	**23 31 59.7**	**-0.8**
KKAR	**Karatay Array**	**40.20**	**336**	*e*P	**P**	**23 32 00.4**	**-1.0**
KKAR	**Karatay Array**	**40.20**	**336**	*e*P	**P**	**23 32 00.4**	**-1.0**
FAKI	**Fak Fak**	**41.59**	**103**	*e*P	**P**	**23 32 15.9**	**+2.6**
	comp=Z,35nm,1.2s						
SONA0	**Songino Array**	**42.14**	**15**	*e*P	**P**	**23 32 17.4**	**-0.1**
SONM	**Songino Array**	**42.14**	**15**	P	**P**	**23 32 17.4**	**-0.1**
	comp=Z,9.3nm,0.8s,baz=194,slow=8.2,SNR=14						
SONM				LR	LR	23 52 39.4	
	comp=Z,433nm,18.4s,baz=233,slow=40						
SONA1	**Songino Array**	**42.15**	**15**	*e*P	**P**	**23 32 17.6**	**+0.1**
ISHV	**Shirvan**	**43.10**	**319**	*e*P	**P**	**23 32 26.7**	**+1.2**
ZAK	**Zakamensk**	**43.88**	**11**	*e*P	**P**	**23 32 29.8**	**-1.6**
ZAK				*e*		23 34 20.2	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.6s						
KSRS	**Korea Array**	**44.31**	**42**	LR	LR	23 51 58.3	
	comp=Z,157nm,19.1s,baz=220,slow=37						
KURK	**Kurchatov**	**44.55**	**348**	P	**P**	**23 32 36.2**	**-0.4**
	comp=Z,123nm,1.0s,SNR=13						
KURK	**Kurchatov**	**44.55**	**348**	*e*P	**P**	**23 32 35.8**	**-0.9**
KURK				pmax	pmax		
	comp=Z,27nm,1.1s						
KURK	**Kurchatov**	**44.55**	**348**	*e*P	**P**	**23 32 35.8**	**-0.9**
	comp=Z,27nm,1.1s						
TLY	**Talaya**	**45.19**	**10**	*e*P	**P**	**23 32 42.9**	**+1.1**
TLY				pmax	pmax		
	comp=Z,16nm,1.7s						
TLY				MLR	MLR		
	comp=Z,134nm,12.0s						
ZAA0	**Zalesovo Array**	**46.75**	**354**	*e*P	**P**	**23 32 52.9**	**-1.1**
ZALV	**Zalesovo Beam**	**46.75**	**354**	P	**P**	**23 32 53.4**	**-0.6**
	comp=Z,12nm,0.7s,baz=169,slow=8.8,SNR=30						
ZALV				LR	LR	23 54 49.6	
	comp=Z,446nm,20.9s,baz=250,slow=39						
ZAA1	**Zalesovo Array**	**46.75**	**

WRAB Tennant Creek 49.87 124 P P 23 33 24.0 +5.4
comp=Z,66nm,0.9s,SNR=5.0
WRAB Tennant Creek 49.87 124 *e*P **P** **23 33 18.7 0.0**
WRAB pmax pmax
comp=Z,12nm,1.0s
WRAB Tennant Creek 49.87 124 *e*P **P** **23 33 18.7 0.0**
comp=Z,12nm,1.0s
USRK Ussuriysk Ar. 50.62 37 P **P** **23 33 24.0 0.0**
comp=Z,2.3nm,0.9s,baz=255,slow=12,SNR=4.0
USRK LR LR 23 56 47.7
comp=Z,171nm,19.1s,baz=231,slow=38
MJAR Matsushiro Arr 51.15 48 LR LR 23 56 20.6
comp=Z,166nm,20.2s,baz=225,slow=37
ABPO Ambohimpanom 51.23 238 *e*P **P** **23 33 27.8 -1.3**
ABPO pmax pmax
comp=Z,241nm,2.8s
ABPO Ambohimpanom 51.23 238 *e*P **P** **23 33 27.8 -1.3**
comp=Z,241nm,2.8s
AKTO Aktyubinsk 51.29 333 LR LR 23 55 58.5
comp=Z,160nm,20.6s,baz=142,slow=37
AS12 Alice Springs 51.38 128 *e*P **P** **23 33 29.9 -0.1**
ASAR Alice Springs 51.38 128 P **P** **23 33 29.9 -0.1**
comp=Z,5.0nm,0.8s,baz=304,slow=7.1,SNR=24
ASAR Alice Springs 51.38 128 P **P** **23 33 30.0 -0.1**
AS31 Alice Springs 51.39 128 P **P** **23 33 31.1 +1.0**
AS01 Alice Springs 51.42 128 *e*P **P** **23 33 29.4 -1.0**
BOD Bodaibo 53.14 15 *e*P **P** **23 33 42.6 +0.1**
BOD pmax pmax
comp=Z,25nm,0.9s
GNI Garni 53.16 315 *e*P **P** **23 33 42.5 -0.7**
GNI pmax pmax
comp=Z,25nm,1.2s
GNI Garni 53.16 315 *e*P **P** **23 33 45.4 +2.3**
comp=Z,18nm,1.0s
SVE Sverdlovsk 55.02 340 *e*P **P** **23 33 54.5 -1.7**
SVE pmax pmax
comp=Z,58nm,1.0s
SVE MLR MLR
comp=Z,632nm,21.0s
KMBO Kilima Mbogo 55.12 263 P **P** **23 33 56.8 -1.2**
comp=Z,3.8nm,0.6s,baz=57,slow=11,SNR=13
KMBO LR LR 23 53 05.4
comp=Z,389nm,21.9s,baz=36,slow=31
KMBO Kilima Mbogo 55.12 263 P **P** **23 33 56.8 -1.2**
KMBO pmax pmax
comp=Z,4.0nm,0.6s
KMBO MLR MLR
comp=Z,389nm,21.9s
KMBO Kilima Mbogo 55.12 263 *e*P **P** **23 33 59.4 +1.4**
comp=Z,5.7nm,0.9s
ARU Arti 55.45 338 P **P** **23 33 57.8 -1.5**
comp=Z,97nm,1.0s,SNR=5.4
ARU Arti 55.45 338*d i*P **P** **23 33 57.5 -1.8**
ARU 23 34 52.9
ARU 23 36 03.0
ARU S **S** **23 41 41.5 -0.5**
ARU SS **SS** **23 45 30.3 +3.2**
ARU pmax pmax
comp=Z,19nm,1.7s
ARU MLR MLR
comp=Z,518nm,19.0s
ARU Arti 55.45 338 *e*P **P** **23 33 57.9 -1.4**
comp=Z,18nm,1.0s
KBZ Khabaz 55.92 319 P **P** **23 34 03.7 +0.8**
comp=Z,2.8nm,0.8s,baz=140,slow=7.9,SNR=3.7
KBZ LR LR 00 00 54.4
comp=Z,125nm,21.4s,baz=116,slow=39
KIV Kislovodsk 56.15 319 *e*P **P** **23 34 06.2 +1.4**
KIV *e*S **S** **23 41 52.6 +0.5**
KIV *e*SS **SS** **23 45 41.8 +3.0**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,119nm,16.0s
KIV Kislovodsk 56.15 319 *e*P **P** **23 34 06.0 +1.2**
comp=Z,20nm,1.0s
SOKR Solikamsk 58.45 340⇑ *i*P **P** **23 34 20.8 +0.3**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
SOKR MLR MLR
comp=Z,410nm,21.0s
YUK Yuzh-Kuril'sk 59.39 43*c i*P P 23 34 22.1 -5.2
YUK *i* 23 36 37.5
YUK MLR MLR
comp=N,395nm,20.0s
YUK MLR MLR
comp=Z,150nm,20.0s
BR101 Keskin Array S 61.02 311 *e*P **P** **23 34 36.5 -2.4**
BR131 Keskin Array S 61.02 311 *e*P **P** **23 34 38.0 -0.8**
comp=Z,2.9nm,0.7s
BRTR Keskin Array B 61.02 311 P **P** **23 34 36.5 -2.4**
comp=Z,1.7nm,0.9s,baz=109,slow=6.7,SNR=7.1
YAK Yakutsk 61.16 19 *e*P P 23 34 43.9 +4.8
YAK *e**PP pP 23 34 52.7 +3.9
YAK *e* 23 35 25.7
YAK *e* 23 37 01.2
YAK *e*PPP PPP 23 38 24.9
YAK *e*S S 23 43 03.5 +7.2
YAK pmax pmax
comp=Z,40nm,1.4s
YAK pmax pmax
comp=E,18nm,1.5s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=Z,7.0nm,0.4s
YAK pmax pmax
comp=N,4.0nm,0.6s
YAK pmax pmax
comp=E,1.0nm,0.4s
YAK smax smax
comp=N,80nm,3.2s
YAK smax smax
comp=E,16nm,1.6s
YAK MLR MLR
comp=E,164nm,18.0s
YAK MLR MLR
comp=Z,337nm,18.0s
YAK MLR MLR
comp=N,206nm,20.0s
STKA Stephens Creek 61.45 132 P **P** **23 34 41.3 -0.3**
comp=N,1.3nm,0.5s,baz=286,slow=3.5,SNR=3.2
STKA Stephens Creek 61.45 132 *e*P **P** **23 34 41.3 -0.3**
STKA pmax pmax
comp=Z,3.0nm,1.2s
STKA Stephens Creek 61.45 132 *e*P **P** **23 34 41.3 -0.3**
comp=Z,3.3nm,1.2s
BR231 Keskin MP Arra 61.70 311 *e*P P 23 34 38.7 -4.7
MOS Moscow 64.31 329 *e*P P 23 35 05.7 +5.5
OBN Obninsk 64.57 328 *e*P **P** **23 35 02.6 +0.7**
OBN *e* 23 35 41.3
OBN *e* 23 37 25.7
OBN pmax pmax
comp=Z,13nm,1.2s
TIRR Tirgusor 65.98 315 *e*P **P** **23 35 08.6 -2.7**
TIRR pmax pmax
comp=Z,23nm,1.3s
TIRR Tirgusor 65.98 315 *e*P **P** **23 35 08.6 -2.7**
comp=Z,23nm,1.3s
CFR Carcaliu 66.35 316⇑ *i*P **P** **23 35 11.1 -2.5**
CFR Carcaliu 66.35 316⇑ *i*P **P** **23 35 11.1 -2.5**
JMB Yambol 66.85 313⇑ *i*P **P** **23 35 18.4 +1.5**
JMB Yambol 66.85 313⇑ *i*P **P** **23 35 18.4 +1.5**
AKASG Malin Array Be 67.12 322 P **P** **23 35 16.7 -1.7**
comp=Z,0.4nm,0.4s,baz=91,slow=5.0,SNR=2.7
AKASG LR LR 00 08 47.3
comp=Z,169nm,19.6s,baz=75,slow=40
AKBB Malin Array Si 67.12 322 *e*P **P** **23 35 16.7 -1.7**
AKBB Malin Array Si 67.12 322 *e*P **P** **23 35 16.7 -1.7**
KIEV Kiev 67.12 322 *e*P **P** **23 35 21.5 +3.0**
SMTH Samothraki Isl 67.25 311 P **P** **23 35 17.1 -2.4**
SMTH Samothraki Isl 67.25 311 P **P** **23 35 17.1 -2.4**
RDO Rodhopi 67.36 311 *e*P **P** **23 35 21.8 +1.6**
comp=Z,13nm,1.0s
VRI Vrincioaia 67.47 317⇓ P **P** **23 35 20.5 -0.3**
VRI Vrincioaia 67.47 317⇓ *i*P **P** **23 35 20.5 -0.3**
PLOR Plostina 67.52 317⇑ P **P** **23 35 20.1 -1.1**
PLOR Plostina 67.52 317⇑ *i*P **P** **23 35 20.1 -1.1**
KDZ Kurdzhali 67.55 312⇑ P **P** **23 35 19.9 -1.5**
KDZ Kurdzhali 67.55 312⇑ P **P** **23 35 19.9 -1.5**
TESR Tescani 67.67 317⇓ *i*P **P** **23 35 19.9 -2.2**
MLR Muntele Rosu 67.92 316⇑ P **P** **23 35 22.3 -1.5**
MLR Muntele Rosu 67.92 316⇑ *i*P **P** **23 35 22.3 -1.5**
TIXI Tiksi 68.13 12 *e*P **P** **23 35 23.5 -1.0**
TIXI pmax pmax
comp=Z,28nm,0.9s
TIXI Tiksi 68.13 12 *e*P **P** **23 35 23.4 -1.0**
comp=Z,42nm,0.8s
DOPR Dopca 68.41 317⇓ *i*P **P** **23 35 28.2 +1.5**
VOIR 68.53 316⇑ P **P** **23 35 26.8 -0.8**
VOIR 68.53 316⇑ *i*P **P** **23 35 26.8 -0.8**
PAIG Paliouri 68.56 310 P **P** **23 35 27.1 -0.7**
PAIG Paliouri 68.56 310 P **P** **23 35 27.1 -0.7**
PAIG Paliouri 68.56 310 P **P** **23 35 27.1 -0.7**
DID Didima 68.58 307 P P 23 35 24.4 -3.6
DID Didima 68.58 307 P P 23 35 24.4 -3.6
KRND KRANIDI 68.63 307 P P 23 35 25.1 -3.1
VLI Veliai 68.72 306 P **P** **23 35 27.9 -0.9**
VLI Veliai 68.72 306 P **P** **23 35 27.9 -0.9**
MMB Musomiste 68.78 312⇑ P P 23 35 34.8 +5.6
MMB Musomiste 68.78 312⇑ *i*P P 23 35 34.8 +5.6
BURAR Bucovina Array 68.87 318⇑ P **P** **23 35 29.8 +0.1**
BURAR Bucovina Array 68.87 318⇑ *i*P **P** **23 35 29.8 +0.1**
BUR04 Bucovina Ar. S 68.88 318 *e*P **P** **23 35 29.8 +0.1**
BUR08 Bucovina Ar. S 68.89 318 *e*P **P** **23 35 29.1 -0.7**
VLX Vlachokerasia 69.24 307 P **P** **23 35 32.1 -0.1**
VLX Vlachokerasia 69.24 307 P **P** **23 35 32.1 -0.1**
VTS Vitosha 69.32 313⇑ P P 23 35 28.9 -3.8
VTS Vitosha 69.32 313⇑ *i*P P 23 35 28.9 -3.8
GUR Goura 69.33 308 P P 23 35 29.5 -3.3
GUR Goura 69.33 308 P P 23 35 29.5 -3.3
KNT Kendrikon 69.33 311 P **P** **23 35 31.6 -1.0**
KNT Kendrikon 69.33 311 P **P** **23 35 31.6 -1.0**
KNT Kendrikon 69.33 311 P **P** **23 35 31.6 -1.0**
LOT Lotru 69.42 316⇑ *i*P P 23 35 36.4 +3.3
AGG Agios Georgios 69.48 309 *e*P P 23 35 38.2 +4.7
AGG pmax pmax
comp=Z,5.0nm,0.7s
AGG Agios Georgios 69.48 309 *e*P P 23 35 38.2 +4.7
comp=Z,5.2nm,0.7s
LIT Litokhoron 69.49 310 P P 23 35 30.4 -3.2
LIT Litokhoron 69.49 310 P P 23 35 30.4 -3.2
LIT Litokhoron 69.49 310 P P 23 35 30.4 -3.2
KLV Kalavryta, Ach 69.50 308 P **P** **23 35 30.9 -2.8**
KLV Kalavryta, Ach 69.50 308 P **P** **23 35 30.9 -2.8**
ITM Ithomi 69.58 307 P **P** **23 35 32.1 -2.1**
ITM Ithomi 69.58 307 P **P** **23 35 32.1 -2.1**
PYL PYLOS 69.69 307 P **P** **23 35 33.4 -1.5**
PYL PYLOS 69.69 307 P **P** **23 35 33.4 -1.5**
PETK Petropavlovsk- 69.70 36 LR LR 00 08 00.1
comp=Z,65nm,20.8s,baz=259,slow=38
DRO Drossia 69.83 308 P **P** **23 35 33.5 -2.2**
RLS Riolos of Patr 70.03 308 P **P** **23 35 34.4 -2.5**
RLS Riolos of Patr 70.03 308 P **P** **23 35 34.4 -2.5**
PVO Paravola 70.05 308 P **P** **23 35 39.8 +2.8**
SEY Seymchan 70.29 25 *e*P **P** **23 35 40.4 +2.4**
PDO Prodromos 70.32 308 P **P** **23 35 36.4 -2.3**
DRGR 70.38 317⇓ P **P** **23 35 37.6 -1.4**
DRGR 70.38 317⇓ *i*P **P** **23 35 37.6 -1.4**
ZKS Zakynthos 70.53 307 P **P** **23 35 38.3 -1.7**
LKD2 Lefkada island 70.75 308 P **P** **23 35 38.6 -2.7**
LKD2 Lefkada island 70.75 308 P **P** **23 35 38.6 -2.7**
KWP Kalwaria Pacla 70.92 320 *e*P P 23 35 48.0 +5.9
KWP Kalwaria Pacla 70.92 320 *e*P P 23 35 48.1 +5.9
BZS Buzias 70.94 316⇓ P **P** **23 35 43.8 +1.5**
BZS Buzias 70.94 316⇓ *i*P **P** **23 35 43.8 +1.5**
KOLS Kolonicke sedl 71.06 319 *e*P **P** **23 35 44.6 +1.6**
KOLS pmax pmax
comp=Z,4.0nm,1.2s
KOLS Kolonicke sedl 71.06 319 *e*P **P** **23 35 44.6 +1.6**
SUW Suwalki 71.56 325 *e*P **P** **23 35 46.3 +0.5**
SUW Suwalki 71.56 325 *e*P **P** **23 35 46.3 +0.5**
STHS Stebnicka Huta 71.81 320 *e*P **P** **23 35 48.4 +0.8**
STHS pmax pmax
comp=Z,1.0nm,0.7s
STHS Stebnicka Huta 71.81 320 *e*P **P** **23 35 48.4 +0.8**
DIVS Divibare 71.86 314⇑ *i*P P 23 35 51.3 +3.3
FIA0 FINESS Array S 72.06 333 *e*P **P** **23 35 48.6 -0.2**
FIA0 FINESS Array S 72.06 333 *e*P **P** **23 35 48.6 -0.2**
FINES FINESS Array B 72.06 333 P **P** **23 35 48.6 -0.2**
comp=Z,4.2nm,0.8s,baz=108,slow=6.2,SNR=11
FINES LR LR 00 11 47.2
comp=Z,184nm,19.7s,baz=112,slow=40
KECS Kecovo 72.15 319 *e*P **P** **23 35 49.8 +0.2**
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 72.15 319 *e*P **P** **23 35 49.8 +0.2**
NIE Niedzica 72.42 319 *e*P **P** **23 35 52.9 +1.8**
NIE Niedzica 72.42 319 *e*P **P** **23 35 53.0 +1.8**
OJC Ojcow 72.87 320 *e*P **P** **23 35 54.6 +0.8**
OJC *e* 23 35 59.4
OJC Ojcow 72.87 320 *e*P **P** **23 35 54.6 +0.8**
OJC Ojcow 72.87 320 *e*P **P** **23 35 54.4 +0.6**
comp=Z,13nm,1.0s
PKSM Moragy 73.08 316⇑ P **P** **23 35 53.1 -2.0**
PKSM Moragy 73.08 316⇑ *i*P **P** **23 35 53.1 -2.0**
BOSA Boshof 73.43 237 P **P** **23 35 56.1 -1.6**
comp=Z,6.9nm,1.1s,baz=72,slow=3.1,SNR=5.6
BOSA LR LR 00 02 48.6
comp=Z,144nm,22.0s,baz=93,slow=31
OKC Ostrava-Krasne 73.87 320 *e*P **P** **23 36 01.2 +1.5**
OKC *e* 23 36 05.5
OKC *e*pP **pP** **23 36 09.4 -0.2**
OKC AMS AMS 00 15 20.0
comp=Z,100nm,14.7s
OKC Ostrava-Krasne 73.87 320 *e*P **P** **23 36 01.2 +1.5**
OKC *e* 23 36 09.4
OKC MLR MLR
comp=Z,100nm,14.7s
MORC Moravsky Berou 74.25 320 *e*P **P** **23 36 03.5 +1.5**
MORC pmax pmax
comp=Z,23nm,1.0s
MORC Moravsky Berou 74.25 320⇑ *i*P P 23 36 08.1 +6.1
MORC Moravsky Berou 74.25 320 *e*P **P** **23 36 03.5 +1.5**
comp=Z,23nm,1.0s
ARCES ARCESS Array B 74.93 341 LR LR 00 11 56.0
comp=Z,300nm,21.0s,baz=114,slow=38
DPC Dobruska-Polom 75.10 320 *e*P **P** **23 36 06.6 -0.3**
DPC *e* 23 36 13.2
DPC *e*pP **pP** **23 36 17.0 +0.1**
DPC AMS AMS 00 13 40.0
comp=Z,100nm,16.5s
DPC Dobruska-Polom 75.10 320 *e*P **P** **23 36 06.6 -0.3**
DPC *e* 23 36 13.2
DPC *e* 23 36 17.0
DPC MLR MLR
comp=Z,100nm,16.5s
CONA Conrad Observa 75.15 318⇑ *e*pP P 23 36 12.7 +5.4
comp=Z,6.0nm,1.0s
KSP Ksiaz 75.17 321 *e*P **P** **23 36 08.7 +1.4**
KSP Ksiaz 75.17 321 *e*P **P** **23 36 08.7 +1.4**
UPC Upice 75.31 320 *e*P **P** **23 36 09.3 +1.2**
UPC *ex* x 23 36 14.3
UPC *e*pP **pP** **23 36 17.6 -0.4**
UPC Upice 75.31 320 *e*P **P** **23 36 09.3 +1.2**
UPC *e* 23 36 17.6
ARSA Arzberg 75.32 317⇓ *e*pP P 23 36 14.1 +5.9
comp=Z,10nm,1.1s
TREC Trest 75.53 319 AMS AMS 00 16 20.0
comp=Z,100nm,15.7s
GOPC GO Pecny, Ondr 76.04 320 AMS AMS 00 16 20.0
comp=Z,100nm,19.1s
PRU Pruhonice 76.20 320 *ex* x 23 36 19.7
PRU *e*pP **PcP** **23 36 24.5 -0.6**
PRU AMS AMS 00 16 20.0
comp=Z,200nm,19.9s
PRU Pruhonice 76.20 320 *e*P P 23 36 19.7 +6.5
PRU *e* 23 36 24.5
PRU MLR MLR
comp=Z,200nm,19.9s
MOA Molln 76.21 317⇑ *i*pP P 23 36 18.3 +5.0
comp=Z,9.3nm,1.2s
PVCC Panska Ves 76.23 320 *e*P **P** **23 36 12.5 -0.8**
PVCC *ex* x 23 36 17.6
PVCC *ex* x 23 36 19.3
PVCC AMS AMS 00 14 30.0
comp=Z,300nm,15.5s
PVCC Panska Ves 76.23 320 *e*P **P** **23 36 12.5 -0.8**
PVCC *e* 23 36 17.6
PVCC *e* 23 36 19.3
PVCC MLR MLR
comp=Z,300nm,15.5s
PRA Prague 76.28 320 *e*P **P** **23 36 15.8 +2.2**
PRA *ex* x 23 36 20.3
PRA *e*pP **pP** **23 36 23.6 0.0**
PRA Prague 76.28 320 *e*P **P** **23 36 15.8 +2.2**
PRA *e* 23 36 23.6
BRG Berggiesshubel 76.66 320 *e*P **P** **23 36 17.0 +1.3**
comp=Z,2.0nm,0.8s
GEC2 GERESS Array S 76.66 318 *e*P **P** **23 36 17.3 +1.4**
comp=Z,4.0nm,1.1s
GEC2 GERESS Array S 76.66 318 *e*P **P** **23 36 15.0 -0.9**
GEC2 GERESS Array S 76.66 318 *e*P **P** **23 36 14.9 -0.9**
GERES GERESS Array B 76.66 318 P **P** **23 36 14.9 -0.9**
comp=Z,1.8nm,0.7s,baz=53,slow=5.2,SNR=8.5
GERES LR LR 00 15 13.0
comp=Z,77nm,19.5s,baz=92,slow=40
GERES GERESS Array B 76.66 318 P **P** **23 36 15.0 -0.9**
KHC Kasperske Hory 76.76 319 *e*P **P** **23 36 16.8 +0.4**
KHC *ex* x 23 36 21.7
KHC *e*pP **pP** **23 36 27.0 +0.6**
KHC AMS AMS 00 14 20.0
comp=Z,100nm,15.0s
KHC Kasperske Hory 76.76 319 *e*P **P** **23 36 16.8 +0.4**
KHC *e* 23 36 27.0
KHC MLR MLR
comp=Z,100nm,15.0s
KHC Kasperske Hory 76.76 319 *e*P **P** **23 36 16.3 -0.1**
comp=Z,1.4nm,0.8s
RJOB Jochberg 77.20 317 *e*P **P** **23 36 20.5 +1.6**
comp=Z,2.0nm,0.8s
WET Wettzell 77.22 319 *e*P **P** **23 36 21.0 +2.0**
comp=Z,2.0nm,1.0s
CLL Collm 77.28 321 *e*P **P** **23 36 20.6 +1.4**
comp=Z,2.0nm,0.9s
CLL Collm 77.28 321 *e*P **P** **23 36 20.0 +0.8**
comp=Z,9.0nm,1.5s
CLL *i* pP **pP** **23 36 24.4 -4.8**
comp=Z,7.0nm,1.0s
CLL *i* PcP **PcP** **23 36 29.5 -0.3**
CLL LmV 00 13 00.0
comp=Z,100nm,20.9s
CLL Collm 77.28 321 *e*P **P** **23 36 20.0 +0.8**
CLL *i* 23 36 29.5
CLL pmax pmax
comp=Z,9.0nm,1.5s
NKC Novy Kostel 77.56 320 *e*P **P** **23 36 23.0 +2.1**
NKC *ex* x 23 36 27.5
NKC *e*pP **PcP** **23 36 31.1 0.0**
NKC Novy Kostel 77.56 320 *e*P **P** **23 36 23.0 +2.1**
NKC *e* 23 36 31.1
TANN Tannenbergstha 77.57 320 *e*P **P** **23 36 22.5 +1.6**
comp=Z,2.0nm,0.9s
MAW Mawson 77.64 191 P **P** **23 36 22.8 +2.1**
comp=Z,1.4nm,0.7s,baz=315,slow=10.0,SNR=3.2
ROTZ Rotzenmuhle 77.69 319 *e*P **P** **23 36 23.9 +2.3**
comp=Z,2.0nm,0.8s
WTTA Wettenberg 77.96 317⇓ *e*PcP P 23 36 28.8 +5.5
comp=Z,16nm,1.0s
MOX Moxa 78.12 320 *e*P **P** **23 36 24.3 +0.4**
comp=Z,2.0nm,0.7s
GRF Grafenberg Arr 78.33 319 *e*P **P** **23 36 26.8 +1.7**
comp=Z,5.0nm,0.9s
GRFO Grafenberg 78.33 319 *e*P **P** **23 36 25.1 0.0**
GRFO pmax pmax
comp=Z,13nm,0.9s
GRFO Grafenberg 78.33 319 *e*P **P** **23 36 25.1 0.0**
comp=Z,13nm,0.9s
FETA Feichten 78.57 316⇓ *i*PcP P 23 36 31.2 +4.5
comp=Z,9.9nm,0.9s
CLZ Clausthal 78.95 321 *e*P **P** **23 36 29.7 +1.2**
comp=Z,4.0nm,0.9s
NB2 NORSAR Subarra 79.02 331 P **P** **23 36 28.7 0.0**
comp=Z,1.6nm,0.8s,baz=94,slow=5.9
NB200 NORSAR Array S 79.02 331 *e*P **P** **23 36 29.2 +0.5**
NOA NORSAR Array B 79.02 331 P **P** **23 36 29.2 +0.5**
comp=Z,4.5nm,0.9s,baz=94,slow=5.5,SNR=9.0
NOA LR LR 00 15 00.5
comp=Z,222nm,18.5s,baz=75,slow=38
BSEG Bad Segeberg 79.07 323 *e*P **P** **23 36 30.9 +1.9**
comp=Z,6.0nm,1.0s
UBBA Unterbreizbach 79.15 320 *e*P **P** **23 36 30.4 +1.0**
comp=Z,1.0nm,0.6s
KEST Kesra 79.65 305 P **P** **23 36 32.9 +0.1**
comp=Z,2.4nm,1.1s,baz=78,slow=14,SNR=2.6
BFO Black Forest 80.21 318 *e*P **P** **23 36 36.9 +1.5**
comp=Z,2.0nm,0.9s
IBBN Ibbenburen 80.57 322 *e*P **P** **23 36 39.2 +2.0**
comp=Z,18nm,1.2s
SBF Sospel 80.89 313 *e*P **P** **23 36 40.9 +1.6**
comp=Z,37nm,0.7s
SBF Sospel 80.89 313 *e*P **P** **23 36 40.9 +1.6**
SBF Sospel 80.89 313 *e*P **P** **23 36 40.9 +1.6**
SENIN Lac Senin/Sane 80.93 316 *e*P **P** **23 36 42.0 +2.4**
LPG La Plagne 81.33 315 *e*P **P** **23 36 42.9 +1.0**
comp=Z,30nm,0.8s
LPG La Plagne 81.33 315 *e*P **P** **23 36 42.9 +1.0**
LPG La Plagne 81.33 315 *e*P **P** **23 36 42.9 +1.0**
LPL La Plagne 81.35 315 *e*P **P** **23 36 43.0 +1.2**
comp=Z,42nm,1.0s
LPL La Plagne 81.35 315 *e*P **P** **23 36 43.0 +1.2**
LPL La Plagne 81.35 315 *e*P **P** **23 36 43.0 +1.2**
BNI Bardonecchia 81.40 314 *e*P **P** **23 36 41.4 -0.6**
BNI pmax pmax
comp=Z,12nm,0.8s
BNI Bardonecchia 81.40 314 *e*P **P** **23 36 41.4 -0.6**
comp=Z,12nm,0.8s
HAU Haudompre 81.54 317 *e*P **P** **23 36 43.2 +0.7**
comp=Z,24nm,0.9s
HAU *e*R
comp=Z,115nm,22.5s
HAU Haudompre 81.54 317 *e*P **P** **23 36 43.2 +0.7**
HAU Haudompre 81.54 317 *e*P **P** **23 36 43.2 +0.7**
WLF Walferdange 81.62 319 *e*P **P** **23 36 45.5 +2.6**
comp=Z,5.0nm,0.7s
CABF La Chapelle 81.76 316 *e*P **P** **23 36 45.1 +1.3**
comp=Z,52nm,1.1s
CABF La Chapelle 81.76 316 *e*P **P** **23 36 45.1 +1.3**
CABF La Chapelle 81.76 316 *e*P **P** **23 36 45.1 +1.3**
ORIF Oris-en-Rattie 81.97 314 *e*P **P** **23 36 46.5 +1.5**
comp=Z,23nm,1.0s
ORIF *e*R
comp=Z,114nm,20.8s
ORIF Oris-en-Rattie 81.97 314 *e*P **P** **23 36 46.5 +1.5**
ORIF Oris-en-Rattie 81.97 314 *e*P **P** **23 36 46.5 +1.5**
VIVF Saint-Julien-l 82.83 314 *e*P **P** **23 36 50.5 +1.1**
comp=Z,20nm,0.9s
VIVF Saint-Julien-l 82.83 314 *e*P **P** **23 36 50.5 +1.1**
VIVF Saint-Julien-l 82.83 314 *e*P **P** **23 36 50.5 +1.1**
BAIF Baives 82.86 320 *e*P **P** **23 36 50.4 +1.0**
comp=Z,82nm,1.5s
BAIF Baives 82.86 320 *e*P **P** **23 36 50.4 +1.0**
BAIF Baives 82.86 320 *e*P **P** **23 36 50.4 +1.0**
SSB Saint Sauveur 82.90 315 *e*P **P** **23 36 49.4 -0.4**
SSB Saint Sauveur 82.90 315 *e*P **P** **23 36 49.4 -0.4**
LOR Lormes 83.25 317 *e*P **P** **23 36 52.3 +0.8**
comp=Z,25nm,1.1s
LOR *e*R
comp=Z,119nm,20.8s
LOR Lormes 83.25 317 *e*P **P** **23 36 52.3 +0.8**
LOR Lormes 83.25 317 *e*P **P** **23 36 52.3 +0.8**
SMF Signal de Mont 83.31 316 *e*P **P** **23 36 52.3 +0.5**
comp=Z,10nm,0.8s
SMF Signal de Mont 83.31 316 *e*P **P** **23 36 52.3 +0.5**
SMF Signal de Mont 83.31 316 *e*P **P** **23 36 52.3 +0.5**
AVF Avril sur Loir 83.63 316 *e*P **P** **23 36 54.2 +0.8**
comp=Z,23nm,1.2s
AVF Avril sur Loir 83.63 316 *e*P **P** **23 36 54.2 +0.8**
AVF Avril sur Loir 83.63 316 *e*P **P** **23 36 54.2 +0.8**
TAM Tamanrasset 83.81 292 *e*P **P** **23 36 55.0 0.0**
TAM pmax pmax
comp=Z,5.0nm,0.9s
TAM Tamanrasset 83.81 292 *e*P **P** **23 36 55.0 0.0**
comp=Z,4.8nm,0.9s
BGF Bois d'Agland 84.00 316 *e*P **P** **23 36 56.4 +1.1**
comp=Z,24nm,1.0s
BGF Bois d'Agland 84.00 316 *e*P **P** **23 36 56.4 +1.1**
BGF Bois d'Agland 84.00 316 *e*P **P** **23 36 56.4 +1.1**
CAF Calviac 84.68 314 *e*P **P** **23 37 00.3 +1.5**
comp=Z,25nm,1.1s
CAF Calviac 84.68 314 *e*P **P** **23 37 00.3 +1.5**
CAF Calviac 84.68 314 *e*P **P** **23 37 00.3 +1.5**
MFF Saint Martin d 86.05 316 *e*P **P** **23 37 06.5 +0.9**
comp=Z,36nm,1.2s
MFF Saint Martin d 86.05 316 *e*P **P** **23 37 06.5 +0.9**
MFF Saint Martin d 86.05 316 *e*P **P** **23 37 06.5 +0.9**
TOA0 Torodi Ar. Sit 88.50 283 *e*P **P** **23 37 19.1 +1.1**
TORD Torodi Ar. Bea 88.50 283 P **P** **23 37 19.1 +1.1**
comp=Z,1.0nm,0.9s,baz=85,slow=5.0,SNR=6.3
TORD LR LR 00 15 08.2
comp=Z,105nm,20.9s,baz=50,slow=34
ESDC Sonseca Array 89.78 310 P **P** **23 37 24.7 +1.1**

comp=Z,0.6nm,0.7s,baz=80,slow=9.5,SNR=3.4
ESDC LR LR 00 21 01.0
comp=Z,46nm,20.8s,baz=195,slow=38
IM04 Indian Mountai 92.90 22 *e*P **P 23 37 37.5 -0.1**
VNDA Vanda 92.94 168 LR LR 00 14 43.8
comp=Z,176nm,18.9s,baz=330,slow=32
DBIC Dimbokro 95.76 277 LR LR 00 20 23.4
comp=Z,222nm,19.0s,baz=60,slow=35
ILAR Eielson Array 96.01 22 P **P 23 37 53.8 +1.9**
comp=Z,0.2nm,0.6s,baz=316,slow=5.0,SNR=2.4
ILAR LR LR 00 26 50.0
comp=Z,64nm,18.6s,baz=304,slow=39
ILB Eielson Array 96.01 22 *e*P **P 23 37 53.8 +1.9**
PD31 Pinedale Array 126.38 20 *e*PKPdf **PKPdf 23 43 28.5 +0.2**
PDAR Pinedale Array 126.38 20 PKP **PKPdf 23 43 28.5 +0.2**
comp=Z,0.3nm,0.4s,baz=90,slow=4.4,SNR=4.3
LTX Lajitas 140.52 22 *e*PKIKP **PKPdf 23 43 56.7 +1.7**
LTX Lajitas 140.52 22 *e*PKPdf **PKPdf 23 43 56.7 +1.7**
TXAR Lajitas Array 140.52 22 PKP **PKPdf 23 43 56.7 +1.7**
comp=Z,1.4nm,1.1s,baz=349,slow=1.8,SNR=3.5

SZGRF ***15*** *23:39:11.4,38.36N×73.70E,h33km,mb4.5, Tajikistan-Xinjiang border region*
IDC ***15*** *23:39:11.6±0.5,38.55N×71.96E,h0km,mb4.3/26, mb1 4.4/31,mb1mx4.3/43,mbtmp4.3/31,ML4.1/5,Error ellipse: s-maj=12.2km s-min=9.7km az=4.0*
ISCJB ***15*** *23:39:13.6±0.2,38.51N±0.02×71.96E±0.02,h25km, mb4.5/73,Error ellipse: s-maj=3.1km s-min=2.6km az=166.6*
NNC ***15*** *23:39:15.2±1.7,38.65N×71.85E,h0km,mb4.9,mpv4.7, Error ellipse: s-maj=20.5km s-min=6.0km az=157.0*
MOS ***15*** *23:39:15.4±1.2,38.69N×72.00E,h33km,mb4.6/31,Error ellipse: s-maj=7.1km s-min=4.6km az=117.9*
BJI ***15*** *23:39:16.1,38.87N×71.80E,h55km,mb4.6/23,mB4.9/16, ML4.5/2,Ms4.3/12,Ms7 4.0/12*
NEIC ***15*** *23:39:19.1±0.7,38.57N×71.98E,h56km±6km,mb4.8/33, Error ellipse: s-maj=7.2km s-min=4.9km az=170.0*

ISC 15 23:39:15.3±0.3,38.57N±0.03×71.91E±0.03,h25km,n315, σ1s63/308,mb4.6/73,46C-16D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SFK	**Sufi-Kurgan**	**1.90**	**40**	⇑P		**Pn**	**23 39 46.6**	**+0.3**
	634nm,0.5s							
SFK				⇓S		**Sb**	**23 40 14.9**	**+2.2**
	2μm,0.6s							
DZET	**Dzherino**	**2.42**	**276**	⇓P		**Pn**	**23 39 54.8**	**+1.3**
	1μm,0.6s							
DZET				⇑S		**Sb**	**23 40 27.4**	**-0.4**
	3μm,0.5s							
KSH	**Kashi**	**3.30**	**72**	⇑*i*Pn		**Pn**	**23 40 05.5**	**0.0**
KSH				*e*sP		sP	23 40 19.6	
KSH				Sn		**Sn**	**23 40 40.3**	**-3.7**
KSH				smax	smax			
	comp=N,2μm,1.0s							
KSH				smax	smax			
	comp=E,1μm,0.8s							
AML	**Almayashu**	**3.81**	**20**	P		Pn	23 40 15.9	+3.2
	SNR=194							
UCH	**Uchtor**	**4.16**	**28**	P		**Pn**	**23 40 20.7**	**+3.1**
	SNR=53							
EKS2	**Erkin-Say**	**4.32**	**19**	P		Pn	23 40 23.2	+3.6
	SNR=102							
EKS2	**Erkin-Say**	**4.32**	**19**	*e*PN		Pn	23 40 23.2	+3.6
EKS2				*e*			23 41 09.3	
EKS2	**Erkin-Say**	**4.32**	**19**	*e*Pn		Pn	23 40 23.2	+3.6
EKS2				*e*Sn		**Sn**	**23 41 09.3**	**+0.1**
KZA	**Kyzart**	**4.33**	**35**	P		Pn	23 40 23.3	+3.3
	SNR=15							
AAK	**Ala-Archa**	**4.51**	**25**	P		Pn	23 40 25.9	+3.7
	SNR=23							
AAK	**Ala-Archa**	**4.51**	**25**	⇓Pn		Pn	23 40 25.6	+3.4
	comp=E,35nm,0.6s							
AAK				⇓Pg		Pb	23 40 38.8	+4.9
	comp=E,105nm,0.6s							
AAK				⇓Sn		**Sb**	**23 41 25.4**	**-2.3**
	comp=E,244nm,0.8s							
AAK				⇑Lg		Lg	23 41 37.5	
	comp=E,224nm,0.8s							
AAK	**Ala-Archa**	**4.51**	**25**	*e*PN		Pn	23 40 25.8	+3.7
AAK	**Ala-Archa**	**4.51**	**25**	*e*Pn		Pn	23 40 25.8	+3.7
KBL	**Kabul**	**4.64**	**211**	*e*PN		Pn	23 40 27.8	+3.8
KBL	**Kabul**	**4.64**	**211**	*e*Pn		Pn	23 40 27.8	+3.8
KBL				*e*Sn		**Sn**	**23 41 19.7**	**+2.5**
KK31	**Karatay Array**	**4.65**	**347**	⇓Pn		**Pn**	**23 40 26.4**	**+2.4**
	comp=E,93nm,0.6s							
KK31				⇑Sn		**Sn**	**23 41 20.0**	**+2.9**
	comp=E,78nm,0.5s							
KK31				⇑Lg		Lg	23 41 43.0	
	comp=E,347nm,1.1s,baz=159,slow=28,SNR=3.6							
KKAR	**Karatay Array**	**4.65**	**347**	*e*PN		**Pn**	**23 40 26.5**	**+2.5**
KKAR				*e*			23 41 19.7	
KKAR	**Karatay Array**	**4.65**	**347**	*e*Pn		**Pn**	**23 40 26.5**	**+2.5**
KKAR				*e*Sn		**Sn**	**23 41 19.7**	**+2.6**
KBK	**Karagaybulak**	**4.69**	**29**	P		Pn	23 40 28.7	+4.0
	SNR=51							
FRU	**Bishkek**	**4.73**	**25**	*e*PN		**Pn**	**23 40 27.0**	**+2.0**
FRU				*i*			23 41 22.0	
FRU				*i* S		Sb	23 41 28.0	-5.9
FRU				*i*			23 41 46.0	
FRU				pmax	pmax			
	comp=Z,250nm,1.6s							
FRU				pmax	pmax			
	comp=E,4μm,12.0s							
FRU				pmax	pmax			
	comp=E,2μm,1.8s							
CEP	**Cherat**	**4.74**	**180**	P		Pb	23 40 31.1	-6.7
CEP				S		Sb	23 41 41.0	+6.6
CHMS	**Chumysh**	**4.92**	**25**	P		Pn	23 40 31.5	+3.9
	SNR=14							
ULHL	**Ulahol**	**4.94**	**41**	P		**Pn**	**23 40 31.3**	**+3.2**
	SNR=22							
CHCP	**Chirah Chowk**	**5.03**	**167**	P		Pn	23 40 33.8	+4.6
USP	**Ospenovka**	**5.08**	**22**	P		**Pn**	**23 40 33.1**	**+3.2**
	SNR=19							
TKM2	**Tokmak 2**	**5.17**	**32**	P		**Pn**	**23 40 34.4**	**+3.2**
	SNR=52							
TKM2	**Tokmak 2**	**5.17**	**32**	⇓Pn		**Pn**	**23 40 34.5**	**+3.2**
	comp=E,21nm,0.5s							
TKM2				⇑Lg		Lg	23 41 54.4	
	comp=E,175nm,0.7s							
TKM2	**Tokmak 2**	**5.17**	**32**	*e*PN		Pn	23 40 35.1	+3.9
TKM2	**Tokmak 2**	**5.17**	**32**	*e*Pn		Pn	23 40 35.1	+3.9
TKM2				*e*Sn		**Sn**	**23 41 26.8**	**-3.4**
THW	**Thamme Wali**	**5.77**	**181**	P		Pn	23 40 43.8	+4.4
KNDC	**Almaty**	**6.01**	**38**	⇑Pn		Pn	23 40 49.6	+6.9
KNDC				⇑Lg		Lg	23 42 23.9	
AAA	**Alma-Ata**	**6.05**	**37**	*i* PN		**Pb**	**23 41 02.7**	**+2.7**
AAA				pmax	pmax			
	comp=Z,57nm,0.8s							
DLH	**Dalhousie**	**6.87**	**150**	*e*P		**Pn**	**23 40 56.0**	**+1.4**
DLH				*ex*		x	23 42 19.0	
DHRM	**DHARAMSHALA**	**7.25**	**149**	*e*P		**Pn**	**23 41 01.3**	**+1.4**
DHRM				*e*S		**Sn**	**23 42 17.3**	**-4.3**
PDGK	**Podgornoye**	**7.44**	**48**	⇑Pn		Pn	23 41 05.7	+3.4
	comp=Z,9.1nm,0.5s							
PDGK				⇑Lg		Lg	23 43 10.3	
	comp=Z,74nm,0.9s							
SMLA	**Simla**	**8.59**	**148**	*i* P		**Pn**	**23 41 19.1**	**+1.1**
SMLA				*e*S		Sn	23 42 47.4	-6.7
SMLA				AML		AML	23 42 58.4	
	comp=E,1μm,0.6s							
SMLA				AML		AML	23 43 01.0	
	comp=N,935nm,0.5s							
IMYA	**Miami**	**9.65**	**260**	*e*P		**Pn**	**23 41 30.5**	**-2.2**
OTUK	**Ortayu**	**9.67**	**2**	⇑Pn		**Pn**	**23 41 33.0**	**+0.1**
	comp=N,6.3nm,0.7s							
OTUK				⇑Sn		**Sn**	**23 43 20.6**	**-0.1**
	comp=N,55nm,1.2s							
OTUK				⇓Lg		Lg	23 44 22.5	
	comp=N,54nm,1.2s							
JOSI	**Joshimath**	**10.18**	**139**	*e*P		**Pn**	**23 41 42.3**	**+2.2**
JOSI				*e*S		**Sn**	**23 43 28.3**	**-5.2**
JOSI				AML		AML	23 43 37.5	
	comp=E,353nm,0.8s							
JOSI				AML		AML	23 43 38.2	
	comp=N,317nm,0.8s							
IMOG	**Moghan**	**10.31**	**260**	*e*P		**Pn**	**23 41 39.4**	**-2.5**
IPAY	**Payeh**	**10.48**	**262**	*e*P		**Pn**	**23 41 41.6**	**-2.5**
IAKL	**Akhelmad**	**10.62**	**263**	*e*P		**Pn**	**23 41 43.3**	**-2.9**
NDI	**New Delhi**	**10.81**	**154**	*e*P		**Pn**	**23 41 49.0**	**+0.6**
NDI				*ex*		x	23 43 48.0	
KHET	**Khetri**	**10.96**	**162**	*e*P		**Pn**	**23 41 49.7**	**-0.9**
KHET				*ex*		x	23 43 48.1	
KHET				AML		AML	23 44 00.8	
	comp=N,89nm,0.1s							
KHET				AML		AML	23 44 01.4	
	comp=E,80nm,0.0s							
KUDL	**Kundal**	**11.08**	**158**	*e*P		**Pn**	**23 41 52.2**	**+0.1**
KUDL				*e*S		Sn	23 43 47.4	-7.8
ISFR	**Sfrayin**	**11.11**	**266**	*e*P		**Pn**	**23 41 51.0**	**-1.9**
MK01	**Makanchi Array**	**11.20**	**40**	*e*Pn		**Pn**	**23 41 56.6**	**+2.8**
MK31	**Makanchi Array**	**11.21**	**40**	Pn		**Pn**	**23 41 56.9**	**+2.9**
	comp=E,49nm,1.1s,baz=217,slow=9.7,SNR=188							
MK31				⇓Lg		Lg	23 45 10.8	
	comp=E,14nm,0.9s							
MK32	**Makanchi Array**	**11.21**	**40**	*e*Pn		**Pn**	**23 41 54.2**	**+0.3**
MKAR	**Makanchi Array**	**11.21**	**40**	Pn		**Pn**	**23 41 54.2**	**+0.3**
	comp=E,1.8nm,0.3s,baz=220,slow=12,SNR=167							
MKAR				Lg		Lg	23 45 06.0	
	comp=E,0.1nm,0.3s,baz=223,slow=31,SNR=3.2							
MKAR	**Makanchi Array**	**11.21**	**40**	*e*P		Pn	23 41 57.2	+3.3
MKAR	**Makanchi Array**	**11.21**	**40**	*e*Pn		Pn	23 41 57.2	+3.3
ISHV	**Shirvan**	**11.25**	**269**	*e*P		**Pn**	**23 41 52.0**	**-2.7**
AGRA	**Agra**	**12.39**	**154**	*e*P		**Pn**	**23 42 10.3**	**+0.2**
AGRA				*e*S		Sn	23 44 19.5	-7.8
AGRA				AML		AML	23 44 40.0	
	comp=E,55nm,0.6s							
AGRA				AML		AML	23 44 43.4	
	comp=N,80nm,0.1s							
KURBB	**Kurchatov Arra**	**12.93**	**19**	⇑Lg		Lg	23 46 02.3	
	comp=N,81nm,1.2s							
KURBB	**Kurchatov Arra**	**12.93**	**19**	Pn		**Pn**	**23 42 15.5**	**-1.9**
	comp=N,0.2nm,0.3s,baz=211,slow=12,SNR=31							
KURBB				Lg		Lg	23 46 03.5	
	comp=N,0.2nm,0.3s,baz=198,slow=29,SNR=5.3							
WMQ	**Urumqi**	**12.99**	**61**	P		**Pn**	**23 42 20.4**	**+2.1**
WMQ				pP		**P**	**23 42 29.8**	**+1.3**
WMQ				sP			23 42 39.0	
WMQ				S		**Sn**	**23 44 43.0**	**+1.1**
WMQ				smax	smax			
	comp=N,7.0nm,0.6s							
WMQ				smax	smax			
	comp=E,6.0nm,0.4s							
WMQ	**Urumqi**	**12.99**	**61**	P		**Pn**	**23 42 21.4**	**+3.1**
WMQ				pP		**P**	**23 42 30.8**	**+2.3**
WMQ				PP		**PnPn**	**23 42 33.1**	**+7.1**
WMQ				sP			23 42 40.0	
WMQ				S		**Sn**	**23 44 44.0**	**+2.1**
WMQ				PMZ				
	comp=E,7.0nm,0.7s							
WMQ				PMZ				
	comp=E,75nm,4.1s							
WMQ				LN				
	comp=E,450nm,11.2s							
WMQ				LE				
	comp=E,470nm,11.0s							
WMQ				LZ				
	comp=E,360nm,22.0s							
KURK	**Kurchatov**	**13.04**	**19**	⇑Pn		**Pn**	**23 42 16.1**	**-2.8**
	comp=E,3.1nm,0.9s							
KURK				⇓Lg		Lg	23 46 04.5	
	comp=E,26nm,1.2s							
KURK	**Kurchatov**	**13.04**	**19**	*e*P		**Pn**	**23 42 17.2**	**-1.6**
KURK	**Kurchatov**	**13.04**	**19**	*e*Pn		**Pn**	**23 42 17.2**	**-1.6**
AB31	**Akbulak array**	**13.71**	**325**	⇑Pn		Pn	23 42 25.1	-2.9
	comp=E,5.6nm,0.5s,baz=128,slow=12,SNR=114							
AB31				⇑Sn		**Sn**	**23 44 56.3**	**-3.0**
	comp=E,21nm,0.9s,baz=130,slow=25,SNR=6.1							
ABKAR	**Akbulak array**	**13.71**	**325**	*e*Pn		Pn	23 42 25.1	-2.9
BVA0	**Borovoye Array**	**14.49**	**356**	Pn		**Pn**	**23 42 37.0**	**-1.7**
	comp=E,7.4nm,0.6s,baz=156,slow=12,SNR=47							
BVAR	**Borovoye Array**	**14.49**	**356**	Pn		**Pn**	**23 42 36.4**	**-2.3**
	comp=E,0.8nm,0.3s,baz=164,slow=15,SNR=21							
BVAR				Sn		**Sn**	**23 45 18.0**	**-0.5**
	comp=E,0.8nm,0.3s,baz=163,slow=23,SNR=6.5							
BVAR	**Borovoye Array**	**14.49**	**356**	P		**Pn**	**23 42 36.4**	**-2.3**
BVAR							23 45 18.0	
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BVAR				smax	smax			
	comp=N,1.0nm,0.3s							
IGLO	**Ghaloghah**	**14.50**	**267**	*e*P		**Pn**	**23 42 36.9**	**-2.1**
BRVK	**Borovoye**	**14.53**	**356**	⇓Pn		**Pn**	**23 42 37.1**	**-2.1**
	comp=N,17nm,0.9s							
BRVK	**Borovoye**	**14.53**	**356**	*e*P		**Pn**	**23 42 37.5**	**-1.7**
BRVK				pmax	pmax			
	comp=Z,15nm,1.2s							
BRVK	**Borovoye**	**14.53**	**356**	*e*Pn		**Pn**	**23 42 37.9**	**-1.3**
KOLN	**Koldanda**	**14.54**	**134**	*e*P		Pn	23 42 35.5	-4.2
	comp=Z,26nm,0.4s							
IANJ	**Anjilo**	**14.71**	**263**	*e*P		**Pn**	**23 42 40.0**	**-2.0**
GKN	**Gorkha**	**14.96**	**131**	*e*P		Pn	23 42 40.8	-4.5
	comp=Z,42nm,0.4s							
ISHM	**Shahmirzad**	**15.10**	**265**	*e*P		**Pn**	**23 42 46.3**	**-0.9**
IALA	**Alasht**	**15.40**	**267**	*e*P		**Pn**	**23 42 49.2**	**-2.0**
AKTO	**Aktyubinsk**	**15.42**	**325**	⇑Pn		**Pn**	**23 42 49.3**	**-1.9**
	comp=Z,23nm,0.7s							
AKTO				⇑Sn		**Sn**	**23 45 41.5**	**+0.3**
	comp=Z,9.1nm,0.7s							
AKTO	**Aktyubinsk**	**15.42**	**325**	Pn		**Pn**	**23 42 48.9**	**-2.2**
	comp=Z,0.9nm,0.3s,baz=140,slow=14,SNR=20							
AKTO				Sn		Sn	23 45 34.0	-7.1
	comp=Z,0.4nm,0.3s,baz=16,slow=18,SNR=3.2							
ILAS	**Lasjerd**	**15.48**	**264**	*e*P		**Pn**	**23 42 51.0**	**-1.1**
KKN	**Kakani**	**15.50**	**130**	*e*P		**Pn**	**23 42 48.4**	**-4.1**
	comp=Z,39nm,0.6s							
KKN				*e*S		Sn	23 45 32.2	-12
DMN	**Daman**	**15.53**	**131**	*e*P		**Pn**	**23 42 49.1**	**-3.8**
	comp=Z,22nm,0.6s							
IFIR	**Firoozkooh**	**15.56**	**265**	*e*P		**Pn**	**23 42 52.9**	**-0.4**
ICHK	**Chekchek**	**15.60**	**251**	*e*P		**Pn**	**23 42 53.4**	**-0.3**
PKI	**Pulchoki**	**15.74**	**130**	*e*P		**Pn**	**23 42 51.8**	**-3.9**
	comp=Z,34nm,0.6s							
GUN	**Gumba**	**15.78**	**128**	*e*P		Pn	23 42 51.6	-4.6
	comp=Z,30nm,0.5s							
IMEH	**Mehriz**	**15.87**	**248**	*e*P		**Pn**	**23 42 57.8**	**+0.5**
IDMV	**Damavand**	**16.14**	**265**	*e*P		**Pn**	**23 43 00.5**	**-0.3**
ISAD	**Sadrabad**	**16.29**	**251**	*e*P		**Pn**	**23 43 02.9**	**+0.2**
IZEF	**Zefreh**	**16.87**	**256**	*e*P		**Pn**	**23 43 10.1**	**+0.1**
RAMN	**Ramite**	**16.91**	**129**	*e*P		Pn	23 43 05.8	-4.8
	comp=Z,29nm,0.4s							
IKLH	**Kolahrood**	**17.27**	**259**	*e*P		**Pn**	**23 43 15.1**	**+0.1**
TAPN	**Taplejung**	**17.32**	**126**	*e*P		Pn	23 43 09.9	-5.8
	comp=Z,32nm,0.6s							
ODAN	**Odare**	**17.47**	**127**	*e*P		Pn	23 43 12.0	-5.5
	comp=Z,39nm,0.6s							
ZAA0	**Zalesovo Array**	**17.73**	**26**	*e*Pn		**Pn**	**23 43 18.9**	**-1.4**
ZALV	**Zalesovo Beam**	**17.73**	**26**	P		**Pn**	**23 43 19.4**	**-0.9**
	comp=Z,9.7nm,0.3s,baz=213,slow=10,SNR=120							
ZALV	**Zalesovo Beam**	**17.73**	**26**	P		**Pn**	**23 43 19.4**	**-0.9**
ZALV				pmax	pmax			
	comp=Z,10.0nm,0.3s							
ZAA1	**Zalesovo Array**	**17.74**	**26**	*e*Pn		**Pn**	**23 43 19.4**	**-1.0**
IRAZ	**Razeghan**	**17.84**	**267**	*e*P		**P**	**23 43 23.8**	**+1.3**
NVS	**Novosibirsk**	**17.99**	**22**	⇑*i*P		**Pn**	**23 43 22.4**	**-1.1**
NVS				*e*S		**S**	**23 46 47.2**	**-1.7**
NVS				pmax	pmax			
	comp=N,32nm,0.8s							
NVS				pmax	pmax			
	comp=E,13nm,0.8s							
NVS				pmax	pmax			
	comp=Z,34nm,0.8s							
NVS				smax	smax			
	comp=N,14nm,1.7s							
NVS				smax	smax			
	comp=E,6.0nm,1.5s							
IPIR	**Pirpir**	**18.05**	**257**	*e*P		**P**	**23 43 26.4**	**+1.4**
LSA	**Lhasa**	**18.19**	**113**	*e*P		**Pn**	**23 43 24.8**	**-1.8**
LSA				pmax	pmax			
	comp=Z,13nm,0.8s							
LSA	**Lhasa**	**18.19**	**113**	*e*P		**Pn**	**23 43 24.8**	**-1.8**
	comp=Z,13nm,0.8s							
BANOM	**Banah**	**18.23**	**231**	⇑P		**P**	**23 43 27.7**	**+1.0**
IKAZ	**Kazeroun**	**18.75**	**248**	*e*P		**Pn**	**23 43 32.9**	**-0.4**
MAK	**Makhachkala**	**18.98**	**291**	*e*P		Pn	23 43 46.4	+11
MAK				*e*S		**Sn**	**23 47 07.8**	**+0.6**
MAK				MLR	MLR			
	comp=Z,309nm,12.0s							
ASHO	**Ashiyiah**	**19.30**	**229**	⇑P		**Pn**	**23 43 39.1**	**-0.5**
SVE	**Sverdlovsk**	**19.73**	**341**	⇓*e*P		**P**	**23 43 42.9**	**0.0**
SVE				pmax	pmax			
	comp=Z,18nm,1.0s							
HVS	**Khovu-Aksy**	**19.82**	**44**	*e*P		**P**	**23 43 43.8**	**-0.2**
ARU	**Arti**	**19.95**	**338**	*d*/P		**P**	**23 43 46.4**	**+1.1**
ARU				S		**S**	**23 47 29.6**	**+1.3**
ARU				pmax	pmax			
	comp=Z,13nm,1.2s							
DGRG	**David-gareji**	**20.50**	**286**	P		Pn	23 43 53.8	0.0
DGRG	**David-gareji**	**20.50**	**286**	P		Pn	23 43 53.8	0.0
TBLG	**Delisi**	**20.98**	**287**	P		**P**	**23 43 56.7**	**+0.1**
TBLG	**Delisi**	**20.98**	**287**	P		**P**	**23 43 56.7**	**+0.1**
GNI	**Garni**	**21.04**	**283**	P		**P**	**23 43 58.8**	**+1.3**
	comp=Z,11nm,0.7s,baz=18,slow=4.0,SNR=8.5							
GNI	**Garni**	**21.04**	**283**	*e*P		**P**	**23 43 59.9**	**+2.4**
GNI				pmax	pmax			
	comp=Z,34nm,1.7s							
GNI	**Garni**	**21.04**	**283**	⇑P		**P**	**23 43 59.8**	**+2.3**
GNI	**Garni**	**21.04**	**283**	*e*P		**P**	**23 44 00.7**	**+3.2**
	comp=Z,52nm,1.0s							
ZEI	**Tsey**	**21.61**	**290**	*e*P		**P**	**23 44 07.7**	**+4.1**
ZEI				pmax	pmax			
	comp=Z,25nm,0.7s							
GTA	**Gaotai**	**21.68**	**79**	*e*P		**P**	**23 44 05.8**	**+1.6**
GTA				pP		pP	23 44 18.6	+7.5
GTA				sP		sP	23 44 25.8	+11
GTA				S		**S**	**23 48 01.8**	**-1.2**
GTA				PMZ				
	comp=Z,20nm,1.0s							
GTA				PMZ				
	comp=Z,190nm,5.5s							
GTA				LN				
	comp=Z,230nm,16.6s							
GTA				LE				
	comp=Z,280nm,19.5s							
GTA				LZ				
	comp=Z,210nm,17.1s							
ONI	**Oni**	**21.94**	**290**	P		**P**	**23 44 10.0**	**+3.1**
ONI	**Oni**	**21.94**	**290**	P		**P**	**23 44 10.0**	**+3.1**
KBZ	**Khabaz**	**22.38**	**293**	P		**P**	**23 44 11.2**	**-0.4**
	comp=Z,4.6nm,0.7s,baz=130,slow=6.7,SNR=8.3							
GOF	**Gofitskoye**	**22.40**	**296**	*e*P		**P**	**23 44 15.4**	**+3.6**
GOF				pmax	pmax			
	comp=Z,20nm,1.0s							
KIV	**Kislovodsk**	**22.55**	**293**	*e*P		**P**	**23 44 13.7**	**+0.2**
KIV				*e*S		**S**	**23 48 19.3**	**-0.1**
KIV				pmax	pmax			
	comp=Z,27nm,1.0s							
KIV				MLR	MLR			
	comp=Z,78nm,14.0s							
KIV	**Kislovodsk**	**22.55**	**293**	⇑*e*P		**P**	**23 44 14.1**	**+0.5**
KIV	**Kislovodsk**	**22.55**	**293**	*e*P		**P**	**23 44 13.8**	**+0.3**
	comp=Z,23nm,0.7s							
SOKR	**Solikamsk**	**23.14**	**340**	⇑*i*P		**P**	**23 44 20.6**	**+1.2**
SOKR				pmax	pmax			
	comp=Z,20nm,1.3s							
MOY	**Mondy**	**24.15**	**48**	*e*P		**P**	**23 44 31.4**	**+2.0**
MOY				pmax	pmax			
	comp=Z,23nm,1.8s							
VRHR	**Novokhopersk**	**24.67**	**310**	*e*P		**P**	**23 44 33.6**	**-0.3**
VRHR				pmax	pmax			
	comp=Z,10.0nm,0.6s							
VRHR				pmax	pmax			
	comp=N,10.0nm,1.6s							
VRHR				pmax	pmax			
	comp=E,7.0nm,0.8s							
ZAK	**Zakamensk**	**25.11**	**52**	*e*P		**P**	**23 44 37.8**	**-0.3**
ZAK				pmax	pmax			
	comp=Z,14nm,1.0s							
TLY	**Talaya**	**25.71**	**49**	P		**P**	**23 44 43.6**	**+0.1**
	comp=Z,4.6nm,0.6s,baz=242,slow=9.1,SNR=8.7							
TLY	**Talaya**	**25.71**	**49**	*e*P		**P**	**23 44 45.5**	**+2.1**
TLY				pmax	pmax			
	comp=Z,4.0nm,0.6s							
TLY				MLR	MLR			
	comp=Z,145nm,13.0s							
VORD	**Divnogorie**	**26.04**	**309**	*e*P		**P**	**23 44 47.9**	**+1.6**
VORD				pmax	pmax			
	comp=Z,30nm,0.4s							
VORD				pmax	pmax			
	comp=N,220nm,0.6s							
VORD				pmax	pmax			
	comp=E,50nm,0.3s							
VSR	**Storozhevoye**	**26.18**	**310**	*e*P		**P**	**23 44 47.3**	**-0.3**
VSR				pmax	pmax			
	comp=Z,10.0nm,0.6s							
VSR				pmax	pmax			
	comp=N,4.0nm,0.8s							
VSR				pmax	pmax			
	comp=E,8.0nm,0.6s							
SONA0	**Songino Array**	**26.60**	**58**	*e*P		**P**	**23 44 51.6**	**0.0**
SONM	**Songino Array**	**26.60**	**58**	P		**P**	**23 44 51.6**	**0.0**
	comp=E,4.3nm,0.9s,baz=255,slow=8.7,SNR=5.9							
SONM	**Songino Array**	**26.60**	**58**	P		**P**	**23 44 51.6**	**0.0**
SONM				pmax	pmax			
	comp=Z,4.0nm,1.0s							
SONA1	**Songino Array**	**26.61**	**58**	*e*P		**P**	**23 44 52.8**	**+1.0**
LPSR	**Galich'ya Gora**	**26.73**	**312**	*e*P		**P**	**23 44 52.6**	**0.0**
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.7s							
LPSR				pmax	pmax			
	comp=N,5.0nm,1.6s							
LPSR				pmax	pmax			
	comp=E,5.0nm,0.6s							
RAYN	**Ar Rayn**	**27.02**	**244**	*e*P		**P**	**23 44 57.1**	**+1.5**
	comp=E,15nm,0.9s							
CD2	**Chengdu**	**27.17**	**97**	P		**P**	**23 44 55.5**	**-1.3**
CD2				pP		pP	23 45 09.3	+5.1
CD2				sP		sP	23 45 15.9	+8.6
CD2				PcP		**PcP**	**23 48 15.3**	**-1.5**
CD2				S		**S**	**23 49 30.3**	**-3.7**
CD2				sS		sS	23 49 54.1	+7.9
CD2				PMZ				
	comp=E,20nm,0.5s							

KIEV	Kiev	32.27	306	*eP*		P	23	45	41.9 +0.2
	comp=Z,6.3nm,0.6s								
CFR	Carcaliu	32.94	296	⇓P		P	23	45	49.0 +1.4
CFR	Carcaliu	32.94	296	⇓*i*P		P	23	45	49.0 +1.4
BOD	Bodaibo	33.30	41	*eP*		P	23	45	50.9 +0.3
BOD					pmax	pmax			
	comp=Z,7.0nm,1.1s								
VRI	Vrincioaia	33.87	297	⇑P		P	23	45	58.5 +2.6
VRI	Vrincioaia	33.87	297	⇑*i*P		P	23	45	58.5 +2.6
TESR	Tescani	33.89	298	⇑*i*P		P	23	45	57.1 +1.1
PLOR	Plostina	33.93	297	⇑P		P	23	45	58.4 +2.0
PLOR	Plostina	33.93	297	⇑*i*P		P	23	45	58.4 +2.0
JMB	Yambol	34.36	291	⇑P		P	23	46	01.8 +1.7
JMB	Yambol	34.36	291	⇑*i*P		P	23	46	01.8 +1.7
MLR	Muntele Rosu	34.45	297	⇑P		P	23	46	03.6 +2.6
MLR	Muntele Rosu	34.45	297	⇑*i*P		P	23	46	03.6 +2.6
BURAR	Bucovina Array	34.81	300	⇑P		P	23	46	04.7 +0.6
BURAR	Bucovina Array	34.81	300	⇑*i*P		P	23	46	04.7 +0.6
BUR04	Bucovina Ar. S	34.82	300	*eP*		P	23	46	04.9 +0.8
VOIR		35.08	297	⇑P		P	23	46	08.2 +1.8
VOIR		35.08	297	⇑*i*P		P	23	46	08.2 +1.8
LOT	Lotru	35.98	297	⇑*i*P		P	23	46	15.2 +1.1
FIA0	FINESS Array S	36.20	324	*eP*		P	23	46	15.8 +0.2
FIA0	FINESS Array S	36.20	324	*eP*		P	23	46	15.8 +0.2
FINES	FINESS Array B	36.20	324	P		P	23	46	15.8 +0.2
	comp=Z,6.4nm,0.5s,baz=116,slow=9.4,SNR=65								
FINES	FINESS Array B	36.20	324	*eP*		P	23	46	15.4 -0.2
KWP	Kalwaria Pacla	36.41	304	*eP*		P	23	46	19.1 +1.5
KWP	Kalwaria Pacla	36.41	304	*eP*		P	23	46	19.1 +1.5
DRGR		36.57	299	⇑P		P	23	46	20.6 +1.4
DRGR		36.57	299	⇑*i*P		P	23	46	20.6 +1.4
KOLS	Kolonicke sedl	36.72	303	*eP*		P	23	46	21.5 +1.2
KOLS					pmax	pmax			
	comp=Z,3.0nm,1.3s								
KOLS	Kolonicke sedl	36.72	303	*eP*		P	23	46	21.5 +1.2
VTS	Vitosha	36.80	292	⇑P		P	23	46	22.8 +1.6
VTS	Vitosha	36.80	292	⇑*i*P		P	23	46	22.8 +1.6
STHS	Stebnicka Huta	37.37	304	*eP*		P	23	46	26.1 +0.3
STHS					pmax	pmax			
	comp=Z,1.0nm,0.7s								
STHS	Stebnicka Huta	37.37	304	*eP*		P	23	46	26.1 +0.3
IDI	Anoyia	37.41	280	P		P	23	46	26.5 +0.1
	comp=Z,1.3nm,0.4s,baz=108,slow=9.0,SNR=9.3								
KECS	Kecovo	37.93	302	*eP*		P	23	46	29.3 -1.2
KECS					pmax	pmax			
	comp=Z,2.0nm,1.3s								
KECS	Kecovo	37.93	302	*e*		P	23	46	29.3 -1.2
NIE	Niedzica	37.98	304	*eP*		P	23	46	32.8 +1.8
NIE	Niedzica	37.98	304	*eP*		P	23	46	32.8 +1.8
OJC	Ojcow	38.27	305	*eP*		P	23	46	34.1 +0.6
OJC	Ojcow	38.27	305	*eP*		P	23	46	34.0 +0.6
OJC					pmax	pmax			
	comp=Z,9.0nm,0.9s								
OJC	Ojcow	38.27	305	*eP*		P	23	46	34.0 +0.6
	comp=Z,8.8nm,0.9s								
DIVS	Divibare	38.84	295	⇑*i*P		P	23	46	39.8 +1.5
PKSM	Moragy	39.44	299	⇑P		P	23	46	44.5 +1.3
PKSM	Moragy	39.44	299	⇑*i*P		P	23	46	44.5 +1.3
ARA0	ARCESS Array S	39.52	336	*eP*		P	23	46	44.3 +0.6
ARCES	ARCESS Array B	39.52	336	P		P	23	46	43.9 +0.3
	comp=Z,7.0nm,0.8s,baz=110,slow=8.8,SNR=48								
ARCES	ARCESS Array B	39.52	336	*eP*		P	23	46	43.4 -0.2
GKP	Gorka Klasztor	39.76	310	*eP*		P	23	46	46.6 +0.8
GKP	Gorka Klasztor	39.76	310	*eP*		P	23	46	46.6 +0.8
DPC	Dobruska-Polom	40.48	306	*eP*		P	23	46	49.9 -2.0
DPC				*ex*		x	23	46	53.2
DPC				*ex*		x	23	46	55.5
DPC	Dobruska-Polom	40.48	306	*eP*		P	23	46	49.9 -2.0
DPC				*e*			23	46	55.5
UPC	Upice	40.67	306	*eP*		P	23	46	54.4 +1.0
UPC	Upice	40.67	306	*eP*		P	23	46	54.4 +1.0
TREC	Trest	41.13	304	*eP*		P	23	46	58.3 +1.1
TREC				*ex*		x	23	47	03.9
TREC	Trest	41.13	304	*eP*		P	23	46	58.3 +1.1
TREC				*e*			23	47	03.9
PRU	Pruhonice	41.66	305	*eP*		P	23	46	58.8 -2.7
PRU				*ex*		x	23	47	03.5
PRU	Pruhonice	41.66	305	*eP*		P	23	46	58.8 -2.7
YAK	Yakutsk	41.87	37	*eP*		P	23	47	01.5 -1.5
YAK					pmax	pmax			
	comp=Z,20nm,0.9s								
YAK					pmax	pmax			
	comp=E,9.0nm,1.5s								
YAK					pmax	pmax			
	comp=N,5.0nm,1.1s								
BRG	Berggiesshubel	41.94	307	*eP*		P	23	47	04.7 +0.9
	comp=N,4.1nm,0.9s								
BRG	Berggiesshubel	41.94	307	*eP*		P	23	47	04.7 +0.9
BRG					pmax	pmax			
	comp=Z,4.0nm,0.9s								
GEC2	GERESS Array S	42.36	304	*eP*		P	23	47	08.8 +1.4
GEC2	GERESS Array S	42.36	304	*eP*		P	23	47	08.8 +1.4
GERES	GERESS Array B	42.36	304	P		P	23	47	08.8 +1.4
	comp=Z,0.8nm,0.6s,baz=55,slow=5.4,SNR=4.5								
GERES	GERESS Array B	42.36	304	P		P	23	47	08.8 +1.4
GERES					pmax	pmax			
	comp=Z,1.0nm,0.6s								
KHC	Kasperske Hory	42.40	304	*eP*		P	23	47	08.7 +1.1
KHC				*ex*		x	23	47	14.4
KHC	Kasperske Hory	42.40	304	*eP*		P	23	47	08.7 +1.1
KHC				*e*			23	47	14.4
KHC	Kasperske Hory	42.40	304	*eP*		P	23	47	08.8 +1.1
	comp=Z,1.6nm,0.8s								
CLL	Collm	42.48	307	*i*P		P	23	47	08.4 +0.2
	comp=Z,4.0nm,0.8s								
CLL				*i*			23	47	13.6
CLL	Collm	42.48	307	*i*P		P	23	47	08.4 +0.2
CLL					pmax	pmax			
	comp=Z,4.0nm,0.8s								
CLL	Collm	42.48	307	*eP*		P	23	47	10.9 +2.7
	comp=Z,4.1nm,0.8s								
CUC	Castrocucco	42.83	290	*eP*		P	23	47	10.9 -0.3
	comp=Z,20nm,1.7s								
NB2	NORSAR Subarra	43.18	322	P		P	23	47	13.4 -0.4
	comp=Z,9.2nm,1.2s,baz=92,slow=8.6								
NB200	NORSAR Array S	43.18	322	*eP*		P	23	47	13.4 -0.4
NOA	NORSAR Array B	43.18	322	P		P	23	47	13.4 -0.4
	comp=Z,3.5nm,0.9s,baz=92,slow=8.0,SNR=12								
NOA	NORSAR Array B	43.18	322	P		P	23	47	13.4 -0.4
NOA					pmax	pmax			
	comp=Z,4.0nm,0.9s								
NBO02	NORSAR Array S	43.36	322	*eP*		P	23	47	15.0 -0.2
KS15	Wonju Array Si	43.53	73	*eP*		P	23	47	17.6 +0.7
KSRS	Korea Array	43.55	73	P		P	23	47	17.6 +0.5
	comp=Z,2.4nm,0.9s,baz=281,slow=7.7,SNR=6.9								
KSRS	Korea Array	43.55	73	P		P	23	47	17.6 +0.5
KSRS					pmax	pmax			
	comp=Z,2.0nm,0.9s								
TIXI	Tiksi	43.58	23	⇓*i*P		P	23	47	16.8 0.0
TIXI					pmax	pmax			
	comp=Z,8.0nm,1.0s								
TIXI	Tiksi	43.58	23	*eP*		P	23	47	16.9 +0.1
	comp=Z,7.2nm,0.9s								
GRF	Grafenberg Arr	43.83	305	*eP*		P	23	47	23.6 +4.4
	comp=Z,5.0nm,0.9s								
KONO	Kongsberg	43.95	320	*eP*		P	23	47	20.3 +0.3
KONO					pmax	pmax			
	comp=Z,25nm,1.5s								
KONO	Kongsberg	43.95	320	*eP*		P	23	47	20.3 +0.3
	comp=Z,25nm,1.5s								
FUORN	Ofenpass-Fuorn	45.05	301	*eP*		P	23	47	29.4 +0.2
	comp=Z,43nm,2.2s								
KBS	Kingsbay	46.76	347	*eP*		P	23	47	42.8 +0.8
KBS					pmax	pmax			
	comp=Z,29nm,0.8s								
KBS	Kingsbay	46.76	347	*eP*		P	23	47	42.8 +0.8
	comp=Z,28nm,0.8s								
SENIN	Lac Senin/Sane	47.10	301	*eP*		P	23	47	45.2 -0.1
JNU	Nakatsue	47.41	78	P		P	23	47	48.8 +1.1
	comp=Z,9.9nm,0.9s,baz=324,slow=3.7,SNR=5.0								
JNU	Nakatsue	47.41	78	*eP*		P	23	47	46.5 -1.2
	comp=Z,20nm,1.1s								
LPG	La Plagne	47.70	300	*eP*		P	23	47	51.3 +1.2
LPG	La Plagne	47.70	300	*eP*		P	23	47	51.3 +1.2
LPG	La Plagne	47.70	300	*eP*		P	23	47	51.3 +1.2
LPL	La Plagne	47.71	300	*eP*		P	23	47	51.2 +1.1
LPL	La Plagne	47.71	300	*eP*		P	23	47	51.2 +1.1
LPL	La Plagne	47.71	300	*eP*		P	23	47	51.2 +1.1
NKL	Nikolayevsk	48.19	49	*i*P		P	23	47	53.0 -0.4
KEST	Kesra	49.09	287	P		P	23	48	02.7 +2.0
	comp=Z,1.0nm,1.0s,baz=344,slow=7.4,SNR=2.6								
SMF	Signal de Mont	49.33	303	*eP*		P	23	48	02.1 -0.2
	comp=Z,2.3nm,0.4s								
SMF	Signal de Mont	49.33	303	*eP*		P	23	48	02.1 -0.2
SMF	Signal de Mont	49.33	303	*eP*		P	23	48	02.1 -0.2
AVF	Avril sur Loir	49.61	303	*eP*		P	23	48	04.3 -0.1
	comp=Z,3.4nm,0.5s								
AVF	Avril sur Loir	49.61	303	*eP*		P	23	48	04.3 -0.1
AVF	Avril sur Loir	49.61	303	*eP*		P	23	48	04.3 -0.1
EDI	Edinburgh	51.19	316	*eP*		P	23	48	14.8 -1.4
EDI					pmax	pmax			
	comp=Z,93nm,2.7s								
EDI	Edinburgh	51.19	316	*eP*		P	23	48	14.8 -1.4
	comp=Z,93nm,2.7s								
MAJO	Matsushiro	51.55	70	*eP*		P	23	48	19.6 +0.4
MAJO	Matsushiro	51.55	70	*eP*		P	23	48	19.6 +0.4
MJAR	Matsushiro Arr	51.55	70	P		P	23	48	19.6 +0.4
	comp=Z,0.9nm,0.5s,baz=284,slow=9.5,SNR=6.2								
MJAR	Matsushiro Arr	51.55	70	P		P	23	48	19.6 +0.4
MJAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
SGMF	Saint Gilles	52.97	306	*eP*		P	23	48	30.8 +1.2
SGMF	Saint Gilles	52.97	306	*eP*		P	23	48	30.8 +1.2
SGMF	Saint Gilles	52.97	306	*eP*		P	23	48	30.8 +1.2
ESDC	Sonseca Array	57.15	297	P		P	23	49	00.0 0.0
	comp=Z,0.5nm,0.4s,baz=56,slow=7.5,SNR=7.1								
PETK	Petropavlovsk-	57.99	45	P		P	23	49	04.4 -1.2
	comp=Z,1.0nm,0.4s,baz=347,slow=5.9,SNR=3.8								
PETK	Petropavlovsk-	57.99	45	P		P	23	49	04.4 -1.2
PETK					pmax	pmax			
	comp=Z,1.0nm,0.4s								
PEA2	Petropavlovsk-	57.99	45	*eP*		P	23	49	04.4 -1.2
SUMG	Summit	59.34	341	*eP*		P	23	49	16.5 +1.3
SUMG					pmax	pmax			
	comp=Z,8.0nm,0.8s								
SUMG	Summit	59.34	341	*eP*		P	23	49	16.5 +1.3
	comp=Z,7.7nm,0.8s								
TOA0	Torodi Ar. Sit	66.50	268	*eP*		P	23	50	02.4 -0.8
TORD	Torodi Ar. Bea	66.50	268	P		P	23	50	02.4 -0.7
	comp=Z,3.2nm,0.5s,baz=49,slow=5.6,SNR=93								
COLD	Coldfoot	69.78	16	*eP*		P	23	50	23.5 +0.5
	comp=Z,11nm,0.8s								
IM04	Indian Mountai	69.98	18	*eP*		P	23	50	24.4 +0.2
MLY	Manley	71.49	18	*eP*		P	23	50	33.8 +0.4
	comp=Z,4.6nm,0.7s								
INK	Inuvik	71.75	10	*eP*		P	23	50	36.0 +1.2
INK					pmax	pmax			
	comp=Z,11nm,0.6s								
INK	Inuvik	71.75	10	*eP*		P	23	50	36.0 +1.2
	comp=Z,11nm,0.6s								
MDM	Murphy Dome	72.13	17	*eP*		P	23	50	37.9 +0.7
	comp=Z,22nm,1.4s								
BPAW	Bear Paw Mtn.	72.20	18	*eP*		P	23	50	37.6 -0.1
	comp=Z,1.5nm,0.8s								
CCB	Clear Creek Bu	72.49	17	*eP*		P	23	50	39.4 0.0
	comp=Z,16nm,1.8s								
WRH	Wood River Hil	72.58	17	*eP*		P	23	50	39.8 -0.1
	comp=Z,4.3nm,0.8s								
IL1	Eielson Array	72.59	16	*eP*		P	23	50	39.5 -0.5
ILAR	Eielson Array	72.59	16	P		P	23	50	39.6 -0.4
	comp=Z,4.5nm,0.8s,baz=320,slow=4.8,SNR=43								
ILAR	Eielson Array	72.59	16	P		P	23	50	39.6 -0.4
ILAR					pmax	pmax			
	comp=Z,5.0nm,0.8s								
ILB	Eielson Array	72.59	16	*eP*		P	23	50	39.6 -0.4
PPLA	Purkeypile	72.89	19	*eP*		P	23	50	42.4 +0.4
	comp=Z,1.1nm,0.6s								
TRF	Thorofare Moun	72.92	18	*eP*		P	23	50	42.2 0.0
	comp=Z,5.1nm,0.7s								
MCK	McKinley	73.01	18	*eP*		P	23	50	43.0 +0.5
MCK					pmax	pmax			
	comp=Z,6.0nm,0.6s								
MCK	McKinley	73.01	18	*eP*		P	23	50	43.0 +0.5
	comp=Z,6.3nm,0.6s								
SCM	Sheep Creek Mo	75.02	18	*eP*		P	23	50	54.8 +0.4
SCM					pmax	pmax			
	comp=Z,24nm,0.7s								
SCM	Sheep Creek Mo	75.02	18	*eP*		P	23	50	54.8 +0.4
	comp=Z,24nm,0.7s								
RC01	Rabbit Creek A	75.04	20	*eP*		P	23	50	54.5 0.0
	comp=Z,15nm,0.6s								
BRLK	Bradley Lake	75.85	21	*eP*		P	23	50	58.2 -0.9
	comp=Z,111nm,2.0s								
BMRM	Bremner River	76.42	17	*eP*		P	23	51	02.5 +0.1
	comp=Z,29nm,1.5s								
HYT	Haines Junctio	78.07	14	*eP*		P	23	51	12.9 +1.2
YKA	Yellowknife Ar	79.14	3	P		P	23	51	17.6 +0.2
	comp=Z,3.7nm,0.5s,baz=350,slow=5.5,SNR=18								
YKA	Yellowknife Ar	79.14	3	P		P	23	51	17.6 +0.2
YKA					pmax	pmax			
	comp=Z,4.0nm,0.5s								
YKB5	Yellowknife Ar	79.14	3	*eP*		P	23	51	16.7 -0.6
BOSA	Boshof	79.79	221	P		P	23	51	22.4 +0.9
	comp=Z,5.6nm,1.0s,baz=51,slow=6.5,SNR=2.8								
SCHQ	Schefferville	80.47	337	P		P	23	51	24.9 +0.1
	comp=Z,2.2nm,0.6s,baz=59,slow=5.9,SNR=3.6								
SCHQ	Schefferville	80.47	337	*eP*		P	23	51	24.9 +0.1
	comp=Z,120nm,2.0s								
WRA	Warramunga Arr	82.48	123	P		P	23	51	35.2 -0.7
	comp=Z,4.7nm,0.8s,baz=324,slow=4.9,SNR=28								
AS12	Alice Springs	84.86	126	*eP*		P	23	51	47.4 -0.6
ASAR	Alice Springs	84.86	126	P		P	23	51	47.4 -0.6
	comp=Z,1.4nm,0.7s,baz=316,slow=5.0,SNR=12								
ASAR	Alice Springs	84.86	126	P		P	23	51	47.4 -0.6
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
AS01	Alice Springs	84.89	126	*eP*		P	23	51	46.3 -1.8
EDM	Edmonton	88.46	3	*eP*		P	23	52	06.1 +0.8
EDM					pmax	pmax			
	comp=Z,12nm,0.6s								
EDM	Edmonton	88.46	3	*eP*		P	23	52	06.1 +0.8
	comp=Z,12nm,0.6s								

IDC ***15*** *23:46:14.7±1.3,38.4°N×71.9°E,h0km,mb3.7/4, mb1 3.8/6,mb1mx3.5/31,mbtmp3.7/6,ML3.1/2,Error ellipse: s-maj=29.9km s-min=23.7km az=146.0*

ISCJB ***15*** *23:46:17.0±1.0,38.39°N×0.09°×72.0°E±0.1,h25km,mb3.6/4, Error ellipse: s-maj=15.5km s-min=10.1km az=43.6*

NNC ***15*** *23:46:19.9±2.7,38.62°N×71.86°E,h0km,mb4.1,mpv3.7, Error ellipse: s-maj=31.2km s-min=9.1km az=156.0*

ISC 15 23:46:18.3±1.2,38.4°N±0.1°×71.8°E±0.0°,0,h25km,n10,o0°85/13,mb3.7/4,4C-6D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
SFK	Sufi-Kurgan	2.06	37	⇑P	n	Pn	23	46	51.2	-0.4
	55nm,0.5s									
SFK				⇓S	n	Sb	23	47	20.3	-0.2
	64nm,0.4s									
DZET	Dzherino	2.43	281	⇑P	n	Pb	23	47	00.1	-1.3
	43nm,0.5s									
DZET				⇓S	n	Sb	23	47	31.6	+0.6
	342nm,0.5s									
AAK	Ala-Archa	4.69	24	⇓P	n	Pn	23	47	32.6	+4.9
	6.6nm,0.8s									
AAK				⇑P	g	Pb	23	47	43.4	+3.4
	7.7nm,0.6s									
AAK				⇓S	n	Sn	23	48	22.7	+1.3
	5.1nm,0.6s									
AAK				⇓L	g	Lg	23	48	39.0	
	17nm,0.8s									
KK31	Karatay Array	4.83	348	P	n	Pn	23	47	30.6	+1.1
	5.0nm,0.5s,baz=172,slow=12,SNR=46									
KK31				⇓S	n	Sn	23	48	23.8	-0.8
	4.7nm,0.5s,baz=167,slow=23,SNR=4.3									
KK31				⇑L	g	Lg	23	48	48.0	
	7.9nm,0.7s									
MKAR	Makanchi Array	11.37	39	P	n	Pn	23	48	59.0	-0.1
	0.1nm,0.3s,baz=224,slow=16,SNR=2.9									
ZALV	Zalesovo Beam	17.92	25	P		Pn	23	50	24.6	-1.0
	0.4nm,0.3s,baz=232,slow=14,SNR=3.8									
FINES	FINESS Array B	36.34	324	P		P	23	53	19.9	+0.1
	0.5nm,0.4s,baz=116,slow=8.7,SNR=5.5									
ARCES	ARCESS Array B	39.69	337	P		P	23	53	48.2	+0.1
	3.6nm,1.0s,baz=113,slow=8.9,SNR=4.5									
TORD	Torodi Ar. Bea	66.47	268	P		P	23	57	06.5	+0.5
	0.3nm,0.5s,baz=44,slow=5.7,SNR=7.9									
WRA	Warramunga Arr	82.40	123	P		P	23	58	38.7	+0.3
	0.1nm,0.3s,baz=326,slow=4.8,SNR=3.4									

MOS ***16*** *00:04:48.4±1.2,6.43°S×129.12°E,h203km,mb5.0/30,Error ellipse: s-maj=12.1km s-min=6.0km az=107.0*

BJI ***16*** *00:04:51.6,6.38°S×129.28°E,h233km,mb4.9/63,mB4.7/38*

ISCJB ***16*** *00:04:51.6±0.3,6.49°S±0.02°×129.24°E±0.02°,h233km±2km, mb5.0/125,Error ellipse: s-maj=3.5km s-min=3.3km az=145.6*

NEIC ***16*** *00:04:52.1±0.4,6.46°S×129.18°E,h223km±3km,mb5.1/69, Error ellipse: s-maj=4.8km s-min=3.5km az=54.0*

NEIC Felt on Ambon, Indonesia and [II] at Darwin, Australia.

GCMT ***16*** *00:04:52.1±0.2,6.50°S×129.22°E,h223km±1km,MW5.3/97, Moment Tensor Solution. s68,c95; s97,c148; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.08±.02; $M_{\theta\theta}$-0.64±.02; $M_{\phi\phi}$0.72±.02; $M_{r\theta}$-0.42±.02; $M_{\theta\phi}$0.73±.02; $M_{r\phi}$0.26±.02; Best double couple: $M_0$1.11300×10^{17} NP1:ϕ_s161.00000°,δ76.00000°,λ-160.00000°. NP2: ϕ_s66.00000°,δ70.00000°,λ-15.00000°. Principal axes: T 1.0490, Plg4.0000°, Azm293.0000°; N 0.1270, Plg66.0000°, Azm194.0000°; P -1.1760, Plg24.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

KLM ***16*** *00:04:53.2,6.25°S×129.39E,h248km,mb5.4,MS6.3*

IDC ***16*** *00:04:53.5±0.5,6.45°S×129.18E,h233km±4km,mb4.4/29, mb1 4.4/30,mb1mx4.4/34,mbtmp5.0/30,Error ellipse: s-maj=10.1km s-min=6.6km az=66.0*

DJA ***16*** *00:04:53.1±0.1,7.1°S±2.1°×129.9E±.1°,h208km±2km,M5.2/103, mb5.2/103,mB5.6/66,MLv5.8/16,Mw(mB)5.1/66,Mwp5.7/1*

ISC 16 00:04:52.7±0.3,6.49°S±0.03°×129.17°E±0.03°,h231km±1km, h232km;pP-P,n408,o1°±51°/493,mb5.0/134,13C-20D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
BNDI	Bandanaira	2.09	20	P		Pn	00	05	33.5	-1.0
BNDI				S		S	00	06	10.8	+3.5
SAUI	Saumlaki	2.58	125	P		Pn	00	05	37.4	-2.1
SAUI				S		S	00	06	11.4	-4.8
SAUI	Saumlaki	2.58	125	*e*Pn		Pn	00	05	38.3	-1.2
SAUI				*e*S		S	00	06	09.1	-7.1
MSAI	Masohi	3.13	356	P		Pn	00	05	44.7	-0.9
MSAI				S		S	00	06	27.2	-0.1
NLAI	Namlea	3.83	327	P		Pn	00	05	54.0	+0.2
FAKI	Fak Fak	4.69	41	P		Pn	00	06	00.6	-3.6
FAKI				S		S	00	06	51.2	-10
FAKI	Fak Fak	4.69	41	*e*Pn		Pn	00	06	01.9	-2.3
FAKI				*e*S		S	00	06	50.8	-10
SANI	Sanana	5.43	324	P		Pn	00	06	13.1	-0.3
	483nm,1.1s,7µm1.8nm									
SANI				S		S	00	07	17.8	+0.2
	483nm,1.1s,7µm1.8nm									
SOEI	Soe	5.84	236	P		Pn	00	06	16.0	-2.6
	2µm,0.8s,29µm51nm									
SOEI	Soe	5.84	236	*e*Pn		Pn	00	06	17.4	-1.2
SOEI				*e*S		S	00	07	19.2	-7.7
SIJI	Sorong	5.96	21	P		Pn	00	06	17.4	-2.8
	371nm,0.3s,baz=221,slow=22,SNR=362									
SIJI				S		S	00	07	21.8	-7.9
	121nm,0.3s,baz=215,slow=7.1,SNR=30									
SWI	Sorong	5.97	21	P		Pn	00	06	16.9	-3.2
	1µm,0.6s,41µm9.0nm									
LBMI	Labuha	6.05	344	P		Pn	00	06	20.7	-0.5
	2µm,0.8s,23µm9.2nm									
KDI	Kendari	6.99	291	P		Pn	00	06	33.7	+0.5
	201nm,1.1s,5µm0.9nm									
RKPI	Ransiki, Papua	7.03	45	P		Pn	00	06	32.6	-1.0
	3µm,1.1s,92µm23µm24nm									
RKPI				S		S	00	07	48.5	-5.8
	3µm,1.1s,92µm23µm24nm									
MMRI	Maumere	7.20	252	P		Pn	00	06	35.8	0.0
	514nm,0.7s,8µm4.3nm									
MMRI				S		S

SNR=12
MBWA Marble Bar 17.21 211 *e*P **P** **00 08 38.0 0.0**
169nm,0.8s
MBWA *e*S **S** **00 11 40.8 -4.5**
PWJI Pagerwojo 17.30 264 P **Pn** **00 08 41.7 +0.6**
118nm,0.5s
AS12 Alice Springs 17.67 166 *e*P **P** **00 08 44.0 +0.9**
AS12 *e*S **S** **00 11 51.2 -3.3**
ASAR Alice Springs 17.67 166 P **P** **00 08 44.0 +0.9**
77nm,0.3s,baz=347,slow=11,SNR=1315
ASAR S **S** **00 11 51.2 -3.3**
7.5nm,0.3s,baz=347,slow=25,SNR=6.9
ASAR Alice Springs 17.67 166 P **P** **00 08 44.0 +0.9**
ASAR S **S** **00 11 51.2 -3.3**
ASAR pmax pmax
comp=Z,77nm,0.3s
ASAR smax smax
comp=N,8.0nm,0.3s
AS01 Alice Springs 17.68 165 *e*P **P** **00 08 43.7 +0.5**
PBKI Pangkalan Bun 17.84 281 P **Pn** **00 08 47.5 0.0**
comp=N,637nm,1.3s,comp=N,6µm
KKM Kota Kinabalu 17.95 314 ⇓P **P** **00 08 46.9 +0.6**
KKM Kota Kinabalu 17.95 314 *e*P **P** **00 08 46.9 +0.6**
comp=N,122nm,0.9s
PMG Port Moresby 18.05 100 *e*P **P** **00 08 46.7 -0.5**
PMG pmax pmax
comp=Z,4µm,1.7s
PMG Port Moresby 18.05 100 *e*P **P** **00 08 47.2 +0.1**
comp=Z,2µm,0.9s
KDM Kudat 18.14 317 ⇓P **P** **00 08 48.5 +0.3**
WOJI Wonogiri, Jawa 18.16 265 P **Pn** **00 08 52.3 +1.1**
comp=Z,109nm,1.0s,comp=Z,5µm
UGM Wanagama 18.56 265 P **Pn** **00 08 55.2 -0.7**
comp=Z,134nm,1.6s
UGM Wanagama 18.56 265 *e*P **P** **00 08 50.9 -1.8**
comp=Z,2µm,2.5s
SMRI Semarang 18.61 267 P **Pn** **00 08 59.2 +2.7**
comp=Z,129nm,1.1s
SMRI Semarang 18.61 267 *e*P **P** **00 08 51.4 -1.9**
comp=Z,153nm,1.0s
BTM Bintulu 18.73 300 ⇓P **Pn** **00 08 56.8 -1.1**
STKI Sintang 18.82 290 P **Pn** **00 08 58.0 -1.0**
comp=Z,70nm,1.5s,comp=Z,15µm
RCP Roxas 19.04 340⇑ *e*P **P** **00 08 58.6 +0.8**
SBUM Sibu 19.11 297 ⇑P **Pn** **00 09 01.1 -1.3**
SBUM Sibu 19.11 297 *e*P **Pn** **00 09 00.8 -1.7**
comp=Z,183nm,1.4s
KPJI Karang Pucung 20.11 266 P **P** **00 09 10.1 +0.7**
comp=Z,140nm,0.6s
KSM Kuching 20.43 292 ⇓P **P** **00 09 15.1 +2.3**
KSM Kuching 20.43 292 *e*P **P** **00 09 14.4 +1.7**
comp=Z,143nm,1.3s
CMJI Cimerak 20.60 265 P **P** **00 09 14.1 -0.5**
comp=Z,238nm,1.1s,comp=Z,3µm
JCJI Jatiwangi 20.77 269 P **P** **00 09 19.2 +2.8**
comp=Z,419nm,1.6s,comp=Z,7µm
CISI Cisompet, Garu 21.22 266 P **P** **00 09 20.7 -0.4**
comp=Z,658nm,1.3s,comp=Z,9µm
CISI Cisompet, Garu 21.22 266 *e*P **P** **00 09 20.0 -1.1**
comp=Z,411nm,0.9s
CTA Charters Tower 21.39 131 P **P** **00 09 23.6 +0.9**
comp=Z,74nm,0.7s,baz=302,slow=11,SNR=50
CTAO Charters Tower 21.39 131 *e*P **P** **00 09 23.4 +0.7**
CTAO pmax pmax
comp=Z,108nm,0.9s
CTAO Charters Tower 21.39 131 *e*P **P** **00 09 23.4 +0.7**
comp=Z,108nm,0.9s
LEM Lembang 21.41 268 P **P** **00 09 23.8 +0.7**
comp=Z,260nm,1.9s,comp=Z,25µm
LEM Lembang 21.41 268 P **P** **00 09 24.6 +1.5**
comp=Z,72nm,0.4s,baz=59,slow=7.2,SNR=25
TPI Tanjungpandan 21.76 279 P **P** **00 09 29.2 +2.9**
comp=Z,123nm,1.2s,comp=Z,2µm
LQP Lukban 21.83 340⇑ *e*P **P** **00 09 27.6 +0.5**
CNJI Cibinong 21.90 267 P **P** **00 09 26.5 -1.0**
comp=Z,1µm,1.3s,comp=Z,13µm
CBJI Citeko 22.18 269 P **P** **00 09 29.6 -0.6**
comp=Z,392nm,1.1s,comp=Z,10µm
SKJI Sukabumi 22.46 267 P **P** **00 09 32.3 -0.5**
comp=Z,413nm,1.3s,comp=Z,5µm
CGJI Cibinong 23.33 268 P **P** **00 09 40.0 -0.6**
comp=Z,360nm,1.3s
PPBI Pangkal Pinang 23.36 280 P **P** **00 09 43.2 +2.3**
comp=Z,104nm,1.3s,comp=Z,3µm
XMIS Christmas Isla 23.59 259 *e*P **P** **00 09 41.9 -1.2**
comp=Z,87nm,0.8s
FORT Forrest 24.18 182 *e*P **P** **00 09 48.6 +0.5**
comp=Z,449nm,0.7s
KLI Kotabumi 24.25 273 P P 00 09 54.8 +5.8
comp=Z,112nm,0.4s
KLSI 24.39 273 P **P** **00 09 52.9 +2.6**
comp=Z,85nm,1.4s
KASI Kota Agung 24.56 271 P **P** **00 09 53.7 +1.9**
comp=Z,84nm,1.1s
PMBI Palembang 24.57 277 P P 00 09 59.5 +7.6
comp=Z,455nm,1.1s
MDSI Maura Dua 24.96 273 P **P** **00 09 56.9 +1.5**
comp=Z,36nm,1.4s
GUMO Guam 25.32 38 P **P** **00 09 58.5 0.0**
comp=Z,48nm,0.3s,baz=314,slow=4.1,SNR=6.2
LHSI Lahat 25.68 275 P **P** **00 10 03.6 +1.7**
comp=Z,78nm,1.6s,comp=Z,2µm
MYKOM **Kota Tinggi 26.58 287** ⇑P **P** **00 10 10.5 +0.6**
MYKOM **Kota Tinggi 26.58 287** *e*P **P** **00 10 11.5 +1.6**
comp=Z,97nm,1.4s
BBOO Buckleboo 26.96 167 *e*P **P** **00 10 13.5 +0.4**
comp=Z,69nm,0.7s
KGM Kluang 27.16 287 ⇑P **P** **00 10 16.8 +1.7**
STKA Stephens Creek 27.80 157 P **P** **00 10 20.9 +0.4**
comp=Z,6.9nm,0.5s,baz=341,slow=8.0,SNR=33
STKA pP **pP** **00 11 08.2 +1.7**
comp=Z,99nm,0.8s,baz=329,slow=10,SNR=10
STKA Stephens Creek 27.80 157 P **P** **00 10 20.9 +0.4**
STKA pmax pmax
comp=Z,7.0nm,0.5s
STKA pmax pmax
comp=Z,99nm,0.8s
STKA Stephens Creek 27.80 157 *e*P **P** **00 10 21.0 +0.5**
comp=Z,18nm,0.8s
EIDS Eidsvold 28.13 134 *e*P **P** **00 10 23.4 -0.2**
comp=Z,277nm,1.4s
SDSI Sungai Dareh 28.22 280 P P 00 10 28.3 +3.8
comp=Z,49nm,1.5s
KTGM Kuala Trenggan 28.52 294 ⇓P **P** **00 10 28.1 +1.0**
NWAO Narrogin (SRO) 28.55 201 P **P** **00 10 27.5 +0.3**
comp=Z,8.3nm,0.4s,baz=326,slow=5.2,SNR=17
NWAO pP **pP** **00 11 14.9 +1.6**
comp=Z,68nm,0.6s,baz=329,slow=6.3,SNR=7.9
BKNI Bangkinang 28.88 283 P P 00 10 35.9 +5.5
comp=Z,80nm,1.1s,comp=Z,2µm
FRIM Kepong 29.15 289 ⇓P **P** **00 10 35.8 +3.0**
IPM Ipoh 30.14 290 ⇑P **P** **00 10 43.9 +2.4**
IPM Ipoh 30.14 290 *e*P **P** **00 10 43.6 +2.2**
comp=Z,17nm,0.7s
MNSI Mandailing Nat 30.41 283 P **P** **00 10 44.1 +0.3**
comp=Z,86nm,1.3s,comp=Z,984nm
YULB Yu-li 30.68 346 *e*P P 00 10 41.4 -4.7
comp=Z,109nm,2.2s
TPUB Ta-pu 30.76 345 *e*P P 00 10 43.1 -3.7
comp=Z,48nm,0.4s
KULM Kulim 30.78 292 ⇓P **P** **00 10 47.7 +0.6**
KULM Kulim 30.78 292 *e*P **P** **00 10 46.6 -0.5**
comp=Z,50nm,1.3s
SSLB Suanglung 31.14 345 *e*P **P** **00 10 47.8 -2.4**
comp=Z,25nm,0.9s
YOJ Yonaguni jima 31.35 349 *e*P **P** **00 10 50.4 -1.4**
YOJ pmax pmax
comp=Z,74nm,0.8s
YOJ Yonaguni jima 31.35 349 *e*P **P** **00 10 50.4 -1.4**
comp=Z,74nm,0.8s
NACB Ninganchiao 31.36 347 *e*P **P** **00 10 50.3 -1.7**
comp=Z,32nm,1.0s
PSI Prapat 31.58 286 P **P** **00 10 53.9 -0.3**
comp=Z,66nm,1.0s,baz=151,slow=2.7,SNR=18
PSI pP **pP** **00 11 41.7 +0.9**
comp=Z,60nm,1.1s,baz=145,slow=7.4,SNR=5.1
PSI Prapat 31.58 286 *e*P **P** **00 10 53.9 -0.3**
PSI pmax pmax
comp=Z,95nm,1.1s
PSI Prapat 31.58 286 *e*P **P** **00 10 53.9 -0.3**
comp=Z,95nm,1.1s
QIZ Qiongzhong 31.72 323 P **P** **00 10 56.1 +0.9**
QIZ sP **sP** **00 12 09.1 +0.7**
QIZ S **S** **00 15 49.3 +1.6**
QIZ sS **sS** **00 17 13.3 +2.3**
QIZ Qiongzhong 31.72 323 *e*P **P** **00 10 53.8 -1.4**
comp=Z,50nm,1.4s

ARMA Armidale 31.80 141 *e*P **P** **00 10 57.7 +1.7**
comp=Z,108nm,1.8s
YHNB Yeheng 31.89 346 *e*P **P** **00 10 55.5 -1.2**
comp=Z,46nm,0.6s
UBPT Khong Chiam 31.93 313 P **P** **00 10 57.5 +0.4**
comp=Z,32nm,1.1s
GSI Gunungsitoli 32.48 283 P **P** **00 11 01.6 -0.3**
comp=Z,91nm,1.2s
GSI Gunungsitoli 32.48 283 *e*P **P** **00 11 00.6 -1.3**
comp=Z,338nm,1.9s
TRTT Trang 32.67 295 P **P** **00 11 04.3 +0.8**
comp=Z,39nm,1.1s,comp=Z,855nm
QZH Quanzhou 32.90 342 ⇓*i*P **P** **00 11 05.1 -0.2**
QZH S S 00 15 58.0 -7.8
QZH PMZ
comp=Z,180nm,0.7s
JOW Kunigami 33.14 359 P **P** **00 11 06.3 -1.1**
comp=Z,8.8nm,0.7s,baz=206,slow=29,SNR=16
JOW Kunigami 33.14 359 *e*P **P** **00 11 08.0 +0.5**
comp=Z,80nm,0.7s
KRAB Krabi 33.27 296 P **P** **00 11 10.4 +1.6**
comp=Z,32nm,1.0s,comp=Z,945nm
SKNT Sakolnakorn 34.12 313 P **P** **00 11 16.5 +0.5**
comp=Z,27nm,1.0s
LHMI Lhok Sumawe 34.21 289 P **P** **00 11 17.4 +0.5**
comp=Z,150nm,1.1s
LHMI Lhok Sumawe 34.21 289 *e*P **P** **00 11 15.7 -1.1**
comp=Z,119nm,0.9s
NAYO Nakonayok 34.51 307 P **P** **00 11 20.5 +1.1**
comp=Z,514nm,2.0s,comp=Z,19µm
CBIJ Chichi jima 35.69 20 *e*P **P** **00 11 27.5 -1.8**
comp=Z,117nm,0.7s
PBKT Sadao Pong 36.10 310 P **P** **00 11 34.5 +1.6**
comp=Z,9.2nm,0.9s
UTHA Uthaitani 36.70 307 P **P** **00 11 39.0 +1.0**
comp=Z,12nm,0.7s,comp=Z,96nm
UTTA Uttaradit 37.13 311 P **P** **00 11 42.0 +0.4**
comp=Z,12nm,0.9s,comp=Z,86nm
SSE Sheshan 38.15 349 ⇓P **P** **00 11 49.9 0.0**
SSE pP **pP** **00 12 36.8 -0.8**
SSE sP **sP** **00 13 04.3 +0.3**
SSE S **ScP** **00 17 24.4 -0.9**
SSE sS **sS** **00 18 49.8 -0.7**
SSE PMZ
comp=Z,38nm,0.9s
SSE PMZ
comp=Z,30nm,3.5s
SSE LN
comp=Z,75nm,22.8s
SSE LE
comp=Z,91nm,22.8s
SSE LZ
comp=Z,120nm,22.4s
CM01 Chiang Mai Arr 38.74 310 *e*P **P** **00 11 55.2 +0.2**
CM31 Chiang Mai Arr 38.78 310 *e*P **P** **00 11 56.1 +0.7**
CM31 *e*PcP **PcP** **00 14 03.6 +1.7**
CMAR Chiang Mai Arr 38.78 310 P **P** **00 11 56.1 +0.8**
comp=Z,14nm,0.9s,baz=141,slow=7.4,SNR=51
CMAR PcP **PcP** **00 14 03.6 +1.7**
comp=Z,3.8nm,0.6s,baz=154,slow=2.9,SNR=5.1
CMAR ScP **ScP** **00 17 28.9 +0.8**
comp=Z,2.2nm,0.7s,baz=146,slow=3.7,SNR=4.2
CMAR Chiang Mai Arr 38.78 310 P **P** **00 11 56.1 +0.8**
CMAR 00 14 03.6
CMAR 00 17 28.9
CMAR pmax pmax
comp=Z,14nm,0.9s
CMAR pmax pmax
comp=Z,4.0nm,0.6s
CMAR pmax pmax
comp=N,2.0nm,0.7s
CRAI Chiangrai 38.82 314 P P 00 11 52.0 -3.7
comp=N,15nm,1.3s,comp=N,4µm
CMMT Chiang Mai 38.99 311 P **P** **00 11 57.7 +0.6**
comp=N,58nm,1.1s,comp=N,588nm
CHTO Chiang Mai 38.99 311 *e*P **P** **00 11 58.0 +0.9**
CHTO pmax pmax
comp=Z,53nm,1.1s
CHTO Chiang Mai 38.99 311 *e*P **P** **00 11 58.0 +0.9**
comp=Z,52nm,1.1s
DZM Mont Dzumac 39.16 117 P **P** **00 11 59.6 +1.0**
comp=Z,14nm,0.8s,baz=191,slow=2.4,SNR=5.3
DZM pP **pP** **00 12 47.7 +1.1**
comp=Z,37nm,0.9s,baz=181,slow=1.2,SNR=5.0
GYA Guiyang 39.36 327 P **P** **00 12 01.8 +1.6**
GYA pP **pP** **00 12 50.6 +2.4**
GYA sP **sP** **00 13 17.0 +2.4**
GYA PP **PnPn** **00 13 41.3 0.0**
GYA PcP **PcP** **00 14 06.5 +2.7**
GYA ScP **ScP** **00 17 31.0 +0.7**
GYA S **S** **00 17 47.6 +3.4**
GYA sS **sS** **00 19 12.8 +3.4**
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,130nm,5.0s
MHMT Maesarieng 39.38 309 P **P** **00 12 01.6 +1.2**
comp=Z,16nm,1.1s
JNU Nakatsue 39.43 2 *e*P **P** **00 12 00.4 -0.1**
comp=Z,32nm,0.7s
WHN Wuhan 39.47 340 ⇑P **P** **00 12 02.0 +1.2**
WHN S **S** **00 17 43.6 -1.7**
WHN PMZ
comp=Z,120nm,1.1s
WHN LN
comp=Z,750nm,8.6s
WHN LE
comp=Z,1µm,14.1s
WHN LZ
comp=Z,410nm,17.2s
NJ2 Nanjing 39.57 346 *e*P **P** **00 12 01.1 -0.6**
NJ2 PMZ
comp=Z,20nm,0.6s
CMAI Chiengmai2 39.60 312 P **P** **00 12 02.9 +0.6**
comp=Z,177nm,1.3s
KMI Kunming 40.61 322 P **P** **00 12 11.8 +1.2**
KMI S **S** **00 18 01.4 -1.5**
KMI SS **SS** **00 21 08.5 -4.8**
KMI PMZ
comp=Z,28nm,1.3s
KMI PMZ
comp=Z,160nm,5.7s
KMI LN
comp=Z,170nm,20.0s
KMI LE
comp=Z,130nm,21.7s
KMI LZ
comp=Z,220nm,21.4s
KSJDO Jindo 40.83 356 P **P** **00 12 12.5 +0.5**
SNR=5.8
KSHUK Heuksando 41.10 355 P **P** **00 12 15.0 +0.8**
SNR=15
ENH Enshi 41.14 334 *e*P **P** **00 12 14.2 -0.4**
comp=Z,15nm,0.6s
KSKWJ Gwangju 41.48 357 P **P** **00 12 17.8 +0.6**
SNR=12
KSJEU Jeongeup 41.81 357 P **P** **00 12 20.3 +0.3**
SNR=18
KSJEO Jeonju 42.24 358 P **P** **00 12 24.0 +0.7**
SNR=5.8
KSCPR CHUPUNGNYEONG 42.50 359 P **P** **00 12 26.1 +0.6**
SNR=6.4
TJN Taejon 42.67 358 *i*P **P** **00 12 27.1 +0.3**
KSBON Boeun 42.78 358 P **P** **00 12 29.0 +1.3**
SNR=31
KSCEA Cheonan 43.12 358 P **P** **00 12 31.4 +0.9**
SNR=12
KSSES Seosan 43.13 357 P **P** **00 12 31.3 +0.9**
SNR=6.2
KSCHJ Chungju 43.15 359 P **P** **00 12 31.3 +0.6**
SNR=17
MJAR Matsushiro Arr 43.64 11 P **P** **00 12 33.5 -1.1**
comp=Z,35nm,0.7s,baz=190,slow=10,SNR=68
MJAR Matsushiro Arr 43.64 11 P **P** **00 12 33.5 -1.1**
MJAR pmax pmax
comp=Z,35nm,0.7s
MAJO Matsushiro 43.64 11*d* *i*P **P** **00 12 33.3 -1.3**
MAJO pmax pmax
comp=Z,279nm,0.8s
MAJO Matsushiro 43.64 11 *e*P **P** **00 12 33.6 -1.0**
comp=Z,55nm,0.8s
MAT Matsushiro 43.64 11 P **P** **00 12 33.4 -1.2**
MAT S **S** **00 18 43.2 -3.3**
KS15 Wonju Array Si 43.72 359 *e*P **P** **00 12 36.0 +0.8**
KSRS Korea Array 43.73 359 P **P** **00 12 36.0 +0.8**
comp=Z,18nm,0.6s,baz=172,slow=8.6,SNR=74

KSRS Korea Array 43.73 359 P **P** **00 12 36.0 +0.8**
KSRS pmax pmax
comp=Z,19nm,0.6s
KS01 Wonju Array Si 43.76 359 *e*P **P** **00 12 35.4 -0.1**
TIA Tai'an 43.96 346 ⇓P **P** **00 12 36.8 -0.3**
TIA PMZ
comp=Z,40nm,0.9s
CD2 Chengdu 44.44 328 ⇑P **P** **00 12 40.8 -0.3**
CD2 pP **pP** **00 13 29.8 -0.4**
CD2 sP **sP** **00 13 56.3 +0.1**
CD2 PcP **PcP** **00 14 19.3 -1.2**
CD2 PcS **PcS** **00 18 13.3 -1.0**
CD2 S **S** **00 18 59.3 +1.0**
CD2 sS **sS** **00 20 26.8 +1.7**
CD2 PMZ
comp=Z,50nm,0.7s
CD2 PMZ
comp=Z,120nm,6.2s
CD2 LN
comp=Z,370nm,13.5s
CD2 LE
comp=Z,400nm,18.2s
CD2 LZ
comp=Z,260nm,12.7s
XAN Xi'an 44.64 336 P **P** **00 12 41.6 -1.0**
XAN pP **pP** **00 13 28.5 -3.3**
XAN PP **PP** **00 14 27.8 -4.2**
XAN PcS **PcS** **00 18 14.9 -0.1**
XAN S S 00 18 52.8 -8.2
XAN LN
comp=Z,220nm,25.6s
XAN LE
comp=Z,110nm,27.6s
XAN LZ
comp=Z,62nm,14.3s
BJT Baijiatuao 47.81 347 *e*P **P** **00 13 07.2 +0.2**
BJT pmax pmax
comp=Z,131nm,0.5s
BJT Baijiatuao 47.81 347 *e*P **P** **00 13 07.2 +0.2**
comp=Z,130nm,0.5s
BJI Beijing 47.83 347 P **P** **00 13 07.3 +0.1**
BJI pP **pP** **00 13 57.8 +0.8**
BJI PcP **PcP** **00 14 32.8 +0.7**
BJI S **S** **00 19 42.1 -3.9**
BJI PMZ
comp=Z,130nm,0.7s
BJI LN
comp=Z,79nm,8.4s
BJI LE
comp=Z,180nm,18.4s
BJI LZ
comp=Z,35nm,24.5s
SNY Shenyang 48.36 354 ⇓P **P** **00 13 11.3 +0.1**
SNY PMZ
comp=Z,27nm,0.7s
LZH Lanzhou 48.57 332 ⇑P **P** **00 13 14.3 +1.1**
LZH sP **sP** **00 14 24.5 -4.5**
LZH PP **PP** **00 15 08.5 0.0**
LZH S **S** **00 19 54.3 -2.7**
LZH PMZ
comp=Z,53nm,1.1s
LZH PMZ
comp=Z,180nm,5.6s
LZH LN
comp=Z,490nm,14.1s
LZH LE
comp=Z,640nm,15.6s
LZH LZ
comp=Z,790nm,16.8s
OUZ Omahuta 49.80 131 *e*P **P** **00 13 24.3 +2.0**
comp=Z,189nm,2.1s
HHC Hu-ho-hao-te 49.81 343 *e*P **P** **00 13 22.8 +0.4**
HHC pP **pP** **00 14 12.4 -0.2**
HHC sP **sP** **00 14 39.8 +1.4**
HHC S **S** **00 20 14.8 +0.9**
HHC sS **sS** **00 21 38.3 -4.2**
HHC PMZ
comp=Z,34nm,1.1s
HHC PMZ
comp=Z,200nm,6.6s
ERM Erimo 49.94 14 *e*P **P** **00 13 23.8 +0.7**
ERM pmax pmax
comp=Z,7.0nm,0.6s
ERM Erimo 49.94 14 *e*P **P** **00 13 23.9 +0.7**
comp=Z,142nm,1.8s
CN2 Changchun 50.17 356 *e*P **P** **00 13 24.6 -0.3**
CN2 *e*S **S** **00 20 19.8 +1.2**
CN2 PMZ
comp=Z,20nm,0.5s
CN2 PMZ
comp=Z,200nm,5.0s
PALK Pallekele 50.25 285 P **P** **00 13 26.1 +0.1**
comp=Z,4.3nm,0.4s,baz=142,slow=3.7,SNR=5.4
PALK Pallekele 50.25 285 *e*P **P** **00 13 26.1 +0.1**
PALK pmax pmax
comp=Z,28nm,1.1s
PALK Pallekele 50.25 285 *e*P **P** **00 13 26.1 +0.1**
comp=Z,28nm,1.1s
USRK Ussuriysk Ar. 50.52 3 P **P** **00 13 27.9 +0.4**
comp=Z,42nm,0.7s,baz=186,slow=7.1,SNR=103
MDJ Mudanjiang 50.87 0 P **P** **00 13 30.9 +0.8**
MDJ pP **pP** **00 14 21.8 +1.2**
MDJ sP **sP** **00 14 48.8 +2.5**
MDJ PP **PP** **00 15 29.6 +0.6**
MDJ S **S** **00 20 27.8 -0.4**
MDJ sS **sS** **00 22 00.0 +2.9**
MDJ ScS **ScS** **00 22 56.4 +0.1**
MDJ PMZ
comp=Z,37nm,0.7s
MDJ PMZ
comp=Z,120nm,6.3s
MDJ Mudanjiang 50.87 0 *e*P **P** **00 13 30.9 +0.8**
comp=Z,28nm,0.8s
DCZ Deep Cove 50.89 146 *e*P **P** **00 13 31.4 +1.2**
comp=Z,150nm,1.9s
LSA Lhasa 51.27 317 P **P** **00 13 34.4 +0.5**
LSA PMZ
comp=Z,30nm,1.1s
LSA Lhasa 51.27 317 *e*P **P** **00 13 34.8 +0.9**
LSA pmax pmax
comp=Z,32nm,0.8s
LSA Lhasa 51.27 317 *e*P **P** **00 13 34.8 +0.9**
comp=Z,32nm,0.8s
WHZ Wether Hill Ro 51.58 146 *e*P **P** **00 13 36.2 +0.8**
comp=Z,300nm,2.3s
ASAJ Asahikawa 51.81 12 *e*P **P** **00 13 37.4 +0.4**
comp=Z,35nm,0.6s
RPZ Rata Peaks 52.14 142 P **P** **00 13 40.2 +0.6**
comp=Z,15nm,0.5s,baz=331,slow=3.8,SNR=7.6
RPZ pP **pP** **00 14 32.7 +2.4**
comp=Z,10nm,0.4s,baz=161,slow=1.7,SNR=2.1
ODAN Odare 52.30 311 *e*P **P** **00 13 41.5 +0.2**
comp=Z,186nm,0.6s
TAPN Taplejung 52.34 312 *e*P **P** **00 13 41.8 +0.2**
comp=Z,110nm,0.4s
ODZ Otahua Downs 52.62 144 *e*P **P** **00 13 42.9 -0.2**
comp=Z,256nm,2.7s
RAMN Ramite 52.95 311 *e*P **P** **00 13 46.7 +0.7**
comp=Z,415nm,0.7s
KHZ Kahutara 53.02 140 *e*P **P** **00 13 46.8 +0.8**
comp=Z,47nm,1.1s
GTA Gaotai 53.13 332 *e*P **P** **00 13 47.5 +0.5**
GTA pP **pP** **00 14 37.8 -0.1**
GTA sP **sP** **00 15 01.0 -2.5**
GTA ScP **ScP** **00 18 28.5 +1.1**
GTA S **S** **00 20 59.1 -0.3**
GTA sS **sS** **00 22 25.8 -3.2**
GTA SS **SKiKP** **00 24 41.0 +1.6**
GTA PMZ
comp=Z,30nm,1.0s
GTA PMZ
comp=Z,89nm,5.7s
GTA LN
comp=Z,230nm,20.0s
GTA LE
comp=Z,200nm,18.5s
GTA LZ
comp=Z,180nm,15.7s
BKZ Black Stump Fm 53.54 135 *e*P **P** **00 13 50.9 +0.9**
BKZ e**pP** **pP** **00 14 38.6 -2.3**
URZ Urewera 53.61 133 P **P** **00 13 50.6 +0.2**
comp=Z,8.6nm,0.7s,baz=288,slow=4.4,SNR=7.2
URZ pP **pP** **00 14 42.5 +1.2**
comp=Z,8.2nm,0.6s,baz=271,slow=13,SNR=3.9
URZ Urewera 53.61 133 *e*P **P** **00 13 51.0 +0.6**

GUN	**Gumba**	**54.00**	**311**	*e*P		**P**	**00 13 54.1**	**+0.3**
	comp=Z,298nm,0.6s							
BFZ	**Birch Farm**	**54.01**	**137**	*e*P		**P**	**00 13 53.3**	**0.0**
	comp=Z,98nm,1.4s							
PKI	**Pulchoki**	**54.17**	**311**	*e*P		**P**	**00 13 54.9**	**-0.1**
	comp=Z,116nm,0.7s							
KKN	**Kakani**	**54.38**	**311**	*e*P		**P**	**00 13 56.6**	**+0.2**
	comp=Z,142nm,0.7s							
DMN	**Daman**	**54.42**	**311**	*e*P		**P**	**00 13 57.0**	**+0.3**
	comp=Z,233nm,0.9s							
YSS	**Yuzh-Sakhalins**	**54.56**	**11**	*e*P		**P**	**00 13 57.4**	**+0.4**
YSS					pmax	pmax		
	comp=Z,31nm,0.6s							
YSS	**Yuzh-Sakhalins**	**54.56**	**11**	*e*P		**P**	**00 13 57.4**	**+0.4**
	comp=Z,31nm,0.6s							
HABR	**Khabarovsk**	**54.97**	**5**	*e*P		**P**	**00 13 58.4**	**-1.5**
HABR				*e*			00 14 56.3	
HABR							00 16 04.3	
HABR					ePPP	PPP	00 17 21.5	
HABR					*e*S	**S**	**00 21 22.4**	**-1.0**
HABR							00 23 22.1	
HABR					*e*SS	**SS**	**00 25 11.6**	**+0.7**
HABR					pmax	pmax		
	comp=Z,76nm,1.3s							
HABR					MLR	MLR		
	comp=Z,78nm,17.0s							
GKN	**Gorkha**	**54.98**	**311**	*e*P		**P**	**00 14 00.7**	**+0.1**
	comp=Z,266nm,0.7s							
HYB	**Hyderabad**	**55.35**	**296**	*i* P		**P**	**00 14 02.0**	**-1.3**
KLR	**Kul'dur**	**55.53**	**2**	*e*P		P	00 14 00.0	-3.9
KLR					pmax	pmax		
	comp=Z,120nm,1.8s							
KOLN	**Koldanda**	**55.65**	**310**	*e*P		**P**	**00 14 05.8**	**+0.4**
	comp=Z,249nm,0.8s							
HIA	**Hailar**	**56.13**	**353**	*d i* P		**P**	**00 14 08.5**	**+0.3**
HIA					pmax	pmax		
	comp=Z,15nm,1.7s							
SONA0	**Songino Array**	**57.70**	**342**	*e*P		**P**	**00 14 20.4**	**+1.0**
SONM	**Songino Array**	**57.70**	**342**	P		**P**	**00 14 20.4**	**+1.0**
	comp=Z,14nm,0.7s,baz=154,slow=6.7,SNR=32							
SONM	**Songino Array**	**57.70**	**342**	P		**P**	**00 14 20.4**	**+1.0**
SONM					pmax	pmax		
	comp=Z,14nm,0.7s							
SONA1	**Songino Array**	**57.71**	**342**	*e*P		**P**	**00 14 20.1**	**+0.6**
NKL	**Nikolayevsk**	**60.21**	**8**	*i* P		**P**	**00 14 36.2**	**0.0**
NKL				*e*			00 15 25.0	
NKL					pmax	pmax		
	comp=Z,130nm,0.9s							
DRV	**Dumont d'Urvil**	**60.54**	**175**	S		S	00 23 34.0	+59
DRV				L		L	00 29 00.0	
DRV				R			00 34 00.0	
ZAK	**Zakamensk**	**60.92**	**341**	*e*P		**P**	**00 14 39.1**	**-2.2**
ZAK					pmax	pmax		
	comp=Z,10.0nm,1.3s							
CASY	**Casey**	**61.08**	**188**	*e*P		**P**	**00 14 43.2**	**+1.3**
	comp=Z,27nm,0.8s							
TLY	**Talaya**	**61.94**	**342**	P		**P**	**00 14 49.3**	**+1.3**
	comp=Z,12nm,0.5s,baz=198,slow=4.9,SNR=9.6							
TLY	**Talaya**	**61.94**	**342**	*e*P		**P**	**00 14 48.9**	**+0.9**
TLY				*e*			00 24 22.5	
TLY					pmax	pmax		
	comp=Z,20nm,0.9s							
TLY	**Talaya**	**61.94**	**342**	P		**P**	**00 14 49.6**	**+1.6**
	SNR=7.9							
TLY	**Talaya**	**61.94**	**342**	*e*P		**P**	**00 14 48.6**	**+0.6**
	comp=Z,15nm,0.7s							
WMQ	**Urumqi**	**62.52**	**327**	P		**P**	**00 14 52.8**	**+0.7**
WMQ				PcP		**PcP**	**00 15 30.0**	**+1.0**
WMQ				pP		**pP**	**00 15 44.1**	**-0.6**
WMQ				sP		**sP**	**00 16 08.3**	**-1.5**
WMQ				PP		**PP**	**00 17 13.3**	**+0.5**
WMQ				S		**S**	**00 22 59.5**	**-1.4**
WMQ				ScS		**ScS**	**00 24 21.8**	**+0.4**
WMQ				sS		**sS**	**00 24 29.4**	**-3.8**
WMQ				SS		**SS**	**00 27 10.1**	**+0.3**
WMQ				PMZ				
	comp=Z,32nm,0.5s							
WMQ				PMZ				
	comp=Z,100nm,5.2s							
WMQ				LN				
	comp=Z,270nm,11.5s							
WMQ				LE				
	comp=Z,190nm,12.0s							
WMQ				LZ				
	comp=Z,110nm,17.8s							
MOY	**Mondy**	**62.77**	**341**	*e*P		**P**	**00 14 55.2**	**+1.7**
MOY					pmax	pmax		
	comp=Z,63nm,2.2s							
PEA0	**Petropavlovsk-**	**64.10**	**19**	*e*P		**P**	**00 15 03.1**	**+1.0**
PETK	**Petropavlovsk-**	**64.10**	**19**	P		**P**	**00 15 03.1**	**+1.0**
	comp=Z,42nm,0.7s,baz=185,slow=7.4,SNR=74							
PETK	**Petropavlovsk-**	**64.10**	**19**	P		**P**	**00 15 03.1**	**+1.0**
PETK					pmax	pmax		
	comp=Z,42nm,0.7s							
PEA2	**Petropavlovsk-**	**64.11**	**19**	*e*P		**P**	**00 15 03.1**	**+1.0**
PET	**Petropavlovsk**	**64.34**	**19**	*e*P		**P**	**00 15 04.3**	**+0.7**
PET				*e*			00 16 12.7	
PET					pmax	pmax		
	comp=Z,52nm,0.8s							
PET	**Petropavlovsk**	**64.34**	**19**	*e*P		**P**	**00 15 04.4**	**+0.8**
	comp=Z,33nm,0.8s							
HVS	**Khovu-Aksy**	**65.00**	**336**	*e*P		**P**	**00 15 07.9**	**-0.1**
HVS					pmax	pmax		
	comp=Z,298nm,1.2s							
BOD	**Bodaibo**	**65.27**	**351**	*e*P		**P**	**00 15 09.9**	**+0.4**
BOD					pmax	pmax		
	comp=Z,22nm,1.0s							
KSH	**Kashi**	**67.09**	**318**	*e*P		P	00 15 24.9	+3.2
KSH				PcP		**PcP**	**00 15 49.6**	**+1.5**
KSH				epP		pP	00 16 18.0	+3.0
KSH				esP		sP	00 16 42.3	+2.3
KSH				PcS			00 19 54.0	
KSH				S		**S**	**00 24 02.5**	**+5.6**
KSH				ScS		**SKSac**	**00 24 52.6**	**-3.8**
KSH				sS		sS	00 25 29.3	-1.2
KSH				SS		**SS**	**00 28 24.5**	**+3.5**
KSH				PMZ				
	comp=Z,170nm,1.7s							
KSH				LN				
	comp=Z,66nm,4.6s							
KSH				LE				
	comp=Z,110nm,5.6s							
MK01	**Makanchi Array**	**67.33**	**327**	*e*P		**P**	**00 15 23.0**	**+0.1**
MK31	**Makanchi Array**	**67.35**	**327**	*i* P		**P**	**00 15 23.3**	**+0.3**
MK31					pmax	pmax		
	comp=Z,7.0nm,0.4s							
MK32	**Makanchi Array**	**67.35**	**327**	*e*P		**P**	**00 15 23.6**	**+0.6**
MKAR	**Makanchi Array**	**67.35**	**327**	P		**P**	**00 15 23.6**	**+0.6**
	comp=Z,8.8nm,0.3s,baz=115,slow=7.9,SNR=188							
YAK	**Yakutsk**	**68.32**	**0**	P		**P**	**00 15 29.2**	**+0.5**
	comp=Z,3.8nm,0.3s,baz=198,slow=20,SNR=11							
YAK	**Yakutsk**	**68.32**	**0**	*e*P		**P**	**00 15 28.3**	**-0.3**
YAK				*e*			00 18 01.6	
YAK					ePPP	PPP	00 19 40.9	
YAK					*e*S	**S**	**00 24 09.6**	**-0.7**
YAK					*e*		00 25 03.2	
YAK					*e*SS	**SS**	**00 28 34.0**	**-4.8**
YAK					pmax	pmax		
	comp=Z,86nm,0.8s							
YAK					pmax	pmax		
	comp=N,28nm,1.2s							
YAK					pmax	pmax		
	comp=E,6.0nm,1.0s							
YAK					pmax	pmax		
	comp=Z,11nm,0.6s							
YAK					pmax	pmax		
	comp=N,7.0nm,0.7s							
YAK					pmax	pmax		
	comp=E,3.0nm,0.7s							
YAK					smax	smax		
	comp=N,77nm,2.8s							
YAK					smax	smax		
	comp=E,33nm,2.9s							
YAK	**Yakutsk**	**68.32**	**0**	*e*P		**P**	**00 15 29.1**	**+0.5**
	comp=E,130nm,0.8s							
ZAA0	**Zalesovo Array**	**70.77**	**334**	*e*P		**P**	**00 15 43.9**	**+0.2**
ZALV	**Zalesovo Beam**	**70.77**	**334**	P		**P**	**00 15 43.5**	**-0.2**
	comp=E,18nm,0.6s,baz=127,slow=5.5,SNR=100							
ZALV	**Zalesovo Beam**	**70.77**	**334**	P		**P**	**00 15 43.6**	**-0.2**
ZALV					pmax	pmax		
	comp=Z,18nm,0.6s							
ZAA1	**Zalesovo Array**	**70.77**	**334**	*e*P		**P**	**00 15 43.5**	**-0.2**
SEY	**Seymchan**	**71.46**	**11**	*e*P		**P**	**00 15 48.0**	**+0.3**
KURBB	**Kurchatov Arra**	**71.65**	**329**	P		**P**	**00 15 49.6**	**+0.5**
	comp=Z,19nm,0.7s,baz=130,slow=4.9,SNR=234							
KURK	**Kurchatov**	**71.66**	**329**	P		**P**	**00 15 49.5**	**+0.3**
	comp=Z,150nm,0.5s,SNR=24							
KURK	**Kurchatov**	**71.66**	**329**	*e*P		**P**	**00 15 49.7**	**+0.6**
KURK	**Kurchatov**	**71.66**	**329**	*e*P		**P**	**00 15 49.7**	**+0.6**
NVS	**Novosibirsk**	**72.05**	**334**	⇓*i*P		**P**	**00 15 51.5**	**+0.1**
NVS				*i*			00 17 03.3	
NVS					*i* S	**S**	**00 24 51.5**	**-2.3**
NVS					pmax	pmax		
	comp=N,21nm,1.3s							
NVS					pmax	pmax		
	comp=Z,34nm,1.3s							
NVS					pmax	pmax		
	comp=E,25nm,1.5s							
NVS					smax	smax		
	comp=N,59nm,2.5s							
NVS					smax	smax		
	comp=E,76nm,2.2s							
VNDA	**Vanda**	**73.05**	**173**	P		**P**	**00 15 57.7**	**+0.7**
	comp=E,2.2nm,0.8s,baz=316,slow=7.1,SNR=12							
VNDA					pP	**pP**	**00 16 52.2**	**+0.9**
	comp=E,8.0nm,0.7s,baz=335,slow=8.5,SNR=6.9							
VNDA	**Vanda**	**73.05**	**173**	P		**P**	**00 15 57.7**	**+0.7**
VNDA					pmax	pmax		
	comp=Z,2.0nm,0.8s							
VNDA					pmax	pmax		
	comp=Z,8.0nm,0.7s							
VNDA	**Vanda**	**73.05**	**173**	*e*P		**P**	**00 15 57.8**	**+0.7**
	comp=Z,10nm,0.9s							
SBA	**Scott Base**	**73.94**	**172**	*e*P		**P**	**00 16 03.9**	**+1.7**
SBA					pmax	pmax		
	comp=Z,15nm,1.1s							
SBA	**Scott Base**	**73.94**	**172**	*e*P		**P**	**00 16 03.9**	**+1.7**
	comp=Z,15nm,1.1s							
MAW	**Mawson**	**75.12**	**201**	P		**P**	**00 16 09.6**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=91,slow=8.4,SNR=3.7							
MAW					pP	**pP**	**00 17 05.7**	**+2.1**
	comp=Z,11nm,0.6s,baz=78,slow=5.9,SNR=6.5							
HATD	**Hatta, Dubai**	**77.50**	**297**	⇓P		**P**	**00 16 24.2**	**+0.9**
ASHO	**Ashiyiah**	**77.53**	**297**	P		**P**	**00 16 25.9**	**+2.4**
	SNR=6.3							
ASHO	**Ashiyiah**	**77.53**	**297**	⇑*i*P		**P**	**00 16 24.9**	**+1.3**
	SNR=7.4							
FAQ	**Al Faqa, Dubai**	**77.96**	**297**	*i* P		**P**	**00 16 26.6**	**+0.8**
	SNR=9.6							
TIXI	**Tiksi**	**77.98**	**360**	*e*P		**P**	**00 16 24.3**	**-0.6**
TIXI					pmax	pmax		
	comp=Z,18nm,0.7s							
TIXI	**Tiksi**	**77.98**	**360**	*e*P		**P**	**00 16 23.7**	**-1.2**
	comp=Z,18nm,0.8s							
ASUD	**Al Ashush, Dub**	**78.16**	**297**	⇑P		**P**	**00 16 27.7**	**+0.7**
BILL	**Bilibino**	**78.81**	**13**	*de*P		**P**	**00 16 29.4**	**-0.1**
BILL				*e*			00 16 38.3	
BILL					*e*S	**S**	**00 26 10.7**	**+3.2**
BILL					pmax	pmax		
	comp=Z,7.0nm,1.5s							
BILL	**Bilibino**	**78.81**	**13**	*e*P		**P**	**00 16 30.1**	**+0.6**
ISRV	**Sarvestan**	**81.13**	**301**	*e*P		**P**	**00 16 44.6**	**+1.4**
IANJ	**Anjilo**	**81.86**	**307**	*e*P		**P**	**00 16 47.0**	**+0.1**
ILAS	**Lasjerd**	**82.60**	**307**	*e*P		**P**	**00 16 52.2**	**+1.5**
IKLH	**Kolahrood**	**83.26**	**305**	*e*P		**P**	**00 16 57.1**	**+3.0**
QSPA	**South Pole Qui**	**83.48**	**180**	P		**P**	**00 16 54.7**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=158,slow=1.2,SNR=28							
QSPA					pP	**pP**	**00 17 49.7**	**-0.4**
	comp=Z,6.0nm,0.7s,baz=300,slow=2.8,SNR=4.1							
IPIR	**Pirpir**	**83.69**	**304**	*e*P		**P**	**00 16 55.5**	**-0.9**
SYO	**Syowa Base**	**83.83**	**201**	⇑*e*P		**P**	**00 16 55.7**	**-0.2**
SVE	**Sverdlovsk**	**83.91**	**329**	⇓*i*P		**P**	**00 16 57.0**	**+0.5**
SVE					pmax	pmax		
	comp=Z,40nm,1.3s							
ARU	**Arti**	**84.84**	**328**	P		**P**	**00 17 00.2**	**-1.0**
	comp=Z,146nm,0.8s,SNR=9.6							
ARU	**Arti**	**84.84**	**328**	*d i*P		**P**	**00 17 01.0**	**-0.2**
ARU							00 20 17.6	
ARU					S	S	00 27 00.5	-9.0
ARU					SSS	SSS	00 36 19.6	
ARU					pmax	pmax		
	comp=Z,45nm,1.7s							
ARU	**Arti**	**84.84**	**328**	*e*P		**P**	**00 17 00.3**	**-0.8**
	comp=Z,20nm,0.8s							
RAYN	**Ar Rayn**	**86.79**	**294**	P		**P**	**00 17 12.0**	**+0.4**
	comp=Z,73nm,0.7s,SNR=11							
RAYN	**Ar Rayn**	**86.79**	**294**	*e*P		**P**	**00 17 12.4**	**+0.8**
	comp=Z,15nm,0.7s							
IDHR	**Dehrash**	**87.75**	**305**	*e*P		**P**	**00 17 15.4**	**-0.7**
OHAK	**Old Harbor**	**88.72**	**32**	*e*P		**P**	**00 17 19.9**	**+0.1**
PPLA	**Purkeypile**	**90.58**	**27**	*e*P		**P**	**00 17 28.8**	**+0.2**
	comp=Z,16nm,1.1s							
IM04	**Indian Mountai**	**90.64**	**24**	*e*P		**P**	**00 17 28.6**	**0.0**
BPAW	**Bear Paw Mtn.**	**91.37**	**26**	*e*P		**P**	**00 17 32.0**	**-0.1**
	comp=Z,7.5nm,2.2s							
MLY	**Manley**	**91.67**	**25**	*e*P		**P**	**00 17 33.4**	**0.0**
	comp=Z,7.5nm,0.7s							
KMBO	**Kilima Mbogo**	**91.78**	**269**	*e*P		P	00 17 39.3	+3.9
KMBO					pmax	pmax		
	comp=Z,16nm,0.8s							
KMBO	**Kilima Mbogo**	**91.78**	**269**	*e*P		P	00 17 39.3	+3.9
	comp=Z,16nm,0.8s							
GOF	**Gofitskoye**	**91.81**	**315**	*e*P		P	00 17 29.4	-5.1
KIV	**Kislovodsk**	**91.93**	**314**	*e*P		**P**	**00 17 32.5**	**-2.7**
KIV					pmax	pmax		
	comp=Z,9.0nm,1.1s							
BWN	**Browne**	**92.04**	**26**	*e*P		**P**	**00 17 35.4**	**+0.3**
	comp=Z,30nm,1.0s							
RND	**Reindeer**	**92.17**	**26**	*e*P		**P**	**00 17 35.2**	**-0.7**
RND					pmax	pmax		
	comp=Z,24nm,0.8s							
RND	**Reindeer**	**92.17**	**26**	*e*P		**P**	**00 17 35.2**	**-0.7**
	comp=Z,24nm,0.8s							
MCK	**McKinley**	**92.19**	**26**	*e*P		**P**	**00 17 35.2**	**-0.7**
MCK					pmax	pmax		
	comp=Z,10.0nm,0.9s							
MCK	**McKinley**	**92.19**	**26**	*e*P		**P**	**00 17 35.2**	**-0.7**
	comp=Z,10.0nm,0.9s							
COLD	**Coldfoot**	**92.32**	**23**	*e*P		**P**	**00 17 36.9**	**+0.6**
	comp=Z,6.5nm,0.6s							
WRH	**Wood River Hil**	**92.68**	**25**	*e*P		**P**	**00 17 37.6**	**-0.5**
	comp=Z,9.9nm,0.8s							
MDM	**Murphy Dome**	**92.70**	**25**	*e*P		**P**	**00 17 37.4**	**-0.8**
	comp=Z,20nm,1.7s							
CCB	**Clear Creek Bu**	**92.83**	**25**	*e*P		**P**	**00 17 37.7**	**-1.0**
	comp=Z,13nm,0.9s							
IL1	**Eielson Array**	**93.24**	**25**	*e*P		**P**	**00 17 39.2**	**-1.5**
ILAR	**Eielson Array**	**93.24**	**25**	P		**P**	**00 17 39.2**	**-1.5**
	comp=Z,3.0nm,0.8s,baz=266,slow=4.4,SNR=32							
ILAR					PP	PP	00 21 21.4	-6.2
	comp=Z,6.3nm,1.3s,baz=256,slow=6.4,SNR=5.7							
ILAR	**Eielson Array**	**93.24**	**25**	P		**P**	**00 17 39.2**	**-1.5**
ILAR					pmax	pmax		
	comp=Z,3.0nm,0.8s							
ILAR					pmax	pmax		
	comp=Z,6.0nm,1.3s							
ILB	**Eielson Array**	**93.24**	**25**	*e*P		**P**	**00 17 39.2**	**-1.5**
ILB					*e*PP	PP	00 21 21.4	-6.2
SOC	**Sochi**	**94.03**	**313**	*e*P		**P**	**00 17 41.8**	**-3.0**
SOC					*e*PPP	PPP	00 23 35.4	
SOC					*e*S	**SKSac**	**00 27 52.8**	**-4.5**
SOC					pmax	pmax		
	comp=Z,67nm,1.1s							
ASF	**Jabal al Asfar**	**95.33**	**302**	P		**P**	**00 17 49.9**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=94,slow=13,SNR=2.6							
EGAK	**Eagle**	**95.68**	**26**	*e*P		**P**	**00 17 52.3**	**+0.5**
	comp=Z,8.9nm,1.3s							
DAWY	**Dawson**	**96.42**	**26**	*e*P		**P**	**00 17 55.8**	**+0.6**
	comp=Z,12nm,1.0s							
MMAI	**Mount Meron Ar**	**96.65**	**302**	P		**P**	**00 17 56.9**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=93,slow=6.9,SNR=4.2							
OBN	**Obninsk**	**96.77**	**325**	*e*P		**P**	**00 17 55.7**	**-1.2**
OBN				*e*			00 21 51.2	
OBN					*e*SS	SS	00 35 43.2	+4.4
OBN					pmax	pmax		
	comp=Z,5.0nm,0.9s							
BR101	**Keskin Array S**	**98.36**	**309**	*e*P		**P**	**00 18 04.0**	**-0.6**
BR101					*e*PP	**PP**	**00 22 03.8**	**-4.1**
BRTR	**Keskin Array B**	**98.36**	**309**	P		**P**	**00 18 04.0**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=123,slow=5.2,SNR=5.0							
BRTR					sP	**sP**	**00 19 26.3**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=126,slow=5.2,SNR=2.6							
BRTR					PP	**PP**	**00 22 03.8**	**-4.1**
	comp=Z,2.0nm,1.0s,baz=46,slow=8.3,SNR=5.9							
BRTR	**Keskin Array B**	**98.36**	**309**	P		**P**	**00 18 04.0**	**-0.6**
BRTR							00 22 03.8	
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.8s							
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
BRTR					pmax	pmax		
	comp=Z,2.0nm,1.0s							
ARA0	**ARCESS Array S**	**100.82**	**340**	*e*Pdif		**Pdif**	**00 18 14.2**	**-0.6**
ARCES	**ARCESS Array B**	**100.82**	**340**	P		**Pdif**	**00 18 14.2**	**-0.6**
	comp=Z,3.4nm,0.7s,baz=87,slow=5.2,SNR=9.9							
ARCES	**ARCESS Array B**	**100.82**	**340**	P		**Pdif**	**00 18 14.2**	**-0.6**
ARCES					pmax	pmax		
	comp=Z,3.0nm,0.7s							
FIA0	**FINESS Array S**	**101.93**	**331**	*e*P		**Pdif**	**00 18 19.1**	**-0.7**
FIA0	**FINESS Array S**	**101.93**	**331**	*e*Pdif		**Pdif**	**00 18 19.1**	**-0.7**
FINES	**FINESS Array B**	**101.93**	**331**	P		**Pdif**	**00 18 19.1**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=56,slow=7.4,SNR=4.6							
FINES	**FINESS Array B**	**101.93**	**331**	P		**Pdif**	**00 18 19.1**	**-0.7**
FINES					pmax	pmax		
	comp=Z,2.0nm,0.9s							
NB2	**NORSAR Subarra**	**108.95**	**333**	P		**Pdif**	**00 18 49.8**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=66,slow=4.4							
NOA	**NORSAR Array B**	**108.95**	**333**	Pdiff		**Pdif**	**00 18 50.0**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=66,slow=4.5,SNR=4.6							
NOA	**NORSAR Array B**	**108.95**	**333**	P		**Pdif**	**00 18 50.0**	**-1.2**
NOA					pmax	pmax		
	comp=Z,1.0nm,0.7s							
GEC2	**GERESS Array S**	**111.51**	**320**	*e*PKiKP		**PKiKP**	**00 22 59.8**	**+0.1**
GERES	**GERESS Array B**	**111.51**	**320**	PKiKP		**PKiKP**	**00 22 59.8**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=40,slow=1.7,SNR=7.4							
GERES	**GERESS Array B**	**111.51**	**320**	*i* PKiKP		**PKiKP**	**00 22 59.8**	**+0.1**
GERES					pmax	pmax		
	comp=Z,1.0nm,0.6s							
R11A	**Troy Canyon, C**	**113.74**	**51**	P		**PKiKP**	**00 23 03.0**	**-1.4**
	baz=114							
R11A	**Troy Canyon, C**	**113.74**	**51**	*e*PKiKP		**PKiKP**	**00 23 03.0**	**-1.4**
R11A				*e*PP		PP	00 23 50.6	-10
SNOW	**Snow King Moun**	**116.07**	**45**	*e*PKPdf		**PKPdf**	**00 23 10.7**	**+1.8**
GCMT	**Greycliff**	**116.10**	**42**	*e*PKPdf		**PKPdf**	**00 23 09.3**	**+0.6**
B20A	**Solberg Farm,**	**116.25**	**39**	P		**PKPdf**	**00 23 09.2**	**+0.5**
	baz=116							
I20A	**Worland**	**117.74**	**43**	P		**PKPdf**	**00 23 12.7**	**+0.8**
	baz=118							
KEST	**Kesra**	**117.86**	**307**	PP		PP	00 24 25.4	-4.1
	comp=Z,2.8nm,0.8s,baz=274,slow=1.1,SNR=6.5							
D22A	**Cohagen**	**117.88**	**39**	P		**PKPdf**	**00 23 12.9**	**+0.9**
	baz=116							
C23A	**Lambert**	**118.25**	**38**	P		**PKPdf**	**00 23 13.1**	**+0.5**
	baz=118							
I21A	**Big Trails, Te**	**118.35**	**43**	P		**PKPdf**	**00 23 13.5**	**+0.5**
	baz=118							
E23A	**Ismay**	**118.69**	**40**	P		**PKPdf**	**00 23 14.1**	**+0.6**
	baz=119							
O20A	**White River Ci**	**118.84**	**48**	P		**PKPdf**	**00 23 15.1**	**+0.9**
	baz=119							
J22A	**Midwest**	**119.04**	**43**	P		**PKPdf**	**00 23 14.3**	**-0.1**
	baz=119							
D26A	**Manning**	**120.27**	**38**	P		**PKPdf**	**00 23 16.9**	**+0.5**
	baz=120							
E26A	**Carlson Angus**	**120.49**	**39**	P		**PKPdf**	**00 23 17.6**	**+0.6**
	baz=120							
J25A	**Sunshine Ranch**	**120.87**	**43**	P		**PKPdf**	**00 23 18.1**	**+0.3**
	baz=121							
G27A	**Dupree**	**121.29**	**40**	P		**PKPdf**	**00 23 19.0**	**+0.5**
	baz=121							
ANMO	**Albuquerque**	**121.66**	**53**	*i* PKiKP		**PKPdf**	**00 23 19.9**	**+0.2**
ANMO					pmax	pmax		
	comp=Z,22nm,2.5s							
LTX	**Lajitas**	**125.37**	**59**	*e*PKiKP		**PKPdf**	**00 23 27.3**	**+0.4**
LTX	**Lajitas**	**125.37**	**59**	*e*PKPdf		**PKPdf**	**00 23 27.3**	**+0.4**
TXAR	**Lajitas Array**	**125.37**	**59**	PKP		**PKPdf**	**00 23 27.3**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=227,slow=2.1,SNR=3.2							
ECSD	**EROS Data Cent**	**125.43**	**40**	P		**PKPdf**	**00 23 26.8**	**+0.4**
	baz=125							
ECSD	**EROS Data Cent**	**125.43**	**40**	*e*PKPdf		**PKPdf**	**00 23 26.9**	**+0.4**
430A	**Baggett Ranch,**	**127.03**	**56**	P		**PKPdf**	**00 23 31.0**	**+1.0**
	baz=127							
P34A	**Walnut Farm, R**	**127.22**	**44**	P		**PKPdf**	**00 23 30.6**	**+0.5**
	baz=127							
Q34A	**Chapman**	**127.42**	**45**	P		**PKPdf**	**00 23 31.6**	**+1.2**
	baz=127							
P35A	**Duane Minner,**	**127.79**	**44**	P		**PKPdf**	**00 23 31.9**	**+0.8**
	baz=128							
TOA0	**Torodi Ar. Sit**	**127.90**	**282**	*e*PKPdf		**PKPdf**	**00 23 31.9**	**-0.1**
TOA0				*ep*PKPdf		**pPKPdf**	**00 24 34.1**	**+2.8**
TORD	**Torodi Ar. Bea**	**127.90**	**282**	PKP		**PKPdf**	**00 23 31.9**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=67,slow=2.2,SNR=8.0							
TORD					pPKP	**pPKPdf**	**00 24 34.1**	**+2.8**
	comp=Z,1.3nm,0.6s,baz=64,slow=3.2,SNR=2.9							
JCT	**Junction City**	**128.30**	**56**	*e*PKiKP		**PKPdf**	**00 23 33.5**	**+1.1**
JCT	**Junction City**	**128.30**	**56**	P		**PKPdf**	**00 23 33.3**	**+1.0**
	baz=128							
JCT	**Junction City**	**128.30**	**56**	*e*PKPdf		**PKPdf**	**00 23 33.5**	**+1.1**
133A	**Hamilton Ranch**	**128.35**	**53**	P		**PKPdf**	**00 23 34.2**	**+1.9**
	baz=128							
R36A	**Gordon, Harris**	**128.69**	**45**	P		**PKPdf**	**00 23 33.9**	**+1.1**
	baz=129							
333A	**Richland Sprin**	**128.71**	**55**	P		**PKPdf**	**00 23 33.8**	**+0.7**
	baz=129							
433A	**Art**	**128.80**	**56**	P		**PKPdf**	**00 23 34.6**	**+1.3**
	baz=129							
T36A	**Boggs Farm, Ca**	**128.97**	**47**	P		**PKPdf**	**00 23 34.2**	**+0.8**
	baz=129							
R37A	**Teagarden Farm**	**129.17**	**45**	P		**PKPdf**	**00 23 34.2**	**+0.4**
	baz=129							
V37A

SNR=60
UCH Uchtor 6.98 26 P Pn 00 14 07.5 -0.4
SNR=27
KK31 Karatay Array 7.08 1 P Pn 00 14 08.1 -0.9
comp=E,7.9nm,0.3s,baz=172,slow=11,SNR=286
KK31 ⇑S Sn 00 15 23.7 -4.2
comp=E,25nm,0.3s,baz=192,slow=24,SNR=5.6
KKAR Karatay Array 7.08 1 ePn Pn 00 14 07.6 -1.3
KKAR eSn Sn 00 15 23.2 -4.6
KZA Kyzart 7.13 30 P Pn 00 14 09.3 -0.7
SNR=38
EKS2 Erkin-Say 7.13 20 P Pn 00 14 09.3 -0.4
SNR=17
EKS2 Erkin-Say 7.13 20 ePn Pn 00 14 09.5 -0.3
EKS2 eSn Sn 00 15 21.3 -8.0
AAK Ala-Archa 7.33 24 P Pn 00 14 12.2 -0.3
SNR=16
AAK Ala-Archa 7.33 24 ⇑P Pn 00 14 11.8 -0.6
comp=E,13nm,0.3s
AAK ⇓S Sn 00 15 32.1 -2.0
comp=E,53nm,0.7s
AAK Ala-Archa 7.33 24 ePn Pn 00 14 12.3 -0.1
AAK eSn Sn 00 15 22.6 -12
SMLA Simla 7.45 129 iP Pn 00 14 12.1 -1.9
SMLA iS Sn 00 15 32.0 -4.9
SMLA AML AML 00 15 34.6
comp=N,940nm,0.3s
SMLA AML AML 00 15 35.3
comp=E,951nm,0.3s
KBK Karagaybulak 7.51 27 P Pn 00 14 15.5 +0.6
SNR=21
ULHL Ulahol 7.70 34 P Pn 00 14 17.0 -0.5
SNR=18
CHMS Chumysh 7.74 24 P Pn 00 14 17.4 -0.5
SNR=13
USP Ospenovka 7.90 22 P Pn 00 14 19.4 -0.7
SNR=30
TKM2 Tokmak 2 7.98 29 P Pn 00 14 20.8 -0.5
SNR=21
TKM2 Tokmak 2 7.98 29 ⇑P Pn 00 14 20.5 -0.8
comp=E,4.5nm,0.4s
TKM2 ⇑S Sn 00 15 47.5 -2.4
comp=E,24nm,0.5s
TKM2 Tokmak 2 7.98 29 ePn Pn 00 14 20.8 -0.5
TKM2 eSn Sn 00 15 33.8 -16
IMYA Miami 8.34 275 eP Pn 00 14 23.4 -2.8
IMOG Moghan 8.96 274 eP Pn 00 14 32.0 -2.7
KHET Khetri 9.14 148 eP Pn 00 14 32.8 -4.2
KHET eS Sn 00 16 09.7 -8.4
KHET AML AML 00 16 15.4
comp=N,192nm,0.2s
KHET AML AML 00 16 15.7
comp=E,190nm,0.1s
IPAY Payeh 9.23 276 eP Pn 00 14 35.1 -3.2
NDI New Delhi 9.30 140 eP Pn 00 14 37.0 -2.1
NDI eS Sn 00 16 16.0 -5.9
KUDL Kundal 9.39 145 eP Pn 00 14 37.7 -2.5
KUDL eS Sn 00 16 14.9 -9.0
JOSI Joshimath 9.39 123 ex Pn 00 14 34.4 -6.2
JOSI ex x 00 16 05.8
JOSI AML AML 00 16 25.2
comp=N,205nm,0.8s
JOSI AML AML 00 16 25.7
comp=E,149nm,0.0s
IAKL Akhelmad 9.42 277 eP Pn 00 14 37.9 -3.0
IKRD Kardeh 9.62 278 eP Pn 00 14 28.9 -15
ISHV Shirvan 10.30 282 eP Pn 00 14 50.1 -2.7
AGRA Agra 10.85 142 eP Pn 00 14 56.1 -4.0
AGRA eS Sn 00 16 51.8 -7.8
AGRA AML AML 00 18 10.7
comp=N,61nm,0.4s
AGRA AML AML 00 18 11.2
comp=E,62nm,0.4s
IALA Alasht 14.24 275 eP Pn 00 15 46.2 +1.4
AB31 Akbulak array 15.29 333 ⇑P Pn 00 15 55.3 -2.4
comp=E,6.0nm,0.4s,baz=149,slow=12,SNR=235
AB31 ⇓S Sn 00 18 34.5 -12
comp=E,4.9nm,0.5s,baz=152,slow=23,SNR=18
ABKAR Akbulak array 15.29 333 ePn Pn 00 15 54.8 -2.9
ABKAR eSn Sn 00 18 33.5 -13
HOQ Hoqain 16.79 226 P Pn 00 16 17.2 +0.4
SNR=12
AKTO Aktyubinsk 16.97 332 ⇑P Pn 00 16 18.3 -0.2
comp=E,12nm,0.8s
AKTO ⇑S Sn 00 19 15.9 -11
comp=E,15nm,1.1s
AKTO Aktyubinsk 16.97 332 P Pn 00 16 18.3 -0.2
comp=E,1.6nm,0.3s,baz=135,slow=14,SNR=40
AKTO S Sn 00 19 16.2 -11
comp=E,0.6nm,0.3s,baz=311,slow=19,SNR=3.9
BVA0 Borovoye Array 17.01 360 ⇑P P 00 16 19.3 +0.3
comp=E,16nm,1.1s,baz=171,slow=14,SNR=74
BVA0 ⇓S Sn 00 19 21.9 -6.1
comp=E,5.6nm,1.2s
BVA0 Borovoye Array 17.01 360 iP Pn 00 16 18.4 -0.5
BVA0 pmax pmax
comp=E,16nm,1.1s
BVAR Borovoye Array 17.01 360 P Pn 00 16 18.4 -0.5
comp=E,1.6nm,0.3s,baz=168,slow=11,SNR=41
BVAR Borovoye Array 17.01 360 P Pn 00 16 18.4 -0.5
BVAR pmax pmax
comp=E,2.0nm,0.3s
BRVK Borovoye 17.04 360 P Pn 00 16 18.9 -0.4
comp=E,128nm,0.7s,SNR=5.3
BRVK Borovoye 17.04 360 eP Pn 00 16 18.0 -1.3
BRVK pmax pmax
comp=E,15nm,0.8s
BRVK Borovoye 17.04 360 P Pn 00 16 18.9 -0.4
SNR=7.4
BRVK Borovoye 17.04 360 eP Pn 00 16 18.0 -1.3
comp=E,15nm,0.8s
ZAA0 Zalesovo Array 20.56 25 eP Pn 00 17 00.0 -0.8
ZALV Zalesovo Beam 20.56 25 P Pn 00 16 59.4 -1.5
comp=E,139nm,0.5s,baz=217,slow=10,SNR=157
ZAA1 Zalesovo Array 20.56 25 eP Pn 00 16 59.4 -1.6
GNI Garni 20.59 289 P Pn 00 17 01.6 -0.1
comp=E,13nm,0.6s,baz=95,slow=3.9,SNR=7.2
GNI Garni 20.59 289 eP P 00 16 58.2 -0.1
comp=E,28nm,1.0s
KBZ Khabaz 22.40 299 P P 00 17 18.6 +1.4
comp=E,5.0nm,0.8s,baz=132,slow=8.4,SNR=8.2
BR101 Keskin Array S 29.13 289 eP P 00 18 20.4 +1.8
BRTR Keskin Array B 29.13 288 P P 00 18 20.4 +1.8
comp=E,2.5nm,0.7s,baz=99,slow=7.5,SNR=13
BR231 Keskin MP Arra 29.78 286 eP P 00 18 23.7 -0.6
CM31 Chiang Mai Arr 30.65 117 eP P 00 18 33.0 +1.0
CMAR Chiang Mai Arr 30.65 117 P P 00 18 33.0 +1.0
comp=E,0.9nm,0.6s,baz=298,slow=8.1,SNR=3.3
AKASG Malin Array Be 32.88 310 P P 00 18 52.4 +1.2
comp=E,3.2nm,0.8s,baz=90,slow=7.0,SNR=7.5
AKBB Malin Array Si 32.88 310 eP P 00 18 52.4 +1.2
PLOR Plostina 34.11 300 ⇑iP P 00 19 04.7 +2.7
MLR Muntele Rosu 34.60 300 ⇓iP P 00 19 09.8 +3.4
BUR04 Bucovina Ar. S 35.15 304 eP P 00 19 12.7 +1.6
VOIR 35.23 300 ⇑iP P 00 19 16.1 +4.3
FIA0 FINESS Array S 37.62 327 eP P 00 19 33.3 +1.6
FINES FINESS Array B 37.62 327 P P 00 19 33.3 +1.6
comp=E,3.1nm,0.5s,baz=123,slow=10,SNR=15
NIE Niedzica 38.47 306 eP P 00 19 41.7 +2.7
OJC Ojcow 38.82 308 eP P 00 19 45.7 +3.8
ARA0 ARCESS Array S 41.41 338 eP P 00 20 04.5 +1.4
ARCES ARCESS Array B 41.41 338 P P 00 20 05.2 +2.1
comp=E,2.8nm,0.6s,baz=102,slow=7.0,SNR=9.1
BRG Berggiesshubel 42.55 309 eP P 00 20 16.5 +4.0
comp=E,3.1nm,0.8s
CLL Collm 43.13 309 eP P 00 20 19.5 +2.3
comp=E,21nm,1.9s
NB2 NORSAR Subarra 44.48 323 P P 00 20 29.0 +1.0
comp=E,3.3nm,0.5s,baz=98,slow=7.9
NB200 NORSAR Array S 44.48 323 eP P 00 20 28.8 +0.8
NOA NORSAR Array B 44.48 323 P P 00 20 28.8 +0.8
comp=E,3.8nm,0.6s,baz=98,slow=7.9,SNR=25
NBO02 NORSAR Array S 44.66 323 eP P 00 20 30.1 +0.8
KONO Kongsberg 45.16 321 eP P 00 20 34.4 +1.1
comp=E,16nm,1.3s
KS15 Wonju Array Si 45.47 70 eP P 00 20 38.2 +2.2
KSRS Korea Array 45.49 70 P P 00 20 38.2 +2.0
comp=E,0.7nm,0.3s,baz=282,slow=6.1,SNR=2.8
TIXI Tiksi 46.41 22 eP P 00 20 44.8 +1.9
comp=E,7.4nm,0.9s
KEST Kesra 48.73 289 P P 00 21 02.3 +0.8
comp=E,0.6nm,0.7s,baz=320,slow=7.9,SNR=3.1
ESDC Sonseca Array 57.26 298 P P 00 22 04.7 +0.6
comp=E,0.7nm,0.6s,baz=56,slow=8.0,SNR=6.2
TORD Torodi Ar. Bea 65.22 268 P P 00 22 57.9 -0.1
comp=Z,0.4nm,0.5s,baz=50,slow=6.1,SNR=12
ILAR Eielson Array 75.38 16 P P 00 24 00.4 +1.4
comp=Z,0.4nm,0.8s,baz=316,slow=5.0,SNR=4.0
YKA Yellowknife Ar 81.75 2 P P 00 24 37.5 +3.5
comp=Z,0.9nm,0.6s,baz=356,slow=16,SNR=4.2
WRA Warramunga Arr 82.14 121 P P 00 24 37.3 +0.6
comp=Z,0.8nm,0.9s,baz=322,slow=4.6,SNR=2.8

*ISCJB **16** 00:37:03.1±0.3,51.°56N±0.°02×16.°21E±0.°03,h0km, Error ellipse: s-maj=2.5km s-min=2.3km az=168.2*
*CSEM **16** 00:37:05.1±0.1,51.°55N×16.°16E,h2km,ML3.3/12, Error ellipse: s-maj=3.5km s-min=2.6km az=91.0*
*IPEC **16** 00:37:05.1±0.3,51.°59N×16.°28E,h0km,ML2.4/2, Error ellipse: s-maj=3.1km s-min=1.7km az=66.0*
*IDC **16** 00:37:06.9±0.8,51.°54N×16.°05E,h0km,mb1 3.3/7, mb1mx3.2/28,mbtmp3.2/7,ML2.9/7, Error ellipse: s-maj=15.8km s-min=7.5km az=110.0*
*PRU **16** 00:37:07.2,51.°49N×16.°13E,h0km*
*UPP **16** 00:37:09.4,51.°77N×15.°73E,h0km,ML1.7,Suspected Mining explosion.*
*VIE **16** 00:37:10.1±1.2,51.°17N×16.°06E,h0km,mb2.2/3,ML2.6/3, Error ellipse: s-maj=10.7km s-min=5.2km az=158.0 66 km W of Wroclaw Suspected Mining induced.*

ISC 16 00:37:04.9±0.7,51.61N±0.03×16.15E±0.02,h0km,n67, σ1§03/113,2C-3D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.77	173	*i* Pg	Pg	00 37 19.8	+0.1
KSP				eSg	Sg	00 37 28.9	-0.8
KSP	Ksiaz	0.77	173	⇓*i* Pg	Pg	00 37 19.8	+0.1
KSP				eSg	Sg	00 37 28.9	-0.8
UPC	Upice	1.11	185	*e*PG	Pg	00 37 25.8	-0.3
UPC				*e*SG	Sg	00 37 38.7	-1.7
	comp=Z,22nm,0.4s						
UPC	Upice	1.11	185	Pg	Pg	00 37 25.8	-0.3
UPC				Sg	Sg	00 37 38.7	-1.7
	22nm,0.4s						
DPC	Dobruska-Polom	1.27	175	*e*PG	Pg	00 37 28.5	-0.6
DPC				*e*SG	Sg	00 37 43.6	-1.9
	comp=Z,26nm,0.3s						
DPC	Dobruska-Polom	1.27	175	Pg	Pg	00 37 28.5	-0.6
DPC				Sg	Sg	00 37 43.6	-1.9
	26nm,0.3s						
PVCC	Panska Ves	1.47	223	*e*PG	Pn	00 37 32.9	+0.2
PVCC				*e*SG	Sg	00 37 52.3	+0.1
	comp=Z,84nm,0.2s						
PVCC	Panska Ves	1.47	223	Pg	Pn	00 37 32.9	+0.2
PVCC				Sg	Sg	00 37 52.3	+0.1
	84nm,0.2s						
BRG	Berggiesshubel	1.57	243	PN	Pn	00 37 34.6	+0.5
BRG				PG	Pg	00 37 35.5	+0.5
BRG				SG	Sg	00 37 56.1	+0.7
	74nm,0.4s						
PRA	Prague	1.89	216	*e*PN	Pn	00 37 38.3	-0.1
PRA				*e*PG	Pb	00 37 39.7	-0.5
PRA				*e*SG	Sb	00 38 04.8	+0.5
	comp=Z,13nm,0.3s						
PRA	Prague	1.89	216	Pn	Pn	00 37 38.3	-0.1
GOPC	GO Pecny, Ondr	1.91	208	*e*PN	Pn	00 37 38.5	-0.2
GOPC				*e*PG	Pb	00 37 40.0	-0.6
GOPC				*e*SG	Sb	00 38 04.9	0.0
	comp=Z,16nm,0.5s						
GOPC	GO Pecny, Ondr	1.91	208	Pn	Pn	00 37 38.5	-0.2
PRU	Pruhonice	1.92	213	*e*PN	Pn	00 37 38.6	-0.2
PRU				*e*PG	Pb	00 37 40.6	-0.1
PRU				*e*SG	Sb	00 38 05.5	+0.3
	comp=Z,27nm,0.3s						
PRU	Pruhonice	1.92	213	Pn	Pn	00 37 38.6	-0.2
PRU	Pruhonice	1.92	213	Pg	Pb	00 37 40.6	-0.1
PRU				Sg	Sb	00 38 05.5	+0.3
	27nm,0.3s						
CLL	Collm	1.99	263	*e*Pn	Pn	00 37 40.0	+0.2
CLL				*e*Pg	Pg	00 37 43.0	-0.1
CLL				*i*		00 37 45.8	
CLL				*i* Sg	Sg	00 38 09.9	+1.0
	comp=Z,24nm,0.6s						
MORC	Moravsky Berou	2.04	154	*e*Pn	Pn	00 37 39.8	-0.7
MORC				*e*Sg	Sn	00 38 07.4	+0.8
	comp=Z,24nm,0.5s						
OKC	Ostrava-Krasne	2.18	144	*e*PN	Pn	00 37 41.8	-0.6
OKC				*e*PG	Pb	00 37 45.1	-0.1
OKC				*e*SG	Sn	00 38 12.1	+2.0
	comp=Z,16nm,0.4s						
OKC	Ostrava-Krasne	2.18	144	Pn	Pn	00 37 41.8	-0.6
VRAC	Vranov	2.32	173	Pn	Pn	00 37 45.0	+0.6
	comp=Z,1.6nm,0.3s,baz=340,slow=14,SNR=12						
VRAC				Lg	Lg	00 38 18.5	
	comp=Z,5.4nm,0.3s,baz=259,slow=16,SNR=8.6						
VRAC	Vranov	2.32	173	*e*Pn	Pn	00 37 44.2	-0.2
VRAC				*e*Sg	Sb	00 38 16.9	+0.1
	comp=Z,20nm,0.3s						
TREC	Trest	2.36	191	*e*PN	Pn	00 37 44.7	-0.2
TREC				*e*PG	Pb	00 37 47.9	-0.3
TREC				*e*SG	Sb	00 38 18.4	+0.6
	comp=Z,16nm,0.3s						
TREC	Trest	2.36	191	Pn	Pn	00 37 44.7	-0.2
KRUC	Moravsky	2.56	176	*e*Pn	Pn	00 37 47.4	-0.2
KRUC				*e*Sg	Sb	00 38 24.3	+0.8
OJC	Ojcow	2.69	120	*e*Pg	Pg	00 37 56.0	-0.5
OJC				*e*Sg	Sg	00 38 31.2	+0.2
OJC	Ojcow	2.69	120	*e*Pg	Pg	00 37 56.0	-0.5
OJC				*e*Sg	Sg	00 38 31.2	-0.2
NKC	Novy Kostel	2.72	241	*e*PN	Pn	00 37 50.6	+0.7
NKC				*e*PG	Pg	00 37 56.3	-0.7
NKC				*e*SG	Sg	00 38 32.6	+0.4
	comp=Z,36nm,0.3s						
NKC	Novy Kostel	2.72	241	Pn	Pn	00 37 50.6	+0.7
KHC	Kasperske Hory	2.98	215	*e*PN	Pn	00 37 53.4	0.0
KHC				*e*PG	Pb	00 37 59.7	+0.9
KHC				*e*SN	Sn	00 38 28.3	-1.6
KHC				*e*SG	Sb	00 38 38.5	+2.7
	comp=Z,9.2nm,0.4s						
KHC	Kasperske Hory	2.98	215	Pn	Pn	00 37 53.4	0.0
GERES	GERESS Array B	3.18	211	Pn	Pn	00 37 57.4	+1.1
	comp=Z,0.7nm,0.3s,baz=28,slow=12,SNR=14						
GERES				Pg	Pb	00 38 03.2	+0.8
	comp=Z,1.9nm,0.3s,baz=29,slow=14,SNR=17						
GERES				Lg	Lg	00 38 43.3	
	comp=Z,1.4nm,0.3s,baz=25,slow=26,SNR=5.0						
NIE	Niedzica	3.44	128	*e*P	Pg	00 38 11.0	+0.1
NIE				*e*S	Sg	00 38 55.4	-0.1
CONA	Conrad Observa	3.69	183	⇓*i* Pn	Pn	00 38 03.8	+0.5
	comp=Z,0.4nm,0.1s						
CONA				⇑*e*Sg	Sb	00 38 58.3	+2.0
	comp=Z,8.2nm,0.3s						
CONA	Conrad Observa	3.69	183	Pn	Pn	00 38 03.8	+0.5
	comp=Z,0.4nm,0.1s						
CONA				Sg	Sb	00 38 58.3	+2.0
	comp=Z,8.2nm,0.3s						
STHS	Stebnicka Huta	3.92	122	*e*Pg	Pg	00 38 21.9	+1.9
STHS				*e*Sg	Sg	00 39 13.6	+2.8
STHS	Stebnicka Huta	3.92	122	*e*Pg	Pg	00 38 21.9	+1.9
STHS				*e*Sg	Sg	00 39 13.6	+2.8
MOA	Molln	3.96	199	⇑*i* Pn	Pn	00 38 07.2	+0.3
	comp=Z,1.2nm,0.2s						
MOA				⇓*e*Sg	Sb	00 39 05.1	+1.2
	comp=Z,7.3nm,0.4s						
MOA	Molln	3.96	199	Pn	Pn	00 38 07.2	+0.3
	comp=Z,1.2nm,0.2s						
KECS	Kecovo	4.19	137	*e*Pg	Pg	00 38 23.4	-1.8
KECS				*e*Sg	Sg	00 39 20.1	+0.5
KECS	Kecovo	4.19	137	*e*PG	Pg	00 38 23.4	-1.8
KECS				*e*SG	Sg	00 39 20.1	+0.5
BLEU	Blekinge	4.71	358	P	Pn	00 38 17.9	+0.8
BLEU	Blekinge	4.71	358	P	Pn	00 38 17.9	+0.8
KOLS	Kolonicke sedl	4.75	122	*e*PN	Pn	00 38 17.8	0.0
KOLS				*e*PG	Pg	00 38 33.8	-2.1
KOLS				*e*SG	Sg	00 39 37.6	+0.1
DEL	Delary	5.05	345	P	Pn	00 38 22.0	+0.1
DEL				S	Sn	00 39 18.6	-2.3
DEL	Delary	5.05	345	P	Pn	00 38 22.0	+0.1
DEL				S	Sn	00 39 18.6	-2.3
VXJU	Vaexsjoe	5.37	353	P	Pn	00 38 26.9	+0.7
VXJU	Vaexsjoe	5.37	353	P	Pn	00 38 26.9	+0.7
OSKU	Oskarshamn	5.60	360	P	Pn	00 38 30.5	+1.2
OSKU	Oskarshamn	5.60	360	P	Pn	00 38 30.5	+1.2
BYXU	Byxelkrok	5.71	5	P	Pn	00 38 32.4	+1.5
BYXU	Byxelkrok	5.71	5	P	Pn	00 38 32.4	+1.5
FABU	Falkenberg	5.76	341	P	Pn	00 38 31.8	+0.2
FABU	Falkenberg	5.76	341	P	Pn	00 38 31.8	+0.2
GNOU	Gnosjoe	5.86	347	P	Pn	00 38 33.6	+0.6
GNOU	Gnosjoe	5.86	347	P	Pn	00 38 33.6	+0.6
EKSU	Eksjoe	6.00	356	P	Pn	00 38 35.8	+1.0
EKSU	Eksjoe	6.00	356	P	Pn	00 38 35.8	+1.0
VSTU	Vaestervik	6.07	2	P	Pn	00 38 37.2	+1.4
VSTU	Vaestervik	6.07	2	P	Pn	00 38 37.2	+1.4
LNKU	Linkoeping	6.64	357	P	Pn	00 38 43.7	+0.1
LNKU	Linkoeping	6.64	357	P	Pn	00 38 43.7	+0.1
AKASG	Malin Array Be	8.27	91	Pn	Pn	00 39 05.4	-0.6
	comp=Z,1.3nm,0.3s,baz=282,slow=11,SNR=2.2						
HFS	Hagfors	8.66	352	Pn	Pn	00 39 11.5	+0.2
	comp=Z,0.1nm,0.3s,baz=174,slow=13,SNR=2.5						
FINES	FINESS Array B	11.26	25	Pn	Pn	00 39 45.3	-1.6
	comp=Z,0.1nm,0.3s,baz=208,slow=13,SNR=4.9						
FINES				Sn	Sn	00 41 47.4	-5.9
	comp=Z,0.1nm,0.3s,baz=213,slow=25,SNR=3.2						
EKA	Eskdalemuir Ar	12.09	296	Pn	Pn	00 39 59.0	+0.7
	baz=102,slow=14,SNR=2.8						
ARCES	ARCESS Array B	18.52	10	Pn	P	00 41 21.2	-1.3
	comp=Z,0.1nm,0.3s,baz=183,slow=14,SNR=2.7						

*IDC **16** 00:38:44.7±1.0,10.°75S×165.°93E,h0km,mb4.1/6, mb1 4.2/6,mb1mx3.9/27,mbtmp4.0/6, Error ellipse: s-maj=39.7km s-min=26.3km az=112.0*
*ISCJB **16** 00:38:51.7±1.1,10.°9S±0.°1×165.°8E±0.°2,h61km,mb4.1/6, Error ellipse: s-maj=29.3km s-min=18.0km az=171.5*

ISC 16 00:38:53.3±1.0,10.°97S±0.°10×165.°9E±0.°2,h61km,n10, σ1§25/11,mb3.9/6,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	11.05	177	Pn	Pn	00 41 30.3	+1.5
	1.2nm,0.3s,baz=90,slow=20,SNR=10						
DZM				Sn	Sn	00 43 28.2	-2.7
	0.3nm,0.3s,baz=270,slow=20,SNR=3.0						
WRA	Warramunga Arr	31.66	250	P	P	00 45 11.2	+0.1
	1.0nm,0.8s,baz=80,slow=9.0,SNR=4.5						
RPZ	Rata Peaks	32.93	173	P	P	00 45 22.4	+0.5
	12nm,0.8s,baz=295,slow=4.2,SNR=6.6						
ASAR	Alice Springs	32.97	243	P	P	00 45 22.3	-0.3
	0.9nm,1.0s,baz=72,slow=9.3,SNR=4.2						
ILAR	Eielson Array	83.39	18	P	P	00 51 12.9	-0.7
	0.5nm,0.5s,baz=238,slow=4.9,SNR=8.4						
MAW	Mawson	84.85	202	P	P	00 51 22.1	+1.1
	1.8nm,0.6s,baz=280,slow=6.1,SNR=4.2						
MKAR	Makanchi Array	93.57	317	P	P	00 52 02.1	-0.7
	0.4nm,0.7s,baz=111,slow=5.4,SNR=5.1						
KEST	Kesra	147.45	323	PKPbc	PKPdf	00 58 29.1	+0.6
	0.7nm,0.6s,baz=263,slow=19,SNR=3.1						
ESDC	Sonseca Array	150.03	344	PKPbc	PKPbc	00 58 37.1	-0.4
	0.2nm,0.4s,baz=351,slow=2.5,SNR=3.7						
TORD	Torodi Ar. Bea	164.41	280	PKP	PKPdf	00 58 50.9	-0.2
	0.4nm,0.7s,baz=11,slow=0.8,SNR=2.6						

*KLM **16** 00:52:50.3,1.°67S×118.°22E,h58km,mb5.0,ML6.1,MS6.0*
*IDC **16** 00:52:53.1±0.5,1.°50S×119.°30E,h0km,mb4.4/21, mb1 4.5/23,mb1mx4.4/35,mbtmp4.4/23,ML4.2/2,MS4.9/23, Ms1 4.9/23,ms1mx4.8/30, Error ellipse: s-maj=18.6km s-min=11.0km az=72.0*
*MOS **16** 00:52:56.4±1.0,1.°37S×119.°41E,h30km,mb5.2/41, MS4.9/7, Error ellipse: s-maj=11.3km s-min=6.0km az=116.6*
*ISCJB **16** 00:52:57.4±0.3,1.°52S±0.°02×119.°32E±0.°02,h39km±3km, mb4.9/85,MS4.9/32, Error ellipse: s-maj=4.0km s-min=3.6km az=137.4*
*DJA **16** 00:52:57.1±0.2,2.°S±2.°×11.°9E±.°,h10km,M5.2/26, mb5.1/24,mB5.6/18,MLv5.6/26,Mw(mB)5.1/18,Mwp5.5/1*
*BJI **16** 00:53:00.9,1.°40S×119.°40E,h50km,mb4.9/58,mB5.2/50, Ms5.2/64,Ms7 4.9/61*
*NEIC **16** 00:53:01.1±0.5,1.°46S×119.°35E,h55km±5km,mb5.2/40, Error ellipse: s-maj=5.7km s-min=4.5km az=68.0*
NEIC Felt [V] in northern Mamuju.
*GCMT **16** 00:53:01.0±0.1,1.°41S×119.°42E,h12km,MW5.4/115, Moment Tensor Solution. s68,c103; s115,c212; Duration: 1§2 Moment tensor: Scale 10^17^Nm; Mrr0.33±.02; Mθθ0.27±.02; Mϕϕ-0.60±.02; Mrθ-0.50±.04; Mθϕ-1.18±.01; Mϕr-0.36±.05; Best double couple: Mo1.37800×10^17^ NP1:ϕs79.00000°,δ90.00000°, λ-156.00000°. NP2:ϕs348.00000°,δ66.00000°,λ0.00000°. Principal axes: T 1.1560, Plg16.0000°, Azm211.0000°; N 0.4450, Plg66.0000°, Azm79.0000°; P -1.6000, Plg17.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 16 00:53:00.4±0.3,1.°51S±0.°03×119.°40E±0.°04,h47km±2km, n322,σ1§67/358,mb5.1/95,MS5.0/32,17C-9D,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	Palu	0.74	36	P	Pn	00 53 10.6	-4.1
PCI				S	Sn	00 53 23.3	-1.7
TTSI	Tana Toraja	1.58	165	P	Pn	00 53 24.8	-1.2
TTSI				S	Sn	00 53 48.8	+3.5
MPSI	Mapaga	1.90	15	P	Pn	00 53 26.6	-3.8
APSI	Ampana	2.33	75	P	Pn	00 53 37.0	+0.8
SPSI	Sidrap Palu	2.46	171	P	Pn	00 53 36.2	-1.9
BKB	Balikpapan	2.51	276	P	Pn	00 53 34.8	-4.0
TOLI	Toli-Toli	2.96	28	*e*Pn	Pn	00 53 44.2	-0.8
TOLI				eSn	Sn	00 54 21.4	+2.0
MRSI	Marisa	3.22	52	P	Pn	00 53 45.5	-3.0
LUWI	Luwuk	3.41	82	P	Pn	00 53 50.8	-0.2
LUWI	Luwuk	3.41	82	*e*Pn	Pn	00 53 53.5	+2.4
LUWI				eSn	Sn	00 54 30.3	+0.1
KAPI	Kappang	3.50	174	Pn	Pn	00 53 50.9	-1.4
	3μm,0.8s,SNR=64						
KAPI	Kappang	3.50	174	Pn	Pn	00 53 50.2	-2.1
	22nm,0.3s,baz=342,slow=12,SNR=52						
KAPI				LR	LR	00 55 13.0	
	comp=Z,18μm,21.0s,baz=353,slow=40						
KAPI	Kappang	3.50	174	*e*Pn	Pn	00 53 50.9	-1.4
KBKI	Kotabaru	3.68	241	P	Pn	00 53 50.8	-4.1
BKSI	Bulukumba	3.85	169	P	Pn	00 53 56.5	-0.7
KDI	Kendari	4.03	127	P	Pn	00 54 00.5	+0.8
BSSI	Bau Bau, Buton	4.73	167	P	Pn	00 54 09.1	-0.1
BBKI	Banjar Baru	4.95	247	P	Pn	00 54 09.1	-3.1
KMSI	Cibinong	5.03	66	P	Pn	00 54 16.0	+2.6
	3μm,1.0s,25μm27nm						
TSM	Tawau	5.96	345	⇑P	Pn	00 54 20.3	-6.0
SANI	Sanana	6.61	95	P	Pn	00 54 33.1	-2.0
	218nm,0.9s,3μm13μm4.4nm						
MMRI	Maumere	7.62	158	P	Pn	00 54 48.9	0.0
	145nm,1.2s,1.1nm						
MMRI	Maumere	7.62	158	*e*Pn	Pn	00 54 51.8	+2.9
KMMI	Kalianget	7.72	224	P	Pn	00 54 47.6	-2.7
	85nm,1.1s,5μm4.3nm						
NLAI	Namlea	7.88	103	P	Pn	00 54 54.3	+1.8
	184nm,0.9s,2μm0.9nm						
SGSI	Sangihe	8.01	50	P	Pn	00 54 54.6	+0.3
	264nm,0.5s,19μm						
STKI	Sintang	8.07	281	P	Pn	00 54 56.7	+1.6
	68nm,1.0s,18μm0.9nm						
LBMI	Labuha	8.15	84	P	Pn	00 54 54.8	-1.4
	549nm,0.9s,4μm						
KKM	Kota Kinabalu	8.15	337	*e*Pn	Pn	00 54 54.7	-1.6
SBUM	Sibu	8.18	299	*e*Pn	Pn	00 54 57.4	+0.8
DNP	Denpasar	8.25	210	P	Pn	00 54 56.5	-1.0
	252nm,0.5s						
TNTI	Ternate	8.29	74	P	Pn	00 55 02.1	+4.1
TNTI	Ternate	8.29	74	*e*Pn	Pn	00 55 01.8	+3.7
BASI	Baing, Sumba	8.73	172	P	Pn	00 55 02.9	-1.2
	632nm,1.4s,13μm		

1.5nm,0.3s,baz=347,slow=11,SNR=3.7
FAKI Fak Fak 12.92 96 P Pn 00 56 02.4 +0.9
67nm,1.2s,2µm
FAKI Fak Fak 12.92 96 *e*Pn Pn 00 55 58.2 -3.3
CISI Cisompet, Garu 13.01 242 P P 00 56 11.3 -0.7
CISI Cisompet, Garu 13.01 242 *e*Pn **Pn 00 56 02.1 -0.7**
CBJI Citeko 13.43 248 P P 00 56 20.0 +3.4
CGJI Cibinong 14.58 249 P P 00 56 29.4 0.0
KLSI 14.98 258 P P 00 56 34.3 +0.4
KASI Kota Agung 15.39 255 P P 00 56 38.6 +0.1
MDSI Maura Dua 15.48 259 P Pn 00 56 31.6 -4.1
56nm,2.0s,1µm
LHSI Lahat 16.02 261 P P 00 56 47.4 +2.0
BCPH Baguio City Da 17.82 4 ⇓ *i*P **Pn 00 57 05.2 0.0**
BKNI Bangkinang 18.45 276 *e*P **P 00 57 07.9 -4.4**
91nm,1.0s
PDSI Padang 18.94 272 P Pn 00 57 26.5 +7.7
SZP Santa 18.97 3 *e*P **P 00 57 17.5 -0.4**
427nm,1.9s
IPM Ipoh 19.30 288 *e*P **P 00 57 21.2 -0.4**
88nm,1.4s
SMPI Sarmi 19.31 92 P Pn 00 57 29.1 +6.0
MBWA Marble Bar 19.53 179 *e*P **Pn 00 57 25.6 0.0**
112nm,1.3s
KULM Kulim 19.91 290 *e*P **P 00 57 27.6 -0.6**
240nm,1.8s
MNSI Mandailing Nat 19.95 276 P Pn 00 57 32.3 +1.6
GENI Genyem 20.78 93 P Pn 00 57 42.5 +1.9
PSI Prapat 20.91 282 P P 00 57 36.3 -3.0
2.0nm,0.4s,baz=108,slow=9.6,SNR=3.4
PSI LR LR 01 08 07.7
comp=Z,7µm,18.8s,baz=113,slow=44
PSI Prapat 20.91 282 P P 00 57 36.3 -3.0
PSI pmax pmax
comp=Z,2.0nm,0.4s
PSI MLR MLR
comp=Z,7µm,18.8s
PSI Prapat 20.91 282 *e*P **P 00 57 40.3 +1.1**
UBPT Khong Chiam 21.64 321 P P 00 57 46.9 0.0
comp=Z,75nm,1.6s,comp=Z,1µm
TRTT Trang 21.74 296 P P 00 57 51.1 +3.1
comp=Z,41nm,1.8s,comp=Z,2µm
GSI Gunungsitoli 22.00 277 P P 00 57 54.0 +3.2
GSI Gunungsitoli 22.00 277 *e*P **P 00 57 50.6 -0.2**
comp=Z,208nm,1.6s
KRAB Krabi 22.34 296 P P 00 57 56.9 +2.4
comp=Z,28nm,0.9s,comp=Z,919nm
SURA Surathani 22.37 299 P P 00 57 57.0 +2.2
comp=Z,141nm,1.1s
QIZ Qiongzhong 22.47 336 P P 00 57 56.8 +1.0
QIZ pP **pP 00 58 06.8 -0.2**
QIZ sP **sP 00 58 12.8 -0.2**
QIZ S **S 01 02 01.0 +1.5**
QIZ PMZ
comp=Z,26nm,1.4s
QIZ LN
comp=Z,4µm,17.0s
QIZ LZ
comp=Z,5µm,18.3s
SURT Suratani 23.01 297 P P 00 58 02.9 +1.3
comp=Z,20nm,1.2s,comp=Z,535nm
LHMI Lhok Sumawe 23.40 287 P P 00 58 09.5 +4.1
LHMI Lhok Sumawe 23.40 287 *e*P **P 00 58 05.0 -0.4**
comp=Z,401nm,1.6s
WRA Warramunga Arr 23.43 142 P P 00 58 03.2 -2.4
comp=Z,29nm,1.0s,baz=320,slow=9.9,SNR=50
WRA LR LR 01 09 04.4
comp=Z,7µm,18.3s,baz=325,slow=41
WRAB Tennant Creek 23.43 142 P P 00 58 05.7 +0.1
comp=Z,787nm,1.6s,SNR=10
WRAB Tennant Creek 23.43 142 *e*P **P 00 58 05.4 -0.2**
WRAB pmax pmax
comp=Z,739nm,1.7s
WRAB Tennant Creek 23.43 142 *e*P **P 00 58 05.8 +0.1**
comp=Z,407nm,1.5s
NAYO Nakonayok 23.83 312 P P 00 58 09.3 0.0
comp=Z,140nm,1.2s,comp=Z,11µm
SKNT Sakolnakorn 23.85 321 P P 00 58 08.3 -1.2
comp=Z,91nm,0.9s,comp=Z,3µm
YULB Yu-li 24.82 4 *e*P **P 00 58 18.5 +0.2**
comp=Z,53nm,1.2s
SSLB Suanglung 25.19 3 *e*P **P 00 58 22.1 +0.4**
comp=Z,24nm,0.9s
PBKT Sadao Pong 25.57 315 P P 00 58 25.9 +0.8
comp=Z,42nm,1.2s,comp=Z,2µm
UTHA Uthaitani 26.02 311 P P 00 58 31.9 +2.7
comp=Z,4.8nm,0.7s,comp=Z,142nm
AS12 Alice Springs 26.13 149 *e*P **P 00 58 30.9 +0.6**
AS12 *e*PcP **PcP 01 01 56.2 -0.7**
AS12 *e*S S 01 03 13.1 +14
ASAR Alice Springs 26.13 149 P P 00 58 30.9 +0.6
comp=Z,7.1nm,0.8s,baz=319,slow=7.2,SNR=29
ASAR PcP **PcP 01 01 56.2 -0.7**
comp=Z,1.3nm,0.7s,baz=335,slow=2.1,SNR=7.0
ASAR S S 01 03 13.1 +14
comp=Z,1.3nm,1.1s,baz=338,slow=24,SNR=2.8
ASAR LR LR 01 10 01.9
comp=Z,7µm,20.0s,baz=324,slow=39
ASAR Alice Springs 26.13 149 P P 00 58 30.9 +0.6
ASAR 01 01 56.2
ASAR pmax pmax
comp=Z,7.0nm,0.8s
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR MLR MLR
comp=Z,7µm,20.0s
AS01 Alice Springs 26.15 148 *e*P **P 00 58 30.4 0.0**
QZH Quanzhou 26.31 358 ⇑ *i*P **P 00 58 33.8 +2.0**
QZH S **S 01 02 58.3 -3.1**
QZH LN
comp=Z,4µm,12.8s
QZH LE
comp=Z,3µm,14.8s
QZH LZ
comp=Z,5µm,16.6s
COEN Coen 26.57 119 *e*P **P 00 58 35.9 +1.7**
comp=Z,402nm,2.9s
UTTA Uttaradit 26.66 317 P P 00 58 36.2 +1.2
comp=Z,3.8nm,1.1s,comp=Z,76nm
CM01 Chiang Mai Arr 28.23 315 *e*P **P 00 58 47.9 -1.1**
CM01 *e*PcP **PcP 01 02 03.8 +1.9**
CM31 Chiang Mai Arr 28.26 316 *e*P **P 00 58 48.6 -0.8**
CMAR Chiang Mai Arr 28.26 316 P P 00 58 48.6 -0.8
comp=Z,1.9nm,0.7s,baz=142,slow=7.3,SNR=11
CMAR LR LR 01 13 30.4
comp=Z,4µm,18.9s,baz=146,slow=44
CMAR Chiang Mai Arr 28.26 316 P P 00 58 48.6 -0.8
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR MLR MLR
comp=Z,4µm,18.9s
CHTO Chiang Mai 28.50 316 *e*P P 00 58 45.8 -5.8
CHTO pmax pmax
comp=Z,91nm,2.3s
CHTO Chiang Mai 28.50 316 *e*P P 00 58 45.8 -5.8
comp=Z,91nm,2.3s
CRAI Chiangrai 28.54 320 P P 00 58 48.4 -3.5
comp=Z,8.1nm,2.2s,comp=Z,2µm
GUMO Guam 29.37 58 LR LR 01 10 16.3
comp=Z,1µm,20.7s,baz=235,slow=35
JOW Kunigami 29.45 16 LR LR 01 09 48.7
comp=Z,280nm,21.2s,baz=126,slow=34
FORT Forrest 30.24 165 *e*P **P 00 59 04.6 -2.2**
comp=Z,966nm,3.0s
GYA Guiyang 30.40 337 P P 00 59 11.0 +2.6
GYA pP **pP 00 59 22.8 +1.9**
GYA sP **sP 00 59 29.0 +2.5**
GYA PP **PnPn 01 00 11.4 +3.0**
GYA S **S 01 04 07.3 +1.2**
GYA sS **sS 01 04 28.8 +1.7**
GYA SS **ScP 01 05 50.0 +3.8**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,4.9s
GYA LN
comp=Z,620nm,17.8s
GYA LE
comp=Z,540nm,18.0s
GYA LZ
comp=Z,660nm,17.9s
KMI Kunming 31.01 330 P P 00 59 15.3 +1.4
KMI pP **pP 00 59 26.8 +0.4**
KMI sP **sP 00 59 32.1 +0.1**
KMI S S 01 04 24.0 +8.1
KMI PMZ
comp=Z,10.0nm,1.2s
KMI PMZ
comp=Z,290nm,5.0s
KMI LN
comp=Z,470nm,12.5s
KMI LE
comp=Z,4µm,15.2s
KMI LZ
comp=Z,3µm,17.5s
NWAO Narrogin (SRO) 31.32 184 P P 00 59 13.4 -2.9
comp=Z,12nm,0.8s,baz=150,slow=14,SNR=2.7
NWAO LR LR 01 12 42.5
comp=Z,24nm,20.0s,baz=330,slow=38
CTA Charters Tower 32.09 127 LR LR 01 13 19.8
comp=Z,2µm,20.5s,baz=293,slow=38
WHN Wuhan 32.24 352 P P 00 59 25.9 +1.5
WHN S **S 01 04 39.4 +5.0**
WHN LN
comp=Z,6µm,15.0s
WHN LE
comp=Z,4µm,12.6s
WHN LZ
comp=Z,7µm,17.3s
SSE Sheshan 32.47 3 P P 00 59 26.4 0.0
SSE sP **sP 00 59 43.8 -0.7**
SSE S **S 01 04 37.0 -1.0**
SSE sS **sS 01 04 59.8 +0.7**
SSE ScS **ScS 01 09 48.9 -3.4**
SSE PMZ
comp=Z,18nm,0.7s
SSE PMZ
comp=Z,110nm,7.0s
SSE LN
comp=Z,1µm,17.7s
SSE LE
comp=Z,270nm,17.6s
SSE LZ
comp=Z,1µm,16.4s
ENH Enshi 32.99 344 *e*P **P 00 59 30.9 -0.2**
comp=Z,21nm,0.8s
NJ2 Nanjing 33.38 359 *e*P **P 00 59 35.4 +1.0**
NJ2 pP **pP 00 59 46.3 -0.6**
NJ2 sP **sP 00 59 51.5 -1.0**
NJ2 S **S 01 04 53.0 +0.8**
NJ2 sS **sS 01 05 12.0 -1.3**
NJ2 PMZ
comp=Z,20nm,0.7s
NJ2 PMZ
comp=Z,290nm,4.7s
NJ2 LN
comp=Z,6µm,18.9s
NJ2 LE
comp=Z,2µm,21.5s
NJ2 LZ
comp=Z,2µm,20.4s
BBOO Buckleboo 34.85 155 *e*P **P 00 59 48.9 +1.7**
comp=Z,36nm,1.1s
CD2 Chengdu 35.51 336 P P 00 59 52.3 -0.6
CD2 pP **pP 01 00 04.1 -1.4**
CD2 sP **sP 01 00 09.6 -1.5**
CD2 PP **PP 01 01 13.6 -0.7**
CD2 S **S 01 05 25.8 +0.6**
CD2 sS **sS 01 05 46.3 -0.1**
CD2 PMZ
comp=Z,50nm,0.8s
CD2 PMZ
comp=Z,510nm,4.7s
CD2 LN
comp=Z,2µm,15.6s
CD2 LE
comp=Z,4µm,12.7s
CD2 LZ
comp=Z,3µm,16.7s
XAN Xi'an 36.71 345 P P 01 00 02.8 -0.3
XAN pP **pP 01 00 14.8 -0.9**
XAN PP **PP 01 01 27.1 -0.4**
XAN S **S 01 05 46.3 +2.8**
XAN sS **sS 01 06 05.6 +0.9**
XAN PcS **PcS 01 06 10.8 -2.3**
XAN ScS **ScS 01 10 16.4 +1.4**
XAN PMZ
comp=Z,3.0nm,0.9s
XAN PMZ
comp=Z,40nm,5.6s
XAN LN
comp=Z,2µm,16.4s
XAN LE
comp=Z,640nm,16.4s
XAN LZ
comp=Z,740nm,15.4s
STKA Stephens Creek 36.75 148 P P 01 00 04.0 +0.5
comp=Z,15nm,1.0s,baz=324,slow=7.7,SNR=8.0
STKA LR LR 01 18 14.1
comp=Z,3µm,18.0s,baz=319,slow=41
STKA Stephens Creek 36.75 148 P P 01 00 04.0 +0.5
STKA pmax pmax
comp=Z,15nm,1.0s
STKA MLR MLR
comp=Z,3µm,18.0s
STKA Stephens Creek 36.75 148 *e*P **P 01 00 04.6 +1.1**
comp=Z,17nm,1.5s
EIDS Eidsvold 38.67 130 *e*P **P 01 00 18.5 -1.3**
comp=Z,93nm,1.8s
KS15 Wonju Array Si 39.55 11 *e*P **P 01 00 26.6 -0.2**
KSRS Korea Array 39.57 11 P P 01 00 26.6 -0.4
comp=Z,2.3nm,0.6s,baz=179,slow=10,SNR=12
KSRS LR LR 01 18 09.6
comp=Z,401nm,19.4s,baz=192,slow=38
KSRS Korea Array 39.57 11 P P 01 00 26.6 -0.4
KSRS pmax pmax
comp=Z,2.0nm,0.6s
KSRS MLR MLR
comp=Z,401nm,19.4s
PALK Pallekele 39.58 283 *e*P **P 01 00 29.1 +1.5**
PALK pmax pmax
comp=Z,70nm,1.8s
PALK Pallekele 39.58 283 *e*P **P 01 00 29.1 +1.5**
comp=Z,70nm,1.8s
KS01 Wonju Array Si 39.58 11 *e*P **P 01 00 27.2 0.0**
LZH Lanzhou 40.12 340 P P 01 00 33.0 +1.1
LZH pP **pP 01 00 45.3 +0.7**
LZH sP **sP 01 00 49.6 -0.6**
LZH PP **PnPn 01 02 09.5 +0.8**
LZH S **S 01 06 35.5 +0.4**
LZH sS **sS 01 06 59.4 +2.9**
LZH SS **SS 01 09 27.8 -6.5**
LZH PMZ
comp=Z,22nm,1.0s
LZH PMZ
comp=Z,130nm,4.9s
LZH LN
comp=Z,490nm,12.6s
LZH LE
comp=Z,640nm,13.8s
LZH LZ
comp=Z,800nm,14.2s
LSA Lhasa 41.13 321 P P 01 00 40.3 -0.3
LSA Lhasa 41.13 321 *e*P **P 01 00 41.7 +1.1**
LSA pmax pmax
comp=Z,24nm,1.1s
LSA Lhasa 41.13 321 *e*P **P 01 00 41.7 +1.1**
comp=Z,24nm,1.1s
BJT Baijiatuau 41.44 356 *e*P **P 01 00 42.5 +0.1**
BJT pmax pmax
comp=Z,77nm,0.9s
BJT Baijiatuau 41.44 356 *e*P **P 01 00 42.5 +0.1**
comp=Z,77nm,0.9s
BJI Beijing 41.46 356 P P 01 00 42.4 -0.2
BJI S **S 01 06 58.0 +3.5**
BJI PMZ
comp=Z,55nm,0.8s
BJI LN
comp=Z,2µm,20.9s
BJI LE
comp=Z,330nm,16.1s
BJI LZ
comp=Z,2µm,20.9s
MAJO Matsushiro 41.71 23 *e*P P 01 00 39.6 -5.2
MAJO pmax pmax
comp=Z,59nm,1.6s
MAJO Matsushiro 41.71 23 *e*P P 01 00 39.6 -5.2
comp=Z,59nm,1.6s
MJAR Matsushiro Arr 41.71 23 P P 01 00 42.0 -2.8
comp=Z,3.6nm,0.9s,baz=193,slow=9.8,SNR=6.1
MJAR LR LR 01 16 27.6
comp=Z,2µm,21.8s,baz=200,slow=34
MJAR Matsushiro Arr 41.71 23 P P
MJAR pmax pmax
comp=Z,4.0nm,0.9s
ODAN Odare 41.80 315 *e*P **P 01 00 45.1 -0.8**
comp=Z,62nm,1.1s
TAPN Taplejung 41.87 316 *e*P **P 01 00 45.8 -0.8**
comp=Z,108nm,1.2s
RAMN Ramite 42.42 314 *e*P **P 01 00 50.2 -0.8**
comp=Z,108nm,1.3s
HHC Hu-ho-hao-te 42.76 351 *e*P **P 01 00 54.4 +1.0**
HHC pP **pP 01 01 07.5 +1.3**
HHC sP **sP 01 01 12.8 +1.0**
HHC PP **PP 01 02 35.6 +2.3**
HHC S **S 01 07 19.0 +4.9**
HHC sS **sS 01 07 36.5 +1.0**
HHC ScS **ScS 01 10 49.1 -1.4**
HHC PMZ
comp=Z,44nm,0.9s
HHC PMZ
comp=Z,220nm,5.7s
HHC LN
comp=Z,2µm,13.5s
HHC LE
comp=Z,1µm,13.3s
HHC LZ
comp=Z,2µm,13.5s
SNY Shenyang 43.30 5 ⇓ *i*P **P 01 00 57.5 -0.1**
SNY S **S 01 07 21.8 +0.1**
SNY PMZ
comp=Z,13nm,1.7s
SNY PMZ
comp=Z,150nm,8.8s
SNY LN
comp=Z,750nm,13.3s
SNY LE
comp=Z,2µm,15.5s
SNY LZ
comp=Z,1µm,16.8s
TRD Trivandrum 43.46 284 ⇓ *e*P P 01 00 55.2 -4.1
GUN Gumba 43.50 315 *e*P **P 01 00 59.0 -0.9**
comp=Z,82nm,0.9s
PKI Pulchoki 43.64 314 *e*P **P 01 00 59.6 -1.3**
comp=Z,30nm,0.8s
KKN Kakani 43.86 314 *e*P **P 01 01 02.3 -0.3**
comp=Z,32nm,0.8s
DMN Daman 43.88 314 *e*P **P 01 01 02.6 -0.2**
comp=Z,43nm,0.8s
GKN Gorkha 44.44 314 *e*P **P 01 01 06.0 -1.2**
comp=Z,57nm,1.1s
GTA Gaotai 44.52 338 *e*P **P 01 01 07.9 +0.4**
GTA pP **pP 01 01 20.3 -0.1**
GTA sP **sP 01 01 25.8 -0.2**
GTA PcP **PP 01 02 53.3 +1.1**
GTA S **S 01 07 39.8 0.0**
GTA sS **sS 01 07 59.3 -2.0**
GTA SS SS 01 10 49.4 -12
GTA PMZ
comp=Z,19nm,1.4s
GTA PMZ
comp=Z,210nm,6.7s
GTA LN
comp=Z,2µm,17.6s
GTA LE
comp=Z,2µm,16.2s
GTA LZ
comp=Z,2µm,19.5s
KOLN Koldanda 45.06 313 *e*P **P 01 01 11.1 -1.1**
comp=Z,48nm,1.0s
CN2 Changchun 45.44 6 *e*P P 01 01 18.1 +3.5
CN2 *e*S **S 01 07 54.8 +2.1**
CN2 SS **ScS 01 11 11.5 +4.4**
CN2 PMZ
comp=Z,10.0nm,0.5s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,1µm,14.0s
CN2 LE
comp=Z,900nm,14.0s
CN2 LZ
comp=Z,900nm,16.0s
MDJ Mudanjiang 46.82 10 P P 01 01 25.9 +0.4
MDJ pP **pP 01 01 37.8 -0.6**
MDJ sP **sP 01 01 41.8 -2.2**
MDJ PcP **PcP 01 02 58.6 +0.6**
MDJ S **S 01 08 11.0 -1.5**
MDJ sS **sS 01 08 35.0 +0.8**
MDJ PMZ
comp=Z,33nm,1.2s
MDJ PMZ
comp=Z,110nm,6.0s
MDJ LN
comp=Z,410nm,13.1s
MDJ LE
comp=Z,1µm,17.5s
MDJ LZ
comp=Z,1µm,19.7s
MDJ Mudanjiang 46.82 10 *e*P **P 01 01 26.1 +0.7**
comp=Z,185nm,1.8s
USRK Ussuriysk Ar. 46.88 12 P P 01 01 25.0 -1.0
comp=Z,3.3nm,0.6s,baz=180,slow=5.9,SNR=16
DZM Mont Dzumac 50.09 118 *e*S **S 01 09 01.2 +1.7**
comp=Z,800nm,35.0s
DZM *e*LR LR 01 16 28.8
comp=Z,2µm,23.4s
SONA0 Songino Array 50.44 349 *e*P **P 01 01 52.8 -0.6**
SONM Songino Array 50.44 349 P P 01 01 52.8 -0.6
comp=Z,5.1nm,0.7s,baz=164,slow=9.6,SNR=12
SONM LR LR 01 25 59.6
comp=Z,840nm,18.5s,baz=164,slow=39
SONM Songino Array 50.44 349 P P 01 01 52.8 -0.6
SONM pmax pmax
comp=Z,5.0nm,0.7s
SONM MLR MLR
comp=Z,840nm,18.5s
SONA1 Songino Array 50.45 349 *e*P **P 01 01 53.2 -0.3**
HIA Hailar 50.58 0 *e*P **P 01 01 53.1 -1.2**
HIA pmax pmax
comp=Z,76nm,1.9s
HIA Hailar 50.58 0 *e*P **P 01 01 53.1 -1.2**
comp=Z,76nm,1.9s
YUK Yuzh-Kuril'sk 51.15 24 *d i*P **P 01 01 57.5 -1.1**
YUK *i* PPP PPP 01 04 54.8
YUK *i* S **S 01 09 12.8 -0.5**
YUK pmax pmax
comp=Z,140nm,4.1s
KLR Kul'dur 51.66 10 *e*P P 01 01 58.0 -4.4
KLR *e* 01 02 03.0
KLR pmax pmax
comp=Z,110nm,1.8s
WMQ Urumqi 53.31 332 P P 01 02 15.9 +1.1
WMQ pP **pP 01 02 27.3 -0.7**
WMQ sP **sP 01 02 34.9 +1.5**
WMQ PcP **PcP 01 03 23.4 +1.5**
WMQ ScP **ScP 01 07 15.8 -0.1**
WMQ S **S 01 09 41.9 -1.2**
WMQ sS **sS 01 10 03.3 -1.8**
WMQ ScS **ScS 01 11 56.6 -3.9**
WMQ PMZ
comp=Z,16nm,0.5s
WMQ PMZ
comp=Z,170nm,4.2s
WMQ LN
comp=Z,2µm,23.2s
WMQ LE
comp=Z,1µm,21.0s
WMQ LZ
comp=Z,1µm,20.5s
ZAK Zakamensk 53.51 347 *e*P **P 01 02 14.4 -1.8**
ZAK pmax pmax
comp=Z,6.0nm,1.8s
TLY Talaya 54.65 348 *e*P **P 01 02 24.6 +0.2**
TLY *e* 01 04 26.2
TLY *e*PPP PPP 01 05 42.1
TLY pmax pmax
comp=Z,23nm,1.7s
TLY Talaya 54.65 348 *e*P **P 01 02 23.0 -1.4**
comp=Z,10nm,0.8s
MOY Mondy 55.23 346 *e*P **P 01 02 29.7 +1.0**
MOY pmax pmax
comp=Z,43nm,2.0s
HVS Khovu-Aksy 56.83 341 *e*P **P 01 02 40.2 +0.1**
KSH Kashi 56.98 321 *e*P **P 01 02 41.6 +0.2**
KSH *e*sP **sP 01 03 03.6 +3.4**
KSH PcP **PcP 01 03 35.3 -0.9**

KSH PP **PP** **01 04 52.0 +3.5**
KSH PcS **PcS** **01 07 39.3 +2.1**
KSH S **S** **01 10 31.6 -0.9**
KSH sS **sS** **01 10 55.6 +0.9**
KSH SS **SS** **01 14 24.4 +2.7**
KSH PMZ
comp=Z,98nm,3.5s
KSH LN
comp=Z,240nm,7.6s
KSH LE
comp=Z,860nm,16.0s
NKL Nikolayevsk 57.31 15 *e*P **P** **01 02 41.8 -1.5**
NKL *e* 01 10 40.0
NKL MLR MLR
comp=N,900nm,18.0s
NKL MLR MLR
comp=E,700nm,18.0s
MK01 Makanchi Array 58.06 331 *e*P **P** **01 02 47.9 -0.9**
MK31 Makanchi Array 58.08 331 *i* P **P** **01 02 48.4 -0.5**
MK31 pmax pmax
comp=Z,31nm,1.2s
MK32 Makanchi Array 58.08 331 *e*P **P** **01 02 48.3 -0.7**
MKAR Makanchi Array 58.08 331 P **P** **01 02 48.3 -0.6**
comp=Z,8.0nm,0.9s,baz=136,slow=7.6,SNR=43
MKAR LR LR 01 29 59.7
comp=Z,677nm,21.6s,baz=138,slow=38
MKAR Makanchi Array 58.08 331 P **P** **01 02 48.3 -0.6**
MKAR pmax pmax
comp=Z,8.0nm,1.0s
MKAR MLR MLR
comp=Z,677nm,21.6s
MKAR Makanchi Array 58.08 331 *e*P **P** **01 02 48.5 -0.4**
CLNS Chul'man 58.33 4 *e*P P 01 02 56.4 +5.9
CLNS pmax pmax
comp=N,20nm,1.1s
CLNS pmax pmax
comp=Z,20nm,1.2s
CLNS pmax pmax
comp=E,13nm,1.2s
TKM2 Tokmak 2 59.19 324 *e*P **P** **01 02 57.3 +0.4**
TKM2 pmax pmax
comp=Z,40nm,1.8s
TKM2 Tokmak 2 59.19 324 *e*P **P** **01 02 57.3 +0.4**
comp=Z,40nm,1.8s
KBL Kabul 59.22 312 *e*P **P** **01 02 55.8 -1.6**
KBL pmax pmax
comp=Z,22nm,1.0s
KBL Kabul 59.22 312 *e*P **P** **01 02 55.8 -1.6**
comp=Z,22nm,1.0s
BOD Bodaibo 59.30 357 *e*P **P** **01 02 57.2 0.0**
BOD pmax pmax
comp=Z,18nm,2.0s
AAK Ala-Archa 59.68 323 *e*P **P** **01 03 01.2 +0.9**
AAK pmax pmax
comp=Z,13nm,1.2s
AAK Ala-Archa 59.68 323 *e*P **P** **01 03 01.2 +0.9**
comp=Z,12nm,1.2s
EKS2 Erkin-Say 60.13 323 *e*P **P** **01 03 02.8 -0.5**
EKS2 pmax pmax
comp=Z,12nm,1.1s
EKS2 Erkin-Say 60.13 323 *e*P **P** **01 03 02.8 -0.5**
comp=Z,12nm,1.1s
OUZ Omahuta 60.41 130 *e*P **P** **01 03 03.5 -1.7**
comp=Z,186nm,2.0s
ZAA0 Zalesovo Array 62.27 338 *e*P **P** **01 03 15.4 -1.9**
ZALV Zalesovo Beam 62.27 338 P **P** **01 03 15.9 -1.5**
comp=Z,11nm,0.8s,baz=135,slow=5.6,SNR=43
ZALV Zalesovo Beam 62.27 338 P **P** **01 03 15.9 -1.5**
ZALV pmax pmax
comp=Z,11nm,0.8s
ZAA1 Zalesovo Array 62.27 338 *e*P **P** **01 03 15.9 -1.5**
KKAR Karatay Array 62.38 321 *e*P **P** **01 03 18.8 +0.4**
KKAR Karatay Array 62.38 321 *e*P **P** **01 03 18.8 +0.4**
KURK Kurchatov 62.55 332 P **P** **01 03 18.0 -1.3**
comp=Z,125nm,1.1s,SNR=30
KURK Kurchatov 62.55 332 *e*P **P** **01 03 18.5 -0.8**
KURK pmax pmax
comp=Z,28nm,1.1s
KURK Kurchatov 62.55 332 *e*P **P** **01 03 18.5 -0.8**
comp=Z,28nm,1.1s
PETK Petropavlovsk- 63.12 25 P **P** **01 03 22.8 -0.3**
comp=Z,2.0nm,0.4s,baz=173,slow=13,SNR=3.6
PETK LR LR 01 29 21.1
comp=Z,482nm,21.9s,baz=225,slow=35
PEA2 Petropavlovsk- 63.13 25 *e*P **P** **01 03 22.8 -0.3**
PAF Port-aux-Franc 63.44 214 S S 01 12 30.0 +35
PAF R 01 22 00.0
PET Petropavlovsk 63.47 25 *e*P P 01 03 30.3 +4.9
PET *e*S **S** **01 11 57.4 +2.5**
PET pmax pmax
comp=Z,200nm,12.1s
NVS Novosibirsk 63.55 338⇑ *i*P **P** **01 03 24.0 -1.9**
NVS pmax pmax
comp=N,16nm,1.6s
NVS pmax pmax
comp=E,19nm,1.6s
NVS pmax pmax
comp=Z,35nm,1.6s
YAK Yakutsk 63.86 5 *e*P **P** **01 03 26.0 -1.7**
YAK *e**PP pP 01 03 34.9 -6.3
YAK *e* 01 04 03.3
YAK *e*S **S** **01 11 56.5 -2.9**
YAK *e* 01 12 13.5
YAK *e* 01 13 17.5
YAK pmax pmax
comp=Z,37nm,1.0s
YAK pmax pmax
comp=N,18nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK pmax pmax
comp=Z,11nm,0.5s
YAK pmax pmax
comp=N,7.0nm,0.6s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK smax smax
comp=N,5.0nm,0.4s
YAK smax smax
comp=E,2.0nm,0.3s
YAK MLR MLR
comp=Z,736nm,19.0s
YAK MLR MLR
comp=E,322nm,15.0s
YAK MLR MLR
comp=N,507nm,16.0s
CASY Casey 64.94 184 *e*P **P** **01 03 35.2 +0.4**
comp=N,123nm,2.6s
DRV Dumont d'Urvil 66.62 171 S S 01 12 16.0 -17
DRV L L 01 20 00.0
DRV R 01 27 00.0
IMYA Miami 66.63 311 *e*P **P** **01 03 46.5 0.0**
IMOG Moghan 67.13 310 *e*P **P** **01 03 49.7 -0.2**
IAKL Akhelmad 67.74 311 *e*P **P** **01 03 53.6 -0.1**
BVA0 Borovoye Array 67.96 331 *i* P **P** **01 03 53.2 -1.2**
BVA0 pmax pmax
comp=Z,21nm,1.3s
IKRD Kardeh 67.98 311 *e*P P 01 03 51.7 -3.5
BRVK Borovoye 68.03 331 P **P** **01 03 53.7 -1.1**
comp=Z,105nm,1.0s,SNR=8.2
BRVK Borovoye 68.03 331 *e*P **P** **01 03 53.7 -1.1**
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 68.03 331 *e*P **P** **01 03 53.7 -1.1**
comp=Z,20nm,1.0s
ISHV Shirvan 68.84 311 *e*P **P** **01 04 01.3 +0.8**
SEY Seymchan 68.88 15 *e*P **P** **01 04 00.7 +0.8**
ISRV Sarvestan 70.24 302 *e*P **P** **01 04 08.9 -0.4**
ISAD Sadrabad 70.37 305 *e*P **P** **01 04 09.9 -0.2**
IKAZ Kazeroun 71.41 302 *e*P **P** **01 04 15.2 -1.3**
AB31 Akbulak array 71.75 324 P **P** **01 04 16.8 -1.0**
AB31 pmax pmax
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 71.75 324 *e*P **P** **01 04 16.8 -0.9**
TIXI Tiksi 73.29 3 *e*P **P** **01 04 24.7 -1.7**
TIXI pmax pmax
comp=Z,23nm,1.0s
TIXI Tiksi 73.29 3 *e*P **P** **01 04 24.6 -1.9**
comp=Z,30nm,1.2s
AKTO Aktyubinsk 73.38 324 P **P** **01 04 25.9 -1.5**
AKTO pmax pmax
comp=Z,24nm,1.5s
SVE Sverdlovsk 74.75 331⇑ *i*P **P** **01 04 35.2 0.0**
SVE *e* 01 07 23.0
SVE *e*S S 01 14 14.1 +6.1
SVE *e* 01 14 53.4
SVE pmax pmax
comp=Z,42nm,1.3s
ADK Adak 75.41 35 *e*P **P** **01 04 37.3 -1.9**
ADK pmax pmax
comp=Z,150nm,1.5s
ADK Adak 75.41 35 *e*P **P** **01 04 37.3 -1.9**
comp=Z,150nm,1.5s
ARU Arti 75.59 330 *c i*P **P** **01 04 38.7 -1.4**
ARU 01 07 25.9
ARU S **S** **01 14 18.5 +1.1**
ARU SS **SS** **01 19 15.5 +6.2**
ARU pmax pmax
comp=Z,19nm,1.2s
ARU Arti 75.59 330 *e*P **P** **01 04 38.0 -2.1**
comp=Z,18nm,1.0s
RAYN Ar Rayn 75.87 295 *e*P **P** **01 04 42.3 -0.1**
comp=Z,67nm,1.7s
MAW Mawson 76.38 199 P **P** **01 04 43.8 -0.6**
comp=Z,6.1nm,1.1s,baz=38,slow=9.2,SNR=5.5
MAW LR LR 01 38 25.2
comp=Z,1µm,18.1s,baz=56,slow=36
MAW Mawson 76.38 199 *e*P **P** **01 04 44.7 +0.3**
MAW pmax pmax
comp=Z,6.0nm,1.6s
MAW Mawson 76.38 199 *e*P **P** **01 04 44.6 +0.3**
comp=Z,6.0nm,1.6s
BILL Bilibino 76.54 16⇓ *e*P **P** **01 04 45.6 +0.3**
BILL *e* 01 04 56.8
BILL *e*SS SS 01 19 20.7 -2.6
BILL pmax pmax
comp=Z,6.0nm,1.2s
MAK Makhachkala 77.86 314 *e*P **P** **01 04 52.1 -1.1**
MAK *e* 01 05 00.7
MAK *e* 01 07 45.0
MAK *e*PPP PPP 01 09 34.2
MAK *e*S **S** **01 14 44.0 +1.3**
MAK *e* 01 15 03.4
MAK *e*SS **SS** **01 19 49.4 +5.2**
MAK pmax pmax
comp=Z,35nm,0.4s
VNDA Vanda 79.28 171 P **P** **01 04 59.9 -0.5**
comp=Z,3.7nm,0.7s,baz=316,slow=6.3,SNR=25
VNDA LR LR 01 40 52.5
comp=Z,1µm,18.4s,baz=336,slow=36
VNDA Vanda 79.28 171 *e*P **P** **01 05 01.2 +0.8**
VNDA pmax pmax
comp=Z,19nm,1.4s
VNDA Vanda 79.28 171 *e*P **P** **01 05 01.2 +0.8**
comp=Z,19nm,1.4s
SBA Scott Base 80.27 171 *e*P **P** **01 05 07.4 +1.7**
SBA pmax pmax
comp=Z,63nm,2.0s
SBA Scott Base 80.27 171 *e*P **P** **01 05 07.4 +1.7**
comp=Z,63nm,2.0s
ZEI Tsey 80.41 314 *e*P **P** **01 05 06.7 -0.7**
ZEI pmax pmax
comp=Z,11nm,0.4s
KBZ Khabaz 81.31 315 P **P** **01 05 11.4 -0.5**
comp=Z,1.9nm,0.8s,baz=185,slow=3.0,SNR=4.1
KBZ LR LR 01 48 23.1
comp=Z,447nm,19.2s,baz=100,slow=41
KIV Kislovodsk 81.50 315 *e*P **P** **01 05 11.3 -1.8**
KIV *e*PPP PPP 01 10 07.1
KIV *e*S **S** **01 15 19.7 -1.7**
KMBO Kilima Mbogo 82.12 269 P **P** **01 05 16.7 -0.4**
comp=Z,0.6nm,0.3s,baz=333,slow=5.1,SNR=2.3
KMBO LR LR 01 38 40.7
comp=Z,825nm,21.0s,baz=110,slow=34
KMBO Kilima Mbogo 82.12 269 *e*P **P** **01 05 16.7 -0.4**
KMBO pmax pmax
comp=Z,345nm,2.9s
KMBO Kilima Mbogo 82.12 269 *e*P **P** **01 05 16.7 -0.4**
comp=Z,344nm,2.9s
VRHR Novokhopersk 83.50 322 *e*P **P** **01 05 21.5 -1.7**
VRHR pmax pmax
comp=Z,8.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.6s
SOC Sochi 83.56 314 *e*P P 01 05 20.4 -3.3
SOC *e* 01 08 33.5
SOC *e*S **S** **01 15 39.4 -2.9**
SOC pmax pmax
comp=Z,43nm,1.0s
OPA Opana 83.67 68 *e*P P 01 05 20.4 -4.3
OPA Opana 83.67 68 *e*P P 01 05 20.4 -4.3
VORD Divnogorie 84.93 321 *e*P **P** **01 05 28.8 -1.6**
VORD pmax pmax
comp=Z,20nm,1.3s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,30nm,0.9s
SYO Syowa Base 84.94 201⇑ *e*P P 01 05 33.2 +3.1
VSR Storozhevoye 85.05 322 *e*P **P** **01 05 28.6 -2.4**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,9.0nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.0s
ANN Anapa 85.35 315 *e*P P 01 05 37.9 +5.2
ANN *e*S **S** **01 16 02.5 +2.5**
ANN pmax pmax
comp=Z,35nm,1.1s
LPSR Galich'ya Gora 85.40 323 *e*P **P** **01 05 31.6 -1.2**
LPSR pmax pmax
comp=Z,20nm,1.5s
LPSR pmax pmax
comp=N,5.0nm,0.5s
LPSR pmax pmax
comp=E,20nm,1.5s
MOS Moscow 86.60 326 *e*P **P** **01 05 37.1 -1.5**
MOS pmax pmax
comp=Z,35nm,1.2s
OBN Obninsk 87.12 325 *c i*P **P** **01 05 39.9 -1.2**
OBN *e* 01 05 46.5
OBN *i* 01 09 04.3
OBN *i*S S 01 16 03.0 -14
OBN pmax pmax
comp=Z,19nm,1.0s
BR101 Keskin Array S 87.69 310 *e*P **P** **01 05 42.5 -2.0**
BRTR Keskin Array B 87.69 310 P **P** **01 05 42.5 -2.0**
comp=Z,13nm,1.1s,baz=124,slow=5.4,SNR=19
BRTR LR LR 01 51 23.4
comp=Z,303nm,20.1s,baz=104,slow=40
SIM Simferopol' 87.71 315 *e*P **P** **01 05 44.0 -0.3**
SIM *e*S S 01 16 11.0 -12
SIM *e*PS PS 01 17 57.0 +26
SIM pmax pmax
comp=Z,12nm,0.9s
BR231 Keskin MP Arra 88.36 310 *e*P P 01 05 43.4 -4.2
TBI Tubuai 90.46 113 *e*SS SS 01 22 56.5 +5.4
comp=Z,302nm,27.5s
TBI Tubuai 90.46 113 *e*LR LR 01 35 00.7
comp=Z,596nm,32.5s
PPT2 Papeete2 90.53 108 *e*S **S** **01 16 50.3 -0.3**
comp=Z,145nm,25.5s
PPT2 *e*SS **SS** **01 22 59.0 +6.5**
comp=Z,353nm,31.0s
PPT2 Papeete2 90.53 108 *e*LR LR 01 35 02.7
comp=Z,2µm,39.0s
PPT Papeete 90.53 107 LR LR 01 49 06.2
comp=Z,99nm,18.0s,baz=266,slow=37
AKASG Malin Array Be 91.27 321 P **P** **01 05 59.0 -1.8**
comp=Z,1.1nm,0.6s,baz=76,slow=4.6,SNR=5.2
AKASG LR LR 01 54 43.1
comp=Z,543nm,18.5s,baz=75,slow=41
AKASG Malin Array Be 91.27 321 P **P** **01 05 59.0 -1.8**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 91.27 321 *e*P **P** **01 05 59.0 -1.8**
AKBB Malin Array Si 91.27 321 *e*P **P** **01 05 59.0 -1.8**
KIEV Kiev 91.28 320 *e*P **P** **01 05 59.7 -1.1**
CFR Carcaliu 91.95 315⇑ *i*P **P** **01 06 02.5 -1.6**
CFR Carcaliu 91.95 315⇑ *i*P **P** **01 06 02.5 -1.6**
ARA0 ARCESS Array S 92.77 339 *e*P **P** **01 06 07.9 +0.5**
ARCES ARCESS Array B 92.77 339 P **P** **01 06 07.9 +0.5**
comp=Z,1.2nm,0.6s,baz=46,slow=3.9,SNR=2.9
ARCES ARCESS Array B 92.77 339 P **P** **01 06 07.9 +0.5**
ARCES pmax pmax
comp=Z,1.0nm,0.6s
BOSA Boshof 92.92 241 LR LR 01 44 20.2
comp=Z,1µm,19.1s,baz=104,slow=33
VRI Vrincioaia 92.94 316⇑ P **P** **01 06 07.9 -0.8**
VRI Vrincioaia 92.94 316⇑ *i*P **P** **01 06 07.9 -0.8**
ILAR Eielson Array 92.95 25 P **P** **01 06 08.1 -0.2**
comp=Z,0.2nm,0.7s,baz=270,slow=6.3,SNR=3.4
ILB Eielson Array 92.95 25 *e*P **P** **01 06 08.1 -0.2**
TESR Tescani 92.98 316⇑ *i*P **P** **01 06 06.9 -2.0**
PLOR Plostina 92.99 316⇑ P **P** **01 06 08.2 -0.8**
PLOR Plostina 92.99 316⇑ *i*P **P** **01 06 08.2 -0.8**
MLR Muntele Rosu 93.50 315⇓ P **P** **01 06 09.9 -1.5**
MLR Muntele Rosu 93.50 315⇓ *i*P **P** **01 06 09.9 -1.5**
BURAR Bucovina Array 93.93 317⇓ P P 01 06 09.9 -3.4
BURAR Bucovina Array 93.93 317⇓ *i*P P 01 06 09.9 -3.4
BUR04 Bucovina Ar. S 93.94 317 *e*P **P** **01 06 12.5 -0.9**
LOT Lotru 95.03 315⇑ *i*P **P** **01 06 17.1 -1.3**
DRGR 95.68 317⇑ P **P** **01 06 20.5 -0.8**
DRGR 95.68 317⇑ *i*P **P** **01 06 20.5 -0.8**
KOLS Kolonicke sedl 95.82 319 *e*P **P** **01 06 22.9 +1.1**
KOLS Kolonicke sedl 95.82 319 *e*P **P** **01 06 22.8 +1.0**
STHS Stebnicka Huta 96.46 319 *e*P **P** **01 06 24.3 -0.4**
STHS Stebnicka Huta 96.46 319 *e*P **P** **01 06 24.3 -0.4**
KECS Kecovo 97.04 319 *e*P Pdif 01 06 27.3 -0.2
KECS Kecovo 97.04 319 *e*P Pdif 01 06 27.3 -0.2
OKC Ostrava-Krasne 98.41 320 *e*PP PP 01 10 37.5 +3.6
OKC AMS AMS 01 59 20.0
comp=Z,500nm,16.3s
SMOL Smolenice 99.06 319 *e*P **Pdif** **01 06 35.8 -0.6**
SMOL Smolenice 99.06 319 PDIF **Pdif** **01 06 35.8 -0.6**
DPC Dobruska-Polom 99.50 321 *e*PP PP 01 10 42.6 +0.3
DPC AMS AMS 01 56 40.0
comp=Z,600nm,22.0s
NB200 NORSAR Array S 100.06 332 *e*Pdif **Pdif** **01 06 37.9 -2.7**
NOA NORSAR Array B 100.06 332 P **Pdif** **01 06 37.9 -2.7**
comp=Z,0.6nm,0.8s,baz=73,slow=4.6,SNR=2.7
NOA NORSAR Array B 100.06 332 P **Pdif** **01 06 37.9 -2.7**
NOA pmax pmax
comp=Z,1.0nm,0.8s
TREC Trest 100.20 320 AMS AMS 02 00 20.0
comp=Z,500nm,19.4s
GOPC GO Pecny, Ondr 100.55 320 *e*PP PP 01 10 49.2 -1.0
GOPC *e*SP SP 01 19 46.7 +1.3
GOPC AMS AMS 02 00 30.0
comp=Z,500nm,16.9s
PVCC Panska Ves 100.57 321 AMS AMS 02 00 30.0
comp=Z,600nm,18.8s
PRU Pruhonice 100.69 321 *e*PP PP 01 10 48.6 -2.6
PRU *e*SP SP 01 19 44.0 -2.9
PRU AMS AMS 02 00 50.0
comp=Z,500nm,17.6s
PRA Prague 100.74 321 *e*SP SP 01 19 47.0 -0.4
PRA AMS AMS 02 04 10.0
comp=Z,500nm,16.3s
CLL Collm 101.39 322 *e*SS SS 01 25 24.0 -0.4
CLL *e*PPPrev 01 31 18.0
CLL LmV 02 04 00.0
comp=Z,700nm,18.2s
KHC Kasperske Hory 101.46 320 *e*PP PP 01 10 54.1 -3.1
KHC *e*SP SP 01 19 52.8 -2.5
KHC AMS AMS 02 01 20.0
comp=Z,800nm,18.2s
RKT Rikitea 103.75 114 *e*LR LR 01 41 14.6
comp=Z,648nm,30.5s
TOA0 Torodi Ar. Sit 117.30 284 *e*PKPdf **PKPdf** **01 11 41.7 0.0**
TORD Torodi Ar. Bea 117.30 284 PKP **PKPdf** **01 11 41.7 0.0**
comp=Z,0.4nm,0.8s,baz=60,slow=3.5,SNR=4.0
RSSD Black Hills 122.75 36 *e*PKIKP **PKPdf** **01 11 51.3 -0.4**
RSSD Black Hills 122.75 36 *e*PKPdf **PKPdf** **01 11 51.3 -0.4**
PHWY Pilot Hill 123.45 40 *e*PKPdf **PKPdf** **01 11 53.0 -0.2**
ANMO Albuquerque 125.94 47 *i* PKIKP **PKPdf** **01 11 56.4 -1.7**
ANMO pmax pmax
comp=Z,23nm,2.5s
LPM Los Pinos Moun 126.10 48 *e*PKPdf **PKPdf** **01 11 57.5 -0.9**
LPAZ La Paz 160.81 157 PKP **PKPdf** **01 12 57.5 +0.3**
comp=Z,2.1nm,0.9s,baz=239,slow=3.7,SNR=6.4
LPAZ PKPab **PKPab** **01 13 40.0 +0.8**
comp=Z,1.8nm,0.7s,baz=163,slow=4.6,SNR=6.2
LPAZ La Paz 160.81 157 PKIKP **PKPdf** **01 12 57.5 +0.3**
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
SAML Samuel 169.29 166 *e*PKPdf **PKPdf** **01 13 04.2 +0.6**

*CSEM **16** 01:00:19.0±0.4, 39.53°N×21.57°E, h20km, Error ellipse: s-maj=7.5km s-min=6.0km az=107.0*
ATH 16 01:00:19.1, 39.51N×21.56E, h14km±9km, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THL	**Klokotos Trika**	**0.36**	**81**		*e*PG		Pg	01 00 25.4	-0.9
THL					*e*SB		Sg	01 00 31.8	+0.6
THL	**Klokotos Trika**	**0.36**	**81**		*e*Pg		Pg	01 00 25.4	-0.9
THL					*e*Sb		Sg	01 00 31.8	+0.6
DSL	**Palaion Diasel**	**0.52**	**224**		*e*PB		Pg	01 00 29.4	0.0
DSL	**Palaion Diasel**	**0.52**	**224**		*e*Pb		Pg	01 00 29.4	0.0
EVR	**Evrytania**	**0.62**	**162**		*e*PB		Pg	01 00 30.3	-1.2
EVR					*e*SB		Sb	01 00 40.5	-0.1
EVR	**Evrytania**	**0.62**	**162**		*e*Pb		Pg	01 00 30.3	-1.2
EVR					*e*Sb		Sb	01 00 40.5	-0.1
MAKR	**Makrakomi, Fth**	**0.67**	**138**		*e*PG		Pg	01 00 31.8	-0.4
MAKR					*e*SB		Sb	01 00 42.6	+0.9
MAKR	**Makrakomi, Fth**	**0.67**	**138**		*e*Pg		Pg	01 00 31.8	-0.4
MAKR					*e*Sb		Sb	01 00 42.6	+0.9
AGG	**Agios Georgios**	**0.77**	**129**		*e*PB		Pg	01 00 33.2	-1.0
AGG					*e*SB		Sn	01 00 46.1	-1.0
AGG	**Agios Georgios**	**0.77**	**129**		*e*Pb		Pg	01 00 33.2	-1.0
AGG					*e*Sb		Sn	01 00 46.1	-1.0
KZN	**Kozani**	**0.81**	**11**		*e*PG		Pg	01 00 34.3	-0.7
KZN					*e*SB		Sb	01 00 46.9	+0.8
KZN	**Kozani**	**0.81**	**11**		*e*Pg		Pg	01 00 34.3	-0.7
KZN					*e*Sb		Sb	01 00 46.9	+0.8
PDO	**Prodromos**	**0.96**	**198**		*e*PN		Pg	01 00 37.8	+0.2
PDO	**Prodromos**	**0.96**	**198**		*e*Pn		Pg	01 00 37.8	+0.2
EFP	**Efpalio**	**1.11**	**166**		*e*PB		Pb	01 00 40.2	0.0
EFP	**Efpalio**	**1.11**	**166**		*e*Pb		Pb	01 00 40.2	0.0
KALE	**Kalithea**	**1.21**	**158**		*e*PB		Pg	01 00 42.8	+0.4
KALE	**Kalithea**	**1.21**	**158**		*e*Pb		Pg	01 00 42.8	+0.4
DRO	**Drossia**	**1.56**	**176**		*e*PB		Pg	01 00 50.3	+1.2

*CSEM **16** 01:01:22.0, 39.50N×21.60E, h28km, MD3.0*
ATH 16 01:01:22.0, 39.50N×21.60E, h28km±1km, MD3.0/16, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THL	**Klokotos Trika**	**0.33**	**78**		*e*PB		Pb	01 01 28.7	-1.0
THL					*e*SB		Sb	01 01 35.3	+0.4
THL	**Klokotos Trika**	**0.33**	**78**		*e*Pb		Pb	01 01 28.7	-1.0
THL					*e*Sb		Sb	01 01 35.3	+0.4
DSL	**Palaion Diasel**	**0.54**	**227**		*e*PN		Pb	01 01 32.6	-0.4
DSL	**Palaion Diasel**	**0.54**	**227**		*e*Pn		Pb	01 01 32.6	-0.4
EVR	**Evrytania**	**0.60**	**164**		*e*PB		Pb	01 01 33.7	-0.5
EVR					*e*SN		Sn	01 01 44.4	+0.6
EVR	**Evrytania**	**0.60**	**164**		*e*Pb		Pb	01 01 33.7	-0.5
EVR					*e*Sn		Sn	01 01 44.4	+0.6
MAKR	**Makrakomi, Fth**	**0.64**	**139**		*e*PN		Pn	01 01 35.0	-0.2
MAKR					*e*SN		Sn	01 01 45.9	+1.4
MAKR	**Makrakomi, Fth**	**0.64**	**139**		*e*Pn		Pn	01 01 35.0	-0.2
MAKR					*e*Sn		Sn	01 01 45.9	+1.4
AGG	**Agios Georgios**	**0.74**	**130**		*e*PN		Pn	01 01 36.6	-0.1
AGG					*e*SN		Sn	01 01 48.4	+1.4
AGG	**Agios Georgios**	**0.74**	**130**		*e*Pn		Pn	01 01 36.6	-0.1
AGG					*e*Sn		Sn	01 01 48.4	+1.4
LIT	**Litokhoron**	**0.91**	**49**		*e*PN		Pb	01 01 39.5	+0.2
LIT					*e*SN		Sn	01 01 53.5	+2.2
LIT	**Litokhoron**	**0.91**	**49**		*e*Pn		Pb	01 01 39.5	+0.2
LIT					*e*Sn		Sn	01 01 53.5	+2.2
PDO	**Prodromos**	**0.96**	**200**		*e*PN		Pb	01 01 40.8	+0.8
PDO	**Prodromos**	**0.96**	**200**		*e*Pn		Pb	01 01 40.8	+0.8
IGT	**Igoumenitsa**	**0.98**	**272**		*e*PN		Pb	01 01 41.7	+1.3
IGT	**Igoumenitsa**	**0.98**	**272**		*e*Pn		Pb	01 01 41.7	+1.3
NEST	**Nestorio**	**1.01**	**335**		*e*PN		Pb	01 01 41.0	0.0
NEST					*e*SN		Sb	01 01 55.7	+1.7
NEST	**Nestorio**	**1.01**	**335**		*e*Pn		Pb	01 01 41.0	0.0
NEST					*e*Sn		Sb	01 01 55.7	+1.7
LKD2	**Lefkada island**	**1.02**	**226**		*e*PN		Pb	01 01 42.1	+1.0
LKD2	**Lefkada island**	**1.02**	**226**		*e*Pn		Pb	01 01 42.1	+1.0
EFP	**Efpalio**	**1.10**	**167**		*e*PN		Pb	01 01 42.4	0.0
EFP					*e*SN		Sb	01 01 58.0	+1.7
EFP	**Efpalio**	**1.10**	**167**		*e*Pn		Pb	01 01 42.4	0.0

EFP				eSn	Sb	01 01 58.0	+1.7	
KALE	**Kalithea**	**1.19**	**159**	ePN	Pb	01 01 43.9	0.0	
KALE				eSN	Sb	01 02 00.8	+1.9	
KALE	**Kalithea**	**1.19**	**159**	ePn	Pb	01 01 43.9	0.0	
KALE				eSn	Sb	01 02 00.8	+1.9	
FNA	**Florina**	**1.29**	**352**	ePN	Pb	01 01 45.5	-0.3	
FNA				eSN	Sb	01 02 03.9	+1.8	
FNA	**Florina**	**1.29**	**352**	ePn	Pb	01 01 45.5	-0.3	
FNA				eSn	Sb	01 02 03.9	+1.8	
DSF	**Desfina**	**1.31**	**146**	ePB	Pb	01 01 45.4	-0.6	
DSF				eSN	Sb	01 02 04.0	+1.6	
DSF	**Desfina**	**1.31**	**146**	ePb	Pb	01 01 45.4	-0.6	
DSF				eSn	Sb	01 02 04.0	+1.6	
KLV	**Kalavryta, Ach**	**1.52**	**163**	ePN	Pb	01 01 50.3	+0.7	
KLV	**Kalavryta, Ach**	**1.52**	**163**	ePn	Pb	01 01 50.3	+0.7	
DRO	**Drossia**	**1.55**	**177**	ePN	Pb	01 01 51.5	+1.4	
DRO	**Drossia**	**1.55**	**177**	ePn	Pb	01 01 51.5	+1.4	

*ISK **16** 01:01:59.7,38°.81N×26°.81E,h16km, ML3.5*
*ISCJB **16** 01:01:59.8±0.5,38°.81N±0°.01×26°.79E±0°.02,h14km±3km, Error ellipse: s-maj=2.6km s-min=2.4km az=6.8*
*ATH **16** 01:01:59.5,38°.82N×26°.82E,h28km±1km, MD3.5/14*
*DDA **16** 01:02:00.2,38°.89N×26°.85E,h29km, MD3.2*
*CSEM **16** 01:02:00.4±0.1,38°.80N×26°.81E,h15km, MD3.2, Error ellipse: s-maj=1.7km s-min=1.6km az=70.0*
*THE **16** 01:02:01.2,38°.80N×26°.75E,h15km, ML3.1/7, Error ellipse: s-maj=1.1km s-min=0.4km az=258.0*

ISC 16 01:02:00.3±0.9, 38°.81N±0°.01×26°.80E±0°.02, h15km±8km, n200, σ0°68/253, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.46**	**156**	ePG	**Pg**	**01 02 09.3**	**-0.2**
BLCB				eSG	**Sg**	**01 02 15.9**	**+0.2**
BLCB	**Balcova**	**0.46**	**156**	ePg	**Pg**	**01 02 09.3**	**-0.2**
BLCB	**Balcova**	**0.46**	**156**	eSg	**Sg**	**01 02 16.0**	**+0.2**
URLA	**Izmir**	**0.48**	**200**	*i* P	**Pb**	**01 02 10.3**	**-0.2**
URLA				*i* S	**Sb**	**01 02 17.8**	**+0.5**
URLA	**Izmir**	**0.48**	**200**	*i* P	**Pb**	**01 02 10.3**	**-0.2**
URLA				*i* S	**Sb**	**01 02 17.8**	**+0.5**
AYVA	**Ayvalik**	**0.51**	**350**	*i* P	**Pg**	**01 02 09.8**	**-0.5**
AYVA				*i* S	**Sg**	**01 02 17.0**	**-0.1**
AYVA	**Ayvalik**	**0.51**	**350**	*i* P	**Pg**	**01 02 09.8**	**-0.5**
AYVA				*i* S	**Sg**	**01 02 17.0**	**-0.1**
IZM	**Izmir**	**0.55**	**139**	ePG	**Pg**	**01 02 10.9**	**-0.2**
IZM				eSG	**Sg**	**01 02 18.9**	**+0.5**
IZM	**Izmir**	**0.55**	**139**	ePg	**Pg**	**01 02 10.9**	**-0.2**
IZM	**Izmir**	**0.55**	**139**	eSg	**Sb**	**01 02 18.9**	**-0.4**
PRK	**Paraskevi**	**0.60**	**317**	P	**Pb**	**01 02 12.5**	**-0.1**
PRK				S	**Sb**	**01 02 21.1**	**+0.2**
PRK	**Paraskevi**	**0.60**	**317**	ePN	**Pg**	**01 02 12.1**	**0.0**
PRK				eSN	**Sb**	**01 02 20.6**	**-0.3**
PRK	**Paraskevi**	**0.60**	**317**	ePn	**Pg**	**01 02 12.1**	**0.0**
PRK	**Paraskevi**	**0.60**	**317**	P	**Pb**	**01 02 12.5**	**-0.1**
PRK				eSn	**Sb**	**01 02 20.6**	**-0.3**
PRK				S	**Sb**	**01 02 21.1**	**+0.2**
CHOS	**Chios island**	**0.72**	**234**	ePG	**Pb**	**01 02 15.0**	**+0.3**
CHOS	**Chios island**	**0.72**	**234**	P	**Pg**	**01 02 14.4**	**0.0**
CHOS				S	**Sg**	**01 02 24.1**	**+0.1**
CHOS	**Chios island**	**0.72**	**234**	ePN	**Pg**	**01 02 14.3**	**-0.1**
CHOS				eSN	**Sb**	**01 02 24.9**	**+0.4**
CHOS	**Chios island**	**0.72**	**234**	ePN	**Pg**	**01 02 14.4**	**0.0**
CHOS				eSN	**Sb**	**01 02 24.5**	**0.0**
CHOS	**Chios island**	**0.72**	**234**	P	**Pg**	**01 02 14.4**	**0.0**
CHOS	**Chios island**	**0.72**	**234**	ePg	**Pb**	**01 02 15.0**	**+0.3**
CHOS				S	**Sg**	**01 02 24.1**	**+0.1**
AKHS	**Akhisar**	**0.79**	**85**	*i* P	**Pg**	**01 02 15.2**	**-0.5**
AKHS				*i* S	**Sb**	**01 02 26.6**	**+0.2**
AKHS	**Akhisar**	**0.79**	**85**	*i* P	**Pg**	**01 02 15.2**	**-0.5**
AKHS				*i* S	**Sb**	**01 02 26.6**	**+0.2**
AKS	**Akhisar**	**0.79**	**85**	ePG	**Pg**	**01 02 15.3**	**-0.4**
AKS				eSG	**Sb**	**01 02 27.0**	**+0.7**
AKS	**Akhisar**	**0.79**	**85**	ePg	**Pg**	**01 02 15.3**	**-0.4**
AKS	**Akhisar**	**0.79**	**85**	eSg	**Sb**	**01 02 27.0**	**+0.7**
SIGR	**SIGRI**	**0.84**	**299**	ePG	**Pb**	**01 02 16.6**	**0.0**
SIGR	**SIGRI**	**0.84**	**299**	P	**Pb**	**01 02 16.5**	**-0.1**
SIGR				S	**Sb**	**01 02 28.5**	**+0.7**
SIGR	**SIGRI**	**0.84**	**299**	ePN	**Pb**	**01 02 16.7**	**0.0**
SIGR	**SIGRI**	**0.84**	**299**	ePN	**Pb**	**01 02 16.6**	**0.0**
SIGR				eSN	**Sb**	**01 02 28.0**	**+0.2**
SIGR	**SIGRI**	**0.84**	**299**	ePg	**Pb**	**01 02 16.6**	**0.0**
SIGR				eSn	**Sb**	**01 02 28.0**	**+0.2**
SMG	**Samos**	**1.10**	**179**	P	**Pb**	**01 02 20.5**	**-0.6**
SMG				S	**Sn**	**01 02 36.1**	**-0.1**
SMG	**Samos**	**1.10**	**179**	ePN	**Pb**	**01 02 20.4**	**-0.6**
SMG				eSN	**Sn**	**01 02 37.2**	**+1.0**
SMG	**Samos**	**1.10**	**179**	ePn	**Pb**	**01 02 20.4**	**-0.6**
SMG				S	**Sn**	**01 02 36.1**	**-0.1**
SMG				eSn	**Sn**	**01 02 37.2**	**+1.0**
BALB	**Balikesir**	**1.18**	**45**	ePN	**Pn**	**01 02 22.2**	**0.0**
BALB	**Balikesir**	**1.18**	**45**	ePn	**Pn**	**01 02 22.2**	**0.0**
BOZC	**Bozcaada**	**1.18**	**331**	*i* P	**Pn**	**01 02 21.9**	**-0.5**
BOZC				*i* S	**Sg**	**01 02 39.6**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**1.21**	**135**	ePN	**Pn**	**01 02 22.4**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.21**	**135**	ePn	**Pn**	**01 02 22.4**	**-0.5**
DEMI	**Demirci**	**1.51**	**81**	*i* P	**Pn**	**01 02 26.6**	**-0.3**
DEMI				*i* S	**Sg**	**01 02 48.8**	**-0.2**
DEMI	**Demirci**	**1.51**	**81**	*i* P	**Pn**	**01 02 26.6**	**-0.3**
DURS	**Dursunbey**	**1.52**	**58**	*i* P	**Pn**	**01 02 26.7**	**-0.3**
DURS				*i* S	**Sn**	**01 02 46.7**	**0.0**
DURS	**Dursunbey**	**1.52**	**58**	*i* P	**Pn**	**01 02 26.7**	**-0.3**
DURS				*i* S	**Sn**	**01 02 46.7**	**0.0**
GADA	**Gvkgeada**	**1.55**	**333**	ePN	**Pn**	**01 02 27.2**	**-0.2**
GADA	**Gvkgeada**	**1.55**	**333**	ePn	**Pn**	**01 02 27.2**	**-0.2**
LPK	**Lapseki**	**1.56**	**359**	ePN	**Pn**	**01 02 27.5**	**-0.1**
LPK	**Lapseki**	**1.56**	**359**	ePn	**Pn**	**01 02 27.5**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.61**	**351**	ePN	**Pn**	**01 02 28.1**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.61**	**351**	ePn	**Pn**	**01 02 28.1**	**-0.1**
DST	**Dursunbey**	**1.62**	**60**	ePN	**Pn**	**01 02 28.5**	**+0.1**
DST	**Dursunbey**	**1.62**	**60**	ePn	**Pn**	**01 02 28.5**	**+0.1**
KRBG	**Karabiga-Canak**	**1.63**	**13**	ePN	**Pn**	**01 02 27.9**	**-0.5**
KRBG	**Karabiga-Canak**	**1.63**	**13**	ePn	**Pn**	**01 02 28.0**	**-0.4**
LIA	**Limnos Island**	**1.66**	**311**	P	**Pn**	**01 02 28.6**	**-0.3**
LIA				S	**Sn**	**01 02 49.5**	**-0.5**
LIA	**Limnos Island**	**1.66**	**311**	ePN	**Pn**	**01 02 28.0**	**-0.9**
LIA				eSN	**Sb**	**01 02 51.2**	**-0.2**
LIA	**Limnos Island**	**1.66**	**311**	ePN	**Pn**	**01 02 29.1**	**+0.2**
LIA				eSN	**Sb**	**01 02 51.8**	**+0.4**
LIA	**Limnos Island**	**1.66**	**311**	P	**Pn**	**01 02 28.6**	**-0.3**
LIA	**Limnos Island**	**1.66**	**311**	ePn	**Pn**	**01 02 29.1**	**+0.2**
LIA				S	**Sn**	**01 02 49.5**	**-0.5**
LIA				eSn	**Sb**	**01 02 51.8**	**+0.4**
EDC	**Edincik**	**1.74**	**28**	ePN	**Pn**	**01 02 29.9**	**-0.1**
EDC	**Edincik**	**1.74**	**28**	ePn	**Pn**	**01 02 29.9**	**-0.1**
BNT	**Bandirma**	**1.77**	**29**	ePN	**Pn**	**01 02 30.4**	**0.0**
BNT	**Bandirma**	**1.77**	**29**	ePn	**Pn**	**01 02 30.4**	**0.0**
BODT	**Bodrum**	**1.79**	**167**	ePN	**Pn**	**01 02 29.8**	**-0.9**
BDRM	**Kayabasi**	**1.81**	**164**	*i* P	**Pn**	**01 02 30.2**	**-0.9**
BDRM				*i* S	**Sg**	**01 02 58.2**	**-0.5**
BDRM	**Kayabasi**	**1.81**	**164**	*i* P	**Pn**	**01 02 30.2**	**-0.9**
KCTX	**Karacabey (Bur**	**1.89**	**39**	ePN	**Pn**	**01 02 31.8**	**-0.3**
MRMT	**Marmara Adasi**	**1.89**	**19**	ePN	**Pn**	**01 02 32.5**	**+0.4**
MRMT	**Marmara Adasi**	**1.89**	**19**	ePn	**Pn**	**01 02 32.6**	**+0.4**
SART	**Tekirdag**	**1.90**	**9**	*i* P	**Pn**	**01 02 32.2**	**-0.1**
SART				*i* S	**Sg**	**01 03 01.1**	**-0.3**
SART	**Tekirdag**	**1.90**	**9**	*i* P	**Pn**	**01 02 32.2**	**-0.1**
SMTH	**Samothraki Isl**	**1.93**	**330**	P	**Pn**	**01 02 32.4**	**-0.2**
SMTH				S	**Sn**	**01 02 56.4**	**-0.2**
SMTH	**Samothraki Isl**	**1.93**	**330**	ePN	**Pn**	**01 02 32.4**	**-0.2**
SMTH	**Samothraki Isl**	**1.93**	**330**	ePN	**Pn**	**01 02 32.4**	**-0.2**
SMTH	**Samothraki Isl**	**1.93**	**330**	P	**Pn**	**01 02 32.4**	**-0.2**
SMTH				S	**Sn**	**01 02 56.4**	**-0.2**
ENEZ	**Enez**	**1.99**	**346**	ePN	**Pn**	**01 02 33.7**	**+0.3**
ENEZ	**Enez**	**1.99**	**346**	ePn	**Pn**	**01 02 33.7**	**+0.3**
APE	**Apeiranthos**	**2.01**	**210**	ePN	**Pn**	**01 02 34.1**	**+0.3**
APE	**Apeiranthos**	**2.01**	**210**	P	**Pn**	**01 02 32.3**	**-1.5**
APE				S	**Sn**	**01 02 59.0**	**+0.3**
APE	**Apeiranthos**	**2.01**	**210**	ePN	**Pn**	**01 02 32.3**	**-1.5**
APE	**Apeiranthos**	**2.01**	**210**	ePN	**Pn**	**01 02 32.3**	**-1.5**
APE	**Apeiranthos**	**2.01**	**210**	P	**Pn**	**01 02 32.3**	**-1.5**
APE	**Apeiranthos**	**2.01**	**210**	ePn	**Pn**	**01 02 34.1**	**+0.3**
ORLT	**Orhaneli**	**2.04**	**52**	ePN	**Pn**	**01 02 34.6**	**+0.5**
YER	**Yerkesik**	**2.04**	**145**	ePN	**Pn**	**01 02 34.3**	**+0.1**
YER	**Yerkesik**	**2.04**	**145**	ePn	**Pn**	**01 02 34.3**	**+0.1**
GDZ	**Gediz**	**2.11**	**82**	*i* P	**Pn**	**01 02 35.3**	**+0.1**
GDZ				*i* S	**Sg**	**01 03 08.7**	**+0.6**
GDZ	**Gediz**	**2.11**	**82**	*i* P	**Pn**	**01 02 35.3**	**+0.1**
TVSB	**Tavsanli**	**2.16**	**72**	ePN	**Pn**	**01 02 35.8**	**-0.2**
TVSB	**Tavsanli**	**2.16**	**72**	ePn	**Pn**	**01 02 35.8**	**-0.2**
ALN	**Alexandroupoli**	**2.16**	**345**	ePN	**Pn**	**01 02 35.5**	**-0.3**
ALN	**Alexandroupoli**	**2.16**	**345**	P	**Pn**	**01 02 35.6**	**-0.3**
ALN				S	**Sn**	**01 03 02.5**	**+0.1**
ALN	**Alexandroupoli**	**2.16**	**345**	ePN	**Pn**	**01 02 35.5**	**-0.3**
ALN	**Alexandroupoli**	**2.16**	**345**	ePN	**Pn**	**01 02 35.8**	**0.0**
ALN	**Alexandroupoli**	**2.16**	**345**	ePn	**Pn**	**01 02 35.8**	**0.0**
ALN				S	**Sn**	**01 03 02.5**	**+0.1**
KHL	**Karahalli**	**2.19**	**102**	ePN	**Pn**	**01 02 36.1**	**-0.1**
KHL	**Karahalli**	**2.19**	**102**	ePn	**Pn**	**01 02 36.1**	**-0.1**
ULDT	**Uludag**	**2.24**	**53**	*i* P	**Pn**	**01 02 37.2**	**+0.1**
ULDT				*i* S	**Sg**	**01 03 12.7**	**+0.3**
ULDT	**Uludag**	**2.24**	**53**	*i* P	**Pn**	**01 02 37.2**	**+0.1**
TKR	**Tekirdag**	**2.25**	**14**	ePN	**Pn**	**01 02 38.1**	**+1.1**
TKR	**Tekirdag**	**2.25**	**14**	ePn	**Pn**	**01 02 38.1**	**+1.1**
AOS	**Alonnisos**	**2.31**	**280**	ePN	**Pn**	**01 02 38.5**	**+0.7**
AOS	**Alonnisos**	**2.31**	**280**	ePN	**Pn**	**01 02 38.0**	**+0.2**
AOS	**Alonnisos**	**2.31**	**280**	ePn	**Pn**	**01 02 38.0**	**+0.2**
ARMT	**Armutlu**	**2.37**	**42**	ePN	**Pn**	**01 02 39.1**	**+0.5**
ARMT	**Armutlu**	**2.37**	**42**	ePn	**Pn**	**01 02 39.2**	**+0.5**
TURN	**Turunc**	**2.40**	**143**	*i* P	**Pn**	**01 02 37.6**	**-1.5**
TURN				*i* S	**Sg**	**01 03 16.3**	**-1.2**
TURN	**Turunc**	**2.40**	**143**	*i* P	**Pn**	**01 02 37.6**	**-1.5**
CRLT	**Corlu**	**2.42**	**17**	ePN	**Pn**	**01 02 39.5**	**+0.1**
CRLT	**Corlu**	**2.42**	**17**	ePn	**Pn**	**01 02 39.5**	**+0.1**
DALY	**Dalyan (Mu¨la**	**2.47**	**143**	ePN	**Pn**	**01 02 40.4**	**+0.3**
RDO	**Rodhopi**	**2.53**	**338**	P	**Pn**	**01 02 40.9**	**+0.1**
RDO				S	**Sn**	**01 03 11.3**	**-0.1**
RDO	**Rodhopi**	**2.53**	**338**	ePN	**Pn**	**01 02 41.0**	**+0.1**
RDO				eSN	**Sn**	**01 03 10.0**	**-1.4**
RDO	**Rodhopi**	**2.53**	**338**	P	**Pn**	**01 02 40.9**	**+0.1**
RDO				eSn	**Sn**	**01 03 10.0**	**-1.4**
RDO				S	**Sn**	**01 03 11.3**	**-0.1**
IZI	**Iznik**	**2.56**	**53**	ePN	**Pn**	**01 02 41.6**	**+0.2**
ALT	**Altintas**	**2.59**	**84**	ePN	**Pn**	**01 02 42.1**	**+0.3**
ALT	**Altintas**	**2.59**	**84**	ePn	**Pn**	**01 02 42.1**	**+0.3**
SLVT	**Silivri**	**2.65**	**24**	ePN	**Pn**	**01 02 43.1**	**+0.6**
SLVT	**Silivri**	**2.65**	**24**	ePn	**Pn**	**01 02 43.1**	**+0.6**
THR5	**Thira Island,**	**2.65**	**206**	ePN	**Pn**	**01 02 42.8**	**+0.2**
THR5	**Thira Island,**	**2.65**	**206**	ePn	**Pn**	**01 02 42.8**	**+0.2**
OUR	**Ouranopolis**	**2.66**	**306**	ePN	**Pn**	**01 02 43.4**	**+0.7**
OUR	**Ouranopolis**	**2.66**	**306**	ePN	**Pn**	**01 02 42.7**	**+0.1**
OUR	**Ouranopolis**	**2.66**	**306**	ePN	**Pn**	**01 02 43.0**	**+0.4**
OUR	**Ouranopolis**	**2.66**	**306**	ePn	**Pn**	**01 02 43.0**	**+0.4**
PAIG	**Paliouri**	**2.67**	**296**	ePN	**Pn**	**01 02 42.7**	**0.0**
PAIG	**Paliouri**	**2.67**	**296**	ePn	**Pn**	**01 02 42.7**	**0.0**
GOLH	**Golhisar**	**2.69**	**125**	*i* P	**Pn**	**01 02 44.7**	**+1.6**
GOLH				*i* S	**Sg**	**01 03 28.3**	**+1.7**
GOLH	**Golhisar**	**2.69**	**125**	*i* P	**Pn**	**01 02 44.7**	**+1.6**
CAVI	**Cavuskoy**	**2.73**	**58**	ePN	**Pn**	**01 02 44.5**	**+0.9**
CTKS	**Kestanelik-??a**	**2.75**	**28**	ePN	**Pn**	**01 02 44.2**	**+0.3**
CTKS	**Kestanelik-??a**	**2.75**	**28**	ePn	**Pn**	**01 02 44.2**	**+0.3**
ADVT	**Abdulvahap**	**2.79**	**54**	ePN	**Pn**	**01 02 45.0**	**+0.6**
KAVA	**Kavala**	**2.81**	**322**	ePN	**Pn**	**01 02 44.8**	**+0.1**
KAVA				eSN	**Sn**	**01 03 15.8**	**-2.4**
KAVA	**Kavala**	**2.81**	**322**	ePn	**Pn**	**01 02 44.8**	**+0.1**
KAVA				eSn	**Sn**	**01 03 15.8**	**-2.4**
BGKT	**Bogazkoy**	**2.81**	**32**	ePN	**Pn**	**01 02 45.5**	**+0.8**
BGKT	**Bogazkoy**	**2.81**	**32**	ePn	**Pn**	**01 02 45.5**	**+0.8**
ISK	**Istanbul-Kandi**	**2.84**	**37**	ePN	**Pn**	**01 02 46.0**	**+0.8**
ISK	**Istanbul-Kandi**	**2.84**	**37**	ePn	**Pn**	**01 02 46.0**	**+0.8**
SHUT	**Suhut-Afyon**	**2.94**	**94**	ePN	**Pn**	**01 02 47.2**	**+0.5**
SHUT	**Suhut-Afyon**	**2.94**	**94**	ePn	**Pn**	**01 02 47.2**	**+0.5**
HRT	**Hereke**	**2.98**	**47**	ePN	**Pn**	**01 02 47.9**	**+0.8**
HRT	**Hereke**	**2.98**	**47**	ePn	**Pn**	**01 02 47.9**	**+0.8**
KLYT	**Kilyos**	**2.98**	**34**	ePN	**Pn**	**01 02 47.9**	**+0.8**
KLYT	**Kilyos**	**2.98**	**34**	ePn	**Pn**	**01 02 47.9**	**+0.8**
BORA	**Eskisehir**	**3.02**	**68**	*i* P	**Pn**	**01 02 45.4**	**-2.3**
BORA				*i* S	**Sg**	**01 03 38.0**	**+0.5**
BORA	**Eskisehir**	**3.02**	**68**	*i* P	**Pn**	**01 02 45.4**	**-2.3**
KDZ	**Kurdzhali**	**3.03**	**340**	*i* P	**Pn**	**01 02 47.7**	**-0.1**
KDZ	**Kurdzhali**	**3.03**	**340**	*i* P	**Pn**	**01 02 47.7**	**-0.1**
PLG	**Polygyros**	**3.03**	**302**	ePN	**Pn**	**01 02 47.7**	**-0.1**
EDRB	**Edirne**	**3.03**	**359**	ePN	**Pn**	**01 02 47.9**	**+0.1**
EDRB	**Edirne**	**3.03**	**359**	P	**Pn**	**01 02 48.2**	**+0.4**
EDRB				S	**Sn**	**01 03 24.3**	**+0.4**
EDRB	**Edirne**	**3.03**	**359**	ePn	**Pn**	**01 02 47.9**	**+0.1**
EDRB	**Edirne**	**3.03**	**359**	P	**Pn**	**01 02 48.2**	**+0.4**
EDRB				S	**Sn**	**01 03 24.3**	**+0.4**
DID	**Didima**	**3.10**	**246**	ePN	**Pn**	**01 02 50.1**	**+1.4**
DID	**Didima**	**3.10**	**246**	ePn	**Pn**	**01 02 50.1**	**+1.4**
SILT	**Sile**	**3.20**	**42**	ePN	**Pn**	**01 02 50.9**	**+0.8**
SILT	**Sile**	**3.20**	**42**	ePn	**Pn**	**01 02 50.9**	**+0.8**
ELL	**Elmali**	**3.21**	**129**	ePN	**Pn**	**01 02 50.8**	**+0.5**
ELL	**Elmali**	**3.21**	**129**	ePn	**Pn**	**01 02 50.8**	**+0.5**
ESKT	**Eskisehir**	**3.22**	**76**	ePN	**Pn**	**01 02 51.4**	**+0.8**
ESKT	**Eskisehir**	**3.22**	**76**	ePn	**Pn**	**01 02 51.4**	**+0.8**
KARP	**Karpathos**	**3.27**	**175**	ePN	**Pn**	**01 02 50.6**	**-0.5**
KARP	**Karpathos**	**3.27**	**175**	ePn	**Pn**	**01 02 50.6**	**-0.5**
RZN	**Rozhen**	**3.29**	**332**	*i* P	**Pn**	**01 02 51.8**	**+0.3**
RZN	**Rozhen**	**3.29**	**332**	*i* P	**Pn**	**01 02 51.8**	**+0.3**
GULT	**Gulveren**	**3.29**	**59**	ePN	**Pn**	**01 02 52.3**	**+0.9**
SOH	**Sokhos**	**3.33**	**308**	ePN	**Pn**	**01 02 52.8**	**+0.9**
SOH	**Sokhos**	**3.33**	**308**	ePn	**Pn**	**01 02 52.8**	**+0.9**
DSF	**Desfina**	**3.37**	**265**	ePN	**Pn**	**01 02 52.8**	**+0.3**
DSF	**Desfina**	**3.37**	**265**	ePn	**Pn**	**01 02 52.8**	**+0.3**
SRS	**Serrai**	**3.38**	**314**	ePN	**Pn**	**01 02 52.7**	**+0.2**
SRS	**Serrai**	**3.38**	**314**	ePN	**Pn**	**01 02 52.8**	**+0.3**
SRS	**Serrai**	**3.38**	**314**	ePn	**Pn**	**01 02 52.8**	**+0.3**
DIM	**Dimitrovgrad**	**3.38**	**344**	*i* P	**Pn**	**01 02 52.5**	**0.0**
DIM	**Dimitrovgrad**	**3.38**	**344**	*i* P	**Pn**	**01 02 52.5**	**0.0**
NVR	**Nevrokopi**	**3.40**	**319**	ePN	**Pn**	**01 02 53.2**	**+0.4**
NVR	**Nevrokopi**	**3.40**	**319**	ePn	**Pn**	**01 02 53.2**	**+0.4**
LIT	**Litokhoron**	**3.58**	**292**	ePN	**Pn**	**01 02 56.5**	**+1.2**
LIT	**Litokhoron**	**3.58**	**292**	ePn	**Pn**	**01 02 56.5**	**+1.2**
GUR	**Goura**	**3.61**	**257**	ePN	**Pn**	**01 02 56.4**	**+0.5**
GUR	**Goura**	**3.61**	**257**	ePn	**Pn**	**01 02 56.4**	**+0.5**
NPS	**Neapolis**	**3.67**	**195**	ePN	**Pn**	**01 02 55.4**	**-1.1**
NPS	**Neapolis**	**3.67**	**195**	ePn	**Pn**	**01 02 55.4**	**-1.1**
VLI	**Veliai**	**3.71**	**237**	ePN	**Pn**	**01 02 56.8**	**-0.3**
VLI	**Veliai**	**3.71**	**237**	ePn	**Pn**	**01 02 56.8**	**-0.3**
SVRH	**Sivrihisar-ESK**	**3.72**	**79**	ePN	**Pn**	**01 02 58.7**	**+1.3**
SVRH	**Sivrihisar-ESK**	**3.72**	**79**	ePn	**Pn**	**01 02 58.7**	**+1.3**
VLX	**Vlachokerasia**	**3.78**	**249**	ePN	**Pn**	**01 02 58.7**	**+0.6**
VLX	**Vlachokerasia**	**3.78**	**249**	ePn	**Pn**	**01 02 58.7**	**+0.6**
LAST	**Lasithi**	**3.79**	**197**	ePN	**Pn**	**01 02 58.9**	**+0.6**
LAST	**Lasithi**	**3.79**	**197**	ePn	**Pn**	**01 02 58.9**	**+0.6**
KNT	**Kendrikon**	**3.81**	**309**	ePN	**Pn**	**01 03 00.0**	**+1.5**
KNT	**Kendrikon**	**3.81**	**309**	ePN	**Pn**	**01 03 00.0**	**+1.5**
KNT	**Kendrikon**	**3.81**	**309**	ePn	**Pn**	**01 03 00.0**	**+1.5**
KYTH	**Kithira**	**3.92**	**231**	ePN	**Pn**	**01 03 00.1**	**+0.1**
KYTH	**Kithira**	**3.92**	**231**	ePn	**Pn**	**01 03 00.1**	**+0.1**
ANKY	**Antikythira Is**	**4.05**	**225**	ePN	**Pn**	**01 03 01.9**	**+0.1**
ANKY	**Antikythira Is**	**4.05**	**225**	ePn	**Pn**	**01 03 01.9**	**+0.1**
KDHN	**Kadinhani**	**4.17**	**92**	*i* P	**Pn**	**01 03 03.9**	**+0.4**
KDHN	**Kadinhani**	**4.17**	**92**	*i* P	**Pn**	**01 03 03.9**	**+0.4**
SZH	**Strazhica**	**4.50**	**352**	*i* P	**Sn**	**01 03 57.4**	**-2.6**

IDC 16 01:02:10.1±48.0, 16°.43S×176°.38W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/28, mbtmp4.2/3, Error ellipse: s-maj=894.0km s-min=169.7km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.04**	**240**	P	P	01 09 55.8	+0.3
	2.4nm,0.6s,baz=90,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**46.82**	**258**	P	P	01 10 41.8	-0.3
	0.6nm,0.4s,baz=94,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**47.07**	**253**	P	P	01 10 43.9	-0.2
	5.4nm,0.6s,baz=88,slow=8.4,SNR=62						

*ATH **16** 01:13:42.9, 41°.78N×24°.12E, h11km±1km, MD2.8/10*
*BEO **16** 01:13:43.9±0.5, 41°.83N×24°.08E, h5km±7km, ML1.5/4*
*THE **16** 01:13:44.0, 41°.71N×23°.95E, h30km±1km, ML1.6/2, Error ellipse: s-maj=1.7km s-min=0.5km az=234.0*

CSEM 16 01:13:42.8±0.2, 41°.78N×24°.05E, h5km, MD2.8, Error ellipse: s-maj=3.9km s-min=3.3km az=89.0, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.45**	**198**	P	Pg	01 13 52.2	+0.6
NVR				S	Sg	01 13 58.5	+1.0
NVR	**Nevrokopi**	**0.45**	**198**	ePB	Pg	01 13 52.2	+0.6
NVR				eSB	Sb	01 13 59.2	-1.2
NVR	**Nevrokopi**	**0.45**	**198**	ePb	Pg	01 13 52.2	+0.6
NVR				S	Sg	01 13 58.5	+1.0
NVR				eSb	Sb	01 13 59.2	-1.2
PLD	**Plovdiv**	**0.59**	**56**	P	Pb	01 13 56.6	+1.0
PLD				S	Sn	01 14 06.7	-1.1
PLD	**Plovdiv**	**0.59**	**56**	ePg	Pg	01 13 53.7	-0.4
PLD				eSg	Sg	01 14 01.4	-0.4
PLD	**Plovdiv**	**0.59**	**56**	ePg	Pg	01 13 53.7	-0.4
PLD	**Plovdiv**	**0.59**	**56**	P	Pb	01 13 56.6	+1.0
PLD				eSg	Sg	01 14 01.4	-0.4
PLD				S	Sn	01 14 06.7	-1.1
SRS	**Serrai**	**0.74**	**207**	P	Pb	01 13 57.9	-0.4
SRS				S	Sg	01 14 07.8	+0.9
SRS	**Serrai**	**0.74**	**207**	ePB	Pb	01 13 58.0	-0.3
SRS				eSB	Sb	01 14 08.6	-0.2
SRS	**Serrai**	**0.74**	**207**	ePb	Pb	01 13 58.0	-0.3
SRS				S	Sg	01 14 07.8	+0.9
SRS				eSb	Sb	01 14 08.6	-0.2
KAVA	**Kavala**	**0.86**	**156**	P	Pg	01 13 58.9	-0.4
KAVA				S	Sg	01 14 10.4	0.0
KAVA	**Kavala**	**0.86**	**156**	ePG	Pg	01 13 58.5	-0.8
KAVA				eSB	Sg	01 14 10.5	+0.1
KAVA	**Kavala**	**0.86**	**156**	ePg	Pg	01 13 58.5	-0.8
KAVA	**Kavala**	**0.86**	**156**	P	Pg	01 13 58.9	-0.4
KAVA				S	Sg	01 14 10.4	0.0
VTS	**Vitosha**	**1.02**	**323**	P	Pg	01 14 02.2	-0.5

H08S3	**Diego Garcia H**	**24.40 233**	T	T	02 01 27.3		
	baz=54,slow=75,SNR=44						
H08S2	**Diego Garcia H**	**24.40 233**	T	T	02 01 24.7		
	baz=54,slow=75,SNR=40						
H08S1	**Diego Garcia H**	**24.42 233**	T	T	02 01 19.0		
	baz=54,slow=75,SNR=37						
H08N1	**Diego Garcia H**	**24.86 237**	T	T	02 01 37.8		
	baz=74,slow=20						
H08N2	**Diego Garcia H**	**24.86 237**	T	T	02 01 34.3		
	baz=74,slow=20						
H08N3	**Diego Garcia H**	**24.88 237**	T	T	02 01 40.3		
	baz=74,slow=20						
TKM2	**Tokmak 2**	**38.15 341**	*e*P	**P**	**01 37 01.3**	**+0.1**	
	6.1nm,0.6s						
EKS2	**Erkin-Say**	**38.55 338**	*e*P	**P**	**01 37 05.2**	**+0.8**	
	6.5nm,0.7s						
MK31	**Makanchi Array**	**40.09 350**	*e*P	**P**	**01 37 16.7**	**-0.4**	
MKAR	**Makanchi Array**	**40.09 350**	P	**P**	**01 37 16.5**	**-0.6**	
	2.9nm,0.7s,baz=166,slow=8.2,SNR=27						
KKAR	**Karatay Array**	**40.19 336**	*e*P	**P**	**01 37 17.8**	**-0.2**	
	4.6nm,0.7s						
SONM	**Songino Array**	**42.15 15**	P	**P**	**01 37 33.5**	**-0.7**	
	3.2nm,0.6s,baz=195,slow=7.7,SNR=6.9						
KURK	**Kurchatov**	**44.55 348**	*e*P	**P**	**01 37 52.9**	**-0.4**	
	28nm,1.4s						
ZAA0	**Zalesovo Array**	**46.75 354**	*e*P	**P**	**01 38 10.7**	**0.0**	
ZALV	**Zalesovo Beam**	**46.75 354**	P	**P**	**01 38 10.1**	**-0.6**	
	3.0nm,0.7s,baz=181,slow=7.4,SNR=14						
H01W3	**Cape Leeuwin H**	**47.05 155**	T	T	02 29 06.0		
	baz=328						
H01W2	**Cape Leeuwin H**	**47.06 155**	T	T	02 29 17.7		
	baz=328						
H01W1	**Cape Leeuwin H**	**47.06 155**	T	T	02 29 22.6		
	baz=328						
ABKAR	**Akbulak array**	**49.57 333**	*e*P	**P**	**01 38 32.3**	**-0.2**	
WRA	**Warramunga Arr**	**49.88 124**	P	**P**	**01 38 35.4**	**0.0**	
	1.0nm,0.8s,baz=309,slow=8.0,SNR=14						
WRAB	**Tennant Creek**	**49.89 124**	*e*P	**P**	**01 38 35.9**	**+0.4**	
	5.4nm,0.8s						
ASAR	**Alice Springs**	**51.40 128**	P	**P**	**01 38 47.1**	**+0.2**	
	0.2nm,0.4s,baz=299,slow=7.7,SNR=5.0						
ASAR			LR	LR	02 02 12.5		
	comp=Z,108nm,19.1s,baz=236,slow=38						
KMBO	**Kilima Mbogo**	**55.10 263**	P	**P**	**01 39 16.6**	**+2.1**	
	0.8nm,0.3s,baz=80,slow=9.9,SNR=3.6						
PMG	**Port Moresby**	**57.60 106**	*e*P	**P**	**01 39 32.0**	**0.0**	
BRTR	**Keskin Array B**	**61.01 311**	P	**P**	**01 39 53.5**	**-1.9**	
	0.4nm,0.7s,baz=132,slow=8.0,SNR=3.4						
STKA	**Stephens Creek**	**61.47 132**	P	**P**	**01 39 59.3**	**+0.9**	
	1.7nm,0.6s,baz=297,slow=9.0,SNR=2.9						
VRI	**Vrincioaia**	**67.45 317**	*i*P	P	01 40 41.8	+4.3	
PLOR	**Plostina**	**67.50 317**	*i*P	**P**	**01 40 38.6**	**+0.8**	
TESR	**Tescani**	**67.66 317**	*i*P	P	01 40 44.8	+6.1	
MLR	**Muntele Rosu**	**67.91 316**	*i*P	**P**	**01 40 40.8**	**+0.3**	
TIXI	**Tiksi**	**68.14 12**	*e*P	**P**	**01 40 39.8**	**-1.4**	
	3.5nm,0.5s						
BURAR	**Bucovina Array**	**68.86 318**	*i*P	P	01 40 54.6	+8.3	
FINES	**FINESS Array B**	**72.06 333**	P	**P**	**01 41 04.5**	**-1.0**	
	1.5nm,0.7s,baz=49,slow=6.1,SNR=6.5						
MORC	**Moravsky Berou**	**74.24 320**	*e*P	**P**	**01 41 18.6**	**0.0**	
	4.9nm,0.8s						
ARCES	**ARCESS Array B**	**74.93 341**	P	**P**	**01 41 22.2**	**0.0**	
	3.3nm,0.9s,baz=94,slow=4.8,SNR=3.2						
GERES	**GERESS Array B**	**76.65 318**	P	**P**	**01 41 32.5**	**-0.1**	
	0.8nm,0.7s,baz=71,slow=9.4,SNR=4.7						
INK	**Inuvik**	**98.06 15**	*e*P	**P**	**01 43 17.4**	**-0.3**	
	1.7nm,0.7s						

ISCJB ***16*** *01:48:27.8±0.8, 14°.3N±0°.1×145°.8E±0°.1, h96km, mb3.9/10, Error ellipse: s-maj=22.3km s-min=10.3km az=30.8*

IDC ***16*** *01:48:28.2±2.2, 14°.27N×145°.83E, h85km±18km, mb3.7/10, mb1 3.9/10, mb1mx3.7/24, mbtmp4.1/10, Error ellipse: s-maj=33.2km s-min=18.8km az=90.0*

ISC 16 01:48:29.5±1.0, 14°.3N±0°.1×145°.8E±0°.2, h96km, n15, σ0s97/13, mb4.0/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GUMO	**Guam**	**1.08**	**233**	P		**Pn**	**01 48 50.4**	**0.0**
	336nm,0.3s,baz=92,slow=2.4,SNR=107							
GUMO				S		**Sn**	**01 49 05.3**	**-0.9**
	1µm,0.3s,baz=6.0,slow=19,SNR=115							
H11S3	**WAKE ISLAND Hy**	**20.52**	**75**	T		T	02 14 37.9	
	baz=263,slow=74,SNR=9.5							
H11S1	**WAKE ISLAND Hy**	**20.54**	**75**	T		T	02 14 39.4	
	baz=263,slow=74,SNR=6.8							
H11S2	**WAKE ISLAND Hy**	**20.54**	**75**	T		T	02 14 36.9	
	baz=263,slow=74,SNR=7.8							
JNU	**Nakatsue**	**23.15**	**327**	P		**P**	**01 53 28.2**	**+0.5**
	3.6nm,0.5s,baz=70,slow=11,SNR=4.4							
KSRS	**Korea Array**	**28.03**	**329**	P		**P**	**01 54 12.3**	**+0.7**
	2.1nm,0.5s,baz=138,slow=9.2,SNR=8.1							
WRA	**Warramunga Arr**	**35.78**	**199**	P		**P**	**01 55 19.6**	**0.0**
	0.9nm,1.0s,baz=22,slow=9.5,SNR=3.3							
ASAR	**Alice Springs**	**39.42**	**197**	P		**P**	**01 55 51.2**	**+0.9**
	0.1nm,0.3s,baz=26,slow=8.7,SNR=3.1							
ZALV	**Zalesovo Beam**	**61.59**	**324**	P		**P**	**01 58 37.0**	**+0.3**
	0.9nm,0.3s,baz=110,slow=8.3,SNR=3.0							
MKAR	**Makanchi Array**	**61.62**	**316**	P		**P**	**01 58 37.9**	**+0.9**
	0.8nm,0.4s,baz=86,slow=8.6,SNR=17							
ILAR	**Eielson Array**	**67.61**	**25**	P		**P**	**01 59 15.2**	**-0.5**
	1.0nm,0.5s,baz=247,slow=5.9,SNR=22							
YKA	**Yellowknife Ar**	**81.88**	**28**	P		**P**	**02 00 38.1**	**+0.1**
	0.5nm,0.4s,baz=281,slow=4.9,SNR=4.3							
ARCES	**ARCESS Array B**	**86.72**	**342**	P		**P**	**02 01 00.8**	**-1.7**
	1.3nm,0.8s,baz=33,slow=6.8,SNR=5.2							
FINES	**FINESS Array B**	**90.93**	**335**	P		**P**	**02 01 21.0**	**-1.4**
	1.9nm,0.4s,baz=82,slow=4.2,SNR=30							
TORD	**Torodi Ar. Bea**	**135.19**	**306**	PKP		**PKPdf**	**02 07 39.9**	**+1.1**
	0.4nm,0.9s,baz=33,slow=1.6,SNR=2.7							

IDC 16 01:57:17.3±2.9, 7°.45N×91°.76E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/34, mbtmp3.6/3, ML4.5/1, Error ellipse: s-maj=89.1km s-min=32.5km az=64.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CMAR	**Chiang Mai Arr**	**12.99**	**32**	Pn		Pn	02 00 23.5	+0.1
	0.8nm,0.3s,baz=225,slow=14,SNR=5.8							
H08S3	**Diego Garcia H**	**24.36**	**232**	T		T	02 28 58.2	
	baz=52							
H08S2	**Diego Garcia H**	**24.37**	**232**	T		T	02 28 55.4	
	baz=52							
H08S1	**Diego Garcia H**	**24.38**	**232**	T		T	02 28 57.1	
	baz=52							
MKAR	**Makanchi Array**	**40.04**	**350**	P		P	02 04 54.0	-0.1
	0.4nm,0.5s,baz=166,slow=8.7,SNR=4.7							
WRA	**Warramunga Arr**	**49.97**	**124**	P		P	02 06 13.5	-0.1
	0.5nm,1.1s,baz=303,slow=9.6,SNR=4.0							

IDC ***16*** *01:58:29.2±3.8, 12°.91N×125°.20E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/33, mbtmp3.5/3, Error ellipse: s-maj=296.8km s-min=28.9km az=64.0*

ISCJB ***16*** *01:58:31.3±1.3, 13°.16N±0°.08×125°.5E±0°.1, h35km, mb3.5/3, Error ellipse: s-maj=16.6km s-min=8.8km az=147.9*

ISC 16 01:58:33.4±1.6, 13°.14N±0°.10×125°.4E±0°.1, h35km, n9, σ1s21/8, mb3.5/3, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PVCP	**Virac**	**1.27**	**291**	*i*P		**Pn**	**01 58 53.3**	**-1.4**
PVCP				*i* S		**Sn**	**01 59 11.4**	**+0.8**
PLP	**Palo**	**2.00**	**191**	*e*P		**Pn**	**01 59 04.7**	**0.0**
PLP				*i* S		**Sn**	**01 59 28.8**	**+0.2**
RCP	**Roxas**	**3.02**	**239**	*i*P		**Pn**	**01 59 18.3**	**-0.4**
WRA	**Warramunga Arr**	**34.04**	**165**	P		**P**	**02 05 12.9**	**-1.5**
	0.3nm,0.5s,baz=344,slow=9.3,SNR=4.5							
ASAR	**Alice Springs**	**37.52**	**167**	P		**P**	**02 05 44.2**	**0.0**
	0.4nm,0.3s,baz=348,slow=7.6,SNR=6.0							
H11N1	**WAKE ISLAND Hy**	**40.27**	**75**	T		T	02 49 40.2	
	baz=267							
H11N2	**WAKE ISLAND Hy**	**40.28**	**75**	T		T	02 49 38.4	
	baz=267							
H11N3	**WAKE ISLAND Hy**	**40.29**	**75**	T		T	02 49 38.8	
	baz=267							
MKAR	**Makanchi Array**	**49.24**	**322**	P		**P**	**02 07 20.0**	**+1.5**
	0.2nm,0.6s,baz=124,slow=7.7,SNR=3.7							

IDC ***16*** *02:03:11.7±0.6, 62°.55N×149°.40W, h0km, mb4.1/21, mb1 4.3/25, mb1mx4.2/32, mbtmp4.1/25, ML4.0/4, MS3.5/2, Ms1 3.5/2, ms1mx2.9/43, Error ellipse: s-maj=10.5km s-min=10.0km az=67.0*

BJI ***16*** *02:03:13.0, 62°.60N×148°.80W, h31km, mb4.7/14, mB4.9/8, Ms4.6/3, Ms7 4.6/3*

ISCJB ***16*** *02:03:19.0±0.1, 62°.64N±0°.02×148°.87W±0°.04, h74km±2km, mb4.1/42, Error ellipse: s-maj=2.9km s-min=2.5km az=170.3*

MOS ***16*** *02:03:18.0±1.0, 62°.65N×149°.06W, h65km, mb4.6/16, Error ellipse: s-maj=16.2km s-min=5.4km az=93.6*

NEIC ***16*** *02:03:19.8, 62°.60N×148°.82W, h56km, mb4.3/14, MW4.2, ML4.3(AEIC), Moment Tensor Solution. s38 Moment tensor: Scale 10^15 Nm; Mrr=0.72; Mθθ=0.17; Mφφ=0.89; Mrθ=1.95; Mφθ=1.07; Mφr=0.78; Best double couple: M=2.50000×10^15 NP1=φs355.00000°, δ28.00000°, λ=159.00000°. NP2=φs246.00000°, δ80.00000°, λ=64.00000°. Principal axes: T 2.5600, Plg30.0000°, Azm314.0000°; N -0.1400, Plg25.0000°, Azm60.0000°; P -2.4200, Plg48.0000°, Azm183.0000°; After AEIC.*

NEIC Felt [II] at Anchorage, Eagle River and Wasilla. Also felt at Cantwell, Talkeetna and Willow.

ISC 16 02:03:19.8±0.7, 62°.63N±0°.03×148°.81W±0°.03, h61km±6km, n200, σ1s203/218, mb4.2/42, 4C-1D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
HUR	**Hurricane**	**0.52**	**313**	P		**Pn**	**02 03 31.7**	**-0.3**
CUT	**Chulitna**	**0.71**	**253**	P		**Pn**	**02 03 33.6**	**-0.6**
TRAP	**Trapper Creek**	**0.73**	**247**	P		**Pn**	**02 03 33.9**	**-0.5**
RND	**Reindeer**	**0.78**	**358**	P		**Pn**	**02 03 35.3**	**+0.1**
RND				S		**Sn**	**02 03 47.0**	**+0.5**
RND	**Reindeer**	**0.78**	**358**	P		**Pn**	**02 03 35.3**	**+0.1**
RND				S		**Sn**	**02 03 47.0**	**+0.5**
DHY	**Denali Highway**	**0.80**	**55**	P		**Pn**	**02 03 35.2**	**-0.3**
DHY				S		**Sn**	**02 03 47.2**	**+0.2**
SML	**Sawmill**	**0.85**	**165**	P		**Pn**	**02 03 35.1**	**-0.9**
SML				S		**Sn**	**02 03 47.7**	**-0.2**
SML	**Sawmill**	**0.85**	**165**	P		**Pn**	**02 03 35.1**	**-0.9**
SML				S		**Sn**	**02 03 47.7**	**-0.2**
PMR	**Palmer**	**1.05**	**188**	P		**Pn**	**02 03 37.6**	**-0.9**
PMR				S		**Sn**	**02 03 51.5**	**-0.8**
PMR	**Palmer**	**1.05**	**188**	P		**Pn**	**02 03 37.6**	**-0.9**
PMR				S		**Sn**	**02 03 51.5**	**-0.8**
SCM	**Sheep Creek Mo**	**1.05**	**138**	P		**Pn**	**02 03 38.0**	**-0.6**
SCM	**Sheep Creek Mo**	**1.05**	**138**	P		**Pn**	**02 03 38.0**	**-0.6**
TRF	**Thorofare Moun**	**1.07**	**322**	P		**Pn**	**02 03 39.1**	**+0.2**
TRF				S		**Sn**	**02 03 54.0**	**+0.9**
MCK	**McKinley**	**1.11**	**357**	P		**Pn**	**02 03 40.1**	**+0.8**
MCK				S		**Sn**	**02 03 54.9**	**+1.0**
MCK	**McKinley**	**1.11**	**357**	P		**Pn**	**02 03 40.1**	**+0.8**
MCK				S		**Sn**	**02 03 54.9**	**+1.0**
SKT	**Skwentna**	**1.43**	**244**	P		**Pn**	**02 03 43.9**	**+0.4**
SUA	**Susitna One**	**1.48**	**219**	P		**Pn**	**02 03 44.9**	**+0.6**
SUA				S		**Sn**	**02 04 04.5**	**+1.7**
PAX	**Paxson**	**1.57**	**76**	P		**Pn**	**02 03 46.3**	**+0.8**
PAX	**Paxson**	**1.57**	**76**	P		**Pn**	**02 03 46.3**	**+0.8**
PPLA	**Purkeypile**	**1.58**	**281**	P		**Pn**	**02 03 45.5**	**-0.2**
BWN	**Browne**	**1.58**	**349**	P		**Pn**	**02 03 47.0**	**+0.5**
PS10	**TAPS Pump St10**	**1.60**	**59**	P		**Pn**	**02 03 47.1**	**+1.3**
FIB	**Fire Island**	**1.60**	**204**	P		**Pn**	**02 03 46.8**	**+1.0**
FIB	**Fire Island**	**1.60**	**204**	P		**Pn**	**02 03 46.8**	**+1.0**
RC01	**Rabbit Creek A**	**1.60**	**196**	P		**Pn**	**02 03 46.2**	**+0.3**
RC01				S		**Sn**	**02 04 07.2**	**+1.7**
PS11	**TAPS Pump St11**	**1.65**	**108**	P		**Pn**	**02 03 47.9**	**+1.4**
CAST	**Castle Rocks**	**1.69**	**300**	P		**Pn**	**02 03 47.5**	**+0.4**
HARP	**HAARP**	**1.71**	**96**	P		**Pn**	**02 03 48.5**	**+1.2**
KLU	**Klutina**	**1.77**	**129**	P		**Pn**	**02 03 48.5**	**+0.3**
BPAW	**Bear Paw Mtn.**	**1.78**	**327**	P		**Pn**	**02 03 48.4**	**+0.2**
STLK	**Strandline Lak**	**1.82**	**233**	P		**Pn**	**02 03 49.1**	**+0.2**
WRH	**Wood River Hil**	**1.88**	**10**	P		**Pn**	**02 03 49.9**	**+0.3**
JPK	**Jack Peak**	**1.89**	**145**	P		**Pn**	**02 03 49.7**	**-0.2**
VLZ	**Valdez**	**1.90**	**141**	P		**Pn**	**02 03 49.4**	**-0.5**
GLI	**Glacier Island**	**1.93**	**154**	P		**Pn**	**02 03 50.0**	**-0.3**
VMT	**TAPS TI Valdez**	**1.93**	**142**	P		**Pn**	**02 03 50.2**	**-0.1**
HDA	**Harding Lake**	**1.97**	**24**	P		**Pn**	**02 03 51.2**	**+0.4**
CCB	**Clear Creek Bu**	**2.08**	**12**	P		**Pn**	**02 03 51.9**	**-0.4**
DIV	**Divide**	**2.08**	**135**	*e*Pn		**Pn**	**02 03 51.7**	**-0.6**
DIV				*e*Sn		**Sn**	**02 04 16.8**	**-0.4**
PS08	**TAPS Pump Stn8**	**2.12**	**24**	P		**Pn**	**02 03 53.2**	**+0.4**
CKN	**Chakachatna No**	**2.13**	**230**	P		**Pn**	**02 03 53.9**	**+0.9**
SPBG	**Spurr Blockage**	**2.17**	**232**	P		**Pn**	**02 03 54.5**	**+0.9**
BGL	**Barrier Glacie**	**2.18**	**233**	P		**Pn**	**02 03 54.8**	**+1.1**
CKL	**Chakachamna La**	**2.20**	**231**	P		**Pn**	**02 03 54.7**	**+0.6**
SLKM	**Skilak Lake**	**2.23**	**198**	P		**Pn**	**02 03 54.6**	**+0.2**
SLKM	**Skilak Lake**	**2.23**	**198**	P		**Pn**	**02 03 54.5**	**+0.2**
WASW	**Wrangell South**	**2.28**	**106**	P		**Pn**	**02 03 56.4**	**+1.1**
COLA	**College**	**2.30**	**10**	P		**Pn**	**02 03 55.6**	**+0.4**
COLA	**College**	**2.30**	**10**	P		**Pn**	**02 03 55.6**	**+0.4**
IL1	**Eielson Array**	**2.32**	**21**	P		**Pn**	**02 03 55.7**	**+0.1**
ILAR	**Eielson Array**	**2.32**	**21**	Pn		**Pn**	**02 03 53.4**	**-2.2**
	38nm,0.3s,baz=205,slow=15,SNR=1449							
ILAR				Pg			02 03 55.8	
	60nm,0.3s,baz=201,slow=14,SNR=1470							
ILAR				Sn		**Sn**	**02 04 23.0**	**+0.1**
	116nm,0.3s,baz=202,slow=24,SNR=114							
ILAR				LR		LR	02 04 40.3	
	comp=Z,534nm,18.5s,baz=277,slow=36							
ILB	**Eielson Array**	**2.32**	**21**	P		**Pn**	**02 03 55.8**	**+0.2**
MDM	**Murphy Dome**	**2.36**	**6**	P		**Pn**	**02 03 56.6**	**+0.5**
HIN	**Hinchinbrook I**	**2.50**	**153**	P		**Pn**	**02 03 57.6**	**-0.4**
EYAK	**Cordova Ski Ar**	**2.55**	**144**	P		**Pn**	**02 03 58.8**	**+0.2**
SEW	**Seward**	**2.55**	**187**	P		**Pn**	**02 03 59.3**	**+0.6**
MLY	**Manley**	**2.56**	**341**	P		**Pn**	**02 03 59.4**	**+0.5**
BMRM	**Bremner River**	**2.60**	**128**	P		**Pn**	**02 04 01.0**	**+1.5**
GLB	**Gilahina Butte**	**2.64**	**115**	P		**Pn**	**02 04 00.5**	**+0.5**
DFR	**Drift River**	**2.76**	**224**	P		**Pn**	**02 04 02.0**	**+0.4**
GOAT	**Goat Mountain**	**2.83**	**135**	P		**Pn**	**02 04 03.6**	**+1.0**
RDN	**Redoubt North**	**2.84**	**224**	P		**Pn**	**02 04 03.4**	**+0.6**
NCT	**North Crescent**	**2.86**	**225**	P		**Pn**	**02 04 03.4**	**+0.4**
RSO	**Redoubt South**	**2.88**	**223**	P		**Pn**	**02 04 03.7**	**+0.3**
RAGM	**Ragged Mountai**	**3.00**	**137**	P		**Pn**	**02 04 06.1**	**+1.3**
MCARA	**McCarthy VSAT**	**3.00**	**112**	P		**Pn**	**02 04 06.3**	**+1.4**
BCA3	**Beaver Creek A**	**3.25**	**79**	P		**Pn**	**02 04 09.2**	**+0.9**
PS06	**TAPS Pump Stn6**	**3.27**	**353**	P		**Pn**	**02 04 09.5**	**+1.0**
ILW	**Iliamna West**	**3.31**	**221**	P		**Pn**	**02 04 09.5**	**+0.2**
BERG	**Berg Lake**	**3.32**	**130**	P		**Pn**	**02 04 10.3**	**+1.1**
TT01	**Tatalina**	**3.33**	**278**	P		**Pn**	**02 04 09.7**	**+0.4**
PTPK	**Patty Peak**	**3.33**	**113**	P		**Pn**	**02 04 10.0**	**+0.5**
MID	**Middleton Isla**	**3.43**	**158**	*e*P		**Pn**	**02 04 10.6**	**0.0**
MID	**Middleton Isla**	**3.43**	**158**	*e*Pn		**Pn**	**02 04 10.6**	**0.0**
KHIT	**Khitrov Hills**	**3.45**	**127**	P		**Pn**	**02 04 12.1**	**+1.0**
KIAG	**Kiagna River**	**3.51**	**116**	P		**Pn**	**02 04 13.2**	**+1.2**
GRIN	**Grindle Hills**	**3.53**	**129**	P		**Pn**	**02 04 12.8**	**+0.6**
SVW2	**Sparrevohn**	**3.56**	**247**	P		**Pn**	**02 04 13.2**	**+0.7**
OPT	**Oil Point**	**3.67**	**218**	P		**Pn**	**02 04 15.1**	**+1.0**
ISLE	**Juniper Island**	**3.70**	**120**	P		**Pn**	**02 04 15.0**	**+0.5**
BARK	**Barkley Ridge**	**3.76**	**124**	P		**Pn**	**02 04 16.2**	**+0.9**
KULT	**Kultieth River**	**3.77**	**127**	P		**Pn**	**02 04 16.2**	**+0.7**
GRNC	**Granite Creek**	**3.86**	**116**	P		**Pn**	**02 04 17.9**	**+1.0**
BAGL	**Bagley Icefiel**	**3.86**	**121**	P		**Pn**	**02 04 17.4**	**+0.8**
AUL	**Augustine Lava**	**3.96**	**217**	P		**Pn**	**02 04 19.8**	**+1.8**
AUH	**Augustine H**	**3.98**	**217**	P		**Pn**	**02 04 19.7**	**+1.5**
AUW	**Augustine West**	**3.98**	**217**	P		**Pn**	**02 04 19.3**	**+1.1**
AUI	**Augustine Isla**	**4.00**	**216**	P		**Pn**	**02 04 19.4**	**+0.9**
IM04	**Indian Mountai**	**4.00**	**329**	*e*Pn		**Pn**	**02 04 18.6**	**+0.1**
IM04				*e*Sn		**Sn**	**02 05 04.7**	**+0.7**
IM3	**Indian Mountai**	**4.00**	**330**	P		**Pn**	**02 04 18.9**	**+0.5**
EGAK	**Eagle**	**4.03**	**54**	P		**Pn**	**02 04 20.3**	**+1.4**
YAH	**Yahtse**	**4.08**	**121**	P		**Pn**	**02 04 21.8**	**+2.0**
MESA	**MESA**	**4.11**	**124**	P		**Pn**	**02 04 20.8**	**+0.6**
LOGN	**Logan Glacier**	**4.13**	**112**	P		**Pn**	**02 04 22.2**	**+1.8**
FYU	**Fort Yukon**	**4.25**	**20**	P		**Pn**	**02 04 22.8**	**+0.9**
RKAV	**Rock Avalanche**	**4.27**	**120**	P		**Pn**	**02 04 23.4**	**+1.0**
TABL	**Table Mountain**	**4.27**	**117**	P		**Pn**	**02 04 23.1**	**+0.7**
PS05	**TAPS Pump Stn5**	**4.28**	**350**	P		**Pn**	**02 04 24.0**	**+1.8**
MCNL	**McNeil River**	**4.38**	**220**	P		**Pn**	**02 04 24.3**	**+0.5**
DAWY	**Dawson**	**4.48**	**67**	P		**Pn**	**02 04 26.8**	**+1.7**
CHX	**Chaix Hills**	**4.51**	**121**	P		**Pn**	**02 04 27.4**	**+1.9**
COLD	**Coldfoot**	**4.66**	**353**	P		**Pn**	**02 04 28.4**	**+1.0**
BM3	**Burnt Mountain**	**5.13**	**18**	P		**Pn**	**02 04 34.8**	**+0.8**
KDAK	**Kodiak Island**	**5.21**	**203**	P		**Pn**	**02 04 34.6**	**-0.5**
KDAK	**Kodiak Island**	**5.21**	**203**	P		**Pn**	**02 04 34.6**	**-0.5**
KVTA	**Katmai Vly 10**	**5.33**	**220**	P		**Pn**	**02 04 37.0**	**+0.3**
KAKN	**Katmai Knife C**	**5.33**	**218**	P		**Pn**	**02 04 36.4**	**-0.4**
KBM	**Katmai Bkd Mtn**	**5.39**	**219**	P		**Pn**	**02 04 37.7**	**+0.2**
KCE	**Katmai Mt Cerb**	**5.41**	**219**	P		**Pn**	**02 04 38.5**	**+0.6**
KELA	**Mount Kelaz**	**5.42**	**222**	P		**Pn**	**02 04 38.2**	**+0.3**
KABR	**Katmai Barrier**	**5.45**	**217**	P		**Pn**	**02 04 38.2**	**-0.1**
HYT	**Haines Junctio**	**5.67**	**104**	P		**Pn**	**02 04 41.6**	**+0.2**
OHAK	**Old Harbor**	**5.87**	**205**	P		**Pn**	**02 04 42.4**	**-1.7**
BESE	**Bessie Mountai**	**7.97**	**114**	P		**Pn**	**02 05 12.8**	**0.0**
CHGN	**Chignik**	**8.00**	**222**	*e*Pn		**Pn**	**02 05 10.9**	**-2.3**
INK	**Inuvik**	**8.52**	**41**	Pn		**Pn**	**02 05 21.3**	**+1.1**
	6.2nm,0.3s,baz=234,slow=18,SNR=71							
INK				Sn		**Sn**	**02 06 54.6**	**-0.1**
	5.0nm,0.3s,baz=277,slow=20,SNR=9.2							
INK				Lg		Lg	02 07 42.3	
	baz=122,slow=13,SNR=2.2							
INK	**Inuvik**	**8.52**	**41**	*e*P		**Pn**	**02 05 22.0**	**+1.8**
INK							02 06 54.6	
INK				pmax		pmax		
	comp=Z,42nm,0.6s							
INK	**Inuvik**	**8.52**	**41**	*e*Pn		**Pn**	**02 05 22.0**	**+1.8**
	comp=Z,42nm,0.6s							
INK				*e*Sn		**Sn**	**02 06 54.3**	**-0.3**
INK				Sn		Sn	02 06 54.6	-0.1
INK				Lg		Lg	02 07 42.3	
DLBC	**Dease Lake**	**10.14**	**106**	Pn		**Pn**	**02 05 42.7**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=140,slow=21,SNR=7.1							
DLBC				Lg		Lg	02 08 39.9	
	comp=Z,0.2nm,0.3s,baz=223,slow=23,SNR=5.6							
DLBC	**Dease Lake**	**10.14**	**106**	*e*Pn		**Pn**	**02 05 41.9**	**-0.7**
DLBC				Lg		Lg	02 08 39.9	
GAMB	**Gambell**	**10.38**	**287**	*e*Pn		**Pn**	**02 05 46.6**	**+0.9**
H02N1	**VAN INLET T-PH**	**12.72**	**130**	Pn		**Pn**	**02 06 19.8**	**+2.1**
	SNR=16							
H02S1	**DAWSON INLET T**	**12.79**	**130**	Pn		**Pn**	**02 06 21.1**	**+2.6**
	SNR=26							
BBB	**Bella Bella**	**15.21**	**124**	Pn		**P**	**02 06 55.5**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=49,slow=1.9,SNR=3.0							
YKA	**Yellowknife Ar**	**15.66**	**75**	Pn		**Pn**	**02 06 57.7**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=293,slow=13,SNR=9.1							
BILL	**Bilibino**	**19.14**	**306**	*de*P		**P**	**02 07 37.0**	**-0.5**
BILL				pmax		pmax		
	comp=Z,13nm,2.5s							
EDM	**Edmonton**	**20.78**	**101**	*e*P		**P**	**02 07 55.1**	**-0.4**
EDM	**Edmonton**	**20.78**	**101**	*e*P		**P**	**02 07 55.1**	**-0.4**
RES	**Resolute Bay**	**21.99**	**35**	P		**P**	**02 08 09.3**	**+1.1**
	comp=Z,1.7nm,0.4s,baz=232,slow=9.3,SNR=6.9							
NEW	**Newport**	**22.70**	**115**	P		**P**	**02 08 17.3**	**+1.2**
	comp=Z,15nm,1.4s,baz=322,slow=19,SNR=5.8							
NEW	**Newport**	**22.70**	**115**	*e*P		**P**	**02 08 16.9**	**+0.8**
NEW				pmax		pmax		
	comp=Z,8.0nm,1.4s							
NEW	**Newport**	**22.70**	**115**	*e*P		**P**	**02 08 16.9**	**+0.8**
	comp=Z,7.9nm,1.4s							
**YB

TKM2	**Tokmak 2**	**68.95**	**327**	*e*P		**P**	**02 14 17.1**	**-1.2**
TKM2				pmax	pmax				
	comp=Z,2.0nm,0.8s								
TKM2	**Tokmak 2**	**68.95**	**327**	*e*P		**P**	**02 14 17.1**	**-1.2**
	comp=Z,2.3nm,0.8s								
EKS2	**Erkin-Say**	**69.65**	**328**	*e*P		**P**	**02 14 21.8**	**-0.7**
EKS2				pmax	pmax				
	comp=Z,4.0nm,0.9s								
EKS2	**Erkin-Say**	**69.65**	**328**	*e*P		**P**	**02 14 21.8**	**-0.7**
	comp=Z,4.4nm,0.9s								
KK31	**Karatay Array**	**70.01**	**330**	*i* P		**P**	**02 14 22.5**	**-2.0**
KK31				pmax	pmax				
	comp=Z,1.0nm,0.5s								
KKAR	**Karatay Array**	**70.01**	**330**	*e*P		**P**	**02 14 23.2**	**-1.4**
KKAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
KKAR	**Karatay Array**	**70.01**	**330**	*e*P		**P**	**02 14 23.2**	**-1.4**
	comp=Z,1.2nm,0.5s								
CD2	**Chengdu**	**70.47**	**300**	*e*P		**P**	**02 14 29.0**	**+1.4**
ESDC	**Sonseca Array**	**74.20**	**28**	P		**P**	**02 14 50.2**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=343,slow=5.8,SNR=12								
BRTR	**Keskin Array B**	**77.98**	**358**	P		**P**	**02 15 11.2**	**0.0**
	comp=Z,1.5nm,1.1s,baz=18,slow=5.0,SNR=3.4								
KEST	**Kesra**	**80.42**	**18**	P		**P**	**02 15 24.7**	**+0.2**
	comp=Z,1.3nm,1.0s,baz=245,slow=17,SNR=3.5								
GVD	**Gavdhos**	**82.70**	**6**	*e*P		**P**	**02 15 35.8**	**-0.7**
	comp=Z,35nm,0.9s								
BOSA	**Boshof**	**145.76**	**9**	PKPbc		**PKPbc**	**02 22 51.6**	**+0.2**
	comp=Z,4.7nm,0.5s,baz=352,slow=2.6,SNR=17								

IDC 16 02:05:56.2±1.2, 55°43S×29°48W, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.8/14, mbtmp3.9/3, Error ellipse: s-maj=60.0km s-min=30.0km az=86.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MAW	**Mawson**	**41.41**	**145**	P		P	02 13 44.5	+0.9
	1.1nm,0.6s,baz=292,slow=11,SNR=2.7							
VNDA	**Vanda**	**47.12**	**183**	P		P	02 14 28.8	-0.6
	1.0nm,0.8s,baz=214,slow=6.3,SNR=4.4							
H10S2	**ASCENSION HYDR**	**47.82**	**20**	T		T	03 06 58.3	
	baz=192,slow=75,SNR=14							
H10S3	**ASCENSION HYDR**	**47.82**	**20**	T		T	03 06 54.5	
	baz=192,slow=75,SNR=14							
H10S1	**ASCENSION HYDR**	**47.84**	**20**	T		T	03 06 55.8	
	baz=192,slow=75,SNR=14							
H10N1	**ASCENSION HYDR**	**48.94**	**20**	T		T	03 08 17.8	
	baz=201							
H10N3	**ASCENSION HYDR**	**48.94**	**20**	T		T	03 08 12.7	
	baz=201,slow=74							
H10N2	**ASCENSION HYDR**	**48.95**	**20**	T		T	03 08 11.4	
	baz=201,slow=74							
TORD	**Torodi Ar. Bea**	**73.18**	**32**	P		P	02 17 29.1	+0.4
	1.2nm,0.8s,baz=194,slow=7.0,SNR=6.6							
ILAR	**Eielson Array**	**148.74**	**313**	PKPbc		PKPbc	02 25 44.1	+0.1
	2.1nm,0.9s,baz=127,slow=1.9,SNR=16							
SONM	**Songino Array**	**151.99**	**87**	PKPbc		PKPbc	02 25 50.5	-1.9
	0.9nm,0.5s,baz=204,slow=3.2,SNR=2.5							

IDC 16 02:21:20.7±1.2, 3°29N×126°21E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.6/36, mbtmp4.0/5, ML4.0/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/43, Error ellipse: s-maj=87.7km s-min=20.3km az=60.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.53**	**129**	Pn		Pn	02 22 56.8	-1.4
	3.3nm,0.3s,baz=338,slow=19,SNR=6.3							
SIJI				Sn		Sn	02 24 06.6	-6.8
	0.6nm,0.3s,baz=41,slow=19,SNR=3.8							
SIJI				LR		LR	02 26 00.6	
	comp=Z,365nm,18.9s,baz=270,slow=43							
WRA	**Warramunga Arr**	**24.43**	**161**	P		P	02 26 40.6	-0.7
	3.0nm,0.6s,baz=339,slow=10,SNR=26							
ASAR	**Alice Springs**	**27.82**	**165**	P		P	02 27 13.0	+1.0
	0.5nm,0.6s,baz=340,slow=6.6,SNR=9.0							
KSRS	**Korea Array**	**34.04**	**2**	LR		LR	02 44 57.0	
	comp=Z,34nm,18.0s,baz=43,slow=42							
STKA	**Stephens Creek**	**37.91**	**158**	P		P	02 28 40.2	+0.4
	3.0nm,0.6s,baz=338,slow=7.4,SNR=6.3							
MKAR	**Makanchi Array**	**57.62**	**326**	P		P	02 31 12.6	-0.1
	1.2nm,0.6s,baz=121,slow=8.0,SNR=18							
TORD	**Torodi Ar. Bea**	**122.56**	**288**	PKP		PKPdf	02 40 18.7	-0.6
	0.2nm,0.7s,baz=90,slow=2.8,SNR=2.7							

NNC ***16*** *02:29:02.0±0.7, 39°.00N×70°.47E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=10.8km s-min=3.0km az=157.0*
ISCJB ***16*** *02:29:02.5±1.1, 38°.97N±0°.08×70°.36E±0°.06, h17km, Error ellipse: s-maj=11.8km s-min=6.7km az=172.8*

ISC 16 02:29:03.4±1.5, 38°.92N±0°.10×70°.37E±0°.05, h17km, n13, σ1s50/21, 5C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.21**	**265**	⇑P		**Pn**	**02 29 25.7**	**0.0**
	13nm,0.2s							
DZET				⇓S		**Sg**	**02 29 44.7**	**+2.0**
	62nm,0.3s							
SFK	**Sufi-Kurgan**	**2.66**	**65**	⇑Pn		**Pn**	**02 29 44.4**	**-1.3**
	8.3nm,0.3s							
SFK				⇑Sn		**Sn**	**02 30 18.0**	**+0.4**
	70nm,0.6s							
AML	**Almayashu**	**4.08**	**37**	P		**Pn**	**02 30 05.9**	**+0.5**
	SNR=7.1							
KK31	**Karatay Array**	**4.18**	**1**	⇓Pn		**Pn**	**02 30 06.2**	**-0.3**
	1.5nm,0.3s,baz=176,slow=12,SNR=65							
KK31				⇑Pg		**Pb**	**02 30 17.2**	**+0.7**
	3.0nm,0.5s,baz=177,slow=15,SNR=9.2							
KK31				⇓Sn		**Sn**	**02 30 56.0**	**+1.1**
	3.6nm,0.3s							
KK31				⇑Lg		Lg	02 31 09.2	
	3.1nm,0.3s,baz=177,slow=32,SNR=5.1							
EKS2	**Erkin-Say**	**4.54**	**34**	P		**Sn**	**02 31 06.5**	**+2.5**
	SNR=6.7							
UCH	**Uchtor**	**4.56**	**42**	P		**Pn**	**02 30 12.4**	**+0.3**
	SNR=11							
AAK	**Ala-Archa**	**4.85**	**39**	Pn		**Pn**	**02 30 15.4**	**-0.4**
AAK				Sn		**Sn**	**02 31 13.4**	**+1.8**
KZA	**Kyzart**	**4.87**	**48**	P		**Pn**	**02 30 16.7**	**+0.3**
	SNR=9.0							
KBK	**Karagaybulak**	**5.10**	**41**	P		**Pn**	**02 30 20.6**	**+1.4**
	SNR=7.6							
TKM2	**Tokmak 2**	**5.62**	**43**	P		**Pn**	**02 30 25.9**	**-0.5**
	SNR=6.2							
TKM2	**Tokmak 2**	**5.62**	**43**	Pn		**Pn**	**02 30 25.5**	**-0.9**
TKM2				Sn		**Sn**	**02 31 31.5**	**+0.8**
AB31	**Akbulak array**	**12.75**	**327**	⇓Pn		**Pn**	**02 32 01.2**	**-2.7**
	1.6nm,0.8s,baz=136,slow=12,SNR=18							
AB31				⇓Sn		**Sn**	**02 34 21.8**	**-3.5**
	1.6nm,0.8s,baz=147,slow=23,SNR=5.5							
AKTO	**Aktyubinsk**	**14.46**	**327**	⇓Pn		**Pn**	**02 32 27.2**	**0.0**
	4.3nm,1.4s							
AKTO				⇓Sn		**Sn**	**02 35 07.1**	**+0.2**
	2.9nm,1.4s							

GUC ***16*** *02:46:59.2±0.9, 36°.84S×73°.74W, h7km±8km, ML4.2*
IDC ***16*** *02:47:00.2±0.9, 36°.66S×73°.45W, h0km, mb4.0/7, mb1 4.2/10, mb1mx4.0/30, mbtmp4.0/10, ML3.4/2, MS2.8/1, Ms1 2.8/1, ms1mx2.8/30, Error ellipse: s-maj=36.0km s-min=17.2km az=98.0*
ISCJB ***16*** *02:47:01.9±0.5, 36°.64S±0°.04×73°.56W±0°.07, h27km, mb4.2/16, Error ellipse: s-maj=8.8km s-min=5.7km az=159.3*
NEIC ***16*** *02:47:06.1±1.8, 36°.61S×73°.38W, h47km±15km, mb4.4/12, Error ellipse: s-maj=17.2km s-min=8.7km az=82.0*

ISC 16 02:47:02.8±0.6, 36°.75S±0°.05×73°.64W±0°.07, h27km, n35, σ1s29/37, mb4.2/16, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.44**	**103**	*e*P		**Pb**	**02 47 11.5**	**-0.6**
CCSP				*e*S		**Sb**	**02 47 17.9**	**-0.5**
CCSP				AML		AML	02 47 20.8	
	comp=E,37μm,0.5s							
AGCH	**Angol**	**1.30**	**145**	*e*P		**Pn**	**02 47 23.7**	**-1.5**
AGCH				*e*S		**Sb**	**02 47 41.8**	**-1.0**
LNCH	**Linares**	**1.88**	**62**	*e*P		**Pb**	**02 47 34.5**	**-1.9**
LNCH				*e*S		**Sb**	**02 48 01.2**	**+1.8**
TALC	**Talca**	**2.11**	**51**	*e*P		**Pb**	**02 47 38.8**	**-1.6**
TALC				*e*S		**Sb**	**02 48 08.5**	**+2.3**
CFAA	**Coronel Fontan**	**6.81**	**43**	Pn		**Pn**	**02 48 40.0**	**-1.0**
	comp=E,0.4nm,0.3s,baz=211,slow=13,SNR=23							
CFAA				Sn		**Sn**	**02 49 57.7**	**0.0**
	comp=E,0.2nm,0.3s,baz=208,slow=11,SNR=3.3							
CFAA				Lg		Lg	02 50 17.9	
	comp=E,0.2nm,0.3s,baz=116,slow=22,SNR=5.7							
CFAA				LR		LR	02 51 26.9	
	comp=E,85nm,19.8s,baz=244,slow=40							
TRQA	**Tornquist**	**9.37**	**102**	*e*Pn		**Pn**	**02 49 18.2**	**+2.1**
TRQA				*e*Lg		Lg	02 51 59.1	
LVC	**Limon Verde**	**14.67**	**18**	Pn		**Pn**	**02 50 27.8**	**-1.1**
	comp=E,7.2nm,0.3s,baz=209,slow=18,SNR=7.1							
LVC				Lg		Lg	02 54 14.1	
	comp=E,4.5nm,0.3s,baz=334,slow=15,SNR=3.0							
CPUP	**Villa Florida**	**17.33**	**58**	*e*Pn		**Pn**	**02 51 01.4**	**-1.4**
USHA	**Ushuaia**	**18.44**	**170**	P		**Pn**	**02 51 19.2**	**+3.0**
	comp=E,0.3nm,0.3s,baz=269,slow=7.7,SNR=5.1							
LPAZ	**La Paz**	**20.96**	**15**	P		**P**	**02 51 45.9**	**+1.4**
	comp=E,2.0nm,0.6s,baz=189,slow=13,SNR=10.0							
LPAZ	**La Paz**	**20.96**	**15**	*e*P		**P**	**02 51 44.6**	**+0.1**
	comp=E,7.5nm,1.0s							
SIV	**San Ignacio**	**23.50**	**32**	P		**P**	**02 52 09.8**	**-0.8**
	comp=E,4.3nm,0.9s,baz=212,slow=6.8,SNR=8.2							
SAML	**Samuel**	**29.26**	**22**	*e*P		**P**	**02 53 01.9**	**-0.8**
	comp=E,5.3nm,1.3s							
OTAV	**Otavalo**	**37.07**	**352**	*e*P		**P**	**02 54 11.1**	**-0.3**
	comp=E,1.8nm,0.6s							
SDV	**Santo Domingo**	**45.48**	**4**	*e*P		**P**	**02 55 19.1**	**-0.9**
	comp=E,6.4nm,0.9s							
SNAA	**Sanae**	**49.56**	**157**	P		**P**	**02 55 52.4**	**+1.4**
	comp=E,1.9nm,1.0s,baz=266,slow=9.0,SNR=4.5							
QSPA	**South Pole Qui**	**53.49**	**180**	P		P	02 56 22.9	+2.3
	comp=E,6.5nm,1.0s,baz=146,slow=4.8,SNR=12							
QSPA	**South Pole Qui**	**53.49**	**180**	*e*P		P	02 56 22.5	+1.9
	comp=E,8.1nm,1.1s							
GTBY	**Guantanamo Bay**	**56.39**	**358**	*e*P		**P**	**02 56 40.5**	**-1.3**
GOGA	**Godfrey**	**70.40**	**351**	*e*P		**P**	**02 58 13.7**	**-0.5**
	comp=E,2.8nm,0.8s							
TXAR	**Lajitas Array**	**71.53**	**333**	P		**P**	**02 58 22.9**	**+1.5**
	comp=E,0.7nm,0.7s,baz=159,slow=8.5,SNR=4.8							
SWET	**Sewanee**	**72.51**	**349**	*e*P		**P**	**02 58 27.8**	**+0.7**
	comp=E,8.1nm,0.8s							
WVT	**Waverly**	**73.70**	**348**	*e*P		**P**	**02 58 34.2**	**+0.2**
	comp=E,2.0nm,0.8s							
TUL1	**Leonard**	**75.17**	**342**	*e*P		**P**	**02 58 42.8**	**+0.3**
	comp=E,5.0nm,0.7s							
SDCO	**Great Sand Dun**	**79.77**	**335**	*e*P		**P**	**02 59 10.2**	**+1.6**
	comp=E,1.5nm,1.0s							
ECSD	**EROS Data Cent**	**82.78**	**343**	*e*P		**P**	**02 59 24.7**	**+0.6**
	comp=E,3.8nm,0.8s							
PDAR	**Pinedale Array**	**85.64**	**334**	P		**P**	**02 59 40.4**	**+1.4**
	comp=E,0.4nm,0.6s,baz=160,slow=2.9,SNR=5.2							
TOA0	**Torodi Ar. Sit**	**86.36**	**71**	*e*P		**P**	**02 59 43.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**86.36**	**71**	P		**P**	**02 59 43.4**	**+0.5**
	comp=E,1.3nm,0.9s,baz=217,slow=4.9,SNR=9.0							
LSZ	**Lusaka**	**90.17**	**109**	*e*P		**P**	**03 00 00.6**	**-0.7**
	comp=E,22nm,1.6s							
WRAB	**Tennant Creek**	**117.73**	**210**	*e*PKPdf		**PKPdf**	**03 05 45.6**	**-1.4**
ABKAR	**Akbulak array**	**144.38**	**55**	*e*PKPdf		PKPbc	03 06 34.0	-0.4
BRVK	**Borovoye**	**150.09**	**45**	*e*PKPbc		**PKPbc**	**03 06 51.3**	**+0.9**
KKAR	**Karatay Array**	**151.94**	**66**	*e*PKPab		**PKPab**	**03 07 04.6**	**+0.2**
MKAR	**Makanchi Array**	**159.51**	**53**	PKPab		**PKPab**	**03 07 36.1**	**-0.6**
	comp=E,2.9nm,87.1s,baz=285,slow=2.8,SNR=4.7							

BJI ***16*** *02:47:23.8, 10°.09S×161°.80E, h49km, mb5.3/51, mB5.5/41, Ms6.4/27, Ms7 6.0/28*
MOS ***16*** *02:47:23.2±1.0, 10°.16S×161°.36E, h33km, mb5.7/46, Error ellipse: s-maj=8.1km s-min=7.2km az=93.3*
NEIC ***16*** *02:47:25.6±0.1, 10°.26S×161°.43E, mb5.5/113, MW5.6, Error ellipse: s-maj=4.7km s-min=3.9km az=146.0, Moment Tensor Solution. s31 Moment tensor: Scale 10^{17}Nm; M_{rr}3.33; $M_{\theta\theta}$-0.94; $M_{\phi\phi}$-2.38; $M_{r\theta}$0.15; $M_{\theta\phi}$0.90; $M_{\phi r}$0.10; Best double couple: M_o3.10000×10^{17} NP1: ϕ_s152.00000°, δ45.00000°, λ86.00000°. NP2: ϕ_s337.00000°, δ45.00000°, λ94.00000°. Principal axes: T 3.3400, Plg87.0000°, Azm328.0000°; N -0.5200, Plg2.0000°, Azm154.0000°; P -2.8100, Plg0.0000°, Azm64.0000°;*
NEIC Felt at Honiara.
ISCJB ***16*** *02:47:25.5±0.8, 10°.29S±0°.03×161°.42E±0°.02, h52km±7km, mb5.5/215, MS5.0/6 Error ellipse: s-maj=5.5km s-min=3.6km az=5.2*
GCMT ***16*** *02:47:25.6±0.2, 10°.41S×161°.51E, h46km±1km, MW5.5/99, Moment Tensor Solution. s99,c153; s52,c80; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}2.32±.05; $M_{\theta\theta}$-0.95±.06; $M_{\phi\phi}$-1.37±.06; $M_{r\theta}$0.57±.07; $M_{\theta\phi}$1.52±.05; $M_{\phi r}$0.08±.07; Best double couple: M_o2.58300×10^{17} NP1: ϕ_s126.00000°, δ50.00000°, λ73.00000°. NP2: ϕ_s332.00000°, δ43.00000°, λ109.00000°. Principal axes: T 2.4510, Plg76.0000°, Azm334.0000°; N 0.2610, Plg13.0000°, Azm138.0000°; P -2.7160, Plg4.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC ***16*** *02:47:28.7±3.5, 10°.33S×161°.43E, h75km±31km, mb4.8/25, mb1 5.0/27, mb1mx5.0/27, mbtmp5.2/27, MS5.0/7, Ms1 5.0/7, ms1mx4.5/41 Error ellipse: s-maj=15.5km s-min=10.5km az=72.0*

ISC 16 02:47:25.5±0.3, 10°.30S±0°.04×161°.53E±0°.04, h45km±1km, h44km: pP-P, n637, σ1s36/735, mb5.5/212, MS4.8/6, 80C-73D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.78**	**299**	*e*P		**Pn**	**02 47 55.9**	**+2.0**
HNR				*e*			02 48 14.3	
HNR	**Honiara**	**1.78**	**299**	*i* P		**Pn**	**02 47 55.0**	**+1.1**
HNR	**Honiara**	**1.78**	**299**	*e*Pn		**Pn**	**02 47 55.9**	**+2.0**
HNR				*e*Sn		**Sn**	**02 48 14.2**	**-1.1**
NOUC	**Port Laguerre**	**12.60**	**159**	*e*P		**Pn**	**02 50 21.8**	**-0.4**
NOUC				*e*S		Sn	02 52 33.3	-7.9
DZM	**Mont Dzumac**	**12.62**	**159**	*e*Pn		**Pn**	**02 50 24.1**	**+1.5**
	53nm,0.3s							
DZM				*e*Sn		Sn	02 52 32.0	-10
	93nm,0.8s							
DZM				*e*LR		LR	02 53 12.0	
	17μm,24.1s							
DZM	**Mont Dzumac**	**12.62**	**159**	P		**Pn**	**02 50 23.8**	**+1.2**
	10nm,0.3s,baz=270,slow=24,SNR=43							
DZM				S		**Sn**	**02 52 37.4**	**-4.5**
	2.2nm,0.3s,baz=270,slow=24,SNR=14							
DZM				LR		LR	02 54 33.4	
	comp=Z,9μm,20.0s,baz=0.0,slow=34							
DZM	**Mont Dzumac**	**12.62**	**159**	*e*P		**Pn**	**02 50 23.0**	**+0.4**
DZM				*e*S		**Sn**	**02 52 36.0**	**-5.9**
PMG	**Port Moresby**	**14.19**	**272**	*e*P		**P**	**02 50 47.8**	**-2.6**
PMG				pmax	pmax			
	comp=Z,538nm,1.0s							
PMG	**Port Moresby**	**14.19**	**272**	*e*Pn		**Pn**	**02 50 46.8**	**+2.9**
MSVF	**Nonsavu**	**17.64**	**117**	*e*P		**P**	**02 51 30.4**	**+1.6**
MSVF	**Nonsavu**	**17.64**	**117**	*e*Pn		**P**	**02 51 30.4**	**+1.6**
CTA	**Charters Tower**	**17.65**	**235**	P		**P**	**02 51 29.1**	**+0.3**
	comp=Z,6.4nm,0.3s,baz=63,slow=15,SNR=28							
CTA				LR		LR	02 58 00.8	
	comp=Z,6μm,18.6s,baz=62,slow=36							
CTAO	**Charters Tower**	**17.65**	**235**	*e*P		**P**	**02 51 29.2**	**+0.3**
CTAO				pmax	pmax			
	comp=Z,341nm,1.3s							
CTAO	**Charters Tower**	**17.65**	**235**	*e*Pn		**P**	**02 51 29.2**	**+0.3**
	comp=Z,341nm,1.3s							
EIDS	**Eidsvold**	**17.97**	**212**	*e*Pn		**P**	**02 51 33.9**	**+1.6**
	comp=Z,166nm,1.1s							
COEN	**Coen**	**18.31**	**257**	*e*Pn		**Pn**	**02 51 36.9**	**+0.5**
	comp=Z,170nm,1.1s							
ARMA	**Armidale**	**22.04**	**203**	*e*P		**P**	**02 52 18.0**	**+1.4**
	comp=Z,170nm,1.4s							
JAY	**Jayapura**	**22.08**	**289**	P		**P**	**02 52 18.7**	**+1.6**
	comp=Z,89nm,1.0s,comp=Z,5μm							
GENI	**Genyem**	**22.55**	**288**	P		**P**	**02 52 23.1**	**+1.0**
	comp=Z,187nm,1.1s,comp=Z,4μm							
SMPI	**Sarmi**	**24.12**	**288**	P		**P**	**02 52 39.5**	**+2.0**
	comp=Z,642nm,1.2s,comp=Z,7μm							
RAO	**Raoul Island**	**26.93**	**137**	LR		LR	03 01 34.7	
	comp=Z,2μm,20.9s,baz=256,slow=31							
OUZ	**Omahuta**	**27.14**	**158**	*e*P		**P**	**02 53 05.7**	**+1.2**
	comp=Z,73nm,1.3s							
CAN	**Canberra**	**27.40**	**203**	*e*P		**P**	**02 53 07.9**	**+0.9**
CAN				pmax	pmax			
	comp=Z,20nm,1.1s							
CAN	**Canberra**	**27.40**	**203**	*e*P		**P**	**02 53 07.9**	**+0.9**
	comp=Z,20nm,1.1s							
WRAB	**Tennant Creek**	**27.89**	**247**	P		**P**	**02 53 11.0**	**-0.6**
	comp=Z,249nm,0.9s,SNR=28							
WRAB	**Tennant Creek**	**27.89**	**247**	*e*P		**P**	**02 53 11.0**	**-0.6**
WRAB				pmax	pmax			
	comp=Z,143nm,1.4s							
WRAB	**Tennant Creek**	**27.89**	**247**	*e*P		**P**	**02 53 11.0**	**-0.6**
	comp=Z,143nm,1.4s							
WRA	**Warramunga Arr**	**27.91**	**247**	P		**P**	**02 53 10.8**	**-0.8**
	comp=Z,35nm,0.8s,baz=75,slow=9.3,SNR=104							
STKA	**Stephens Creek**	**28.31**	**218**	P		**P**	**02 53 15.6**	**+0.5**
	comp=Z,7.8nm,0.5s,baz=52,slow=14,SNR=19							
STKA				LR		LR	03 04 35.3	
	comp=Z,12μm,18.7s,baz=56,slow=36							
STKA	**Stephens Creek**	**28.31**	**218**	P		**P**	**02 53 15.6**	**+0.5**
STKA				pmax	pmax			
	comp=Z,8.0nm,0.5s							
STKA				MLR		MLR		
	comp=Z,12μm,18.7s							
STKA	**Stephens Creek**	**28.31**	**218**	*e*P		**P**	**02 53 15.4**	**+0.3**
	comp=Z,11nm,1.1s							
RKPI	**Ransiki, Papua**	**28.55**	**286**	P		**P**	**02 53 19.2**	**+1.8**
	comp=Z,111nm,1.1s,comp=Z,30μm							
GUMO	**Guam**	**28.92**	**325**	P		**P**	**02 53 19.6**	**-1.0**
	comp=Z,16nm,0.3s,baz=155,slow=11,SNR=2.2							
H11S2	**WAKE ISLAND Hy**	**29.06**	**10**	T		T	03 22 18.4	
	baz=195							
H11S3	**WAKE ISLAND Hy**	**29.06**	**10**	T		T	03 22 15.7	
	baz=195							
H11S1	**WAKE ISLAND Hy**	**29.07**	**10**	T		T	03 22 34.2	
	baz=195							
AS31	**Alice Springs**	**29.50**	**240**	*e*P		**P**	**02 53 25.1**	**-0.8**
ASAR	**Alice Springs**	**29.50**	**240**	P		**P**	**02 53 24.4**	**-1.4**
	comp=Z,4.5nm,0.3s,baz=64,slow=10,SNR=61							
SAUI	**Saumlaki**	**29.93**	**272**	P		**P**	**02 53 31.0**	**+1.3**
	comp=Z,429nm,1.5s							
FAKI	**Fak Fak**	**29.97**	**282**	P		**P**	**02 53 31.8**	**+1.7**
	comp=Z,34nm,1.3s,comp=Z,792nm							
FAKI	**Fak Fak**	**29.97**	**282**	*e*P		**P**	**02 53 29.9**	**-0.2**
	comp=Z,50nm,1.3s							
H11N1	**WAKE ISLAND Hy**	**30.28**	**10**	T		T	03 24 14.5	
	baz=193							
H11N3	**WAKE ISLAND Hy**	**30.29**	**10**	T		T	03 24 29.2	
	baz=193							
H11N2	**WAKE ISLAND Hy**	**30.30**	**10**	T		T	03 24 16.0	
	baz=193							
URZ	**Urewera**	**31.16**	**156**	P		**P**	**02 53 40.7**	**+0.5**
	comp=Z,5.2nm,0.4s,baz=267,slow=3.7,SNR=7.7							
URZ				LR		LR	03 04 42.8	
	comp=Z,3μm,19.6s,baz=352,slow=33							
URZ	**Urewera**	**31.16**	**156**	*e*P		**P**	**02 53 40.9**	**+0.7**
	comp=Z,192nm,1.8s							
SIJI	**Sorong**	**31.51**	**285**	P		**P**	**02 53 43.0**	**-0.6**
	comp=Z,17nm,0.7s,baz=87,slow=7.1,SNR=9.4							
SWI	**Sorong**	**31.52**	**285**	P		**P**	**02 53 45.2**	**+1.5**
	comp=Z,28nm,1.2s,comp=Z,912nm							
BKZ	**Black Stump Fm**	**31.70**	**158**	*e*P		**P**	**02 53 45.8**	**+0.7**
	comp=Z,34nm,0.7s							
BNDI	**Bandanaira**	**31.86**	**278**	P		**P**	**02 53 48.4**	**+1.6**
	comp=Z,751nm,1.1s,comp=Z,9μm							
BBOO	**Buckleboo**	**32.44**	**222**	*e*P		**P**	**02 53 52.7**	**+1.1**
	comp=Z,151nm,0.9s							
MSAI	**Masohi**	**33.08**	**280**	P		**P**	**02 53 59.1**	**+1.7**
	comp=Z,26nm,0.8s,comp=Z,2μm							
AAI	**Ambon**	**33.71**	**279**	P		**P**	**02 54 04.4**	**+1.5**
	comp=Z,329nm,1.0s,comp=Z,3μm							
RPZ	**Rata Peaks**	**34.31**	**168**	P		**P**	**02 54 08.4**	**+0.7**
	comp=Z,11nm,0.7s,baz=198,slow=5.3,SNR=5.2							
RPZ				LR		LR	03 06 50.4	
	comp=Z,1μm,20.3s,baz=6.5,slow=34							
RPZ	**Rata Peaks**	**34.31**	**168**	*e*P		**P**	**02 54 08.9**	**+1.1**
	comp=Z,78nm,1.3s							
NLAI	**Namlea**	**34.88**	**279**	P		**P**	**02 54 14.7**	**+1.7**
	comp=Z,194nm,1.9s,comp=Z,4μm							
LBMI	**Labuha**	**35.16**	**284**	P		**P**	**02 54 17.6**	**+2.1**
	comp=Z,150nm,2.0s,comp=Z,2μm							
DCZ	**Deep Cove**	**35.39**	**173**	*e*P		**P**	**02 54 17.9**	**+1.0**
	comp=Z,46nm,1.1s							
SANI	**Sanana**	**36.24**	**281**	P		**P**	**02 54 25.1**	**+0.4**
	comp=Z,149nm,1.1s,comp=Z,2μm							
SOEI	**Soe**	**36.69**	**267**	*e*P		**P**	**02 54 28.7**	**0.0**
	comp=Z,232nm,1.3s							
FORT	**Forrest**	**37.16**	**232**	*e*P		**P**	**02 54 32.7**	**+0.3**
	comp=Z,103nm,1.1s							
SGSI	**Sangihe**	**38.

comp=Z,220nm,1.1s
UGM Wanagama 50.38 268 P **P** **02 56 19.9 +1.0**
comp=Z,443nm,1.2s
SMRI Semarang 50.57 269 P **P** **02 56 21.3 +1.0**
comp=Z,418nm,0.9s,comp=Z,6µm
SMRI Semarang 50.57 269 *e*P **P** **02 56 18.9 -1.4**
comp=Z,277nm,0.8s
SMRI *e*pP **pP** **02 56 32.8 +0.1**
SBUM Sibu 50.69 282 ⇑P **P** **02 56 22.2 +1.0**
KIP Kipapa 50.71 51*c*eP **P** **02 56 23.8 +2.7**
KIP pmax pmax
comp=Z,70nm,1.7s
STKI Sintang 50.83 279 P **P** **02 56 23.9 +1.7**
comp=Z,121nm,1.1s
YOJ Yonaguni jima 51.06 313 *e*P **P** **02 56 24.8 +1.1**
YOJ *e**PP **pP** **02 56 35.9 -0.3**
YOJ pmax pmax
comp=Z,120nm,1.0s
YOJ Yonaguni jima 51.06 313 *e*P **P** **02 56 24.8 +1.1**
comp=Z,120nm,1.0s
YOJ *e*pP **pP** **02 56 35.9 -0.3**
MJAR Matsushiro Arr 51.50 336 P **P** **02 56 25.6 -1.2**
comp=Z,7.8nm,0.4s,baz=173,slow=8.6,SNR=23
MAJO Matsushiro 51.50 336 *i* P **P** **02 56 26.4 -0.4**
MAJO pmax pmax
comp=Z,405nm,1.5s
MAJO Matsushiro 51.50 336 *e*P **P** **02 56 26.0 -0.8**
comp=Z,32nm,0.6s
MAT Matsushiro 51.50 336 P **P** **02 56 25.8 -1.0**
MAT S **S** **03 03 41.8 -2.3**
YULB Yu-li 51.67 311 *e*P **P** **02 56 28.2 -0.1**
comp=Z,76nm,0.8s
POHA Pohakuloa 51.76 55 *e*P **P** **02 56 30.0 +0.6**
comp=Z,49nm,0.4s
NACB Ninganchiao 51.91 312 *e*P **P** **02 56 30.6 +0.5**
comp=Z,115nm,1.3s
NACB *e*pP **pP** **02 56 41.7 -0.9**
KPJI Karang Pucung 52.02 269 P **P** **02 56 31.3 +0.2**
comp=Z,245nm,0.9s
TPUB Ta-pu 52.12 310 *e*P **P** **02 56 31.7 0.0**
comp=Z,125nm,0.9s
TPUB *e*pP **pP** **02 56 43.1 -1.1**
JNU Nakatsue 52.13 327 P **P** **02 56 31.3 -0.3**
comp=Z,48nm,1.0s,baz=128,slow=3.3,SNR=24
JNU Nakatsue 52.13 327 *e*P **P** **02 56 31.4 -0.3**
comp=Z,77nm,1.1s
JNU *e*pP **pP** **02 56 46.2 +2.1**
SSLB Suanglung 52.16 311 *e*P **P** **02 56 31.6 -0.4**
comp=Z,87nm,0.8s
SSLB *e*pP **pP** **02 56 43.1 -1.4**
KSM Kuching 52.29 280 *e*P **P** **02 56 32.1 -1.1**
comp=Z,63nm,0.9s
KSM *e*pP **pP** **02 56 45.1 -0.6**
YHNB Yeheng 52.37 312 *e*P **P** **02 56 34.0 +0.4**
comp=Z,362nm,1.3s
YHNB *e*pP **pP** **02 56 45.3 -0.8**
CMJI Cimerak 52.44 268 P **P** **02 56 35.6 +1.4**
comp=Z,281nm,0.9s,comp=Z,2µm
TATO Taipei 52.47 313 *e*P **P** **02 56 34.4 +0.2**
comp=Z,225nm,1.0s
JCJI Jatiwangi 52.78 270 P **P** **02 56 37.6 +0.9**
comp=Z,584nm,1.1s,comp=Z,7µm
CISI Cisompet, Garu 53.09 268 P **P** **02 56 38.7 -0.4**
comp=Z,307nm,1.0s,comp=Z,5µm
CISI Cisompet, Garu 53.09 268 *e*P **P** **02 56 37.5 -1.6**
comp=Z,260nm,0.9s
CISI *e*pP **pP** **02 56 49.5 -2.1**
LEM Lembang 53.38 269 P **P** **02 56 42.1 +0.8**
comp=Z,482nm,0.9s,comp=Z,5µm
CNJI Cibinong 53.79 268 P **P** **02 56 45.2 +1.0**
comp=Z,255nm,1.1s,comp=Z,2µm
TPI Tanjungpandan 53.99 274 P **P** **02 56 46.0 +0.4**
comp=Z,130nm,1.2s,comp=Z,2µm
CBJI Citeko 54.19 269 P **P** **02 56 46.4 -0.7**
comp=Z,227nm,0.9s
SKJI Sukabumi 54.40 269 P **P** **02 56 50.2 +1.6**
comp=Z,331nm,1.0s,comp=Z,5µm
QZH Quanzhou 54.58 311⇑ *i*P **P** **02 56 49.6 -0.1**
QZH S **S** **03 04 24.6 -1.7**
QZH PMZ
comp=Z,210nm,0.9s
QZH PMZ
comp=Z,680nm,2.8s
ERM Erimo 54.72 343 *e*P **P** **02 56 50.5 +0.1**
ERM pmax pmax
comp=Z,54nm,0.8s
ERM Erimo 54.72 343 *e*P **P** **02 56 50.5 +0.1**
comp=Z,54nm,0.8s
XMIS Christmas Isla 54.90 264 *e*P **P** **02 56 53.6 +1.3**
comp=Z,191nm,1.1s
XMIS *e*pP **pP** **02 57 04.5 -0.4**
KSDAG Daegu 55.20 328 P **P** **02 56 54.9 +0.8**
SNR=8.8
KSDAG Daegu 55.20 328 P **P** **02 56 54.9 +0.8**
SNR=8.8
KSPHA Pohang 55.28 328 P **P** **02 56 55.4 +0.9**
SNR=13
KSPHA Pohang 55.28 328 P **P** **02 56 55.4 +0.9**
SNR=13
CGJI Cibinong 55.30 269 P **P** **02 56 53.5 -1.6**
comp=Z,511nm,0.8s,comp=Z,4µm
KSYOC YEONGCHEON 55.33 328 P **P** **02 56 55.8 +0.9**
SNR=13
KSYOC YEONGCHEON 55.33 328 P **P** **02 56 55.8 +0.9**
SNR=13
PPBI Pangkal Pinang 55.59 274 P **P** **02 56 57.8 +0.6**
comp=Z,93nm,1.1s,comp=Z,27µm
KSULJ Uljin 55.66 329 P **P** **02 56 57.9 +0.7**
SNR=21
KSULJ Uljin 55.66 329 P **P** **02 56 57.9 +0.7**
SNR=21
KSEUS ULSEONG 55.76 328 P **P** **02 56 59.7 +1.7**
SNR=7.4
YUK Yuzh-Kuril'sk 55.92 346*d* *i*P **P** **02 56 55.8 -3.1**
YUK *i* *PP **pP** **02 57 10.6 -1.0**
YUK *e*S S 03 04 32.8 -11
YUK *e**SS sS 03 04 57.0 -7.5
YUK pmax pmax
comp=Z,264nm,4.7s
YUK MLR MLR
comp=N,9µm,18.0s
YUK MLR MLR
comp=E,4µm,18.0s
YUK MLR MLR
comp=Z,6µm,18.0s
KSJEU Jeongeup 56.06 326 P **P** **02 57 01.2 +1.1**
SNR=7.3
KSJEU Jeongeup 56.06 326 P **P** **02 57 01.2 +1.1**
SNR=7.3
KSJEO Jeonju 56.19 327 P **P** **02 57 03.1 +2.0**
SNR=5.9
KSJEO Jeonju 56.19 327 P **P** **02 57 02.0 +1.0**
SNR=15
KSTBA Taebaek 56.21 329 P **P** **02 57 02.9 +1.6**
SNR=10
KSTBA Taebaek 56.21 329 P **P** **02 57 02.4 +1.1**
SNR=10.0
KSHUK Heuksando 56.30 324 P **P** **02 57 04.1 +2.2**
SNR=7.1
KSHUK Heuksando 56.30 324 P **P** **02 57 04.1 +2.2**
SNR=7.1
KSBON Boeun 56.34 327 P **P** **02 57 03.9 +1.8**
SNR=9.1
KSTEJ Daejeon 56.47 327 P **P** **02 57 05.5 +2.5**
SNR=14
TJN Taejon 56.48 327 *i* P **P** **02 57 02.9 -0.2**
SSE Sheshan 56.48 318⇓ P **P** **02 57 04.8 +1.5**
SSE pP **pP** **02 57 18.6 +2.7**
SSE S **S** **03 04 49.4 -2.1**
SSE sS **sS** **03 05 13.5 +0.9**
SSE PMZ
comp=Z,43nm,0.8s
SSE PMZ
comp=Z,140nm,3.6s
SSE LN
comp=Z,2µm,11.3s
SSE LE
comp=Z,650nm,11.3s
SSE LZ
comp=Z,3µm,11.3s
KSCHJ Chungju 56.53 328 P **P** **02 57 03.4 -0.1**
SNR=21
KSCHJ Chungju 56.53 328 P **P** **02 57 04.9 +1.4**
SNR=11
KSGUS GUNSAN 56.54 326 P **P** **02 57 05.9 +2.4**
SNR=12
KASI Kota Agung 56.63 270 P **P** **02 57 03.0 -1.7**
comp=Z,152nm,1.0s,comp=Z,2µm
KSKOJ Gongju 56.66 327 P **P** **02 57 05.3 +0.9**
SNR=26
KSDGY Daegwallycong 56.79 329 P **P** **02 57 06.2 +0.8**
SNR=12
KSDGY Daegwallycong 56.79 329 P **P** **02 57 06.2 +0.8**
SNR=12
ASAJ Asahikawa 56.82 344 *e*P **P** **02 57 06.3 +0.9**
comp=Z,56nm,0.8s
ASAJ *e*pP **pP** **02 57 18.7 +0.7**
KSCEA Cheonan 56.87 327 P **P** **02 57 07.5 +1.6**
SNR=5.8
KSJMJ Jumunjin 56.90 329 P **P** **02 57 06.6 +0.6**
SNR=11
KSJMJ Jumunjin 56.90 329 P **P** **02 57 06.6 +0.6**
SNR=11
KSRS Korea Array 56.99 328 P **P** **02 57 07.3 +0.5**
comp=Z,25nm,0.9s,baz=143,slow=7.2,SNR=49
KSRS Korea Array 56.99 328 P **P** **02 57 07.3 +0.5**
KSRS pmax pmax
comp=Z,25nm,1.0s
KSAR Wonju Array Be 57.01 328 P **P** **02 57 07.3 +0.4**
KSAR Wonju Array Be 57.01 328 P **P** **02 57 07.3 +0.4**
MDSI Maura Dua 57.10 271 P **P** **02 57 06.9 -1.1**
comp=Z,88nm,1.3s,comp=Z,2µm
KSICN Icheon 57.13 328 P **P** **02 57 09.4 +1.7**
SNR=5.1
LWLI Liwa 57.14 271 P **P** **02 57 09.8 +1.4**
comp=Z,125nm,1.0s,comp=Z,10µm
KSSES Seosan 57.27 327 P **P** **02 57 09.9 +1.2**
SNR=11
KSCHC Chuncheon 57.30 328 P **P** **02 57 11.0 +2.1**
SNR=9.3
KSIJA INJE 57.30 329 P **P** **02 57 10.1 +1.1**
SNR=19
KSSKC Sokcho 57.33 329 P **P** **02 57 10.2 +1.1**
SNR=10
SEHB SEOHWA 57.45 329 P **P** **02 57 10.9 +0.9**
SNR=12
KSSEO Seoul 57.54 328 P **P** **02 57 11.8 +1.1**
SNR=14
KSCWO Cheorwon 57.68 329 P **P** **02 57 13.8 +2.2**
SNR=6.8
INCN Inchon 57.69 327 *e*P **P** **02 57 12.5 +0.7**
comp=Z,282nm,1.4s
INCN *e*pP **pP** **02 57 24.6 +0.2**
LHSI Lahat 57.86 272 P **P** **02 57 14.9 +1.6**
comp=Z,69nm,1.1s
KSMUS Musan 57.93 328 P **P** **02 57 14.2 +0.9**
SNR=6.0
YNCB YEONCHEON 57.95 328 P **P** **02 57 14.2 +0.7**
SNR=22
KSGAH Ganghwa 57.96 327 P **P** **02 57 14.1 +0.6**
SNR=5.9
DRV Dumont d'Urvil 58.16 190 P P 02 56 58.0 -17
DRV S S 03 04 57.0 -16
DRV SS SS 03 08 39.0 -25
DRV L L 03 11 00.0
DRV R 03 14 00.0
MNAI Manna 58.33 271 *e*P **P** **02 57 15.9 -0.7**
comp=Z,230nm,1.2s
NJ2 Nanjing 58.63 318 *e*P **P** **02 57 18.3 0.0**
NJ2 PMZ
comp=Z,30nm,1.1s
MYKOM Kota Tinggi 58.64 278 *e*P **P** **02 57 18.1 -0.7**
comp=Z,46nm,1.0s
QIZ Qiongzhong 58.69 300 P **P** **02 57 19.4 +0.3**
QIZ pP **pP** **02 57 31.0 -0.8**
QIZ sP **sP** **02 57 35.9 -1.0**
QIZ S **S** **03 05 21.6 +0.6**
QIZ sS **sS** **03 05 41.6 -0.5**
QIZ PMZ
comp=Z,29nm,1.6s
QIZ PMZ
comp=Z,300nm,3.9s
MASI Maura Aman, Be 59.24 272 P **P** **02 57 25.8 +2.8**
comp=Z,159nm,1.0s,comp=Z,3µm
YSS Yuzh-Sakhalins 59.41 345⇑ *e*P **P** **02 57 23.0 -0.4**
YSS *e**PP **pP** **02 57 35.1 -1.1**
YSS *e*S S **03 05 24.0 -5.2**
YSS *e*PS **PnS** **03 05 49.0 +2.3**
YSS *e*SS **SS** **03 09 24.0 -1.1**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS pmax pmax
comp=Z,300nm,4.0s
YSS Yuzh-Sakhalins 59.41 345 *e*P **P** **02 57 24.3 +0.8**
YSS *e*pP **pP** **02 57 36.6 +0.4**
VLA Vladivostok 59.65 335*j* *i*P **P** **02 57 24.8 -0.4**
VLA *i* *PP **pP** **02 57 38.7 +0.8**
VLA *e* 02 58 11.4
VLA *e*S **S** **03 05 31.2 -1.2**
VLA pmax pmax
comp=Z,47nm,1.1s
SDSI Sungai Dareh 60.44 275 P **P** **02 57 32.1 +0.9**
comp=Z,120nm,1.1s,comp=Z,2µm
USRK Ussuriysk Ar. 60.50 336 P **P** **02 57 31.4 +0.4**
comp=Z,109nm,1.0s,baz=144,slow=6.9,SNR=109
WHN Wuhan 60.84 314 P **P** **02 57 32.8 -0.8**
WHN S S 03 05 41.1 -7.1
UBPT Khong Chiam 61.07 294 P **P** **02 57 36.9 +1.5**
comp=Z,36nm,1.4s,comp=Z,817nm
BKNI Bangkinang 61.07 276 P **P** **02 57 36.3 +0.8**
comp=Z,286nm,1.1s
BKNI Bangkinang 61.07 276 *e*P **P** **02 57 35.8 +0.3**
comp=Z,318nm,1.1s
PDSI Padang 61.39 275 P **P** **02 57 38.9 +1.2**
comp=Z,40nm,0.9s
DL2 Dalian 61.45 325 P **P** **02 57 36.4 -1.1**
DL2 S **S** **03 05 54.3 -1.3**
DL2 PMZ
comp=Z,110nm,1.3s
DL2 PMZ
comp=Z,250nm,4.9s
DL2 LN
comp=Z,1µm,9.6s
DL2 LZ
comp=Z,1µm,12.7s
RKT Rikitea 61.73 111 *e*S **S** **03 06 05.4 +5.5**
comp=Z,442nm,30.2s
RKT *e*LQ LQ 03 13 16.7
comp=Z,1µm,32.8s
RKT *e*LR LR 03 15 52.1
comp=Z,4µm,27.5s
MDJ Mudanjiang 61.83 335 P **P** **02 57 40.5 +0.5**
MDJ pP **pP** **02 57 52.5 -0.3**
MDJ sP **sP** **02 57 57.5 -0.4**
MDJ S **S** **03 06 03.8 +3.6**
MDJ sS **sS** **03 06 21.1 -0.4**
MDJ ScS **SKSac** **03 07 27.9 -0.2**
MDJ PMZ
comp=Z,50nm,1.1s
MDJ PMZ
comp=Z,320nm,4.1s
MDJ Mudanjiang 61.83 335 *e*P **P** **02 57 40.5 +0.5**
comp=Z,108nm,1.1s
IPM Ipoh 62.01 281 *e*P **P** **02 57 40.8 -1.2**
comp=Z,92nm,1.0s
IPM *e*pP **pP** **02 57 54.4 -0.3**
TIA Tai'an 62.35 320 *e*P **P** **02 57 43.4 -0.3**
KULM Kulim 62.57 281 *e*P **P** **02 57 44.8 -0.9**
comp=Z,84nm,1.1s
KULM *e*pP **pP** **02 57 58.3 -0.2**
MNSI Mandailing Nat 62.60 276 P **P** **02 57 45.2 -0.6**
comp=Z,227nm,0.9s,comp=Z,6µm
SKNT Sakolnakorn 63.01 295 P **P** **02 57 49.2 +0.7**
comp=Z,63nm,1.5s,comp=Z,2µm
HABR Khabarovsk 63.02 341 P **P** **02 57 46.2 -1.7**
HABR *e**PP **pP** **02 58 00.0 -0.7**
HABR *e* 03 00 04.6
HABR *e*S **S** **03 06 13.1 -2.0**
HABR *e**SS **sS** **03 06 36.4 0.0**
HABR *e* 03 07 33.9
HABR pmax pmax
comp=Z,48nm,1.0s
CN2 Changchun 63.04 331 *e*P **P** **02 57 47.8 -0.3**
CN2 *e*pP **pP** **02 58 00.5 -0.4**
CN2 *e*sP **sP** **02 58 06.1 +0.1**
CN2 *e*S **S** **03 06 13.8 -1.7**
CN2 PMZ
comp=Z,50nm,0.8s
CN2 PMZ
comp=Z,600nm,3.0s
CN2 LN
comp=Z,5µm,10.0s
CN2 LE
comp=Z,6µm,10.0s
CN2 LZ
comp=Z,10µm,11.0s
SKLT Songkhla 63.08 283 P **P** **02 57 49.8 +0.8**
comp=Z,46nm,1.9s,comp=Z,822nm
PEA0B Petropavlovsk- 63.24 357 *e*P **P** **02 57 50.0 +0.8**
PEA0B *e*pP **pP** **02 58 02.5 +0.5**
PETK Petropavlovsk- 63.24 357 P **P** **02 57 49.7 +0.5**
comp=Z,28nm,1.0s,baz=144,slow=5.5,SNR=21
PSI Prapat 63.66 278 *e*P **P** **02 57 51.9 -1.1**
PSI Prapat 63.66 278 *e*P **P** **02 57 51.9 -1.1**
TRTT Trang 64.14 284 P **P** **02 57 56.7 +0.7**
comp=Z,60nm,1.2s,comp=Z,961nm
ENH Enshi 64.24 311 *e*P **P** **02 57 56.5 +0.1**
comp=Z,40nm,0.9s
PATY Pattaya 64.49 290 P **P** **02 58 00.2 +2.0**
comp=Z,23nm,1.1s
NAYO Nakonayok 64.51 291 P **P** **02 57 59.5 +1.1**
comp=Z,39nm,1.3s
GYA Guiyang 64.60 306⇑ *i*P **P** **02 58 00.4 +1.5**
GYA pP **pP** **02 58 13.0 +1.3**
GYA sP **sP** **02 58 19.3 +2.5**
GYA PP **PP** **03 00 25.5 +4.0**
GYA sS **sS** **03 06 57.0 -0.2**
GYA SS **SS** **03 10 48.3 +1.0**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,180nm,4.9s
GYA LN
comp=Z,2µm,10.6s
GYA LE
comp=Z,2µm,12.4s
GYA LZ
comp=Z,3µm,11.8s
GSI Gunungsitoli 64.66 276 P **P** **02 57 59.7 +0.3**
comp=Z,199nm,1.0s,comp=Z,2µm
GSI Gunungsitoli 64.66 276 *e*P **P** **02 57 58.4 -1.0**
comp=Z,147nm,0.9s
GSI *e*pP **pP** **02 58 09.8 -2.4**
KRAB Krabi 64.72 284 P **P** **02 58 00.8 +1.0**
comp=Z,32nm,1.0s,comp=Z,1µm
KLR Kul'dur 64.80 339 *e*P P 02 57 55.9 -3.7
KLR pmax pmax
comp=Z,90nm,1.4s
SURT Suratani 65.30 285 P **P** **02 58 04.8 +1.3**
comp=Z,24nm,1.1s,comp=Z,403nm
BJI Beijing 65.35 323 P **P** **02 58 03.8 +0.5**
BJI pP **pP** **02 58 16.3 +0.1**
BJI PP **PP** **03 00 27.3 -0.4**
BJI S **S** **03 06 43.5 -0.7**
PKDT Phuket 65.45 284 P **P** **02 58 06.1 +1.6**
comp=Z,89nm,1.1s
PBKT Sadao Pong 65.57 293 P **P** **02 58 06.3 +1.1**
comp=Z,54nm,1.1s,comp=Z,4µm
CASY Casey 65.61 200 *e*P **P** **02 58 03.3 -1.3**
comp=Z,112nm,1.5s
NKL Nikolayevsk 65.66 346 *e*P **P** **02 58 03.8 -1.2**
NKL *e* 02 58 16.8
NKL pmax pmax
comp=Z,70nm,1.2s
TIY Taiyuan 66.24 319 *e*P **P** **02 58 09.0 -0.3**
TIY sP **sP** **02 58 29.9 +2.7**
TIY PMZ
comp=Z,340nm,5.4s
UTTA Uttaradit 66.34 295 P **P** **02 58 11.7 +1.5**
comp=Z,8.9nm,1.1s
SRDT SRDT 66.55 291 P **P** **02 58 13.8 +2.3**
comp=Z,123nm,1.4s
NANT Nan 66.58 296 P **P** **02 58 12.5 +0.8**
comp=Z,15nm,0.9s,comp=Z,168nm
XAN Xi'an 66.59 314 P **P** **02 58 10.5 -1.0**
XAN pP **pP** **02 58 23.0 -1.4**
XAN S **S** **03 06 55.1 -4.6**
XAN PMZ
comp=Z,55nm,4.9s
UTHA Uthaitani 66.63 292 P **P** **02 58 13.7 +1.7**
comp=Z,14nm,1.1s,comp=Z,131nm
VNDA Vanda 67.21 180 P **P** **02 58 14.2 -0.5**
comp=Z,11nm,1.0s,baz=339,slow=7.4,SNR=31
VNDA Vanda 67.21 180 *e*P **P** **02 58 13.6 -1.1**
VNDA *e**PP **pP** **02 58 25.7 -1.9**
VNDA pmax pmax
comp=Z,40nm,0.8s
VNDA Vanda 67.21 180 *e*P **P** **02 58 13.6 -1.1**
comp=Z,40nm,0.8s
VNDA *e*pP **pP** **02 58 25.7 -1.9**
KMI Kunming 67.22 303 P **P** **02 58 16.0 +0.1**
KMI pP **pP** **02 58 26.8 -2.0**
KMI sP **sP** **02 58 29.8 -4.1**
KMI PcP **PcP** **02 58 47.3 +3.7**
KMI PP **PP** **03 00 48.4 +3.8**
KMI S **S** **03 07 06.8 -1.2**
KMI sS **sS** **03 07 28.8 -0.7**
KMI SS **SS** **03 11 25.8 -2.5**
KMI PMZ
comp=Z,35nm,1.2s
KMI PMZ
comp=Z,290nm,4.0s
CRAI Chiangrai 67.37 297 P P 02 58 12.9 -3.8
comp=Z,35nm,1.1s,comp=Z,2µm
SBA Scott Base 67.60 179 *e*P **P** **02 58 18.0 +0.9**
SBA *e**PP **pP** **02 58 29.3 -0.8**
SBA pmax pmax
comp=Z,70nm,1.0s
SBA Scott Base 67.60 179 *e*P **P** **02 58 18.0 +0.9**
comp=Z,70nm,1.0s
SBA *e*pP **pP** **02 58 29.3 -0.8**
CM31 Chiang Mai Arr 68.03 295 *e*P **P** **02 58 22.5 +1.6**
comp=Z,8.0nm,0.6s
CMAR Chiang Mai Arr 68.03 295 P **P** **02 58 21.1 +0.2**
comp=Z,11nm,0.7s,baz=122,slow=4.9,SNR=34
CMMT Chiang Mai 68.14 295 P **P** **02 58 22.6 +1.0**
comp=Z,42nm,1.2s,comp=Z,634nm
CHTO Chiang Mai 68.14 295 P **P** **02 58 22.7 +1.1**
comp=Z,113nm,1.4s
CHTO Chiang Mai 68.14 295 *e*P **P** **02 58 20.6 -1.0**
CHTO pmax pmax
comp=Z,59nm,1.5s
CHTO Chiang Mai 68.14 295 *e*P **P** **02 58 20.6 -1.0**
comp=Z,59nm,1.5s
CMAI Chiengmai2 68.44 296 P **P** **02 58 24.9 +1.3**
comp=Z,31nm,0.5s,comp=Z,6µm
HHC Hu-ho-hao-te 68.62 321 *e*P **P** **02 58 24.4 +0.1**
HHC pP **pP** **02 58 35.8 -1.4**
HHC sP **sP** **02 58 41.4 -0.9**
HHC PP **PP** **03 00 56.4 0.0**
HHC S **S** **03 07 24.5 +0.5**
HHC sS **sS** **03 07 45.8 +0.2**
HHC ScS **SKSac** **03 08 19.8 -0.3**
HHC PMZ
comp=Z,30nm,1.3s
HHC PMZ
comp=Z,400nm,8.1s
HHC LN
comp=Z,3µm,16.8s
HHC LE
comp=Z,1µm,16.7s
HHC LZ
comp=Z,2µm,17.4s
CD2 Chengdu 68.88 309 P **P** **02 58 27.4 +1.4**
CD2 pP **pP** **02 58 41.6 +2.6**
CD2 sP **sP** **02 58 47.6 +3.5**
CD2 PP **PP** **03 00 59.8 +1.0**
CD2 S **S** **03 07 28.3 +1.0**
CD2 SS **SS** **03 11 55.3 +1.7**
CD2 PMZ
comp=Z,60nm,0.5s
CD2 PMZ
comp=Z,280nm,5.0s
CD2 LN
comp=Z,10µm,19.6s
CD2 LE
comp=Z,10µm,23.0s
CD2 LZ
comp=Z,8µm,19.1s
HIA Hailar 69.73 332 *e*P **P** **02 58 31.0 +0.1**
HIA *e**PP **pP** **02 58 43.2 -0.6**
HIA pmax pmax
comp=Z,48nm,0.8s
HIA Hailar 69.73 332 *e*P **P** **02 58 31.0 +0.1**
comp=Z,48nm,0.8s
HIA *e*pP **pP** **02 58 43.2 -0.6**
LZH Lanzhou 71.22 314⇑ *i*P **P** **02 58 43.0 +2.6**
LZH pP **pP** **02 58 53.3 -0.1**

LZH sP **sP** **02 58 59.4 +0.9**
LZH PP **PP** **03 01 23.8 +4.9**
LZH S **S** **03 07 53.4 -1.3**
LZH sS **SKiKP** **03 08 17.3 -0.5**
LZH SS **SS** **03 12 32.8 +3.2**
LZH PMZ
comp=Z,42nm,1.1s
LZH PMZ
comp=Z,160nm,5.4s
LZH LZ
comp=Z,810nm,17.4s
MIR Mirnyy 72.12 203 eP P 02 58 54.0 +8.9
MIR pmax pmax
comp=Z,80nm,1.1s
MIR pmax pmax
comp=Z,80nm,1.5s
SEY Seymchan 73.35 356 eP **P** **02 58 53.1 +0.8**
CLNS Chul'man 73.40 340 eP **P** **02 58 53.6 +0.8**
CLNS e 02 59 05.2
CLNS ePPP PPP 03 03 17.2
CLNS eS **SKiKP** **03 08 26.2 +6.0**
CLNS e 03 08 55.7
CLNS e*SS ScS 03 09 13.0 +15
CLNS pmax pmax
comp=Z,45nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.7s
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=Z,15nm,0.9s
CLNS smax smax
comp=E,453nm,15.3s
CLNS smax smax
comp=N,763nm,12.5s
GTA Gaotai 75.58 315 ⇑P **P** **02 59 06.3 +0.3**
GTA pP **PcP** **02 59 18.9 +0.1**
GTA sP **sP** **02 59 24.3 +0.2**
GTA PP **PP** **03 01 56.8 +0.8**
GTA S **S** **03 08 42.3 -1.6**
GTA sS **sS** **03 09 05.8 0.0**
GTA SKS **SKSac** **03 09 07.4 -5.3**
GTA SS **SS** **03 13 37.9 +1.9**
GTA PMZ
comp=N,48nm,1.3s
GTA PMZ
comp=N,430nm,5.9s
GTA LN
comp=N,15μm,20.0s
GTA LE
comp=N,11μm,19.5s
GTA LZ
comp=N,15μm,20.0s
SONM Songino Array 75.65 325 P **P** **02 59 06.4 +0.2**
comp=N,33nm,0.7s,baz=139,slow=5.3,SNR=66
YAK Yakutsk 76.26 345 eP **P** **02 59 08.4 -0.7**
YAK e 02 59 21.7
YAK e 03 01 58.5
YAK eS **S** **03 08 44.6 -5.5**
YAK e 03 09 14.9
YAK e 03 09 34.1
YAK eSS **SS** **03 13 42.1 -2.9**
YAK eSSS SSS 03 17 07.8
YAK pmax pmax
comp=Z,73nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,27nm,1.6s
YAK pmax pmax
comp=E,9.0nm,1.6s
YAK smax smax
comp=N,94nm,5.6s
YAK smax smax
comp=E,145nm,5.3s
YAK Yakutsk 76.26 345 eP **P** **02 59 08.6 -0.6**
comp=E,81nm,0.6s
YAK epP **pP** **02 59 21.7 -0.6**
OHAK Old Harbor 76.80 23 eP **P** **02 59 13.2 +0.9**
KDAK Kodiak Island 77.47 23 P **P** **02 59 17.7 +1.7**
comp=E,345nm,0.8s,SNR=5.7
KDAK Kodiak Island 77.47 23 eP **P** **02 59 16.6 +0.6**
KDAK e*PP **pP** **02 59 30.4 +1.2**
KDAK pmax pmax
comp=Z,74nm,1.0s
KDAK Kodiak Island 77.47 23 eP **P** **02 59 16.6 +0.6**
comp=Z,74nm,1.0s
KDAK epP **pP** **02 59 30.4 +1.2**
BOD Bodaibo 78.13 336 eP **P** **02 59 18.9 -0.9**
BOD pmax pmax
comp=Z,29nm,1.5s
LSA Lhasa 78.47 303 P **P** **02 59 23.3 +0.5**
LSA Lhasa 78.47 303 eP **P** **02 59 22.7 -0.2**
LSA Lhasa 78.47 303 eP **P** **02 59 22.7 -0.2**
ZAK Zakamensk 78.75 326 ⇓i/P **P** **02 59 21.1 -2.4**
ZAK pmax pmax
comp=Z,48nm,1.7s
SVW2 Sparrevohn 78.75 20 eP **P** **02 59 24.3 +1.2**
IRK Irkutsk 79.21 328 eP **P** **02 59 26.1 +0.3**
IRK pmax pmax
comp=Z,127nm,1.6s
TLY Talaya 79.24 328 P **P** **02 59 25.1 -0.9**
comp=Z,178nm,1.0s,SNR=7.7
TLY Talaya 79.24 328 eP **P** **02 59 25.7 -0.3**
TLY e 02 59 38.0
TLY e 03 10 01.1
TLY pmax pmax
comp=Z,41nm,1.1s
TLY Talaya 79.24 328 eP **P** **02 59 25.1 -0.9**
comp=Z,50nm,0.9s
TLY epP **pP** **02 59 37.7 -1.5**
RSO Redoubt South 79.27 21 eP **P** **02 59 25.8 -0.5**
comp=Z,83nm,0.9s
BRLK Bradley Lake 79.47 22 eP **P** **02 59 27.8 +0.6**
QSPA South Pole Qui 79.70 180 P **P** **02 59 27.8 -0.8**
comp=Z,13nm,0.6s,baz=316,slow=1.0,SNR=32
SEW Seward 80.23 23 eP **P** **02 59 31.4 +0.2**
comp=Z,73nm,1.1s
TAPN Taplejung 80.63 300 eP **P** **02 59 34.9 +0.4**
MOY Mondy 80.65 327 eP **P** **02 59 34.6 +0.8**
MOY pmax pmax
comp=Z,82nm,3.2s
ODAN Odare 80.77 299 eP **P** **02 59 35.6 +0.5**
comp=Z,70nm,1.1s
RC01 Rabbit Creek A 80.78 22 eP **P** **02 59 31.4 -2.7**
comp=Z,51nm,1.0s
PPLA Purkeypile 81.16 20 eP **P** **02 59 36.4 +0.1**
comp=Z,30nm,1.1s
TRF Thorofare Moun 82.17 20 eP **P** **02 59 40.7 -0.9**
comp=Z,45nm,0.9s
DIV Divide 82.29 23 eP **P** **02 59 42.0 -0.2**
comp=Z,65nm,1.0s
PALK Pallekele 82.34 279 eP **P** **02 59 43.9 +0.4**
PALK pmax pmax
comp=Z,16nm,1.0s
PALK Pallekele 82.34 279 eP **P** **02 59 43.9 +0.4**
comp=Z,16nm,1.0s
GUN Gumba 82.35 300 eP **P** **02 59 44.0 +0.4**
BPAW Bear Paw Mtn. 82.38 19 eP **P** **02 59 41.4 -1.2**
comp=Z,6.8nm,1.0s
BMRM Bremner River 82.64 23 eP **P** **02 59 45.1 +1.1**
comp=Z,43nm,1.0s
PKI Pulchoki 82.66 300 eP **P** **02 59 45.1 -0.1**
comp=Z,90nm,1.4s
MCK McKinley 82.81 20 eP **P** **02 59 44.7 -0.1**
MCK pmax pmax
comp=Z,180nm,1.0s
MCK McKinley 82.81 20 eP **P** **02 59 44.7 -0.1**
comp=Z,180nm,1.0s
KKN Kakani 82.83 300 eP **P** **02 59 46.2 +0.3**
IM04 Indian Mountai 82.85 17 eP **P** **02 59 44.2 -0.7**
DMN Daman 82.93 300 eP **P** **02 59 47.1 +0.6**
comp=Z,89nm,1.1s
GKN Gorkha 83.43 300 eP **P** **02 59 49.4 +0.4**
comp=Z,91nm,0.9s
PAX Paxson 83.53 22 eP **P** **02 59 49.4 +0.8**
PAX Paxson 83.53 22 eP **P** **02 59 49.4 +0.8**

MAW Mawson 83.84 202 P **P** **02 59 49.5 -0.6**
comp=Z,27nm,0.8s,baz=90,slow=6.4,SNR=30
COLA College 83.92 19 eP **P** **02 59 50.1 -0.3**
COLA e*PP **pP** **03 00 01.4 -2.2**
COLA pmax pmax
comp=Z,118nm,1.0s
COLA College 83.92 19 eP **P** **02 59 50.0 -0.3**
comp=Z,118nm,1.0s
COLA epP **pP** **03 00 01.4 -2.2**
MENT Mentasta 84.15 22 eP **P** **02 59 52.2 +0.5**
ILAR Eielson Array 84.17 20 P **P** **02 59 50.9 -0.9**
comp=Z,37nm,0.9s,baz=246,slow=4.7,SNR=112
KOLN Koldanda 84.26 299 eP **P** **02 59 53.2 -0.1**
comp=Z,35nm,0.8s
TIXI Tiksi 84.61 350*c i*P **P** **02 59 52.4 -1.4**
TIXI pmax pmax
comp=Z,38nm,1.7s
TIXI Tiksi 84.61 350 eP **P** **02 59 52.9 -0.8**
TIXI epP **pP** **03 00 05.4 -1.6**
COLD Coldfoot 84.75 17 eP **P** **02 59 55.1 +0.4**
comp=Z,19nm,1.1s
KHMM Horse Mountain 85.37 47 eP P 03 00 02.2 +3.7
HYT Haines Junctio 85.46 25 eP **P** **02 59 58.9 +0.5**
comp=Z,24nm,1.0s
WMQ Urumqi 85.65 316 P **P** **03 00 01.3 +1.6**
WMQ pP **pP** **03 00 14.8 +1.8**
WMQ sP **sP** **03 00 19.8 +1.8**
WMQ PP **PP** **03 03 21.4 +2.1**
WMQ sS **sS** **03 10 49.9 -1.2**
WMQ PMZ
comp=Z,9.0nm,0.5s
WMQ PMZ
comp=Z,160nm,5.0s
WRAK Wrangell Islan 85.77 31 eP **P** **03 00 00.2 +0.4**
comp=Z,20nm,1.1s
L02D Cave Junction, 85.86 46 ⇓P **P** **03 00 02.1 +1.4**
baz=86
EGAK Eagle 86.14 21 eP **P** **03 00 02.4 +0.8**
comp=Z,120nm,1.1s
EGAK epP **pP** **03 00 15.2 +0.3**
N02D Trinity Center 86.14 47 ⇓P **P** **03 00 03.5 +1.3**
baz=86
M02C Callahan 86.16 47 ⇓P **P** **03 00 03.7 +1.4**
baz=86,SNR=5.6
YBH Yreka Blue Hor 86.36 47 eP **P** **03 00 04.4 +1.1**
YBH pmax pmax
comp=Z,20nm,1.1s
YBH Yreka Blue Hor 86.36 47 eP **P** **03 00 04.4 +1.1**
comp=Z,20nm,1.1s
HUMO Hull Mountain 86.45 46 eP **P** **03 00 04.5 +0.9**
comp=Z,28nm,1.0s
I03D Drain, OR 86.50 45 ⇓P **P** **03 00 05.4 +1.6**
baz=87
BSC Santa Cruz Isl 86.59 55 ⇓P **P** **03 00 05.4 +0.9**
baz=87
SMMC Simmler 86.64 53 ⇓P **P** **03 00 06.3 +1.6**
baz=87
PKM Mcpherson Peak 86.67 54 ⇓P **P** **03 00 06.5 +1.3**
baz=87
M04C Macdoel 87.00 47 ⇑P **P** **03 00 07.4 +0.9**
baz=87,SNR=5.9
G03D McMinnville, O 87.02 43 ⇑P **P** **03 00 07.9 +1.6**
baz=87
CMB Columbia Colle 87.05 51 eP **P** **03 00 06.8 +0.1**
CMB pmax pmax
comp=Z,16nm,1.0s
CMB Columbia Colle 87.05 51 eP **P** **03 00 06.8 +0.1**
comp=Z,16nm,1.0s
BLG Laguna Peak, P 87.08 55 ⇓P **P** **03 00 08.2 +1.3**
baz=87
I04A Tendick Farm, 87.18 45 ⇓P **P** **03 00 08.2 +1.0**
baz=87
J04D Umpqua Nationa 87.23 45 ⇓P **P** **03 00 08.4 +0.7**
baz=87,SNR=6.6
K04D Chiloquin, OR 87.30 46 ⇑P **P** **03 00 08.9 +0.9**
baz=87
CIS Catalina Islan 87.44 56 ⇓P **P** **03 00 09.3 +0.7**
baz=88
F04D Rainier, OR 87.45 42 ⇓P **P** **03 00 10.1 +1.7**
baz=88
OSI Osito Audit: C 87.47 54 ⇑P **P** **03 00 10.4 +1.6**
baz=88
RCTC Rector, Farmer 87.49 53 ⇑P **P** **03 00 09.9 +1.1**
baz=88
VES Vestal, Richgr 87.49 53 ⇓P **P** **03 00 09.4 +0.6**
baz=88
ARVC Arvin 87.52 54 ⇓P **P** **03 00 10.0 +1.0**
baz=88
FMP Fort Macarthur 87.60 55 ⇓P **P** **03 00 10.5 +1.1**
baz=88
DECC Green Verdugo 87.70 55 ⇓P **P** **03 00 10.6 +0.7**
baz=88
DLBC Dease Lake 87.75 29 eP **P** **03 00 09.7 0.0**
comp=Z,12nm,1.1s
J05D Fort Rock, OR 87.85 45 ⇓P **P** **03 00 11.5 +0.9**
baz=88,SNR=21
WAKR Walker 87.89 50 eP **P** **03 00 12.5 +1.5**
comp=Z,53nm,1.7s
ISA Isabella, Lake 87.93 53 eP **P** **03 00 11.3 +0.3**
ISA e*PP **pP** **03 00 24.2 -0.2**
ISA pmax pmax
comp=Z,121nm,2.2s
ISA Isabella, Lake 87.93 53 ⇑P **P** **03 00 11.6 +0.6**
baz=88
ISA Isabella, Lake 87.93 53 eP **P** **03 00 11.3 +0.3**
comp=Z,122nm,2.2s
ISA epP **pP** **03 00 24.2 -0.2**
PGC Sidney 87.95 40 eP **P** **03 00 11.7 +1.1**
comp=Z,26nm,1.2s
TDL Tradedollar La 88.06 42 P **P** **03 00 14.4 +3.0**
I05D Terrebonne, OR 88.07 44 ⇓P **P** **03 00 12.4 +0.9**
baz=88
EDW2 Edwards Air Fo 88.12 54 ⇑P **P** **03 00 12.6 +0.7**
baz=88,SNR=8.2
MLAC Mammoth, Mammo 88.13 51 ⇑P **P** **03 00 12.9 +0.8**
baz=88
BFSC Mount Baldy Ra 88.24 55 ⇑P **P** **03 00 12.9 +0.3**
baz=88,SNR=9.6
G05D Wamic, OR 88.34 44 ⇑P **P** **03 00 13.8 +1.1**
baz=88
109C Camp Elliot, M 88.38 56 ⇑P **P** **03 00 14.1 +1.0**
baz=88
CWC Cottonwood Cre 88.43 53 ⇑P **P** **03 00 14.4 +0.9**
baz=89
TIN Tinemaha, Big 88.46 52 ⇓P **P** **03 00 14.6 +1.0**
baz=89
MURC Murrieta 88.46 56 ⇓P **P** **03 00 14.2 +0.7**
baz=89
LRMC Laurel Mtn Rad 88.50 54 ⇓P **P** **03 00 14.3 +0.5**
baz=89,SNR=5.4
WPW White Pass 88.60 42 P **P** **03 00 16.8 +2.8**
NVAR Mina Array Bea 88.73 51 P **P** **03 00 16.1 +1.2**
comp=Z,12nm,0.8s,baz=243,slow=6.7,SNR=22
DAC Darwin (Calif) 88.77 53 eP **P** **03 00 15.2 0.0**
DAC e*PP **pP** **03 00 28.5 0.0**
DAC pmax pmax
comp=Z,28nm,1.2s
DAC Darwin (Calif) 88.77 53 eP **P** **03 00 15.2 0.0**
comp=Z,28nm,1.2s
DAC epP **pP** **03 00 28.4 0.0**
MPMC Manual Prospec 88.80 53 ⇓P **P** **03 00 16.1 +0.8**
baz=89,SNR=16
BBRC Big Bear Solar 88.84 55 ⇓P **P** **03 00 16.0 +0.4**
baz=89
RRX Edison Barstow 88.92 54 ⇓P **P** **03 00 17.1 +1.5**
baz=89
MONP Monument Peak, 88.94 56 ⇑P **P** **03 00 16.8 +0.8**
baz=89,SNR=11
PFO Pinyon Flats O 89.07 56 eP **P** **03 00 17.1 +0.6**
PFO e*PP **pP** **03 00 30.0 +0.1**
PFO pmax pmax
comp=Z,48nm,1.7s
PFO Pinyon Flats O 89.07 56 ⇑P **P** **03 00 17.7 +1.1**
baz=89
PFO Pinyon Flats O 89.07 56 eP **P** **03 00 17.1 +0.6**
comp=Z,48nm,1.7s
PFO epP **pP** **03 00 30.0 +0.1**
GRAC Grapevine Rang 89.11 52 ⇑P **P** **03 00 17.7 +1.1**
baz=89
GSC Goldstone, Bar 89.17 54 eP **P** **03 00 17.9 +1.0**
GSC pmax pmax
comp=Z,51nm,1.7s
GSC Goldstone, Bar 89.17 54 ⇓P **P** **03 00 17.4 +0.5**
baz=89,SNR=6.7
GSC Goldstone, Bar 89.17 54 eP **P** **03 00 17.9 +1.0**
comp=Z,51nm,1.7s
FURC Furnace Creek, 89.39 53 ⇑P **P** **03 00 18.5 +0.8**
baz=90,SNR=9.8
HEC Hector,Ludlow 89.44 55 ⇓P **P** **03 00 18.5 +0.3**
baz=90,SNR=11
SWSC Sam W. Stewart 89.46 57 ⇑P **P** **03 00 19.1 +0.9**
baz=90
WVOR Wild Horse Val 89.47 47 eP **P** **03 00 18.4 +0.2**
WVOR pmax pmax
comp=Z,40nm,1.2s
WVOR Wild Horse Val 89.47 47 eP **P** **03 00 18.4 +0.2**
comp=Z,40nm,1.2s
TPH Tonopah 89.48 51 eP **P** **03 00 18.9 +0.5**
TPH pmax pmax
comp=Z,94nm,1.8s
TPH Tonopah 89.48 51 eP **P** **03 00 18.9 +0.5**
comp=Z,94nm,1.8s
BELC Belle Mtn. Jos 89.53 55 ⇑P **P** **03 00 19.3 +0.6**
baz=90,SNR=14
SHOC Shoshone, Teco 89.72 54 ⇑P **P** **03 00 20.5 +1.1**
baz=90
HAWA Hanford 89.86 43 eP **P** **03 00 20.6 +0.8**
BC3 Big Chuckawall 89.89 56 ⇓P **P** **03 00 20.8 +0.4**
baz=90,SNR=7.3
TUQ Turquoise Moun 89.90 54 ⇑P **P** **03 00 21.3 +0.9**
baz=90
GMRC Granite Mounta 89.97 55 ⇑P **P** **03 00 21.0 +0.3**
baz=90,SNR=21
TPNV Topopah Spring 89.97 53 ⇓P **P** **03 00 21.5 +0.8**
baz=90,SNR=6.7
BMN Battle Mountai 90.02 49 eP **P** **03 00 21.8 +0.9**
BMN e*PP **pP** **03 00 35.0 +0.7**
BMN pmax pmax
comp=Z,25nm,1.0s
BMN Battle Mountai 90.02 49 eP **P** **03 00 21.8 +0.9**
comp=Z,25nm,1.0s
BMN epP **pP** **03 00 35.0 +0.7**
MK31 Makanchi Array 90.16 318 eP **P** **03 00 19.6 -1.6**
MK31 Makanchi Array 90.16 318 eP **P** **03 00 19.6 -1.6**
MKAR Makanchi Array 90.16 318 P **P** **03 00 19.8 -1.4**
comp=Z,8.7nm,0.4s,baz=96,slow=5.6,SNR=122
IRM Iron Mountain 90.25 55 ⇓P **P** **03 00 22.9 +1.0**
baz=90,SNR=11
GLA Glamis 90.28 57 eP **P** **03 00 24.5 +2.4**
GLA pmax pmax
comp=Z,18nm,0.8s
GLA Glamis 90.28 57 ⇑P **P** **03 00 23.4 +1.3**
baz=90
GLA Glamis 90.28 57 eP **P** **03 00 24.5 +2.4**
comp=Z,18nm,0.8s
ZAA0 Zalesovo Array 90.55 325 eP **P** **03 00 20.9 -1.9**
ZAA0 epP **pP** **03 00 33.3 -2.9**
ZALV Zalesovo Beam 90.55 325 P **P** **03 00 20.8 -2.0**
comp=Z,4.8nm,0.4s,baz=113,slow=5.9,SNR=16
INK Inuvik 90.57 20 eP **P** **03 00 22.9 +0.4**
INK pmax pmax
comp=Z,12nm,1.1s
INK Inuvik 90.57 20 eP **P** **03 00 22.9 +0.4**
comp=Z,12nm,1.1s
Y12C Blythe 90.67 56 ⇑P **P** **03 00 24.6 +0.8**
baz=91,SNR=12
SHPR Sheep Range 90.73 53 eP **P** **03 00 25.0 +0.7**
comp=Z,31nm,1.0s
SHPR epP **pP** **03 00 38.4 +0.7**
SHPR ePP **PP** **03 04 00.3 0.0**
R11A Troy Canyon, C 90.80 51 ⇑P **P** **03 00 25.1 +0.5**
baz=91,SNR=18
R11A Troy Canyon, C 90.80 51 eP **P** **03 00 24.9 +0.3**
comp=Z,18nm,1.0s
R11A epP **pP** **03 00 38.6 +0.7**
NEE2 Needles Airpor 90.80 55 ⇑P **P** **03 00 25.2 +0.8**
baz=91
BMO Blue Mountains 90.99 45 eP **P** **03 00 25.2 0.0**
BMO pmax pmax
comp=Z,15nm,1.0s
BMO Blue Mountains 90.99 45 eP **P** **03 00 25.2 0.0**
comp=Z,15nm,1.0s
PDMCI Parker Dam,Lak 91.09 55 ⇑P **P** **03 00 26.5 +0.7**
baz=91,SNR=7.5
ELK Elko 91.57 49 eP **P** **03 00 29.1 +0.9**
ELK e*PP **pP** **03 00 41.3 -0.2**
ELK pmax pmax
comp=Z,16nm,1.0s
ELK Elko 91.57 49 eP **P** **03 00 29.1 +0.9**
comp=Z,16nm,1.0s
ELK epP **pP** **03 00 41.3 -0.2**
NVS Novosibirsk 91.68 325 ⇓i/P **P** **03 00 26.7 -1.3**
NVS pmax pmax
comp=Z,68nm,1.8s
NVS pmax pmax
comp=N,14nm,1.5s
NVS pmax pmax
comp=E,32nm,1.8s
MFID Camas Ranch 91.71 46 eP **P** **03 00 29.2 +0.6**
comp=E,26nm,1.2s
MFID epP **pP** **03 00 42.0 0.0**
214A Organ Pipe Nat 91.73 58 ⇓P **P** **03 00 29.9 +1.0**
baz=92,SNR=7.6
214A Organ Pipe Nat 91.73 58 eP **P** **03 00 31.1 +2.3**
comp=E,17nm,1.0s
NEW Newport 91.90 41 eP **P** **03 00 29.7 +0.4**
NEW pmax pmax
comp=Z,19nm,1.0s
NEW Newport 91.90 41 ⇓P **P** **03 00 30.1 +0.8**
baz=92
NEW Newport 91.90 41 eP **P** **03 00 29.7 +0.4**
comp=Z,19nm,1.0s
CCUT Cedar City 92.35 52 eP **P** **03 00 33.1 +1.3**
comp=Z,14nm,1.1s
HLID Hailey 92.74 46 ⇓P **P** **03 00 34.3 +0.8**
baz=93
HLID Hailey 92.74 46 eP **P** **03 00 34.8 +1.3**
comp=Z,24nm,1.1s
HLID epP **pP** **03 00 47.7 +0.9**
KSH Kashi 93.07 309 P **P** **03 00 36.8 +1.8**
KSH eSP **sP** **03 00 55.9 +2.5**
KSH PP **PP** **03 04 20.5 +1.9**
KSH S **S** **03 11 38.8 +0.3**
KSH sS **sS** **03 12 00.9 -0.1**
KSH PMZ
comp=Z,100nm,5.5s
DUG Dugway, Tooele 93.27 50 ⇑P **P** **03 00 36.7 +0.8**
baz=93
BSMT Bassoo Peak 93.34 42 eP **P** **03 00 38.2 +2.1**
comp=Z,12nm,1.2s
KURK Kurchatov 93.43 321 eP **P** **03 00 34.5 -1.7**
KURK pmax pmax
comp=Z,20nm,1.0s
KURK Kurchatov 93.43 321 eP **P** **03 00 34.5 -1.7**
comp=Z,20nm,1.0s
MSU Marysvale 93.45 52 eP **P** **03 00 38.2 +1.3**
MSU pmax pmax
comp=Z,48nm,1.8s
MSU Marysvale 93.45 52 eP **P** **03 00 38.2 +1.3**
comp=Z,48nm,1.8s
TUC Tucson 93.49 58 eP **P** **03 00 37.6 +0.6**
TUC pmax pmax
comp=Z,4.0nm,0.8s
TUC Tucson 93.49 58 eP **P** **03 00 37.6 +0.6**
comp=Z,4.2nm,0.8s
WUAZ Wupatki 93.56 55 ⇓P **P** **03 00 38.5 +1.1**
baz=94
WUAZ Wupatki 93.56 55 eP **P** **03 00 38.2 +0.8**
comp=Z,5.9nm,0.9s
HVU Hansel Valley 93.59 48 eP **P** **03 00 37.9 +0.5**
HVU pmax pmax
comp=Z,12nm,0.9s
HVU Hansel Valley 93.59 48 eP **P** **03 00 37.9 +0.5**
comp=Z,12nm,0.9s
TKM2 Tokmak 2 93.97 313 eP **P** **03 00 39.5 +0.3**
TKM2 Tokmak 2 93.97 313 eP **P** **03 00 39.5 +0.3**
MCMT McKenzie Canyo 94.09 45 eP **P** **03 00 40.1 +0.4**
comp=Z,3.9nm,1.0s
WALA Waterton Lakes 94.15 41 eP **P** **03 00 40.1 +0.4**
comp=Z,12nm,1.0s
CHMT Chamberlain Mo 94.19 43 eP **P** **03 00 39.5 -0.6**
comp=Z,14nm,1.7s
DLMT Dillon 94.36 45 eP **P** **03 00 41.3 +0.5**
comp=Z,24nm,1.3s
LRM Limekiln Ridge 94.54 44 eP **P** **03 00 42.1 +0.3**
comp=Z,71nm,0.9s
W18A Petrified Fore 94.81 55 ⇑P **P** **03 00 44.0 +0.8**
baz=95
BOZ Bozeman (W) 95.08 45 ⇑P **P** **03 00 45.0 +0.9**
baz=95
EKS2 Erkin-Say 95.25 312 eP **P** **03 00 45.4 +0.5**
EKS2 Erkin-Say 95.25 312 eP **P** **03 00 45.4 +0.5**
EDM Edmonton 95.25 37 eP **P** **03 00 44.4 -0.2**

EDM					pmax	pmax			
	comp=Z,11nm,0.9s								
EDM	**Edmonton**	**95.25**	**37**	*eP*	**P**		**03 00 44.4**	**-0.2**	
	comp=Z,11nm,0.9s								
H17A	**Grant Village**	**95.62**	**46**	*eP*	**P**		**03 00 49.5**	**+2.7**	
	comp=Z,9.4nm,0.8s								
PDAR	**Pinedale Array**	**96.11**	**48**	P	**P**		**03 00 49.4**	**+0.4**	
	comp=Z,1.9nm,0.7s,baz=258,slow=1.9,SNR=8.9								
MVCO	**Mesa Verde**	**96.12**	**53**	⇑P	**P**		**03 00 50.0**	**+0.8**	
	baz=96								
YKA	**Yellowknife Ar**	**96.22**	**28**	P	**P**		**03 00 48.0**	**-0.7**	
	comp=Z,16nm,1.0s,baz=260,slow=4.5,SNR=23								
GCMT	**Greycliff**	**96.46**	**45**	*eP*	**P**		**03 00 51.0**	**+0.6**	
	comp=Z,9.0nm,1.2s								
GCMT				*epP*	**pP**		**03 01 04.2**	**+0.4**	
J19A	**Crowheart**	**96.54**	**47**	⇓P	**P**		**03 00 51.7**	**+0.8**	
	baz=97								
RLMT	**Red Lodge**	**96.64**	**45**	⇑P	**P**		**03 00 52.2**	**+0.9**	
	baz=97								
I19A	**Meeteetse**	**96.69**	**47**	⇑P	**P**		**03 00 52.3**	**+0.7**	
	baz=97								
EGMT	**Eagleton**	**96.71**	**43**	⇑P	**P**		**03 00 52.2**	**+0.9**	
	baz=97								
EGMT	**Eagleton**	**96.71**	**43**	*eP*	**P**		**03 00 51.5**	**+0.1**	
	comp=Z,12nm,0.8s								
O20A	**White River Ci**	**96.72**	**51**	⇑P	**P**		**03 00 52.6**	**+0.8**	
	baz=97								
H19A	**Powell**	**96.78**	**46**	⇓P	**P**		**03 00 53.1**	**+1.2**	
	baz=97								
LAZ	**Ladron**	**96.82**	**56**	*eP*	**P**		**03 00 53.9**	**+1.5**	
	comp=Z,1.1nm,0.9s								
J20A	**Shoshoni**	**97.26**	**47**	⇓P	Pdif		03 00 55.1	+0.9	
	baz=97								
B19A	**Brinkman Farms**	**97.30**	**42**	⇑P	Pdif		03 00 55.3	+1.2	
	baz=97								
G20A	**Bridger**	**97.40**	**45**	⇑P	Pdif		03 00 55.7	+1.0	
	baz=98								
ANMO	**Albuquerque**	**97.45**	**56**	*eP*	Pdif		03 00 55.8	+0.5	
ANMO				*e**PP	pP		03 01 09.4	+0.8	
ANMO				pmax	pmax				
	comp=Z,4.0nm,0.9s								
ANMO	**Albuquerque**	**97.45**	**56**	*eP*	Pdif		03 00 55.8	+0.5	
	comp=Z,3.7nm,0.9s								
ANMO				*epP*	pP		03 01 09.4	+0.8	
H20A	**Greybull**	**97.46**	**46**	⇓P	Pdif		03 00 55.1	+0.1	
	baz=98								
A19A	**Klindworth Far**	**97.49**	**42**	⇑P	Pdif		03 00 55.5	+0.5	
	baz=98								
S22A	**4UR Ranch, Cre**	**97.50**	**53**	⇓P	Pdif		03 00 56.3	+0.7	
	baz=98								
F20A	**Billings**	**97.51**	**45**	⇓P	Pdif		03 00 56.5	+1.3	
	baz=98								
SNAA	**Sanae**	**97.55**	**185**	P	P		03 00 45.6	-9.2	
SNAA	**Sanae**	**97.55**	**185**	*eP*	P		03 00 44.1	-11	
SNAA	**Sanae**	**97.55**	**185**	*eP*	P		03 00 44.1	-11	
J21A	**Lysite**	**97.72**	**47**	⇓P	Pdif		03 00 57.4	+1.1	
	baz=98								
C20A	**Veseeth Ranch,**	**97.84**	**43**	⇑P	Pdif		03 00 57.5	+1.0	
	baz=98								
I21A	**Big Trails, Te**	**97.88**	**47**	⇑P	Pdif		03 00 58.0	+1.0	
	baz=98								
A20A	**Cobblestone Ra**	**98.02**	**42**	⇑P	Pdif		03 00 58.1	+0.8	
	baz=98								
G21A	**Lodge Grass**	**98.10**	**46**	⇓P	Pdif		03 00 59.2	+1.4	
	baz=98								
E21A	**Keefer Ranch,**	**98.34**	**44**	⇓Pdiff	Pdif		03 01 00.1	+1.4	
	baz=98								
J22A	**Midwest**	**98.43**	**47**	⇑Pdiff	Pdif		03 01 00.4	+1.0	
	baz=98								
D21A	**La Casta Ranch**	**98.45**	**44**	⇑Pdiff	Pdif		03 01 00.4	+1.1	
	baz=99								
C21A	**Desert Coulee**	**98.46**	**43**	⇓Pdiff	Pdif		03 01 01.0	+1.8	
	baz=99								
I22A	**9 Mile Ranch,**	**98.47**	**47**	⇑Pdiff	Pdif		03 01 01.1	+1.6	
	baz=99								
SDCO	**Great Sand Dun**	**98.55**	**53**	⇓Pdiff	Pdif		03 01 01.5	+1.2	
	baz=99								
B21A	**Ellsworth Farm**	**98.57**	**42**	⇓Pdiff	Pdif		03 01 01.2	+1.4	
	baz=99								
A21A	**Bergtoll Ranch**	**98.69**	**42**	⇓Pdiff	Pdif		03 01 01.4	+1.2	
	baz=99								
BRVK	**Borovoye**	**98.89**	**322**	*eP*	**P**		**03 00 59.2**	**-1.7**	
BRVK				*e**PP	**pP**		**03 01 11.4**	**-3.0**	
BRVK	**Borovoye**	**98.89**	**322**	*eP*	**P**		**03 00 59.2**	**-1.7**	
BRVK				*epP*	**pP**		**03 01 11.4**	**-3.0**	
LAO	**LASA Array**	**98.94**	**44**	⇓Pdiff	Pdif		03 01 02.8	+1.3	
	baz=99								
LAO	**LASA Array**	**98.94**	**44**	*eP*	Pdif		03 01 02.9	+1.5	
	comp=Z,18nm,1.0s								
Q24A	**Divide**	**98.95**	**52**	⇑Pdiff	Pdif		03 01 02.5	+0.5	
	baz=99								
K23A	**Bowen Ranch, D**	**98.98**	**48**	⇓Pdiff	Pdif		03 01 02.9	+1.0	
	baz=99								
TXAR	**Lajitas Array**	**99.12**	**62**	P	**Pdif**		**03 01 03.0**	**+0.3**	
	comp=Z,0.9nm,0.8s,baz=231,slow=5.7,SNR=5.6								
TXAR				PP	**PP**		**03 05 05.2**	**-0.5**	
	comp=Z,1.7nm,1.0s,baz=232,slow=4.4,SNR=6.0								
A22A	**Carney Farms,**	**99.35**	**42**	⇓Pdiff	**Pdif**		**03 01 04.5**	**+1.3**	
	baz=100								
G23A	**Biddle**	**99.38**	**46**	⇑Pdiff	**Pdif**		**03 01 04.9**	**+1.4**	
	baz=100								
F23A	**Volborg**	**99.41**	**45**	⇓Pdiff	**Pdif**		**03 01 04.8**	**+1.2**	
	baz=100								
E23A	**Ismay**	**99.55**	**44**	⇑Pdiff	**Pdif**		**03 01 05.5**	**+1.3**	
	baz=100								
J24A	**Dixon Ranch, L**	**99.74**	**48**	⇑Pdiff	**Pdif**		**03 01 06.5**	**+1.3**	
	baz=100								
C23A	**Lambert**	**99.74**	**43**	⇓Pdiff	**Pdif**		**03 01 06.2**	**+1.2**	
	baz=100								
B23A	**Brockton**	**99.92**	**42**	⇑Pdiff	**Pdif**		**03 01 07.0**	**+1.3**	
	baz=100								
H24A	**Dirks Ranch, A**	**99.93**	**46**	⇓Pdiff	**Pdif**		**03 01 07.2**	**+1.2**	
	baz=100								
R26A	**Arlington**	**100.22**	**53**	⇑Pdiff	**Pdif**		**03 01 09.1**	**+1.7**	
	baz=100								
E24A	**Baker**	**100.24**	**44**	⇓Pdiff	**Pdif**		**03 01 07.9**	**+0.7**	
	baz=100								
D24A	**Glendive**	**100.27**	**44**	⇑Pdiff	**Pdif**		**03 01 08.3**	**+1.0**	
	baz=100								
U27A	**Thompson Grove**	**100.55**	**55**	⇓Pdiff	**Pdif**		**03 01 10.2**	**+1.3**	
	baz=101								
A24A	**Westby**	**100.61**	**42**	⇓Pdiff	**Pdif**		**03 01 10.4**	**+1.6**	
	baz=101								
Y28A	**McKinney Farm,**	**100.80**	**57**	⇓Pdiff	**Pdif**		**03 01 10.9**	**+0.9**	
	baz=101								
J26A	**Sides Ranch, S**	**100.89**	**48**	⇓Pdiff	**Pdif**		**03 01 11.1**	**+0.8**	
	baz=101								
Z29A	**Hungry Hill Ra**	**101.19**	**58**	⇑Pdiff	**Pdif**		**03 01 12.3**	**+0.5**	
	baz=101								
Y29A	**Porterfield Fa**	**101.27**	**57**	⇓Pdiff	**Pdif**		**03 01 12.9**	**+0.8**	
	baz=101								
AMTX	**Amarillo**	**101.35**	**56**	⇓Pdiff	**Pdif**		**03 01 14.2**	**+1.8**	
	baz=102								
G26A	**Maurine**	**101.35**	**46**	⇑Pdiff	**Pdif**		**03 01 13.8**	**+1.6**	
	baz=102								
D26A	**Manning**	**101.55**	**44**	⇑Pdiff	**Pdif**		**03 01 15.0**	**+1.9**	
	baz=102								
H27A	**Howes**	**101.69**	**46**	⇓Pdiff	**Pdif**		**03 01 15.3**	**+1.6**	
	baz=102								
631A	**Perdido Creek**	**101.81**	**62**	⇓Pdiff	**Pdif**		**03 01 15.7**	**+1.1**	
	baz=102								
C26A	**Wahner Farm, P**	**101.82**	**43**	⇓Pdiff	**Pdif**		**03 01 15.4**	**+1.2**	
	baz=102								
333A	**Richland Sprin**	**103.34**	**60**	⇓Pdiff	**Pdif**		**03 01 21.8**	**+0.5**	
	baz=103								
W32A	**Sentinel**	**103.36**	**56**	⇑Pdiff	**Pdif**		**03 01 22.0**	**+0.7**	
	baz=104								
Z35A	**Perchaven, San**	**104.92**	**58**	⇑Pdiff	**PP**		**03 05 44.1**	**-4.9**	
	baz=105								
ABKAR	**Akbulak array**	**105.29**	**318**	*eP*dif	**Pdif**		**03 01 27.7**	**-1.8**	
	comp=Z,1.5nm,0.6s								
ARCES	**ARCESS Array B**	**114.54**	**344**	PKP	PKPdf		03 05 58.9	-1.4	
	comp=Z,3.0nm,0.8s,baz=76,slow=1.9,SNR=15								
KIV	**Kislovodsk**	**117.76**	**314**	*e*PKIKP	**PKPdf**		**03 06 06.4**	**-0.9**	
KIV				pmax	pmax				
	comp=Z,8.0nm,1.0s								
KIV	**Kislovodsk**	**117.76**	**314**	*e*PKPdf	**PKPdf**		**03 06 07.3**	**0.0**	
NNA	**Nana**	**117.92**	**109**	*e*PKIKP	**PKPdf**		**03 06 10.0**	**+1.6**	
NNA	**Nana**	**117.92**	**109**	*e*PKPdf	**PKPdf**		**03 06 10.0**	**+1.6**	
FINES	**FINESS Array B**	**119.52**	**337**	PP	PP		03 07 42.5	+10	
	comp=Z,2.3nm,0.8s,baz=120,slow=8.2,SNR=3.0								
OTAV	**Otavalo**	**119.54**	**96**	*e*PKPdf	**PKPdf**		**03 06 13.2**	**+1.1**	
SSPA	**Standing Stone**	**119.75**	**49**	*e*PKPdf	**PKPdf**		**03 06 10.2**	**-0.9**	
LVC	**Limon Verde**	**120.75**	**124**	*e*PKPdf	**PKPdf**		**03 06 14.4**	**+0.5**	
MALT	**Malatya**	**122.17**	**309**	⇓PKIKP	**PKPdf**		**03 06 13.1**	**-2.9**	
MALT	**Malatya**	**122.17**	**309**	⇓P	**PKPdf**		**03 06 13.1**	**-2.9**	
AKASG	**Malin Array Be**	**123.94**	**325**	PKP	**PKPdf**		**03 06 17.9**	**-0.9**	
	comp=Z,2.7nm,0.7s,baz=64,slow=2.0,SNR=7.7								
AKASG				PP	**PP**		**03 08 05.8**	**+3.2**	
	comp=Z,1.3nm,0.8s,baz=47,slow=6.8,SNR=3.1								
AKBB	**Malin Array Si**	**123.94**	**325**	*e*PKIKP	**PKPdf**		**03 06 19.2**	**+0.3**	
AKBB	**Malin Array Si**	**123.94**	**325**	*e*PKPdf	**PKPdf**		**03 06 19.2**	**+0.3**	
KIEV	**Kiev**	**123.95**	**325**	*e*PKIKP	**PKPdf**		**03 06 17.2**	**-1.7**	
KIEV	**Kiev**	**123.95**	**325**	*e*PKPdf	**PKPdf**		**03 06 17.2**	**-1.7**	
AK02	**Malin Array Si**	**123.97**	**325**	*e*PKPdf	**PKPdf**		**03 06 17.8**	**-1.2**	
LPAZ	**La Paz**	**124.21**	**118**	PKP	**PKPdf**		**03 06 20.3**	**-0.9**	
	comp=Z,4.3nm,0.9s,baz=22,slow=4.1,SNR=13								
LPAZ	**La Paz**	**124.21**	**118**	PKIKP	**PKPdf**		**03 06 20.3**	**-0.9**	
LPAZ				pmax	pmax				
	comp=Z,4.0nm,0.9s								
LPAZ	**La Paz**	**124.21**	**118**	*e*PKPdf	**PKPdf**		**03 06 20.0**	**-1.2**	
LBTB	**Lobatse**	**124.53**	**230**	*e*PKIKP	**PKPdf**		**03 06 20.2**	**-0.8**	
LBTB	**Lobatse**	**124.53**	**230**	*e*PKPdf	**PKPdf**		**03 06 20.1**	**-0.8**	
NB2	**NORSAR Subarra**	**124.84**	**343**	PKPdf	**PKPdf**		**03 06 19.4**	**-1.0**	
	comp=Z,1.5nm,0.8s,baz=39,slow=1.9								
NOA	**NORSAR Array B**	**124.84**	**343**	PKP	**PKPdf**		**03 06 19.0**	**-1.3**	
	comp=Z,1.7nm,0.9s,baz=37,slow=1.8,SNR=4.5								
NOA				PP	PP		03 08 22.9	+15	
	comp=Z,1.3nm,0.8s,baz=39,slow=6.4,SNR=4.4								
NOA				PKKPbc	**PKKPab**		**03 16 00.3**	**-0.1**	
	comp=Z,0.9nm,0.7s,baz=216,slow=4.4,SNR=3.3								
BR131	**Keskin Array S**	**125.39**	**312**	*e*PKPdf	**PKPdf**		**03 06 21.9**	**-0.3**	
BRTR	**Keskin Array B**	**125.39**	**312**	PKP	**PKPdf**		**03 06 20.6**	**-1.6**	
	comp=Z,1.1nm,0.8s,baz=158,slow=3.3,SNR=6.3								
BRTR				PP	**PP**		**03 08 10.7**	**-2.3**	
	comp=Z,1.0nm,0.9s,baz=29,slow=3.3,SNR=2.7								
LSZ	**Lusaka**	**127.26**	**242**	*e*PKIKP	**PKPdf**		**03 06 25.7**	**-0.7**	
LSZ	**Lusaka**	**127.26**	**242**	*e*PKPdf	**PKPdf**		**03 06 25.7**	**-0.7**	
CPUP	**Villa Florida**	**127.54**	**135**	*e*PKIKP	**PKPdf**		**03 06 25.0**	**-1.5**	
CPUP	**Villa Florida**	**127.54**	**135**	*e*PKPdf	**PKPdf**		**03 06 25.0**	**-1.5**	
VRI	**Vrincioaia**	**127.70**	**321**	⇑PKIKP	**PKPdf**		**03 06 27.4**	**+1.1**	
VRI	**Vrincioaia**	**127.70**	**321**	⇑*e*PKIKP	**PKPdf**		**03 06 27.4**	**+1.1**	
BUR08	**Bucovina Ar. S**	**127.75**	**324**	*e*PKPdf	**PKPdf**		**03 06 27.7**	**+1.3**	
BURAR	**Bucovina Array**	**127.75**	**324**	⇑PKIKP	**PKPdf**		**03 06 27.7**	**+1.3**	
BURAR	**Bucovina Array**	**127.75**	**324**	⇑*e*PKIKP	**PKPdf**		**03 06 27.7**	**+1.3**	
MLR	**Muntele Rosu**	**128.37**	**321**	⇑PKIKP	**PKPdf**		**03 06 26.9**	**-0.8**	
MLR	**Muntele Rosu**	**128.37**	**321**	⇑*e*PKIKP	**PKPdf**		**03 06 26.9**	**-0.8**	
SDV	**Santo Domingo**	**128.59**	**87**	*e*PKPdf	**PKPdf**		**03 06 27.8**	**-1.3**	
KOLS	**Kolonicke sedl**	**128.69**	**327**	*e*PKIKP	**PKPdf**		**03 06 27.9**	**-0.2**	
KOLS	**Kolonicke sedl**	**128.69**	**327**	*e*PKP	**PKPdf**		**03 06 27.9**	**-0.2**	
STHS	**Stebnicka Huta**	**128.97**	**328**	*e*PKIKP	**PKPdf**		**03 06 28.8**	**+0.2**	
STHS	**Stebnicka Huta**	**128.97**	**328**	*e*PKP	**PKPdf**		**03 06 28.8**	**+0.2**	
DRGR		**129.64**	**324**	⇑PKIKP	**PKPdf**		**03 06 30.3**	**+0.3**	
DRGR		**129.64**	**324**	⇑*e*PKIKP	**PKPdf**		**03 06 30.3**	**+0.3**	
OKC	**Ostrava-Krasne**	**130.30**	**330**	*e*PKP	PP		03 08 39.9	-4.5	
DPC	**Dobruska-Polom**	**130.85**	**331**	*e*PKP	PP		03 08 44.0	-4.0	
VTS	**Vitosha**	**131.49**	**319**	⇑PKIKP	**PKPdf**		**03 06 34.5**	**+0.7**	
VTS	**Vitosha**	**131.49**	**319**	⇑*e*PKIKP	**PKPdf**		**03 06 34.5**	**+0.7**	
SAML	**Samuel**	**131.57**	**112**	*e*PKPdf	**PKPdf**		**03 06 33.2**	**-1.3**	
BRG	**Berggiesshubel**	**131.59**	**333**	*e*PKP	**PKPdf**		**03 06 35.6**	**+2.1**	
	comp=Z,3.4nm,0.8s								
BRG				*e*			03 09 58.7		
	comp=Z,5.4nm,1.3s								
BRG	**Berggiesshubel**	**131.59**	**333**	*e*PKIKP	**PKPdf**		**03 06 35.6**	**+2.1**	
BRG				pmax	pmax				
	comp=Z,3.0nm,0.9s								
BRG				pmax	pmax				
	comp=Z,5.0nm,1.3s								
MMB	**Musomiste**	**131.63**	**318**	⇑PKIKP	**PKPdf**		**03 06 33.3**	**-0.6**	
MMB	**Musomiste**	**131.63**	**318**	⇑*e*PKIKP	**PKPdf**		**03 06 33.3**	**-0.6**	
GOPC	**GO Pecny, Ondr**	**131.87**	**332**	*e*PP	PP		03 08 49.9	-4.7	
GOPC				*e*PKS	**PKSbc**		**03 10 00.9**	**-0.3**	
PRA	**Prague**	**131.93**	**332**	*e*PP	PP		03 08 53.7	-1.2	
PRU	**Pruhonice**	**131.94**	**332**	*e*PP	PP		03 08 49.8	-5.1	
PRU				*e*PKS	**SKPab**		**03 09 58.5**	**+1.0**	
TREC	**Trest**	**131.96**	**331**	*e*PP	PP		03 08 53.5	-1.7	
TREC				*e*PKS	PKSdf		03 10 02.3	-8.3	
PKSM	**Moragy**	**132.28**	**326**	⇓PKIKP	**PKPdf**		**03 06 34.9**	**0.0**	
PKSM	**Moragy**	**132.28**	**326**	⇓*e*PKIKP	**PKPdf**		**03 06 34.9**	**0.0**	
NKC	**Novy Kostel**	**132.71**	**333**	*e*PKS	**SKPab**		**03 10 01.4**	**+0.5**	
DIVS	**Divibare**	**132.71**	**322**	⇑*e*PKIKP	**PKPdf**		**03 06 36.8**	**+0.9**	
KHC	**Kasperske Hory**	**132.98**	**332**	*e*PP	PP		03 09 00.7	-1.0	
KHC				*e*PKS	PKSdf		03 10 05.0	-7.5	
GERES	**GERESS Array B**	**133.13**	**331**	PKP	**PKPdf**		**03 06 35.9**	**-0.7**	
	comp=Z,1.3nm,1.0s,baz=80,slow=1.1,SNR=2.6								
BNI	**Bardonecchia**	**139.18**	**333**	*e*PKIKP	**PKPdf**		**03 06 47.4**	**-0.6**	
BNI	**Bardonecchia**	**139.18**	**333**	*e*PKPdf	**PKPdf**		**03 06 47.4**	**-0.6**	
KEST	**Kesra**	**144.23**	**319**	PKP	**PKPab**		**03 06 54.5**	**-0.6**	
	comp=Z,4.4nm,0.7s,baz=332,slow=2.1,SNR=18								
KEST	**Kesra**	**144.23**	**319**	*e*PKPdf	**PKPab**		**03 06 54.4**	**-0.7**	
CMAH	**Djebel Manchou**	**144.86**	**322**	P	**PKPab**		**03 06 55.5**	**-1.9**	
ABSA	**Djebel Ababsia**	**145.05**	**322**	P	**PKPbc**		**03 06 56.7**	**-1.4**	
CKFL	**Kef-Lekhel**	**145.43**	**323**	P	**PKPbc**		**03 06 57.1**	**-2.2**	
CASM	**Ain Smara**	**145.66**	**323**	P	**PKPdf**		**03 06 57.1**	**-2.6**	
DFRA	**Djebel Bou Aff**	**145.82**	**324**	P	**PKPdf**		**03 06 58.7**	**-1.3**	
CTEI	**Djebel Teioual**	**145.84**	**323**	P	**PKPdf**		**03 06 58.8**	**-1.3**	
SETF	**Setif**	**146.34**	**323**	P	**PKPdf**		**03 07 01.9**	**+0.1**	
CKHR	**Kef el Ahmar**	**146.40**	**323**	P	**PKPdf**		**03 07 00.0**	**-1.0**	
PBRG	**Braganca**	**146.96**	**344**	*e*PKP	**PKPab**		**03 07 05.2**	**+0.1**	
PBRG	**Braganca**	**146.96**	**344**	*e*PKP	**PKPab**		**03 07 05.2**	**+0.1**	
PGAV	**Gavieira, Arco**	**147.21**	**346**	*e*PKP	**PKPab**		**03 07 06.7**	**+0.6**	
PGAV	**Gavieira, Arco**	**147.21**	**346**	*e*PKP	**PKPab**		**03 07 06.7**	**+0.6**	
MVO	**Moncorvo**	**147.64**	**344**	*e*PKP	**PKPbc**		**03 07 06.3**	**+0.7**	
MVO	**Moncorvo**	**147.64**	**344**	*e*PKP	**PKPbc**		**03 07 06.3**	**+0.7**	
POLO	**Lamas de Olo**	**147.65**	**345**	*e*PKP	**PKPab**		**03 07 08.2**	**+0.3**	
POLO	**Lamas de Olo**	**147.65**	**345**	*e*PKP	**PKPab**		**03 07 08.2**	**+0.3**	
PVRL	**Vila Real**	**147.72**	**345**	*e*PKP	**PKPbc**		**03 07 06.7**	**+0.9**	
PVRL	**Vila Real**	**147.72**	**345**	*e*PKP	**PKPbc**		**03 07 06.7**	**+0.9**	
ESDC	**Sonseca Array**	**148.02**	**339**	PKPbc	**PKPbc**		**03 07 06.0**	**-0.6**	
	comp=Z,0.8nm,0.4s,baz=9.6,slow=3.0,SNR=14								
ESDC				PP	**PP**		**03 10 36.5**	**+3.0**	
	comp=Z,1.7nm,0.9s,baz=15,slow=5.5,SNR=3.9								
PVIS	**Viseu**	**148.29**	**345**	*e*PKP	**PKPbc**		**03 07 08.2**	**+0.9**	
PVIS	**Viseu**	**148.29**	**345**	*e*PKP	**PKPbc**		**03 07 08.2**	**+0.9**	
PCBR	**Castelo Branco**	**149.00**	**343**	*e*PKP	**PKPbc**		**03 07 10.7**	**+1.6**	
PCBR	**Castelo Branco**	**149.00**	**343**	*e*PKP	**PKPbc**		**03 07 10.7**	**+1.6**	
PMRV	**Marv??o**	**149.35**	**343**	*e*PKP	**PKPbc**		**03 07 10.6**	**+0.6**	
PMRV	**Marv??o**	**149.35**	**343**	*e*PKP	**PKPbc**		**03 07 10.6**	**+0.6**	
PTOM	**Tomar**	**149.46**	**345**	*e*PKP	**PKPbc**		**03 07 10.7**	**+0.5**	
PTOM	**Tomar**	**149.46**	**345**	*e*PKP	**PKPbc**		**03 07 10.7**	**+0.5**	
PESTR	**Estremoz**	**149.93**	**343**	*e*PKP	**PKPbc**		**03 07 11.9**	**+0.4**	
PESTR	**Estremoz**	**149.93**	**343**	*e*PKP	**PKPbc**		**03 07 11.9**	**+0.4**	
PMAFR	**Mafra**	**150.30**	**345**	*e*PKP	**PKPbc**		**03 07 10.4**	**-1.9**	
PMAFR	**Mafra**	**150.30**	**345**	*e*PKP	**PKPbc**		**03 07 10.4**	**-1.9**	
EVO	**Evora**	**150.36**	**343**	*e*PKP	**PKPbc**		**03 07 12.8**	**+0.3**	
EVO	**Evora**	**150.36**	**343**	*e*PKP	**PKPbc**		**03 07 12.8**	**+0.3**	
PNCL	**Nicolau / Gran**	**150.90**	**344**	*e*PKP	**PKPbc**		**03 07 12.9**	**-0.8**	
PNCL	**Nicolau / Gran**	**150.90**	**344**	*e*PKP	**PKPbc**		**03 07 12.9**	**-0.8**	
PCVE	**Castro Verde**	**151.21**	**343**	*e*PKP	**PKPbc**		**03 07 15.2**	**+0.7**	
PCVE	**Castro Verde**	**151.21**	**343**	*e*PKP	**PKPbc**		**03 07 15.2**	**+0.7**	
TAM	**Tamanrasset**	**153.91**	**301**	*e*PKIKP	**PKPdf**		**03 07 13.1**	**-0.1**	
TAM				*e*			03 07 21.8		
TAM	**Tamanrasset**	**153.91**	**301**	*e*PKPdf	**PKPdf**		**03 07 13.1**	**-0.1**	
TAM				*e*PKPbc	**PKiKP**		**03 07 21.8**	**+0.6**	
TAM				*e*PKPab	**PKPab**		**03 07 34.7**	**+0.3**	
TOA0	**Torodi Ar. Sit**	**160.06**	**280**	*e*PKPdf	**PKPdf**		**03 07 19.1**	**-1.9**	
TOA0				*e*PKPab	**PKPab**		**03 07 59.8**	**-1.1**	
TORD	**Torodi Ar. Bea**	**160.06**	**280**	PKP	**PKPdf**		**03 07 19.1**	**-1.9**	
	comp=Z,5.9nm,1.0s,baz=292,slow=0.1,SNR=18								
TORD				PKPab	**PKPab**		**03 08 00.3**	**-0.7**	
	comp=Z,11nm,1.1s,baz=57,slow=2.6,SNR=5.7								
DBIC	**Dimbokro**	**166.06**	**256**	PKP	**PKPdf**		**03 07 24.9**	**-1.9**	
	comp=Z,6.8nm,1.0s,baz=326,slow=7.3,SNR=3.1								
DBIC				PKPab	**PKPab**		**03 08 26.8**	**-0.5**	
	comp=Z,3.8nm,0.8s,baz=114,slow=7.1,SNR=4.0								

*ISCJB **16** 02:50:30.0±0.7, 55.8S±0.2×30.1W±0.2, h10km, mb4.5/9, Error ellipse: s-maj=25.5km s-min=14.2km az=31.9*
*NEIC **16** 02:50:30.4±0.6, 56.28S×30.22W, h10km, mb4.4/7, Error ellipse: s-maj=22.7km s-min=13.3km az=210.0*
*IDC **16** 02:50:30.5±1.1, 55.83S×30.11W, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.9/23, mbtmp4.2/3, ML2.7/1, Error ellipse: s-maj=47.2km s-min=24.9km az=57.0*
ISC 16 02:50:31.1±0.7, 56.0S±0.2×30.2W±0.2, h10km, n20, σ1s55/14, mb4.4/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.48**	**154**	P	**P**	**Pn**	**02 55 00.6**	**+1.6**
	0.0nm,0.3s,baz=304,slow=9.5,SNR=11							
SNAA	**Sanae**	**19.48**	**154**	*eP*	**P**		**02 54 53.9**	**-4.0**
	5.6nm,1.1s							
MAW	**Mawson**	**41.16**	**144**	P	**P**		**02 58 17.0**	**+2.0**
	1.5nm,0.4s,baz=260,slow=6.1,SNR=3.8							
LVC	**Limon Verde**	**43.85**	**303**	*eP*	**P**		**02 58 37.2**	**-0.4**
	20nm,1.4s							
H10S2	**ASCENSION HYDR**	**48.52**	**21**	T	T		03 51 23.7	
	baz=194							
H10S3	**ASCENSION HYDR**	**48.52**	**21**	T	T		03 51 20.7	
	baz=194							
H10S1	**ASCENSION HYDR**	**48.54**	**21**	T	T		03 51 24.4	
	baz=194							
LPAZ	**La Paz**	**49.01**	**309**	P	**P**		**02 59 19.2**	**+0.6**
	2.2nm,0.6s,baz=160,slow=5.9,SNR=16							
LPAZ	**La Paz**	**49.01**	**309**	*eP*	**P**		**02 59 19.1**	**+0.4**
	2.7nm,0.7s							
H10N1	**ASCENSION HYDR**	**49.64**	**21**	T	T		03 52 49.3	
	baz=197							
H10N3	**ASCENSION HYDR**	**49.64**	**21**	T	T		03 52 47.4	
	baz=197							
H10N2	**ASCENSION HYDR**	**49.65**	**21**	T	T		03 52 45.2	
	baz=197							
LBTB	**Lobatse**	**50.63**	**76**	*eP*	**P**		**02 59 29.8**	**-0.6**
	5.9nm,0.8s							
SAML	**Samuel**	**53.62**	**318**	*eP*	**P**	

	6.1nm,1.1s									
TXAR	**Lajitas Array**	**83.15**	**56**	P		**P**		**03 17 49.6**	**+0.7**
	0.8nm,0.7s,baz=256,slow=7.3,SNR=5.8									
HWUT	**Hardware Ranch**	**83.16**	**42**	*eP*		**P**		**03 17 48.4**	**-0.4**
PV10	**Paradox Valley**	**83.22**	**46**	*eP*		**P**		**03 17 50.3**	**+1.1**
	78nm,0.8s									
PV01	**Paradox Valley**	**83.43**	**47**	*eP*		**P**		**03 17 51.6**	**+1.3**
	138nm,0.9s									
NEW	**Newport**	**83.52**	**35**	*eP*		**P**		**03 17 50.9**	**+0.7**
	2.1nm,0.7s									
MCK	**McKinley**	**83.79**	**11**	*eP*		**P**		**03 17 51.8**	**+0.5**
	14nm,0.9s									
MCMT	**McKenzie Canyo**	**84.05**	**39**	*eP*		**P**		**03 17 54.7**	**+1.4**
	3.0nm,1.1s									
SEY	**Seymchan**	**84.52**	**346**	P		**P**		**03 17 55.3**	**+0.4**
	6.6nm,0.5s,baz=244,slow=6.0,SNR=3.1									
BSMT	**Bassoo Peak**	**84.57**	**36**	*eP*		**P**		**03 17 56.1**	**+0.4**
	1.6nm,0.7s									
MAW	**Mawson**	**85.02**	**199**	P		**P**		**03 17 58.2**	**+0.7**
	17nm,0.7s,baz=140,slow=9.8,SNR=37									
PDAR	**Pinedale Array**	**85.03**	**42**	P		**P**		**03 17 58.8**	**+0.6**
	1.3nm,0.8s,baz=207,slow=1.7,SNR=8.6									
COLA	**College**	**85.03**	**11**	*eP*		**P**		**03 17 57.5**	**+0.2**
	24nm,0.8s									
IM04	**Indian Mountai**	**85.08**	**9**	*eP*		**P**		**03 17 57.9**	**+0.3**
ILAR	**Eielson Array**	**85.12**	**12**	P		**P**		**03 17 57.9**	**+0.1**
	5.2nm,0.6s,baz=224,slow=5.9,SNR=176									
SDCO	**Great Sand Dun**	**85.40**	**48**	*eP*		**P**		**03 18 00.9**	**+0.7**
	3.2nm,1.2s									
EGAK	**Eagle**	**86.33**	**14**	*eP*		**P**		**03 18 04.3**	**+0.6**
	4.7nm,0.8s									
COLD	**Coldfoot**	**86.78**	**9**	*eP*		**P**		**03 18 06.7**	**+0.8**
	6.4nm,1.1s									
PSI	**Prapat**	**87.23**	**274**	P		**P**		**03 18 09.0**	**-0.5**
	13nm,0.8s,baz=65,slow=2.2,SNR=4.1									
SYO	**Syowa Base**	**89.92**	**192**⇓	*eP*		**P**		**03 18 19.0**	**-1.8**
SNAA	**Sanae**	**90.53**	**177**	P		**P**		03 18 15.3	-8.5
SNAA	**Sanae**	**90.53**	**177**	P		**P**		**03 18 22.8**	**-1.0**
	1.5nm,0.8s,baz=223,slow=5.1,SNR=6.7									
VNA1	**Neumayer--Stat**	**91.23**	**176**	P		**P**		**03 18 27.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**92.05**	**289**	P		**P**		**03 18 32.2**	**+0.6**
	2.3nm,0.3s,baz=101,slow=2.6,SNR=4.7									
SSN	**San Juan del S**	**92.49**	**79**	*eP*		**P**		**03 18 33.2**	**-0.6**
	62nm,1.1s									
YKA	**Yellowknife Ar**	**92.90**	**24**	P		**P**		**03 18 35.0**	**+0.4**
	0.7nm,0.5s,baz=232,slow=4.1,SNR=3.9									
ZALV	**Zalesovo Beam**	**110.28**	**322**	PKiKP		**PKiKP**		**03 23 52.0**	**-0.5**
	1.1nm,0.4s,baz=164,slow=1.0,SNR=3.6									
MK31	**Makanchi Array**	**111.52**	**314**	*e*PKPdf		**PKiKP**		**03 23 54.5**	**-0.6**
MKAR	**Makanchi Array**	**111.52**	**314**	PKiKP		**PKiKP**		**03 23 54.2**	**-0.9**
	1.4nm,0.5s,baz=108,slow=1.2,SNR=11									
KURK	**Kurchatov**	**114.03**	**318**	PKiKP		PKPdf		03 23 59.2	-0.5
KURBB	**Kurchatov Arra**	**114.09**	**318**	PKiKP		PKPdf		03 23 59.2	-0.6
	2.6nm,1.0s,baz=88,slow=1.8,SNR=7.3									
BVAR	**Borovoye Array**	**118.92**	**321**	PKP		**PKPdf**		**03 24 08.2**	**-0.9**
	4.0nm,0.5s,baz=90,slow=1.4,SNR=14									
ARCES	**ARCESS Array B**	**126.82**	**351**	PKP		**PKPdf**		**03 24 23.8**	**0.0**
	5.2nm,0.7s,baz=51,slow=0.3,SNR=26									
BOSA	**Boshof**	**129.87**	**203**	PKP		**PKPdf**		**03 24 31.4**	**+0.3**
	9.4nm,1.2s,baz=140,slow=4.5,SNR=4.1									
FINES	**FINESS Array B**	**134.00**	**346**	PKP		**PKPdf**		**03 24 38.2**	**+0.6**
	2.8nm,0.5s,baz=68,slow=2.0,SNR=11									
NB2	**NORSAR Subarra**	**136.65**	**356**	PKPdf		PKPpre		03 24 31.8		
	comp=Z,1.9nm,0.8s,baz=44,slow=1.9									
NOA	**NORSAR Array B**	**136.65**	**356**	PKP		**PKPdf**		**03 24 42.5**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=13,slow=4.0,SNR=4.6									
KMBO	**Kilima Mbogo**	**143.17**	**243**	PKP		PKPbc		03 24 54.5	+0.7
	comp=Z,5.9nm,0.8s,baz=57,slow=7.2,SNR=8.8									
MALT	**Malatya**	**144.52**	**312**⇑	*iP*		**PKPdf**		**03 24 58.2**	**+0.6**
IBBN	**Ibbenburen**	**145.56**	**357**	*e*PKPbc		**PKPab**		**03 25 00.5**	**+0.6**
CLZ	**Clausthal**	**145.84**	**354**	*e*PKPbc		**PKPab**		**03 25 01.3**	**+0.2**
KOLS	**Kolonicke sedl**	**146.02**	**340**	*e*		**PKPdf**		**03 25 00.8**	**+1.1**
BUR08	**Bucovina Ar. S**	**146.04**	**335**	*e*PKPbc		**PKPbc**		**03 25 01.5**	**+0.4**
CLL	**Collm**	**146.04**	**351**	*e*PKPbc		**PKPab**		**03 25 01.6**	**-0.2**
CLL	**Collm**	**146.04**	**351**⇑	*i*PKPbc		**PKPbc**		**03 25 01.2**	**+0.3**
	comp=Z,32nm,0.7s									
UPC	**Upice**	**146.28**	**347**	*e*PKP		**PKPab**		**03 25 02.4**	**-0.4**
BRG	**Berggiesshubel**	**146.32**	**350**	*e*PKPbc		**PKPab**		**03 25 02.6**	**-0.3**
BRG	**Berggiesshubel**	**146.32**	**350**	*i* PP		**PKPbc**		**03 25 02.3**	**+0.6**
	comp=Z,16nm,0.8s									
DPC	**Dobruska-Polom**	**146.36**	**347**	*e*PKP		**PKPab**		**03 25 02.7**	**-0.5**
DPC				*ex*		x		03 25 05.5		
OKC	**Ostrava-Krasne**	**146.42**	**345**	*e*PKP		**PKPbc**		**03 25 02.6**	**+0.6**
BUG	**Bochum--Univer**	**146.45**	**358**	*e*PKPbc		**PKPbc**		**03 25 02.4**	**+0.4**
PVCC	**Panska Ves**	**146.54**	**349**	*e*PKP		**PKPbc**		**03 25 02.8**	**+0.5**
PVCC				*ex*		x		03 25 05.9		
MOX	**Moxa**	**146.88**	**352**	*e*PKPbc		**PKPbc**		**03 25 04.2**	**+0.9**
UBBA	**Unterbreizbach**	**146.88**	**354**	*e*PKPbc		**PKPbc**		**03 25 03.9**	**+0.7**
TANN	**Tannenbergstha**	**146.99**	**351**	*e*PKPbc		**PKPab**		**03 25 04.7**	**-1.0**
PRA	**Prague**	**147.00**	**349**	*e*PKP		**PKPbc**		**03 25 04.5**	**+0.9**
PRU	**Pruhonice**	**147.06**	**349**	*e*PKP		**PKPbc**		**03 25 04.5**	**+0.7**
BR131	**Keskin Array S**	**147.08**	**317**	*e*PKPbc		**PKPbc**		**03 25 04.7**	**+0.2**
BRTR	**Keskin Array B**	**147.08**	**317**	PKPbc		**PKPbc**		**03 25 04.7**	**+0.2**
	comp=Z,12nm,0.8s,baz=11,slow=2.7,SNR=27									
GOPC	**GO Pecny, Ondr**	**147.09**	**348**	*e*PKP		**PKPbc**		**03 25 04.7**	**+0.8**
NKC	**Novy Kostel**	**147.17**	**351**	*e*PKP		**PKPbc**		**03 25 05.0**	**+0.8**
TREC	**Trest**	**147.54**	**347**	*e*PKP		**PKPbc**		**03 25 05.6**	**+0.4**
TREC				*ex*		x		03 25 08.2		
ANTO	**Ankara**	**147.54**	**318**	*e*PKPbc		**PKPbc**		**03 25 06.3**	**+0.7**
TNS	**Taunus Mts**	**147.60**	**356**	*e*PKPbc		**PKPbc**		**03 25 06.0**	**+0.6**
ROTZ	**Rotzenmuhle**	**147.66**	**351**	*e*PKPbc		**PKPbc**		**03 25 06.8**	**+1.3**
GRF	**Grafenberg Arr**	**147.87**	**353**	*e*PKPbc		**PKPbc**		**03 25 07.3**	**+1.3**
KHC	**Kasperske Hory**	**148.06**	**349**	*e*PKP		**PKPdf**		**03 25 03.3**	**+0.2**
KHC				*ex*		x		03 25 07.3		
KHC				*ex*		x		03 25 10.7		
WLF	**Walferdange**	**148.26**	**359**	*e*PKPbc		**PKPbc**		**03 25 08.5**	**+1.5**
GEC2	**GERESS Array S**	**148.31**	**349**	*e*PKPbc		**PKPbc**		**03 25 08.2**	**+0.9**
GERES	**GERESS Array B**	**148.31**	**349**	PKPbc		**PKPbc**		**03 25 07.6**	**+0.3**
	comp=Z,7.5nm,0.8s,baz=11,slow=2.7,SNR=16									
CONA	**Conrad Observa**	**148.75**	**346**⇓	*i*PKiKP		**PKiKP**		**03 25 09.0**	**-0.7**
	comp=Z,36nm,1.8s,SNR=8.3									
MMAI	**Mount Meron Ar**	**148.91**	**305**	PKPbc		**PKPbc**		**03 25 10.3**	**+1.1**
	comp=Z,14nm,0.6s,baz=72,slow=5.4,SNR=16									
MOA	**Molln**	**149.16**	**348**⇑	*e*PKPbc		**PKPbc**		**03 25 09.5**	**+0.1**
	comp=Z,5.3nm,0.6s									
FUR	**Furstenfeldbru**	**149.36**	**352**	*e*PKPbc		**PKPbc**		**03 25 10.4**	**+0.5**
BFO	**Black Forest**	**149.49**	**356**	*e*PKPbc		**PKPbc**		**03 25 10.7**	**+0.5**
RJOB	**Jochberg**	**149.54**	**350**	*e*PKPbc		**PKPbc**		**03 25 12.0**	**+1.6**
CSS	**Prodhromos**	**149.68**	**310**	*e*PKPbc		**PKPbc**		**03 25 11.0**	**-0.1**
MOTA	**Moosalm**	**150.18**	**352**⇑	*e*PKPbc		**PKPbc**		**03 25 11.8**	**-0.2**
	comp=Z,13nm,0.8s									
WTTA	**Wattenberg**	**150.19**	**351**⇑	*i*PKiKP		**PKiKP**		**03 25 12.4**	**-0.4**
	comp=Z,26nm,0.5s,SNR=5.7									
DAVA	**Damuels**	**150.39**	**353**⇓	*i*PKiKP		**PKiKP**		**03 25 13.0**	**-0.2**
	comp=Z,29nm,1.0s									
ABTA	**Abfaltersbach**	**150.55**	**350**	*i* PKiKP		**PKPbc**		**03 25 12.8**	**0.0**
	SNR=7.3									
FETA	**Feichten**	**150.55**	**352**⇑	*i*PKiKP		**PKiKP**		**03 25 13.3**	**-0.2**
	comp=Z,18nm,0.7s									
ESDC	**Sonseca Array**	**156.88**	**18**	PKP		**PKPdf**		**03 25 14.1**	**-2.3**
	comp=Z,1.5nm,1.0s,baz=338,slow=3.2,SNR=4.2									
ESDC				PKPab		**PKPab**		**03 25 47.8**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=332,slow=3.6,SNR=9.2									
TORD	**Torodi Ar. Bea**	**174.27**	**144**	PKP		**PKPdf**		**03 25 31.1**	**0.0**
	comp=Z,7.5nm,0.8s,baz=96,slow=1.8,SNR=15									

DDA 16 03:05:49.7,38.47N×39.26E,h7km,MD2.4,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.22**	**279**	*i* P	Pg	03 05 54.4	+0.1
ELZG				*i* S	Sg	03 05 57.9	+0.5
KEMA	**Kemaliye**	**1.00**	**324**	*i* P	Pg	03 06 08.3	-0.7
KEMA				*i* S	Sg	03 06 21.6	-0.6

BJI ***16*** *03:05:57.5,2.78S×136.87E,h13km,mb5.6/68,mB6.1/73, Ms6.6/79,Ms7 6.4/71*

IDC ***16*** *03:05:59.1±0.3,2.36S×136.56E,h0km,mb5.0/30, mb1 5.0/34,mb1mx5.0/35,mbtmp5.0/34,ML4.6/4,MS6.6/3, Ms1 6.6/3,ms1mx5.4/42,Error ellipse: s-maj=13.4km s-min=8.2km az=79.0*

ISCJB ***16*** *03:06:00.9±0.7,2.45S±0.02×136.65E±0.02,h9km±4km, mb5.7/214,MS7.0/24,Error ellipse: s-maj=3.5km s-min=2.7km az=167.3*

NEIC ***16*** *03:06:02.4±0.2,2.39S×136.64E,h13km,mb5.9/90,ME6.2, MW6.2,MW6.2,Error ellipse: s-maj=5.6km s-min=5.1km az=60.0,Moment Tensor Solution. s19 Moment tensor: Scale 10¹⁸Nm; Mrr-0.02; Mθθ-2.18; Mϕϕ2.20; Mrθ-0.71; Mθϕ-0.03; Mϕr0.84; Best double couple: Mo2.40000×10¹⁸ NP1:φs45.00000°,δ63.00000°,λ1.00000°. NP2: φs314.00000°,δ89.00000°,λ153.00000°. Principal axes:*

T 2.5000, Plg19.0000°, Azm266.0000°; N -0.0900, Plg63.0000°, Azm131.0000°; P -2.4000, Plg17.0000°, Azm2.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.

NEIC Felt [III] on Biak.

GCMT ***16*** *03:06:02.4±0.1,2.01S×136.48E,h12km,MW6.2/118, Moment Tensor Solution. s118,c216; s104,c196; Duration: 3s2 Moment tensor: Scale 10¹⁸Nm; Mrr-0.12±.03; Mθθ-2.67±.04; Mϕϕ2.79±.04; Mrθ0.38±.09; Mθϕ0.42±.04; Mϕr-0.63±.09; Best double couple: Mo2.85700×10¹⁸ NP1:φs139.00000°,δ89.00000°, λ165.00000°. NP2:φs230.00000°,δ75.00000°,λ1.00000°. Principal axes: T 2.9420, Plg11.0000°, Azm94.0000°; N -0.1720, Plg75.0000°, Azm314.0000°; P -2.7720, Plg9.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***16*** *03:06:03.9±1.6,2.50S×136.56E,h33km,mb5.9/63 Error ellipse: s-maj=9.3km s-min=5.0km az=108.8*

DJA ***16*** *03:06:04.3±0.4,2.52×13.72E±,h12km±3km,M6.3/124, mb5.9/124,mB6.5/110,MLv6.3/12,Mw(mB)6.2/110, Mwp6.3/23*

NEIC ***16*** *03:06:05.0±0.0,2.45S×136.50E,h25km,Moment Tensor Solution. s14 Moment tensor: Scale 10¹⁸Nm; Mrr-0.25; Mθθ-2.30; Mϕϕ2.55; Mrθ0.32; Mθϕ0.42; Mϕr-0.50; Best double couple: Mo2.50000×10¹⁸ NP1:φs320.00000°, δ89.00000°,λ-165.00000°. NP2:φs230.00000°, δ76.00000°,λ0.00000°. Principal axes: T 2.6600, Plg9.0000°, Azm94.0000°; N -0.2700, Plg76.0000°, Azm321.0000°; P -2.4000, Plg9.0000°, Azm185.0000°;*

ISC 16 03:06:05.0±0.2,2.41S±0.02×136.65E±0.02,h24km±1km, h24km:pP-P,n977,σ2s39/1021,mb5.8/211,MS7.1/25, 34C-26D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.67**	**322**	P	Pb	03 06 10.3	-7.8
SRPI				S	Sb	03 06 21.1	-5.9
SMPI	**Sarmi**	**2.10**	**79**	P	Pn	03 06 35.3	-3.3
SMPI				S	**Sn**	**03 07 03.9**	**-0.1**
RKPI	**Ransiki, Papua**	**2.63**	**290**	P	Pn	03 06 41.3	-4.6
RKPI				S	**Sn**	**03 07 17.4**	**+0.3**
GENI	**Genyem**	**3.52**	**93**	P	**Pn**	**03 06 56.8**	**-1.4**
GENI				S	**Sn**	**03 07 39.1**	**0.0**
JAY	**Jayapura**	**4.05**	**92**	P	**Pn**	**03 07 03.1**	**-2.5**
FAKI	**Fak Fak**	**4.43**	**263**	P	**Pn**	**03 07 08.2**	**-2.5**
FAKI				S	**Sn**	**03 08 04.9**	**+3.4**
FAKI	**Fak Fak**	**4.43**	**263**	*e*Pn	**Pn**	**03 07 08.9**	**-1.8**
FAKI				*e*Sn	**Sn**	**03 07 58.1**	**-3.4**
SIJI	**Sorong**	**5.59**	**286**	Pn	Pn	03 07 20.9	-5.9
	57nm,0.3s,baz=104,slow=23,SNR=115						
SIJI				Sn	Sn	03 08 23.6	-6.7
	91nm,0.3s,baz=91,slow=12,SNR=5.8						
SIJI				Lg	Lg	03 08 55.0	
	59nm,0.3s,baz=311,slow=21,SNR=6.4						
SIJI				LR	LR	03 09 52.0	
	comp=Z,520µm,20.9s,baz=104,slow=42						
SWI	**Sorong**	**5.60**	**286**	P	Pn	03 07 22.7	-4.1
	3µm,1.1s,48µm809µm31nm						
SWI				S	**Sn**	**03 08 32.0**	**+1.5**
	3µm,1.1s,48µm809µm31nm						
BNDI	**Bandanaira**	**7.05**	**252**	P	Pn	03 07 50.6	+3.8
	2µm,1.6s,57µm437µm29nm						
BNDI				S	**Sn**	**03 09 09.7**	**+3.4**
	2µm,1.6s,57µm437µm29nm						
SAUI	**Saumlaki**	**7.69**	**224**	P	Pn	03 08 00.1	+4.6
	1µm,1.2s,35µm149µm9.1nm						
SAUI				S	Sn	03 09 28.4	+6.5
	1µm,1.2s,35µm149µm9.1nm						
SAUI	**Saumlaki**	**7.69**	**224**	*e*Pn	**Pn**	**03 07 55.1**	**-0.4**
MSAI	**Masohi**	**7.77**	**263**	P	**Pn**	**03 07 57.1**	**+0.5**
	543nm,0.8s,7µm75µm2.0nm						
MSAI				S	**Sn**	**03 09 26.2**	**+2.3**
	543nm,0.8s,7µm75µm2.0nm						
AAI	**Ambon**	**8.54**	**261**	P	**Pn**	**03 08 05.5**	**-1.7**
	1µm,1.1s,19µm389µm						
AAI				S	**Sn**	**03 09 45.1**	**+2.2**
	1µm,1.1s,19µm389µm						
LBMI	**Labuha**	**9.31**	**281**	P	Pn	03 08 14.5	-3.3
	790nm,1.3s,14µm195µm						
NLAI	**Namlea**	**9.57**	**265**	P	**Pn**	**03 08 18.4**	**-3.0**
	1µm,1.0s,13µm293µm						
TNTI	**Ternate**	**9.80**	**289**	P	**Pn**	**03 08 24.2**	**-0.4**
	752nm,0.9s,18µm						
TNTI				S	**Sn**	**03 10 14.1**	**+0.1**
	752nm,0.9s,18µm						
TNTI	**Ternate**	**9.80**	**289**	*e*Pn	**Pn**	**03 08 24.6**	**0.0**
SANI	**Sanana**	**10.66**	**272**	P	Pn	03 08 30.9	-5.4
SANI				S	**Sn**	**03 10 35.5**	**+0.5**
PMG	**Port Moresby**	**12.55**	**124**	*e*P	**Pn**	**03 09 03.5**	**+1.3**
PMG	**Port Moresby**	**12.55**	**124**	*e*Pn	**Pn**	**03 09 03.5**	**+1.3**
SGSI	**Sangihe**	**12.66**	**299**	P	**Pn**	**03 09 02.4**	**-1.2**
	738nm,1.0s						
KMSI	**Cibinong**	**13.01**	**283**	P	**Pn**	**03 09 07.2**	**-1.2**
	1µm,1.2s,19µm119µm						
COEN	**Coen**	**13.17**	**151**	*e*Pn	**Pn**	**03 09 09.9**	**-0.7**
COEN				*e*Sn	**Sn**	**03 11 33.4**	**-3.0**
MATI	**Mati**	**13.93**	**312**	*e*P	**Pn**	**03 09 18.7**	**-2.3**
LUWI	**Luwuk**	**13.94**	**275**	P	**Pn**	**03 09 20.5**	**-0.7**
	1µm,1.8s,18µm						
LUWI				S	**Sn**	**03 11 58.0**	**+2.8**
	1µm,1.8s,18µm						
LUWI	**Luwuk**	**13.94**	**275**	*e*Pn	**Pn**	**03 09 18.7**	**-2.4**
LUWI				*e*Sn	**Sn**	**03 11 53.1**	**-2.2**
KDI	**Kendari**	**14.09**	**263**	P	**Pn**	**03 09 20.8**	**-2.5**
	411nm,1.2s,14µm						
KDI				S	**Sn**	**03 12 01.5**	**+2.4**
	411nm,1.2s,14µm						
SOEI	**Soe**	**14.31**	**239**	P	**Pn**	**03 09 24.5**	**-1.9**
	1µm,1.0s,23µm						
SOEI	**Soe**	**14.31**	**239**	*e*Pn	**Pn**	**03 09 23.7**	**-2.7**
SOEI				*e*Sn	**Sn**	**03 12 04.2**	**-0.3**
DAV	**Davao City (W)**	**14.52**	**310**	⇓P	**Pn**	**03 09 29.8**	**+0.8**
MRSI	**Marisa**	**14.98**	**281**	P	Pn	03 09 32.2	-3.2
	1µm,0.9s,12µm						
APSI	**Ampana**	**15.07**	**275**	P	**Pn**	**03 09 32.3**	**-4.2**
	2µm,1.3s,29µm						
BUKP	**Musuan**	**15.43**	**312**	*e*P	**Pn**	**03 09 39.7**	**-1.6**
MMRI	**Maumere**	**15.62**	**246**	P	**Pn**	**03 09 45.2**	**+1.5**
	642nm,1.7s,22µm93µm						
MMRI	**Maumere**	**15.62**	**246**	*e*Pn	**Pn**	**03 09 42.5**	**-1.3**
	857nm,1.2s						
BUTP	**Butuan**	**15.76**	**316**	*e*P	**Pn**	**03 09 42.5**	**-3.1**
TOLI	**Toli-Toli**	**16.23**	**282**	*e*Pn	**Pn**	**03 09 51.8**	**+0.1**
	2µm,0.7s						
BSSI	**Bau Bau, Buton**	**16.54**	**257**	P	**Pn**	**03 09 56.6**	**+1.1**
	2µm,2.9s,34µm						
PAGZ	**Pagadian**	**16.70**	**308**	*e*P	**Pn**	**03 09 57.0**	**-0.6**
BKSI	**Bulukumba**	**16.74**	**260**	P	**Pn**	**03 09 58.3**	**+0.2**
	470nm,2.1s,17µm						
TTSI	**Tana Toraja**	**16.82**	**267**	P	**Pn**	**03 09 58.9**	**-0.2**
	743nm,1.6s,20µm73µm						
PCI	**Palu**	**16.87**	**275**	P	**Pn**	**03 09 59.2**	**-0.6**
	3µm,1.1s,27µm147µm						
SPSI	**Sidrap Palu**	**16.93**	**264**	P	**Pn**	**03 09 59.0**	**-1.4**
	1µm,2.2s,24µm						
MPSI	**Mapaga**	**16.97**	**279**	P	**Pn**	**03 09 58.9**	**-2.0**
	926nm,1.4s,22µm						
KAPI	**Kappang**	**17.06**	**261**	Pn	**Pn**	**03 10 00.1**	**-2.0**
	532nm,1.5s,SNR=38						
KAPI	**Kappang**	**17.06**	**261**	Pn	**Pn**	**03 09 59.6**	**-2.5**
	0.6nm,0.3s,baz=94,slow=8.0,SNR=16						
KAPI	**Kappang**	**17.06**	**261**	P	**Pn**	**03 10 01.0**	**-1.1**
	SNR=94						
KAPI	**Kappang**	**17.06**	**261**	*e*Pn	**Pn**	**03 10 00.8**	**-1.3**
	454nm,2.0s						
MSLP	**Maasin**	**17.12**	**317**	*e*P	**Pn**	**03 10 01.1**	**-1.7**
WRAB	**Tennant Creek**	**17.57**	**187**	Pn	**Pn**	**03 10 08.5**	**+0.1**
	2µm,1.0s,SNR=22						
WRAB	**Tennant Creek**	**17.57**	**187**	*c* *iP*	**Pn**	**03 10 07.9**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,932nm,1.2s						
WRAB	**Tennant Creek**	**17.57**	**187**	*e*Pn	**Pn**	**03 10 07.5**	**-0.9**
	comp=Z,298nm,0.8s						
WRAB				*e*Sn	**Sn**	**03 13 20.1**	**-3.4**
WRA	**Warramunga Arr**	**17.58**	**187**	P	Pn	03 10 02.4	-6.1
	comp=Z,1.8nm,0.3s,baz=9.8,slow=12,SNR=46						
WRA				S	**Sn**	**03 13 17.4**	**-6.3**
	comp=Z,3.6nm,0.3s,baz=9.3,slow=21,SNR=4.5						
WRA				LR	LR	03 17 52.4	
	comp=Z,168µm,19.6s,baz=5.0,slow=40						
WRA	**Warramunga Arr**	**17.58**	**187**	*e*P	Pn	03 10 02.4	-6.1
WRA				*e*		03 13 17.4	
BASI	**Baing, Sumba**	**17.75**	**243**	P	**P**	**03 10 14.5**	**+3.1**
	comp=Z,621nm,1.4s,comp=Z,12µm						
PLP	**Palo**	**17.79**	**319**⇑	*e*P	**Pn**	**03 10 07.0**	**-4.2**
GUMO	**Guam**	**17.86**	**27**	P	**Pn**	**03 10 09.2**	**-2.8**
	comp=Z,7.1nm,0.3s,baz=166,slow=17,SNR=3.2						
GUMO	**Guam**	**17.86**	**27**	*e*P	**Pn**	**03 10 10.3**	**-1.7**
GUMO				*e*		03 13 30.2	
GUMO				pmax	pmax		
	comp=Z,453nm,1.8s						
GUMO	**Guam**	**17.86**	**27**	*e*Pn	**Pn**	**03 10 10.3**	**-1.7**
	comp=Z,453nm,1.8s						
GUMO				*e*Sn	**Sn**	**03 13 30.2**	**-0.4**
WBSI	**Waikabubak, Su**	**18.60**	**247**	P	**P**	**03 10 20.5**	**-0.3**
	comp=Z,595nm,1.1s,comp=Z,14µm						
GUIM	**Jordan**	**19.06**	**313**	*e*P	**P**	**03 10 24.1**	**-1.8**
RCP	**Roxas**	**19.59**	**315**⇑	*e*P	**P**	**03 10 29.9**	**-1.6**
BKB	**Balikpapan**	**19.78**	**273**	P	**Pn**	**03 10 35.6**	**+0.3**
	comp=Z,2µm,1.7s,comp=Z,43µm						
CTA	**Charters Tower**	**19.92**	**153**	P	**P**	**03 10 33.8**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=328,slow=13,SNR=4.8						
CTA	**Charters Tower**	**19.92**	**153**	*e*P	**P**	**03 10 33.8**	**-1.4**
CTAO	**Charters Tower**	**19.92**	**153**	*e*P	**P**	**03 10 33.1**	**-2.1**
CTAO				pmax	pmax		
	comp=Z,168nm,1.0s						
CTAO	**Charters Tower**	**19.92**	**153**	*e*P	**P**	**03 10 33.0**	**-2.1**
	comp=Z,168nm,1.0s						
PVCP	**Virac**	**20.16**	**322**	*e*P	**P**	**03 10 36.3**	**-1.4**
KBKI	**Kotabaru**	**20.48**	**267**	P	Pn	03 10 42.5	-1.0
	comp=Z,713nm,1.4s,comp=Z,22µm						
OTRP	**Odiongan**	**20.65**	**316**	*e*P	**P**	**03 10 41.3**	**-1.8**
AS01	**Alice Springs**	**21.30**	**187**	*e*P	**P**	**03 10 49.2**	**-0.9**
AS12	**Alice Springs**	**21.30**	**187**	*e*P	**P**	**03 10 48.1**	**-2.0**
AS12				*e*S	**S**	**03 14 45.4**	**-0.4**
ASAR	**Alice Springs**	**21.30**	**187**	P	**P**	**03 10 48.1**	**-2.0**
	comp=Z,225nm,0.9s,baz=9.0,slow=11,SNR=171						
ASAR				S	**S**	**03 14 45.4**	**-0.4**
	comp=Z,22nm,0.8s,baz=8.3,slow=26,SNR=4.5						
ASAR	**Alice Springs**	**21.30**	**187**	P	**P**	**03 10 48.2**	**-2.0**
ASAR				S	**S**	**03 14 45.4**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,225nm,0.9s						
ASAR				smax	smax		
	comp=N,22nm,0.8s						
PPR	**Puerto Princes**	**21.57**	**304**	*e*P	P	03 10 58.5	+5.5
BBKI	**Banjar Baru**	**21.81**	**267**	P	**P**	**03 10 55.7**	**+0.1**
	comp=N,3µm,1.6s,comp=N,63µmcomp=N,109µm						
ENPP	**El Nido**	**21.83**	**309**	*e*P	**P**	**03 10 53.9**	**-1.9**
KKM	**Kota Kinabalu**	**22.07**	**292**	*e*P	**P**	**03 10 56.0**	**-2.4**
	comp=N,516nm,1.

comp=Z,29µm,18.2s
MDSI Maura Dua 32.48 265 P P 03 12 34.8 +0.9
comp=Z,132nm,1.1s,comp=Z,5µm
LWLI Liwa 32.62 264 P P 03 12 37.2 +1.8
comp=Z,112nm,0.9s,comp=Z,8µm
HKC Hong Kong Obse 32.94 319 ⇑ *i* P P 03 12 42.0 +4.2
JMBI JAMBI 33.00 271 P P 03 12 39.5 +1.0
comp=Z,554nm,1.2s
MYKOM **Kota Tinggi 33.06 277** *e*P **P 03 12 37.5 -1.6**
comp=Z,62nm,0.9s
LHSI Lahat 33.11 267 P P 03 12 40.9 +1.4
comp=Z,546nm,1.0s,comp=Z,10µm
MNAI Manna 33.69 266 P P 03 12 45.2 +0.6
comp=Z,230nm,2.0s,comp=Z,7µm
QIZ Qiongzhong 33.89 310 P P 03 12 46.5 +0.3
QIZ pP **pP 03 12 52.8 -0.7**
QIZ sP **sP 03 12 55.3 -1.2**
QIZ S **S 03 18 09.6 +0.1**
QIZ PMZ
comp=Z,100nm,1.1s
QIZ PMZ
comp=Z,790nm,4.2s
QIZ LN
comp=Z,57µm,23.7s
QIZ LZ
comp=Z,31µm,20.0s
QIZ Qiongzhong 33.89 310 *e*P **P 03 12 45.9 -0.3**
comp=Z,98nm,1.0s
GZH Guangzhou 34.03 319 P P 03 12 47.6 +0.3
GZH pP **pP 03 12 56.6 +2.0**
GZH PP **PP 03 14 05.0 +0.3**
GZH S **S 03 18 16.3 +4.7**
GZH PMZ
comp=Z,2µm,4.5s
MASI Maura Aman, Be 34.38 268 P P 03 12 52.0 +1.4
comp=Z,799nm,1.7s,comp=Z,14µm
DZM Mont Dzumac 34.93 126 P P 03 12 55.2 -0.1
comp=Z,9.3nm,1.1s,baz=270,slow=20,SNR=4.4
SDSI Sungai Dareh 35.24 272 P P 03 12 59.6 +1.7
comp=Z,167nm,1.3s,comp=Z,16µm
NWAO Narrogin (SRO) 35.41 209 P P 03 12 58.3 -0.9
comp=Z,66nm,1.1s,baz=330,slow=18,SNR=3.3
NWAO Narrogin (SRO) 35.41 209 P P 03 12 58.3 -0.9
NWAO pmax pmax
comp=Z,66nm,1.1s
UBPT Khong Chiam 35.51 301 P P 03 13 00.1 -0.1
comp=Z,152nm,1.0s,comp=Z,3µm
BKNI Bangkinang 35.70 274 P P 03 13 02.4 +0.4
comp=Z,248nm,1.0s
BKNI Bangkinang 35.70 274 *e*P **P 03 13 01.8 -0.2**
comp=Z,278nm,1.1s
JNU Nakatsue 35.75 352 P P 03 12 59.9 -2.2
comp=Z,41nm,0.9s,baz=139,slow=6.0,SNR=13
JNU Nakatsue 35.75 352 *e*P **P 03 13 02.5 +0.4**
comp=Z,297nm,1.4s
IPM Ipoh 36.25 281 *e*P **P 03 13 07.7 +1.0**
comp=Z,56nm,0.8s
SSE Sheshan 36.42 337 ⇑P **P 03 13 07.5 -0.3**
SSE pP **pP 03 13 15.9 +0.7**
SSE sP **sP 03 13 20.3 +2.2**
SSE PP **PnPn 03 14 29.6 -1.0**
SSE S **S 03 18 45.1 -3.1**
SSE sS **sS 03 18 58.9 -1.3**
SSE PMZ
comp=Z,31nm,1.1s
SSE PMZ
comp=Z,950nm,4.2s
SSE LN
comp=Z,166µm,16.3s
SSE LE
comp=Z,486µm,16.2s
SSE LZ
comp=Z,123µm,21.1s
KULM Kulim 36.77 282 *e*P **P 03 13 11.0 0.0**
comp=Z,68nm,0.9s
KSJJU Jeju 36.90 346 P P 03 13 13.8 +1.9
SNR=16
KSJJU Jeju 36.90 346 P P 03 13 13.8 +1.9
SNR=16
SKLT Songkhla 37.19 285 P P 03 13 16.2 +1.5
comp=Z,90nm,0.9s,comp=Z,2µm
MNSI Mandailing Nat 37.20 274 P P 03 13 15.6 +0.9
comp=Z,113nm,0.8s,comp=Z,11µm
KSWAN **Wando 37.78 347 P P 03 13 21.4 +2.1**
SNR=9.6
KSWAN **Wando 37.78 347 P P 03 13 21.4 +2.1**
SNR=9.6
KSKOH **Goheung 37.86 347 P P 03 13 22.0 +2.0**
SNR=10.0
KSKOH **Goheung 37.86 347 P P 03 13 22.0 +2.0**
SNR=10.0
KSNAH **Namhae 37.92 348 P P 03 13 22.5 +2.0**
SNR=7.1
KSNAH **Namhae 37.92 348 P P 03 13 22.5 +2.0**
SNR=7.1
KSJDO Jindo 37.95 346 P P 03 13 22.0 +1.2
SNR=10
KSJDO Jindo 37.95 346 P P 03 13 22.0 +1.2
SNR=10
PSI Prapat 38.07 278 P P 03 13 20.0 -2.2
comp=Z,57nm,0.9s,baz=138,slow=2.4,SNR=24
PSI Prapat 38.07 278 P pmax pmax
comp=Z,83nm,0.9s
PSI Prapat 38.07 278 *e*P **P 03 13 23.2 +0.9**
comp=Z,133nm,1.0s
KSBUS Busan 38.12 350 P P 03 13 25.2 +3.0
SNR=9.0
KSBUS Busan 38.12 350 P P 03 13 24.0 +1.9
SNR=15
NJ2 Nanjing 38.20 335 *e*P **P 03 13 23.9 +1.0**
NJ2 pP **pP 03 13 28.4 -1.9**
NJ2 sP **sP 03 13 32.3 -1.0**
NJ2 S **S 03 19 16.5 +1.3**
NJ2 sS **sS 03 19 28.5 +1.2**
NJ2 PMZ
comp=Z,40nm,0.8s
NJ2 PMZ
comp=Z,4µm,5.2s
NJ2 LN
comp=Z,53µm,24.0s
NJ2 LE
comp=Z,75µm,23.6s
NJ2 LZ
comp=Z,61µm,21.5s
KSJIN Jinju 38.23 349 P P 03 13 25.2 +2.1
SNR=8.3
KSHUK **Heuksando 38.36 345 P P 03 13 26.4 +2.1**
SNR=12
KSHUK **Heuksando 38.36 345 P P 03 13 26.4 +2.1**
SNR=12
KSKWJ **Gwangju 38.45 347 P P 03 13 27.6 +2.6**
SNR=12
KSKWJ **Gwangju 38.45 347 P P 03 13 27.1 +2.1**
SNR=12
KSGWJ **Gwangju-acc 38.48 347 P P 03 13 27.5 +2.2**
SNR=13
KSGWJ **Gwangju-acc 38.48 347 P P 03 13 27.5 +2.2**
SNR=13
TSI Tuntungan 38.52 279 P P 03 13 26.5 +0.6
comp=Z,147nm,0.9s
PATY Pattaya 38.65 294 P P 03 13 30.2 +3.3
comp=Z,8.9nm,1.0s,comp=Z,1µm
KSDAG **Daegu 38.66 350 P P 03 13 29.1 +2.3**
SNR=11
KSDAG **Daegu 38.66 350 P P 03 13 28.3 +1.6**
SNR=9.3
NAYO Nakonayok 38.75 296 P P 03 13 28.0 +0.2
comp=Z,40nm,1.1s,comp=Z,1µm
MJAR Matsushiro Arr 38.77 2 P P 03 13 26.6 -1.1
comp=Z,7.7nm,0.8s,baz=184,slow=9.1,SNR=11
MJAR PcP **PcP 03 15 37.1 -1.9**
comp=Z,7.6nm,1.1s,baz=175,slow=3.0,SNR=3.0
MJAR Matsushiro Arr 38.77 2 P **P 03 13 26.6 -1.1**
MJAR 03 15 37.1
MJAR pmax pmax
comp=Z,4.0nm,0.7s
MJAR pmax pmax
comp=Z,8.0nm,1.1s
MAJO Matsushiro 38.77 2 *e*P **P 03 13 26.6 -1.1**
MAJO *e* 03 15 37.1
MAJO pmax pmax
comp=Z,173nm,2.1s
MAJO Matsushiro 38.77 2 *e*P **P 03 13 26.6 -1.1**
comp=Z,173nm,2.1s
MAJO *e*PcP **PcP 03 15 37.1 -1.9**
MAT Matsushiro 38.77 2 P **P 03 13 27.2 -0.5**
MAT S **S 03 19 22.6 -1.2**
KSJEU Jeongeup 38.78 347 P **P 03 13 30.0 +2.2**
SNR=16
KSJEU Jeongeup 38.78 347 P **P 03 13 30.0 +2.2**
SNR=16
KRAB Krabi 38.81 286 P **P 03 13 29.6 +1.2**
comp=Z,112nm,0.8s,comp=Z,3µm
KSYOC YEONGCHEON 38.85 350 P **P 03 13 30.8 +2.5**
SNR=10
WHN Wuhan 39.06 329 ⇑P **P 03 13 32.0 +1.8**
WHN S S 03 19 34.0 +5.7
WHN LN
comp=Z,14µm,12.5s
WHN LE
comp=Z,25µm,14.1s
WHN LZ
comp=Z,17µm,16.9s
KSJEO Jeonju 39.13 348 P **P 03 13 32.8 +2.1**
SNR=7.1
GSI Gunungsitoli 39.24 275 P **P 03 13 31.6 -0.4**
comp=Z,134nm,1.1s
GSI Gunungsitoli 39.24 275 *e*P **P 03 13 30.3 -1.6**
comp=Z,265nm,1.5s
KSEUS ULSEONG 39.27 350 P **P 03 13 33.2 +1.4**
SNR=10.0
KSCPR CHUPUNGNYEONG 39.27 349 P **P 03 13 33.9 +2.0**
SNR=7.8
KSGUS GUNSAN 39.34 347 P **P 03 13 34.2 +1.8**
SNR=12
SURT Suratani 39.38 287 P **P 03 13 35.2 +2.1**
comp=Z,40nm,1.1s,comp=Z,781nm
KSSAJ Sangju 39.42 349 P **P 03 13 34.1 +1.1**
SNR=12
KSULJ Uljin 39.49 351 P **P 03 13 35.0 +1.4**
SNR=21
KSTEJ Daejeon 39.53 348 P **P 03 13 35.3 +1.3**
SNR=4
TJN Taejon 39.54 348 *i* P **P 03 13 34.9 +0.8**
PKDT Phuket 39.56 285 P P 03 13 37.8 +3.2
comp=Z,204nm,1.1s
KSBON Boeun 39.58 349 P **P 03 13 36.8 +2.4**
SNR=11
KSKOJ Gongju 39.68 348 P **P 03 13 37.5 +2.3**
SNR=13
KSCHJ Chungju 39.90 349 P **P 03 13 38.6 +1.5**
SNR=11
PBKT Sadao Pong 39.96 299 P **P 03 13 38.4 +0.5**
comp=Z,46nm,0.9s,comp=Z,2µm
KSTBA Taebaek 39.97 350 P **P 03 13 39.7 +2.0**
SNR=20
KSCEA Cheonan 39.99 348 P **P 03 13 40.2 +2.4**
SNR=15
KSULL Ulleungdo 40.03 353 P **P 03 13 40.2 +2.0**
SNR=12
KSYOW **Yeongwol 40.11 350** P **P 03 13 40.8 +2.0**
SNR=7.5
KSSES Sesan 40.13 347 P **P 03 13 40.7 +1.7**
SNR=16
KSJES JEONGSEON 40.32 350 P **P 03 13 42.8 +2.2**
SNR=8.5
LHMI Lhok Sumawe 40.38 281 P **P 03 13 42.8 +1.4**
comp=Z,427nm,0.9s,comp=Z,6µm
LHMI Lhok Sumawe 40.38 281 *e*P **P 03 13 42.0 +0.5**
comp=Z,320nm,0.9s
KSICN Icheon 40.41 349 P **P 03 13 42.8 +1.5**
SNR=9.0
KS15 Wonju Array Si 40.47 349 *e*P **P 03 13 39.2 -2.6**
KS15 *e*PcP **PcP 03 15 42.6 -1.7**
KSRS Korea Array 40.48 349 P **P 03 13 39.2 -2.6**
comp=Z,1.4nm,0.7s,baz=169,slow=8.9,SNR=12
KSRS PcP **PcP 03 15 42.6 -1.7**
comp=Z,3.6nm,0.7s,baz=173,slow=2.9,SNR=5.3
KSRS Korea Array 40.48 349 P **P 03 13 39.2 -2.6**
KSRS 03 15 42.7
KSRS pmax pmax
comp=Z,1.0nm,0.7s
KSRS pmax pmax
comp=Z,4.0nm,0.7s
KSSWO Suwon 40.48 348 P **P 03 13 43.9 +2.0**
SNR=11
KS01 Wonju Array Si 40.50 349 *e*P **P 03 13 43.8 +1.7**
KSDGY Daegwallycong 40.57 350 P **P 03 13 44.5 +1.7**
SNR=15
SNSI Sinabang, Aceh 40.59 276 P **P 03 13 43.6 +0.4**
comp=Z,260nm,1.4s,comp=Z,8µm
KSSEO Seoul 40.71 348 P **P 03 13 45.9 +2.2**
SNR=24
SRDT SRDT 40.74 295 P **P 03 13 46.0 +1.6**
comp=Z,195nm,0.9s,comp=Z,5µm
KSJMJ Jumunjin 40.75 350 P P 03 13 47.3 +3.2
SNR=8.9
INCN Inchon 40.76 348 P **P 03 13 46.0 +1.8**
SNR=13
INCN Inchon 40.76 348 *e*P **P 03 13 45.6 +1.4**
comp=Z,324nm,1.8s
GYA Guiyang 40.77 317 ⇑ *i* P **P 03 13 44.3 -0.3**
GYA pP **pP 03 13 52.8 +0.8**
GYA PP **PnPn 03 15 24.0 +0.9**
GYA S **S 03 19 55.3 +1.0**
GYA sS **sS 03 20 06.8 +0.3**
GYA PMZ
comp=Z,100nm,1.1s
GYA PMZ
comp=Z,1µm,11.8s
GYA LN
comp=Z,32µm,18.6s
GYA LE
comp=Z,29µm,19.4s
GYA LZ
comp=Z,38µm,18.8s
KSCHC Chuncheon 40.81 349 P **P 03 13 47.2 +2.6**
SNR=13
UTTA Uttaradit 40.82 301 P **P 03 13 45.8 +0.8**
comp=Z,48nm,0.9s,comp=Z,340nm
UTHA Uthaitani 40.90 297 P **P 03 13 44.5 -1.2**
comp=Z,25nm,1.1s,comp=Z,202nm
KSIJA INJE 40.96 350 P **P 03 13 48.0 +2.2**
SNR=17
KSGAH Ganghwa 41.02 348 P **P 03 13 48.6 +2.3**
SNR=14
KSMUS Musan 41.12 348 P **P 03 13 49.9 +2.7**
SNR=15
NANT Nan 41.16 302 P **P 03 13 46.2 -1.6**
comp=Z,55nm,0.9s,comp=Z,418nm
KSCWO Cheorwon 41.16 349 P **P 03 13 50.1 +2.6**
SNR=8.1
KSSKC Sokcho 41.18 350 P **P 03 13 49.8 +2.1**
SNR=10
SEHB SEOHWA 41.21 350 P P 03 13 50.8 +2.9
SNR=14
KHLT Khaolaem Dam 41.38 296 P **P 03 13 51.8 +2.2**
comp=Z,26nm,2.0s,comp=Z,701nm
TAU Tasmania Unive 41.44 168 *e*P **P 03 13 50.1 +0.4**
TAU pmax pmax
comp=Z,466nm,2.3s
TAU Tasmania Unive 41.44 168 *e*P **P 03 13 50.0 +0.4**
comp=Z,466nm,2.3s
ENH Enshi 41.57 323 *e*P **P 03 13 50.2 -0.9**
comp=Z,93nm,1.2s
LAMP Lampang 41.95 301 P **P 03 13 52.4 -1.8**
comp=Z,92nm,0.9s,comp=Z,604nm
CRAI Chiangrai 42.09 304 P P 03 13 50.8 -4.6
comp=Z,67nm,1.0s
CM01 Chiang Mai Arr 42.48 301 *e*P **P 03 13 59.5 +0.9**
CM31 Chiang Mai Arr 42.51 301 *e*P **P 03 13 55.8 -3.1**
CM31 *e*PcP **PcP 03 15 48.4 -3.0**
CMAR Chiang Mai Arr 42.51 301 P **P 03 13 55.8 -3.1**
comp=Z,48nm,1.0s,baz=123,slow=6.6,SNR=28
CMAR PcP **PcP 03 15 48.4 -3.0**
comp=Z,4.6nm,1.0s,baz=144,slow=1.9,SNR=2.3
CMAR Chiang Mai Arr 42.51 301 P **P 03 13 55.8 -3.1**
CMAR 03 15 48.4
CMAR pmax pmax
comp=Z,105nm,0.9s
CMAR pmax pmax
comp=Z,5.0nm,1.0s
TIA Tai'an 42.52 336 *e*P **P 03 13 59.5 +0.8**
TIA pP **pP 03 14 05.3 -0.8**
TIA PP **PP 03 15 37.4 -0.1**
TIA S **S 03 20 17.1 -2.6**
TIA sS **sS 03 20 29.0 -2.9**
TIA PMZ
comp=Z,90nm,1.1s
TIA PMZ
comp=Z,3µm,8.2s
TIA LN
comp=Z,56µm,13.4s
TIA LE
comp=Z,94µm,18.6s
TIA LZ
comp=Z,34µm,13.3s
CMMT Chiang Mai 42.66 301 P **P 03 13 57.9 -2.2**
comp=Z,222nm,0.9s,comp=Z,3µm
CHTO Chiang Mai 42.66 301 P **P 03 13 58.0 -2.1**
comp=Z,758nm,1.0s,comp=Z,9µm
CHTO Chiang Mai 42.66 301 *e*P **P 03 14 00.6 +0.5**
CHTO pmax pmax
comp=Z,125nm,0.8s
CHTO Chiang Mai 42.66 301 P **P 03 14 01.0 +0.9**
SNR=39
CHTO Chiang Mai 42.66 301 *e*P **P 03 14 00.6 +0.5**
comp=Z,125nm,0.8s
KMI Kunming 42.77 312 P **P 03 13 59.9 -1.3**
KMI pP **pP 03 14 05.1 -3.5**
KMI sP **sP 03 14 06.9 -4.6**
KMI PP PcP 03 15 47.1 -5.4
KMI S **S 03 20 28.3 +4.2**
KMI sS **sS 03 20 36.4 0.0**
KMI SS **SS 03 23 32.8 -2.8**
KMI PMZ
comp=Z,49nm,1.5s
KMI PMZ
comp=Z,1µm,4.2s
KMI LN
comp=Z,24µm,22.2s
KMI LE
comp=Z,30µm,21.3s
KMI LZ
comp=Z,42µm,14.5s
CMAI Chiengmai2 43.06 303 P **P 03 14 04.2 +0.7**
comp=Z,83nm,0.9s
MHMT Maesarieng 43.26 300 P **P 03 14 06.1 +1.1**
comp=Z,69nm,1.0s,comp=Z,1µm
MSVF Nonsavu 43.37 113 *e*P **P 03 14 07.7 +1.7**
MSVF pmax pmax
comp=Z,95nm,1.1s
MSVF Nonsavu 43.37 113 *e*P **P 03 14 07.7 +1.7**
comp=Z,95nm,1.1s
DL2 Dalian 43.38 343 ⇓ *i* P **P 03 14 06.8 +1.3**
DL2 S **S 03 20 31.9 -0.2**
DL2 PMZ
comp=Z,87nm,1.7s
DL2 PMZ
comp=Z,2µm,4.6s
DL2 LE
comp=Z,14µm,15.7s
DL2 LZ
comp=Z,12µm,11.8s
CMBY CAMPBELL BAY 43.65 283 *e*P **P 03 14 07.1 -1.0**
CMBY AMB AMB 03 14 11.7
comp=Z,125nm,0.5s
ERM Erimo 44.60 7*c i*P P 03 14 18.2 +2.9
ERM pmax pmax
comp=Z,16nm,1.7s
XAN Xi'an 44.67 327 P **P 03 14 14.5 -1.6**
XAN pP **pP 03 14 20.3 -3.2**
XAN sP **sP 03 14 23.0 -3.5**
XAN PP **PP 03 16 00.8 +0.1**
XAN S **S 03 20 47.5 -3.8**
XAN SS SS 03 24 04.1 -8.1
XAN PMZ
comp=Z,510nm,5.1s
XAN LN
comp=Z,14µm,24.6s
XAN LE
comp=Z,9µm,23.5s
XAN LZ
comp=Z,4µm,13.3s
VLA Vladivostok 45.52 355 ⇓ *i* P **P 03 14 24.0 +1.4**
VLA *i* *PP **pP 03 14 33.8 +3.8**
VLA *e* 03 16 01.8
VLA *i* S **S 03 21 05.0 +1.9**
VLA pmax pmax
comp=Z,116nm,2.0s
VLA MLR MLR
comp=E,8155µm,28.0s
CD2 Chengdu 45.59 319 ⇑P **P 03 14 24.3 +0.8**
CD2 pP **pP 03 14 31.9 +1.0**
CD2 PcP **PcP 03 16 02.1 +0.3**
CD2 PP **PP 03 16 11.5 +1.0**
CD2 PcS **PcS 03 19 56.3 +0.3**
CD2 S **S 03 21 06.3 +1.6**
CD2 PMZ
comp=E,140nm,0.9s
CD2 PMZ
comp=E,2µm,9.8s
CD2 LN
comp=E,46µm,20.6s
CD2 LZ
comp=E,32µm,13.2s
SNY Shenyang 45.60 346 ⇓P **P 03 14 23.5 +0.3**
SNY S **S 03 21 03.9 -0.4**
SNY PMZ
comp=E,110nm,2.1s
SNY PMZ
comp=E,2µm,3.9s
SNY LN
comp=E,105µm,23.4s
SNY LE
comp=E,190µm,15.6s
SNY LZ
comp=E,210µm,17.1s
TIY Taiyuan 45.79 333 *e*P **P 03 14 27.4 +2.4**
TIY pP **pP 03 14 34.6 +2.2**
TIY S **S 03 21 04.8 -2.6**
TIY SS **SS 03 24 30.3 -2.0**
TIY PMZ
comp=E,52nm,0.5s
TIY PMZ
comp=E,2µm,7.3s
TIY LN
comp=E,14µm,7.7s
TIY LE
comp=E,38µm,15.8s
TIY LZ
comp=E,37µm,19.9s
DGPR DIGLIPUR 46.06 291 *e*P **P 03 14 26.4 -0.9**
DGPR AMB AMB 03 14 37.9
comp=Z,86nm,2.7s
BJT Baijiatuau 46.20 338 *e*P **P 03 14 27.1 -1.0**
BJT pmax pmax
comp=Z,646nm,1.9s
BJT Baijiatuau 46.20 338 *e*P **P 03 14 27.1 -1.0**
comp=Z,646nm,1.9s
BJI Beijing 46.22 338 P **P 03 14 28.0 -0.2**
BJI S S 03 21 06.8 -6.5
BJI PMZ
comp=Z,35nm,1.0s
BJI PMZ
comp=Z,3µm,5.9s
BJI LN
comp=Z,22µm,28.8s
BJI LE
comp=Z,26µm,26.5s
BJI LZ
comp=Z,23µm,24.2s
USRK Ussuriysk Ar. 46.58 355 P **P 03 14 28.3 -2.7**
comp=Z,4.3nm,0.8s,baz=206,slow=3.9,SNR=15
USRK PcP **PcP 03 16 01.7 -3.2**
comp=Z,3.5nm,0.8s,baz=202,slow=3.1,SNR=2.1
ASAJ Asahikawa 46.62 6 P P 03 14 28.0 -3.2
baz=177,slow=10
ASAJ Asahikawa 46.62 6 P P 03 14 28.0 -3.2
ASAJ Asahikawa 46.62 6 *e*P **P 03 14 30.5 -0.7**
comp=Z,358nm,1.7s
YUK Yuzh-Kuril'sk 46.96 9*d i*P **P 03 14 35.4 +1.5**
YUK *i* 03 16 09.3
YUK *i* 03 16 26.4
YUK *i* S **S 03 21 26.1 +2.3**
YUK pmax pmax
comp=N,137nm,1.8s
YUK pmax pmax
comp=E,85nm,1.8s
YUK pmax pmax
comp=Z,205nm,1.8s
YUK pmax pmax
comp=Z,2µm,6.2s
YUK MLR MLR
comp=N,44µm,19.0s
YUK MLR MLR
comp=E,37µm,19.0s
YUK MLR MLR
comp=Z,34µm,19.0s

CN2	**Changchun**	**47.09**	**349**	*e*P	**P**	**03 14 35.9**	**+1.0**
CN2				*ep*P	**pP**	**03 14 43.4**	**+1.0**
CN2				PcP	**PcP**	**03 16 06.8**	**+0.2**
CN2				*e*S	**S**	**03 21 25.6**	**0.0**
CN2				SS	**SS**	**03 24 47.9**	**-5.1**
CN2				PMZ			
	comp=Z,30nm,1.0s						
CN2				PMZ			
	comp=Z,2μm,4.0s						
MDJ	**Mudanjiang**	**47.24**	**353**	P	**P**	**03 14 33.3**	**-2.8**
MDJ				PP	**PP**	**03 16 22.9**	**-4.5**
MDJ				ScP	**ScP**	**03 19 59.9**	**+0.1**
MDJ				PcS	**PcS**	**03 20 01.6**	**-0.6**
MDJ				S	**S**	**03 21 28.3**	**+0.6**
MDJ				ScS	**ScS**	**03 24 28.9**	**+0.2**
MDJ				PMZ			
	comp=Z,3μm,9.6s						
MDJ				LN			
	comp=Z,106μm,22.9s						
MDJ				LE			
	comp=Z,74μm,17.8s						
MDJ				LZ			
	comp=Z,36μm,20.4s						
MDJ	**Mudanjiang**	**47.24**	**353**	*e*P	**P**	**03 14 35.3**	**-0.7**
	comp=Z,149nm,1.3s						
KUR	**Kuril'sk**	**48.47**	**11**	*c i*P	**P**	**03 14 45.3**	**-0.3**
KUR				pmax	pmax		
	comp=N,301nm,1.7s						
KUR				pmax	pmax		
	comp=E,95nm,1.7s						
KUR				pmax	pmax		
	comp=Z,229nm,1.7s						
KUR				pmax	pmax		
	comp=Z,148nm,0.1s						
HHC	**Hu-ho-hao-te**	**48.75**	**335**	*e*P	**P**	**03 14 48.5**	**+0.5**
HHC				pP	**pP**	**03 14 57.5**	**+2.0**
HHC				sP	**sP**	**03 15 00.6**	**+2.1**
HHC				PP	**PP**	**03 16 42.8**	**+1.4**
HHC				S	**S**	**03 21 49.8**	**+0.2**
HHC				sS	**sS**	**03 22 03.1**	**+1.1**
HHC				ScS	**ScS**	**03 24 37.8**	**-1.5**
HHC				PMZ			
	comp=Z,51nm,1.0s						
HHC				PMZ			
	comp=Z,3μm,6.0s						
HHC				LN			
	comp=Z,35μm,14.3s						
HHC				LE			
	comp=Z,17μm,14.9s						
HHC				LZ			
	comp=Z,21μm,14.9s						
LZH	**Lanzhou**	**49.02**	**324**	⇑P	**P**	**03 14 50.8**	**+0.6**
LZH				pP	**pP**	**03 14 55.6**	**-2.2**
LZH				sP	**sP**	**03 14 59.5**	**-1.2**
LZH				PP	**PP**	**03 16 43.0**	**-1.0**
LZH				S	**S**	**03 21 50.6**	**-3.1**
LZH				SS	**SS**	**03 25 18.0**	**-7.0**
LZH				PMZ			
	comp=Z,430nm,1.0s						
LZH				PMZ			
	comp=Z,2μm,4.5s						
LZH				LN			
	comp=Z,25μm,14.2s						
LZH				LE			
	comp=Z,23μm,15.0s						
LZH				LZ			
	comp=Z,38μm,16.5s						
BTO	**Baotou**	**49.23**	**333**	*e*P	**P**	**03 14 52.5**	**+0.8**
YSS	**Yuzh-Sakhalins**	**49.44**	**6**	*e*P	P	03 14 48.0	-5.0
YSS				*i* *SP	sP	03 14 54.0	-9.5
YSS				*e*		03 16 11.0	
YSS				*e*		03 16 45.0	
YSS				*e**SS	**S**	**03 21 56.0**	**-2.8**
YSS				pmax	pmax		
	comp=Z,170nm,1.2s						
YSS				pmax	pmax		
	comp=N,2μm,8.0s						
YSS				pmax	pmax		
	comp=Z,2μm,8.0s						
YSS	**Yuzh-Sakhalins**	**49.44**	**6**	*e*P	**P**	**03 14 53.3**	**+0.3**
	comp=Z,209nm,1.3s						
DCZ	**Deep Cove**	**50.56**	**152**	*e*P	**P**	**03 15 02.0**	**+0.5**
	comp=Z,110nm,1.3s						
HABR	**Khabarovsk**	**50.69**	**359**	*e*P	**P**	**03 15 02.5**	**0.0**
HABR				*e**PP	**pP**	**03 15 11.7**	**+1.7**
HABR				*e**SP	**sP**	**03 15 15.9**	**+3.0**
HABR						03 16 19.1	
HABR				*e*		03 16 58.1	
HABR				*e*S	**S**	**03 22 16.6**	**+0.5**
HABR				*e**SS	**sS**	**03 22 32.7**	**+4.2**
HABR				*e*		03 24 49.8	
HABR				*e*SS	**SS**	**03 25 52.0**	**+1.1**
HABR				*e*SSS	SSS	03 27 23.7	
HABR				pmax	pmax		
	comp=N,138nm,1.9s						
HABR				pmax	pmax		
	comp=E,77nm,1.9s						
HABR				pmax	pmax		
	comp=Z,229nm,1.7s						
HABR				smax	smax		
	comp=E,364nm,6.6s						
HABR				smax	smax		
	comp=Z,432nm,6.6s						
HABR				smax	smax		
	comp=N,632nm,6.6s						
HABR				MLR	MLR		
	comp=Z,36μm,15.0s						
RPZ	**Rata Peaks**	**51.21**	**148**	P	**P**	**03 15 05.0**	**-1.6**
	comp=Z,34nm,1.0s,baz=276,slow=6.1,SNR=10						
RPZ	**Rata Peaks**	**51.21**	**148**	*e*P	**P**	**03 15 05.8**	**-0.8**
	comp=Z,77nm,0.9s						
WHZ	**Wether Hill Ro**	**51.24**	**152**	*e*P	**P**	**03 15 07.5**	**+0.8**
	comp=Z,89nm,1.4s						
URZ	**Urewera**	**51.38**	**139**	P	**P**	**03 15 07.1**	**-0.8**
	comp=Z,13nm,0.6s,baz=319,slow=20,SNR=3.3						
URZ	**Urewera**	**51.38**	**139**	*e*P	**P**	**03 15 09.1**	**+1.2**
	comp=Z,97nm,1.3s						
SHL	**Shillong**	**51.48**	**306**	*e*P	**P**	**03 15 07.6**	**-1.5**
SHL				AMB	AMB	03 15 11.7	
	comp=Z,127nm,6.0s						
SHL				*ex*	x	03 22 34.5	
BKZ	**Black Stump Fm**	**51.49**	**140**	*e*P	**P**	**03 15 07.5**	**-1.3**
	comp=Z,52nm,0.9s						
KLR	**Kul'dur**	**51.60**	**356**	*e*P	P	03 15 05.2	-4.1
KLR				*e*S	S	03 22 22.5	-6.3
KLR				*e*		03 24 48.5	
KLR				pmax	pmax		
	comp=N,140nm,2.0s						
KLR				pmax	pmax		
	comp=Z,500nm,2.0s						
KLR				pmax	pmax		
	comp=N,2μm,10.5s						
KLR				pmax	pmax		
	comp=Z,5μm,10.5s						
KHZ	**Kahutara**	**51.70**	**146**	*e*P	**P**	**03 15 09.4**	**-0.8**
	comp=Z,48nm,0.9s						
ODZ	**Otahua Downs**	**51.93**	**150**	*e*P	**P**	**03 15 11.0**	**-0.9**
	comp=Z,74nm,1.3s						
TYV	**Tymovskoe**	**53.31**	**5**	*e*P	P	03 15 26.0	+4.0
TYV				pmax	pmax		
	comp=N,4μm,4.0s						
TYV				pmax	pmax		
	comp=E,2μm,4.0s						
HIA	**Hailar**	**53.51**	**346**	*d i*P	**P**	**03 15 24.2**	**+0.7**
HIA				pmax	pmax		
	comp=Z,120nm,1.7s						
HIA	**Hailar**	**53.51**	**346**	*e*P	**P**	**03 15 23.8**	**+0.3**
	comp=Z,211nm,1.7s						
GTA	**Gaotai**	**53.62**	**325**	*e*P	**P**	**03 15 22.0**	**-2.6**
GTA				pP	pP	03 15 26.8	-5.4
GTA				sP	sP	03 15 28.8	-6.3
GTA				PcP	**PcP**	**03 16 27.8**	**-3.2**
GTA				S	**S**	**03 22 53.4**	**-3.6**
GTA				PMZ			
	comp=Z,2μm,5.7s						
GTA				LN			
	comp=Z,52μm,18.1s						
GTA				LE			
	comp=Z,78μm,18.0s						
GTA				LZ			
	comp=Z,67μm,18.1s						
LSA	**Lhasa**	**53.93**	**310**	P	P	03 15 24.1	-3.4
LSA				sP	sP	03 15 36.4	-1.6
LSA				PP	**PP**	**03 17 26.8**	**-2.2**
LSA				S	**S**	**03 22 57.4**	**-4.8**
LSA				LN			
	comp=Z,3μm,11.5s						
LSA				LE			
	comp=Z,8μm,11.5s						
LSA				LZ			
	comp=Z,20μm,13.9s						
LSA	**Lhasa**	**53.93**	**310**	*e*P	**P**	**03 15 26.7**	**-0.8**
LSA				pmax	pmax		
	comp=Z,383nm,1.8s						
LSA	**Lhasa**	**53.93**	**310**	*e*P	**P**	**03 15 26.7**	**-0.8**
	comp=Z,382nm,1.8s						
SKR	**Severo-Kuril's**	**55.45**	**15**	⇓*i*P	**P**	**03 15 38.0**	**+0.5**
SKR				*e*S	**S**	**03 23 17.0**	**-3.9**
SKR				pmax	pmax		
	comp=Z,3μm,8.0s						
SKR				pmax	pmax		
	comp=N,2μm,10.0s						
SKR				pmax	pmax		
	comp=E,3μm,10.0s						
SKR				pmax	pmax		
	comp=Z,640nm,1.5s						
SKR				pmax	pmax		
	comp=N,1μm,2.0s						
SKR				pmax	pmax		
	comp=E,1μm,2.0s						
SKR				smax	smax		
	comp=N,18μm,24.0s						
SKR				smax	smax		
	comp=E,9μm,24.0s						
NKL	**Nikolayevsk**	**55.46**	**3**	*e*P	P	03 15 33.7	-3.8
NKL				*e*		03 15 39.4	
NKL				pmax	pmax		
	comp=E,220nm,1.8s						
NKL				pmax	pmax		
	comp=Z,860nm,1.8s						
NKL				pmax	pmax		
	comp=N,320nm,2.0s						
NKL				pmax	pmax		
	comp=N,2μm,4.0s						
NKL				pmax	pmax		
	comp=E,350nm,4.0s						
NKL				pmax	pmax		
	comp=Z,2μm,4.0s						
TAPN	**Taplejung**	**55.62**	**306**	*e*P	**P**	**03 15 36.8**	**-2.8**
	comp=Z,434nm,1.1s						
ODAN	**Odare**	**55.68**	**305**	*e*P	**P**	**03 15 37.3**	**-2.7**
	comp=Z,433nm,0.8s						
BOK	**Bokaro**	**55.80**	**301**	*e*P	**P**	**03 15 42.0**	**+1.4**
BOK				AMB	AMB	03 15 45.5	
	comp=Z,97nm,1.5s						
VIS	**Vishakhapatnam**	**56.20**	**293**	*e*P	**P**	**03 15 44.1**	**+0.6**
VIS				AMB	AMB	03 15 48.5	
	comp=Z,96nm,0.7s						
RAMN	**Ramite**	**56.37**	**305**	*e*P	**P**	**03 15 42.2**	**-2.7**
	comp=Z,381nm,0.8s						
SONA0	**Songino Array**	**56.59**	**336**	*e*P	P	03 15 42.0	-3.9
SONM	**Songino Array**	**56.59**	**336**	P	P	03 15 42.0	-3.9
	comp=Z,1.9nm,0.7s,baz=155,slow=6.8,SNR=13						
SONM	**Songino Array**	**56.59**	**336**	P	P	03 15 42.0	-3.9
SONM				pmax	pmax		
	comp=Z,18nm,1.0s						
SONA1	**Songino Array**	**56.59**	**336**	*e*P	**P**	**03 15 45.8**	**-0.2**
PALK	**Pallekele**	**56.65**	**280**	P	**P**	**03 15 49.0**	**+2.2**
	comp=Z,341nm,1.0s,SNR=6.7						
PALK	**Pallekele**	**56.65**	**280**	P	**P**	**03 15 48.3**	**+1.4**
	comp=Z,341nm,1.0s,SNR=6.7						
PALK	**Pallekele**	**56.65**	**280**	P	P	03 15 42.3	-4.5
	comp=Z,6.6nm,0.9s,baz=157,slow=15,SNR=2.6						
PALK	**Pallekele**	**56.65**	**280**	*e*P	P	03 15 42.3	-4.5
PALK				*e**PP	pP	03 15 47.8	-6.7
PALK	**Pallekele**	**56.65**	**280**	⇓P	**P**	**03 15 49.1**	**+2.2**
PALK	**Pallekele**	**56.65**	**280**	*e*P	P	03 15 42.3	-4.5
PALK				*ep*P	pP	03 15 47.8	-6.7
GUN	**Gumba**	**57.33**	**305**	*e*P	**P**	**03 15 48.9**	**-2.9**
	comp=Z,590nm,1.1s						
PKI	**Pulchoki**	**57.58**	**305**	*e*P	**P**	**03 15 51.5**	**-2.1**
	comp=Z,204nm,1.1s						
CIT	**Chita**	**57.65**	**343**	*e*P	**P**	**03 15 55.0**	**+1.8**
CIT				*e*		03 16 01.2	
CIT				*e*		03 16 08.4	
CIT				*e*		03 16 48.2	
CIT				pmax	pmax		
	comp=Z,507nm,2.2s						
KKN	**Kakani**	**57.77**	**305**	*e*P	**P**	**03 15 52.8**	**-2.0**
	comp=Z,382nm,1.1s						
DMN	**Daman**	**57.85**	**305**	*e*P	**P**	**03 15 52.3**	**-3.1**
	comp=Z,327nm,0.9s						
PEA0	**Petropavlovsk-**	**58.07**	**15**	*e*P	**P**	**03 15 54.4**	**-1.7**
PETK	**Petropavlovsk-**	**58.07**	**15**	P	**P**	**03 15 53.1**	**-3.0**
	comp=Z,28nm,0.8s,baz=184,slow=5.9,SNR=24						
PETK	**Petropavlovsk-**	**58.07**	**15**	P	**P**	**03 15 53.1**	**-3.0**
PETK				pmax	pmax		
	comp=Z,28nm,0.8s						
PEA2	**Petropavlovsk-**	**58.07**	**15**	*e*P	**P**	**03 15 53.1**	**-3.0**
PET	**Petropavlovsk**	**58.24**	**15**	*c i*P	P	03 15 52.1	-5.2
PET				*e*S	S	03 23 50.8	-6.9
PET				pmax	pmax		
	comp=Z,149nm,1.7s						
PET				pmax	pmax		
	comp=Z,3μm,5.5s						
PET				pmax	pmax		
	comp=Z,3μm,11.2s						
GKN	**Gorkha**	**58.38**	**305**	*e*P	**P**	**03 15 56.4**	**-2.6**
	comp=Z,604nm,1.0s						
KOLN	**Koldanda**	**59.15**	**304**	*e*P	**P**	**03 16 01.8**	**-2.6**
	comp=Z,627nm,0.9s						
CLNS	**Chul'man**	**59.82**	**353**	*e*P	**P**	**03 16 10.4**	**+2.2**
CLNS				*e**PP	pP	03 16 21.2	+5.3
CLNS				*e*		03 16 57.2	
CLNS				*e*		03 18 23.1	
CLNS				*e*PPP	PPP	03 19 42.4	
CLNS				*e*S	**S**	**03 24 19.8**	**+1.7**
CLNS				*e*		03 25 54.9	
CLNS				*e*SSS	SSS	03 30 40.7	
CLNS				pmax	pmax		
	comp=E,10.0nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,42nm,1.1s						
CLNS				pmax	pmax		
	comp=N,29nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,12nm,0.9s						
CLNS				pmax	pmax		
	comp=N,3.0nm,0.6s						
CLNS				smax	smax		
	comp=N,3μm,15.4s						
CLNS				smax	smax		
	comp=E,1μm,11.4s						
ZAK	**Zakamensk**	**59.86**	**336**	*e*P	P	03 16 03.9	-4.8
ZAK				pmax	pmax		
	comp=Z,94nm,1.4s						
TRD	**Trivandrum**	**60.49**	**281**	*e*P	**P**	**03 16 13.3**	**-0.2**
TRD				AMB	AMB	03 16 17.6	
	comp=Z,101nm,0.4s						
HYB	**Hyderabad**	**60.55**	**291**	*e*P	**P**	**03 16 15.3**	**+1.3**
TLY	**Talaya**	**60.72**	**337**	P	**P**	**03 16 16.1**	**+1.6**
	comp=Z,258nm,1.4s,SNR=22						
TLY	**Talaya**	**60.72**	**337**	P	**P**	**03 16 13.1**	**-1.4**
	comp=Z,20nm,0.8s,baz=169,slow=6.2,SNR=12						
TLY	**Talaya**	**60.72**	**337**	*e*P	**P**	**03 16 16.4**	**+1.9**
TLY				*e*S	**S**	**03 24 29.8**	**-0.1**
TLY				pmax	pmax		
	comp=Z,102nm,1.7s						
TLY	**Talaya**	**60.72**	**337**	P	**P**	**03 16 16.1**	**+1.6**
	SNR=27						
TLY	**Talaya**	**60.72**	**337**	*e*P	**P**	**03 16 14.8**	**+0.3**
	comp=Z,72nm,1.2s						
IRK	**Irkutsk**	**60.92**	**338**	*e*P	**P**	**03 16 15.4**	**-0.4**
IRK				*e*S	**S**	**03 24 33.7**	**+1.2**
IRK				pmax	pmax		
	comp=Z,336nm,2.0s						
NGP	**Nagpur**	**61.00**	**296**	*e*P	**P**	**03 16 16.0**	**-1.0**
NGP				AMB	AMB	03 16 20.1	
	comp=Z,144nm,5.4s						
MOY	**Mondy**	**61.77**	**336**	*e*P	**P**	**03 16 19.2**	**-2.5**
MOY				pmax	pmax		
	comp=Z,434nm,3.2s						
BOD	**Bodaibo**	**62.73**	**347**	*e*P	P	03 16 23.9	-3.9
BOD				pmax	pmax		
	comp=Z,97nm,1.8s						
JOSI	**Joshimath**	**63.44**	**306**	*e*P	**P**	**03 16 33.0**	**-0.4**
WMQ	**Urumqi**	**63.51**	**322**	P	**P**	**03 16 33.0**	**-0.4**
WMQ				pP	**pP**	**03 16 40.8**	**-0.3**
WMQ				sP	**sP**	**03 16 46.1**	**+2.1**
WMQ				PcP	**PcP**	**03 17 12.4**	**+2.5**
WMQ				PP	**PP**	**03 18 54.1**	**+0.8**
WMQ				PcS		03 21 11.8	
WMQ				S	**S**	**03 25 02.5**	**-3.0**
WMQ				sS	**sS**	**03 25 14.1**	**-4.0**
WMQ				ScS	**SKSac**	**03 26 24.4**	**-1.0**
WMQ				SS	**SS**	**03 29 11.3**	**-1.7**
WMQ				PMZ			
	comp=Z,150nm,1.2s						
WMQ				PMZ			
	comp=Z,3μm,4.6s						
WMQ				LN			
	comp=Z,120μm,14.5s						
WMQ				LE			
	comp=Z,102μm,18.6s						
WMQ				LZ			
	comp=Z,100μm,28.6s						
AGRA	**Agra**	**63.70**	**302**	*e*P	**P**	**03 16 34.3**	**-0.6**
KALG	**Kalgarh**	**63.74**	**305**	*e*P	**P**	**03 16 34.8**	**-0.3**
KALG				AMB	AMB	03 16 45.6	
	comp=Z,112nm,0.9s						
AIS	**Amsterdam Isla**	**64.40**	**229**	P	P	03 16 23.0	-16
AIS				R		03 42 00.0	
YAK	**Yakutsk**	**64.48**	**356**	P	**P**	**03 16 37.3**	**-2.0**
	comp=Z,6.6nm,0.5s,baz=14,slow=20,SNR=7.5						
YAK	**Yakutsk**	**64.48**	**356**	*e*P	P	03 16 35.6	-3.7
YAK				*e**PP	pP	03 16 47.1	+0.1
YAK				*e*		03 17 06.3	
YAK				*e*S	S	03 25 10.4	-6.3
YAK				*e**SS	sS	03 25 44.3	+15
YAK				*e*		03 26 34.7	
YAK				*e*SSS	SSS	03 32 23.9	
YAK				pmax	pmax		
	comp=Z,101nm,1.3s						
YAK				pmax	pmax		
	comp=N,41nm,1.0s						
YAK				pmax	pmax		
	comp=E,12nm,1.5s						
YAK				pmax	pmax		
	comp=Z,518nm,4.6s						
YAK				pmax	pmax		
	comp=N,290nm,4.6s						
YAK				pmax	pmax		
	comp=E,115nm,3.3s						
YAK				smax	smax		
	comp=E,6μm,10.9s						
YAK				smax	smax		
	comp=N,4μm,14.6s						
YAK	**Yakutsk**	**64.48**	**356**	*e*P	**P**	**03 16 37.9**	**-1.4**
	comp=N,239nm,1.1s						
BISR	**Bishrakh**	**64.53**	**303**	*e*P	**P**	**03 16 41.3**	**+1.0**
DDI	**Dehra Dun**	**64.58**	**305**	*e*P	**P**	**03 16 40.8**	**+0.1**
DDI				*e*P	**pP**	**03 16 44.2**	**-4.2**
DDI				AMB	AMB	03 16 46.0	
	comp=Z,573nm,1.9s						
GOA	**Goa**	**64.60**	**288**	*e*P	**P**	**03 16 40.7**	**-0.3**
GOA				AMB	AMB	03 16 46.3	
	comp=Z,107nm,0.0s						
NDI	**New Delhi**	**64.75**	**303**	*e*P	**P**	**03 16 43.5**	**+1.7**
BHGR	**Bahadurgarh**	**64.99**	**303**	*e*P	**P**	**03 16 44.5**	**+1.2**
BHGR				AMB	AMB	03 16 47.6	
	comp=Z,224nm,0.7s						
POO	**Poona**	**65.16**	**292**	*e*P	**P**	**03 16 44.8**	**+0.1**
POO				AMB	AMB	03 16 48.6	
	comp=Z,214nm,1.6s						
KUDL	**Kundal**	**65.20**	**302**	*e*P	**P**	**03 16 46.3**	**+1.6**
KUDL				AMB	AMB	03 16 49.7	
	comp=Z,234nm,0.6s						
KKR	**Kurukshetra**	**65.48**	**304**	*e*P	**P**	**03 16 46.8**	**+0.3**
SMLA	**Simla**	**65.57**	**306**	*e*P	**P**	**03 16 48.8**	**+1.8**
SMLA				AMB	AMB	03 16 58.2	
	comp=Z,356nm,1.6s						
KHET	**Khetri**	**65.76**	**302**	*e*P	**P**	**03 16 49.9**	**+1.6**
KHET				AMB	AMB	03 16 53.5	
	comp=Z,184nm,1.2s						
SEY	**Seymchan**	**66.24**	**8**	P	**P**	**03 16 48.2**	**-2.5**
	comp=Z,9.8nm,0.6s,baz=165,slow=6.4,SNR=20						
SEY	**Seymchan**	**66.24**	**8**	*d i*P	P	03 16 54.4	+3.7
CASY	**Casey**	**66.36**	**191**	*e*P	**P**	**03 16 50.5**	**-1.0**
	comp=Z,64nm,1.4s						
DHRM	**DHARAMSHALA**	**66.63**	**307**	*e*P	**P**	**03 16 54.8**	**+0.6**
DHRM				AMB	AMB	03 16 58.3	
	comp=Z,233nm,1.1s						
ADK	**Adak**	**66.90**	**29**	*e*P	**P**	**03 16 56.4**	**+1.2**
ADK				pmax	pmax		
	comp=Z,308nm,1.4s						
ADK	**Adak**	**66.90**	**29**	*e*P	**P**	**03 16 56.4**	**+1.2**
	comp=Z,308nm,1.4s						
KIP	**Kipapa**	**68.08**	**66**	*de*P	**P**	**03 17 04.1**	**+0.9**
KIP				pmax	pmax		
	comp=Z,215nm,2.5s						
KRAR	**Krasnoyarsk**	**68.24**	**335**	*e*P	**P**	**03 17 05.0**	**+1.5**
KRAR				pmax	pmax		
	comp=Z,39nm,1.2s						
MK01	**Makanchi Array**	**68.28**	**323**	*e*P	**P**	**03 17 01.0**	**-3.1**
MK31	**Makanchi Array**	**68.30**	**323**	P	P	03 17 00.0	-4.2
MK31				pmax	pmax		
	comp=Z,45nm,0.8s						
MK32	**Makanchi Array**	**68.30**	**323**	*e*P	**P**	**03 17 01.2**	**-2.9**
MKAR	**Makanchi Array**	**68.30**	**323**	P	**P**	**03 17 01.2**	**-2.9**
	comp=Z,8.9nm,0.7s,baz=112,slow=7.6,SNR=42						
MKAR	**Makanchi Array**	**68.30**	**323**	*e*P	**P**	**03 17 03.6**	**-0.6**
MKAR	**Makanchi Array**	**68.30**	**323**	*e*P	**P**	**03 17 03.6**	**-0.6**
PDGK	**Podgornoye**	**68.48**	**319**	P	**P**	**03 17 06.2**	**+0.9**
PDGK				pmax	pmax		
	comp=Z,94nm,1.3s						
KSH	**Kashi**	**69.39**	**314**	P	**P**	**03 17 13.3**	**+2.1**
KSH				*ep*P	**pP**	**03 17 21.5**	**+2.5**
KSH				sP	**sP**	**03 17 25.3**	**+3.4**
KSH				PP	PP	03 19 50.8	+6.0
KSH				S	**S**	**03 26 20.0**	**+2.9**
KSH				sS	**sS**	**03 26 29.8**	**-0.1**
KSH				ScS	**SKSac**	**03 27 07.9**	**-2.4**
KSH				PMZ			
	comp=Z,290nm,1.7s						
KSH				PMZ			
	comp=Z,1μm,3.4s						
KSH				LN			
	comp=Z,22μm,13.9s						
KSH				LE			
	comp=Z,29μm,13.4s						
KSH				LZ			
	comp=Z,20μm,13.7s						
ULHL	**Ulahol**	**70.22**	**317**	P	P	03 17 20.6	+4.1
	SNR=21						
ZAA0	**Zalesovo Array**	**70.65**	**330**	*e*P	P	03 17 15.0	-3.4
ZALV	**Zalesovo Beam**	**70.65**	**330**	P	P	03 17 14.0	-4.5
	comp=Z,6.5nm,0.7s,baz=120,slow=6.7,SNR=17						
ZALV	**Zalesovo Beam**	**70.65**	**330**	P	P	03 17 14.0	-4.5
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ZAA1	**Zalesovo Array**	**70.65**	**330**	*e*P	P	03 17 14.0	-4.5
KZA	**Kyzart**	**70.84**	**316**	P	**P**	**03 17 18.6**	**-1.8**
	SNR=21						
TKM2	**Tokmak 2**	**70.92**	**317**	P	**P**	**03 17 19.1**	**-1.5**
	SNR=19						
TKM2	**Tokmak 2**	**70.92**	**317**	*e*P	**P**	**03 17 20.2**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,185nm,1.8s						
TKM2	**Tokmak 2**	**70.92**	**317**	*e*P	**P**	**03 17 20.2**	**-0.5**
	comp=Z,185nm,1.8s						
KBK	**Karagaybulak**	**71.26**	**317**	P	P	03 17 26.5	+3.8
	SNR=16						
UCH	**Uchtor**	**71.40**	**316**	P	P	03 17 27.2	+3.3
	SNR=26						
CHMS	**Chumysh**	**71.52**	**317**	P	P	03 17 27.9	+3.9
	SNR=11						
FRU	**Bishkek**	**71.55**	**317**	*e*P	**P**	**03 17 25.0**	**+0.7**
FRU				*i*		03 17 49.0	
FRU				*e*S	**S**	**03 26 44.0**	**+1.9**
FRU				*e*		03 27 20.0	
FRU				pmax	pmax		
	comp=Z,400nm,2.4s						
AAK	**Ala-Archa**	**71.56**	**317**	P	P	03 17 28.9	+4.4
	SNR=9.0						
AAK	**Ala-Archa**	**71.56**	**317**	*e*P	**P**	**03 17 25.3**	**+0.8**
AAK				pmax	pmax		
	comp=Z,217nm,2.0s						
AAK	**Ala-Archa**	**71.56**	**317**	*e*P	**P**	**03 17 25.3**	**+0.8**
	comp=Z,217nm,2.0s						
USP	**Ospenovka**	**71.79**	**317**	P	**P**	**03 17 23.2**	**-2.6**
	SNR=16						
NVS	**Novosibirsk**	**71.91**	**331**	⇑*i*P	**P**	**03 17 23.0**	**-3.1**
NVS				*e*		03 20 01.8	
NVS				*e*S	**S**	**03 26 47.5**	**+1.9**
NVS				pmax	pmax		
	comp=N,165nm,1.9s						

NVS pmax pmax
comp=E,193nm,1.9s
NVS pmax pmax
comp=Z,429nm,1.9s
NVS pmax pmax
comp=Z,88nm,2.1s
NVS pmax pmax
comp=N,51nm,2.0s
NVS pmax pmax
comp=E,53nm,2.2s
NVS smax smax
comp=N,1µm,5.0s
NVS smax smax
comp=E,349nm,4.0s
AML Almayashu 71.94 316 P **P** 03 17 26.2 **-0.8**
SNR=18
EKS2 Erkin-Say 72.07 316 P P 03 17 30.4 +2.9
SNR=19
KURK Kurchatov 72.29 326 P P 03 17 25.2 -3.3
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 72.29 326 *e*P **P** **03 17 27.9 -0.6**
KURK pmax pmax
comp=Z,117nm,1.0s
KURK Kurchatov 72.29 326 P **P** **03 17 27.7 -0.8**
SNR=83
KURK Kurchatov 72.29 326 *e*P **P** **03 17 27.9 -0.6**
comp=Z,117nm,1.0s
KURBB Kurchatov Arra 72.30 325 P P 03 17 25.2 -3.3
comp=Z,7.1nm,0.8s,baz=118,slow=5.4,SNR=40
SPIA Saint Paul Isl 73.04 27 *e*P **P** **03 17 34.8 +2.1**
comp=Z,615nm,1.4s
PPT Papeete 73.81 107 P **P** **03 17 36.5 -1.6**
comp=Z,15nm,0.8s,baz=240,slow=1.3,SNR=1.8
PPT Papeete 73.81 107 *e*P **P** **03 17 36.5 -1.6**
TIXI Tiksi 74.10 357 *d* i P **P** **03 17 40.8 +2.1**
TIXI pmax pmax
comp=Z,179nm,2.5s
TIXI MLR MLR
comp=Z,217µm,27.0s
TIXI Tiksi 74.10 357 *e*P **P** **03 17 39.6 +0.9**
comp=Z,77nm,1.1s
DZET Dzherino 74.42 311 P **P** **03 17 40.9 -0.5**
DZET pmax pmax
comp=Z,210nm,1.5s
KK31 Karatay Array 74.48 316 *i* P **P** **03 17 39.0 -2.6**
KK31 pmax pmax
comp=Z,115nm,1.3s
KKAR Karatay Array 74.48 316 *e*P **P** **03 17 42.2 +0.6**
KKAR Karatay Array 74.48 316 *e*P **P** **03 17 42.2 +0.6**
OTUK Ortayu 75.02 321 P **P** **03 17 43.2 -1.4**
OTUK pmax pmax
comp=Z,64nm,1.3s
FALS False Pass 75.20 31 *e*P P 03 17 48.4 +3.0
comp=Z,161nm,1.3s
GAMB Gambell 76.23 21 *e*P **P** **03 17 53.6 +2.6**
comp=Z,279nm,1.6s
VNDA Vanda 76.27 175 P **P** **03 17 49.5 -1.7**
comp=Z,18nm,0.9s,baz=317,slow=5.3,SNR=16
VNDA Vanda 76.27 175 P **P** **03 17 49.5 -1.7**
VNDA pmax pmax
comp=Z,18nm,0.9s
SDPT Sand Point 76.94 31 *e*P **P** **03 17 54.9 -0.4**
comp=Z,269nm,1.2s
BVA0 Borovoye Array 77.89 326 *i* P **P** **03 17 59.1 -1.7**
BVA0 pmax pmax
comp=Z,185nm,1.5s
BVAR Borovoye Array 77.89 326 P **P** **03 17 58.9 -1.9**
comp=Z,33nm,0.8s,baz=114,slow=7.1,SNR=1.6
BVAR Borovoye Array 77.89 326 P **P** **03 17 58.9 -1.9**
BVAR pmax pmax
comp=Z,33nm,0.8s
BRVK Borovoye 77.97 326 P **P** **03 18 00.1 -1.0**
comp=Z,541nm,1.5s,SNR=21
BRVK Borovoye 77.97 326 *c i* P **P** **03 18 00.2 -0.9**
BRVK pmax pmax
comp=Z,20nm,1.2s
BRVK Borovoye 77.97 326 P **P** **03 18 03.2 +2.1**
SNR=64
BRVK Borovoye 77.97 326 *e*P **P** **03 17 59.8 -1.4**
comp=Z,172nm,1.3s
WBK Wadi Bani Khal 79.57 293 P P 03 18 15.2 +4.6
SNR=10
JMDO Jabal Madar 80.34 293 P P 03 18 18.1 +3.3
SNR=6.4
SMDO Samad 80.47 294 P P 03 18 18.7 +3.2
SNR=11
HOQ Hoqain 81.20 294 P P 03 18 23.8 +4.4
SNR=29
BSY Bisya 81.21 293 P P 03 18 23.5 +4.1
SNR=5.4
SVW2 Sparrevohn 81.53 27 *e*P **P** **03 18 19.2 -1.2**
MAW Mawson 81.64 202 P **P** **03 18 18.6 -2.1**
MAW pmax pmax
comp=Z,9.7nm,1.0s,baz=69,slow=7.0,SNR=3.2
MAW Mawson 81.64 202 P **P** **03 18 18.6 -2.1**
MAW pmax pmax
comp=Z,10.0nm,1.0s
MAW Mawson 81.64 202 *e*P **P** **03 18 21.6 +0.9**
comp=Z,17nm,1.2s
KDAK Kodiak Island 81.89 31 P **P** **03 18 21.6 -0.6**
comp=Z,498nm,1.2s,SNR=5.6
ARQ Araqi 81.89 294 P P 03 18 27.2 +4.1
SNR=18
UOSS Wadi Hilu 82.35 295 P P 03 18 28.2 +2.8
comp=Z,327nm,1.3s,SNR=7.4
BANOM Banah 82.38 296 ⇓ *i* P **P** **03 18 25.5 -0.1**
BANOM Banah 82.38 296 ⇑ *i* P **P** **03 18 26.8 +1.2**
SNR=14
HATD Hatta, Dubai 82.41 295 *i* P **P** **03 18 28.4 +2.6**
SNR=11
ASHO Ashiyiah 82.46 295 ⇑ P P 03 18 29.5 +3.5
ASHO Ashiyiah 82.46 295 ⇓ *i* P **P** **03 18 26.9 +0.9**
RSO Redoubt South 82.63 28 *e*P **P** **03 18 27.3 +1.0**
NAZ Nazwa, Dubai 82.85 295 ⇓ *i* P **P** **03 18 29.7 +1.7**
SNR=10
FAQ Al Faqa, Dubai 82.89 295 ⇑ *i* P **P** **03 18 30.4 +2.2**
SNR=9.8
ASUD Al Ashush, Dub 83.11 295 ⇓ *i* P **P** **03 18 31.4 +2.0**
SNR=10
AB31 Akbulak array 83.16 320 *i* P **P** **03 18 27.2 -1.9**
AB31 pmax pmax
comp=Z,81nm,1.3s
ABKAR Akbulak array 83.16 320 *e*P **P** **03 18 27.7 -1.4**
BRLK Bradley Lake 83.31 29 *e*P **P** **03 18 30.1 +0.4**
comp=Z,560nm,2.8s
PPLA Purkeypile 83.64 26 *e*P **P** **03 18 33.0 +1.5**
comp=Z,207nm,1.6s
IM04 Indian Mountai 83.98 23 *e*P **P** **03 18 31.6 -1.4**
SEW Seward 84.10 29 *e*P **P** **03 18 33.0 -0.7**
comp=Z,804nm,2.7s
SVE Sverdlovsk 84.38 328 ⇓ *e*P **P** **03 18 34.3 -0.9**
SVE pmax pmax
comp=Z,223nm,1.8s
AKTO Aktyubinsk 84.61 321 P P 03 18 32.4 -4.1
AKTO pmax pmax
comp=Z,104nm,1.4s
TRF Thorofare Moun 84.63 26 *e*P **P** **03 18 37.5 +0.9**
comp=Z,204nm,2.1s
MLY Manley 84.89 24 *e*P **P** **03 18 38.4 +0.8**
comp=Z,558nm,2.4s
BWN Browne 85.18 25 *e*P **P** **03 18 39.0 -0.1**
comp=Z,154nm,1.1s
RND Reindeer 85.24 26 *e*P **P** **03 18 37.3 -2.2**
RND pmax pmax
comp=Z,93nm,1.1s
RND Reindeer 85.24 26 *e*P **P** **03 18 37.2 -2.2**
comp=Z,93nm,1.1s
MCK McKinley 85.29 25 *e*P **P** **03 18 38.6 -1.1**
MCK pmax pmax
comp=Z,194nm,1.6s
MCK McKinley 85.29 25 *e*P **P** **03 18 38.6 -1.1**
comp=Z,194nm,1.6s
ARU Arti 85.42 327 P **P** **03 18 42.2 +1.8**
comp=Z,358nm,1.6s,SNR=17
ARU Arti 85.42 327 *d* i P **P** **03 18 42.1 +1.7**
ARU 03 21 57.8
ARU S **S** **03 29 04.1 -5.9**
ARU SS **SS** **03 34 39.1 -6.2**
ARU pmax pmax
comp=Z,159nm,1.7s
ARU Arti 85.42 327 *e*P **P** **03 18 38.8 -1.6**
comp=Z,332nm,1.8s
IANJ Anjilo 85.47 306 *e*P **P** **03 18 41.5 0.0**
SCM Sheep Creek Mo 85.54 28 *e*P **P** **03 18 39.7 -1.3**
SCM pmax pmax
comp=Z,105nm,1.1s
SCM Sheep Creek Mo 85.54 28 *e*P **P** **03 18 39.6 -1.3**
comp=Z,105nm,1.1s
IGLO Ghaloghah 85.64 307 *e*P **P** **03 18 44.6 +2.3**
IKIA Kiasar 85.73 306 *e*P P 03 18 45.7 +3.0
COLD Coldfoot 85.73 22 *e*P **P** **03 18 40.1 -1.7**
comp=Z,129nm,1.2s
WRH Wood River Hil 85.84 25 *e*P **P** **03 18 40.8 -1.5**
comp=Z,628nm,2.4s
CCB Clear Creek Bu 86.00 25 *e*P **P** **03 18 40.5 -2.6**
comp=Z,1µm,2.9s
ISHM Shahmirzad 86.01 306 *e*P P 03 18 47.8 +3.6
COLA College 86.04 24 *c i* P **P** **03 18 45.3 +2.1**
COLA College 86.04 24 *e*P **P** **03 18 41.2 -2.1**
comp=Z,237nm,1.8s
DIV Divide 86.11 28 *e*P **P** **03 18 42.1 -1.7**
comp=Z,104nm,1.0s
ILAS Lasjerd 86.23 306 *e*P **P** **03 18 47.5 +2.2**
HDA Harding Lake 86.30 25 *e*P **P** **03 18 45.3 +0.7**
comp=Z,741nm,2.7s
IL1 Eielson Array 86.41 25 *e*P P 03 18 41.7 -3.4
ILAR Eielson Array 86.41 25 P **P** **03 18 42.0 -3.1**
comp=Z,15nm,1.0s,baz=266,slow=4.3,SNR=25
ILAR Eielson Array 86.41 25 P **P** **03 18 42.1 -3.1**
ILAR pmax pmax
comp=Z,15nm,1.0s
ILB Eielson Array 86.41 25 *e*P **P** **03 18 42.0 -3.1**
IALA Alasht 86.42 306 *e*P P 03 18 48.9 +2.7
IFIR Firoozkooh 86.42 306 *e*P P 03 18 50.0 +3.7
IZEF Zefreh 86.52 303 *e*P **P** **03 18 46.5 -0.3**
BMRM Bremner River 86.63 29 *e*P **P** **03 18 45.1 -1.3**
comp=Z,106nm,1.2s
IDMV Damavand 87.00 306 *e*P P 03 18 52.0 +2.9
IKLH Kolahrood 87.19 303 *e*P P 03 18 53.6 +3.6
IVRN Varamin 87.20 305 *e*P **P** **03 18 52.3 +2.5**
IAFJ Afjeh 87.29 306 *e*P P 03 18 54.0 +3.5
FYU Fort Yukon 87.47 23 *e*P **P** **03 18 49.1 -1.1**
comp=Z,639nm,1.5s
QSPA South Pole Qui 87.54 180 P **P** **03 18 48.4 -2.4**
comp=Z,56nm,1.1s,baz=352,slow=1.5,SNR=13
QSPA LR LR 03 58 02.6
comp=Z,32µm,21.8s,baz=352,slow=36
IPIR Pirpir 87.71 303 *e*P **P** **03 18 53.2 +0.6**
IR3 Iran Long-Peri 87.82 305 *e*P **P** **03 18 53.9 +1.2**
IRAZ Razeghan 88.70 305 *e*P P 03 19 00.5 +3.4
DAWY Dawson 89.50 26 *e*P **P** **03 18 58.1 -1.8**
HYT Haines Junctio 90.05 29 *e*P **P** **03 19 00.9 -1.8**
MAK Makhachkala 91.00 313 *e*P P 03 19 03.9 -3.4
MAK *e* 03 22 43.0
MAK *e*PPP PPP 03 24 42.3
MAK *e*S **SKSac** **03 29 31.8 -6.2**
MAK pmax pmax
comp=Z,18nm,0.3s
SKAG Skagway 91.04 31 *e*P **P** **03 19 07.6 +0.4**
RAYN Ar Rayn 92.00 293 P **P** **03 19 14.7 +2.2**
comp=Z,200nm,1.1s,SNR=6.5
RAYN Ar Rayn 92.00 293 *e*P **P** **03 19 10.4 -2.1**
comp=Z,53nm,1.5s
INK Inuvik 92.15 22 P **P** **03 19 09.6 -2.5**
comp=Z,2.1nm,0.3s,baz=245,slow=4.8,SNR=3.3
INK Inuvik 92.15 22 *e*P **P** **03 19 11.6 -0.5**
INK pmax pmax
comp=Z,41nm,1.3s
INK Inuvik 92.15 22 *e*P **P** **03 19 11.6 -0.5**
comp=Z,42nm,1.3s
WRAK Wrangell Islan 92.54 34 *e*P **P** **03 19 12.0 -2.2**
comp=Z,26nm,1.0s
DAMY Dhamar 92.78 284 *e*P P 03 19 13.1 -3.5
comp=Z,49nm,1.1s
GNI Garni 93.00 310 *e*P **P** **03 19 18.6 +1.7**
GNI pmax pmax
comp=Z,25nm,2.5s
GNI Garni 93.00 310 ⇑ P **P** **03 19 18.6 +1.7**
ZEI Tsey 93.64 313 *e*P P 03 19 26.9 +7.0
ZEI pmax pmax
comp=Z,13nm,0.4s
DLBC Dease Lake 93.78 32 *e*P **P** **03 19 18.4 -1.6**
GOF Gofitskoye 94.24 315 *e*P **P** **03 19 23.5 +1.2**
GOF pmax pmax
comp=Z,10.0nm,1.1s
KIV Kislovodsk 94.51 314 *e*P **P** **03 19 24.1 +0.4**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 94.51 314 ⇑ P **P** **03 19 24.3 +0.6**
VRHR Novokhopersk 95.02 321 *e*P **P** **03 19 26.4 +0.7**
VRHR *e* 03 23 15.7
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,40nm,1.6s
VRHR pmax pmax
comp=Z,30nm,1.4s
VRHR pmax pmax
comp=N,40nm,1.8s
VRHR pmax pmax
comp=E,40nm,1.4s
TMCR Tamitsa 95.91 334 *e*P P 03 19 33.4 +3.9
TMCR pmax pmax
comp=Z,42nm,1.4s
VORD Divnogorie 96.50 321 *e*P **P** **03 19 33.4 +1.0**
VORD *e* 03 23 28.2
VORD pmax pmax
comp=Z,20nm,1.3s
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD pmax pmax
comp=Z,30nm,2.2s
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
VSR Storozhevoye 96.56 321 *e*P **P** **03 19 33.7 +1.0**
VSR *e* 03 23 24.5
VSR pmax pmax
comp=Z,20nm,1.0s
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,40nm,2.7s
VSR pmax pmax
comp=N,9.0nm,0.7s
VSR pmax pmax
comp=E,20nm,1.0s
LPSR Galich'ya Gora 96.60 323 *e*P **P** **03 19 34.6 +1.7**
LPSR pmax pmax
comp=Z,20nm,0.9s
LPSR pmax pmax
comp=N,4.0nm,0.7s
LPSR pmax pmax
comp=E,20nm,1.5s
LPSR pmax pmax
comp=N,20nm,1.4s
LPSR pmax pmax
comp=Z,20nm,1.4s
LPSR pmax pmax
comp=E,30nm,1.3s
SOC Sochi 96.68 313 *e*P **P** **03 19 31.7 -1.8**
SOC *e* 03 30 05.2
SOC *e*PS **PS** **03 32 22.8 +5.7**
MOS Moscow 97.07 326 *e*P **P** **03 19 33.3 -1.6**
MOS *i* 03 23 28.0
MOS pmax pmax
comp=Z,46nm,0.9s
MOS pmax pmax
comp=Z,300nm,2.6s
APA Apatity 97.26 338 ⇓ *i* P Pdif 03 19 37.2 +1.6
APA *i* 03 23 35.0
APA *i* 03 30 10.0
APA *i* S **S** **03 30 58.0 +0.4**
APA pmax pmax
comp=Z,30nm,1.2s
APA MLR MLR
comp=Z,43µm,28.0s
OBN Obninsk 97.73 325 *c i* P **P** **03 19 37.7 -0.2**
OBN *e* 03 23 34.2
OBN *i* S S 03 30 48.2 -14
OBN *i* PS PS 03 33 17.5 +49
OBN pmax pmax
comp=Z,56nm,1.7s
OBN Obninsk 97.73 325 *e*P **P** **03 19 35.0 -2.9**
comp=Z,48nm,1.2s
ANN Anapa 98.23 315 *e*P Pdif 03 19 41.6 +1.1
ANN pmax pmax
comp=Z,72nm,2.0s
KBS Kingsbay 98.68 351 *e*P **P** **03 19 41.1 -0.7**
KBS pmax pmax
comp=Z,21nm,1.1s
KBS Kingsbay 98.68 351 *e*P **P** **03 19 41.0 -0.7**
comp=Z,21nm,1.1s
KEV Kevo 98.97 341 *e*P **P** **03 19 41.2 -2.0**
KEV pmax pmax
comp=Z,64nm,1.3s
KEV Kevo 98.97 341 *e*P **P** **03 19 41.2 -2.0**
comp=Z,64nm,1.3s
HUMO Hull Mountain 99.28 47 *e*P **Pdif** **03 19 45.4 +0.1**
comp=Z,147nm,2.6s
MARYW Marymoor Park 99.34 42 *e*P **Pdif** **03 19 43.0 -2.3**
KMBO Kilima Mbogo 99.34 268 P **Pdif** **03 19 42.9 -3.5**
comp=Z,0.5nm,0.3s,baz=41,slow=20,SNR=1.8
KMBO Kilima Mbogo 99.34 268 *e*P **Pdif** **03 19 43.8 -2.6**
KMBO pmax pmax
comp=Z,15nm,1.4s
KMBO Kilima Mbogo 99.34 268 *e*P **Pdif** **03 19 43.8 -2.6**
comp=Z,15nm,1.4s
ARA0 ARCESS Array S 99.54 341 *e*P **Pdif** **03 19 45.8 0.0**
ARCES ARCESS Array B 99.54 341 P **Pdif** **03 19 44.7 -1.1**
comp=Z,45nm,1.0s,baz=60,slow=5.8,SNR=29
ARCES ARCESS Array B 99.54 341 P **Pdif** **03 19 44.7 -1.1**
ARCES pmax pmax
comp=Z,41nm,1.0s
PUL Pulkovo 100.26 330 *i* P **Pdif** **03 19 49.7 +0.6**
DODT Dodoma, Tanzan 100.57 263 *i* P Px 03 23 31.8
DODT *e*P **PS** **03 33 00.6 0.0**
YKA Yellowknife Ar 100.72 27 P **Pdif** **03 19 48.2 -2.9**
comp=Z,1.6nm,0.8s,baz=294,slow=4.3,SNR=4.4
YKA Yellowknife Ar 100.72 27 P **Pdif** **03 19 48.2 -2.9**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKB5 Yellowknife Ar 100.72 27 *e*Pdif **Pdif** **03 19 48.1 -3.0**
MMAI Mount Meron Ar 100.74 303 P **Pdif** **03 19 51.1 -0.9**
comp=Z,0.3nm,0.2s,baz=90,slow=11,SNR=3.9
B08A Colville Reser 101.10 41 *e*Pdif **Pdif** **03 19 52.6 -0.6**
BR101 Keskin Array S 101.54 310 *e*Pdif **Pdif** **03 19 52.7 -2.8**
BR101 *e*PP **PP** **03 24 03.5 -2.0**
BRTR Keskin Array B 101.54 310 P **Pdif** **03 19 52.7 -2.8**
comp=Z,1.1nm,0.9s,baz=124,slow=2.2,SNR=5.2
BRTR PP **PP** **03 24 03.5 -2.0**
comp=Z,1.9nm,0.8s,baz=99,slow=8.0,SNR=4.4
BRTR Keskin Array B 101.54 310 P **Pdif** **03 19 52.7 -2.8**
BRTR 03 24 03.6
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR pmax pmax
comp=Z,2.0nm,0.8s
SNAA Sanae 101.58 192 P **Pdif** **03 19 49.9 -5.1**
SNAA Sanae 101.58 192 P **Pdif** **03 19 52.5 -2.4**
comp=Z,0.4nm,0.9s,baz=212,slow=13,SNR=1.8
SNAA Sanae 101.58 192 *e*P **Pdif** **03 19 52.9 -2.0**
SNAA Sanae 101.58 192 *e*Pdif **Pdif** **03 19 52.9 -2.0**
FIA0 FINESS Array S 101.84 333 *e*P **Pdif** **03 19 55.1 -1.0**
FIA0 FINESS Array S 101.84 333 *e*Pdif **Pdif** **03 19 55.1 -1.0**
FINES FINESS Array B 101.84 333 P **Pdif** **03 19 55.1 -1.0**
comp=Z,5.1nm,0.9s,baz=75,slow=8.1,SNR=8.4
FINES FINESS Array B 101.84 333 P **Pdif** **03 19 55.1 -1.0**
FINES pmax pmax
comp=Z,7.0nm,1.0s
RES Resolute Bay 101.85 12 *e*P **Pdif** **03 19 52.9 -3.0**
RES Resolute Bay 101.85 12 *e*Pdif **Pdif** **03 19 52.9 -3.0**
BR231 Keskin MP Arra 102.18 310 *e*Pdif **Pdif** **03 19 56.6 -1.8**
AKASG Malin Array Be 102.85 322 P **Pdif** **03 19 58.3 -2.6**
comp=Z,2.1nm,0.8s,baz=66,slow=3.9,SNR=13
AKASG PP PP 03 24 08.7 -6.2
comp=Z,0.3nm,0.4s,baz=67,slow=6.7,SNR=4.9
AKASG Malin Array Be 102.85 322 P **Pdif** **03 19 58.3 -2.6**
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKBB Malin Array Si 102.85 322 *e*P **Pdif** **03 19 58.3 -2.6**
AKBB Malin Array Si 102.85 322 *e*Pdif **Pdif** **03 19 58.3 -2.6**
AKBB *e*PP PP 03 24 08.7 -6.2
KIEV Kiev 102.86 322 *e*P **Pdif** **03 19 59.8 -1.1**
KIEV Kiev 102.86 322 *e*Pdif **Pdif** **03 19 59.8 -1.1**
NV01 Mina Array Sit 103.27 51 *e*Pdif **Pdif** **03 20 01.9 -1.4**
NV01 *e*PP **PP** **03 24 19.0 +0.3**
NVAR Mina Array Bea 103.27 51 Pdiff **Pdif** **03 20 02.8 -0.6**
comp=Z,0.4nm,0.3s,baz=273,slow=6.2,SNR=2.9
NVAR PP **PP** **03 24 18.5 -0.2**
comp=Z,0.3nm,0.3s,baz=270,slow=7.4,SNR=3.8
MFID Camas Ranch 104.34 46 *e*PKiKP PKiKP 03 24 16.3 -8.1
GSC Goldstone, Bar 104.87 54 *e*PKiKP **PKiKP** **03 24 26.4 +0.8**
MSO Missoula 104.97 42 *e*PKiKP **PKiKP** **03 24 25.0 -0.4**
ELK Elko 105.25 48 *e*PKiKP **PKiKP** **03 24 27.2 +0.9**
HLID Hailey 105.33 45 *e*PKiKP PKiKP 03 24 19.6 -6.6
CHMT Chamberlain Mo 105.41 42 *e*PKiKP **PKiKP** **03 24 23.2 -3.1**
TESR Tescani 105.44 318 *i* P **PS** **03 33 46.2 -4.2**
VRI Vrincioaia 105.53 317 ⇓ *i* P PP 03 24 40.4 +5.4
VRI Vrincioaia 105.53 317 *i* P **PS** **03 33 51.8 +0.4**
PLOR Plostina 105.58 317 ⇑ *i* P **PP** **03 24 38.8 +3.4**
SHPR Sheep Range 106.02 53 *e*PKiKP **PKiKP** **03 24 29.2 +1.4**
BURAR Bucovina Array 106.12 319 ⇑ *i* P **PS** **03 33 54.3 -3.4**
BUR04 Bucovina Ar. S 106.13 319 *e*PKiKP **PKiKP** **03 24 29.9 +2.4**
MLR Muntele Rosu 106.15 317 ⇑ *i* P **PP** **03 24 41.8 +2.1**
MLR Muntele Rosu 106.15 317 ⇓ *i* P **PS** **03 33 57.4 -0.7**
MCMT McKenzie Canyo 106.16 44 *e*PKiKP **PKiKP** **03 24 29.8 +1.9**
JMB Yamboi 106.36 314 *e*P PP 03 24 51.7 +10
VOIR 106.77 317 ⇑ *i* P **PP** **03 24 41.0 -3.2**
KDZ Kurdzhali 107.38 313 *e*P PP 03 24 59.8 +11
RDO Rodhopi 107.41 312 *e*PKiKP **PKiKP** **03 24 33.7 +3.7**
EGMT Eagleton 107.42 40 *e*PKiKP **PKiKP** **03 24 27.0 -2.8**
KOLS Kolonicke sedl 107.65 321 *e*P **Pdif** **03 20 23.7 +1.4**
KOLS *e*PS **PS** **03 34 14.4 +1.2**
KOLS Kolonicke sedl 107.65 321 *e* **Pdif** **03 20 23.7 +1.4**
KOLS *e*PS **PS** **03 34 14.4 +1.2**
IMW Indian Meadow 107.71 45 *e*PKiKP **PKiKP** **03 24 30.8 0.0**
FXWY Fox Creek 107.71 45 *e*PKiKP **PKiKP** **03 24 33.2 +2.5**
PLD Plovdiv 107.80 314 *e*P PP 03 24 57.4 +5.6
RZN Rozhen 107.89 313 *e*P PP 03 25 01.8 +9.1
SNOW Snow King Moun 107.94 45 *e*PKiKP **PKiKP** **03 24 27.7 -3.6**
DRGR 107.99 319 ⇑ *i* P PKiKP 03 24 36.4 +5.4
DRGR 107.99 319 ⇑ *i* P **PS** **03 34 13.9 -3.0**
MSU Marysvale 108.00 50 *e*PKiKP **PKiKP** **03 24 29.3 -2.2**
MSU *e*PP PP 03 24 47.6 -6.0
PGB Panagyurishte 108.08 314 *e*P PP 03 25 01.1 +7.2
STHS Stebnicka Huta 108.15 322 *e*P **Pdif** **03 20 24.0 -0.5**
STHS *e* 03 25 01.6
STHS *e*PS **PS** **03 34 17.8 -0.5**
STHS Stebnicka Huta 108.15 322 PDIF **Pdif** **03 20 24.0 -0.5**
STHS *e* PP 03 25 01.6 +7.5
STHS *e*PS **PS** **03 34 17.8 -0.5**
MPEP Malo Peshtene 108.19 315 *e*P **PP** **03 24 57.4 +2.8**
NB200 NORSAR Array S 108.56 335 *e*Pdif **Pdif** **03 20 23.3 -2.8**
NB200 *e*PKiKP **PKiKP** **03 24 29.2 -2.4**
NOA NORSAR Array B 108.56 335 Pdiff **Pdif** **03 20 23.3 -2.8**
comp=Z,0.6nm,0.8s,baz=51,slow=0.3,SNR=2.4
NOA PKiKP **PKiKP** **03 24 29.2 -2.4**
comp=Z,0.4nm,0.7s,baz=59,slow=2.6,SNR=2.5
NOA NORSAR Array B 108.56 335 P **Pdif** **03 20 23.3 -2.8**
NOA pmax pmax
comp=Z,1.0nm,0.8s
MMB Musomiste 108.63 313 *e*P **PP** **03 25 00.6 +2.7**
VTS Vitosha 108.76 314 P PKKPbc 03 35 32.3 -10
VTS Vitosha 108.76 314 ⇓ *i* P **PP** **03 24 56.7 -2.2**
VTS Vitosha 108.76 314 *e*P PP 03 25 05.1 +6.2
KECS Kecovo 108.92 321 *e*P **Pdif** **03 20 26.7 -1.2**
KECS *e* 03 25 04.2
KECS *e*PS **PS** **03 34 26.8 +0.7**
KECS Kecovo 108.92 321 PDIF **Pdif** **03 20 26.7 -1.2**
KECS *e* **PP** **03 25 04.2 +4.5**
KECS *e*PS **PS** **03 34 26.8 +0.7**
BW06 Boulder Array 108.97 45 *e*PKiKP **PKiKP** **03 24 30.0 -3.1**
PD31 Pinedale Array 108.97 45 *e*Pdif **Pdif** **03 20 28.4 -0.2**
PD31 *e*PKiKP **PKiKP** **03 24 30.8 -2.4**
PDAR Pinedale Array 108.97 45 Pdiff **Pdif** **03 20 28.4 -0.2**
comp=Z,0.2nm,0.6s,baz=14,slow=4.0,SNR=1.9
PDAR PKiKP **PKiKP** **03 24 30.8 -2.4**
comp=Z,0.4nm,0.7s,baz=346,slow=3.3,SNR=2.4
KKB Krupnik 109.03 314 *e*P **PP** **03 25 02.7 +1.9**
BZS Buzias 109.05 318 ⇑ *i* P PKiKP 03 24 38.2 +5.3
IDI Anoyia 109.09 306 PKiKP **PKiKP** **03 24 30.8 -2.6**
comp=Z,2.2nm,0.8s,baz=66,slow=20,SNR=1.8
SRU San Rafael Swe 109.13 49 *e*PKiKP **PKiKP** **03 24 30.7 -2.8**
SRU *e*PP **PP** **03 25 05.1 +3.3**
ITZ Itezhi-Tezhi 109.14 253 *i* P **PKiKP** **03 24 31.1 -2.9**
ITZ *e*P x 03 33 51.0
J19A Crowheart 109.19 45 P **PKiKP** **03 24 37.9 +4.4**

baz=109
WUAZ Wupatki 109.22 53 ePKiKP **PKiKP** 03 24 33.3 -0.4
WUAZ ePP **PP** 03 25 01.1 -1.5
G20A Bridger 109.23 43 P **PKiKP** 03 24 37.0 +3.6
baz=109
PSZ Piszkesteto 109.48 320 ePKiKP **PKiKP** 03 24 30.7 -3.0
PSZ ePP **PP** 03 25 05.3 +1.5
PSZ Piszkesteto 109.48 320⇓ epPKiKP **PP** 03 25 06.3 +2.5
I20A Worland 109.65 44 P **PKiKP** 03 24 37.7 +3.4
baz=110
OKC Ostrava-Krasne 109.91 323 ePP PP 03 25 07.9 +1.2
KONO Kongsberg 109.98 334 e **PP** 03 25 05.3 -1.6
D22A Cohagen 109.99 40 P **PKiKP** 03 24 39.0 +4.3
baz=110
LTK Loutraki 110.03 310 P PKKPbc 03 35 32.4 -5.7
I21A Big Trails, Te 110.27 44 P **PKiKP** 03 24 38.8 +3.3
baz=110
AGG Agios Georgios 110.28 311 ePKIKP **PKiKP** 03 24 38.2 +2.7
AGG e 03 25 07.8
AGG Agios Georgios 110.28 311 ePKiKP **PKiKP** 03 24 38.2 +2.7
AGG ePP **PP** 03 25 07.8 -2.1
MORC Moravsky Berou 110.29 323 ePKiKP **PKiKP** 03 24 34.0 -1.2
MORC Moravsky Berou 110.29 323⇓ iP PKiKP 03 24 39.9 +4.7
MORC Moravsky Berou 110.29 323 ePKiKP **PKiKP** 03 24 34.0 -1.2
MORC ePP PP 03 25 04.0 -5.6
J21A Lysite 110.30 44 P **PKiKP** 03 24 38.3 +2.7
baz=110
C23A Lambert 110.41 39 P PKiKP 03 24 40.2 +4.8
baz=110
MAKR Makrakomi, Fth 110.44 311 P **PKKPbc** 03 35 32.7 -4.2
PV05 Paradox Valley 110.45 50 ePKiKP **PKiKP** 03 24 40.1 +4.0
PV05 ePP **PP** 03 25 12.6 +1.1
PV04 Paradox Valley 110.53 50 ePKiKP **PKiKP** 03 24 39.7 +3.5
PV04 ePP **PP** 03 25 13.5 +1.5
KALE Kalithea 110.58 310 P **PKKPbc** 03 35 38.6 +2.2
O20A White River Ci 110.60 48 ePKiKP **PKiKP** 03 24 39.5 +3.2
DIVS Divibare 110.60 317 iP **PKiKP** 03 24 40.0 +4.0
KLV Kalavryta, Ach 110.65 310 P **PKKPbc** 03 35 39.0 +2.8
DPC Dobruska-Polom 110.81 324 ex x 03 20 45.3
DPC ePP **PP** 03 25 11.0 -2.3
DPC Dobruska-Polom 110.81 324 eP **Pdif** 03 20 45.3 +8.9
DPC e 03 25 11.0
PKSM Moragy 110.84 319 ⇑ PKiKP PKiKP 03 24 41.9 +5.7
PKSM Moragy 110.84 319 ⇑ iP PKiKP 03 24 41.9 +5.7
PKSM Moragy 110.84 319 epPKiKP **PP** 03 25 10.3 -3.3
J22A Midwest 110.95 44 P **PKiKP** 03 24 40.5 +3.7
baz=111
MVCO Mesa Verde 111.12 51 ePKiKP **PKiKP** 03 24 39.0 +1.6
MVCO ePP **PP** 03 25 16.1 -0.3
MVCO Mesa Verde 111.12 51 ePKiKP **PS** 03 34 44.6 -3.8
MVCO LR LR
comp=Z,48µm,21.0s
PYL PYLOS 111.24 309 P PKKPbc 03 35 26.6 -7.5
FCC Fort Churchill 111.41 26 ePKIKP **PKiKP** 03 24 40.7 +3.8
FCC e 03 25 18.5
FCC Fort Churchill 111.41 26 ePKiKP **PKiKP** 03 24 40.7 +3.8
FCC ePP **PP** 03 25 18.5 +1.4
TREC Trest 111.72 323 ePP PP 03 25 24.6 +4.8
PVCC Panska Ves 111.76 324 ePP PP 03 25 25.1 +5.1
SMCO Snowmass 111.79 49 ePKiKP **PKiKP** 03 24 42.9 +4.1
SMCO ePP PP 03 25 14.2 -7.1
H24A Dirks Ranch, A 111.85 42 P **PKiKP** 03 24 41.5 +3.2
baz=112
GOPC GO Pecny, Ondr 111.89 324 ePP PP 03 25 26.0 +5.0
BRG Berggiesshubel 111.98 325 i PDIF **Pdif** 03 20 44.4 +2.9
comp=Z,5.9nm,1.1s
BRG Berggiesshubel 111.98 325 i P **Pdif** 03 20 44.4 +2.9
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG pmax pmax
comp=Z,18nm,0.8s
PRU Pruhonice 112.00 324 ePDIFF **Pdif** 03 20 43.2 +1.6
PRU ePP PP 03 25 26.8 +5.0
PRU Pruhonice 112.00 324 eP **Pdif** 03 20 43.2 +1.6
PRU e 03 25 26.8
PRA Prague 112.03 324 ePDIFF **Pdif** 03 20 44.9 +3.2
PRA ePP PP 03 25 27.3 +5.3
PRA Prague 112.03 324 eP **Pdif** 03 20 44.9 +3.2
PRA e 03 25 27.3
S22A 4UR Ranch, Cre 112.28 50 P **PKiKP** 03 24 43.1 +3.4
baz=112
S22A 4UR Ranch, Cre 112.28 50 ePKiKP **PKiKP** 03 24 39.8 +0.2
CLL Collm 112.33 326 epPdif **Pdif** 03 20 46.0 +3.0
CLL e 03 21 09.0
CLL e(PKiKP) 03 24 42.0
CLL ePP **PP** 03 25 28.0 +4.0
CLL Collm 112.33 326 eP **Pdif** 03 20 46.0 +3.0
CLL e 03 25 28.0
RSSD Black Hills 112.41 43 ePKIKP **PKiKP** 03 24 41.6 +2.0
RSSD e 03 25 24.6
RSSD Black Hills 112.41 43 ePKiKP **PKiKP** 03 24 41.6 +2.0
RSSD ePP **PP** 03 25 24.6 -0.6
ISCO Idaho Springs 112.63 48 ePKIKP 03 24 44.3
ISCO Idaho Springs 112.63 48 ePKiKP **PKiKP** 03 24 44.3 +4.0
F26A Lodgepole 112.71 41 P **PKiKP** 03 24 42.9 +3.0
baz=113
J25A Sunshine Ranch 112.81 43 P **PKiKP** 03 24 43.4 +3.2
baz=113
R23A Moffat 112.92 49 P **PKiKP** 03 24 42.9 +2.0
baz=113
KHC Kasperske Hory 112.93 323 ePP PP 03 25 33.7 +5.2
GEC2 GERESS Array S 112.97 323 eP **Pdif** 03 20 44.0 -2.1
GEC2 i 03 24 39.0
GEC2 e 03 25 25.3
GEC2 GERESS Array S 112.97 323 ePdif **Pdif** 03 20 44.0 -2.1
GEC2 ePKiKP **PKiKP** 03 24 39.0 -1.3
GEC2 ePP **PP** 03 25 25.3 -3.6
GERES GERESS Array B 112.97 323 Pdiff **Pdif** 03 20 44.0 -2.1
comp=Z,0.2nm,0.3s,baz=33,slow=3.8,SNR=2.6
GERES PKiKP **PKiKP** 03 24 39.0 -1.3
comp=Z,0.6nm,0.7s,baz=73,slow=4.3,SNR=2.0
GERES PP **PP** 03 25 25.3 -3.6
comp=Z,1.2nm,0.5s,baz=36,slow=5.0,SNR=4.2
GERES GERESS Array B 112.97 323 i PKIKP **PKiKP** 03 24 39.0 -1.3
GERES 03 25 25.3
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.5s
NKC Novy Kostel 113.12 325 ePDIFF **Pdif** 03 20 48.4 +1.8
NKC ePP **PP** 03 25 30.4 +0.7
NKC Novy Kostel 113.12 325 eP **Pdif** 03 20 48.4 +1.8
NKC e 03 25 30.4
ANMO Albuquerque 113.27 53 ePKIKP **PKiKP** 03 24 39.8 -1.7
ANMO Albuquerque 113.27 53 ePKiKP **PKiKP** 03 24 39.8 -1.7
SDCO Great Sand Dun 113.29 50 P **PKiKP** 03 24 45.1 +3.6
baz=113
SDCO Great Sand Dun 113.29 50 ePKiKP **PKiKP** 03 24 45.4 +3.9
BNM Barren Site 113.32 54 ePKiKP **PKiKP** 03 24 43.0 +1.3
H27A Howes 113.55 42 P **PKiKP** 03 24 45.0 +3.5
baz=114
A29A Manning Farm, 113.64 37 P **PKiKP** 03 24 45.1 +3.6
baz=114
B29A Wagenman Farm, 113.76 37 P **PKiKP** 03 24 44.8 +3.0
baz=114
N27A Anderson Farm, 114.56 46 P PKPdf 03 24 46.5 +2.8
baz=114
C30A Mose, Pekin 114.62 38 P PKPdf 03 24 46.6 +3.2
baz=114
D30A Buchanan 114.70 38 P PKPdf 03 24 47.1 +3.5
baz=115
E30A Jud 114.86 39 P PKPdf 03 24 47.2 +3.3
baz=115
I29A Vivian Onida 114.96 42 P PKPdf 03 24 47.1 +2.9
baz=115
J29A Okreek 115.17 42 P **PKPdf** 03 24 47.9 +3.3
baz=115
AGMN Agassiz Nation 115.92 36 P **PKPdf** 03 24 49.7 +3.8
baz=116
K30A Basset 115.94 43 P **PKPdf** 03 24 50.7 +4.5
baz=116
DAVA Damuels 115.96 323⇓ ipPKPdf **PKKPbc** 03 35 14.0 -4.7
comp=Z,51nm,1.9s
T28A Walsh 116.05 50 P **PKPdf** 03 24 50.3 +3.6
baz=116
LANF Langenberg 116.37 325⇑ eP **PKKPbc** 03 35 12.4 -4.7
V28A Channing 116.38 51 P **PKPdf** 03 24 50.6 +3.3
baz=116
MSTX Muleshoe 116.46 53 ePKPdf **PKPdf** 03 24 50.0 +2.5
MEM Membach 116.54 327 PKP **PKPdf** 03 24 44.9 -2.1
MEM Membach 116.54 327 ePKIKP **PKPdf** 03 24 44.5 -2.5
MEM Membach 116.54 327 ePKPdf **PKPdf** 03 24 44.5 -2.5
O30A MW Ranch, Wils 116.55 46 P **PKPdf** 03 24 51.0 +3.6
baz=116
DRUM Mains of Drumt 116.70 336 AMS AMS 04 26 04.5
comp=Z,48µm,19.0s
TX31 Lajitas Ar. Si 116.89 58 ePKPdf **PKPdf** 03 24 49.5 +1.0
TX31 ePP **PP** 03 25 59.3 +2.0
LTX Lajitas 116.89 58 ePKIKP **PKPdf** 03 24 46.6 -1.9
LTX Lajitas 116.89 58 ePKPdf **PKPdf** 03 24 46.6 -1.9
TXAR Lajitas Array 116.89 58 PKP **PKPdf** 03 24 46.6 -1.9
comp=Z,0.4nm,0.6s,baz=306,slow=2.1,SNR=2.9
TXAR Lajitas Array 116.89 58 PKIKP **PKPdf** 03 24 46.6 -1.9
Y28A McKinney Farm, 116.90 53 P **PKPdf** 03 24 52.7 +4.3
baz=117
R30A Dighton 117.05 48 P **PKPdf** 03 24 51.9 +3.4
baz=117
128A Castleberry Fa 117.06 54 P **PKPdf** 03 24 52.2 +3.5
baz=117
AMTX Amarillo 117.06 52 ePKPdf **PKPdf** 03 24 51.8 +3.2
AMTX ePP **PP** 03 25 54.5 -3.8
X29A Tulia 117.18 52 P **PKPdf** 03 24 52.3 +3.4
baz=117
T30A Plains 117.28 49 P **PKPdf** 03 24 52.3 +3.3
baz=117
Y29A Porterfield Fa 117.37 53 P **PKPdf** 03 24 52.7 +3.4
baz=117
ECSD EROS Data Cent 117.51 41 P **PKPdf** 03 24 52.6 +3.5
baz=117
ECSD EROS Data Cent 117.51 41 ePKPdf **PKPdf** 03 24 51.5 +2.3
ECSD ePP **PP** 03 26 00.8 -0.1
Z29A Hungry Hill Ra 117.51 54 P **PKPdf** 03 24 53.4 +3.8
baz=118
129A Stewart Farms, 117.56 54 P **PKPdf** 03 24 53.0 +3.4
baz=118
V30A Spur Ranch, Mi 117.57 51 P **PKPdf** 03 24 52.8 +3.3
baz=118
DOU Dourbes 117.58 327 APKP **PKPdf** 03 24 52.6 +3.6
EDI Edinburgh 117.66 336 AMS AMS 04 25 27.6
comp=Z,60µm,19.4s
329A Wagon Wheel Ra 117.77 56 P **PKPdf** 03 24 53.6 +3.5
baz=118
229A Bryant Ranch, 117.78 55 P **PKPdf** 03 24 53.9 +3.8
baz=118
P32A Huiting Farm, 117.80 46 P **PKPdf** 03 24 53.5 +3.7
baz=118
X30A Coker Ranch, T 117.83 52 P **PKPdf** 03 24 53.6 +3.5
baz=118
529A Stev Forest Ra 117.93 57 P **PKPdf** 03 24 54.3 +3.9
baz=118
Z30A Sanderson Ranc 117.97 53 P **PKPdf** 03 24 53.9 +3.5
baz=118
Y30A Stafford Cattl 117.98 53 P **PKPdf** 03 24 53.5 +3.1
baz=118
LMK Market Rasen 118.05 332 AMS AMS 04 23 19.2
comp=Z,69µm,23.8s
429A Davenport Ranc 118.07 56 P **PKPdf** 03 24 54.2 +3.5
baz=118
ESK Eskdalemuir 118.08 335 AMS AMS 04 26 04.7
comp=Z,81µm,20.6s
PGBU Glenifferbraes 118.27 336 AMS AMS 04 23 46.3
comp=Z,53µm,23.8s
130A Snyder 118.30 54 P **PKPdf** 03 24 54.7 +3.6
baz=118
HPK Haverah Park 118.31 333 AMS AMS 04 21 28.8
comp=Z,38µm,22.0s
W31A Holland Ranch, 118.33 51 P **PKPdf** 03 24 54.5 +3.5
baz=118
L34A Svendsen Farm, 118.42 43 P **PKPdf** 03 24 54.5 +3.6
baz=118
330A Metzon 118.46 55 P **PKPdf** 03 24 54.7 +3.3
baz=118
Y31A Rekieta Farm, 118.46 52 P **PKPdf** 03 24 54.2 +3.0
baz=118
M34A Aspy Farms, Fr 118.47 43 P **PKPdf** 03 24 54.4 +3.4
baz=118
X31A McDonald Ranch 118.47 52 P **PKPdf** 03 24 54.9 +3.6
baz=118
P33A Williams Farm, 118.52 46 P **PKPdf** 03 24 54.9 +3.7
baz=118
KESW Keswick, Cumbr 118.54 335 AMS AMS 04 19 53.0
comp=Z,47µm,23.1s
430A Baggett Ranch, 118.58 56 P **PKPdf** 03 24 54.9 +3.2
baz=118
Q33A Connelly Farm, 118.58 46 P **PKPdf** 03 24 55.5 +4.1
baz=118
530A J-C Ranch, Com 118.66 57 P **PKPdf** 03 24 55.2 +3.4
baz=119
R33A Olander Ranch, 118.73 47 P **PKPdf** 03 24 55.4 +3.7
baz=119
Z31A Sharp Cattle R 118.75 53 P **PKPdf** 03 24 55.0 +3.2
baz=119
V32A Arapaho 118.85 50 P **PKPdf** 03 24 56.2 +4.2
baz=119
O34A Beatrice 118.93 45 P **PKPdf** 03 24 55.5 +3.6
baz=119
S33A Kaszmaul Farm, 118.98 48 P **PKPdf** 03 24 55.4 +3.3
baz=119
231A Bronte 119.01 55 P **PKPdf** 03 24 56.0 +3.6
baz=119
P34A Walnut Farm, R 119.09 45 P **PKPdf** 03 24 56.2 +3.9
baz=119
M35A Neola 119.09 43 P **PKPdf** 03 24 55.9 +3.7
baz=119
331A San Angelo 119.10 55 P **PKPdf** 03 24 55.9 +3.3
baz=119
431A Sonora 119.12 56 P **PKPdf** 03 24 56.5 +3.9
baz=119
SPMN Marine on St. 119.24 38 P **PKPdf** 03 24 55.9 +3.5
baz=119
SPMN Marine on St. 119.24 38 ePKPdf **PKPdf** 03 24 53.6 +1.2
SPMN ePP **PP** 03 26 07.7 -5.0
Q34A Chapman 119.25 46 P **PKPdf** 03 24 56.3 +3.7
baz=119
R34A Isabella, Hill 119.27 47 P **PKPdf** 03 24 56.3 +3.7
baz=119
Z32A Haskell 119.28 53 P **PKPdf** 03 24 56.5 +3.6
baz=119
531A Rocksprings 119.31 57 P **PKPdf** 03 24 57.1 +4.0
baz=119
ABTX Abilene, Hawle 119.36 54 P **PKPdf** 03 24 56.8 +3.8
baz=119
ABTX Abilene, Hawle 119.36 54 ePKPdf **PKPdf** 03 24 55.6 +2.6
WMOK Wichita Mounta 119.37 51 ePKIKP **PKPdf** 03 24 53.4 +0.4
WMOK e 03 26 13.9
WMOK Wichita Mounta 119.37 51 ePKPdf **PKPdf** 03 24 53.4 +0.4
WMOK ePP **PP** 03 26 13.9 -0.2
N35A Tabor 119.38 44 P **PKPdf** 03 24 56.9 +4.1
baz=119
V33A Lossen Ranch, 119.39 50 P **PKPdf** 03 24 57.1 +4.1
baz=119
KSU1 Kansas State U 119.42 46 ePKPdf **PKPdf** 03 24 53.3 +0.3
KSU1 ePP **PP** 03 26 14.0 -0.3
631A Perdido Creek 119.49 57 P **PKPdf** 03 24 56.7 +3.4
baz=120
232A Coleman 119.57 54 P **PKPdf** 03 24 57.4 +3.9
baz=120
332A Millersview 119.64 55 P **PKPdf** 03 24 57.7 +4.1
baz=120
X33A Lawton 119.66 51 P **PKPdf** 03 24 56.9 +3.4
baz=120
P35A Duane Minner, 119.67 45 P **PKPdf** 03 24 56.9 +3.5
baz=120
FOEL Foel Wylfa 119.73 333 AMS AMS 04 25 05.6
comp=Z,40µm,20.2s
432A Menard 119.74 56 P **PKPdf** 03 24 57.7 +3.9
baz=120
U34A Anderson Ranch 119.74 49 P **PKPdf** 03 24 57.6 +4.0
baz=120
U34A Anderson Ranch 119.74 49 ePKPdf **PKPdf** 03 24 51.4 -2.2
U34A ePP PP 03 26 11.2 -5.4
HLM1 Long Mynd 119.83 333 eP PP 03 26 08.8 -7.6
HLM1 AMS AMS 04 29 17.8
comp=Z,48µm,20.5s
WOL Wolverton 119.84 331 eP PP 03 26 08.3 -8.2
WOL AMS AMS 04 28 48.6
comp=Z,74µm,21.9s
JCT Junction City 119.85 56 ePKIKP **PKPdf** 03 24 51.8 -2.3
JCT Junction City 119.85 56 P **PKPdf** 03 24 57.7 +3.7
baz=120
JCT Junction City 119.85 56 ePKPdf **PKPdf** 03 24 51.8 -2.3
Z33A Whitaker Ranch 119.86 53 P **PKPdf** 03 24 57.3 +3.4
baz=120
532A Rocksprings 119.86 56 P **PKPdf** 03 24 57.9 +3.8
baz=120
Q35A Mercer Eighty, 119.93 46 P **PKPdf** 03 24 56.7 +2.8
baz=120
133A Hamilton Ranch 119.95 53 P **PKPdf** 03 24 57.2 +3.0
baz=120
V34A Guthrie 119.97 50 P **PKPdf** 03 24 57.8 +3.7
baz=120
SWN1 Swindon 119.99 331 eP PP 03 26 08.9 -8.6
SWN1 AMS AMS 04 32 06.4
comp=Z,65µm,19.6s
WLF1 Llynfaes 119.99 334 eP PP 03 26 10.6 -6.7
WLF1 AMS AMS 04 28 13.8
comp=Z,55µm,22.1s
STRD Stroud 119.99 332 eP PP 03 26 09.1 -8.3
STRD AMS AMS 04 23 36.4
comp=Z,60µm,26.9s
632A Uvalde 120.13 57 P **PKPdf** 03 24 59.0 +4.5
baz=120
233A Rising Star 120.14 54 P **PKPdf** 03 24 58.0 +3.5
baz=120
X34A Smith Ranch, M 120.16 51 P **PKPdf** 03 24 58.1 +3.6
baz=120
O36A Bolckow 120.16 44 P **PKPdf** 03 24 57.9 +3.6
baz=120
732A Laxson Ranch, 120.18 58 P **PKPdf** 03 24 58.7 +4.0
baz=120
S35A Otter Creek Ra 120.18 47 P **PKPdf** 03 24 58.2 +3.7
baz=120
P36A Good Intent, A 120.21 45 P **PKPdf** 03 24 57.8 +3.4
baz=120
MCH1 Michaelchurch 120.23 332 eP PP 03 26 10.2 -8.9
MCH1 AMS AMS 04 24 46.6
comp=Z,55µm,22.4s
OLDB Oldbury-Upon-S 120.25 332 eP PP 03 26 11.3 -7.9
OLDB AMS AMS 04 23 44.4
comp=Z,60µm,26.0s
MONM Monmouth 120.25 332 eP PP 03 26 10.9 -8.3
MONM AMS AMS 04 23 30.1
comp=Z,55µm,24.0s
333A Richland Sprin 120.28 55 P **PKPdf** 03 24 58.7 +3.9
baz=120
BATH Bath 120.28 332 eP PP 03 26 12.9 -6.6
832A Faith Ranch, C 120.29 59 P **PKPdf** 03 24 58.9 +4.0
baz=120
T35A Sooner Cattle 120.33 48 P **PKPdf** 03 24 59.0 +4.3
baz=120
433A Art 120.36 56 P **PKPdf** 03 24 58.6 +3.6
baz=120
V35A Meyer Ranch, C 120.51 49 P **PKPdf** 03 24 58.9 +3.8
baz=120
R36A Gordon, Harris 120.52 46 P **PKPdf** 03 24 58.7 +3.6
baz=120
LPW Lampeter 120.64 333 eP PP 03 26 15.3 -6.6
LPW AMS AMS 04 29 51.3
comp=Z,40µm,20.6s
633A Saathoff Ranch 120.65 57 P **PKPdf** 03 25 00.1 +4.5
baz=121
S36A Lake Cedric, C 120.70 47 P **PKPdf** 03 24 59.1 +3.7
baz=121
W35A Tecumseh 120.70 50 P **PKPdf** 03 24 59.7 +4.2
baz=121
T36A Boggs Farm, Ca 120.75 48 P **PKPdf** 03 24 59.7 +4.1
baz=121
234A Clairette 120.76 54 P **PKPdf** 03 25 00.1 +4.4
baz=121
833A Chaparral WMA, 120.78 58 P **PKPdf** 03 25 00.4 +4.6
baz=121
334A Lometa 120.89 55 P **PKPdf** 03 24 60.0 +4.0
baz=121
X35A Drake 120.89 51 P **PKPdf** 03 24 59.7 +3.9
baz=121
434A Burnet 121.02 55 P **PKPdf** 03 25 00.1 +3.8
baz=121
Z35A Perchaven, San 121.04 52 P **PKPdf** 03 24 59.9 +3.7
baz=121
534A Blanco 121.08 56 P **PKPdf** 03 24 59.9 +3.5
baz=121
KEST Kesra 121.12 311 PKP **PKPdf** 03 24 55.0 -1.5
comp=Z,1.0nm,0.9s,baz=111,slow=18,SNR=1.9
KEST PP **PP** 03 26 24.8 -1.4
comp=Z,1.3nm,0.8s,baz=122,slow=15,SNR=1.9
KEST Kesra 121.12 311 ePKPdf **PKPdf** 03 24 56.4 0.0
KEST ePP **PP** 03 26 24.8 -1.4
V36A Jenks 121.18 49 P **PKPdf** 03 25 00.4 +4.0
baz=121
TUL1 Leonard 121.25 49 P **PKPdf** 03 25 00.6 +4.1
baz=121
TUL1 Leonard 121.25 49 ePKPdf **PKPdf** 03 24 58.5 +2.0
TUL1 ePP PP 03 26 19.9 -7.0
X36A Centrahoma 121.31 50 P **PKPdf** 03 25 00.5 +3.8
baz=121
WHTX Lake Whitney, 121.31 54 P **PKPdf** 03 25 00.6 +3.9
baz=121
WHTX Lake Whitney, 121.31 54 ePKPdf **PKPdf** 03 24 55.0 -1.8
WHTX ePP PP 03 26 21.3 -6.2
T37A Cheneyville 18 121.43 47 P **PKPdf** 03 25 00.4 +3.6
baz=121
834A Tilden 121.54 58 P **PKPdf** 03 25 01.5 +4.2
baz=122
335A Moody 121.56 54 P **PKPdf** 03 25 01.5 +4.2
baz=122
HTL Hartland 121.60 332 AMS AMS 04 25 39.7
comp=Z,52µm,22.4s
Y36A Durant 121.60 51 P **PKPdf** 03 25 01.3 +4.1
baz=122
Z36A Blue Ridge 121.70 52 P PKPdf 03 25 02.3 +4.8
baz=122
034A Hebbronville 121.71 60 P **PKPdf** 03 25 01.6 +4.0
baz=122
934A Benavides 121.71 59 P **PKPdf** 03 25 01.6 +4.0
baz=122
V37A Hulbert 121.75 49 P **PKPdf** 03 25 01.2 +3.7
baz=122
W37A Quinton 121.81 50 P **PKPdf** 03 25 02.1 +4.5
baz=122
635A Leesville 121.85 57 P **PKPdf** 03 25 02.1 +4.3
baz=122
735A Kenedy 121.97 57 P PKPdf 03 25 02.8 +4.8
baz=122
JFWS Jewell Farm 121.99 39 ePKIKP **PKPdf** 03 24 55.1 -2.6
JFWS e 03 26 29.2
JFWS Jewell Farm 121.99 39 ePKPdf **PKPdf** 03 24 55.1 -2.6
JFWS ePP **PP** 03 26 29.2 -2.4
336A Riesel 122.00 54 P **PKPdf** 03 25 02.5 +4.4
baz=122
236A Katherine and 122.05 53 P PKPdf 03 25 02.8 +4.7
baz=122
X37A Clayton 122.06 50 P **PKPdf** 03 25 02.3 +4.2
baz=122
Y37A Hugo 122.09 51 P **PKPdf** 03 25 02.5 +4.3
baz=122
CMAH Djebel Manchou 122.22 313 P **PKPdf** 03 25 01.3 +2.8
035A Encino 122.24 60 P **PKPdf** 03 25 03.2 +4.5
baz=122
V38A Canehill 122.30 48 P **PKPdf** 03 25 01.9 +3.3
baz=122
ABSA Djebel Ababsia 122.31 312 P **PKPdf** 03 25 01.3 +2.6
035Z Hargill 122.40 60 P **PKPdf** 03 25 03.5 +4.6
baz=122
636A Smothers Creek 122.42 56 P **PKPdf** 03 25 03.3 +4.3
baz=122
X38A Whitesboro 122.44 50 P **PKPdf** 03 25 03.4 +4.6
baz=122
W38A Poteau 122.53 49 P **PKPdf** 03 25 02.4 +3.4
baz=122
736A Circle Diamond 122.56 57 P **PKPdf** 03 25 03.5 +4.3
baz=122
237A Washetta, Mont 122.63 53 P **PKPdf** 03 25 03.7 +4.4
baz=123
Y38A Idabel 122.80 51 P **PKPdf** 03 25 03.4 +3.8
baz=123
CKFL Kef-Lekhel 122.82 313 P **PKPdf** 03 25 02.7 +3.0
537A Green Hill Far 122.85 55 P PKPdf 03 25 04.4 +4.6
baz=123
Z38A Mt. Pleasant 122.85 51 P PKPdf 03 25 05.3 +5.7
baz=123
CASM Ain Smara 123.05 313 P **PKPdf** 03 25 02.7 +2.7
CTEI Djebel Teioual 123.19 312 P **PKPdf** 03 25 03.1 +2.7
338A Crockett 123.25 54 P **PKPdf** 03 25 05.0 +4.6
baz=123
HKT Hockley 123.28 55 ePKIKP **PKPdf** 03 24 56.2 -4.3
HKT Hockley 123.28 55 ePKPdf **PKPdf** 03 24 56.2 -4.3
HKT ePP 03 26 32.4 -8.4
Y39A Lockesburg 123.28 50 P **PKPdf** 03 25 04.4 +4.0
baz=123
DFRA Djebel Bou Aff 123.38 313 P **PKPdf** 03 25 03.7 +2.9
MIAR Mount Ida 123.45 49 ePKIKP **PKPdf** 03 24 58.2 -2.6
MIAR Mount Ida 123.45 49 ePKPdf **PKPdf** 03 24 58.2 -2.6
HDIL Hopedale 123.80 41 ePKPdf **PKPdf** 03 25 00.2 -1.1
HDIL ePP **PP** 03 26 43.0 -0.8
SET Setif 123.87 313 P **PKPdf** 03 25 03.0 +1.3
UALR University of 124.29 49 ePKPdf **PKPdf** 03 25 02.1 -0.3
GLMI Grayling 124.31 35 ePKPdf **PKPdf** 03 25 01.4 -0.7

SCHQ	**Schefferville**	**124.34**	**16**	PKP		**PKPdf**	**03 24 59.3**	**-2.6**
	comp=Z,2.9nm,0.6s,baz=321,slow=6.5,SNR=4.1							
SCHQ	**Schefferville**	**124.34**	**16**	*e*PKPdf		**PKPdf**	**03 24 59.2**	**-2.7**
340A	**Bronson**	**124.37**	**53**	P		**PKPdf**	**03 25 07.0**	**+4.3**
	baz=124							
PBMO	**Poplar Bluff**	**124.83**	**46**	*e*PKPdf		**PKPdf**	**03 25 02.2**	**-1.2**
PBMO				*e*PP		**PP**	**03 26 51.1**	**+0.1**
SIUC	**Southern Illin**	**125.25**	**44**	*e*PKPdf		**PKPdf**	**03 25 02.8**	**-1.3**
SFIN	**Lafayette**	**125.33**	**40**	P		**PKPdf**	**03 25 07.6**	**+3.4**
	baz=125							
SFIN	**Lafayette**	**125.33**	**40**	*e*PKPdf		**PKPdf**	**03 25 04.0**	**-0.2**
SFIN				*e*PP		**PP**	**03 26 49.9**	**-4.2**
OLIL	**Olney**	**125.52**	**43**	*e*PKPdf		**PKPdf**	**03 25 00.1**	**-4.5**
OLIL				*e*PP		**PP**	**03 26 55.2**	**-0.2**
USIN	**University of**	**126.20**	**43**	*e*PKPdf		**PKPdf**	**03 25 05.5**	**-0.5**
USIN				*e*PP		PP	03 26 54.1	-5.8
BLO	**Bloomington**	**126.34**	**41**	*e*PKIKP		**PKPdf**	**03 25 06.5**	**+0.3**
BLO				*e*			03 27 00.5	
BLO	**Bloomington**	**126.34**	**41**	*e*PKPdf		**PKPdf**	**03 25 06.5**	**+0.3**
BLO				*e*PP		**PP**	**03 27 00.5**	**-0.3**
OXF	**Oxford**	**126.59**	**48**	*e*PKIKP		**PKPdf**	**03 25 07.4**	**+0.6**
OXF	**Oxford**	**126.59**	**48**	*e*PKPdf		**PKPdf**	**03 25 07.4**	**+0.6**
WVT	**Waverly**	**126.98**	**45**	*e*PKIKP		**PKPdf**	**03 25 06.6**	**-0.9**
WVT	**Waverly**	**126.98**	**45**	*e*PKPdf		**PKPdf**	**03 25 06.6**	**-0.9**
WVT				*e*PP		PP	03 26 58.8	-6.5
WCI	**Wyandotte Cave**	**126.99**	**42**	*e*PKIKP		**PKPdf**	**03 25 06.3**	**-1.2**
WCI				*e*			03 27 02.2	
WCI	**Wyandotte Cave**	**126.99**	**42**	*e*PKPdf		**PKPdf**	**03 25 06.3**	**-1.2**
WCI				*e*PP		**PP**	**03 27 02.2**	**-3.1**
ACSO	**Alum Creek Sta**	**128.02**	**38**	*e*PKPdf		**PKPdf**	**03 25 06.4**	**-3.0**
ACSO				*e*PP		**PP**	**03 27 13.1**	**+1.3**
ESDC	**Sonseca Array**	**128.50**	**321**	PKP		**PKPdf**	**03 25 07.6**	**-2.8**
	comp=Z,0.2nm,0.5s,baz=26,slow=3.2,SNR=2.6							
ESDC				PP		**PP**	**03 27 13.9**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=69,slow=7.5,SNR=4.3							
SWET	**Sewanee**	**128.78**	**45**	*e*PKPdf		**PKPdf**	**03 25 09.6**	**-1.5**
LRAL	**Lakeview Retre**	**129.04**	**48**	*e*PKPdf		**PKPdf**	**03 25 08.3**	**-3.2**
LRAL				*e*PP		**PP**	**03 27 16.9**	**-2.1**
PTN	**Potsdam (NY)**	**129.58**	**29**	*e*PKIKP		**PKPdf**	**03 25 11.7**	**-0.5**
PTN	**Potsdam (NY)**	**129.58**	**29**	*e*PKPdf		**PKPdf**	**03 25 11.7**	**-0.5**
PTN				*e*PP		PP	03 27 12.2	-9.5
CPCT	**Cooper Cave**	**129.65**	**44**	*e*PKPdf		**PKPdf**	**03 25 10.2**	**-2.4**
LONY	**Lake Ozonia**	**129.74**	**29**	*e*PKPdf		**PKPdf**	**03 25 12.5**	**-0.1**
TZTN	**Tazewell**	**129.74**	**43**	*e*PKPdf		**PKPdf**	**03 25 12.4**	**-0.4**
TZTN				*e*PP		**PP**	**03 27 22.0**	**-1.2**
TKL	**Tuckaleechee C**	**130.06**	**44**	*e*PKIKP		**PKPdf**	**03 25 11.9**	**-1.5**
TKL	**Tuckaleechee C**	**130.06**	**44**	*e*PKPdf		**PKPdf**	**03 25 11.9**	**-1.5**
SSPA	**Standing Stone**	**130.80**	**35**	*e*PKPdf		**PKPdf**	**03 25 15.0**	**+0.4**
SSPA				*e*PP		PP	03 27 18.8	-11
PQI	**Presque Isle**	**130.96**	**22**	*e*PKPdf		**PKPdf**	**03 25 13.1**	**-1.6**
PQI				*e*PP		**PP**	**03 27 25.9**	**-4.5**
ACCN	**Adirondack Com**	**131.10**	**29**	*e*PKPdf		**PKPdf**	**03 25 13.4**	**-1.7**
ACCN				*e*PP		**PP**	**03 27 27.0**	**-4.5**
KSPA	**Keystone Colle**	**131.34**	**32**	*e*PKPdf		**PKPdf**	**03 25 15.6**	**-0.1**
BLA	**Blacksburg**	**131.42**	**40**	*e*PKIKP		**PKPdf**	**03 25 11.7**	**-4.3**
BLA	**Blacksburg**	**131.42**	**40**	*e*PKPdf		**PKPdf**	**03 25 11.7**	**-4.3**
BLA				*e*PP		PP	03 27 25.2	-8.9
HNH	**Hanover**	**131.52**	**28**	*e*PKPdf		**PKPdf**	**03 25 15.8**	**-0.1**
TRY	**Troy**	**131.58**	**30**	*e*PKPdf		**PKPdf**	**03 25 17.3**	**+1.3**
VWCC	**Virginia Weste**	**131.68**	**40**	*e*PKPdf		**PKPdf**	**03 25 12.0**	**-4.5**
KMSC	**Kings Mountain**	**132.01**	**43**	P		**PKPdf**	**03 25 21.3**	**+4.1**
	baz=132							
KMSC	**Kings Mountain**	**132.01**	**43**	*e*PKPdf		**PKPdf**	**03 25 17.2**	**+0.1**
KMSC				*e*PP		**PP**	**03 27 35.0**	**-3.0**
MVL	**Millersville**	**132.09**	**34**	*e*PKPdf		**PKPdf**	**03 25 17.2**	**+0.1**
MVL				*e*PP		PP	03 27 29.7	-8.4
MESJ	**Messejana**	**132.25**	**322**	*e*PP		PP	03 27 39.6	+0.3
LIS	**Lisbon**	**132.25**	**324**	*e*PP		PP	03 27 38.0	-1.3
TIGA	**Tifton**	**132.34**	**48**	*e*PKPdf		**PKPdf**	**03 25 18.4**	**+0.6**
TIGA				*e*PP		**PP**	**03 27 39.6**	**-0.7**
JSRW	**J. Sargeant Re**	**132.71**	**38**	*e*PKPdf		**PKPdf**	**03 25 16.3**	**-2.0**
TOA0	**Torodi Ar. Sit**	**134.19**	**286**	*e*PKIKP		PKPdf	03 25 27.1	+5.4
TOA0	**Torodi Ar. Sit**	**134.19**	**286**	*e*PKPpre		PKPpre	03 25 13.4	
TOA0				*e*PKPdf		**PKPdf**	**03 25 21.0**	**-0.8**
TOA0				*e*PP		**PP**	**03 27 48.1**	**-5.0**
TOA0				*e*PP		PP	03 27 53.9	+0.8
TORD	**Torodi Ar. Bea**	**134.19**	**286**	PKhKP		PKPpre	03 25 13.4	
	comp=Z,1.0nm,0.8s,baz=78,slow=2.7,SNR=6.0							
TORD				PP		**PP**	**03 27 53.9**	**+0.8**
	comp=Z,4.4nm,0.9s,baz=70,slow=3.5,SNR=3.5							
KUK	**Kukurantumi**	**136.99**	**276**	*i* P		**PKPdf**	**03 25 30.3**	**+3.3**
KUK				*e*P		x	03 37 53.9	
JTS	**JuntasAbangare**	**137.96**	**77**	*e*PKIKP		**PKPdf**	**03 25 26.2**	**-2.6**
JTS	**JuntasAbangare**	**137.96**	**77**	*e*PKPdf		**PKPdf**	**03 25 26.2**	**-2.6**
LCO	**Las Campanas**	**139.22**	**142**	*e*PKPdf		**PKPdf**	**03 25 28.9**	**-2.1**
KIC	**Kosan Boka**	**141.31**	**277**	*e*PKIKP		**PKPdf**	**03 25 32.5**	**-2.4**
	comp=Z,67nm,1.3s							
DBIC	**Dimbokro**	**141.41**	**278**	PKhKP		PKPpre	03 25 25.7	
	comp=Z,3.4nm,0.9s,baz=82,slow=8.2,SNR=3.8							
DBIC				PKP		**PKPdf**	**03 25 30.7**	**-4.4**
	comp=Z,11nm,0.9s,baz=98,slow=1.1,SNR=11							
DBIC	**Dimbokro**	**141.41**	**278**	PKHKP		PKPpre	03 25 25.7	
DBIC							03 25 30.7	
DBIC				pmax		pmax		
	comp=Z,3.0nm,0.9s							
DBIC				pmax		pmax		
	comp=Z,11nm,0.9s							
DBIC	**Dimbokro**	**141.41**	**278**	*e*PKPpre		PKPpre	03 25 28.6	
TIC	**Toumodi**	**141.57**	**278**	*e*PKIKP		**PKPdf**	**03 25 32.7**	**-2.7**
BCIP	**Isla Barro Col**	**143.11**	**78**	*e*PKPpre		PKPpre	03 25 33.8	
NNA	**Nana**	**143.77**	**114**	*e*PKIKP		PKPbc	03 25 37.1	+0.2
NNA	**Nana**	**143.77**	**114**	*e*PKPdf		PKPbc	03 25 37.1	+0.2
GTBY	**Guantanamo Bay**	**144.43**	**58**	*e*PKPdf		**PKPab**	**03 25 38.5**	**+0.1**
LVC	**Limon Verde**	**144.78**	**136**	*e*PKPdf		**PKPdf**	**03 25 40.7**	**-0.5**
OTAV	**Otavalo**	**144.84**	**93**	*e*PKPdf		**PKPab**	**03 25 39.0**	**-1.8**
SDDR	**Presa de Saban**	**148.08**	**57**	*e*PKPbc		**PKPab**	**03 25 51.5**	**-1.0**
CPUP	**Villa Florida**	**148.40**	**156**	*e*PKP2		**PKPbc**	**03 25 48.8**	**-1.4**
CPUP	**Villa Florida**	**148.40**	**156**	*e*PKPbc		**PKPbc**	**03 25 48.8**	**-1.4**
ROSC	**El Rosal**	**148.99**	**85**	PKPbc		**PKPbc**	**03 25 51.4**	**-1.2**
	comp=Z,13nm,0.7s,baz=285,slow=19,SNR=12							
ROSC	**El Rosal**	**148.99**	**85**	*e*PKPbc		**PKPdf**	**03 25 50.3**	**+1.7**
LPAZ	**La Paz**	**149.27**	**128**	PKPbc		**PKPbc**	**03 25 51.5**	**-1.9**
	comp=Z,37nm,1.3s,baz=276,slow=1.7,SNR=15							
LPAZ	**La Paz**	**149.27**	**128**	PKP2		**PKPbc**	**03 25 51.6**	**-1.9**
LPAZ				pmax		pmax		
	comp=Z,37nm,1.3s							
LPAZ	**La Paz**	**149.27**	**128**	*e*PKPbc		**PKPbc**	**03 25 53.7**	**+0.2**
SMN1	**Samana, DR**	**149.64**	**55**	*e*PKPdf		**PKPdf**	**03 25 49.6**	**+0.6**
MPR	**Mayaguez**	**151.88**	**54**	*e*PKPbc		**PKPbc**	**03 25 57.5**	**-1.4**
LSP	**Las Mesas**	**151.94**	**54**	*e*PKPbc		**PKPbc**	**03 25 58.1**	**-0.9**
CRPR	**Cabo Rojo, PR**	**152.01**	**55**	*ep*PKPdf		**PKPbc**	**03 25 56.7**	**-2.4**
SDV	**Santo Domingo**	**152.11**	**76**	*e*PKPbc		**PKPbc**	**03 25 58.6**	**-1.2**
AOPR	**Arecibo Observ**	**152.12**	**54**	*ep*PKPdf		**PKPbc**	**03 25 57.6**	**-1.9**
OBIP	**Obispado Ponce**	**152.40**	**54**	*e*PKPdf		**PKPdf**	**03 25 55.4**	**+2.1**
CELP	**Cerrillos**	**152.41**	**54**	*ep*PKPdf		**PKPbc**	**03 25 57.7**	**-2.4**
ICMP	**Isla Caja de M**	**152.54**	**54**	*ep*PKPdf		**PKPbc**	**03 25 57.8**	**-2.5**
SJG	**San Juan**	**152.73**	**54**	*e*PKIKP		**PKPbc**	**03 25 58.9**	**-1.9**
SJG	**San Juan**	**152.73**	**54**	*ep*PKPdf		**PKPbc**	**03 25 58.9**	**-1.9**
HUMP	**Col San Antoni**	**152.96**	**53**	*ep*PKPdf		**PKPbc**	**03 25 59.4**	**-1.9**
STVI	**Saint Thomas**	**153.55**	**52**	*ep*PKPdf		**PKPbc**	**03 25 59.9**	**-2.7**
SMRT	**St. Maarten**	**155.18**	**50**	*e*PKPdf		**PKPdf**	**03 25 56.9**	**-0.3**
SMRT				*e*PKPbc		PKPbc	03 26 02.6	
SAML	**Samuel**	**157.24**	**120**	*e*PKPdf		**PKPdf**	**03 25 57.7**	**-2.3**
BDFB	**Brasilia**	**161.49**	**166**	PKP		**PKPdf**	**03 26 01.5**	**-3.5**
	comp=Z,3.8nm,0.9s,baz=190,slow=11,SNR=2.7							
BDFB				PKPab		**PKPab**	**03 26 47.3**	**-1.9**
	comp=Z,2.9nm,0.9s,baz=191,slow=5.2,SNR=1.6							
BDFB	**Brasilia**	**161.49**	**166**	PKIKP		**PKPdf**	**03 26 01.5**	**-3.5**
BDFB							03 26 47.3	
BDFB				pmax		pmax		
	comp=Z,4.0nm,0.9s							
BDFB				pmax		pmax		
	comp=Z,3.0nm,0.9s							
BDFB	**Brasilia**	**161.49**	**166**	*e*PKPdf		**PKPdf**	**03 26 04.8**	**-0.3**
BDFB				*e*PKPab		**PKPab**	**03 26 45.2**	**-3.9**
PTGA	**Pitinga**	**163.10**	**100**	*e*PKPdf		**PKPdf**	**03 26 04.7**	**-1.9**
PTGA				*e*PKPab		**PKPab**	**03 26 52.3**	**-4.3**

IDC ***16*** *03:08:23.0±0.7,34.7°S×73.6°W,h0km,mb4.3/9, mb1 4.4/11,mb1mx4.2/31,mbtmp4.2/11,ML3.9/2,MS2.1/1, Ms1 2.1/1,ms1mx2.1/19,Error ellipse: s-maj=25.7km s-min=18.8km az=91.0*

SJA ***16*** *03:08:22.8±1.0,34.6°S×73.9°W,h18km,ML3.7*

GUC ***16*** *03:08:27.3±0.5,34.7°S×73.6°W,h35km±2km,ML3.5*

ISCJB ***16*** *03:08:28.1±1.1,34.7°S±0.04°×73.6°W±0.08,h47km±10km, mb4.4/18,Error ellipse: s-maj=10.6km s-min=7.3km az=2.6*

NEIC ***16*** *03:08:29.6±2.1,34.7°S×73.5°W,h47km±17km,mb4.3/10, Error ellipse: s-maj=21.7km s-min=10.2km az=69.0*

ISC 16 03:08:29.5±2.0,34.74S±0.04×73.6W±0.1,h43km±18km, n47,σ1964/57,mb4.3/18,2C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
U65B	**HualaæØ**	**1.53**	**99**	*e*P		**Pn**	**03 08 52.8**	**-1.5**
U65B				*e*S		**Sn**	**03 09 12.3**	**-0.7**
TALC	**Talca**	**1.77**	**113**	*e*P		**Pn**	**03 08 56.2**	**-1.3**
TALC				*e*S		**Sn**	**03 09 18.0**	**-0.7**
NICH	**Los Niches**	**1.99**	**98**	*e*P		**Pn**	**03 08 59.7**	**-1.0**
NICH				*e*S		**Sn**	**03 09 23.8**	**-0.5**
LNV	**Longovilo**	**1.99**	**68**	*e*P		**Pn**	**03 08 59.1**	**-1.6**
LNCH	**Linares**	**2.00**	**124**	*e*P		**Pn**	**03 08 59.7**	**-1.0**
LNCH				*e*S		**Sn**	**03 09 23.8**	**-0.7**
U73B	**San Pedro**	**2.00**	**67**	*e*P		**Pn**	**03 08 59.1**	**-1.7**
U73B				*e*S		**Sn**	**03 09 23.7**	**-0.9**
U69B	**Peumo**	**2.06**	**81**	*e*P		**Pn**	**03 09 00.0**	**-1.5**
U69B				*e*S		**Sn**	**03 09 24.7**	**-1.3**
STL	**Santa Lucia**	**2.80**	**63**	*e*S		**Sn**	**03 09 43.2**	**-1.1**
STL				AML		AML	03 09 44.6	
	comp=E,282nm,0.3s							
CANA	**Caviahue**	**3.77**	**147**	*e*P		**Pn**	**03 09 25.4**	**+0.2**
CANA				*i* S		**Sn**	**03 10 13.6**	**+5.2**
CANA				AML		AML	03 10 22.4	
	comp=Z,116nm,0.6s							
AAGR	**Agrelo**	**4.32**	**69**	*e*P		**Pn**	**03 09 34.1**	**+1.4**
AUSP	**Uspallata**	**4.34**	**56**	*e*P		**Pn**	**03 09 34.6**	**+1.5**
AUSP				*i* S		**Sn**	**03 10 26.9**	**+4.2**
ARCO	**CERRO ARCO**	**4.34**	**66**	*e*P		**Pn**	**03 09 35.2**	**+2.1**
ARCO				AML		AML	03 10 46.5	
	comp=Z,70nm,0.7s							
ASAL	**Salagasta**	**4.53**	**63**	*e*P		**Pn**	**03 09 37.5**	**+1.9**
ASAL				*i* S		**Sn**	**03 10 31.2**	**+4.1**
RTLS	**Leoncito**	**4.66**	**52**	*e*P		**Pn**	**03 09 39.0**	**+1.4**
RTLS				*i* S		**Sn**	**03 10 34.8**	**+4.2**
RTCV	**Cerro Valdivia**	**5.13**	**57**	*e*P		**Pn**	**03 09 44.9**	**+1.0**
CFAA	**Coronel Fontan**	**5.49**	**57**	Pn		**Pn**	**03 09 48.9**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=83,slow=2.3,SNR=172							
CFAA				Sn		**Sn**	**03 10 51.5**	**+0.8**
	comp=Z,2.1nm,0.3s,baz=341,slow=16,SNR=14							
CFAA				LR		LR	03 12 04.7	
	comp=Z,20nm,22.0s,baz=242,slow=40							
CFAA	**Coronel Fontan**	**5.49**	**57**	*e*P		**Pn**	**03 09 49.0**	**+0.2**
RTLL	**Cerro Villicun**	**5.50**	**53**	*e*P		**Pn**	**03 09 49.3**	**+0.4**
ACAN	**Cantantal**	**5.91**	**67**	*i* P		**Pn**	**03 09 54.5**	**-0.1**
LCO	**Las Campanas**	**6.23**	**24**	*e*Pn		**Pn**	**03 09 56.4**	**-2.7**
	comp=Z,16nm,0.4s							
LCO				*e*S		**Sn**	**03 11 05.8**	**-3.4**
TRQA	**Tornquist**	**9.96**	**113**	*e*Pn		**Pn**	**03 10 50.2**	**+0.3**
	comp=Z,11nm,0.6s							
LPAZ	**La Paz**	**19.02**	**16**	P		**Pn**	**03 12 49.7**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=190,slow=6.5,SNR=28							
LPAZ	**La Paz**	**19.02**	**16**	*e*P		**P**	**03 12 49.1**	**+0.7**
	comp=Z,5.6nm,0.7s							
SIV	**San Ignacio**	**21.80**	**34**	P		**P**	**03 13 16.8**	**-1.2**
	comp=Z,12nm,0.9s,baz=234,slow=16,SNR=21							
SAML	**Samuel**	**27.40**	**23**	*e*P		**P**	**03 14 11.1**	**+0.1**
	comp=Z,5.0nm,1.3s							
OTAV	**Otavalo**	**35.08**	**352**	*e*P		**P**	**03 15 20.6**	**+1.5**
	comp=Z,1.3nm,0.3s							
SDV	**Santo Domingo**	**43.48**	**4**	*e*P		P	03 16 24.8	-4.0
	comp=Z,4.4nm,0.8s							
SNAA	**Sanae**	**51.41**	**158**	P		**P**	**03 17 29.3**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=228,slow=8.5,SNR=13							
QSPA	**South Pole Qui**	**55.50**	**180**	P		**P**	**03 17 59.6**	**-0.2**
	comp=Z,4.0nm,0.9s,baz=145,slow=6.7,SNR=2.1							
TXAR	**Lajitas Array**	**69.75**	**332**	P		**P**	**03 19 35.3**	**+0.2**
	comp=Z,4.0nm,0.6s,baz=152,slow=9.0,SNR=17							
MSTX	**Muleshoe**	**73.60**	**335**	*e*P		**P**	**03 19 57.7**	**-0.5**
	comp=Z,7.5nm,0.8s							
ANMO	**Albuquerque**	**75.81**	**333**	*e*P		**P**	**03 20 11.4**	**+0.3**
	comp=Z,3.5nm,1.2s							
DBIC	**Dimbokro**	**76.66**	**72**	P		**P**	**03 20 16.8**	**+0.7**
	comp=Z,2.8nm,0.6s,baz=210,slow=6.7,SNR=5.9							
DBIC	**Dimbokro**	**76.66**	**72**	*e*P		**P**	**03 20 15.4**	**-0.8**
	comp=Z,27nm,1.5s							
SDCO	**Great Sand Dun**	**77.95**	**335**	*e*P		**P**	**03 20 23.8**	**+0.6**
	comp=Z,1.8nm,0.8s							
PV10	**Paradox Valley**	**79.81**	**332**	*e*P		**P**	**03 20 32.5**	**-0.9**
	comp=Z,82nm,0.9s							
ECSD	**EROS Data Cent**	**80.86**	**343**	*e*P		**P**	**03 20 37.5**	**-1.0**
	comp=Z,11nm,1.1s							
BOSA	**Boshof**		**80.89**	**118**	P	**P**	**03 20 39.1**	**-0.3**
	comp=Z,6.4nm,0.9s,baz=252,slow=5.1,SNR=6.4							
RSSD	**Black Hills**	**83.22**	**338**	*e*P		**P**	**03 20 51.1**	**-0.1**
	comp=Z,2.8nm,0.8s							
NVAR	**Mina Array Bea**	**83.75**	**326**	P		**P**	**03 20 54.6**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=156,slow=6.7,SNR=4.0							
PDAR	**Pinedale Array**	**83.84**	**334**	P		**P**	**03 20 54.2**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=131,slow=6.1,SNR=4.3							
TORD	**Torodi Ar. Bea**	**85.70**	**71**	P		**P**	**03 21 04.2**	**+0.2**
	comp=Z,2.4nm,1.0s,baz=290,slow=7.0,SNR=13							
KIS	**Kishinev**	**122.34**	**52**	*e*PKP		**Pdif**	**03 23 48.0**	**-0.9**
BRTR	**Keskin Array B**	**123.34**	**62**	PKP		**PKPdf**	**03 27 21.2**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=211,slow=3.7,SNR=3.6							
AKASG	**Malin Array Be**	**123.66**	**48**	PKP		**PKPdf**	**03 27 20.7**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=230,slow=0.5,SNR=3.1							
ABKAR	**Akbulak array**	**143.17**	**52**	*e*PKPdf		PKPbc	03 27 55.1	-0.3
BVAR	**Borovoye Array**	**148.72**	**43**	PKPbc		**PKPbc**	**03 28 11.1**	**-0.3**
	comp=Z,3.1nm,0.5s,baz=282,slow=2.8,SNR=15							

BJI ***16*** *03:16:25.5,2°.20S×136°.60E,h18km,mb6.3/61,mB7.0/69, Ms7.3/91,Ms7 7.1/85*

IDC ***16*** *03:16:25.8±0.4,2°.10S×136°.44E,h0km,mb5.5/28, mb1 5.5/31,mb1mx5.5/31,mbtmp5.5/31,ML4.6/3,MS6.9/38, Ms1 6.9/38,ms1mx6.8/42,Error ellipse: s-maj=13.2km s-min=10.5km az=49.0*

ISCJB ***16*** *03:16:26.3±0.5,2°.17S±0°.02×136°.61E±0°.01,h15km±3km, mb6.4/264,MS7.1/365,Error ellipse: s-maj=3.1km s-min=2.4km az=7.9*

NEIC ***16*** *03:16:27.6±0.1,2°.17S×136°.54E,h18km,mb6.7/120, ME7.4,MS7.1/297,MW7.0,MW7.0,MW7.0,Error ellipse: s-maj=4.7km s-min=4.2km az=41.0,Moment Tensor Solution. s20 Moment tensor: Scale 10¹⁹Nm; Mrr=0.84; Mθθ=-3.52; Mϕϕ=2.68; Mrθ=-0.25; Mθϕ=3.21; Mϕr=0.17; Best double couple: M=4.50000×10¹⁹ NP1:ϕ=158.00000°, δ=89.00000°,λ=-177.00000°. NP2:ϕ=68.00000°,δ=87.00000°, λ=-1.00000°. Principal axes: T 4.0400, Plg1.0000°, Azm292.0000°; N 0.8600, Plg86.0000°, Azm183.0000°; P -4.9000, Plg2.0000°, Azm23.0000°; Broadband fault plane solution: P waves. NP1:ϕ=243.00000°,δ=65.00000°, λ=-6.00000°. NP2:ϕ=335.00000°,δ=85.00000°, λ=-155.00000°. Principal axes: T Plg14.0000°, Azm106.0000°; N Plg0.0000°, Azm0.0000°; P Plg21.0000°, Azm202.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC At least seventeen people killed, 10,000 displaced, 2,556 buildings destroyed or damaged [VI], landslides occurred and utilities disrupted on Yapen. Several buildings destroyed or damaged [VI] on Biak. Felt [V] at Nabire and [IV] at Manokwari. Also felt at Aberpura.

GCMT ***16*** *03:16:27.5±0.1,1°.87S×136°.36E,h12km,MW7.0/140, Moment Tensor Solution. s140,c336; s139,c651; Duration: 7?7 Moment tensor: Scale 10¹⁹Nm; Mrr=0.27±.01; Mθθ=3.16±.01; Mϕϕ=3.44±.01; Mrθ=0.79±.05; Mθϕ=2.10±.01; Mϕr=0.13±.05; Best double couple: M=4.00000×10¹⁹ NP1:ϕ=241.00000°,δ82.00000°, λ=-10.00000°. NP2:ϕ=332.00000°,δ80.00000°, λ=-172.00000°. Principal axes: T 4.0540, Plg1.0000°, Azm286.0000°; N -0.1020, Plg78.0000°, Azm22.0000°; P -3.9460, Plg12.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***16*** *03:16:28.2±1.1,2°.22S×136°.48E,h33km,mb6.6/71, MS7.0/103 Error ellipse: s-maj=8.7km s-min=5.4km az=111.4*

NEIC ***16*** *03:16:29.0±0.0,2°.14S×136°.46E,h29km,Moment Tensor Solution. s22 Moment tensor: Scale 10¹⁹Nm; Mrr=0.33; Mθθ=-2.92; Mϕϕ=3.25; Mrθ=-0.25; Mθϕ=2.02; Mϕr=1.17; Best double couple: M=3.90000×10¹⁹ NP1:ϕ=331.00000°, δ=87.00000°,λ=163.00000°. NP2:ϕ=62.00000°,δ=73.00000°, λ=2.00000°. Principal axes: T 4.1000, Plg13.0000°, Azm285.0000°; N -0.4800, Plg72.0000°, Azm144.0000°; P -3.6300, Plg10.0000°, Azm18.0000°;*

DJA ***16*** *03:16:29.2±0.1,2°.S±2°×13°.7E±°,h10km,M7.2/154, mb6.5/154,mB7.2/129,MLv7.2/12,Mw(mB)7.2/129, Mwp6.9/2*

NEIC ***16*** *03:16:49.5±0.0,1°.68S×136°.36E,h10km,Moment Tensor Solution. s141 Moment tensor: Scale 10¹⁹Nm; Mrr=0.61; Mθθ=-2.84; Mϕϕ=3.45; Mrθ=0.72; Mθϕ=2.12; Mϕr=0.68; Best double couple: M=3.90000×10¹⁹ NP1:ϕ=333.00000°, δ=83.00000°,λ=-164.00000°. NP2:ϕ=241.00000°, δ=75.00000°,λ=-7.00000°. Principal axes: T 4.1400, Plg5.0000°, Azm106.0000°; N -0.4000, Plg73.0000°, Azm358.0000°; P -3.7400, Plg15.0000°, Azm197.0000°;*

ISC 16 03:16:29.1±0.2,2°.20S±0°.03×136°.59E±0°.03,h22km±1km, h22km:pP-P,n1915,σ2s27/1973,mb6.4/271,MS7.1/388, 294C-275D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.48**	**314**	P		Pb	03 16 34.3	-4.6
SRPI				S		**Sb**	**03 16 43.9**	**-1.6**
SMPI	**Sarmi**	**2.13**	**84**	P		**Pn**	**03 17 02.2**	**-1.2**
SMPI				S		**Sb**	**03 17 32.2**	**-0.9**
RKPI	**Ransiki, Papua**	**2.50**	**286**	P		**Pn**	**03 17 08.1**	**-0.5**
RKPI				S		**Sn**	**03 17 40.9**	**+2.4**
GENI	**Genyem**	**3.60**	**96**	P		**Pn**	**03 17 23.4**	**-0.2**
GENI				S		**Sn**	**03 18 09.0**	**+3.5**
JAY	**Jayapura**	**4.13**	**94**	P		**Pn**	**03 17 30.2**	**-0.7**
FAKI	**Fak Fak**	**4.39**	**261**	P		**Pn**	**03 17 32.7**	**-1.8**
FAKI				S		**Sn**	**03 18 27.3**	**+2.2**
FAKI	**Fak Fak**	**4.39**	**261**	*e*Pn		**Pn**	**03 17 34.6**	**0.0**
FAKI				*e*Sn		**Sn**	**03 18 27.8**	**+2.7**
SIJI	**Sorong**	**5.48**	**284**	Pn		Pn	03 17 46.2	-3.3
	46nm,0.3s,baz=70,slow=13,SNR=102							
SIJI				Lg		Lg	03 19 15.6	
	7µm,0.3s,baz=190,slow=0.2,SNR=73							
SIJI				LR		LR	03 20 16.3	
	comp=Z,3239µm,21.0s,baz=114,slow=43							
SWI	**Sorong**	**5.49**	**284**	P		**Pn**	**03 17 46.7**	**-2.9**
	27µm,1.4s,778µm440nm							
SWI				S		**Sn**	**03 18 54.3**	**+2.2**
	27µm,1.4s,778µm440nm							
BNDI	**Bandanaira**	**7.06**	**251**	P		**Pn**	**03 18 12.7**	**+1.5**
	14µm,1.1s,407µm307nm							
BNDI				S		**Sn**	**03 19 33.7**	**+2.9**
	14µm,1.1s,407µm307nm							
MSAI	**Masohi**	**7.73**	**261**	P		**Pn**	**03 18 20.4**	**-0.1**
	4µm,0.9s,53µm22nm							
MSAI				S		**

BKB Balikpapan 19.70 272 P Pn 03 20 59.4 +0.6
comp=Z,8μm,2.4s,comp=Z,439μm
PVCP Virac 19.96 322 eP P 03 20 59.1 -0.8
CTA Charters Tower 20.13 153 P P 03 21 00.1 -1.7
comp=Z,66nm,0.9s,baz=337,slow=9.9,SNR=12
CTA LR LR 03 30 12.2
comp=Z,612μm,21.0s,baz=336,slow=41
CTAO Charters Tower 20.13 153 eP Pn 03 21 03.5 -0.2
CTAO pmax pmax
comp=Z,2μm,1.2s
CTAO MLR MLR
comp=Z,703μm,20.0s
CTAO Charters Tower 20.13 153 eP Pn 03 21 03.5 -0.2
comp=Z,2μm,1.2s
CTAO LR LR
comp=Z,703μm,20.0s
CUYO Cuyo Island 20.20 310 eP P 03 21 02.0 -0.7
KBKI Kotabaru 20.43 266 P P 03 21 05.7 +0.6
comp=Z,2μm,1.4s,comp=Z,125μm
OTRP Odiongan 20.46 315 eP P 03 21 05.2 -0.3
SJMP San Jose 21.17 314 eP P 03 21 13.7 +0.6
GQP Guinayangan 21.28 319⇑ eP P 03 21 11.8 -2.5
PPR Puerto Princes 21.40 304⇑ eP P 03 21 18.6 +3.0
AS01 Alice Springs 21.49 187 eP P 03 21 15.8 -0.7
AS12 Alice Springs 21.49 187 eP P 03 21 15.1 -1.5
AS12 eS S 03 25 15.2 +1.1
ASAR Alice Springs 21.49 187 P P 03 21 15.1 -1.5
comp=Z,322nm,0.6s,baz=11,slow=11,SNR=412
ASAR S S 03 25 15.2 +1.1
comp=Z,109nm,0.9s,baz=5.7,slow=20,SNR=3.0
ASAR LR LR 03 30 55.4
comp=Z,1975μm,19.2s,baz=2.5,slow=40
ASAR P3KPbc 03 55 11.7
comp=Z,3.3nm,1.0s,baz=194,slow=3.5,SNR=7.6
ASAR P3KP 03 56 04.9
comp=Z,6.0nm,1.1s,baz=157,slow=1.9,SNR=4.7
ASAR Alice Springs 21.49 187 P P 03 21 15.1 -1.5
ASAR S S 03 25 15.2 +1.1
ASAR pmax pmax
comp=Z,324nm,0.6s
ASAR smax smax
comp=N,109nm,0.9s
ASAR MLR MLR
comp=Z,975μm,19.2s
BUSP Coron 21.55 311 eP P 03 21 18.2 +1.0
ENPP El Nido 21.65 308 eP P 03 21 17.7 -0.6
BBKI Banjar Baru 21.75 266 P P 03 21 20.8 +1.3
comp=Z,8μm,1.3s,comp=Z,263μm
KKM Kota Kinabalu 21.93 292 eP P 03 21 20.7 -0.7
comp=Z,2μm,1.1s
KKM LR LR
comp=Z,233μm,22.0s
LQP Lukban 22.03 318⇑ eP P 03 21 21.2 -1.4
DNP Denpasar 22.22 252 P P 03 21 25.7 +1.3
comp=Z,6μm,1.2s,comp=Z,147μm
IGBI Denpasar 22.32 252 P P 03 21 26.4 +0.9
comp=Z,3μm,1.0s,comp=Z,60μm
TGY Tagaytay City 22.43 317⇑ eP P 03 21 32.5 +5.8
ABJI Asem Bagus 22.94 255 P P 03 21 33.3 +1.2
comp=Z,4μm,1.2s,comp=Z,172μm
KMMI Kalianget 23.05 257 P P 03 21 34.8 +1.6
comp=Z,7μm,1.4s,comp=Z,221μm
JAGI Jajag, Banyuwa 23.18 254 P P 03 21 33.2 -1.3
comp=Z,2μm,1.2s,comp=Z,59μm
JAGI Jajag, Banyuwa 23.18 254 eP P 03 21 32.2 -2.4
comp=Z,5μm,1.6s
JAGI LR LR
comp=Z,218μm,20.0s
BALP Baler 23.20 321 eP P 03 21 33.5 -1.2
BLJI Banyuglugur 23.55 256 P P 03 21 38.8 +0.6
comp=Z,3μm,1.5s,comp=Z,192μm
CAUP Cauayan 23.96 323 eP P 03 21 41.3 -0.8
BWJI Bawean 24.14 261 P P 03 21 45.7 +1.9
comp=Z,894nm,1.2s,comp=Z,18μm
HNR Honiara 24.31 108 eP P 03 21 45.0 -0.3
HNR MLR MLR
comp=Z,1483μm,21.0s
HNR Honiara 24.31 108 eP P 03 21 45.0 -0.3
comp=Z,36nm,1.3s
HNR LR LR
comp=Z,1483μm,21.0s
BCPH Baguio City Da 24.31 320⇑ iP P 03 21 45.1 -0.4
SCZP Santa Cruz 24.31 318 eP P 03 21 44.0 -1.4
GRJI Gresik 24.48 258 P P 03 21 49.0 +2.1
comp=Z,4μm,1.4s,comp=Z,69μm
CVP Callao Caves 24.56 324⇓ eP P 03 21 46.0 -1.6
SBUM Sibu 24.80 281 eP P 03 21 50.0 +0.2
comp=Z,2μm,1.4s
PBKI Pangkalan Bun 24.90 268 P P 03 21 52.9 +2.2
comp=Z,8μm,1.2s,comp=Z,96μm
MBWA Marble Bar 25.00 220 eP P 03 21 50.3 -1.2
comp=Z,1μm,0.9s
MBWA LR LR
comp=Z,292μm,20.0s
APYP Conner 25.02 323 eP P 03 21 51.0 -0.8
TBJI Tambak Boyo 25.08 259 P P 03 21 53.2 +0.9
comp=Z,6μm,2.4s,comp=Z,172μm
STKI Sintang 25.20 275 P P 03 21 56.5 +3.0
comp=Z,2μm,1.4s,comp=Z,79μm
SZP Santa 25.26 322 eP P 03 21 52.6 -1.4
comp=Z,7μm,1.6s
PWJI Pagerwojo 25.34 256 P P 03 21 54.5 -0.2
comp=Z,2μm,1.0s,comp=Z,36μm
SIPP Brgy, Tapao 25.55 322⇓ eP P 03 22 02.3 +5.8
PIP Pasuquin 25.75 323⇑ eP P 03 22 03.0 +4.6
UWJI Ujung Watu 25.90 260 P P 03 22 01.2 +1.4
comp=Z,3μm,1.4s,comp=Z,74μm
WOJI Wonogiri, Jawa 26.16 257 P P 03 22 02.6 +0.4
comp=Z,2μm,1.8s,comp=Z,58μm
SMRI Semarang 26.49 259 P P 03 22 07.1 +1.9
comp=Z,12μm,1.4s,comp=Z,232μm
SMRI Semarang 26.49 259 eP P 03 22 06.2 +1.0
comp=Z,27μm,1.5s
UGM Wanagama 26.56 257 P P 03 22 07.5 +1.6
comp=Z,4μm,1.5s,comp=Z,84μm
UGM Wanagama 26.56 257 PFAKE 03 22 20.0 +14
UGM LR LR
comp=Z,168μm,19.0s
EIDS Eidsvold 26.94 150 eP P 03 22 09.6 +0.5
comp=Z,1μm,1.1s
EIDS LR LR
comp=Z,468μm,19.0s
KPJI Karang Pucung 28.02 259 P P 03 22 20.4 +1.5
comp=Z,2μm,1.9s,comp=Z,77μm
JCJI Jatiwangi 28.55 261 P P 03 22 25.7 +2.1
comp=Z,3μm,1.6s,comp=Z,82μm
CMJI Cimerak 28.56 258 P P 03 22 25.4 +1.7
comp=Z,1μm,1.1s,comp=Z,35μm
TPI Tanjungpandan 28.91 268 P P 03 22 28.1 +1.2
comp=Z,612nm,1.7s,comp=Z,25μm
CISI Cisompet, Garu 29.14 258 P P 03 22 30.5 +1.5
comp=Z,2μm,1.3s
CISI Cisompet, Garu 29.14 258 eP P 03 22 27.4 -1.6
comp=Z,2μm,1.1s
CISI LR LR
comp=Z,263μm,22.0s
LEM Lembang 29.23 260 P P 03 22 32.2 +2.3
comp=Z,961nm,1.5s,comp=Z,51μm
LEM Lembang 29.23 260 P P 03 22 29.7 -0.2
comp=Z,56nm,0.9s,baz=339,slow=7.3,SNR=7.1
LEM LR LR 03 36 04.5
comp=Z,418μm,20.8s,baz=76,slow=40
YULB Yu-li 29.48 331 eP P 03 22 30.7 -1.1
comp=Z,1μm,1.8s
YULB LR LR
comp=Z,380μm,18.0s
FORT Forrest 29.55 195 eP P 03 22 30.8 -1.4
comp=Z,2μm,0.9s
FORT LR LR
comp=Z,395μm,21.0s
YOJ Yonaguni jima 29.61 334 eP P 03 22 31.3 -1.5
YOJ pmax pmax
comp=Z,955nm,1.1s
YOJ MLR MLR
comp=Z,277μm,18.0s
YOJ Yonaguni jima 29.61 334 eP P 03 22 31.3 -1.5
comp=Z,955nm,1.1s
YOJ LR LR
comp=Z,277μm,18.0s
JCJ Chichijima 29.62 10 LR LR 03 31 34.0
comp=Z,313μm,20.9s,baz=165,slow=31
TPUB Ta-pu 29.74 329 eP P 03 22 31.4 -2.7
comp=Z,449nm,1.2s
TPUB LR LR
comp=Z,264μm,18.0s
CNJI Cibinong 29.78 259 P P 03 22 37.2 +2.6
comp=Z,2μm,1.0s

STKA Stephens Creek 29.89 171 P P 03 22 32.4 -2.9
comp=Z,29nm,0.7s,baz=342,slow=8.6,SNR=17
STKA LR LR 03 36 48.1
comp=Z,495μm,20.2s,baz=343,slow=41
STKA Stephens Creek 29.89 171 eP P 03 22 36.5 +1.2
STKA pmax pmax
comp=Z,195nm,1.3s
STKA Stephens Creek 29.89 171 eP P 03 22 36.5 +1.2
comp=Z,195nm,1.3s
CBJI Citeko 29.94 261 P P 03 22 37.6 +1.6
comp=Z,853nm,1.0s,comp=Z,51μm
JOW Kunigami 29.96 345 P P 03 22 35.1 -0.9
comp=Z,50nm,1.2s,baz=180,slow=6.5,SNR=16
JOW LR LR 03 34 00.8
comp=Z,25μm,19.5s,baz=152,slow=35
JOW Kunigami 29.96 345 eP P 03 22 34.1 -1.9
comp=Z,3μm,1.6s
JOW LR LR
comp=Z,300μm,19.0s
SSLB Suanglung 29.98 330 eP P 03 22 34.8 -1.5
comp=Z,417nm,1.1s
SSLB LR LR
comp=Z,379μm,18.0s
NACB Ninganchiao 30.00 332 eP P 03 22 34.4 -2.0
comp=Z,2μm,1.2s
SKJI Sukabumi 30.30 260 P P 03 22 42.5 +3.3
comp=Z,970nm,1.7s
PPBI Pangkal Pinang 30.43 269 P P 03 22 42.7 +2.4
comp=Z,302nm,1.7s,comp=Z,18μm
BBOO Buckleboo 30.45 181 PFAKE 03 22 50.0 +10
BBOO LR LR
comp=Z,1163μm,19.0s
YHNB Yeheng 30.52 332 eP P 03 22 39.6 -1.5
comp=Z,3μm,1.9s
SBJI Serang 30.62 262 P P 03 22 44.1 +2.1
comp=Z,403nm,1.5s,comp=Z,22μm
TATO Taipei 30.73 332 eP P 03 22 40.8 -2.0
comp=Z,1μm,1.3s
TATO ePP PP 03 23 49.9 -2.5
TATO LR LR
comp=Z,418μm,21.0s
CGJI Cibinong 31.10 261 P P 03 22 45.3 -1.0
comp=Z,412nm,1.1s
BLSI Bandar Lampung 31.43 263 P P 03 22 51.8 +2.7
comp=Z,252nm,1.2s,comp=Z,21μm
ARMA Armidale 31.48 155 PFAKE 03 23 00.0 +11
ARMA LR LR
comp=Z,708μm,18.0s
KLI Kotabumi 31.78 264 P P 03 22 53.6 +1.4
comp=Z,576nm,1.8s,comp=Z,20μm
PMBI Palembang 31.79 268 P P 03 22 55.6 +3.3
comp=Z,1μm,1.2s,comp=Z,31μm
XMIS Christmas Isla 31.80 254 PFAKE 03 23 00.0 +7.6
XMIS LR LR
comp=Z,110μm,21.0s
DSRI Dabo 32.05 273 P P 03 23 04.4 +10
QZH Quanzhou 32.14 328⇓ iP P 03 22 52.1 -3.1
QZH S S 03 28 02.3 -4.4
QZH LN
comp=Z,169μm,11.3s
QZH LE
comp=Z,428μm,14.6s
QZH LZ
comp=Z,447μm,16.4s
KASI Kota Agung 32.18 263 P P 03 22 57.2 +1.4
comp=Z,366nm,0.9s,comp=Z,37μm
TPRI Tanjung Pinang 32.20 275 P P 03 22 57.9 +1.9
comp=Z,599nm,1.9s,comp=Z,36μm
MDSI Maura Dua 32.43 265 P P 03 22 58.6 +0.7
comp=Z,584nm,3.1s,comp=Z,35μm
LWLI Liwa 32.58 264 P P 03 23 01.1 +1.7
comp=Z,524nm,1.4s,comp=Z,14μm
JMBI JAMBI 32.93 270 P P 03 23 04.8 +2.5
comp=Z,2μm,0.7s,comp=Z,113μm
LHSI Lahat 33.06 266 P P 03 23 04.2 +0.8
comp=Z,1μm,2.0s,comp=Z,50μm
MNAI Manna 33.64 265 P P 03 23 10.8 +2.2
comp=Z,961nm,2.6s,comp=Z,60μm
MNAI Manna 33.64 265 PFAKE 03 23 20.0 +11
MNAI LR LR
comp=Z,160μm,20.0s
QIZ Qiongzhong 33.71 310 P P 03 23 09.8 +0.7
QIZ pP pP 03 23 15.3 -0.5
QIZ sP sP 03 23 18.3 -0.2
QIZ S S 03 28 31.9 +0.5
QIZ sS sS 03 28 43.0 +0.5
QIZ PMZ
comp=Z,230nm,1.3s
QIZ LN
comp=Z,493μm,24.5s
QIZ LE
comp=Z,147μm,23.7s
QIZ LZ
comp=Z,519μm,23.7s
QIZ Qiongzhong 33.71 310 PFAKE 03 23 20.0 +11
QIZ LR LR
comp=Z,252μm,22.0s
GZH Guangzhou 33.84 319 P P 03 23 08.8 -1.3
GZH sP sP 03 23 22.4 +2.9
GZH PP PnPn 03 24 20.3 -2.7
GZH PcP PcP 03 25 47.6 -1.3
GZH S S 03 28 29.8 -3.4
GZH SS SnSn 03 30 42.3 +3.0
GZH PMZ
comp=Z,51μm,12.2s
GZH LN
comp=Z,226μm,14.9s
GZH LE
comp=Z,173μm,15.8s
GZH LZ
comp=Z,302μm,18.4s
MASI Maura Aman, Be 34.32 268 P P 03 23 15.7 +1.2
comp=Z,3μm,1.3s,comp=Z,56μm
DZM Mont Dzumac 35.10 127 eP P 03 23 21.8 +0.6
comp=Z,789nm,1.5s
DZM eLR LR 03 32 41.0
comp=Z,710μm,32.0s
DZM Mont Dzumac 35.10 127 P P 03 23 24.1 +2.9
comp=Z,40nm,0.8s,baz=297,slow=12,SNR=8.2
DZM LR LR 03 39 41.6
comp=Z,69μm,18.4s,baz=354,slow=40
SDSI Sungai Dareh 35.17 271 P P 03 23 22.9 +1.1
comp=Z,425nm,1.6s,comp=Z,23μm
JHJ2 Mitsune 35.26 5 PFAKE 03 23 30.0 +7.8
JHJ2 LR LR
comp=Z,576μm,21.0s
UBPT Khong Chiam 35.35 300 P P 03 23 21.0 -2.3
comp=Z,832nm,1.4s,comp=Z,25μm
JNU Nakatsue 35.55 352 P P 03 23 24.0 -0.8
comp=Z,235nm,1.1s,baz=125,slow=4.3,SNR=19
JNU LR LR 03 35 42.0
comp=Z,282μm,20.9s,baz=158,slow=33
JNU Nakatsue 35.55 352 eP P 03 23 21.8 -3.0
comp=Z,2μm,1.4s
JNU LR LR
comp=Z,365μm,19.0s
NWAO Narrogin (SRO) 35.55 209 P P 03 23 26.0 +1.2
comp=Z,81nm,0.9s,baz=320,slow=0.4,SNR=14
NWAO LR LR 03 40 00.8
comp=Z,2μm,21.5s,baz=248,slow=40
NWAO Narrogin (SRO) 35.55 209 P P 03 23 26.0 +1.2
NWAO pmax pmax
comp=Z,287nm,1.2s
BKNI Bangkinang 35.63 274 P P 03 23 26.5 +0.8
comp=Z,889nm,1.3s,comp=Z,23μm
BKNI Bangkinang 35.63 274 PFAKE 03 23 40.0 +14
BKNI LR LR
comp=Z,138μm,21.0s
H11S3 WAKE ISLAND Hy 36.06 54 T T 04 01 26.0
baz=240,slow=75,SNR=56
H11S2 WAKE ISLAND Hy 36.07 54 T T 04 01 26.6
baz=240,slow=75,SNR=41
H11S1 WAKE ISLAND Hy 36.08 54 T T 04 01 26.9
baz=240,slow=75,SNR=36
PDSI Padang 36.13 271 P P 03 23 29.2 -0.9
comp=Z,493nm,1.1s,comp=Z,19μm
IPM Ipoh 36.15 281 PFAKE 03 23 40.0 +10
IPM LR LR
comp=Z,111μm,22.0s
SSE Sheshan 36.22 337 ⇓P P 03 23 27.8 -2.7
SSE pP pP 03 23 36.4 -0.8
SSE sP sP 03 23 40.0 +0.1
SSE S S 03 29 09.0 -0.6
SSE sS sS 03 29 22.4 +1.7
SSE PMZ
comp=Z,8μm,9.8s
SSE LN
comp=Z,166μm,16.3s
SSE LE
comp=Z,486μm,16.2s
SSE LZ
comp=Z,123μm,21.1s
WAKE Wake Island 36.45 53 eP P 03 23 30.9 -1.7
comp=Z,1μm,1.4s
WAKE LR LR
comp=Z,119μm,22.0s
KSSGP Seogwipo 36.54 346 P P 03 23 36.5 +3.2
SNR=11
KSSGP Seogwipo 36.54 346 P P 03 23 35.9 +2.7
SNR=11
PPSI Pulau Pagai 36.55 268 P P 03 23 34.2 +0.6
comp=Z,842nm,1.7s,comp=Z,20μm
KSGOS Gosan 36.65 345 P P 03 23 37.5 +3.3
SNR=24
KSGOS Gosan 36.65 345 P P 03 23 36.7 +2.5
SNR=30
KULM Kulim 36.66 282 eP P 03 23 34.1 -0.5
comp=Z,1μm,1.6s
KULM LR LR
comp=Z,136μm,22.0s
KSJJU Jeju 36.69 346 P P 03 23 37.3 +2.7
SNR=29
KSJJU Jeju 36.69 346 P P 03 23 37.3 +2.7
SNR=29
H11N1 WAKE ISLAND Hy 36.87 52 T T 04 03 24.1
baz=244,slow=74,SNR=20
H11N2 WAKE ISLAND Hy 36.89 52 T T 04 03 24.1
baz=244,slow=74,SNR=16
H11N3 WAKE ISLAND Hy 36.89 52 T T 04 03 24.6
baz=244,slow=74,SNR=14
SKLT Songkhla 37.08 285 P P 03 23 38.6 +0.5
comp=Z,375nm,1.5s,comp=Z,20μm
MNSI Mandailing Nat 37.12 274 P P 03 23 39.9 +1.4
comp=Z,330nm,1.4s,comp=Z,22μm
KSWAN Wando 37.57 347 P P 03 23 43.5 +1.6
SNR=14
KSWAN Wando 37.57 347 P P 03 23 43.5 +1.6
SNR=14
KSKOH Goheung 37.65 347 P P 03 23 44.4 +1.8
SNR=14
KSKOH Goheung 37.65 347 P P 03 23 44.4 +1.8
SNR=14
KSNAH Namhae 37.71 348 P P 03 23 45.2 +2.0
SNR=14
KSNAH Namhae 37.71 348 P P 03 23 45.2 +2.0
SNR=14
KSJDO Jindo 37.73 346 P P 03 23 45.5 +2.1
SNR=42
KSJDO Jindo 37.73 346 P P 03 23 45.5 +2.1
SNR=42
KSBUS Busan 37.91 350 P P 03 23 44.9 +0.1
SNR=40
PSI Prapat 37.98 277 P P 03 23 44.4 -1.6
comp=Z,68nm,1.1s,baz=136,slow=3.5,SNR=16
PSI LR LR 03 41 52.5
comp=Z,181μm,21.5s,baz=120,slow=40
PSI Prapat 37.98 277 eP P 03 23 44.0 -1.9
PSI pmax pmax
comp=Z,5μm,2.4s
PSI MLR MLR
comp=Z,116μm,21.0s
PSI Prapat 37.98 277 eP P 03 23 44.0 -1.9
comp=Z,5μm,2.4s
PSI LR LR
comp=Z,116μm,21.0s
NJ2 Nanjing 37.99 335 eP P 03 23 44.9 -0.7
NJ2 pP pP 03 23 52.5 +0.1
NJ2 sP sP 03 23 54.5 -0.6
NJ2 PP PnPn 03 25 14.0 -0.1
NJ2 S S 03 29 35.0 -1.7
NJ2 sS ScP 03 29 46.5 -1.1
NJ2 PMZ
comp=Z,200nm,0.7s
NJ2 PMZ
comp=Z,2μm,4.8s
NJ2 LN
comp=Z,899μm,22.4s
NJ2 LE
comp=Z,357μm,23.3s
NJ2 LZ
comp=Z,362μm,23.8s
TRTT Trang 38.13 286 P P 03 23 47.0 0.0
comp=Z,770nm,1.3s,comp=Z,26μm
KSHUK Heuksando 38.15 345 P P 03 23 49.7 +2.8
SNR=38
KSKWJ Gwangju 38.24 347 P P 03 23 48.0 +0.4
SNR=31
KSKWJ Gwangju 38.24 347 P P 03 23 50.1 +2.4
SNR=11
KSGWJ Gwangju-acc 38.27 347 P P 03 23 50.3 +2.4
SNR=8.8
TSI Tuntungan 38.42 278 P P 03 23 50.8 +1.3
comp=Z,690nm,1.8s,comp=Z,24μm
KSDAG Daegu 38.45 350 P P 03 23 49.9 +0.5
SNR=54
KSDAG Daegu 38.45 350 P P 03 23 52.3 +2.9
SNR=26
PATY Pattaya 38.51 294 P P 03 23 54.4 +4.2
comp=Z,30nm,1.1s,comp=Z,1μm
KSJEU Jeongeup 38.58 347 P P 03 23 52.1 +1.7
SNR=35
MJAR Matsushiro Arr 38.58 2 P P 03 23 49.0 -1.4
comp=Z,25nm,1.0s,baz=187,slow=9.5,SNR=18
MJAR LR LR 03 36 59.1
comp=Z,298μm,19.5s,baz=180,slow=32
MJAR Matsushiro Arr 38.58 2 P P 03 23 49.0 -1.4
MJAR pmax pmax
comp=Z,13nm,0.9s
MAJO Matsushiro 38.58 2 di P P 03 23 51.1 +0.6
MAJO pmax pmax
comp=Z,139nm,1.0s
MAJO Matsushiro 38.58 2 eP P 03 23 50.3 -0.2
comp=Z,1μm,2.1s
MAJO LR LR
comp=Z,358μm,20.0s
MAT Matsushiro 38.58 2 P P 03 23 49.4 -1.1
MAT S S 03 29 43.4 -2.0
NAYO Nakonayok 38.60 296 P P 03 23 50.3 -0.7
comp=Z,556nm,0.8s,comp=Z,11μm
KRAB Krabi 38.70 286 P P 03 23 52.5 +0.7
comp=Z,292nm,1.3s,comp=Z,7μm
KSPHA Pohang 38.79 351 P P 03 23 54.9 +2.7
SNR=44
WHN Wuhan 38.86 329 ⇑P P 03 23 52.4 -0.5
WHN S S 03 29 52.6 +2.8
WHN LN
comp=Z,477μm,15.9s
WHN LE
comp=Z,848μm,16.8s
WHN LZ
comp=Z,582μm,18.0s
KSJEO Jeonju 38.92 348 P P 03 23 55.0 +1.7
SNR=13
KSEUS ULSEONG 39.06 350 P P 03 23 57.5 +3.0
SNR=31
KSCPR CHUPUNGNYEONG 39.06 349 P P 03 23 57.4 +2.9
SNR=23
GSI Gunungsitoli 39.16 275 P P 03 23 56.5 +0.8
comp=Z,582nm,1.8s,comp=Z,23μm
GSI Gunungsitoli 39.16 275 eP P 03 23 54.4 -1.3
comp=Z,2μm,1.6s
GSI LR LR
comp=Z,129μm,19.0s
KSSAJ Sangju 39.21 349 P P 03 23 58.1 +2.4
SNR=60
SURT Suratani 39.26 287 P P 03 23 57.0 +0.5
comp=Z,233nm,2.2s,comp=Z,8μm
KSULJ Ulljin 39.28 351 P P 03 23 58.9 +2.6
SNR=26
TJN Taejon 39.33 348 iP P 03 23 56.3 -0.5
KSBON Boeun 39.37 349 P P 03 23 59.8 +2.7
SNR=29
PKDT Phuket 39.45 285 P P 03 24 01.3 +3.2
comp=Z,500nm,2.2s,comp=Z,27μm
KSKOJ Gongju 39.47 348 P P 03 24 01.1 +3.2
SNR=15
KSCHJ Chungju 39.69 349 P P 03 24 02.4 +2.6
SNR=90
KSTBA Taebaek 39.77 350 P P 03 24 01.8 +1.4
SNR=84
KSCEA Cheonan 39.79 348 P P 03 24 03.4 +2.8
SNR=11
PBKT Sadao Pong 39.81 299 P P 03 24 00.4 -0.6
comp=Z,412nm,1.5s,comp=Z,17μm
KSULL Ulleungdo 39.83 353 P P 03 24 03.9 +3.0

SNR=91
KSYOW **Yeongwol** 39.90 350 P P 03 24 04.2 +2.7
SNR=16
KSSES **Seosan** 39.92 347 P P 03 24 04.3 +2.6
SNR=11
KSJES **JEONGSEON** 40.11 350 P P 03 24 06.5 +3.2
SNR=15
KSWJU **Wonju** 40.20 349 P P 03 24 05.9 +2.0
SNR=43
KSICN **Icheon** 40.21 349 P P 03 24 06.8 +2.7
SNR=52
KS15 **Wonju Array Si** 40.26 349 *e*P P 03 24 04.1 -0.4
KS15 *e*PcP **PcP** 03 26 08.3 +0.2
KSRS **Korea Array** 40.27 349 P P 03 24 04.1 -0.4
comp=Z,62nm,1.1s,baz=170,slow=9.3,SNR=72
KSRS PcP **PcP** 03 26 08.3 +0.2
comp=Z,17nm,1.0s,baz=176,slow=6.4,SNR=1.9
KSRS LR LR 03 38 09.3
comp=Z,129μm,21.6s,baz=170,slow=32
KSSWO **Suwon** 40.27 348 P P 03 24 07.5 +3.0
SNR=16
LHMI **Lhok Sumawe** 40.28 281 P P 03 24 05.6 +0.6
comp=Z,1μm,1.1s,comp=Z,42μm
LHMI **Lhok Sumawe** 40.28 281 *e*P P 03 24 03.0 -2.0
comp=Z,3μm,1.4s
KS01 **Wonju Array Si** 40.30 349 *e*P P 03 24 03.0 -1.8
KSDGY **Daegwallycong** 40.37 350 P P 03 24 06.6 +1.2
SNR=43
KSSEO **Seoul** 40.50 348 P P 03 24 08.9 +2.4
SNR=47
SNSI **Sinabang, Aceh** 40.51 276 P P 03 24 08.5 +1.6
comp=Z,1μm,1.7s,comp=Z,40μm
KSJMJ **Jumunjin** 40.54 350 P P 03 24 08.3 +1.5
SNR=120
INCN **Inchon** 40.55 348 *e*P P 03 24 05.6 -1.3
comp=Z,7μm,2.6s
INCN LR LR
comp=Z,295μm,22.0s
GYA **Guiyang** 40.58 317⇑ *i*P P 03 24 06.8 -0.7
GYA pP **pP** 03 24 16.0 +1.7
GYA PP **PnPn** 03 25 45.3 +0.1
GYA PcP **PcP** 03 26 11.0 +1.4
GYA ScP **ScP** 03 29 56.8 -1.2
GYA S **S** 03 30 15.0 -1.1
GYA sS **sS** 03 30 29.8 +2.5
GYA SS SS 03 33 06.8 -10
GYA PMZ
comp=Z,510nm,1.0s
GYA PMZ
comp=Z,27μm,13.1s
GYA LN
comp=Z,44μm,16.8s
GYA LE
comp=Z,43μm,20.5s
GYA LZ
comp=Z,83μm,19.2s
SRDT **SRDT** 40.60 295 P P 03 24 08.2 +0.6
comp=Z,1μm,1.4s,comp=Z,42μm
KSCHC **Chuncheon** 40.60 349 P P 03 24 10.0 +2.7
SNR=111
COCO **West Island** 40.61 254 *e*P P 03 24 05.4 -2.3
COCO pmax pmax
comp=Z,2μm,1.5s
COCO MLR MLR
comp=Z,176μm,22.0s
COCO **West Island** 40.61 254 *e*P P 03 24 05.4 -2.3
comp=Z,2μm,1.5s
COCO LR LR
comp=Z,176μm,22.0s
UTTA **Uttaradit** 40.66 301 P P 03 24 06.1 -2.0
comp=Z,159nm,1.0s,comp=Z,1μm
UTHA **Uthaitani** 40.75 297 P P 03 24 09.4 +0.5
comp=Z,120nm,1.0s,comp=Z,981nm
KSIJA **INJE** 40.75 350 P P 03 24 11.8 +3.2
SNR=47
KSGAH **Ganghwa** 40.81 348 P P 03 24 10.9 +1.9
SNR=22
KSDDC **Dongducheon** 40.87 348 P P 03 24 12.1 +2.6
SNR=11
KSMUS **Musan** 40.92 348 P P 03 24 12.9 +3.1
SNR=34
KSCWO **Cheorwon** 40.95 349 P P 03 24 13.4 +3.2
SNR=45
KSSKC **Sokcho** 40.98 350 P P 03 24 12.7 +2.4
SNR=79
SEHB **SEOHWA** 41.00 350 P P 03 24 12.0 +1.4
SNR=43
NANT **Nan** 41.00 302 P P 03 24 08.9 -2.0
comp=Z,198nm,1.1s,comp=Z,2μm
YNCB **YEONCHEON** 41.03 348 P P 03 24 12.9 +2.1
SNR=20
KHLT **Khaolaem Dam** 41.24 295 P P 03 24 13.7 +0.8
comp=Z,188nm,1.6s,comp=Z,7μm
ENH **Enshi** 41.37 323 *e*P P 03 24 12.5 -1.4
comp=Z,262nm,0.9s
ENH LR LR
comp=Z,185μm,19.0s
TAU **Tasmania Unive** 41.65 168 *e*P P 03 24 16.3 +0.4
TAU pmax pmax
comp=Z,529nm,1.1s
TAU MLR MLR
comp=Z,503μm,21.0s
TAU **Tasmania Unive** 41.65 168 *e*P P 03 24 16.3 +0.4
comp=Z,529nm,1.1s
TAU LR LR
comp=Z,503μm,21.0s
LAMP **Lampang** 41.79 301 P P 03 24 15.7 -1.7
comp=Z,259nm,1.0s,comp=Z,2μm
CRAI **Chiangrai** 41.93 304 P P 03 24 13.0 -5.5
comp=Z,286nm,1.1s,comp=Z,14μm
TIA **Tai'an** 42.31 336 ⇓ P P 03 24 23.3 +1.9
TIA S S 03 30 40.0 -1.2
TIA PMZ
comp=Z,520nm,1.1s
TIA PMZ
comp=Z,38μm,9.1s
TIA LN
comp=Z,106μm,17.9s
TIA LE
comp=Z,138μm,16.1s
TIA LZ
comp=Z,118μm,16.1s
CM01 **Chiang Mai Arr** 42.32 301 *e*P P 03 24 19.9 -1.9
CM31 **Chiang Mai Arr** 42.35 301 *e*P P 03 24 20.3 -1.7
CMAR **Chiang Mai Arr** 42.35 301 P P 03 24 20.3 -1.7
comp=Z,191nm,1.2s,baz=122,slow=6.7,SNR=34
CMAR LR LR 03 40 20.7
comp=Z,122μm,21.8s,baz=126,slow=34
CMAR PKPPKP **P'P'df** 03 56 26.2 +0.5
comp=Z,1.6nm,0.4s,baz=300,slow=4.2,SNR=4.0
CMMT **Chiang Mai** 42.50 301 P P 03 24 21.0 -2.2
comp=Z,887nm,1.1s,comp=Z,25μm
CHTO **Chiang Mai** 42.50 301 P P 03 24 21.1 -2.1
comp=Z,3μm,1.1s,comp=Z,96μm
CHTO **Chiang Mai** 42.50 301 *e*P P 03 24 21.1 -2.1
CHTO pmax pmax
comp=Z,584nm,1.0s
CHTO MLR MLR
comp=Z,170μm,22.0s
CHTO **Chiang Mai** 42.50 301 *e*P P 03 24 21.1 -2.1
comp=Z,584nm,1.0s
CHTO LR LR
comp=Z,170μm,22.0s
KMI **Kunming** 42.59 312 P P 03 24 23.9 -0.2
KMI pP **pP** 03 24 31.1 +0.2
KMI sP **sP** 03 24 35.8 +2.2
KMI S **S** 03 30 50.3 +4.2
KMI PMZ
comp=Z,350nm,1.4s
KMI PMZ
comp=Z,13μm,7.4s
KMI LN
comp=Z,347μm,20.7s
KMI LE
comp=Z,201μm,22.4s
KMI LZ
comp=Z,416μm,25.6s
CMAI **Chiengmai2** 42.90 303 P P 03 24 24.7 -1.9
comp=Z,334nm,1.4s,comp=Z,12μm
MHMT **Maesarieng** 43.11 300 P P 03 24 28.8 +0.7
comp=Z,281nm,1.1s,comp=Z,7μm
DL2 **Dalian** 43.17 343 ⇓ *i*P P 03 24 30.4 +2.2
DL2 S S 03 30 55.8 +2.2
DL2 PMZ
comp=Z,700nm,2.0s
DL2 PMZ
comp=Z,27μm,7.8s
DL2 LE
comp=Z,131μm,15.2s
DL2 LZ
comp=Z,103μm,18.6s
MSVF **Nonsavu** 43.51 114 P P 03 24 33.0 +1.5
comp=Z,1μm,1.1s,SNR=17
MSVF **Nonsavu** 43.51 114 *e*P P 03 24 32.3 +0.8
MSVF pmax pmax
comp=Z,1μm,1.3s
MSVF MLR MLR
comp=Z,98μm,19.0s
MSVF **Nonsavu** 43.51 114 *e*P P 03 24 32.3 +0.8
comp=Z,1μm,1.3s
MSVF LR LR
comp=Z,98μm,19.0s
CMBY **CAMPBELL BAY** 43.55 282 *e*P P 03 24 33.3 +1.5
ERM **Erimo** 44.41 7 P P 03 24 41.4 +3.2
comp=Z,1μm,1.5s,SNR=8.5
ERM **Erimo** 44.41 7 *e*P P 03 24 36.9 -1.3
ERM pmax pmax
comp=Z,7μm,2.9s
ERM MLR MLR
comp=Z,153μm,19.0s
ERM **Erimo** 44.41 7 *e*P P 03 24 36.9 -1.3
comp=Z,7μm,2.9s
ERM LR LR
comp=Z,153μm,19.0s
XAN **Xi'an** 44.47 327 P P 03 24 37.1 -1.8
XAN pP **pP** 03 24 44.6 -1.1
XAN PP **PcP** 03 26 20.3 -2.0
XAN S **S** 03 31 11.8 -1.2
XAN PMZ
comp=Z,110nm,1.6s
XAN PMZ
comp=Z,8μm,10.2s
XAN LN
comp=Z,155μm,27.5s
XAN LE
comp=Z,88μm,26.5s
XAN LZ
comp=Z,60μm,20.5s
VLA **Vladivostok** 45.31 355 *be*P P 03 24 47.9 +2.5
VLA *i* *PP pP 03 24 57.9 +5.7
VLA 03 26 27.0
VLA *e* 03 26 34.4
VLA *e*S **S** 03 31 27.0 +2.2
VLA pmax pmax
comp=Z,338nm,1.4s
VLA MLR MLR
comp=E,1033μm,15.0s
SNY **Shenyang** 45.39 346 ⇑ P P 03 24 44.6 -1.4
SNY S **S** 03 31 23.9 -2.0
SNY PMZ
comp=E,19μm,8.0s
SNY LN
comp=E,104μm,22.8s
SNY LE
comp=E,189μm,14.4s
SNY LZ
comp=E,205μm,18.0s
CD2 **Chengdu** 45.40 319 ⇑ P P 03 24 45.3 -1.1
CD2 pP **pP** 03 24 53.9 +0.7
CD2 PcP **PcP** 03 26 24.1 -1.4
CD2 PP **PP** 03 26 31.8 -1.0
CD2 PcS **PcS** 03 30 18.3 -1.3
CD2 S **S** 03 31 25.1 -1.4
CD2 PMZ
comp=E,800nm,1.2s
CD2 PMZ
comp=E,35μm,7.0s
CD2 LN
comp=E,315μm,21.1s
CD2 LE
comp=E,282μm,20.6s
CD2 LZ
comp=E,255μm,18.0s
TIY **Taiyuan** 45.59 333 *e*P P 03 24 47.5 -0.2
TIY pP **pP** 03 24 53.8 -0.8
TIY sP **sP** 03 24 58.8 +1.5
TIY S **S** 03 31 34.9 +5.8
TIY PMZ
comp=E,700nm,1.6s
TIY PMZ
comp=E,20μm,6.7s
TIY LN
comp=E,82μm,12.3s
TIY LE
comp=E,161μm,13.2s
TIY LZ
comp=E,122μm,21.3s
PBA **Port Blair** 45.70 289 *e*P P 03 24 50.5 +1.6
DGPR **DIGLIPUR** 45.93 291 *e*P P 03 24 50.5 -0.2
BJT **Baijiatuau** 45.99 338 *e*P P 03 24 48.9 -1.9
BJT pmax pmax
comp=Z,2μm,1.5s
BJT **Baijiatuau** 45.99 338 *e*P P 03 24 48.9 -1.9
comp=Z,2μm,1.5s
BJI **Beijing** 46.01 338 P P 03 24 49.6 -1.3
BJI PP **PP** 03 26 37.9 -1.2
BJI S **S** 03 31 31.3 -3.6
BJI PMZ
comp=Z,24μm,8.3s
BJI LN
comp=Z,210μm,23.5s
BJI LE
comp=Z,277μm,22.4s
BJI LZ
comp=Z,106μm,27.9s
USRK **Ussuriysk Ar.** 46.38 355 P P 03 24 54.0 +0.2
comp=Z,42nm,0.9s,baz=181,slow=5.9,SNR=35
USRK PP PP 03 26 37.5 -5.5
comp=Z,50nm,0.9s,baz=185,slow=3.6,SNR=4.4
USRK LR LR 03 41 45.1
comp=Z,343μm,19.1s,baz=165,slow=33
USRK PKPPKP **P'P'df** 03 56 22.4 +4.9
comp=Z,1.4nm,0.6s,baz=31,slow=9.3,SNR=4.6
ASAJ **Asahikawa** 46.43 6 LR LR 03 43 10.6
comp=Z,108μm,20.9s,baz=216,slow=35
ASAJ **Asahikawa** 46.43 6 *e*P P 03 24 54.7 +0.5
comp=Z,5μm,2.3s
ASAJ LR LR
comp=Z,214μm,21.0s
YUK **Yuzh-Kuril'sk** 46.78 9 *c* *i*P P 03 24 59.3 +2.4
YUK *e*PPP PPP 03 27 39.0
YUK *i* S **S** 03 31 50.0 +4.3
YUK *i* 03 34 51.5
YUK pmax pmax
comp=Z,11μm,6.4s
YUK pmax pmax
comp=N,999nm,2.0s
YUK pmax pmax
comp=E,442nm,2.0s
YUK pmax pmax
comp=Z,1μm,2.0s
CN2 **Changchun** 46.88 349 *e*P P 03 24 59.8 +2.1
CN2 *ep*P **pP** 03 25 07.3 +2.7
CN2 PMZ
comp=Z,80nm,0.8s
CN2 PMZ
comp=Z,18μm,7.0s
MDJ **Mudanjiang** 47.03 353 P P 03 24 57.0 -1.9
MDJ PP **PP** 03 26 51.6 +1.8
MDJ ScP **ScP** 03 30 25.8 +2.2
MDJ PcS **PcS** 03 30 27.0 +1.2
MDJ S **S** 03 31 51.0 +1.6
MDJ ScS **ScS** 03 34 53.6 +1.5
MDJ PMZ
comp=Z,17μm,8.6s
MDJ LN
comp=Z,130μm,22.3s
MDJ LE
comp=Z,125μm,22.3s
MDJ LZ
comp=Z,221μm,19.1s
MDJ **Mudanjiang** 47.03 353 *e*P P 03 24 57.8 -1.1
comp=Z,862nm,1.2s
MDJ LR LR
comp=Z,233μm,19.0s
OUZ **Omahuta** 47.53 138 *e*P P 03 25 04.0 +1.1
comp=Z,233nm,1.5s
OUZ LR LR
comp=Z,49μm,18.0s
KUR **Kuril'sk** 48.28 11 *e*P P 03 25 04.7 -3.9
KUR *i* S **S** 03 32 01.3 -5.9
KUR *i* SSS SSS 03 36 55.0
KUR pmax pmax
comp=Z,4μm,2.8s
KUR pmax pmax
comp=N,803nm,1.6s
KUR pmax pmax
comp=Z,634nm,1.6s
KUR pmax pmax
comp=E,117nm,0.8s
KUR MLR MLR
comp=N,63μm,18.0s
KUR MLR MLR
comp=E,46μm,18.0s
KUR MLR MLR
comp=Z,3μm,18.0s
HHC **Hu-ho-hao-te** 48.55 335 *e*P P 03 25 08.9 -2.0
HHC pP **pP** 03 25 14.3 -3.5
HHC sP **sP** 03 25 20.4 -0.1
HHC PP **PP** 03 27 04.4 +0.5
HHC S **S** 03 32 11.5 +0.2
HHC sS sS 03 32 28.0 +5.3
HHC SS SS 03 35 29.5 -12
HHC PMZ
comp=Z,11μm,6.6s
HHC LN
comp=Z,128μm,14.8s
HHC LE
comp=Z,150μm,15.0s
HHC LZ
comp=Z,112μm,14.7s
LZH **Lanzhou** 48.82 324 ⇑ P P 03 25 13.8 +0.7
LZH pP **pP** 03 25 20.5 +0.5
LZH sP **sP** 03 25 25.1 +2.4
LZH PP **PP** 03 27 06.5 -0.1
LZH S **S** 03 32 14.5 -1.0
LZH sS **sS** 03 32 25.0 -1.8
LZH SS SS 03 35 37.8 -8.6
LZH PMZ
comp=Z,1μm,1.5s
LZH PMZ
comp=Z,8μm,7.1s
LZH LN
comp=Z,93μm,13.6s
LZH LE
comp=Z,80μm,13.0s
LZH LZ
comp=Z,142μm,15.8s
BTO **Baotou** 49.03 333 *e*P P 03 25 12.9 -1.6
YSS **Yuzh-Sakhalins** 49.25 6⇑ *e*P P 03 25 15.2 -0.8
YSS *i* *PP **pP** 03 25 23.7 +0.8
YSS *i* *SP **sP** 03 25 27.5 +1.9
YSS *e* 03 27 08.0
YSS *i* PPP PPP 03 28 06.0
YSS *i* S **S** 03 32 16.0 -4.7
YSS *e* 03 35 08.0
YSS *e*SS SS 03 35 40.0 -13
YSS pmax pmax
comp=N,180nm,1.2s
YSS pmax pmax
comp=Z,300nm,1.2s
YSS pmax pmax
comp=N,13μm,6.0s
YSS pmax pmax
comp=Z,17μm,6.0s
YSS pmax pmax
comp=E,4μm,4.0s
YSS smax smax
comp=N,83μm,18.0s
YSS MLR MLR
comp=N,130μm,18.0s
YSS MLR MLR
comp=Z,150μm,18.0s
YSS **Yuzh-Sakhalins** 49.25 6 *e*P P 03 25 16.4 +0.4
comp=Z,3μm,1.9s
YSS LR LR
comp=Z,83μm,22.0s
MKAZ **Moumakai** 49.65 139 *e*PN P 03 25 21.0 +1.7
KUZ **Kuaotunu** 49.81 138 PN P 03 25 21.8 +1.3
TOZ **Tahuroa Road** 50.23 140 PN P 03 25 25.4 +1.8
HIZ **Hauiti** 50.27 141 *e*PN P 03 25 24.4 +0.5
QRZ **Quartz Range** 50.30 145 *e*PN P 03 25 26.2 +2.0
DSZ **Denniston Nort** 50.49 146 *e*PN P 03 25 27.4 +1.8
HABR **Khabarovsk** 50.49 359 *ce*P P 03 25 24.1 -1.3
HABR *e**PP **pP** 03 25 33.8 +1.5
HABR *e**SP **sP** 03 25 38.0 +3.0
HABR *e* 03 26 41.2
HABR *e* 03 27 19.7
HABR *e*PPP PPP 03 28 16.9
HABR *e*S **S** 03 32 36.6 -1.4
HABR *e**SS **sS** 03 32 52.6 +3.3
HABR *e* 03 35 12.2
HABR *e*SS **SS** 03 36 12.6 +0.3
HABR *e*SSS SSS 03 37 41.5
HABR pmax pmax
comp=Z,484nm,1.6s
HABR pmax pmax
comp=N,169nm,1.6s
HABR pmax pmax
comp=Z,1μm,2.0s
HABR pmax pmax
comp=E,131nm,1.6s
HABR MLR MLR
comp=E,55μm,17.0s
HABR MLR MLR
comp=N,35μm,12.0s
HABR MLR MLR
comp=Z,94μm,18.0s
DCZ **Deep Cove** 50.77 152 PN P 03 25 27.2 -0.4
DCZ **Deep Cove** 50.77 152 *e*P P 03 25 27.9 +0.3
comp=Z,486nm,1.2s
DCZ LR LR
comp=Z,230μm,18.0s
WVZ **Waitaha Valley** 50.81 148 *e*PN P 03 25 27.8 -0.1
RAO **Raoul Island** 50.90 127 PFAKE 03 25 40.0 +11
RAO LR LR
comp=Z,68μm,20.0s
THZ **Tophouse** 51.12 145 *e*PN P 03 25 30.0 -0.4
SHL **Shillong** 51.31 306 *e*P P 03 25 29.5 -2.7
SHL *e*S **S** 03 32 50.5 -0.1
KLR **Kul'dur** 51.40 356 *e*P P 03 25 27.0 -5.2
KLR *e*S **S** 03 32 48.8 -1.8
KLR pmax pmax
comp=E,200nm,1.8s
KLR pmax pmax
comp=Z,980nm,1.8s
RPZ **Rata Peaks** 51.42 148 P P 03 25 30.9 -1.6
comp=Z,25nm,0.7s,baz=354,slow=15,SNR=3.1
RPZ **Rata Peaks** 51.42 148 PN P 03 25 31.4 -1.1
RPZ **Rata Peaks** 51.42 148 *e*P P 03 25 32.3 -0.2
comp=Z,597nm,0.9s
RPZ LR LR
comp=Z,211μm,18.0s
LBZ **Lake Benmore** 51.44 150 PN P 03 25 32.5 -0.2
WHZ **Wether Hill Ro** 51.45 152 *e*P P 03 25 33.2 +0.5
comp=Z,403nm,1.4s
WHZ LR LR
comp=Z,196μm,19.0s
URZ **Urewera** 51.57 139 P P 03 25 33.5 -0.3
comp=Z,23nm,0.5s,baz=243,slow=12,SNR=13
URZ **Urewera** 51.57 139 PN P 03 25 33.8 +0.1
URZ **Urewera** 51.57 139 *e*P P 03 25 33.4 -0.3
comp=Z,558nm,1.2s
URZ LR LR
comp=Z,187μm,19.0s
KNTN **Kanton** 51.65 92 *e*P P 03 25 36.3 +1.6
comp=Z,3μm,1.8s
KNTN LR LR
comp=Z,88μm,19.0s
BKZ **Black Stump Fm** 51.69 141 *e*PN P 03 25 34.6 -0.1
BKZ **Black Stump Fm** 51.69 141 *e*P P 03 25 34.6 -0.1
comp=Z,350nm,0.8s
BKZ LR LR
comp=Z,127μm,19.0s
KWHZ **Kaweka Forest** 51.79 141 PN P 03 25 36.3 +0.8
SNZO **South Karori** 51.88 144 *e*P P 03 25 34.7 -1.3
comp=Z,564nm,1.1s
SNZO LR LR
comp=Z,194μm,20.0s
KHZ **Kahutara** 51.90 146 *e*PN P 03 25 35.9 -0.2
KHZ **Kahutara** 51.90 146 *e*P P 03 25 36.0 -0.2
comp=Z,249nm,0.8s
KHZ LR LR
comp=Z,297μm,19.0s
ODZ **Otahua Downs** 52.13 150 *e*P P 03 25 38.0 +0.2
comp=Z,506nm,1.6s
ODZ LR LR
comp=Z,165μm,18.0s

RIGZ	**Rimuhau**	**52.25**	**139**	*e*PN	**P**	**03 25 39.1**	**+0.2**
MQZ	**McQueen's Vall**	**52.26**	**147**	*e*PN	**P**	**03 25 38.1**	**-0.7**
TUZ	**Tuapeka**	**52.29**	**151**	*e*PN	**P**	**03 25 38.5**	**-0.5**
AFI	**Afiamalu**	**52.31**	**106**	*e*P	**P**	**03 25 41.1**	**+1.3**
AFI				pmax	pmax		
	comp=Z,189nm,1.5s						
AFI				MLR	MLR		
	comp=Z,104μm,20.0s						
AFI	**Afiamalu**	**52.31**	**106**	*e*P	**P**	**03 25 41.0**	**+1.3**
	comp=Z,189nm,1.5s						
AFI				LR	LR		
	comp=Z,104μm,20.0s						
BFZ	**Birch Farm**	**52.42**	**142**	*e*PN	**P**	**03 25 38.7**	**-1.4**
BFZ	**Birch Farm**	**52.42**	**142**	*e*P	**P**	**03 25 36.9**	**-3.1**
	comp=Z,775nm,1.3s						
BFZ				LR	LR		
	comp=Z,196μm,18.0s						
PXZ	**Pawanui**	**52.42**	**141**	*e*PN	**P**	**03 25 40.0**	**-0.1**
HIA	**Hailar**	**53.30**	**346***d*	*i*P	**P**	**03 25 48.2**	**+1.8**
HIA				pmax	pmax		
	comp=Z,2μm,3.0s						
HIA				MLR	MLR		
	comp=Z,198μm,22.0s						
HIA	**Hailar**	**53.30**	**346**	*e*P	**P**	**03 25 44.9**	**-1.5**
	comp=Z,2μm,0.2s						
HIA				LR	LR		
	comp=Z,162μm,18.0s						
GTA	**Gaotai**	**53.42**	**325**	⇑P	**P**	**03 25 47.3**	**-0.3**
GTA				pP	**pP**	**03 25 51.9**	**-2.7**
GTA				sP	**sP**	**03 25 54.8**	**-2.4**
GTA				PP	**PP**	**03 27 52.0**	**+3.8**
GTA				S	**S**	**03 33 19.0**	**+0.1**
GTA				sS	**sS**	**03 33 27.3**	**-3.1**
GTA				SS	**SS**	**03 36 58.1**	**-1.3**
GTA				PMZ			
	comp=Z,28μm,8.5s						
GTA				LN			
	comp=Z,124μm,23.3s						
GTA				LE			
	comp=Z,93μm,21.9s						
GTA				LZ			
	comp=Z,107μm,20.9s						
MIDW	**Midway**	**53.55**	**52**	*e*P	**P**	**03 25 48.0**	**-0.6**
	comp=Z,401nm,1.3s						
LSA	**Lhasa**	**53.76**	**310**	P	**P**	**03 25 51.3**	**+0.7**
LSA				PP	**PP**	**03 27 54.8**	**+3.0**
LSA				S	**S**	**03 33 22.1**	**-2.4**
LSA				ScS	**ScS**	**03 35 33.3**	**-6.4**
LSA				LN			
	comp=Z,176μm,43.8s						
LSA				LE			
	comp=Z,216μm,49.8s						
LSA				LZ			
	comp=Z,160μm,31.9s						
LSA	**Lhasa**	**53.76**	**310**	*e*P	**P**	**03 25 51.1**	**+0.4**
LSA				pmax	pmax		
	comp=Z,1μm,1.4s						
LSA				MLR	MLR		
	comp=Z,102μm,22.0s						
LSA	**Lhasa**	**53.76**	**310**	*e*P	**P**	**03 25 51.1**	**+0.4**
	comp=Z,1μm,1.4s						
LSA				LR	LR		
	comp=Z,102μm,22.0s						
MCQ	**Macquarie Isla**	**55.25**	**164**	*e*P	P	03 26 03.8	+3.4
MCQ	**Macquarie Isla**	**55.25**	**164**	*e*P	P	03 26 03.8	+3.4
	comp=Z,10μm,1.3s						
MCQ				LR	LR		
	comp=Z,6359μm,18.0s						
NKL	**Nikolayevsk**	**55.26**	**3**	*e*P	**P**	**03 26 01.0**	**+0.5**
NKL				*e*S	**S**	**03 33 48.0**	**+5.1**
NKL				*e*		03 37 22.0	
NKL				pmax	pmax		
	comp=N,12μm,4.5s						
NKL				pmax	pmax		
	comp=E,3μm,4.5s						
NKL				pmax	pmax		
	comp=N,3μm,2.0s						
NKL				pmax	pmax		
	comp=E,1μm,2.0s						
NKL				pmax	pmax		
	comp=E,6μm,2.0s						
NKL				smax	smax		
	comp=E,45μm,13.0s						
SKR	**Severo-Kuril's**	**55.27**	**15***d*	*i*P	**P**	**03 26 01.2**	**+0.5**
SKR				*e*		03 26 54.0	
SKR				*e*PPP	PPP	03 29 13.0	
SKR				*i* S	**S**	**03 33 41.0**	**-2.2**
SKR				smax	smax		
	comp=N,141μm,24.0s						
SKR				smax	smax		
	comp=E,87μm,24.0s						
SKR				MLR	MLR		
	comp=N,16μm,18.0s						
SKR				MLR	MLR		
	comp=E,42μm,18.0s						
SKR				MLR	MLR		
	comp=Z,46μm,18.0s						
TAPN	**Taplejung**	**55.45**	**306**	*e*P	**P**	**03 26 01.2**	**-1.6**
	comp=Z,5μm,1.5s						
ODAN	**Odare**	**55.52**	**305**	*e*P	**P**	**03 26 01.4**	**-1.8**
	comp=Z,3μm,1.4s						
CHLP	**Challavanipeta**	**55.61**	**294**	*e*P	**P**	**03 26 02.7**	**-1.0**
CHLP				*e*pP	**pP**	**03 26 07.3**	**-3.4**
CHLP				*e*sP	**sP**	**03 26 10.2**	**-3.1**
CHLP				IAmb	IAmb	03 26 11.8	
	comp=Z,470nm,1.1s						
CHLP				*e*PP	**PP**	**03 28 07.5**	**-0.5**
CHLP				*e*S	**S**	**03 33 47.1**	**-1.7**
CHLP				*e*SS	**SS**	**03 37 31.1**	**-3.2**
CHLP				IVMs_BB	IVMs_BB	03 45 10.7	
	comp=Z,37μm,41.2s						
BOK	**Bokaro**	**55.64**	**301**	*e*P	**P**	**03 26 02.5**	**-1.3**
BOK				AMB	AMB	03 26 15.9	
	comp=Z,444nm,1.4s						
VIS	**Vishakhapatnam**	**56.07**	**293**	*e*P	**P**	**03 26 06.8**	**-0.2**
ULN	**Ulaanbaatar**	**56.14**	**336**	PFAKE		03 26 20.0	+13
ULN				LR	LR		
	comp=Z,155μm,19.0s						
RAMN	**Ramite**	**56.20**	**305**	*e*P	**P**	**03 26 06.6**	**-1.5**
	comp=Z,3μm,1.2s						
SONA0	**Songino Array**	**56.38**	**336**	*e*P	**P**	**03 26 08.9**	**0.0**
SONM	**Songino Array**	**56.38**	**336**	P	**P**	**03 26 08.9**	**0.0**
	comp=Z,41nm,0.8s,baz=150,slow=7.0,SNR=24						
SONM				LR	LR	03 51 28.7	
	comp=Z,103μm,19.2s,baz=142,slow=37						
SONM				PKPPKP	**P'P'df**	**03 56 05.8**	**+1.2**
	comp=Z,3.2nm,1.0s,baz=20,slow=1.7,SNR=5.2						
SONA1	**Songino Array**	**56.38**	**336**	*e*P	**P**	**03 26 08.7**	**-0.2**
PALK	**Pallekele**	**56.55**	**280**	P	**P**	**03 26 12.2**	**+1.6**
	comp=Z,446nm,1.5s,SNR=10.0						
PALK	**Pallekele**	**56.55**	**280**	P	**P**	**03 26 12.2**	**+1.6**
	comp=Z,62nm,1.3s,SNR=10.0						
PALK	**Pallekele**	**56.55**	**280**	P	**P**	**03 26 09.1**	**-1.5**
	comp=Z,65nm,1.1s,baz=94,slow=7.5,SNR=17						
PALK				LR	LR	03 52 23.8	
	comp=Z,64μm,20.1s,baz=116,slow=38						
PALK	**Pallekele**	**56.55**	**280**	⇓P	**P**	**03 26 11.7**	**+1.1**
PALK	**Pallekele**	**56.55**	**280**	*e*P	**P**	**03 26 11.2**	**+0.6**
	comp=Z,415nm,1.6s						
PALK				LR	LR		
	comp=Z,40μm,20.0s						
GUN	**Gumba**	**57.16**	**305**	*e*P	**P**	**03 26 14.0**	**-1.1**
	comp=Z,9μm,2.0s						
PKI	**Pulchoki**	**57.42**	**305**	*e*P	**P**	**03 26 15.0**	**-1.9**
	comp=Z,1μm,1.4s						
CIT	**Chita**	**57.44**	**343**	*e*P	**P**	**03 26 16.6**	**+0.4**
CIT				*e*		03 27 09.4	
CIT				*e*S	S	03 34 20.9	+8.9
CIT				pmax	pmax		
	comp=Z,3μm,3.2s						
PVM	**Polavaram**	**57.52**	**292**	*e*P	**P**	**03 26 18.0**	**+0.7**
PVM				*e*pP	**pP**	**03 26 20.9**	**-3.5**
PVM				*e*sP	**sP**	**03 26 23.6**	**-3.4**
PVM				*e*PP	**PP**	**03 28 24.2**	**-1.0**
PVM				*e*S	**S**	**03 34 11.1**	**-3.1**
PVM				*e*SS	**SS**	**03 38 06.1**	**+1.6**
PVM				IVMs_BB	IVMs_BB	03 45 56.8	
	comp=Z,28μm,48.6s						
KKN	**Kakani**	**57.61**	**305**	*e*P	**P**	**03 26 16.3**	**-1.8**
	comp=Z,6μm,2.0s						
DMN	**Daman**	**57.68**	**305**	*e*P	**P**	**03 26 16.8**	**-1.8**
	comp=Z,2μm,1.1s						
PEA0	**Petropavlovsk-**	**57.89**	**15**	*e*P	**P**	**03 26 19.2**	**-0.1**
PETK	**Petropavlovsk-**	**57.89**	**15**	P	**P**	**03 26 18.9**	**-0.4**
	comp=Z,30nm,0.8s,baz=185,slow=7.4,SNR=21						
PETK				LR	LR	03 49 46.3	
	comp=Z,44μm,19.7s,baz=202,slow=35						
PETK				PKP2bc		03 56 17.1	
	comp=Z,10nm,1.1s,baz=99,slow=9.2,SNR=5.0						
PEA2	**Petropavlovsk-**	**57.89**	**15**	*e*P	**P**	**03 26 18.9**	**-0.4**
MDRS	**Chennai**	**57.92**	**287**	*e*P	**P**	**03 26 21.3**	**+1.2**
PET	**Petropavlovsk**	**58.06**	**16***d*	*i*P	P	03 26 25.1	+4.6
PET				*e*		03 28 30.6	
PET				*e*S	**S**	**03 34 23.4**	**+3.4**
PET				pmax	pmax		
	comp=Z,436nm,1.4s						
PET				pmax	pmax		
	comp=Z,16μm,12.5s						
PET				pmax	pmax		
	comp=Z,12μm,9.9s						
PET				smax	smax		
	comp=N,62μm,25.1s						
PET				MLR	MLR		
	comp=Z,84μm,21.0s						
PET				MLR	MLR		
	comp=Z,64μm,21.0s						
PET	**Petropavlovsk**	**58.06**	**16**	*e*P	**P**	**03 26 19.9**	**-0.5**
	comp=Z,3μm,2.1s						
PET				LR	LR		
	comp=Z,72μm,20.0s						
GKN	**Gorkha**	**58.21**	**305**	*e*P	**P**	**03 26 20.6**	**-1.6**
	comp=Z,3μm,1.1s						
SKHT	**Srikalahasti**	**58.56**	**287**	*e*P	**P**	**03 26 22.8**	**-1.9**
SKHT				*e*pP	**pP**	**03 26 28.7**	**-2.9**
SKHT				*e*sP	**sP**	**03 26 31.2**	**-3.1**
SKHT				IAmb	IAmb	03 26 37.4	
	comp=Z,574nm,1.6s						
SKHT				*e*PP	**PP**	**03 28 37.8**	**+3.4**
SKHT				*e*S	**S**	**03 34 26.2**	**-1.6**
SKHT				*e*SS	**SS**	**03 38 18.4**	**-2.4**
SKHT				IVMs_BB	IVMs_BB	03 46 36.9	
	comp=Z,32μm,41.9s						
ADKI	**Addanki**	**58.75**	**290**	*e*P	**P**	**03 26 23.8**	**-2.2**
ADKI				*e*sP	**sP**	**03 26 31.6**	**-4.0**
ADKI				IAmb	IAmb	03 26 40.5	
	comp=Z,856nm,1.6s						
ADKI				*e*PcP	**PcP**	**03 27 14.4**	**-1.2**
KOLN	**Koldanda**	**58.98**	**304**	*e*P	**P**	**03 26 26.4**	**-1.2**
	comp=Z,2μm,1.0s						
NJS	**Nagarjunasagar**	**59.52**	**291**	*e*P	**P**	**03 26 31.5**	**+0.2**
NJS				*e*pP	**pP**	**03 26 34.8**	**-3.6**
NJS				*e*sP	**sP**	**03 26 37.3**	**-3.7**
NJS				IAmb	IAmb	03 26 44.6	
	comp=Z,639nm,1.5s						
NJS				*e*PP	**PP**	**03 28 41.2**	**-1.7**
NJS				*e*S	**S**	**03 34 38.6**	**-1.6**
NJS				*e*SS	**SS**	**03 38 35.4**	**-0.5**
NJS				IVMs_BB	IVMs_BB	03 52 33.9	
	comp=Z,30μm,22.1s						
CLNS	**Chul'man**	**59.61**	**353**	*e*P	**P**	**03 26 32.7**	**+1.5**
CLNS				*e**PP	**pP**	**03 26 42.8**	**+4.6**
CLNS				*e*		03 27 20.0	
CLNS				*e*		03 28 45.2	
CLNS				*e*S	**S**	**03 34 44.2**	**+4.1**
CLNS				pmax	pmax		
	comp=N,288nm,1.4s						
CLNS				pmax	pmax		
	comp=Z,663nm,2.1s						
CLNS				pmax	pmax		
	comp=E,22nm,0.6s						
CLNS				pmax	pmax		
	comp=Z,148nm,1.8s						
CLNS				pmax	pmax		
	comp=E,123nm,1.5s						
CLNS				pmax	pmax		
	comp=N,75nm,1.0s						
CLNS				smax	smax		
	comp=E,7μm,6.2s						
CLNS				smax	smax		
	comp=N,7μm,13.4s						
RCLA	**Racherla**	**59.62**	**289**	*e*P	**P**	**03 26 33.3**	**+1.3**
RCLA				*e*sP	**sP**	**03 26 37.6**	**-4.1**
RCLA				IAmb	IAmb	03 26 44.2	
	comp=Z,594nm,1.7s						
RCLA				*e*		03 30 24.9	
RCLA				*e*S	**S**	**03 34 41.3**	**-0.2**
RCLA				*e*SS	**SS**	**03 38 38.9**	**+1.4**
RCLA				IVMs_BB	IVMs_BB	03 52 38.1	
	comp=Z,37μm,22.7s						
ZAK	**Zakamensk**	**59.65**	**336**	⇑*i*P	**P**	**03 26 28.9**	**-2.8**
ZAK				pmax	pmax		
	comp=Z,394nm,1.9s						
SRLM	**Srisailam**	**59.81**	**290**	*e*P	**P**	**03 26 33.6**	**+0.2**
SRLM				*e*pP	**pP**	**03 26 36.9**	**-3.5**
SRLM				*e*sP	**sP**	**03 26 39.1**	**-3.9**
SRLM				IAmb	IAmb	03 26 45.6	
	comp=Z,1μm,1.8s						
SRLM				*e*PP	**PP**	**03 28 42.3**	**-3.3**
SRLM				*e*S	**S**	**03 34 41.3**	**-2.8**
SRLM				*e*SS	**SS**	**03 38 40.9**	**+0.3**
SRLM				IVMs_BB	IVMs_BB	03 52 24.4	
	comp=Z,31μm,23.4s						
RPR	**Rampur**	**60.06**	**293**	*e*P	**P**	**03 26 33.5**	**-1.5**
RPR				*e*pP	**pP**	**03 26 38.5**	**-3.5**
RPR				*e*sP	**sP**	**03 26 41.1**	**-3.6**
RPR				IAmb	IAmb	03 26 42.7	
	comp=Z,517nm,1.2s						
RPR				IVMs_BB	IVMs_BB	03 47 07.9	
	comp=Z,32μm,60.2s						
TRD	**Trivandrum**	**60.39**	**281**	*e*P	**P**	**03 26 35.4**	**-1.9**
TRD				AMB	AMB	03 27 13.2	
	comp=Z,759nm,0.0s						
HYB	**Hyderabad**	**60.41**	**291**	*i* P	**P**	**03 26 35.0**	**-2.5**
	comp=Z,270nm,1.0s						
HYB				*e*S	**S**	**03 34 50.0**	**-1.8**
HYB	**Hyderabad**	**60.41**	**291**	*e*P	**P**	**03 26 38.6**	**+1.1**
HYB				AMB	AMB	03 26 41.8	
	comp=Z,296nm,0.7s						
HYBB	**Hyderabad (bro**	**60.42**	**291**	*e*P	**P**	**03 26 36.8**	**-0.8**
HYBB				*e*pP	**pP**	**03 26 40.9**	**-3.6**
HYBB				*e*sP	**sP**	**03 26 43.8**	**-3.4**
HYBB				IAmb	IAmb	03 26 45.4	
	comp=Z,591nm,1.4s						
HYBB				*e*PcP	**PcP**	**03 27 20.4**	**-1.9**
HYBB				*e*PP	**PP**	**03 28 49.0**	**-1.9**
HYBB				*e*S	**S**	**03 34 49.9**	**-1.9**
HYBB				*e*SS	**SS**	**03 38 49.1**	**-1.0**
HYBB				IVMs_BB	IVMs_BB	03 53 03.0	
	comp=Z,32μm,19.9s						
TLY	**Talaya**	**60.51**	**337**	P	**P**	**03 26 37.4**	**-0.1**
	comp=Z,879nm,2.0s,SNR=27						
TLY	**Talaya**	**60.51**	**337**	P	**P**	**03 26 37.7**	**+0.2**
	comp=Z,35nm,0.9s,baz=158,slow=7.0,SNR=26						
TLY				LR	LR	03 52 02.5	
	comp=Z,137μm,21.7s,baz=136,slow=35						
TLY	**Talaya**	**60.51**	**337**	*e*P	**P**	**03 26 37.2**	**-0.3**
TLY				*e*S	**S**	**03 34 51.0**	**-0.9**
TLY				*e*		03 36 28.6	
TLY				pmax	pmax		
	comp=Z,501nm,2.0s						
TLY				MLR	MLR		
	comp=Z,61μm,17.0s						
TLY	**Talaya**	**60.51**	**337**	*e*P	**P**	**03 26 36.9**	**-0.6**
	comp=Z,616nm,1.6s						
TLY				*e*PP	PP	03 28 43.1	-8.0
TLY				LR	LR		
	comp=Z,166μm,20.0s						
IRK	**Irkutsk**	**60.72**	**338**	*e*P	**P**	**03 26 38.9**	**0.0**
IRK				*e*S	**S**	**03 34 59.7**	**+5.3**
IRK				pmax	pmax		
	comp=Z,2μm,2.2s						
NGP	**Nagpur**	**60.86**	**296**	*e*P	**P**	**03 26 40.0**	**-0.4**
NGP				*e*x	x	03 34 58.3	
SRSP	**Sriramsagar**	**60.95**	**293**	*e*P	**P**	**03 26 39.2**	**-1.9**
SRSP				*e*pP	**pP**	**03 26 44.6**	**-3.6**
SRSP				*e*sP	**sP**	**03 26 47.3**	**-3.5**
SRSP				IAmb	IAmb	03 26 48.4	
	comp=Z,533nm,1.2s						
SRSP				*e*PP	**PP**	**03 28 53.6**	**-2.0**
SRSP				*e*S	**S**	**03 34 59.5**	**+0.9**
SRSP				*e*SS	**SS**	**03 39 02.4**	**+4.0**
SRSP				IVMs_BB	IVMs_BB	03 47 14.1	
	comp=Z,27μm,40.7s						
URV	**Uravakonda**	**61.12**	**288**	*e*P	**P**	**03 26 41.7**	**-0.6**
URV				*e*pP	**pP**	**03 26 45.5**	**-3.9**
URV				*e*sP	**sP**	**03 26 48.6**	**-3.4**
URV				IAmb	IAmb	03 26 54.5	
	comp=Z,422nm,1.6s						
URV				*e*PP	**PP**	**03 28 54.6**	**-2.6**
URV				*e*S	**S**	**03 34 59.9**	**-1.0**
URV				*e*SS	**SS**	**03 38 57.8**	**-3.4**
URV				IVMs_BB	IVMs_BB	03 47 48.2	
	comp=Z,30μm,35.2s						
MOY	**Mondy**	**61.56**	**336**	*e*P	**P**	**03 26 45.2**	**+0.4**
MOY				pmax	pmax		
	comp=Z,701nm,1.4s						
KLRI	**Killari**	**62.38**	**292**	*e*P	**P**	**03 26 50.6**	**-0.2**
KLRI				*e*pP	**pP**	**03 26 54.1**	**-3.7**
KLRI				*e*sP	**sP**	**03 26 56.6**	**-3.9**
KLRI				IAmb	IAmb	03 27 02.8	
	comp=Z,1μm,1.9s						
KLRI				*e*PP	**PP**	**03 29 05.5**	**-2.7**
KLRI				*e*S	**S**	**03 35 13.8**	**-2.9**
KLRI				*e*SS	**SS**	**03 39 18.9**	**-1.9**
KLRI				IVMs_BB	IVMs_BB	03 54 10.6	
	comp=Z,57μm,22.0s						
BOD	**Bodaibo**	**62.52**	**347**	*e*P	**P**	**03 26 48.6**	**-2.3**
BOD				pmax	pmax		
	comp=Z,459nm,2.8s						
AKL	**Akola**	**62.59**	**295**	*e*P	**P**	**03 26 50.5**	**-1.6**
AKL				AMB	AMB	03 27 03.8	
	comp=Z,600nm,1.1s						
BHPL	**Bhopal**	**62.86**	**297**	*e*P	**P**	**03 26 54.2**	**+0.3**
BHPL				AMB	AMB	03 26 58.1	
	comp=Z,596nm,1.7s						
JOSI	**Joshimath**	**63.27**	**306**	*e*P	**P**	**03 26 54.3**	**-2.4**
JOSI				AMB	AMB	03 26 59.4	
	comp=Z,3μm,1.2s						
WMQ	**Urumqi**	**63.31**	**322**	P	**P**	**03 26 56.5**	**0.0**
WMQ				pP	**pP**	**03 27 04.3**	**+0.7**
WMQ				sP	**sP**	**03 27 07.5**	**+1.2**
WMQ				PcP	**PcP**	**03 27 33.6**	**0.0**
WMQ				PP	**PP**	**03 29 17.1**	**+1.1**
WMQ				ScP		03 31 32.8	
WMQ				PcS		03 31 35.8	
WMQ				S	**S**	**03 35 30.0**	**+2.4**
WMQ				sS	**sS**	**03 35 37.6**	**-1.7**
WMQ				ScS	**SKSac**	**03 36 42.1**	**-6.5**
WMQ				SS	**SS**	**03 39 37.8**	**+3.3**
WMQ				PMZ			
	comp=Z,550nm,1.2s						
WMQ				PMZ			
	comp=Z,10μm,5.5s						
WMQ				LN			
	comp=Z,143μm,16.5s						
WMQ				LE			
	comp=Z,72μm,18.3s						
WMQ				LZ			
	comp=Z,100μm,25.0s						
AGRA	**Agra**	**63.54**	**302**	*e*P	**P**	**03 26 56.9**	**-1.3**
AGRA				AMB	AMB	03 27 05.6	
	comp=Z,870nm,1.0s						
KALG	**Kalgarh**	**63.58**	**305**	*ex*	**P**	**03 27 00.8**	**+2.3**
KALG				AMB	AMB	03 27 11.1	
	comp=Z,632nm,1.9s						
DGAR	**Diego Garcia**	**64.07**	**263**	*e*P	**P**	**03 26 59.5**	**-2.6**
DGAR				pmax	pmax		
	comp=Z,2μm,1.3s						
DGAR				MLR	MLR		
	comp=Z,56μm,22.0s						
DGAR	**Diego Garcia**	**64.07**	**263**	*e*P	**P**	**03 26 59.5**	**-2.6**
	comp=Z,2μm,1.3s						
DGAR				LR	LR		
	comp=Z,56μm,22.0s						
MNCY	**Minicoy**	**64.21**	**280**	*e*P	**P**	**03 27 03.0**	**0.0**
MNCY				*ex*	x	03 28 58.0	
YAK	**Yakutsk**	**64.28**	**356**	LR	LR	03 52 38.6	
	comp=Z,268μm,19.1s,baz=178,slow=34						
YAK	**Yakutsk**	**64.28**	**356**	*e*P	**P**	**03 27 01.7**	**-0.7**
YAK				*e**PP	**pP**	**03 27 14.0**	**+4.5**
YAK				*e*		03 27 41.8	
YAK				*e*		03 29 21.5	
YAK				*e*S	**S**	**03 35 38.1**	**-0.7**
YAK				*e*		03 36 03.2	
YAK				*e*		03 36 56.8	
YAK				*e*SSS	SSS	03 42 43.6	
YAK				pmax	pmax		
	comp=Z,819nm,1.6s						
YAK				pmax	pmax		
	comp=N,424nm,1.7s						
YAK				pmax	pmax		
	comp=E,99nm,1.7s						
YAK				pmax	pmax		
	comp=Z,5μm,4.7s						
YAK				pmax	pmax		
	comp=N,4μm,5.1s						
YAK				pmax	pmax		
	comp=E,2μm,6.4s						
YAK				smax	smax		
	comp=N,10μm,6.8s						
YAK				smax	smax		
	comp=E,27μm,6.6s						
YAK	**Yakutsk**	**64.28**	**356**	*e*P	**P**	**03 27 01.8**	**-0.6**
	comp=E,8μm,2.6s						
YAK				LR	LR		
	comp=Z,296μm,20.0s						
BISR	**Bishrakh**	**64.37**	**303**	*e*P	**P**	**03 27 03.1**	**-0.6**
BISR				AMB	AMB	03 27 16.0	
	comp=Z,2μm,1.0s						
DRV	**Dumont d'Urvil**	**64.38**	**178**	S	S	03 35 09.0	-31
DRV				L	L	03 42 00.0	
DRV				R		03 47 00.0	
DDI	**Dehra Dun**	**64.41**	**305**	*e*P	**P**	**03 27 02.0**	**-2.1**
DDI				*e*P	pP	03 27 02.6	-8.5
DDI				AMB	AMB	03 27 12.3	
	comp=Z,3μm,1.9s						
DDI				*ex*	x	03 29 43.0	
HVS	**Khovu-Aksy**	**64.43**	**332***c*	*i*P	**P**	**03 27 02.8**	**-1.0**
GOA	**Goa**	**64.48**	**288**	*e*P	**P**	**03 27 02.8**	**-1.9**
AMKA	**Amchitka**	**64.51**	**28**	*e*P	**P**	**03 27 03.7**	**-0.4**
NDI	**New Delhi**	**64.59**	**303**	*e*P	**P**	**03 27 06.0**	**+0.8**
NDI				*ex*	x	03 35 48.5	
RAR	**Rarotonga**	**64.68**	**112**	P	**P**	**03 27 07.4**	**+1.5**
	comp=Z,16nm,0.7s,baz=74,slow=9.5,SNR=3.9						
RAR	**Rarotonga**	**64.68**	**112**	*e*P	**P**	**03 27 06.5**	**+0.6**
RAR				pmax	pmax		
	comp=Z,2μm,2.3s						
RAR				MLR	MLR		
	comp=Z,29μm,22.0s						
RAR	**Rarotonga**	**64.68**	**112**	*e*P	**P**	**03 27 06.5**	**+0.6**
	comp=Z,2μm,2.3s						
RAR				LR	LR		
	comp=Z,29μm,22.0s						
BHGR	**Bahadurgarh**	**64.82**	**303**	*e*P	**P**	**03 27 06.0**	**-0.7**
BHGR				AMB	AMB	03 27 14.2	
	comp=Z,969nm,1.1s						
POO	**Poona**	**65.03**	**292**	*e*P	**P**	**03 27 08.5**	**+0.2**
POO				AMB	AMB	03 27 12.6	
	comp=Z,537nm,2.0s						
POO				*e*PCP	**PcP**	**03 27 39.5**	**-1.6**
POO				*i* SCS	**SKSac**	**03 37 02.0**	**-0.5**
KUDL	**Kundal**	**65.04**	**302**	*e*P	**P**	**03 27 07.1**	**-1.0**
KUDL				AMB	AMB	03 27 15.7	
	comp=Z,1μm,0.8s						
KKR	**Kurukshetra**	**65.31**	**304**	*e*P	**P**	**03 27 08.7**	**-1.2**
KKR				AMB	AMB	03 27 22.8	
	comp=Z,3μm,0.8s						
SMLA	**Simla**	**65.40**	**306**	*i* P	**P**	**03 27 09.8**	**-0.6**
SMLA				AMB	AMB	03 27 19.8	
	comp=Z,3μm,0.9s						
SMLA				*i* S	**S**	**03 35 54.8**	**+1.0**
KHET	**Khetri**	**65.60**	**302**	*e*P	**P**	**03 27 10.7**	**-1.1**
KHET				AMB	AMB	03 27 15.8	
	comp=Z,720nm,1.1s						
SEY	**Seymchan**	**66.05**	**8**	P	**P**	**03 27 12.4**	**-1.5**
	comp=Z,15nm,0.7s,baz=188,slow=4.7,SNR=21						
SEY				LR	LR	03 53 41.2	
	comp=Z,106μm,21.4s,baz=194,slow=34						
SEY				PKP2bc		03 55 48.7	
	comp=Z,1.2nm,0.5s,baz=66,slow=19,SNR=2.8						
SEY	**Seymchan**	**66.05**	**8***c*	*e*P	**P**	**03 27 13.3**	**-0.6**
XMAS	**Kiritimati**	**66.09**	**87**	*e*P	**P**	**03 27 15.7**	**+0.5**
	comp=Z,2μm,1.8s						
XMAS				LR	LR		
	comp=Z,64μm,20.0s						
DHRM	**DHARAMSHALA**	**66.46**	**307**	*e*P	**P**	**03 27 17.3**	**-0.2**
DHRM				AMB	AMB	03 27 30.7	
	comp=Z,2μm,0.4s						
CASY	**Casey**	**66.54**	**191**	*e*P

	comp=Z,994nm,1.3s									
ADK						MLR	MLR			
	comp=Z,62µm,20.0s									
ADK	**Adak**	**66.76**	**29**	*e*P		**P**		**03 27 18.8**	**+0.1**	
	comp=Z,994nm,1.3s									
ADK				*e*PP		PP		03 29 54.8	+8.8	
ADK				LR		LR				
	comp=Z,62µm,20.0s									
DLH	**Dalhousie**	**66.82**	**307**	*e*P		**P**		**03 27 19.0**	**-0.8**	
DLH				*ex*		x		03 27 32.0		
KRAR	**Krasnoyarsk**	**68.04**	**335**⇑	*e*P		**P**		**03 27 27.0**	**+0.3**	
KRAR				pmax		pmax				
	comp=Z,148nm,1.2s									
HON	**Honolulu**	**68.05**	**66**	*e*P		**P**		**03 27 27.5**	**0.0**	
HON	**Honolulu**	**68.05**	**66**	*e*P		**P**		**03 27 27.5**	**0.0**	
KIP	**Kipapa**	**68.05**	**66**	*ce*P		**P**		**03 27 28.4**	**+0.9**	
KIP				pmax		pmax				
	comp=Z,281nm,1.2s									
KIP				MLR		MLR				
	comp=Z,47µm,20.0s									
KIP	**Kipapa**	**68.05**	**66**	*e*P		**P**		**03 27 27.0**	**-0.5**	
	comp=Z,649nm,1.4s									
MK01	**Makanchi Array**	**68.09**	**323**	*e*P		**P**		**03 27 26.3**	**-0.9**	
MK32	**Makanchi Array**	**68.10**	**323**	*e*P		**P**		**03 27 26.0**	**-1.4**	
MKAR	**Makanchi Array**	**68.10**	**323**	P		**P**		**03 27 26.0**	**-1.4**	
	comp=Z,179nm,1.1s,baz=106,slow=8.8,SNR=40									
MKAR				PKP2bc				03 55 47.2		
	comp=Z,6.5nm,1.1s,baz=318,slow=1.6,SNR=7.6									
MKAR				LR		LR		03 57 46.3		
	comp=Z,77µm,21.6s,baz=117,slow=36									
MKAR	**Makanchi Array**	**68.10**	**323**	*e*P		**P**		**03 27 27.0**	**-0.4**	
OPA	**Opana**	**68.11**	**66**	*e*P		**P**		**03 27 27.0**	**-0.9**	
OPA	**Opana**	**68.11**	**66**	*e*P		**P**		**03 27 27.0**	**-0.9**	
PDGK	**Podgornoye**	**68.29**	**319**	P		**P**		**03 27 28.5**	**0.0**	
PDGK				pmax		pmax				
	comp=Z,972nm,1.5s									
KSH	**Kashi**	**69.20**	**314**	P		**P**		**03 27 35.8**	**+1.3**	
KSH				sP		**sP**		**03 27 48.8**	**+4.5**	
KSH				PcP		**PcP**		**03 28 01.3**	**+3.0**	
KSH				PP		**PP**		**03 30 12.5**	**+4.9**	
KSH				S		**S**		**03 36 40.3**	**+0.7**	
KSH				sS		**sS**		**03 36 51.3**	**0.0**	
KSH				ScS		**SKSac**		**03 37 31.8**	**-1.8**	
KSH				PMZ						
	comp=Z,4µm,2.1s									
KSH				PMZ						
	comp=Z,10µm,3.2s									
KSH				LN						
	comp=Z,47µm,15.6s									
KSH				LE						
	comp=Z,69µm,16.8s									
KSH				LZ						
	comp=Z,113µm,19.8s									
HLK	**Haleakala**	**69.55**	**67**	*e*P		**P**		**03 27 36.6**	**-0.5**	
BHJ	**Bhuj**	**69.81**	**296**	*e*P		**P**		**03 27 37.0**	**-1.5**	
BHJ				AMB		AMB		03 27 53.2		
	comp=Z,1µm,1.4s									
AAA	**Alma-Ata**	**69.95**	**318**	*i* P		P		03 27 44.1	+5.1	
AAA				pmax		pmax				
	comp=Z,14µm,3.3s									
AAA				MLR		MLR				
	comp=Z,104µm,8.0s									
ULHL	**Ulahol**	**70.03**	**317**	P		**P**		**03 27 39.5**	**-0.2**	
	SNR=57									
ZAA0	**Zalesovo Array**	**70.44**	**330**	*e*P		**P**		**03 27 39.4**	**-2.3**	
ZAA0				*e*PP		**PP**		**03 30 22.6**	**+4.7**	
ZALV	**Zalesovo Beam**	**70.44**	**330**	P		**P**		**03 27 40.6**	**-1.1**	
	comp=Z,175nm,1.1s,baz=117,slow=6.6,SNR=41									
ZALV				PKP2bc				03 55 41.9		
	comp=Z,7.3nm,1.0s,baz=292,slow=4.0,SNR=10									
ZAA1	**Zalesovo Array**	**70.45**	**330**	*e*P		**P**		**03 27 40.6**	**-1.1**	
KZA	**Kyzart**	**70.65**	**316**	P		**P**		**03 27 43.0**	**-0.7**	
	SNR=87									
TKM2	**Tokmak 2**	**70.73**	**317**	P		**P**		**03 27 42.8**	**-1.1**	
	SNR=81									
TKM2	**Tokmak 2**	**70.73**	**317**	*e*P		**P**		**03 27 43.7**	**-0.2**	
TKM2				pmax		pmax				
	comp=Z,3µm,2.0s									
TKM2				MLR		MLR				
	comp=Z,102µm,20.0s									
TKM2	**Tokmak 2**	**70.73**	**317**	*e*P		**P**		**03 27 43.7**	**-0.2**	
	comp=Z,3µm,2.0s									
TKM2				LR		LR				
	comp=Z,102µm,20.0s									
MIR	**Mirnyy**	**71.05**	**197**	*e*P		P		03 27 53.0	+7.9	
MIR				pmax		pmax				
	comp=Z,520nm,0.5s									
KBK	**Karagaybulak**	**71.07**	**317**	P		**P**		**03 27 45.9**	**-0.1**	
	SNR=22									
SFK	**Sufi-Kurgan**	**71.16**	**314**	P		**P**		**03 27 46.9**	**+0.3**	
SFK				pmax		pmax				
	comp=Z,645nm,1.5s									
UCH	**Uchtor**	**71.22**	**316**	P		**P**		**03 27 46.6**	**-0.7**	
	SNR=85									
CHMS	**Chumysh**	**71.33**	**317**	P		**P**		**03 27 50.2**	**+2.8**	
	SNR=26									
NIKH	**Nikolski High**	**71.34**	**31**	*e*P		**P**		**03 27 45.3**	**-1.8**	
	comp=Z,4µm,2.2s									
FRU	**Bishkek**	**71.36**	**317**	*i* P		**P**		**03 27 47.0**	**-0.6**	
FRU				*i*				03 27 55.0		
FRU				*e*				03 37 07.0		
FRU				pmax		pmax				
	comp=Z,340nm,1.8s									
FRU				smax		smax				
	comp=N,26µm,6.0s									
AAK	**Ala-Archa**	**71.38**	**317**	P		P		03 27 51.2	+3.4	
	SNR=32									
AAK	**Ala-Archa**	**71.38**	**317**	*e*P		**P**		**03 27 48.3**	**+0.5**	
AAK				pmax		pmax				
	comp=Z,5µm,2.8s									
AAK				MLR		MLR				
	comp=Z,138µm,21.0s									
AAK	**Ala-Archa**	**71.38**	**317**	*e*P		**P**		**03 27 48.2**	**+0.5**	
	comp=Z,5µm,2.8s									
AAK				LR		LR				
	comp=Z,138µm,21.0s									
USP	**Ospenovka**	**71.60**	**317**	P		**P**		**03 27 47.6**	**-1.4**	
	SNR=82									
NVS	**Novosibirsk**	**71.71**	**331**⇑	*i* P		**P**		**03 27 47.8**	**-1.5**	
NVS				*i* S		**S**		**03 37 11.5**	**+3.6**	
NVS				pmax		pmax				
	comp=Z,2µm,2.2s									
NVS				pmax		pmax				
	comp=N,962nm,2.0s									
NVS				pmax		pmax				
	comp=E,1µm,2.1s									
NVS				smax		smax				
	comp=N,1µm,3.9s									
NVS				smax		smax				
	comp=E,2µm,3.7s									
AML	**Almayashu**	**71.75**	**316**	P		**P**		**03 27 49.3**	**-1.0**	
	SNR=80									
EKS2	**Erkin-Say**	**71.88**	**316**	P		**P**		**03 27 50.1**	**-0.7**	
	SNR=77									
EKS2	**Erkin-Say**	**71.88**	**316**	*e*P		**P**		**03 27 51.2**	**+0.4**	
EKS2				pmax		pmax				
	comp=Z,3µm,2.0s									
EKS2				MLR		MLR				
	comp=Z,115µm,21.0s									
EKS2	**Erkin-Say**	**71.88**	**316**	*e*P		**P**		**03 27 51.2**	**+0.4**	
	comp=Z,3µm,2.0s									
EKS2				LR		LR				
	comp=Z,115µm,21.0s									
KURK	**Kurchatov**	**72.09**	**326**	*e*P		**P**		**03 27 51.1**	**-0.6**	
KURK				*e*				03 30 30.3		
KURK				pmax		pmax				
	comp=Z,677nm,1.1s									
KURK				MLR		MLR				
	comp=Z,59µm,19.0s									
KURK	**Kurchatov**	**72.09**	**326**	*e*P		**P**		**03 27 51.0**	**-0.6**	
	comp=Z,677nm,1.1s									
KURK				*e*PP		**PP**		**03 30 30.2**	**-1.8**	
KURK				LR		LR				
	comp=Z,59µm,19.0s									
KURBB	**Kurchatov Arra**	**72.10**	**325**	P		**P**		**03 27 51.0**	**-0.8**	
	comp=Z,309nm,1.2s,baz=121,slow=4.3,SNR=84									
SPIA	**Saint Paul Isl**	**72.89**	**27**	*e*P		**P**		**03 27 55.3**	**-1.0**	
	comp=Z,2µm,1.4s									
SPIA				LR		LR				
	comp=Z,113µm,22.0s									
KBL	**Kabul**	**72.93**	**307**	*e*P		**P**		**03 27 56.1**	**-1.3**	
KBL				pmax		pmax				
	comp=Z,2µm,1.9s									
KBL				MLR		MLR				
	comp=Z,79µm,22.0s									
KBL	**Kabul**	**72.93**	**307**	*e*P		**P**		**03 27 56.1**	**-1.3**	
	comp=Z,2µm,1.9s									
KBL				LR		LR				
	comp=Z,79µm,22.0s									
UNV	**Unalaska Valle**	**72.99**	**31**	*e*P		**P**		**03 27 57.3**	**+0.3**	
	comp=Z,788nm,1.0s									
UNV				LR		LR				
	comp=Z,48µm,21.0s									
BILL	**Bilibino**	**73.07**	**11**	*e*P		**P**		**03 27 57.5**	**+0.3**	
BILL				*i*				03 28 12.9		
BILL				*i*				03 30 36.9		
BILL				*e*PPP		PPP		03 32 32.5		
BILL				pmax		pmax				
	comp=Z,304nm,1.7s									
BILL				MLR		MLR				
	comp=Z,42µm,20.0s									
BILL	**Bilibino**	**73.07**	**11**	*e*P		**P**		**03 27 57.2**	**0.0**	
PAF	**Port-aux-Franc**	**73.10**	**219**	R				03 27 00.0		
PAF	**Port-aux-Franc**	**73.10**	**219**	S		S		03 37 18.0	-6.0	
PAF				L		L		03 46 00.0		
PAF				R				03 50 00.0		
AKUT	**Akutan**	**73.51**	**31**	*e*P		**P**		**03 27 59.0**	**-1.1**	
	comp=Z,8µm,2.3s									
TIXI	**Tiksi**	**73.89**	**357**	*ce*P		**P**		**03 28 00.6**	**-1.3**	
TIXI				pmax		pmax				
	comp=Z,88nm,1.0s									
TIXI				MLR		MLR				
	comp=Z,88µm,18.0s									
TIXI	**Tiksi**	**73.89**	**357**	*e*P		**P**		**03 28 01.1**	**-0.8**	
	comp=Z,5µm,2.9s									
TIXI				LR		LR				
	comp=Z,255µm,20.0s									
PPT	**Papeete**	**73.93**	**108**	P		P		03 28 06.7	+3.4	
	comp=Z,54nm,1.0s,baz=287,slow=0.2,SNR=5.6									
PPT				LR		LR		04 00 39.8		
	comp=Z,11µm,18.4s,baz=267,slow=36									
PPT	**Papeete**	**73.93**	**108**	*e*P		**P**		**03 28 02.3**	**-1.0**	
PPT	**Papeete**	**73.93**	**108**	*e*P		**P**		**03 28 02.3**	**-1.0**	
PPT2	**Papeete2**	**73.93**	**108**	*e*P		**P**		**03 28 03.3**	**-0.1**	
	comp=Z,284nm,1.2s									
PPT2				*e*S		**S**		**03 37 33.9**	**-0.9**	
	comp=Z,104µm,30.0s									
PPT2	**Papeete2**	**73.93**	**108**	*e*LQ		LQ		03 47 41.8		
	comp=Z,484µm,39.5s									
PPT2				*e*LR		LR		03 50 51.4		
	comp=Z,174µm,27.0s									
PAE	**Paea**	**73.93**	**108**	*e*P		**P**		**03 28 03.0**	**-0.3**	
	comp=Z,60nm,1.3s									
TIAR	**Tiarei**	**74.15**	**108**	*e*P		**P**		**03 28 04.6**	**0.0**	
	comp=Z,202nm,1.6s									
DZET	**Dzherino**	**74.24**	**311**	P		**P**		**03 28 04.8**	**0.0**	
DZET				pmax		pmax				
	comp=Z,616nm,1.5s									
TVO	**Taravao**	**74.25**	**108**	*e*P		**P**		**03 28 05.3**	**+0.1**	
	comp=Z,57nm,0.9s									
KK31	**Karatay Array**	**74.29**	**316**	P		P		03 28 01.5	-3.4	
KK31				pmax		pmax				
	comp=Z,493nm,1.5s									
KKAR	**Karatay Array**	**74.29**	**316**	*e*P		**P**		**03 28 04.4**	**-0.5**	
KKAR	**Karatay Array**	**74.29**	**316**	*e*P		**P**		**03 28 04.4**	**-0.5**	
TBI	**Tubuai**	**74.40**	**114**	*e*P		**P**		**03 28 05.9**	**0.0**	
	comp=Z,850nm,1.2s									
TBI				*e*S		**SKiKP**		**03 37 35.7**	**+3.8**	
	comp=Z,87µm,28.2s									
TBI				*e*SS		**SS**		**03 42 23.5**	**-2.8**	
	comp=Z,59µm,31.5s									
TBI				*e*LQ		LQ		03 47 57.2		
	comp=Z,149µm,39.0s									
TBI				*e*LR		LR		03 51 03.0		
	comp=Z,257µm,39.5s,baz=283									
FALS	**False Pass**	**75.06**	**31**	*e*P		**P**		**03 28 09.3**	**+0.2**	
MEH	**Mehetia**	**75.38**	**108**	*e*P		**P**		**03 28 11.1**	**-0.6**	
	comp=Z,70nm,1.3s									
PMOR	**Pomariorio Ree**	**75.45**	**105**	*e*P		**P**		**03 28 12.0**	**-0.1**	
	comp=Z,653nm,1.3s									
VAH	**Vaihoa**	**75.71**	**105**	*e*P		**P**		**03 28 13.1**	**-0.5**	
	comp=Z,266nm,1.4s									
GAMB	**Gambell**	**76.06**	**21**	*e*P		**P**		**03 28 15.5**	**+0.9**	
	comp=Z,7µm,3.0s									
GAMB				LR		LR				
	comp=Z,75µm,22.0s									
VNDA	**Vanda**	**76.48**	**175**	P		**P**		**03 28 15.7**	**-1.0**	
	comp=Z,16nm,0.6s,baz=331,slow=6.4,SNR=23									
VNDA				PKKPbc		**PKKPbc**		**03 47 31.6**	**-0.9**	
	comp=Z,1.1nm,0.8s,baz=289,slow=2.3,SNR=4.3									
VNDA				PKP2bc				03 55 26.0		
	comp=Z,2.8nm,1.1s,baz=178,slow=2.7,SNR=3.6									
VNDA				LR		LR		04 02 04.4		
	comp=Z,287µm,18.9s,baz=344,slow=36									
VNDA	**Vanda**	**76.48**	**175**	*e*P		**P**		**03 28 15.8**	**-1.0**	
VNDA				pmax		pmax				
	comp=Z,511nm,1.4s									
VNDA	**Vanda**	**76.48**	**175**	*e*P		**P**		**03 28 15.8**	**-1.0**	
	comp=Z,511nm,1.4s									
VNDA				*e*PKKPbc		**PKKPbc**		**03 47 31.6**	**-0.9**	
SBA	**Scott Base**	**77.27**	**174**	PFAKE				03 28 30.0	+8.7	
SBA				LR		LR				
	comp=Z,170µm,19.0s									
BVA0	**Borovoye Array**	**77.69**	**326**	*i* P		**P**		**03 28 21.4**	**-2.7**	
BVA0				pmax		pmax				
	comp=Z,776nm,1.5s									
BVAR	**Borovoye Array**	**77.69**	**326**	P		**P**		**03 28 22.8**	**-1.3**	
	comp=Z,176nm,1.2s,baz=118,slow=7.1,SNR=29									
BVAR	**Borovoye Array**	**77.69**	**326**	P		**P**		**03 28 22.8**	**-1.3**	
BVAR				pmax		pmax				
	comp=Z,320nm,1.1s									
BRVK	**Borovoye**	**77.76**	**326**	P		**P**		**03 28 24.3**	**-0.2**	
	comp=Z,2µm,1.3s,SNR=22									
BRVK	**Borovoye**	**77.76**	**326**	*ce*P		**P**		**03 28 23.8**	**-0.6**	
BRVK				pmax		pmax				
	comp=Z,724nm,1.7s									
BRVK				MLR		MLR				
	comp=Z,77µm,19.0s									
BRVK	**Borovoye**	**77.76**	**326**	P		**P**		**03 28 24.1**	**-0.3**	
	SNR=150									
BRVK	**Borovoye**	**77.76**	**326**	*e*P		**P**		**03 28 23.9**	**-0.6**	
	comp=Z,4µm,2.4s									
BRVK				LR		LR				
	comp=Z,79µm,20.0s									
TNA	**Tin City**	**78.42**	**20**	*e*P		**P**		**03 28 27.0**	**-0.8**	
	comp=Z,2µm,2.5s									
TNA				LR		LR				
	comp=Z,48µm,18.0s									
MRIV	**Mauritius Mete**	**79.01**	**250**	*e*P		P		03 28 28.7	-3.3	
WBK	**Wadi Bani Khal**	**79.43**	**293**	P		P		03 28 38.0	+3.6	
	SNR=48									
JMDO	**Jabal Madar**	**80.20**	**293**	P		**P**		**03 28 41.2**	**+2.7**	
	SNR=28									
SMDO	**Samad**	**80.33**	**294**	P		**P**		**03 28 42.0**	**+2.7**	
	SNR=62									
IMYA	**Miami**	**80.44**	**307**	*e*P		**P**		**03 28 39.1**	**-0.6**	
ISRO	**Mashad**	**80.94**	**307**	*e*P		**P**		**03 28 42.5**	**+0.1**	
MSEY	**Mahe Island**	**80.97**	**266**	P		P		03 28 48.0	+5.2	
	SNR=8.0									
MSEY	**Mahe Island**	**80.97**	**266**⇓	*i* P		**P**		**03 28 44.2**	**+1.4**	
	SNR=7.0									
MSEY	**Mahe Island**	**80.97**	**266**	PFAKE				03 28 50.0	+7.2	
MSEY				LR		LR				
	comp=Z,48µm,18.0s									
IMOG	**Moghan**	**81.01**	**307**	*e*P		**P**		**03 28 44.7**	**+1.8**	
HOQ	**Hoqain**	**81.06**	**294**	P		**P**		**03 28 41.9**	**-1.2**	
	SNR=158									
BSY	**Bisya**	**81.07**	**293**	P		**P**		**03 28 46.4**	**+3.2**	
	SNR=43									
IPAY	**Payeh**	**81.34**	**307**	*e*P		**P**		**03 28 46.5**	**+1.9**	
IAKL	**Akhelmad**	**81.56**	**307**	*e*P		**P**		**03 28 46.1**	**+0.3**	
KDAK	**Kodiak Island**	**81.75**	**31**	P		**P**		**03 28 45.3**	**-0.7**	
	comp=Z,3µm,1.2s,SNR=13									
KDAK	**Kodiak Island**	**81.75**	**31**	*e*P		**P**		**03 28 45.2**	**-0.7**	
KDAK				pmax		pmax				
	comp=Z,4µm,2.1s									
KDAK				MLR		MLR				
	comp=Z,79µm,21.0s									
KDAK	**Kodiak Island**	**81.75**	**31**	*e*P		**P**		**03 28 45.2**	**-0.8**	
	comp=Z,4µm,2.1s									
KDAK				LR		LR				
	comp=Z,79µm,21.0s									
ARQ	**Araqi**	**81.75**	**294**	P		P		03 28 50.1	+3.3	
	SNR=60									
IKRD	**Kardeh**	**81.78**	**307**	*e*P		P		03 28 43.1	-3.8	
MAW	**Mawson**	**81.80**	**202**	P		**P**		**03 28 45.3**	**-0.7**	
	comp=Z,24nm,0.8s,baz=79,slow=6.2,SNR=12									
MAW				PKKPbc		**PKKPbc**		**03 47 18.8**	**-1.5**	
	comp=Z,17nm,1.1s,baz=269,slow=7.3,SNR=4.5									
MAW				PKPPKP		**P'P'df**		**03 55 22.6**	**+0.3**	
	comp=Z,3.1nm,0.8s,baz=247,slow=7.7,SNR=3.2									
MAW				LR		LR		04 02 43.6		
	comp=Z,171µm,21.0s,baz=66,slow=34									
MAW	**Mawson**	**81.80**	**202**	*e*P		**P**		**03 28 44.1**	**-1.9**	
MAW	**Mawson**	**81.80**	**202**	*e*P		**P**		**03 28 44.1**	**-1.9**	
MAW				*e*PcP		PcP		03 28 44.3	-7.4	
SHAO	**Shalim**	**82.09**	**288**	P		P		03 28 52.1	+3.5	
	SNR=8.0									
UOSS	**Wadi Hilu**	**82.21**	**295**	P		**P**		**03 28 49.5**	**+0.4**	
	comp=Z,756nm,1.2s,SNR=13									
ISFR	**Sfrayin**	**82.22**	**308**	*e*P		**P**		**03 28 47.9**	**-1.4**	
BANOM	**Banah**	**82.23**	**296**	P		P		03 28 53.1	+3.8	
	SNR=52									
BANOM	**Banah**	**82.23**	**296**	⇑P		**P**		**03 28 50.4**	**+1.1**	
HATD	**Hatta, Dubai**	**82.26**	**295**	⇓P		**P**		**03 28 50.7**	**+1.3**	
ASHO	**Ashiyiah**	**82.31**	**295**	P		**P**		**03 28 50.4**	**+0.6**	
	SNR=57									
ASHO	**Ashiyiah**	**82.31**	**295**	*i* P		**P**		**03 28 52.0**	**+2.2**	
	SNR=32									
ISHV	**Shirvan**	**82.53**	**308**	*e*P		**P**		**03 28 51.7**	**+0.9**	
NAZ	**Nazwa, Dubai**	**82.70**	**295**	⇓P		**P**		**03 28 52.3**	**+0.6**	
FAQ	**Al Faqa, Dubai**	**82.74**	**295**	⇑*i*P		**P**		**03 28 52.6**	**+0.7**	
	SNR=20									
AB31	**Akbulak array**	**82.97**	**320**	*i* P		P		03 28 48.7	-3.8	
AB31				pmax		pmax				
	comp=Z,227nm,1.1s									
ASUD	**Al Ashush, Dub**	**82.97**	**295**⇑	*i*P		**P**		**03 28 54.5**	**+1.4**	
	SNR=19									
TAOE	**Nuku Hiva Isla**	**83.01**	**99**	*e*S		**S**		**03 39 09.9**	**-2.5**	
	comp=Z,66µm,34.4s									
TAOE	**Nuku Hiva Isla**	**83.01**	**99**	*e*LQ		LQ		03 51 16.8		
	comp=Z,150µm,37.3s									
TAOE				*e*LR		LR		03 54 46.2		
	comp=Z,57µm,24.8s,baz=277									
SPU	**Mount Spurr**	**83.03**	**28**	*e*P		**P**		**03 28 52.5**	**-0.2**	
BRLK	**Bradley Lake**	**83.17**	**29**	PFAKE				03 29 00.0	+6.6	
BRLK				LR		LR				
	comp=Z,63µm,22.0s									
RBK	**Rabkut**	**83.40**	**288**	P		**P**		**03 28 57.9**	**+2.4**	
	SNR=19									
PPLA	**Purkeypile**	**83.49**	**26**	PFAKE				03 29 10.0	+15	
PPLA				LR		LR				
	comp=Z,78µm,22.0s									
SEW	**Seward**	**83.96**	**29**	PFAKE				03 29 10.0	+13	
SEW				LR		LR				
	comp=Z,43µm,21.0s									
RC01	**Rabbit Creek A**	**84.08**	**28**	*e*P		**P**		**03 28 57.5**	**-0.5**	
	comp=Z,265nm,0.9s									
RC01				LR		LR				
	comp=Z,103µm,20.0s									
SVE	**Sverdlovsk**	**84.18**	**328**	*de*P		**P**		**03 28 57.7**	**-0.9**	
SVE				*e*				03 32 17.4		
SVE				*e*				03 34 09.8		
SVE				*e*S		**S**		**03 39 19.5**	**-2.8**	
SVE				*e*				03 44 54.4		
SVE				*e*SSS		SSS		03 48 18.7		
SVE				pmax		pmax				
	comp=Z,1µm,2.3s									
SVE				pmax		pmax				
	comp=Z,8µm,11.1s									
SVE				smax		smax				
	comp=N,28µm,15.7s									
SVE				smax		smax				
	comp=E,20µm,13.2s									
SVE				MLR		MLR				
	comp=Z,64µm,20.0s									
ABTO	**Aybut**	**84.25**	**288**	P		P		03 29 03.6	+3.7	
	SNR=22									
BPAW	**Bear Paw Mtn.**	**84.36**	**25**	*e*P		**P**		**03 28 57.4**	**-2.0**	
	comp=Z,525nm,2.4s									
AKTO	**Aktyubinsk**	**84.42**	**321**	P		**P**		**03 28 59.5**	**-0.4**	
	comp=Z,200nm,1.2s,baz=82,slow=6.9,SNR=50									
TRF	**Thorofare Moun**	**84.48**	**26**	*e*P		**P**		**03 28 59.6**	**-0.6**	
	comp=Z,218nm,1.1s									
TRF				LR		LR				
	comp=Z,92µm,22.0s									
PMR	**Palmer**	**84.50**	**28**	*e*P		**P**		**03 28 58.2**	**-1.9**	
PMR	**Palmer**	**84.50**	**28**	*e*P		**P**		**03 28 58.2**	**-1.9**	
MLY	**Manley**	**84.74**	**24**	*e*P		**P**		**03 29 01.4**	**0.0**	
	comp=Z,3µm,2.2s									
MLY				LR		LR				
	comp=Z,107µm,22.0s									
CRZF	**Crozet Islands**	**84.77**	**224**	P		P		03 28 53.0	-8.8	
CRZF	**Crozet Islands**	**84.77**	**224**	S		S		03 39 10.0	-19	
CRZF				L		L		03 51 00.0		
CRZF				R				03 56 00.0		
BWN	**Browne**	**85.03**	**25**	*e*P		**P**		**03 29 01.1**	**-1.6**	
	comp=Z,982nm,1.1s									
BWN				LR		LR				
	comp=Z,95µm,22.0s									
RND	**Reindeer**	**85.09**	**26**	*e*P		**P**		**03 29 02.4**	**-0.8**	
RND				pmax		pmax				
	comp=Z,3µm,2.2s									
RND				MLR		MLR				
	comp=Z,106µm,22.0s									
RND	**Reindeer**	**85.09**	**26**	*e*P		**P**		**03 29 02.4**	**-0.8**	
	comp=Z,3µm,2.2s									
RND				LR		LR				
	comp=Z,106µm,22.0s									
MCK	**McKinley**	**85.14**	**25**	*e*P		**P**		**03 29 01.3**	**-2.0**	
MCK				pmax		pmax				
	comp=Z,5µm,2.5s									
MCK				MLR		MLR				
	comp=Z,90µm,22.0s									
MCK	**McKinley**	**85.14**	**25**	*e*P		**P**		**03 29 01.3**	**-2.0**	
	comp=Z,5µm,2.5s									
MCK				LR		LR				
	comp=Z,90µm,22.0s									
ARU

comp=Z,82µm,21.0s
IFIR Firoozkooh 86.26 306 *e*P **P 03 29 11.0 +1.1**
IL1 Eielson Array 86.26 25 *e*P **P 03 29 06.5 -2.4**
ILAR Eielson Array 86.26 25 P **P 03 29 06.2 -2.6**
comp=Z,13nm,0.8s,baz=269,slow=4.4,SNR=56
ILAR PKKPbc **PKKPbc 03 47 09.8 -0.1**
comp=Z,1.3nm,0.8s,baz=329,slow=1.2,SNR=5.6
ILAR PKPPKP **P'P'df 03 55 14.7 +1.3**
comp=Z,1.1nm,1.0s,baz=134,slow=2.6,SNR=4.1
ILAR LR LR 04 02 22.5
comp=Z,86µm,21.9s,baz=277,slow=32
ILB Eielson Array 86.26 25 *e*P **P 03 29 06.2 -2.6**
ILB *e*PKKPbc **PKKPbc 03 47 09.8 -0.1**
RAGM Ragged Mountai 86.34 29 *e*P P 03 29 06.2 -3.2
comp=Z,6µm,2.8s
RAGM LR LR
comp=Z,76µm,20.0s
IZEF Zefreh 86.36 303 *e*P **P 03 29 11.4 +1.0**
PAX Paxson 86.48 27 *e*P **P 03 29 09.4 -0.7**
PAX pmax pmax
comp=Z,3µm,2.3s
PAX MLR MLR
comp=Z,96µm,22.0s
PAX Paxson 86.48 27 *e*P **P 03 29 09.4 -0.7**
comp=Z,3µm,2.3s
PAX LR LR
comp=Z,96µm,22.0s
BMRM Bremner River 86.49 29 *e*P **P 03 29 08.6 -1.6**
comp=Z,477nm,1.2s
BMRM LR LR
comp=Z,92µm,22.0s
IKAZ Kazeroun 86.52 300 *e*P **P 03 29 10.9 -0.5**
IDMV Damavand 86.84 306 *e*P **P 03 29 11.8 -0.9**
IKLH Kolahrood 87.02 303 *e*P **P 03 29 13.8 +0.2**
IVRN Varamin 87.04 305 *e*P **P 03 29 13.2 -0.3**
IAFJ Afjeh 87.12 306 *e*P **P 03 29 15.6 +1.4**
DOT Dot Lake 87.23 26 PFAKE 03 29 20.0 +6.3
DOT LR LR
comp=Z,900nm,21.0s
FYU Fort Yukon 87.31 23 *e*P **P 03 29 13.8 -0.1**
comp=Z,3µm,1.4s
FYU LR LR
comp=Z,79µm,22.0s
IPIR Pirpir 87.55 303 *e*P **P 03 29 14.9 -1.4**
IR3 Iran Long-Peri 87.65 305 *e*P P 03 29 12.2 -4.2
RKT Rikitea 87.71 113 *e*P **P 03 29 15.6 -1.2**
comp=Z,179nm,1.2s
RKT Rikitea 87.71 113 *e*S S 03 39 52.0 -6.3
comp=Z,20µm,28.2s
RKT *e*SS **SS 03 45 45.1 +0.1**
comp=Z,21µm,33.8s
RKT *e*LQ LQ 03 52 56.2
comp=Z,75µm,37.5s
RKT *e*LR LR 03 57 05.0
comp=Z,223µm,39.5s
QSPA South Pole Qui 87.74 180 PKKPbc PKKPbc 03 47 07.2 +0.2
comp=Z,3.9nm,0.9s,baz=119,slow=6.3,SNR=4.6
QSPA South Pole Qui 87.74 180 *e*PKKPbc PKKPbc 03 47 07.2 +0.2
QSPA LR LR
comp=Z,363µm,21.0s
IMHD Mahdasht 87.95 306 *e*P P 03 29 22.1 +4.2
MUKL Al Mukalla 88.17 284 *e*P **P 03 29 21.3 +2.2**
IGZV Ghazvin 88.37 306 *e*P P 03 29 23.7 +3.7
IRAZ Razeghan 88.53 305 *e*P **P 03 29 22.5 +1.7**
EGAK Eagle 88.67 25 *e*P **P 03 29 18.6 -1.8**
comp=Z,5µm,2.8s
EGAK LR LR
comp=Z,78µm,22.0s
ABPO Ambohimpanom 88.69 251 *e*P P 03 29 18.1 -3.7
ABPO pmax pmax
comp=Z,1µm,2.8s
ABPO MLR MLR
comp=Z,28µm,21.0s
ABPO Ambohimpanom 88.69 251 *e*P P 03 29 18.1 -3.7
comp=Z,1µm,2.8s
ABPO LR LR
comp=Z,28µm,21.0s
DAWY Dawson 89.34 26 *e*P **P 03 29 23.1 -0.6**
SYO Syowa Base 90.47 201⇑*e*P **P 03 29 26.0 -2.8**
MAK Makhachkala 90.81 313 *e*P P 03 29 34.6 +3.7
MAK *e* 03 33 05.9
MAK *e*PPP PPP 03 35 06.8
MAK *e*SS SS 03 46 33.6 +4.4
MAK pmax pmax
comp=Z,272nm,1.3s
MAK pmax pmax
comp=Z,9µm,9.8s
MAK pmax pmax
comp=N,270nm,1.8s
MAK pmax pmax
comp=E,303nm,1.4s
IHRS Heris 90.99 308 *e*P **P 03 29 33.1 +0.8**
IBST Bostanabad 91.09 308 *e*P P 03 29 36.0 +3.3
BESE Bessie Mountai 91.11 32 *e*P P 03 29 35.6 +3.6
comp=E,244nm,1.4s
BESE LR LR
comp=Z,20µm,20.0s
ITBZ Tabriz 91.69 308 *e*P P 03 29 43.5 +8.1
IAZR Azarshahr 91.81 307 *e*P **P 03 29 38.2 +2.1**
RAYN Ar Rayn 91.86 293 P **P 03 29 37.6 +1.3**
comp=Z,522nm,1.6s,SNR=11
RAYN Ar Rayn 91.86 293 *e*P **P 03 29 35.0 -1.3**
comp=Z,120nm,1.3s
RAYN LR LR
comp=Z,52µm,21.0s
INK Inuvik 91.99 22 PKKPbc PKKPbc 03 46 56.5 +0.8
comp=Z,4.0nm,0.3s,baz=300,slow=2.2,SNR=2.3
INK LR LR 04 09 37.3
comp=Z,25µm,20.4s,baz=258,slow=35
INK Inuvik 91.99 22 *e*P **P 03 29 33.8 -2.1**
INK pmax pmax
comp=Z,190nm,1.2s
INK MLR MLR
comp=Z,48µm,22.0s
INK Inuvik 91.99 22 *e*P **P 03 29 33.8 -2.1**
comp=Z,190nm,1.2s
INK LR LR
comp=Z,48µm,22.0s
IMRD Marand 92.05 308 *e*P **P 03 29 39.3 +2.2**
PTCN Pitcairn Islan 92.08 115 PFAKE 03 29 50.0 +13
PTCN LR LR
comp=Z,26µm,22.0s
H02N1 VAN INLET T-PH 92.27 37 T T 05 11 37.9
SNR=42
H02S1 DAWSON INLET T 92.31 37 T T 05 11 43.8
SNR=19
DGRG David-gareji 92.36 311 P **P 03 29 40.6 +2.4**
DGRG David-gareji 92.36 311 P **P 03 29 40.6 +2.4**
WRAK Wrangell Islan 92.41 34 *e*P **P 03 29 38.8 +0.8**
comp=Z,659nm,1.8s
WRAK LR LR
comp=Z,49µm,21.0s
DAMY Dhamar 92.67 284 *e*P **P 03 29 39.3 -1.2**
comp=Z,289nm,1.3s
DAMY LR LR
comp=Z,25µm,21.0s
GNI Garni 92.82 310 P **P 03 29 40.9 +0.4**
comp=Z,1.8nm,0.3s,baz=180,slow=11,SNR=6.8
GNI LR LR 04 15 23.7
comp=Z,27µm,22.0s,baz=102,slow=38
GNI Garni 92.82 310⇓*i*P **P 03 29 42.7 +2.1**
GNI pmax pmax
comp=Z,59nm,1.7s
GNI MLR MLR
comp=Z,53µm,25.0s
GNI Garni 92.82 310 P **P 03 29 43.7 +3.2**
SNR=15
GNI Garni 92.82 310⇑P **P 03 29 41.6 +1.0**
GNI Garni 92.82 310 *e*P **P 03 29 39.3 -1.3**
comp=Z,304nm,1.6s
GNI LR LR
comp=Z,28µm,19.0s
TBLG Delisi 92.83 311 P **P 03 29 42.0 +1.6**
TBLG Delisi 92.83 311 P **P 03 29 42.0 +1.6**
CLDR Caldiran 93.45 309 *e*P P 03 29 46.9 +3.3
ZEI Tsey 93.46 313 *e*P **P 03 29 43.2 -0.3**
ZEI pmax pmax
comp=Z,116nm,1.3s
DLBC Dease Lake 93.64 32 P **P 03 29 44.4 +0.6**
comp=Z,142nm,1.3s,baz=282,slow=2.9
DLBC LR LR 04 07 51.3
comp=Z,25µm,22.0s,baz=304,slow=33
DLBC Dease Lake 93.64 32 PFAKE 03 29 50.0 +6.2
DLBC LR LR
comp=Z,58µm,21.0s
CUKT Cukurca 93.70 307 *e*P **P 03 29 43.7 -0.9**
ONI Oni 93.79 312 P **P 03 29 46.8 +1.9**
ONI Oni 93.79 312 P **P 03 29 46.8 +1.9**
GOF Gofitskoye 94.06 315⇑*i*P **P 03 29 47.0 +1.1**
GOF pmax pmax
comp=Z,50nm,1.1s
AGRB Hanur-Agry 94.17 309 *e*P P 03 29 50.4 +3.6
KBZ Khabaz 94.18 314 P **P 03 29 46.3 -0.2**
comp=Z,6.9nm,1.0s,baz=19,slow=3.7,SNR=10.0
KBZ LR LR 04 17 06.5
comp=Z,23µm,19.8s,baz=80,slow=39
KIV Kislovodsk 94.33 314 *e*P P 03 29 51.8 +4.5
KIV Kislovodsk 94.33 314 P P 03 29 54.6 +7.3
comp=Z,219nm,1.3s,SNR=5.5
KIV Kislovodsk 94.33 314 *e*P **P 03 29 48.8 +1.5**
KIV *e* 03 33 37.1
KIV *e* 03 40 21.1
KIV pmax pmax
comp=Z,430nm,6.1s
KIV MLR MLR
comp=Z,31µm,20.0s
KIV Kislovodsk 94.33 314 P P 03 29 58.3 +11
SNR=9.3
KIV Kislovodsk 94.33 314⇑P **P 03 29 48.9 +1.6**
KIV Kislovodsk 94.33 314 *e*P **P 03 29 44.2 -3.1**
comp=Z,105nm,1.3s
VRHR Novokhopersk 94.83 321 *e*P **P 03 29 50.1 +0.8**
VRHR *e* 03 33 45.2
VRHR pmax pmax
comp=Z,210nm,1.4s
VRHR pmax pmax
comp=N,30nm,1.3s
VRHR pmax pmax
comp=E,220nm,1.3s
VRHR pmax pmax
comp=Z,270nm,1.9s
VRHR pmax pmax
comp=N,190nm,1.6s
VRHR pmax pmax
comp=E,410nm,1.4s
BBB Bella Bella 94.99 38 LR LR 04 06 15.8
comp=E,37µm,20.6s,baz=272,slow=32
BCA Borcka 95.17 311 *e*P **P 03 29 50.1 -1.1**
VRTB Varto-Mus 95.36 309 *e*P **P 03 29 54.9 +2.6**
SVAN Silvan-Diyarba 95.59 308 *e*P P 03 29 59.6 +6.4
TMCR Tamitsa 95.71 334 *e*P **P 03 29 54.2 +1.2**
TMCR *e* 03 33 44.4
TMCR pmax pmax
comp=Z,196nm,1.4s
BNGB Bing¶l 95.97 309 *e*P P 03 29 59.6 +4.6
VOR Voronezh 96.30 322 P P 03 29 52.0 -4.0
VOR pmax pmax
comp=Z,380nm,2.1s
VORD Divnogorie 96.30 321 *e*P **P 03 29 56.9 +0.9**
VORD *e* 03 33 52.2
VORD pmax pmax
comp=Z,120nm,1.2s
VORD pmax pmax
comp=N,100nm,0.8s
VORD pmax pmax
comp=E,100nm,0.8s
VORD pmax pmax
comp=Z,170nm,1.6s
VORD pmax pmax
comp=N,350nm,3.0s
VORD pmax pmax
comp=E,310nm,2.0s
VORD MLR MLR
comp=Z,56µm,24.0s
VORD MLR MLR
comp=N,18µm,14.0s
VORD MLR MLR
comp=E,38µm,23.0s
BAYT Ayd¯ntepe-Bay 96.33 310 *e*P **P 03 29 58.0 +1.4**
VSR Storozhevoye 96.36 321 *e*P **P 03 29 57.0 +0.7**
VSR *e* 03 33 56.2
VSR pmax pmax
comp=Z,140nm,1.2s
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,100nm,1.1s
VSR pmax pmax
comp=Z,400nm,2.3s
VSR pmax pmax
comp=N,120nm,2.6s
VSR pmax pmax
comp=E,240nm,1.5s
VSR MLR MLR
comp=Z,49µm,20.0s
VSR MLR MLR
comp=N,28µm,21.0s
VSR MLR MLR
comp=E,14µm,18.0s
LPSR Galich'ya Gora 96.40 323 *e*P **P 03 29 57.8 +1.4**
LPSR *e* 03 33 57.5
LPSR pmax pmax
comp=N,20nm,1.1s
LPSR pmax pmax
comp=Z,170nm,1.1s
LPSR pmax pmax
comp=E,170nm,1.8s
LPSR pmax pmax
comp=N,100nm,1.9s
LPSR pmax pmax
comp=Z,250nm,1.9s
LPSR pmax pmax
comp=E,350nm,2.1s
LPSR MLR MLR
comp=N,26µm,19.0s
LPSR MLR MLR
comp=Z,23µm,19.0s
LPSR MLR MLR
comp=E,18µm,16.0s
DYBB Diyarbakir 96.44 308 *e*P **P 03 29 59.6 +2.6**
SOC Sochi 96.49 313 *e*P **P 03 29 57.3 +0.2**
SOC *e* 03 33 50.3
SOC *e*PS **PS 03 42 42.1 +2.6**
SOC *e*SS SS 03 47 50.5 +0.1
SOC pmax pmax
comp=Z,70nm,1.4s
SOC MLR MLR
comp=Z,39µm,23.0s
LVZ Lovozero 96.52 338 P **P 03 29 57.0 +0.3**
comp=Z,333nm,1.1s,SNR=7.4
LVZ Lovozero 96.52 338*c e*P **P 03 29 58.0 +1.3**
LVZ pmax pmax
comp=Z,93nm,1.6s
LVZ MLR MLR
comp=Z,67µm,23.0s
LVZ Lovozero 96.52 338 *e*P **P 03 29 54.3 -2.4**
comp=Z,174nm,1.5s
LVZ LR LR
comp=Z,62µm,18.0s
KTUT Trabzon 96.59 311 *e*P **P 03 29 58.0 +0.5**
ERZN Erzincan 96.69 309 *e*P **P 03 30 01.2 +3.0**
MOS Moscow 96.86 326 *e*P **P 03 29 58.5 +0.1**
MOS *e* 03 30 04.9
MOS *e* 03 33 55.0
MOS *e* 03 41 18.9
MOS *i* 03 42 42.4
MOS *i* SS SS 03 47 52.2 -2.7
MOS pmax pmax
comp=Z,400nm,1.6s
MOS pmax pmax
comp=Z,249nm,1.4s
MOS MLR MLR
comp=E,70µm,20.0s
MOS MLR MLR
comp=N,20µm,19.0s
MOS MLR MLR
comp=Z,90µm,19.0s
PTK Pertek 96.98 309 *e*P **P 03 30 01.2 +1.5**
APA Apatity 97.05 338 *e*P Pdif 03 30 00.0 +0.9
APA *i* 03 33 56.0
APA *i* S **S 03 41 16.0 -4.5**
APA pmax pmax
comp=Z,167nm,1.4s
APA MLR MLR
comp=Z,109µm,24.0s
HOPEN Hopen 97.09 347 *e*P **P 03 29 58.9 -0.1**
HOPEN *e*PP **PP 03 33 54.6 -0.2**
HOPEN IAMs_20 IAMs_20 04 15 44.4
comp=Z,126µm,18.4s
OBN Obninsk 97.53 325 P **P 03 29 59.9 -1.5**
comp=Z,176nm,1.2s,baz=28,slow=22,SNR=17
OBN PP **PP 03 33 55.4 -3.4**
comp=Z,28nm,0.9s,baz=120,slow=6.8,SNR=3.2
OBN Obninsk 97.53 325*de*P **P 03 29 59.4 -2.1**
OBN *i* 03 34 02.5
OBN pmax pmax
comp=Z,310nm,1.5s
OBN MLR MLR
comp=Z,68µm,22.0s
OBN Obninsk 97.53 325 P Pdif 03 30 02.2 +0.7
comp=Z,844nm,1.2s,SNR=15
OBN Obninsk 97.53 325 *e*P P 03 29 58.1 -3.4
comp=Z,278nm,1.2s
OBN *e*PP **PP 03 33 55.4 -3.4**
OBN LR LR
comp=Z,57µm,20.0s
ILIC ilic-Erzincan 97.59 309 *e*P Pdif 03 30 04.4 +2.0
MALT Malatya 97.77 308⇑P Pdif 03 30 05.2 +2.0
MALT Malatya 97.77 308*i*P Pdif 03 30 05.2 +2.0
ANN Anapa 98.05 315 *e*P P 03 29 52.7 -11
ANN pmax pmax
comp=Z,157nm,2.1s
ANN MLR MLR
comp=N,41µm,24.0s
ANN MLR MLR
comp=Z,30µm,24.0s
NLWA Neilton Lookou 98.08 43 *e*P **P 03 30 03.2 -1.0**
comp=Z,73nm,1.3s
NLWA LR LR
comp=Z,77µm,21.0s
SPA0 Spitsbergen Ar 98.11 350 *e* 03 23 18.9
SPA0 *e*P **P 03 30 02.2 -1.5**
SPA0 *e*PP **PP 03 34 01.6 -1.1**
SPA0 IAMs_20 IAMs_20 04 13 33.3
comp=Z,130µm,20.8s
SPITS Spitsbergen Ar 98.11 350 P **P 03 30 02.6 -1.1**
comp=Z,192nm,1.0s,baz=116,slow=11,SNR=47
SPITS LR LR 04 19 52.6
comp=Z,21µm,18.2s,baz=50,slow=39
SPITS Spitsbergen Ar 98.11 350 P **P 03 30 02.6 -1.1**
SPITS pmax pmax
comp=Z,193nm,1.0s
FURI Furi 98.15 279 PFAKE 03 30 20.0 +14
FURI LR LR
comp=Z,46µm,22.0s
KEBM Edson Butte 98.15 47 PFAKE 03 30 10.0 +5.3
KEBM LR LR
comp=Z,61µm,20.0s
PGC Sidney 98.23 41 PFAKE 03 30 20.0 +15
PGC LR LR
comp=Z,55µm,21.0s
KBO Bosley Butte 98.28 48 PFAKE 03 30 20.0 +15
KBO LR LR
comp=Z,42µm,19.0s
KBS Kingsbay 98.47 351 *e*P **P 03 30 03.9 -1.3**
KBS pmax pmax
comp=Z,104nm,1.3s
KBS MLR MLR
comp=Z,336µm,21.0s
KBS Kingsbay 98.47 351 *e*P **P 03 30 03.9 -1.3**
comp=Z,104nm,1.3s
KBS LR LR
comp=Z,336µm,21.0s
RSDY Resadiye-TOKAT 98.48 310 *e*P P 03 29 58.0 -8.1
DARE Darende-Malaty 98.49 309 *e*P Pdif 03 30 07.6 +1.2
G03D McMinnville, O 98.71 45⇓Pdiff **P 03 30 05.1 -1.9**
baz=99
COR Corvallis 98.75 45 PFAKE 03 30 20.0 +13
COR LR LR
comp=Z,52µm,20.0s
L02D Cave Junction, 98.75 48⇑Pdiff **P 03 30 06.0 -1.3**
baz=99
KHMM Horse Mountain 98.76 49 PFAKE 03 30 20.0 +12
KHMM LR LR
comp=Z,65µm,21.0s
KEV Kevo 98.76 341 *e*P **P 03 30 04.1 -2.6**
KEV pmax pmax
comp=Z,207nm,1.2s
KEV MLR MLR
comp=Z,68µm,21.0s
KEV Kevo 98.76 341 *e*P **P 03 30 04.0 -2.6**
comp=Z,207nm,1.2s
KEV LR LR
comp=Z,68µm,21.0s
SVSK Karacayir 98.77 310 *e*P Pdif 03 30 10.8 +3.4
NVL N'lazarevskaya 98.79 196*c i*P Pdif 03 30 13.5 +6.7
NVL *e**PP pP 03 30 20.9 +6.8
I03D Drain, OR 98.80 46⇓Pdiff **P 03 30 05.5 -1.9**
baz=99
F04D Rainier, OR 98.80 44⇓Pdiff **P 03 30 06.3 -1.1**
baz=99
KMRM Mail Ridge 98.83 50 PFAKE 03 30 20.0 +12
KMRM LR LR
comp=Z,64µm,21.0s
HSPB Hornsund (broa 98.85 349 *e* 03 23 43.9
HSPB *e*PP **PP 03 34 07.7 -0.6**
HSPB IAMs_20 IAMs_20 04 14 24.0
comp=Z,103µm,23.8s
KCPM Cahto Peak 98.97 50 PFAKE 03 30 20.0 +11
KCPM LR LR
comp=Z,37µm,20.0s
HUMO Hull Mountain 99.19 47 *e*P **Pdif 03 30 08.2 -1.1**
comp=Z,58nm,1.3s
HUMO LR LR
comp=Z,83µm,20.0s
KMBO Kilima Mbogo 99.28 269 P **Pdif 03 30 10.1 -0.5**
comp=Z,3.1nm,0.7s,baz=72,slow=10,SNR=3.4
KMBO LR LR 04 13 12.6
comp=Z,39µm,20.8s,baz=93,slow=34
KMBO Kilima Mbogo 99.28 269 *e*P **Pdif 03 30 08.3 -2.3**
KMBO pmax pmax
comp=Z,74nm,1.5s
KMBO MLR MLR
comp=Z,52µm,21.0s
KMBO Kilima Mbogo 99.28 269 *e*P **Pdif 03 30 08.3 -2.3**
comp=Z,74nm,1.5s
KMBO LR LR
comp=Z,52µm,21.0s
ARA0 ARCESS Array S 99.33 341 *e*P **Pdif 03 30 07.3 -2.0**
ARA0 *e*PKKPbc **PKKPbc 03 46 37.1 +1.1**
ARCES ARCESS Array B 99.33 341 P **Pdif 03 30 07.8 -1.5**
comp=Z,192nm,1.2s,baz=66,slow=4.2,SNR=56
ARCES PKKPbc **PKKPbc 03 46 37.1 +1.2**
comp=Z,2.3nm,0.8s,baz=254,slow=2.1,SNR=4.6
ARCES LR LR 04 19 21.2
comp=Z,32µm,20.3s,baz=68,slow=38
D05A Enumclaw 99.38 43 *e*P **Pdif 03 30 05.7 -4.3**
comp=Z,1µm,3.0s
M02C Callahan 99.38 49⇑Pdiff **Pdif 03 30 08.9 -1.3**
baz=99
KVT Kavak 99.39 311 *e*P **Pdif 03 30 10.8 +0.5**
HOPS Hopland Field 99.42 51 PFAKE 03 30 20.0 +10
HOPS LR LR
comp=Z,71µm,19.0s
YBH Yreka Blue Hor 99.45 48 LR LR 04 08 25.6
comp=Z,63µm,20.8s,baz=272,slow=31
YBH Yreka Blue Hor 99.45 48 *e*P **Pdif 03 30 07.5 -3.1**
YBH pmax pmax
comp=Z,434nm,2.9s
YBH MLR MLR
comp=Z,59µm,20.0s
YBH Yreka Blue Hor 99.45 48 *e*P **Pdif 03 30 07.5 -3.1**
comp=Z,434nm,2.9s
YBH LR LR
comp=Z,59µm,20.0s
I04A Tendick Farm, 99.46 46⇓Pdiff **Pdif 03 30 10.1 -0.5**
baz=100
N02D Trinity Center 99.53 49⇓Pdiff **Pdif 03 30 10.4 -0.5**
baz=100
H04A Detroit Lake 99.53 45 *e*P **Pdif 03 30 08.5 -2.2**
HAMF Hammerfest 99.54 342 *e* **Pdif 03 30 10.9 +0.7**
HAMF *e*PP **PP 03 34 13.2 -0.4**
HAMF IAMs_20 IAMs_20 04 13 42.2
comp=Z,80µm,20.2s
B06A Marblemount 99.55 41 *e*P **Pdif 03 30 12.2 +1.6**
comp=Z,52nm,1.1s
LON Longmire 99.55 43 *e*P **Pdif 03 30 07.3 -3.5**
LON pmax pmax
comp=Z,54nm,1.8s
LON MLR MLR
comp=Z,65µm,21.0s
LON Longmire 99.55 43 *e*P **Pdif 03 30 07.3 -3.5**
comp=Z,54nm,1.8s
LON LR LR
comp=Z,65µm,21.0s
MCCM Marconi Confer 99.64 52 PFAKE 03 30 20.0 +8.7
MCCM LR LR
comp=Z,53µm,19.0s

WDC	**Whiskeytown Da**	**99.69**	**49**	*e*P	**Pdif**	**03 30 08.4**	**-3.1**
WDC				pmax	pmax		
	comp=Z,295nm,2.3s						
WDC				MLR	MLR		
	comp=Z,50µm,21.0s						
WDC	**Whiskeytown Da**	**99.69**	**49**	*e*Pdif	**Pdif**	**03 30 08.3**	**-3.1**
	comp=Z,294nm,2.3s						
WDC				LR	LR		
	comp=Z,50µm,21.0s						
J04D	**Umpqua Nationa**	**99.74**	**47**	⇓Pdif	**Pdif**	**03 30 10.5**	**-1.5**
	baz=100						
CEYT	**Ceyhan**	**99.98**	**307**	*e*P	**Pdif**	**03 30 20.3**	**+7.4**
HWQ	**Hawqa**	**100.03**	**304**	*e*P	**Pdif**	**03 30 16.8**	**+3.4**
K04D	**Chiloquin, OR**	**100.07**	**47**	⇓Pdif	**Pdif**	**03 30 11.5**	**-1.8**
	baz=100						
G05D	**Wamic, OR**	**100.08**	**45**	⇑Pdif	**Pdif**	**03 30 12.3**	**-0.8**
	baz=100						
M04C	**Macdoel**	**100.09**	**48**	⇑Pdif	**Pdif**	**03 30 12.5**	**-1.0**
	baz=100						
I05D	**Terrebonne, OR**	**100.17**	**45**	⇑Pdif	**Pdif**	**03 30 13.6**	**-0.1**
	baz=100						
LTY	**Liberty**	**100.26**	**42**	PFAKE		03 30 20.0	+6.0
LTY				LR	LR		
	comp=Z,91µm,20.0s						
BHL	**Bhannes**	**100.30**	**304**	*e*P	**Pdif**	**03 30 13.5**	**-1.0**
KRTS	**Karatas**	**100.32**	**307**	*e*P	**Pdif**	**03 30 17.1**	**+2.7**
J05D	**Fort Rock, OR**	**100.37**	**47**	⇓Pdif	**Pdif**	**03 30 14.5**	**-0.2**
	baz=100						
SIM	**Simferopol'**	**100.38**	**315**	*d*iP	**Pdif**	**03 30 16.1**	**+1.6**
SIM				*e*SS	SS	03 48 38.0	-6.8
SIM				pmax	pmax		
	comp=Z,25nm,1.0s						
SIM				MLR	MLR		
	comp=Z,31µm,19.1s						
CORM	**Corum**	**100.55**	**310**	*e*P	**Pdif**	**03 30 15.5**	**0.0**
YKA	**Yellowknife Ar**	**100.57**	**27**	P	**Pdif**	**03 30 15.3**	**+0.4**
	comp=Z,15nm,1.1s,baz=292,slow=4.5,SNR=21						
YKA				PP	**PP**	**03 34 20.0**	**-1.7**
	comp=Z,5.2nm,1.1s,baz=295,slow=7.4,SNR=4.1						
YKA				PKiKP	**PKiKP**	**03 34 41.5**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=281,slow=2.1,SNR=3.2						
YKA				PKKPbc	PKKPdf	03 46 43.6	+6.4
	comp=Z,1.2nm,0.7s,baz=96,slow=2.4,SNR=3.8						
YKB5	**Yellowknife Ar**	**100.57**	**27**	*e*Pdif	**Pdif**	**03 30 13.6**	**-1.3**
YKB5				*e*PP	**PP**	**03 34 19.4**	**-2.3**
MMAI	**Mount Meron Ar**	**100.58**	**303**	P	**Pdif**	**03 30 15.1**	**-0.7**
	comp=Z,9.6nm,1.0s,baz=90,slow=4.5,SNR=3.2						
MMAI				PP	**PP**	**03 34 21.0**	**-1.9**
	comp=Z,1.1nm,0.4s,baz=76,slow=7.0,SNR=3.6						
BZK	**Bozkurt**	**100.83**	**312**	*e*P	**Pdif**	**03 30 17.1**	**+0.6**
MERS	**Mersin**	**100.97**	**307**	*e*P	**Pdif**	**03 30 20.3**	**+2.9**
B08A	**Colville Reser**	**100.99**	**41**	*e*Pdif	**Pdif**	**03 30 15.9**	**-1.3**
HAWA	**Hanford**	**101.16**	**43**	PFAKE		03 30 30.0	+12
HAWA				LR	LR		
	comp=Z,57µm,21.0s						
EIL	**Elat**	**101.20**	**300**	*e*P	**Pdif**	**03 30 23.7**	**+5.2**
BR101	**Keskin Array S**	**101.36**	**310**	*e*Pdif	**Pdif**	**03 30 18.9**	**-0.3**
BR101				*e*PP	**PP**	**03 34 28.8**	**+0.1**
BRTR	**Keskin Array B**	**101.36**	**310**	P	**Pdif**	**03 30 18.9**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=96,slow=3.7,SNR=9.5						
BRTR				PP	**PP**	**03 34 28.8**	**+0.1**
	comp=Z,18nm,1.1s,baz=108,slow=6.5,SNR=4.7						
TRO	**Tromso**	**101.43**	**342**	*e*	**Pdif**	**03 30 18.9**	**+0.4**
TRO				*e*PP	**PP**	**03 34 24.9**	**-3.0**
TRO				IAMs_20	IAMs_20	04 19 23.2	
	comp=Z,107µm,20.1s						
D08A	**Wollman Farm,**	**101.47**	**42**	*e*Pdif	**Pdif**	**03 30 15.7**	**-3.6**
CMB	**Columbia Colle**	**101.61**	**52**	*e*P	**Pdif**	**03 30 17.5**	**-2.7**
CMB				MLR	MLR		
	comp=Z,51µm,21.0s						
CMB	**Columbia Colle**	**101.61**	**52**	*e*Pdif	**Pdif**	**03 30 17.5**	**-2.7**
CMB				LR	LR		
	comp=Z,51µm,21.0s						
SULT	**Sultanhani-AKS**	**101.63**	**308**	*e*P	**Pdif**	**03 30 17.1**	**-3.2**
FIA0	**FINESS Array S**	**101.64**	**333**	*e*P	**Pdif**	**03 30 19.7**	**0.0**
FIA0				*e*		03 34 32.5	
FIA0	**FINESS Array S**	**101.64**	**333**	*e*Pdif	**Pdif**	**03 30 19.7**	**0.0**
FIA0				*e*PP	**PP**	**03 34 32.5**	**+2.7**
FIA0				*e*PKKPbc	**PKKPbc**	**03 46 29.2**	**+0.1**
FINES	**FINESS Array B**	**101.64**	**333**	P	**Pdif**	**03 30 19.7**	**0.0**
	comp=Z,38nm,1.1s,baz=96,slow=7.7,SNR=23						
FINES				PP	**PP**	**03 34 32.5**	**+2.7**
	comp=Z,9.7nm,1.0s,baz=67,slow=7.7,SNR=2.1						
FINES				PKKPbc	**PKKPbc**	**03 46 29.2**	**+0.1**
	comp=Z,4.1nm,0.9s,baz=138,slow=12,SNR=4.5						
RES	**Resolute Bay**	**101.66**	**12**	*e*P	**Pdif**	**03 30 18.9**	**-0.6**
RES				MLR	MLR		
	comp=Z,62µm,20.0s						
RES	**Resolute Bay**	**101.66**	**12**	*e*Pdif	**Pdif**	**03 30 18.9**	**-0.6**
RES				LR	LR		
	comp=Z,62µm,20.0s						
G08A	**Pilot Rock**	**101.72**	**44**	*e*Pdif	**Pdif**	**03 30 20.5**	**-0.1**
SNAA	**Sanae**	**101.77**	**192**	P	**Pdif**	**03 30 15.9**	**-4.3**
SNAA	**Sanae**	**101.77**	**192**	P	PKKPbc	03 46 20.9	-8.1
SNAA	**Sanae**	**101.77**	**192**	PKKPbc	PKKPbc	03 46 28.3	-0.8
	baz=350,slow=2.5						
SNAA	**Sanae**	**101.77**	**192**	⇑*i*P	**Pdif**	**03 30 19.7**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SNAA	**Sanae**	**101.77**	**192**	*e*Pdif	**Pdif**	**03 30 18.6**	**-1.6**
SNAA				LR	LR		
	comp=Z,156µm,20.0s						
C09A	**Chrisman Ranch**	**101.78**	**42**	*e*Pdif	**Pdif**	**03 30 19.8**	**-0.9**
ANTO	**Ankara**	**101.99**	**310**	*e*P	**Pdif**	**03 30 28.9**	**+7.0**
ANTO	**Ankara**	**101.99**	**310**	*e*P	**Pdif**	**03 30 21.2**	**-0.7**
ANTO	**Ankara**	**101.99**	**310**	*e*Pdif	**Pdif**	**03 30 21.2**	**-0.7**
BR231	**Keskin MP Arra**	**102.01**	**310**	*e*Pdif	**Pdif**	**03 30 19.3**	**-2.7**
LOD	**Lodumlu**	**102.01**	**310**	*e*P	**Pdif**	**03 30 18.7**	**-3.3**
E09A	**Wood Farm, Sta**	**102.08**	**43**	*e*Pdif	**Pdif**	**03 30 21.0**	**-1.1**
CSS	**Prodhromos**	**102.12**	**305**	*e*P	**Pdif**	**03 30 26.8**	**+4.3**
CSS	**Prodhromos**	**102.12**	**305**	*e*Pdif	**Pdif**	**03 30 22.0**	**-0.5**
SMMC	**Simmler**	**102.21**	**54**	⇑Pdif	**Pdif**	**03 30 23.2**	**+0.2**
	baz=102						
WVOR	**Wild Horse Val**	**102.38**	**47**	PFAKE		03 30 30.0	+6.4
WVOR				LR	LR		
	comp=Z,55µm,20.0s						
PKM	**Mcpherson Peak**	**102.40**	**55**	⇑Pdif	**Pdif**	**03 30 24.8**	**+0.8**
	baz=102						
NEW	**Newport**	**102.46**	**41**	*e*P	**Pdif**	**03 30 22.1**	**-1.6**
NEW				MLR	MLR		
	comp=Z,60µm,21.0s						
NEW	**Newport**	**102.46**	**41**	⇓Pdif	**Pdif**	**03 30 24.4**	**+0.7**
	baz=102						
NEW	**Newport**	**102.46**	**41**	*e*Pdif	**Pdif**	**03 30 22.1**	**-1.6**
NEW				LR	LR		
	comp=Z,60µm,21.0s						
LEF	**Lefka**	**102.47**	**305**	*e*P	**Pdif**	**03 30 29.8**	**+5.9**
LADK	**Ladik-KONYA**	**102.53**	**309**	*e*P	**Pdif**	**03 30 25.1**	**+0.7**
SBC	**Santa Barbara**	**102.54**	**55**	⇑Pdif	**Pdif**	**03 30 24.6**	**+0.3**
	baz=102						
HDMB	**Hadim**	**102.58**	**307**	*e*P	**Pdif**	**03 30 26.6**	**+1.9**
MICGM	**Minsk**	**102.59**	**326**	⇓*e*P	**Pdif**	**03 30 34.0**	**+10**
MNK	**Minsk**	**102.62**	**326**	*de*P	**Pdif**	**03 30 24.0**	**-0.2**
MNK				*e*		03 34 35.0	
MNK				*e*PPP	PPP	03 36 46.0	
MNK				*e*		03 41 00.0	
MNK				*e*S	**Sdif**	**03 42 02.0**	**-5.8**
MNK				*e*PS	**PS**	**03 43 44.0**	**-0.8**
MNK				*e*SS	**SS**	**03 49 08.0**	**-7.1**
MNK				pmax	pmax		
	comp=Z,100nm,1.0s						
MNK				pmax	pmax		
	comp=Z,9µm,10.0s						
MNK				pmax	pmax		
	comp=Z,4µm,14.0s						
MNK				smax	smax		
	comp=E,7µm,10.0s						
MNK				smax	smax		
	comp=N,6µm,14.0s						
MNK				MLR	MLR		
	comp=E,153µm,20.0s						
MNK				MLR	MLR		
	comp=Z,200µm,24.0s						
MNK				MLR	MLR		
	comp=N,65µm,22.0s						
BSC	**Santa Cruz Isl**	**102.65**	**56**	⇓Pdif	**Pdif**	**03 30 25.1**	**+0.2**
	baz=103						
AKASG	**Malin Array Be**	**102.66**	**322**	P	**Pdif**	**03 30 22.8**	**-1.7**
	comp=N,15nm,1.0s,baz=64,slow=4.3,SNR=43						
AKASG				PP	**PP**	**03 34 36.7**	**-1.1**
	comp=N,5.2nm,0.9s,baz=77,slow=6.9,SNR=4.1						
AKBB	**Malin Array Si**	**102.66**	**322**	*e*P	**Pdif**	**03 30 22.8**	**-1.7**
AKBB				*e*		03 34 36.7	
AKBB	**Malin Array Si**	**102.66**	**322**	*e*Pdif	**Pdif**	**03 30 22.8**	**-1.7**
AKBB				*e*PP	**PP**	**03 34 36.7**	**-1.1**
KIEV	**Kiev**	**102.67**	**322**	*e*P	**Pdif**	**03 30 22.6**	**-1.9**
KIEV				MLR	MLR		
	comp=Z,70µm,21.0s						
KIEV	**Kiev**	**102.67**	**322**	*e*Pdif	**Pdif**	**03 30 22.6**	**-1.9**
KIEV				*e*PP	PP	03 34 28.1	-10
KIEV				LR	LR		
	comp=Z,70µm,21.0s						
AK11	**Malin Array Si**	**102.70**	**322**	*e*Pdif	**Pdif**	**03 30 22.7**	**-1.9**
AK11				*e*PP	**PP**	**03 34 34.4**	**-3.7**
RCTC	**Rector, Farmer**	**102.72**	**53**	⇓Pdif	**Pdif**	**03 30 24.6**	**-0.5**
	baz=103						
F10A	**Beach Ranch, E**	**102.80**	**43**	PFAKE		03 30 40.0	+15
F10A				LR	LR		
	comp=Z,62µm,22.0s						
MLAC	**Mammoth, Mammt**	**102.88**	**52**	⇓Pdif	**Pdif**	**03 30 26.9**	**+0.8**
	baz=103						
VES	**Vestal, Richgr**	**102.90**	**54**	⇓Pdif	**Pdif**	**03 30 24.5**	**-1.4**
	baz=103						
SVRH	**Sivrihisar-ESK**	**103.02**	**310**	*e*P	**Pdif**	**03 30 18.7**	**-7.8**
NACGM	**Naroch**	**103.10**	**326**	*e*P	**Pdif**	**03 30 25.0**	**-1.3**
BLG	**Laguna Peak, P**	**103.11**	**56**	⇑Pdif	**Pdif**	**03 30 27.9**	**+1.0**
	baz=103						
ARVC	**Arvin**	**103.19**	**55**	⇓Pdif	**Pdif**	**03 30 28.3**	**+1.1**
	baz=103						
NV01	**Mina Array Sit**	**103.19**	**51**	*e*Pdif	**Pdif**	**03 30 28.5**	**+1.0**
NV01				*e*PP	**PP**	**03 34 41.8**	**-0.8**
NVAR	**Mina Array Bea**	**103.19**	**51**	Pdiff	**Pdif**	**03 30 28.9**	**+1.4**
	comp=Z,6.8nm,1.1s,baz=272,slow=5.2,SNR=2.6						
NVAR				PP	**PP**	**03 34 40.4**	**-2.2**
	comp=Z,7.6nm,1.1s,baz=274,slow=7.7,SNR=4.8						
NVAR				PKKPbc	**PKKPdf**	**03 46 28.4**	**-3.9**
	comp=Z,1.9nm,0.9s,baz=125,slow=3.4,SNR=3.6						
OSI	**Osito Audit: C**	**103.33**	**55**	⇑Pdif	**Pdif**	**03 30 27.3**	**-0.6**
	baz=103						
ISA	**Isabella, Lake**	**103.41**	**54**	⇑Pdif	**Pdif**	**03 30 27.6**	**-0.7**
	baz=103						
TIN	**Tinemaha, Big**	**103.43**	**53**	⇑Pdif	**Pdif**	**03 30 26.5**	**-1.9**
	baz=103						
CWC	**Cottonwood Cre**	**103.63**	**53**	⇓Pdif	**Pdif**	**03 30 28.2**	**-1.2**
	baz=104						
GULT	**Gulveren**	**103.64**	**311**	*e*P	**Pdif**	**03 30 34.6**	**+5.4**
SCI	**San Clemente I**	**103.66**	**57**	⇓Pdif	**Pdif**	**03 30 26.7**	**-2.7**
	baz=104						
VNA1	**Neumayer--Stat**	**103.67**	**191**	P	**PKKPbc**	**03 46 25.2**	**+1.9**
KIS	**Kishinev**	**103.69**	**318**	*e*P	**Pdif**	**03 30 39.0**	**+10**
KIS	**Kishinev**	**103.69**	**318**	*i* PP	PP	03 34 50.0	+4.4
	comp=Z,10µm,10.0s						
KIS	**Kishinev**	**103.69**	**318**	*i* PPP	PPP	03 37 30.0	
KIS				*i* SKS		03 41 18.0	
KIS	**Kishinev**	**103.69**	**318**	*i* PS	PS	03 43 58.0	+1.6
KIS				*i* SS	SS	03 49 34.0	+3.7
KIS				LRM	MLR	04 24 58.0	
	comp=Z,39µm,17.0s						
KIS	**Kishinev**	**103.69**	**318**	*e*P	**Pdif**	**03 30 39.0**	**+10**
KIS				*i*		03 34 50.0	
KIS				*i* PS	**PS**	**03 43 58.0**	**+1.6**
KIS				*i* SS	SS	03 49 34.0	+3.7
KIS				pmax	pmax		
	comp=Z,10µm,10.0s						
KIS				pmax	pmax		
	comp=E,4µm,7.0s						
KIS				pmax	pmax		
	comp=N,2µm,12.0s						
EDM	**Edmonton**	**103.69**	**36**	*e*P	**Pdif**	**03 30 29.5**	**+0.4**
EDM	**Edmonton**	**103.69**	**36**	*e*Pdif	**Pdif**	**03 30 29.5**	**+0.4**
SUTC	**Sutluce-Ispart**	**103.69**	**308**	*e*P	**Pdif**	**03 30 31.4**	**+1.8**
DECC	**Green Verdugo**	**103.70**	**55**	⇓Pdif	**Pdif**	**03 30 28.1**	**-1.5**
	baz=104						
BMN	**Battle Mountai**	**103.73**	**49**	*e*P	**Pdif**	**03 30 29.2**	**-0.5**
BMN				MLR	MLR		
	comp=Z,36µm,20.0s						
BMN	**Battle Mountai**	**103.73**	**49**	*e*Pdif	**Pdif**	**03 30 29.2**	**-0.5**
BMN				LR	LR		
	comp=Z,36µm,20.0s						
CIS	**Catalina Islan**	**103.73**	**56**	⇓Pdif	**Pdif**	**03 30 26.5**	**-3.2**
	baz=104						
SPNC	**Sapanca-Adapaz**	**103.76**	**311**	*e*P	**Pdif**	**03 30 37.8**	**+8.2**
FMP	**Fort Macarthur**	**103.79**	**56**	⇓Pdif	**Pdif**	**03 30 26.8**	**-3.1**
	baz=104						
PASC	**Pasadena Art C**	**103.83**	**55**	PFAKE		03 30 40.0	+10
PASC				LR	LR		
	comp=Z,58µm,20.0s						
SHUT	**Suhut-Afyon**	**103.89**	**309**	*e*P	**Pdif**	**03 30 33.0**	**+2.6**
EDW2	**Edwards Air Fo**	**103.90**	**55**	⇓Pdif	**Pdif**	**03 30 29.4**	**-1.1**
	baz=104						
BCK	**Bucak**	**104.02**	**308**	*e*P	**Pdif**	**03 30 31.4**	**+0.5**
ISP	**Isparta**	**104.02**	**308**	*e*P	**Pdif**	**03 30 35.2**	**+4.2**
DAC	**Darwin (Calif)**	**104.04**	**53**	*e*P	**Pdif**	**03 30 30.6**	**-0.6**
DAC				MLR	MLR		
	comp=Z,60µm,20.0s						
DAC	**Darwin (Calif)**	**104.04**	**53**	*e*Pdif	**Pdif**	**03 30 30.6**	**-0.6**
DAC				LR	LR		
	comp=Z,60µm,20.0s						
ANTB	**Antalya**	**104.05**	**307**	*e*P	**Pdif**	**03 30 21.9**	**-9.1**
LRMC	**Laurel Mtn Rad**	**104.07**	**54**	⇓Pdif	**Pdif**	**03 30 31.0**	**-0.3**
	baz=104						
GRAC	**Grapevine Rang**	**104.12**	**53**	⇓Pdif	**Pdif**	**03 30 29.2**	**-2.2**
	baz=104						
MPMC	**Manual Prospec**	**104.15**	**53**	⇑Pdif	**Pdif**	**03 30 28.9**	**-2.8**
	baz=104						
ALT	**Altintas**	**104.16**	**310**	*e*P	**Pdif**	**03 30 33.0**	**+1.4**
SILT	**Sile**	**104.18**	**312**	*e*P	**Pdif**	**03 30 31.4**	**0.0**
CAVI	**Cavuskoy**	**104.19**	**311**	*e*P	**Pdif**	**03 30 33.0**	**+1.5**
HRT	**Hereke**	**104.22**	**311**	*e*P	**Pdif**	**03 30 33.0**	**+1.3**
ADVT	**Abdulvahap**	**104.23**	**311**	*e*P	**Pdif**	**03 30 34.6**	**+2.9**
DAG	**Danmarks Havn**	**104.25**	**354**	*i* P	**Pdif**	**03 30 33.1**	**+2.1**
	comp=Z,46nm,1.3s						
DAG				*i*		03 34 52.9	
	comp=Z,44µm,20.0s						
DAG	**Danmarks Havn**	**104.25**	**354**	*i* P	**Pdif**	**03 30 33.1**	**+2.1**
DAG				*i*		03 34 52.9	
DAG				pmax	pmax		
	comp=Z,88nm,1.3s						
DAG				MLR	MLR		
	comp=Z,46µm,20.0s						
MFID	**Camas Ranch**	**104.25**	**46**	*e*Pdif	**Pdif**	**03 30 32.4**	**+0.5**
MFID				LR	LR		
	comp=Z,47µm,21.0s						
BFSC	**Mount Baldy Ra**	**104.25**	**55**	⇓Pdif	**Pdif**	**03 30 28.6**	**-3.6**
	baz=104						
BLMT	**Blacktail Moun**	**104.32**	**41**	*e*Pdif	**Pdif**	**03 30 33.6**	**+1.4**
BLMT				*e*PP	PKiKP	03 34 42.0	-6.8
WALA	**Waterton Lakes**	**104.37**	**40**	*e*Pdif	**Pdif**	**03 30 32.9**	**+0.6**
WALA				LR	LR		
	comp=Z,68µm,21.0s						
TIRR	**Tirgusor**	**104.47**	**315**	*e*P	**Pdif**	**03 30 35.2**	**+2.6**
TIRR	**Tirgusor**	**104.47**	**315**	⇑P	**Pdif**	**03 30 34.9**	**+2.2**
TIRR	**Tirgusor**	**104.47**	**315**	⇑*i*P	**Pdif**	**03 30 34.9**	**+2.2**
TIRR	**Tirgusor**	**104.47**	**315**	PFAKE		03 30 40.0	+7.3
TIRR				LR	LR		
	comp=Z,41µm,20.0s						
CFR	**Carcaliu**	**104.52**	**316**	⇑P	**Pdif**	**03 30 35.0**	**+2.2**
CFR	**Carcaliu**	**104.52**	**316**	⇑*i*P	**Pdif**	**03 30 35.0**	**+2.2**
TVSB	**Tavsanli**	**104.60**	**310**	*e*P	**Pdif**	**03 30 37.8**	**+4.3**
FURC	**Furnace Creek,**	**104.60**	**53**	⇑Pdif	**Pdif**	**03 30 31.7**	**-1.7**
	baz=105						
KLYT	**Kilyos**	**104.61**	**312**	*e*P	**Pdif**	**03 30 31.4**	**-1.9**
ELL	**Elmali**	**104.66**	**307**	*e*P	**Pdif**	**03 30 34.6**	**+0.7**
RRX	**Edison Barstow**	**104.71**	**55**	⇓Pdif	**Pdif**	**03 30 33.0**	**-1.0**
	baz=105						
MURC	**Murrieta**	**104.71**	**56**	⇓Pdif	**Pdif**	**03 30 31.8**	**-2.3**
	baz=105						
GSC	**Goldstone, Bar**	**104.81**	**54**	⇓Pdif	**Pdif**	**03 30 31.8**	**-2.7**
	baz=105						
BGKT	**Bogazkoy**	**104.82**	**312**	*e*P	**Pdif**	**03 30 33.0**	**-1.3**
KONS	**Konsvik**	**104.83**	**340**	*e*PP	PP	03 34 52.0	-1.5
BBRC	**Big Bear Solar**	**104.85**	**55**	⇑Pdif	**Pdif**	**03 30 33.2**	**-1.7**
	baz=105						
MSO	**Missoula**	**104.86**	**42**	⇓Pdif	**Pdif**	**03 30 33.9**	**-0.7**
	baz=105						
MSO	**Missoula**	**104.86**	**42**	*e*Pdif	**Pdif**	**03 30 34.4**	**-0.1**
MSO				*e*PKiKP	**PP**	**03 34 52.9**	**-1.7**
MSO				LR	LR		
	comp=Z,46µm,20.0s						
ARMT	**Armutlu**	**104.86**	**311**	*e*P	**Pdif**	**03 30 34.6**	**0.0**
109C	**Camp Elliot, M**	**104.88**	**57**	⇓Pdif	**Pdif**	**03 30 32.6**	**-2.2**
	baz=105						
CTKS	**Kestanelik-??a**	**105.01**	**312**	*e*P	**Pdif**	**03 30 34.6**	**-0.5**
TPNV	**Topopah Spring**	**105.02**	**52**	*e*P	**Pdif**	**03 30 35.7**	**+0.2**
TPNV	**Topopah Spring**	**105.02**	**52**	⇓Pdif	**Pdif**	**03 30 36.6**	**+1.1**
	baz=105						
TPNV	**Topopah Spring**	**105.02**	**52**	*e*Pdif	**Pdif**	**03 30 35.7**	**+0.2**
SHOC	**Shoshone, Teco**	**105.15**	**53**	⇓Pdif	**Pdif**	**03 30 37.7**	**+1.8**
	baz=105						
ELK	**Elko**	**105.17**	**48**	PKiKP	**PKiKP**	**03 34 51.4**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=262,slow=14,SNR=2.3						
ELK				PKKPbc	**PKKPbc**	**03 46 23.0**	**+4.8**
	comp=Z,2.2nm,0.9s,baz=181,slow=6.4,SNR=4.0						
ELK	**Elko**	**105.17**	**48**	*e*P	**Pdif**	**03 30 34.9**	**-1.3**
ELK	**Elko**	**105.17**	**48**	*e*Pdif	**Pdif**	**03 30 34.9**	**-1.3**
SLVT	**Silivri**	**105.23**	**312**	*e*P	**Pdif**	**03 30 34.6**	**-1.5**
HLID	**Hailey**	**105.23**	**45**	⇓Pdif	**Pdif**	**03 30 37.8**	**+1.5**
	baz=105						
HLID	**Hailey**	**105.23**	**45**	*e*Pdif	**Pdif**	**03 30 31.5**	**-4.8**
HLID				LR	LR		
	comp=Z,54µm,19.0s						
TESR	**Tescani**	**105.25**	**318**	⇑*i*P	**Pdif**	**03 30 38.8**	**+2.7**
HEC	**Hector,Ludlow**	**105.26**	**55**	⇓Pdif	**Pdif**	**03 30 37.5**	**+1.0**
	baz=105						
BAR	**Barrett**	**105.26**	**57**	PFAKE		03 35 00.0	
BAR				LR	LR		
	comp=Z,10µm,18.0s						
KCTX	**Karacabey (Bur**	**105.30**	**311**	*e*P	**Pdif**	**03 30 36.2**	**-0.3**
CHMT	**Chamberlain Mo**	**105.30**	**42**	*e*Pdif	**Pdif**	**03 30 33.4**	**-3.2**
CHMT				*e*PKiKP	**PKiKP**	**03 34 47.4**	**-3.2**
R11A	**Troy Canyon, C**	**105.32**	**51**	⇓Pdif	**Pdif**	**03 30 38.4**	**+1.5**
	baz=105						
R11A	**Troy Canyon, C**	**105.32**	**51**	*e*Pdif	**Pdif**	**03 30 33.9**	**-2.9**
R11A				*e*PKiKP	**PKiKP**	**03 34 50.2**	**-0.7**
R11A				LR	LR		
	comp=Z,44µm,20.0s						
PFO	**Pinyon Flats O**	**105.32**	**56**	⇓Pdif	**Pdif**	**03 30 37.6**	**+0.7**
	baz=105						
PFO	**Pinyon Flats O**	**105.32**	**56**	PFAKE		03 35 00.0	
PFO				LR	LR		
	comp=Z,59µm,21.0s						
VRI	**Vrincioaia**	**105.34**	**317**	*e*P	**Pdif**	**03 30 34.9**	**-1.6**
VRI	**Vrincioaia**	**105.34**	**317**	⇑P	**Pdif**	**03 30 39.7**	**+3.2**
VRI	**Vrincioaia**	**105.34**	**317**	⇑*i*P	**Pdif**	**03 30 39.7**	**+3.2**
SUW	**Suwalki**	**105.37**	**326**	*e*Pdif	**Pdif**	**03 30 37.5**	**+1.1**
SUW				*e*		03 30 47.7	
SUW				*e*		03 34 00.8	
SUW				*e*PP	PP	03 35 08.8	+11
SUW				*e*SKSac	SKSac	03 41 24.2	+8.9
SUW				*e*SP	**SP**	**03 44 12.1**	**+1.8**
SUW				LMZ	LR	04 12 34.0	
SUW	**Suwalki**	**105.37**	**326**	*e*P	**Pdif**	**03 30 37.6**	**+1.1**
SUW				*e*SP	SP	03 44 12.1	+1.8
PLOR	**Plostina**	**105.39**	**317**	⇑P	**Pdif**	**03 30 40.1**	**+3.3**
PLOR	**Plostina**	**105.39**	**317**	⇑*i*P	**Pdif**	**03 30 40.1**	**+3.3**
MONP	**Monument Peak,**	**105.45**	**57**	⇑Pdif	**Pdif**	**03 30 38.7**	**+1.1**
	baz=105						
TUQ	**Turquoise Moun**	**105.50**	**54**	⇑Pdif	**Pdif**	**03 30 40.4**	**+2.7**
	baz=106						
CRLT	**Corlu**	**105.60**	**312**	*e*P	**Pdif**	**03 30 37.8**	**0.0**
BELC	**Belle Mtn. Jos**	**105.65**	**55**	⇑Pdif	**Pdif**	**03 30 39.0**	**+0.7**
	baz=106						
EDC	**Edincik**	**105.65**	**311**	*e*P	**Pdif**	**03 30 39.4**	**+1.3**
PHSR	**Pinarhisar**	**105.66**	**313**	*e*P	**Pdif**	**03 30 42.5**	**+4.5**
IBP	**Imperial Bould**	**105.75**	**57**	⇓Pdif	**Pdif**	**03 30 39.2**	**+0.5**
	baz=106						
TKR	**Tekirdag**	**105.78**	**312**	*e*P	**Pdif**	**03 30 42.6**	**+4.0**
GMRC	**Granite Mounta**	**105.81**	**55**	⇑Pdif	**Pdif**	**03 30 40.9**	**+1.9**
	baz=106						
MBAR	**Mbarara**	**105.81**	**269**	*e*P	**Pdif**	**03 30 43.3**	**+3.8**
MBAR	**Mbarara**	**105.81**	**269**	*e*Pdif	**Pdif**	**03 30 43.3**	**+3.8**
BURAR	**Bucovina Array**	**105.93**	**319**	⇑P	**Pdif**	**03 30 42.5**	**+3.2**
BURAR	**Bucovina Array**	**105.93**	**319**	⇑*i*P	**Pdif**	**03 30 42.5**	**+3.2**
SHPR	**Sheep Range**	**105.95**	**53**	*e*Pdif	**Pdif**	**03 30 43.6**	**+3.9**
SH

BEL eSS SS 03 50 29.5 +8.3
BEL LMZ LR 04 19 35.3
BEL Belsk 107.44 324 eP **Pdif 03 30 48.1 +2.3**
BEL e 03 35 14.6
BEL eSS SS 03 50 29.6 +8.4
BEL MLR MLR
comp=Z,88µm,22.5s
LOT Lotru 107.45 317⇑ *i*P **Pdif 03 30 48.9 +2.8**
KOLS Kolonicke sedl 107.46 321 eP **Pdif 03 30 48.6 +2.7**
KOLS e 03 35 21.1
KOLS eSP SP 03 44 32.0 -0.2
KOLS eSS **SS 03 50 19.5 -2.2**
KOLS Kolonicke sedl 107.46 321 e **Pdif 03 30 48.6 +2.7**
KOLS e 03 35 21.1
KOLS SDIF **Sdif 03 42 45.4 -3.1**
KOLS eSP **SP 03 44 32.0 -0.2**
KOLS eSS **SS 03 50 19.5 -2.2**
BOSA Boshof 107.54 239 Pdiff **Pdif 03 30 49.2 +2.3**
comp=Z,2.7nm,0.7s,baz=98,slow=5.5,SNR=2.9
BOSA PKKPbc **PKKPbc 03 46 12.6 +2.2**
comp=Z,17nm,1.1s,baz=289,slow=3.1,SNR=5.5
TBLU Trondheim 107.57 338 ePP PP 03 35 12.5 -1.2
TBLU e 03 44 36.8
TBLU IAMs_20 IAMs_20 04 19 46.4
comp=Z,91µm,25.3s
IMW Indian Meadow 107.61 44 ePKiKP **PKiKP 03 34 51.0 -4.1**
IMW LR LR
comp=Z,53µm,21.0s
FXWY Fox Creek 107.61 45 ePKiKP PKiKP 03 34 48.1 -6.9
FXWY LR LR
comp=Z,50µm,21.0s
A19A Klindworth Far 107.68 39 ⇓Pdiff **Pdif 03 30 47.5 +0.5**
baz=108
B19A Brinkman Farms 107.70 39 ⇓Pdiff **Pdif 03 30 47.9 +0.9**
baz=108
TPAW Teton Pass 107.70 45 ePKiKP **PKiKP 03 34 52.0 -3.3**
TPAW LR LR
comp=Z,53µm,21.0s
HWUT Hardware Ranch 107.71 47 PFAKE 03 35 10.0
HWUT LR LR
comp=Z,55µm,19.0s
FLWY Flagg Ranch 107.73 44 PFAKE 03 35 10.0
FLWY LR LR
comp=Z,48µm,21.0s
H17A Grant Village 107.74 44 ⇓Pdiff **Pdif 03 30 46.8 -0.7**
baz=108
HFS Hagfors 107.74 334 Pdiff **Pdif 03 30 47.2 +0.3**
comp=Z,7.1nm,0.9s,baz=76,slow=6.3,SNR=11
HFS PP **PP 03 35 13.8 -1.2**
comp=Z,11nm,1.0s,baz=90,slow=3.3,SNR=4.0
HFS Hagfors 107.74 334 P **Pdif 03 30 47.2 +0.3**
HFS 03 35 13.8
HFS pmax pmax
comp=Z,7.0nm,0.9s
HFS pmax pmax
comp=Z,11nm,1.0s
AHID Auburn Hatcher 107.77 46 PFAKE 03 35 10.0
AHID LR LR
comp=Z,45µm,21.0s
CTU Camp Tracy 107.78 48 PFAKE 03 35 10.0
CTU LR LR
comp=Z,75µm,20.0s
DRGR 107.80 319⇑P **Pdif 03 30 50.1 +2.6**
DRGR 107.80 319⇑ *i*P **Pdif 03 30 50.1 +2.6**
REDW Red Top Meadow 107.80 45 ePKiKP **PKiKP 03 34 54.1 -1.3**
REDW LR LR
comp=Z,54µm,21.0s
SNOW Snow King Moun 107.85 45 PFAKE 03 35 10.0
SNOW LR LR
comp=Z,53µm,20.0s
MVU Marysvale 107.89 50 PFAKE 03 35 10.0
MVU LR LR
comp=Z,48µm,20.0s
LOHW Long Hollow 107.92 45 ePKiKP **PKiKP 03 34 53.1 -2.5**
LOHW LR LR
comp=Z,61µm,21.0s
TCUT Toone Canyon 107.93 47 PFAKE 03 35 10.0
TCUT LR LR
comp=Z,91µm,20.0s
STHS Stebnicka Huta 107.95 322 eP **Pdif 03 30 50.8 +2.7**
STHS e 03 35 14.9
STHS Stebnicka Huta 107.95 322 ePKP **PKiKP 03 34 55.4 +0.2**
STHS ePP **PP 03 35 14.9 -2.2**
STHS SDIF 03 42 54.2
STHS Stebnicka Huta 107.95 322 e **Pdif 03 30 50.8 +2.7**
LBTB Lobatse 107.98 243 PKKPbc PKKPbc 03 46 13.8 +5.0
comp=Z,6.1nm,1.0s,baz=207,slow=14,SNR=3.3
JLU Jordanelle 108.02 48 PFAKE 03 35 10.0
JLU LR LR
comp=Z,76µm,20.0s
APE Apeiranthos 108.06 308 eP **Pdif 03 30 44.6 -4.3**
APE Apeiranthos 108.06 308⇑ *i*P PP 03 35 06.6 -12
A20A Cobblestone Ra 108.21 39⇑Pdiff **Pdif 03 30 49.3 0.0**
baz=108
SANT Santorini 108.26 308 ePKiKP **PKiKP 03 34 58.0 +1.8**
SANT LR LR
comp=Z,15µm,22.0s
B20A Solberg Farm, 108.29 39 ⇓Pdiff **Pdif 03 30 49.4 -0.2**
baz=108
NB2 NORSAR Subarra 108.36 335 PP PP 03 35 16.1 -3.5
comp=Z,339nm,2.0s,baz=59,slow=7.4
NB2 NORSAR Subarra 108.36 335 PP PP 03 35 16.1 -3.5
baz=59,slow=7.4
NB200 NORSAR Array S 108.36 335 ePdif **Pdif 03 30 49.0 -0.7**
NB200 ePP **PP 03 35 17.6 -2.0**
NB200 ePKKPbc **PKKPbc 03 46 11.4 +2.7**
NOA NORSAR Array B 108.36 335 Pdiff **Pdif 03 30 49.0 -0.7**
comp=Z,10nm,1.1s,baz=59,slow=4.5,SNR=7.7
NOA PP **PP 03 35 17.6 -2.0**
comp=Z,7.3nm,1.0s,baz=76,slow=5.9,SNR=6.2
NOA PKKPbc **PKKPbc 03 46 11.4 +2.7**
comp=Z,6.5nm,1.0s,baz=243,slow=6.0,SNR=6.2
NOA NORSAR Array B 108.36 335 P **Pdif 03 30 49.0 -0.7**
NOA 03 35 17.6
NOA pmax pmax
comp=Z,10.0nm,1.1s
NOA pmax pmax
comp=Z,7.0nm,1.0s
RLMT Red Lodge 108.44 43⇑Pdiff **Pdif 03 30 50.6 -0.1**
baz=108
MMB Musomiste 108.45 313⇑P **Pdif 03 30 52.2 +1.7**
MMB Musomiste 108.45 313⇑ *i*P **Pdif 03 30 52.2 +1.7**
C20A Veseth Ranch, 108.52 40⇑Pdiff **Pdif 03 30 50.7 0.0**
baz=108
NIE Niedzica 108.53 322 ePdiff **Pdif 03 30 51.1 +0.4**
NIE e 03 31 03.4
NIE e 03 34 24.6
NIE e 03 35 33.5
NIE eSKSac SKSac 03 41 40.4 +11
NIE eSP **SP 03 44 48.4 +5.4**
NIE eSS SS 03 50 47.1 +11
NIE LMZ LR 04 20 57.6
NIE Niedzica 108.53 322 eP **Pdif 03 30 51.2 +0.5**
NIE eSP SP 03 44 48.5 +5.4
NIE eSS SS 03 50 47.1 +11
OUR Ouranopolis 108.56 312 eP **Pdif 03 30 49.8 -1.2**
VTS Vitosha 108.58 314 ⇓P **Pdif 03 30 54.4 +3.2**
VTS Vitosha 108.58 314 ⇓ *i*P **Pdif 03 30 54.4 +3.2**
VTS Vitosha 108.58 314 ⇓ *i*P PKiKP 03 34 49.3 -7.5
OJC Ojcow 108.58 323 ePdiff **Pdif 03 30 52.6 +1.8**
OJC e 03 31 02.9
OJC e 03 34 25.8
OJC ePP **PP 03 35 26.6 +5.1**
OJC e 03 35 33.9
OJC eSKSac SKSac 03 41 38.6 +9.0
OJC eSS SS 03 50 44.6 +7.9
OJC LMZ LR 04 20 23.6
OJC Ojcow 108.58 323 eP **Pdif 03 30 52.7 +1.9**
OJC e 03 35 26.7
OJC eSS SS 03 50 44.6 +7.9
OJC MLR MLR
comp=Z,66µm,22.9s
214A Organ Pipe Nat 108.60 57 ⇓Pdiff **Pdif 03 30 52.2 +0.7**
baz=109
SRS Serrai 108.66 313 P PP 03 35 29.9 +7.4
KECS Kecovo 108.72 321 eP **Pdif 03 30 53.9 +2.4**
KECS e 03 35 22.2
KECS Kecovo 108.72 321 ePKP **PKiKP 03 34 53.3 -3.4**
KECS ePP **PP 03 35 22.2 -0.5**
KECS Kecovo 108.72 321 e **Pdif 03 30 53.9 +2.4**
H19A Powell 108.76 43 ⇓Pdiff **Pdif 03 30 51.1 -0.8**
baz=109
A21A Bergtoll Ranch 108.80 39⇑Pdiff **Pdif 03 30 52.4 +0.5**
baz=109

BZS Buzias 108.86 318⇓ *i*P PKiKP 03 34 51.5 -5.5
BW06 Boulder Array 108.87 45 ePKiKP **PKiKP 03 34 59.9 +2.5**
BW06 LR LR
comp=Z,54µm,20.0s
PD31 Pinedale Array 108.87 45 ePdif **Pdif 03 30 54.4 +1.7**
PD31 ePKiKP **PKiKP 03 34 57.0 -0.5**
PDAR Pinedale Array 108.87 45 Pdiff **Pdif 03 30 53.6 +1.0**
comp=Z,3.0nm,1.2s,baz=330,slow=5.1,SNR=6.6
PDAR PKiKP **PKiKP 03 34 56.4 -1.1**
comp=Z,1.9nm,1.1s,baz=317,slow=5.2,SNR=2.8
PDAR PKKPbc **PKKPbc 03 46 09.5 +2.7**
comp=Z,3.6nm,0.7s,baz=94,slow=6.1,SNR=8.3
PAIG Paliouri 108.88 312 P **PP 03 35 26.4 +2.3**
AOS Alonnisos 108.90 311 eP **Pdif 03 30 52.8 +0.3**
B21A Ellsworth Farm 108.93 39⇑Pdiff **Pdif 03 30 51.4 -1.1**
baz=109
I19A Meeteetse 108.93 44 ⇓Pdiff **Pdif 03 30 51.5 -1.3**
baz=109
GKP Gorka Klasztor 108.95 326 ePdiff **Pdif 03 30 52.3 -0.1**
GKP ePP **PP 03 35 28.3 +4.2**
GKP eSKSac SKSac 03 41 13.4 -18
GKP eSP **SP 03 44 47.1 +0.1**
GKP eSS SS 03 50 51.9 +11
GKP LMZ LR 04 22 56.4
GKP Gorka Klasztor 108.95 326 eP **Pdif 03 30 52.3 -0.1**
GKP e 03 35 28.3
GKP eSP SP 03 44 47.1 +0.1
GKP eSS SS 03 50 52.0 +11
GKP MLR MLR
comp=Z,116µm,22.6s
MOL Molde 108.98 338 ePP PP 03 35 25.4 +1.4
MOL e 03 44 51.8
MOL IAMs_20 IAMs_20 04 21 45.7
comp=Z,88µm,20.3s
F20A Billings 109.00 42⇑Pdiff **Pdif 03 30 52.8 -0.2**
baz=109
SRU San Rafael Swe 109.05 49 ePKiKP PKiKP 03 34 52.3 -5.5
SRU LR LR
comp=Z,35µm,19.0s
C21A Desert Coulee 109.07 40⇑Pdiff **Pdif 03 30 50.5 -2.7**
baz=109
J19A Crowheart 109.10 45⇑Pdiff **Pdif 03 30 51.8 -1.8**
baz=109
G20A Bridger 109.13 43⇑Pdiff **Pdif 03 30 54.6 +1.1**
baz=109
OSL Oslo 109.13 334 e 03 25 04.4
OSL ePP **PP 03 35 24.2 -0.9**
OSL IAMs_20 IAMs_20 04 20 06.4
comp=Z,88µm,21.1s
WUAZ Wupatki 109.15 53 ⇓Pdiff **Pdif 03 30 53.1 -0.8**
baz=109
KNT Kendrikon 109.16 313 eP **Pdif 03 30 52.5 -1.1**
MRKA Markates 109.22 310 P **PP 03 35 28.2 +1.5**
PSZ Piszkesteto 109.28 320⇑P **Pdif 03 30 57.1 +3.0**
PSZ Piszkesteto 109.28 320⇑ *i*P **Pdif 03 30 57.1 +3.0**
PSZ Piszkesteto 109.28 320 PFAKE 03 35 10.0
PSZ LR LR
comp=Z,67µm,22.0s
PSZ Piszkesteto 109.28 320⇓ *e*SKPdf Pdif 03 31 05.9 +12
VAY Valandovo 109.36 313⇓ *e*Pdi **Pdif 03 30 56.5 +2.0**
NEO Neokhori 109.36 311 P **PP 03 35 26.1 -1.6**
D21A La Casta Ranch 109.38 40⇑Pdiff **Pdif 03 30 53.5 -1.1**
baz=109
AKN Aaknes 109.42 337 ePP PP 03 35 25.9 -1.4
AKN IAMs_20 IAMs_20 04 21 58.2
comp=Z,101µm,20.7s
A22A Carney Farms, 109.43 38 ⇓Pdiff **Pdif 03 30 54.0 -0.8**
baz=105
BSD Bornholm Skovb 109.43 329 *i* P **Pdif 03 30 56.4 +1.9**
comp=Z,64nm,1.2s
BSD *i* 03 35 28.1
comp=Z,68µm,24.0s
BSD Bornholm Skovb 109.43 329 *i* P **Pdif 03 30 56.4 +1.9**
BSD *i* 03 35 28.1
BSD pmax pmax
comp=Z,64nm,1.2s
BSD MLR MLR
comp=Z,68µm,24.0s
FFC Flin Flon 109.48 32 PFAKE 03 35 10.0
FFC LR LR
comp=Z,82µm,21.0s
H20A Greybull 109.49 43⇑Pdiff **Pdif 03 30 54.1 -1.1**
baz=109
E21A Keefer Ranch, 109.49 41 ⇓Pdiff **Pdif 03 30 54.5 -0.6**
baz=109
I20A Worland 109.55 44 ⇓Pdiff **Pdif 03 30 54.6 -0.8**
baz=110
RAC Raciborz 109.59 323 eP **Pdif 03 30 58.4 +3.1**
RAC e 03 41 32.6
B22A Reddig Ranch S 109.61 39⇑Pdiff **Pdif 03 30 55.1 -0.4**
baz=110
GVD Gavdhos 109.65 306 PFAKE 03 35 10.0
GVD LR LR
comp=Z,45µm,20.0s
SUMG Summit 109.65 358 *i* P Pdif 03 31 07.0 +11
comp=Z,58µm,23.0s
SUMG Summit 109.65 358 eP Pdif 03 31 07.0 +11
SUMG MLR MLR
comp=Z,58µm,23.0s
F21A Absaloka Mine, 109.68 42 ⇓Pdiff **Pdif 03 30 55.3 -0.7**
baz=110
OKC Ostrava-Krasne 109.71 323 ePDIFF **Pdif 03 30 58.4 +2.5**
OKC epP 03 31 03.8
OKC ePP PP 03 35 36.1 +6.4
OKC ex x 03 37 38.7
OKC eSKS **SKSac 03 41 33.1 -1.2**
OKC eSP **SP 03 44 53.3 -1.7**
OKC ex x 03 51 01.5
OKC AMS AMS 04 27 10.0
comp=Z,47µm,20.2s
OKC Ostrava-Krasne 109.71 323 eP **Pdif 03 30 58.4 +2.5**
OKC e 03 35 36.1
OKC e 03 41 33.1
OKC eSP SP 03 44 53.3 -1.7
OKC eSS SS 03 51 01.5 +10
OKC MLR MLR
comp=Z,47µm,20.2s
J20A Shoshoni 109.75 44 ⇓Pdiff **Pdif 03 30 56.6 +0.2**
baz=110
KONO Kongsberg 109.77 334 ePP PP 03 35 35.1 +5.3
KONO IAMs_20 IAMs_20 04 25 29.6
comp=Z,101µm,20.3s
KONO Kongsberg 109.77 334 PFAKE 03 35 10.0
KONO LR LR
comp=Z,100µm,21.0s
G21A Lodge Grass 109.81 42 ⇓Pdiff **Pdif 03 30 55.9 -0.7**
baz=110
C22A Vida 109.87 40 ⇓Pdiff **Pdif 03 30 54.8 -1.9**
baz=110
D22A Cohagen 109.88 40 ⇓Pdiff **Pdif 03 30 57.6 +0.9**
baz=110
LAO LASA Array 110.00 41⇑Pdiff **Pdif 03 30 55.9 -1.5**
baz=110
SKO Skopje 110.00 314⇓ *e*Pdi **Pdif 03 31 01.8 +4.4**
A23A Redstone 110.08 38 ⇓Pdiff **Pdif 03 30 56.8 -0.8**
baz=110
MORC Moravsky Berou 110.10 323⇑P **Pdif 03 31 01.3 +3.6**
MORC Moravsky Berou 110.10 323⇑ *i*P **Pdif 03 31 01.3 +3.6**
MORC Moravsky Berou 110.10 323 ePKiKP **PKiKP 03 35 00.2 +0.9**
MORC ePP PP 03 35 25.4 -7.2
MORC LR LR
comp=Z,242µm,20.0s
H21A Big Horn, Sher 110.10 43 ⇓Pdiff **Pdif 03 30 58.1 +0.2**
baz=110
AGG Agios Georgios 110.11 311 eP **Pdif 03 30 56.1 -1.8**
AGG Agios Georgios 110.11 311 P **PKiKP 03 35 02.3 +2.7**
AGG Agios Georgios 110.11 311 PFAKE 03 35 10.0
AGG LR LR
comp=Z,18µm,19.0s
I21A Big Trails, Te 110.17 44⇑Pdiff **Pdif 03 30 58.6 +0.3**
baz=110
B23A Brockton 110.19 39⇑Pdiff **Pdif 03 30 58.6 +0.5**
baz=110
J21A Lysite 110.20 44 ⇓Pdiff **Pdif 03 30 59.5 +1.0**
baz=110
TUC Tucson 110.23 56 ePKIKP **PKiKP 03 35 04.2 +4.1**
TUC e 03 35 29.7
TUC MLR MLR
comp=Z,48µm,22.0s
TUC Tucson 110.23 56 ePKiKP **PKiKP 03 35 04.2 +4.1**
TUC ePP **PP 03 35 29.6 -4.7**
TUC LR LR
comp=Z,48µm,22.0s
PV09 Paradox Valley 110.25 50 ePKiKP **PKiKP 03 35 04.8 +4.5**
E22A Miles City 110.26 41 ⇓Pdiff **Pdif 03 30 59.6 +1.1**
baz=110
F22A Rosebud 110.27 42 ⇓Pdiff **Pdif 03 30 58.0 -0.6**
baz=110
C23A Lambert 110.29 39 ⇓Pdiff **Pdif 03 30 59.6 +1.0**
baz=110
SUR Sutherland 110.32 234 PFAKE 03 35 10.0
SUR LR LR
comp=Z,40µm,22.0s
HYA Hoyanger 110.33 337 ePP PP 03 35 32.0 -1.7
HYA IAMs_20 IAMs_20 04 22 08.3
comp=Z,85µm,21.0s
FNA Florina 110.37 313 eP **Pdif 03 31 00.8 +1.7**
PV05 Paradox Valley 110.37 50 ePKiKP **PKiKP 03 34 59.4 -1.0**
DIVS Divibare 110.41 317⇑ *i*P **Pdif 03 31 03.1 +3.8**
G22A Birney 110.42 42 ⇓Pdiff **Pdif 03 30 59.5 +0.2**
baz=110
KSP Ksiaz 110.43 324 ePdiff **Pdif 03 31 01.1 +2.0**
KSP e 03 31 11.7
KSP ePP **PP 03 35 39.9 +5.0**
KSP eSKSac SKSac 03 41 46.6 +9.3
KSP eSP **SP 03 45 10.6 +8.7**
KSP eSS SS 03 51 11.9 +10
KSP LMZ LR 04 23 35.4
KSP Ksiaz 110.43 324 eP **Pdif 03 31 01.2 +2.1**
KSP e 03 35 40.0
KSP eSS SS 03 51 11.9 +10
KSP MLR MLR
comp=Z,81µm,25.1s
COP Copenhagen 110.44 330 *i* P **Pdif 03 31 02.8 +3.9**
COP *i* 03 35 39.1
comp=Z,33µm,21.0s
COP Copenhagen 110.44 330 eP **Pdif 03 31 02.8 +3.9**
COP *i* 03 35 39.1
COP MLR MLR
comp=Z,33µm,21.0s
PV04 Paradox Valley 110.45 50 ePKiKP **PKiKP 03 35 00.0 -0.4**
O20A White River Ci 110.51 48 ⇓Pdiff **Pdif 03 30 59.7 -0.2**
baz=110
O20A White River Ci 110.51 48 ePKiKP **PKiKP 03 34 58.8 -1.7**
O20A LR LR
comp=Z,54µm,20.0s
RGN Rugen 110.51 329 PFAKE 03 35 10.0
RGN LR LR
comp=Z,71µm,21.0s
FOO Floro 110.51 338 ePP PP 03 35 39.9 +4.9
FOO e 03 45 06.6
FOO IAMs_20 IAMs_20 04 24 23.2
comp=Z,100µm,19.0s
EVR Evrytania 110.53 311 P **PP 03 35 34.6 -1.6**
W18A Petrified Fore 110.54 53 ⇓Pdiff **Pdif 03 31 00.6 +0.4**
baz=110
H22A Clearmont 110.58 43⇑Pdiff **Pdif 03 31 00.6 +0.6**
baz=110
DPC Dobruska-Polom 110.61 324 ePDIFF **Pdif 03 31 02.1 +2.2**
DPC ex x 03 31 09.0
DPC ex x 03 32 58.0
DPC ePP PP 03 35 41.8 +5.5
DPC ex x 03 37 47.1
DPC eSKS **SKSac 03 41 35.6 -2.6**
DPC eSP **SP 03 45 01.8 -1.8**
DPC ePKKP **PKKPdf 03 46 17.8 -0.6**
DPC ex x 03 46 27.5
DPC eSS **SS 03 51 07.9 +3.9**
DPC AMS AMS 04 26 20.0
comp=Z,66µm,20.9s
DPC Dobruska-Polom 110.61 324 eP **Pdif 03 31 02.1 +2.2**
DPC e 03 35 41.8
DPC e 03 41 35.6
DPC eSP SP 03 45 01.8 -1.8
DPC e 03 46 17.8
DPC eSS **SS 03 51 07.9 +3.9**
DPC MLR MLR
comp=Z,66µm,20.9s
A24A Westby 110.63 38⇑Pdiff **Pdif 03 31 00.6 +0.6**
baz=111
PKSM Moragy 110.65 319 ⇓P **Pdif 03 31 03.5 +3.4**
PKSM Moragy 110.65 319 ⇓ *i*P **Pdif 03 31 03.5 +3.4**
PKSM Moragy 110.65 319 ⇓ *e*Pdif Pdif 03 31 12.0 +12
E23A Ismay 110.66 41 ⇓Pdiff **Pdif 03 31 00.7 +0.5**
baz=111
DGMT Dagmar 110.68 38⇑Pdiff **Pdif 03 31 01.5 +1.3**
baz=111
DGMT Dagmar 110.68 38 ePKiKP **PKiKP 03 35 00.8 +0.4**
DGMT LR LR
comp=Z,61µm,20.0s
I22A 9 Mile Ranch, 110.70 44 ⇓Pdiff **Pdif 03 31 01.6 +1.0**
baz=111
UPC Upice 110.73 324 ePDIFF **Pdif 03 31 03.3 +2.9**
UPC ePKKP **PKKPab 03 46 12.9 +3.1**
UPC Upice 110.73 324 eP **Pdif 03 31 03.3 +2.9**
UPC e 03 46 12.9
PV01 Paradox Valley 110.77 50 ePKiKP **PKiKP 03 35 00.2 -1.0**
RWWY Rawlins 110.84 46 PFAKE 03 35 10.0
RWWY LR LR
comp=Z,46µm,21.0s
VRAC Vranov 110.84 323⇑P **Pdif 03 31 04.6 +3.6**
VRAC Vranov 110.84 323⇑ *i*P **Pdif 03 31 04.6 +3.6**
F23A Volborg 110.85 41 ⇓Pdiff **Pdif 03 31 00.7 -0.5**
baz=111
J22A Midwest 110.86 44 ⇓Pdiff **Pdif 03 31 01.9 +0.6**
baz=111
C24A Savage 110.87 39 ⇓Pdiff **Pdif 03 31 01.5 +0.3**
baz=111
ODD1 Odda 110.88 336 ePP PP 03 35 37.4 -0.4
ODD1 e 03 45 05.6
ODD1 IAMs_20 IAMs_20 04 20 10.0
comp=Z,118µm,21.9s
SUE Sulen 110.95 337 ePP PP 03 35 40.8 +2.7
SUE e 03 45 11.3
SUE IAMs_20 IAMs_20 04 24 17.8
comp=Z,90µm,20.3s
HOMB Homborsund 110.99 334 ePP PP 03 35 35.2 -3.3
HOMB *i* 03 45 13.5
HOMB IAMs_20 IAMs_20 04 23 44.5
comp=Z,107µm,20.6s
DSL Palaion Diasel 111.01 311 P **PKiKP 03 35 04.2 +2.9**
G23A Biddle 111.03 42 ⇓Pdiff **Pdif 03 31 02.2 +0.2**
baz=111
MVCO Mesa Verde 111.04 51 ⇓Pdiff **Pdif 03 30 58.7 -3.7**
baz=111
K22A Casper 111.05 45⇑Pdiff **Pdif 03 31 02.3 0.0**
baz=111
K22A Casper 111.05 45 PFAKE 03 35 10.0
K22A LR LR
comp=Z,33µm,21.0s
D24A Glendive 111.08 40 ⇓Pdiff **Pdif 03 31 02.7 +0.6**
baz=111
ASK Askoy 111.12 337 ePP PP 03 35 42.1 +2.7
ASK e 03 45 16.7
ASK IAMs_20 IAMs_20 04 22 31.8
comp=Z,132µm,21.3s
BER Bergen 111.13 336 ePP PP 03 35 39.3 -0.1
BER e 03 45 12.2
BER IAMs_20 IAMs_20 04 22 32.1
comp=Z,150µm,21.1s
A25A Svangstu Ranch 111.17 38⇑Pdiff **Pdif 03 31 00.0 -2.4**
baz=111
RUE Ruedersdorf 111.18 327 PFAKE 03 35 10.0
RUE LR LR
comp=Z,89µm,18.0s
BLS5 Blasjo 111.23 335 ePP PP 03 35 40.8 +0.5
BLS5 e 03 45 13.1
H23A Clabaugh Cattl 111.23 43 ⇓Pdiff **Pdif 03 31 01.4 -1.5**
baz=111
FCC Fort Churchill 111.26 26 PFAKE 03 35 10.0
FCC LR LR
comp=Z,1519µm,22.0s
E24A Baker 111.29 40 ⇓Pdiff **Pdif 03 31 03.5 +0.4**
baz=111
TIR Tirane 111.31 314 PFAKE 03 35 10.0
TIR LR LR
comp=Z,51µm,21.0s
I23A Meade Ranch, G 111.39 43 ⇓Pdiff **Pdif 03 31 03.3 -0.3**
baz=111
B25A Knox Farm, Ray 111.39 38 ⇓Pdiff **Pdif 03 31 03.3 -0.2**
baz=111
F24A Ekalaka 111.44 41⇑Pdiff **Pdif 03 31 04.2 +0.4**
baz=111
PMSA Palmer Station 111.48 171 PFAKE 03 35 10.0
PMSA LR LR
comp=Z,99µm,19.0s
J23A Dilts Ranch, B 111.50 44 ⇓Pdiff **Pdif 03 31 04.7 +0.5**
baz=112
TREC Trest 111.52 323 ePDIFF **Pdif 03 31 06.2 +2.2**

TREC ex x 03 33 02.0
TREC ePP **PP** **03 35 47.1 +4.3**
TREC ex x 03 37 57.1
TREC eSKS **SKSac** **03 41 47.3 +5.4**
TREC eSP **SP** **03 45 12.5 +0.6**
TREC ePKKP **PKKPdf** **03 46 16.3 -0.4**
TREC ex x 03 46 24.3
TREC eSS **SS** **03 51 15.5 -0.6**
TREC AMS AMS 04 25 00.0
comp=Z,72µm,20.2s
TREC Trest 111.52 323 eP **Pdif** **03 31 06.2 +2.2**
TREC e 03 35 47.1
TREC eSP SP 03 45 12.5 +0.6
TREC e 03 46 16.3
TREC e 03 46 24.3
TREC eSS **SS** **03 51 15.5 -0.6**
TREC MLR MLR
comp=Z,72µm,20.2s
SNART Snartemo 111.52 334 ePP PP 03 35 44.1 +1.7
C25A Freed Ranch, W 111.54 39 ⇓Pdiff **Pdif** **03 31 02.8 -1.4**
baz=112
PVCC Panska Ves 111.56 324 ePDIFF **Pdif** **03 31 06.8 +2.7**
PVCC ex x 03 31 13.9
PVCC ePP PP 03 35 48.9 +5.9
PVCC ex x 03 37 52.5
PVCC eSKS **SKSac** **03 41 42.3 +0.3**
PVCC eSP **SP** **03 45 12.5 +0.3**
PVCC eSS **SS** **03 51 16.7 +0.1**
PVCC AMS AMS 04 24 20.0
comp=Z,96µm,19.8s
PVCC Panska Ves 111.56 324 eP **Pdif** **03 31 06.8 +2.7**
PVCC e 03 35 48.9
PVCC e 03 41 42.3
PVCC eSP SP 03 45 12.5 +0.3
PVCC eSS **SS** **03 51 16.7 +0.1**
PVCC MLR MLR
comp=Z,96µm,19.8s
G24A Alzada 111.64 42 ⇓Pdiff **Pdif** **03 31 04.6 -0.1**
baz=112
K23A Bowen Ranch, D 111.65 45 ⇑Pdiff **Pdif** **03 31 05.0 +0.1**
baz=112
GOPC GO Pecny, Ondr 111.69 324 ePDIFF **Pdif** **03 31 07.7 +3.0**
GOPC ex x 03 31 14.3
GOPC ex x 03 33 02.3
GOPC ePP PP 03 35 49.6 +5.6
GOPC ex x 03 37 53.8
GOPC eSKS **SKSac** **03 41 48.4 +5.8**
GOPC eSP **SP** **03 45 12.7 -0.7**
GOPC ePKKP **PKKPdf** **03 46 14.7 -1.6**
GOPC eSS **SS** **03 51 17.5 -0.8**
GOPC AMS AMS 04 25 30.0
comp=Z,68µm,19.0s
SMCO Snowmass 111.71 49 PFAKE 03 35 10.0
SMCO LR LR
comp=Z,63µm,20.0s
D25A Fairfield 111.71 39 ⇓Pdiff **Pdif** **03 31 05.1 +0.2**
baz=112
H24A Dirks Ranch, A 111.75 42 ⇑Pdiff **Pdif** **03 31 04.0 -1.2**
baz=112
BRG Berggiesshubel 111.78 325 *i* PDIF **Pdif** **03 31 06.6 +1.6**
comp=Z,40nm,1.3s
BRG PP **PP** **03 35 42.0 -2.6**
BRG SKS **SKSac** **03 41 47.0 +4.2**
BRG SDIFF **Sdif** **03 43 26.0 +1.5**
BRG PS **SP** **03 45 13.0 -1.2**
BRG *i* PKKP **PS** **03 45 20.7 +3.0**
comp=Z,33nm,1.7s
BRG SS **SS** **03 51 24.0 +4.6**
comp=N,64µm,18.7s
comp=E,60µm,17.6s
comp=Z,124µm,18.1s
BRG Berggiesshubel 111.78 325 eP **Pdif** **03 31 08.2 +3.1**
comp=Z,17nm,1.1s
BRG Berggiesshubel 111.78 325 ePdiff **Pdif** **03 31 06.5 +1.4**
BRG ePKPbc **PKiKP** **03 35 06.7 +4.4**
BRG Berggiesshubel 111.78 325 *i* P **Pdif** **03 31 06.6 +1.6**
BRG 03 35 42.0
BRG PS **SP** **03 45 13.0 -1.2**
BRG SS SS 03 51 24.0 +4.5
BRG pmax pmax
comp=Z,40nm,1.3s
BRG MLR MLR
comp=N,64µm,18.7s
BRG MLR MLR
comp=E,60µm,17.6s
BRG MLR MLR
comp=Z,124µm,18.1s
PRU Pruhonice 111.80 324 ePDIFF **Pdif** **03 31 07.7 +2.5**
PRU ex x 03 31 14.6
PRU ex x 03 33 02.5
PRU ePP PP 03 35 50.5 +5.7
PRU ex x 03 37 54.9
PRU eSKS **SKSac** **03 41 45.1 +2.1**
PRU eSP **SP** **03 45 13.2 -1.2**
PRU ePKKP **PKKPdf** **03 46 12.6 -3.5**
PRU ex x 03 46 18.1
PRU eSS **SS** **03 51 18.7 -1.1**
PRU AMS AMS 04 28 00.0
comp=Z,67µm,19.9s
PRU Pruhonice 111.80 324 eP **Pdif** **03 31 07.7 +2.5**
PRU e 03 35 50.5
PRU e 03 41 45.1
PRU eSP SP 03 45 13.2 -1.3
PRU e 03 46 18.1
PRU eSS **SS** **03 51 18.7 -1.1**
PRU MLR MLR
comp=Z,67µm,19.9s
CONA Conrad Observa 111.82 321 ⇓*i*PKiKP **PKiKP** **03 35 02.2 -0.4**
comp=Z,24nm,1.5s
PRA Prague 111.83 324 ePDIFF **Pdif** **03 31 08.2 +2.9**
PRA ex x 03 33 02.3
PRA ePP **PP** **03 35 49.9 +4.9**
PRA ex x 03 37 55.0
PRA eSKS **SKSac** **03 41 44.5 +1.5**
PRA eSP **SP** **03 45 13.4 -1.3**
PRA eSS **SS** **03 51 21.5 +1.3**
PRA AMS AMS 04 28 00.0
comp=Z,83µm,19.9s
PRA Prague 111.83 324 eP **Pdif** **03 31 08.2 +2.9**
PRA e 03 35 49.9
PRA e 03 41 44.5
PRA eSP SP 03 45 13.4 -1.3
PRA eSS **SS** **03 51 21.5 +1.3**
PRA MLR MLR
comp=Z,83µm,19.9s
A26A Wade Farm, Ken 111.84 37 ⇓Pdiff **Pdif** **03 31 05.3 -0.1**
baz=112
KMY Karmoy 111.86 335 ePP PP 03 35 46.5 +1.8
KMY ePP **PP** **03 35 49.9 +5.2**
KMY e 03 45 13.1
KMY IAMs_20 IAMs_20 04 24 19.3
comp=Z,56µm,19.7s
E25A Miller Ranch, 111.89 40 ⇓Pdiff **Pdif** **03 31 05.0 -0.7**
baz=112
B26A Jensen Ranch, 111.92 38 ⇑Pdiff **Pdif** **03 31 04.7 -1.1**
baz=112
N23A Red Feather La 111.98 46 ⇑Pdiff **Pdif** **03 31 04.9 -1.7**
baz=112
N23A Red Feather La 111.98 46 PFAKE 03 35 10.0
N23A LR LR
comp=Z,72µm,20.0s
I24A Kuemmerle Ranc 111.99 43 ⇑Pdiff **Pdif** **03 31 05.3 -1.1**
baz=112
F25A Bowman 112.06 41 ⇑Pdiff **Pdif** **03 31 06.2 -0.4**
baz=112
CLL Collm 112.13 326 eP **Pdif** **03 31 09.5 +2.9**
comp=Z,14nm,1.0s
CLL Collm 112.13 326 ePdiff **Pdif** **03 31 08.7 +2.1**
CLL ePKPbc **PKiKP** **03 35 07.5 +4.5**
CLL Collm 112.13 326 ePdif **Pdif** **03 31 08.0 +1.4**
comp=Z,37nm,1.3s
CLL epPdif **pPdif** **03 31 15.0 +1.1**
CLL esPdif sPdif 03 31 18.0 +1.5
CLL e 03 34 42.0
CLL ePKiKP PKiKP 03 34 56.0 -7.0
comp=Z,45nm,1.7s
CLL ePP PP 03 35 40.0 -7.0
CLL e 03 35 50.0
CLL *i* pPP 03 35 56.4
CLL *i* 03 36 20.6
CLL ePPP PPP 03 38 10.0
CLL e 03 40 18.0
CLL eSKKSac **SKKSac** **03 42 54.0 +5.4**
CLL eSdif **Sdif** **03 43 30.0 +2.7**
CLL ePS **PS** **03 45 18.0 -2.9**
CLL ePKKPab **PKKPab** **03 46 07.0 +3.5**
CLL *i* pPKKPdf 03 46 21.6
CLL e 03 47 08.0
CLL e 03 50 08.0
CLL eSS **SS** **03 51 25.0 +1.0**
CLL eSSS SSS 03 55 24.0
CLL LmV 04 22 00.0
comp=Z,79µm,21.5s
CLL Lmax 04 26 00.0
CLL Collm 112.13 326 eP **Pdif** **03 31 08.0 +1.4**
CLL e 03 34 56.0
CLL *i* 03 46 21.6
CLL pmax pmax
comp=Z,37nm,1.3s
CLL pmax pmax
comp=Z,45nm,1.7s
CLL MLR MLR
comp=Z,79µm,21.5s
CLL Collm 112.13 326 ePKiKP PKiKP 03 34 56.2 -6.8
CLL ePP **PP** **03 35 44.1 -3.0**
CLL LR LR
comp=Z,93µm,21.0s
J24A Dixon Ranch, L 112.14 44 ⇓Pdiff **Pdif** **03 31 06.7 -0.3**
baz=112
S22A 4UR Ranch, Cre 112.19 50 ⇑Pdiff **Pdif** **03 31 06.9 -0.7**
baz=112
S22A 4UR Ranch, Cre 112.19 50 PFAKE 03 35 10.0
S22A LR LR
comp=Z,50µm,20.0s
PHWY Pilot Hill 112.21 46 PFAKE 03 35 10.0
PHWY LR LR
comp=Z,46µm,22.0s
C26A Wahner Farm, P 112.22 38 ⇑Pdiff **Pdif** **03 31 08.1 +0.9**
baz=112
K24A Anderson Ranch 112.23 44 ⇓Pdiff **Pdif** **03 31 06.9 -0.5**
baz=112
ARSA Arzberg 112.28 321 ⇓*i*PKiKP **PKiKP** **03 35 04.3 +0.8**
comp=Z,12nm,0.9s
A27A Ledoux Ranch, 112.30 37 ⇑Pdiff **Pdif** **03 31 06.2 -1.2**
baz=112
RSSD Black Hills 112.31 43 ePKIKP PKiKP 03 34 56.9 -7.0
RSSD MLR MLR
comp=Z,44µm,22.0s
RSSD Black Hills 112.31 43 ePKiKP PKiKP 03 34 56.9 -7.0
RSSD LR LR
comp=Z,44µm,22.0s
D26A Manning 112.31 39 ⇓Pdiff **Pdif** **03 31 06.6 -0.9**
baz=112
SLBS Sierra La Lagu 112.34 65 ePKiKP **PKiKP** **03 35 06.2 +1.9**
SLBS LR LR
comp=Z,52µm,20.0s
G25A Newell 112.35 41 ⇑Pdiff **Pdif** **03 31 06.3 -1.5**
baz=112
BSEG Bad Segeberg 112.36 329 eP **Pdif** **03 31 10.5 +3.0**
comp=Z,8.0nm,1.0s
BSEG Bad Segeberg 112.36 329 ePdiff **Pdif** **03 31 10.7 +3.2**
H25A Fruitdale 112.43 42 ⇑Pdiff **Pdif** **03 31 05.7 -2.5**
baz=112
P23A Jefferson 112.50 48 ⇑Pdiff **Pdif** **03 31 06.3 -2.7**
baz=112
E26A Carlson Angus 112.51 40 ⇑Pdiff **Pdif** **03 31 05.8 -2.7**
baz=112
B27A Peters Farms, 112.51 38 ⇑Pdiff **Pdif** **03 31 06.6 -1.8**
baz=112
ISCO Idaho Springs 112.54 48 ePKIKP **PKiKP** **03 35 00.8 -3.8**
ISCO Idaho Springs 112.54 48 ⇓Pdiff **Pdif** **03 31 06.3 -2.8**
baz=112
ISCO Idaho Springs 112.54 48 ePKiKP **PKiKP** **03 35 00.8 -3.8**
I25A Rochford 112.55 43 ⇓Pdiff **Pdif** **03 31 07.1 -1.8**
baz=112
F26A Lodgepole 112.60 41 ⇓Pdiff **Pdif** **03 31 06.0 -2.9**
baz=112
C27A Sayler Ranch, 112.64 38 ⇓Pdiff **Pdif** **03 31 06.8 -2.1**
baz=113
Q23A Hartsel 112.64 49 ⇓Pdiff **Pdif** **03 31 06.1 -3.4**
baz=113
121A Cookes Peak, D 112.68 56 ⇓Pdiff **Pdif** **03 31 08.7 -1.0**
baz=113
J25A Sunshine Ranch 112.71 43 ⇓Pdiff **Pdif** **03 31 07.4 -2.1**
baz=113
KHC Kasperske Hory 112.73 323 ePDIFF **Pdif** **03 31 11.7 +2.3**
KHC ex x 03 31 18.7
KHC ex x 03 33 06.6
KHC ePP **PP** **03 35 55.5 +4.0**
KHC ex x 03 38 05.3
KHC eSKS **SKSac** **03 41 47.3 +0.5**
KHC eSP **SP** **03 45 21.9 -1.2**
KHC ePKKP **PKKPdf** **03 46 13.9 -0.5**
KHC eSS SS 03 51 23.3 -8.9
KHC AMS AMS 04 28 10.0
comp=Z,68µm,19.0s
KHC Kasperske Hory 112.73 323 eP **Pdif** **03 31 11.7 +2.3**
KHC e 03 35 55.5
KHC e 03 41 47.3
KHC eSP SP 03 45 21.9 -1.2
KHC eSS SS 03 51 23.3 -8.9
KHC MLR MLR
comp=Z,68µm,19.0s
KHC Kasperske Hory 112.73 323 ePKiKP **PKiKP** **03 35 02.8 -1.5**
KHC ePP **PP** **03 35 47.0 -4.4**
KHC LR LR
comp=Z,27µm,19.0s
GEC2 GERESS Array S 112.77 323 eP **Pdif** **03 31 13.0 +3.3**
comp=Z,18nm,1.3s
GEC2 GERESS Array S 112.77 323 ePdiff **Pdif** **03 31 13.0 +3.3**
GEC2 ePKPbc **PKiKP** **03 35 08.2 +3.8**
GEC2 GERESS Array S 112.77 323 eP **Pdif** **03 31 12.7 +3.0**
GEC2 *i* 03 35 03.4
GEC2 e 03 35 53.3
GEC2 GERESS Array S 112.77 323 ePdif **Pdif** **03 31 12.7 +3.0**
GEC2 ePKiKP **PKiKP** **03 35 03.4 -1.1**
GEC2 ePP **PP** **03 35 53.2 +1.4**
GERES GERESS Array B 112.77 323 Pdiff **Pdif** **03 31 09.9 +0.2**
comp=Z,4.0nm,1.0s,baz=83,slow=4.2,SNR=9.7
GERES PKiKP **PKiKP** **03 35 03.4 -1.1**
comp=Z,1.2nm,0.7s,baz=48,slow=1.5,SNR=2.9
SOKA Soboth 112.81 320 ⇓*i*pPKiKP **PKiKP** **03 35 06.7 +2.2**
comp=Z,18nm,1.2s
SOKA ⇓*i*PP **PP** **03 35 53.9 +1.6**
comp=Z,229nm,3.3s
TANN Tannenbergstha 112.83 325 eP **Pdif** **03 31 12.7 +2.9**
comp=Z,8.0nm,1.1s
TANN Tannenbergstha 112.83 325 ePdiff **Pdif** **03 31 12.1 +2.3**
TANN ePKPbc **PKiKP** **03 35 09.3 +4.9**
S23A Nye Farm, Mont 112.84 50 ⇓Pdiff **Pdif** **03 31 05.3 -5.1**
baz=113
R23A Moffat 112.84 49 ⇑Pdiff **Pdif** **03 31 08.5 -1.9**
baz=113
G26A Maurine 112.85 41 ⇑Pdiff **Pdif** **03 31 07.7 -2.4**
baz=113
D27A Center 112.86 39 ⇑Pdiff **Pdif** **03 31 08.1 -1.9**
baz=113
A28A Rude Farm, Bot 112.90 37 ⇑Pdiff **Pdif** **03 31 09.7 -0.4**
baz=113
NKC Novy Kostel 112.92 325 ePDIFF **Pdif** **03 31 10.6 +0.4**
NKC epP 03 31 12.6
NKC ex x 03 33 07.3
NKC ePP **PP** **03 35 56.6 +3.9**
NKC ex x 03 38 05.3
NKC eSP SP 03 45 22.8 -1.9
NKC ePKKP **PKKPdf** **03 46 15.6 +1.6**
NKC eSS SS 03 51 26.5 -8.1
NKC AMS AMS 04 26 30.0
comp=Z,62µm,20.2s
NKC Novy Kostel 112.92 325 eP **Pdif** **03 31 10.6 +0.4**
NKC e 03 35 56.6
NKC eSP SP 03 45 22.8 -1.9
NKC eSS SS 03 51 26.5 -8.1
NKC MLR MLR
comp=Z,62µm,20.2s
K25A Mack Ranch, Ha 112.92 44 ⇑Pdiff **Pdif** **03 31 10.6 +0.1**
baz=113
H26A Fairpoint 112.98 42 ⇓Pdiff **Pdif** **03 31 11.1 +0.5**
baz=113
L25A Engebretsen Ra 113.01 45 ⇑Pdiff **Pdif** **03 31 09.2 -1.7**
baz=113
F27A Lemmon 113.02 40 ⇓Pdiff **Pdif** **03 31 10.4 -0.4**
baz=113
Y22D IRIS PASSCAL I 113.03 54 ⇓Pdiff **Pdif** **03 31 09.7 -1.5**
baz=113
B28A Dugan Ranch, T 113.04 37 ⇓Pdiff **Pdif** **03 31 10.4 -0.3**
baz=113
E27A Carson 113.10 40 ⇓Pdiff **Pdif** **03 31 10.5 -0.5**
baz=113
BOJS Bojanci 113.12 319 *i* Pdiff **Pdif** **03 31 17.8 +6.7**
BOJS *i* PKiKP **PKiKP** **03 35 09.8 +4.8**
BOJS ePP **PP** **03 35 58.8 +4.4**
BOJS eSKSac **SKSac** **03 41 53.8 +5.4**
BOJS eSP **SP** **03 45 27.1 +0.3**
BOJS eSS SS 03 51 51.7 +14
Q24A Divide 113.13 48 ⇑Pdiff **Pdif** **03 31 09.5 -2.3**
baz=113
Q24A Divide 113.13 48 PFAKE 03 35 20.0
Q24A LR LR
comp=Z,62µm,22.0s
I26A New Underwood 113.13 42 ⇓Pdiff **Pdif** **03 31 09.4 -1.9**
baz=113
WET Wettzell 113.14 324 eP **Pdif** **03 31 14.0 +2.9**
comp=Z,6.0nm,1.2s
WET Wettzell 113.14 324 ePdiff **Pdif** **03 31 14.1 +2.9**
WET ePKPbc **PKiKP** **03 35 08.5 +3.5**
M25A Palm-Egli Farm 113.17 45 ⇑Pdiff **Pdif** **03 31 09.1 -2.6**
baz=113
ANMO Albuquerque 113.20 53 PKiKP **PKiKP** **03 35 05.9 +0.1**
comp=Z,3.6nm,0.8s,baz=309,slow=11,SNR=1.8
ANMO Albuquerque 113.20 53 *i* PKiKP **PKiKP** **03 35 05.9 +0.1**
ANMO pmax pmax
comp=Z,4.0nm,0.8s
ANMO Albuquerque 113.20 53 ePKiKP **PKiKP** **03 35 08.1 +2.3**
SDCO Great Sand Dun 113.21 50 ⇑Pdiff **Pdif** **03 31 10.8 -1.3**
baz=113
SDCO Great Sand Dun 113.21 50 PFAKE 03 35 20.0
SDCO LR LR
comp=Z,51µm,19.0s
MOX Moxa 113.21 325 eP **Pdif** **03 31 15.4 +4.0**
comp=Z,15nm,1.1s
MOX Moxa 113.21 325 ePdiff **Pdif** **03 31 13.8 +2.4**
MOX eL L 04 25 50.7
comp=Z,73µm,22.0s
J26A Sides Ranch, S 113.23 43 ⇑Pdiff **Pdif** **03 31 10.8 -1.0**
baz=113
BNM Barren Site 113.25 54 ePKiKP **PKiKP** **03 35 06.7 +0.7**
G27A Dupree 113.26 41 ⇓Pdiff **Pdif** **03 31 10.1 -1.8**
baz=113
ROTZ Rotzenmuhle 113.26 324 eP **Pdif** **03 31 15.3 +3.6**
comp=Z,9.0nm,1.1s
ROTZ Rotzenmuhle 113.26 324 ePdiff **Pdif** **03 31 15.0 +3.3**
VISS Visnje 113.27 320 ePdiff **Pdif** **03 31 16.9 +5.1**
VISS *i* PKiKP **PKiKP** **03 35 09.9 +4.6**
VISS ePP **PP** **03 35 55.6 +0.2**
VISS eSKSac SKSac 03 41 56.7 +7.6
VISS eSP **SP** **03 45 34.1 +5.8**
C28A Hausauer Farms 113.32 38 ⇑Pdiff **Pdif** **03 31 11.4 -0.7**
baz=113
CLZ Clausthal 113.34 327 eP **Pdif** **03 31 15.4 +3.4**
comp=Z,16nm,1.1s
CLZ Clausthal 113.34 327 ePdiff **Pdif** **03 31 15.5 +3.4**
CLZ ePKPbc **PKiKP** **03 35 10.2 +4.9**
K26A Motz Farm, Whi 113.37 44 ⇓Pdiff **Pdif** **03 31 12.7 +0.2**
baz=113
LJU Ljubljana 113.38 320 *i* Pdiff **Pdif** **03 31 16.0 +3.7**
LJU ePP **PP** **03 35 59.1 +2.9**
LJU eSKSac **SKSac** **03 41 55.4 +5.9**
LJU eSP **SP** **03 45 36.0 +6.8**
LJU eSS SS **03 51 45.6 +4.5**
D28A Regan 113.42 39 ⇓Pdiff **Pdif** **03 31 11.6 -0.9**
baz=113
H27A Howes 113.44 42 ⇓Pdiff **Pdif** **03 31 11.6 -1.0**
baz=113
A29A Manning Farm, 113.52 37 ⇑Pdiff **Pdif** **03 31 10.5 -2.3**
baz=113
E28A Huff 113.59 39 ⇑Pdiff **Pdif** **03 31 10.3 -3.0**
baz=114
B29A Wagenman Farm, 113.64 37 ⇓Pdiff **Pdif** **03 31 10.3 -3.1**
baz=114
I27A Quinn 113.66 42 ⇓Pdiff **Pdif** **03 31 10.8 -2.8**
baz=114
KBA Koelnbreinsper 113.72 321 ⇑pPKiKP **PKiKP** **03 35 10.4 +4.0**
comp=Z,16nm,1.1s
KBA ⇓*i*PP **PP** **03 35 59.5 +0.8**
comp=Z,2µm,3.2s
MDND Maddock 113.75 38 ⇑Pdiff **Pdif** **03 31 11.4 -2.5**
baz=114
MDND Maddock 113.75 38 ePKiKP **PKiKP** **03 35 07.1 +0.9**
MDND LR LR
comp=Z,55µm,19.0s
RJOB Jochberg 113.79 322 ePdiff **Pdif** **03 31 13.4 -0.7**
RJOB ePKPbc **PKiKP** **03 35 10.4 +4.0**
F28A McLaughlin 113.81 40 ⇓Pdiff **Pdif** **03 31 11.9 -2.4**
baz=114
M26A McRoberts Ranc 113.81 45 ⇑Pdiff **Pdif** **03 31 12.4 -2.1**
baz=114
GRF Grafenberg Arr 113.87 325 eP **Pdif** **03 31 18.3 +3.9**
comp=Z,5.0nm,1.0s
GRF Grafenberg Arr 113.87 325 eL L 04 28 00.7
comp=Z,100µm,19.4s
GRFO Grafenberg 113.87 325 PFAKE 03 35 20.0
GRFO LR LR
comp=Z,94µm,19.0s
N26A Koester Ranch, 113.97 46 ⇑Pdiff **Pdif** **03 31 13.9 -1.3**
baz=114
J27A Elkhorn Farm, 113.99 43 ⇓Pdiff **Pdif** **03 31 13.5 -1.7**
baz=114
TRI Trieste 114.00 320 PFAKE 03 35 20.0 +13
TRI LR LR
comp=Z,46µm,19.0s
K27A Fluecklinger Fa 114.02 44 ⇑Pdiff **Pdif** **03 31 13.1 -2.2**
baz=114
UBBA Unterbreizbach 114.04 326 eP **Pdif** **03 31 18.2 +3.3**
comp=Z,25nm,1.4s
UBBA Unterbreizbach 114.04 326 ePdiff **Pdif** **03 31 18.1 +3.2**
G28A Parade 114.04 41 ⇓Pdiff **Pdif** **03 31 12.7 -2.6**
baz=114
A30A Hoffart Farm, 114.06 36 ⇑Pdiff **Pdif** **03 31 11.9 -3.3**
baz=114
D29A Pettibone, Tap 114.08 38 ⇓Pdiff **Pdif** **03 31 11.6 -3.8**
baz=114
O26A Horse Wrangler 114.09 47 ⇑Pdiff **Pdif** **03 31 09.3 -6.5**
baz=114
H28A Mission Ridge 114.12 41 ⇑Pdiff **Pdif** **03 31 10.9 -4.8**
baz=114
L27A T5 Ranch, Ells 114.19 44 ⇓Pdiff **Pdif** **03 31 12.7 -3.5**
baz=114
T25A Trinidad 114.21 50 ⇓PKiKP PKPdf 03 35 07.1 -0.6
baz=114
T25A Trinidad 114.21 50 ePKiKP PKPdf 03 35 06.5 -1.2
T25A ePP PP 03 35 54.0 -8.7
T25A LR LR
comp=Z,48µm,22.0s
TIP Timpagrande 114.23 312 P PP 03 36 11.6 +9.0
TIP Timpagrande 114.23 312 PFAKE 03 35 20.0 +13
TIP LR LR
comp=Z,12µm,21.0s
B30A Myrvik Farm, E 114.26 37 ⇓Pdiff **Pdif** **03 31 13.9 -2.2**
baz=114
E29A Napoleon 114.26 39 ⇑PKiKP PKPdf 03 35 05.8 -1.4
baz=114
I28A Midland 114.28 42 ⇓PKiKP PKPdf 03 35 06.7 -0.6
baz=114
P26A Davis Ranch, A 114.28 47 ⇓PKiKP PKPdf 03 35 06.8 -0.9
baz=114
M27A Reverse DX Ran 114.33 45 ⇓PKiKP PKPdf 03 35 06.9 -0.8
baz=114
Q26A Hugo 114.35 48 ⇓PKiKP PKPdf 03 35 06.1 -1.8
baz=114
F29A Eureka 114.44 40 ⇑PKiKP **PKiKP** **03 35 06.2 -1.4**
baz=114
J28A Allard Ranch, 114.45 43 ⇓PKiKP PKPdf 03 35 06.2 -1.5
baz=114
N27A Anderson Farm, 114.46 46 ⇑PKiKP PKPdf 03 35 07.1 -0.8
baz=114
C30A Mose, Pekin 114.50 37 ⇓PKiKP **PKiKP** **03 35 06.7 -1.0**
baz=114
IBBN Ibbenburen 114.51 328 eP **Pdif** **03 31 20.5 +3.4**
comp=Z,11nm,1.0s
IBBN Ibbenburen 114.51 328 ePdiff **Pdif** **03 31 20.7 +3.6**
IBBN ePKPbc PKPdf 03 35 12.5 +5.0
D30A Buchanan 114.58 38 ⇓PKiKP **PKiKP** **03 35 07.3 -0.6**
baz=114
R26A Arlington 114.60 49 ⇓PKiKP PKPdf 03 35 07.8 -0.5
baz=115
K28A Ten Mile Ranch 114.62 43 ⇑PKiKP **PKiKP** **03 35 07.0 -1.2**
baz=115
G29A Hoven 114.64 40 ⇓PKiKP **PKiKP** **03 35 07.8 -0.2**
baz=115
CUC Castrocucco 114.66 313 ePKiKP PKiKP 03 35 02.5 -5.7
CUC ePP **PP** **03 36 02.1 -3.5**
H29A Onida 114.67 41 ⇑PKiKP **PKiKP** **03 35 07.5 -0.6**
baz=115

WTTA	**Wattenberg**	**114.70**	**322**	⇑PKiKP	**PKiKP**	**03 35 06.7**	**-1.6**
	comp=Z,68nm,1.5s								
WTTA				⇓*i*PP	**PP**	**03 36 05.8**	**+0.2**
	comp=Z,3μm,5.1s								
O27A	**Beecher Island**	**114.71**	**46**	⇓PKiKP	**PKiKP**	**03 35 08.0**	**-0.4**
	baz=115								
E30A	**Jud**	**114.75**	**39**	⇑PKiKP	**PKiKP**	**03 35 07.2**	**-1.0**
	baz=115								
L28A	**Connealy Angus**	**114.77**	**44**	⇑PKiKP	**PKiKP**	**03 35 08.1**	**-0.4**
	baz=115								
OGNE	**Ogallala**	**114.78**	**45**	⇓PKiKP	**PKiKP**	**03 35 08.1**	**-0.4**
	baz=115								
T26A	**Comanche Natio**	**114.83**	**50**	⇑PKiKP	**PKiKP**	**03 35 04.9**	**-4.0**
	baz=115								
P27A	**Ficken Ranch,**	**114.85**	**47**	⇓PKiKP	**PKiKP**	**03 35 07.0**	**-1.7**
	baz=115								
I29A	**Vivian Onida**	**114.85**	**42**	⇑PKiKP	**PKiKP**	**03 35 07.8**	**-0.6**
	baz=115								
F30A	**Leola**	**114.95**	**40**	⇑PKiKP	**PKiKP**	**03 35 06.7**	**-1.9**
	baz=115								
KSCO	**Kaye Shedlock'**	**114.99**	**48**	⇑PKiKP	**PKiKP**	**03 35 06.0**	**-3.0**
	baz=115								
KSCO	**Kaye Shedlock'**	**114.99**	**48**	*e*PKiKP	**PKiKP**	**03 35 07.7**	**-1.3**
KSCO				LR	LR				
	comp=Z,66μm,20.0s								
MOTA	**Moosalm**	**114.99**	**322**	⇑*i*PKiKP	PKPdf	03 35 09.4	+0.6
J29A	**Okreek**	**115.07**	**42**	⇓PKiKP	**PKiKP**	**03 35 07.4**	**-1.5**
	baz=115								
M28A	**Bar X Bar Ranc**	**115.09**	**45**	⇓PKiKP	**PKiKP**	**03 35 07.5**	**-1.6**
	baz=115								
R27A	**Eads**	**115.09**	**48**	⇓PKiKP	**PKiKP**	**03 35 07.1**	**-2.2**
	baz=115								
RETA	**Reutte**	**115.13**	**323**	⇑*i*PKiKP	**PKPdf**	**03 35 09.1**	**+0.1**
	comp=Z,27nm,1.7s								
RETA				⇓*i*PP	**PP**	**03 36 07.5**	**-1.1**
	comp=Z,4μm,4.7s								
SFJD	**Kangerlussuaq**	**115.14**	**3**	*i* P	Pdif	03 31 29.8	+10
SFJD				*i*		03 36 09.8			
SFJD	**Kangerlussuaq**	**115.14**	**3**	*e*P	Pdif	03 31 29.8	+10
SFJD				*i*		03 36 09.8			
SFJD	**Kangerlussuaq**	**115.14**	**3**	PFAKE		03 35 20.0	+12
SFJD				LR	LR				
	comp=Z,38μm,20.0s								
CEL	**Celeste**	**115.16**	**312**	*e*PKiKP	**PKPdf**	**03 35 11.8**	**+2.5**
CEL				*e*PP	**PP**	**03 36 09.3**	**+0.2**
G30A	**Faulkton**	**115.17**	**40**	⇑PKiKP	**PKiKP**	**03 35 06.7**	**-2.3**
	baz=115								
TNS	**Taunus Mts**	**115.19**	**326**	*e*P	**Pdif**	**03 31 24.1**	**+3.7**
	comp=Z,11nm,1.1s								
TNS	**Taunus Mts**	**115.19**	**326**	*e*Pdiff	**Pdif**	**03 31 24.0**	**+3.7**
TNS				*e*PKPbc	**PKPdf**	**03 35 13.9**	**+4.9**
S27A	**Las Animas**	**115.20**	**49**	⇓PKiKP	**PKiKP**	**03 35 06.0**	**-3.5**
	baz=115								
N28A	**Pribbeno Ranch**	**115.22**	**46**	⇓PKiKP	**PKiKP**	**03 35 06.0**	**-3.3**
	baz=115								
BUG	**Bochum--Univer**	**115.22**	**328**	*e*Pdiff	**Pdif**	**03 31 22.6**	**+2.3**
BUG				*e*PKPbc	**PKPdf**	**03 35 13.7**	**+4.8**
O28A	**Krutsinger Ran**	**115.24**	**46**	⇑PKiKP	**PKiKP**	**03 35 06.1**	**-3.4**
	baz=115								
K29A	**Lazy Trails An**	**115.32**	**43**	⇑PKiKP	**PKiKP**	**03 35 07.5**	**-2.0**
	baz=115								
FETA	**Feichten**	**115.36**	**322**	⇑PKiKP	**PKPdf**	**03 35 10.1**	**+0.6**
	comp=Z,19nm,1.0s								
P28A	**Saint Francis**	**115.44**	**47**	⇑PKiKP	**PKiKP**	**03 35 07.7**	**-2.1**
	baz=115								
L29A	**Maesberg Ranch**	**115.47**	**44**	⇓PKiKP	**PKPdf**	**03 35 10.3**	**+0.5**
	baz=115								
I30A	**Oacoma**	**115.47**	**42**	⇓PKiKP	**PKiKP**	**03 35 08.6**	**-1.1**
	baz=115								
STU	**Stuttgart**	**115.47**	**324**	*e*Pdiff	**Pdif**	**03 31 20.7**	**-0.8**
STU	**Stuttgart**	**115.47**	**324**	PFAKE		03 35 20.0	+11
STU				LR	LR				
	comp=Z,67μm,19.0s								
T27A	**Campo**	**115.53**	**50**	⇑PKiKP	**PKiKP**	**03 35 10.0**	**-0.1**
	baz=116								
AQU	**L'Aquila**	**115.53**	**317**	PFAKE		03 35 20.0	+10
AQU				LR	LR				
	comp=Z,70μm,20.0s								
M29A	**Burnside Ranch**	**115.55**	**45**	⇓PKiKP	**PKiKP**	**03 35 08.8**	**-1.2**
	baz=116								
Q28A	**Sharon Springs**	**115.56**	**47**	⇓PKiKP	**PKiKP**	**03 35 08.4**	**-1.7**
	baz=116								
BORG	**Borgarnes**	**115.58**	**350**	PFAKE		03 35 20.0	+11
BORG				LR	LR				
	comp=Z,36μm,21.0s								
U27A	**Thompson Grove**	**115.64**	**50**	⇓PKiKP	**PKiKP**	**03 35 09.4**	**-1.0**
	baz=116								
J30A	**Dallas**	**115.66**	**42**	⇑PKiKP	**PKPdf**	**03 35 10.2**	**+0.2**
	baz=116								
DAVA	**Damuels**	**115.76**	**323**	⇑*i*PP	PP	03 36 11.5	-1.6
	comp=Z,3μm,4.4s								
AGMN	**Agassiz Nation**	**115.79**	**36**	⇑PKiKP	**PKPdf**	**03 35 10.4**	**+0.3**
	baz=116								
AGMN	**Agassiz Nation**	**115.79**	**36**	*e*PKPdf	**PKPdf**	**03 35 07.8**	**-2.3**
AGMN				*e*PP	PP	03 36 07.8	-5.2
AGMN				LR	LR				
	comp=Z,63μm,21.0s								
R28A	**Tribune**	**115.81**	**48**	⇓PKiKP	**PKPdf**	**03 35 13.1**	**+2.5**
	baz=116								
N29A	**Votaw Ranch, W**	**115.82**	**45**	⇓PKiKP	**PKPdf**	**03 35 11.4**	**+0.9**
	baz=116								
FUORN	**Ofenpass-Fuorn**	**115.83**	**322**	*e*PKPdf	**PKPdf**	**03 35 06.4**	**-4.2**
FUORN				LR	LR				
	comp=Z,107μm,20.0s								
V27A	**Dan Oppiter Fa**	**115.83**	**51**	⇑PKiKP	**PKiKP**	**03 35 08.1**	**-2.6**
	baz=116								
K30A	**Basset**	**115.83**	**43**	⇓PKiKP	**PKPdf**	**03 35 10.6**	**+0.1**
	baz=116								
O29A	**4D Ranch, Culb**	**115.94**	**46**	⇓PKiKP	**PKPdf**	**03 35 12.5**	**+1.8**
	baz=116								
T28A	**Walsh**	**115.97**	**49**	⇑PKiKP	**PKiKP**	**03 35 13.0**	**+2.1**
	baz=116								
S28A	**Manter**	**115.98**	**49**	⇓PKiKP	**PKiKP**	**03 35 11.8**	**+0.8**
	baz=116								
DAVOX	**Davos/Dischmat**	**115.99**	**322**	PKP	**PKPdf**	**03 35 11.8**	**+1.0**
	comp=Z,7.2nm,0.9s,baz=119,slow=1.7,SNR=6.2								
DAVOX				PKKPbc	**PKKPab**	**03 45 49.0**	**+2.2**
	comp=Z,3.6nm,0.9s,baz=308,slow=18,SNR=1.9								
P29A	**Atwood**	**116.03**	**46**	⇓PKiKP	**PKiKP**	**03 35 11.0**	**0.0**
	baz=116								
L30A	**Spencer Herefo**	**116.04**	**44**	⇑PKiKP	**PKPdf**	**03 35 11.8**	**+0.9**
	baz=116								
M30A	**Dale-Ortello V**	**116.09**	**44**	⇓PKiKP	**PKiKP**	**03 35 11.9**	**+0.9**
	baz=116								
U28A	**Mallet**	**116.11**	**50**	⇓PKiKP	**PKPdf**	**03 35 10.7**	**-0.5**
	baz=116								
LANF	**Langenberg**	**116.17**	**325**	⇑*e*P	**Pdif**	**03 31 29.0**	**+4.3**
BFO	**Black Forest**	**116.19**	**324**	*e*PKPbc	PKPdf	03 35 17.9	+7.0
BFO	**Black Forest**	**116.19**	**324**	*e*PKIKP	PKPdf	03 35 18.2	+7.3
BFO				*e*		03 36 13.1			
BFO				MLR	MLR				
	comp=Z,65μm,19.0s								
BFO	**Black Forest**	**116.19**	**324**	*e*PKPdf	PKPdf	03 35 18.2	+7.3
BFO				*e*PP	**PP**	**03 36 13.1**	**-2.8**
BFO				LR	LR				
	comp=Z,65μm,19.0s								
N30A	**Hueftle Ranch,**	**116.20**	**45**	⇓PKiKP	**PKiKP**	**03 35 11.3**	**+0.1**
	baz=116								
Q29A	**Oakley**	**116.24**	**47**	⇓PKiKP	**PKPdf**	**03 35 11.0**	**-0.4**
	baz=116								
R29A	**Marienthal**	**116.28**	**48**	⇑PKiKP	**PKiKP**	**03 35 12.3**	**+0.8**
	baz=116								
V28A	**Channing**	**116.30**	**51**	⇑PKiKP	**PKiKP**	**03 35 14.1**	**+2.4**
	baz=116								
MEM	**Membach**	**116.33**	**327**	APKP	**PKPdf**	**03 35 14.2**	**+3.2**
MEM	**Membach**	**116.33**	**327**	PFAKE		03 35 20.0	+8.9
MEM				LR	LR				
	comp=Z,59μm,21.0s								
MSTX	**Muleshoe**	**116.39**	**53**	⇑PKiKP	**PKiKP**	**03 35 13.4**	**+1.6**
	baz=116								
MSTX	**Muleshoe**	**116.39**	**53**	*e*PKPdf	**PKPdf**	**03 35 11.3**	**-0.6**
MSTX				LR	LR				
	comp=Z,51μm,20.0s								
TSUM	**Tsumeb**	**116.45**	**247**	PKKPbc	PKKPbc	03 45 46.6	+6.0
	comp=Z,11nm,1.2s,baz=252,slow=20,SNR=2.1								
TSUM	**Tsumeb**	**116.45**	**247**	*e*PKKPbc	PKKPbc	03 45 46.6	+5.9
TSUM				LR	LR				
	comp=Z,40μm,21.0s								
O30A	**MW Ranch, Wils**	**116.45**	**46**	⇓PKiKP	**PKiKP**	**03 35 13.5**	**+1.8**
	baz=116								
TUE	**Stuetta**	**116.46**	**322**	PFAKE		03 35 20.0	+8.3
TUE				LR	LR				
	comp=Z,88μm,20.0s								
W28A	**Vega**	**116.47**	**51**	⇑PKiKP	**PKiKP**	**03 35 12.7**	**+0.7**
	baz=116								
P30A	**Selden**	**116.55**	**46**	⇓PKiKP	**PKPdf**	**03 35 11.1**	**-0.8**
	baz=116								
L31A	**Butterfield Fa**	**116.56**	**43**	⇓PKiKP	**PKiKP**	**03 35 12.4**	**+0.5**
	baz=116								
S29A	**Ulysses**	**116.56**	**49**	⇓PKiKP	**PKiKP**	**03 35 12.9**	**+0.8**
	baz=116								
T29A	**Hugoton**	**116.58**	**49**	⇓PKiKP	**PKiKP**	**03 35 13.7**	**+1.7**
	baz=116								
X28A	**Dimmitt**	**116.69**	**52**	⇓PKiKP	**PKiKP**	**03 35 14.4**	**+2.0**
	baz=117								
WLF	**Walferdange**	**116.75**	**326**	*e*Pdiff	**Pdif**	**03 31 30.3**	**+3.1**
WLF				*e*PKPbc	**PKiKP**	**03 35 16.9**	**+5.0**
WLF	**Walferdange**	**116.75**	**326**	PFAKE		03 35 20.0	+8.1
WLF				LR	LR				
	comp=Z,87μm,22.0s								
Q30A	**Quinter**	**116.76**	**47**	⇑PKiKP	**PKiKP**	**03 35 14.5**	**+2.1**
	baz=117								
M31A	**Lambtecht Ranc**	**116.78**	**44**	⇑PKiKP	**PKiKP**	**03 35 14.1**	**+1.8**
	baz=117								
V29A	**Stinnett**	**116.81**	**51**	⇑PKiKP	**PKiKP**	**03 35 12.9**	**+0.3**
	baz=117								
BCLA	**Clavier**	**116.81**	**327**	APKP	**PKiKP**	**03 35 16.9**	**+4.9**
U29A	**Oasis Ranch, S**	**116.82**	**50**	⇓PKiKP	**PKiKP**	**03 35 13.4**	**+0.8**
	baz=117								
Y28A	**McKinney Farm,**	**116.83**	**53**	⇑PKiKP	**PKiKP**	**03 35 14.2**	**+1.6**
	baz=117								
VLC	**Villacollemand**	**116.83**	**319**	*e*PKPdf	**PKPdf**	**03 35 10.8**	**-1.5**
VLC				LR	LR				
	comp=Z,74μm,21.0s								
LTX	**Lajitas**	**116.84**	**58**	*e*PKiKP	**PKPdf**	**03 35 12.0**	**-0.9**
LTX	**Lajitas**	**116.84**	**58**	*e*PKPdf	**PKPdf**	**03 35 11.9**	**-0.9**
LTX				*e*PKKPbc	**PKKPab**	**03 45 42.2**	**-1.0**
TXAR	**Lajitas Array**	**116.84**	**58**	PKP	**PKPdf**	**03 35 11.9**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=340,slow=1.3,SNR=6.7								
TXAR				PKKPbc	**PKKPab**	**03 45 42.2**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=96,slow=4.6,SNR=4.3								
TXAR	**Lajitas Array**	**116.84**	**58**	PKIKP	**PKPdf**	**03 35 12.0**	**-0.9**
Z28A	**Tucker Farm, M**	**116.89**	**54**	⇑PKiKP	**PKiKP**	**03 35 14.4**	**+1.6**
	baz=117								
ECH	**Echery**	**116.93**	**325**	⇑*e*P	**Pdif**	**03 31 31.7**	**+3.6**
W29A	**Amarillo**	**116.94**	**51**	⇓PKiKP	**PKiKP**	**03 35 14.0**	**+1.2**
	baz=117								
WDD	**Wield Dalam**	**116.95**	**309**	PFAKE		03 35 20.0	+7.3
WDD				LR	LR				
	comp=Z,19μm,22.0s								
R30A	**Dighton**	**116.96**	**48**	⇑PKiKP	**PKiKP**	**03 35 14.0**	**+1.3**
	baz=117								
O31A	**Woolen Ranch,**	**116.99**	**45**	⇑PKiKP	**PKiKP**	**03 35 14.1**	**+1.3**
	baz=117								
AMTX	**Amarillo**	**116.99**	**52**	⇑PKiKP	**PKiKP**	**03 35 13.3**	**+0.3**
	baz=117								
128A	**Castleberry Fa**	**116.99**	**54**	⇑PKiKP	**PKPdf**	**03 35 12.0**	**-1.0**
	baz=117								
N31A	**Bailey Ranch,**	**117.00**	**45**	⇓PKiKP	**PKPdf**	**03 35 12.4**	**-0.4**
	baz=117								
228A	**UT Block 9, Go**	**117.04**	**55**	⇓PKiKP	**PKPdf**	**03 35 12.1**	**-1.0**
	baz=117								
S30A	**Montezuma**	**117.04**	**48**	⇑PKiKP	**PKPdf**	**03 35 12.1**	**-0.9**
	baz=117								
X29A	**Tulia**	**117.10**	**52**	⇑PKiKP	**PKPdf**	**03 35 12.2**	**-1.0**
	baz=117								
UCC	**Uccle**	**117.11**	**328**	PFAKE		03 35 20.0	+7.5
UCC				LR	LR				
	comp=Z,92μm,20.0s								
MOF	**Molkenrain**	**117.12**	**324**	⇑*e*P	**Pdif**	**03 31 30.1**	**+1.1**
P31A	**Stockton**	**117.18**	**46**	⇓PKiKP	**PKiKP**	**03 35 14.0**	**+0.9**
	baz=117								
T30A	**Plains**	**117.19**	**49**	⇓PKiKP	**PKiKP**	**03 35 15.8**	**+2.5**
	baz=117								
U30A	**WK&E Inc. Balk**	**117.27**	**50**	⇑PKiKP	**PKiKP**	**03 35 14.6**	**+1.2**
	baz=117								
Y29A	**Porterfield Fa**	**117.30**	**53**	⇓PKiKP	**PKiKP**	**03 35 13.9**	**+0.3**
	baz=117								
SNF	**Seneffe**	**117.31**	**328**	APKP	**PKiKP**	**03 35 16.9**	**+4.0**
BGNE	**Belgrade**	**117.33**	**44**	⇑PKiKP	**PKiKP**	**03 35 13.9**	**+0.5**
	baz=117								
BGNE	**Belgrade**	**117.33**	**44**	PFAKE		03 35 20.0	+6.7
BGNE				LR	LR				
	comp=Z,42μm,21.0s								
Q31A	**Ellis**	**117.36**	**47**	⇑PKiKP	**PKiKP**	**03 35 13.9**	**+0.4**
	baz=117								
DOU	**Dourbes**	**117.37**	**327**	APKP	pPKPdf	03 35 18.1	-2.5
CLTB	**Caltabellotta**	**117.38**	**312**	PFAKE		03 35 20.0	+6.4
CLTB				LR	LR				
	comp=Z,27μm,20.0s								
ECSD	**EROS Data Cent**	**117.40**	**41**	⇓PKiKP	**PKPdf**	**03 35 12.7**	**-0.7**
	baz=117								
ECSD	**EROS Data Cent**	**117.40**	**41**	*e*PKPdf	**PKPdf**	**03 35 12.2**	**-1.2**
ECSD				*e*PP	**PP**	**03 36 22.6**	**-2.0**
ECSD				LR	LR				
	comp=Z,60μm,22.0s								
Z29A	**Hungry Hill Ra**	**117.44**	**53**	⇑PKiKP	**PKPdf**	**03 35 13.3**	**-0.6**
	baz=117								
EDI	**Edinburgh**	**117.45**	**336**	PFAKE		03 35 20.0	+7.0
EDI				LR	LR				
	comp=Z,39μm,21.0s								
N32A	**Stulken Farm,**	**117.48**	**44**	⇓PKiKP	**PKPdf**	**03 35 13.3**	**-0.3**
	baz=117								
V30A	**Spur Ranch, Mi**	**117.49**	**50**	⇓PKiKP	**PKiKP**	**03 35 15.1**	**+1.2**
	baz=118								
129A	**Stewart Farms,**	**117.49**	**54**	⇑PKiKP	**PKiKP**	**03 35 15.1**	**+1.1**
	baz=118								
R31A	**Burdett**	**117.52**	**47**	⇑PKiKP	**PKiKP**	**03 35 15.1**	**+1.3**
	baz=118								
THEF	**They Montfort**	**117.60**	**325**	*e*P	**Pdif**	**03 31 31.7**	**+0.7**
O32A	**Brockman Farm,**	**117.69**	**45**	⇑PKiKP	**PKiKP**	**03 35 14.1**	**0.0**
	baz=118								
P32A	**Huiting Farm,**	**117.70**	**46**	⇑PKiKP	**PKiKP**	**03 35 14.6**	**+0.5**
	baz=118								
329A	**Wagon Wheel Ra**	**117.71**	**55**	⇓PKiKP	**PKiKP**	**03 35 14.7**	**+0.3**
	baz=118								
229A	**Bryant Ranch,**	**117.72**	**55**	⇑PKiKP	**PKPdf**	**03 35 14.3**	**-0.1**
	baz=118								
X30A	**Coker Ranch, T**	**117.75**	**52**	⇑PKiKP	**PKiKP**	**03 35 15.6**	**+1.2**
	baz=118								
SENIN	**Lac Senin/Sane**	**117.76**	**323**	*e*PKPdf	**PKPdf**	**03 35 16.1**	**+1.8**
SENIN				*e*PP	**PP**	**03 36 25.7**	**-1.4**
W30A	**Crocket Farms**	**117.76**	**51**	⇓PKiKP	**PKPdf**	**03 35 13.9**	**-0.5**
	baz=118								
S31A	**Mullinville**	**117.78**	**48**	⇓PKiKP	**PKiKP**	**03 35 16.5**	**+2.1**
	baz=118								
T31A	**Randall Ranch,**	**117.82**	**49**	⇓PKiKP	**PKPdf**	**03 35 14.4**	**0.0**
	baz=118								
529A	**Stev Forest Ra**	**117.87**	**57**	⇓PKiKP	**PKiKP**	**03 35 15.4**	**+0.7**
	baz=118								
ESK	**Eskdalemuir**	**117.88**	**335**	PFAKE		03 35 20.0	+6.1
ESK				LR	LR				
	comp=Z,108μm,21.0s								
Z30A	**Sanderson Ranc**	**117.90**	**53**	⇑PKiKP	**PKiKP**	**03 35 15.5**	**+0.7**
	baz=118								
Y30A	**Stafford Cattl**	**117.91**	**53**	⇑PKiKP	**PKiKP**	**03 35 15.9**	**+1.1**
	baz=118								
U31A	**Nine Bar Ranch**	**117.93**	**50**	⇑PKiKP	**PKiKP**	**03 35 15.5**	**+0.8**
	baz=118								
Q32A	**Meitler Ranch,**	**117.97**	**46**	⇓PKiKP	**PKiKP**	**03 35 15.9**	**+1.3**
	baz=118								
429A	**Davenport Ranc**	**118.01**	**56**	⇓PKiKP	**PKiKP**	**03 35 16.1**	**+1.1**
	baz=118								
R32A	**Long Quarter,**	**118.07**	**47**	⇓PKiKP	**PKiKP**	**03 35 15.7**	**+0.8**
	baz=118								
V31A	**Spring Creek L**	**118.14**	**50**	⇓PKiKP	**PKiKP**	**03 35 15.9**	**+0.8**
	baz=118								
S32A	**Newby Ranch, P**	**118.16**	**48**	⇑PKiKP	**PKiKP**	**03 35 17.6**	**+2.5**
	baz=118								
130A	**Snyder**	**118.23**	**54**	⇑PKiKP	**PKiKP**	**03 35 16.5**	**+1.1**
	baz=118								
W31A	**Holland Ranch,**	**118.25**	**51**	⇑PKiKP	**PKiKP**	**03 35 16.5**	**+1.2**
	baz=118								
O33A	**Hebron**	**118.25**	**45**	⇑PKiKP	**PKiKP**	**03 35 16.9**	**+1.7**
	baz=118								
230A	**Sterling City**	**118.31**	**55**	⇑PKiKP	**PKiKP**	**03 35 17.1**	**+1.5**
	baz=118								
L34A	**Svendsen Farm,**	**118.31**	**43**	⇓PKiKP	**PKiKP**	**03 35 15.3**	**+0.1**
	baz=118								
T32A	**Huddler Ranch,**	**118.35**	**48**	⇑PKiKP	**PKiKP**	**03 35 16.3**	**+0.8**
	baz=118								
M34A	**Aspy Farms, Fr**	**118.37**	**43**	⇑PKiKP	**PKiKP**	**03 35 16.7**	**+1.3**
	baz=118								
Y31A	**Rekieta Farm,**	**118.39**	**52**	⇑PKiKP	**PKPdf**	**03 35 15.5**	**-0.1**
	baz=118								
330A	**Mertzon**	**118.40**	**55**	⇑PKiKP	**PKiKP**	**03 35 16.8**	**+1.1**
	baz=118								
X31A	**McDonald Ranch**	**118.40**	**51**	⇑PKiKP	**PKiKP**	**03 35 16.4**	**+0.8**
	baz=118								
P33A	**Williams Farm,**	**118.42**	**46**	⇑PKiKP	**PKPdf**	**03 35 15.1**	**-0.4**
	baz=118								
Q33A	**Connelly Farm,**	**118.49**	**46**	⇑PKiKP	**PKiKP**	**03 35 16.5**	**+0.9**
	baz=118								
EYMN	**Ely**	**118.50**	**35**	*e*PKPdf	**PKPdf**	**03 35 17.9**	**+2.6**
EYMN				*e*PP	PP	03 36 23.6	-8.2
EYMN				LR	LR				
	comp=Z,83μm,22.0s								
430A	**Baggett Ranch,**	**118.52**	**56**	⇓PKiKP	**PKiKP**	**03 35 18.4**	**+2.3**
	baz=118								
U32A	**Winter Ranch,**	**118.57**	**49**	⇓PKiKP	**PKiKP**	**03 35 17.1**	**+1.2**
	baz=118								
530A	**J-C Ranch, Com**	**118.60**	**57**	⇑PKiKP	**PKiKP**	**03 35 16.8**	**+0.7**
	baz=119								
R33A	**Olander Ranch,**	**118.64**	**47**	⇓PKiKP	**PKiKP**	**03 35 17.7**	**+1.7**
	baz=119								
131A	**Roby**	**118.67**	**54**	⇑PKiKP	**PKiKP**	**03 35 18.2**	**+2.0**
	baz=119								
Z31A	**Sharp Cattle R**	**118.68**	**53**	⇑PKiKP	**PKiKP**	**03 35 17.4**	**+1.2**
	baz=119								
N34A	**Lincoln**	**118.70**	**44**	⇑PKiKP	**PKiKP**	**03 35 17.3**	**+1.3**
	baz=119								
V32A	**Arapaho**	**118.77**	**50**	⇓PKiKP	**PKiKP**	**03 35 18.4**	**+2.0**
	baz=119								
BNI	**Bardonecchia**	**118.78**	**322**	*e*PKiKP	**PKPdf**	**03 35 19.2**	**+3.0**
BNI				*e*		03 36 33.9			
BNI				MLR	MLR				
	comp=Z,112μm,20.0s								
BNI	**Bardonecchia**	**118.78**	**322**	*e*PKPdf	**PKPdf**	**03 35 19.1**	**+3.0**
BNI				*e*PP	**PP**	**03 36 33.9**	**-0.2**
BNI				LR	LR				
	comp=Z,112μm,20.0s								
W32A	**Sentinel**	**118.81**	**51**	⇓PKiKP	**PKiKP**	**03 35 18.9**	**+2.5**
	baz=119								
S33A	**Kaszmaul Farm,**	**118.89**	**48**	⇓PKiKP	**PKiKP**	**03 35 18.1**	**+1.7**
	baz=119								
T33A	**Patterson Ranc**	**118.89**	**48**	⇑PKiKP	**PKiKP**	**03 35 17.7**	**+1.2**
	baz=119								
231A	**Bronte**	**118.95**	**54**	⇓PKiKP	**PKiKP**	**03 35 17.9**	**+1.1**
	baz=119								
P34A	**Walnut Farm, R**	**119.00**	**45**	⇑PKiKP	**PKiKP**	**03 35 17.0**	**+0.4**
	baz=119								
X32A	**Elmer**	**119.01**	**51**	⇓PKiKP	**PKiKP**	**03 35 17.6**	**+0.8**
	baz=119								
Y32A	**R-V Farms, Ver**	**119.02**	**52**	⇑PKiKP	**PKiKP**	**03 35 18.9**	**+2.0**
	baz=119								
331A	**San Angelo**	**119.04**	**55**	⇓PKiKP	**PKiKP**	**03 35 18.5**	**+1.5**
	baz=119								
431A	**Sonora**	**119.06**	**56**	⇓PKiKP	**PKiKP**	**03 35 18.6**	**+1.5**
	baz=119								
SPMN	**Marine on St.**	**119.12**	**38**	⇓PKiKP	**PKiKP**	**03 35 18.9**	**+2.3**
	baz=119								
SPMN	**Marine on St.**	**119.12**	**38**	*e*PKPdf	**PKPdf**	**03 35 15.7**	**-0.9**
SPMN				*e*PP	**PP**	**03 36 34.8**	**-1.5**
SPMN				LR	LR				
	comp=Z,63μm,22.0s								
Q34A	**Chapman**	**119.16**	**46**	⇑PKiKP	**PKiKP**	**03 35 19.1**	**+2.1**
	baz=119								
R34A	**Isabella, Hill**	**119.18**	**47**	⇓PKiKP	**PKiKP**	**03 35 18.7**	**+1.7**
	baz=119								
Z32A	**Haskell**	**119.21**	**53**	⇑PKiKP	**PKiKP**	**03 35 18.4**	**+1.1**
	baz=119								
U33A	**Lingo Farm, Me**	**119.22**	**49**	⇑PKiKP	**PKiKP**	**03 35 18.8**	**+1.6**
	baz=119								
531A	**Rocksprings**	**119.26**	**56**	⇑PKiKP	**PKiKP**	**03 35 19.4**	**+1.9**
	baz=119								
N35A	**Tabor**	**119.28**	**43**	⇑PKiKP	**PKiKP**	**03 35 17.6**	**+0.5**
	baz=119								
ABTX	**Abilene, Hawle**	**119.29**	**54**	⇑PKiKP	**PKiKP**	**03 35 19.0**	**+1.5**
	baz=119								
ABTX	**Abilene, Hawle**	**119.29**	**54**	*e*

AGO Saint Agoulin 120.40 324 eP PKPdf 03 35 23.6 +4.5
Z34A Collier Ranch, 120.43 52 ⇓PKiKP PKiKP 03 35 23.7 +4.1
baz=120
R36A Gordon, Harris 120.43 46 ⇓PKiKP PKiKP 03 35 22.8 +3.3
baz=120
V35A Meyer Ranch, C 120.43 49 ⇓PKiKP PKiKP 03 35 22.8 +3.3
baz=120
SCIA State Center 120.45 41 PFAKE 03 35 30.0 +11
SCIA LR LR
comp=Z,70μm,22.0s
533A Kerrville 120.54 56 ⇑PKiKP PKiKP 03 35 23.9 +4.0
baz=120
134A White-Moore Ra 120.56 53 ⇑PKiKP PKiKP 03 35 22.7 +2.8
baz=120
633A Saathoff Ranch 120.60 57 ⇓PKiKP PKiKP 03 35 22.3 +2.3
baz=121
S36A Lake Cedric, C 120.61 47 ⇑PKiKP PKiKP 03 35 22.7 +2.9
baz=121
W35A Tecumseh 120.62 50 ⇑PKiKP PKiKP 03 35 23.2 +3.3
baz=121
PYM Petit Puy Mans 120.64 324 eP PKPdf 03 35 23.4 +3.8
DSB Dublin 120.66 335 ePKPdf PKPdf 03 35 12.8 -6.5
DSB ePP PP 03 36 49.7 +3.4
DSB LR LR
comp=Z,58μm,20.0s
T36A Boggs Farm, Ca 120.66 48 ⇑PKiKP PKiKP 03 35 23.6 +3.7
baz=121
234A Clairette 120.69 54 ⇓PKiKP PKiKP 03 35 23.3 +3.2
baz=121
733A Divot King Ran 120.70 58 ⇓PKiKP PKiKP 03 35 21.3 +1.0
baz=121
833A Chaparral WMA, 120.72 58 ⇓PKiKP PKiKP 03 35 24.3 +4.0
baz=121
LBL Lubilhac 120.77 323 eP PKPdf 03 35 23.8 +3.9
X35A Drake 120.81 51 ⇑PKiKP PKiKP 03 35 24.4 +4.1
baz=121
334A Lometa 120.82 55 ⇓PKiKP PKiKP 03 35 24.4 +4.0
baz=121
R37A Teagarden Farm 120.92 46 ⇑PKiKP PKiKP 03 35 22.0 +1.6
baz=121
KEST Kesra 120.94 311 PKP PKPdf 03 35 21.1 +0.6
comp=Z,11nm,1.0s,baz=51,slow=6.5,SNR=4.8
KEST PP PP 03 36 53.3 +3.9
comp=Z,31nm,1.1s,baz=61,slow=4.5,SNR=5.9
KEST PKKPbc PKKPab 03 45 31.6 +6.6
comp=Z,1.7nm,1.0s,baz=162,slow=9.6,SNR=3.1
KEST Kesra 120.94 311 ePKPdf PKPdf 03 35 20.4 -0.1
KEST ePP PP 03 36 56.2 +6.8
Q37A Longview Farm, 120.95 45 ⇑PKiKP PKiKP 03 35 21.6 +1.2
baz=121
434A Burnet 120.95 55 ⇑PKiKP PKiKP 03 35 22.6 +1.9
baz=121
Z35A Perchaven, San 120.96 52 ⇓PKiKP PKiKP 03 35 22.6 +1.9
baz=121
933A Laredo 121.01 59 ⇑PKiKP PKiKP 03 35 23.6 +2.7
baz=121
534A Blanco 121.02 56 ⇑PKiKP PKiKP 03 35 22.7 +1.8
baz=121
135A Vickery Place, 121.10 53 ⇑PKiKP PKiKP 03 35 23.7 +2.8
baz=121
W36A Wetumka 121.12 50 ⇓PKiKP PKiKP 03 35 24.1 +3.2
baz=121
TUL1 Leonard 121.16 49 ⇓PKiKP PKiKP 03 35 23.3 +2.4
baz=121
TUL1 Leonard 121.16 49 ePKPdf PKPdf 03 35 19.9 -1.0
TUL1 ePP PP 03 36 49.0 -1.8
X36A Centrahoma 121.23 50 ⇑PKiKP PKiKP 03 35 23.5 +2.4
baz=121
WHTX Lake Whitney, 121.25 54 ⇑PKiKP PKiKP 03 35 23.1 +1.9
baz=121
WHTX Lake Whitney, 121.25 54 ePKPdf PKPdf 03 35 20.8 -0.3
WHTX ePP PP 03 36 50.4 -1.1
WHTX LR LR
comp=Z,38μm,20.0s
734A La Parita Cree 121.29 57 ⇑PKiKP PKiKP 03 35 23.2 +1.9
baz=121
634A China Grove, S 121.31 57 ⇑PKiKP PKiKP 03 35 25.4 +4.0
baz=121
T37A Cheneyville 18 121.34 47 ⇓PKiKP PKiKP 03 35 24.5 +3.3
baz=121
834A Tilden 121.49 58 ⇑PKiKP PKiKP 03 35 25.3 +3.5
baz=122
335A Moody 121.50 54 ⇑PKiKP PKiKP 03 35 24.5 +2.7
baz=122
DYA Yadsworthy 121.50 332 PFAKE 03 35 30.0 +9.0
DYA LR LR
comp=Z,52μm,22.0s
435B Jarrell 121.52 55 ⇑PKiKP PKiKP 03 35 24.9 +3.1
baz=122
934A Benavides 121.66 59 ⇑PKiKP PKiKP 03 35 25.2 +3.1
baz=122
034A Hebbronville 121.66 59 ⇓PKiKP PKiKP 03 35 23.5 +1.4
baz=122
W37A Quinton 121.73 49 ⇓PKiKP PKiKP 03 35 24.4 +2.3
baz=122
535A Dale 121.77 56 ⇑PKiKP PKiKP 03 35 25.0 +2.7
baz=122
635A Leesville 121.79 57 ⇑PKiKP PKiKP 03 35 24.6 +2.3
baz=122
JFWS Jewell Farm 121.88 39 ePKIKP PKPdf 03 35 21.3 -0.7
JFWS MLR MLR
comp=Z,83μm,21.0s
JFWS Jewell Farm 121.88 39 ePKPdf PKPdf 03 35 21.2 -0.7
JFWS ePP PP 03 36 49.1 -6.1
JFWS LR LR
comp=Z,83μm,21.0s
735A Kenedy 121.92 57 ⇑PKiKP PKiKP 03 35 25.3 +2.7
baz=122
336A Riesel 121.93 54 ⇑PKiKP PKiKP 03 35 24.4 +1.9
baz=122
X37A Clayton 121.98 50 ⇓PKiKP PKiKP 03 35 23.2 +0.6
baz=122
236A Katherine and 121.98 53 ⇓PKiKP PKiKP 03 35 24.9 +2.3
baz=122
CMAH Djebel Manchou 122.03 313 P PKPdf 03 35 24.9 +2.3
835A Beeville 122.06 58 ⇑PKiKP PKiKP 03 35 26.4 +3.5
baz=122
ABSA Djebel Ababsia 122.13 312 P PKPdf 03 35 25.5 +2.7
536A Bastrop 122.17 56 ⇓PKiKP PKiKP 03 35 25.3 +2.2
baz=122
436A Wall Ranch, Ga 122.17 55 ⇓PKiKP PKiKP 03 35 25.7 +2.7
baz=122
035A Encino 122.20 59 ⇑PKiKP PKiKP 03 35 25.4 +2.2
baz=122
Z37A Pogue Cattle C 122.29 52 ⇓PKiKP PKiKP 03 35 25.5 +2.3
baz=122
035Z Hargill 122.35 60 ⇑PKiKP PKiKP 03 35 25.3 +1.8
baz=122
636A Smothers Creek 122.36 56 ⇑PKiKP PKiKP 03 35 24.8 +1.4
baz=122
137A Heron Place, G 122.40 52 ⇑PKiKP PKiKP 03 35 24.9 +1.4
baz=122
W38A Poteau 122.44 49 ⇓PKiKP PKiKP 03 35 27.5 +4.0
baz=122
736A Circle Diamond 122.51 57 ⇑PKiKP PKiKP 03 35 26.8 +3.1
baz=122
237A Washetta, Mont 122.56 53 ⇓PKiKP PKiKP 03 35 26.9 +3.1
baz=122
CKFL Kef-Lekhel 122.64 313 P PKPdf 03 35 26.2 +2.4
437A Phantom Ranch, 122.69 54 ⇑PKiKP PKiKP 03 35 25.9 +1.8
baz=123
337A Centerville 122.73 54 ⇓PKiKP PKiKP 03 35 25.5 +1.4
baz=123
936A North Padre Is 122.75 59 ⇑PKiKP PKiKP 03 35 26.9 +2.6
baz=123
Z38A Mt. Pleasant 122.77 51 ⇓PKiKP PKiKP 03 35 26.9 +2.7
baz=123
537A Green Hill Far 122.78 55 ⇓PKiKP PKiKP 03 35 26.9 +2.6
baz=123
CASM Ain Smara 122.87 313 P PKPdf 03 35 26.5 +2.3
138A Matatall Enter 122.90 52 ⇓PKiKP PKiKP 03 35 27.1 +2.7
baz=123
637A Eagle Lake 122.97 56 ⇑PKiKP PKiKP 03 35 27.3 +2.6
baz=123
CTEI Djebel Teioual 123.01 312 P PKPdf 03 35 26.9 +2.4
737A Port Lavaca 123.09 57 ⇑PKiKP PKiKP 03 35 27.1 +2.2
baz=123
238A Jacksonville 123.11 53 ⇑PKiKP PKiKP 03 35 27.5 +2.6
baz=123
338A Crockett 123.18 54 ⇓PKiKP PKiKP 03 35 28.5 +3.5
baz=123
DFRA Djebel Bou Aff 123.20 313 P PKPdf 03 35 28.0 +3.1
VAL Valentia 123.22 336 ePP PP 03 37 03.8 +0.1
VAL ePS PS 03 47 01.3 +0.5
HKT Hockley 123.22 55 ePKIKP PKPdf 03 35 24.7 -0.1
HKT MLR MLR
comp=Z,41μm,19.0s
HKT Hockley 123.22 55 ePKPdf PKPdf 03 35 24.7 -0.1
HKT LR LR
comp=Z,41μm,19.0s
438A Sam Houston St 123.25 54 ⇑PKiKP PKiKP 03 35 29.1 +3.9
baz=123
MIAR Mount Ida 123.37 49 ePKIKP PKPdf 03 35 24.6 -0.5
MIAR e 03 37 02.1
MIAR MLR MLR
comp=Z,66μm,21.0s
MIAR Mount Ida 123.37 49 ePKPdf PKPdf 03 35 24.6 -0.5
MIAR ePP PP 03 37 02.1 -3.6
MIAR LR LR
comp=Z,66μm,21.0s
Z39A Irene McRaven, 123.40 51 ⇑PKiKP PKiKP 03 35 28.0 +2.6
baz=123
538A Harpers Horsep 123.42 55 ⇓PKiKP PKiKP 03 35 27.7 +2.2
baz=123
HOPE Hope Point 123.42 185 PFAKE 03 35 40.0 +15
HOPE LR LR
comp=Z,124μm,20.0s
139A Bunkhouse Ranc 123.44 52 ⇓PKiKP PKiKP 03 35 27.3 +1.8
baz=123
NATX Nacogdoches 123.56 53 ⇑PKiKP PKiKP 03 35 26.7 +0.9
baz=124
239A Gary 123.62 53 ⇑PKiKP PKiKP 03 35 26.8 +0.9
baz=124
CKHR Kef el Ahmar 123.69 313 P PKPdf 03 35 29.2 +3.4
HDIL Hopedale 123.69 41 ePKPdf PKPdf 03 35 25.7 +0.2
HDIL LR LR
comp=Z,5μm,21.0s
738A Farr-Stevens R 123.73 57 ⇓PKiKP PKiKP 03 35 28.3 +2.1
baz=124
339A Huntington 123.80 53 ⇓PKiKP PKiKP 03 35 28.4 +2.2
baz=124
439A Center Grove, 123.81 54 ⇑PKiKP PKiKP 03 35 27.6 +1.3
baz=124
SLM Saint Louis 124.00 44 ePKIKP PKPdf 03 35 25.9 -0.3
SLM e 03 37 11.0
SLM MLR MLR
comp=Z,56μm,21.0s
SLM Saint Louis 124.00 44 ePKPdf PKPdf 03 35 25.9 -0.3
SLM ePP PP 03 37 11.0 +1.2
SLM LR LR
comp=Z,56μm,21.0s
539A Cross D Ranch, 124.08 55 ⇓PKiKP PKiKP 03 35 27.7 +0.8
baz=124
REYF Montagne du Re 124.15 323 eP PKPdf 03 35 31.7 +5.2
SCHQ Schefferville 124.17 16 PKP PKPdf 03 35 24.9 -1.1
comp=Z,85nm,1.1s,baz=346,slow=3.2,SNR=12
SCHQ PKKPbc PKKPbc 03 45 16.3 +3.7
comp=Z,6.8nm,1.0s,baz=63,slow=11,SNR=2.6
SCHQ Schefferville 124.17 16 ePKPdf PKPdf 03 35 27.1 +1.1
GLMI Grayling 124.18 35 ePKPdf PKPdf 03 35 26.2 -0.1
GLMI LR LR
comp=Z,58μm,21.0s
UALR University of 124.20 49 ePKPdf PKPdf 03 35 26.4 -0.3
340A Bronson 124.30 53 ⇑PKiKP PKiKP 03 35 29.8 +2.5
baz=124
440A Kirbyville 124.48 54 ⇓PKiKP PKiKP 03 35 29.3 +1.7
baz=124
540A Vidor 124.65 54 ⇓PKiKP PKiKP 03 35 29.2 +1.2
baz=125
PBMO Poplar Bluff 124.73 46 ePKPdf PKPdf 03 35 26.6 -1.0
PBMO ePP PP 03 37 11.6 -3.1
EFI East Falkland 124.90 169 PFAKE 03 35 40.0 +13
EFI LR LR
comp=Z,94μm,22.0s
SIUC Southern Illin 125.15 44 ePKPdf PKPdf 03 35 28.6 +0.2
SIUC ePP PP 03 37 08.8 -8.7
SIUC LR LR
comp=Z,39μm,22.0s
SFIN Lafayette 125.22 40 ⇑PKiKP PKiKP 03 35 30.1 +1.3
baz=125
SFIN Lafayette 125.22 40 ePKPdf PKPdf 03 35 28.8 +0.3
SFIN ePP PP 03 37 16.9 -0.9
SFIN LR LR
comp=Z,68μm,21.0s
OLIL Olney 125.41 42 ePKPdf PKPdf 03 35 27.8 -1.1
PVMO Portageville 125.42 46 PFAKE 03 35 40.0 +11
PVMO LR LR
comp=Z,46μm,20.0s
EMHD Djebel Mahouad 125.46 314 P PKPdf 03 35 29.3 +0.1
USIN University of 126.09 43 ePKPdf PKPdf 03 35 29.6 -0.6
USIN ePP PP 03 37 22.2 -1.5
USIN LR LR
comp=Z,51μm,20.0s
BLO Bloomington 126.23 41 ePKIKP PKPdf 03 35 28.1 -2.4
BLO e 03 37 21.0
BLO Bloomington 126.23 41 ePKPdf PKPdf 03 35 28.1 -2.4
BLO ePP PP 03 37 21.0 -3.6
AAM Ann Arbor 126.26 36 PFAKE 03 35 40.0 +10
AAM LR LR
comp=Z,83μm,21.0s
EBNR Beni Rached 126.44 315 P PKPdf 03 35 35.0 +4.0
OXF Oxford 126.50 48 ePKIKP PKPdf 03 35 31.1 0.0
OXF MLR MLR
comp=Z,47μm,19.0s
OXF Oxford 126.50 48 ePKPdf PKPdf 03 35 31.1 0.0
OXF ePP PP 03 37 19.5 -7.0
OXF LR LR
comp=Z,47μm,19.0s
ECHA Ech Chlef 126.62 315 P PKPdf 03 35 36.0 +4.8
VBMS Vicksburg 126.64 51 ePKPdf PKPdf 03 35 31.5 +0.1
VBMS ePP PP 03 37 25.7 -1.9
VBMS LR LR
comp=Z,62μm,21.0s
WCI Wyandotte Cave 126.89 42 ePKIKP PKPdf 03 35 31.6 -0.2
WCI e 03 37 29.5
WCI MLR MLR
comp=Z,47μm,20.0s
WCI Wyandotte Cave 126.89 42 ePKPdf PKPdf 03 35 31.6 -0.2
WCI ePP PP 03 37 29.5 +0.5
WCI LR LR
comp=Z,47μm,20.0s
WVT Waverly 126.89 45 ePKIKP PKPpre 03 35 29.1
WVT e 03 37 29.5
WVT MLR MLR
comp=Z,65μm,21.0s
WVT Waverly 126.89 45 ePKPpre PKPpre 03 35 29.1
WVT ePKPdf PKPdf 03 35 29.8 -2.0
WVT ePP PP 03 37 29.5 +0.4
WVT LR LR
comp=Z,65μm,21.0s
EANR 'Ain N'Sour 126.91 315 P PKPdf 03 35 30.7 -1.2
ETRT Tiaret 127.03 314 P PKPdf 03 35 32.0 -0.3
ACSO Alum Creek Sta 127.90 38 ePKPdf PKPdf 03 35 33.1 -0.5
ACSO LR LR
comp=Z,56μm,22.0s
ES19 SONSECA Array 128.25 321 ePKPdf PKPdf 03 35 35.3 +0.9
ES19 ePP PP 03 37 43.6 +5.7
ESDC Sonseca Array 128.30 321 PKP PKPdf 03 35 35.1 +0.7
comp=Z,10.0nm,1.1s,baz=22,slow=2.4,SNR=17
ESDC PP PP 03 37 38.0 -0.1
comp=Z,5.4nm,1.0s,baz=40,slow=6.7,SNR=3.0
PAB San Pablo 128.62 321 PFAKE 03 35 50.0 +15
PAB LR LR
comp=Z,53μm,21.0s
SWET Sewanee 128.68 45 ePKPdf PKPdf 03 35 31.8 -3.5
SWET ePP PP 03 37 33.0 -7.9
LRAL Lakeview Retre 128.96 48 ePKPdf PKPdf 03 35 35.6 -0.2
LRAL LR LR
comp=Z,50μm,22.0s
MVO Moncorvo 129.23 325 eP PKPdf 03 35 40.1 +3.9
MVO Moncorvo 129.23 325 ePP PP 03 37 51.1 +6.9
MVO i P x 03 39 05.9
MVO Moncorvo 129.23 325 eLQ LQ 04 10 41.0
MVO eLR LR 04 19 06.4
comp=Z,37μm,18.0s
MVO Moncorvo 129.23 325 eP PKPdf 03 35 40.1 +3.9
MVO Moncorvo 129.23 325 ePP PP 03 37 51.1 +6.9
MVO i P x 03 39 05.9
MVO Moncorvo 129.23 325 eLQ LQ 04 10 41.0
MVO eLR LR 04 19 06.4
comp=Z,37μm,18.0s
PGAV Gavieira, Arco 129.41 326 ePP PP 03 37 47.1 +1.8
PGAV i P x 03 39 09.3
PGAV Gavieira, Arco 129.41 326 eLQ LQ 04 10 38.8
PGAV eLR LR 04 19 01.4
comp=Z,47μm,20.0s
PGAV Gavieira, Arco 129.41 326 ePP PP 03 37 47.1 +1.8
PGAV i P x 03 39 09.3
PGAV Gavieira, Arco 129.41 326 eLQ LQ 04 10 38.8
PGAV eLR LR 04 19 01.4
comp=Z,47μm,20.0s
PTN Potsdam (NY) 129.44 29 PFAKE 03 35 50.0 +14
PTN LR LR
comp=Z,89μm,22.0s
POLO Lamas de Olo 129.53 325 eP PKPdf 03 35 40.9 +4.1
POLO Lamas de Olo 129.53 325 eP PKPdf 03 35 40.9 +4.1
PVRL Vila Real 129.55 325 eP PKPdf 03 35 40.9 +4.1
PVRL Vila Real 129.55 325 eP PKPdf 03 35 40.9 +4.1
LONY Lake Ozonia 129.59 29 PFAKE 03 35 50.0 +13
LONY LR LR
comp=Z,34μm,20.0s
TZTN Tazewell 129.63 42 ePKPdf PKPdf 03 35 37.3 +0.2
TZTN ePP PP 03 37 37.0 -10
BRAL Brewton 129.82 50 PFAKE 03 35 50.0 +12
BRAL LR LR
comp=Z,62μm,20.0s
PVIS Viseu 130.02 325 eP PKPdf 03 35 41.3 +3.6
PVIS Viseu 130.02 325 eP PKPdf 03 35 41.3 +3.6
NCB Newcomb 130.25 29 PFAKE 03 35 50.0 +12
NCB LR LR
comp=Z,33μm,19.0s
PCBR Castelo Branco 130.34 324 eP PKPdf 03 35 41.8 +3.6
PCBR Castelo Branco 130.34 324 eP PKPdf 03 35 41.8 +3.6
PMRV Marv??o 130.55 323 eP PKPdf 03 35 42.7 +4.0
PMRV Marv??o 130.55 323 ePP PP 03 37 53.1 +0.3
PMRV i P x 03 39 12.7
PMRV Marv??o 130.55 323 eLQ LQ 04 10 21.3
PMRV eLR LR 04 18 35.9
comp=Z,33μm,20.0s
PMRV Marv??o 130.55 323 eP PKPdf 03 35 42.7 +4.0
PMRV Marv??o 130.55 323 ePP PP 03 37 53.1 +0.3
PMRV i P x 03 39 12.7
PMRV Marv??o 130.55 323 eLQ LQ 04 10 21.3
PMRV eLR LR 04 18 35.9
comp=Z,33μm,20.0s
SSPA Standing Stone 130.67 35 ePKPdf PKPdf 03 35 34.3 -4.6
SSPA ePP PP 03 37 43.0 -10
SSPA LR LR
comp=Z,47μm,20.0s
PQI Presque Isle 130.79 22 ePKPdf PKPdf 03 35 37.0 -1.9
PCAS Casmilo, Conde 130.80 325 eP PKPdf 03 35 44.4 +5.3
PCAS Casmilo, Conde 130.80 325 eP PKPdf 03 35 44.4 +5.3
ACCN Adirondack Com 130.95 29 PFAKE 03 35 50.0 +11
ACCN LR LR
comp=Z,37μm,21.0s
PESTR Estremoz 131.03 323 eP PKPdf 03 35 43.3 +3.7
PESTR Estremoz 131.03 323 eP PKPdf 03 35 43.3 +3.7
PTOM Tomar 131.03 324 eP PKPdf 03 35 43.5 +3.9
PTOM Tomar 131.03 324 eP PKPdf 03 35 43.5 +3.9
PBAR Barrancos 131.12 322 eP PKPdf 03 35 43.4 +3.6
PBAR Barrancos 131.12 322 eP PKPdf 03 35 43.4 +3.6
KSPA Keystone Colle 131.21 32 ePKPdf PKPdf 03 35 35.9 -3.9
KSPA ePP PP 03 37 49.2 -7.6
KSPA LR LR
comp=Z,78μm,22.0s
BLA Blacksburg 131.30 40 ePKIKP PKPdf 03 35 39.5 -0.8
BLA e 03 37 53.4
BLA MLR MLR
comp=Z,58μm,20.0s
BLA Blacksburg 131.30 40 ePKPdf PKPdf 03 35 39.5 -0.8
BLA ePP PP 03 37 53.4 -4.4
BLA LR LR
comp=Z,58μm,20.0s
HNH Hanover 131.37 28 ePKPdf PKPdf 03 35 39.2 -0.8
TRIS Tristan da Cun 131.41 213 PFAKE 03 35 50.0 +10
TRIS LR LR
comp=Z,36μm,18.0s
TRY Troy 131.44 30 ePKPdf PKPdf 03 35 37.3 -3.0
TRY LR LR
comp=Z,41μm,20.0s
PKME Peaks-Kenny Pk 131.45 24 ePKPdf PKPdf 03 35 40.4 +0.2
PKME ePP PP 03 38 00.3 +2.2
PKME LR LR
comp=Z,35μm,20.0s
EVO Evora 131.49 323 eP PKPdf 03 35 44.6 +4.1
EVO Evora 131.49 323 eP PKPdf 03 35 44.6 +4.1
DRLN Deer Lake 131.59 12 PFAKE 03 35 50.0 +10
DRLN LR LR
comp=Z,48μm,22.0s
WVL Waterville 131.86 25 ePKPdf PKPdf 03 35 37.1 -3.9
WVL LR LR
comp=Z,76μm,22.0s
KMSC Kings Mountain 131.91 43 ⇓PKiKP PKiKP 03 35 41.9 -0.5
baz=132
KMSC Kings Mountain 131.91 43 ePKPdf PKPdf 03 35 36.2 -5.2
KMSC LR LR
comp=Z,70μm,22.0s
MVL Millersville 131.97 34 ePKPdf PKPdf 03 35 40.5 -0.8
MVL ePP PP 03 37 58.2 -3.5
PVAQ Vaqueiros 132.02 321 ePP PP 03 38 09.8 +7.5
PVAQ i P x 03 39 17.6
PVAQ Vaqueiros 132.02 321 eLQ LQ 04 11 08.1
PVAQ Vaqueiros 132.02 321 eLR LR 04 21 42.3
comp=Z,33μm,18.0s
PVAQ Vaqueiros 132.02 321 ePP PP 03 38 09.8 +7.5
PVAQ i P x 03 39 17.6
PVAQ Vaqueiros 132.02 321 eLQ LQ 04 11 08.1
PVAQ Vaqueiros 132.02 321 eLR LR 04 21 42.3
comp=Z,33μm,18.0s
LIS Lisbon 132.06 324 eP PKPdf 03 35 41.1 -0.4
LIS ePP PP 03 38 02.1 -0.3
LIS AMS AMS 04 26 16.6
comp=E,59μm,24.5s
LIS Lisbon 132.06 324 ePKIKP PKPdf 03 35 41.1 -0.4
MESJ Messejana 132.06 322 eP PKPdf 03 35 40.7 -0.8
MESJ ePP PP 03 38 01.5 -1.0
MESJ eSS SS 03 55 38.1 -0.1
MESJ AMS AMS 04 27 36.5
comp=E,66μm,24.8s
MESJ Messejana 132.06 322 ePKIKP PKPdf 03 35 40.7 -0.8
MESJ e 03 38 01.5
PNCL Nicolau / Gran 132.07 323 eP PKPdf 03 35 47.5 +5.9
PNCL Nicolau / Gran 132.07 323 eP PKPdf 03 35 47.5 +5.9
PCVE Castro Verde 132.07 322 eP PKPdf 03 35 45.4 +3.8
PCVE Castro Verde 132.07 322 eP PKPdf 03 35 45.4 +3.8
LUPA Lehigh Univers 132.09 33 PFAKE 03 35 50.0 +8.4
LUPA LR LR
comp=Z,13μm,21.0s
TIGA Tifton 132.25 48 ⇓PKiKP PKiKP 03 35 43.1 -0.1
baz=132
TIGA Tifton 132.25 48 ePKPdf PKPdf 03 35 39.6 -2.5
TIGA LR LR
comp=Z,59μm,21.0s
QUA2 Belchertown 132.42 29 ePKPdf PKPdf 03 35 39.1 -3.0
JSC Jenkinsville 132.44 44 ePKIKP PKPdf 03 35 37.9 -4.5
JSC Jenkinsville 132.44 44 ePKPdf PKPdf 03 35 37.9 -4.5
CBN Corbin Frederi 132.57 37 PFAKE 03 35 50.0 +7.5
CBN LR LR
comp=Z,74μm,21.0s
PAL Palisades 132.58 31 ePKIKP PKPpre 03 35 33.5
PAL e 03 35 38.6
PAL MLR MLR
comp=Z,73μm,21.0s
PAL Palisades 132.58 31 ePKPpre PKPpre 03 35 33.5
PAL ePKPdf PKPdf 03 35 38.6 -3.9
PAL LR LR
comp=Z,73μm,21.0s
JSRW J. Sargeant Re 132.59 38 ePKPdf PKPdf 03 35 41.7 -0.9
HRV Adam Dziewonsk 132.63 28 ePKIKP PKPdf 03 35 38.3 -4.2
HRV MLR MLR
comp=Z,77μm,22.0s
HRV Adam Dziewonsk 132.63 28 ePKPdf PKPdf 03 35 38.3 -4.2
HRV LR LR
comp=Z,77μm,22.0s
EMMW East Machias 132.65 23 ePKPpre PKPpre 03 35 29.5
EMMW ePKPdf PKPdf 03 35 41.4 -1.1
MORF Marmelete 132.66 322 eP PKPdf 03 35 42.2 -0.6
MORF ePP PP 03 38 05.3 -1.2
MORF AMS AMS 04 28 04.1
comp=E,64μm,20.1s
MORF Marmelete 132.66 322 ePKIKP PKPdf 03 35 42.2 -0.6
MORF e 03 38 05.3
TEIG Tepich 132.71 64 ePKPdf PKPdf 03 35 45.1 +1.8
YLE Yale 132.85 30 PFAKE 03 35 50.0 +7.1
YLE LR LR
comp=Z,60μm,19.0s
TOA0 Torodi Ar. Sit 134.08 286 eP PKPdf 03 35 50.5 +4.5
TOA0 Torodi Ar. Sit 134.08 286 ePKPpre PKPpre 03 35 33.5
TOA0 ePKPdf PKPdf 03 35 40.6 -5.4
TOA0 ePKPdf PKPdf 03 35 46.0 0.0
TOA0 ePP PP 03 38 21.9 +5.1
TORD Torodi Ar. Bea 134.08 286 PKhKP PKPpre 03 35 33.5
comp=Z,1.7nm,0.8s,baz=68,slow=2.9,SNR=6.9
TORD PKP PKPdf 03 35 46.0 0.0

comp=Z,9.9nm,1.0s,baz=84,slow=1.5,SNR=11
TORD PP **PP** **03 38 21.9 +5.1**

comp=Z,21nm,1.1s,baz=57,slow=5.9,SNR=4.9
CNNC Cliffs of the 134.12 40 PFAKE
CNNC LR LR 03 36 00.0 +14

comp=Z,54µm,20.0s
TRQA Tornquist 136.41 159 *e*PKPdf **PKPdf** **03 35 48.2 -1.6**
TRQA LR LR

comp=Z,139µm,20.0s
SSN San Juan del S 136.95 76 PFAKE
SSN LR LR 03 36 00.0 +8.7

comp=Z,83µm,21.0s
JTS JuntasAbangare 137.97 77 PP PP 03 38 50.3 +8.9
comp=Z,17nm,1.0s,baz=303,slow=4.7,SNR=3.7

JTS JuntasAbangare 137.97 77 *e*PKIKP **PKPdf** **03 35 49.7 -3.6**
JTS MLR MLR

comp=Z,29µm,21.0s
JTS JuntasAbangare 137.97 77 *e*PKPdf **PKPdf** **03 35 49.7 -3.6**
JTS *e*PP PP 03 38 50.3 +8.9
JTS LR LR

comp=Z,29µm,21.0s
SHEL Horse Pasture 138.63 243 PFAKE
SHEL LR LR 03 36 10.0 +16

comp=Z,31µm,20.0s
CFAA Coronel Fontan 138.93 147 PKP **PKPdf** **03 35 55.3 +0.6**
baz=236,slow=4.8
CFAA PP PP 03 38 54.9 +9.2

comp=Z,1.2nm,1.0s,baz=229,slow=5.9,SNR=4.0
LCO Las Campanas 139.41 142 *e*PKPdf **PKPdf** **03 35 52.1 -3.8**
LCO LR LR

comp=Z,38µm,20.0s
PGRA Graciosa 140.73 341 *e*PKP **PKPdf** **03 35 54.1 -3.5**
PGRA Graciosa 140.73 341 *e*PP PP 03 38 57.5 +1.2
PGRA Graciosa 140.73 341 *e*LQ LQ 04 14 28.5
ADH Angra Heroismo 140.82 340 *e*PKP **PKPdf** **03 35 56.3 -1.5**
ADH Angra Heroismo 140.82 340 *e*PP PP 03 38 58.0 +1.2
BART Pico Bartolome 140.83 337 *e*PP PP 03 38 59.7 +2.6
PMOZ Porto Moniz, M 140.84 324 *e*PP PP 03 39 04.9 +7.2
PMOZ *i* P x 03 39 26.9
PMOZ Porto Moniz, M 140.84 324 *e*LQ LQ 04 15 00.3
PMOZ *e*LR LR 04 24 19.1

comp=Z,29µm,20.0s
PMOZ Porto Moniz, M 140.84 324 *e*PP PP 03 39 04.9 +7.2
PMOZ *i* P x 03 39 26.9
PMOZ Porto Moniz, M 140.84 324 *e*LQ LQ 04 15 00.3
PMOZ *e*LR LR 04 24 19.1

comp=Z,29µm,20.0s
GRON Grota Negra 140.98 337 *e*PKP **PKPdf** **03 35 53.1 -5.1**
GRON Grota Negra 140.98 337 *e*PP PP 03 39 10.6 +13
PSET Sete Cidades 141.01 338 *e*PKP PKPdf 03 35 52.2 -6.0
PSET Sete Cidades 141.01 338 *e*PP PP 03 39 00.2 +2.1
PSET Sete Cidades 141.01 338 *e*LQ LQ 04 14 17.4
PDA Ponta Delgada 141.05 337 *e*PKP **PKPdf** **03 35 57.5 -0.7**
ROSA Rosais 141.10 341 *e*PP PP 03 39 03.3 +4.8
ROSA Rosais 141.10 341 *e*LQ LQ 04 14 09.7
PMAN Manadas 141.13 341 *e*PKP PKPdf 03 35 51.7 -6.6
PMAN Manadas 141.13 341 *e*PP PP 03 39 02.8 +4.1
KIC Kosan Boka 141.23 277 *e*P **PKPdf** **03 35 54.3 -4.9**
comp=Z,189nm,1.3s
DBIC Dimbokro 141.32 278 PKhKP PKPpre 03 35 52.8
comp=Z,30nm,0.8s,baz=92,slow=4.5,SNR=10
DBIC Dimbokro 141.32 278 *e*PKIKP PKPpre 03 35 54.9
DBIC Dimbokro 141.32 278 *e*PKPdf PKPpre 03 35 54.9
PCED Cedros 141.33 341 *e*PKP **PKPdf** **03 35 56.8 -1.9**
PCED Cedros 141.33 341 *e*PP PP 03 39 02.4 +2.5
PPNO Prainha do Nor 141.33 341 *e*PKP **PKPdf** **03 35 53.9 -4.9**
PPNO Prainha do Nor 141.33 341 *e*PP PP 03 39 02.4 +2.4
PICO Pico 141.36 341 *e*PP PP 03 39 03.7 +3.5
H07S1 FLORES T-PHASE 141.36 345 *e*PKP **PKPdf** **03 35 59.0 +0.2**
H07S1 FLORES T-PHASE 141.36 345 *e*PP PP 03 38 58.8 -1.2
PCAN Candelaria 141.41 341 *e*PKP **PKPdf** **03 36 00.2 +1.3**
PCAN Candelaria 141.41 341 *e*PP PP 03 39 01.5 +1.1
PSMN Pico do Norte, 141.46 336 *e*PKP **PKPdf** **03 35 57.0 -2.0**
PSMN Pico do Norte, 141.46 336 *e*PP PP 03 39 02.8 +2.0
PSMN Pico do Norte, 141.46 336 *e*LQ LQ 04 14 06.3
TIC Toumodi 141.48 278 *e*P **PKPdf** **03 35 56.7 -3.0**
PSMA Santa Maria 141.49 336 *e*PKP **PKPdf** **03 35 54.1 -4.9**
PSMA Santa Maria 141.49 336 *e*PP PP 03 39 02.8 +1.8
LIC Lamto 141.52 277 *e*P **PKPdf** **03 35 57.0 -2.7**
comp=Z,278nm,1.6s
MTDJ Mount Denham 142.95 62 *e*PKPdf **PKPdf** **03 35 59.1 -3.2**
MTDJ LR LR

comp=Z,36µm,22.0s
BCIP Isla Barro Col 143.13 78 *e*PKPdf PKPbc 03 36 00.7 +1.3
BCIP LR LR

comp=Z,34µm,21.0s
ATAH Atahualpa 143.88 105 PKP PKPbc 03 36 03.2 +1.0
comp=Z,84nm,0.9s,baz=281,slow=2.3,SNR=30
NNA Nana 143.91 114 PKP **PKPdf** **03 36 04.0 0.0**
comp=Z,199nm,1.1s,baz=245,slow=9.2,SNR=9.6
NNA Nana 143.91 114 *e*PKIKP PKPbc 03 36 02.3 +0.5
NNA MLR MLR

comp=Z,34µm,19.0s
NNA Nana 143.91 114 *e*PKPdf PKPbc 03 36 02.3 +0.6
NNA *e*PKPdf **PKPdf** **03 36 04.0 0.0**
NNA LR LR

comp=Z,34µm,19.0s
BBSR BB Station 143.93 31 *e*PKPpre PKPpre 03 35 60.0
BBSR LR LR

comp=Z,44µm,21.0s
GTBY Guantanamo Bay 144.38 58 *e*PKPdf **PKPab** **03 36 02.7 +0.1**
GTBY LR LR

comp=Z,58µm,21.0s
OTAV Otavalo 144.92 93 *e*PKPbc **PKPab** **03 36 05.0 -0.5**
OTAV LR LR

comp=Z,21µm,21.0s
LVC Limon Verde 144.97 136 PKPbc **PKPdf** **03 36 05.6 -0.3**
comp=Z,252nm,1.1s,baz=252,slow=4.0,SNR=13
LVC Limon Verde 144.97 136 *e*PKPbc **PKPdf** **03 36 05.8 -0.1**
LVC LR LR

comp=Z,34µm,22.0s
GRTK Grand Turk 146.89 52 *e*PKPdf **PKPdf** **03 36 09.1 +0.2**
GRTK LR LR

comp=Z,54µm,21.0s
LGNH LØogne 147.12 58 *e*PKPbc **PKPbc** **03 36 11.0 -0.5**
SDDR Presa de Saban 148.02 57 *e*PKPbc **PKPbc** **03 36 12.6 -1.4**
SDDR LR LR

comp=Z,41µm,22.0s
CPUP Villa Florida 148.61 156 *e*PKP2 **PKPbc** **03 36 14.7 -0.5**
CPUP Villa Florida 148.61 156 *e*PKPbc **PKPbc** **03 36 14.7 -0.5**
ROSC El Rosal 149.03 84 PKPbc **PKPbc** **03 36 16.6 -0.6**
comp=Z,55nm,0.7s,baz=308,slow=1.9,SNR=20
ROSC El Rosal 149.03 84 *e*PKPdf **PKPdf** **03 36 13.3 +0.2**
SDD Santo Domingo 149.41 56 *e*PKPbc **PKPdf** **03 36 14.8 +1.7**
LPAZ La Paz 149.44 128 PKPbc **PKPbc** **03 36 19.8 +1.4**
comp=Z,127nm,1.1s,baz=269,slow=3.2,SNR=40
LPAZ La Paz 149.44 128 PKP2 **PKPbc** **03 36 19.8 +1.4**
LPAZ pmax pmax

comp=Z,127nm,1.1s
SMN1 Samana, DR 149.58 55 *e*PKPbc **PKPbc** **03 36 16.8 -1.1**
PCDR Punta Cana, DR 150.65 55 *e*PKPbc **PKPbc** **03 36 19.1 -1.4**
AGP Aguadilla 151.71 54 *ep*PKPdf **PKPbc** **03 36 20.8 -2.2**
AGP *e*PKPab **PKiKP** **03 36 26.5 +3.1**
AGP LR LR

comp=Z,41µm,22.0s
MPR Mayaguez 151.81 54 *ep*PKPdf **PKPbc** **03 36 20.7 -2.5**
LSP Las Mesas 151.88 54 *ep*PKPdf **PKPbc** **03 36 20.8 -2.5**
CRPR Cabo Rojo, PR 151.94 54 *ep*PKPdf **PKPbc** **03 36 20.3 -3.1**
CRPR LR LR

comp=Z,30µm,22.0s
AOPR Arecibo Observ 152.05 53 *ep*PKPdf **PKPbc** **03 36 20.7 -3.1**
AOPR LR LR

comp=Z,24µm,22.0s
SDV Santo Domingo 152.12 75 *ep*PKPdf **PKPdf** **03 36 20.6 +2.9**
OBIP Obispado Ponce 152.33 54 *ep*PKPdf **PKPbc** **03 36 21.1 -3.3**
ICMP Isla Caja de M 152.48 54 *ep*PKPdf **PKPbc** **03 36 21.3 -3.4**
ICMP *e*PKPab **PKiKP** **03 36 29.1 +4.2**
SJG San Juan 152.66 53 *e*PKIKP **PKPdf** **03 36 15.1 -3.0**
SJG *e* 03 36 22.1
SJG *e* 03 36 29.0
SJG MLR MLR

comp=Z,152µm,21.0s
SJG San Juan 152.66 53 *e*PKPdf **PKPdf** **03 36 15.1 -3.0**
SJG *e*PKPbc **PKPbc** **03 36 22.1 -3.0**
SJG *e*PKPab **PKiKP** **03 36 28.9 +3.6**
SJG LR LR

comp=Z,152µm,21.0s
HUMP Col San Antoni 152.88 53 *e*PKPdf **PKPdf** **03 36 15.9 -2.4**
HUMP *e*PKPbc **PKPbc** **03 36 22.0 -3.6**
HUMP *e*PKPab **PKiKP** **03 36 30.1 +4.3**
HUMP LR LR

comp=Z,44µm,22.0s
STVI Saint Thomas 153.47 51 PFAKE 03 36 30.0 +3.1
STVI LR LR

comp=Z,25µm,20.0s
SIV San Ignacio 154.87 137 PKP **PKPdf** **03 36 21.3 0.0**
comp=Z,1.8nm,0.8s,baz=222,slow=11,SNR=3.0
SMRT St. Maarten 155.10 49 *e*P **PKPdf** **03 36 25.3 +3.8**
SMRT St. Maarten 155.10 49 *e*PKPdf **PKPdf** **03 36 21.7 +0.1**
SMRT *e*PKPbc PKPbc 03 36 25.1
ANWB Willy Bob 156.30 48 PFAKE 03 36 30.0 +6.9
ANWB LR LR

comp=Z,50µm,20.0s
SACV Santiago Islan 156.70 304 PFAKE 03 36 30.0 +6.2
SACV LR LR

comp=Z,26µm,20.0s
MLG Mont-d'or 157.32 52 *e*P **PKPdf** **03 36 28.9 +4.4**
SAML Samuel 157.39 120 *e*PKPdf **PKPdf** **03 36 26.4 +1.7**
SAML LR LR

comp=Z,26µm,22.0s
MDN Morne-Daniel 158.00 53 *e* 03 40 52.7
FDF Fort de France 158.52 54 *e*P **PKPdf** **03 36 30.4 +4.4**
GRGR Grenville 159.41 60 PFAKE 03 36 40.0 +13
GRGR LR LR

comp=Z,25µm,22.0s
TPP Pointe-a-Pierr 160.35 65 *e* PKPdf 03 36 34.1 +5.9
TPP Pointe-a-Pierr 160.35 65 *e* PKPdf 03 36 45.8 +18
TBH Brigand Hill 160.63 64 *e* PKPdf 03 36 35.6 +7.1
BOT Bacolet 160.66 62 *e* **PKPdf** **03 36 28.9 +0.4**
BOT Bacolet 160.66 62 *e* PKPdf 03 36 45.6 +17
TOSP Speyside 160.76 61 *e*P PKPdf 03 36 35.9 +7.3
BDFB Brasilia 161.69 166 PKP **PKPdf** **03 36 29.7 0.0**
comp=Z,29nm,1.0s,baz=136,slow=0.3,SNR=15
BDFB Brasilia 161.69 166 *e*PKIKP **PKPdf** **03 36 29.6 -0.1**
BDFB *e* 03 37 12.5
BDFB Brasilia 161.69 166 *e*PKPdf **PKPdf** **03 36 29.6 -0.1**
BDFB *e*PKPab **PKPab** **03 37 12.5 -2.0**
PTGA Pitinga 163.19 100 PKP **PKPdf** **03 36 32.4 +1.2**
comp=Z,42nm,1.3s,baz=311,slow=1.9,SNR=17
PTGA PKPab **PKPab** **03 37 21.1 -0.4**
comp=Z,33nm,1.1s,baz=269,slow=4.3,SNR=5.5
RCBR Riachuelo 169.05 223 PKP **PKPdf** **03 36 37.1 +1.2**
comp=Z,7.2nm,0.9s,baz=152,slow=4.0,SNR=2.5
RCBR PKPab **PKPab** **03 37 46.0 -1.1**
comp=Z,22nm,1.1s,baz=63,slow=2.3,SNR=2.3
RCBR Riachuelo 169.05 223 *e*PKPdf **PKPdf** **03 36 39.3 +3.5**
RCBR *e*PKPab **PKPab** **03 37 45.9 -1.1**
RCBR *e*PKPab PKPab 03 37 46.0 -1.0

*ISCJB **16** 03:17:05.2±0.5, 10.17S±0.07×161.55E±0.10, h85km, mb5.0/18, Error ellipse: s-maj=15.8km s-min=6.5km az=145.5*
*NEIC **16** 03:17:05.8±0.3, 10.11S×161.49E, mb4.9/2, Error ellipse: s-maj=16.0km s-min=8.0km az=60.0*
*IDC **16** 03:17:06.7±0.8, 10.19S×161.42E, h80km±7km, mb4.8/16, mb1 4.9/17, mb1mx4.7/40, mbtmp5.1/17, Error ellipse: s-maj=22.7km s-min=11.8km az=66.0*
ISC 16 03:17:06.9±0.5, 10.19S±0.09×161.5E±0.1, h85km, n38, σ0$92/36, mb5.1/18, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.70**	**296**	*e*Pn		**Pn**		**03 17 34.8**	**-0.3**
HNR				*e*S		**Sn**		**03 17 57.4**	**+0.9**
DZM	**Mont Dzumac**	**12.73**	**159**	P		**Pn**		**03 20 05.8**	**+1.0**
	1.6nm,0.3s,baz=270,slow=24,SNR=185								
DZM				S		**Sn**		**03 22 22.6**	**-2.2**
	0.8nm,0.3s,baz=341,slow=16,SNR=3.0								
H11S2	**WAKE ISLAND Hy 28.96**	**10**		T		T		03 53 49.1	
	baz=189,slow=76,SNR=40								
H11S3	**WAKE ISLAND Hy 28.98**	**10**		T		T		03 53 51.4	
	baz=189,slow=76,SNR=23								
H11S1	**WAKE ISLAND Hy 30.19**	**10**		T		T		03 53 48.5	
	baz=189,slow=76,SNR=6.4								
H11N1	**WAKE ISLAND Hy 30.19**	**10**		T		T		03 55 15.8	
	baz=189,slow=76,SNR=14								
H11N3	**WAKE ISLAND Hy 30.20**	**10**		T		T		03 55 19.8	
	baz=189,slow=76,SNR=19								
H11N2	**WAKE ISLAND Hy 30.21**	**10**		T		T		03 55 18.1	
	baz=189,slow=76,SNR=19								
URZ	**Urewera**	**31.27**	**156**	P		**P**		**03 23 19.3**	**+0.6**
	6.0nm,0.6s,baz=300,slow=2.6,SNR=6.0								
RPZ	**Rata Peaks**	**34.42**	**168**	P		**P**		**03 23 46.4**	**+0.3**
	8.0nm,0.5s,baz=304,slow=2.2,SNR=7.9								
KAPI	**Kappang**	**41.67**	**274**	P		**P**		**03 24 46.9**	**-0.6**
	14nm,0.5s,baz=149,slow=5.9,SNR=3.7								
MJAR	**Matsushiro Arr**	**51.39**	**336**	P		**P**		**03 26 01.7**	**-1.4**
	9.0nm,0.8s,baz=153,slow=8.2,SNR=9.0								
JNU	**Nakatsue**	**52.02**	**327**	P		**P**		**03 26 07.7**	**-0.3**
	44nm,0.8s,baz=148,slow=8.1,SNR=4.1								
LEM	**Lembang**	**53.34**	**269**	P		**P**		**03 26 18.2**	**0.0**
	112nm,0.7s,baz=18,slow=20,SNR=4.8								
ASAJ	**Asahikawa**	**56.71**	**344**	P		**P**		**03 26 42.7**	**+1.0**
	baz=90,slow=7.1								
KSRS	**Korea Array**	**56.89**	**328**	P		**P**		**03 26 42.4**	**-0.6**
	26nm,0.9s,baz=147,slow=7.0,SNR=4.1								
KSAR	**Wonju Array Be**	**56.90**	**328**	P		**P**		**03 26 42.4**	**-0.7**
USRK	**Ussuriysk Ar.**	**60.39**	**336**	P		**P**		**03 27 07.7**	**+0.4**
	52nm,0.8s,baz=153,slow=5.5,SNR=11								
USRK				pP		**pP**		**03 27 28.9**	**+0.2**
	30nm,1.0s,baz=131,slow=4.4,SNR=1.4								
VNDA	**Vanda**	**67.31**	**180**	P		**P**		**03 27 53.2**	**+1.0**
	7.8nm,0.7s,baz=344,slow=6.9,SNR=64								
SBA	**Scott Base**	**67.70**	**179**	*e*P		**P**		**03 27 56.4**	**+1.7**
	8.3nm,0.9s								
CMAR	**Chiang Mai Arr**	**67.95**	**295**	P		**P**		**03 27 57.2**	**-0.1**
	8.3nm,0.8s,baz=122,slow=4.0,SNR=2.8								
SONM	**Songino Array**	**75.55**	**325**	P		**P**		**03 28 43.3**	**+0.9**
	58nm,0.8s,baz=147,slow=5.7,SNR=14								
TLY	**Talaya**	**79.13**	**328**	P		**P**		**03 29 01.9**	**-0.3**
	28nm,0.9s,baz=157,slow=7.9,SNR=4.1								
QSPA	**South Pole Qui**	**79.81**	**180**	*e*P		**P**		**03 29 06.2**	**+0.4**
	21nm,0.6s								
NVAR	**Mina Array Bea**	**88.69**	**51**	P		**P**		**03 29 53.3**	**+1.9**
	3.1nm,0.8s,baz=233,slow=7.3,SNR=11								
NVAR				pP		**pP**		**03 30 13.1**	**-1.2**
	4.3nm,0.8s,baz=231,slow=7.1,SNR=10								
MKAR	**Makanchi Array**	**90.06**	**318**	P		**P**		**03 29 57.0**	**-0.4**
	40nm,1.1s,baz=105,slow=5.1,SNR=4.0								
ZALV	**Zalesovo Beam**	**90.44**	**325**	P		**P**		**03 29 58.3**	**-0.6**
	21nm,0.9s,baz=126,slow=7.4,SNR=2.8								
PDAR	**Pinedale Array**	**96.06**	**48**	P		**P**		**03 30 25.5**	**+0.1**
	0.6nm,0.7s,baz=338,slow=1.6,SNR=4.4								
PDAR				pP		**pP**		**03 30 47.1**	**-1.2**
	0.8nm,0.7s,baz=220,slow=1.2,SNR=3.7								
VNA1	**Neumayer--Stat**	**99.04**	**183**	P		**Pdif**		**03 30 37.2**	**-0.7**
ARCES	**ARCESS Array B**	**114.43**	**344**	PKiKP		**PKiKP**		**03 35 35.5**	**-0.9**
	1.2nm,0.3s,baz=84,slow=1.1,SNR=13								
BOSA	**Boshof**	**122.78**	**226**	PKP		**PKPdf**		**03 35 53.1**	**-0.8**
	12nm,1.1s,baz=173,slow=1.3,SNR=6.3								
AKASG	**Malin Array Be**	**123.83**	**325**	PKP		**PKPdf**		**03 35 55.3**	**+0.2**
	3.7nm,0.8s,baz=73,slow=2.5,SNR=3.0								
LPAZ	**La Paz**	**124.29**	**118**	PKP		**PKPdf**		**03 35 57.9**	**+0.2**
	1.6nm,0.7s,baz=321,slow=6.5,SNR=6.6								
NOA	**PDARSAR Array B**	**124.73**	**343**	PKP		**PKPdf**		**03 35 55.7**	**-0.8**
	3.4nm,1.0s,baz=21,slow=5.2,SNR=2.3								
BRTR	**Keskin Array B**	**125.30**	**312**	PKP		**PKPdf**		**03 35 57.2**	**-1.2**
	3.5nm,0.9s,baz=122,slow=5.6,SNR=2.5								
MMAI	**Mount Meron Ar**	**125.63**	**303**	PKP		**PKPdf**		**03 35 58.8**	**-0.3**
	3.8nm,0.7s,baz=72,slow=4.7,SNR=2.0								
KEST	**Kesra**	**144.13**	**320**	PKP		PKPbc		03 36 31.5	-0.2
	4.3nm,0.6s,baz=5.1,slow=1.2,SNR=7.6								
ESDC	**Sonseca Array**	**147.91**	**339**	PKPbc		**PKPbc**		**03 36 43.0**	**+0.2**
	2.8nm,0.7s,baz=10,slow=3.3,SNR=9.4								

*IDC **16** 03:24:23.1±0.7, 1.85S×136.28E, h0km, mb4.6/10, mb1 4.7/12, mb1mx4.4/40, mbtmp4.6/12, ML4.3/2, Error ellipse: s-maj=25.3km s-min=16.8km az=66.0*
*NEIC **16** 03:24:24.9±0.4, 1.79S×136.23E, h10km, mb5.0/3, Error ellipse: s-maj=13.2km s-min=9.3km az=69.0*
*ISCJB **16** 03:24:26.3±0.5, 1.80S±0.07×136.29E±0.06, h33km, mb4.8/13, Error ellipse: s-maj=11.0km s-min=8.4km az=18.7*
ISC 16 03:24:28.4±0.6, 1.78S±0.09×136.29E±0.08, h35km, n26, σ1$14/26, mb4.8/13, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.11**	**280**	Pn		**Pn**		**03 25 43.0**	**+0.5**
	8.0nm,0.3s,baz=72,slow=20,SNR=4.8								
SIJI				Sn		**Sn**		**03 26 41.0**	**+0.8**
	5.9nm,0.3s,baz=114,slow=20,SNR=2.6								
PMG	**Port Moresby**	**13.20**	**125**	Pn		**Pn**		**03 27 33.9**	**+0.4**
KAPI	**Kappang**	**16.82**	**259**	Pn		**Pn**		**03 28 20.3**	**-1.1**
	1.4nm,0.3s,baz=68,slow=19,SNR=4.9								
GUMO	**Guam**	**17.48**	**29**	Pn		**P**		**03 28 29.9**	**-0.5**
	19nm,1.4s								
WRA	**Warramunga Arr**	**18.16**	**186**	S		Sn		03 31 43.8	-16
	baz=13,slow=22,SNR=1.3								
ASAR	**Alice Springs**	**21.88**	**186**	P		**P**		**03 29 15.4**	**-3.0**
	244nm,0.9s,baz=12,slow=9.1,SNR=3.2								
JNU	**Nakatsue**	**35.09**	**352**	P		**P**		**03 31 17.3**	**-1.1**
	18nm,0.8s,baz=168,slow=3.7,SNR=5.3								
CMAR	**Chiang Mai Arr**	**41.88**	**300**	P		**P**		**03 32 15.5**	**-0.2**
	6.7nm,1.0s,baz=121,slow=6.5,SNR=5.4								
TAU	**Tasmania Unive**	**42.12**	**168**	P		**P**		**03 32 17.7**	**+0.5**
USRK	**Ussuriysk Ar.**	**45.94**	**356**	P		**P**		**03 32 48.6**	**+0.8**
	5.7nm,0.8s,baz=200,slow=6.1,SNR=4.1								
HIA	**Hailar**	**52.82**	**346**	P		**P**		**03 33 38.8**	**-1.6**
	5.7nm,0.5s								
SONM	**Songino Array**	**55.87**	**336**	P		**P**		**03 34 02.8**	**0.0**
	3.6nm,0.9s,baz=145,slow=8.5,SNR=2.4								
PETK	**Petropavlovsk-**	**57.56**	**15**	P		**P**		**03 34 13.8**	**-0.6**
	6.3nm,0.9s,baz=192,slow=14,SNR=3.5								
MK31	**Makanchi Array**	**67.59**	**323**	P		**P**		**03 35 23.5**	**+1.9**
MKAR	**Makanchi Array**	**67.59**	**323**	P		**P**		**03 35 22.7**	**+1.1**
	4.7nm,0.6s,baz=115,slow=7.0,SNR=12								
ZALV	**Zalesovo Beam**	**69.93**	**331**	P		**P**		**03 35 35.4**	**-0.5**
	3.2nm,0.7s,baz=101,slow=2.9,SNR=2.6								
KURK	**Kurchatov**	**71.58**	**326**	P		**P**		**03 35 46.5**	**+0.5**
KURBB	**Kurchatov Arra**	**71.59**	**325**	P		**P**		**03 35 46.6**	**+0.4**
	11nm,1.2s,baz=112,slow=5.6,SNR=3.7								
VNDA	**Vanda**	**76.92**	**174**	P		**P**		**03 36 15.4**	**-1.4**
	13nm,1.0s,baz=326,slow=5.9,SNR=7.2								
VNDA	**Vanda**	**76.92**	**174**	*e*P		**P**		**03 36 17.7**	**+1.0**
	25nm,1.2s								
BVAR	**Borovoye Array**	**77.18**	**326**	P		**P**		**03 36 19.9**	**+1.2**
	2.4nm,0.7s,baz=128,slow=4.2,SNR=3.2								
QSPA	**South Pole Qui**	**88.16**	**180**	*e*P		**P**		**03 37 16.8**	**+1.1**
	44nm,0.9s								
ATAH	**Atahualpa**	**144.27**	**105**	PKP		**PKPdf**		**03 44 02.5**	**0.0**
	12nm,0.9s,baz=255,slow=13,SNR=4.8								
LVC	**Limon Verde**	**145.47**	**136**	PKPbc		**PKPab**		**03 44 05.4**	**+1.0**
	84nm,0.9s,baz=231,slow=4.5,SNR=8.7								
ROSC	**El Rosal**	**149.28**	**84**	PKPbc		**PKPbc**		**03 44 15.6**	**+0.4**
	12nm,0.7s,baz=284,slow=14,SNR=3.4								
LPAZ	**La Paz**	**149.93**	**128**	PKPbc		**PKPbc**		**03 44 18.0**	**+1.1**
	3.9nm,1.0s,baz=199,slow=2.2,SNR=2.7								

*CSEM **16** 03:28:01.0, 46.12N×15.64E, h0km, ML0.1*
LJU 16 03:28:01.0, 46.12N×15.64E, h5km, ML0.1, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GOLS	**Golise**	**0.11**	**184**	⇓*i* Pg		Pg		03 28 03.4	0.0
GOLS				*i* Sg		Sg		03 28 05.2	+0.2
	comp=Z,2.0nm,0.1s								
GOLS	**Golise**	**0.11**	**184**	⇓*i* Pg		Pg		03 28 03.3	-0.1
GOLS				*i* Sg		Sg		03 28 05.2	+0.3
	comp=Z,2.0nm,0.1s								
DOBS	**Dobrina**	**0.12**	**285**	*i* Pg		Pg		03 28 03.6	+0.1
DOBS				*i* Sg		Sg		03 28 05.4	+0.2
	comp=Z,1.0nm,0.0s								
DOBS	**Dobrina**	**0.12**	**285**	*i* Pg		Pg		03 28 03.6	+0.1
DOBS				*i* Sg		Sg		03 28 05.4	+0.2
	comp=Z,1.0nm,0.0s								
LEGS	**Legarje**	**0.28**	**233**	*i* Sg		Sg		03 28 10.6	+0.4
LEGS	**Legarje**	**0.28**	**233**	*i* Sg		Sg		03 28 10.6	+0.4
CRES	**Cresnjev**	**0.32**	**203**	*i* Pg		Pg		03 28 07.4	+0.2
CRES				*i* Sg		Sg		03 28 11.9	+0.4
CRES	**Cresnjev**	**0.32**	**203**	*i* Pg		Pg		03 28 07.4	+0.2
CRES				*i* Sg		Sg		03 28 11.9	+0.4

IDC 16 03:29:33.3±1.5, 2.01S×136.41E, h0km, mb4.1/2, mb1 4.5/4, mb1mx3.8/38, mbtmp4.3/4, ML4.1/2, Error ellipse: s-maj=48.3km s-min=27.1km az=69.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.27**	**282**	Pn		Pn		03 30 54.0	+0.6
	2.6nm,0.3s,baz=106,slow=20,SNR=3.8								
WRA	**Warramunga Arr**	**17.94**	**186**	P		Pn		03 33 43.4	-1.0
	0.9nm,0.3s,baz=8.0,slow=12,SNR=5.3								
ASAR	**Alice Springs**	**21.67**	**186**	P		P		03 34 25.9	+0.1
	11nm,0.7s,baz=8.6,slow=11,SNR=4.7								
MKAR	**Makanchi Array**	**67.84**	**323**	P		P		03 40 33.3	-0.2
	1.7nm,1.0s,baz=115,slow=7.8,SNR=2.6								
LPAZ	**La Paz**	**149.69**	**128**	PKPbc		PKPbc		03 49 26.9	-0.1
	1.2nm,0.7s,baz=225,slow=5.7,SNR=4.6								

*IDC **16** 03:30:31.4±0.9, 1.78S×136.46E, h0km, mb4.2/8, mb1 4.4/10, mb1mx4.1/38, mbtmp4.3/10, ML3.8/2, Error ellipse: s-maj=34.0km s-min=18.2km az=78.0*
*ISCJB **16** 03:30:34.9±0.7, 1.82S±0.10×136.37E±0.09, h33km, mb4.2/8, Error ellipse: s-maj=15.0km s-min=10.7km az=34.8*
ISC 16 03:30:36.7±0.8, 1.8S±0.1×136.4E±0.1, h35km, n10, σ0$76/11, mb4.1/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.25**	**280**	Pn		**Pn**		**03 31 53.1**	**+0.4**
	8.5nm,0.3s,baz=35,slow=16,SNR=4.9								
SIJI				Sn		**Sn**		**03 32 51.8**	**-0.2**
	3.8nm,0.3s,baz=127,slow=20,SNR=2.6								
WRA	**Warramunga Arr**	**18.13**	**186**	P		**Pn**		**03 34 44.8**	**-1.1**
	0.2nm,0.3s,baz=10.0,slow=12,SNR=2.7								
ASAR	**Alice Springs**	**21.86**	**186**	P		**P**		**03 35 26.3**	**-0.2**
	15nm,0.7s,baz=14,slow=11,SNR=5.2								
KSRS	**Korea Array**	**39.86**	**349**	P		**P**		**03 38 05.7**	**-1.3**
	1.2nm,0.8s,baz=176,slow=4.8,SNR=3.4								
MKAR	**Makanchi Array**	**67.70**	**323**	P		**P**		**03 41 31.1**	**+0.5**
	1.2nm,0.5s,baz=110,slow=8.2,SNR=8.9								
**KURB

Error ellipse: s-maj=13.6km s-min=5.2km az=104.2
*PGC **16** 03:33:55.7±0.6,58°.14N×139°.38W,h10km,ML5.3/3, Mw5.1,128km south of Yakutat, Ak Off Coast Of Southeastern Alaska*
*ISCJB **16** 03:33:56.1±0.1,58°.29N±0°.02×139°.24W±0°.03,h14km, mb4.6/55, Error ellipse: s-maj=3.4km s-min=1.3km az=40.9*

ISC 16 03:33:57.7±0.4,58°.17N±0°.03×139°.21W±0°.03,h14km±2km, h14km:pP-P,n691,σ1$30/718,mb4.7/60,8C-3D,Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHX	**Chaix Hills**	**2.14**	**333**	P	**Pn**	**03 34 30.9**	**-2.1**
BESE	**Bessie Mountai**	**2.33**	**78**	P	**Pn**	**03 34 33.9**	**-1.7**
BESE				S	**Sn**	**03 35 03.3**	**-0.8**
SIT	**Sitka**	**2.37**	**116**	*e*P	**Pn**	03 34 32.6	-3.5
SIT				S	**Sn**	**03 35 03.8**	**-1.1**
SIT	**Sitka**	**2.37**	**116**	*e*Pn	Pn	03 34 32.6	-3.5
SIT				S	**Sn**	**03 35 03.8**	**-1.1**
SKAG	**Skagway**	**2.40**	**56**	*e*Pn	**Pn**	**03 34 36.4**	**-0.1**
SKAG				*e*S	**Sn**	**03 35 05.1**	**-0.5**
RKAV	**Rock Avalanche**	**2.40**	**334**	P	**Pn**	**03 34 34.4**	**-2.3**
MESA	**MESA**	**2.46**	**326**	P	**Pn**	**03 34 35.3**	**-2.2**
MESA				S	**Sn**	**03 35 05.6**	**-1.8**
TABL	**Table Mountain**	**2.48**	**337**	P	**Pn**	**03 34 35.9**	**-2.0**
TABL				S	**Sn**	**03 35 06.7**	**-1.4**
YAH	**Yahtse**	**2.56**	**330**	P	**Pn**	**03 34 36.9**	**-2.0**
BAGL	**Bagley Icefiel**	**2.75**	**329**	P	**Pn**	**03 34 39.2**	**-2.2**
KULT	**Kultieth River**	**2.76**	**321**	P	**Pn**	**03 34 39.5**	**-2.0**
KULT				S	**Sn**	**03 35 13.4**	**-1.2**
HYT	**Haines Junctio**	**2.80**	**17**	*e*Pn	**Pn**	**03 34 40.9**	**-1.2**
HYT				*e*S	**Sb**	**03 35 19.7**	**-2.0**
HYT	**Haines Junctio**	**2.80**	**17**	Pn	**Pn**	**03 34 40.9**	**-1.2**
HYT				Sg	**Sb**	**03 35 19.6**	**-2.0**
BARK	**Barkley Ridge**	**2.80**	**324**	P	**Pn**	**03 34 40.2**	**-1.9**
LOGN	**Logan Glacier**	**2.81**	**342**	P	**Pn**	**03 34 40.6**	**-1.8**
BGLC	**Bering Glacier**	**2.87**	**315**	P	**Pn**	**03 34 40.9**	**-2.0**
BGLC				S	**Sn**	**03 35 16.2**	**-0.9**
GRNC	**Granite Creek**	**2.88**	**334**	P	**Pn**	**03 34 40.9**	**-2.4**
ISLE	**Juniper Island**	**2.92**	**328**	P	**Pn**	**03 34 41.3**	**-2.5**
GRIN	**Grindle Hills**	**2.99**	**317**	P	**Pn**	**03 34 42.7**	**-2.0**
GRIN				S	**Sn**	**03 35 20.1**	**-0.2**
CTGM	**Chitina Glacie**	**3.00**	**340**	P	**Pn**	**03 34 43.0**	**-1.9**
SUCK	**Suckling Hills**	**3.03**	**311**	P	**Pn**	**03 34 43.6**	**-1.5**
KHIT	**Khitrov Hills**	**3.08**	**319**	P	**Pn**	**03 34 43.6**	**-2.3**
KIAG	**Kiagna River**	**3.19**	**331**	P	**Pn**	**03 34 45.3**	**-2.3**
BERG	**Berg Lake**	**3.21**	**316**	P	**Pn**	**03 34 45.5**	**-2.1**
NICHA	**Nichawak Mount**	**3.21**	**312**	P	**Pn**	**03 34 46.1**	**-1.5**
WHY	**Whitehorse**	**3.33**	**40**	P	**Pn**	**03 34 48.4**	**-1.1**
WHY	**Whitehorse**	**3.33**	**40**	Pn	**Pn**	**03 34 48.4**	**-1.1**
WHY				Sn	**Sn**	**03 35 27.9**	**-1.0**
WHY				Sg	**Sb**	**03 35 35.8**	**-1.3**
PTPK	**Patty Peak**	**3.45**	**333**	P	**Pn**	**03 34 49.2**	**-1.9**
RAGM	**Ragged Mountai**	**3.58**	**311**	P	**Pn**	**03 34 50.5**	**-2.2**
MCARA	**McCarthy VSAT**	**3.75**	**331**	P	**Pn**	**03 34 53.7**	**-1.4**
MID	**Middleton Isla**	**3.92**	**292**	P	**Pn**	**03 34 54.7**	**-2.6**
MID	**Middleton Isla**	**3.92**	**292**	P	**Pn**	**03 34 54.7**	**-2.6**
BMRM	**Bremner River**	**3.92**	**318**	P	**Pn**	**03 34 56.0**	**-1.5**
GLB	**Gilahina Butte**	**4.02**	**327**	P	**Pn**	**03 34 57.3**	**-1.6**
WRAK	**Wrangell Islan**	**4.12**	**112**	P	**Pn**	**03 34 58.0**	**-2.0**
CRAG	**Craig**	**4.30**	**126**	*e*Pn	**Pn**	**03 35 00.1**	**-2.5**
DIV	**Divide**	**4.46**	**314**	*e*Pn	**Pn**	**03 35 04.5**	**-0.3**
DIV				*e*S	**Sb**	**03 36 05.9**	**-3.4**
WASW	**Wrangell South**	**4.51**	**329**	P	**Pn**	**03 35 04.7**	**-1.1**
VLZ	**Valdez**	**4.68**	**312**	P	**Pn**	**03 35 06.1**	**-1.6**
JPK	**Jack Peak**	**4.74**	**311**	P	**Pn**	**03 35 06.9**	**-1.8**
KLU	**Klutina**	**4.75**	**317**	P	**Pn**	**03 35 06.9**	**-1.9**
DLBC	**Dease Lake**	**4.85**	**83**	Pn	**Pn**	**03 35 09.4**	**-0.9**
	36nm,0.3s,baz=244,slow=7.3,SNR=345						
DLBC				Sn	**Sn**	**03 36 03.6**	**-2.5**
	130nm,0.3s,baz=188,slow=19,SNR=12						
DLBC				Lg	Lg	03 36 18.7	
	165nm,0.3s,baz=218,slow=8.1,SNR=5.6						
DLBC	**Dease Lake**	**4.85**	**83**	Pn	**Pn**	**03 35 09.2**	**-1.1**
DLBC				Sn	**Sn**	**03 36 03.7**	**-2.5**
DLBC				Sg	**Sb**	**03 36 18.6**	**-2.0**
BCA3	**Beaver Creek A**	**5.07**	**347**	P	**Pn**	**03 35 11.8**	**-1.5**
HARP	**HAARP**	**5.18**	**328**	P	**Pn**	**03 35 13.6**	**-1.0**
MENT	**Mentasta**	**5.27**	**337**	*e*Pn	**Pn**	**03 35 16.5**	**+0.5**
MENT				*e*S	**Sb**	**03 36 36.8**	**+4.1**
SCM	**Sheep Creek Mo**	**5.48**	**315**	P	**Pn**	**03 35 17.9**	**-1.0**
SCM	**Sheep Creek Mo**	**5.48**	**315**	P	**Pn**	**03 35 17.9**	**-1.0**
NDB	**Naden**	**5.49**	**138**	P	**Pn**	**03 35 16.4**	**-2.6**
NDB	**Naden**	**5.49**	**138**	Pn	**Pn**	**03 35 16.5**	**-2.6**
SEW	**Seward**	**5.62**	**295**	*e*Pn	**Pn**	**03 35 20.0**	**-0.7**
	74nm,0.9s						
SEW				*e*S	**Sn**	**03 36 24.5**	**-0.3**
PTE	**Portage**	**5.68**	**303**	P	**Pn**	**03 35 19.4**	**-2.1**
PAX	**Paxson**	**5.72**	**330**	*e*P	**Pn**	**03 35 22.5**	**+0.3**
PAX				pmax	pmax		
	comp=Z,192nm,1.0s						
PAX	**Paxson**	**5.72**	**330**	*e*Pn	**Pn**	**03 35 22.4**	**+0.3**
	comp=Z,192nm,1.0s						
DAWY	**Dawson**	**5.92**	**359**	P	**Pn**	**03 35 24.3**	**-0.6**
DAWY	**Dawson**	**5.92**	**359**	Pn	**Pn**	**03 35 24.2**	**-0.6**
DAWY				Sg	Sg	03 36 59.5	-7.9
PMR	**Palmer**	**6.06**	**309**	*e*P	**Pn**	**03 35 26.7**	**0.0**
PMR				pmax	pmax		
	comp=Z,28nm,0.4s						
PMR	**Palmer**	**6.06**	**309**	*e*Pn	**Pn**	**03 35 26.7**	**0.0**
	comp=Z,28nm,0.4s						
RC01	**Rabbit Creek A**	**6.09**	**303**	*e*Pn	**Pn**	**03 35 26.6**	**-0.5**
RC01				*e*S	**Sn**	**03 36 34.3**	**-2.2**
SLKM	**Skilak Lake**	**6.10**	**297**	P	**Pn**	**03 35 25.0**	**-2.4**
SLKM	**Skilak Lake**	**6.10**	**297**	P	**Pn**	**03 35 25.0**	**-2.4**
VIB	**Van Inlet**	**6.20**	**140**	P	**Pn**	**03 35 26.3**	**-2.5**
VIB	**Van Inlet**	**6.20**	**140**	Pn	**Pn**	**03 35 26.1**	**-2.7**
VIB				Sn	Sn	03 36 32.7	-6.8
DIB	**Dawson Inlet,**	**6.27**	**140**	Pn	**Pn**	**03 35 26.9**	**-2.7**
DIB				Sn	Sn	03 36 34.6	-6.3
RUBB	**Prince Rupert**	**6.30**	**124**	Pn	**Pn**	**03 35 28.3**	**-1.8**
RUBB				Sg	**Sg**	**03 37 16.1**	**-3.7**
BNB	**Barry Inlet**	**7.03**	**140**	P	**Pn**	**03 35 37.5**	**-2.7**
BNB	**Barry Inlet**	**7.03**	**140**	Pn	**Pn**	**03 35 37.6**	**-2.6**
KDAK	**Kodiak Island**	**7.12**	**273**	Pn	**Pn**	**03 35 39.6**	**-1.7**
	comp=Z,538nm,0.7s,SNR=29						
KDAK	**Kodiak Island**	**7.12**	**273**	*e*P	**Pn**	**03 35 40.2**	**-1.1**
KDAK	**Kodiak Island**	**7.12**	**273**	*e*Pn	**Pn**	**03 35 40.2**	**-1.1**
STLK	**Strandline Lak**	**7.18**	**303**	P	**Pn**	**03 35 39.8**	**-2.4**
RSO	**Redoubt South**	**7.30**	**294**	*e*Pn	**Pn**	**03 35 43.0**	**-0.9**
RSO				*e*S	**Sn**	**03 37 04.8**	**-1.8**
CKL	**Chakachamna La**	**7.30**	**300**	P	**Pn**	**03 35 41.9**	**-2.0**
MCK	**McKinley**	**7.31**	**324**	*e*P	**Pn**	**03 35 44.1**	**+0.2**
MCK				pmax	pmax		
	comp=Z,171nm,0.9s						
MCK	**McKinley**	**7.31**	**324**	*e*Pn	**Pn**	**03 35 44.1**	**+0.2**
	comp=Z,171nm,0.9s						
MCK				*e*S	**Sb**	**03 37 31.9**	**+0.7**
RDWB	**Redoubt West**	**7.35**	**294**	P	**Pn**	**03 35 42.5**	**-2.0**
NCT	**North Crescent**	**7.41**	**295**	P	Pn	03 35 42.3	-3.0
ILW	**Iliamna West**	**7.41**	**291**	P	**Pn**	**03 35 43.0**	**-2.5**
TRF	**Thorofare Moun**	**7.57**	**319**	*e*Pn	**Pn**	**03 35 48.3**	**+0.7**
	comp=Z,41nm,1.0s						
TRF				*e*S	Sb	03 37 50.8	+12
IL1	**Eielson Array**	**7.57**	**334**	P	**Pn**	**03 35 46.1**	**-1.4**
ILAR	**Eielson Array**	**7.57**	**334**	Pn	**Pn**	**03 35 46.8**	**-0.7**
	comp=Z,6.9nm,0.3s,baz=152,slow=13,SNR=159						
ILAR				Lg	Lg	03 37 57.0	
	comp=Z,2.2nm,0.3s,baz=101,slow=27,SNR=4.2						
ILB	**Eielson Array**	**7.57**	**334**	P	**Pn**	**03 35 46.2**	**-1.3**
OHAK	**Old Harbor**	**7.61**	**269**	*e*Pn	**Pn**	**03 35 45.4**	**-2.5**
COLA	**College**	**7.88**	**332**	*e*P	**Pn**	**03 35 51.8**	**+0.1**
COLA	**College**	**7.88**	**332**	*e*Pn	**Pn**	**03 35 51.8**	**+0.1**
COLA				*e*S	**Sb**	**03 37 42.7**	**-4.8**
PPLA	**Purkeypile**	**7.96**	**312**	*e*Pn	**Pn**	**03 35 52.7**	**-0.2**
	comp=Z,286nm,0.4s						
PPLA				*e*Pg	Pb	03 36 25.8	+10
PPLA				*e*S	Sb	03 38 04.5	+14
MDM	**Murphy Dome**	**8.05**	**332**	P	**Pn**	**03 35 52.6**	**-1.5**
BPAW	**Bear Paw Mtn.**	**8.22**	**321**	*e*Pn	**Pn**	**03 35 55.5**	**-0.9**
	comp=Z,16nm,0.9s						
BPAW				*e*S	Sb	03 37 53.9	-3.6
KABR	**Katmai Barrier**	**8.34**	**276**	P	**Pn**	**03 35 55.7**	**-2.4**
FNBB	**Fort Nelson**	**8.51**	**78**	Pn	**Pn**	**03 35 59.7**	**-0.7**
FNBB				Sn	**Sn**	**03 37 31.8**	**-4.3**
FNBB				Sg		03 38 25.3	
BBB	**Bella Bella**	**8.73**	**129**	Pn	**Pn**	**03 36 00.8**	**-2.5**
	comp=Z,7.5nm,0.3s,baz=318,slow=13,SNR=32						
BBB				Sn	**Sn**	**03 37 36.1**	**-5.3**
	comp=Z,2.9nm,0.3s,baz=18,slow=20,SNR=4.1						
BBB				Lg	Lg	03 38 31.6	
	comp=Z,1.7nm,0.3s,baz=247,slow=18,SNR=4.2						
BBB	**Bella Bella**	**8.73**	**129**	Pn	**Pn**	**03 36 01.1**	**-2.2**
BBB				Sn	Sn	03 37 35.4	-5.9
BBB				Sg	Sg	03 38 31.8	-5.6
FSB	**Fort Saint Jam**	**9.05**	**108**	Pn	**Pn**	**03 36 07.4**	**-0.5**
BCBC	**Bella Coola**	**9.17**	**124**	Pn	**Pn**	**03 36 10.7**	**+1.3**
TT01	**Tatalina**	**9.53**	**307**	P	**Pn**	**03 36 11.6**	**-2.7**
BM3	**Burnt Mountain**	**9.60**	**347**	P	**Pn**	**03 36 13.4**	**-1.9**
HOLB	**Holberg**	**9.92**	**135**	Pn	Pn	03 36 13.4	-6.3
HOLB				Sn	Sn	03 38 04.0	-6.7
UBRB	**Upper Baezaeko**	**10.06**	**115**	Pn	**Pn**	**03 36 23.7**	**+1.9**
UBRB				Sg		03 39 17.1	
PHC	**Port Hardy**	**10.13**	**132**	Pn	Pn	03 36 15.2	-7.3
PHC				Sn	Sn	03 38 09.5	-6.5
IM04	**Indian Mountai**	**10.36**	**325**	*e*Pn	**Pn**	**03 36 25.0**	**-0.7**
COLD	**Coldfoot**	**10.37**	**336**	*e*Pn	**Pn**	**03 36 26.0**	**+0.2**
	comp=Z,38nm,0.9s						
BPBC	**Brooks Peninsu**	**10.45**	**135**	Pn	**Pn**	**03 36 25.9**	**-1.1**
MAYB	**Maynard**	**10.48**	**133**	Pn	**Pn**	**03 36 24.8**	**-2.6**
INK	**Inuvik**	**10.49**	**12**	Pn	**Pn**	**03 36 25.3**	**-2.0**
	comp=Z,1.4nm,0.3s,baz=198,slow=14,SNR=10						
INK				Lg	Lg	03 39 23.8	
	comp=Z,1.0nm,0.3s,baz=131,slow=20,SNR=3.1						
INK	**Inuvik**	**10.49**	**12**	*e*P	**Pn**	**03 36 27.3**	**0.0**
INK				pmax	pmax		
	comp=Z,52nm,0.8s						
INK	**Inuvik**	**10.49**	**12**	*e*Pn	**Pn**	**03 36 27.3**	**0.0**
	comp=Z,52nm,0.8s						
INK				Lg	Lg	03 39 23.8	
INK	**Inuvik**	**10.49**	**12**	Pn	**Pn**	**03 36 26.9**	**-0.4**
INK				Sg		03 39 30.5	
TLCB	**Telegraph Cove**	**10.50**	**131**	Pn	**Pn**	**03 36 26.1**	**-1.4**
TLCB				Sn	**Sn**	**03 38 21.4**	**-3.4**
FHRB	**Fair Harbour**	**10.78**	**134**	Pn	**Pn**	**03 36 29.9**	**-1.4**
WOSB	**Woss**	**10.90**	**132**	Pn	**Pn**	**03 36 31.8**	**-1.5**
NCRB	**Newcastle Ridg**	**10.92**	**130**	Pn	**Pn**	**03 36 32.4**	**-1.1**
EDB	**Eliza Dome**	**10.92**	**134**	Pn	**Pn**	**03 36 32.4**	**-1.0**
WAPA	**Wapiti River**	**11.37**	**97**	Pn	**Pn**	**03 36 42.1**	**+2.6**
WAPA				Sg		03 39 49.6	
GDR	**Gold River**	**11.42**	**132**	Pn	**Pn**	**03 36 40.2**	**0.0**
CBB	**Campbell River**	**11.49**	**129**	Pn	**Pn**	**03 36 40.7**	**-0.4**
HILA	**High Level**	**11.65**	**79**	Pn	**Pn**	**03 36 42.0**	**-1.3**
HILA				Sn	Sn	03 38 44.8	-8.2
HILA				Sg		03 39 56.6	
BTB	**Buttle Lake**	**11.87**	**131**	Pn	**Pn**	**03 36 45.6**	**-0.9**
ROMN	**Roman Lake**	**11.88**	**50**	Pn	**Pn**	**03 36 44.6**	**-1.8**
GALN	**Gameti Lake**	**12.10**	**51**	Pn	**Pn**	**03 36 46.6**	**-2.7**
GALN				Sg		03 40 13.6	
TXB	**Texada**	**12.13**	**128**	Pn	**Pn**	**03 36 50.4**	**+0.4**
OZB	**Mount Ozzard**	**12.29**	**133**	Pn	**Pn**	**03 36 52.6**	**+0.6**
ALB	**Alberni**	**12.30**	**130**	Pn	Pn	03 36 55.4	+3.2
MGB	**Mount Grey**	**12.57**	**131**	Pn	**Pn**	**03 36 55.6**	**-0.4**
LLLB	**Lillooet**	**12.59**	**119**	Pn	Pn	03 36 59.6	+3.4
LLLB				Sg		03 40 29.0	
NLLB	**Nanaimo Lost L**	**12.68**	**128**	Pn	**Pn**	**03 36 59.5**	**+2.1**
WPB	**Watts Point**	**12.68**	**125**	Pn	Pn	03 37 02.9	+5.5
YOUB	**Youbou, Lake C**	**12.82**	**130**	Pn	Pn	03 37 03.7	+4.3
BIB	**Bowen Island**	**12.83**	**126**	Pn	Pn	03 37 03.9	+4.4
YKB3	**Yellowknife Ar**	**12.88**	**60**	Pn	Pn	03 36 56.2	-3.9
YKA	**Yellowknife Ar**	**12.89**	**60**	Pn	**Pn**	**03 36 57.7**	**-2.5**
	comp=Z,1.4nm,0.3s,baz=257,slow=12,SNR=23						
YKA				Lg	Lg	03 40 40.8	
	comp=Z,0.2nm,0.3s,baz=257,slow=29,SNR=6.1						
YKW3	**Yellowknife Ar**	**12.90**	**60**	Pn	**Pn**	**03 36 57.9**	**-2.3**
YKW3				Sg		03 40 37.2	
BLBC	**Blue River**	**12.95**	**110**	Pn	**Pn**	**03 37 03.3**	**+2.0**
PFB	**Port Renfrew**	**13.01**	**131**	P	Pn	03 37 05.0	+3.0
LZB	**Mount Lazard**	**13.23**	**130**	P	Pn	03 37 08.0	+3.0
MNB	**Monoot Dainar**	**13.29**	**108**	P	Pn	03 37 09.0	+3.1
PGC	**Sidney**	**13.35**	**129**	P	**Pn**	**03 37 08.4**	**+1.8**
SNB	**Saturna Island**	**13.37**	**128**	P	**Pn**	**03 37 07.5**	**+0.7**
OFR	**Olym-F Res Ctr**	**13.55**	**133**	P	Pn	03 37 12.6	+3.4
MCW	**Mount Constitu**	**13.59**	**127**	P	**Pn**	**03 37 11.8**	**+1.9**
DOWB	**Downie Slide**	**13.62**	**110**	P	**Pn**	**03 37 12.9**	**+2.6**
HOPB	**Hope**	**13.67**	**122**	P	**P**	**03 37 22.4**	**+2.7**
MBW	**Mount Baker**	**13.91**	**125**	P	**Pn**	**03 37 16.4**	**+2.0**
OSD	**Olympics--Snow**	**13.91**	**131**	P	**Pn**	**03 37 17.0**	**+2.6**
OSD	**Olympics--Snow**	**13.91**	**131**	P	Pn	03 37 17.4	+3.0
SLEB	**Sale Mountain**	**14.03**	**111**	P	**Pn**	**03 37 18.4**	**+2.5**
BLN	**Blyn Mountain**	**14.06**	**129**	P	**Pn**	**03 37 18.1**	**+1.8**
CMW	**Cultus Mountai**	**14.09**	**126**	P	Pn	03 37 20.6	+3.8
NLWA	**Neilton Lookou**	**14.20**	**133**	*e*Pn	**Pn**	**03 37 17.2**	**-0.9**
	comp=Z,94nm,0.9s						
HDW	**Hoodsport**	**14.31**	**130**	P	P	03 37 23.4	-3.5
RPW	**Rockport**	**14.33**	**125**	P	Pn	03 37 23.1	+3.1
JCW	**Jim Creek**	**14.35**	**127**	P	P	03 37 23.9	-3.3
WISH	**Wishkah**	**14.46**	**133**	P	**P**	**03 37 30.3**	**+1.9**
SMW	**South Mountain**	**14.46**	**132**	P	**P**	**03 37 25.5**	**-3.1**
GNW	**Green Mountain**	**14.47**	**130**	P	**Pn**	**03 37 23.4**	**+1.6**
PNT	**Penticton**	**14.54**	**119**	P	**Pn**	**03 37 25.0**	**+2.1**
CPW	**Capitol Peak**	**14.82**	**132**	P	**P**	**03 37 31.1**	**-1.5**
C05A	**Tolt Reservoir**	**14.84**	**127**	P	**P**	**03 37 34.8**	**+2.1**
D05A	**Enumclaw**	**15.11**	**129**	P	**Pn**	**03 37 32.2**	**+1.7**
NLW	**Nelson Butte**	**15.12**	**124**	P	**Pn**	**03 37 33.4**	**+2.6**
GSM	**Grass Mountain**	**15.18**	**129**	P	**Pn**	**03 37 32.7**	**+1.1**
GSM	**Grass Mountain**	**15.18**	**129**	P	**Pn**	**03 37 32.7**	**+1.1**
RVC	**Mount Rainier-**	**15.32**	**130**	P	**Pn**	**03 37 34.7**	**+1.4**
EDM	**Edmonton**	**15.35**	**98**	P	**Pn**	**03 37 34.2**	**+0.5**
B08A	**Colville Reser**	**15.36**	**121**	P	**Pn**	**03 37 34.8**	**+0.9**
FMW	**Mount Fremont**	**15.45**	**129**	P	**Pn**	**03 37 35.6**	**+0.5**
LON	**Longmire**	**15.54**	**130**	P	**P**	**03 37 40.5**	**0.0**
LON	**Longmire**	**15.54**	**130**	P	**P**	**03 37 40.5**	**0.0**
LON	**Longmire**	**15.54**	**130**	P	**Pn**	**03 37 37.8**	**+1.6**
LTY	**Liberty**	**15.61**	**126**	P	**Pn**	**03 37 37.7**	**+0.5**
F04D	**Rainier, OR**	**15.61**	**134**	P	**Pn**	**03 37 39.1**	**+2.0**
	baz=16						
WPW	**White Pass**	**15.69**	**129**	P	**Pn**	**03 37 38.7**	**+0.5**
GLK	**Glacier Lake**	**15.77**	**130**	P	**P**	**03 37 44.2**	**+1.0**
UNV	**Unalaska Valle**	**15.81**	**266**	*e*Pn	**Pn**	**03 37 39.2**	**-0.4**
	comp=Z,90nm,0.9s						
SAW	**Saint Andrews**	**15.82**	**123**	P	**Pn**	**03 37 41.2**	**+1.4**
SNLN	**Sandy Lake, NW**	**16.14**	**60**	P	**Pn**	**03 37 40.4**	**-3.3**
G03D	**McMinnville, O**	**16.25**	**136**	P	**Pn**	**03 37 46.9**	**+1.6**
	baz=16,SNR=9.4						
MXC	**Moxie City**	**16.30**	**127**	P	**P**	**03 37 50.9**	**+1.9**
FHE	**Frenchman Hill**	**16.35**	**125**	P	**P**	**03 37 51.5**	**+2.0**
NEW	**Newport**	**16.45**	**117**	Pn	**Pn**	**03 37 47.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=321,slow=11,SNR=11						
NEW				Lg	Lg	03 42 32.7	
	comp=Z,0.1nm,0.3s,baz=38,slow=17,SNR=2.5						
NEW	**Newport**	**16.45**	**117**	*e*P	**Pn**	**03 37 49.0**	**+1.1**
NEW				pmax	pmax		
	comp=Z,78nm,1.3s						
NEW	**Newport**	**16.45**	**117**	P	**Pn**	**03 37 48.5**	**+0.6**
	baz=16,SNR=11						
NEW	**Newport**	**16.45**	**117**	*e*Pn	**Pn**	**03 37 49.0**	**+1.1**
	comp=Z,78nm,1.3s						
NEW				Lg	Lg	03 42 32.7	
COR	**Corvallis**	**16.78**	**137**	*e*P	**Pn**	**03 37 52.5**	**+0.5**
COR				pmax	pmax		
	comp=Z,164nm,1.1s						
COR	**Corvallis**	**16.78**	**137**	*e*Pn	**Pn**	**03 37 52.5**	**+0.5**
	comp=Z,164nm,1.1s						
GDLN	**Gardenia Lake,**	**16.88**	**63**	P	**Pn**	**03 37 51.8**	**-1.5**
G05D	**Wamic, OR**	**16.97**	**132**	P	**P**	**03 37 56.1**	**-0.2**
	baz=17,SNR=7.2						
VTHM	**Trough**	**17.32**	**131**	P	**P**	**03 38 01.2**	**+1.0**
WALA	**Waterton Lakes**	**17.46**	**111**	*e*Pn	**P**	**03 38 01.5**	**-0.4**
	comp=Z,40nm,0.9s						
WALA	**Waterton Lakes**	**17.46**	**111**	P	**P**	**03 38 01.6**	**-0.4**
I03D	**Drain, OR**	**17.53**	**139**	P	**P**	**03 38 03.6**	**+1.1**
	baz=18						
I05D	**Terrebonne, OR**	**17.72**	**134**	P	**P**	**03 38 05.9**	**+1.3**
	baz=18,SNR=10						
LNOR	**Lincton Mounta**	**17.72**	**125**	P	**P**	**03 38 05.1**	**+0.4**
LNOR	**Lincton Mounta**	**17.72**	**125**	P	**P**	**03 38 05.1**	**+0.4**
I04A	**Tendick Farm,**	**17.78**	**137**	P	**P**	**03 38 06.6**	**+1.3**
	baz=18,SNR=16						
JTMT	**Jette**	**18.17**	**114**	*e*Pn	**P**	**03 38 10.2**	**+0.5**
	comp=Z,12nm,1.0s						
YBMT	**Yellow Bay**	**18.22**	**114**	*e*Pn	**P**	**03 38 11.0**	**+0.7**
	comp=Z,12nm,0.9s						
J04D	**Umpqua Nationa**	**18.37**	**137**	P	Pn	**03 38 14.0**	**+2.0**
	baz=18,SNR=16						
SWMT	**Swartz Lake**	**18.48**	**114**	*e*Pn	**Pn**	**03 38 13.2**	**0.0**
	comp=Z,18nm,1.1s						
BBOR	**Butler Butte**	**18.48**	**139**	P	**Pn**	**03 38 15.7**	**+2.4**
J05D	**Fort Rock, OR**	**18.66**	**135**	P	**Pn**	**03 38 16.9**	**+1.5**
	baz=19,SNR=16						
L02D	**Cave Junction,**	**18.81**	**142**	P	**Pn**	**03 38 19.2**	**+2.0**
	baz=19,SNR=5.5						
MSO	**Missoula**	**18.99**	**116**	P	**Pn**	**03 38 19.9**	**+0.6**
	baz=19,SNR=9.5						
K04D	**Chiloquin, OR**	**19.04**	**137**	P	**Pn**	**03 38 21.2**	**+1.2**
	baz=19						
YBH	**Yreka Blue Hor**	**19.49**	**140**	P	**Pn**	**03 38 25.3**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=356,slow=4.0,SNR=18						
M04C	**Macdoel**	**19.75**	**139**	P	**Pn**	**03 38 28.7**	**+0.3**
	baz=20,SNR=7.6						
M02C	**Callahan**	**19.75**	**141**	P	**Pn**	**03 38 29.5**	**+1.0**
	baz=20,SNR=8.0						
HRY	**Holter Researc**	**20.09**	**113**	*e*P	**P**	**03 38 29.3**	**-1.5**
	comp=Z,44nm,0.9s						
A19A	**Klindworth Far**	**20.16**	**104**	P	**P**	**03 38 31.9**	**+0.4**
	baz=20,SNR=7.2						
N02D	**Trinity Center**	**20.17**	**141**	P	Pn	03 38 33.8	+0.3
	baz=20,SNR=11						
EGMT	**Eagleton**	**20.23**	**107**	P	**P**	**03 38 33.0**	**+0.8**
	baz=20,SNR=22						
EGMT	**Eagleton**	**20.23**	**107**	*e*P	**P**	**03 38 31.9**	**-0.3**
	comp=Z,212nm,1.0s						
B19A	**Brinkman Farms**	**20.36**	**105**	P	**P**	**03 38 34.1**	**+0.5**
	baz=20,SNR=12						
A20A	**Cobblestone Ra**	**20.61**	**103**	P	**P**	**03 38 36.8**	**+0.5**
	baz=21,SNR=7.8						
FFC	**Flin Flon**	**20.69**	**83**	P	**P**	**03 38 37.6**	**+0.6**
	comp=Z,209nm,0.8s,SNR=5.1						
B20A	**Solberg Farm,**	**20.84**	**104**	P	**P**	**03 38 39.1**	**+0.3**
	baz=21,SNR=17						
BOZ	**Bozeman (W)**	**20.95**	**115**	P	**P**	**03 38 41.0**	**+0.9**
	baz=21						
A21A	**Bergtoll Ranch**	**21.06**	**102**	P	**P**	**03 38 41.5**	**+0.3**
	baz=21						
HLID	**Hailey**	**21.24**	**123**	P	**P**	**03 38 44.2**	**+1.0**
	baz=21,SNR=6.5						
C20A	**Veseth Ranch,**	**21.32**	**106**	P	**P**	**03 38 44.1**	**+0.1**
	baz=21,SNR=9.2						
B21A	**Ellsworth Farm**	**21.37**	**103**	P	**P**	**03 38 44.7**	**+0.3**
	baz=21,SNR=30						
A22A	**Carney Farms,**	**21.59**	**101**	P	**P**	**03 38 47.2**	**+0.4**
	baz=22,SNR=7.8						
C21A	**Desert Coulee**	**21.71**	**104**	P	**P**	**03 38 48.3**	**+0.2**
	baz=22						
GCMT	**Greycliff**	**21

C27A Sayler Ranch, 24.69 99 P P 03 39 18.4 +0.4
baz=25,SNR=5.3
I22A 9 Mile Ranch, 24.74 111 P P 03 39 19.3 +0.8
baz=25
G24A Alzada 24.76 106 P P 03 39 18.8 +0.1
baz=25
B28A Dugan Ranch, T 24.83 96 P P 03 39 19.8 +0.6
baz=25
F25A Bowman 24.84 104 P P 03 39 20.0 +0.6
baz=25,SNR=5.1
E26A Carlson Angus 24.99 102 P P 03 39 21.0 +0.3
baz=25,SNR=5.9
D27A Center 25.06 100 P P 03 39 21.6 +0.2
baz=25,SNR=5.5
R11A Troy Canyon, C 25.08 132 P P 03 39 23.2 +1.5
baz=25,SNR=14
J22A Midwest 25.09 112 P P 03 39 22.7 +0.9
baz=25
H24A Dirks Ranch, A 25.10 107 P P 03 39 22.5 +0.8
baz=25
QILN Qililugaq Expl 25.13 48 P P 03 39 21.3 -0.4
A29A Manning Farm, 25.14 94 P P 03 39 22.2 +0.2
baz=25,SNR=5.0
TIN Tinemaha, Big 25.22 138 P P 03 39 25.1 +2.2
baz=25
C28A Hausauer Farms 25.27 97 P P 03 39 23.9 +0.7
baz=25
F26A Lodgepole 25.30 103 P P 03 39 23.7 +0.2
baz=25,SNR=5.6
B29A Wagenman Farm, 25.35 95 P P 03 39 24.0 +0.1
baz=25,SNR=6.9
G25A Newell 25.36 105 P P 03 39 24.9 +0.8
baz=25,SNR=7.3
E27A Carson 25.49 101 P P 03 39 26.0 +0.8
baz=26
D28A Regan 25.51 99 P P 03 39 26.1 +0.7
baz=26
J23A Dilts Ranch, B 25.56 111 P P 03 39 27.0 +1.0
baz=26
GRAC Grapevine Rang 25.58 136 P P 03 39 28.3 +2.2
baz=26
MDND Maddock 25.60 96 P P 03 39 27.0 +0.8
baz=26
F27A Lemmon 25.62 102 P P 03 39 26.9 +0.4
baz=26
A30A Hoffart Farm, 25.62 93 P P 03 39 26.9 +0.5
baz=26
K22A Casper 25.64 113 P P 03 39 28.1 +1.3
baz=26
BILL Bilibino 25.65 315 ||i P P 03 39 28.4 +2.0
BILL pmax pmax
comp=Z,26nm,1.5s
AP3N Apex site 3 Nu 25.66 42 P P 03 39 25.8 -0.7
H25A Fruitdale 25.67 106 P P 03 39 28.0 +1.0
baz=26
I24A Kuemmerle Ranc 25.69 109 P P 03 39 27.1 0.0
baz=26
G26A Maurine 25.71 104 P P 03 39 28.1 +0.8
baz=26,SNR=5.2
RSSD Black Hills 25.80 108 eP P 03 39 28.3 0.0
RSSD Black Hills 25.80 108 eP P 03 39 28.3 0.0
E28A Huff 25.84 100 P P 03 39 29.2 +0.7
baz=26,SNR=8.8
B30A Myrvik Farm, E 25.90 94 P P 03 39 28.9 -0.1
baz=26,SNR=7.6
G27A Dupree 26.00 103 P P 03 39 30.2 +0.3
baz=26
LAIN Lailor River, 26.00 43 P P 03 39 28.9 -0.7
K23A Bowen Ranch, D 26.00 112 P P 03 39 30.2 +0.1
baz=26,SNR=5.1
VES Vestal, Richgr 26.02 140 P P 03 39 31.8 +1.8
baz=26
I25A Rochford 26.03 107 P P 03 39 31.4 +1.1
baz=26
TPNV Topopah Spring 26.04 135 P P 03 39 31.9 +1.5
baz=26,SNR=8.5
J24A Dixon Ranch, L 26.06 110 P P 03 39 31.4 +0.9
baz=26,SNR=5.6
H26A Fairpoint 26.09 105 P P 03 39 30.9 +0.1
baz=26
D29A Pettibone, Tap 26.11 98 P P 03 39 31.1 +0.3
baz=26,SNR=5.5
SMMC Simmler 26.20 142 P P 03 39 34.4 +2.6
baz=26
FURC Furnace Creek, 26.24 136 P P 03 39 34.3 +2.3
baz=26
F28A McLaughlin 26.27 101 P P 03 39 32.8 +0.5
baz=26
C30A Mose, Pekin 26.29 96 P P 03 39 32.7 +0.3
baz=26,SNR=5.1
MPMC Manual Prospec 26.38 138 P P 03 39 35.0 +1.4
baz=26,SNR=7.5
ISA Isabella, Lake 26.39 140 P P 03 39 35.1 +1.6
baz=26
E29A Napoleon 26.40 99 P P 03 39 33.9 +0.4
baz=26
H27A Howes 26.44 105 P P 03 39 34.5 +0.6
baz=26
J25A Sunshine Ranch 26.44 108 P P 03 39 34.4 +0.5
baz=26
I26A New Underwood 26.46 106 P P 03 39 35.2 +1.2
baz=26
D30A Buchanan 26.52 97 P P 03 39 34.6 +0.1
baz=26
ILON Igloolik, Nuna 26.59 42 P P 03 39 35.2 +0.3
GIFN Gifford Fjord, 26.62 40 P P 03 39 34.0 -1.2
PKM Mcpherson Peak 26.64 143 P P 03 39 38.0 +2.1
baz=27
ARVC Arvin 26.75 141 P P 03 39 38.2 +1.5
baz=27
O20A White River Ci 26.77 119 P P 03 39 38.2 +1.1
baz=27
F29A Eureka 26.79 100 P P 03 39 37.2 +0.2
baz=27
E30A Jud 26.82 98 P P 03 39 37.7 +0.4
baz=27
LRMC Laurel Mtn Rad 26.83 138 P P 03 39 39.1 +1.6
baz=27
I27A Quinn 26.85 105 P P 03 39 37.9 +0.4
baz=27
J26A Sides Ranch, S 26.87 108 P P 03 39 38.0 +0.2
baz=27
H28A Mission Ridge 26.95 103 P P 03 39 38.8 +0.3
baz=27
SHOC Shoshone, Teco 26.96 136 P P 03 39 40.1 +1.6
baz=27
K25A Mack Ranch, Ha 26.98 110 P P 03 39 39.0 +0.2
baz=27
EUNU Eureka 27.02 18 P P 03 39 39.6 +0.8
G29A Hoven 27.17 101 P P 03 39 40.5 +0.1
baz=27
F30A Leola 27.20 99 P P 03 39 40.6 -0.1
baz=27
N23A Red Feather La 27.26 115 P P 03 39 41.8 +0.3
baz=27
K26A Motz Farm, Whi 27.26 109 P P 03 39 41.7 +0.3
baz=27
L25A Engebretsen Ra 27.27 111 P P 03 39 41.6 +0.1
baz=27
GSC Goldstone, Bar 27.30 137 P P 03 39 43.4 +1.7
baz=27,SNR=10
AGMN Agassiz Nation 27.30 92 P P 03 39 41.4 -0.1
baz=27
I28A Midland 27.35 105 P P 03 39 42.0 0.0
baz=27
H29A Onida 27.40 102 P P 03 39 42.8 +0.3
baz=27,SNR=6.2
J27A Elkhorn Farm, 27.45 107 P P 03 39 43.5 +0.5
baz=27
BLG Laguna Peak, P 27.60 142 P P 03 39 46.3 +2.0
baz=28
G30A Faulkton 27.61 101 P P 03 39 44.5 +0.1
baz=28,SNR=6.5
J28A Allard Ranch, 27.72 105 P P 03 39 46.0 +0.6
baz=28
K27A Flueckinger Fa 27.73 108 P P 03 39 45.8 +0.3
baz=28
M25A Palm-Egli Farm 27.77 112 P P 03 39 46.7 +0.8
baz=28
I29A Vivian Onida 27.78 104 P P 03 39 46.1 +0.2
baz=28,SNR=6.7
BFSC Mount Baldy Ra 27.96 140 P P 03 39 49.9 +2.2
baz=28
K28A Ten Mile Ranch 28.16 107 P P 03 39 50.0 +0.7
baz=28
GMRC Granite Mounta 28.18 136 P P 03 39 51.2 +1.5
baz=28
J29A Okreek 28.20 104 P P 03 39 49.9 +0.2
baz=28
ISCO Idaho Springs 28.27 116 P P 03 39 51.1 +0.5
baz=28
I30A Oacoma 28.30 103 P P 03 39 50.7 +0.2
baz=28,SNR=6.1
P23A Jefferson 28.50 117 P P 03 39 53.7 +1.0
baz=28
N26A Koester Ranch, 28.63 111 P P 03 39 54.4 +0.8
baz=29
J30A Dallas 28.68 104 P P 03 39 54.3 +0.3
baz=29
IRM Iron Mountain 28.93 136 P P 03 39 57.8 +1.6
baz=29,SNR=5.1
PFO Pinyon Flats O 28.95 138 P P 03 39 57.6 +1.2
baz=29
MVCO Mesa Verde 29.02 123 P P 03 39 58.0 +0.8
baz=29
O26A Horse Wrangler 29.04 112 P P 03 39 57.8 +0.6
baz=29
K30A Basset 29.09 105 P P 03 39 57.9 +0.4
baz=29
L29A Maesberg Ranch 29.09 107 P P 03 39 57.9 +0.3
baz=29
Q24A Divide 29.15 116 P P 03 39 59.0 +0.5
baz=29
PDMCI Parker Dam,Lak 29.18 134 P P 03 39 59.6 +1.3
baz=29
WUAZ Wupatki 29.22 129 P P 03 40 00.3 +1.4
baz=29
S22A 4UR Ranch, Cre 29.34 120 P P 03 40 01.0 +0.8
baz=29
O27A Beecher Island 29.49 111 P P 03 40 01.1 -0.1
baz=30
Y12C Blythe 29.52 135 P P 03 40 03.3 +1.9
baz=30,SNR=5.8
P26A Davis Ranch, A 29.55 113 P P 03 40 02.4 +0.6
baz=30
L30A Spencer Herefo 29.56 106 P P 03 40 02.3 +0.5
baz=30
N28A Pribbeno Ranch 29.57 110 P P 03 40 02.5 +0.5
baz=30
MONP Monument Peak, 29.61 139 P P 03 40 04.3 +1.8
baz=30
O28A Krutsinger Ran 29.89 111 P P 03 40 05.0 +0.3
baz=30
ECSD EROS Data Cent 29.89 100 P P 03 40 04.6 0.0
baz=30
P27A Ficken Ranch, 29.93 112 P P 03 40 06.3 +1.2
baz=30
Q26A Hugo 29.96 114 P P 03 40 06.3 +0.9
baz=30
GLA Glamis 30.04 136 P P 03 40 07.7 +1.7
baz=30
N30A Hueftle Ranch, 30.22 108 P P 03 40 07.9 +0.3
baz=30
W18A Petrified Fore 30.25 127 P P 03 40 09.8 +1.8
baz=30
P28A Saint Francis 30.32 111 P P 03 40 08.8 +0.3
baz=30
KSCO Kaye Shedlock' 30.32 113 P P 03 40 09.7 +1.1
baz=30
O30A MW Ranch, Wils 30.70 109 P P 03 40 12.7 +0.9
baz=31
P29A Atwood 30.70 110 P P 03 40 12.7 +0.8
baz=31
BGNE Belgrade 30.75 105 P P 03 40 12.8 +0.5
baz=31,SNR=5.6
BGNE Belgrade 30.75 105 eP P 03 40 12.7 +0.5
comp=Z,64nm,1.0s
N31A Bailey Ranch, 30.78 107 P P 03 40 13.7 +1.2
baz=31
R27A Eads 30.81 114 P P 03 40 13.4 +0.6
baz=31
SPMN Marine on St. 30.88 94 P P 03 40 13.5 +0.1
baz=31
P30A Selden 31.09 110 P P 03 40 15.7 +0.4
baz=31
O31A Woolen Ranch, 31.09 108 P P 03 40 15.6 +0.4
baz=31
N32A Stulken Farm, 31.16 106 P P 03 40 16.1 +0.3
baz=31
Q29A Oakley 31.23 111 P P 03 40 17.1 +0.6
baz=31
R28A Tribune 31.25 113 P P 03 40 17.2 +0.5
baz=31
L34A Svendsen Farm, 31.26 102 P P 03 40 16.9 +0.2
baz=31
T26A Comanche Natio 31.31 116 P P 03 40 18.1 +0.7
baz=31
Q30A Quinter 31.54 110 P P 03 40 19.8 +0.6
baz=32
O32A Brockman Farm, 31.54 107 P P 03 40 19.4 +0.2
baz=32
P31A Stockton 31.54 109 P P 03 40 19.8 +0.5
baz=32
214A Organ Pipe Nat 31.77 134 P P 03 40 23.1 +1.8
baz=32,SNR=7.4
S28A Manter 31.80 114 P P 03 40 22.4 +0.8
baz=32
T27A Campo 31.82 116 P P 03 40 22.5 +0.7
baz=32,SNR=5.8
ANMO Albuquerque 31.82 123 P P 03 40 22.4 +0.4
comp=Z,5.3nm,0.9s,baz=342,slow=7.8,SNR=5.9
ANMO Albuquerque 31.82 123 ||i P P 03 40 23.1 +1.2
ANMO pmax pmax
comp=Z,57nm,1.3s
P32A Huiting Farm, 31.85 108 P P 03 40 21.8 -0.1
baz=32
Q31A Ellis 31.93 109 P P 03 40 23.0 +0.4
baz=32
N34A Lincoln 32.02 104 P P 03 40 23.4 0.0
baz=32
O33A Hebron 32.03 106 P P 03 40 23.2 -0.3
baz=32
R30A Dighton 32.04 111 P P 03 40 24.7 +1.0
baz=32,SNR=8.6
T28A Walsh 32.06 115 P P 03 40 24.5 +0.6
baz=32
S29A Ulysses 32.15 113 P P 03 40 25.3 +0.6
baz=32
Q32A Meitler Ranch, 32.35 108 P P 03 40 26.9 +0.5
baz=32
R31A Burdett 32.41 110 P P 03 40 27.3 +0.4
baz=32
T29A Hugoton 32.43 114 P P 03 40 27.7 +0.5
baz=32
N35A Tabor 32.45 103 P P 03 40 27.6 +0.4
baz=32,SNR=5.8
P33A Williams Farm, 32.45 107 P P 03 40 27.6 +0.3
baz=32
S30A Montezuma 32.45 112 P P 03 40 27.9 +0.6
baz=32
SEY Seymchan 32.51 308 ⇑i P P 03 40 31.0 +3.6
U28A Mallet 32.60 116 P P 03 40 29.7 +1.0
baz=33
Q33A Connelly Farm, 32.72 108 P P 03 40 30.1 +0.6
baz=33
P34A Walnut Farm, R 32.81 106 P P 03 40 30.5 +0.2
baz=33
V27A Dan Oppiter Fa 32.82 117 P P 03 40 31.2 +0.7
baz=33
S31A Mullinville 32.95 111 P P 03 40 32.2 +0.6
baz=33,SNR=6.0
U29A Oasis Ranch, S 33.00 114 P P 03 40 32.8 +0.7
baz=33
V28A Channing 33.11 116 P P 03 40 33.9 +0.7
baz=33,SNR=9.9
S32A Newby Ranch, P 33.16 110 P P 03 40 33.8 +0.3
baz=33
R33A Olander Ranch, 33.17 109 P P 03 40 34.0 +0.5
baz=33,SNR=6.6
Q34A Chapman 33.23 107 P P 03 40 34.4 +0.4
baz=33
P35A Duane Minner, 33.24 105 P P 03 40 34.4 +0.4
baz=33
U30A WK&E Inc. Balk 33.24 114 P P 03 40 34.9 +0.7
baz=33
KSU1 Kansas State U 33.26 106 P P 03 40 34.5 +0.3
baz=33
KSU1 Kansas State U 33.26 106 eP P 03 40 33.5 -0.7
T31A Randall Ranch, 33.27 112 P P 03 40 35.0 +0.6
baz=33
121A Cookes Peak, D 33.29 127 P P 03 40 36.4 +1.6
baz=33
O36A Bolckow 33.33 103 P P 03 40 35.3 +0.4
baz=33
V29A Stinnett 33.35 115 P P 03 40 36.1 +1.0
baz=33
R34A Isabella, Hill 33.54 108 P P 03 40 37.0 +0.2
baz=34,SNR=5.5
T32A Huddler Ranch, 33.57 111 P P 03 40 37.5 +0.5
baz=34
P36A Good Intent, A 33.59 104 P P 03 40 37.6 +0.5
baz=34
S33A Kaszmaul Farm, 33.71 109 P P 03 40 38.8 +0.5
baz=34
Q35A Mercer Eighty, 33.73 106 P P 03 40 38.7 +0.3
baz=34,SNR=6.0
U31A Nine Bar Ranch 33.76 113 P P 03 40 39.3 +0.6
baz=34
Q36A Arnold C. Orve 33.95 105 P P 03 40 40.5 +0.2
baz=34
T33A Patterson Ranc 33.99 110 P P 03 40 41.2 +0.6
baz=34
R35A Emporia Munici 34.06 107 P P 03 40 41.6 +0.4
baz=34
S34A Willow Spring 34.07 108 P P 03 40 41.7 +0.4
baz=34
AMTX Amarillo 34.07 117 P P 03 40 42.9 +1.4
baz=34
AMTX Amarillo 34.07 117 eP P 03 40 42.6 +1.1
comp=Z,56nm,1.2s
X28A Dimmitt 34.13 118 P P 03 40 43.2 +1.2
baz=34
U32A Winter Ranch, 34.17 112 P P 03 40 43.1 +0.9
baz=34
V31A Spring Creek L 34.24 114 P P 03 40 44.0 +1.2
baz=34
MSTX Muleshoe 34.31 119 P P 03 40 44.8 +1.2
baz=34
MSTX Muleshoe 34.31 119 eP P 03 40 44.6 +1.0
R36A Gordon, Harris 34.41 106 P P 03 40 44.3 0.0
baz=34
X29A Tulia 34.42 117 P P 03 40 45.4 +0.9
baz=34,SNR=5.6
S35A Otter Creek Ra 34.49 108 P P 03 40 45.2 +0.2
baz=34
Q37A Longview Farm, 34.53 104 P P 03 40 45.4 +0.1
baz=34
T34A McClaskey Farm 34.56 109 P P 03 40 45.7 +0.2
baz=34
U33A Lingo Farm, Me 34.56 111 P P 03 40 46.2 +0.6
baz=35
Y28A McKinney Farm, 34.61 118 P P 03 40 47.0 +0.8
baz=35
W31A Holland Ranch, 34.66 114 P P 03 40 47.2 +0.7
baz=35
V32A Arapaho 34.67 113 P P 03 40 48.0 +1.4
baz=35
R37A Teagarden Farm 34.76 105 P P 03 40 47.5 +0.2
baz=35
PETK Petropavlovsk- 34.80 290 P P 03 40 48.0 +0.6
comp=Z,1.2nm,0.5s,baz=51,slow=11,SNR=3.2
X30A Coker Ranch, T 34.81 116 P P 03 40 48.4 +0.5
baz=35
S36A Lake Cedric, C 34.82 107 P P 03 40 47.6 -0.2
baz=35
U34A Anderson Ranch 34.85 110 P P 03 40 48.1 +0.1
baz=35,SNR=5.7
U34A Anderson Ranch 34.85 110 eP P 03 40 47.3 -0.7
Y29A Porterfield Fa 34.92 118 P P 03 40 49.6 +0.8
baz=35,SNR=6.0
V33A Lossen Ranch, 34.96 112 P P 03 40 49.6 +0.5
baz=35
W32A Sentinel 35.05 114 P P 03 40 51.2 +1.3
baz=35
Z28A Tucker Farm, M 35.06 119 P P 03 40 50.9 +0.9
baz=35
X31A McDonald Ranch 35.09 115 P P 03 40 51.1 +0.9
baz=35
T36A Boggs Farm, Ca 35.19 108 P P 03 40 51.2 +0.2
baz=35
Y30A Stafford Cattl 35.27 117 P P 03 40 52.3 +0.5
baz=35
Z29A Hungry Hill Ra 35.40 118 P P 03 40 53.5 +0.6
baz=35,SNR=7.4
W33A Caddo, Fort Co 35.41 113 P P 03 40 53.6 +0.7
baz=35
Y31A Rekieta Farm, 35.50 116 P P 03 40 54.3 +0.5
baz=36
128A Castleberry Fa 35.57 120 P P 03 40 55.1 +0.7
baz=36
X32A Elmer 35.59 114 P P 03 40 54.9 +0.4
baz=36
T37A Cheneyville 18 35.63 107 P P 03 40 54.4 -0.3
baz=36
Z30A Sanderson Ranc 35.65 118 P P 03 40 56.2 +1.2
baz=36
W34A Bridge Creek, 35.68 112 P P 03 40 55.6 +0.4
baz=36
V35A Meyer Ranch, C 35.72 110 P P 03 40 55.7 +0.1
baz=36
Y32A R-V Farms, Ver 35.86 115 P P 03 40 57.6 +0.8
baz=36
X33A Lawton 35.88 113 P P 03 40 57.2 +0.2
baz=36
228A UT Block 9, Go 35.94 120 P P 03 40 58.2 +0.6
baz=36
TUL1 Leonard 36.13 109 P P 03 40 59.1 0.0
baz=36
W35A Tecumseh 36.19 111 P P 03 40 60.0 +0.4
baz=36
Y33A Hilltop Ranch, 36.25 114 P P 03 41 01.0 +0.9
baz=36
131A Roby 36.50 117 P P 03 41 03.2 +0.9
baz=36
W36A Wetumka 36.52 110 P P 03 41 02.8 +0.3
baz=36
Y34A Reagan Ranch, 36.71 113 P P 03 41 04.8 +0.7
baz=37
329A Wagon Wheel Ra 36.75 120 P P 03 41 05.2 +0.7
baz=37
Z33A Whitaker Ranch 36.77 115 P P 03 41 04.6 0.0
baz=37
230A Sterling City 36.81 119 P P 03 41 05.7 +0.7
baz=37
ABTX Abilene, Hawle 36.89 116 P P 03 41 06.1 +0.5
baz=37
X36A Centrahoma 36.91 111 P P 03 41 05.9 +0.1
baz=37
W37A Quinton 36.92 109 P P 03 41 06.0 +0.2
baz=37
TIXI Tiksi 36.99 328 eP P 03 41 05.4 -0.6
TIXI pmax pmax
comp=Z,8.0nm,1.1s
231A Bronte 37.15 118 P P 03 41 08.0 +0.1
baz=37
330A Mertzon 37.19 119 P P 03 41 08.6 +0.4
baz=37
133A Hamilton Ranch 37.25 116 P P 03 41 08.4 -0.3
baz=37
X37A Clayton 37.38 110 P P 03 41 09.8 +0.1
baz=37
W38A Poteau 37.43 108 P P 03 41 10.4 +0.3
baz=37
Z35A Perchaven, San 37.47 113 P P 03 41 10.6 +0.1
baz=38
232A Coleman 37.50 117 P P 03 41 11.6 +0.7
baz=38,SNR=9.3
429A Davenport Ranc 37.52 121 P P 03 41 11.8 +0.8
baz=38
430A Baggett Ranch, 37.68 120 P P 03 41 12.9 +0.5
baz=38
134A White-Moore Ra 37.68 115 P P 03 41 13.4 +1.0
baz=38
233A Rising Star 37.75 116 P P 03 41 14.2 +1.3
baz=38
529A Stev Forest Ra 37.80 122 P P 03 41 15.5 +2.2
baz=38
TXAR Lajitas Array 37.83 124 P P 03 41 14.3 +0.6
comp=Z,6.2nm,0.7s,baz=328,slow=6.3,SNR=12
431A Sonora 38.06 119 P P 03 41 16.1 +0.6
baz=38,SNR=6.7
234A Clairette 38.12 115 P P 03 41 16.2 +0.2
baz=38
530A J-C Ranch, Com 38.17 121 P P 03 41 17.1 +0.5
baz=38
432A Menard 38.27 118 P P 03 41 18.2 +0.8
baz=38
333A Richland Sprin 38.28 117 P P 03 41 17.5 +0.1
baz=38
MIAR Mount Ida 38.32 108 eP P 03 41 16.9 -0.8
MIAR Mount Ida 38.32 108 eP P 03 41 16.9 -0.8
SCHQ Schefferville 38.32 63 P P 03 41 16.9 -0.6
comp=Z,12nm,1.0s,baz=264,slow=10,SNR=2.2
531A Rocksprings 38.52 120 P P 03 41 19.7 +0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=38						
JCT	Junction City	38.60	119	P	P	03 41 20.6	+0.4
	baz=39						
334A	Lometa	38.63	116	P	P	03 41 20.5	+0.2
	baz=39						
Z38A	Mt. Pleasant	38.65	111	P	P	03 41 20.3	-0.1
	baz=39						
433A	Art	38.70	117	P	P	03 41 21.1	+0.2
	baz=39						
137A	Heron Place, G	38.79	112	P	P	03 41 22.0	+0.3
	baz=39						
SUMG	Summit	38.85	28	*i* P	P	03 41 22.4	+0.3
	comp=Z,23nm,0.9s						
SUMG	Summit	38.85	28	*i* P	P	03 41 22.4	+0.3
SUMG				pmax	pmax		
	comp=Z,23nm,0.9s						
532A	Rocksprings	38.85	119	P	P	03 41 22.9	+0.7
	baz=39,SNR=6.7						
236A	Katherine and	38.90	113	P	P	03 41 23.2	+0.6
	baz=39						
434A	Burnet	39.04	116	P	P	03 41 24.8	+1.0
	baz=39						
138A	Matatall Enter	39.07	111	P	P	03 41 24.3	+0.3
	baz=39						
631A	Perdido Creek	39.15	120	P	P	03 41 25.0	+0.3
	baz=39,SNR=5.2						
533A	Kerrville	39.30	118	P	P	03 41 26.8	+0.8
	baz=39,SNR=5.6						
632A	Uvalde	39.43	119	P	P	03 41 27.9	+0.9
	baz=39						
238A	Jacksonville	39.59	112	P	P	03 41 29.5	+1.2
	baz=40						
534A	Blanco	39.60	117	P	P	03 41 29.3	+0.8
	baz=40						
633A	Saathoff Ranch	39.75	119	P	P	03 41 30.2	+0.5
	baz=40						
732A	Laxson Ranch,	40.00	120	P	P	03 41 32.4	+0.6
	baz=40						
536A	Bastrop	40.23	116	P	P	03 41 34.3	+0.6
	baz=40						
DAG	Danmarks Havn	40.25	18	*i* P	P	03 41 32.5	-0.8
	comp=Z,26nm,0.8s						
DAG	Danmarks Havn	40.25	18	*i* P	P	03 41 32.5	-0.8
DAG				pmax	pmax		
	comp=Z,20nm,0.8s						
733A	Divot King Ran	40.32	119	P	P	03 41 35.2	+0.8
	baz=40,SNR=6.2						
832A	Faith Ranch, C	40.38	121	P	P	03 41 35.8	+0.9
	baz=40,SNR=6.0						
734A	La Parita Cree	40.56	118	P	P	03 41 37.8	+1.4
	baz=41						
537A	Green Hill Far	40.59	115	P	P	03 41 37.7	+1.1
	baz=41						
833A	Chaparral WMA,	40.61	120	P	P	03 41 37.9	+1.1
	baz=41						
636A	Smothers Creek	40.73	116	P	P	03 41 39.9	+2.2
	baz=41						
439A	Center Grove,	40.75	113	P	P	03 41 38.9	+1.0
	baz=41						
637A	Eagle Lake	41.11	115	P	P	03 41 43.2	+2.3
	baz=41						
834A	Tilden	41.17	119	P	P	03 41 43.0	+1.6
	baz=41						
933A	Laredo	41.27	120	P	P	03 41 44.0	+1.7
	baz=41						
934A	Benavides	41.63	119	P	P	03 41 47.9	+2.7
	baz=42						
YAK	Yakutsk	42.01	315	P	P	03 41 47.1	-0.8
	comp=Z,2.0nm,0.3s,baz=337,slow=14,SNR=2.5						
YAK	Yakutsk	42.01	315	*e*P	P	03 41 51.2	+3.3
YAK				pmax	pmax		
	comp=Z,44nm,1.1s						
YAK				pmax	pmax		
	comp=E,15nm,1.4s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.2s						
034A	Hebbronville	42.01	120	P	P	03 41 50.9	+2.6
	baz=42						
KBS	Kingsbay	42.07	8	P	P	03 41 49.0	+0.7
KBS	Kingsbay	42.07	8	P	P	03 41 49.0	+0.7
035A	Encino	42.39	119	P	P	03 41 53.6	+2.2
	baz=42						
035Z	Hargill	42.81	120	P	P	03 41 56.8	+2.0
	baz=43						
SPITS	Spitsbergen Ar	43.09	7	P	P	03 41 55.9	-0.7
	comp=N,6.3nm,0.8s,baz=358,slow=5.0,SNR=3.7						
KMSC	Kings Mountain	44.20	95	P	P	03 42 06.8	+0.8
	baz=44						
TIGA	Tifton	45.90	101	P	P	03 42 19.5	0.0
	baz=46						
ERM	Erimo	49.45	287	*e*P	P	03 42 50.0	+3.1
BOD	Bodaibo	50.62	318	*e*P	P	03 42 55.0	-0.6
BOD				pmax	pmax		
	comp=Z,16nm,1.4s						
ARCES	ARCESS Array B	52.12	7	P	P	03 43 05.2	-1.4
	comp=Z,4.4nm,0.8s,baz=10,slow=7.5,SNR=4.8						
CMIG	Matias Romero	52.39	122	P	P	03 43 09.7	+0.4
	comp=Z,20nm,1.0s,baz=329,slow=5.9,SNR=11						
USRK	Ussuriysk Ar.	53.33	296	P	P	03 43 17.1	+1.1
	comp=Z,2.4nm,0.9s,baz=34,slow=8.9,SNR=3.2						
MDJ	Mudanjiang	54.15	298	P	P	03 43 22.8	+0.8
MDJ				PMZ			
	comp=Z,4.0nm,0.9s						
LVZ	Lovozero	54.16	3*c*	*e*P	P	03 43 20.8	-1.0
LVZ				pmax	pmax		
	comp=Z,39nm,1.3s						
VLA	Vladivostok	54.20	295*c*	*i* P	P	03 43 22.2	-0.1
VLA						03 45 24.1	
VLA				*e*S	S	03 51 00.6	+1.9
VLA				pmax	pmax		
	comp=Z,16nm,0.8s						
H11N2	WAKE ISLAND Hy	54.63	249	T	T	04 42 36.4	
	baz=31,slow=76,SNR=498						
H11N3	WAKE ISLAND Hy	54.64	249	T	T	04 42 37.6	
	baz=31,slow=76,SNR=442						
H11N1	WAKE ISLAND Hy	54.65	249	T	T	04 42 38.4	
	baz=31,slow=76,SNR=437						
HIA	Hailar	54.95	308	*i* P	P	03 43 28.9	+1.1
HIA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
H11S1	WAKE ISLAND Hy	55.77	248	T	T	04 44 02.0	
	baz=31,slow=76,SNR=201						
H11S2	WAKE ISLAND Hy	55.78	248	T	T	04 44 02.6	
	baz=31,slow=76,SNR=150						
H11S3	WAKE ISLAND Hy	55.79	248	T	T	04 44 03.2	
	baz=31,slow=76,SNR=264						
CN2	Changchun	56.69	300	*e*P	P	03 43 43.1	+2.8
CN2				PMZ			
	comp=Z,20nm,0.6s						
NB2	NORSAR Subarra	58.90	16	P	P	03 43 54.7	-0.9
	comp=Z,0.8nm,0.7s,baz=344,slow=7.4						
NOA	NORSAR Array B	58.90	16	P	P	03 43 54.4	-1.3
	comp=Z,5.2nm,0.8s,baz=344,slow=7.0,SNR=20						
NAO01	NORSAR Array S	59.04	17	*e*P	P	03 43 55.6	-1.0
	comp=Z,15nm,1.0s						
KONO	Kongsberg	59.98	18	*e*P	P	03 44 02.5	-0.5
KONO				pmax	pmax		
	comp=Z,31nm,1.2s						
KONO	Kongsberg	59.98	18	*e*P	P	03 44 02.5	-0.5
	comp=Z,31nm,1.2s						
HFS	Hagfors	60.13	15	P	P	03 44 03.1	-0.9
	comp=Z,8.4nm,0.8s,baz=347,slow=4.6,SNR=13						
FINES	FINESS Array B	60.17	8	P	P	03 44 03.2	-1.0
	comp=Z,8.3nm,0.9s,baz=40,slow=6.2,SNR=7.5						
KSRS	Korea Array	60.50	294	P	P	03 44 06.7	-0.2
	comp=Z,1.9nm,0.7s,baz=43,slow=6.1,SNR=6.9						
KSRS	Korea Array	60.50	294	P	P	03 44 06.7	-0.2
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KSAR	Wonju Array Be	60.53	294	P	P	03 44 06.7	-0.4
KSAR	Wonju Array Be	60.53	294	P	P	03 44 06.7	-0.4
SONM	Songino Array	61.37	316	P	P	03 44 13.4	+0.6
	comp=Z,7.0nm,0.9s,baz=44,slow=8.7,SNR=8.9						
ZALV	Zalesovo Beam	62.69	332	P	P	03 44 20.4	-1.0
	comp=Z,2.3nm,0.4s,baz=17,slow=6.5,SNR=8.0						
SVE	Sverdlovsk	64.26	348	*e*P	P	03 44 32.4	+0.7
SVE				pmax	pmax		
	comp=Z,25nm,1.3s						
ARU	Arti	64.86	349*d*	*i* P	P	03 44 34.7	-1.0
ARU				S	S	03 53 13.7	-2.2
ARU				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HHC	Hu-ho-hao-te	65.16	308	*e*P	P	03 44 38.5	+0.5
HHC				S	S	03 53 17.3	-2.9
HHC				PMZ			
	comp=Z,16nm,1.2s						
HHC				LN			
	comp=Z,4µm,22.1s						
BRVK	Borovoye	66.56	341	*e*P	P	03 44 46.0	-0.7
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.5s						
BVAR	Borovoye Array	66.58	341	P	P	03 44 46.7	-0.1
	comp=Z,3.3nm,0.9s,baz=110,slow=6.5,SNR=3.7						
BVAR				PKKP	PKKPdf	04 04 49.1	-6.0
	comp=Z,0.6nm,0.5s,baz=225,slow=1.8,SNR=4.0						
OBN	Obninsk	67.02	3⇑	*e*P	P	03 44 46.6	-2.9
OBN				*e*		03 45 16.8	
OBN				*i*		03 47 12.6	
OBN				*e*S	S	03 53 41.9	-0.2
OBN				pmax	pmax		
	comp=Z,11nm,0.8s						
OBN				MLR	MLR		
	comp=Z,61µm,22.0s						
KURK	Kurchatov	67.14	335	P	P	03 44 50.2	-0.2
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	Kurchatov	67.14	335	*e*P	P	03 44 49.8	-0.6
	comp=Z,15nm,1.3s						
KURBB	Kurchatov Arra	67.25	335	P	P	03 44 50.2	-0.9
	comp=Z,1.4nm,0.4s,baz=26,slow=6.4,SNR=7.8						
MEM	Membach	67.90	23	P	P	03 44 55.6	+0.4
	comp=Z,8.3nm,1.4s						
CLL	Collm	68.54	18	*e*P	P	03 44 59.0	-0.2
CLL				*i* (pP)	pP	03 45 02.9	-0.9
	comp=Z,18nm,1.3s						
CLL	Collm	68.54	18	*e*P	P	03 44 59.0	-0.2
CLL				*i*		03 45 02.9	
NJ2	Nanjing	69.22	297	*e*P	P	03 45 06.1	+2.4
NJ2				PMZ			
	comp=Z,40nm,0.7s						
NKC	Novy Kostel	69.48	19	*e*P	P	03 45 04.1	-1.0
NKC				*e*pP	pP	03 45 09.3	-0.4
NKC	Novy Kostel	69.48	19	*e*P	P	03 45 04.1	-1.0
NKC				*e*		03 45 09.3	
PVCC	Panska Ves	69.55	18	*e*P	P	03 45 05.9	+0.4
PVCC				*e*pP	pP	03 45 10.1	0.0
PVCC	Panska Ves	69.55	18	*e*P	P	03 45 05.9	+0.4
PVCC				*e*		03 45 10.1	
UPC	Upice	69.79	17	*e*P	P	03 45 06.9	-0.1
UPC				*e*pP	pP	03 45 10.6	-1.0
UPC	Upice	69.79	17	*e*P	P	03 45 06.9	-0.1
UPC				*e*		03 45 10.6	
MK31	Makanchi Array	69.91	331	*e*P	P	03 45 07.0	-0.9
MK31	Makanchi Array	69.91	331	*e*P	P	03 45 07.0	-0.9
MKAR	Makanchi Array	69.91	331	P	P	03 45 07.0	-0.9
	comp=Z,2.3nm,0.7s,baz=45,slow=3.6,SNR=6.5						
MKAR	Makanchi Array	69.91	331	P	P	03 45 07.0	-0.9
PRA	Prague	69.97	18	*e*P	P	03 45 10.7	+2.6
PRA				*e*pP	pP	03 45 12.1	-0.6
PRA	Prague	69.97	18	*e*P	P	03 45 10.7	+2.6
PRA				*e*		03 45 12.1	
DPC	Dobruska-Polom	69.99	16	*e*P	P	03 45 08.7	+0.4
DPC				*e*pP	pP	03 45 13.1	+0.2
DPC	Dobruska-Polom	69.99	16	*e*P	P	03 45 08.7	+0.4
DPC				*e*		03 45 13.1	
PRU	Pruhonice	70.07	18	*e*P	P	03 45 11.2	+2.5
PRU				*e*x	x	03 45 17.3	
PRU	Pruhonice	70.07	18	*e*P	P	03 45 11.2	+2.5
PRU				*e*		03 45 17.3	
GOPC	GO Pecny, Ondr	70.18	18	*e*P	P	03 45 13.3	+3.9
KHC	Kasperske Hory	70.74	19	*e*P	P	03 45 13.6	+0.7
KHC				*e*pP	pP	03 45 17.6	+0.1
KHC	Kasperske Hory	70.74	19	*e*P	P	03 45 13.6	+0.7
KHC				*e*		03 45 17.6	
KHC	Kasperske Hory	70.74	19	*e*P	P	03 45 13.7	+0.7
	comp=Z,73nm,2.5s						
OKC	Ostrava-Krasne	70.76	15	*e*P	P	03 45 12.7	-0.2
OKC				*e*pP	pP	03 45 17.1	-0.4
OKC	Ostrava-Krasne	70.76	15	*e*P	P	03 45 12.7	-0.2
OKC				*e*		03 45 17.1	
AKTO	Aktyubinsk	70.84	348	P	P	03 45 12.9	-0.5
	comp=Z,3.9nm,0.7s,baz=6.3,slow=7.2,SNR=6.3						
TREC	Trest	70.89	17	*e*P	P	03 45 14.1	+0.3
TREC				*e*pP	pP	03 45 18.0	-0.4
TREC	Trest	70.89	17	*e*P	P	03 45 14.1	+0.3
TREC				*e*		03 45 18.0	
GERES	GERESS Array B	71.04	19	P	P	03 45 14.4	-0.3
	comp=Z,3.4nm,0.9s,baz=297,slow=4.3,SNR=3.4						
GTA	Gaotai	71.04	315	*e*P	P	03 45 16.0	+1.0
GTA				pP	pP	03 45 19.9	+0.3
GTA				sP	sP	03 45 22.8	+1.5
GTA				PMZ			
	comp=Z,38nm,1.0s						
AKASG	Malin Array Be	71.08	8	P	P	03 45 13.9	-0.9
	comp=Z,6.6nm,0.8s,baz=354,slow=5.9,SNR=12						
AK02	Malin Array Si	71.12	8	*e*P	P	03 45 13.9	-1.2
WMQ	Urumqi	71.15	326	P	P	03 45 17.8	+2.3
WMQ				pP	pP	03 45 22.4	+2.3
WMQ				sP	sP	03 45 24.8	+3.0
WMQ				PcP	PcP	03 45 38.3	+2.7
WMQ				PP	PP	03 47 57.3	+4.7
WMQ				sS	sS	03 54 39.8	+0.6
WMQ				SS	SS	03 59 06.9	+2.9
WMQ				PMZ			
	comp=Z,12nm,0.6s						
WMQ				PMZ			
	comp=Z,54nm,6.5s						
STHS	Stebnicka Huta	71.58	13	*e*P	P	03 45 18.6	+0.7
STHS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
STHS	Stebnicka Huta	71.58	13	*e*P	P	03 45 18.6	+0.7
ABKAR	Akbulak array	71.78	347	*e*P	P	03 45 18.6	-0.5
	comp=Z,8.9nm,0.8s						
XAN	Xi'an	72.03	306	P	P	03 45 21.3	+0.4
XAN				pP	pP	03 45 27.4	+1.9
XAN				PMZ			
	comp=Z,3.0nm,1.3s						
WATA	Walderalm	72.12	20⇑	*e*sP	P	03 45 25.7	+4.3
	comp=Z,17nm,1.1s						
KOLS	Kolonicke sedl	72.17	13	*e*P	P	03 45 22.2	+0.7
KOLS				pmax	pmax		
	comp=Z,41nm,2.0s						
KOLS	Kolonicke sedl	72.17	13	*e*P	P	03 45 22.2	+0.7
WTTA	Wattenberg	72.20	20⇑	*e*sP	P	03 45 26.5	+4.6
	comp=Z,23nm,1.0s						
FETA	Feichten	72.26	21⇑	*e*sP	P	03 45 26.7	+4.5
	comp=Z,14nm,1.2s						
CONA	Conrad Observa	72.28	17⇑	*e*pP	P	03 45 21.7	-0.5
	comp=Z,15nm,1.1s						
DAVOX	Davos/Dischmat	72.33	22	P	P	03 45 22.4	-0.3
	comp=Z,2.7nm,0.8s,baz=3.4,slow=19,SNR=2.7						
KECS	Kecovo	72.40	14	*e*P	P	03 45 22.8	0.0
KECS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KECS	Kecovo	72.40	14	*e*P	P	03 45 22.8	0.0
ESDC	Sonseca Array	75.59	34	P	P	03 45 41.5	-0.2
	comp=Z,2.5nm,0.9s,baz=328,slow=5.6,SNR=11						
CD2	Chengdu	76.91	308	*e*P	P	03 45 49.3	0.0
CD2				pP	pP	03 45 52.5	-1.5
CD2				PcP	PcP	03 46 00.4	0.0
CD2				PP	PP	03 48 41.1	-0.7
CD2				S	S	03 55 36.3	-0.4
CD2				SKS	SKSac	03 56 00.3	-0.8
CD2				SS	SS	04 00 32.5	+0.3
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
GOF	Gofitskoye	77.12	358	*e*P	P	03 45 53.4	+3.2
KIV	Kislovodsk	78.23	359	*e*P	P	03 45 56.9	+0.4
KIV				pmax	pmax		
	comp=Z,12nm,0.9s						
KSH	Kashi	78.32	333	P	P	03 46 00.3	+3.1
KSH				pP	PcP	03 46 04.8	-1.7
KSH				sP	sP	03 46 07.8	+4.3
KSH				PcP	pP	03 46 10.6	+8.8
KSH				PP	PP	03 49 00.0	+6.6
KSH				S	S	03 55 55.1	+3.2
KSH				sS	sS	03 56 03.3	+3.8
KSH				ScS	ScS	03 56 18.6	+1.6
KSH				PMZ			
	comp=Z,8.0nm,1.0s						
KBZ	Khabaz	78.45	358	P	P	03 45 57.8	+0.2
	comp=Z,7.4nm,0.9s,baz=357,slow=3.7,SNR=3.8						
GYA	Guiyang	79.54	304	P	P	03 46 06.0	+2.0
GYA				PP	PP	03 49 06.5	+2.5
GYA				S	S	03 56 05.0	-0.2
GYA				SKS	SKSac	03 56 17.4	-2.8
GYA				SS	SS	04 01 13.3	+1.3
GYA				PMZ			
	comp=Z,20nm,1.0s						
GYA				PMZ			
	comp=Z,120nm,5.3s						
GYA				LN			
	comp=Z,540nm,18.6s						
GYA				LE			
	comp=Z,570nm,19.4s						
GYA				LZ			
	comp=Z,610nm,18.8s						
MDT	Midelt	81.72	37	P	P	03 46 15.8	+0.2
	comp=Z,1.8nm,0.8s,baz=45,slow=1.4,SNR=2.0						
BRTR	Keskin Array B	82.28	6	P	P	03 46 18.5	0.0
	comp=Z,2.0nm,0.9s,baz=305,slow=4.4,SNR=3.8						
CMAR	Chiang Mai Arr	89.92	306	P	P	03 46 57.0	+0.7
	comp=Z,4.8nm,0.8s,baz=358,slow=4.7,SNR=8.2						
CMAR	Chiang Mai Arr	89.92	306	P	P	03 46 57.0	+0.7
KMBO	Kilima Mbogo	123.05	4	PKP	PKPdf	03 52 52.6	-1.4
	comp=Z,1.0nm,0.5s,baz=244,slow=3.4,SNR=3.8						
LBTB	Lobatse	145.15	25	PKPbc	PKPbc	03 53 31.8	-2.2
	comp=Z,9.7nm,0.8s,baz=311,slow=2.9,SNR=9.8						
QSPA	South Pole Qui	147.98	180	PKPbc	PKPbc	03 53 40.0	-1.0
	comp=Z,26nm,1.0s,baz=54,slow=0.9,SNR=21						
QSPA	South Pole Qui	147.98	180	*e*PKPbc	PKPbc	03 53 40.8	-0.2
BOSA	Boshof	148.53	27	PKPbc	PKPbc	03 53 42.3	-1.4
	comp=Z,4.9nm,1.0s,baz=40,slow=2.7,SNR=6.7						
SUR	Sutherland	150.86	36	PKPbc	PKPbc	03 53 48.3	-1.0
	comp=Z,9.6nm,0.8s,baz=298,slow=6.0,SNR=4.4						
SNAA	Sanae	157.79	145	PKPab	PKPab	03 54 23.4	-1.6
	comp=Z,1.4nm,1.1s,baz=268,slow=4.7,SNR=4.8						
MAW	Mawson	166.28	217	PKPab	PKPab	03 55 00.9	-1.2
	comp=Z,1.3nm,0.6s,baz=80,slow=18,SNR=4.2						

IDC 16 03:36:39.8±3.2, 1°.79S×136°.39E, h0^{km}, mb3.7/2, mb1 4.0/3, mb1mx3.7/18, mbtmp3.8/3, ML3.7/1, Error ellipse: s-maj=128.0km s-min=30.6km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.15	186	P	Pn	03 40 53.4	-0.1
	0.3nm,0.3s,baz=7.9,slow=12,SNR=3.1						
ASAR	Alice Springs	21.88	186	P	P	03 41 34.2	-0.3
	1.1nm,0.5s,baz=14,slow=10,SNR=4.5						
MKAR	Makanchi Array	67.65	323	P	P	03 47 39.0	+0.2
	0.6nm,0.6s,baz=107,slow=7.1,SNR=3.7						

*IDC **16** 03:38:11.9±0.5, 2°.27S×136°.62E, h0^{km}, mb4.5/19, mb1 4.6/22, mb1mx4.5/36, mbtmp4.5/22, ML4.3/3, Error ellipse: s-maj=24.6km s-min=12.0km az=78.0*

*ISCJB **16** 03:38:13.1±1.3, 2°.23S±0°.04×136°.69E±0°.02, h6^{km}±8^{km}, mb4.9/53, MS6.3/2, Error ellipse: s-maj=7.1km s-min=3.9km az=178.5*

*NEIC **16** 03:38:14.4±2.4, 2°.24S×136°.72E, h11^{km}±3^{km}, mb5.2/16, Error ellipse: s-maj=18.5km s-min=10.1km az=82.0*

*MOS **16** 03:38:16.4±1.7, 2°.32S×136°.72E, h33^{km}, mb5.1/23, Error ellipse: s-maj=15.5km s-min=6.6km az=102.7*

*DJA **16** 03:38:16.4±0.2, 2°S±3°×13°7E±°, h13^{km}, M5.3/41, mb5.0/41, mB7.1/1, MLv5.5/10, Mw(mB)7.1/1*

*BJI **16** 03:38:19.0, 1°.80S×136°.40E, h10^{km}, mb5.0/42, mB4.9/6, Ms5.0/6, Ms7 4.8/6*

ISC 16 03:38:15.7±0.6, 2°.34S±0°.05×136°.70E±0°.04, h15^{km}±3^{km}, n166, σ1^{s}.81/180, mb5.0/52, 4C-2D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	2.04	80	P	Pn	03 38 48.6	-0.9
SMPI				S	Sb	03 39 15.5	-2.2
RKPI	Ransiki, Papua	2.65	288	P	Pn	03 38 57.0	-0.8
RKPI				S	Sn	03 39 29.0	-0.7
GENI	Genyem	3.48	94	P	Pn	03 39 09.8	+0.5
GENI				S	Sn	03 39 52.4	+2.2
JAY	Jayapura	4.01	93	P	Pn	03 39 16.2	-0.4
FAKI	Fak Fak	4.48	262	P	Pn	03 39 24.2	+1.2
FAKI	Fak Fak	4.48	262	*e*Pn	Pn	03 39 22.6	-0.4
FAKI				*e*Sn	Sn	03 40 10.2	-4.8
SIJI	Sorong	5.62	285	Pn	Pn	03 39 33.8	-5.0
	10nm,0.3s,baz=45,slow=19,SNR=19						
SIJI				Sn	Sn	03 40 34.5	-8.6
	7.4nm,0.3s,baz=121,slow=19,SNR=3.4						
SWI	Sorong	5.63	285	P	Pn	03 39 37.9	-0.9
	332nm,2.8s,3.9nm						
SWI				S	Sn	03 40 44.0	+0.8
	332nm,2.8s,3.9nm						
BNDI	Bandanaira	7.12	252	P	Pn	03 40 02.0	+2.7
	431nm,0.9s,4.0nm						
SAUI	Saumlaki	7.76	224	P	Pn	03 40 12.5	+4.3
	667nm,3.6s						
SAUI				S	Sn	03 41 47.3	+11
	667nm,3.6s						
SAUI	Saumlaki	7.76	224	*e*Pn	Pb	03 40 22.9	-7.2
MSAI	Masohi	7.82	262	P	Pn	03 40 09.6	+0.6
	48nm,0.8s,0.6nm						
MSAI				S	Sn	03 41 40.7	+3.4
	48nm,0.8s,0.6nm						
AAI	Ambon	8.59	261	P	Pn	03 40 21.3	+1.7
	126nm,0.8s						
NLAI	Namlea	9.63	264	P	Pn	03 40 34.8	+1.0
	155nm,1.0s						
TNTI	Ternate	9.82	288	P	Pn	03 40 35.2	-1.3
TNTI	Ternate	9.82	288	*e*Pn	Pn	03 40 34.4	-2.1
SANI	Sanana	10.70	271	P	Pn	03 40 48.6	+0.1
	96nm,1.8s						
PMG	Port Moresby	12.55	124	*e*P	Pn	03 41 16.3	+2.5
PMG				pmax	pmax		
	comp=Z,168nm,1.0s						
SGSI	Sangihe	12.66	298	P	Pn	03 41 13.6	-1.8
	comp=Z,131nm,1.9s						
MRSI	Marisa	15.01	281	P	Pn	03 41 46.4	-1.1
	comp=Z,154nm,1.1s						
APSI	Ampana	15.11	275	P	Pn	03 41 48.2	-0.5
	comp=Z,310nm,1.2s						
MMRI	Maumere	15.69	246	P	P	03 41 58.9	-1.4
	comp=Z,83nm,1.7s						
TOLI	Toli-Toli	16.26	282	*e*Pn	Pn	03 42 02.7	-1.0
	comp=Z,246nm,1.0s						
BSSI	Bau Bau, Buton	16.59	256	P	P	03 42 09.8	-0.6
	comp=Z,127nm,1.6s						
BKSI	Bulukumba	16.80	259	P	P	03 42 12.1	-0.5
	comp=Z,46nm,1.6s						
TTSI	Tana Toraja	16.87	267	P	Pn	03 42 12.0	+0.5
	comp=Z,113nm,1.8s						
PCI	Palu	16.91	275	P	P	03 42 13.3	-0.6
	comp=Z,234nm,1.2s						
SPSI	Sidrap Palu	16.98	264	P	Pn	03 42 13.0	+0.2
	comp=Z,121nm,2.3s						
MPSI	Mapaga	17.00	279	P	Pn	03 42 12.9	-0.2
	comp=Z,116nm,2.3s						
KAPI	Kappang	17.11	261	Pn	Pn	03 42 11.6	-3.0
	comp=Z,1.3nm,0.3s,baz=114,slow=16,SNR=3.7						
KAPI	Kappang	17.11	261	*e*Pn	Pn	03 42 15.1	+0.6
	comp=Z,543nm,3.0s						
WRAB	Tennant Creek	17.64	187	*e*P	P	03 42 23.3	+1.4
WRAB				pmax	pmax		
	comp=Z,997nm,2.6s						
WRAB	Tennant Creek	17.64	187	*e*Pn	P	03 42 23.3	+1.4
	comp=Z,997nm,2.6s						
WRA	Warramunga Arr	17.65	187	P	Pn	03 42 20.6	-0.5
	comp=Z,1.1nm,0.3s,baz=7.8,slow=12,SNR=9.7						
WRA				S	Sn	03 45 26.9	-11
	comp=Z,0.6nm,0.3s,baz=7.9,slow=22,SNR=5.4						
GUMO	Guam	17.78	27	*e*P	Pn	03 42 21.9	-0.9
GUMO				pmax	pmax		
	comp=Z,54nm,1.4s						
GUMO	Guam	17.78	27	*e*Pn	Pn	03 42 21.9	-0.9
	comp=Z,54nm,1.4s						
WSI	Waingapu	17.85	245	P	P	03 42 26.9	+2.6
	comp=Z,346nm,0.6s						
WBSI	Waikabubak, Su	18.67	246	P	P	03 42 33.9	+0.6
	comp=Z,81nm,2.0s						
BKB	Balikpapan	19.82	273	P	Pn	03 42 47.4	-0.1
	comp=Z,143nm,1.0s						
CTA	Charters Tower	19.96	153	P	P	03 42 47.9	+0.4
	comp=Z,2.2nm,0.4s,baz=342,slow=13,SNR=2.7						
KBKI	Kotabaru	20.52	267	P	P	03 42 54.6	+1.0
	comp=Z,81nm,1.4s						
AS12	Alice Springs	21.38	187	*e*P	P	03 43 02.1	-0.6
ASAR	Alice Springs	21.38	187	P	P	03 43 02.1	-0.6
	comp=Z,7.7nm,0.5s,baz=11,slow=11,SNR=19						
ASAR	Alice Springs	21.38	187	P	P	03 43 02.2	-0.6
ASAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BBKI	Banjar Baru	21.85	267	P	P	03 43 08.9	+0.9
	comp=Z,264nm,1.6s						
KKM	Kota Kinabalu	22.08	292	*e*P	P	03 43 09.7	-0.8
	comp=Z,58nm,1.3s						

KMMI	**Kalianget**	**23.12**	**258**	P	**P**	**03 43 23.4**	**+1.9**
	comp=Z,165nm,1.5s							
BLJI	**Banyuglugur**	**23.62**	**256**	P	**P**	**03 43 27.4**	**+1.0**
	comp=Z,73nm,3.3s							
SBUM	**Sibu**	**24.93**	**281**	*e*P	**P**	**03 43 38.6**	**+0.1**
	comp=Z,35nm,1.3s							
PBKI	**Pangkalan Bun**	**25.00**	**269**	P	**P**	**03 43 39.9**	**+0.7**
	comp=Z,231nm,0.9s							
TBJI	**Tambak Boyo**	**25.16**	**259**	P	**P**	**03 43 42.3**	**+1.7**
	comp=Z,189nm,1.8s							
STKI	**Sintang**	**25.32**	**275**	P	**P**	**03 43 44.5**	**+2.4**
	comp=Z,57nm,3.6s							
SMRI	**Semarang**	**26.57**	**259**	P	**P**	**03 43 55.4**	**+1.9**
SMRI	**Semarang**	**26.57**	**259**	*e*P	**P**	**03 43 53.8**	**+0.3**
	comp=Z,760nm,1.8s							
STKA	**Stephens Creek**	**29.74**	**172**	P	**P**	**03 44 21.2**	**-0.4**
	comp=Z,8.7nm,0.7s,baz=345,slow=7.8,SNR=12							
STKA	**Stephens Creek**	**29.74**	**172**	*e*P	**P**	**03 44 21.2**	**-0.4**
STKA				pmax	pmax			
	comp=Z,24nm,2.0s							
STKA	**Stephens Creek**	**29.74**	**172**	*e*P	**P**	**03 44 21.2**	**-0.4**
	comp=Z,24nm,2.0s							
UBPT	**Khong Chiam**	**35.51**	**301**	P	**P**	**03 45 13.1**	**+0.9**
	comp=Z,477nm,1.2s							
JNU	**Nakatsue**	**35.69**	**352**	P	**P**	**03 45 12.3**	**-1.3**
	comp=Z,14nm,1.0s,baz=146,slow=6.7,SNR=5.7							
JNU	**Nakatsue**	**35.69**	**352**	*e*P	P	03 45 10.2	-3.4
	comp=Z,52nm,1.3s							
SKNT	**Sakolnakorn**	**37.55**	**302**	P	**P**	**03 45 30.7**	**+1.0**
	comp=Z,395nm,0.7s							
NJ2	**Nanjing**	**38.16**	**335**	*e*P	P	03 45 37.5	+2.9
NJ2				PMZ				
	comp=Z,10.0nm,0.6s							
MJAR	**Matsushiro Arr**	**38.71**	**2**	P	**P**	**03 45 37.8**	**-1.3**
	comp=Z,1.9nm,0.8s,baz=158,slow=11,SNR=3.6							
MJAR	**Matsushiro Arr**	**38.71**	**2**	P	**P**	**03 45 37.8**	**-1.3**
MJAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MAJO	**Matsushiro**	**38.71**	**2**	*e*P	**P**	**03 45 37.8**	**-1.3**
MAJO				pmax	pmax			
	comp=Z,93nm,2.1s							
MAJO	**Matsushiro**	**38.71**	**2**	*e*P	**P**	**03 45 37.8**	**-1.3**
	comp=Z,93nm,2.1s							
WHN	**Wuhan**	**39.03**	**329**	P	**P**	**03 45 44.0**	**+2.1**
TJN	**Taejon**	**39.49**	**348**	*e*P	**P**	**03 45 45.9**	**+0.3**
KS15	**Wonju Array Si**	**40.41**	**349**	*e*P	**P**	**03 45 52.6**	**-0.7**
KS15				*e*PcP	**PcP**	**03 47 54.0**	**-2.3**
KSRS	**Korea Array**	**40.42**	**349**	P	**P**	**03 45 52.6**	**-0.7**
	comp=Z,3.3nm,1.0s,baz=173,slow=9.1,SNR=7.3							
KSRS				PcP	**PcP**	**03 47 54.0**	**-2.3**
	comp=Z,0.8nm,0.6s,baz=208,slow=2.3,SNR=2.6							
KSRS	**Korea Array**	**40.42**	**349**	P	**P**	**03 45 52.6**	**-0.7**
KSRS						03 47 54.0		
KSRS				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GYA	**Guiyang**	**40.76**	**317**	*e*P	P	03 45 59.9	+3.4
GYA				S	**S**	**03 52 08.8**	**+2.0**
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,120nm,5.0s							
GYA				LN				
	comp=Z,530nm,18.6s							
GYA				LE				
	comp=Z,470nm,19.0s							
GYA				LZ				
	comp=Z,540nm,18.4s							
UTTA	**Uttaradit**	**40.82**	**301**	P	**P**	**03 45 57.9**	**+0.9**
	comp=Z,4.9nm,1.1s							
NANT	**Nan**	**41.16**	**302**	P	**P**	**03 46 00.9**	**+1.1**
	comp=Z,6.7nm,1.0s,comp=Z,922nm							
LAMP	**Lampang**	**41.95**	**301**	P	**P**	**03 46 07.6**	**+1.3**
	comp=Z,32nm,0.8s,comp=Z,376nm							
CRAI	**Chiangrai**	**42.09**	**304**	P	**P**	**03 46 04.8**	**-2.6**
	comp=Z,558nm,3.5s							
CM01	**Chiang Mai Arr**	**42.48**	**301**	*e*P	**P**	**03 46 10.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**42.51**	**301**	P	P	03 46 07.7	-3.2
	comp=Z,13nm,1.1s,baz=115,slow=6.3,SNR=6.3							
CMAR	**Chiang Mai Arr**	**42.51**	**301**	P	P	03 46 07.7	-3.2
CMAR				pmax	pmax			
	comp=Z,13nm,1.1s							
CM31	**Chiang Mai Arr**	**42.51**	**301**	*e*P	P	03 46 07.7	-3.2
CMMT	**Chiang Mai**	**42.66**	**301**	P	**P**	**03 46 12.9**	**+0.8**
	comp=Z,851nm,0.7s							
CHTO	**Chiang Mai**	**42.66**	**301**	P	**P**	**03 46 13.0**	**+0.9**
KMI	**Kunming**	**42.76**	**312**	P	**P**	**03 46 15.1**	**+2.0**
KMI				PMZ				
	comp=Z,23nm,1.3s							
VLA	**Vladivostok**	**45.46**	**355**↑	*e*P	**P**	**03 46 34.2**	**+0.1**
VLA						03 48 13.8		
VLA				*e*		03 48 20.3		
VLA				S	**S**	**03 53 13.3**	**-1.8**
VLA				pmax	pmax			
	comp=Z,13nm,1.0s							
CD2	**Chengdu**	**45.57**	**319**	P	**P**	**03 46 37.3**	**+2.0**
CD2				pP	**pP**	**03 46 40.3**	**+0.2**
CD2				PcP	**PcP**	**03 48 14.6**	**+0.8**
CD2				PP	**PP**	**03 48 24.5**	**+2.4**
CD2				PcS	**PcS**	**03 52 08.9**	**+0.9**
CD2				S	**S**	**03 53 21.6**	**+4.4**
CD2				PMZ				
	comp=Z,20nm,0.5s							
CD2				PMZ				
	comp=Z,320nm,6.6s							
CD2				LN				
	comp=Z,2μm,15.2s							
CD2				LZ				
	comp=Z,3μm,15.2s							
BJI	**Beijing**	**46.18**	**338**	P	**P**	**03 46 40.3**	**+0.5**
BJI				PMZ				
	comp=Z,26nm,1.4s							
USRK	**Ussuriysk Ar.**	**46.52**	**355**	P	**P**	**03 46 39.7**	**-2.8**
	comp=Z,1.9nm,0.6s,baz=180,slow=9.5,SNR=12							
ASAJ	**Asahikawa**	**46.55**	**6**	*e*P	**P**	**03 46 41.4**	**-1.2**
	comp=Z,26nm,1.3s							
MDJ	**Mudanjiang**	**47.17**	**353**	P	**P**	**03 46 48.3**	**+0.7**
MDJ				PMZ				
	comp=Z,16nm,1.1s							
HHC	**Hu-ho-hao-te**	**48.71**	**335**	*e*P	**P**	**03 46 58.5**	**-1.2**
HHC				S	**S**	**03 53 59.5**	**-2.4**
HHC				PMZ				
	comp=Z,21nm,1.1s							
LZH	**Lanzhou**	**48.99**	**324**	↑P	**P**	**03 47 04.3**	**+2.3**
LZH				pP	pP	03 47 13.8	+6.9
LZH				PP	**PP**	**03 48 58.8**	**+3.1**
LZH				S	**S**	**03 54 03.0**	**-3.1**
LZH				PMZ				
	comp=Z,75nm,1.2s							
LZH				PMZ				
	comp=Z,180nm,5.2s							
LZH				LN				
	comp=Z,2μm,14.9s							
LZH				LE				
	comp=Z,2μm,13.8s							
LZH				LZ				
	comp=Z,2μm,15.6s							
YSS	**Yuzh-Sakhalins**	**49.37**	**5**	*e*P	**P**	**03 47 05.4**	**+0.9**
YSS				pmax	pmax			
	comp=Z,39nm,1.7s							
KLR	**Kul'dur**	**51.54**	**356**	*e*P	P	03 47 15.6	-5.3
HIA	**Hailar**	**53.45**	**346**	*e*P	**P**	**03 47 35.9**	**+0.8**
HIA				pmax	pmax			
	comp=Z,12nm,1.5s							
GTA	**Gaotai**	**53.59**	**325**	P	**P**	**03 47 37.9**	**+1.5**
GTA				pP	**pP**	**03 47 42.4**	**+1.0**
GTA				sP	**sP**	**03 47 45.0**	**+1.8**
GTA				PMZ				
	comp=Z,43nm,1.2s							
NKL	**Nikolayevsk**	**55.39**	**3**	*e*P	**P**	**03 47 48.2**	**-0.8**
SONA0	**Songino Array**	**56.54**	**336**	*e*P	**P**	**03 47 55.7**	**-1.9**
SONM	**Songino Array**	**56.54**	**336**	P	**P**	**03 47 55.7**	**-1.9**
	comp=Z,2.9nm,0.9s,baz=142,slow=7.5,SNR=6.4							
SONM	**Songino Array**	**56.54**	**336**	P	**P**	**03 47 55.7**	**-1.9**
SONM				pmax	pmax			
	comp=Z,3.0nm,0.9s							
SONA1	**Songino Array**	**56.55**	**336**	*e*P	**P**	**03 47 58.3**	**+0.6**
PEA0	**Petropavlovsk-**	**57.99**	**15**	*e*P	**P**	**03 48 06.8**	**-0.8**
PETK	**Petropavlovsk-**	**57.99**	**15**	P	**P**	**03 48 04.5**	**-3.1**
	comp=Z,2.7nm,0.7s,baz=191,slow=6.8,SNR=4.1							
PETK	**Petropavlovsk-**	**57.99**	**15**	P	**P**	**03 48 04.5**	**-3.1**
PETK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
PEA2	**Petropavlovsk-**	**57.99**	**15**	*e*P	**P**	**03 48 04.5**	**-3.1**
ZAK	**Zakamensk**	**59.81**	**336**	*e*P	P	03 48 14.7	-5.7
ZAK				pmax	pmax			
	comp=Z,16nm,1.4s							
TLY	**Talaya**	**60.68**	**337**	*e*P	**P**	**03 48 28.0**	**+1.8**
TLY				pmax	pmax			
	comp=Z,12nm,1.1s							
MOY	**Mondy**	**61.73**	**336**	*e*P	**P**	**03 48 35.1**	**+1.6**
BOD	**Bodaibo**	**62.67**	**347**	*e*P	P	03 48 35.4	-4.1
BOD				pmax	pmax			
	comp=Z,17nm,1.7s							
WMQ	**Urumqi**	**63.48**	**322**	P	**P**	**03 48 47.8**	**+2.5**
WMQ				pP	pP	03 48 58.0	+7.7
WMQ				PcP	**PcP**	**03 49 23.9**	**+2.0**
WMQ				PP	**PP**	**03 51 09.4**	**+4.4**
WMQ				PMZ				
	comp=Z,21nm,0.6s							
WMQ				PMZ				
	comp=Z,42nm,4.2s							
WMQ				LN				
	comp=Z,54nm,17.6s							
WMQ				LE				
	comp=Z,24nm,18.5s							
WMQ				LZ				
	comp=Z,73nm,21.0s							
YAK	**Yakutsk**	**64.42**	**356**	*e*P	**P**	**03 48 51.8**	**+0.9**
YAK				pmax	pmax			
	comp=Z,35nm,1.1s							
YAK				pmax	pmax			
	comp=N,20nm,1.3s							
YAK				pmax	pmax			
	comp=E,2.0nm,1.1s							
SEY	**Seymchan**	**66.17**	**8**	P	**P**	**03 48 59.5**	**-2.9**
	comp=E,2.8nm,0.6s,baz=189,slow=3.0,SNR=3.8							
SEY	**Seymchan**	**66.17**	**8**	*e*P	**P**	**03 49 05.1**	**+2.8**
MK01	**Makanchi Array**	**68.26**	**323**	*e*P	**P**	**03 49 14.8**	**-1.2**
MK31	**Makanchi Array**	**68.28**	**323**	P	**P**	**03 49 15.1**	**-1.0**
MK31				pmax	pmax			
	comp=Z,16nm,1.1s							
MK32	**Makanchi Array**	**68.28**	**323**	*e*P	**P**	**03 49 13.1**	**-3.0**
MKAR	**Makanchi Array**	**68.28**	**323**	P	**P**	**03 49 13.1**	**-3.0**
	comp=Z,19nm,1.1s,baz=112,slow=7.3,SNR=23							
MKAR	**Makanchi Array**	**68.28**	**323**	*e*P	**P**	**03 49 15.8**	**-0.3**
MKAR	**Makanchi Array**	**68.28**	**323**	*e*P	**P**	**03 49 15.8**	**-0.3**
PDGK	**Podgornoye**	**68.46**	**319**	P	**P**	**03 49 18.0**	**+0.8**
PDGK				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KSH	**Kashi**	**69.37**	**314**	P	P	03 49 26.4	+3.2
KSH				PcP	**PcP**	**03 49 50.3**	**+3.7**
KSH				PP	**PP**	**03 52 00.4**	**+3.7**
KSH				PcS		03 53 54.9		
KSH				S	**S**	**03 58 31.0**	**+1.1**
KSH				ScS	**SKKSac**	**03 59 23.4**	**+0.1**
KSH				PMZ				
	comp=Z,27nm,1.4s							
ZAA0	**Zalesovo Array**	**70.61**	**330**	*e*P	**P**	**03 49 29.1**	**-1.2**
ZALV	**Zalesovo Beam**	**70.61**	**330**	P	**P**	**03 49 29.1**	**-1.2**
	comp=Z,6.8nm,0.8s,baz=104,slow=4.7,SNR=13							
ZALV	**Zalesovo Beam**	**70.61**	**330**	P	**P**	**03 49 29.1**	**-1.2**
ZALV				pmax	pmax			
	comp=Z,7.0nm,0.8s							
ZAA1	**Zalesovo Array**	**70.62**	**330**	*e*P	**P**	**03 49 29.1**	**-1.3**
TKM2	**Tokmak 2**	**70.90**	**317**	*e*P	**P**	**03 49 32.9**	**+0.3**
TKM2				pmax	pmax			
	comp=Z,11nm,1.1s							
TKM2	**Tokmak 2**	**70.90**	**317**	*e*P	**P**	**03 49 32.9**	**+0.3**
	comp=Z,11nm,1.1s							
EKS2	**Erkin-Say**	**72.05**	**316**	*e*P	**P**	**03 49 39.3**	**-0.1**
EKS2				pmax	pmax			
	comp=Z,42nm,1.6s							
EKS2	**Erkin-Say**	**72.05**	**316**	*e*P	**P**	**03 49 39.3**	**-0.1**
	comp=Z,42nm,1.6s							
KURK	**Kurchatov**	**72.26**	**325**	*e*P	**P**	**03 49 40.6**	**+0.2**
KURK				pmax	pmax			
	comp=Z,27nm,1.1s							
KURK	**Kurchatov**	**72.26**	**325**	*e*P	**P**	**03 49 40.6**	**+0.2**
	comp=Z,26nm,1.1s							
KURBB	**Kurchatov Arra**	**72.27**	**325**	P	**P**	**03 49 40.3**	**-0.1**
	comp=Z,13nm,1.0s,baz=113,slow=5.8,SNR=25							
BILL	**Bilibino**	**73.18**	**11**↑	*e*P	**P**	**03 49 47.1**	**+1.6**
BILL				*e*		03 50 06.5		
BILL				*e*		03 52 25.2		
BILL				pmax	pmax			
	comp=Z,5.0nm,1.7s							
BILL				MLR	MLR			
	comp=Z,12μm,21.0s							
TIXI	**Tiksi**	**74.03**	**357**	*e*P	**P**	**03 49 51.9**	**+1.5**
TIXI				pmax	pmax			
	comp=Z,14nm,2.5s							
KKAR	**Karatay Array**	**74.46**	**316**	*e*P	**P**	**03 49 54.5**	**+1.0**
KKAR	**Karatay Array**	**74.46**	**316**	*e*P	**P**	**03 49 54.5**	**+1.0**
VNDA	**Vanda**	**76.33**	**175**	P	**P**	**03 50 02.9**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=321,slow=8.2,SNR=9.7							
BVA0	**Borovoye Array**	**77.86**	**326**	*i* P	**P**	**03 50 12.3**	**-0.4**
BVA0				pmax	pmax			
	comp=Z,30nm,1.3s							
BVAR	**Borovoye Array**	**77.86**	**326**	P	**P**	**03 50 11.8**	**-0.9**
	comp=Z,14nm,1.0s,baz=117,slow=5.8,SNR=20							
BVAR	**Borovoye Array**	**77.86**	**326**	P	**P**	**03 50 11.8**	**-0.9**
BVAR				pmax	pmax			
	comp=Z,14nm,1.0s							
BRVK	**Borovoye**	**77.94**	**326**	*e*P	**P**	**03 50 13.6**	**+0.6**
BRVK				pmax	pmax			
	comp=Z,25nm,1.1s							
BRVK	**Borovoye**	**77.94**	**326**	*e*P	**P**	**03 50 13.6**	**+0.6**
	comp=Z,25nm,1.1s							
SVE	**Sverdlovsk**	**84.35**	**328**↓	*i* P	**P**	**03 50 48.7**	**+1.6**
SVE				pmax	pmax			
	comp=Z,34nm,1.5s							
AKTO	**Aktyubinsk**	**84.59**	**321**	P	**P**	**03 50 47.1**	**-1.3**
	comp=Z,4.2nm,1.0s,baz=64,slow=9.4,SNR=4.9							
ARU	**Arti**	**85.39**	**327**	*d* P	**P**	**03 50 54.8**	**+2.5**
ARU				S	S	04 01 16.5	-6.2
ARU				SS	**SS**	**04 06 56.3**	**-1.4**
ARU				pmax	pmax			
	comp=Z,26nm,1.7s							
ILAR	**Eielson Array**	**86.33**	**25**	P	**P**	**03 50 54.6**	**-2.3**
	comp=Z,2.1nm,0.8s,baz=259,slow=4.2,SNR=6.6							
ILAR	**Eielson Array**	**86.33**	**25**	P	**P**	**03 50 54.6**	**-2.3**
ILAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ILB	**Eielson Array**	**86.33**	**25**	*e*P	**P**	**03 50 54.6**	**-2.3**
QSPA	**South Pole Qui**	**87.61**	**180**	P	**P**	**03 51 01.9**	**-1.3**
	comp=Z,16nm,1.0s,baz=27,slow=4.5,SNR=11							
DAWY	**Dawson**	**89.42**	**26**	*e*P	**P**	**03 51 12.8**	**+1.1**
	comp=Z,19nm,1.4s							
APA	**Apatity**	**97.21**	**338**	*e*P	Pdif	03 51 50.0	+2.5
OBN	**Obninsk**	**97.71**	**325**↑	*e*P	Pdif	03 51 52.1	+2.2
OBN				pmax	pmax			
	comp=Z,4.0nm,1.2s							
OBN				MLR	MLR			
	comp=Z,12μm,16.0s							
PIER	**Pier 30 Seattl**	**99.12**	**42**	*e*P	**Pdif**	**03 51 52.1**	**-4.3**
PIER				*ep*P	**pP**	**03 51 57.9**	**-3.6**
MARYW	**Marymoor Park**	**99.26**	**42**	*e*P	**Pdif**	**03 51 59.8**	**+2.7**
ARA0	**ARCESS Array S**	**99.49**	**341**	*e*P	**Pdif**	**03 51 53.4**	**-4.2**
ARCES	**ARCESS Array B**	**99.49**	**341**	P	**Pdif**	**03 51 53.4**	**-4.2**
	comp=Z,5.9nm,1.0s,baz=46,slow=5.2,SNR=3.9							
ARCES	**ARCESS Array B**	**99.49**	**341**	P	**Pdif**	**03 51 53.4**	**-4.2**
ARCES				pmax	pmax			
	comp=Z,7.0nm,1.0s							
KOLS	**Kolonicke sedl**	**107.63**	**321**	*e*PP	PP	03 57 03.0	+0.7
STHS	**Stebnicka Huta**	**108.13**	**322**	*e*P	**Pdif**	**03 52 36.9**	**+0.4**
STHS				*e*		03 57 04.7		
STHS	**Stebnicka Huta**	**108.13**	**322**	PDIF	**Pdif**	**03 52 36.9**	**+0.4**
STHS				*e*PP	**PP**	**03 57 04.7**	**-1.2**
KECS	**Kecovo**	**108.90**	**321**	*e*P	**Pdif**	**03 52 42.7**	**+2.8**
KECS				*e*		03 57 11.6		
KECS	**Kecovo**	**108.90**	**321**	*e*	**Pdif**	**03 52 42.7**	**+2.8**
KECS				*e*PP	**PP**	**03 57 11.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**134.22**	**286**	PKP	**PKPdf**	**03 57 30.8**	**-3.2**
	comp=Z,0.7nm,1.1s,baz=97,slow=1.9,SNR=2.6							
ROSC	**El Rosal**	**148.94**	**85**	PKP	**PKPdf**	**03 57 57.5**	**-3.2**
	comp=Z,1.8nm,0.4s,baz=234,slow=15,SNR=2.1							
LPAZ	**La Paz**	**149.27**	**128**	PKPbc	**PKPbc**	**03 58 04.6**	**-1.0**
	comp=Z,12nm,1.2s,baz=281,slow=3.1,SNR=8.1							
LPAZ	**La Paz**	**149.27**	**128**	PKP2	**PKPbc**	**03 58 04.6**	**-1.0**
LPAZ				pmax	pmax			
	comp=Z,12nm,1.2s							
LPAZ	**La Paz**	**149.27**	**128**	*e*PKPbc	**PKPbc**	**03 58 05.0**	**-0.6**

*IDC **16** 03:41:07.9±0.9, 1.7°S×136.3°E, h0km, mb4.0/6, mb1 4.3/8, mb1mx4.0/36, mbtmp4.1/8, ML3.9/2, Error ellipse: s-maj=37.1km s-min=20.1km az=70.0*
*ISCJB **16** 03:41:11.2±0.9, 1.8°S±0.1°×136.2°E±0.2, h33km, mb4.0/6, Error ellipse: s-maj=24.6km s-min=14.3km az=158.4*
ISC 16 03:41:13.2±1.0, 1.8°S±0.2°×136.2°E±0.2, h35km, n10, σ0.8°77/10, mb4.0/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.02**	**281**	Pn	**Pn**	**03 42 25.6**	**-0.5**
	3.8nm,0.3s,baz=127,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**18.12**	**186**	P	**P**	**03 45 22.3**	**-0.1**
	0.4nm,0.3s,baz=7.3,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**21.85**	**186**	P	**P**	**03 46 02.3**	**-0.7**
	10nm,1.0s,baz=9.0,slow=11,SNR=4.4						
CMAR	**Chiang Mai Arr**	**41.82**	**300**	P	**P**	**03 49 00.5**	**+0.5**
	1.3nm,0.4s,baz=123,slow=7.3,SNR=5.0						
MKAR	**Makanchi Array**	**67.55**	**323**	P	**P**	**03 52 07.0**	**+0.8**
	1.0nm,0.5s,baz=110,slow=8.2,SNR=11						
KURBB	**Kurchatov Arra**	**71.55**	**325**	P	**P**	**03 52 30.6**	**-0.1**
	1.2nm,0.9s,baz=108,slow=5.9,SNR=3.6						
VNDA	**Vanda**	**76.91**	**174**	P	**P**	**03 53 01.8**	**+0.3**
	0.7nm,0.6s,baz=327,slow=8.2,SNR=5.9						
ILAR	**Eielson Array**	**86.06**	**25**	P	**P**	**03 53 48.9**	**-1.1**
	0.9nm,1.1s,baz=251,slow=4.1,SNR=5.6						
TORD	**Torodi Ar. Bea**	**133.60**	**286**	PKP	**PKPdf**	**04 00 27.3**	**+0.2**
	0.8nm,0.9s,baz=56,slow=3.3,SNR=2.6						
LPAZ	**La Paz**	**149.99**	**128**	PKPbc	**PKPbc**	**04 01 02.9**	**+1.0**
	2.9nm,1.2s,baz=331,slow=0.9,SNR=3.7						

*IDC **16** 03:43:09.1±2.5, 1.8°S×136.5°E, h0km, mb4.0/2, mb1 4.2/4, mb1mx3.7/38, mbtmp4.0/4, ML3.2/1, Error ellipse: s-maj=64.5km s-min=27.7km az=74.0, Irian Jaya region*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.35**	**281**	Pn	Pn	03 44 29.9	-0.3
	0.8nm,0.3s,baz=168,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**18.08**	**187**	P	Pn	03 47 21.9	0.0
	baz=8.7,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**21.81**	**186**	P	P	03 48 03.0	0.0
	7.0nm,0.7s,baz=13,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**67.81**	**323**	P	P	03 54 09.1	+0.1
	0.6nm,0.6s,baz=112,slow=7.3,SNR=5.1						

*IDC **16** 03:44:17.3±1.1, 2.0°S×136.3°E, h0km, mb4.0/4, mb1 4.3/6, mb1mx3.9/38, mbtmp4.1/6, ML4.0/2, Error ellipse: s-maj=35.0km s-min=23.6km az=69.0*
*ISCJB **16** 03:44:21.7±1.1, 2.2°S±0.0°×136.3°E±0.1, h42km, mb4.0/4, Error ellipse: s-maj=16.3km s-min=10.2km az=145.7*
ISC 16 03:44:22.7±1.1, 2.3°S±0.1°×136.4°E±0.1, h42km, n7, σ2.6°46/8, mb4.0/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.31**	**285**	Pn	Pn	03 45 34.4	-5.1
	1.4nm,0.3s,baz=163,slow=19,SNR=1.7						
SIJI				Sn	**Sn**	**03 46 39.0**	**-0.4**
	6.3nm,0.3s,baz=180,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**17.68**	**186**	P	**P**	**03 48 28.5**	**+2.1**
	1.1nm,0.3s,baz=8.4,slow=12,SNR=9.9						
WRA				S	**Sn**	**03 51 38.6**	**-3.4**
	0.3nm,0.3s,baz=8.7,slow=23,SNR=4.4						
ASAR	**Alice Springs**	**21.40**	**186**	P	**P**	**03 49 09.1**	**+2.0**
	4.8nm,0.5s,baz=14,slow=10,SNR=7.1						
MKAR	**Makanchi Array**	**68.04**	**323**	P	**P**	**03 55 18.1**	**+0.2**
	0.6nm,0.5s,baz=113,slow=8.4,SNR=4.9						
VNDA	**Vanda**	**76.43**	**174**	P	**P**	**03 56 09.2**	**+1.8**
	1.2nm,0.7s,baz=329,slow=7.1,SNR=2.8						
ILAR	**Eielson Array**	**86.40**	**25**	P	**P**	**03 56 59.4**	**-1.0**
	1.2nm,1.0s,baz=248,slow=3.8,SNR=4.7						
LPAZ	**La Paz**	**149.56**	**128**	PKPbc	**PKPab**	**04 04 12.1**	**-2.3**
	1.1nm,0.7s,baz=315,slow=5.3,SNR=3.6						

*IDC **16** 03:50:35.7±2.1, 1.9°S×136.3°E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.7/41, mbtmp3.8/4, ML3.6/2, Error ellipse: s-maj=48.1km s-min=26.6km az=67.0*
*ISCJB **16** 03:50:38.8±0.9, 2.0°S±0.0°×136.2°E±0.0°3, h23km±9km, mb3.7/2, Error ellipse: s-maj=15.5km s-min=5.3km az=5.1*
*DJA **16** 03:50:39.5±0.6, 2.2°S±9.1°×13.6°E±*°, h17km±6km, M4.9/9, mb5.0/4, MLv4.9/9*
ISC 16 03:50:39.8±1.5, 2.0°S±0.1°×136.3°E±0.0°5, h19km±6km, n13, σ1.9°00/18, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.17**	**341**	P	**Pg**	**03 50 44.9**	**+0.4**
SRPI				S	**Sg**	**03 50 47.7**	**0.0**
RKPI	**Ransiki, Papua**	**2.18**	**284**	P	**Pn**	**03 51 14.8**	**-0.3**
RKPI				S	**Sn**	**03 51 42.2**	**+0.6**
SMPI	**Sarmi**	**2.41**	**89**	P	**Pn**	**03 51 18.4**	**+0.2**
SMPI				S	**Sn**	**03 51 47.3**	**+0.1**
GENI	**Genyem**	**3.91**	**98**	P	**Pn**	**03 51 39.0**	**+0.2**
GENI				S	**Sn**	**03 52 26.1**	**+1.9**
FAKI	**Fak Fak**	**4.14**	**258**	P	**Pn**	**03 51 43.1**	**+1.1**
JAY	**Jayapura**	**4.43**	**96**	P	**Pn**	**03 51 46.4**	**+0.3**
SIJI	**Sorong**	**5.16**	**283**	Pn	**Pn**	**03 51 56.4**	**+0.3**
	2.8nm,0.3s,baz=180,slow=22,SNR=6.2						
SIJI				Sn	**Sn**	**03 52 55.1**	**-0.1**

1.4nm,0.3s,baz=117,slow=5.2,SNR=3.2
MKAR Makanchi Array 67.66 323 P **P** **04 05 00.1 +0.8**
1.8nm,0.5s,baz=108,slow=7.9,SNR=12
VNDA Vanda 76.62 174 P **P** **04 05 54.1 +1.8**
0.4nm,0.6s,baz=326,slow=3.3,SNR=2.2
LPAZ La Paz 149.98 128 PKPbc **PKPbc** **04 13 52.7 -1.5**
0.4nm,0.8s,baz=166,slow=8.3,SNR=2.1

IDC 16 03:55:59.1±2.0, 1°51'S×136°59'E, h0km, mb3.8/2, mb1 4.2/3, mb1mx3.7/44, mbtmp3.9/3, ML3.8/1, Error ellipse: s-maj=138.3km s-min=29.4km az=102.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.45**	**187**	P		Pn	04 00 15.7	-0.8
	0.3nm,0.3s,baz=8.3,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**22.18**	**187**	P		P	04 00 57.4	+0.4
	3.8nm,0.8s,baz=15,slow=11,SNR=3.8						
ILAR	**Eielson Array**	**85.63**	**25**	P		P	04 08 39.3	-0.1
	0.7nm,0.8s,baz=263,slow=4.5,SNR=2.9						

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*BJI **16** 03:56:06.8, 51°.60N×173°.80W, h28km, mb5.1/41, mB5.2/5, Ms5.2/1, Ms7 4.9/1*
*IDC **16** 03:56:06.5±0.7, 51°.75N×173°.67W, h0km, mb4.7/31, mb1 4.9/33, mb1mx4.7/54, mbtmp4.7/33, ML5.4/1, Error ellipse: s-maj=20.9km s-min=9.8km az=177.0*
*MOS **16** 03:56:10.5±0.9, 51°.70N×173°.69W, h38km, mb5.3/53, Error ellipse: s-maj=8.6km s-min=6.4km az=99.8*
*ISCJB **16** 03:56:11.1±0.4, 51°.58N±0°.04×173°.65W±0°.02, h44km±3km, mb5.0/163, MS6.0/2, Error ellipse: s-maj=5.9km s-min=2.1km az=2.1*
*NEIC **16** 03:56:13.4±0.4, 51°.68N×173°.80W, h51km±3km, mb5.1/106, ML4.7(AEIC), Error ellipse: s-maj=6.8km s-min=2.7km az=172.0*
*SZGRF **16** 03:56:13.7, 52°.64N×175°.98W, h33km, mb5.0, Andreanof Islands, Aleutian Islands, United States*
ISC 16 03:56:12.3±0.7, 51°.58N±0°.09×173°.71W±0°.03, h42km±5km, n806, n0?94/820, mb5.1/164, 42C-8D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSMY	**Great Sitkin M**	**1.53**	**288**	P		**Pn**	**03 56 36.1**	**-0.9**
GSTR	**Great Sitkin T**	**1.54**	**290**	*e*Pn		**Pn**	**03 56 37.5**	**+0.2**
GSCK	**Great Sitkin C**	**1.58**	**287**	P		**Pn**	**03 56 36.5**	**-1.3**
GSTD	**Great Sitkin T**	**1.58**	**288**	P		**Pn**	**03 56 37.0**	**-0.9**
ETKA	**Kagalaska Isla**	**1.70**	**281**	P		**Pn**	**03 56 38.2**	**-1.2**
ADAG	**Mount Adagdak**	**1.84**	**284**	P		**Pn**	**03 56 40.9**	**-0.4**
ADK	**Adak**	**1.87**	**280**	*e*P		**Pn**	**03 56 40.7**	**-1.1**
ADK				S		**Sn**	**03 57 05.8**	**+1.7**
ADK	**Adak**	**1.87**	**280**	*e*Pn		**Pn**	**03 56 40.7**	**-1.1**
ADK				S		**Sn**	**03 57 05.8**	**+1.7**
KIKV	**Kanaga Island**	**2.17**	**279**	P		**Pn**	**03 56 46.6**	**+0.7**
KICM	**Kanaga Island**	**2.19**	**280**	P		**Pn**	**03 56 46.8**	**+0.7**
TAPA	**Tanaga Point A**	**2.56**	**277**	P		**Pn**	**03 56 51.5**	**+0.2**
TAFP	**Tanaga Falls P**	**2.67**	**278**	P		**Pn**	**03 56 53.5**	**+0.7**
TAFP				S		**Sn**	**03 57 25.7**	**+1.7**
TASE	**Tanaga Southea**	**2.70**	**277**	P		**Pn**	**03 56 53.8**	**+0.6**
NIKH	**Nikolski High**	**3.29**	**63**	P		**Pn**	**03 57 00.9**	**-0.4**
OKTU	**Okmok Mt. Tuli**	**3.91**	**60**	P		**Pn**	**03 57 11.2**	**+1.5**
OKFG	**Magazine Ridge**	**3.99**	**60**	P		**Pn**	**03 57 13.0**	**+2.2**
CEAP	**Semis' Anvil P**	**4.19**	**278**	P		**Pn**	**03 57 14.2**	**+0.6**
AMKA	**Amchitka**	**4.37**	**270**	*e*Pn		**Pn**	**03 57 15.4**	**-0.7**
AMKA				S		**Sn**	**03 58 09.9**	**+4.2**
MCIR	**Makushin Cirqu**	**4.77**	**58**	P		**Pn**	**03 57 22.6**	**+1.1**
MREP	**Makushin Rep't**	**4.79**	**60**	P		**Pn**	**03 57 23.9**	**+2.1**
LSPA	**Little Sitkin**	**4.81**	**277**	P		**Pn**	**03 57 22.4**	**+0.3**
LSNW	**Little Sitkin**	**4.84**	**278**	P		**Pn**	**03 57 22.8**	**+0.2**
UNV	**Unalaska Valle**	**4.93**	**60**	P		**Pn**	**03 57 25.3**	**+1.5**
AKRB	**Akutan Reef Bi**	**5.29**	**58**	P		**Pn**	**03 57 30.3**	**+1.7**
ZRO	**Akutan Zero**	**5.32**	**59**	P		**Pn**	**03 57 30.5**	**+1.5**
AKGG	**Akutan Green G**	**5.36**	**58**	P		**Pn**	**03 57 31.6**	**+2.0**
AKUT	**Akutan**	**5.45**	**59**	*e*Pn		**Pn**	**03 57 32.6**	**+1.9**
SPIA	**Saint Paul Isl**	**5.96**	**18**	P		**Pn**	**03 57 39.3**	**+1.5**
DT1	**Dutton Round H**	**7.70**	**58**	P		**Pn**	**03 58 03.0**	**+1.4**
GAMB	**Gambell**	**12.27**	**4**	*e*Pn		**Pn**	**03 59 05.2**	**+1.1**
	39nm,0.8s						
KDAK	**Kodiak Island**	**13.67**	**55**	Pn		**Pn**	**03 59 20.3**	**-3.0**
	172nm,0.9s,SNR=9.3						
KDAK	**Kodiak Island**	**13.67**	**55**	*e*P		**Pn**	**03 59 22.1**	**-1.2**
KDAK	**Kodiak Island**	**13.67**	**55**	*e*Pn		**Pn**	**03 59 22.1**	**-1.2**
SVW2	**Sparrevohn**	**13.80**	**39**	*e*Pn		**Pn**	**03 59 26.4**	**+1.4**
TNA	**Tin City**	**14.33**	**10**	*e*Pn		**Pn**	**03 59 34.4**	**+2.3**
	45nm,1.1s						
RSO	**Redoubt South**	**14.65**	**44**	*e*Pn		**Pn**	**03 59 36.4**	**-0.2**
	85nm,0.9s						
BRLK	**Bradley Lake**	**15.19**	**49**	*e*P		**P**	**03 59 46.3**	**-1.8**
	229nm,1.5s						
SEW	**Seward**	**15.99**	**48**	*e*Pn		**Pn**	**03 59 51.6**	**-2.2**
	52nm,0.8s						
PPLA	**Purkeypile**	**16.15**	**37**	*e*P		**P**	**03 59 58.0**	**-0.7**
	175nm,1.4s						
RC01	**Rabbit Creek A**	**16.25**	**45**	*e*Pn		**Pn**	**03 59 56.7**	**-0.5**
	71nm,1.1s						
TRF	**Thorofare Moun**	**17.18**	**37**	*e*P		**Pn**	**04 00 09.4**	**+0.5**
	173nm,1.6s						
BPAW	**Bear Paw Mtn.**	**17.29**	**35**	*e*Pn		**P**	**04 00 12.3**	**+1.1**
	26nm,1.1s						
PEA0B	**Petropavlovsk-**	**17.49**	**286**	*e*Pn		**P**	**04 00 13.5**	**0.0**
PETK	**Petropavlovsk-**	**17.49**	**286**	P		**Pn**	**04 00 12.8**	**+0.1**
	1.0nm,0.3s,baz=99,slow=13,SNR=8.0						
IM04	**Indian Mountai**	**17.61**	**27**	*e*P		**P**	**04 00 15.7**	**+1.0**
MCK	**McKinley**	**17.84**	**37**	*e*P		**Pn**	**04 00 15.8**	**-1.2**
MCK					pmax	pmax		
	comp=Z,85nm,0.9s							
MCK	**McKinley**	**17.84**	**37**	*e*Pn		**Pn**	**04 00 15.8**	**-1.2**
	comp=Z,85nm,0.9s							
BWN	**Browne**	**17.88**	**36**	*e*P		**Pn**	**04 00 17.3**	**-0.1**
	comp=Z,172nm,1.0s							
DIV	**Divide**	**18.05**	**47**	*e*P		**P**	**04 00 24.4**	**+4.7**
	comp=Z,33nm,0.8s							
DHY	**Denali Highway**	**18.13**	**40**	*e*P		**Pn**	**04 00 20.9**	**+0.2**
	comp=Z,21nm,0.8s							
BMRM	**Bremner River**	**18.54**	**48**	*e*Pn		**P**	**04 00 25.3**	**+0.2**
	comp=Z,34nm,0.7s							
CCB	**Clear Creek Bu**	**18.74**	**36**	*e*P		**P**	**04 00 25.1**	**-2.1**
	comp=Z,34nm,0.7s							
HARP	**HAARP**	**18.78**	**44**	*e*Pn		**P**	**04 00 26.9**	**-0.7**
	comp=Z,74nm,1.0s							
COLA	**College**	**18.85**	**35↓**	*e*P		**P**	**04 00 26.4**	**-1.9**
COLA					pmax	pmax		
	comp=Z,126nm,0.9s							
COLA	**College**	**18.85**	**35**	*e*Pn		**P**	**04 00 27.6**	**-0.7**
	comp=Z,68nm,1.1s							
SKR	**Severo-Kuril's**	**18.90**	**279**	*e*P		**P**	**04 00 27.5**	**-1.4**
SKR					pmax	pmax		
	comp=E,180nm,1.0s							
SKR					pmax	pmax		
	comp=Z,220nm,1.0s							
HDA	**Harding Lake**	**18.93**	**37**	*e*P		**P**	**04 00 27.3**	**-1.9**
	comp=Z,94nm,0.9s							
ILAR	**Eielson Array**	**19.14**	**36**	P		**P**	**04 00 28.9**	**-2.7**
	comp=Z,4.9nm,0.3s,baz=237,slow=7.9,SNR=164							
BILL	**Bilibino**	**19.16**	**337↑**	*e*P		**Pn**	**04 00 32.9**	**0.0**
BILL					pmax	pmax		
	comp=Z,59nm,1.2s							
BILL					MLR	MLR		
	comp=Z,17μm,16.0s							
BILL	**Bilibino**	**19.16**	**337**	*e*Pn		**Pn**	**04 00 33.6**	**+0.7**
	comp=Z,64nm,1.1s							
COLD	**Coldfoot**	**19.51**	**28**	*e*P		**P**	**04 00 36.2**	**+0.7**
	comp=Z,68nm,1.0s							
FYU	**Fort Yukon**	**20.68**	**33**	*e*P		**P**	**04 00 47.3**	**-0.8**
	comp=Z,186nm,1.2s							
SEY	**Seymchan**	**21.28**	**315**	P		**P**	**04 00 54.9**	**+0.1**
	comp=Z,23nm,0.9s,baz=105,slow=11,SNR=12							
SEY	**Seymchan**	**21.28**	**315**	*ce*P		**P**	**04 00 55.6**	**+0.9**
EGAK	**Eagle**	**21.34**	**39**	*e*P		**P**	**04 00 54.0**	**-1.3**
	comp=Z,229nm,0.9s							
DAWY	**Dawson**	**21.80**	**42**	*e*P		**P**	**04 00 58.7**	**-1.6**
HYT	**Haines Junctio**	**21.89**	**51**	*e*P		**P**	**04 01 02.7**	**+1.3**
SKAG	**Skagway**	**22.83**	**55**	*e*P		**P**	**04 01 13.9**	**+2.7**
BESE	**Bessie Mountai**	**23.05**	**57**	*e*P		**P**	**04 01 13.9**	**+0.4**
	comp=Z,60nm,1.2s							
CRAG	**Craig**	**24.19**	**65**	*e*P		**P**	**04 01 26.2**	**+1.9**
	comp=Z,529nm,1.0s							
WRAK	**Wrangell Islan**	**24.50**	**62**	*e*P		**P**	**04 01 29.5**	**+2.3**
	comp=Z,53nm,0.9s							
INK	**Inuvik**	**25.49**	**34**	P		**P**	**04 01 34.8**	**-1.2**
	comp=Z,54nm,1.0s,baz=234,slow=9.3,SNR=32							
INK	**Inuvik**	**25.49**	**34**	*e*P		**P**	**04 01 35.3**	**-0.8**
INK					pmax	pmax		
	comp=Z,103nm,1.1s							
INK	**Inuvik**	**25.49**	**34**	*e*P		**P**	**04 01 35.2**	**-0.8**
	comp=Z,103nm,1.1s							
DLBC	**Dease Lake**	**25.58**	**57**	P		**P**	**04 01 37.3**	**+0.2**
	comp=Z,76nm,1.0s,baz=277,slow=9.6,SNR=59							
YSS	**Yuzh-Sakhalins**	**28.46**	**278‖**	*e*P		**P**	**04 02 03.0**	**+0.1**
YSS				*e*			04 02 16.0	
YSS					pmax	pmax		
	comp=Z,90nm,1.2s							
YSS	**Yuzh-Sakhalins**	**28.46**	**278**	*e*P		**P**	**04 02 02.9**	**+0.1**
ASAJ	**Asahikawa**	**29.88**	**273**	P		**P**	**04 02 15.9**	**+0.3**
	comp=Z,37nm,1.1s,baz=50,slow=6.4,SNR=12							
ASAJ	**Asahikawa**	**29.88**	**273**	P		**P**	**04 02 15.9**	**+0.3**
ASAJ					pmax	pmax		
	comp=Z,37nm,1.1s							
ASAJ	**Asahikawa**	**29.88**	**273**	*e*P		**P**	**04 02 16.8**	**+1.2**
	comp=Z,32nm,1.2s							
YAK	**Yakutsk**	**31.67**	**311**	*e*P		**P**	**04 02 31.0**	**-0.1**
YAK					pmax	pmax		
	comp=Z,10.0nm,0.8s							
TIXI	**Tiksi**	**32.04**	**330**	*ce*P		**P**	**04 02 34.3**	**0.0**
TIXI					pmax	pmax		
	comp=Z,27nm,2.5s							
HABR	**Khabarovsk**	**32.51**	**285**	*e*P		**P**	**04 02 38.3**	**-0.4**
HABR				*e**SP		**sP**	**04 02 52.2**	**-3.0**
HABR				*e*SS		**SnSn**	**04 09 50.6**	**+4.0**
HABR				*e*SSS		SSS	04 10 05.7	
HABR				*e*			04 13 04.7	
HABR					pmax	pmax		
	comp=Z,38nm,1.1s							
HABR					MLR	MLR		
	comp=Z,16μm,15.0s							
YKA	**Yellowknife Ar**	**32.77**	**47**	P		**P**	**04 02 38.9**	**-1.8**
	comp=Z,27nm,1.2s,baz=276,slow=10,SNR=19							
YKA				PcP		**PcP**	**04 05 25.6**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=302,slow=2.4,SNR=3.8							
D05A	**Enumclaw**	**33.37**	**77**	*e*P		**P**	**04 02 48.6**	**+2.5**
LON	**Longmire**	**33.68**	**77**	*e*P		**P**	**04 02 49.0**	**0.0**
LON					pmax	pmax		
	comp=Z,11nm,0.7s							
LON	**Longmire**	**33.68**	**77**	*e*P		**P**	**04 02 49.0**	**0.0**
	comp=Z,12nm,0.7s							
KLR	**Kul'dur**	**34.16**	**288**	*e*P		P	04 02 48.3	-4.8
I03D	**Drain, OR**	**34.24**	**83**	P		**P**	**04 02 55.4**	**+1.6**
	baz=34							
B08A	**Colville Reser**	**34.45**	**73**	*e*P		**P**	**04 02 56.7**	**+1.1**
G05D	**Wamic, OR**	**34.71**	**79**	P		**P**	**04 02 58.5**	**+0.7**
	baz=35							
I04A	**Tendick Farm,**	**34.77**	**82**	P		**P**	**04 02 59.3**	**+0.9**
	baz=35							
L02D	**Cave Junction,**	**34.91**	**86**	P		**P**	**04 03 00.4**	**+0.9**
	baz=35							
HUMO	**Hull Mountain**	**35.06**	**84**	*e*P		**P**	**04 03 01.5**	**+0.5**
	comp=Z,45nm,1.4s							
I05D	**Terrebonne, OR**	**35.15**	**81**	P		**P**	**04 03 02.6**	**+0.9**
	baz=35							
HAWA	**Hanford**	**35.23**	**77**	*e*P		**P**	**04 03 03.3**	**+1.0**
	comp=Z,20nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**35.25**	**213**	T		T	04 40 56.1	
	baz=21							
J04D	**Umpqua Nationa**	**35.25**	**83**	P		**P**	**04 03 03.3**	**+0.6**
	baz=35							
H11N3	**WAKE ISLAND Hy**	**35.26**	**213**	T		T	04 40 57.3	
	baz=21							
H11N1	**WAKE ISLAND Hy**	**35.27**	**213**	T		T	04 40 57.0	
	baz=21							
D08A	**Wollman Farm,**	**35.29**	**75**	*e*P		**P**	**04 03 03.5**	**+0.7**
YBH	**Yreka Blue Hor**	**35.70**	**86**	P		**P**	**04 03 07.2**	**+0.7**
	comp=Z,6.0nm,1.0s,baz=255,slow=3.6,SNR=6.0							
YBH	**Yreka Blue Hor**	**35.70**	**86**	P		**P**	**04 03 07.2**	**+0.7**
YBH					pmax	pmax		
	comp=Z,6.0nm,1.0s							
YBH	**Yreka Blue Hor**	**35.70**	**86**	*e*P		**P**	**04 03 09.5**	**+3.1**
J05D	**Fort Rock, OR**	**35.77**	**82**	P		**P**	**04 03 07.2**	**+0.1**
	baz=36							
M02C	**Callahan**	**35.80**	**86**	P		**P**	**04 03 08.5**	**+1.2**
	baz=36,SNR=6.2							
NEW	**Newport**	**35.81**	**72**	P		**P**	**04 03 07.6**	**+0.3**
	comp=Z,18nm,0.9s,baz=304,slow=6.4,SNR=33							
NEW	**Newport**	**35.81**	**72**	*e*P		**P**	**04 03 07.4**	**+0.1**
NEW					pmax	pmax		
	comp=Z,25nm,1.0s							
NEW	**Newport**	**35.81**	**72**	P		**P**	**04 03 07.6**	**+0.3**
	baz=36,SNR=22							
NEW	**Newport**	**35.81**	**72**	*e*P		**P**	**04 03 07.4**	**+0.1**
	comp=Z,25nm,1.0s							
EDM	**Edmonton**	**35.91**	**63**	*e*P		**P**	**04 03 08.7**	**+0.6**
EDM	**Edmonton**	**35.91**	**63**	*e*P		**P**	**04 03 08.7**	**+0.6**
N02D	**Trinity Center**	**36.12**	**87**	P		**P**	**04 03 10.6**	**+0.4**
	baz=36							
G08A	**Pilot Rock**	**36.13**	**78**	*e*P		**P**	**04 03 11.5**	**+1.4**
M04C	**Macdoel**	**36.21**	**85**	P		**P**	**04 03 10.7**	**-0.2**
	baz=36							
K05A	**Summer Lake**	**36.28**	**83**	*e*P		**P**	**04 03 14.7**	**+3.1**
USRK	**Ussuriysk Ar.**	**36.41**	**280**	P		**P**	**04 03 12.1**	**-0.3**
	comp=Z,15nm,0.7s,baz=55,slow=7.9,SNR=21							
I07A	**Izee**	**36.41**	**80**	*e*P		**P**	**04 03 13.4**	**+0.8**
H11S1	**WAKE ISLAND Hy**	**36.45**	**212**	T		T	04 42 19.1	
	baz=18							
WDC	**Whiskeytown Da**	**36.45**	**87**	*e*P		P	04 03 17.2	+4.4
WDC					pmax	pmax		
	comp=Z,49nm,1.0s							
WDC	**Whiskeytown Da**	**36.45**	**87**	*e*P		P	04 03 17.2	+4.4
	comp=Z,49nm,1.0s							
H11S2	**WAKE ISLAND Hy**	**36.47**	**212**	T		T	04 42 18.9	
	baz=18							
H11S3	**WAKE ISLAND Hy**	**36.47**	**212**	T		T	04 42 18.3	
	baz=18							
MJAR	**Matsushiro Arr**	**36.97**	**265**	P		**P**	**04 03 17.6**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=44,slow=7.3,SNR=8.0							
MAJO	**Matsushiro**	**36.97**	**265**	*i* P		**P**	**04 03 18.3**	**+1.0**
MAJO					pmax	pmax		
	comp=Z,113nm,1.3s							
VLA	**Vladivostok**	**37.05**	**279↓**	*e*P		**P**	**04 03 17.5**	**-0.3**
VLA				*i*			04 04 42.7	
VLA							04 05 36.9	
VLA				*e*S		**S**	**04 09 02.6**	**+2.1**
VLA					pmax	pmax		
	comp=Z,98nm,1.2s							
BMO	**Blue Mountains**	**37.36**	**78**	*e*P		**P**	**04 03 21.9**	**+1.3**
BMO					pmax	pmax		
	comp=Z,12nm,1.0s							
BMO	**Blue Mountains**	**37.36**	**78**	*e*P		**P**	**04 03 21.9**	**+1.3**
	comp=Z,12nm,1.0s							
BSMT	**Bassoo Peak**	**37.39**	**72**	P		**P**	**04 03 21.6**	**+0.6**
BLMT	**Blacktail Moun**	**37.56**	**71**	*e*P		**P**	**04 03 23.2**	**+0.8**
JTMT	**Jette**	**37.73**	**72**	*e*P		**P**	**04 03 24.4**	**+0.6**
YBMT	**Yellow Bay**	**37.84**	**71**	*e*P		**P**	**04 03 25.1**	**+0.4**
	comp=Z,20nm,1.2s							
SWMT	**Swartz Lake**	**38.02**	**72**	*e*P		**P**	**04 03 26.4**	**+0.2**
	comp=Z,10nm,1.0s							
MSO	**Missoula**	**38.39**	**73**	P		**P**	**04 03 29.6**	**+0.3**
	baz=38,SNR=11							
MSO	**Missoula**	**38.39**	**73**	*e*P		**P**	**04 03 29.5**	**+0.3**
SLMT	**Seeley Lake**	**38.45**	**72**	*e*P		**P**	**04 03 30.0**	**+0.2**
	comp=Z,64nm,1.6s							
CHMT	**Chamberlain Mo**	**38.75**	**72**	P		**P**	**04 03 32.5**	**0.0**
MFID	**Camas Ranch**	**39.02**	**79**	*e*P		**P**	**04 03 35.8**	**+1.1**
	comp=Z,14nm,1.0s							
WAKR	**Walker**	**39.61**	**87**	*e*P		**P**	**04 03 42.5**	**+2.8**
HRY	**Holter Researc**	**39.70**	**72**	*e*P		**P**	**04 03 40.6**	**+0.4**
	comp=Z,16nm,0.7s							
LRM	**Limekiln Ridge**	**39.79**	**73**	*e*P		**P**	**04 03 41.2**	**+0.1**
	comp=Z,103nm,1.1s							
HLID	**Hailey**	**39.80**	**78**	P		**P**	**04 03 42.0**	**+0.7**
	baz=40,SNR=11							
HLID	**Hailey**	**39.80**	**78**	*e*P		**P**	**04 03 42.0**	**+0.7**
	comp=Z,12nm,1.0s							
DLMT	**Dillon**	**39.94**	**74**	*e*P		**P**	**04 03 43.0**	**+0.7**
	comp=Z,39nm,1.8s							
MCMT	**McKenzie Canyo**	**40.07**	**75**	*e*P		**P**	**04 03 43.9**	**+0.4**
EGMT	**Eagleton**	**40.26**	**69**	P		**P**	**04 03 45.0**	**+0.1**
	baz=40,SNR=26							
EGMT	**Eagleton**	**40.26**	**69**	*e*P		**P**	**04 03 44.8**	**0.0**
	comp=Z,53nm,0.8s							
NVAR	**Mina Array Bea**	**40.36**	**87**	P		**P**	**04 03 46.3**	**+0.3**
	comp=Z,4.1nm,0.8s,baz=291,slow=8.4,SNR=13							
BOZ	**Bozeman (W)**	**40.37**	**73**	*e*P		**P**	**04 03 46.4**	**+0.5**
BOZ					pmax	pmax		
	comp=Z,32nm,1.2s							
BOZ	**Bozeman (W)**	**40.37**	**73**	P		**P**	**04 03 46.0**	**+0.1**
	baz=40,SNR=12							
BOZ	**Bozeman (W)**	**40.37**	**73**	*e*P		**P**	**04 03 46.4**	**+0.5**
	comp=Z,32nm,1.2s							
BOD	**Bodaibo**	**40.38**	**308**	*e*P		**P**	**04 03 43.1**	**-2.5**
BOD					pmax	pmax		
	comp=Z,8.0nm,1.7s							
A19A	**Klindworth Far**	**40.40**	**67**	P		**P**	**04 03 46.0**	**+0.1**
	baz=40,SNR=9.8							
B19A	**Brinkman Farms**	**40.52**	**68**	P		**P**	**04 03 47.3**	**+0.4**
	baz=40,SNR=32							
CN2	**Changchun**	**40.61**	**284**	*e*P		**P**	**04 03 48.3**	**+0.6**
CN2					PMZ			
	comp=Z,20nm,1.1s							
ELK	**Elko**	**40.89**	**82**	*e*P		**P**	**04 03 50.3**	**0.0**
ELK					pmax	pmax		
	comp=Z,13nm,0.9s							
ELK	**Elko**	**40.89**	**82**	*e*P		**P**	**04 03 50.3**	**0.0**
	comp=Z,13nm,0.9s							
A20A	**Cobblestone Ra**	**40.89**	**67**	P		**P**	**04 03 49.7**	**-0.3**
	baz=41,SNR=12							
B20A	**Solberg Farm,**	**41.06**	**68**	P		**P**	**04 03 51.2**	**-0.1**
	baz=41,SNR=16							
RCTC	**Rector, Farmer**	**41.10**	**90**	P		**P**	**04 03 52.5**	**+0.8**
	baz=41							
HIA	**Hailar**	**41.14**	**294**	*e*P		**P**	**04 03 51.7**	**-0.3**
HIA					pmax	pmax		
	comp=Z,33nm,1.2s							
FFC	**Flin Flon**	**41.41**	**56**	P		**P**	**04 03 53.3**	**-0.8**
	comp=Z,246nm,1.1s,SNR=16							
FFC	**Flin Flon**	**41.41**	**56**	*e*P		**P**	**04 03 53.9**	**-0.2**
FFC					pmax	pmax		
	comp=Z,34nm,0.9s							
FFC	**Flin Flon**	**41.41**	**56**	*e*P		**P**	**04 03 53.9**	**-0.2**
	comp=Z,34nm,0.9s							
A21A	**Bergtoll Ranch**	**41.41**	**66**	P		**P**	**04 03 54.5**	**+0.2**
	baz=41							
C20A	**Veseth Ranch,**	**41.43**	**68**	P		**P**	**04 03 54.5**	**0.0**
	baz=41,SNR=24							
GCMT	**Greycliff**	**41.46**	**72**	*e*P		**P**	**04 03 55.5**	**+0.7**
VES	**Vestal, Richgr**	**41.49**	**90**	P		**P**	**04 03 55.3**	**+0.3**
	baz=41							
B21A	**Ellsworth Farm**	**41.64**	**67**	P		**P**	**04 03 56.1**	**0.0**
	baz=42,SNR=8.9							
PKM	**Mcpherson Peak**	**41.64**	**92**	P		**P**	**04 03 57.5**	**+1.0**
	baz=42							
H17A	**Grant Village**	**41.67**	**74**	P		**P**	**04 03 56.7**	**0.0**
	baz=42							
IMW	**Indian Meadow**	**41.73**	**75**	*e*P		**P**	**04 03 58.7**	**+1.5**
	comp=Z,13nm,0.9s							
FLWY	**Flagg Ranch**	**41.77**	**75**	*e*P		**P**	**04 03 58.5**	**+1.1**
	comp=Z,12nm,0.7s							
FXWY	**Fox Creek**	**41.82**	**75**	*e*P		**P**	**04 03 58.7**	**+0.8**
	comp=Z,5.1nm,0.8s							
ALE	**Alert**	**41.85**	**11**	P		**P**	**04 03 57.3**	**-0.1**
	comp=Z,72nm,1.3s,SNR=5.8							
C21A	**Desert Coulee**	**41.90**	**68**	P		**P**	**04 03 58.4**	**+0.1**
	baz=42,SNR=6.7							
KSSKC	**Sokcho**	**41.92**	**275**	P		**P**	**04 04 00.3**	**+1.9**
	SNR=5.7							
KSSKC	**Sokcho**	**41.92**	**275**	P		**P**	**04 04 00.3**	**+1.9**
	SNR=5.7							
A22A	**Carney Farms,**	**41.98**	**66**	P		**P**	**04 03 58.8**	**-0.2**
	baz=42,SNR=13							
ISA	**Isabella, Lake**	**41.99**	**90**	*e*P		P	04 04 02.4	+3.2
ISA					pmax	pmax		
	comp=Z,18nm,0.8s							
ISA	**Isabella, Lake**	**41.99**	**90**	P		**P**	**04 03 59.7**	**+0.5**
	baz=42							
ISA	**Isabella, Lake**	**41.99**	**90**	*e*P		P	04 04 02.4	+3.2
	comp=Z,18nm,0.8s							
KSJMJ	**Jumunjin**	**42.02**	**274**	P		**P**	**04 04 01.2**	**+1.9**
	SNR=6.4							
KSJMJ	**Jumunjin**	**42.02**	**274**	P		**P**	**04 04 01.4**	**+2.1**
	SNR=9.2							
RLMT	**Red Lodge**	**42.06**	**72**	P		**P**	**04 04 00.3**	**+0.5**
	baz=42,SNR=23							
RLMT	**Red Lodge**	**42.06**	**72**	*e*P		**P**	**04 04 00.5**	**+0.7**
	comp=Z,46nm,1.1s							
REDW	**Red Top Meadow**	**42.08**	**76**	*e*P		**P**	**04 04 01.5**	**+1.5**
	comp=Z,73nm,1.8s							
SEHB	**SEOHWA**	**42.10**	**275**	P		**P**	**04 04 01.4**	**+1.4**
	SNR=13							
SEHB	**SEOHWA**	**42.10**	**275**	P		**P**	**04 04 01.4**	**+1.4**
	SNR=13							
R11A

CTU Camp Tracy 43.06 79 eP P 04 04 10.6 +2.6
comp=Z,17nm,0.9s
A24A Westby 43.10 65 P P 04 04 07.8 -0.2
baz=43,SNR=14
KSCHJ Chungju 43.14 274 P P 04 04 09.5 +1.1
SNR=5.9
KSCHJ Chungju 43.14 274 P P 04 04 09.5 +1.1
SNR=5.9
H20A Greybull 43.16 73 P P 04 04 08.7 0.0
baz=43,SNR=8.0
MWC Mount Wilson 43.18 91 eP P 04 04 09.5 +0.5
MWC pmax pmax
comp=Z,34nm,1.1s
MWC Mount Wilson 43.18 91 eP P 04 04 09.5 +0.5
comp=Z,34nm,1.1s
PDAR Pinedale Array 43.20 76 P P 04 04 09.1 0.0
comp=Z,10nm,0.8s,baz=322,slow=6.0,SNR=31
SHOC Shoshone, Teco 43.20 88 P P 04 04 08.9 0.0
baz=43
J19A Crowheart 43.22 75 P P 04 04 09.1 -0.1
baz=43
G21A Lodge Grass 43.22 71 P P 04 04 09.0 -0.1
baz=43,SNR=6.4
KSICN Icheon 43.22 275 P P 04 04 10.5 +1.4
SNR=7.8
DGMT Dagmar 43.23 66 P P 04 04 09.1 +0.1
baz=43,SNR=6.1
DGMT Dagmar 43.23 66 eP P 04 04 09.2 +0.1
comp=Z,105nm,1.3s
GSC Goldstone, Bar 43.26 89 eP P 04 04 09.8 +0.3
GSC pmax pmax
comp=Z,44nm,0.8s
GSC Goldstone, Bar 43.26 89 P P 04 04 10.1 +0.6
baz=43,SNR=8.2
GSC Goldstone, Bar 43.26 89 eP P 04 04 09.8 +0.3
comp=Z,44nm,0.8s
E22A Miles City 43.30 69 P P 04 04 09.2 -0.5
baz=43,SNR=7.1
JLU Jordanelle 43.30 79 eP P 04 04 12.1 +2.1
comp=Z,18nm,0.9s
NLU North Lily Min 43.30 80 eP P 04 04 12.0 +2.1
comp=Z,20nm,0.9s
KSSAJ Sangju 43.32 273 P P 04 04 11.3 +1.4
SNR=5.7
I20A Worland 43.38 73 P P 04 04 10.5 +0.1
baz=43,SNR=11
BFSC Mount Baldy Ra 43.42 91 P P 04 04 10.5 -0.3
baz=43
F22A Rosebud 43.48 70 P P 04 04 11.1 0.0
baz=43,SNR=10
KSBON Boeun 43.48 273 P P 04 04 13.0 +1.8
SNR=5.2
KSBON Boeun 43.48 273 P P 04 04 13.5 +2.4
SNR=8.4
CIS Catalina Islan 43.51 93 P P 04 04 12.7 +1.3
baz=44
SHPR Sheep Range 43.52 87 eP P 04 04 11.8 +0.1
KSSWO Suwon 43.52 275 P P 04 04 14.3 +2.9
SNR=7.4
MPU Maple Canyon 43.54 80 eP P 04 04 12.1 +0.3
comp=Z,39nm,0.7s
KSCPR CHUPUNGNYEONG 43.55 273 P P 04 04 13.2 +1.5
SNR=7.0
KSCPR CHUPUNGNYEONG 43.55 273 P P 04 04 14.4 +2.7
SNR=5.8
INCN Inchon 43.59 275 eP P 04 04 13.2 +1.1
comp=Z,19nm,0.6s
C24A Savage 43.59 67 P P 04 04 11.9 -0.1
baz=43
A25A Svangstu Ranch 43.60 64 P P 04 04 12.0 +0.1
baz=43,SNR=10
E23A Ismay 43.64 69 P P 04 04 12.0 -0.4
baz=44
H21A Big Horn, Sher 43.65 72 P P 04 04 12.2 -0.4
baz=44
J20A Shoshoni 43.75 74 P P 04 04 13.2 -0.2
baz=44
JNU Nakatsue 43.76 267 P P 04 04 14.1 +0.6
comp=Z,24nm,1.0s,baz=42,slow=5.8,SNR=7.5
JNU Nakatsue 43.76 267 eP P 04 04 12.7 -0.8
comp=Z,58nm,1.1s
G22A Birney 43.77 71 P P 04 04 13.2 -0.2
baz=44,SNR=6.9
TJN Taejon 43.83 274 i P P 04 04 14.9 +0.9
HEC Hector,Ludlow 43.86 89 P P 04 04 15.1 +0.8
baz=44,SNR=6.4
D24A Glendive 43.87 67 P P 04 04 15.0 +0.7
baz=44,SNR=12
I21A Big Trails, Te 43.96 73 P P 04 04 14.9 -0.3
baz=44,SNR=15
H22A Clearmont 44.08 71 P P 04 04 15.8 -0.2
baz=44
MSU Marysvale 44.12 82 eP P 04 04 17.1 +0.5
MSU pmax pmax
comp=Z,19nm,1.1s
MSU Marysvale 44.12 82 eP P 04 04 17.1 +0.5
comp=Z,19nm,1.1s
MURC Murrieta 44.13 91 P P 04 04 17.5 +1.1
baz=44
J21A Lysite 44.13 74 P P 04 04 16.5 0.0
baz=44,SNR=10
C25A Freed Ranch, W 44.17 66 P P 04 04 16.7 +0.1
baz=44,SNR=6.1
E24A Baker 44.19 68 P P 04 04 16.9 +0.1
baz=44,SNR=7.0
A26A Wade Farm, Ken 44.22 64 P P 04 04 16.9 -0.1
baz=44,SNR=13
TMUT Trail Mountain 44.23 81 eP P 04 04 17.8 +0.2
comp=Z,40nm,1.0s
GMRC Granite Mounta 44.31 89 P P 04 04 18.1 +0.1
baz=44,SNR=5.4
I22A 9 Mile Ranch, 44.40 72 P P 04 04 18.7 +0.1
baz=44,SNR=14
KSGUS GUNSAN 44.41 274 P P 04 04 19.6 +1.0
SNR=5.8
D25A Fairfield 44.43 67 P P 04 04 18.8 +0.1
baz=44
F24A Ekalaka 44.50 69 P P 04 04 19.2 -0.2
baz=44,SNR=10
PFO Pinyon Flats O 44.59 91 P P 04 04 20.9 +0.7
baz=44
BELC Belle Mtn. Jos 44.61 90 P P 04 04 20.9 +0.5
baz=44
A27A Ledoux Ranch, 44.64 63 P P 04 04 20.6 +0.3
baz=44
KSJEU Jeongeup 44.67 273 P P 04 04 21.6 +1.0
SNR=10.0
J22A Midwest 44.67 73 P P 04 04 20.6 -0.2
baz=44,SNR=23
E25A Miller Ranch, 44.74 68 P P 04 04 21.4 +0.2
baz=45,SNR=11
C26A Wahner Farm, P 44.76 65 P P 04 04 21.2 -0.2
baz=45,SNR=6.1
SRU San Rafael Swe 44.77 80 eP P 04 04 23.0 +1.3
SRU pmax pmax
comp=Z,33nm,0.9s
SRU San Rafael Swe 44.77 80 eP P 04 04 23.0 +1.3
comp=Z,33nm,0.9s
G24A Alzada 44.80 69 P P 04 04 22.1 +0.4
baz=45
KSKWJ Gwangju 44.84 273 P P 04 04 24.0 +1.9
SNR=9.1
B27A Peters Farms, 44.92 64 P P 04 04 22.6 +0.1
baz=45,SNR=6.6
D26A Manning 45.01 66 P P 04 04 23.1 -0.2
baz=45
F25A Bowman 45.03 68 P P 04 04 23.7 +0.2
baz=45,SNR=5.4
IRM Iron Mountain 45.04 89 P P 04 04 24.2 +0.5
baz=45
H24A Dirks Ranch, A 45.05 70 P P 04 04 23.1 -0.6
baz=45,SNR=7.7
BAR Barrett 45.07 92 eP P 04 04 27.8 +3.9
comp=Z,3.9nm,0.8s
K22A Casper 45.09 74 P P 04 04 23.8 -0.4
baz=45,SNR=9.6
K22A Casper 45.09 74 eP P 04 04 24.1 -0.1
comp=Z,17nm,0.9s
MONP Monument Peak, 45.09 91 P P 04 04 24.7 +0.4
baz=45
C27A Sayler Ranch, 45.16 65 P P 04 04 24.4 -0.1
baz=45
A28A Rude Farm, Bot 45.20 63 P P 04 04 24.6 -0.2
baz=45,SNR=16
J23A Dilts Ranch, B 45.23 72 P P 04 04 25.2 0.0
baz=45
RWWY Rawlins 45.24 75 eP P 04 04 27.4 +2.0
comp=Z,48nm,1.4s
E26A Carlson Angus 45.30 67 P P 04 04 25.2 -0.4
baz=45,SNR=10
B28A Dugan Ranch, T 45.40 64 P P 04 04 26.3 -0.1
baz=45,SNR=9.0
G25A Newell 45.46 69 P P 04 04 26.6 -0.4
baz=45,SNR=6.0
I24A Kuemmerle Ranc 45.52 71 P P 04 04 27.5 0.0
baz=45
F26A Lodgepole 45.53 68 P P 04 04 27.4 0.0
baz=45,SNR=6.0
O20A White River Ci 45.54 78 P P 04 04 27.6 -0.3
baz=45,SNR=15
O20A White River Ci 45.54 78 eP P 04 04 27.4 -0.4
comp=Z,119nm,1.5s
K23A Bowen Ranch, D 45.56 73 P P 04 04 27.4 -0.5
baz=45
PDMCI Parker Dam,Lak 45.58 88 P P 04 04 28.2 +0.3
baz=46,SNR=5.4
H25A Fruitdale 45.68 70 P P 04 04 28.6 -0.1
baz=46
Y12C Blythe 45.70 89 P P 04 04 29.4 +0.5
baz=46,SNR=6.4
RSSD Black Hills 45.71 71 eP P 04 04 29.0 -0.2
RSSD pmax pmax
comp=Z,12nm,0.7s
RSSD Black Hills 45.71 71 eP P 04 04 28.9 -0.2
comp=Z,12nm,0.7s
A29A Manning Farm, 45.77 62 P P 04 04 29.2 -0.1
baz=46,SNR=19
C28A Hausauer Farms 45.79 64 P P 04 04 29.6 +0.2
baz=46
J24A Dixon Ranch, L 45.80 72 P P 04 04 29.5 -0.2
baz=46
E27A Carson 45.84 67 P P 04 04 29.6 -0.3
baz=46,SNR=8.6
G26A Maurine 45.88 68 P P 04 04 30.0 -0.2
baz=46,SNR=17
F27A Lemmon 45.89 67 P P 04 04 30.0 -0.3
baz=46,SNR=16
I25A Rochford 45.95 71 P P 04 04 30.4 -0.6
baz=46
B29A Wagenman Farm, 45.95 63 P P 04 04 30.5 -0.2
baz=46,SNR=5.7
GLA Glamis 45.97 90 P P 04 04 32.2 +1.1
baz=46
D28A Regan 45.98 65 P P 04 04 31.0 +0.1
baz=46,SNR=10.0
K24A Anderson Ranch 46.07 73 P P 04 04 32.0 +0.1
baz=46
MDND Maddock 46.16 64 P P 04 04 32.6 +0.3
baz=46
MDND Maddock 46.16 64 eP P 04 04 33.4 +1.1
comp=Z,1µm,1.3s
H26A Fairpoint 46.17 69 P P 04 04 32.3 -0.2
baz=46
PV04 Paradox Valley 46.21 80 eP P 04 04 32.9 -0.2
G27A Dupree 46.22 68 P P 04 04 32.8 -0.1
baz=46,SNR=12
E28A Huff 46.25 66 P P 04 04 33.0 -0.1
baz=46,SNR=7.6
J25A Sunshine Ranch 46.27 71 P P 04 04 33.0 -0.5
baz=46
A30A Hoffart Farm, 46.28 62 P P 04 04 32.9 -0.4
baz=46,SNR=8.7
I26A New Underwood 46.46 70 P P 04 04 34.8 0.0
baz=46
N23A Red Feather La 46.48 75 P P 04 04 35.1 -0.2
baz=46,SNR=12
WUAZ Wupatki 46.51 85 P P 04 04 35.7 +0.3
baz=46
WUAZ Wupatki 46.51 85 eP P 04 04 36.3 +0.9
comp=Z,27nm,0.9s
B30A Myrvik Farm, E 46.53 63 P P 04 04 35.0 -0.2
baz=46,SNR=10
H27A Howes 46.56 69 P P 04 04 35.0 -0.6
baz=46
PV01 Paradox Valley 46.58 80 eP P 04 04 35.2 -0.8
comp=Z,4µm,1.0s
D29A Pettibone, Tap 46.60 65 P P 04 04 35.7 -0.2
baz=46
F28A McLaughlin 46.60 67 P P 04 04 35.6 -0.3
baz=46,SNR=10
K25A Mack Ranch, Ha 46.69 72 P P 04 04 36.0 -0.7
baz=46
J26A Sides Ranch, S 46.75 71 P P 04 04 36.6 -0.6
baz=47
E29A Napoleon 46.85 65 P P 04 04 37.3 -0.5
baz=47,SNR=5.7
C30A Mose, Pekin 46.87 64 P P 04 04 37.3 -0.6
baz=47,SNR=11
SMCO Snowmass 46.90 78 eP P 04 04 40.2 +1.5
comp=Z,8.3nm,0.9s
I27A Quinn 46.91 70 P P 04 04 37.9 -0.5
baz=47,SNR=10
L25A Engebretsen Ra 46.91 73 P P 04 04 38.4 -0.1
baz=47
G28A Parade 46.98 68 P P 04 04 38.6 -0.2
baz=47,SNR=7.5
D30A Buchanan 47.05 64 P P 04 04 38.8 -0.5
baz=47,SNR=18
H28A Mission Ridge 47.15 68 P P 04 04 40.1 -0.1
baz=47
F29A Eureka 47.17 66 P P 04 04 39.9 -0.4
baz=47,SNR=6.9
MVCO Mesa Verde 47.20 81 P P 04 04 40.7 -0.2
baz=47
MVCO Mesa Verde 47.20 81 eP P 04 04 43.4 +2.5
comp=Z,49nm,1.4s
M25A Palm-Egli Farm 47.29 74 P P 04 04 42.0 +0.5
baz=47
E30A Jud 47.31 65 P P 04 04 41.2 -0.2
baz=47
ISCO Idaho Springs 47.35 76 eP P 04 04 43.3 +1.2
ISCO pmax pmax
comp=Z,20nm,1.3s
ISCO Idaho Springs 47.35 76 P P 04 04 42.5 +0.4
baz=47,SNR=8.6
ISCO Idaho Springs 47.35 76 eP P 04 04 43.3 +1.2
comp=Z,20nm,1.3s
J27A Elkhorn Farm, 47.41 70 P P 04 04 42.6 +0.3
baz=47,SNR=5.1
I28A Midland 47.46 69 P P 04 04 42.7 +0.1
baz=47,SNR=22
P23A Jefferson 47.47 77 P P 04 04 44.8 +1.7
baz=47,SNR=7.1
G29A Hoven 47.49 67 P P 04 04 42.4 -0.4
baz=47
K27A Flueckinger Fa 47.61 71 P P 04 04 43.7 -0.1
baz=48
F30A Leola 47.63 66 P P 04 04 43.7 -0.1
baz=47
H29A Onida 47.65 68 P P 04 04 44.0 -0.1
baz=48,SNR=9.3
J28A Allard Ranch, 47.77 70 P P 04 04 45.2 +0.2
baz=48,SNR=13
S22A 4UR Ranch, Cre 47.89 79 P P 04 04 46.9 +0.6
baz=48,SNR=12
I29A Vinan Onida 47.95 69 P P 04 04 46.2 -0.2
baz=48,SNR=7.0
214A Organ Pipe Nat 47.97 90 P P 04 04 47.1 +0.4
baz=48,SNR=6.4
G30A Faulkton 47.97 67 P P 04 04 45.8 -0.7
baz=48,SNR=9.6
AGMN Agassiz Nation 47.98 61 P P 04 04 46.3 -0.2
baz=48,SNR=17
AGMN Agassiz Nation 47.98 61 eP P 04 04 43.8 -2.7
comp=Z,79nm,1.0s
K28A Ten Mile Ranch 48.11 71 P P 04 04 47.9 +0.2
baz=48
R23A Moffat 48.22 78 P P 04 04 49.0 +0.2
baz=48,SNR=5.9
M27A Reverse DX Ran 48.23 73 P P 04 04 48.2 -0.4
baz=48
J29A Okreek 48.31 69 P P 04 04 49.1 -0.1
baz=48,SNR=24
BJI Beijing 48.42 285 P P 04 04 51.0 +1.0
BJI PMZ
comp=Z,30nm,1.0s
O26A Horse Wrangler 48.46 74 P P 04 04 50.9 +0.4
baz=48
I30A Oacoma 48.53 68 P P 04 04 50.6 -0.2
baz=48,SNR=8.4
N27A Anderson Farm, 48.58 73 P P 04 04 51.5 +0.1
baz=48,SNR=8.8
TLY Talaya 48.60 305 P P 04 04 51.5 +0.2
comp=Z,6.0nm,0.6s,baz=28,slow=6.6,SNR=9.7
TLY Talaya 48.60 305 eP P 04 04 51.9 +0.6
TLY pmax pmax
comp=Z,31nm,1.5s
TLY Talaya 48.60 305 eP P 04 04 51.7 +0.4
comp=Z,26nm,1.2s
K29A Lazy Trails An 48.70 70 P P 04 04 52.5 +0.3
baz=48
SDCO Great Sand Dun 48.70 78 P P 04 04 52.9 +0.3
baz=49,SNR=30
SDCO Great Sand Dun 48.70 78 eP P 04 04 52.8 +0.3
comp=Z,20nm,1.1s
OGNE Ogallala 48.80 73 P P 04 04 52.9 -0.1
baz=49
J30A Dallas 48.84 69 P P 04 04 53.2 -0.1
baz=49,SNR=5.6
P26A Davis Ranch, A 48.87 75 P P 04 04 54.0 +0.4
baz=49,SNR=11
TUC Tucson 48.99 88 eP P 04 04 54.8 +0.2
TUC pmax pmax
comp=Z,16nm,0.9s
TUC Tucson 48.99 88 eP P 04 04 54.8 +0.2
comp=Z,16nm,0.9s
O27A Beecher Island 49.00 74 P P 04 04 55.0 +0.4
baz=49
L29A Maesberg Ranch 49.03 71 P P 04 04 55.1 +0.3
baz=49
Q26A Hugo 49.16 76 P P 04 04 56.1 +0.1
baz=49
K30A Basset 49.17 70 P P 04 04 55.6 -0.2
baz=49,SNR=8.3
N28A Pribbeno Ranch 49.25 73 P P 04 04 56.6 +0.1
baz=49
P27A Ficken Ranch, 49.33 75 P P 04 04 57.9 +0.8
baz=49
SONM Songino Array 49.37 299 P P 04 04 57.4 0.0
comp=Z,7.2nm,0.7s,baz=55,slow=8.6,SNR=21
O28A Krutsinger Ran 49.46 74 P P 04 04 58.5 +0.4
baz=49
ZAK Zakamensk 49.54 303 eP P 04 04 57.4 -1.2
ZAK e 04 06 19.3
ZAK pmax pmax
comp=Z,21nm,1.4s
L30A Spencer Herefo 49.55 70 P P 04 04 58.4 -0.3
baz=49
R26A Arlington 49.60 77 P P 04 04 59.8 +0.6
baz=50,SNR=6.6
KSCO Kaye Shedlock' 49.65 75 P P 04 05 00.7 +1.1
baz=50
KSCO Kaye Shedlock' 49.65 75 eP P 04 05 01.0 +1.4
comp=Z,60nm,1.1s
N29A Votaw Ranch, W 49.71 72 P P 04 05 00.7 +0.8
baz=50
T25A Trinidad 49.76 78 P P 04 05 01.3 +0.8
baz=50,SNR=16
P28A Saint Francis 49.82 74 P P 04 05 01.1 +0.3
baz=50,SNR=13
ANMO Albuquerque 49.92 82 ceP P 04 05 01.2 -0.6
ANMO pmax pmax
comp=Z,20nm,1.2s
ANMO Albuquerque 49.92 82 eP P 04 05 01.9 0.0
comp=Z,27nm,1.2s
L31A Butterfield Fa 49.92 70 P P 04 05 01.3 -0.3
baz=50
MOY Mondy 49.96 306 eP P 04 05 02.6 +0.8
R27A Eads 50.00 76 P P 04 05 02.5 +0.2
baz=50,SNR=12
O29A 4D Ranch, Culb 50.04 73 P P 04 05 02.4 -0.1
baz=50
Q28A Sharon Springs 50.09 75 P P 04 05 02.5 -0.4
baz=50
LENM Lemitar 50.12 83 eP P 04 05 05.0 +1.7
T26A Comanche Natio 50.23 78 P P 04 05 04.4 +0.3
baz=50,SNR=6.1
LPM Los Pinos Moun 50.23 83 eP P 04 05 07.2 +3.0
comp=Z,22nm,1.1s
ECSD EROS Data Cent 50.26 67 P P 04 05 03.3 -0.7
baz=50,SNR=18
ECSD EROS Data Cent 50.26 67 eP P 04 05 02.8 -1.2
comp=Z,24nm,1.0s
P29A Atwood 50.29 74 P P 04 05 04.7 +0.3
baz=50,SNR=17
SPITS Spitsbergen Ar 50.36 357 P P 04 05 03.5 -0.8
comp=Z,6.3nm,0.8s,baz=62,slow=3.9,SNR=20
M31A Lambtecht Ranc 50.36 71 P P 04 05 05.0 +0.1
baz=50
O30A MW Ranch, Wils 50.45 72 P P 04 05 06.1 +0.5
baz=50
EYMN Ely 50.56 60 eP P 04 05 06.0 -0.2
comp=Z,51nm,1.0s
R28A Tribune 50.56 75 P P 04 05 06.6 +0.1
baz=50,SNR=9.0
HHC Hu-ho-hao-te 50.66 289 eP P 04 05 07.4 +0.2
HHC S S 04 12 19.8 +0.7
HHC PMZ
comp=Z,26nm,1.0s
N31A Bailey Ranch, 50.70 71 P P 04 05 07.6 +0.1
baz=50
121A Cookes Peak, D 50.71 85 P P 04 05 08.1 +0.3
baz=51
Q29A Oakley 50.72 74 P P 04 05 07.9 +0.3
baz=51
P30A Selden 50.74 73 P P 04 05 07.7 -0.1
baz=51,SNR=12
BGNE Belgrade 50.80 70 P P 04 05 08.3 +0.1
baz=51
BGNE Belgrade 50.80 70 eP P 04 05 08.2 +0.1
O31A Woolen Ranch, 50.90 72 P P 04 05 09.6 +0.7
baz=51
R29A Marienthal 50.92 75 P P 04 05 10.0 +0.8
baz=51
S28A Manter 50.99 76 P P 04 05 09.6 -0.1
baz=51,SNR=13
Q30A Quinter 51.11 74 P P 04 05 10.2 -0.4
baz=51
N32A Stuiken Farm, 51.12 71 P P 04 05 10.3 -0.3
baz=51
T28A Walsh 51.17 77 P P 04 05 10.9 -0.1
baz=51,SNR=7.4
U27A Thompson Grove 51.19 78 P P 04 05 11.5 +0.3
baz=51
P31A Stockton 51.27 73 P P 04 05 11.3 -0.4
baz=51
S29A Ulysses 51.45 76 P P 04 05 13.4 +0.3
baz=51
L34A Svendsen Farm, 51.49 68 P P 04 05 12.4 -0.9
baz=51,SNR=9.1
SPMN Marine on St. 51.49 63 P P 04 05 12.6 -0.6
baz=51,SNR=6.2
SPMN Marine on St. 51.49 63 eP P 04 05 12.7 -0.6
comp=Z,33nm,1.1s
R30A Dighton 51.52 74 P P 04 05 13.8 +0.1
baz=51,SNR=8.9
U28A Mallet 51.58 78 P P 04 05 14.0 -0.2
baz=52
Q31A Ellis 51.59 73 P P 04 05 14.0 -0.2
baz=51
V27A Dan Oppiter Fa 51.62 79 P P 04 05 14.3 -0.2
baz=52
T29A Hugoton 51.64 76 P P 04 05 15.7 +1.2
baz=52
P32A Huiting Farm, 51.67 72 P P 04 05 14.5 -0.2
baz=52
S30A Montezuma 51.83 75 P P 04 05 16.5 +0.5
baz=52
R31A Burdett 51.97 74 P P 04 05 17.5 +0.5
baz=52,SNR=9.5
NJ2 Nanjing 51.97 275 eP P 04 05 18.3 +1.3
NJ2 PMZ
comp=Z,30nm,0.8s
O33A Hebron 51.98 71 P P 04 05 16.2 -0.8
baz=52,SNR=8.5
V28A Channing 52.00 78 P P 04 05 16.7 -0.6
baz=52
Q32A Meitler Ranch, 52.10 73 P P 04 05 17.6 -0.3
baz=52,SNR=13
U29A Oasis Ranch, S 52.12 77 P P 04 05 18.1 -0.1
baz=52
N34A Lincoln 52.13 70 P P 04 05 17.5 -0.6
baz=52
T30A Plains 52.17 76 P P 04 05 19.2 +0.7
baz=52
SUMG Summit 52.29 16 i P P 04 05 19.1 -0.2
comp=Z,26nm,1.2s
SUMG Summit 52.29 16 i P P 04 05 19.1 -0.2
SUMG pmax pmax
comp=Z,26nm,1.2s
R32A Long Quarter, 52.37 73 P P 04 05 20.1 +0.1
baz=52
S31A Mullinville 52.43 75 P P 04 05 20.3 -0.1
baz=52

U30A	**WK&E Inc. Balk**	52.44	76	P		P	04 05 20.4	-0.1	
	baz=52								
Q33A	**Connelly Farm,**	52.52	72	P		P	04 05 20.9	-0.1	
	baz=52,SNR=21								
N35A	**Tabor**	52.62	69	P		P	04 05 21.7	0.0	
	baz=52,SNR=8.7								
T31A	**Randall Ranch,**	52.66	75	P		P	04 05 22.6	+0.6	
	baz=52								
S32A	**Newby Ranch, P**	52.71	74	P		P	04 05 22.3	-0.1	
	baz=53								
W29A	**Amarillo**	52.77	78	P		P	04 05 23.3	+0.4	
	baz=53								
P34A	**Walnut Farm, R**	52.77	71	P		P	04 05 22.0	-0.8	
	baz=53,SNR=6.0								
X28A	**Dimmitt**	52.83	79	P		P	04 05 23.5	0.0	
	baz=53								
O35A	**Humboldt**	52.84	70	P		P	04 05 23.2	-0.2	
	baz=53								
MSTX	**Muleshoe**	52.84	80	P		P	04 05 23.6	0.0	
	baz=53								
MSTX	**Muleshoe**	52.84	80	*e*P		P	04 05 23.0	-0.6	
	comp=Z,52nm,1.0s								
R33A	**Olander Ranch,**	52.88	73	P		P	04 05 23.7	0.0	
	baz=53								
AMTX	**Amarillo**	52.90	79	P		P	04 05 24.3	+0.4	
	baz=53								
AMTX	**Amarillo**	52.90	79	*e*P		P	04 05 24.8	+0.8	
	comp=Z,19nm,0.8s								
V30A	**Spur Ranch, Mi**	52.92	77	P		P	04 05 24.3	+0.2	
	baz=53								
U31A	**Nine Bar Ranch**	53.03	76	P		P	04 05 24.8	0.0	
	baz=53								
T32A	**Huddler Ranch,**	53.06	75	P		P	04 05 25.3	+0.3	
	baz=53								
Q34A	**Chapman**	53.10	72	P		P	04 05 24.7	-0.6	
	baz=53,SNR=16								
X29A	**Tulia**	53.18	79	P		P	04 05 26.2	+0.1	
	baz=53								
KSU1	**Kansas State U**	53.18	71	P		P	04 05 25.9	0.0	
	baz=53								
KSU1	**Kansas State U**	53.18	71	*e*P		P	04 05 25.9	0.0	
	comp=Z,33nm,0.9s								
Y28A	**McKinney Farm,**	53.21	80	P		P	04 05 26.4	+0.2	
	baz=53								
P35A	**Duane Minner,**	53.26	71	P		P	04 05 25.9	-0.5	
	baz=53,SNR=7.5								
R34A	**Isabella, Hill**	53.33	72	P		P	04 05 26.8	-0.1	
	baz=53								
S33A	**Kaszmaul Farm,**	53.34	74	P		P	04 05 27.0	-0.1	
	baz=53								
W30A	**Crocket Farms**	53.38	78	P		P	04 05 28.1	+0.6	
	baz=53								
V31A	**Spring Creek L**	53.43	77	P		P	04 05 28.6	+0.9	
	baz=53								
O36A	**Bolckow**	53.48	69	P		P	04 05 27.9	-0.2	
	baz=53,SNR=6.8								
T33A	**Patterson Ranc**	53.53	74	P		P	04 05 29.0	+0.6	
	baz=53								
U32A	**Winter Ranch,**	53.54	75	P		P	04 05 28.6	+0.1	
	baz=53								
Z28A	**Tucker Farm, M**	53.54	81	P		P	04 05 28.3	-0.4	
	baz=53								
Y29A	**Porterfield Fa**	53.59	80	P		P	04 05 29.5	+0.4	
	baz=54								
P36A	**Good Intent, A**	53.67	70	P		P	04 05 28.9	-0.5	
	baz=54,SNR=7.4								
Q35A	**Mercer Eighty,**	53.68	71	P		P	04 05 29.0	-0.5	
	baz=54								
X30A	**Coker Ranch, T**	53.69	78	P		P	04 05 29.9	+0.2	
	baz=54								
W31A	**Holland Ranch,**	53.76	77	P		P	04 05 30.4	+0.1	
	baz=54								
S34A	**Willow Spring**	53.80	73	P		P	04 05 30.5	0.0	
	baz=54								
128A	**Castleberry Fa**	53.93	81	P		P	04 05 31.5	0.0	
	baz=54,SNR=8.5								
R35A	**Emporia Munici**	53.94	72	P		P	04 05 31.2	-0.2	
	baz=54								
V32A	**Arapaho**	53.95	76	P		P	04 05 32.1	+0.5	
	baz=54								
Q36A	**Arnold C. Orve**	53.95	71	P		P	04 05 30.7	-0.8	
	baz=54								
Z29A	**Hungry Hill Ra**	53.98	80	P		P	04 05 31.2	-0.7	
	baz=54								
U33A	**Lingo Farm, Me**	54.04	75	P		P	04 05 31.7	-0.5	
	baz=54								
Y30A	**Stafford Cattl**	54.06	79	P		P	04 05 32.6	+0.2	
	baz=54								
X31A	**McDonald Ranch**	54.11	78	P		P	04 05 32.9	+0.2	
	baz=54,SNR=8.5								
T34A	**McClaskey Farm**	54.20	74	P		P	04 05 33.2	-0.2	
	baz=54,SNR=14								
228A	**UT Block 9, Go**	54.21	82	P		P	04 05 33.6	0.0	
	baz=54								
W32A	**Sentinel**	54.23	77	P		P	04 05 33.9	+0.3	
	baz=54								
S35A	**Otter Creek Ra**	54.28	72	P		P	04 05 33.7	-0.2	
	baz=54,SNR=16								
129A	**Stewart Farms,**	54.31	81	P		P	04 05 34.0	-0.2	
	baz=54								
Z30A	**Sanderson Ranc**	54.32	80	P		P	04 05 33.8	-0.5	
	baz=54								
V33A	**Lossen Ranch,**	54.34	75	P		P	04 05 34.0	-0.4	
	baz=54								
R36A	**Gordon, Harris**	54.34	71	P		P	04 05 34.0	-0.4	
	baz=54,SNR=29								
JFWS	**Jewell Farm**	54.38	64	*e*P		P	04 05 33.4	-1.2	
JFWS				pmax		pmax			
	comp=Z,67nm,1.3s								
JFWS	**Jewell Farm**	54.38	64	*e*P		P	04 05 33.4	-1.2	
	comp=Z,67nm,1.3s								
U34A	**Anderson Ranch**	54.38	74	P		P	04 05 34.7	0.0	
	baz=54,SNR=11								
U34A	**Anderson Ranch**	54.38	74	*e*P		P	04 05 33.7	-1.0	
	comp=Z,62nm,1.1s								
Y31A	**Rekieta Farm,**	54.39	79	P		P	04 05 35.3	+0.5	
	baz=54								
Q37A	**Longview Farm,**	54.60	70	P		P	04 05 35.8	-0.4	
	baz=54								
X32A	**Elmer**	54.67	77	P		P	04 05 36.8	0.0	
	baz=54								
T35A	**Sooner Cattle**	54.68	73	P		P	04 05 36.4	-0.4	
	baz=54								
W33A	**Caddo, Fort Co**	54.68	76	P		P	04 05 38.0	+1.2	
	baz=54								
S36A	**Lake Cedric, C**	54.69	72	P		P	04 05 36.4	-0.5	
	baz=54								
R37A	**Teagarden Farm**	54.75	71	P		P	04 05 36.5	-0.9	
	baz=55								
WMOK	**Wichita Mounta**	54.77	77	*e*P		P	04 05 37.1	-0.4	
WMOK				pmax		pmax			
	comp=Z,22nm,0.9s								
WMOK	**Wichita Mounta**	54.77	77	*e*P		P	04 05 37.1	-0.4	
	comp=Z,22nm,0.9s								
229A	**Bryant Ranch,**	54.80	81	P		P	04 05 38.0	+0.2	
	baz=55								
V34A	**Guthrie**	54.80	75	P		P	04 05 37.7	0.0	
	baz=55								
V34A	**Guthrie**	54.80	75	*e*P		P	04 05 37.0	-0.7	
	comp=Z,29nm,0.9s								
Y32A	**R-V Farms, Ver**	54.86	78	P		P	04 05 38.2	0.0	
	baz=55,SNR=8.5								
Z31A	**Sharp Cattle R**	54.90	79	P		P	04 05 38.0	-0.5	
	baz=55								
T36A	**Boggs Farm, Ca**	54.96	73	P		P	04 05 39.0	+0.2	
	baz=55								
329A	**Wagon Wheel Ra**	55.02	82	P		P	04 05 39.6	+0.2	
	baz=55								
W34A	**Bridge Creek,**	55.04	76	P		P	04 05 40.1	+0.6	
	baz=55								
X33A	**Lawton**	55.07	77	P		P	04 05 40.6	+0.9	
	baz=55								
131A	**Roby**	55.19	80	P		P	04 05 41.0	+0.4	
	baz=55								
V35A	**Meyer Ranch, C**	55.25	75	P		P	04 05 40.4	-0.6	
	baz=55								
230A	**Sterling City**	55.28	81	P		P	04 05 40.8	-0.5	
	baz=55								
Z32A	**Haskell**	55.31	79	P		P	04 05 41.2	-0.2	
	baz=55,SNR=18								
Y33A	**Hilltop Ranch,**	55.36	77	P		P	04 05 41.4	-0.4	
	baz=55								
X34A	**Smith Ranch, M**	55.44	76	P		P	04 05 42.5	+0.2	
	baz=55								
TXAR	**Lajitas Array**	55.47	85	P		P	04 05 41.4	-1.3	
	comp=Z,2.8nm,0.8s,baz=295,slow=4.6,SNR=19								
T37A	**Cheneyville 18**	55.49	72	P		P	04 05 42.2	-0.4	
	baz=55,SNR=6.1								
330A	**Mertzon**	55.57	81	P		P	04 05 43.1	-0.3	
	baz=56								
W35A	**Tecumseh**	55.64	75	P		P	04 05 43.7	-0.1	
	baz=56,SNR=12								
429A	**Davenport Ranc**	55.67	83	P		P	04 05 43.9	-0.3	
	baz=56								
ABTX	**Abilene, Hawle**	55.68	79	P		P	04 05 43.9	-0.2	
	baz=56								
ABTX	**Abilene, Hawle**	55.68	79	*e*P		P	04 05 44.2	+0.1	
	comp=Z,58nm,1.1s								
231A	**Bronte**	55.74	80	P		P	04 05 44.4	-0.2	
	baz=56								
Z33A	**Whitaker Ranch**	55.76	78	P		P	04 05 44.7	0.0	
	baz=56,SNR=6.4								
TUL1	**Leonard**	55.78	74	P		P	04 05 44.1	-0.6	
	baz=56								
TUL1	**Leonard**	55.78	74	*e*P		P	04 05 45.1	+0.4	
529A	**Stev Forest Ra**	55.82	83	P		P	04 05 45.1	-0.1	
	baz=56								
Y34A	**Reagan Ranch,**	55.92	77	P		P	04 05 45.8	0.0	
	baz=56,SNR=15								
430A	**Baggett Ranch,**	55.96	82	P		P	04 05 45.7	-0.5	
	baz=56,SNR=12								
W36A	**Wetumka**	56.04	75	P		P	04 05 46.8	+0.2	
	baz=56,SNR=8.4								
X35A	**Drake**	56.09	76	P		P	04 05 46.5	-0.5	
	baz=56								
331A	**San Angelo**	56.10	81	P		P	04 05 46.5	-0.7	
	baz=56								
133A	**Hamilton Ranch**	56.13	79	P		P	04 05 47.3	-0.1	
	baz=56,SNR=14								
ZALV	**Zalesovo Beam**	56.15	316	P		P	04 05 46.4	-0.8	
	comp=Z,0.7nm,0.3s,baz=40,slow=7.5,SNR=2.9								
ZALV				PcP		PcP			
	comp=Z,3.9nm,0.7s,baz=35,slow=3.6,SNR=6.3								
232A	**Coleman**	56.18	80	P		P	04 05 47.7	-0.1	
	baz=56								
GLMI	**Grayling**	56.22	59	*e*P		P	04 05 48.0	+0.2	
	comp=Z,49nm,0.7s								
Z34A	**Collier Ranch,**	56.22	77	P		P	04 05 48.0	0.0	
	baz=56								
530A	**J-C Ranch, Com**	56.34	83	P		P	04 05 48.8	-0.1	
	baz=56,SNR=19								
X36A	**Centrahoma**	56.35	75	P		P	04 05 48.8	-0.1	
	baz=56								
431A	**Sonora**	56.42	82	P		P	04 05 49.0	-0.5	
	baz=56,SNR=5.8								
332A	**Millersview**	56.47	80	P		P	04 05 48.9	-0.9	
	baz=56								
W37A	**Quinton**	56.52	74	P		P	04 05 50.0	-0.1	
	baz=56,SNR=14								
233A	**Rising Star**	56.55	79	P		P	04 05 50.9	+0.5	
	baz=56								
Z35A	**Perchaven, San**	56.65	77	P		P	04 05 51.3	+0.3	
	baz=56								
134A	**White-Moore Ra**	56.67	78	P		P	04 05 51.2	0.0	
	baz=56								
XAN	**Xi'an**	56.72	284	P		P	04 05 51.5	0.0	
XAN				pP		pP	04 05 55.0	-8.7	
XAN				PMZ					
	comp=Z,12nm,1.3s								
432A	**Menard**	56.79	81	P		P	04 05 52.1	0.0	
	baz=57								
531A	**Rocksprings**	56.82	82	P		P	04 05 52.5	+0.1	
	baz=57								
X37A	**Clayton**	56.93	75	P		P	04 05 52.6	-0.3	
	baz=57,SNR=16								
333A	**Richland Sprin**	56.98	80	P		P	04 05 53.3	0.0	
	baz=57,SNR=7.8								
234A	**Clairette**	57.03	79	P		P	04 05 53.8	+0.1	
	baz=57,SNR=7.3								
JCT	**Junction City**	57.06	81	P		P	04 05 54.5	+0.5	
	baz=57								
135A	**Vickery Place,**	57.09	78	P		P	04 05 54.3	+0.2	
	baz=57								
W38A	**Poteau**	57.11	74	P		P	04 05 53.8	-0.5	
	baz=57,SNR=22								
532A	**Rocksprings**	57.25	82	P		P	04 05 54.5	-0.9	
	baz=57								
433A	**Art**	57.31	80	P		P	04 05 55.2	-0.5	
	baz=57								
631A	**Perdido Creek**	57.33	83	P		P	04 05 55.1	-0.8	
	baz=57								
334A	**Loneta**	57.43	79	P		P	04 05 56.7	+0.1	
	baz=57,SNR=24								
WHTX	**Lake Whitney,**	57.45	78	P		P	04 05 56.9	+0.2	
	baz=57								
Z37A	**Pogue Cattle C**	57.73	76	P		P	04 05 58.4	-0.2	
	baz=58								
632A	**Uvalde**	57.75	82	P		P	04 05 59.1	+0.2	
	baz=58								
434A	**Burnet**	57.77	80	P		P	04 05 59.1	+0.1	
	baz=58,SNR=19								
SCHQ	**Schefferville**	57.82	41	P		P	04 05 57.8	-1.1	
	comp=Z,8.9nm,0.9s,baz=301,slow=7.9,SNR=6.3								
533A	**Kerrville**	57.82	81	P		P	04 05 59.2	-0.1	
	baz=58								
SFIN	**Lafayette**	57.83	64	P		P	04 05 58.7	-0.5	
	baz=58,SNR=12								
335A	**Moody**	57.96	79	P		P	04 06 00.8	+0.5	
	baz=58								
236A	**Katherine and**	58.01	78	P		P	04 06 00.8	+0.2	
	baz=58								
137A	**Heron Place, G**	58.07	77	P		P	04 06 01.6	+0.7	
	baz=58								
Z38A	**Mt. Pleasant**	58.08	76	P		P	04 06 01.5	+0.4	
	baz=58								
633A	**Saathoff Ranch**	58.16	82	P		P	04 06 02.1	+0.3	
	baz=58								
732A	**Laxson Ranch,**	58.19	83	P		P	04 06 02.5	+0.7	
	baz=58								
534A	**Blanco**	58.20	81	P		P	04 06 02.2	+0.3	
	baz=58								
336A	**Riesel**	58.25	78	P		P	04 06 02.6	+0.4	
	baz=58								
LZH	**Lanzhou**	58.35	289	*e*P		P	04 06 01.5	-1.6	
LZH				PMZ					
	comp=Z,20nm,1.0s								
LZH				PMZ					
	comp=Z,85nm,4.3s								
ARCES	**ARCESS Array B**	58.38	352	P		P	04 06 01.6	-1.0	
	comp=Z,2.6nm,0.6s,baz=17,slow=7.1,SNR=16								
ARCES				PcP		PcP	04 06 53.1	+0.1	
	comp=Z,19nm,0.8s,baz=15,slow=5.0,SNR=17								
GTA	**Gaotai**	58.41	295	P		P	04 06 03.3	-0.2	
GTA				pP		pP	04 06 06.9	-8.7	
GTA				PMZ					
	comp=Z,19nm,1.1s								
138A	**Matatall Enter**	58.43	76	P		P	04 06 03.7	+0.2	
	baz=58								
SIUC	**Southern Illin**	58.43	68	*e*P		P	04 06 02.0	-1.4	
	comp=Z,27nm,0.8s								
237A	**Washetta, Mont**	58.45	77	P		P	04 06 03.9	+0.2	
	baz=58								
832A	**Faith Ranch, C**	58.50	83	P		P	04 06 04.0	-0.1	
	baz=58,SNR=6.5								
733A	**Divot King Ran**	58.61	82	P		P	04 06 05.4	+0.5	
	baz=58								
436A	**Wall Ranch, Ga**	58.71	79	P		P	04 06 06.2	+0.8	
	baz=59								
535A	**Dale**	58.75	80	P		P	04 06 06.3	+0.6	
	baz=59								
833A	**Chaparral WMA,**	58.83	83	P		P	04 06 06.7	+0.3	
	baz=59								
238A	**Jacksonville**	58.87	77	P		P	04 06 06.9	+0.3	
	baz=59								
LVZ	**Lovozero**	58.96	348	*ce*P		P	04 06 03.8	-3.0	
LVZ				pmax		pmax			
	comp=Z,18nm,1.2s								
734A	**La Parita Cree**	58.98	82	P		P	04 06 07.8	+0.4	
	baz=59								
536A	**Bastrop**	59.03	80	P		P	04 06 08.0	+0.3	
	baz=59								
635A	**Leesville**	59.08	81	P		P	04 06 08.5	+0.5	
	baz=59								
239A	**Gary**	59.25	76	P		P	04 06 09.6	+0.4	
	baz=59								
933A	**Laredo**	59.41	83	P		P	04 06 11.0	+0.6	
	baz=59								
736A	**Circle Diamond**	59.82	81	P		P	04 06 13.7	+0.5	
	baz=60								
934A	**Benavides**	59.89	83	P		P	04 06 14.5	+0.8	
	baz=60								
340A	**Bronson**	60.02	76	P		P	04 06 13.9	-0.7	
	baz=60								
034A	**Hebbronville**	60.17	83	P		P	04 06 16.6	+1.0	
	baz=60								
440A	**Kirbyville**	60.45	77	P		P	04 06 17.0	-0.5	
	baz=60								
KURK	**Kurchatov**	61.13	316	P		P	04 06 21.6	-0.2	
	comp=Z,63nm,0.6s,SNR=12								
KURK	**Kurchatov**	61.13	316	P		P	04 06 22.2	+0.4	
KURK	**Kurchatov**	61.13	316	P		P	04 06 22.2	+0.4	
KURBB	**Kurchatov Arra**	61.24	316	P		P	04 06 22.2	-0.3	
	comp=Z,7.2nm,0.6s,baz=44,slow=6.6,SNR=15								
WMQ	**Urumqi**	61.85	306	P		P	04 06 27.6	+0.7	
WMQ				pP		pP	04 06 30.8	-8.3	
WMQ				ScS		ScS	04 16 11.8	-3.2	
WMQ				PMZ					
	comp=Z,2.0nm,0.4s								
CD2	**Chengdu**	62.02	285	P		P	04 06 26.8	-1.4	
CD2				PcP		PcP	04 07 07.7	-0.7	
CD2				PP		PP	04 08 42.7	-2.0	
CD2				PcS		PcS	04 11 10.8	-0.9	
CD2				S		S	04 14 51.0	+1.4	
CD2				SS		SS	04 18 54.0	+1.9	
CD2				PMZ					
	comp=Z,20nm,0.6s								
CD2				PMZ					
	comp=Z,360nm,6.8s								
MK31	**Makanchi Array**	62.35	311	*e*P		P	04 06 29.2	-0.9	
MK31	**Makanchi Array**	62.35	311	*e*P		P	04 06 29.2	-0.9	
MKAR	**Makanchi Array**	62.35	311	P		P	04 06 29.4	-0.7	
	comp=Z,2.9nm,0.4s,baz=42,slow=6.5,SNR=56								
BVAR	**Borovoye Array**	62.73	322	P		P	04 06 32.2	-0.3	
	comp=Z,6.0nm,0.5s,baz=60,slow=6.0,SNR=27								
BRVK	**Borovoye**	62.75	322	*e*P		P	04 06 33.0	+0.4	
BRVK				pmax		pmax			
	comp=Z,28nm,1.7s								
ACCN	**Adirondack Com**	62.90	54	*e*P		P	04 06 33.6	-0.2	
	comp=Z,97nm,1.2s								
LRAL	**Lakeview Retre**	62.99	70	*e*P		P	04 06 34.9	+0.3	
	comp=Z,11nm,0.9s								
FFD	**Franklin Falls**	63.84	52	*e*P		P	04 06 39.9	-0.1	
	comp=Z,42nm,1.1s								
VWCC	**Virginia Weste**	63.99	62	*e*P		P	04 06 38.9	-2.2	
ARU	**Arti**	64.04	331	*c i*P		P	04 06 41.4	+0.3	
ARU				S		S	04 15 14.4	+0.3	
ARU				pmax		pmax			
	comp=Z,43nm,1.7s								
BRAL	**Brewton**	64.41	72	*e*P		P	04 06 43.0	-0.9	
	comp=Z,78nm,1.0s								
HRV	**Adam Dziewonsk**	64.60	53	*e*P		P	04 06 45.0	0.0	
HRV				pmax		pmax			
	comp=Z,55nm,1.2s								
HRV	**Adam Dziewonsk**	64.60	53	*e*P		P	04 06 45.0	0.0	
	comp=Z,55nm,1.2s								
KMSC	**Kings Mountain**	64.75	65	P		P	04 06 45.9	-0.2	
	baz=64,SNR=16								
TIGA	**Tifton**	66.14	69	P		P	04 06 55.2	+0.1	
	baz=66								
FINES	**FINESS Array B**	66.22	350	P		P	04 06 54.5	-0.6	
	comp=Z,5.0nm,0.8s,baz=11,slow=6.2,SNR=21								
FINES				PcP		PcP	04 07 24.9	0.0	
	comp=Z,5.3nm,0.6s,baz=38,slow=2.9,SNR=7.8								
CNNC	**Cliffs of the**	66.60	63	*e*P		P	04 07 06.8	+8.8	
	comp=Z,35nm,1.0s								
NHSC	**New Hope**	66.89	66	*e*P		P	04 07 00.3	+0.5	
	comp=Z,132nm,1.0s								
NB2	**NORSAR Subarra**	67.66	357	P		P	04 07 03.6	-0.8	
	comp=Z,2.9nm,0.8s,baz=7.3,slow=6.9								
NOA	**NORSAR Array B**	67.66	357	P		P	04 07 02.8	-1.6	
	comp=Z,1.7nm,0.6s,baz=4.0,slow=6.3,SNR=18								
NOA				PcP		PcP	04 07 31.0	-0.1	
	comp=Z,3.3nm,0.9s,baz=3.2,slow=4.5,SNR=4.8								
TKM2	**Tokmak 2**	68.39	312	P		P	04 07 09.9	+0.4	
	SNR=13								
ULHL	**Ulahol**	68.61	311	P		P	04 07 11.4	+0.5	
	SNR=8.7								
USP	**Ospenovka**	68.62	313	P		P	04 07 11.4	+0.7	
	SNR=5.9								
CHMS	**Chumysh**	68.72	313	P		P	04 07 12.7	+1.4	
	SNR=5.3								
KBK	**Karagaybulak**	68.89	313	P		P	04 07 14.0	+1.4	
	SNR=16								
AAK	**Ala-Archa**	69.12	313	P		P	04 07 14.5	+0.6	
	SNR=11								
KZA	**Kyzart**	69.21	312	P		P	04 07 15.9	+1.1	
	SNR=11								
EKS2	**Erkin-Say**	69.42	313	P		P	04 07 16.6	+0.8	
	SNR=20								
EKS2	**Erkin-Say**	69.42	313	*e*P		P	04 07 16.4	+0.6	
EKS2				pmax		pmax			
	comp=Z,36nm,1.0s								
EKS2	**Erkin-Say**	69.42	313	*e*P		P	04 07 16.4	+0.6	
	comp=Z,36nm,1.0s								
UCH	**Uchtor**	69.43	313	P		P	04 07 17.4	+1.1	
	SNR=9.2								
AML	**Almayashu**	69.88	313	P		P	04 07 20.3	+1.3	
	SNR=12								
LSA	**Lhasa**	70.33	293	P		P	04 07 23.8	+1.8	
LSA				PMZ					
	comp=Z,60nm,1.0s								
OBN	**Obninsk**	70.73	342	*e*P		P	04 07 22.7	-0.6	
OBN				*e*			04 09 59.4		
OBN				*e*S		SKiKP	04 16 56.9	-5.2	
OBN				pmax		pmax			
	comp=Z,42nm,1.2s								
OBN				MLR		MLR			
	comp=Z,12µm,18.0s								
KSH	**Kashi**	70.87	310	P		P	04 07 28.8	+4.1	
KSH				PcP		PcP	04 07 49.3	+4.2	
KSH				PP		PP	04 10 09.0	+7.5	
KSH				S		S	04 16 46.3	+9.5	
KSH				SS		SS	04 21 20.8	+12	
KSH				PMZ					
	comp=Z,97nm,1.4s								
LPSR	**Galich'ya Gora**	72.61	340	*e*P		P	04 07 34.5	-0.2	
LPSR				pmax		pmax			
	comp=Z,30nm,1.0s								
LPSR				pmax		pmax			
	comp=N,20nm,1.4s								
LPSR				pmax		pmax			
	comp=E,10.0nm,1.0s								
VRHR	**Novokhopersk**	73.41	338	*e*P		P	04 07 37.1	-2.4	
VRHR				pmax		pmax			
	comp=N,50nm,1.0s								
VRHR				pmax		pmax			
	comp=E,40nm,1.0s								
VRHR				pmax		pmax			
	comp=Z,50nm,1.0s								
VSR	**Storozhevoye**	73.86	339	*e*P		P	04 07 42.0	-0.1	
VSR				pmax		pmax			
	comp=Z,110nm,1.6s								
VSR				pmax		pmax			
	comp=N,70nm,1.1s								
VSR

UPC				*ex*	x	04 08 11.3			
UPC				*ex*	x	04 08 48.8			
UPC	**Upice**	**77.95**	**354**	*eP*	**P**	**04 08 05.5**	**0.0**		
UPC				*e*		04 08 11.3			
PVCC	**Panska Ves**	**78.02**	**355**	*eP*	**P**	**04 08 06.0**	**+0.1**		
PVCC				*epP*	**pP**	**04 08 19.4**	**+0.9**		
PVCC	**Panska Ves**	**78.02**	**355**	*eP*	**P**	**04 08 06.0**	**+0.1**		
PVCC				*e*		04 08 19.4			
MOX	**Moxa**	**78.05**	**357**	*eP*	**P**	**04 08 06.1**	**+0.1**		
	comp=Z,11nm,0.9s								
DPC	**Dobruska-Polom**	**78.09**	**353**	*eP*	**P**	**04 08 06.6**	**+0.3**		
DPC				*ex*	x	04 08 12.7			
DPC				*ePCP*	**PcP**	**04 08 16.3**	**+0.5**		
DPC				*ex*	x	04 08 50.1			
DPC	**Dobruska-Polom**	**78.09**	**353**	*eP*	**P**	**04 08 06.6**	**+0.3**		
DPC				*e*		04 08 16.3			
TANN	**Tannenbergstha**	**78.24**	**356**	*eP*	**P**	**04 08 07.8**	**+0.6**		
	comp=Z,11nm,1.1s								
BCLA	**Clavier**	**78.37**	**1**	P	**P**	**04 08 08.0**	**+0.2**		
NKC	**Novy Kostel**	**78.42**	**356**	*eP*	**P**	**04 08 08.3**	**+0.2**		
NKC				*ePCP*	**PcP**	**04 08 14.5**	**-2.8**		
NKC				*epP*	**pP**	**04 08 21.7**	**+1.0**		
NKC				*ex*	x	04 08 51.8			
NKC	**Novy Kostel**	**78.42**	**356**	*eP*	**P**	**04 08 08.3**	**+0.2**		
NKC				*e*		04 08 14.5			
NKC				*e*		04 08 21.7			
OKC	**Ostrava-Krasne**	**78.45**	**352**	*eP*	**P**	**04 08 08.4**	**+0.1**		
OKC	**Ostrava-Krasne**	**78.45**	**352**	*eP*	**P**	**04 08 08.4**	**+0.1**		
PRA	**Prague**	**78.49**	**355**	*eP*	**P**	**04 08 08.8**	**+0.4**		
PRA	**Prague**	**78.49**	**355**	*eP*	**P**	**04 08 08.8**	**+0.4**		
TNS	**Taunus Mts**	**78.55**	**359**	*eP*	**P**	**04 08 09.3**	**+0.4**		
	comp=Z,15nm,1.0s								
PRU	**Pruhonice**	**78.56**	**355**	*eP*	**P**	**04 08 08.9**	**0.0**		
PRU				*ex*	x	04 08 52.9			
PRU	**Pruhonice**	**78.56**	**355**	*eP*	**P**	**04 08 08.9**	**0.0**		
MORC	**Moravsky Berou**	**78.56**	**353**	⇑*iP*	**P**	**04 08 09.2**	**+0.3**		
STHS	**Stebnicka Huta**	**78.57**	**350**	*eP*	**P**	**04 08 09.8**	**+0.8**		
STHS				*pmax*	*pmax*				
	comp=Z,11nm,1.1s								
STHS	**Stebnicka Huta**	**78.57**	**350**	*eP*	**P**	**04 08 09.8**	**+0.8**		
STHS				*ePCP*	**PcP**	**04 08 16.6**	**-1.3**		
GOPC	**GO Pecny, Ondr**	**78.62**	**354**	*eP*	**P**	**04 08 09.4**	**+0.2**		
GOPC				*ex*	x	04 08 52.7			
GOF	**Gofitskoye**	**78.64**	**334**	⇑*iP*	**P**	**04 08 09.5**	**+0.1**		
GOF				*pmax*	*pmax*				
	comp=Z,150nm,1.3s								
DOU	**Dourbes**	**78.69**	**1**	P	**P**	**04 08 09.7**	**+0.1**		
ROTZ	**Rotzenmuhle**	**78.90**	**356**	*eP*	**P**	**04 08 11.6**	**+0.8**		
	comp=Z,9.0nm,0.9s								
KOLS	**Kolonicke sedl**	**78.93**	**349**	*eP*	**P**	**04 08 10.8**	**-0.2**		
KOLS				*pmax*	*pmax*				
	comp=Z,12nm,1.3s								
KOLS	**Kolonicke sedl**	**78.93**	**349**	*eP*	**P**	**04 08 10.8**	**-0.2**		
KOLS				*e*		04 11 04.5			
GRF	**Grafenberg Arr**	**79.02**	**357**	*eP*	**P**	**04 08 12.4**	**+1.0**		
	comp=Z,26nm,0.9s								
GRFO	**Grafenberg**	**79.02**	**357**	*eP*	**P**	**04 08 12.2**	**+0.8**		
GRFO				*pmax*	*pmax*				
	comp=Z,133nm,1.6s								
GRFO	**Grafenberg**	**79.02**	**357**	*eP*	**P**	**04 08 12.2**	**+0.8**		
	comp=Z,132nm,1.6s								
VRAC	**Vranov**	**79.10**	**353**	⇑*iP*	**P**	**04 08 12.5**	**+0.6**		
WLF	**Walferdange**	**79.13**	**0**	*eP*	**P**	**04 08 13.0**	**+1.0**		
	comp=Z,7.0nm,0.6s								
TREC	**Trest**	**79.19**	**354**	*eP*	**P**	**04 08 12.2**	**-0.2**		
TREC				*epP*	**pP**	**04 08 24.6**	**-0.4**		
TREC	**Trest**	**79.19**	**354**	*eP*	**P**	**04 08 12.2**	**-0.2**		
TREC				*e*		04 08 24.6			
KHC	**Kasperske Hory**	**79.47**	**355**	*eP*	**P**	**04 08 14.4**	**+0.5**		
KHC				*ex*	x	04 08 56.0			
KHC	**Kasperske Hory**	**79.47**	**355**	*eP*	**P**	**04 08 14.4**	**+0.5**		
KHC	**Kasperske Hory**	**79.47**	**355**	*eP*	**P**	**04 08 14.5**	**+0.5**		
KHC				*pmax*	*pmax*				
	comp=Z,15nm,1.3s								
KHC	**Kasperske Hory**	**79.47**	**355**	*eP*	**P**	**04 08 14.5**	**+0.5**		
	comp=Z,15nm,1.3s								
WET	**Wettzell**	**79.49**	**356**	*eP*	**P**	**04 08 14.4**	**+0.4**		
	comp=Z,7.0nm,1.0s								
KECS	**Kecovo**	**79.57**	**350**	*eP*	**P**	**04 08 14.4**	**0.0**		
KECS				*pmax*	*pmax*				
	comp=Z,7.0nm,1.2s								
KECS	**Kecovo**	**79.57**	**350**	*eP*	**P**	**04 08 14.4**	**0.0**		
KECS				*e*		04 08 27.4			
KECS				*e*		04 08 32.0			
GEC2	**GERESS Array S**	**79.75**	**355**	*eP*	**P**	**04 08 15.5**	**-0.1**		
	comp=Z,10.0nm,0.9s								
GERES	**GERESS Array B**	**79.75**	**355**	P	**P**	**04 08 15.4**	**-0.1**		
	comp=Z,6.9nm,0.9s,baz=15,slow=5.5,SNR=17								
GERES	**GERESS Array B**	**79.75**	**355**	P	**P**	**04 08 15.4**	**-0.1**		
GERES				*pmax*	*pmax*				
	comp=Z,7.0nm,0.9s								
KIV	**Kislovodsk**	**79.76**	**334**	*eP*	**P**	**04 08 16.3**	**+0.7**		
KIV				*pmax*	*pmax*				
	comp=Z,37nm,1.1s								
LANF	**Langenberg**	**79.81**	**359**	*eP*	**P**	**04 08 16.3**	**+0.6**		
BURAR	**Bucovina Array**	**79.86**	**347**	⇑*iP*	**P**	**04 08 15.9**	**-0.2**		
KBZ	**Khabaz**	**79.91**	**334**	P	**P**	**04 08 16.5**	**+0.2**		
	comp=Z,14nm,0.9s,baz=34,slow=2.9,SNR=20								
PSZ	**Piszkesteto**	**80.19**	**351**	⇑*iP*	**P**	**04 08 18.6**	**+0.7**		
PSZ	**Piszkesteto**	**80.19**	**351**	⇑*ePKKPab*	**P**	**04 08 18.2**	**+0.3**		
BFO	**Black Forest**	**80.45**	**359**	*eP*	**P**	**04 08 19.8**	**+0.6**		
	comp=Z,10.0nm,0.9s								
ZEI	**Tsey**	**80.50**	**333**	*eP*	**P**	**04 08 17.4**	**-2.4**		
ZEI				*pmax*	*pmax*				
	comp=Z,11nm,0.5s								
CONA	**Conrad Observa**	**80.53**	**353**	⇑*iP*	**P**	**04 08 20.2**	**+0.5**		
	comp=Z,20nm,1.0s,SNR=9.4								
THEF	**They Montfort**	**80.57**	**0**	*eP*	**P**	**04 08 19.8**	**0.0**		
ECH	**Echery**	**80.58**	**359**	*eP*	**P**	**04 08 19.8**	**-0.1**		
TESR	**Tescani**	**80.72**	**346**	⇑*iP*	**P**	**04 08 20.5**	**-0.2**		
PKSG		**80.86**	**352**	⇑*ePKKPdf*	**P**	**04 08 21.8**	**+0.5**		
SIM	**Simferopol'**	**80.89**	**340**	*eP*	**P**	**04 08 22.0**	**+0.5**		
SIM				*pmax*	*pmax*				
	comp=Z,19nm,0.9s								
CSKK	**Cs˙tkako**	**80.90**	**352**	⇓*ePKKPdf*	**P**	**04 08 22.7**	**+1.1**		
RJOB	**Jochberg**	**80.90**	**356**	*eP*	**P**	**04 08 22.6**	**+0.9**		
	comp=Z,13nm,0.7s								
MOF	**Molkenrain**	**80.94**	**359**	*eP*	**P**	**04 08 21.9**	**0.0**		
DRGR		**80.99**	**349**	⇑*iP*	**P**	**04 08 21.8**	**-0.4**		
PKST	**T˙'s**	**81.02**	**352**	⇓*ePKKPdf*	**P**	**04 08 23.1**	**+0.8**		
ARSA	**Arzberg**	**81.23**	**354**	⇑*iP*	**P**	**04 08 23.9**	**+0.5**		
	comp=Z,18nm,1.3s								
VRI	**Vrincioaia**	**81.34**	**346**	⇑*iP*	**P**	**04 08 24.0**	**0.0**		
MOTA	**Moosalm**	**81.36**	**357**	⇑*iP*	**P**	**04 08 24.4**	**+0.2**		
	comp=Z,23nm,1.2s,SNR=6.4								
PLOR	**Plostina**	**81.37**	**346**	⇑*iP*	**P**	**04 08 25.4**	**+1.2**		
WTTA	**Wattenberg**	**81.42**	**356**	⇑*iP*	**P**	**04 08 25.2**	**+0.5**		
	comp=Z,18nm,0.9s,SNR=5.7								
DOPR	**Dopca**	**81.44**	**347**	⇑*iP*	**P**	**04 08 25.6**	**+1.1**		
KBA	**Koelnbreinsper**	**81.53**	**355**	⇑*iPcP*	**P**	**04 08 26.0**	**+0.9**		
	comp=Z,41nm,1.0s,SNR=12								
TLCR		**81.67**	**344**	⇑*iP*	**P**	**04 08 26.7**	**+1.1**		
FETA	**Feichten**	**81.70**	**357**	⇑*iP*	**P**	**04 08 26.6**	**+0.5**		
	comp=Z,25nm,1.0s,SNR=7.7								
CFR	**Carcaliu**	**81.79**	**345**	⇑*iP*	**P**	**04 08 26.0**	**-0.3**		
MLR	**Muntele Rosu**	**81.83**	**346**	⇑*iP*	**P**	**04 08 28.4**	**+1.7**		
SOKA	**Soboth**	**81.83**	**354**	⇑*iP*	**P**	**04 08 26.8**	**+0.1**		
	comp=Z,31nm,1.1s,SNR=7.8								
VOIR		**82.01**	**347**	⇑*iP*	**P**	**04 08 29.0**	**+1.4**		
OBKA	**Obir**	**82.03**	**354**	⇑*iPcP*	**P**	**04 08 28.6**	**+0.9**		
HARR	**Harsova**	**82.30**	**345**	⇑*iP*	**P**	**04 08 30.1**	**+1.1**		
TIRR	**Tirgusor**	**82.44**	**344**	⇑*iP*	**P**	**04 08 30.4**	**+0.7**		
GNI	**Garni**	**82.68**	**331**	*eP*	**P**	**04 08 32.8**	**+1.5**		
GNI				*pmax*	*pmax*				
	comp=Z,25nm,1.7s								
AGO	**Saint Agoulin**	**82.71**	**2**	*eP*	**P**	**04 08 32.9**	**+1.8**		
PLDF	**La Plantade**	**82.80**	**2**	*eP*	**P**	**04 08 33.5**	**+1.8**		
PSN	**Preselentsi**	**83.23**	**344**	⇑*iP*	**P**	**04 08 34.9**	**+1.0**		
LBL	**Lubilhac**	**83.53**	**2**	*eP*	**P**	**04 08 37.2**	**+1.7**		
DIVS	**Divibare**	**83.96**	**350**	⇑*iP*	**P**	**04 08 37.5**	**-0.2**		
MPEP	**Malo Peshtene**	**84.23**	**347**	*eP*	**P**	**04 08 38.6**	**-0.4**		
JMB	**Yambol**	**84.68**	**345**	⇓*iP*	**P**	**04 08 42.1**	**+0.8**		
JMB	**Yambol**	**84.68**	**345**	*eP*	**P**	**04 08 41.6**	**+0.3**		
TOUF	**Mont Tournerai**	**84.78**	**359**	*eP*	**P**	**04 08 42.6**	**+0.6**		
MVIF	**Mont Vial**	**84.90**	**359**	*eP*	**P**	**04 08 43.9**	**+1.4**		
REVF	**Revere**	**85.05**	**359**	*eP*	**P**	**04 08 43.3**	**+0.1**		
VTS	**Vitosha**	**85.06**	**348**	⇑*iP*	**P**	**04 08 43.4**	**0.0**		
DIM	**Dimitrovgrad**	**85.25**	**346**	*eP*	**P**	**04 08 45.5**	**+1.4**		
KDZ	**Kurdzhali**	**85.66**	**346**	⇑*iP*	**P**	**04 08 47.4**	**+1.2**		
SKO	**Skopje**	**85.89**	**349**	⇓*ePdi*	**P**	**04 08 48.2**	**+0.9**		
MMB	**Musomiste**	**85.97**	**347**	⇑*iP*	**P**	**04 08 48.8**	**+1.0**		
BRTR	**Keskin Array B**	**85.98**	**339**	P	**P**	**04 08 48.4**	**+0.3**		
	comp=Z,13nm,1.0s,baz=43,slow=2.4,SNR=34								
ANTO	**Ankara**	**86.03**	**340**	*eP*	**P**	**04 08 48.9**	**+0.7**		
ANTO				*pmax*	*pmax*				
	comp=Z,18nm,1.4s								
ANTO	**Ankara**	**86.03**	**340**	*eP*	**P**	**04 08 48.9**	**+0.7**		
	comp=Z,18nm,1.4s								
MALT	**Malatya**	**86.17**	**335**	⇑*iP*	**P**	**04 08 49.9**	**+1.0**		
VAY	**Valandovo**	**86.39**	**348**	⇓*ePdi*	**P**	**04 08 50.7**	**+0.9**		
ESDC	**Sonseca Array**	**88.68**	**8**	P	**P**	**04 09 00.5**	**-0.4**		
	comp=Z,3.3nm,0.8s,baz=344,slow=4.7,SNR=13								
KEST	**Kesra**	**93.01**	**358**	P	**P**	**04 09 21.4**	**+0.2**		
	comp=Z,3.4nm,1.1s,baz=27,slow=4.8,SNR=4.1								
TORD	**Torodi Ar. Bea**	**115.42**	**5**	PKP	**PKPdf**	**04 14 48.4**	**-1.1**		
	comp=Z,0.8nm,1.1s,baz=351,slow=2.2,SNR=7.0								
MAW	**Mawson**	**148.59**	**218**	PKPbc	**PKPbc**	**04 15 52.9**	**-0.1**		
	comp=Z,15nm,1.1s,baz=51,slow=3.7,SNR=4.2								
BOSA	**Boshof**	**153.01**	**321**	PKPbc	**PKPbc**	**04 16 03.9**	**-1.0**		
	comp=Z,4.6nm,0.8s,baz=358,slow=3.5,SNR=5.4								

***IDC* 16 03:56:33.7±1.6,1°87S×136°46E,*h*0km,mb4.0/2, mb1 4.3/4,mb1mx3.8/45,mbtmp4.0/4,ML3.8/2,Error ellipse: s-maj=34.2km s-min=28.9km az=86.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.28**	**281**	Pn	Pn	03 57 54.6	+0.6
	3.2nm,0.3s,baz=163,slow=22,SNR=7.1						
SIJI				Sn	Sn	03 58 55.7	+0.1
	3.0nm,0.3s,baz=121,slow=16,SNR=2.6						
WRA	**Warramunga Arr**	**18.09**	**186**	P	Pn	04 00 46.2	-0.4
	0.3nm,0.3s,baz=7.9,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**21.81**	**186**	P	P	04 01 27.7	0.0
	7.1nm,0.7s,baz=15,slow=11,SNR=9.6						
ILAR	**Eielson Array**	**86.01**	**25**	P	P	04 09 15.8	0.0
	0.6nm,0.9s,baz=270,slow=3.3,SNR=2.6						

IDC **16** *03:56:49.7±1.5,51°72N×173°83W,h0km,mb4.6/21, mb1 4.7/22,mb1mx4.5/55,mbtmp4.6/22,ML5.3/1,Error ellipse: s-maj=42.1km s-min=15.8km az=173.0*

ISCJB **16** *03:56:53.5±1.2,51°8N±0°2×173°8W±0°1,h35km,mb4.6/21, Error ellipse: s-maj=32.0km s-min=11.7km az=170.8*

ISC 16 03:56:55.0±1.6,51°7N±0°3×173°8W±0°1,h35km,n22, σ0°62/25,mb4.7/21,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**19.06**	**36**	P	**P**	**04 01 12.8**	**-1.2**
	4.3nm,0.3s,baz=234,slow=9.0,SNR=6.5						
INK	**Inuvik**	**25.40**	**34**	P	**P**	**04 02 19.3**	**+0.7**
	19nm,0.7s,baz=257,slow=14,SNR=3.0						
YKA	**Yellowknife Ar**	**32.71**	**48**	P	**P**	**04 03 24.1**	**+0.5**
	1.4nm,0.4s,baz=273,slow=9.2,SNR=5.1						
NEW	**Newport**	**35.81**	**73**	P	**P**	**04 03 51.0**	**+0.2**
	16nm,0.9s,baz=325,slow=4.7,SNR=4.3						
USRK	**Ussuriysk Ar.**	**36.33**	**280**	P	**P**	**04 03 55.1**	**0.0**
	9.5nm,0.6s,baz=56,slow=7.7,SNR=6.0						
KSRS	**Korea Array**	**42.74**	**274**	P	**P**	**04 04 48.6**	**0.0**
	9.2nm,0.8s,baz=56,slow=7.8,SNR=4.1						
PDAR	**Pinedale Array**	**43.21**	**76**	P	**P**	**04 04 52.3**	**-0.3**
	5.7nm,0.7s,baz=344,slow=4.2,SNR=4.3						
TLY	**Talaya**	**48.48**	**304**	P	**P**	**04 05 34.0**	**+0.2**
	4.8nm,0.6s,baz=38,slow=4.8,SNR=3.6						
SONM	**Songino Array**	**49.25**	**299**	P	**P**	**04 05 39.5**	**-0.4**
	5.0nm,0.8s,baz=46,slow=8.0,SNR=4.8						
SPITS	**Spitsbergen Ar**	**50.21**	**357**	P	**P**	**04 05 47.1**	**+0.5**
	2.4nm,0.6s,baz=54,slow=4.2,SNR=5.3						
SPITS				PcP	**PcP**	**04 07 04.8**	**-0.5**
	1.9nm,0.5s,baz=11,slow=2.9,SNR=2.3						
SCHQ	**Schefferville**	**57.75**	**41**	P	**P**	**04 06 41.4**	**-0.5**
	8.4nm,0.8s,baz=352,slow=9.5,SNR=4.5						
ARCES	**ARCESS Array B**	**58.23**	**352**	P	**P**	**04 06 45.0**	**-0.1**
	3.5nm,0.7s,baz=17,slow=7.6,SNR=3.3						
ARCES				PcP	**PcP**	**04 07 36.2**	**+0.2**
	11nm,0.8s,baz=14,slow=5.5,SNR=6.1						
KURBB	**Kurchatov Arra**	**61.10**	**316**	P	**P**	**04 07 05.5**	**+0.4**
	11nm,0.8s,baz=47,slow=6.8,SNR=9.0						
MKAR	**Makanchi Array**	**62.22**	**311**	P	**P**	**04 07 11.4**	**-1.3**
	2.9nm,0.5s,baz=44,slow=7.0,SNR=7.7						
BVAR	**Borovoye Array**	**62.59**	**322**	P	**P**	**04 07 14.4**	**-0.7**
	4.4nm,0.5s,baz=67,slow=7.3,SNR=7.1						
FINES	**FINESS Array B**	**66.07**	**350**	P	**P**	**04 07 37.5**	**-0.2**
	3.3nm,0.7s,baz=7.0,slow=5.7,SNR=3.6						
FINES				PcP	**PcP**	**04 08 08.1**	**+0.1**
	4.7nm,0.6s,baz=23,slow=7.5,SNR=4.1						
NOA	**NORSAR Array B**	**67.52**	**357**	P	**P**	**04 07 47.3**	**+0.3**
	1.6nm,0.6s,baz=358,slow=10,SNR=6.3						
AKTO	**Aktyubinsk**	**69.14**	**327**	P	**P**	**04 07 58.2**	**+0.9**
	12nm,0.8s,baz=70,slow=9.5,SNR=3.4						
AKASG	**Malin Array Be**	**76.10**	**345**	P	**P**	**04 08 37.9**	**-0.6**
	3.3nm,0.4s,baz=17,slow=6.0,SNR=6.6						
GERES	**GERESS Array B**	**79.61**	**355**	P	**P**	**04 08 58.6**	**+0.3**
	4.0nm,0.8s,baz=29,slow=6.1,SNR=5.4						
KBZ	**Khabaz**	**79.76**	**334**	P	**P**	**04 08 59.2**	**+0.2**
	8.0nm,0.8s,baz=29,slow=13,SNR=3.7						
BRTR	**Keskin Array B**	**85.83**	**339**	P	**P**	**04 09 32.0**	**+1.2**
	3.1nm,0.7s,baz=43,slow=1.9,SNR=5.8						

IDC **16** *03:58:06.3±0.3,2°28S×136°63E,h0km,mb5.4/36, mb1 5.4/39,mb1mx5.4/44,mbtmp5.4/39,ML5.5/2,MS6.4/29, Ms1 6.4/29,ms1mx6.3/37,Error ellipse: s-maj=13.0km s-min=8.9km az=72.0*

ISCJB **16** *03:58:06.7±0.6,2°31S±0°02×136°58E±0°01,h8km±3km, mb6.0/259,MS6.6/48,Error ellipse: s-maj=3.1km s-min=2.5km az=5.7*

BJI **16** *03:58:06.6,2°30S×136°50E,h10km,mb5.8/41,mB6.6/35, Ms6.6/73,Ms7 6.4/66*

GCMT **16** *03:58:08.5±0.1,2°10S×136°56E,h15km,MW6.6/135, Moment Tensor Solution. s104,c171; s135,c484; Duration: 4s6 Moment tensor: Scale 10¹⁹Nm; Mrr-0.08±.01; Mθθ-0.79±.01; Mϕϕ 0.86±.01; Mrθ-0.08±.02; Mθϕ-0.10±.01; Mϕr 0.13±.02; Best double couple: M₀0.85000×10¹⁹ NP1:ϕ312.00000°,δ89.00000°, λ170.00000°. NP2:ϕ42.00000°,δ80.00000°,λ1.00000°. Principal axes: T 0.8940, Plg8.0000°, Azm266.0000°; N -0.0890, Plg80.0000°, Azm123.0000°; P -0.8060, Plg6.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC **16** *03:58:08.5±2.8,2°33S×136°48E,h10km±2km,mb6.2/121, MW6.6 Error ellipse: s-maj=11.7km s-min=10.2km az=209.0*

MOS **16** *03:58:09.6±1.1,2°36S×136°52E,h33km,mb6.2/63, MS6.4/15,Error ellipse: s-maj=9.7km s-min=5.5km az=108.2*

NEIC **16** *03:58:10.0±0.0,2°37S×136°48E,h20km,Moment Tensor Solution. s13 Moment tensor: Scale 10¹⁸Nm; Mrr-1.62; Mθθ-5.89; Mϕϕ 7.51; Mrθ-4.06; Mϕθ 0.39; Mϕr 3.97; Best double couple: M₀8.90000×10¹⁸ NP1:ϕs43.00000°,δ49.00000°, λ-8.00000°. Principal axes: T 9.0800, Plg21.0000°, Azm265.0000°; N -0.3600, Plg48.0000°, Azm148.0000°; P -8.7200, Plg33.0000°, Azm10.0000°;*

DJA **16** *03:58:10.7±0.4,2°S±2°×13°7E±°,h17km±3km,M6.6/147, mb6.1/147,mB6.8/66,MLv6.7/12,Mw(mB)6.6/66,Mwp6.6/2*

ISC 16 03:58:10.1±0.3,2°35S±0°03×136°60E±0°03,h21km±1km, h21km:pP-P,n1245,σ1s73/1335,mb6.1/264,MS6.6/48, 38C-30D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.60**	**323**	P	**Pb**	**03 58 19.4**	**-2.6**
SMPI	**Sarmi**	**2.14**	**80**	P	**Pn**	**03 58 43.4**	**-1.2**
SMPI				S	**Sn**	**03 59 10.7**	**+0.1**
RKPI	**Ransiki, Papua**	**2.56**	**289**	P	**Pn**	**03 58 49.9**	**-0.6**
RKPI				S	**Sb**	**03 59 24.0**	**-2.5**
GENI	**Genyem**	**3.57**	**94**	P	**Pn**	**03 59 03.7**	**-0.7**
GENI				S	**Sn**	**03 59 47.2**	**+1.2**
JAY	**Jayapura**	**4.10**	**92**	P	**Pn**	**03 59 10.4**	**-1.3**
FAKI	**Fak Fak**	**4.38**	**263**	P	**Pn**	**03 59 14.4**	**-1.2**
FAKI				S	**Sn**	**04 00 09.3**	**+3.2**
FAKI	**Fak Fak**	**4.38**	**263**	*ePn*	**Pn**	**03 59 15.2**	**-0.4**
FAKI				*eSn*	Sn	03 59 56.0	-10
SIJI	**Sorong**	**5.53**	**285**	Pn	**Pn**	**03 59 29.5**	**-1.9**
	191nm,0.3s,baz=64,slow=11,SNR=45						
SIJI				Sn	**Sn**	**04 00 33.7**	**-0.8**
	382nm,0.3s,baz=90,slow=23,SNR=12						
SIJI				LR	LR	04 02 02.1	
	comp=Z,1493µm,19.9s,baz=102,slow=43						
SWI	**Sorong**	**5.54**	**285**	P	**Pn**	**03 59 29.8**	**-1.7**
	4µm,0.8s,84µm68nm						
BNDI	**Bandanaira**	**7.02**	**252**	P	**Pn**	**03 59 54.3**	**+2.4**
	4µm,1.3s,88µm73nm						
BNDI				S	**Sn**	**04 01 14.0**	**+2.8**
	4µm,1.3s,88µm73nm						
SAUI	**Saumlaki**	**7.69**	**223**	P	**Pn**	**04 00 02.4**	**+1.4**
	5µm,1.1s,25nm						
SAUI				S	**Sn**	**04 01 31.6**	**+4.0**
	5µm,1.1s,25nm						
SAUI	**Saumlaki**	**7.69**	**223**	*ePn*	Pn	04 00 04.5	+3.5
SAUI				*eSn*	**Sn**	**04 01 29.9**	**+2.3**
MSAI	**Masohi**	**7.73**	**262**	P	**Pn**	**04 00 01.7**	**+0.2**
	1µm,0.8s,17µm292µm3.9nm						
MSAI				S	**Sn**	**04 01 30.5**	**+2.0**
	1µm,0.8s,17µm292µm3.9nm						
AAI	**Ambon**	**8.50**	**261**	P	**Pn**	**04 00 13.4**	**+1.3**
	2µm,0.7s,34µm						
AAI				S	**Sn**	**04 01 51.1**	**+3.6**
	2µm,0.7s,34µm						
LBMI	**Labuha**	**9.26**	**280**	P	**Pn**	**04 00 22.8**	**+0.3**
	2µm,1.6s,39µm						
NLAI	**Namlea**	**9.53**	**264**	P	**Pn**	**04 00 26.2**	**-0.1**
	3µm,1.3s,32µm						
TNTI	**Ternate**	**9.74**	**288**	P	**Pn**	**04 00 31.7**	**+2.5**
	1µm,1.0s						
TNTI	**Ternate**	**9.74**	**288**	*ePn*	**Pn**	**04 00 26.9**	**-2.2**
I39PW	**PALAU INFRASON**	**10.03**	**348**	*i*		05 02 00.0	
	baz=167,slow=316,SNR=1.8						
SANI	**Sanana**	**10.61**	**271**	P	**Pn**	**04 00 38.2**	**-2.9**
	1µm,0.7s						
SGSI	**Sangihe**	**12.59**	**298**	P	**Pn**	**04 01 10.1**	**+1.9**
	1µm,1.1s						
PMG	**Port Moresby**	**12.62**	**124**	⇓*eP*	**Pn**	**04 01 09.5**	**+0.9**
PMG				*pmax*	*pmax*		
	comp=Z,2µm,1.2s						
PMG	**Port Moresby**	**12.62**	**124**	*ePn*	**Pn**	**04 01 11.5**	**+2.9**
KMSI	**Cibinong**	**12.95**	**283**	P	**Pn**	**04 01 11.7**	**-1.4**
	comp=Z,3µm,1.4s,comp=Z,34µmcomp=Z,485µm						
COEN	**Coen**	**13.23**	**151**	*ePn*	**Pn**	**04 00 16.6**	**-0.4**
COEN				*eSn*	**Sn**	**04 03 39.5**	**-4.3**
MATI	**Mati**	**13.85**	**312**	*eP*	**Pn**	**04 01 27.5**	**+2.0**
LUWI	**Luwuk**	**13.88**	**275**	P	**Pn**	**04 01 24.9**	**-1.0**
	comp=Z,1µm,0.8s						
LUWI	**Luwuk**	**13.88**	**275**	*ePn*	**Pn**	**04 01 23.4**	**-2.5**
KDI	**Kendari**	**14.05**	**263**	P	**Pn**	**04 01 27.3**	**-0.3**
	comp=Z,802nm,1.2s,comp=Z,27µm						
SOEI	**Soe**	**14.29**	**239**	P	**Pn**	**04 01 32.5**	**+0.9**
	comp=Z,3µm,1.1s,comp=Z,54µm						
SOEI	**Soe**	**14.29**	**239**	*ePn*	**Pn**	**04 01 31.5**	**-0.1**
BBSI	**Bau Bau**	**14.34**	**257**	P	**Pn**	**04 01 32.3**	**+0.2**
	comp=Z,4µm,1.2s,comp=Z,56µm						
DAV	**Davao City (W)**	**14.44**	**310**	P	**P**	**04 01 37.6**	**-2.6**
	SNR=51						
DAV	**Davao City (W)**	**14.44**	**310**	*ePn*	**Pn**	**04 01 35.3**	**+1.7**
MRSI	**Marisa**	**14.92**	**281**	P	**Pn**	**04 01 37.6**	**-2.5**
	comp=Z,1µm,1.1s						
APSI	**Ampana**	**15

comp=N,1µm,1.3s,comp=N,19µm
ABJI Asem Bagus 22.92 256 P **P** **04 03 15.9 +2.9**
comp=N,1µm,1.1s,comp=N,47µm
KMMI Kalianget 23.03 258 P **P** **04 03 15.9 +1.7**
comp=N,3µm,1.3s,comp=N,51µm
JAGI Jajag, Banyuwa 23.15 254 P **P** **04 03 14.8 -0.6**
comp=N,602nm,1.8s,comp=N,18µm
JAGI Jajag, Banyuwa 23.15 254 *e*P **P** **04 03 15.9 +0.5**
comp=N,1µm,1.3s
BLJI Banyuglugur 23.53 256 P **P** **04 03 18.7 -0.5**
comp=N,1µm,1.0s,comp=N,28µm
BWJI Bawean 24.13 261 P **P** **04 03 26.5 +1.6**
comp=N,632nm,1.1s,comp=N,10µm
BTM Bintulu 24.15 283 ⇓P **P** **04 03 25.8 +0.7**
HNR Honiara 24.25 108 *e*P **P** **04 03 26.3 +0.3**
HNR pmax pmax
comp=Z,15nm,1.0s
HNR Honiara 24.25 108 *e*P P 04 03 31.0 +5.0
HNR Honiara 24.25 108 *e*P **P** **04 03 26.3 +0.3**
comp=Z,15nm,1.0s
BCPH Baguio City Da 24.43 320 ⇑*i*P **P** **04 03 27.3 -0.6**
GRJI Gresik 24.46 258 P **P** **04 03 32.2 +4.3**
comp=Z,1µm,1.6s,comp=Z,15µm
CVP Callao Caves 24.69 324 ⇓*e*P P 04 03 36.0 +6.1
SBUM Sibu 24.84 281 ⇑P **P** **04 03 31.1 -0.3**
SBUM Sibu 24.84 281 *e*P **P** **04 03 30.9 -0.5**
comp=Z,636nm,1.3s
MBWA Marble Bar 24.89 220 P **P** **04 03 34.0 +2.3**
SNR=6.7
MBWA Marble Bar 24.89 220 *e*P **P** **04 03 31.5 -0.3**
comp=Z,689nm,0.9s
PBKI Pangkalan Bun 24.91 269 P **P** **04 03 34.4 +2.4**
comp=Z,3µm,1.1s,comp=Z,25µm
TBJI Tambak Boyo 25.06 259 P **P** **04 03 37.8 +4.4**
comp=Z,2µm,1.3s,comp=Z,53µm
STKI Sintang 25.23 275 P **P** **04 03 34.3 -0.7**
comp=Z,346nm,1.7s,comp=Z,26µm
PWJI Pagerwojo 25.32 256 P **P** **04 03 34.1 -1.6**
comp=Z,521nm,1.1s,comp=Z,11µm
SZP Santa 25.39 322 *e*P **P** **04 03 37.0 +0.7**
comp=Z,2µm,1.7s
UWJI Ujung Watu 25.89 260 P **P** **04 03 44.6 +3.7**
comp=Z,2µm,1.5s,comp=Z,28µm
WOJI Wonogiri, Jawa 26.14 257 P **P** **04 03 43.0 -0.2**
comp=Z,599nm,1.2s
SMRI Semarang 26.48 259 P **P** **04 03 49.1 +2.8**
comp=Z,3µm,1.3s,comp=Z,51µm
SMRI Semarang 26.48 259 *e*P **P** **04 03 47.6 +1.4**
comp=Z,4µm,1.2s
UGM Wanagama 26.54 257 P **P** **04 03 47.2 +0.3**
comp=Z,636nm,1.7s,comp=Z,21µm
UGM Wanagama 26.54 257 *e*P **P** **04 03 47.5 +0.6**
comp=Z,9µm,2.7s
KSM Kuching 26.56 278 ⇓P **P** **04 03 47.7 +0.7**
KSM Kuching 26.56 278 *e*P **P** **04 03 45.9 -1.1**
comp=Z,160nm,0.8s
EIDS Eidsvold 26.80 150 *e*P **P** **04 03 50.5 +1.4**
comp=Z,4µm,2.5s
KPJI Karang Pucung 28.00 259 P **P** **04 04 00.3 +0.4**
comp=Z,471nm,1.6s
JCJI Jatiwangi 28.54 261 P **P** **04 04 07.5 +2.8**
comp=Z,689nm,1.8s,comp=Z,20µm
CMJI Cimerak 28.55 258 P **P** **04 04 05.6 +0.8**
comp=Z,366nm,1.0s
TPI Tanjungpandan 28.92 269 P **P** **04 04 07.3 -0.8**
comp=Z,288nm,1.4s
CISI Cisompet, Garu 29.13 259 P **P** **04 04 09.8 -0.3**
comp=Z,644nm,1.2s,comp=Z,15µm
CISI Cisompet, Garu 29.13 259 *e*P **P** **04 04 08.8 -1.2**
comp=Z,422nm,0.9s
LEM Lembang 29.22 260 P P 04 04 15.5 +4.5
comp=Z,406nm,1.8s
LEM Lembang 29.22 260 P **P** **04 04 12.6 +1.6**
comp=Z,22nm,0.8s,baz=128,slow=19,SNR=3.7
LEM LR LR 04 18 31.5
comp=Z,79µm,18.7s,baz=76,slow=42
LEM Lembang 29.22 260 *e*P **P** **04 04 12.6 +1.6**
FORT Forrest 29.41 195 *e*P **P** **04 04 11.3 -0.9**
comp=Z,991nm,1.1s
YULB Yu-li 29.61 331 *e*P **P** **04 04 13.8 -0.4**
comp=Z,154nm,1.2s
STKA Stephens Creek 29.74 171 P **P** **04 04 14.8 -0.4**
comp=Z,60nm,0.6s,baz=347,slow=8.3,SNR=32
STKA LR LR 04 16 52.3
comp=Z,118µm,18.5s,baz=345,slow=38
STKA Stephens Creek 29.74 171 P **P** **04 04 14.8 -0.4**
STKA pmax pmax
comp=Z,60nm,0.6s
STKA MLR MLR
comp=Z,118µm,18.5s
STKA Stephens Creek 29.74 171 *e*P **P** **04 04 15.3 +0.1**
comp=Z,52nm,1.0s
YOJ Yonaguni jima 29.75 334 *e*P **P** **04 04 15.4 +0.1**
YOJ pmax pmax
comp=Z,321nm,1.1s
YOJ Yonaguni jima 29.75 334 *e*P **P** **04 04 15.4 +0.1**
comp=Z,321nm,1.1s
CBI Chichi jima 29.76 10 *e*P **P** **04 04 15.3 -0.1**
CNJI Cibinong 29.77 259 P **P** **04 04 15.9 +0.3**
comp=Z,457nm,1.2s,comp=Z,11µm
JCJ Chichijima 29.77 10 P **P** **04 04 15.3 -0.2**
comp=Z,116nm,1.0s,baz=171,slow=13,SNR=3.3
JCJ LR LR 04 13 36.7
comp=Z,56µm,20.0s,baz=219,slow=31
TPUB Ta-pu 29.87 329 *e*P **P** **04 04 13.6 -2.8**
comp=Z,166nm,1.2s
CBJI Citeko 29.93 261 P **P** **04 04 18.6 +1.5**
comp=Z,305nm,1.0s
JOW Kunigami 30.11 345 P **P** **04 04 17.8 -0.7**
comp=Z,5.5nm,0.9s,baz=172,slow=8.1,SNR=7.8
JOW LR LR 04 13 52.2
comp=Z,9µm,21.5s,baz=158,slow=32
JOW Kunigami 30.11 345 *e*P **P** **04 04 18.3 -0.2**
comp=Z,1µm,1.6s
SSLB Suanglung 30.12 330 *e*P **P** **04 04 18.4 -0.3**
comp=Z,218nm,1.1s
NACB Ninganchiao 30.13 332 *e*P **P** **04 04 18.8 0.0**
comp=Z,719nm,1.2s
SKJI Sukabumi 30.29 260 P **P** **04 04 22.6 +2.3**
comp=Z,448nm,1.2s
BBOO Buckleboo 30.30 181 *e*P **P** **04 04 18.6 -1.5**
comp=Z,215nm,0.8s
PPBI Pangkal Pinang 30.44 270 P **P** **04 04 20.7 -0.9**
comp=Z,148nm,1.3s
SBJI Serang 30.61 262 P **P** **04 04 24.3 +1.2**
comp=Z,194nm,1.1s
YHNB Yeheng 30.66 332 *e*P **P** **04 04 22.5 -1.0**
comp=Z,447nm,1.2s
TATO Taipei 30.87 333 *e*P **P** **04 04 24.6 -0.6**
comp=Z,467nm,1.3s
CGJI Cibinong 31.09 261 P **P** **04 04 27.3 -0.1**
comp=Z,225nm,1.0s
ARMA Armidale 31.34 154 *e*P **P** **04 04 30.9 +1.4**
comp=Z,511nm,1.5s
XMIS Christmas Isla 31.77 254 *e*P **P** **04 04 32.5 -0.8**
comp=Z,148nm,0.8s
KLI Kotabumi 31.78 265 P **P** **04 04 35.1 +1.7**
comp=Z,287nm,1.3s
PMBI Palembang 31.80 268 P **P** **04 04 36.4 +2.8**
comp=Z,696nm,1.0s,comp=Z,37µm
KASI Kota Agung 32.18 263 P **P** **04 04 39.2 +2.3**
comp=Z,139nm,0.8s
TPRI Tanjung Pinang 32.23 275 P **P** **04 04 38.3 +0.9**
comp=Z,268nm,0.4s,comp=Z,38µm
QZH Quanzhou 32.27 328 ⇓*i*P **P** **04 04 38.0 +0.4**
QZH S **S** **04 09 48.0 -2.1**
QZH LN
comp=Z,46µm,14.8s
QZH LE
comp=Z,89µm,14.6s
QZH LZ
comp=Z,88µm,16.3s
MDSI Maura Dua 32.43 265 P **P** **04 04 38.3 -0.9**
comp=Z,204nm,1.1s
LWLI Liwa 32.58 264 P **P** **04 04 42.3 +1.7**
comp=Z,150nm,1.4s
JMBI JAMBI 32.95 271 P **P** **04 04 45.2 +1.5**
comp=Z,1µm,1.1s
MYKOM Kota Tinggi 33.00 277 ⇓P **P** **04 04 43.5 -0.7**
MYKOM Kota Tinggi 33.00 277 *e*P P 04 04 39.9 -4.2
comp=Z,126nm,1.0s
LHSI Lahat 33.06 267 P P 04 04 47.9 +3.2
comp=Z,482nm,1.2s
KGM Kluang 33.56 277 ⇑P **P** **04 04 50.0 +1.0**
MNAI Manna 33.65 266 P **P** **04 04 51.5 +1.7**
comp=Z,422nm,1.5s
MNAI Manna 33.65 266 *e*P P 04 04 45.5 -4.3
comp=Z,542nm,1.2s

QIZ Qiongzhong 33.82 310 P **P** **04 04 53.8 +2.6**
QIZ sP **sP** **04 04 57.4 -2.7**
QIZ S **S** **04 10 19.3 +4.9**
QIZ PMZ
comp=Z,110nm,1.3s
QIZ LN
comp=Z,141µm,25.5s
QIZ LE
comp=Z,41µm,26.6s
QIZ LZ
comp=Z,64µm,19.9s
QIZ Qiongzhong 33.82 310 *e*P **P** **04 04 49.0 -2.2**
comp=Z,502nm,1.3s
KTGM Kuala Trenggan 34.29 283 ⇓P **P** **04 04 55.6 +0.2**
MASI Maura Aman, Be 34.33 268 P **P** **04 04 57.2 +1.4**
comp=Z,2µm,1.4s,comp=Z,19µm
DZM Mont Dzumac 35.00 126 *e*P **P** **04 05 04.5 +3.0**
comp=Z,201nm,1.2s
DZM *e*LR LR 04 14 32.2
comp=Z,282µm,24.9s
DZM Mont Dzumac 35.00 126 P **P** **04 05 01.8 +0.3**
comp=Z,51nm,1.3s,baz=299,slow=14,SNR=7.2
SDSI Sungai Dareh 35.19 272 P **P** **04 05 04.4 +1.3**
comp=Z,229nm,1.7s
FRIM Kepong 35.40 279 ⇑P **P** **04 05 04.3 -0.7**
NWAO Narrogin (SRO) 35.43 209 P **P** **04 05 04.8 -0.1**
comp=Z,154nm,0.8s,baz=326,slow=1.5,SNR=25
NWAO Narrogin (SRO) 35.43 209 P **P** **04 05 04.9 -0.1**
NWAO pmax pmax
comp=Z,154nm,0.8s
UBPT Khong Chiam 35.44 301 P **P** **04 05 03.4 -1.8**
comp=Z,249nm,1.6s
BKNI Bangkinang 35.65 274 P **P** **04 05 08.4 +1.2**
comp=Z,328nm,1.4s,comp=Z,13µm
BKNI Bangkinang 35.65 274 *e*P **P** **04 05 09.2 +2.1**
comp=Z,435nm,1.1s
JNU Nakatsue 35.69 352 P **P** **04 05 06.4 -0.9**
comp=Z,78nm,0.9s,baz=170,slow=3.6,SNR=13
JNU LR LR 04 17 28.1
comp=Z,112µm,20.9s,baz=151,slow=33
JNU Nakatsue 35.69 352 *e*P **P** **04 05 05.8 -1.5**
comp=Z,316nm,1.0s
PDSI Padang 36.15 272 P **P** **04 05 10.2 -1.3**
comp=Z,340nm,1.5s
IPM Ipoh 36.19 281 ⇓P **P** **04 05 10.7 -1.1**
IPM Ipoh 36.19 281 *e*P **P** **04 05 10.1 -1.7**
comp=Z,164nm,1.2s
SSE Sheshan 36.36 337 ⇓P **P** **04 05 13.5 +0.6**
SSE pP **pP** **04 05 19.8 +0.6**
SSE sP **sP** **04 05 22.3 +0.5**
SSE S **S** **04 10 57.5 +4.4**
SSE PMZ
comp=Z,120nm,1.2s
SSE PMZ
comp=Z,8µm,12.0s
SSE LN
comp=Z,46µm,16.1s
SSE LE
comp=Z,58µm,16.1s
SSE LZ
comp=Z,84µm,24.8s
KULM Kulim 36.71 282 ⇑P **P** **04 05 15.5 -0.7**
KULM Kulim 36.71 282 *e*P **P** **04 05 14.3 -1.8**
comp=Z,167nm,1.2s
KSJJU Jeju 36.84 346 P **P** **04 05 17.3 +0.3**
SNR=15
KSJJU Jeju 36.84 346 P **P** **04 05 17.3 +0.3**
SNR=15
SKLT Songkhla 37.13 285 P **P** **04 05 20.5 +0.7**
comp=Z,158nm,1.3s
MNSI Mandailing Nat 37.15 274 P **P** **04 05 19.6 -0.3**
comp=Z,127nm,1.0s
SKNT Sakolnakorn 37.48 302 P **P** **04 05 20.8 -1.9**
comp=Z,508nm,1.0s
KSWAN Wando 37.71 347 P **P** **04 05 24.4 0.0**
SNR=6.3
KSWAN Wando 37.71 347 P **P** **04 05 24.4 0.0**
SNR=6.3
KSJDO Jindo 37.88 346 P **P** **04 05 26.4 +0.5**
SNR=12
KSJDO Jindo 37.88 346 P **P** **04 05 26.4 +0.5**
SNR=12
PSI Prapat 38.01 278 P **P** **04 05 25.7 -1.7**
comp=Z,97nm,1.0s,baz=104,slow=2.3,SNR=22
PSI Prapat 38.01 278 *e*P **P** **04 05 24.5 -2.9**
PSI pmax pmax
comp=Z,210nm,1.0s
PSI Prapat 38.01 278 *e*P **P** **04 05 24.5 -2.9**
comp=Z,210nm,1.0s
KSBUS Busan 38.06 350 P **P** **04 05 27.2 0.0**
SNR=15
KSBUS Busan 38.06 350 P **P** **04 05 27.2 0.0**
SNR=15
NJ2 Nanjing 38.13 335 *e*P **P** **04 05 30.5 +2.5**
NJ2 pP **pP** **04 05 33.1 -1.2**
NJ2 sP **sP** **04 05 34.1 -2.8**
NJ2 S **S** **04 11 23.0 +2.9**
NJ2 sS **ScP** **04 11 29.0 -0.6**
NJ2 PMZ
comp=Z,120nm,1.1s
NJ2 PMZ
comp=Z,8µm,7.5s
NJ2 LN
comp=Z,54µm,25.4s
NJ2 LE
comp=Z,33µm,18.0s
NJ2 LZ
comp=Z,41µm,21.0s
TRTT Trang 38.18 286 P **P** **04 05 27.7 -1.0**
comp=Z,364nm,1.5s
KSHUK Heuksando 38.30 345 P **P** **04 05 30.7 +1.4**
SNR=24
KSHUK Heuksando 38.30 345 P **P** **04 05 29.8 +0.5**
SNR=6.3
KSKWJ Gwangju 38.39 347 P **P** **04 05 29.8 -0.3**
SNR=5.5
KSKWJ Gwangju 38.39 347 P **P** **04 05 30.0 -0.1**
SNR=9.3
KSGWJ Gwangju-acc 38.42 347 P **P** **04 05 30.4 0.0**
SNR=7.5
TSI Tuntungan 38.46 279 P **P** **04 05 33.1 +2.1**
comp=Z,273nm,1.5s
PATY Pattaya 38.58 294 P P 04 05 35.2 +3.2
comp=Z,15nm,1.3s,comp=Z,862nm
KSDAG Daegu 38.60 350 P **P** **04 05 31.4 -0.5**
SNR=21
KSDAG Daegu 38.60 350 P **P** **04 05 31.3 -0.5**
SNR=18
NAYO Nakonayok 38.68 296 P **P** **04 05 31.4 -1.4**
comp=Z,80nm,0.9s
MJAR Matsushiro Arr 38.72 2 P **P** **04 05 29.9 -3.0**
comp=Z,13nm,1.0s,baz=183,slow=9.6,SNR=5.2
MJAR PcP **PcP** **04 07 44.0 -0.5**
comp=Z,11nm,0.9s,baz=210,slow=4.2,SNR=3.4
MJAR LR LR 04 18 52.7
comp=Z,74µm,20.1s,baz=180,slow=32
MJAR Matsushiro Arr 38.72 2 P **P** **04 05 29.9 -3.0**
MJAR 04 07 44.0
MJAR pmax pmax
comp=Z,12nm,1.0s
MJAR pmax pmax
comp=Z,11nm,0.9s
MAJO Matsushiro 38.72 2 *e*P **P** **04 05 30.8 -2.1**
MAJO *e* 04 07 44.0
MAJO pmax pmax
comp=Z,79nm,1.3s
MAJO Matsushiro 38.72 2 *e*P **P** **04 05 30.8 -2.1**
comp=Z,79nm,1.3s
MAJO *e*PcP **PcP** **04 07 44.0 -0.5**
MAT Matsushiro 38.72 2 P **P** **04 05 30.2 -2.7**
MAT S **S** **04 11 25.0 -4.0**
KSYOC YEONGCHEON 38.79 350 P **P** **04 05 33.8 +0.4**
SNR=6.8
WHN Wuhan 38.99 329 P **P** **04 05 34.5 -0.7**
WHN S **S** **04 11 38.5 +5.3**
WHN LN
comp=Z,87µm,15.4s
WHN LE
comp=Z,127µm,17.9s
WHN LZ
comp=Z,89µm,17.9s
GSI Gunungsitoli 39.19 275 P **P** **04 05 34.8 -2.3**
comp=Z,232nm,1.3s
GSI Gunungsitoli 39.19 275 *e*P P 04 05 33.8 -3.4
comp=Z,477nm,1.4s
KSEUS ULSEONG 39.21 350 P **P** **04 05 37.0 +0.1**
SNR=6.8

SURT Suratani 39.32 287 P **P** **04 05 39.1 +0.9**
comp=Z,47nm,0.8s
KSULJ Uljin 39.43 351 P **P** **04 05 38.7 0.0**
SNR=15
TJN Taejon 39.48 348 ⇑*e*P **P** **04 05 39.1 -0.1**
PKDT Phuket 39.50 285 P P 04 05 43.3 +3.5
comp=Z,158nm,1.4s
KSKOJ Gongju 39.62 348 P **P** **04 05 39.4 -0.9**
SNR=14
KSCHJ Chungju 39.84 349 P **P** **04 05 42.6 +0.3**
SNR=5.4
KSTBA Taebaek 39.91 350 P **P** **04 05 42.7 -0.2**
SNR=18
KSCEA Cheonan 39.93 348 P **P** **04 05 42.4 -0.6**
SNR=19
KSSES Seosan 40.07 347 P **P** **04 05 44.3 +0.2**
SNR=7.4
KSJES JEONGSEON 40.26 350 P **P** **04 05 45.0 -0.7**
SNR=14
LHMI Lhok Sumawe 40.32 281 P **P** **04 05 45.1 -1.5**
comp=Z,568nm,1.0s
LHMI Lhok Sumawe 40.32 281 *e*P **P** **04 05 45.3 -1.3**
comp=Z,595nm,1.1s
KS15 Wonju Array Si 40.41 349 *e*P **P** **04 05 45.3 -1.6**
KS15 *e*PcP **PcP** **04 07 49.5 -0.3**
KSRS Korea Array 40.42 349 P **P** **04 05 45.3 -1.6**
comp=Z,11nm,0.9s,baz=177,slow=8.5,SNR=6.5
KSRS PcP **PcP** **04 07 49.6 -0.3**
comp=Z,7.3nm,0.8s,baz=169,slow=5.2,SNR=3.5
KSRS LR LR 04 19 54.7
comp=Z,47µm,21.6s,baz=178,slow=32
KSRS Korea Array 40.42 349 P **P** **04 05 45.3 -1.6**
KSRS 04 07 49.6
KSRS pmax pmax
comp=Z,11nm,1.0s
KSRS pmax pmax
comp=Z,7.0nm,0.8s
KSSWO Suwon 40.42 348 P **P** **04 05 47.2 +0.2**
SNR=12
KS01 Wonju Array Si 40.44 349 *e*P **P** **04 05 46.6 -0.6**
KSDGY Daegwallycong 40.51 350 P **P** **04 05 48.1 +0.2**
SNR=17
SNSI Sinabang, Aceh 40.54 276 P **P** **04 05 49.6 +1.2**
comp=Z,503nm,1.6s
KSSEO Seoul 40.64 348 P **P** **04 05 49.0 +0.2**
SNR=16
SRDT SRDT 40.67 295 P **P** **04 05 50.4 +1.0**
comp=Z,1µm,1.0s
KSJMJ Jumunjin 40.69 350 P **P** **04 05 49.8 +0.6**
SNR=24
GYA Guiyang 40.70 317 ⇑*i*P **P** **04 05 52.0 +2.3**
GYA PP **PnPn** **04 07 30.4 +2.6**
GYA PcP **PcP** **04 07 53.8 +2.6**
GYA ScP **ScP** **04 11 41.0 +1.2**
GYA S **S** **04 12 01.8 +2.6**
GYA sS **sS** **04 12 11.6 +1.9**
GYA SS **SS** **04 14 56.5 -3.6**
GYA PMZ
comp=Z,200nm,1.0s
GYA PMZ
comp=Z,3µm,12.6s
GYA LN
comp=Z,36µm,18.3s
GYA LE
comp=Z,47µm,22.0s
GYA LZ
comp=Z,71µm,22.9s
KSCHC Chuncheon 40.75 349 P **P** **04 05 49.2 -0.5**
SNR=7.5
UTTA Uttaradit 40.75 301 P **P** **04 05 48.4 -1.6**
comp=Z,56nm,1.0s,comp=Z,427nm
UTHA Uthaitani 40.83 297 P **P** **04 05 49.4 -1.3**
comp=Z,51nm,1.2s,comp=Z,404nm
KSIJA INJE 40.90 350 P **P** **04 05 51.8 +0.9**
SNR=7.5
KSMUS Musan 41.06 348 P **P** **04 05 52.3 +0.1**
SNR=15
NANT Nan 41.09 302 P **P** **04 05 51.4 -1.5**
comp=Z,75nm,1.0s,comp=Z,581nm
KSCWO Cheorwon 41.10 349 P **P** **04 05 53.5 +0.9**
SNR=14
SEHB SEOHWA 41.15 350 P **P** **04 05 53.5 +0.5**
SNR=7.4
YNCB YEONCHEON 41.18 348 P **P** **04 05 54.3 +1.1**
SNR=7.7
KHLT Khaolaem Dam 41.31 296 P **P** **04 05 55.7 +1.0**
comp=Z,66nm,0.7s
ENH Enshi 41.50 323 *e*P **P** **04 05 55.9 -0.2**
comp=Z,176nm,1.3s
TAU Tasmania Unive 41.50 168 P **P** **04 05 57.5 +1.7**
comp=Z,580nm,2.2s,SNR=5.1
TAU Tasmania Unive 41.50 168 *e*P **P** **04 05 56.7 +0.9**
TAU pmax pmax
comp=Z,381nm,1.6s
TAU Tasmania Unive 41.50 168 *e*P **P** **04 05 56.7 +0.9**
comp=Z,381nm,1.6s
LAMP Lampang 41.88 301 P **P** **04 05 58.3 -1.0**
comp=Z,86nm,1.0s,comp=Z,752nm
CM01 Chiang Mai Arr 42.41 301 *e*P **P** **04 06 02.3 -1.4**
CM31 Chiang Mai Arr 42.44 301 *e*P **P** **04 06 02.6 -1.3**
CM31 *e*PcP **PcP** **04 07 57.7 +0.8**
CMAR Chiang Mai Arr 42.44 301 P **P** **04 06 02.6 -1.2**
comp=Z,41nm,0.8s,baz=118,slow=6.7,SNR=44
CMAR PcP **PcP** **04 07 57.7 +0.8**
comp=Z,20nm,1.0s,baz=133,slow=1.5,SNR=3.3
CMAR Chiang Mai Arr 42.44 301 P **P** **04 06 02.7 -1.2**
CMAR 04 07 57.7
CMAR pmax pmax
comp=Z,38nm,0.8s
CMAR pmax pmax
comp=Z,20nm,1.0s
TIA Tai'an 42.45 336 ⇑P **P** **04 06 06.8 +3.1**
TIA S **S** **04 12 26.9 +2.3**
TIA PMZ
comp=Z,230nm,1.0s
TIA PMZ
comp=Z,17µm,9.8s
TIA LN
comp=Z,66µm,21.0s
TIA LE
comp=Z,48µm,15.9s
TIA LZ
comp=Z,76µm,23.5s
CHTO Chiang Mai 42.59 301 P **P** **04 06 03.4 -1.7**
comp=Z,807nm,1.1s
CHTO Chiang Mai 42.59 301 *e*P **P** **04 06 03.8 -1.4**
CHTO pmax pmax
comp=Z,190nm,1.0s
CHTO Chiang Mai 42.59 301 P **P** **04 06 04.0 -1.2**
SNR=47
CHTO Chiang Mai 42.59 301 *e*P **P** **04 06 03.8 -1.4**
comp=Z,190nm,1.0s
KMI Kunming 42.70 312 P **P** **04 06 05.4 -0.8**
KMI pP **pP** **04 06 10.8 -1.8**
KMI sP **sP** **04 06 13.8 -1.4**
KMI S **S** **04 12 31.9 +2.9**
KMI PMZ
comp=Z,9µm,10.5s
KMI LN
comp=Z,22µm,16.6s
KMI LE
comp=Z,27µm,18.4s
KMI LZ
comp=Z,40µm,24.8s
CMAI Chiengmai2 42.99 303 P **P** **04 06 07.1 -1.5**
comp=Z,300nm,0.7s
MHMT Maesarieng 43.20 300 P **P** **04 06 10.1 +0.1**
comp=Z,393nm,1.0s
DL2 Dalian 43.31 343 ⇓P **P** **04 06 11.5 +0.9**
DL2 S **S** **04 12 39.4 +2.3**
DL2 PMZ
comp=Z,200nm,1.5s
DL2 PMZ
comp=Z,26µm,12.7s
DL2 LE
comp=Z,30µm,14.7s
DL2 LZ
comp=Z,26µm,16.7s
MSVF Nonsavu 43.44 113 P P 04 06 16.3 +4.2
comp=Z,746nm,1.2s,SNR=7.5
MSVF Nonsavu 43.44 113 *e*P **P** **04 06 13.4 +1.3**
MSVF pmax pmax
comp=Z,272nm,1.2s
MSVF Nonsavu 43.44 113 *e*P **P** **04 06 13.4 +1.3**
comp=Z,272nm,1.2s
ERM Erimo 44.56 7 ⇑*e*P **P** **04 06 22.4 +1.8**
ERM pmax pmax

comp=Z,110nm,1.7s
XAN Xi'an 44.60 327 P P 04 06 22.3 +1.2
XAN pP **pP** **04 06 27.6 0.0**
XAN S **S** **04 12 57.3 +1.1**
XAN SS **SS** **04 16 10.8 -5.9**
XAN LN
comp=Z,40µm,26.6s
XAN LE
comp=Z,21µm,26.6s
XAN LZ
comp=Z,16µm,21.5s
VLA Vladivostok 45.46 355⇓ *i*P **P** **04 06 27.8 0.0**
VLA *i* 04 08 04.8
VLA *i* 04 08 14.0
VLA *e*S **S** **04 13 07.0 -1.3**
VLA pmax pmax
comp=Z,133nm,1.7s
CD2 Chengdu 45.52 319 P P 04 06 29.0 +0.5
CD2 pP **pP** **04 06 35.3 +0.3**
CD2 PcP **PcP** **04 08 07.3 +0.1**
CD2 PP **PP** **04 08 15.9 +0.6**
CD2 PcS **PcS** **04 12 01.4 0.0**
CD2 S **S** **04 13 11.0 +1.4**
CD2 PMZ
comp=Z,220nm,0.6s
CD2 PMZ
comp=Z,5µm,6.4s
CD2 LN
comp=Z,22µm,16.2s
CD2 LZ
comp=Z,24µm,17.6s
SNY Shenyang 45.54 346⇓ P **P** **04 06 26.9 -1.5**
SNY S **S** **04 13 11.8 +2.5**
SNY PMZ
comp=Z,12µm,10.8s
SNY LN
comp=Z,48µm,18.2s
SNY LE
comp=Z,31µm,14.4s
SNY LZ
comp=Z,60µm,21.6s
DGPR DIGLIPUR 46.00 291 *e*P **P** **04 06 30.5 -1.9**
DGPR AMB AMB 04 07 21.3
comp=Z,110nm,1.9s
BJT Baijiatuau 46.14 338 *e*P **P** **04 06 32.2 -1.0**
BJT pmax pmax
comp=Z,297nm,1.0s
BJT Baijiatuau 46.14 338 *e*P **P** **04 06 32.2 -1.0**
comp=Z,296nm,1.0s
USRK Ussuriysk Ar. 46.53 355 P **P** **04 06 34.8 -1.4**
comp=Z,11nm,0.8s,baz=178,slow=7.1,SNR=19
USRK LR LR 04 23 02.0
comp=Z,100µm,20.7s,baz=159,slow=32
ASAJ Asahikawa 46.57 6 LR LR 04 23 20.2
comp=Z,39µm,20.4s,baz=198,slow=33
ASAJ Asahikawa 46.57 6 *e*P **P** **04 06 35.8 -0.7**
comp=Z,300nm,1.3s
YUK Yuzh-Kuril'sk 46.92 9⇑ *i*P **P** **04 06 39.0 -0.2**
YUK *i* S **S** **04 13 31.4 +2.3**
YUK pmax pmax
comp=N,121nm,2.1s
YUK pmax pmax
comp=E,146nm,2.1s
YUK pmax pmax
comp=Z,264nm,2.1s
YUK MLR MLR
comp=N,9µm,18.0s
YUK MLR MLR
comp=E,15µm,18.0s
YUK MLR MLR
comp=Z,15µm,18.0s
CN2 Changchun 47.02 349 *e*P **P** **04 06 40.3 +0.2**
CN2 *e*pP **pP** **04 06 46.4 -0.1**
CN2 PcP **PcP** **04 08 13.3 +1.2**
CN2 *e*S **S** **04 13 31.3 +0.6**
CN2 PMZ
comp=Z,100nm,0.8s
CN2 PMZ
comp=Z,15µm,8.0s
CN2 LN
comp=Z,37µm,16.0s
CN2 LE
comp=Z,42µm,16.0s
CN2 LZ
comp=Z,42µm,17.0s
MDJ Mudanjiang 47.18 353 P **P** **04 06 39.8 -1.4**
MDJ pP **pP** **04 06 43.4 -4.3**
MDJ sP sP 04 06 45.0 -5.2
MDJ ScP **ScP** **04 12 07.1 +1.5**
MDJ PcS **PcS** **04 12 08.4 +0.8**
MDJ S S 04 13 39.9 +7.0
MDJ LN
comp=Z,38µm,18.8s
MDJ LE
comp=Z,18µm,16.6s
MDJ LZ
comp=Z,53µm,20.0s
MDJ Mudanjiang 47.18 353 *e*P **P** **04 06 41.5 +0.3**
comp=Z,217nm,1.2s
OUZ Omahuta 47.41 138 *e*P **P** **04 06 44.2 +1.0**
comp=Z,214nm,1.9s
KUR Kuril'sk 48.43 11 *e*P **P** **04 06 50.4 -0.5**
KUR *e*S **S** **04 13 49.9 -0.6**
KUR pmax pmax
comp=N,327nm,1.6s
KUR pmax pmax
comp=Z,375nm,1.6s
KUR pmax pmax
comp=E,482nm,1.6s
KUR MLR MLR
comp=N,29µm,17.0s
KUR MLR MLR
comp=Z,1µm,17.0s
HHC Hu-ho-hao-te 48.69 335 *e*P **P** **04 06 54.1 +1.0**
HHC S **S** **04 13 49.5 -5.1**
HHC ScS **ScS** **04 16 43.0 -1.9**
HHC SS SS 04 17 15.3 -10
HHC PMZ
comp=Z,22µm,6.4s
HHC LN
comp=Z,24µm,15.6s
HHC LE
comp=Z,15µm,15.2s
HHC LZ
comp=Z,25µm,14.8s
LZH Lanzhou 48.95 324 ⇑P **P** **04 06 56.8 +1.5**
LZH pP **pP** **04 07 01.3 -0.5**
LZH sP **sP** **04 07 03.8 -0.5**
LZH PP **PP** **04 08 50.9 +2.0**
LZH S **S** **04 13 59.3 +0.7**
LZH sS **sS** **04 14 13.5 +4.2**
LZH PMZ
comp=Z,140nm,1.1s
LZH PMZ
comp=Z,800nm,4.6s
LZH LN
comp=Z,19µm,14.8s
LZH LE
comp=Z,27µm,15.3s
LZH LZ
comp=Z,30µm,16.2s
GRZ Great Barrier 49.24 138 *e*P* **P** **04 07 00.4 +3.0**
YSS Yuzh-Sakhalins 49.40 6⇑ *e*P P 04 06 55.0 -3.3
YSS *e* 04 07 02.2
YSS *e* 04 07 11.5
YSS pmax pmax
comp=E,70nm,1.1s
YSS pmax pmax
comp=Z,80nm,1.1s
YSS Yuzh-Sakhalins 49.40 6 *e*P **P** **04 06 58.6 +0.3**
comp=Z,244nm,1.2s
HIZ Hauiti 50.15 141 P* **P** **04 07 07.0 +2.7**
QRZ Quartz Range 50.17 145 P* **P** **04 07 06.3 +1.9**
DSZ Denniston Nort 50.36 146 *e*P* **P** **04 07 07.9 +2.0**
JCZ Jackson Bay 50.36 150 *e*P* **P** **04 07 06.4 +0.5**
DCZ Deep Cove 50.63 152 *e*P* **P** **04 07 08.2 +0.5**
DCZ Deep Cove 50.63 152 *e*P **P** **04 07 09.0 +1.3**
comp=Z,368nm,1.2s
HABR Khabarovsk 50.64 359 *de*P **P** **04 07 06.2 -1.5**
HABR *e**PP **pP** **04 07 16.1 +1.9**
HABR *e**SP **sP** **04 07 20.2 +3.5**
HABR *e* 04 08 23.0
HABR *e* 04 09 02.5
HABR *e*S **S** **04 14 20.0 -1.4**
HABR *e**SS **sS** **04 14 36.6 +4.5**
HABR *e* 04 16 54.8
HABR *e*SS **SS** **04 17 56.1 +0.1**
HABR SSS SSS 04 19 28.7
HABR MLR MLR
comp=Z,21µm,16.0s
WVZ Waitaha Valley 50.67 148 *e*P* **P** **04 07 07.7 -0.4**
FWVZ Far West T-bar 51.02 141 *e*P* **P** **04 07 12.9 +1.8**
WHVZ Whangaehu Hut 51.06 141 P* **P** **04 07 13.6 +2.1**
RPZ Rata Peaks 51.28 148 P **P** **04 07 13.0 +0.2**
comp=Z,149nm,0.8s,baz=354,slow=2.6,SNR=19
RPZ Rata Peaks 51.28 148 *e*P **P** **04 07 13.3 +0.6**
comp=Z,814nm,1.4s
LBZ Lake Benmore 51.30 149 *e*P* **P** **04 07 12.7 -0.2**
LTZ Lake Taylor 51.30 147 P* **P** **04 07 13.9 +0.9**
WHZ Wether Hill Ro 51.31 152 *e*P **P** **04 07 13.4 +0.6**
comp=Z,959nm,1.9s
SHL Shillong 51.41 306 *e*P **P** **04 07 12.6 -1.5**
SHL AMB AMB 04 07 23.3
comp=Z,325nm,1.6s
SHL *e*S **S** **04 14 35.0 +1.8**
URZ Urewera 51.45 139 P **P** **04 07 14.4 +0.3**
comp=Z,142nm,1.1s,baz=318,slow=3.2,SNR=18
URZ LR LR 04 28 16.0
comp=Z,74µm,21.8s,baz=313,slow=35
URZ Urewera 51.45 139 *e*P **P** **04 07 14.7 +0.7**
comp=Z,550nm,1.5s
KLR Kul'dur 51.55 356 *e*P P 04 07 10.7 -3.9
KLR pmax pmax
comp=Z,300nm,1.8s
BKZ Black Stump Fm 51.57 140 *e*P **P** **04 07 15.6 +0.6**
comp=Z,692nm,1.8s
HAZ Te Kaha 51.62 138 P* **P** **04 07 16.2 +0.9**
SNZO South Karori 51.75 144 *e*P **P** **04 07 16.7 +0.5**
comp=Z,1µm,1.8s
TSZ Takapari Road 51.75 142 *e*P* **P** **04 07 16.5 +0.1**
MWZ Matawai 51.77 139 *e*P* **P** **04 07 17.7 +1.2**
KHZ Kahutara 51.77 145 *e*P* **P** **04 07 15.8 -0.6**
KHZ Kahutara 51.77 145 *e*P **P** **04 07 16.3 -0.1**
comp=Z,221nm,1.2s
MRZ Mangatainoka R 51.88 143 *e*P* **P** **04 07 16.7 -0.6**
ODZ Otahua Downs 52.00 150 *e*P* **P** **04 07 17.8 -0.3**
ODZ Otahua Downs 52.00 150 *e*P **P** **04 07 19.2 +1.2**
comp=Z,491nm,1.5s
MQZ McQueen's Vall 52.13 147 *e*P* **P** **04 07 18.8 -0.2**
TUZ Tuapeka 52.15 151 *e*P* **P** **04 07 19.6 +0.5**
BFZ Birch Farm 52.30 142 *e*P* **P** **04 07 19.1 -1.2**
BFZ Birch Farm 52.30 142 *e*P **P** **04 07 20.1 -0.3**
comp=Z,430nm,1.4s
HIA Hailar 53.45 346⇑ *e*P **P** **04 07 28.5 -0.2**
HIA pmax pmax
comp=Z,76nm,1.7s
HIA Hailar 53.45 346 *e*P **P** **04 07 29.1 +0.4**
comp=Z,117nm,1.0s
GTA Gaotai 53.55 325⇓ P **P** **04 07 29.3 -0.5**
GTA pP **pP** **04 07 35.4 -0.9**
GTA sP **sP** **04 07 37.8 -1.0**
GTA S **S** **04 15 01.8 -0.2**
GTA sS **sS** **04 15 11.3 -1.5**
GTA SS **SS** **04 18 40.8 -1.9**
GTA PMZ
comp=Z,10µm,10.9s
GTA LN
comp=Z,30µm,17.1s
GTA LE
comp=Z,25µm,18.5s
GTA LZ
comp=Z,21µm,18.5s
NKL Nikolayevsk 55.41 3 *e*P **P** **04 07 40.0 -2.8**
NKL *e* 04 15 28.0
NKL pmax pmax
comp=Z,840nm,1.4s
NKL pmax pmax
comp=E,40nm,1.0s
NKL pmax pmax
comp=N,310nm,1.4s
SKR Severo-Kuril's 55.41 15 *e*P **P** **04 07 43.4 +0.5**
SKR *e* 04 07 54.1
SKR pmax pmax
comp=Z,800nm,1.5s
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,180nm,1.0s
TAPN Taplejung 55.55 306 *e*P **P** **04 07 43.9 -0.8**
comp=E,2µm,1.5s
ODAN Odare 55.61 305 *e*P **P** **04 07 44.3 -0.8**
comp=E,1µm,1.2s
CHLP Challavanipeta 55.68 294 *e*P **P** **04 07 45.5 +0.1**
CHLP IAmb IAmb 04 07 55.6
comp=Z,442nm,1.4s
CHLP *e*PP **PP** **04 09 46.2 -3.8**
CHLP *e*S **S** **04 15 30.9 -0.2**
CHLP *e*SS **SS** **04 19 15.9 -0.8**
CHLP IVMs_BB IVMs_BB 04 26 56.1
comp=Z,7µm,24.5s
BOK Bokaro 55.73 301 *e*P **P** **04 07 44.6 -1.0**
BOK AMB AMB 04 07 55.9
comp=Z,165nm,1.8s
VIS Vishakhapatnam 56.14 293 *e*P **P** **04 07 47.9 -0.8**
VIS AMB AMB 04 07 58.9
comp=Z,160nm,3.0s
RAMN Ramite 56.30 305 *e*P **P** **04 07 49.1 -0.9**
comp=Z,2µm,1.4s
SONA0 Songino Array 56.52 336 *e*P **P** **04 07 50.7 -0.4**
SONM Songino Array 56.52 336 P **P** **04 07 50.7 -0.4**
comp=Z,25nm,1.0s,baz=149,slow=9.0,SNR=17
SONM LR LR 04 31 24.4
comp=Z,38µm,20.1s,baz=138,slow=35
SONM PKP2bc 04 37 55.0
comp=Z,1.7nm,0.9s,baz=266,slow=3.9,SNR=6.5
SONM Songino Array 56.52 336 P **P** **04 07 50.7 -0.4**
SONM pmax pmax
comp=Z,25nm,1.0s
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONA1 Songino Array 56.52 336 *e*P **P** **04 07 52.1 +0.9**
PALK Pallekele 56.59 280 P **P** **04 07 51.7 -0.4**
comp=Z,65nm,1.1s,baz=261,slow=7.2,SNR=6.6
PALK Pallekele 56.59 280 *e*P **P** **04 07 50.8 -1.3**
PALK pmax pmax
comp=Z,1µm,2.8s
PALK Pallekele 56.59 280 P P 04 07 57.5 +5.4
SNR=5.5
PALK Pallekele 56.59 280 *e*P **P** **04 07 50.8 -1.3**
comp=Z,1µm,2.8s
GUN Gumba 57.26 305 *e*P **P** **04 07 57.1 +0.1**
comp=Z,3µm,1.5s
PKI Pulchoki 57.51 305 *e*P **P** **04 07 58.3 -0.4**
comp=Z,1µm,1.3s
CIT Chita 57.58 343 *e*P **P** **04 07 59.1 +0.7**
CIT *e* 04 08 14.3
CIT pmax pmax
comp=Z,779nm,2.5s
PVM Polavaram 57.59 292 *e*P **P** **04 07 57.5 -1.6**
PVM IAmb IAmb 04 08 09.0
comp=Z,387nm,1.6s
PVM *e*S **S** **04 15 56.2 -0.2**
PVM IVMs_BB IVMs_BB 04 35 30.4
comp=Z,8µm,21.0s
KKN Kakani 57.70 305 *e*P **P** **04 07 58.7 -1.2**
comp=Z,2µm,1.4s
DMN Daman 57.78 305 *e*P **P** **04 08 00.2 -0.3**
comp=Z,668nm,0.9s
PEA0 Petropavlovsk- 58.03 15 *e*P **P** **04 08 01.1 -0.3**
PETK Petropavlovsk- 58.03 15 P **P** **04 08 00.7 -0.8**
comp=Z,91nm,0.9s,baz=184,slow=4.5,SNR=35
PETK LR LR 04 31 29.7
comp=Z,13µm,20.0s,baz=201,slow=35
PETK Petropavlovsk- 58.03 15 P **P** **04 08 00.7 -0.8**
PETK pmax pmax
comp=Z,92nm,1.0s
PET Petropavlovsk 58.20 15 *e*P **P** **04 08 03.9 +1.3**
PET *e*S **S** **04 16 00.9 -2.3**
PET pmax pmax
comp=Z,188nm,1.1s
GKN Gorkha 58.31 305 *e*P **P** **04 08 03.3 -0.8**
comp=Z,2µm,1.2s
SKHT Srikalahasti 58.62 288 *e*P **P** **04 08 05.4 -0.8**
SKHT IAmb IAmb 04 08 16.8
comp=Z,726nm,2.4s
SKHT *e*S **S** **04 16 07.1 -2.8**
SKHT IVMs_BB IVMs_BB 04 39 19.0
comp=Z,10µm,23.5s
ADKI Addanki 58.81 290 *e*P P 04 08 04.2 -3.4
KOLN Koldanda 59.08 304 *e*P **P** **04 08 08.8 -0.7**
comp=Z,2µm,1.1s
NJS Nagarjunasagar 59.59 291 *e*P **P** **04 08 11.9 -1.1**
NJS IAmb IAmb 04 08 22.6
comp=Z,200nm,1.2s
NJS *e*S **S** **04 16 21.5 -0.9**
NJS IVMs_BB IVMs_BB 04 32 31.0
comp=Z,8µm,20.4s
RCLA Racherla 59.68 289 *e*P **P** **04 08 12.5 -1.2**
RCLA IAmb IAmb 04 08 18.7
comp=Z,90nm,1.2s
RCLA *e*S **S** **04 16 22.9 -0.8**
RCLA *e*SS **SS** **04 20 17.9 -1.9**
RCLA IVMs_BB IVMs_BB 04 32 25.7
comp=Z,11µm,21.5s
CLNS Chul'man 59.76 353 *e*P **P** **04 08 10.7 -2.8**
CLNS pmax pmax
comp=Z,18nm,1.2s
CLNS pmax pmax
comp=N,16nm,1.3s
CLNS pmax pmax
comp=E,7.0nm,0.9s
ZAK Zakamensk 59.79 336 *e*P **P** **04 08 11.8 -2.1**
ZAK pmax pmax
comp=Z,241nm,1.5s
SRLM Srisailam 59.88 290 *e*P **P** **04 08 13.4 -1.7**
SRLM IAmb IAmb 04 08 26.4
comp=Z,226nm,1.2s
SRLM *e*S **S** **04 16 24.6 -1.6**
SRLM IVMs_BB IVMs_BB 04 32 21.1
comp=Z,8µm,23.2s
TRD Trivandrum 60.43 281 *e*P **P** **04 08 17.6 -1.2**
TRD AMB AMB 04 08 24.3
comp=Z,125nm,0.7s
HYB Hyderabad 60.48 291 *i*P **P** **04 08 17.5 -1.7**
HYB Hyderabad 60.48 291 *e*P **P** **04 08 19.5 +0.4**
HYB AMB AMB 04 08 29.2
comp=Z,146nm,1.7s
HYBB Hyderabad (bro 60.48 291 *e*P **P** **04 08 19.2 0.0**
HYBB IAmb IAmb 04 08 28.6
comp=Z,173nm,1.1s
HYBB *e*S **S** **04 16 33.8 -0.2**
HYBB IVMs_BB IVMs_BB 04 34 56.4
comp=Z,9µm,18.3s
TLY Talaya 60.65 337 P **P** **04 08 21.2 +1.5**
comp=Z,590nm,1.1s,SNR=15
TLY Talaya 60.65 337 P **P** **04 08 20.5 +0.8**
comp=Z,23nm,0.7s,baz=174,slow=6.3,SNR=11
TLY LR LR 04 33 48.6
comp=Z,46µm,20.9s,baz=137,slow=35
TLY PKP2bc 04 37 50.8
comp=Z,2.8nm,0.5s,baz=228,slow=2.0,SNR=7.4
TLY Talaya 60.65 337 *e*P **P** **04 08 20.2 +0.5**
TLY pmax pmax
comp=Z,204nm,1.7s
TLY Talaya 60.65 337 P **P** **04 08 20.8 +1.1**
SNR=47
TLY Talaya 60.65 337 *e*P **P** **04 08 21.6 +1.9**
comp=Z,143nm,1.1s
IRK Irkutsk 60.86 338 *e*P **P** **04 08 22.3 +1.3**
IRK *e*S **S** **04 16 39.9 +2.3**
IRK pmax pmax
comp=Z,616nm,2.0s
NGP Nagpur 60.94 296 *e*P **P** **04 08 22.2 +0.1**
NGP AMB AMB 04 08 31.7
comp=Z,190nm,0.0s
SRSP Sriramsagar 61.02 293 *e*P **P** **04 08 21.6 -1.2**
SRSP IAmb IAmb 04 08 34.2
comp=Z,180nm,1.1s
SRSP *e*S **S** **04 16 39.8 -1.0**
SRSP IVMs_BB IVMs_BB 04 33 23.7
comp=Z,7µm,20.5s
URV Uravakonda 61.18 288 *e*P **P** **04 08 22.7 -1.3**
URV *e*S **S** **04 16 40.7 -2.3**
URV IVMs_BB IVMs_BB 04 39 40.6
comp=Z,9µm,18.2s
MOY Mondy 61.70 336 *e*P **P** **04 08 26.6 -0.3**
MOY pmax pmax
comp=Z,183nm,2.2s
KLRI Killari 62.44 292 *e*P **P** **04 08 32.4 -0.1**
KLRI IAmb IAmb 04 08 41.5
comp=Z,192nm,1.3s
KLRI *e*S **S** **04 16 57.0 -2.0**
KLRI IVMs_BB IVMs_BB 04 37 35.5
comp=Z,11µm,21.6s
BOD Bodaibo 62.66 347 *e*P **P** **04 08 31.5 -1.6**
BOD pmax pmax
comp=Z,221nm,1.6s
AKL Akola 62.66 295 *e*P **P** **04 08 33.4 -0.5**
AKL AMB AMB 04 08 45.2
comp=Z,310nm,2.6s
BHPL Bhopal 62.94 298 *e*P **P** **04 08 32.8 -2.8**
BHPL AMB AMB 04 08 45.6
comp=Z,359nm,1.7s
SMY Shemya 63.27 24 *e*P **P** **04 08 39.2 +2.0**
SMY pmax pmax
comp=Z,2µm,1.7s
SMY Shemya 63.27 24 *e*P **P** **04 08 39.2 +2.0**
comp=Z,2µm,1.7s
JOSI Joshimath 63.37 306 *e*P **P** **04 08 41.3 +2.7**
JOSI AMB AMB 04 08 46.3
comp=Z,3µm,1.1s
WMQ Urumqi 63.43 322 P **P** **04 08 37.8 -0.8**
WMQ pP **pP** **04 08 44.0 -1.2**
WMQ sP **sP** **04 08 46.8 -0.9**
WMQ PcP **PcP** **04 09 14.4 -0.9**
WMQ PP **PP** **04 10 58.9 +0.6**
WMQ PcS 04 13 16.6
WMQ S S 04 17 03.3 -7.3
WMQ ScS **SKSac** **04 18 26.1 -4.8**
WMQ SS **SS** **04 21 18.3 +0.5**
WMQ PMZ
comp=Z,250nm,0.8s
WMQ PMZ
comp=Z,5µm,6.1s
WMQ LN
comp=Z,28µm,17.8s
WMQ LE
comp=Z,11µm,16.4s
WMQ LZ
comp=Z,19µm,22.0s
AGRA Agra 63.63 302 *e*P **P** **04 08 38.6 -1.5**
AGRA AMB AMB 04 08 47.6
comp=Z,327nm,1.9s
KALG Kalgarh 63.67 305 *ex* P 04 08 45.8 +5.5
KALG AMB AMB 04 08 52.6
comp=Z,155nm,0.8s
DRV Dumont d'Urvil 64.23 178 S **S** **04 17 16.0 -3.5**
DRV SS SS 04 21 49.0 +20
DRV L L 04 24 00.0
DRV R 04 28 00.0
YAK Yakutsk 64.43 356 P **P** **04 08 44.1 -0.5**
comp=Z,12nm,0.6s,baz=357,slow=23,SNR=17
YAK LR LR 04 33 13.5
comp=Z,89µm,21.6s,baz=186,slow=33
YAK Yakutsk 64.43 356 *e*P **P** **04 08 44.9 +0.3**
YAK *e**PP **pP** **04 08 54.6 +3.3**
YAK *e* 04 09 17.3
YAK *e* 04 11 11.5
YAK *e*PPP PPP 04 12 43.9
YAK *e*S **S** **04 17 25.1 +3.1**
YAK *e* 04 17 53.6
YAK pmax pmax
comp=Z,506nm,1.2s
YAK pmax pmax
comp=N,278nm,1.4s
YAK pmax pmax
comp=E,24nm,1.0s
YAK pmax pmax
comp=Z,12nm,0.5s
YAK pmax pmax
comp=N,8.0nm,0.3s
YAK pmax pmax
comp=E,5.0nm,0.2s
YAK smax smax
comp=N,81nm,1.8s
YAK smax smax
comp=E,2µm,5.2s
YAK Yakutsk 64.43 356 *e*P **P** **04 08 45.3 +0.7**
comp=E,460nm,0.9s
BISR Bishrakh 64.46 303 *ex* P 04 08 49.1 +3.6
BISR AMB AMB 04 08 54.6
comp=Z,786nm,0.8s
DDI Dehra Dun 64.51 305 *e*P **P** **04 08 45.5 -0.5**
DDI AMB AMB 04 08 56.5
comp=Z,1µm,0.3s

HVS	**Khovu-Aksy**	**64.56**	**332**	*ce*	P		**P**	**04 08 45.8**	**-0.1**
HVS					pmax		pmax			
	comp=Z,286nm,1.0s									
SONA	**Sohna**	**64.66**	**303**	*e*	P		**P**	**04 08 45.2**	**-1.6**
SONA					AMB		AMB	04 08 55.5		
	comp=Z,668nm,1.9s									
NDI	**New Delhi**	**64.68**	**303**	*e*	P		**P**	**04 08 45.5**	**-1.5**
AYAN	**Aya Nagar**	**64.70**	**303**	*e*	P		**P**	**04 08 47.1**	**0.0**
AYAN					AMB		AMB	04 08 56.4		
	comp=Z,407nm,0.9s									
BHGR	**Bahadurgarh**	**64.92**	**303**	*e*	P		**P**	**04 08 48.2**	**-0.3**
BHGR					AMB		AMB	04 08 57.9		
	comp=Z,563nm,1.0s									
POO	**Poona**	**65.09**	**292**	*e*	P		**P**	**04 08 50.6**	**+0.7**
POO					AMB		AMB	04 08 59.4		
	comp=Z,330nm,0.5s									
KUDL	**Kundal**	**65.13**	**302**	*e*	P		**P**	**04 08 49.0**	**-0.9**
KUDL				*ex*			x	04 08 53.9		
KUDL					AMB		AMB	04 08 59.3		
	comp=Z,647nm,1.7s									
KKR	**Kurukshetra**	**65.41**	**304**	*e*	P		**P**	**04 08 51.1**	**-0.6**
SMLA	**Simla**	**65.50**	**306**	*e*	P		**P**	**04 08 52.7**	**+0.4**
SMLA				*i x*			x	04 08 57.8		
SMLA					AMB		AMB	04 09 02.7		
	comp=Z,848nm,1.3s									
KHET	**Khetri**	**65.69**	**302**	*e*	P		**P**	**04 08 52.5**	**-1.1**
KHET					AMB		AMB	04 09 02.7		
	comp=Z,578nm,1.1s									
SEY	**Seymchan**	**66.20**	**8**		P		**P**	**04 08 54.8**	**-1.3**
	comp=Z,57nm,1.0s,baz=178,slow=6.1,SNR=28									
SEY					LR		LR	04 35 57.4		
	comp=Z,18µm,21.1s,baz=208,slow=34									
SEY	**Seymchan**	**66.20**	**8**	*ce*	P		**P**	**04 08 57.3**	**+1.2**
AJM	**Ajmer**	**66.24**	**300**	*ex*	P		A	04 09 02.0	+4.8
CASY	**Casey**	**66.40**	**191**	*e*	P		**P**	**04 08 57.8**	**+0.5**
	comp=Z,307nm,1.5s									
DHRM	**DHARAMSHALA**	**66.56**	**307**	*e*	P		**P**	**04 08 58.9**	**-0.4**
DHRM					AMB		AMB	04 09 08.8		
	comp=Z,726nm,0.6s									
HON	**Honolulu**	**68.09**	**66**	*e*	P		**P**	**04 09 09.0**	**+0.1**
HON	**Honolulu**	**68.09**	**66**	*e*	P		**P**	**04 09 09.0**	**+0.1**
KIP	**Kipapa**	**68.10**	**66**	⇓*e*	P		**P**	**04 09 10.9**	**+1.9**
KIP					pmax		pmax			
	comp=Z,559nm,1.7s									
KIP	**Kipapa**	**68.10**	**66**	*e*	P		**P**	**04 09 08.7**	**-0.3**
	comp=Z,379nm,1.1s									
OPA	**Opana**	**68.16**	**66**	*e*	P		**P**	**04 09 09.6**	**+0.2**
OPA	**Opana**	**68.16**	**66**	*e*	P		**P**	**04 09 09.6**	**+0.2**
KRAR	**Krasnoyarsk**	**68.18**	**335**	⇓*e*	P		**P**	**04 09 10.2**	**+1.4**
KRAR					pmax		pmax			
	comp=Z,46nm,0.6s									
MK01	**Makanchi Array**	**68.21**	**323**	*e*	P		**P**	**04 09 08.7**	**-0.6**
MK31	**Makanchi Array**	**68.23**	**323**	*i*	P		**P**	**04 09 08.3**	**-1.1**
MK31					pmax		pmax			
	comp=Z,643nm,1.4s									
MK32	**Makanchi Array**	**68.23**	**323**	*e*	P		**P**	**04 09 08.0**	**-1.4**
MKAR	**Makanchi Array**	**68.23**	**323**		P		**P**	**04 09 08.0**	**-1.4**
	comp=Z,31nm,0.7s,baz=108,slow=7.8,SNR=28									
MKAR					PKP2bc			04 37 26.4		
	comp=Z,0.9nm,0.8s,baz=336,slow=2.7,SNR=5.3									
MKAR					LR		LR	04 38 49.4		
	comp=Z,15µm,21.9s,baz=120,slow=36									
MKAR	**Makanchi Array**	**68.23**	**323**	*e*	P		**P**	**04 09 08.8**	**-0.6**
MKAR	**Makanchi Array**	**68.23**	**323**	*e*	P		**P**	**04 09 08.8**	**-0.6**
PDGK	**Podgornoye**	**68.41**	**319**		P		**P**	**04 09 07.9**	**-2.6**
PDGK					pmax		pmax			
	comp=Z,482nm,1.4s									
KSH	**Kashi**	**69.31**	**314**		P		**P**	**04 09 17.4**	**+1.0**
KSH					pP		**pP**	**04 09 23.3**	**+0.2**
KSH					sP		**sP**	**04 09 26.1**	**+0.5**
KSH					PcP		**PcP**	**04 09 40.6**	**+0.7**
KSH					PP		**PP**	**04 11 49.5**	**-0.3**
KSH					PcS			04 13 45.8		
KSH					S		**S**	**04 18 25.6**	**+3.3**
KSH					sS		**sS**	**04 18 37.5**	**+4.2**
KSH					ScS		**SKSac**	**04 19 15.5**	**-0.3**
KSH					PMZ					
	comp=Z,770nm,1.7s									
KSH					LN					
	comp=Z,10µm,16.5s									
KSH					LE					
	comp=Z,12µm,16.4s									
KSH					LZ					
	comp=Z,25µm,24.7s									
BHJ	**Bhuj**	**69.89**	**296**	*e*	P		**P**	**04 09 19.6**	**-0.5**
BHJ					AMB		AMB	04 09 30.9		
	comp=Z,425nm,0.7s									
POHA	**Pohakuloa**	**70.07**	**68**	*e*	P		**P**	**04 09 21.6**	**0.0**
	comp=Z,516nm,1.2s									
ULHL	**Ulaho**	**70.15**	**317**		P		**P**	**04 09 21.6**	**-0.1**
	SNR=13									
ZAA0	**Zalesovo Array**	**70.58**	**330**	*e*	P		**P**	**04 09 21.9**	**-1.9**
ZALV	**Zalesovo Beam**	**70.58**	**330**		P		**P**	**04 09 21.4**	**-2.3**
	comp=Z,27nm,0.8s,baz=115,slow=5.7,SNR=22									
ZALV					PKP2bc			04 37 16.0		
	comp=Z,0.7nm,0.3s,baz=259,slow=1.5,SNR=3.9									
ZALV					LR		LR	04 41 18.7		
	comp=Z,16µm,19.6s,baz=132,slow=37									
ZALV	**Zalesovo Beam**	**70.58**	**330**		P		**P**	**04 09 21.4**	**-2.3**
ZALV					pmax		pmax			
	comp=Z,27nm,0.8s									
ZALV					pmax		pmax			
	comp=Z,1.0nm,0.3s									
ZALV					MLR		MLR			
	comp=Z,16µm,19.6s									
ZAA1	**Zalesovo Array**	**70.58**	**331**	*e*	P		**P**	**04 09 21.4**	**-2.3**
KZA	**Kyzart**	**70.77**	**316**		P		**P**	**04 09 25.9**	**+0.2**
	SNR=18									
TKM2	**Tokmak 2**	**70.84**	**317**		P		**P**	**04 09 25.7**	**-0.2**
	SNR=16									
TKM2	**Tokmak 2**	**70.84**	**317**	*e*	P		**P**	**04 09 25.6**	**-0.2**
TKM2					pmax		pmax			
	comp=Z,768nm,2.0s									
TKM2	**Tokmak 2**	**70.84**	**317**	*e*	P		**P**	**04 09 25.6**	**-0.2**
	comp=Z,768nm,2.0s									
MIR	**Mirnyy**	**70.91**	**197**	*e*	P		P	04 09 35.0	+10
MIR					pmax		pmax			
	comp=Z,680nm,2.0s									
SFK	**Sufi-Kurgan**	**71.27**	**314**		P		**P**	**04 09 27.0**	**-1.5**
SFK					pmax		pmax			
	comp=Z,300nm,1.5s									
UCH	**Uchtor**	**71.33**	**316**		P		**P**	**04 09 26.5**	**-2.7**
	SNR=16									
CHMS	**Chumysh**	**71.45**	**317**		P		P	04 09 34.8	+5.5
	SNR=11									
AAK	**Ala-Archa**	**71.49**	**317**		P		P	04 09 35.8	+6.1
	SNR=11									
AAK	**Ala-Archa**	**71.49**	**317**	*e*	P		**P**	**04 09 29.2**	**-0.5**
AAK					pmax		pmax			
	comp=Z,205nm,1.3s									
AAK	**Ala-Archa**	**71.49**	**317**	*e*	P		**P**	**04 09 29.2**	**-0.5**
	comp=Z,205nm,1.3s									
USP	**Ospenovka**	**71.72**	**317**		P		P	04 09 36.7	+5.8
	SNR=15									
NVS	**Novosibirsk**	**71.84**	**331**	⇑*i*	P		**P**	**04 09 29.7**	**-1.6**
NVS				*e*				04 12 12.6		
NVS				*eS*			**S**	**04 18 47.9**	**-2.9**
NVS					pmax		pmax			
	comp=N,192nm,1.4s									
NVS					pmax		pmax			
	comp=E,247nm,1.4s									
NVS					pmax		pmax			
	comp=Z,452nm,1.4s									
NVS					pmax		pmax			
	comp=N,780nm,2.0s									
NVS					pmax		pmax			
	comp=E,112nm,2.0s									
NVS					pmax		pmax			
	comp=Z,193nm,2.0s									
NVS					smax		smax			
	comp=N,1µm,5.7s									
NVS					smax		smax			
	comp=E,713nm,4.8s									
AML	**Almayashu**	**71.87**	**316**		P		**P**	**04 09 32.2**	**-0.1**
	SNR=16									
KURK	**Kurchatov**	**72.22**	**326**		P		**P**	**04 09 32.1**	**-1.6**
	comp=E,1µm,1.4s,SNR=27									
KURK	**Kurchatov**	**72.22**	**326**	*e*	P		**P**	**04 09 32.7**	**-1.0**
KURK					pmax		pmax			
	comp=Z,767nm,1.3s									
KURK	**Kurchatov**	**72.22**	**326**		P		**P**	**04 09 35.9**	**+2.2**
	SNR=104									
KURK	**Kurchatov**	**72.22**	**326**	*e*	P		**P**	**04 09 32.7**	**-1.0**
	comp=Z,767nm,1.3s									
KURBB	**Kurchatov Arra**	**72.23**	**325**		P		**P**	**04 09 32.3**	**-1.4**
	comp=Z,39nm,0.9s,baz=116,slow=5.8,SNR=24									
KURBB					PKP2bc			04 37 14.7		
	comp=Z,1.0nm,0.5s,baz=318,slow=2.8,SNR=7.9									
PAF	**Port-aux-Franc**	**72.99**	**219**		S		**SKiKP**	**04 19 09.0**	**-1.3**
PAF					L		L	04 28 00.0		
PAF					R			04 33 00.0		
SPIA	**Saint Paul Isl**	**73.01**	**27**	*e*	P		**P**	**04 09 39.7**	**+1.4**
	comp=Z,1µm,1.5s									
KBL	**Kabul**	**73.03**	**307**	*e*	P		**P**	**04 09 38.0**	**-1.2**
KBL					pmax		pmax			
	comp=Z,494nm,1.7s									
KBL	**Kabul**	**73.03**	**307**	*e*	P		**P**	**04 09 38.0**	**-1.2**
	comp=Z,494nm,1.7s									
UNV	**Unalaska Valle**	**73.11**	**31**	*e*	P		**P**	**04 09 39.6**	**+0.7**
	comp=Z,341nm,1.1s									
BILL	**Bilibino**	**73.21**	**11**	⇑*e*	P		**P**	**04 09 40.7**	**+1.4**
BILL				*i*				04 09 59.3		
BILL				*i*				04 12 23.2		
BILL					pmax		pmax			
	comp=Z,56nm,1.7s									
BILL					MLR		MLR			
	comp=Z,18µm,21.0s									
BILL	**Bilibino**	**73.21**	**11**	*e*	P		**P**	**04 09 39.9**	**+0.7**
	comp=Z,186nm,1.3s									
PAE	**Paea**	**73.87**	**108**	*e*	P		**P**	**04 09 45.7**	**+1.6**
	comp=Z,32nm,1.2s									
PPT	**Papeete**	**73.87**	**108**		P		**P**	**04 09 43.0**	**-1.1**
	comp=Z,16nm,0.8s,baz=188,slow=4.7,SNR=2.0									
PPT					LR		LR	04 39 51.1		
	comp=Z,20µm,21.3s,baz=266,slow=34									
PPT	**Papeete**	**73.87**	**108**		P		**P**	**04 09 43.0**	**-1.1**
PPT					pmax		pmax			
	comp=Z,16nm,0.8s									
PPT	**Papeete**	**73.87**	**108**	*e*	P		**P**	**04 09 46.6**	**+2.5**
PPT2	**Papeete2**	**73.87**	**108**	*e*	P		**P**	**04 09 46.1**	**+1.9**
	comp=Z,144nm,1.1s									
PPT2					*e*S		**S**	**04 19 17.9**	**+2.4**
	comp=Z,36µm,26.0s									
PPT2	**Papeete2**	**73.87**	**108**	*e*	LQ		LQ	04 29 34.9		
	comp=Z,191µm,38.5s									
PPT2					*e*LR		LR	04 32 40.8		
	comp=Z,48µm,23.2s,baz=272									
TIXI	**Tiksi**	**74.04**	**357**	⇑*i*	P		**P**	**04 09 44.4**	**+0.4**
TIXI					pmax		pmax			
	comp=Z,55nm,1.2s									
TIXI	**Tiksi**	**74.04**	**357**	*e*	P		**P**	**04 09 43.8**	**-0.2**
	comp=Z,479nm,1.8s									
TIAR	**Tiarei**	**74.09**	**107**	*e*	P		**P**	**04 09 47.3**	**+1.8**
	comp=Z,121nm,1.4s									
TVO	**Taravao**	**74.19**	**108**	*e*	P		**P**	**04 09 48.2**	**+2.1**
	comp=Z,100nm,1.5s									
TBI	**Tubuai**	**74.33**	**113**	*e*	P		**P**	**04 09 48.5**	**+1.8**
	comp=Z,462nm,1.2s									
TBI	**Tubuai**	**74.33**	**113**	*e*	LQ		LQ	04 29 44.3		
	comp=Z,58µm,34.8s									
TBI					*e*LR		LR	04 32 51.6		
	comp=Z,73µm,36.2s									
DZET	**Dzherino**	**74.34**	**311**		P		**P**	**04 09 47.2**	**+0.5**
DZET					pmax		pmax			
	comp=Z,470nm,1.3s									
KK31	**Karatay Array**	**74.40**	**316**	*i*	P		**P**	**04 09 47.7**	**+0.9**
KK31					pmax		pmax			
	comp=Z,300nm,1.3s									
KKAR	**Karatay Array**	**74.40**	**316**	*e*	P		**P**	**04 09 46.0**	**-0.8**
KKAR	**Karatay Array**	**74.40**	**316**	*e*	P		**P**	**04 09 46.0**	**-0.8**
MEH	**Mehetia**	**75.32**	**108**	*e*	P		**P**	**04 09 54.1**	**+1.5**
	comp=Z,57nm,1.4s									
PMOR	**Pomariorio Ree**	**75.39**	**105**	*e*	P		**P**	**04 09 54.7**	**+1.7**
	comp=Z,355nm,1.3s									
VAH	**Vaihoa**	**75.66**	**105**	*e*	P		**P**	**04 09 55.9**	**+1.4**
	comp=Z,121nm,1.1s									
VNDA	**Vanda**	**76.33**	**175**		P		**P**	**04 09 56.8**	**-0.4**
	comp=Z,65nm,0.9s,baz=323,slow=6.5,SNR=79									
VNDA					PKKPbc		**PKKPbc**	**04 29 16.4**	**+2.4**
	comp=Z,1.5nm,1.0s,baz=292,slow=1.7,SNR=4.4									
VNDA					LR		LR	04 43 54.8		
	comp=Z,70µm,18.8s,baz=354,slow=36									
VNDA	**Vanda**	**76.33**	**175**		P		**P**	**04 09 56.8**	**-0.4**
VNDA					pmax		pmax			
	comp=Z,65nm,0.9s									
VNDA					pmax		pmax			
	comp=Z,2.0nm,1.0s									
VNDA					MLR		MLR			
	comp=Z,70µm,18.8s									
SDPT	**Sand Point**	**76.92**	**31**	*e*	P		**P**	**04 10 01.4**	**+0.5**
	comp=Z,410nm,1.1s									
SBA	**Scott Base**	**77.12**	**174**	*e*	P		**P**	**04 10 02.3**	**+0.7**
SBA					pmax		pmax			
	comp=Z,2µm,2.7s									
SBA	**Scott Base**	**77.12**	**174**	*e*	P		**P**	**04 10 02.3**	**+0.7**
	comp=Z,2µm,2.7s									
BVA0	**Borovoye Array**	**77.82**	**326**		P		**P**	**04 10 06.1**	**+0.1**
BVA0					pmax		pmax			
	comp=Z,442nm,1.3s									
BVAR	**Borovoye Array**	**77.82**	**326**		P		**P**	**04 10 05.5**	**-0.5**
	comp=Z,29nm,0.6s,baz=120,slow=6.7,SNR=29									
BVAR	**Borovoye Array**	**77.82**	**326**		P		**P**	**04 10 05.5**	**-0.5**
BVAR					pmax		pmax			
	comp=Z,29nm,0.6s									
BRVK	**Borovoye**	**77.89**	**326**		P		**P**	**04 10 05.6**	**-0.8**
	comp=Z,2µm,1.4s,SNR=22									
BRVK	**Borovoye**	**77.89**	**326**	⇑*e*	P		**P**	**04 10 05.6**	**-0.8**
BRVK					pmax		pmax			
	comp=Z,117nm,1.7s									
BRVK	**Borovoye**	**77.89**	**326**		P		**P**	**04 10 05.8**	**-0.6**
	SNR=107									
BRVK	**Borovoye**	**77.89**	**326**	*e*	P		**P**	**04 10 05.8**	**-0.6**
	comp=Z,286nm,1.0s									
CHGN	**Chignik**	**78.36**	**31**	*e*	P		**P**	**04 10 09.8**	**+0.9**
TNA	**Tin City**	**78.55**	**20**	*e*	P		**P**	**04 10 11.0**	**+1.3**
	comp=Z,296nm,1.6s									
MRIV	**Mauritius Mete**	**78.97**	**250**	*e*	P		**P**	**04 10 11.9**	**-1.2**
WBK	**Wadi Bani Khal**	**79.50**	**293**		P		P	04 10 24.9	+9.0
	SNR=14									
JMDO	**Jabal Madar**	**80.27**	**293**		P		P	04 10 28.3	+8.2
	SNR=14									
SMDO	**Samad**	**80.40**	**294**		P		P	04 10 24.2	+3.3
	SNR=21									
IMYA	**Miami**	**80.55**	**307**	*e*	P		**P**	**04 10 21.4**	**-0.1**
ISRO	**Mashad**	**81.04**	**307**	*e*	P		**P**	**04 10 24.4**	**+0.3**
IMOG	**Moghan**	**81.11**	**307**	*e*	P		**P**	**04 10 24.7**	**-0.1**
HOQ	**Hoqain**	**81.13**	**294**		P		**P**	**04 10 24.9**	**+0.1**
	SNR=66									
BSY	**Bisya**	**81.14**	**293**		P		P	04 10 33.4	+8.6
	SNR=14									
IPAY	**Payeh**	**81.44**	**307**	*e*	P		**P**	**04 10 25.8**	**-0.6**
SVW2	**Sparrevohn**	**81.51**	**27**	*e*	P		**P**	**04 10 25.9**	**0.0**
	comp=Z,115nm,1.4s									
IAKL	**Akhelmad**	**81.66**	**307**	*e*	P		**P**	**04 10 26.9**	**-0.6**
MAW	**Mawson**	**81.67**	**202**		P		**P**	**04 10 26.9**	**+0.3**
	comp=Z,26nm,0.9s,baz=75,slow=6.1,SNR=24									
MAW					PKKPbc		**PKKPbc**	**04 28 59.5**	**-2.3**
	comp=Z,8.3nm,1.1s,baz=286,slow=9.7,SNR=4.7									
MAW					LR		LR	04 45 21.6		
	comp=Z,33µm,20.4s,baz=72,slow=35									
MAW	**Mawson**	**81.67**	**202**		P		**P**	**04 10 26.9**	**+0.3**
MAW					pmax		pmax			
	comp=Z,26nm,1.0s									
MAW					pmax		pmax			
	comp=Z,8.0nm,1.1s									
ARQ	**Araqi**	**81.83**	**294**		P		P	04 10 34.8	+6.4
	SNR=20									
KDAK	**Kodiak Island**	**81.87**	**31**		P		**P**	**04 10 27.0**	**-0.8**
	comp=Z,1µm,1.0s,SNR=12									
IKRD	**Kardeh**	**81.88**	**307**	*e*	P		P	04 10 25.1	-3.6
SHAO	**Shalim**	**82.15**	**288**		P		P	04 10 39.1	+8.9
	SNR=5.3									
UOSS	**Wadi Hilu**	**82.29**	**295**		P		**P**	**04 10 32.7**	**+1.9**
	comp=Z,566nm,1.0s,SNR=10.0									
BANOM	**Banah**	**82.31**	**296**		P		**P**	**04 10 31.1**	**+0.2**
	SNR=26									
ISFR	**Sfrayin**	**82.33**	**308**	*e*	P		**P**	**04 10 28.2**	**-2.9**
HATD	**Hatta, Dubai**	**82.34**	**295**	⇓	P		**P**	**04 10 33.8**	**+2.8**
ASHO	**Ashiyiah**	**82.39**	**295**		P		P	04 10 36.5	+5.2
	SNR=20									
ASHO	**Ashiyiah**	**82.39**	**295**	⇓	P		**P**	**04 10 32.9**	**+1.5**
RSO	**Redoubt South**	**82.61**	**28**	*e*	P		**P**	**04 10 31.9**	**0.0**
ISHV	**Shirvan**	**82.63**	**308**	*e*	P		**P**	**04 10 33.8**	**+1.2**
NAZ	**Nazwa, Dubai**	**82.78**	**295**	⇑	P		**P**	**04 10 34.7**	**+1.4**
TAOE	**Nuku Hiva Isla**	**82.98**	**99**	*e*	LQ		LQ	04 33 27.0		
TAOE					*e*LR		LR	04 37 00.0		
	comp=Z,55µm,26.7s									
AB31	**Akbulak array**	**83.09**	**320**	*i*	P		**P**	**04 10 34.5**	**+0.1**
AB31					pmax		pmax			
	comp=Z,117nm,1.4s									
ABKAR	**Akbulak array**	**83.09**	**320**	*e*	P		**P**	**04 10 32.8**	**-1.6**
SPU	**Mount Spurr**	**83.15**	**28**	*e*	P		**P**	**04 10 36.1**	**+1.5**
BRLK	**Bradley Lake**	**83.29**	**29**	*e*	P		**P**	**04 10 36.4**	**+1.1**
	comp=Z,105nm,1.1s									
RBK	**Rabkut**	**83.46**	**288**		P		P	04 10 45.4	+8.4
	SNR=8.6									
PPLA	**Purkeypile**	**83.62**	**26**	*e*	P		**P**	**04 10 38.2**	**+1.2**
	comp=Z,171nm,1.4s									
IM04	**Indian Mountai**	**83.95**	**23**	*e*	P		**P**	**04 10 39.0**	**+0.5**
SEW	**Seward**	**84.08**	**29**	*e*	P		**P**	**04 10 39.4**	**+0.2**
	comp=Z,382nm,1.8s									
RC01	**Rabbit Creek A**	**84.21**	**28**	*e*	P		**P**	**04 10 38.9**	**-1.0**
	comp=Z,111nm,1.0s									
ABTO	**Aybut**	**84.31**	**288**		P		P	04 10 50.0	+8.6
	SNR=9.8									
SVE	**Sverdlovsk**	**84.31**	**328**	⇓*e*	P		**P**	**04 10 39.8**	**-0.7**
SVE					pmax		pmax			
	comp=Z,750nm,1.8s									
BPAW	**Bear Paw Mtn.**	**84.49**	**25**	*e*	P		P	04 10 44.5	+3.2
	comp=Z,195nm,2.8s									
AKTO	**Aktyubinsk**	**84.54**	**321**		P		**P**	**04 10 40.7**	**-1.1**
	comp=Z,10nm,0.5s,baz=68,slow=7.4,SNR=11									
AKTO	**Aktyubinsk**	**84.54**	**321**	*e*	P		**P**	**04 10 40.7**	**-1.1**
TRF	**Thorofare Moun**	**84.61**	**26**	*e*	P		**P**	**04 10 41.6**	**-0.5**
	comp=Z,66nm,1.1s									
PMR	**Palmer**	**84.62**	**28**	*e*	P		**P**	**04 10 41.7**	**-0.2**
PMR	**Palmer**	**84.62**	**28**	*e*	P		**P**	**04 10 41.7**	**-0.2**
MLY	**Manley**	**84.86**	**24**	*e*	P		**P**	**04 10 43.6**	**+0.5**
	comp=Z,633nm,2.1s									
BWN	**Browne**	**85.15**	**25**	*e*	P		**P**	**04 10 45.6**	**+1.1**
	comp=Z,349nm,1.2s									
RND	**Reindeer**	**85.21**	**26**	*e*	P		**P**	**04 10 44.9**	**-0.1**
RND					pmax		pmax			
	comp=Z,210nm,1.1s									
RND	**Reindeer**	**85.21**	**26**	*e*	P		**P**	**04 10 44.9**	**-0.1**
	comp=Z,210nm,1.1s									
MCK	**McKinley**	**85.26**	**25**	*e*	P		**P**	**04 10 44.9**	**-0.3**
MCK					pmax		pmax			
	comp=Z,229nm,1.5s									
MCK	**McKinley**	**85.26**	**25**	*e*	P		**P**	**04 10 44.9**	**-0.3**
	comp=Z,229nm,1.5s									
ARU	**Arti**	**85.35**	**327**		P		**P**	**04 10 45.7**	**0.0**
	comp=Z,1µm,1.1s,SNR=30									
ARU	**Arti**	**85.35**	**327**	*c i*	P		**P**	**04 10 47.3**	**+1.6**
ARU					S		S	04 21 09.1	-6.2
ARU					pmax		pmax			
	comp=Z,133nm,1.7s									
ARU	**Arti**	**85.35**	**327**	*e*	P		**P**	**04 10 45.2**	**-0.5**
	comp=Z,459nm,1.4s									
IANJ	**Anjilo**	**85.40**	**306**	*e*	P		P	04 10 43.5	-3.3
SCM	**Sheep Creek Mo**	**85.51**	**28**	*e*	P		**P**	**04 10 46.9**	**+0.4**
SCM					pmax		pmax			
	comp=Z,314nm,1.1s									
SCM	**Sheep Creek Mo**	**85.51**	**28**	*e*	P		**P**	**04 10 46.9**	**+0.4**
	comp=Z,314nm,1.1s									
IKIA	**Kiasar**	**85.66**	**306**	*e*	P		**P**	**04 10 48.4**	**+0.3**
COLD	**Coldfoot**	**85.70**	**22**	*e*	P		**P**	**04 10 48.7**	**+1.4**
	comp=Z,338nm,1.2s									
WRH	**Wood River Hil**	**85.81**	**25**	*e*	P		**P**	**04 10 48.0**	**+0.2**
	comp=Z,233nm,1.3s									
MDM	**Murphy Dome**	**85.87**	**24**	*e*	P		**P**	**04 10 48.3**	**+0.1**
	comp=Z,301nm,2.1s									
CCB	**Clear Creek Bu**	**85.97**	**25**	*e*	P		**P**	**04 10 47.5**	**-1.1**
	comp=Z,297nm,1.2s									
COLA	**College**	**86.01**	**24**	⇓*e*	P		**P**	**04 10 49.2**	**+0.4**
COLA					pmax		pmax			
	comp=Z,318nm,1.7s									
COLA	**College**	**86.01**	**24**	*e*	P		**P**	**04 10 49.0**	**+0.2**
	comp=Z,232nm,1.4s									
DIV	**Divide**	**86.08**	**28**	*e*	P		**P**	**04 10 50.5**	**+1.1**
	comp=Z,343nm,1.1s									
ILAS	**Lasjerd**	**86.16**	**306**	*e*	P		**P**	**04 10 49.6**	**-1.0**
HDA	**Harding Lake**	**86.27**	**25**	*e*	P		**P**	**04 10 50.0**	**-0.2**
	comp=Z,172nm,1.3s									
IALA	**Alasht**	**86.35**	**306**	*e*	P		**P**	**04 10 54.6**	**+3.1**
IFIR	**Firoozkooh**	**86.36**	**306**	*e*	P		**P**	**04 10 51.7**	**+0.1**
IL1	**Eielson Array**	**86.39**	**25**	*e*	P		**P**	**04 10 48.9**	**-1.8**
ILAR	**Eielson Array**	**86.39**	**25**		P		**P**	**04 10 49.5**	**-1.2**
	comp=Z,44nm,1.0s,baz=265,slow=4.6,SNR=66									
ILAR					PKKPbc		**PKKPbc**	**04 28 49.6**	**-1.3**
	comp=Z,1.1nm,0.9s,baz=90,slow=0.9,SNR=2.4

comp=Z,17nm,1.1s
VRHR Novokhopersk 94.95 321 *e*P **P** **04 11 30.7 -0.4**
VRHR pmax pmax
comp=Z,20nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,1.1s
BBB Bella Bella 95.09 38 LR LR 04 49 57.8
comp=E,16µm,19.2s,baz=278,slow=33
TMCR Tamitsa 95.85 334 *e*P P 04 11 39.6 +4.8
TMCR pmax pmax
comp=Z,127nm,1.4s
VORD Divnogorie 96.43 321 *e*P **P** **04 11 37.4 -0.4**
VORD pmax pmax
comp=Z,60nm,1.8s
VORD pmax pmax
comp=N,60nm,0.6s
VORD pmax pmax
comp=E,30nm,0.3s
VSR Storozhevoye 96.49 321 *e*P **P** **04 11 37.2 -0.9**
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=Z,30nm,1.3s
VSR pmax pmax
comp=E,10.0nm,0.9s
LPSR Galich'ya Gora 96.53 323 *e*P **P** **04 11 38.6 +0.4**
LPSR pmax pmax
comp=N,7.0nm,0.8s
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR pmax pmax
comp=E,9.0nm,0.7s
LVZ Lovozero 96.66 338⇓ *e*P **P** **04 11 40.6 +2.0**
LVZ pmax pmax
comp=Z,42nm,1.2s
MOS Moscow 97.00 326 *e*P **P** **04 11 42.6 +2.3**
MOS *e* 04 15 36.8
MOS pmax pmax
comp=Z,199nm,1.4s
APA Apatity 97.19 338⇑ *i*P Pdif 04 11 43.5 +2.5
APA *e*S **S** **04 23 02.0 -1.0**
APA pmax pmax
comp=Z,79nm,1.2s
APA MLR MLR
comp=Z,40µm,24.0s
OBN Obninsk 97.66 325⇑ *e*P **P** **04 11 41.5 -1.8**
OBN *i* 04 15 41.3
OBN *e*S S 04 22 59.3 -8.2
OBN pmax pmax
comp=Z,48nm,1.7s
OBN MLR MLR
comp=Z,29µm,23.0s
OBN Obninsk 97.66 325 P Pdif 04 11 48.8 +5.5
comp=Z,523nm,1.0s,SNR=7.2
OBN Obninsk 97.66 325 *e*P **P** **04 11 42.8 -0.5**
comp=Z,193nm,1.3s
ANN Anapa 98.16 315 *e*P Pdif 04 11 51.1 +5.3
ANN pmax pmax
comp=Z,100nm,1.8s
SPA0 Spitsbergen Ar 98.26 350 *e*P **P** **04 11 44.7 -0.9**
SPITS Spitsbergen Ar 98.26 350 P **P** **04 11 44.7 -0.9**
comp=Z,22nm,0.9s,baz=80,slow=8.9,SNR=6.5
SPITS Spitsbergen Ar 98.26 350 P **P** **04 11 44.7 -0.9**
SPITS pmax pmax
comp=Z,22nm,0.9s
NVL N'lazarevskaya 98.65 196⇓ *i*P Pdif 04 11 53.6 +6.2
NVL pmax pmax
comp=Z,12nm,0.9s
NVL MLR MLR
comp=Z,45µm,18.0s
G03D McMinnville, O 98.81 45 P Pdif 04 11 49.3 +0.6
baz=99
L02D Cave Junction, 98.84 48 P Pdif 04 11 50.1 +1.1
baz=99
I03D Drain, OR 98.89 46 P Pdif 04 11 50.0 +0.9
baz=99
HUMO Hull Mountain 99.28 47 *e*P **Pdif** **04 11 52.1 +1.2**
comp=Z,27nm,1.3s
KMBO Kilima Mbogo 99.29 268 P **Pdif** **04 11 52.9 +1.0**
comp=Z,17nm,1.2s,baz=33,slow=8.7,SNR=6.2
KMBO LR LR 04 56 21.5
comp=Z,11µm,19.6s,baz=92,slow=35
KMBO Kilima Mbogo 99.29 268 *e*P **Pdif** **04 11 50.6 -1.2**
comp=Z,229nm,2.8s
M02C Callahan 99.46 49 P **Pdif** **04 11 53.2 +1.4**
baz=100
ARA0 ARCESS Array S 99.48 341 *e*P **Pdif** **04 11 51.2 +0.1**
ARA0 *e*PKKPbc **PKKPbc** **04 28 15.7 -1.1**
ARCES ARCESS Array B 99.48 341 PKKPbc PKKPbc 04 28 15.7 -1.1
comp=Z,2.3nm,0.7s,baz=318,slow=1.2,SNR=4.5
ARCES LR LR 04 59 44.1
comp=Z,25µm,21.8s,baz=70,slow=37
YBH Yreka Blue Hor 99.54 48 P **Pdif** **04 11 49.4 -2.8**
comp=Z,2.2nm,0.9s,baz=185,slow=4.7,SNR=2.0
YBH PP **PP** **04 15 56.6 +0.6**
comp=Z,6.0nm,1.0s,baz=230,slow=5.1,SNR=3.6
YBH Yreka Blue Hor 99.54 48 P **Pdif** **04 11 49.4 -2.8**
YBH 04 15 56.6
YBH pmax pmax
comp=Z,2.0nm,0.9s
YBH pmax pmax
comp=Z,6.0nm,1.0s
YBH Yreka Blue Hor 99.54 48 *e*P **Pdif** **04 11 53.8 +1.6**
comp=Z,34nm,1.5s
YBH *e*PP **PP** **04 15 54.4 -1.6**
I04A Tendick Farm, 99.56 46 P **Pdif** **04 11 53.2 +1.1**
baz=100
N02D Trinity Center 99.61 49 P **Pdif** **04 11 53.9 +1.4**
baz=100
H04A Detroit Lake 99.62 45 *e*Pdif **Pdif** **04 11 52.8 +0.4**
comp=Z,31nm,1.4s
WDC Whiskeytown Da 99.77 49 *e*P **Pdif** **04 11 54.8 +1.7**
WDC pmax pmax
comp=Z,61nm,1.6s
WDC Whiskeytown Da 99.77 49 *e*Pdif **Pdif** **04 11 54.8 +1.7**
comp=Z,61nm,1.6s
J04D Umpqua Nationa 99.83 47 P **Pdif** **04 11 54.8 +1.2**
baz=100
G05D Wamic, OR 100.17 45 P **Pdif** **04 11 56.6 +1.7**
baz=100
M04C Macdoel 100.18 48 P **Pdif** **04 11 56.1 +1.0**
baz=100
I05D Terrebonne, OR 100.26 45 P **Pdif** **04 11 56.6 +1.3**
baz=100
J05D Fort Rock, OR 100.46 47 P **Pdif** **04 11 57.6 +1.3**
baz=100
SIM Simferopol' 100.49 315 *e*P **Pdif** **04 12 02.0 +5.8**
SIM pmax pmax
comp=Z,24nm,1.0s
YKA Yellowknife Ar 100.69 27 P **Pdif** **04 11 57.0 +0.3**
comp=Z,6.3nm,0.9s,baz=287,slow=4.6,SNR=12
YKA PP **PP** **04 16 01.9 -1.9**
comp=Z,3.2nm,1.0s,baz=294,slow=7.7,SNR=3.4
YKA Yellowknife Ar 100.69 27 P **Pdif** **04 11 57.0 +0.3**
YKA 04 16 01.9
YKA pmax pmax
comp=Z,6.0nm,0.9s
YKA pmax pmax
comp=Z,3.0nm,1.0s
YKB5 Yellowknife Ar 100.69 27 *e*Pdif **Pdif** **04 11 55.4 -1.2**
YKB5 *e*PP PP 04 15 56.5 -7.3
K05A Summer Lake 100.78 47 *e*Pdif **Pdif** **04 11 58.7 +0.9**
B08A Colville Reser 101.09 41 *e*Pdif **Pdif** **04 11 59.7 +0.8**
BR101 Keskin Array S 101.47 310 *e*Pdif **Pdif** **04 12 01.3 +0.5**
BR101 *e*PP **PP** **04 16 07.9 -2.8**
BR101 *e*PKKPbc **PKKPbc** **04 28 08.1 -2.2**
BRTR Keskin Array B 101.47 310 P **Pdif** **04 12 01.3 +0.5**
comp=Z,2.0nm,1.0s,baz=94,slow=4.5,SNR=2.4
BRTR PP **PP** **04 16 07.9 -2.8**
comp=Z,3.0nm,0.9s,baz=106,slow=7.7,SNR=3.8
BRTR PKKPbc **PKKPbc** **04 28 08.1 -2.2**
comp=Z,0.6nm,0.8s,baz=31,slow=5.9,SNR=3.4
BRTR Keskin Array B 101.47 310 P **Pdif** **04 12 01.3 +0.5**
BRTR 04 16 07.9
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR pmax pmax
comp=Z,1.0nm,0.8s
SNAA Sanae 101.62 192 P **Pdif** **04 11 52.9 -7.9**
SNAA Sanae 101.62 192 P PKKPbc 04 28 00.3 -10
SNAA Sanae 101.62 192 PKKPbc PKKPbc 04 28 09.3 -1.4
comp=Z,1.7nm,0.9s,baz=299,slow=9.5,SNR=9.0

CMB Columbia Colle 101.69 52 *e*P **Pdif** **04 12 02.8 +1.0**
CMB Columbia Colle 101.69 52 *e*Pdif **Pdif** **04 12 02.8 +1.0**
FIA0 FINESS Array S 101.78 333 *e*P **Pdif** **04 12 01.0 -0.5**
FIA0 *e* 04 16 09.3
FIA0 FINESS Array S 101.78 333 *e*Pdif **Pdif** **04 12 01.0 -0.5**
FIA0 *e*PP **PP** **04 16 09.3 -2.7**
FIA0 *e*PKKPbc **PKKPbc** **04 28 10.5 +0.6**
FINES FINESS Array B 101.78 333 P **Pdif** **04 12 01.0 -0.5**
comp=Z,6.4nm,1.0s,baz=90,slow=6.9,SNR=4.3
FINES PP **PP** **04 16 09.3 -2.7**
comp=Z,7.4nm,0.9s,baz=74,slow=8.3,SNR=4.4
FINES PKKPbc **PKKPbc** **04 28 10.5 +0.6**
comp=Z,2.6nm,0.9s,baz=123,slow=7.0,SNR=4.2
FINES FINESS Array B 101.78 333 P **Pdif** **04 12 01.0 -0.5**
FINES 04 16 09.3
FINES pmax pmax
comp=Z,6.0nm,1.0s
FINES pmax pmax
comp=Z,7.0nm,0.9s
FINES pmax pmax
comp=Z,3.0nm,1.0s
RES Resolute Bay 101.81 12 P **Pdif** **04 12 01.7 +0.3**
comp=Z,35nm,1.0s,baz=297,slow=4.2,SNR=9.2
RES Resolute Bay 101.81 12 *e*P **Pdif** **04 12 01.6 +0.2**
VSU Vasula 102.31 330⇑ *i*P **Pdif** **04 12 05.1 +1.2**
VSU pmax pmax
comp=Z,132nm,1.7s
WAKR Walker 102.38 51 *e*Pdif **Pdif** **04 12 08.8 +3.8**
WAKR *e*PP PP 04 16 10.4 -7.3
WAKR *e*PKiKP **PKiKP** **04 16 22.9 -3.8**
PKM Mcpherson Peak 102.48 55 P **Pdif** **04 12 06.5 +1.0**
baz=103
NEW Newport 102.56 41 *e*P **Pdif** **04 12 07.2 +1.8**
NEW Newport 102.56 41 P **Pdif** **04 12 06.8 +1.4**
baz=103
NEW Newport 102.56 41 *e*Pdif **Pdif** **04 12 07.2 +1.8**
NEW *e*PP PP 04 16 12.5 -6.0
MICGM Minsk 102.72 326 *e* **Pdif** **04 12 10.0 +4.1**
MNK Minsk 102.75 326 *e*P **Pdif** **04 12 10.0 +4.0**
AKASG Malin Array Be 102.78 322 P **Pdif** **04 12 04.4 -1.8**
comp=Z,16nm,1.0s,baz=63,slow=4.1,SNR=18
AKASG PP **PKiKP** **04 16 24.4 -2.3**
comp=Z,7.5nm,0.9s,baz=63,slow=7.2,SNR=5.1
AKASG Malin Array Be 102.78 322 P **Pdif** **04 12 04.4 -1.8**
AKASG 04 16 24.5
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG pmax pmax
comp=Z,8.0nm,1.0s
AKBB Malin Array Si 102.78 322 *e*P **Pdif** **04 12 04.4 -1.8**
AKBB *e* 04 16 24.4
AKBB Malin Array Si 102.78 322 *e*Pdif **Pdif** **04 12 04.4 -1.8**
AKBB *e*PP **PKiKP** **04 16 24.4 -2.4**
KIEV Kiev 102.79 322⇑ *e*P **Pdif** **04 12 07.3 +1.0**
KIEV Kiev 102.79 322 *e*Pdif **Pdif** **04 12 07.8 +1.5**
AK11 Malin Array Si 102.82 322 *e*Pdif **Pdif** **04 12 07.4 +1.0**
VES Vestal, Richgr 102.97 54 P **Pdif** **04 12 08.3 +0.8**
baz=103
NV01 Mina Array Sit 103.27 51 *e*Pdif **Pdif** **04 12 11.5 +2.5**
NV01 *e*PP PP 04 16 17.8 -6.5
NVAR Mina Array Bea 103.27 51 Pdiff **Pdif** **04 12 08.3 -0.7**
comp=Z,2.9nm,0.8s,baz=258,slow=5.5,SNR=12
NVAR PP PP 04 16 18.9 -5.5
comp=Z,4.5nm,1.1s,baz=288,slow=5.6,SNR=4.6
NVAR PKKPbc **PKKPbc** **04 28 08.5 +3.5**
comp=Z,1.0nm,0.8s,baz=106,slow=2.9,SNR=3.2
ISA Isabella, Lake 103.49 54 P **Pdif** **04 12 10.7 +0.8**
baz=104
VNA1 Neumayer--Stat 103.53 191 P **Pdif** **04 12 10.3 +1.2**
VNA1 Neumayer--Stat 103.53 191 P **PKKPbc** **04 28 05.8 +0.9**
EDW2 Edwards Air Fo 103.97 55 P **Pdif** **04 12 14.0 +1.9**
baz=104
MWC Mount Wilson 104.00 55 *e*P **Pdif** **04 12 14.8 +2.5**
MWC *i* 04 16 31.6
MWC Mount Wilson 104.00 55 *e*Pdif **Pdif** **04 12 14.8 +2.5**
MWC *e*PKiKP **PP** **04 16 31.6 +1.7**
DAC Darwin (Calif) 104.12 53 *e*P **Pdif** **04 12 15.3 +2.5**
DAC *i* 04 16 30.0
DAC Darwin (Calif) 104.12 53 *e*Pdif **Pdif** **04 12 15.3 +2.5**
DAC *e*PKiKP **PKiKP** **04 16 30.0 0.0**
MPMC Manual Prospec 104.23 54 P **Pdif** **04 12 15.0 +1.7**
baz=104
BFSC Mount Baldy Ra 104.32 55 P **Pdif** **04 12 14.3 +0.6**
baz=104
MFID Camas Ranch 104.34 46 *e*Pdif **Pdif** **04 12 10.6 -3.0**
MFID *e*PKiKP **PP** **04 16 35.6 +3.6**
WALA Waterton Lakes 104.47 40 *e*Pdif **Pdif** **04 12 18.4 +4.4**
WALA *e*PKiKP **PKiKP** **04 16 26.5 -3.7**
JTMT Jette 104.53 41 *e*PKiKP PKiKP 04 16 24.6 -5.7
CFR Carcaliu 104.63 316⇑ *i*P PP 04 16 46.7 +13
YBMT Yellow Bay 104.68 41 *e*PKiKP **PKiKP** **04 16 30.2 -0.4**
SWMT Swartz Lake 104.77 41 *e*PKiKP PKiKP 04 16 25.1 -5.7
MURC Murrieta 104.78 56 P **Pdif** **04 12 17.2 +1.6**
baz=105
GSC Goldstone, Bar 104.88 54 P **Pdif** **04 12 17.5 +1.4**
baz=105
PSN Preselentsi 104.90 315⇓ *i*P PP 04 16 48.1 +12
MSO Missoula 104.96 42 P **PKiKP** **04 16 32.3 +1.2**
baz=105
MSO Missoula 104.96 42 *e*PKiKP **PKiKP** **04 16 30.6 -0.5**
MSAB Monastry St. A 105.07 315⇑ *i*P **PP** **04 16 38.6 +1.4**
TPNV Topopah Spring 105.09 52 *e*P **Pdif** **04 12 20.4 +3.3**
TPNV *i* 04 16 35.7
TPNV Topopah Spring 105.09 52 P **PKiKP** **04 16 32.8 +1.1**
baz=105
TPNV Topopah Spring 105.09 52 *e*Pdif **Pdif** **04 12 20.4 +3.3**
TPNV *e*PKiKP **PP** **04 16 35.7 -2.2**
SLMT Seeley Lake 105.17 42 *e*PKiKP **PKiKP** **04 16 31.7 +0.1**
ELK Elko 105.25 48 PKKPbc PKKPbc 04 27 59.2 0.0
comp=Z,0.9nm,0.8s,baz=41,slow=20,SNR=2.4
ELK Elko 105.25 48 *e*P **Pdif** **04 12 19.6 +1.8**
ELK Elko 105.25 48 *e*Pdif **Pdif** **04 12 19.6 +1.8**
ELK *e*PKiKP **PKiKP** **04 16 27.7 -4.3**
HLID Hailey 105.32 45 P **PKiKP** **04 16 33.0 +1.0**
baz=105
HLID Hailey 105.32 45 *e*Pdif **Pdif** **04 12 19.2 +1.2**
HLID *e*PKiKP PKiKP 04 16 25.1 -6.9
BAR Barrett 105.33 57 *e*Pdif **Pdif** **04 12 16.6 -1.4**
PFO Pinyon Flats O 105.39 56 *e*P **Pdif** **04 12 21.0 +2.5**
PFO Pinyon Flats O 105.39 56 *e*Pdif **Pdif** **04 12 21.0 +2.5**
PFO *e*PKiKP **PKiKP** **04 16 31.5 -0.8**
R11A Troy Canyon, C 105.40 51 P **PKiKP** **04 16 33.1 +0.9**
baz=106
R11A Troy Canyon, C 105.40 51 *e*Pdif **Pdif** **04 12 20.4 +2.0**
R11A *e*PKiKP **PP** **04 16 37.8 -2.3**
CHMT Chamberlain Mo 105.40 42 *e*Pdif **Pdif** **04 12 19.9 +1.6**
CHMT *e*PKiKP PKiKP 04 16 23.7 -8.4
PLOR Plostina 105.51 317⇓ *i*P PP 04 16 46.3 +5.8
ISR Istrita 105.75 316⇓ *i*P PP 04 16 49.8 +7.5
MBAR Mbarara 105.82 269 *e*P **Pdif** **04 12 28.5 +7.7**
MBAR Mbarara 105.82 269 *e*Pdif **Pdif** **04 12 28.5 +7.7**
GMRC Granite Mounta 105.89 55 P **PKiKP** **04 16 34.5 +1.3**
baz=106
SHPR Sheep Range 106.03 53 *e*Pdif **Pdif** **04 12 20.1 -1.2**
BUR04 Bucovina Ar. S 106.05 319 *e*Pdif **Pdif** **04 12 20.8 -0.2**
MLR Muntele Rosu 106.08 317⇑ *i*P **PP** **04 16 48.9 +4.1**
MCMT McKenzie Canyo 106.15 44 *e*Pdif **Pdif** **04 12 21.6 -0.2**
MCMT *e*PKiKP **PKiKP** **04 16 32.2 -1.4**
LRM Limekiln Ridge 106.20 43 *e*Pdif **Pdif** **04 12 23.0 +1.1**
LRM *e*PKiKP **PKiKP** **04 16 34.6 +1.0**
LVV L'vov 106.23 321 *e*P **Pdif** **04 12 28.1 +6.5**
BOZ Bozeman (W) 106.80 43 P **PKiKP** **04 16 35.4 +0.8**
baz=107
BGU Big Grassy Mou 106.86 48 *e*PKiKP PKiKP 04 16 42.3 +7.4
HVU Hansel Valley 106.88 47 *e*P **Pdif** **04 12 26.3 +1.4**
HVU Hansel Valley 106.88 47 *e*Pdif **Pdif** **04 12 26.3 +1.4**
HVU *e*PKiKP **PKiKP** **04 16 35.6 +0.8**
DUG Dugway, Tooele 107.18 49 *e*P **Pdif** **04 12 28.1 +1.9**
DUG Dugway, Tooele 107.18 49 P **PKiKP** **04 16 36.8 +1.3**
baz=107
DUG Dugway, Tooele 107.18 49 *e*Pdif **Pdif** **04 12 28.1 +1.9**
DUG *e*PKiKP **PKiKP** **04 16 36.5 +1.0**
CCUT Cedar City 107.27 51 *e*Pdif **Pdif** **04 12 31.6 +4.8**
CCUT *e*PKiKP **PKiKP** **04 16 32.4 -3.5**
EGMT Eagleton 107.41 40 P **PKiKP** **04 16 37.3 +1.7**
baz=107
BOSA Boshof 107.48 239 PKKPbc PKKPbc 04 27 51.2 -0.5
comp=Z,13nm,1.3s,baz=228,slow=18,SNR=2.5
KOLS Kolonicke sedl 107.58 321 *e*P **Pdif** **04 12 33.9 +6.2**
KOLS *e* 04 16 56.1
KOLS Kolonicke sedl 107.58 321 *e* **Pdif** **04 12 33.9 +6.2**
KOLS *e*PP **PP** **04 16 56.1 +0.5**
KNB Kanab 107.79 52 *e*P **Pdif** **04 12 32.1 +3.0**

KNB Kanab 107.79 52 *e*Pdif **Pdif** **04 12 32.1 +3.0**
KNB *e*PKiKP PKiKP 04 16 43.5 +6.7
HWUT Hardware Ranch 107.80 47 *e*PKiKP **PKiKP** **04 16 38.5 +1.9**
TPAW Teton Pass 107.80 45 *e*PKiKP PKiKP 04 16 43.1 +6.4
SNOW Snow King Moun 107.94 45 *e*PKiKP **PKiKP** **04 16 40.0 +3.0**
MSU Marysvale 108.00 50 *e*PKiKP **PKiKP** **04 16 37.2 +0.1**
STHS Stebnicka Huta 108.08 322 *e*P **Pdif** **04 12 37.2 +7.3**
STHS *e* 04 17 02.7
STHS Stebnicka Huta 108.08 322 *e* **Pdif** **04 12 37.2 +7.3**
STHS *e* **PP** **04 17 02.7 +3.5**
MPU Maple Canyon 108.10 49 *e*Pdif **Pdif** **04 12 31.1 +0.6**
MPU *e*PKiKP **PKiKP** **04 16 36.6 -0.7**
APE Apeiranthos 108.17 308⇓ *i*P **PP** **04 17 00.0 -0.3**
B20A Solberg Farm, 108.39 39 P **PKiKP** **04 16 38.1 +0.8**
baz=106
NB2 NORSAR Subarra 108.49 335 PP PP 04 17 01.3 -0.5
comp=Z,66nm,1.7s,baz=59,slow=7.4
NB2 NORSAR Subarra 108.49 335 PP PP 04 17 01.3 -0.5
baz=59,slow=7.4
NB200 NORSAR Array S 108.49 335 *e*Pdif **Pdif** **04 12 31.3 -0.2**
NB200 *e*PP **PP** **04 16 57.5 -4.2**
NB200 *e*PKKPbc **PKKPbc** **04 27 48.0 -1.5**
NOA NORSAR Array B 108.49 335 Pdiff **Pdif** **04 12 31.3 -0.2**
comp=Z,0.7nm,0.9s,baz=78,slow=2.1,SNR=2.8
NOA PP **PP** **04 16 57.5 -4.2**
comp=Z,4.8nm,1.0s,baz=70,slow=7.9,SNR=3.9
NOA PKKPbc **PKKPbc** **04 27 48.0 -1.5**
comp=Z,0.9nm,0.8s,baz=80,slow=3.1,SNR=4.9
NOA NORSAR Array B 108.49 335 P **Pdif** **04 12 31.3 -0.2**
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA pmax pmax
comp=Z,5.0nm,1.0s
NOA pmax pmax
comp=Z,1.0nm,0.8s
NBO02 NORSAR Array S 108.64 335 *e*Pdif **Pdif** **04 12 35.6 +3.5**
VTS Vitosha 108.69 314⇑ *i*P **PP** **04 17 02.7 -1.4**
OJC Ojcow 108.70 323 *e*P **Pdif** **04 12 39.8 +7.2**
OJC Ojcow 108.70 323 *e*Pdif **Pdif** **04 12 39.8 +7.2**
KECS Kecovo 108.85 321 *e*P **Pdif** **04 12 39.2 +5.9**
KECS *e* 04 17 04.4
KECS Kecovo 108.85 321 *e* **Pdif** **04 12 39.2 +5.9**
KECS *e*PP **PP** **04 17 04.4 -0.4**
BW06 Boulder Array 108.96 45 *e*PKiKP **PKiKP** **04 16 42.6 +3.8**
PD31 Pinedale Array 108.96 45 *e*PKiKP **PKiKP** **04 16 38.1 -0.7**
PD31 *e*PKKPbc **PKKPbc** **04 27 48.1 +0.4**
PDAR Pinedale Array 108.96 45 PKiKP **PKiKP** **04 16 38.1 -0.7**
comp=Z,0.9nm,0.4s,baz=349,slow=0.9,SNR=13
PDAR PKKPbc **PKKPbc** **04 27 48.1 +0.4**
comp=Z,2.4nm,0.8s,baz=92,slow=3.7,SNR=5.3
BZS Buzias 108.98 318⇑ *i*P PKiKP 04 16 45.8 +7.4
I19A Meeteetse 109.03 44 P **PKiKP** **04 16 39.7 +0.8**
baz=109
SRU San Rafael Swe 109.13 49 *e*PKiKP **PKiKP** **04 16 41.1 +1.9**
J19A Crowheart 109.19 45 P **PKiKP** **04 16 40.3 +1.1**
baz=109
WUAZ Wupatki 109.22 53 P **PKiKP** **04 16 40.7 +1.3**
baz=109
WUAZ Wupatki 109.22 53 *e*Pdif **Pdif** **04 12 39.2 +3.7**
WUAZ *e*PKiKP PKiKP 04 16 33.3 -6.2
PSZ Piszkesteto 109.40 320⇑ *i*P **PP** **04 17 07.9 -1.0**
A22A Carney Farms, 109.53 38 P **PKiKP** **04 16 41.6 +2.1**
baz=110
I20A Worland 109.65 44 P **PKiKP** **04 16 41.5 +1.6**
baz=110
SUMG Summit 109.80 358 *i* P PP 04 16 59.7 -12
OKC Ostrava-Krasne 109.83 323 *e*PP PP 04 17 15.1 +3.2
OKC AMS AMS 05 09 00.0
comp=Z,18µm,19.6s
J20A Shoshoni 109.85 45 P **PKiKP** **04 16 41.7 +1.4**
baz=110
G21A Lodge Grass 109.91 42 P **PKiKP** **04 16 41.0 +0.6**
baz=110
D22A Cohagen 109.98 40 P **PKiKP** **04 16 42.3 +2.0**
baz=110
AGG Agios Georgios 110.21 311 *e*PKIKP **PKiKP** **04 16 43.5 +2.5**
AGG *e* 04 17 11.3
AGG Agios Georgios 110.21 311 *e*PKiKP **PKiKP** **04 16 43.5 +2.5**
AGG *e*PP **PP** **04 17 11.3 -3.8**
MORC Moravsky Berou 110.22 323⇑ *i*P **PP** **04 17 14.4 -0.3**
I21A Big Trails, Te 110.27 44 P **PKiKP** **04 16 42.0 +0.9**
baz=110
B23A Brockton 110.29 39 P **PKiKP** **04 16 42.3 +1.4**
baz=110
J21A Lysite 110.30 44 P **PKiKP** **04 16 41.8 +0.6**
baz=110
TUC Tucson 110.31 56 *e*P **Pdif** **04 12 45.0 +4.7**
TUC *i* 04 16 43.0
TUC *e* 04 17 18.7
TUC Tucson 110.31 56 *e*Pdif **Pdif** **04 12 45.0 +4.7**
TUC *e*PKiKP **PKiKP** **04 16 43.0 +1.5**
TUC *e*PP **PP** **04 17 18.7 +2.6**
C23A Lambert 110.40 39 P **PKiKP** **04 16 42.1 +1.0**
baz=110
G22A Birney 110.52 42 P **PKiKP** **04 16 42.6 +1.1**
baz=110
PV04 Paradox Valley 110.53 50 *e*Pdif **Pdif** **04 12 48.2 +1.5**
PV04 *e*PKiKP **PKiKP** **04 16 46.2 +4.4**
PV04 *e*PP **PP** **04 17 13.8 -3.8**
O20A White River Ci 110.60 48 P **PKiKP** **04 16 42.7 +0.7**
baz=111
O20A White River Ci 110.60 48 *e*Pdif **Pdif** **04 12 46.4 +4.8**
O20A *e*PKiKP **PKiKP** **04 16 43.8 +1.8**
O20A *e*PP **PP** **04 17 18.1 +0.1**
DPC Dobruska-Polom 110.73 324 *e*PDIFF **Pdif** **04 12 45.2 +3.5**
DPC *ex* x 04 12 48.6
DPC *e*PP **PP** **04 17 13.6 -4.8**
DPC AMS AMS 05 08 50.0
comp=Z,18µm,18.4s
DPC Dobruska-Polom 110.73 324 *e*P **Pdif** **04 12 45.2 +3.5**
DPC *e* 04 17 13.6
DPC MLR MLR
comp=Z,18µm,18.4s
PKSM Moragy 110.77 319⇑ *i*P PKiKP 04 16 50.1 +8.3
PV01 Paradox Valley 110.85 50 *e*PKiKP **PKiKP** **04 16 44.7 +2.1**
UPC Upice 110.86 324 *e*PDIFF **Pdif** **04 12 43.6 +1.4**
UPC *ex* x 04 12 49.3
UPC *e*PP **PP** **04 17 21.0 +1.8**
UPC Upice 110.86 324 *e*P **Pdif** **04 12 43.6 +1.4**
UPC *e* 04 17 21.0
J22A Midwest 110.95 44 P **PKiKP** **04 16 43.1 +0.6**
baz=111
C24A Savage 110.97 39 P **PKiKP** **04 16 43.3 +1.1**
baz=111
MVCO Mesa Verde 111.12 51 P **PKiKP** **04 16 43.9 +0.9**
baz=111
MVCO Mesa Verde 111.12 51 *e*PKiKP **PKiKP** **04 16 38.4 -4.7**
K22A Casper 111.14 45 P **PKiKP** **04 16 44.3 +1.5**
baz=111
FCC Fort Churchill 111.39 26 *e*PKiKP **PKiKP** **04 16 44.3 +1.8**
FCC *e*PP **PP** **04 17 18.6 -4.0**
TREC Trest 111.64 323 *e*PDIFF **Pdif** **04 12 47.8 +2.1**
TREC *ex* x 04 12 53.0
TREC AMS AMS 05 10 20.0
comp=Z,23µm,17.5s
TREC Trest 111.64 323 *e*P **Pdif** **04 12 47.8 +2.1**
TREC MLR MLR
comp=Z,23µm,17.5s
C25A Freed Ranch, W 111.65 39 P **PKiKP** **04 16 44.1 +0.6**
baz=112
PVCC Panska Ves 111.69 324 *e*PDIFF **Pdif** **04 12 49.4 +3.5**
PVCC *ex* x 04 12 53.8
PVCC *e*PP **PP** **04 17 22.9 -2.3**
PVCC AMS AMS 05 08 30.0
comp=Z,26µm,19.8s
PVCC Panska Ves 111.69 324 *e*P **Pdif** **04 12 49.4 +3.5**
PVCC *e* 04 17 22.9
PVCC MLR MLR
comp=Z,26µm,19.8s
SMCO Snowmass 111.79 49 *e*Pdif **Pdif** **04 12 49.6 +2.4**
SMCO *e*PKiKP **PKiKP** **04 16 48.3 +3.8**
GOPC GO Pecny, Ondr 111.81 324 *e*PP PP 04 17 22.6 -3.5
GOPC AMS AMS 05 06 20.0
comp=Z,31µm,23.2s
H24A Dirks Ranch, A 111.84 42 P **PKiKP** **04 16 45.3 +1.2**
baz=112
BRG Berggiesshubel 111.91 325 *e*PDIF **Pdif** **04 12 53.5 +6.7**
comp=Z,35nm,1.4s
BRG *i* PP **PP** **04 17 26.9 +0.1**
comp=Z,41nm,1.6s
comp=N,19µm,19.6s
comp=E,19µm,20.4s
comp=Z,30µm,21.2s
BRG Berggiesshubel 111.91 325 *e*P **Pdif** **04 12 53.5 +6.7**

BRG				*i*			04 17 26.9		
BRG					pmax	pmax			
	comp=Z,35nm,1.4s								
BRG					pmax	pmax			
	comp=Z,41nm,1.6s								
BRG					MLR	MLR			
	comp=N,19µm,19.6s								
BRG					MLR	MLR			
	comp=E,19µm,20.4s								
BRG					MLR	MLR			
	comp=Z,30µm,21.2s								
PRU	**Pruhonice**	**111.93**	**324**	*ex*		**Pdif**	**04 12 54.1**	**+7.1**	
PRU				*e*PP		PP	04 17 21.7	-5.2	
PRU					AMS	AMS	05 06 20.0		
	comp=Z,32µm,21.2s								
A26A	**Wade Farm, Ken**	**111.95**	**37**	P		**PKiKP**	**04 16 45.4**	**+1.4**	
	baz=112								
PRA	**Prague**	**111.96**	**324**		AMS	AMS	05 06 20.0		
	comp=Z,32µm,21.1s								
E25A	**Miller Ranch,**	**112.00**	**40**	P		**PKiKP**	**04 16 45.5**	**+1.3**	
	baz=112								
I24A	**Kuemmerle Ranc**	**112.09**	**43**	P		**PKiKP**	**04 16 45.6**	**+1.0**	
	baz=112								
CLL	**Collm**	**112.26**	**326**	*es*Pdif		sPdif	04 12 54.0	-3.7	
	comp=Z,32nm,1.4s								
CLL				*e*			04 13 04.0		
CLL				*e*			04 16 53.0		
CLL				*e*PP		**PP**	**04 17 30.0**	**+0.8**	
CLL				*i*			04 17 39.0		
CLL					Lm	MLR	05 07 00.0		
	comp=Z,34µm,21.5s								
CLL	**Collm**	**112.26**	**326**	*e*P		**Pdif**	**04 12 54.0**	**+5.6**	
CLL				*e*			04 17 30.0		
CLL					pmax	pmax			
	comp=Z,32nm,1.4s								
CLL					MLR	MLR			
	comp=Z,34µm,21.5s								
S22A	**4UR Ranch, Cre**	**112.28**	**50**	P		**PKiKP**	**04 16 46.1**	**+0.8**	
	baz=112								
S22A	**4UR Ranch, Cre**	**112.28**	**50**	*e*Pdif		**Pdif**	**04 12 51.9**	**+2.7**	
S22A				*e*PKiKP		**PKiKP**	**04 16 45.8**	**+0.4**	
S22A				*e*PP		PP	04 17 19.5	-11	
D26A	**Manning**	**112.42**	**39**	P		**PKiKP**	**04 16 45.6**	**+0.6**	
	baz=112								
P23A	**Jefferson**	**112.59**	**48**	P		**PKiKP**	**04 16 46.3**	**+0.4**	
	baz=113								
E26A	**Carlson Angus**	**112.61**	**40**	P		**PKiKP**	**04 16 46.3**	**+0.9**	
	baz=113								
ISCO	**Idaho Springs**	**112.63**	**48**	*e*PKiKP		**PKiKP**	**04 16 47.1**	**+1.2**	
ISCO	**Idaho Springs**	**112.63**	**48**	P		**PKiKP**	**04 16 46.9**	**+0.9**	
	baz=113								
ISCO	**Idaho Springs**	**112.63**	**48**	*e*PKiKP		**PKiKP**	**04 16 47.1**	**+1.2**	
I25A	**Rochford**	**112.64**	**43**	P		**PKiKP**	**04 16 46.3**	**+0.6**	
	baz=113								
F26A	**Lodgepole**	**112.70**	**41**	P		**PKiKP**	**04 16 47.0**	**+1.4**	
	baz=113								
C27A	**Sayler Ranch,**	**112.74**	**38**	P		**PKiKP**	**04 16 46.8**	**+1.3**	
	baz=113								
121A	**Cookes Peak, D**	**112.75**	**56**	P		**PKiKP**	**04 16 46.6**	**+0.3**	
	baz=113								
J25A	**Sunshine Ranch**	**112.81**	**43**	P		**PKiKP**	**04 16 47.2**	**+1.3**	
	baz=113								
KHC	**Kasperske Hory**	**112.86**	**323**	*e*PDIFF		**Pdif**	**04 12 53.3**	**+2.1**	
KHC				*ex*		x	04 12 58.0		
KHC				*ex*		x	04 17 22.5		
KHC					AMS	AMS	05 10 10.0		
	comp=Z,24µm,19.4s								
KHC	**Kasperske Hory**	**112.86**	**323**	*e*P		**Pdif**	**04 12 53.3**	**+2.1**	
KHC					MLR	MLR			
	comp=Z,24µm,19.4s								
GEC2	**GERESS Array S**	**112.90**	**323**	*e*P		**Pdif**	**04 12 51.8**	**+0.3**	
GEC2				*i*			04 16 44.6		
GEC2	**GERESS Array S**	**112.90**	**323**	*e*Pdif		**Pdif**	**04 12 51.8**	**+0.3**	
GEC2				*e*PKiKP		**PKiKP**	**04 16 44.5**	**-1.4**	
GERES	**GERESS Array B**	**112.90**	**323**	Pdiff		**Pdif**	**04 12 51.8**	**+0.3**	
	comp=Z,1.3nm,0.8s,baz=38,slow=5.0,SNR=2.6								
GERES				PKiKP		**PKiKP**	**04 16 44.6**	**-1.4**	
	comp=Z,0.6nm,0.5s,baz=50,slow=6.8,SNR=2.6								
GERES				PP		**PP**	**04 17 33.9**	**-0.1**	
	comp=Z,2.5nm,0.8s,baz=64,slow=4.5,SNR=2.9								
R23A	**Moffat**	**112.92**	**49**	P		**PKiKP**	**04 16 47.2**	**+0.7**	
	baz=113								
G26A	**Maurine**	**112.95**	**41**	P		**PKiKP**	**04 16 47.1**	**+1.0**	
	baz=113								
A28A	**Rude Farm, Bot**	**113.01**	**37**	P		**PKiKP**	**04 16 47.4**	**+1.4**	
	baz=113								
NKC	**Novy Kostel**	**113.05**	**325**	*e*PDIFF		**Pdif**	**04 12 58.0**	**+6.0**	
NKC				*ex*		x	04 17 22.4		
NKC					AMS	AMS	05 09 00.0		
	comp=Z,28µm,20.3s								
F27A	**Lemmon**	**113.12**	**40**	P		**PKiKP**	**04 16 47.8**	**+1.4**	
	baz=113								
E27A	**Carson**	**113.20**	**40**	P		**PKiKP**	**04 16 47.3**	**+0.8**	
	baz=113								
ANMO	**Albuquerque**	**113.27**	**53**	*e*PKiKP		**PKiKP**	**04 16 47.6**	**+0.5**	
SDCO	**Great Sand Dun**	**113.29**	**50**	P		**PKiKP**	**04 16 47.2**	**-0.1**	
	baz=113								
SDCO	**Great Sand Dun**	**113.29**	**50**	*e*PKiKP		**PKiKP**	**04 16 47.1**	**-0.1**	
BNM	**Barren Site**	**113.33**	**54**	*e*PKiKP		**PKiKP**	**04 16 47.8**	**+0.4**	
J26A	**Sides Ranch, S**	**113.33**	**43**	P		**PKiKP**	**04 16 47.3**	**+0.5**	
	baz=113								
G27A	**Dupree**	**113.36**	**41**	P		**PKiKP**	**04 16 46.1**	**-0.7**	
	baz=113,SNR=5.1								
C28A	**Hausauer Farms**	**113.43**	**38**	P		**PKiKP**	**04 16 47.6**	**+0.8**	
	baz=113								
K26A	**Motz Farm, Whi**	**113.47**	**44**	P		**PKiKP**	**04 16 47.7**	**+0.5**	
	baz=114								
D28A	**Regan**	**113.53**	**39**	P		**PKiKP**	**04 16 47.4**	**+0.4**	
	baz=114								
H27A	**Howes**	**113.54**	**42**	P		**PKiKP**	**04 16 47.4**	**+0.2**	
	baz=114								
A29A	**Manning Farm,**	**113.62**	**37**	P		**PKiKP**	**04 16 46.9**	**-0.3**	
	baz=114,SNR=13								
E28A	**Huff**	**113.70**	**39**	P		**PKiKP**	**04 16 48.1**	**+0.7**	
	baz=114								
B29A	**Wagenman Farm,**	**113.75**	**37**	P		**PKiKP**	**04 16 48.3**	**+0.9**	
	baz=114								
I27A	**Quinn**	**113.76**	**42**	P		**PKiKP**	**04 16 48.5**	**+0.9**	
	baz=114								
MDND	**Maddock**	**113.86**	**38**	P		**PKiKP**	**04 16 48.9**	**+1.3**	
	baz=114								
MDND	**Maddock**	**113.86**	**38**	*e*PKiKP		**PKiKP**	**04 16 45.0**	**-2.7**	
F28A	**McLaughlin**	**113.92**	**40**	P		**PKiKP**	**04 16 48.8**	**+1.0**	
	baz=114								
LRW	**Lerwick**	**113.93**	**338**		AMS	AMS	04 27 34.2		
	comp=Z,48µm,18.4s								
A30A	**Hoffart Farm,**	**114.17**	**36**	P		PKPdf	04 16 49.3	+1.1	
	baz=114								
D29A	**Pettibone, Tap**	**114.19**	**39**	P		PKPdf	04 16 49.3	+1.0	
	baz=114								
T25A	**Trinidad**	**114.30**	**50**	P		PKPdf	04 16 49.6	+0.5	
	baz=114								
E29A	**Napoleon**	**114.36**	**39**	P		PKPdf	04 16 49.4	+0.7	
	baz=114								
B30A	**Myrvik Farm, E**	**114.37**	**37**	P		PKPdf	04 16 49.2	+0.5	
	baz=114,SNR=12								
P26A	**Davis Ranch, A**	**114.37**	**47**	P		PKPdf	04 16 49.6	+0.5	
	baz=114								
I28A	**Midland**	**114.38**	**42**	P		PKPdf	04 16 48.8	0.0	
	baz=114,SNR=6.1								
Q26A	**Hugo**	**114.44**	**48**	P		PKPdf	04 16 50.1	+0.9	
	baz=114								
F29A	**Eureka**	**114.55**	**40**	P		PKPdf	04 16 50.0	+1.0	
	baz=114								
J28A	**Allard Ranch,**	**114.55**	**43**	P		PKPdf	04 16 50.0	+0.9	
	baz=114								
N27A	**Anderson Farm,**	**114.56**	**46**	P		PKPdf	04 16 50.1	+0.7	
	baz=115								
C30A	**Mose, Pekin**	**114.61**	**38**	P		PKPdf	04 16 49.7	+0.6	
	baz=115								
R26A	**Arlington**	**114.69**	**49**	P		PKPdf	04 16 50.2	+0.5	
	baz=115								
D30A	**Buchanan**	**114.69**	**38**	P		PKPdf	04 16 49.9	+0.6	
	baz=115								
K28A	**Ten Mile Ranch**	**114.72**	**43**	P		PKPdf	04 16 50.1	+0.6	
	baz=115								
G29A	**Hoven**	**114.74**	**40**	P		PKPdf	04 16 50.5	+1.1	
	baz=115								
H29A	**Onida**	**114.78**	**41**	P		PKPdf	04 16 50.3	+0.8	
	baz=115								
O27A	**Beecher Island**	**114.80**	**46**	P		PKPdf	04 16 50.7	+0.8	
	baz=115								
E30A	**Jud**	**114.85**	**39**	P		PKPdf	04 16 50.5	+0.8	
	baz=115								
OGNE	**Ogallala**	**114.87**	**45**	P		PKPdf	04 16 50.8	+0.9	
	baz=115								
T26A	**Comanche Natio**	**114.91**	**50**	P		PKPdf	04 16 50.7	+0.4	
	baz=115								
P27A	**Ficken Ranch,**	**114.94**	**47**	P		PKPdf	04 16 50.7	+0.6	
	baz=115								
I29A	**Vivian Onida**	**114.95**	**42**	P		PKPdf	04 16 50.1	+0.2	
	baz=115,SNR=5.5								
F30A	**Leola**	**115.06**	**40**	P		**PKPdf**	**04 16 51.0**	**+0.9**	
	baz=115								
KSCO	**Kaye Shedlock'**	**115.08**	**48**	*e*PKiKP		**PKPdf**	**04 16 54.6**	**+4.2**	
KSCO				*e*PP		**PP**	**04 17 45.9**	**-4.0**	
J29A	**Okreek**	**115.17**	**42**	P		**PKPdf**	**04 16 51.1**	**+0.7**	
	baz=115								
R27A	**Eads**	**115.18**	**48**	P		**PKPdf**	**04 16 51.3**	**+0.7**	
	baz=115								
G30A	**Faulkton**	**115.27**	**40**	P		**PKPdf**	**04 16 51.6**	**+1.2**	
	baz=115								
SFJD	**Kangerlussuaq**	**115.28**	**3**	*i* P		PKPdf	04 16 56.4	+6.6	
SFJD	**Kangerlussuaq**	**115.28**	**3**	*e*PKIKP		PKPdf	04 16 56.4	+6.6	
N28A	**Pribbeno Ranch**	**115.31**	**46**	P		**PKPdf**	**04 16 51.9**	**+1.1**	
	baz=115								
K29A	**Lazy Trails An**	**115.42**	**43**	P		**PKPdf**	**04 16 52.3**	**+1.4**	
	baz=115								
P28A	**Saint Francis**	**115.53**	**47**	P		**PKPdf**	**04 16 52.8**	**+1.6**	
	baz=116								
I30A	**Oacoma**	**115.57**	**42**	P		**PKPdf**	**04 16 52.6**	**+1.5**	
	baz=116								
T27A	**Campo**	**115.61**	**50**	P		**PKPdf**	**04 16 52.9**	**+1.3**	
	baz=116								
Q28A	**Sharon Springs**	**115.65**	**47**	P		**PKPdf**	**04 16 52.9**	**+1.4**	
	baz=116								
J30A	**Dallas**	**115.76**	**42**	P		**PKPdf**	**04 16 53.1**	**+1.6**	
	baz=116								
R28A	**Tribune**	**115.89**	**48**	P		**PKPdf**	**04 16 53.3**	**+1.3**	
	baz=116								
AGMN	**Agassiz Nation**	**115.90**	**36**	P		**PKPdf**	**04 16 52.7**	**+1.1**	
	baz=116								
AGMN	**Agassiz Nation**	**115.90**	**36**	*e*PKPdf		**PKPdf**	**04 16 53.5**	**+1.9**	
AGMN				*e*PP		**PP**	**04 17 51.5**	**-3.5**	
V27A	**Dan Oppiter Fa**	**115.91**	**51**	P		**PKPdf**	**04 16 52.9**	**+0.8**	
	baz=116								
N29A	**Votaw Ranch, W**	**115.91**	**45**	P		**PKPdf**	**04 16 53.4**	**+1.5**	
	baz=116								
K30A	**Basset**	**115.93**	**43**	P		**PKPdf**	**04 16 53.3**	**+1.5**	
	baz=116								
FUORN	**Ofenpass-Fuorn**	**115.95**	**322**	*e*PKPdf		**PKPdf**	**04 16 56.9**	**+4.9**	
FRB	**Frobisher Bay**	**116.02**	**12**	PKP		**PKPdf**	**04 16 51.7**	**+0.4**	
	comp=Z,10nm,1.0s,baz=21,slow=6.9,SNR=3.6								
FRB	**Frobisher Bay**	**116.02**	**12**	*e*PKIKP		**PKPdf**	**04 16 51.7**	**+0.4**	
O29A	**4D Ranch, Culb**	**116.04**	**46**	P		**PKPdf**	**04 16 53.2**	**+1.0**	
	baz=116								
T28A	**Walsh**	**116.06**	**49**	P		**PKPdf**	**04 16 53.1**	**+0.7**	
	baz=116								
S28A	**Manter**	**116.07**	**49**	P		**PKPdf**	**04 16 53.1**	**+0.8**	
	baz=116								
P29A	**Atwood**	**116.12**	**47**	P		**PKPdf**	**04 16 53.4**	**+1.1**	
	baz=116								
Q29A	**Oakley**	**116.33**	**47**	P		**PKPdf**	**04 16 53.7**	**+1.0**	
	baz=116								
V28A	**Channing**	**116.39**	**51**	P		**PKPdf**	**04 16 54.4**	**+1.3**	
	baz=116								
MEM	**Membach**	**116.47**	**327**	E		PKPdf	04 16 58.5	+6.0	
MEM	**Membach**	**116.47**	**327**	*e*PKIKP		**PKPdf**	**04 16 53.5**	**+0.9**	
MEM	**Membach**	**116.47**	**327**	*e*PKPdf		**PKPdf**	**04 16 53.5**	**+0.9**	
MSTX	**Muleshoe**	**116.47**	**53**	P		**PKPdf**	**04 16 54.4**	**+1.2**	
	baz=116								
MSTX	**Muleshoe**	**116.47**	**53**	*e*PKPdf		**PKPdf**	**04 16 53.9**	**+0.7**	
O30A	**MW Ranch, Wils**	**116.55**	**46**	P		**PKPdf**	**04 16 54.1**	**+1.0**	
	baz=117								
P30A	**Selden**	**116.64**	**46**	P		**PKPdf**	**04 16 53.9**	**+0.6**	
	baz=117								
S29A	**Ulysses**	**116.65**	**49**	P		**PKPdf**	**04 16 54.5**	**+1.0**	
	baz=117								
L31A	**Butterfield Fa**	**116.65**	**43**	P		**PKPdf**	**04 16 53.7**	**+0.4**	
	baz=117								
X28A	**Dimmitt**	**116.77**	**52**	P		**PKPdf**	**04 16 53.2**	**-0.6**	
	baz=117								
Q30A	**Quinter**	**116.86**	**47**	P		**PKPdf**	**04 16 53.7**	**0.0**	
	baz=117								
V29A	**Stinnett**	**116.89**	**51**	P		**PKPdf**	**04 16 53.5**	**-0.5**	
	baz=117								
Y28A	**McKinney Farm,**	**116.90**	**53**	P		**PKPdf**	**04 16 53.6**	**-0.4**	
	baz=117								
LTX	**Lajitas**	**116.91**	**58**	*e*PKIKP		**PKPdf**	**04 16 53.7**	**-0.5**	
LTX	**Lajitas**	**116.91**	**58**	*e*PKPdf		**PKPdf**	**04 16 53.6**	**-0.5**	
LTX				*e*PKKPbc		**PKKPab**	**04 27 23.6**	**-0.4**	
TX31	**Lajitas Ar. Si**	**116.91**	**58**	*e*PKPdf		**PKPdf**	**04 16 54.3**	**+0.1**	
TX31				*e*PP		**PP**	**04 18 01.4**	**-1.6**	
TXAR	**Lajitas Array**	**116.91**	**58**	PKP		**PKPdf**	**04 16 53.6**	**-0.5**	
	comp=Z,1.8nm,0.8s,baz=227,slow=1.8,SNR=14								
TXAR				PKKPbc		**PKKPab**	**04 27 23.6**	**-0.4**	
	comp=Z,1.9nm,0.9s,baz=111,slow=5.9,SNR=7.8								
TXAR	**Lajitas Array**	**116.91**	**58**	PKIKP		**PKPdf**	**04 16 53.7**	**-0.5**	
TXAR					pmax	pmax			
	comp=Z,2.0nm,0.8s								
TXAR					pmax	pmax			
	comp=Z,2.0nm,0.9s								
Z28A	**Tucker Farm, M**	**116.97**	**54**	P		**PKPdf**	**04 16 53.9**	**-0.3**	
	baz=117								
W29A	**Amarillo**	**117.02**	**51**	P		**PKPdf**	**04 16 54.3**	**+0.1**	
	baz=117								
R30A	**Dighton**	**117.05**	**48**	P		**PKPdf**	**04 16 53.9**	**-0.3**	
	baz=117,SNR=8.2								
128A	**Castleberry Fa**	**117.07**	**54**	P		**PKPdf**	**04 16 54.6**	**+0.2**	
	baz=117								
AMTX	**Amarillo**	**117.07**	**52**	P		**PKPdf**	**04 16 54.4**	**+0.1**	
	baz=117								
AMTX	**Amarillo**	**117.07**	**52**	*e*PKPdf		**PKPdf**	**04 16 53.2**	**-1.1**	
AMTX				*e*PP		PP	04 17 53.5	-10	
228A	**UT Block 9, Go**	**117.12**	**55**	P		**PKPdf**	**04 16 54.4**	**-0.1**	
	baz=117								
S30A	**Montezuma**	**117.13**	**48**	P		**PKPdf**	**04 16 54.8**	**+0.4**	
	baz=117								
X29A	**Tulia**	**117.18**	**52**	P		**PKPdf**	**04 16 54.4**	**-0.2**	
	baz=117								
P31A	**Stockton**	**117.27**	**46**	P		**PKPdf**	**04 16 54.8**	**+0.2**	
	baz=117								
U30A	**WK&E Inc. Balk**	**117.35**	**50**	P		**PKPdf**	**04 16 55.0**	**+0.1**	
	baz=117								
Y29A	**Porterfield Fa**	**117.38**	**53**	P		**PKPdf**	**04 16 55.0**	**+0.1**	
	baz=117								
BGNE	**Belgrade**	**117.43**	**44**	P		**PKPdf**	**04 16 55.0**	**+0.3**	
	baz=117								
BGNE	**Belgrade**	**117.43**	**44**	*e*PKPdf		**PKPdf**	**04 16 55.4**	**+0.7**	
SNF	**Seneffe**	**117.44**	**328**	E		PKPdf	04 17 02.0	+7.6	
SNF				E		PKPdf	04 17 02.2	+7.8	
ECSD	**EROS Data Cent**	**117.50**	**41**	P		**PKPdf**	**04 16 54.8**	**0.0**	
	baz=118,SNR=12								
ECSD	**EROS Data Cent**	**117.50**	**41**	*e*PKPdf		**PKPdf**	**04 16 55.1**	**+0.3**	
ECSD				*e*PP		**PP**	**04 18 03.0**	**-3.4**	
DOU	**Dourbes**	**117.50**	**327**	E		PKPdf	04 16 59.8	+5.3	
Z29A	**Hungry Hill Ra**	**117.52**	**54**	P		**PKPdf**	**04 16 55.2**	**-0.1**	
	baz=118								
KPL	**Plockton**	**117.56**	**338**		AMS	AMS	04 26 42.0		
	comp=Z,44µm,19.6s								
129A	**Stewart Farms,**	**117.57**	**54**	P		**PKPdf**	**04 16 55.5**	**+0.2**	
	baz=118								
V30A	**Spur Ranch, Mi**	**117.57**	**51**	P		**PKPdf**	**04 16 55.5**	**+0.2**	
	baz=118								
N32A	**Stulken Farm,**	**117.58**	**45**	P		**PKPdf**	**04 16 55.2**	**+0.2**	
	baz=118								
R31A	**Burdett**	**117.60**	**48**	P		**PKPdf**	**04 16 55.7**	**+0.5**	
	baz=118								
329A	**Wagon Wheel Ra**	**117.78**	**55**	P		**PKPdf**	**04 16 55.6**	**-0.2**	
	baz=118								
O32A	**Brockman Farm,**	**117.78**	**45**	P		**PKPdf**	**04 16 56.1**	**+0.6**	
	baz=118								
P32A	**Huiting Farm,**	**117.79**	**46**	P		**PKPdf**	**04 16 55.6**	**+0.1**	
	baz=118								
229A	**Bryant Ranch,**	**117.80**	**55**	P		**PKPdf**	**04 16 55.5**	**-0.3**	
	baz=118								
X30A	**Coker Ranch, T**	**117.83**	**52**	P		**PKPdf**	**04 16 55.8**	**0.0**	
	baz=118								
W30A	**Crocket Farms**	**117.84**	**51**	P		**PKPdf**	**04 16 56.0**	**+0.2**	
	baz=118								
S31A	**Mullinville**	**117.87**	**48**	P		**PKPdf**	**04 16 56.8**	**+1.1**	
	baz=118								
T31A	**Randall Ranch,**	**117.90**	**49**	P		**PKPdf**	**04 16 56.0**	**+0.2**	
	baz=118								
529A	**Stev Forest Ra**	**117.94**	**57**	P		**PKPdf**	**04 16 56.2**	**+0.1**	
	baz=118								
Z30A	**Sanderson Ranc**	**117.98**	**53**	P		**PKPdf**	**04 16 55.9**	**-0.2**	
	baz=118								
Y30A	**Stafford Cattl**	**117.99**	**53**	P		**PKPdf**	**04 16 56.5**	**+0.5**	
	baz=118								
U31A	**Nine Bar Ranch**	**118.02**	**50**	P		**PKPdf**	**04 16 56.5**	**+0.4**	
	baz=118								
Q32A	**Meitler Ranch,**	**118.06**	**46**	P		**PKPdf**	**04 16 56.5**	**+0.5**	
	baz=118								
429A	**Davenport Ranc**	**118.08**	**56**	P		**PKPdf**	**04 16 55.8**	**-0.6**	
	baz=118,SNR=12								
R32A	**Long Quarter,**	**118.16**	**47**	P		**PKPdf**	**04 16 56.5**	**+0.2**	
	baz=118								
V31A	**Spring Creek L**	**118.22**	**50**	P		**PKPdf**	**04 16 56.5**	**0.0**	
	baz=118								
S32A	**Newby Ranch, P**	**118.25**	**48**	P		**PKPdf**	**04 16 55.9**	**-0.5**	
	baz=118,SNR=5.9								
W31A	**Holland Ranch,**	**118.33**	**51**	P		**PKPdf**	**04 16 56.8**	**+0.1**	
	baz=118								
O33A	**Hebron**	**118.34**	**45**	P		**PKPdf**	**04 16 56.2**	**-0.4**	
	baz=118,SNR=15								
230A	**Sterling City**	**118.39**	**55**	P		**PKPdf**	**04 16 57.0**	**0.0**	
	baz=118								
L34A	**Svendsen Farm,**	**118.41**	**43**	P		**PKPdf**	**04 16 56.9**	**+0.3**	
	baz=118								
Y31A	**Rekieta Farm,**	**118.47**	**52**	P		**PKPdf**	**04 16 57.0**	**0.0**	
	baz=118								
330A	**Mertzon**	**118.47**	**55**	P		**PKPdf**	**04 16 56.9**	**-0.2**	
	baz=118								
X31A	**McDonald Ranch**	**118.48**	**52**	P		**PKPdf**	**04 16 56.5**	**-0.5**	
	baz=118,SNR=9.2								
P33A	**Williams Farm,**	**118.51**	**46**	P		**PKPdf**	**04 16 56.9**	**0.0**	
	baz=118								
Q33A	**Connelly Farm,**	**118.58**	**46**	P		**PKPdf**	**04 16 56.8**	**-0.2**	
	baz=119								
430A	**Baggett Ranch,**	**118.59**	**56**	P		**PKPdf**	**04 16 57.0**	**-0.4**	
	baz=119,SNR=20								
EYMN	**Ely**	**118.61**	**35**	*e*PKPdf		**PKPdf**	**04 16 56.5**	**-0.3**	
EYMN				*e*PP		**PP**	**04 18 09.7**	**-4.1**	
U32A	**Winter Ranch,**	**118.66**	**49**	P		**PKPdf**	**04 16 57.1**	**-0.2**	
	baz=119								
530A	**J-C Ranch, Com**	**118.67**	**57**	P		**PKPdf**	**04 16 56.8**	**-0.7**	
	baz=119,SNR=14								
R33A	**Olander Ranch,**	**118.73**	**47**	P		**PKPdf**	**04 16 57.1**	**-0.3**	
	baz=119,SNR=5.3								
131A	**Roby**	**118.75**	**54**	P		**PKPdf**	**04 16 57.3**	**-0.3**	
	baz=119								
Z31A	**Sharp Cattle R**	**118.75**	**53**	P		**PKPdf**	**04 16 57.0**	**-0.5**	
	baz=119								
N34A	**Lincoln**	**118.80**	**44**	P		**PKPdf**	**04 16 57.7**	**+0.3**	
	baz=119								
V32A	**Arapaho**	**118.85**	**50**	P		**PKPdf**	**04 16 57.9**	**+0.3**	
	baz=119								
W32A	**Sentinel**	**118.89**	**51**	P		**PKPdf**	**04 16 58.1**	**+0.4**	
	baz=119								
GAL1	**Galloway**	**118.95**	**336**		AMS	AMS	04 26 43.9		
	comp=Z,59µm,19.7s								
S33A	**Kaszmaul Farm,**	**118.98**	**48**	P		**PKPdf**	**04 16 58.2**	**+0.3**	
	baz=119								
T33A	**Patterson Ranc**	**118.98**	**48**	P		**PKPdf**	**04 16 58.0**	**+0.2**	
	baz=119								
231A	**Bronte**	**119.02**	**55**	P		**PKPdf**	**04 16 57.7**	**-0.4**	
	baz=119,SNR=5.3								
P34A	**Walnut Farm, R**	**119.09**	**45**	P		**PKPdf**	**04 16 57.6**	**-0.4**	
	baz=119								
X32A	**Elmer**	**119.09**	**52**	P		**PKPdf**	**04 16 57.8**	**-0.4**	
	baz=119								
Y32A	**R-V Farms, Ver**	**119.10**	**52**	P		**PKPdf**	**04 16 58.3**	**+0.1**	
	baz=119								
331A	**San Angelo**	**119.11**	**55**	P		**PKPdf**	**04 16 57.6**	**-0.7**	
	baz=119,SNR=11								
431A	**Sonora**	**119.14**	**56**	P		**PKPdf**	**04 16 58.1**	**-0.2**	
	baz=119								
SPMN	**Marine on St.**	**119.23**	**38**	P		**PKPdf**	**04 16 58.3**	**+0.3**	
	baz=119								
SPMN	**Marine on St.**	**119.23**	**38**	*e*PKPdf		**PKPdf**	**04 16 57.3**	**-0.7**	
SPMN				*e*PP		PP	04 18 12.5	-5.8	
Q34A	**Chapman**	**119.25**	**46**	P		**PKPdf**	**04 16 58.3**	**0.0**	
	baz=119,SNR=14								
R34A	**Isabella, Hill**	**119.27**	**47**	P		**PKPdf**	**04 16 58.5**	**+0.1**	
	baz=119								
Z32A	**Haskell**	**119.29**	**53**	P		**PKPdf**	**04 16 58.3**	**-0.3**	
	baz=119,SNR=9.9								
531A	**Rocksprings**	**119.33**	**57**	P		**PKPdf**	**04 16 58.6**	**-0.1**	
	baz=119,SNR=17								
ABTX	**Abilene, Hawle**	**119.36**	**54**	P		**PKPdf**	**04 16 58.6**	**-0.2**	
	baz=119								
ABTX	**Abilene, Hawle**

	baz=120,SNR=5.9								
533A	**Kerrville**	120.61	56	P		PKPdf	04 17 01.0	-0.3	
	baz=121								
134A	**White-Moore Ra**	120.64	53	P		PKPdf	04 17 00.7	-0.4	
	baz=121								
633A	**Saathoff Ranch**	120.67	57	P		PKPdf	04 17 01.6	+0.3	
	baz=121,SNR=14								
S36A	**Lake Cedric, C**	120.70	47	P		PKPdf	04 17 00.2	-0.9	
	baz=121								
W35A	**Tecumseh**	120.71	50	P		PKPdf	04 17 01.7	+0.5	
	baz=121,SNR=9.2								
T36A	**Boggs Farm, Ca**	120.75	48	P		PKPdf	04 17 01.4	+0.2	
	baz=121,SNR=5.4								
733A	**Divot King Ran**	120.77	58	P		PKPdf	04 17 01.6	+0.2	
	baz=121,SNR=5.4								
234A	**Clairette**	120.77	54	P		PKPdf	04 17 01.4	-0.1	
	baz=121,SNR=11								
833A	**Chaparral WMA,**	120.79	58	P		PKPdf	04 17 01.7	+0.1	
	baz=121,SNR=11								
334A	**Lometa**	120.89	55	P		PKPdf	04 17 01.6	-0.1	
	baz=121,SNR=12								
X35A	**Drake**	120.90	51	P		PKPdf	04 17 01.7	+0.1	
	baz=121								
R37A	**Teagarden Farm**	121.01	46	P		PKPdf	04 17 01.5	-0.2	
	baz=121,SNR=11								
434A	**Burnet**	121.03	55	P		PKPdf	04 17 01.6	-0.4	
	baz=121,SNR=16								
Z35A	**Perchaven, San**	121.04	52	P		PKPdf	04 17 01.4	-0.5	
	baz=121								
Q37A	**Longview Farm,**	121.05	45	P		PKPdf	04 17 01.6	-0.2	
	baz=121								
KEST	**Kesra**	121.05	311	PKP		PKPdf	04 17 02.2	+0.3	
	comp=Z,3.6nm,1.0s,baz=98,slow=7.1,SNR=6.0								
KEST				PP		PP	04 18 31.4	+0.1	
	comp=Z,3.5nm,1.0s,baz=90,slow=3.0,SNR=2.1								
KEST	**Kesra**	121.05	311	*e*PKPdf		PKPdf	04 17 03.7	+1.8	
KEST				*e*PP		PP	04 18 32.1	+0.8	
933A	**Laredo**	121.08	59	P		PKPdf	04 17 01.6	-0.5	
	baz=121								
534A	**Blanco**	121.09	56	P		PKPdf	04 17 01.7	-0.4	
	baz=121,SNR=11								
135A	**Vickery Place,**	121.17	53	P		PKPdf	04 17 02.0	-0.2	
	baz=121								
W36A	**Wetumka**	121.21	50	P		PKPdf	04 17 02.6	+0.4	
	baz=121,SNR=14								
TUL1	**Leonard**	121.25	49	P		PKPdf	04 17 02.9	+0.7	
	baz=121,SNR=12								
TUL1	**Leonard**	121.25	49	*e*PKPdf		PKPdf	04 17 02.2	0.0	
TUL1				*e*PP		PP	04 18 33.4	+0.9	
X36A	**Centrahoma**	121.32	50	P		PKPdf	04 17 03.1	+0.8	
	baz=121,SNR=12								
WHTX	**Lake Whitney,**	121.32	54	P		PKPdf	04 17 02.8	+0.3	
	baz=121								
WHTX	**Lake Whitney,**	121.32	54	*e*PKPdf		PKPdf	04 17 02.7	+0.3	
734A	**La Parita Cree**	121.36	57	P		PKPdf	04 17 02.9	+0.3	
	baz=121								
634A	**China Grove, S**	121.38	57	P		PKPdf	04 17 03.0	+0.4	
	baz=121								
T37A	**Cheneyville 18**	121.43	47	P		PKPdf	04 17 02.8	+0.3	
	baz=121								
834A	**Tilden**	121.56	58	P		PKPdf	04 17 03.5	+0.5	
	baz=122,SNR=12								
335A	**Moody**	121.57	54	P		PKPdf	04 17 03.4	+0.4	
	baz=122,SNR=5.4								
435B	**Jarrell**	121.60	55	P		PKPdf	04 17 03.8	+0.8	
	baz=122								
DYA	**Yadsworthy**	121.64	331	AMS		AMS	04 26 29.1		
	comp=Z,56µm,22.5s								
034A	**Hebbronville**	121.73	60	P		PKPdf	04 17 04.2	+0.9	
	baz=122,SNR=11								
934A	**Benavides**	121.73	59	P		PKPdf	04 17 04.1	+0.7	
	baz=122,SNR=5.1								
W37A	**Quinton**	121.82	49	P		PKPdf	04 17 03.8	+0.5	
	baz=122,SNR=12								
535A	**Dale**	121.84	56	P		PKPdf	04 17 03.5	0.0	
	baz=122								
635A	**Leesville**	121.86	57	P		PKPdf	04 17 04.1	+0.5	
	baz=122,SNR=5.4								
735A	**Kenedy**	121.98	57	P		PKPdf	04 17 04.0	+0.2	
	baz=122								
JFWS	**Jewell Farm**	121.98	39	*e*PKIKP		PKPdf	04 17 02.5	-0.9	
JFWS	**Jewell Farm**	121.98	39	*e*PKPdf		PKPdf	04 17 02.5	-0.9	
JFWS				*e*PP		PP	04 18 28.1	-9.0	
336A	**Riesel**	122.01	54	P		PKPdf	04 17 04.4	+0.6	
	baz=122,SNR=5.6								
236A	**Katherine and**	122.06	53	P		PKPdf	04 17 04.1	+0.2	
	baz=122								
X37A	**Clayton**	122.06	50	P		PKPdf	04 17 04.1	+0.2	
	baz=122,SNR=9.7								
835A	**Beeville**	122.13	58	P		PKPdf	04 17 04.0	-0.1	
	baz=122								
CMAH	**Djebel Manchou**	122.14	313	P		PKPdf	04 17 04.8	+0.8	
536A	**Bastrop**	122.24	56	P		PKPdf	04 17 05.1	+0.8	
	baz=122,SNR=5.2								
ABSA	**Djebel Ababsia**	122.24	312	P		PKPdf	04 17 05.0	+0.8	
436A	**Wall Ranch, Ga**	122.25	55	P		PKPdf	04 17 04.7	+0.4	
	baz=122								
035A	**Encino**	122.26	59	P		PKPdf	04 17 04.7	+0.4	
	baz=122								
Z37A	**Pogue Cattle C**	122.37	52	P		PKPdf	04 17 04.7	+0.2	
	baz=122								
035Z	**Hargill**	122.41	60	P		PKPdf	04 17 04.5	-0.1	
	baz=122								
636A	**Smothers Creek**	122.43	56	P		PKPdf	04 17 05.2	+0.5	
	baz=122,SNR=5.9								
137A	**Heron Place, G**	122.48	52	P		PKPdf	04 17 05.2	+0.6	
	baz=122								
W38A	**Poteau**	122.53	49	P		PKPdf	04 17 05.3	+0.6	
	baz=122,SNR=12								
736A	**Circle Diamond**	122.58	57	P		PKPdf	04 17 04.7	-0.2	
	baz=123								
237A	**Washetta, Mont**	122.64	53	P		PKPdf	04 17 04.6	-0.4	
	baz=123								
CKFL	**Kef-Lekhel**	122.75	313	P		PKPdf	04 17 06.9	+1.6	
437A	**Phantom Ranch,**	122.76	55	P		PKPdf	04 17 05.1	-0.2	
	baz=123								
337A	**Centerville**	122.81	54	P		PKPdf	04 17 05.5	+0.2	
	baz=123								
Z38A	**Mt. Pleasant**	122.85	51	P		PKPdf	04 17 06.1	+0.7	
	baz=123								
537A	**Green Hill Far**	122.86	55	P		PKPdf	04 17 06.6	+1.2	
	baz=123								
CASM	**Ain Smara**	122.98	313	P		PKPdf	04 17 07.5	+1.9	
138A	**Matatall Enter**	122.98	52	P		PKPdf	04 17 06.6	+0.9	
	baz=123,SNR=5.1								
637A	**Eagle Lake**	123.04	56	P		PKPdf	04 17 06.2	+0.4	
	baz=123								
CTEI	**Djebel Teioual**	123.12	312	P		PKPdf	04 17 08.8	+2.8	
238A	**Jacksonville**	123.19	53	P		PKPdf	04 17 06.1	+0.1	
	baz=123								
338A	**Crockett**	123.26	54	P		PKPdf	04 17 06.2	0.0	
	baz=123								
HKT	**Hockley**	123.29	55	*e*PKIKP		PKPdf	04 17 07.0	+0.8	
HKT				*e*			04 18 43.7		
HKT	**Hockley**	123.29	55	*e*PKPdf		PKPdf	04 17 07.0	+0.8	
HKT				*e*PP		PP	04 18 43.7	-2.9	
DFRA	**Djebel Bou Aff**	123.31	313	P		PKPdf	04 17 08.1	+1.8	
MIAR	**Mount Ida**	123.45	49	*e*PKIKP		PKPdf	04 17 06.9	+0.4	
MIAR				*e*			04 18 46.3		
MIAR	**Mount Ida**	123.45	49	*e*PKPdf		PKPdf	04 17 06.9	+0.4	
MIAR				*e*PP		PP	04 18 46.3	-1.2	
HDIL	**Hopedale**	123.80	41	*e*PKPdf		PKPdf	04 17 06.7	-0.3	
HDIL				*e*PP		PP	04 18 45.0	-4.5	
CKHR	**Kef el Ahmar**	123.80	313	P		PKPdf	04 17 12.9	+5.6	
SET	**Setif**	123.80	313	P		PKPdf	04 17 14.0	+6.8	
UALR	**University of**	124.29	49	*e*PKPdf		PKPdf	04 17 08.8	+0.7	
GLMI	**Grayling**	124.30	35	*e*PKPdf		PKPdf	04 17 08.2	+0.4	
SCHQ	**Schefferville**	124.31	16	PKP		PKPdf	04 17 06.9	-0.6	
	comp=Z,30nm,1.1s,baz=25,slow=2.1,SNR=8.3								
SCHQ	**Schefferville**	124.31	16	*e*PKPdf		PKPdf	04 17 09.0	+1.5	
340A	**Bronson**	124.38	53	P		PKPdf	04 17 07.5	-0.8	
	baz=124								
PBMO	**Poplar Bluff**	124.83	46	*e*PKPdf		PKPdf	04 17 08.1	-0.9	
PBMO				*e*PP		PP	04 18 53.6	-3.0	
SIUC	**Southern Illin**	125.24	44	*e*PKPdf		PKPdf	04 17 09.1	-0.7	
SFIN	**Lafayette**	125.32	40	P		PKPdf	04 17 09.1	-0.8	
	baz=125								
SFIN	**Lafayette**	125.32	40	*e*PKPdf		PKPdf	04 17 09.8	-0.1	
SFIN				*e*PP		PP	04 18 57.6	-2.0	
PARMO	**Parma**	125.36	46	*e*PKPdf		PKPdf	04 17 10.0	-0.1	
PARMO				*e*PP		PP	04 18 56.3	-3.9	
OLIL	**Olney**	125.51	43	*e*PKPdf		PKPdf	04 17 10.6	+0.3	
USIN	**University of**	126.19	43	*e*PKPdf		PKPdf	04 17 12.1	+0.5	
USIN				*e*PP		PP	04 19 04.0	-1.6	
BLO	**Bloomington**	126.34	41	*e*PKIKP		PKPdf	04 17 12.3	+0.4	
BLO				*e*			04 19 05.5		
BLO	**Bloomington**	126.34	41	*e*PKPdf		PKPdf	04 17 12.2	+0.4	
BLO				*e*PP		PP	04 19 05.5	-1.0	
AAM	**Ann Arbor**	126.37	37	*e*PKIKP		PKPdf	04 17 09.2	-2.6	
AAM	**Ann Arbor**	126.37	37	*e*PKPdf		PKPdf	04 17 09.2	-2.6	
AAM				*e*PP		PP	04 18 58.6	-7.9	
OXF	**Oxford**	126.59	48	*e*PKIKP		PKPdf	04 17 12.4	-0.1	
OXF	**Oxford**	126.59	48	*e*PKPdf		PKPdf	04 17 12.4	-0.1	
OXF				*e*PP		PP	04 19 01.8	-6.6	
VBMS	**Vicksburg**	126.72	51	*e*PKPdf		PKPdf	04 17 13.1	+0.3	
VBMS				*e*PP		PP	04 19 08.0	-1.4	
WVT	**Waverly**	126.98	45	*e*PKIKP		PKPd	04 17 11.7	-1.5	
WVT				*e*			04 19 07.3		
WVT	**Waverly**	126.98	45	*e*PKPdf		PKPdf	04 17 11.7	-1.5	
WVT				*e*PP		PP	04 19 07.3	-3.5	
WCI	**Wyandotte Cave**	126.98	42	*e*PKIKP		PKPdf	04 17 13.8	+0.6	
WCI				*e*			04 19 05.5		
WCI	**Wyandotte Cave**	126.98	42	*e*PKPdf		PKPdf	04 17 13.8	+0.6	
WCI				*e*PP		PP	04 19 05.5	-5.4	
SADO	**Sadowa**	127.32	32	PKP		PKPdf	04 17 13.5	-0.1	
	comp=Z,26nm,1.1s,baz=316,slow=3.6,SNR=6.7								
ACSO	**Alum Creek Sta**	128.01	38	*e*PKPdf		PKPdf	04 17 15.0	0.0	
ACSO				*e*PP		PP	04 19 13.5	-3.9	
ES19	**SONSECA Array**	128.37	321	*e*PKPdf		PKPdf	04 17 17.6	+1.8	
ES19				*e*PP		PP	04 19 13.7	-6.1	
ESDC	**Sonseca Array**	128.43	321	PKP		PKPdf	04 17 13.9	-2.0	
	comp=Z,0.2nm,0.5s,baz=30,slow=2.3,SNR=3.2								
ESDC				PP		PP	04 19 17.1	-3.2	
	comp=Z,3.3nm,1.0s,baz=60,slow=6.2,SNR=3.6								
SWET	**Sewanee**	128.77	45	*e*PKPdf		PKPdf	04 17 17.0	+0.3	
LRAL	**Lakeview Retre**	129.04	48	*e*PKPdf		PKPdf	04 17 16.9	-0.3	
MVO	**Moncorvo**	129.36	325	*e*PKP		PKPdf	04 17 26.9	+9.2	
MVO	**Moncorvo**	129.36	325	*e*PKP		PKPdf	04 17 26.9	+9.2	
PTN	**Potsdam (NY)**	129.56	29	*e*PKIKP		PKPdf	04 17 17.5	-0.3	
PTN	**Potsdam (NY)**	129.56	29	*e*PKPdf		PKPdf	04 17 17.5	-0.3	
CPCT	**Cooper Cave**	129.65	44	*e*PKPdf		PKPdf	04 17 17.4	-0.9	
POLO	**Lamas de Olo**	129.66	325	*e*PKP		PKPdf	04 17 26.6	+8.3	
POLO	**Lamas de Olo**	129.66	325	*e*PKP		PKPdf	04 17 26.6	+8.3	
PVRL	**Vila Real**	129.68	325	*e*PKP		PKPdf	04 17 27.2	+8.9	
PVRL	**Vila Real**	129.68	325	*e*PKP		PKPdf	04 17 27.2	+8.9	
LONY	**Lake Ozonia**	129.72	29	*e*PKPdf		PKPdf	04 17 17.3	-0.9	
TZTN	**Tazewell**	129.73	42	*e*PKPdf		PKPdf	04 17 18.7	+0.2	
TZTN				*e*PP		PP	04 19 25.5	-3.3	
TKL	**Tuckaleechee C**	130.06	44	*e*PKIKP		PKPdf	04 17 18.9	-0.2	
TKL	**Tuckaleechee C**	130.06	44	*e*PKPdf		PKPdf	04 17 18.9	-0.2	
PVIS	**Viseu**	130.15	325	*e*PKP		PKPdf	04 17 28.2	+9.0	
PVIS	**Viseu**	130.15	325	*e*PKP		PKPdf	04 17 28.2	+9.0	
PCBR	**Castelo Branco**	130.47	324	*e*PKP		PKPdf	04 17 28.8	+9.1	
PCBR	**Castelo Branco**	130.47	324	*e*PKP		PKPdf	04 17 28.8	+9.1	
SSPA	**Standing Stone**	130.78	35	*e*PKPdf		PKPdf	04 17 17.6	-2.7	
SSPA				*e*PP		PP	04 19 34.6	-0.8	
PQI	**Presque Isle**	130.93	22	*e*PKPdf		PKPdf	04 17 21.2	+0.8	
PCAS	**Casmilo, Conde**	130.93	324	*e*PKP		PKPdf	04 17 29.8	+9.2	
PCAS	**Casmilo, Conde**	130.93	324	*e*PKP		PKPdf	04 17 29.8	+9.2	
ACCN	**Adirondack Com**	131.07	29	*e*PKPdf		PKPdf	04 17 20.6	-0.2	
ACCN				*e*PP		PP	04 19 37.6	+0.5	
PESTR	**Estremoz**	131.15	323	*e*PKP		PKPdf	04 17 28.6	+7.5	
PESTR	**Estremoz**	131.15	323	*e*PKP		PKPdf	04 17 28.6	+7.5	
PBAR	**Barrancos**	131.24	322	*e*PKP		PKPdf	04 17 30.2	+9.0	
PBAR	**Barrancos**	131.24	322	*e*PKP		PKPdf	04 17 30.2	+9.0	
KSPA	**Keystone Colle**	131.32	32	*e*PKPdf		PKPdf	04 17 18.9	-2.5	
KSPA				*e*PP		PP	04 19 39.6	+0.9	
BLA	**Blacksburg**	131.41	40	*e*PKIKP		PKPdf	04 17 20.2	-1.5	
BLA				*e*			04 19 38.3		
BLA	**Blacksburg**	131.41	40	*e*PKPdf		PKPdf	04 17 20.2	-1.5	
BLA				*e*PP		PP	04 19 38.3	-1.3	
HNH	**Hanover**	131.49	28	*e*PKPdf		PKPdf	04 17 23.1	+1.5	
TRY	**Troy**	131.56	30	*e*PKPdf		PKPdf	04 17 22.2	+0.5	
VWCC	**Virginia Weste**	131.67	40	*e*PKPdf		PKPdf	04 17 21.8	-0.3	
KMSC	**Kings Mountain**	132.00	43	P		PKPdf	04 17 22.1	-0.7	
	baz=132								
KMSC	**Kings Mountain**	132.00	43	*e*PKPdf		PKPdf	04 17 22.7	-0.1	
MVL	**Millersville**	132.08	34	*e*PKPdf		PKPdf	04 17 23.1	+0.4	
TIGA	**Tifton**	132.34	48	*e*PKPdf		PKPdf	04 17 24.7	+1.2	
JSRW	**J. Sargeant Re**	132.70	38	*e*PKPdf		PKPdf	04 17 25.5	+1.5	
URVA	**University of**	132.99	38	*e*PKPdf		PKPdf	04 17 25.0	+0.4	
BRYW	**Bryant College**	133.21	29	*e*PKPdf		PKPdf	04 17 26.4	+1.5	
CSU	**Charleston Sou**	134.08	44	*e*PKPdf		PKPdf	04 17 27.8	+1.1	
TOA0	**Torodi Ar. Sit**	134.13	286	*e*P		PKPdf	04 17 30.9	+3.6	
TOA0	**Torodi Ar. Sit**	134.13	286	*e*PKPpre		PKPpre	04 17 15.1		
TOA0				*e*PKPdf		PKPdf	04 17 22.0	-5.3	
TOA0				*e*PP		PP	04 19 56.3	-2.0	
TORD	**Torodi Ar. Bea**	134.13	286	PKhKP		PKPpre	04 17 15.1		
	comp=Z,2.7nm,0.8s,baz=68,slow=3.7,SNR=11								
TORD				PP		PP	04 19 56.3	-2.0	
	comp=Z,6.3nm,1.0s,baz=46,slow=5.7,SNR=3.4								
JTS	**JuntasAbangare**	137.99	77	*e*PKIKP		PKPdf	04 17 34.4	-0.1	
JTS	**JuntasAbangare**	137.99	77	*e*PKPdf		PKPdf	04 17 34.4	-0.1	
LCO	**Las Campanas**	139.29	142	*e*PKPdf		PKPdf	04 17 35.5	-1.4	
KIC	**Kosan Boka**	141.26	277	*e*P		PKPdf	04 17 37.8	-2.7	
	comp=Z,154nm,1.3s								
DBIC	**Dimbokro**	141.35	278	PKhKP		PKPpre	04 17 36.0		
	comp=Z,5.7nm,0.5s,baz=62,slow=3.0,SNR=13								
DBIC	**Dimbokro**	141.35	278	*e*PKPdf		PKPdf	04 17 38.8	-1.8	
TIC	**Toumodi**	141.51	278	*e*P		PKPdf	04 17 39.7	-1.3	
MTDJ	**Mount Denham**	143.01	62	*e*PKPdf		PKPbc	04 17 41.7	+1.4	
BCIP	**Isla Barro Col**	143.14	78	*e*PKPdf		PKPdf	04 17 43.4	-0.4	
NNA	**Nana**	143.84	114	*e*PKIKP		PKPbc	04 17 43.9	+1.2	
NNA	**Nana**	143.84	114	*e*PKPdf		PKPbc	04 17 43.9	+1.2	
GTBY	**Guantanamo Bay**	144.44	58	*e*PKPdf		PKPdf	04 17 45.5	-0.4	
LVC	**Limon Verde**	144.85	136	PKP		PKPdf	04 17 47.0	0.0	
	comp=Z,213nm,0.9s,baz=209,slow=2.7,SNR=21								
LVC	**Limon Verde**	144.85	136	*e*PKPdf		PKPdf	04 17 47.6	+0.7	
OTAV	**Otavalo**	144.90	93	*e*PKPbc		PKPbc	04 17 47.0	+0.4	
GRTK	**Grand Turk**	146.97	53	*e*PKPbc		PKPab	04 17 53.8	+0.3	
SDDR	**Presa de Saban**	148.09	57	*e*PKPbc		PKPbc	04 17 55.2	-0.1	
CPUP	**Villa Florida**	148.47	156	*e*PKP2		PKPbc	04 17 54.5	-1.6	
CPUP	**Villa Florida**	148.47	156	*e*PKPdf		PKPbc	04 17 54.5	-1.6	
ROSC	**El Rosal**	149.03	85	PKPbc		PKPdf	04 17 56.1	+1.8	
	comp=Z,35nm,0.6s,baz=289,slow=3.2,SNR=11								
ROSC	**El Rosal**	149.03	85	*e*pPKPdf		PKPbc	04 17 57.8	-0.6	
LPAZ	**La Paz**	149.34	128	PKPbc		PKPbc	04 17 57.4	-2.0	
	comp=Z,40nm,1.4s,baz=293,slow=1.2,SNR=23								
LPAZ	**La Paz**	149.34	128	PKP2		PKPbc	04 17 57.4	-2.0	
LPAZ				pmax		pmax			
	comp=Z,40nm,1.4s								
LPAZ	**La Paz**	149.34	128	*e*PKPdf		PKPdf	04 17 57.0	+2.0	
SMN1	**Samana, DR**	149.65	55	*e*PKPbc		PKPbc	04 17 59.9	+0.5	
MPR	**Mayaguez**	151.89	54	*e*pPKPdf		PKPbc	04 18 02.5	-2.1	
LSP	**Las Mesas**	151.95	54	*e*PKPbc		PKPbc	04 18 05.7	+1.0	
CRPR	**Cabo Rojo, PR**	152.02	55	*e*PKPbc		PKPbc	04 18 05.3	+0.5	
CRPR				*e*PKPab		PKPab	04 18 12.8	-1.4	
AOPR	**Arecibo Observ**	152.13	54	*e*PKPbc		PKPbc	04 18 05.3	+0.2	
SDV	**Santo Domingo**	152.15	75	*e*PKPdf		PKPdf	04 17 58.5	-0.4	
SDV				*e*PKPbc		PKPbc	04 18 03.1	-2.5	
SDV				*e*PKPab		PKPab	04 18 14.0	-1.1	
OBIP	**Obispado Ponce**	152.41	54	*e*PKPdf		PKPdf	04 17 59.0	+0.1	
OBIP				*e*PKPab		PKPab	04 18 13.8	-2.0	
ICMP	**Isla Caja de M**	152.55	54	*e*PKPbc		PKPbc	04 18 06.8	+0.7	
ICMP				*e*PKPab		PKPab	04 18 14.0	-2.5	
HUMP	**Col San Antoni**	152.96	53	*e*PKPdf		PKPdf	04 17 59.7	0.0	
HUMP				*e*PKPbc		PKPbc	04 18 07.0	0.0	
HUMP				*e*PKPab		PKPab	04 18 15.8	-2.3	
STVI	**Saint Thomas**	153.56	52	*e*PKPdf		PKPdf	04 18 00.1	-0.5	
STVI				*e*PKPbc		PKPbc	04 18 08.1	-0.2	
STVI				*e*PKPab		PKPab	04 18 16.2	-4.4	
SMRT	**St. Maarten**	155.18	50	*e*PKPbc		PKPdf	04 18 11.0	+8.1	
SMRT				*e*PKPab		PKPab	04 18 19.5	-8.1	
SAML	**Samuel**	157.31	120	*e*PKPdf		PKPdf	04 18 06.2	+0.4	
BDFB	**Brasilia**	161.55	166	PKP		PKPdf	04 18 10.2	-0.6	
	comp=Z,8.5nm,0.9s,baz=115,slow=3.0,SNR=10								
BDFB				PKPab		PKPab	04 18 55.1	+0.1	
	comp=Z,14nm,0.9s,baz=154,slow=6.0,SNR=5.5								
BDFB	**Brasilia**	161.55	166	PKIKP		PKPdf	04 18 10.2	-0.6	
BDFB							04 18 55.2		
BDFB				pmax		pmax			
	comp=Z,10.0nm,1.0s								
BDFB				pmax		pmax			
	comp=Z,14nm,0.9s								
BDFB	**Brasilia**	161.55	166	*e*PKPdf		PKPdf	04 18 10.8	0.0	
BDFB				*e*PKPab		PKPab	04 18 51.4	-3.7	
PTGA	**Pitinga**	163.16	100	*e*PKPdf		PKPdf	04 18 11.5	-0.8	
PTGA				*e*PKPab		PKPab	04 18 59.0	-3.5	

*IDC **16** 03:58:12.2±1.1,51.69N×173.73W,h0km,mb4.5/20, mb1 4.7/22,mb1mx4.4/53,mbtmp4.5/22,ML4.5/2,Error ellipse: s-maj=33.2km s-min=13.9km az=174.0*
*ISCJB **16** 03:58:16.1±0.7,51.6N±0.1×173.58W±0.06,h37km, mb4.6/21,Error ellipse: s-maj=19.3km s-min=4.6km az=174.0*

*NEIC **16** 03:58:17.6,51.64N×173.87W,h10km,ML3.9(AEIC),After AEIC.*

ISC 16 03:58:17.4±0.9,51.6N±0.2×173.63W±0.06,h37km,n60, σ0.66/64,mb4.7/21,1C-9D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSMY	**Great Sitkin M**	1.58	289	P	Pn	03 58 42.4	-0.5
GSTD	**Great Sitkin T**	1.64	289	P	Pn	03 58 43.5	-0.3
GSTD				S	Sn	03 59 03.8	+0.2
ETKA	**Kagalaska Isla**	1.76	281	P	Pn	03 58 44.9	-0.4
ETKA				S	Sn	03 59 07.9	+1.5
ADAG	**Mount Adagdak**	1.90	284	P	Pn	03 58 47.4	+0.2
ADK	**Adak**	1.93	281	*e*Pn	Pn	03 58 47.3	-0.3
ADK				*e*S	Sn	03 59 10.8	+0.2
KINC	**Kanaga Island**	2.21	281	P	Pn	03 58 51.8	+0.4
TAPA	**Tanaga Point A**	2.62	277	P	Pn	03 58 57.9	+0.7
TAFP	**Tanaga Falls P**	2.73	279	P	Pn	03 58 59.7	+1.1
TNA	**Tin City**	14.34	10	Pn	Pn	04 01 38.9	+1.4
PETK	**Petropavlovsk-**	17.55	286	P	Pn	04 02 18.6	-0.3
	0.9nm,0.3s,baz=98,slow=12,SNR=4.1						
ILAR	**Eielson Array**	19.13	36	P	P	04 02 36.8	-0.2
	3.5nm,0.3s,baz=234,slow=9.0,SNR=7.6						
COLD	**Coldfoot**	19.51	28	P	Pn	04 02 42.4	-0.1
DLBC	**Dease Lake**	25.55	57	P	P	04 03 44.1	+1.7
	22nm,1.0s,baz=276,slow=13,SNR=2.9						
YKA	**Yellowknife Ar**	32.74	47	P	P	04 04 46.1	-0.1
	1.7nm,0.5s,baz=273,slow=9.3,SNR=5.7						
NEW	**Newport**	35.76	72	P	P	04 05 12.7	+0.1
	9.4nm,0.8s,baz=316,slow=7.0,SNR=3.6						
EDM	**Edmonton**	35.87	63	P	P	04 05 14.6	+1.2
USRK	**Ussuriysk Ar.**	36.47	280	P	P	04 05 17.8	-0.7
	10nm,0.6s,baz=54,slow=9.6,SNR=8.9						
NVAR	**Mina Array Bea**	40.31	87	PcP	PcP	04 07 54.3	+0.2
	0.9nm,0.7s,baz=267,slow=1.5,SNR=2.7						
KSRS	**Korea Array**	42.86	274	P	P	04 06

3.0nm,0.6s,baz=13,slow=7.4,SNR=21
KURK Kurchatov 60.96 316 P **P** **04 12 07.4 +0.4**
KURBB Kurchatov Arra 61.07 316 P **P** **04 12 07.4 -0.3**
7.4nm,0.9s,baz=45,slow=6.8,SNR=5.6
MKAR Makanchi Array 62.19 311 P **P** **04 12 15.1 -0.4**
8.0nm,0.9s,baz=47,slow=5.8,SNR=6.6
BVAR Borovoye Array 62.55 322 P **P** **04 12 16.7 -1.0**
5.8nm,0.7s,baz=46,slow=6.2,SNR=2.9
AKTO Aktyubinsk 69.11 327 P **P** **04 12 59.9 0.0**
10.0nm,1.0s,baz=17,slow=7.9,SNR=3.4
CMAR Chiang Mai Arr 74.08 280 P **P** **04 13 30.7 +0.3**
1.4nm,0.3s,baz=22,slow=7.8,SNR=4.0
AKASG Malin Array Be 76.05 345 P **P** **04 13 40.6 -0.6**
1.1nm,0.4s,baz=16,slow=6.0,SNR=4.0
BRTR Keskin Array B 85.78 339 P **P** **04 14 33.4 -0.1**
1.6nm,0.8s,baz=33,slow=3.6,SNR=3.6

*IDC **16** 04:13:57.4±5.2,51.°60N×173.°68W,h0km,mb3.8/5, mb1 3.9/6,mb1mx3.7/28,mbtmp3.8/6,ML4.0/1, Error ellipse: s-maj=139.1km s-min=28.2km az=162.0*
*NEIC **16** 04:14:00.8,51.°40N×173.°62W,h26km,ML3.4(AEIC),After AEIC.*
*ISCJB **16** 04:14:01.4±1.4,51.°7N±0.°2×173.°52W±0.°10,h37km, mb3.9/5,Error ellipse: s-maj=35.0km s-min=7.1km az=172.3*
ISC 16 04:14:03.2±2.0,51.°7N±0.°3×173.°63W±0.°09,h37km,n19, σ1ᵗ19/20,mb3.8/5,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**1.55**	**285**	P		**Pn**	**04 14 28.1**	**-0.2**
GSTR	**Great Sitkin T**	**1.56**	**287**	*e*Pn		**Pn**	**04 14 29.0**	**+0.6**
GSTR				*e*S		**Sn**	**04 14 46.5**	**-1.0**
GSTD	**Great Sitkin T**	**1.61**	**285**	P		**Pn**	**04 14 28.4**	**-0.6**
GSTD				S		**Sn**	**04 14 49.5**	**+0.9**
GSCK	**Great Sitkin C**	**1.61**	**283**	P		**Pn**	**04 14 29.3**	**+0.3**
ETKA	**Kagalaska Isla**	**1.73**	**278**	P		**Pn**	**04 14 30.0**	**-0.7**
ADAG	**Mount Adagdak**	**1.87**	**281**	P		**Pn**	**04 14 33.0**	**+0.4**
ADK	**Adak**	**1.91**	**278**	*e*Pn		**Pn**	**04 14 32.1**	**-1.1**
ADK				*e*S		**Sn**	**04 14 53.4**	**-2.5**
TAPA	**Tanaga Point A**	**2.60**	**275**	P		**Pn**	**04 14 43.1**	**+0.4**
TAFP	**Tanaga Falls P**	**2.71**	**277**	P		**Pn**	**04 14 44.4**	**+0.2**
TAFP				S		**Sn**	**04 15 19.1**	**+3.3**
ILAR	**Eielson Array**	**19.05**	**36**	P		**P**	**04 18 21.2**	**-0.6**
	0.2nm,0.3s,baz=232,slow=8.9,SNR=15							
YKA	**Yellowknife Ar**	**32.68**	**48**	P		**P**	**04 20 32.2**	**+0.8**
	0.7nm,0.8s,baz=271,slow=8.7,SNR=2.7							
H11N2	**WAKE ISLAND Hy**	**35.34**	**213**	T		T	04 58 46.5	
	baz=21,slow=75,SNR=5.3							
H11N3	**WAKE ISLAND Hy**	**35.35**	**213**	T		T	04 58 49.5	
	baz=21,slow=75,SNR=6.3							
H11N1	**WAKE ISLAND Hy**	**35.36**	**213**	T		T	04 58 48.2	
	baz=21,slow=75,SNR=6.7							
USRK	**Ussuriysk Ar.**	**36.44**	**280**	P		**P**	**04 21 03.8**	**-0.3**
	1.5nm,0.5s,baz=52,slow=8.2,SNR=4.4							
KURK	**Kurchatov**	**61.10**	**316**	P		**P**	**04 24 13.8**	**+0.7**
KURBB	**Kurchatov Arra**	**61.21**	**316**	P		**P**	**04 24 13.8**	**0.0**
	0.8nm,0.5s,baz=41,slow=6.6,SNR=5.3							
MKAR	**Makanchi Array**	**62.33**	**311**	P		**P**	**04 24 21.1**	**-0.4**
	0.3nm,0.4s,baz=44,slow=6.8,SNR=3.8							
AKASG	**Malin Array Be**	**76.18**	**345**	P		**P**	**04 25 46.7**	**-0.3**
	0.4nm,0.4s,baz=14,slow=5.9,SNR=2.7							

*NNC **16** 04:16:33.6±0.9,42.°17N×77.°91E,h0km,mb4.1,mpv3.8, Error ellipse: s-maj=7.1km s-min=3.7km az=177.0*
*KRNET **16** 04:16:34.2±0.1,42.°18N×77.°89E,h19km,mb3.6*
ISC 16 04:16:34.1±1.9,42.°17N±0.°05×77.°88E±0.°04,h5km±13km, n33,σ1ᵗ20/45,32C-13D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo**	**0.63**	**346**	⇓*i*P		**Pb**	**04 16 46.6**	**-1.1**
	baz=345							
ANVS				⇓*i*S		**Sg**	**04 16 55.8**	**+1.4**
	baz=345							
ULHL	**Ulahol**	**1.22**	**274**	P		**Pn**	**04 16 56.7**	**-1.3**
	SNR=63							
ULHL	**Ulahol**	**1.22**	**274**	⇑*i*P		**Pn**	**04 16 56.7**	**-1.3**
	baz=273							
ULHL				⇑*i*S		**Sn**	**04 17 13.4**	**-1.5**
	baz=273							
KNDC	**Almaty**	**1.24**	**328**	⇓P		**Pb**	**04 16 57.6**	**-0.5**
	98nm,0.3s							
KNDC				⇑S		**Sg**	**04 17 14.9**	**+0.9**
	698nm,0.3s							
NRN	**Naryn**	**1.59**	**243**	⇓*i*P		**Pb**	**04 17 03.6**	**-0.5**
	baz=243							
NRN				⇓*i*S		**Sg**	**04 17 25.8**	**+0.7**
	baz=243							
PDGK	**Podgornoye**	**1.65**	**45**	⇓P		**Pb**	**04 17 04.1**	**-0.9**
	37nm,0.2s							
PDGK				⇑S		**Sb**	**04 17 25.4**	**-0.7**
	361nm,0.5s							
TKM2	**Tokmak 2**	**1.84**	**295**	P		**Pb**	**04 17 07.6**	**-0.8**
	SNR=60							
TKM2	**Tokmak 2**	**1.84**	**295**	⇓Pg		**Pb**	**04 17 07.6**	**-0.8**
	55nm,0.3s							
TKM2				⇑Lg		Lg	04 17 32.9	
	302nm,0.2s							
TKM2	**Tokmak 2**	**1.84**	**295**	*e*P		**Pb**	**04 17 07.7**	**-0.7**
	baz=295							
TKM2				*i* S		**Sg**	**04 17 33.0**	**-0.3**
	baz=295							
KZA	**Kyzart**	**1.96**	**268**	P		**Pb**	**04 17 09.9**	**-0.5**
	SNR=200							
KZA	**Kyzart**	**1.96**	**268**	⇑*i*P		**Pb**	**04 17 09.8**	**-0.7**
	baz=268							
KZA				⇑*i*S		**Sb**	**04 17 36.4**	**+1.1**
	baz=268							
KBK	**Karagaybulak**	**2.22**	**284**	P		**Pb**	**04 17 14.4**	**-0.4**
	SNR=18							
KBK	**Karagaybulak**	**2.22**	**284**	⇑*i*P		**Pb**	**04 17 14.5**	**-0.4**
	baz=283							
KBK				⇑*i*S		**Sg**	**04 17 44.6**	**-0.9**
	baz=283							
CHMS	**Chumysh**	**2.45**	**291**	P		**Pb**	**04 17 17.4**	**-1.3**
	SNR=19							
CHMS	**Chumysh**	**2.45**	**291**	⇑*i*P		**Pb**	**04 17 16.9**	**-1.8**
	baz=291							
CHMS				⇑*i*S		**Sb**	**04 17 50.1**	**+1.0**
	baz=291							
UCH	**Uchtor**	**2.50**	**272**	P		**Pb**	**04 17 19.5**	**-0.2**
	SNR=17							
UCH	**Uchtor**	**2.50**	**272**	⇑*i*P		**Pb**	**04 17 19.1**	**-0.6**
	baz=272							
UCH				⇑*i*S		**Sb**	**04 17 52.8**	**+1.8**
	baz=272							
AAK	**Ala-Archa**	**2.55**	**282**	P		**Pb**	**04 17 18.8**	**-1.5**
	SNR=15							
AAK	**Ala-Archa**	**2.55**	**282**	⇑Pg		**Pb**	**04 17 18.9**	**-1.5**
	33nm,0.6s							
AAK				⇓Lg		Lg	04 17 52.5	
	162nm,0.5s							
AAK	**Ala-Archa**	**2.55**	**282**	⇑*i*P		**Pb**	**04 17 19.4**	**-1.0**
	baz=281							
AAK				⇑*i*S		**Sb**	**04 17 52.7**	**+0.7**
	baz=281							
USP	**Ospenovka**	**2.72**	**295**	P		**Pb**	**04 17 22.1**	**-1.1**
	SNR=25							
USP	**Ospenovka**	**2.72**	**295**	⇑*i*P		Pb	04 17 20.1	-3.1
	baz=295							
USP				⇑*i*S		**Sb**	**04 17 57.6**	**+0.8**
	baz=295							
EKS	**Erkin-Say**	**3.07**	**281**	⇑*i*P		Pb	04 17 25.7	-3.5
	baz=280							
EKS				⇑*i*S		**Sb**	**04 18 04.5**	**-2.5**
	baz=280							
EKS2	**Erkin-Say**	**3.07**	**280**	P		**Pb**	**04 17 29.4**	**+0.1**
	SNR=17							
EKS2	**Erkin-Say**	**3.07**	**280**	⇑*i*P		**Pb**	**04 17 28.4**	**-0.9**
	baz=280							
EKS2				⇑*i*S		**Sb**	**04 18 09.3**	**+2.1**
	baz=280							
AML	**Almayashu**	**3.11**	**271**	P		**Pb**	**04 17 31.1**	**+1.0**
	SNR=34							
AML	**Almayashu**	**3.11**	**271**	⇑*i*P		**Pb**	**04 17 28.9**	**-1.2**
	baz=271							
AML				⇑*i*S		**Sb**	**04 18 10.5**	**+2.0**
	baz=271							
SFK	**Sufi-Kurgan**	**3.95**	**238**	⇓Pg		Pg	04 17 47.1	-2.7
	7.4nm,0.6s							
SFK				⇑Lg		Lg	04 18 39.8	
	26nm,0.6s							
ARK	**Arkit**	**4.42**	**267**	⇑*i*P		Pn	04 17 44.1	+2.1
	baz=267							
ARK				⇑*i*S		**Sn**	**04 18 36.0**	**+2.1**
	baz=267							
KK31	**Karatay Array**	**5.51**	**282**	⇑Pg		Pg	04 18 15.0	-4.7
	2.4nm,0.4s,baz=95,slow=15,SNR=17							
KK31				⇑Lg		Lg	04 19 25.1	
	61nm,0.9s,baz=61,slow=9.7,SNR=10							
MK31	**Makanchi Array**	**5.59**	**33**	⇓Pn		**Pn**	**04 17 59.2**	**+1.3**
	1.6nm,0.2s,baz=212,slow=15,SNR=60							
MK31				⇓Sn		**Sn**	**04 19 02.2**	**-0.4**
	4.5nm,0.4s							
MK31				⇓Lg		Lg	04 19 25.7	
	3.0nm,0.3s,baz=212,slow=27,SNR=5.8							
KURBB	**Kurchatov Arra**	**8.46**	**3**	⇑Pn		**Pn**	**04 18 38.0**	**+0.8**
	4.8nm,0.9s							
KURBB				⇑Lg		Lg	04 21 00.1	
	49nm,0.7s							
KURK	**Kurchatov**	**8.56**	**3**	⇓Pn		**Pn**	**04 18 38.2**	**-0.4**
	6.0nm,1.5s							
KURK				⇑Lg		Lg	04 21 00.9	
	10nm,1.0s							

IDC 16 04:22:02.2±3.3,2.°21S×136.°34E,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.4/33,mbtmp3.5/3,ML3.4/1,Error ellipse: s-maj=144.5km s-min=28.4km az=81.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.73**	**186**	P		Pn	04 26 10.2	-0.5
	0.1nm,0.3s,baz=7.4,slow=12,SNR=3.1							
ASAR	**Alice Springs**	**21.46**	**186**	P		P	04 26 52.3	-0.1
	0.7nm,0.5s,baz=11,slow=11,SNR=3.6							
MKAR	**Makanchi Array**	**67.96**	**323**	P		P	04 33 03.2	+0.1
	0.2nm,0.5s,baz=108,slow=7.7,SNR=3.1							

*IDC **16** 04:23:22.3±1.0,51.°75N×173.°63W,h0km,mb4.0/16, mb1 4.1/18,mb1mx3.9/56,mbtmp4.0/18,ML3.2/1,Error ellipse: s-maj=34.1km s-min=13.1km az=3.0*
*NEIC **16** 04:23:26.5,51.°53N×173.°65W,h25km,ML3.8(AEIC),After AEIC.*
*ISCJB **16** 04:23:28.2±0.6,51.°8N±0.°1×173.°67W±0.°06,h56km, mb4.0/16,Error ellipse: s-maj=20.8km s-min=4.7km az=175.6*
ISC 16 04:23:29.7±0.9,51.°8N±0.°2×173.°67W±0.°06,h56km,n49, σ1ᵗ13/48,mb4.2/24,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**1.50**	**281**	P		**Pn**	**04 23 53.0**	**-1.2**
GSTR	**Great Sitkin T**	**1.51**	**282**	*e*Pn		**Pn**	**04 23 52.4**	**-2.0**
GSTR				*e*S		**Sn**	**04 24 11.3**	**-1.8**
GSTD	**Great Sitkin T**	**1.56**	**281**	P		**Pn**	**04 23 53.7**	**-1.4**
GSTD				S		**Sn**	**04 24 14.8**	**+0.5**
GSCK	**Great Sitkin C**	**1.56**	**279**	P		**Pn**	**04 23 54.0**	**-1.1**
ETKA	**Kagalaska Isla**	**1.70**	**273**	P		**Pn**	**04 23 55.5**	**-1.5**
ADAG	**Mount Adagdak**	**1.83**	**277**	P		**Pn**	**04 23 57.8**	**-0.9**
ADK	**Adak**	**1.88**	**274**	P		**Pn**	**04 23 57.6**	**-1.7**
ADK				S		**Sn**	**04 24 21.5**	**-0.3**
KIKV	**Kanaga Island**	**2.18**	**274**	P		**Pn**	**04 24 01.5**	**-2.0**
KICM	**Kanaga Island**	**2.19**	**275**	P		**Pn**	**04 24 03.4**	**-0.3**
TAPA	**Tanaga Point A**	**2.58**	**272**	P		**Pn**	**04 24 07.5**	**-1.5**
TAFP	**Tanaga Falls P**	**2.68**	**274**	P		**Pn**	**04 24 09.4**	**-0.9**
TAFP				S		**Sn**	**04 24 42.2**	**+0.7**
TASE	**Tanaga Southea**	**2.71**	**273**	P		**Pn**	**04 24 09.9**	**-0.9**
GAEA	**Gareloi East**	**3.15**	**272**	P		**Pn**	**04 24 16.2**	**-0.6**
AMKA	**Amchitka**	**4.41**	**267**	*e*Pn		**Pn**	**04 24 31.5**	**-2.4**
LSPA	**Little Sitkin**	**4.81**	**275**	P		**Pn**	**04 24 39.9**	**+0.4**
PETK	**Petropavlovsk-**	**17.46**	**286**	P		**Pn**	**04 27 27.7**	**-1.3**
	0.4nm,0.3s,baz=98,slow=13,SNR=4.6							
ILAR	**Eielson Array**	**18.96**	**36**	P		**P**	**04 27 44.9**	**-2.2**
	baz=233,slow=9.0,SNR=5.8							
SEY	**Seymchan**	**21.15**	**315**	P		**P**	**04 28 09.4**	**-0.3**
	1.3nm,0.6s,baz=101,slow=16,SNR=2.1							
DLBC	**Dease Lake**	**25.45**	**58**	P		**P**	**04 28 52.0**	**0.0**
	5.3nm,1.0s,baz=260,slow=12,SNR=6.3							
H11N2	**WAKE ISLAND Hy**	**35.44**	**213**	T		T	05 08 16.4	
	baz=19							
H11N3	**WAKE ISLAND Hy**	**35.45**	**213**	T		T	05 08 17.7	
	baz=19							
H11N1	**WAKE ISLAND Hy**	**35.46**	**213**	T		T	05 08 17.4	
	baz=19							
NEW	**Newport**	**35.72**	**73**	P		**P**	**04 30 22.0**	**-0.6**
	2.8nm,0.8s,baz=297,slow=6.8,SNR=4.5							
USRK	**Ussuriysk Ar.**	**36.40**	**280**	P		**P**	**04 30 28.3**	**-0.1**
	4.0nm,0.5s,baz=58,slow=8.8,SNR=12							
H11S1	**WAKE ISLAND Hy**	**36.64**	**212**	T		T	05 09 30.2	
	baz=16,SNR=6.9							
H11S2	**WAKE ISLAND Hy**	**36.66**	**212**	T		T	05 09 30.8	
	baz=16							
H11S3	**WAKE ISLAND Hy**	**36.66**	**212**	T		T	05 09 30.8	
	baz=16							
NVAR	**Mina Array Bea**	**40.33**	**87**	P		**P**	**04 31 02.1**	**+0.4**
	0.6nm,0.8s,baz=292,slow=11,SNR=2.8							
KSRS	**Korea Array**	**42.82**	**274**	P		**P**	**04 31 22.1**	**+0.3**
	2.0nm,0.5s,baz=56,slow=8.2,SNR=10.0							
KSAR	**Wonju Array Be**	**42.85**	**274**	P		**P**	**04 31 22.1**	**+0.1**
PDAR	**Pinedale Array**	**43.12**	**76**	P		**P**	**04 31 23.6**	**-0.8**
	0.4nm,0.5s,baz=332,slow=5.5,SNR=3.3							
SONM	**Songino Array**	**49.29**	**299**	P		**P**	**04 32 12.5**	**-0.2**
	1.4nm,0.6s,baz=39,slow=8.2,SNR=5.6							
TXAR	**Lajitas Array**	**55.42**	**85**	P		**P**	**04 32 57.5**	**-0.8**
	0.4nm,0.7s,baz=311,slow=5.8,SNR=4.0							
ARCES	**ARCESS Array B**	**58.17**	**352**	P		**P**	**04 33 17.6**	**+0.5**
	4.0nm,0.9s,baz=15,slow=8.6,SNR=3.4							
ARCES				PcP		**PcP**	**04 34 08.6**	**+0.6**
	2.7nm,0.7s,baz=355,slow=4.3,SNR=7.5							
KURK	**Kurchatov**	**61.00**	**316**	P		**P**	**04 33 38.0**	**+1.1**
KURBB	**Kurchatov Arra**	**61.10**	**316**	P		**P**	**04 33 38.0**	**+0.4**
	1.8nm,0.5s,baz=45,slow=6.7,SNR=22							
MKAR	**Makanchi Array**	**62.23**	**311**	P		**P**	**04 33 45.4**	**+0.1**
	0.6nm,0.4s,baz=46,slow=6.4,SNR=11							
NOA	**NORSAR Array B**	**67.45**	**357**	P		**P**	**04 34 19.6**	**+0.7**
	0.3nm,0.6s,baz=9.9,slow=2.4,SNR=3.1							
TAPN	**Taplejung**	**74.02**	**294**	*e*P		**P**	**04 35 01.0**	**+1.3**
	40nm,1.1s							
CMAR	**Chiang Mai Arr**	**74.13**	**280**	P		**P**	**04 35 01.0**	**+0.9**
	0.7nm,0.3s,baz=19,slow=6.7,SNR=4.4							
GUN	**Gumba**	**74.62**	**295**	*e*P		**P**	**04 35 04.8**	**+1.5**
	18nm,0.5s							
RAMN	**Ramite**	**74.95**	**294**	*e*P		**P**	**04 35 06.3**	**+1.2**
	26nm,0.6s							
KKN	**Kakani**	**75.05**	**296**	*e*P		**P**	**04 35 06.6**	**+1.0**
	15nm,0.7s							
PKI	**Pulchoki**	**75.15**	**296**	*e*P		**P**	**04 35 07.3**	**+1.0**
	28nm,1.1s							
GKN	**Gorkha**	**75.24**	**296**	*e*P		**P**	**04 35 07.3**	**+0.7**
	16nm,0.7s							
DMN	**Daman**	**75.29**	**296**	*e*P		**P**	**04 35 08.1**	**+1.1**
	14nm,0.8s							
KOLN	**Koldanda**	**76.00**	**297**	*e*P		**P**	**04 35 12.1**	**+1.1**
	12nm,0.7s							
AKASG	**Malin Array Be**	**76.05**	**345**	P		**P**	**04 35 11.1**	**+0.4**
	1.0nm,0.4s,baz=18,slow=6.0,SNR=3.6							
BRTR	**Keskin Array B**	**85.80**	**339**	P		**P**	**04 36 04.0**	**+1.0**
	1.0nm,0.8s,baz=35,slow=3.2,SNR=4.6							

IDC 16 04:25:37.5±3.0,2.°03S×136.°36E,h0km,mb3.5/2, mb1 3.9/3,mb1mx3.5/34,mbtmp3.7/3,ML3.6/1,Error ellipse: s-maj=127.2km s-min=28.4km az=81.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.91**	**186**	P		Pn	04 29 47.7	-0.6
	0.2nm,0.3s,baz=7.4,slow=12,SNR=3.6							
ASAR	**Alice Springs**	**21.64**	**186**	P		P	04 30 29.5	-0.1
	1.9nm,0.5s,baz=12,slow=11,SNR=5.0							
MKAR	**Makanchi Array**	**67.83**	**323**	P		P	04 36 37.7	+0.2
	0.2nm,0.6s,baz=102,slow=6.1,SNR=2.3							

*IDC **16** 04:28:32.7±0.7,1.°69S×136.°32E,h0km,mb4.2/10, mb1 4.4/12,mb1mx4.1/33,mbtmp4.2/12,ML4.1/2,Error ellipse: s-maj=28.6km s-min=15.7km az=66.0*
*ISCJB **16** 04:28:34.0±0.9,1.°76S±0.°08×136.°34E±0.°04,h19km±6km, mb4.2/11,Error ellipse: s-maj=12.7km s-min=5.7km az=7.8*
*NEIC **16** 04:28:34.2±0.4,1.°73S×136.°34E,h10km,mb4.3/2,Error ellipse: s-maj=15.3km s-min=7.2km az=74.0*
*DJA **16** 04:28:34.9±0.4,2.°5±8.°×13.°6E±°,h15km±2km,M4.6/7, mb4.6/2,MLv4.6/7*
ISC 16 04:28:34.8±1.2,1.°78S±0.°09×136.°34E±0.°04,h14km±6km, n25,σ1ᵗ70/31,mb4.2/11,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.14**	**229**	P		**Pg**	**04 28 38.0**	**-0.5**
SRPI				S		**Sg**	**04 28 41.5**	**+0.6**
RKPI	**Ransiki, Papua**	**2.18**	**277**	P		**Pn**	**04 29 11.5**	**+0.7**
RKPI				S		**Sn**	**04 29 38.1**	**+0.5**
SMPI	**Sarmi**	**2.37**	**95**	P		**Pn**	**04 29 13.5**	**+0.1**
SMPI				S		**Sn**	**04 29 43.1**	**+0.8**
FAKI	**Fak Fak**	**4.25**	**254**	P		**Pn**	**04 29 38.9**	**-0.3**
FAKI				S		**Sn**	**04 30 27.8**	**-0.8**
JAY	**Jayapura**	**4.42**	**100**	P		**Pn**	**04 29 41.0**	**-0.6**
SIJI	**Sorong**	**5.16**	**280**	P		**Pn**	**04 29 51.1**	**-0.6**
	5.5nm,0.3s,baz=58,slow=12,SNR=8.4							
SIJI				Sn		**Sn**	**04 30 52.9**	**+1.8**
	baz=108,slow=20,SNR=3.5							
SWI	**Sorong**	**5.16**	**280**	P		**Pn**	**04 29 51.8**	**0.0**
	74nm,0.7s,0.7nm							
WRA	**Warramunga Arr**	**18.16**	**186**	P		**Pn**	**04 32 46.3**	**-0.5**
	0.6nm,0.3s,baz=8.1,slow=12,SNR=12							
WRA				S		Sn	04 35 55.8	-14
	0.4nm,0.3s,baz=13,slow=22,SNR=7.8							
KKM	**Kota Kinabalu**	**21.55**	**291**	P		**P**	**04 33 24.4**	**+0.2**
	26nm,1.7s							
AS31	**Alice Springs**	**21.89**	**186**	*e*P		**P**	**04 33 28.2**	**+0.5**
ASAR	**Alice Springs**	**21.89**	**186**	P		**P**	**04 33 28.3**	**+0.7**
	8.1nm,0.6s,baz=12,slow=12,SNR=28							
ASAR				S		**S**	**04 37 28.1**	**-1.2**
	1.7nm,0.8s,baz=13,slow=27,SNR=4.4							
STKA	**Stephens Creek**	**30.34**	**171**	P		**P**	**04 34 47.0**	**+0.7**
	3.6nm,0.5s,baz=341,slow=9.6,SNR=7.8							
KSRS	**Korea Array**	**39.81**	**350**	PcP		**PcP**	**04 38 13.2**	**-0.5**
	0.5nm,0.3s,baz=176,slow=1.6,SNR=4.2							
CMAR	**Chiang Mai Arr**	**41.93**	**300**	P		**P**	**04 36 25.2**	**-0.4**
	3.1nm,0.7s,baz=116,slow=6.7,SNR=13							
MKAR	**Makanchi Array**	**67.62**	**323**	P		**P**	**04 39 30.8**	**-0.6**
	1.5nm,0.7s,baz=107,slow=8.1,SNR=7.0							
KURK	**Kurchatov**	**71.61**	**325**	P		**P**	**04 39 55.3**	**-0.5**
KURBB	**Kurchatov Arra**	**71.62**	**325**	P		**P**	**04 39 55.3**	**-0.6**
	1.3nm,0.7s,baz=118,slow=5.8,SNR=8.4							
VNDA	**Vanda**	**76.92**	**174**	P		**P**	**04 40 27.0**	**+0.7**
	1.2nm,0.6s,baz=339,slow=6.6,SNR=7.3							
BVAR	**Borovoye Array**	**77.21**	**326**	P		**P**	**04 40 27.9**	**-0.5**
	1.0nm,0.6s,baz=123,slow=5.5,SNR=5.9							
AKTO	**Aktyubinsk**	**83.94**	**321**	P		**P**	**04 41 04.3**	**-0.2**
	0.4nm,0.3s,baz=90,slow=11,SNR=3.5							
ILAR	**Eielson Array**	**85.97**	**25**	P		**P**	**04 41 13.8**	**-0.7**
	0.6nm,0.9s,baz=263,slow=5.4,SNR=6.7							
QSPA	**South Pole Qui**	**88.16**	**180**	P		**P**	**04 41 25.5**	**+0.2**
	3.1nm,0.8s,baz=291,slow=1.0,SNR=21							
ATAH	**Atahualpa**	**144.22**	**105**	PKP		**PKPdf**	**04 48 12.1**	**-0.1**
	11nm,0.8s,baz=352,slow=1.4,SNR=5.5							
ROSC	**El Rosal**	**149.23**	**84**	PKPbc		**PKPbc**	**04 48 25.0**	**+0.2**
	7.3nm,0.7s,baz=67,slow=3.8,SNR=10							
LPAZ	**La Paz**	**149.89**	**128**	PKPbc		**PKPbc**	**04 48 27.7**	**+1.1**
	1.8nm,0.9s,baz=247,slow=5.1,SNR=3.5							

JMA 16 04:28:59.9±0.1,38.°67N×142.°17E,h40km±1km,M3.6,5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.57**	**316**	⇓P		Pn	04 29 11.6	0.0
OFUJ				S		Sn	04 29 19.7	-0.1
JIO	**Ouri**	**0.68**	**252**	⇓P		Pn	04 29 12.8	-0.2
JIO				S		Sn	04 29 21.7	-0.7
JMK	**Ichinoseki**	**0.79**	**291**	⇓P		Pn	04 29 14.7	+0.1
JMK				S		Sn	04 29 25.3	0.0
JOM	**Ohasama**	**1.05**	**320**	⇓P		Pn	04 29 18.6	+0.4
JOU	**Okura**	**1.22**	**256**	⇓P		Pn	04 29 20.7	+0.2
JOU				S		Sn	04 29 36.4	+0.6
JMM	**Marumori**	**1.35**	**234**	P		Pn	04 29 21.9	-0.3
JRG	**Rokugo**	**1.40**	**302**	P		Pn	04 29 23.4	+0.5
JYK	**Kaneyama**	**1.44**	**280**	P		Pn	04 29 23.8	+0.3

*ISCJB **16** 04:31:51.5±0.2,27.°34S±0.°02×65.°66W±0.°04,h10km, mb4.6/32,Error ellipse: s-maj=5.8km s-min=3.6km az=179.4*
*IDC **16** 04:31:51.1±0.5,27.°39S×65.°57W,h0km,mb4.4/15, mb1 4.5/18,mb1mx4.4/28,mbtmp4.4/18,ML4.6/3,Error ellipse: s-maj=19.2km s-min=11.8km az=93.0*
*NEIC **16** 04:31:52.0,27.°40S×65.°88W,h10km,mb4.7/19,After SJA.*
NEIC Felt [V] in the epicentral area, [IV] at Catamarca and San Miguel de Tucuman and [III] in parts of Cordoba, La Rioja and Santiago del Estero.
*SJA **16** 04:31:52.1±1.0,27.°39S×65.°87W,h5km±7km,ML5.1*
ISC 16 04:31:52.9±0.4,27.°41S±0.°04×65.°71W±0.°06,h10km,n379, σ0ᵗ60/370,mb4.7/31,1C,Tucuman Province

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AHML	**Horco Mol

comp=Z,1.7nm,1.0s,baz=278,slow=7.1,SNR=10
SNAA Sanae 55.76 160 eP P 04 41 21.9 -7.7
comp=Z,6.4nm,1.0s
034A Hebbronville 62.75 327 P P 04 42 18.6 +0.2
baz=63
QSPA South Pole Qui 62.81 180 P P 04 42 18.4 0.0
comp=Z,2.7nm,0.7s,baz=165,slow=8.0,SNR=5.6
QSPA South Pole Qui 62.81 180 eP P 04 42 18.7 +0.2
comp=Z,5.4nm,0.7s
934A Benavides 63.12 327 P P 04 42 21.3 +0.5
baz=63
933A Laredo 63.50 327 P P 04 42 25.0 +1.6
baz=64
736A Circle Diamond 63.59 329 P P 04 42 24.4 +0.5
baz=64
637A Eagle Lake 63.68 330 P P 04 42 25.1 +0.7
baz=64
735A Kenedy 63.84 329 P P 04 42 26.2 +0.7
baz=64
833A Chaparral WMA, 64.15 327 P P 04 42 27.7 +0.2
baz=64,SNR=8.3
734A La Parita Cree 64.19 328 P P 04 42 28.0 +0.2
baz=64
340A Bronson 64.38 333 P P 04 42 29.4 +0.4
baz=65
832A Faith Ranch, C 64.40 327 P P 04 42 29.5 +0.3
baz=65,SNR=9.3
733A Divot King Ran 64.43 327 P P 04 42 29.1 -0.4
baz=65
535A Dale 64.73 330 P P 04 42 31.1 -0.2
baz=65
732A Laxson Ranch, 64.76 327 P P 04 42 31.8 +0.2
baz=65,SNR=11
338A Crockett 64.90 332 P P 04 42 33.2 +0.7
baz=65
NATX Nacogdoches 64.99 333 P P 04 42 32.4 -0.6
baz=65
633A Saathoff Ranch 64.99 328 P P 04 42 33.1 0.0
baz=65
632A Uvalde 65.32 327 P P 04 42 35.4 +0.1
baz=66,SNR=5.4
533A Kerrville 65.44 328 P P 04 42 36.1 0.0
baz=66
336A Riesel 65.58 331 P P 04 42 36.9 +0.1
baz=66
631A Perdido Creek 65.62 327 P P 04 42 37.5 +0.3
baz=66
139A Bunkhouse Ranc 65.69 334 P P 04 42 37.7 +0.2
baz=66
434A Burnet 65.72 329 P P 04 42 37.9 +0.1
baz=66
335A Moody 65.74 330 P P 04 42 38.2 +0.4
baz=66
532A Rocksprings 65.90 328 P P 04 42 39.0 0.0
baz=66,SNR=9.2
236A Katherine and 65.97 332 P P 04 42 39.3 -0.1
baz=66
433A Art 66.04 329 P P 04 42 40.1 +0.2
baz=66
JCT Junction City 66.14 328 P P 04 42 40.6 +0.1
baz=66
JCT Junction City 66.14 328 eP P 04 42 40.3 -0.3
comp=Z,7.2nm,0.8s
334A Lometa 66.14 330 P P 04 42 40.3 -0.2
baz=66
531A Rocksprings 66.23 327 P P 04 42 41.2 0.0
baz=66,SNR=5.7
432A Menard 66.47 328 P P 04 42 42.5 -0.2
baz=67,SNR=7.4
333A Richland Sprin 66.47 329 P P 04 42 42.3 -0.3
baz=67,SNR=7.3
530A J-C Ranch, Com 66.60 327 P P 04 42 43.5 -0.1
baz=67,SNR=5.1
234A Clairette 66.67 330 P P 04 42 43.7 -0.1
baz=67,SNR=7.8
431A Sonora 66.69 328 P P 04 42 44.0 -0.1
baz=67,SNR=6.5
135A Vickery Place, 66.83 331 P P 04 42 44.9 +0.1
baz=67
332A Millersview 66.87 329 P P 04 42 45.1 0.0
baz=67,SNR=12
529A Stev Forest Ra 67.02 326 P P 04 42 46.4 +0.2
baz=67,SNR=11
233A Rising Star 67.02 330 P P 04 42 45.8 -0.3
baz=67
430A Baggett Ranch, 67.08 327 P P 04 42 46.6 0.0
baz=67,SNR=7.6
TXAR Lajitas Array 67.11 324 P P 04 42 46.6 -0.3
comp=Z,1.4nm,0.8s,baz=154,slow=8.1,SNR=14
331A San Angelo 67.13 328 P P 04 42 46.7 -0.1
baz=67,SNR=6.1
232A Coleman 67.25 329 P P 04 42 47.3 -0.3
baz=67,SNR=16
429A Davenport Ranc 67.27 327 P P 04 42 48.1 +0.3
baz=67,SNR=15
133A Hamilton Ranch 67.53 330 P P 04 42 49.6 +0.3
baz=68
330A Mertzon 67.56 328 P P 04 42 49.1 -0.5
baz=68,SNR=6.3
231A Bronte 67.60 329 P P 04 42 49.5 -0.3
baz=68
Z34A Collier Ranch, 67.74 331 P P 04 42 50.8 +0.1
baz=68
X37A Clayton 67.75 334 P P 04 42 50.7 0.0
baz=68
DBIC Dimbokro 67.84 70 P P 04 42 50.7 -1.0
comp=Z,2.5nm,0.8s,baz=238,slow=6.5,SNR=4.4
W38A Poteau 67.85 335 P P 04 42 51.3 +0.1
baz=68,SNR=8.9
ABTX Abilene, Hawle 67.87 329 P P 04 42 51.1 -0.4
baz=68
230A Sterling City 67.93 328 P P 04 42 52.1 +0.1
baz=68
329A Wagon Wheel Ra 68.02 327 P P 04 42 52.3 -0.2
baz=68,SNR=7.1
Z33A Whitaker Ranch 68.04 330 P P 04 42 52.7 +0.2
baz=68,SNR=12
X36A Centrahoma 68.13 333 P P 04 42 52.5 -0.6
baz=68,SNR=9.0
Y34A Reagan Ranch, 68.18 332 P P 04 42 53.0 -0.4
baz=68,SNR=6.3
X35A Drake 68.23 332 P P 04 42 53.3 -0.4
baz=68
131A Roby 68.25 329 P P 04 42 53.9 0.0
baz=68,SNR=6.5
W37A Quinton 68.26 334 P P 04 42 53.6 -0.3
baz=68,SNR=9.4
Z32A Haskell 68.37 330 P P 04 42 54.4 -0.2
baz=69,SNR=5.4
130A Snyder 68.45 328 P P 04 42 54.9 -0.2
baz=69
W36A Wetumka 68.57 333 P P 04 42 55.1 -0.7
baz=69,SNR=9.9
Y33A Hilltop Ranch, 68.59 331 P P 04 42 55.9 -0.1
baz=69
Z31A Sharp Cattle R 68.68 329 P P 04 42 56.4 -0.2
baz=69
X34A Smith Ranch, M 68.76 332 P P 04 42 56.6 -0.4
baz=69,SNR=5.5
228A UT Block 9, Go 68.83 327 P P 04 42 57.5 -0.1
baz=69,SNR=5.8
W35A Tecumseh 68.84 333 P P 04 42 56.7 -0.8
baz=69
129A Stewart Farms, 68.90 328 P P 04 42 57.8 -0.2
baz=69
Y32A R-V Farms, Ver 68.94 330 P P 04 42 58.0 -0.2
baz=69
X33A Lawton 68.99 331 P P 04 42 57.9 -0.6
baz=69,SNR=7.9
TUL1 Leonard 69.08 334 P P 04 42 58.5 -0.5
baz=69
Z30A Sanderson Ranc 69.10 329 P P 04 42 58.5 -0.7
baz=69,SNR=6.0
128A Castleberry Fa 69.19 327 P P 04 42 59.5 -0.3
baz=69,SNR=7.4
X32A Elmer 69.23 331 P P 04 42 59.7 -0.2
baz=69
Y31A Rekieta Farm, 69.27 330 P P 04 43 00.1 -0.1
baz=70,SNR=7.9
WMOK Wichita Mounta 69.28 331 eP P 04 42 59.0 -1.3
comp=Z,1.9nm,0.5s
W34A Bridge Creek, 69.28 332 P P 04 42 59.9 -0.4
baz=70
Z29A Hungry Hill Ra 69.35 328 P P 04 43 00.5 -0.2
baz=70
V35A Meyer Ranch, C 69.36 333 P P 04 43 00.0 -0.7
baz=70,SNR=7.5
Y30A Stafford Cattl 69.49 329 P P 04 43 01.5 -0.2
baz=70
W33A Caddo, Fort Co 69.50 332 P P 04 43 02.1 +0.5
baz=70,SNR=26
Z28A Tucker Farm, M 69.69 328 P P 04 43 02.5 -0.5
baz=70,SNR=6.3
V34A Guthrie 69.70 333 P P 04 43 02.4 -0.4
baz=70
X31A McDonald Ranch 69.71 330 P P 04 43 03.0 +0.1
baz=70,SNR=26
W32A Sentinel 69.81 331 P P 04 43 03.6 0.0
baz=70,SNR=14
T37A Cheneyville 18 69.81 335 P P 04 43 03.1 -0.4
baz=70,SNR=14
Y29A Porterfield Fa 69.83 329 P P 04 43 03.6 -0.1
baz=70,SNR=15
X30A Coker Ranch, T 69.95 330 P P 04 43 04.7 +0.2
baz=70,SNR=5.8
SYO Syowa Base 69.96 158 eP P 04 43 03.5 -0.5
V33A Lossen Ranch, 70.00 332 P P 04 43 04.5 -0.1
baz=70,SNR=9.8
T36A Boggs Farm, Ca 70.12 335 P P 04 43 05.0 -0.3
baz=70,SNR=8.5
Y28A McKinney Farm, 70.14 328 P P 04 43 05.2 -0.5
baz=70
W31A Holland Ranch, 70.16 331 P P 04 43 05.2 -0.6
baz=70
U34A Anderson Ranch 70.22 333 P P 04 43 05.7 -0.3
baz=70,SNR=7.8
V32A Arapaho 70.23 332 P P 04 43 06.4 +0.3
baz=70
T35A Sooner Cattle 70.24 334 P P 04 43 06.0 -0.1
baz=70,SNR=5.6
SFIN Lafayette 70.31 343 P P 04 43 04.9 -1.6
baz=71
X29A Tulia 70.33 329 P P 04 43 07.0 +0.2
baz=70
MSTX Muleshoe 70.43 328 P P 04 43 07.4 -0.1
baz=71,SNR=9.3
U33A Lingo Farm, Me 70.45 333 P P 04 43 07.1 -0.4
baz=71
T34A McClaskey Farm 70.59 334 P P 04 43 08.1 -0.2
baz=71,SNR=5.5
S36A Lake Cedric, C 70.60 335 P P 04 43 08.0 -0.2
baz=71,SNR=11
V31A Spring Creek L 70.62 331 P P 04 43 09.0 +0.5
baz=71,SNR=5.8
X28A Dimmitt 70.62 329 P P 04 43 08.6 0.0
baz=71
AMTX Amarillo 70.68 329 P P 04 43 09.1 +0.1
baz=71
S35A Otter Creek Ra 70.83 335 P P 04 43 09.3 -0.4
baz=71,SNR=10
R37A Teagarden Farm 70.84 336 P P 04 43 09.3 -0.4
baz=71,SNR=6.6
W29A Amarillo 70.86 329 P P 04 43 09.9 -0.2
baz=71
V30A Spur Ranch, Mi 70.97 330 P P 04 43 12.1 +1.4
baz=71
T33A Patterson Ranc 71.07 333 P P 04 43 11.3 +0.1
baz=71,SNR=5.8
R36A Gordon, Harris 71.09 336 P P 04 43 11.2 -0.1
baz=71
U31A Nine Bar Ranch 71.12 331 P P 04 43 11.9 +0.3
baz=71
S34A Willow Spring 71.15 334 P P 04 43 11.9 +0.2
baz=71
R35A Emporia Munici 71.35 335 P P 04 43 13.0 +0.2
baz=72
S33A Kaszmaul Farm, 71.41 333 P P 04 43 13.0 -0.2
baz=72
T32A Huddler Ranch, 71.43 333 P P 04 43 13.5 +0.1
baz=72
VNDA Vanda 71.55 190 P P 04 43 13.8 +0.2
comp=Z,1.8nm,1.0s,baz=134,slow=6.0,SNR=5.8
U30A WK&E Inc. Balk 71.60 331 P P 04 43 14.8 +0.3
baz=72
V28A Channing 71.65 329 P P 04 43 15.2 +0.4
baz=72,SNR=8.5
T31A Randall Ranch, 71.67 332 P P 04 43 15.0 +0.2
baz=72
R34A Isabella, Hill 71.73 334 P P 04 43 15.1 0.0
baz=72,SNR=5.8
Q35A Mercer Eighty, 71.76 335 P P 04 43 14.9 -0.4
baz=72
121A Cookes Peak, D 71.80 323 P P 04 43 17.2 +1.3
baz=72,SNR=7.4
S32A Newby Ranch, P 71.88 333 P P 04 43 16.2 +0.2
baz=72,SNR=5.2
R33A Olander Ranch, 72.02 334 P P 04 43 16.8 -0.1
baz=72
S31A Mullinville 72.03 332 P P 04 43 17.1 0.0
baz=74
P36A Good Intent, A 72.13 336 P P 04 43 16.5 -0.9
baz=72
Q34A Chapman 72.15 335 P P 04 43 17.2 -0.4
baz=72,SNR=5.6
U28A Mallet 72.17 330 P P 04 43 17.7 -0.3
baz=72
KSU1 Kansas State U 72.19 335 P P 04 43 17.2 -0.6
baz=72
P35A Duane Minner, 72.34 336 P P 04 43 18.1 -0.7
baz=73
R32A Long Quarter, 72.41 333 P P 04 43 19.4 +0.2
baz=73,SNR=5.9
O36A Bolckow 72.50 337 P P 04 43 18.7 -0.9
baz=73
Q33A Connelly Farm, 72.56 334 P P 04 43 20.3 +0.3
baz=73
R31A Burdett 72.62 333 P P 04 43 20.8 +0.3
baz=73
P34A Walnut Farm, R 72.66 335 P P 04 43 20.7 +0.1
baz=73,SNR=13
S29A Ulysses 72.72 331 P P 04 43 21.5 +0.3
baz=73
T28A Walsh 72.74 330 P P 04 43 21.5 +0.2
baz=73
Q32A Meitler Ranch, 72.84 334 P P 04 43 21.9 +0.2
baz=73
P33A Williams Farm, 72.89 335 P P 04 43 21.9 -0.1
baz=73
LAZ Ladron 72.92 325 eP P 04 43 23.4 +0.8
comp=Z,4.7nm,1.2s
R30A Dighton 72.93 332 P P 04 43 23.0 +0.7
baz=73
O35A Humboldt 72.95 336 P P 04 43 21.6 -0.8
baz=73
T27A Campo 72.96 330 P P 04 43 23.0 +0.3
baz=73,SNR=8.2
S28A Manter 73.03 331 P P 04 43 23.4 +0.4
baz=73,SNR=11
Q31A Ellis 73.18 333 P P 04 43 24.5 +0.7
baz=73
N35A Tabor 73.39 337 P P 04 43 24.6 -0.3
baz=74
P32A Huiting Farm, 73.40 334 P P 04 43 25.1 0.0
baz=74
O33A Hebron 73.40 335 P P 04 43 25.2 +0.1
baz=74,SNR=9.8
R29A Marienthal 73.41 332 P P 04 43 25.5 +0.3
baz=74
T26A Comanche Natio 73.44 329 P P 04 43 25.8 +0.2
baz=74,SNR=5.7
Q30A Quinter 73.49 333 P P 04 43 26.6 +0.9
baz=74
P31A Stockton 73.62 333 P P 04 43 26.5 +0.2
baz=74,SNR=7.8
R28A Tribune 73.62 331 P P 04 43 26.7 +0.2
baz=74
N34A Lincoln 73.67 336 P P 04 43 26.0 -0.6
baz=74
Q29A Oakley 73.73 332 P P 04 43 27.4 +0.3
baz=74
T25A Trinidad 73.79 329 P P 04 43 28.5 +0.8
baz=74
O32A Brockman Farm, 73.83 335 P P 04 43 27.8 +0.3
baz=74
P30A Selden 73.98 333 P P 04 43 28.9 +0.3
baz=74
R27A Eads 74.00 330 P P 04 43 28.9 +0.1
baz=74
O31A Woolen Ranch, 74.14 334 P P 04 43 29.3 -0.1
baz=74
214A Organ Pipe Nat 74.14 320 P P 04 43 30.8 +1.2
baz=74,SNR=6.4
Q28A Sharon Springs 74.23 332 P P 04 43 30.2 +0.1
baz=74
N32A Stulken Farm, 74.27 335 P P 04 43 30.2 0.0
baz=74
R26A Arlington 74.30 330 P P 04 43 31.0 +0.5
baz=74,SNR=5.3
P29A Atwood 74.31 332 P P 04 43 31.1 +0.6
baz=74
O30A MW Ranch, Wils 74.45 333 P P 04 43 31.6 +0.3
baz=75
KSCO Kaye Shedlock' 74.53 331 P P 04 43 32.7 +0.8
baz=75
L34A Svendsen Farm, 74.62 337 P P 04 43 31.6 -0.5
baz=75
P28A Saint Francis 74.63 332 P P 04 43 32.8 +0.5
baz=75
BGNE Belgrade 74.77 335 P P 04 43 33.3 +0.3
baz=75
SDCO Great Sand Dun 74.79 328 P P 04 43 34.1 +0.5
baz=75,SNR=12
SDCO Great Sand Dun 74.79 328 eP P 04 43 34.0 +0.5
comp=Z,3.4nm,0.7s
W18A Petrified Fore 74.82 324 P P 04 43 34.7 +1.0
baz=75
Q26A Hugo 74.85 330 P P 04 43 34.8 +1.1
baz=75
M31A Lambtecht Ranc 75.03 335 P P 04 43 34.9 +0.3
baz=75
O28A Krutsinger Ran 75.10 332 P P 04 43 35.7 +0.6
baz=75
N29A Votaw Ranch, W 75.22 333 P P 04 43 36.4 +0.7
baz=75
P26A Davis Ranch, A 75.30 331 P P 04 43 36.8 +0.5
baz=76
R23A Moffat 75.30 328 P P 04 43 37.2 +0.7
baz=76
S22A 4UR Ranch, Cre 75.42 327 P P 04 43 37.7 +0.5
baz=76,SNR=6.9
N28A Pribbeno Ranch 75.48 333 P P 04 43 37.7 +0.5
baz=76
Q24A Divide 75.61 329 P P 04 43 39.1 +0.7
baz=76,SNR=6.8
L31A Butterfield Fa 75.69 335 P P 04 43 38.8 +0.4
baz=76
MVCO Mesa Verde 75.81 326 P P 04 43 40.5 +1.2
baz=76
OGNE Ogallala 75.90 332 P P 04 43 40.2 +0.6
baz=76
N27A Anderson Farm, 75.99 332 P P 04 43 40.8 +0.6
baz=76
WUAZ Wupatki 75.99 323 P P 04 43 41.5 +1.1
baz=76
P23A Jefferson 76.26 329 P P 04 43 42.6 +0.6
baz=76
ECSD EROS Data Cent 76.26 337 P P 04 43 41.2 -0.3
baz=76,SNR=13
ECSD EROS Data Cent 76.26 337 eP P 04 43 41.0 -0.5
comp=Z,8.2nm,0.9s
SPMN Marine on St. 76.39 341 P P 04 43 41.8 -0.4
baz=77
K30A Basset 76.41 335 P P 04 43 43.0 +0.6
baz=77
Y12C Blythe 76.43 320 P P 04 43 44.1 +1.4
baz=77
ISCO Idaho Springs 76.50 329 P P 04 43 43.6 +0.3
baz=77,SNR=8.1
PV01 Paradox Valley 76.57 327 eP P 04 43 44.2 +0.5
comp=Z,408nm,1.1s
L28A Connealy Angus 76.58 333 P P 04 43 44.6 +1.1
baz=77
TORD Torodi Ar. Bea 76.75 68 P P 04 43 43.7 -1.2
comp=Z,6.1nm,0.8s,baz=256,slow=5.2,SNR=16
K29A Lazy Trails An 76.76 335 P P 04 43 45.0 +0.6
baz=77
BC3 Big Chuckawall 76.90 319 P P 04 43 46.7 +1.2
baz=77
J30A Dallas 76.93 335 P P 04 43 45.2 -0.1
baz=77
IRM Iron Mountain 77.09 320 P P 04 43 47.6 +1.1
baz=77
K28A Ten Mile Ranch 77.12 334 P P 04 43 47.2 +0.8
baz=77
J29A Okreek 77.31 335 P P 04 43 47.8 +0.3
baz=78,SNR=7.0
I30A Oacoma 77.41 336 P P 04 43 48.0 0.0
baz=78
PFO Pinyon Flats O 77.45 319 P P 04 43 50.3 +1.6
baz=78
K27A Flueckinger Fa 77.46 333 P P 04 43 48.8 +0.4
baz=78
BELC Belle Mtn. Jos 77.47 319 P P 04 43 49.8 +1.1
baz=78
N23A Red Feather La 77.53 330 P P 04 43 50.0 +1.0
baz=78
J28A Allard Ranch, 77.67 334 P P 04 43 50.2 +0.7
baz=78
GMRC Granite Mounta 77.83 320 P P 04 43 51.6 +0.9
baz=78,SNR=6.8
J27A Elkhorn Farm, 77.83 334 P P 04 43 51.3 +0.9
baz=78
I29A Vivian Onida 77.83 335 P P 04 43 50.4 0.0
baz=78,SNR=6.6
MAW Mawson 77.85 162 P P 04 43 49.9 -0.3
comp=Z,6.5nm,0.7s,baz=206,slow=9.3,SNR=8.7
MAW Mawson 77.85 162 eP P 04 43 51.2 +1.0
comp=Z,1.9nm,0.8s
MURC Murrieta 77.89 318 P P 04 43 52.2 +1.3
baz=78
O20A White River Ci 77.98 328 P P 04 43 52.4 +0.9
baz=78,SNR=8.6
I28A Midland 78.14 335 P P 04 43 52.4 +0.3
baz=78
BOSA Boshof 78.17 116 P P 04 43 52.9 -0.1
comp=Z,7.2nm,1.0s,baz=196,slow=6.0,SNR=3.2
HEC Hector,Ludlow 78.25 320 P P 04 43 54.5 +1.5
baz=78
J26A Sides Ranch, S 78.30 333 P P 04 43 54.0 +1.0
baz=78
H29A Onida 78.31 336 P P 04 43 53.1 +0.1
baz=79
CIS Catalina Islan 78.47 317 P P 04 43 57.0 +2.8
baz=79
I27A Quinn 78.53 334 P P 04 43 54.9 +0.6
baz=79
H28A Mission Ridge 78.65 335 P P 04 43 55.2 +0.3
baz=79
J25A Sunshine Ranch 78.66 333 P P 04 43 56.0 +0.9
baz=79
MSU Marysvale 78.67 325 eP P 04 43 56.1 +0.7
comp=Z,14nm,1.2s
G29A Hoven 78.69 336 P P 04 43 55.3 +0.2
baz=79
I26A New Underwood 78.82 334 P P 04 43 56.7 +0.8
baz=79
GSC Goldstone, Bar 78.86 320 P P 04 43 57.5 +1.1
baz=79
K23A Bowen Ranch, D 78.90 331 P P 04 43 57.3 +0.8
baz=79,SNR=5.1
F30A Leola 78.93 337 P P 04 43 56.2 -0.2
baz=79
G28A Parade 78.96 335 P P 04 43 57.0 +0.4
baz=79
J24A Dixon Ranch, L 78.97 332 P P 04 43 57.9 +1.1
baz=79
H27A Howes 79.02 334 P P 04 43 57.0 +0.1
baz=79,SNR=9.5
I25A Rochford 79.16 333 P P 04 43 58.6 +0.7
baz=79,SNR=8.4
K22A Casper 79.21 331 P P 04 43 59.4 +1.2
baz=79
F29A Eureka 79.21 336 P P 04 43 58.1 +0.2
baz=80
EDW2 Edwards Air Fo 79.25 319 P P 04 43 59.2 +0.8
baz=79
H26A Fairpoint 79.27 334 P P 04 43 59.2 +0.8
baz=80
I24A Kuemmerle Ranc 79.39 332 P P 04 43 59.9 +0.8
baz=80
E30A Jud 79.47 337 P P 04 43 59.4 0.0
baz=80
G27A Dupree 79.59 335 P P 04 44 00.0 0.0
baz=80
TPNV Topopah Spring 79.71 321 P P 04 44 01.9 +0.8
baz=80
G26A Maurine 79.77 335 P P 04 44 01.3 +0.2
baz=80
E29A Napoleon 79.78 337 P P 04 44 00.8 -0.2
baz=80
MPMC Manual Prospec 79.79 320 P P 04 44 02.5 +1.0
baz=80
J22A Midwest 79.80 331 P P 04 44 01.6 +0.2
baz=80,SNR=6.3
D30A Buchanan 79.95 338 P P 04 44 02.2 +0.3
baz=80,SNR=12

G25A	Newell	80.01	334	P	P	04 44 02.7	+0.4
	baz=80,SNR=7.4						
F27A	Lemmon	80.04	335	P	P	04 44 02.7	+0.2
	baz=80,SNR=5.3						
AGMN	Agassiz Nation	80.07	340	P	P	04 44 02.6	+0.1
	baz=80						
ISA	Isabella, Lake	80.08	319	P	P	04 44 04.2	+1.2
	baz=80						
H24A	Dirks Ranch, A	80.09	333	P	P	04 44 02.8	0.0
	baz=80,SNR=8.4						
E28A	Huff	80.16	336	P	P	04 44 03.4	+0.3
	baz=80						
D29A	Pettibone, Tap	80.19	337	P	P	04 44 03.5	+0.3
	baz=80						
I22A	9 Mile Ranch,	80.19	331	P	P	04 44 03.9	+0.4
	baz=80,SNR=8.4						
DUG	Dugway, Tooele	80.26	325	P	P	04 44 04.6	+0.7
	baz=80,SNR=5.2						
F26A	Lodgepole	80.27	335	P	P	04 44 04.1	+0.4
	baz=80,SNR=5.5						
E27A	Carson	80.35	336	P	P	04 44 04.1	0.0
	baz=81						
R11A	Troy Canyon, C	80.35	322	P	P	04 44 05.5	+1.0
	baz=80						
C30A	Mose, Pekin	80.37	338	P	P	04 44 04.4	+0.2
	baz=81,SNR=5.5						
J20A	Shoshoni	80.45	330	P	P	04 44 05.1	+0.2
	baz=81						
I21A	Big Trails, Te	80.47	331	P	P	04 44 05.2	+0.1
	baz=81,SNR=12						
G24A	Alzada	80.51	333	P	P	04 44 05.6	+0.5
	baz=81						
VES	Vestal, Richgr	80.56	319	P	P	04 44 06.3	+0.9
	baz=81						
F25A	Bowman	80.63	334	P	P	04 44 06.1	+0.4
	baz=81						
D28A	Regan	80.64	337	P	P	04 44 05.8	+0.1
	baz=81						
PDAR	Pinedale Array	80.66	329	P	P	04 44 06.0	-0.1
	comp=Z,3.5nm,0.8s,baz=116,slow=8.1,SNR=23						
H22A	Clearmont	80.70	332	P	P	04 44 06.6	+0.4
	baz=81						
HWUT	Hardware Ranch	80.71	327	*e*P	P	04 44 06.6	+0.2
	comp=Z,6.8nm,0.9s						
E26A	Carlson Angus	80.71	335	P	P	04 44 06.2	+0.1
	baz=81						
G23A	Biddle	80.80	333	P	P	04 44 06.6	-0.1
	baz=81,SNR=5.1						
J19A	Crowheart	80.82	329	P	P	04 44 07.2	+0.3
	baz=81,SNR=9.7						
MDND	Maddock	80.87	338	P	P	04 44 07.2	+0.3
	baz=81,SNR=9.8						
I20A	Worland	80.95	330	P	P	04 44 07.7	+0.2
	baz=81,SNR=10						
B30A	Myrvik Farm, E	80.98	339	P	P	04 44 07.5	+0.1
	baz=81,SNR=14						
H21A	Big Horn, Sher	81.02	331	P	P	04 44 08.1	+0.2
	baz=81						
E25A	Miller Ranch,	81.09	335	P	P	04 44 08.5	+0.4
	baz=81						
D26A	Manning	81.17	336	P	P	04 44 09.0	+0.5
	baz=81						
G22A	Birney	81.18	332	P	P	04 44 08.9	+0.2
	baz=81						
F23A	Volborg	81.23	333	P	P	04 44 08.8	-0.1
	baz=82,SNR=5.3						
H20A	Greybull	81.32	331	P	P	04 44 09.6	+0.1
	baz=82,SNR=7.7						
B29A	Wagenman Farm,	81.32	338	P	P	04 44 09.1	-0.1
	baz=82						
A30A	Hoffart Farm,	81.40	339	P	P	04 44 09.9	+0.3
	baz=82						
I19A	Meeteetse	81.40	330	P	P	04 44 10.3	+0.3
	baz=82,SNR=6.1						
C27A	Sayler Ranch,	81.42	336	P	P	04 44 10.5	+0.8
	baz=82						
E24A	Baker	81.49	334	P	P	04 44 10.7	+0.4
	baz=82						
G21A	Lodge Grass	81.57	332	P	P	04 44 11.1	+0.3
	baz=82,SNR=5.2						
D25A	Fairfield	81.60	335	P	P	04 44 11.3	+0.5
	baz=82						
F22A	Rosebud	81.62	333	P	P	04 44 11.0	0.0
	baz=82,SNR=5.3						
B28A	Dugan Ranch, T	81.65	338	P	P	04 44 11.3	+0.4
	baz=82						
A29A	Manning Farm,	81.68	338	P	P	04 44 11.2	+0.1
	baz=82,SNR=6.8						
C26A	Wahner Farm, P	81.72	336	P	P	04 44 11.7	+0.3
	baz=82						
H19A	Powell	81.89	330	P	P	04 44 12.6	+0.1
	baz=82,SNR=5.1						
NVAR	Mina Array Bea	81.91	321	P	P	04 44 13.1	+0.2
	comp=Z,1.6nm,0.8s,baz=147,slow=5.4,SNR=10						
D24A	Glendive	81.96	335	P	P	04 44 13.2	+0.6
	baz=82						
G20A	Bridger	81.99	331	P	P	04 44 13.0	0.0
	baz=82,SNR=5.9						
C25A	Freed Ranch, W	82.05	335	P	P	04 44 13.7	+0.5
	baz=82						
C24A	Savage	82.34	335	P	P	04 44 15.0	+0.3
	baz=83						
LAO	LASA Array	82.35	333	P	P	04 44 14.6	-0.1
	baz=83						
RLMT	Red Lodge	82.37	331	P	P	04 44 15.5	+0.4
	baz=83,SNR=5.1						
H17A	Grant Village	82.39	329	P	P	04 44 15.1	-0.2
	baz=83						
F20A	Billings	82.43	332	P	P	04 44 15.1	-0.1
	baz=83						
A26A	Wade Farm, Ken	82.61	337	P	P	04 44 16.2	+0.2
	baz=83,SNR=5.2						
D22A	Cohagen	82.71	333	P	P	04 44 17.2	+0.6
	baz=83						
C23A	Lambert	82.85	334	P	P	04 44 17.9	+0.6
	baz=83						
A25A	Svangstu Ranch	83.03	336	P	P	04 44 18.8	+0.6
	baz=83						
DGMT	Dagmar	83.03	335	P	P	04 44 18.8	+0.6
	baz=83						
GCMT	Greycliff	83.07	331	*e*P	P	04 44 18.7	+0.1
	comp=Z,5.2nm,1.0s						
B23A	Brockton	83.32	335	P	P	04 44 20.1	+0.4
	baz=84						
HLID	Hailey	83.57	327	P	P	04 44 22.5	+1.2
	baz=84,SNR=14						
HLID	Hailey	83.57	327	*e*P	P	04 44 22.1	+0.8
	comp=Z,5.7nm,0.9s						
B22A	Reddig Ranch S	83.57	334	P	P	04 44 21.6	+0.5
	baz=84						
C21A	Desert Coulee	83.62	333	P	P	04 44 21.5	+0.2
	baz=84						
MCMT	McKenzie Canyo	83.77	328	*e*P	P	04 44 23.3	+0.9
	comp=Z,5.1nm,1.1s						
BOZ	Bozeman (W)	83.83	330	P	P	04 44 23.0	+0.4
	baz=84						
C20A	Veseth Ranch,	83.89	333	P	P	04 44 22.4	-0.3
	baz=84						
B21A	Ellsworth Farm	84.07	334	P	P	04 44 23.9	+0.3
	baz=84,SNR=5.4						
A22A	Carney Farms,	84.11	335	P	P	04 44 23.5	-0.2
	baz=84						
LRM	Limekiln Ridge	84.33	329	*e*P	P	04 44 25.6	+0.4
	comp=Z,59nm,1.1s						
B20A	Solberg Farm,	84.48	333	P	P	04 44 25.3	-0.4
	baz=85						
A20A	Cobblestone Ra	84.80	334	P	P	04 44 27.2	-0.1
	baz=85,SNR=5.2						
EGMT	Eagleton	84.86	332	P	P	04 44 27.5	-0.2
	baz=85						
B19A	Brinkman Farms	84.87	333	P	P	04 44 27.2	-0.4
	baz=85						
MSO	Missoula	85.77	329	P	P	04 44 32.9	+0.6
	baz=86						
J05D	Fort Rock, OR	86.87	323	P	P	04 44 38.4	+0.6
	baz=87						
BSMT	Bassoo Peak	86.92	329	*e*P	P	04 44 38.1	+0.1
	comp=Z,6.2nm,0.9s						
I05D	Terrebonne, OR	87.64	324	P	P	04 44 42.3	+0.9
	baz=88						
G05D	Wamic, OR	88.24	324	P	P	04 44 44.7	+0.5
	baz=88						
YKA	Yellowknife Ar	97.71	339	P	Pdif	04 45 27.0	-0.4
	comp=Z,0.7nm,0.6s,baz=134,slow=5.2,SNR=4.2						
ASAR	Alice Springs	125.80	202	PKP	PKPdf	04 50 55.0	-0.6
	comp=Z,2.8nm,0.6s,baz=138,slow=1.6,SNR=21						
WRA	Warramunga Arr	129.08	205	PKP	PKPdf	04 51 01.4	-0.5
	comp=Z,2.8nm,0.6s,baz=165,slow=1.6,SNR=17						

KURBB	Kurchatov Arra	144.34	40	PKP	PKPdf	04 51 28.0	-0.9
	comp=Z,1.3nm,0.6s,baz=296,slow=3.1,SNR=12						
KURK	Kurchatov	144.35	39	PKP	PKPdf	04 51 28.0	-0.9
ZAA0	Zalesovo Array	145.78	31	*e*PKPdf	PKPab	04 51 32.1	0.0
ZALV	Zalesovo Beam	145.78	31	PKPbc	PKPbc	04 51 30.9	-0.9
	comp=Z,9.3nm,0.5s,baz=295,slow=4.0,SNR=24						
KAPI	Kappang	147.34	190	PKPbc	PKPab	04 51 37.6	-1.7
	comp=Z,11nm,0.9s,baz=199,slow=2.6,SNR=5.3						
SIJI	Sorong	147.48	213	PKPbc	PKPbc	04 51 37.8	-0.2
	baz=78,slow=20						
MK31	Makanchi Array	148.29	44	*e*PKPdf	PKPdf	04 51 35.2	-0.7
MK31				*e*PKPbc	PKPbc	04 51 39.3	+0.1
MKAR	Makanchi Array	148.29	44	PKPbc	PKPbc	04 51 38.0	-1.2
	comp=Z,1.6nm,0.5s,baz=285,slow=3.5,SNR=17						
SONM	Songino Array	158.70	15	PKP	PKPdf	04 51 50.7	-0.1
	comp=Z,0.8nm,0.7s,baz=270,slow=1.5,SNR=4.3						
SONM				PKPab	PKPab	04 52 25.2	-0.9
	comp=Z,1.4nm,0.7s,baz=336,slow=3.2,SNR=4.9						

IDC ***16*** *04:32:40.2±1.1, 1.°64S×136.°60E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.7/38, mbtmp3.8/7, ML3.7/2, Error ellipse: s-maj=41.4km s-min=21.0km az=80.0*

DJA ***16*** *04:32:42.4±0.3, 2.°S±8.°×13.°6E±.°, h11km, M4.3/7, mb3.7/1, MLv4.5/7*

ISCJB ***16*** *04:32:43.9±0.5, 1.°76S±0.°09×136.°38E±0.°03, h33km, mb3.8/5, Error ellipse: s-maj=13.2km s-min=4.5km az=4.9*

ISC 16 04:32:46.2±0.8, 1.°8S±0.°1×136.°40E±0.°04, h35km, n14, σ1°48/18, mb3.9/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRPI	Serui, Papua	0.17	251	P		P	Pn	04 32 45.9	-6.8
SRPI				S		S	Sn	04 32 48.6	-8.6
RKPI	Ransiki, Papua	2.24	278	P		P	**Pn**	04 33 19.6	-1.2
RKPI				S		S	**Sn**	04 33 48.9	+1.6
SMPI	Sarmi	2.31	94	P		P	**Pn**	04 33 20.7	-1.1
SMPI				S		S	**Sn**	04 33 49.8	+0.7
GENI	Genyem	3.84	102	P		P	**Pn**	04 33 41.8	-1.0
GENI				S		S	**Sn**	04 34 28.7	+1.9
FAKI	Fak Fak	4.29	255	P		P	**Pn**	04 33 47.4	-1.6
FAKI				S		S	**Sn**	04 34 38.0	+0.1
JAY	Jayapura	4.36	99	P		P	**Pn**	04 33 48.9	-1.1
SIJI	Sorong	5.22	280	Pn		Pn	**Pn**	04 34 01.6	-0.2
	2.6nm,0.3s,baz=127,slow=20,SNR=4.3								
SIJI				Sn		Sn	**Sn**	04 35 01.3	+0.5
	2.3nm,0.3s,baz=229,slow=19,SNR=3.2								
BUTP	Butuan	15.17	315	*e*P		P		04 36 25.9	+3.3
WRA	Warramunga Arr	18.13	186	P		P		04 36 55.3	-0.1
	0.2nm,0.3s,baz=8.6,slow=13,SNR=3.6								
ASAR	Alice Springs	21.86	186	P		P		04 37 36.3	+0.4
	3.6nm,0.7s,baz=9.9,slow=11,SNR=5.2								
STKA	Stephens Creek	30.30	171	P		P		04 38 55.4	+1.1
	1.0nm,0.5s,baz=344,slow=8.0,SNR=4.1								
MKAR	Makanchi Array	67.68	323	P		P		04 43 38.7	-1.2
	0.5nm,0.5s,baz=111,slow=7.8,SNR=6.1								
KURBB	Kurchatov Arra	71.68	325	P		P		04 44 04.6	+0.2
	0.2nm,0.3s,baz=119,slow=5.2,SNR=3.3								
ILAR	Eielson Array	85.98	25	P		P		04 45 20.4	-2.2
	0.6nm,1.0s,baz=261,slow=4.5,SNR=3.2								

IDC ***16*** *04:35:36.4±2.4, 10.°33N×126.°44E, h0km, mb4.3/6, mb1 4.4/6, mb1mx3.8/42, mbtmp4.3/6, MS5.1/1, Ms1 5.1/1, ms1mx4.1/38, Error ellipse: s-maj=71.9km s-min=40.2km az=180.0*

ISCJB ***16*** *04:35:45.4±1.0, 10.°9N±0.°1×126.°36E±0.°09, h51km, mb4.2/6, MS5.1/1, Error ellipse: s-maj=16.7km s-min=9.5km az=146.3*

MAN ***16*** *04:35:56, 10.°65N×125.°34E, h87km, mb4.8, ML3.7, MS3.8*

ISC 16 04:35:45.6±1.2, 10.°7N±0.°1×126.°4E±0.°1, h51km, n17, σ1°66/14, mb4.3/6, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLP	Palo	1.44	288	*e*P		P	Pn	04 36 13.7	+4.5
PLP				*i*		S	**Sn**	04 36 26.0	-1.0
MSLP	Maasin	1.60	249	*e*P		P	Pn	04 36 14.8	+3.4
MSLP				*e*S		S	**Sn**	04 36 31.3	+0.4
OCLP	Ormoc	1.76	281	*e*P		P	**Pn**	04 36 16.6	+2.9
CNP	Catarman	2.44	317	*e*P		P	Pn	04 36 29.9	+6.9
TBP	Tagbilaran	2.67	248	*e*P		P	**Pn**	04 36 28.4	+2.2
TBP				*e*S		S	**Sn**	04 36 54.3	-3.1
BUKP	Musuan	3.10	205	*e*P		P	Pn	04 36 39.4	+7.3
PVCP	Virac	3.59	323	*e*P		P	Pn	04 36 44.9	+6.2
RCP	Roxas	3.66	284	*e*P		P	**Pn**	04 36 40.2	+0.5
PAGZ	Pagadian	4.10	226	*e*P		P	Pn	04 36 48.8	+2.9
CMAR	Chiang Mai Arr	27.61	289	P		P		04 41 26.6	-1.9
	1.6nm,0.3s,baz=93,slow=7.0,SNR=4.7								
PETK	Petropavlovsk-	49.19	24	LR		LR		05 07 42.3	
	comp=Z,2μm,18.1s,baz=262,slow=39								
MKAR	Makanchi Array	51.73	322	P		P		04 44 48.3	+0.4
	1.6nm,0.6s,baz=122,slow=7.6,SNR=14								
MKAR				PcP		PcP		04 45 60.0	-0.7
	1.7nm,1.1s,baz=110,slow=3.2,SNR=3.6								
KURBB	Kurchatov Arra	55.76	325	P		P		04 45 17.9	+0.7
	1.4nm,0.5s,baz=125,slow=6.8,SNR=14								
ILAR	Eielson Array	79.00	26	P		P		04 47 43.3	-0.5
	1.7nm,0.8s,baz=223,slow=7.4,SNR=11								
ARCES	ARCESS Array B	83.81	340	P		P		04 48 09.3	+0.1
	2.8nm,0.8s,baz=81,slow=7.5,SNR=5.7								
FINES	FINESS Array B	85.55	332	P		P		04 48 18.8	+0.7
	1.1nm,0.5s,baz=68,slow=4.0,SNR=12								
TORD	Torodi Ar. Bea	120.19	292	PKP		PKPdf		04 54 31.1	-0.8
	0.2nm,0.7s,baz=25,slow=1.0,SNR=3.0								

DJA ***16*** *04:38:02.5±0.3, 2.°S±10.°×13.°7E±.°, h13km, M4.7/7, mb4.6/2, MLv4.7/7*

ISCJB ***16*** *04:38:05.8±1.1, 1.°8S±0.°1×136.°56E±0.°09, h10km, mb3.7/5, Error ellipse: s-maj=18.3km s-min=10.6km az=33.9*

IDC ***16*** *04:38:06.6±1.4, 1.°82S×136.°41E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.6/37, mbtmp3.8/7, ML3.8/2, Error ellipse: s-maj=53.8km s-min=19.8km az=71.0*

ISC 16 04:38:08.1±1.3, 1.°8S±0.°1×136.°40E±0.°09, h10km, n11, σ1°16/13, mb3.8/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRPI	Serui, Papua	0.19	241	P		P	**Pg**	04 38 13.4	+1.3
SRPI				S		S	Sg	04 38 23.4	+8.6
RKPI	Ransiki, Papua	2.24	277	P		P	**Pb**	04 38 46.6	-2.1
RKPI				S		S	**Sg**	04 39 19.8	-0.4
FAKI	Fak Fak	4.30	255	P		P	**Pn**	04 39 14.3	+0.6
FAKI				S		x		04 39 18.6	
SIJI	Sorong	5.21	280	Pn		Pn	**Pn**	04 39 26.5	+0.3
	2.8nm,0.3s,baz=90,slow=20,SNR=10								
SIJI				Sn		Sn	**Sn**	04 40 26.9	+0.5
	2.3nm,0.3s,baz=128,slow=19,SNR=2.9								
SWI	Sorong	5.22	280	P		Pn		04 39 27.8	+1.5
	35nm,0.7s,0.4nm								
SWI				S		Sb		04 40 34.5	-7.9
	35nm,0.7s,0.4nm								
WRA	Warramunga Arr	18.17	186	P		P		04 42 19.0	-1.9
	0.3nm,0.3s,baz=7.5,slow=12,SNR=5.7								
WRA				S		Sn		04 45 29.6	-14
	0.3nm,0.3s,baz=12,slow=22,SNR=6.4								
ASAR	Alice Springs	21.89	186	P		P		04 43 01.1	-0.4
	4.0nm,0.8s,baz=12,slow=11,SNR=10.0								
STKA	Stephens Creek	30.34	171	P		P		04 44 20.4	+0.4
	2.3nm,0.8s,baz=5.8,slow=7.9,SNR=3.6								
MKAR	Makanchi Array	67.66	323	P		P		04 49 06.0	+0.5
	0.3nm,0.5s,baz=113,slow=8.1,SNR=6.0								
KURBB	Kurchatov Arra	71.65	325	P		P		04 49 30.2	+0.3
	0.1nm,0.3s,baz=118,slow=6.2,SNR=3.4								
VNDA	Vanda	76.91	174	P		P		04 50 00.0	-0.2
	0.6nm,0.6s,baz=317,slow=5.8,SNR=3.5								

IDC ***16*** *04:43:03.6±1.4, 51.°45N×173.°54W, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.6/47, mbtmp3.8/12, ML4.5/1, Error ellipse: s-maj=41.0km s-min=16.6km az=177.0*

ISCJB ***16*** *04:43:08.0±0.8, 51.°6N±0.°2×173.°42W±0.°06, h37km, mb3.8/11, Error ellipse: s-maj=23.3km s-min=5.2km az=179.1*

NEIC ***16*** *04:43:09.7, 51.°54N×173.°62W, h24km, ML3.4(AEIC), After AEIC.*

ISC 16 04:43:09.4±1.1, 51.°4N±0.°2×173.°61W±0.°05, h37km, n29, σ1°29/32, mb3.8/11, Andreanof Islands

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

GSMY	Great Sitkin M	1.64	293	P		Pn		04 43 36.2	+0.6
GSTR	Great Sitkin T	1.66	295	*e*Pn		Pn		04 43 36.7	+0.8
GSTR				*e*S		Sn		04 43 54.3	-1.7
GSCK	Great Sitkin C	1.69	291	P		Pn		04 43 37.0	+0.6
GSTD	Great Sitkin T	1.70	293	P		Pn		04 43 37.2	+0.8
GSTD				S		Sn		04 43 58.2	+1.3
ETKA	Kagalaska Isla	1.79	285	P		Pn		04 43 38.6	+0.8
ADAG	Mount Adagdak	1.94	288	P		Pn		04 43 41.4	+1.7
ADK	Adak	1.97	285	*e*Pn		Pn		04 43 40.6	+0.5
ADK				*e*S		Sn		04 44 04.7	+1.3
KIKV	Kanaga Island	2.26	283	P		Pn		04 43 45.5	+1.3
TAPA	Tanaga Point A	2.65	280	P		Pn		04 43 50.9	+1.4
TAFP	Tanaga Falls P	2.76	281	P		Pn		04 43 52.5	+1.4
TAFP				S		Sn		04 44 25.7	+2.5
TASE	Tanaga Southea	2.79	280	P		Pn		04 43 53.2	+1.8
NIKH	Nikolski High	3.31	60	P		Pn		04 43 59.8	+1.3
NIKH				S		Sn		04 44 40.0	+3.5
ILAR	Eielson Array	19.23	36	P		P		04 47 28.9	-1.1
	0.6nm,0.3s,baz=235,slow=8.9,SNR=56								
DLBC	Dease Lake	25.61	57	P		P		04 48 34.5	-0.4
	1.5nm,0.8s,baz=273,slow=13,SNR=2.3								
YKA	Yellowknife Ar	32.82	47	P		P		04 49 37.6	-1.2
	0.4nm,0.5s,baz=273,slow=9.3,SNR=4.5								
H11N2	WAKE ISLAND Hy	35.15	213	T		T		05 28 01.7	
	baz=21,slow=74								
H11N3	WAKE ISLAND Hy	35.16	213	T		T		05 28 00.4	
	baz=21,slow=74								
H11N1	WAKE ISLAND Hy	35.17	213	T		T		05 27 59.5	
	baz=21								
USRK	Ussuriysk Ar.	36.50	281	P		P		04 50 10.4	-0.3
	1.5nm,0.5s,baz=50,slow=9.6,SNR=4.2								
KSRS	Korea Array	42.88	275	P		P		04 51 04.3	+0.4
	0.6nm,0.4s,baz=65,slow=5.8,SNR=3.0								
KSAR	Wonju Array Be	42.91	275	P		P		04 51 04.3	+0.2
PDAR	Pinedale Array	43.17	75	P		P		04 51 06.0	-0.5
	0.2nm,0.4s,baz=310,slow=7.0,SNR=3.2								
TXAR	Lajitas Array	55.42	85	P		P		04 52 39.0	-1.0
	0.1nm,0.5s,baz=311,slow=8.2,SNR=2.8								
ARCES	ARCESS Array B	58.54	352	P		P		04 53 01.1	-0.3
	3.2nm,0.9s,baz=21,slow=7.7,SNR=4.3								
ARCES				PcP		PcP		04 53 51.2	-0.2
	2.0nm,0.7s,baz=1.1,slow=4.5,SNR=6.3								
KURK	Kurchatov	61.28	316	P		P		04 53 21.7	+1.3
KURBB	Kurchatov Arra	61.39	316	P		P		04 53 21.7	+0.5
	0.7nm,0.4s,baz=45,slow=6.7,SNR=5.3								
MKAR	Makanchi Array	62.49	311	P		P		04 53 28.6	-0.1
	0.5nm,0.3s,baz=46,slow=6.8,SNR=7.3								
FINES	FINESS Array B	66.38	350	P		P		04 53 53.8	0.0
	0.9nm,0.7s,baz=9.8,slow=9.0,SNR=2.8								
AKASG	Malin Array Be	76.41	345	P		P		04 54 53.6	-0.9
	0.4nm,0.4s,baz=16,slow=5.9,SNR=4.4								

DJA 16 04:56:16.7±1.0, 3.°S±9.°×13.°7E±.°, h15km±8km, M4.2/7, mb3.8/1, MLv4.4/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRPI	Serui, Papua	1.03	312	P		P	Pb	04 56 34.8	-1.5
SMPI	Sarmi	1.80	71	P		P	Pn	04 56 46.5	-0.8
SMPI				S		S	Sn	04 57 10.4	+0.5
RKPI	Ransiki, Papua	3.01	290	P		P	Pn	04 57 03.9	0.0
RKPI				S		S	Sn	04 57 22.4	-17
JAY	Jayapura	3.70	89	P		P	Pn	04 57 13.3	-0.2
FAKI	Fak Fak	4.76	266	P		P	Pn	04 57 27.4	-0.6
SWI	Sorong	5.98	286	P		P	Pn	04 57 45.0	+0.2

IDC ***16*** *04:57:27.8±0.7, 7.°65N×91.°76E, h0km, mb4.0/13, mb1 4.1/15, mb1mx4.0/29, mbtmp4.0/15, ML4.2/2, Error ellipse: s-maj=22.8km s-min=17.9km az=56.0*

ISCJB ***16*** *04:57:29.1±0.6, 7.°54N±0.°08×91.°85E±0.°08, h24km, mb4.1/16, Error ellipse: s-maj=12.6km s-min=10.1km az=41.7*

NEIC ***16*** *04:57:32.8±0.4, 7.°61N×91.°85E, h35km, mb4.5/2, Error ellipse: s-maj=9.8km s-min=8.3km az=198.0*

ISC 16 04:57:31.3±0.7, 7.°6N±0.°1×91.°82E±0.°09, h24km, n35, σ0°76/33, mb4.2/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	Kulim	9.06	104	*e*Pn		Pn	**Pn**	04 59 39.7	-1.1
PALK	Pallekele	11.03	269	Pn		Pn	**Pn**	05 00 06.7	-1.2
	1.1nm,0.3s,baz=83,slow=16,SNR=7.3								
PALK				Sn		Sn		05 01 56.7	-14
	2.3nm,0.3s,baz=180,slow=20,SNR=5.3								
PALK	Pallekele	11.03	269	*e*Pn		Pn	**Pn**	05 00 08.4	+0.6
PALK				*e*S		Sn		05 01 59.0	-12
CMAR	Chiang Mai Arr	12.83	32	Pn		Pn	**Pn**	05 00 31.9	-0.5
	0.7nm,0.3s,baz=228,slow=14,SNR=17								
ODAN	Odare	19.62	348	*e*P		Pn	**Pn**	05 01 59.6	-0.3
	11nm,0.3s								
RAMN	Ramite	19.88	346	*e*P		Pn	**Pn**	05 02 03.3	+0.3
	28nm,0.8s								
TAPN	Taplejung	20.03	349	*e*P		Pn	**Pn**	05 02 04.5	-0.4
	52nm,0.9s								
PKI	Pulchoki	20.78	344	*e*P		P	**P**	05 02 12.1	+0.9
	42nm,1.0s								
GUN	Gumba	20.98	345	*e*P		P	**P**	05 02 13.9	+0.6
	45nm,0.8s								
GKN	Gorkha	21.41	342	*e*P		P	**P**	05 02 18.5	+0.8
	36nm,0.9s								
KOLN	Koldanda	21.52	340	*e*P		P	**P**	05 02 19.7	+0.6
	35nm,0.8s								
LSA	Lhasa	22.00	358	*e*P		P

MKAR	**Makanchi Array**	**67.60**	**323**	P		P	05 16 40.4	+0.1
	0.6nm,0.5s,baz=107,slow=7.4,SNR=7.2							

*IDC **16** 05:06:06.2±1.0,2.′00S×135.′87E, h0km, mb3.9/6, mb1 4.2/8, mb1mx3.7/33, mbtmp3.9/8, ML3.8/2, Error ellipse: s-maj=37.5km s-min=20.8km az=70.0*
*ISCJB **16** 05:06:09.8±0.9,2.′11S±0.′08×135.′7E±0.′2, h33km, mb3.9/6, Error ellipse: s-maj=23.7km s-min=10.0km az=167.7*

ISC 16 05:06:11.6±1.0,**2.′2S**±0.′1×**135.7E**±0.′2,**h35**km,**n9,**
σ1§05/10,mb3.9/6,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.64**	**286**	Pn	**Pn**	**05 07 19.4**	**+0.1**
	1.0nm,0.3s,baz=87,slow=8.1,SNR=3.5						
SIJI				Sn	Sn	05 08 21.4	+9.4
	1.1nm,0.3s,baz=108,slow=20,SNR=4.4						
WRA	**Warramunga Arr**	**17.72**	**184**	P	**P**	**05 10 17.0**	**+0.7**
	0.6nm,0.3s,baz=8.9,slow=13,SNR=10						
WRA				S	**Sn**	**05 13 30.3**	**-1.9**
	0.2nm,0.3s,baz=4.1,slow=23,SNR=4.5						
ASAR	**Alice Springs**	**21.45**	**185**	P	**P**	**05 10 58.6**	**+1.7**
	5.5nm,0.7s,baz=13,slow=11,SNR=15						
CMAR	**Chiang Mai Arr**	**41.60**	**301**	P	**P**	**05 13 56.6**	**+0.1**
	1.1nm,0.3s,baz=116,slow=6.1,SNR=4.2						
MKAR	**Makanchi Array**	**67.56**	**323**	P	**P**	**05 17 04.1**	**-0.4**
	0.5nm,0.5s,baz=115,slow=7.7,SNR=5.5						
KURBB	**Kurchatov Arra**	**71.59**	**326**	P	**P**	**05 17 28.6**	**-0.6**
	1.1nm,0.4s,baz=114,slow=6.2,SNR=5.6						
VNDA	**Vanda**	**76.59**	**174**	P	**P**	**05 17 58.4**	**+0.4**
	1.0nm,0.9s,baz=319,slow=6.0,SNR=4.2						
ILAR	**Eielson Array**	**86.58**	**25**	P	**P**	**05 18 50.7**	**-0.3**
	0.4nm,0.8s,baz=265,slow=4.5,SNR=2.8						
LPAZ	**La Paz**	**150.14**	**129**	PKPbc	**PKPbc**	**05 26 00.5**	**-0.1**
	0.8nm,0.8s,baz=225,slow=1.4,SNR=3.1						

*SJA **16** 05:06:04.9±0.9,36.′22S×73.′36W, h20km, ML4.3, MW3.6*
*ISCJB **16** 05:06:20.0±0.9,35.′71S±0.′06×72.′35W±0.′08, h28km, Error ellipse: s-maj=9.0km s-min=7.9km az=28.3*
*GUC **16** 05:06:20.6±0.6,35.′73S×72.′29W, h37km±2km, ML4.4*

ISC 16 05:06:20.4±1.5,**35.′72S**±0.′06×**72.′35W**±0.′09,**h28**km,**n22,**
σ1§33/29,2C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNCH	**Linares**	**0.62**	**102**	⇓*i*P	**Pb**	**05 06 32.1**	**-0.6**
LNCH				*i* S	**Sb**	**05 06 40.6**	**-0.5**
TALC	**Talca**	**0.67**	**61**	*e*P	**Pb**	**05 06 33.3**	**-0.1**
TALC				*i* S	**Sb**	**05 06 42.2**	**-0.2**
NICH	**Los Niches**	**1.16**	**52**	⇓*i*P	**Pn**	**05 06 40.5**	**-0.3**
NICH				*i* S	**Sn**	**05 06 55.9**	**+0.2**
CCSP	**San Pedro de C**	**1.28**	**208**	⇑*i*P	**Pn**	**05 06 42.7**	**+0.4**
LNV	**Longovilo**	**1.92**	**24**	⇓*i*P	**Pn**	**05 06 52.1**	**+0.9**
CHCH	**Chadas Angostu**	**2.27**	**39**	⇓*i*P	**Pn**	**05 06 56.4**	**+0.4**
TACH	**Talagante**	**2.37**	**30**	⇓*i*P	**Pn**	**05 06 58.1**	**+0.7**
SJCH	**San Jose de Ma**	**2.65**	**39**	*e*P	**Pn**	**05 07 01.4**	**+0.1**
SAN	**Santiago**	**2.66**	**32**	*e*P	**Pn**	**05 07 02.1**	**+0.8**
SAN				*i* S	**Sn**	**05 07 33.2**	**+0.5**
CLCH	**Cerro Calan**	**2.76**	**33**	*e*P	**Pn**	**05 07 03.5**	**+0.7**
CLCH				AML	AML	05 07 45.6	
	comp=N,1μm,0.2s						
PEL	**Peldehue**	**2.92**	**29**	⇑*i*P	**Pn**	**05 07 05.9**	**+0.9**
PEL				AML	AML	05 07 54.2	
	comp=N,1μm,0.4s						
AAGR	**Agrelo**	**3.92**	**49**	*e*P	**Pn**	**05 07 21.0**	**+2.2**
ARCO	**CERRO ARCO**	**4.03**	**46**	*e*P	**Pn**	**05 07 23.0**	**+2.6**
AUSP	**Uspallata**	**4.27**	**36**	*e*P	**Pn**	**05 07 25.9**	**+2.1**
AUSP				*i* S	**Sb**	**05 08 26.0**	**-0.1**
ASAL	**Salagasta**	**4.27**	**44**	*e*P	**Pn**	**05 07 25.9**	**+2.3**
ASAL				*i* S	**Sb**	**05 08 25.2**	**-0.8**
RTLS	**Leoncito**	**4.67**	**34**	*e*P	**Pn**	**05 07 31.2**	**+2.0**
RTLS				*i* S	**Sb**	**05 08 33.8**	**-3.6**
RTCV	**Cerro Valdivia**	**4.99**	**41**	*i* P	**Pn**	**05 07 33.8**	**+0.4**
RTCV				*i* S	Sb	05 08 41.1	-5.4
SJA	**San Juan**	**5.25**	**38**	*e*P	**Pn**	**05 07 38.0**	**+1.1**
SJA				IAML		05 08 25.4	
	comp=Z,80nm,0.1s						
CFAA	**Coronel Fontan**	**5.35**	**41**	*e*P	**Pn**	**05 07 38.2**	**-0.2**
RTLL	**Cerro Villicun**	**5.45**	**38**	*e*P	**Pn**	**05 07 40.2**	**+0.5**
ACAN	**Cantantal**	**5.50**	**53**	*i* P	**Pn**	**05 07 41.5**	**+1.1**
AMOG	**MOGNA**	**5.76**	**35**	*i* P	**Pn**	**05 07 44.1**	**0.0**

IDC 16 05:13:12.2±1.2,**2.′09S**×**136.′72E, h0**km,**mb3.8/4,**
mb1 4.2/5,mb1mx3.7/27,mbtmp4.0/5,ML4.2/1,Error
ellipse: s-maj=59.1km s-min=23.4km az=87.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.90**	**187**	P	Pn	05 17 22.3	-0.4
	0.8nm,0.3s,baz=9.0,slow=12,SNR=19						
ASAR	**Alice Springs**	**21.62**	**187**	P	P	05 18 04.1	0.0
	8.4nm,0.5s,baz=11,slow=11,SNR=49						
MKAR	**Makanchi Array**	**68.09**	**323**	P	P	05 24 14.0	+0.1
	0.6nm,0.7s,baz=115,slow=6.5,SNR=4.8						
VNDA	**Vanda**	**76.58**	**175**	P	P	05 25 04.1	+0.1
	0.7nm,0.7s,baz=327,slow=7.6,SNR=6.2						
ILAR	**Eielson Array**	**86.10**	**25**	P	P	05 25 54.8	0.0
	0.3nm,0.8s,baz=244,slow=3.9,SNR=2.8						

*ISCJB **16** 05:15:16.1±1.4,2.′19S±0.′08×136.′14E±0.′03, h10km±9km, mb3.7/4, Error ellipse: s-maj=12.7km s-min=5.8km az=1.3*
*DJA **16** 05:15:16.7±0.7,2.′5S±6.′×13.′6E±.′, h13km±4km, M4.5/6, MLv4.5/6*
*IDC **16** 05:15:17.7±1.4,2.′17S×136.′05E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.5/27, mbtmp3.7/6, ML3.2/2, Error ellipse: s-maj=40.2km s-min=26.4km az=76.0*

ISC 16 05:15:17.3±2.2,**2.′2S**±0.′1×**136.′13E**±0.′04,**h6**km±14km,**n11,**
σ1§82/17,mb3.7/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.31**	**22**	P	**Pg**	**05 15 23.3**	**0.0**
SRPI				S	**Sg**	**05 15 27.5**	**+0.1**
RKPI	**Ransiki, Papua**	**2.05**	**288**	P	**Pn**	**05 15 51.0**	**-1.3**
RKPI				S	**Sn**	**05 16 17.7**	**-0.5**
SMPI	**Sarmi**	**2.59**	**86**	P	**Pn**	**05 15 58.3**	**-1.4**
SMPI				S	**Sn**	**05 16 30.5**	**-1.0**
FAKI	**Fak Fak**	**3.95**	**259**	P	**Pn**	**05 16 17.1**	**-1.3**
FAKI				S	**Sn**	**05 17 04.7**	**-0.3**
GENI	**Genyem**	**4.06**	**96**	P	**Pn**	**05 16 18.4**	**-1.6**
GENI				S	**Sn**	**05 17 06.6**	**-1.3**
SIJI	**Sorong**	**5.02**	**285**	Pn	**Pn**	**05 16 33.1**	**-0.1**
	0.9nm,0.3s,baz=114,slow=19,SNR=3.0						
SIJI				Sn	**Sn**	**05 17 26.6**	**-5.0**
	2.8nm,0.3s,baz=107,slow=19,SNR=3.5						
WRA	**Warramunga Arr**	**17.76**	**186**	P	**P**	**05 19 26.7**	**+0.5**
	0.1nm,0.3s,baz=8.1,slow=13,SNR=3.2						
ASAR	**Alice Springs**	**21.49**	**186**	P	**P**	**05 20 07.7**	**+0.8**
	2.4nm,0.8s,baz=13,slow=12,SNR=4.3						
CMAR	**Chiang Mai Arr**	**41.93**	**301**	P	**P**	**05 23 10.1**	**+1.0**
	0.5nm,0.3s,baz=127,slow=6.2,SNR=4.4						
MKAR	**Makanchi Array**	**67.79**	**323**	P	**P**	**05 26 17.2**	**+1.1**
	0.7nm,0.9s,baz=114,slow=7.1,SNR=4.5						
ILAR	**Eielson Array**	**86.41**	**25**	P	**P**	**05 28 02.3**	**+1.9**
	0.5nm,0.9s,baz=268,slow=5.6,SNR=5.9						

IDC 16 05:15:54.4±2.0,**2.′00S**×**136.′28E, h0**km,**mb3.7/3,**
mb1 4.0/4,mb1mx3.5/26,mbtmp3.8/4,ML3.7/1,Error
ellipse: s-maj=97.9km s-min=26.5km az=77.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.94**	**186**	P	Pn	05 20 05.5	0.0
	0.2nm,0.3s,baz=7.5,slow=13,SNR=3.2						
ASAR	**Alice Springs**	**21.66**	**186**	P	P	05 20 46.8	0.0
	3.4nm,0.9s,baz=9.0,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**67.75**	**323**	P	P	05 26 54.1	+0.1
	1.0nm,0.7s,baz=124,slow=7.3,SNR=7.1						
VNDA	**Vanda**	**76.71**	**174**	P	P	05 27 47.0	0.0
	0.4nm,0.7s,baz=318,slow=10.0,SNR=2.2						

*HLW **16** 05:21:46.2,34.′05N×32.′84E, h11km±5km, Md3.0*
*ISCJB **16** 05:21:47.9±0.2,33.′82N±0.′02×32.′63E±0.′03, h75km±13km, Error ellipse: s-maj=4.8km s-min=2.4km az=149.3*

*GII **16** 05:21:47.5±0.0,33.′76N×32.′87E, h1km, MD2.8/9*
*NIC **16** 05:21:48.8,33.′81N×32.′63E, h35km, ML3.6*
*CSEM **16** 05:21:49.0±0.1,33.′84N×32.′65E, h30km, ML3.6, Error ellipse: s-maj=2.5km s-min=1.5km az=73.0*

ISC 16 05:21:48.9±1.1,**33.′85N**±0.′03×**32.′67E**±0.′03,**h70**km±17km,
n124,σ1§21/186,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SZAC	**Souni-Zanaja**	**0.92**	**11**	P	**Pn**	**05 22 05.9**	**-0.6**
	baz=192						
SZAC				S	**Sn**	**05 22 19.2**	**-0.3**
SZAC	**Souni-Zanaja**	**0.92**	**11**	P	**Pn**	**05 22 05.9**	**-0.6**
SZAC				S	**Sn**	**05 22 19.2**	**-0.3**
PPCY	**Paphos**	**1.07**	**346**	P	**Pn**	**05 22 07.9**	**-0.3**
	baz=167						
PPCY	**Paphos**	**1.07**	**346**	P	**Pn**	**05 22 07.9**	**-0.3**
AKMC	**Akamas**	**1.21**	**347**	P	**Pn**	**05 22 09.7**	**-0.4**
	baz=168						
AKMC	**Akamas**	**1.21**	**347**	P	**Pn**	**05 22 09.7**	**-0.4**
CSS	**Prodhromos**	**1.24**	**26**	P	**Pn**	**05 22 10.0**	**-0.5**
	baz=206						
CSS				S	**Sn**	**05 22 27.1**	**+0.5**
CSS	**Prodhromos**	**1.24**	**26**	*e*Pn	**Pn**	**05 22 09.5**	**-1.0**
CSS				*e*Sn	**Sn**	**05 22 28.7**	**+2.1**
CSS	**Prodhromos**	**1.24**	**26**	*e*Pn	**Pn**	**05 22 09.7**	**-0.8**
CSS	**Prodhromos**	**1.24**	**26**	Pg	**Pn**	**05 22 09.7**	**-0.8**
CSS	**Prodhromos**	**1.24**	**26**	P	**Pn**	**05 22 10.0**	**-0.5**
CSS				S	**Sn**	**05 22 27.1**	**+0.5**
CSS				*e*Sn	**Sn**	**05 22 28.7**	**+2.1**
LEF	**Lefka**	**1.28**	**8**	*e*Pn	**Pn**	**05 22 10.7**	**-0.3**
LEF				*e*SN	**Sn**	**05 22 29.6**	**+2.1**
LEF	**Lefka**	**1.28**	**8**	*e*Pn	**Pn**	**05 22 10.7**	**-0.3**
LEF				*e*Sn	**Sn**	**05 22 29.6**	**+2.1**
ALFC	**Alevga**	**1.31**	**358**	P	**Pn**	**05 22 11.2**	**-0.2**
	baz=178						
ALFC	**Alevga**	**1.31**	**358**	P	**Pn**	**05 22 11.2**	**-0.2**
MAMC	**Mammari**	**1.40**	**19**	P	**Pn**	**05 22 12.8**	**+0.3**
	baz=199						
MAMC	**Mammari**	**1.40**	**19**	P	**Pn**	**05 22 12.8**	**+0.3**
AKDN	**Akdeniz- K¨–br**	**1.47**	**10**	*e*PN	**Pn**	**05 22 13.7**	**+0.3**
AKDN	**Akdeniz- K¨–br**	**1.47**	**10**	*e*Pn	**Pn**	**05 22 13.7**	**+0.3**
LFK	**Lefkose**	**1.60**	**26**	*e*PN	**Pn**	**05 22 15.2**	**0.0**
LFK	**Lefkose**	**1.60**	**26**	*e*Pn	**Pn**	**05 22 15.2**	**0.0**
PHNC	**Paralimni**	**1.61**	**44**	P	**Pn**	**05 22 15.8**	**+0.5**
	baz=224						
PHNC				S	**Sn**	**05 22 36.5**	**+1.2**
PHNC	**Paralimni**	**1.61**	**44**	P	**Pn**	**05 22 15.8**	**+0.5**
PHNC				S	**Sn**	**05 22 36.5**	**+1.2**
EREN	**Erenkoy**	**2.09**	**36**	*e*PN	**Pn**	**05 22 21.8**	**+0.1**
EREN	**Erenkoy**	**2.09**	**36**	*e*Pn	**Pn**	**05 22 21.8**	**+0.1**
HNTI	**Hanita**	**2.23**	**109**	Sn	**Sn**	**05 22 50.1**	**-0.1**
HNTI	**Hanita**	**2.23**	**109**	Sn	**Sn**	**05 22 50.1**	**-0.1**
BLGI	**Bet Lehem HaGe**	**2.39**	**117**	Sn	**Sn**	**05 22 53.9**	**-0.1**
BLGI	**Bet Lehem HaGe**	**2.39**	**117**	Sn	**Sn**	**05 22 53.9**	**-0.1**
GAZI	**Gazipasa**	**2.40**	**353**	*i* P	**Pn**	**05 22 25.6**	**-0.3**
GAZI				*i* S	**Sn**	**05 22 54.1**	**-0.2**
GAZI	**Gazipasa**	**2.40**	**353**	*i* P	**Pn**	**05 22 25.6**	**-0.3**
GAZI				*i* S	**Sn**	**05 22 54.1**	**-0.2**
DQRL	**Deir Qamar**	**2.42**	**93**	*e*P	**Pn**	**05 22 26.1**	**-0.2**
DQRL	**Deir Qamar**	**2.42**	**93**	*e*P	**Pn**	**05 22 26.1**	**-0.2**
MMA0	**Mount Meron ar**	**2.43**	**109**	Pn	**Pn**	**05 22 26.5**	**0.0**
MMA0				Sn	**Sn**	**05 22 55.6**	**+0.4**
MMA0	**Mount Meron ar**	**2.43**	**109**	Pn	**Pn**	**05 22 26.5**	**0.0**
MMA0				Sn	**Sn**	**05 22 55.6**	**+0.4**
MMA0B	**Mount Meron ar**	**2.43**	**109**	Pn	**Pn**	**05 22 26.6**	**+0.1**
MMA0B				Sn	**Sn**	**05 22 55.6**	**+0.4**
MMA0B	**Mount Meron ar**	**2.43**	**109**	Pn	**Pn**	**05 22 26.6**	**+0.1**
MMA0B				Sn	**Sn**	**05 22 55.6**	**+0.4**
SLTI	**Sal'it**	**2.56**	**128**	Pn	**Pn**	**05 22 27.4**	**-0.7**
SLTI				Sn	**Sn**	**05 22 57.9**	**-0.2**
SLTI	**Sal'it**	**2.56**	**128**	Pn	**Pn**	**05 22 27.4**	**-0.7**
SLTI				Sn	**Sn**	**05 22 57.9**	**-0.2**
KSDI	**Kefar Szold**	**2.58**	**104**	Pn	**Pn**	**05 22 28.6**	**+0.2**
KSDI				Sn	**Sn**	**05 22 58.8**	**+0.1**
KSDI	**Kefar Szold**	**2.58**	**104**	Pn	**Pn**	**05 22 28.6**	**+0.2**
KSDI				Sn	**Sn**	**05 22 58.8**	**+0.1**
RCY	**Rachaya**	**2.67**	**97**	*e*P	**Pn**	**05 22 29.7**	**+0.1**
MMLI	**Mount Malkishu**	**2.71**	**121**	Pn	**Pn**	**05 22 30.3**	**+0.2**
MMLI				Sn	**Sn**	**05 23 01.5**	**-0.3**
MMLI	**Mount Malkishu**	**2.71**	**121**	Pn	**Pn**	**05 22 30.3**	**+0.2**
MMLI				Sn	**Sn**	**05 23 01.5**	**-0.3**
HWQ	**Hawqa**	**2.76**	**80**	*e*P	**Pn**	**05 22 30.9**	**+0.1**
HWQ	**Hawqa**	**2.76**	**80**	*e*P	**Pn**	**05 22 30.9**	**+0.1**
HMDT	**Nahal Hemdat**	**2.88**	**123**	Pn	**Pn**	**05 22 33.3**	**+0.9**
HMDT				Sn	**Sn**	**05 23 06.6**	**+0.6**
HMDT	**Nahal Hemdat**	**2.88**	**123**	Pn	**Pn**	**05 22 33.3**	**+0.9**
HMDT				Sn	**Sn**	**05 23 06.6**	**+0.6**
KIZK	**Mersin**	**2.89**	**24**	*i* P	**Pn**	**05 22 33.2**	**+0.6**
KIZK				*i* S	**Sn**	**05 23 07.2**	**+1.0**
KIZK	**Mersin**	**2.89**	**24**	*i* P	**Pn**	**05 22 33.2**	**+0.6**
KIZK				*i* S	**Sn**	**05 23 07.2**	**+1.0**
RSH		**3.01**	**162**	P	**Pn**	**05 22 35.1**	**+0.9**
	baz=166						
RSH				S	**Sn**	**05 23 09.5**	**+0.2**
	baz=166						
RSH		**3.01**	**162**	P	**Pn**	**05 22 35.2**	**+0.9**
RSH				S	**Sn**	**05 23 09.5**	**+0.2**
HDMB	**Hadim**	**3.11**	**357**	*e*PN	**Pn**	**05 22 37.1**	**+1.3**
HDMB	**Hadim**	**3.11**	**357**	*e*Pn	**Pn**	**05 22 37.1**	**+1.3**
DSI	**Dead Sea**	**3.22**	**134**	Pn	**Pn**	**05 22 37.5**	**+0.4**
DSI				Sn	**Sn**	**05 23 15.8**	**+1.4**
DSI	**Dead Sea**	**3.22**	**134**	Pn	**Pn**	**05 22 37.5**	**+0.4**
DSI				Sn	**Sn**	**05 23 15.8**	**+1.4**
AMAG	**Maghara**	**3.23**	**172**	P	**Pn**	**05 22 38.0**	**+0.7**
	baz=174						
AMAG	**Maghara**	**3.23**	**172**	P	**Pn**	**05 22 38.0**	**+0.7**
KZIT	**Kziot**	**3.28**	**153**	Pn	**Pn**	**05 22 38.5**	**+0.6**
KZIT				Sn	**Sn**	**05 23 16.7**	**+1.0**
KZIT	**Kziot**	**3.28**	**153**	Pn	**Pn**	**05 22 38.5**	**+0.6**
KZIT				Sn	**Sn**	**05 23 16.7**	**+1.0**
MZDA	**Masada**	**3.40**	**137**	Pn	**Pn**	**05 22 40.1**	**+0.6**
MZDA				Sn	**Sn**	**05 23 20.0**	**+1.3**
MZDA	**Masada**	**3.40**	**137**	Pn	**Pn**	**05 22 40.1**	**+0.6**
MZDA				Sn	**Sn**	**05 23 20.0**	**+1.3**
YAYL	**Yayladag**	**3.57**	**51**	*i* P	**Pn**	**05 22 39.2**	**-2.7**
YAYL				*i* S	**Sn**	**05 23 18.2**	**-4.8**
YAYL	**Yayladag**	**3.57**	**51**	*i* P	**Pn**	**05 22 39.2**	**-2.7**
YAYL				*i* S	**Sn**	**05 23 18.2**	**-4.8**
ELL	**Elmali**	**3.67**	**323**	*e*PN	**Pn**	**05 22 43.5**	**+0.2**
ELL	**Elmali**	**3.67**	**323**	*e*Pn	**Pn**	**05 22 43.5**	**+0.2**
RMNI	**Mount Ramon**	**3.70**	**151**	Pn	**Pn**	**05 22 44.3**	**+0.6**
RMNI	**Mount Ramon**	**3.70**	**151**	Pn	**Pn**	**05 22 44.3**	**+0.6**
SUTC	**Sutluce-Ispart**	**3.87**	**340**	*e*PN	**Pn**	**05 22 46.9**	**+0.9**
SUTC	**Sutluce-Ispart**	**3.87**	**340**	*e*Pn	**Pn**	**05 22 46.9**	**+0.9**
HHAG	**Hagoal**	**3.91**	**187**	P	**Pn**	**05 22 47.9**	**+1.2**
	baz=189						
HHAG				S	**Sn**	**05 23 31.1**	**-0.2**
	baz=189						
HHAG	**Hagoal**	**3.91**	**187**	P	**Pn**	**05 22 47.8**	**+1.2**
HHAG				S	**Sn**	**05 23 31.1**	**-0.2**
ZFRI	**Zfri**	**3.91**	**146**	Pn	**Pn**	**05 22 46.6**	**+0.1**
ZFRI				Sn	**Sn**	**05 23 31.3**	**+0.1**
ZFRI	**Zfri**	**3.91**	**146**	Pn	**Pn**	**05 22 46.6**	**+0.1**
ZFRI				Sn	**Sn**	**05 23 31.3**	**+0.1**
KARA	**Karaisali**	**3.92**	**29**	*e*PN	**Pn**	**05 22 47.8**	**+1.1**
KARA	**Karaisali**	**3.92**	**29**	*e*Pn	**Pn**	**05 22 47.8**	**+1.1**
KOT	**Kottamia**	**3.97**	**191**	P	**Pn**	**05 22 48.5**	**+1.1**
	baz=193						
KOT	**Kottamia**	**3.97**	**191**	P	**Pn**	**05 22 48.5**	**+1.1**
SUZ		**4.00**	**178**	P	**Pn**	**05 22 48.4**	**+0.6**
	baz=181						
SUZ		**4.00**	**178**	P	**Pn**	**05 22 48.3**	**+0.6**
PRNI	**Paran**	**4.01**	**150**	Pn	**Pn**	**05 22 48.2**	**+0.3**
PRNI				Sn	**Sn**	**05 23 34.4**	**+0.7**
PRNI	**Paran**	**4.01**	**150**	Pn	**Pn**	**05 22 48.2**	**+0.3**
PRNI				Sn	**Sn**	**05 23 34.4**	**+0.7**
HNKL	**Nakhl**	**4.06**	**164**	P	**Pn**	**05 22 49.1**	**+0.5**
	baz=166						
HNKL				S	**Sn**	**05 23 33.1**	**-1.9**
	baz=166						
HNKL	**Nakhl**	**4.06**	**164**	P	**Pn**	**05 22 49.1**	**+0.5**
HNKL				S	**Sn**	**05 23 33.1**	**-1.9**
KONT	**Konya--Tatoy**	**4.10**	**357**	*e*PN	**Pn**	**05 22 50.9**	**+1.8**
KONT	**Konya--Tatoy**	**4.10**	**357**	*e*Pn	**Pn**	**05 22 50.9**	**+1.8**
KRMI	**Paran Flat**	**4.11**	**154**	Pn	**Pn**	**05 22 49.8**	**+0.5**
KRMI				Sn	**Sn**	**05 23 36.6**	**+0.5**
KRMI	**Paran Flat**	**4.11**	**154**	Pn	**Pn**	**05 22 49.8**	**+0.5**
KRMI				Sn	**Sn**	**05 23 36.6**	**+0.5**
GOLH	**Golhisar**	**4.22**	**324**	*i* P	**Pn**	**05 22 52.3**	**+1.4**
GOLH				*i* S	**Sn**	**05 23 39.4**	**+0.4**
GOLH	**Golhisar**	**4.22**	**324**	*i* P	**Pn**	**05 22 52.3**	**+1.4**
GOLH				*i* S	**Sn**	**05 23 39.4**	**+0.4**
HRFI	**Mount Harif**	**4.30**	**151**	Pn	**Pn**	**05 22 52.6**	**+0.7**
HRFI				Sn	**Sn**	**05 23 40.8**	**0.0**
HRFI	**Mount Harif**	**4.30**	**151**	Pn	**Pn**	**05 22 52.6**	**+0.7**
HRFI				Sn	**Sn**	**05 23 40.8**	**0.0**
HSAF	**As Saff**	**4.32**	**193**	P	**Pn**	**05 22 53.0**	**+0.9**
	baz=195						
HSAF				S	**Sn**	**05 23 41.0**	**-0.3**
	baz=195						
HSAF	**As Saff**	**4.32**	**193**	P	**Pn**	**05 22 53.0**	**+0.9**
HSAF				S	**Sn**	**05 23 41.0**	**-0.3**
GLL	**Jalalah**	**4.33**	**191**	P	**Pn**	**05 22 53.2**	**+0.8**
	baz=193						
GLL				S	**Sn**	**05 23 41.1**	**-0.5**
	baz=193						
GLL	**Jalalah**	**4.33**	**191**	P	**Pn**	**05 22 53.2**	**+0.8**
GLL				S	**Sn**	**05 23 41.1**	**-0.5**
DALY	**Dalyan (Mu¨la**	**4.42**	**313**	*e*PN	**Pn**	**05 22 53.7**	**+0.3**
DALY	**Dalyan (Mu¨la**	**4.42**	**313**	*e*Pn	**Pn**	**05 22 53.7**	**+0.3**
KOZT	**Kozan**	**4.45**	**34**	*e*PN	**Pn**	**05 22 55.4**	**+1.6**
KOZT	**Kozan**	**4.45**	**34**	*e*Pn	**Pn**	**05 22 55.4**	**+1.6**
ZNM		**4.46**	**178**	P	**Pn**	**05 22 55.1**	**+1.1**
	baz=179						
ZNM		**4.46**	**178**	P	**Pn**	**05 22 55.1**	**+1.1**
MBH	**Mount Berech**	**4.47**	**154**	Pn	**Pn**	**05 22 55.5**	**+1.2**
MBH	**Mount Berech**	**4.47**	**154**	Pn	**Pn**	**05 22 55.5**	**+1.2**
TURN	**Turunc**	**4.49**	**313**	*i* P	**Pn**	**05 22 55.4**	**+1.1**
TURN				*i* S	**Sn**	**05 23 48.0**	**+2.8**
TURN	**Turunc**	**4.49**	**313**	*i* P	**Pn**	**05 22 55.4**	**+1.1**
TURN				*i* S	**Sn**	**05 23 48.0**	**+2.8**
EIL	**Elat**	**4.60**	**154**	Pn	**Pn**	**05 22 56.4**	**+0.5**
EIL				Sn	**Sn**	**05 23 48.7**	**+0.7**
EIL	**Elat**	**4.60**	**154**	Pn	**Pn**	**05 22 56.4**	**+0.5**
EIL				Sn	**Sn**	**05 23 48.7**	**+0.7**
YER	**Yerkesik**	**4.85**	**314**	*e*PN	**Pn**	**05 22 60.0**	**+0.6**
YER	**Yerkesik**	**4.85**	**314**	*e*Pn	**Pn**	**05 23 00.0**	**+0.6**
BDRM	**Kayabasi**	**5.34**	**308**	*i* P	**Pn**	**05 23 05.4**	**-0.6**
BDRM				*i* S	**Sn**	**05 24 00.8**	**-5.3**
BDRM	**Kayabasi**	**5.34**	**308**	*i* P	**Pn**	**05 23 05.4**	**-0.6**
NBNS	**Bani Suef**	**5.34**	**193**	P	**Pn**	**05 23 06.8**	**+0.8**
	baz=195						
NBNS				S	**Sn**	**05 24 04.4**	**-1.8**
	baz=195						
NBNS	**Bani Suef**	**5.34**	**193**	P	**Pn**	**05 23 06.8**	**+0.8**
NBNS				S	**Sn**	**05 24 04.4**	**-1.8**
BODT	**Bodrum**	**5.42**	**308**	*e*PN	**Pn**	**05 23 07.1**	**-0.1**
BODT	**Bodrum**	**5.42**	**308**	*e*Pn	**Pn**	**05 23 07.1**	**-0.1**
AYDN	**Tasoluk**	**5.44**	**316**	*i* P	**Pn**	**05 23 06.7**	**-0.8**
AYDN				*i* S	**Sn**	**05 24 03.7**	**-5.1**
AYDN	**Tasoluk**	**5.44**	**316**	*i* P	**Pn**	**05 23 06.7**	**-0.8**
HMAT	**Matruh**	**5.45**	**241**	S	**Sn**	**05 24 06.5**	**-2.4**
	baz=241						
GRB	**Gharib**	**5.56**	**179**	P	**Pn**	**05 23 09.2**	**+0.1**
	baz=181						
GRB	**Gharib**	**5.56**	**179**	P	**Pn**	**05 23 09.2**	**+0.1**
AWBH		**6.38**	**211**	S	**Sn**	**05 24 27.6**	**-4.3**
	baz=212						
SWA2		**7.68**	**235**	P	**Pn

EVR			S	Sg	05 38 28.2	+0.1
EVR	**Evrytania**	**0.14 179**	P	Pg	05 38 25.5	-0.6
EVR			S	Sg	05 38 28.2	+0.1
MAKR	**Makrakomi, Fth**	**0.26 99**	P	Pg	05 38 28.2	-0.1
MAKR			S	Sg	05 38 33.0	+1.3
MAKR	**Makrakomi, Fth**	**0.26 99**	P	Pg	05 38 28.2	-0.1
MAKR			S	Sg	05 38 32.1	+0.4
MAKR	**Makrakomi, Fth**	**0.26 99**	P	Pg	05 38 28.2	-0.1
MAKR			S	Sg	05 38 32.1	+0.4
AGG	**Agios Georgios**	**0.41 94**	P	Pg	05 38 30.7	-0.5
AGG			S	Sg	05 38 37.7	+1.1
AGG	**Agios Georgios**	**0.41 94**	P	Pg	05 38 30.7	-0.5
AGG			S	Sg	05 38 37.7	+1.1
AGG	**Agios Georgios**	**0.41 94**	P	Pg	05 38 30.7	-0.5
AGG			S	Sg	05 38 37.7	+1.1
PDO	**Prodromos**	**0.67 227**	P	Pg	05 38 35.9	-0.2
PDO			S	Sb	05 38 46.2	-1.2
PDO	**Prodromos**	**0.67 227**	P	Pg	05 38 35.9	-0.2
PDO			S	Sg	05 38 45.9	+1.1
PDO	**Prodromos**	**0.67 227**	P	Pg	05 38 35.9	-0.2
PDO			S	Sg	05 38 45.9	+1.1

*DJA **16** 05:38:53.8±0.4,2°S±21°×13°7E±°, h11km, M4.3/6, mb4.5/2, MLv4.3/6*
*IDC **16** 05:39:05.0±1.7,1°.79S×136°.34E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.6/28, mbtmp3.7/5, ML3.4/2, Error ellipse: s-maj=45.0km s-min=24.2km az=63.0*

ISC 16 05:39:06.5±1.6,1°.8S±0°.2×136°.3E±0°.1, h10km, n8, σ1s60/8, mb3.8/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.10**	**238**	P	Pg	05 39 11.9	+2.8
SRPI				S	Sg	05 39 16.2	+5.2
RKPI	**Ransiki, Papua**	**2.17**	**278**	P	**Pb**	**05 39 43.8**	**-2.1**
FAKI	**Fak Fak**	**4.22**	**255**	P	**Pn**	**05 40 11.3**	**+0.4**
	64nm,0.8s,0.2nm						
SIJI	**Sorong**	**5.14**	**280**	Pn	**Pn**	**05 40 24.1**	**+0.5**
	1.6nm,0.3s,baz=61,slow=15,SNR=4.7						
SIJI				Sn	**Sn**	**05 41 25.4**	**+2.3**
	1.0nm,0.3s,baz=66,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**18.12**	**186**	P	**P**	**05 43 17.7**	**-1.1**
	0.1nm,0.3s,baz=7.6,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**21.85**	**186**	P	**P**	**05 43 59.2**	**-0.2**
	1.6nm,0.5s,baz=14,slow=11,SNR=12						
MKAR	**Makanchi Array**	**67.64**	**323**	P	**P**	**05 50 03.5**	**-0.3**
	0.4nm,0.5s,baz=117,slow=7.0,SNR=6.9						
VNDA	**Vanda**	**76.88**	**174**	P	**P**	**05 50 59.6**	**+1.2**
	0.6nm,0.7s,baz=332,slow=6.5,SNR=3.6						

MEX 16 05:43:12.2±0.6, 16°.31N×98°.46W, h20km±59km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**76**	*i* P	Pb	05 43 18.1	-1.3
PNIG				*i* S	Sb	05 43 23.1	-1.3
ACX	**Acapulco**	**1.45**	**293**	*e*P	Pb	05 43 38.7	+0.1
ACX				*i* S	Sn	05 43 56.0	+0.2
CAIG	**El Cayaco**	**1.88**	**293**	*e*P	Pn	05 43 40.2	-3.0
CAIG				*i* S	Sn	05 44 02.3	-4.0

*IDC **16** 05:43:22.6±0.7,2°.40S×136°.27E, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.1/30, mbtmp4.1/11, ML4.1/2, MS4.0/1, Ms1 4.0/1, ms1mx3.4/29, Error ellipse: s-maj=30.1km s-min=15.4km az=73.0*
*NEIC **16** 05:43:24.3±0.3,2°.39S×136°.31E, h10km, mb4.0/3, Error ellipse: s-maj=11.3km s-min=6.2km az=79.0*
*ISCJB **16** 05:43:27.7±0.4,2°.58S±0°.06×136°.89E±0°.04, h33km, mb4.1/9, Error ellipse: s-maj=8.1km s-min=5.4km az=6.3*
*DJA **16** 05:43:28.9±0.8,2°S±6°×13°7E±°, h13km±6km, M4.8/9, mb4.6/9, mB5.4/2, MLv4.9/8, Mw(mB)4.8/2*

ISC 16 05:43:28.4±0.6, 2°.43S±0°.07×136°.85E±0°.05, h35km, n36, σ2s32/31, mb4.2/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.82**	**312**	P	**Pn**	**05 43 42.7**	**-0.8**
SMPI	**Sarmi**	**1.91**	**77**	P	**Pn**	**05 43 58.1**	**-0.4**
SMPI				S	**Sn**	**05 44 20.8**	**-0.6**
RKPI	**Ransiki, Papua**	**2.82**	**289**	P	**Pn**	**05 44 12.9**	**+1.9**
RKPI				S	**Sn**	**05 44 49.0**	**+5.2**
GENI	**Genyem**	**3.32**	**93**	P	**Pn**	**05 44 19.9**	**+2.0**
GENI				S	**Sn**	**05 44 59.9**	**+3.7**
JAY	**Jayapura**	**3.85**	**91**	P	**Pn**	**05 44 26.5**	**+1.2**
FAKI	**Fak Fak**	**4.62**	**264**	P	Pn	05 44 41.8	+6.0
FAKI	**Fak Fak**	**4.62**	**264**	*e*Pn	Pn	05 44 27.4	-8.4
SIJI	**Sorong**	**5.79**	**285**	Pn	Pn	05 44 43.2	-8.7
	5.5nm,0.3s,baz=55,slow=13,SNR=7.9						
SIJI				Sn	Sn	05 45 45.1	-12
	baz=99,slow=19,SNR=2.7						
SIJI				LR	LR	05 47 17.8	
	comp=Z,2μm,20.6s,baz=176,slow=45						
SOEI	**Soe**	**14.47**	**239**	P	P	05 47 01.2	+4.0
	76nm,1.2s						
MRSI	**Marisa**	**15.18**	**281**	P	**P**	**05 47 02.7**	**-2.3**
	39nm,1.2s,2μm						
APSI	**Ampana**	**15.27**	**275**	P	**P**	**05 47 04.1**	**-1.9**
	64nm,1.2s						
BSSI	**Bau Bau, Buton**	**16.72**	**257**	P	**P**	**05 47 26.3**	**+4.2**
	74nm,1.3s						
BKSI	**Bulukumba**	**16.93**	**260**	P	P	05 47 29.9	+5.4
	15nm,2.4s						
TTSI	**Tana Toraja**	**17.02**	**268**	P	**P**	**05 47 29.5**	**+4.0**
	23nm,1.6s						
PCI	**Palu**	**17.07**	**275**	P	**P**	**05 47 27.1**	**+1.1**
	71nm,1.2s,1μm						
SPSI	**Sidrap Palu**	**17.12**	**264**	P	P	05 47 31.4	+4.8
MPSI	**Mapaga**	**17.16**	**279**	P	**P**	**05 47 27.8**	**+0.7**
	18nm,1.1s						
KAPI	**Kappang**	**17.25**	**261**	Pn	Pn	05 47 08.9	-18
	9.8nm,0.7s						
WRAB	**Tennant Creek**	**17.57**	**188**	*e*Pn	**Pn**	**05 47 28.7**	**-2.0**
	11nm,0.7s						
WRA	**Warramunga Arr**	**17.58**	**188**	P	**Pn**	**05 47 28.7**	**-2.2**
	0.8nm,0.3s,baz=7.5,slow=12,SNR=18						
WRA				S	Sn	05 50 35.7	-10
	0.3nm,0.3s,baz=2.3,slow=23,SNR=4.2						
CTA	**Charters Tower**	**19.81**	**153**	P	**Pn**	**05 47 57.9**	**0.0**
	4.1nm,0.8s,baz=334,slow=13,SNR=2.1						
CTAO	**Charters Tower**	**19.81**	**153**	P	**Pn**	**05 47 58.8**	**+1.0**
	7.3nm,0.9s						
AS31	**Alice Springs**	**21.30**	**187**	*e*P	**P**	**05 48 11.9**	**-0.4**
ASAR	**Alice Springs**	**21.30**	**187**	P	**P**	**05 48 10.7**	**-1.6**
	12nm,0.8s,baz=11,slow=11,SNR=37						
ASAR				S	**S**	**05 52 03.7**	**-3.6**
	2.7nm,1.0s,baz=10.0,slow=27,SNR=3.6						
STKA	**Stephens Creek**	**29.63**	**172**	P	**P**	**05 49 31.3**	**+0.7**
	1.4nm,0.4s,baz=352,slow=7.9,SNR=5.6						
HHC	**Hu-ho-hao-te**	**48.86**	**335**	*e*P	P	05 52 05.0	-5.8
GTA	**Gaotai**	**53.75**	**325**	*e*P	P	05 52 51.0	+3.5
GTA				pP	pP	05 52 56.8	-1.3
GTA				sP	sP	05 52 59.8	-2.4
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SONM	**Songino Array**	**56.69**	**336**	P	**P**	**05 53 05.9**	**-2.7**
	comp=Z,0.5nm,0.5s,baz=148,slow=8.5,SNR=2.9						
PETK	**Petropavlovsk-**	**58.04**	**15**	P	**P**	**05 53 18.8**	**+1.0**
	comp=Z,3.8nm,0.9s,baz=208,slow=8.1,SNR=3.7						
MK31	**Makanchi Array**	**68.44**	**323**	*e*P	**P**	**05 54 24.5**	**-2.4**
MKAR	**Makanchi Array**	**68.44**	**323**	P	**P**	**05 54 24.2**	**-2.7**
	comp=Z,1.2nm,0.9s,baz=111,slow=8.1,SNR=9.3						
ZALV	**Zalesovo Beam**	**70.77**	**330**	P	**P**	**05 54 38.5**	**-2.6**
	comp=Z,1.0nm,0.3s,baz=101,slow=6.0,SNR=2.3						
VNDA	**Vanda**	**76.23**	**175**	P	**P**	**05 55 12.8**	**0.0**
	comp=Z,0.9nm,0.6s,baz=328,slow=5.0,SNR=5.7						
ILAR	**Eielson Array**	**86.35**	**25**	P	**P**	**05 56 08.0**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=268,slow=4.3,SNR=13						
TXAR	**Lajitas Array**	**116.74**	**58**	PKP	**PKPdf**	**06 02 09.8**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=270,slow=0.2,SNR=2.4						
LPAZ	**La Paz**	**149.10**	**128**	PKPbc	**PKPbc**	**06 03 15.9**	**+1.0**
	comp=Z,1.2nm,0.9s,baz=233,slow=3.6,SNR=3.3						

IDC 16 05:48:43.0±1.9, 1°.69S×136°.48E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.6/31, mbtmp3.7/5, ML2.9/2, Error ellipse: s-maj=46.3km s-min=25.6km az=60.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.27**	**279**	Pn	Pn	05 50 03.4	+0.2
	1.6nm,0.3s,baz=279,slow=14,SNR=3.9						
SIJI				Sn	Sn	05 51 03.4	-1.4
	0.4nm,0.3s,baz=277,slow=24,SNR=1.3						
WRA	**Warramunga Arr**	**18.26**	**186**	P	Pn	05 52 58.2	0.0
	0.0nm,0.3s,baz=9.1,slow=13,SNR=2.8						
ASAR	**Alice Springs**	**21.99**	**186**	P	P	05 53 39.4	+0.4
	4.2nm,0.9s,baz=25,slow=9.8,SNR=5.4						
MKAR	**Makanchi Array**	**67.63**	**323**	P	P	05 59 42.0	+0.1
	0.3nm,0.6s,baz=99,slow=8.2,SNR=4.3						
VNDA	**Vanda**	**76.99**	**175**	P	P	06 00 37.0	-0.3
	0.3nm,0.6s,baz=318,slow=3.0,SNR=3.0						

*ISCJB **16** 05:52:31.2±0.5,2°.10S±0°.04×136°.17E±0°.03, h10km, mb3.9/4, Error ellipse: s-maj=6.3km s-min=4.8km az=170.7*
*DJA **16** 05:52:31.5±0.4,2°S±8°×13°6E±°, h18km±4km, M4.5/6, MLv4.5/6*
*IDC **16** 05:52:32.8±1.6,2°.01S×136°.15E, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.9/29, mbtmp4.0/6, ML3.8/2, Error ellipse: s-maj=46.3km s-min=21.6km az=60.0*

ISC 16 05:52:33.2±0.7, 2°.08S±0°.06×136°.19E±0°.05, h10km, n11, σ2s22/16, mb4.0/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.21**	**13**	P	**Pg**	**05 52 35.9**	**-1.8**
SRPI				S	**Sg**	**05 52 39.7**	**-1.0**
RKPI	**Ransiki, Papua**	**2.09**	**286**	P	Pn	05 53 04.5	-3.9
SMPI	**Sarmi**	**2.52**	**88**	P	**Pn**	**05 53 12.2**	**-2.0**
SMPI				S	**Sn**	**05 53 44.4**	**-0.6**
GENI	**Genyem**	**4.00**	**97**	P	**Pn**	**05 53 33.1**	**-1.6**
GENI				S	**Sn**	**05 54 22.3**	**+0.6**
FAKI	**Fak Fak**	**4.03**	**258**	P	**Pn**	**05 53 32.2**	**-2.8**
FAKI				S	**Sn**	**05 54 20.5**	**-1.8**
SIJI	**Sorong**	**5.07**	**284**	Pn	**Pn**	**05 53 49.8**	**+0.4**
	1.4nm,0.3s,baz=153,slow=17,SNR=2.3						
SIJI				Sn	**Sn**	**05 54 49.4**	**+1.3**
	2.6nm,0.3s,baz=82,slow=13,SNR=4.4						
WRA	**Warramunga Arr**	**17.84**	**186**	P	**Pn**	**05 56 42.2**	**+0.3**
	0.6nm,0.3s,baz=6.4,slow=12,SNR=23						
WRA				S	**Sn**	**05 59 55.6**	**-5.3**
	0.2nm,0.3s,baz=12,slow=22,SNR=5.4						
ASAR	**Alice Springs**	**21.57**	**186**	P	**P**	**05 57 24.9**	**+1.7**
	8.5nm,0.6s,baz=14,slow=10,SNR=46						
STKA	**Stephens Creek**	**30.07**	**171**	P	**P**	**05 58 44.5**	**+1.7**
	1.2nm,0.4s,baz=344,slow=7.4,SNR=2.4						
MKAR	**Makanchi Array**	**67.77**	**323**	P	**P**	**06 03 32.0**	**+0.6**
	0.3nm,0.4s,baz=116,slow=7.0,SNR=6.6						
VNDA	**Vanda**	**76.64**	**174**	P	**P**	**06 04 25.8**	**+2.1**
	0.9nm,0.7s,baz=327,slow=6.8,SNR=6.1						

SJA 16 05:57:18.3±0.8, 28°.17S×72°.76W, h20km±31km, ML3.9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMOG	**MOGNA**	**4.62**	**128**	*i* P	Pn	05 58 30.5	+3.3
AMOG				*i* S	Sn	05 59 24.6	+4.2
RTLS	**Leoncito**	**4.70**	**141**	*i* P	Pn	05 58 33.2	+4.8
RTLS				*i* S	Sn	05 59 27.2	+4.6
RTLL	**Cerro Villicun**	**4.87**	**131**	*i* P	Pn	05 58 34.2	+3.7
RTLL				*i* S	Sn	05 59 31.1	+4.6
AUSP	**Uspallata**	**4.98**	**145**	*i* P	Pn	05 58 37.0	+4.7
AUSP				*i* S	Sn	05 59 34.1	+4.5
RTCV	**Cerro Valdivia**	**5.18**	**136**	*i* P	Pn	05 58 38.5	+3.7
CFAA	**Coronel Fontan**	**5.20**	**132**	*i* P	Pn	05 58 38.4	+3.3
CFAA				*i* S	Sn	05 59 37.9	+3.3
ACLC	**CERRO LA CRUZ**	**5.25**	**105**	*i* P	Pn	05 58 39.5	+3.7
ACLC				*i* P	Pn	05 58 39.5	+3.7
AVFE	**Valle Fertil**	**5.25**	**119**	*i* P	Pn	05 58 38.6	+2.9
AVFE				*i* S	Sn	05 59 39.9	+4.1
AVFE				AML	AML	05 59 49.0	
	comp=Z,65nm,0.5s						
ASAL	**Salagasta**	**5.55**	**143**	*i* P	Pn	05 58 44.1	+4.2
CYA	**Choya**	**6.14**	**94**	*i* P	Pn	05 58 52.6	+4.7
ACAN	**Cantantal**	**6.32**	**132**	*i* P	Pn	05 58 53.1	+2.8

*IDC **16** 05:58:56.7±1.1,1°.77S×136°.52E, h0km, mb4.1/6, mb1 4.3/8, mb1mx4.0/27, mbtmp4.1/8, ML3.7/2, Error ellipse: s-maj=37.1km s-min=20.5km az=76.0*
*NEIC **16** 05:58:58.3±0.6,1°.83S×136°.42E, h10km, mb4.6/1, Error ellipse: s-maj=14.7km s-min=9.4km az=78.0*
*ISCJB **16** 05:58:59.5±0.6,1°.89S±0°.07×136°.32E±0°.04, h22km±4km, mb4.1/7, Error ellipse: s-maj=12.7km s-min=7.0km az=8.7*
*DJA **16** 05:59:01.1±0.5,2°S±5°×13°6E±°, h10km±3km, M4.4/9, mb4.6/1, MLv4.3/9*

ISC 16 05:58:58.8±1.0, 1°.86S±0°.09×136°.43E±0°.04, h13km±6km, n21, σ0s72/26, mb4.2/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.19**	**267**	P	**Pg**	**05 59 03.6**	**+0.4**
SRPI				S	**Sg**	**05 59 05.3**	**-0.9**
SMPI	**Sarmi**	**2.28**	**93**	P	**Pb**	**05 59 40.1**	**+0.3**
SMPI				S	**Sg**	**06 00 12.1**	**-0.1**
RKPI	**Ransiki, Papua**	**2.28**	**279**	P	**Pn**	**05 59 36.8**	**+0.7**
RKPI				S	**Sn**	**06 00 03.8**	**-0.3**
GENI	**Genyem**	**3.80**	**101**	P	Pn	06 00 01.1	+4.0
GENI				S	**Sb**	**06 00 50.9**	**-0.9**
FAKI	**Fak Fak**	**4.31**	**256**	P	**Pn**	**06 00 04.4**	**+0.3**
FAKI				S	**Sn**	**06 00 54.5**	**+0.3**
FAKI	**Fak Fak**	**4.31**	**256**	*e*Pn	**Pn**	**06 00 04.4**	**+0.3**
FAKI				*e*Sn	**Sn**	**06 00 53.5**	**-0.7**
JAY	**Jayapura**	**4.32**	**99**	P	Pn	06 00 09.3	+5.1
SIJI	**Sorong**	**5.26**	**281**	Pn	**Pn**	**06 00 18.1**	**+0.9**
	2.0nm,0.3s,baz=66,slow=13,SNR=4.2						
SWI	**Sorong**	**5.26**	**281**	P	**Pn**	**06 00 17.5**	**+0.3**
KAPI	**Kappang**	**16.94**	**259**	Pn	**Pn**	**06 02 54.8**	**-0.9**
WRAB	**Tennant Creek**	**18.08**	**186**	*e*Pn	**P**	**06 03 10.5**	**+0.3**
WRA	**Warramunga Arr**	**18.09**	**186**	P	**Pn**	**06 03 10.1**	**+0.1**
	0.2nm,0.3s,baz=8.9,slow=12,SNR=7.1						
WRA				S	Sn	06 06 21.6	-10
	0.1nm,0.3s,baz=6.1,slow=23,SNR=5.4						
AS31	**Alice Springs**	**21.81**	**186**	*e*P	**P**	**06 03 51.9**	**+1.0**
ASAR	**Alice Springs**	**21.82**	**186**	P	**P**	**06 03 51.3**	**+0.4**
	11nm,1.0s,baz=11,slow=12,SNR=18						
ASAR				S	**S**	**06 07 52.0**	**0.0**
	1.7nm,1.0s,baz=7.7,slow=24,SNR=5.1						
CMAR	**Chiang Mai Arr**	**42.05**	**300**	P	**P**	**06 06 50.6**	**+0.2**
	1.1nm,0.3s,baz=127,slow=6.9,SNR=12						
MK31	**Makanchi Array**	**67.74**	**323**	*e*P	**P**	**06 09 57.0**	**+0.9**
MKAR	**Makanchi Array**	**67.74**	**323**	P	**P**	**06 09 56.1**	**-0.1**
	1.4nm,0.6s,baz=118,slow=7.4,SNR=15						
ZALV	**Zalesovo Beam**	**70.07**	**330**	P	**P**	**06 10 10.1**	**-0.3**
	0.8nm,0.5s,baz=116,slow=6.6,SNR=3.3						
VNDA	**Vanda**	**76.83**	**174**	P	**P**	**06 10 51.1**	**+1.3**
	0.6nm,0.7s,baz=359,slow=7.0,SNR=4.0						
ILAR	**Eielson Array**	**86.01**	**25**	P	**P**	**06 11 38.3**	**-0.4**
	1.6nm,0.9s,baz=264,slow=4.4,SNR=13						
QSPA	**South Pole Qui**	**88.08**	**180**	*e*P	**P**	**06 11 47.4**	**-1.6**
	3.2nm,1.1s						

IDC 16 05:59:55.7±2.8, 18°.89N×39°.14E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/34, mbtmp3.6/3, Error ellipse: s-maj=72.1km s-min=32.4km az=150.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**21.30**	**348**	P	P	06 04 44.2	-0.1
	1.0nm,0.8s,baz=150,slow=9.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**36.40**	**267**	P	P	06 07 02.1	-0.1
	0.9nm,0.8s,baz=68,slow=7.8,SNR=5.3						
MKAR	**Makanchi Array**	**44.89**	**42**	P	P	06 08 12.0	-0.1
	0.8nm,0.8s,baz=237,slow=5.0,SNR=6.5						

NEIC 16 06:01:38.8, 66°.36N×157°.44W, h10km, ML3.6 (AEIC), After AEIC., Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IM3	**Indian Mountai**	**1.54**	**102**	P	Pn	06 02 06.0	-0.3
IM3				S	Sb	06 02 27.2	+0.1
PS05	**TAPS Pump Stn5**	**2.75**	**77**	P	Pn	06 02 23.8	+0.9
PS05				S	Sn	06 02 58.7	+2.6
COLD	**Coldfoot**	**3.00**	**70**	P	Pn	06 02 26.2	-0.1
MLY	**Manley**	**3.07**	**113**	P	Pn	06 02 27.2	-0.3
PS06	**TAPS Pump Stn6**	**3.18**	**96**	P	Pn	06 02 29.0	+0.2
CHUM	**Lake Minchumin**	**3.29**	**137**	P	Pn	06 02 31.4	+1.0
TT01	**Tatalina**	**3.52**	**169**	P	Pn	06 02 33.4	-0.1
BPAW	**Bear Paw Mtn.**	**3.54**	**127**	P	Pn	06 02 34.7	+0.9
BPAW				S	Sn	06 03 16.1	+0.5
MDM	**Murphy Dome**	**4.06**	**106**	P	Pn	06 02 41.9	+0.8
PPLA	**Purkeypile**	**4.14**	**145**	P	Pn	06 02 43.2	+1.0
TRF	**Thorofare Moun**	**4.22**	**130**	P	Pn	06 02 44.1	+0.8
COLA	**College**	**4.25**	**106**	P	Pn	06 02 44.1	+0.7
WRH	**Wood River Hil**	**4.34**	**112**	P	Pn	06 02 45.8	+1.0
CCB	**Clear Creek Bu**	**4.36**	**109**	P	Pn	06 02 45.4	+0.3
TNA	**Tin City**	**4.36**	**264**	P	Pn	06 02 45.1	+0.1
MCK	**McKinley**	**4.46**	**122**	P	Pn	06 02 47.5	+1.0
ILB	**Eielson Array**	**4.66**	**105**	P	Pn	06 02 49.8	+0.6
IL1	**Eielson Array**	**4.66**	**105**	P	Pn	06 02 49.8	+0.6
RND	**Reindeer**	**4.71**	**125**	P	Pn	06 02 50.5	+0.6
SKT	**Skwentna**	**5.09**	**147**	P	Pn	06 02 56.6	+1.4
BM3	**Burnt Mountain**	**5.17**	**72**	P	Pn	06 02 56.4	+0.2
SPBG	**Spurr Blockage**	**5.59**	**154**	P	Pn	06 03 03.3	+1.3
BCA3	**Beaver Creek A**	**7.46**	**109**	P	Pn	06 03 28.0	+0.3
DAWY	**Dawson**	**7.92**	**98**	P	Pn	06 03 34.5	+0.6

MEX 16 06:08:30.1±0.6, 16°.99N×99°.13W, h13km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.70**	**260**	*e*P	Pn	06 08 45.2	-0.7
ACX				*e*S	Sb	06 08 54.5	+0.6
ACP2	**Acapulco**	**0.73**	**261**	*e*P	Pg	06 08 42.0	-2.4
ACP2				*e*S	Sg	06 08 51.6	-2.4
TLIG	**Tlapa**	**0.79**	**44**	*i* P	Pg	06 08 43.0	-2.5
TLIG				*i* S	Sg	06 08 52.3	-3.7
CAIG	**El Cayaco**	**1.09**	**273**	*e*P	Pb	06 08 46.5	-4.3
CAIG				*e*S	Sb	06 09 01.1	-3.8
PNIG	**Pinotepa**	**1.13**	**122**	*e*P	Pb	06 08 48.1	-3.6
PNIG				*i* S	Sb	06 09 02.5	-3.9
PLIG	**Platanillo**	**1.44**	**346**	*e*P	Pn	06 08 52.6	-3.4
PLIG				*i* S	Sn	06 09 09.6	-5.3
ARIG	**Puente Sto Nin**	**1.73**	**318**	*e*P	Pn	06 08 57.1	-2.9
ARIG				*i* S	Sn	06 09 17.0	-4.9
YAIG	**Yautepec**	**1.86**	**2**	*e*P	Pn	06 08 58.4	-3.6
YAIG				*i* S	Sn	06 09 20.9	-4.6

*IDC **16** 06:10:42.8±0.6, 1°.89S×136°.37E, h0km, mb4.5/15, mb1 4.6/16, mb1mx4.6/21, mbtmp4.5/16, ML4.1/1, Error ellipse: s-maj=22.6km s-min=10.6km az=85.0*
*ISCJB **16** 06:10:44.6±0.7, 1°.88S±0°.03×136°.40E±0°.02, h18km±4km, mb4.7/34, Error ellipse: s-maj=5.8km s-min=4.0km az=4.5*
*NEIC **16** 06:10:44.5±0.3, 1°.85S×136°.45E, h10km, mb5.0/14, Error ellipse: s-maj=8.4km s-min=5.6km az=72.0*
*DJA **16** 06:10:46.5±0.2,2°S±3°×13°6E±°, h13km, M5.0/29, mb4.9/29, mB5.5/9, MLv5.1/10, Mw(mB)5.0/9*
*BJI **16** 06:10:46.0, 1°.90S×136°.40E, h35km, mb4.7/47, mB5.2/11, Ms5.3/17, Ms7 5.1/17*

ISC 16 06:10:48.4±0.4, 1°.90S±0°.05×136°.45E±0°.04, h35km±1km, n107, σ1s27/136, mb4.9/40, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.21**	**277**	P	Pb	06 10 48.2	-7.1
SRPI				S	Sb	06 10 52.3	-7.7
SMPI	**Sarmi**	**2.26**	**92**	P	**Pn**	**06 11 23.5**	**+0.1**
SMPI				S	**Sb**	**06 11 54.1**	**-2.2**
RKPI	**Ransiki, Papua**	**2.30**	**280**	P	**Pn**	**06 11 22.9**	**-1.0**
RKPI				S	**Sn**	**06 11 52.3**	**+1.2**
GENI	**Genyem**	**3.78**	**101**	P	**Pn**	**06 11 45.4**	**+1.1**
GENI				S	**Sn**	**06 12 31.3**	**+3.7**
JAY	**Jayapura**	**4.30**	**98**	P	**Pn**	**06 11 52.0**	**+0.6**
FAKI	**Fak Fak**	**4.32**	**256**	P	**Pn**	**06 11 49.7**	**-1.9**
FAKI				S	**Sn**	**06 12 42.3**	**+1.5**
FAKI	**Fak Fak**	**4.32**	**256**	*e*Pn	**Pn**	**06 11 49.8**	**-1.9**
SIJI	**Sorong**	**5.28**	**281**	Pn	**Pn**	**06 12 03.7**	**-1.2**
	6.4nm,0.3s,baz=72,slow=9.7,SNR=22						
SIJI				Sn	**Sn**	**06 13 04.0**	**-0.6**
	9.8nm,0.3s,baz=166,slow=23,SNR=1.7						
SWI	**Sorong**	**5.29**	**281**	P	**Pn**	**06 12 03.8**	**-1.2**
	219nm,1.1s,3μm1.8nm						
SWI				S	**Sn**	**06 13 06.1**	**+1.4**
	219nm,1.1s,3μm1.8nm						
BNDI	**Bandanaira**	**7.03**	**248**	S	**Sn**	**06 13 49.7**	**+1.9**
MSAI	**Masohi**	**7.65**	**259**	P	**Pn**	**06 12 37.0**	**-0.4**
	95nm,0.8s,0.3nm						
MSAI				S	**Sn**	**06 14 03.4**	**+0.4**
	95nm,0.8s,0.3nm						
SAUI	**Saumlaki**	**7.93**	**220**	S	**Sn**	**06 14 10.9**	**+1.1**
AAI	**Ambon**	**8.43**	**258**	P	**Pn**	**06 12 47.8**	**-0.4**
	108nm,0.6s,4μm						
AAI				S	**Sn**	**06 14 21.3**	**-1.0**
	108nm,0

CAN	**Canberra**	**35.24**	**162**	*e*P		**P**	06 17 40.1	+0.3
	15nm,1.1s							
NWAO	**Narrogin (SRO)**	**35.75**	**208**	P		**P**	06 17 44.7	+0.5
	24nm,0.9s,baz=328,slow=4.4,SNR=6.2							
H11S3	**WAKE ISLAND Hy**	**36.00**	**54**	T		T	06 55 38.6	
	baz=239							
H11S2	**WAKE ISLAND Hy**	**36.01**	**54**	T		T	06 55 43.4	
	baz=239							
H11S1	**WAKE ISLAND Hy**	**36.01**	**54**	T		T	06 55 43.8	
	baz=239							
SKNT	**Sakolnakorn**	**37.11**	**302**	P		**P**	06 17 55.9	-0.1
	56nm,1.0s							
NJ2	**Nanjing**	**37.66**	**335**	*e*P		**P**	06 18 02.4	+2.0
NJ2				PMZ				
	20nm,0.6s							
KSAR	**Wonju Array Be**	**39.94**	**349**	P		**P**	06 18 18.3	-1.1
KSRS	**Korea Array**	**39.94**	**349**	P		**P**	06 18 18.3	-1.1
	0.8nm,0.3s,baz=172,slow=9.9,SNR=4.1							
GYA	**Guiyang**	**40.27**	**316**	*e*P		**P**	06 18 24.0	+1.5
GYA				pP		**pP**	06 18 35.3	+2.7
GYA				PP		**PnPn**	06 20 01.8	+2.4
GYA				S		**S**	06 24 30.0	+2.2
GYA				sS		**sS**	06 24 47.5	+2.9
GYA				SS		**SS**	06 27 23.0	-4.1
GYA				PMZ				
	10.0nm,1.0s							
GYA				PMZ				
	110nm,5.2s							
GYA				LN				
	520nm,18.4s							
GYA				LE				
	510nm,19.0s							
GYA				LZ				
	640nm,18.6s							
UTTA	**Uttaradit**	**40.39**	**300**	P		**P**	06 18 24.1	+0.7
	3.4nm,0.9s							
NANT	**Nan**	**40.72**	**302**	P		**P**	06 18 27.1	+0.9
	4.9nm,1.1s							
LAMP	**Lampang**	**41.51**	**301**	P		**P**	06 18 33.8	+1.1
	5.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**42.08**	**300**	P		**P**	06 18 36.8	-0.6
	4.8nm,0.8s,baz=120,slow=6.3,SNR=26							
CMMT	**Chiang Mai**	**42.22**	**301**	P		**P**	06 18 38.9	+0.4
CHTO	**Chiang Mai**	**42.23**	**301**	P		**P**	06 18 39.0	+0.5
	80nm,1.4s							
CHTO	**Chiang Mai**	**42.23**	**301**	*e*P		**P**	06 18 38.6	0.0
	8.6nm,1.0s							
KMI	**Kunming**	**42.28**	**312**	P		**P**	06 18 39.9	+0.7
KMI				pP		**pP**	06 18 51.6	+2.2
KMI				PMZ				
	23nm,1.8s							
XAN	**Xi'an**	**44.14**	**327**	P		**P**	06 18 51.8	-2.0
XAN				pP		**pP**	06 19 01.3	-2.7
XAN				sP		**sP**	06 19 05.9	-2.3
XAN				PMZ				
	2.0nm,1.0s							
CD2	**Chengdu**	**45.08**	**319**	P		**P**	06 19 02.0	+0.6
CD2				pP		**pP**	06 19 12.1	+0.5
CD2				sP		**sP**	06 19 16.6	+0.8
CD2				PP		**PP**	06 20 48.1	+0.9
CD2				PcS		**PcS**	06 24 35.6	-0.1
CD2				S		**S**	06 25 39.9	+1.5
CD2				PMZ				
	20nm,0.5s							
CD2				PMZ				
	220nm,5.8s							
USRK	**Ussuriysk Ar.**	**46.06**	**356**	P		**P**	06 19 07.2	-1.7
	1.4nm,0.5s,baz=174,slow=9.7,SNR=6.6							
HHC	**Hu-ho-hao-te**	**48.21**	**335**	*e*P		**P**	06 19 25.8	0.0
HHC				S		**S**	06 26 20.8	-2.2
HHC				PMZ				
	14nm,1.1s							
LZH	**Lanzhou**	**48.49**	**324**	*e*P		**P**	06 19 29.3	+1.1
LZH				pP		**pP**	06 19 38.1	-0.4
LZH				sP		**sP**	06 19 41.6	-1.0
LZH				PMZ				
	20nm,1.0s							
LZH				PMZ				
	85nm,4.3s							
GTA	**Gaotai**	**53.09**	**325**	⇑P		**P**	06 20 02.8	+0.1
GTA				pP		**pP**	06 20 12.8	-0.3
GTA				sP		**sP**	06 20 16.6	-0.6
GTA				PcP		**PcP**	06 21 10.0	-0.8
GTA				PMZ				
	9.0nm,0.9s							
LSA	**Lhasa**	**53.45**	**310**	*e*P		**P**	06 20 05.8	-0.2
	19nm,1.3s							
TAPN	**Taplejung**	**55.16**	**305**	*e*P		**P**	06 20 18.0	-0.2
	82nm,1.5s							
ODAN	**Odare**	**55.23**	**305**	*e*P		**P**	06 20 18.4	-0.3
	8.9nm,0.3s							
RAMN	**Ramite**	**55.91**	**305**	*e*P		**P**	06 20 23.9	+0.3
	101nm,1.5s							
SONM	**Songino Array**	**56.04**	**336**	P		**P**	06 20 23.2	-0.8
	1.0nm,0.9s,baz=141,slow=4.0,SNR=4.6							
GUN	**Gumba**	**56.87**	**305**	*e*P		**P**	06 20 30.1	-0.5
	164nm,1.7s							
PKI	**Pulchoki**	**57.13**	**305**	*e*P		**P**	06 20 33.1	+0.8
KKN	**Kakani**	**57.32**	**305**	*e*P		**P**	06 20 34.1	+0.6
DMN	**Daman**	**57.39**	**305**	*e*P		**P**	06 20 33.7	-0.4
PETK	**Petropavlovsk-**	**57.63**	**15**	P		**P**	06 20 35.0	0.0
	2.5nm,0.5s,baz=225,slow=5.2,SNR=3.9							
GKN	**Gorkha**	**57.92**	**305**	*e*P		**P**	06 20 37.4	-0.3
	126nm,1.3s							
KOLN	**Koldanda**	**58.69**	**304**	*e*P		**P**	06 20 43.3	+0.1
	73nm,1.2s							
WMQ	**Urumqi**	**62.98**	**322**	P		**P**	06 21 12.1	+0.2
WMQ				pP		**pP**	06 21 22.3	-0.2
WMQ				sP		**sP**	06 21 26.3	-0.2
WMQ				PMZ				
	21nm,0.6s							
WMQ				PMZ				
	42nm,4.2s							
MK31	**Makanchi Array**	**67.78**	**323**	*e*P		**P**	06 21 42.3	-0.5
MKAR	**Makanchi Array**	**67.78**	**323**	P		**P**	06 21 42.0	-0.8
	3.8nm,0.7s,baz=113,slow=7.1,SNR=33							
KSH	**Kashi**	**68.89**	**314**	P		**P**	06 21 51.0	+0.9
KSH				pP		**pP**	06 22 01.3	+0.5
KSH				sP		**sP**	06 22 04.6	-0.2
KSH				PcP		**PcP**	06 22 17.8	+3.4
KSH				*e*PP		**PP**	06 24 24.3	+1.7
KSH				PcS			06 26 19.6	
KSH				S		**S**	06 30 51.3	-0.9
KSH				sS		**sS**	06 31 09.3	-0.6
KSH				PMZ				
	21nm,1.4s							
KSH				PMZ				
	250nm,6.7s							
KSH				LN				
	820nm,14.4s							
KSH				LE				
	1μm,16.2s							
KSH				LZ				
	590nm,14.8s							
ZALV	**Zalesovo Beam**	**70.11**	**330**	P		**P**	06 21 55.4	-1.7
	1.3nm,0.3s,baz=98,slow=7.6,SNR=4.6							
KURK	**Kurchatov**	**71.76**	**325**	*e*P		**P**	06 22 05.8	-1.4
VNDA	**Vanda**	**76.79**	**174**	P		**P**	06 22 36.7	+0.7
	4.8nm,0.7s,baz=326,slow=5.9,SNR=8.2							
VNDA	**Vanda**	**76.79**	**174**	*e*P		**P**	06 22 36.4	+0.3
SBA	**Scott Base**	**77.59**	**174**	*e*P		**P**	06 22 42.4	+1.9
	113nm,2.6s							
MAW	**Mawson**	**82.03**	**202**	P		**P**	06 23 05.4	+0.7
	2.7nm,0.9s,baz=34,slow=8.5,SNR=3.6							
ABKAR	**Akbulak array**	**82.65**	**320**	*e*P		**P**	06 23 07.2	-1.1
IM04	**Indian Mountai**	**83.60**	**23**	*e*P		**P**	06 23 13.1	+0.2
ARU	**Arti**	**84.88**	**327**	*e*P		P	06 23 23.5	+3.9
COLD	**Coldfoot**	**85.34**	**22**	*e*P		**P**	06 23 23.1	+1.4
CCB	**Clear Creek Bu**	**85.62**	**25**	*e*P		**P**	06 23 22.6	-0.6
	13nm,1.2s							
ILAR	**Eielson Array**	**86.04**	**25**	P		**P**	06 23 24.0	-1.2
	4.5nm,0.9s,baz=266,slow=4.6,SNR=25							
FYU	**Fort Yukon**	**87.09**	**23**	*e*P		**P**	06 23 31.8	+1.5
	55nm,1.4s							
QSPA	**South Pole Qui**	**88.05**	**180**	*e*P		**P**	06 23 35.2	+0.2
	15nm,0.9s							
EGAK	**Eagle**	**88.45**	**25**	*e*P		**P**	06 23 37.7	+0.8
	9.4nm,1.2s							
TXAR	**Lajitas Array**	**116.80**	**58**	PKP		**PKPdf**	06 29 30.1	0.0
	0.6nm,1.0s,baz=45,slow=0.7,SNR=4.6							
TORD	**Torodi Ar. Bea**	**133.86**	**286**	PKP		**PKPdf**	06 30 03.4	+0.5
	1.1nm,0.8s,baz=56,slow=0.8,SNR=6.0							
OTAV	**Otavalo**	**145.07**	**92**	*e*PKPbc		**PKPbc**	06 30 22.4	-1.0
ROSC	**El Rosal**	**149.14**	**84**	PKPbc		**PKPbc**	06 30 35.8	+0.9
	13nm,0.9s,baz=91,slow=18,SNR=10							
LPAZ	**La Paz**	**149.74**	**128**	PKPbc		**PKPbc**	06 30 38.0	+1.5
	2.6nm,0.9s,baz=284,slow=3.0,SNR=7.7							
SDV	**Santo Domingo**	**152.18**	**75**	*e*PKPbc		**PKPbc**	06 30 39.1	-2.6

IDC 16 06:12:35.0±2.9, 19.00N×308E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/35, mbtmp3.5/3, Error ellipse: s-maj=77.4km s-min=33.1km az=150.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**21.18**	**348**	P	**P**	06 17 22.2	-0.1
	0.6nm,0.6s,baz=160,slow=9.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**36.34**	**266**	P	P	06 19 40.9	-0.1
	0.9nm,1.0s,baz=71,slow=7.9,SNR=4.9						
MKAR	**Makanchi Array**	**44.85**	**42**	P	P	06 20 51.0	-0.1
	0.5nm,0.8s,baz=241,slow=8.1,SNR=5.5						

*IDC **16** 06:13:09.8±0.9, 2.03S×136.36E, h0km, mb4.2/4, mb1 4.5/6, mb1mx4.0/34, mbtmp4.3/6, ML3.7/2, Error ellipse: s-maj=32.1km s-min=23.0km az=69.0*
*ISCJB **16** 06:13:12.6±1.0, 2.1S±0.1×136.3E±0.1, h33km, mb4.2/4, Error ellipse: s-maj=20.3km s-min=11.0km az=33.4*
ISC 16 06:13:13.7±0.9, 2.1S±0.2×136.4E±0.1, h35km, n9, σ1§92/10, mb4.2/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.30**	**283**	Pn	**Pn**	06 14 31.1	+0.6
	0.6nm,0.3s,baz=133,slow=19,SNR=2.0						
SIJI				Sn	**Sn**	06 15 28.5	-1.8
	1.5nm,0.3s,baz=90,slow=21,SNR=1.3						
WRA	**Warramunga Arr**	**17.89**	**186**	P	**P**	06 17 18.7	-1.6
	0.4nm,0.3s,baz=7.7,slow=13,SNR=4.3						
ASAR	**Alice Springs**	**21.61**	**186**	P	**P**	06 18 02.1	+1.1
	15nm,0.9s,baz=11,slow=13,SNR=5.4						
MKAR	**Makanchi Array**	**67.90**	**323**	P	**P**	06 24 09.6	+0.7
	0.8nm,0.6s,baz=116,slow=7.0,SNR=5.4						
VNDA	**Vanda**	**76.63**	**174**	P	**P**	06 25 01.8	+1.4
	1.7nm,0.7s,baz=336,slow=5.3,SNR=6.1						
ILAR	**Eielson Array**	**86.20**	**25**	P	**P**	06 25 51.4	+0.1
	1.7nm,1.0s,baz=263,slow=5.0,SNR=5.5						
TORD	**Torodi Ar. Bea**	**133.89**	**286**	PKP	**PKPdf**	06 32 30.3	+2.1
	0.5nm,0.9s,baz=14,slow=3.0,SNR=2.6						
ROSC	**El Rosal**	**149.17**	**84**	PKPbc	**PKPab**	06 33 02.4	-2.2
	2.1nm,0.4s,baz=96,slow=19,SNR=3.5						
LPAZ	**La Paz**	**149.65**	**128**	PKPbc	**PKPab**	06 33 04.1	-2.6
	1.4nm,0.9s,baz=325,slow=1.8,SNR=3.4						

*BJI **16** 06:20:18.4, 2.19S×136.56E, h35km, mb4.6/34, mB5.2/12, Ms5.1/8, Ms7 4.7/9*
*IDC **16** 06:20:18.7±0.5, 1.69S×136.23E, h0km, mb4.3/18, mb1 4.5/18, mb1mx4.4/22, mbtmp4.3/18, Error ellipse: s-maj=29.0km s-min=12.7km az=77.0*
*ISCJB **16** 06:20:20.7±0.8, 1.69S±0.05×136.37E±0.03, h22km±5km, mb4.5/23, MS5.2/1, Error ellipse: s-maj=7.9km s-min=4.8km az=7.3*
*NEIC **16** 06:20:20.1±0.3, 1.74S×136.27E, h10km, mb4.9/7, Error ellipse: s-maj=9.6km s-min=6.6km az=87.0*
*DJA **16** 06:20:23.2±0.2, 2.5S×13.6E±°, h11km, M4.8/15, mb4.7/15, mB5.5/3, MLv4.9/8, Mw(mB)4.9/3*
ISC 16 06:20:23.5±0.5, 1.87S±0.06×136.36E±0.04, h31km±3km, n74, σ1§67/97, mb4.5/23, 1C-1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.12**	**270**	P	Pb	06 20 25.1	-4.0
SRPI				S	**Sb**	06 20 29.7	-3.3
RKPI	**Ransiki, Papua**	**2.21**	**279**	P	**Pn**	06 20 59.6	+1.5
RKPI				S	**Sb**	06 21 29.5	-0.3
SMPI	**Sarmi**	**2.35**	**93**	P	**Pn**	06 21 00.8	+0.7
SMPI				S	**Sn**	06 21 30.6	+2.6
GENI	**Genyem**	**3.88**	**101**	P	**Pn**	06 21 21.5	+0.5
GENI				S	**Sn**	06 22 07.9	+2.4
FAKI	**Fak Fak**	**4.24**	**256**	P	**Pn**	06 21 25.2	-0.8
FAKI				S	**Sn**	06 22 18.2	+3.8
FAKI	**Fak Fak**	**4.24**	**256**	*e*Pn	**Pn**	06 21 25.1	-0.8
JAY	**Jayapura**	**4.39**	**98**	P	**Pn**	06 21 29.0	+0.8
SIJI	**Sorong**	**5.18**	**281**	Pn	**Pn**	06 21 39.2	+0.2
	5.1nm,0.3s,baz=64,slow=14,SNR=9.9						
SIJI				Sn	**Sn**	06 22 39.0	+1.2
	3.4nm,0.3s,baz=167,slow=21,SNR=1.9						
AAI	**Ambon**	**8.35**	**257**	P	**Pn**	06 22 25.2	+2.6
	70nm,0.6s						
NLAI	**Namlea**	**9.35**	**261**	P	**Pn**	06 22 38.0	+1.8
	42nm,0.6s						
TNTI	**Ternate**	**9.36**	**286**	P	**Pn**	06 22 38.6	+2.1
	87nm,0.9s						
MRSI	**Marisa**	**14.60**	**279**	P	**Pn**	06 23 50.4	+2.3
	27nm,0.7s						
APSI	**Ampana**	**14.73**	**274**	P	**Pn**	06 23 52.1	+2.2
	91nm,1.1s						
BSSI	**Bau Bau, Buton**	**16.38**	**255**	P	**Pn**	06 24 11.6	+0.2
	53nm,0.9s						
PCI	**Palu**	**16.54**	**273**	P	**P**	06 24 15.9	+0.1
	94nm,1.0s,2μm						
BKSI	**Bulukumba**	**16.56**	**258**	P	**P**	06 24 15.6	-0.3
	76nm,1.3s,1μm						
TTSI	**Tana Toraja**	**16.56**	**266**	P	**Pn**	06 24 14.1	+0.4
	22nm,1.6s,3μm						
MPSI	**Mapaga**	**16.60**	**277**	P	**P**	06 24 16.5	+0.1
	14nm,1.3s						
SPSI	**Sidrap Palu**	**16.70**	**262**	P	**P**	06 24 16.9	-0.5
	23nm,1.6s						
KAPI	**Kappang**	**16.86**	**259**	Pn	**Pn**	06 24 15.3	-2.2
WRAB	**Tennant Creek**	**18.06**	**186**	*e*Pn	**Pn**	06 24 30.1	-2.1
	61nm,1.3s						
WRA	**Warramunga Arr**	**18.07**	**186**	P	**Pn**	06 24 28.6	-3.9
	1.3nm,0.3s,baz=8.7,slow=13,SNR=20						
WRA				S	Sn	06 27 42.0	-11
	1.0nm,0.3s,baz=4.0,slow=23,SNR=6.6						
CTA	**Charters Tower**	**20.53**	**153**	P	**P**	06 25 00.8	+1.2
	8.4nm,0.9s,baz=337,slow=15,SNR=3.2						
KKM	**Kota Kinabalu**	**21.59**	**291**	*e*P	**P**	06 25 10.6	-0.5
	52nm,1.4s						
AS31	**Alice Springs**	**21.80**	**186**	*e*P	**P**	06 25 14.1	+0.9
ASAR	**Alice Springs**	**21.80**	**186**	P	**P**	06 25 13.9	+0.7
	24nm,0.7s,baz=12,slow=12,SNR=58						
ASAR				S	**S**	06 29 12.3	-0.5
	2.8nm,0.9s,baz=6.2,slow=21,SNR=5.1						
MBWA	**Marble Bar**	**25.11**	**219**	*e*P	**P**	06 25 45.8	0.0
	37nm,1.3s						
STKA	**Stephens Creek**	**30.25**	**171**	P	**P**	06 26 33.0	+1.2
	12nm,0.6s,baz=343,slow=8.2,SNR=20						
QIZ	**Qiongzhong**	**33.32**	**310**	P	P	06 27 08.4	+9.5
QIZ				S	**S**	06 32 16.1	-1.7
QIZ				LR	LR		
	comp=N,2μm,18.7s						
QIZ				LR	LR		
	comp=Z,5μm,19.6s						
JNU	**Nakatsue**	**35.19**	**352**	P	**P**	06 27 12.8	-2.2
	comp=Z,5.9nm,0.8s,baz=186,slow=10,SNR=4.2						
H11S3	**WAKE ISLAND Hy**	**36.05**	**55**	T	T	07 05 09.9	
	baz=236,SNR=3.4						
H11S2	**WAKE ISLAND Hy**	**36.07**	**55**	T	T	07 05 11.2	
	baz=236						
H11S1	**WAKE ISLAND Hy**	**36.07**	**55**	T	T	07 05 10.3	
	baz=236						
NJ2	**Nanjing**	**37.60**	**335**	*e*P	**P**	06 27 35.6	+0.1
NJ2				PMZ			
	comp=Z,10.0nm,0.6s						
MJAR	**Matsushiro Arr**	**38.25**	**2**	P	**P**	06 27 41.1	+0.1
	comp=Z,1.4nm,0.9s,baz=173,slow=11,SNR=3.4						
KSAR	**Wonju Array Be**	**39.90**	**349**	P	**P**	06 27 51.5	-3.1
KSAR				PcP	**PcP**	06 30 00.5	+0.5
KSRS	**Korea Array**	**39.90**	**350**	P	**P**	06 27 51.5	-3.1
	comp=Z,0.5nm,0.3s,baz=181,slow=9.9,SNR=4.7						
KSRS				PcP	**PcP**	06 30 00.5	+0.5
	comp=Z,2.2nm,0.8s,baz=190,slow=3.2,SNR=6.1						
CMAR	**Chiang Mai Arr**	**41.98**	**300**	P	**P**	06 28 11.4	-0.8
	comp=Z,4.0nm,0.7s,baz=119,slow=6.6,SNR=17						
CHTO	**Chiang Mai**	**42.13**	**301**	*e*P	**P**	06 28 11.4	-2.0
	comp=Z,7.2nm,0.9s						
KMI	**Kunming**	**42.20**	**312**	P	**P**	06 28 13.8	-0.3
KMI				PMZ			
	comp=Z,10.0nm,1.4s						
XAN	**Xi'an**	**44.06**	**327**	P	**P**	06 28 26.6	-2.3
XAN				pP	**pP**	06 28 35.0	-3.1
XAN				PMZ			
	comp=Z,2.0nm,1.3s						
CD2	**Chengdu**	**45.00**	**319**	P	**P**	06 28 35.8	-0.6
CD2				pP	**pP**	06 28 46.0	+0.4
CD2				PcP	**PcP**	06 30 16.3	-0.9
CD2				PP	**PP**	06 30 21.5	-0.4
CD2				PcS	**PcS**	06 34 10.1	-1.0
CD2				S	**S**	06 35 12.8	-0.4
CD2				PMZ			
	comp=Z,20nm,0.6s						
CD2				PMZ			
	comp=Z,160nm,5.6s						
USRK	**Ussuriysk Ar.**	**46.03**	**356**	P	**P**	06 28 42.6	-1.6
	comp=Z,1.3nm,0.8s,baz=208,slow=7.5,SNR=3.6						
HHC	**Hu-ho-hao-te**	**48.15**	**335**	*e*P	**P**	06 29 00.1	-0.9
HHC				S	**S**	06 36 03.3	+5.2
HHC				PMZ			
	comp=Z,24nm,1.1s						
HHC				PMZ			
	comp=Z,950nm,6.5s						
GTA	**Gaotai**	**53.02**	**325**	⇑P	**P**	06 29 37.4	-0.4
GTA				pP	**pP**	06 29 47.6	+0.4
GTA				sP	**sP**	06 29 51.4	+0.5
GTA				PMZ			
	comp=Z,8.0nm,1.1s						
SONM	**Songino Array**	**55.98**	**336**	P	**P**	06 29 58.0	-1.2
	comp=Z,0.7nm,0.8s,baz=126,slow=7.3,SNR=3.7						
PETK	**Petropavlovsk-**	**57.63**	**15**	P	**P**	06 30 10.3	-0.4
	comp=Z,2.8nm,0.8s,baz=215,slow=6.5,SNR=3.3						
WMQ	**Urumqi**	**62.90**	**322**	P	**P**	06 30 47.6	+0.6
WMQ				pP	**pP**	06 30 57.8	+1.2
WMQ				sP	**sP**	06 31 01.8	+1.5
WMQ				PMZ			
	comp=Z,21nm,0.6s						
WMQ				PMZ			
	comp=Z,42nm,4.2s						
WMQ				LZ			
	comp=Z,73nm,21.0s						
MK31	**Makanchi Array**	**67.70**	**323**	*e*P	**P**	06 31 16.9	-1.1
MKAR	**Makanchi Array**	**67.70**	**323**	P	**P**	06 31 16.8	-1.2
	comp=Z,3.3nm,0.7s,baz=113,slow=8.1,SNR=34						
KSH	**Kashi**	**68.81**	**314**	P	**P**	06 31 25.8	+0.6
KSH				pP	**pP**	06 31 37.0	+2.1
KSH				PcP	**PcP**	06 31 51.6	+1.9
KSH				PP	**PP**	06 34 00.8	+3.4
KSH				S	**S**	06 40 28.0	+0.8
KSH				SS	**SS**	06 44 54.9	+2.2
KSH				PMZ			
	comp=Z,7.0nm,0.9s						
KSH				PMZ			
	comp=Z,53nm,3.6s						
KSH				LN			
	comp=Z,190nm,6.7s						
KSH				LE			
	comp=Z,480nm,13.4s						
KSH				LZ			
	comp=Z,820nm,18.4s						
ZALV	**Zalesovo Beam**	**70.04**	**330**	P	**P**	06 31 30.1	-2.3
	comp=Z,1.4nm,0.3s,baz=98,slow=5.1,SNR=2.3						
KURK	**Kurchatov**	**71.69**	**326**	*e*P	**P**	06 31 41.3	-1.2
KURBB	**Kurchatov Arra**	**71.70**	**325**	P	**P**	06 31 40.8	-1.7
	comp=Z,4.4nm,0.9s,baz=117,slow=5.8,SNR=30						
VNDA	**Vanda**	**76.83**	**174**	P	**P**	06 32 13.0	+1.1
	comp=Z,3.7nm,0.6s,baz=327,slow=6.8,SNR=49						
BVAR	**Borovoye Array**	**77.29**	**326**	P	**P**	06 32 13.7	-1.3
	comp=Z,3.7nm,0.8s,baz=116,slow=6.8,SNR=13						
MAW	**Mawson**	**82.02**	**202**	P	**P**	06 32 41.8	+1.5
	comp=Z,2.8nm,0.9s,baz=111,slow=8.6,SNR=3.2						
ABKAR	**Akbulak array**	**82.57**	**320**	*e*P	**P**	06 32 42.3	-1.3
AKTO	**Aktyubinsk**	**84.02**	**321**	P	**P**	06 32 48.9	-2.1
	comp=Z,2.7nm,0.9s,baz=88,slow=3.9,SNR=8.7						
ARU	**Arti**	**84.81**	**327**	*e*P	**P**	06 32 53.3	-1.6
COLD	**Coldfoot**	**85.35**	**22**	*e*P	**P**	06 32 57.8	+0.4
CCB	**Clear Creek Bu**	**85.64**	**25**	*e*P	**P**	06 32 57.6	-1.3
ILAR	**Eielson Array**	**86.05**	**25**	P	**P**	06 32 58.8	-2.1
	comp=Z,4.4nm,0.9s,baz=267,slow=4.5,SNR=41						
FYU	**Fort Yukon**	**87.10**	**23**	*e*P	**P**	06 33 06.8	+0.8
	comp=Z,56nm,1.3s						
QSPA	**South Pole Qui**	**88.07**	**180**	*e*P	**P**	06 33 12.0	+1.1
	comp=Z,17nm,1.0s						
EGAK	**Eagle**	**88.47**	**25**	*e*P	**P**	06 33 12.7	+0.1
	comp=Z,16nm,1.5s						
SYO	**Syowa Base**	**90.70**	**201**	⇓*e*X	**P**	06 33 20.2	-2.7
YKA	**Yellowknife Ar**	**100.37**	**26**	P	**Pdif**	06 34 06.0	-1.1
	comp=Z,0.6nm,0.8s,baz=292,slow=3.3,SNR=3.3						
TXAR	**Lajitas Array**	**116.86**	**58**	PKP	**PKPdf**	06 39 06.0	0.0
	comp=Z,0.7nm,0.9s,baz=304,slow=0.3,SNR=7.0						
JCT	**Junction City**	**119.79**	**56**	*e*PKPdf	**PKPdf**	06 39 11.5	0.0
TORD	**Torodi Ar. Bea**	**133.76**	**286**	PKP	**PKPdf**	06 39 36.9	-1.6
	comp=Z,1.9nm,0.8s,baz=76,slow=1.7,SNR=9.7						
ROSC	**El Rosal**	**149.23**	**84**	PKPbc	**PKPbc**	06 40 11.3	+0.5
	comp=Z,20nm,0.7s,baz=120,slow=17,SNR=4.6						
LPAZ	**La Paz**	**149.82**	**128**	PKPbc	**PKPdf**	06 40 09.2	+1.6
	comp=Z,6.3nm,1.1s,baz=316,slow=2.6,SNR=3.4						
LPAZ				PKPbc	**PKiKP**	06 40 13.7	+0.4
	comp=Z,7.1nm,1.1s,baz=185,slow=1.6,SNR=10						
SDV	**Santo Domingo**	**152.26**	**74**	*e*PKPdf	**PKPdf**	06 40 10.9	0.0
SDV				*e*PKPbc	**PKPbc**	06 40 17.1	-0.5

*TAP **16** 06:23:46.0, 22.91N×120.63E, h17km, ML4.2, B*
*JMA **16** 06:23:45.1±0.2, 22.80N×120.69E, h12km±2km, M4.1*
*ISCJB **16** 06:23:47.1±0.2, 22.88N±0.01×120.63E±0.02, h23km±2km, Error ellipse: s-maj=3.0km s-min=2.4km az=163.1*
ISC 16 06:23:46.7±1.0, 22.90N±0.02×120.64E±0.02, h16km±7km, n74, σ0§85/117, 15C-7D, Taiwan

| Code | Station Name |

	baz=175								
EAST	**Anshuo**	**0.55**	**160**	P		**Pb**	**06 23 57.6**	**-0.4**
	baz=156								
TAW	**Tawu**	**0.59**	**156**	P		**Pb**	**06 23 58.3**	**-0.4**
	baz=153								
CHN8	**Yiju**	**0.59**	**318**	*e*P		**Pg**	**06 23 58.2**	**-0.2**
	baz=319								
CHN8				*e*S		**Sb**	**06 24 08.3**	**+1.3**
	baz=319								
TWP	**Hsiaoliuchiu**	**0.61**	**205**	⇑P		**Pn**	**06 24 00.8**	**+0.1**
	baz=203								
TWP				*e*S		**Sn**	**06 24 12.3**	**+2.1**
	baz=203								
ALS	**Alishan**	**0.63**	**14**	⇑P		**Pg**	**06 23 58.8**	**-0.3**
	baz=15								
CHY	**Chiayi**	**0.63**	**342**	*e*P		**Pg**	**06 23 59.0**	**0.0**
	baz=343								
CHY				*e*S		**Sb**	**06 24 09.2**	**+1.3**
	baz=343								
CHN2	**Minshiung**	**0.65**	**346**	*e*P		**Pg**	**06 23 59.5**	**+0.1**
	baz=347								
YUS	**Yu-Shan**	**0.65**	**26**	⇑*i*P		**Pb**	**06 23 59.7**	**-0.4**
	baz=28								
YUS				S		**Sb**	**06 24 09.6**	**+0.5**
	baz=28								
CHN5	**Tsauling**	**0.69**	**3**	*e*P		**Pg**	**06 23 59.8**	**-0.6**
	baz=4.0								
CHN5				*e*S		**Sn**	**06 24 12.1**	**-0.4**
	baz=4.0								
CHKT	**Chengkung**	**0.70**	**73**	P		**Pb**	**06 24 00.3**	**-0.1**
	baz=90								
CHKT				S		**Sn**	**06 24 11.1**	**-1.3**
	baz=90								
TWF1	**Yuli**	**0.75**	**53**	⇑*i*P		**Pb**	**06 24 01.1**	**-0.3**
	baz=62								
TWF1				S		**Sb**	**06 24 11.2**	**-0.3**
	baz=62								
WGK	**Gukeng**	**0.79**	**355**	*e*P		**Pg**	**06 24 02.0**	**0.0**
	baz=356								
WGK				*e*S		**Sn**	**06 24 14.5**	**-0.2**
	baz=356								
WSF	**Szhu**	**0.83**	**332**	*e*P		**Pg**	**06 24 02.1**	**-0.7**
	baz=333								
WSF				*e*S		**Sb**	**06 24 15.0**	**+1.3**
	baz=333								
EHY	**Hungye**	**0.87**	**46**	⇑*i*P		**Pg**	**06 24 03.1**	**-0.5**
	baz=54								
EHY				*e*S		**Sg**	**06 24 14.7**	**-0.4**
	baz=54								
HEN	**Hengchun**	**0.90**	**174**	⇓P		**Pn**	**06 24 04.3**	**-0.3**
	baz=163								
HEN				*e*S		**Sn**	**06 24 17.7**	**+0.4**
	baz=163								
TWK1	**Hengchun**	**0.96**	**171**	⇓P		**Pn**	**06 24 05.2**	**-0.5**
	baz=170								
TWK1				*e*S		**Sn**	**06 24 19.5**	**+0.5**
	baz=170								
WDT	**Danda**	**0.96**	**28**	⇑P		**Pb**	**06 24 04.6**	**-0.7**
	baz=37								
WDGT	**Dungji**	**0.97**	**292**	P		**Pb**	**06 24 03.4**	**-1.8**
	baz=292								
WDGT				*e*S		**Sb**	**06 24 16.2**	**-1.6**
	baz=292								
WNT	**Mingjian**	**0.97**	**2**	*e*P		**Pb**	**06 24 04.9**	**-0.4**
	baz=4.0								
WNT				*e*S		**Sn**	**06 24 19.5**	**+0.2**
	baz=4.0								
SMLT	**Sun Moon Lake**	**1.01**	**14**	*e*P		**Pb**	**06 24 05.8**	**0.0**
	baz=15								
SMLT				*e*S		**Sn**	**06 24 21.2**	**+0.9**
	baz=15								
WTCT	**Ta-ch'eng**	**1.01**	**341**	*e*P		Pb	06 24 02.8	-3.1
	baz=342								
TYC	**Yuchr**	**1.02**	**11**	*e*P		**Pb**	**06 24 05.9**	**-0.1**
	baz=13								
TYC				*e*S		**Sn**	**06 24 20.9**	**+0.5**
	baz=13								
TSEB	**Hengchuen, Pin**	**1.02**	**166**	*e*P		**Pn**	**06 24 06.0**	**-0.5**
	baz=168								
TSEB				*e*S		**Sn**	**06 24 21.9**	**+1.4**
	baz=168								
ESL	**Shilin**	**1.17**	**39**	P		**Pn**	**06 24 08.2**	**-0.2**
	baz=32								
ESL				*e*S		**Sn**	**06 24 23.7**	**-0.3**
	baz=32								
PNG	**Penghu**	**1.20**	**304**	*e*P		**Pn**	**06 24 06.7**	**-2.2**
	baz=304								
PNG				*e*S		**Sb**	**06 24 21.9**	**-2.5**
	baz=304								
LAY	**Lan-yu**	**1.20**	**135**	*e*P		**Pn**	**06 24 07.8**	**-1.1**
	baz=123								
TCU	**Taichung**	**1.24**	**1**	*e*P		**Pn**	**06 24 09.2**	**-0.3**
	baz=2.0								
WHF	**Hehuan Shan**	**1.36**	**25**	*e*P		**Pg**	**06 24 12.9**	**-0.2**
	baz=34								
HWA	**Hwalien**	**1.39**	**39**	*e*P		**Pb**	**06 24 12.5**	**+0.2**
	baz=26								
HWA				*e*S		**Sg**	**06 24 31.7**	**+0.1**
	baz=26								
TWT	**Tachien**	**1.43**	**20**	*e*P		**Pn**	**06 24 12.1**	**-0.2**
	baz=20								
TWQ1	**Liyutan**	**1.45**	**5**	*e*P		**Pn**	**06 24 12.2**	**-0.1**
	baz=6.0								
TWQ1				*e*S		**Sg**	**06 24 32.7**	**-0.7**
	baz=6.0								
TWD	**Chiawan**	**1.47**	**37**	P		**Pn**	**06 24 12.8**	**+0.3**
	baz=38								
TWD				*e*S		**Sb**	**06 24 32.6**	**+0.6**
	baz=38								
NSY	**Sanyi**	**1.51**	**4**	*e*P		**Pn**	**06 24 13.2**	**0.0**
	baz=5.0								
NNS	**Nan Shan**	**1.67**	**24**	*e*P		**Pn**	**06 24 16.3**	**+0.8**
	baz=25								
NSTT	**Nanjuang**	**1.75**	**11**	*e*P		**Pn**	**06 24 16.4**	**-0.1**
	baz=356								
ENA	**Nanau**	**1.82**	**33**	*e*P		**Pn**	**06 24 17.7**	**+0.2**
	baz=35								
NSK	**Sanguang**	**1.89**	**20**	*e*P		**Pn**	**06 24 19.1**	**+0.7**
	baz=22								
ENTT	**Nioudou**	**1.93**	**26**	*e*P		**Pb**	**06 24 20.7**	**-0.8**
	baz=27								
ENTT				*e*S		**Sb**	**06 24 45.2**	**-0.1**
	baz=27								
TWE	**Neicheng**	**2.04**	**27**	*e*P		**Pb**	**06 24 22.6**	**-0.9**
	baz=28								
TWA	**Mucha**	**2.24**	**22**	*e*P		**Pb**	**06 24 26.0**	**-0.9**
	baz=7.0								
EGS		**2.27**	**31**	*e*P		**Pn**	**06 24 25.1**	**+1.5**
	baz=33								
TWS1	**Kuangyinshan**	**2.30**	**18**	*e*P		**Pn**	**06 24 25.8**	**+1.7**
	baz=19								
NWF	**Wu-fen Shan**	**2.40**	**26**	*e*P		**Pn**	**06 24 26.7**	**+1.2**
	baz=10.0								
TWB1	**Santiao Chiao**	**2.43**	**30**	*e*P		**Pn**	**06 24 27.1**	**+1.3**
	baz=32								
KNM	**Kinmen**	**2.52**	**307**	*e*P		**Pn**	**06 24 26.7**	**-0.4**
	baz=306								
JYNG	**Yonagunijimaku**	**2.62**	**53**	P		**Pn**	**06 24 29.2**	**+0.8**
JYNG				S		**Sn**	**06 25 00.9**	**+1.1**
YOJ	**Yonaguni jima**	**2.67**	**54**	P		**Pn**	**06 24 30.1**	**+1.0**
YOJ				S		**Sn**	**06 25 02.7**	**+1.5**
YOJ	**Yonaguni jima**	**2.67**	**54**	⇓*e*P		**Pn**	**06 24 30.1**	**+1.0**
	baz=52								
HATJ	**Hateruma jima**	**3.12**	**68**	P		**Pn**	**06 24 35.5**	**+0.1**
HATJ				*e*S		**Sn**	**06 25 12.2**	**-0.2**
IRIF	**Iriomote-Funau**	**3.17**	**63**	P		**Pn**	**06 24 36.8**	**+0.8**
IRIF				*e*S		**Sn**	**06 25 14.8**	**+1.2**
JKRS	**Kuro-shima**	**3.37**	**66**	P		**Pn**	**06 24 39.8**	**+1.1**
JKRS				*e*S		**Sn**	**06 25 19.6**	**+1.3**
JIJ	**Ishigaki jima**	**3.53**	**65**	P		**Pn**	**06 24 40.7**	**-0.2**
JIJ				*e*S		**Sn**	**06 25 21.5**	**-0.8**
JISG	**Ishigakijimahi**	**3.76**	**63**	P		**Pn**	**06 24 43.7**	**-0.4**
JISG				*e*S		**Sn**	**06 25 27.3**	**-0.7**
JTJ	**Tarama**	**4.10**	**64**	P		**Pn**	**06 24 49.2**	**+0.4**
JTJ				*e*S		**Sn**	**06 25 36.8**	**+0.2**
JIKM	**Ikemajima**	**4.67**	**64**	P		**Pn**	**06 24 57.2**	**+0.6**
JOGS	**Gusukube**	**4.74**	**66**	P		**Pn**	**06 24 58.3**	**+0.7**

IDC 16 06:27:08.7±3.4, 1°.93S×136°.26E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/29, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=141.4km s-min=30.3km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.00**	**186**	P	Pn	06 31 19.2	-1.3
	0.1nm,0.3s,baz=7.4,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**21.73**	**186**	P	P	06 32 02.5	+0.8
	1.9nm,0.9s,baz=11,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**67.69**	**323**	P	P	06 38 07.9	0.0
	0.4nm,0.8s,baz=107,slow=8.4,SNR=3.8						

IDC 16 06:29:37.2±3.6, 1°.96S×136°.65E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/27, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=150.2km s-min=30.0km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.02**	**187**	P	Pn	06 33 47.4	-1.8
	0.2nm,0.3s,baz=8.9,slow=13,SNR=5.1						
ASAR	**Alice Springs**	**21.74**	**187**	P	P	06 34 31.6	+1.2
	2.3nm,0.9s,baz=14,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**67.95**	**323**	P	P	06 40 37.9	-0.1
	0.2nm,0.5s,baz=102,slow=7.9,SNR=4.2						

IDC 16 06:29:57.9±2.8, 22°.41S×148°.05E, h0km, mb1 3.7/4, mb1mx3.5/15, mbtmp3.5/4, ML3.3/4, Error ellipse: s-maj=42.8km s-min=21.8km az=67.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**2.85**	**324**	Pn	Pn	06 30 45.1	+0.5
	6.7nm,0.3s,baz=147,slow=17,SNR=33						
CTA				Lg	Lg	06 31 27.5	
	12nm,0.3s,baz=253,slow=17,SNR=13						
STKA	**Stephens Creek**	**11.04**	**210**	Pn	Pn	06 32 36.7	-0.4
	0.2nm,0.3s,baz=49,slow=11,SNR=2.1						
WRA	**Warramunga Arr**	**13.02**	**278**	Pn	Pn	06 33 04.2	-0.1
	0.2nm,0.3s,baz=92,slow=12,SNR=5.0						
WRA				Lg	Lg	06 36 51.9	
	0.1nm,0.3s,baz=106,slow=29,SNR=4.1						
ASAR	**Alice Springs**	**13.08**	**262**	Pn	Pn	06 33 07.3	+2.1
	0.0nm,0.3s,baz=93,slow=14,SNR=2.3						
I22FR	**PORTLAGUERRE I17.40**	**93**	*i*			08 17 20.0	
	baz=266,slow=309,SNR=0.7						
TORD	**Torodi Ar. Bea**	**146.73**	**260**	PKPbc	PKPdf	06 49 41.5	+0.5
	0.9nm,0.9s,baz=96,slow=2.9,SNR=3.6						

IDC 16 06:30:30.9±1.1, 1°.73S×136°.46E, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/26, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=65.4km s-min=23.5km az=87.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.22**	**186**	P	Pn	06 34 43.9	-1.5
	0.2nm,0.3s,baz=9.6,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**21.95**	**186**	P	P	06 35 25.4	-0.9
	1.3nm,0.5s,baz=5.7,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**67.65**	**323**	P	P	06 41 29.8	-0.1
	0.2nm,0.5s,baz=123,slow=6.8,SNR=2.9						
VNDA	**Vanda**	**76.95**	**175**	P	P	06 42 26.0	+1.2
	0.3nm,0.5s,baz=329,slow=7.0,SNR=2.7						
ILAR	**Eielson Array**	**85.89**	**25**	P	P	06 43 12.0	-0.4
	0.6nm,1.1s,baz=270,slow=4.5,SNR=3.3						

IDC 16 06:31:44.8±3.4, 2°.20S×136°.73E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/25, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=156.0km s-min=26.2km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.79**	**187**	P	Pn	06 35 54.0	-0.1
	0.1nm,0.3s,baz=7.8,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**21.52**	**187**	P	P	06 36 34.9	-0.8
	1.2nm,0.7s,baz=14,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**68.18**	**323**	P	P	06 42 48.0	+0.9
	0.3nm,0.6s,baz=125,slow=8.0,SNR=3.7						
KURBB	**Kurchatov Arra**	**72.18**	**325**	P	P	06 43 11.3	-0.2
	0.2nm,0.4s,baz=119,slow=4.9,SNR=3.2						

IDC 16 06:32:37.0±8.0, 20°.60S×68°.35W, h189km±56km, mb3.0/2, mb1 3.3/4, mb1mx3.1/19, mbtmp3.7/4, Error ellipse: s-maj=87.0km s-min=23.0km az=24.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.29**	**3**	P	Pn	06 33 43.0	0.0
	1.1nm,0.3s,baz=160,slow=4.9,SNR=35						
LPAZ				S	Sn	06 34 35.0	+0.4
	0.2nm,0.3s,baz=157,slow=8.3,SNR=4.1						
BDFB	**Brasilia**	**19.94**	**79**	P		06 36 54.0	-0.9
	0.9nm,0.3s,baz=247,slow=8.9,SNR=10						
TXAR	**Lajitas Array**	**60.19**	**324**	P	P	06 42 24.5	-0.7
	0.2nm,0.6s,baz=124,slow=4.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**76.56**	**70**	P	P	06 44 07.3	+0.4
	0.6nm,0.5s,baz=251,slow=5.4,SNR=9.7						
MKAR	**Makanchi Array**	**144.60**	**36**	PKP	PKPdf	06 51 52.4	+1.4
	0.5nm,0.8s,baz=318,slow=1.9,SNR=3.2						

IDC 16 06:34:20.0±4.3, 1°.64S×138°.07E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/25, mbtmp3.8/3, Error ellipse: s-maj=141.4km s-min=31.9km az=78.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**22.26**	**190**	P	P	06 39 18.9	0.0
	0.9nm,0.5s,baz=14,slow=12,SNR=4.6						
CMAR	**Chiang Mai Arr**	**43.36**	**299**	P	P	06 42 24.3	-0.2
	1.1nm,0.4s,baz=112,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**68.56**	**322**	P	P	06 45 24.8	0.0
	0.3nm,0.4s,baz=121,slow=7.9,SNR=5.6						

IDC 16 06:39:25.3±1.2, 2°.12S×136°.64E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.7/27, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=42.2km s-min=23.6km az=68.0
ISCJB 16 06:39:29.1±0.6, 2°.17S±0°.08×136°.50E±0°.04, h33km, mb3.8/5, Error ellipse: s-maj=11.9km s-min=5.3km az=16.6
DJA 16 06:39:29.6±0.3, 2°.S±13°×13°.7E±°, h11km, M4.4/8, mb4.5/1, MLv4.3/8

ISC 16 06:39:30.6±0.8, 2°.20S±0°.09×136°.55E±0°.05, h35km, n14, σ2§10/17, mb3.9/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.45**	**316**	P	Pn	06 39 37.7	-2.9
SRPI				S	**Sn**	**06 39 44.1**	**-3.4**
SMPI	**Sarmi**	**2.17**	**85**	P	**Pn**	**06 40 04.0**	**-0.2**
SMPI				S	**Sn**	**06 40 31.1**	**+1.2**
RKPI	**Ransiki, Papua**	**2.47**	**286**	P	**Pn**	**06 40 10.2**	**+1.8**
RKPI				S	**Sn**	**06 40 41.4**	**+4.1**
GENI	**Genyem**	**3.63**	**96**	P	**Pn**	**06 40 25.3**	**+0.9**
GENI				S	**Sn**	**06 41 09.1**	**+3.0**
JAY	**Jayapura**	**4.16**	**94**	P	**Pn**	**06 40 32.5**	**+0.8**
FAKI	**Fak Fak**	**4.36**	**260**	P	Pn	06 40 37.8	+3.4
SIJI	**Sorong**	**5.45**	**284**	Pn	**Pn**	**06 40 49.1**	**-0.2**
	3.8nm,0.3s,baz=128,slow=18,SNR=4.0						
SIJI				Sn	Sn	06 41 44.5	-6.4
	1.9nm,0.3s,baz=324,slow=23,SNR=2.0						
SWI	**Sorong**	**5.45**	**284**	P	**Pn**	**06 40 51.0**	**+1.6**
WRA	**Warramunga Arr**	**17.77**	**187**	P	**Pn**	**06 43 31.9**	**-3.5**
	0.1nm,0.3s,baz=9.5,slow=12,SNR=5.7						
WRA				S	Sn	06 46 42.0	-10
	0.2nm,0.3s,baz=2.7,slow=23,SNR=3.0						
ASAR	**Alice Springs**	**21.50**	**187**	P	**P**	**06 44 16.5**	**-0.1**
	2.3nm,0.7s,baz=10.0,slow=12,SNR=16						
ASAR				S	**S**	**06 48 11.8**	**-1.3**
	0.9nm,0.8s,baz=16,slow=23,SNR=3.0						
CMAR	**Chiang Mai Arr**	**42.32**	**301**	P	**P**	**06 47 20.6**	**-0.8**
	1.0nm,0.3s,baz=104,slow=7.7,SNR=4.2						
MKAR	**Makanchi Array**	**68.08**	**323**	P	**P**	**06 50 27.5**	**+0.6**
	0.6nm,0.6s,baz=111,slow=7.8,SNR=9.1						
VNDA	**Vanda**	**76.48**	**175**	P	**P**	**06 51 17.4**	**+0.9**
	0.8nm,0.6s,baz=309,slow=6.5,SNR=11						
ILAR	**Eielson Array**	**86.27**	**25**	P	**P**	**06 52 07.8**	**-0.7**
	0.4nm,0.9s,baz=269,slow=4.7,SNR=4.1						

ISCJB 16 06:40:38.9±1.0, 0°.6S±0°.1×77°.2W±0°.2, h33km, mb3.5/5, Error ellipse: s-maj=26.8km s-min=16.3km az=157.5
IDC 16 06:40:43.3±4.9, 0°.58S×77°.12W, h60km±41km, mb3.3/5, mb1 3.4/7, mb1mx3.3/20, mbtmp3.5/7, ML2.5/2, Error ellipse: s-maj=48.7km s-min=22.0km az=39.0

ISC 16 06:40:40.4±1.1, 0.7S±0°.2×77°.2W±0°.2, h35km, n7, σ1§40/7, mb3.4/5, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**6.20**	**28**	P	**Pn**	**06 42 10.4**	**+0.5**
	0.3nm,0.3s,baz=280,slow=18,SNR=2.8						
LPAZ	**La Paz**	**17.93**	**150**	P	**P**	**06 44 49.0**	**+0.9**
	0.1nm,0.3s,baz=329,slow=5.9,SNR=2.8						
TXAR	**Lajitas Array**	**39.09**	**322**	P	**P**	**06 48 05.9**	**+1.3**
	0.2nm,0.8s,baz=128,slow=10,SNR=2.9						
PDAR	**Pinedale Array**	**52.10**	**330**	P	**P**	**06 49 47.8**	**+0.3**
	0.2nm,0.6s,baz=93,slow=9.1,SNR=2.5						
DBIC	**Dimbokro**	**72.56**	**83**	P	**P**	**06 52 04.8**	**+0.1**
	4.0nm,0.9s,baz=323,slow=10,SNR=5.1						
TORD	**Torodi Ar. Bea**	**79.36**	**77**	P	**P**	**06 52 42.7**	**-0.8**
	0.3nm,0.3s,baz=275,slow=5.7,SNR=6.1						
ILAR	**Eielson Array**	**82.04**	**336**	P	**P**	**06 52 54.7**	**-2.1**
	0.2nm,0.5s,baz=150,slow=4.1,SNR=4.9						

IDC 16 06:46:48.7±1.2, 2°.13S×136°.20E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.8/28, mbtmp3.9/6, ML3.7/2, Error ellipse: s-maj=41.7km s-min=21.8km az=77.0
DJA 16 06:46:50.1±0.4, 2°.S±5°×13°.6E±°, h12km, M4.3/6, MLv4.3/6
ISCJB 16 06:46:51.8±0.6, 2°.22S±0°.09×136°.06E±0°.04, h33km, mb3.9/4, Error ellipse: s-maj=12.6km s-min=5.5km az=4.2

ISC 16 06:46:52.9±0.8, 2°.03S±0°.10×136°.07E±0°.04, h35km, n12, σ2§35/16, mb3.9/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.23**	**48**	P	Pn	06 46 56.1	-4.0
SRPI				S	**Sn**	**06 46 59.7**	**-5.2**
RKPI	**Ransiki, Papua**	**1.96**	**285**	P	**Pn**	**06 47 22.8**	**-0.9**
RKPI				S	**Sn**	**06 47 48.4**	**+1.3**
SMPI	**Sarmi**	**2.64**	**89**	P	**Pn**	**06 47 33.1**	**+0.1**
SMPI				S	**Sn**	**06 48 05.9**	**+2.1**
FAKI	**Fak Fak**	**3.92**	**257**	P	**Pn**	**06 47 49.3**	**-1.4**
FAKI				S	**Sn**	**06 48 37.0**	**+1.5**
GENI	**Genyem**	**4.13**	**98**	P	**Pn**	**06 47 53.0**	**-0.6**
SIJI	**Sorong**	**4.94**	**283**	Pn	**Pn**	**06 48 06.7**	**+2.0**
	1.9nm,0.3s,baz=102,slow=19,SNR=2.5						
SIJI				Sn	**Sn**	**06 48 57.3**	**-3.4**
	3.6nm,0.3s,baz=113,slow=19,SNR=3.6						
WRA	**Warramunga Arr**	**17.89**	**185**	P	**Pn**	**06 50 56.2**	**-2.9**
	0.3nm,0.3s,baz=8.7,slow=13,SNR=11						
WRA				S	Sn	06 54 06.8	-11
	0.1nm,0.3s,baz=9.8,slow=23,SNR=3.9						
ASAR	**Alice Springs**	**21.61**	**185**	P	**P**	**06 51 39.5**	**-0.6**
	10nm,0.9s,baz=11,slow=12,SNR=25						
STKA	**Stephens Creek**	**30.15**	**171**	P	**P**	**06 53 00.1**	**+0.4**
	1.3nm,0.5s,baz=344,slow=8.4,SNR=3.4						
MKAR	**Makanchi Array**	**67.65**	**323**	P	**P**	**06 57 48.2**	**+1.6**
	0.3nm,0.7s,baz=116,slow=7.6,SNR=3.4						
ILAR	**Eielson Array**	**86.31**	**25**	P	**P**	**06 59 33.1**	**+2.1**
	0.7nm,1.0s,baz=257,slow=3.9,SNR=4.9						
DFRA	**Djebel Bou Aff**	**122.70**	**313**	P	**Pdif**	**07 02 14.7**	**-1.3**

IDC 16 06:48:52.0±1.8, 1°.92S×136°.48E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/29, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=94.5km s-min=23.0km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.03**	**187**	P	Pn	06 53 03.2	-1.0
	0.2nm,0.3s,baz=8.3,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**21.76**	**186**	P	P	06 53 45.6	+0.2
	2.1nm,0.6s,baz=17,slow=10,SNR=5.2						
MKAR	**Makanchi Array**	**67.81**	**323**	P	P	06 59 52.0	+0.1
	0.5nm,0.7s,baz=107,slow=7.6,SNR=4.4						
KURBB	**Kurchatov Arra**	**71.81**	**325**	P	P	07 00 16.4	-0.1
	0.3nm,0.6s,baz=119,slow=5.5,SNR=3.0						
VNDA	**Vanda**	**76.77**	**175**	P	P	07 00 45.1	+0.2
	0.3nm,0.5s,baz=314,slow=5.8,SNR=3.2						

SJA 16 06:54:06.0±0.9, 35°.46S×73°.52W, h40km, ML3.2
GUC 16 06:54:20.3±0.8, 34°.92S×72°.29W, h28km±4km, ML3.6

ISC 16 06:54:20.1±2.3, 34°.91S±0°.06×72°.3W±0°.1, h10km, n20, σ1§67/31, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.72**	**133**	*e*P	**Pg**	**06 54 33.9**	**-0.1**
TALC				*e*S	**Sg**	**06 54 43.7**	**+0.3**
NICH	**Los Niches**	**0.86**	**97**	*e*P	**Pg**	**06 54 37.1**	**+0.3**
NICH				*e*S	**Sb**	**06 54 49.5**	**+0.6**
LNCH	**Linares**	**1.09**	**150**	AML	AML	06 55 03.2	
	comp=N,3µm,0.5s						
LNV	**Longovilo**	**1.19**	**37**	*e*P	**Pn**	**06 54 41.9**	**-0.9**
LNV				*e*S	**Sb**	**06 54 58.7**	**+0.6**
CHCH	**Chadas Angostu**	**1.66**	**55**	*e*P	**Pn**	**06 54 49.9**	**+0.6**
CHCH				*e*S	**Sb**	**06 55 12.3**	**+0.6**
TACH	**Talagante**	**1.67**	**42**	*e*P	**Pn**	**06 54 49.6**	**+0.1**
PCH	**Pirque**	**1.94**	**49**	*e*P	**Pn**	**06 54 54.7**	**+1.4**
PCH				*e*S	**Sb**	**06 55 20.5**	**+0.5**
SAN	**Santiago**	**1.97**	**43**	*e*P	**Pn**	**06 54 54.9**	**+1.2**
SAN				AML	AML	06 55 24.2	
	comp=N,605nm,0.6s						
CLCH	**Cerro Calan**	**2.08**	**44**	*e*P	**Pn**	**06 54 56.5**	**+1.3**
CLCH				*e*S	**Sb**	**06 55 23.9**	**-0.2**
CLCH				AML	AML	06 55 35.8	
	comp=E,565nm,0.5s						
PEL	**Peldehue**	**2.20**	**37**	*e*P	**Pn**	**06 54 57.9**	**+1.1**
PEL				*e*S	**Sb**	**06 55 26.6**	**-0.7**
PEL				AML	AML	06 55 36.1	
	comp=N,729nm,0.4s						
AAGR	**Agrelo**	**3.39**	**

0.1nm,0.3s,baz=114,slow=4.2,SNR=2.3
GNI Garni 92.46 310 P P 07 15 42.2 +0.2
4.6nm,0.4s,baz=117,slow=2.3,SNR=2.4

IDC 16 07:03:23.8±3.0, 2.01S×137.00E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/31, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=122.2km s-min=27.8km az=82.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.02**	**188**	P	Pn	07 07 36.1	+0.2
	0.2nm,0.3s,baz=9.7,slow=13,SNR=6.5						
ASAR	**Alice Springs**	**21.74**	**188**	P	P	07 08 16.9	-0.2
	2.7nm,0.6s,baz=18,slow=10,SNR=11						
MKAR	**Makanchi Array**	**68.20**	**323**	P	P	07 14 26.3	0.0
	0.3nm,0.5s,baz=109,slow=8.4,SNR=3.1						

IDC 16 07:17:14.7±2.8, 1.84S×136.75E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/29, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=113.5km s-min=27.4km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.14**	**187**	P	Pn	07 21 27.9	-0.5
	0.1nm,0.3s,baz=9.1,slow=13,SNR=8.6						
ASAR	**Alice Springs**	**21.87**	**187**	P	P	07 22 09.6	+0.2
	0.8nm,0.5s,baz=14,slow=11,SNR=12						
MKAR	**Makanchi Array**	**67.91**	**323**	P	P	07 28 15.3	0.0
	0.3nm,0.6s,baz=108,slow=7.6,SNR=2.5						

IDC 16 07:25:25.6±1.4, 1.75S×136.45E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/29, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=47.3km s-min=26.1km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.20**	**186**	P	Pn	07 29 38.0	-2.0
	0.2nm,0.3s,baz=9.2,slow=13,SNR=9.9						
WRA				S	Sn	07 32 51.3	-13
	0.1nm,0.3s,baz=3.7,slow=23,SNR=5.2						
ASAR	**Alice Springs**	**21.93**	**186**	P	P	07 30 21.6	+0.7
	2.1nm,0.6s,baz=13,slow=14,SNR=8.2						
CMAR	**Chiang Mai Arr**	**42.01**	**300**	P	P	07 33 18.9	-0.2
	0.5nm,0.4s,baz=110,slow=5.2,SNR=3.6						
ILAR	**Eielson Array**	**85.90**	**25**	P	P	07 38 07.0	-0.2
	0.6nm,0.9s,baz=266,slow=5.0,SNR=5.4						
QSPA	**South Pole Qui**	**88.19**	**180**	P	P	07 38 19.0	+0.5
	2.2nm,1.0s,baz=15,slow=1.6,SNR=4.2						

IDC 16 07:26:33.5±1.1, 17.68N×119.55E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/35, mbtmp3.6/5, Error ellipse: s-maj=63.5km s-min=19.8km az=72.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**21.03**	**19**	P	P	07 31 19.2	+0.3
	1.5nm,0.7s,baz=204,slow=14,SNR=4.1						
SONM	**Songino Array**	**31.95**	**343**	P	P	07 33 00.6	-0.6
	0.3nm,0.4s,baz=154,slow=8.0,SNR=3.2						
WRA	**Warramunga Arr**	**40.11**	**158**	P	P	07 34 10.7	-0.5
	0.6nm,0.9s,baz=340,slow=8.9,SNR=3.3						
MKAR	**Makanchi Array**	**42.21**	**322**	P	P	07 34 28.4	+0.2
	0.7nm,0.8s,baz=123,slow=9.1,SNR=7.6						
ASAR	**Alice Springs**	**43.42**	**161**	P	P	07 34 38.5	+0.2
	0.4nm,0.3s,baz=339,slow=6.9,SNR=7.3						

*ISCJB **16** 07:32:24.9±1.1, 38.19N±0.09×67.04E±0.06, h10km, mb3.7/2, MS3.7/1, Error ellipse: s-maj=13.2km s-min=6.4km az=176.7*
*IDC **16** 07:32:24.2±2.2, 37.74N×67.04E, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.4/41, mbtmp3.7/3, ML3.8/3, MS3.7/1, Ms1 3.7/1, ms1mx3.1/50, Error ellipse: s-maj=38.9km s-min=22.9km az=145.0*
*NNC **16** 07:32:27.8±1.5, 38.22N×67.27E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=15.4km s-min=7.1km az=174.0*

ISC 16 07:32:26.0±1.5, 38.0N±0.1×67.12E±0.0, h10km, n16, σ1s55/21, 9C-14D, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZPT	**Dzherino**	**1.56**	**59**	⇑P	**Pn**	**07 32 52.9**	**-0.9**
	92nm,0.4s						
DZET				⇓S	**Sn**	**07 33 11.6**	**-2.5**
	356nm,0.4s						
SFK	**Sufi-Kurgan**	**5.36**	**66**	⇓Pn	**Pn**	**07 33 49.0**	**+2.9**
	3.6nm,0.3s						
SFK				⇑Sn	**Sn**	**07 34 49.1**	**+1.1**
	8.0nm,0.3s						
SFK				⇓Lg	Lg	07 35 12.3	
	20nm,0.7s						
KK31	**Karatay Array**	**5.71**	**26**	⇓Pn	**Pn**	**07 33 52.1**	**+1.4**
	0.7nm,0.2s						
KK31				⇓Pg	**Pb**	**07 34 07.5**	**+2.0**
	14nm,0.8s,baz=217,slow=17,SNR=2.9						
KK31				⇑Sn	**Sn**	**07 34 55.9**	**-0.3**
	9.7nm,0.6s						
KK31				⇑Lg	Lg	07 35 22.1	
	9.3nm,0.3s,baz=209,slow=28,SNR=8.3						
AAK	**Ala-Archa**	**7.28**	**48**	⇓Pn	**Pn**	**07 34 13.4**	**+0.9**
	2.4nm,0.3s						
AAK				⇓Sn	**Sn**	**07 35 36.5**	**+1.2**
	8.1nm,0.8s						
AAK				⇓Lg	Lg	07 36 12.8	
	8.4nm,0.9s						
TKM2	**Tokmak 2**	**8.11**	**50**	⇑Pn	**Pn**	**07 34 22.7**	**-1.2**
	1.8nm,0.4s						
TKM2				⇑Sn	**Sn**	**07 35 54.9**	**-0.8**
	5.7nm,0.8s						
TKM2				⇓Lg	Lg	07 36 39.0	
	8.9nm,1.1s						
AB31	**Akbulak array**	**12.38**	**338**	⇓Pn	**Pn**	**07 35 20.5**	**-1.6**
	0.4nm,0.2s,baz=151,slow=11,SNR=67						
AB31				⇑Sn	Sn	07 37 31.7	-8.4
	1.8nm,0.5s,baz=255,slow=32,SNR=4.3						
AKTO	**Aktyubinsk**	**14.02**	**335**	⇓Pn	**Pn**	**07 35 44.5**	**0.0**
	1.8nm,0.7s						
AKTO				⇑Sn	Sn	07 38 16.3	-3.9
	2.1nm,0.7s						
AKTO	**Aktyubinsk**	**14.02**	**335**	Pn	**Pn**	**07 35 43.9**	**-0.6**
	0.5nm,0.3s,baz=147,slow=12,SNR=9.5						
AKTO				Sn	Sn	07 38 11.5	-8.6
	0.1nm,0.3s,baz=0.0,slow=20,SNR=3.0						
MKAR	**Makanchi Array**	**14.21**	**47**	Pn	**Pn**	**07 35 46.1**	**-1.2**
	0.1nm,0.3s,baz=241,slow=12,SNR=9.0						
BVA0	**Borovoye Array**	**15.19**	**8**	⇓Pn	**Pn**	**07 35 58.2**	**-2.2**
	1.9nm,0.5s,baz=181,slow=12,SNR=9.2						
BVA0				⇑Sn	Sn	07 38 40.0	-8.6
	3.1nm,0.7s,baz=176,slow=24,SNR=6.7						
BVAR	**Borovoye Array**	**15.19**	**8**	Pn	**Pn**	**07 35 58.6**	**-1.8**
	0.9nm,0.3s,baz=194,slow=11,SNR=7.3						
BRVK	**Borovoye**	**15.21**	**7**	⇓Pn	**Pn**	**07 35 59.3**	**-1.4**
	5.0nm,0.6s						
BRVK				⇓Sn	Sn	07 38 40.3	-8.8
	4.6nm,0.6s						
NB2	**NORSAR Subarra**	**41.31**	**322**	P	**P**	**07 40 12.1**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=99,slow=8.6						
NOA	**NORSAR Array B**	**41.31**	**322**	P	**P**	**07 40 12.4**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=98,slow=8.1,SNR=6.4						
JOW	**Kunigami**	**51.98**	**83**	LR	LR	08 05 33.6	
	comp=Z,75nm,20.4s,baz=294,slow=38						
TORD	**Torodi Ar. Bea**	**62.71**	**265**	P	**P**	**07 42 50.7**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=46,slow=6.8,SNR=6.7						

*IDC **16** 07:39:34.5±1.1, 2.01S×136.28E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.7/36, mbtmp3.8/7, ML3.5/2, Error ellipse: s-maj=41.7km s-min=21.5km az=79.0*
*ISCJB **16** 07:39:38.5±1.0, 2.1S±0.1×135.7E±0.1, h33km, mb3.7/5, Error ellipse: s-maj=20.0km s-min=11.7km az=38.6*

ISC 16 07:39:40.5±1.1, 2.1S±0.1×135.8E±0.1, h35km, n7, σ2s26/8, mb3.8/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.73**	**285**	Pn	**Pn**	**07 40 52.1**	**+2.6**
	1.4nm,0.3s,baz=80,slow=13,SNR=3.7						
SIJI				Sn	**Sn**	**07 41 40.0**	**-3.1**
	1.2nm,0.3s,baz=99,slow=18,SNR=2.9						
WRA	**Warramunga Arr**	**17.79**	**185**	P	**Pn**	**07 43 44.6**	**-0.9**
	0.2nm,0.3s,baz=9.6,slow=13,SNR=16						
ASAR	**Alice Springs**	**21.52**	**185**	P	**P**	**07 44 25.7**	**-0.9**
	4.3nm,0.9s,baz=9.9,slow=11,SNR=22						
MKAR	**Makanchi Array**	**67.58**	**323**	P	**P**	**07 50 33.6**	**+0.1**
	0.5nm,0.6s,baz=111,slow=7.4,SNR=7.8						
KURBB	**Kurchatov Arra**	**71.60**	**326**	P	**P**	**07 50 59.3**	**+1.1**
	0.5nm,0.8s,baz=116,slow=5.1,SNR=4.8						
VNDA	**Vanda**	**76.65**	**174**	P	**P**	**07 51 28.7**	**+1.5**
	1.0nm,0.9s,baz=314,slow=6.3,SNR=4.0						
ILAR	**Eielson Array**	**86.48**	**25**	P	**P**	**07 52 17.4**	**-2.0**
	0.7nm,0.9s,baz=266,slow=5.7,SNR=7.0						

IDC 16 07:40:44.4±1.4, 2.23S×136.06E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/36, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=67.9km s-min=25.8km az=85.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.69**	**185**	P	Pn	07 44 51.9	-0.5
	0.2nm,0.3s,baz=7.4,slow=13,SNR=3.4						
ASAR	**Alice Springs**	**21.41**	**185**	P	P	07 45 34.2	+0.1
	5.0nm,0.8s,baz=12,slow=11,SNR=6.9						
MKAR	**Makanchi Array**	**67.81**	**323**	P	P	07 51 44.3	0.0
	0.3nm,0.4s,baz=128,slow=7.4,SNR=4.0						
KURBB	**Kurchatov Arra**	**71.82**	**326**	P	P	07 52 08.8	-0.1
	0.5nm,0.7s,baz=114,slow=5.3,SNR=3.0						
ILAR	**Eielson Array**	**86.50**	**25**	P	P	07 53 29.1	+0.2
	0.6nm,0.9s,baz=266,slow=4.2,SNR=4.1						

*IDC **16** 07:42:47.0±1.0, 1.98S×136.06E, h0km, mb4.0/6, mb1 4.3/8, mb1mx3.9/37, mbtmp4.1/8, ML4.0/2, MS3.9/2, Ms1 3.9/2, ms1mx3.1/37, Error ellipse: s-maj=42.8km s-min=19.1km az=76.0*
*ISCJB **16** 07:42:50.5±0.9, 2.08S±0.09×135.86E±0.09, h33km, mb4.0/6, MS3.7/2, Error ellipse: s-maj=16.6km s-min=9.4km az=44.2*

ISC 16 07:42:52.5±1.0, 2.2S±0.1×135.9E±0.1, h35km, n9, σ2s00/10, mb4.1/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.77**	**286**	Pn	**Pn**	**07 44 01.9**	**0.0**
	4.7nm,0.3s,baz=180,slow=19,SNR=4.0						
SIJI				Sn	**Sn**	**07 44 56.1**	**+0.1**
	6.5nm,0.3s,baz=80,slow=16,SNR=3.5						
WRA	**Warramunga Arr**	**17.71**	**185**	P	**P**	**07 46 58.4**	**+1.3**
	0.6nm,0.3s,baz=8.1,slow=13,SNR=8.9						
WRA				S	Sn	07 50 04.0	-8.9
	0.5nm,0.3s,baz=11,slow=22,SNR=5.6						
CTA	**Charters Tower**	**20.49**	**151**	LR	LR	07 55 24.3	
	comp=Z,321nm,20.8s,baz=276,slow=37						
ASAR	**Alice Springs**	**21.44**	**185**	P	**P**	**07 47 39.9**	**+2.1**
	15nm,0.8s,baz=9.6,slow=11,SNR=13						
ASAR				S	**S**	**07 51 29.6**	**-4.3**
	0.8nm,0.9s,baz=358,slow=21,SNR=3.2						
ASAR				LR	LR	07 57 46.2	
	comp=Z,348nm,19.2s,baz=338,slow=42						
STKA	**Stephens Creek**	**30.03**	**170**	P	**P**	**07 48 58.5**	**+0.4**
	2.6nm,0.8s,baz=301,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**67.65**	**323**	P	**P**	**07 53 46.0**	**-0.1**
	0.9nm,0.6s,baz=112,slow=8.0,SNR=9.0						
KURBB	**Kurchatov Arra**	**71.67**	**326**	P	**P**	**07 54 10.2**	**-0.4**
	0.4nm,0.7s,baz=123,slow=5.8,SNR=3.1						
VNDA	**Vanda**	**76.56**	**174**	P	**P**	**07 54 40.0**	**+1.2**
	1.8nm,0.9s,baz=326,slow=6.1,SNR=8.3						
ILAR	**Eielson Array**	**86.55**	**25**	P	**P**	**07 55 30.5**	**-1.2**
	0.6nm,1.1s,baz=207,slow=5.8,SNR=3.2						

*MOS **16** 07:50:41.3±0.8, 14.05N×92.87E, h33km, mb5.1/14, Error ellipse: s-maj=8.9km s-min=5.5km az=112.9*
*ISCJB **16** 07:50:42.0±0.5, 14.13N±0.03×92.75E±0.03, h34km±5km, mb4.7/54, MS4.3/3, Error ellipse: s-maj=4.8km s-min=4.4km az=31.2*
*IDC **16** 07:50:43.0±0.6, 14.02N×92.86E, h33km±4km, mb4.4/32, mb1 4.5/33, mb1mx4.3/53, mbtmp4.6/33, ML4.1/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/46, Error ellipse: s-maj=15.4km s-min=9.6km az=58.0*
*NEIC **16** 07:50:44.9±0.4, 14.07N×92.87E, h47km±3km, mb4.8/12, Error ellipse: s-maj=5.9km s-min=4.8km az=71.0*
*BJI **16** 07:50:45.0, 14.20N×92.80E, h42km, mb4.6/43, mB4.7/25, Ms4.1/19, Ms7 4.0/15*
*DJA **16** 07:50:50.4±0.7, 14.7N×94.9°3E±2°2, h131km±21km, M4.8/7, mb4.4/7, mB5.2/1, MLv4.9/3, Mw(mB)4.5/1*

ISC 16 07:50:44.1±0.3, 14.04N±0.04×92.83E±0.04, h41km±2km, h41km:pP-P, n252, σ1s34/300, mb4.8/54, MS4.1/3, 23C-10D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGPR	**DIGLIPUR**	**0.86**	**173**	*e*P	**Pn**	**07 51 00.1**	**+0.3**
DGPR				*e*S	**Sn**	**07 51 12.3**	**+1.1**
DGPR				AML	AML	07 51 14.2	
	comp=N,24μm,0.5s						
DGPR				AML	AML	07 51 15.0	
	comp=E,36μm,0.3s						
PBA	**Port Blair**	**2.37**	**182**	*e*P	Pn	07 51 22.7	+2.1
PBA				*e*S	Sn	07 51 49.6	+1.2
CMBY	**CAMPBELL BAY**	**7.07**	**171**	*e*P	**Pn**	**07 52 25.5**	**+0.4**
CMBY				*e*S	**Sn**	**07 53 40.7**	**-3.5**
CMBY				AML	AML	07 53 45.5	
	comp=N,555nm,0.6s						
CMBY				AML	AML	07 53 49.4	
	comp=E,442nm,0.0s						
CMAR	**Chiang Mai Arr**	**7.33**	**52**	Pn	**Pn**	**07 52 28.4**	**-0.3**
	comp=E,0.8nm,0.3s,baz=242,slow=15,SNR=7.3						
CMAR				Sn	**Sn**	**07 53 47.1**	**-3.6**
	comp=E,2.6nm,0.3s,baz=242,slow=26,SNR=9.1						
CHTO	**Chiang Mai**	**7.55**	**50**	*e*P	**Pn**	**07 52 31.6**	**-0.1**
CHTO	**Chiang Mai**	**7.55**	**50**	*e*Pn	**Pn**	**07 52 31.6**	**-0.1**
CHLP	**Challavanipeta**	**9.52**	**299**	*e*Pn	**Pn**	**07 52 57.2**	**-1.5**
CHLP				IAmb	IAmb	07 53 07.7	
	comp=Z,67nm,0.6s						
CHLP				Sn	Sn	07 54 33.7	-11
CHLP				IVMs_BB	IVMs_BB	07 57 07.9	
	comp=Z,406nm,4.4s						
VIS	**Vishakhapatnam**	**9.85**	**293**	*i* P	**Pn**	**07 53 02.2**	**-1.0**
VIS				*e*S	Sn	07 54 42.0	-11
VIS				*ex*	x	07 54 45.8	
	comp=N,475nm,0.9s						
VIS				*ex*	x	07 54 45.8	
	comp=E,311nm,0.7s						
PVM	**Polavaram**	**11.26**	**288**	*e*P	**Pn**	**07 53 21.2**	**-1.3**
PVM				IAmb	IAmb	07 53 23.7	
	comp=Z,9.2nm,0.5s						
PVM				Sn	Sn	07 55 14.2	-13
PVM				IVMs_BB	IVMs_BB	07 58 30.6	
	comp=Z,372nm,4.5s						
KULM	**Kulim**	**11.62**	**138**	*e*Pn	**Pn**	**07 53 29.1**	**+1.6**
ADKI	**Addanki**	**12.56**	**280**	*e*P	**Pn**	**07 53 37.3**	**-3.0**
ADKI				IAmb	IAmb	07 53 49.0	
	comp=Z,17nm,0.6s						
ADKI				Sn	Sn	07 55 46.0	-13
ADKI				IVMs_BB	IVMs_BB	07 58 44.2	
	comp=Z,814nm,4.2s						
PSI	**Prapat**	**12.69**	**151**	Pn	**Pn**	**07 53 45.0**	**+2.8**
PSI	comp=Z,0.7nm,0.3s,baz=320,slow=12,SNR=8.1						
				LR	LR	07 59 30.9	
	comp=Z,159nm,18.1s,baz=355,slow=41						
PSI	**Prapat**	**12.69**	**151**	P	**Pn**	**07 53 45.0**	**+2.8**
SKHT	**Srikalahasti**	**12.74**	**270**	*e*P	**Pn**	**07 53 42.9**	**+0.1**
SKHT				IAmb	IAmb	07 53 56.0	
	comp=Z,28nm,1.2s						
SKHT				Sn	Sn	07 55 49.0	-14
SKHT				IVMs_BB	IVMs_BB	08 00 00.4	
	comp=Z,545nm,4.4s						
NJS	**Nagarjunasagar**	**13.29**	**283**	*e*P	**Pn**	**07 53 49.8**	**-0.5**
NJS				IAmb	IAmb	07 53 57.3	
	comp=Z,132nm,2.1s						
NJS				Sn	Sn	07 56 03.0	-14
NJS				IVMs_BB	IVMs_BB	07 59 24.9	
	comp=Z,714nm,4.5s						
RCLA	**Racherla**	**13.49**	**278**	*e*P	**Pn**	**07 53 53.6**	**+0.5**
RCLA				IAmb	IAmb	07 53 57.4	
	comp=Z,11nm,0.9s						
RCLA				Sn	Sn	07 56 08.2	-14
RCLA				IVMs_BB	IVMs_BB	07 59 51.0	
	comp=Z,641nm,4.1s						

SRLM Srisailam 13.62 280 *e*P Pn 07 53 54.1 -0.7
SRLM IAmb IAmb 07 54 08.0
comp=Z,21nm,0.9s
SRLM Sn Sn 07 56 09.8 -15
PALK Pallekele 13.68 242 Pn Pn 07 53 48.2 -7.6
comp=Z,1.3nm,0.3s,baz=28,slow=6.3,SNR=6.7
PALK Sn Sn 07 56 07.9 -19
comp=Z,4.3nm,0.3s,baz=129,slow=0.5,SNR=9.4
PALK Pallekele 13.68 242 *e*P **Pn 07 53 56.6 +0.9**
PALK Pallekele 13.68 242 *e*Pn **Pn 07 53 56.6 +0.9**
PALK Sn Sn 07 56 07.9 -19
ODAN Odare 13.73 339 *e*P **Pn 07 53 54.5 -2.1**
comp=Z,81nm,0.7s
RPR Rampur 13.84 292 *e*Pn **Pn 07 53 56.6 -1.2**
RPR IAmb IAmb 07 54 07.4
comp=Z,33nm,0.6s
RPR Sn Sn 07 56 17.3 -13
RPR IVMs_BB IVMs_BB 07 59 01.2
comp=Z,1μm,4.6s
TAPN Taplejung 14.08 341 *e*P **Pn 07 53 59.1 -2.3**
comp=Z,30nm,0.6s
RAMN Ramite 14.11 337 *e*P **Pn 07 53 59.5 -2.1**
comp=Z,26nm,0.3s
HYB Hyderabad 14.15 286 *i* P **P 07 54 10.0 +1.2**
HYB *e*S **S 07 56 58.0 +0.7**
HYBB Hyderabad (bro 14.15 286 *e*Pn **Pn 07 54 03.5 +1.4**
HYBB IAmb IAmb 07 54 11.0
comp=Z,19nm,0.8s
HYBB Sn Sn 07 56 25.0 -13
HYBB IVMs_BB IVMs_BB 07 59 35.1
comp=Z,1μm,4.4s
KMI Kunming 14.44 39 P P 07 54 24.1 +12
KMI pmax pmax
comp=Z,15nm,0.8s
KMI Kunming 14.44 39 P **P 07 54 12.4 +0.2**
KMI sP 07 54 24.1
KMI PMZ
comp=Z,7.0nm,0.9s
SRSP Sriramsagar 14.72 291 *e*P **Pn 07 54 08.7 -1.0**
SRSP IAmb IAmb 07 54 20.3
comp=Z,20nm,0.7s
SRSP Sn Sn 07 56 38.4 -13
SRSP IVMs_BB IVMs_BB 07 58 31.6
comp=Z,775nm,4.7s
URV Uravakonda 15.10 275 *e*Pn **Pn 07 54 14.9 +0.1**
URV Sn Sn 07 56 44.2 -17
PKI Pulchoki 15.14 334 *e*P **Pn 07 54 12.6 -2.9**
comp=Z,63nm,0.7s
GUN Gumba 15.25 336 *e*P **Pn 07 54 13.9 -3.0**
comp=Z,25nm,0.4s
DMN Daman 15.30 333 *e*P **Pn 07 54 15.5 -2.1**
comp=Z,138nm,0.6s
KKN Kakani 15.38 334 *e*P **Pn 07 54 17.0 -1.6**
LSA Lhasa 15.66 355 P **P 07 54 26.0 0.0**
LSA Lhasa 15.66 355 *e*P **Pn 07 54 22.9 +0.4**
LSA pmax pmax
comp=Z,15nm,0.7s
LSA Lhasa 15.66 355 *e*Pn **Pn 07 54 22.9 +0.4**
comp=Z,15nm,0.7s
GKN Gorkha 15.85 333 *e*P **Pn 07 54 22.6 -2.0**
comp=Z,83nm,0.5s
BKNI Bangkinang 15.86 149 *e*Pn **P 07 54 28.9 +1.1**
comp=Z,444nm,0.4s
KLRI Killari 16.11 287 *e*P **Pn 07 54 26.0 -1.7**
KLRI IAmb IAmb 07 54 27.8
comp=Z,160nm,1.7s
KLRI Sn Sn 07 57 07.5 -18
KOLN Koldanda 16.14 329 *e*P **Pn 07 54 26.6 -1.8**
comp=Z,144nm,0.5s
QIZ Qiongzhong 17.05 71 P **P 07 54 40.4 -0.6**
QIZ S **Sn 07 57 49.0 +0.8**
QIZ LE
comp=Z,150nm,16.9s
QIZ LZ
comp=Z,310nm,14.5s
GYA Guiyang 17.90 44 P **Pn 07 54 50.3 +0.1**
GYA pP **pP 07 55 01.0 +0.4**
GYA PP **PnPn 07 55 07.3 +5.5**
GYA S **Sn 07 58 06.5 -2.5**
GYA sS **S 07 58 21.0 +6.9**
GYA SS **SnSn 07 58 29.8 +6.8**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.7s
GYA LN
comp=Z,2μm,10.8s
GYA LE
comp=Z,1μm,11.2s
GYA LZ
comp=Z,1μm,10.4s
CD2 Chengdu 19.57 29 P **P 07 55 08.5 -0.2**
CD2 pP **pP 07 55 18.9 0.0**
CD2 sP **sP 07 55 24.6 +0.5**
CD2 S **S 07 58 46.3 -1.3**
CD2 PMZ
comp=Z,30nm,0.6s
CD2 LN
comp=Z,1μm,20.3s
CD2 LE
comp=Z,2μm,19.2s
CD2 LZ
comp=Z,2μm,19.2s
NDI New Delhi 20.55 318 *e*P Pn 07 55 22.0 +0.2
NDI *ex* x 07 59 55.0
ENH Enshi 22.29 41 *e*P **P 07 55 37.2 -0.8**
comp=Z,19nm,0.8s
LZH Lanzhou 24.08 22 *e*P **P 07 55 56.3 +0.4**
LZH pP **pP 07 56 07.4 +0.3**
LZH sP **sP 07 56 13.8 +1.7**
LZH PMZ
comp=Z,15nm,1.0s
XAN Xi'an 24.68 33 P **P 07 56 00.1 -1.3**
XAN pP **pP 07 56 11.1 -1.5**
XAN sP **sP 07 56 16.3 -1.3**
XAN PMZ
comp=Z,8.0nm,0.8s
WHN Wuhan 25.74 47 P P 07 56 16.1 +5.2
GTA Gaotai 26.01 12 *e*P **P 07 56 14.3 +0.9**
GTA pP **pP 07 56 25.9 +1.2**
GTA sP **sP 07 56 31.5 +1.9**
GTA PMZ
comp=Z,13nm,1.0s
SSLB Suanglung 28.27 66 *e*pP pP 07 56 45.6 +0.6
DGAR Diego Garcia 29.38 225‖ *e*P P 07 56 47.5 +3.9
KSH Kashi 29.40 333 P **P 07 56 42.8 -0.9**
KSH pP **pP 07 56 52.3 -2.7**
KSH PP **PnPn 07 57 41.6 +2.8**
KSH PcP **PcP 07 59 52.0 +2.9**
KSH S **S 08 01 32.5 -2.4**
KSH sS sS 08 01 47.8 -6.0
KSH SS **SnSn 08 03 04.4 +0.2**
KSH PcS **PcS 08 03 30.8 -1.4**
KSH PMZ
comp=Z,7.0nm,0.9s
KSH PMZ
comp=Z,160nm,6.4s
KSH LN
comp=Z,110nm,6.7s
KSH LE
comp=Z,170nm,6.2s
H08S3 Diego Garcia H 29.51 224 T T 08 27 33.1
baz=42,slow=76,SNR=51
H08S2 Diego Garcia H 29.52 224 T T 08 27 37.0
baz=42,slow=76,SNR=50
H08S1 Diego Garcia H 29.53 224 T T 08 27 39.3
baz=42,slow=76,SNR=43
NJ2 Nanjing 29.79 49 *e*P **P 07 56 47.8 +0.7**
NJ2 PMZ
comp=Z,40nm,0.7s
WMQ Urumqi 30.00 353 P **P 07 56 50.8 +1.8**
WMQ pP **pP 07 57 02.6 +2.3**
WMQ sP **sP 07 57 08.1 +2.8**
WMQ PP **PnPn 07 57 48.8 +2.0**
WMQ S **S 08 01 43.6 -0.6**
WMQ sS **sS 08 02 04.8 +1.7**
WMQ SS **SnSn 08 03 20.3 +1.5**
WMQ ScS **ScS 08 07 28.0 +3.1**
WMQ PMZ
comp=Z,6.0nm,0.5s
WMQ PMZ
comp=Z,78nm,4.8s
WMQ LN
comp=Z,130nm,7.5s
WMQ LE

comp=Z,69nm,8.4s
TOLI Toli-Toli 30.49 112 *e*P P 07 57 07.5 +2.7
HHC Hu-ho-hao-te 31.32 28 *e*P **P** **07 57 01.9 +1.2**
HHC sP **sP** **07 57 17.1 +0.1**
HHC PP **PnPn** **07 58 07.5 +3.4**
HHC S **S** **08 02 02.6 -2.4**
HHC sS **sS** **08 02 22.4 -1.5**
HHC SS **SnSn** **08 03 49.8 -1.1**
HHC PMZ
comp=Z,8.0nm,0.8s
HHC PMZ
comp=Z,59nm,5.2s
HHC LN
comp=Z,630nm,12.5s
HHC LE
comp=Z,760nm,12.5s
HHC LZ
comp=Z,830nm,11.4s
EKS2 Erkin-Say 32.92 334 *e*P **P** **07 57 16.2 +1.5**
EKS2 Erkin-Say 32.92 334 *e*P **P** **07 57 15.7 +0.9**
comp=Z,2.0nm,0.5s
BJI Beijing 33.01 34 P **P** **07 57 16.0 +0.6**
BJI pP **pP** **07 57 27.6 +0.9**
BJI sP **sP** **07 57 32.9 +1.2**
BJI S **S** **08 02 28.3 -2.8**
BJI PMZ
comp=Z,14nm,0.8s
BJI LN
comp=Z,230nm,20.3s
BJI LE
comp=Z,240nm,21.7s
BJI LZ
comp=Z,180nm,24.1s
MK31 Makanchi Array 33.83 347 *e*P **P** **07 57 22.6 +0.1**
MK31 Makanchi Array 33.83 347 *e*P **P** **07 57 22.6 +0.1**
MKAR Makanchi Array 33.83 347 P **P** **07 57 22.7 +0.2**
comp=Z,11nm,0.7s,baz=164,slow=8.8,SNR=98
MKAR pP **pP** **07 57 32.9 -0.9**
comp=Z,4.6nm,0.7s,baz=161,slow=8.3,SNR=10
MKAR PcP **PcP** **08 00 00.8 0.0**
comp=Z,0.5nm,0.5s,baz=223,slow=3.9,SNR=4.3
KKAR Karatay Array 34.75 331 *e*P **P** **07 57 31.1 +0.6**
KKAR Karatay Array 34.75 331 *e*P **P** **07 57 31.1 +0.6**
SONM Songino Array 35.53 16 P **P** **07 57 37.7 +0.4**
comp=Z,6.1nm,0.7s,baz=201,slow=8.5,SNR=27
SONM pP **pP** **07 57 47.8 -1.0**
comp=Z,3.3nm,0.8s,baz=200,slow=8.6,SNR=6.7
SONM PcP **PcP** **08 00 06.6 +0.7**
comp=Z,2.3nm,0.7s,baz=193,slow=2.3,SNR=6.9
TJN Taejon 38.04 48 *e*P **P** **07 57 57.8 -0.8**
KURBB Kurchatov Arra 38.29 345 P **P** **07 58 00.6 +0.1**
comp=Z,16nm,0.9s,baz=163,slow=7.9,SNR=109
KURBB PcP **PcP** **08 00 14.0 +0.1**
comp=Z,0.7nm,0.4s,baz=166,slow=3.6,SNR=4.2
KURK Kurchatov 38.36 345 P **P** **07 58 01.0 -0.1**
comp=Z,52nm,1.2s,SNR=8.5
KURK Kurchatov 38.36 345 *e*P **P** **07 58 01.0 -0.1**
KURK 08 00 14.0
KURK Kurchatov 38.36 345 *e*P **P** **07 58 01.0 -0.1**
KURK PcP **PcP** **08 00 14.0 -0.1**
TLY Talaya 38.54 11 *e*P **P** **07 58 04.1 +1.4**
TLY pmax pmax
comp=Z,5.0nm,1.0s
TLY Talaya 38.54 11 *e*P **P** **07 58 04.1 +1.4**
comp=Z,5.1nm,1.0s
KSAR Wonju Array Be 38.90 47 P **P** **07 58 05.6 -0.2**
KSAR *PP **pP** **07 58 15.0 -2.3**
KSAR Wonju Array Be 38.90 47 P **P** **07 58 05.5 -0.2**
KSAR pP **pP** **07 58 14.9 -2.3**
KSRS Korea Array 38.93 47 P **P** **07 58 05.5 -0.5**
comp=Z,2.1nm,0.7s,baz=243,slow=8.7,SNR=9.4
KSRS pP **pP** **07 58 14.9 -2.6**
comp=Z,3.2nm,0.9s,baz=242,slow=9.0,SNR=3.5
KSRS Korea Array 38.93 47 P **P** **07 58 05.6 -0.5**
KSRS *PP **pP** **07 58 15.0 -2.6**
KSRS pmax pmax
comp=Z,2.0nm,0.7s
KSRS pmax pmax
comp=Z,3.0nm,0.9s
ZALV Zalesovo Beam 40.31 353 P **P** **07 58 17.0 -0.4**
comp=Z,15nm,0.7s,baz=177,slow=8.9,SNR=30
ZALV Zalesovo Beam 40.31 353 P **P** **07 58 17.0 -0.4**
CN2 Changchun 40.70 37 *e*P **P** **07 58 20.8 +0.1**
CN2 PMZ
comp=Z,10.0nm,0.8s
NVS Novosibirsk 41.40 352 *e*P **P** **07 58 24.5 -1.7**
BVAR Borovoye Array 42.78 340 P **P** **07 58 37.3 -0.4**
comp=Z,1.9nm,0.4s,baz=141,slow=9.6,SNR=11
MDJ Mudanjiang 43.62 38 P **P** **07 58 44.8 +0.3**
MDJ PMZ
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 44.27 329 *e*P **P** **07 58 50.0 +0.4**
USRK Ussuriysk Ar. 44.87 40 pP pP 07 59 04.5 -1.6
comp=Z,3.2nm,0.8s,baz=245,slow=9.9,SNR=3.7
AKTO Aktyubinsk 45.98 329 P **P** **07 59 03.2 0.0**
comp=Z,4.8nm,0.5s,baz=120,slow=7.7,SNR=26
MJAR Matsushiro Arr 46.22 53 pP **pP** **07 59 16.2 -0.8**
comp=Z,4.9nm,0.8s,baz=257,slow=11,SNR=9.7
MJAR PcP **PcP** **08 00 41.0 +0.4**
comp=Z,2.0nm,0.6s,baz=228,slow=5.0,SNR=5.9
BOD Bodaibo 46.53 15 *e*P **P** **07 59 07.1 -0.3**
BOD pmax pmax
comp=Z,6.0nm,1.0s
SVE Sverdlovsk 49.24 337⇓ *i*P **P** **07 59 28.9 +0.5**
SVE pmax pmax
comp=Z,31nm,1.0s
GNI Garni 49.33 311 P **P** **07 59 30.8 +1.2**
comp=Z,4.5nm,0.4s,baz=53,slow=10,SNR=9.0
GNI Garni 49.33 311 *d i*P **P** **07 59 31.2 +1.6**
GNI pmax pmax
comp=Z,36nm,1.2s
GNI Garni 49.33 311 *e*P **P** **07 59 31.1 +1.5**
ARU Arti 49.76 336 *e*P **P** **07 59 32.1 -0.3**
ARU pmax pmax
comp=Z,12nm,1.1s
ARU Arti 49.76 336 *e*P **P** **07 59 32.0 -0.3**
comp=Z,12nm,1.1s
ZEI Tsey 50.76 314 *e*P **P** **07 59 40.7 +0.2**
ZEI pmax pmax
comp=Z,10.0nm,0.5s
KBZ Khabaz 51.76 315 P **P** **07 59 48.2 +0.6**
comp=Z,2.8nm,0.8s,baz=236,slow=15,SNR=5.6
KIV Kislovodsk 51.98 315 *e*P **P** **07 59 49.9 +0.5**
KIV pmax pmax
comp=Z,30nm,1.0s
KIV Kislovodsk 51.98 315 *e*P **P** **07 59 50.2 +0.8**
comp=Z,22nm,0.7s
NWAO Narrogin (SRO) 52.20 154 P **P** **07 59 49.8 -1.2**
comp=Z,9.1nm,0.6s,baz=330,slow=7.1,SNR=5.7
SOKR Solikamsk 52.65 338 *c i*P **P** **07 59 54.3 +0.4**
SOKR pmax pmax
comp=Z,20nm,1.0s
YSS Yuzh-Sakhalins 52.87 41 P pP 08 00 05.8 -1.9
WRA Warramunga Arr 52.99 129 P **P** **07 59 56.8 -0.3**
comp=Z,6.6nm,0.8s,baz=308,slow=7.9,SNR=20
WRA pP **pP** **08 00 05.8 -3.2**
comp=Z,6.6nm,0.9s,baz=310,slow=8.1,SNR=11
WRA PcP **PcP** **08 01 05.1 -0.4**
comp=Z,1.4nm,0.5s,baz=319,slow=3.5,SNR=6.0
WRA pPcP 08 01 16.6
comp=Z,1.4nm,0.5s,baz=322,slow=3.1,SNR=7.0
WRAB Tennant Creek 52.99 129 *de*P **P** **07 59 56.6 -0.5**
WRAB pmax pmax
comp=Z,51nm,2.5s
YAK Yakutsk 54.64 20 *e*P **P** **08 00 08.4 -0.1**
YAK pmax pmax
comp=Z,12nm,0.7s
ASAR Alice Springs 54.93 133 P **P** **08 00 10.2 -1.0**
comp=Z,5.0nm,0.6s,baz=308,slow=6.8,SNR=28
ASAR pP **pP** **08 00 20.9 -2.2**
comp=Z,5.6nm,0.5s,baz=308,slow=6.7,SNR=10
KMBO Kilima Mbogo 57.06 259 P **P** **08 00 28.3 +1.4**
comp=Z,0.7nm,0.3s,baz=32,slow=14,SNR=4.1
BR131 Keskin Array S 57.53 308 *e*P **P** **08 00 28.9 -0.8**
comp=Z,7.2nm,0.7s
BRTR Keskin Array B 57.53 308 P **P** **08 00 29.1 -0.7**
comp=Z,9.7nm,0.8s,baz=119,slow=7.9,SNR=45
OBN Obninsk 59.54 326 *ce*P **P** **08 00 42.8 -0.4**
OBN *e* 08 01 30.2
OBN *i* 08 02 56.9
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN MLR MLR
comp=Z,114nm,18.0s
TIXI Tiksi 61.50 12⇑ *e*P **P** **08 00 55.4 -0.9**
TIXI pmax pmax
comp=Z,3.0nm,0.6s
TIXI Tiksi 61.50 12 *e*P **P** **08 00 55.2 -1.1**
comp=Z,117nm,3.0s
TIXI *e*pP **pP** **08 01 05.7 -2.7**
CFR Carcaliu 62.37 314⇑ P **P** **08 01 01.3 -1.3**
CFR Carcaliu 62.37 314⇑ *i*P **P** **08 01 01.3 -1.3**
AKASG Malin Array Be 62.59 320 P **P** **08 01 02.9 -1.1**
comp=Z,1.1nm,0.4s,baz=86,slow=4.5,SNR=14
KIEV Kiev 62.60 320⇑ *e*P **P** **08 01 03.3 -0.8**
CHOS Chios island 63.27 306 *e*P **P** **08 01 09.0 +0.1**
ALN Alexandroupoli 63.43 309 *e*P **P** **08 01 09.5 -0.3**
VRI Vrincioaia 63.44 314⇑ P **P** **08 01 10.6 +0.8**
VRI Vrincioaia 63.44 314⇑ *i*P **P** **08 01 10.6 +0.8**
SIGR SIGRI 63.47 307 *e*P **P** **08 01 10.0 -0.1**
PLOR Plostina 63.49 314⇑ P **P** **08 01 11.1 +0.9**
PLOR Plostina 63.49 314⇑ *i*P **P** **08 01 11.1 +0.9**
TESR Tescani 63.58 315⇓ *i*P **P** **08 01 10.8 +0.1**
MLR Muntele Rosu 63.94 314 P **P** **08 01 13.4 +0.1**
comp=Z,3.0nm,0.9s,baz=147,slow=2.9,SNR=9.3
MLR Muntele Rosu 63.94 314⇑ P **P** **08 01 14.0 +0.7**
MLR Muntele Rosu 63.94 314⇑ *i*P **P** **08 01 14.0 +0.7**
KDZ Kurdzhali 63.96 310⇑ P **P** **08 01 13.6 +0.3**
KDZ Kurdzhali 63.96 310⇑ *i*P **P** **08 01 13.6 +0.3**
LIA Limnos Island 64.03 308 *e*P **P** **08 01 13.0 -0.7**
IDI Anoyia 64.10 303 P **P** **08 01 14.0 -0.4**
comp=Z,8.9nm,0.6s,baz=100,slow=7.4,SNR=15
VOIR 64.56 314⇑ P **P** **08 01 18.1 +0.8**
VOIR 64.56 314⇑ *i*P **P** **08 01 18.1 +0.8**
VAM Vamos 64.66 303 *e*P **P** **08 01 17.5 -0.5**
BURAR Bucovina Array 64.69 316⇑ P **P** **08 01 18.5 +0.4**
BURAR Bucovina Array 64.69 316⇑ *i*P **P** **08 01 18.5 +0.4**
BUR08 Bucovina Ar. S 64.70 316 *e*P **P** **08 01 18.1 -0.1**
PAIG Paliouri 65.18 308 *e*P **P** **08 01 21.0 -0.3**
STKA Stephens Creek 65.32 135 P **P** **08 01 22.4 +0.1**
comp=Z,2.9nm,0.6s,baz=325,slow=7.0,SNR=5.0
STKA LR LR 08 32 59.3
comp=Z,121nm,18.2s,baz=227,slow=39
XOR Xorichti 65.54 307 *e*P **P** **08 01 22.0 -1.7**
VTS Vitosha 65.66 311⇓ P **P** **08 01 24.5 -0.1**
VTS Vitosha 65.66 311⇓ *i*P **P** **08 01 24.5 -0.1**
APA Apatity 65.67 339⇓ *i*P **P** **08 01 23.0 -0.9**
APA pmax pmax
comp=Z,11nm,0.6s
APA MLR MLR
comp=Z,300nm,12.0s
KNT Kendrikon 65.83 309 *e*P **P** **08 01 24.5 -1.0**
DSF Desfina 66.04 306 *e*P **P** **08 01 25.0 -2.0**
PYL PYLOS 66.66 304 *e*P **P** **08 01 28.5 -2.4**
DRO Drossia 66.68 305 *e*P **P** **08 01 30.0 -1.0**
FINES FINESS Array B 66.71 331 P **P** **08 01 30.2 -0.5**
comp=Z,12nm,0.7s,baz=106,slow=5.7,SNR=37
PDO Prodromos 67.09 306 *e*P **P** **08 01 32.5 -1.1**
ZKS Zakynthos 67.41 305 *e*P **P** **08 01 34.0 -1.7**
PSZ Piszkesteto 68.29 316⇑ P **P** **08 01 40.9 -0.2**
PSZ Piszkesteto 68.29 316⇑ *i*P **P** **08 01 40.9 -0.2**
ARCES ARCESS Array B 69.07 340 P **P** **08 01 45.6 +0.2**
comp=Z,7.4nm,0.6s,baz=90,slow=6.5,SNR=40
ARCES pP **pP** **08 01 55.6 -2.1**
comp=Z,3.4nm,0.7s,baz=90,slow=5.3,SNR=3.5
PKSM Moragy 69.08 314⇓ P **P** **08 01 45.6 -0.3**
PKSM Moragy 69.08 314⇓ *i*P **P** **08 01 45.6 -0.3**
MORC Moravsky Berou 69.92 318⇑ P **P** **08 01 51.6 +0.5**
MORC Moravsky Berou 69.92 318⇑ *i*P **P** **08 01 51.6 +0.5**
MORC Moravsky Berou 69.92 318 *e*P **P** **08 01 51.0 -0.1**
comp=Z,36nm,0.9s
DPC Dobruska-Polom 70.72 319 *e*P **P** **08 01 56.3 +0.3**
DPC *ex* x 08 02 00.5
DPC *ex* x 08 02 05.1
DPC Dobruska-Polom 70.72 319 *e*P **P** **08 01 56.3 +0.3**
DPC *e* 08 02 05.1
BILL Bilibino 70.89 22 *ce*P **P** **08 01 56.1 -0.5**
BILL *e* 08 02 18.3
BILL *i* 08 04 35.1
BILL *e*SS SS 08 15 43.0 +1.4
BILL pmax pmax
comp=Z,6.0nm,1.7s
UPC Upice 70.92 319 *e*P **P** **08 01 57.6 +0.4**
UPC Upice 70.92 319 *e*P **P** **08 01 57.6 +0.4**
TREC Trest 71.25 318 *e*P **P** **08 01 59.3 +0.1**
TREC Trest 71.25 318 *e*P **P** **08 01 59.3 +0.1**
CEL Celeste 71.26 306 *e*P **P** **08 02 00.3 +0.8**
comp=Z,21nm,1.1s
GOPC GO Pecny, Ondr 71.71 318 *e*P **P** **08 02 02.4 +0.5**
PRU Pruhonice 71.86 318 *e*P **P** **08 02 03.1 +0.3**
PRU Pruhonice 71.86 318 *e*P **P** **08 02 03.1 +0.3**
BRG Berggiesshubel 72.24 319 *i*P **P** **08 02 05.3 +0.2**
comp=Z,8.7nm,0.8s
BRG Berggiesshubel 72.24 319 *i*P **P** **08 02 05.3 +0.2**
BRG pmax pmax
comp=Z,9.0nm,0.8s
GEC2 GERESS Array S 72.43 317 *e*P **P** **08 02 06.7 +0.3**
GEC2 GERESS Array S 72.43 317 *e*P **P** **08 02 06.7 +0.3**
GERES GERESS Array B 72.43 317 P **P** **08 02 06.3 0.0**
comp=Z,6.1nm,0.7s,baz=104,slow=4.3,SNR=14
KHC Kasperske Hory 72.50 317 *e*P **P** **08 02 06.4 -0.4**
KHC *ex* x 08 02 14.6
KHC *e*pP **pP** **08 02 20.4 +1.3**
KHC *e*sP **sP** **08 02 25.9 +2.1**
KHC Kasperske Hory 72.50 317 *e*P **P** **08 02 06.4 -0.4**
KHC *e* 08 02 14.6
KHC *e* 08 02 20.4
KHC *e* 08 02 25.9
HFS Hagfors 72.53 329 P **P** **08 02 06.3 -0.3**
comp=Z,10nm,0.7s,baz=96,slow=6.0,SNR=21
CLL Collm 72.83 320 *e*P **P** **08 02 08.0 -0.6**
comp=Z,7.0nm,1.1s
CLL Collm 72.83 320 *e*P **P** **08 02 08.0 -0.6**
CLL pmax pmax
comp=Z,7.0nm,1.1s
SPITS Spitsbergen Ar 73.58 348 P **P** **08 02 12.5 -0.1**
comp=Z,6.1nm,0.8s,baz=114,slow=9.5,SNR=8.8
NB2 NORSAR Subarra 73.77 330 P **P** **08 02 13.0 -1.0**
comp=Z,5.7nm,0.7s,baz=90,slow=6.2
NOA NORSAR Array B 73.77 330 P **P** **08 02 13.1 -1.0**
comp=Z,3.9nm,0.6s,baz=90,slow=5.8,SNR=19
KEST Kesra 76.72 304 P **P** **08 02 31.1 -0.4**
comp=Z,2.6nm,0.9s,baz=339,slow=4.5,SNR=5.2
BCLA Clavier 77.76 319 P **P** **08 02 37.7 +0.8**
BOSA Boshof 77.84 236 P **P** **08 02 38.7 +0.9**
comp=Z,15nm,0.7s,baz=73,slow=4.1,SNR=35
DOU Dourbes 78.25 319 P **P** **08 02 40.9 +1.3**
EKA Eskdalemuir Ar 81.95 325 P **P** **08 02 59.4 -0.1**
comp=Z,3.6nm,0.7s,baz=88,slow=5.9,SNR=8.4
MAW Mawson 84.29 191 P **P** **08 03 11.1 0.0**
comp=Z,3.0nm,0.8s,baz=58,slow=2.6,SNR=4.9
ESDC Sonseca Array 86.29 310 P **P** **08 03 21.6 -0.5**
comp=Z,1.6nm,0.6s,baz=58,slow=4.6,SNR=9.0
IM04 Indian Mountai 86.44 22 *e*P **P** **08 03 22.4 +0.3**
BORG Borgarnes 87.28 337 P **P** **08 03 26.9 +0.7**
comp=Z,15nm,1.0s,baz=270,slow=2.1,SNR=3.2
TORD Torodi Ar. Bea 87.95 283 P **P** **08 03 30.5 +0.1**
comp=Z,7.1nm,0.9s,baz=82,slow=4.3,SNR=35
BPAW Bear Paw Mtn. 88.37 23 *e*P **P** **08 03 32.2 +0.7**
comp=Z,1.6nm,0.8s
BPAW *e*pP **pP** **08 03 42.6 -1.5**
PPLA Purkeypile 88.48 25 *e*P **P** **08 03 31.6 -0.6**
TRF Thorofare Moun 88.96 24 *e*P **P** **08 03 34.6 +0.1**
ILAR Eielson Array 89.54 22 P **P** **08 03 35.8 -1.2**
comp=Z,1.3nm,0.7s,baz=306,slow=4.8,SNR=20
ILAR pP **pP** **08 03 46.5 -3.0**
comp=Z,1.1nm,0.7s,baz=300,slow=4.3,SNR=7.3
BRLK Bradley Lake 90.55 27 *e*P **P** **08 03 42.0 +0.2**
comp=Z,43nm,1.2s
D22A Cohagen 116.75 14 P **PKPdf** **08 09 24.8 +0.5**
baz=116
LAO LASA Array 117.17 15 P **PKPdf** **08 09 25.4 +0.2**
baz=117
F20A Billings 117.50 16 P **PKPdf** **08 09 26.0 +0.1**
baz=117
E23A Ismay 117.57 14 P **PKPdf** **08 09 26.4 +0.5**
baz=117
E25A Miller Ranch, 118.00 13 P **PKPdf** **08 09 26.2 -0.5**
baz=118
G21A Lodge Grass 118.28 16 P **PKPdf** **08 09 27.6 +0.2**
baz=118
G23A Biddle 118.77 15 P **PKPdf** **08 09 28.1 -0.2**
baz=118
G26A Maurine 119.31 12 P **PKPdf** **08 09 29.0 -0.3**
baz=119
G27A Dupree 119.37 12 P **PKPdf** **08 09 29.4 +0.1**
baz=119
H24A Dirks Ranch, A 119.40 14 P **PKPdf** **08 09 28.8 -0.7**
baz=119
I21A Big Trails, Te 119.57 17 P **PKPdf** **08 09 29.5 -0.5**
baz=119
PDAR Pinedale Array 119.85 19 PKP **PKPdf** **08 09 30.2 -0.4**
comp=Z,1.0nm,0.7s,baz=46,slow=2.6,SNR=8.5
NVAR Mina Array Bea 120.22 28 PKP **PKPdf** **08 09 32.5 +1.0**
comp=Z,1.6nm,0.6s,baz=308,slow=2.2,SNR=12
I30A Oacoma 121.25 10 P **PKPdf** **08 09 32.9 -0.1**
baz=121
J28A Allard Ranch, 121.39 12 P **PKPdf** **08 09 33.1 -0.3**
baz=121
ECSD EROS Data Cent 121.86 8 P **PKPdf** **08 09 33.8 -0.4**
baz=122
O20A White River Ci 122.65 19 P **PKPdf** **08 09 35.9 -0.2**
baz=122
MSU Marysvale 122.72 23 *e*PKIKP **PKPdf** **08 09 37.0 +0.7**
MSU Marysvale 122.72 23 *e*PKPdf **PKPdf** **08 09 37.0 +0.7**
L29A Maesberg Ranch 122.85 12 P **PKPdf** **08 09 36.2 0.0**
baz=122
P26A Davis Ranch, A 124.59 15 P **PKPdf** **08 09 39.8 0.0**
baz=124
P28A Saint Francis 124.96 14 P **PKPdf** **08 09 39.9 -0.4**
baz=125
Q26A Hugo 125.14 16 P **PKPdf** **08 09 41.0 +0.2**
baz=125
P35A Duane Minner, 126.08 8 P **PKPdf** **08 09 41.8 -0.6**
baz=126
P36A Good Intent, A 126.10 8 P **PKPdf** **08 09 41.9 -0.5**
baz=126
Q34A Chapman 126.53 9 P **PKPdf** **08 09 43.7 +0.4**
baz=126
R32A Long Quarter, 126.71 11 P **PKPdf** **08 09 43.8 +0.1**
baz=126
S31A Mullinville 127.33 12 P **PKPdf** **08 09 45.5 +0.7**
baz=127
T29A Hugoton 127.37 14 P **PKPdf** **08 09 46.0 +1.0**
baz=127
T37A Cheneyville 18 128.59 8 P **PKPdf** **08 09 47.0 -0.2**
baz=128
U33A Lingo Farm, Me 128.75 11 P **PKPdf** **08 09 47.8 +0.2**
baz=128
V34A Guthrie 129.44 11 P **PKPdf** **08 09 49.3 +0.4**
baz=129
MSTX Muleshoe 130.00 17 P **PKPdf** **08 09 50.0 -0.1**
baz=130
Z32A Haskell 131.48 14 P **PKPdf** **08 09 53.2 +0.4**
baz=131
232A Coleman 132.79 15 P **PKPdf** **08 09 55.7 +0.3**
baz=132
233A Rising Star 132.85 14 P **PKPdf** **08 09 56.1 +0.6**
baz=132
330A Mertzon 132.86 16 P **PKPdf** **08 09 56.3 +0.7**
baz=133
331A San Angelo 133.15 16 P **PKPdf** **08 09 56.2 +0.1**
baz=133
332A Millersview 133.25 15 P **PKPdf** **08 09 56.6 +0.3**
baz=133
333A Richland Sprin 133.49 14 P **PKPdf** **08 09 56.8 +0.1**
baz=133
529A Stev Forest Ra 133.76 18 P **PKPdf** **08 09 58.1 +0.8**
baz=134
530A J-C Ranch, Com 134.00 17 P **PKPdf** **08 09 58.5 +0.8**
baz=134
TXAR Lajitas Array 134.03 20 PKP **PKPdf** **08 09 58.9 +1.0**
comp=Z,0.9nm,0.6s,baz=47,slow=0.5,SNR=15
JCT Junction City 134.10 15 *e*PKIKP **PKPdf** **08 09 58.1 +0.2**
JCT Junction City 134.10 15 P **PKPdf** **08 09 58.6 +0.7**
baz=134
JCT Junction City 134.10 15 *e*PKPdf **PKPdf** **08 09 58.1 +0.2**
531A Rocksprings 134.20 16 P **PKPdf** **08 09 58.5 +0.4**
baz=134
532A Rocksprings 134.41 16 P **PKPdf** **08 09 59.3 +0.8**
baz=134
BDFB Brasilia 142.15 263 PKP **PKPdf** **08 10 12.6 -0.4**
comp=Z,1.8nm,0.6s,baz=214,slow=3.6,SNR=3.2
TEIG Tepich 145.93 2 *e*PKPdf **PKPbc** **08 10 20.0 0.0**
SDV Santo Domingo 151.93 323 *e*PKPbc **PKPbc** **08 10 34.2 -1.8**
ROSC El Rosal 157.31 325 PKPab **PKPab** **08 11 09.0 +0.7**
comp=Z,4.8nm,0.6s,baz=76,slow=8.3,SNR=4.8
LPAZ La Paz 161.49 261 PKP **PKPdf** **08 10 42.4 +0.2**
comp=Z,1.3nm,0.8s,baz=359,slow=2.3,SNR=5.8
LPAZ PKPab **PKPab** **08 11 26.1 -0.7**
comp=Z,0.6nm,0.6s,baz=63,slow=4.5,SNR=4.3

IDC ***16*** *07:52:22.2±1.0, 1°.95S×136°.69E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.8/35, mbtmp3.9/8, ML3.6/2, Error ellipse: s-maj=42.3km s-min=19.8km az=78.0*
ISCJB ***16*** *07:52:25.9±0.9, 2°.1S±0°.1×136°.34E±0°.10, h33km, mb3.9/6, Error ellipse: s-maj=18.9km s-min=10.5km az=35.8*
ISC 16 07:52:27.6±1.1, 2°.0S±0°.1×136°.4E±0°.1, h35km, n8, σ1 49/9, mb3.9/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.27**	**283**	Pn	**Pn**	**07 53 44.2**	**+0.2**
	1.9nm,0.3s,baz=29,slow=19,SNR=4.3						
SIJI				Sn	**Sn**	**07 54 42.6**	**-0.9**
	1.2nm,0.3s,baz=108,slow=20,SNR=2.5						
WRA	**Warramunga Arr**	**17.92**	**186**	P	**Pn**	**07 56 32.6**	**-1.6**
	0.2nm,0.3s,baz=7.6,slow=12,SNR=8.5						
ASAR	**Alice Springs**	**21.65**	**186**	P	**P**	**07 57 17.2**	**+2.1**
	6.5nm,0.7s,baz=14,slow=11,SNR=31						
STKA	**Stephens Creek**	**30.09**	**171**	P	**P**	**07 58 33.2**	**-0.7**
	4.2nm,0.9s,baz=39,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**67.86**	**323**	P	**P**	**08 03 23.6**	**+1.1**
	0.4nm,0.5s,baz=110,slow=9.5,SNR=6.9						
KURBB	**Kurchatov Arra**	**71.86**	**325**	P	**P**	**08 03 48.1**	**+1.2**
	0.4nm,0.2s,baz=113,slow=6.7,SNR=3.5						
VNDA	**Vanda**	**76.67**	**174**	P	**P**	**08 04 15.1**	**+0.6**
	0.7nm,0.8s,baz=322,slow=4.3,SNR=3.7						
ILAR	**Eielson Array**	**86.17**	**25**	P	**P**	**08 05 03.6**	**-1.4**
	0.4nm,0.9s,baz=220,slow=4.1,SNR=2.8						

IDC 16 07:53:40.9±1.8, 2°.03S×136°.76E, h0km, mb4.0/4, mb1 4.3/5, mb1mx3.8/35, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=90.6km s-min=22.9km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.96**	**187**	P	Pn	07 57 51.5	-0.7
	0.5nm,0.3s,baz=9.6,slow=12,SNR=10						
ASAR	**Alice Springs**	**21.68**	**187**	P	P	07 58 33.1	-0.4
	5.3nm,0.6s,baz=12,slow=11,SNR=13						
MKAR	**Makanchi Array**	**68.08**	**323**	P	P	08 04 42.7	+0.2
	0.4nm,0.6s,baz=112,slow=7.3,SNR=3.9						
KURBB	**Kurchatov Arra**	**72.06**	**325**	P	P	08 05 06.7	-0.2
	0.2nm,0.3s,baz=110,slow=8.0,SNR=3.6						
VNDA	**Vanda**	**76.63**	**175**	P	P	08 05 33.5	+0.5
	1.0nm,0.7s,baz=328,slow=6.8,SNR=6.6						

DDA 16 08:00:03.5, 40°.48N×29°.02E, h7km, MD2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DURS	**Dursunbey**	**0.97**	**206**	*i* P	Pg	08 00 22.5	+0.2
DURS				*i* S	Sg	08 00 35.1	+0.1

ISCJB ***16*** *08:03:35.5±0.5, 51°.42N±0°.03×16°.18E±0°.03, h0km, Error ellipse: s-maj=3.8km s-min=2.7km az=11.8*
IPEC ***16*** *08:03:36.1±0.3, 51°.49N×16°.30E, h0km, ML2.6/3, Error ellipse: s-maj=3.2km s-min=1.7km az=67.0*
CSEM ***16*** *08:03:37.3±0.3, 51°.40N×16°.15E, h2km, ML3.4/15, Error ellipse: s-maj=4.7km s-min=2.8km az=176.0*
IDC ***16*** *08:03:37.9±0.7, 51°.45N×16°.00E, h0km, mb1 3.3/7, mb1mx3.2/28, mbtmp3.2/7, ML3.1/7, Error ellipse: s-maj=14.4km s-min=7.0km az=105.0*
PRU ***16*** *08:03:38.4, 51°.42N×16°.10E, h0km*
ISC 16 08:03:36.2±0.8, 51°.48N±0°.03×16°.15E±0°.02, h0km, n47, σ1 9°11/90, 3C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.65**	**172**	*i* Pg	**Pg**	**08 03 49.0**	**+0.4**
KSP				*i* Sg	**Sg**	**08 03 57.1**	**+0.1**
KSP				*e*		08 04 00.4	
KSP	**Ksiaz**	**0.65**	**172**	⇓ *i* Pg	**Pg**	**08 03 49.0**	**+0.4**
KSP				*i* Sg	**Sg**	**08 03 57.1**	**+0.1**
UPC	**Upice**	**0.98**	**185**	*e* PG	**Pg**	**08 03 55.1**	**+0.1**
UPC				*e* SG	**Sg**	**08 04 06.5**	**-1.2**
	comp=Z,84nm,0.4s						
UPC	**Upice**	**0.98**	**185**	Pg	**Pg**	**08 03 55.1**	**+0.1**
UPC				Sg	**Sg**	**08 04 06.5**	**-1.2**
	84nm,0.4s						

DPC	**Dobruska-Polom**	**1.14 175**	*e*PG	**Pg**	**08 03 57.6**	**-0.4**
DPC			*e*SG	**Sg**	**08 04 11.3**	**-1.5**
	comp=Z,51nm,0.3s					
DPC	**Dobruska-Polom**	**1.14 175**	Pg	**Pg**	**08 03 57.6**	**-0.4**
DPC			Sg	**Sg**	**08 04 11.3**	**-1.5**
	51nm,0.3s					
PVCC	**Panska Ves**	**1.39 227**	*e*PG	**Pb**	**08 04 03.2**	**+0.3**
PVCC			*e*SG	**Sg**	**08 04 21.5**	**+0.8**
	comp=Z,222nm,0.3s					
PVCC	**Panska Ves**	**1.39 227**	Pg	**Pb**	**08 04 03.2**	**+0.3**
PVCC			Sg	**Sg**	**08 04 21.5**	**+0.8**
	222nm,0.3s					
BRG	**Berggiesshubel**	**1.52 247**	PN	**Pn**	**08 04 04.4**	**-0.2**
BRG			PG	**Pg**	**08 04 06.1**	**+0.8**
BRG			SG	**Sg**	**08 04 26.5**	**+1.5**
	59nm,0.4s					
PRA	**Prague**	**1.79 218**	*e*PN	**Pn**	**08 04 08.9**	**+0.6**
PRA			*e*PG	**Pb**	**08 04 10.3**	**+0.5**
PRA			*e*SG	**Sb**	**08 04 33.7**	**+1.0**
	comp=Z,19nm,0.2s					
PRA	**Prague**	**1.79 218**	Pn	**Pn**	**08 04 08.9**	**+0.6**
GOPC	**GO Pecny, Ondr**	**1.80 209**	*e*PN	**Pn**	**08 04 08.8**	**+0.3**
GOPC			*e*PG	**Pb**	**08 04 10.0**	**0.0**
GOPC			*e*SG	**Sn**	**08 04 33.2**	**+1.2**
	comp=Z,33nm,0.4s					
GOPC	**GO Pecny, Ondr**	**1.80 209**	Pn	**Pn**	**08 04 08.8**	**+0.3**
GOPC	**GO Pecny, Ondr**	**1.80 209**	Pg	**Pb**	**08 04 10.0**	**0.0**
GOPC			Sg	**Sn**	**08 04 33.2**	**+1.2**
	33nm,0.4s					
PRU	**Pruhonice**	**1.81 215**	*e*PN	**Pn**	**08 04 08.7**	**0.0**
PRU			*e*PG	**Pb**	**08 04 10.5**	**+0.2**
PRU			*e*SG	**Sb**	**08 04 34.3**	**+0.8**
	comp=Z,34nm,0.3s					
PRU	**Pruhonice**	**1.81 215**	Pn	**Pn**	**08 04 08.7**	**0.0**
MORC	**Moravsky Berou**	**1.93 152**	*e*Pn	**Pn**	**08 04 09.6**	**-0.7**
	baz=336					
MORC			*e*Sg	**Sn**	**08 04 35.4**	**+0.2**
	40nm,0.5s,baz=336					
CLL	**Collm**	**1.98 266**	*e*Pn	**Pn**	**08 04 11.0**	**0.0**
CLL			*e*Pg	**Pg**	**08 04 14.0**	**-0.2**
CLL			*e*Sg	**Sg**	**08 04 41.0**	**+1.2**
	comp=Z,25nm,0.7s					
OKC	**Ostrava-Krasne**	**2.08 142**	*e*PN	**Pn**	**08 04 11.7**	**-0.6**
OKC			*e*PG	**Pb**	**08 04 14.6**	**-0.2**
OKC			*e*SG	**Sb**	**08 04 40.9**	**-0.3**
	comp=Z,29nm,0.5s					
OKC	**Ostrava-Krasne**	**2.08 142**	Pn	**Pn**	**08 04 11.7**	**-0.6**
OKC			Sg	**Sb**	**08 04 40.9**	**-0.3**
	comp=Z,29nm,0.5s					
VRAC	**Vranov**	**2.20 172**	Pn	**Pn**	**08 04 14.2**	**+0.2**
	comp=Z,4.0nm,0.3s,baz=337,slow=12,SNR=12					
VRAC			Sn	**Sb**	**08 04 44.7**	**+0.2**
	comp=Z,6.8nm,0.3s,baz=269,slow=15,SNR=9.3					
VRAC	**Vranov**	**2.20 172**	*e*Pn	**Pn**	**08 04 13.9**	**-0.1**
	baz=355					
VRAC			*e*Sg	**Sb**	**08 04 44.7**	**+0.2**
	comp=Z,24nm,0.4s,baz=355					
TREC	**Trest**	**2.23 191**	*e*PN	**Pn**	**08 04 14.6**	**+0.1**
TREC			*e*PG	**Pb**	**08 04 17.3**	**-0.1**
TREC			*e*SG	**Sb**	**08 04 46.1**	**+0.5**
	comp=Z,24nm,0.3s					
TREC	**Trest**	**2.23 191**	Sg	**Sb**	**08 04 46.1**	**+0.5**
	comp=Z,24nm,0.3s					
KRUC	**Moravsky**	**2.43 176**	*e*Pn	**Pn**	**08 04 17.1**	**0.0**
	baz=359					
KRUC			*e*Sg	**Sb**	**08 04 52.4**	**+1.2**
	comp=Z,28nm,0.7s,baz=359					
OJC	**Ojcow**	**2.63 117**	*e*Pg	**Pg**	**08 04 26.4**	**-0.3**
OJC			*e*Sg	**Sg**	**08 05 01.7**	**+0.9**
OJC	**Ojcow**	**2.63 117**	*e*Pg	**Pg**	**08 04 26.4**	**-0.3**
OJC			*e*Sg	**Sg**	**08 05 01.7**	**+0.9**
NKC	**Novy Kostel**	**2.66 243**	*e*PN	**Pn**	**08 04 21.0**	**+0.6**
NKC			*e*PG	**Pg**	**08 04 26.9**	**-0.3**
NKC			*e*SG	**Sg**	**08 05 02.8**	**+1.2**
	comp=Z,20nm,0.3s					
NKC	**Novy Kostel**	**2.66 243**	Pn	**Pn**	**08 04 21.0**	**+0.6**
KHC	**Kasperske Hory**	**2.88 216**	*e*PN	**Pn**	**08 04 23.8**	**+0.5**
KHC			*e*PG	**Pb**	**08 04 29.5**	**+1.1**
KHC			*e*SN	**Sn**	**08 04 57.2**	**-1.4**
KHC			*e*SG	**Sb**	**08 05 06.4**	**+2.3**
	comp=Z,18nm,0.4s					
GERES	**GERESS Array B**	**3.08 212**	Pn	**Pn**	**08 04 26.6**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=28,slow=13,SNR=7.6					
GERES			Pg	**Pb**	**08 04 32.9**	**+1.1**
	comp=Z,7.1nm,0.3s,baz=31,slow=17,SNR=44					
GERES			Lg	Lg	08 05 12.5	
	comp=Z,9.9nm,0.3s,baz=32,slow=30,SNR=10					
SMOL	**Smolenice**	**3.08 164**	*e*Pg	**Pg**	**08 04 34.7**	**-0.6**
SMOL			*e*Sg	**Sg**	**08 05 17.7**	**+2.4**
SMOL	**Smolenice**	**3.08 164**	*e*PG	**Pg**	**08 04 34.7**	**-0.6**
SMOL			*e*SG	**Sg**	**08 05 17.7**	**+2.4**
NIE	**Niedzica**	**3.37 126**	*e*P	**Pg**	**08 04 42.1**	**+1.4**
NIE			*e*S	**Sg**	**08 05 26.5**	**+2.2**
CONA	**Conrad Observa**	**3.56 183**⇑	*e*Pn	**Pn**	**08 04 32.9**	**+0.1**
	comp=Z,0.7nm,0.1s					
CONA			⇓*i*Sg	**Sg**	**08 05 29.7**	**-1.0**
	comp=Z,13nm,0.3s					
CONA	**Conrad Observa**	**3.56 183**	Pn	**Pn**	**08 04 32.9**	**+0.1**
	comp=Z,0.7nm,0.1s					
CONA			Sg	**Sg**	**08 05 29.7**	**-1.0**
	comp=Z,13nm,0.3s					
MOA	**Molln**	**3.84 199**⇑	*i*Pn	**Pn**	**08 04 37.0**	**+0.4**
MOA	**Molln**	**3.84 199**	Pn	**Pn**	**08 04 37.0**	**+0.4**
STHS	**Stebnicka Huta**	**3.86 120**	*e*Pn	**Pn**	**08 04 38.4**	**+1.6**
STHS	**Stebnicka Huta**	**3.86 120**	*e*PN	**Pn**	**08 04 38.4**	**+1.6**
STHS			*e*PG	**Pg**	**08 04 50.9**	**+0.8**
STHS			*e*SG	**Sg**	**08 05 44.7**	**+4.7**
ARSA	**Arzberg**	**4.26 186**⇑	*e*Pn	**Pg**	**08 04 58.0**	**+0.3**
	comp=Z,2.8nm,0.3s					
ARSA			⇓*i*Sg	**Sg**	**08 05 53.5**	**+0.6**
	comp=Z,10nm,0.6s					
DAVOX	**Davos/Dischmat**	**6.25 224**	Lg	Lg	08 06 54.1	
	comp=Z,0.5nm,0.3s,baz=74,slow=3.0,SNR=3.2					
AKASG	**Malin Array Be**	**8.27 90**	Pn	**Pn**	**08 05 37.4**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=280,slow=12,SNR=3.5					
HFS	**Hagfors**	**8.78 352**	Pn	**Pn**	**08 05 43.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=177,slow=13,SNR=3.6					
NOA	**NORSAR Array B**	**9.96 346**	Pn	**Pn**	**08 06 00.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=151,slow=12,SNR=2.7					
FINES	**FINESS Array B**	**11.38 25**	Pn	**Pn**	**08 06 18.3**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=216,slow=15,SNR=5.3					
FINES			Sn	Sn	08 08 20.2	-7.3
	comp=Z,0.2nm,0.3s,baz=207,slow=23,SNR=3.3					
ARCES	**ARCESS Array B**	**18.64 10**	Pn	**P**	**08 07 51.1**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=195,slow=12,SNR=9.2					

IDC 16 08:05:09.2±2.8,1°.97S×136°.66E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.3/34,mbtmp3.4/3,ML3.3/1,Error ellipse: s-maj=112.6km s-min=27.8km az=81.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.00**	**187**	P	Pn	08 09 20.6	-0.5
	0.1nm,0.3s,baz=8.9,slow=13,SNR=6.5						
WRA				S	Sn	08 12 29.7	-13
	0.1nm,0.3s,baz=3.2,slow=22,SNR=3.8						
ASAR	**Alice Springs**	**21.73**	**187**	P	P	08 10 02.5	+0.2
	0.9nm,0.6s,baz=11,slow=11,SNR=8.4						
MKAR	**Makanchi Array**	**67.97**	**323**	P	P	08 16 10.1	0.0
	0.2nm,0.7s,baz=132,slow=6.4,SNR=2.4						

IDC 16 08:05:23.2±1.7,7°.50N×91°.59E,h0km,mb3.5/4,mb1 3.8/5, mb1mx3.5/28,mbtmp3.7/5,ML4.5/1,Error ellipse: s-maj=46.0km s-min=28.5km az=52.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.80**	**270**	Pn	Pn	08 07 58.7	-0.6
	3.4nm,0.3s,baz=95,slow=11,SNR=4.1						
H08S3	**Diego Garcia H**	**24.26**	**232**	T	T	08 36 59.3	
	baz=52,slow=76,SNR=3.3						
H08S2	**Diego Garcia H**	**24.27**	**232**	T	T	08 36 59.3	
	baz=52,slow=76,SNR=3.8						
H08S1	**Diego Garcia H**	**24.28**	**232**	T	T	08 36 59.3	
	baz=52,slow=76,SNR=6.3						
MKAR	**Makanchi Array**	**39.96**	**350**	P	P	08 12 59.1	-0.3
	0.6nm,0.8s,baz=166,slow=8.1,SNR=6.7						
SONM	**Songino Array**	**42.12**	**15**	P	P	08 13 16.9	-0.5
	0.6nm,0.7s,baz=194,slow=11,SNR=2.5						
KURBB	**Kurchatov Arra**	**44.34**	**348**	P	P	08 13 35.4	+0.4
	0.7nm,0.5s,baz=172,slow=7.0,SNR=9.3						
WRA	**Warramunga Arr**	**50.13**	**124**	P	P	08 14 20.6	-0.1
	0.2nm,0.5s,baz=306,slow=8.4,SNR=5.6						

*ISCJB **16** 08:18:15.3±0.6,3°.89S±0°.03×128°.21E±0°.03,h23km±5km, mb4.2/12,MS3.5/1,Error ellipse: s-maj=5.8km s-min=4.7km az=3.3*
*DJA **16** 08:18:17.3±0.2,4°.5S±2°.4×12°.8E±°,h13km,M4.6/18, mb4.7/14,mB5.1/3,MLv4.6/18,Mw(mB)4.5/3*
*IDC **16** 08:18:19.2±2.0,3°.90S×128°.25E,h46km±19km,mb4.0/11, mb1 4.2/14,mb1mx4.0/32,mbtmp4.3/14,ML4.0/3,MS3.5/2, Ms1 3.5/2,ms1mx2.9/37,Error ellipse: s-maj=18.8km s-min=13.7km az=99.0*
*NEIC **16** 08:18:19.3±0.9,3°.90S×128°.22E,h47km±9km,mb4.3/3, Error ellipse: s-maj=10.4km s-min=6.9km az=55.0*
ISC 16 08:18:16.0±1.0,3°.89S±0°.05×128°.24E±0°.04,h19km±3km, n46,σ1s58/52,mb4.3/12,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.20**	**348**	P	Pb	08 18 19.5	-1.1
AAI				S	**Sb**	**08 18 22.5**	**-1.0**
MSAI	**Masohi**	**0.88**	**52**	P	**Pb**	**08 18 32.4**	**-0.2**
MSAI				S	**Sg**	**08 18 44.1**	**-0.6**
NLAI	**Namlea**	**1.30**	**300**	P	**Pn**	**08 18 37.4**	**-1.8**
BNDI	**Bandanaira**	**1.78**	**111**	P	**Pb**	**08 18 47.7**	**-0.4**
BNDI				S	**Sb**	**08 19 11.5**	**+1.4**
SANI	**Sanana**	**2.89**	**309**	P	**Pn**	**08 19 01.2**	**+0.1**
SANI				S	**Sn**	**08 19 38.4**	**+3.0**
LBMI	**Labuha**	**3.31**	**347**	P	**Pn**	**08 19 08.6**	**+1.7**
LBMI				S	**Sn**	**08 19 48.3**	**+2.6**
FAKI	**Fak Fak**	**4.12**	**77**	P	**Pn**	**08 19 20.5**	**+2.5**
FAKI				S	**Sn**	**08 20 08.4**	**+2.6**
FAKI	**Fak Fak**	**4.12**	**77**	*e*Pn	**Pn**	**08 19 20.3**	**+2.3**
SIJI	**Sorong**	**4.26**	**45**	P	**Pn**	**08 19 21.6**	**+1.6**
	17nm,0.3s,baz=245,slow=12,SNR=22						
SIJI				S	**Sn**	**08 20 10.3**	**+1.0**
	9.9nm,0.3s,baz=150,slow=21,SNR=9.2						
TNTI	**Ternate**	**4.71**	**349**	P	**Pn**	**08 19 27.4**	**+1.3**
SAUI	**Saumlaki**	**5.08**	**143**	P	**Pn**	**08 19 33.3**	**+2.0**
	664nm,1.0s,2.7nm						
KDI	**Kendari**	**5.60**	**269**	P	**Pn**	**08 19 40.3**	**+1.9**
	26nm,0.5s,0.1nm						
KMSI	**Cibinong**	**6.14**	**316**	P	**Pn**	**08 19 47.3**	**+1.5**
	188nm,0.7s,1.1nm						
KMSI				S	**Sn**	**08 20 57.6**	**+2.0**
	188nm,0.7s,1.1nm						
LUWI	**Luwuk**	**6.15**	**297**	P	**Pn**	**08 19 47.5**	**+1.6**
	179nm,0.7s,2µm0.6nm						
LUWI	**Luwuk**	**6.15**	**297**	*e*Pn	**Pn**	**08 19 47.0**	**+1.1**
	110nm,0.6s						
SOEI	**Soe**	**7.04**	**214**	P	**Pn**	**08 19 59.9**	**+1.7**
	61nm,1.0s,0.2nm						
APSI	**Ampana**	**7.21**	**294**	P	**Pn**	**08 20 02.2**	**+1.7**
	148nm,0.8s,1µm0.4nm						
MRSI	**Marisa**	**7.64**	**304**	P	**Pn**	**08 20 08.0**	**+1.6**
	53nm,0.7s,1µm0.2nm						
BSSI	**Bau Bau, Buton**	**8.03**	**253**	P	**Pn**	**08 20 14.1**	**+2.3**
	61nm,1.5s						
BKSI	**Bulukumba**	**8.21**	**260**	P	**Pn**	**08 20 17.0**	**+2.7**
	28nm,0.9s						
TTSI	**Tana Toraja**	**8.44**	**275**	P	**Pn**	**08 20 19.3**	**+1.9**
	18nm,1.0s						
SPSI	**Sidrap Palu**	**8.45**	**269**	P	**Pn**	**08 20 19.9**	**+2.4**
	12nm,0.9s						
KAPI	**Kappang**	**8.53**	**262**	P	**Pn**	**08 20 20.4**	**+1.8**
	2.1nm,0.3s,baz=105,slow=7.6,SNR=13						
KAPI				LR	LR	08 24 09.8	
	comp=Z,182nm,20.2s,baz=112,slow=41						
KAPI	**Kappang**	**8.53**	**262**	P	**Pn**	**08 20 20.4**	**+1.8**
KAPI				*e*Pn	Pn	08 20 21.2	+2.5
MPSI	**Mapaga**	**9.33**	**297**	P	**Pn**	**08 20 31.5**	**+1.9**
WRAB	**Tennant Creek**	**17.03**	**160**	*e*Pn	**Pn**	**08 22 13.9**	**+0.6**
	13nm,0.8s						
WRA	**Warramunga Arr**	**17.03**	**160**	P	**Pn**	**08 22 12.2**	**-1.2**
	0.4nm,0.3s,baz=342,slow=11,SNR=13						
WRA				PcP	**PcP**	**08 26 57.6**	**-1.2**
	0.0nm,0.3s,baz=297,slow=3.9,SNR=2.6						
AS31	**Alice Springs**	**20.41**	**165**	*e*P	Pn	08 22 54.1	-0.3
ASAR	**Alice Springs**	**20.41**	**165**	P	Pn	08 22 54.0	-0.4
	17nm,0.8s,baz=347,slow=11,SNR=66						
ASAR				PcP	**PcP**	**08 27 03.5**	**-1.1**
	1.0nm,0.6s,baz=1.2,slow=1.5,SNR=7.3						
LEM	**Lembang**	**20.73**	**261**	LR	LR	08 31 10.5	
	comp=Z,231nm,20.7s,baz=116,slow=37						
STKA	**Stephens Creek**	**30.54**	**157**	P	**P**	**08 24 27.6**	**-0.8**
	2.8nm,0.8s,baz=335,slow=14,SNR=2.1						
CMAR	**Chiang Mai Arr**	**36.41**	**309**	P	**P**	**08 25 19.8**	**+0.1**
	1.5nm,0.3s,baz=149,slow=6.6,SNR=6.4						
KSAR	**Wonju Array Be**	**41.12**	**360**	P	**P**	**08 25 59.2**	**+0.3**
KSRS	**Korea Array**	**41.13**	**360**	P	**P**	**08 25 59.2**	**+0.2**
	0.5nm,0.3s,baz=173,slow=9.5,SNR=3.4						
MJAR	**Matsushiro Arr**	**41.28**	**12**	P	**P**	**08 26 00.9**	**+0.6**
	1.4nm,0.6s,baz=185,slow=10,SNR=4.0						
SONM	**Songino Array**	**54.95**	**342**	P	**P**	**08 27 46.2**	**+0.2**
	0.6nm,0.7s,baz=169,slow=11,SNR=3.7						
PETK	**Petropavlovsk-**	**61.97**	**20**	P	**P**	**08 28 34.6**	**-0.1**
	2.3nm,0.9s,baz=150,slow=10,SNR=4.6						
MK31	**Makanchi Array**	**64.67**	**327**	*e*P	**P**	**08 28 52.5**	**-0.3**
MKAR	**Makanchi Array**	**64.67**	**327**	P	**P**	**08 28 52.0**	**-0.8**
	1.0nm,0.4s,baz=116,slow=7.7,SNR=17						
TKM2	**Tokmak 2**	**66.48**	**320**	*e*P	**P**	**08 29 04.9**	**+0.1**
	2.8nm,0.8s						
ZALV	**Zalesovo Beam**	**68.03**	**334**	P	**P**	**08 29 13.6**	**-0.5**
	0.9nm,0.3s,baz=104,slow=6.1,SNR=3.0						
KURK	**Kurchatov**	**68.96**	**329**	*e*P	**P**	**08 29 19.3**	**-0.6**
	4.3nm,0.7s						
ILAR	**Eielson Array**	**91.30**	**25**	P	**P**	**08 31 18.8**	**-1.4**
	0.4nm,0.6s,baz=238,slow=5.3,SNR=13						
ARCES	**ARCESS Array B**	**98.07**	**340**	P	**P**	**08 31 49.1**	**-1.9**
	2.8nm,0.9s,baz=49,slow=5.5,SNR=4.1						
TXAR	**Lajitas Array**	**124.77**	**57**	PKP	**PKPdf**	**08 37 15.2**	**-0.3**
	0.4nm,0.8s,baz=245,slow=1.9,SNR=5.3						
TORD	**Torodi Ar. Bea**	**126.43**	**283**	PKP	**PKPdf**	**08 37 18.2**	**-0.7**
	0.3nm,0.6s,baz=93,slow=1.1,SNR=3.3						

*IDC **16** 08:18:57.4±0.8,56°.19S×26°.57W,h0km,mb4.2/6, mb1 4.3/6,mb1mx4.1/19,mbtmp4.2/6,Error ellipse: s-maj=30.3km s-min=20.8km az=81.0*
*ISCJB **16** 08:19:00.1±0.8,56°.2S±0°.1×26°.6W±0°.3,h35km,mb4.2/6, Error ellipse: s-maj=25.2km s-min=16.5km az=175.7*
*NEIC **16** 08:19:02.4±0.6,56°.24S×26°.53W,h35km,mb4.4/2,Error ellipse: s-maj=24.1km s-min=14.5km az=78.0*
ISC 16 08:19:02.5±0.8,56°.2S±0°.1×26°.6W±0°.2,h35km,n21, σ1s43/15,mb4.2/6,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.56**	**158**	P	**P**	**08 22 57.1**	**+3.3**
SNAA	**Sanae**	**18.50**	**156**	P	P	08 23 07.9	-7.4
SNAA	**Sanae**	**18.50**	**156**	*e*P	P	08 23 07.7	-7.6
SNAA				Pn	**Pn**	**08 23 14.2**	**-1.4**
QSPA	**South Pole Qui**	**34.07**	**180**	P	**P**	**08 25 42.9**	**-0.4**
	3.1nm,0.6s,baz=194,slow=4.2,SNR=32						
QSPA	**South Pole Qui**	**34.07**	**180**	*e*P	**P**	**08 25 42.2**	**-1.0**
	2.8nm,0.6s						
MAW	**Mawson**	**39.86**	**143**	P	**P**	**08 26 31.3**	**-0.7**
	1.1nm,0.5s,baz=215,slow=12,SNR=4.6						
BOSA	**Boshof**	**45.69**	**75**	P	**P**	**08 27 19.6**	**-0.4**
	2.8nm,0.8s,baz=242,slow=3.0,SNR=4.0						
VNDA	**Vanda**	**46.46**	**183**	P	**P**	**08 27 24.9**	**-0.4**
	3.1nm,0.6s,baz=183,slow=6.9,SNR=24						
VNDA	**Vanda**	**46.46**	**183**	*e*P	**P**	**08 27 24.6**	**-0.6**
	2.6nm,0.6s						
H10S2	**ASCENSION HYDR**	**48.03**	**16**	T	T	09 20 33.9	
	baz=189,slow=75,SNR=60						
H10S3	**ASCENSION HYDR**	**48.03**	**16**	T	T	09 20 34.6	
	baz=189,slow=75,SNR=60						
H10S1	**ASCENSION HYDR**	**48.05**	**16**	T	T	09 20 35.8	
	baz=189,slow=75,SNR=62						
H10N1	**ASCENSION HYDR**	**49.15**	**16**	T	T	09 21 23.4	
	baz=200,SNR=14						
H10N3	**ASCENSION HYDR**	**49.15**	**16**	T	T	09 21 23.3	
	baz=200,slow=74,SNR=36						
H10N2	**ASCENSION HYDR**	**49.17**	**16**	T	T	09 21 23.3	
	baz=200,slow=74,SNR=29						
LPAZ	**La Paz**	**50.71**	**305**	P	**P**	**08 27 58.3**	**-1.0**
	1.1nm,0.3s,baz=143,slow=4.1,SNR=8.4						
TOA0	**Torodi Ar. Sit**	**73.01**	**29**	*e*P	**P**	**08 30 27.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**73.01**	**29**	P	**P**	**08 30 28.4**	**-0.1**
	0.7nm,0.5s,baz=201,slow=6.8,SNR=19						
YKA	**Yellowknife Ar**	**136.48**	**318**	PKP	**PKPdf**	**08 38 21.5**	**+2.5**
	0.2nm,0.4s,baz=143,slow=2.4,SNR=4.4						
SONM	**Songino Array**	**150.42**	**86**	PKP	**PKPdf**	**08 38 44.4**	**+0.3**
	0.6nm,0.5s,baz=224,slow=5.3,SNR=3.6						
ILAR	**Eielson Array**	**150.44**	**311**	PKP	**PKPdf**	**08 38 44.1**	**+0.7**
	0.4nm,0.7s,baz=139,slow=3.7,SNR=6.3						
ILAR				PKPbc	**PKiKP**	**08 38 50.4**	**+1.0**
	0.6nm,0.6s,baz=134,slow=3.1,SNR=8.6						

MEX 16 08:20:28.4±1.2,13°.96N×93°.47W,h17km±999km,MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.51**	**51**	*e*P	Pn	08 20 51.4	-3.2
THIG				*i* S	Sn	08 21 09.5	-4.4
PCIG		**1.76**	**8**	*e*P	Pn	08 20 53.9	-4.2
PCIG				*i* S	Sn	08 21 15.6	-4.6
CCIG	**Comitan**	**2.65**	**29**	*e*P	Pn	08 21 09.3	-1.3
CCIG				*i* S	Sn	08 21 37.7	-4.9

IDC 16 08:34:09.9±8.1,1°.59S×137°.24E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.5/20,mbtmp3.4/4,ML3.7/1,MS2.5/1, Ms1 2.5/1,ms1mx2.3/19,Error ellipse: s-maj=392.9km s-min=25.4km az=83.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.46**	**189**	P	Pn	08 38 27.0	-0.3
	0.2nm,0.3s,baz=10,slow=12,SNR=13						
WRA				S	Sn	08 41 42.4	-12
	0.1nm,0.3s,baz=13,slow=23,SNR=5.0						
ASAR	**Alice Springs**	**22.18**	**188**	P	P	08 39 08.0	+0.1
	1.0nm,0.7s,baz=5.7,slow=11,SNR=11						
JOW	**Kunigami**	**29.55**	**344**	LR	LR	08 50 17.8	
	comp=Z,9.3nm,21.6s,baz=293,slow=33						
MKAR	**Makanchi Array**	**68.01**	**323**	P	P	08 45 11.8	+0.6
	0.2nm,0.5s,baz=136,slow=5.1,SNR=3.6						
KURBB	**Kurchatov Arra**	**71.97**	**325**	P	P	08 45 34.9	-0.5
	0.2nm,0.3s,baz=120,slow=5.7,SNR=6.7						

IDC 16 08:38:52.9±3.0,2°.20S×137°.34E,h0km,mb3.5/2, mb1 3.8/3,mb1mx3.4/25,mbtmp3.6/3,ML3.5/1,Error ellipse: s-maj=119.5km s-min=29.2km az=82.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.88**	**189**	Pn	Pn	08 43 02.4	-0.9
	0.2nm,0.3s,baz=12,slow=12,SNR=7.0						
ASAR	**Alice Springs**	**21.60**	**189**	P	P	08 43 44.9	+0.3
	1.3nm,0.5s,baz=12,slow=12,SNR=18						
MKAR	**Makanchi Array**	**68.55**	**323**	P	P	08 49 57.6	0.0
	0.3nm,0.8s,baz=116,slow=6.6,SNR=3.1						

*IDC **16** 08:44:01.5±0.8,13°.38N×144°.62E,h93km±7km,mb3.3/6, mb1 3.5/6,mb1mx3.2/33,mbtmp3.6/6,Error ellipse: s-maj=35.5km s-min=18.8km az=103.0*
*ISCJB **16** 08:44:02.6±0.9,13°.3N±0°.1×144°.7E±0°.3,h129km,mb3.4/6, Error ellipse: s-maj=41.9km s-min=18.6km az=7.1*
ISC 16 08:44:04.9±0.9,13°.3N±0°.2×144°.7E±0°.3,h129km,n15, σ1s20/8,mb3.5/6,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.33**	**23**	P	Pn	08 44 17.0	-6.1
	1µm,0.3s,baz=180,slow=2.0,SNR=1299						
GUMO				S	Sn	08 44 27.5	-9.3
	3µm,0.3s,baz=24,slow=19,SNR=180						
GUMO				LR	LR	08 44 30.5	
	comp=Z,117nm,21.4s,baz=248,slow=90						
H11S3	**WAKE ISLAND Hy**	**21.73**	**73**	T	T	09 11 23.0	
	baz=260,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**21.75**	**73**	T	T	09 11 24.0	
	baz=260,slow=75,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**21.77**	**73**	T	T	09 11 24.7	
	baz=260,slow=75,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**21.77**	**70**	T	T	09 11 57.0	
	baz=257,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hy**	**22.18**	**70**	T	T	09 11 57.2	
	baz=257,slow=75,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**22.19**	**70**	T	T	09 11 57.8	
	baz=257,slow=75,SNR=13						
WRA	**Warramunga Arr**	**34.56**	**197**	P	**P**	**08 50 40.8**	**-0.6**
	1.0nm,1.0s,baz=21,slow=9.6,SNR=5.9						
ASAR	**Alice Springs**	**38.22**	**196**	P	**P**	**08 51 12.5**	**0.0**
	0.2nm

WRA	**Warramunga Arr**	**23.15**	**165**	P	P	08 57 21.2	+0.4
	0.5nm,0.3s,baz=344,slow=11,SNR=11						
ASAR	**Alice Springs**	**26.63**	**168**	P	P	08 57 52.5	-0.7
	0.5nm,0.4s,baz=354,slow=8.0,SNR=4.9						
MKAR	**Makanchi Array**	**59.30**	**325**	P	P	09 02 17.0	+0.6
	0.1nm,0.3s,baz=120,slow=8.5,SNR=2.4						
KURBB	**Kurchatov Arra**	**63.47**	**327**	P	P	09 02 43.9	-0.6
	0.3nm,0.4s,baz=122,slow=6.0,SNR=4.0						

IDC 16 08:56:19.8±3.0, 1°.68S×136°.58E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/32, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=120.0km s-min=29.4km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.29**	**187**	P		Pn	09 00 34.2	-0.9
	0.1nm,0.3s,baz=8.7,slow=13,SNR=6.2							
ASAR	**Alice Springs**	**22.02**	**187**	P		P	09 01 16.6	+0.7
	1.3nm,0.7s,baz=14,slow=11,SNR=6.7							
MKAR	**Makanchi Array**	**67.68**	**323**	P		P	09 07 18.8	-0.1
	0.3nm,0.5s,baz=108,slow=7.7,SNR=4.3							

*JMA **16** 08:56:42.8±0.1, 24°.00N×121°.70E, h0km, M2.8*
*ISCJB **16** 08:56:45.3±0.3, 24°.04N±0°.02×121°.71E±0°.02, h17km±3km, Error ellipse: s-maj=3.5km s-min=2.0km az=35.9*
*TAP **16** 08:56:45.0, 24°.06N×121°.63E, h17km, ML3.6, B*
ISC 16 08:56:44.9±0.9, 24°.04N±0°.02×121°.67E±0°.02, h17km±2km, n66, σ0°.67/104, 11C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.08**	**300**	⇑*iP*		**Pg**	**08 56 48.2**	**0.0**
	baz=315							
TWD				*i* S		**Sg**	**08 56 50.3**	**-0.2**
	baz=315							
HWA	**Hwalien**	**0.09**	**223**	⇑*iP*		**Pg**	**08 56 48.9**	**+0.6**
	baz=192							
HWA				S		**Sg**	**08 56 51.8**	**+1.2**
	baz=192							
ESF	**Shoufeng Towns**	**0.23**	**221**	*eP*		**Pb**	**08 56 51.2**	**+0.7**
	baz=218							
ESF				*eS*		**Sb**	**08 56 55.3**	**+1.1**
	baz=218							
EHP	**Heping Village**	**0.28**	**14**	*eP*		**Pb**	**08 56 52.1**	**+0.8**
	baz=24							
ESL	**Shilin**	**0.31**	**224**	⇑*iP*		**Pg**	**08 56 51.5**	**-0.1**
	baz=221							
ESL				*eS*		**Sg**	**08 56 56.2**	**0.0**
	baz=221							
TEGC	**Jichi Village**	**0.35**	**200**	*eP*		**Pn**	**08 56 54.4**	**-0.7**
	baz=184							
ENA	**Nanau**	**0.39**	**10**	⇑*iP*		**Pg**	**08 56 53.0**	**0.0**
	baz=7.0							
ENA				*eS*		**Sb**	**08 56 58.9**	**-0.2**
	baz=7.0							
NNS	**Nan Shan**	**0.48**	**326**	⇑*iP*		**Pg**	**08 56 54.4**	**-0.2**
	baz=328							
NNS				*i* S		**Sg**	**08 57 00.8**	**-0.4**
	baz=328							
TWT	**Tachien**	**0.50**	**295**	⇑*iP*		**Pb**	**08 56 55.1**	**-0.1**
	baz=294							
TWT				*i* S		**Sb**	**08 57 01.7**	**-0.6**
	baz=294							
WDT	**Danda**	**0.57**	**240**	⇓*iP*		**Pg**	**08 56 55.9**	**-0.3**
	baz=237							
WDT				*i* S		**Sg**	**08 57 03.6**	**-0.3**
	baz=237							
TWC	**Suao**	**0.59**	**16**	⇑*iP*		**Pb**	**08 56 56.8**	**+0.1**
	baz=14							
TWC				*i* S		**Sb**	**08 57 04.8**	**+0.1**
	baz=14							
ENTT	**Nioudou**	**0.60**	**351**	⇑*iP*		**Pg**	**08 56 56.8**	**-0.1**
	baz=353							
ENTT				S		**Sb**	**08 57 05.0**	**-0.2**
	baz=353							
EHY	**Hungye**	**0.62**	**211**	*eP*		**Pg**	**08 56 56.0**	**-1.2**
	baz=217							
EHY				*eS*		**Sb**	**08 57 06.7**	**+1.0**
	baz=217							
TWE	**Neicheng**	**0.68**	**360**	P		**Pb**	**08 56 58.4**	**+0.2**
	baz=2.0							
TWE				*eS*		**Sb**	**08 57 07.1**	**-0.2**
	baz=2.0							
NSK	**Sanguang**	**0.69**	**336**	⇑*iP*		**Pg**	**08 56 58.2**	**-0.3**
	baz=337							
NSK				*i* S		**Sb**	**08 57 07.3**	**-0.5**
	baz=337							
SMLT	**Sun Moon Lake**	**0.72**	**258**	⇓*iP*		**Pg**	**08 56 58.6**	**-0.4**
	baz=256							
SMLT				*i* S		**Sg**	**08 57 07.9**	**-0.7**
	baz=256							
ILA	**Ilan**	**0.73**	**6**	*eP*		**Pb**	**08 56 59.6**	**+0.6**
	baz=1.0							
TYC	**Yuchr**	**0.76**	**260**	⇓*iP*		**Pb**	**08 56 59.0**	**-0.5**
	baz=258							
TYC				*eS*		**Sg**	**08 57 07.9**	**-1.7**
	baz=258							
TWF1	**Yuli**	**0.77**	**207**	*eP*		**Pb**	**08 56 58.4**	**-1.3**
	baz=212							
TWF1				*eS*		**Sn**	**08 57 11.5**	**-0.4**
	baz=212							
EGS		**0.84**	**17**	⇑P		**Pg**	**08 57 01.4**	**+0.2**
	baz=20							
NSTT	**Nanjuang**	**0.85**	**314**	*eP*		**Pg**	**08 57 01.1**	**-0.3**
	baz=315							
YUS	**Yu-Shan**	**0.86**	**230**	⇓P		**Pb**	**08 57 01.3**	**-0.3**
	baz=218							
YUS				*eS*		**Sb**	**08 57 12.7**	**-0.2**
	baz=218							
TWQ1	**Liyutan**	**0.87**	**291**	*eP*		**Pn**	**08 57 01.9**	**-0.4**
	baz=291							
NSY	**Sanyi**	**0.91**	**294**	*eP*		**Pn**	**08 57 02.8**	**0.0**
	baz=303							
NSY				*eS*		**Sn**	**08 57 14.9**	**-0.6**
	baz=303							
TCU	**Taichung**	**0.91**	**277**	*eP*		**Pn**	**08 57 02.7**	**-0.2**
	baz=271							
TCU				*eS*		**Sn**	**08 57 15.7**	**+0.1**
	baz=271							
WNT	**Mingjian**	**0.92**	**260**	⇓P		**Pn**	**08 57 03.0**	**+0.1**
	baz=259							
WNT				S		**Sn**	**08 57 15.4**	**-0.2**
	baz=259							
TWA	**Mucha**	**0.94**	**355**	*eP*		**Pg**	**08 57 02.8**	**-0.3**
	baz=349							
TWA				*eS*		**Sg**	**08 57 15.1**	**-0.5**
	baz=349							
ALS	**Alishan**	**0.95**	**236**	⇓P		**Pb**	**08 57 03.0**	**-0.1**
	baz=227							
ALS				*eS*		**Sg**	**08 57 15.9**	**-0.1**
	baz=227							
CHKT	**Chengkung**	**0.98**	**197**	*eP*		**Pb**	**08 57 03.1**	**-0.2**
	baz=209							
HSN	**Hsinchu**	**0.99**	**320**	*eP*		**Pn**	**08 57 04.7**	**+0.8**
	baz=324							
TAP1	**Taipei**	**1.00**	**352**	*eP*		**Pn**	**08 57 03.9**	**-0.2**
	baz=353							
TWB1	**Santiao Chiao**	**1.01**	**17**	*eP*		**Pb**	**08 57 03.9**	**+0.1**
	baz=9.0							
TWB1				*eS*		**Sb**	**08 57 17.1**	**+0.4**
	baz=9.0							
CHN5	**Tsauling**	**1.01**	**244**	⇓P		**Pg**	**08 57 04.3**	**-0.1**
	baz=244							
CHN5				*eS*		**Sn**	**08 57 19.3**	**+1.2**
	baz=244							
NCU	**National Centr**	**1.02**	**335**	*eP*		**Pg**	**08 57 05.2**	**+0.5**
	baz=336							
NWF	**Wu-fen Shan**	**1.03**	**6**	*eP*		**Pg**	**08 57 04.9**	**0.0**
	baz=356							
NWF				*eS*		**Sn**	**08 57 18.6**	**-0.1**
	baz=356							
ELDTW	**Lidau**	**1.04**	**215**	*eP*		**Pb**	**08 57 03.8**	**-0.7**
	baz=204							
WGK	**Gukeng**	**1.07**	**251**	*eP*		**Pn**	**08 57 04.8**	**-0.2**
	baz=250							
TWS1	**Kuangyinshan**	**1.08**	**348**	*eP*		**Pg**	**08 57 05.8**	**0.0**
	baz=1.0							
TWS1				*eS*		**Sn**	**08 57 20.9**	**+1.2**
	baz=1.0							
CHN4	**Tsaushan**	**1.20**	**235**	*eP*		**Pb**	**08 57 07.4**	**+0.3**
	baz=224							
CHN4				*eS*		**Sg**	**08 57 25.9**	**+2.1**
	baz=224							
CHN2	**Minshiung**	**1.21**	**245**	*eP*		**Pg**	**08 57 08.1**	**0.0**
	baz=245							
CHN2				*eS*		**Sg**	**08 57 26.4**	**+2.5**
	baz=245							
STYT	**Tauyuan**	**1.21**	**224**	⇑P		**Pn**	**08 57 07.0**	**0.0**
	baz=223							
STYT				*eS*		**Sg**	**08 57 25.7**	**+1.6**
	baz=223							
TWY	**Chenhua**	**1.23**	**357**	*eP*		**Pg**	**08 57 08.7**	**+0.1**
	baz=344							
JYNG	**Yonagunijimaku**	**1.23**	**70**	P		**Pn**	**08 57 06.6**	**-0.7**
WTP	**Ta-pu**	**1.25**	**231**	*eP*		**Pb**	**08 57 08.2**	**+0.2**
	baz=230							
WTP				*eS*		**Sg**	**08 57 25.4**	**+0.1**
	baz=230							
CHY	**Chiayi**	**1.26**	**245**	*eP*		**Pg**	**08 57 09.6**	**+0.4**
	baz=255							
CHY				*eS*		**Sg**	**08 57 26.1**	**+0.4**
	baz=255							
WTCT	**Ta-ch'eng**	**1.28**	**262**	*eP*		**Pn**	**08 57 07.8**	**-0.1**
	baz=262							
YOJ	**Yonaguni jima**	**1.29**	**71**	P		**Pn**	**08 57 08.0**	**-0.1**
YOJ				S		**Sn**	**08 57 25.2**	**+0.2**
YOJ	**Yonaguni jima**	**1.29**	**71**	⇓*iP*		**Pn**	**08 57 08.0**	**-0.1**
	baz=88							
YOJ				*eS*		**Sn**	**08 57 25.8**	**+0.8**
	baz=88							
TWK	**Hsinying**	**1.33**	**235**	*eP*		**Pb**	**08 57 09.7**	**+0.3**
	baz=234							
TWG	**Pinlang**	**1.33**	**204**	*eP*		**Pb**	**08 57 09.6**	**+0.2**
	baz=187							
CHN1	**Nanshi**	**1.35**	**231**	P		**Pb**	**08 57 09.9**	**+0.3**
	baz=222							
CHN1				*eS*		**Sg**	**08 57 30.9**	**+2.3**
	baz=222							
SGST	**Jiashian**	**1.38**	**226**	*eP*		**Pb**	**08 57 10.2**	**0.0**
	baz=225							
WSF	**Szhu**	**1.39**	**253**	*eP*		**Pb**	**08 57 10.3**	**0.0**
	baz=252							
SSD	**Sandimen**	**1.60**	**217**	*eP*		**Pb**	**08 57 13.8**	**-0.2**
	baz=218							
PCYT	**Pengchaiyu**	**1.62**	**13**	*eP*		**Pb**	**08 57 14.5**	**+0.2**
	baz=11							
TWM1	**Shoushan**	**1.67**	**224**	*eP*		**Pb**	**08 57 15.3**	**+0.2**
	baz=224							
EAST	**Anshuo**	**1.81**	**205**	*eP*		**Pb**	**08 57 17.0**	**-0.6**
	baz=194							
IRIF	**Iriomote-Funau**	**1.91**	**81**	P		**Pn**	**08 57 16.3**	**-0.2**
IRIF				*eS*		**Sn**	**08 57 41.3**	**+1.2**
SCZT	**Fangliau**	**1.92**	**210**	*eP*		**Pb**	**08 57 18.5**	**-0.9**
	baz=214							
HATJ	**Hateruma jima**	**1.95**	**89**	*eS*		**Sn**	**08 57 41.6**	**+0.3**
PNG	**Penghu**	**1.99**	**257**	*eP*		**Pn**	**08 57 18.7**	**+1.0**
	baz=256							
WDGT	**Dungji**	**2.00**	**248**	*eP*		**Pn**	**08 57 17.8**	**0.0**
	baz=247							
JKRS	**Kuro-shima**	**2.15**	**84**	P		**Pn**	**08 57 19.6**	**-0.2**
JKRS				*eS*		**Sn**	**08 57 46.3**	**+0.2**
TWK1	**Hengchun**	**2.23**	**201**	*eP*		**Pb**	**08 57 24.3**	**-0.4**
	baz=189							
JIJ	**Ishigaki jima**	**2.28**	**81**	P		**Pn**	**08 57 21.2**	**-0.5**
JIJ				S		**Sn**	**08 57 49.1**	**-0.3**
JISG	**Ishigakijimahi**	**2.47**	**77**	P		**Pn**	**08 57 24.3**	**0.0**
JISG				S		**Sn**	**08 57 53.5**	**-0.6**

*DJA **16** 09:07:44.7±0.6, 2°.5S±6°×13°.9E±°, h47km±8km, M4.5/5, MLv4.5/5*
*IDC **16** 09:07:44.4±0.8, 2°.43S×139°.26E, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.1/20, mbtmp4.1/11, ML3.9/1, MS3.5/6, Ms1 3.6/6, ms1mx3.2/27, Error ellipse: s-maj=31.0km s-min=17.9km az=84.0*
*ISCJB **16** 09:07:46.8±0.4, 2°.47S±0°.07×139°.14E±0°.05, h27km, mb4.1/10, MS3.6/3, Error ellipse: s-maj=10.4km s-min=5.4km az=24.0*
ISC 16 09:07:48.1±0.6, 2°.42S±0°.10×139°.18E±0°.07, h27km, n30, σ1§42/27, mb4.5/15, MS3.8/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.63**	**313**	P		**Pb**	**09 07 59.2**	**-1.4**
SMPI				S		**Sb**	**09 08 07.3**	**-1.8**
GENI	**Genyem**	**1.01**	**100**	P		**Pn**	**09 08 03.5**	**-3.0**
GENI				S		**Sn**	**09 08 19.6**	**-0.2**
JAY	**Jayapura**	**1.53**	**94**	P		Pn	09 08 10.2	-3.5
SRPI	**Serui, Papua**	**2.98**	**281**	P		Pn	09 08 30.3	-3.4
SRPI				S		**Sn**	**09 09 06.4**	**-2.2**
SIJI	**Sorong**	**8.05**	**281**	LR		LR	09 13 31.3	
	comp=Z,489nm,19.4s,baz=91,slow=43							
GUMO	**Guam**	**16.88**	**19**	LR		LR	09 17 45.7	
	comp=Z,87nm,19.4s,baz=165,slow=36							
WRA	**Warramunga Arr**	**18.04**	**195**	P		**Pn**	**09 11 56.3**	**-0.7**
	0.5nm,0.3s,baz=16,slow=12,SNR=13							
WRA				S		Sn	09 15 08.8	-8.9
	0.1nm,0.3s,baz=14,slow=21,SNR=4.0							
KAPI	**Kappang**	**19.55**	**262**	LR		LR	09 22 42.3	
	comp=Z,111nm,18.1s,baz=107,slow=46							
ASAR	**Alice Springs**	**21.73**	**193**	P		**P**	**09 12 37.8**	**+0.3**
	2.4nm,0.6s,baz=17,slow=11,SNR=18							
ASAR				S		Sn	09 16 45.6	-1.0
	1.1nm,0.8s,baz=18,slow=25,SNR=4.2							
MJAR	**Matsushiro Arr**	**38.77**	**359**	P		**P**	**09 15 10.7**	**+0.2**
	1.6nm,0.8s,baz=183,slow=8.1,SNR=3.4							
PSI	**Prapat**	**40.57**	**277**	P		**P**	**09 15 26.5**	**+0.6**
	9.0nm,0.6s,baz=77,slow=3.6,SNR=9.0							
CMAR	**Chiang Mai Arr**	**44.70**	**299**	P		**P**	**09 15 59.4**	**+0.1**
	2.3nm,0.7s,baz=117,slow=6.6,SNR=6.6							
CMAR				LR		LR	09 36 21.2	
	comp=Z,28nm,18.1s,baz=0.0,slow=38							
USRK	**Ussuriysk Ar.**	**46.86**	**353**	P		**P**	**09 16 17.6**	**+1.8**
	0.4nm,0.4s,baz=142,slow=7.2,SNR=4.9							
TAPN	**Taplejung**	**57.69**	**305**	*eP*		**P**	**09 17 38.6**	**+1.6**
ODAN	**Odare**	**57.77**	**304**	*eP*		**P**	**09 17 39.0**	**+1.5**
RAMN	**Ramite**	**58.46**	**304**	*eP*		**P**	**09 17 44.0**	**+1.6**
	13nm,0.8s							
GUN	**Gumba**	**59.41**	**304**	*eP*		**P**	**09 17 50.7**	**+1.6**
	13nm,0.6s							
PKI	**Pulchoki**	**59.67**	**304**	*eP*		**P**	**09 17 51.9**	**+1.0**
KKN	**Kakani**	**59.86**	**304**	*eP*		**P**	**09 17 53.2**	**+1.2**
	10nm,0.4s							
DMN	**Daman**	**59.94**	**304**	*eP*		**P**	**09 17 54.2**	**+1.6**
GKN	**Gorkha**	**60.47**	**304**	*eP*		**P**	**09 17 57.6**	**+1.5**
	13nm,0.5s							
KOLN	**Koldanda**	**61.24**	**304**	*eP*		**P**	**09 18 02.9**	**+1.4**
	9.7nm,0.8s							
RAR	**Rarotonga**	**62.20**	**113**	LR		LR	09 39 55.7	
	comp=Z,83nm,20.3s,baz=295,slow=31							
MKAR	**Makanchi Array**	**69.85**	**322**	P		**P**	**09 18 58.0**	**+1.5**
	1.9nm,0.7s,baz=112,slow=7.7,SNR=16							
KURBB	**Kurchatov Arra**	**73.76**	**325**	P		**P**	**09 19 21.4**	**+1.5**
	1.4nm,0.9s,baz=112,slow=6.0,SNR=7.6							
VNDA	**Vanda**	**76.03**	**175**	P		**P**	**09 19 33.0**	**+0.5**
	0.8nm,0.7s,baz=320,slow=6.3,SNR=8.5							
BVAR	**Borovoye Array**	**79.34**	**325**	P		**P**	**09 19 51.8**	**+0.4**
	3.9nm,0.6s,baz=119,slow=8.4,SNR=20							
ILAR	**Eielson Array**	**85.38**	**24**	P		**P**	**09 20 21.6**	**-1.1**
	2.3nm,0.7s,baz=262,slow=4.9,SNR=32							
ILAR				LR		LR	09 52 56.0	
	comp=Z,38nm,20.8s,baz=146,slow=32							
TORD	**Torodi Ar. Bea**	**136.62**	**287**	PKP		**PKPdf**	**09 27 09.3**	**+0.4**
	0.5nm,0.6s,baz=69,slow=2.5,SNR=3.6							
LPAZ	**La Paz**	**147.24**	**126**	PKPbc		**PKPab**	**09 27 31.9**	**-0.6**
	2.0nm,0.7s,baz=197,slow=5.1,SNR=4.4							

IDC 16 09:18:04.3±3.6, 54°.96N×88°.06E, h0km, mb1 2.7/2, mb1mx2.7/29, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=27.5km s-min=23.5km az=43.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.15**	**243**	*i*			09 32 40.0	
	baz=63,slow=317,SNR=1.4							
ZALV	**Zalesovo Beam**	**2.15**	**243**	Pg		Pn	09 18 42.0	+0.6
	1.5nm,0.3s,baz=59,slow=16,SNR=5.3							
ZALV				Lg		Lg	09 19 13.4	
	3.5nm,0.3s,baz=62,slow=27,SNR=11							
KURBB	**Kurchatov Arra**	**7.23**	**237**	Pn		Pn	09 19 50.4	-0.7
	0.0nm,0.3s,baz=54,slow=14,SNR=3.1							
KURBB				Lg		Lg	09 21 52.2	
	0.0nm,0.3s,baz=46,slow=30,SNR=4.1							
MKAR	**Makanchi Array**	**8.95**	**206**	Pn		Pn	09 20 16.5	+1.6
	0.1nm,0.3s,baz=26,slow=13,SNR=4.6							
MKAR				Sn		Sn	09 21 54.8	-1.7
	0.1nm,0.3s,baz=29,slow=28,SNR=6.7							
MKAR				Lg		Lg	09 22 51.7	
	0.0nm,0.3s,baz=27,slow=30,SNR=5.5							

*SJA **16** 09:19:05.1±0.8, 36°.06S×71°.38W, h25km, ML4.3*
*ISCJB **16** 09:19:06.7±0.3, 36°.25S±0°.03×70°.94W±0°.06, h129km±3km, mb4.4/17, Error ellipse: s-maj=7.6km s-min=4.4km az=14.4*
*BJI **16** 09:19:06.4, 36°.20S×71°.00W, h109km, mB5.1/2*
*GUC **16** 09:19:07.2±0.8, 36°.23S×71°.28W, h137km±5km, ML5.7*
*NEIC **16** 09:19:07.8±0.3, 36°.21S×70°.87W, mb4.6/10, Error ellipse: s-maj=11.6km s-min=6.3km az=89.0*
NEIC Felt [III] at Linares, Longavi and Parral; [II] at Cauquenes, La Laja, Pencahue, San Rosendo and Talca.
*IDC **16** 09:19:08.6±0.6, 36°.25S×70°.75W, h126km±5km, mb4.3/11, mb1 4.4/12, mb1mx4.2/22, mbtmp4.8/12, Error ellipse: s-maj=19.2km s-min=10.0km az=101.0*
ISC 16 09:19:07.4±0.5, 36°.23S±0°.03×71°.02W±0°.05, h123km±4km, h123km:pP-P, n77, σ1§62/107, mb4.6/17, 5C-5D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.61**	**308**	⇓*iP*		**Pn**	**09 19 26.7**	**+0.3**
LNCH				*i* S		**Sn**	**09 19 41.4**	**+0.7**
TALC	**Talca**	**0.97**	**329**	⇑*iP*		**Pn**	**09 19 30.4**	**+1.0**
TALC				*i* S		**Sn**	**09 19 47.2**	**+1.2**
NICH	**Los Niches**	**1.23**	**352**	⇓*iP*		**Pn**	**09 19 33.1**	**+1.0**
NICH				*i* S		**Sn**	**09 19 52.8**	**+1.9**
CANA	**Caviahue**	**1.66**	**181**	*eP*		**Pn**	**09 19 37.3**	**+0.2**
CANA				*i* S		**Sn**	**09 20 01.8**	**+2.1**
CANA				AML		AML	09 20 09.7	
	comp=Z,1μm,0.8s							
CCSP	**San Pedro de C**	**1.79**	**249**	⇑*iP*		**Pn**	**09 19 37.2**	**-1.2**
CCSP				*i* S		**Sn**	**09 19 59.6**	**-2.5**
LNV	**Longovilo**	**2.29**	**352**	⇓*iP*		**Pn**	**09 19 45.0**	**+0.3**
CHCH	**Chadas Angostu**	**2.31**	**8**	⇑*iP*		**Pn**	**09 19 45.6**	**+0.7**
CLCH	**Cerro Calan**	**2.85**	**8**	⇓*iP*		**Pn**	**09 19 52.4**	**+0.4**
CLCH				*i* S		**Sn**	**09 20 26.7**	**+0.5**
CLCH				AML		AML	09 20 29.3	
	comp=N,13μm,0.6s							
PEL	**Peldehue**	**3.09**	**5**	⇑*iP*		**Pn**	**09 19 55.2**	**+0.2**
PEL				*i* S		**Sn**	**09 20 31.9**	**+0.2**
PEL				AML		AML	09 20 33.8	
	comp=N,20μm,0.7s							
AAGR	**Agrelo**	**3.62**	**31**	*eP*		**Pn**	**09 20 03.9**	**+1.9**
AAGR				*i* S		**Sn**	**09 20 45.6**	**+1.3**
ARCO	**CERRO ARCO**	**3.79**	**28**	*eP*		**Pn**	**09 20 06.0**	**+1.7**
ARCO				*i* S		**Sn**	**09 20 49.9**	**+1.4**
ARCO				AML		AML	09 21 10.4	
	comp=Z,228nm,0.5s							
ASAL	**Salagasta**	**4.05**	**27**	*eP*		**Pn**	**09 20 09.5**	**+1.7**
ASAL				*i* S		**Sn**	**09 20 55.6**	**+1.1**
AUSP	**Uspallata**	**4.21**	**19**	*eP*		**Pn**	**09 20 11.4**	**+1.2**
AUSP				*i* S		**Sn**	**09 21 01.3**	**+2.5**
PLCA	**Paso Flores**	**4.51**	**176**	*eP*		**Pn**	**09 20 13.6**	**-0.2**
RTLS	**Leoncito**	**4.64**	**18**	*eP*		**Pn**	**09 20 17.2**	**+1.3**
RTCV	**Cerro Valdivia**	**4.81**	**26**	*eP*		**Pn**	**09 20 18.2**	**+0.3**
ACAN	**Cantantal**	**5.06**	**40**	*eP*		**Pn**	**09 20 22.6**	**+1.4**
SJA	**San Juan**	**5.12**	**24**	*iP*		**Pn**	**09 20 22.1**	**+0.1**
SJA				*eS*		**Sn**	**09 21 18.1**	**-2.0**
SJA				AML		AML	09 22 15.7	
	comp=Z,144nm,0.7s							
CFAA	**Coronel Fontan**	**5.16**	**27**	P		**Pn**	**09 20 22.5**	**-0.1**
	comp=Z,3.0nm,0.3s,baz=211,slow=14,SNR=175							
CFAA				S		**Sn**	**09 21 20.7**	**-0.3**
	comp=Z,19nm,0.3s,baz=10,slow=14,SNR=42							
RTLL	**Cerro Villicun**	**5.32**	**24**	*eP*		**Pn**	**09 20 24.4**	**-0.4**
AMOG	**MOGNA**	**5.68**	**22**	*eP*		**Pn**	**09 20 29.3**	**-0.3**
AMOG				*iP*		**Pn**	**09 20 29.7**	**+0.1**
AVFE	**Valle Fertil**	**6.30**	**29**	*iP*		**Pn**	**09 20 36.4**	**-1.6**
AVFE				*i* S		**Sn**	**09 21 44.2**	**-4.5**
AVFE				AML		AML	09 21 50.9	
	comp=Z,287nm,0.5s							
APLL	**PUNTA DE LOS L**	**6.92**	**34**	*eP*		**Pn**	**09 20 44.6**	**-1.8**
LCO	**Las Campanas**	**7.20**	**2**	*ePn*		**Pn**	**09 20 48.0**	**-2.3**
	comp=Z,38nm,0.3s							
LCO				*eSn*		**Sn**	**09 22 06.7**	**-4.1**
TRQA	**Tornquist**	**7.44**	**107**	*ePn*		**Pn**	**09 20 53.4**	**+0.1**
	comp=Z,47nm,0.8s							
TRQA				*eSn*		**Sn**	**09 22 14.5**	**-1.7**
CYA	**Choya**	**8.93**	**31**	*eP*		Pn	09 21 09.5	-3.9
CYA				⇓*eS*		Sn	09 22 42.9	-9.4
FSA	**Cafayete**	**10.97**	**24**	*eP*		**Pn**	**09 21 38.4**	**-2.6**
LVC	**Limon Verde**	**13.69**	**8**	P		**Pn**	**09 22 14.0**	**-2.6**
	comp=Z,41nm,0.3s,baz=181,slow=10.0,SNR=8.7							
LVC				S		**S**	**09 25 02.0**	**+0.2**
	comp=Z,25nm,0.3s,baz=32,slow=20,SNR=6.7							
LVC	**Limon Verde**	**13.69**	**8**	*ePn*		**Pn**	**09 22 16.0**	**-0.6**
LVC				*eSn*		**Sn**	**09 24 42.1**	**-5.8**
LVC				S		**S**	**09 25 02.0**	**+0.2**
HJA	**Humahuaca**	**13.85**	**22**	*eS*		**P**	**09 22 20.6**	**-2.5**
CPUP	**Villa Florida**	**15.29**	**54**	*ePn*		**Pn**	**09 22 36.2**	**-0.4**
	comp=Z,0.4nm,0.8s							
EFI	**East Falkland**	**18.00**	**153**	*eP*		**P**	**09 23 07.3**	**-0.9**
	comp=Z,62nm,0.7s							
USHA	**Ushuaia**	**18.69**	**175**	P		**Pn**	**09 23 16.9**	**-0.7**
	comp=Z,9.1nm,0.3s,baz=341,slow=9.1,SNR=118							
LPAZ	**La Paz**	**20.02**	**8**	P		Pn	09 23 33.3	-1.0
	comp=Z,14nm,0.9s,baz=194,slow=11,SNR=45							
LPAZ	**La Paz**	**20.02**	**8**	*eP*		**P**	**09 23 32.2**	**+1.0**
	comp=Z,14nm,0.9s							

comp=Z,2.1nm,0.7s,baz=92,slow=6.1,SNR=4.7
PSI Prapat 145.46 162 PKPbc **PKPdf 09 38 31.4 -0.2**
baz=191,slow=10
BVAR Borovoye Array 148.28 46 PKPbc **PKPbc 09 38 39.8 +1.3**
comp=Z,1.0nm,0.5s,baz=325,slow=2.3,SNR=4.9
BVAR pPKPbc **pPKPbc 09 39 12.7 +1.2**
comp=Z,1.3nm,0.7s,baz=285,slow=2.8,SNR=3.3
KSH Kashi 153.82 73 *e*PKPbc **PKPdf 09 38 43.0 -1.0**
KSH *es*PKP 09 39 23.6
KSH *e*PP **PP 09 42 38.0 -3.0**
KURBB Kurchatov Arra 153.84 47 PKPbc **PKPbc 09 38 51.9 +0.4**
comp=Z,0.3nm,0.3s,baz=308,slow=2.7,SNR=3.6
KURBB PKPab **PKPab 09 39 05.8 +0.7**
comp=Z,1.0nm,0.7s,baz=287,slow=4.8,SNR=5.6
KURBB pPKPbc **pPKPbc 09 39 25.5 +0.9**
comp=Z,0.6nm,0.3s,baz=290,slow=2.8,SNR=3.3
KURK Kurchatov 153.86 47 PKPbc **PKPbc 09 38 51.9 +0.4**
KURK PKPab **PKPab 09 39 05.8 +0.6**
KURK pPKPbc **pPKPbc 09 39 25.5 +0.9**
MKAR Makanchi Array 157.50 54 PKPab **PKPab 09 39 21.1 +0.1**
comp=Z,1.2nm,0.7s,baz=294,slow=4.2,SNR=7.9
CMAR Chiang Mai Arr 160.20 151 PKPab **PKPab 09 39 32.5 -0.8**
comp=Z,0.7nm,0.3s,baz=224,slow=4.9,SNR=4.0
WMQ Urumqi 162.05 58 PKP **PKPdf 09 38 54.3 +0.5**
WMQ PP **PP 09 43 28.0 +2.4**
WMQ LN
comp=Z,13nm,15.8s
WMQ LE
comp=Z,12nm,16.2s
WMQ LZ
comp=Z,14nm,20.2s
CD2 Chengdu 173.13 139 PKP **PKPdf 09 39 02.3 +0.3**
HHC Hu-ho-hao-te 174.96 337 *e*PKP **PKPdf 09 39 00.0 -2.4**
HHC PP **PP 09 44 29.9 -0.2**
HHC SS SS 10 05 45.0 +2.4
HHC PPMZ
comp=Z,240nm,9.8s
HHC LN
comp=Z,100nm,21.2s
HHC LE
comp=Z,130nm,21.8s
HHC LZ
comp=Z,85nm,21.9s
LZH Lanzhou 175.84 90 *e*PKP **PKPdf 09 39 03.8 +0.9**
LZH pPKP **pPKPdf 09 39 30.9 -5.5**
LZH sPKP 09 39 41.3
LZH LN
comp=Z,180nm,17.0s
LZH LE
comp=Z,170nm,16.8s
LZH LZ
comp=Z,220nm,19.8s

NIED **16** *09:26:00, 32.°90N×142.°50E, h8km, Mw4.4 Best double couple: M0×4.86000×10^15 NP1:φs8.00000°, δ32.00000°, λ-91.00000°. NP2:φs190.00000°, δ58.00000°, λ-89.00000°.*

BJI **16** *09:26:12.7, 32.°88N×142.°48E, h10km, mb4.7/46, mB4.8/34, Ms4.4/38, Ms7 4.1/33*

IDC **16** *09:26:13.5±0.6, 32.°86N×142.°50E, h0km, mb4.4/19, mb1 4.5/24, mb1mx4.4/40, mbtmp4.4/24, ML3.4/3, MS3.5/10, Ms1 3.5/10, ms1mx3.1/37, Error ellipse: s-maj=16.1km s-min=13.8km az=91.0*

ISCJB **16** *09:26:14.4±1.0, 32.°94N±0.°03×142.°43E±0.°03, h12km±6km, mb4.7/49, MS3.6/9, Error ellipse: s-maj=5.6km s-min=3.3km az=25.4*

NEIC **16** *09:26:15.0±0.3, 32.°87N×142.°51E, h10km, mb4.8/14, MW4.4(NIED), Error ellipse: s-maj=6.1km s-min=5.4km az=130.0*

JMA **16** *09:26:16.0±0.5, 32.°93N×142.°54E, h56km, M4.3*

MOS **16** *09:26:17.3±1.0, 32.°86N×142.°37E, h33km, mb5.0/25, Error ellipse: s-maj=11.0km s-min=6.1km az=125.6*

ISC 16 09:26:16.2±0.5, **32.°95N**±0.°05×**142.°52E**±0.°05, **h16**km, 2km, **h16**km;**pP-P,n276,**σ1s**20**/315**, mb4.8**/57**, MS3.5**/9**, 10C-23D**, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		
BSO1	**Boso 1**	**2.13**	**323**	P	**Pn**	**09 26 50.4**	**-0.3**
BSO1				S	**Sn**	**09 27 16.2**	**-0.4**
JHJ2	**Mitsune**	**2.28**	**275**	P	**Pn**	**09 26 52.3**	**-0.9**
JHJ2	**Mitsune**	**2.28**	**275**	*e*Pn	**Pn**	**09 26 52.2**	**-0.9**
JHCJ	**Hachijojimakas**	**2.29**	**274**	P	**Pn**	**09 26 53.5**	**+0.2**
BSO2	**Boso 2**	**2.33**	**321**	*e*S	**Sn**	**09 27 21.6**	**0.0**
BSO3	**Boso 3**	**2.50**	**318**	P	**Pn**	**09 26 55.9**	**0.0**
BSO3				S	**Sn**	**09 27 26.8**	**+0.9**
BSO4	**Boso 4**	**2.73**	**319**	P	**Pn**	**09 26 59.7**	**+0.4**
BSO4				S	**Sn**	**09 27 32.1**	**+0.2**
KTR	**Katsuura**	**2.86**	**321**	P	**Pn**	**09 27 01.2**	**+0.1**
KTR				S	**Sn**	**09 27 34.7**	**-0.5**
JOD2	**Odawara 2**	**3.67**	**310**	P	**Pn**	**09 27 11.1**	**-1.2**
JOD2				S	**Sn**	**09 27 51.2**	**-4.0**
JYN	**Shimob**	**4.16**	**309**	P	**Pn**	**09 27 19.5**	**+0.4**
JYN				*e*S	**Sn**	**09 28 05.2**	**-2.3**
JRY	**Ryogami san**	**4.28**	**317**	P	**Pn**	**09 27 20.0**	**-0.7**
JRY				S	**Sn**	**09 28 09.5**	**-0.8**
JAG	**Ashikaga**	**4.29**	**325**	P	**Pn**	**09 27 20.7**	**-0.2**
JAG				S	**Sn**	**09 28 08.1**	**-2.5**
JFT	**Otama**	**4.90**	**339**	P	**Pn**	**09 27 28.7**	**-0.5**
JFT				S	**Sn**	**09 28 21.8**	**-3.8**
MJAR	**Matsushiro Arr**	**5.05**	**317**	Pn	**Pn**	**09 27 31.3**	**+0.1**
	8.4nm,0.3s,baz=154,slow=12,SNR=104						
MJAR				Sn	**Sn**	**09 28 25.5**	**-3.7**
	7.5nm,0.3s,baz=155,slow=17,SNR=9.1						
MJAR				LR	LR	09 29 37.3	
	comp=Z,342nm,21.2s,baz=120,slow=40						
MAJO	**Matsushiro**	**5.05**	**316**	*c*/*i*P	**Pn**	**09 27 31.6**	**+0.3**
MAJO	**Matsushiro**	**5.05**	**316**	*e*Pn	**Pn**	**09 27 32.0**	**+0.8**
MAJO				*e*Sn	**Sn**	**09 28 27.9**	**-1.4**
MAT	**Matsushiro**	**5.05**	**316**	P	**Pn**	**09 27 31.4**	**+0.1**
MAT				S	**Sn**	**09 28 27.0**	**-2.3**
MAT	**Matsushiro**	**5.05**	**316**	P	**Pn**	**09 27 31.7**	**+0.4**
MAT				S	**Sn**	**09 28 28.4**	**-0.9**
CBIJ	**Chichi jima**	**5.84**	**183**	P	Pn	09 27 38.7	-3.4
CBIJ	**Chichi jima**	**5.84**	**183**	*e*Pn	**Pn**	**09 27 39.6**	**-2.4**
CBIJ				Sn	Sn	09 28 40.6	-8.1
CBIJ				*e*Sn	Sn	09 28 42.7	-6.0
JCJ	**Chichijima**	**5.84**	**183**	Pn	Pn	09 27 39.0	-3.1
	34nm,0.3s,baz=3.4,slow=21,SNR=77						
JCJ				Sn	Sn	09 28 40.6	-8.1
	45nm,0.3s,baz=120,slow=20,SNR=6.2						
ERM	**Erimo**	**9.07**		3⇑*e*P	**Pn**	**09 28 24.1**	**-2.3**
ERM	**Erimo**	**9.07**	**3**	*e*Pn	**Pn**	**09 28 24.7**	**-1.6**
	21nm,0.7s						
JNU	**Nakatsue**	**9.78**	**274**	Pn	**Pn**	**09 28 38.2**	**+2.0**
	0.5nm,0.3s,baz=80,slow=6.9,SNR=5.4						
JNU				LR	LR	09 32 08.5	
	comp=Z,401nm,21.9s,baz=126,slow=36						
ASAJ	**Asahikawa**	**11.15**	**0**	Pn	**Pn**	**09 28 53.6**	**-1.3**
	baz=191,slow=16						
ASAJ	**Asahikawa**	**11.15**	**0**	Pn	**Pn**	**09 28 53.6**	**-1.3**
ASAJ				*e*Sn	Sn	09 30 47.8	-12
YUK	**Yuzh-Kuril'sk**	**11.38**	**12**	*e*P	Pn	09 28 45.9	-12
YUK				pmax	pmax		
	comp=N,33nm,0.5s						
YUK				pmax	pmax		
	comp=E,28nm,0.5s						
YUK				pmax	pmax		
	comp=Z,37nm,0.5s						
YUK				MLR	MLR		
	comp=N,232nm,9.0s						
YUK				MLR	MLR		
	comp=E,360nm,9.0s						
YUK				MLR	MLR		
	comp=Z,218nm,9.0s						
KSRS	**Korea Array**	**12.76**	**295**	Pn	**Pn**	**09 29 18.4**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=102,slow=15,SNR=7.8						
KSRS				LR	LR	09 35 21.4	
	comp=Z,208nm,18.1s,baz=101,slow=43						
KSAR	**Wonju Array Be**	**12.78**	**295**	P	**Pn**	**09 29 18.4**	**+1.2**
KSAR	**Wonju Array Be**	**12.78**	**295**	Pn	**Pn**	**09 29 18.4**	**+1.2**
TJN	**Taejon**	**12.94**	**290**	⇓*e*P	**Pn**	**09 29 20.6**	**+1.2**
USRK	**Ussuriysk Ar.**	**13.92**	**327**	Pn	**Pn**	**09 29 31.5**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=140,slow=12,SNR=30						
YSS	**Yuzh-Sakhalins**	**13.99**		1⇑*e*P	**Pn**	**09 29 32.0**	**-1.7**
YSS	**Yuzh-Sakhalins**	**13.99**	**1**	*e*Pn	**Pn**	**09 29 33.2**	**-0.4**
UGL	**Uglegorsk**	**16.12**	**359**	*e*P	**Pn**	**09 29 59.1**	**-2.9**
UGL				*e*S	**Sn**	**09 32 57.8**	**-2.6**
HABR	**Khabarovsk**	**16.50**	**342**	*e*P	**Pn**	**09 30 04.4**	**-2.4**
HABR				*e*S	**Sn**	**09 33 07.8**	**-1.8**
HABR				pmax	pmax		
	comp=N,9.0nm,0.9s						
HABR				pmax	pmax		
	comp=E,9.0nm,0.9s						
HABR				pmax	pmax		
	comp=Z,12nm,0.9s						
HABR				MLR	MLR		
	comp=Z,98nm,15.0s						
CN2	**Changchun**	**17.19**	**314**	*e*P	**Pn**	**09 30 15.3**	**-0.3**
CN2				*e*S	**Sn**	**09 33 25.8**	**-0.6**
CN2				PMZ			
	comp=Z,10.0nm,0.7s						
CN2				PMZ			
	comp=Z,200nm,5.0s						
CN2				LN			
	comp=Z,300nm,10.0s						
CN2				LE			
	comp=Z,300nm,10.0s						
CN2				LZ			
	comp=Z,300nm,11.0s						
SNY	**Shenyang**	**17.44**	**306**	⇓P	**Pn**	**09 30 19.3**	**+0.6**
SNY				PMZ			
	comp=Z,19nm,0.6s						
SNY				PMZ			
	comp=Z,52nm,4.1s						
SNY				LN			
	comp=Z,170nm,15.0s						
SNY				LE			
	comp=Z,220nm,18.0s						
SNY				LZ			
	comp=Z,290nm,16.6s						
KLR	**Kul'dur**	**18.15**	**337**	*e*P	Pn	09 30 19.2	-8.2
YOJ	**Yonaguni jima**	**19.07**	**249**	*e*P	**P**	**09 30 36.4**	**-1.5**
YOJ				pmax	pmax		
	comp=Z,41nm,1.1s						
YOJ	**Yonaguni jima**	**19.07**	**249**	*e*Pn	**P**	**09 30 36.4**	**-1.5**
	comp=Z,41nm,1.1s						
NJ2	**Nanjing**	**19.98**	**274**	*e*P	**P**	**09 30 46.6**	**-1.2**
NJ2				PMZ			
	comp=Z,20nm,0.6s						
TIA	**Tai'an**	**21.15**	**286**	⇑P	**P**	**09 30 59.0**	**-1.5**
TIA				PMZ			
	comp=Z,10.0nm,0.8s						
TIA				LN			
	comp=Z,320nm,15.4s						
TIA				LE			
	comp=Z,510nm,15.2s						
TIA				LZ			
	comp=Z,600nm,15.1s						
BJI	**Beijing**	**22.28**	**296**	P	**P**	**09 31 11.1**	**-1.6**
BJI				S	**S**	**09 35 16.8**	**-0.4**
BJI				PMZ			
	comp=Z,6.0nm,0.6s						
BJI				LN			
	comp=Z,150nm,13.5s						
BJI				LE			
	comp=Z,250nm,17.2s						
BJI				LZ			
	comp=Z,120nm,15.8s						
WHN	**Wuhan**	**24.05**	**272**	P	**P**	**09 31 29.8**	**-0.8**
WHN				LN			
	comp=Z,400nm,13.5s						
WHN				LE			
	comp=Z,430nm,13.4s						
WHN				LZ			
	comp=Z,540nm,14.3s						
H11N2	**WAKE ISLAND Hy**	**25.43**	**115**	T	T	09 58 22.9	
	baz=306,slow=75,SNR=9.0						
H11N1	**WAKE ISLAND Hy**	**25.43**	**115**	T	T	09 58 24.4	
	baz=306,slow=75,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**25.45**	**115**	T	T	09 58 28.4	
	baz=306,slow=75,SNR=11						
HHC	**Hu-ho-hao-te**	**25.89**	**297**	*e*P	**P**	**09 31 47.3**	**-0.1**
HHC				PP	**PnPn**	**09 32 27.5**	**+2.8**
HHC				S	**S**	**09 36 14.0**	**-2.8**
HHC				sS	**sS**	**09 36 21.5**	**-3.3**
HHC				SS	**SnSn**	**09 37 19.5**	**+6.4**
HHC				ScS	**ScS**	**09 42 44.0**	**-0.6**
HHC				PMZ			
	comp=Z,24nm,0.8s						
HHC				PMZ			
	comp=Z,110nm,4.5s						
HHC				LN			
	comp=Z,650nm,10.9s						
HHC				LE			
	comp=Z,510nm,10.9s						
HHC				LZ			
	comp=Z,650nm,10.6s						
H11S3	**WAKE ISLAND Hy**	**26.01**	**118**	T	T	09 59 12.0	
	baz=311,slow=75,SNR=5.3						
H11S1	**WAKE ISLAND Hy**	**26.01**	**118**	T	T	09 59 16.0	
	baz=311,slow=75,SNR=5.7						
H11S2	**WAKE ISLAND Hy**	**26.03**	**118**	T	T	09 59 10.8	
	baz=311,slow=75,SNR=7.1						
XAN	**Xi'an**	**27.97**	**282**	P	**P**	**09 32 04.4**	**-1.8**
XAN				pP	**pP**	**09 32 13.3**	**+2.2**
XAN				sP	**sP**	**09 32 17.8**	**+4.7**
XAN				PMZ			
	comp=Z,3.0nm,1.0s						
XAN				PMZ			
	comp=Z,31nm,6.1s						
XAN				LN			
	comp=Z,130nm,16.4s						
XAN				LZ			
	comp=Z,94nm,13.3s						
ENH	**Enshi**	**28.20**	**274**	*e*P	**P**	**09 32 06.6**	**-1.6**
	comp=Z,4.7nm,0.3s						
SEY	**Seymchan**	**30.65**	**9**	P	**P**	**09 32 30.4**	**+0.9**
	comp=Z,3.1nm,0.7s,baz=212,slow=7.4,SNR=6.3						
SONM	**Songino Array**	**30.96**	**309**	P	**P**	**09 32 33.4**	**+0.8**
	comp=Z,5.7nm,0.8s,baz=117,slow=8.7,SNR=18						
SONM				LR	LR	09 45 19.8	
	comp=Z,92nm,19.6s,baz=80,slow=37						
BOD	**Bodaibo**	**31.50**	**331**	*e*P	P	09 32 45.1	+8.0
BOD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA	**Guiyang**	**31.70**	**268**	*e*P	**P**	**09 32 40.0**	**+0.6**
GYA				PP	**PnPn**	**09 33 43.3**	**0.0**
GYA				S	**S**	**09 37 47.5**	**-1.0**
GYA				ScP	**ScP**	**09 39 13.9**	**+0.3**
GYA				SS	**SnSn**	**09 39 35.6**	**+0.4**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,110nm,4.8s						
GYA				LN			
	comp=Z,420nm,16.5s						
GYA				LE			
	comp=Z,390nm,17.0s						
GYA				LZ			
	comp=Z,460nm,16.8s						
LZH	**Lanzhou**	**31.88**	**287**	P	**P**	**09 32 41.8**	**+0.9**
LZH				pP	**pP**	**09 32 45.5**	**-0.3**
LZH				sP	**sP**	**09 32 47.8**	**0.0**
LZH				PP	**PnPn**	**09 33 42.0**	**-3.6**
LZH				S	**S**	**09 37 51.4**	**+0.1**
LZH				sS	**sS**	**09 38 01.0**	**+1.6**
LZH				SS	**SnSn**	**09 39 40.4**	**+0.9**
LZH				PMZ			
	comp=Z,19nm,1.0s						
LZH				PMZ			
	comp=Z,84nm,4.4s						
LZH				LN			
	comp=Z,460nm,13.0s						
LZH				LE			
	comp=Z,490nm,13.4s						
LZH				LZ			
	comp=Z,590nm,15.0s						
CD2	**Chengdu**	**32.84**	**277**	P	**P**	**09 32 47.4**	**-1.8**
CD2				pP	**pP**	**09 32 50.5**	**-3.6**
CD2				PP	**PP**	**09 34 01.4**	**-2.1**
CD2				PcP	**PcP**	**09 35 32.6**	**-1.3**
CD2				S	**S**	**09 38 04.8**	**-1.2**
CD2				PcS	**PcS**	**09 39 17.9**	**-1.4**
CD2				PMZ			
	comp=Z,30nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.4s						
CD2				LN			
	comp=Z,320nm,13.2s						
CD2				LE			
	comp=Z,420nm,14.2s						
CD2				LZ			
	comp=Z,600nm,15.7s						
ZAK	**Zakamensk**	**33.62**	**313**	*e*P	P	09 32 52.4	-3.5
ZAK				*e*		09 35 31.9	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
TLY	**Talaya**	**33.79**	**315**	LR	LR	09 47 40.9	
	comp=Z,122nm,18.9s,baz=123,slow=38						
GTA	**Gaotai**	**34.82**	**293**	*e*P	**P**	**09 33 06.6**	**+0.1**
GTA				pP	**pP**	**09 33 11.0**	**-0.4**
GTA				sP	**sP**	**09 33 13.6**	**+0.2**
GTA				PP	**PnPn**	**09 34 23.8**	**+1.0**
GTA				S	**S**	**09 38 36.3**	**-0.4**
GTA				sS	**sS**	**09 38 43.6**	**-1.3**
GTA				SS	**SnSn**	**09 40 49.4**	**-1.2**
GTA				PMZ			
	comp=Z,8.0nm,1.2s						
GTA				PMZ			
	comp=Z,58nm,5.2s						
GTA				LN			
	comp=Z,120nm,16.6s						
GTA				LE			
	comp=Z,200nm,15.7s						
GTA				LZ			
	comp=Z,240nm,16.2s						
KMI	**Kunming**	**35.48**	**268**	P	**P**	**09 33 14.0**	**+1.6**
KMI				PMZ			
	comp=Z,9.0nm,0.5s						
KMI				LN			
	comp=Z,150nm,14.1s						
KMI				LE			
	comp=Z,150nm,15.3s						
KMI				LZ			
	comp=Z,170nm,15.3s						
BILL	**Bilibino**	**37.72**	**14**	*e*P	**P**	**09 33 31.3**	**+0.6**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BILL	**Bilibino**	**37.72**	**14**	*e*P	**P**	**09 33 31.3**	**+0.6**
	comp=Z,5.1nm,1.0s						
TIXI	**Tiksi**	**39.45**	**353**	*e*P	**P**	**09 33 45.2**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TIXI	**Tiksi**	**39.45**	**353**	*e*P	**P**	**09 33 45.2**	**+0.1**
	comp=Z,7.5nm,1.4s						
HVS	**Khovu-Aksy**	**39.72**	**312**	⇑*e*P	**P**	**09 33 49.0**	**+1.2**
HVS				pmax	pmax		
	comp=Z,72nm,1.2s						
KRAR	**Krasnoyarsk**	**41.10**	**319**	⇑*e*P	**P**	**09 33 59.1**	**+0.1**
KRAR				pmax	pmax		
	comp=Z,31nm,0.5s						
CHTO	**Chiang Mai**	**41.37**	**261**	*e*P	**P**	**09 34 01.2**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CHTO	**Chiang Mai**	**41.37**	**261**	*e*P	**P**	**09 34 01.2**	**-0.5**
	comp=Z,6.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**41.54**	**261**	P	**P**	**09 34 03.2**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=49,slow=7.9,SNR=7.5						
CMAR				LR	LR	09 53 12.9	
	comp=Z,31nm,18.4s,baz=55,slow=39						
PMG	**Port Moresby**	**42.35**	**173**	*de*P	**P**	**09 34 10.3**	**+0.7**
PMG				pmax	pmax		
	comp=Z,129nm,1.2s						
WMQ	**Urumqi**	**43.61**	**301**	P	**P**	**09 34 20.0**	**+0.3**
WMQ				pP	**pP**	**09 34 24.5**	**-0.3**
WMQ				sP	**sP**	**09 34 27.0**	**+0.3**
WMQ				PMZ			
	comp=Z,7.0nm,0.4s						
WMQ				PMZ			
	comp=Z,23nm,4.5s						
WMQ				LN			
	comp=Z,120nm,16.5s						
WMQ				LE			
	comp=Z,110nm,17.6s						
ZAA0	**Zalesovo Array**	**45.40**	**315**	*e*P	**P**	**09 34 33.1**	**-0.7**
ZAA0				*e*PcP	**PcP**	**09 36 12.0**	**-0.9**
ZALV	**Zalesovo Beam**	**45.40**	**315**	P	**P**	**09 34 33.6**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=101,slow=7.5,SNR=3.8						
ZALV				PcP	**PcP**	**09 36 12.6**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=98,slow=4.4,SNR=4.7						
NVS	**Novosibirsk**	**46.38**	**317**	⇓*i*P	**P**	**09 34 41.5**	**0.0**
NVS				pmax	pmax		
	comp=Z,19nm,1.0s						
NVS				pmax	pmax		
	comp=N,6.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,15nm,1.0s						
MK31	**Makanchi Array**	**47.15**	**306**	P	**P**	**09 34 47.4**	**-0.3**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MK31	**Makanchi Array**	**47.15**	**306**	*e*P	**P**	**09 34 48.2**	**+0.5**
MKAR	**Makanchi Array**	**47.15**	**306**	P	**P**	**09 34 47.8**	**+0.1**
	comp=Z,5.8nm,0.6s,baz=90,slow=10,SNR=72						
MKAR				LR	LR	09 56 45.9	
	comp=Z,57nm,18.2s,baz=76,slow=39						
TAPN	**Taplejung**	**47.28**	**278**	*e*P	**P**	**09 34 48.1**	**-1.3**
ODAN	**Odare**	**47.73**	**278**	*e*P	**P**	**09 34 52.2**	**-0.5**
	comp=Z,28nm,0.8s						
RAMN	**Ramite**	**48.35**	**278**	*e*P	**P**	**09 34 57.2**	**-0.4**
	comp=Z,68nm,0.8s						
GUN	**Gumba**	**48.61**	**280**	*e*P	**P**	**09 34 59.5**	**-0.2**
	comp=Z,45nm,0.9s						
PKI	**Pulchoki**	**49.12**	**280**	*e*P	**P**	**09 35 03.0**	**-0.6**
	comp=Z,44nm,1.1s						
KKN	**Kakani**	**49.15**	**280**	*e*P	**P**	**09 35 03.5**	**-0.2**
	comp=Z,54nm,1.0s						
KURK	**Kurchatov**	**49.23**	**311**	*e*P	**P**	**09 35 03.6**	**-0.1**
KURK				pmax	pmax		
	comp=Z,30nm,0.8s						
KURK	**Kurchatov**	**49.23**	**311**	*e*P	**P**	**09 35 03.6**	**-0.1**
	comp=Z,30nm,0.8s						
KURBB	**Kurchatov Arra**	**49.30**	**311**	P	**P**	**09 35 04.1**	**-0.1**
	comp=Z,14nm,0.7s,baz=85,slow=4.4,SNR=98						
DMN	**Daman**	**49.35**	**280**	*e*P	**P**	**09 35 04.7**	**-0.6**
	comp=Z,16nm,0.8s						
PDGK	**Podgornoye**	**49.59**	**301**	P	**P**	**09 35 06.1**	**-0.4**
PDGK				pmax	pmax		
	comp=Z,13nm,1.1s						
GKN	**Gorkha**	**49.60**	**280**	*e*P	**P**	**09 35 07.0**	**-0.1**
	comp=Z,56nm,1.0s						
KOLN	**Koldanda**	**50.54**	**281**	*e*P	**P**	**09 35 14.3**	**0.0**
	comp=Z,20nm,0.9s						
PSI	**Prapat**	**50.62**	**243**	P	**P**	**09 35 14.6**	**-0.2**
	comp=Z,8.5nm,0.7s,baz=335,slow=2.0,SNR=7.9						
PSI	**Prapat**	**50.62**	**243**	P	**P**		
PSI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PSI	**Prapat**	**50.62**	**243**	P	**P**	**09 35 14.6**	**-0.2**
	comp=Z,9.5nm,0.8s						
LEM	**Lembang**	**51.62**	**226**	LR	LR	09 56 38.2	
	comp=Z,38nm,20.0s,baz=356,slow=35						
TKM2	**Tokmak 2**	**52.46**	**302**	*e*P	**P**	**09 35 29.4**	**+1.0**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TKM2	**Tokmak 2**	**52.46**	**302**	*e*P	**P**	**09 35 29.4**	**+1.0**
	comp=Z,5.7nm,0.9s						
ILAR	**Eielson Array**	**52.50**	**31**	P	**P**	**09 35 28.4**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=265,slow=5.7,SNR=11						
GSI	**Gunungsitoli**	**52.61**	**243**	*e*P	**P**	**09 35 29.2**	**-0.4**
KSH	**Kashi**	**52.99**	**297**	P	P	09 35 36.3	+4.0
KSH				sP	sP	09 35 42.4	+3.0
KSH				PcP	**PcP**	**09 36 43.9**	**+3.0**
KSH				PP	**PP**	**09 37 35.4**	**+3.5**
KSH				PcS	**PcS**	**09 40 40.9**	**+1.1**
KSH				S	**S**	**09 43 04.9**	**+3.4**
KSH				sS	sS	09 43 11.5	+1.6
KSH				PMZ			
	comp=Z,8.0nm,0.9s						
KSH				PMZ			
	comp=Z,89nm,5.3s						
KSH				LN			
	comp=Z,89nm,6.6s						
KSH				LE			
	comp=Z,85nm,4.7s						
WRAB	**Tennant Creek**	**53.16**	**190**	*c*/*e*P	**P**	**09 35 32.4**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,16nm,0.8s						
WRAB	**Tennant Creek**	**53.16**	**190**	*e*P	**P**	**09 35 31.9**	**-1.5**
	comp=Z,6.7nm,0.8s						
WRA	**Warramunga Arr**	**53.17**	**190**	P	**P**	**09 35 32.0**	**-1.4**
	comp=Z,6.4nm,0.7s,baz=8.4,slow=7.6,SNR=49						
BVA0	**Borovoye Array**	**54.04**	**315**	*i* P	**P**	**09 35 39.0**	**-0.6**
BVA0				pmax	pmax		
	comp=Z,449nm,0.1s						
BRVK	**Borovoye**	**54.10**	**315**	*e*P	**P**	**09 35 40.3**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BRVK	**Borovoye**	**54.10**	**315**	*e*P	**P**	**09 35 40.3**	**+0.2**
	comp=Z,5.9nm,0.8s						
KKAR	**Karatay Array**	**56.03**	**303**	*e*P	**P**	**09 35 54.8**	**+0.6**
KKAR	**Karatay Array**	**56.03**	**303**	*e*P	**P**	**09 35 54.8**	**+0.6**
ASAR	**Alice Springs**	**56.89**	**189**	P	**P**	**09 35 59.2**	**-1.1**

comp=Z,0.8nm,0.6s,baz=16,slow=14,SNR=12
ASAR PcP **PcP** 09 36 56.8 +1.0
comp=Z,1.6nm,0.9s,baz=7.6,slow=4.4,SNR=5.3
ARU Arti 60.05 320 *d* iP P 09 36 21.8 -0.3
ARU 09 38 31.0
ARU S **S** 09 44 38.2 +4.1
ARU SS **SS** 09 48 32.3 +1.9
ARU pmax pmax
comp=Z,20nm,1.2s
ARU Arti 60.05 320 *e*P P 09 36 22.2 +0.1
comp=Z,14nm,0.9s
AB31 Akbulak array 61.31 312 P P 09 36 30.2 -0.6
AB31 pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 61.31 312 *e*P P 09 36 30.5 -0.3
AKTO Aktyubinsk 62.12 314 P P 09 36 36.0 -0.3
baz=78,slow=12
AKTO Aktyubinsk 62.12 314 P P 09 36 35.1 -1.2
AKTO pmax pmax
comp=Z,11nm,0.8s
RES Resolute Bay 66.33 14 *e*P P 09 37 02.3 -1.1
RES pmax pmax
comp=Z,11nm,0.9s
RES Resolute Bay 66.33 14 *e*P P 09 37 02.3 -1.1
comp=Z,11nm,0.9s
YKA Yellowknife Ar 66.90 29 P P 09 37 07.4 +0.2
comp=Z,2.8nm,0.8s,baz=296,slow=6.3,SNR=15
YKA Yellowknife Ar 66.90 29 P P 09 37 07.4 +0.2
YKA pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 68.14 340 LR LR 10 12 34.2
comp=Z,24nm,18.0s,baz=297,slow=41
OBN Obninsk 71.93 324 *ce*P P 09 37 38.9 +0.5
OBN *e* 09 38 02.2
OBN *e* 09 40 13.9
OBN *e*SS SS 09 51 33.3 -1.1
OBN pmax pmax
comp=Z,5.0nm,0.5s
OBN MLR MLR
comp=Z,71nm,17.0s
J05D Fort Rock, OR 72.36 50 P P 09 37 40.3 -1.2
baz=72
FINES FINESS Array B 72.86 333 P P 09 37 44.1 +0.2
comp=Z,9.4nm,0.8s,baz=72,slow=6.2,SNR=18
KBZ Khabaz 74.28 312 P P 09 37 53.7 +1.1
comp=Z,9.9nm,0.8s,baz=88,slow=2.1,SNR=19
KIV Kislovodsk 74.30 312 *e*P P 09 37 54.1 +1.2
KIV pmax pmax
comp=Z,15nm,0.9s
KIV MLR MLR
comp=Z,43nm,18.0s
GNI Garni 74.91 308⇑ *e*P P 09 37 57.8 +1.2
GNI pmax pmax
comp=Z,9.0nm,1.2s
FFC Flin Flon 76.65 33 *e*P P 09 38 06.9 +0.9
FFC Flin Flon 76.65 33 *e*P P 09 38 06.9 +0.9
NVAR Mina Array Bea 76.72 53 P P 09 38 08.0 +1.0
comp=Z,0.7nm,0.8s,baz=294,slow=4.6,SNR=4.7
EGMT Eagleton 76.74 41 P P 09 38 07.8 +0.9
baz=77
A19A Klindworth Far 76.78 40 P P 09 38 08.0 +1.1
baz=77,SNR=9.4
B19A Brinkman Farms 76.94 40 P P 09 38 09.2 +1.3
baz=77,SNR=9.0
BOZ Bozeman (W) 77.02 44 P P 09 38 09.1 +0.6
baz=77
A20A Cobblestone Ra 77.25 40 P P 09 38 10.2 +0.6
baz=77
B20A Solberg Farm, 77.45 40 P P 09 38 11.3 +0.6
baz=77
PKM Mcpherson Peak 77.52 57 P P 09 38 12.3 +0.8
baz=77
VES Vestal, Richgr 77.54 55 P P 09 38 12.3 +1.0
baz=77
A21A Bergtoll Ranch 77.71 39 P P 09 38 12.9 +0.7
baz=78
B21A Ellsworth Farm 78.00 40 P P 09 38 14.0 +0.2
baz=78,SNR=8.4
AKASG Malin Array Be 78.10 323 P P 09 38 14.0 -0.2
comp=Z,3.3nm,0.7s,baz=44,slow=5.8,SNR=18
AKBB Malin Array Si 78.10 323 *e*P P 09 38 14.3 +0.1
AKBB Malin Array Si 78.10 323 *e*P P 09 38 14.3 +0.1
AK01 Malin Array Si 78.11 323 *e*P P 09 38 14.2 -0.1
KIEV Kiev 78.11 323 *de*P P 09 38 14.0 -0.2
KIEV Kiev 78.11 323 *e*P P 09 38 13.3 -0.9
BSC Santa Cruz Isl 78.12 57 P P 09 38 15.2 +0.5
baz=78
AK02 Malin Array Si 78.13 323 *e*P P 09 38 14.2 -0.2
A22A Carney Farms, 78.25 39 P P 09 38 15.6 +0.5
baz=78
NB2 NORSAR Subarra 78.31 338 P P 09 38 15.2 0.0
comp=Z,9.5nm,1.0s,baz=38,slow=5.6
NOA NORSAR Array B 78.31 338 P P 09 38 15.1 -0.2
comp=Z,5.4nm,0.8s,baz=39,slow=5.6,SNR=17
C21A Desert Coulee 78.31 40 P P 09 38 17.0 +1.4
baz=78,SNR=6.0
MPMC Manual Prospec 78.52 55 P P 09 38 17.4 +0.3
baz=78
R11A Troy Canyon, C 78.57 52 P P 09 38 17.1 -0.2
baz=78
B22A Reddig Ranch S 78.62 39 P P 09 38 17.8 +0.6
baz=78
D21A La Casta Ranch 78.82 41 P P 09 38 19.2 +0.8
baz=79
TPNV Topopah Spring 78.89 53 P P 09 38 19.0 0.0
baz=79
C22A Vida 79.02 40 P P 09 38 19.2 -0.2
baz=79
D22A Cohagen 79.22 40 P P 09 38 21.4 +0.9
baz=79,SNR=6.6
A24A Westby 79.29 38 P P 09 38 21.1 +0.2
baz=79
DUG Dugway, Tooele 79.34 49 P P 09 38 21.8 +0.3
baz=79
C23A Lambert 79.36 39 P P 09 38 21.6 +0.3
baz=79
DGMT Dagmar 79.47 38 P P 09 38 22.4 +0.6
baz=79
LAO LASA Array 79.47 41 P P 09 38 22.4 +0.4
baz=79
LAO LASA Array 79.47 41 *e*P P 09 38 23.9 +2.0
comp=Z,8.5nm,1.1s
I19A Meeteetse 79.47 44 P P 09 38 22.2 0.0
baz=79
A25A Svangstu Ranch 79.73 38 P P 09 38 23.4 +0.1
baz=80
E22A Miles City 79.77 41 P P 09 38 24.0 +0.4
baz=80
G21A Lodge Grass 79.80 42 P P 09 38 24.3 +0.5
baz=80
PDAR Pinedale Array 79.88 45 P P 09 38 24.9 +0.4
comp=Z,1.0nm,0.9s,baz=324,slow=2.0,SNR=5.9
J19A Crowheart 79.89 45 P P 09 38 24.9 +0.4
baz=80
F22A Rosebud 80.00 41 P P 09 38 25.6 +0.8
baz=80
E23A Ismay 80.09 40 P P 09 38 27.0 +1.7
baz=80,SNR=5.4
A26A Wade Farm, Ken 80.31 37 P P 09 38 27.0 +0.6
baz=80
J20A Shoshoni 80.41 44 P P 09 38 27.8 +0.6
baz=80
F23A Volborg 80.51 41 P P 09 38 27.7 +0.2
baz=80
E24A Baker 80.59 40 P P 09 38 28.4 +0.4
baz=80
A27A Ledoux Ranch, 80.68 37 P P 09 38 28.8 +0.5
baz=80
D25A Fairfield 80.75 39 P P 09 38 29.6 +0.8
baz=81
J21A Lysite 80.79 44 P P 09 38 29.8 +0.5
baz=81
G23A Biddle 80.84 42 P P 09 38 30.0 +0.6
baz=81
BAR Barrett 80.91 57 *e*P P 09 38 38.8 +8.8
F24A Ekalaka 80.96 41 P P 09 38 30.6 +0.6
baz=81
I22A 9 Mile Ranch, 81.02 43 P P 09 38 31.1 +0.7
baz=81
E25A Miller Ranch, 81.12 40 P P 09 38 31.2 +0.4
baz=81
A28A Rude Farm, Bot 81.19 36 P P 09 38 31.4 +0.3
baz=81
J22A Midwest 81.31 43 P P 09 38 32.3 +0.3
baz=81,SNR=7.2
SRU San Rafael Swe 81.41 49 *e*P P 09 38 33.9 +1.2
SRU San Rafael Swe 81.41 49 *e*P P 09 38 33.9 +1.2

I23A Meade Ranch, G 81.56 43 P P 09 38 33.4 +0.1
baz=81
H24A Dirks Ranch, A 81.58 42 P P 09 38 33.5 +0.1
baz=81
E26A Carlson Angus 81.64 39 P P 09 38 33.7 +0.2
baz=81
A29A Manning Farm, 81.70 36 P P 09 38 34.5 +0.7
baz=82
K22A Casper 81.75 44 P P 09 38 34.7 +0.4
baz=82
C28A Hausauer Farms 81.92 37 P P 09 38 35.5 +0.6
baz=82
F26A Lodgepole 81.92 40 P P 09 38 35.6 +0.5
baz=82
B29A Wagenman Farm, 81.94 36 P P 09 38 35.4 +0.3
baz=82
PPT Papeete 81.99 117 LR LR 10 09 04.3
comp=Z,20nm,20.9s,baz=330,slow=31
TESR Tescani 82.07 321⇑ *i*P P 09 38 36.0 +0.3
BUR08 Bucovina Ar. S 82.08 323 *e*P P 09 38 36.6 +0.7
BURAR Bucovina Array 82.09 323 ⇓P P 09 38 36.5 +0.5
BURAR Bucovina Array 82.09 323 ⇓ *i*P P 09 38 36.5 +0.5
E27A Carson 82.14 39 P P 09 38 36.4 +0.2
baz=82
MDND Maddock 82.23 37 P P 09 38 37.1 +0.6
baz=82
O20A White River Ci 82.23 47 P P 09 38 37.0 0.0
baz=82
F27A Lemmon 82.26 40 P P 09 38 37.1 +0.3
baz=82
BR131 Keskin Array S 82.26 313 *e*P P 09 38 37.5 +0.5
comp=Z,2.2nm,0.8s
BRTR Keskin Array B 82.26 313 P P 09 38 37.5 +0.4
comp=Z,2.9nm,0.8s,baz=108,slow=4.0,SNR=12
G26A Maurine 82.32 40 P P 09 38 37.7 +0.5
baz=82
VRI Vrincioaia 82.44 321 ⇓P P 09 38 39.7 +2.0
VRI Vrincioaia 82.44 321 ⇓ *i*P P 09 38 39.7 +2.0
B30A Myrvik Farm, E 82.46 36 P P 09 38 38.2 +0.4
baz=82
I25A Rochford 82.50 42 P P 09 38 38.3 0.0
baz=82
G27A Dupree 82.62 40 P P 09 38 38.8 0.0
baz=82
STHS Stebnicka Huta 82.83 326 *e*P P 09 38 40.7 +1.0
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 82.83 326 *e*P P 09 38 40.7 +1.0
WUAZ Wupatki 82.95 52 P P 09 38 41.1 +0.3
baz=83
H27A Howes 83.02 41 P P 09 38 41.2 +0.4
baz=83
E29A Napoleon 83.06 38 P P 09 38 41.5 +0.5
baz=83
DOPR Dopca 83.08 321 ⇓ *i*P P 09 38 42.5 +1.4
MLR Muntele Rosu 83.10 321 ⇓P P 09 38 42.5 +1.2
MLR Muntele Rosu 83.10 321 ⇓ *i*P P 09 38 42.5 +1.2
D30A Buchanan 83.15 37 P P 09 38 40.6 -0.8
baz=83
N23A Red Feather La 83.17 45 P P 09 38 42.4 +0.5
baz=83
PV01 Paradox Valley 83.22 49 *e*P P 09 38 42.1 -0.1
comp=Z,378nm,1.0s
I27A Quinn 83.40 41 P P 09 38 42.4 -0.4
baz=83
E30A Jud 83.48 38 P P 09 38 43.1 0.0
baz=83
VOIR 83.61 321 ⇓P P 09 38 43.9 0.0
VOIR 83.61 321 ⇓ *i*P P 09 38 43.9 0.0
VOIR 83.61 321 ⇓ *i*P P 09 38 44.0 0.0
MVCO Mesa Verde 83.82 49 P P 09 38 45.6 +0.3
baz=84
MVCO Mesa Verde 83.82 49 *e*P P 09 38 46.8 +1.4
I28A Midland 83.93 41 P P 09 38 45.5 0.0
baz=84
J27A Elkhorn Farm, 83.95 42 P P 09 38 44.1 -1.6
baz=84
ISCO Idaho Springs 84.04 46 *e*P P 09 38 47.7 +1.2
ISCO pmax pmax
comp=Z,1.0nm,0.5s
ISCO Idaho Springs 84.04 46 P P 09 38 47.2 +0.7
baz=84
ISCO Idaho Springs 84.04 46 *e*P P 09 38 47.7 +1.2
comp=Z,0.6nm,0.5s
P23A Jefferson 84.17 46 P P 09 38 47.2 0.0
baz=84
MORC Moravsky Berou 84.28 328 P P 09 38 47.4 +0.2
MORC pmax pmax
comp=Z,28nm,1.3s
MORC Moravsky Berou 84.28 328 P P 09 38 47.4 +0.2
comp=Z,28nm,1.3s
DPC Dobruska-Polom 84.41 329 *e*P P 09 38 48.6 +0.8
DPC *ep*P **pP** 09 38 53.7 +0.6
DPC *ex* x 09 38 59.9
DPC Dobruska-Polom 84.41 329 *e*P P 09 38 48.6 +0.8
DPC *e* 09 38 59.9
UPC Upice 84.43 329 *e*P P 09 38 48.5 +0.7
UPC Upice 84.43 329 *e*P P 09 38 48.5 +0.7
PSZ Piszkesteto 84.52 325 ⇓P P 09 38 49.1 +0.7
PSZ Piszkesteto 84.52 325 ⇓ *i*P P 09 38 49.1 +0.7
PSZ Piszkesteto 84.52 325 *e*P P 09 38 48.2 -0.3
comp=Z,18nm,0.9s
S22A 4UR Ranch, Cre 84.56 48 P P 09 38 49.8 +0.6
baz=84,SNR=5.9
K28A Ten Mile Ranch 84.66 42 P P 09 38 49.2 -0.1
baz=84
R23A Moffat 84.91 47 P P 09 38 50.9 0.0
baz=85
PVCC Panska Ves 85.03 330 *e*P P 09 38 51.6 +0.7
PVCC Panska Ves 85.03 330 *e*P P 09 38 51.6 +0.7
BRG Berggiesshubel 85.03 330 *e*P P 09 38 51.0 +0.1
comp=Z,7.8nm,1.0s
BRG Berggiesshubel 85.03 330 *e*P P 09 38 51.0 +0.1
BRG pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 85.09 331 ⇓ *i*P P 09 38 50.9 -0.3
comp=Z,12nm,0.9s
CLL Collm 85.09 331 ⇓ *i*P P 09 38 50.9 -0.3
CLL pmax pmax
comp=Z,12nm,0.9s
J30A Dallas 85.29 40 P P 09 38 53.5 +1.1
baz=85
SDCO Great Sand Dun 85.38 48 P P 09 38 52.9 -0.4
baz=85
PRU Pruhonice 85.45 329 *e*P P 09 38 53.2 +0.2
PRU Pruhonice 85.45 329 *e*P P 09 38 53.2 +0.2
TREC Trest 85.55 328 *e*P P 09 38 54.0 +0.5
TREC Trest 85.55 328 *e*P P 09 38 54.0 +0.5
Q26A Hugo 85.85 46 P P 09 38 55.6 +0.2
baz=86
R26A Arlington 86.29 46 P P 09 38 57.8 +0.2
baz=86
PKSM Moragy 86.33 325 ⇓P P 09 38 57.1 -0.3
PKSM Moragy 86.33 325 ⇓ *i*P P 09 38 57.1 -0.3
KHC Kasperske Hory 86.50 329 *e*P P 09 38 58.7 +0.4
KHC Kasperske Hory 86.50 329 *e*P P 09 38 58.7 +0.4
ANMO Albuquerque 86.51 50⇓ *e*P P 09 39 00.2 +1.4
ANMO pmax pmax
comp=Z,9.0nm,1.2s
ECSD EROS Data Cent 86.55 39 P P 09 38 58.1 -0.4
baz=86
TXAR Lajitas Array 91.87 53 P P 09 39 24.9 +0.9
comp=Z,1.1nm,0.8s,baz=302,slow=3.4,SNR=14
TORD Torodi Ar. Bea 120.84 314 PKP **PKPdf** 09 45 07.7 -0.6
comp=Z,1.0nm,0.9s,baz=28,slow=2.3,SNR=4.3
SAML Samuel 146.32 51 *e*PKPbc **PKPbc** 09 45 56.5 -0.3
LPAZ La Paz 147.73 67 PKPbc **PKPbc** 09 46 01.8 +0.3
comp=Z,2.0nm,0.6s,baz=349,slow=5.2,SNR=10

IDC **16** *09:37:04.8±1.3,1.98S×136.62E,h0km,mb3.7/4, mb1 4.0/6,mb1mx3.7/40,mbtmp3.7/6,ML3.6/2,Error ellipse: s-maj=40.0km s-min=25.1km az=80.0*
DJA **16** *09:37:08.4±0.6,2.2S±5×13.6E±°,h10km±3km,M4.1/7, MLv4.1/7*
ISCJB **16** *09:37:09.1±0.6,2.07S±0.07×136.35E±0.05,h33km, mb3.7/4,Error ellipse: s-maj=9.9km s-min=6.6km az=13.3*
ISC 16 09:37:10.9±0.9,2.1S±0.1×136.28E±0.04,h35km,n12,
σ2s33/14,mb3.8/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SRPI	**Serui, Papua**	**0.19**	**349**	P	Pn		09 37 09.8	-7.9
SRPI				S	Sn		09 37 13.9	-8.4
RKPI	**Ransiki, Papua**	**2.17**	**285**	P	**Pn**		**09 37 44.2**	**-0.3**
RKPI				S	**Sn**		**09 38 11.1**	**+0.9**
SMPI	**Sarmi**	**2.43**	**88**	P	**Pn**		**09 37 46.6**	**-1.6**
SMPI				S	**Sn**		**09 38 19.4**	**+2.7**
GENI	**Genyem**	**3.92**	**98**	P	**Pn**		**09 38 09.4**	**+0.7**
GENI				S	**Sn**		**09 38 57.7**	**+4.1**
FAKI	**Fak Fak**	**4.11**	**258**	P	**Pn**		**09 38 12.3**	**+1.0**
FAKI				S	**Sn**		**09 39 02.0**	**+3.8**
SIJI	**Sorong**	**5.15**	**283**	Pn	Pn		09 38 27.5	+2.0
	1.2nm,0.3s,baz=118,slow=7.4,SNR=4.6							
WRA	**Warramunga Arr**	**17.87**	**186**	P	**P**		**09 41 16.3**	**-1.0**
	0.3nm,0.3s,baz=9.1,slow=13,SNR=15							
WRA				S	**Sn**		**09 44 32.2**	**-3.1**
	0.1nm,0.3s,baz=4.7,slow=23,SNR=3.5							
ASAR	**Alice Springs**	**21.60**	**186**	P	**P**		**09 41 57.5**	**-0.5**
	1.9nm,0.4s,baz=12,slow=11,SNR=23							
CMAR	**Chiang Mai Arr**	**42.01**	**301**	P	P		09 45 00.7	+1.5
	1.0nm,0.3s,baz=117,slow=7.2,SNR=5.2							
MKAR	**Makanchi Array**	**67.80**	**323**	P	**P**		**09 48 04.7**	**-0.7**
	0.4nm,0.6s,baz=110,slow=7.8,SNR=5.3							
ILAR	**Eielson Array**	**86.26**	**25**	P	**P**		**09 49 47.1**	**-1.6**
	0.3nm,0.9s,baz=252,slow=4.4,SNR=4.0							
TORD	**Torodi Ar. Bea**	**133.74**	**286**	PKP	**PKPdf**		**09 56 26.6**	**+1.4**
	0.5nm,0.8s,baz=84,slow=1.5,SNR=2.5							

IDC 16 09:38:33.3±2.9,1.75S×136.91E,h0km,mb3.5/2, mb1 3.9/3,mb1mx3.5/37,mbtmp3.6/3,ML3.6/1,MS3.0/1, Ms1 3.0/1,ms1mx2.4/22,Error ellipse: s-maj=115.6km s-min=27.9km az=81.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
WRA	**Warramunga Arr**	**18.26**	**188**	P	Pn		09 42 47.9	-0.4
	0.2nm,0.3s,baz=9.4,slow=12,SNR=5.2							
ASAR	**Alice Springs**	**21.98**	**187**	P	P		09 43 29.1	0.0
	2.5nm,0.7s,baz=13,slow=11,SNR=6.8							
ASAR				LR	LR		09 53 10.6	
	comp=Z,45nm,20.5s,baz=49,slow=40							
MKAR	**Makanchi Array**	**67.94**	**323**	P	P		09 49 34.2	+0.1
	0.2nm,0.7s,baz=123,slow=5.3,SNR=2.0							

JMA **16** *09:43:54.0±0.1,24.01N×121.70E,h0km,M3.3*
TAP **16** *09:43:55.9,24.06N×121.64E,h17km,ML3.9,B*
ISCJB **16** *09:43:56.2±0.3,24.02N±0.02×121.70E±0.02,h16km±4km, Error ellipse: s-maj=3.3km s-min=2.0km az=37.4*
ISC 16 09:43:55.8±0.8,24.04N±0.02×121.67E±0.02,h17km±5km, n68,σ0°60/106,12C-12D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
TWD	**Chiawan**	**0.08**	**303⇑**	*i*P	**Pg**		**09 43 59.0**	**-0.2**
TWD	baz=311			*e*S	**Sg**		**09 44 00.8**	**-0.7**
HWA	**Hwalien**	**0.08**	**224⇑**	*i*P	**Pg**		**09 43 59.7**	**+0.5**
HWA	baz=196			*i* S	**Sg**		**09 44 02.5**	**+1.1**
ESF	**Shoufeng Towns**	**0.22**	**222**	*e*P	**Pb**		**09 44 02.0**	**+0.7**
EHP	**Heping Village**	**0.28**	**14**	*e*P	**Pb**		**09 44 02.8**	**+0.4**
EHP	baz=221			*e*S	**Sb**		**09 44 07.1**	**+0.3**
ESL	**Shilin**	**0.31**	**224⇑**	P	**Pb**		**09 44 02.4**	**-0.5**
ESL	baz=221			*e*S	**Sg**		**09 44 06.6**	**-0.4**
TEGC	**Jichi Village**	**0.35**	**200**	*e*P	**Pb**		**09 44 04.7**	**+1.2**
ENA	**Nanau**	**0.40**	**10⇑**	*i*P	**Pb**		**09 44 03.9**	**-0.5**
ENA	baz=7.0			*e*S	**Sg**		**09 44 09.1**	**-0.4**
NNS	**Nan Shan**	**0.48**	**326⇑**	*i*P	**Pg**		**09 44 05.3**	**-0.3**
NNS	baz=327			S	**Sg**		**09 44 11.5**	**-0.7**
TWT	**Tachien**	**0.50**	**296⇑**	P	**Pb**		**09 44 06.0**	**-0.2**
TWT	baz=294			*i* S	**Sg**		**09 44 12.6**	**-0.1**
WDT	**Danda**	**0.56**	**240⇓**	*i*P	**Pg**		**09 44 07.0**	**-0.2**
WDT	baz=238			S	**Sb**		**09 44 14.7**	**-0.6**
TWC	**Suao**	**0.59**	**16⇑**	*i*P	**Pb**		**09 44 07.7**	**-0.1**
TWC	baz=14			*i* S	**Sb**		**09 44 15.5**	**-0.3**
ENTT	**Nioudou**	**0.61**	**351⇑**	*i*P	**Pb**		**09 44 07.7**	**-0.3**
ENTT	baz=345			S	**Sb**		**09 44 16.1**	**-0.2**
EHY	**Hungye**	**0.62**	**211**	P	**Pg**		**09 44 07.0**	**-1.1**
TWE	baz=207			*e*S	**Sb**		**09 44 19.2**	**+0.8**
TWE	**Neicheng**	**0.68**	**360⇓**	*e*P	**Pb**		**09 44 09.4**	**+0.2**
NSK	**Sanguang**	**0.70**	**336⇑**	*i*P	**Pg**		**09 44 09.1**	**-0.4**
NSK	baz=337			*e*S	**Sg**		**09 44 18.1**	**-0.7**
SMLT	**Sun Moon Lake**	**0.72**	**258⇓**	*i*P	**Pg**		**09 44 09.6**	**-0.4**
SMLT	baz=256			*e*S	**Sg**		**09 44 18.7**	**-0.8**
ILA	**Ilan**	**0.73**	**6**	*e*P	**Pb**		**09 44 10.2**	**+0.1**
TYC	**Yuchr**	**0.75**	**260⇓**	*i*P	**Pg**		**09 44 10.0**	**-0.6**
TYC	baz=258			*e*S	**Sg**		**09 44 19.9**	**-0.7**
TWF1	**Yuli**	**0.76**	**207**	*e*P	**Pg**		**09 44 09.3**	**-1.5**
EGS	baz=213	**0.84**	**17⇑**	*i*P	**Pn**		**09 44 12.4**	**-0.4**
EGS	baz=17			*e*S	**Sn**		**09 44 24.1**	**-0.6**
NSTT	**Nanjuang**	**0.85**	**314⇑**	*i*P	**Pb**		**09 44 12.2**	**+0.1**
NSTT	baz=314			*i* S	**Sg**		**09 44 22.8**	**-0.8**
YUS	**Yu-Shan**	**0.85**	**230⇓**	*i*P	**Pg**		**09 44 12.3**	**-0.3**
YUS	baz=218			*e*S	**Sg**		**09 44 23.4**	**-0.5**
TWQ1	**Liyutan**	**0.87**	**291**	⇓P	**Pn**		**09 44 13.0**	**-0.3**
NSY	baz=291 **Sanyi**	**0.91**	**295**	⇓P	**Pn**		**09 44 14.0**	**+0.2**
NSY	baz=302			S	**Sn**		**09 44 26.1**	**-0.5**
TCU	**Taichung**	**0.91**	**277⇓**	*i*P	**Pn**		**09 44 14.2**	**+0.4**
TCU	baz=276			*e*S	**Sn**		**09 44 26.9**	**+0.3**
WNT	**Mingjian**	**0.91**	**260**	*e*P	**Pn**		**09 44 13.9**	**+0.1**
WNT	baz=259			*e*S	**Sn**		**09 44 27.0**	**+0.4**
TWA	**Mucha**	**0.94**	**355**	*e*P	**Pg**		**09 44 13.8**	**-0.3**
TWA	baz=349			*e*S	**Sb**		**09 44 26.1**	**+0.2**
ALS	**Alishan**	**0.95**	**237**	⇓P	**Pb**		**09 44 13.9**	**-0.1**
ALS	baz=227			*e*S	**Sg**		**09 44 26.7**	**-0.2**
CHKT	**Chengkung**	**0.97**	**197⇑**	*e*P	**Pb**		**09 44 13.8**	**-0.4**
HSN	baz=210 **Hsinchu**	**0.99**	**320**	*e*P	**Pn**		**09 44 15.3**	**+0.4**
HSN	baz=322			*e*S	**Sn**		**09 44 29.7**	**+1.1**
TAP1	**Taipei**	**1.01**	**352**	*e*P	**Pn**		**09 44 15.5**	**+0.4**
TAP1	baz=350			*e*S	**Sg**		**09 44 28.1**	**-0.5**
CHN5	**Tsauling**	**1.01**	**244⇓**	*i*P	**Pn**		**09 44 15.5**	**+0.3**
CHN5	baz=244			*e*S	**Sn**		**09 44 29.7**	**+0.6**
TAP	**Taipei**	**1.01**	**352**	*e*P	**Pn**		**09 44 15.7**	**+0.5**
	baz=352							

TWB1	**Santiao Chiao**	**1.01**	**17**	P		**Pn**	**09 44 15.2**	**0.0**
	baz=9.0								
TWB1				*e*S		**Sb**	**09 44 28.0**	**+0.2**
	baz=9.0								
NCU	**National Centr**	**1.03**	**335**	*e*P		**Pn**	**09 44 16.0**	**+0.5**
	baz=333								
NCU				*e*S		**Sn**	**09 44 30.2**	**+0.8**
	baz=333								
ELDTW	**Lidau**	**1.03**	**215**	*e*P		**Pb**	**09 44 14.6**	**-0.7**
	baz=213								
NWF	**Wu-fen Shan**	**1.03**	**6**	*e*P		**Pg**	**09 44 15.6**	**-0.3**
	baz=5.0								
WGK	**Gukeng**	**1.07**	**251**	*e*P		**Pg**	**09 44 16.6**	**0.0**
	baz=250								
TWS1	**Kuangyinshan**	**1.08**	**348**	*e*P		**Pg**	**09 44 16.8**	**0.0**
	baz=1.0								
TWS1				*e*S		**Sn**	**09 44 32.2**	**+1.4**
	baz=1.0								
CHN4	**Tsaushan**	**1.20**	**235**	*e*P		**Pg**	**09 44 18.3**	**-0.7**
	baz=225								
CHN4				*e*S		**Sg**	**09 44 36.2**	**+1.5**
	baz=225								
CHN2	**Minshiung**	**1.20**	**246**	*e*P		**Pb**	**09 44 18.1**	**-0.1**
	baz=245								
STYT	**Tauyuan**	**1.21**	**224**	*e*P		**Pn**	**09 44 17.9**	**-0.1**
	baz=223								
TWY	**Chenhua**	**1.23**	**357**	*e*P		**Pg**	**09 44 19.9**	**+0.1**
	baz=344								
JYNG	**Yonagunijimaku**	**1.24**	**70**	P		**Pn**	**09 44 18.2**	**-0.1**
JYNG				S		**Sn**	**09 44 35.0**	**+0.4**
WTP	**Ta-pu**	**1.25**	**231**	⇓P		**Pb**	**09 44 19.0**	**+0.1**
	baz=230								
WTP				*e*S		**Sg**	**09 44 37.5**	**+1.2**
	baz=230								
CHY	**Chiayi**	**1.26**	**245**	*e*P		**Pg**	**09 44 19.9**	**-0.2**
	baz=244								
WTCT	**Ta-ch'eng**	**1.28**	**263**	*e*P		**Pn**	**09 44 18.1**	**-0.8**
	baz=262								
YOJ	**Yonaguni jima**	**1.30**	**71**	P		**Pn**	**09 44 19.2**	**+0.1**
YOJ				*e*S		**Sn**	**09 44 36.7**	**+0.7**
YOJ	**Yonaguni jima**	**1.30**	**71**	⇓P		**Pn**	**09 44 19.0**	**-0.1**
	baz=72								
TWK	**Hsinying**	**1.33**	**235**	*e*P		**Pg**	**09 44 20.8**	**-0.6**
	baz=235								
TWG	**Pinlang**	**1.33**	**204**	*e*P		**Pn**	**09 44 19.3**	**-0.2**
	baz=187								
CHN1	**Nanshi**	**1.35**	**231**	*e*P		**Pg**	**09 44 21.0**	**-0.8**
	baz=222								
CHN1				*e*S		**Sg**	**09 44 40.4**	**+1.0**
	baz=222								
SGST	**Jiashian**	**1.38**	**227**	*e*P		**Pb**	**09 44 21.0**	**-0.1**
	baz=226								
WSF	**Szhu**	**1.38**	**254**	*e*P		**Pb**	**09 44 21.4**	**+0.3**
	baz=252								
ECL	**Taimali**	**1.58**	**205**	*e*P		**Pb**	**09 44 24.1**	**-0.4**
	baz=192								
SSD	**Sandimen**	**1.60**	**217**	*e*P		**Pn**	**09 44 23.9**	**+0.6**
	baz=219								
PCYT	**Pengchaiyu**	**1.63**	**13**	*e*P		**Pb**	**09 44 25.1**	**-0.2**
	baz=11								
TWM1	**Shoushan**	**1.66**	**224**	*e*P		**Pb**	**09 44 26.6**	**+0.5**
	baz=225								
EAST	**Anshuo**	**1.81**	**205**	*e*P		**Pn**	**09 44 27.4**	**+1.1**
	baz=194								
IRIF	**Iriomote-Funau**	**1.91**	**81**	P		**Pn**	**09 44 27.8**	**+0.3**
IRIF				S		**Sn**	**09 44 52.5**	**+1.4**
SCZT	**Fangliau**	**1.92**	**210**	*e*P		**Pb**	**09 44 30.2**	**-0.1**
	baz=214								
HATJ	**Hateruma jima**	**1.95**	**89**	P		**Pn**	**09 44 28.1**	**-0.1**
HATJ				*e*S		**Sn**	**09 44 53.0**	**+0.7**
PNG	**Penghu**	**1.99**	**257**	*e*P		**Pn**	**09 44 29.0**	**+0.3**
	baz=257								
WDGT	**Dungji**	**2.00**	**248**	*e*P		**Pn**	**09 44 28.9**	**+0.2**
	baz=249								
JKRS	**Kuro-shima**	**2.15**	**84**	P		**Pn**	**09 44 31.3**	**+0.5**
JKRS				*e*S		**Sb**	**09 45 01.0**	**+0.4**
TWK1	**Hengchun**	**2.23**	**201**	*e*P		**Pb**	**09 44 34.1**	**-1.5**
	baz=186								
JIJ	**Ishigaki jima**	**2.28**	**81**	P		**Pn**	**09 44 32.6**	**-0.1**
JIJ				*e*S		**Sn**	**09 45 00.2**	**-0.2**
JISG	**Ishigakijimahi**	**2.47**	**77**	P		**Pn**	**09 44 35.3**	**0.0**
JISG				S		**Sn**	**09 45 04.7**	**-0.4**

IDC 16 09:44:03.7±2.5, 5°.69S×130°.21E, h0km, mb3.1/1, mb1 3.4/3, mb1mx3.3/34, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=168.4km s-min=30.9km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.72**	**165**	Pn		**Pn**	09 47 33.6	+0.2
	0.1nm,0.3s,baz=348,slow=13,SNR=7.0							
WRA				Sn		**Sn**	09 49 55.2	-22
	0.4nm,0.3s,baz=341,slow=22,SNR=8.4							
ASAR	**Alice Springs**	**18.22**	**169**	P		Pn	09 48 18.0	-0.2
	0.1nm,0.3s,baz=347,slow=12,SNR=6.6							
MKAR	**Makanchi Array**	**67.25**	**326**	P		P	09 55 00.1	0.0
	0.1nm,0.4s,baz=124,slow=7.8,SNR=2.8							

IDC 16 09:45:36.1±14.0, 19°.75S×178°.30W, h589km±188km, mb3.0/4, mb1 3.3/4, mb1mx2.8/31, mbtmp4.0/4, Error ellipse: s-maj=93.0km s-min=28.8km az=20.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.87**	**191**	P		P	09 49 19.8	-0.2
	15nm,0.3s,baz=283,slow=2.8,SNR=72							
CTA	**Charters Tower**	**33.29**	**263**	P		P	09 51 26.9	+0.3
	4.7nm,0.4s,baz=70,slow=13,SNR=9.4							
ASAR	**Alice Springs**	**44.42**	**256**	P		P	09 52 55.7	-0.4
	2.1nm,0.9s,baz=86,slow=8.5,SNR=9.5							
WRA	**Warramunga Arr**	**44.42**	**261**	P		P	09 52 55.8	-0.3
	0.9nm,0.6s,baz=96,slow=7.7,SNR=10.0							
TXAR	**Lajitas Array**	**86.89**	**57**	P		P	09 57 19.7	0.0
	0.2nm,0.5s,baz=228,slow=6.6,SNR=3.6							

IDC 16 09:46:54.2±3.5, 1°.70S×137°.10E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/33, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=141.6km s-min=29.3km az=82.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.33**	**188**	P		Pn	09 51 08.4	-1.7
	0.1nm,0.3s,baz=9.9,slow=12,SNR=4.4							
ASAR	**Alice Springs**	**22.06**	**188**	P		P	09 51 51.6	+0.8
	1.0nm,0.5s,baz=18,slow=11,SNR=9.5							
MKAR	**Makanchi Array**	**68.01**	**323**	P		P	09 57 55.5	0.0
	0.6nm,0.7s,baz=108,slow=7.9,SNR=4.3							

*JMA **16** 09:56:18.1±0.1, 24°.00N×121°.69E, h0km, M3.5*
*ISCJB **16** 09:56:20.3±0.3, 24°.02N±0°.02×121°.71E±0°.02, h17km±3km, Error ellipse: s-maj=3.1km s-min=1.9km az=135.2*
*TAP **16** 09:56:20.1, 24°.05N×121°.64E, h16km, ML4.0, B*
ISC 16 09:56:20.0±0.8, 24°.04N±0°.02×121°.67E±0°.02, h16km±5km, n75, σ0s77/121, 12C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.08**	**302**	⇑*i*P		**Pg**	**09 56 23.1**	**-0.1**
	baz=313							
TWD				*e*S		**Sg**	**09 56 24.9**	**-0.4**
	baz=313							
HWA	**Hwalien**	**0.09**	**225**	⇑*i*P		**Pg**	**09 56 23.8**	**+0.6**
	baz=195							
ESF	**Shoufeng Towns**	**0.22**	**222**	*e*P		**Pb**	**09 56 26.0**	**+0.3**
	baz=218							
EHP	**Heping Village**	**0.28**	**13**	P		**Pb**	**09 56 26.9**	**+0.2**
	baz=21							
EHP				*e*S		**Sb**	**09 56 31.2**	**0.0**
	baz=21							
ESL	**Shilin**	**0.31**	**224**	⇓*i*P		**Pg**	**09 56 26.5**	**0.0**
	baz=222							
ESL				*e*S		**Sg**	**09 56 31.2**	**+0.1**
	baz=222							
TEGC	**Jichi Village**	**0.35**	**200**	*e*P		**Pb**	**09 56 28.7**	**+0.9**
	baz=185							
WHF	**Hehuan Shan**	**0.39**	**286**	⇑*i*P		**Pg**	**09 56 28.3**	**+0.2**
	baz=278							
WHF				*i* S		**Sg**	**09 56 33.2**	**-0.4**
	baz=278							
ENA	**Nanau**	**0.39**	**9**	⇑*i*P		**Pg**	**09 56 28.1**	**0.0**
	baz=8.0							
NNS	**Nan Shan**	**0.48**	**326**	⇑*i*P		**Pg**	**09 56 29.5**	**-0.2**
	baz=327							
NNS				*e*S		**Sg**	**09 56 35.7**	**-0.7**
	baz=327							
TWT	**Tachien**	**0.50**	**295**	⇑*i*P		**Pg**	**09 56 30.3**	**+0.2**
	baz=294							
TWT				*i* S		**Sg**	**09 56 36.8**	**0.0**
	baz=294							
WDT	**Danda**	**0.57**	**240**	⇓*i*P		**Pg**	**09 56 31.2**	**-0.2**
	baz=238							
WDT				S		**Sg**	**09 56 38.8**	**-0.2**
	baz=238							
TWC	**Suao**	**0.59**	**16**	⇑*i*P		**Pg**	**09 56 31.8**	**+0.1**
	baz=14							
TWC				*i* S		**Sb**	**09 56 40.1**	**0.0**
	baz=14							
ENTT	**Nioudou**	**0.61**	**351**	⇑*i*P		**Pg**	**09 56 31.9**	**-0.1**
	baz=346							
ENTT				*e*S		**Sg**	**09 56 40.0**	**-0.1**
	baz=346							
EHY	**Hungye**	**0.62**	**211**	⇓*i*P		**Pg**	**09 56 31.3**	**-0.9**
	baz=207							
TWE	**Neicheng**	**0.68**	**360**	⇑*e*P		**Pg**	**09 56 33.3**	**-0.1**
	baz=2.0							
TWE				S		**Sg**	**09 56 42.2**	**-0.2**
	baz=2.0							
NSK	**Sanguang**	**0.70**	**336**	⇑*i*P		**Pg**	**09 56 33.4**	**-0.3**
	baz=337							
NSK				*e*S		**Sg**	**09 56 42.1**	**-0.8**
	baz=337							
SMLT	**Sun Moon Lake**	**0.72**	**258**	⇓*i*P		**Pg**	**09 56 33.9**	**-0.2**
	baz=256							
SMLT				S		**Sg**	**09 56 43.5**	**-0.3**
	baz=256							
ILA	**Ilan**	**0.73**	**5**	*e*P		**Pg**	**09 56 34.2**	**0.0**
	baz=1.0							
ILA				*e*S		**Sb**	**09 56 44.3**	**+0.3**
	baz=1.0							
TYC	**Yuchr**	**0.76**	**260**	⇓*i*P		**Pg**	**09 56 34.3**	**-0.5**
	baz=259							
TYC				S		**Sg**	**09 56 43.5**	**-1.3**
	baz=259							
TWF1	**Yuli**	**0.76**	**207**	*e*P		**Pg**	**09 56 33.5**	**-1.4**
	baz=213							
EGS		**0.84**	**16**	⇑*i*P		**Pg**	**09 56 36.6**	**+0.3**
	baz=19							
NSTT	**Nanjuang**	**0.85**	**314**	⇑*e*P		**Pb**	**09 56 36.5**	**+0.1**
	baz=314							
NSTT				*e*S		**Sb**	**09 56 46.9**	**-0.7**
	baz=314							
YUS	**Yu-Shan**	**0.86**	**231**	⇓*i*P		**Pb**	**09 56 36.6**	**-0.2**
	baz=218							
YUS				S		**Sb**	**09 56 47.5**	**-0.7**
	baz=218							
TWQ1	**Liyutan**	**0.88**	**291**	⇓P		**Pg**	**09 56 37.4**	**+0.3**
	baz=299							
TWQ1				*e*S		**Sg**	**09 56 48.8**	**+0.2**
	baz=299							
NSY	**Sanyi**	**0.91**	**295**	⇓*i*P		**Pn**	**09 56 38.3**	**+0.1**
	baz=303							
NSY				S		**Sg**	**09 56 50.3**	**+0.6**
	baz=303							
TCU	**Taichung**	**0.92**	**277**	⇓*i*P		**Pn**	**09 56 38.5**	**+0.2**
	baz=276							
TCU				*e*S		**Sn**	**09 56 51.0**	**-0.1**
	baz=276							
WNT	**Mingjian**	**0.92**	**260**	*e*P		**Pn**	**09 56 38.2**	**0.0**
	baz=259							
WNT				*e*S		**Sn**	**09 56 51.2**	**+0.1**
	baz=259							
TWA	**Mucha**	**0.94**	**355**	*e*P		**Pb**	**09 56 38.0**	**0.0**
	baz=347							
TWA				S		**Sg**	**09 56 50.9**	**+0.2**
	baz=347							
ALS	**Alishan**	**0.95**	**237**	⇓*i*P		**Pb**	**09 56 38.2**	**-0.1**
	baz=234							
CHKT	**Chengkung**	**0.97**	**197**	*e*P		**Pb**	**09 56 37.7**	**-0.8**
	baz=209							
CHKT				*e*S		**Sn**	**09 56 55.4**	**+2.9**
	baz=209							
HSN	**Hsinchu**	**0.99**	**320**	*e*P		**Pn**	**09 56 39.9**	**+0.6**
	baz=322							
HSN				*e*S		**Sn**	**09 56 53.4**	**+0.4**
	baz=322							
TAP1	**Taipei**	**1.01**	**352**	*e*P		**Pg**	**09 56 39.5**	**0.0**
	baz=350							
TAP1				*e*S		**Sb**	**09 56 52.3**	**+0.3**
	baz=350							
TAP	**Taipei**	**1.01**	**351**	*e*P		**Pn**	**09 56 39.5**	**0.0**
	baz=350							
TAP				*e*S		**Sg**	**09 56 52.7**	**-0.1**
	baz=350							
TWB1	**Santiao Chiao**	**1.01**	**17**	*e*P		**Pg**	**09 56 39.5**	**0.0**
	baz=11							
CHN5	**Tsauling**	**1.01**	**244**	⇓*i*P		**Pg**	**09 56 39.7**	**+0.2**
	baz=244							
CHN5				*i* S		**Sn**	**09 56 54.5**	**+1.0**
	baz=244							
NCU	**National Centr**	**1.03**	**335**	*e*P		**Pn**	**09 56 39.6**	**-0.1**
	baz=340							
NCU				*e*S		**Sn**	**09 56 55.2**	**+1.3**
	baz=340							
NWF	**Wu-fen Shan**	**1.03**	**6**	*e*P		**Pb**	**09 56 39.9**	**-0.1**
	baz=7.0							
ELDTW	**Lidau**	**1.04**	**216**	*e*P		**Pb**	**09 56 37.8**	**-1.8**
	baz=213							
WGK	**Gukeng**	**1.07**	**251**	*e*P		**Pg**	**09 56 40.6**	**-0.1**
	baz=250							
TWS1	**Kuangyinshan**	**1.08**	**348**	*e*P		**Pn**	**09 56 40.6**	**+0.1**
	baz=1.0							
TWS1				*e*S		**Sn**	**09 56 56.5**	**+1.3**
	baz=1.0							
CHN4	**Tsaushan**	**1.20**	**236**	⇓P		**Pb**	**09 56 42.8**	**+0.4**
	baz=224							
CHN4				S		**Sg**	**09 57 00.2**	**+1.3**
	baz=224							
CHN2	**Minshiung**	**1.21**	**246**	*e*P		**Pb**	**09 56 42.7**	**+0.3**
	baz=245							
CHN2				*e*S		**Sg**	**09 57 01.3**	**+2.3**
	baz=245							
STYT	**Tauyuan**	**1.21**	**224**	⇓P		**Pn**	**09 56 42.0**	**-0.4**
	baz=222							
JYNG	**Yonagunijimaku**	**1.23**	**70**	P		**Pn**	**09 56 42.5**	**-0.1**
JYNG				*e*S		**Sb**	**09 56 58.6**	**0.0**
TWY	**Chenhua**	**1.23**	**357**	*e*P		**Pg**	**09 56 43.9**	**0.0**
	baz=344							
WTP	**Ta-pu**	**1.25**	**231**	⇓P		**Pb**	**09 56 43.3**	**+0.1**
	baz=229							
CHY	**Chiayi**	**1.26**	**245**	*e*P		**Pg**	**09 56 44.7**	**+0.3**
	baz=255							
CHY				*e*S		**Sg**	**09 57 01.5**	**+0.6**
	baz=255							
WTCT	**Ta-ch'eng**	**1.28**	**263**	*e*P		**Pb**	**09 56 44.0**	**+0.3**
	baz=262							
WTCT				*e*S		**Sg**	**09 57 01.7**	**+0.2**
	baz=262							
YOJ	**Yonaguni jima**	**1.29**	**71**	P		**Pn**	**09 56 43.4**	**0.0**
YOJ				S		**Sn**	**09 57 00.9**	**+0.5**
YOJ	**Yonaguni jima**	**1.29**	**71**	⇓*i*P		**Pn**	**09 56 43.5**	**0.0**
	baz=88							
YOJ				*e*S		**Sg**	**09 57 01.3**	**-0.6**
	baz=88							
TWK	**Hsinying**	**1.33**	**235**	*e*P		**Pb**	**09 56 44.9**	**+0.3**
	baz=235							
TWK				*e*S		**Sg**	**09 57 04.0**	**+1.0**
	baz=235							
TWG	**Pinlang**	**1.33**	**205**	*e*P		**Pn**	**09 56 41.7**	**-2.2**
	baz=186							
CHN1	**Nanshi**	**1.35**	**231**	*e*P		**Pb**	**09 56 45.1**	**+0.2**
	baz=230							
SGST	**Jiashian**	**1.38**	**227**	*e*P		**Pn**	**09 56 45.0**	**+0.4**
	baz=226							
SGST				*e*S		**Sg**	**09 57 06.1**	**+1.6**
	baz=226							
WSF	**Szhu**	**1.39**	**254**	*e*P		**Pb**	**09 56 45.3**	**-0.3**
	baz=253							
WSF				*e*S		**Sg**	**09 57 04.9**	**+0.2**
	baz=253							
CHN8	**Yiju**	**1.50**	**243**	*e*P		**Pb**	**09 56 47.2**	**-0.3**
	baz=242							
ECL	**Taimali**	**1.58**	**205**	*e*P		**Pn**	**09 56 47.1**	**-0.2**
	baz=189							
SSD	**Sandimen**	**1.60**	**217**	*e*P		**Pn**	**09 56 48.3**	**+0.6**
	baz=227							
SCLT	**Jiali**	**1.60**	**238**	*e*P		**Pb**	**09 56 48.9**	**-0.4**
	baz=238							
PCYT	**Pengchaiyu**	**1.63**	**13**	*e*P		**Pb**	**09 56 49.1**	**-0.5**
	baz=354							
TWM1	**Shoushan**	**1.67**	**224**	*e*P		**Pn**	**09 56 48.9**	**+0.3**
	baz=224							
SGLT	**Jiouru**	**1.70**	**220**	*e*P		**Pn**	**09 56 49.0**	**0.0**
	baz=209							
EAST	**Anshuo**	**1.81**	**205**	*e*P		**Pn**	**09 56 50.4**	**-0.2**
	baz=189							
IRIF	**Iriomote-Funau**	**1.90**	**81**	P		**Pn**	**09 56 52.0**	**+0.2**
IRIF				S		**Sn**	**09 57 16.1**	**+0.6**
SCZT	**Fangliau**	**1.92**	**210**	*e*P		**Pb**	**09 56 53.6**	**-1.0**
	baz=213							
HATJ	**Hateruma jima**	**1.95**	**89**	P		**Pn**	**09 56 52.1**	**-0.4**
HATJ				S		**Sn**	**09 57 17.1**	**+0.5**
PNG	**Penghu**	**1.99**	**257**	*e*P		**Pn**	**09 56 53.1**	**+0.1**
	baz=257							
PNG				*e*S		**Sb**	**09 57 19.9**	**-0.6**
	baz=257							
WDGT	**Dungji**	**2.00**	**248**	*e*P		**Pn**	**09 56 53.4**	**+0.3**
	baz=248							
JKRS	**Kuro-shima**	**2.15**	**84**	P		**Pn**	**09 56 55.5**	**+0.4**
JKRS				S		**Sn**	**09 57 22.9**	**+1.5**
TWK1	**Hengchun**	**2.23**	**201**	*e*P		**Pn**	**09 56 57.4**	**+1.0**
	baz=185							
JIJ	**Ishigaki jima**	**2.28**	**81**	P		**Pn**	**09 56 56.8**	**-0.2**
JIJ				S		**Sn**	**09 57 24.1**	**-0.7**
JISG	**Ishigakijimahi**	**2.47**	**77**	P		**Pn**	**09 56 59.6**	**0.0**
JISG				S		**Sn**	**09 57 29.1**	**-0.3**
JTJ	**Tarama**	**2.83**	**77**	P		**Pn**	**09 57 04.7**	**+0.2**
JTJ				S		**Sn**	**09 57 38.7**	**+0.4**
QZH	**Quanzhou**	**2.95**	**288**	Pn		**Pn**	**09 57 05.8**	**-0.4**
QZH				Sn		**Sn**	**09 57 37.1**	**-4.1**
QZH				smax	smax			
	comp=N,330nm,0.9s							
QZH				smax	smax			
	comp=E,180nm,0.8s							
KNM	**Kinmen**	**2.98**	**278**	*e*P		**Pn**	**09 57 07.2**	**+0.6**
	baz=276							

*IDC **16** 09:57:51.1±0.8, 1°.84S×136°.20E, h0km, mb4.3/7, mb1 4.4/8, mb1mx3.9/29, mbtmp4.2/8, ML2.8/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/27, Error ellipse: s-maj=26.1km s-min=14.2km az=83.0*
ISC 16 09:57:54.7±0.8, 2°.3S±0°.1×136°.2E±0°.1, h35km, n14, σ1s88/12, mb4.2/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.13**	**286**			**Pn**	**09 59 06.7**	**-2.5**
	0.4nm,0.3s,baz=230,slow=16,SNR=3.2							
SIJI					Sn	**Sn**	**10 00 09.6**	**+2.3**
	0.6nm,0.3s,baz=119,slow=24,SNR=3.1							
WRA	**Warramunga Arr**	**17.67**	**186**	P		**P**	**10 02 01.0**	**+2.1**
	0.3nm,0.3s,baz=8.7,slow=12,SNR=13							
WRA				S		**Sn**	**10 05 12.2**	**-1.9**
	0.2nm,0.3s,baz=6.0,slow=23,SNR=5.4							
ASAR	**Alice Springs**	**21.40**	**186**	P		P	10 02 46.7	+7.1
	13nm,0.8s,baz=12,slow=11,SNR=45							
ASAR				S		Sn	10 06 46.6	+2.5
	1.6nm,0.9s,baz=4.9,slow=27,SNR=4.4							
ASAR				LR		LR	10 12 26.6	
	comp=Z,234nm,20.5s,baz=0.5,slow=40							
STKA	**Stephens Creek**	**29.89**	**171**	P		P	10 04 05.0	+5.8
	4.1nm,0.7s,baz=340,slow=9.0,SNR=5.9							
KSRS	**Korea Array**	**40.26**	**350**	LR		LR	10 21 36.9	
	comp=Z,17nm,19.3s,baz=150,slow=36							
CMAR	**Chiang Mai Arr**	**42.06**	**301**	P		**P**	**10 05 44.0**	**+0.5**
	1.4nm,0.3s,baz=129,slow=7.0,SNR=5.9							
MKAR	**Makanchi Array**	**67.93**	**323**	P		**P**	**10 08 49.1**	**-0.9**
	0.9nm,0.6s,baz=118,slow=8.0,SNR=9.5							
VNDA	**Vanda**	**76.45**	**174**	P		P	10 09 45.1	+4.7
	1.1nm,0.7s,baz=317,slow=6.6,SNR=9.9							
ILAR	**Eielson Array**	**86.47**	**25**	P		**P**	**10 10 32.3**	**-1.3**
	0.8nm,0.7s,baz=258,slow=4.5,SNR=11							
DLBC	**Dease Lake**	**93.89**	**32**	P		**P**	**10 11 09.3**	**+0.7**
	3.0nm,0.9s,baz=344,slow=9.4,SNR=2.7							
TXAR	**Lajitas Array**	**117.19**	**58**	PKP		**PKPdf**	**10 16 38.0**	**+0.9**
	0.2nm,0.7s,baz=337,slow=2.1,SNR=2.8							
TORD	**Torodi Ar. Bea**	**133.74**	**286**	PKP		**PKPdf**	**10 17 10.8**	**+1.9**
	0.6nm,0.7s,baz=53,slow=1.9,SNR=3.7							
ATAH	**Atahualpa**	**144.22**	**105**	PKP		**PKPdf**	**10 17 30.0**	**+1.4**
	7.2nm,0.9s,baz=123,slow=12,SNR=3.9							
LPAZ	**La Paz**	**149.70**	**128**	PKPbc		**PKPab**	**10 17 46.2**	**-1.6**
	1.1nm,0.8s,baz=212,slow=5.3,SNR=3.6							

*MEX **16** 10:04:43.2±0.3, 32°.85N×115°.84W, h5km±8km, MD3.6*
*ISCJB **16** 10:04:44.2±0.3, 32°.71N±0°.03×115°.89W±0°.03, h13km±4km, Error ellipse: s-maj=5.4km s-min=3.6km az=172.1*
*NEIC **16** 10:04:44.9, 32°.63N×115°.91W, h10km, ML3.3(ECX), ML3.4(PAS), After PAS.*
*ECX **16** 10:04:45.5±0.5, 32°.68N×115°.91W, h3km, MD3.1, ML3.3*
ISC 16 10:04:44.4±0.9, 32°.67N±0°.03×115°.90W±0°.02, h14km±6km, n32, σ0s75/47, 9C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.15**	**99**	⇑*i*P		**Pg**	**10 04 48.2**	**0.0**
RMX	**La Rumorosa**	**0.17**	**244**	*e*P		**Pg**	**10 04 48.6**	**+0.1**
RMX				*e*S		**Sg**	**10 04 51.1**	**-0.3**
WESC	**Westside Schoo**	**0.17**	**59**	⇑*e*P		**Pg**	**10 04 48.7**	**+0.3**
ERPC	**Ernies Place**	**0.21**	**71**	⇑*i*P		**Pg**	**10 04 49.8**	**-0.2**
CRR	**Carrizo Plain**	**0.22**	**345**	⇑*i*P		**Pg**	**10 04 49.5**	**+0.2**
COK	**Cook Ranch**	**0.23**	**40**	⇑*i*P		**Pb**	**10 04 50.0**	**-0.3**
SWSC	**Sam W. Stewart**	**0.28**	**19**	⇓*i*P		**Pg**	**10 04 50.6**	**+0.3**
DREC	**Desert Rsrch C**	**0.41**	**71**	⇑*e*P		**Pb**	**10 04 53.5**	**+0.2**
CPBX	**Cerro Prieto**	**0.57**	**117**	*i* P		**Pg**	**10 04 55.7**	**+0.3**
CPBX				*i* S		**Sb**	**10 05 05.3**	**+1.4**
CPBX	**Cerro Prieto**	**0.57**	**117**	*e*P		**Pg**	**10 04 55.8**	**+0.3**
CPBX				*e*S		**Sb**	**10 05 04.0**	**+0.1**
BAR	**Barrett**	**0.65**	**271**	*e*Pg		**Pg**	**10 04 57.2**	**+0.1**
BAR				*e*Sg		**Sg**	**10 05 05.6**	**-0.1**
BAR	**Barrett**	**0.65**	**271**	⇑*e*P		**Pg**	**10

s-min=15.0km az=161.0
*ISCJB **16** 10:09:54.9±0.6,51.00N±0.06×178.82E±0.07,h41km, mb3.9/14,MS3.1/2,Error ellipse: s-maj=9.5km s-min=6.4km az=162.2*
*NEIC **16** 10:09:54.9,51.06N×178.84E,h8km,ML3.6(AEIC),After AEIC.*

ISC 16 10:09:56.9±0.7,51.12N±0.10×178.92E±0.05,h41km,n33, σ1§26/33,mb3.9/14,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.35**	**42**	P		**Pn**	**Pn**	**10 10 04.2**	**-1.6**
AMKA				S			**Sn**	**10 10 11.7**	**-0.4**
LSSE	**Little Sitkin**	**0.85**	**345**	P		**Pn**	**Pn**	**10 10 12.2**	**-0.2**
LSPA	**Little Sitkin**	**0.87**	**346**	P		**Pn**	**Pn**	**10 10 12.6**	**0.0**
LSSA	**Little Sitkin**	**0.87**	**343**	P		**Pn**	**Pn**	**10 10 12.4**	**-0.3**
CESW	**Semis' Southwe**	**0.88**	**27**	P		**Pn**	**Pn**	**10 10 13.0**	**+0.1**
LSNW	**Little Sitkin**	**0.89**	**344**	P		**Pn**	**Pn**	**10 10 12.4**	**-0.6**
CERAA	**Semis' Rag'd T**	**0.92**	**31**	P		**Pn**	**Pn**	**10 10 13.6**	**+0.2**
CERB	**Semis' Cerberu**	**0.93**	**28**	P		**Pn**	**Pn**	**10 10 14.1**	**+0.6**
CEAP	**Semis' Anvil P**	**0.98**	**25**	P		**Pn**	**Pn**	**10 10 14.6**	**+0.5**
GAEA	**Gareloi East**	**1.60**	**65**	P		**Pn**	**Pn**	**10 10 23.9**	**+1.2**
TAPA	**Tanaga Point A**	**2.16**	**70**	P		**Pn**	**Pn**	**10 10 31.5**	**+1.1**
ADAG	**Mount Adagdak**	**2.93**	**71**	P		**Pn**	**Pn**	**10 10 42.7**	**+1.8**
GSMY	**Great Sitkin M**	**3.27**	**72**	P		**Pn**	**Pn**	**10 10 47.7**	**+2.1**
SMY	**Shemya**	**3.39**	**300**	P		**Pn**	**Pn**	**10 10 48.2**	**+1.0**
SMY				S			**Sn**	**10 11 30.9**	**+4.7**
PETK	**Petropavlovsk-**	**13.19**	**287**	Pn		**Pn**	**Pn**	**10 13 00.6**	**-0.8**
	0.0nm,0.3s,baz=72,slow=14,SNR=3.5								
ILAR	**Eielson Array**	**22.35**	**39**	P			**P**	**10 14 50.0**	**-1.0**
	0.9nm,0.6s,baz=234,slow=7.6,SNR=16								
MJAR	**Matsushiro Arr**	**32.33**	**259**	LR		LR		10 27 27.1	
	comp=Z,26nm,20.1s,baz=65,slow=33								
YKA	**Yellowknife Ar**	**36.45**	**46**	P			**P**	**10 16 57.0**	**-0.3**
	1.0nm,0.8s,baz=285,slow=8.6,SNR=5.0								
YKA	**Yellowknife Ar**	**36.45**	**46**	P			**P**	**10 16 57.0**	**-0.3**
KSRS	**Korea Array**	**38.20**	**269**	P			**P**	**10 17 11.1**	**-1.3**
	1.3nm,0.7s,baz=49,slow=10,SNR=6.0								
KSAR	**Wonju Array Be**	**38.24**	**269**	P			**P**	**10 17 11.1**	**-1.6**
NEW	**Newport**	**40.31**	**68**	P			**P**	**10 17 30.3**	**+0.3**
	2.0nm,0.7s,baz=283,slow=11,SNR=4.9								
RES	**Resolute Bay**	**40.57**	**24**	P			**P**	**10 17 32.0**	**+0.3**
	2.9nm,0.8s,baz=355,slow=4.6,SNR=2.7								
NVAR	**Mina Array Bea**	**45.01**	**81**	P			**P**	**10 18 08.0**	**-0.4**
	1.1nm,0.8s,baz=296,slow=6.4,SNR=6.5								
SONM	**Songino Array**	**45.48**	**296**	P			**P**	**10 18 11.9**	**0.0**
	0.9nm,0.7s,baz=50,slow=12,SNR=6.4								
PDAR	**Pinedale Array**	**47.75**	**71**	P			**P**	**10 18 30.2**	**+0.4**
	3.5nm,0.9s,baz=321,slow=5.1,SNR=20								
ARCES	**ARCESS Array B**	**58.09**	**349**	P			**P**	**10 19 46.3**	**+0.9**
	2.2nm,0.8s,baz=4.8,slow=12,SNR=2.1								
MKAR	**Makanchi Array**	**59.06**	**307**	LR		LR		10 46 05.0	
	comp=Z,25nm,20.9s,baz=0.0,slow=37								
TXAR	**Lajitas Array**	**60.11**	**79**	P			**P**	**10 19 59.9**	**-0.2**
	0.5nm,0.7s,baz=299,slow=4.6,SNR=6.8								
AKASG	**Malin Array Be**	**75.34**	**341**	P			**P**	**10 21 35.8**	**+0.3**
	0.3nm,0.3s,baz=20,slow=5.6,SNR=3.0								
WRA	**Warramunga Arr**	**80.85**	**222**	P			**P**	**10 22 04.7**	**-1.6**
	1.3nm,0.6s,baz=31,slow=6.0,SNR=15								
ASAR	**Alice Springs**	**84.34**	**221**	P			**P**	**10 22 23.9**	**-0.6**
	1.0nm,0.7s,baz=24,slow=5.5,SNR=14								
BRTR	**Keskin Array B**	**84.57**	**334**	P			**P**	**10 22 26.6**	**+0.8**
	0.8nm,0.8s,baz=33,slow=5.5,SNR=3.6								

*NIED **16** 10:14:00,42.20N×141.80E,h62km,Mw3.9 Best double couple: M07.28000×10^14 NP1:φs343.00000°,δ73.00000°, λ-8.00000°. NP2:φs75.00000°,δ83.00000°,λ-163.00000°.*
*MOS **16** 10:14:11.4±1.2,42.19N×141.80E,h83km,mb4.0/6,Error ellipse: s-maj=19.6km s-min=9.5km az=82.5*
*ISCJB **16** 10:14:12.3±0.3,42.19N±0.03×141.87E±0.04,h94km±3km, mb3.7/13,Error ellipse: s-maj=6.1km s-min=3.7km az=41.6*
*JMA **16** 10:14:13.0±0.1,42.20N×141.82E,h90km±2km,M3.8 Broadband fault plane solution: P waves. NP1: φs352.00000°,δ87.00000°,λ-10.00000°. NP2:φs83.00000°, δ80.00000°,λ-177.00000°. Principal axes: T Plg5.0000°, Azm38.0000°; N Plg80.0000°, Azm157.0000°; P Plg9.0000°, Azm307.0000°;*
JMA Felt I J1.
*IDC **16** 10:14:13.7±1.4,42.19N×141.98E,h93km±11km,mb3.4/12, mb1 3.6/15,mb1mx3.5/37,mbtmp3.8/15 Error ellipse: s-maj=17.0km s-min=11.7km az=113.0*

ISC 16 10:14:13.0±0.7,42.19N±0.04×141.86E±0.04,h86km±6km, n55,σ1§01/63,mb3.6/13,12C-7D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.67**	**82**	⇓P			**Pn**	**10 14 29.1**	**+0.3**
JNBK				*e*S			**Sn**	**10 14 41.2**	**+0.5**
JNB	**Noboribetsu**	**0.67**	**295**	⇓P			**Pn**	**10 14 28.7**	**-0.2**
JNB				*e*S			**Sn**	**10 14 40.3**	**-0.5**
JKB	**Kayabe**	**0.69**	**244**	⇑P			**Pn**	**10 14 29.3**	**+0.2**
JKB				*e*S			**Sn**	**10 14 40.6**	**-0.4**
JBT2	**Biratori 2**	**0.70**	**32**	⇑P			**Pn**	**10 14 29.5**	**+0.3**
JBT2				*e*S			**Sn**	**10 14 41.4**	**+0.2**
JEW	**Eniwo**	**0.72**	**335**	⇓P			**Pn**	**10 14 29.5**	**+0.1**
JEW				*e*S			**Sn**	**10 14 41.5**	**-0.1**
JEM	**Erimo**	**0.98**	**100**	⇓P			**Pn**	**10 14 33.4**	**+1.2**
JOT	**Ohata**	**1.01**	**217**	⇑P			**Pn**	**10 14 33.1**	**+0.5**
JOT				*e*S			**Sn**	**10 14 47.6**	**+0.4**
JYM2	**Yakumo 2**	**1.11**	**267**	⇑P			**Pn**	**10 14 34.2**	**+0.4**
JYM2				*e*S			**Sn**	**10 14 49.7**	**+0.3**
JFR	**Furan**	**1.11**	**29**	P			**Pn**	**10 14 33.6**	**-0.2**
JCH	**Churui**	**1.19**	**68**	⇑P			**Pn**	**10 14 35.3**	**+0.6**
JCH				*e*S			**Sn**	**10 14 51.6**	**+0.6**
JSR	**Shiriuchi**	**1.27**	**239**	⇑P			**Pn**	**10 14 36.3**	**+0.7**
JAB	**Ashibetsu**	**1.34**	**11**	⇑P			**Pn**	**10 14 37.6**	**+1.0**
JAB				*e*S			**Sn**	**10 14 56.2**	**+1.8**
JSK	**Shakotan**	**1.55**	**319**	⇓P			**Pn**	**10 14 39.8**	**+0.6**
JHR	**Hokuryu**	**1.56**	**356**	⇑P			**Pn**	**10 14 40.3**	**+1.0**
JHR				*e*S			**Sn**	**10 15 00.5**	**+1.3**
JOSM	**Okushiri--Mats**	**1.78**	**267**	P			**Pn**	**10 14 42.9**	**+0.7**
JAR	**Ashorobuto**	**1.79**	**51**	⇑P			**Pn**	**10 14 42.8**	**+0.5**
JKK2	**Kamakawa 2**	**1.81**	**21**	⇑P			**Pn**	**10 14 43.1**	**+0.6**
JKK2				*e*S			**Sn**	**10 15 05.3**	**+0.3**
JANG	**Nango**	**1.83**	**188**	⇑P			**Pn**	**10 14 43.0**	**+0.1**
ASAJ	**Asahikawa**	**2.00**	**15**	P			**Pn**	**10 14 46.2**	**+1.1**
	baz=270,slow=17								
ASAJ				S			**Sn**	**10 15 10.2**	**+0.7**
	baz=294,slow=20								
YUK	**Yuzh-Kuril'sk**	**3.46**	**56**	*d* ⇓P	N		**Pn**	**10 15 05.9**	**+1.3**
YUK				*i* S			**Sn**	**10 15 43.7**	**-0.8**
YUK					pmax	pmax			
	comp=N,38nm,0.3s								
YUK					pmax	pmax			
	comp=E,45nm,0.3s								
YUK					pmax	pmax			
	comp=Z,145nm,0.3s								
YUK					smax	smax			
	comp=N,384nm,0.5s								
YUK					smax	smax			
	comp=E,123nm,0.5s								
YUK					smax	smax			
	comp=E,876nm,2.8s								
YUK					smax	smax			
	comp=N,599nm,2.8s								
YUK					MLR	MLR			
	comp=Z,194nm,5.0s								
YSS	**Yuzh-Sakhalins**	**4.81**	**7**	⇑*e*P	N		**Pn**	**10 15 23.3**	**+0.4**
YSS				*e*S			**Sn**	**10 16 17.8**	**+0.5**
YSS					pmax	pmax			
	comp=N,50nm,0.8s								
YSS					pmax	pmax			
	comp=Z,50nm,0.8s								
KUR	**Kuril'sk**	**5.31**	**53**	⇓*i* P	N		Pn	10 15 24.0	-5.7
KUR				*i* S			**Sn**	**10 16 31.2**	**+1.7**
KUR					pmax	pmax			
	comp=N,14nm,0.1s								
KUR					pmax	pmax			
	comp=E,17nm,0.1s								
KUR					pmax	pmax			
	comp=Z,48nm,0.1s								
KUR					pmax	pmax			
	comp=Z,19μm,0.1s								
KUR					smax	smax			
	comp=N,38nm,0.2s								
KUR					smax	smax			
	comp=E,13nm,0.2s								
KUR					pmax	pmax			
	comp=N,34nm,0.5s								
MAT	**Matsushiro**	**6.31**	**208**	P			**Pn**	**10 15 45.7**	**+2.2**
MAT				S			**Sn**	**10 16 55.6**	**+1.5**
MJAR	**Matsushiro Arr**	**6.31**	**208**	P			**Pn**	**10 15 45.2**	**+1.7**
	comp=N,3.2nm,0.3s,baz=26,slow=13,SNR=30								
MJAR	**Matsushiro Arr**	**6.31**	**208**	PN			**Pn**	**10 15 45.2**	**+1.7**
MJAR					pmax	pmax			
	comp=Z,3.0nm,0.3s								
USRK	**Ussuriysk Ar.**	**7.49**	**289**	P			**Pn**	**10 16 02.6**	**+3.1**
	comp=Z,1.6nm,0.3s,baz=93,slow=14,SNR=49								
KLR	**Kul'dur**	**9.98**	**318**	*e*PN			**Pn**	**10 16 32.3**	**-1.0**
KSRS	**Korea Array**	**11.71**	**251**	P			Pn	10 17 02.5	+5.5
	comp=Z,0.3nm,0.3s,baz=62,slow=14,SNR=9.1								
PETK	**Petropavlovsk-**	**15.23**	**39**	P			**Pn**	**10 17 41.0**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=221,slow=11,SNR=5.1								
PETK	**Petropavlovsk-**	**15.23**	**39**	P			**Pn**	**10 17 41.0**	**-2.1**
SEY	**Seymchan**	**21.68**	**13**	P			**P**	**10 18 56.4**	**0.0**
	comp=Z,1.1nm,0.4s,baz=177,slow=12,SNR=8.5								
SEY	**Seymchan**	**21.68**	**13**	P			**P**	**10 18 56.4**	**0.0**
SEY					pmax	pmax			
	comp=Z,1.0nm,0.4s								
SONM	**Songino Array**	**25.55**	**295**	P			**P**	**10 19 34.4**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=84,slow=8.8,SNR=7.4								
SONM	**Songino Array**	**25.55**	**295**	P			**P**	**10 19 34.4**	**+0.7**
SONM					pmax	pmax			
	comp=Z,1.0nm,0.5s								
GUMO	**Guam**	**28.61**	**174**	P			**P**	**10 20 00.4**	**-0.8**
	comp=Z,81nm,1.1s,baz=0.0,slow=20,SNR=2.5								
H11N2	**WAKE ISLAND Hy**	**30.81**	**129**	T			T	10 53 02.2	
	baz=321,slow=75,SNR=51								
H11N1	**WAKE ISLAND Hy**	**30.82**	**129**	T			T	10 53 01.5	
	baz=321,slow=75,SNR=51								
H11N3	**WAKE ISLAND Hy**	**30.83**	**129**	T			T	10 53 03.2	
	baz=321,slow=75,SNR=49								
H11S1	**WAKE ISLAND Hy**	**31.67**	**131**	T			T	10 53 33.7	
	baz=328,slow=75								
H11S3	**WAKE ISLAND Hy**	**31.67**	**131**	T			T	10 53 27.5	
	baz=328,slow=75								
H11S2	**WAKE ISLAND Hy**	**31.68**	**131**	T			T	10 53 24.2	
	baz=328,slow=75								
ZALV	**Zalesovo Beam**	**38.86**	**308**	P			**P**	**10 21 29.9**	**+0.4**
	comp=Z,2.7nm,0.4s,baz=86,slow=7.9,SNR=7.1								
ZALV	**Zalesovo Beam**	**38.86**	**308**	P			**P**	**10 21 29.9**	**+0.4**
ZALV					pmax	pmax			
	comp=Z,3.0nm,0.4s								
ILAR	**Eielson Array**	**45.02**	**35**	P			**P**	**10 22 19.6**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=272,slow=7.2,SNR=13								
YKA	**Yellowknife Ar**	**59.21**	**32**	P			**P**	**10 24 04.7**	**0.0**
	comp=Z,0.4nm,0.8s,baz=307,slow=7.2,SNR=2.7								
WRA	**Warramunga Arr**	**62.21**	**188**	P			**P**	**10 24 25.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=6.4,slow=6.8,SNR=2.4								
FINES	**FINESS Array B**	**64.44**	**331**	P			**P**	**10 24 39.7**	**0.0**
	comp=Z,2.0nm,0.5s,baz=64,slow=6.3,SNR=15								
FINES	**FINESS Array B**	**64.44**	**331**	P			**P**	**10 24 39.7**	**0.0**
FINES					pmax	pmax			
	comp=Z,2.0nm,0.5s								
NOA	**NORSAR Array B**	**69.58**	**337**	P			**P**	**10 25 12.7**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=58,slow=11,SNR=2.6								
NOA	**NORSAR Array B**	**69.58**	**337**	P			**P**	**10 25 12.7**	**+0.3**
NOA					pmax	pmax			
	comp=Z,1.0nm,0.8s								
AKASG	**Malin Array Be**	**70.46**	**321**	P			**P**	**10 25 17.7**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=45,slow=7.2,SNR=3.3								
AKASG	**Malin Array Be**	**70.46**	**321**	P			**P**	**10 25 17.7**	**-0.2**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.4s								
NVAR	**Mina Array Bea**	**71.67**	**55**	P			**P**	**10 25 24.1**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=313,slow=8.4,SNR=2.7								
BRTR	**Keskin Array B**	**75.72**	**311**	P			**P**	**10 25 48.9**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=37,slow=15,SNR=2.4								
TXAR	**Lajitas Array**	**86.71**	**53**	P			**P**	**10 26 48.8**	**+1.2**
	comp=Z,0.1nm,0.6s,baz=287,slow=4.3,SNR=2.5								

IDC 16 10:18:43.6±2.9,1.43S×138.75E,h0km,mb3.5/2, mb1 3.9/4,mb1mx3.6/19,mbtmp3.7/4,ML3.6/2,Error ellipse: s-maj=72.5km s-min=29.7km az=77.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**7.51**	**274**	Pn			Pn	10 20 34.6	+0.1
	0.6nm,0.3s,baz=349,slow=6.3,SNR=3.6								
WRA	**Warramunga Arr**	**18.90**	**193**	P			P	10 23 05.7	-0.3
	0.2nm,0.3s,baz=12,slow=13,SNR=14								
ASAR	**Alice Springs**	**22.60**	**192**	P			P	10 23 46.3	+0.2
	1.5nm,0.5s,baz=19,slow=11,SNR=17								
MKAR	**Makanchi Array**	**68.81**	**322**	P			P	10 29 49.8	-0.1
	0.3nm,0.6s,baz=107,slow=7.7,SNR=2.3								

*NNC **16** 10:18:47.5±0.5,44.51N×78.46E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=4.5km s-min=3.7km az=153.0*
*ISCJB **16** 10:18:48.4±0.8,44.56N±0.05×78.46E±0.08,h10km,Error ellipse: s-maj=9.8km s-min=5.5km az=42.4*
*KRNET **16** 10:18:51.0±0.1,43.98N×79.25E,mb3.0*

ISC 16 10:18:49.8±1.0,44.44N±0.05×78.52E±0.05,h10km,n12, σ1§12/17,14C-13D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**1.31**	**148**	⇑P			**Pn**	**10 19 14.0**	**-0.1**
	19nm,0.3s								
PDGK				⇑S			**Sg**	**10 19 32.5**	**+0.7**
	221nm,0.3s								
KNDC	**Almaty**	**1.66**	**223**	⇑P			**Pn**	**10 19 19.0**	**0.0**
	11nm,0.2s								
KNDC				⇑S			**Sn**	**10 19 40.8**	**+0.3**
	144nm,0.3s								
ANVS	**Anan'yevo**	**1.77**	**201**	⇑*i* P			**Pb**	**10 19 21.6**	**-0.8**
	baz=225								
ANVS				⇑*i* S			**Sn**	**10 19 44.0**	**+0.8**
	baz=225								
TKM2	**Tokmak 2**	**2.61**	**236**	⇑Pn			**Pn**	**10 19 31.0**	**-1.3**
	1.5nm,0.3s								
TKM2				⇑Pg			**Pb**	**10 19 35.8**	**-1.0**
	8.3nm,0.6s								
TKM2				⇓Lg			Lg	10 20 07.2	
	20nm,0.2s								
AAK	**Ala-Archa**	**3.44**	**240**	⇓Pn			**Pn**	**10 19 41.9**	**-1.7**
	2.1nm,0.4s								
AAK				⇑Pg			**Pb**	**10 19 51.2**	**+0.2**
	5.8nm,0.4s								
AAK				⇓Lg			Lg	10 20 32.1	
	45nm,0.6s								
NRN	**Naryn**	**3.53**	**213**	⇓*e*P			Pn	10 19 48.1	+3.1
	baz=224								
NRN				⇓*e*S			**Sn**	**10 20 29.4**	**+2.5**
	baz=224								
MK31	**Makanchi Array**	**3.54**	**47**	⇓Pn			**Pn**	**10 19 44.0**	**-0.9**
	0.8nm,0.3s,baz=225,slow=15,SNR=100								
MK31				⇓Pg			**Pb**	**10 19 52.1**	**-0.5**
	0.9nm,0.2s								
MK31				⇓Sn			**Sn**	**10 20 26.1**	**-0.8**
	2.3nm,0.3s,baz=224,slow=25,SNR=7.7								
MK31				⇓Lg			Lg	10 20 37.5	
	5.2nm,0.3s,baz=230,slow=29,SNR=5.4								
EKS	**Erkin-Say**	**3.87**	**244**	⇑*e*P			**Pb**	**10 19 58.2**	**0.0**
	baz=254								
EKS				⇑*e*S			**Sb**	**10 20 45.6**	**+0.4**
	baz=254								
SFK	**Sufi-Kurgan**	**5.78**	**222**	⇓Pg			Pb	10 20 34.3	+3.4
	0.4nm,0.2s								
SFK				⇓Lg			Lg	10 21 50.8	
	4.9nm,0.5s								
KK31	**Karatay Array**	**5.95**	**260**	⇑Lg			Lg	10 21 51.7	
	4.1nm,0.5s,baz=68,slow=31,SNR=7.2								
KURBB	**Kurchatov Arra**	**6.19**	**0**	⇓Pg			Pb	10 20 40.5	+2.9
	2.9nm,0.5s								
KURBB				⇓Lg			Lg	10 22 00.9	
	48nm,0.8s								
KURK	**Kurchatov**	**6.28**	**1**	⇑Pg			**Pb**	**10 20 40.8**	**+1.5**
	2.1nm,0.6s								
KURK				⇑Lg			Lg	10 22 02.3	
	6.3nm,0.5s								

IDC 16 10:21:12.9±2.6,2.06S×136.24E,h0km,mb3.4/2, mb1 3.6/4,mb1mx3.4/19,mbtmp3.5/4,ML3.1/2,Error ellipse: s-maj=67.4km s-min=29.6km az=72.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.11**	**283**	Pn			Pn	10 22 30.1	-0.7
	0.9nm,0.3s,baz=162,slow=20,SNR=2.7								
WRA	**Warramunga Arr**	**17.87**	**186**	P			P	10 25 23.8	-0.1
	0.1nm,0.3s,baz=8.4,slow=13,SNR=3.1								
ASAR	**Alice Springs**	**21.60**	**186**	P			P	10 26 04.4	-0.2
	1.7nm,1.0s,baz=11,slow=11,SNR=5.1								
MKAR	**Makanchi Array**	**67.78**	**323**	P			P	10 32 12.8	+0.1
	0.2nm,0.5s,baz=108,slow=4.7,SNR=3.0								

KRSC 16 10:23:01.6±1.7,49.83N×156.40E,h60km±24km,ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.88**	**348**	*e*P			Pn	10 23 18.5	+0.5
SKR				*e*S			Sn	10 23 31.6	+1.5
PAU	**Pauzhetka**	**1.66**	**9**	*e*S			Sn	10 23 51.8	+3.1
MIPR	**Malaya Ipel'ka**	**2.46**	**5**	*e*P			Pn	10 23 42.3	+3.0
RUS	**Russkaya**	**2.93**	**26**	*e*P			Pn	10 23 47.3	+1.7
RUS				*e*S			Sn	10 24 22.1	+2.5
UGLR	**Uglovaya**	**3.71**	**23**	*e*P			Pn	10 24 00.6	+4.1
AVH	**Avacha**	**3.74**	**22**	*e*P			Pn	10 24 01.0	+4.1
KOK	**Koryaka**	**3.74**	**21**	*e*P			Pn	10 24 00.2	+3.3
KRER	**Koryakskii**	**3.78**	**22**	*e*P			Pn	10 24 00.5	+3.0
SDLR	**Sedlovina**	**3.79**	**23**	*e*P			Pn	10 24 00.5	+2.9
GNL	**Ganaly**	**3.99**	**13**	*e*P			Pn	10 24 02.7	+2.4

IDC 16 10:39:11.8±2.5,2.22S×136.03E,h0km,mb3.6/2, mb1 3.8/4,mb1mx3.6/19,mbtmp3.7/4,ML3.6/2,MS3.2/2, Ms1 3.2/2,ms1mx2.6/30,Error ellipse: s-maj=60.5km s-min=17.9km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.94**	**286**	Pn			Pn	10 40 26.1	-1.3
	1.3nm,0.3s,baz=37,slow=20,SNR=3.8								
SIJI							Sn	10 41 19.9	-5.5
	5.1nm,0.3s,baz=158,slow=23,SNR=5.2								
WRA	**Warramunga Arr**	**17.69**	**185**	P			Pn	10 43 18.2	-1.7
	0.3nm,0.3s,baz=8.1,slow=13,SNR=13								
WRA				S			Sn	10 46 25.6	-12
	0.1nm,0.3s,baz=9.6,slow=23,SNR=4.4								
ASAR	**Alice Springs**	**21.42**	**185**	P			P	10 44 03.1	+1.5
	2.4nm,0.6s,baz=11,slow=11,SNR=15								
ASAR				S			S	10 48 01.1	+0.8
	1.2nm,0.8s,baz=10.0,slow=10,SNR=6.8								
ASAR				LR			LR	10 53 37.3	
	comp=Z,111nm,18.8s,baz=355,slow=40								
KSRS	**Korea Array**	**40.18**	**350**	LR			LR	11 04 09.7	
	comp=Z,16nm,18.4s,baz=186,slow=37								
MKAR	**Makanchi Array**	**67.78**	**323**	P			P	10 50 11.8	+0.2
	0.3nm,0.5s,baz=125,slow=6.1,SNR=3.9								

*NIED **16** 10:44:00,36.40N×140.60E,h74km,Mw3.9 Best double couple: M07.09000×10^14 NP1:φs78.00000°,δ37.00000°, λ145.00000°. NP2:φs197.00000°,δ70.00000°,λ59.00000°.*
*ISCJB **16** 10:44:07.7±0.6,36.31N±0.05×140.67E±0.06,h69km±4km, mb3.6/10,Error ellipse: s-maj=9.0km s-min=7.0km az=143.6*
*IDC **16** 10:44:08.1±2.2,36.33N×140.66E,h56km±21km,mb3.5/10, mb1 3.8/14,mb1mx3.6/43,mbtmp3.9/14,ML3.7/4,MS3.8/2, Ms1 3.8/2,ms1mx2.6/33,Error ellipse: s-maj=16.1km s-min=15.4km az=100.0*
*JMA **16** 10:44:09.6±0.1,36.37N×140.57E,h63km±1km,M4.0 Broadband fault plane solution: P waves. NP1: φs200.00000°,δ78.00000°,λ55.00000°. NP2:φs94.00000°, δ37.00000°,λ160.00000°. Principal axes: T Plg45.0000°, Azm75.0000°; N Plg34.0000°, Azm208.0000°; P Plg25.0000°, Azm317.0000°;*
JMA Felt II J1.

ISC 16 10:44:08.6±0.8,36.34N±0.06×140.72E±0.06,h65km±7km, n33,σ1§29/34,mb3.8/10,3C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.29**	**336**	⇑P			**Pn**	**10 44 19.7**	**+0.4**
JHO				S			**Sn**	**10 44 26.9**	**-0.1**
JYT	**Yasato**	**0.44**	**255**	⇑P			**Pn**	**10 44 20.5**	**+0.1**
JYT				S			**Sn**	**10 44 28.3**	**-0.7**
JAG	**Ashikaga**	**1.02**	**275**	⇑P			**Pn**	**10 44 26.8**	**-0.4**
JAG				S			**Sn**	**10 44 39.4**	**-1.6**
JFK	**Kawauchi**	**1.03**	**7**	⇓P			**Pn**	**10 44 27.5**	**+0.1**
JFK				S			**Sn**	**10 44 41.2**	**0.0**
JFT	**Otama**	**1.21**	**346**	⇓P			**Pn**	**10 44 30.0**	**+0.3**
JFT				S			**Sn**	**10 44 45.5**	**+0.1**
JKT	**Katashina**	**1.25**	**290**	P			**Pn**	**10 44 30.1**	**-0.2**
JKT				S			**Sn**	**10 44 45.5**	**-1.0**
JFY	**Yanaizu**	**1.34**	**323**	⇓P			**Pn**	**10 44 31.5**	**+0.2**
JFY				S			**Sn**	**10 44 48.0**	**-0.3**
MJAR	**Matsushiro Arr

0.1nm,0.4s,baz=121,slow=6.3,SNR=2.4

IDC ***16*** *10:52:42.1±2.7,24°.03S×179°.96W,h496km±31km, mb3.2/8, mb1 3.5/9,mb1mx3.2/19,mbtmp4.1/9,Error ellipse: s-maj=23.9km s-min=19.0km az=161.0*

ISCJB ***16*** *10:52:43.1±0.7,24°.05S±0°.08×179°.9E±0°.2,h518km, mb3.5/7,Error ellipse: s-maj=19.2km s-min=10.5km az=11.7*

ISC 16 10:52:43.8±0.8,**24°.2S**±0°.1×**180°.0W**±0°.2,**h518**km,**n14,** σ1°**02**/16,**mb3.7/7,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.29**	**189**	P	**P**	**10 55 46.4**	**+0.3**
	2.7nm,0.3s,baz=355,slow=18,SNR=18						
URZ				S	**S**	**10 58 16.0**	**-0.5**
	0.8nm,0.3s,baz=84,slow=21,SNR=13						
THZ	**Tophouse**	**18.55**	**197**	*e*PN	**P**	**10 56 28.0**	**-0.1**
DSZ	**Denniston Nort**	**18.85**	**199**	*e*PN	**P**	**10 56 30.9**	**0.0**
KHZ	**Kahutara**	**19.00**	**195**	*e*PN	**P**	**10 56 31.2**	**-0.9**
RPZ	**Rata Peaks**	**20.87**	**199**	P	**P**	**10 56 49.4**	**+0.2**
	6.8nm,0.5s,baz=11,slow=1.9,SNR=9.9						
CTA	**Charters Tower**	**31.52**	**271**	P	**P**	**10 58 23.9**	**+0.6**
	2.8nm,0.4s,baz=91,slow=12,SNR=8.1						
ASAR	**Alice Springs**	**42.03**	**261**	P	**P**	**10 59 49.6**	**-0.3**
	0.4nm,0.5s,baz=96,slow=6.6,SNR=6.9						
ASAR				ScP	**ScP**	**11 04 36.9**	**+2.8**
	0.5nm,0.6s,baz=106,slow=4.4,SNR=6.9						
WRA	**Warramunga Arr**	**42.43**	**266**	P	**P**	**10 59 52.5**	**-0.5**
	0.8nm,0.3s,baz=97,slow=8.4,SNR=50						
PETK	**Petropavlovsk-**	**79.35**	**347**	P	**P**	**11 03 54.4**	**-0.9**
	2.0nm,0.7s,baz=148,slow=8.5,SNR=3.1						
NVAR	**Mina Array Bea**	**84.90**	**44**	P	**P**	**11 04 24.7**	**+0.5**
	0.2nm,0.5s,baz=224,slow=7.6,SNR=2.8						
TXAR	**Lajitas Array**	**90.53**	**58**	P	**P**	**11 04 51.6**	**+1.0**
	0.7nm,0.7s,baz=215,slow=6.3,SNR=12						
PDAR	**Pinedale Array**	**92.84**	**44**	P	**P**	**11 05 00.2**	**-1.0**
	0.4nm,0.7s,baz=258,slow=2.7,SNR=2.8						
ARCES	**ARCESS Array B**	**132.14**	**348**	PKP	**PKPdf**	**11 10 57.0**	**-0.8**
	3.5nm,1.0s,baz=23,slow=4.1,SNR=4.9						
AKASG	**Malin Array Be**	**145.20**	**327**	PKPbc	**PKPdf**	**11 11 21.7**	**-0.2**
	0.7nm,0.3s,baz=43,slow=4.2,SNR=6.6						

ISCJB ***16*** *10:54:40.1±0.4,32°.74N±0°.02×115°.94W±0°.03,h114km±3km, Error ellipse: s-maj=4.1km s-min=3.5km az=24.4*

ECX ***16*** *10:54:41.4±0.6,32°.72N×115°.97W,h3km, MD3.4,ML3.6*

NEIC ***16*** *10:54:41.2,32°.73N×115°.97W,h3km, ML3.5(ECX), ML3.6(PAS),After PAS.*

MEX ***16*** *10:54:41.7±0.7,32°.83N×115°.92W,h16km±14km, MD3.4*

ISC 16 10:54:40.4±0.8,**32°.71N**±0°.02×**115°.97W**±0°.02,**h15**km±5km, **n34,** σ0°**70**/54,**9C-6D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.07**	**150**	⇓*i*P	**Pg**	**10 54 42.9**	**-0.5**
RMX	**La Rumorosa**	**0.14**	**222**	⇑*e*P	**Pg**	**10 54 44.3**	**-0.1**
RMX				*e*S	**Sg**	**10 54 46.6**	**-0.3**
CRR	**Carrizo Plain**	**0.18**	**359**	⇓*i*P	**Pg**	**10 54 44.3**	**-0.5**
WESC	**Westside Schoo**	**0.20**	**76**	⇑*i*P	**Pg**	**10 54 45.3**	**+0.2**
WESC				*e*S	**Sg**	**10 54 48.9**	**+0.7**
SGL	**Mount Signal**	**0.21**	**106**	⇑*i*P	**Pg**	**10 54 45.4**	**+0.2**
COK	**Cook Ranch**	**0.24**	**55**	⇑*i*P	**Pg**	**10 54 46.0**	**+0.3**
SWSC	**Sam W. Stewart**	**0.27**	**32**	⇓*i*P	**Pg**	**10 54 46.1**	**-0.2**
BAR	**Barrett**	**0.60**	**267**	⇑*e*P	**Pg**	**10 54 52.3**	**+0.1**
CPBX	**Cerro Prieto**	**0.63**	**117**	*i* P	**Pb**	**10 54 53.2**	**+0.1**
CPBX				*i* S	**Sb**	**10 55 02.3**	**+0.6**
CPBX	**Cerro Prieto**	**0.63**	**117**	⇑*e*P	**Pg**	**10 54 52.2**	**-0.6**
CPBX				*e*S	**Sg**	**10 55 01.2**	**+0.1**
CBX	**Cerro Bola**	**0.71**	**236**	*i* P	**Pg**	**10 54 54.6**	**+0.3**
CBX				*i* S	**Sg**	**10 55 04.0**	**+0.3**
CBX	**Cerro Bola**	**0.71**	**236**	*i* P	**Pg**	**10 54 54.6**	**+0.3**
CBX				*i* S	**Sg**	**10 55 04.0**	**+0.3**
CBX	**Cerro Bola**	**0.71**	**236**	⇑*e*P	**Pg**	**10 54 54.6**	**+0.3**
CBX				*e*S	**Sg**	**10 55 04.3**	**+0.6**
CBX				*e*		10 55 05.2	
CBX				IAML		10 55 05.2	
	comp=E,5μm,0.2s						
CBX				⇓*e*		10 55 08.2	
CBX				IAML		10 55 08.2	
	comp=N,4μm,0.5s						
COA	**Coachella**	**0.73**	**77**	⇑*i*P	**Pg**	**10 54 54.7**	**+0.1**
RDX	**Rancho Dawling**	**0.78**	**179**	⇓*e*P	**Pg**	**10 54 55.5**	**-0.1**
RDX				*e*S	**Sb**	**10 55 06.2**	**0.0**
RDX				⇓*e*		10 55 10.2	
RDX				IAML		10 55 10.2	
	comp=N,2μm,0.3s						
SDRC	**San Diego Road**	**0.82**	**272**	*e*P	**Pg**	**10 54 56.0**	**-0.4**
PFO	**Pinyon Flats O**	**0.99**	**336**	*e*Pg	**Pb**	**10 54 58.7**	**-0.6**
PFO				*e*Sg	**Sb**	**10 55 12.0**	**-0.2**
PBX	**Punta Banda**	**1.16**	**214**	*e*P	**Pb**	**10 55 02.3**	**+0.1**
PBX				*e*S	**Sg**	**10 55 18.0**	**+0.1**
ECNX	**Esteban Cantu**	**1.18**	**207**	*e*P	**Pb**	**10 55 02.8**	**+0.2**
ECNX				*e*S	**Sb**	**10 55 18.3**	**+0.7**
ZAX	**El Zacaton**	**1.22**	**192**	*e*P	**Pb**	**10 55 03.6**	**+0.4**
ZAX				*e*S	**Sn**	**10 55 19.6**	**+0.3**
SPIG	**San Pedro Mart**	**1.71**	**165**	*e*P	**Pn**	**10 55 09.8**	**-0.2**
SPIG				*i* S	**Sn**	**10 55 30.1**	**-1.7**
SPIG	**San Pedro Mart**	**1.71**	**165**	*e*P	**Pn**	**10 55 09.8**	**-0.2**
SPIG				*i* S	**Sn**	**10 55 30.1**	**-1.7**
SPX	**San Pedro Mart**	**1.71**	**165**	*e*P	**Pn**	**10 55 09.8**	**-0.2**
SPX				*i* S	**Sn**	**10 55 31.0**	**-0.9**
SPX	**San Pedro Mart**	**1.71**	**165**	*e*P	**Pn**	**10 55 11.2**	**+1.2**
SPX				*e*S	**Sg**	**10 55 34.8**	**-0.8**
SPX				⇑*e*		10 55 38.7	
SPX				IAML		10 55 38.7	
	comp=N,297nm,0.3s						
PASC	**Pasadena Art C**	**2.36**	**309**	*e*Pn	**Pb**	**10 55 22.5**	**-0.2**
PASC				*e*Sn	**Sb**	**10 55 51.9**	**+0.2**
GSC	**Goldstone, Bar**	**2.68**	**345**	Pn	**Pn**	**10 55 22.9**	**-0.3**
214A	**Organ Pipe Nat**	**2.77**	**105**	*e*Pn	**Pn**	**10 55 23.1**	**-1.3**
ISA	**Isabella, Lake**	**3.61**	**325**	*e*Pn	**Pn**	**10 55 36.3**	**+0.4**
DAC	**Darwin (Calif)**	**3.81**	**340**	*e*Pn	**Pn**	**10 55 39.4**	**+0.7**
SHPR	**Sheep Range**	**3.85**	**10**	*e*Pn	**Pn**	**10 55 39.8**	**+0.6**
SHPR				*e*Sg	**Sg**	**10 56 43.0**	**-0.9**
TUC	**Tucson**	**4.39**	**94**	*e*Pn	**Pn**	**10 55 46.3**	**-0.4**
TUC				*e*Sg	**Sg**	**10 57 03.0**	**+1.4**
WUAZ	**Wupatki**	**4.73**	**52**	*e*Pn	**Pn**	**10 55 52.7**	**+1.4**
WUAZ				*e*Sg	**Sg**	**10 57 12.1**	**-0.1**
TPH	**Tonopah**	**5.45**	**349**	*e*Pn	**Pn**	**10 56 03.2**	**+1.9**
	comp=N,5.0nm,0.8s						
121A	**Cookes Peak, D**	**6.90**	**89**	*e*Pn	**Pn**	**10 56 21.8**	**+0.6**
	comp=N,4.9nm,0.5s						

IDC ***16*** *11:17:27.2±0.8,36°.18N×71°.27E,h0km,mb4.1/15, mb1 4.2/19,mb1mx3.9/46,mbtmp4.1/19,ML3.6/3,MS3.5/2, Ms1 3.5/2,ms1mx2.6/40,Error ellipse: s-maj=19.3km s-min=15.8km az=4.0*

ISCJB ***16*** *11:17:39.3±0.3,36°.45N±0°.02×71°.44E±0°.04,h114km, mb3.9/15,Error ellipse: s-maj=5.1km s-min=3.3km az=171.5*

NEIC ***16*** *11:17:40.9±1.0,36°.54N×71°.34E,h103km±9km,mb4.1/3, Error ellipse: s-maj=12.0km s-min=8.9km az=140.0*

NNC ***16*** *11:17:43.7±2.2,36°.76N×71°.00E,h132km±20km,mb3.9, mpv4.8,Error ellipse: s-maj=21.2km s-min=9.0km az=165.0*

ISC 16 11:17:40.3±0.5,**36°.43N**±0°.05×**71°.36E**±0°.05,**h114**km,**n69,** σ1°**93**/76,**mb4.1**/15,**7C-7D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.64**	**170**	P	**Pn**	**11 18 24.5**	**+2.7**
KBL	**Kabul**	**2.67**	**226**	*e*Pn	**Pn**	**11 18 24.2**	**+1.9**
KBL				*e*Sn	**Sn**	**11 18 54.2**	**-0.2**
DZET	**Dzherino**	**3.11**	**321**	⇓P	**Pn**	**11 18 26.3**	**-1.7**
	99nm,0.3s						
DZET				⇑S	**Sn**	**11 18 59.6**	**-5.1**
	1μm,0.4s						
CHCP	**Chirah Chowk**	**3.17**	**150**	P	Pn	11 18 32.1	+3.3
THW	**Thamme Wali**	**3.64**	**175**	P	**Pn**	**11 18 36.9**	**+2.0**
SFK	**Sufi-Kurgan**	**3.96**	**25**	⇑P	**Pn**	**11 18 40.6**	**+1.3**
	68nm,0.4s						
SFK				⇓S	**Sn**	**11 19 26.8**	**+1.8**
	53nm,0.4s						
DLH	**Dalhousie**	**5.43**	**134**	*e*P	**Pn**	**11 19 00.0**	**+0.8**
DLH				*e*S	**Sn**	**11 20 00.0**	**-0.6**
AML	**Almayashu**	**5.98**	**17**	P	**Pn**	**11 19 06.5**	**-0.2**
	SNR=217						
UCH	**Uchtor**	**6.29**	**22**	P	**Pn**	**11 19 10.8**	**-0.1**
	SNR=72						
KZA	**Kyzart**	**6.40**	**27**	P	**Pn**	**11 19 12.2**	**-0.2**
	SNR=66						
EKS2	**Erkin-Say**	**6.50**	**16**	P	**Pn**	**11 19 13.4**	**0.0**
	SNR=75						
EKS2	**Erkin-Say**	**6.50**	**16**	*e*Pn	**Pn**	**11 19 13.3**	**-0.2**
	47nm,0.5s						
EKS2				*e*Sn	**Sn**	**11 20 23.6**	**-2.6**
AAK	**Ala-Archa**	**6.66**	**20**	P	**Pn**	**11 19 15.9**	**+0.2**
	SNR=66						
AAK	**Ala-Archa**	**6.66**	**20**	⇑P	**Pn**	**11 19 15.6**	**0.0**
	41nm,0.4s						
AAK				⇑S	**Sn**	**11 20 29.4**	**-0.6**
	70nm,0.7s						
KK31	**Karatay Array**	**6.70**	**355**	⇓P	**Pn**	**11 19 15.1**	**-1.0**
	79nm,0.3s,baz=182,slow=13,SNR=990						
KK31				⇓S	Sn	11 20 24.1	-6.8
	3.7nm,0.3s,baz=188,slow=23,SNR=5.6						
KKAR	**Karatay Array**	**6.70**	**355**	*e*Pn	**Pn**	**11 19 15.2**	**-0.8**
	208nm,0.4s						
SDNR	**Sundarnagar**	**6.77**	**135**	*e*P	**Pn**	**11 19 19.0**	**+1.8**
SDNR				*e*S	**Sn**	**11 20 29.0**	**-3.9**
KBK	**Karagaybulak**	**6.81**	**23**	P	**Pn**	**11 19 18.0**	**+0.2**
	SNR=31						
ULHL	**Ulahol**	**6.93**	**32**	P	**Pn**	**11 19 19.6**	**+0.2**
	SNR=14						
CHMS	**Chumysh**	**7.06**	**21**	P	**Pn**	**11 19 21.0**	**0.0**
	SNR=14						
SMLA	**Simla**	**7.16**	**136**	*i* P	**Pn**	**11 19 22.7**	**+0.3**
SMLA				*i* S	**Sn**	**11 20 38.1**	**-4.1**
SMLA				*i* S	**Sn**	**11 20 40.0**	**-2.2**
SMLA				AML	AML	11 20 42.3	
	comp=N,171nm,0.2s						
SMLA				AML	AML	11 20 42.7	
	comp=E,167nm,0.2s						
USP	**Ospovska**	**7.25**	**19**	P	**Pn**	**11 19 23.6**	**+0.1**
	SNR=38						
TKM2	**Tokmak 2**	**7.26**	**25**	P	**Pn**	**11 19 24.0**	**+0.1**
	SNR=22						
TKM2	**Tokmak 2**	**7.26**	**25**	⇑P	**Pn**	**11 19 23.4**	**-0.5**
	comp=E,40nm,0.5s						
TKM2				⇓S	**Sn**	**11 20 45.6**	**+0.8**
	comp=E,20nm,1.2s						
TKM2	**Tokmak 2**	**7.26**	**25**	*e*Pn	**Pn**	**11 19 23.7**	**-0.2**
	comp=E,41nm,0.4s						
NDI	**New Delhi**	**9.17**	**146**	*e*P	**Pn**	**11 19 50.0**	**+0.4**
NDI				*e*S	**Sn**	**11 21 27.0**	**-3.9**
MK31	**Makanchi Array**	**13.18**	**35**	P	**Pn**	**11 20 41.1**	**-1.9**
	comp=E,6.9nm,0.9s,baz=204,slow=7.5,SNR=29						
MK31	**Makanchi Array**	**13.18**	**35**	*e*Pn	**Pn**	**11 20 41.6**	**-1.4**
MKAR	**Makanchi Array**	**13.18**	**35**	Pn	**Pn**	**11 20 41.0**	**-1.9**
	comp=E,0.1nm,0.3s,baz=221,slow=12,SNR=27						
KOLN	**Koldanda**	**13.49**	**126**	*e*P	Pn	11 20 43.8	-3.5
	comp=E,13nm,0.3s						
GKN	**Gorkha**	**14.02**	**123**	*e*P	**Pn**	**11 20 52.3**	**-1.8**
	comp=E,28nm,0.5s						
DMN	**Daman**	**14.59**	**123**	*e*P	**Pn**	**11 20 58.5**	**-3.0**
	comp=E,18nm,0.5s						
KKN	**Kakani**	**14.59**	**122**	*e*P	**Pn**	**11 20 59.7**	**-1.8**
PKI	**Pulchoki**	**14.82**	**123**	*e*P	**Pn**	**11 21 01.8**	**-2.6**
	comp=E,16nm,0.4s						
GUN	**Gumba**	**14.93**	**121**	*e*P	**Pn**	**11 21 03.8**	**-2.0**
	comp=E,12nm,0.3s						
KURBB	**Kurchatov Arra**	**15.10**	**18**	P	**P**	**11 21 09.6**	**-0.4**
KURBB	**Kurchatov Arra**	**15.10**	**18**	Pn	Pn	11 21 02.5	-4.9
	baz=28,slow=12,SNR=4.6						
KURK	**Kurchatov**	**15.21**	**18**	P	**P**	**11 21 10.5**	**-0.6**
KURK	**Kurchatov**	**15.21**	**18**	*e*P	**P**	**11 21 10.1**	**-1.1**
	comp=E,8.0nm,0.7s						
AB31	**Akbulak array**	**15.29**	**331**	P	**Pn**	**11 21 07.1**	**-2.7**
	comp=E,3.2nm,0.3s,baz=140,slow=12,SNR=131						
AB31				S	Sn	11 23 44.7	-14
	comp=E,4.9nm,0.7s,baz=146,slow=22,SNR=7.2						
ABKAR	**Akbulak array**	**15.29**	**331**	*e*Pn	**Pn**	**11 21 07.2**	**-2.7**
	comp=E,7.6nm,0.3s						
ABKAR				*e*Sn	Sn	11 23 41.6	-17
RAMN	**Ramite**	**16.03**	**122**	*e*P	**Pn**	**11 21 17.4**	**-2.1**
	comp=E,16nm,0.4s						
TAPN	**Taplejung**	**16.56**	**119**	*e*P	**Pn**	**11 21 24.5**	**-1.5**
	comp=E,26nm,0.6s						
BVA0	**Borovoye Array**	**16.61**	**358**	⇑P	**Pn**	**11 21 25.3**	**-0.9**
	comp=E,3.1nm,0.6s,baz=156,slow=10.0,SNR=7.0						
BVAR	**Borovoye Array**	**16.61**	**358**	Pn	Pn	11 21 19.0	-7.1
	comp=E,0.1nm,0.3s,baz=158,slow=11,SNR=3.2						
BRVK	**Borovoye**	**16.65**	**358**	⇓P	**Pn**	**11 21 25.9**	**-0.7**
	comp=E,9.1nm,0.6s						
AKTO	**Aktyubinsk**	**16.99**	**330**	⇑P	**Pn**	**11 21 29.8**	**-0.9**
	comp=E,9.5nm,0.8s						
AKTO				⇓S	Sn	11 24 26.9	-13
	comp=E,5.8nm,0.9s						
AKTO	**Aktyubinsk**	**16.99**	**330**	P	**Pn**	**11 21 29.7**	**-1.1**
	comp=E,1.1nm,0.3s,baz=138,slow=14,SNR=19						
AKTO				S	Sn	11 24 24.7	-15
	comp=E,0.5nm,0.3s,baz=39,slow=19,SNR=4.0						
ZAA0	**Zalesovo Array**	**19.86**	**24**	*e*P	**P**	**11 22 02.1**	**-0.1**
ZAA0				*e*S	**S**	**11 25 33.4**	**-6.0**
ZALV	**Zalesovo Beam**	**19.86**	**24**	P	**P**	**11 22 02.3**	**+0.1**
	comp=E,8.1nm,0.3s,baz=206,slow=10,SNR=44						
ZALV				S	**Sn**	**11 25 45.9**	**-2.6**
	comp=E,2.7nm,0.8s,baz=218,slow=18,SNR=4.0						
ARU	**Arti**	**21.80**	**341**	*e*P	**P**	**11 22 23.7**	**+0.8**
	comp=E,6.4nm,0.7s						
KBZ	**Khabaz**	**22.89**	**297**	P	**P**	**11 22 33.7**	**-0.4**
	comp=E,2.3nm,0.7s,baz=113,slow=6.8,SNR=3.6						
ASF	**Jabal al Asfar**	**28.69**	**272**	P	**P**	**11 23 23.6**	**-3.1**
	comp=E,1.3nm,0.3s,baz=72,slow=6.4,SNR=3.1						
BRTR	**Keskin Array B**	**29.73**	**288**	P	**P**	**11 23 37.4**	**+1.5**
	comp=E,1.0nm,0.7s,baz=104,slow=9.1,SNR=4.2						
AKASG	**Malin Array Be**	**33.22**	**309**	P	**P**	**11 24 08.1**	**+2.0**
	comp=E,2.6nm,0.6s,baz=81,slow=7.0,SNR=11						
AK01	**Malin Array Si**	**33.22**	**309**	*e*P	**P**	**11 24 08.1**	**+2.0**
FINES	**FINESS Array B**	**37.70**	**326**	P	**P**	**11 24 45.8**	**+1.5**
	comp=E,2.4nm,0.4s,baz=124,slow=9.6,SNR=17						
ARCES	**ARCESS Array B**	**41.32**	**338**	P	**P**	**11 25 16.1**	**+1.9**
	comp=E,2.5nm,0.5s,baz=112,slow=8.2,SNR=20						
NB2	**NORSAR Subarra**	**44.61**	**323**	P	**P**	**11 25 42.1**	**+1.2**
	comp=Z,6.0nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.61**	**323**	P	**P**	**11 25 42.3**	**+1.4**
	comp=Z,5.5nm,0.5s,baz=96,slow=7.7,SNR=9.7						
JOW	**Kunigami**	**48.79**	**84**	LR	LR	11 47 14.6	
	comp=Z,28nm,18.5s,slow=37						
TGY	**Tagaytay City**	**49.42**	**103**	LR	LR	11 47 39.2	
	comp=Z,87nm,22.0s,baz=89,slow=37						
MJAR	**Makushiro Arr**	**52.71**	**69**	P	**P**	**11 26 46.0**	**+2.8**
	comp=Z,1.1nm,0.7s,baz=288,slow=8.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**66.00**	**269**	P	**P**	**11 28 14.7**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=43,slow=5.5,SNR=11						
ILAR	**Eielson Array**	**74.77**	**16**	P	**P**	**11 29 08.5**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=304,slow=5.0,SNR=3.6						
YKA	**Yellowknife Ar**	**81.30**	**3**	P	**P**	**11 29 45.0**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=350,slow=5.2,SNR=10						
WRA	**Warramunga Arr**	**81.71**	**122**	P	**P**	**11 29 47.7**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=325,slow=4.8,SNR=4.0						
SCHQ	**Schefferville**	**82.28**	**337**	P	**P**	**11 29 51.0**	**+2.2**
	comp=Z,1.9nm,0.6s,baz=48,slow=16,SNR=2.8						
ASAR	**Alice Springs**	**83.98**	**125**	P	**P**	**11 29 59.7**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=330,slow=5.4,SNR=3.0						

IDC ***16*** *11:23:24.6±2.2,1°.83S×136°.52E,h0km,mb3.7/2, mb1 3.9/4,mb1mx3.6/35,mbtmp3.7/4,ML3.3/2,Error ellipse: s-maj=60.1km s-min=26.3km az=75.0*

DJA ***16*** *11:23:27.9±1.3,2°.5S±19°×13°.6E±°,h11km±11km,M4.0/4, MLv4.0/4*

ISCJB ***16*** *11:23:28.4±0.9,1°.9S±0°.1×136°.33E±0°.08,h33km,mb3.7/2, Error ellipse: s-maj=18.1km s-min=11.4km az=16.3*

ISC 16 11:23:30.0±1.2,**2°.1S**±0°.1×**136°.34E**±0°.07,**h35**km,**n8,** σ2**55**/8,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.27**	**339**	P	Pn	11 23 32.7	-4.9
RKPI	**Ransiki, Papua**	**2.25**	**286**	P	**Pn**	**11 24 04.8**	**+0.1**
SMPI	**Sarmi**	**2.37**	**87**	P	**Pn**	**11 24 06.6**	**+0.1**
FAKI	**Fak Fak**	**4.16**	**259**	P	**Pn**	**11 24 32.3**	**+1.2**
SIJI	**Sorong**	**5.22**	**284**	Pn	**Pn**	**11 24 45.0**	**-0.7**
	0.8nm,0.3s,baz=60,slow=14,SNR=6.2						
WRA	**Warramunga Arr**	**17.82**	**186**	P	**P**	**11 27 36.2**	**+0.4**
	0.1nm,0.3s,baz=9.1,slow=13,SNR=4.9						
WRA				S	**Sn**	**11 30 49.1**	**-3.9**
	0.1nm,0.3s,baz=3.5,slow=24,SNR=5.2						
ASAR	**Alice Springs**	**21.54**	**186**	P	**P**	**11 28 20.2**	**+3.8**
	2.7nm,0.9s,baz=20,slow=11,SNR=24						
MKAR	**Makanchi Array**	**67.89**	**323**	P	**P**	**11 34 24.2**	**-0.8**

0.5nm,0.6s,baz=110,slow=7.3,SNR=8.2

ISCJB ***16*** *11:30:47.9±0.3,32°.71N±0°.02×115°.90W±0°.02,h13km±2km, Error ellipse: s-maj=3.6km s-min=3.1km az=158.7*

NEIC ***16*** *11:30:48.8,32°.70N×115°.93W,h4km,ML3.7(ECX), ML3.8(PAS),After PAS.*

MEX ***16*** *11:30:49.1±0.4,32°.81N×115°.87W,h17km±10km,MD3.7*

ECX ***16*** *11:30:49.1±0.6,32°.70N×115°.93W,h3km,MD3.7,ML3.9*

ISC 16 11:30:47.9±0.8,**32°.67N**±0°.02×**115°.92W**±0°.02,**h14**km±5km, **n42,** σ0°**69**/62,**10C-6D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.02**	**185**	⇓*i*P	**Pg**	**11 30 50.2**	**-0.3**
RMX	**La Rumorosa**	**0.15**	**243**	*e*P	**Pg**	**11 30 52.2**	**+0.3**
RMX				*e*S	**Sg**	**11 30 54.6**	**+0.1**
SGL	**Mount Signal**	**0.17**	**97**	⇑*i*P	**Pg**	**11 30 52.3**	**+0.3**
WESC	**Westside Schoo**	**0.18**	**61**	⇑*e*P	**Pg**	**11 30 52.5**	**+0.2**
WESC				*e*S	**Sg**	**11 30 55.5**	**+0.4**
CRR	**Carrizo Plain**	**0.22**	**349**	⇓*i*P	**Pg**	**11 30 52.5**	**-0.4**
ERPC	**Ernies Place**	**0.23**	**71**	⇑*i*P	**Pb**	**11 30 53.6**	**-0.3**
COK	**Cook Ranch**	**0.24**	**42**	⇑*i*P	**Pg**	**11 30 53.4**	**+0.2**
SWSC	**Sam W. Stewart**	**0.29**	**21**	⇓*i*P	**Pg**	**11 30 53.8**	**-0.3**
DREC	**Desert Rsrch C**	**0.42**	**71**	⇑*e*P	**Pb**	**11 30 57.3**	**+0.2**
CPBX	**Cerro Prieto**	**0.58**	**116**	*e*P	**Pb**	**11 31 00.2**	**+0.4**
CPBX				*e*S	**Sb**	**11 31 08.8**	**+0.9**
CPBX	**Cerro Prieto**	**0.58**	**116**	*e*Pn	**Pg**	**11 30 59.3**	**0.0**
CPBX				*e*S	**Sb**	**11 31 07.8**	**-0.1**
BAR	**Barrett**	**0.63**	**271**	*e*Pg	**Pg**	**11 31 00.4**	**+0.1**
BAR				*e*Sg	**Sg**	**11 31 08.8**	**0.0**
BAR	**Barrett**	**0.63**	**271**	⇑*e*P	**Pg**	**11 31 00.6**	**+0.2**
COA	**Coachella**	**0.70**	**74**	⇑*i*P	**Pg**	**11 31 01.8**	**+0.2**
CBX	**Cerro Bola**	**0.72**	**241**	*i* P	**Pb**	**11 31 02.5**	**+0.1**
CBX				*i* S	**Sb**	**11 31 12.3**	**+0.1**
CBX	**Cerro Bola**	**0.72**	**241**	*i* P	**Pb**	**11 31 02.5**	**+0.1**
CBX				*i* S	**Sb**	**11 31 12.3**	**+0.1**
CBX	**Cerro Bola**	**0.72**	**241**	⇑*e*P	**Pb**	**11 31 02.6**	**+0.2**
CBX				*e*S	**Sb**	**11 31 12.4**	**+0.3**
CBX				⇓*e*		11 31 14.0	
CBX				IAML		11 31 14.0	
	comp=E,6μm,0.2s						
RDX	**Rancho Dawling**	**0.74**	**181**	⇓*e*P	**Pg**	**11 31 02.6**	**+0.3**
RDX				IAML		11 31 13.9	
	comp=N,5μm,0.2s						
RDX				⇓*e*		11 31 13.9	
SDRC	**San Diego Road**	**0.86**	**275**	*e*P	**Pg**	**11 31 04.3**	**-0.4**
GLA	**Glamis**	**1.00**	**67**	*e*Pg	**Pb**	**11 31 06.1**	**-0.9**
GLA				*e*Sg	**Sb**	**11 31 19.4**	**-0.6**
PFO	**Pinyon Flats O**	**1.04**	**335**	*e*Pg	**Pb**	**11 31 06.7**	**-1.1**
PFO				*e*Sg	**Sb**	**11 31 20.5**	**-0.9**
PBX	**Punta Banda**	**1.15**	**217**	*e*P	**Pg**	**11 31 10.1**	**0.0**
PBX				*e*S	**Sn**	**11 31 25.5**	**+0.3**
ECNX	**Esteban Cantu**	**1.16**	**210**	⇑*e*P	**Pg**	**11 31 10.4**	**0.0**
ECNX				*e*S	**Sn**	**11 31 25.8**	**+0.3**
ZAX	**El Zacaton**	**1.19**	**195**	*e*P	**Pg**	**11 31 10.9**	**0.0**
ZAX				*e*S	**Sg**	**11 31 26.7**	**+0.3**
ECBX	**El Chinero**	**1.40**	**148**	*e*Pn	**Pn**	**11 31 11.8**	**-1.3**
ECBX				*e*S	**Sn**	**11 31 31.4**	**0.0**
SPIG	**San Pedro Mart**	**1.66**	**166**	*i* P	**Pn**	**11 31 16.7**	**-0.3**
SPIG				*i* S	**Sn**	**11 31 37.8**	**-0.5**
SPIG	**San Pedro Mart**	**1.66**	**166**	*i* P	**Pn**	**11 31

SNAA	**Sanae**	**54.00**	**159**	P		**P**		**11 41 47.2**	**+0.1**
	comp=Z,0.3nm,1.0s,baz=277,slow=7.8,SNR=7.3								
QSPA	**South Pole Qui**	**59.09**	**180**	P		**P**		**11 42 23.2**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=115,slow=2.6,SNR=8.1								
TORD	**Torodi Ar. Bea**	**82.63**	**70**	P		**P**		**11 44 46.6**	**0.0**
	comp=Z,1.2nm,0.8s,baz=269,slow=3.5,SNR=5.4								
WRA	**Warramunga Arr**	**123.57**	**209**	PKP		**PKPdf**		**11 51 19.5**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=170,slow=1.7,SNR=5.8								
ZALV	**Zalesovo Beam**	**151.45**	**30**	PKPbc		**PKPbc**		**11 52 16.2**	**+0.3**
	comp=Z,2.4nm,0.4s,baz=301,slow=2.8,SNR=8.3								
MKAR	**Makanchi Array**	**154.34**	**45**	PKPab		**PKPab**		**11 52 37.1**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=270,slow=2.9,SNR=3.6								

IDC ***16*** *11:32:39.5±1.0,31°.34S×72°.20W,h0km,mb3.2/3, mb1 3.7/7,mb1mx3.6/28,mbtmp3.6/7,ML3.3/3,Error ellipse: s-maj=32.7km s-min=24.8km az=81.0*

ISC 16 11:32:42.1±1.1,31°.1S±0°.1×72°.0W±0°.1,h14km,n10, σ1°72/11,mb3.3/3,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time	Res
CFAA	**Coronel Fontan**	**3.22**	**99**	Pn	**Pn**	**11 33 34.1**	**+1.8**
	5.9nm,0.3s,baz=291,slow=12,SNR=33						
CFAA				Sn	**Sn**	**11 34 08.0**	**-2.5**
	4.4nm,0.3s,baz=191,slow=16,SNR=6.2						
LVC	**Limon Verde**	**8.92**	**19**	Pn	Pn	11 34 55.2	+4.5
	26nm,0.3s,baz=195,slow=12,SNR=6.4						
LVC				Sn	**Sn**	**11 36 29.8**	**-1.3**
	15nm,0.3s,baz=240,slow=20,SNR=3.7						
LPAZ	**La Paz**	**15.19**	**14**	Pn	**P**	**11 36 20.2**	**-1.7**
	0.1nm,0.3s,baz=204,slow=8.2,SNR=3.1						
SIV	**San Ignacio**	**18.06**	**36**	P	**P**	**11 36 55.6**	**+2.4**
	0.0nm,0.3s,baz=202,slow=17,SNR=7.8						
SNAA	**Sanae**	**54.21**	**159**	P	**P**	**11 42 05.7**	**-1.2**
	0.2nm,0.7s,baz=278,slow=7.1,SNR=3.7						
TXAR	**Lajitas Array**	**67.28**	**330**	P	**P**	**11 43 36.4**	**0.0**
	0.2nm,0.9s,baz=188,slow=3.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**83.18**	**70**	P	**P**	**11 45 09.2**	**+1.0**
	0.2nm,0.4s,baz=251,slow=4.9,SNR=2.3						
WRA	**Warramunga Arr**	**123.28**	**210**	PKP	**PKPdf**	**11 51 39.2**	**0.0**
	0.2nm,0.4s,baz=167,slow=1.6,SNR=5.5						
ZALV	**Zalesovo Beam**	**151.74**	**29**	PKPbc	**PKPbc**	**11 52 36.3**	**+0.6**
	1.5nm,0.6s,baz=312,slow=4.2,SNR=5.3						
MKAR	**Makanchi Array**	**154.76**	**44**	PKPab	**PKPab**	**11 52 56.8**	**-0.9**
	0.2nm,0.7s,baz=325,slow=1.8,SNR=2.3						

SJA ***16*** *11:41:59.5±0.7,33°.79S×73°.61W,h29km±62km,ML3.9*
GUC ***16*** *11:42:10.9±0.6,33°.94S×72°.20W,h11km±3km,ML3.7*

ISC 16 11:42:11.5±2.7,33°.99S±0°.05×72°.2W±0°.1,h10km±15km, n20,σ1°72/32,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time	Res
TACH	**Talagante**	**1.14**	**73**	*e*P	**Pn**	**11 42 31.7**	**-1.9**
NICH	**Los Niches**	**1.31**	**141**	*e*P	**Pn**	**11 42 35.8**	**-0.2**
NICH				*e*S	**Sb**	**11 42 54.8**	**+1.6**
NICH				AML	AML	11 42 58.7	
	comp=E,5μm,0.8s						
CHCH	**Chadas Angostu**	**1.32**	**88**	*e*P	**Pn**	**11 42 35.2**	**-1.0**
SAN	**Santiago**	**1.42**	**68**	*e*P	**Pn**	**11 42 36.5**	**-1.0**
SAN				*e*S	**Sn**	**11 42 55.5**	**-0.8**
SAN				AML	AML	11 43 05.9	
	comp=N,1μm,2.1s						
PCH	**Pirque**	**1.48**	**76**	*e*P	**Pn**	**11 42 37.5**	**-0.9**
PCH				*e*S	**Sn**	**11 42 58.1**	**+0.2**
TALC	**Talca**	**1.49**	**161**	*e*P	**Pb**	**11 42 38.8**	**-0.6**
TALC				*e*S	**Sg**	**11 42 59.9**	**+0.3**
CLCH	**Cerro Calan**	**1.54**	**68**	*e*P	**Pn**	**11 42 38.4**	**-0.8**
CLCH				*e*S	**Sn**	**11 42 59.4**	**+0.1**
CLCH				AML	AML	11 43 13.5	
	comp=N,1μm,0.4s						
PEL	**Peldehue**	**1.55**	**57**	*e*P	**Pn**	**11 42 38.6**	**-0.7**
PEL				*e*S	**Sn**	**11 42 59.0**	**-0.5**
PEL				AML	AML	11 43 08.0	
	comp=E,4μm,0.3s						
LNCH	**Linares**	**1.93**	**164**	*e*P	**Pb**	**11 42 45.7**	**-1.1**
LNCH				*e*S	**Sb**	**11 43 12.0**	**+1.1**
AUSP	**Uspallata**	**2.97**	**54**	*e*P	**Pn**	**11 43 00.8**	**+1.8**
AUSP				*i* S	**Sb**	**11 43 46.3**	**+5.0**
AAGR	**Agrelo**	**2.99**	**73**	*e*P	**Pb**	**11 43 03.0**	**-2.0**
ARCO	**CERRO ARCO**	**3.00**	**68**	*e*P	**Pb**	**11 43 03.9**	**-1.3**
ARCO				*i* S	**Sg**	**11 43 49.8**	**+2.0**
ARCO				AML	AML	11 43 57.5	
	comp=Z,118nm,0.7s						
ASAL	**Salagasta**	**3.18**	**65**	*e*P	**Pb**	**11 43 05.4**	**-2.7**
ASAL				*i* S	**Sg**	**11 43 53.6**	**0.0**
RTLS	**Leoncito**	**3.30**	**49**	*e*P	**Pn**	**11 43 05.2**	**+1.6**
RTLS				*i* S	**Sb**	**11 43 53.7**	**+2.9**
RTCV	**Cerro Valdivia**	**3.77**	**57**	*i* P	**Pn**	**11 43 10.3**	**+0.5**
RTLL	**Cerro Villicun**	**4.14**	**51**	*e*P	**Pn**	**11 43 16.1**	**+1.2**
RTLL				*i* S	**Sb**	**11 44 12.4**	**-2.3**
AMOG	**MOGNA**	**4.39**	**47**	*e*P	**Pn**	**11 43 19.0**	**+0.6**
ACAN	**Cantantal**	**4.57**	**69**	*i* P	**Pn**	**11 43 22.1**	**+1.3**
AVFE	**Valle Fertil**	**5.24**	**52**	*i* P	**Pn**	**11 43 28.0**	**-2.0**
AVFE				AML	AML	11 44 48.2	
	comp=Z,43nm,0.5s						
VCA	**Vinchina**	**6.27**	**34**	*e*P	**Pn**	**11 43 44.4**	**0.0**

ISCJB ***16*** *11:54:21.8±0.4,49°.53N±0°.05×155°.52E±0°.09,h54km, mb3.8/18,MS3.2/3,Error ellipse: s-maj=10.9km s-min=2.8km az=38.8*
KRSC ***16*** *11:54:21.6±3.5,49°.43N×157°.06E,h15km±7km,ML4.6*
MOS ***16*** *11:54:23.0±1.6,49°.65N×155°.50E,h71km,mb4.3/6,Error ellipse: s-maj=12.5km s-min=4.7km az=69.3*
IDC ***16*** *11:54:25.3±2.7,49°.62N×155°.55E,h75km±24km,mb3.5/16, mb1 3.7/20,mb1mx3.6/38,mbtmp3.8/20,MS3.1/4, Ms1 3.1/4,ms1mx2.7/31,Error ellipse: s-maj=19.3km s-min=11.2km az=138.0*

ISC 16 11:54:22.8±0.6,49°.57N±0°.06×155°.69E±0°.07,h54km,n89, σ1°97/97,mb3.8/18,MS3.2/3,5C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time	Res
SKR	**Severo-Kuril's**	**1.15**	**14**	*e*P	**Pn**	**11 54 43.4**	**+0.8**
SKR				*e*S	**Sn**	**11 54 59.0**	**+1.8**
SKR	**Severo-Kuril's**	**1.15**	**14**	*i*PN	Pn	11 54 40.0	-2.6
SKR				*i* S	**Sn**	**11 54 55.4**	**-1.9**
SKR				pmax	pmax		
	comp=N,110nm,0.5s						
SKR				pmax	pmax		
	comp=E,90nm,0.5s						
SKR				pmax	pmax		
	comp=Z,200nm,0.5s						
SKR				smax	smax		
	comp=N,3μm,0.3s						
SKR				smax	smax		
	comp=E,2μm,0.3s						
SKR				smax	smax		
	comp=N,2μm,2.0s						
SKR				smax	smax		
	comp=E,3μm,2.0s						
PAU	**Pauzhetka**	**2.03**	**20**	*e*P	**Pn**	**11 54 55.7**	**+1.2**
PAU				*e*S	**Sn**	**11 55 20.8**	**+2.1**
PAU	**Pauzhetka**	**2.03**	**20**	PN	**Pn**	**11 54 55.7**	**+1.2**
PAU				S	**Sn**	**11 55 20.8**	**+2.1**
MIPR	**Malaya Ipel'ka**	**2.79**	**14**	*e*P	**Pn**	**11 55 06.5**	**+1.5**
ASAK	**Asacha**	**3.14**	**26**	*e*P	**Pn**	**11 55 12.5**	**+2.6**
ASAK				*e*S	**Sn**	**11 55 49.9**	**+3.7**
MTVR	**Mutnovka**	**3.31**	**27**	*e*P	**Pn**	**11 55 14.0**	**+1.7**
MTVR				*e*S	**Sn**	**11 55 51.8**	**+1.4**
RUS	**Russkaya**	**3.38**	**31**	*e*P	**Pn**	**11 55 13.7**	**+0.8**
RUS				*e*S	**Sn**	**11 55 50.8**	**-0.9**
RUS	**Russkaya**	**3.38**	**31**	PN	**Pn**	**11 55 13.7**	**+0.8**
RUS				S	**Sn**	**11 55 50.8**	**-0.9**
APC	**Apacha**	**3.48**	**15**	*e*P	**Pn**	**11 55 17.6**	**+3.2**
APC	**Apacha**	**3.48**	**15**	PN	**Pn**	**11 55 17.6**	**+3.2**
PETK	**Petropavlovsk-**	**3.76**	**19**	P	**Pn**	**11 55 20.6**	**+2.3**
	comp=E,4.3nm,0.3s,baz=177,slow=14,SNR=58						
PETK				S	Sn	11 56 12.8	+12
	comp=E,1.9nm,0.3s,baz=187,slow=11,SNR=2.6						
PETK				LR	LR	11 57 09.9	
	comp=E,93nm,21.6s,baz=196,slow=44						
PET	**Petropavlovsk**	**3.93**	**27**	*e*P	**Pn**	**11 55 22.2**	**+1.8**
PET				*e*S	**Sn**	**11 56 06.4**	**+1.2**
PET	**Petropavlovsk**	**3.93**	**27**	*e*PN	**Pn**	**11 55 22.3**	**+1.8**
PET				*e*S	**Sn**	**11 56 05.6**	**+0.4**
PET				pmax	pmax		
	comp=Z,19nm,0.5s						
PET				smax	smax		
	comp=E,176nm,0.9s						

PET					smax	smax			
	comp=N,106nm,0.5s								
UGLR	**Uglovaya**	**4.14**	**27**	*e*P		**Pn**		**11 55 26.2**	**+2.7**
UGLR				*e*S		**Sn**		**11 56 14.1**	**+3.5**
KOK	**Koryaka**	**4.16**	**25**	*e*P		**Pn**		**11 55 26.8**	**+3.0**
KOK				*e*S		**Sn**		**11 56 15.2**	**+4.1**
KOK	**Koryaka**	**4.16**	**25**	PN		**Pn**		**11 55 26.8**	**+3.0**
KOK				S		**Sn**		**11 56 15.2**	**+4.1**
AVH	**Avacha**	**4.16**	**26**	*e*P		**Pn**		**11 55 26.9**	**+3.1**
AVH				*e*S		**Sn**		**11 56 14.4**	**+3.2**
AVH	**Avacha**	**4.16**	**26**	PN		**Pn**		**11 55 26.9**	**+3.1**
AVH				S		**Sn**		**11 56 14.4**	**+3.2**
SMAR	**Somma**	**4.18**	**27**	*e*P		**Pn**		**11 55 27.0**	**+2.8**
SMAR	**Somma**	**4.18**	**27**	PN		**Pn**		**11 55 27.0**	**+2.8**
KRER	**Koryakskii**	**4.20**	**26**	*e*P		**Pn**		**11 55 27.3**	**+2.9**
KRER				*e*S		**Sn**		**11 56 16.1**	**+3.8**
SDLR	**Sedlovina**	**4.22**	**27**	*e*P		**Pn**		**11 55 26.8**	**+2.2**
SDLR				*e*S		**Sn**		**11 56 15.9**	**+3.3**
SDLR	**Sedlovina**	**4.22**	**27**	PN		**Pn**		**11 55 26.8**	**+2.2**
SDLR				S		**Sn**		**11 56 15.9**	**+3.3**
KRX	**Arik**	**4.22**	**25**	*e*P		**Pn**		**11 55 27.2**	**+2.5**
KRX				*e*S		**Sn**		**11 56 16.1**	**+3.4**
NLC	**Nalytchevo**	**4.27**	**31**	*e*P		**Pn**		**11 55 25.0**	**-0.2**
NLC				*e*S		**Sn**		**11 56 11.5**	**-2.2**
NLC	**Nalytchevo**	**4.27**	**31**	PN		**Pn**		**11 55 25.0**	**-0.2**
NLC				S		**Sn**		**11 56 11.5**	**-2.2**
GNL	**Ganaly**	**4.36**	**18**	*e*P		Pn		11 55 30.6	+4.0
GNL	**Ganaly**	**4.36**	**18**	PN		Pn		11 55 30.6	+4.0
SPN	**Mys Shipunski**	**4.46**	**36**	*e*P		**Pn**		**11 55 28.4**	**+0.7**
SPN				*e*S		**Sn**		**11 56 17.4**	**-0.9**
SPN	**Mys Shipunski**	**4.46**	**36**	PN		**Pn**		**11 56 17.4**	**-0.9**
SPN				S		**Sn**		**11 56 17.4**	**-0.9**
KII	**Karymskiy**	**5.04**	**26**	*e*P		Pn		11 55 39.5	+3.6
KII	**Karymskiy**	**5.04**	**26**	PN		Pn		11 55 39.5	+3.6
KZV	**Kizimen**	**6.23**	**25**	*e*P		Pn		11 55 56.1	+4.0
MKZ	**Mys Kozlova**	**6.23**	**34**	*e*P		**Pn**		**11 55 51.3**	**-0.7**
MKZ				*e*S		**Sn**		**11 56 58.5**	**-3.2**
MKZ	**Mys Kozlova**	**6.23**	**34**	PN		**Pn**		**11 55 51.3**	**-0.7**
TUMR	**Tumrok**	**6.34**	**24**	*e*P		Pn		11 55 58.1	+4.5
TUMR	**Tumrok**	**6.34**	**24**	PN		Pn		11 55 58.1	+4.5
KUR	**Kuril'sk**	**6.85**	**234**	*e*PN		**Pn**		**11 56 03.5**	**+2.9**
KUR				*e*S		Sn		11 57 22.7	+5.5
KUR				pmax		pmax			
	comp=Z,11nm,0.5s								
KUR				smax		smax			
	comp=N,17nm,0.8s								
KUR				smax		smax			
	comp=E,9.0nm,0.8s								
KBTR	**Krutoberegovo**	**7.92**	**30**	*e*P		**Pn**		**11 56 15.4**	**+0.2**
KBTR	**Krutoberegovo**	**7.92**	**30**	PN		**Pn**		**11 56 15.4**	**+0.2**
UGL	**Uglegorsk**	**8.91**	**272**	PN		**Pn**		**11 56 27.1**	**-1.7**
YSS	**Yuzh-Sakhalins**	**9.02**	**258**	*e*PN		**Pn**		**11 56 31.5**	**+1.3**
ASAJ	**Asahikawa**	**10.49**	**244**	P		Pn		11 56 53.6	+3.2
	baz=64,slow=12								
ASAJ				S		Sn		11 59 00.6	+14
	baz=279,slow=14,SNR=2.1								
ERM	**Erimo**	**11.55**	**234**	*e*PN		**Pn**		**11 57 04.8**	**0.0**
SEY	**Seymchan**	**13.52**	**354**	P		P		11 57 35.7	-3.4
	comp=E,0.3nm,0.3s,baz=180,slow=19,SNR=4.8								
SEY	**Seymchan**	**13.52**	**354**	*e*PN		**Pn**		**11 57 29.7**	**-1.8**
HABR	**Khabarovsk**	**13.59**	**273**	*e*PN		**Pn**		**11 57 30.6**	**-2.0**
HABR				pmax		pmax			
	comp=E,6.0nm,0.7s								
HABR				pmax		pmax			
	comp=Z,9.0nm,1.4s								
HABR				pmax		pmax			
	comp=N,5.0nm,0.7s								
HABR				MLR		MLR			
	comp=Z,51nm,16.0s								
MJA0	**Matsu Arr-Jizo**	**18.16**	**231**	*e*P		**Pn**		**11 58 31.8**	**+0.8**
MAJO	**Matsushiro**	**18.18**	**231**	*e*P		**Pn**		**11 58 29.8**	**-1.1**
MAJO				pmax		pmax			
	comp=Z,127nm,2.5s								
MJAR	**Matsushiro Arr**	**18.18**	**231**	P		**P**		**11 58 30.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=28,slow=9.8,SNR=8.4								
MJAR				S		Sn		12 01 45.5	-7.8
	comp=Z,0.4nm,0.3s,baz=12,slow=29,SNR=5.1								
YAK	**Yakutsk**	**19.05**	**321**	P		**Pn**		**11 58 40.6**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=246,slow=20,SNR=2.5								
KSRS	**Korea Array**	**23.35**	**249**	P		**P**		**11 59 26.9**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=63,slow=8.6,SNR=5.6								
KSRS	**Korea Array**	**23.35**	**249**	*e*P		**P**		**11 59 27.3**	**+1.0**
KSRS				pmax		pmax			
	comp=Z,1.0nm,0.4s								
TJN	**Taejon**	**24.39**	**248**	*e*P		**P**		**11 59 35.8**	**-0.1**
JNU	**Nakatsue**	**24.67**	**238**	P		**P**		**11 59 37.6**	**-0.8**
	comp=Z,3.8nm,0.8s,baz=50,slow=6.1,SNR=3.0								
TIXI	**Tiksi**	**25.31**	**340**	*e*P		**P**		**11 59 43.5**	**-0.4**
TIXI				pmax		pmax			
	comp=Z,7.0nm,2.5s								
H11N2	**WAKE ISLAND Hy**	**31.09**	**159**	T		T		12 33 20.8	
	baz=346,slow=77,SNR=16								
H11N1	**WAKE ISLAND Hy**	**31.11**	**159**	T		T		12 33 24.9	
	baz=346,slow=77,SNR=12								
H11N3	**WAKE ISLAND Hy**	**31.11**	**159**	T		T		12 33 23.0	
	baz=346,slow=77,SNR=21								
SONM	**Songino Array**	**32.12**	**286**	LR		LR		12 13 08.9	
	comp=Z,35nm,20.5s,baz=266,slow=35								
H11S1	**WAKE ISLAND Hy**	**32.23**	**160**	T		T		12 34 47.1	
	baz=346,slow=76,SNR=373								
H11S3	**WAKE ISLAND Hy**	**32.24**	**160**	T		T		12 34 50.9	
	baz=346,slow=76,SNR=605								
H11S2	**WAKE ISLAND Hy**	**32.25**	**160**	T		T		12 34 46.7	
	baz=346,slow=76,SNR=328								
ILAR	**Eielson Array**	**33.28**	**41**	P		**P**		**12 00 54.7**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=262,slow=8.1,SNR=10								
ILAR	**Eielson Array**	**33.28**	**41**	*e*P		**P**		**12 00 54.5**	**-0.1**
INK	**Inuvik**	**38.35**	**34**	P		**P**		**12 01 38.5**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=284,slow=4.2,SNR=2.4								
INK	**Inuvik**	**38.35**	**34**	P		**P**		**12 01 38.5**	**+0.6**
INK				pmax		pmax			
	comp=Z,1.0nm,0.4s								
ZALV	**Zalesovo Beam**	**42.41**	**304**	P		**P**		**12 02 10.5**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=48,slow=2.1,SNR=3.5								
ZALV	**Zalesovo Beam**	**42.41**	**304**	*e*P		**P**		**12 02 10.4**	**-1.2**
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.5s								
MKAR	**Makanchi Array**	**47.21**	**296**	P		**P**		**12 02 49.7**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=58,slow=9.2,SNR=5.4								
MKAR				LR		LR		12 24 03.7	
	comp=Z,34nm,19.7s,baz=64,slow=38								
MKAR	**Makanchi Array**	**47.21**	**296**	*e*P		**P**		**12 02 49.9**	**-0.1**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
YKA	**Yellowknife Ar**	**47.64**	**39**	P		**P**		**12 02 51.5**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=297,slow=8.2,SNR=3.4								
ARU	**Arti**	**54.11**	**317**	*c* *i*P		**P**		**12 03 41.2**	**-0.5**
ARU								12 05 40.8	
ARU				S		**S**		**12 11 12.0**	**-1.9**
ARU				SS		**SS**		**12 14 52.1**	**-3.2**
ARU				pmax		pmax			
	comp=Z,7.0nm,2.5s								
CMAR	**Chiang Mai Arr**	**54.71**	**257**	P		**P**		**12 03 47.4**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=32,slow=7.5,SNR=9.9								
CMAR	**Chiang Mai Arr**	**54.71**	**257**	*e*P		**P**		**12 03 48.3**	**+1.7**
CMAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ARCES	**ARCESS Array B**	**55.75**	**341**	LR		LR		12 31 09.3	
	comp=Z,21nm,19.4s,baz=38,slow=40								
NVAR	**Mina Array Bea**	**59.64**	**65**	P		**P**		**12 04 22.6**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=238,slow=14,SNR=3.9								
PDAR	**Pinedale Array**	**61.72**	**56**	P		**P**		**12 04 37.4**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=336,slow=3.3,SNR=5.6								
FINES	**FINESS Array B**	**62.21**	**335**	P		**P**		**12 04 38.0**	**-0.2**
	comp=Z,3.8nm,1.0s,baz=20,slow=8.9,SNR=3.3								
FINES	**FINESS Array B**	**62.21**	**335**	P		**P**		**12 04 38.0**	**-0.2**
FINES				pmax		pmax			
	comp=Z,5.0nm,1.1s								
NOA	**NORSAR Array B**	**66.09**	**342**	P		**P**		**12 05 04.5**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=25,slow=2.9,SNR=2.6								
AKASG	**Malin Array Be**	**70.14**	**327**	P		**P**		**12 05 27.7**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=24,slow=4.8,SNR=2.3								
WRA	**Warramunga Arr**	**71.75**	**201**	P		**P**		**12 05 38.7**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=16,slow=6.7,SNR=9.2								
WRA	**Warramunga Arr**	**71.75**	**201**	*e*P		**P**		**12 05 39.2**	**0.0**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.4s								
TXAR	**Lajitas Array**	**74.64**	**63**	P		**P**		**12 05 57.5**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=298,slow=4.8,SNR=22								
TXAR	**Lajitas Array**	**74.64**	**63**	P		**P**		**12 05 57.5**	**+1.1**
TXAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ASAR	**Alice Springs**	**75.44**	**201**	P		**P**		**12 06 01.2**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=15,slow=5.1,SNR=13								
ASAR	**Alice Springs**	**75.44**	**201**	P		**P**		**12 06 01.2**	**+0.4**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								

BEO ***16*** *11:58:51.9±0.4,43°.57N×17°.37E,h0km,ML3.2/1*
CSEM ***16*** *11:58:52.7±0.2,43°.60N×17°.49E,h2km,ML3.8/7,Error ellipse: s-maj=5.3km s-min=2.6km az=41.0*
PDG ***16*** *11:58:52.1±0.7,43°.54N×17°.42E,h2km±1km,MD3.5/3, ML3.4/10,Error ellipse: s-maj=0.8km s-min=0.9km az=0.0*
PRU ***16*** *11:58:53.6,43°.57N×17°.47E,h0km*

ISC 16 11:58:52.4±1.1,43°.55N±0°.02×17°.47E±0°.02,h6km±9km, n122,σ1°50/194,33C-31D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time	Res
STON	**Ston**	**0.70**	**166**	*i* Pg	**Pg**	**11 59 03.9**	**-1.9**
STON				Sg	**Sg**	**11 59 15.1**	**+0.2**
STON	**Ston**	**0.70**	**166**	*e*Pg	**Pg**	**11 59 03.9**	**-1.9**
STON				*e*Sg	**Sg**	**11 59 15.2**	**+0.4**
STON	**Ston**	**0.70**	**166**	*i* Pg	**Pg**	**11 59 03.9**	**-1.9**
STON				Sg	**Sg**	**11 59 15.0**	**+0.2**
BRY	**Bratogost**	**1.02**	**129**	⇑*i*Pg	**Pg**	**11 59 10.6**	**-1.3**
BRY				*e*Sg	**Sn**	**11 59 27.9**	**-0.2**
BRY	**Bratogost**	**1.02**	**129**	⇑*i*Pg	**Pg**	**11 59 10.6**	**-1.3**
BRY				*e*Sg	**Sn**	**11 59 27.9**	**-0.2**
UPM	**Unac-Piva**	**1.11**	**108**	⇓*i*Pg	**Pb**	**11 59 13.6**	**-0.5**
UPM				*e*Sg	**Sn**	**11 59 31.5**	**+1.1**
UPM	**Unac-Piva**	**1.11**	**108**	⇓*i*Pg	**Pb**	**11 59 13.6**	**-0.5**
UPM				*e*Sg	**Sn**	**11 59 31.5**	**+1.1**
HAPS	**Han Pijesak,Bl**	**1.20**	**63**	*e*Pg	**Pg**	**11 59 15.5**	**0.0**
HAPS				*e*Sg	**Sb**	**11 59 31.1**	**-0.5**
HAPS	**Han Pijesak,Bl**	**1.20**	**63**	*e*Pg	**Pg**	**11 59 15.5**	**0.0**
HAPS				*e*Sg	**Sb**	**11 59 31.1**	**-0.5**
BLY	**Banja Luka**	**1.22**	**351**	⇓*i*Pg	**Pb**	**11 59 14.2**	**-1.7**
BLY				*e*Sg	**Sn**	**11 59 32.0**	**-0.9**
BLY	**Banja Luka**	**1.22**	**351**	⇓*i*Pg	**Pb**	**11 59 14.2**	**-1.7**
HCY	**Herceg Novi**	**1.33**	**145**	⇓*i*Pg	**Pn**	**11 59 15.9**	**-1.7**
HCY				*e*Sg	**Sg**	**11 59 37.5**	**+2.2**
HCY	**Herceg Novi**	**1.33**	**145**	⇓*i*Pg	**Pn**	**11 59 15.9**	**-1.7**
HCY				*e*Sg	**Sg**	**11 59 37.5**	**+2.2**
NKY	**Niksic**	**1.34**	**123**	⇓*i*Pg	**Pn**	**11 59 16.7**	**-1.1**
NKY				*e*Sg	**Sg**	**11 59 38.9**	**+3.5**
NKY	**Niksic**	**1.34**	**123**	⇓*i*Pg	**Pn**	**11 59 16.7**	**-1.1**
NKY				*e*Sg	**Sg**	**11 59 38.9**	**+3.5**
NKME	**Niksic**	**1.34**	**125**	⇑*i*Pg	**Pn**	**11 59 17.0**	**-0.8**
NKME				*e*Sg	**Sg**	**11 59 38.8**	**+3.3**
NKME	**Niksic**	**1.34**	**125**	⇑*i*Pg	**Pn**	**11 59 17.0**	**-0.8**
NKME				*e*Sg	**Sg**	**11 59 38.8**	**+3.3**
PLE	**Pljevlja**	**1.42**	**98**	⇑*i*Pg	**Pn**	**11 59 18.8**	**-0.1**
PLE				*e*Sg	**Sg**	**11 59 42.2**	**+4.2**
PLE	**Pljevlja**	**1.42**	**98**	⇑*i*Pg	**Pn**	**11 59 18.8**	**-0.1**
PLE				*e*Sg	**Sg**	**11 59 42.2**	**+4.2**
BBLS	**Lazići**	**1.44**	**77**	⇑*i*Pn	**Pn**	**11 59 18.6**	**-0.6**
BBLS				*e*Sn	**Sg**	**11 59 40.8**	**+2.0**
BBLS	**Lazići**	**1.44**	**77**	⇑*i*Pn	**Pn**	**11 59 18.6**	**-0.6**
BBLS				*e*Sn	**Sg**	**11 59 40.8**	**+2.0**
UDBI	**Udbina**	**1.57**	**309**	*e*Pn	**Pn**	**11 59 20.1**	**-0.9**
UDBI				Sn	**Sg**	**11 59

JAVS					*e*Sn		**Sn**	**12 00 27.6**	**+1.5**
	comp=Z,81nm,0.5s								
SOKA	**Soboth**	**3.57**	**332**	⇑	*e*Pn		**Pn**	**11 59 48.6**	**+0.1**
	comp=Z,7.8nm,0.3s								
SOKA				⇑	*i*Sn		**Sn**	**12 00 31.1**	**0.0**
	comp=Z,20nm,0.6s								
SOKA	**Soboth**	**3.57**	**332**		Pn		**Pn**	**11 59 48.6**	**+0.1**
	comp=Z,7.8nm,0.3s								
SOKA					Sn		**Sn**	**12 00 31.1**	**0.0**
	comp=Z,20nm,0.6s								
OBKA	**Obir**	**3.61**	**326**	⇑	*i*Pn		**Pn**	**11 59 51.0**	**+2.0**
	comp=Z,2.9nm,0.3s								
OBKA				⇑	*e*Sn		**Sn**	**12 00 34.2**	**+2.2**
	comp=Z,79nm,0.7s,SNR=11								
OBKA	**Obir**	**3.61**	**326**		Pn		**Pn**	**11 59 51.0**	**+2.0**
	comp=Z,2.9nm,0.3s								
OBKA					Sn		**Sn**	**12 00 34.2**	**+2.2**
	comp=Z,79nm,0.7s,SNR=11								
BZS	**Buzias**	**3.62**	**54**	⇓	*i*P		**Pn**	**11 59 47.2**	**-1.8**
PKST	**T"'s**	**3.73**	**6**		*e*Pn		**Pn**	**11 59 49.9**	**-0.7**
PKST	**T"'s**	**3.73**	**6**		*e*		**Pn**	**11 59 49.9**	**-0.7**
ZAPS	**Zavoj**	**3.78**	**92**	⇑	*i*Pn		**Pn**	**11 59 53.2**	**+2.0**
ZAPS					*e*Sn		**Sn**	**12 00 37.6**	**+1.6**
CSKK	**Cs˙‡kako**	**3.86**	**8**		*e*Pn		**Pn**	**11 59 53.0**	**+0.7**
CSKK	**Cs˙‡kako**	**3.86**	**8**		*e*		**Pn**	**11 59 53.0**	**+0.7**
PKSG		**3.90**	**9**	⇓	*e*Pn		**Pn**	**11 59 53.0**	**+0.1**
PKSG		**3.90**	**9**	⇓	*e*pn		**Pn**	**11 59 53.0**	**+0.1**
PKSG					*e*sn		**Sg**	**12 00 56.2**	**-1.4**
ARSA	**Arzberg**	**3.95**	**340**	⇑	*i*Pn		**Pn**	**11 59 53.5**	**-0.1**
	comp=Z,21nm,0.3s								
ARSA				⇓	*i*Sn		**Sn**	**12 00 38.8**	**-1.4**
	comp=Z,16nm,0.5s								
ARSA	**Arzberg**	**3.95**	**340**		Pn		**Pn**	**11 59 53.5**	**-0.1**
	comp=Z,21nm,0.3s								
ARSA					Sn		**Sn**	**12 00 38.8**	**-1.4**
	comp=Z,16nm,0.5s								
VTS	**Vitosha**	**4.32**	**101**	⇑	*i*P		**Pn**	**12 00 01.1**	**+2.3**
VTS	**Vitosha**	**4.32**	**101**	⇑	*i*P		**Pn**	**12 00 01.1**	**+2.3**
PSZ	**Piszkesteto**	**4.69**	**20**	⇓	*i*P		**Pn**	**12 00 03.3**	**-0.5**
PSZ	**Piszkesteto**	**4.69**	**20**	⇓	*i*P		**Pn**	**12 00 03.3**	**-0.5**
PSZ	**Piszkesteto**	**4.69**	**20**	⇓	*e*Pn		**Pn**	**12 00 03.5**	**-0.3**
PSZ	**Piszkesteto**	**4.69**	**20**	⇓	*e*		**Pn**	**12 00 03.5**	**-0.3**
PSZ					*e*			12 01 24.4	
MOA	**Molln**	**4.85**	**334**	⇑	*i*Pn		**Pn**	**12 00 06.8**	**+0.8**
	comp=Z,4.6nm,0.2s,SNR=10								
MOA				⇑	*i*Sn		**Sn**	**12 01 03.6**	**+1.1**
	comp=Z,8.6nm,0.4s								
MOA	**Molln**	**4.85**	**334**		Pn		**Pn**	**12 00 06.8**	**+0.8**
	comp=Z,4.6nm,0.2s,SNR=10								
MOA					Sn		**Sn**	**12 01 03.6**	**+1.1**
	comp=Z,8.6nm,0.4s								
WTTA	**Wattenberg**	**5.54**	**314**	⇓	*i*Pn		**Pn**	**12 00 17.4**	**+1.9**
	comp=Z,5.6nm,0.2s,SNR=9.1								
WTTA				⇓	*i*Sn		**Sn**	**12 01 22.4**	**+2.9**
	comp=Z,29nm,0.6s								
WTTA	**Wattenberg**	**5.54**	**314**		Pn		**Pn**	**12 00 17.4**	**+1.9**
	comp=Z,5.6nm,0.2s,SNR=9.1								
WTTA					Sn		**Sn**	**12 01 22.4**	**+2.9**
	comp=Z,29nm,0.6s								
WATA	**Walderalm**	**5.61**	**314**	⇓	*i*Pn		**Pn**	**12 00 18.3**	**+1.8**
	comp=Z,18nm,0.4s								
WATA				⇓	*i*Sn		**Sn**	**12 01 25.6**	**+4.2**
	comp=Z,15nm,0.5s								
WATA	**Walderalm**	**5.61**	**314**		Pn		**Pn**	**12 00 18.3**	**+1.8**
	comp=Z,18nm,0.4s								
MOTA	**Moosalm**	**5.87**	**313**	⇓	*i*Pn		**Pn**	**12 00 21.2**	**+1.1**
	comp=Z,25nm,0.6s,SNR=10								
MOTA				⇓	*i*Sn		**Sn**	**12 01 30.8**	**+3.1**
	comp=Z,15nm,0.5s								
MOTA	**Moosalm**	**5.87**	**313**		Pn		**Pn**	**12 00 21.2**	**+1.1**
	comp=Z,25nm,0.6s,SNR=10								
FETA	**Feichten**	**5.88**	**308**	⇓	*i*Pn		**Pn**	**12 00 20.8**	**+0.5**
	comp=Z,2.8nm,0.3s								
FETA	**Feichten**	**5.88**	**308**		Pn		**Pn**	**12 00 20.8**	**+0.5**
	comp=Z,2.8nm,0.3s								
KHC	**Kasperske Hory**	**6.20**	**336**		*e*PN		**Pn**	**12 00 25.3**	**+0.8**
KHC					*ex*		x	12 00 34.6	
KHC					*e*PB		**Pb**	**12 00 41.9**	**+1.2**
KHC					*e*SN		**Sn**	**12 01 33.5**	**-2.2**
KHC					*e*SG		**Sg**	**12 02 15.4**	**+4.1**
KHC					AMS		AMS	12 02 50.0	
	comp=Z,200nm,7.7s								
KHC	**Kasperske Hory**	**6.20**	**336**		Pn		**Pn**	**12 00 25.3**	**+0.8**
KHC					Sn		**Sn**	**12 01 33.5**	**-2.2**
OKC	**Ostrava-Krasne**	**6.31**	**4**		*e*SN		**Sn**	**12 01 37.6**	**-0.7**
OKC	**Ostrava-Krasne**	**6.31**	**4**		Sn		**Sn**	**12 01 37.6**	**-0.7**
GOPC	**GO Pecny, Ondr**	**6.63**	**345**		*e*SN		**Sn**	**12 01 45.3**	**-0.9**
GOPC					*ex*		x	12 01 55.4	
GOPC	**GO Pecny, Ondr**	**6.63**	**345**		Sn		**Sn**	**12 01 45.3**	**-0.9**
PRU	**Pruhonice**	**6.75**	**344**		*ex*		x	12 01 59.9	
PRU					AMS		AMS	12 03 10.0	
	comp=Z,100nm,10.1s								
DPC	**Dobruska-Polom**	**6.85**	**354**		*e*SN		**Sn**	**12 01 50.4**	**-1.3**
DPC	**Dobruska-Polom**	**6.85**	**354**		Sn		**Sn**	**12 01 50.4**	**-1.3**
UPC	**Upice**	**7.03**	**352**		*e*SN		**Sn**	**12 01 54.5**	**-1.7**
UPC	**Upice**	**7.03**	**352**		Sn		**Sn**	**12 01 54.5**	**-1.7**
PVCC	**Panska Ves**	**7.26**	**345**		*e*PN		**Pn**	**12 00 39.4**	**+0.4**
PVCC	**Panska Ves**	**7.26**	**345**		Pn		**Pn**	**12 00 39.4**	**+0.4**
CLL	**Collm**	**8.33**	**340**		*e*Sb		Sb	12 02 53.0	-3.4
CLL					*e*Sg		**Sg**	**12 03 20.0**	**+0.4**

NNC 16 12:01:14.0±1.4, 37.63N×71.76E, h139km±15km, mb2.7, mpv3.6, 2C-5D, Error ellipse: s-maj=13.6km s-min=4.4km az=160.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.59**	**298**	⇑	P	Pn	12 01 55.3	-0.6
	5.9nm,0.2s							
DZET				⇓	S	Sn	12 02 28.7	+0.6
	28nm,0.2s							
SFK	**Sufi-Kurgan**	**2.74**	**29**	⇓	P	Pn	12 01 58.3	+0.3
	14nm,0.2s							
SFK				⇑	S	Sn	12 02 32.3	+0.5
	16nm,0.2s							
AAK	**Ala-Archa**	**5.42**	**22**	⇓	P	Pn	12 02 32.4	-0.6
	5.4nm,0.5s							
AAK				⇓	S	Sn	12 03 34.6	0.0
	10nm,0.7s							
KK31	**Karatay Array**	**5.55**	**351**		P	Pn	12 02 35.6	+1.1
	0.6nm,0.3s,baz=168,slow=12,SNR=16							
KK31				⇓	S	Sn	12 03 37.6	+0.2
	3.4nm,0.4s,baz=165,slow=23,SNR=10							
AB31	**Akbulak array**	**14.42**	**327**		P	Pn	12 04 32.6	+1.1
	0.3nm,0.3s,baz=159,slow=11,SNR=5.0							

*BJI **16** 12:10:40.7, 7.49N×91.78E, h18km, mb4.6/40, mB4.7/23, Ms4.3/20, Ms7 4.1/16*
*ISCJB **16** 12:10:40.7±0.9, 7.66N±0.03×91.79E±0.02, h8km±6km, mb4.5/59, MS3.4/5, Error ellipse: s-maj=5.6km s-min=3.6km az=27.9*
*IDC **16** 12:10:41.3±0.4, 7.75N×91.83E, h0km, mb4.3/30, mb1 4.4/33, mb1mx4.3/54, mbtmp4.3/33, ML4.6/3, MS3.4/6, Ms1 3.4/6, ms1mx3.0/41, Error ellipse: s-maj=14.1km s-min=11.7km az=56.0*
*DJA **16** 12:10:44.7±0.3, 8˚N±4˚×9˚2E±˚, h10km, M4.7/19, mb4.7/19, mB5.5/3, Mw(mB)4.9/3*
*MOS **16** 12:10:44.1±0.9, 7.72N×91.88E, h33km, mb5.0/23, Error ellipse: s-maj=9.1km s-min=5.8km az=105.7*
*NEIC **16** 12:10:45.4±1.6, 7.71N×91.85E, h26km±11km, mb4.8/15, Error ellipse: s-maj=6.4km s-min=4.6km az=55.0*

ISC 16 12:10:44.3±0.4, 7.61N±0.04×91.77E±0.04, h21km±4km, n197,σ1s52/253, mb4.6/62, MS3.5/5, 7C-5D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**2.22**	**105**		*e*P	**Pn**	**12 11 20.3**	**+0.3**
CMBY					*e*S	**Sn**	**12 11 46.1**	**-0.6**
CMBY					AML	AML	12 11 51.7	
	comp=E,4μm,0.3s							
CMBY					AML	AML	12 11 52.8	
	comp=N,2μm,0.8s							
PBA	**Port Blair**	**4.14**	**13**		*e*P	Pn	12 11 43.8	-2.5
PBA					*e*S	Sn	12 12 27.9	-6.2
PBA					AML	AML	12 12 34.7	
	comp=E,1μm,1.3s							
PBA					AML	AML	12 12 37.8	
	comp=N,1μm,0.7s							
DGPR	**DIGLIPUR**	**5.65**	**12**		*e*P	Pn	12 12 03.8	-3.4
DGPR					*e*S	Sn	12 13 03.2	-8.3
DGPR					AML	AML	12 13 17.6	
	comp=N,343nm,0.9s							
DGPR					AML	AML	12 13 22.5	
	comp=E,610nm,0.3s							
LHMI	**Lhok Sumawe**	**5.66**	**114**		*e*Pn	**Pn**	**12 12 08.1**	**+0.8**
PKDT	**Phuket**	**6.51**	**87**		P	**Pn**	**12 12 20.1**	**+1.1**
	comp=E,82nm,0.8s,comp=E,3μmcomp=E,0.4nm							
SNSI	**Sinabang, Aceh**	**6.88**	**138**		P	**Pn**	**12 12 21.8**	**-2.2**
SNSI					S	**Sn**	**12 13 37.5**	**-4.1**
TRTT	**Trang**	**7.86**	**88**		P	**Pn**	**12 12 37.3**	**-0.1**
	comp=E,37nm,1.0s							
GSI	**Gunungsitoli**	**8.53**	**137**		P	**Pn**	**12 12 46.4**	**-0.2**
	comp=E,44nm,1.2s							
GSI					S	**Sn**	**12 14 17.3**	**-5.0**
	comp=E,44nm,1.2s							
GSI	**Gunungsitoli**	**8.53**	**137**		*e*Pn	**Pn**	**12 12 46.7**	**0.0**
GSI					*e*Sn	**Sn**	**12 14 21.0**	**-1.3**
PSI	**Prapat**	**8.58**	**123**		Pn	**Pn**	**12 12 47.2**	**-0.2**
	comp=E,2.7nm,0.3s,baz=336,slow=12,SNR=18							
PSI					Sn	**Sn**	**12 14 21.9**	**-1.8**
	comp=E,1.1nm,0.3s,baz=323,slow=20,SNR=2.8							
PSI					LR	LR	12 16 43.8	
	comp=E,229nm,20.9s,baz=132,slow=42							
PSI	**Prapat**	**8.58**	**123**		P	**Pn**	**12 12 47.2**	**-0.2**
PSI							12 14 21.9	
PSI					pmax	pmax		
	comp=Z,3.0nm,0.3s							
PSI					smax	smax		
	comp=N,1.0nm,0.3s							
PSI					MLR	MLR		
	comp=Z,229nm,20.9s							
PSI	**Prapat**	**8.58**	**123**		*e*Pn	**Pn**	**12 12 47.6**	**+0.2**
PSI					Sn	**Sn**	**12 14 21.9**	**-1.8**
KULM	**Kulim**	**9.12**	**104**		*e*Pn	**Pn**	**12 12 54.3**	**-0.5**
IPM	**Ipoh**	**9.72**	**108**		*e*Pn	**Pn**	**12 13 02.4**	**-0.6**
MNSI	**Mandailing Nat**	**10.32**	**131**		P	**Pn**	**12 13 10.6**	**-0.6**
	comp=Z,20nm,0.8s,comp=Z,1μm							
MNSI					S	**Sn**	**12 15 00.9**	**-5.4**
	comp=Z,20nm,0.8s,comp=Z,1μm							
PATY	**Pattaya**	**10.39**	**59**		P	**Pn**	**12 13 12.9**	**+0.6**
	comp=Z,10.0nm,0.6s,comp=Z,1μm							
PALK	**Pallekele**	**10.98**	**269**		Pn	**Pn**	**12 13 21.7**	**+1.4**
	comp=Z,12nm,0.3s,baz=88,slow=12,SNR=41							
PALK					Sn	Sn	12 15 11.4	-11
	comp=Z,16nm,0.3s,baz=350,slow=23,SNR=11							
PALK					LR	LR	12 16 57.9	
	comp=Z,295nm,20.0s,baz=82,slow=34							
PALK	**Pallekele**	**10.98**	**269**		*e*P	**Pn**	**12 13 21.5**	**+1.2**
MHMT	**Maesarieng**	**12.10**	**29**		P	**Pn**	**12 13 34.9**	**-0.7**
	comp=Z,18nm,0.8s							
PBKT	**Sadao Pong**	**12.66**	**44**		P	Pn	12 13 46.5	+3.3
	comp=Z,16nm,0.6s							
CM01	**Chiang Mai Arr**	**12.83**	**32**		*e*Pn	**Pn**	**12 13 44.7**	**-0.9**
CM31	**Chiang Mai Arr**	**12.85**	**32**		*e*Pn	**Pn**	**12 13 45.4**	**-0.5**
	comp=Z,7.3nm,0.6s							
CMAR	**Chiang Mai Arr**	**12.85**	**32**		Pn	**Pn**	**12 13 44.6**	**-1.3**
	comp=Z,1.2nm,0.3s,baz=231,slow=14,SNR=41							
CMAR					Sn	**Sn**	**12 16 09.6**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=197,slow=22,SNR=3.4							
CMAR					LR	LR	12 17 59.4	
	comp=Z,105nm,21.8s,baz=214,slow=34							
VIS	**Vishakhapatnam**	**12.99**	**322**		*i* P	**Pn**	**12 13 46.7**	**-1.1**
VIS					*i* S	Sn	12 15 57.4	-14
VIS					*i* S	Sn	12 15 60.0	-12
VIS					*ex*	x	12 16 02.8	
	comp=E,41nm,0.5s							
VIS					*ex*	x	12 16 05.5	
	comp=N,44nm,0.4s							
CHTO	**Chiang Mai**	**13.14**	**31**		P	**Pn**	**12 13 50.1**	**+0.2**
	comp=N,67nm,0.8s							
CHTO	**Chiang Mai**	**13.14**	**31**		*e*P	**Pn**	**12 13 48.6**	**-1.3**
CHTO	**Chiang Mai**	**13.14**	**31**		*e*Pn	**Pn**	**12 13 48.6**	**-1.3**
CHLP	**Challavanipeta**	**13.18**	**326**		*e*Pn	Pn	12 13 46.2	-4.1
CHLP					Sn	Sn	12 16 01.2	-15
CHLP					IVMsBB		12 20 49.8	
	comp=Z,358nm,5.2s							
UTTA	**Uttaradit**	**13.22**	**40**		P	**Pn**	**12 13 52.5**	**+1.5**
	comp=Z,9.7nm,0.8s							
LAMP	**Lampang**	**13.28**	**34**		P	**Pn**	**12 13 53.6**	**+1.9**
	comp=Z,5.4nm,0.7s							
SKHT	**Srikalahasti**	**13.32**	**298**		*e*Pn	**Pn**	**12 13 52.5**	**+0.2**
SKHT					Sn	Sn	12 16 06.0	-14
SKHT					IVMs_BB	IVMs_BB	12 20 27.5	
	comp=Z,678nm,4.6s							
LOEI	**Loei**	**13.52**	**42**		P	P	12 14 00.6	-3.4
	comp=Z,12nm,0.8s							
PVM	**Polavaram**	**13.78**	**315**		*e*Pn	**Pn**	**12 13 57.1**	**-1.4**
PVM					Sn	Sn	12 16 14.6	-16
PVM					IVMs_BB	IVMs_BB	12 20 45.1	
	comp=Z,402nm,6.2s							
RCLA	**Racherla**	**14.77**	**303**		*e*Pn	**Pn**	**12 14 10.2**	**-2.0**
RCLA					Sn	Sn	12 16 38.3	-17
RCLA					IVMs_BB	IVMs_BB	12 20 11.4	
	comp=Z,967nm,3.9s							
MASI	**Maura Aman, Be**	**14.94**	**135**		P	**P**	**12 14 18.4**	**-1.5**
	comp=Z,103nm,1.1s							
NJS	**Nagarjunasagar**	**15.08**	**307**		*e*Pn	**Pn**	**12 14 15.0**	**-1.3**
NJS					Sn	Sn	12 16 43.2	-20
NJS					IVMs_BB	IVMs_BB	12 18 57.1	
	comp=Z,700nm,4.8s							
SKNT	**Sakolnakorn**	**15.13**	**51**		P	**P**	**12 14 20.1**	**-1.8**
	comp=Z,30nm,0.7s							
SRLM	**Srisailam**	**15.16**	**305**		*e*Pn	**Pn**	**12 14 15.8**	**-1.5**
SRLM					Sn	Sn	12 16 48.3	-17
SRLM					IVMs_BB	IVMs_BB	12 21 03.1	
	comp=Z,789nm,4.3s							
NONG	**Nongkai**	**15.19**	**46**		P	**Pn**	**12 14 19.7**	**+1.9**
	comp=Z,34nm,0.9s							
UBPT	**Khong Chiam**	**15.44**	**59**		P	**P**	**12 14 24.5**	**-0.9**
URV	**Uravakonda**	**15.98**	**298**		*e*Pn	**Pn**	**12 14 28.9**	**+0.8**
URV					Sn	Sn	12 17 10.4	-14
URV					IVMs_BB	IVMs_BB	12 20 24.5	
	comp=Z,952nm,4.8s							
HYB	**Hyderabad**	**16.16**	**308**		*i* P	**Pn**	**12 14 30.0**	**-0.3**
HYB					*e*S	**Sn**	**12 17 30.0**	**+0.9**
HYBB	**Hyderabad (bro**	**16.16**	**308**		*e*P	**Pn**	**12 14 31.1**	**+0.7**
HYBB					Sn	**Sn**	**12 17 28.5**	**-0.7**
HYBB					IVMs_BB	IVMs_BB	12 18 10.2	
	comp=Z,691nm,4.4s							
LHSI	**Lahat**	**16.33**	**134**		P	**P**	**12 14 35.2**	**-0.1**
	comp=Z,79nm,0.9s							
RPR	**Rampur**	**16.49**	**314**		*e*Pn	**Pn**	**12 14 34.8**	**+0.2**
SRSP	**Sriramsagar**	**17.23**	**312**		*e*Pn	**Pn**	**12 14 43.2**	**-0.6**
SRSP					Sn	Sn	12 17 38.5	-17
MDSI	**Maura Dua**	**17.25**	**134**		P	**P**	**12 14 45.5**	**0.0**
	comp=Z,29nm,1.0s,comp=Z,2μm							
SHL	**Shillong**	**17.86**	**0**		*ex*	Pn	12 14 45.9	-5.9
KLRI	**Killari**	**18.06**	**307**		*e*Pn	**Pn**	**12 14 54.1**	**-0.2**
KLRI					Sn	Sn	12 17 58.6	-17
KLRI					IVMs_BB	IVMs_BB	12 18 31.1	
	comp=Z,1μm,4.7s							
KASI	**Kota Agung**	**18.20**	**135**		P	**P**	**12 14 57.0**	**+1.0**
	comp=Z,32nm,0.7s							
TPI	**Tanjungpandan**	**18.90**	**122**		P	**Pn**	**12 15 06.3**	**+1.9**
	comp=Z,69nm,0.9s							
KSM	**Kuching**	**19.45**	**107**		*e*P	**Pn**	**12 15 10.8**	**-0.2**
	comp=Z,34nm,1.0s							
ODAN	**Odare**	**19.60**	**348**		*e*P	**Pn**	**12 15 12.7**	**-0.2**
	comp=Z,28nm,0.4s							
RAMN	**Ramite**	**19.86**	**346**		*e*P	**Pn**	**12 15 15.6**	**-0.4**
	comp=Z,57nm,0.6s							
TAPN	**Taplejung**	**20.01**	**349**		*e*P	**P**	**12 15 16.8**	**+0.7**
	comp=Z,55nm,0.9s							
KMI	**Kunming**	**20.33**	**30**		P	**P**	**12 15 20.4**	**+0.9**
KMI					pP	**pP**	**12 15 28.0**	**+2.5**
KMI					sP	**sP**	**12 15 30.9**	**+2.7**
KMI					PP	**PnPn**	**12 15 42.3**	**+5.6**
KMI					S	**S**	**12 19 06.1**	**-0.6**
KMI					PMZ			
	comp=Z,28nm,0.8s							
KMI					PMZ			
	comp=Z,79nm,4.2s							
KMI					LN			
	comp=Z,120nm,16.7s							
KMI					LE			
	comp=Z,110nm,15.9s							
KMI					LZ			
	comp=Z,130nm,17.5s							
PKI	**Pulchoki**	**20.75**	**344**		*e*P	**P**	**12 15 24.4**	**+0.2**
	comp=Z,32nm,0.4s							
DMN	**Daman**	**20.87**	**343**		*e*P	**P**	**12 15 25.9**	**+0.5**
QIZ	**Qiongzhong**	**20.91**	**55**		P	**P**	**12 15 26.3**	**+0.7**
QIZ					S	**S**	**12 19 19.8**	**+1.8**
QIZ					PMZ			
	comp=Z,38nm,1.0s							
QIZ					LN			
	comp=Z,250nm,14.2s							
GUN	**Gumba**	**20.95**	**345**		*e*P	**P**	**12 15 26.3**	**0.0**
	comp=Z,74nm,0.7s							
KKN	**Kakani**	**21.00**	**344**		*e*P	**P**	**12 15 26.8**	**+0.1**
SBUM	**Sibu**	**21.00**	**103**		*e*P	**P**	**12 15 26.8**	**+0.2**
	comp=Z,16nm,0.8s							
STKI	**Sintang**	**21.03**	**110**		P	**P**	**12 15 27.8**	**+0.8**
LEM	**Lembang**	**21.34**	**132**		LR	LR	12 24 45.0	
	comp=Z,203nm,20.7s,baz=283,slow=39							
GKN	**Gorkha**	**21.38**	**342**		*e*P	**P**	**12 15 30.8**	**0.0**
	comp=Z,42nm,0.4s							
KOLN	**Koldanda**	**21.50**	**340**		*e*P	**P**	**12 15 32.0**	**0.0**
	comp=Z,74nm,0.7s							
LSA	**Lhasa**	**21.99**	**359**		P	**P**	**12 15 39.8**	**+2.2**
LSA					PMZ			
	comp=Z,30nm,0.9s							
LSA	**Lhasa**	**21.99**	**359**		*e*P	**P**	**12 15 39.7**	**+2.2**
LSA					pmax	pmax		
	comp=Z,29nm,0.6s							
LSA	**Lhasa**	**21.99**	**359**		*e*P	**P**	**12 15 39.7**	**+2.1**
	comp=Z,29nm,0.6s							
GYA	**Guiyang**	**23.50**	**35**		P	**P**	**12 15 53.8**	**+0.7**
GYA					pP	**pP**	**12 15 59.0**	**-0.3**
GYA					PP	**PnPn**	**12 16 24.3**	**+4.3**
GYA					S	**S**	**12 20 01.8**	**-4.1**
GYA					SS	**SnSn**	**12 20 49.5**	**+6.8**
GYA					PMZ			
	comp=Z,10.0nm,0.8s							
GYA					PMZ			
	comp=Z,90nm,4.7s							
GYA					LN			
	comp=Z,480nm,16.8s							
GYA					LE			
	comp=Z,410nm,17.2s							
GYA					LZ			
	comp=Z,450nm,16.9s							
DGAR	**Diego Garcia**	**24.36**	**233**	⇓	*e*P	**P**	**12 16 02.3**	**+1.2**
H08S3	**Diego Garcia H**	**24.47**	**232**		T	T	12 42 19.7	
	baz=51,slow=76,SNR=79							
H08S2	**Diego Garcia H**	**24.47**	**232**		T	T	12 42 18.0	
	baz=51,slow=76,SNR=188							
H08S1	**Diego Carcia H**	**24.49**	**232**		T	T	12 42 20.8	
	baz=51,slow=76,SNR=64							
NDI	**New Delhi**	**25.06**	**329**		*e*P	**P**	**12 16 08.0**	**+0.6**
CD2	**Chengdu**	**25.76**	**24**		P	**P**	**12 16 13.1**	**-0.6**
CD2					pP	**pP**	**12 16 19.0**	**-1.1**
CD2					sP	**sP**	**12 16 21.6**	**-1.2**
CD2					PcP	**PcP**	**12 19 42.5**	**-1.0**
CD2					S	**S**	**12 20 41.9**	**+0.1**
CD2					sS	**sS**	**12 20 52.1**	**-0.3**
CD2					PMZ			
	comp=Z,50nm,0.5s							
CD2					PMZ			
	comp=Z,220nm,5.5s							
CD2					LN			
	comp=Z,280nm,14.7s							
CD2					LE			
	comp=Z,330nm,16.7s							
CD2					LZ			
	comp=Z,230nm,14.7s							
ENH	**Enshi**	**28.01**	**34**		*e*P	**P**	**12 16 32.0**	**-2.0**
	comp=Z,3.2nm,0.3s							
LZH	**Lanzhou**	**30.42**	**20**		*e*P	**P**	**12 16 56.3**	**+0.8**
LZH					pP	**pP**	**12 17 00.4**	**-1.6**
LZH					sP	**sP**	**12 17 02.8**	**-1.8**
LZH					PP	**PnPn**	**12 17 58.0**	**+3.7**
LZH					S	**S**	**12 21 55.6**	**+0.2**
LZH					sS	**sS**	**12 22 06.0**	**-0.1**
LZH					SS	**ScP**	**12 23 34.4**	**-2.0**
LZH					PMZ			
	comp=Z,25nm,1.0s							
LZH					PMZ			
	comp=Z,110nm,4.2s							
LZH					LN			
	comp=Z,450nm,13.1s							
LZH					LE			
	comp=Z,400nm,13.5s							
LZH					LZ			
	comp=Z,590nm,14.2s							
XAN	**Xi'an**	**30.70**	**29**		P	**P**	**12 16 55.3**	**-2.6**
XAN					pP	**pP**	**12 17 00.3**	**-4.0**
XAN					PMZ			
	comp=Z,2.0nm,1.0s							
LUWI	**Luwuk**	**32.09**	**104**		*e*P	**P**	**12 17 11.0**	**+0.7**
	comp=Z,32nm,1.0s							
GTA	**Gaotai**	**32.48**	**12**		*e*P	**P**	**12 17 14.0**	**+0.4**
GTA					pP	**pP**	**12 17 19.8**	**-0.2**
GTA					sP	**sP**	**12 17 22.8**	**+0.1**
GTA					PP	**PnPn**	**12 18 22.8**	**+1.8**
GTA					PcP	**PcP**	**12 20 01.3**	**+0.9**
GTA					S	**S**	**12 22 26.5**	**-1.0**
GTA					sS	**sS**	**12 22 37.9**	**-0.3**
GTA					SS	**SnSn**	**12 24 21.8**	**+0.2**
GTA					PMZ			
	comp=Z,15nm,1.1s							

	comp=Z,9.4nm,0.9s							
AAK	**Ala-Archa**	**38.07**	**339**	P		**P**	**12 18 02.8**	**+1.2**
	SNR=9.0							
AAK	**Ala-Archa**	**38.07**	**339**	*eP*		**P**	**12 18 02.5**	**+0.9**
AAK				pmax	pmax			
	comp=Z,19nm,1.0s							
AAK	**Ala-Archa**	**38.07**	**339**	*eP*		**P**	**12 18 02.5**	**+0.9**
	comp=Z,19nm,1.0s							
CHMS	**Chumysh**	**38.30**	**340**	P		**P**	**12 18 04.2**	**+0.8**
	SNR=5.0							
EKS2	**Erkin-Say**	**38.35**	**338**	P		**P**	**12 18 05.1**	**+1.2**
	SNR=18							
EKS2	**Erkin-Say**	**38.35**	**338**	*eP*		**P**	**12 18 05.2**	**+1.2**
EKS2				pmax	pmax			
	comp=Z,18nm,0.8s							
EKS2	**Erkin-Say**	**38.35**	**338**	*eP*		**P**	**12 18 05.2**	**+1.2**
	comp=Z,18nm,0.8s							
USP	**Ospenovka**	**38.62**	**340**	P		**P**	**12 18 06.9**	**+0.8**
	SNR=9.4							
BJI	**Beijing**	**38.99**	**30**	P		**P**	**12 18 10.8**	**+1.6**
BJI				S		**S**	**12 24 06.8**	**-0.1**
BJI				PMZ				
	comp=Z,3.0nm,0.5s							
BJI				LN				
	comp=Z,100nm,7.3s							
BJI				LE				
	comp=Z,21nm,4.4s							
MK01	**Makanchi Array**	**39.86**	**350**	*eP*		**P**	**12 18 16.0**	**-0.4**
MK31	**Makanchi Array**	**39.88**	**350**	*eP*		**P**	**12 18 16.1**	**-0.5**
MK31				*e*			12 20 22.2	
MK31	**Makanchi Array**	**39.88**	**350**	*eP*		**P**	**12 18 16.1**	**-0.5**
MK31				*e*PcP		**PcP**	**12 20 22.2**	**+0.1**
MKAR	**Makanchi Array**	**39.88**	**350**	P		**P**	**12 18 16.2**	**-0.4**
	comp=Z,5.1nm,0.6s,baz=170,slow=8.5,SNR=69							
MKAR				PcP		**PcP**	**12 20 22.3**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=217,slow=4.2,SNR=6.0							
KK31	**Karatay Array**	**39.99**	**336**	*i* P		**P**	**12 18 17.8**	**+0.3**
KK31				pmax	pmax			
	comp=Z,7.0nm,0.6s							
KKAR	**Karatay Array**	**39.99**	**336**	*eP*		**P**	**12 18 17.8**	**+0.2**
KKAR	**Karatay Array**	**39.99**	**336**	*eP*		**P**	**12 18 17.8**	**+0.2**
SONM	**Songino Array**	**41.98**	**15**	P		**P**	**12 18 33.6**	**-0.4**
	comp=Z,5.1nm,0.8s,baz=198,slow=8.2,SNR=22							
SONM				PcP		**PcP**	**12 20 29.2**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=204,slow=3.2,SNR=3.7							
SONA1	**Songino Array**	**41.99**	**15**	*eP*		**P**	**12 18 33.8**	**-0.3**
HVS	**Khovu-Aksy**	**43.42**	**2**⇑	*eP*		**P**	**12 18 43.6**	**-2.0**
HVS				pmax	pmax			
	comp=Z,44nm,1.2s							
ZAK	**Zakamensk**	**43.71**	**11**	*eP*		**P**	**12 18 46.4**	**-1.5**
ZAK				*e*			12 20 30.1	
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
JNU	**Nakatsue**	**44.19**	**49**	P		**P**	**12 18 51.0**	**-1.1**
	comp=Z,3.4nm,0.6s,baz=333,slow=3.1,SNR=4.5							
KSAR	**Wonju Array Be**	**44.19**	**42**	P		**P**	**12 18 50.2**	**-1.7**
KSAR	**Wonju Array Be**	**44.19**	**42**	P		**P**	**12 18 50.2**	**-1.7**
KSRS	**Korea Array**	**44.23**	**42**	P		**P**	**12 18 50.2**	**-1.9**
	comp=Z,0.6nm,0.4s,baz=224,slow=8.5,SNR=2.9							
KSRS	**Korea Array**	**44.23**	**42**	P		**P**	**12 18 50.2**	**-1.9**
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KURBB	**Kurchatov Array**	**44.27**	**348**	P		**P**	**12 18 52.3**	**0.0**
	comp=Z,7.6nm,0.6s,baz=172,slow=7.3,SNR=73							
KURBB				PcP		**PcP**	**12 20 36.7**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=156,slow=2.5,SNR=9.0							
KURK	**Kurchatov**	**44.34**	**348**	*eP*		**P**	**12 18 52.7**	**-0.2**
KURK				*e*			12 20 37.1	
KURK				pmax	pmax			
	comp=Z,26nm,1.4s							
KURK	**Kurchatov**	**44.34**	**348**	*eP*		**P**	**12 18 52.7**	**-0.2**
	comp=Z,26nm,1.4s							
KURK				*e*PcP		**PcP**	**12 20 37.1**	**+0.4**
TLY	**Talaya**	**45.02**	**10**	P		**P**	**12 18 58.9**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=213,slow=8.7,SNR=5.5							
TLY	**Talaya**	**45.02**	**10**	*eP*		**P**	**12 18 59.2**	**+0.9**
TLY				pmax	pmax			
	comp=Z,5.0nm,1.3s							
TLY	**Talaya**	**45.02**	**10**	*eP*		**P**	**12 18 59.3**	**+1.0**
	comp=Z,3.4nm,1.0s							
ZAA0	**Zalesovo Array**	**46.55**	**354**	*eP*		**P**	**12 19 10.0**	**-0.3**
ZALV	**Zalesovo Beam**	**46.55**	**354**	P		**P**	**12 19 10.2**	**-0.2**
	comp=Z,3.6nm,0.5s,baz=161,slow=9.1,SNR=13							
ZALV				PcP		**PcP**	**12 20 43.5**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=189,slow=5.7,SNR=2.0							
ZALV				LR		LR	12 41 22.2	
	comp=Z,31nm,21.4s,baz=250,slow=40							
RAYN	**Ar Rayn**	**47.06**	**295**	*eP*		**P**	**12 19 16.8**	**+1.9**
	comp=Z,6.7nm,0.7s							
NVS	**Novosibirsk**	**47.60**	**353**	*eP*		**P**	**12 19 16.7**	**-1.8**
BVA0	**Borovoye Array**	**48.52**	**343**	*i* P		**P**	**12 19 25.0**	**-0.7**
BVA0				pmax	pmax			
	comp=Z,12nm,1.1s							
BVAR	**Borovoye Array**	**48.52**	**343**	P		**P**	**12 19 25.1**	**-0.5**
	comp=Z,8.2nm,0.7s,baz=148,slow=8.6,SNR=43							
BVAR				PcP		**PcP**	**12 20 51.7**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=158,slow=4.7,SNR=2.5							
BRVK	**Borovoye**	**48.58**	**343**	*d* / P		**P**	**12 19 25.5**	**-0.6**
BRVK				pmax	pmax			
	comp=Z,12nm,0.8s							
BRVK	**Borovoye**	**48.58**	**343**	*eP*		**P**	**12 19 25.8**	**-0.3**
AB31	**Akbulak array**	**49.37**	**333**	*i* P		**P**	**12 19 32.3**	**+0.1**
AB31				pmax	pmax			
	comp=Z,7.0nm,0.5s							
ABKAR	**Akbulak array**	**49.37**	**333**	*eP*		**P**	**12 19 32.6**	**+0.4**
WRA	**Warramunga Arr**	**50.04**	**124**	P		**P**	**12 19 38.0**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=307,slow=8.5,SNR=22							
WRA				PcP		**PcP**	**12 20 58.0**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=308,slow=2.8,SNR=3.2							
WRA	**Warramunga Arr**	**50.04**	**124**	P		**P**	**12 19 38.0**	**+0.1**
WRA							12 20 58.0	
WRAB	**Tennant Creek**	**50.05**	**124**⇓	*eP*		**P**	**12 19 39.2**	**+1.3**
WRAB				pmax	pmax			
	comp=Z,21nm,1.2s							
AKTO	**Aktyubinsk**	**51.08**	**333**	P		**P**	**12 19 44.5**	**-0.7**
	comp=Z,5.0nm,0.5s,baz=129,slow=7.8,SNR=15							
AKTO	**Aktyubinsk**	**51.08**	**333**	P		**P**	**12 19 43.6**	**-1.6**
AKTO				pmax	pmax			
	comp=Z,8.0nm,0.9s							
MJAR	**Matsushiro Arr**	**51.09**	**49**	P		**P**	**12 19 44.0**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=254,slow=9.2,SNR=4.2							
MJAR				PcP		**PcP**	**12 21 01.6**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=239,slow=6.0,SNR=4.1							
ASAR	**Alice Springs**	**51.57**	**128**	P		**P**	**12 19 50.2**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=302,slow=7.4,SNR=16							
ASAR				PcP		**PcP**	**12 21 04.9**	**+1.6**
	comp=Z,1.9nm,0.6s,baz=303,slow=3.5,SNR=4.3							
BOD	**Bodaibo**	**52.98**	**15**	*eP*		**P**	**12 19 59.0**	**-0.2**
BOD				pmax	pmax			
	comp=Z,13nm,0.9s							
SVE	**Sverdlovsk**	**54.81**	**340**⇑	*i* P		**P**	**12 20 12.9**	**+0.3**
SVE				pmax	pmax			
	comp=Z,52nm,0.8s							
KMBO	**Kilima Mbogo**	**55.06**	**263**	P		**P**	**12 20 17.9**	**+2.5**
	comp=Z,6.6nm,0.8s,baz=54,slow=10,SNR=12							
KMBO	**Kilima Mbogo**	**55.06**	**263**	*eP*		**P**	**12 20 18.1**	**+2.7**
KMBO				pmax	pmax			
	comp=Z,7.0nm,0.9s							
KMBO	**Kilima Mbogo**	**55.06**	**263**	*eP*		**P**	**12 20 18.1**	**+2.7**
	comp=Z,7.0nm,0.9s							
ARU	**Arti**	**55.24**	**338**	*d* / P		**P**	**12 20 15.1**	**-0.6**
ARU				PPP	PPP		12 23 27.3	
ARU				S		**S**	**12 27 57.9**	**-0.2**
ARU				SS		**SS**	**12 31 40.2**	**-2.3**
ARU				pmax	pmax			
	comp=Z,22nm,1.7s							
ARU	**Arti**	**55.24**	**338**	*eP*		**P**	**12 20 15.5**	**-0.2**
	comp=Z,13nm,1.0s							
KBZ	**Khabaz**	**55.72**	**319**	P		**P**	**12 20 19.6**	**+0.2**
	comp=Z,4.1nm,0.9s,baz=174,slow=5.8,SNR=5.5							
KIV	**Kislovodsk**	**55.95**	**319**	*eP*		**P**	**12 20 18.1**	**-3.1**
KIV				pmax	pmax			
	comp=Z,10.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,16nm,16.0s							
BR131	**Keskin Array S**	**60.83**	**311**	*eP*		**P**	**12 20 54.7**	**-0.8**
	comp=Z,2.1nm,0.6s							
BRTR	**Keskin Array B**	**60.83**	**311**	P		**P**	**12 20 54.8**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=126,slow=7.7,SNR=13							
YAK	**Yakutsk**	**61.01**	**19**	P		**P**	**12 20 55.3**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=221,slow=20,SNR=3.7							
STKA	**Stephens Creek**	**61.64**	**132**	P		**P**	**12 21 02.1**	**+1.3**
	comp=Z,2.4nm,0.8s,baz=306,slow=4.7,SNR=5.3							
OBN	**Obninsk**	**64.36**	**328**⇑	*eP*		**P**	**12 21 17.5**	**-1.0**
OBN				*e*			12 21 52.5	
OBN				*e*			12 23 41.2	
OBN				pmax	pmax			
	comp=Z,10.0nm,0.6s							
OBN				MLR	MLR			
	comp=Z,32nm,17.0s							
AKASG	**Malin Array Be**	**66.91**	**322**	P		**P**	**12 21 33.5**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=98,slow=4.3,SNR=6.0							
AKASG				PcP		**PcP**	**12 22 03.7**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=111,slow=1.3,SNR=7.1							
KIEV	**Kiev**	**66.92**	**322**⇑	*eP*		**P**	**12 21 33.8**	**-1.3**
MLR	**Muntele Rosu**	**67.72**	**316**	P		**P**	**12 21 40.5**	**0.0**
	comp=Z,1.1nm,0.8s,baz=117,slow=9.0,SNR=8.1							
TIXI	**Tiksi**	**67.97**	**12**	*d* / P		**P**	**12 21 40.4**	**-0.9**
TIXI				pmax	pmax			
	comp=Z,32nm,1.7s							
TIXI	**Tiksi**	**67.97**	**12**	*eP*		**P**	**12 21 40.6**	**-0.7**
SEY	**Seymchan**	**70.16**	**25**⇑	*eP*		**P**	**12 21 54.4**	**-0.7**
VSU	**Vasula**	**70.62**	**330**	*c* / P		**P**	**12 21 57.0**	**-1.0**
VSU				pmax	pmax			
	comp=Z,86nm,1.7s							
KOLS	**Kolonicke sedl**	**70.86**	**319**	*eP*		**P**	**12 21 59.8**	**+0.1**
KOLS				pmax	pmax			
	comp=Z,4.0nm,1.1s							
KOLS	**Kolonicke sedl**	**70.86**	**319**	*eP*		**P**	**12 21 59.8**	**+0.1**
STHS	**Stebnicka Huta**	**71.61**	**320**	*eP*		**P**	**12 22 04.3**	**0.0**
STHS				pmax	pmax			
	comp=Z,3.0nm,0.8s							
STHS	**Stebnicka Huta**	**71.61**	**320**	*eP*		**P**	**12 22 04.3**	**0.0**
FINES	**FINESS Array B**	**71.86**	**333**	P		**P**	**12 22 04.1**	**-1.3**
	comp=Z,5.0nm,0.7s,baz=116,slow=8.7,SNR=13							
FINES				LR		LR	12 54 56.3	
	comp=Z,31nm,20.9s,baz=48,slow=37							
BOSA	**Boshof**	**73.46**	**237**	P		**P**	**12 22 16.9**	**+1.1**
	comp=Z,4.3nm,1.0s,baz=97,slow=8.1,SNR=4.3							
ARCES	**ARCESS Array B**	**74.73**	**341**	P		**P**	**12 22 21.9**	**-0.3**
	comp=Z,5.5nm,0.9s,baz=93,slow=5.0,SNR=8.3							
DPC	**Dobruska-Polom**	**74.90**	**320**	*eP*		**P**	**12 22 23.7**	**0.0**
DPC	**Dobruska-Polom**	**74.90**	**320**	*eP*		**P**	**12 22 23.7**	**0.0**
UPC	**Upice**	**75.11**	**320**	*eP*		**P**	**12 22 24.3**	**-0.6**
UPC	**Upice**	**75.11**	**320**	*eP*		**P**	**12 22 24.3**	**-0.6**
GERES	**GERESS Array B**	**76.46**	**318**	P		**P**	**12 22 32.8**	**0.0**
	comp=Z,2.4nm,0.7s,baz=112,slow=3.6,SNR=7.9							
KHC	**Kasperske Hory**	**76.56**	**319**	*eP*		**P**	**12 22 31.2**	**-2.0**
KHC	**Kasperske Hory**	**76.56**	**319**	*eP*		**P**	**12 22 31.2**	**-2.0**
CLL	**Collm**	**77.08**	**321**	*eP*		**P**	**12 22 36.0**	**0.0**
	comp=Z,6.0nm,1.2s							
CLL	**Collm**	**77.08**	**321**	*eP*		**P**	**12 22 36.0**	**0.0**
CLL				pmax	pmax			
	comp=Z,6.0nm,1.2s							
BILL	**Bilibino**	**77.21**	**22**⇑	*eP*		**P**	**12 22 35.9**	**-0.5**
BILL				*e*			12 22 46.3	
BILL				pmax	pmax			
	comp=Z,2.0nm,0.6s							
HFS	**Hagfors**	**77.50**	**330**	P		**P**	**12 22 37.7**	**-0.6**
	comp=Z,2.6nm,0.6s,baz=102,slow=11,SNR=8.5							
MAW	**Mawson**	**77.81**	**191**	P		**P**	**12 22 40.8**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=0.0,slow=5.1,SNR=3.3							
NB2	**NORSAR Subarra**	**78.81**	**331**	P		**P**	**12 22 44.0**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=92,slow=5.9							
NOA	**NORSAR Array B**	**78.81**	**331**	P		**P**	**12 22 44.2**	**-1.3**
	comp=Z,1.8nm,0.8s,baz=94,slow=5.8,SNR=5.3							
SPITS	**Spitsbergen Ar**	**79.62**	**348**	P		**P**	**12 22 48.8**	**-0.8**
	comp=Z,3.9nm,0.6s,baz=108,slow=12,SNR=8.9							
TAM	**Tamanrasset**	**83.65**	**292**	*eP*		**P**	**12 23 13.3**	**+1.1**
TAM				pmax	pmax			
	comp=Z,5.0nm,1.0s							
TAM	**Tamanrasset**	**83.65**	**292**	*eP*		**P**	**12 23 13.2**	**+1.1**
	comp=Z,4.8nm,1.0s							
TORD	**Torodi Ar. Bea**	**88.37**	**283**	P		**P**	**12 23 35.7**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=101,slow=3.6,SNR=4.8							
ESDC	**Sonseca Array**	**89.59**	**310**	P		**P**	**12 23 40.8**	**0.0**
	comp=Z,0.5nm,0.5s,baz=50,slow=4.6,SNR=4.7							
SDPT	**Sand Point**	**93.71**	**33**	*eP*		P	12 23 55.6	-3.8
	comp=Z,22nm,0.8s							
ILAR	**Eielson Array**	**95.87**	**22**	P		**P**	**12 24 07.1**	**-2.0**
	comp=Z,0.3nm,0.7s,baz=299,slow=4.7,SNR=3.6							
PDAR	**Pinedale Array**	**126.23**	**19**	PKP		**PKPdf**	**12 29 45.7**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=64,slow=3.4,SNR=3.6							
NVAR	**Mina Array Bea**	**126.33**	**29**	PKP		**PKPdf**	**12 29 47.2**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=260,slow=0.7,SNR=4.5							
TXAR	**Lajitas Array**	**140.38**	**21**	PKP		**PKPdf**	**12 30 15.1**	**+2.4**
	comp=Z,0.2nm,0.4s,baz=206,slow=1.1,SNR=7.3							
TXAR				SKPbc		**SKPbc**	**12 33 47.8**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=248,slow=1.0,SNR=3.5							
SIV	**San Ignacio**	**152.17**	**250**	PKPbc		**PKPbc**	**12 30 39.5**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=141,slow=6.3,SNR=5.5							
SIV				PKPab		**PKPab**	**12 30 48.7**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=150,slow=5.9,SNR=3.9							
TEIG	**Tepich**	**152.34**	**0**	PKPbc		**PKPbc**	**12 30 39.1**	**-0.5**
	comp=Z,9.6nm,1.0s,baz=335,slow=2.6,SNR=3.3							
LPAZ	**La Paz**	**158.54**	**244**	PKPab		**PKPab**	**12 31 18.1**	**+1.1**
	comp=Z,1.9nm,0.9s,baz=135,slow=3.7,SNR=5.3							

IDC 16 12:12:20.8±2.1,1°77S×136°34E,h0km,mb3.4/2, mb1 3.6/4,mb1mx3.4/40,mbtmp3.4/4,ML3.3/2,Error ellipse: s-maj=48.0km s-min=25.8km az=69.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.15**	**280**	Pn	Pn	12 13 39.5	+0.3
	1.2nm,0.3s,baz=178,slow=23,SNR=4.0						
SIJI				Sn	Sn	12 14 39.5	+0.1
	1.0nm,0.3s,baz=139,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**18.17**	**186**	P	Pn	12 16 33.4	-1.4
	0.1nm,0.3s,baz=5.1,slow=12,SNR=6.5						
ASAR	**Alice Springs**	**21.89**	**186**	P	P	12 17 16.0	+0.2
	1.0nm,0.6s,baz=14,slow=11,SNR=15						
MKAR	**Makanchi Array**	**67.61**	**323**	P	P	12 23 19.7	+0.2
	0.3nm,0.7s,baz=128,slow=7.1,SNR=2.4						

IDC 16 12:19:43.2±6.2,39°21N×110°62E,h0km,mb3.3/3, mb1 3.6/4,mb1mx3.3/51,mbtmp3.4/4,ML3.2/1,Error ellipse: s-maj=132.7km s-min=29.3km az=85.0,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.15**	**342**	Pn	Pn	12 21 57.2	+0.6
	0.3nm,0.3s,baz=155,slow=14,SNR=4.6						
MKAR	**Makanchi Array**	**21.98**	**299**	P	P	12 24 39.1	+0.4
	0.4nm,0.8s,baz=91,slow=12,SNR=3.6						
CMAR	**Chiang Mai Arr**	**23.03**	**209**	P	P	12 24 50.0	0.0
	1.1nm,0.5s,baz=9.9,slow=9.9,SNR=9.6						
KURBB	**Kurchatov Arra**	**25.23**	**307**	P	P	12 25 10.1	-0.5
	0.3nm,0.3s,baz=110,slow=8.0,SNR=2.9						

MOS ***16*** *12:24:39.9±1.1,2°73N×128°54E,h33km,mb5.2/28, MS4.1/6, Error ellipse: s-maj=12.2km s-min=6.1km az=107.0*

ISCJB ***16*** *12:24:40.9±0.5,2°64N±0°02×128°58E±0°03,h41km±5km, mb4.9/96, MS4.1/20, Error ellipse: s-maj=4.5km s-min=4.0km az=157.0*

IDC ***16*** *12:24:41.0±1.7,2°63N×128°54E,h27km±11km,mb4.7/29, mb1 4.8/31,mb1mx4.7/35,mbtmp4.9/31,ML4.6/2,MS3.9/15, Ms1 3.9/15,ms1mx3.7/31, Error ellipse: s-maj=16.7km s-min=9.1km az=79.0*

BJI ***16*** *12:24:40.6,2°60N×128°50E,h41km,mb4.9/60,mB5.0/39, Ms4.4/47,Ms7 4.2/47*

NEIC ***16*** *12:24:42.6±0.2,2°64N×128°53E,mb5.1/32, Error ellipse: s-maj=4.7km s-min=3.7km az=89.0*

DJA ***16*** *12:24:42.5±0.3,3°N±3°×12°8E±°,h10km,M5.0/34, mb5.2/34,mB5.4/16,MLv5.2/7,Mw(mB)4.9/16*

KLM ***16*** *12:24:44.3,2°49N×128°63E,h48km,mb5.2,MS5.7*

ISC 16 12:24:42.8±0.3,2°69N±0°03×128°64E±0°04,h41km±2km, h41km:pP-P,n323,σ1§64/394,mb5.1/111,MS4.2/21, 13C-8D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.29**	**214**	P	**Pn**	**12 25 15.3**	**-2.8**
TNTI				S	**Sn**	**12 25 47.3**	**+2.1**
TNTI	**Ternate**	**2.29**	**214**	*e*Pn	**Pn**	**12 25 15.0**	**-3.1**
TNTI				*e*Sn	**Sn**	**12 25 46.7**	**+1.5**
SGSI	**Sangihe**	**3.26**	**288**	P	**Pn**	**12 25 30.2**	**-1.3**
SGSI				S	**Sn**	**12 26 10.1**	**+1.0**
SIJI	**Sorong**	**4.40**	**143**	Pn	**Pn**	**12 25 47.3**	**+0.1**
	17nm,0.3s,baz=107,slow=10,SNR=79						
SIJI				Sn	**Sn**	**12 26 37.0**	**-0.3**
	6.0nm,0.3s,baz=301,slow=14,SNR=3.5						
SIJI				LR	LR	12 27 30.7	
	comp=Z,2μm,18.6s,baz=352,slow=38						

MATI	**Mati**	**4.85**	**331**	*eP*		**Pn**	12 25 58.9	+5.5
KMSI	**Cibinong**	**5.11**	**246**	P		**Pn**	**12 25 56.2**	**-0.7**
SANI	**Sanana**	**5.40**	**209**	P		**Pn**	**12 25 59.2**	**-1.7**
	287nm,0.9s,2μm0.9nm							
MSAI	**Masohi**	**6.00**	**177**	P		**Pn**	**12 26 10.8**	**+1.7**
NLAI	**Namlea**	**6.09**	**195**	P		**Pn**	**12 26 10.4**	**+0.1**
	133nm,1.0s,1μm0.5nm							
BUKP	**Musuan**	**6.27**	**325**	*eP*		**Pn**	**12 26 14.6**	**+1.8**
AAI	**Ambon**	**6.35**	**184**	P		**Pn**	**12 26 15.2**	**+1.3**
FAKI	**Fak Fak**	**6.64**	**147**	P		**Pn**	**12 26 18.7**	**+0.8**
FAKI	**Fak Fak**	**6.64**	**147**	*e*Pn		**Pn**	**12 26 17.9**	**0.0**
FAKI				*e*Sn		**Sn**	**12 27 28.5**	**-3.7**
BUTP	**Butuan**	**6.92**	**334**	*eP*		**Pn**	**12 26 22.2**	**+0.4**
RKPI	**Ransiki, Papua**	**6.93**	**127**	P		P*n*	12 26 25.8	+3.9
LUWI	**Luwuk**	**6.94**	**238**	P		**Pn**	**12 26 21.1**	**-0.9**
LUWI	**Luwuk**	**6.94**	**238**	*e*Pn		**Pn**	**12 26 19.3**	**-2.7**
LUWI				*e*Sn		**Sn**	**12 27 40.8**	**+1.0**
MRSI	**Marisa**	**7.05**	**252**	P		**Pn**	**12 26 22.2**	**-1.3**
PAGZ	**Pagadian**	**7.33**	**315**	*eP*		**Pn**	**12 26 28.1**	**+0.8**
APSI	**Ampana**	**7.85**	**243**	P		**Pn**	**12 26 32.6**	**-2.0**
KDI	**Kendari**	**8.94**	**222**	P		**Pn**	**12 26 47.2**	**-2.2**
MPSI	**Mapaga**	**9.05**	**255**	P		**Pn**	**12 26 50.7**	**-0.3**
PCI	**Palu**	**9.50**	**248**	P		**Pn**	**12 26 57.3**	**+0.1**
	150nm,1.1s,1μm							
TTSI	**Tana Toraja**	**10.50**	**237**	P		**Pn**	**12 27 08.2**	**-2.6**
SPSI	**Sidrap Palu**	**11.06**	**233**	P		**Pn**	**12 27 16.0**	**-2.5**
BKSI	**Bulukumba**	**11.65**	**227**	P		**Pn**	**12 27 25.7**	**-0.9**
KAPI	**Kappang**	**11.72**	**229**	P*n*		**Pn**	**12 27 25.2**	**-2.4**
	508nm,0.8s,SNR=14							
KAPI	**Kappang**	**11.72**	**229**	P*n*		**Pn**	**12 27 25.3**	**-2.3**
	7.0nm,0.3s,baz=71,slow=11,SNR=22							
KAPI				Sn		**Sn**	**12 29 31.9**	**-5.4**
	0.4nm,0.3s,baz=0.0,slow=20,SNR=1.6							
KAPI				LR		LR	12 31 42.9	
	comp=Z,201nm,19.0s,baz=68,slow=36							
SDKM	**Sandakan**	**11.79**	**285**	⇑P		**Pn**	**12 27 30.9**	**+2.4**
BSSI	**Bau Bau, Buton**	**11.97**	**223**	P		**Pn**	**12 27 30.6**	**-0.4**
BKB	**Balikpapan**	**12.38**	**252**	P		**Pn**	**12 27 36.0**	**-0.6**
GENI	**Genyem**	**12.66**	**114**	P		P	12 27 59.6	+8.7
KKM	**Kota Kinabalu**	**12.83**	**285**	⇓P		**Pn**	**12 27 42.3**	**-0.5**
KKM	**Kota Kinabalu**	**12.83**	**285**	*e*Pn		**Pn**	**12 27 42.2**	**-0.7**
	30nm,0.9s							
SOEI	**Soe**	**13.11**	**199**	P		P	12 27 52.4	-3.6
SOEI	**Soe**	**13.11**	**199**	*e*Pn		P	12 27 52.4	-3.6
KBKI	**Kotabaru**	**13.82**	**245**	P		Pn	12 27 52.7	-3.5
WBSI	**Waikabubak, Su**	**15.33**	**217**	P		**Pn**	**12 28 16.9**	**+0.4**
SBUM	**Sibu**	**16.41**	**270**	⇓P		**Pn**	**12 28 30.4**	**+0.1**
SBUM	**Sibu**	**16.41**	**270**	*e*Pn		**Pn**	**12 28 30.7**	**+0.4**
STKI	**Sintang**	**17.36**	**262**	P		**P**	**12 28 42.8**	**-0.3**
	104nm,1.2s							
DNP	**Denpasar**	**17.52**	**230**	P		**P**	**12 28 45.2**	**+0.3**
IGBI	**Denpasar**	**17.66**	**230**	P		**P**	**12 28 50.4**	**+4.0**
	239nm,1.4s,3μm							
ABJI	**Asem Bagus**	**17.75**	**234**	P		**P**	**12 28 49.6**	**+2.2**
	154nm,1.1s							
JAGI	**Jajag, Banyuwa**	**18.21**	**232**	P		**Pn**	**12 28 53.3**	**+0.6**
	268nm,1.1s							
JAGI	**Jajag, Banyuwa**	**18.21**	**232**	*eP*		**P**	**12 28 50.8**	**-1.8**
	204nm,0.9s							
BLJI	**Banyuglugur**	**18.24**	**235**	P		**Pn**	**12 28 53.4**	**+0.4**
	295nm,1.0s,3μm							
KSM	**Ku

comp=Z,34nm,0.9s
CTA Charters Tower 28.48 143 P **P** **12 30 35.4 +1.0**
comp=Z,22nm,0.9s,baz=336,slow=12,SNR=2.9
CTAO Charters Tower 28.48 143 *e*P **P** **12 30 35.5 +1.2**
CTAO pmax pmax
comp=Z,46nm,1.1s
CTAO Charters Tower 28.48 143 *e*P **P** **12 30 35.5 +1.2**
comp=Z,46nm,1.1s
NONG Nongkai 29.30 303 P **P** **12 30 41.0 -0.6**
comp=Z,40nm,0.9s
NAYO Nakonayok 29.34 295 P **P** **12 30 44.8 +2.8**
comp=Z,36nm,1.1s,comp=Z,1µm
PSI Prapat 29.68 271 P **P** **12 30 44.5 -0.7**
comp=Z,8.0nm,0.8s,baz=82,slow=10.0,SNR=4.7
KRAB Krabi 29.81 282 P P 12 30 50.9 +4.7
comp=Z,32nm,1.0s
JNU Nakatsue 30.35 4 P **P** **12 30 51.0 +0.3**
comp=Z,37nm,1.0s,baz=170,slow=6.0,SNR=16
JNU Nakatsue 30.35 4 P **P** **12 30 51.0 +0.3**
comp=Z,3.2nm,1.1s
PBKT Sadao Pong 30.50 299 P **P** **12 30 53.1 +0.8**
comp=Z,10nm,1.1s,comp=Z,767nm
NJ2 Nanjing 30.63 344 *e*P **P** **12 30 53.6 +0.4**
NJ2 PMZ
comp=Z,10.0nm,0.7s
LOEI Loei 30.64 301 P P 12 30 50.2 -3.3
WHN Wuhan 30.83 335 P **P** **12 30 56.3 +1.3**
WHN S **S** **12 35 59.8 +3.8**
WHN LZ
comp=Z,650nm,21.3s
GYA Guiyang 31.68 320 P **P** **12 31 04.8 +2.1**
GYA pP **pP** **12 31 16.5 +2.6**
GYA sP **sP** **12 31 23.0 +4.2**
GYA PP **PnPn** **12 32 10.9 +3.3**
GYA S **S** **12 36 10.0 +0.4**
GYA sS **sS** **12 36 30.3 +2.0**
GYA ScP **ScP** **12 37 33.8 -0.5**
GYA SS **SnSn** **12 38 02.4 +3.9**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,660nm,17.9s
GYA LE
comp=Z,540nm,18.0s
GYA LZ
comp=Z,620nm,17.6s
LAMP Lampang 32.48 301 P **P** **12 31 11.7 +2.0**
comp=Z,4.1nm,0.9s
KSJEU Jeongeup 32.68 357 P **P** **12 31 11.8 +0.6**
SNR=7.6
ENH Enshi 32.89 328 *e*P **P** **12 31 13.2 0.0**
comp=Z,8.5nm,0.6s
CMAR Chiang Mai Arr 33.04 300 P **P** **12 31 14.8 +0.1**
comp=Z,3.4nm,0.8s,baz=115,slow=7.1,SNR=16
CMAR PcP **PcP** **12 33 58.7 +0.9**
comp=Z,0.6nm,0.4s,baz=126,slow=2.3,SNR=4.1
CMAR ScP **ScP** **12 37 40.2 +1.3**
comp=Z,1.8nm,0.9s,baz=116,slow=2.1,SNR=9.2
CMAR LR LR 12 45 58.3
comp=Z,141nm,20.5s,baz=123,slow=39
CMMT Chiang Mai 33.19 301 P **P** **12 31 15.9 0.0**
comp=Z,15nm,1.3s
CHTO Chiang Mai 33.19 301 P **P** **12 31 15.9 0.0**
comp=Z,53nm,1.3s
CHTO Chiang Mai 33.19 301 *e*P **P** **12 31 15.6 -0.4**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 33.19 301 *e*P **P** **12 31 15.6 -0.4**
comp=Z,8.3nm,0.9s
FORT Forrest 33.29 181 *e*P **P** **12 31 16.3 -0.2**
KMI Kunming 33.47 314 P **P** **12 31 19.1 +0.6**
KMI pP **pP** **12 31 30.8 +1.0**
KMI sP **sP** **12 31 35.6 +0.9**
KMI PP **PP** **12 32 33.8 -1.0**
KMI S **S** **12 36 33.4 -4.3**
KMI sS **sS** **12 36 52.1 -4.4**
KMI PMZ
comp=Z,15nm,1.0s
KMI PMZ
comp=Z,79nm,3.2s
KMI LN
comp=Z,170nm,18.6s
KMI LE
comp=Z,230nm,17.9s
KMI LZ
comp=Z,270nm,20.1s
TJN Taejon 33.54 358 *e*P **P** **12 31 18.7 0.0**
KSBON Boeun 33.65 359 P **P** **12 31 21.2 +1.5**
SNR=9.5
MHMT Maesarieng 33.80 299 P P 12 31 27.8 +6.5
comp=Z,12nm,0.9s
KSCEA Cheonan 33.99 358 P **P** **12 31 23.5 +0.9**
SNR=17
KSCHJ Chungju 34.02 359 P **P** **12 31 23.6 +0.7**
SNR=9.4
KSTBA Taebaek 34.27 0 P **P** **12 31 26.4 +1.3**
SNR=9.0
KSICN Icheon 34.45 358 P **P** **12 31 28.5 +1.9**
SNR=5.8
KSAR Wonju Array Be 34.59 359 P **P** **12 31 28.6 +0.8**
KSAR 12 34 02.7
KSAR Wonju Array Be 34.59 359 P **P** **12 31 28.6 +0.8**
KSAR PcP **PcP** **12 34 02.6 +0.9**
KSAR ScP **ScP** **12 37 46.0 +1.9**
KSRS Korea Array 34.60 359 P **P** **12 31 28.6 +0.7**
comp=Z,20nm,0.9s,baz=176,slow=10,SNR=76
KSRS PcP **PcP** **12 34 02.6 +0.8**
comp=Z,2.1nm,0.8s,baz=179,slow=2.6,SNR=6.2
KSRS ScP **ScP** **12 37 46.0 +1.9**
comp=Z,1.2nm,0.7s,baz=165,slow=2.7,SNR=5.0
KSRS LR LR 12 44 46.7
comp=Z,305nm,21.0s,baz=177,slow=35
KSRS Korea Array 34.60 359 P **P** **12 31 28.6 +0.7**
KSRS 12 34 02.7
KSRS pmax pmax
comp=Z,23nm,0.9s
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS pmax pmax
comp=N,1.0nm,0.7s
KSRS MLR MLR
comp=Z,305nm,21.0s
MAJO Matsushiro 34.83 14*ce*P **P** **12 31 29.2 -0.7**
MAJO pmax pmax
comp=Z,196nm,1.6s
MAJO Matsushiro 34.83 14 *e*P **P** **12 31 29.8 -0.1**
comp=Z,11nm,0.8s
MAJO *e*pP **pP** **12 31 42.1 +0.9**
MAT Matsushiro 34.83 14 P **P** **12 31 29.6 -0.3**
MAT S S 12 36 47.0 -11
MJAR Matsushiro Arr 34.83 14 P **P** **12 31 29.5 -0.4**
comp=Z,11nm,0.8s,baz=187,slow=10,SNR=28
MJAR PcP **PcP** **12 34 02.9 +0.3**
comp=Z,2.7nm,0.8s,baz=180,slow=3.2,SNR=5.4
MJAR ScP **ScP** **12 37 47.0 +2.1**
comp=Z,1.6nm,0.9s,baz=196,slow=3.5,SNR=3.9
MJAR LR LR 12 43 41.8
comp=Z,426nm,20.9s,baz=200,slow=33
KSCHC Chuncheon 34.93 359 P **P** **12 31 32.1 +1.4**
SNR=11
TIA Tai'an 35.02 344 ⇑P **P** **12 31 31.8 +0.3**
TIA PMZ
comp=Z,20nm,0.8s
KSJMJ Jumunjin 35.02 0 P **P** **12 31 33.2 +1.7**
SNR=6.4
KSIJA INJE 35.13 359 P **P** **12 31 34.2 +1.7**
SNR=14
YNCB YEONCHEON 35.22 358 P **P** **12 31 35.2 +2.0**
SNR=6.7
EIDS Eidsvold 35.37 143 *e*P **P** **12 31 34.6 -0.1**
SEHB SEOHWA 35.41 359 P **P** **12 31 36.5 +1.6**
SNR=6.7
XAN Xi'an 36.22 332 P **P** **12 31 41.3 -0.6**
XAN pP **pP** **12 31 52.1 -1.2**
XAN sP **sP** **12 31 57.5 -0.7**
XAN S **S** **12 37 20.8 +1.3**
XAN PMZ
comp=Z,7.0nm,1.0s
XAN PMZ
comp=Z,51nm,5.5s
XAN LN
comp=Z,110nm,16.4s
STKA Stephens Creek 36.51 161 P **P** **12 31 43.6 -0.8**
comp=Z,32nm,0.7s,baz=346,slow=7.5,SNR=28
STKA PcP **PcP** **12 34 11.9 +4.4**
comp=Z,4.8nm,0.6s,baz=324,slow=5.7,SNR=3.8
STKA Stephens Creek 36.51 161 P **P** **12 31 43.6 -0.8**
STKA 12 34 12.0
STKA pmax pmax
comp=Z,33nm,0.7s
STKA pmax pmax
comp=Z,5.0nm,0.6s
STKA Stephens Creek 36.51 161 *e*P **P** **12 31 44.0 -0.4**
STKA PcP **PcP** **12 34 11.9 +4.4**
DL2 Dalian 36.61 351 *e*P **P** **12 31 45.1 0.0**
DL2 *e*S **S** **12 37 25.9 +0.7**
DL2 PMZ
comp=Z,50nm,1.0s
DL2 LN
comp=Z,150nm,16.7s
DL2 LZ
comp=Z,140nm,17.7s
CD2 Chengdu 36.61 323 P **P** **12 31 46.0 +0.6**
CD2 pP **pP** **12 31 58.1 +1.4**
CD2 PP **PnPn** **12 33 10.3 +0.9**
CD2 PcP **PcP** **12 34 07.6 -0.4**
CD2 S **S** **12 37 27.1 +1.4**
CD2 sS **sS** **12 37 48.0 +3.4**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,180nm,5.5s
BJT Baijiatuan 38.84 345 *e*P **P** **12 32 03.3 -0.7**
BJT *e**PP **pP** **12 32 13.8 -1.6**
BJT pmax pmax
comp=Z,60nm,1.0s
BJT Baijiatuan 38.84 345 *e*P **P** **12 32 03.3 -0.7**
comp=Z,60nm,1.0s
BJT *e*pP **pP** **12 32 13.8 -1.6**
BJI Beijing 38.86 345 P **P** **12 32 03.8 -0.3**
BJI PP **PP** **12 33 34.0 +0.2**
BJI S **S** **12 37 59.5 +0.2**
BJI PMZ
comp=Z,21nm,0.8s
BJI LN
comp=Z,75nm,15.6s
BJI LE
comp=Z,210nm,22.0s
BJI LZ
comp=Z,90nm,20.5s
VLA Vladivostok 40.36 4α *i*P **P** **12 32 16.9 +0.4**
VLA *i* 12 33 49.7
VLA *i* 12 34 17.2
VLA *e*S **S** **12 38 21.3 -0.4**
VLA pmax pmax
comp=Z,70nm,1.7s
LZH Lanzhou 40.37 328 ⇑P **P** **12 32 17.8 +0.8**
LZH pP **pP** **12 32 30.6 +2.1**
LZH sP **sP** **12 32 35.4 +2.1**
LZH PP **PnPn** **12 33 56.6 +2.1**
LZH S **S** **12 38 24.3 +1.0**
LZH sS **sS** **12 38 42.6 +1.0**
LZH SS SS 12 41 12.1 -11
LZH PMZ
comp=Z,59nm,1.1s
LZH PMZ
comp=Z,170nm,4.8s
LZH LN
comp=Z,620nm,15.0s
LZH LE
comp=Z,500nm,13.9s
LZH LZ
comp=Z,820nm,16.7s
H11S3 WAKE ISLAND Hy 40.43 64 T T 13 15 29.1
baz=252,slow=75,SNR=491
H11S2 WAKE ISLAND Hy 40.44 64 T T 13 15 28.5
baz=252,slow=75,SNR=419
H11S1 WAKE ISLAND Hy 40.44 64 T T 13 15 29.0
baz=252,slow=75,SNR=197
HHC Hu-ho-hao-te 41.00 340 *e*P **P** **12 32 22.1 +0.1**
HHC sP **sP** **12 32 37.3 -0.6**
HHC PP **PP** **12 33 57.3 +0.1**
HHC S **S** **12 38 31.1 -0.5**
HHC sS **sS** **12 38 48.9 -1.8**
HHC SS **SS** **12 41 29.8 -5.0**
HHC PMZ
comp=Z,23nm,0.9s
HHC LZ
comp=Z,2µm,13.3s
H11N1 WAKE ISLAND Hy 41.00 63 T T 13 16 07.3
baz=250,slow=75,SNR=2148
H11N2 WAKE ISLAND Hy 41.01 63 T T 13 16 07.8
baz=250,slow=75,SNR=385
H11N3 WAKE ISLAND Hy 41.02 63 T T 13 16 07.3
baz=250,slow=75,SNR=1970
CN2 Changchun 41.04 356 *e*P **P** **12 32 22.9 +0.8**
CN2 *e*S **S** **12 38 33.0 +1.2**
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,300nm,17.0s
CN2 LE
comp=Z,400nm,17.0s
CN2 LZ
comp=Z,300nm,19.0s
USRK Ussuriysk Ar. 41.44 4 P **P** **12 32 26.0 +0.5**
comp=Z,29nm,1.0s,baz=190,slow=7.6,SNR=59
USRK LR LR 12 46 59.4
comp=Z,150nm,21.9s,baz=139,slow=32
MDJ Mudanjiang 41.76 1 *e*P **P** **12 32 28.9 +0.8**
comp=Z,49nm,1.3s
ASAJ Asahikawa 43.06 15 *e*P **P** **12 32 40.0 +1.3**
comp=Z,30nm,1.8s
LSA Lhasa 44.56 311 P **P** **12 32 51.8 +0.3**
LSA PMZ
comp=Z,20nm,1.2s
GTA Gaotai 44.97 328 *e*P **P** **12 32 54.4 +0.1**
GTA pP **pP** **12 33 06.8 +0.9**
GTA sP **sP** **12 33 12.1 +1.4**
GTA PcP **PcP** **12 34 36.5 +1.5**
GTA ScP **ScP** **12 38 25.6 +1.2**
GTA S **S** **12 39 28.8 -1.2**
GTA sS **sS** **12 39 51.0 +1.7**
GTA SS **ScS** **12 42 42.8 -5.6**
GTA ScS **SS** **12 42 45.9 -7.0**
GTA PMZ
comp=Z,17nm,0.9s
GTA PMZ
comp=Z,130nm,4.3s
GTA LN
comp=Z,220nm,19.0s
GTA LE
comp=Z,200nm,19.9s
GTA LZ
comp=Z,330nm,20.4s
YSS Yuzh-Sakhalins 45.77 13 *e*P **P** **12 33 01.4 +1.2**
YSS MLR MLR
comp=E,400nm,17.0s
YSS MLR MLR
comp=Z,400nm,17.0s
YSS Yuzh-Sakhalins 45.77 13 *e*P **P** **12 33 00.5 +0.3**
comp=Z,8.3nm,0.6s
HABR Khabarovsk 45.94 6*de*P **P** **12 32 59.7 -1.9**
HABR *e**PP **pP** **12 33 09.4 -3.8**
HABR *e**SP **sP** **12 33 13.6 -4.4**
HABR *e* 12 34 36.0
HABR *e* 12 34 47.9
HABR *e*S **S** **12 39 43.3 -0.1**
HABR *e**SS **sS** **12 39 59.4 -3.3**
HABR *e* 12 42 52.6
HABR SSS SSS 12 44 07.4
HABR pmax pmax
comp=E,10.0nm,1.0s
HABR pmax pmax
comp=N,16nm,1.0s
HABR pmax pmax
comp=Z,49nm,1.0s
HABR MLR MLR
comp=Z,291nm,18.0s
TAPN Taplejung 46.17 306 *e*P **P** **12 33 03.9 -0.2**
comp=Z,31nm,0.8s
ODAN Odare 46.23 305 *e*P **P** **12 33 03.7 -0.8**
comp=Z,39nm,0.7s
CHLP Challavanipeta 46.39 293 *e*P **P** **12 33 06.2 +0.7**
KLR Kul'dur 46.44 3 *e*P P 12 33 01.7 -3.8
KLR pmax pmax
comp=Z,45nm,1.6s
RAMN Ramite 46.91 305 *e*P **P** **12 33 09.6 -0.3**
comp=Z,52nm,0.8s
GUN Gumba 47.88 306 *e*P **P** **12 33 17.2 -0.3**
comp=Z,68nm,0.7s
PKI Pulchoki 48.12 305 *e*P **P** **12 33 18.5 -0.9**
comp=Z,18nm,0.7s
KKN Kakani 48.32 305 *e*P **P** **12 33 20.1 -0.7**
PVM Polavaram 48.36 291 *e*P **P** **12 33 19.6 -1.3**
PVM IAmb IAmb 12 33 33.0
comp=Z,13nm,0.9s
DMN Daman 48.39 305 *e*P **P** **12 33 20.7 -0.7**
comp=Z,43nm,0.9s
SONM Songino Array 48.90 340 P **P** **12 33 24.2 -0.6**
comp=Z,12nm,1.1s,baz=156,slow=8.2,SNR=20
SONM PcP **PcP** **12 34 49.3 +0.6**
comp=Z,2.7nm,0.8s,baz=169,slow=3.1,SNR=3.1
SONM ScP **ScP** **12 38 42.1 +1.4**
comp=Z,0.9nm,0.6s,baz=183,slow=2.7,SNR=4.2
SONM PKiKP PKiKP 12 41 31.5 -6.1
comp=Z,0.4nm,0.2s,baz=104,slow=3.3,SNR=5.5
GKN Gorkha 48.92 305 *e*P **P** **12 33 24.7 -0.6**
comp=Z,18nm,0.7s
SKHT Srikalahasti 49.56 286 *e*P **P** **12 33 29.6 -0.6**
SKHT IAmb IAmb 12 33 30.4
comp=Z,18nm,0.8s
ADKI Addanki 49.65 288 *e*P **P** **12 33 30.1 -0.7**
ADKI IAmb IAmb 12 33 32.6
comp=Z,23nm,1.1s
KOLN Koldanda 49.68 305 *e*P **P** **12 33 30.9 -0.3**
comp=Z,61nm,0.7s
NJS Nagarjunasagar 50.40 289 *e*P **P** **12 33 35.2 -1.3**
NJS IAmb IAmb 12 33 42.8
comp=Z,20nm,0.9s
RCLA Racherla 50.54 288 *e*P **P** **12 33 36.0 -1.6**
RCLA IAmb IAmb 12 33 39.3
comp=Z,23nm,0.9s
SRLM Srisailam 50.71 289 *e*P **P** **12 33 37.8 -1.1**
SRLM IAmb IAmb 12 33 45.5
comp=Z,52nm,1.2s
RPR Rampur 50.86 292 *e*P **P** **12 33 38.8 -1.2**
HYB Hyderabad 51.26 290 *i*P **P** **12 33 42.0 -1.1**
HYBB Hyderabad (bro 51.27 290 *e*P **P** **12 33 41.9 -1.2**
HYBB IAmb IAmb 12 33 43.1
comp=Z,40nm,0.9s
HYBB *e*pP **pP** **12 33 53.3 -1.6**
NKL Nikolayevsk 51.27 9 *e*P **P** **12 33 41.5 -0.9**
NKL pmax pmax
comp=Z,43nm,1.0s
NKL MLR MLR
comp=E,450nm,16.0s
SRSP Sriramsagar 51.76 292 *e*P **P** **12 33 44.6 -2.2**
SRSP IAmb IAmb 12 33 48.0
comp=Z,24nm,1.0s
URV Uravakonda 52.08 287 *e*P **P** **12 33 47.6 -1.6**
ZAK Zakamensk 52.14 340 *e*P **P** **12 33 47.2 -2.0**
ZAK *e* 12 34 59.3
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 53.12 341 P **P** **12 33 56.4 +0.1**
comp=Z,1.0nm,0.3s,baz=156,slow=5.3,SNR=3.8
TLY PcP **PcP** **12 35 04.8 +0.6**
comp=Z,1.3nm,0.4s,baz=128,slow=3.8,SNR=4.6
KLRI Killari 53.22 291 *e*P **P** **12 33 56.0 -1.6**
KLRI IAmb IAmb 12 33 57.2
comp=Z,40nm,0.9s
MOY Mondy 54.02 339 *e*P **P** **12 34 03.1 +0.1**
MOY pmax pmax
comp=Z,18nm,3.4s
WMQ Urumqi 54.67 324 P **P** **12 34 08.3 +0.5**
WMQ pP **pP** **12 34 21.0 +1.3**
WMQ sP **sP** **12 34 26.3 +1.8**
WMQ PcP **PcP** **12 35 10.8 +0.5**
WMQ PP **PP** **12 36 12.5 +1.8**
WMQ ScP **ScP** **12 39 07.3 +1.6**
WMQ S **S** **12 41 39.3 -5.9**
WMQ PMZ
comp=Z,9.0nm,0.5s
WMQ PMZ
comp=Z,89nm,8.4s
WMQ LN
comp=Z,280nm,16.1s
WMQ LE
comp=Z,140nm,15.6s
WMQ LZ
comp=Z,170nm,25.4s
PETK Petropavlovsk- 55.69 21 P **P** **12 34 16.1 +1.1**
comp=Z,9.2nm,0.7s,baz=191,slow=7.6,SNR=11
PETK LR LR 12 57 13.6
comp=Z,82nm,20.3s,baz=205,slow=35
PET Petropavlovsk 55.97 21 *e*P P 12 34 29.6 +13
*e*S S 12 42 16.8 +15
PET MLR MLR
comp=Z,100nm,19.0s
BOD Bodaibo 56.18 351 *e*P **P** **12 34 18.0 -0.3**
BOD pmax pmax
comp=Z,14nm,1.3s
HVS Khovu-Aksy 56.49 334*d* *i*P **P** **12 34 20.8 0.0**
HVS pmax pmax
comp=Z,98nm,1.0s
YAK Yakutsk 59.20 1 P **P** **12 34 39.3 -0.2**
comp=Z,1.9nm,0.6s,baz=198,slow=20,SNR=10
YAK Yakutsk 59.20 1 *e*P **P** **12 34 37.5 -2.0**
YAK *e**PP **pP** **12 34 47.1 -4.3**
YAK *e* 12 35 27.1
YAK *e* 12 36 56.2
YAK *e*S **S** **12 42 45.9 +1.8**
YAK *e**SS **sS** **12 43 07.7 +3.7**
YAK *e* 12 44 26.6
YAK pmax pmax
comp=Z,57nm,1.1s
YAK pmax pmax
comp=N,25nm,1.4s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,6.0nm,0.8s
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK smax smax
comp=N,62nm,4.7s
YAK smax smax
comp=E,31nm,5.0s
YAK MLR MLR
comp=Z,238nm,21.0s
YAK MLR MLR
comp=N,256nm,24.0s
YAK MLR MLR
comp=E,102nm,20.0s
YAK Yakutsk 59.20 1 P **P** **12 34 39.3 -0.2**
comp=E,4.2nm,1.0s
YAK *e*PcP **PcP** **12 35 27.9 +0.4**
PDGK Podgornoye 59.43 320 P **P** **12 34 40.8 -0.6**
PDGK pmax pmax
comp=Z,20nm,1.0s
MK31 Makanchi Array 59.50 325 *e*P **P** **12 34 41.2 -0.7**
MK31 Makanchi Array 59.50 325 *e*P **P** **12 34 41.2 -0.7**
MKAR Makanchi Array 59.50 325 P **P** **12 34 41.3 -0.6**
comp=Z,11nm,0.7s,baz=120,slow=8.2,SNR=45
MKAR ScP **ScP** **12 39 26.3 -0.6**
comp=Z,2.0nm,0.9s,baz=115,slow=5.5,SNR=6.5
KSH Kashi 60.12 315 P **P** **12 34 47.4 +0.9**
KSH pP **pP** **12 35 00.4 +2.0**
KSH PcP **PcP** **12 35 36.8 +4.9**
KSH PP PP 12 37 05.9 +6.5
KSH PcS **PcS** **12 39 37.3 +2.9**
KSH S **S** **12 43 00.8 +3.6**
KSH sS **sS** **12 43 18.1 +1.1**
KSH PMZ
comp=Z,16nm,1.3s
KSH PMZ
comp=Z,88nm,3.9s
KSH LN
comp=Z,67nm,4.7s
KSH LE
comp=Z,92nm,5.3s
KSH LZ
comp=Z,170nm,5.0s
RAO Raoul Island 60.18 126 LR LR 12 59 59.9
comp=Z,127nm,19.0s,baz=134,slow=35
URZ Urewera 60.48 137 P **P** **12 34 48.4 -0.3**
comp=Z,16nm,1.1s,baz=258,slow=7.3,SNR=5.5
TKM2 Tokmak 2 61.79 318 *e*P **P** **12 34 57.2 -0.6**
TKM2 pmax pmax
comp=Z,4.0nm,0.6s

TKM2	**Tokmak 2**	**61.79**	**318**	*e*P		**P**	**12 34 57.2**	**-0.6**
	comp=Z,3.6nm,0.6s							
ZAA0	**Zalesovo Array**	**62.38**	**332**	*e*P		**P**	**12 34 59.5**	**-1.8**
ZALV	**Zalesovo Beam**	**62.38**	**332**	P		**P**	**12 34 59.9**	**-1.4**
	comp=Z,7.4nm,0.9s,baz=111,slow=6.5,SNR=22							
SEY	**Seymchan**	**62.63**	**12**	P		**P**	**12 35 04.5**	**+1.7**
	comp=Z,23nm,1.0s,baz=216,slow=6.0,SNR=30							
SEY				LR		LR	13 01 53.1	
	comp=Z,87nm,19.3s,baz=211,slow=36							
SEY	**Seymchan**	**62.63**	**12**	*c i*P		**P**	**12 35 03.8**	**+1.1**
EKS2	**Erkin-Say**	**62.90**	**317**	*e*P		**P**	**12 35 04.8**	**-0.3**
EKS2				pmax	pmax			
	comp=Z,8.0nm,1.0s							
EKS2	**Erkin-Say**	**62.90**	**317**	*e*P		**P**	**12 35 04.8**	**-0.3**
	comp=Z,8.1nm,1.0s							
KURK	**Kurchatov**	**63.64**	**327**	P		**P**	**12 35 08.7**	**-1.0**
	comp=Z,91nm,0.7s,SNR=14							
KURK	**Kurchatov**	**63.64**	**327**	*e*P		**P**	**12 35 08.7**	**-1.0**
KURK				pmax	pmax			
	comp=Z,32nm,1.1s							
KURK	**Kurchatov**	**63.64**	**327**	*e*P		**P**	**12 35 08.7**	**-1.0**
	comp=Z,32nm,1.1s							
KURBB	**Kurchatov Arra**	**63.64**	**327**	P		**P**	**12 35 08.7**	**-1.0**
	comp=Z,17nm,0.9s,baz=125,slow=5.9,SNR=110							
NVS	**Novosibirsk**	**63.66**	**333**	*i*P		**P**	**12 35 07.8**	**-1.9**
NVS				pmax	pmax			
	comp=Z,15nm,0.9s							
NVS				pmax	pmax			
	comp=N,5.0nm,0.8s							
NVS				pmax	pmax			
	comp=E,6.0nm,0.9s							
KKAR	**Karatay Array**	**65.29**	**317**	*e*P		**P**	**12 35 19.1**	**-1.6**
KKAR				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KKAR	**Karatay Array**	**65.29**	**317**	*e*P		**P**	**12 35 19.1**	**-1.6**
	comp=Z,9.0nm,1.0s							
TIXI	**Tiksi**	**68.86**	**0**	*de*P		**P**	**12 35 42.6**	**-0.1**
TIXI				pmax	pmax			
	comp=Z,31nm,1.2s							
TIXI	**Tiksi**	**68.86**	**0**	*e*P		**P**	**12 35 40.9**	**-1.8**
	comp=Z,24nm,0.9s							
TIXI				*e*PP		**PP**	**12 38 16.6**	**+1.4**
BVA0	**Borovoye Array**	**69.23**	**327**	*i*P		**P**	**12 35 43.9**	**-1.5**
BVA0				pmax	pmax			
	comp=Z,29nm,1.2s							
BVAR	**Borovoye Array**	**69.23**	**327**	P		**P**	**12 35 44.2**	**-1.2**
	comp=Z,13nm,1.0s,baz=124,slow=7.4,SNR=35							
BRVK	**Borovoye**	**69.30**	**327**	P		**P**	**12 35 44.3**	**-1.6**
	comp=Z,81nm,1.0s,SNR=7.0							
BRVK	**Borovoye**	**69.30**	**327**	*e*P		**P**	**12 35 44.6**	**-1.2**
BRVK				pmax	pmax			
	comp=Z,16nm,1.0s							
BRVK	**Borovoye**	**69.30**	**327**	*e*P		**P**	**12 35 44.6**	**-1.2**
	comp=Z,16nm,1.0s							
DRV	**Dumont d'Urvil**	**69.67**	**175**	S		**S**	**12 44 58.0**	**+4.8**
DRV				R			13 01 00.0	
CASY	**Casey**	**70.03**	**188**	*e*P		**P**	**12 35 49.9**	**-0.1**
	comp=Z,13nm,1.0s							
BILL	**Bilibino**	**70.08**	**14**	*d i*P		**P**	**12 35 50.8**	**+0.5**
BILL				*e*			12 38 23.5	
BILL				pmax	pmax			
	comp=Z,18nm,2.5s							
IMYA	**Miami**	**71.18**	**307**	*e*P		**P**	**12 35 55.9**	**-2.0**
IKRD	**Kardeh**	**72.52**	**308**	*e*P		P	12 36 00.2	-5.9
ABKAR	**Akbulak array**	**74.16**	**321**	*e*P		**P**	**12 36 13.6**	**-1.5**
	comp=Z,5.4nm,0.8s							
SVE	**Sverdlovsk**	**75.84**	**328**	*e*P		**P**	**12 36 23.4**	**-1.3**
SVE				pmax	pmax			
	comp=Z,15nm,1.0s							
ISRV	**Sarvestan**	**76.08**	**299**	*e*P		**P**	**12 36 25.1**	**-1.9**
IPAR	**Pars**	**76.17**	**300**	*e*P		**P**	**12 36 25.6**	**-1.9**
ARU	**Arti**	**76.83**	**328**	*c i*P		**P**	**12 36 28.5**	**-1.8**
ARU				S		**S**	**12 46 13.3**	**-1.5**
ARU				SS		**SS**	**12 51 06.0**	**-5.5**
ARU				pmax	pmax			
	comp=Z,9.0nm,1.0s							
ARU	**Arti**	**76.83**	**328**	*e*P		**P**	**12 36 28.6**	**-1.6**
	comp=Z,4.6nm,0.9s							
IKAZ	**Kazeroun**	**77.22**	**300**	*e*P		P	12 36 30.0	-3.5
VNDA	**Vanda**	**82.17**	**173**	P		**P**	**12 36 57.4**	**-1.5**
	comp=Z,8.1nm,0.8s,baz=312,slow=5.7,SNR=31							
VNDA				LR		LR	13 13 31.4	
	comp=Z,98nm,19.5s,baz=339,slow=36							
RAYN	**Ar Rayn**	**82.64**	**293**	*e*P		**P**	**12 37 02.1**	**-0.5**
	comp=Z,6.5nm,0.8s							
BPAW	**Bear Paw Mtn.**	**83.38**	**26**	*e*P		**P**	**12 37 06.0**	**+0.4**
	comp=Z,11nm,1.7s							
MAW	**Mawson**	**83.45**	**201**	P		**P**	**12 37 04.8**	**-0.9**
	comp=Z,5.6nm,0.8s,baz=67,slow=7.8,SNR=6.8							
MAW	**Mawson**	**83.45**	**201**	P		**P**	**12 37 04.8**	**-0.9**
MAW				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MAW	**Mawson**	**83.45**	**201**	P		**P**	**12 37 04.8**	**-0.9**
	comp=Z,2.3nm,0.7s							
RC01	**Rabbit Creek A**	**83.60**	**29**	*e*P		**P**	**12 37 06.8**	**+0.1**
	comp=Z,14nm,1.1s							
TRF	**Thorofare Moun**	**83.61**	**27**	*e*P		**P**	**12 37 06.8**	**0.0**
	comp=Z,28nm,1.2s							
COLD	**Coldfoot**	**84.10**	**23**	*e*P		**P**	**12 37 10.7**	**+1.6**
	comp=Z,40nm,1.0s							
MCK	**McKinley**	**84.24**	**26**	*e*P		**P**	**12 37 10.2**	**+0.3**
MCK				pmax	pmax			
	comp=Z,51nm,1.3s							
MCK	**McKinley**	**84.24**	**26**	*e*P		**P**	**12 37 10.2**	**+0.3**
	comp=Z,51nm,1.3s							
ILAR	**Eielson Array**	**85.22**	**25**	P		**P**	**12 37 14.9**	**+0.1**
	comp=Z,3.0nm,1.1s,baz=260,slow=5.2,SNR=16							
ILAR				LR		LR	13 08 38.3	
	comp=Z,60nm,21.8s,baz=286,slow=31							
KIV	**Kislovodsk**	**85.23**	**314**	*e*P		P	12 37 10.2	-5.2
KIV				pmax	pmax			
	comp=Z,6.0nm,1.0s							
DIV	**Divide**	**85.52**	**29**	*e*P		**P**	**12 37 17.5**	**+1.1**
	comp=Z,48nm,1.1s							
BMRM	**Bremner River**	**86.08**	**29**	*e*P		**P**	**12 37 20.3**	**+1.1**
	comp=Z,16nm,0.9s							
EGAK	**Eagle**	**87.67**	**25**	*e*P		**P**	**12 37 26.9**	**+0.1**
	comp=Z,2.9nm,0.9s							
OBN	**Obninsk**	**89.00**	**325**	*de*P		**P**	**12 37 31.5**	**-1.8**
OBN				*e*			12 41 02.1	
OBN				*i* S		**SKSac**	**12 47 59.1**	**-0.6**
OBN				pmax	pmax			
	comp=Z,7.0nm,0.7s							
OBN				MLR	MLR			
	comp=Z,96nm,21.0s							
ASF	**Jabal al Asfar**	**90.06**	**302**	P		**P**	**12 37 39.1**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=56,slow=3.6,SNR=3.8							
KMBO	**Kilima Mbogo**	**91.44**	**269**	P		**P**	**12 37 46.4**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=34,slow=7.8,SNR=2.7							
ARCES	**ARCESS Array B**	**92.08**	**340**	P		**P**	**12 37 45.8**	**-1.5**
	comp=Z,4.7nm,0.8s,baz=74,slow=5.6,SNR=7.8							
ARCES				LR		LR	13 25 31.6	
	comp=Z,87nm,19.3s,baz=66,slow=40							
SYO	**Syowa Base**	**92.15**	**201**	*e*P		**P**	**12 37 47.7**	**+0.1**
QSPA	**South Pole Qui**	**92.60**	**180**	*e*P		**P**	**12 37 48.8**	**-1.2**
	comp=Z,9.5nm,0.9s							
FINES	**FINESS Array B**	**93.64**	**332**	P		**P**	**12 37 56.9**	**+2.2**
	comp=Z,1.3nm,0.7s,baz=115,slow=6.6,SNR=3.0							
FINES				LR		LR	13 24 26.8	
	comp=Z,98nm,20.0s,baz=38,slow=38							
DLBC	**Dease Lake**	**93.64**	**31**	P		**P**	**12 37 56.0**	**+1.1**
	comp=Z,2.2nm,0.9s,baz=299,slow=4.0,SNR=5.2							
RES	**Resolute Bay**	**98.48**	**11**	P		Pdif	12 38 16.7	+0.3
	comp=Z,8.0nm,0.9s,baz=308,slow=4.9,SNR=7.2							
YKA	**Yellowknife Ar**	**99.64**	**25**	P		**Pdif**	**12 38 22.0**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=297,slow=4.8,SNR=9.6							
YKA	**Yellowknife Ar**	**99.64**	**25**	P		**Pdif**	**12 38 22.0**	**+0.2**
DPC	**Dobruska-Polom**	**101.96**	**323**	AMS		AMS	13 35 20.0	
	comp=Z,100nm,18.4s							
TREC	**Trest**	**102.82**	**322**	AMS		AMS	13 37 00.0	
	comp=Z,200nm,20.4s							
PRU	**Pruhonice**	**103.16**	**323**	AMS		AMS	13 36 00.0	
	comp=Z,100nm,19.0s							
NVAR	**Mina Array Bea**	**106.16**	**49**	PKiKP		**PKiKP**	**12 43 03.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=244,slow=5.9,SNR=2.5							
NVAR				PKKPbc		**PKKPbc**	**12 54 30.1**	**+4.0**
	comp=Z,0.4nm,0.6s,baz=100,slow=3.9,SNR=4.0							
J22A	**Midwest**	**112.60**	**40**	P		**PKiKP**	**12 43 14.8**	**-0.5**
	baz=113							
H27A	**Howes**	**114.77**	**37**	P		PKPdf	12 43 19.0	-0.3
	baz=115							
B30A	**Myrvik Farm, E**	**114.77**	**32**	P		PKPdf	12 43 19.2	+0.1
	baz=115							
I28A	**Midland**	**115.65**	**38**	P		**PKPdf**	**12 43 20.7**	**-0.3**
	baz=116							
I29A	**Vivian Onida**	**116.17**	**37**	P		**PKPdf**	**12 43 21.1**	**-0.9**
	baz=116							
J29A	**Okreek**	**116.49**	**38**	P		**PKPdf**	**12 43 22.2**	**-0.5**
	baz=116							
O33A	**Hebron**	**120.02**	**40**	P		**PKPdf**	**12 43 29.1**	**-0.4**
	baz=120							
TXAR	**Lajitas Array**	**120.70**	**53**	PKP		**PKPdf**	**12 43 31.8**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=254,slow=0.2,SNR=10.0							
TXAR				PKKPab		**PKKPab**	**12 53 40.9**	**+3.2**
	comp=Z,0.3nm,0.8s,baz=116,slow=7.0,SNR=4.1							
129A	**Stewart Farms,**	**120.73**	**49**	P		**PKPdf**	**12 43 31.5**	**+0.3**
	baz=121							
V31A	**Spring Creek L**	**120.75**	**45**	P		**PKPdf**	**12 43 32.2**	**+1.2**
	baz=121							
P34A	**Walnut Farm, R**	**120.80**	**40**	P		**PKPdf**	**12 43 31.1**	**+0.1**
	baz=121							
KSU1	**Kansas State U**	**121.19**	**40**	P		**PKPdf**	**12 43 32.1**	**+0.3**
	baz=121							
X31A	**McDonald Ranch**	**121.21**	**46**	P		**PKPdf**	**12 43 31.8**	**-0.2**
	baz=121							
W32A	**Sentinel**	**121.49**	**45**	P		**PKPdf**	**12 43 32.7**	**+0.2**
	baz=122							
529A	**Stev Forest Ra**	**121.53**	**52**	P		**PKPdf**	**12 43 32.9**	**+0.2**
	baz=122							
429A	**Davenport Ranc**	**121.58**	**51**	P		**PKPdf**	**12 43 32.9**	**+0.1**
	baz=122							
430A	**Baggett Ranch,**	**122.02**	**51**	P		**PKPdf**	**12 43 33.5**	**-0.2**
	baz=122							
Z32A	**Haskell**	**122.20**	**47**	P		**PKPdf**	**12 43 33.6**	**-0.3**
	baz=122							
530A	**J-C Ranch, Com**	**122.22**	**52**	P		**PKPdf**	**12 43 34.3**	**+0.2**
	baz=122							
R36A	**Gordon, Harris**	**122.34**	**40**	P		**PKPdf**	**12 43 33.6**	**-0.4**
	baz=122							
431A	**Sonora**	**122.55**	**51**	P		**PKPdf**	**12 43 34.9**	**+0.2**
	baz=123							
R37A	**Teagarden Farm**	**122.78**	**40**	P		**PKPdf**	**12 43 34.6**	**-0.3**
	baz=123							
531A	**Rocksprings**	**122.83**	**51**	P		**PKPdf**	**12 43 34.9**	**-0.4**
	baz=123							
332A	**Millersview**	**122.90**	**50**	P		**PKPdf**	**12 43 35.6**	**+0.3**
	baz=123							
631A	**Perdido Creek**	**123.13**	**52**	P		**PKPdf**	**12 43 36.3**	**+0.5**
	baz=123							
W35A	**Tecumseh**	**123.15**	**44**	P		**PKPdf**	**12 43 35.8**	**+0.2**
	baz=123							
JCT	**Junction City**	**123.27**	**51**	*e*PKIKP		**PKPdf**	**12 43 36.3**	**+0.2**
JCT	**Junction City**	**123.27**	**51**	P		**PKPdf**	**12 43 36.2**	**+0.2**
	baz=123							
JCT	**Junction City**	**123.27**	**51**	*e*PKPdf		**PKPdf**	**12 43 36.2**	**+0.2**
X35A	**Drake**	**123.47**	**45**	P		**PKPdf**	**12 43 36.7**	**+0.4**
	baz=124							
333A	**Richland Sprin**	**123.50**	**49**	P		**PKPdf**	**12 43 36.3**	**-0.2**
	baz=124							
433A	**Art**	**123.69**	**50**	P		**PKPdf**	**12 43 36.9**	**0.0**
	baz=124							
632A	**Uvalde**	**123.71**	**52**	P		**PKPdf**	**12 43 37.2**	**+0.3**
	baz=124							
234A	**Clairette**	**123.82**	**48**	P		**PKPdf**	**12 43 37.3**	**+0.3**
	baz=124							
X36A	**Centrahoma**	**123.82**	**45**	P		**PKPdf**	**12 43 37.2**	**+0.3**
	baz=124							
V37A	**Hulbert**	**123.95**	**43**	P		**PKPdf**	**12 43 37.5**	**+0.4**
	baz=124							
W37A	**Quinton**	**124.16**	**44**	P		**PKPdf**	**12 43 37.9**	**+0.3**
	baz=124							
633A	**Saathoff Ranch**	**124.20**	**51**	P		**PKPdf**	**12 43 37.9**	**+0.1**
	baz=124							
Y36A	**Durant**	**124.22**	**45**	P		**PKPdf**	**12 43 37.9**	**+0.2**
	baz=124							
434A	**Burnet**	**124.29**	**50**	P		**PKPdf**	**12 43 38.3**	**+0.3**
	baz=124							
V38A	**Canehill**	**124.45**	**42**	P		**PKPdf**	**12 43 37.6**	**-0.5**
	baz=124							
833A	**Chaparral WMA,**	**124.53**	**53**	P		**PKPdf**	**12 43 39.4**	**+0.9**
	baz=125							
W38A	**Poteau**	**124.82**	**43**	P		**PKPdf**	**12 43 39.3**	**+0.5**
	baz=125							
X38A	**Whitesboro**	**124.83**	**44**	P		**PKPdf**	**12 43 39.5**	**+0.7**
	baz=125							
TORD	**Torodi Ar. Bea**	**125.06**	**288**	PKP		**PKPdf**	**12 43 38.8**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=58,slow=1.3,SNR=5.8							
MIAR	**Mount Ida**	**125.76**	**43**	*e*PKIKP		**PKPdf**	**12 43 41.1**	**+0.4**
MIAR	**Mount Ida**	**125.76**	**43**	*e*PKPdf		**PKPdf**	**12 43 41.1**	**+0.4**
LRAL	**Lakeview Retre**	**131.04**	**40**	*e*PKPdf		**PKPdf**	**12 43 51.5**	**+0.8**
LPAZ	**La Paz**	**159.67**	**130**	PKP		**PKPdf**	**12 44 37.6**	**-0.3**
	comp=Z,1.6nm,1.0s,baz=264,slow=2.0,SNR=4.1							

FUNV 16 12:25:11.6,6.73N×73.11W,h149km,MW3.7,4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.38**	**35**	*i*P	Pn	12 25 40.2	+0.1
CAPV				*e*S	Sn	12 25 59.3	-2.7
SOCV	**Socops**	**2.72**	**55**	*e*S	Sn	12 26 26.3	-2.9
VIGV	**El Vigia**	**2.72**	**39**	*i*P	Pn	12 25 54.9	-0.6
VIGV				*e*S	Sn	12 26 26.3	-3.0
ELOV	**Elorza**	**3.61**	**85**	*e*P	Pn	12 26 05.1	-1.7
ELOV				*e*S	Sn	12 26 45.0	-4.6
VIRV	**Villa del Rosa**	**3.82**	**10**	*i*P	Pn	12 26 07.3	-2.2
VIRV				*e*S	Sn	12 26 49.9	-4.6
QARV	**Quebrada Arrib**	**4.30**	**36**	*i*P	Pn	12 26 14.9	-1.0
QARV				*e*S	Sn	12 27 00.2	-5.7
SANV	**Sanarito**	**4.49**	**52**	*e*P	Pn	12 26 16.7	-1.7
SANV				*e*S	Sn	12 27 05.4	-5.0
CURV	**Curarigua**	**4.51**	**43**	*e*P	Pn	12 26 16.9	-1.8
CURV				*e*S	Sn	12 27 05.3	-5.7
DABV	**Dabajuro**	**4.83**	**30**	*e*P	Pn	12 26 21.1	-1.8
DABV				*e*S	Sn	12 27 12.5	-5.8
TEPV	**Terepaima**	**5.04**	**50**	*e*P	Pn	12 26 23.3	-2.3
SIQV	**Siquisique**	**5.08**	**40**	*e*P	Pn	12 26 24.2	-2.0
SIQV				*e*S	Sn	12 27 18.4	-6.0
MAPV	**Macapo**	**5.54**	**56**	*e*P	Pn	12 26 30.8	-1.5

IDC 16 12:40:00.8±1.9,1.27S×136.67E,h0km,mb3.8/4, mb1 3.9/5,mb1mx3.5/34,mbtmp3.7/5,ML3.6/1,Error ellipse: s-maj=91.6km s-min=21.5km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.69**	**187**	P	P	12 44 19.1	-1.8
	0.2nm,0.3s,baz=9.5,slow=12,SNR=13						
ASAR	**Alice Springs**	**22.42**	**187**	P	P	12 45 01.3	-0.1
	2.7nm,0.6s,baz=17,slow=11,SNR=30						
STKA	**Stephens Creek**	**30.79**	**172**	P	P	12 46 19.5	+1.2
	2.3nm,0.8s,baz=5.4,slow=7.5,SNR=3.4						
MKAR	**Makanchi Array**	**67.41**	**323**	P	P	12 50 58.8	+0.5
	0.2nm,0.5s,baz=115,slow=8.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**69.68**	**330**	P	P	12 51 11.8	-0.4
	0.4nm,0.5s,baz=111,slow=11,SNR=2.1						

NIED ***16*** *12:49:00.47˚.10N×153˚.10E,h38km,Mw4.4 Best double couple: M₀3.96000×10¹⁵ NP1:ϕ₁=210.00000°,δ61.00000°, λ164.00000°. NP2:ϕ₂=308.00000°,δ76.00000°,λ30.00000°.*

JMA ***16*** *12:49:52.2±0.6,47˚.06N×153˚.07E,h30km,M4.7*

SKHL ***16*** *12:49:54.2±0.5,46˚.72N×153˚.22E,h81km±3km,mb4.9/8, Ms3.8/2,msh5.5/6*

ISCJB ***16*** *12:49:55.5±0.5,46˚.88N±0˚.04×152˚.76E±0˚.04,h70km±4km, mb4.4/52,Error ellipse: s-maj=6.4km s-min=3.8km az=151.2*

BJI ***16*** *12:49:55.5,46˚.87N×152˚.93E,h79km,mb4.7/31,mB4.9/17, Ms4.4/11,Ms7 4.2/9*

IDC ***16*** *12:49:56.6±0.5,47˚.01N×152˚.70E,h61km±4km,mb3.9/24, mb1 4.2/27,mb1mx4.0/53,mbtmp4.2/27,MS3.6/12, Ms1 3.6/12,ms1mx3.3/34,Error ellipse: s-maj=14.2km s-min=9.4km az=147.0*

MOS ***16*** *12:49:57.4±0.9,46˚.98N×152˚.67E,h86km,mb4.6/9,Error ellipse: s-maj=8.0km s-min=7.2km az=82.3*

NEIC ***16*** *12:49:59.4±0.6,47˚.08N×152˚.63E,h84km±5km,mb4.6/20, Error ellipse: s-maj=7.3km s-min=3.5km az=154.0*

ISC 16 12:49:57.2±0.5,46˚.89N±0˚.05×152˚.87E±0˚.05,h74km±3km, h73km:pP-P,n226,σ1=65/258,mb4.5/58,10C-13D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.86**	**246**	*e*PN	**Pn**	**12 50 54.2**	**+0.2**
KUR				*e*S	**Sn**	**12 51 38.7**	**+0.6**
KUR				pmax	pmax		
	comp=Z,72nm,0.5s						
KUR				pmax	pmax		
	comp=E,45nm,0.3s						
KUR				smax	smax		
	comp=N,402nm,0.6s						
KUR				smax	smax		
	comp=E,219nm,0.6s						
KUR	**Kuril'sk**	**3.86**	**246**	*e*P	**Pn**	**12 50 54.2**	**+0.2**
KUR				AMB	AMB	12 50 59.7	
	comp=E,45nm,0.4s						
KUR				AMB	AMB	12 50 59.7	
	comp=E,72nm,0.4s						
KUR				*e*S	**Sn**	**12 51 38.7**	**+0.6**
KUR				A	A	12 51 51.1	
	comp=E,402nm,0.6s						
KUR				A	A	12 51 51.1	
	comp=E,219nm,0.6s						
SKR	**Severo-Kuril's**	**4.36**	**28**	*e*PN	Pn	12 50 56.0	-4.8
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR	**Severo-Kuril's**	**4.36**	**28**	*e*P	**Pn**	**12 50 57.7**	**-3.1**
SKR				AMB	AMB	12 51 01.7	
	comp=Z,80nm,0.5s						
SKR				AMB	AMB	12 51 01.7	
	comp=Z,60nm,0.5s						
SKR				AMB	AMB	12 51 01.7	
	comp=Z,90nm,0.5s						
SKR				*e*S	**Sn**	**12 51 46.6**	**-3.7**
SKR				A	A	12 52 01.5	
	comp=Z,310nm,0.5s						
SKR				A	A	12 52 01.5	
	comp=Z,230nm,0.5s						
SKR				A	A	12 52 01.5	
	comp=Z,90nm,0.5s						
SHO	**Shikotan**	**5.22**	**237**	*e*P	**Pn**	**12 51 10.5**	**-2.1**
SHO				*e*S	**Sn**	**12 52 09.7**	**-1.6**
SHO				A	A	12 52 35.5	
	comp=Z,92nm,0.6s						
PAU	**Pauzhetka**	**5.26**	**28**	*e*P	**Pn**	**12 51 12.0**	**-1.1**
PAU				*e*S	**Sn**	**12 52 10.4**	**-1.9**
YUK	**Yuzh-Kuril'sk**	**5.70**	**242**	*c i*PN	**Pn**	**12 51 19.5**	**+0.4**
YUK				*e*S	**Sn**	**12 52 23.7**	**+0.6**
YUK				pmax	pmax		
	comp=N,106nm,0.6s						
YUK				pmax	pmax		
	comp=E,59nm,0.6s						
YUK				pmax	pmax		
	comp=Z,107nm,0.6s						
YUK				smax	smax		
	comp=N,395nm,0.7s						
YUK				smax	smax		
	comp=E,94nm,0.7s						
YUK				smax	smax		
	comp=N,353nm,2.1s						
YUK				smax	smax		
	comp=E,971nm,2.1s						
YUK				MLR	MLR		
	comp=E,345nm,14.0s						
YUK				MLR	MLR		
	comp=Z,399nm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.70**	**242**	*e*P	**Pn**	**12 51 19.5**	**+0.4**
YUK				AMB	AMB	12 51 33.0	
	comp=Z,60nm,0.6s						
YUK				AMB	AMB	12 51 33.0	
	comp=Z,110nm,0.6s						
YUK				*e*S	**Sn**	**12 52 23.7**	**+0.6**
YUK				A	A	12 52 43.6	
	comp=Z,360nm,2.0s						
YUK				A	A	12 52 43.6	
	comp=Z,970nm,2.0s						
YUK				A	A	12 52 43.9	
	comp=Z,94nm,0.7s						
YUK				A	A	12 52 43.9	
	comp=Z,400nm,0.7s						
YUK				AMS	AMS	12 53 34.6	
	comp=Z,400nm,14.0s						
YUK				AMS	AMS	12 53 34.6	
	comp=Z,345nm,14.0s						
NEM2	**Nemuro 2**	**6.15**	**238**	P	**Pn**	**12 51 23.0**	**-2.3**
NEM2				*e*S	**Sn**	**12 52 29.9**	**-4.3**
JRA	**Rausu**	**6.20**	**244**	P	**Pn**	**12 51 26.4**	**+0.4**
JNK	**Nakash**	**6.63**	**243**	P	**Pn**	**12 51 31.4**	**-0.5**
JNK				*e*S	**Sn**	**12 52 45.5**	**-0.6**
YSS	**Yuzh-Sakhalins**	**6.93**	**274**	*i*PN	**Pn**	**12 51 36.4**	**+0.5**
YSS				*e*S	**Sn**	**12 52 52.8**	**-0.4**
YSS				pmax	pmax		
	comp=E,70nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				smax	smax		
	comp=E,30nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.93**	**274**	*e*P	**Pn**	**12 51 36.4**	**+0.5**
YSS				AMB	AMB	12 51 39.6	
	comp=E,70nm,0.9s						
YSS				AMB	AMB	12 51 39.6	
	comp=E,50nm,0.9s						
YSS				*e*S	**Sn**	**12 52 53.0**	**-0.2**
YSS				A	A	12 52 55.1	
	comp=E,30nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.93**	**274**	*e*Pn	**Pn**	**12 51 37.5**	**+1.6**
JTKR	**Abashiri--Toko**	**6.95**	**248**	P	**Pn**	**12 51 36.7**	**+0.5**
PEA0B	**Petropavlovsk-**	**6.96**	**25**	*e*Pn	**Pn**	**12 51 36.5**	**+0.2**
PETK	**Petropavlovsk-**	**6.96**	**25**	P	**Pn**	**12 51 36.1**	**-0.2**
	comp=E,1.7nm,0.3s,baz=190,slow=16,SNR=16						
JAK	**Akkeshi**	**6.98**	**239**	P	**Pn**	**12 51 34.2**	**-2.5**
JAK				*e*S	**Sn**	**12 52 49.6**	**-5.0**
PET	**Petropavlovsk**	**7.18**	**29**	*e*PN	Pn	12 51 42.7	+3.4
PET				pmax	pmax		
	comp=Z,17nm,0.6s						
PET	**Petropavlovsk**	**7.18**	**29

JNB	**Noboribetsu**	**9.51**	**247**	P		**Pn**	**12 52 10.4**	**-0.8**	
JKB	**Kayabe**	**9.84**	**244**	P		**Pn**	**12 52 12.8**	**-2.8**	
JKB				*e*S		Sn	12 53 56.1	-8.2	
NKL	**Nikolayevsk**	**10.03**	**313**	*e*PN		**Pn**	**12 52 19.0**	**+0.8**	
NKL				pmax	pmax				
	comp=Z,100nm,1.2s								
NKL	**Nikolayevsk**	**10.03**	**313**	*e*P		**Pn**	**12 52 19.0**	**+0.8**	
NKL				AMB	AMB		12 52 20.5		
	comp=Z,100nm,1.0s								
JSH	**Shimam**	**10.06**	**250**	P		**Pn**	**12 52 18.4**	**-0.3**	
JYM2	**Yakumo 2**	**10.12**	**246**	P		**Pn**	**12 52 17.7**	**-1.8**	
JSR	**Shiriuchi**	**10.42**	**244**	P		**Pn**	**12 52 20.5**	**-3.1**	
JSR				*e*S		Sn	12 54 10.6	-7.9	
JTM	**Tenmabayashi**	**10.48**	**239**	P		Pn	12 52 20.2	-4.2	
JTM				*e*S		Sn	12 54 10.0	-10	
JANG	**Nango**	**10.49**	**236**	P		Pn	12 52 19.6	-5.0	
JANG				*e*S		Sn	12 54 09.2	-11	
JTH	**Tanohata**	**10.59**	**233**	P		Pn	12 52 22.0	-4.0	
JTH				*e*S		Sn	12 54 10.5	-12	
JOSM	**Okushiri--Mats**	**10.71**	**248**	P		**Pn**	**12 52 25.1**	**-2.4**	
OFUJ	**Ofunato**	**11.31**	**230**	P		Pn	12 52 30.9	-4.9	
OFUJ				*e*S		Sn	12 54 30.0	-10	
TEY	**Ternei**	**11.47**	**267**	*e*P		**Pn**	**12 52 39.0**	**+1.1**	
GRNR	**Gornyy**	**11.51**	**296**	*e*P		**Pn**	**12 52 39.0**	**+0.6**	
GRNR				AMB	AMB		12 52 42.0		
	comp=Z,52nm,1.0s								
JRG	**Rokugo**	**11.65**	**234**	P		Pn	12 52 36.8	-3.6	
JRG				*e*S		Sn	12 54 40.3	-8.3	
JIO	**Ouri**	**11.95**	**229**	*e*S		Sn	12 54 44.2	-12	
HABR	**Khabarovsk**	**12.11**	**284**	PN		**Pn**	**12 52 44.2**	**-2.4**	
HABR				*e*S		**Sn**	**12 54 57.9**	**-1.8**	
HABR				pmax	pmax				
	comp=Z,13nm,1.5s								
HABR				pmax	pmax				
	comp=N,4.0nm,0.8s								
HABR				pmax	pmax				
	comp=E,18nm,1.5s								
HABR				MLR	MLR				
	comp=Z,207nm,15.0s								
HABR	**Khabarovsk**	**12.11**	**284**	*e*P		**Pn**	**12 52 44.2**	**-2.4**	
EKMR	**Ekimchan**	**14.20**	**303**	*e*P		**Pn**	**12 53 15.5**	**+1.0**	
EKMR				AMB	AMB		12 53 23.5		
	comp=Z,7.0nm,0.6s								
KLR	**Kul'dur**	**14.31**	**287**	*e*P		**Pn**	**12 53 15.0**	**-0.9**	
KLR	**Kul'dur**	**14.31**	**287**	*e*P		**Pn**	**12 53 15.0**	**-0.9**	
USRK	**Ussuriysk Ar.**	**14.87**	**267**	P		**Pn**	**12 53 22.7**	**-0.5**	
	comp=Z,1.5nm,0.3s,baz=71,slow=14,SNR=14								
USRK				LR	LR		12 58 26.7		
	comp=Z,229nm,21.0s,baz=82,slow=34								
MJAR	**Matsushiro Arr**	**15.03**	**232**	P		**Pn**	**12 53 21.7**	**-3.7**	
	comp=Z,0.3nm,0.3s,baz=25,slow=12,SNR=8.1								
MJAR				LR	LR		12 58 34.1		
	comp=Z,110nm,21.6s,baz=170,slow=34								
MAJO	**Matsushiro**	**15.03**	**232**⇑	*e*P		**Pn**	**12 53 22.2**	**-3.2**	
MAJO	**Matsushiro**	**15.03**	**232**	*e*P		**Pn**	**12 53 22.2**	**-3.2**	
MAJO	**Matsushiro**	**15.03**	**232**	*e*Pn		**Pn**	**12 53 22.1**	**-3.3**	
	comp=Z,21nm,1.2s								
MAT	**Matsushiro**	**15.03**	**232**	P		**Pn**	**12 53 25.0**	**-0.4**	
VLA	**Vladivostok**	**15.30**	**263***c*	*e*P		**Pn**	**12 53 26.8**	**-1.9**	
VLA				pmax	pmax				
	comp=Z,16nm,1.0s								
VLA	**Vladivostok**	**15.30**	**263**	*e*P		**Pn**	**12 53 26.8**	**-1.9**	
SEY	**Seymchan**	**16.08**	**359**	P		**Pn**	**12 53 37.2**	**-1.2**	
	comp=Z,0.8nm,0.3s,baz=179,slow=13,SNR=17								
SEY	**Seymchan**	**16.08**	**359**⇑	*e*P		**Pn**	**12 53 38.8**	**+0.4**	
SEY	**Seymchan**	**16.08**	**359**	*e*rx		rx	12 53 38.8		
BMKR	**Bomnak**	**17.02**	**306**	*e*P		**Pn**	**12 53 47.4**	**-2.8**	
BMKR				AMB	AMB		12 53 55.0		
	comp=Z,12nm,0.9s								
ZEA	**Zeya**	**17.67**	**302**	*e*P		**P**	**12 53 57.5**	**-0.6**	
ZEA				AMB	AMB		12 54 07.7		
	comp=Z,12nm,1.0s								
ZEA				*e*rx		rx	12 54 12.3		
KROS	**Kirovskiy**	**17.99**	**304**	*e*P		**Pn**	**12 54 03.5**	**+1.5**	
KROS				AMB	AMB		12 54 05.5		
	comp=Z,8.0nm,0.9s								
CN2	**Changchun**	**19.48**	**271**	*e*P		**Pn**	**12 54 19.0**	**-0.8**	
CN2				PMZ					
	comp=Z,10.0nm,0.5s								
YAK	**Yakutsk**	**20.11**	**327**	*e*P		**P**	**12 54 24.3**	**-0.3**	
YAK				*e*S		**S**	**12 58 01.4**	**-4.8**	
YAK				pmax	pmax				
	comp=Z,17nm,1.2s								
YAK				pmax	pmax				
	comp=N,6.0nm,1.1s								
YAK				pmax	pmax				
	comp=E,7.0nm,1.1s								
YAK				pmax	pmax				
	comp=Z,7.0nm,0.9s								
YAK				pmax	pmax				
	comp=E,5.0nm,1.0s								
YAK				smax	smax				
	comp=N,25nm,3.0s								
YAK				smax	smax				
	comp=E,21nm,2.7s								
YAK				MLR	MLR				
	comp=Z,213nm,20.0s								
YAK				MLR	MLR				
	comp=N,210nm,20.0s								
YAK				MLR	MLR				
	comp=E,85nm,17.0s								
YAK	**Yakutsk**	**20.11**	**327**	*e*P		**P**	**12 54 24.3**	**-0.3**	
YAK	**Yakutsk**	**20.11**	**327**	*e*P		**P**	**12 54 21.7**	**-2.9**	
	comp=E,22nm,0.7s								
KSRS	**Korea Array**	**20.68**	**252**	P		**P**	**12 54 32.1**	**+1.2**	
	comp=E,4.0nm,0.7s,baz=58,slow=11,SNR=14								
KSRS				PcP		**PcP**	**12 58 39.9**	**+1.8**	
	comp=E,1.5nm,1.0s,baz=6.5,slow=0.9,SNR=5.0								
KSRS				LR	LR		13 01 26.0		
	comp=E,68nm,19.2s,baz=69,slow=33								
KSRS	**Korea Array**	**20.68**	**252**	P		**P**	**12 54 32.2**	**+1.2**	
KSRS							12 58 39.9		
KSRS				pmax	pmax				
	comp=Z,4.0nm,0.8s								
KSRS				pmax	pmax				
	comp=Z,2.0nm,1.0s								
KSRS				MLR	MLR				
	comp=Z,68nm,19.2s								
KSAR	**Wonju Array Be**	**20.71**	**252**	P		**P**	**12 54 32.2**	**+0.8**	
KSAR							12 58 39.9		
KSAR	**Wonju Array Be**	**20.71**	**252**	P		**P**	**12 54 32.1**	**+0.8**	
KSAR				PcP		**PcP**	**12 58 39.9**	**+1.7**	
JNU	**Nakatsue**	**21.65**	**238**	P		**P**	**12 54 41.5**	**+0.1**	
	comp=Z,6.7nm,0.8s,baz=30,slow=10,SNR=6.0								
TJN	**Taejon**	**21.67**	**250**⇑	*e*P		**P**	**12 54 40.9**	**-0.7**	
H11N2	**WAKE ISLAND Hy 29.42**		**152**	T		T	13 27 21.7		
	baz=340,slow=76,SNR=2175								
H11N1	**WAKE ISLAND Hy 29.44**		**152**	T		T	13 27 34.7		
	baz=340,slow=76,SNR=1821								
H11N3	**WAKE ISLAND Hy 29.44**		**152**	T		T	13 27 34.5		
	baz=340,slow=76,SNR=1544								
NJ2	**Nanjing**	**29.88**	**252**	*e*P		**P**	**12 55 58.1**	**+0.5**	
NJ2				PMZ					
	comp=Z,30nm,0.6s								
HHC	**Hu-ho-hao-te**	**30.11**	**274**	*e*P		**P**	**12 56 00.4**	**+0.6**	
HHC				pP		**pP**	**12 56 16.5**	**-0.7**	
HHC				sP		**sP**	**12 56 27.5**	**+1.7**	
HHC				PP		**PnPn**	**12 57 02.6**	**+2.8**	
HHC				S		**S**	**13 00 50.4**	**-2.8**	
HHC				PMZ					
	comp=Z,14nm,0.8s								
HHC				PMZ					
	comp=Z,79nm,6.3s								
HHC				LN					
	comp=Z,240nm,11.9s								
HHC				LE					
	comp=Z,230nm,11.4s								
HHC				LZ					
	comp=Z,200nm,11.9s								
H11S1	**WAKE ISLAND Hy 30.51**		**153**	T		T	13 28 53.7		
	baz=341,slow=76,SNR=2048								
H11S3	**WAKE ISLAND Hy 30.52**		**153**	T		T	13 28 44.0		
	baz=341,slow=76,SNR=445								
H11S2	**WAKE ISLAND Hy 30.53**		**153**	T		T	13 28 40.7		
	baz=341,slow=76,SNR=275								
SONM	**Songino Array**	**31.13**	**289**	P		**P**	**12 56 08.6**	**-0.1**	
	comp=Z,0.6nm,0.6s,baz=68,slow=8.0,SNR=3.3								
SONM				LR	LR		13 09 42.2		
	comp=Z,147nm,18.5s,baz=85,slow=38								
TLY	**Talaya**	**31.96**	**297**	LR		LR	13 09 41.3		
	comp=Z,117nm,20.9s,baz=114,slow=37								
ZAK	**Zakamensk**	**32.47**	**295**	*e*P		P	12 56 16.9	-3.4	
ZAK				pmax	pmax				
	comp=Z,1.0nm,1.1s								
IM04	**Indian Mountai**	**33.74**	**36**	*e*P		**P**	**12 56 31.7**	**+0.6**	
GUMO	**Guam**	**33.87**	**194**	LR		LR	13 06 57.6		
	comp=Z,35nm,21.0s,baz=78,slow=30								
PPLA	**Purkeypile**	**34.17**	**42**	*e*P		**P**	**12 56 36.2**	**+1.1**	
	comp=Z,8.9nm,1.2s								
BPAW	**Bear Paw Mtn.**	**34.75**	**40**	*e*P		**P**	**12 56 41.1**	**+1.2**	
	comp=Z,0.4nm,0.6s								
BPAW				*e*PcP		**PcP**	**12 59 12.3**	**+0.5**	
COLD	**Coldfoot**	**35.31**	**34**	*e*P		**P**	**12 56 45.2**	**+0.6**	
XAN	**Xi'an**	**35.36**	**265**	P		**P**	**12 56 45.3**	**-0.2**	
XAN				PMZ					
	comp=Z,2.0nm,0.8s								
COLA	**College**	**36.13**	**38**	*c*P		**P**	**12 56 52.4**	**+0.8**	
COLA	**College**	**36.13**	**38**	*e*P		**P**	**12 56 52.4**	**+0.8**	
COLA	**College**	**36.13**	**38**	*e*P		**P**	**12 56 52.5**	**+0.8**	
CCB	**Clear Creek Bu**	**36.15**	**39**	*e*P		**P**	**12 56 52.5**	**+0.6**	
	comp=Z,2.8nm,0.9s								
HDA	**Harding Lake**	**36.52**	**39**	*e*P		**P**	**12 56 55.8**	**+0.8**	
	comp=Z,4.7nm,0.5s								
ILAR	**Eielson Array**	**36.54**	**39**	P		**P**	**12 56 54.8**	**-0.4**	
	comp=Z,2.1nm,0.9s,baz=266,slow=7.0,SNR=20								
LZH	**Lanzhou**	**37.72**	**271**	*e*P		**P**	**12 57 06.6**	**+0.9**	
LZH				pP		**pP**	**12 57 25.3**	**+1.9**	
LZH				sP		**sP**	**12 57 33.4**	**+1.5**	
LZH				PMZ					
	comp=Z,14nm,1.0s								
GTA	**Gaotai**	**38.78**	**279**	*e*P		**P**	**12 57 16.4**	**+1.8**	
GTA				pP		**pP**	**12 57 35.3**	**+3.0**	
GTA				sP		**sP**	**12 57 45.1**	**+4.3**	
GTA				PMZ					
	comp=Z,2.0nm,1.0s								
EGAK	**Eagle**	**38.99**	**38**	*e*P		**P**	**12 57 16.4**	**+0.6**	
	comp=Z,8.2nm,0.8s								
CD2	**Chengdu**	**40.72**	**265**	*e*P		**P**	**12 57 29.5**	**-1.2**	
HYT	**Haines Junctio**	**41.29**	**44**	*e*P		**P**	**12 57 37.2**	**+2.2**	
INK	**Inuvik**	**41.62**	**32**	P		**P**	**12 57 38.2**	**+0.8**	
	comp=Z,3.4nm,0.3s,baz=282,slow=11,SNR=8.0								
ZALV	**Zalesovo Beam**	**42.39**	**306**	P		**P**	**12 57 42.7**	**-1.3**	
	comp=Z,0.9nm,0.5s,baz=79,slow=6.0,SNR=3.1								
ZALV				PcP		**PcP**	**12 59 36.3**	**+0.5**	
	comp=Z,3.6nm,0.7s,baz=52,slow=2.4,SNR=13								
ZALV				LR		LR	13 16 38.9		
	comp=Z,144nm,18.6s,baz=70,slow=38								
WMQ	**Urumqi**	**44.72**	**291**	P		**P**	**12 58 04.4**	**+1.6**	
WMQ				pP		**pP**	**12 58 22.9**	**+1.9**	
WMQ				sP		**sP**	**12 58 31.8**	**+2.4**	
WMQ				PMZ					
	comp=Z,8.0nm,0.5s								
WMQ				PMZ					
	comp=Z,180nm,6.7s								
WMQ				LN					
	comp=Z,100nm,9.5s								
WMQ				LE					
	comp=Z,130nm,10.2s								
KMI	**Kunming**	**45.10**	**259**	P		**P**	**12 58 04.8**	**-1.5**	
KMI				PMZ					
	comp=Z,9.0nm,1.0s								
DLBC	**Dease Lake**	**45.62**	**46**	P		**P**	**12 58 11.5**	**+1.7**	
	comp=Z,4.4nm,0.9s,baz=284,slow=11,SNR=10								
MK31	**Makanchi Array**	**46.73**	**297**	*e*P		**P**	**12 58 17.8**	**-0.8**	
MK31				*e*			12 59 51.3		
MK31	**Makanchi Array**	**46.73**	**297**	*e*P		**P**	**12 58 17.8**	**-0.8**	
MK31				*e*PcP		**PcP**	**12 59 51.3**	**+0.4**	
MKAR	**Makanchi Array**	**46.73**	**297**	P		**P**	**12 58 17.8**	**-0.8**	
	comp=Z,1.0nm,0.7s,baz=67,slow=7.5,SNR=12								
MKAR				PcP		**PcP**	**12 59 51.1**	**+0.2**	
	comp=Z,1.2nm,0.5s,baz=74,slow=2.7,SNR=11								
MKAR				LR	LR		13 19 05.8		
	comp=Z,132nm,19.3s,baz=78,slow=38								
KURK	**Kurchatov**	**47.15**	**303**	P		**P**	**12 58 21.3**	**-0.4**	
KURK							12 59 52.9		
KURK	**Kurchatov**	**47.15**	**303**	*e*P		**P**	**12 58 21.3**	**-0.4**	
KURK	**Kurchatov**	**47.15**	**303**	P		**P**	**12 58 21.3**	**-0.4**	
KURK				PcP		**PcP**	**12 59 52.9**	**+0.7**	
KURBB	**Kurchatov Arra**	**47.24**	**303**	P		**P**	**12 58 21.3**	**-1.2**	
	comp=Z,1.2nm,0.6s,baz=70,slow=8.4,SNR=13								
KURBB				PcP		**PcP**	**12 59 52.9**	**+0.3**	
	comp=Z,1.7nm,0.9s,baz=71,slow=3.4,SNR=9.3								
BVAR	**Borovoye Array**	**50.64**	**309**	P		**P**	**12 58 47.6**	**-0.9**	
	comp=Z,0.9nm,0.4s,baz=49,slow=7.9,SNR=6.6								
BVAR				PcP		**PcP**	**13 00 05.2**	**+0.3**	
	comp=Z,2.2nm,0.4s,baz=79,slow=3.2,SNR=10								
BRVK	**Borovoye**	**50.68**	**309**⇑	*e*P		**P**	**12 58 48.9**	**+0.2**	
BRVK				pmax	pmax				
	comp=Z,1.0nm,0.6s								
BRVK	**Borovoye**	**50.68**	**309**	*e*P		**P**	**12 58 48.9**	**+0.2**	
YKA	**Yellowknife Ar**	**50.91**	**37**	P		**P**	**12 58 51.3**	**+1.0**	
	comp=Z,1.2nm,0.5s,baz=296,slow=7.0,SNR=14								
YKA				pP		**pP**	**12 59 06.8**	**-1.9**	
	comp=Z,3.7nm,0.8s,baz=298,slow=7.5,SNR=15								
YKA				PcP		**PcP**	**13 00 05.9**	**+0.3**	
	comp=Z,1.4nm,0.7s,baz=308,slow=3.8,SNR=7.7								
CHTO	**Chiang Mai**	**51.99**	**256**	*e*P		**P**	**12 58 59.9**	**+1.0**	
CHTO	**Chiang Mai**	**51.99**	**256**	*e*P		**P**	**12 58 59.9**	**+1.0**	
CMAR	**Chiang Mai Arr**	**52.24**	**256**	P		**P**	**12 59 02.1**	**+1.3**	
	comp=Z,4.2nm,0.7s,baz=38,slow=7.2,SNR=28								
CMAR				pP		**pP**	**12 59 16.6**	**-2.7**	
	comp=Z,1.0nm,0.9s,baz=38,slow=12,SNR=2.8								
CMAR				LR	LR		13 25 00.5		
	comp=Z,51nm,18.0s,baz=156,slow=40								
TAPN	**Taplejung**	**53.92**	**273**	*e*P		**P**	**12 59 12.8**	**-0.7**	
KSH	**Kashi**	**54.44**	**292**	*e*P		P	12 59 21.6	+4.7	
KSH				pP		pP	12 59 41.9	+6.3	
KSH				sP		sP	12 59 49.3	+5.5	
ARU	**Arti**	**54.79**	**317**	*d*iP		**P**	**12 59 18.3**	**-0.7**	
ARU				*PP		**pP**	**12 59 38.3**	**+0.6**	
ARU							13 00 19.8		
ARU				S		**S**	**13 06 52.9**	**-1.0**	
ARU				SS		SKiKP	13 10 27.6	+8.7	
ARU				pmax	pmax				
	comp=Z,6.0nm,1.2s								
ARU	**Arti**	**54.79**	**317**	*e*P		**P**	**12 59 18.2**	**-0.7**	
GUN	**Gumba**	**54.82**	**275**	*e*P		**P**	**12 59 21.1**	**+1.1**	
	comp=Z,7.3nm,0.4s								
RAMN	**Ramite**	**54.94**	**273**	*e*P		**P**	**12 59 21.1**	**+0.3**	
	comp=Z,30nm,0.6s								
KKN	**Kakani**	**55.31**	**275**	*e*P		**P**	**12 59 23.9**	**+0.5**	
	comp=Z,12nm,0.6s								
PKI	**Pulchoki**	**55.36**	**275**	*e*P		**P**	**12 59 24.4**	**+0.5**	
	comp=Z,7.3nm,0.5s								
DMN	**Daman**	**55.54**	**275**	*e*P		**P**	**12 59 25.7**	**+0.6**	
	comp=Z,18nm,0.7s								
GKN	**Gorkha**	**55.61**	**276**	*e*P		**P**	**12 59 26.0**	**+0.5**	
	comp=Z,14nm,0.5s								
KOLN	**Koldanda**	**56.47**	**276**	*e*P		**P**	**12 59 32.4**	**+0.7**	
ARCES	**ARCESS Array B**	**57.66**	**341**	P		**P**	**12 59 39.1**	**-0.2**	
	comp=Z,1.4nm,0.6s,baz=33,slow=7.2,SNR=6.1								
ARCES				PcP		**PcP**	**13 00 31.5**	**0.0**	
	comp=Z,2.3nm,0.9s,baz=27,slow=4.2,SNR=3.8								
ABKAR	**Akbulak array**	**58.20**	**310**	*e*P		**P**	**12 59 42.4**	**-0.9**	
	comp=Z,0.9nm,0.4s								
AKTO	**Aktyubinsk**	**58.51**	**312**	P		**P**	**12 59 46.4**	**+1.0**	
	comp=Z,0.6nm,0.6s,baz=56,slow=7.3,SNR=3.3								
AKTO				PcP		**PcP**	**13 00 35.2**	**+0.1**	
	comp=Z,1.3nm,0.5s,baz=98,slow=5.3,SNR=4.6								
BMO	**Blue Mountains**	**59.13**	**56**	*e*P		**P**	**12 59 51.8**	**+1.8**	
BMO				pmax	pmax				
	comp=Z,20nm,1.9s								
BMO	**Blue Mountains**	**59.13**	**56**	*e*P		**P**	**12 59 51.8**	**+1.8**	
	comp=Z,20nm,1.9s								
MSO	**Missoula**	**59.81**	**52**	*e*P		**P**	**12 59 55.8**	**+1.2**	
	comp=Z,5.8nm,1.0s								
WVOR	**Wild Horse Val**	**59.83**	**59**	*e*P		**P**	**12 59 56.8**	**+1.9**	
WVOR				pmax	pmax				
	comp=Z,5.0nm,1.0s								
WVOR	**Wild Horse Val**	**59.83**	**59**	*e*P		**P**	**12 59 56.8**	**+1.9**	
	comp=Z,5.3nm,1.0s								
SUMG	**Summit**	**60.57**	**4**	*e*P		**P**	**12 59 59.8**	**0.0**	
SUMG				pmax	pmax				
	comp=Z,21nm,0.8s								
SUMG	**Summit**	**60.57**	**4**	*e*P		**P**	**12 59 59.8**	**0.0**	
	comp=Z,21nm,0.8s								
LRM	**Limekiln Ridge**	**61.24**	**53**	*e*P		**P**	**13 00 05.8**	**+1.3**	
	comp=Z,72nm,0.8s								
EGMT	**Eagleton**	**61.30**	**49**	*e*P		**P**	**13 00 05.6**	**+0.9**	
	comp=Z,12nm,1.2s								
BOZ	**Bozeman (W)**	**61.80**	**52**	*e*P		P	13 00 01.2	-7.0	
BOZ				pmax	pmax				
	comp=Z,40nm,1.9s								
BOZ	**Bozeman (W)**	**61.80**	**52**	*e*P		P	13 00 01.2	-7.0	
	comp=Z,40nm,1.9s								
BMN	**Battle Mountai**	**61.90**	**60**	*e*P		**P**	**13 00 11.1**	**+2.1**	
BMN	**Battle Mountai**	**61.90**	**60**	*e*P		**P**	**13 00 11.1**	**+2.1**	
NVAR	**Mina Array Bea**	**62.52**	**62**	P		**P**	**13 00 14.7**	**+1.5**	
	comp=Z,1.4nm,0.6s,baz=298,slow=7.4,SNR=11								
NVAR				pP		**pP**	**13 00 30.6**	**-1.7**	
	comp=Z,1.5nm,0.7s,baz=291,slow=6.7,SNR=6.1								
RLMT	**Red Lodge**	**63.41**	**52**	*e*P		**P**	**13 00 21.1**	**+2.0**	
HVU	**Hansel Valley**	**63.63**	**56**	*e*P		**P**	**13 00 22.4**	**+2.0**	
HVU				pmax	pmax				
	comp=Z,10μm,0.9s								
HVU	**Hansel Valley**	**63.63**	**56**	*e*P		**P**	**13 00 22.4**	**+2.0**	
	comp=Z,74μm,0.9s								
REDW	**Red Top Meadow**	**63.69**	**54**	*e*P		**P**	**13 00 23.3**	**+2.4**	
FINES	**FINESS Array B**	**63.84**	**335**	P		**P**	**13 00 20.9**	**-0.4**	
	comp=Z,4.3nm,0.4s,baz=40,slow=6.5,SNR=29								
FINES				PcP		**PcP**	**13 00 56.1**	**-0.3**	
	comp=Z,2.6nm,0.6s,baz=69,slow=2.1,SNR=4.1								
LAO	**LASA Array**	**63.99**	**49**	*e*P		**P**	**13 00 24.4**	**+1.8**	
R11A	**Troy Canyon, C**	**64.21**	**61**	*e*P		**P**	**13 00 25.3**	**+1.0**	
	comp=Z,2.0nm,0.9s								
HWUT	**Hardware Ranch**	**64.44**	**56**	*e*P		**P**	**13 00 27.6**	**+1.8**	
	comp=Z,3.7nm,0.8s								
DUG	**Dugway, Tooele**	**64.64**	**58**	*e*P		**P**	**13 00 28.9**	**+1.8**	
DUG	**Dugway, Tooele**	**64.64**	**58**	*e*P		**P**	**13 00 28.9**	**+1.8**	
BW06	**Boulder Array**	**64.80**	**54**	*e*P		**P**	**13 00 29.4**	**+1.2**	
	comp=Z,4.2nm,0.9s								
PDAR	**Pinedale Array**	**64.80**	**54**	P		**P**	**13 00 29.4**	**+1.3**	
	comp=Z,4.3nm,0.8s,baz=341,slow=2.8,SNR=22								
PDAR				pP		**pP**	**13 00 45.6**	**-1.7**	
	comp=Z,1.6nm,0.9s,baz=2.9,slow=3.0,SNR=3.7								
NLU	**North Lily Min**	**65.23**	**57**	*e*P		**P**	**13 00 33.1**	**+2.2**	
PASC	**Pasadena Art C**	**65.33**	**66**	*e*P		**P**	**13 00 32.9**	**+1.5**	
SRU	**San Rafael Swe**	**66.68**	**57**	*e*P		**P**	**13 00 41.8**	**+1.5**	
SRU	**San Rafael Swe**	**66.68**	**57**	*e*P		**P**	**13 00 41.8**	**+1.5**	
RSSD	**Black Hills**	**66.86**	**50**	*e*P		**P**	**13 00 42.4**	**+1.0**	
RSSD	**Black Hills**	**66.86**	**50**	*e*P		**P**	**13 00 42.4**	**+1.0**	
NB2	**NORSAR Subarra**	**68.04**	**341**	P		**P**	**13 00 47.6**	**-0.7**	
	comp=Z,6.2nm,0.6s,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**68.04**	**341**	P		**P**	**13 00 47.4**	**-0.8**	
	comp=Z,6.5nm,0.7s,baz=23,slow=6.8,SNR=30								
WRA	**Warramunga Arr**	**68.59**	**199**	P		**P**	**13 00 52.4**	**+0.3**	
	comp=Z,0.8nm,0.5s,baz=15,slow=6.7,SNR=18								
WRA				pP		**pP**	**13 01 09.4**	**-2.0**	
	comp=Z,0.9nm,0.8s,baz=19,slow=6.7,SNR=3.0								
SMCO	**Snowmass**	**68.66**	**55**	*e*P		**P**	**13 00 54.2**	**+1.2**	
	comp=Z,3.6nm,0.7s								
SMCO				*e*PP		**PP**	**13 03 24.1**	**-0.7**	
ISCO	**Idaho Springs**	**68.99**	**54**	*e*P		**P**	**13 00 56.2**	**+1.3**	
ISCO				pmax	pmax				
	comp=Z,2.0nm,0.6s								
ISCO	**Idaho Springs**	**68.99**	**54**	*e*P		**P**	**13 00 56.1**	**+1.3**	
	comp=Z,2.2nm,0.6s								
KIV	**Kislovodsk**	**70.58**	**314**	*e*P		**P**	**13 01 02.2**	**-2.1**	
KIV				pmax	pmax				
	comp=Z,7.0nm,0.7s								
KBZ	**Khabaz**	**70.64**	**314**	P		**P**	**13 01 04.0**	**-0.5**	
	comp=Z,1.5nm,0.6s,baz=63,slow=2.3,SNR=4.9								
ECSD	**EROS Data Cent**	**70.91**	**46**	*e*P		**P**	**13 01 06.3**	**+0.1**	
	comp=Z,8.3nm,1.2s								
AKASG	**Malin Array Be**	**71.33**	**326**	P		**P**	**13 01 08.1**	**-0.6**	
	comp=Z,5.0nm,0.4s,baz=33,slow=6.1,SNR=26								
AKASG				LR	LR		13 34 29.8		
	comp=Z,49nm,18.9s,baz=100,slow=38								
AKBB	**Malin Array Si**	**71.33**	**326**	*e*P		**P**	**13 01 07.9**	**-0.7**	
AKBB	**Malin Array Si**	**71.33**	**326**	*e*P		**P**	**13 01 07.9**	**-0.7**	
KIEV	**Kiev**	**71.34**	**326**	*d*iP		**P**	**13 01 07.8**	**-0.9**	
KIEV				*i**PP		**PcP**	**13 01 28.8**	**+0.8**	
KIEV	**Kiev**	**71.34**	**326**	*e*P		**P**	**13 01 07.8**	**-0.9**	
KIEV	**Kiev**	**71.34**	**326

*ECX **16** 12:58:55.0±0.4,32.˚16N×115.˚23W,h8km,MD3.2,ML3.4*
*NEIC **16** 12:58:55.0,32.˚16N×115.˚23W,h0km,ML3.2(ECX),*
ML3.3(PAS),After ECX.
*MEX **16** 12:58:56.4±0.7,32.˚22N×115.˚14W,h18km±971km,MD3.8*
ISC 16 12:58:53.7±1.0,32.˚16N±0.˚03×115.˚21W±0.˚03,h20km±4km, n29,σ0°60/46,2C-7D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.27**	**342**	*eP*	**Pb**	**12 59 00.1**	**+0.1**
CPBX				*eS*	**Sb**	**12 59 03.6**	**-0.6**
CPBX	**Cerro Prieto**	**0.27**	**342**	*e*Pn	**Pb**	**12 59 00.1**	**+0.1**
CPBX				*e*S	**Sb**	**12 59 04.2**	**0.0**
CPBX				⇓*e*		12 59 05.9	
CPBX				IAML		12 59 06.5	
	comp=E,20μm,0.3s						
EMSC	**East Mesa**	**0.60**	**18**	⇓*i*P	**Pb**	**12 59 05.9**	**+0.2**
SGL	**Mount Signal**	**0.65**	**318**	*e*Pn	**Pb**	**12 59 06.2**	**-0.3**
RDX	**Rancho Dawling**	**0.67**	**250**	⇑*i*P	**Pb**	**12 59 06.9**	**0.0**
RDX				*e*S	**Sb**	**12 59 15.7**	**-0.1**
RDX				IAML		12 59 17.0	
	comp=N,1μm,0.2s						
RDX				*e*		12 59 17.0	
YMD	**Yuma Desert**	**0.68**	**55**	*e*Pn	**Pb**	**12 59 07.0**	**+0.1**
ERPC	**Ernies Place**	**0.69**	**326**	*e*Pn	**Pb**	**12 59 07.3**	**+0.1**
COA	**Coachella**	**0.70**	**6**	⇓*i*P	**Pb**	**12 59 07.1**	**-0.2**
ECBX	**El Chinero**	**0.70**	**169**	⇓*e*P	**Pb**	**12 59 06.8**	**-0.5**
ECBX				*e*S	**Sb**	**12 59 16.1**	**-0.4**
WESC	**Westside Schoo**	**0.74**	**323**	*e*P	**Pb**	**12 59 08.1**	**+0.1**
YUH	**Yuha Desert**	**0.78**	**309**	⇓*i*P	**Pb**	**12 59 08.0**	**-0.5**
COK	**Cook Ranch**	**0.81**	**327**	⇓*i*P	**Pb**	**12 59 09.3**	**+0.2**
RMX	**La Rumorosa**	**0.86**	**301**	*e*P	**Pb**	**12 59 09.8**	**-0.2**
RMX				*e*S	**Sb**	**12 59 21.1**	**-0.1**
RMX				IAML		12 59 21.9	
	comp=N,1μm,0.3s						
RMX				⇓*e*		12 59 21.9	
GLA	**Glamis**	**0.94**	**20**	*e*Pn	**Pb**	**12 59 10.8**	**-0.7**
GLA				*e*Sn	**Sb**	**12 59 23.7**	**+0.2**
ZAX	**El Zacaton**	**1.12**	**235**	*e*P	**Pn**	**12 59 14.0**	**-0.3**
ZAX				*e*S	**Sn**	**12 59 29.0**	**-0.1**
SPIG	**San Pedro Mart**	**1.14**	**191**	*e*P	**Pb**	**12 59 15.8**	**+0.8**
SPIG				*i* S	**Sn**	**12 59 29.8**	**-0.2**
SPIG	**San Pedro Mart**	**1.14**	**191**	*e*P	**Pb**	**12 59 15.8**	**+0.8**
SPIG				*i* S	**Sn**	**12 59 29.8**	**-0.2**
SPX	**San Pedro Mart**	**1.14**	**191**	*e*P	**Pn**	**12 59 14.4**	**-0.4**
SPX				*i* S	**Sb**	**12 59 28.6**	**-0.8**
SPX	**San Pedro Mart**	**1.14**	**191**	*e*P	**Pn**	**12 59 14.6**	**-0.2**
SPX				*e*S	**Sn**	**12 59 30.6**	**+0.6**
SPX				IAML		12 59 31.4	
	comp=E,319nm,0.2s						
SPX				*e*		12 59 31.4	
CBX	**Cerro Bola**	**1.25**	**277**	*e*P	**Pn**	**12 59 16.6**	**+0.5**
CBX				*i* S	**Sn**	**12 59 31.4**	**-1.0**
CBX	**Cerro Bola**	**1.25**	**277**	*e*P	**Pn**	**12 59 16.6**	**+0.5**
CBX				*i* S	**Sn**	**12 59 31.4**	**-1.0**
CBX	**Cerro Bola**	**1.25**	**277**	*e*P	**Pn**	**12 59 16.3**	**+0.2**
CBX				*e*S	**Sb**	**12 59 32.9**	**+0.6**
CBX				IAML		12 59 34.5	
	comp=E,1μm,0.2s						
CBX				⇑*e*		12 59 34.5	
ECNX	**Esteban Cantu**	**1.29**	**247**	*e*P	**Pn**	**12 59 16.8**	**+0.1**
ECNX				*e*S	**Sb**	**12 59 34.1**	**+0.6**
BAR	**Barrett**	**1.34**	**293**	*e*Pn	**Pn**	**12 59 17.2**	**-0.2**
BAR				*e*Sn	**Sb**	**12 59 35.1**	**+0.1**
PBX	**Punta Banda**	**1.36**	**252**	*e*P	**Pn**	**12 59 17.9**	**+0.3**
PFO	**Pinyon Flats O**	**1.78**	**324**	*e*Pn	**Pn**	**12 59 22.5**	**-1.1**
PFO				*e*Sn	**Sb**	**12 59 48.9**	**+1.1**
214A	**Organ Pipe Nat**	**2.04**	**95**	*e*Pn	**Pn**	**12 59 25.9**	**-1.1**
WUAZ	**Wupatki**	**4.62**	**43**	*e*Pn	**Pn**	**13 00 04.4**	**+1.8**
121A	**Cookes Peak, D**	**6.29**	**85**	*e*Pn	**Pn**	**13 00 25.9**	**+0.4**
	comp=E,5.8nm,0.3s						

IDC 16 13:05:22.7±2.1,2.˚22S×136.˚48E,h0km,mb3.5/2, mb1 3.9/4,mb1mx3.5/28,mbtmp3.7/4,ML3.5/2,Error ellipse: s-maj=50.2km s-min=25.7km az=68.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.38**	**284**	Pn	Pn	13 06 46.0	+1.7
	1.2nm,0.3s,baz=208,slow=22,SNR=8.1						
SIJI				Sn	Sn	13 07 45.7	-1.3
	2.1nm,0.3s,baz=269,slow=23,SNR=5.1						
WRA	**Warramunga Arr**	**17.74**	**187**	P	P	13 09 32.3	+0.1
	0.2nm,0.3s,baz=4.9,slow=12,SNR=13						
ASAR	**Alice Springs**	**21.47**	**186**	P	P	13 10 12.4	-0.6
	3.2nm,0.5s,baz=11,slow=11,SNR=54						
MKAR	**Makanchi Array**	**68.05**	**323**	P	P	13 16 24.0	-0.2
	0.1nm,0.5s,baz=106,slow=9.1,SNR=2.5						

*IDC **16** 13:13:24.7±1.3,1.˚99S×136.˚56E,h0km,mb3.9/4, mb1 4.2/6,mb1mx3.9/19,mbtmp3.9/6,ML3.8/2,MS3.1/5, Ms1 3.1/5,ms1mx2.7/30,Error ellipse: s-maj=40.1km s-min=24.6km az=79.0*
*NEIC **16** 13:13:25.2±1.1,2.˚01S×136.˚62E,h10km,mb4.7/2,Error ellipse: s-maj=49.0km s-min=12.8km az=84.0*
*ISCJB **16** 13:13:27.9±0.5,2.˚13S±0.˚06×136.˚36E±0.˚05,h33km, mb4.1/6,MS3.1/3,Error ellipse: s-maj=8.5km s-min=7.2km az=6.5*
*DJA **16** 13:13:27.0±0.4,2˚S±16˝×13˚6E±˚,h10km,M4.2/5,mb4.4/1, MLv4.2/5*
ISC 16 13:13:29.4±0.7,2.˚13S±0.˚09×136.˚40E±0.˚06,h35km,n20, σ1°79/17,mb4.0/6,MS3.0/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.30**	**329**	P	Pn	13 13 31.2	-6.2
SRPI				S	Sn	13 13 33.6	-9.2
RKPI	**Ransiki, Papua**	**2.30**	**285**	P	**Pn**	**13 14 04.2**	**-0.7**
SMPI	**Sarmi**	**2.32**	**87**	P	**Pn**	**13 14 04.8**	**-0.3**
SMPI				S	**Sn**	**13 14 33.8**	**+1.4**
FAKI	**Fak Fak**	**4.22**	**259**	P	**Pn**	**13 14 32.5**	**+1.3**
SIJI	**Sorong**	**5.28**	**284**	Pn	**Pn**	**13 14 45.8**	**-0.1**
	3.3nm,0.3s,baz=162,slow=21,SNR=8.9						
KAPI	**Kappang**	**16.86**	**260**	LR	LR	13 26 13.3	
	comp=Z,74nm,18.4s,baz=109,slow=45						
GUMO	**Guam**	**17.74**	**28**	LR	LR	13 24 12.7	
	comp=Z,40nm,18.9s,baz=196,slow=37						
WRAB	**Tennant Creek**	**17.81**	**186**	*e*P	**Pn**	**13 17 33.6**	**-1.0**
WRA	**Warramunga Arr**	**17.82**	**186**	P	**Pn**	**13 17 35.1**	**+0.3**
	0.4nm,0.3s,baz=6.6,slow=12,SNR=22						
WRA				S	**Sn**	**13 20 48.8**	**-3.6**
	0.1nm,0.3s,baz=14,slow=23,SNR=5.0						
AS31	**Alice Springs**	**21.54**	**186**	*e*P	**P**	**13 18 17.4**	**+1.5**
ASAR	**Alice Springs**	**21.55**	**186**	P	**P**	**13 18 17.9**	**+2.0**
	4.1nm,0.7s,baz=11,slow=10,SNR=37						
ASAR				LR	LR	13 28 19.7	
	comp=Z,58nm,20.0s,baz=355,slow=41						
LEM	**Lembang**	**29.06**	**260**	LR	LR	13 32 12.4	
	comp=Z,84nm,18.2s,baz=193,slow=39						
MJAR	**Matsushiro Arr**	**38.51**	**2**	LR	LR	13 34 11.0	
	comp=Z,20nm,21.8s,baz=315,slow=32						
CMAR	**Chiang Mai Arr**	**42.15**	**301**	P	**P**	**13 21 19.6**	**+0.8**
	0.5nm,0.4s,baz=116,slow=6.5,SNR=4.4						
MK31	**Makanchi Array**	**67.93**	**323**	*e*P	**P**	**13 24 25.0**	**+0.3**
MKAR	**Makanchi Array**	**67.93**	**323**	P	**P**	**13 24 25.6**	**+0.9**
	1.0nm,0.6s,baz=113,slow=8.3,SNR=16						
KURK	**Kurchatov**	**71.92**	**326**	P	**P**	**13 24 49.4**	**+0.2**
	1.0nm,0.3s						
ARU	**Arti**	**85.05**	**327**	*e*P	**P**	**13 25 58.3**	**-3.1**
	7.8nm,0.7s						
ILAR	**Eielson Array**	**86.27**	**25**	P	**P**	**13 26 06.4**	**-0.9**
	0.6nm,0.7s,baz=257,slow=5.0,SNR=7.0						
TORD	**Torodi Ar. Bea**	**133.87**	**286**	PKP	**PKPdf**	**13 32 46.8**	**+2.9**
	0.2nm,0.8s,baz=75,slow=1.1,SNR=3.0						

GUC 16 13:24:50.4±0.4,34.˚83S×72.˚59W,h8km±4km,ML3.5, 1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.97**	**126**	⇑*i*P	Pg	13 25 08.3	-0.8
TALC				*i* S	Sg	13 25 21.7	0.0
NICH	**Los Niches**	**1.14**	**99**	*e*P	Pg	13 25 11.1	-1.2
NICH				*i* S	Sg	13 25 26.7	-0.3
NICH				AML	AML	13 25 32.6	
	comp=N,3μm,0.4s						
LNCH	**Linares**	**1.30**	**142**	*i* P	Pn	13 25 13.5	-1.3
LNCH				*i* S	Sb	13 25 31.3	-0.8
LNCH				AML	AML	13 25 35.9	
	comp=E,1000nm,0.7s						
LNV	**Longovilo**	**1.31**	**49**	⇓*i*P	Pn	13 25 13.3	-1.6
LNV				*i* S	Sb	13 25 31.1	-1.0
CHCH	**Chadas Angostu**	**1.84**	**62**	*i* P	Pn	13 25 22.3	0.0
CHCH				*i* S	Sn	13 25 46.3	+0.6

IDC 16 13:25:54.7±3.2,2.˚22S×136.˚43E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.3/21,mbtmp3.3/3,ML3.1/1,MS3.1/1, Ms1 3.1/1,ms1mx2.6/8,Error ellipse: s-maj=135.8km s-min=28.1km az=81.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.74**	**186**	P	Pn	13 30 03.1	-0.2
	0.1nm,0.3s,baz=7.8,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**21.46**	**186**	P	P	13 30 44.8	-0.2
	0.8nm,0.6s,baz=12,slow=11,SNR=12						
SONM	**Songino Array**	**56.33**	**336**	LR	LR	13 59 53.7	
	comp=Z,17nm,19.9s,baz=234,slow=36						
MKAR	**Makanchi Array**	**68.02**	**323**	P	P	13 36 56.1	+0.1
	0.1nm,0.4s,baz=124,slow=7.7,SNR=2.4						

IDC 16 13:33:55.3±3.2,1.˚89S×136.˚30E,h0km,mb3.2/2, mb1 3.5/3,mb1mx3.3/23,mbtmp3.3/3,ML3.2/1,Error ellipse: s-maj=139.3km s-min=27.4km az=81.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.04**	**186**	P	Pn	13 38 07.1	-0.5
	0.1nm,0.3s,baz=7.7,slow=13,SNR=6.8						
ASAR	**Alice Springs**	**21.77**	**186**	P	P	13 38 49.2	+0.3
	0.8nm,0.7s,baz=13,slow=12,SNR=14						
MKAR	**Makanchi Array**	**67.68**	**323**	P	P	13 44 54.4	0.0
	0.1nm,0.4s,baz=111,slow=7.9,SNR=2.6						

*IDC **16** 13:58:13.0±1.1,7.˚52S×130.˚38E,h0km,mb4.3/12, mb1 4.3/15,mb1mx4.1/39,mbtmp4.3/15,ML4.0/3,MS3.2/1, Ms1 3.2/1,ms1mx2.5/27,Error ellipse: s-maj=34.7km s-min=24.0km az=93.0*
*ISCJB **16** 13:58:14.7±0.4,7.˚56S±0.˚04×130.˚66E±0.˚06,h27km, mb4.2/14,Error ellipse: s-maj=8.5km s-min=5.1km az=3.9*
*NEIC **16** 13:58:18.2±1.0,7.˚57S×130.˚60E,h39km±11km,mb4.1/2, Error ellipse: s-maj=13.8km s-min=9.0km az=93.0*
*DJA **16** 13:58:21.8±0.3,7˚S±3˝×13˚1E±˚,h10km,M4.5/10,mb4.7/3, mB5.3/1,MLv4.4/10,Mw(mB)4.7/1*
ISC 16 13:58:16.4±0.6,7.˚58S±0.˚05×130.˚74E±0.˚08,h27km,n35, σ1°62/35,mb4.3/14,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**0.69**	**125**	P	Pn	13 58 38.8	+8.5
SAUI				S	Sn	13 58 56.3	+16
BNDI	**Bandanaira**	**3.15**	**345**	P	**Pn**	**13 59 06.0**	**+1.7**
MSAI	**Masohi**	**4.58**	**337**	P	**Pn**	**13 59 26.5**	**+2.6**
AAI	**Ambon**	**4.62**	**327**	P	**Pn**	**13 59 24.1**	**-0.4**
FAKI	**Fak Fak**	**4.87**	**18**	*e*Pn	**Pn**	**13 59 29.6**	**+1.6**
FAKI				S	**Sn**	**14 00 21.8**	**-1.7**
FAKI	**Fak Fak**	**4.87**	**18**	*e*Pn	**Pn**	**13 59 29.0**	**+1.1**
SIJI	**Sorong**	**6.69**	**5**	Pn	**Pn**	**13 59 53.5**	**+0.5**
	5.4nm,0.3s,baz=235,slow=22,SNR=16						
SIJI				Sn	**Sn**	**14 01 04.2**	**-4.2**
	3.3nm,0.3s,baz=268,slow=23,SNR=6.0						
SOEI	**Soe**	**6.75**	**251**	P	Pn	14 00 03.1	+9.2
SOEI				S	**Sn**	**14 01 08.8**	**-1.2**
SOEI	**Soe**	**6.75**	**251**	P	**Pn**	**13 59 55.5**	**+1.6**
	61nm,1.1s						
RKPI	**Ransiki, Papua**	**6.94**	**30**	P	**Pn**	**13 59 56.8**	**+0.4**
	81nm,0.7s,2μm0.4nm						
SANI	**Sanana**	**7.25**	**319**	P	**Pn**	**14 00 03.4**	**+2.7**
	26nm,1.0s,0.1nm						
KAPI	**Kappang**	**11.21**	**283**	LR	LR	14 04 47.4	
	comp=Z,113nm,19.9s,baz=97,slow=36						
MRSI	**Marisa**	**11.88**	**312**	P	Pn	14 01 07.7	+3.6
WRAB	**Tennant Creek**	**12.77**	**164**	*e*Pn	**Pn**	**14 01 17.8**	**+1.6**
WRA	**Warramunga Arr**	**12.77**	**164**	Pn	**Pn**	**14 01 17.3**	**+0.9**
	0.6nm,0.3s,baz=337,slow=14,SNR=36						
WRA				Sn	**Sn**	**14 03 33.6**	**-4.1**
	1.5nm,0.3s,baz=333,slow=22,SNR=7.5						
AS31	**Alice Springs**	**16.28**	**170**	*e*P	**P**	**14 02 05.9**	**-0.2**
ASAR	**Alice Springs**	**16.28**	**170**	Pn	**Pn**	**14 02 04.5**	**+1.2**
	0.4nm,0.3s,baz=338,slow=10,SNR=14						
ASAR				Sn	**Sn**	**14 05 03.8**	**+0.6**
	0.4nm,0.3s,baz=346,slow=26,SNR=4.2						
MBWA	**Marble Bar**	**17.18**	**217**	*e*Pn	**Pn**	**14 02 12.7**	**-2.0**
CMAR	**Chiang Mai Arr**	**40.66**	**310**	P	P	14 05 52.4	-2.3
	0.6nm,0.6s,baz=132,slow=7.5,SNR=6.4						
MJAR	**Matsushiro Arr**	**44.45**	**9**	P	**P**	**14 06 24.6**	**-0.6**
	5.2nm,0.8s,baz=191,slow=11,SNR=12						
USRK	**Ussuriysk Ar.**	**51.55**	**1**	P	**P**	**14 07 19.6**	**-0.3**
	1.8nm,0.6s,baz=235,slow=6.0,SNR=4.5						
ASAJ	**Asahikawa**	**52.57**	**11**	P	**P**	**14 07 28.6**	**+1.1**
	3.9nm,0.5s,baz=192,slow=19						
SONM	**Songino Array**	**59.23**	**341**	P	**P**	**14 08 15.2**	**-0.2**
	0.7nm,0.6s,baz=158,slow=7.1,SNR=4.2						
PETK	**Petropavlovsk-**	**64.65**	**18**	P	**P**	**14 08 53.2**	**+1.6**
	0.8nm,0.5s,baz=199,slow=4.0,SNR=3.8						
MK31	**Makanchi Array**	**69.11**	**327**	*e*P	**P**	**14 09 19.2**	**-0.9**
MKAR	**Makanchi Array**	**69.11**	**327**	P	**P**	**14 09 19.8**	**-0.3**
	4.8nm,0.5s,baz=119,slow=8.1,SNR=67						
YAK	**Yakutsk**	**69.41**	**359**	P	**P**	**14 09 22.2**	**+0.6**
	0.9nm,0.4s,baz=210,slow=20,SNR=4.4						
TKM2	**Tokmak 2**	**70.90**	**320**	P	**P**	**14 09 30.9**	**-0.6**
SEY	**Seymchan**	**72.25**	**10**	P	**P**	**14 09 40.1**	**+1.3**
	3.8nm,0.9s,baz=229,slow=5.5,SNR=9.3						
ZALV	**Zalesovo Beam**	**72.43**	**334**	P	**P**	**14 09 39.2**	**-0.9**
	1.3nm,0.3s,baz=141,slow=5.0,SNR=4.0						
KURK	**Kurchatov**	**73.39**	**328**	*e*P	**P**	**14 09 44.6**	**-1.3**
	1.6nm,0.6s						
BVAR	**Borovoye Array**	**78.94**	**328**	P	**P**	**14 10 16.8**	**-0.6**
	0.7nm,0.6s,baz=117,slow=11,SNR=4.1						
TIXI	**Tiksi**	**79.08**	**359**	*e*P	**P**	**14 10 17.8**	**0.0**
	2.0nm,0.6s						
GNI	**Garni**	**91.78**	**310**	P	**P**	**14 11 22.5**	**+0.2**
	5.3nm,0.4s,baz=149,slow=5.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**129.64**	**281**	PKP	**PKPdf**	**14 17 25.1**	**+1.1**
	0.6nm,0.6s,baz=72,slow=1.8,SNR=4.7						

DJA 16 14:02:59.5±0.5,1.˚5S×11.˚9E±˚,h10km,M3.7/9,MLv3.7/9, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**0.75**	**48**	P	Pg	14 03 12.1	-1.9
TTSI	**Tana Toraja**	**1.71**	**162**	P	Pn	14 03 27.8	-1.6
TTSI				S	Sn	14 03 51.2	-0.1
MPSI	**Mapaga**	**1.84**	**20**	P	Pn	14 03 30.7	-0.5
APSI	**Ampana**	**2.42**	**78**	P	Pn	14 03 39.6	+0.5
APSI				S	Sn	14 04 10.1	+1.3
SPSI	**Sidrap Palu**	**2.58**	**169**	P	Pn	14 03 40.9	-0.5
SPSI				S	Sn	14 04 13.3	+0.4
MRSI	**Marisa**	**3.25**	**55**	P	Pn	14 03 51.5	+0.9
LUWI	**Luwuk**	**3.51**	**84**	P	Pn	14 03 54.5	+0.3

*ISCJB **16** 14:08:45.7±0.4,67.˚46N±0.˚05×166.˚89W±0.˚09,h10km, mb3.8/16,Error ellipse: s-maj=7.3km s-min=5.2km az=5.4*
*NEIC **16** 14:08:45.4,67.˚53N×167.˚39W,h10km,ML3.8(AEIC),After AEIC.*
*IDC **16** 14:08:46.5±0.8,67.˚43N×167.˚36W,h0km,mb3.8/16, mb1 4.1/17,mb1mx3.8/50,mbtmp3.8/17,ML4.2/1,Error ellipse: s-maj=23.3km s-min=14.4km az=10.0*
ISC 16 14:08:47.7±0.6,67.˚40N±0.˚07×166.˚98W±0.˚06,h10km,n30, σ1°38/34,mb3.8/16,Bering Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNA	**Tin City**	**1.88**	**192**	*e*Pn	**Pn**	**14 09 19.1**	**-0.8**
TNA				S	**Sb**	**14 09 45.9**	**+0.3**
GAMB	**Gambell**	**4.13**	**211**	P	**Pn**	**14 09 49.5**	**-1.2**
IM04	**Indian Mountai**	**5.43**	**99**	*e*Pn	**Pn**	**14 10 08.9**	**+0.2**
IM04				*e*Sn	**Sn**	**14 11 08.6**	**-2.5**
IM3	**Indian Mountai**	**5.44**	**99**	P	**Pn**	**14 10 08.5**	**-0.2**
IM3				S	**Sn**	**14 11 12.2**	**+0.8**
TT01	**Tatalina**	**6.45**	**129**	P	**Pn**	**14 10 23.1**	**+0.5**
COLD	**Coldfoot**	**6.49**	**84**	P	**Pn**	**14 10 22.6**	**-0.5**
BPAW	**Bear Paw Mtn.**	**7.36**	**109**	*e*Pn	**Pn**	**14 10 34.5**	**-0.6**
	0.9nm,0.5s						
PPLA	**Purkeypile**	**7.68**	**119**	*e*Pn	**Pn**	**14 10 40.9**	**+1.3**
	7.1nm,0.7s						
COLA	**College**	**8.15**	**99**	*e*P	**Pn**	**14 10 46.2**	**+0.4**
	6.0nm,0.4s						
IL1	**Eielson Array**	**8.56**	**98**	P	**Pn**	**14 10 50.9**	**-0.6**
ILAR	**Eielson Array**	**8.56**	**98**	Pn	**Pn**	**14 10 52.5**	**+0.9**
	1.0nm,0.3s,baz=294,slow=14,SNR=53						
ILAR				Sn	**Sn**	**14 12 23.1**	**-4.9**
	0.3nm,0.3s,baz=294,slow=23,SNR=7.2						
BM3	**Burnt Mountain**	**8.60**	**80**	P	**Pn**	**14 10 50.5**	**-1.6**
INK	**Inuvik**	**12.56**	**70**	Pn	**Pn**	**14 11 46.4**	**+0.2**
	0.9nm,0.3s,baz=312,slow=7.3,SNR=3.0						
INK				Sn	Sn	14 13 57.5	-8.4
	0.5nm,0.3s,baz=265,slow=19,SNR=2.9						
YKA	**Yellowknife Ar**	**22.12**	**78**	P	**P**	**14 13 43.1**	**+0.2**
	1.2nm,0.9s,baz=304,slow=10,SNR=5.4						
PDAR	**Pinedale Array**	**38.99**	**100**	P	**P**	**14 16 15.4**	**+1.4**
	1.6nm,0.6s,baz=333,slow=8.5,SNR=10						
NVAR	**Mina Array Bea**	**39.53**	**112**	P	**P**	**14 16 20.1**	**+1.6**
	0.7nm,0.6s,baz=323,slow=8.0,SNR=5.1						
MJAR	**Matsushiro Arr**	**43.44**	**253**	P	**P**	**14 16 49.5**	**-0.9**
	1.0nm,0.8s,baz=20,slow=7.8,SNR=3.5						
SONM	**Songino Array**	**45.82**	**290**	P	**P**	**14 17 09.1**	**-0.4**
	1.4nm,0.8s,baz=31,slow=8.1,SNR=6.6						
KSRS	**Korea Array**	**46.53**	**264**	P	**P**	**14 17 14.4**	**-0.4**
	1.1nm,0.8s,baz=17,slow=7.4,SNR=4.5						
KSAR	**Wonju Array Be**	**46.55**	**264**	P	**P**	**14 17 14.4**	**-0.6**
ZALV	**Zalesovo Beam**	**47.74**	**311**	P	**P**	**14 17 22.5**	**-1.6**
	0.7nm,0.6s,baz=12,slow=8.0,SNR=3.9						
FINES	**FINESS Array B**	**51.11**	**352**	P	**P**	**14 17 48.7**	**-1.1**
	1.6nm,0.6s,baz=18,slow=5.9,SNR=3.2						
NOA	**NORSAR Array B**	**51.86**	**1**	P	**P**	**14 17 56.0**	**+0.5**
	0.5nm,0.7s,baz=356,slow=7.0,SNR=3.0						
BVAR	**Borovoye Array**	**52.48**	**320**	P	**P**	**14 17 58.7**	**-1.4**
	0.4nm,0.5s,baz=42,slow=7.3,SNR=2.6						
TXAR	**Lajitas Array**	**53.05**	**103**	P	**P**	**14 18 06.6**	**+1.9**
	1.0nm,0.8s,baz=331,slow=6.5,SNR=10						
EKA	**Eskdalemuir Ar**	**56.99**	**11**	P	**P**	**14 18 33.8**	**+1.0**
	0.5nm,0.5s,baz=18,slow=7.0,SNR=4.3						
GERES	**GERESS Array B**	**64.09**	**359**	P	**P**	**14 19 21.7**	**+0.3**
	1.1nm,0.7s,baz=359,slow=7.1,SNR=6.0						
BRTR	**Keskin Array B**	**72.06**	**343**	P	**P**	**14 20 13.2**	**+1.5**
	0.8nm,0.7s,baz=58,slow=2.5,SNR=4.5						
ESDC	**Sonseca Array**	**72.48**	**14**	P	**P**	**14 20 14.4**	**+0.3**
	0.4nm,0.5s,baz=357,slow=6.6,SNR=4.3						
CMAR	**Chiang Mai Arr**	**74.68**	**281**	P	**P**	**14 20 26.5**	**-0.7**
	0.4nm,0.3s,baz=7.6,slow=7.5,SNR=5.1						

*MAN **16** 14:14:02.7˚24N×126.˚49E,h50km,mb4.9,ML3.8,MS3.8*
*IDC **16** 14:14:03.1±0.9,7.˚56N×126.˚42E,h0km,mb3.8/7, mb1 3.9/7,mb1mx3.7/32,mbtmp3.8/7,MS3.0/4,Ms1 3.1/4, ms1mx2.6/42,Error ellipse: s-maj=69.6km s-min=16.2km az=71.0*
*ISCJB **16** 14:14:04.9±0.6,7.˚48N±0.˚04×126.˚37E±0.˚07,h25km, mb4.0/9,MS2.9/3,Error ellipse: s-maj=10.9km s-min=5.0km az=166.7*
*NEIC **16** 14:14:08.9±3.0,7.˚36N×126.˚02E,h37km±27km,mb4.1/1, Error ellipse: s-maj=43.7km s-min=10.2km az=56.0*
*DJA **16** 14:14:23.8±1.0,6˚N±8˝×12˚6E±˚,h10km,M4.7/9,mb4.8/9, mB5.7/4,MLv4.4/7,Mw(mB)5.2/4*
ISC 16 14:14:07.0±0.8,7.˚50N±0.˚06×126.˚18E±0.˚09,h25km,n31, σ1°73/27,mb4.0/9,MS2.8/3,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.56**	**172**	*e*P	Pb	14 14 14.5	-3.7
MATI				*e*S	Sn	14 14 44.4	+17
DAV	**Davao City (W)**	**0.73**	**234**	*e*Pg	**Pb**	**14 14 20.1**	**-1.1**
BUKP	**Musuan**	**1.17**	**289**	*e*P	**Pn**	**14 14 28.1**	**+0.3**
BUKP				*e*S	Sb	14 14 58.5	+15
BUTP	**Butuan**	**1.56**	**339**	*e*P	**Pn**	**14 14 33.8**	**+0.6**
PAGZ	**Pagadian**	**2.79**	**277**	*e*P	**Pn**	**14 14 51.3**	**+1.2**
MSLP	**Maasin**	**2.92**	**334**	*e*P	**Pn**	**14 14 52.6**	**+0.7**
TBP	**Tagbilaran**	**3.16**	**314**	*e*P	**Pn**	**14 14 57.8**	**+2.7**
TBP				*e*S	**Sb**	**14 15 37.7**	**-2.8**
SGSI	**Sangihe**	**3.85**	**190**	P	**Pn**	**14 15 07.2**	**+2.6**
SGSI				S	**Sn**	**14 15 51

0.4nm,0.3s,baz=7.7,slow=12,SNR=10
WRA LR LR 14 28 19.7
comp=Z,88nm,21.9s,baz=350,slow=37
ASAR Alice Springs 21.64 187 P **P 14 22 12.6 -1.6**
5.1nm,0.5s,baz=10,slow=11,SNR=37
ASAR LR LR 14 31 27.6
comp=Z,142nm,21.5s,baz=8.0,slow=39
MKAR Makanchi Array 67.94 323 P **P 14 28 23.2 +1.2**
0.3nm,0.6s,baz=105,slow=5.1,SNR=3.1
ZALV Zalesovo Beam 70.28 330 P **P 14 28 37.8 +1.5**
0.4nm,0.5s,baz=146,slow=5.1,SNR=2.3
ILAR Eielson Array 86.14 25 P P 14 30 09.2 +5.4
0.2nm,0.9s,baz=274,slow=4.2,SNR=3.1

*ISCJB **16** 14:21:02.4±1.1,38°.25N±0°.04×26°.62E±0°.07,h15km±6km, Error ellipse: s-maj=9.2km s-min=6.4km az=163.7*
*CSEM **16** 14:21:02.9±0.1,38°.31N×26°.60E,h12km,MD2.8, Error ellipse: s-maj=5.4km s-min=2.7km az=60.0*
*ATH **16** 14:21:02.9,38°.25N×26°.50E,h29km±3km,MD2.8/4*
*DDA **16** 14:21:03.2,38°.27N×26°.59E,h7km,MD2.8*
ISC 16 14:21:02.9±0.9,38°28N±0°.04×26°.60E±0°.05,h11km±5km, n11,σ0°32/22,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.08**	**359**	*i* P	**Pg**	**14 21 05.8**	**+0.3**
URLA				*i* S	**Sg**	**14 21 07.4**	**0.0**
URLA	**Izmir**	**0.08**	**359**	*i* P	**Pg**	**14 21 05.8**	**+0.3**
URLA				*i* S	**Sg**	**14 21 07.4**	**0.0**
ZEY	**˙zmir**	**0.09**	**241**	*i* P	**Pg**	**14 21 05.4**	**-0.1**
ZEY				*i* S	**Sg**	**14 21 06.9**	**-0.4**
CHOS	**Chios island**	**0.44**	**284**	*e*PB	**Pg**	**14 21 12.0**	**+0.4**
CHOS				*e*SB	**Sg**	**14 21 17.6**	**+0.1**
CHOS	**Chios island**	**0.44**	**284**	*e*Pb	**Pg**	**14 21 12.0**	**+0.4**
CHOS				*e*Sb	**Sg**	**14 21 17.6**	**+0.1**
SMG	**Samos**	**0.60**	**162**	*e*PN	**Pb**	**14 21 15.2**	**-0.2**
SMG				*e*SN	**Sb**	**14 21 24.4**	**+0.5**
SMG	**Samos**	**0.60**	**162**	*e*Pn	**Pb**	**14 21 15.2**	**-0.2**
SMG				*e*Sn	**Sb**	**14 21 24.4**	**+0.5**
PRK	**Paraskevi**	**1.00**	**345**	*e*PN	**Pn**	**14 21 22.6**	**-0.2**
PRK				*e*SN	**Sn**	**14 21 36.5**	**-0.4**
PRK	**Paraskevi**	**1.00**	**345**	*e*Pn	**Pn**	**14 21 22.6**	**-0.2**
PRK				*e*Sn	**Sn**	**14 21 36.5**	**-0.4**
SIGR	**SIGRI**	**1.10**	**328**	*e*PN	**Pb**	**14 21 23.7**	**-0.2**
SIGR				*e*SN	**Sg**	**14 21 38.3**	**0.0**
SIGR	**SIGRI**	**1.10**	**328**	*e*Pn	**Pb**	**14 21 23.7**	**-0.2**
SIGR				*e*Sn	**Sg**	**14 21 38.3**	**0.0**

*IDC **16** 14:27:56.7±2.0, 1°.92S×136°.34E, h0km, mb3.7/2, mb1 4.0/4,mb1mx3.6/30, mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=36.8km s-min=22.5km az=45.0*
*ISCJB **16** 14:27:57.9±1.3,2°.05S±0°.09×136°.30E±0°.03,h11km±8km, mb3.8/2, Error ellipse: s-maj=14.5km s-min=5.6km az=5.6*
*DJA **16** 14:27:58.9±0.3,2°.5S×13°.6E±°,h10km,M4.0/6,MLv4.0/6*
ISC 16 14:27:59.0±1.2,2°.0S±0°.1×136°.33E±0°.04,h12km±9km,n9, σ1°28/15,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.13**	**318**	P	**Pg**	**14 28 01.9**	**-0.3**
SRPI				S	**Sg**	**14 28 05.1**	**+0.6**
RKPI	**Ransiki, Papua**	**2.20**	**282**	P	**Pn**	**14 28 36.4**	**+1.1**
RKPI				S	**Sb**	**14 29 04.9**	**-1.0**
SMPI	**Sarmi**	**2.38**	**91**	P	**Pn**	**14 28 36.1**	**-1.8**
SMPI				S	**Sn**	**14 29 08.0**	**+1.0**
GENI	**Genyem**	**3.89**	**99**	P	**Pn**	**14 29 01.0**	**+2.4**
GENI				S	**Sn**	**14 29 46.0**	**+1.8**
FAKI	**Fak Fak**	**4.18**	**257**	P	**Pn**	**14 29 02.7**	**0.0**
FAKI				S	**Sn**	**14 29 51.7**	**+0.2**
SIJI	**Sorong**	**5.18**	**282**	Pn	**Pn**	**14 29 17.3**	**+1.0**
	1.8nm,0.3s,baz=126,slow=23,SNR=7.3						
SIJI				Sn	**Sn**	**14 30 15.9**	**-0.2**
	1.3nm,0.3s,baz=270,slow=20,SNR=3.4						
SIJI				Lg	Lg	14 30 39.8	
	0.4nm,0.3s,baz=127,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**17.97**	**186**	P	**Pn**	**14 32 07.9**	**-1.0**
	0.3nm,0.3s,baz=8.3,slow=12,SNR=22						
ASAR	**Alice Springs**	**21.70**	**186**	P	**P**	**14 32 50.3**	**+0.3**
	4.3nm,0.8s,baz=11,slow=12,SNR=23						
MKAR	**Makanchi Array**	**67.76**	**323**	P	**P**	**14 38 56.0**	**-0.7**
	0.4nm,0.6s,baz=108,slow=8.0,SNR=4.6						

*IDC **16** 14:40:24.3±0.8,2°.34S×136°.69E, h0km, mb4.0/11, mb1 4.2/13,mb1mx4.0/32,mbtmp4.1/13, ML4.3/2, MS3.6/10, Ms1 3.6/10,ms1mx3.3/37, Error ellipse: s-maj=26.1km s-min=15.7km az=63.0*
*NEIC **16** 14:40:25.9±0.4,2°.34S×136°.71E, h10km, mb4.6/7, Error ellipse: s-maj=12.8km s-min=7.2km az=91.0*
*ISCJB **16** 14:40:27.1±0.3,2°.36S±0°.05×136°.63E±0°.03,h33km, mb4.2/17, MS3.6/8, Error ellipse: s-maj=6.6km s-min=3.9km az=3.4*
*DJA **16** 14:40:27.2±0.5,2°.5S±8°×13°.7E±°, h24km±5km, M4.9/7, mb4.8/5, mb5.0/1, MLv4.9/7, Mw(mB)4.3/1*
*BJI **16** 14:40:28.6,2°.20S×136°.70E, h10km, mb4.5/11, mB4.5/3*
ISC 16 14:40:29.1±0.5,2°.40S±0°.06×136°.65E±0°.05,h35km,n44, σ1°65/44,mb4.3/17,MS3.5/8,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.66**	**322**	P	Pn	14 40 37.7	-4.3
SRPI				S	**Sn**	**14 40 46.8**	**-4.4**
SMPI	**Sarmi**	**2.10**	**79**	P	**Pn**	**14 40 59.5**	**-2.3**
SMPI				S	**Sn**	**14 41 25.3**	**-1.4**
RKPI	**Ransiki, Papua**	**2.62**	**290**	P	**Pn**	**14 41 07.3**	**-1.6**
GENI	**Genyem**	**3.52**	**93**	P	**Pn**	**14 41 20.9**	**-0.4**
GENI				S	**Sn**	**14 42 02.4**	**+0.6**
JAY	**Jayapura**	**4.06**	**92**	P	**Pn**	**14 41 27.8**	**-0.9**
FAKI	**Fak Fak**	**4.42**	**263**	P	**Pn**	**14 41 33.6**	**-0.1**
FAKI				S	**Sn**	**14 42 23.2**	**-0.9**
FAKI	**Fak Fak**	**4.42**	**263**	*e*P	Pn	**14 41 33.2**	**-0.5**
SIJI	**Sorong**	**5.59**	**286**	Pn	**Pn**	**14 41 49.9**	**+0.1**
	4.7nm,0.3s,baz=0.8,slow=23,SNR=14						
SIJI				Sn	**Sn**	**14 42 53.8**	**+0.9**
	5.4nm,0.3s,baz=287,slow=20,SNR=3.3						
SIJI				Lg	Lg	14 43 21.5	
	4.6nm,0.3s,baz=174,slow=20,SNR=7.6						
SIJI				LR	LR	14 44 40.6	
	comp=Z,1μm,18.8s,baz=145,slow=46						
BNDI	**Bandanaira**	**7.05**	**252**	S	**Sn**	**14 43 29.1**	**+0.2**
NLAI	**Namlea**	**9.57**	**265**	P	**Pn**	**14 42 45.8**	**+1.3**
	58nm,0.9s						
SANI	**Sanana**	**10.66**	**272**	P	Pn	**14 42 57.6**	**-1.7**
	31nm,0.7s						
SOEI	**Soe**	**14.31**	**239**	Pn	**Pn**	**14 43 50.7**	**+1.3**
	111nm,1.2s						
APSI	**Ampana**	**15.06**	**275**	P	**Pn**	**14 43 58.4**	**-1.1**
WRAB	**Tennant Creek**	**17.57**	**187**	*e*P	**Pn**	**14 44 28.2**	**-3.1**
	17nm,0.7s						
WRA	**Warramunga Arr**	**17.58**	**187**	P	**P**	**14 44 32.7**	**+0.4**
	1.5nm,0.3s,baz=7.7,slow=12,SNR=39						
WRA				S	**Sn**	**14 47 40.0**	**-6.4**
	0.8nm,0.3s,baz=7.9,slow=22,SNR=7.4						
GUMO	**Guam**	**17.86**	**27**	LR	LR	14 49 53.3	
	comp=Z,86nm,21.4s,baz=202,slow=32						
AS31	**Alice Springs**	**21.31**	**187**	*e*P	**P**	**14 45 12.9**	**-0.1**
ASAR	**Alice Springs**	**21.31**	**187**	P	**P**	**14 45 13.2**	**+0.2**
	7.1nm,0.6s,baz=11,slow=10,SNR=114						
ASAR				S	**S**	**14 49 08.0**	**0.0**
	4.3nm,0.9s,baz=12,slow=23,SNR=4.9						
ASAR				LR	LR	14 54 52.7	
	comp=Z,485nm,18.5s,baz=4.0,slow=41						
MBWA	**Marble Bar**	**24.89**	**220**	*e*P	**P**	**14 45 50.3**	**+1.5**
LEM	**Lembang**	**29.26**	**260**	LR	LR	14 59 17.1	
	comp=Z,138nm,19.6s,baz=50,slow=39						
STKA	**Stephens Creek**	**29.69**	**171**	P	**P**	**14 46 32.7**	**+0.9**
	2.5nm,0.6s,baz=10,slow=6.6,SNR=4.8						
STKA				LR	LR	15 00 30.0	
	comp=Z,186nm,19.1s,baz=360,slow=40						
STKA	**Stephens Creek**	**29.69**	**171**	*e*P	**P**	**14 46 33.0**	**+1.2**
DZM	**Mont Dzumac**	**34.94**	**126**	LR	LR	15 03 27.8	
	comp=Z,146nm,18.3s,slow=40						
MJAR	**Matsushiro Arr**	**38.77**	**2**	LR	LR	15 01 10.1	
	comp=Z,61nm,20.3s,baz=190,slow=32						
KSRS	**Korea Array**	**40.47**	**349**	LR	LR	15 02 34.4	
	comp=Z,49nm,20.9s,baz=174,slow=33						
CMAR	**Chiang Mai Arr**	**42.50**	**301**	P	**P**	**14 48 21.1**	**-0.3**
	0.6nm,0.6s,baz=108,slow=6.9,SNR=4.3						
HHC	**Hu-ho-hao-te**	**48.75**	**335**	*e*P	**P**	**14 49 10.5**	**-0.1**
HHC				S	**S**	**14 56 10.8**	**-0.3**
HHC				PMZ			
	18nm,1.0s						
GTA	**Gaotai**	**53.61**	**325**	*e*P	P	14 49 53.8	+6.7
GTA				pP	pP	14 49 58.1	+0.4
GTA				sP	sP	14 50 01.1	-0.7
GTA				PMZ			
	9.0nm,1.3s						
LSA	**Lhasa**	**53.92**	**310**	P	**P**	**14 49 51.6**	**+1.6**
	5.0nm,0.8s						
SONM	**Songino Array**	**56.58**	**336**	P	**P**	**14 50 08.7**	**+0.3**
	0.3nm,0.6s,baz=137,slow=7.3,SNR=2.7						
SONM				LR	LR	15 15 25.4	
	comp=Z,40nm,19.4s,baz=132,slow=37						
YAK	**Yakutsk**	**64.47**	**356**	P	**P**	**14 51 02.2**	**+0.5**
	20nm,1.0s						
SEY	**Seymchan**	**66.23**	**8**	LR	LR	15 16 08.9	
	comp=Z,33nm,21.9s,baz=239,slow=32						
MK31	**Makanchi Array**	**68.29**	**323**	*e*P	**P**	**14 51 26.9**	**+0.2**
MK31				*e*		14 51 33.1	
MKAR	**Makanchi Array**	**68.29**	**323**	P	**P**	**14 51 27.5**	**+0.8**
	0.8nm,0.5s,baz=107,slow=8.3,SNR=13						
ZALV	**Zalesovo Beam**	**70.64**	**330**	P	**P**	**14 51 42.1**	**+1.2**
	2.7nm,0.8s,baz=115,slow=6.7,SNR=10						
KURK	**Kurchatov**	**72.29**	**326**	P	**P**	**14 51 50.5**	**-0.5**
	24nm,1.4s						
KURBB	**Kurchatov Arra**	**72.30**	**325**	P	**P**	**14 51 51.2**	**+0.2**
	1.1nm,0.8s,baz=117,slow=5.5,SNR=7.5						
TIXI	**Tiksi**	**74.09**	**357**	*e*P	**P**	**14 52 02.1**	**+0.9**
	5.9nm,1.1s						
VNDA	**Vanda**	**76.28**	**175**	P	**P**	**14 52 14.4**	**+0.7**
	0.6nm,0.6s,baz=327,slow=4.9,SNR=6.3						
BVAR	**Borovoye Array**	**77.89**	**326**	P	**P**	**14 52 23.8**	**+0.6**
	2.8nm,0.9s,baz=131,slow=6.7,SNR=5.5						
BRVK	**Borovoye**	**77.96**	**326**	*e*P	**P**	**14 52 23.9**	**+0.3**
	3.6nm,0.8s						
BRVK				*e*		14 52 29.8	
ABKAR	**Akbulak array**	**83.16**	**320**	*e*P	**P**	**14 52 52.6**	**+1.1**
	3.3nm,1.0s						
AKTO	**Aktyubinsk**	**84.61**	**321**	P	**P**	**14 53 01.6**	**+2.7**
	2.5nm,0.9s,baz=70,slow=3.8,SNR=6.5						
ILAR	**Eielson Array**	**86.41**	**25**	P	**P**	**14 53 06.7**	**-0.9**
	0.8nm,0.9s,baz=260,slow=4.9,SNR=7.1						

*IDC **16** 14:44:25.2±0.8, 1°.27N×126°.09E, h0km, mb3.9/8, mb1 4.0/9,mb1mx3.7/44, mbtmp3.9/9, ML3.1/1, Error ellipse: s-maj=36.9km s-min=17.8km az=68.0*
*NEIC **16** 14:44:26.4±0.6, 1°.34N×126°.25E, h10km, mb4.4/1, Error ellipse: s-maj=24.2km s-min=10.7km az=58.0*
*ISCJB **16** 14:44:29.8±0.5, 1°.31N±0°.06×126°.31E±0°.05, h47km, mb4.0/9, Error ellipse: s-maj=9.0km s-min=6.5km az=23.3*
*DJA **16** 14:44:29.4±0.9, 1°.N±4°×12°.6E±°, h17km±13km, M4.0/6, MLv4.0/6*
ISC 16 14:44:31.6±0.7,1°.26N±0°.07×126°.33E±0°.05,h47km,n17, σ1°09/20,mb4.0/9,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.14**	**115**	P	**Pn**	**14 44 49.7**	**-1.5**
TNTI				S	**Sn**	**14 45 06.3**	**+0.6**
TNTI	**Ternate**	**1.14**	**115**	*e*Pn	**Pn**	**14 44 49.7**	**-1.5**
KMSI	**Cibinong**	**2.45**	**254**	P	**Pn**	**14 45 08.5**	**-0.6**
KMSI				S	**Sn**	**14 45 37.7**	**-0.1**
SGSI	**Sangihe**	**2.54**	**342**	P	**Pn**	**14 45 10.0**	**-0.4**
SANI	**Sanana**	**3.31**	**186**	P	**Pn**	**14 45 20.8**	**-0.1**
SIJI	**Sorong**	**5.37**	**113**	Pn	**Pn**	**14 45 49.9**	**+0.6**
	0.5nm,0.3s,baz=167,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**22.49**	**160**	P	**P**	**14 49 26.6**	**-0.7**
	1.9nm,0.3s,baz=339,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**25.85**	**164**	P	**P**	**14 50 00.3**	**+1.4**
	3.1nm,0.8s,baz=347,slow=12,SNR=4.6						
MJAR	**Matsushiro Arr**	**36.79**	**16**	P	**P**	**14 51 35.0**	**0.0**
	0.7nm,0.5s,baz=180,slow=11,SNR=3.8						
USRK	**Ussuriysk Ar.**	**43.05**	**6**	P	**P**	**14 52 28.6**	**+1.8**
	0.6nm,0.5s,baz=182,slow=11,SNR=2.7						
MK31	**Makanchi Array**	**59.36**	**326**	*e*P	**P**	**14 54 28.2**	**-0.9**
MKAR	**Makanchi Array**	**59.36**	**326**	P	**P**	**14 54 28.5**	**-0.6**
	0.6nm,0.4s,baz=119,slow=7.6,SNR=10						
MKAR				PcP	**PcP**	**14 55 16.5**	**-0.1**
	0.5nm,0.6s,baz=141,slow=2.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**62.60**	**334**	P	**P**	**14 54 48.4**	**-2.5**
	0.4nm,0.3s,baz=119,slow=8.6,SNR=2.6						
KURBB	**Kurchatov Arra**	**63.60**	**328**	P	**P**	**14 54 57.4**	**-0.2**
	1.5nm,0.6s,baz=126,slow=6.3,SNR=21						
KURK	**Kurchatov**	**63.61**	**328**	*e*P	**P**	**14 54 56.8**	**-0.8**
	2.7nm,0.5s						
ILAR	**Eielson Array**	**87.49**	**25**	P	**P**	**14 57 13.8**	**-0.3**
	0.2nm,0.5s,baz=272,slow=6.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**123.27**	**287**	PKP	**PKPdf**	**15 03 25.1**	**+0.7**
	0.5nm,0.7s,baz=44,slow=2.3,SNR=2.9						

IDC 16 14:48:22.6±3.1,20°.25S×67°.69W,h0km,mb3.9/2, mb1 4.1/3,mb1mx3.7/24,mbtmp3.9/3,ML3.8/1,Error ellipse: s-maj=90.4km s-min=39.0km az=62.0,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.96**	**354**	Pn	Pn	14 49 25.1	-0.3
	3.9nm,0.3s,baz=268,slow=16,SNR=65						
LPAZ				Sn	Sn	14 50 14.0	+0.8
	1.9nm,0.3s,baz=121,slow=23,SNR=5.1						
TORD	**Torodi Ar. Bea**	**75.86**	**70**	P	P	15 00 11.4	0.0
	1.0nm,0.7s,baz=252,slow=4.7,SNR=5.4						
YKA	**Yellowknife Ar**	**90.40**	**340**	P	P	15 01 25.3	-0.1
	0.1nm,0.4s,baz=130,slow=5.1,SNR=3.5						

DJA 16 15:00:13.4±0.7,2°.S±9°×13°.7E±°,h10km,M3.8/4,MLv3.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.46**	**319**	P	Pg	15 00 22.2	-0.2
SRPI				S	Sb	15 00 29.7	-0.8
SMPI	**Sarmi**	**2.18**	**84**	P	Pn	15 00 49.7	-0.1
RKPI	**Ransiki, Papua**	**2.46**	**287**	P	Pn	15 00 53.1	-0.6

*IDC **16** 15:02:11.0±0.6,2°.37S×136°.64E, h0km, mb4.1/16, mb1 4.2/18,mb1mx4.1/37, mbtmp4.1/18, ML4.0/2, MS3.9/11, Ms1 3.9/11,ms1mx3.6/23, Error ellipse: s-maj=19.2km s-min=12.1km az=69.0*
*NEIC **16** 15:02:12.4±0.3,2°.39S×136°.67E, h10km, mb4.4/4, Error ellipse: s-maj=10.0km s-min=6.1km az=89.0*
*ISCJB **16** 15:02:14.3±0.3,2°.37S±0°.04×136°.58E±0°.03, h42km, mb4.2/19, MS3.8/8, Error ellipse: s-maj=5.8km s-min=3.7km az=10.2*
*DJA **16** 15:02:14.1±0.5,2°.S±6°×13°.7E±°, h30km±5km, M4.6/9, mb4.5/9, mB5.0/6, MLv4.9/8, Mw(mB)4.3/6*
ISC 16 15:02:16.5±0.5,2°.39S±0°.06×136°.58E±0°.04,h42km,n52, σ1°79/51,mb4.2/19,MS3.8/8,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.62**	**327**	P	Pn	15 02 24.0	-4.9
SRPI				S	**Sn**	**15 02 33.7**	**-4.1**
SMPI	**Sarmi**	**2.17**	**79**	P	Pn	15 02 46.2	-3.9
SMPI				S	**Sn**	**15 03 13.9**	**-1.8**
RKPI	**Ransiki, Papua**	**2.56**	**290**	P	**Pn**	**15 02 52.8**	**-2.6**
RKPI				S	**Sn**	**15 03 23.7**	**-1.6**
GENI	**Genyem**	**3.59**	**93**	P	**Pn**	**15 03 08.4**	**-1.3**
GENI				S	**Sn**	**15 03 50.7**	**-0.2**
JAY	**Jayapura**	**4.12**	**92**	P	**Pn**	**15 03 14.3**	**-2.7**
FAKI	**Fak Fak**	**4.36**	**263**	P	**Pn**	**15 03 20.6**	**+0.4**
FAKI				S	**Sn**	**15 04 08.9**	**-0.9**
FAKI	**Fak Fak**	**4.36**	**263**	*e*Pn	**Pn**	**15 03 20.4**	**+0.2**
SIJI	**Sorong**	**5.52**	**286**	Pn	**Pn**	**15 03 36.6**	**+0.4**
	5.8nm,0.3s,baz=220,slow=23,SNR=19						
SIJI				Sn	**Sn**	**15 04 39.1**	**+0.6**
	4.1nm,0.3s,baz=270,slow=20,SNR=3.9						
SIJI				Lg	Lg	15 05 06.3	
	4.1nm,0.3s,baz=232,slow=11,SNR=5.7						
SIJI				LR	LR	15 06 18.1	
	comp=Z,2μm,19.3s,baz=128,slow=44						
MSAI	**Masohi**	**7.70**	**263**	P	**Pn**	**15 04 04.1**	**-2.0**
	20nm,0.9s,477nm0.1nm						
MSAI				S	**Sn**	**15 05 28.0**	**-4.1**
	20nm,0.9s,477nm0.1nm						
SANI	**Sanana**	**10.59**	**272**	P	**Pn**	**15 04 43.9**	**-1.8**
	28nm,0.9s,402nm						
SOEI	**Soe**	**14.25**	**239**	Pn	**Pn**	**15 05 35.4**	**-0.5**
	91nm,1.3s						
MRSI	**Marisa**	**14.91**	**281**	P	**Pn**	**15 05 42.7**	**-1.9**
	24nm,1.2s,678nm						
APSI	**Ampana**	**15.00**	**275**	P	**Pn**	**15 05 45.4**	**-0.3**
	43nm,1.2s,466nm						
PCI	**Palu**	**16.80**	**275**	P	**P**	**15 06 11.4**	**+0.8**
SPSI	**Sidrap Palu**	**16.86**	**264**	P	**Pn**	**15 06 07.7**	**-1.8**
	44nm,2.1s,800nm						
MPSI	**Mapaga**	**16.90**	**279**	P	**Pn**	**15 06 09.0**	**-1.0**
	13nm,1.3s						
WRAB	**Tennant Creek**	**17.57**	**187**	*e*P	**Pn**	**15 06 17.8**	**-0.6**
	9.3nm,0.5s						
WRA	**Warramunga Arr**	**17.58**	**187**	P	**Pn**	**15 06 15.4**	**-3.1**
	2.1nm,0.3s,baz=8.4,slow=12,SNR=33						
WRA				S	Sn	15 09 22.3	-11
	0.3nm,0.3s,baz=9.2,slow=22,SNR=4.8						
WRA				LR	LR	15 14 23.2	
	comp=Z,606nm,18.1s,baz=10.0,slow=42						
GUMO	**Guam**	**17.88**	**27**	LR	LR	15 11 40.6	
	comp=Z,152nm,21.7s,baz=200,slow=32						
FITZ	**Fitzroy Crossi**	**18.94**	**214**	*e*P	**Pn**	**15 06 35.0**	**-0.1**
CTA	**Charters Tower**	**19.96**	**152**	P	**P**	**15 06 44.7**	**-0.6**
	0.2nm,0.3s,baz=320,slow=12,SNR=2.7						
AS31	**Alice Springs**	**21.30**	**187**	*e*P	**P**	**15 06 59.9**	**+0.1**
ASAR	**Alice Springs**	**21.31**	**187**	P	**P**	**15 06 59.7**	**-0.1**
	7.8nm,0.4s,baz=15,slow=11,SNR=61						
ASAR				S	**S**	**15 10 51.4**	**-3.0**
	3.0nm,0.6s,baz=11,slow=23,SNR=9.1						
ASAR				LR	LR	15 16 39.5	
	comp=Z,568nm,18.8s,baz=6.0,slow=41						
MBWA	**Marble Bar**	**24.84**	**220**	*e*P	**P**	**15 07 36.5**	**+1.4**
	16nm,0.9s						
LEM	**Lembang**	**29.19**	**260**	LR	LR	15 22 46.3	
	comp=Z,120nm,19.4s,baz=44,slow=42						
STKA	**Stephens Creek**	**29.71**	**171**	P	**P**	**15 08 18.8**	**+0.1**
	3.4nm,0.7s,baz=350,slow=8.2,SNR=5.4						
STKA				LR	LR	15 21 16.6	
	comp=Z,250nm,19.5s,baz=347,slow=38						
STKA	**Stephens Creek**	**29.71**	**171**	*e*P	**P**	**15 08 19.7**	**+1.0**
	1.5nm,0.9s						
JCJ	**Chichijima**	**29.81**	**10**	LR	LR	15 17 50.8	
	comp=Z,102nm,20.7s,baz=178,slow=32						
DZM	**Mont Dzumac**	**34.99**	**126**	*e*LR	LR	15 19 01.3	
	620nm,29.3s						
DZM	**Mont Dzumac**	**34.99**	**126**	LR	LR	15 23 32.9	
	comp=Z,249nm,19.4s,baz=359,slow=37						
NWAO	**Narrogin (SRO)**	**35.38**	**209**	P	**P**	**15 09 08.6**	**+0.3**
	6.2nm,0.9s,baz=135,slow=2.9,SNR=2.5						
MJAR	**Matsushiro Arr**	**38.77**	**2**	P	**P**	**15 09 35.1**	**-1.8**
	1.0nm,0.6s,baz=170,slow=7.9,SNR=3.2						
CMAR	**Chiang Mai Arr**	**42.44**	**301**	P	**P**	**15 10 08.4**	**+0.8**
	1.2nm,0.8s,baz=113,slow=5.8,SNR=8.9						
USRK	**Ussuriysk Ar.**	**46.57**	**355**	P	**P**	**15 10 39.8**	**-0.3**
	0.6nm,0.7s,baz=135,slow=11,SNR=3.2						
ASAJ	**Asahikawa**	**46.62**	**6**	P	**P**	**15 10 40.5**	**0.0**
	5.1nm,1.0s,baz=225,slow=11						
HHC	**Hu-ho-hao-te**	**48.71**	**335**	*e*P	P	15 11 03.3	+6.3
RPZ	**Rata Peaks**	**51.26**	**148**	P	**P**	**15 11 17.1**	**+0.9**
	8.9nm,0.9s,baz=2.3,slow=9.2,SNR=4.1						
GTA	**Gaotai**	**53.57**	**325**	*e*P	**P**	**15 11 35.3**	**+1.8**
GTA				pP	**pP**	**15 11 40.9**	**-4.6**
GTA				sP	sP	15 11 43.9	-6.5
GTA				ScP	**ScP**	**15 16 38.8**	**+4.3**
GTA				PMZ			
	4.0nm,1.0s						
SONM	**Songino Array**	**56.55**	**336**	P	**P**	**15 11 57.1**	**+2.2**
	0.5nm,0.7s,baz=156,slow=8.0,SNR=3.6						
PETK	**Petropavlovsk-**	**58.08**	**15**	P	**P**	**15 12 06.0**	**+0.7**
	4.8nm,0.9s,baz=200,slow=7.1,SNR=4.1						
RAR	**Rarotonga**	**64.61**	**112**	P	**P**	**15 12 50.3**	**+0.1**
	22nm,0.8s,baz=212,slow=8.1,SNR=3.1						
SEY	**Seymchan**	**66.24**	**8**	P	**P**	**15 13 00.7**	**+0.8**
	2.8nm,1.0s,baz=156,slow=15,SNR=4.8						
MK31	**Makanchi Array**	**68.25**	**323**	*e*P	**P**	**15 13 13.1**	**+0.1**
MKAR	**Makanchi Array**	**68.25**	**323**	P	**P**	**15 13 13.9**	**+0.9**
	0.8nm,0.6s,baz=106,slow=8.2,SNR=9.7						
ZALV	**Zalesovo Beam**	**70.60**	**331**	P	**P**	**15 13 27.7**	**+0.3**
	0.5nm,0.4s,baz=111,slow=8.1,SNR=3.9						
ZALV				LR	LR	15 44 19.1	
	comp=Z,46nm,21.3s,baz=68,slow=36						
KURK	**Kurchatov**	**72.24**	**326**	*e*P	**P**	**15 13 37.7**	**+0.4**
	19nm,1.5s						
PPT	**Papeete**	**73.88**	**107**	LR	LR	15 45 48.4	
	comp=Z,26nm,18.1s,baz=328,slow=36						
PPT2	**Papeete2**	**73.88**	**108**	*e*LR	LR	15 36 53.5	
	146nm,24.8s						
TBI	**Tubuai**	**74.33**	**113**	*e*LR	LR	15 37 03.8	
	210nm,39.0s						
VNDA	**Vanda**	**76.29**	**175**	P	**P**	**15 14 01.4**	**+1.0**
	0.9nm,0.6s,baz=323

CPBX				⇓*e*				15 09 37.1		
CPBX				IAML				15 09 37.6		
	comp=N,4μm,0.3s									
CPBX				*e*				15 09 37.6		
CBX	**Cerro Bola**	**0.69**	**239**	*eP*		**Pg**		**15 09 25.1**	**-0.3**	
CBX				*eS*		**Sg**		**15 09 33.9**	**-0.5**	
CBX	**Cerro Bola**	**0.69**	**239**	*eP*		**Pg**		**15 09 25.1**	**-0.3**	
CBX				*eS*		**Sg**		**15 09 33.9**	**-0.5**	
CBX	**Cerro Bola**	**0.69**	**239**	⇑*iP*		**Pb**		**15 09 26.0**	**+0.3**	
CBX				*eS*		**Sb**		**15 09 35.5**	**+0.4**	
CBX				IAML				15 09 40.0		
	comp=E,1μm,0.3s									
CBX				⇓*e*				15 09 40.0		
RDX	**Rancho Dawling**	**0.74**	**178**	⇓*eP*		**Pg**		**15 09 26.5**	**+0.2**	
RDX				IAML				15 09 38.8		
	comp=N,659nm,0.3s									
SDRC	**San Diego Road**	**0.83**	**275**	*eP*		**Pb**		**15 09 27.8**	**-0.2**	
PFO	**Pinyon Flats O**	**1.02**	**336**	*eP*g		**Pb**		**15 09 30.8**	**-0.7**	
PFO				*eS*g		**Sb**		**15 09 44.1**	**-0.8**	
GLA	**Glamis**	**1.03**	**68**	*eP*g		**Pb**		**15 09 30.6**	**-0.9**	
GLA				*eS*g		**Sb**		**15 09 44.0**	**-1.0**	
PBX	**Punta Banda**	**1.13**	**215**	*eP*		**Pn**		**15 09 33.6**	**+0.4**	
PBX				*eS*		**Sn**		**15 09 48.5**	**-0.1**	
ECNX	**Esteban Cantu**	**1.14**	**208**	⇑*eP*		**Pb**		**15 09 34.0**	**+0.5**	
ECNX				*eS*		**Sn**		**15 09 49.2**	**+0.1**	
ZAX	**El Zacaton**	**1.18**	**193**	*eP*		**Pb**		**15 09 34.6**	**+0.4**	
ZAX				*eS*		**Sn**		**15 09 50.3**	**+0.3**	
ECBX	**El Chinero**	**1.42**	**147**	*e*Pn		**Pn**		**15 09 37.7**	**+0.4**	
ECBX				*eS*		**Sb**		**15 09 57.0**	**+0.8**	
SPIG	**San Pedro Mart**	**1.67**	**165**	*eP*		**Pn**		**15 09 40.6**	**-0.4**	
SPIG				*i S*		**Sn**		**15 10 00.1**	**-2.4**	
SPIG	**San Pedro Mart**	**1.67**	**165**	*eP*		**Pn**		**15 09 40.6**	**-0.4**	
SPIG				*i S*		**Sn**		**15 10 00.1**	**-2.4**	
SPX	**San Pedro Mart**	**1.67**	**165**	*eP*		**Pb**		**15 09 42.3**	**-0.3**	
SPX				⇓*e*				15 10 08.2		
SPX				IAML				15 10 08.2		
	comp=E,157nm,0.4s									
PASC	**Pasadena Art C**	**2.39**	**310**	*e*Pg		**Pb**		**15 09 55.5**	**+0.8**	
PASC				*eS*g		**Sb**		**15 10 25.7**	**+1.8**	
GSC	**Goldstone, Bar**	**2.72**	**345**	*e*Pn		**Pn**		**15 09 54.8**	**-0.5**	
GSC				*e*Pg		**Pb**		**15 10 01.8**	**+1.4**	
214A	**Organ Pipe Nat**	**2.76**	**104**	*e*Pn		**Pn**		**15 09 54.0**	**-1.8**	
214A				*e*Pg		**Pg**		**15 10 06.3**	**+1.4**	
DAC	**Darwin (Calif)**	**3.84**	**340**	*e*Pn		**Pn**		**15 10 10.9**	**+0.1**	
DAC				*e*Pg		**Pg**		**15 10 23.0**	**-2.6**	
SHPR	**Sheep Range**	**3.88**	**10**	*e*Pn		**Pn**		**15 10 12.8**	**+1.5**	
SHPR				*e*Pg		**Pg**		**15 10 27.7**	**+1.3**	
SHPR				*e*Sg		**Sg**		**15 11 16.4**	**-0.3**	
121A	**Cookes Peak, D**	**6.90**	**89**	*e*Pn		**Pn**		**15 10 53.7**	**+0.9**	
	comp=E,3.9nm,0.4s									

IDC ***16*** *15:09:43.2±0.5,52.˚66N×168.˚33W,h0km,mb4.5/36, mb1 4.6/37,mb1mx4.5/57,mbtmp4.5/37,ML4.2/1,MS3.4/2, Ms1 3.4/2,ms1mx2.8/29,Error ellipse: s-maj=14.3km s-min=10.3km az=161.0*

MOS ***16*** *15:09:46.7±1.1,52.˚67N×168.˚35W,h33km,mb4.9/15, Error ellipse: s-maj=11.0km s-min=7.0km az=92.6*

ISCJB ***16*** *15:09:49.1±0.6,52.˚60N±0.˚06×168.˚32W±0.˚05,h58km±3km, mb4.5/57,MS3.5/2,Error ellipse: s-maj=10.8km s-min=4.0km az=158.0*

NEIC ***16*** *15:09:50.5±0.5,52.˚66N×168.˚25W,h56km±3km,mb4.5/14, ML4.2(AEIC),Error ellipse: s-maj=9.4km s-min=3.6km az=159.0*

BJI ***16*** *15:09:50.4,53.˚09N×168.˚70W,h57km,mb4.8/35, mB5.0/21,Ms4.7/9,Ms7 4.4/8*

ISC 16 15:09:50.6±0.6,52.˚62N±0.˚07×168.˚32W±0.˚04,h57km±3km, h56km:pP-P,n173,σ1§21/204,mb4.6/58,11C-7D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.48**	**317**	P	**Pn**	**15 10 01.1**	**-1.0**
NIKH				S	**Sn**	**15 10 10.1**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**0.78**	**12**	P	**Pn**	**15 10 05.7**	**0.0**
OKFG	**Magazine Ridge**	**0.83**	**17**	P	**Pn**	**15 10 05.4**	**-0.8**
OKFG				S	**Sn**	**15 10 18.1**	**+0.4**
MSOM	**Makushin Julie**	**1.45**	**34**	P	**Pn**	**15 10 13.4**	**-1.1**
MSOM	**Makushin Julie**	**1.45**	**34**	P	**Pn**	**15 10 13.4**	**-1.1**
MGOD	**Makushin Gods**	**1.46**	**36**	P	**Pn**	**15 10 13.4**	**-1.3**
MREP	**Makushin Rep't**	**1.52**	**38**	P	**Pn**	**15 10 15.0**	**-0.5**
MCIR	**Makushin Cirqu**	**1.58**	**32**	P	**Pn**	**15 10 16.2**	**-0.1**
MSW	**Makushin Switc**	**1.59**	**35**	P	**Pn**	**15 10 15.4**	**-0.9**
UNV	**Unalaska Valle**	**1.64**	**41**	P	**Pn**	**15 10 15.8**	**-1.2**
UNV				S	**Sn**	**15 10 36.9**	**-0.2**
MTBL	**Makushin Table**	**1.67**	**35**	P	**Pn**	**15 10 17.1**	**-0.4**
AKRB	**Akutan Reef Bi**	**2.02**	**41**	P	**Pn**	**15 10 22.3**	**0.0**
AKRB				S	**Sn**	**15 10 47.9**	**+1.5**
ZRO	**Akutan Zero**	**2.03**	**43**	P	**Pn**	**15 10 21.8**	**-0.6**
AKGG	**Akutan Green G**	**2.10**	**40**	P	**Pn**	**15 10 23.6**	**+0.2**
AKGG				S	**Sn**	**15 10 50.6**	**+2.2**
AKUT	**Akutan**	**2.15**	**44**	P	**Pn**	**15 10 23.1**	**-0.9**
WESP	**Westdahl Peak**	**2.85**	**47**	P	**Pn**	**15 10 33.7**	**+0.1**
WESP				S	**Sn**	**15 11 06.8**	**+0.1**
WESE	**West Dahl East**	**2.90**	**49**	P	**Pn**	**15 10 34.0**	**+0.3**
WESN	**West Dahl Nort**	**2.96**	**47**	P	**Pn**	**15 10 35.4**	**+0.4**
FALS	**False Pass**	**3.67**	**50**	P	**Pn**	**15 10 44.2**	**-0.6**
DTNA	**Dutton South F**	**4.39**	**52**	P	**Pn**	**15 10 53.8**	**-0.8**
HAG	**Hague Volcano**	**4.65**	**52**	P	**Pn**	**15 10 58.0**	**-0.2**
HAG	**Hague Volcano**	**4.65**	**52**	P	**Pn**	**15 10 58.0**	**-0.2**
SPIA	**Saint Paul Isl**	**4.70**	**347**	P	**Pn**	**15 11 01.0**	**+2.2**
GSTD	**Great Sitkin T**	**4.83**	**266**	P	**Pn**	**15 11 01.4**	**+0.6**
GSCK	**Great Sitkin C**	**4.85**	**266**	P	**Pn**	**15 11 01.6**	**+0.6**
ETKA	**Kagalaska Isla**	**5.03**	**264**	P	**Pn**	**15 11 04.0**	**+0.6**
ADK	**Adak**	**5.20**	**265**	P	**Pn**	**15 11 06.3**	**+0.6**
ADK	**Adak**	**5.20**	**265**	P	**Pn**	**15 11 06.3**	**+0.6**
SDPT	**Sand Point**	**5.37**	**56**	P	**Pn**	**15 11 06.9**	**-1.1**
VNHG	**Veniaminof 1**	**6.44**	**52**	P	**Pn**	**15 11 23.1**	**+0.3**
AMKA	**Amchitka**	**7.75**	**266**	P	**Pn**	**15 11 41.5**	**+1.0**
OHAK	**Old Harbor** 19nm,0.4s	**9.79**	**56**	*e*Pn	Pn	15 12 05.3	-3.2
KDAK	**Kodiak Island**	**10.36**	**54**	*eP*	Pn	15 12 13.1	-3.1
KDAK				pmax	pmax		
	comp=Z,24nm,0.3s						
KDAK	**Kodiak Island**	**10.36**	**54**	*e*Pn	Pn	15 12 13.1	-3.1
	comp=Z,24nm,0.3s						
RSO	**Redoubt South**	**11.61**	**41**	*eP*	**Pn**	**15 12 34.1**	**+0.6**
	comp=Z,18nm,0.5s						
SEW	**Seward**	**12.83**	**47**	*eP*	Pn	15 12 46.3	-3.5
	comp=Z,18nm,0.4s						
RC01	**Rabbit Creek A**	**13.19**	**43**	*e*Pn	Pn	15 12 51.9	-3.0
PPLA	**Purkeypile**	**13.37**	**33**	*eP*	**Pn**	**15 12 58.2**	**+0.7**
	comp=Z,19nm,1.0s						
TRF	**Thorofare Moun**	**14.39**	**34**	*eP*	**Pn**	**15 13 10.7**	**-0.3**
	comp=Z,27nm,1.6s						
BPAW	**Bear Paw Mtn.**	**14.60**	**31**	*eP*	**Pn**	**15 13 14.1**	**+0.5**
	comp=Z,1.5nm,0.8s						
BMRM	**Bremner River**	**15.37**	**48**	*eP*	**Pn**	**15 13 20.4**	**-3.3**
	comp=Z,12nm,0.5s						
COLA	**College**	**16.12**	**33**	⇑*eP*	**Pn**	**15 13 32.6**	**-0.6**
COLA				pmax	pmax		
	comp=Z,34nm,1.0s						
COLA	**College**	**16.12**	**33**	*eP*	**Pn**	**15 13 33.0**	**-0.1**
	comp=Z,6.9nm,0.9s						
ILAR	**Eielson Array**	**16.38**	**34**	Pn	**Pn**	**15 13 34.1**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=230,slow=10,SNR=20						
ILAR				Sn	Sn	15 16 28.1	-9.0
	baz=228,slow=23,SNR=2.2						
ILAR				LR	LR	15 20 10.9	
	comp=Z,111nm,19.1s,baz=182,slow=38						
COLD	**Coldfoot**	**17.11**	**24**	*eP*	**Pn**	**15 13 45.9**	**+0.3**
	comp=Z,7.8nm,0.9s						
EGAK	**Eagle**	**18.44**	**38**	*eP*	**P**	**15 13 59.9**	**-1.2**
	comp=Z,5.1nm,0.6s						
HYT	**Haines Junctio**	**18.64**	**52**	*eP*	**Pn**	**15 14 03.9**	**-0.4**
	comp=Z,24nm,0.7s						
BILL	**Bilibino**	**19.68**	**331**	*de*P	**Pn**	**15 14 16.2**	**-0.3**
BILL				*eS*	S	15 17 39.6	-14
BILL				pmax	pmax		
	comp=Z,14nm,1.2s						
BILL				MLR	MLR		
	comp=Z,3μm,21.0s						
PET	**Petropavlovsk**	**19.87**	**284**	*eP*	**P**	**15 14 17.6**	**+0.8**
PET				pmax	pmax		
	comp=Z,41nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,21.0s						
PETK	**Petropavlovsk-**	**20.42**	**285**	P	**P**	**15 14 22.2**	**-0.5**
	comp=Z,11nm,0.6s,baz=95,slow=11,SNR=17						
INK	**Inuvik**	**22.78**	**33**	P	**P**	**15 14 46.1**	**-1.8**
	comp=Z,4.2nm,0.3s,baz=246,slow=10,SNR=6.7						
INK	**Inuvik**	**22.78**	**33**	*eP*	**P**	**15 14 45.8**	**-2.1**
INK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
INK	**Inuvik**	**22.78**	**33**	*eP*	**P**	**15 14 45.8**	**-2.1**
	comp=Z,7.4nm,0.7s						
SEY	**Seymchan**	**22.97**	**312**	P	**P**	**15 14 50.0**	**+0.1**
	comp=Z,5.1nm,0.6s,baz=94,slow=7.6,SNR=15						
SEY				PcP	**PcP**	**15 18 37.6**	**0.0**
	comp=Z,1.6nm,0.8s,baz=166,slow=12,SNR=4.6						
SEY	**Seymchan**	**22.97**	**312**	*d iP*	**P**	**15 14 49.9**	**0.0**
YKA	**Yellowknife Ar**	**29.59**	**49**	P	**P**	**15 15 50.4**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=275,slow=7.7,SNR=13						
YKA				PcP	**PcP**	**15 18 53.9**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=287,slow=2.3,SNR=8.4						
TIXI	**Tiksi**	**32.85**	**329**	⇓*eP*	**P**	**15 16 18.4**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.7s						
TIXI	**Tiksi**	**32.85**	**329**	*eP*	**P**	**15 16 17.6**	**-0.7**
	comp=Z,1.4nm,0.5s						
ASAJ	**Asahikawa**	**33.13**	**275**	P	**P**	**15 16 20.7**	**-0.3**
	comp=Z,8.4nm,0.9s,baz=91,slow=5.7						
ASAJ	**Asahikawa**	**33.13**	**275**	P	**P**	**15 16 20.7**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
YAK	**Yakutsk**	**33.49**	**311**	*eP*	**P**	**15 16 21.1**	**-2.9**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.2s						
YAK	**Yakutsk**	**33.49**	**311**	*eP*	**P**	**15 16 22.4**	**-1.5**
	comp=E,7.6nm,0.6s						
HABR	**Khabarovsk**	**35.43**	**287**	*ce*P	**P**	**15 16 38.8**	**-2.1**
HABR				*e**PP	pP	15 16 48.2	-7.0
HABR				*e**SP	sP	15 16 52.6	-9.3
HABR				*e*		15 19 07.1	
HABR				*eS*	**S**	**15 22 12.8**	**+1.3**
HABR				*e**SS	sS	15 22 29.1	-6.7
HABR				*eSS*	**SnSn**	**15 24 35.4**	**+0.4**
HABR				*eSSS*	SSS	15 24 52.8	
HABR				*e*		15 26 55.3	
HABR				pmax	pmax		
	comp=E,20nm,2.2s						
HABR				pmax	pmax		
	comp=N,6.0nm,1.1s						
HABR				pmax	pmax		
	comp=Z,8.0nm,2.2s						
HABR				MLR	MLR		
	comp=Z,95nm,22.0s						
NVAR	**Mina Array Bea**	**37.03**	**92**	P	**P**	**15 16 56.0**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=283,slow=7.4,SNR=4.5						
NVAR				PcP	**PcP**	**15 19 15.5**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=335,slow=3.7,SNR=7.1						
H11N2	**WAKE ISLAND Hy**	**38.06**	**220**	T	T	15 58 06.1	
	baz=24,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**38.06**	**220**	T	T	15 58 23.6	
	baz=24,slow=76,SNR=172						
H11N1	**WAKE ISLAND Hy**	**38.08**	**220**	T	T	15 58 15.9	
	baz=24,slow=76,SNR=102						
H11S1	**WAKE ISLAND Hy**	**39.24**	**219**	T	T	15 59 37.1	
	baz=23,slow=76,SNR=314						
H11S2	**WAKE ISLAND Hy**	**39.26**	**219**	T	T	15 59 38.2	
	baz=23,slow=76,SNR=172						
H11S3	**WAKE ISLAND Hy**	**39.26**	**219**	T	T	15 59 44.4	
	baz=23,slow=76,SNR=160						
USRK	**Ussuriysk Ar.**	**39.47**	**282**	P	**P**	**15 17 14.2**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=84,slow=6.1,SNR=4.6						
PDAR	**Pinedale Array**	**39.72**	**80**	P	**P**	**15 17 17.6**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=330,slow=5.6,SNR=9.3						
PDAR				PcP	**PcP**	**15 19 23.5**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=315,slow=1.3,SNR=3.2						
VLA	**Vladivostok**	**40.15**	**281**	*d iP*	**P**	**15 17 20.3**	**-0.4**
VLA				pmax	pmax		
	comp=Z,16nm,1.0s						
MAJO	**Matsushiro**	**40.35**	**268**	*eP*	**P**	**15 17 22.8**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,19nm,0.8s						
MAJO	**Matsushiro**	**40.35**	**268**	*eP*	**P**	**15 17 22.8**	**+0.3**
	comp=Z,19nm,0.8s						
MAT	**Matsushiro**	**40.35**	**268**	P	**P**	**15 17 23.0**	**+0.5**
MJAR	**Matsushiro Arr**	**40.35**	**268**	P	**P**	**15 17 22.9**	**+0.4**
	comp=Z,6.6nm,0.8s,baz=47,slow=6.7,SNR=17						
BOD	**Bodaibo**	**42.34**	**309**	*eP*	**P**	**15 17 36.9**	**-1.6**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CN2	**Changchun**	**43.56**	**286**	*eP*	**P**	**15 17 48.4**	**-0.2**
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
KSRS	**Korea Array**	**46.01**	**277**	P	**P**	**15 18 09.1**	**+1.0**
	comp=Z,5.1nm,0.8s,baz=54,slow=7.4,SNR=22						
KSRS				PcP	**PcP**	**15 19 44.9**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=68,slow=4.4,SNR=4.1						
KSRS	**Korea Array**	**46.01**	**277**	P	**P**	**15 18 09.1**	**+1.0**
KSRS						15 19 44.9	
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSAR	**Wonju Array Be**	**46.04**	**277**	P	**P**	**15 18 09.1**	**+0.7**
KSAR						15 19 44.9	
KSAR	**Wonju Array Be**	**46.04**	**277**	P	**P**	**15 18 09.1**	**+0.7**
KSAR				PcP	**PcP**	**15 19 44.9**	**+1.0**
TJN	**Taejon**	**47.06**	**276**	*i P*	**P**	**15 18 16.7**	**+0.4**
JNU	**Nakatsue**	**47.11**	**271**	P	**P**	**15 18 17.4**	**+0.7**
	comp=Z,8.4nm,0.8s,baz=18,slow=12,SNR=7.6						
ZAK	**Zakamensk**	**51.70**	**305**	*eP*	**P**	**15 18 50.1**	**-1.5**
ZAK				*e*		15 20 03.9	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s						
SONM	**Songino Array**	**51.72**	**301**	P	**P**	**15 18 52.4**	**+0.5**
	comp=Z,2.9nm,0.5s,baz=68,slow=5.0,SNR=14						
SONM				PcP	**PcP**	**15 20 05.4**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=65,slow=2.5,SNR=4.7						
MOY	**Mondy**	**52.01**	**308**	*eP*	**P**	**15 18 54.2**	**+0.3**
TXAR	**Lajitas Array**	**52.10**	**90**	P	**P**	**15 18 55.3**	**+0.4**
	comp=Z,4.6nm,0.6s,baz=303,slow=5.5,SNR=68						
TXAR				PcP	**PcP**	**15 20 06.7**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=203,slow=1.1,SNR=4.7						
HHC	**Hu-ho-hao-te**	**53.43**	**291**	*eP*	**P**	**15 19 04.3**	**-0.3**
HHC				pP	**pP**	**15 19 14.8**	**-4.9**
HHC				sP	**sP**	**15 19 23.8**	**-2.4**
HHC				PP	**PP**	**15 21 02.4**	**-2.7**
HHC				S	**S**	**15 26 28.8**	**-3.8**
HHC				sS	**sS**	**15 26 56.9**	**-1.1**
HHC				SS	**SS**	**15 30 10.4**	**-2.3**
HHC				PMZ			
	comp=Z,14nm,1.1s						
HHC				PMZ			
	comp=Z,84nm,6.6s						
HHC				LN			
	comp=Z,76nm,15.3s						
HHC				LE			
	comp=Z,110nm,15.0s						
HHC				LZ			
	comp=Z,100nm,15.7s						
SCHQ	**Schefferville**	**54.81**	**44**	LR	LR	15 42 13.2	
	comp=Z,39nm,19.6s,baz=320,slow=36						
NJ2	**Nanjing**	**55.15**	**279**	*eP*	**P**	**15 19 16.9**	**-0.1**
NJ2				PMZ			
	comp=Z,20nm,0.7s						
NVS	**Novosibirsk**	**57.66**	**319**	*eP*	**P**	**15 19 31.8**	**-2.7**
ZALV	**Zalesovo Beam**	**57.67**	**318**	P	**P**	**15 19 35.0**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=38,slow=5.2,SNR=8.7						
ZALV				PcP	**PcP**	**15 20 27.7**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=38,slow=5.2,SNR=5.5						
ARCES	**ARCESS Array B**	**57.73**	**354**	P	**P**	**15 19 34.3**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=1.3,slow=7.6,SNR=23						
ARCES				PcP	**PcP**	**15 20 27.5**	**+0.4**
	comp=Z,4.2nm,0.5s,baz=19,slow=4.5,SNR=20						
WHN	**Wuhan**	**58.93**	**281**	P	**P**	**15 19 44.3**	**+0.6**
XAN	**Xi'an**	**59.64**	**287**	P	**P**	**15 19 48.6**	**-0.1**
XAN				PMZ			
	comp=Z,3.0nm,0.7s						
GTA	**Gaotai**	**60.93**	**298**	*eP*	**P**	**15 19 57.5**	**-0.1**
GTA				pP	**pP**	**15 20 14.6**	**+1.7**
GTA				sP	**sP**	**15 20 21.5**	**+2.1**
GTA				PMZ			
	comp=Z,9.0nm,0.8s						
LZH	**Lanzhou**	**61.09**	**292**	*eP*	**P**	**15 19 58.3**	**-0.4**
LZH				pP	**pP**	**15 20 14.5**	**+0.4**
LZH				sP	**sP**	**15 20 22.1**	**+1.6**
LZH				PMZ			
	comp=Z,12nm,1.0s						
KURK	**Kurchatov**	**62.61**	**319**	*eP*	**P**	**15 20 08.4**	**-0.1**
KURK						15 20 47.8	
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KURK	**Kurchatov**	**62.61**	**319**	*eP*	**P**	**15 20 08.4**	**-0.1**
	comp=Z,4.9nm,0.6s						
KURK				PcP	**PcP**	**15 20 47.8**	**+0.9**
KURBB	**Kurchatov Arra**	**62.72**	**319**	P	**P**	**15 20 09.0**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=47,slow=7.5,SNR=21						
KURBB				PcP	**PcP**	**15 20 47.8**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=44,slow=4.6,SNR=4.7						
BVAR	**Borovoye Array**	**63.87**	**325**	P	**P**	**15 20 16.9**	**+0.2**
	comp=Z,8.8nm,0.5s,baz=58,slow=6.5,SNR=73						
BVAR				PcP	**PcP**	**15 20 52.9**	**+0.9**
	comp=Z,3.6nm,0.5s,baz=52,slow=2.5,SNR=7.9						
BRVK	**Borovoye**	**63.88**	**325**	*c iP*	**P**	**15 20 16.8**	**0.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**63.88**	**325**	*eP*	**P**	**15 20 15.9**	**-0.9**
	comp=Z,3.9nm,0.4s						
WMQ	**Urumqi**	**63.88**	**309**	P	**P**	**15 20 18.0**	**+0.9**
WMQ				pP	**pP**	**15 20 34.3**	**+1.7**
WMQ				sP	**sP**	**15 20 41.3**	**+2.3**
WMQ				PMZ			
	comp=Z,5.0nm,0.4s						
WMQ				PMZ			
	comp=Z,120nm,4.3s						
MK31	**Makanchi Array**	**64.10**	**314**	*eP*	**P**	**15 20 17.5**	**-0.9**
MK31	**Makanchi Array**	**64.10**	**314**	*eP*	**P**	**15 20 17.5**	**-0.9**
MKAR	**Makanchi Array**	**64.10**	**314**	P	**P**	**15 20 17.5**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=42,slow=6.8,SNR=17						
ARU	**Arti**	**64.69**	**333**	*c iP*	**P**	**15 20 22.0**	**0.0**
ARU				S	**S**	**15 29 01.1**	**+3.6**
ARU				SS	**SS**	**15 33 09.7**	**+1.7**
ARU				pmax	pmax		
	comp=Z,25nm,1.7s						
CD2	**Chengdu**	**64.90**	**288**	*eP*	**P**	**15 20 21.8**	**-2.1**
FINES	**FINESS Array B**	**65.70**	**352**	P	**P**	**15 20 28.2**	**-0.4**
	comp=Z,7.2nm,0.5s,baz=23,slow=6.9,SNR=58						
FINES	**FINESS Array B**	**65.70**	**352**	*eP*	**P**	**15 20 27.8**	**-0.7**
NB2	**NORSAR Subarra**	**66.69**	**0**	P	**P**	**15 20 34.6**	**-0.3**
	comp=Z,4.0nm,0.5s,baz=359,slow=6.2						
NOA	**NORSAR Array B**	**66.69**	**0**	P	**P**	**15 20 34.9**	**0.0**
	comp=Z,3.3nm,0.5s,baz=360,slow=6.2,SNR=18						
HFS	**Hagfors**	**67.58**	**359**	P	**P**	**15 20 40.1**	**-0.5**
	comp=Z,15nm,0.4s,baz=29,slow=3.4,SNR=137						
KMI	**Kunming**	**69.83**	**285**	P	**P**	**15 20 55.3**	**0.0**
KMI				PMZ			
	comp=Z,7.0nm,1.6s						
AKTO	**Aktyubinsk**	**70.11**	**331**	P	**P**	**15 20 56.9**	**+0.4**
	comp=Z,8.4nm,0.8s,baz=46,slow=5.8,SNR=37						
OBN	**Obninsk**	**70.67**	**345**	P	**P**	**15 20 58.5**	**-1.1**
	comp=Z,15nm,0.4s						
OBN	**Obninsk**	**70.67**	**345**	*ce*P	**P**	**15 20 59.0**	**-0.7**
OBN				*e*		15 21 20.2	
OBN				*e*		15 23 34.5	
OBN				pmax	pmax		
	comp=Z,12nm,0.6s						
EKA	**Eskdalemuir Ar**	**71.71**	**9**	P	**P**	**15 21 06.3**	**+0.3**
	comp=Z,3.7nm,0.7s,baz=350,slow=4.4,SNR=7.9						
EKA	**Eskdalemuir Ar**	**71.71**	**9**	P	**P**	**15 21 06.3**	**+0.3**
EKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KKAR	**Karatay Array**	**72.03**	**319**	*eP*	**P**	**15 21 08.1**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KKAR	**Karatay Array**	**72.03**	**319**	*eP*	**P**	**15 21 08.1**	**-0.1**
	comp=Z,8.4nm,0.8s						
KSH	**Kashi**	**72.68**	**313**	P	P	15 21 16.3	+4.1
KSH				*e*PcP	**PcP**	**15 21 33.8**	**+4.4**
KSH				*es*P	sP	15 21 40.4	+6.1
KSH				PP	**PP**	**15 23 55.8**	**+2.0**
KSH				S	**S**	**15 30 34.3**	**+1.3**
KSH				SKS	**SKSac**	**15 31 10.8**	**-1.6**
KSH				PMZ			
	comp=Z,8.0nm,0.5s						
KSH				PMZ			
	comp=Z,130nm,5.7s						
KSH				LN			
	comp=Z,95nm,5.3s						
KSH				LE			
	comp=Z,82nm,4.8s						
LSA	**Lhasa**	**72.92**	**297**	P	**P**	**15 21 15.6**	**+1.4**
LSA	**Lhasa**	**72.92**	**297**	*eP*	**P**	**15 21 15.3**	**+1.1**
LSA				pmax	pmax		
	comp=Z,26nm,0.7s						
LSA	**Lhasa**	**72.92**	**297**	*eP*	**P**	**15 21 15.3**	**+1.1**
	comp=Z,26nm,0.7s						
AKASG	**Malin Array Be**	**75.99**	**349**	P	**P**	**15 21 30.4**	**-0.7**

comp=Z,3.0nm,0.9s,baz=174,slow=2.2,SNR=4.2
BOSA Boshof 153.99 332 PKPbc **PKPbc 15 29 44.2 +0.7**
comp=Z,2.6nm,0.8s,baz=57,slow=2.3,SNR=5.1
BOSA PKPab **PKPab 15 29 57.5 +0.5**
comp=Z,2.6nm,0.6s,baz=36,slow=1.6,SNR=5.3

IDC ***16*** *15:11:19.2± 1.3, 37.44N× 23.50E, h0km, mb3.5/3, mb1 3.4/6, mb1mx3.2/41, mbtmp3.3/6, ML3.1/3, MS2.4/1, Ms1 2.4/1, ms1mx2.0/30, Error ellipse: s-maj=25.8km s-min=15.1km az=86.0*
ISCJB ***16*** *15:11:21.5± 0.6, 37.42N± 0.02× 23.66E± 0.02, h12km± 4km, mb3.3/3, Error ellipse: s-maj=2.8km s-min=2.7km az=176.6*
ATH ***16*** *15:11:21.8, 37.41N× 23.58E, h28km, MD3.1/32, ML3.5*
CSEM ***16*** *15:11:21.9± 0.1, 37.40N× 23.64E, h12km, MD3.1, Error ellipse: s-maj=3.1km s-min=2.8km az=128.0*
THE ***16*** *15:11:22.2, 37.43N× 23.64E, h6km± 1km, ML3.8/11, Error ellipse: s-maj=1.8km s-min=0.9km az=300.0*

ISC 16 15:11:22.0± 0.9, 37.42N± 0.02× 23.62E± 0.02, h16km± 6km, n183, σ 0.983/234, mb3.3/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DID	**Didima**	**0.32**	**285**	*e*	PB	P	**Pg**	**15 11 28.4**	**-0.3**
DID					SB		**Sg**	**15 11 33.4**	**+0.1**
DID	**Didima**	**0.32**	**285**	*e*	Pb	P	**Pg**	**15 11 28.4**	**-0.3**
DID					Sb		**Sg**	**15 11 33.4**	**+0.1**
NAIG	**Nisos Aigina**	**0.35**	**342**	*e*	PB	P	**Pg**	**15 11 29.5**	**+0.2**
NAIG	**Nisos Aigina**	**0.35**	**342**	*e*	Pb	P	**Pg**	**15 11 29.5**	**+0.2**
KRND	**KRANIDI**	**0.38**	**264**		P	P	**Pg**	**15 11 29.5**	**-0.3**
KRND					S		**Sb**	**15 11 35.8**	**-0.2**
KRND	**KRANIDI**	**0.38**	**264**	*e*	PB	P	**Pg**	**15 11 29.5**	**-0.3**
KRND					SB		**Sg**	**15 11 35.5**	**+0.5**
KRND	**KRANIDI**	**0.38**	**264**		P	P	**Pg**	**15 11 29.5**	**-0.3**
KRND					Sb		**Sg**	**15 11 35.5**	**+0.5**
ATH	**Athens Observa**	**0.55**	**8**		P	P	**Pg**	**15 11 33.0**	**0.0**
ATH					S		**Sb**	**15 11 41.9**	**+0.9**
ATH	**Athens Observa**	**0.55**	**8**	*e*	PN	P	**Pb**	**15 11 33.0**	**0.0**
ATH					SN		**Sb**	**15 11 42.3**	**+1.3**
ATH	**Athens Observa**	**0.55**	**8**		P	P	**Pg**	**15 11 33.0**	**0.0**
ATH	**Athens Observa**	**0.55**	**8**	*e*	Pn	P	**Pb**	**15 11 33.3**	**0.0**
ATH					S		**Sb**	**15 11 41.9**	**+0.9**
ATH					Sn		**Sb**	**15 11 42.3**	**+1.3**
ATHU	**Athens Univers**	**0.56**	**13**		P	P	**Pg**	**15 11 33.0**	**0.0**
ATHU					S		**Sb**	**15 11 41.9**	**+0.7**
ATHU	**Athens Univers**	**0.56**	**13**		P	P	**Pg**	**15 11 33.0**	**0.0**
ATHU					S		**Sb**	**15 11 41.9**	**+0.7**
PTL	**Penteli**	**0.65**	**17**		P	P	**Pg**	**15 11 34.9**	**+0.1**
PTL					S		**Sb**	**15 11 44.2**	**+0.2**
PTL	**Penteli**	**0.65**	**17**	*e*	PN	P	**Pg**	**15 11 34.8**	**0.0**
PTL					SN		**Sb**	**15 11 44.8**	**+0.8**
PTL	**Penteli**	**0.65**	**17**		P	P	**Pg**	**15 11 34.9**	**+0.1**
PTL					S		**Sb**	**15 11 44.2**	**+0.2**
ACOR	**Acrocorinthos**	**0.76**	**308**		P	P	**Pg**	**15 11 36.3**	**-0.5**
ACOR	**Acrocorinthos**	**0.76**	**308**		P	P	**Pg**	**15 11 36.3**	**-0.5**
VILL	**Villia**	**0.78**	**342**		P	P	**Pg**	**15 11 37.0**	**-0.2**
VILL					SB		**Sg**	**15 11 48.9**	**+1.3**
VILL	**Villia**	**0.78**	**342**		P	P	**Pg**	**15 11 37.0**	**-0.2**
VILL					S		**Sb**	**15 11 48.9**	**+1.3**
LTK	**Loutraki**	**0.79**	**319**		P	P	**Pg**	**15 11 37.0**	**-0.5**
LTK					S		**Sn**	**15 11 50.0**	**-0.2**
LTK	**Loutraki**	**0.79**	**319**	*e*	PN	P	**Pg**	**15 11 37.2**	**-0.3**
LTK					SN		**Sb**	**15 11 49.0**	**+1.0**
LTK	**Loutraki**	**0.79**	**319**		P	P	**Pg**	**15 11 37.0**	**-0.5**
LTK					Sn		**Sb**	**15 11 49.0**	**+1.0**
LTK					S		**Sn**	**15 11 50.0**	**-0.2**
VIL2	**Platees**	**0.84**	**340**	*e*	PN	P	**Pb**	**15 11 37.2**	**-1.0**
VIL2					SN		**Sg**	**15 11 48.7**	**-0.6**
VLI	**Veliai**	**0.89**	**218**		P	P	**Pb**	**15 11 37.8**	**-1.3**
VLI					S		**Sg**	**15 11 51.5**	**+0.4**
VLI	**Veliai**	**0.89**	**218**	*e*	PN	P	**Pb**	**15 11 38.4**	**-0.7**
VLI	**Veliai**	**0.89**	**218**		P	P	**Pb**	**15 11 37.8**	**-1.3**
VLI	**Veliai**	**0.89**	**218**	*e*	Pn	P	**Pb**	**15 11 38.4**	**-0.7**
VLI					S		**Sg**	**15 11 51.5**	**+0.4**
MHLO	**Agia Marina, M**	**0.96**	**139**		P	P	**Pb**	**15 11 40.8**	**-0.1**
MHLO	**Agia Marina, M**	**0.96**	**139**	*e*	PN	P	**Pn**	**15 11 41.0**	**+0.1**
MHLO					SN		**Sn**	**15 11 54.6**	**+0.4**
MHLO	**Agia Marina, M**	**0.96**	**139**	*e*	Pn	P	**Pn**	**15 11 41.0**	**+0.1**
MHLO					Sn		**Sn**	**15 11 54.6**	**+0.4**
THAL	**Thalero**	**0.98**	**309**		P	P	**Pb**	**15 11 40.6**	**0.0**
THAL	**Thalero**	**0.98**	**309**		P	P	**Pb**	**15 11 40.6**	**0.0**
VLX	**Vlachokerasia**	**0.99**	**267**		P	P	**Pb**	**15 11 40.3**	**-0.6**
VLX					S		**Sg**	**15 11 54.4**	**+0.1**
VLX	**Vlachokerasia**	**0.99**	**267**	*e*	PN	P	**Pb**	**15 11 40.6**	**-0.3**
VLX					SN		**Sb**	**15 11 54.0**	**+0.2**
VLX	**Vlachokerasia**	**0.99**	**267**		P	P	**Pb**	**15 11 40.3**	**-0.6**
VLX	**Vlachokerasia**	**0.99**	**267**	*e*	Pn	P	**Pb**	**15 11 40.6**	**-0.3**
VLX					Sn		**Sb**	**15 11 54.0**	**+0.2**
ERET	**Eretria**	**1.03**	**8**		P	P	**Pb**	**15 11 40.0**	**-1.5**
ERET					S		**Sb**	**15 11 55.0**	**+0.2**
ERET	**Eretria**	**1.03**	**8**		P	P	**Pb**	**15 11 40.2**	**-1.5**
ERET					S		**Sb**	**15 11 55.0**	**+0.2**
GUR	**Goura**	**1.14**	**297**		P	P	**Pn**	**15 11 42.4**	**-1.0**
GUR					S		**Sn**	**15 11 59.0**	**+0.2**
GUR	**Goura**	**1.14**	**297**	*e*	PN	P	**Pn**	**15 11 42.7**	**-0.7**
GUR					SN		**Sn**	**15 11 59.0**	**+0.2**
GUR	**Goura**	**1.14**	**297**		P	P	**Pn**	**15 11 42.4**	**-1.0**
GUR	**Goura**	**1.14**	**297**	*e*	Pn	P	**Pn**	**15 11 42.7**	**-0.7**
GUR					Sn		**Sn**	**15 11 59.0**	**+0.2**
KYTH	**Kithira**	**1.23**	**203**		P	P	**Pn**	**15 11 44.4**	**-0.3**
KYTH	**Kithira**	**1.23**	**203**	*e*	PN	P	**Pn**	**15 11 44.6**	**-0.1**
KYTH	**Kithira**	**1.23**	**203**	*e*	Pn	P	**Pn**	**15 11 44.6**	**-0.1**
MRKA	**Markates**	**1.28**	**359**		P	P	**Pn**	**15 11 45.3**	**0.0**
MRKA					S		**Sn**	**15 12 02.5**	**+0.3**
MRKA	**Markates**	**1.28**	**359**	*e*	PN	P	**Pn**	**15 11 45.4**	**+0.1**
MRKA					SN		**Sg**	**15 12 03.2**	**-0.2**
MRKA	**Markates**	**1.28**	**359**	*e*	Pn	P	**Pn**	**15 11 45.4**	**+0.1**
MRKA					S		**Sn**	**15 12 02.5**	**+0.3**
MRKA					Sn		**Sg**	**15 12 03.2**	**-0.2**
DSF	**Desfina**	**1.31**	**319**		P	P	**Pn**	**15 11 45.8**	**0.0**
DSF					S		**Sn**	**15 12 03.4**	**+0.4**
DSF	**Desfina**	**1.31**	**319**	*e*	PN	P	**Pn**	**15 11 45.9**	**+0.1**
DSF	**Desfina**	**1.31**	**319**	*e*	Pn	P	**Pn**	**15 11 45.9**	**+0.1**
DSF					S		**Sn**	**15 12 03.4**	**+0.4**
LKR	**Lokris**	**1.32**	**338**		P	P	**Pn**	**15 11 45.8**	**0.0**
LKR	**Lokris**	**1.32**	**338**	*e*	PN	P	**Pn**	**15 11 46.0**	**+0.2**
LKR					SN		**Sb**	**15 12 03.9**	**+0.7**
LKR	**Lokris**	**1.32**	**338**	*e*	Pn	P	**Pn**	**15 11 46.0**	**+0.2**
LKR					Sn		**Sb**	**15 12 03.9**	**+0.7**
KLV	**Kalavryta, Ach**	**1.32**	**298**		P	P	**Pn**	**15 11 46.2**	**+0.3**
KLV	**Kalavryta, Ach**	**1.32**	**298**	*e*	PN	P	**Pn**	**15 11 46.2**	**+0.3**
KLV					SN		**Sb**	**15 12 04.1**	**+0.8**
KLV	**Kalavryta, Ach**	**1.32**	**298**		P	P	**Pn**	**15 11 46.2**	**+0.3**
KLV					Sn		**Sb**	**15 12 04.1**	**+0.8**
ATAL	**Atalanti**	**1.35**	**340**		P	P	**Pn**	**15 11 46.2**	**-0.1**
ATAL	**Atalanti**	**1.35**	**340**		P	P	**Pn**	**15 11 46.2**	**-0.1**
ITM	**Ithomi**	**1.38**	**260**		P	P	**Pn**	**15 11 47.5**	**+0.1**
ITM	**Ithomi**	**1.38**	**260**	*e*	PN	P	**Pb**	**15 11 47.4**	**+0.1**
ITM	**Ithomi**	**1.38**	**260**	*e*	Pn	P	**Pb**	**15 11 47.4**	**+0.1**
SMIA	**Simia**	**1.49**	**347**		P	P	**Pn**	**15 11 48.6**	**+0.3**
SMIA	**Simia**	**1.49**	**347**	*e*	PN	P	**Pn**	**15 11 48.5**	**+0.3**
SMIA					SN		**Sb**	**15 12 09.0**	**+0.9**
SMIA	**Simia**	**1.49**	**347**	*e*	Pn	P	**Pn**	**15 11 48.5**	**+0.3**
SMIA					Sn		**Sb**	**15 12 09.0**	**+0.9**
KALE	**Kalithea**	**1.52**	**310**		P	P	**Pn**	**15 11 49.1**	**+0.5**
KALE	**Kalithea**	**1.52**	**310**	*e*	PN	P	**Pn**	**15 11 49.2**	**+0.6**
KALE	**Kalithea**	**1.52**	**310**		P	P	**Pn**	**15 11 49.1**	**+0.5**
AMT	**Artemida-Makis**	**1.53**	**275**		P	P	**Pb**	**15 11 50.3**	**+0.3**
AMT	**Artemida-Makis**	**1.53**	**275**		P	P	**Pb**	**15 11 50.3**	**+0.3**
AXAR	**Agios Charalam**	**1.54**	**331**		P	P	**Pn**	**15 11 49.6**	**+0.6**
AXAR					S		**Sb**	**15 12 09.8**	**+0.2**
AXAR	**Agios Charalam**	**1.54**	**331**	*e*	PN	P	**Pn**	**15 11 49.5**	**+0.6**
AXAR	**Agios Charalam**	**1.54**	**331**	*e*	Pn	P	**Pn**	**15 11 49.5**	**+0.6**
AXAR					Sn		**Sb**	**15 12 09.8**	**+0.2**
APE	**Apeiranthos**	**1.56**	**103**	*e*	PN	P	**Pn**	**15 11 49.4**	**+0.2**
APE					SN		**Sb**	**15 12 11.1**	**+1.0**
APE	**Apeiranthos**	**1.56**	**103**	*e*	Pn	P	**Pn**	**15 11 49.2**	**0.0**
APE	**Apeiranthos**	**1.56**	**103**	*e*	Pn	P	**Pn**	**15 11 49.4**	**+0.2**
APE					Sn		**Sb**	**15 12 11.1**	**+1.0**
ANKY	**Antikythira Is**	**1.57**	**190**		P	P	**Pn**	**15 11 49.2**	**-0.1**
ANKY	**Antikythira Is**	**1.57**	**190**	*e*	PB	P	**Pn**	**15 11 49.2**	**-0.1**
ANKY	**Antikythira Is**	**1.57**	**190**		P	P	**Pn**	**15 11 49.2**	**-0.1**
PYL	**PYLOS**	**1.59**	**251**		P	P	**Pb**	**15 11 50.8**	**-0.3**
PYL	**PYLOS**	**1.59**	**251**		P	P	**Pb**	**15 11 50.8**	**-0.3**
DRO	**Drossia**	**1.61**	**290**		P	P	**Pb**	**15 11 50.9**	**-0.4**
DRO	**Drossia**	**1.61**	**290**	*e*	PN	P	**Pb**	**15 11 51.0**	**-0.4**
DRO	**Drossia**	**1.61**	**290**		P	P	**Pb**	**15 11 50.9**	**-0.4**
EFP	**Efpalio**	**1.69**	**307**		P	P	**Pn**	**15 11 51.8**	**+0.9**
EFP	**Efpalio**	**1.69**	**307**	*e*	PN	P	**Pn**	**15 11 51.7**	**+0.9**
EFP	**Efpalio**	**1.69**	**307**	*e*	Pn	P	**Pn**	**15 11 51.7**	**+0.9**
THR3	**Thira Island,**	**1.75**	**125**		P	P	**Pb**	**15 11 53.2**	**-0.5**
THR3	**Thira Island,**	**1.75**	**125**		P	P	**Pb**	**15 11 53.2**	**-0.5**
AOS	**Alonnisos**	**1.76**	**7**	*e*	PN	P	**Pn**	**15 11 51.7**	**-0.2**
AOS				*e*	SN		**Sn**	**15 12 14.0**	**+0.1**
AOS	**Alonnisos**	**1.76**	**7**		P	P	**Pn**	**15 11 51.6**	**-0.2**
AOS	**Alonnisos**	**1.76**	**7**	*e*	PB	P	**Pn**	**15 11 51.6**	**-0.2**
AOS	**Alonnisos**	**1.76**	**7**	*e*	Pn	P	**Pn**	**15 11 51.7**	**-0.2**
AOS				*e*	Sn		**Sn**	**15 12 14.0**	**+0.1**
RLS	**Riolos of Patr**	**1.82**	**291**		P	P	**Pb**	**15 11 54.2**	**-0.8**
RLS	**Riolos of Patr**	**1.82**	**291**		P	P	**Pb**	**15 11 54.2**	**-0.8**
AGG	**Agios Georgios**	**1.89**	**328**	*e*	PN	P	**Pn**	**15 11 55.0**	**+1.3**
AGG	**Agios Georgios**	**1.89**	**328**		P	P	**Pn**	**15 11 54.8**	**+1.1**
AGG	**Agios Georgios**	**1.89**	**328**	*e*	PB	P	**Pn**	**15 11 54.8**	**+1.1**
AGG	**Agios Georgios**	**1.89**	**328**		P	P	**Pn**	**15 11 54.8**	**+1.1**
AGG	**Agios Georgios**	**1.89**	**328**	*e*	Pn	P	**Pn**	**15 11 55.1**	**+1.3**
NEO	**Neokhori**	**1.91**	**351**		P	P	**Pn**	**15 11 54.3**	**+0.4**
NEO	**Neokhori**	**1.91**	**351**	*e*	PN	P	**Pn**	**15 11 54.3**	**+0.4**
NEO	**Neokhori**	**1.91**	**351**		P	P	**Pn**	**15 11 54.3**	**+0.4**
XOR	**Xorichti**	**1.97**	**350**		P	P	**Pn**	**15 11 55.2**	**+0.4**
XOR	**Xorichti**	**1.97**	**350**	*e*	PN	P	**Pn**	**15 11 55.0**	**+0.2**
XOR	**Xorichti**	**1.97**	**350**		P	P	**Pn**	**15 11 55.2**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.98**	**324**		P	P	**Pb**	**15 11 56.4**	**-1.2**
MAKR	**Makrakomi, Fth**	**1.98**	**324**	*e*	PB	P	**Pb**	**15 11 56.4**	**-1.2**
MAKR	**Makrakomi, Fth**	**1.98**	**324**		P	P	**Pb**	**15 11 56.4**	**-1.2**
FYTO	**Fytoko, Volos**	**2.05**	**345**		P	P	**Pn**	**15 11 56.4**	**+0.5**
FYTO	**Fytoko, Volos**	**2.05**	**345**		P	P	**Pn**	**15 11 56.4**	**+0.5**
VAM	**Vamos**	**2.06**	**167**	*e*	PN	P	**Pn**	**15 11 56.7**	**+0.6**
VAM	**Vamos**	**2.06**	**167**	*e*	Pn	P	**Pn**	**15 11 56.7**	**+0.6**
EVR	**Evrytania**	**2.07**	**317**		P	P	**Pn**	**15 11 57.4**	**+1.2**
EVR	**Evrytania**	**2.07**	**317**	*e*	PB	P	**Pn**	**15 11 57.3**	**+1.1**
EVR	**Evrytania**	**2.07**	**317**	*e*	Pn	P	**Pn**	**15 11 57.3**	**+1.1**
CHOS	**Chios island**	**2.15**	**63**	*e*	PN	P	**Pn**	**15 11 57.5**	**+0.2**
CHOS	**Chios island**	**2.15**	**63**		P	P	**Pn**	**15 11 57.5**	**+0.2**
CHOS	**Chios island**	**2.15**	**63**	*e*	PN	P	**Pn**	**15 11 57.6**	**+0.3**
CHOS	**Chios island**	**2.15**	**63**		P	P	**Pn**	**15 11 57.5**	**+0.2**
PDO	**Prodromos**	**2.26**	**302**		P	P	**Pb**	**15 12 00.7**	**-1.7**
PDO	**Prodromos**	**2.26**	**302**		P	P	**Pb**	**15 12 00.7**	**-1.7**
ZKS	**Zakynthos**	**2.27**	**278**		P	P	**Pb**	**15 12 00.9**	**-1.8**
ZKS	**Zakynthos**	**2.27**	**278**		P	P	**Pb**	**15 12 00.9**	**-1.8**
IDI	**Anoyia**	**2.36**	**154**		Pn	Pn	**Pn**	**15 12 00.3**	**+0.1**
	3.6nm,0.3s,baz=268,slow=6.7,SNR=30								
IDI					Sn		**Sn**	**15 12 29.7**	**+0.7**
	15nm,0.3s,baz=4.2,slow=12,SNR=11								
IDI					Lg	Lg		15 12 37.3	
	13nm,0.3s,baz=235,slow=23,SNR=5.9								
THL	**Klokotos Trika**	**2.48**	**330**		P	P	**Pn**	**15 12 02.6**	**+0.8**
THL	**Klokotos Trika**	**2.48**	**330**	*e*	PN	P	**Pn**	**15 12 02.7**	**+0.9**
THL	**Klokotos Trika**	**2.48**	**330**		P	P	**Pn**	**15 12 02.6**	**+0.8**
PAIG	**Paliouri**	**2.50**	**1**		P	P	**Pn**	**15 12 02.5**	**+0.5**
PAIG	**Paliouri**	**2.50**	**1**		P	P	**Pn**	**15 12 02.5**	**+0.5**
SIGR	**SIGRI**	**2.50**	**44**	*e*	PN	P	**Pn**	**15 12 01.9**	**-0.2**
SIGR	**SIGRI**	**2.50**	**44**		P	P	**Pn**	**15 12 01.9**	**-0.2**
SIGR	**SIGRI**	**2.50**	**44**		P	P	**Pn**	**15 12 01.9**	**-0.2**
VLS	**Valsamata**	**2.52**	**288**		P	P	**Pn**	**15 12 04.5**	**+2.2**
VLS	**Valsamata**	**2.52**	**288**		P	P	**Pn**	**15 12 04.5**	**+2.2**
DSL	**Palaion Diasel**	**2.62**	**311**		P	P	**Pb**	**15 12 07.2**	**-1.4**
DSL	**Palaion Diasel**	**2.62**	**311**		P	P	**Pb**	**15 12 07.2**	**-1.4**
LIA	**Limnos Island**	**2.76**	**26**		P	P	**Pn**	**15 12 05.0**	**-0.5**
LIA	**Limnos Island**	**2.76**	**26**		P	P	**Pn**	**15 12 05.0**	**-0.5**
LIT	**Litokhoron**	**2.82**	**342**		P	P	**Pn**	**15 12 06.9**	**+0.5**
LIT	**Litokhoron**	**2.82**	**342**		P	P	**Pn**	**15 12 06.9**	**+0.5**
BLCB	**Balcova**	**2.87**	**69**	*e*	PN	P	**Pn**	**15 12 07.3**	**+0.2**
BLCB	**Balcova**	**2.87**	**69**	*e*	Pn	P	**Pn**	**15 12 07.3**	**+0.2**
OUR	**Ouranopolis**	**2.92**	**5**	*e*	PN	P	**Pn**	**15 12 07.9**	**+0.1**
OUR	**Ouranopolis**	**2.92**	**5**		P	P	**Pn**	**15 12 07.8**	**0.0**
OUR	**Ouranopolis**	**2.92**	**5**	*e*	Pn	P	**Pn**	**15 12 07.9**	**+0.1**
PLG	**Polygyros**	**2.95**	**357**		P	P	**Pn**	**15 12 08.2**	**-0.1**
PLG	**Polygyros**	**2.95**	**357**		P	P	**Pn**	**15 12 08.2**	**-0.1**
IZM	**Izmir**	**3.04**	**70**	*e*	PN	P	**Pn**	**15 12 10.2**	**+0.7**
IZM	**Izmir**	**3.04**	**70**	*e*	Pn	P	**Pn**	**15 12 10.2**	**+0.7**
BOZC	**Bozcaada**	**3.07**	**37**	*i*	P	P	**Pn**	**15 12 09.0**	**-1.0**
HORT	**Hortiatis**	**3.20**	**353**	*e*	PN	P	**Pn**	**15 12 12.8**	**+1.1**
HORT	**Hortiatis**	**3.20**	**353**	*e*	Pn	P	**Pn**	**15 12 12.8**	**+1.1**
EZN	**Ezine**	**3.20**	**41**	*e*	PN	P	**Pn**	**15 12 11.7**	**+0.1**
EZN	**Ezine**	**3.20**	**41**	*e*	Pn	P	**Pn**	**15 12 11.7**	**+0.1**
GADA	**Gvkgeada**	**3.29**	**32**	*e*	PN	P	**Pn**	**15 12 13.5**	**+0.7**
GADA	**Gvkgeada**	**3.29**	**32**	*e*	Pn	P	**Pn**	**15 12 13.5**	**+0.7**
IGT	**Igoumenitsa**	**3.33**	**310**	*e*	PN	P	**Pn**	**15 12 16.2**	**+2.7**
IGT	**Igoumenitsa**	**3.33**	**310**	*e*	Pn	P	**Pn**	**15 12 16.2**	**+2.7**
SGD	**Sagiada**	**3.44**	**310**		P	P	**Pn**	**15 12 17.2**	**+2.2**
SGD	**Sagiada**	**3.44**	**310**		P	P	**Pn**	**15 12 17.2**	**+2.2**
SRS	**Serrai**	**3.69**	**360**		P	P	**Pn**	**15 12 18.6**	**+0.2**
SRS	**Serrai**	**3.69**	**360**		P	P	**Pn**	**15 12 18.6**	**+0.2**
GELI	**Tayfur-Gelibol**	**3.71**	**36**	*e*	PN	P	**Pn**	**15 12 19.0**	**+0.4**
GELI	**Tayfur-Gelibol**	**3.71**	**36**	*e*	Pn	P	**Pn**	**15 12 19.0**	**+0.4**
KNT	**Kendrikon**	**3.78**	**352**	*e*	PN	P	**Pn**	**15 12 21.0**	**+1.4**
KNT	**Kendrikon**	**3.78**	**352**		P	P	**Pn**	**15 12 20.8**	**+1.2**
KNT	**Kendrikon**	**3.78**	**352**		P	P	**Pn**	**15 12 20.8**	**+1.2**
FNA	**Florina**	**3.78**	**333**	*e*	PN	P	**Pn**	**15 12 21.5**	**+1.8**
FNA	**Florina**	**3.78**	**333**	*e*	Pn	P	**Pn**	**15 12 21.5**	**+1.8**
ALN	**Alexandroupoli**	**3.95**	**28**	*e*	PN	P	**Pn**	**15 12 22.2**	**+0.3**
ALN	**Alexandroupoli**	**3.95**	**28**	*e*	Pn	P	**Pn**	**15 12 22.2**	**+0.3**
BARS	**Barje**	**5.56**	**346**	*i*	Pn	Pn	**Pn**	**15 12 44.6**	**+0.5**
IVAS	**Ivanjica**	**6.69**	**338**	*i*	Pn	Pn	**Pn**	**15 13 01.6**	**+1.9**
TRUS	**Trudelj**	**7.22**	**341**	*i*	Pn	Pn	**Pn**	**15 13 09.6**	**+2.8**
BRTR	**Keskin Array B**	**8.17**	**71**		Pn	Pn	**Pn**	**15 13 23.2**	**+3.1**
	0.2nm,0.3s,baz=252,slow=14,SNR=4.4								
MLR	**Muntele Rosu**	**8.25**	**11**		Pn	Pn	**Pn**	**15 13 22.1**	**+1.0**
	0.1nm,0.3s,baz=154,slow=13,SNR=4.4								
DAVOX	**Davos/Dischmat**	**13.82**	**317**		LR	LR		15 20 26.7	
	comp=Z,18nm,20.8s,baz=267,slow=40								
TORD	**Torodi Ar. Bea**	**31.11**	**225**		P	P	**P**	**15 17 39.4**	**-0.5**
	0.4nm,0.4s,baz=32,slow=9.5,SNR=8.0								
KURBB	**Kurchatov Arra**	**40.71**	**53**		P	P	**P**	**15 19 01.8**	**+0.1**
	0.5nm,0.7s,baz=277,slow=5.4,SNR=2.4								
MKAR	**Makanchi Array**	**43.60**	**58**		P	P	**P**	**15 19 25.3**	**-0.1**
	0.2nm,0.4s,baz=269,slow=7.0,SNR=4.5								
ASAR	**Alice Springs**	**119.64**	**98**		PKP		**PKPdf**	**15 30 10.3**	**-1.2**
	0.7nm,0.9s,baz=307,slow=1.5,SNR=4.3								

CSEM ***16*** *15:11:52.9, 37.22N× 28.10E, h7km, MD3.0*
DDA 16 15:11:52.9, 37.22N× 28.10E, h7km, MD3.0, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.47**	**338**	*i*	P	P	**Pg**	**15 12 02.9**	**+0.7**
AYDN				*i*	S	S	**Sb**	**15 12 09.8**	**-1.2**
AYDN	**Tasoluk**	**0.47**	**338**	*i*	P	P	**Pg**	**15 12 02.9**	**+0.7**
AYDN				*i*	S	S	**Sb**	**15 12 09.8**	**-1.2**
TURN	**Turunc**	**0.53**	**131**	*i*	P	P	**Pg**	**15 12 01.2**	**-2.0**
TURN				*i*	S	Sg	**Sg**	**15 12 08.9**	**-1.1**
TURN	**Turunc**	**0.53**	**131**	*i*	P	P	**Pg**	**15 12 01.2**	**-2.0**
TURN				*i*	S	Sg	**Sg**	**15 12 08.9**	**-1.2**
BDRM	**Kayabasi**	**0.55**	**254**	*i*	P	P	**Pb**	**15 12 04.3**	**-0.7**
BDRM	**Kayabasi**	**0.55**	**254**	*i*	P	Pb	**Pb**	**15 12 08.3**	**-0.6**
BODT	**Bodrum**	**0.65**	**256**	*e*	PN	Pn	**Pb**	**15 12 08.8**	**+0.1**
BODT	**Bodrum**	**0.65**	**256**	*e*	Pn	Pn	**Pb**	**15 12 08.8**	**+0.1**
GOLH	**Golhisar**	**1.16**	**89**	*i*	P	P	**Pg**	**15 12 12.8**	**-2.6**
GOLH				*i*	S	Sn	**Sn**	**15 12 32.3**	**+0.2**
GOLH	**Golhisar**	**1.16**	**89**	*i*	P	P	**Pg**	**15 12 12.8**	**-2.6**
GOLH				*i*	S	Sn	**Sn**	**15 12 32.3**	**+0.2**
AKAS	**Kas**	**1.56**	**129**	*i*	P	Pb	**Pb**	**15 12 22.1**	**-0.2**
AKAS				*i*	S	Sg	**Sg**	**15 12 45.8**	**+2.4**
AKAS	**Kas**	**1.56**	**129**	*i*	P	Pb	**Pb**	**15 12 22.1**	**-0.2**
AKAS				*i*	S	Sg	**Sg**	**15 12 45.8**	**+2.4**

IDC ***16*** *15:16:03.8± 0.8, 2.29S× 136.68E, h0km, mb3.8/12, mb1 4.1/14, mb1mx3.9/36, mbtmp3.9/14, ML4.0/2, MS3.6/3, Ms1 3.6/3, ms1mx3.0/26, Error ellipse: s-maj=26.3km s-min=14.1km az=62.0*
NEIC ***16*** *15:16:05.3± 0.5, 2.27S× 136.73E, h10km, mb4.4/2, Error ellipse: s-maj=14.6km s-min=6.9km az=76.0*
DJA ***16*** *15:16:06.7± 0.7, 2°S± 9°× 13°7E± °, h11km± 7km, M4.6/7, mb4.3/3, MLv4.8/7*
ISCJB ***16*** *15:16:07.4± 0.4, 2.31S± 0.05× 136.62E± 0.04, h42km, mb3.9/13, MS3.8/1, Error ellipse: s-maj=8.0km s-min=5.2km az=23.0*

ISC 16 15:16:09.5± 0.7, 2.28S± 0.08× 136.66E± 0.06, h42km, n32, σ 1.952/30, mb3.9/13, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.59**	**314**		P	P	Pn	15 16 17.0	-4.4
SRPI					S	S	**Sn**	**15 16 26.4**	**-3.6**
SMPI	**Sarmi**	**2.07**	**82**		P	P	**Pn**	**15 16 39.4**	**-2.3**
RKPI	**Ransiki, Papua**	**2.60**	**287**		P	P	**Pn**	**15 16 49.1**	**+0.1**
GENI	**Genyem**	**3.52**	**95**		P	P	**Pn**	**15 17 00.9**	**-0.7**
JAY	**Jayapura**	**4.04**	**93**		P	P	**Pn**	**15 17 08.0**	**-0.9**
FAKI	**Fak Fak**	**4.46**	**262**		P	P	**Pn**	**15 17 13.7**	**-0.8**
FAKI					S	S	**Sn**	**15 18 02.6**	**-2.6**
FAKI	**Fak Fak**	**4.46**	**262**	*e*	P	P	**Pn**	**15 17 13.5**	**-1.0**
SIJI	**Sorong**	**5.57**	**284**		Pn	Pn	**Pn**	**15 17 27.6**	**-2.3**
	4.7nm,0.3s,baz=224,slow=22,SNR=15								
SIJI					Sn	Sn	**Sn**	**15 18 32.4**	**-0.4**
	3.0nm,0.3s,baz=65,slow=

comp=N,0.9nm,0.8s,baz=157,slow=8.4,SNR=8.7
TXAR LR LR 16 14 19.5
comp=N,58nm,18.2s,baz=0.0,slow=32
DBIC Dimbokro 77.55 72 P **P 15 47 57.1 -0.2**
comp=N,1.2nm,0.4s,baz=172,slow=9.5,SNR=3.6
DBIC LR LR 16 20 20.8
comp=N,47nm,18.8s,baz=101,slow=34
BOSA Boshof 79.60 118 LR LR 16 23 29.7
comp=N,28nm,19.1s,baz=172,slow=36
TORD Torodi Ar. Bea 86.63 71 P **P 15 48 43.8 -1.1**
comp=N,0.8nm,0.8s,baz=252,slow=2.8,SNR=4.0
TORD LR LR 16 23 11.1
comp=N,35nm,21.6s,baz=185,slow=33
ABKAR Akbulak array 144.82 55 *e*PKP PKPbc 15 55 36.5 -0.1
ZALV Zalesovo Beam 157.87 35 PKP **PKPdf 15 55 57.0 0.0**
comp=N,0.4nm,0.4s,baz=197,slow=4.5,SNR=3.7
ZALV PKPab **PKPab 15 56 30.6 +0.5**
comp=N,0.5nm,0.3s,baz=314,slow=5.1,SNR=5.1
MKAR Makanchi Array 159.97 55 PKP **PKPdf 15 55 59.5 -0.3**
comp=N,0.3nm,0.9s,baz=338,slow=2.0,SNR=3.7
MKAR PKPab **PKPab 15 56 37.4 -2.1**
comp=N,0.9nm,0.9s,baz=298,slow=2.6,SNR=6.3

IDC ***16*** *15:43:27.1±2.9, 1.67S×136.66E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=88.3km s-min=25.3km az=75.0*
DJA ***16*** *15:43:29.5±0.6, 2.3S±13.1°×13.6E±.1°, h10km, M3.7/5, MLv3.7/5*
ISCJB ***16*** *15:43:30.8±0.9, 1.88S±0.08×136.38E±0.08, h33km, mb3.4/3, Error ellipse: s-maj=13.0km s-min=10.6km az=141.3*
ISC 16 15:43:32.7±1.1, 2.0S±0.1×136.44E±0.07, h35km, n8, σ2°15/9, mb3.4/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.22**	**291**	P	Pn	15 43 34.9	-4.8
SRPI				S	Sn	15 43 37.6	-6.9
SMPI	**Sarmi**	**2.27**	**91**	P	**Pn**	**15 44 07.2**	**-0.4**
RKPI	**Ransiki, Papua**	**2.31**	**281**	P	**Pn**	**15 44 06.7**	**-1.5**
RKPI				S	**Sn**	**15 44 37.5**	**+2.1**
FAKI	**Fak Fak**	**4.30**	**257**	P	**Pn**	**15 44 35.4**	**-0.3**
WRA	**Warramunga Arr**	**18.00**	**186**	P	**P**	**15 47 42.1**	**+1.6**
	0.2nm,0.3s,baz=9.0,slow=13,SNR=11						
WRA				S	**Sn**	**15 50 57.0**	**-3.1**
	0.1nm,0.3s,baz=0.7,slow=23,SNR=4.5						
ASAR	**Alice Springs**	**21.73**	**186**	P	**P**	**15 48 23.9**	**+2.8**
	2.0nm,0.7s,baz=16,slow=11,SNR=17						
CMAR	**Chiang Mai Arr**	**42.10**	**300**	P	**P**	**15 51 21.4**	**-0.4**
	0.5nm,0.8s,baz=105,slow=6.0,SNR=3.7						
MKAR	**Makanchi Array**	**67.82**	**323**	P	**P**	**15 54 26.6**	**-0.6**
	0.2nm,0.6s,baz=116,slow=7.4,SNR=3.9						

IDC ***16*** *15:56:33.3±1.1, 7.64N×127.25E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/33, mbtmp4.0/7, MS2.6/1, Ms1 2.8/1, ms1mx2.2/28, Error ellipse: s-maj=69.6km s-min=18.2km az=65.0*
MAN ***16*** *15:56:34, 7.76N×127.71E, h14km, mb4.8, ML3.7, MS3.8*
ISCJB ***16*** *15:56:36.6±0.8, 7.76N±0.1×127.68E±0.09, h41km, mb4.0/9, MS2.5/1, Error ellipse: s-maj=17.0km s-min=9.0km az=42.1*
NEIC ***16*** *15:56:42.1±6.1, 7.63N×127.25E, h68km±56km, mb4.4/2, Error ellipse: s-maj=43.4km s-min=11.6km az=64.0*
ISC 16 15:56:38.6±0.9, 7.68N±0.1×127.5E±0.1, h41km, n15, σ1°33/16, mb4.1/9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.52**	**241**	*e*P	**Pn**	**15 57 01.8**	**-1.6**
BUTP	**Butuan**	**2.34**	**303**	*e*P	**Pn**	**15 57 14.3**	**-0.2**
BUTP				*e*S	Sn	15 57 50.3	+8.2
BUKP	**Musuan**	**2.52**	**275**	*e*P	**Pn**	**15 57 17.4**	**+0.2**
MSLP	**Maasin**	**3.64**	**312**	*e*P	**Pn**	**15 57 31.1**	**-1.4**
TBP	**Tagbilaran**	**4.20**	**299**	*e*P	**Pn**	**15 57 41.2**	**+1.0**
TBP				*e*S	**Sn**	**15 58 30.6**	**+2.5**
WRA	**Warramunga Arr**	**28.24**	**167**	P	**P**	**16 02 29.9**	**+1.9**
	1.6nm,0.8s,baz=345,slow=10,SNR=3.2						
CMAR	**Chiang Mai Arr**	**29.85**	**294**	P	**P**	**16 02 40.3**	**-2.1**
	0.4nm,0.7s,baz=95,slow=8.9,SNR=3.1						
CMAR				LR	LR	16 13 59.4	
	comp=Z,13nm,21.4s,baz=195,slow=35						
STKA	**Stephens Creek**	**41.55**	**162**	P	**P**	**16 04 22.6**	**+0.3**
	4.8nm,0.9s,baz=338,slow=9.5,SNR=2.8						
SONM	**Songino Array**	**43.89**	**339**	P	**P**	**16 04 42.0**	**+0.7**
	3.2nm,0.7s,baz=157,slow=8.8,SNR=22						
MKAR	**Makanchi Array**	**54.87**	**323**	P	**P**	**16 06 04.7**	**-0.3**
	0.9nm,0.6s,baz=122,slow=8.0,SNR=12						
ZALV	**Zalesovo Beam**	**57.51**	**332**	P	**P**	**16 06 22.7**	**-1.0**
	0.6nm,0.6s,baz=116,slow=9.8,SNR=3.3						
KURK	**Kurchatov**	**58.93**	**326**	*e*P	**P**	**16 06 33.4**	**-0.3**
	2.2nm,0.9s						
RAYN	**Ar Rayn**	**79.76**	**292**	*e*P	**P**	**16 08 42.4**	**-0.7**
	6.0nm,0.8s						
VNDA	**Vanda**	**87.22**	**173**	P	**P**	**16 09 20.7**	**+0.6**
	0.6nm,0.5s,baz=324,slow=5.5,SNR=6.4						
TORD	**Torodi Ar. Bea**	**122.43**	**291**	PKP	**PKPdf**	**16 15 29.7**	**-0.8**
	0.4nm,0.7s,baz=52,slow=1.5,SNR=2.8						

IDC ***16*** *15:57:32.3±1.0, 1.72S×136.38E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.9/29, mbtmp4.0/8, ML3.7/1, Error ellipse: s-maj=37.2km s-min=18.5km az=67.0*
NEIC ***16*** *15:57:33.7±0.8, 1.85S×136.37E, h10km, mb4.3/2, Error ellipse: s-maj=22.0km s-min=12.9km az=73.0*
ISCJB ***16*** *15:57:35.4±0.5, 1.89S±0.08×136.30E±0.06, h33km, mb4.0/7, Error ellipse: s-maj=12.2km s-min=8.0km az=16.6*
DJA ***16*** *15:57:35.5±0.8, 2.2S±13.1°×13.6E±.1°, h13km±6km, M4.6/6, mb5.4/2, mB5.4/2, MLv4.3/6, Mw(mB)4.8/2*
ISC 16 15:57:37.5±0.7, 1.9S±0.1×136.26E±0.05, h35km, n18, σ1°88/19, mb3.9/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.02**	**269**	P	Pn	15 57 39.4	-3.9
SRPI				S	**Sn**	**15 57 43.6**	**-3.7**
RKPI	**Ransiki, Papua**	**2.11**	**280**	P	**Pn**	**15 58 11.2**	**+0.9**
RKPI				S	Sn	15 58 43.6	+8.3
SMPI	**Sarmi**	**2.46**	**93**	P	**Pn**	**15 58 14.6**	**-0.5**
SMPI				S	**Sn**	**15 58 47.7**	**+3.8**
GENI	**Genyem**	**3.98**	**100**	P	**Pn**	**15 58 34.2**	**-1.8**
FAKI	**Fak Fak**	**4.14**	**255**	P	**Pn**	**15 58 39.4**	**+1.2**
FAKI	**Fak Fak**	**4.14**	**255**	*e*Pn	**Pn**	**15 58 39.5**	**+1.3**
SIJI	**Sorong**	**5.09**	**281**	Pn	**Pn**	**15 58 50.0**	**-1.3**
	2.5nm,0.3s,baz=8.2,slow=16,SNR=8.9						
WRAB	**Tennant Creek**	**18.05**	**186**	*e*P	**Pn**	**16 01 43.3**	**-2.4**
	6.7nm,0.8s						
WRA	**Warramunga Arr**	**18.06**	**186**	P	**Pn**	**16 01 42.9**	**-3.0**
	0.4nm,0.3s,baz=7.8,slow=13,SNR=16						
CTA	**Charters Tower**	**20.58**	**152**	P	**P**	**16 02 13.6**	**+0.1**
	7.6nm,1.1s,baz=0.0,slow=14,SNR=2.6						
ASAR	**Alice Springs**	**21.79**	**186**	P	**P**	**16 02 28.1**	**+1.5**
	12nm,0.7s,baz=12,slow=11,SNR=94						
STKA	**Stephens Creek**	**30.27**	**171**	P	**P**	**16 03 46.0**	**+0.7**
	4.7nm,0.7s,baz=345,slow=6.8,SNR=6.4						
CMAR	**Chiang Mai Arr**	**41.90**	**301**	P	**P**	**16 05 25.8**	**+0.9**
	1.8nm,1.0s,baz=118,slow=6.9,SNR=9.1						
MKAR	**Makanchi Array**	**67.64**	**323**	P	**P**	**16 08 31.1**	**0.0**
	0.6nm,0.5s,baz=112,slow=7.5,SNR=7.6						
ZALV	**Zalesovo Beam**	**69.99**	**331**	P	**P**	**16 08 44.7**	**-0.7**
	0.4nm,0.4s,baz=120,slow=8.5,SNR=2.5						
ILAR	**Eielson Array**	**86.09**	**25**	P	**P**	**16 10 14.1**	**-0.4**
	0.3nm,0.7s,baz=256,slow=3.4,SNR=2.8						
QSPA	**South Pole Qui**	**88.07**	**180**	*e*P	**P**	**16 10 25.3**	**+1.1**
	5.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**133.67**	**286**	PKP	**PKPdf**	**16 16 51.4**	**-0.2**
	0.7nm,0.9s,baz=78,slow=1.6,SNR=3.4						

IDC 16 16:00:13.1±2.3, 1.71S×136.43E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.5/28, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=61.1km s-min=27.2km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.23**	**279**	Pn	Pn	16 01 32.6	-0.1
	1.1nm,0.3s,baz=54,slow=19,SNR=4.0						
SIJI				Sn	Sn	16 02 30.1	-3.7
	baz=150,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**18.24**	**186**	P	Pn	16 04 27.1	-0.9
	0.2nm,0.3s,baz=8.2,slow=13,SNR=4.1						
ASAR	**Alice Springs**	**21.97**	**186**	P	P	16 05 09.4	+0.6
	1.8nm,0.6s,baz=16,slow=11,SNR=5.7						
MKAR	**Makanchi Array**	**67.62**	**323**	P	P	16 11 11.9	0.0
	0.2nm,0.5s,baz=111,slow=7.5,SNR=3.9						

IDC 16 16:09:51.6±3.0, 1.79S×136.58E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/23, mbtmp3.1/3, ML3.0/1, Error ellipse: s-maj=125.6km s-min=27.8km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.17**	**187**	P	Pn	16 14 04.6	-1.0
	0.1nm,0.3s,baz=8.6,slow=12,SNR=5.8						
ASAR	**Alice Springs**	**21.90**	**187**	P	P	16 14 47.0	+0.5
	0.5nm,0.9s,baz=9.1,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**67.77**	**323**	P	P	16 20 51.4	0.0
	0.2nm,0.8s,baz=110,slow=8.3,SNR=2.9						

IDC 16 16:16:05.0±2.0, 2.16S×136.59E, h0km, mb3.3/3, mb1 3.7/5, mb1mx3.5/25, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=48.1km s-min=24.6km az=67.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.47**	**283**	Pn	Pn	16 17 29.4	+1.5
	1.6nm,0.3s,baz=243,slow=22,SNR=29						
SIJI				Sn	Sn	16 18 30.4	-1.2
	0.7nm,0.3s,baz=300,slow=22,SNR=3.6						
WRA	**Warramunga Arr**	**17.81**	**187**	P	Pn	16 20 13.6	-1.0
	0.1nm,0.3s,baz=8.7,slow=12,SNR=7.0						
ASAR	**Alice Springs**	**21.54**	**187**	P	P	16 20 56.1	0.0
	1.1nm,0.8s,baz=11,slow=11,SNR=16						
CMAR	**Chiang Mai Arr**	**42.33**	**301**	P	P	16 24 00.2	-0.9
	0.4nm,0.8s,baz=105,slow=6.1,SNR=4.1						
MKAR	**Makanchi Array**	**68.07**	**323**	P	P	16 27 07.0	+0.4
	0.3nm,0.7s,baz=116,slow=6.6,SNR=2.9						

ISCJB ***16*** *16:19:39.4±0.4, 32.75N±0.03×115.92W±0.02, h13km±4km, Error ellipse: s-maj=4.4km s-min=3.2km az=168.9*
NEIC ***16*** *16:19:40.4, 32.70N×115.94W, h1km, MD3.6(MEX), ML3.1(ECX), ML3.2(PAS), After PAS.*
MEX ***16*** *16:19:40.5±0.8, 32.90N×115.91W, h17km±18km, MD3.6*
ECX ***16*** *16:19:41.2±0.5, 32.69N×115.93W, h2km, MD3.0, ML3.2*
ISC 16 16:19:40.2±0.8, 32.69N±0.02×115.92W±0.02, h14km±5km, n34, σ1°03/57, 7C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.04**	**180**	⇓*i*P	**Pg**	**16 19 42.4**	**-0.4**
RMX	**La Rumorosa**	**0.16**	**236**	*e*P	**Pg**	**16 19 44.3**	**0.0**
RMX				*e*S	**Sg**	**16 19 46.7**	**-0.3**
SGL	**Mount Signal**	**0.17**	**104**	⇑*i*P	**Pg**	**16 19 44.4**	**+0.1**
WESC	**Westside Schoo**	**0.17**	**67**	⇑*i*P	**Pg**	**16 19 44.6**	**+0.2**
WESC				*e*S	**Sg**	**16 19 47.8**	**+0.6**
ERPC	**Ernies Place**	**0.23**	**77**	⇑*i*P	**Pb**	**16 19 45.8**	**-0.4**
COK	**Cook Ranch**	**0.23**	**46**	*e*Pn	**Pg**	**16 19 45.6**	**+0.3**
CBKC	**Canebrake**	**0.35**	**307**	⇑*i*P	**Pb**	**16 19 47.8**	**-0.5**
CLIC	**Calipatria**	**0.56**	**36**	⇓*i*P	**Pb**	**16 19 51.8**	**-0.1**
CPBX	**Cerro Prieto**	**0.59**	**117**	*e*P	**Pb**	**16 19 52.3**	**-0.1**
CPBX				*i* S	**Sb**	**16 20 01.9**	**+1.4**
CPBX	**Cerro Prieto**	**0.59**	**117**	*e*Pn	**Pb**	**16 19 52.2**	**-0.1**
CPBX				*e*S	**Sb**	**16 20 00.8**	**+0.2**
BAR	**Barrett**	**0.63**	**269**	*e*Pg	**Pg**	**16 19 52.6**	**0.0**
BAR				*e*Sg	**Sg**	**16 20 01.1**	**+0.1**
BAR	**Barrett**	**0.63**	**269**	⇑*e*P	**Pg**	**16 19 52.6**	**0.0**
MBIG	**Mexicali**	**0.68**	**115**	*i* P	**Pg**	**16 19 53.2**	**-0.2**
MBIG				*i* S	**Sb**	**16 20 02.9**	**-0.1**
COA	**Coachella**	**0.70**	**75**	⇑*i*P	**Pg**	**16 19 53.9**	**+0.1**
CBX	**Cerro Bola**	**0.73**	**239**	*e*P	**Pg**	**16 19 54.6**	**+0.1**
CBX				*i* S	**Sg**	**16 20 04.4**	**+0.3**
CBX	**Cerro Bola**	**0.73**	**239**	*e*P	**Pg**	**16 19 54.6**	**+0.1**
CBX				*i* S	**Sg**	**16 20 04.4**	**+0.3**
CBX	**Cerro Bola**	**0.73**	**239**	*e*P	**Pg**	**16 19 54.6**	**+0.1**
CBX				*e*S	**Sb**	**16 20 04.5**	**-0.2**
CBX				IAML		16 20 05.7	
	comp=N,1μm,0.3s						
CBX				*e*		16 20 05.7	
RDX	**Rancho Dawling**	**0.76**	**181**	⇓*e*P	**Pg**	**16 19 54.8**	**-0.3**
RDX				*e*S	**Sg**	**16 20 05.1**	**0.0**
RDX				⇑*e*		16 20 09.3	
RDX				IAML		16 20 09.3	
	comp=N,679nm,0.7s						
SDRC	**San Diego Road**	**0.86**	**273**	*e*P	**Pg**	**16 19 56.5**	**-0.4**
GLA	**Glamis**	**0.99**	**68**	*e*Pg	**Pb**	**16 19 58.2**	**-1.0**
GLA				*e*Sg	**Sb**	**16 20 11.1**	**-1.1**
PFO	**Pinyon Flats O**	**1.02**	**334**	*e*Pg	**Pb**	**16 19 58.8**	**-1.0**
PFO				*e*Sg	**Sb**	**16 20 11.9**	**-1.1**
PBX	**Punta Banda**	**1.17**	**216**	*e*P	**Pn**	**16 20 02.2**	**0.0**
PBX				*e*S	**Sb**	**16 20 17.6**	**+0.5**
ECNX	**Esteban Cantu**	**1.18**	**209**	*e*P	**Pn**	**16 20 02.3**	**-0.1**
ECNX				*e*S	**Sb**	**16 20 17.7**	**+0.1**
ECBX	**El Chinero**	**1.42**	**148**	*e*Pn	**Pn**	**16 20 04.2**	**-1.5**
ECBX				*e*S	**Sn**	**16 20 23.7**	**-0.5**
SPIG	**San Pedro Mart**	**1.69**	**167**	*i* P	**Pn**	**16 20 08.9**	**-0.7**
SPIG				*i* S	**Sn**	**16 20 31.3**	**+0.1**
SPIG	**San Pedro Mart**	**1.69**	**167**	*i* P	**Pn**	**16 20 08.9**	**-0.7**
SPIG				*i* S	**Sn**	**16 20 31.3**	**+0.1**
SPX	**San Pedro Mart**	**1.69**	**166**	*i* P	**Pn**	**16 20 11.2**	**-1.2**
SPX				*i* S	**Sn**	**16 20 31.2**	**0.0**
SPX	**San Pedro Mart**	**1.69**	**166**	*e*P	**Pn**	**16 20 10.3**	**+0.6**
SPX				*e*S	**Sb**	**16 20 34.0**	**+1.5**
SPX				⇓*e*		16 20 36.1	
SPX				IAML		16 20 36.1	
	comp=E,199nm,0.7s						
PASC	**Pasadena Art C**	**2.40**	**309**	*e*Pg	**Pb**	**16 20 22.2**	**-1.0**
GSC	**Goldstone, Bar**	**2.71**	**345**	*e*Pg	**Pb**	**16 20 29.6**	**+1.1**
214A	**Organ Pipe Nat**	**2.73**	**105**	*e*Pn	**Pn**	**16 20 22.4**	**-1.3**
214A				*e*Pg	**Pg**	**16 20 34.4**	**+1.8**
ISA	**Isabella, Lake**	**3.64**	**325**	*e*Pg	**Pb**	**16 20 47.2**	**+2.7**
ISA				*e*Sg	**Sb**	**16 21 32.4**	**+3.9**
DAC	**Darwin (Calif)**	**3.83**	**339**	*e*Pg	**Pg**	**16 20 51.9**	**-1.9**
DAC				*e*Sg	**Sg**	**16 21 41.0**	**-2.4**
SHPR	**Sheep Range**	**3.86**	**9**	*e*Pn	**Pn**	**16 20 40.1**	**+0.8**
SHPR				*e*Pg	**Pg**	**16 20 54.8**	**+0.7**

NEIC ***16*** *16:39:19.5, 32.72N×115.97W, h1km, ML2.8(PAS), After PAS.*
MEX ***16*** *16:39:20.0±0.6, 32.90N×115.93W, h16km±14km, MD3.5*
ECX ***16*** *16:39:20.4±0.6, 32.72N×115.96W, h3km, MD2.6, ML2.8*
ISC 16 16:39:19.3±0.8, 32.70N±0.02×115.94W±0.02, h16km±5km, n32, σ0°59/50, 8C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.05**	**167**	⇓*i*P	**Pg**	**16 39 21.9**	**-0.5**
RMX	**La Rumorosa**	**0.15**	**231**	⇑*e*P	**Pg**	**16 39 23.3**	**-0.2**
RMX				*e*S	**Sg**	**16 39 25.8**	**-0.6**
WESC	**Westside Schoo**	**0.18**	**71**	⇑*e*P	**Pg**	**16 39 24.2**	**+0.4**
WESC				*e*S	**Sg**	**16 39 27.5**	**+0.7**
SGL	**Mount Signal**	**0.18**	**105**	⇑*i*P	**Pg**	**16 39 24.3**	**+0.4**
COK	**Cook Ranch**	**0.23**	**50**	⇑*i*P	**Pg**	**16 39 24.9**	**+0.4**
ERPC	**Ernies Place**	**0.23**	**79**	⇑*i*P	**Pb**	**16 39 25.5**	**+0.3**
SWSC	**Sam W. Stewart**	**0.27**	**26**	⇑*i*P	**Pg**	**16 39 25.1**	**-0.1**
CBKC	**Canebrake**	**0.33**	**307**	*e*P	**Pg**	**16 39 26.3**	**0.0**
CPBX	**Cerro Prieto**	**0.60**	**117**	*e*P	**Pb**	**16 39 32.2**	**+0.7**
CPBX				*i* S	**Sn**	**16 39 41.8**	**-0.9**
CPBX	**Cerro Prieto**	**0.60**	**117**	*e*Pn	**Pn**	**16 39 32.9**	**-0.3**
CPBX				*e*S	**Sn**	**16 39 41.9**	**-0.7**
BAR	**Barrett**	**0.62**	**268**	*e*Pg	**Pg**	**16 39 31.1**	**-0.4**
BAR				*e*Sg	**Sg**	**16 39 38.9**	**-0.9**
BAR	**Barrett**	**0.62**	**268**	⇑*e*P	**Pg**	**16 39 31.3**	**-0.3**
MBIG	**Mexicali**	**0.69**	**115**	*i* P	**Pg**	**16 39 32.0**	**-0.8**
MBIG				*i* S	**Sg**	**16 39 42.1**	**+0.2**
CBX	**Cerro Bola**	**0.72**	**238**	*e*P	**Pg**	**16 39 33.2**	**-0.4**
CBX				*i* S	**Sb**	**16 39 43.5**	**+0.1**
CBX	**Cerro Bola**	**0.72**	**238**	*e*P	**Pg**	**16 39 33.2**	**-0.4**
CBX				*i* S	**Sb**	**16 39 43.5**	**+0.1**
CBX	**Cerro Bola**	**0.72**	**238**	⇑*e*P	**Pg**	**16 39 33.6**	**+0.1**
CBX				*e*S	**Sb**	**16 39 43.5**	**+0.1**
CBX				⇓*e*		16 39 44.2	
CBX				IAML		16 39 44.2	
	comp=E,604nm,0.3s						
RDX	**Rancho Dawling**	**0.77**	**180**	⇓*e*P	**Pg**	**16 39 34.4**	**+0.1**
RDX				IAML		16 39 45.8	
	comp=N,226nm,0.2s						
RDX				⇓*e*		16 39 45.8	
GLA	**Glamis**	**1.00**	**69**	*e*Pg	**Pb**	**16 39 37.9**	**-0.4**
GLA				*e*Sg	**Sb**	**16 39 50.4**	**-0.8**
PFO	**Pinyon Flats O**	**1.01**	**335**	*e*Pg	**Pb**	**16 39 37.4**	**-1.1**
PFO				*e*Sg	**Sb**	**16 39 50.7**	**-0.9**
PBX	**Punta Banda**	**1.17**	**215**	*e*P	**Pb**	**16 39 41.4**	**+0.3**
PBX				*e*S	**Sg**	**16 39 57.0**	**-0.1**
ECNX	**Esteban Cantu**	**1.18**	**209**	*e*P	**Pb**	**16 39 41.9**	**+0.5**
ECNX				*e*S	**Sn**	**16 39 57.1**	**+0.1**
ZAX	**El Zacaton**	**1.22**	**194**	*e*P	**Pb**	**16 39 42.5**	**+0.5**
ZAX				*e*S	**Sg**	**16 39 58.6**	**-0.1**
ECBX	**El Chinero**	**1.44**	**148**	*e*Pn	**Pn**	**16 39 43.7**	**-0.9**
ECBX				*e*S	**Sn**	**16 40 03.7**	**+0.5**
SPIG	**San Pedro Mart**	**1.70**	**166**	*e*P	**Pn**	**16 39 49.2**	**+0.6**
SPIG				*i* S	**Sn**	**16 40 10.9**	**+0.8**
SPIG	**San Pedro Mart**	**1.70**	**166**	*e*P	**Pn**	**16 39 49.2**	**+0.6**
SPIG				*i* S	**Sn**	**16 40 10.9**	**+0.8**
SPX	**San Pedro Mart**	**1.70**	**166**	*e*P	**Pn**	**16 39 48.8**	**+0.2**
SPX				*i* S	**Sn**	**16 40 09.9**	**-0.3**
SPX	**San Pedro Mart**	**1.70**	**166**	*e*P	**Pb**	**16 39 50.0**	**-0.3**
SPX				IAML		16 40 16.5	
	comp=N,68nm,0.1s						
MWC	**Mount Wilson**	**2.34**	**311**	*e*Pg	**Pb**	**16 40 01.3**	**+0.1**
PASC	**Pasadena Art C**	**2.39**	**309**	Pg	**Pg**	**16 40 06.0**	**+0.8**
GSC	**Goldstone, Bar**	**2.69**	**345**	*e*Pg	**Pb**	**16 40 08.1**	**+0.9**
214A	**Organ Pipe Nat**	**2.75**	**105**	Pn	**Pn**	**16 40 02.8**	**0.0**
ISA	**Isabella, Lake**	**3.63**	**325**	*e*Pg	**Pb**	**16 40 24.6**	**+1.5**

SJA ***16*** *17:00:31.8±0.7, 34.87S×75.68W, h33km, ML4.2, MW3.7*
GUC ***16*** *17:00:54.6±1.9, 35.16S×72.87W, h27km±12km, ML4.1*
ISC 16 17:00:50.8±2.9, 35.09S±0.04×73.1W±0.1, h1km±15km, n22, σ2°39/23, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**1.07**	**167**	*e*P	**Pn**	**17 01 12.6**	**-0.3**
COCH				*e*S	**Sb**	**17 01 25.8**	**-0.7**
TALC	**Talca**	**1.22**	**105**	*e*P	**Pg**	**17 01 14.5**	**+0.3**
TALC				*e*S	**Sg**	**17 01 29.1**	**-0.9**
LNCH	**Linares**	**1.42**	**123**	*e*P	**Pn**	**17 01 17.0**	**-0.7**
LNCH				*e*S	**Sg**	**17 01 33.8**	**-2.7**
LNCH				AML	AML	17 01 45.0	
	comp=N,5μm,0.5s						
NICH	**Los Niches**	**1.52**	**87**	AML	AML	17 01 46.8	
	comp=E,6μm,0.6s						
CHCH	**Chadas Angostu**	**2.31**	**61**	*e*P	**Pb**	**17 01 31.9**	**-1.4**
CHCH				*e*S	**Sn**	**17 02 00.4**	**+1.4**
CLCH	**Cerro Calan**	**2.70**	**52**	*e*P	**Pb**	**17 01 38.1**	**-1.7**
CLCH				AML	AML	17 02 22.5	
	comp=N,1μm,1.0s						
PEL	**Peldehue**	**2.77**	**46**	*e*P	**Pb**	**17 01 39.3**	**-1.9**
PEL				*e*S	**Sn**	**17 02 10.9**	**+0.3**
PEL				AML	AML	17 02 28.0	
	comp=N,1μm,0.6s						
CANA	**Caviahue**	**3.23**	**150**	*e*P	Pb	17 01 45.6	-3.5
CANA				*e*S	**Sg**	**17 02 40.0**	**+5.5**
AAGR	**Agrelo**	**4.05**	**62**	*e*P	**Pb**	**17 02 01.4**	**-1.6**
ARCO	**CERRO ARCO**	**4.11**	**58**	*e*P	Pb	17 02 01.1	-2.9
ARCO				IAML		17 02 13.2	
	comp=Z,72nm,0.5s						
ARCO				*e*S	**Sg**	**17 03 07.5**	**+4.7**
AUSP	**Uspallata**	**4.20**	**48**	*e*P	Pb	17 02 01.4	-4.2
AUSP				*e*S	**Sg**	**17 03 07.1**	**+1.4**
ASAL	**Salagasta**	**4.32**	**56**	*e*P	Pb	17 02 03.3	-4.3
ASAL				*e*S	**Sg**	**17 03 10.9**	**+1.3**
RTLS	**Leoncito**	**4.55**	**45**	*e*P	Pn	17 02 04.5	+3.5
RTLS				*e*S	**Sg**	**17 03 13.6**	**-3.5**
RTCV	**Cerro Valdivia**	**4.97**	**51**	*e*P	Pn	17 02 09.9	+3.3
CFAA	**Coronel Fontan**	**5.33**	**51**	*e*P	**Pn**	**17 02 14.0**	**+2.4**
RTLL	**Cerro Villicun**	**5.38**	**47**	*e*P	**Pn**	**17 02 14.2**	**+2.0**
AMOG	**MOGNA**	**5.65**	**44**	*e*P	**Pn**	**17 02 17.8**	**+1.8**
ACAN	**Cantantal**	**5.65**	**62**	*e*P	Pn	17 02 19.4	+3.4
AVFE	**Valle Fertil**	**6.47**	**49**	*e*P	**Pn**	**17 02 28.0**	**+0.8**
AVFE				IAML		17 04 03.3	
	comp=Z,25nm,0.7s						
ACHE	**Chepes**	**6.65**	**56**	*e*P	**Pn**	**17 02 30.4**	**+0.6**
**V

	15nm,0.4s							
KSM	**Kuching**	**18.37**	**267**	*eP*	**Pn**	**17 11 03.3**	**+0.3**
	55nm,1.5s							
GUMO	**Guam**	**19.37**	**55**	LR	LR	17 17 31.1		
	comp=Z,124nm,21.0s,baz=205,slow=33							
FITZ	**Fitzroy Crossi**	**20.83**	**188**	*eP*	**P**	**17 11 27.7**	**-1.9**
YHNB	**Yeheng**	**23.00**	**343**	*eP*	**P**	**17 11 53.3**	**+0.6**
	45nm,1.3s							
LEM	**Lembang**	**23.01**	**246**	P	**P**	**17 11 53.6**	**+0.5**
	31nm,0.7s,baz=63,slow=11,SNR=10							
WRAB	**Tennant Creek**	**23.12**	**166**	*eP*	**P**	**17 11 52.5**	**-1.5**
	27nm,0.8s							
WRA	**Warramunga Arr**	**23.13**	**166**	P	**P**	**17 11 54.0**	**-0.1**
	35nm,1.0s,baz=342,slow=10,SNR=67							
WRA				ScP	**ScP**	**17 19 16.0**	**-1.8**
	1.4nm,0.7s,baz=339,slow=3.0,SNR=11							
JOW	**Kunigami**	**24.05**	**359**	LR	LR	17 20 34.4		
	comp=Z,11nm,21.1s,baz=18,slow=34							
MBWA	**Marble Bar**	**25.22**	**200**	*eP*	**P**	**17 12 12.2**	**-1.3**
AS31	**Alice Springs**	**26.65**	**169**	*eP*	**P**	**17 12 26.1**	**-0.4**
ASAR	**Alice Springs**	**26.65**	**169**	P	**P**	**17 12 26.2**	**-0.3**
	4.2nm,0.8s,baz=357,slow=8.5,SNR=31							
ASAR				PcP	**PcP**	**17 15 49.5**	**-0.5**
	0.7nm,0.5s,baz=3.0,slow=2.1,SNR=5.4							
ASAR				ScP	**ScP**	**17 19 26.4**	**-1.3**
	1.9nm,0.8s,baz=344,slow=2.4,SNR=12							
CMAR	**Chiang Mai Arr**	**33.08**	**300**	P	**P**	**17 13 24.6**	**+1.1**
	1.6nm,0.9s,baz=117,slow=6.7,SNR=9.5							
CMAR				ScP	**ScP**	**17 19 48.8**	**+0.3**
	1.3nm,1.0s,baz=190,slow=1.5,SNR=5.7							
CMAR				LR	LR	17 28 05.9		
	comp=Z,44nm,18.5s,baz=225,slow=39							
KSAR	**Wonju Array Be**	**34.64**	**359**	P	**P**	**17 13 37.3**	**+0.5**
KSRS	**Korea Array**	**34.65**	**359**	P	**P**	**17 13 37.3**	**+0.4**
	3.8nm,0.8s,baz=176,slow=9.9,SNR=20							
KSRS				LR	LR	17 26 56.2		
	comp=Z,50nm,21.4s,baz=188,slow=35							
MJAR	**Matsushiro Arr**	**34.87**	**14**	P	**P**	**17 13 38.0**	**-0.9**
	3.2nm,0.6s,baz=189,slow=9.1,SNR=11							
STKA	**Stephens Creek**	**36.47**	**161**	P	**P**	**17 13 52.9**	**+0.3**
	7.1nm,0.6s,baz=334,slow=8.4,SNR=6.8							
STKA				LR	LR	17 31 39.8		
	comp=Z,98nm,19.0s,baz=208,slow=41							
STKA	**Stephens Creek**	**36.47**	**161**	*eP*	**P**	**17 13 53.1**	**+0.5**
BJT	**Baijiatuao**	**38.89**	**345**	P	**P**	**17 14 12.5**	**-0.5**
H11S3	**WAKE ISLAND Hy**	**40.43**	**64**	T	T	17 57 35.2		
	baz=252,slow=75,SNR=5.42							
H11S2	**WAKE ISLAND Hy**	**40.45**	**64**	T	T	17 57 37.8		
	baz=252,slow=75,SNR=334							
H11S1	**WAKE ISLAND Hy**	**40.45**	**64**	T	T	17 57 33.3		
	baz=252,slow=75,SNR=273							
H11N1	**WAKE ISLAND Hy**	**41.01**	**63**	T	T	17 58 18.1		
	baz=251,slow=75							
H11N2	**WAKE ISLAND Hy**	**41.02**	**63**	T	T	17 58 19.0		
	baz=251,slow=75							
H11N3	**WAKE ISLAND Hy**	**41.03**	**63**	T	T	17 58 19.2		
	baz=251,slow=75							
USRK	**Ussuriysk Ar.**	**41.49**	**4**	P	**P**	**17 14 35.1**	**+0.7**
	3.9nm,0.9s,baz=174,slow=5.0,SNR=13							
MDJ	**Mudanjiang**	**41.80**	**1**	P	**P**	**17 14 37.7**	**+0.6**
LSA	**Lhasa**	**44.60**	**311**	*eP*	**P**	**17 15 00.7**	**+0.3**
	4.2nm,0.8s							
ODAN	**Odare**	**46.26**	**305**	*eP*	**P**	**17 15 14.2**	**+0.8**
	18nm,0.8s							
RAMN	**Ramite**	**46.94**	**305**	*eP*	**P**	**17 15 18.7**	**-0.1**
	14nm,0.7s							
GUN	**Gumba**	**47.91**	**306**	*eP*	**P**	**17 15 29.3**	**+2.8**
	24nm,0.7s							
PKI	**Pulchoki**	**48.16**	**305**	*eP*	**P**	**17 15 30.3**	**+2.0**
KKN	**Kakani**	**48.35**	**305**	*eP*	**P**	**17 15 32.0**	**+2.3**
DMN	**Daman**	**48.42**	**305**	*eP*	**P**	**17 15 31.9**	**+1.6**
SONM	**Songino Array**	**48.95**	**340**	P	**P**	**17 15 33.2**	**-0.6**
	1.0nm,0.5s,baz=147,slow=7.9,SNR=13							
SONM				ScP	**ScP**	**17 20 50.4**	**+0.1**
	0.2nm,0.6s,baz=163,slow=3.1,SNR=5.7							
KOLN	**Koldanda**	**49.72**	**305**	*eP*	**P**	**17 15 41.1**	**+1.0**
	29nm,0.7s							
PETK	**Petropavlovsk-**	**55.73**	**21**	P	**P**	**17 16 24.6**	**+0.7**
	3.9nm,0.9s,baz=180,slow=5.8,SNR=4.6							
MKAR	**Makanchi Array**	**59.54**	**325**	P	**P**	**17 16 50.3**	**-0.6**
	2.5nm,0.7s,baz=117,slow=8.4,SNR=27							
MKAR				ScP	**ScP**	**17 21 36.2**	**-0.3**
	0.6nm,0.8s,baz=114,slow=4.2,SNR=5.1							
ZAA0	**Zalesovo Array**	**62.43**	**332**	*eP*	**P**	**17 17 11.6**	**+1.4**
ZALV	**Zalesovo Beam**	**62.43**	**332**	P	**P**	**17 17 08.4**	**-1.8**
	0.7nm,0.4s,baz=133,slow=8.5,SNR=4.4							
ZALV				LR	LR	17 45 55.1		
	comp=Z,19nm,18.7s,baz=250,slow=38							
KURK	**Kurchatov**	**63.69**	**327**	*eP*	**P**	**17 17 17.5**	**-1.2**
	7.0nm,0.8s							
TIXI	**Tiksi**	**68.91**	**0**	*eP*	**P**	**17 17 50.9**	**-0.8**
	4.8nm,0.6s							
BRVK	**Borovoye**	**69.35**	**327**	*eP*	**P**	**17 17 53.9**	**-0.9**
	2.0nm,0.5s							
ABKAR	**Akbulak array**	**74.20**	**321**	*eP*	**P**	**17 18 23.4**	**-0.7**
VNDA	**Vanda**	**82.12**	**173**	P	**P**	**17 19 06.6**	**-0.8**
	2.1nm,0.9s,baz=316,slow=6.0,SNR=11							
RAYN	**Ar Rayn**	**82.67**	**293**	*eP*	**P**	**17 19 11.7**	**+0.2**
MAW	**Mawson**	**83.42**	**201**	P	**P**	**17 19 14.9**	**+0.7**
	2.2nm,0.6s,baz=250,slow=16,SNR=7.5							
BPAW	**Bear Paw Mtn.**	**83.42**	**26**	*eP*	**P**	**17 19 15.6**	**+1.1**
COLD	**Coldfoot**	**84.14**	**23**	*eP*	**P**	**17 19 19.9**	**+1.9**
	6.5nm,1.0s							
ILAR	**Eielson Array**	**85.25**	**25**	P	**P**	**17 19 23.6**	**-0.1**
	0.3nm,0.5s,baz=249,slow=4.7,SNR=5.2							
ARCES	**ARCESS Array B**	**92.12**	**340**	P	**P**	**17 19 55.4**	**-0.9**
	1.4nm,0.8s,baz=79,slow=6.3,SNR=5.6							
TXAR	**Lajitas Array**	**120.72**	**54**	PKP	**PKPdf**	**17 25 40.5**	**+0.5**
	0.2nm,0.7s,baz=200,slow=1.8,SNR=3.5							
TORD	**Torodi Ar. Bea**	**125.08**	**288**	PKP	**PKPdf**	**17 25 47.8**	**-0.8**
	0.4nm,0.6s,baz=80,slow=1.6,SNR=3.4							

IDC 16 17:16:48.2±2.5,1°85S×136°56E,h0km,mb3.3/2, mb1 3.6/4,mb1mx3.3/34,mbtmp3.4/4,ML3.3/2,Error ellipse: s-maj=69.1km s-min=27.2km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.38**	**280**	Pn	Pn	17 18 09.6	-0.2
	1.2nm,0.3s,baz=126,slow=19,SNR=4.5						
SIJI				Sn	Sn	17 19 07.0	-5.6
	0.5nm,0.3s,baz=139,slow=19,SNR=2.5						
WRA	**Warramunga Arr**	**18.11**	**187**	P	Pn	17 21 01.4	-0.1
	0.1nm,0.3s,baz=10,slow=13,SNR=5.8						
WRA				S	Sn	17 24 10.5	-14
	0.0nm,0.3s,baz=13,slow=22,SNR=3.0						
ASAR	**Alice Springs**	**21.84**	**187**	P	P	17 21 42.6	+0.1
	0.6nm,0.5s,baz=14,slow=10,SNR=12						
MKAR	**Makanchi Array**	**67.81**	**323**	P	P	17 27 48.1	0.0
	0.2nm,0.6s,baz=111,slow=7.5,SNR=3.9						

*ISCJB **16** 17:25:56.4±0.8,32°92N±0°05×142°54E±0°10,h39km, mb3.6/4,Error ellipse: s-maj=12.8km s-min=5.8km az=152.2*
*JMA **16** 17:25:57.4±0.5,32°96N×142°45E,h97km,M3.3*
*IDC **16** 17:25:57.6±7.0,32°48N×141°45E,h0km,mb3.6/4, mb1 3.7/6,mb1mx3.5/25,mbtmp3.6/6,ML3.8/2,Error ellipse: s-maj=261.9km s-min=18.1km az=68.0*

ISC 16 17:25:58.1±1.2,32°86N±0°06×142°5E±0°1,h39km,n18, σ1§12/27,mb3.6/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.21**	**325**	P	**Pn**	**17 26 31.9**	**+0.1**
BSO1				*eS*	**Sn**	**17 26 56.9**	**-0.7**
JHJ2	**Mitsune**	**2.30**	**277**	P	**Pn**	**17 26 33.6**	**+0.1**
JHJ2				*eS*	**Sn**	**17 27 00.7**	**+0.2**
JHCJ	**Hachijojimakas**	**2.31**	**276**	P	**Pn**	**17 26 32.6**	**-1.0**
BSO3	**Boso 3**	**2.57**	**320**	P	**Pn**	**17 26 36.3**	**-0.7**
BSO3				*eS*	**Sn**	**17 27 06.5**	**-0.3**
BSO4	**Boso 4**	**2.80**	**320**	P	**Pn**	**17 26 40.3**	**0.0**
KTR	**Katsuura**	**2.94**	**322**	P	**Pn**	**17 26 41.0**	**-1.2**
KTR				S	**Sn**	**17 27 15.4**	**-0.8**
JOD2	**Odawara 2**	**3.73**	**311**	P	**Pn**	**17 26 51.8**	**-1.4**
JOD2				*eS*	**Sn**	**17 27 33.9**	**-2.1**
JYN	**Shimob**	**4.23**	**310**	P	**Pn**	**17 26 59.3**	**-0.8**
JRY	**Ryogami san**	**4.35**	**317**	P	**Pn**	**17 27 02.0**	**+0.2**
JRY				S	**Sn**	**17 27 50.0**	**-1.2**
JAG	**Ashikaga**	**4.37**	**325**	P	**Pn**	**17 27 01.6**	**-0.4**
JFT	**Otama**	**4.99**	**339**	P	**Pn**	**17 27 09.3**	**-1.1**
MJAR	**Matsushiro Arr**	**5.12**	**317**	Pn	**Pn**	**17 27 11.2**	**-1.1**
	1.4nm,0.3s,baz=157,slow=12,SNR=24						
MJAR				Sn	**Sn**	**17 28 09.2**	**-0.9**
	1.3nm,0.3s,baz=119,slow=35,SNR=6.8						
MAT	**Matsushiro**	**5.12**	**317**	P	**Pn**	**17 27 12.3**	**0.0**
MAT				S	**Sn**	**17 28 08.6**	**-1.6**
JCJ	**Chichijima**	**5.75**	**183**	Pn	**Pn**	**17 27 20.3**	**-0.6**
	8.2nm,0.3s,baz=283,slow=14,SNR=12						
JCJ				Sn	**Sn**	**17 28 23.5**	**-2.2**
	8.1nm,0.3s,baz=288,slow=20,SNR=3.7						
SONM	**Songino Array**	**31.02**	**310**	P	**P**	**17 32 12.1**	**0.0**
	0.2nm,0.5s,baz=106,slow=9.2,SNR=2.8						
MKAR	**Makanchi Array**	**47.21**	**306**	P	**P**	**17 34 28.8**	**+1.8**
	0.3nm,0.6s,baz=87,slow=9.7,SNR=5.5						
WRA	**Warramunga Arr**	**53.08**	**190**	P	**P**	**17 35 12.9**	**+1.3**
	0.7nm,0.4s,baz=7.3,slow=7.5,SNR=7.9						
ASAR	**Alice Springs**	**56.81**	**189**	P	**P**	**17 35 39.6**	**+1.0**
	0.7nm,0.8s,baz=6.3,slow=8.1,SNR=6.5						

*IDC **16** 17:26:55.7±1.4,1°85S×136°39E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.4/36,mbtmp3.5/4,ML3.0/1,MS2.4/1, Ms1 2.4/1,ms1mx2.2/21,Error ellipse: s-maj=67.1km s-min=25.9km az=91.0*
*DJA **16** 17:26:56.2±2.2,2°S±36°×13°6E±°,h23km±22km,M3.4/3, MLv3.4/3*
*ISCJB **16** 17:26:57.2±1.1,1°94S±0°10×136°17E±0°09,h24km±8km, mb3.4/3,Error ellipse: s-maj=18.6km s-min=11.6km az=144.5*

ISC 16 17:26:57.9±1.4,2°0S±0°1×136°15E±0°08,h17km±9km,n8, σ2§22/8,mb3.5/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.14**	**40**	P	**Pg**	**17 27 02.1**	**+0.2**
SRPI				S	**Sb**	**17 27 06.5**	**+1.6**
RKPI	**Ransiki, Papua**	**2.03**	**283**	P	**Pn**	**17 27 29.4**	**-2.0**
RKPI				S	Sn	17 27 36.4	-20
SMPI	**Sarmi**	**2.56**	**90**	P	**Pn**	**17 27 36.3**	**-2.4**
GUMO	**Guam**	**17.72**	**29**	LR	LR	17 37 19.2	
	comp=Z,13nm,19.9s,baz=130,slow=36						
WRA	**Warramunga Arr**	**17.94**	**186**	P	**Pn**	**17 31 06.8**	**0.0**
	0.1nm,0.3s,baz=7.4,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**21.67**	**186**	P	**P**	**17 31 50.6**	**+2.5**
	1.3nm,0.7s,baz=16,slow=9.9,SNR=14						
MKAR	**Makanchi Array**	**67.66**	**323**	P	**P**	**17 37 55.1**	**+0.8**
	0.3nm,0.6s,baz=110,slow=5.8,SNR=4.5						
ILAR	**Eielson Array**	**86.23**	**25**	P	**P**	**17 39 37.8**	**-0.7**
	0.1nm,0.5s,baz=242,slow=6.7,SNR=3.2						

*IDC **16** 17:37:45.9±1.2,2°12S×136°50E,h0km,mb3.8/5, mb1 4.1/7,mb1mx3.7/32,mbtmp3.9/7,ML3.9/2,MS3.0/2, Ms1 3.0/2,ms1mx2.6/24,Error ellipse: s-maj=33.1km s-min=24.4km az=74.0*
*ISCJB **16** 17:37:49.5±0.5,2°20S±0°10×136°43E±0°05,h33km, mb3.9/6,MS3.3/1,Error ellipse: s-maj=14.3km s-min=6.5km az=9.6*
*DJA **16** 17:37:49.3±0.4,2°S±15°×13°6E±°,h10km,M4.4/7,mb4.7/2, MLv4.2/7*

ISC 16 17:37:51.0±0.8,2°2S±0°1×136°47E±0°06,h35km,n17, σ1§03/16,mb3.9/5,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.37**	**322**	P	Pn	17 37 54.5	-5.4
SMPI	**Sarmi**	**2.24**	**86**	P	**Pn**	**17 38 25.4**	**-0.3**
RKPI	**Ransiki, Papua**	**2.38**	**286**	P	**Pn**	**17 38 27.7**	**+0.1**
RKPI				S	Sn	17 38 34.2	-21
GENI	**Genyem**	**3.72**	**97**	P	**Pn**	**17 38 47.3**	**+1.4**
JAY	**Jayapura**	**4.24**	**95**	P	**Pn**	**17 38 54.4**	**+1.2**
FAKI	**Fak Fak**	**4.29**	**260**	P	**Pn**	**17 38 54.1**	**+0.3**
SIJI	**Sorong**	**5.36**	**284**	Pn	**Pn**	**17 39 08.9**	**+0.4**
	5.9nm,0.3s,baz=246,slow=22,SNR=39						
SIJI				Sn	**Sn**	**17 40 09.5**	**+0.3**
	0.4nm,0.3s,baz=308,slow=19,SNR=2.8						
APSI	**Ampana**	**14.87**	**275**	P	**Pn**	**17 41 19.1**	**+0.3**
GUMO	**Guam**	**17.73**	**28**	LR	LR	17 47 50.8	
	comp=Z,20nm,19.8s,baz=208,slow=34						
WRA	**Warramunga Arr**	**17.79**	**187**	Pn	**Pn**	**17 41 54.0**	**-2.0**
	0.4nm,0.3s,baz=8.8,slow=12,SNR=23						
WRA				Sn	Sn	17 45 03.6	-10
	0.2nm,0.3s,baz=7.8,slow=23,SNR=4.8						
ASAR	**Alice Springs**	**21.52**	**186**	P	**P**	**17 42 38.0**	**+0.8**
	2.7nm,0.6s,baz=10,slow=11,SNR=63						
ASAR				S	**S**	**17 46 34.7**	**+0.6**
	1.2nm,1.0s,baz=6.1,slow=27,SNR=3.9						
STKA	**Stephens Creek**	**29.95**	**171**	LR	LR	17 55 13.3	
	comp=Z,73nm,21.2s,baz=230,slow=35						
CMAR	**Chiang Mai Arr**	**42.23**	**301**	P	**P**	**17 45 40.1**	**-1.0**
	1.0nm,0.8s,baz=127,slow=7.2,SNR=7.8						
MKAR	**Makanchi Array**	**68.00**	**323**	P	**P**	**17 48 47.5**	**+0.7**
	0.8nm,0.6s,baz=111,slow=8.2,SNR=12						
ZALV	**Zalesovo Beam**	**70.35**	**331**	P	**P**	**17 49 01.1**	**0.0**
	0.5nm,0.4s,baz=140,slow=5.6,SNR=3.0						
ILAR	**Eielson Array**	**86.27**	**25**	P	**P**	**17 50 28.4**	**-0.5**
	0.5nm,0.8s,baz=252,slow=4.6,SNR=3.6						
ARCES	**ARCESS Array B**	**99.26**	**341**	P	**Pdif**	**17 51 30.8**	**+1.9**
	2.5nm,0.9s,baz=60,slow=5.5,SNR=4.0						

*ISCJB **16** 17:38:34.7±0.9,32°17S±0°03×70°81W±0°05, h108km±10km,Error ellipse: s-maj=8.0km s-min=4.7km az=25.5*
*SJA **16** 17:38:35.6±1.1,32°11S×70°76W,h80km,ML3.5,MW3.3*
*GUC **16** 17:38:35.8±0.5,32°18S×70°88W,h91km±7km,ML3.4*

ISC 16 17:38:34.2±1.9,32°19S±0°04×70°79W±0°05, h120km±17km,n21,σ1§01/36,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**0.96**	**175**	*eP*	**Pn**	**17 38 55.6**	**-0.2**
PEL				*eS*	**Sn**	**17 39 10.8**	**-1.4**
PEL				AML	AML	17 39 12.3	
	comp=N,1μm,0.3s						
AUSP	**Uspallata**	**1.19**	**92**	*eP*	**Pn**	**17 38 58.5**	**0.0**
AUSP				*eS*	**Sn**	**17 39 17.0**	**+0.2**
CLCH	**Cerro Calan**	**1.22**	**170**	*eP*	**Pn**	**17 38 59.0**	**+0.4**
CLCH				*eS*	**Sn**	**17 39 16.5**	**-0.6**
CLCH				AML	AML	17 39 19.9	
	comp=E,635nm,2.1s						
SAN	**Santiago**	**1.27**	**175**	*eP*	**Pn**	**17 38 59.4**	**+0.3**
SAN				*eS*	**Sn**	**17 39 17.0**	**-0.9**
RTLS	**Leoncito**	**1.33**	**73**	*eP*	**Pn**	**17 39 00.5**	**+0.5**
RTLS				*eS*	**Sn**	**17 39 19.4**	**-0.1**
PCH	**Pirque**	**1.45**	**171**	*eP*	**Pn**	**17 39 01.9**	**+0.8**
PCH				*eS*	**Sn**	**17 39 21.4**	**-0.2**
TACH	**Talagante**	**1.47**	**185**	*eP*	**Pn**	**17 39 01.7**	**+0.4**
ARCO	**CERRO ARCO**	**1.70**	**113**	*eP*	**Pn**	**17 39 05.5**	**+1.4**
ARCO				*eS*	**Sn**	**17 39 27.1**	**+0.1**
ARCO				IAML		17 39 29.7	
	comp=Z,458nm,0.8s						
ASAL	**Salagasta**	**1.71**	**104**	*eP*	**Pn**	**17 39 05.6**	**+1.5**
CHCH	**Chadas Angostu**	**1.74**	**176**	*eP*	**Pn**	**17 39 05.2**	**+0.6**
CHCH				*eS*	**Sn**	**17 39 27.5**	**-0.3**
LNV	**Longovilo**	**1.84**	**196**	*eP*	**Pn**	**17 39 06.1**	**+0.5**
AAGR	**Agrelo**	**1.88**	**119**	*eP*	**Pn**	**17 39 07.9**	**+1.6**
AAGR				*eS*	**Sn**	**17 39 31.4**	**+0.5**
RTCV	**Cerro Valdivia**	**1.94**	**81**	*eP*	**Pn**	**17 39 07.7**	**+0.8**
RTCV				*eS*	**Sn**	**17 39 32.4**	**+0.4**
TLL	**Tololo Astrono**	**2.02**	**360**	*eP*	**Pn**	**17 39 08.9**	**+0.8**
TLL				*eS*	**Sn**	**17 39 33.8**	**-0.2**
TLL				AML	AML	17 39 38.6	
	comp=N,664nm,0.4s						
RTLL	**Cerro Villicun**	**2.15**	**67**	*eP*	**Pn**	**17 39 09.9**	**+0.3**
RTLL				*eS*	**Sn**	**17 39 36.0**	**-0.7**
CFAA	**Coronel Fontan**	**2.25**	**76**	*eP*	**Pn**	**17 39 11.5**	**+0.7**
CFAA				*eS*	**Sn**	**17 39 38.0**	**-0.9**
LSCH	**La Serena**	**2.31**	**350**	*eS*	**Sn**	**17 39 39.7**	**-0.4**
AMOG	**MOGNA**	**2.33**	**58**	*eP*	**Pn**	**17 39 12.4**	**+0.6**
AMOG				*eS*	**Sn**	**17 39 39.6**	**-1.1**
ACAN	**Cantantal**	**3.06**	**93**	*eP*	**Pn**	**17 39 21.8**	**+0.6**
ACAN				*eS*	**Sn**	**17 39 54.3**	**-3.2**
VCA	**Vinchina**	**4.10**	**34**	*eP*	**Pn**	**17 39 37.0**	**+1.7**
VCA				IAML		17 39 39.2	
	comp=Z,70nm,0.1s						
CYA	**Choya**	**5.71**	**50**	*eP*	**Pn**	**17 39 55.4**	**-1.3**

*IDC **16** 17:52:30.1±1.3,33°52N×82°24E,h0km,mb3.4/8, mb1 3.6/10,mb1mx3.4/43,mbtmp3.5/10,ML3.0/2,Error ellipse: s-maj=26.8km s-min=23.1km az=41.0*

*ISCJB **16** 17:52:33.3±1.0,33°6N±0°1×82°3E±0°2,h33km,mb3.4/7, Error ellipse: s-maj=21.0km s-min=15.5km az=151.5*

ISC 16 17:52:35.3±1.2,33°6N±0°1×82°3E±0°2,h35km,n10, σ0§93/10,mb3.7/7,Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.16**	**360**	Pn	**Pn**	**17 55 38.9**	**-0.6**
	0.2nm,0.3s,baz=183,slow=13,SNR=10.0						
KURBB	**Kurchatov Arra**	**17.22**	**352**	Pn	**Pn**	**17 56 32.1**	**-0.8**
	0.0nm,0.3s,baz=174,slow=11,SNR=10						
ZALV	**Zalesovo Beam**	**20.40**	**4**	P	**P**	**17 57 09.5**	**+0.6**
	1.1nm,0.5s,baz=194,slow=8.7,SNR=6.4						
CMAR	**Chiang Mai Arr**	**21.19**	**131**	P	**P**	**17 57 17.6**	**-0.3**
	3.0nm,0.9s,baz=308,slow=11,SNR=15						
BVAR	**Borovoye Array**	**21.20**	**340**	P	**P**	**17 57 17.4**	**-0.2**
	0.6nm,0.7s,baz=149,slow=8.1,SNR=4.8						
SONM	**Songino Array**	**22.99**	**45**	P	**P**	**17 57 37.9**	**+0.9**
	0.2nm,0.6s,baz=242,slow=11,SNR=3.0						
AKTO	**Aktyubinsk**	**24.49**	**321**	P	**P**	**17 57 51.4**	**+0.4**
	1.3nm,0.6s,baz=127,slow=7.9,SNR=6.6						
BRTR	**Keskin Array B**	**39.13**	**293**	P	**P**	**18 00 01.1**	**+1.5**
	0.2nm,0.5s,baz=82,slow=9.4,SNR=2.7						
FINES	**FINESS Array B**	**45.08**	**326**	P	**P**	**18 00 46.9**	**-0.6**
	1.1nm,0.7s,baz=120,slow=11,SNR=4.6						
TORD	**Torodi Ar. Bea**	**75.11**	**276**	P	**P**	**18 04 13.1**	**-1.0**
	0.6nm,0.6s,baz=53,slow=4.1,SNR=7.3						

*IDC **16** 17:55:32.0±1.2,2°26S×136°66E,h0km,mb3.8/8, mb1 4.0/10,mb1mx3.8/31,mbtmp3.9/10,ML3.9/2,MS3.2/5, Ms1 3.3/5,ms1mx2.9/26,Error ellipse: s-maj=33.1km s-min=23.5km az=77.0*
*NEIC **16** 17:55:33.7±0.5,2°27S×136°69E,h10km,mb4.1/3,Error ellipse: s-maj=15.3km s-min=7.0km az=85.0*
*ISCJB **16** 17:55:36.0±0.4,2°28S±0°06×136°62E±0°04,h42km, mb3.9/11,MS3.2/3,Error ellipse: s-maj=8.6km s-min=5.1km az=6.7*
*DJA **16** 17:55:35.4±0.7,2°S±14°×13°7E±°,h15km±8km,M4.7/6, mb4.8/4,mB4.9/2,MLv4.6/6,Mw(mB)4.2/2*

ISC 16 17:55:37.6±0.7,2°32S±0°09×136°66E±0°06,h42km,n30, σ1§33/30,mb3.9/11,MS3.0/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.61**	**316**	P	Pn	17 55 45.4	-4.5
SMPI	**Sarmi**	**2.07**	**81**	P	**Pn**	**17 56 08.2**	**-1.7**
SMPI				S	**Sn**	**17 56 34.7**	**+0.2**
RKPI	**Ransiki, Papua**	**2.61**	**288**	P	**Pn**	**17 56 15.5**	**-1.8**
GENI	**Genyem**	**3.51**	**95**	P	**Pn**	**17 56 29.8**	**+0.1**
GENI				S	Sn	17 56 41.8	-28
JAY	**Jayapura**	**4.04**	**93**	P	**Pn**	**17 56 36.6**	**-0.5**
FAKI	**Fak Fak**	**4.45**	**262**	P	**Pn**	**17 56 41.8**	**-0.8**
FAKI				S	Sn	17 56 56.6	-37
FAKI	**Fak Fak**	**4.45**	**262**	*eP*	**Pn**	**17 56 41.6**	**-1.0**
SIJI	**Sorong**	**5.58**	**285**	Pn	**Pn**	**17 56 56.9**	**-1.3**
	5.0nm,0.3s,baz=343,slow=19,SNR=30						
SIJI				Sn	**Sn**	**17 58 00.8**	**-0.3**
	3.3nm,0.3s,baz=294,slow=19,SNR=3.4						
SIJI				LR	LR	17 59 27.7	
	comp=Z,660nm,19.2s,baz=173,slow=42						
NLAI	**Namlea**	**9.60**	**264**	P	**Pn**	**17 57 55.2**	**+1.9**
	51nm,0.7s,572nm						
SANI	**Sanana**	**10.67**	**271**	P	**Pn**	**17 58 05.5**	**-2.5**
	28nm,0.7s						
APSI	**Ampana**	**15.07**	**275**	P	**Pn**	**17 59 06.9**	**-1.0**
WRAB	**Tennant Creek**	**17.66**	**187**	*eP*	**P**	**17 59 41.4**	**+0.3**
	8.8nm,0.8s						
WRA	**Warramunga Arr**	**17.67**	**187**	Pn	**P**	**17 59 41.1**	**-0.1**
	0.4nm,0.3s,baz=8.6,slow=12,SNR=19						
WRA				Sn	Sn	18 02 44.9	-12
	0.3nm,0.3s,baz=7.6,slow=23,SNR=3.7						
GUMO	**Guam**	**17.77**	**27**	LR	LR	18 05 00.7	
	comp=Z,56nm,20.2s,baz=212,slow=32						
AS31	**Alice Springs**	**21.39**	**187**	*eP*	**P**	**18 00 21.4**	**-0.5**
ASAR	**Alice Springs**	**21.39**	**187**	P	**P**	**18 00 21.8**	**-0.2**
	2.1nm,0.5s,baz=10,slow=11,SNR=63						
ASAR				S	**S**	**18 04 15.7**	**-1.6**
	1.3nm

s-min=9.1km az=153.2

ISC 16 17:57:53.2±1.1,2°.3S±0°.1×136°.6E±0°.1, h35km, n10, σ1ᵍ77/10, mb3.6/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.47**	**285**	Pn	**Pn**	**17 59 12.8**	**+0.4**
	4.2nm,0.3s,baz=191,slow=23,SNR=7.7						
SIJI				Sn	**Sn**	**18 00 13.6**	**-0.6**
	7.4nm,0.3s,baz=276,slow=23,SNR=5.6						
WRA	**Warramunga Arr**	**17.68**	**187**	Pn	**P**	**18 01 58.5**	**+0.9**
	0.1nm,0.3s,baz=7.6,slow=12,SNR=3.1						
WRA				Sn	**Sn**	**18 05 10.1**	**-2.9**
	0.1nm,0.3s,baz=358,slow=24,SNR=2.6						
ASAR	**Alice Springs**	**21.41**	**187**	P	**P**	**18 02 41.2**	**+3.0**
	2.5nm,0.6s,baz=11,slow=11,SNR=4.3						
DZM	**Mont Dzumac**	**35.07**	**126**	LR	LR	18 19 41.0	
	comp=Z,84nm,18.4s,baz=359,slow=37						
CMAR	**Chiang Mai Arr**	**42.37**	**301**	P	**P**	**18 05 45.3**	**+0.8**
	1.1nm,0.9s,baz=123,slow=5.9,SNR=5.3						
RAO	**Raoul Island**	**50.87**	**127**	LR	LR	18 26 45.6	
	comp=Z,153nm,21.6s,baz=128,slow=34						
SONM	**Songino Array**	**56.44**	**336**	P	**P**	**18 07 30.2**	**-1.5**
	0.1nm,0.4s,baz=154,slow=8.6,SNR=2.4						
MKAR	**Makanchi Array**	**68.15**	**323**	P	**P**	**18 08 50.4**	**+0.4**
	0.4nm,0.6s,baz=116,slow=8.0,SNR=4.2						
KURBB	**Kurchatov Arra**	**72.15**	**325**	P	**P**	**18 09 14.5**	**+0.2**
	0.3nm,0.7s,baz=122,slow=4.9,SNR=3.4						
ILAR	**Eielson Array**	**86.34**	**25**	P	**P**	**18 10 30.9**	**-0.6**
	0.5nm,0.8s,baz=250,slow=5.4,SNR=3.7						

*IDC **16** 18:10:49.9±1.1, 1°.74S×136°.50E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.8/34, mbtmp4.0/8, ML3.5/1, MS3.3/8, Ms1 3.3/8, ms1mx2.9/32, Error ellipse: s-maj=38.6km s-min=21.8km az=73.0*

*NEIC **16** 18:10:51.4±0.6, 1°.78S×136°.42E, h10km, mb4.3/4, Error ellipse: s-maj=17.5km s-min=10.6km az=83.0*

*DJA **16** 18:10:52.6±0.8, 2°.5±13°×13°.6E±°, h12km±7km, M4.2/7, MLv4.2/7*

*ISCJB **16** 18:10:53.1±0.5, 1°.85S±0°.08×136°.33E±0°.04, h33km, mb4.0/10, MS3.3/7, Error ellipse: s-maj=10.8km s-min=5.2km az=4.9*

ISC 16 18:10:55.0±0.7, 1°.86S±0°.09×136°.35E±0°.04, h35km, n28, σ1ᵍ75/26, mb4.1/10, MS3.2/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.11**	**266**	P	Pn	18 10 56.3	-4.8
SRPI				S	**Sn**	**18 11 00.5**	**-4.8**
RKPI	**Ransiki, Papua**	**2.20**	**279**	P	**Pn**	**18 11 29.5**	**+0.4**
RKPI				S	Sn	18 11 31.7	-23
SMPI	**Sarmi**	**2.36**	**93**	P	**Pn**	**18 11 30.4**	**-0.9**
SMPI				S	**Sn**	**18 12 01.5**	**+2.4**
GENI	**Genyem**	**3.88**	**101**	P	**Pn**	**18 11 52.6**	**+0.4**
FAKI	**Fak Fak**	**4.23**	**256**	P	**Pn**	**18 11 57.2**	**+0.2**
FAKI				S	**Sn**	**18 12 46.2**	**+1.0**
FAKI	**Fak Fak**	**4.23**	**256**	*eP*	**Pn**	**18 11 56.7**	**-0.4**
JAY	**Jayapura**	**4.40**	**99**	P	**Pn**	**18 11 58.1**	**-1.3**
SIJI	**Sorong**	**5.18**	**281**	Pn	**Pn**	**18 12 10.1**	**0.0**
	1.5nm,0.3s,baz=203,slow=21,SNR=7.0						
SIJI				Sn	**Sn**	**18 13 09.3**	**+0.7**
	0.9nm,0.3s,baz=288,slow=20,SNR=2.4						
GUMO	**Guam**	**17.52**	**29**	LR	LR	18 20 44.3	
	comp=Z,38nm,18.8s,baz=173,slow=34						
WRAB	**Tennant Creek**	**18.07**	**186**	*eP*	**Pn**	**18 15 01.0**	**-2.4**
	11nm,1.0s						
WRA	**Warramunga Arr**	**18.08**	**186**	P	**Pn**	**18 14 59.5**	**-4.0**
	0.4nm,0.3s,baz=8.9,slow=12,SNR=22						
WRA				S	Sn	18 18 15.2	-9.1
	0.2nm,0.3s,baz=3.7,slow=23,SNR=5.3						
AS31	**Alice Springs**	**21.80**	**186**	*eP*	**P**	**18 15 44.1**	**-0.2**
ASAR	**Alice Springs**	**21.80**	**186**	P	**P**	**18 15 44.9**	**+0.6**
	7.5nm,0.8s,baz=17,slow=11,SNR=55						
ASAR				S	**S**	**18 19 45.4**	**+1.8**
	1.7nm,1.0s,baz=4.3,slow=26,SNR=3.5						
ASAR				LR	LR	18 25 17.4	
	comp=Z,321nm,19.5s,baz=7.0,slow=40						
MBWA	**Marble Bar**	**25.11**	**219**	*eP*	**P**	**18 16 18.4**	**+1.7**
	10nm,1.2s						
STKA	**Stephens Creek**	**30.26**	**171**	P	**P**	**18 17 03.9**	**+1.1**
	3.3nm,0.7s,baz=342,slow=9.6,SNR=3.0						
STKA				LR	LR	18 30 39.5	
	comp=Z,46nm,19.7s,baz=263,slow=39						
JNU	**Nakatsue**	**35.18**	**352**	LR	LR	18 29 21.8	
	comp=Z,47nm,19.7s,baz=166,slow=32						
MJAR	**Matsushiro Arr**	**38.25**	**2**	LR	LR	18 31 17.7	
	comp=Z,30nm,20.6s,baz=155,slow=32						
KSRS	**Korea Array**	**39.89**	**350**	LR	LR	18 32 33.3	
	comp=Z,25nm,19.8s,baz=164,slow=33						
CMAR	**Chiang Mai Arr**	**41.98**	**300**	P	**P**	**18 18 43.2**	**+0.2**
	0.8nm,0.6s,baz=113,slow=6.4,SNR=6.5						
SONM	**Songino Array**	**55.97**	**336**	LR	LR	18 43 18.9	
	comp=Z,35nm,21.1s,baz=150,slow=35						
TLY	**Talaya**	**60.11**	**337**	LR	LR	18 46 13.8	
	comp=Z,34nm,19.8s,baz=158,slow=35						
MKAR	**Makanchi Array**	**67.69**	**323**	P	**P**	**18 21 48.7**	**-0.1**
	1.1nm,0.6s,baz=114,slow=7.9,SNR=13						
ZALV	**Zalesovo Beam**	**70.03**	**331**	P	**P**	**18 22 05.0**	**+1.8**
	0.3nm,0.4s,baz=140,slow=7.0,SNR=3.1						
KURK	**Kurchatov**	**71.68**	**326**	*eP*	**P**	**18 22 12.5**	**-0.7**
	1.5nm,0.8s						
BVAR	**Borovoye Array**	**77.28**	**326**	P	**P**	**18 22 45.0**	**-0.8**
	0.8nm,0.6s,baz=123,slow=5.3,SNR=5.2						
ILAR	**Eielson Array**	**86.05**	**25**	P	**P**	**18 23 30.7**	**-1.1**
	1.2nm,1.0s,baz=268,slow=5.2,SNR=8.0						
QSPA	**South Pole Qui**	**88.08**	**180**	*eP*	**P**	**18 23 42.2**	**+0.4**
	5.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**133.76**	**286**	PKP	**PKPdf**	**18 30 10.4**	**+1.1**
	0.5nm,1.1s,baz=75,slow=1.6,SNR=2.7						

*NIED **16** 18:17:00, 29°.30N×142°.00E, h11km, Mw3.8 Best double couple: M₀6.14000×10¹⁴ NP1:φ₁54.00000°, δ48.00000°, λ-22.00000°. NP2:φ₂159.00000°, δ74.00000°, λ-136.00000°.*

*IDC **16** 18:17:28.8±2.3, 29°.42N×143°.38E, h0km, mb3.9/6, mb1 4.0/9, mb1mx3.8/26, mbtmp3.9/9, ML3.7/4, Error ellipse: s-maj=68.8km s-min=18.8km az=75.0*

*NEIC **16** 18:17:34.0±1.1, 29°.38N×143°.28E, h35km, mb4.3/3, Error ellipse: s-maj=29.4km s-min=9.8km az=76.0*

ISC 16 18:17:36.3±2.2, 29°.2N±0°.1×142°.2E±0°.5, h27km, n17, σ0ᵍ73/19, mb4.2/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.11**	**181**	Pn	**Pn**	**18 18 09.8**	**0.0**
CBIJ				Sn	**Sn**	**18 18 34.7**	**-0.5**
JCJ	**Chichijima**	**2.11**	**181**	Pn	**Pn**	**18 18 09.8**	**0.0**
	4.0nm,0.3s,baz=4.8,slow=21,SNR=6.5						
JCJ				Sn	**Sn**	**18 18 34.7**	**-0.5**
	12nm,0.3s,baz=90,slow=20,SNR=8.1						
MJAR	**Matsushiro Arr**	**8.06**	**336**	Pn	**Pn**	**18 19 30.5**	**-1.1**
	1.7nm,0.3s,baz=159,slow=11,SNR=24						
MAJO	**Matsushiro**	**8.06**	**336**	*eP*	**Pn**	**18 19 31.2**	**-0.4**
	10.0nm,0.6s						
MAT	**Matsushiro**	**8.06**	**336**	P	**Pn**	**18 19 30.8**	**-0.8**
MAT				S	**Sn**	**18 21 01.3**	**-0.6**
JNU	**Nakatsue**	**10.48**	**295**	Pn	Pn	18 20 13.5	+8.6
	0.9nm,0.3s,baz=178,slow=7.3,SNR=16						
KSRS	**Korea Array**	**14.51**	**308**	Pn	**P**	**18 21 05.6**	**-0.6**
	0.2nm,0.3s,baz=108,slow=12,SNR=5.8						
KSAR	**Wonju Array Be**	**14.53**	**308**	Pn	**P**	**18 21 05.6**	**-0.8**
SONM	**Songino Array**	**33.26**	**314**	P	**P**	**18 24 12.7**	**+1.3**
	1.7nm,0.9s,baz=111,slow=7.9,SNR=14						
ZALV	**Zalesovo Beam**	**47.94**	**318**	P	**P**	**18 26 12.0**	**-0.3**
	1.1nm,0.4s,baz=93,slow=8.7,SNR=6.1						
MKAR	**Makanchi Array**	**49.19**	**308**	P	**P**	**18 26 22.8**	**+0.7**
	0.9nm,0.6s,baz=92,slow=9.7,SNR=9.2						
WRA	**Warramunga Arr**	**49.46**	**190**	P	**P**	**18 26 24.2**	**0.0**
	1.7nm,0.7s,baz=9.6,slow=8.0,SNR=5.2						
KURK	**Kurchatov**	**51.56**	**313**	*eP*	**P**	**18 26 41.1**	**+1.2**
	7.5nm,1.1s						
ASAR	**Alice Springs**	**53.18**	**190**	P	**P**	**18 26 52.0**	**-0.2**
	0.4nm,0.8s,baz=6.5,slow=5.6,SNR=2.8						
BVAR	**Borovoye Array**	**56.53**	**317**	P	**P**	**18 27 16.8**	**+0.6**
	2.7nm,0.7s,baz=100,slow=8.4,SNR=13						
BRVK	**Borovoye**	**56.59**	**317**	*eP*	**P**	**18 27 17.1**	**+0.5**
	2.2nm,0.8s						
ABKAR	**Akbulak array**	**63.67**	**314**	*eP*	**P**	**18 28 05.5**	**+0.4**
	1.1nm,0.6s						

*ISCJB **16** 18:27:45.5±0.8, 23°.43N±0°.08×94°.1E±0°.2, h10km, mb3.5/7, Error ellipse: s-maj=26.7km s-min=8.2km az=162.8*

*IDC **16** 18:27:45.7±1.0, 23°.45N×94°.07E, h0km, mb3.5/7, mb1 3.6/8, mb1mx3.5/28, mbtmp3.4/8, ML3.0/1, Error ellipse: s-maj=45.4km s-min=18.1km az=58.0*

ISC 16 18:27:47.4±0.9, 23°.53N±0°.1×94°.1E±0°.2, h10km, n9, σ0ᵍ62/10, mb3.6/7, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**1.26**	**353**	*eP*	**Pg**	**18 28 12.0**	**+0.3**
IMP				*eS*	**Sb**	**18 28 27.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**6.77**	**137**	Pn	**Pn**	**18 29 27.2**	**+0.3**
	0.1nm,0.3s,baz=312,slow=13,SNR=2.7						
MKAR	**Makanchi Array**	**25.09**	**341**	P	**P**	**18 33 12.9**	**+0.7**
	0.4nm,0.5s,baz=141,slow=8.3,SNR=7.0						
SONM	**Songino Array**	**26.16**	**19**	P	**P**	**18 33 22.7**	**+0.7**
	0.8nm,0.7s,baz=201,slow=7.4,SNR=8.3						
KURBB	**Kurchatov Arra**	**29.64**	**340**	P	**P**	**18 33 52.8**	**-0.1**
	0.3nm,0.7s,baz=148,slow=8.5,SNR=2.5						
WRA	**Warramunga Arr**	**58.35**	**134**	P	**P**	**18 37 42.2**	**-0.9**
	0.4nm,0.6s,baz=323,slow=7.3,SNR=7.2						
ASAR	**Alice Springs**	**60.78**	**138**	P	**P**	**18 37 59.5**	**-0.3**
	0.4nm,0.5s,baz=319,slow=6.7,SNR=16						
GERES	**GERESS Array B**	**66.48**	**315**	P	**P**	**18 38 37.2**	**-0.2**
	0.5nm,0.6s,baz=106,slow=3.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**87.02**	**283**	P	**P**	**18 40 33.9**	**+0.2**
	0.4nm,0.9s,baz=71,slow=5.2,SNR=3.6						

IDC 16 18:43:22.9±2.8, 1°.75S×136°.71E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/24, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=110.4km s-min=27.5km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.23**	**187**	P	Pn	18 47 36.1	-1.5
	0.1nm,0.3s,baz=9.2,slow=12,SNR=5.1						
WRA				S	Sn	18 50 47.3	-15
	0.1nm,0.3s,baz=3.1,slow=23,SNR=4.9						
ASAR	**Alice Springs**	**21.96**	**187**	P	P	18 48 19.1	+0.5
	0.8nm,0.6s,baz=13,slow=11,SNR=11						
MKAR	**Makanchi Array**	**67.81**	**323**	P	P	18 54 23.0	+0.1
	0.2nm,0.7s,baz=130,slow=5.8,SNR=2.6						

IDC 16 18:57:12.6±3.2, 1°.77S×136°.55E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/24, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=163.3km s-min=25.4km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.19**	**187**	P	Pn	19 01 25.6	-1.2
	0.1nm,0.3s,baz=11,slow=13,SNR=7.0						
WRA				S	Sn	19 04 32.0	-19
	0.0nm,0.3s,baz=4.5,slow=22,SNR=2.7						
ASAR	**Alice Springs**	**21.92**	**187**	P	P	19 02 08.0	+0.3
	0.3nm,0.7s,baz=15,slow=11,SNR=12						
STKA	**Stephens Creek**	**30.32**	**171**	P	P	19 03 26.3	+0.4
	3.3nm,0.9s,baz=328,slow=9.5,SNR=2.8						
MKAR	**Makanchi Array**	**67.74**	**323**	P	P	19 08 12.0	-0.1
	0.2nm,0.5s,baz=121,slow=6.4,SNR=3.7						

*ISCJB **16** 18:58:37.9±0.3, 66°.41N±0°.03×144°.38W±0°.05, h10km, mb3.6/3, MS3.3/1, Error ellipse: s-maj=4.3km s-min=3.0km az=168.3*

*PGC **16** 18:58:39.6±3.0, 66°.40N×144°.76W, h1km, ML3.8/2, 220km Ene of Fairbanks, Ak Alaska*

*NEIC **16** 18:58:40.6, 66°.35N×144°.78W, h14km, ML3.8(OTT), ML3.9(AEIC), After AEIC.*

*IDC **16** 18:58:40.5±1.0, 66°.33N×144°.66W, h0km, mb3.5/3, mb1 3.9/6, mb1mx3.5/29, mbtmp3.7/6, ML3.8/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/32, Error ellipse: s-maj=13.4km s-min=9.9km az=143.0*

ISC 16 18:58:40.1±0.7, 66°.36N±0°.04×144°.57W±0°.04, h10km, n73, σ1ᵍ36/79, mb3.7/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FYU	**Fort Yukon**	**0.34**	**308**	P	**Pg**	**18 58 46.8**	**-0.1**
FYU				S	**Sg**	**18 58 50.7**	**-0.7**
BM3	**Burnt Mountain**	**1.06**	**359**	P	**Pg**	**18 59 01.0**	**+0.4**
BM3				S	**Sn**	**18 59 15.7**	**-0.3**
IL1	**Eielson Array**	**1.86**	**212**	P	**Pn**	**18 59 11.7**	**-0.4**
ILAR	**Eielson Array**	**1.86**	**212**	Pn	**Pn**	**18 59 11.7**	**-0.4**
	110nm,0.3s,baz=28,slow=16,SNR=340						
ILAR				Pg	**Pb**	**18 59 14.4**	**+0.2**
	110nm,0.3s,baz=29,slow=16,SNR=563						
ILAR				Lg	Lg	18 59 36.9	
	657nm,0.3s,baz=28,slow=31,SNR=59						
ILAR				LR	LR	18 59 42.5	
	comp=Z,421nm,21.9s,baz=320,slow=34						
COLA	**College**	**2.02**	**224**	P	**Pn**	**18 59 13.8**	**-0.4**
COLA				S	**Sn**	**18 59 40.3**	**+0.9**
PS08	**TAPS Pump Stn8**	**2.05**	**208**	P	**Pn**	**18 59 14.5**	**-0.1**
MDM	**Murphy Dome**	**2.07**	**229**	P	**Pn**	**18 59 14.2**	**-0.8**
EGAK	**Eagle**	**2.13**	**137**	P	**Pn**	**18 59 15.1**	**-0.6**
PS06	**TAPS Pump Stn6**	**2.17**	**259**	P	**Pn**	**18 59 15.2**	**-1.0**
CCB	**Clear Creek Bu**	**2.19**	**220**	P	**Pn**	**18 59 15.8**	**-0.7**
HDA	**Harding Lake**	**2.20**	**208**	P	**Pn**	**18 59 16.4**	**-0.4**
COLD	**Coldfoot**	**2.40**	**294**	P	**Pn**	**18 59 18.6**	**-0.8**
WRH	**Wood River Hil**	**2.40**	**219**	P	**Pn**	**18 59 18.9**	**-0.6**
PS05	**TAPS Pump Stn5**	**2.48**	**283**	P	**Pn**	**18 59 20.3**	**-0.2**
NEA	**Nenana**	**2.60**	**229**	P	**Pn**	**18 59 21.1**	**-1.1**
RIDG	**Independ'e Rid**	**2.63**	**183**	P	**Pn**	**18 59 23.4**	**+0.8**
MLY	**Manley**	**2.88**	**245**	P	**Pn**	**18 59 24.4**	**-1.7**
DAWY	**Dawson**	**3.17**	**134**	Pn	**Pn**	**18 59 31.0**	**+0.9**
DAWY				Sg	**Sg**	**19 00 20.0**	**-1.8**
DAWY	**Dawson**	**3.17**	**134**	Pn	**Pn**	**18 59 31.0**	**+0.9**
DAWY				Sg	**Sg**	**19 00 20.0**	**-1.8**
MCK	**McKinley**	**3.22**	**217**	P	**Pn**	**18 59 30.7**	**0.0**
PAX	**Paxson**	**3.42**	**187**	*ePn*	**Pn**	**18 59 35.0**	**+1.4**
RND	**Reindeer**	**3.48**	**214**	P	**Pn**	**18 59 34.6**	**+0.2**
DHY	**Denali Highway**	**3.51**	**201**	P	**Pn**	**18 59 36.1**	**+1.3**
BCA3	**Beaver Creek A**	**3.52**	**159**	P	**Pn**	**18 59 36.5**	**+1.6**
BPAW	**Bear Paw Mtn.**	**3.53**	**233**	P	**Pn**	**18 59 33.6**	**-1.4**
IM3	**Indian Mountai**	**3.75**	**268**	P	**Pn**	**18 59 37.2**	**-0.7**
IM04	**Indian Mountai**	**3.76**	**268**	*ePn*	**Pn**	**18 59 36.1**	**-2.1**
TRF	**Thorofare Moun**	**3.80**	**222**	P	**Pn**	**18 59 38.6**	**-0.2**
HARP	**HAARP**	**3.98**	**184**	P	**Pn**	**18 59 42.8**	**+1.7**
CHUM	**Lake Minchumin**	**4.11**	**236**	P	**Pn**	**18 59 43.3**	**+0.4**
PS01	**TAPS Pump Stn**	**4.20**	**341**	P	**Pn**	**18 59 45.1**	**+1.1**
INK	**Inuvik**	**4.70**	**60**	Pn	**Pn**	**18 59 52.0**	**+1.1**
	3.8nm,0.3s,baz=256,slow=13,SNR=19						
INK				Sn	**Sn**	**19 00 45.6**	**+0.2**
	5.4nm,0.3s,baz=135,slow=20,SNR=8.5						
INK	**Inuvik**	**4.70**	**60**	*ePn*	**Pn**	**18 59 51.7**	**+0.8**
INK				Sn	**Sn**	**19 00 45.6**	**+0.2**
INK	**Inuvik**	**4.70**	**60**	Pn	**Pn**	**18 59 52.2**	**+1.3**
INK				Sn	**Sn**	**19 00 44.5**	**-0.9**
PPLA	**Purkeypile**	**4.78**	**227**	P	**Pn**	**18 59 51.5**	**-0.7**
SML	**Sawmill**	**4.86**	**202**	P	**Pn**	**18 59 54.4**	**+1.2**
MCARA	**McCarthy VSAT**	**5.04**	**172**	P	**Pn**	**18 59 57.2**	**+1.5**
PMR	**Palmer**	**5.19**	**205**	*ePn*	**Pn**	**19 00 00.0**	**+2.3**
	27nm,0.6s						
PTPK	**Patty Peak**	**5.28**	**169**	P	**Pn**	**19 00 01.2**	**+2.1**
DIV	**Divide**	**5.28**	**186**	*ePn*	**Pn**	**18 59 58.9**	**-0.1**
	18nm,0.5s						
SKT	**Skwentna**	**5.34**	**218**	P	**Pn**	**19 00 00.7**	**+0.8**
JPK	**Jack Peak**	**5.40**	**191**	P	**Pn**	**19 00 01.6**	**+0.9**
BMRM	**Bremner River**	**5.41**	**180**	P	**Pn**	**19 00 03.2**	**+2.3**
KIAG	**Kiagna River**	**5.54**	**169**	P	**Pn**	**19 00 04.5**	**+1.8**
RC01	**Rabbit Creek A**	**5.76**	**206**	P	**Pn**	**19 00 05.6**	**0.0**
GOAT	**Goat Mountain**	**5.80**	**181**	P	**Pn**	**19 00 06.8**	**+0.6**
TT01	**Tatalina**	**6.02**	**240**	P	**Pn**	**19 00 07.3**	**-1.8**
TABL	**Table Mountain**	**6.14**	**164**	P	**Pn**	**19 00 11.7**	**+0.7**
HYT	**Haines Junctio**	**6.38**	**147**	P	**Pn**	**19 00 15.7**	**+1.4**
HYT	**Haines Junctio**	**6.38**	**147**	*ePn*	**Pn**	**19 00 15.4**	**+1.2**
HYT				Sg	**Sg**	**19 02 00.2**	**-4.6**
SEW	**Seward**	**6.65**	**202**	P	**Pn**	**19 00 19.0**	**+1.2**
RSO	**Redoubt South**	**6.96**	**216**	*ePn*	**Pn**	**19 00 25.0**	**+2.8**
	31nm,0.6s						
WHY	**Whitehorse**	**7.17**	**138**	Sg	Sg	19 02 24.1	-5.8
DLBC	**Dease Lake**	**10.39**	**133**	Pn	**Pn**	**19 01 09.9**	**+0.8**
	0.7nm,0.3s,baz=311,slow=11,SNR=7.2						
DLBC	**Dease Lake**	**10.39**	**133**	Pn	**Pn**	**19 01 09.9**	**+0.8**
DLBC				Sg	Sn	19 04 05.2	+60
ROMN	**Roman Lake**	**11.24**	**88**	P	**Pn**	**19 01 19.8**	**-0.7**
GALN	**Gameti Lake**	**11.60**	**88**	P	**Pn**	**19 01 24.6**	**-0.8**
YKR3	**Yellowknife Ar**	**13.32**	**93**	P	**Pn**	**19 01 47.4**	**-1.6**
YKR4	**Yellowknife Ar**	**13.34**	**93**	P	**Pn**	**19 01 47.7**	**-1.6**
YKB0	**Yellowknife Ar**	**13.37**	**92**	P	**Pn**	**19 01 48.6**	**-1.0**
YKB9	**Yellowknife Ar**	**13.38**	**92**	P	**Pn**	**19 01 48.8**	**-1.0**
YKW3	**Yellowknife Ar**	**13.38**	**92**	P	**Pn**	**19 01 49.0**	**-0.9**
YKB8	**Yellowknife Ar**	**13.39**	**92**	P	**Pn**	**19 01 48.7**	**-1.1**
YKB7	**Yellowknife Ar**	**13.40**	**93**	P	**Pn**	**19 01 48.6**	**-1.5**
YKR7	**Yellowknife Ar**	**13.40**	**93**	P	**Pn**	**19 01 48.5**	**-1.6**
YKA	**Yellowknife Ar**	**13.42**	**93**	Pn	Pn	19 01 47.1	-3.3
	0.2nm,0.3s,baz=304,slow=13,SNR=6.6						
YKA				Sn	Sn	19 04 07.3	-12
	0.2nm,0.3s,baz=301,slow=23,SNR=4.6						
YKR8	**Yellowknife Ar**	**13.42**	**93**	P	**Pn**	**19 01 48.6**	**-1.8**
YKB4	**Yellowknife Ar**	**13.43**	**93**	P	**Pn**	**19 01 48.6**	**-1.9**
YKB1	**Yellowknife Ar**	**13.47**	**93**	P	**Pn**	**19 01 49.2**	**-1.7**
SEY	**Seymchan**	**26.19**	**292**	P	**P**	**19 04 17.8**	**+3.5**
	1.0nm,0.6s,baz=57,slow=20,SNR=6.6						
TXAR	**Lajitas Array**	**44.59**	**125**	P	P	19 06 56.0	+3.8
	0.2nm,0.7s,baz=335,slow=4.0,SNR=2.9						
FINES	**FINESS Array B**	**52.31**	**6**	P	**P**	**19 07 52.2**	**+1.0**
	2.5nm,1.0s,baz=357,slow=7.4,SNR=5.3						
ZALV	**Zalesovo Beam**	**54.34**	**326**	LR	LR	19 36 12.6	
	comp=Z,25nm,20.5s,baz=256,slow=41						

WEL 16 19:15:16.2±0.3, 36°.38S×177°.40E, h33km, ML3.7/9, Error ellipse: s-maj=3.3km s-min=2.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.39**	**149**	*eP**	**Pn**	19 15 38.9	-0.3
MXZ				*eS**	Sn	19 15 55.8	-0.6
HAZ	**Te Kaha**	**1.41**	**168**	P*	Pn	19 15 39.1	-0.5
HAZ				*eS**	Sn	19 15 56.3	-0.7
WMGZ	**Waiomatatini S**	**1.65**	**151**	*ePN*	Pn	19 15 42.3	-0.6
PUZ	**Puketiti**	**1.82**	**158**	*ePN*	Pn	19 15 44.4	-0.9
PUZ				*eSN*	Sn	19 16 05.1	-2.2
URZ	**Urewera**	**1.89**	**187**	*eP**	Pn	19 15 46.5	+0.4
URZ				AML	AML	19 16 13.1	
MWZ	**Matawai**	**1.96**	**177**	*eP**	Pn	19 15 47.2	+0.1
MWZ				*eS**	Sn	19 16 10.6	0.0
MWZ				AML	AML	19 16 12.5	
CNGZ	**Carnagh Statio**	**2.20**	**163**	PN	Pn	19 15 49.3	-1.1
KNZ	**Kokohu**	**2.65**	**175**	PN	Pn	19 15 54.9	-1.7
BKZ	**Black Stump Fm**	**2.88**	**194**	*eP**	Pn	19 15 60.0	+0.2
PXZ	**Pawanui**	**3.67**	**186**	*ePN*	Pn	19 16 07.5	-3.2
PXZ				*eSN*	Sn	19 16 47.2	-5.5
TSZ	**Takapari Road**	**3.85**	**197**	*ePN*	Pn	19 16 10.3	-2.8
BFZ	**Birch Farm**	**4.39**	**192**	*ePN*	Pn	19 16 17.0	-3.5
BFZ				*eSN*	Sn	19 17 04.4	-6.2
MRZ	**Mangatainoka R**	**4.51**	**198**	*ePN*	Pn	19 16 18.1	-4.1
MRZ				*eSN*	Sn	19 17 07.5	-6.0
TIWZ	**Tintock**	**4.55**	**195**	*ePN*	Pn	19 16 18.2	-4.6

IDC 16 19:17:06.7±1.2, 1°.51N×125°.67E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.6/28, mbtmp4.0/4, ML3.2/1, Error ellipse: s-maj=60.3km s-min=15.9km az=63.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.08**	**113**	Pn	Pn	19 18 39.5	+1.7
	0.6nm,0.3s,baz=197,slow=20,SNR=3.3						
WRA	**Warramunga Arr**	**22.95**	**159**	P	P	19 22 13.3	+0.5
	3.6nm,0.5s,baz=340,slow=11,SNR=64						
WRA				S	S	19 26 23.8	-0.5
	0.9nm,1.0s,baz=341,slow=18,SNR=2.9						
ASAR	**Alice Springs**	**26.27**	**163**	P	P	19 22 45.5	+1.5
	1.3nm,0.5s,baz=345,slow=11,SNR=20			

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.59**	**181**	P	P	20 20 09.8	-0.7
	0.0nm,0.3s,baz=5.6,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**23.30**	**182**	P	P	20 20 50.8	+0.4
	0.1nm,0.7s,baz=3.4,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**65.33**	**323**	P	P	20 26 24.2	-0.5
	0.3nm,0.7s,baz=114,slow=6.5,SNR=2.9						
ILAR	**Eielson Array**	**85.33**	**25**	P	P	20 28 20.1	+0.6
	0.1nm,0.6s,baz=243,slow=4.0,SNR=3.4						

*ISCJB **16** 20:35:14.2±0.3,38.37N±0.01×22.02E±0.02,h5km±2km, mb3.4/3,Error ellipse: s-maj=2.1km s-min=2.1km az=20.3*
*CSEM **16** 20:35:14.5±0.1,38.38N×22.03E,h2km,ML3.4,Error ellipse: s-maj=2.2km s-min=2.1km az=70.0*
*ATH **16** 20:35:14.6,38.37N×22.03E,h9km±1km,ML3.0*
*IDC **16** 20:35:14.3±1.7,37.94N×22.50E,h0km,mb3.5/3, mb1 3.3/4,mb1mx3.1/36,mbtmp3.3/4,ML2.6/1,MS2.6/1, Ms1 2.6/1,ms1mx2.1/20,Error ellipse: s-maj=111.1km s-min=25.0km az=142.0*
*THE **16** 20:35:15.0,38.38N×22.04E,h0km±2km,ML3.4/13,Error ellipse: s-maj=2.7km s-min=0.7km az=224.0*

ISC 16 20:35:14.8±0.8,38.38N±0.01×22.02E±0.01,h8km±4km, n179,σ0°73/243,mb3.4/3,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.09**	**86**	P	**Pg**	**20 35 16.9**	**-0.2**
KALE				S	**Sg**	**20 35 18.8**	**0.0**
KALE	**Kalithea**	**0.09**	**86**	*e*PG	**Pg**	**20 35 17.0**	**-0.2**
KALE				*e*SG	**Sg**	**20 35 18.8**	**0.0**
KALE	**Kalithea**	**0.09**	**86**	P	**Pg**	**20 35 16.9**	**-0.2**
KALE				S	**Sg**	**20 35 18.8**	**0.0**
EFP	**Efpalio**	**0.10**	**295**	P	**Pg**	**20 35 17.0**	**-0.2**
EFP				S	**Sg**	**20 35 18.9**	**0.0**
EFP	**Efpalio**	**0.10**	**295**	*e*PG	**Pg**	**20 35 17.0**	**-0.2**
EFP				*e*SG	**Sg**	**20 35 18.9**	**0.0**
EFP	**Efpalio**	**0.10**	**295**	P	**Pg**	**20 35 17.0**	**-0.2**
EFP				S	**Sg**	**20 35 19.0**	**0.0**
UPR	**University Cam**	**0.21**	**242**	P	**Pg**	**20 35 19.3**	**+0.2**
UPR	**University Cam**	**0.21**	**242**	P	**Pg**	**20 35 19.3**	**+0.2**
KLV	**Kalavryta, Ach**	**0.35**	**163**	P	**Pg**	**20 35 21.3**	**-0.5**
KLV				S	**Sg**	**20 35 26.2**	**-0.3**
KLV	**Kalavryta, Ach**	**0.35**	**163**	*e*PB	**Pg**	**20 35 21.8**	**0.0**
KLV				*e*SB	**Sg**	**20 35 26.2**	**-0.3**
KLV	**Kalavryta, Ach**	**0.35**	**163**	P	**Pg**	**20 35 21.3**	**-0.5**
KLV	**Kalavryta, Ach**	**0.35**	**163**	*e*Pb	**Pg**	**20 35 21.8**	**0.0**
KLV				S	**Sg**	**20 35 26.2**	**-0.3**
DSF	**Desfina**	**0.40**	**86**	P	**Pg**	**20 35 21.8**	**-0.8**
DSF				S	**Sg**	**20 35 28.3**	**+0.4**
DSF	**Desfina**	**0.40**	**86**	*e*PG	**Pg**	**20 35 21.7**	**-0.8**
DSF				*e*SB	**Sg**	**20 35 28.0**	**+0.1**
DSF	**Desfina**	**0.40**	**86**	P	**Pg**	**20 35 21.8**	**-0.8**
DSF				*e*Sb	**Sg**	**20 35 28.0**	**+0.1**
DRO	**Drossia**	**0.50**	**210**	P	**Pg**	**20 35 24.2**	**-0.2**
DRO	**Drossia**	**0.50**	**210**	*e*PB	**Pg**	**20 35 23.7**	**-0.7**
DRO				*e*SB	**Sg**	**20 35 31.3**	**+0.4**
DRO	**Drossia**	**0.50**	**210**	*e*Pb	**Pg**	**20 35 23.7**	**-0.7**
DRO	**Drossia**	**0.50**	**210**	P	**Pg**	**20 35 24.2**	**-0.2**
DRO				*e*Sb	**Sg**	**20 35 31.3**	**+0.4**
GUR	**Goura**	**0.51**	**150**	P	**Pg**	**20 35 24.2**	**-0.6**
GUR	**Goura**	**0.51**	**150**	*e*PB	**Pg**	**20 35 24.9**	**+0.1**
GUR				*e*SB	**Sg**	**20 35 31.6**	**+0.1**
GUR	**Goura**	**0.51**	**150**	P	**Pg**	**20 35 24.2**	**-0.6**
GUR	**Goura**	**0.51**	**150**	*e*Pb	**Pg**	**20 35 24.9**	**+0.1**
GUR				*e*Sb	**Sg**	**20 35 31.6**	**+0.1**
RLS	**Riolos of Patr**	**0.55**	**234**	P	**Pg**	**20 35 25.0**	**-0.4**
RLS				S	**Sg**	**20 35 32.4**	**-0.1**
RLS	**Riolos of Patr**	**0.55**	**234**	*e*PG	**Pg**	**20 35 24.9**	**-0.4**
RLS				*e*SB	**Sg**	**20 35 32.8**	**+0.3**
RLS	**Riolos of Patr**	**0.55**	**234**	P	**Pg**	**20 35 25.0**	**-0.4**
RLS				S	**Sg**	**20 35 32.4**	**-0.1**
EVR	**Evrytania**	**0.56**	**343**	P	**Pg**	**20 35 25.5**	**-0.2**
EVR				S	**Sb**	**20 35 34.1**	**-1.0**
EVR	**Evrytania**	**0.56**	**343**	*e*PG	**Pg**	**20 35 25.4**	**-0.2**
EVR				*e*SB	**Sb**	**20 35 34.0**	**-1.0**
EVR	**Evrytania**	**0.56**	**343**	*e*Pg	**Pg**	**20 35 25.4**	**-0.2**
EVR				*e*Sb	**Sb**	**20 35 34.0**	**-1.0**
THAL	**Thalero**	**0.61**	**124**	P	**Pg**	**20 35 26.7**	**+0.1**
THAL	**Thalero**	**0.61**	**124**	P	**Pg**	**20 35 26.7**	**+0.1**
AXAR	**Agios Charalam**	**0.63**	**52**	P	**Pg**	**20 35 26.2**	**-0.7**
AXAR				S	**Sb**	**20 35 36.8**	**-0.2**
AXAR	**Agios Charalam**	**0.63**	**52**	*e*PB	**Pg**	**20 35 26.3**	**-0.7**
AXAR				*e*SB	**Sg**	**20 35 35.9**	**+0.7**
AXAR	**Agios Charalam**	**0.63**	**52**	*e*Pb	**Pg**	**20 35 26.3**	**-0.7**
AXAR				*e*Sb	**Sg**	**20 35 35.9**	**+0.7**
AXAR				S	**Sb**	**20 35 36.8**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.63**	**8**	P	**Pg**	**20 35 19.0**	**-0.7**
MAKR				S	**Sb**	**20 35 37.4**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.63**	**8**	*e*PB	**Pg**	**20 35 26.3**	**-0.8**
MAKR				*e*SB	**Sb**	**20 35 36.9**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.63**	**8**	P	**Pg**	**20 35 26.4**	**-0.7**
MAKR				*e*Sb	**Sb**	**20 35 36.9**	**-0.3**
AGG	**Agios Georgios**	**0.68**	**21**	P	**Pg**	**20 35 26.8**	**-1.2**
AGG				S	**Sg**	**20 35 36.7**	**-0.2**
AGG	**Agios Georgios**	**0.68**	**21**	*e*PB	**Pg**	**20 35 26.9**	**-1.1**
AGG				*e*SB	**Sg**	**20 35 37.6**	**+0.7**
AGG	**Agios Georgios**	**0.68**	**21**	*e*Pb	**Pg**	**20 35 26.9**	**-1.1**
AGG				*e*Sb	**Sg**	**20 35 36.7**	**-0.2**
AGG				*e*Sb	**Sg**	**20 35 37.6**	**+0.7**
PDO	**Prodromos**	**0.69**	**288**	P	**Pg**	**20 35 28.3**	**+0.1**
PDO	**Prodromos**	**0.69**	**288**	*e*PB	**Pg**	**20 35 28.4**	**+0.2**
PDO	**Prodromos**	**0.69**	**288**	P	**Pg**	**20 35 28.3**	**+0.1**
LKR	**Lokris**	**0.81**	**71**	P	**Pg**	**20 35 29.9**	**-0.5**
LKR				S	**Sg**	**20 35 41.2**	**+0.2**
LKR	**Lokris**	**0.81**	**71**	*e*PB	**Pg**	**20 35 29.4**	**-1.0**
LKR				*e*SB	**Sb**	**20 35 42.2**	**0.0**
LKR	**Lokris**	**0.81**	**71**	*e*Pb	**Pg**	**20 35 29.4**	**-1.0**
LKR	**Lokris**	**0.81**	**71**	P	**Pg**	**20 35 29.9**	**-0.5**
LKR				S	**Sg**	**20 35 41.2**	**+0.2**
LKR				*e*Sb	**Sb**	**20 35 42.2**	**0.0**
LTK	**Loutraki**	**0.83**	**116**	P	**Pg**	**20 35 30.4**	**-0.3**
LTK	**Loutraki**	**0.83**	**116**	*e*PG	**Pg**	**20 35 30.0**	**-0.7**
LTK				*e*SB	**Sb**	**20 35 42.3**	**-0.4**
LTK	**Loutraki**	**0.83**	**116**	*e*Pg	**Pg**	**20 35 30.0**	**-0.7**
LTK	**Loutraki**	**0.83**	**116**	P	**Pg**	**20 35 30.4**	**-0.3**
LTK				*e*Sb	**Sb**	**20 35 42.3**	**-0.4**
ACOR	**Acrocorinthos**	**0.83**	**126**	P	**Pb**	**20 35 31.9**	**+0.4**
ACOR	**Acrocorinthos**	**0.83**	**126**	P	**Pb**	**20 35 31.9**	**+0.4**
ATAL	**Atalanti**	**0.84**	**68**	P	**Pg**	**20 35 30.8**	**-0.2**
ATAL				S	**Sg**	**20 35 42.4**	**+0.4**
ATAL	**Atalanti**	**0.84**	**68**	P	**Pg**	**20 35 30.8**	**-0.2**
ATAL				S	**Sg**	**20 35 42.4**	**+0.4**
AMT	**Artemida-Makis**	**0.89**	**196**	P	**Pg**	**20 35 31.8**	**0.0**
AMT				S	**Sn**	**20 35 46.8**	**+0.2**
AMT	**Artemida-Makis**	**0.89**	**196**	*e*PB	**Pg**	**20 35 31.9**	**+0.1**
AMT				*e*SB	**Sg**	**20 35 43.5**	**+0.1**
AMT	**Artemida-Makis**	**0.89**	**196**	*e*Pb	**Pg**	**20 35 31.9**	**+0.1**
AMT				*e*Sb	**Sg**	**20 35 43.5**	**+0.1**
VIL2	**Platees**	**0.99**	**100**	*e*PN	**Pb**	**20 35 34.5**	**+0.2**
VIL2				*e*SB	**Sb**	**20 35 48.4**	**+0.9**
KFL	**Anninata**	**1.01**	**255**	P	**Pg**	**20 35 33.9**	**-0.3**
KFL				S	**Sn**	**20 35 50.4**	**+0.8**
KFL	**Anninata**	**1.01**	**255**	P	**Pg**	**20 35 33.9**	**-0.3**
VILL	**Villia**	**1.04**	**102**	P	**Pb**	**20 35 35.0**	**-0.1**
VILL	**Villia**	**1.04**	**102**	*e*Pn	**Pg**	**20 35 34.5**	**-0.3**
VILL	**Villia**	**1.04**	**102**	P	**Pb**	**20 35 35.0**	**-0.1**
VILL				*e*Sb	**Sg**	**20 35 48.4**	**+0.1**
DSL	**Palaion Diasel**	**1.04**	**316**	P	**Pg**	**20 35 34.9**	**+0.1**
DSL	**Palaion Diasel**	**1.04**	**316**	*e*PN	**Pg**	**20 35 34.7**	**-0.1**
DSL				*e*SB	**Sb**	**20 35 49.8**	**+0.9**
DSL	**Palaion Diasel**	**1.04**	**316**	P	**Pg**	**20 35 34.9**	**+0.1**
DSL				*e*Sb	**Sb**	**20 35 49.8**	**+0.9**
VLX	**Vlachokerasia**	**1.05**	**164**	P	**Pg**	**20 35 33.5**	**-1.5**
VLX	**Vlachokerasia**	**1.05**	**164**	*e*PG	**Pg**	**20 35 33.9**	**-1.1**
VLX	**Vlachokerasia**	**1.05**	**164**	P	**Pg**	**20 35 33.5**	**-1.5**
VLX	**Vlachokerasia**	**1.05**	**164**	*e*Pg	**Pg**	**20 35 33.9**	**-1.1**
SMIA	**Simia**	**1.05**	**62**	P	**Pg**	**20 35 34.7**	**-0.3**
SMIA				S	**Sb**	**20 35 49.5**	**+0.3**
SMIA	**Simia**	**1.05**	**62**	*e*PB	**Pg**	**20 35 34.7**	**-0.3**
SMIA				*e*SB	**Sg**	**20 35 48.5**	**-0.2**
SMIA	**Simia**	**1.05**	**62**	P	**Pg**	**20 35 34.7**	**-0.3**
SMIA				*e*Sb	**Sg**	**20 35 48.5**	**-0.2**
SMIA				S	**Sb**	**20 35 49.5**	**+0.3**
LKD2	**Lefkada island**	**1.14**	**291**	P	**Pg**	**20 35 36.6**	**-0.2**
LKD2	**Lefkada island**	**1.14**	**291**	*e*PB	**Pg**	**20 35 36.4**	**-0.4**
LKD2	**Lefkada island**	**1.14**	**291**	P	**Pg**	**20 35 36.6**	**-0.2**
VLS	**Valsamata**	**1.15**	**260**	P	**Pg**	**20 35 35.1**	**-1.7**
VLS	**Valsamata**	**1.15**	**260**	*e*PG	**Pg**	**20 35 35.4**	**-1.4**
VLS	**Valsamata**	**1.15**	**260**	P	**Pg**	**20 35 35.1**	**-1.7**
VLS	**Valsamata**	**1.15**	**260**	*e*Pg	**Pg**	**20 35 35.4**	**-1.4**
THL	**Klokotos Trika**	**1.18**	**360**	P	**Pn**	**20 35 37.8**	**+0.2**
THL				S	**Sn**	**20 35 53.9**	**+0.1**
THL	**Klokotos Trika**	**1.18**	**360**	*e*PB	**Pg**	**20 35 37.0**	**-0.5**
THL				*e*SB	**Sn**	**20 35 53.7**	**-0.1**
THL	**Klokotos Trika**	**1.18**	**360**	*e*Pb	**Pg**	**20 35 37.0**	**-0.5**
THL	**Klokotos Trika**	**1.18**	**360**	P	**Pn**	**20 35 37.8**	**+0.2**
THL				*e*Sb	**Sn**	**20 35 53.7**	**-0.1**
ZKS	**Zakynthos**	**1.19**	**235**	P	**Pg**	**20 35 36.8**	**-0.9**
ZKS	**Zakynthos**	**1.19**	**235**	*e*PG	**Pg**	**20 35 36.8**	**-0.9**
ZKS	**Zakynthos**	**1.19**	**235**	P	**Pg**	**20 35 36.8**	**-0.9**
ITM	**Ithomi**	**1.21**	**184**	P	**Pg**	**20 35 37.0**	**-0.9**
ITM	**Ithomi**	**1.21**	**184**	*e*PN	**Pg**	**20 35 36.8**	**-1.1**
ITM	**Ithomi**	**1.21**	**184**	P	**Pg**	**20 35 37.0**	**-0.9**
FYTO	**Fytoko, Volos**	**1.25**	**35**	P	**Pg**	**20 35 38.0**	**-0.8**
FYTO	**Fytoko, Volos**	**1.25**	**35**	P	**Pg**	**20 35 38.0**	**-0.8**
MRKA	**Markates**	**1.27**	**75**	P	**Pb**	**20 35 39.0**	**0.0**
MRKA	**Markates**	**1.27**	**75**	*e*PB	**Pg**	**20 35 38.5**	**-0.7**
MRKA	**Markates**	**1.27**	**75**	*e*Pb	**Pg**	**20 35 38.5**	**-0.7**
MRKA	**Markates**	**1.27**	**75**	P	**Pb**	**20 35 39.0**	**0.0**
DID	**Didima**	**1.30**	**132**	P	**Pb**	**20 35 39.7**	**+0.3**
DID	**Didima**	**1.30**	**132**	*e*PB	**Pb**	**20 35 39.8**	**+0.3**
DID	**Didima**	**1.30**	**132**	*e*Pb	**Pb**	**20 35 39.8**	**+0.3**
NAIG	**Nisos Aigina**	**1.31**	**118**	*e*PB	**Pg**	**20 35 39.9**	**-0.1**
NAIG	**Nisos Aigina**	**1.31**	**118**	*e*Pb	**Pg**	**20 35 39.9**	**-0.1**
NEO	**Neokhori**	**1.31**	**45**	P	**Pn**	**20 35 39.0**	**-0.5**
NEO	**Neokhori**	**1.31**	**45**	*e*PB	**Pn**	**20 35 39.5**	**0.0**
NEO	**Neokhori**	**1.31**	**45**	*e*PN	**Pn**	**20 35 38.7**	**-0.8**
NEO	**Neokhori**	**1.31**	**45**	*e*Pn	**Pn**	**20 35 38.7**	**-0.8**
NEO	**Neokhori**	**1.31**	**45**	P	**Pn**	**20 35 39.0**	**-0.5**
NEO	**Neokhori**	**1.31**	**45**	*e*Pb	**Pn**	**20 35 39.5**	**0.0**
KRND	**KRANIDI**	**1.34**	**138**	P	**Pg**	**20 35 40.5**	**0.0**
KRND				S	**Sg**	**20 35 57.6**	**-0.3**
KRND	**KRANIDI**	**1.34**	**138**	*e*PB	**Pb**	**20 35 40.2**	**+0.1**
KRND	**KRANIDI**	**1.34**	**138**	*e*Pb	**Pb**	**20 35 40.2**	**+0.1**
KRND	**KRANIDI**	**1.34**	**138**	P	**Pg**	**20 35 40.5**	**0.0**
KRND				S	**Sg**	**20 35 57.6**	**-0.3**
XOR	**Xorichti**	**1.34**	**43**	P	**Pn**	**20 35 39.6**	**-0.2**
XOR	**Xorichti**	**1.34**	**43**	*e*PG	**Pn**	**20 35 39.4**	**-0.4**
XOR				*e*SB	**Sn**	**20 35 58.2**	**+0.4**
XOR	**Xorichti**	**1.34**	**43**	P	**Pn**	**20 35 39.6**	**-0.2**
XOR				*e*Sb	**Sn**	**20 35 58.2**	**+0.4**
SFD	**Strofades**	**1.38**	**215**	*e*PB	**Pn**	**20 35 40.6**	**+0.2**
SFD	**Strofades**	**1.38**	**215**	*e*Pb	**Pn**	**20 35 40.6**	**+0.2**
ATH	**Athens Observa**	**1.40**	**107**	*e*PG	**Pn**	**20 35 40.2**	**-0.4**
ATH				*e*SB	**Sn**	**20 35 59.5**	**+0.3**
ATH	**Athens Observa**	**1.40**	**107**	*e*Pg	**Pn**	**20 35 40.2**	**-0.4**
ATH				*e*Sb	**Sn**	**20 35 59.5**	**+0.3**
ERET	**Eretria**	**1.40**	**87**	P	**Pg**	**20 35 42.1**	**+0.4**
ERET	**Eretria**	**1.40**	**87**	P	**Pg**	**20 35 42.1**	**+0.4**
PTL	**Penteli**	**1.49**	**102**	*e*PB	**Pn**	**20 35 42.1**	**+0.2**
PTL	**Penteli**	**1.49**	**102**	*e*Pb	**Pn**	**20 35 42.1**	**+0.2**
PYL	**PYLOS**	**1.50**	**189**	P	**Pn**	**20 35 42.2**	**+0.2**
PYL	**PYLOS**	**1.50**	**189**	*e*PG	**Pn**	**20 35 42.1**	**+0.1**
PYL	**PYLOS**	**1.50**	**189**	P	**Pn**	**20 35 42.2**	**+0.2**
JAN	**Janina**	**1.56**	**325**	*e*PB	**Pg**	**20 35 44.5**	**-0.3**
JAN	**Janina**	**1.56**	**325**	*e*Pb	**Pg**	**20 35 44.5**	**-0.3**
AOS	**Alonnisos**	**1.65**	**61**	P	**Pn**	**20 35 43.3**	**-0.8**
AOS	**Alonnisos**	**1.65**	**61**	*e*PB	**Pb**	**20 35 45.6**	**+0.1**
AOS	**Alonnisos**	**1.65**	**61**	*e*PB	**Pg**	**20 35 45.9**	**-0.6**
AOS	**Alonnisos**	**1.65**	**61**	P	**Pn**	**20 35 43.3**	**-0.8**
AOS	**Alonnisos**	**1.65**	**61**	*e*Pb	**Pg**	**20 35 45.9**	**-0.6**
IGT	**Igoumenitsa**	**1.75**	**312**	P	**Pb**	**20 35 47.7**	**+0.6**
IGT	**Igoumenitsa**	**1.75**	**312**	*e*PN	**Pb**	**20 35 47.1**	**0.0**
IGT	**Igoumenitsa**	**1.75**	**312**	*e*Pn	**Pb**	**20 35 47.1**	**0.0**
IGT	**Igoumenitsa**	**1.75**	**312**	P	**Pb**	**20 35 47.7**	**+0.6**
LIT	**Litokhoron**	**1.75**	**12**	P	**Pn**	**20 35 46.2**	**+0.7**
LIT	**Litokhoron**	**1.75**	**12**	*e*PN	**Pn**	**20 35 46.2**	**+0.7**
LIT	**Litokhoron**	**1.75**	**12**	P	**Pn**	**20 35 46.2**	**+0.7**
VLI	**Veliai**	**1.81**	**156**	P	**Pn**	**20 35 47.0**	**+0.7**
VLI	**Veliai**	**1.81**	**156**	*e*PN	**Pn**	**20 35 47.1**	**+0.7**
VLI	**Veliai**	**1.81**	**156**	P	**Pn**	**20 35 47.0**	**+0.7**
SGD	**Sagiada**	**1.86**	**312**	P	**Pb**	**20 35 49.3**	**+0.3**
SGD	**Sagiada**	**1.86**	**312**	*e*PG	**Pb**	**20 35 49.5**	**+0.5**
SGD	**Sagiada**	**1.86**	**312**	*e*Pg	**Pb**	**20 35 49.5**	**+0.5**
KZN	**Kozani**	**1.93**	**354**	*e*PN	**Pn**	**20 35 49.2**	**+1.2**
KZN	**Kozani**	**1.93**	**354**	*e*Pn	**Pn**	**20 35 49.2**	**+1.2**
NEST	**Nestorio**	**2.16**	**340**	P	**Pb**	**20 35 53.3**	**-1.0**
NEST	**Nestorio**	**2.16**	**340**	P	**Pb**	**20 35 53.3**	**-1.0**
KEK	**Kerkira**	**2.18**	**308**	*e*PN	**Pb**	**20 35 53.7**	**-0.8**
KEK	**Kerkira**	**2.18**	**308**	*e*Pn	**Pb**	**20 35 53.7**	**-0.8**
KYTH	**Kithira**	**2.25**	**159**	*e*PN	**Pb**	**20 35 54.3**	**-1.4**
KYTH	**Kithira**	**2.25**	**159**	*e*Pn	**Pb**	**20 35 54.3**	**-1.4**
PLG	**Polygyros**	**2.27**	**29**	*e*PN	**Pn**	**20 35 54.2**	**+1.5**
PLG	**Polygyros**	**2.27**	**29**	*e*Pn	**Pn**	**20 35 54.2**	**+1.5**
FNA	**Florina**	**2.45**	**348**	P	**Pn**	**20 35 56.1**	**+1.0**
FNA	**Florina**	**2.45**	**348**	P	**Pn**	**20 35 56.1**	**+1.0**
SOH	**Sokhos**	**2.64**	**22**	*e*PB	**Pn**	**20 35 58.3**	**+0.5**
SOH	**Sokhos**	**2.64**	**22**	*e*Pb	**Pn**	**20 35 58.3**	**+0.5**
KNT	**Kendrikon**	**2.85**	**13**	*e*PB	**Pb**	**20 36 03.6**	**-2.4**
KNT	**Kendrikon**	**2.85**	**13**	*e*Pb	**Pb**	**20 36 03.6**	**-2.4**
CHOS	**Chios island**	**3.17**	**89**	*e*PN	**Pn**	**20 36 06.0**	**+1.0**
CHOS	**Chios island**	**3.17**	**89**	*e*Pn	**Pn**	**20 36 06.0**	**+1.0**
VAM	**Vamos**	**3.45**	**149**	*e*PN	**Pn**	**20 36 09.4**	**+0.6**
VAM	**Vamos**	**3.45**	**149**	*e*Pn	**Pn**	**20 36 09.4**	**+0.6**
BARS	**Barje**	**4.43**	**358**	*e*Pn	**Pn**	**20 36 25.0**	**+2.7**
IVAS	**Ivanjica**	**5.38**	**345**	*e*Pn	**Pn**	**20 36 38.4**	**+3.1**
STON	**Ston**	**5.56**	**325**	*e*Pn	**Pn**	**20 36 00.0**	**-1.7**
STON				S	**Sn**	**20 37 42.1**	**+0.3**
STON	**Ston**	**5.56**	**325**	*e*Pn	**Pn**	**20 36 00.0**	**-1.7**
STON				S	**Sn**	**20 37 42.0**	**+0.3**
TRUS	**Trudelj**	**5.96**	**349**	*e*Pn	**Pn**	**20 36 43.2**	**-0.1**
TEKS	**Tekeris**	**6.44**	**344**	*e*Pn	**Pn**	**20 36 50.2**	**+0.3**
NVLJ	**Novalja**	**8.18**	**321**	*e*Pn	**Pn**	**20 37 14.5**	**+0.7**
NVLJ				S	**Sn**	**20 38 44.1**	**-2.1**
NVLJ	**Novalja**	**8.18**	**321**	*e*Pn	**Pn**	**20 37 14.4**	**+0.7**
BRTR	**Keskin Array B**	**9.14**	**78**	Pn	**Pn**	**20 37 26.6**	**-0.4**
	0.1nm,0.3s,baz=262,slow=15,SNR=3.0						
GERES	**GERESS Array B**	**12.06**	**333**	LR	LR	20 43 40.8	
	comp=Z,28nm,18.8s,baz=72,slow=40						
TORD	**Torodi Ar. Bea**	**30.95**	**221**	P	**P**	**20 41 32.4**	**0.0**
	0.2nm,0.4s,baz=24,slow=7.9,SNR=5.4						
MKAR	**Makanchi Array**	**44.19**	**59**	P	**P**	**20 43 23.4**	**-0.7**
	0.3nm,0.5s,baz=277,slow=8.0,SNR=6.6						
ZALV	**Zalesovo Beam**	**44.67**	**48**	P	**P**	**20 43 29.1**	**+1.3**
	0.3nm,0.4s,baz=286,slow=12,SNR=2.0						

*ISCJB **16** 20:40:31.7±0.9,26.45N±0.09×96.13E±0.05,h83km, mb3.4/8,Error ellipse: s-maj=12.9km s-min=6.8km az=172.6*
*IDC **16** 20:40:46.8±15.0,26.58N×96.59E,h232km±155km, mb2.9/8,mb1 3.1/8,mb1mx2.9/27,mbtmp3.5/8,MS3.1/1, Ms1 3.1/1,ms1mx2.2/13,Error ellipse: s-maj=48.0km s-min=17.2km az=37.0*

ISC 16 20:40:31.4±0.9,26.5N±0.1×96.27E±0.07,h83km,n20, σ1°94/26,mb3.5/8,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.69**	**232**	*e*P	Pn	20 41 17.0	+4.2
IMP				*e*S	**Sn**	**20 41 42.0**	**-2.6**
SHL	**Shillong**	**4.05**	**258**	*e*PN	Pn	20 41 36.0	+4.7
SHL				*e*SN	**Sn**	**20 42 19.2**	**+1.6**
TAPN	**Taplejung**	**7.70**	**279**	*e*Pn	**Pn**	**20 42 23.4**	**+2.3**
TAPN				*e*Sn	**Sn**	**20 43 45.3**	**-1.6**
	86nm,0.5s						
ODAN	**Odare**	**7.96**	**275**	*e*Pn	Pn	20 42 27.4	+2.8
ODAN				*e*Sn	**Sn**	**20 43 53.1**	**-0.1**
	122nm,0.4s						
RAMN	**Ramite**	**8.66**	**275**	*e*Pn	Pn	20 42 36.8	+2.5
RAMN				*e*Sn	**Sn**	**20 44 10.3**	**-0.2**
	33nm,0.3s						
GUN	**Gumba**	**9.37**	**281**	*e*Pn	**Pn**	**20 42 45.2**	**+1.3**
GUN				*e*Sn	**Sn**	**20 44 25.6**	**-2.2**
	41nm,0.3s						
PKI	**Pulchoki**	**9.75**	**279**	*e*Pn	**Pn**	**20 42 50.6**	**+1.4**
PKI				*e*Sn	**Sn**	**20 44 34.9**	**-2.2**
	31nm,0.5s						
KKN	**Kakani**	**9.88**	**280**	*e*Pn	**Pn**	**20 42 52.9**	**+2.0**
KKN				*e*Sn	**Sn**	**20 44 37.5**	**-2.7**
	45nm,0.4s						
DMN	**Daman**	**10.02**	**279**	*e*Pn	**Pn**	**20 42 54.4**	**+1.6**
DMN				*e*Sn	**Sn**	**20 44 41.7**	**-1.9**
	38nm,0.5s						
GKN	**Gorkha**	**10.47**	**281**	*e*Pn	**Pn**	**20 42 59.6**	**+0.8**
GKN				*e*Sn	**Sn**	**20 44 51.5**	**-2.9**
	89nm,0.7s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLN	**Koldanda**	**11.37**	**279**	*e*Pn	**Pn**	**20 43 12.0**	**+1.0**
KOLN				*e*Sn	**Sn**	**20 45 12.1**	**-4.2**
	29nm,0.5s						
SONM	**Songino Array**	**22.77**	**18**	P	**P**	**20 45 27.4**	**+0.4**
	0.5nm,0.5s,baz=201,slow=12,SNR=4.1						
MKAR	**Makanchi Array**	**23.12**	**335**	P	**P**	**20 45 33.0**	**+2.6**
	0.4nm,0.5s,baz=142,slow=9.1,SNR=7.7						
PALK	**Pallekele**	**24.16**	**221**	LR	LR	20 57 55.9	
	comp=Z,42nm,18.8s,baz=306,slow=42						
MJAR	**Matsushiro Arr**	**36.89**	**64**	P	**P**	**20 47 30.8**	**-1.4**
	0.5nm,0.6s,baz=264,slow=9.5,SNR=3.6						
BRTR	**Keskin Array B**	**53.14**	**301**	P	**P**	**20 49 41.4**	**+0.5**
	0.3nm,0.6s,baz=82,slow=10,SNR=3.0						
WRA	**Warramunga Arr**	**59.09**	**137**	P	**P**	**20 50 22.5**	**-0.8**
	0.3nm,0.5s,baz=325,slow=7.6,SNR=6.8						
ASAR	**Alice Springs**	**61.70**	**141**	P	**P**	**20 50 40.0**	**-1.2**
	0.2nm,0.4s,baz=334,slow=7.1,SNR=4.5						
GERES	**GERESS Array B**	**65.84**	**314**	P	**P**	**20 51 08.6**	**+0.5**
	0.4nm,0.4s,baz=63,slow=6.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**88.25**	**284**	P	**P**	**20 53 13.9**	**-0.3**
	0.3nm,0.6s,baz=62,slow=3.4,SNR=2.6						

*IDC **16** 20:44:59.2±2.5,9.71N×126.76E,h0km,mb3.9/5, mb1 4.0/5,mb1mx3.6/43,mbtmp3.9/5,MS3.0/1,Ms1 3.2/1, ms1mx2.4/28,Error ellipse: s-maj=246.2km s-min=20.8km az=68.0*
*ISCJB **16** 20:45:02.3±0.8,9.25N±0.05×125.78E±0.08,h10km, mb3.8/5,MS2.9/1,Error ellipse: s-maj=11.5km s-min=7.0km az=165.6*
*MAN **16** 20:45:04,9.23N×125.62E,h8km,mb4.9,ML3.9,MS4.0*
*MAN INTENSITY II - MAINIT SURIGAO DEL SUR; CABADBARAN CITY & JABONGA AGUSAN DEL NORTE; INTENSITY

KMSI	**Cibinong**	**10.84**	**328**	P		**Pn**	**21 07 17.1**	**+2.2**
	99nm,1.1s							
SPSI	**Sidrap Palu**	**10.90**	**295**	P		**Pn**	**21 07 18.8**	**+3.0**
	32nm,0.7s							
APSI	**Ampana**	**11.13**	**314**	P		**Pn**	**21 07 20.2**	**+1.2**
	36nm,0.9s							
MRSI	**Marisa**	**11.95**	**320**	P		**Pn**	**21 07 32.3**	**+2.1**
	20nm,1.0s,458nm							
WRAB	**Tennant Creek**	**12.02**	**158**	*e*Pn		**Pn**	**21 07 29.7**	**-1.4**
WRA	**Warramunga Arr**	**12.03**	**158**	Pn		**Pn**	**21 07 29.7**	**-1.5**
	4.4nm,0.3s,baz=339,slow=13,SNR=110							
WRA				Sn		**Sn**	**21 09 38.5**	**-5.6**
	4.9nm,0.3s,baz=333,slow=23,SNR=9.6							
GENI	**Genyem**	**12.11**	**60**	P		**Pn**	**21 07 31.5**	**-0.9**
	58nm,0.8s							
SGSI	**Sangihe**	**13.01**	**341**	P		**Pn**	**21 07 45.8**	**+1.2**
	107nm,0.7s,6μm							
COEN	**Coen**	**14.23**	**113**	*e*Pn		**Pn**	**21 08 01.1**	**-0.3**
AS12	**Alice Springs**	**15.39**	**165**	*e*Pn		**Pn**	**21 08 14.2**	**-2.6**
AS12				*e*Sn		**Sn**	**21 11 02.5**	**-3.7**
ASAR	**Alice Springs**	**15.39**	**165**	Pn		**Pn**	**21 08 14.2**	**-2.6**
	1.8nm,0.3s,baz=344,slow=14,SNR=70							
ASAR				Sn		**Sn**	**21 11 02.5**	**-3.7**
	1.8nm,0.3s,baz=338,slow=26,SNR=5.1							
ASAR				LR	LR		21 14 47.1	
	comp=Z,392nm,22.0s,baz=342,slow=39							
AS01	**Alice Springs**	**15.40**	**165**	*e*Pn		**Pn**	**21 08 15.4**	**-1.6**
AS01				*e*Sn		**Sn**	**21 11 03.2**	**-3.4**
MBWA	**Marble Bar**	**15.62**	**217**	*e*Pn		**Pn**	**21 08 17.6**	**-2.1**
	59nm,1.0s							
PMG	**Port Moresby**	**17.30**	**94**	*e*Pn		**P**	**21 08 43.3**	**+1.0**
PMG				*e*sP		**sP**	**21 08 54.7**	**-1.2**
UGM	**Wanagama**	**18.95**	**271**	*e*P		**P**	**21 08 58.4**	**-2.1**
	237nm,1.3s							
CTA	**Charters Tower**	**19.62**	**127**	P		**Pn**	**21 09 11.7**	**+2.4**
	0.3nm,0.3s,baz=301,slow=13,SNR=4.2							
CTAO	**Charters Tower**	**19.62**	**127**	*e*P		**Pn**	**21 09 10.4**	**+1.1**
	46nm,1.4s							
KKM	**Kota Kinabalu**	**19.88**	**317**	*e*P		**P**	**21 09 10.3**	**-0.4**
	75nm,1.5s							
SBUM	**Sibu**	**20.63**	**302**	*e*P		**P**	**21 09 17.3**	**-1.5**
	15nm,0.8s							
CISI	**Cisompet, Garu**	**21.65**	**272**	*e*P		**P**	**21 09 28.6**	**-1.3**
	61nm,0.6s							
LEM	**Lembang**	**21.91**	**273**	P		**P**	**21 09 30.8**	**-2.0**
	18nm,0.6s,baz=335,slow=23,SNR=2.6							
FORT	**Forrest**	**21.98**	**184**	*e*P		**P**	**21 09 35.2**	**+2.1**
	66nm,0.9s							
PVCP	**Virac**	**22.85**	**346**↑	*e*P		P	21 09 50.9	+8.3
BBOO	**Buckleboo**	**24.68**	**167**	*e*P		**P**	**21 10 02.4**	**+2.5**
	109nm,1.6s							
STKA	**Stephens Creek**	**25.56**	**156**	P		**P**	**21 10 11.3**	**+3.5**
	8.1nm,0.8s,baz=322,slow=4.7,SNR=5.8							
STKA				LR	LR		21 21 10.5	
	comp=Z,234nm,18.9s,baz=334,slow=38							
STKA	**Stephens Creek**	**25.56**	**156**	*e*P		**P**	**21 10 10.7**	**+2.8**
	9.9nm,1.4s							
NWAO	**Narrogin (SRO)**	**26.67**	**204**	P		**P**	**21 10 19.9**	**+2.0**
	9.8nm,0.4s,baz=330,slow=4.4,SNR=9.9							
KULM	**Kulim**	**32.10**	**295**	*e*P		**P**	**21 11 05.1**	**-1.2**
	119nm,1.9s							
CM01	**Chiang Mai Arr**	**40.57**	**312**	*e*P		**P**	**21 12 17.8**	**-0.8**
CM31	**Chiang Mai Arr**	**40.60**	**312**	*e*P		**P**	**21 12 16.9**	**-1.9**
CMAR	**Chiang Mai Arr**	**40.60**	**312**	P		**P**	**21 12 16.9**	**-1.9**
	1.4nm,0.7s,baz=140,slow=6.5,SNR=11							
CMAR				LR	LR		21 31 44.4	
	comp=Z,22nm,18.2s,baz=135,slow=40							
MJAR	**Matsushiro Arr**	**45.75**	**10**	P		**P**	**21 12 58.1**	**-2.1**
	4.0nm,0.8s,baz=191,slow=11,SNR=14							
MJAR				LR	LR		21 33 51.3	
	comp=Z,16nm,18.1s,baz=195,slow=38							
KS15	**Wonju Array Si**	**45.97**	**358**	*e*P		**P**	**21 13 01.9**	**+0.1**
KSRS	**Korea Array**	**45.98**	**358**	P		**P**	**21 13 01.9**	**0.0**
	0.9nm,0.6s,baz=176,slow=8.6,SNR=4.5							
USRK	**Ussuriysk Ar.**	**52.73**	**2**	P		**P**	**21 13 53.8**	**+0.4**
	3.0nm,0.7s,baz=189,slow=8.5,SNR=8.1							
LSA	**Lhasa**	**53.22**	**317**	*e*P		**P**	**21 13 58.8**	**+0.8**
	4.5nm,0.8s							
TAPN	**Taplejung**	**54.19**	**313**	*e*P		**P**	**21 14 04.4**	**-0.5**
RAMN	**Ramite**	**54.78**	**312**	*e*P		**P**	**21 14 08.5**	**-0.5**
	13nm,0.5s							
PKI	**Pulchoki**	**56.00**	**312**	*e*P		**P**	**21 14 16.8**	**-1.2**
DMN	**Daman**	**56.25**	**312**	*e*P		**P**	**21 14 18.8**	**-0.8**
	15nm,1.1s							
GKN	**Gorkha**	**56.81**	**312**	*e*P		**P**	**21 14 21.7**	**-1.8**
KOLN	**Koldanda**	**57.45**	**311**	*e*P		**P**	**21 14 27.4**	**-0.7**
	8.3nm,0.7s							
SONA0	**Songino Array**	**59.98**	**342**	*e*P		**P**	**21 14 45.2**	**0.0**
SONM	**Songino Array**	**59.98**	**342**	P		**P**	**21 14 45.2**	**0.0**
	0.8nm,0.5s,baz=165,slow=6.8,SNR=8.9							
SONM				LR	LR		21 42 22.3	
	comp=Z,12nm,21.1s,baz=174,slow=38							
SONA1	**Songino Array**	**59.98**	**342**	*e*P		**P**	**21 14 46.0**	**+0.7**
PETK	**Petropavlovsk-**	**66.08**	**18**	P		**P**	**21 15 26.3**	**+0.9**
	4.9nm,0.6s,baz=180,slow=5.7,SNR=9.6							
PEA2	**Petropavlovsk-**	**66.08**	**18**	*e*P		**P**	**21 15 26.3**	**+0.9**
MK01	**Makanchi Array**	**69.47**	**327**	*e*P		**P**	**21 15 47.0**	**0.0**
MK32	**Makanchi Array**	**69.49**	**327**	*e*P		**P**	**21 15 47.5**	**+0.4**
MKAR	**Makanchi Array**	**69.49**	**327**	P		**P**	**21 15 47.5**	**+0.4**
	3.2nm,0.5s,baz=125,slow=8.4,SNR=45							
VNDA	**Vanda**	**70.77**	**173**	P		**P**	**21 15 57.3**	**+2.9**
	1.6nm,0.6s,baz=318,slow=6.4,SNR=12							
VNDA				LR	LR		21 45 30.9	
	comp=Z,49nm,19.8s,baz=319,slow=34							
TKM2	**Tokmak 2**	**71.11**	**321**	*e*P		**P**	**21 15 58.3**	**+0.9**
	2.6nm,0.8s							
EKS2	**Erkin-Say**	**72.11**	**320**	*e*P		**P**	**21 16 04.5**	**+1.2**
	3.4nm,0.8s							
ZAA0	**Zalesovo Array**	**72.98**	**334**	*e*P		**P**	**21 16 07.9**	**-0.1**
ZALV	**Zalesovo Beam**	**72.98**	**334**	P		**P**	**21 16 07.9**	**-0.1**
	3.1nm,0.6s,baz=144,slow=6.1,SNR=12							
ZAA1	**Zalesovo Array**	**72.99**	**334**	*e*P		**P**	**21 16 07.9**	**-0.2**
MAW	**Mawson**	**73.22**	**202**	P		**P**	**21 16 11.5**	**+2.3**
	1.6nm,0.6s,baz=47,slow=8.2,SNR=3.6							
KURBB	**Kurchatov Arra**	**73.81**	**329**	P		**P**	**21 16 13.2**	**+0.3**
	2.7nm,0.6s,baz=128,slow=5.0,SNR=30							
KURK	**Kurchatov**	**73.82**	**329**	*e*P		**P**	**21 16 14.1**	**+1.0**
TIXI	**Tiksi**	**80.22**	**360**	*e*P		**P**	**21 16 47.6**	**-1.0**
	3.1nm,0.8s							
ABKAR	**Akbulak array**	**83.65**	**322**	*e*P		**P**	**21 17 07.7**	**+0.5**
ILAR	**Eielson Array**	**95.06**	**25**	P		**P**	**21 17 59.0**	**-2.1**
	0.4nm,0.7s,baz=274,slow=3.5,SNR=3.6							
ILB	**Eielson Array**	**95.06**	**25**	*e*P		**P**	**21 17 59.0**	**-2.1**
TORD	**Torodi Ar. Bea**	**128.78**	**280**	PKP		**PKPdf**	**21 23 48.3**	**+1.4**
	0.7nm,0.7s,baz=38,slow=2.1,SNR=6.8							
CFAA	**Coronel Fontan**	**136.38**	**158**	PKP		**PKPdf**	**21 24 02.2**	**+1.2**
	0.4nm,0.7s,baz=264,slow=9.2,SNR=3.5							
LVC	**Limon Verde**	**143.92**	**150**	PKP		**PKPdf**	**21 24 16.3**	**+1.2**
	17nm,0.7s,baz=241,slow=5.8,SNR=6.1							
LPAZ	**La Paz**	**149.53**	**145**	PKPbc		**PKPbc**	**21 24 31.6**	**+1.9**
	3.2nm,0.8s,baz=166,slow=3.8,SNR=12							
SIV	**San Ignacio**	**153.23**	**157**	PKPab		**PKPab**	**21 24 51.9**	**+2.9**
	1.8nm,0.5s,baz=196,slow=4.6,SNR=5.8							

*IDC **16** 21:36:59.9±0.9, 7.°64N×91.°77E, h0km, mb3.9/13, mb1 4.0/16, mb1mx3.8/31, mbtmp3.9/16, ML4.0/3, MS3.6/5, Ms1 3.6/5, ms1mx2.9/38, Error ellipse: s-maj=29.0km s-min=17.1km az=49.0*

*NEIC **16** 21:37:03.7±2.6, 7.°59N×91.°78E, h26km±20km, mb4.5/5, Error ellipse: s-maj=11.4km s-min=7.9km az=221.0*

ISC 16 21:37:08.1±2.0, 7.°65N±0.°10×92.°0E±0.°1, h63km±18km, n54, σ0s98/48, mb4.1/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**5.52**	**116**	*e*Pn	**Pn**	**21 38 27.6**	**-0.2**
GSI	**Gunungsitoli**	**8.44**	**138**	*e*Pn	Pn	21 39 04.1	-3.6
GSI				*e*Sn	Sn	21 40 34.3	-7.3
PSI	**Prapat**	**8.45**	**124**	Pn	Pn	21 39 06.2	-1.8
	1.6nm,0.3s,baz=324,slow=11,SNR=5.8						
PSI				Sn	**Sn**	**21 40 40.6**	**-1.5**
	baz=288,slow=20,SNR=2.1						
PSI				LR	LR	21 42 26.3	
	comp=Z,100nm,18.3s,baz=13,slow=38						
KULM	**Kulim**	**8.96**	**105**	*e*Pn	Pn	21 39 13.4	-1.5
IPM	**Ipoh**	**9.56**	**109**	*e*Pn	Pn	21 39 22.3	-0.8
PALK	**Pallekele**	**11.16**	**269**	Pn	Pn	21 39 39.0	-6.0
	1.4nm,0.3s,baz=85,slow=13,SNR=9.8						
PALK				Sn	Sn	21 41 31.8	-16
	7.9nm,0.3s,baz=175,slow=23,SNR=12						
PALK				LR	LR	21 42 51.3	
	comp=Z,95nm,18.7s,baz=77,slow=32						
PALK	**Pallekele**	**11.16**	**269**	*e*Pn	Pn	21 39 39.0	-6.0
PALK				*e*Sn	Sn	21 41 30.6	-18
CM31	**Chiang Mai Arr**	**12.71**	**32**	*e*Pn	Pn	21 40 03.7	-2.5
CMAR	**Chiang Mai Arr**	**12.71**	**32**	Pn	Pn	21 40 03.7	-2.5
	0.3nm,0.3s,baz=227,slow=14,SNR=8.8						
ODAN	**Odare**	**19.59**	**348**	*e*P	**Pn**	**21 41 35.6**	**+2.3**
RAMN	**Ramite**	**19.86**	**346**	*e*P	**Pn**	**21 41 38.5**	**+2.0**
GUN	**Gumba**	**20.95**	**345**	*e*P	**P**	**21 41 46.0**	**-0.4**
	29nm,0.7s						
GKN	**Gorkha**	**21.39**	**342**	*e*P	**P**	**21 41 50.0**	**-0.9**
KOLN	**Koldanda**	**21.52**	**339**	*e*P	**P**	**21 41 51.5**	**-0.7**
	16nm,0.6s						
LSA	**Lhasa**	**21.95**	**358**	*e*P	**P**	**21 41 59.2**	**+2.1**
	6.9nm,0.6s						
H08S3	**Diego Garcia H**	**24.64**	**232**	T	T	22 08 46.7	
	baz=52,slow=75,SNR=27						
H08S2	**Diego Garcia H**	**24.64**	**232**	T	T	22 08 47.8	
	baz=52,slow=75,SNR=34						
H08S1	**Diego Garcia H**	**24.66**	**232**	T	T	22 08 50.4	
	baz=52,slow=75,SNR=31						
EKS2	**Erkin-Say**	**38.37**	**338**	*e*P	**P**	**21 44 24.8**	**+1.4**
	3.9nm,0.8s						
MK01	**Makanchi Array**	**39.85**	**350**	*e*P	**P**	**21 44 35.1**	**-0.4**
MK32	**Makanchi Array**	**39.87**	**350**	*e*P	**P**	**21 44 35.1**	**-0.6**
MK32				*e*PcP	**PcP**	**21 46 40.8**	**+0.3**
MKAR	**Makanchi Array**	**39.87**	**350**	P	**P**	**21 44 35.1**	**-0.6**
	1.7nm,0.6s,baz=169,slow=8.7,SNR=26						
MKAR				PcP	**PcP**	**21 46 40.8**	**+0.3**
	0.6nm,0.5s,baz=202,slow=4.0,SNR=8.4						
MKAR	**Makanchi Array**	**39.87**	**350**	*e*P	**P**	**21 44 35.8**	**0.0**
KKAR	**Karatay Array**	**40.02**	**335**	*e*P	**P**	**21 44 37.3**	**+0.3**
SONA0	**Songino Array**	**41.89**	**15**	*e*P	**P**	**21 44 52.6**	**+0.2**
SONA0				*e*PcP	**PcP**	**21 46 47.5**	**+0.4**
SONM	**Songino Array**	**41.89**	**15**	P	**P**	**21 44 52.6**	**+0.2**
	1.4nm,0.6s,baz=194,slow=8.4,SNR=11						
SONM				PcP	**PcP**	**21 46 47.5**	**+0.4**
	0.4nm,0.7s,baz=195,slow=2.8,SNR=3.6						
SONA1	**Songino Array**	**41.90**	**15**	*e*P	**P**	**21 44 52.8**	**+0.3**
KURBB	**Kurchatov Arra**	**44.27**	**348**	P	**P**	**21 45 11.3**	**-0.1**
	2.4nm,0.7s,baz=172,slow=7.4,SNR=27						
KURBB				PcP	**PcP**	**21 46 55.7**	**+0.8**
	1.0nm,0.6s,baz=160,slow=2.6,SNR=8.3						
KURK	**Kurchatov**	**44.34**	**348**	*e*P	**P**	**21 45 11.3**	**-0.7**
KURK				*e*PP	**PcP**	**21 46 55.7**	**+0.6**
TLY	**Talaya**	**44.94**	**10**	LR	LR	22 05 43.9	
	comp=Z,635nm,21.4s,baz=76,slow=38						
ZAA0	**Zalesovo Array**	**46.52**	**354**	*e*P	**P**	**21 45 29.1**	**-0.1**
ZALV	**Zalesovo Beam**	**46.52**	**354**	P	**P**	**21 45 28.9**	**-0.3**
	0.9nm,0.3s,baz=165,slow=10,SNR=8.3						
ZALV				LR	LR	22 08 51.0	
	comp=Z,12nm,18.2s,baz=250,slow=41						
ZAA1	**Zalesovo Array**	**46.53**	**354**	*e*P	**P**	**21 45 28.9**	**-0.4**
RAYN	**Ar Rayn**	**47.21**	**295**	*e*P	**P**	**21 45 35.0**	**-0.1**
	34nm,2.5s						
BVAR	**Borovoye Array**	**48.53**	**343**	P	**P**	**21 45 44.5**	**-0.2**
	2.1nm,0.6s,baz=148,slow=8.6,SNR=14						
BRVK	**Borovoye**	**48.59**	**343**	*e*P	**P**	**21 45 45.0**	**-0.2**
	2.7nm,0.6s						
WRA	**Warramunga Arr**	**49.92**	**124**	P	**P**	**21 45 57.0**	**+1.0**
	0.4nm,0.4s,baz=307,slow=8.2,SNR=8.8						
MJAR	**Matsushiro Arr**	**50.92**	**49**	PcP	**PcP**	**21 47 20.2**	**+1.2**
	1.5nm,1.1s,baz=243,slow=4.7,SNR=4.3						
AKTO	**Aktyubinsk**	**51.13**	**333**	P	**P**	**21 46 03.9**	**-0.6**
	1.2nm,0.5s,baz=123,slow=10,SNR=7.3						
AS12	**Alice Springs**	**51.46**	**128**	*e*P	**P**	**21 46 08.0**	**+0.5**
ASAR	**Alice Springs**	**51.46**	**128**	P	**P**	**21 46 08.0**	**+0.5**
	0.4nm,0.6s,baz=302,slow=7.9,SNR=3.5						
ASAJ	**Asahikawa**	**57.01**	**42**	LR	LR	22 12 49.2	
	comp=Z,221nm,18.4s,slow=38						
BR101	**Keskin Array S**	**60.94**	**311**	*e*P	**P**	**21 47 13.8**	**-1.2**
BRTR	**Keskin Array B**	**60.94**	**311**	P	**P**	**21 47 13.8**	**-1.2**
	0.4nm,0.8s,baz=114,slow=5.2,SNR=4.4						
TIXI	**Tiksi**	**67.88**	**12**	*e*P	**P**	**21 47 59.5**	**0.0**
	6.0nm,0.7s						
FIA0	**FINESS Array S**	**71.90**	**333**	*e*P	**P**	**21 48 23.3**	**-1.1**
FINES	**FINESS Array B**	**71.90**	**333**	P	**P**	**21 48 23.3**	**-1.1**
	1.2nm,0.6s,baz=134,slow=5.5,SNR=5.4						
ARA0	**ARCESS Array S**	**74.74**	**340**	*e*P	**P**	**21 48 40.1**	**-0.9**
ARCES	**ARCESS Array B**	**74.74**	**340**	P	**P**	**21 48 40.1**	**-1.0**
	1.9nm,0.9s,baz=94,slow=3.6,SNR=4.1						
GEC2	**GERESS Array S**	**76.55**	**318**	*e*P	**P**	**21 48 51.0**	**-0.8**
GERES	**GERESS Array B**	**76.55**	**318**	P	**P**	**21 48 51.1**	**-0.8**
	0.5nm,0.5s,baz=82,slow=8.3,SNR=3.0						
TOA0	**Torodi Ar. Sit**	**88.53**	**283**	*e*P	**P**	**21 49 55.6**	**+0.9**
TORD	**Torodi Ar. Bea**	**88.53**	**283**	P	**P**	**21 49 55.6**	**+0.9**
	0.7nm,1.1s,baz=173,slow=36,SNR=2.9						
TXAR	**Lajitas Array**	**140.27**	**22**	PKP	**PKPdf**	**21 56 33.2**	**+2.4**
	0.2nm,0.5s,baz=287,slow=0.9,SNR=5.9						

IDC 16 21:37:36.6±25.0, 17.°72S×172.°85W, h0km, mb4.7/4, mb1 4.8/4, mb1mx3.9/34, mbtmp4.7/4, Error ellipse: s-maj=469.0km s-min=161.0km az=72.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.70**	**260**	P	P	21 45 02.3	-0.3
	2.6nm,0.5s,baz=92,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**43.38**	**242**	P	P	21 45 41.5	+0.4
	5.7nm,0.9s,baz=88,slow=8.0,SNR=3.8						
WRA	**Warramunga Arr**	**49.87**	**259**	P	P	21 46 31.6	-0.5
	4.3nm,0.3s,baz=98,slow=6.8,SNR=122						
ASAR	**Alice Springs**	**49.93**	**254**	P	P	21 46 32.6	0.0
	14nm,0.5s,baz=91,slow=7.9,SNR=213						

MEX 16 21:42:08.7±0.6, 17.°83N×101.°45W, h37km±8km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.23**	**183**	*i* P	Pn	21 42 14.1	-3.4
ZIIG				*i* S	Sn	21 42 19.4	-6.5
ARIG	**Puente Sto Nin**	**1.14**	**67**	*i* P	Pn	21 42 26.8	-1.4
ARIG				*i* S	Sn	21 42 40.0	-2.5
CAIG	**El Cayaco**	**1.37**	**125**	*i* P	Pn	21 42 30.1	-1.2
CAIG				*e*S	Sn	21 42 45.8	-2.5
MEIG	**Mezcala**	**1.75**	**87**	*e*P	Pn	21 42 35.5	-1.0
MEIG				*e*S	Sn	21 42 55.1	-2.5
MOIG	**Morelia**	**1.85**	**8**	*e*P	Pn	21 42 37.0	-1.2
MOIG				*i* S	Sn	21 42 57.5	-3.1
MMIG	**Aquila**	**1.86**	**284**	*e*P	Pn	21 42 37.0	-1.0
PLIG	**Platanillo**	**1.94**	**73**	*e*P	Pn	21 42 37.3	-1.9
PLIG				*i* S	Sn	21 42 59.9	-2.5
EZ5V		**2.62**	**309**	*i* P	Pn	21 42 48.7	-0.1
R15V		**2.75**	**299**	*e*P	Pn	21 42 48.7	-1.6
TLIG	**Tlapa**	**2.76**	**95**	*e*P	Pn	21 42 49.0	-1.6
TLIG				*i* S	Sn	21 43 20.0	-2.9

*ISCJB **16** 21:51:05.4±0.4, 1.°70S±0.°05×34.°71E±0.°04, h10km, mb3.8/10, MS3.5/6, Error ellipse: s-maj=7.8km s-min=5.5km az=12.8*

*IDC **16** 21:51:05.9±0.8, 1.°67S×34.°68E, h0km, mb3.7/9, mb1 3.9/12, mb1mx3.7/38, mbtmp3.8/12, ML3.9/3, MS3.6/7, Ms1 3.5/7, ms1mx3.1/33, Error ellipse: s-maj=20.7km s-min=15.3km az=166.0*

*NEIC **16** 21:51:07.4±0.3, 1.°66S×34.°64E, h10km, mb4.3/1, Error ellipse: s-maj=8.6km s-min=6.6km az=121.0*

NEIC Felt at Kericho, Kenya and at Musoma, Tanzania.

*BUL **16** 21:51:08.5±1.5, 2.°10S×34.°84E, h18km±16km, MD4.3*

ISC 16 21:51:07.5±0.5, 1.°61S±0.°05×34.°64E±0.°05, h10km, n33, σ0s93/35, mb4.0/10, MS3.5/6, Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAUS	**Longido**	**2.35**	**119**	*i* Pg	**Pn**	**21 51 47.5**	**+1.2**
MAUS				*i* Sg	**Sb**	**21 52 18.7**	**-0.5**
KMBO	**Kilima Mbogo**	**2.66**	**80**	Pn	**Pn**	**21 51 50.5**	**-0.2**
	12nm,0.3s,baz=242,slow=17,SNR=308						
KMBO				Lg	Lg	21 52 29.5	
	170nm,0.3s,baz=330,slow=21,SNR=13						
KMBO	**Kilima Mbogo**	**2.66**	**80**	*e*Pn	**Pn**	**21 51 50.4**	**-0.2**
KMBO				*e*Pg	**Pg**	**21 51 57.7**	**-0.9**
KMBO				*e*Sn	**Sn**	**21 52 22.9**	**-0.2**
KMBO				*e*Lg	Lg	21 52 29.5	
MBAR	**Mbarara**	**4.02**	**284**	*e*Pn	**Pn**	**21 52 08.6**	**-0.8**
DODT	**Dodoma, Tanzan**	**4.68**	**166**	*i* Pg	**Pn**	**21 52 19.7**	**+1.3**
DODT				*i* Sg	**Sn**	**21 53 11.4**	**-1.5**
LSZ	**Lusaka**	**14.99**	**205**	Pn	**Pn**	**21 54 39.9**	**+0.1**
	0.5nm,0.3s,baz=35,slow=14,SNR=5.0						
LSZ				Sn	Sn	21 57 17.2	-9.0
	0.4nm,0.3s,baz=17,slow=11,SNR=2.4						
LSZ	**Lusaka**	**14.99**	**205**	*e*Pn	**Pn**	**21 54 39.2**	**-0.6**
	3.3nm,0.5s						
LSZ				*e*Sn	Sn	21 57 17.2	-9.0
ITZ	**Itezhi-Tezhi**	**16.42**	**211**	*i* Pn	**P**	**21 54 59.9**	**-1.2**
ITZ				Sn	**Sn**	**21 58 02.7**	**+2.0**
MATP	**Matopo**	**19.64**	**197**	Pn	**Pn**	**21 55 36.8**	**-1.2**
	0.1nm,0.3s,baz=16,slow=14,SNR=4.1						
MATP				LR	LR	22 03 31.1	
	comp=Z,177nm,19.3s,baz=24,slow=38						
TSUM	**Tsumeb**	**24.18**	**223**	LR	LR	22 06 26.9	
	comp=Z,122nm,18.3s,baz=350,slow=38						
TSUM	**Tsumeb**	**24.18**	**223**	*e*P	**P**	**21 56 23.4**	**-1.0**
	10.0nm,1.1s						
LBTB	**Lobatse**	**24.85**	**200**	P	**P**	**21 56 29.5**	**-0.9**
	2.7nm,0.8s,baz=130,slow=7.9,SNR=2.3						
LBTB				LR	LR	22 05 51.9	
	comp=Z,128nm,18.9s,baz=38,slow=36						
LBTB	**Lobatse**	**24.85**	**200**	*e*P	**P**	**21 56 29.5**	**-0.9**
	85nm,2.3s						
BOSA	**Boshof**	**28.30**	**198**	LR	LR	22 08 33.1	
	comp=Z,177nm,19.7s,baz=16,slow=37						
TOA0	**Torodi Ar. Sit**	**35.82**	**295**	*e*P	**P**	**21 58 07.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**35.82**	**295**	P	**P**	**21 58 07.8**	**+0.3**
	0.5nm,0.6s,baz=111,slow=6.4,SNR=5.4						
TORD				LR	LR	22 12 59.1	
	comp=Z,60nm,18.4s,baz=175,slow=37						
BRTR	**Keskin Array B**	**41.15**	**359**	P	**P**	**21 58 53.5**	**+1.4**
	0.8nm,0.7s,baz=177,slow=9.1,SNR=7.3						
BR101	**Keskin Array S**	**41.15**	**359**	*e*P	**P**	**21 58 53.5**	**+1.4**
BR231	**Keskin MP Arra**	**41.29**	**358**	*e*P	**P**	**21 58 53.0**	**-0.3**
BUR04	**Bucovina Ar. S**	**49.72**	**352**	*e*P	**P**	**22 00 01.6**	**+1.6**
GEC2	**GERESS Array S**	**53.43**	**343**	*e*P	**P**	**22 00 27.9**	**+0.2**
GERES	**GERESS Array B**	**53.43**	**343**	P	**P**	**22 00 27.9**	**+0.2**
	0.3nm,0.4s,baz=155,slow=9.4,SNR=3.1						
ESDC	**Sonseca Array**	**54.19**	**324**	P	**P**	**22 00 34.5**	**+1.1**
	0.7nm,0.7s,baz=144,slow=6.8,SNR=3.5						
FIA0	**FINESS Array S**	**63.23**	**355**	*e*P	**P**	**22 01 35.7**	**-0.1**
FINES	**FINESS Array B**	**63.23**	**355**	P	**P**	**22 01 35.7**	**-0.1**
	0.8nm,0.7s,baz=168,slow=9.5,SNR=3.4						
MK32	**Makanchi Array**	**63.75**	**34**	*e*P	**P**	**22 01 39.3**	**-0.3**
MKAR	**Makanchi Array**	**63.75**	**34**	P	**P**	**22 01 39.3**	**-0.3**
	0.7nm,0.8s,baz=234,slow=5.9,SNR=6.1						
MKAR				LR	LR	22 32 46.2	
	comp=Z,30nm,18.3s,baz=232,slow=39						
CM31	**Chiang Mai Arr**	**66.26**	**69**	*e*P	**P**	**22 01 56.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**66.26**	**69**	P	**P**	**22 01 56.6**	**+0.1**
	1.1nm,0.8s,baz=260,slow=8.4,SNR=7.1						
ZALV	**Zalesovo Beam**	**69.16**	**29**	LR	LR	22 36 17.8	
	comp=Z,28nm,18.9s,baz=250,slow=39						
ARA0	**ARCESS Array S**	**71.28**	**357**	*e*P	**P**	**22 02 26.0**	**-0.8**
ARCES	**ARCESS Array B**	**71.28**	**357**	P	**P**	**22 02 26.0**	**-0.8**
	1.4nm,1.0s,baz=174,slow=3.4,SNR=2.4						
PDAR	**Pinedale Array**	**128.02**	**327**	PKP	**PKPdf**	**22 10 15.7**	**+1.2**
	1.0nm,0.4s,baz=271,slow=7.3,SNR=4.7						

IDC 16 21:56:53.5±3.0, 31.°62S×177.°67W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/17, mbtmp3.8/3, ML3.4/1, Error ellipse: s-maj=71.6km s-min=36.6km az=118.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.89**	**211**	Pn	Pn	21 58 49.7	+0.2
	0.5nm,0.3s,baz=66,slow=20,SNR=2.6

mb1 4.3/9,mb1mx4.0/33,mbtmp4.1/9,ML3.6/1,MS3.6/14, Ms1 3.6/14,ms1mx3.2/36,Error ellipse: s-maj=35.4km s-min=16.1km az=67.0

NEIC ***16*** *22:28:00.9±0.4, 1°.99S×136°.57E, h10km, mb4.5/7, Error ellipse: s-maj=12.3km s-min=7.0km az=77.0*

ISCJB ***16*** *22:28:03.0±0.3, 2°.08S±0°.05×136°.37E±0°.03, h33km, mb4.2/12, MS3.7/10, Error ellipse: s-maj=7.9km s-min=4.2km az=7.9*

DJA ***16*** *22:28:02.0±0.3, 2°S±6′×13°6E±′, h10km, M4.5/4, mb4.6/1, MLv4.5/4*

ISC 16 22:28:04.7±0.6, 2°.09S±0°.07×136°.39E±0°.04, h35km, n45, σ1§33/42, mb4.2/12, MS3.6/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
SRPI	**Serui, Papua**	**0.26**	**325**	P		Pn	22 28 05.9		-6.3
SRPI				S		Sn	22 28 09.3		-8.0
RKPI	**Ransiki, Papua**	**2.29**	**284**	P		**Pn**	**22 28 39.4**		**-0.5**
RKPI				S		**Sn**	**22 29 08.3**		**+1.4**
SMPI	**Sarmi**	**2.32**	**88**	P		**Pn**	**22 28 39.8**		**-0.6**
SMPI				S		**Sn**	**22 29 09.9**		**+2.2**
GENI	**Genyem**	**3.81**	**98**	P		**Pn**	**22 29 00.6**		**-0.3**
GENI				S		**Sn**	**22 29 47.8**		**+3.3**
FAKI	**Fak Fak**	**4.22**	**259**	P		**Pn**	**22 29 06.5**		**-0.1**
FAKI				S		**Sn**	**22 29 56.4**		**+1.7**
FAKI	**Fak Fak**	**4.22**	**259**	*e*Pn		**Pn**	**22 29 07.6**		**+1.0**
JAY	**Jayapura**	**4.33**	**96**	P		**Pn**	**22 29 09.3**		**+1.2**
SIJI	**Sorong**	**5.26**	**283**	Pn		**Pn**	**22 29 20.0**		**-1.0**
	2.1nm,0.3s,baz=83,slow=8.7,SNR=9.0								
SIJI				Sn		**Sn**	**22 30 20.3**		**-0.1**
	5.4nm,0.3s,baz=90,slow=20,SNR=6.6								
SIJI				LR		LR	22 31 53.8		
	comp=Z,540nm,18.9s,baz=209,slow=44								
COEN	**Coen**	**13.57**	**151**	*e*Pn		**Pn**	**22 31 12.8**		**-2.1**
KAPI	**Kappang**	**16.86**	**260**	LR		LR	22 40 51.2		
	comp=Z,326nm,19.0s,baz=94,slow=45								
GUMO	**Guam**	**17.70**	**28**	LR		LR	22 38 49.7		
	comp=Z,72nm,18.8s,baz=182,slow=37								
WRAB	**Tennant Creek**	**17.85**	**186**	*e*Pn		**Pn**	**22 32 09.8**		**-0.7**
	31nm,1.1s								
WRA	**Warramunga Arr**	**17.86**	**186**	P		**Pn**	**22 32 07.3**		**-3.3**
	0.3nm,0.3s,baz=11,slow=13,SNR=16								
WRA				S		Sn	22 35 16.5		-12
	0.4nm,0.3s,baz=5.7,slow=22,SNR=6.5								
WRA				LR		LR	22 40 25.7		
	comp=Z,243nm,18.2s,baz=25,slow=42								
FITZ	**Fitzroy Crossi**	**19.10**	**213**	*e*P		**Pn**	**22 32 28.3**		**+2.7**
	6.9nm,0.8s								
CTA	**Charters Tower**	**20.32**	**152**	P		**P**	**22 32 38.8**		**+0.8**
	1.7nm,0.4s,baz=12,slow=9.4,SNR=3.0								
AS01	**Alice Springs**	**21.58**	**186**	*e*P		**P**	**22 32 52.5**		**+1.0**
AS12	**Alice Springs**	**21.59**	**186**	*e*P		**P**	**22 32 53.2**		**+1.6**
AS12				*e*S		**S**	**22 36 50.2**		**+1.1**
ASAR	**Alice Springs**	**21.59**	**186**	P		**P**	**22 32 53.2**		**+1.6**
	21nm,0.8s,baz=10,slow=12,SNR=101								
ASAR				S		**S**	**22 36 50.2**		**+1.1**
	5.0nm,1.0s,baz=14,slow=27,SNR=8.0								
MBWA	**Marble Bar**	**24.96**	**219**	*e*P		**P**	**22 33 24.5**		**-0.6**
	25nm,0.9s								
LEM	**Lembang**	**29.06**	**260**	LR		LR	22 47 13.6		
	comp=Z,123nm,18.4s,baz=337,slow=40								
STKA	**Stephens Creek**	**30.04**	**171**	P		**P**	**22 34 09.6**		**-0.8**
	3.9nm,0.8s,baz=345,slow=8.8,SNR=3.1								
STKA				LR		LR	22 48 55.2		
	comp=Z,149nm,18.7s,baz=9.7,slow=42								
STKA	**Stephens Creek**	**30.04**	**171**	*e*P		**P**	**22 34 09.6**		**-0.8**
	7.4nm,1.6s								
JNU	**Nakatsue**	**35.40**	**352**	LR		LR	22 47 16.2		
	comp=Z,52nm,22.0s,baz=183,slow=33								
MJAR	**Matsushiro Arr**	**38.47**	**2**	LR		LR	22 48 18.0		
	comp=Z,21nm,21.4s,baz=270,slow=32								
CM31	**Chiang Mai Arr**	**42.12**	**301**	*e*P		**P**	**22 35 53.9**		**0.0**
CMAR	**Chiang Mai Arr**	**42.12**	**301**	P		**P**	**22 35 53.9**		**0.0**
	0.5nm,0.5s,baz=110,slow=6.8,SNR=6.4								
ASAJ	**Asahikawa**	**46.33**	**6**	LR		LR	22 55 26.1		
	comp=Z,233nm,19.2s,baz=246,slow=36								
BKZ	**Black Stump Fm**	**51.91**	**140**	*e*P		**P**	**22 37 08.3**		**-1.8**
	65nm,1.9s								
SONA0	**Songino Array**	**56.19**	**336**	*e*P		**P**	**22 37 42.2**		**+0.9**
SONM	**Songino Array**	**56.19**	**336**	P		**P**	**22 37 42.2**		**+0.9**
	0.1nm,0.3s,baz=101,slow=6.0,SNR=2.7								
MK01	**Makanchi Array**	**67.87**	**323**	*e*P		**P**	**22 38 59.9**		**+0.2**
MK32	**Makanchi Array**	**67.89**	**323**	*e*P		**P**	**22 39 00.1**		**+0.4**
MKAR	**Makanchi Array**	**67.89**	**323**	P		**P**	**22 39 00.1**		**+0.4**
	1.2nm,0.6s,baz=113,slow=8.1,SNR=13								
ZALV	**Zalesovo Beam**	**70.25**	**331**	P		**P**	**22 39 13.3**		**-0.8**
	0.6nm,0.5s,baz=124,slow=7.8,SNR=2.8								
ZAA1	**Zalesovo Array**	**70.25**	**331**	*e*P		**P**	**22 39 13.3**		**-0.8**
KURK	**Kurchatov**	**71.89**	**326**	*e*P		**P**	**22 39 24.3**		**+0.1**
	2.2nm,1.1s								
VNDA	**Vanda**	**76.61**	**174**	P		**P**	**22 39 52.2**		**+0.9**
	1.6nm,0.6s,baz=332,slow=6.7,SNR=17								
VNDA				LR		LR	23 13 38.8		
	comp=Z,73nm,18.7s,baz=322,slow=36								
MAW	**Mawson**	**81.84**	**202**	LR		LR	23 13 43.4		
	comp=Z,66nm,19.5s,baz=60,slow=34								
CCB	**Clear Creek Bu**	**85.82**	**25**	*e*P		**P**	**22 40 41.0**		**+0.7**
	10.0nm,1.3s								
IL1	**Eielson Array**	**86.23**	**25**	*e*P		**P**	**22 40 41.4**		**-1.0**
ILAR	**Eielson Array**	**86.23**	**25**	P		**P**	**22 40 41.7**		**-0.7**
	2.7nm,1.1s,baz=269,slow=4.9,SNR=11								
ILAR				LR		LR	23 14 34.1		
	comp=Z,29nm,20.8s,baz=298,slow=32								
ILB	**Eielson Array**	**86.23**	**25**	*e*P		**P**	**22 40 41.7**		**-0.7**
QSPA	**South Pole Qui**	**87.86**	**180**	LR		LR	23 19 42.7		
	comp=Z,91nm,20.5s,baz=356,slow=35								
BBB	**Bella Bella**	**95.01**	**38**	LR		LR	23 18 55.1		
	comp=Z,19nm,19.2s,baz=179,slow=32								
LPAZ	**La Paz**	**149.67**	**128**	PKPbc		**PKPbc**	**22 47 51.5**		**-1.0**
	5.3nm,1.2s,baz=230,slow=2.4,SNR=7.6								

ISCJB ***16*** *22:32:06.7±0.3, 31°.24N±0°.02×115°.64W±0°.02, h10km, mb3.9/4, MS3.5/9, Error ellipse: s-maj=3.8km s-min=2.2km az=38.5*

NEIC ***16*** *22:32:07.0, 31°.25N×115°.63W, h8km, mb4.2/8, ML4.7(ECX), ML4.7(PAS), After ECX.*

NEIC Felt at Mexicali, San Felipe and Tijuana.

ECX ***16*** *22:32:07.1±0.5, 31°.25N×115°.63W, h5km, ML4.7, Fault plane solution: NP1:φ±212.73000°, δ65.60000°, λ-32.73000°.*

IDC ***16*** *22:32:09.0±2.0, 31°.48N×115°.40W, h0km, mb3.6/3, mb1 3.9/10, mb1mx3.8/27, mbtmp3.6/10, ML3.7/7, MS3.4/16, Ms1 3.5/16, ms1mx3.3/37, Error ellipse: s-maj=33.2km s-min=12.7km az=42.0*

MEX ***16*** *22:32:08.1±0.7, 31°.11N×115°.66W, h15km, MD4.1*

ISC 16 22:32:07.6±0.7, 31°.27N±0°.03×115°.65W±0°.03, h10km, n150, σ1§69/150, mb3.8/4, MS3.5/9, 5C-5D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
SPIG	**San Pedro Mart**	**0.27**	**145**	*i* P		**Pg**	**22 32 11.8**		**-1.5**
SPIG				*i* S		**Sg**	**22 32 15.5**		**-1.5**
SPIG	**San Pedro Mart**	**0.27**	**145⇓**	*e*P		**Pg**	**22 32 11.8**		**-1.5**
SPIG				*e*S		**Sg**	**22 32 15.6**		**-1.5**
SPX	**San Pedro Mart**	**0.27**	**145⇓**	*e*P		**Pg**	**22 32 11.8**		**-1.5**
SPX				*e*S		**Sg**	**22 32 15.5**		**-1.6**
ECBX	**El Chinero**	**0.55**	**68⇑**	*e*P		**Pg**	**22 32 16.9**		**-1.4**
ECBX				*e*S		**Sg**	**22 32 24.0**		**-1.5**
ZAX	**El Zacaton**	**0.59**	**294⇑**	*e*P		**Pg**	**22 32 17.5**		**-1.6**
ZAX				*e*S		**Sg**	**22 32 26.3**		**-0.6**
RDX	**Rancho Dawling**	**0.70**	**339⇓**	*e*P		**Pg**	**22 32 20.3**		**-1.0**
RDX				*e*S		**Sg**	**22 32 30.2**		**-0.3**
ECNX	**Esteban Cantu**	**0.90**	**296⇑**	*e*P		**Pg**	**22 32 23.3**		**-1.7**
ECNX				*e*S		**Sg**	**22 32 35.5**		**-1.2**
PBX	**Punta Banda**	**1.03**	**297⇑**	*e*P		**Pg**	**22 32 25.5**		**-2.0**
PBX				*e*S		**Sg**	**22 32 39.9**		**-1.1**
CPBX	**Cerro Prieto**	**1.18**	**14**	*e*P		**Pb**	**22 32 28.1**		**-2.1**
MBIG	**Mexicali**	**1.20**	**18**	*e*P		**Pb**	**22 32 28.6**		**-1.9**
MBIG				*i* S		**Sg**	**22 32 45.4**		**-0.8**
CBX	**Cerro Bola**	**1.35**	**320**	*e*P		**Pn**	**22 32 31.1**		**-1.7**
CBX				*e*S		**Sb**	**22 32 48.1**		**-2.5**
CBX	**Cerro Bola**	**1.35**	**320⇑**	*e*P		**Pn**	**22 32 30.6**		**-2.1**
CBX				*e*S		**Sb**	**22 32 49.3**		**-1.3**
CBX				⇓*e*			22 32 52.4		
CBX				IAML			22 32 52.4		
	comp=N,21μm,0.5s								
CBX				IAML			22 32 56.1		
	comp=E,17μm,0.9s								
RMX	**La Rumorosa**	**1.38**	**345⇓**	*e*P		**Pn**	**22 32 31.8**		**-1.3**
RMX				*e*S		**Sb**	**22 32 50.1**		**-1.3**
YUH	**Yuha Desert**	**1.39**	**350**	*e*Pn		**Pb**	**22 32 32.8**		**-0.9**
IBP	**Imperial Bould**	**1.44**	**345**	P		**Pn**	**22 32 32.6**		**-1.2**
	baz=1.5								
IBP				S		**Sn**	**22 32 51.4**		**-1.4**
	baz=1.5								
ERPC	**Ernies Place**	**1.47**	**359**	*e*Pn		**Pb**	**22 32 33.9**		**-1.2**
WESC	**Westside Schoo**	**1.49**	**357**	*e*Pn		**Pn**	**22 32 34.0**		**-0.4**
EMSC	**East Mesa**	**1.57**	**21**	*e*Pn		**Pn**	**22 32 34.0**		**-1.6**
CRR	**Carrizo Plain**	**1.63**	**350**	*e*Pn		**Pb**	**22 32 36.6**		**-1.3**
COA	**Coachella**	**1.65**	**15**	*e*Pn		**Pn**	**22 32 35.5**		**-1.2**
BAR	**Barrett**	**1.65**	**328**	*e*Pn		**Pn**	**22 32 35.7**		**-1.1**
BAR				*e*Sn		**Sn**	**22 32 56.6**		**-1.5**
SWSC	**Sam W. Stewart**	**1.67**	**356**	P		**Pn**	**22 32 35.1**		**-1.9**
	baz=1.7								
SWSC				Sg		**Sg**	**22 33 00.1**		**-1.2**
	baz=1.7								
SWSC	**Sam W. Stewart**	**1.67**	**356**	*e*Pn		Pn	22 32 30.7		-6.3
SWSC				*e*Pg		**Pb**	**22 32 36.8**		**-1.7**
CBKC	**Canebrake**	**1.70**	**343**	*e*Pn		**Pb**	**22 32 38.2**		**-0.9**
MONP	**Monument Peak,**	**1.74**	**338**	P		**Pn**	**22 32 37.5**		**-0.7**
	baz=1.8								
MONP				S		**Sn**	**22 33 00.5**		**-0.1**
	baz=1.8								
CLIC	**Calipatria**	**1.87**	**3**	*e*Pn		**Pn**	**22 32 39.8**		**+0.1**
GLA	**Glamis**	**1.91**	**21**	P		**Pn**	**22 32 38.4**		**-1.9**
	baz=1.9								
GLA	**Glamis**	**1.91**	**21**	*e*Pn		**Pn**	**22 32 38.4**		**-1.9**
GLA				*e*Sn		**Sn**	**22 33 02.8**		**-1.6**
EML	**El Monte Cty P**	**1.91**	**328**	*e*Pn		**Pb**	**22 32 41.7**		**-0.9**
109C	**Camp Elliot, M**	**2.03**	**323**	P		**Pn**	**22 32 41.5**		**-0.4**
	baz=2.1								
109C				S		**Sn**	**22 33 07.7**		**+0.3**
	baz=2.1								
CPE	**Camp Elliot**	**2.03**	**323**	*e*Pn		**Pn**	**22 32 41.8**		**-0.2**
DPP	**Dos Picos Cty**	**2.04**	**328**	*e*Pn		**Pb**	**22 32 43.6**		**-1.3**
HWB	**Hans Werner Br**	**2.08**	**328**	*e*Pn		**Pb**	**22 32 44.0**		**-1.4**
BORC	**Borrego Spring**	**2.10**	**342**	*e*Pn		**Pn**	**22 32 43.6**		**+0.7**
BORC				*e*ScS		ScS	22 47 47.8		+6.6
FRK	**Frink**	**2.12**	**0**	*e*Pn		**Pn**	**22 32 42.6**		**-0.6**
BATC	**Bat Cave Butte**	**2.19**	**356**	*e*Pn		**Pn**	**22 32 44.4**		**+0.3**
FRD	**Ford Ranch, An**	**2.36**	**340**	*e*Pn		**Pn**	**22 32 47.4**		**+0.8**
BC3	**Big Chuckawall**	**2.38**	**4**	P		**Pn**	**22 32 45.6**		**-1.3**
	baz=2.4								
CTW	**Cottonwood Mou**	**2.41**	**356**	*e*Pn		**Pn**	**22 32 47.5**		**+0.3**
SNDA	**J Saunders Pla**	**2.42**	**340**	*e*Pn		**Pn**	**22 32 48.2**		**+0.8**
PFO	**Pinyon Flats O**	**2.43**	**344**	P		**Pn**	**22 32 46.1**		**-1.5**
	baz=2.5								
PFO				Sb		**Sb**	**22 33 21.8**		**+0.2**
	baz=2.5								
PFO	**Pinyon Flats O**	**2.43**	**344**	*e*Pn		**Pn**	**22 32 48.3**		**+0.7**
PFO				*e*Sn		**Sn**	**22 33 18.5**		**+1.1**
CRY	**Cary Ranch**	**2.47**	**338**	*e*Pn		**Pn**	**22 32 49.0**		**+1.0**
214A	**Organ Pipe Nat**	**2.51**	**73**	P		**Pn**	**22 32 46.5**		**-2.1**
	baz=2.5								
BACC	**Bachelor Mtn.**	**2.62**	**334**	*e*Pn		**Pn**	**22 32 49.7**		**-0.3**
DGR	**Domenigoni Val**	**2.64**	**334**	*e*Pn		**Pn**	**22 32 51.7**		**+1.3**
Y12C	**Blythe**	**2.65**	**21**	P		**Pn**	**22 32 49.1**		**-1.3**
	baz=2.7								
MURC	**Murrieta**	**2.67**	**331**	Sb		**Sb**	**22 33 26.5**		**-1.8**
	baz=2.7								
HMTC	**Hemet**	**2.69**	**335**	*e*Pn		**Pn**	**22 32 52.4**		**+1.3**
BELC	**Belle Mtn. Jos**	**2.74**	**354**	P		**Pn**	**22 32 50.8**		**-1.0**
	baz=2.8								
BELC	**Belle Mtn. Jos**	**2.74**	**354**	*e*Pn		**Pn**	**22 32 52.0**		**+0.2**
TPC	**Twentynine Pal**	**2.85**	**353**	*e*Pn		**Pn**	**22 32 53.6**		**+0.4**
BBRC	**Big Bear Solar**	**3.17**	**341**	Pb		**Pb**	**22 33 03.5**		**-0.7**
	baz=3.2								
BBRC				Sb		**Sb**	**22 33 44.0**		**+0.9**
	baz=3.2								
DANC	**Danby, Needles**	**3.37**	**4**	*e*Pn		**Pn**	**22 33 00.4**		**+0.1**
SSK	**Sunset Peak**	**3.40**	**330**	*e*Pn		**Pn**	**22 33 02.8**		**+1.8**
BFSC	**Mount Baldy Ra**	**3.41**	**331**	Sb		**Sb**	**22 33 48.3**		**-1.6**
	baz=3.4								
GMRC	**Granite Mounta**	**3.50**	**360**	P		**Pn**	**22 33 01.7**		**-0.6**
	baz=3.5								
MWC	**Mount Wilson**	**3.58**	**326**	*e*Pn		**Pn**	**22 33 03.7**		**+0.3**
MWC				*e*Sn		**Sn**	**22 33 44.5**		**-1.3**
NEE2	**Needles Airpor**	**3.59**	**14**	P		**Pn**	**22 33 03.0**		**-0.5**
	baz=3.6								
PASC	**Pasadena Art C**	**3.60**	**324**	*e*Pn		**Pn**	**22 33 02.8**		**-0.7**
PASC				*e*Sn		**Sb**	**22 33 51.9**		**-3.2**
RRX	**Edison Barstow**	**3.77**	**343**	Sb		**Sb**	**22 34 02.6**		**+2.4**
	baz=3.8								
EDW2	**Edwards Air Fo**	**4.10**	**332**	Sb		**Sb**	**22 34 09.5**		**-0.2**
	baz=4.1								
GSC	**Goldstone, Bar**	**4.14**	**347**	Sb		**Sg**	**22 34 15.2**		**-5.3**
	baz=4.2								
GSC	**Goldstone, Bar**	**4.14**	**347**	*e*Pn		**Pn**	**22 33 11.1**		**+0.1**
GSC				*e*Pg		**Pb**	**22 33 22.1**		**+1.5**
GSC				*e*Sn		**Sn**	**22 34 02.3**		**+2.9**
OSI	**Osito Audit: C**	**4.22**	**323**	*e*Pg		**Pb**	**22 33 22.0**		**0.0**
OSI				*e*Sn		**Sb**	**22 34 07.2**		**-5.9**
TUC	**Tucson**	**4.27**	**75**	*e*Pn		**Pn**	**22 33 11.5**		**-1.2**
TUC				*e*Sn		**Sn**	**22 34 05.0**		**+2.3**
BSC	**Santa Cruz Isl**	**4.32**	**310**	P		**Pn**	**22 33 13.4**		**-0.1**
	baz=4.3								
LRMC	**Laurel Mtn Rad**	**4.53**	**338**	P		**Pn**	**22 33 16.7**		**+0.3**
	baz=4.6								
LRMC				Sb		**Sb**	**22 34 26.4**		**+4.3**
	baz=4.6								
ARVC	**Arvin**	**4.68**	**326**	P		**Pn**	**22 33 20.8**		**+2.5**
	baz=4.7								
ARVC				Sb		**Sb**	**22 34 30.5**		**+4.3**
	baz=4.7								
ISA	**Isabella, Lake**	**4.98**	**332**	P		**Pn**	**22 33 24.6**		**+2.1**
	baz=5.0								
ISA				Sb		**Sb**	**22 34 38.3**		**+3.4**
	baz=5.0								
ISA	**Isabella, Lake**	**4.98**	**332**	*e*Pn		Pn	22 33 25.2		+2.7
ISA				*e*Sn		Sn	22 34 25.8		+5.7
MPMC	**Manual Prospec**	**5.02**	**343**	P		**Pn**	**22 33 23.2**		**+0.1**
	baz=5.1								
MPMC				Sb		Sg	22 34 42.6		-6.2
	baz=5.1								
PKM	**Mcpherson Peak**	**5.03**	**317**	P		**Pn**	**22 33 24.6**		**+1.2**
	baz=5.1								
WASM	**Alta Sierra Ca**	**5.08**	**332**	*e*Pn		Pn	22 33 26.6		+2.6
SHPR	**Sheep Range**	**5.24**	**4**	*e*Pn		**Pn**	**22 33 27.1**		**+0.9**
SHPR				*e*Sn		**Sn**	**22 34 30.7**		**+4.0**
DAC	**Darwin (Calif)**	**5.25**	**343**	*e*Pn		**Pn**	**22 33 27.1**		**+0.8**
DAC				*e*Sn		**Sn**	**22 34 24.1**		**-3.0**
FURC	**Furnace Creek,**	**5.28**	**349**	P		**Pn**	**22 33 27.2**		**+0.6**
	baz=5.3								
VES	**Vestal, Richgr**	**5.39**	**329**	P		**Pn**	**22 33 28.9**		**+0.8**
	baz=5.4								
WUAZ	**Wupatki**	**5.54**	**39**	P		**Pn**	**22 33 30.9**		**+0.6**
	baz=5.6								
WUAZ	**Wupatki**	**5.54**	**39**	*e*Pn		**Pn**	**22 33 31.0**		**+0.6**
WUAZ				*e*Sn		**Sn**	**22 34 31.9**		**-2.3**
TPNV	**Topopah Spring**	**5.69**	**355**	P		**Pn**	**22 33 34.0**		**+1.6**
	baz=5.7								
TPNV	**Topopah Spring**	**5.69**	**355**	*e*Pn		Pn	22 33 24.6		-7.7
KNB	**Kanab**	**6.19**	**21**	*e*Pn		**Pn**	**22 33 40.5**		**+1.3**
W18A	**Petrified Fore**	**6.27**	**51**	P		**Pn**	**22 33 40.7**		**+0.4**
	baz=6.3								
W18A	**Petrified Fore**	**6.27**	**51**	*e*Pn		**Pn**	**22 33 41.0**		**+0.7**
CCUT	**Cedar City**	**6.54**	**16**	*e*Pn		**Pn**	**22 33 45.8**		**+1.5**
CCUT				*e*Sn		**Sn**	**22 34 56.7**		**-2.2**
121A	**Cookes Peak, D**	**6.80**	**77**	P		**Pn**	**22 33 48.0**		**+0.3**
	baz=6.8								
TPH	**Tonopah**	**6.91**	**350**	*e*Pg		**Pb**	**22 34 09.8**		**+1.9**
R11A	**Troy Canyon, C**	**7.06**	**0**	P		**Pn**	**22 33 52.6**		**+1.4**
	baz=7.1								
R11A	**Troy Canyon, C**	**7.06**	**0**	*e*Pn		**Pn**	**22 33 52.9**		**+1.6**
NV01	**Mina Array Sit**	**7.47**	**344**	*e*Pn		**Pn**	**22 33 54.8**		**-2.0**
NV01				*e*Lg		Lg	22 36 02.6		
NVAR	**Mina Array Bea**	**7.47**	**344**	Pn		**Pn**	**22 33 57.9**		**+1.0**
	comp=E,0.2nm,0.3s,baz=159,slow=13,SNR=2.8								
NVAR				Pg		Pg	22 34 23.8		-6.9
	comp=E,0.8nm,0.3s,baz=152,slow=17,SNR=13								
NVAR				Lg		Lg	22 36 02.6		
	baz=178,slow=31,SNR=3.2								
MSU	**Marysvale**	**7.76**	**21**	*e*Pn		Pn	22 34 04.6		+3.6
CMB	**Columbia Colle**	**7.79**	**331**	*e*Pn		Pn	22 34 09.2		+8.0
LENM	**Lemitar**	**7.86**	**66**	*e*Pn		**Pn**	**22 34 00.8**		**-1.4**
MVCO	**Mesa Verde**	**8.37**	**43**	P		**Pn**	**22 34 10.9**		**+1.6**
	baz=8.4								
MVCO	**Mesa Verde**	**8.37**	**43**	*e*Pn		**Pn**	**22 34 11.2**		**+1.9**
ANMO	**Albuquerque**	**8.53**	**62**	Pn		**Pn**	**22 34 10.7**		**-0.8**
	comp=E,0.1nm,0.3s,baz=233,slow=10,SNR=2.4								
ANMO				Lg		Lg	22 36 38.1		
	comp=E,0.1nm,0.3s,baz=150,slow=20,SNR=5.4								
ANMO				LR		LR	22 37 47.4		
	comp=E,232nm,18.0s,baz=256,slow=41								
LPIG	**La Paz**	**8.56**	**145**	LR		LR	22 37 10.7		
	comp=E,264nm,21.2s,baz=348,slow=35								
PV09	**Paradox Valley**	**8.98**	**35**	*e*Pn		**Pn**	**22 34 19.9**		**+2.3**
SLBS	**Sierra La Lagu**	**9.09**	**145**	*e*Pn		Pn	22 34 24.1		+5.0
DUG	**Dugway, Tooele**	**9.20**	**14**	*e*Pn		Pn	22 34 25.8		+5.3
ELK	**Elko**	**9.46**	**2**	Pn		**Pn**	**22 34 25.9**		**+1.7**
	comp=E,0.4nm,0.3s,baz=178,slow=13,SNR=9.2								
ELK				Lg		Lg	22 37 10.1		
	comp=E,0.2nm,0.3s,baz=208,slow=17,SNR=3.0								
ELK				LR		LR	22 37 59.2		
	comp=E,164nm,20.1s,baz=207,slow=38								
ELK	**Elko**	**9.46**	**2**	*e*Pn		**Pn**	**22 34 24.9**		**+0.7**
ELK				*e*Lg		Lg	22 37 10.1		
CTU	**Camp Tracy**	**9.92**	**17**	*e*Pn		Pn	22 34 35.9		+5.5
TX31	**Lajitas Ar. Si**	**10.53**	**98**	*e*Pn		**Pn**	**22 34 40.8**		**+2.0**
LTX	**Lajitas**	**10.53**	**98**	*e*Pn		**Pn**	**22 34 40.4**		**+1.5**
LTX				*e*Lg		Lg	22 37 46.4		
TXAR	**Lajitas Array**	**10.53**	**98**	Pn		**Pn**	**22 34 40.4**		**+1.5**
	comp=E,0.2nm,0.3s,baz=270,slow=11,SNR=15								
TXAR				Lg		Lg	22 37 46.4		
	comp=E,0.1nm,0.3s,baz=295,slow=34,SNR=3.2								
TXAR				LR		LR	22 38 41.0		
	comp=E,154nm,20.0s,baz=0.0,slow=38								
HVU	**Hansel Valley**	**10.74**	**12**	*e*Pn		**Pn**	**22 34 39.1**		**-2.5**
ISCO	**Idaho Springs**	**11.79**	**41**	*e*Pn		Pn	22 34 60.0		+3.8
YBH	**Yreka Blue Hor**	**11.88**	**333**	Pn		Pn	22 35 00.4		+3.2
	comp=E,0.1nm,0.3s,baz=135,slow=8.6,SNR=3.1								
YBH				LR		LR	22 39 38.0		
	comp=E,137nm,21.3s,baz=264,slow=38								
MFID	**Camas Ranch**	**12.12**	**359**	*e*Pn		Pn	22 35 05.7		+5.1
K05A	**Summer Lake**	**12.17**	**341**	*e*Pn		Pn	22 35 08.2		+6.9
HLID	**Hailey**	**12.31**	**4**	*e*Pn		Pn	22 35 09.2		+6.1
BW06	**Boulder Array**	**12.46**	**21**	*e*Pn		Pn	22 35 09.2		+4.0
PD31	**Pinedale Array**	**12.46**	**21**	*e*Pn		**Pn**	**22 35 07.2**		**+2.0**
PDAR	**Pinedale Array**	**12.46**	**21**	Pn		**Pn**	**22 35 07.2**		**+2.0**
	comp=E,0.2nm,0.3s,baz=202,slow=11,SNR=11								
PDAR				LR		LR	22 40 16.6		
	comp=E,289nm,18.5s,baz=214,slow=40								
REDW	**Red Top Meadow**	**12.65**	**16**	*e*Pn		Pn	22 35 12.9		+5.0
TPAW	**Teton Pass**	**12.75**	**16**	*e*Pn		Pn	22 35 13.3		+6.1
FXWY	**Fox Creek**	**12.88**	**15**	*e*Pn		Pn	22 35 15.5		+4.5
PHWY	**Pilot Hill**	**12.94**	**37**	*

	6µm,0.6s								
LADO	San Nicola del	0.80	55	Pg		Pb	22 39 56.4	-0.7	
	6µm,0.6s								
PIPA	Pietrapaola	0.84	39	Pg		Pb	22 39 57.7	-0.2	
	5µm,0.8s								
PIPA	Pietrapaola	0.84	39	Pg		Pb	22 39 57.7	-0.2	
	5µm,0.8s								
MPAZ	Palizzi	0.88	187	Pg		Pb	22 39 57.7	-0.7	
MPAZ				Sg		Sg	22 40 10.9	+0.8	
	8µm,0.8s								
MPAZ	Palizzi	0.88	187	Pg		Pb	22 39 57.7	-0.7	
MPAZ				Sg		Sg	22 40 10.9	+0.8	
	8µm,0.8s								
MTTG	Motta San Giov	0.89	203	Pg		Pb	22 39 58.3	-0.4	
MTTG				Sg		Sg	22 40 10.9	+0.3	
	5µm,0.7s								
MTTG	Motta San Giov	0.89	203	Pg		Pb	22 39 58.3	-0.4	
MTTG				Sg		Sg	22 40 10.9	+0.3	
	5µm,0.7s								
MILZ	Milazzo	0.90	232	Pg		Pb	22 39 58.4	-0.3	
MILZ				Sg		Sg	22 40 11.2	+0.4	
	8µm,0.5s								
MILZ	Milazzo	0.90	232	Pg		Pb	22 39 58.4	-0.3	
MILZ				Sg		Sg	22 40 11.2	+0.4	
	8µm,0.5s								
LLI	Lipari	1.00	248	Pg		Pb	22 40 00.2	-0.3	
	17µm,0.5s								
LLI	Lipari	1.00	248	Pg		Pb	22 40 00.2	-0.3	
	17µm,0.5s								
VPL	Vulcano Piano	1.01	244	Pg		Pb	22 40 00.0	-0.6	
VPL	Vulcano Piano	1.01	244	Pg		Pb	22 40 00.0	-0.6	
MMN	Mormanno	1.07	354	Pg		Pb	22 40 00.5	-1.1	
	1µm,0.9s								
MMN	Mormanno	1.07	354	Pg		Pb	22 40 00.5	-1.1	
	1µm,0.9s								
NOV	Novara	1.12	225	Pg		Pb	22 40 01.9	-0.6	
	3µm,0.8s								
MMME	Mongiuffi-Meli	1.13	218	Pg		Pb	22 40 02.5	-0.2	
	3µm,0.8s								
MMME	Mongiuffi-Meli	1.13	218	Pg		Pb	22 40 02.5	-0.2	
	3µm,0.8s								
CUC	Castrocucco	1.19	348	Pg		Pn	22 40 01.6	-2.0	
	2µm,0.7s								
CUC	Castrocucco	1.19	348	Pg		Pn	22 40 01.6	-2.0	
	2µm,0.7s								
ORI	Oriolo Calabro	1.26	11	Pg		Pn	22 40 04.2	-0.3	
	3µm,0.7s								
ORI	Oriolo Calabro	1.26	11	Pg		Pn	22 40 04.2	-0.3	
	3µm,0.7s								
SIRI	Monte Sirino -	1.37	351	Pg		Pn	22 40 04.5	-1.6	
	1µm,0.4s								
SIRI	Monte Sirino -	1.37	351	Pg		Pn	22 40 04.5	-1.6	
	1µm,0.4s								
SCHR	S. Chirico Rap	1.37	358	Pg		Pn	22 40 05.1	-1.0	
	2µm,1.5s								
BULG	Bulgheria - Ca	1.38	335	Pg		Pn	22 40 05.2	-1.0	
	2µm,0.6s								
BULG	Bulgheria - Ca	1.38	335	Pg		Pn	22 40 05.2	-1.0	
	2µm,0.6s								
IACL	Alicudi	1.42	259	Pg		Pn	22 40 05.4	-1.3	
	913nm,0.5s								
IACL	Alicudi	1.42	259	Pg		Pn	22 40 05.4	-1.3	
	913nm,0.5s								
MTSN	Montesano sull	1.47	348	Pg		Pn	22 40 05.7	-1.8	
	571nm,0.8s								
MTSN	Montesano sull	1.47	348	Pg		Pn	22 40 05.7	-1.8	
	571nm,0.8s								
CRAC	Craco	1.56	8	Pg		Pb	22 40 09.7	-0.3	
	3µm,1.0s								
CRAC	Craco	1.56	8	Pg		Pb	22 40 09.7	-0.3	
	3µm,1.0s								
CMPR	Campora	1.62	337	Pg		Pn	22 40 08.6	-0.9	
	783nm,0.6s								
CMPR	Campora	1.62	337	Pg		Pn	22 40 08.6	-0.9	
	783nm,0.6s								
ECNV	Catenanuova	1.66	223	Pg		Pb	22 40 11.9	+0.1	
	3µm,1.0s								
ECNV	Catenanuova	1.66	223	Pg		Pb	22 40 11.9	+0.1	
	3µm,1.0s								
AGST	Augusta-Monte	1.72	205	Pg		Pb	22 40 11.9	-0.9	
	2µm,1.3s								
AGST	Augusta-Monte	1.72	205	Pg		Pb	22 40 11.9	-0.9	
	2µm,1.3s								
HCRL	Carlentini	1.77	210	Pg		Pn	22 40 12.2	+0.7	
	4µm,1.0s								
HCRL	Carlentini	1.77	210	Pg		Pn	22 40 12.2	+0.7	
	4µm,1.0s								
HLNI	Lentini	1.78	214	Pg		Pn	22 40 12.4	+0.8	
	2µm,1.2s								
HLNI	Lentini	1.78	214	Pg		Pn	22 40 12.4	+0.8	
	2µm,1.2s								
CDRU	Civita di Ruta	1.78	339	Pg		Pn	22 40 10.5	-1.2	
	966nm,1.2s								
CDRU	Civita di Ruta	1.78	339	Pg		Pn	22 40 10.5	-1.2	
	966nm,1.2s								
MIGL	Miglionico	1.79	7	Pg		Pb	22 40 13.1	-0.9	
	5µm,0.9s								
MIGL	Miglionico	1.79	7	Pg		Pb	22 40 13.1	-0.9	
	5µm,0.9s								
LTRZ	Laterza	1.85	16	Pg		Pn	22 40 13.4	+0.8	
	622nm,1.0s								
LTRZ	Laterza	1.85	16	Pg		Pn	22 40 13.4	+0.8	
	622nm,1.0s								
GIB	Gibilmanna	1.85	244	Pg		Pn	22 40 12.5	-0.2	
	571nm,0.6s								
GIB	Gibilmanna	1.85	244	Pg		Pn	22 40 12.5	-0.2	
	571nm,0.6s								
MATE	Matera	1.87	13	Pg		Pn	22 40 13.4	+0.5	
	2µm,1.5s								
MATE	Matera	1.87	13	Pg		Pn	22 40 13.4	+0.5	
	2µm,1.5s								
ACER	Acerenza	1.96	356	Pg		Pn	22 40 14.7	+0.5	
	1µm,0.9s								
ACER	Acerenza	1.96	356	Pg		Pn	22 40 14.7	+0.5	
	1µm,0.9s								
HVZN	Vizzini	1.99	215	Pg		Pn	22 40 16.0	+1.4	
	3µm,0.9s								
HVZN	Vizzini	1.99	215	Pg		Pn	22 40 16.0	+1.4	
	3µm,0.9s								
MRLC	Muro Lucano	1.99	346	Pg		Pn	22 40 14.6	0.0	
MRLC	Muro Lucano	1.99	346	Pg		Pn	22 40 14.6	0.0	
HAVL	Avola	2.03	204	Pg		Pn	22 40 15.3	+0.3	
	906nm,0.4s								
HAVL	Avola	2.03	204	Pg		Pn	22 40 15.3	+0.3	
	906nm,0.4s								
SG1	Sgolgore (BA)	2.06	12	ePn		Pb	22 40 19.0	+0.5	
NOCI	Noci	2.09	20	Pg		Pn	22 40 16.0	+0.1	
	489nm,0.8s								
NOCI	Noci	2.09	20	Pg		Pn	22 40 16.0	+0.1	
	489nm,0.8s								
MCRV	Calabrutti - M	2.09	339	Pg		Pn	22 40 15.6	-0.4	
	538nm,0.9s								
MCRV	Calabrutti - M	2.09	339	Pg		Pn	22 40 15.6	-0.4	
	538nm,0.9s								
AMUR	Altamura	2.11	10	Pg		Pn	22 40 16.2	0.0	
	347nm,0.7s								
AMUR	Altamura	2.11	10	Pg		Pn	22 40 16.2	0.0	
	347nm,0.7s								
PALZ	Palazzo San Ge	2.12	356	Pg		Pn	22 40 16.3	0.0	
	1µm,1.0s								
PALZ	Palazzo San Ge	2.12	356	Pg		Pn	22 40 16.3	0.0	
	1µm,1.0s								
RAFF	Raffo Rosso	2.13	222	Pg		Pn	22 40 17.8	+1.4	
	557nm,0.7s								
RAFF	Raffo Rosso	2.13	222	Pg		Pn	22 40 17.8	+1.4	
	557nm,0.7s								
HMDC	Modica	2.15	210	Pg		Pn	22 40 18.3	+1.6	
HMDC	Modica	2.15	210	Pg		Pn	22 40 18.3	+1.6	
ALJA	Alia	2.16	241	Pg		Pn	22 40 17.5	+0.6	
	281nm,1.0s								
ALJA	Alia	2.16	241	Pg		Pn	22 40 17.5	+0.6	
	281nm,1.0s								
VULT	Monte Vulture	2.16	350	Pg		Pn	22 40 17.2	+0.2	
	696nm,0.9s								
VULT	Monte Vulture	2.16	350	Pg		Pn	22 40 17.2	+0.2	
	696nm,0.9s								
SCTE	Santa Cesarea	2.19	55	Pg		Pn	22 40 18.1	+0.8	
	886nm,0.9s								
SCTE	Santa Cesarea	2.19	55	Pg		Pn	22 40 18.1	+0.8	
	886nm,0.9s								
CSSN	Cassano Irpino	2.21	338	Pg		Pn	22 40 17.8	+0.3	
	105nm,0.4s								
CSSN	Cassano Irpino	2.21	338	Pg		Pn	22 40 17.8	+0.3	
	105nm,0.4s								
SNAL	S. Angelo Dei	2.21	342	Pg		Pn	22 40 17.8	+0.1	
	2µm,1.2s								
SNAL	S. Angelo Dei	2.21	342	Pg		Pn	22 40 17.8	+0.1	
	2µm,1.2s								
MRVN	Minervino Murg	2.23	1	Pg		Pn	22 40 17.4	-0.5	
	301nm,0.9s								
MRVN	Minervino Murg	2.23	1	Pg		Pn	22 40 17.4	-0.5	
	301nm,0.9s								
CDT	Castel del Mon	2.26	3	ePn		Pn	22 40 18.0	-0.2	
CAFE	Carife	2.31	343	Pg		Pn	22 40 19.5	+0.5	
	668nm,1.0s								
CAFE	Carife	2.31	343	Pg		Pn	22 40 19.5	+0.5	
	668nm,1.0s								
USI	Ustica	2.31	268	Pg		Pn	22 40 17.6	-1.4	
	324nm,0.5s								
USI	Ustica	2.31	268	Pg		Pn	22 40 17.6	-1.4	
	324nm,0.5s								
BAI	Bari	2.35	14	ePn		Pb	22 40 22.8	-0.7	
MS1	Monte Sant'Ang	2.88	357	ePn		Pn	22 40 28.0	+1.2	
KEK	Kerkira	2.98	72	eP		Pn	22 40 29.0	+0.9	
SRN	Sarande	3.18	69	P		Pn	22 40 31.4	+0.6	
SRN	Sarande	3.18	69	P		Pn	22 40 31.4	+0.6	
SGD	Sagiada	3.28	75	P		Pn	22 40 33.3	+1.1	
SGD				S		Sn	22 41 08.6	-2.3	
SGD	Sagiada	3.28	75	eP		Pn	22 40 33.3	+1.1	
SGD	Sagiada	3.28	75	P		Pn	22 40 33.3	+1.1	
SGD				S		Sn	22 41 08.6	-2.3	
IGT	Igoumenitsa	3.34	76	eP		Pn	22 40 33.7	+0.6	
IGT	Igoumenitsa	3.34	76	P		Pn	22 40 33.9	+0.8	
IGT				S		Sn	22 41 10.3	-2.1	
IGT	Igoumenitsa	3.34	76	eP		Pn	22 40 33.9	+0.8	
IGT	Igoumenitsa	3.34	76	P		Pn	22 40 33.9	+0.8	
IGT				S		Sn	22 41 10.3	-2.1	
LKD2	Lefkada island	3.53	89	P		Pn	22 40 37.0	+1.3	
LKD2				S		Sn	22 41 15.8	-1.4	
LKD2	Lefkada island	3.53	89	eP		Pn	22 40 37.1	+1.3	
LKD2	Lefkada island	3.53	89	P		Pn	22 40 37.0	+1.3	
LKD2				S		Sn	22 41 15.8	-1.4	
VLS	Valsamata	3.55	99	eP		Pn	22 40 36.9	+0.9	
KFL	Anninata	3.72	100	P		Pn	22 40 38.9	+0.6	
KFL	Anninata	3.72	100	P		Pn	22 40 38.9	+0.6	
JAN	Janina	3.75	76	eP		Pn	22 40 40.4	+1.6	
TIR	Tirane	3.81	47	P		Pn	22 40 40.8	+1.2	
TIR				S		Sn	22 41 23.4	-0.6	
TIR	Tirane	3.81	47	P		Pn	22 40 40.8	+1.2	
TIR				S		Sn	22 41 23.4	-0.6	
ZKS	Zakynthos	3.83	106	P		Pn	22 40 39.5	-0.3	
ZKS	Zakynthos	3.83	106	eP		Pn	22 40 39.6	-0.3	
ZKS	Zakynthos	3.83	106	P		Pn	22 40 39.5	-0.3	
DSL	Palaion Diasel	3.88	84	P		Pn	22 40 42.1	+1.6	
DSL	Palaion Diasel	3.88	84	eP		Pn	22 40 42.1	+1.6	
DSL	Palaion Diasel	3.88	84	P		Pn	22 40 42.1	+1.6	
ULC	Ulcinj	3.93	36	ePn		Pn	22 40 41.9	+0.7	
ULC				eSn		Sn	22 41 28.6	+1.6	
ULC	Ulcinj	3.93	36	ePn		Pn	22 40 41.9	+0.7	
ULC				eSn		Sn	22 41 28.6	+1.6	
PDO	Prodromos	3.96	92	P		Pn	22 40 43.4	+1.9	
PDO	Prodromos	3.96	92	eP		Pn	22 40 43.5	+1.9	
PDO	Prodromos	3.96	92	P		Pn	22 40 43.4	+1.9	
KBN	Korca	4.01	62	P		Pn	22 40 43.9	+1.5	
KBN				S		Sn	22 41 27.0	-2.1	
KBN	Korca	4.01	62	P		Pn	22 40 43.9	+1.5	
KBN				S		Sn	22 41 27.0	-2.1	
HCY	Herceg Novi	4.04	26	ePn		Pn	22 40 42.9	+0.2	
HCY				eSn		Sn	22 41 30.8	+1.2	
HCY	Herceg Novi	4.04	26	ePn		Pn	22 40 42.9	+0.2	
HCY				eSn		Sn	22 41 30.8	+1.2	
BUM	Brajici-Budva	4.06	30	⇓iPn		Pn	22 40 43.9	+0.9	
BUM				eSn		Sn	22 41 32.7	+2.5	
BUM	Brajici-Budva	4.06	30	⇓iPn		Pn	22 40 43.9	+0.9	
BUM				eSn		Sn	22 41 32.7	+2.5	
DRME	Dracevica, Mon	4.08	34	⇓iPn		Pn	22 40 43.9	+0.6	
DRME				eSn		Sn	22 41 32.3	+1.6	
DRME	Dracevica, Mon	4.08	34	⇓iPn		Pn	22 40 43.9	+0.6	
DRME				eSn		Sn	22 41 32.3	+1.6	
NEST	Nestorio	4.11	66	P		Pn	22 40 45.5	+1.7	
NEST				S		Sn	22 41 30.2	-1.4	
NEST	Nestorio	4.11	66	eP		Pn	22 40 45.3	+2.5	
NEST	Nestorio	4.11	66	P		Pn	22 40 45.5	+1.7	
NEST				S		Sn	22 41 30.2	-1.4	
SFD	Strofades	4.16	111	eP		Pn	22 40 45.4	+1.0	
STON	Ston	4.21	16	ePn		Pn	22 40 45.7	+0.7	
STON				Sn		Sn	22 41 32.2	-1.6	
STON	Ston	4.21	16	ePn		Pn	22 40 45.7	+0.7	
STON				Sn		Sn	22 41 32.2	-1.6	
RLS	Riolos of Patr	4.26	99	eP		Pn	22 40 47.0	+1.3	
PDG	Podgorica	4.31	32	⇓iPn		Pn	22 40 47.2	+0.8	
PDG				eSn		Sn	22 41 38.3	+1.9	
TTG	Podgorica	4.31	32	⇓iPn		Pn	22 40 47.2	+0.8	
TTG				eSn		Sn	22 41 38.3	+1.9	
PHP	Peshkopia	4.36	48	P		Pn	22 40 48.2	+1.1	
PHP				S		Sn	22 41 37.1	-0.5	
PHP	Peshkopia	4.36	48	P		Pn	22 40 48.2	+1.1	
PHP				S		Sn	22 41 37.1	-0.5	
EVR	Evrytania	4.43	87	eP		Pn	22 40 50.7	+2.6	
BRY	Bratogost	4.46	23	⇑iPn		Pn	22 40 48.9	+0.3	
BRY				eSn		Sn	22 41 41.9	+1.6	
BRY	Bratogost	4.46	23	⇑iPn		Pn	22 40 48.9	+0.3	
BRY				eSn		Sn	22 41 41.9	+1.6	
DRO	Drossia	4.47	100	eP		Pn	22 40 50.6	+2.0	
NKME	Niksic	4.48	28	⇑iPn		Pn	22 40 49.2	+0.4	
NKME				eSn		Sn	22 41 41.6	+1.0	
NKME	Niksic	4.48	28	⇑iPn		Pn	22 40 49.2	+0.4	
NKME				eSn		Sn	22 41 41.6	+1.0	
FNA	Florina	4.49	62	eP		Pn	22 40 49.3	+0.4	
FNA	Florina	4.49	62	P		Pn	22 40 50.3	+1.4	
FNA				S		Sn	22 41 39.7	-1.0	
FNA	Florina	4.49	62	eP		Pn	22 40 50.6	+1.7	
FNA	Florina	4.49	62	P		Pn	22 40 50.3	+1.4	
FNA				S		Sn	22 41 39.7	-1.0	
NKY	Niksic	4.54	28	⇑iPn		Pn	22 40 50.2	+0.6	
NKY				eSn		Sn	22 41 43.3	+1.3	
NKY	Niksic	4.54	28	⇑iPn		Pn	22 40 50.2	+0.6	
NKY				eSn		Sn	22 41 43.3	+1.3	
EFP	Efpalio	4.54	93	P		Pn	22 40 52.0	+2.5	
EFP	Efpalio	4.54	93	eP		Pn	22 40 51.8	+2.3	
EFP	Efpalio	4.54	93	P		Pn	22 40 52.0	+2.5	
AMT	Artemida-Makis	4.58	105	eP		Pn	22 40 50.6	+0.5	
KZN	Kozani	4.60	69	eP		Pn	22 40 52.5	+2.0	
THL	Klokotos Trika	4.63	79	eP		Pn	22 40 53.1	+2.3	
MAKR	Makrakomi, Fth	4.68	86	P		Pn	22 40 54.1	+2.6	
MAKR	Makrakomi, Fth	4.68	86	eP		Pn	22 40 54.8	+3.3	
MAKR	Makrakomi, Fth	4.68	86	P		Pn	22 40 54.1	+2.6	
KALE	Kalithea	4.72	93	P		Pn	22 40 54.5	+2.4	
KALE	Kalithea	4.72	93	eP		Pn	22 40 54.6	+2.4	
KALE	Kalithea	4.72	93	P		Pn	22 40 54.5	+2.4	
PVY	Plav	4.75	36	ePn		Pn	22 40 54.2	+1.6	
PVY				eSn		Sn	22 41 48.9	+1.4	
PVY	Plav	4.75	36	ePn		Pn	22 40 54.2	+1.6	
PVY				eSn		Sn	22 41 48.9	+1.4	
KLV	Kalavryta, Ach	4.79	98	eP		Pn	22 40 54.0	+1.0	
AGG	Agios Georgios	4.84	86	eP		Pn	22 40 54.0	+0.3	
AGG	Agios Georgios	4.84	86	P		Pn	22 40 56.1	+2.4	
AGG				S		Sn	22 41 48.3	-1.1	
AGG	Agios Georgios	4.84	86	eP		Pn	22 40 56.6	+2.9	
AGG	Agios Georgios	4.84	86	P		Pn	22 40 56.1	+2.4	
AGG				S		Sn	22 41 48.3	-1.1	
PYL	PYLOS	4.84	112	P		Pn	22 40 53.6	-0.1	
PYL	PYLOS	4.84	112	eP		Pn	22 40 54.3	+0.6	
PYL	PYLOS	4.84	112	P		Pn	22 40 53.6	-0.1	
UPM	Unac-Piva	4.85	25	⇓iPn		Pn	22 40 55.0	+1.0	
UPM				eSn		Sn	22 41 51.4	+1.5	
UPM	Unac-Piva	4.85	25	⇓iPn		Pn	22 40 55.0	+1.0	
UPM				eSn		Sn	22 41 51.4	+1.5	
ITM	Ithomi	4.86	108	eP		Pn	22 40 54.4	+0.4	
BEY	Berane	4.95	34	⇓iPn		Pn	22 40 57.2	+2.0	
BEY				eSn		Sn	22 41 53.8	+1.7	
IVA	Berane	4.95	34	⇓iPn		Pn	22 40 57.2	+2.0	
IVA				eSn		Sn	22 41 53.8	+1.7	
GUR	Goura	4.96	98	eP		Pn	22 40 58.8	+3.4	
DSF	Desfina	5.02	93	P		Pn	22 40 58.8	+2.5	
DSF	Desfina	5.02	93	eP		Pn	22 40 58.9	+2.6	
DSF	Desfina	5.02	93	P		Pn	22 40 58.8	+2.5	
LIT	Litokhoron	5.08	73	P		Pn	22 40 58.4	+1.4	
LIT				S		Sn	22 41 53.9	-1.5	
LIT	Litokhoron	5.08	73	eP		Pn	22 40 58.3	+1.3	
LIT	Litokhoron	5.08	73	P		Pn	22 40 58.4	+1.4	
LIT				S		Sn	22 41 53.9	-1.5	
AXAR	Agios Charalam	5.10	89	P		Pn	22 40 59.4	+2.1	
AXAR				S		Sn	22 41 54.9	-0.9	
AXAR	Agios Charalam	5.10	89	eP		Pn	22 41 00.0	+2.7	
AXAR	Agios Charalam	5.10	89	P		Pn	22 40 59.4	+2.1	
AXAR				S		Sn	22 41 54.9	-0.9	
SKO	Skopje	5.13	51	ePn		Pn	22 40 59.8	+2.2	
SKO				eSg		Sn	22 41 56.0	-0.5	
SKO	Skopje	5.13	51	ePn		Pn	22 40 59.8	+2.2	
SKO				eSg		Sn	22 41 55.9	-0.5	
PLE	Pljevlja	5.13	28	⇑iPn		Pn	22 40 59.5	+1.7	
PLE				eSn		Sn	22 41 58.0	+1.4	
PLE	Pljevlja	5.13	28	⇑iPn		Pn	22 40 59.5	+1.7	
PLE				eSn		Sn	22 41 58.0	+1.4	
VLX	Vlachokerasia	5.13	104	P		Pn	22 41 00.0	+2.1	
VLX	Vlachokerasia	5.13	104	P		Pn	22 41 00.0	+2.1	
SJES	Sjenica	5.30	32	⇑iPn		Pn	22 41 01.5	+1.4	
SJES	Sjenica	5.30	32	⇑iPn		Pn	22 41 01.5	+1.4	
LKR	Lokris	5.37	90	eP		Pn	22 41 02.8	+1.8	
ATAL	Atalanti	5.38	89	P		Pn	22 41 03.2	+2.0	
ATAL				S		Sn	22 42 01.6	-1.2	
ATAL	Atalanti	5.38	89	P		Pn	22 41 03.2	+2.0	
LTK	Loutraki	5.42	96	P		Pn	22 41 03.7	+2.0	
LTK	Loutraki	5.42	96	eP		Pn	22 41 03.5	+1.8	
LTK	Loutraki	5.42	96	P		Pn	22 41 03.7	+2.0	
XOR	Xorichti	5.52	82	P		Pn	22 41 04.2	+1.2	
XOR				S		Sn	22 42 05.1	-1.0	
XOR	Xorichti	5.52	82	eP		Pn	22 41 04.6	+1.6	
XOR	Xorichti	5.52	82	P		Pn	22 41 04.2	+1.2	
SMIA	Simia	5.52	87	P		Pn	22 41 04.7	+1.6	
SMIA	Simia	5.52	87	eP		Pn	22 41 04.9	+1.8	
SMIA	Simia	5.52	87	P		Pn	22 41 04.7	+1.6	
VAY	Valandovo	5.53	61	ePn		Pn	22 41 05.6	+2.4	
VAY				eSg		Sn	22 42 05.0	-1.3	
VAY	Valandovo	5.53	61	ePn		Pn	22 41 05.5	+2.4	
NEO	Neokhori	5.54	83	eP		Pn	22 41 04.9	+1.6	
THE	Thessaloniki	5.57	69	eP		Pn	22 41 04.6	+1.0	
BBLS	Lazići	5.60	25	⇑iPn		Pn	22 41 05.6	+1.3	
BBLS				eSn		Sn	22 42 08.7	+0.4	
BBLS	Lazići	5.60	25	⇑iPn		Pn	22 41 05.6	+1.3	
BBLS				eSn		Sn	22 42 08.7	+0.4	
VIL2	Platees	5.63	94	eP		Pn	22 41 07.0	+2.5	
IVAS	Ivanjica	5.63	31	*i* Pn		Pn	22 41 04.0	-0.6	
IVAS				eSn		Sn	22 42 07.0	-2.0	
IVAS	Ivanjica	5.63	31	*i* Pn		Pn	22 41 04.0	-0.6	
HORT	Hortiatis	5.66	70	eP		Pn	22 41 04.7	-0.3	
HORT	Hortiatis	5.66	70	eP		Pn	22 41 05.9	+0.9	
HORT	Hortiatis	5.66	70	eP		Pn	22 41 04.7	-0.3	
VILL	Villia	5.67	94	P		Pn	22 41 06.8	+1.7	
VILL	Villia	5.67	94	P		Pn	22 41 06.8	+1.7	
KNT	Kendrikon	5.69	64	P		Pn	22 41 06.5	+1.1	
KNT	Kendrikon	5.69	64	eP		Pn	22 41 06.3	+0.9	
KNT	Kendrikon	5.69	64	P		Pn	22 41 06.5	+1.1	
UDBI	Udbina	5.70	357	*i* Pn		Pn	22 41 05.2	-0.4	
UDBI				Sn		Sn	22 42 08.1	-2.7	
UDBI	Udbina	5.70	357	*i* Pn		Pn	22 41 05.2	-0.4	
UDBI				Sn		Sn	22 42 08.1	-2.7	
KRND	KRANIDI	5.72	102	P		Pn	22 41 07.2	+1.5	
KRND				S		Sn	22 42 09.9	-1.1	
KRND	KRANIDI	5.72	102	eP		Pn	22 41 07.3	+1.5	
KRND	KRANIDI	5.72	102	P		Pn	22 41 07.2	+1.5	
DID	Didima	5.75	101	P		Pn	22 41 07.5	+1.3	
DID	Didima	5.75	101	eP		Pn	22 41 07.5	+1.3	
DID	Didima	5.75	101	P		Pn	22 41 07.5	+1.3	
VLI	Veliai	5.78	109	eP		Pn	22 41 09.0	+2.3	
SELS	Selova	5.79	39	⇑iPn		Pn	22 41 06.6	-0.1	
SELS				eSn		Sn	22 42 10.9	-1.8	
SELS	Selova	5.79	39	⇑iPn		Pn	22 41 06.6	-0.1	
SELS				eSn		Sn	22 42 10.9	-1.8	
NVLJ	Novalja	5.81	351	ePn		Pn	22 41 06.2	-0.8	
NVLJ				Sn		Sn	22 42 11.8	-1.5	
NVLJ	Novalja	5.81	351	ePn		Pn	22 41 06.2	-0.8	
NVLJ				Sn		Sn	22 42 11.7	-1.5	
MRKA	Markates	5.83	89

IDI				Sn		Sn	22 43 02.2	-1.2	
	8.7nm,0.3s,baz=323,slow=20,SNR=17								
ALN	Alexandroupoli	7.90	72	*e*P		Pn	22 41 35.9	+0.2	
ALN	Alexandroupoli	7.90	72	*e*P		Pn	22 41 36.8	+1.1	
ALN	Alexandroupoli	7.90	72	*e*P		Pn	22 41 35.9	+0.2	
PRK	Paraskevi	7.90	84	*e*P		Pn	22 41 37.5	+1.8	
BZS	Buzias	7.91	29	⇑*i*P		Pn	22 41 36.3	+0.5	
BZS	Buzias	7.91	29	S		Sn	22 42 58.2	-6.7	
BZS	Buzias	7.91	29	⇑*i*P		Pn	22 41 36.3	+0.5	
ENEZ	Enez	7.95	73	*e*P		Pn	22 41 35.9	-0.4	
ENEZ	Enez	7.95	73	*e*P		Pn	22 41 35.9	-0.4	
EZN	Ezine	7.96	80	*e*P		Pn	22 41 36.5	-0.1	
EZN	Ezine	7.96	80	*e*P		Pn	22 41 36.5	-0.1	
GELI	Tayfur-Gelibol	8.13	76	*e*P		Pn	22 41 39.1	+0.2	
GELI	Tayfur-Gelibol	8.13	76	*e*P		Pn	22 41 39.1	+0.2	
SBF	Sospel	8.25	310	*e*P		Pn	22 41 43.0	+2.4	
SBF				*e*Sn		Sn	22 43 04.9	-8.6	
	5.0nm,0.4s								
NPS	Neapolis	8.37	112	*e*P		Pn	22 41 43.6	+1.4	
ARSA	Arzberg	8.43	357	⇓*i*Pg		Pb	22 42 21.3	+14	
	4.0nm,0.7s								
FRF	La Foret Royal	8.57	307	*e*P		Pn	22 41 47.6	+2.7	
FRF				*e*Sn		Sn	22 43 13.5	-7.8	
	6.4nm,0.7s								
EDRB	Edirne	8.65	66	*e*P		Pn	22 41 45.1	-0.8	
EDRB	Edirne	8.65	66	*e*P		Pn	22 41 45.1	-0.8	
LOT	Lotru	8.71	38	⇑*i*P		Pn	22 41 47.5	+0.6	
LOT	Lotru	8.71	38	⇑*i*P		Pn	22 41 47.5	+0.6	
BODT	Bodrum	9.00	98	*e*P		Pn	22 41 51.2	+0.3	
BODT	Bodrum	9.00	98	*e*P		Pn	22 41 51.2	+0.3	
FETA	Feichten	9.10	336	⇓*i*Pn		Pn	22 41 57.5	+5.2	
	6.3nm,1.2s								
CONA	Conrad Observa	9.10	359	⇓Pn		Pn	22 41 53.0	+0.8	
	5.9nm,1.4s								
CONA				⇑*i*Sn		Sn	22 43 32.6	-1.7	
	1.2nm,0.5s								
CONA	Conrad Observa	9.10	359	Pn		Pn	22 41 53.0	+0.8	
	5.9nm,1.4s								
CONA				Sn		Sn	22 43 32.6	-1.7	
	1.2nm,0.5s								
MOA	Molln	9.12	352	⇑*i*Pn		Pn	22 41 54.0	+1.5	
	10nm,1.0s								
MOA	Molln	9.12	352	Pn		Pn	22 41 54.0	+1.5	
	10nm,1.0s								
MBDF	Montbardon	9.14	313	*e*Pn		Pn	22 41 49.9	-3.0	
MBDF	Montbardon	9.14	313	*e*P		Pn	22 41 55.4	+2.5	
MBDF				*e*Sn		Sn	22 43 26.6	-8.9	
	2.3nm,0.3s								
DAVOX	Davos/Dischmat	9.18	332	LR		LR	22 46 24.2		
	comp=Z,141nm,19.0s,baz=151,slow=44								
AYDB	Zeytinkoy-Aydi	9.27	92	*e*P		Pn	22 41 54.7	0.0	
AYDB	Zeytinkoy-Aydi	9.27	92	*e*P		Pn	22 41 54.7	0.0	
DRGR		9.31	29	S		Pn	22 42 00.6	+5.5	
VOIR		9.35	42	⇑*i*P		Pn	22 41 58.4	+2.8	
VOIR		9.35	42	⇑*i*P		Pn	22 41 58.4	+2.8	
LPG	La Plagne	9.64	317	*e*P		Pn	22 42 03.3	+3.5	
SECR		9.65	47	⇓*i*P		Pn	22 41 59.6	-0.1	
SECR		9.65	47	⇓*i*P		Pn	22 41 59.6	-0.1	
LPL	La Plagne	9.66	317	*e*P		Pn	22 42 03.3	+3.3	
ORIF	Oris-en-Rattie	9.77	312	*e*P		Pn	22 42 04.9	+3.5	
MLR	Muntele Rosu	9.86	44	Pn		Pn	22 42 05.9	+3.2	
	baz=149,slow=16								
MLR				Sn		Sn	22 43 52.8	-0.4	
	0.0nm,0.3s,baz=213,slow=1.3,SNR=2.3								
MLR	Muntele Rosu	9.86	44	⇓*i*P		Pn	22 42 06.3	+3.6	
GERES	GERESS Array B	10.17	351	Pn		Pn	22 42 06.8	-0.1	
	0.1nm,0.3s,baz=155,slow=10,SNR=4.3								
GERES				LR		LR	22 47 17.4		
	comp=Z,48nm,21.1s,baz=100,slow=45								
KHC	Kasperske Hory	10.46	351	*e*P		Pn	22 42 11.3	+0.4	
KHC				*ex*		x	22 42 17.1		
KHC				*ex*		x	22 42 27.5		
KHC				*ex*		x	22 42 55.8		
PLOR	Plostina	10.47	45	⇑*i*P		Pn	22 42 13.6	+2.6	
PLOR	Plostina	10.47	45	⇑*i*P		Pn	22 42 13.6	+2.6	
VRAC	Vranov	10.48	2	LR		LR	22 46 18.5		
	comp=Z,55nm,18.0s,baz=173,slow=38								
VRI	Vrincioaia	10.53	45	⇑*i*P		Pn	22 42 12.9	+1.2	
VRI	Vrincioaia	10.53	45	⇑*i*P		Pn	22 42 12.9	+1.2	
BURAR	Bucovina Array	11.00	34	⇑*i*P		Pn	22 42 19.9	+1.7	
BURAR	Bucovina Array	11.00	34	⇑*i*P		Pn	22 42 19.9	+1.7	
KOLS	Kolonicke sedl	11.03	22	*e*PN		Pn	22 42 15.2	-3.3	
KOLS	Kolonicke sedl	11.03	22	*e*SG			22 45 30.3		
STHS	Stebnicka Huta	11.20	17	*e*PN		Pn	22 42 17.0	-3.9	
STHS	Stebnicka Huta	11.20	17	*e*SG			22 45 34.8		
BRTR	Keskin Array B	13.60	81	Pn		Pn	22 42 54.5	+0.7	
	0.1nm,0.3s,baz=257,slow=9.4,SNR=5.9								
FLN	La Foliniere	15.54	315	*e*P		Pn	22 43 21.3	+1.4	
ESDC	Sonseca Array	15.60	279	Pn		Pn	22 43 19.0	-1.7	
	0.1nm,0.3s,baz=80,slow=12,SNR=2.9								
MMAI	Mount Meron Ar	16.64	104	Pn		Pn	22 43 30.6	-3.5	
	1.1nm,0.3s,baz=306,slow=12,SNR=5.2								
EIL	Elat	18.01	115	P		Pn	22 43 50.2	-1.0	
	0.2nm,0.3s,baz=328,slow=1.7,SNR=7.1								
ASF	Jabal al Asfar	18.14	105	P		Pn	22 43 52.9	0.0	
	0.1nm,0.3s,baz=173,slow=13,SNR=3.9								
KBZ	Khabaz	20.66	68	P		P	22 44 21.4	+1.0	
	4.2nm,1.0s,baz=276,slow=7.6,SNR=5.2								
EKA	Eskdalemuir Ar	20.98	328	P		P	22 44 21.5	-2.4	
	0.5nm,0.7s,baz=130,slow=13,SNR=3.7								
HFS	Hagfors	21.39	357	LR		LR	22 54 14.6		
	comp=Z,50nm,18.3s,baz=124,slow=41								
GNI	Garni	22.08	77	P		P	22 44 38.0	+2.0	
	4.1nm,0.6s,baz=207,slow=5.2,SNR=6.2								
NOA	NORSAR Array B	22.45	354	P		P	22 44 40.5	+0.9	
	0.5nm,0.8s,baz=168,slow=10,SNR=3.0								
NOA				LR		LR	22 54 54.8		
	comp=Z,35nm,18.8s,baz=170,slow=41								
FINES	FINESS Array B	23.47	12	P		P	22 44 50.6	+0.5	
	3.0nm,1.0s,baz=180,slow=13,SNR=10								
FINES				LR		LR	22 55 28.1		
	comp=Z,36nm,18.9s,baz=216,slow=40								
TORD	Torodi Ar. Bea	28.60	210	P		P	22 45 35.6	-1.5	
	0.1nm,0.5s,baz=17,slow=9.8,SNR=3.5								
ARCES	ARCESS Array B	31.18	6	LR		LR	22 58 06.3		
	comp=Z,38nm,19.7s,baz=179,slow=35								
ZALV	Zalesovo Beam	47.82	48	P		P	22 48 18.2	+0.2	
	2.6nm,0.7s,baz=270,slow=7.2,SNR=5.7								
MKAR	Makanchi Array	47.88	58	P		P	22 48 20.0	+1.3	
	1.0nm,0.5s,baz=285,slow=6.5,SNR=15								
SONM	Songino Array	62.68	49	P		P	22 50 06.5	+1.0	
	1.1nm,1.0s,baz=284,slow=7.5,SNR=3.5								
BOSA	Boshof	67.63	171	P		P	22 50 37.2	-0.3	
	2.0nm,0.7s,baz=281,slow=5.2,SNR=4.0								
CMAR	Chiang Mai Arr	73.18	80	P		P	22 51 12.8	+0.9	
	1.0nm,0.6s,baz=312,slow=7.1,SNR=5.3								
PETK	Petropavlovsk-	82.57	22	LR		LR	23 32 44.7		
	comp=Z,18nm,18.6s,baz=225,slow=38								

IDC ***16*** *23:00:30.9±1.0,38°.53N×21°.97E,h0km,mb3.6/8, mb1 3.6/12,mb1mx3.5/42,mbtmp3.5/12,ML2.7/3,MS2.8/1, Ms1 2.8/1,ms1mx2.0/32,Error ellipse: s-maj=18.9km s-min=17.8km az=118.0*

ISCJB ***16*** *23:00:32.0±0.3,38°.39N±0°.02×22°.04E±0°.02,h13km±2km, mb3.6/7,Error ellipse: s-maj=2.8km s-min=2.5km az=143.3*

CSEM ***16*** *23:00:32.2±0.1,38°.37N×22°.07E,h2km,ML3.8,Error ellipse: s-maj=2.7km s-min=2.5km az=71.0*

BEO ***16*** *23:00:32.1±1.0,38°.28N×22°.22E,h0km,ML3.4/7*

ATH ***16*** *23:00:32.3,38°.38N×22°.04E,h8km±1km,MD2.8/11*

THE ***16*** *23:00:32.6,38°.39N×22°.06E,h0km±3km,ML3.8/11,Error ellipse: s-maj=3.1km s-min=0.8km az=154.0*

IASPEI ***16*** *23:00:32.3±0.8,38°.39N±0°.02×22°.04E±0°.02,h9km±4km, mb3.7/7,Error ellipse: s-maj=2.6km s-min=2.2km az=178.2*

ISC 16 23:00:32.5±0.7,38°.39N±0°.02×22°.05E±0°.01,h9km±4km, n172,σ1s06/216,mb3.7/9,8C-15D,Greece

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KALE	Kalithea	0.07	86	P	P	Pg	23 00 34.6	-0.2
KALE				S	S	Sg	23 00 36.4	0.0
KALE	Kalithea	0.07	86	*e*PG	P	Pg	23 00 34.6	-0.2
KALE				*e*SG	S	Sg	23 00 36.2	-0.2
KALE	Kalithea	0.07	86	P	P	Pg	23 00 34.6	-0.2
KALE				S	S	Sg	23 00 36.4	0.0
EFP	Efpalio	0.12	291	P	P	Pg	23 00 34.8	-0.5
EFP				S	S	Sg	23 00 36.9	-0.3
EFP	Efpalio	0.12	291	*e*PG	P	Pg	23 00 34.8	-0.5
EFP				*e*SG	S	Sg	23 00 36.8	-0.4
EFP	Efpalio	0.12	291	P	P	Pg	23 00 34.8	-0.5
EFP				S	S	Sg	23 00 36.9	-0.3
UPR	University Cam	0.23	244	P	P	Pg	23 00 37.0	-0.1
UPR	University Cam	0.23	244	P	P	Pg	23 00 37.0	-0.1
KLV	Kalavryta, Ach	0.35	166	*e*PG	P	Pg	23 00 38.9	-0.6
KLV				*e*SB	S	Sg	23 00 44.3	+0.2
KLV	Kalavryta, Ach	0.35	166	*e*Pg	P	Pg	23 00 38.9	-0.6
KLV				*e*Sb	S	Sg	23 00 44.3	+0.2
DSF	Desfina	0.38	86	P	P	Pg	23 00 39.4	-0.6
DSF				S	S	Sg	23 00 45.7	+0.7
DSF	Desfina	0.38	86	*e*PG	P	Pg	23 00 39.4	-0.6
DSF				*e*SB	S	Sg	23 00 45.8	+0.7
DSF	Desfina	0.38	86	P	P	Pg	23 00 39.4	-0.6
DSF				S	S	Sg	23 00 45.7	+0.7
PVO	Paravola	0.47	300	P	P	Pg	23 00 41.2	-0.4
PVO	Paravola	0.47	300	P	P	Pg	23 00 41.2	-0.4
GUR	Goura	0.51	152	P	P	Pg	23 00 41.6	-0.7
GUR	Goura	0.51	152	*e*PB	P	Pg	23 00 41.6	-0.7
GUR	Goura	0.51	152	P	P	Pg	23 00 41.6	-0.7
DRO	Drossia	0.51	212	P	P	Pg	23 00 41.8	-0.5
DRO	Drossia	0.51	212	*e*PB	P	Pg	23 00 41.8	-0.5
DRO	Drossia	0.51	212	P	P	Pg	23 00 41.8	-0.5
RLS	Riolos of Patr	0.56	235	*e*PB	P	Pg	23 00 42.9	-0.5
RLS				*e*SB	S	Sg	23 00 51.1	+0.4
RLS	Riolos of Patr	0.56	235	*e*Pb	P	Pg	23 00 42.9	-0.5
RLS				*e*Sb	S	Sg	23 00 51.1	+0.4
EVR	Evrytania	0.56	341	*e*PB	P	Pg	23 00 42.8	-0.6
EVR				*e*SB	S	Sg	23 00 51.5	+0.6
EVR	Evrytania	0.56	341	*e*Pb	P	Pg	23 00 42.8	-0.6
EVR				*e*Sb	S	Sg	23 00 51.5	+0.6
THAL	Thalero	0.60	125	P	P	Pg	23 00 43.9	-0.2
THAL	Thalero	0.60	125	P	P	Pg	23 00 43.9	-0.2
AXAR	Agios Charalam	0.61	51	P	P	Pg	23 00 43.8	-0.9
AXAR				*e*Sb	S	Sg	23 00 54.2	+0.1
AXAR	Agios Charalam	0.61	51	*e*PB	P	Pg	23 00 43.8	-0.6
AXAR				*e*SB	S	Sg	23 00 53.5	+1.1
AXAR	Agios Charalam	0.61	51	P	P	Pg	23 00 43.5	-0.9
AXAR	Agios Charalam	0.61	51	*e*Pb	P	Pg	23 00 43.8	-0.6
AXAR				*e*Sb	S	Sg	23 00 53.5	+1.1
MAKR	Makrakomi, Fth	0.63	6	P	P	Pg	23 00 44.0	-0.7
MAKR				S	S	Sb	23 00 55.2	+0.6
MAKR	Makrakomi, Fth	0.63	6	*e*PG	P	Pg	23 00 44.2	-0.5
MAKR	Makrakomi, Fth	0.63	6	*e*Pg	P	Pg	23 00 44.2	-0.5
AGG	Agios Georgios	0.67	19	P	P	Pg	23 00 44.2	-1.3
AGG				S	S	Sg	23 00 54.6	+0.2
AGG	Agios Georgios	0.67	19	P	P	Pg	23 00 44.2	-1.3
AGG				S	S	Sg	23 00 54.6	+0.2
PDO	Prodromos	0.71	288	P	P	Pg	23 00 46.1	-0.2
PDO				S	S	Sb	23 00 57.5	+0.7
PDO	Prodromos	0.71	288	*e*PB	P	Pg	23 00 46.0	-0.2
PDO	Prodromos	0.71	288	*e*Pb	P	Pg	23 00 46.0	-0.2
PDO				S	S	Sb	23 00 57.5	+0.7
LTK	Loutraki	0.81	116	P	P	Pg	23 00 48.2	+0.1
LTK	Loutraki	0.81	116	P	P	Pg	23 00 48.2	+0.1
ACOR	Acrocorinthos	0.82	127	P	P	Pg	23 00 47.8	-0.4
ACOR	Acrocorinthos	0.82	127	P	P	Pg	23 00 47.8	-0.4
ATAL	Atalanti	0.82	68	P	P	Pg	23 00 46.8	-1.6
ATAL				S	S	Sg	23 00 59.2	+0.1
ATAL	Atalanti	0.82	68	P	P	Pg	23 00 46.8	-1.6
ATAL				S	S	Sg	23 00 59.2	+0.1
VTN	Vitineika	0.82	236	P	P	Pg	23 00 48.5	+0.1
VTN	Vitineika	0.82	236	P	P	Pg	23 00 48.5	+0.1
AMT	Artemida-Makis	0.89	197	P	P	Pg	23 00 48.5	-1.2
AMT				S	S	Sn	23 01 05.2	+1.0
AMT	Artemida-Makis	0.89	197	P	P	Pg	23 00 48.5	-1.2
VIL2	Platees	0.98	100	*e*PN	P	Pb	23 00 52.2	+0.6
VILL	Villia	1.02	102	P	P	Pg	23 00 51.8	-0.3
VILL				S	S	Sn	23 01 08.0	+0.6
VILL	Villia	1.02	102	P	P	Pg	23 00 51.8	-0.3
VILL	Villia	1.02	102	*e*Pn	P	Pg	23 00 52.2	+0.1
KFL	Anninata	1.03	255	P	P	Pg	23 00 51.3	-0.9
KFL				S	S	Sn	23 01 08.4	+0.9
KFL	Anninata	1.03	255	P	P	Pg	23 00 51.3	-0.9
VLX	Vlachokerasia	1.05	165	P	P	Pg	23 00 51.1	-1.5
VLX	Vlachokerasia	1.05	165	P	P	Pg	23 00 51.1	-1.5
DSL	Palaion Diasel	1.05	315	P	P	Pg	23 00 51.8	-0.9
DSL	Palaion Diasel	1.05	315	P	P	Pg	23 00 51.8	-0.9
LKD2	Lefkada island	1.16	291	P	P	Pg	23 00 53.8	-1.0
LKD2	Lefkada island	1.16	291	P	P	Pg	23 00 53.8	-1.0
ZKS	Zakynthos	1.21	236	P	P	Pg	23 00 54.4	-1.3
ZKS	Zakynthos	1.21	236	P	P	Pg	23 00 54.4	-1.3
FYTO	Fytoko, Volos	1.24	34	P	P	Pg	23 00 55.6	-0.7
FYTO	Fytoko, Volos	1.24	34	P	P	Pg	23 00 55.6	-0.7
MRKA	Markates	1.25	75	P	P	Pg	23 00 55.6	-0.9
MRKA				S	S	Sn	23 01 14.2	+1.1
MRKA	Markates	1.25	75	P	P	Pg	23 00 55.6	-0.9
MRKA				S	S	Sn	23 01 14.2	+1.1
DID	Didima	1.29	133	P	P	Pn	23 00 56.6	0.0
DID	Didima	1.29	133	P	P	Pn	23 00 56.6	0.0
XOR	Xorichti	1.33	42	P	P	Pn	23 00 56.6	-0.6
XOR	Xorichti	1.33	42	P	P	Pn	23 00 56.6	-0.6
KRND	KRANIDI	1.33	139	P	P	Pn	23 00 57.5	+0.3
KRND	KRANIDI	1.33	139	P	P	Pn	23 00 57.5	+0.3
SFD	Strofades	1.40	216	P	P	Pg	23 00 59.0	-0.3
SFD	Strofades	1.40	216	P	P	Pg	23 00 59.0	-0.3
ATHU	Athens Univers	1.43	106	P	P	Pn	23 00 58.8	+0.2
ATHU	Athens Univers	1.43	106	P	P	Pn	23 00 58.8	+0.2
PYL	PYLOS	1.51	189	P	P	Pn	23 00 59.4	-0.2
PYL	PYLOS	1.51	189	P	P	Pn	23 00 59.4	-0.2
AOS	Alonnisos	1.63	61	P	P	Pn	23 01 00.8	-0.6
AOS	Alonnisos	1.63	61	P	P	Pn	23 01 00.8	-0.6
LIT	Litokhoron	1.75	11	P	P	Pn	23 01 02.7	-0.3
LIT	Litokhoron	1.75	11	P	P	Pn	23 01 02.7	-0.3
IGT	Igoumenitsa	1.76	311	P	P	Pb	23 01 05.3	+0.4
IGT	Igoumenitsa	1.76	311	P	P	Pb	23 01 05.3	+0.4
SGD	Sagiada	1.87	312	P	P	Pb	23 01 07.3	+0.5
SGD	Sagiada	1.87	312	P	P	Pb	23 01 07.3	+0.5
PAIG	Paliouri	2.00	39	P	P	Pn	23 01 05.4	-0.9
PAIG	Paliouri	2.00	39	P	P	Pn	23 01 05.4	-0.9
NEST	Nestorio	2.17	339	P	P	Pb	23 01 11.2	-0.7
NEST	Nestorio	2.17	339	P	P	Pb	23 01 11.2	-0.7
SRN	Sarande	2.18	314	P	P	Pb	23 01 11.4	-0.7
SRN	Sarande	2.18	314	P	P	Pb	23 01 11.4	-0.7
FNA	Florina	2.45	348	P	P	Pn	23 01 13.9	+1.2
FNA	Florina	2.45	348	P	P	Pn	23 01 13.9	+1.2
SOH	Sokhos	2.63	22	P	P	Pn	23 01 15.5	+0.3
SOH	Sokhos	2.63	22	P	P	Pn	23 01 15.5	+0.3
KNT	Kendrikon	2.85	13	P	P	Pn	23 01 18.4	+0.3
KNT	Kendrikon	2.85	13	P	P	Pn	23 01 18.4	+0.3
VAY	Valandovo	2.96	8	*e*Pn	P	Pn	23 01 19.5	-0.1
VAY				*e*Sn	S	Sn	23 01 19.5	+0.1
VAY	Valandovo	2.96	8	*e*Pn	P	Pn	23 01 19.5	-0.1
VAY				*e*Sn	S	Sn	23 01 55.3	+0.1
SRS	Serrai	2.98	23	P	P	Pn	23 01 19.5	-0.4
SRS	Serrai	2.98	23	P	P	Pn	23 01 19.5	-0.4
APE	Apeiranthos	3.06	114	⇓*i*P	P	Pn	23 01 21.2	+0.2
APE	Apeiranthos	3.06	114	⇓*i*P	P	Pn	23 01 21.2	+0.2
MMB	Musomiste	3.45	21	⇑*i*P	P	Pn	23 01 26.6	+0.2
MMB	Musomiste	3.45	21	P	P	Pn	23 01 26.6	+0.2
MMB	Musomiste	3.45	21	P	P	Pn	23 01 26.6	+0.2
PHP	Peshkopia	3.52	340	P	P	Pn	23 01 29.4	+2.1
PHP	Peshkopia	3.52	340	P	P	Pn	23 01 29.4	+2.1
KKB	Krupnik	3.57	13	P	P	Pn	23 01 29.1	+1.1
KKB	Krupnik	3.57	13	P	P	Pn	23 01 29.1	+1.1
IDI	Anoyia	3.84	143	Pn	Pn	Pn	23 01 32.7	+0.9
	baz=305,slow=16,SNR=0.8								
IDI				Sn		Sn	23 02 15.9	-1.2	
	2.2nm,0.3s,baz=280,slow=18,SNR=4.0								
RZN	Rozhen	3.88	31	P	P	Pn	23 01 33.9	+1.4	
RZN	Rozhen	3.88	31	P	P	Pn	23 01 33.9	+1.4	
KDZ	Kurdzhali	4.16	37	⇓*i*P	P	Pn	23 01 34.9	-1.2	
KDZ	Kurdzhali	4.16	37	⇓*i*P	P	Pn	23 01 34.9	-1.2	
TIP	Timpagrande	4.21	282	P	P	Pn	23 01 38.2	+1.4	
TIP	Timpagrande	4.21	282	P	P	Pn	23 01 38.2	+1.4	
VTS	Vitosha	4.29	12	⇓*i*P	P	Pn	23 01 39.3	+1.2	
VTS	Vitosha	4.29	12	S	S	Sn	23 02 29.7	+1.4	
VTS	Vitosha	4.29	12	P	P	Pn	23 01 38.7	+0.6	
VTS	Vitosha	4.29	12	P	P	Pn	23 01 38.7	+0.6	
BARS	Barje	4.43	358	⇑*i*Pn	P	Pn	23 01 40.8	+1.0	
BARS	Barje	4.43	358	⇑*i*Pn	P	Pn	23 01 40.8	+1.0	
SELS	Selova	4.88	352	*e*Pn	P	Pn	23 01 46.6	+0.6	
ZAPS	Zavoj	4.90	5	*e*Pn	P	Pn	23 01 48.3	+1.9	
ZAPS				*e*Sn	S	Sn	23 02 45.4	+2.2	
SJES	Sjenica	5.12	343	*e*Pn	P	Pn	23 01 52.4	+3.0	
SJES				*e*Sn	S	Sn	23 02 51.6	+3.0	
IVAS	Ivanjica	5.38	345	*i* Pn	P	Pn	23 01 55.4	+2.5	
IVAS	Ivanjica	5.38	345	*i* Pn	P	Pn	23 01 55.4	+2.5	
STON	Ston	5.57	325	*e*Pn	P	Pn	23 01 55.7	+0.2	
STON				Sn	S	Sn	23 02 59.2	-0.3	
STON	Ston	5.57	325	*e*Pn	P	Pn	23 01 55.6	+0.2	
STON				Sn	S	Sn	23 02 59.1	-0.3	
GRUS	Gruza	5.59	350	*e*Pn	P	Pn	23 01 56.8	+1.1	
GRUS	Gruza	5.59	350	*e*Pn	P	Pn	23 01 56.8	+1.1	
BBLS	Lazi?i	5.83	341	*e*Sn	S	Sn	23 03 08.2	+2.2	
BBLS	Lazi?i	5.83	341	*e*Sn	S	Sn	23 03 08.2	+2.2	
DIVS	Divibare	5.91	345	*i* Pn	P	Pn	23 02 02.5	+2.2	
DIVS				*e*Sn	S	Sn	23 03 08.4	+0.3	
DIVS	Divibare	5.91	345	⇓*i*P	P	Pn	23 02 02.1	+1.8	
DIVS	Divibare	5.91	345	S	S	Sn	23 03 08.0	-0.1	
DIVS	Divibare	5.91	345	⇓*i*P	P	Pn	23 02 02.1	+1.8	
DIVS	Divibare	5.91	345	*i* Pn	P	Pn	23 02 02.5	+2.2	
DIVS				*e*Sn	S	Sn	23 03 08.4	+0.3	
FGSL	Fruska Gora	6.97	347	⇑*i*Pn	P	Pn	23 02 16.4	+1.7	
FGSL				*e*Sn	S	Sn	23 03 34.5	+0.5	
FRGS	Fruska Gora	6.97	347	⇑*i*Pn	P	Pn	23 02 16.4	+1.7	
FRGS				*e*Sn	S	Sn	23 03 34.5	+0.5	
LOT	Lotru	7.17	10	⇓*i*P	P	Pn	23 02 17.7	+0.1	
LOT	Lotru	7.17	10	⇓*i*P	P	Pn	23 02 17.7	+0.1	
VOIR		7.39	17	⇓*i*P	P	Pn	23 02 21.5	+0.9	
VOIR		7.39	17	⇓*i*P	P	Pn	23 02 21.5	+0.9	
MLR	Muntele Rosu	7.67	21	Pn	P	Pn	23 02 23.6	-0.8	
	0.0nm,0.3s,baz=126,slow=8.7,SNR=2.1								
MLR	Muntele Rosu	7.67	21	⇑*i*P	P	Pn	23 02 27.5	+3.1	
UDBI	Udbina	7.74	324	*e*Pn	P	Pn	23 02 26.8	+1.4	
UDBI				Sn	S	Sn	23 03 53.8	+0.7	
UDBI	Udbina	7.74	324	*e*Pn	P	Pn	23 02 26.7	+1.4	
UDBI				Sn	S	Sn	23 03 53.7	+0.7	
NVLJ	Novalja	8.19	321	*e*Pn	P	Pn	23 02 32.2	+0.8	
NVLJ				Sn	S	Sn	23 04 02.8	-1.2	
NVLJ	Novalja	8.19	321	*e*Pn	P	Pn	23 02 32.1	+0.8	
NVLJ				Sn	S	Sn	23 04 02.7	-1.2	
PLOR	Plostina	8.21	23	⇑*i*P	P	Pn	23 02 34.1	+2.4	
PLOR	Plostina	8.21	23	⇑*i*P	P	Pn	23 02 34.1	+2.4	
PKSM	Moragy	8.22	343	⇓*i*P	P	Pn	23 02 32.1	+0.3	
PKSM	Moragy	8.22	343	⇓*i*P	P	Pn	23 02 32.1	+0.3	
VRI	Vrincioaia	8.24	23	⇓*i*P	P	Pn	23 02 34.8	+2.6	
VRI	Vrincioaia	8.24	23	⇓*i*P	P	Pn	23 02 34.8	+2.6	
BRTR	Keskin Array B	9.12	78	Pn	P	P

TUMR	**Tumrok**	**0.16**	**324**	*e*P		Pg	23 07 41.1	+1.2
TUMR				*e*S		Sg	23 07 43.0	+0.9
KMNR	**Kamenistaya**	**0.60**	**356**	*e*P		Pb	23 07 49.4	-0.4
KMNR				*e*S		Sg	23 07 57.5	+1.2
BZMR	**Bezymyannaya**	**0.79**	**7**	*e*P		Pb	23 07 53.0	0.0
BZMR				*e*S		Sb	23 08 03.5	-0.7
KIRR	**Kirishev**	**0.80**	**1**	*e*P		Pb	23 07 52.8	-0.4
KIRR				*e*S		Sb	23 08 04.4	-0.2
BZGR	**Bezymyannyi-Gr**	**0.82**	**15**	*e*P		Pg	23 07 52.1	-0.3
BZWR	**Bezymyannyi-We**	**0.82**	**7**	*e*P		Pb	23 07 53.7	+0.1
KOZ	**Kozyrevsk**	**0.94**	**345**	*e*P		Pb	23 07 55.8	+0.4
KOZ				*e*S		Sb	23 08 07.9	-0.4
MKZ	**Mys Kozlova**	**1.02**	**126**	*e*P		Pg	23 07 55.7	-0.3
MKZ				*e*S		Sg	23 08 08.9	-0.3
KLY	**Klyuchi**	**1.18**	**9**	*e*S		Sn	23 08 17.5	+1.3
ESO	**Esso**	**1.20**	**311**	*e*P		Pg	23 07 59.5	0.0
ESO				*e*S		Sg	23 08 13.6	-1.5
SRDR	**Sredinnyy**	**1.21**	**344**	*e*P		Pg	23 07 58.9	-1.0
BDR	**Baidarnaya**	**1.50**	**19**	*e*P		Pg	23 08 05.6	+0.1
BDR				*e*S		Sb	23 08 24.8	+0.1
SMKR	**Semkarok**	**1.57**	**24**	*e*P		Pb	23 08 06.5	+0.2
SRKR	**Sorokina**	**1.58**	**17**	*e*P		Pg	23 08 06.7	-0.2
KBTR	**Krutoberegovo**	**1.77**	**52**	*e*P		Pn	23 08 08.4	+0.5
GNL	**Ganaly**	**2.01**	**224**	*e*P		Pn	23 08 12.5	+1.1
GNL				*e*S		Sn	23 08 37.0	-0.1
KRX	**Arik**	**2.05**	**209**	*e*P		Pb	23 08 13.8	-0.6
SDLR	**Sedlovina**	**2.06**	**205**	*e*P		Pb	23 08 13.8	-0.8
NLC	**Nalytchevo**	**2.07**	**196**	*e*P		Pb	23 08 14.4	-0.1
NLC				*e*S		Sg	23 08 41.9	-1.0
KRER	**Koryakskii**	**2.07**	**207**	*e*P		Pb	23 08 14.8	-0.1
SPN	**Mys Shipunski**	**2.07**	**185**	*e*P		Pn	23 08 12.3	+0.3
SPN				*e*S		Sn	23 08 39.2	+1.0
SMAR	**Somma**	**2.09**	**206**	*e*P		Pb	23 08 14.5	-0.8
AVH	**Avacha**	**2.11**	**207**	*e*P		Pb	23 08 14.8	-0.6
KOK	**Koryaka**	**2.11**	**208**	*e*P		Pb	23 08 14.7	-0.7
UGLR	**Uglovaya**	**2.14**	**205**	*e*P		Pb	23 08 15.7	-0.2
PET	**Petropavlovsk**	**2.35**	**205**	*e*P		Pn	23 08 15.9	+0.1
RUS	**Russkaya**	**2.93**	**202**	*e*P		Pn	23 08 25.4	+1.6

IDC ***16*** *23:16:21.9±2.4, 32.°88N×142.°28E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/36, mbtmp3.8/9, ML4.2/1, MS2.3/1, Ms1 2.3/1, ms1mx2.0/35, Error ellipse: s-maj=97.2km s-min=17.8km az=72.0*

ISCJB ***16*** *23:16:23.8±0.8, 32.°97N±0.°06×142.°51E±0.°09, h33km, mb3.7/8, Error ellipse: s-maj=12.8km s-min=6.2km az=145.5*

JMA ***16*** *23:16:23.8±0.5, 32.°96N×142.°46E, h105km, M3.2*

ISC 16 23:16:25.4±1.0, 32.°90N±0.°06×142.°38E±0.°10, h33km, n19, σ1§81/27, mb3.7/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**2.17**	**276**	P		**Pn**	**23 17 00.0**	**+0.8**
JHJ2				S		**Sb**	**23 17 27.2**	**-3.2**
BSO3	**Boso 3**	**2.46**	**321**	P		**Pn**	**23 17 02.8**	**-0.1**
BSO3				*e*S		**Sb**	**23 17 34.7**	**-3.8**
BSO4	**Boso 4**	**2.69**	**321**	P		**Pn**	**23 17 06.5**	**+0.2**
BSO4				*e*S		**Sn**	**23 17 39.6**	**+1.9**
JOD2	**Odawara 2**	**3.61**	**312**	*e*S		**Sn**	**23 18 00.4**	**-0.2**
JYN	**Shimob**	**4.10**	**310**	P		**Pn**	**23 17 26.6**	**+0.7**
JYN				*e*S		**Sn**	**23 18 13.4**	**+0.6**
JRY	**Ryogami san**	**4.24**	**318**	P		**Pn**	**23 17 27.8**	**+0.1**
JRY				S		**Sn**	**23 18 16.2**	**+0.2**
JAG	**Ashikaga**	**4.27**	**326**	P		**Pn**	**23 17 27.8**	**-0.3**
JAG				S		**Sn**	**23 18 16.8**	**+0.1**
JFT	**Otama**	**4.90**	**341**	P		**Pn**	**23 17 34.9**	**-1.9**
JFT				S		**Sn**	**23 18 28.2**	**-4.2**
MJAR	**Matsushiro Arr**	**5.00**	**318**	LR		LR	23 19 54.4	
	comp=Z,33nm,18.9s,baz=185,slow=43							
MAT	**Matsushiro**	**5.00**	**318**	P		**Pn**	**23 17 37.9**	**-0.3**
MAT				S		**Sn**	**23 18 35.5**	**+0.6**
JCJ	**Chichijima**	**5.79**	**182**	Pn		**Pn**	**23 17 47.7**	**-1.3**
	6.3nm,0.3s,baz=278,slow=19,SNR=6.3							
JCJ				Sn		**Sn**	**23 18 51.1**	**-3.1**
	4.4nm,0.3s,baz=287,slow=20,SNR=3.7							
SONM	**Songino Array**	**30.90**	**310**	P		**P**	**23 22 39.4**	**+0.4**
	0.7nm,0.7s,baz=116,slow=9.0,SNR=3.4							
ZALV	**Zalesovo Beam**	**45.35**	**315**	P		**P**	**23 24 41.8**	**+1.6**
	0.3nm,0.3s,baz=106,slow=7.9,SNR=2.2							
MKAR	**Makanchi Array**	**47.08**	**306**	P		**P**	**23 24 54.6**	**+0.5**
	0.8nm,0.7s,baz=88,slow=8.5,SNR=9.7							
KURBB	**Kurchatov Arra**	**49.24**	**311**	P		**P**	**23 25 11.2**	**+0.6**
	1.4nm,0.7s,baz=86,slow=7.5,SNR=13							
WRA	**Warramunga Arr**	**53.10**	**189**	P		**P**	**23 25 40.0**	**+0.1**
	0.5nm,0.5s,baz=5.6,slow=7.7,SNR=9.7							
BVAR	**Borovoye Array**	**53.99**	**315**	P		**P**	**23 25 47.9**	**+1.8**
	0.2nm,0.3s,baz=86,slow=5.9,SNR=2.9							
ASAR	**Alice Springs**	**56.83**	**189**	P		**P**	**23 26 09.4**	**+2.7**
	0.3nm,0.6s,baz=14,slow=13,SNR=3.7							
FINES	**FINESS Array B**	**72.85**	**333**	P		**P**	**23 27 51.7**	**+1.1**
	1.2nm,0.8s,baz=75,slow=16,SNR=3.2							

IDC 16 23:55:27.6±3.6, 5.°86S×150.°11E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/23, mbtmp3.3/2, Error ellipse: s-maj=137.9km s-min=48.0km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.76**	**226**	P		P	00 00 09.7	-0.6
	0.5nm,0.4s,baz=52,slow=11,SNR=10							
ASAR	**Alice Springs**	**23.60**	**220**	P		P	00 00 40.9	+0.4
	0.4nm,0.6s,baz=53,slow=9.1,SNR=4.2							
TORD	**Torodi Ar. Bea**	**148.04**	**285**	PKPbc		PKPbc	00 15 15.7	-0.7
	0.2nm,0.8s,baz=101,slow=2.9,SNR=2.2							

IDC ***17*** *00:09:03.8±0.6, 2.°20S×136.°57E, h0km, mb4.4/12, mb1 4.6/14, mb1mx4.4/29, mbtmp4.4/14, ML4.2/2, MS4.0/14, Ms1 4.0/14, ms1mx3.7/25, Error ellipse: s-maj=20.3km s-min=11.0km az=81.0*

BJI ***17*** *00:09:04.7, 2.°59S×136.°91E, h37km, mb4.8/40, mB5.0/32, Ms4.5/32, Ms7 4.2/32*

DJA ***17*** *00:09:06.6±0.2, 2.°5±4.°×13.°7E±.°, h10km, M4.8/7, mb4.5/7, mB5.2/2, MLv4.9/7, Mw(mB)4.6/2*

ISCJB ***17*** *00:09:07.7±0.2, 2.°28S±0.°03×136.°57E±0.°03, h35km, mb4.8/39, MS4.0/12, Error ellipse: s-maj=4.8km s-min=3.7km az=24.7*

NEIC ***17*** *00:09:07.5±3.0, 2.°17S×136.°61E, h21km±21km, mb4.9/26, Error ellipse: s-maj=11.2km s-min=5.9km az=59.0*

ISC 17 00:09:09.9±0.3, 2.°27S±0.°04×136.°62E±0.°04, h35km, n133, σ1§65/169, mb4.8/40, MS4.0/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.56**	**316**	P		Pn	00 09 13.1	-8.3
SRPI				S		Sn	00 09 20.5	-8.9
SMPI	**Sarmi**	**2.10**	**82**	P		**Pn**	**00 09 42.2**	**-0.5**
SMPI				S		**Sn**	**00 10 08.8**	**+1.2**
RKPI	**Ransiki, Papua**	**2.56**	**287**	P		**Pn**	**00 09 47.2**	**-1.8**
RKPI				S		**Sn**	**00 10 22.4**	**+3.5**
GENI	**Genyem**	**3.56**	**95**	P		**Pn**	**00 10 02.9**	**+0.3**
GENI				S		**Sn**	**00 10 44.8**	**+1.3**
JAY	**Jayapura**	**4.08**	**93**	P		**Pn**	**00 10 10.7**	**+0.7**
FAKI	**Fak Fak**	**4.42**	**262**	P		**Pn**	**00 10 12.2**	**-2.3**
FAKI				S		**Sn**	**00 11 02.8**	**-2.0**
FAKI	**Fak Fak**	**4.42**	**262**	*e*Pn		**Pn**	**00 10 14.2**	**-0.3**
FAKI				*e*Sn		**Sn**	**00 11 05.8**	**+1.0**
SIJI	**Sorong**	**5.53**	**285**	Pn		**Pn**	**00 10 28.1**	**-1.8**
	4.4nm,0.3s,baz=198,slow=22,SNR=9.3							
SIJI				Lg		Lg	00 11 58.3	
	1.6nm,0.3s,baz=40,slow=17,SNR=7.6							
SIJI				LR		LR	00 12 41.7	
	comp=Z,6μm,20.0s,baz=108,slow=40							
NLAI	**Namlea**	**9.56**	**264**	P		Pn	00 11 36.1	+11
TNTI	**Ternate**	**9.74**	**288**	*e*Pn		**Pn**	**00 11 27.1**	**-0.5**
COEN	**Coen**	**13.29**	**151**	*e*Pn		**Pn**	**00 12 15.5**	**-0.8**
LUWI	**Luwuk**	**13.90**	**275**	*e*Pn		**Pn**	**00 12 24.0**	**-0.6**
MRSI	**Marisa**	**14.93**	**280**	P		**Pn**	**00 12 40.4**	**+1.8**
APSI	**Ampana**	**15.03**	**275**	P		**P**	**00 12 49.6**	**+4.7**
TTSI	**Tana Toraja**	**16.80**	**267**	P		**Pn**	**00 13 02.4**	**-0.3**
	35nm,1.9s,1μm							
PCI	**Palu**	**16.84**	**274**	P		**P**	**00 13 06.9**	**+2.0**
SPSI	**Sidrap Palu**	**16.91**	**264**	P		**P**	**00 13 06.3**	**+0.5**
MPSI	**Mapaga**	**16.92**	**279**	P		**Pn**	**00 13 04.2**	**0.0**
	42nm,2.3s,877nm							
WRAB	**Tennant Creek**	**17.69**	**187**	*e*Pn		**Pn**	**00 13 13.4**	**-0.3**
	29nm,0.9s							

WRA	**Warramunga Arr**	**17.70**	**187**	Pn		**Pn**	**00 13 10.5**	**-3.3**
	1.2nm,0.3s,baz=8.3,slow=12,SNR=57							
WRA				Sn		**Sn**	**00 16 26.5**	**-3.7**
	0.5nm,0.3s,baz=359,slow=23,SNR=6.1							
GUMO	**Guam**	**17.76**	**27**	LR		LR	00 20 22.6	
	comp=Z,126nm,19.3s,baz=177,slow=38							
FITZ	**Fitzroy Crossi**	**19.07**	**214**	*e*P		**P**	**00 13 29.5**	**0.0**
	33nm,1.5s							
CTA	**Charters Tower**	**20.05**	**153**	P		**P**	**00 13 40.6**	**+0.4**
	2.6nm,0.5s,baz=329,slow=21,SNR=2.1							
KBKI	**Kotabaru**	**20.46**	**267**	P		Pn	00 13 54.4	+7.4
AS01	**Alice Springs**	**21.42**	**187**	*e*P		**P**	**00 13 55.2**	**+0.1**
AS12	**Alice Springs**	**21.43**	**187**	*e*P		**P**	**00 13 54.5**	**-0.6**
AS12				*e*S		**S**	**00 17 53.4**	**+2.2**
ASAR	**Alice Springs**	**21.43**	**187**	P		**P**	**00 13 54.5**	**-0.6**
	28nm,0.7s,baz=13,slow=10,SNR=217							
ASAR				S		**S**	**00 17 53.4**	**+2.2**
	4.0nm,0.8s,baz=5.9,slow=29,SNR=5.2							
ASAR				LR		LR	00 23 24.0	
	comp=Z,1μm,18.4s,baz=8.5,slow=40							
MBWA	**Marble Bar**	**24.96**	**220**	*e*P		**P**	**00 14 32.9**	**+2.6**
	28nm,1.1s							
SMRI	**Semarang**	**26.52**	**259**	P		P	00 14 51.5	+7.0
SMRI	**Semarang**	**26.52**	**259**	*e*P		P	00 14 50.1	+5.5
	779nm,2.3s							
EIDS	**Eidsvold**	**26.86**	**150**	*e*P		**P**	**00 14 50.1**	**+2.6**
	15nm,0.9s							
LEM	**Lembang**	**29.26**	**260**	LR		LR	00 29 22.0	
	comp=Z,391nm,21.0s,baz=47,slow=42							
FORT	**Forrest**	**29.49**	**195**	*e*P		**P**	**00 15 11.1**	**+0.3**
	122nm,1.6s							
STKA	**Stephens Creek**	**29.82**	**171**	P		**P**	**00 15 14.4**	**+0.7**
	9.0nm,0.7s,baz=359,slow=5.6,SNR=5.9							
STKA				LR		LR	00 29 38.5	
	comp=Z,577nm,19.2s,baz=351,slow=41							
STKA	**Stephens Creek**	**29.82**	**171**	*e*P		**P**	**00 15 14.4**	**+0.7**
	45nm,2.6s							
ARMA	**Armidale**	**31.40**	**155**	*e*P		**P**	**00 15 25.9**	**-1.9**
	210nm,2.8s							
QZH	**Quanzhou**	**32.22**	**328**	P		**P**	**00 15 36.6**	**+1.6**
QZH				S		**S**	**00 20 44.8**	**-1.2**
QZH				LZ				
	860nm,24.5s							
QIZ	**Qiongzhong**	**33.79**	**310**	P		**P**	**00 15 48.8**	**0.0**
QIZ				S		**S**	**00 21 10.3**	**-0.2**
QIZ				LE				
	140nm,22.9s							
QIZ				LZ				
	480nm,25.1s							
DZM	**Mont Dzumac**	**35.03**	**127**	*e*LR		LR	00 25 33.8	
	1μm,24.5s							
MDT	**Khong Chiam**	**35.42**	**301**	P		**P**	**00 16 04.5**	**+1.5**
	33nm,1.5s,1μm							
BKNI	**Bangkinang**	**35.67**	**274**	*e*P		**P**	**00 16 05.4**	**+0.2**
	46nm,0.4s							
SKNT	**Sakolnakorn**	**37.46**	**302**	P		**P**	**00 16 19.2**	**-1.2**
	52nm,0.8s							
NJ2	**Nanjing**	**38.07**	**335**	*e*P		**P**	**00 16 24.1**	**-1.2**
NJ2				pP		**pP**	**00 16 33.1**	**-2.5**
NJ2				sP		**sP**	**00 16 37.1**	**-2.7**
NJ2				S		**S**	**00 22 15.0**	**-0.8**
NJ2				PMZ				
	30nm,0.8s							
NJ2				PMZ				
	280nm,6.8s							
NJ2				LN				
	3μm,23.1s							
NJ2				LE				
	3μm,22.4s							
NJ2				LZ				
	3μm,23.6s							
NONG	**Nongkai**	**38.67**	**303**	P		**P**	**00 16 29.5**	**-1.1**
	48nm,1.4s							
KSRS	**Korea Array**	**40.34**	**349**	LR		LR	00 33 29.9	
	comp=Z,100nm,20.1s,baz=166,slow=36							
UTTA	**Uttaradit**	**40.73**	**301**	P		**P**	**00 16 47.6**	**-0.1**
	5.0nm,0.9s							
NANT	**Nan**	**41.07**	**302**	P		**P**	**00 16 50.7**	**+0.2**
	4.3nm,1.0s							
CM01	**Chiang Mai Arr**	**42.39**	**301**	*e*P		**P**	**00 16 59.7**	**-1.6**
CM31	**Chiang Mai Arr**	**42.42**	**301**	*e*P		**P**	**00 17 00.2**	**-1.4**
CMAR	**Chiang Mai Arr**	**42.42**	**301**	P		**P**	**00 17 00.2**	**-1.4**
	10nm,0.8s,baz=127,slow=6.9,SNR=15							
CMAR				LR		LR	00 35 30.1	
	comp=Z,110nm,19.7s,baz=153,slow=38							
CMMT	**Chiang Mai**	**42.57**	**301**	P		**P**	**00 17 02.6**	**-0.2**
	21nm,0.9s							
CHTO	**Chiang Mai**	**42.57**	**301**	P		**P**	**00 17 03.1**	**+0.3**
	93nm,1.0s							
CHTO	**Chiang Mai**	**42.57**	**301**	*e*P		**P**	**00 17 01.6**	**-1.2**
	14nm,0.8s							
KMI	**Kunming**	**42.67**	**312**	P		**P**	**00 17 04.4**	**+0.6**
KMI				sP		**sP**	**00 17 19.0**	**+0.7**
KMI				S		**S**	**00 23 29.9**	**+4.8**
KMI				PMZ				
	14nm,0.9s							
KMI				PMZ				
	89nm,4.8s							
KMI				LN				
	110nm,25.4s							
KMI				LE				
	210nm,24.6s							
KMI				LZ				
	360nm,26.0s							
XAN	**Xi'an**	**44.55**	**327**	P		**P**	**00 17 16.9**	**-1.7**
XAN				pP		**pP**	**00 17 27.5**	**-1.4**
XAN				sP		**sP**	**00 17 32.8**	**-0.3**
XAN				PP		**PP**	**00 19 02.4**	**-0.6**
XAN				PcS		**PcS**	**00 22 51.9**	**-3.0**
XAN				S		**S**	**00 23 49.0**	**-3.0**
XAN				ScS		**ScS**	**00 27 14.1**	**0.0**
XAN				PMZ				
	2.0nm,1.5s							
XAN				PMZ				
	23nm,5.8s							
XAN				LN				
	120nm,18.4s							
XAN				LZ				
	64nm,22.4s							
CD2	**Chengdu**	**45.48**	**319**	P		**P**	**00 17 25.5**	**-0.5**
CD2				pP		**pP**	**00 17 36.3**	**-0.1**
CD2				PcP		**PcP**	**00 19 03.9**	**-0.8**
CD2				PP		**PP**	**00 19 12.4**	**-0.5**
CD2				PcS		**PcS**	**00 22 58.0**	**-0.8**
CD2				S		**S**	**00 24 05.3**	**-0.3**
CD2				PMZ				
	10.0nm,0.5s							
CD2				PMZ				
	120nm,5.2s							
CD2				LN				
	330nm,16.6s							
CD2				LE				
	240nm,19.6s							
CD2				LZ				
	300nm,15.7s							
BJI	**Beijing**	**46.09**	**338**	P		**P**	**00 17 30.9**	**+0.3**
BJI				pP		**pP**	**00 17 39.8**	**-1.2**
BJI				S		**S**	**00 24 14.4**	**+0.4**
BJI				PMZ				
	8.0nm,0.8s							
BJI				PMZ				
	86nm,3.4s							
BJI				LN				
	170nm,18.6s							
BJI				LE				
	120nm,15.9s							
BJI				LZ				
	140nm,33.2s							
USRK	**Ussuriysk Ar.**	**46.45**	**355**	P		**P**	**00 17 30.5**	**-2.9**
	0.8nm,0.4s,baz=158,slow=11,SNR=5.8							
USRK				LR		LR	00 34 03.8	
	comp=Z,122nm,19.4s,baz=153,slow=32							
CN2	**Changchun**	**46.95**	**349**	*e*P		**P**	**00 17 38.8**	**+1.5**
CN2				*e*sP		**sP**	**00 17 52.6**	**+0.7**
CN2				*e*S		**S**	**00 24 25.3**	**-0.9**
MDJ	**Mudanjiang**	**47.10**	**353**	P		**P**	**00 17 39.4**	**+0.9**
MDJ				PMZ				
	4.0nm,0.4s							
MDJ				PMZ				
	38nm,4.7s							
HHC	**Hu-ho-hao-te**	**48.62**	**335**	*e*P		**P**	**00 17 48.8**	**-1.7**
HHC				PP		**PP**	**00 19 45.0**	**+1.3**
HHC				S		**S**	**00 24 50.8**	**+0.5**
HHC				sS		**sS**	**00 25 07.3**	**-0.2**
HHC				ScS		**ScS**	**00 27 39.3**	**-1.3**
HHC				SS		**SS**	**00 28 16.3**	**-4.7**

HHC				PMZ				
	17nm,1.1s							
HHC				PMZ				
	150nm,6.3s							
HHC				LN				
	760nm,14.8s							
HHC				LE				
	820nm,14.7s							
HHC				LZ				
	870nm,15.2s							
LZH	**Lanzhou**	**48.90**	**324**	*e*P		P	00 17 56.3	+3.5
LZH				pP		pP	00 18 06.3	+3.1
LZH				sP		sP	00 18 09.3	+1.9
LZH				PP		**PP**	**00 19 44.1**	**-2.3**
LZH				S		**S**	**00 24 59.3**	**+4.8**
LZH				PMZ				
	23nm,1.0s							
LZH				PMZ				
	87nm,4.8s							
LZH				LN				
	290nm,13.7s							
LZH				LE				
	300nm,13.5s							
LZH				LZ				
	410nm,15.0s							
BKZ	**Black Stump Fm**	**51.61**	**141**	*e*P		**P**	**00 18 14.0**	**+0.8**
	44nm,1.7s							
GTA	**Gaotai**	**53.50**	**325**	*e*P		**P**	**00 18 27.5**	**+0.3**
GTA				pP		**pP**	**00 18 37.8**	**+0.1**
GTA				sP		**sP**	**00 18 41.8**	**-0.1**
GTA				S		**S**	**00 25 58.9**	**+1.1**
GTA				sS		**sS**	**00 26 15.3**	**+0.1**
GTA				SS		**SS**	**00 29 39.1**	**+0.5**
GTA				PMZ				
	7.0nm,1.0s							
GTA				PMZ				
	130nm,4.0s							
GTA				LN				
	150nm,15.2s							
GTA				LE				
	140nm,17.6s							
GTA				LZ				
	170nm,17.1s							
LSA	**Lhasa**	**53.83**	**310**	*e*P		**P**	**00 18 27.6**	**-2.6**
	8.0nm,0.8s							
TAPN	**Taplejung**	**55.52**	**306**	*e*P		**P**	**00 18 41.0**	**-1.3**
	49nm,1.0s							
ODAN	**Odare**	**55.59**	**305**	*e*P		**P**	**00 18 41.9**	**-0.8**
	65nm,0.8s							
RAMN	**Ramite**	**56.27**	**305**	*e*P		**P**	**00 18 46.2**	**-1.4**
	58nm,0.8s							
SONA0	**Songino Array**	**56.46**	**336**	*e*P		**P**	**00 18 47.1**	**-1.3**
SONM	**Songino Array**	**56.46**	**336**	P		**P**	**00 18 47.1**	**-1.3**
	1.3nm,0.7s,baz=133,slow=6.6,SNR=7.0							
SONM				LR		LR	00 44 35.4	
	comp=Z,156nm,18.2s,baz=133,slow=38							
SONA1	**Songino Array**	**56.46**	**336**	*e*P		**P**	**00 18 48.2**	**-0.3**
GUN	**Gumba**	**57.23**	**305**	*e*P		**P**	**00 18 53.2**	**-1.4**
	46nm,0.8s							
PKI	**Pulchoki**	**57.49**	**305**	*e*P		**P**	**00 18 55.3**	**-1.1**
	27nm,1.0s							
KKN	**Kakani**	**57.68**	**305**	*e*P		**P**	**00 18 56.7**	**-0.8**
	43nm,0.9s							
DMN	**Daman**	**57.75**	**305**	*e*P		**P**	**00 18 57.5**	**-0.6**
	54nm,1.0s							
PEA0	**Petropavlovsk-**	**57.95**	**15**	*e*P		**P**	**00 18 56.7**	**-2.0**
PETK	**Petropavlovsk-**	**57.95**	**15**	P		**P**	**00 18 58.6**	**-0.1**
	6.5nm,0.8s,baz=180,slow=5.9,SNR=7.7							
PEA2	**Petropavlovsk-**	**57.95**	**15**	*e*P		**P**	**00 18 58.6**	**-0.1**
GKN	**Gorkha**	**58.28**	**305**	*e*P		**P**	**00 19 01.0**	**-0.7**
	89nm,1.1s							
KOLN	**Koldanda**	**59.05**	**304**	*e*P		**P**	**00 19 06.2**	**-0.9**
	55nm,0.8s							
WMQ	**Urumqi**	**63.38**	**322**	P		**P**	**00 19 37.3**	**+1.3**
WMQ				pP		**pP**	**00 19 48.5**	**+1.7**
WMQ				sP		**sP**	**00 19 51.3**	**+0.4**
WMQ				PcP		**PcP**	**00 20 13.1**	**+0.3**
WMQ				PP		**PP**	**00 21 57.8**	**+2.0**
WMQ				PMZ				
	12nm,0.4s							
WMQ				PMZ				
	72nm,6.0s							
WMQ				LN				
	120nm,14.0s							
WMQ				LZ				
	78nm,29.0s							
MK01	**Makanchi Array**	**68.16**	**323**	*e*P		**P**	**00 20 05.5**	**-1.3**
MK32	**Makanchi Array**	**68.18**	**323**	*e*P		**P**	**00 20 05.3**	**-1.5**
MKAR	**Makanchi Array**	**68.18**	**323**	P		**P**	**00 20 05.3**	**-1.5**
	4.3nm,0.8s,baz=116,slow=6.8,SNR=17							
MKAR	**Makanchi Array**	**68.18**	**323**	*e*P		**P**	**00 20 06.0**	**-0.8**
KSH	**Kashi**	**69.28**	**314**	P		**P**	**00 20 16.0**	**+2.1**
KSH				pP		**pP**	**00 20 29.0**	**+4.2**
KSH				PP		**PP**	**00 22 52.3**	**+4.9**
KSH				S		**S**	**00 29 19.3**	**+1.1**
KSH				PMZ				
	8.0nm,1.1s							
KSH				LN				
	150nm,6.7s							
KSH				LE				
	83nm,5.5s							
ZAA0	**Zalesovo Array**	**70.52**	**330**	*e*P		**P**	**00 20 18.6**	**-2.5**
ZALV	**Zalesovo Beam**	**70.52**	**330**	P		**P**	**00 20 18.4**	**-2.7**
	1.9nm,0.7s,baz=116,slow=5.1,SNR=9.8							
ZAA1	**Zalesovo Array**	**70.53**	**330**	*e*P		**P**	**00 20 18.4**	**-2.7**
KURK	**Kurchatov**	**72.17**	**326**	*e*P		**P**	**00 20 29.9**	**-1.3**
	28nm,2.2s							
KBL	**Kabul**	**73.00**	**307**	*e*P		**P**	**00 20 34.3**	**-2.4**
	5.8nm,1.0s							
PPT	**Papeete**	**73.87**	**108**	LR		LR	00 51 20.0	
	comp=Z,30nm,21.1s,baz=224,slow=34							
PPT2	**Papeete2**	**73.87**	**108**	*e*LR		LR	00 43 28.1	
	160nm,25.0s							
TIXI	**Tiksi**	**73.97**	**357**	*e*P		**P**	**00 20 39.6**	**-1.7**
	5.3nm,1.1s							
KKAR	**Karatay Array**	**74.36**	**316**	*e*P		**P**	**00 20 47.4**	**+3.1**
**

TXAR	**Lajitas Array**	**116.85**	**58**	PKP	**PKPdf**	**00 27 51.9**	**+0.2**
	0.4nm,0.8s,baz=337,slow=4.1,SNR=2.8						
TOA0	**Torodi Ar. Sit**	**134.13**	**286**	*e*PKPdf	**PKPdf**	**00 28 25.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**134.13**	**286**	PKP	**PKPdf**	**00 28 25.2**	**+0.3**
	1.1nm,0.8s,baz=52,slow=1.4,SNR=5.9						
OTAV	**Otavalo**	**144.88**	**93**	*e*PKPbc	**PKPdf**	**00 28 45.6**	**+0.5**
CPUP	**Villa Florida**	**148.53**	**156**	*e*PKPbc	**PKPbc**	**00 28 55.1**	**+1.3**
ROSC	**El Rosal**	**149.00**	**84**	PKPbc	**PKPdf**	**00 28 53.7**	**+1.8**
	3.9nm,0.3s,baz=258,slow=20,SNR=4.3						
LPAZ	**La Paz**	**149.37**	**128**	PKPbc	**PKPbc**	**00 28 57.4**	**+0.3**
	3.4nm,1.0s,baz=252,slow=2.3,SNR=7.8						
LPAZ	**La Paz**	**149.37**	**128**	*e*PKPdf	**PKPdf**	**00 28 51.7**	**-0.9**
LPAZ				PKPbc	**PKPbc**	**00 28 57.4**	**+0.3**
SDV	**Santo Domingo**	**152.10**	**75**	*e*PKPbc	**PKPbc**	**00 29 03.1**	**0.0**
BDFB	**Brasilia**	**161.62**	**166**	PKP	**PKPdf**	**00 29 09.3**	**+0.9**
	3.5nm,0.9s,baz=115,slow=5.7,SNR=4.5						

*ISCJB **17** 00:14:10.7±0.8,54°.3N±0°.1×35°.2W±0°.1, h10km, mb3.5/7, MS3.0/9, Error ellipse: s-maj=21.2km s-min=10.9km az=12.2*
*IDC **17** 00:14:11.2±0.9,54°.28N×35°.17W, h0km, mb3.6/7, mb1 3.8/10, mb1mx3.6/45, mbtmp3.7/10, ML3.2/3, MS3.1/10, Ms1 3.1/10, ms1mx2.9/35, Error ellipse: s-maj=33.6km s-min=17.5km az=8.0*

ISC 17 00:14:12.5±0.9,54°.3N×0°.2×35°.2W±0°.1, h10km, n18, σ1§13/11, mb3.7/7, MS2.9/9, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFJD	**Kangerlussuaq**	**14.71**	**336**	Pn	**Pn**	**00 17 39.9**	**-0.5**
	0.4nm,0.3s,baz=140,slow=14,SNR=3.3						
SCHQ	**Schefferville**	**18.26**	**285**	P	**Pn**	**00 18 24.2**	**-1.6**
	0.2nm,0.3s,baz=63,slow=10.0,SNR=3.7						
EKA	**Eskdalemuir Ar**	**18.41**	**74**	P	**Pn**	**00 18 27.4**	**-0.1**
	baz=282,slow=9.3,SNR=5.4						
FRB	**Frobisher Bay**	**19.34**	**312**	LR	LR	00 24 30.0	
	comp=Z,71nm,18.8s,baz=176,slow=32						
JMIC	**Jan Mayen**	**20.41**	**25**	LR	LR	00 24 17.2	
	comp=Z,24nm,20.9s,baz=267,slow=30						
NOA	**NORSAR Array B**	**25.24**	**56**	P	**P**	**00 19 38.6**	**+0.3**
	0.4nm,0.8s,baz=78,slow=20,SNR=2.6						
NOA				LR	LR	00 27 24.6	
	comp=Z,27nm,21.8s,baz=140,slow=31						
ESDC	**Sonseca Array**	**25.59**	**112**	P	**P**	**00 19 41.4**	**-0.3**
	0.8nm,0.7s,baz=316,slow=8.9,SNR=6.4						
ESDC				LR	LR	00 27 42.5	
	comp=Z,36nm,20.7s,baz=0.0,slow=32						
HFS	**Hagfors**	**26.57**	**57**	LR	LR	00 28 57.5	
	comp=Z,40nm,18.0s,baz=290,slow=33						
DAVOX	**Davos/Dischmat**	**29.19**	**86**	LR	LR	00 31 15.2	
	comp=Z,67nm,18.5s,baz=269,slow=35						
SADO	**Sadowa**	**29.62**	**269**	LR	LR	00 31 08.1	
	comp=Z,82nm,19.2s,baz=28,slow=34						
GERES	**GERESS Array B**	**30.37**	**80**	LR	LR	00 31 43.8	
	comp=Z,28nm,18.5s,baz=30,slow=35						
FINES	**FINESS Array B**	**32.22**	**52**	LR	LR	00 31 43.2	
	comp=Z,22nm,20.1s,baz=272,slow=33						
BRTR	**Keskin Array B**	**47.24**	**78**	P	**P**	**00 22 47.0**	**+1.3**
	1.1nm,0.8s,baz=301,slow=4.3,SNR=8.4						
BRTR				LR	LR	00 45 45.5	
	comp=Z,14nm,18.2s,baz=142,slow=40						
PDAR	**Pinedale Array**	**48.34**	**288**	P	**P**	**00 22 54.5**	**+0.2**
	0.7nm,0.6s,baz=43,slow=9.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**50.25**	**120**	P	**P**	**00 23 07.4**	**-1.3**
	0.8nm,0.8s,baz=330,slow=8.3,SNR=6.2						
TXAR	**Lajitas Array**	**54.35**	**272**	P	**P**	**00 23 41.1**	**+1.8**
	0.3nm,0.7s,baz=61,slow=5.9,SNR=3.8						
MKAR	**Makanchi Array**	**66.23**	**42**	P	**P**	**00 24 59.8**	**-0.4**
	0.4nm,0.7s,baz=330,slow=6.1,SNR=4.9						
ASAR	**Alice Springs**	**148.31**	**19**	PKPbc	**PKPbc**	**00 33 58.9**	**+0.1**
	2.0nm,0.7s,baz=344,slow=2.1,SNR=20						

*ISCJB **17** 00:19:29.1±0.6,31°.27N±0°.04×115°.65W±0°.04, h8km±7km, Error ellipse: s-maj=7.6km s-min=5.5km az=31.6*
*MEX **17** 00:19:29.9±0.4,31°.28N×115°.34W, h14km±17km, MD3.4*
*ECX **17** 00:19:30.2±0.6,31°.24N×115°.66W, h5km, MD3.3, ML3.5*

ISC 17 00:19:28.8±1.0,31°.24N±0°.05×115°.65W±0°.04, h16km±9km, n12, σ0§29/22, 2C-4D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**0.25**	**141**	*i* P	**Pb**	**00 19 35.0**	**-0.1**
SPIG				*i* S	**Sg**	**00 19 38.7**	**+0.3**
SPIG	**San Pedro Mart**	**0.25**	**141**	⇓*e*P	**Pb**	**00 19 35.0**	**-0.1**
SPIG				*e*S	**Sg**	**00 19 38.8**	**+0.3**
SPX	**San Pedro Mart**	**0.25**	**141**	⇓*e*P	**Pb**	**00 19 35.0**	**-0.1**
SPX				IAML		00 19 39.4	
	comp=N,9μm,0.2s						
SPX				IAML		00 19 39.4	
	comp=E,4μm,0.3s						
ECBX	**El Chinero**	**0.56**	**65**	⇑*e*P	**Pg**	**00 19 39.8**	**-0.1**
ECBX				*e*S	**Sg**	**00 19 47.2**	**-0.3**
ZAX	**El Zacaton**	**0.60**	**297**	*e*P	**Pg**	**00 19 40.6**	**-0.2**
ZAX				*e*S	**Sg**	**00 19 48.7**	**-0.2**
ZAX				IAML		00 19 51.2	
	comp=N,2μm,0.3s						
ZAX				⇑*e*		00 19 51.2	
RDX	**Rancho Dawling**	**0.73**	**340**	⇓*e*P	**Pb**	**00 19 43.4**	**+0.1**
RDX				*e*S	**Sb**	**00 19 53.3**	**+0.1**
ECNX	**Esteban Cantu**	**0.91**	**297**	*e*P	**Pb**	**00 19 46.5**	**+0.1**
ECNX				*e*S	**Sb**	**00 19 58.0**	**-0.4**
PBX	**Punta Banda**	**1.05**	**299**	*e*P	**Pb**	**00 19 48.6**	**-0.1**
PBX				*e*S	**Sb**	**00 20 02.5**	**+0.4**
CBX	**Cerro Bola**	**1.38**	**321**	*e*P	**Pn**	**00 19 53.5**	**0.0**
CBX				*i* S	**Sn**	**00 20 11.4**	**-0.1**
CBX	**Cerro Bola**	**1.38**	**321**	*e*P	**Pn**	**00 19 53.7**	**+0.2**
CBX				*e*S	**Sb**	**00 20 12.3**	**+0.6**
CBX				IAML		00 20 15.3	
	comp=N,619nm,0.3s						
CBX				⇓*e*		00 20 15.3	
RMX	**La Rumorosa**	**1.41**	**345**	*e*P	**Pb**	**00 19 54.9**	**+0.1**
RMX				*e*S	**Sb**	**00 20 13.1**	**+0.5**
BAR	**Barrett**	**1.68**	**329**	*e*P	**Pb**	**00 19 59.0**	**-0.5**

IDC 17 00:28:54.1±1.7, 7°.70N×92°.01E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/27, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=46.2km s-min=31.7km az=49.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.22**	**269**	Pn	Pn	00 31 35.6	-0.5
	0.8nm,0.3s,baz=84,slow=17,SNR=4.3						
MKAR	**Makanchi Array**	**39.84**	**350**	P	P	00 36 29.9	+0.6
	0.1nm,0.4s,baz=164,slow=7.4,SNR=3.4						
SONM	**Songino Array**	**41.83**	**15**	P	P	00 36 45.0	-0.9
	0.5nm,0.8s,baz=187,slow=10,SNR=2.5						
WRA	**Warramunga Array**	**49.89**	**124**	P	P	00 37 49.9	0.0
	0.5nm,1.1s,baz=302,slow=8.9,SNR=5.5						

*SJA **17** 01:10:02.5±0.5,34°.24S×73°.85W, h237km±56km, ML3.9, MW3.3*
*GUC **17** 01:10:15.5±0.5,34°.29S×72°.34W, h23km±3km, ML3.4*

ISC 17 01:10:16.5±2.6,34°.31S±0°.05×72°.3W±0°.2, h23km±17km, n14, σ1§74/18, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U65B	**HualaæØ**	**0.78**	**147**	*e*P	**Pb**	**01 10 31.0**	**-0.4**
U65B				*e*S	**Sn**	**01 10 42.7**	**-0.4**
U65B				AML	AML	01 10 44.7	
	comp=E,3μm,0.8s						
U73B	**San Pedro**	**0.83**	**62**	⇓*e*P	**Pb**	**01 10 31.6**	**-0.6**
U73B				*e*S	**Sn**	**01 10 43.8**	**-0.5**
U73B				AML	AML	01 10 48.1	
	comp=N,2μm,0.2s						
U69B	**Peumo**	**0.94**	**94**	*e*P	**Pb**	**01 10 33.3**	**-0.7**
NICH	**Los Niches**	**1.13**	**128**	*e*P	**Pn**	**01 10 36.6**	**-0.2**
NICH				*e*S	**Sb**	**01 10 52.7**	**+1.2**
TALC	**Talca**	**1.22**	**153**	*e*P	**Pb**	**01 10 38.1**	**-0.8**
TALC				*e*S	**Sb**	**01 10 54.9**	**+0.6**
CLCH	**Cerro Calan**	**1.73**	**59**	*e*S	**Sb**	**01 11 09.6**	**+0.6**
CLCH				AML	AML	01 11 17.5	
	comp=N,653nm,0.8s						
PEL	**Peldehue**	**1.78**	**50**	*e*P	**Pb**	**01 10 46.8**	**-1.7**
PEL				*e*S	**Sb**	**01 11 10.1**	**-0.3**
PEL				AML	AML	01 11 23.0	
	comp=N,808nm,0.8s						
AAGR	**Agrelo**	**3.14**	**68**	*e*P	**Pb**	**01 11 10.6**	**-1.1**
ARCO	**CERRO ARCO**	**3.17**	**64**	*e*P	**Pb**	**01 11 10.6**	**-1.6**
ARCO				IAML		01 11 17.2	
	comp=Z,85nm,0.5s						
ASAL	**Salagasta**	**3.37**	**60**	*e*P	**Pb**	**01 11 12.5**	**-3.1**
ASAL				*e*S	Sb	01 12 04.0	+7.9
RTLS	**Leoncito**	**3.55**	**46**	*e*P	Pn	01 11 13.0	+2.5
RTLS				*e*S	**Sb**	**01 12 06.1**	**+4.5**
RTCV	**Cerro Valdivia**	**3.99**	**53**	*e*P	Pn	01 11 19.2	+2.9
RTLL	**Cerro Villicun**	**4.38**	**48**	*e*P	**Pn**	**01 11 23.0**	**+1.3**
AMOG	**MOGNA**	**4.65**	**45**	*e*P	**Pn**	**01 11 26.0**	**+0.6**

IDC 17 01:25:40.9±15.0, 3°.70S×138°.97E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/16, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=637.7km s-min=34.6km az=87.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.77**	**195**	Pn	Pn	01 29 38.2	+0.9
	0.1nm,0.3s,baz=7.7,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**20.45**	**193**	P	P	01 30 19.8	-0.5
	0.6nm,0.6s,baz=12,slow=11,SNR=5.6						
MKAR	**Makanchi Array**	**70.72**	**323**	P	P	01 36 59.0	+0.1
	0.1nm,0.4s,baz=109,slow=6.4,SNR=2.3						

*SJA **17** 01:34:17.4±0.5,35°.21S×72°.48W, h198km±28km, ML3.1, MW3.0*
*ISCJB **17** 01:34:27.6±1.0,34°.90S±0°.05×71°.8W±0°.1, h47km±14km, Error ellipse: s-maj=20.0km s-min=6.4km az=15.8*
*GUC **17** 01:34:27.3±0.5,34°.89S×71°.76W, h44km±1km, ML4.2*

ISC 17 01:34:27.4±1.7,34°.86S±0°.05×71°.9W±0°.1, h29km±14km, n18, σ1§05/28, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.53**	**105**	⇓*i*P	**Pb**	**01 34 38.0**	**-0.2**
NICH				*i* S	**Sb**	**01 34 45.7**	**+0.1**
NICH				AML	AML	01 34 46.1	
	comp=N,22μm,0.1s						
TALC	**Talca**	**0.56**	**162**	⇓*i*P	**Pb**	**01 34 39.0**	**+0.1**
TALC				*e*S	**Sb**	**01 34 47.1**	**+0.6**
TALC				AML	AML	01 34 48.2	
	comp=E,27μm,0.1s						
LNV	**Longovilo**	**0.97**	**22**	*e*P	**Pn**	**01 34 45.3**	**+0.1**
LNV				*i* S	**Sb**	**01 34 58.8**	**+0.6**
LNCH	**Linares**	**1.00**	**169**	⇑*i*P	**Pn**	**01 34 44.8**	**-0.7**
LNCH				*i* S	**Sb**	**01 34 58.4**	**-0.6**
TACH	**Talagante**	**1.42**	**32**	*i* P	**Pn**	**01 34 51.2**	**-0.2**
TACH				*i* S	**Sn**	**01 35 09.6**	**+0.4**
PCH	**Pirque**	**1.66**	**42**	*i* P	**Pn**	**01 34 54.6**	**-0.1**
PCH				*i* S	**Sn**	**01 35 15.4**	**+0.3**
SJCH	**San Jose de Ma**	**1.74**	**46**	⇓*i*P	**Pn**	**01 34 55.3**	**-0.5**
SJCH				*i* S	**Sn**	**01 35 17.1**	**+0.1**
CLCH	**Cerro Calan**	**1.82**	**37**	⇓*i*P	**Pn**	**01 34 56.9**	**-0.1**
CLCH				*i* S	**Sn**	**01 35 19.5**	**+0.3**
PEL	**Peldehue**	**1.97**	**30**	*e*P	**Pn**	**01 34 59.3**	**+0.4**
PEL				*i* S	**Sn**	**01 35 23.3**	**+0.6**
AAGR	**Agrelo**	**3.07**	**56**	*e*P	Pn	01 35 16.2	+2.0
ARCO	**CERRO ARCO**	**3.15**	**51**	*e*P	**Pn**	**01 35 17.3**	**+2.0**
ARCO				IAML		01 35 36.2	
	comp=Z,22nm,0.5s						
AUSP	**Uspallata**	**3.34**	**39**	*e*P	**Pn**	**01 35 19.7**	**+1.7**
AUSP				*e*S	**Sb**	**01 36 05.9**	**-0.5**
ASAL	**Salagasta**	**3.38**	**49**	*e*P	**Pn**	**01 35 19.4**	**+1.0**
RTLS	**Leoncito**	**3.73**	**36**	*e*P	**Pn**	**01 35 24.4**	**+1.1**
RTLS				*e*S	**Sb**	**01 36 13.9**	**-3.7**
RTCV	**Cerro Valdivia**	**4.08**	**44**	*e*P	**Pn**	**01 35 28.2**	**+0.3**
CFAA	**Coronel Fontan**	**4.44**	**44**	*e*P	**Pn**	**01 35 33.2**	**+0.3**
ACAN	**Cantantal**	**4.67**	**58**	*e*P	**Pn**	**01 35 36.2**	**+0.1**
AMOG	**MOGNA**	**4.82**	**37**	*e*P	**Pn**	**01 35 38.0**	**-0.2**

*IDC **17** 01:48:53.3±1.2,2°.27S×136°.62E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/25, mbtmp3.8/7, ML3.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/31, Error ellipse: s-maj=47.5km s-min=22.3km az=89.0*
*DJA **17** 01:48:54.4±0.6,2°.5S±12°×13°.7E±°, h10km, M4.5/6, MLv4.5/6*
*ISCJB **17** 01:48:56.8±0.6,2°.30S±0°.09×136°.65E±0°.04, h42km, mb3.7/6, Error ellipse: s-maj=13.2km s-min=5.7km az=10.8*

ISC 17 01:48:58.7±0.8,2°.3S±0°.1×136°.65E±0°.05, h42km, n13, σ1§13/14, mb3.8/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.61**	**318**	P	Pn	01 49 06.3	-4.6
SMPI	**Sarmi**	**2.09**	**81**	P	**Pn**	**01 49 29.5**	**-1.7**
SMPI				S	**Sn**	**01 49 57.7**	**+1.6**
RKPI	**Ransiki, Papua**	**2.59**	**288**	P	**Pn**	**01 49 37.5**	**-0.7**
RKPI				S	**Sn**	**01 50 07.8**	**-0.7**
GENI	**Genyem**	**3.53**	**94**	P	**Pn**	**01 49 50.5**	**-0.6**
GENI				S	**Sn**	**01 50 30.6**	**-1.0**
JAY	**Jayapura**	**4.06**	**93**	P	**Pn**	**01 49 57.5**	**-0.9**
SIJI	**Sorong**	**5.57**	**285**	LR	LR	01 53 06.6	
	comp=Z,148nm,18.2s,baz=160,slow=46						
WRA	**Warramunga Arr**	**17.66**	**187**	P	**Pn**	**01 53 01.5**	**-0.1**
	0.3nm,0.3s,baz=9.0,slow=12,SNR=14						
ASAR	**Alice Springs**	**21.38**	**187**	P	**P**	**01 53 44.1**	**+1.2**
	3.3nm,0.6s,baz=10,slow=11,SNR=32						
MJAR	**Matsushiro Arr**	**38.69**	**2**	P	**P**	**01 56 20.3**	**+1.7**
	0.4nm,0.3s,baz=177,slow=9.4,SNR=2.6						
CMAR	**Chiang Mai Arr**	**42.46**	**301**	P	**P**	**01 56 49.9**	**-0.2**
	0.8nm,0.3s,baz=119,slow=7.3,SNR=5.0						
SONM	**Songino Array**	**56.51**	**336**	P	**P**	**01 58 36.9**	**0.0**
	0.4nm,0.5s,baz=145,slow=5.3,SNR=2.9						
MKAR	**Makanchi Array**	**68.23**	**323**	P	**P**	**01 59 55.2**	**0.0**
	0.7nm,0.6s,baz=126,slow=7.6,SNR=9.5						
ILAR	**Eielson Array**	**86.34**	**25**	P	**P**	**02 01 35.4**	**-0.8**
	0.3nm,0.8s,baz=245,slow=1.9,SNR=3.8						

KRSC 17 01:55:20.2±2.3, 50°.85N×157°.11E, h102km±24km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.65**	**343**	*e*P	Pn	01 55 38.4	+1.1
PAU				*e*S	Sn	01 55 51.8	+1.7
SKR	**Severo-Kuril's**	**0.65**	**255**	*e*P	Pn	01 55 39.1	+0.6
SKR				*e*S	Sn	01 55 50.9	+0.7
MIPR	**Malaya Ipel'ka**	**1.44**	**351**	*e*P	Pn	01 55 46.0	+0.1
MIPR				*e*S	Sn	01 56 04.9	-0.5
ASAK	**Asacha**	**1.61**	**17**	*e*P	Pn	01 55 50.1	+2.1
MTVR	**Mutnovka**	**1.76**	**22**	*e*P	Pn	01 55 52.2	+2.1
MTVR				*e*S	Sn	01 56 16.0	+3.3
RUS	**Russkaya**	**1.81**	**28**	*e*P	Pn	01 55 52.3	+1.9
RUS				*e*S	Sn	01 56 16.1	+2.8
APC	**Apacha**	**2.08**	**1**	*e*P	Pn	01 55 54.1	+0.3
UGLR	**Uglovaya**	**2.59**	**23**	*e*P	Pn	01 56 03.5	+2.8
AVH	**Avacha**	**2.62**	**22**	*e*P	Pn	01 56 04.1	+3.1
KOK	**Koryaka**	**2.62**	**20**	*e*P	Pn	01 56 04.1	+3.0
SMAR	**Somma**	**2.63**	**23**	*e*P	Pn	01 56 03.9	+2.5
KRER	**Koryakskii**	**2.66**	**22**	*e*P	Pn	01 56 04.3	+2.6
SDLR	**Sedlovina**	**2.67**	**24**	*e*P	Pn	01 56 04.1	+2.4
KRX	**Arik**	**2.68**	**20**	*e*P	Pn	01 56 03.8	+1.8
NLC	**Nalytchevo**	**2.70**	**30**	*e*P	Pn	01 56 03.3	+1.3
NLC				*e*S	Sn	01 56 35.0	+0.9
SPN	**Mys Shipunski**	**2.88**	**38**	*e*P	Pn	01 56 07.1	+2.7
SPN				*e*S	Sn	01 56 42.0	+3.6
GNL	**Ganaly**	**2.89**	**10**	*e*P	Pn	01 56 05.9	+1.2
MKZ	**Mys Kozlova**	**4.65**	**35**	*e*P	Pn	01 56 29.8	+1.7
KZV	**Kizimen**	**4.68**	**23**	*e*P	Pn	01 56 32.0	+3.2
TUMR	**Tumrok**	**4.80**	**21**	*e*P	Pn	01 56 32.7	+2.4
KBTR	**Krutoberegovo**	**6.35**	**30**	*e*P	Pn	01 56 52.6	+1.4
BKI	**Bering**	**6.89**	**47**	*e*S	Sn	01 58 10.9	-4.4

*SJA **17** 02:01:15.4±0.3,33°.87S×73°.61W, h10km, ML2.8, MW2.6*
*GUC **17** 02:01:18.2±0.5,34°.29S×73°.36W, h47km±18km, ML3.7*

ISC 17 02:01:20.9±3.4,34°.38S±0°.06×73°.3W±0°.2, h35km, n14, σ1§60/23, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U65B	**HualaæØ**	**1.37**	**116**	*e*P	**Pn**	**02 01 42.8**	**-0.7**
U65B				*e*S	**Sn**	**02 02 01.2**	**+0.8**
U65B				AML	AML	02 02 03.6	
	comp=N,607nm,0.2s						
U73B	**San Pedro**	**1.62**	**74**	*e*P	**Pn**	**02 01 45.1**	**-1.8**
U73B				*e*S	**Sn**	**02 02 05.6**	**-0.9**
U73B				AML	AML	02 02 08.7	
	comp=N,2μm,0.2s						
TALC	**Talca**	**1.70**	**127**	*e*P	**Pn**	**02 01 47.2**	**-0.8**
TALC				*e*S	**Sn**	**02 02 09.2**	**+0.7**
U69B	**Peumo**	**1.75**	**90**	*e*P	**Pn**	**02 01 47.6**	**-1.1**
LNCH	**Linares**	**2.02**	**137**	*e*P	**Pn**	**02 01 51.7**	**-0.8**
LNCH				*e*S	**Sn**	**02 02 17.1**	**+0.7**
CLCH	**Cerro Calan**	**2.49**	**68**	*e*P	**Pn**	**02 01 57.3**	**-1.7**
CLCH				*e*S	**Sn**	**02 02 27.2**	**-1.0**
CLCH				AML	AML	02 02 35.3	
	comp=N,369nm,0.7s						
PEL	**Peldehue**	**2.49**	**61**	*e*P	**Pn**	**02 01 56.1**	**-3.0**
PEL				*e*S	**Sn**	**02 02 25.6**	**-2.6**
PEL				AML	AML	02 02 31.3	
	comp=E,639nm,0.6s						
AUSP	**Uspallata**	**3.91**	**58**	*e*P	**Pn**	**02 02 19.1**	**+0.4**
AUSP				*e*S	**Sn**	**02 03 06.6**	**+3.1**
AAGR	**Agrelo**	**3.93**	**72**	*e*P	**Pn**	**02 02 21.2**	**+2.3**
ARCO	**CERRO ARCO**	**3.94**	**68**	*e*P	**Pn**	**02 02 20.6**	**+1.5**
ARCO				IAML		02 03 16.5	
	comp=Z,14nm,0.5s						
RTLS	**Leoncito**	**4.22**	**54**	*e*P	**Pn**	**02 02 23.1**	**+0.1**
RTLS				*e*S	**Sn**	**02 03 13.2**	**+1.9**
RTCV	**Cerro Valdivia**	**4.71**	**59**	*e*P	**Pn**	**02 02 29.8**	**+0.3**
RTLL	**Cerro Villicun**	**5.06**	**54**	*e*P	**Pn**	**02 02 34.7**	**+0.3**
RTLL				*e*S	**Sn**	**02 03 32.9**	**+1.2**
AMOG	**MOGNA**	**5.30**	**51**	*e*P	**Pn**	**02 02 37.4**	**-0.3**

IDC 17 02:09:25.5±6.8, 6°.29S×152°.13E, h602km±56km, mb3.2/3, mb1 3.4/3, mb1mx2.6/30, mbtmp4.1/3, Error ellipse: s-maj=127.7km s-min=23.2km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.97**	**230**	P	P	02 13 37.0	0.0
	6.9nm,0.3s,baz=56,slow=10,SNR=101						
ASAR	**Alice Springs**	**24.61**	**224**	P	P	02 14 00.2	-0.1
	0.5nm,0.4s,baz=56,slow=8.5,SNR=9.5						
MJAR	**Matsushiro Arr**	**44.56**	**344**	P	P	02 16 45.2	-0.3
	1.6nm,0.3s,baz=157,slow=7.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**150.09**	**285**	PKPbc	PKPbc	02 28 10.0	-0.3
	0.7nm,1.1s,baz=66,slow=0.5,SNR=3.7						
TORD				PKPab	PKPab	02 28 18.6	-0.5
	0.1nm,0.4s,baz=81,slow=4.1,SNR=5.5						

*BJI **17** 02:12:06.5,2°.62S×137°.08E, h10km, mb4.8/35, mB4.9/26, Ms4.5/15, Ms7 4.5/11*
*IDC **17** 02:12:10.9±0.6,2°.26S×136°.63E, h0km, mb4.4/16, mb1 4.5/18, mb1mx4.4/27, mbtmp4.4/18, ML4.3/2, MS3.4/6, Ms1 3.5/6, ms1mx3.1/28, Error ellipse: s-maj=23.9km s-min=12.6km az=78.0*
*NEIC **17** 02:12:12.4±0.2,2°.25S×136°.63E, h10km, mb4.6/15, Error ellipse: s-maj=7.4km s-min=4.3km az=84.0*
*ISCJB **17** 02:12:14.1±0.3,2°.26S±0°.04×136°.59E±0°.03, h33km, mb4.5/28, MS3.4/5, Error ellipse: s-maj=5.4km s-min=4.3km az=20.1*
*DJA **17** 02:12:14.0±0.3,2°.5S±9°×13°7E±°, h10km, M4.8/8, mb4.6/3, MLv4.9/8*

ISC 17 02:12:16.1±0.4,2°.32S±0°.05×136°.62E±0°.05, h35km, n74, σ1§31/91, mb4.7/35, MS3.5/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.58**	**320**	P	Pn	02 12 23.4	-4.5
SRPI				S	**Sn**	**02 12 31.0**	**-5.2**
SMPI	**Sarmi**	**2.12**	**81**	P	**Pn**	**02 12 47.4**	**-1.6**
SMPI				S	**Sn**	**02 13 14.1**	**0.0**
RKPI	**Ransiki, Papua**	**2.57**	**288**	P	**Pn**	**02 12 55.3**	**+0.1**
GENI	**Genyem**	**3.56**	**94**	P	**Pn**	**02 13 08.7**	**-0.1**
JAY	**Jayapura**	**4.09**	**93**	P	**Pn**	**02 13 15.9**	**-0.3**
FAKI	**Fak Fak**	**4.40**	**262**	P	**Pn**	**02 13 20.3**	**-0.2**
FAKI	**Fak Fak**	**4.40**	**262**	*e*Pn	**Pn**	**02 13 19.9**	**-0.5**
FAKI				*e*S	**Sn**	**02 14 07.6**	**-3.0**
SIJI	**Sorong**	**5.54**	**285**	Pn	**Pn**	**02 13 35.7**	**-0.4**
	13nm,0.3s,baz=230,slow=22,SNR=15						
SIJI				Sn	**Sn**	**02 14 38.0**	**-0.7**
	7.8nm,0.3s,baz=113,slow=21,SNR=7.1						
SIJI				LR	LR	02 16 25.6	
	comp=Z,461nm,18.2s,baz=72,slow=46						
SANI	**Sanana**	**10.62**	**271**	P	**Pn**	**02 14 48.3**	**+2.4**
	25nm,0.8s						
COEN	**Coen**	**13.26**	**151**	*e*Pn	**Pn**	**02 15 21.9**	**0.0**
SOEI	**Soe**	**14.32**	**238**	*e*Pn	**Pn**	**02 15 36.0**	**-0.6**
BKSI	**Bulukumba**	**16.73**	**259**	P	**Pn**	**02 16 08

MDJ				PMZ				
	18nm,4.4s							
LZH	**Lanzhou**	**48.93**	**324**	*eP*	**P**	**02**	**21**	**00.1 +1.0**
LZH				pP	**pP**	**02**	**21**	**04.8 -4.8**
LZH				sP	sP	02	21	07.1 -6.7
LZH				PP	**PP**	**02**	**22**	**54.0 +1.2**
LZH				S	**S**	**02**	**28**	**02.0 +1.0**
LZH				sS	sS	02	28	11.6 -6.6
LZH				PMZ				
	26nm,1.0s							
LZH				PMZ				
	110nm,4.5s							
LZH				LN				
	250nm,12.7s							
LZH				LE				
	300nm,14.8s							
LZH				LZ				
	400nm,15.8s							
GTA	**Gaotai**	**53.53**	**325**	*eP*	**P**	**02**	**21**	**34.4 +0.8**
GTA				pP	pP	02	21	38.5 -5.6
GTA				sP	sP	02	21	41.1 -7.1
GTA				S	**S**	**02**	**29**	**06.8 +2.4**
GTA				sS	sS	02	29	14.9 -6.9
GTA				SS	**SKiKP**	**02**	**32**	**47.0 +0.2**
GTA				PMZ				
	15nm,0.8s							
GTA				PMZ				
	39nm,5.0s							
GTA				LN				
	120nm,17.6s							
GTA				LE				
	130nm,16.2s							
GTA				LZ				
	74nm,18.0s							
LSA	**Lhasa**	**53.85**	**310**	*eP*	**P**	**02**	**21**	**37.1 +0.6**
	8.5nm,0.7s							
TAPN	**Taplejung**	**55.54**	**306**	*eP*	**P**	**02**	**21**	**48.8 +0.2**
	22nm,0.8s							
ODAN	**Odare**	**55.61**	**305**	*eP*	**P**	**02**	**21**	**49.1 +0.1**
	35nm,0.6s							
RAMN	**Ramite**	**56.29**	**305**	*eP*	**P**	**02**	**21**	**54.3 +0.4**
	32nm,0.7s							
SONM	**Songino Array**	**56.50**	**336**	P	**P**	**02**	**21**	**54.8 -0.1**
	1.6nm,0.6s,baz=154,slow=7.2,SNR=11							
SONM				LR	LR	02	46	01.4
	comp=Z,46nm,19.6s,baz=106,slow=36							
JIRN	**Jiri**	**56.90**	**305**	*eP*	**P**	**02**	**21**	**58.0 -0.4**
GUN	**Gumba**	**57.26**	**305**	*eP*	**P**	**02**	**22**	**01.1 +0.3**
	26nm,0.7s							
PKI	**Pulchoki**	**57.51**	**305**	*eP*	**P**	**02**	**22**	**02.5 -0.1**
	11nm,0.6s							
KKN	**Kakani**	**57.70**	**305**	*eP*	**P**	**02**	**22**	**03.9 +0.1**
DMN	**Daman**	**57.77**	**305**	*eP*	**P**	**02**	**22**	**04.8 +0.4**
	28nm,0.8s							
PETK	**Petropavlovsk-**	**57.99**	**15**	P	**P**	**02**	**22**	**05.6 +0.5**
	6.0nm,0.7s,baz=179,slow=5.9,SNR=10							
GKN	**Gorkha**	**58.30**	**305**	*eP*	**P**	**02**	**22**	**08.3 +0.3**
	35nm,0.8s							
KOLN	**Koldanda**	**59.07**	**304**	*eP*	**P**	**02**	**22**	**13.9 +0.5**
	28nm,0.8s							
TLY	**Talaya**	**60.63**	**337**	*eP*	**P**	**02**	**22**	**23.1 -0.4**
	3.1nm,0.8s							
WMQ	**Urumqi**	**63.42**	**322**	P	**P**	**02**	**22**	**42.9 +0.5**
WMQ				pP	pP	02	22	47.5 -5.6
WMQ				sP	sP	02	22	49.9 -7.3
WMQ				PMZ				
	16nm,0.9s							
WMQ				PMZ				
	22nm,4.6s							
WMQ				LN				
	15nm,15.6s							
WMQ				LE				
	16nm,16.7s							
MK31	**Makanchi Array**	**68.21**	**323**	*eP*	**P**	**02**	**23**	**13.2 +0.1**
MKAR	**Makanchi Array**	**68.21**	**323**	P	**P**	**02**	**23**	**13.2 +0.1**
	3.9nm,0.6s,baz=116,slow=8.0,SNR=55							
MKAR				LR	LR	02	54	51.9
	comp=Z,15nm,19.7s,baz=154,slow=38							
KSH	**Kashi**	**69.30**	**314**	P	**P**	**02**	**23**	**21.9 +1.7**
KSH				sP	sP	02	23	29.3 -5.8
KSH				PcP	**PcP**	**02**	**23**	**46.1 +2.4**
KSH				PP	PP	02	26	00.8 +7.1
KSH				PcS		02	27	47.6
KSH				S	**S**	**02**	**32**	**26.0 +1.4**
KSH				PMZ				
	9.0nm,1.0s							
KSH				PMZ				
	60nm,5.6s							
KSH				LN				
	98nm,5.0s							
KSH				LE				
	140nm,6.0s							
KSH				LZ				
	89nm,6.7s							
ZAA0	**Zalesovo Array**	**70.56**	**330**	*eP*	**P**	**02**	**23**	**26.3 -1.1**
ZALV	**Zalesovo Beam**	**70.56**	**330**	P	**P**	**02**	**23**	**26.6 -0.9**
	4.1nm,0.7s,baz=109,slow=5.9,SNR=15							
TKM2	**Tokmak 2**	**70.83**	**317**	*eP*	**P**	**02**	**23**	**29.8 +0.2**
	1.1nm,0.5s							
KURK	**Kurchatov**	**72.20**	**326**	*eP*	**P**	**02**	**23**	**36.8 -0.7**
	23nm,1.1s							
PPT	**Papeete**	**73.87**	**108**	LR	LR	02	54	30.6
	comp=Z,20nm,18.1s,baz=304,slow=34							
KKAR	**Karatay Array**	**74.39**	**316**	*eP*	**P**	**02**	**23**	**50.3 -0.3**
	1.9nm,0.6s							
VNDA	**Vanda**	**76.36**	**175**	P	**P**	**02**	**24**	**01.9 +0.7**
	3.6nm,0.8s,baz=328,slow=6.0,SNR=21							
VNDA	**Vanda**	**76.36**	**175**	*eP*	**P**	**02**	**24**	**02.2 +1.0**
	3.6nm,0.9s							
BRVK	**Borovoye**	**77.88**	**326**	*eP*	**P**	**02**	**24**	**10.1 -0.1**
	6.6nm,0.8s							
ABKAR	**Akbulak array**	**83.08**	**320**	*eP*	**P**	**02**	**24**	**37.7 -0.5**
	1.1nm,0.5s							
ARU	**Arti**	**85.33**	**327**	*eP*	**P**	**02**	**24**	**48.7 -0.7**
	8.2nm,0.9s							
COLD	**Coldfoot**	**85.67**	**22**	*eP*	**P**	**02**	**24**	**51.2 +0.3**
	9.3nm,1.0s							
CCB	**Clear Creek Bu**	**85.94**	**25**	*eP*	**P**	**02**	**24**	**51.9 -0.3**
	4.5nm,1.0s							
ILAR	**Eielson Array**	**86.35**	**25**	P	**P**	**02**	**24**	**53.5 -0.9**
	1.6nm,0.8s,baz=265,slow=4.6,SNR=13							
QSPA	**South Pole Qui**	**87.62**	**180**	*eP*	**P**	**02**	**25**	**00.9 +0.3**
	2.6nm,0.8s							
DAWY	**Dawson**	**89.43**	**26**	*eP*	**P**	**02**	**25**	**10.4 +1.3**
ARCES	**ARCESS Array B**	**99.45**	**341**	P	**Pdif**	**02**	**25**	**53.5 -1.3**
	2.2nm,0.6s,baz=78,slow=6.7,SNR=16							
TORD	**Torodi Ar. Bea**	**134.14**	**286**	PKP	**PKPdf**	**02**	**31**	**31.5 +0.5**
	0.7nm,0.8s,baz=29,slow=1.3,SNR=4.2							
ROSC	**El Rosal**	**149.01**	**84**	PKPbc	**PKPbc**	**02**	**32**	**02.0 -0.1**
	2.7nm,0.5s,baz=100,slow=23,SNR=2.6							
LPAZ	**La Paz**	**149.34**	**128**	PKPbc	**PKPbc**	**02**	**32**	**04.5 +1.4**
	0.4nm,0.5s,baz=203,slow=7.7,SNR=2.8							

ISCJB ***17*** *02:26:37.7±0.4, 17°.61N±0°.07×94°.97W±0°.05, h130km±8km, mb4.5/3, Error ellipse: s-maj=11.7km s-min=6.7km az=20.0*

MEX ***17*** *02:26:39.9±0.7, 17°.58N×95°.02W, h131km±6km, MD4.1*

NEIC ***17*** *02:26:41.0, 17°.30N×95°.06W, h131km, mb4.2/9, MD4.1(MEX), After MEX.*

ISC 17 02:26:38.6±0.8, 17°.61N±0°.07×94°.98W±0°.05, h129km±11km, n18, σ1§22/22, mb4.4/3, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.53**	**170**	*i*	P		**Pn**	**02 26 58.1**	**+0.3**
CMIG				*i*	S		**Sn**	**02 27 11.9**	**-0.4**
TGIG		**1.96**	**115**	*e*	**P**		**Pn**	**02 27 12.7**	**+0.6**
TGIG				*e*	S		**Sn**	**02 27 37.0**	**-0.7**
HUIG	**Huatulco**	**2.13**	**211**	*e*	**P**		**Pn**	**02 27 12.9**	**-1.3**
HUIG				*e*	S		**Sn**	**02 27 39.8**	**-1.6**
TPIG	**Tehuac#an**	**2.41**	**290**	*e*	**P**		**Pn**	**02 27 17.5**	**-0.2**
TPIG				*e*	S		**Sn**	**02 27 46.8**	**-0.9**
PCIG		**2.54**	**138**	*e*	**P**		**Pn**	**02 27 19.8**	**+0.5**
PCIG				*i*	S		**Sn**	**02 27 50.5**	**0.0**
CCIG	**Comitan**	**3.02**	**116**	*e*	**P**		**Pn**	**02 27 26.2**	**+0.5**
TEIG	**Tepich**	**6.86**	**67**	*e*	Pn		**Pn**	**02 28 15.0**	**-1.6**
TEIG				*e*	S		**Sn**	**02 29 31.0**	**-2.3**
JTS	**JuntasAbangare**	**12.15**	**125**	*e*	Pn		**Pn**	**02 29 27.2**	**-0.3**
ABTX	**Abilene, Hawle**	**15.53**	**345**	*e*	**P**		**P**	**02 30 14.3**	**+2.3**
	16nm,1.4s								
MIAR	**Mount Ida**	**16.91**	**4**	*e*	**P**		**Pn**	**02 30 28.5**	**+1.0**
	67nm,2.3s								
WMOK	**Wichita Mounta**	**17.39**	**349**	*e*	**P**		**Pn**	**02 30 34.4**	**+1.2**
	2.3nm,0.9s								
MSTX	**Muleshoe**	**17.72**	**338**	*e*	**P**		**Pn**	**02 30 38.4**	**+1.1**
	7.9nm,0.9s								
PBMO	**Poplar Bluff**	**19.51**	**11**	*e*	**P**		**P**	**02 30 55.9**	**+0.2**
ANMO	**Albuquerque**	**20.07**	**332**	*e*	**P**		Pn	02 31 04.0	-1.1
	25nm,2.5s								
TUC	**Tucson**	**20.44**	**319**	*e*	**P**		Pn	02 31 08.1	-1.3
	2.9nm,0.8s								
ISCO	**Idaho Springs**	**23.96**	**340**	*e*	**P**		**P**	**02 31 42.8**	**+1.6**
	62nm,2.9s								
JFWS	**Jewell Farm**	**25.54**	**8**	*e*	**P**		**P**	**02 31 54.5**	**-0.7**
	8.1nm,0.6s								
AGMN	**Agassiz Nation**	**30.61**	**359**	*e*	**P**		**P**	**02 32 39.4**	**-0.9**
	5.7nm,0.8s								

IDC ***17*** *02:29:05.2±2.4, 8°.95S×157°.70E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/33, mbtmp3.8/5, MS3.3/1, Ms1 3.3/1, ms1mx2.5/25, Error ellipse: s-maj=85.9km s-min=27.7km az=127.0*

ISC 17 02:29:09.1±1.0, 8°.9S±0°.2×157°.48E±0°.09, h17km, n6, σ1§74/7, mb3.8/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.50**	**104**	*i*	P		**Pg**	**02 29 59.0**	**+1.8**
HNR				*i*	S		**Sg**	**02 30 28.0**	**-1.8**
WRA	**Warramunga Arr**	**24.94**	**241**		P		**P**	**02 34 30.9**	**-0.9**
	4.0nm,0.9s,baz=66,slow=9.7,SNR=12								
ASAR	**Alice Springs**	**26.94**	**234**		P		**P**	**02 34 49.8**	**-0.1**
	0.9nm,0.8s,baz=58,slow=9.4,SNR=5.7								
ASAR					LR		LR	02 45 04.5	
	comp=Z,57nm,19.9s,baz=130,slow=36								
SONM	**Songino Array**	**72.22**	**327**		P		**P**	**02 40 34.9**	**+1.4**
	0.7nm,0.8s,baz=142,slow=7.3,SNR=3.7								
ILAR	**Eielson Array**	**84.20**	**21**		P		**P**	**02 41 37.5**	**-1.8**
	0.2nm,0.5s,baz=232,slow=4.4,SNR=3.4								
MKAR	**Makanchi Array**	**86.42**	**318**		P		**P**	**02 41 50.9**	**+0.1**
	0.9nm,1.0s,baz=108,slow=6.5,SNR=4.8								

NIED ***17*** *03:11:00, 32°.90N×142°.60E, h8km, Mw3.6 Best double couple: M0 2.38000×10^14 NP1:φs355.00000°, δ38.00000°, λ-103.00000°. NP2:φs192.00000°, δ53.00000°, λ-80.00000°.*

JMA 17 03:11:58.5±0.4, 32°.85N×142°.61E, h70km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.25**	**323**		P		Pn	03 12 34.2	+1.3
BSO1					*eS*		Sn	03 13 01.7	+2.5
JHJ2	**Mitsune**	**2.36**	**277**		P		Pn	03 12 35.8	+0.8
JHCJ	**Hachijojimakas**	**2.38**	**276**		*eS*		Sn	03 13 04.6	+1.3
BSO2	**Boso 2**	**2.45**	**321**		*eS*		Sn	03 13 06.9	+2.5
BSO3	**Boso 3**	**2.62**	**319**		P		Pn	03 12 39.7	+1.6
BSO3					*eS*		Sn	03 13 10.8	+2.2
BSO4	**Boso 4**	**2.85**	**319**		P		Pn	03 12 43.5	+2.0
BSO4					S		Sn	03 13 16.8	+2.2
JIM2	**Oshima 3**	**3.24**	**306**		P		Pn	03 12 48.0	+1.0
JOD2	**Odawara 2**	**3.79**	**310**		P		Pn	03 12 54.8	+0.3
JOD2					S		Sn	03 13 36.0	-1.8
JYN	**Shimob**	**4.28**	**309**		S		Sn	03 13 52.1	+2.1
JRY	**Ryogami san**	**4.40**	**317**		P		Pn	03 13 05.2	+2.3
JRY					*eS*		Sn	03 13 54.7	+1.8
JFT	**Otama**	**5.02**	**339**		P		Pn	03 13 13.2	+2.0
JFT					S		Sn	03 14 06.5	-1.4
MAT	**Matsushiro**	**5.17**	**317**		P		Pn	03 13 15.2	+1.9
MAT					S		Sn	03 14 10.8	-0.9
MAT	**Matsushiro**	**5.17**	**317**		P		Pn	03 13 16.1	+2.8
MAT					S		Sn	03 14 11.7	0.0

NIED ***17*** *04:04:00, 32°.90N×142°.50E, h5km, Mw4.0 Best double couple: M0 1.31000×10^15 NP1:φs341.00000°, δ33.00000°, λ-82.00000°. NP2:φs152.00000°, δ57.00000°, λ-95.00000°.*

IDC ***17*** *04:04:01.6±0.6, 32°.81N×142°.41E, h0km, mb4.1/15, mb1 4.3/19, mb1mx4.1/39, mbtmp4.1/19, ML3.3/3, MS3.0/5, Ms1 3.1/5, ms1mx2.7/32, Error ellipse: s-maj=19.2km s-min=15.0km az=66.0*

ISCJB ***17*** *04:04:04.8±0.4, 32°.89N±0°.04×142°.42E±0°.06, h33km, mb4.1/19, MS3.0/4, Error ellipse: s-maj=8.1km s-min=4.2km az=145.6*

JMA ***17*** *04:04:04.4±0.4, 32°.91N×142°.49E, h63km, M4.0*

NEIC ***17*** *04:04:04.7±2.3, 32°.76N×142°.42E, h20km±16km, mb4.6/4, MW4.0(NIED), Error ellipse: s-maj=11.3km s-min=6.6km az=69.0*

ISC 17 04:04:06.3±0.6, 32°.93N±0°.06×142°.55E±0°.07, h33km, n64, σ1§61/74, mb4.5/26, MS3.1/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.17**	**323**		P		**Pn**	**04 04 38.7**	**-0.8**
BSO1					*eS*		**Sn**	**04 05 04.5**	**-0.4**
JHJ2	**Mitsune**	**2.31**	**275**		P		**Pn**	**04 04 40.2**	**-1.7**
JHJ2	**Mitsune**	**2.31**	**275**		*ePn*		**Pn**	**04 04 39.8**	**-2.2**
JHJ2					*eS*		**Sn**	**04 05 06.9**	**-2.3**
JHCJ	**Hachijojimakas**	**2.32**	**274**		P		**Pn**	**04 04 40.2**	**-1.9**
BSO3	**Boso 3**	**2.53**	**318**		P		**Pn**	**04 04 43.8**	**-1.0**
BSO3					*eS*		**Sn**	**04 05 13.0**	**-1.3**
BSO4	**Boso 4**	**2.76**	**319**		P		**Pn**	**04 04 48.1**	**0.0**
BSO4					*eS*		**Sn**	**04 05 20.5**	**+0.2**
JOD2	**Odawara 2**	**3.70**	**310**		P		**Pn**	**04 04 59.4**	**-1.8**
JYN	**Shimob**	**4.20**	**309**		P		**Pn**	**04 05 07.0**	**-1.0**
JYN					S		**Sn**	**04 05 54.5**	**-1.4**
JRY	**Ryogami san**	**4.31**	**317**		P		**Pn**	**04 05 08.4**	**-1.2**
JRY					S		**Sn**	**04 05 58.1**	**-0.6**
JAG	**Ashikaga**	**4.32**	**325**		P		**Pn**	**04 05 09.1**	**-0.6**
JAG					*eS*		**Sn**	**04 05 57.5**	**-1.5**
JFT	**Otama**	**4.93**	**339**		P		**Pn**	**04 05 15.2**	**-2.8**
JFT					S		**Sn**	**04 06 10.3**	**-3.6**
MJAR	**Matsushiro Arr**	**5.08**	**316**		P		Pn	**04 05 20.1**	**0.0**
	6.4nm,0.3s,baz=150,slow=11,SNR=59								
MJAR							Sn	**04 06 17.1**	**-0.6**
	6.5nm,0.3s,baz=134,slow=18,SNR=10								
MAJO	**Matsushiro**	**5.08**	**316**		*ePn*		**Pn**	**04 05 19.7**	**-0.5**
	39nm,0.6s								
MAJO					*eS*		**Sn**	**04 06 18.0**	**+0.4**
MAT	**Matsushiro**	**5.08**	**316**		P		**Pn**	**04 05 20.2**	**+0.1**
MAT					S		**Sn**	**04 06 15.2**	**-2.5**
MAT	**Matsushiro**	**5.08**	**316**		P		**Pn**	**04 05 19.6**	**-0.5**
MAT					*eS*		**Sn**	**04 06 16.1**	**-1.6**
JIE	**Ise**	**5.09**	**288**		P		**Pn**	**04 05 19.6**	**-0.6**
JWZ	**Kozaga**	**5.76**	**278**		P		**Pn**	**04 05 29.8**	**+0.3**
CBIJ	**Chichi jima**	**5.82**	**183**		P		**Pn**	**04 05 27.2**	**-3.1**
CBIJ					S		Sn	04 06 26.9	-8.9
CBIJ	**Chichi jima**	**5.82**	**183**		Pn		**Pn**	**04 05 27.2**	**-3.1**
CBIJ					Sn		Sn	04 06 27.0	-8.9
JCJ	**Chichijima**	**5.82**	**183**		Pn		**Pn**	**04 05 27.2**	**-3.1**
	33nm,0.3s,baz=302,slow=24,SNR=33								
JCJ							Sn	04 06 27.0	-8.9
	26nm,0.3s,baz=248,slow=23,SNR=6.1								
JMK	**Ichinoseki**	**6.11**	**350**		P		**Pn**	**04 05 32.4**	**-1.8**
JMK					*eS*		**Sn**	**04 06 37.2**	**-5.7**
ERM	**Erimo**	**9.09**	**3**		*ePn*		**Pn**	**04 06 11.9**	**-3.1**
ERM					*eS*		Sn	04 07 44.5	-12
ASAJ	**Asahikawa**	**11.17**	**0**		Pn		**Pn**	**04 06 41.1**	**-2.6**
	3.2nm,0.3s,baz=239,slow=7.5,SNR=9.0								
KSRS	**Korea Array**	**12.79**	**295**		Pn		**Pn**	**04 07 06.5**	**+0.7**
	0.2nm,0.3s,baz=106,slow=14,SNR=5.8								
KSRS							LR	04 12 20.3	
	comp=Z,50nm,18.1s,baz=112,slow=39								
KSAR	**Wonju Array Be**	**12.81**	**295**		Pn		**Pn**	**04 07 06.5**	**+0.4**
USRK	**Ussuriysk Ar.**	**13.95**	**327**		Pn		**Pn**	**04 07 19.6**	**-1.9**
	0.2nm,0.3s,baz=132,slow=10,SNR=5.0								
PETK	**Petropavlovsk-**	**22.92**	**24**		LR		LR	04 17 48.6	
	comp=Z,15nm,20.9s,baz=218,slow=36								
H11N2	**WAKE ISLAND Hy**	**25.40**	**115**		T		T	04 36 13.2	
	baz=306,slow=75,SNR=4.1								
H11N1	**WAKE ISLAND Hy**	**25.40**	**115**		T		T	04 36 12.2	
	baz=306,slow=75,SNR=5.8								
H11N3	**WAKE ISLAND Hy**	**25.41**	**115**		T		T	04 36 15.5	
	baz=306,slow=75,SNR=6.0								
SONM	**Songino Array**	**30.99**	**309**		P		**P**	**04 10 22.0**	**+1.4**
	3.3nm,0.9s,baz=114,slow=9.6,SNR=10								
CMAR	**Chiang Mai Arr**	**41.56**	**261**		P		**P**	**04 11 48.8**	**-2.2**
	1.8nm,0.3s,baz=55,slow=7.8,SNR=5.1								
CMAR							LR	04 30 14.9	
	comp=Z,12nm,18.5s,baz=180,slow=38								
ZALV	**Zalesovo Beam**	**45.43**	**315**		P		**P**	**04 12 22.2**	**+0.4**
	0.7nm,0.4s,baz=124,slow=7.8,SNR=2.7								
ZALV					PcP		**PcP**	**04 14 01.2**	**+0.7**
	1.2nm,0.6s,baz=111,slow=3.2,SNR=3.9								
MK31	**Makanchi Array**	**47.18**	**306**	*eP*			**P**	**04 12 36.0**	**+0.3**
MKAR	**Makanchi Array**	**47.18**	**306**	P			**P**	**04 12 36.2**	**+0.5**
	3.1nm,0.6s,baz=90,slow=9.7,SNR=19								
TAPN	**Taplejung**	**47.31**	**278**	*eP*			**P**	**04 12 39.6**	**+2.3**
	6.3nm,0.4s								
RAMN	**Ramite**	**48.38**	**278**	*eP*			**P**	**04 12 45.4**	**-0.1**
	50nm,0.7s								
GUN	**Gumba**	**48.64**	**280**	*eP*			**P**	**04 12 47.9**	**+0.3**
	39nm,0.9s								
PKI	**Pulchoki**	**49.15**	**280**	*eP*			**P**	**04 12 51.0**	**-0.5**
	19nm,0.8s								
KKN	**Kakani**	**49.18**	**280**	*eP*			**P**	**04 12 51.8**	**+0.2**
	19nm,0.8s								
KURK	**Kurchatov**	**49.27**	**311**	*eP*			**P**	**04 12 51.8**	**+0.1**
	13nm,0.8s								
DMN	**Daman**	**49.38**	**280**	*eP*			**P**	**04 12 53.2**	**0.0**
GKN	**Gorkha**	**49.63**	**280**	*eP*			**P**	**04 12 55.0**	**0.0**
	28nm,0.9s								
KOLN	**Koldanda**	**50.57**	**281**	*eP*			**P**	**04 13 01.5**	**-0.7**
	14nm,0.7s								
ILAR	**Eielson Array**	**52.50**	**31**	P			**P**	**04 13 16.7**	**+0.9**
	0.3nm,0.5s,baz=256,slow=6.1,SNR=7.3								
WRAB	**Tennant Creek**	**53.14**	**190**	*eP*			**P**	**04 13 20.0**	**-0.9**
	6.4nm,0.8s								
WRA	**Warramunga Arr**	**53.15**	**190**	P			**P**	**04 13 20.1**	**-0.9**
	5.3nm,0.7s,baz=7.8,slow=7.6,SNR=54								
KKAR	**Karatay Array**	**56.06**	**303**	*eP*			**P**	**04 13 42.6**	**+0.6**
	2.1nm,0.5s								
ASAR	**Alice Springs**	**56.88**	**189**	P			**P**	**04 13 47.4**	**-0.6**
	1.1nm,0.9s,baz=12,slow=13,SNR=6.9								
ASAR					PcP		**PcP**	**04 14 45.0**	**+1.8**
	0.7nm,0.6s,baz=0.7,slow=4.6,SNR=4.6								
ABKAR	**Akbulak array**	**61.34**	**312**	*eP*			**P**	**04 14 19.0**	**+0.4**
	3.2nm,0.6s								
FINES	**FINESS Array B**	**72.89**	**333**	P			**P**	**04 15 32.6**	**+1.0**
	5.0nm,0.8s,baz=83,slow=7.9,SNR=13								
KBZ	**Khabaz**	**74.31**	**312**	P			**P**	**04 15 40.6**	**+0.3**
	4.5nm,0.9s,baz=88,slow=3.0,SNR=8.8								
NVAR	**Mina Array Bea**	**76.71**	**53**	P			**P**	**04 15 57.5**	**+2.9**
	0.3nm,0.6s,baz=294,slow=4.6,SNR=3.0								
AKASG	**Malin Array Be**	**78.13**	**323**	P			**P**	**04 16 02.2**	**+0.3**
	1.9nm,0.6s,baz=47,slow=6.4,SNR=6.7								
NB2	**NORSAR Subarra**	**78.33**	**338**	P			**P**	**04 16 03.5**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=38,slow=5.6								
NOA	**NORSAR Array B**	**78.33**	**338**	P			**P**	**04 16 02.7**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=38,slow=5.6,SNR=8.0								
NOA					LR		LR	04 55 32.4	
	comp=Z,15nm,19.8s,baz=340,slow=39								
PDAR	**Pinedale Array**	**79.88**	**45**	P			**P**	**04 16 12.9**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=316,slow=7.5,SNR=2.2								
BRTR	**Keskin Array B**	**82.29**	**313**	P			**P**	**04 16 25.6**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=118,slow=3.7,SNR=7.7								
DPC	**Dobruska-Polom**	**84.44**	**329**	*eP*			**P**	**04 16 37.1**	**+1.6**
GERES	**GERESS Array B**	**86.70**	**329**	LR			LR	04 58 41.2	
	comp=Z,18nm,18.2s,baz=80,slow=38								
TXAR	**Lajitas Array**	**91.86**	**53**	P			**P**	**04 17 12.8**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=251,slow=3.8,SNR=3.8								
TORD	**Torodi Ar. Bea**	**120.87**	**314**	PKP			**PKPdf**	**04 22 55.8**	**0.0**
	comp=Z,0.2nm,0.5s,baz=46,slow=1.2,SNR=7.9								
BOSA	**Boshof**	**126.64**	**257**	PKP			**PKPdf**	**04 23 06.0**	**-0.6**
	comp=Z,4.9nm,1.1s,baz=196,slow=7.4,SNR=2.7								
LPAZ	**La Paz**	**147.72**	**67**	PKPbc			**PKPbc**	**04 23 49.5**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=174,slow=1.9,SNR=8.3								

IDC ***17*** *04:25:01.0±2.5, 1°.53S×136°.31E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/30, mbtmp3.6/4, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/20, Error ellipse: s-maj=110.5km s-min=25.1km az=81.0*

ISCJB ***17*** *04:25:02.1±0.8, 1°.38S±0°.08×136°.53E±0°.04, h23km, mb3.6/3, MS3.2/1, Error ellipse: s-maj=11.3km s-min=6.3km az=174.5*

DJA ***17*** *04:25:02.9±0.9, 1°.5S±10°×13°.7E±°, h27km±7km, M4.2/3, MLv4.2/3*

ISC 17 04:25:03.7±1.1, 1°.6S±0°.1×136°.53E±0°.05, h23km, n8, σ1§40/12, mb3.8/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.42**	**225**		P		**Pn**	**04 25 14.0**	**-0.3**
SRPI					S		**Sn**	**04 25 21.6**	**+0.3**
SMPI	**Sarmi**	**2.21**	**101**		P		**Pn**	**04 25 37.6**	**-1.4**
SMPI					S		**Sn**	**04 26 07.9**	**+2.2**
RKPI	**Ransiki, Papua**	**2.36**	**271**		P		**Pn**	**04 25 41.5**	**+0.5**
RKPI

AKASG	**Malin Array Be** 0.8nm,0.6s,baz=140,slow=7.2,SNR=8.6	**42.24 335**	P	**P**	**04 37 58.4**	**-0.6**
AKASG	comp=Z,66nm,20.8s,baz=95,slow=41		LR	LR	04 58 49.7	
MATP	**Matopo** 5.4nm,0.7s,baz=37,slow=9.5,SNR=15	**44.15 219**	P	**P**	**04 38 15.7**	**+0.8**
ZAA0	**Zalesovo Array**	**45.30 23**	*eP*	**P**	**04 38 23.2**	**-0.3**
ZALV	**Zalesovo Beam** 2.9nm,0.6s,baz=227,slow=8.4,SNR=14	**45.30 23**	P	**P**	**04 38 22.9**	**-0.5**
ZALV	comp=Z,84nm,21.6s,baz=250,slow=38		LR	LR	04 58 40.5	
GERES	**GERESS Array B** 0.2nm,0.3s,baz=103,slow=4.4,SNR=2.4	**48.88 324**	P	**P**	**04 38 50.2**	**-1.5**
LBTB	**Lobatse** 6.7nm,0.8s	**49.36 218**	*eP*	**P**	**04 38 56.7**	**+1.1**
FINES	**FINESS Array B** 0.9nm,0.6s,baz=142,slow=14,SNR=3.1	**51.67 342**	P	**P**	**04 39 12.6**	**+0.1**
FINES	comp=Z,57nm,19.9s,baz=162,slow=39		LR	LR	05 03 42.7	
BOSA	**Boshof** 5.3nm,0.7s,baz=26,slow=7.2,SNR=8.7	**52.31 215**	P	**P**	**04 39 18.4**	**+0.6**
BOSA	comp=Z,78nm,19.0s,baz=348,slow=36		LR	LR	05 01 32.2	
TORD	**Torodi Ar. Bea** 1.0nm,0.9s,baz=102,slow=7.1,SNR=8.6	**52.92 276**	P	**P**	**04 39 23.2**	**+0.7**
TORD	0.3nm,0.7s,baz=68,slow=4.0,SNR=4.5		PcP	**PcP**	**04 40 31.9**	**+0.5**
TORD	comp=Z,50nm,19.3s,baz=105,slow=34		LR	LR	05 00 13.0	
SONM	**Songino Array** 1.4nm,0.6s,baz=237,slow=8.0,SNR=11	**52.98 40**	P	**P**	**04 39 23.6**	**+1.0**
SONM	comp=Z,84nm,18.8s,baz=24,slow=40		LR	LR	05 04 57.9	
LEM	**Lembang** comp=Z,76nm,19.8s,baz=198,slow=31	**55.14 109**	LR	LR	04 58 37.8	
NOA	**NORSAR Array B** 0.7nm,1.0s,baz=117,slow=7.5,SNR=2.8	**56.63 336**	P	**P**	**04 39 48.4**	**-0.4**
NOA	comp=Z,18nm,19.0s,baz=130,slow=39		LR	LR	05 07 06.9	
ESDC	**Sonseca Array** 1.2nm,0.5s,baz=80,slow=6.5,SNR=10	**58.06 308**	P	**P**	**04 39 57.8**	**-1.5**
ARCES	**ARCESS Array B** 1.4nm,0.8s,baz=152,slow=8.2,SNR=4.2	**58.31 348**	P	**P**	**04 39 59.4**	**-1.1**
ARCES	comp=Z,38nm,19.3s,baz=100,slow=38		LR	LR	05 07 14.5	
DBIC	**Dimbokro** comp=Z,28nm,21.4s,baz=72,slow=37	**60.46 270**	LR	LR	05 07 06.2	
KSAR	**Wonju Array Be**	**66.81 55**	P	**P**	**04 40 56.6**	**-1.1**
KSRS	**Korea Array** 2.2nm,0.7s,baz=270,slow=7.2,SNR=14	**66.84 55**	P	**P**	**04 40 56.6**	**-1.3**
KSRS	comp=Z,50nm,18.6s,baz=285,slow=38		LR	LR	05 11 57.3	
USRK	**Ussuriysk Ar.** 1.6nm,0.7s,baz=253,slow=6.8,SNR=5.2	**69.84 48**	P	**P**	**04 41 15.8**	**-0.8**
H01W3	**Cape Leeuwin H** baz=302,slow=75,SNR=21	**73.60 133**	T	T	06 01 58.7	
H01W2	**Cape Leeuwin H** baz=302,slow=75,SNR=21	**73.61 133**	T	T	06 01 52.2	
H01W1	**Cape Leeuwin H** baz=302,slow=75,SNR=29	**73.62 133**	T	T	06 01 56.7	
MJAR	**Matsushiro Arr** comp=Z,28nm,18.6s,baz=235,slow=37	**75.11 56**	LR	LR	05 16 55.1	
WRA	**Warramunga Arr** 2.9nm,0.8s,baz=299,slow=4.3,SNR=15	**84.01 112**	P	**P**	**04 42 35.1**	**-1.7**
WRAB	**Tennant Creek** 3.5nm,0.8s	**84.02 112**	*eP*	**P**	**04 42 35.6**	**-1.3**
ASAR	**Alice Springs** 1.8nm,0.6s,baz=288,slow=4.8,SNR=16	**84.77 116**	P	**P**	**04 42 39.0**	**-1.7**
ASAR	comp=Z,56nm,18.8s,baz=120,slow=34		LR	LR	05 18 04.0	
PETK	**Petropavlovsk-** comp=Z,24nm,20.2s,baz=263,slow=38	**85.26 36**	LR	LR	05 23 26.1	
PDAR	**Pinedale Array** 1.1nm,0.6s,baz=52,slow=4.5,SNR=9.1	**121.57 348**	PKP	**PKPdf**	**04 48 59.8**	**-0.3**
NVAR	**Mina Array Bea** 1.8nm,0.7s,baz=65,slow=1.0,SNR=17	**127.13 355**	PKP	**PKPdf**	**04 49 12.1**	**+1.2**
TXAR	**Lajitas Array** 0.5nm,0.7s,baz=130,slow=2.0,SNR=4.9	**132.33 336**	PKP	**PKPdf**	**04 49 20.7**	**-0.2**

PDA 17 05:06:15.8±0.8, 37.24N×24.53W, h15km, MD3.7, ML2.2, Error ellipse: s-maj=6.9km s-min=2.5km az=92.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.49**	**241**	*i* P		Pg	05 06 24.1	-1.4
PSMN				*eS*		Sg	05 06 29.8	-2.3
PSMN	57nm,0.4s			A		A	05 06 33.6	
PSMA	**Santa Maria**	**0.54**	**243**	*i* P		Pg	05 06 24.5	-1.9
PSMA				*eS*		Sg	05 06 30.9	-2.7
PSMA	43nm,0.2s			A		A	05 06 37.2	
BART	**Pico Bartolome**	**0.73**	**317**	*i* P		Pg	05 06 27.2	-3.1
BART				*eS*		Sg	05 06 35.8	-4.3
BART	62nm,0.5s			A		A	05 06 39.4	
GRON	**Grota Negra**	**0.95**	**304**	*eP*		Pb	05 06 29.0	-5.1
GRON				*eS*		Sb	05 06 38.8	-7.8
GRON	13nm,0.1s			A		A	05 06 39.8	
PDA	**Ponta Delgada**	**1.03**	**300**	*eP*		Pb	05 06 31.3	-4.0
PDA				*eS*		Sb	05 06 43.0	-5.7
PDA	27nm,0.2s			A		A	05 06 45.3	
PSET	**Sete Cidades**	**1.11**	**302**	*eP*		Pb	05 06 32.7	-4.0
PSET				*eS*		Sb	05 06 45.5	-5.5
PSET	49nm,0.3s			A		A	05 06 50.9	

IDC 17 05:10:45.9±4.4, 7.65N×91.68E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/26, mbtmp3.6/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/29, Error ellipse: s-maj=162.4km s-min=28.6km az=61.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H** baz=56	**24.43**	**232**	T		T	05 42 28.1	
H08S2	**Diego Garcia H** baz=56	**24.43**	**232**	T		T	05 42 28.3	
H08S1	**Diego Garcia H** baz=56	**24.44**	**232**	T		T	05 42 29.3	
MKAR	**Makanchi Array** 0.4nm,0.3s,baz=158,slow=8.2,SNR=2.2	**39.83**	**350**	P		P	05 18 21.9	+0.9
SONM	**Songino Array** 0.9nm,0.8s,baz=193,slow=8.4,SNR=4.5	**41.96**	**15**	P		P	05 18 38.8	+0.1
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=163,slow=5.6,SNR=4.8	**46.50**	**354**	P		P	05 19 13.8	-1.1
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=308,slow=7.8,SNR=2.9	**50.13**	**124**	P		P	05 19 43.3	-0.1
KMBO	**Kilima Mbogo** comp=Z,33nm,18.4s,baz=221,slow=34	**54.98**	**263**	LR		LR	05 41 47.2	

IDC 17 05:13:32.4±2.8, 6.85S×149.74E, h0km, mb3.6/1, mb1 4.0/2, mb1mx3.4/30, mbtmp3.7/2, ML3.8/1, Error ellipse: s-maj=123.1km s-min=41.6km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=52,slow=10,SNR=20	**19.82**	**227**	P		P	05 18 05.3	+0.4
ASAR	**Alice Springs** 1.4nm,0.4s,baz=58,slow=9.0,SNR=23	**22.61**	**221**	P		P	05 18 34.1	-0.9
TORD	**Torodi Ar. Bea** 0.3nm,0.7s,baz=29,slow=3.3,SNR=2.7	**147.94**	**284**	PKP		PKPdf	05 33 17.3	-0.6
TORD	0.3nm,0.6s,baz=49,slow=4.0,SNR=2.6			PKPbc		PKPbc	05 33 20.5	-0.4

TUN 17 05:15:20.1, 36.52N×8.19E, h19km, MD3.4
ISCJB 17 05:15:25.6±0.6, 36.45N±0.07×8.35E±0.05, h10km, mb2.9/1, Error ellipse: s-maj=10.9km s-min=5.8km az=16.3
IDC 17 05:15:26.1±2.6, 36.04N×7.94E, h0km, mb2.9/1, mb1 3.4/2, mb1mx3.0/36, mbtmp3.2/2, ML4.1/1, Error ellipse: s-maj=52.9km s-min=16.0km az=6.0
CRAAG 17 05:15:37.9, 36.20N×7.41E, Ml3.2
ISC 17 05:15:25.3±1.0, 36.43N±0.07×8.34E±0.03, h10km, n24, σ1s10/20, Tunisia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KRIT	**Krib**	**0.60**	**99**	*i* P		**Pb**	**05 15 39.0**	**+1.2**
ABSA	**Djebel Ababsia**	**0.72**	**258**	P		**Pb**	**05 15 39.8**	**-0.1**
ABSA	**Djebel Ababsia**	**0.72**	**258**	P		**Pb**	**05 15 39.8**	**-0.1**
CMAH	**Djebel Manchou**	**0.77**	**285**	P		**Pg**	**05 15 40.7**	**+0.6**
CMAH	**Djebel Manchou**	**0.77**	**285**	P		**Pg**	**05 15 40.7**	**+0.6**
TAMR	**Tamra**	**0.87**	**45**	*i* P		**Pg**	**05 15 42.0**	**0.0**
THTN	**Thala**	**0.91**	**162**	*i* P		**Pn**	**05 15 43.8**	**-0.5**
KEST	**Kesra** 10nm,0.3s,baz=256,slow=3.4,SNR=195	**1.07**	**130**	Pg		**Pn**	**05 15 47.0**	**+0.6**
KEST				Lg		Lg	05 16 06.7	
CAEH	**'Ain El Ouahch**	**1.25**	**287**	P		Pg	05 15 55.9	+6.6
CAEH	**'Ain El Ouahch**	**1.25**	**287**	P		Pg	05 15 55.9	+6.6
CKFL	**Kef-Lekhel**	**1.31**	**269**	P		**Pn**	**05 15 49.7**	**-0.1**
CKFL	**Kef-Lekhel**	**1.31**	**269**	P		**Pn**	**05 15 49.7**	**-0.1**
TROT	**Trozza**	**1.34**	**130**	*i* P		**Pn**	**05 15 50.0**	**-0.1**
CASM	**Ain Smara**	**1.51**	**264**	P		**Pg**	**05 15 56.0**	**+1.8**
CASM	**Ain Smara**	**1.51**	**264**	P		**Pg**	**05 15 56.0**	**+1.8**
CTEI	**Djebel Teioual**	**1.61**	**257**	P		**Pg**	**05 15 56.9**	**+0.8**
CTEI	**Djebel Teioual**	**1.61**	**257**	P		**Pg**	**05 15 56.9**	**+0.8**
DFRA	**Djebel Bou Aff**	**1.99**	**274**	P		**Pn**	**05 15 58.0**	**-1.1**
DFRA	**Djebel Bou Aff**	**1.99**	**274**	P		**Pn**	**05 15 58.0**	**-1.1**
BERT	**Berda**	**2.25**	**166**	*i* P		**Pn**	**05 16 02.0**	**-0.6**
SET	**Setif**	**2.39**	**265**	P		Pg	05 16 26.0	+15
SET	**Setif**	**2.39**	**265**	P		Pg	05 16 26.0	+15
ESDC	**Sonseca Array** 0.4nm,0.3s,baz=104,slow=14,SNR=3.6	**10.23**	**292**	Pn		**Pn**	**05 17 53.7**	**+1.5**
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=25,slow=9.8,SNR=4.4	**23.94**	**196**	P		**P**	**05 20 37.5**	**-2.2**

TRN 17 05:30:48.2, 16.12N×60.93W, h38km, MD3.8, M3.3(FDF), 9C-6D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MGG	**Marie-Galante**	**0.42**	**242**	*eP*		Pn	05 30 59.3	+1.7
MGG				*eS*		Sn	05 31 06.4	+2.0
SEG	**Port Louis**	**0.62**	**297**	⇑*iP*		Pn	05 31 01.7	+1.1
DWS	**Wesley**	**0.66**	**214**	*eP*		Pn	05 31 04.8	+3.7
DWS				*eS*		Sn	05 31 14.5	+4.3
DOG	**Dongo Capester**	**0.66**	**263**	*eP*		Pn	05 31 03.0	+1.8
PHG	**Guadaloupe-2**	**0.69**	**262**	*eP*		Pn	05 31 03.6	+1.9
TAG	**Tarade**	**0.71**	**264**	*eP*		Pn	05 31 04.2	+2.2
SCG	**Saint Claude**	**0.72**	**263**	*eP*		Pn	05 31 03.9	+1.9
FNG	**Fond-Bernard**	**0.73**	**266**	*eP*		Pn	05 31 03.7	+1.6
TBG	**Guadaloupe-3**	**0.73**	**249**	*eP*		Pn	05 31 03.6	+1.5
TBG				*eS*		Sn	05 31 14.9	+2.9
MLG	**Mont-d'or**	**0.75**	**266**	⇑*iP*		Pn	05 31 04.2	+1.8
HMG	**Houelmont**	**0.75**	**260**	*eP*		Pn	05 31 04.2	+1.8
HMG				*eS*		Sn	05 31 16.1	+3.6
BBL	**Barber's Block**	**0.78**	**221**	⇑*iP*		Pn	05 31 04.0	+1.2
LZG	**Guadaloupe-1**	**0.81**	**272**	*eP*		Pn	05 31 04.6	+1.5
MDN	**Morne-Daniel**	**0.91**	**209**	⇑*eP*		Pn	05 31 05.5	+1.0
MDN				*eS*		Sn	05 31 18.2	+1.8
SVN	**Savane Anatole**	**1.29**	**190**	*eP*		Pn	05 31 11.0	+1.2
MBRY		**1.31**	**297**	⇓*iP*		Pn	05 31 12.4	+2.4
MBLG		**1.32**	**297**	⇑*iP*		Pn	05 31 11.7	+1.5
MBLG				*eS*		Sn	05 31 28.7	+2.0
MBBY		**1.35**	**296**	⇓*iP*		Pn	05 31 12.3	+1.8
MBBY				*eS*		Sn	05 31 30.1	+2.9
MLYT	**Lee's Yard**	**1.35**	**297**	⇓*iP*		Pn	05 31 12.1	+1.6
MLYT	**Lee's Yard**	**1.35**	**297**	⇓*iP*		Pn	05 31 12.5	+1.9
MLYT				*eS*		Sn	05 31 29.0	+1.7
MLYT				*eS*		Sn	05 31 29.6	+2.4
MBGB		**1.38**	**296**	⇑*iP*		Pn	05 31 11.8	+0.8
MBGB				*eS*		Sn	05 31 29.8	+1.6
FDF	**Fort de France**	**1.39**	**189**	⇑*iP*		Pn	05 31 12.0	+0.8
FDF				*eS*		Sn	05 31 29.6	+1.2
LPMF	**Morne Lapointe**	**1.53**	**181**	⇑*eP*		Pn	05 31 14.3	+1.2
ZAM	**Aeronautique**	**1.54**	**183**	⇑*eP*		Pn	05 31 14.5	+1.4
MVM	**Montagne Vaucl**	**1.55**	**179**	⇓*eP*		Pn	05 31 15.1	+1.7
TRMF	**Trois Ilets**	**1.58**	**184**	*eP*		Pn	05 31 15.1	+1.4
BIM	**Bigot**	**1.60**	**185**	⇓*eP*		Pn	05 31 16.1	+2.1
BIM				*eS*		Sn	05 31 35.9	+2.5
MCLT	**Moule a Chique**	**2.39**	**180**	*eP*		Pn	05 31 27.0	+2.0
MCLT				*eS*		Sn	05 31 54.6	+1.5
SVV	**Soufriere Volc**	**2.80**	**186**	*eP*		Pn	05 31 33.3	+2.9
SVV				*eS*		Sn	05 32 04.8	+1.8
SVB	**Belmont**	**2.84**	**186**	*eP*		Pn	05 31 33.6	+2.4
SVB				*eS*		Sn	05 32 06.2	+2.0
FCV	**Fort Charlotte**	**2.96**	**186**	*eP*		Pn	05 31 34.8	+2.0
GRW	**Mount Saint Ca**	**4.00**	**190**	*eP*		Pn	05 31 48.3	+1.2
GRGR	**Grenville**	**4.02**	**190**	*eP*		Pn	05 31 49.8	+2.4
GRGR				*eS*		Sn	05 32 34.1	+0.8

NOU 17 05:53:25.6±0.9, 20.38S×168.22E, h73km±43km, MD3.6, ML4.6, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**1.00**	**247**	*eP*		Pn	05 53 44.0	-0.2
LIFNC				*eS*		Sn	05 53 57.6	-0.5
LIFNC	comp=Z,1943μm,2.4s			AMP			05 54 01.1	
DZM	**Mont Dzumac**	**2.36**	**224**	*eP*		Pn	05 54 01.8	-0.5
DZM				*eS*		Sn	05 54 29.3	-1.1
DZM	comp=Z,2μm,9.2s			AMP			05 54 32.9	
NORM	**Noumea**	**2.45**	**221**	*eP*		Pn	05 54 03.5	+0.1
NORM				*eS*		Sn	05 54 30.1	-2.3
NOUC	**Port Laguerre**	**2.48**	**226**	*eP*		Pn	05 54 03.8	+0.1
NOUC				*eS*		Sn	05 54 32.6	-0.3
NOUC	comp=Z,58nm,1.6s			AMP			05 54 34.1	

NNC 17 05:57:51.4±3.8, 38.32N×71.88E, h0km, mb3.8, mpv3.4, 6C-3D, Error ellipse: s-maj=36.8km s-min=19.9km az=153.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan** 12nm,0.3s	**2.11**	**36**	⇑Pn		Pn	05 58 29.7	+1.3
SFK				⇓Lg		Lg	05 59 03.7	
DZET	**Dzherino** 11nm,0.3s	**2.44**	**282**	⇑Pn		Pn	05 58 33.7	+1.0
DZET				⇑Lg		Lg	05 59 11.2	
AAK	**Ala-Archa** 2.2nm,0.5s	**4.75**	**24**	⇑Pn		Pn	05 59 03.0	-1.6
AAK				⇑Sn		Sn	06 00 04.1	+3.6
KK31	**Karatay Array** 1.0nm,0.3s,baz=158,slow=9.8,SNR=30	**4.89**	**348**	Pn		Pn	05 59 07.2	+0.9
KK31				⇓Sn		Sn	06 00 10.1	+6.4
TKM2	**Tokmak 2** 2.0nm,0.6s	**5.40**	**30**	⇓Pn		Pn	05 59 09.9	-3.6
TKM2	1.5nm,0.5s			⇑Sn		Sn	06 00 14.1	-2.5

SKHL 17 06:07:52.3±0.6, 46.28N×153.52E, h87km±4km, mb4.7/3, msh5.5/3
MOS 17 06:07:55.0±0.8, 47.10N×152.69E, h72km, mb4.1/3, Error ellipse: s-maj=27.8km s-min=17.8km az=56.0
IDC 17 06:07:56.6±3.3, 46.99N×152.82E, h73km±27km, mb3.6/7, mb1 3.7/9, mb1mx3.5/26, mbtmp3.9/9, MS3.0/2, Ms1 3.0/2, ms1mx2.4/35, Error ellipse: s-maj=47.8km s-min=23.1km az=151.0
ISC 17 06:07:48.1±1.8, 46.1N±0.2×153.9E±0.2, h50km, n22, σ1s99/24, mb3.6/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.28**	**261**	*eP*		**Pn**	**06 08 52.8**	**+2.2**
KUR				*eS*		**Sn**	**06 09 38.2**	**-1.0**
KUR	comp=Z,22nm,0.5s			pmax	pmax			
KUR	comp=N,106nm,0.5s			smax	smax			
KUR	comp=E,55nm,0.5s			smax	smax			
KUR	**Kuril'sk**	**4.28**	**261**	*eP*		**Pn**	**06 08 52.8**	**+2.2**
KUR				AMB	AMB		06 08 56.4	
KUR	comp=E,22nm,0.5s			*eS*		**Sn**	**06 09 38.2**	**-1.0**
KUR	comp=E,152nm,0.5s			A	A		06 09 56.2	
KUR	comp=E,91nm,0.5s			A	A		06 09 56.2	
SKR	**Severo-Kuril's**	**4.84**	**17**	*eP*		**Pn**	**06 09 00.9**	**+2.6**
SKR				AMB	AMB		06 09 09.0	
SKR	comp=E,113nm,1.0s			*eS*		**Sn**	**06 09 53.0**	**0.0**
SKR	comp=E,79nm,0.2s			A	A		06 09 55.8	
SHO	**Shikotan**	**5.45**	**248**	*eP*		Pn	06 09 10.1	+3.4
SHO				AMB	AMB		06 09 15.3	
SHO	comp=E,91nm,1.0s			*eS*		**Sn**	**06 10 08.0**	**0.0**
SHO	comp=E,131nm,0.7s			A	A		06 10 16.7	
PETK	**Petropavlovsk-** comp=E,0.3nm,0.3s,baz=174,slow=16,SNR=4.6	**7.46**	**18**	P		**Pn**	**06 09 34.5**	**+0.2**
YSS	**Yuzh-Sakhalins**	**7.70**	**280**	*eP*		**Pn**	**06 09 40.0**	**+2.5**
JKA	**Kamikawa-asahi**	**8.20**	**260**	*eP*		**Pn**	**06 09 47.0**	**+2.6**
ASAJ	**Asahikawa** baz=75,slow=12	**8.20**	**260**	P		**Pn**	**06 09 47.0**	**+2.6**
ASAJ	**Asahikawa**	**8.20**	**260**	PN		**Pn**	**06 09 47.0**	**+2.6**
MYR	**Moyori**	**8.48**	**247**	*eP*		**Pn**	**06 09 50.2**	**+1.9**
MYR				*eS*		**Sn**	**06 11 18.5**	**-4.1**
EKMR	**Ekimchan**	**15.21**	**305**	*erx*		rx	06 11 21.3	
KSRS	**Korea Array** comp=E,0.6nm,0.3s,baz=50,slow=11,SNR=4.4	**21.10**	**255**	P		**P**	**06 12 30.1**	**+1.9**
KSRS	comp=Z,1.0nm,0.3s			P pmax	P pmax		**06 12 30.2**	**+1.9**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.5s,baz=45,slow=8.4,SNR=3.9	**47.70**	**298**	P		**P**	**06 16 17.5**	**-2.1**
MKAR				LR	LR		06 37 07.6	
FINES	**FINESS Array B** comp=Z,1.9nm,19.2s,baz=22,slow=38	**64.86**	**335**	P		**P**	**06 18 20.1**	**-1.3**
FINES	**FINESS Array B** comp=Z,1.2nm,0.4s,baz=44,slow=6.2,SNR=12	**64.86**	**335**	P		**P**	**06 18 20.1**	**-1.3**
FINES	comp=Z,1.0nm,0.4s			P pmax	P pmax			
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.6s,baz=28,slow=6.2	**69.02**	**342**	P		**P**	**06 18 47.0**	**-1.0**
NOA	**NORSAR Array B** comp=Z,1.4nm,0.6s,baz=28,slow=6.4,SNR=6.4	**69.02**	**342**	P		**P**	**06 18 47.4**	**-0.6**
NOA				LR	LR		06 52 12.9	
NOA	**NORSAR Array B** comp=Z,7.1nm,18.1s,baz=0.0,slow=39	**69.02**	**342**	P		**P**	**06 18 47.4**	**-0.6**
NOA	comp=Z,1.0nm,0.6s			pmax	pmax			
NOA	comp=Z,7.0nm,18.1s			MLR	MLR			
AKASG	**Malin Array Be** comp=Z,1.8nm,0.3s,baz=35,slow=6.2,SNR=9.4	**72.38**	**327**	P		**P**	**06 19 07.2**	**-1.3**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.5s,baz=316,slow=5.0,SNR=4.4	**77.37**	**61**	P		P	06 19 44.8	+7.0
BRTR	**Keskin Array B** comp=Z,0.4nm,0.5s,baz=33,slow=3.4,SNR=2.6	**79.22**	**317**	P		**P**	**06 19 47.9**	**-0.1**

ISCJB 17 06:19:00.9±0.4, 58.12N±0.03×157.01W±0.05, h7km, mb3.9/10, MS3.2/3, Error ellipse: s-maj=4.1km s-min=4.0km az=34.5
NEIC 17 06:19:00.3, 58.11N×157.04W, h15km, ML3.8(AEIC), After AEIC.
IDC 17 06:19:08.7±5.1, 58.33N×156.86W, h52km±48km, mb3.7/10, mb1 3.9/12, mb1mx3.6/36, mbtmp3.9/12, ML3.8/2, MS3.1/3, Ms1 3.1/3, ms1mx2.6/33, Error ellipse: s-maj=42.1km s-min=14.1km az=21.0
ISC 17 06:19:02.0±0.6, 58.11N±0.04×156.91W±0.04, h7km, n53, σ1s25/57, mb4.0/10, MS3.2/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PLK5	**Peulik 5**	**0.11**	**171**	P		**Pg**	**06 19 04.0**	**-0.4**
PLWL	**Peulik Whale M**	**0.31**	**102**	P		**Pg**	**06 19 07.8**	**-0.2**
PLK1	**Peulik 1**	**0.35**	**152**	P		**Pg**	**06 19 08.3**	**-0.4**
PLBL	**Peulik Blue Cr**	**0.41**	**173**	P		**Pg**	**06 19 09.1**	**-0.8**
PLK3	**Peulik 3**	**0.54**	**141**	P		**Pg**	**06 19 12.1**	**-0.3**
PLK3				S		**Sb**	**06 19 20.0**	**-1.8**
KELA	**Mount Kelaz**	**0.70**	**61**	P		**Pg**	**06 19 15.3**	**-0.2**
KABU	**Katmai Buttres**	**0.88**	**79**	P		**Pg**	**06 19 18.6**	**-0.2**
KABU				S		**Sg**	**06 19 29.8**	**-0.4**
KVTA	**Katmai Vly 10**	**0.90**	**72**	P		**Pg**	**06 19 19.0**	**-0.2**
KBM	**Katmai Bkd Mtn**	**0.92**	**79**	P		**Pg**	**06 19 19.4**	**-0.2**
KCE	**Katmai Mt Cerb**	**0.92**	**81**	P		**Pg**	**06 19 19.8**	**+0.1**
KAKN	**Katmai Knife C**	**1.00**	**78**	P		**Pg**	**06 19 20.7**	**-0.4**
KAKN				S		**Sg**	**06 19 33.8**	**-0.2**
KABR	**Katmai Barrier**	**1.03**	**88**	P		**Pg**	**06 19 21.4**	**-0.3**
ANPB	**Aniakchak Plen**	**1.50**	**210**	P		**Pn**	**06 19 27.8**	**-1.6**
MCNL	**McNeil River**	**1.73**	**50**	P		**Pn**	**06 19 32.8**	**+0.4**
CHGN	**Chignik**	**1.99**	**205**	P		**Pn**	**06 19 35.2**	**-0.7**
OHAK	**Old Harbor**	**2.14**	**113**	P		**Pn**	**06 19 38.9**	**+0.9**
OHAK				S		**Sb**	**06 20 06.4**	**-1.3**
AUI	**Augustine Isla**	**2.19**	**54**	P		**Pn**	**06 19 39.4**	**+0.5**
KDAK	**Kodiak Island**	**2.33**	**96**	P		**Pb**	**06 19 42.5**	**-1.7**
OPT	**Oil Point**	**2.46**	**49**	P		**Pn**	**06 19 43.1**	**+0.6**
ILW	**Iliamna West**	**2.76**	**43**	P		**Pn**	**06 19 47.8**	**+1.0**
SVW2	**Sparrevohn**	**3.07**	**12**	P		**Pn**	**06 19 51.7**	**+0.8**
RSO	**Redoubt South**	**3.18**	**40**	P		**Pn**	**06 19 53.8**	**+1.2**
NCT	**North Crescent**	**3.19**	**38**	P		**Pn**	**06 19 53.6**	**+0.9**
DFR	**Drift River**	**3.30**	**39**	P		**Pn**	**06 19 56.0**	**+2.0**
SDPT	**Sand Point**	**3.39**	**217**	P		**Pn**	**06 19 54.8**	**-0.5**
BRLK	**Bradley Lake**	**3.54**	**59**	P		**Pn**	**06 19 59.5**	**+2.2**
SLKM	**Skilak Lake**	**4.19**	**52**	P		**Pn**	**06 20 08.7**	**+2.4**
SEW	**Seward**	**4.33**	**59**	P		**Pn**	**06 20 11.9**	**+3.7**
RC01	**Rabbit Creek A**	**4.71**	**48**	*ePn*		**Pn**	**06 20 15.0**	**+1.6**
RC01				*eSn*		**Sn**	**06 21 07.8**	**-0.5**
PPLA	**Purkeypile**	**5.34**	**24**	*ePn*		**Pn**	**06 20 23.1**	**+1.0**
PPLA				*eSg*		**Sg**	**06 21 52.5**	**-0.7**
TRF	**Thorofare Moun**	**6.26**	**28**	*ePn*		**Pn**	**06 20 36.9**	**+2.1**
TRF				*eSg*		**Sg**	**06 22 19.6**	**-3.2**
BPAW	**Bear Paw Mtn.**	**6.66**	**23**	*ePn*		**Pn**	**06 20 40.1**	**0.0**
MCK	**McKinley**	**6.85**	**31**	*ePn*		**Pn**	**06 20 45.5**	**+2.7**
BMRM	**Bremner River**	**6.88**	**60**	Pn		**Pn**	**06 20 44.4**	**+1.1**
IM04	**Indian Mountai**	**8.03**	**9**	*ePn*		**Pn**	**06 20 58.7**	**-0.2**
COLA	**College**	**8.04**	**29**	*ePn*		**Pn**	**06 20 59.4**	**+0.3**
ILAR	**Eielson Array**

ZALV Lg Lg 06 40 35.1
0.5nm,0.3s,baz=106,slow=26,SNR=3.7
KURBB Kurchatov Arra 6.29 247 Pn Pn 06 41 13.9 +0.9
0.0nm,0.3s,baz=62,slow=14,SNR=3.8
KURBB Lg Lg 06 42 59.2
0.0nm,0.3s,baz=61,slow=34,SNR=3.1
MKAR Makanchi Array 7.50 209 Pn Pn 06 41 30.9 +1.2
0.2nm,0.3s,baz=27,slow=14,SNR=4.9

IDC ***17*** *06:53:27.1±8.6, 31°.38S×179°.85E, h335km±96km, mb2.8/2, mb1 3.2/3, mb1mx3.0/34, mbtmp3.7/3, Error ellipse: s-maj=100.3km s-min=44.1km az=2.0*
ISCJB ***17*** *06:53:34.9±1.4, 31°.89S±0°.08×179°.1E±0°.3, h400km, mb3.0/2, Error ellipse: s-maj=29.8km s-min=9.8km az=173.7*
ISC 17 06:53:36.3±1.9, 32°.0S±0°.1×179°.1E±0°.2, h400km, n22, σ1§25/29, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.60**	**186**	PN	**Pn**	**06 55 05.9**	**+1.4**
MXZ				SN	**S**	**06 56 14.9**	**-1.4**
WMGZ	**Waiomatatini S**	**5.84**	**185**	PN	**Pn**	**06 55 08.5**	**+1.4**
HAZ	**Te Kaha**	**5.85**	**190**	PN	**Pn**	**06 55 07.9**	**+0.8**
HAZ				SN	**S**	**06 56 21.1**	**-0.1**
TWGZ	**Tauwhareparae**	**6.24**	**188**	SN	**S**	**06 56 29.6**	**+0.5**
MWZ	**Matawai**	**6.46**	**191**	PN	**Pn**	**06 55 14.7**	**+0.8**
MWZ				*e*SN	**S**	**06 56 33.5**	**+0.1**
URZ	**Urewera**	**6.46**	**194**	P	**Pn**	**06 55 12.9**	**-0.9**
	2.5nm,0.3s,baz=275,slow=5.0,SNR=53						
URZ				S	**S**	**06 56 35.1**	**+1.7**
	2.6nm,0.3s,baz=60,slow=22,SNR=19						
URZ	**Urewera**	**6.46**	**194**	*e*PN	**Pn**	**06 55 12.9**	**-0.9**
URZ				SN	**S**	**06 56 34.9**	**+1.5**
RAGZ	**Rawiri**	**6.63**	**191**	PN	**P**	**06 55 17.1**	**+0.6**
RIGZ	**Rimuhau**	**6.79**	**189**	PN	**P**	**06 55 17.9**	**-0.2**
SNGZ	**Shannon Statio**	**6.92**	**191**	PN	**P**	**06 55 20.8**	**+1.2**
BKZ	**Black Stump Fm**	**7.46**	**196**	PN	**Pn**	**06 55 25.2**	**+0.1**
BKZ				*e*SN	**S**	**06 56 54.1**	**-0.1**
KWHZ	**Kaweka Forest**	**7.72**	**195**	PN	**P**	**06 55 28.8**	**+0.2**
BHHZ	**Black Hill Sta**	**7.87**	**197**	PN	**Pn**	**06 55 29.3**	**-0.4**
KAHZ	**Kahuranaki**	**7.99**	**192**	PN	**P**	**06 55 31.4**	**-0.1**
MRZ	**Mangatainoka R**	**9.10**	**197**	PN	**P**	**06 55 42.5**	**-1.2**
MRZ				*e*SN	**S**	**06 57 25.3**	**-3.2**
CAW	**Cannon Point**	**9.65**	**198**	PN	**P**	**06 55 50.0**	**+0.1**
TCW	**Tory Channel**	**9.97**	**201**	PN	**P**	**06 55 52.7**	**-0.8**
QRZ	**Quartz Range**	**10.27**	**209**	PN	**Pn**	**06 55 57.7**	**+0.4**
TUWZ	**Tuamarina**	**10.28**	**202**	PN	**P**	**06 55 56.4**	**-0.3**
ASAR	**Alice Springs**	**40.54**	**270**	P	**P**	**07 00 40.5**	**+1.6**
	0.2nm,0.5s,baz=106,slow=7.5,SNR=1.4						
WRA	**Warramunga Arr**	**41.68**	**276**	P	**P**	**07 00 49.1**	**+1.0**
	0.6nm,0.4s,baz=112,slow=8.0,SNR=5.7						
FINES	**FINESS Array B**	**145.70**	**337**	PKPbc	**PKPdf**	**07 12 24.2**	**-2.9**
	1.3nm,0.5s,baz=62,slow=3.3,SNR=10						

BJI ***17*** *06:57:45.2, 31°.11N×116°.28W, h11km, mb4.8/2, Ms4.8/1*
NEIC ***17*** *06:57:47.7, 31°.29N×115°.63W, h6km, mb4.1/9, ML4.8(PAS), After PAS.*
NEIC Felt at San Felipe, Tijuana and Vicente Guerrero. Also felt at Chula Vista, El Cajon, Escondido, San Diego, San Ysidro and Santee, California.
ECX ***17*** *06:57:48.2±0.5, 31°.25N×115°.65W, h5km, MD4.6, ML4.8, Fault plane solution: NP1:φs120.00000°, δ90.00000°, λ0.00000°.*
MEX ***17*** *06:57:49.0±0.7, 31°.21N×115°.66W, h6km±19km, MD4.4*
IDC ***17*** *06:57:50.6±1.4, 31°.46N×115°.36W, h0km, mb3.7/2, mb1 4.1/10, mb1mx3.8/29, mbtmp3.8/10, ML3.7/8, MS3.8/11, Ms1 3.7/11, ms1mx3.4/39, Error ellipse: s-maj=23.8km s-min=10.0km az=48.0*
ISC 17 06:57:47.4±0.6, 31°.26N±0°.02×115°.67W±0°.02, h3km±4km, n246, σ1§88/240, mb3.9/3, MS3.9/4, 3C-9D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**0.28**	**140**	*e*P	**Pg**	**06 57 53.0**	**+0.3**
SPIG				*e*S	**Sg**	**06 57 57.0**	**+0.6**
SPIG	**San Pedro Mart**	**0.28**	**140**	*e*P	**Pg**	**06 57 53.0**	**+0.3**
SPIG				*e*S	**Sg**	**06 57 57.0**	**+0.6**
SPIG	**San Pedro Mart**	**0.28**	**140**	*e*P	**Pg**	**06 57 53.0**	**+0.3**
SPX	**San Pedro Mart**	**0.28**	**140**	*e*P	**Pg**	**06 57 53.0**	**+0.3**
SPX				*e*S	**Sg**	**06 57 57.2**	**+0.8**
ECBX	**El Chinero**	**0.57**	**68**	*e*P	**Pg**	**06 57 57.8**	**-0.5**
ECBX				*e*S	**Sg**	**06 58 05.3**	**-0.5**
ECBX				IAML		06 58 10.2	
	comp=N,59μm,1.1s						
ECBX				*e*		06 58 10.2	
ECBX				*e*		06 58 15.6	
ECBX				IAML		06 58 15.6	
	comp=E,29μm,1.1s						
ZAX	**El Zacaton**	**0.57**	**296**	*e*P	**Pg**	**06 57 58.4**	**0.0**
ZAX				*e*S	**Sg**	**06 58 06.8**	**+1.0**
RDX	**Rancho Dawling**	**0.70**	**341**	*e*P	**Pg**	**06 58 01.2**	**+0.3**
RDX				*e*S	**Sg**	**06 58 10.9**	**+0.8**
ECNX	**Esteban Cantu**	**0.89**	**297**	*e*P	**Pg**	**06 58 04.2**	**-0.2**
ECNX				*e*S	**Sg**	**06 58 16.1**	**+0.2**
PBX	**Punta Banda**	**1.02**	**298**	*e*P	**Pg**	**06 58 06.5**	**-0.4**
PBX				*e*S	**Sb**	**06 58 20.7**	**-0.9**
CPBX	**Cerro Prieto**	**1.20**	**15**	*e*P	**Pg**	**06 58 09.2**	**-1.1**
CPBX				*i* S	**Sg**	**06 58 25.2**	**-0.6**
CPBX	**Cerro Prieto**	**1.20**	**15**	*i**e*P	**Pg**	**06 58 09.3**	**-1.0**
MBIG	**Mexicali**	**1.21**	**19**	*e*P	**Pg**	**06 58 09.7**	**-0.9**
MBIG				*i* S	**Sg**	**06 58 24.5**	**-1.9**
CBX	**Cerro Bola**	**1.35**	**321**	*e*P	**Pn**	**06 58 11.3**	**-1.9**
CBX				*i* S	**Sb**	**06 58 28.6**	**-2.5**
CBX	**Cerro Bola**	**1.35**	**321**	*e*P	**Pn**	**06 58 11.3**	**-1.9**
CBX				*i* S	**Sb**	**06 58 28.6**	**-2.5**
CBX	**Cerro Bola**	**1.35**	**321**	*i**e*P	**Pn**	**06 58 11.5**	**-1.7**
CBX				*e*S	**Sb**	**06 58 30.1**	**-1.0**
CBX				IAML		06 58 33.2	
	comp=N,26μm,0.7s						
CBX				IAML		06 58 36.8	
	comp=E,18μm,0.8s						
CBX				*i**e*		06 58 36.8	
IBP	**Imperial Bould**	**1.44**	**346**	P	**Pn**	**06 58 13.6**	**-0.9**
	baz=1.4						
IBP				S	**Sn**	**06 58 32.3**	**-1.7**
	baz=1.4						
SWSC	**Sam W. Stewart**	**1.68**	**356**	P	**Pn**	**06 58 16.1**	**-1.6**
	baz=1.7						
SWSC				Sb	**Sg**	**06 58 41.5**	**+0.1**
	baz=1.7						
MONP	**Monument Peak,**	**1.75**	**339**	P	**Pn**	**06 58 18.4**	**-0.4**
	baz=1.7						
MONP				S	**Sn**	**06 58 41.3**	**-0.4**
	baz=1.7						
GLA	**Glamis**	**1.93**	**22**	P	**Pn**	**06 58 19.3**	**-1.8**
	baz=1.9						
GLA	**Glamis**	**1.93**	**22**	*e*Pn	**Pn**	**06 58 19.2**	**-1.8**
GLA				*e*Sn	**Sn**	**06 58 43.9**	**-1.9**
109C	**Camp Elliot, M**	**2.03**	**324**	P	**Pn**	**06 58 21.5**	**-1.0**
	baz=2.0						
109C				S	**Sn**	**06 58 48.4**	**+0.1**
	baz=2.0						
BC3	**Big Chuckawall**	**2.40**	**4**	P	**Pn**	**06 58 26.5**	**-1.1**
	baz=2.4						
PFO	**Pinyon Flats O**	**2.44**	**344**	P	**Pn**	**06 58 27.0**	**-1.2**
	baz=2.4						
PFO				Sb	**Sb**	**06 59 02.5**	**+0.1**
	baz=2.4						
PFO	**Pinyon Flats O**	**2.44**	**344**	*e*Pn	**Pn**	**06 58 27.1**	**-1.1**
PFO				*e*Sg	**Sb**	**06 59 03.9**	**+1.6**
214A	**Organ Pipe Nat**	**2.54**	**73**	P	**Pn**	**06 58 27.4**	**-2.0**
	baz=2.5						
214A				S	**Sn**	**06 58 57.2**	**-3.7**
	baz=2.5						
214A	**Organ Pipe Nat**	**2.54**	**73**	*e*Pn	**Pn**	**06 58 27.6**	**-1.9**
214A				*e*Sn	**Sn**	**06 58 58.6**	**-2.4**
Y12C	**Blythe**	**2.67**	**21**	P	**Pn**	**06 58 30.2**	**-1.0**
	baz=2.6						
MURC	**Murrieta**	**2.67**	**331**	Sb	**Sb**	**06 59 07.4**	**-1.6**
	baz=2.7						
BELC	**Belle Mtn. Jos**	**2.75**	**354**	P	**Pn**	**06 58 31.8**	**-0.7**
	baz=2.7						
BELC				Sb	**Sb**	**06 59 13.3**	**+1.9**
	baz=2.7						
IRM	**Iron Mountain**	**2.92**	**8**	P	**Pn**	**06 58 34.1**	**-0.7**
	baz=2.9						
SCI	**San Clemente I**	**2.98**	**306**	P	**Pn**	**06 58 33.7**	**-1.9**
	baz=3.0						
SCI				S	**Sn**	**06 59 11.5**	**-0.4**
	baz=3.0						
CIS	**Catalina Islan**	**3.15**	**314**	P	**Pn**	**06 58 36.2**	**-1.7**
	baz=3.2						
BBRC	**Big Bear Solar**	**3.17**	**341**	P	**Pn**	**06 58 38.4**	**-0.1**
	baz=3.2						
BBRC				Sb	**Sb**	**06 59 25.6**	**+1.9**
	baz=3.2						
PDMCI	**Parker Dam,Lak**	**3.29**	**23**	P	**Pn**	**06 58 39.3**	**-0.5**
	baz=3.3						
FMP	**Fort Macarthur**	**3.30**	**319**	Sb	**Sb**	**06 59 26.1**	**-1.0**
	baz=3.3						
BFSC	**Mount Baldy Ra**	**3.41**	**331**	Pb	**Pb**	**06 58 46.0**	**-2.5**
	baz=3.4						
BFSC				Sb	**Sb**	**06 59 28.7**	**-1.7**
	baz=3.4						
GMRC	**Granite Mounta**	**3.51**	**0**	P	**Pn**	**06 58 42.7**	**-0.3**
	baz=3.5						
MWC	**Mount Wilson**	**3.58**	**326**	*e*Pn	**Pn**	**06 58 43.7**	**-0.2**
PASC	**Pasadena Art C**	**3.59**	**325**	*e*Pn	**Pn**	**06 58 43.3**	**-0.7**
PASC				*e*Sn	**Sn**	**06 59 28.0**	**+1.0**
HEC	**Hector,Ludlow**	**3.60**	**351**	P	**Pn**	**06 58 44.0**	**-0.2**
	baz=3.6						
DECC	**Green Verdugo**	**3.73**	**324**	P	**Pn**	**06 58 46.2**	**+0.3**
	baz=3.7						
DECC				Sb	**Sb**	**06 59 40.8**	**+1.3**
	baz=3.7						
RRX	**Edison Barstow**	**3.78**	**343**	Sb	**Sb**	**06 59 43.8**	**+2.8**
	baz=3.8						
BLG	**Laguna Peak, P**	**4.03**	**316**	P	**Pn**	**06 58 50.6**	**+0.6**
	baz=4.0						
BLG				Sb	**Sb**	**06 59 51.1**	**+2.8**
	baz=4.0						
EDW2	**Edwards Air Fo**	**4.10**	**332**	P	**Pn**	**06 58 51.7**	**+0.7**
	baz=4.1						
EDW2				Sb	**Sb**	**06 59 49.8**	**-0.5**
	baz=4.1						
GSC	**Goldstone, Bar**	**4.14**	**347**	P	**Pn**	**06 58 51.3**	**-0.3**
	baz=4.1						
GSC				Sb	**Sb**	**06 59 55.9**	**+4.4**
	baz=4.1						
GSC	**Goldstone, Bar**	**4.14**	**347**	*e*Pn	**Pn**	**06 58 51.7**	**+0.1**
TUQ	**Turquoise Moun**	**4.17**	**357**	P	**Pn**	**06 58 52.3**	**+0.2**
	baz=4.2						
OSI	**Osito Audit: C**	**4.22**	**323**	Sb	**Sb**	**06 59 55.4**	**+1.9**
	baz=4.2						
OSI	**Osito Audit: C**	**4.22**	**323**	*e*Pn	**Pn**	**06 58 51.5**	**-1.1**
TUC	**Tucson**	**4.29**	**75**	*e*P	**Pg**	**06 59 08.3**	**-1.3**
LRMC	**Laurel Mtn Rad**	**4.53**	**339**	P	**Pn**	**06 58 56.7**	**-0.3**
	baz=4.5						
LRMC				Sb	**Sb**	**07 00 06.4**	**+3.7**
	baz=4.5						
SHOC	**Shoshone, Teco**	**4.66**	**354**	P	**Pn**	**06 58 59.0**	**+0.4**
	baz=4.6						
ARVC	**Arvin**	**4.68**	**326**	P	**Pn**	**06 58 57.2**	**-1.7**
	baz=4.7						
ARVC				Sb	**Sb**	**07 00 10.8**	**+4.0**
	baz=4.7						
ISA	**Isabella, Lake**	**4.98**	**333**	P	**Pn**	**06 59 03.1**	**0.0**
	baz=5.0						
ISA				Sb	**Sb**	**07 00 19.2**	**+3.7**
	baz=5.0						
ISA	**Isabella, Lake**	**4.98**	**333**	*e*Pn	**Pn**	**06 59 03.2**	**+0.1**
MPMC	**Manual Prospec**	**5.02**	**343**	P	**Pn**	**06 59 04.3**	**+0.5**
	baz=5.0						
MPMC				Sb	**Sb**	**07 00 22.6**	**+5.7**
	baz=5.0						
SHPR	**Sheep Range**	**5.25**	**4**	*e*Pn	**Pn**	**06 59 07.8**	**+0.9**
DAC	**Darwin (Calif)**	**5.25**	**343**	Pn	**Pn**	**06 59 06.6**	**-0.4**
DAC				*e*Sg	**Sg**	**07 00 38.0**	**+1.9**
FURC	**Furnace Creek,**	**5.29**	**350**	P	**Pn**	**06 59 08.0**	**+0.8**
	baz=5.3						
VES	**Vestal, Richgr**	**5.38**	**329**	P	**Pn**	**06 59 09.9**	**+1.4**
	baz=5.4						
VES				Sb	**Sb**	**07 00 32.7**	**+5.6**
	baz=5.4						
SMMC	**Simmler**	**5.43**	**319**	S	**Sn**	**07 00 10.2**	**-2.0**
	baz=5.4						
WUAZ	**Wupatki**	**5.56**	**39**	P	**Pn**	**06 59 12.2**	**+1.0**
	baz=5.5						
WUAZ				S	**Sn**	**07 00 14.4**	**-1.3**
	baz=5.5						
WUAZ	**Wupatki**	**5.56**	**39**	*e*Pn	**Pn**	**06 59 11.9**	**+0.8**
WUAZ				*e*Sn	**Sn**	**07 00 12.8**	**-3.0**
TPNV	**Topopah Spring**	**5.70**	**355**	P	**Pn**	**06 59 14.7**	**+1.7**
	baz=5.7						
RCTC	**Rector, Farmer**	**5.85**	**330**	P	**Pn**	**06 59 15.7**	**+0.8**
	baz=5.8						
GRAC	**Grapevine Rang**	**5.90**	**347**	P	**Pn**	**06 59 16.9**	**+1.2**
	baz=5.9						
GRAC				Sb	**Sg**	**07 00 51.9**	**-4.8**
	baz=5.9						
W18A	**Petrified Fore**	**6.29**	**51**	P	**Pn**	**06 59 22.4**	**+1.3**
	baz=6.2						
W18A	**Petrified Fore**	**6.29**	**51**	Pn	**Pn**	**06 59 21.4**	**+0.3**
CCUT	**Cedar City**	**6.56**	**16**	*e*Pn	**Pn**	**06 59 26.2**	**+1.3**
121A	**Cookes Peak, D**	**6.83**	**77**	P	**Pn**	**06 59 28.5**	**-0.1**
	baz=6.8						
121A	**Cookes Peak, D**	**6.83**	**77**	*e*Pn	**Pn**	**06 59 28.5**	**-0.1**
TPH	**Tonopah**	**6.92**	**350**	*e*Pn	**Pn**	**06 59 29.9**	**0.0**
TPH				*e*Pg	Pg	06 59 54.4	-5.5
TPH				*e*Sg	**Sg**	**07 01 29.4**	**-0.1**
R11A	**Troy Canyon, C**	**7.07**	**1**	P	**Pn**	**06 59 33.2**	**+1.3**
	baz=7.1						
R11A	**Troy Canyon, C**	**7.07**	**1**	*e*Pn	**Pn**	**06 59 33.4**	**+1.4**
R11A				*e*Sg	**Sg**	**07 01 38.9**	**+4.4**
NVAR	**Mina Array Bea**	**7.47**	**344**	Pn	**Pn**	**06 59 40.1**	**+2.7**
	comp=E,0.3nm,0.3s,baz=167,slow=15,SNR=11						
NVAR				Pg	Pb	07 00 02.4	+4.7
	comp=E,0.7nm,0.3s,baz=159,slow=16,SNR=13						
NVAR				Lg	Lg	07 01 43.1	
	comp=E,0.4nm,0.3s,baz=146,slow=23,SNR=2.6						
MVU	**Marysvale**	**7.76**	**21**	*e*Pn	**Pn**	**06 59 42.5**	**+1.0**
MSU	**Marysvale**	**7.78**	**21**	*e*Pn	**Pn**	**06 59 44.2**	**+2.5**
CMB	**Columbia Colle**	**7.79**	**331**	*e*Pn	**Pn**	**06 59 43.8**	**+2.1**
LAZ	**Ladron**	**7.83**	**64**	*e*Pn	**Pn**	**06 59 41.4**	**-1.0**
WAKR	**Walker**	**7.86**	**338**	*e*Pn	**Pn**	**06 59 43.8**	**+1.0**
MVCO	**Mesa Verde**	**8.39**	**43**	P	**Pn**	**06 59 51.4**	**+1.3**
	baz=8.4						
MVCO	**Mesa Verde**	**8.39**	**43**	*e*Pn	**Pn**	**06 59 52.1**	**+2.0**
ANMO	**Albuquerque**	**8.56**	**62**	Pn	**Pn**	**06 59 53.6**	**+1.3**
	comp=E,0.3nm,0.3s,baz=233,slow=10,SNR=8.1						
ANMO				Lg	Lg	07 02 19.6	
	comp=E,0.2nm,0.3s,baz=354,slow=20,SNR=3.2						
ANMO				LR	LR	07 02 54.2	
	comp=E,408nm,19.1s,baz=256,slow=37						
LPIG	**La Paz**	**8.57**	**145**	Pn	Pn	06 59 56.6	+4.3
	comp=E,1.6nm,0.3s,baz=348,slow=20,SNR=3.5						
LPIG				Lg	Lg	07 02 19.7	
	comp=E,3.8nm,0.3s,baz=218,slow=20,SNR=3.7						
LPIG				LR	LR	07 03 00.4	
	comp=E,595nm,18.6s,baz=340,slow=36						
SRU	**San Rafael Swe**	**8.89**	**27**	*e*Pn	**Pn**	**06 59 59.3**	**+2.4**
PV01	**Paradox Valley**	**9.01**	**39**	*e*Pn	Pn	07 00 01.6	+3.0
PV04	**Paradox Valley**	**9.03**	**36**	*e*Pn	Pn	07 00 01.6	+2.8
NLU	**North Lily Min**	**9.15**	**18**	*e*Pn	**Pn**	**07 00 00.1**	**-0.5**
DUG	**Dugway, Tooele**	**9.21**	**14**	*e*Pn	**Pn**	**07 00 02.9**	**+1.6**
ELK	**Elko**	**9.47**	**2**	Pn	**Pn**	**07 00 07.4**	**+2.5**
	comp=E,0.4nm,0.3s,baz=184,slow=13,SNR=11						
ELK				Pg		07 00 49.7	
	comp=E,0.3nm,0.3s,baz=181,slow=12,SNR=11						
ELK				Lg	Lg	07 02 43.6	
	comp=E,0.1nm,0.3s,baz=37,slow=19,SNR=2.4						
ELK				LR	LR	07 03 40.2	
	comp=E,300nm,21.0s,baz=174,slow=38						
BGU	**Big Grassy Mou**	**9.88**	**12**	*e*Pn	**Pn**	**07 00 12.8**	**+2.4**
JLU	**Jordanelle**	**9.93**	**19**	*e*Pn	**Pn**	**07 00 13.0**	**+1.8**
CTU	**Camp Tracy**	**9.93**	**18**	*e*Pn	Pn	07 00 15.4	+4.3
TCUT	**Toone Canyon**	**10.42**	**18**	*e*Pn	**Pn**	**07 00 18.8**	**+0.8**
TXAR	**Lajitas Array**	**10.55**	**97**	Pn	**Pn**	**07 00 21.4**	**+1.7**
	comp=E,0.2nm,0.3s,baz=274,slow=12,SNR=34						
TXAR				Lg	Lg	07 03 15.4	
	comp=E,0.0nm,0.3s,baz=281,slow=29,SNR=2.8						
TXAR				LR	LR	07 04 21.9	
	comp=E,314nm,19.3s,baz=0.0,slow=38						
SDCO	**Great Sand Dun**	**10.59**	**50**	*e*Pn	**Pn**	**07 00 19.8**	**-0.5**
O20A	**White River Ci**	**10.71**	**32**	P	Pn	07 00 25.6	+3.7
	baz=11						
O20A	**White River Ci**	**10.71**	**32**	*e*Pn	**Pn**	**07 00 23.0**	**+1.1**
HVU	**Hansel Valley**	**10.75**	**12**	*e*Pn	**Pn**	**07 00 23.9**	**+1.5**
T25A	**Trinidad**	**11.01**	**55**	P	**Pn**	**07 00 28.3**	**+2.3**
	baz=11						
228A	**UT Block 9, Go**	**11.18**	**82**	P	**Pn**	**07 00 30.8**	**+2.7**
	baz=11						
MSTX	**Muleshoe**	**11.21**	**73**	P	Pn	07 00 32.7	+4.1
	baz=11						
MSTX	**Muleshoe**	**11.21**	**73**	*e*Pn	Pn	07 00 31.3	+2.7
	baz=11						
128A	**Castleberry Fa**	**11.29**	**80**	P	Pn	07 00 32.6	+3.0
	baz=11						
WVOR	**Wild Horse Val**	**11.40**	**349**	*e*Pn	**Pn**	**07 00 32.3**	**+1.1**
Z28A	**Tucker Farm, M**	**11.43**	**76**	P	**Pn**	**07 00 33.9**	**+2.3**
	baz=11						
V27A	**Dan Oppiter Fa**	**11.61**	**64**	P	Pn	07 00 39.3	+5.1
	baz=12						
529A	**Stev Forest Ra**	**11.63**	**92**	P	**Pn**	**07 00 37.0**	**+2.6**
	baz=12						
X28A	**Dimmitt**	**11.78**	**70**	P	**Pn**	**07 00 38.8**	**+2.3**
	baz=12						
ISCO	**Idaho Springs**	**11.81**	**41**	P	Pn	07 00 40.3	+3.2
	baz=12						
ISCO	**Idaho Springs**	**11.81**	**41**	*e*Pn	**Pn**	**07 00 39.1**	**+2.1**
429A	**Davenport Ranc**	**11.85**	**90**	P	**Pn**	**07 00 39.4**	**+2.1**
	baz=12						
YBH	**Yreka Blue Hor**	**11.88**	**334**	Pn	Pn	07 00 42.8	+5.0
	comp=E,0.1nm,0.3s,baz=124,slow=15,SNR=3.2						
YBH				LR	LR	07 05 40.9	
	comp=E,312nm,20.1s,baz=212,slow=40						
Y29A	**Porterfield Fa**	**12.09**	**74**	P	Pn	07 00 43.9	+3.2
	baz=12						
MFID	**Camas Ranch**	**12.13**	**359**	*e*P	Pn	07 00 45.8	+4.5
HLID	**Hailey**	**12.32**	**4**	P	Pn	07 00 48.7	+4.9
	baz=12						
HLID	**Hailey**	**12.32**	**4**	*e*P	Pn	07 00 49.4	+5.6
W29A	**Amarillo**	**12.36**	**68**	P	Pn	07 00 48.2	+3.9
	baz=12						
530A	**J-C Ranch, Com**	**12.39**	**91**	P	Pn	07 00 47.9	+3.2
	baz=12						
430A	**Baggett Ranch,**	**12.39**	**88**	P	**Pn**	**07 00 47.1**	**+2.3**
	baz=12						
Z30A	**Sanderson Ranc**	**12.47**	**77**	P	Pn	07 00 49.8	+3.9
	baz=12						
BW06	**Boulder Array**	**12.47**	**21**	*e*Pn	**Pn**	**07 00 47.1**	**+1.1**
PDAR	**Pinedale Array**	**12.47**	**21**	Pn	**Pn**	**07 00 48.7**	**+2.7**
	comp=E,0.1nm,0.3s,baz=198,slow=9.3,SNR=18						
PDAR				Lg	Lg	07 04 17.6	
	comp=E,0.1nm,0.3s,baz=203,slow=27,SNR=2.8						
PDAR				LR	LR	07 05 57.8	
	comp=E,430nm,18.5s,baz=214,slow=40						
130A	**Snyder**	**12.56**	**80**	P	Pn	07 00 50.1	+3.0
	baz=12						
REDW	**Red Top Meadow**	**12.67**	**16**	Pn	**Pn**	**07 00 47.1**	**-1.6**
TPAW	**Teton Pass**	**12.77**	**16**	*e*Pn	**Pn**	**07 00 48.9**	**-1.2**
J05D	**Fort Rock, OR**	**12.79**	**341**	P	Pn	07 00 55.3	+5.0
	baz=13						
X30A	**Coker Ranch, T**	**12.84**	**72**	P	Pn	07 00 54.1	+3.3
	baz=13						
431A	**Sonora**	**12.94**	**89**	P	Pn	07 00 55.2	+3.0
	baz=13						
LOHW	**Long Hollow**	**12.97**	**17**	*e*Pn	**Pn**	**07 00 52.0**	**-0.7**
131A	**Roby**	**13.05**	**80**	P	Pn	07 00 56.7	+2.9
	baz=13						
531A	**Rocksprings**	**13.06**	**91**	P	Pn	07 00 57.7	+3.8
	baz=13						
J19A	**Crowheart**	**13.08**	**22**	P	Pn	07 00 57.3	+3.0
	baz=13						
IMW	**Indian Meadow**	**13.16**	**15**	*e*Pn	**Pn**	**07 00 54.8**	**-0.6**
631A	**Perdido Creek**	**13.17**	**94**	P	**Pn**	**07 00 56.9**	**+1.6**
	baz=13						
Y31A	**Rekieta Farm,**	**13.27**	**74**	P	Pn	07 00 59.7	+3.1
	baz=13						
J20A	**Shoshoni**	**13.49**	**24**	P	Pn	07 01 02.7	+3.0
	baz=14						
K22A	**Casper**	**13.51**	**30**	Pn	Pn	07 00 56.6	-3.4
X31A	**McDonald Ranch**	**13.60**	**72**	P	Pn	07 01 04.1	+2.9
	baz=14						
532A	**Rocksprings**	**13.62**	**91**	P	Pn	07 01 04.8	+3.3
	baz=14						
432A	**Menard**	**13.62**	**88**	P	**Pn**	**07 01 03.8**	**+2.3**
	baz=14						
332A	**Millersview**	**13.62**	**85**	P	Pn	07 01 04.3	+2.8
	baz=14						
JCT	**Junction City**	**13.65**	**89**	P	**Pn**	**07 01 04.4**	**+2.4**
	baz=14						
JCT	**Junction City**	**13.65**	**89**	*e*Pn	Pn	07 01 05.3	+3.3
ABTX	**Abilene, Hawle**	**13.68**	**80**	P	**Pn**	**07 01 04.2**	**+1.9**
	baz=14						
ABTX	**Abilene, Hawle**	**13.68**	**80**	*e*Pn	**Pn**	**07 01 04.5**	**+2.2**
MCMT	**McKenzie Canyo**	**13.72**	**8**	*e*Pn	Pn	07 01 07.3	+4.2
Z32A	**Haskell**	**13.85**	**77**	P	**Pn**	**07 01 06.9**	**+2.2**
	baz=14						
X32A	**Elmer**	**14.13**	**73**	P	**Pn**	**07 01 10.5**	**+2.1**
	baz=14						
I21A	**Big Trails, Te**	**14.17**	**26**	P	Pn	07 01 12.4	+3.3
	baz=14						
433A	**Art**	**14.23**	**88**	P	P	07 01 13.6	-3.8
	baz=14						
333A	**Richland Sprin**	**14.27**	**85**	P	Pn	07 01 13.8	+3.4
	baz=14						
W32A	**Sentinel**	**14.28**	**70**	P	P	07 01 14.6

	baz=16							
SLMT	**Seeley Lake**	16.05	5	*e*P		Pn	07 01 34.3	+0.2
	comp=E,14nm,1.2s							
G23A	**Biddle**	16.07	27	P		P	07 01 37.0	-0.8
	baz=16							
F22A	**Rosebud**	16.24	24	P		Pn	07 01 37.7	+1.2
	baz=16							
SWMT	**Swartz Lake**	16.28	4	*e*Pn		Pn	07 01 34.3	-2.8
	comp=E,12nm,1.4s							
V35A	**Meyer Ranch, C**	16.33	69	P		P	07 01 40.1	-0.6
	baz=16							
H25A	**Fruitdale**	16.36	32	P		P	07 01 39.5	-1.6
	baz=16							
JTMT	**Jette**	16.50	3	P		Pn	07 01 40.2	+0.3
	comp=E,14nm,1.2s							
F23A	**Volborg**	16.50	26	P		P	07 01 41.9	-0.8
	baz=16							
Y36A	**Durant**	16.55	76	P		P	07 01 41.6	-1.5
	baz=16							
BSMT	**Bassoo Peak**	16.58	2	*e*P		P	07 01 43.0	-0.7
	comp=E,22nm,1.7s							
NEW	**Newport**	17.02	357	Pn		P	07 01 49.0	+0.7
	comp=E,0.1nm,0.3s,baz=174,slow=13,SNR=5.6							
NEW				LR		LR	07 08 21.6	
	comp=E,159nm,21.4s,baz=198,slow=38							
NEW	**Newport**	17.02	357	P		Pn	07 01 46.3	-0.1
	comp=E,9.0nm,1.0s							
Y37A	**Hugo**	17.11	76	P		Pn	07 01 47.6	+0.1
	baz=17							
HKT	**Hockley**	17.13	89	*e*P		Pn	07 01 46.3	-1.4
	comp=E,20nm,1.4s							
D21A	**La Casta Ranch**	17.14	20	P		P	07 01 50.5	+0.9
	baz=17							
G26A	**Maurine**	17.33	32	P		P	07 01 52.8	+1.0
	baz=17							
EGMT	**Eagleton**	17.34	13	P		P	07 01 53.0	+1.1
	baz=17							
EGMT	**Eagleton**	17.34	13	*e*P		P	07 01 52.5	+0.6
	comp=E,29nm,1.4s							
BGNE	**Belgrade**	17.34	49	P		P	07 01 53.7	+1.8
C20A	**Veseth Ranch,**	17.45	17	P		P	07 01 54.3	+1.3
	baz=17							
D22A	**Cohagen**	17.47	22	P		P	07 01 53.3	0.0
	baz=17							
NATX	**Nacogdoches**	17.92	83	P		P	07 01 59.7	+1.4
F27A	**Lemmon**	18.04	32	P		P	07 02 00.1	+0.5
	baz=18							
D24A	**Glendive**	18.08	26	P		P	07 01 59.7	-0.3
	baz=18							
C22A	**Vida**	18.09	22	P		P	07 01 59.9	-0.1
	baz=18							
W38A	**Poteau**	18.11	72	P		P	07 02 04.5	+4.1
	baz=18							
B20A	**Solberg Farm,**	18.12	17	P		P	07 02 02.3	+1.9
	baz=18							
C23A	**Lambert**	18.36	23	P		P	07 02 07.4	+4.2
	baz=18							
Y39A	**Lockesburg**	18.37	76	P		P	07 02 07.2	+3.9
	baz=18							
A19A	**Klindworth Far**	18.41	15	P		Pn	07 02 05.7	+2.0
	baz=18							
B22A	**Reddig Ranch S**	18.55	21	P		Pn	07 02 07.3	+2.0
	baz=18							
C25A	**Freed Ranch, W**	18.98	27	P		Pn	07 02 13.0	+2.5
	baz=19							
B23A	**Brockton**	19.00	22	P		Pn	07 02 13.6	+2.7
	baz=19							
A22A	**Carney Farms,**	19.19	20	P		Pn	07 02 14.5	+1.5
	baz=19							
A23A	**Redstone**	19.48	22	P		Pn	07 02 19.7	+3.3
	baz=19							
B26A	**Jensen Ranch,**	19.92	27	P		Pn	07 02 21.5	-0.3
	baz=20							
A29A	**Manning Farm,**	21.58	30	P		P	07 02 39.1	+1.0
	baz=22							
EDM	**Edmonton**	22.01	4	*e*P		P	07 02 44.6	+1.9
BBB	**Bella Bella**	22.81	340	LR		LR	07 11 41.5	
	comp=E,294nm,18.0s,baz=182,slow=37							
CMIG	**Matias Romero**	23.57	122	P		P	07 03 01.7	+2.4
	comp=E,3.4nm,0.9s,baz=288,slow=19,SNR=3.5							
WVT	**Waverly**	23.63	71	*e*P		P	07 03 01.2	+1.5
	comp=E,8.0nm,1.2s							
TKL	**Tuckaleechee C**	26.90	72	LR		LR	07 14 28.2	
	comp=E,153nm,20.3s,baz=251,slow=38							
DLBC	**Dease Lake**	28.89	344	LR		LR	07 15 41.5	
	comp=E,364nm,19.1s,baz=147,slow=37							
INK	**Inuvik**	38.52	349	LR		LR	07 21 17.0	
	comp=E,266nm,18.4s,baz=178,slow=37							
ILAR	**Eielson Array**	38.70	339	P		P	07 05 15.5	+3.3
	comp=E,0.6nm,0.6s,baz=149,slow=7.4,SNR=11							
LPAZ	**La Paz**	65.72	129	P		P	07 08 34.2	-0.2
H11N3	**WAKE ISLAND Hy**	69.58	281	T		T	08 25 06.4	
	baz=64,slow=75,SNR=2.8							
H11N2	**WAKE ISLAND Hy**	69.58	281	T		T	08 25 00.6	
	baz=64,slow=75,SNR=3.1							
H11N1	**WAKE ISLAND Hy**	69.60	281	T		T	08 25 01.5	
	baz=64,slow=75,SNR=3.5							
CN2	**Changchun**	86.75	321	*e*P		P	07 10 27.4	-5.5
HHC	**Hu-ho-hao-te**	96.01	326	*e*P		P	07 11 14.3	-2.0
HHC				PP		PP	07 15 09.8	+2.0
HHC				SKS		SKSac	07 21 52.0	-1.9
HHC				S		S	07 22 31.3	-4.6
HHC				SS		SS	07 29 03.9	-1.1
HHC				LN				
	comp=E,130nm,17.7s							
HHC				LE				
	comp=E,110nm,17.6s							
NJ2	**Nanjing**	98.59	316	*e*P		Pdif	07 11 29.3	+1.4
WMQ	**Urumqi**	102.28	343	*e*P		**Pdif**	07 11 43.6	-0.7
CD2	**Chengdu**	107.73	325	Pdif		**Pdif**	07 12 04.0	-4.7
CD2				PP		**PP**	07 16 31.9	-4.2
CD2				S		**Sdif**	07 24 08.6	-6.1
CD2				SS		**SS**	07 31 44.6	-2.9

IDC **17** *07:12:34.9±1.0,24°.18N×109°.19W,h0km,mb4.1/11, mb1 4.3/17,mb1mx4.2/28,mbtmp4.2/17,ML4.0/4,MS4.1/27, Ms1 4.1/27,ms1mx4.0/31,Error ellipse: s-maj=20.7km s-min=9.9km az=168.0*

GCMT **17** *07:12:36.5±0.3,24°.36N×109°.20W,h12km,MW4.9/85, Moment Tensor Solution. s36,c38; s85,c124; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.13±.09; Mθθ=2.11±.08; Mφφ=3.24±.08; Mrθ=0.12±.27; Mθφ=1.11±.09; Mφr=0.47±.27; Best double couple: M◎2.93500×10^16 NP1:φ=327.00000°,δ87.00000°,λ=169.00000°. NP2: φ=236.00000°,δ79.00000°,λ=3.00000°. Principal axes: T 3.5030, Plg5.0000°, Azm101.0000°; N -1.1360, Plg79.0000°, Azm342.0000°; P -2.3670, Plg10.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC **17** *07:12:36.5±0.5,24°.04N×109°.10W,h10km,mb4.6/77, MD4.9(MEX) Error ellipse: s-maj=7.2km s-min=4.4km az=26.0*

ISCJB **17** *07:12:38.0±0.4,24°.22N±0°.03×108°.96W±0°.02,h22km, mb4.5/44,MS4.1/23,Error ellipse: s-maj=4.7km s-min=2.4km az=12.8*

MEX **17** *07:12:38.5±0.3,24°.22N×109°.16W,h16km±110km,MD4.9*

BJI **17** *07:12:39.8,24°.10N×109°.86W,h12km,mb5.1/1,mB4.9/2, Ms5.1/3,Ms7 4.9/2*

ISC 17 07:12:38.4±0.5,24°.14N±0°.05×109°.17W±0°.04,h22km, n510,σ1s24/492,mb4.5/44,MS4.1/23,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LPIG	**La Paz**	1.04	268	*i* P		Pn	07 12 55.0	-2.7
LPIG				*i* S		Sb	07 13 07.5	-3.5
LPIG	**La Paz**	1.04	268	Pg		Pn	07 12 55.2	-2.5
	baz=66,slow=12							
LPIG				Lg		Lg	07 13 08.3	
	3μm,0.3s,baz=319,slow=15,SNR=26							
LPIG	**La Paz**	1.04	268	*i* P		Pn	07 12 55.0	-2.7
LPIG				Pg		Pn	07 12 55.2	-2.5
LPIG				*i* S		Sb	07 13 07.5	-3.5
LPIG				Lg		Lg	07 13 08.3	
MAIG	**Mazatlaan**	2.69	110	*e*P		Pn	07 13 18.4	-2.0
MAIG				*e*S		Sn	07 13 50.6	-1.7
MAIG	**Mazatlaan**	2.69	110	*e*P		Pn	07 13 18.4	-2.0
MAIG				*e*S		Sn	07 13 50.6	-1.7
SRIG	**Santa Rosalia**	4.21	319	*e*P		Pn	07 13 39.3	-2.0
SRIG				*e*S		Sn	07 14 26.4	-3.4
SRIG	**Santa Rosalia**	4.21	319	*e*P		Pn	07 13 39.3	-2.0
SRIG				*e*S		Sn	07 14 26.4	-3.4
HPIG		4.22	48	*i* P		Pn	07 13 39.0	-2.6
HPIG				*i* S		Sn	07 14 26.0	-4.3
HPIG		4.22	48	*i* P		Pn	07 13 39.0	-2.6
HPIG				*i* S		Sn	07 14 26.0	-4.3
HSIG		5.12	342	*i* P		Pn	07 13 50.9	-2.9
HSIG				*i* S		Sn	07 14 47.9	-4.4
TXAR	**Lajitas Array**	7.14	42	Pn		Pn	07 14 19.5	-2.2
	0.7nm,0.3s,baz=227,slow=13,SNR=29							
TXAR				Pg		Pb	07 14 49.7	+8.0
	0.7nm,0.3s,baz=228,slow=13,SNR=10							
TXAR				Sn		Sn	07 15 35.6	-6.5
	2.2nm,0.3s,baz=81,slow=7.7,SNR=7.3							
TXAR				Lg		Lg	07 16 14.3	
	2.0nm,0.3s,baz=227,slow=31,SNR=5.0							
TUC	**Tucson**	8.27	350	*e*Pn		Pn	07 14 35.5	-1.6
TUC				*e*Sn		Sn	07 16 15.0	+5.1
214A	**Organ Pipe Nat**	8.43	338	P		Pn	07 14 39.1	-0.2
	baz=8.6							
214A	**Organ Pipe Nat**	8.43	338	*e*Pn		Pn	07 14 38.1	-1.2
	7.6nm,0.8s							
214A				*e*Sn		Sn	07 16 23.7	+10
121A	**Cookes Peak, D**	8.45	8	P		Pn	07 14 38.2	-1.5
	baz=8.6,SNR=21							
121A	**Cookes Peak, D**	8.45	8	*e*Pn		Pn	07 14 37.6	-2.1
	37nm,1.0s							
529A	**Stev Forest Ra**	8.59	45	P		Pn	07 14 40.0	-1.6
	baz=8.6,SNR=11							
429A	**Davenport Ranc**	9.14	43	P		Pn	07 14 47.3	-1.8
	baz=9.2,SNR=13							
530A	**J-C Ranch, Com**	9.19	48	P		Pn	07 14 48.5	-1.3
	baz=9.2							
832A	**Faith Ranch, C**	9.23	61	P		Pn	07 14 48.9	-1.4
	baz=9.2							
631A	**Perdido Creek**	9.30	54	P		Pn	07 14 50.8	-0.5
	baz=9.3,SNR=23							
732A	**Laxson Ranch,**	9.43	59	P		Pn	07 14 52.0	-1.0
	baz=9.4							
933A	**Laredo**	9.56	67	P		Pn	07 14 54.0	-0.8
	baz=9.5							
430A	**Baggett Ranch,**	9.67	45	P		Pn	07 14 55.6	-0.7
	baz=9.7							
329A	**Wagon Wheel Ra**	9.70	39	P		Pn	07 14 56.2	-0.6
	baz=9.7							
833A	**Chaparral WMA,**	9.71	63	P		Pn	07 14 55.9	-1.0
	baz=9.7,SNR=12							
531A	**Rocksprings**	9.74	50	P		Pn	07 14 57.6	+0.2
	baz=9.8,SNR=12							
228A	**UT Block 9, Go**	9.84	35	P		Pn	07 14 57.8	-0.9
	baz=9.9							
034A	**Hebbronville**	9.90	71	P		Pn	07 14 59.6	+0.1
	baz=9.9							
632A	**Uvalde**	9.94	55	P		Pn	07 15 00.2	+0.2
	baz=9.9,SNR=16							
431A	**Sonora**	10.01	48	P		Pn	07 15 02.3	+1.2
	baz=10.0,SNR=20							
Y22D	**IRIS PASSCAL I**	10.09	11	P		Pn	07 15 03.4	+1.2
	baz=10							
330A	**Mertzon**	10.12	43	P		Pn	07 15 02.4	-0.2
	baz=10,SNR=7.8							
229A	**Bryant Ranch,**	10.15	38	P		Pn	07 15 03.8	+0.8
	baz=10							
GLA	**Glamis**	10.18	332	P		Pn	07 15 05.4	+2.1
	baz=10							
532A	**Rocksprings**	10.18	52	P		Pn	07 15 04.1	+0.7
	baz=10							
128A	**Castleberry Fa**	10.30	33	P		Pn	07 15 05.3	+0.4
	baz=10							
834A	**Tilden**	10.33	65	P		Pn	07 15 04.7	-0.7
	baz=10							
LPM	**Los Pinos Moun**	10.38	12	*e*Pn		Pn	07 15 07.3	+1.2
	41nm,1.6s							
LPM				*e*Sn		Sn	07 17 01.2	-0.7
633A	**Saathoff Ranch**	10.38	57	P		Pn	07 15 06.0	0.0
	baz=10							
JCT	**Junction City**	10.45	51	P		Pn	07 15 07.1	+0.1
	baz=10,SNR=7.6							
JCT	**Junction City**	10.45	51	*e*Pn		Pn	07 15 08.1	+1.1
JCT				*e*Sn		Sn	07 17 03.0	-0.5
230A	**Sterling City**	10.50	41	P		Pn	07 15 07.6	0.0
	baz=10							
SWSC	**Sam W. Stewart**	10.53	328	P		Pn	07 15 10.5	+2.5
	baz=11							
331A	**San Angelo**	10.53	45	P		Pn	07 15 08.5	+0.3
	baz=11,SNR=12							
Y12C	**Blythe**	10.66	335	P		Pn	07 15 10.7	+0.9
	baz=11							
432A	**Menard**	10.69	49	P		Pn	07 15 09.5	-0.8
	baz=11,SNR=6.0							
MONP	**Monument Peak,**	10.80	325	P		Pn	07 15 13.6	+1.6
	baz=11,SNR=7.4							
Z28A	**Tucker Farm, M**	10.88	32	P		Pn	07 15 10.1	-2.9
	baz=11							
W18A	**Petrified Fore**	10.95	358	P		Pn	07 15 14.9	+0.9
	baz=11,SNR=11							
W18A	**Petrified Fore**	10.95	358	*e*Pn		Pn	07 15 15.7	+1.6
	84nm,1.1s							
BC3	**Big Chuckawall**	10.96	331	P		Pn	07 15 15.6	+1.5
	baz=11,SNR=8.7							
PDMCI	**Parker Dam,Lak**	11.02	338	P		Pn	07 15 16.6	+1.9
	baz=11,SNR=6.8							
231A	**Bronte**	11.02	43	P		Pn	07 15 13.3	-1.5
	baz=11							
ANMO	**Albuquerque**	11.03	12	Pn		Pn	07 15 14.7	-0.3
	0.1nm,0.3s,baz=196,slow=14,SNR=30							
ANMO				Lg		Lg	07 18 24.1	
	0.1nm,0.3s,baz=267,slow=18,SNR=3.0							
ANMO				LR		LR	07 19 36.5	
	comp=Z,2μm,18.4s,baz=204,slow=38							
ANMO	**Albuquerque**	11.03	12	*e*Pn		Pn	07 15 16.4	+1.4
ANMO				*e*Sn		Sn	07 17 21.1	+3.2
ANMO				Lg		Lg	07 18 24.1	
332A	**Millersview**	11.03	47	P		Pn	07 15 14.9	0.0
	baz=11,SNR=8.7							
130A	**Snyder**	11.09	39	P		Pn	07 15 15.5	-0.4
	baz=11							
433A	**Art**	11.11	51	P		Pn	07 15 16.3	+0.2
	baz=11							
936A	**North Padre Is**	11.18	70	P		Pn	07 15 16.7	-0.2
	baz=11							
534A	**Blanco**	11.19	56	P		Pn	07 15 16.3	-0.8
	baz=11							
Z29A	**Hungry Hill Ra**	11.20	34	P		Pn	07 15 16.5	-0.8
	baz=11							
IRM	**Iron Mountain**	11.27	334	P		Pn	07 15 20.0	+1.7
	baz=11,SNR=5.9							
MSTX	**Muleshoe**	11.28	28	P		Pn	07 15 17.7	-0.8
	baz=11,SNR=7.6							
MSTX	**Muleshoe**	11.28	28	*e*Pn		Pn	07 15 20.4	+2.0
PFO	**Pinyon Flats O**	11.39	328	P		Pn	07 15 21.8	+1.8
	baz=12							
PFO	**Pinyon Flats O**	11.39	328	*e*Pn		Pn	07 15 21.2	+1.2
	84nm,1.8s							
232A	**Coleman**	11.41	45	P		Pn	07 15 19.3	-0.9
	baz=11							
Y28A	**McKinney Farm,**	11.46	30	P		Pn	07 15 19.4	-1.5
	baz=12							
131A	**Roby**	11.48	40	P		Pn	07 15 19.6	-1.6
	baz=12							
BELC	**Belle Mtn. Jos**	11.50	330	P		Pn	07 15 22.3	+0.9
	baz=12							
WUAZ	**Wupatki**	11.50	351	P		Pn	07 15 22.5	+1.0
	baz=12,SNR=5.5							
WUAZ	**Wupatki**	11.50	351	*e*Pn		Pn	07 15 23.0	+1.5
WUAZ				*e*Sn		Sn	07 17 28.5	-0.9
333A	**Richland Sprin**	11.51	49	P		Pn	07 15 20.7	-0.9
	baz=12,SNR=7.1							
Z30A	**Sanderson Ranc**	11.52	36	P		Pn	07 15 21.1	-0.6
	baz=12,SNR=8.2							
NEE2	**Needles Airpor**	11.61	337	P		Pn	07 15 24.4	+1.6
	baz=12							
Y29A	**Porterfield Fa**	11.70	32	P		Pn	07 15 22.7	-1.4
	baz=12							
434A	**Burnet**	11.74	53	P		Pn	07 15 23.9	-0.7
	baz=12							
736A	**Circle Diamond**	11.85	64	P		Pn	07 15 25.6	-0.5
	baz=12							
ABTX	**Abilene, Hawle**	11.90	43	P		Pn	07 15 25.9	-1.0
	baz=12							
ABTX	**Abilene, Hawle**	11.90	43	*e*Pn		Pn	07 15 26.2	-0.7
ABTX				*e*Sn		Sn	07 17 38.8	-0.2
233A	**Rising Star**	11.99	47	P		Pn	07 15 27.2	-0.9
	baz=12							
X28A	**Dimmitt**	11.99	29	P		Pn	07 15 27.2	-1.0
	baz=12							
GMRC	**Granite Mounta**	12.02	333	P		Pn	07 15 30.6	+2.1
	baz=12							
636A	**Smothers Creek**	12.05	61	P		Pn	07 15 28.0	-0.9
	baz=12							
Z31A	**Sharp Cattle R**	12.09	39	P		Pn	07 15 28.4	-1.1
	baz=12,SNR=17							
BBRC	**Big Bear Solar**	12.14	328	P		Pn	07 15 32.8	+2.4
	baz=12							
133A	**Hamilton Ranch**	12.35	45	P		Pn	07 15 32.6	-0.4
	baz=12							
Z32A	**Haskell**	12.47	41	P		Pn	07 15 34.1	-0.6
	baz=12,SNR=19							
234A	**Clairette**	12.49	49	P		Pn	07 15 33.9	-1.1
	baz=12							
Y31A	**Rekieta Farm,**	12.50	36	P		Pn	07 15 33.9	-1.2
	baz=13,SNR=7.9							
AMTX	**Amarillo**	12.53	30	P		Pn	07 15 34.8	-0.7
	baz=13							
AMTX	**Amarillo**	12.53	30	*e*Pn		Pn	07 15 34.7	-0.9
X30A	**Coker Ranch, T**	12.56	33	P		Pn	07 15 35.0	-0.9
	baz=13							
335A	**Moody**	12.60	53	P		Pn	07 15 35.0	-1.3
	baz=13							
V27A	**Dan Oppiter Fa**	12.81	24	P		Pn	07 15 38.8	-0.6
	baz=13,SNR=11							
134A	**White-Moore Ra**	12.88	47	P		Pn	07 15 39.3	-0.9
	baz=13							
Z33A	**Whitaker Ranch**	12.89	43	P		Pn	07 15 39.6	-0.9
	baz=13							
GSC	**Goldstone, Bar**	12.95	331	P		Pn	07 15 42.9	+1.6
	baz=13,SNR=6.5							
GSC	**Goldstone, Bar**	12.95	331	*e*Pn		Pn	07 15 43.5	+2.3
WHTX	**Lake Whitney,**	12.96	50	P		Pn	07 15 40.1	-1.2
	baz=13							
WHTX	**Lake Whitney,**	12.96	50	*e*Pn		P	07 15 48.3	-3.4
Y32A	**R-V Farms, Ver**	12.99	39	P		Pn	07 15 40.6	-1.2
	baz=13							
V28A	**Channing**	13.04	26	P		Pn	07 15 42.0	-0.5
	baz=13							
MVCO	**Mesa Verde**	13.04	2	P		Pn	07 15 42.7	+0.1
	baz=13,SNR=6.0							
MVCO	**Mesa Verde**	13.04	2	*e*Pn		Pn	07 15 42.6	-0.1
X31A	**McDonald Ranch**	13.16	35	P		Pn	07 15 43.2	-0.9
	baz=13,SNR=12							
EDW2	**Edwards Air Fo**	13.17	326	P		Pn	07 15 46.3	+2.1
	baz=13							
HKT	**Hockley**	13.21	61	*e*Pn		P	07 15 49.8	-4.7
SHOC	**Shoshone, Teco**	13.24	334	P		Pn	07 15 46.7	+1.7
	baz=13							
SHPR	**Sheep Range**	13.36	339	*e*Pn		Pn	07 15 49.4	+2.4
U27A	**Thompson Grove**	13.41	23	P		Pn	07 15 47.0	-0.6
	baz=14,SNR=7.8							
LRMC	**Laurel Mtn Rad**	13.50	329	P		Pn	07 15 51.2	+2.5
	baz=14							
T25A	**Trinidad**	13.59	16	P		Pn	07 15 51.2	+1.2
	baz=14							
U28A	**Mallet**	13.59	25	P		Pn	07 15 50.0	0.0
	baz=14,SNR=11							
W31A	**Holland Ranch,**	13.61	34	P		Pn	07 15 49.4	-0.9
	baz=14							
236A	**Katherine and**	13.62	52	P		Pn	07 15 50.7	+0.3
	baz=14							
V30A	**Spur Ranch, Mi**	13.71	30	P		Pn	07 15 51.5	-0.1
	baz=14							
S22A	**4UR Ranch, Cre**	13.71	8	P		Pn	07 15 52.6	+0.8
	baz=14							
CCUT	**Cedar City**	13.84	346	*e*Pn		Pn	07 15 55.4	+1.8
	27nm,1.3s							
T26A	**Comanche Natio**	13.85	19	P		Pn	07 15 53.0	-0.6
	baz=14							
MPMC	**Manual Prospec**	13.89	331	P		Pn	07 15 55.4	+1.3
	baz=14,SNR=9.0							
Z35A	**Perchaven, San**	13.89	46	P		Pn	07 15 53.4	-0.6
	baz=14							
WMOK	**Wichita Mounta**	13.90	38	*e*Pn		Pn	07 15 52.1	-2.1
	33nm,1.3s							
X33A	**Lawton**	13.92	39	P		Pn	07 15 53.5	-0.9
	baz=14							
SDCO	**Great Sand Dun**	13.92	12	P		Pn	07 15 57.1	+2.4
	baz=14,SNR=22							
SDCO	**Great Sand Dun**	13.92	12	*e*Pn		Pn	07 15 58.3	+3.5
W32A	**Sentinel**	13.93	36	P		Pn	07 15 53.5	-1.0
	baz=14							
PV01	**Paradox Valley**	13.96	2	*e*Pn		Pn	07 15 55.7	+0.5
	1μm,1.3s							
PV01				*e*Sn		Sn	07 18 25.7	-3.9
FURC	**Furnace Creek,**	13.96	333	P		Pn	07 15 56.7	+1.8
	baz=14							
T27A	**Campo**	14.02	22	P		Pn	07 15 56.7	+0.8
	baz=14							
ISA	**Isabella, Lake**	14.03	327	*e*Pn		Pn	07 15 56.3	+0.4
DAC	**Darwin (Calif)**	14.11	331	*e*Pn		Pn	07 15 58.5	+1.2
	78nm,1.8s							
V31A	**Spring Creek L**	14.12	33	P		Pn	07 15 56.5	-0.8
	baz=14							
TPNV	**Topopah Spring**	14.14	336	P		Pn	07 15 59.9	+2.3
	baz=14,SNR=13							
237A	**Washetta, Mont**	14.15	53	P		Pn	07 15 56.0	-1.6
	baz=14							
PV04	**Paradox Valley**	14.21	1	*e*Pn		Pn	07 15 59.1	+0.5
T28A	**Walsh**	14.29	23	P		Pn	07 15 59.9	+0.4
	baz=14,SNR=13							
R23A	**Moffat**	14.30	11	P		Pn	07 16 00.3	+0.4
	baz=14,SNR=6.0							
X34A	**Smith Ranch, M**	14.35	41	P		Pn	07 15 59.5	-0.9
	baz=14							
U30A	**WK&E Inc. Balk**	14.37	29	P		Pn	07 16 00.0	-0.6
	baz=14							
W33A	**Caddo, Fort Co**	14.38	38	P		Pn	07 15 59.7	-0.9
	baz=14,SNR=5.7							
Y35A	**Marietta**	14.39	45	P		Pn	07 15 59.8	-1.0
	baz=14							
CWC	**Cottonwood Cre**	14.47	330	P		Pn	07 16 03.7	+1.6
	baz=15							
VES	**Vestal, Richgr**	14.47	326	P		Pn	07 16 04.3	+2.3
	baz=15							
V32A	**Arapaho**	14.49	35	P		Pn	07 16 01.2	-1.0
	baz=15							
MVU	**Marysvale**	14.55	350	*e*Pn		Pn	07 16 04.6	+1.3
	21nm,1.4s							
MSU	**Marysvale**	14.56	351	*e*Pn		Pn	07 16 06.0	+2.7
	11nm,1.2s							
U31A	**Nine Bar Ranch**	14.60	31	P		Pn	07 16 03.0	-0.7

92nm,1.3s
R28A Tribune 15.49 22 P Pn 07 16 15.5 -0.1
baz=16,SNR=8.4
TPH Tonopah 15.50 336 ePn Pn 07 16 17.4 +1.5
29nm,1.3s
Q26A Hugo 15.50 17 P Pn 07 16 16.4 +0.6
baz=16
U33A Lingo Farm, Me 15.52 35 P Pn 07 16 15.9 0.0
baz=16
T32A Huddler Ranch, 15.69 32 P Pn 07 16 17.9 -0.3
baz=16
W36A Wetumka 15.69 43 P Pn 07 16 17.0 -1.2
baz=16,SNR=12
V35A Meyer Ranch, C 15.74 40 P Pn 07 16 17.6 -1.3
baz=16,SNR=6.2
R29A Marienthal 15.80 24 P Pn 07 16 19.2 -0.4
baz=16,SNR=6.6
U34A Anderson Ranch 15.83 37 P Pn 07 16 18.4 -1.6
baz=16
U34A Anderson Ranch 15.83 37 ePn Pn 07 16 18.2 -1.8
52nm,0.9s
KSCO Kaye Shedlock' 15.83 19 P Pn 07 16 20.2 +0.1
baz=16
KSCO Kaye Shedlock' 15.83 19 ePn Pn 07 16 20.7 +0.6
129nm,1.8s
X37A Clayton 15.89 46 P Pn 07 16 20.6 -0.2
baz=16
ISCO Idaho Springs 15.90 10 P Pn 07 16 22.9 +1.7
baz=16,SNR=25
ISCO Idaho Springs 15.90 10 ePn Pn 07 16 22.5 +1.3
75nm,1.5s
T33A Patterson Ranc 15.95 33 P Pn 07 16 22.6 +1.1
baz=16,SNR=12
NLU North Lily Min 15.96 352 ePn Pn 07 16 22.9 +1.1
16nm,1.2s
MPU Maple Canyon 15.97 353 ePn Pn 07 16 21.0 -0.9
76nm,1.1s
O20A White River Ci 15.97 3 P Pn 07 16 22.7 +0.8
baz=16,SNR=14
O20A White River Ci 15.97 3 ePn Pn 07 16 23.3 +1.4
112nm,1.5s
R30A Dighton 16.01 26 P Pn 07 16 21.6 -0.8
baz=16,SNR=35
S32A Newby Ranch, P 16.10 31 P Pn 07 16 22.9 -0.6
baz=16
Q28A Sharon Springs 16.13 21 P Pn 07 16 24.5 +0.6
baz=16,SNR=17
P26A Davis Ranch, A 16.15 16 P Pn 07 16 24.2 +0.1
baz=16,SNR=15
W37A Quinton 16.20 44 P Pn 07 16 24.4 -0.3
baz=16,SNR=13
NVAR Mina Array Bea 16.23 334 Pn Pn 07 16 26.3 +0.9
0.2nm,0.3s,baz=163,slow=14,SNR=49
Q29A Oakley 16.27 23 P Pn 07 16 26.1 +0.4
baz=16,SNR=19
V36A Jenks 16.29 42 P Pn 07 16 24.5 -1.4
baz=16
X38A Whitesboro 16.30 47 P Pn 07 16 24.2 -1.8
baz=16
DUG Dugway, Tooele 16.30 350 P P 07 16 27.9 -1.1
baz=16,SNR=18
DUG Dugway, Tooele 16.30 350 ePn Pn 07 16 27.2 +1.1
22nm,1.1s
R31A Burdett 16.32 28 P Pn 07 16 25.3 -1.0
baz=16
P27A Ficken Ranch, 16.35 18 P Pn 07 16 26.5 -0.2
baz=16
Y39A Lockesburg 16.39 50 P Pn 07 16 26.4 -0.8
baz=16
T34A McClaskey Farm 16.45 36 P Pn 07 16 26.3 -1.6
baz=16
S33A Kaszmaul Farm, 16.47 33 P P 07 16 29.5 -1.2
baz=16,SNR=7.4
TUL1 Leonard 16.47 41 P Pn 07 16 26.4 -1.7
baz=16
TUL1 Leonard 16.47 41 ePn Pn 07 16 26.2 -1.9
88nm,1.4s
JLU Jordanelle 16.53 354 ePn Pn 07 16 29.7 +0.6
15nm,1.1s
JLU eSn Sn 07 19 34.9 +2.8
P28A Saint Francis 16.62 20 P Pn 07 16 30.8 +0.7
baz=17,SNR=18
Q30A Quinter 16.63 25 P Pn 07 16 29.5 -0.7
baz=17,SNR=42
CTU Camp Tracy 16.65 353 ePn Pn 07 16 31.4 +0.8
19nm,1.1s
W38A Poteau 16.74 46 P Pn 07 16 31.0 -0.6
baz=17,SNR=17
T35A Sooner Cattle 16.74 38 P Pn 07 16 30.2 -1.4
baz=17
WAKR Walker 16.78 331 ePn P 07 16 33.8 -0.5
R32A Long Quarter, 16.79 30 P Pn 07 16 32.0 -0.3
baz=17,SNR=9.6
O26A Horse Wrangler 16.80 16 P Pn 07 16 32.7 +0.3
baz=17
CMB Columbia Colle 16.84 328 ePn P 07 16 36.2 +1.3
16nm,1.4s
V37A Hulbert 16.85 43 P Pn 07 16 32.2 -0.7
baz=17
P29A Atwood 16.92 22 P Pn 07 16 34.5 +0.7
baz=17,SNR=27
N23A Red Feather La 16.93 8 P P 07 16 35.5 -0.5
baz=17,SNR=11
O27A Beecher Island 16.97 18 P Pn 07 16 34.9 +0.4
baz=17
Q31A Ellis 16.98 27 P Pn 07 16 34.1 -0.6
baz=17,SNR=7.7
S34A Willow Spring 17.00 35 P Pn 07 16 35.2 +0.3
baz=17
TCUT Toone Canyon 17.04 354 ePn Pn 07 16 35.0 -0.5
76nm,1.5s
R33A Olander Ranch, 17.04 31 P Pn 07 16 34.8 -0.5
baz=17,SNR=8.1
BGU Big Grassy Mou 17.05 350 ePn P 07 16 36.7 -0.6
84nm,2.0s
MIAR Mount Ida 17.08 49 ePn Pn 07 16 36.0 +0.1
40nm,1.0s
P30A Selden 17.11 24 P Pn 07 16 36.1 -0.2
baz=17,SNR=36
O28A Krutsinger Ran 17.12 20 P Pn 07 16 36.5 +0.1
baz=17,SNR=7.4
T36A Boggs Farm, Ca 17.20 38 P Pn 07 16 36.3 -1.1
baz=17,SNR=8.2
ELK Elko 17.33 344 P Pn 07 16 38.7 -0.4
0.1nm,0.3s,baz=164,slow=9.2,SNR=14
ELK LR LR 07 23 05.8
comp=Z,408nm,19.7s,baz=168,slow=36
ELK Elko 17.33 344 ePn P 07 16 40.4 -0.1
Q32A Meitler Ranch, 17.33 29 P P 07 16 39.6 -0.6
baz=17,SNR=5.8
N26A Koester Ranch, 17.38 15 P Pn 07 16 39.6 0.0
baz=18
R34A Isabella, Hill 17.39 33 P Pn 07 16 39.7 0.0
baz=18
PHWY Pilot Hill 17.39 9 ePn Pn 07 16 40.5 +0.4
42nm,1.4s
S35A Otter Creek Ra 17.41 36 P Pn 07 16 39.5 -0.4
baz=18,SNR=6.6
P31A Stockton 17.43 26 P Pn 07 16 39.7 -0.5
baz=18
O29A 4D Ranch, Culb 17.43 22 P P 07 16 41.0 -0.4
baz=18,SNR=17
N27A Anderson Farm, 17.53 17 P Pn 07 16 41.0 -0.5
baz=18
HWUT Hardware Ranch 17.54 354 ePn P 07 16 42.5 -0.2
42nm,1.1s
RWWY Rawlins 17.58 5 eP P 07 16 45.1 +1.9
58nm,1.3s
BMN Battle Mountai 17.60 339 ePn P 07 16 43.5 +0.1
25nm,1.3s
Q33A Connelly Farm, 17.66 30 P Pn 07 16 42.9 -0.2
baz=18,SNR=14
N28A Pribbeno Ranch 17.70 19 P Pn 07 16 43.3 -0.3
baz=18
O30A MW Ranch, Wils 17.74 23 P P 07 16 45.4 +0.6
baz=18,SNR=9.3
M25A Palm-Egli Farm 17.77 13 P Pn 07 16 44.8 +0.2
baz=18,SNR=6.1
OGNE Ogallala 17.80 18 P Pn 07 16 44.8 0.0
baz=18
OGNE Ogallala 17.80 18 eP P 07 16 45.3 -0.1
88nm,1.3s
T37A Cheneyville 18 17.80 40 P Pn 07 16 44.5 -0.3
baz=18,SNR=22
P32A Huiting Farm, 17.83 28 P Pn 07 16 45.1 -0.1
baz=18,SNR=13
S36A Lake Cedric, C 17.83 37 P Pn 07 16 44.6 -0.6
baz=18,SNR=12

HVU Hansel Valley 17.85 351 eP P 07 16 46.8 +0.6
12nm,1.0s
R35A Emporia Munici 17.94 35 P Pn 07 16 46.1 -0.5
baz=18
O31A Woolen Ranch, 17.99 25 P Pn 07 16 46.8 -0.4
baz=18
M26A McRoberts Ranc 18.00 15 P P 07 16 47.7 -0.1
baz=18
Q34A Chapman 18.02 32 P Pn 07 16 47.5 0.0
baz=18
P33A Williams Farm, 18.08 30 P P 07 16 48.5 0.0
baz=18
N29A Votaw Ranch, W 18.11 21 P Pn 07 16 48.3 -0.3
baz=18,SNR=7.1
N30A Hueftle Ranch, 18.27 22 P P 07 16 51.5 +0.9
baz=18,SNR=9.4
R36A Gordon, Harris 18.31 36 P P 07 16 50.7 -0.3
baz=18
KSU1 Kansas State U 18.33 33 P P 07 16 51.0 -0.2
baz=18,SNR=11
KSU1 Kansas State U 18.33 33 eP Pn 07 16 51.2 0.0
78nm,1.3s
M28A Bar X Bar Ranc 18.40 19 P P 07 16 52.0 -0.1
baz=18
Q35A Mercer Eighty, 18.43 34 P P 07 16 51.8 -0.5
baz=18,SNR=8.5
O32A Brockman Farm, 18.50 27 P P 07 16 52.8 -0.4
baz=19,SNR=14
L26A Underwood Farm 18.55 14 P P 07 16 53.7 -0.2
baz=19
P34A Walnut Farm, R 18.57 31 P Pn 07 16 54.5 +0.3
baz=19,SNR=31
BW06 Boulder Array 18.58 359 eP P 07 16 54.0 -0.3
25nm,1.1s
PDAR Pinedale Array 18.58 359 P P 07 16 54.0 -0.3
0.2nm,0.3s,baz=159,slow=8.9,SNR=74
PDAR LR LR 07 23 51.9
comp=Z,378nm,20.7s,baz=190,slow=36
K22A Casper 18.59 6 P Pn 07 16 54.7 0.0
baz=19,SNR=15
K22A Casper 18.59 6 eP Pn 07 16 55.4 +0.7
84nm,1.2s
O33A Hebron 18.65 29 P P 07 16 54.1 -0.6
baz=19,SNR=12
M29A Burnside Ranch 18.65 20 P Pn 07 16 55.3 0.0
baz=19
R37A Teagarden Farm 18.68 37 P P 07 16 54.8 -0.3
baz=19
N31A Bailey Ranch, 18.71 25 P Pn 07 16 56.1 +0.1
baz=19
L27A T5 Ranch, Ells 18.78 16 P Pn 07 16 57.1 +0.2
baz=19
K23A Bowen Ranch, D 18.80 8 P Pn 07 16 57.0 -0.1
baz=19,SNR=10
Q36A Arnold C. Orve 18.80 35 P P 07 16 55.9 -0.6
baz=19,SNR=8.0
K24A Anderson Ranch 18.88 10 P Pn 07 16 58.8 +0.6
baz=19
N32A Stulken Farm, 18.92 26 P Pn 07 16 58.5 0.0
baz=19
K25A Mack Ranch, Ha 18.94 12 P P 07 16 58.1 0.0
baz=19,SNR=7.4
P35A Duane Minner, 18.95 33 P P 07 16 57.2 -0.8
baz=19,SNR=7.6
M30A Dale-Ortello V 19.01 22 P Pn 07 16 59.3 -0.3
baz=19
J19A Crowheart 19.08 0 P Pn 07 17 00.4 -0.1
baz=19,SNR=18
O34A Beatrice 19.14 30 P P 07 16 60.0 -0.1
baz=19
M31A Lambtecht Ranc 19.16 24 P Pn 07 17 01.7 +0.4
baz=19
J20A Shoshoni 19.19 2 P Pn 07 17 01.4 -0.4
baz=19,SNR=12
J21A Lysite 19.21 4 P P 07 17 01.6 +0.5
baz=19,SNR=13
REDW Red Top Meadow 19.23 356 eP P 07 17 00.6 -0.7
44nm,1.5s
L29A Maesberg Ranch 19.28 20 P Pn 07 17 02.6 -0.3
baz=19
Q37A Longview Farm, 19.28 37 P Pn 07 17 02.2 -0.6
baz=19
SNOW Snow King Moun 19.32 357 eP Pn 07 17 03.3 -0.2
77nm,1.8s
J22A Midwest 19.35 6 P Pn 07 17 03.5 -0.3
baz=20,SNR=22
TPAW Teton Pass 19.36 356 eP Pn 07 17 04.1 +0.2
20nm,1.1s
L30A Spencer Herefo 19.43 22 P P 07 17 03.9 +0.6
baz=20
P36A Good Intent, A 19.43 34 P P 07 17 03.6 +0.3
baz=20,SNR=6.7
J23A Dilts Ranch, B 19.45 8 P Pn 07 17 04.4 -0.5
baz=20,SNR=5.0
LOHW Long Hollow 19.46 357 eP P 07 17 03.6 -0.2
14nm,1.1s
J24A Dixon Ranch, L 19.50 10 P P 07 17 04.7 +0.5
baz=20
FXWY Fox Creek 19.51 356 eP Pn 07 17 05.4 -0.4
160nm,3.0s
BGNE Belgrade 19.53 25 P P 07 17 04.4 0.0
baz=20,SNR=7.7
BGNE Belgrade 19.53 25 eP P 07 17 04.3 0.0
201nm,1.3s
O35A Humboldt 19.57 32 P P 07 17 04.9 0.0
baz=20
MOOW Moose Ponds 19.61 357 eP Pn 07 17 07.0 +0.1
10.0nm,0.9s
K28A Ten Mile Ranch 19.62 17 P P 07 17 06.1 +0.7
baz=20
I21A Big Trails, Te 19.69 4 P P 07 17 06.5 +0.3
baz=20,SNR=10
J25A Sunshine Ranch 19.71 12 P P 07 17 06.9 +0.4
baz=20
TEIG Tepich 19.73 97 P P 07 17 06.2 -0.5
baz=355,slow=11,SNR=2.4
TEIG Tepich 19.73 97 eP P 07 17 05.6 -1.2
12nm,0.7s
N34A Lincoln 19.75 30 P P 07 17 07.0 +0.2
baz=20
IMW Indian Meadow 19.76 356 eP P 07 17 08.1 +0.8
124nm,2.6s
J26A Sides Ranch, S 19.77 13 P P 07 17 07.4 +0.3
baz=20,SNR=8.5
I20A Worland 19.78 2 P Pn 07 17 08.2 -0.6
baz=20,SNR=20
I22A 9 Mile Ranch, 19.83 6 P P 07 17 08.1 +0.4
baz=20
I19A Meeteetse 19.85 0 P Pn 07 17 09.4 -0.3
baz=20,SNR=11
HLID Hailey 19.85 349 P Pn 07 17 09.6 -0.1
baz=20,SNR=13
HLID Hailey 19.85 349 eP Pn 07 17 09.3 -0.4
25nm,1.4s
WVOR Wild Horse Val 19.86 339 eP Pn 07 17 10.8 +0.9
22nm,1.2s
L31A Buttefield Fa 19.93 23 P Pn 07 17 10.2 -0.3
baz=20,SNR=5.1
O36A Bolckow 19.93 33 P P 07 17 08.9 +0.1
baz=20,SNR=12
FLWY Flagg Ranch 19.94 357 eP Pn 07 17 10.2 -0.6
32nm,1.2s
J27A Elkhorn Farm, 19.96 15 P Pn 07 17 10.4 -0.6
baz=20
K29A Lazy Trails An 19.97 19 P Pn 07 17 10.3 -0.6
baz=20
MOD Modoc Plateau 19.99 335 eP Pn 07 17 11.2 -0.2
16nm,0.9s
MFID Camas Ranch 20.00 346 eP P 07 17 10.1 +0.5
31nm,1.5s
I23A Meade Ranch, G 20.01 8 P Pn 07 17 11.3 -0.3
baz=20
I24A Kuemmerle Ranc 20.02 10 P Pn 07 17 11.6 -0.1
baz=20
OXF Oxford 20.06 54 eP Pn 07 17 10.8 -1.2
3.8nm,0.4s
K30A Basset 20.11 21 P Pn 07 17 12.4 -0.3
baz=20
N35A Tabor 20.16 31 P P 07 17 11.3 0.0
baz=20,SNR=7.0
H17A Grant Village 20.24 357 P Pn 07 17 13.9 -0.6
baz=20
N02D Trinity Center 20.26 329 P Pn 07 17 15.7 +1.2
baz=20
YFT Old Faithful 20.31 357 eP P 07 17 14.2 +1.1
17nm,1.0s
J28A Allard Ranch, 20.32 17 P P 07 17 13.9 +0.8
baz=20

H20A Greybull 20.32 2 P Pn 07 17 14.8 -0.5
baz=20,SNR=26
I25A Rochford 20.33 11 P P 07 17 14.3 +1.0
baz=20
RSSD Black Hills 20.37 11 eP P 07 17 14.0 +0.2
69nm,1.8s
PBMO Poplar Bluff 20.44 48 ePn Pn 07 17 17.2 +0.7
H19A Powell 20.48 0 P P 07 17 15.6 +0.7
baz=21,SNR=15
H21A Big Horn, Sher 20.52 4 P Pn 07 17 16.4 -1.1
baz=21
M04C Macdoel 20.52 332 P Pn 07 17 17.0 -0.6
baz=21
H22A Clearmont 20.54 6 P P 07 17 16.2 +0.8
baz=21,SNR=12
J29A Okreek 20.55 19 P P 07 17 16.5 +1.0
baz=21,SNR=8.4
H23A Clabaugh Cattl 20.61 8 P P 07 17 17.1 +0.8
baz=21
KHMM Horse Mountain 20.67 327 ePn Pn 07 17 27.3 +7.8
46nm,1.2s
I27A Quinn 20.72 15 P P 07 17 17.8 +0.4
baz=21,SNR=10.0
L34A Svendsen Farm, 20.72 28 P P 07 17 18.1 +0.7
baz=21
J30A Dallas 20.73 20 P P 07 17 18.4 +0.9
baz=21
MCMT McKenzie Canyo 20.86 353 eP Pn 07 17 20.6 -1.1
YBH Yreka Blue Hor 20.86 331 P P 07 17 18.3 -0.7
3.6nm,1.1s,baz=180,slow=13,SNR=3.5
YBH LR LR 07 25 48.8
comp=Z,344nm,19.1s,baz=186,slow=38
I28A Midland 20.87 16 P P 07 17 19.8 +0.8
baz=21,SNR=26
H24A Dirks Ranch, A 20.90 9 P P 07 17 19.8 +0.4
baz=21
K05A Summer Lake 20.92 335 eP Pn 07 17 21.8 -0.6
H25A Fruitdale 20.93 11 P P 07 17 20.1 +0.4
baz=21
RLMT Red Lodge 20.94 360 P P 07 17 20.5 +0.6
baz=21
RLMT Red Lodge 20.94 360 eP P 07 17 20.0 +0.1
230nm,2.8s
G20A Bridger 21.05 2 P P 07 17 20.9 -0.1
baz=21,SNR=18
H26A Fairpoint 21.09 13 P P 07 17 21.5 +0.1
baz=21,SNR=12
G21A Lodge Grass 21.10 4 P P 07 17 21.6 +0.1
baz=21
I29A Vivian Onida 21.12 18 P P 07 17 21.6 -0.1
baz=21
G22A Birney 21.16 6 P P 07 17 22.5 +0.3
baz=21,SNR=14
K04D Chiloquin, OR 21.18 334 P P 07 17 24.6 +2.2
baz=21
G23A Biddle 21.24 7 P P 07 17 23.5 +0.5
baz=21,SNR=19
H27A Howes 21.25 14 P P 07 17 23.8 +0.7
baz=21,SNR=24
I30A Oacoma 21.29 20 P P 07 17 24.2 +0.7
baz=21
LRAL Lakeview Retre 21.36 60 eP P 07 17 22.6 -1.7
11nm,0.9s
G24A Alzada 21.49 9 P P 07 17 26.8 +1.1
baz=22
G25A Newell 21.52 11 P P 07 17 27.2 +1.2
baz=22
J05D Fort Rock, OR 21.53 335 P P 07 17 27.7 +1.5
baz=22
H28A Mission Ridge 21.54 16 P P 07 17 27.8 +1.6
baz=22
BOZ Bozeman (W) 21.55 355 P P 07 17 27.1 +0.7
baz=22
BOZ Bozeman (W) 21.55 355 eP P 07 17 27.4 +1.0
21nm,1.4s
I07A Izee 21.62 339 eP P 07 17 34.2 +7.0
F20A Billings 21.63 2 P P 07 17 27.5 +0.3
baz=22,SNR=18
BMO Blue Mountains 21.70 344 eP P 07 17 28.9 +0.9
23nm,1.4s
H29A Onida 21.71 17 P P 07 17 28.5 +0.6
baz=22
F22A Rosebud 21.72 6 P P 07 17 28.7 +0.5
baz=22
F23A Volborg 21.75 7 P P 07 17 28.5 +0.1
baz=22,SNR=23
SIUC Southern Illin 21.76 47 eP P 07 17 28.9 +0.3
36nm,1.0s
G26A Maurine 21.77 13 P P 07 17 28.5 -0.2
baz=22,SNR=11
LRM Limekiln Ridge 21.80 354 eP P 07 17 29.9 +0.7
223nm,1.4s
J04D Umpqua Nationa 21.84 334 P P 07 17 30.9 +1.4
baz=22
WVT Waverly 21.93 52 eP P 07 17 30.9 +0.4
24nm,1.1s
G28A Parade 21.94 16 P P 07 17 31.3 +0.8
baz=22
G27A Dupree 21.99 14 P P 07 17 30.8 -0.2
baz=22,SNR=11
F24A Ekalaka 21.99 9 P P 07 17 30.9 -0.2
baz=22,SNR=9.1
ECSD EROS Data Cent 22.10 25 P P 07 17 31.9 -0.3
baz=22,SNR=37
ECSD EROS Data Cent 22.10 25 eP P 07 17 31.7 -0.5
49nm,1.0s
F25A Bowman 22.22 11 P P 07 17 33.5 0.0
baz=22,SNR=8.3
F26A Lodgepole 22.29 12 P P 07 17 34.5 +0.2
baz=22,SNR=7.7
G29A Hoven 22.31 17 P P 07 17 35.0 +0.5
baz=22
E22A Miles City 22.40 6 P P 07 17 35.5 0.0
baz=22,SNR=7.8
E21A Keefer Ranch, 22.42 4 P P 07 17 36.2 +0.6
baz=23
F27A Lemmon 22.44 13 P P 07 17 35.8 -0.1
baz=23,SNR=8.9
G30A Faulkton 22.47 19 P P 07 17 36.2 0.0
baz=23
I05D Terrebonne, OR 22.48 337 P P 07 17 38.0 +1.8
baz=23
E23A Ismay 22.53 7 P P 07 17 36.6 -0.1
baz=23,SNR=7.3
HRY Holter Researc 22.63 355 eP P 07 17 37.6 -0.3
10nm,0.7s
E24A Baker 22.71 9 P P 07 17 39.2 +0.4
baz=23
E25A Miller Ranch, 22.79 10 P P 07 17 40.2 +0.6
baz=23
F29A Eureka 22.93 17 P P 07 17 40.9 0.0
baz=23
USIN University of 22.93 48 eP P 07 17 42.0 +0.9
35nm,1.0s
D21A La Casta Ranch 22.95 4 P P 07 17 42.3 +1.1
baz=23
CHMT Chamberlain Mo 22.96 353 eP P 07 17 42.7 +1.1
8.9nm,1.1s
MSO Missoula 22.96 352 P P 07 17 41.9 +0.5
baz=23,SNR=8.7
MSO Missoula 22.96 352 eP P 07 17 48.4 +7.0
15nm,1.1s
OLIL Olney 23.05 46 eP P 07 17 44.6 +2.4
77nm,1.0s
E27A Carson 23.07 14 P P 07 17 42.3 -0.1
baz=23,SNR=7.5
D22A Cohagen 23.09 5 P P 07 17 42.8 +0.1
baz=23,SNR=17
G05D Wamic, OR 23.25 338 P P 07 17 45.5 +1.2
baz=23
D24A Glendive 23.25 8 P P 07 17 44.8 +0.5
baz=23
SLMT Seeley Lake 23.31 353 eP P 07 17 47.0 +1.9
20nm,1.2s
HDIL Hopedale 23.36 41 eP P 07 17 44.9 -0.5
3µm,2.1s
D25A Fairfield 23.44 10 P P 07 17 46.2 0.0
baz=24
D26A Manning 23.47 12 P P 07 17 47.0 +0.5
baz=24
SWMT Swartz Lake 23.64 352 eP P 07 17 50.1 +1.9
12nm,1.1s
C24A Savage 23.65 8 P P 07 17 49.0 +0.8
baz=24
C21A Desert Coulee 23.70 3 P P 07 17 49.1 +0.5
baz=24
C22A Vida 23.70 6 P P 07 17 48.9 +0.2
baz=24,SNR=11

D27A Center 23.72 13 P P 07 17 49.5 +0.6
baz=24
TIGA Tifton 23.73 66 P P 07 17 49.7 +0.6
baz=24
C23A Lambert 23.83 7 P P 07 17 50.0 +0.2
baz=24
EGMT Eagleton 23.84 359 P P 07 17 50.4 +0.3
baz=24
EGMT Eagleton 23.84 359 eP P 07 17 50.1 0.0
31nm,1.4s
G03D McMinnville, O 23.94 335 P P 07 17 52.8 +1.9
baz=24
C25A Freed Ranch, W 23.99 10 P P 07 17 52.0 +0.5
baz=24
WCI Wyandotte Cave 24.00 49 eP P 07 17 52.0 +0.3
B22A Reddig Ranch S 24.25 5 P P 07 17 53.4 -0.4
baz=24,SNR=11
B20A Solberg Farm, 24.27 2 P P 07 17 53.9 -0.2
baz=24,SNR=5.2
GOGA Godfrey 24.30 62 eP P 07 17 54.1 -0.2
22nm,1.2s
B21A Ellsworth Farm 24.30 3 P P 07 17 55.0 +0.7
baz=24
C27A Sayler Ranch, 24.31 13 P P 07 17 54.6 +0.3
baz=24
BLO Bloomington 24.32 47 eP P 07 17 54.0 -0.6
JFWS Jewell Farm 24.39 35 eP P 07 17 55.1 +0.1
68nm,1.5s
B23A Brockton 24.50 7 P P 07 17 56.5 +0.3
baz=25
DGMT Dagmar 24.60 8 eP P 07 17 58.9 +1.9
26nm,1.1s
SFIN Lafayette 24.61 44 P P 07 17 57.7 +0.6
baz=25
SFIN Lafayette 24.61 44 eP P 07 17 58.1 +1.0
46nm,1.0s
A20A Cobblestone Ra 24.71 2 P P 07 17 59.1 +1.1
baz=25
LON Longmire 24.74 339 eP P 07 18 00.2 +1.9
16nm,1.2s
A19A Klindworth Far 24.75 1 P P 07 17 59.2 +0.9
baz=25
TKL Tuckaleechee C 24.76 57 P P 07 17 58.9 +0.3
7.6nm,0.9s,baz=200,slow=9.2,SNR=11
TKL LR LR 07 28 29.1
comp=Z,721nm,19.2s,baz=253,slow=39
TKL Tuckaleechee C 24.76 57 eP P 07 17 59.0 +0.5
SPMN Marine on St. 24.88 28 P P 07 18 00.4 +0.8
baz=25
SPMN Marine on St. 24.88 28 eP P 07 17 59.6 +0.1
46nm,1.4s
NEW Newport 24.89 347 P P 07 17 59.5 -0.2
14nm,1.1s,baz=168,slow=14,SNR=9.2
NEW LR LR 07 28 27.3
comp=Z,228nm,21.8s,baz=171,slow=38
NEW Newport 24.89 347 P P 07 18 01.4 +1.8
baz=25
NEW Newport 24.89 347 eP P 07 18 01.5 +1.9
A22A Carney Farms, 24.94 5 P P 07 18 00.2 +0.1
baz=25,SNR=9.4
C30A Mose, Pekin 25.01 17 P P 07 18 00.4 -0.3
baz=25
B27A Peters Farms, 25.02 13 P P 07 18 01.2 +0.5
baz=25
WALA Waterton Lakes 25.15 353 eP P 07 18 03.1 +1.1
13nm,1.0s
A25A Svangstu Ranch 25.21 9 P P 07 18 01.9 -0.5
baz=25
B28A Dugan Ranch, T 25.25 14 P P 07 18 03.1 +0.3
baz=25
TZTN Tazewell 25.25 55 eP P 07 18 04.1 +1.1
44nm,1.4s
B08A Colville Reser 25.48 344 eP P 07 18 11.0 +6.1
B30A Myrvik Farm, E 25.74 17 P P 07 18 07.1 -0.1
baz=26
A29A Manning Farm, 25.95 15 P P 07 18 08.7 -0.4
baz=26,SNR=6.4
AGMN Agassiz Nation 26.32 20 P P 07 18 12.1 -0.4
baz=26
AGMN Agassiz Nation 26.32 20 eP P 07 18 12.2 -0.3
197nm,2.8s
KMSC Kings Mountain 26.48 59 P P 07 18 13.5 -0.6
baz=26
JTS JutasAbangare 26.86 117 LR LR 07 29 43.2
comp=Z,284nm,19.9s,baz=314,slow=38
SSPA Standing Stone 30.91 50 eP P 07 18 53.7 +0.2
23nm,0.9s
BBB Bella Bella 31.52 338 LR LR 07 31 01.2
comp=Z,358nm,20.6s,baz=181,slow=35
LUPA Lehigh Univers 32.68 52 eP P 07 19 10.4 +1.3
5.2nm,1.4s
QUA2 Belchertown 35.38 50 eP P 07 19 33.0 +0.5
43nm,1.4s
FCC Fort Churchill 36.22 13 eP P 07 19 38.5 -1.0
11nm,0.9s
OTAV Otavalo 38.09 124 eP P 07 19 56.9 +0.5
59nm,2.5s
YKA Yellowknife Ar 38.52 356 P P 07 19 57.2 -1.7
2.9nm,0.9s,baz=176,slow=8.7,SNR=3.8
ROSC El Rosal 38.61 114 LR LR 07 36 11.6
comp=Z,178nm,18.2s,baz=312,slow=37
ROSC El Rosal 38.61 114 eP P 07 19 57.8 -2.9
SDV Santo Domingo 39.77 106 eP P 07 20 09.4 -0.9
2.2nm,0.6s
SCHQ Schefferville 43.75 34 P P 07 20 41.4 -0.7
6.2nm,1.0s,baz=225,slow=13,SNR=3.2
SCHQ LR LR 07 38 13.9
comp=Z,163nm,21.0s,baz=271,slow=35
ILAR Eielson Array 47.38 339 P P 07 21 10.9 +0.3
3.0nm,0.8s,baz=157,slow=6.8,SNR=16
ILAR LR LR 07 40 49.0
comp=Z,185nm,18.7s,baz=134,slow=36
MCK McKinley 47.42 337 eP P 07 21 12.7 +1.7
11nm,0.9s
TRF Thorofare Moun 47.74 336 eP P 07 21 15.0 +1.4
COLA College 47.76 339 eP P 07 21 15.6 +2.0
14nm,1.4s
PPLA Purkeypile 48.13 335 eP P 07 21 19.5 +2.9
BPAW Bear Paw Mtn. 48.37 337 eP P 07 21 20.4 +2.1
COLD Coldfoot 50.00 341 eP P 07 21 32.7 +2.0
IM04 Indian Mountai 50.41 338 eP P 07 21 39.5 +5.6
LPAZ La Paz 56.74 131 LR LR 07 44 26.8
comp=Z,106nm,18.7s,baz=332,slow=34
BDFB Brasilia 71.60 117 P P 07 23 59.3 +0.6
0.5nm,0.4s,baz=184,slow=19,SNR=1.6
BDFB LR LR 07 57 06.4
comp=Z,130nm,19.5s,baz=358,slow=37
SEY Seymchan 72.53 332 P P 07 24 02.6 -0.8
1.3nm,0.8s,baz=15,slow=20,SNR=2.8
PETK Petropavlovsk- 72.88 321 P P 07 24 05.6 -0.1
3.2nm,1.0s,baz=71,slow=11,SNR=3.0
PETK LR LR 07 50 03.0
comp=Z,50nm,21.4s,baz=68,slow=31
TIXI Tiksi 76.56 344 eP P 07 24 27.3 +0.7
5.6nm,0.9s
ARCES ARCESS Array B 81.10 15 LR LR 08 01 16.0
comp=Z,145nm,21.2s,baz=318,slow=36
NOA NORSAR Array B 82.51 25 P P 07 24 59.9 +0.7
0.5nm,0.8s,baz=316,slow=5.7,SNR=2.4
NOA LR LR 08 00 17.6
comp=Z,82nm,21.8s,baz=315,slow=35
ESDC Sonseca Array 85.78 48 LR LR 08 00 50.9
comp=Z,87nm,19.5s,baz=150,slow=34
FINES FINESS Array B 87.43 20 P P 07 25 22.2 -1.6
1.8nm,0.9s,baz=347,slow=11,SNR=2.9
FINES LR LR 08 04 13.6
comp=Z,160nm,18.4s,baz=1.0,slow=36
GERES GERESS Array B 91.28 34 LR LR 08 05 27.1
comp=Z,149nm,20.9s,baz=297,slow=35
USRK Ussuriysk Ar. 91.98 321 LR LR 08 00 23.9
comp=Z,54nm,21.9s,baz=9.9,slow=31
MJAR Matsushiro Arr 92.40 312 LR LR 07 59 50.7
comp=Z,96nm,22.0s,baz=90,slow=31
JCJ Chichijima 94.37 302 LR LR 07 59 38.4
comp=Z,133nm,22.0s,baz=94,slow=30
CN2 Changchun 95.89 324 eP P 07 26 04.6 +1.1
KEST Kesra 96.80 46 LR LR 08 07 48.7
comp=Z,47nm,19.9s,baz=290,slow=34
AKASG Malin Array Be 96.92 25 LR LR 08 09 25.6
comp=Z,120nm,21.9s,baz=310,slow=35
KSRS Korea Array 98.56 317 LR LR 08 07 59.3
comp=Z,35nm,19.0s,baz=52,slow=34
GUMO Guam 98.59 289 LR LR 08 01 14.3
comp=Z,88nm,21.4s,baz=80,slow=30
WMQ Urumqi 110.63 347 PKP PKiKP 07 31 13.4 +3.8
WMQ PP PP 07 31 53.3 +8.5
WMQ PPMZ
13nm,11.2s
LZH Lanzhou 112.46 331 ePKP PKiKP 07 31 16.5 +3.1
LZH LN
150nm,15.9s
LZH LE
150nm,17.5s
LZH LZ
190nm,19.4s
KSH Kashi 116.50 356 ePKP PKPdf 07 31 24.3 +3.3
KSH PP PP 07 32 39.1 +13
KSH SKS SKSdf 07 38 37.0 +4.8
KSH LN
130nm,7.0s
KSH LE
120nm,7.4s
CD2 Chengdu 116.82 328 PKP PKPdf 07 31 24.8 +3.0
WRA Warramunga Arr 121.42 261 PKP PKPdf 07 31 31.0 +0.3
0.4nm,0.9s,baz=60,slow=1.9,SNR=3.1

DSN 17 07:15:00.7±1.0, 26°55N×54°76E, h15km, mb2.6/6, ML3.6/5, 3C-4D, Error ellipse: s-maj=11.7km s-min=4.0km az=166.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BANOM	**Banah**	1.52	114	⇑P	Pn	07 15 27.5	+0.1
BANOM				⇓S	Sb	07 15 47.5	-0.2
NAZ	Nazwa, Dubai	1.75	152	⇓P	Pn	07 15 30.4	-0.2
FAQ	Al Faqa, Dubai	1.95	157	⇑P	Pn	07 15 33.5	+0.2
ASUD	Al Ashush, Dub	1.98	165	⇓P	Pn	07 15 34.5	+0.7
HATD	Hatta, Dubai	2.12	144	⇓P	Pn	07 15 35.4	-0.2
ASHO	Ashiyiah	2.19	147	⇑P	Pn	07 15 36.2	-0.6

IDC 17 07:15:16.2±0.7, 53°.88N×164°.46W, h0km, mb4.1/21, mb1 4.3/23, mb1mx4.0/47, mbtmp4.1/23, ML3.9/2, MS3.4/3, Ms1 3.4/3, ms1mx2.9/38, Error ellipse: s-maj=19.3km s-min=12.9km az=174.0
NEIC 17 07:15:20.5, 53°.74N×164°.13W, h18km, mb4.4/8, ML4.1(AEIC), After AEIC.
ISCJB 17 07:15:21.8±0.6, 53°.84N±0°.06×164°.15W±0°.05, h56km±4km, mb4.3/27, MS3.4/2, Error ellipse: s-maj=10.9km s-min=3.6km az=157.7

ISC 17 07:15:22.7±1.2, 53°.83N±0°.08×164°.16W±0°.04, h47km±10km, n98, σ1s08/95, mb4.5/34, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WESE	**West Dahl East**	0.69	339	P	Pn	07 15 35.6	-0.7
WESP	**Westdahl Peak**	0.74	334	P	Pn	07 15 36.5	-0.5
WESN	**West Dahl Nort**	0.78	341	P	Pn	07 15 37.2	-0.2
SSLW	**Shishaldin Wes**	0.94	1	P	Pn	07 15 39.1	-0.5
SSLN	**Shishaldin Nor**	0.99	5	P	Pn	07 15 40.1	-0.1
AKUT	**Akutan**	1.00	288	P	Pn	07 15 39.5	-0.8
AKUT				S	Sn	07 15 53.7	+0.4
ISNN	**Isanotski Nort**	1.03	12	P	Pn	07 15 40.7	0.0
ZRO	**Akutan Zero**	1.11	284	P	Pn	07 15 40.9	-0.9
FALS	**False Pass**	1.12	23	P	Pn	07 15 41.4	-0.5
FALS				S	Sn	07 15 56.8	+0.7
AKGG	**Akutan Green G**	1.14	290	P	Pn	07 15 41.6	-0.7
AKGG				S	Sn	07 15 58.3	+1.5
AKRB	**Akutan Reef Bi**	1.17	286	P	Pn	07 15 41.8	-0.8
UNV	**Unalaska Valle**	1.39	272	P	Pn	07 15 44.0	-1.6
UNV				S	Sn	07 16 05.0	+2.2
MREP	**Makushin Rep't**	1.54	270	P	Pn	07 15 47.2	-0.5
MSW	**Makushin Switc**	1.56	274	P	Pn	07 15 47.0	-1.0
MCIR	**Makushin Cirqu**	1.62	275	P	Pn	07 15 48.5	-0.4
DT1	**Dutton Round H**	1.68	40	P	Pn	07 15 49.5	-0.2
DTNA	**Dutton South F**	1.73	39	P	Pn	07 15 50.1	-0.1
HAG	**Hague Volcano**	1.98	40	P	Pn	07 15 54.2	+0.5
PVV	**Pavlof Volcano**	2.07	41	P	Pn	07 15 55.4	+0.5
PS1A	**Pavlof South-1**	2.12	40	P	Pn	07 15 56.5	+0.8
OKFG	**Magazine Ridge**	2.28	261	P	Pn	07 15 57.9	+0.1
OKTU	**Okmok Mt. Tuli**	2.36	261	P	Pn	07 15 59.0	+0.1
OKSP	**Okmok Steeple**	2.53	258	P	Pn	07 16 01.5	+0.2
SDPT	**Sand Point**	2.63	53	P	Pn	07 16 02.7	-0.2
SDPT				S	Sn	07 16 34.1	+1.0
NIKH	**Nikolski High**	2.94	255	P	Pn	07 16 07.4	+0.5
VNHG	**Veniaminof 1**	3.74	48	P	Pn	07 16 19.4	+1.5
ANPB	**Aniakchak Plen**	4.49	46	P	Pn	07 16 29.1	+1.0
SPIA	**Saint Paul Isl**	4.82	317	P	Pn	07 16 34.1	+1.5
KDAK	**Kodiak Island**	7.63	54	ePn	Pn	07 17 10.0	-1.0
	16nm,0.6s						
KDAK				eSn	Sn	07 18 33.3	-2.6
RSO	**Redoubt South**	9.08	38	ePn	Pn	07 17 31.8	+0.7
	50nm,0.7s						
SEW	**Seward**	10.18	46	ePn	Pn	07 17 45.1	-0.9
	18nm,0.5s						
SEW				eSn	Sn	07 19 37.8	-0.8
RC01	**Rabbit Creek A**	10.62	41	ePn	Pn	07 17 52.3	+0.3
RC01				eSn	Sn	07 19 46.5	-2.9
PPLA	**Purkeypile**	11.03	30	ePn	Pn	07 18 01.0	+3.3
	15nm,0.8s						
PPLA				eSn	Sn	07 20 06.5	+7.0
TRF	**Thorofare Moun**	12.02	31	ePn	Pn	07 18 11.8	+0.6
	27nm,1.3s						
BPAW	**Bear Paw Mtn.**	12.30	28	ePn	Pn	07 18 16.5	+1.6
	2.5nm,0.6s						
MCK	**McKinley**	12.64	32	ePn	Pn	07 18 20.9	+1.3
	11nm,1.0s						
BMRM	**Bremner River**	12.70	48	ePn	Pn	07 18 19.1	-1.3
	10nm,0.6s						
BMRM				eSn	Sn	07 20 39.0	-1.2
IM04	**Indian Mountai**	13.22	19	ePn	Pn	07 18 29.5	+2.1
COLA	**College**	13.79	30	ePn	Pn	07 18 34.1	-1.0
	7.3nm,0.8s						
ILAR	**Eielson Array**	14.01	32	Pn	Pn	07 18 35.1	-3.1
	0.2nm,0.3s,baz=229,slow=13,SNR=16						
ILAR				LR	LR	07 24 32.3	
	comp=Z,144nm,19.0s,baz=210,slow=40						
COLD	**Coldfoot**	15.03	21	ePn	Pn	07 18 53.6	+1.9
	6.3nm,0.6s						
HYT	**Haines Junctio**	15.92	53	Pn	Pn	07 19 02.5	-0.8
EGAK	**Eagle**	15.95	38	ePn	Pn	07 19 03.0	-0.5
	13nm,0.8s						
DAWY	**Dawson**	16.26	41	ePn	Pn	07 19 06.7	-0.8
	10.0nm,0.4s						
DLBC	**Dease Lake**	19.43	63	P	Pn	07 19 47.0	+0.7
	0.2nm,0.3s,baz=257,slow=10,SNR=16						
DLBC	**Dease Lake**	19.43	63	eP	Pn	07 19 46.1	-0.2
	19nm,1.0s						
INK	**Inuvik**	20.40	33	P	P	07 19 53.4	-1.8
	3.6nm,0.3s,baz=246,slow=7.2,SNR=3.3						
INK	**Inuvik**	20.40	33	eP	P	07 19 56.0	+0.9
PETK	**Petropavlovsk-**	22.54	284	P	P	07 20 17.4	-0.9
	4.2nm,0.7s,baz=88,slow=12,SNR=7.8						
YKA	**Yellowknife Ar**	26.89	51	P	P	07 21 00.4	+1.8
	1.1nm,0.4s,baz=323,slow=18,SNR=7.8						
NVAR	**Mina Array Bea**	34.64	97	P	P	07 22 09.7	+2.3
	0.4nm,0.7s,baz=309,slow=7.5,SNR=3.7						
ELK	**Elko**	34.96	92	P	P	07 22 11.8	+1.6
	0.9nm,0.7s,baz=285,slow=12,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	40.63	224	T	T	08 06 25.5	
	baz=26,slow=76,SNR=403						
H11N3	**WAKE ISLAND Hy**	40.64	224	T	T	08 06 35.6	
	baz=26,slow=76,SNR=524						
H11N1	**WAKE ISLAND Hy**	40.65	224	T	T	08 06 23.8	
	baz=26,slow=76,SNR=294						
USRK	**Ussuriysk Ar.**	41.63	284	LR	LR	07 42 30.7	
	comp=Z,25nm,18.1s,baz=11,slow=39						
H11S1	**WAKE ISLAND Hy**	41.81	224	T	T	08 07 56.2	
	baz=25,slow=76,SNR=1059						
H11S2	**WAKE ISLAND Hy**	41.82	224	T	T	08 07 57.1	
	baz=25,slow=76,SNR=467						
H11S3	**WAKE ISLAND Hy**	41.83	224	T	T	08 07 57.4	
	baz=25,slow=76,SNR=453						
MAT	**Matsushiro**	42.86	270	P	P	07 23 15.3	-0.8
DAG	**Danmarks Havn**	47.84	10	*i* P	P	07 23 54.5	-0.4
	6.3nm,0.7s						
SPITS	**Spitsbergen Ar**	48.25	360	P	P	07 23 57.2	-0.9
	0.4nm,0.4s,baz=14,slow=6.5,SNR=5.9						
KSRS	**Korea Array**	48.32	279	P	P	07 23 58.4	-0.7
	1.1nm,0.6s,baz=53,slow=7.2,SNR=6.3						
KSAR	**Wonju Array Be**	48.35	279	P	P	07 23 58.4	-0.9
SUMG	**Summit**	48.41	19	*i* P	P	07 24 00.2	+0.3
	11nm,1.0s						
JNU	**Nakatsue**	49.57	273	P	P	07 24 06.5	-2.4
	3.8nm,0.7s,baz=20,slow=15,SNR=2.5						
TXAR	**Lajitas Array**	49.65	94	P	P	07 24 10.6	+1.0
	0.5nm,0.6s,baz=296,slow=6.1,SNR=8.9						
SCHQ	**Schefferville**	52.18	47	P	P	07 24 28.1	0.0
	3.9nm,0.8s,baz=319,slow=9.3,SNR=4.2						
SONM	**Songino Array**	53.20	303	P	P	07 24 36.0	+0.1
	0.8nm,0.5s,baz=44,slow=7.9,SNR=6.2						
SONM				PcP	PcP	07 25 43.7	+0.4
	1.2nm,0.5s,baz=43,slow=2.4,SNR=8.2						
WVT	**Waverly**	54.11	76	eP	P	07 24 42.7	+0.2
	4.6nm,0.8s						
ARCES	**ARCESS Array B**	56.74	356	P	P	07 24 59.4	-1.6
	1.3nm,0.5s,baz=0.0,slow=5.4,SNR=10						
ZALV	**Zalesovo Beam**	58.40	320	P	P	07 25 12.0	-0.8
	0.7nm,0.3s,baz=54,slow=7.5,SNR=3.9						
FINES	**FINESS Array B**	64.78	355	P	P	07 25 55.0	-0.6
	3.7nm,0.8s,baz=24,slow=6.8,SNR=12						
MKAR	**Makanchi Array**	65.01	316	P	P	07 25 56.5	-1.0
	0.8nm,0.5s,baz=38,slow=6.1,SNR=9.1						
NB2	**NORSAR Subarra**	65.42	2	P	P	07 25 59.7	-0.2
	comp=Z,1.3nm,0.7s,baz=359,slow=6.9						
NOA	**NORSAR Array B**	65.42	2	P	P	07 25 58.7	-1.1
	comp=Z,1.6nm,0.7s,baz=360,slow=6.9,SNR=6.3						
TAOE	**Nuku Hiva Isla**	65.67	154	eT	T	08 37 33.0	
	comp=Z,122nm,0.3s						
PMOR	**Pomariorio Ree**	69.96	163	eT	T	08 42 50.9	
	comp=Z,41nm,0.2s						
VAH	**Vaihoa**	70.23	163	eT	T	08 43 14.1	
	comp=Z,2.9nm,0.3s						
ABKAR	**Akbulak array**	70.76	331	eP	P	07 26 33.9	+0.4
	comp=Z,3.5nm,0.6s						
EKS2	**Erkin-Say**	71.84	319	eP	P	07 26 41.3	+1.0
	comp=Z,3.4nm,0.8s						
PPT	**Papeete**	72.20	165	P	P	07 26 42.4	0.0
	comp=Z,320nm,0.6s,baz=54,slow=3.0,SNR=4.4						
PPT				LR	LR	07 52 11.1	
	comp=Z,46nm,19.9s,baz=352,slow=31						
PPT2	**Papeete2**	72.23	165	eLR	LR	07 48 57.4	
	comp=Z,63nm,23.5s						
TIAR	**Tiarei**	72.23	165	eT	T	08 45 43.6	
	comp=Z,1.8nm,0.3s						
KKAR	**Karatay Array**	72.70	321	eP	P	07 26 45.4	+0.1
	comp=Z,4.4nm,0.7s						
AKASG	**Malin Array Be**	75.23	351	P	P	07 26 59.3	-0.6
	comp=Z,1.3nm,0.4s,baz=13,slow=5.9,SNR=10						
TAPN	**Taplejung**	78.23	300	eP	P	07 27 17.6	0.0
	comp=Z,26nm,1.1s						
GUN	**Gumba**	78.70	302	eP	P	07 27 20.4	+0.2
	comp=Z,18nm,0.6s						
ODAN	**Odare**	78.79	300	eP	P	07 27 19.8	-0.8
RAMN	**Ramite**	79.12	301	eP	P	07 27 22.5	+0.1
	comp=Z,23nm,0.7s						
PKI	**Pulchoki**	79.22	302	eP	P	07 27 22.8	-0.2
	comp=Z,13nm,0.8s						
GKN	**Gorkha**	79.25	303	eP	P	07 27 22.9	-0.1
	comp=Z,18nm,0.7s						
CMAR	**Chiang Mai Arr**	79.29	286	P	P	07 27 23.2	+0.1
	comp=Z,1.8nm,0.3s,baz=21,slow=5.8,SNR=5.5						
DMN	**Daman**	79.34	302	eP	P	07 27 23.2	-0.4
	comp=Z,15nm,0.8s						
KOLN	**Koldanda**	79.95	304	eP	P	07 27 27.0	+0.1
	comp=Z,7.2nm,0.4s						
KBZ	**Khabaz**	80.09	340	P	P	07 27 27.4	+0.3
	comp=Z,5.6nm,0.9s,baz=328,slow=3.7,SNR=9.8						
ESDC	**Sonseca Array**	85.31	15	P	P	07 27 55.6	+1.3
	comp=Z,1.2nm,0.6s,baz=346,slow=5.3,SNR=6.5						
BRTR	**Keskin Array B**	85.56	346	P	P	07 27 54.9	-0.8
	comp=Z,3.8nm,0.8s,baz=51,slow=2.1,SNR=16						

IDC 17 07:18:15.8±3.4, 10°.68S×119°.47E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.3/23, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=260.8km s-min=31.0km az=49.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	17.04	124	P	Pn	07 22 16.3	+0.6
	0.1nm,0.3s,baz=301,slow=12,SNR=8.6						
ASAR	**Alice Springs**	18.88	135	P	P	07 22 37.2	-0.8
	0.1nm,0.3s,baz=314,slow=8.7,SNR=4.3						
MKAR	**Makanchi Array**	66.15	333	P	P	07 29 05.3	+0.1
	0.3nm,0.5s,baz=126,slow=7.4,SNR=4.1						

DDA 17 07:24:27.5, 39°.33N×25°.44E, h25km, MD3.1
ATH 17 07:24:28.3, 39°.34N×25°.50E, h22km±1km, MD3.3/13
ISK 17 07:24:28.1, 39°.36N×25°.44E, h8km, ML3.2
ISCJB 17 07:24:28.2±0.5, 39°.33N±0°.02×25°.45E±0°.02, h7km±3km, Error ellipse: s-maj=3.1km s-min=2.5km az=27.2
THE 17 07:24:28.9, 39°.32N×25°.49E, h7km±1km, ML3.3/4, Error ellipse: s-maj=1.9km s-min=0.4km az=72.0
CSEM 17 07:24:28.9±0.1, 39°.31N×25°.45E, h8km, MD3.3, Error ellipse: s-maj=2.8km s-min=2.3km az=26.0

ISC 17 07:24:28.7±1.0, 39°.33N±0°.02×25°.47E±0°.02, h9km±8km, n159, σ0s87/199, 13C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	0.32	111	ePG	Pb	07 24 35.0	-0.5
SIGR				eSG	Sb	07 24 41.0	-0.9
SIGR	**SIGRI**	0.32	111	P	Pg	07 24 35.0	0.0
SIGR				S	Sg	07 24 39.5	+0.2
SIGR	**SIGRI**	0.32	111	ePB	Pg	07 24 35.0	0.0
SIGR				eSB	Sg	07 24 40.2	+0.9
SIGR	**SIGRI**	0.32	111	P	Pg	07 24 35.0	0.0
SIGR	**SIGRI**	0.32	111	ePg	Pb	07 24 36.1	-0.5
SIGR				S	Sg	07 24 39.5	+0.2
SIGR				eSb	Sg	07 24 40.2	+0.9
SIGR				eSg	Sg	07 24 41.0	+1.7
LIA	**Limnos Island**	0.61	339	P	Pb	07 24 41.0	-0.7
LIA				S	Sb	07 24 49.8	-0.6
LIA	**Limnos Island**	0.61	339	ePN	Pb	07 24 41.0	-0.7
LIA				eSN	Sb	07 24 49.1	-1.3
LIA	**Limnos Island**	0.61	339	P	Pb	07 24 41.0	-0.7
LIA				eSn	Sb	07 24 49.1	-1.3
PRK	**Paraskevi**	0.62	97	P	Pg	07 24 40.7	-0.1
PRK				S	Sg	07 24 49.6	+0.6
PRK	**Paraskevi**	0.62	97	ePN	Pg	07 24 40.7	-0.1
PRK				eSN	Sg	07 24 49.2	+0.2
PRK	**Paraskevi**	0.62	97	P	Pg	07 24 40.7	-0.1
PRK				eSn	Sg	07 24 49.2	+0.2
BOZC	**Bozcaada**	0.68	41	*i* P	Pg	07 24 41.1	-0.8
BOZC				*i* S	Sb	07 24 51.5	-1.0
EZN	**Ezine**	0.83	53	ePG	Pg	07 24 43.8	-0.9
EZN				eSG	Sb	07 24 56.2	-0.4
EZN	**Ezine**	0.83	53	ePg	Pg	07 24 43.8	-0.9
EZN				eSg	Sb	07 24 56.2	-0.4
GADA	**Gvkgeada**	0.93	21	ePG	Pg	07 24 45.9	-0.7
GADA	**Gvkgeada**	0.93	21	ePg	Pg	07 24 45.9	-0.7
AYVA	**Ayvalik**	0.94	91	*i* P	Pg	07 24 46.3	-0.6
AYVA				*i* S	Sb	07 25 00.0	+0.1
AYVA	**Ayvalik**	0.94	91	*i* P	Pg	07 24 46.3	-0.6
AYVA				*i* S	Sb	07 25 00.0	+0.1
CHOS	**Chios island**	1.04	154	ePN	Pn	07 24 49.5	-0.1
CHOS	**Chios island**	1.04	154	P	Pg	07 24 48.4	-0.3
CHOS				S	Sb	07 25 02.7	0.0
CHOS	**Chios island**	1.04	154	ePN	Pg	07 24 48.5	-0.3
CHOS				eSN	Sb	07 25 02.8	0.0
CHOS	**Chios island**	1.04	154	P	Pg	07 24 48.4	-0.3
CHOS	**Chios island**	1.04	154	ePn	Pn	07 24 49.5	-0.1
CHOS				S	Sb	07 25 02.7	0.0
SMTH	**Samothraki Isl**	1.15	2	P	Pg	07 24 50.0	-0.8
SMTH	**Samothraki Isl**	1.15	2	ePN	Pg	07 24 50.0	-0.8
SMTH				eSN	Sb	07 25 05.6	-0.1
SMTH	**Samothraki Isl**	1.15	2	P	Pg	07 24 50.0	-0.8
SMTH				eSn	Sb	07 25 05.6	-0.1
AOS	**Alonnisos**	1.25	263	ePN	Pg	07 24 52.1	-0.6
AOS	**Alonnisos**	1.25	263	P	Pg	07 24 52.3	-0.4
AOS				S	Sn	07 25 10.3	+1.0
AOS	**Alonnisos**	1.25	263	ePN	Pg	07 24

PAIG				*e*Sn	**Sg**	**07 25 17.3**	**0.0**
BLCB	**Balcova**	**1.54**	**127**	*e*PN	**Pb**	**07 24 57.6**	**+0.1**
BLCB	**Balcova**	**1.54**	**127**	*e*Pn	**Pb**	**07 24 57.6**	**+0.1**
MRKA	**Markates**	**1.59**	**248**	P	**Pn**	**07 24 56.6**	**-0.5**
MRKA	**Markates**	**1.59**	**248**	*e*PB	**Pn**	**07 24 56.6**	**-0.5**
MRKA	**Markates**	**1.59**	**248**	P	**Pn**	**07 24 56.6**	**-0.5**
ALN	**Alexandroupoli**	**1.63**	**15**	*e*PN	**Pn**	**07 24 57.3**	**-0.3**
ALN	**Alexandroupoli**	**1.63**	**15**	P	**Pn**	**07 24 56.9**	**-0.7**
ALN	**Alexandroupoli**	**1.63**	**15**	*e*PB	**Pn**	**07 24 56.7**	**-0.9**
ALN				*e*SN	**Sn**	**07 25 18.1**	**-0.7**
ALN	**Alexandroupoli**	**1.63**	**15**	P	**Pn**	**07 24 56.9**	**-0.7**
ALN	**Alexandroupoli**	**1.63**	**15**	*e*Pn	**Pn**	**07 24 57.3**	**-0.3**
ALN				*e*Sn	**Sn**	**07 25 18.1**	**-0.7**
IZM	**Izmir**	**1.68**	**123**	*e*PN	**Pn**	**07 24 58.4**	**+0.1**
IZM	**Izmir**	**1.68**	**123**	*e*Pn	**Pn**	**07 24 58.4**	**+0.1**
BALY	**Balya**	**1.71**	**75**	*i* P	**Pn**	**07 24 58.3**	**-0.5**
BALY				*i* S	**Sb**	**07 25 22.5**	**+0.4**
BALY	**Balya**	**1.71**	**75**	*i* P	**Pn**	**07 24 58.3**	**-0.5**
BALY				*i* S	**Sb**	**07 25 22.5**	**+0.4**
NEO	**Neokhori**	**1.75**	**270**	*e*PN	**Pb**	**07 25 00.0**	**-1.0**
NEO	**Neokhori**	**1.75**	**270**	*e*Pn	**Pb**	**07 25 00.0**	**-1.0**
XOR	**Xorichti**	**1.77**	**272**	P	**Pb**	**07 25 00.4**	**-0.9**
XOR	**Xorichti**	**1.77**	**272**	*e*PN	**Pb**	**07 25 00.5**	**-0.9**
XOR	**Xorichti**	**1.77**	**272**	P	**Pb**	**07 25 00.4**	**-0.9**
SMIA	**Simia**	**1.82**	**257**	P	**Pn**	**07 25 00.1**	**-0.1**
SMIA	**Simia**	**1.82**	**257**	*e*PB	**Pn**	**07 25 00.2**	**0.0**
SMIA	**Simia**	**1.82**	**257**	P	**Pn**	**07 25 00.1**	**-0.1**
RDO	**Rodhopi**	**1.82**	**2**	P	**Pn**	**07 24 59.8**	**-0.4**
RDO	**Rodhopi**	**1.82**	**2**	*e*PB	**Pn**	**07 24 59.8**	**-0.4**
RDO	**Rodhopi**	**1.82**	**2**	P	**Pn**	**07 24 59.8**	**-0.4**
KAVA	**Kavala**	**1.82**	**337**	P	**Pn**	**07 24 59.8**	**-0.5**
KAVA	**Kavala**	**1.82**	**337**	P	**Pn**	**07 24 59.8**	**-0.5**
AKHS	**Akhisar**	**1.88**	**103**	*i* P	**Pg**	**07 25 04.0**	**-0.7**
AKHS				*i* S	**Sg**	**07 25 30.0**	**+1.0**
AKHS	**Akhisar**	**1.88**	**103**	*i* P	**Pg**	**07 25 04.0**	**-0.7**
AKHS				*i* S	**Sg**	**07 25 30.0**	**+1.0**
AKS	**Akhisar**	**1.88**	**103**	*e*PN	**Pn**	**07 25 01.6**	**+0.6**
AKS	**Akhisar**	**1.88**	**103**	*e*Pn	**Pn**	**07 25 01.6**	**+0.6**
BALB	**Balikesir**	**1.89**	**80**	*e*PN	**Pn**	**07 25 01.6**	**+0.4**
BALB	**Balikesir**	**1.89**	**80**	*e*Pn	**Pn**	**07 25 01.6**	**+0.4**
SART	**Tekirdag**	**1.89**	**43**	*i* P	**Pn**	**07 25 01.1**	**-0.2**
SART				*i* S	**Sb**	**07 25 27.7**	**+0.4**
SART	**Tekirdag**	**1.89**	**43**	*i* P	**Pn**	**07 25 01.1**	**-0.2**
SART				*i* S	**Sb**	**07 25 27.7**	**+0.4**
ATAL	**Atalanti**	**2.01**	**252**	P	**Pn**	**07 25 02.7**	**-0.2**
ATAL	**Atalanti**	**2.01**	**252**	P	**Pn**	**07 25 02.7**	**-0.2**
MRMT	**Marmara Adasi**	**2.07**	**51**	*e*PN	**Pn**	**07 25 04.1**	**+0.3**
MRMT	**Marmara Adasi**	**2.07**	**51**	*e*Pn	**Pn**	**07 25 04.1**	**+0.3**
EDC	**Edincik**	**2.10**	**60**	*e*PN	**Pn**	**07 25 04.7**	**+0.5**
EDC	**Edincik**	**2.10**	**60**	*e*Pn	**Pn**	**07 25 04.7**	**+0.5**
HORT	**Hortiatis**	**2.22**	**306**	*e*PN	**Pn**	**07 25 05.7**	**-0.2**
HORT	**Hortiatis**	**2.22**	**306**	*e*PB	**Pn**	**07 25 06.4**	**+0.5**
HORT	**Hortiatis**	**2.22**	**306**	*e*Pn	**Pn**	**07 25 05.7**	**-0.2**
APE	**Apeiranthos**	**2.25**	**179**	*e*PN	**Pn**	**07 25 06.9**	**+0.6**
APE	**Apeiranthos**	**2.25**	**179**	⇓*i* P	**Pn**	**07 25 04.9**	**-1.3**
APE	**Apeiranthos**	**2.25**	**179**	S	**Sn**	**07 25 32.4**	**-1.8**
APE	**Apeiranthos**	**2.25**	**179**	⇓*i* P	**Pn**	**07 25 04.9**	**-1.3**
APE	**Apeiranthos**	**2.25**	**179**	*e*Pn	**Pn**	**07 25 06.9**	**+0.6**
KDZ	**Kurdzhali**	**2.32**	**359**	⇓*i* P	**Pn**	**07 25 06.8**	**-0.4**
KDZ	**Kurdzhali**	**2.32**	**359**	P	**Pn**	**07 25 06.8**	**-0.4**
KDZ	**Kurdzhali**	**2.32**	**359**	P	**Pn**	**07 25 06.8**	**-0.4**
DURS	**Dursunbey**	**2.34**	**82**	*i* P	**Pn**	**07 25 07.1**	**-0.4**
DURS				*i* S	**Sn**	**07 25 37.1**	**+0.7**
DURS	**Dursunbey**	**2.34**	**82**	*i* P	**Pn**	**07 25 07.1**	**-0.4**
DURS				*i* S	**Sn**	**07 25 37.1**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**2.34**	**125**	*e*PN	**Pn**	**07 25 08.4**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**2.34**	**125**	*e*Pn	**Pn**	**07 25 08.4**	**+0.9**
NVR	**Nevrokopi**	**2.37**	**329**	P	**Pn**	**07 25 07.4**	**-0.4**
NVR	**Nevrokopi**	**2.37**	**329**	P	**Pn**	**07 25 07.4**	**-0.4**
KCTX	**Karacabey (Bur**	**2.41**	**66**	*e*PN	**Pn**	**07 25 08.9**	**+0.6**
KCTX	**Karacabey (Bur**	**2.41**	**66**	*e*Pn	**Pn**	**07 25 09.0**	**+0.6**
AGG	**Agios Georgios**	**2.46**	**264**	P	**Pn**	**07 25 09.3**	**+0.2**
AGG	**Agios Georgios**	**2.46**	**264**	*e*PN	**Pn**	**07 25 09.1**	**0.0**
AGG	**Agios Georgios**	**2.46**	**264**	*e*Pn	**Pn**	**07 25 09.1**	**0.0**
DID	**Didima**	**2.53**	**225**	P	**Pn**	**07 25 09.6**	**-0.4**
DID	**Didima**	**2.53**	**225**	P	**Pn**	**07 25 09.6**	**-0.4**
DEMI	**Demirci**	**2.54**	**95**	*i* P	**Pb**	**07 25 13.3**	**-1.2**
DEMI				*i* S	**Sg**	**07 25 48.3**	**-1.9**
DEMI	**Demirci**	**2.54**	**95**	*i* P	**Pb**	**07 25 13.3**	**-1.2**
MMB	**Musomiste**	**2.62**	**330**	⇑*i* P	**Pn**	**07 25 12.7**	**+1.3**
MMB	**Musomiste**	**2.62**	**330**	P	**Pn**	**07 25 12.3**	**+0.9**
MMB	**Musomiste**	**2.62**	**330**	P	**Pn**	**07 25 12.3**	**+0.9**
BODT	**Bodrum**	**2.68**	**147**	*e*PN	**Pn**	**07 25 12.5**	**+0.3**
BODT	**Bodrum**	**2.68**	**147**	*e*Pn	**Pn**	**07 25 12.5**	**+0.3**
KNT	**Kendrikon**	**2.69**	**314**	*e*PN	**Pn**	**07 25 12.2**	**0.0**
KNT	**Kendrikon**	**2.69**	**314**	*e*Pn	**Pn**	**07 25 12.2**	**0.0**
EDRB	**Edirne**	**2.70**	**21**	*e*PN	**Pn**	**07 25 12.9**	**+0.6**
EDRB	**Edirne**	**2.70**	**21**	*e*Pn	**Pn**	**07 25 12.9**	**+0.6**
BDRM	**Kayabasi**	**2.74**	**145**	*i* P	**Pn**	**07 25 12.9**	**0.0**
BDRM	**Kayabasi**	**2.74**	**145**	*i* P	**Pn**	**07 25 12.9**	**0.0**
MHLO	**Agia Marina, M**	**2.76**	**198**	P	**Pn**	**07 25 12.3**	**-0.9**
MHLO	**Agia Marina, M**	**2.76**	**198**	P	**Pn**	**07 25 12.3**	**-0.9**
GUR	**Goura**	**2.82**	**241**	P	**Pn**	**07 25 14.0**	**0.0**
GUR	**Goura**	**2.82**	**241**	P	**Pn**	**07 25 14.0**	**0.0**
SLVT	**Silivri**	**2.83**	**47**	*e*PN	**Pn**	**07 25 15.2**	**+1.1**
SLVT	**Silivri**	**2.83**	**47**	*e*Pn	**Pn**	**07 25 15.2**	**+1.1**
ARMT	**Armutlu**	**2.88**	**63**	*e*PN	**Pn**	**07 25 16.3**	**+1.4**
ARMT	**Armutlu**	**2.88**	**63**	*e*Pn	**Pn**	**07 25 16.3**	**+1.4**
VAY	**Valandovo**	**2.98**	**313**	*e*Pn	**Pg**	**07 25 27.7**	**+1.8**
VAY				*e*Sg	**Sg**	**07 26 07.7**	**+3.2**
VAY	**Valandovo**	**2.98**	**313**	*e*Sg	**Sg**	**07 26 07.7**	**+3.1**
CTKS	**Kestanelik-??a**	**3.00**	**50**	*e*PN	**Pn**	**07 25 17.5**	**+1.0**
CTKS	**Kestanelik-??a**	**3.00**	**50**	*e*Pn	**Pn**	**07 25 17.5**	**+1.0**
TVSB	**Tavsanli**	**3.09**	**86**	*e*PN	**Pn**	**07 25 18.9**	**+1.0**
TVSB	**Tavsanli**	**3.09**	**86**	*e*Pn	**Pn**	**07 25 18.9**	**+1.0**
KKB	**Krupnik**	**3.12**	**325**	P	**Pg**	**07 25 27.9**	**-0.7**
IZI	**Iznik**	**3.24**	**71**	*e*PN	**Pn**	**07 25 21.2**	**+1.3**
IZI	**Iznik**	**3.24**	**71**	*e*Pn	**Pn**	**07 25 21.2**	**+1.3**
VLI	**Veliai**	**3.28**	**218**	P	**Pn**	**07 25 19.7**	**-0.7**
VLI	**Veliai**	**3.28**	**218**	P	**Pn**	**07 25 19.7**	**-0.7**
KLYT	**Kilyos**	**3.34**	**54**	*e*PN	**Pn**	**07 25 22.3**	**+1.2**
KLYT	**Kilyos**	**3.34**	**54**	*e*Pn	**Pn**	**07 25 22.3**	**+1.2**
ADVT	**Abdulvahap**	**3.46**	**70**	*e*PN	**Pn**	**07 25 24.3**	**+1.4**
ADVT	**Abdulvahap**	**3.46**	**70**	*e*Pn	**Pn**	**07 25 24.3**	**+1.4**
VTS	**Vitosha**	**3.69**	**333**	⇑*i* P	**Pn**	**07 25 27.6**	**+1.5**
VTS	**Vitosha**	**3.69**	**333**	P	**Pg**	**07 25 37.5**	**-1.9**
VTS	**Vitosha**	**3.69**	**333**	⇑*i* P	**Pn**	**07 25 27.6**	**+1.5**
MPEP	**Malo Peshtene**	**4.23**	**343**	P	**Pn**	**07 25 34.8**	**+1.4**
MPEP	**Malo Peshtene**	**4.23**	**343**	P	**Pn**	**07 25 34.8**	**+1.4**
BARS	**Barje**	**4.45**	**323**	*i* Pn	**Pn**	**07 25 37.3**	**+0.9**
VOIR		**6.12**	**357**	⇑*i* P	**Pn**	**07 26 00.1**	**+0.7**
VOIR		**6.12**	**357**	⇑*i* P	**Pn**	**07 26 00.1**	**+0.7**
MLR	**Muntele Rosu**	**6.17**	**3**	⇑*i* P	**Pn**	**07 26 01.4**	**+1.2**
MLR	**Muntele Rosu**	**6.17**	**3**	⇑*i* P	**Pn**	**07 26 01.4**	**+1.2**
PLOR	**Plostina**	**6.58**	**7**	⇑*i* P	**Pn**	**07 26 07.8**	**+2.1**
PLOR	**Plostina**	**6.58**	**7**	⇑*i* P	**Pn**	**07 26 07.8**	**+2.1**
VRI	**Vrincioaia**	**6.60**	**8**	⇑*i* P	**Pn**	**07 26 07.8**	**+1.8**
VRI	**Vrincioaia**	**6.60**	**8**	⇑*i* P	**Pn**	**07 26 07.8**	**+1.8**
TESR	**Tescani**	**7.24**	**6**	⇑*i* P	**Pn**	**07 26 16.0**	**+1.4**
TESR	**Tescani**	**7.24**	**6**	⇑*i* P	**Pn**	**07 26 16.0**	**+1.4**

*ISCJB **17** 07:31:28.9±0.5, 31°.28N±0°.04×115°.62W±0°.04, h8km±5km, Error ellipse: s-maj=6.4km s-min=4.5km az=31.1*
*ECX **17** 07:31:29.9±0.5, 31°.26N×115°.65W, h5km, MD3.4, ML3.6*
*MEX **17** 07:31:30.4±0.6, 31°.15N×115°.72W, h8km±19km, MD3.5*

ISC 17 07:31:29.1±1.0, 31°.30N±0°.04×115°.61W±0°.03, h5km±11km, n32, σ1§35/48, 2C-2D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**0.28**	**153**	*i* P	**Pg**	**07 31 34.9**	**+0.2**
SPIG				*i* S	**Sg**	**07 31 38.7**	**+0.2**
SPIG	**San Pedro Mart**	**0.28**	**153**	*e*P	**Pg**	**07 31 34.8**	**+0.1**
SPIG				*e*S	**Sg**	**07 31 38.6**	**+0.2**
SPX	**San Pedro Mart**	**0.28**	**153**	*e*P	**Pg**	**07 31 34.9**	**+0.1**
SPX				*e*S	**Sg**	**07 31 39.0**	**+0.5**
SPX				IAML		07 31 39.6	
	comp=E,7μm,0.2s						
ECBX	**El Chinero**	**0.51**	**70**	*e*Pn	**Pg**	**07 31 38.1**	**-0.8**
ECBX				*e*S	**Sg**	**07 31 45.5**	**0.0**
ECBX				⇓*e*		07 31 48.3	
ECBX				IAML		07 31 48.3	
	comp=E,3μm,0.2s						
ZAX	**El Zacaton**	**0.60**	**291**	⇑*e*P	**Pg**	**07 31 40.1**	**-0.6**
ZAX				*e*S	**Sg**	**07 31 48.4**	**-0.2**
RDX	**Rancho Dawling**	**0.69**	**336**	⇓*e*P	**Pg**	**07 31 42.9**	**+0.5**
RDX				*e*S	**Sg**	**07 31 52.5**	**+1.2**
ECNX	**Esteban Cantu**	**0.91**	**293**	*e*P	**Pg**	**07 31 45.8**	**-0.9**
ECNX				*e*S	**Sg**	**07 31 58.2**	**-0.3**
PBX	**Punta Banda**	**1.05**	**295**	*e*P	**Pg**	**07 31 48.2**	**-1.0**
PBX				*e*S	**Sg**	**07 32 02.1**	**-0.7**
CBX	**Cerro Bola**	**1.35**	**319**	*e*P	**Pn**	**07 31 53.0**	**-1.7**
CBX				*e*S	**Sb**	**07 32 09.8**	**-2.8**
CBX	**Cerro Bola**	**1.35**	**319**	*e*P	**Pn**	**07 31 53.3**	**-1.5**
CBX				*e*S	**Sb**	**07 32 11.9**	**-0.7**
RMX	**La Rumorosa**	**1.36**	**343**	*e*P	**Pn**	**07 31 54.6**	**-0.3**
RMX				*e*S	**Sb**	**07 32 12.3**	**-0.6**
RMX				IAML		07 32 15.1	
	comp=N,668nm,0.3s						
RMX				⇑*e*		07 32 15.1	
IBP	**Imperial Bould**	**1.42**	**343**	P	**Pn**	**07 31 55.7**	**+0.1**
	baz=1.3,SNR=18						
IBP				S	**Sb**	**07 32 13.7**	**-0.9**
	baz=1.3						
BAR	**Barrett**	**1.65**	**327**	*e*P	**Pn**	**07 31 58.3**	**-0.5**
SWSC	**Sam W. Stewart**	**1.65**	**355**	Pb	**Pb**	**07 32 00.1**	**+0.2**
	baz=1.5,SNR=46						
MONP	**Monument Peak,**	**1.73**	**337**	P	**Pn**	**07 32 00.7**	**+0.7**
	baz=1.7,SNR=67						
MONP				S	**Sn**	**07 32 22.5**	**-0.1**
	baz=1.7						
GLA	**Glamis**	**1.87**	**21**	P	**Pn**	**07 32 00.8**	**-1.1**
	baz=1.7,SNR=6.7						
109C	**Camp Elliot, M**	**2.03**	**322**	P	**Pn**	**07 32 04.7**	**+0.7**
	baz=2.0,SNR=11						
109C				S	**Sn**	**07 32 30.3**	**+0.6**
	baz=2.0						
BC3	**Big Chuckawall**	**2.35**	**3**	P	**Pn**	**07 32 07.8**	**-0.7**
	baz=2.2,SNR=18						
PFO	**Pinyon Flats O**	**2.41**	**343**	P	**Pn**	**07 32 09.4**	**+0.1**
	baz=2.3						
PFO				Sb	**Sb**	**07 32 44.0**	**+0.8**
	baz=2.3						
214A	**Organ Pipe Nat**	**2.48**	**74**	P	**Pn**	**07 32 09.1**	**-1.0**
	baz=2.3						
Y12C	**Blythe**	**2.61**	**20**	P	**Pn**	**07 32 10.9**	**-1.1**
	baz=2.4						
MURC	**Murrieta**	**2.66**	**330**	P	**Pn**	**07 32 14.6**	**+2.0**
	baz=2.6,SNR=18						
BELC	**Belle Mtn. Jos**	**2.71**	**353**	P	**Pn**	**07 32 13.3**	**-0.2**
	baz=2.6,SNR=13						
IRM	**Iron Mountain**	**2.88**	**8**	P	**Pn**	**07 32 15.5**	**-0.2**
	baz=2.7						
BBRC	**Big Bear Solar**	**3.15**	**340**	Pb	**Pb**	**07 32 25.9**	**+0.1**
	baz=3.1						
BBRC				Sb	**Sb**	**07 33 06.3**	**+1.7**
	baz=3.1						
PDMCI	**Parker Dam,Lak**	**3.24**	**22**	P	**Pn**	**07 32 19.6**	**-1.0**
	baz=3.1						
BFSC	**Mount Baldy Ra**	**3.40**	**330**	P	**Pb**	**07 32 27.8**	**-2.2**
	baz=3.4						
DECC	**Green Verdugo**	**3.73**	**323**	Sb	**Sb**	**07 33 24.6**	**+3.6**
	baz=3.7						
BLG	**Laguna Peak, P**	**4.04**	**315**	Sb	**Sb**	**07 33 34.2**	**+4.2**
	baz=4.0						
EDW2	**Edwards Air Fo**	**4.09**	**331**	Sb	**Sb**	**07 33 34.0**	**+2.6**
	baz=4.0						
GSC	**Goldstone, Bar**	**4.12**	**346**	Pb	**Pb**	**07 32 43.7**	**+1.6**
	baz=4.0						
ARVC	**Arvin**	**4.67**	**326**	S	**Sn**	**07 33 33.8**	**-1.2**
	baz=4.6						

*SJA **17** 07:49:04.0±0.3, 37°.90S×75°.54W, h372km±57km, ML4.3, MW3.4*
*ISCJB **17** 07:49:27.9±1.2, 36°.61S±0°.10×73°.8W±0°.2, h10km, Error ellipse: s-maj=20.8km s-min=9.4km az=35.7*
*GUC **17** 07:49:30.6±0.7, 36°.69S×73°.60W, h28km±5km, ML4.4*

ISC 17 07:49:30.0±2.7, 36°.7S±0°.1×73°.7W±0°.2, h10km, n14, σ1§71/20, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNCH	**Linares**	**1.88**	**64**	⇑*i* P	**Pn**	**07 50 01.5**	**-0.6**
LNCH				*i* S	**Sn**	**07 50 24.8**	**-1.1**
LNCH				AML	AML	07 50 38.8	
	comp=N,4μm,0.6s						
TALC	**Talca**	**2.10**	**53**	*e*P	**Pn**	**07 50 03.4**	**-1.7**
TALC				*i* S	**Sn**	**07 50 29.7**	**-1.7**
TALC				AML	AML	07 50 33.0	
	comp=N,5μm,0.5s						
NICH	**Los Niches**	**2.61**	**51**	*e*P	**Pn**	**07 50 11.2**	**-1.0**
NICH				*e*S	**Sn**	**07 50 42.7**	**-1.2**
NICH				AML	AML	07 50 51.2	
	comp=E,2μm,0.4s						
VLCH	**Valdivia**	**3.13**	**174**	*e*P	**Pn**	**07 50 19.2**	**-0.2**
AAGR	**Agrelo**	**5.37**	**49**	*e*P	**Pn**	**07 50 52.2**	**+2.0**
AAGR				*e*S	**Sb**	**07 52 11.6**	**+3.1**
ARCO	**CERRO ARCO**	**5.48**	**47**	*e*P	**Pn**	**07 50 53.3**	**+1.5**
ARCO				*e*S	**Sb**	**07 52 14.3**	**+2.7**
AUSP	**Uspallata**	**5.69**	**40**	*e*P	**Pn**	**07 50 55.8**	**+0.9**
AUSP				*e*S	**Sb**	**07 52 19.2**	**+1.2**
RTLS	**Leoncito**	**6.08**	**38**	*e*P	**Pn**	**07 51 00.7**	**+0.5**
RTCV	**Cerro Valdivia**	**6.42**	**43**	*e*P	**Pn**	**07 51 04.3**	**-0.4**
CFAA	**Coronel Fontan**	**6.79**	**43**	*e*P	**Pn**	**07 51 08.5**	**-1.2**
RTLL	**Cerro Villicun**	**6.87**	**40**	*e*P	**Pn**	**07 51 09.6**	**-1.3**
ACAN	**Cantantal**	**6.94**	**52**	*e*P	**Pn**	**07 51 10.8**	**-0.9**
AMOG	**MOGNA**	**7.18**	**38**	*e*P	**Pn**	**07 51 13.2**	**-1.9**
AVFE	**Valle Fertil**	**7.94**	**43**	*e*P	**Pn**	**07 51 22.9**	**-2.6**
AVFE				IAML		07 53 07.2	
	comp=Z,6.7nm,0.6s						

*BJI **17** 07:56:04.9, 1°.92S×136°.77E, h8km, mb4.6/6, mB4.8/2*
*IDC **17** 07:56:04.0±0.7, 2°.26S×136°.68E, h0km, mb4.2/17, mb1 4.4/19, mb1mx4.3/25, mbtmp4.3/19, ML4.3/2, MS3.0/2, Ms1 3.1/2, ms1mx2.7/30, Error ellipse: s-maj=26.1km s-min=13.4km az=76.0*
*NEIC **17** 07:56:05.5±0.3, 2°.30S×136°.67E, h10km, mb4.5/2, Error ellipse: s-maj=10.8km s-min=5.8km az=80.0*
*ISCJB **17** 07:56:07.1±0.3, 2°.28S±0°.04×136°.63E±0°.03, h33km, mb4.2/18, MS3.0/1, Error ellipse: s-maj=6.3km s-min=4.5km az=7.8*
*DJA **17** 07:56:07.1±0.5, 2°.5±9°×13°.7E±°, h23km±7km, M4.8/6, mb4.8/4, mB5.2/2, MLv4.7/6, Mw(mB)4.6/2*

ISC 17 07:56:08.8±0.5, 2°.26S±0°.06×136°.65E±0°.05, h35km, n45, σ1§50/53, mb4.4/23, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.56**	**313**	P	Pn	07 56 16.9	-3.4
SRPI				S	**Sn**	**07 56 25.0**	**-3.4**
SMPI	**Sarmi**	**2.08**	**83**	P	**Pn**	**07 56 41.0**	**-0.2**
SMPI				S	**Sn**	**07 57 04.4**	**-1.5**
RKPI	**Ransiki, Papua**	**2.58**	**287**	P	**Pn**	**07 56 47.2**	**-0.9**
RKPI				S	Sn	07 57 06.8	-11
GENI	**Genyem**	**3.53**	**95**	P	**Pn**	**07 57 02.4**	**+1.2**
JAY	**Jayapura**	**4.06**	**94**	P	**Pn**	**07 57 09.0**	**+0.5**
FAKI	**Fak Fak**	**4.44**	**261**	P	**Pn**	**07 57 13.3**	**-0.5**
FAKI				S	**Sn**	**07 58 04.7**	**+0.4**
FAKI	**Fak Fak**	**4.44**	**261**	*e*Pn	**Pn**	**07 57 13.3**	**-0.5**
FAKI				*e*Sn	**Sn**	**07 58 06.9**	**+2.6**
SIJI	**Sorong**	**5.55**	**284**	Pn	**Pn**	**07 57 29.1**	**+0.1**
	9.7nm,0.3s,baz=220,slow=23,SNR=28						
SIJI				Sn	**Sn**	**07 58 28.9**	**-2.8**
	2.6nm,0.3s,baz=108,slow=20,SNR=2.9						
SIJI				LR	LR	07 59 19.8	
	comp=Z,181nm,21.0s,baz=20,slow=35						
NLAI	**Namlea**	**9.59**	**264**	P	**Pn**	**07 58 25.0**	**+0.6**
	70nm,0.8s,1μm						
SANI	**Sanana**	**10.65**	**271**	P	**Pn**	**07 58 38.0**	**-1.1**
	31nm,0.7s						
WRA	**Warramunga Arr**	**17.72**	**187**	P	**Pn**	**08 00 11.3**	**-1.6**
	1.0nm,0.3s,baz=6.6,slow=12,SNR=18						
WRA				S	Sn	08 03 15.3	-14
	0.4nm,0.3s,baz=12,slow=22,SNR=5.3						
CTA	**Charters Tower**	**20.05**	**153**	P	**P**	**08 00 38.1**	**-1.1**
	1.1nm,0.4s,baz=0.0,slow=4.0,SNR=2.2						
AS31	**Alice Springs**	**21.45**	**187**	*e*P	**P**	**08 00 53.8**	**-0.4**
AS31				*e*S	**S**	**08 04 48.1**	**-2.3**
ASAR	**Alice Springs**	**21.45**	**187**	P	**P**	**08 00 54.0**	**-0.3**
	7.4nm,0.5s,baz=16,slow=11,SNR=36						
ASAR				S	**S**	**08 04 47.4**	**-3.1**
	2.5nm,0.7s,baz=15,slow=21,SNR=5.0						
STKA	**Stephens Creek**	**29.83**	**172**	P	**P**	**08 02 12.7**	**-0.1**
	5.1nm,0.7s,baz=336,slow=10,SNR=6.4						
NWAO	**Narrogin (SRO)**	**35.53**	**209**	P	**P**	**08 03 02.6**	**0.0**
	7.8nm,1.0s,baz=146,slow=3.0,SNR=3.4						
PSI	**Prapat**	**38.05**	**277**	P	**P**	**08 03 24.4**	**0.0**
	4.6nm,0.7s,baz=153,slow=6.8,SNR=3.6						
KSAR	**Wonju Array Be**	**40.33**	**349**	P	**P**	**08 03 43.5**	**+0.5**
KSRS	**Korea Array**	**40.33**	**349**	P	**P**	**08 03 43.5**	**+0.5**
	0.8nm,0.6s,baz=178,slow=8.5,SNR=5.3						
CMAR	**Chiang Mai Arr**	**42.43**	**301**	P	**P**	**08 04 01.6**	**+1.1**
	4.7nm,0.6s,baz=123,slow=7.0,SNR=17						
CMAR				LR	LR	08 24 04.8	
	comp=Z,17nm,18.1s,baz=55,slow=40						
XAN	**Xi'an**	**44.55**	**327**	P	**P**	**08 04 15.3**	**-2.1**
XAN				pP	pP	08 04 22.9	-4.9
XAN				sP	sP	08 04 26.8	-5.2
XAN				PMZ			
	2.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**48.62**	**335**	*e*P	**P**	**08 04 49.6**	**+0.3**
GTA	**Gaotai**	**53.50**	**325**	*e*P	**P**	**08 05 27.9**	**+1.8**
GTA				pP	**pP**	**08 05 33.6**	**-3.0**
GTA				sP	**sP**	**08 05 36.8**	**-3.9**
GTA				PMZ			
	8.0nm,0.9s						
ODAN	**Odare**	**55.60**	**305**	*e*P	**P**	**08 05 42.7**	**+1.0**
	24nm,0.7s						
RAMN	**Ramite**	**56.28**	**305**	*e*P	**P**	**08 05 48.0**	**+1.4**
	21nm,0.6s						
SONM	**Songino Array**	**56.45**	**336**	P	**P**	**08 05 47.8**	**+0.6**
	0.7nm,0.7s,baz=149,slow=6.2,SNR=4.1						
GUN	**Gumba**	**57.24**	**305**	*e*P	**P**	**08 05 54.9**	**+1.4**
	33nm,0.9s						
PKI	**Pulchoki**	**57.50**	**305**	*e*P	**P**	**08 05 56.1**	**+0.8**
DMN	**Daman**	**57.76**	**305**	*e*P	**P**	**08 05 58.3**	**+1.2**
	19nm,0.8s						
PETK	**Petropavlovsk-**	**57.93**	**15**	P	**P**	**08 05 57.6**	**+0.2**
	2.8nm,0.8s,baz=182,slow=5.3,SNR=4.0						
GKN	**Gorkha**	**58.29**	**305**	*e*P	**P**	**08 06 01.9**	**+1.2**
	25nm,0.8s						
KOLN	**Koldanda**	**59.06**	**304**	*e*P	**P**	**08 06 07.5**	**+1.4**
	22nm,0.8s						
MK31	**Makanchi Array**	**68.18**	**323**	*e*P	**P**	**08 07 07.6**	**+1.9**
MKAR	**Makanchi Array**	**68.18**	**323**	P	**P**	**08 07 06.8**	**+1.1**
	3.4nm,0.8s,baz=119,slow=8.2,SNR=22						
ZALV	**Zalesovo Beam**	**70.52**	**330**	P	**P**	**08 07 20.2**	**+0.2**
	1.9nm,0.6s,baz=106,slow=7.8,SNR=8.5						
KURK	**Kurchatov**	**72.17**	**325**	P	**P**	**08 07 30.9**	**+0.9**
KURBB	**Kurchatov Arra**	**72.18**	**325**	P	**P**	**08 07 30.9**	**+0.9**
	2.7nm,0.9s,baz=116,slow=5.8,SNR=21						
VNDA	**Vanda**	**76.42**	**175**	P	**P**	**08 07 55.1**	**+0.9**

PDGK				⇑Lg		Lg		08 10 17.6	
	comp=E,21nm,0.9s								
MKAR	**Makanchi Array**	**10.62**	**43**	Pn		**Pn**		**08 09 11.5**	**+3.1**
	comp=E,0.1nm,0.3s,baz=233,slow=16,SNR=8.5								
MKAR				Lg		Lg		08 12 14.1	
	comp=E,0.1nm,0.3s,baz=235,slow=26,SNR=3.0								
KURBB	**Kurchatov Arra**	**12.16**	**21**	Pn		**Pn**		**08 09 29.7**	**+0.3**
	comp=E,0.1nm,0.3s,baz=216,slow=12,SNR=5.4								
KURBB				Lg		Lg		08 13 01.2	
	comp=E,0.0nm,0.3s,baz=213,slow=28,SNR=5.3								
KURK	**Kurchatov**	**12.27**	**21**	*e*Pn		Pn		08 09 34.2	+3.3
KURK				Lg		Lg		08 13 01.2	
AB31	**Akbulak array**	**12.99**	**323**	⇓Pn		**Pn**		**08 09 41.0**	**+0.2**
	comp=E,1.1nm,0.4s,baz=121,slow=13,SNR=47								
AB31				⇑Sn		**Sn**		**08 12 01.2**	**-4.2**
	comp=E,12nm,1.0s,baz=130,slow=24,SNR=8.3								
ABKAR	**Akbulak array**	**12.99**	**323**	*e*Pn		**Pn**		**08 09 41.0**	**+0.2**
BVAR	**Borovoye Array**	**13.65**	**356**	Pn		**Pn**		**08 09 50.4**	**+0.6**
	comp=E,0.1nm,0.3s,baz=170,slow=12,SNR=2.3								
BVAR				Lg		Lg		08 13 53.0	
	baz=156,slow=22,SNR=3.6								
AKTO	**Aktyubinsk**	**14.71**	**323**	⇓Pn		**Pn**		**08 10 05.2**	**+0.9**
	comp=E,5.0nm,0.9s								
AKTO				⇑Sn		**Sn**		**08 12 44.0**	**-3.3**
	comp=E,4.3nm,0.7s								
AKTO	**Aktyubinsk**	**14.71**	**323**	Pn		**Pn**		**08 10 04.8**	**+0.5**
	comp=E,0.2nm,0.3s,baz=147,slow=9.1,SNR=3.2								
AKTO				Sn		**Sn**		**08 12 44.7**	**-2.6**
	comp=E,0.2nm,0.3s,baz=346,slow=19,SNR=6.9								
ZAA0	**Zalesovo Array**	**17.01**	**27**	*e*Pn		**P**		**08 10 37.4**	**+1.5**
ZALV	**Zalesovo Beam**	**17.01**	**27**	P		**P**		**08 10 37.1**	**+1.2**
	comp=E,1.6nm,0.3s,baz=216,slow=11,SNR=26								
BRTR	**Keskin Array B**	**29.30**	**283**	P		**P**		**08 12 41.1**	**+2.1**
	comp=E,0.6nm,0.7s,baz=108,slow=8.0,SNR=3.3								
FINES	**FINESS Array B**	**35.48**	**324**	P		**P**		**08 13 35.2**	**+2.5**
	comp=E,0.4nm,0.4s,baz=116,slow=13,SNR=3.4								
ARCES	**ARCESS Array B**	**38.73**	**336**	P		**P**		**08 14 02.5**	**+2.4**
	comp=E,0.9nm,0.8s,baz=101,slow=9.3,SNR=3.6								
TORD	**Torodi Ar. Bea**	**66.47**	**268**	P		**P**		**08 17 24.9**	**-1.3**
	comp=E,0.7nm,0.5s,baz=48,slow=5.7,SNR=12								
ILAR	**Eielson Array**	**71.80**	**16**	P		**P**		**08 17 57.6**	**-0.9**
	comp=E,0.6nm,0.8s,baz=318,slow=5.3,SNR=9.5								
YKA	**Yellowknife Ar**	**78.31**	**3**	P		**P**		**08 18 36.1**	**0.0**
	comp=E,0.6nm,0.4s,baz=352,slow=5.5,SNR=5.8								
WRA	**Warramunga Arr**	**82.99**	**123**	P		**P**		**08 18 59.9**	**-1.9**
	comp=E,0.6nm,0.6s,baz=325,slow=4.7,SNR=3.7								
WRAB	**Tennant Creek**	**82.99**	**123**	*e*P		**P**		**08 18 59.5**	**-2.3**
	comp=E,0.8nm,0.4s								
ASAR	**Alice Springs**	**85.39**	**126**	P		**P**		**08 19 12.1**	**-1.9**
	comp=E,0.5nm,0.8s,baz=328,slow=3.3,SNR=2.7								

DJA ***17*** *08:07:26.9±0.5,2°S±10°×13°6E±°, h10km, M4.3/4, MLv4.3/4*
IDC ***17*** *08:07:26.8±1.2, 1°.85S×136°.93E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.7/35, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=60.0km s-min=21.9km az=86.0*
ISCJB ***17*** *08:07:29.9±0.8, 1°.9S±0°.1×136°.37E±0°.05, h33km, mb3.9/4, Error ellipse: s-maj=16.9km s-min=7.2km az=173.4*

ISC 17 08:07:31.5±1.0,2°.1S±0°.1×136°.45E±0°.06,h35km,n8, σ2°94/10,mb3.8/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.34**	**321**	P		P	Pn	08 07 32.2	-7.8
SMPI	**Sarmi**	**2.26**	**86**	P		**P**	**Pn**	**08 08 04.1**	**-2.3**
SMPI				S		S	**Sn**	**08 08 35.3**	**+2.2**
FAKI	**Fak Fak**	**4.27**	**259**	P		**P**	**Pn**	**08 08 33.6**	**-0.5**
FAKI				S		S	**Sn**	**08 09 22.0**	**-0.8**
WRA	**Warramunga Arr**	**17.82**	**187**	P		**P**	**P**	**08 11 39.0**	**+1.6**
	0.2nm,0.3s,baz=9.8,slow=12,SNR=13								
WRA				S		S	**Sn**	**08 14 49.6**	**-4.9**
	0.2nm,0.3s,baz=9.7,slow=23,SNR=8.9								
ASAR	**Alice Springs**	**21.54**	**186**	P		**P**	**P**	**08 12 21.4**	**+3.4**
	5.1nm,0.8s,baz=14,slow=11,SNR=30								
ASAR				S		S	**S**	**08 16 17.7**	**+2.6**
	1.2nm,0.9s,baz=8.2,slow=27,SNR=4.3								
STKA	**Stephens Creek**	**29.98**	**171**	P		P	P	08 13 39.4	+2.6
	8.5nm,1.3s,baz=343,slow=11,SNR=2.7								
MKAR	**Makanchi Array**	**67.97**	**323**	P		**P**	**P**	**08 18 28.3**	**+1.1**
	0.5nm,0.8s,baz=108,slow=7.7,SNR=4.1								
ILAR	**Eielson Array**	**86.25**	**25**	P		**P**	**P**	**08 20 07.8**	**-1.5**
	0.4nm,0.9s,baz=249,slow=4.7,SNR=2.6								

FUNV ***17*** *08:09:33.0, 6°.86N×73°.06W, h157km, MW2.2*

ISC 17 08:09:33.3±2.1,7°.1N±0°.2×73°.0W±0°.1,h166km,n8,σ0s74/9, mb3.6/3,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.03**	**41**	*e*P		**P**	**Pn**	**08 10 00.2**	**0.0**
CAPV				*e*S		S	**Sn**	**08 10 20.1**	**-0.7**
VIGV	**El Vigia**	**2.38**	**43**	*e*P		**P**	**Pn**	**08 10 14.2**	**+0.3**
VIGV				*e*S		S	**Sn**	**08 10 45.1**	**-0.3**
SOCV	**Socops**	**2.44**	**60**	*e*P		**P**	**Pn**	**08 10 15.6**	**+1.1**
SOCV				*e*S		S	**Sn**	**08 10 45.3**	**-1.1**
VIRV	**Villa del Rosa**	**3.45**	**10**	*e*P		**P**	**Pn**	**08 10 27.2**	**+0.2**
VIRV				*e*S		S	**Sn**	**08 11 09.1**	**+0.2**
TXAR	**Lajitas Array**	**36.38**	**311**	P		P	P	08 16 09.5	-12
	0.8nm,0.6s,baz=144,slow=11,SNR=11								
TXAR				LR		LR		08 26 18.6	
	comp=Z,36nm,18.3s,baz=0.0,slow=37								
PDAR	**Pinedale Array**	**47.94**	**324**	P		P	P	08 18 05.1	+10
	0.3nm,0.6s,baz=134,slow=12,SNR=2.9								
NVAR	**Mina Array Bea**	**51.39**	**314**	P		**P**	**P**	**08 18 21.4**	**-0.1**
	1.1nm,0.8s,baz=144,slow=7.8,SNR=9.2								
ILAR	**Eielson Array**	**76.78**	**335**	P		P	pP	08 21 46.5	-0.3
	0.2nm,0.8s,baz=130,slow=8.4,SNR=3.8								

IDC 17 08:12:41.2±2.5,3°.98N×127°.16E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.3/42,mbtmp3.5/3,Error ellipse: s-maj=212.6km s-min=26.6km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.80**	**164**	P		P	P	08 18 04.6	-0.6
	0.6nm,0.4s,baz=343,slow=9.5,SNR=8.2								
ASAR	**Alice Springs**	**28.25**	**167**	P		P	P	08 18 36.8	+0.5
	0.3nm,0.7s,baz=345,slow=11,SNR=3.7								
MKAR	**Makanchi Array**	**57.60**	**325**	P		P	P	08 22 33.0	-0.1
	0.2nm,0.4s,baz=120,slow=7.2,SNR=5.8								

CSEM ***17*** *08:17:26.9±0.3, 71°.14N×9°.32W, h24km±2km, ML3.3, Error ellipse: s-maj=11.1km s-min=6.5km az=42.0*

BER 17 08:17:28.4±0.4,71°.23N×8°.93W,h10km,MD3.0,ML3.3,6C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.26**	**141**	⇑*i*P		P	Pg	08 17 34.1	+0.5
JNW				IAML				08 17 45.3	
	comp=Z,4μm,0.2s								
JNW	**Jan Mayen West**	**0.26**	**141**	⇑*i*P		P	Pg	08 17 34.1	+0.5
	SNR=104								
JMI	**Jan Mayen**	**0.31**	**168**	⇑*i*P		P	Pg	08 17 34.8	+0.3
JMI				IAML				08 17 38.0	
	comp=Z,2μm,0.3s								
JMI				*e*S			Sg	08 17 39.5	+0.8
JMI	**Jan Mayen**	**0.31**	**168**	⇑*i*P		P	Pg	08 17 34.8	+0.2
	SNR=102								
JMI				*e*S			Sg	08 17 39.5	+0.8
	SNR=102								
JNE	**Jan Mayen East**	**0.32**	**139**	⇑*i*P		P	Pg	08 17 34.7	0.0
JNE				IAML				08 17 44.6	
	comp=Z,4μm,0.2s								
JNE	**Jan Mayen East**	**0.32**	**139**	⇑*i*P		P	Pg	08 17 34.7	0.0
	SNR=102								
DAG	**Danmarks Havn**	**6.17**	**339**	*i* P		P	Pn	08 18 56.8	-2.6
DAG				*i* S		S	Sn	08 19 59.5	-10
HSPB	**Hornsund (broa**	**8.78**	**38**	*e*P		P	Pn	08 19 33.6	-1.5
HSPB	**Hornsund (broa**	**8.78**	**38**	*e*P		P	Pn	08 19 33.6	-1.5
	SNR=50								
BJO	**Bjornoya**	**8.86**	**55**	*e*P		P	Pn	08 19 36.2	0.0
BJO	**Bjornoya**	**8.86**	**55**	*e*P		P	Pn	08 19 36.2	0.0
	SNR=50								
KONS	**Konsvik**	**9.23**	**110**	*e*P		P	Pn	08 19 39.1	-2.2
KONS	**Konsvik**	**9.23**	**110**	*e*P		P	Pn	08 19 39.1	-2.1
	SNR=50								
SUMG	**Summit**	**9.23**	**292**	*i* P		P	Pn	08 19 42.2	+0.4
SUMG				*i* S		S	Sn	08 21 20.2	-5.7
STOK	**Stokkvaagen**	**9.30**	**111**	*e*P		P	Pn	08 19 40.2	-2.1
STOK	**Stokkvaagen**	**9.30**	**111**	*e*P		P	Pn	08 19 40.2	-2.1
	SNR=50								
FLOS	**Flostrand**	**9.41**	**110**	*e*P		P	Pn	08 19 42.7	-1.1
FLOS	**Flostrand**	**9.41**	**110**	*e*P		P	Pn	08 19 42.7	-1.0
	SNR=50								
SPA0	**Spitsbergen Ar**	**9.54**	**32**	*e*P		P	Pn	08 19 45.1	-0.4
SPA0	**Spitsbergen Ar**	**9.54**	**32**	*e*P		P	Pn	08 19 45.2	-0.4
	SNR=50								
HOPEN	**Hopen**	**10.65**	**45**	*e*P		P	Pn	08 20 00.1	-0.7
HOPEN	**Hopen**	**10.65**	**45**	*e*P		P	Pn	08 20 00.1	-0.7
	SNR=50								

IDC 17 08:18:03.9±3.0,55°.53N×86°.20E,h0km,mb1 2.7/2, mb1mx2.7/44,mbtmp2.7/2,ML2.2/2,Error ellipse: s-maj=26.1km s-min=24.7km az=37.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.78**	**207**	*i*				08 29 30.0	
	baz=24,slow=316,SNR=11								
ZALV	**Zalesovo Beam**	**1.78**	**207**	Pn		Pn	Pn	08 18 34.0	-1.8
	1.5nm,0.3s,baz=30,slow=18,SNR=24								
ZALV				Lg		Lg	Lg	08 18 59.9	
	2.4nm,0.3s,baz=29,slow=26,SNR=7.2								
KURBB	**Kurchatov Arra**	**6.75**	**226**	Pn		Pn	Pn	08 19 43.9	-0.2
	0.0nm,0.3s,baz=40,slow=13,SNR=9.4								
KURBB				Lg		Lg	Lg	08 21 38.9	
	0.0nm,0.3s,baz=275,slow=8.7,SNR=5.0								
MKAR	**Makanchi Array**	**9.09**	**197**	Pn		Pn	Pn	08 20 16.9	+0.7
	0.0nm,0.3s,baz=21,slow=13,SNR=2.9								
MKAR				Lg		Lg	Lg	08 22 52.9	
	0.1nm,0.3s,baz=19,slow=26,SNR=3.3								

SKHL ***17*** *08:30:51.6±0.5, 52°.16N×141°.87E, h10km, mb4.0/4*
ISCJB ***17*** *08:30:53.3±0.5, 52°.13N±0°.03×141°.80E±0°.05, h10km, mb3.5/5, Error ellipse: s-maj=4.5km s-min=4.2km az=19.3*
IDC ***17*** *08:30:54.5±1.2, 52°.10N×142°.08E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.5/34, mbtmp3.6/5, Error ellipse: s-maj=48.0km s-min=29.2km az=116.0*

ISC 17 08:30:56.0±0.7,52°.16N±0°.04×142°.01E±0°.04,h10km,n12, σ1s35/17,mb3.6/5,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**1.36**	**162**	*e*Pg		**Pg**	**Pg**	**08 31 20.0**	**-2.2**
TYV				*e*Sg		**Sg**	**Sg**	**08 31 39.5**	**-0.3**
TYV				A		A	A	08 31 42.5	
	530nm,0.8s								
TYV				A		A	A	08 31 53.0	
	2μm,5.0s								
TYV				A		A	A	08 31 53.0	
	2μm,5.0s								
OKH	**Okha**	**1.50**	**22**	*e*Pg		**Pb**	**Pb**	**08 31 23.4**	**-0.5**
OKH				AMB		AMB	AMB	08 31 24.0	
	60nm,0.6s								
OKH				*i* Sg		**Sg**	**Sg**	**08 31 46.0**	**+1.8**
OKH				A		A	A	08 31 47.2	
	2μm,2.0s								
OKH				A		A	A	08 31 47.2	
	2μm,0.9s								
UGL	**Uglegorsk**	**3.09**	**179**	*e*Pg		**Pg**	**Pg**	**08 31 54.0**	**-1.2**
UGL				AMB		AMB	AMB	08 32 02.0	
	100nm,0.9s								
UGL				*e*Sg		**Sg**	**Sg**	**08 32 36.8**	**+1.6**
UGL				A		A	A	08 32 40.0	
	100nm,0.6s								
GRNR	**Gornyy**	**3.76**	**250**	*e*Pg		**Pg**	**Pb**	**08 32 04.0**	**+1.5**
GRNR				AMB		AMB	AMB	08 32 09.8	
	19nm,0.5s								
GRNR				*e*Sg		**Sg**	**Sg**	**08 32 55.0**	**-1.7**
GRNR				A		A	A	08 32 59.0	
	59nm,0.5s								
YSS	**Yuzh-Sakhalins**	**5.24**	**174**	*e*Pg		**Pg**	**Pg**	**08 32 36.0**	**-0.3**
EKMR	**Ekimchan**	**5.59**	**283**	*e*Pg		**Pg**	**Pg**	**08 32 41.0**	**-2.1**
EKMR				AMB		AMB	AMB	08 32 42.5	
	10.0nm,0.5s								
EKMR				*e*Sg		**Sg**	**Sg**	**08 33 56.6**	**+1.1**
EKMR				A		A	A	08 34 12.7	
	70nm,0.5s								
EKMR				A		A	A	08 34 12.7	
	90nm,0.5s								
EKMR				A		A	A	08 34 12.7	
	40nm,0.5s								
KLR	**Kul'dur**	**7.14**	**250**	*e*Pg		Pg	Pg	08 33 08.7	-4.1
KLR				*e*Sg		**Sg**	**Sg**	**08 34 46.2**	**+1.0**
ILAR	**Eielson Array**	**37.13**	**42**	P		**P**	**P**	**08 38 06.3**	**0.0**
	0.6nm,0.9s,baz=282,slow=7.3,SNR=10								
FINES	**FINESS Array B**	**55.85**	**329**	P		**P**	**P**	**08 40 33.5**	**+0.5**
	0.4nm,0.6s,baz=57,slow=7.0,SNR=3.8								
PDAR	**Pinedale Array**	**67.08**	**49**	P		**P**	**P**	**08 41 50.5**	**+1.0**
	0.5nm,0.8s,baz=297,slow=6.0,SNR=3.9								
ASAR	**Alice Springs**	**75.83**	**188**	P		**P**	**P**	**08 42 42.1**	**0.0**
	0.4nm,0.8s,baz=11,slow=5.2,SNR=2.9								
TXAR	**Lajitas Array**	**80.66**	**54**	P		**P**	**P**	**08 43 08.6**	**-0.6**
	0.4nm,0.8s,baz=308,slow=6.2,SNR=4.5								

IDC 17 08:44:55.8±7.3,12°.86N×91°.11E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.3/42,mbtmp3.4/4,Error ellipse: s-maj=394.6km s-min=24.1km az=60.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**34.63**	**349**	P		P	P	08 51 46.7	-0.1
	0.3nm,0.4s,baz=171,slow=7.1,SNR=4.5								
KURBB	**Kurchatov Arra**	**39.03**	**347**	P		P	P	08 52 23.9	-0.3
	0.5nm,0.6s,baz=165,slow=7.9,SNR=4.3								
WRA	**Warramunga Arr**	**53.59**	**127**	P		P	P	08 54 18.4	-0.7
	0.2nm,0.7s,baz=305,slow=9.7,SNR=3.9								
ASAR	**Alice Springs**	**55.40**	**131**	P		P	P	08 54 33.0	+0.7
	0.2nm,0.3s,baz=306,slow=7.6,SNR=5.0								

DJA 17 09:00:04.1±0.6,1°S±23°×13°6E±°,h93km±24km,M3.7/4, MLv3.7/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.52**	**187**	P		P	Pn	09 00 21.1	+1.8
RKPI	**Ransiki, Papua**	**2.13**	**266**	P		P	Pn	09 00 38.6	+0.5
RKPI				S		S	Sn	09 01 04.1	0.0
SMPI	**Sarmi**	**2.49**	**105**	P		P	Pn	09 00 43.0	+0.1
SMPI				S		S	Sn	09 01 12.9	+0.2

ISCJB ***17*** *09:04:58.1±0.6, 32°.07N±0°.02×115°.00W±0°.03, h10km±4km, mb3.2/1, Error ellipse: s-maj=4.4km s-min=3.5km az=15.9*
NEIC ***17*** *09:04:60.0, 32°.06N×115°.03W, h10km, ML3.7(PAS), ML3.8(ECX), After ECX.*
MEX ***17*** *09:05:00.9±0.4, 32°.11N×114°.96W, h10km, MD3.4*
ECX ***17*** *09:05:00.0±0.4, 32°.06N×115°.03W, h10km, ML3.8*
IDC ***17*** *09:05:01.9±3.1, 31°.85N×114°.83W, h0km, mb3.3/1, mb1 3.4/5, mb1mx3.3/39, mbtmp3.1/5, ML2.9/4, Error ellipse: s-maj=59.4km s-min=13.1km az=41.0*

ISC 17 09:04:59.0±1.1,32°.05N±0°.02×115°.07W±0°.03,h9km±11km, n51,σ1s10/57,7C-8D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.38**	**343**	*e*P		**P**	**Pb**	**09 05 07.3**	**-0.6**
CPBX	**Cerro Prieto**	**0.42**	**332**	*e*P		**Pg**	**Pg**	**09 05 07.9**	**+0.6**
CPBX	**Cerro Prieto**	**0.42**	**332**	*e*Pn		**Pg**	**Pg**	**09 05 06.8**	**-0.4**
CPBX				*e*Pn		**Pg**	**Pg**	**09 05 07.8**	**+0.6**
CPBX				*e*S		**Sg**	**Sg**	**09 05 13.1**	**+0.3**
CPBX				IAML				09 05 15.9	
	comp=N,22μm,0.4s								
CPBX				⇓*e*				09 05 15.9	
ECBX	**El Chinero**	**0.57**	**178**	⇓*e*P		**Pg**	**Pg**	**09 05 09.8**	**-0.3**
ECBX				*e*S		**Sg**	**Sg**	**09 05 18.2**	**+0.7**
YMD	**Yuma Desert**	**0.68**	**41**	⇑*i*P		**Pg**	**Pg**	**09 05 11.3**	**-0.7**
EMSC	**East Mesa**	**0.70**	**6**	⇓*i*P		**Pg**	**Pg**	**09 05 12.1**	**-0.3**
RDX	**Rancho Dawling**	**0.75**	**261**	⇑*e*P		**Pg**	**Pg**	**09 05 14.0**	**-0.3**
RDX				*e*S		**Sg**	**Sb**	**09 05 24.7**	**0.0**
RDX				⇑*e*				09 05 27.9	
RDX				IAML				09 05 27.9	
	comp=N,2μm,0.6s								
COA	**Coachella**	**0.82**	**357**	*e*Pn		**Pg**	**Pg**	**09 05 13.7**	**-1.0**
DREC	**Desert Rsrch C**	**0.82**	**337**	⇑*e*P		**Pg**	**Pg**	**09 05 14.5**	**-0.3**
ERPC	**Ernies Place**	**0.86**	**324**	*e*Pn		**Pg**	**Pg**	**09 05 14.8**	**-0.7**
WESC	**Westside Schoo**	**0.91**	**322**	*e*P		**Pg**	**Pg**	**09 05 16.2**	**-0.2**
RMX	**La Rumorosa**	**1.02**	**303**	⇑*e*P		**Pg**	**Pg**	**09 05 17.9**	**-0.7**
RMX				IAML				09 05 32.7	
	comp=N,2μm,0.6s								
RMX				*e*				09 05 32.7	
GLA	**Glamis**	**1.02**	**12**	*e*Pg		**Pg**	**Pg**	**09 05 16.9**	**-1.8**
GLA				*e*Sg		**Sg**	**Sg**	**09 05 30.9**	**-1.1**
SPIG	**San Pedro Mart**	**1.05**	**199**	*e*P		**Pg**	**Pg**	**09 05 19.4**	**+0.2**
SPIG				*i* S		**Sg**	**Sg**	**09 05 33.6**	**+0.7**
SPIG	**San Pedro Mart**	**1.05**	**199**	*e*P		**Pg**	**Pg**	**09 05 19.4**	**+0.2**
SPIG				*i* S		**Sg**	**Sg**	**09 05 33.6**	**+0.7**
SPIG	**San Pedro Mart**	**1.05**	**199**	⇓*e*P		**Pg**	**Pg**	**09 05 18.8**	**-0.4**
SPX	**San Pedro Mart**	**1.05**	**199**	*e*P		**Pg**	**Pg**	**09 05 19.1**	**-0.1**
SPX				*e*S		**Sg**	**Sg**	**09 05 33.7**	**+0.8**
SPX	**San Pedro Mart**	**1.05**	**199**	⇓*e*P		**Pg**	**Pg**	**09 05 18.8**	**-0.5**
SPX				IAML				09 05 35.0	
	comp=E,1μm,0.6s								
SPX				⇓*e*				09 05 35.0	
ZAX	**El Zacaton**	**1.15**	**243**	⇓*e*P		**Pg**	**Pg**	**09 05 20.6**	**-0.6**
ZAX				⇑*e*				09 05 38.5	
ZAX				IAML				09 05 38.5	
	comp=N,2μm,0.6s								
ECNX	**Esteban Cantu**	**1.36**	**254**	⇑*e*P		**Pn**	**Pn**	**09 05 24.0**	**-0.2**
CBX	**Cerro Bola**	**1.38**	**282**	*e*P		**Pn**	**Pn**	**09 05 23.3**	**-1.2**
CBX				*e*S		**Sb**	**Sb**	**09 05 41.5**	**-1.2**
CBX	**Cerro Bola**	**1.38**	**282**	*e*P		**Pn**	**Pn**	**09 05 23.3**	**-1.2**
CBX				*e*S		**Sb**	**Sb**	**09 05 41.5**	**-1.2**
CBX	**Cerro Bola**	**1.38**	**282**	*e*Pn		**Pn**	**Pn**	**09 05 24.2**	**-0.3**
CBX				*e*S		**Sg**	**Sg**	**09 05 43.3**	**0.0**
CBX				IAML				09 05 44.2	
	comp=N,3μm,0.5s								
CBX				⇓*e*				09 05 44.2	
PBX	**Punta Banda**	**1.44**	**258**	*e*Pn		**Pn**	**Pn**	**09 05 25.1**	**-0.2**
BAR	**Barrett**	**1.50**	**295**	*e*Pn		**Pb**	**Pb**	**09 05 26.8**	**-0.1**
BAR				*e*Sn		**Sb**	**Sb**	**09 05 46.0**	**-0.1**
SDRC	**San Diego Road**	**1.73**	**294**	*e*P		**Pn**	**Pn**	**09 05 29.7**	**+0.5**
214A	**Organ Pipe Nat**	**1.92**	**92**	*e*Pn		**Pn**	**Pn**	**09 05 29.3**	**-2.6**
PFO	**Pinyon Flats O**	**1.95**	**324**	*e*Pn		**Pn**	**Pn**	**09 05 30.4**	**-2.0**
MWC	**Mount Wilson**	**2.30**	**312**	*e*Pn		**Pn**	**Pn**	**09 05 52.6**	**+1.4**
PASC	**Pasadena Art C**	**3.37**	**310**	Pn		**Pn**	**Pn**	**09 05 53.7**	**+1.9**
GSC	**Goldstone, Bar**	**3.56**	**336**	Pn		**Pn**	**Pn**	**09 05 55.4**	**+0.9**
TUC	**Tucson**	**3.64**	**85**	*e*Pn		**Pn**	**Pn**	**09 05 55.0**	**-0.6**
SHPR	**Sheep Range**	**4.45**	**359**	*e*Pn		**Pn**	**Pn**	**09 06 06.9**	**+0.1**
ISA	**Isabella, Lake**	**4.59**	**323**	Pn		**Pn**	**Pn**	**09 06 09.8**	**+1.2**
WUAZ	**Wupatki**	**4.63**	**41**	*e*Pn		**Pn**	**Pn**	**09 06 09.2**	**-0.1**
CCUT	**Cedar City**	**5.67**	**14**	*e*Pn		**Pn**	**Pn**	**09 06 22.5**	**-1.1**
121A	**Cookes Peak, D**	**6.19**	**84**	*e*Pn		**Pn**	**Pn**	**09 06 29.1**	**-1.6**
R11A	**Troy Canyon, C**	**6.30**	**356**	Pn		**Pn**	**Pn**	**09 06 32.7**	**+0.5**
MVU	**Marysvale**	**6.86**	**19**	*e*Pn		Pn	Pn	09 06 43.5	+3.6
MSU	**Marysvale**	**6.87**	**19**	Pn		**Pn**	**Pn**	**09 06 43.0**	**+2.9**
NVAR	**Mina Array Bea**	**6.90**	**338**	Pn		Pn	Pn	09 06 49.4	+8.9
	comp=N,0.1nm,0.3s,baz=162,slow=15,SNR=2.8								
NVAR				Pg		**Pg**	**Pg**	**09 07 13.6**	**+2.5**
	comp=N,0.2nm,0.3s,baz=156,slow=17,SNR=5.8								
MVCO	**Mesa Verde**	**7.47**	**45**	*e*Pn		**Pn**	**Pn**	**09 06 49.7**	**+1.3**
ANMO	**Albuquerque**	**7.75**	**66**	Pn		Pn	Pn	09 06 56.9	+4.7
	comp=N,0.1nm,0.3s,baz=225,slow=9.2,SNR=4.4								
ANMO	**Albuquerque**	**7.75**	**66**	*e*Pn		**Pn**	**Pn**	**09 06 52.4**	**+0.2**
TMUT	**Trail Mountain**	**7.89**	**22**	Pn		**Pn**	**Pn**	**09 06 55.6**	**+1.4**
SRU	**San Rafael Swe**	**7.96**	**26**	Pn		Pn	Pn	09 07 00.3	+5.2
PV01	**Paradox Valley**	**8.08**	**39**	Pn		Pn	Pn	09 07 01.8	+5.2

comp=E,3.8nm,0.7s
O20A **White River Ci** **9.79** **32** Pn **Pn** **09 08 00.9 +1.9**
comp=E,22nm,1.2s
TXAR **Lajitas Array** **10.16** **102** Pn **Pn** **09 08 03.7 -0.3**
TXAR Lg Lg 09 10 55.7
comp=E,0.8nm,0.3s,baz=284,slow=14,SNR=15
TXAR LR LR 09 11 52.5
comp=E,0.1nm,0.3s,baz=272,slow=26,SNR=4.0
comp=E,236nm,18.6s,baz=0.0,slow=37
YBH **Yreka Blue Hor** **11.46** **330** LR LR 09 13 11.7
comp=E,263nm,18.0s,baz=192,slow=39
PDAR **Pinedale Array** **11.57** **21** Pn Pn 09 08 28.1 +4.6
comp=E,0.1nm,0.3s,baz=202,slow=9.3,SNR=3.6
DLBC **Dease Lake** **28.30** **343** P P 09 11 35.0 +3.2
comp=E,1.3nm,0.7s,baz=145,slow=16,SNR=3.4
ILAR **Eielson Array** **38.18** **339** P **P** **09 12 59.0 +1.4**
comp=E,0.7nm,0.9s,baz=156,slow=7.2,SNR=5.7
ESDC **Sonseca Array** **84.28** **46** LR LR 09 53 40.6
comp=E,43nm,20.0s,baz=215,slow=34

IDC ***17*** *09:06:39.5±1.3,0.°90S×135.°87E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/37, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=62.6km s-min=24.6km az=88.0*
DJA ***17*** *09:06:56.8±0.6,2.°S×9.°13'6E±.°, h10km, M3.3/4, MLv3.3/4*
ISC 17 09:06:44.0±1.2, 1.°1S±0.°1×135.°9E±0.°2, h32km, n6, σ1§71/6, mb3.3/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.90**	**155**	P		**Pn**	**09 06 59.1**	**-1.4**
SMPI	**Sarmi**	**3.00**	**108**	P		**Pb**	**09 07 36.9**	**+0.2**
WRA	**Warramunga Arr**	**18.84**	**184**	P		**P**	**09 11 01.9**	**+0.4**
	0.1nm,0.3s,baz=8.5,slow=12,SNR=6.1							
ASAR	**Alice Springs**	**22.57**	**185**	P		**P**	**09 11 44.0**	**+2.2**
	0.5nm,0.6s,baz=13,slow=11,SNR=11							
MKAR	**Makanchi Array**	**66.75**	**323**	P		**P**	**09 17 31.2**	**-1.1**
	0.2nm,0.7s,baz=111,slow=7.9,SNR=2.4							
ILAR	**Eielson Array**	**85.52**	**25**	P		**P**	**09 19 19.4**	**+0.9**
	0.3nm,0.7s,baz=241,slow=5.5,SNR=7.8							

IDC 17 09:17:42.1±3.5, 53.°58N×90.°76E, h0km, mb1 2.9/3, mb1mx2.8/48, mbtmp2.9/3, ML2.6/2, Error ellipse: s-maj=32.5km s-min=24.3km az=33.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.54**	**278**	*i*			09 39 20.0	
	baz=91,slow=316,SNR=2.5							
ZALV	**Zalesovo Beam**	**3.54**	**278**	Pn		Pn	09 18 40.2	+1.9
	baz=94,slow=18,SNR=1.8							
ZALV				Lg		Lg	09 19 33.2	
	1.6nm,0.3s,baz=91,slow=28,SNR=9.3							
KURBB	**Kurchatov Arra**	**8.09**	**253**	Pn		Pn	09 19 39.9	-0.8
	0.1nm,0.3s,baz=64,slow=14,SNR=4.0							
KURBB				Sn		Sn	09 21 12.7	-0.1
	0.0nm,0.3s,baz=68,slow=27,SNR=5.0							
KURBB				Lg		Lg	09 21 57.4	
	0.0nm,0.3s,baz=74,slow=36,SNR=6.6							
MKAR	**Makanchi Array**	**8.69**	**222**	Pn		Pn	09 19 49.9	+0.9
	0.1nm,0.3s,baz=37,slow=12,SNR=7.5							
MKAR				Lg		Lg	09 22 14.7	
	0.2nm,0.3s,baz=39,slow=28,SNR=7.3							
SONM	**Songino Array**	**11.45**	**114**	Lg		Lg	09 23 36.5	
	0.1nm,0.3s,baz=294,slow=27,SNR=4.1							

IDC 17 09:26:13.6±3.1, 53.°58N×87.°90E, h0km, mb1 3.0/1, mb1mx2.8/38, mbtmp3.0/1, ML3.0/1, Error ellipse: s-maj=27.8km s-min=15.8km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**283**	*i*			09 38 17.6	
	baz=98,slow=315,SNR=17							
ZALV	**Zalesovo Beam**	**1.87**	**283**	Pn		Pn	09 26 46.9	+0.1
	2.8nm,0.3s,baz=102,slow=13,SNR=26							
ZALV				Lg		Lg	09 27 12.6	
	4.3nm,0.3s,baz=104,slow=28,SNR=12							
MKAR	**Makanchi Array**	**7.68**	**210**	Pn		Pn	09 28 07.9	+1.2
	0.2nm,0.3s,baz=28,slow=13,SNR=12							
MKAR				Sn		Sn	09 29 34.4	-0.1
	0.1nm,0.3s,baz=27,slow=23,SNR=4.6							
MKAR				Lg		Lg	09 30 17.0	
	0.1nm,0.3s,baz=33,slow=30,SNR=6.6							

NIED ***17*** *09:37:00, 33.°00N×142.°40E, h5km, Mw4.2 Best double couple: M0 2.44000×10^15 NP1:φs343.00000°, δ30.00000°, λ-89.00000°. NP2:φs162.00000°, δ60.00000°, λ-91.00000°.*
BJI ***17*** *09:37:04.7, 32.°90N×142.°80E, h18km, mb4.6/27, mB4.7/15, Ms4.1/10, MS7 3.9/10*
IDC ***17*** *09:37:06.3±0.6, 32.°87N×142.°55E, h0km, mb4.1/17, mb1 4.3/23, mb1mx4.1/39, mbtmp4.1/23, ML3.6/3, MS3.3/3, Ms1 3.3/3, ms1mx2.7/38, Error ellipse: s-maj=18.3km s-min=14.8km az=84.0*
JMA ***17*** *09:37:07.9±0.4, 33.°01N×142.°29E, h0km, M4.2*
NEIC ***17*** *09:37:07.7±0.3, 32.°87N×142.°55E, h10km, mb4.7/5, MW4.2(NIED), Error ellipse: s-maj=7.3km s-min=6.4km az=80.0*
ISCJB ***17*** *09:37:10.4±0.4, 33.°00N±0.°04×142.°44E±0.°05, h33km, mb4.4/36, MS3.1/1, Error ellipse: s-maj=6.8km s-min=4.3km az=44.3*
MOS ***17*** *09:37:11.8±0.9, 33.°30N×142.°47E, h33km, mb4.8/15, Error ellipse: s-maj=12.6km s-min=5.9km az=119.5*
ISC 17 09:37:11.5±0.6, 32.°96N±0.°07×142.°46E±0.°06, h33km, n108, σ1§30/123, mb4.6/44, 4C-2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**2.10**	**324**	P		**Pn**	**09 37 43.5**	**-0.3**
BSO1				*e*S		**Sn**	**09 38 09.5**	**+1.0**
JHJ2	**Mitsune**	**2.23**	**275**	P		**Pn**	**09 37 45.1**	**-1.0**
JHJ2	**Mitsune**	**2.23**	**275**	*e*Pn		**Pn**	**09 37 44.6**	**-1.5**
JHCJ	**Hachijojimakas**	**2.24**	**274**	P		**Pn**	**09 37 44.8**	**-1.5**
BSO3	**Boso 3**	**2.46**	**319**	P		**Pn**	**09 37 48.6**	**-0.4**
BSO4	**Boso 4**	**2.69**	**320**	P		**Pn**	**09 37 52.6**	**+0.2**
BSO4				*e*S		**Sn**	**09 38 25.5**	**+1.8**
KTR	**Katsuura**	**2.82**	**321**	P		**Pn**	**09 37 54.3**	**+0.1**
KTR				*e*S		**Sn**	**09 38 27.2**	**+0.1**
JIM2	**Oshima 3**	**3.07**	**306**	P		**Pn**	**09 37 56.5**	**-1.3**
JIZS	**Izushimoda**	**3.46**	**301**	P		**Pn**	**09 38 02.5**	**-0.6**
JIZS				*e*S		**Sn**	**09 38 41.8**	**-1.1**
JOD2	**Odawara 2**	**3.62**	**310**	P		**Pn**	**09 38 04.2**	**-1.1**
JOD2				*e*S		**Sn**	**09 38 45.3**	**-1.7**
TK02	**Tokai 2**	**4.06**	**285**	S		**Sn**	**09 38 58.8**	**+1.5**
JYN	**Shimob**	**4.12**	**309**	P		**Pn**	**09 38 11.6**	**-0.6**
JYN				*e*S		**Sn**	**09 39 00.3**	**+1.1**
JRY	**Ryogami san**	**4.24**	**317**	P		**Pn**	**09 38 13.1**	**-0.7**
JRY				*e*S		**Sn**	**09 39 03.2**	**+1.0**
JAG	**Ashikaga**	**4.26**	**325**	P		**Pn**	**09 38 13.7**	**-0.3**
JAG				*e*S		**Sn**	**09 39 00.1**	**-2.4**
JFT	**Otama**	**4.87**	**340**	P		**Pn**	**09 38 21.6**	**-0.9**
JFT				*e*S		**Sn**	**09 39 15.6**	**-2.1**
MJAR	**Matsushiro Arr**	**5.00**	**317**	Pn		**Pn**	**09 38 23.7**	**-0.6**
	9.8nm,0.3s,baz=149,slow=11,SNR=111							
MJAR				Sn		**Sn**	**09 39 20.6**	**-0.5**
	1.9nm,0.3s,baz=156,slow=19,SNR=8.3							
MAJO	**Matsushiro**	**5.01**	**317**	*d*	P	**Pn**	**09 38 24.3**	**0.0**
MAJO	**Matsushiro**	**5.01**	**317**	*e*	Pn	**Pn**	**09 38 24.4**	**+0.1**
	36nm,0.4s							
MAT	**Matsushiro**	**5.01**	**317**	P		**Pn**	**09 38 24.0**	**-0.3**
MAT				S		**Sn**	**09 39 19.9**	**-1.2**
MAT	**Matsushiro**	**5.01**	**317**	P		**Pn**	**09 38 24.7**	**+0.4**
MAT				*e*S		**Sn**	**09 39 20.5**	**-0.6**
JIE	**Ise**	**5.01**	**288**	P		**Pn**	**09 38 24.3**	**0.0**
CBIJ	**Chichi jima**	**5.85**	**182**	Pn		Pn	09 38 32.2	-3.7
CBIJ				Sn		Sn	09 39 33.5	-8.3
JCJ	**Chichijima**	**5.85**	**182**	Pn		Pn	09 38 32.2	-3.7
	22nm,0.3s,baz=89,slow=23,SNR=21							
JCJ				Sn		Sn	09 39 33.5	-8.3
	17nm,0.3s,baz=300,slow=20,SNR=3.9							
ERM	**Erimo**	**9.06**	**3**	*i*	P	**Pn**	**09 39 17.4**	**-2.5**
JNU	**Nakatsue**	**9.73**	**274**	Pn		**Pn**	**09 39 29.9**	**+0.7**
	0.3nm,0.3s,baz=62,slow=4.2,SNR=4.3							
JNU				LR		LR	09 42 49.9	
	comp=Z,233nm,22.0s,baz=108,slow=35							
JNU	**Nakatsue**	**9.73**	**274**	*e*	Pn	**Pn**	**09 39 29.2**	**+0.1**
	5.0nm,0.9s							
ASAJ	**Asahikawa**	**11.14**	**0**	Pn		**Pn**	**09 39 46.1**	**-2.3**
	baz=225,slow=7.1							
ASAJ	**Asahikawa**	**11.14**	**0**	*e*	Pn	**Pn**	**09 39 46.4**	**-2.0**
KSRS	**Korea Array**	**12.71**	**295**	Pn		**Pn**	**09 40 10.8**	**+1.0**
	0.2nm,0.3s,baz=103,slow=14,SNR=10							
KSRS				LR		LR	09 46 15.6	
	comp=Z,119nm,18.8s,baz=113,slow=43							
KSAR	**Wonju Array Be**	**12.73**	**295**	P		**Pn**	**09 40 10.9**	**+0.7**
KSAR	**Wonju Array Be**	**12.73**	**295**	Pn		**Pn**	**09 40 10.8**	**+0.7**
TJN	**Taejon**	**12.89**	**290**	*i*	P	**Pn**	**09 40 14.9**	**+2.6**
USRK	**Ussuriysk Ar.**	**13.88**	**327**	Pn		**Pn**	**09 40 24.5**	**-1.4**
	0.1nm,0.3s,baz=139,slow=12,SNR=19							
YSS	**Yuzh-Sakhalins**	**13.98**	**1**	*e*	P	**Pn**	**09 40 26.5**	**-0.7**
YSS					pmax	pmax		
	comp=Z,10.0nm,0.8s							
YSS	**Yuzh-Sakhalins**	**13.98**	**1**	*e*	Pn	**Pn**	**09 40 26.4**	**-0.7**
	comp=Z,10nm,0.8s							
MDJ	**Mudanjiang**	**15.35**	**323**	P		**Pn**	**09 40 45.0**	**-0.6**
MDJ					PMZ			
	comp=Z,12nm,0.6s							
MDJ					PMZ			
	comp=Z,24nm,5.8s							
UGL	**Uglegorsk**	**16.11**	**359**	P		**Pn**	**09 40 51.7**	**-3.6**
UGL				*e*S		Sn	09 43 43.5	-9.3
HABR	**Khabarovsk**	**16.47**	**342**	*e*P		**Pn**	**09 40 56.4**	**-3.6**
HABR				*e*S		Sn	09 43 52.4	-9.3
HABR					pmax	pmax		
	comp=E,7.0nm,0.9s							
HABR					pmax	pmax		
	comp=Z,10.0nm,1.0s							
HABR					pmax	pmax		
	comp=N,5.0nm,0.5s							
HABR					MLR	MLR		
	comp=Z,97nm,16.0s							
KLR	**Kul'dur**	**18.12**	**337**	*e*P		Pn	09 41 11.0	-9.5
KLR					MLR	MLR		
	comp=Z,800nm,13.0s							
TIA	**Tai'an**	**21.10**	**286**	⇑P		**P**	**09 41 51.8**	**-1.4**
TIA					PMZ			
	comp=Z,20nm,0.9s							
HHC	**Hu-ho-hao-te**	**25.84**	**297**	*e*P		**P**	**09 42 40.6**	**+0.6**
HHC				S		**S**	**09 47 11.0**	**+3.5**
HHC					PMZ			
	comp=Z,22nm,0.7s							
HHC					PMZ			
	comp=Z,80nm,3.9s							
XAN	**Xi'an**	**27.92**	**282**	P		**P**	**09 42 56.3**	**-2.5**
XAN				pP		**pP**	**09 43 03.8**	**-4.4**
XAN				S		S	09 47 51.6	+11
XAN					PMZ			
	comp=Z,3.0nm,0.8s							
XAN					LN			
	comp=Z,61nm,15.3s							
XAN					LZ			
	comp=Z,50nm,15.3s							
SEY	**Seymchan**	**30.65**	**9**	P		**P**	**09 43 22.9**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=196,slow=11,SNR=5.4							
SONM	**Songino Array**	**30.91**	**309**	P		**P**	**09 43 26.8**	**+1.6**
	comp=Z,5.9nm,0.9s,baz=113,slow=9.1,SNR=21							
BOD	**Bodaibo**	**31.47**	**331**	*e*P		**P**	**09 43 30.2**	**+0.4**
BOD					pmax	pmax		
	comp=Z,10.0nm,0.9s							
TLY	**Talaya**	**33.74**	**315**	*i*	P	**P**	**09 43 51.6**	**+1.8**
TLY					pmax	pmax		
	comp=Z,10.0nm,1.3s							
GTA	**Gaotai**	**34.77**	**293**	*e*P		**P**	**09 43 59.6**	**+0.6**
GTA				pP		**pP**	**09 44 06.9**	**-1.7**
GTA				sP		**sP**	**09 44 10.6**	**-2.0**
GTA					PMZ			
	comp=Z,10.0nm,1.1s							
TIXI	**Tiksi**	**39.43**	**353**	*ce*	P	**P**	**09 44 38.1**	**+0.2**
TIXI					pmax	pmax		
	comp=Z,2.0nm,1.0s							
HVS	**Khovu-Aksy**	**39.68**	**312**	⇑*e*P		**P**	**09 44 41.5**	**+1.1**
HVS					pmax	pmax		
	comp=Z,46nm,1.2s							
CMAR	**Chiang Mai Arr**	**41.49**	**261**	P		**P**	**09 44 55.9**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=54,slow=7.9,SNR=3.8							
CMAR				LR		LR	10 02 30.2	
	comp=Z,26nm,19.7s,baz=6.5,slow=37							
ZAA0	**Zalesovo Array**	**45.36**	**315**	*e*P		**P**	**09 45 27.6**	**+1.2**
ZALV	**Zalesovo Beam**	**45.36**	**315**	P		**P**	**09 45 26.7**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=90,slow=4.4,SNR=4.8							
NVS	**Novosibirsk**	**46.33**	**317**	*e*P		**P**	**09 45 32.9**	**-1.2**
NVS					pmax	pmax		
	comp=Z,17nm,0.9s							
NVS					pmax	pmax		
	comp=E,14nm,1.0s							
MK31	**Makanchi Array**	**47.10**	**306**	*e*P		**P**	**09 45 41.0**	**+0.7**
MK31	**Makanchi Array**	**47.10**	**306**	*e*P		**P**	**09 45 41.0**	**+0.7**
MKAR	**Makanchi Array**	**47.10**	**306**	P		**P**	**09 45 41.0**	**+0.8**
	comp=E,3.4nm,0.7s,baz=89,slow=9.9,SNR=34							
TAPN	**Taplejung**	**47.23**	**278**	*e*P		**P**	**09 45 42.1**	**+0.2**
	comp=E,30nm,1.1s							
ODAN	**Odare**	**47.68**	**278**	*e*P		**P**	**09 45 45.2**	**-0.1**
	comp=E,7.5nm,0.3s							
RAMN	**Ramite**	**48.30**	**278**	*e*P		**P**	**09 45 50.2**	**+0.1**
	comp=E,72nm,0.9s							
GUN	**Gumba**	**48.56**	**280**	*e*P		**P**	**09 45 52.6**	**+0.4**
	comp=E,43nm,0.9s							
PKI	**Pulchoki**	**49.07**	**280**	*e*P		**P**	**09 45 56.0**	**-0.1**
	comp=E,33nm,1.0s							
KKN	**Kakani**	**49.10**	**280**	*e*P		**P**	**09 45 56.5**	**+0.3**
	comp=E,35nm,0.8s							
KURK	**Kurchatov**	**49.19**	**311**	*e*P		**P**	**09 45 56.6**	**+0.3**
KURK					pmax	pmax		
	comp=Z,19nm,0.8s							
KURK	**Kurchatov**	**49.19**	**311**	*e*P		**P**	**09 45 56.6**	**+0.3**
	comp=Z,18nm,0.8s							
DMN	**Daman**	**49.30**	**280**	*e*P		**P**	**09 45 57.9**	**+0.1**
PDGK	**Podgornoye**	**49.54**	**301**	P		**P**	**09 45 59.4**	**+0.4**
PDGK					pmax	pmax		
	comp=Z,11nm,1.0s							
GKN	**Gorkha**	**49.55**	**280**	*e*P		**P**	**09 45 59.9**	**+0.3**
	comp=Z,60nm,1.1s							
KOLN	**Koldanda**	**50.49**	**281**	*e*P		**P**	**09 46 07.3**	**+0.5**
	comp=Z,22nm,0.8s							
TKM2	**Tokmak 2**	**52.41**	**302**	*e*P		**P**	**09 46 21.6**	**+0.7**
TKM2					pmax	pmax		
	comp=Z,3.0nm,0.6s							
TKM2	**Tokmak 2**	**52.41**	**302**	*e*P		**P**	**09 46 21.6**	**+0.7**
	comp=Z,2.7nm,0.6s							
ILAR	**Eielson Array**	**52.51**	**31**	P		**P**	**09 46 19.9**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=267,slow=5.4,SNR=6.8							
ILAR	**Eielson Array**	**52.51**	**31**	P		**P**	**09 46 20.0**	**-1.1**
WRA	**Warramunga Arr**	**53.17**	**190**	P		**P**	**09 46 25.1**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=7.2,slow=7.7,SNR=21							
BVA0	**Borovoye Array**	**54.00**	**315**	*i*	P	**P**	**09 46 32.9**	**+0.7**
BVA0					pmax	pmax		
	comp=Z,9.0nm,1.2s							
KK31	**Karatay Array**	**55.98**	**303**	*i*	P	**P**	**09 46 47.5**	**+0.8**
KK31					pmax	pmax		
	comp=Z,1.0nm,0.4s							
KKAR	**Karatay Array**	**55.98**	**303**	*e*P		**P**	**09 46 47.5**	**+0.8**
KKAR					pmax	pmax		
	comp=Z,4.0nm,0.8s							
KKAR	**Karatay Array**	**55.98**	**303**	*e*P		**P**	**09 46 47.5**	**+0.8**
	comp=Z,4.4nm,0.8s							
ASAR	**Alice Springs**	**56.90**	**189**	P		**P**	**09 46 52.4**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=6.9,slow=6.7,SNR=11							
ARU	**Arti**	**60.01**	**320**	*e*P		**P**	**09 47 15.0**	**+0.3**
ARU					pmax	pmax		
	comp=Z,4.0nm,0.7s							
ARU	**Arti**	**60.01**	**320**	*e*P		**P**	**09 47 15.0**	**+0.3**
	comp=Z,3.8nm,0.7s							
AB31	**Akbulak array**	**61.27**	**312**	*i*	P	**P**	**09 47 23.6**	**+0.2**
AB31					pmax	pmax		
	comp=Z,2.0nm,0.4s							
ABKAR	**Akbulak array**	**61.27**	**312**	*e*P		**P**	**09 47 23.7**	**+0.4**
	comp=Z,9.0nm,0.9s							
AKTO	**Aktyubinsk**	**62.08**	**314**	P		**P**	**09 47 28.7**	**-0.1**
AKTO					pmax	pmax		
	comp=Z,6.0nm,0.9s							
RES	**Resolute Bay**	**66.33**	**14**	P		**P**	**09 47 56.2**	**0.0**
	comp=Z,5.5nm,1.0s,baz=335,slow=0.8,SNR=3.7							
ARCES	**ARCESS Array B**	**68.11**	**340**	P		**P**	**09 48 08.4**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=62,slow=8.4,SNR=3.1							
OBN	**Obninsk**	**71.89**	**324**	*e*P		**P**	**09 48 32.5**	**+1.5**
OBN					pmax	pmax		
	comp=Z,6.0nm,0.9s							
FINES	**FINESS Array B**	**72.83**	**333**	P		**P**	**09 48 37.4**	**+0.9**
	comp=Z,4.6nm,0.8s,baz=88,slow=5.9,SNR=14							
KBZ	**Khabaz**	**74.24**	**312**	P		**P**	**09 48 45.7**	**+0.6**
	comp=Z,6.4nm,0.8s,baz=57,slow=1.4,SNR=10							
KIV	**Kislovodsk**	**74.25**	**312**	*e*P		**P**	**09 48 47.5**	**+2.1**
KIV					pmax	pmax		
	comp=Z,10.0nm,1.0s							
NVAR	**Mina Array Bea**	**76.75**	**53**	P		**P**	**09 49 01.4**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=300,slow=4.1,SNR=3.4							
ANN	**Anapa**	**77.00**	**315**	*e*P		**P**	**09 49 01.4**	**+0.5**
ANN					pmax	pmax		
	comp=Z,23nm,0.9s							
AKASG	**Malin Array Be**	**78.06**	**323**	P		**P**	**09 49 06.4**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=45,slow=6.4,SNR=9.2							
KIEV	**Kiev**	**78.07**	**323**	⇑*i*	P	**P**	**09 49 07.7**	**+0.9**
NB2	**NORSAR Subarra**	**78.28**	**338**	P		**P**	**09 49 08.4**	**+0.6**
	comp=Z,5.3nm,1.0s,baz=38,slow=5.6							
NOA	**NORSAR Array B**	**78.28**	**338**	P		**P**	**09 49 08.2**	**+0.4**
	comp=Z,2.8nm,0.9s,baz=38,slow=5.6,SNR=7.0							
BUR08	**Bucovina Ar. S**	**82.04**	**323**	*e*P		**P**	**09 49 29.7**	**+1.2**
BRTR	**Keskin Array B**	**82.22**	**313**	P		**P**	**09 49 30.2**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=123,slow=4.4,SNR=8.4							
DPC	**Dobruska-Polom**	**84.37**	**329**	*e*P		**P**	**09 49 41.1**	**+0.7**
DPC				*ep*P		**pP**	**09 49 46.9**	**-3.9**
DPC				*ex*		x	09 49 53.3	
DPC	**Dobruska-Polom**	**84.37**	**329**	*e*P		**P**	**09 49 41.1**	**+0.7**
DPC				*e*			09 49 46.9	
DPC				*e*			09 49 53.3	
BRG	**Berggiesshubel**	**85.00**	**330**	*e*P		**P**	**09 49 44.4**	**+0.9**
	comp=Z,5.5nm,1.1s							
BRG	**Berggiesshubel**	**85.00**	**330**	*e*P		**P**	**09 49 44.4**	**+0.9**
BRG					pmax	pmax		
	comp=Z,6.0nm,1.2s							
CLL	**Collm**	**85.06**	**331**	*e*P		**P**	**09 49 44.0**	**+0.2**
CLL				*i*			09 49 56.9	
CLL	**Collm**	**85.06**	**331**	*e*P		**P**	**09 49 44.0**	**+0.2**
CLL				*i*	*PP	**pP**	**09 49 56.9**	**+2.7**
PRU	**Pruhonice**	**85.41**	**329**	*e*P		**P**	**09 49 46.5**	**+1.0**
PRU				*ex*		x	09 49 58.2	
PRU	**Pruhonice**	**85.41**	**329**	*e*P		**P**	**09 49 46.5**	**+1.0**
PRU				*e*			09 49 58.2	
TXAR	**Lajitas Array**	**91.90**	**53**	P		**P**	**09 50 17.7**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=317,slow=4.0,SNR=6.5							
TORD	**Torodi Ar. Bea**	**120.80**	**314**	PKP		**PKPdf**	**09 56 00.1**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=47,slow=1.6,SNR=2.5							
LPAZ	**La Paz**	**147.77**	**66**	PKPbc		**PKPbc**	**09 56 54.2**	**-0.1**
	comp=Z,2.1nm,1.0s,baz=345,slow=2.6,SNR=4.8							

ISCJB ***17*** *09:41:43.4±0.4, 32.°74N±0.°02×115.°97W±0.°02, h9km±3km, Error ellipse: s-maj=3.7km s-min=3.4km az=178.9*
NEIC ***17*** *09:41:43.8, 32.°72N×115.°97W, h1km, ML3.1(PAS), After PAS.*
MEX ***17*** *09:41:43.2±0.8, 33.°05N×116.°04W, h16km±20km, MD3.7*
ECX ***17*** *09:41:44.5±0.6, 32.°71N×115.°96W, h2km, MD3.0, ML3.2*
ISC 17 09:41:44.0±0.9, 32.°70N±0.°02×115.°96W±0.°02, h11km±6km, n33, σ0§83/53, 9C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YUH	**Yuha Desert**	**0.06**	**151**	⇓*i*	P	**Pg**	**09 41 45.8**	**-0.5**
RMX	**La Rumorosa**	**0.14**	**225**	⇑*i*	P	**Pg**	**09 41 47.4**	**-0.1**
RMX				*e*S		**Sg**	**09 41 49.8**	**-0.1**
RMX					IAML		09 41 50.1	
	comp=N,10μm,0.2s							
RMX				⇑*e*			09 41 50.1	
WESC	**Westside Schoo**	**0.20**	**74**	⇑*e*	P	**Pg**	**09 41 48.2**	**-0.1**
WESC				*e*S		**Sg**	**09 41 51.7**	**+0.5**
SGL	**Mount Signal**	**0.21**	**105**	⇑*i*	P	**Pg**	**09 41 48.3**	**-0.1**
COK	**Cook Ranch**	**0.24**	**54**	⇑*i*	P	**Pg**	**09 41 49.0**	**-0.1**
ERPC	**Ernies Place**	**0.25**	**81**	⇑*i*	P	**Pg**	**09 41 49.5**	**+0.3**
SWSC	**Sam W. Stewart**	**0.27**	**30**	⇑*i*	P	**Pg**	**09 41 49.2**	**-0.5**
BAR	**Barrett**	**0.60**	**268**	*e*	Pg	**Pg**	**09 41 55.4**	**-0.3**
BAR				*e*	Sg	**Sg**	**09 42 02.5**	**-1.1**
BAR	**Barrett**	**0.60**	**268**	⇑*i*	P	**Pg**	**09 41 55.5**	**-0.2**
CPBX	**Cerro Prieto**	**0.62**	**117**	*e*	P	**Pb**	**09 41 57.4**	**+0.5**
CPBX				*i*	S	**Sn**	**09 42 10.2**	**+1.5**
CPBX	**Cerro Prieto**	**0.62**	**117**	*e*	Pn	**Pb**	**09 41 57.0**	**+0.1**
CPBX				*e*	S	**Sb**	**09 42 06.2**	**+0.5**
CPBX				*e*			09 42 07.7	
CPBX					IAML		09 42 07.7	
	comp=N,5μm,0.3s							
MBIG	**Mexicali**	**0.71**	**114**	*e*	P	**Pb**	**09 41 58.2**	**-0.1**
MBIG				*e*	S	**Sb**	**09 42 09.3**	**+1.2**
CBX	**Cerro Bola**	**0.71**	**237**	*e*	P	**Pg**	**09 41 57.4**	**-0.4**
CBX				*i*	S	**Sb**	**09 42 07.8**	**-0.5**
CBX	**Cerro Bola**	**0.71**	**237**	*e*	P	**Pg**	**09 41 57.4**	**-0.4**
CBX				*i*	S	**Sb**	**09 42 07.8**	**-0.5**
CBX	**Cerro Bola**	**0.71**	**237**	⇑*e*	P	**Pg**	**09 41 57.7**	**-0.1**
CBX				*e*	S	**Sg**	**09 42 07.4**	**+0.3**
CBX				⇓*e*			09 42 08.3	
CBX			

mb3.9/10,MS3.2/4,Error ellipse: s-maj=12.8km s-min=5.5km az=159.6

*NEIC **17** 09:54:36.1±1.2, 15.31N×121.62E,h44km±11km,mb4.6/1, Error ellipse: s-maj=18.0km s-min=8.1km az=81.0*

NEIC Felt [II PIVS] at Dingalan and [I PIVS] at Quezon City. Also felt at Manila.

ISC 17 09:54:37.7±1.1, 15°36N±0'.04×121°35E±0'.07, h53km±12km, n27, σ1°963/26, mb3.9/10, MS3.3/4, 2C-4D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCPH	**Baguio City Da**	**1.25**	**324**	⇑*i*	**Pn**	**09 54 56.9**	**-2.3**
BCPH				*i* S	**Sn**	**09 55 13.8**	**-1.3**
LQP	**Lukban**	**1.25**	**171**	⇓*e*	**Pn**	**09 54 56.8**	**-2.4**
TGY	**Tagaytay City**	**1.31**	**198**	Pn	**Pn**	**09 54 58.7**	**-1.1**
	baz=90,slow=1.4						
TGY				Sn	**Sn**	**09 55 19.3**	**+3.0**
	baz=90,slow=20						
TGY	**Tagaytay City**	**1.31**	**198**	⇑*i*	**Pn**	**09 54 59.4**	**-0.4**
TGY				*i* S	**Sn**	**09 55 18.6**	**+2.4**
GQP	**Guinayangan**	**1.80**	**143**	⇓*e*	**Pn**	**09 55 05.2**	**-1.1**
GQP				*e* S	**Sn**	**09 55 28.8**	**+0.8**
SZP	**Santa**	**2.34**	**339**	*e* Pn	**Pn**	**09 55 14.1**	**+0.3**
SZP				*e* Sn	**Sn**	**09 55 43.1**	**+1.7**
CVP	**Callao Caves**	**2.38**	**11**	⇓*i* P	**Pn**	**09 55 13.6**	**-0.7**
CVP				*i* S	**Sn**	**09 55 44.7**	**+2.5**
PVCP	**Virac**	**3.24**	**122**	⇓*i* P	**Pn**	**09 55 26.5**	**+0.4**
PVCP				*i* S	Sn	09 56 09.8	+6.4
CMAR	**Chiang Mai Arr**	**21.65**	**281**	P	**P**	**09 59 26.0**	**+2.1**
	3.6nm,0.8s,baz=94,slow=7.8,SNR=16						
JCJ	**Chichijima**	**22.63**	**56**	LR	LR	10 07 11.7	
	comp=Z,32nm,21.8s,baz=132,slow=34						
KSAR	**Wonju Array Be**	**22.75**	**14**	P	**P**	**09 59 34.6**	**-0.8**
KSRS	**Korea Array**	**22.77**	**14**	P	**P**	**09 59 34.6**	**-1.0**
	0.5nm,0.3s,baz=193,slow=10,SNR=4.2						
SONM	**Songino Array**	**34.66**	**342**	P	**P**	**10 01 22.1**	**-0.1**
	0.4nm,0.5s,baz=156,slow=7.4,SNR=3.5						
WRA	**Warramunga Arr**	**37.34**	**160**	P	**P**	**10 01 42.4**	**-2.8**
	0.9nm,0.5s,baz=341,slow=9.2,SNR=15						
ASAR	**Alice Springs**	**40.68**	**162**	P	**P**	**10 02 12.3**	**-0.9**
	1.5nm,0.6s,baz=344,slow=8.0,SNR=16						
H11S3	**WAKE ISLAND Hy 43.41**	**79**		T	T	10 48 43.5	
	baz=274,slow=74,SNR=222						
H11S1	**WAKE ISLAND Hy 43.42**	**79**		T	T	10 48 45.5	
	baz=274,slow=74,SNR=93						
H11S2	**WAKE ISLAND Hy 43.42**	**79**		T	T	10 48 44.8	
	baz=274,slow=74,SNR=198						
H11N1	**WAKE ISLAND Hy 43.55**	**77**		T	T	10 49 00.2	
	baz=271,slow=74,SNR=51						
H11N2	**WAKE ISLAND Hy 43.55**	**77**		T	T	10 49 00.5	
	baz=271,slow=74,SNR=46						
H11N3	**WAKE ISLAND Hy 43.57**	**77**		T	T	10 49 08.9	
	baz=271,slow=74,SNR=46						
MKAR	**Makanchi Array**	**45.09**	**322**	P	**P**	**10 02 50.1**	**+1.4**
	0.6nm,0.8s,baz=133,slow=8.8,SNR=6.1						
MKAR				LR	LR	10 20 41.7	
	comp=Z,27nm,20.6s,baz=46,slow=35						
ZALV	**Zalesovo Beam**	**47.89**	**332**	P	**P**	**10 03 10.7**	**+0.3**
	0.7nm,0.5s,baz=113,slow=9.6,SNR=1.8						
ZALV				LR	LR	10 23 35.2	
	comp=Z,36nm,18.3s,baz=250,slow=36						
KURK	**Kurchatov**	**49.18**	**325**	*e*P	**P**	**10 03 21.4**	**+1.1**
	4.6nm,0.7s						
FINES	**FINESS Array B**	**79.15**	**331**	P	**P**	**10 06 36.5**	**-0.1**
	0.7nm,0.6s,baz=90,slow=5.7,SNR=6.6						
NB2	**NORSAR Subarra**	**86.08**	**333**	P	**P**	**10 07 12.6**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=67,slow=4.8						
NOA	**NORSAR Array B**	**86.08**	**333**	P	**P**	**10 07 12.8**	**0.0**
	comp=Z,1.1nm,0.7s,baz=67,slow=4.9,SNR=4.9						
NOA				LR	LR	10 48 24.6	
	comp=Z,20nm,19.4s,baz=220,slow=38						

IDC 17 10:09:51.7±3.0, 53°76N×88°19E, h0km, mb1 2.8/3, mb1mx2.7/39, mbtmp2.8/3, ML2.3/3, Error ellipse: s-maj=23.8km s-min=17.1km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.01**	**277**	*i*		10 22 40.0	
	baz=93,slow=316,SNR=5.4						
ZALV	**Zalesovo Beam**	**2.01**	**277**	Pn	Pn	10 10 27.1	+0.2
	1.2nm,0.3s,baz=93,slow=12,SNR=22						
ZALV				Lg	Lg	10 10 54.5	
	4.5nm,0.3s,baz=97,slow=27,SNR=16						
KURBB	**Kurchatov Arra**	**6.72**	**246**	Pn	Pn	10 11 31.8	+0.2
	0.1nm,0.3s,baz=61,slow=14,SNR=6.5						
KURBB				Sn	Sn	10 12 49.3	+0.6
	0.0nm,0.3s,baz=79,slow=26,SNR=2.7						
KURBB				Lg	Lg	10 13 23.9	
	0.2nm,0.3s,baz=182,slow=28,SNR=6.0						
MKAR	**Makanchi Array**	**7.93**	**211**	Pn	Pn	10 11 49.3	+1.1
	0.1nm,0.3s,baz=23,slow=11,SNR=4.7						
MKAR				Sn	Sn	10 13 17.5	-1.1
	0.1nm,0.3s,baz=29,slow=25,SNR=5.8						
MKAR				Lg	Lg	10 14 04.5	
	0.1nm,0.3s,baz=26,slow=31,SNR=5.3						

IDC 17 10:22:46.5±2.2, 7°05S×129°26E, h0km, mb3.7/1, mb1 3.8/3, mb1mx3.4/30, mbtmp3.6/3, ML3.9/2, MS3.0/1, Ms1 3.2/1, ms1mx2.3/31, Error ellipse: s-maj=144.2km s-min=31.7km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.73**	**159**	Pn	Pn	10 26 02.7	0.0
	0.6nm,0.3s,baz=342,slow=13,SNR=12						
WRA				Sn	Sn	10 28 24.9	-11
	1.1nm,0.3s,baz=220,slow=14,SNR=7.6						
ASAR	**Alice Springs**	**17.11**	**165**	P	Pn	10 26 47.2	-0.1
	0.3nm,0.3s,baz=336,slow=8.6,SNR=9.2						
CMAR	**Chiang Mai Arr**	**39.20**	**311**	LR	LR	10 47 46.0	
	comp=Z,19nm,19.3s,baz=125,slow=38						
MKAR	**Makanchi Array**	**67.87**	**327**	P	P	10 33 46.8	0.0
	0.3nm,0.4s,baz=118,slow=7.8,SNR=6.9						

*IDC **17** 10:50:38.4±0.9, 15°.16S×173°.37W, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/24, mbtmp4.0/8, MS3.3/2, Ms1 3.3/2, ms1mx2.8/20, Error ellipse: s-maj=36.3km s-min=22.9km az=129.0*

*ISCJB **17** 10:50:41.4±0.9, 15°.2S±0'.2×173°.4W±0'.2, h30km, mb3.9/8, MS3.2/2, Error ellipse: s-maj=31.3km s-min=19.6km az=39.4*

ISC 17 10:50:43.0±0.9, 15°.1S±0'.2×173°.4W±0'.2, h30km, n16, σ0°71/9, mb4.1/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**24.51**	**198**	P	**P**	**10 55 58.5**	**-1.3**
	4.8nm,0.7s,baz=244,slow=3.2,SNR=3.3						
URZ				LR	LR	11 05 23.3	
	comp=Z,91nm,18.1s,baz=28,slow=36						
H11S2	**WAKE ISLAND Hy 38.73**	**329**		T	T	11 39 42.4	
	baz=149,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy 38.74**	**329**		T	T	11 39 31.8	
	baz=149,slow=76,SNR=26						
H11S1	**WAKE ISLAND Hy 38.75**	**329**		T	T	11 39 34.3	
	baz=149,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy 39.68**	**330**		T	T	11 40 42.2	
	baz=150,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy 39.68**	**330**		T	T	11 40 40.7	
	baz=150,slow=76,SNR=19						
H11N2	**WAKE ISLAND Hy 39.70**	**330**		T	T	11 40 43.9	
	baz=150,slow=76,SNR=17						
STKA	**Stephens Creek**	**44.15**	**240**	P	**P**	**10 58 49.0**	**-0.1**
	1.5nm,0.4s,baz=121,slow=5.9,SNR=2.4						
WRA	**Warramunga Arr**	**49.89**	**257**	P	**P**	**10 59 33.9**	**-0.3**
	0.5nm,0.5s,baz=91,slow=6.9,SNR=16						
ASAR	**Alice Springs**	**50.18**	**252**	P	**P**	**10 59 36.5**	**+0.2**
	2.4nm,0.5s,baz=87,slow=8.0,SNR=67						
GUMO	**Guam**	**50.18**	**303**	LR	LR	11 20 13.0	
	comp=Z,16nm,18.1s,baz=100,slow=35						
VNDA	**Vanda**	**63.63**	**186**	P	**P**	**11 01 11.7**	**+0.9**
	1.1nm,1.0s,baz=34,slow=7.3,SNR=5.3						
TXAR	**Lajitas Array**	**80.48**	**56**	P	**P**	**11 02 52.0**	**-0.5**
	0.4nm,0.9s,baz=230,slow=5.9,SNR=4.1						
ILAR	**Eielson Array**	**82.19**	**11**	P	**P**	**11 03 00.9**	**+0.2**
	0.3nm,0.7s,baz=226,slow=6.7,SNR=6.4						
MAW	**Mawson**	**88.03**	**199**	P	**P**	**11 03 30.4**	**+0.3**
	1.2nm,0.8s,baz=108,slow=3.2,SNR=4.2						
BRTR	**Keskin Array B**	**145.94**	**321**	PKPbc	**PKPab**	**11 10 20.8**	**+0.1**
	1.7nm,0.8s,baz=146,slow=2.4,SNR=8.0						

*CSEM **17** 11:04:43.6, 35°.93N×4°.01E, h0km, ML3.5*

CRAAG 17 11:04:43.6, 35°.92N×4°.01E, Ml3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKET	**Djebel Ketaf**	**0.16**	**321**	P	Pg	11 04 47.9	+0.9
AKET	**Djebel Ketaf**	**0.16**	**321**	P	Pg	11 04 47.9	+0.9
ADJB	**Djebel Djoub**	**0.52**	**297**	P	Pb	11 04 55.7	-0.1
ADJB	**Djebel Djoub**	**0.52**	**297**	P	Pb	11 04 55.7	-0.1
EMHD	**Djebel Mahouad**	**0.90**	**288**	P	Pn	11 05 04.3	+0.6
EMHD	**Djebel Mahouad**	**0.90**	**288**	P	Pn	11 05 04.3	+0.6
EBNR	**Beni Rached**	**2.04**	**281**	P	Pg	11 05 33.8	+11
EBNR	**Beni Rached**	**2.04**	**281**	P	Pg	11 05 33.8	+11
ETRT	**Tiaret**	**2.27**	**257**	P	Pn	11 05 23.4	+0.9
ETRT	**Tiaret**	**2.27**	**257**	P	Pn	11 05 23.4	+0.9
EANR	**'Ain N'Sour**	**2.36**	**272**	P	Pb	11 05 25.8	-1.3
EANR	**'Ain N'Sour**	**2.36**	**272**	P	Pb	11 05 25.8	-1.3

*REY **17** 11:07:35.5, 70°.89N×9°.17W, h10km, ML3.6, ML3.3*

*CSEM **17** 11:07:35.2±0.2, 71°.17N×9°.03W, h24km±1km, ML4.0, Error ellipse: s-maj=4.8km s-min=2.2km az=139.0*

*IDC **17** 11:07:35.9±1.2, 71°.30N×8°.72W, h0km, mb3.5/4, mb1 3.6/8, mb1mx3.4/41, mbtmp3.5/8, ML3.3/4, MS2.6/3, Ms1 2.7/3, ms1mx2.3/39, Error ellipse: s-maj=27.1km s-min=7.9km az=85.0*

*BER **17** 11:07:37.4±1.2, 71°.16N×8°.80W, h25km±6km, MD1.8, ML3.6, ML4.0(NAO)*

*NAO **17** 11:07:37.3±2.4, 71°.16N×8°.48W, h18km±35km, ML4.0*

ISC 17 11:07:34.0±3.7, 71°18N±0'.06×9°18W±0'.07, h6km±27km, n94, σ0°92/120, mb3.5/4, 8C-1D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNW	**Jan Mayen West**	**0.29**	**122**	⇑*i* P	**Pb**	**11 07 42.1**	**+0.5**
JNW				IAML		11 07 47.1	
	comp=Z,11μm,0.2s						
JNW	**Jan Mayen West**	**0.29**	**122**	⇑*i* P	**Pb**	**11 07 42.1**	**+0.5**
	SNR=138						
JMI	**Jan Mayen**	**0.29**	**150**	⇑*i* P	**Pb**	**11 07 42.8**	**+1.1**
JMI				*e* S	**Sb**	**11 07 47.6**	**+0.8**
JMI				IAML		11 07 50.1	
	comp=Z,5μm,0.2s						
JMI	**Jan Mayen**	**0.29**	**150**	⇑*i* P	**Pb**	**11 07 42.8**	**+1.1**
	SNR=129						
JMI				*e* S	**Sb**	**11 07 47.6**	**+0.8**
	SNR=129						
JMIC	**Jan Mayen**	**0.29**	**132**	Pg	**Pb**	**11 07 42.2**	**+0.6**
JMIC				Lg	Lg	11 07 46.8	
JMIC	**Jan Mayen**	**0.29**	**132**	⇑*i* P	**Pb**	**11 07 42.2**	**+0.6**
JMIC				*e* S	**Sb**	**11 07 46.8**	**0.0**
JMIC				IAML		11 07 47.0	
	comp=Z,7μm,0.1s						
JMIC	**Jan Mayen**	**0.29**	**132**	Pg	**Pb**	**11 07 42.2**	**+0.6**
	comp=Z,5μm,0.3s,baz=167,slow=1.2,SNR=4217						
JMIC				Lg	Lg	11 07 46.4	
	comp=Z,3μm,0.3s,baz=52,slow=19,SNR=207						
JMIC				LR	LR	11 07 57.6	
	comp=Z,428nm,18.1s,baz=290,slow=67						
JMIC	**Jan Mayen**	**0.29**	**132**	⇑*i* P	**Pb**	**11 07 42.2**	**+0.6**
	SNR=134						
JMIC				*e* S	**Sb**	**11 07 46.8**	**0.0**
	SNR=134						
JNE	**Jan Mayen East**	**0.35**	**124**	⇑*i* P	**Pb**	**11 07 42.7**	**+0.2**
JNE				IAML		11 07 48.6	
	comp=Z,7μm,0.1s						
JNE	**Jan Mayen East**	**0.35**	**124**	⇑*i* P	**Pb**	**11 07 42.7**	**+0.2**
	SNR=128						
ILEI	**Leirhofn**	**5.48**	**212**	P	**Pn**	**11 08 54.4**	**-1.6**
ILEI				S	**Sn**	**11 09 58.1**	**-1.1**
ILEI	**Leirhofn**	**5.48**	**212**	P	**Pn**	**11 08 54.4**	**-1.6**
	baz=214						
ILEI				S	**Sn**	**11 09 58.1**	**-1.1**
	baz=214						
IGRI	**Grimsey**	**5.65**	**219**	P	**Pn**	**11 08 58.4**	**+0.1**
IGRI				S	**Sn**	**11 10 02.2**	**-1.2**
IGRI	**Grimsey**	**5.65**	**219**	P	**Pn**	**11 08 58.4**	**+0.1**
	baz=221						
IGRI				S	**Sn**	**11 10 02.2**	**-1.2**
	baz=221						
IGIL	**Gilhagi**	**5.76**	**211**	P	**Pn**	**11 08 58.4**	**-1.4**
IGIL				S	**Sn**	**11 10 05.0**	**-1.1**
IGIL	**Gilhagi**	**5.76**	**211**	P	**Pn**	**11 08 58.4**	**-1.4**
	baz=212						
IGIL				S	**Sn**	**11 10 05.0**	**-1.1**
	baz=212						
IHED	**Heoinshofoi**	**5.92**	**214**	P	**Pn**	**11 09 00.6**	**-1.4**
IHED				S	**Sn**	**11 10 08.8**	**-1.3**
IHED	**Heoinshofoi**	**5.92**	**214**	P	**Pn**	**11 09 00.6**	**-1.4**
	baz=216						
IHED				S	**Sn**	**11 10 08.8**	**-1.3**
	baz=216						
IDIM	**Dimmadals^js**	**5.96**	**212**	P	**Pn**	**11 09 02.1**	**-0.5**
IDIM				S	**Sn**	**11 10 10.0**	**-1.1**
IDIM	**Dimmadals^js**	**5.96**	**212**	P	**Pn**	**11 09 02.1**	**-0.5**
	baz=214						
IDIM				S	**Sn**	**11 10 10.0**	**-1.1**
	baz=214						
IBRE	**Brettingsstaoi**	**5.99**	**216**	P	**Pn**	**11 09 02.2**	**-0.9**
IBRE				S	**Sn**	**11 10 11.5**	**-0.4**
IBRE	**Brettingsstaoi**	**5.99**	**216**	P	**Pn**	**11 09 02.2**	**-0.9**
	baz=218						
IBRE				S	**Sn**	**11 10 11.5**	**-0.4**
	baz=218						
IGHA	**Grjothals**	**6.02**	**211**	P	**Pn**	**11 09 02.4**	**-1.1**
IGHA				S	**Sn**	**11 10 12.8**	**+0.1**
IGHA	**Grjothals**	**6.02**	**211**	P	**Pn**	**11 09 02.4**	**-1.1**
	baz=212						
IGHA				S	**Sn**	**11 10 12.8**	**+0.1**
	baz=212						
ISKI	**Skildingah^‡ls**	**6.06**	**212**	S	**Sn**	**11 10 13.4**	**-0.1**
ISKI	**Skildingah^‡ls**	**6.06**	**212**	S	**Sn**	**11 10 13.4**	**-0.1**
	baz=214						
ISKI				S	**Sn**	**11 10 13.4**	**-0.1**
	baz=214						
IGRA	**Granastaoir**	**6.12**	**214**	P	**Pn**	**11 09 03.9**	**-0.8**
IGRA				S	**Sn**	**11 10 14.9**	**+0.1**
IGRA	**Granastaoir**	**6.12**	**214**	P	**Pn**	**11 09 03.9**	**-0.8**
	baz=216						
IGRA				S	**Sn**	**11 10 14.9**	**+0.1**
	baz=216						
IGRS	**Grimsstaoir**	**6.13**	**208**	P	**Pn**	**11 09 04.1**	**-0.8**
IGRS				S	**Sn**	**11 10 14.5**	**-0.7**
IGRS	**Grimsstaoir**	**6.13**	**208**	P	**Pn**	**11 09 04.1**	**-0.8**
	baz=209						
IGRS				S	**Sn**	**11 10 14.5**	**-0.7**
	baz=209						
ISIG	**Siglufjorour**	**6.19**	**220**	S	**Sn**	**11 10 16.5**	**-0.1**
ISIG	**Siglufjorour**	**6.19**	**220**	S	**Sn**	**11 10 16.5**	**-0.1**
	baz=222						
DAG	**Danmarks Havn**	**6.19**	**339**	⇓*i* P	**Pn**	**11 09 05.0**	**-0.7**
DAG				*i* S	Sn	11 10 07.3	-9.4
IHLA	**Hella**	**6.24**	**217**	P	**Pn**	**11 09 05.8**	**-0.7**
IHLA				S	**Sn**	**11 10 17.5**	**-0.6**
IHLA	**Hella**	**6.24**	**217**	P	**Pn**	**11 09 05.8**	**-0.7**
	baz=219						
IHLA				S	**Sn**	**11 10 17.4**	**-0.6**
	baz=219						
IREN	**Reynihlio**	**6.24**	**211**	P	**Pn**	**11 09 05.8**	**-0.7**
IREN				S	**Sn**	**11 10 17.7**	**-0.4**
IREN	**Reynihlio**	**6.24**	**211**	P	**Pn**	**11 09 05.8**	**-0.7**
	baz=212						
IREN				S	**Sn**	**11 10 17.7**	**-0.4**
	baz=212						
IMEL	**Melhnausar**	**6.27**	**210**	P	**Pn**	**11 09 06.4**	**-0.6**
IMEL				S	**Sn**	**11 10 18.9**	**+0.1**
IMEL	**Melhnausar**	**6.27**	**210**	P	**Pn**	**11 09 06.4**	**-0.6**
	baz=211						
IMEL				S	**Sn**	**11 10 18.9**	**+0.1**
	baz=211						
IHRN	**Hraun**	**6.46**	**223**	P	**Pn**	**11 09 10.5**	**+1.0**
IHRN				S	**Sn**	**11 10 24.8**	**+1.3**
IHRN	**Hraun**	**6.46**	**223**	P	**Pn**	**11 09 10.5**	**+1.0**
	baz=225						
IHRN				S	**Sn**	**11 10 24.8**	**+1.3**
	baz=225						
IGLU	**Glumsstadir**	**6.61**	**202**	P	**Pn**	**11 09 11.0**	**-0.5**
IGLU	**Glumsstadir**	**6.61**	**202**	P	**Pn**	**11 09 11.0**	**-0.5**
	baz=203						
IADA	**Aoalbol**	**6.63**	**204**	P	**Pn**	**11 09 11.5**	**-0.4**
IADA	**Aoalbol**	**6.63**	**204**	P	**Pn**	**11 09 11.5**	**-0.4**
	baz=205						
IHVA	**Hvannstoosfjol**	**6.73**	**205**	P	**Pn**	**11 09 12.8**	**-0.5**
	baz=206						
IASK	**Askja**	**6.76**	**208**	P	**Pn**	**11 09 13.1**	**-0.5**
IASK	**Askja**	**6.76**	**208**	P	**Pn**	**11 09 13.1**	**-0.5**
	baz=209						
IMKO	**Mokollar**	**6.78**	**207**	P	**Pn**	**11 09 13.9**	**0.0**
IMKO	**Mokollar**	**6.78**	**207**	P	**Pn**	**11 09 13.9**	**0.0**
	baz=208						
IVSH	**V-Sauoahnukur**	**6.86**	**204**	P	**Pn**	**11 09 14.5**	**-0.5**
IVSH	**V-Sauoahnukur**	**6.86**	**204**	P	**Pn**	**11 09 14.5**	**-0.5**
	baz=205						
IBRU	**Bruarjokull**	**6.88**	**205**	P	**Pn**	**11 09 14.9**	**-0.5**
IBRU	**Bruarjokull**	**6.88**	**205**	P	**Pn**	**11 09 14.9**	**-0.5**
	baz=206						
IKRE	**Kreppuhraun**	**6.97**	**206**	P	**Pn**	**11 09 16.1**	**-0.4**
IKRE	**Kreppuhraun**	**6.97**	**206**	P	**Pn**	**11 09 16.1**	**-0.4**
	baz=207						
LOF	**Lofoten**	**8.45**	**100**	*e*Pn	**Pn**	**11 09 34.8**	**-2.0**
LOF	**Lofoten**	**8.45**	**100**	*e*Pn	**Pn**	**11 09 34.8**	**-2.0**
	SNR=62						
HSPB	**Hornsund (broa**	**8.86**	**38**	*e*Pn	**Pn**	**11 09 41.4**	**-1.0**
HSPB	**Hornsund (broa**	**8.86**	**38**	*e*Pn	**Pn**	**11 09 41.4**	**-1.0**
	SNR=62						
KONS	**Konsvik**	**9.28**	**109**	*e*Pn	**Pn**	**11 09 46.2**	**-2.0**
KONS				*e*		11 11 24.6	
KONS	**Konsvik**	**9.28**	**109**	*e*Pn	**Pn**	**11 09 46.2**	**-2.0**
	SNR=62						
STOK	**Stokkvaagen**	**9.36**	**110**	*e*Pn	**Pn**	**11 09 47.6**	**-1.6**
STOK	**Stokkvaagen**	**9.36**	**110**	*e*Pn	**Pn**	**11 09 47.6**	**-1.6**
	SNR=62						
FLOS	**Flostrand**	**9.47**	**110**	*e*Pn	**Pn**	**11 09 49.4**	**-1.2**
FLOS				*e*		11 11 28.7	
FLOS	**Flostrand**	**9.47**	**110**	*e*Pn	**Pn**	**11 09 49.4**	**-1.2**
	SNR=62						
SPA0	**Spitsbergen Ar**	**9.62**	**32**	Pn	**Pn**	**11 09 53.0**	**+0.2**
	baz=232,slow=11						
SPA0	**Spitsbergen Ar**	**9.62**	**32**	Pn	**Pn**	**11 09 53.0**	**+0.2**
	baz=232,slow=11						
SPA0	**Spitsbergen Ar**	**9.62**	**32**	Pn	**Pn**	**11 09 53.0**	**+0.2**
	baz=232,slow=11,SNR=416						
SPITS	**Spitsbergen Ar**	**9.62**	**32**	Pn	**Pn**	**11 09 53.0**	**+0.2**
	baz=213,slow=17,SNR=253						
MOR8	**Moi Rana**	**9.90**	**109**	*e*Pn	**Pn**	**11 09 56.3**	**-0.4**
MOR8	**Moi Rana**	**9.90**	**109**	*e*Pn	**Pn**	**11 09 56.3**	**-0.4**
	SNR=62						
NSS	**Namsos**	**10.34**	**120**	*e*Pn	**Pn**	**11 10 01.6**	**-1.0**
NSS	**Namsos**	**10.34**	**120**	*e*Pn	**Pn**	**11 10 01.6**	**-1.0**
	SNR=62						
HOPEN	**Hopen**	**10.74**	**45**	*e*Pn	**Pn**	**11 10 08.0**	**-0.1**
HOPEN	**Hopen**	**10.74**	**45**	*e*Pn	**Pn**	**11 10 08.0**	**-0.1**
	SNR=62						
AKN	**Aaknes**	**11.03**	**137**	Pn	**Pn**	**11 10 11.1**	**-0.9**
AKN	**Aaknes**	**11.03**	**137**	Pn	**Pn**	**11 10 11.1**	**-0.9**
AKN	**Aaknes**	**11.03**	**137**	Pn	**Pn**	**11 10 11.1**	**-0.9**
ARA0	**ARCESS Array S**	**11.68**	**81**	Pn	**Pn**	**11 10 20.6**	**-0.4**
	baz=292,slow=12						
ARA0	**ARCESS Array S**	**11.68**	**81**	Pn	**Pn**	**11 10 20.6**	**-0.4**
	baz=292,slow=12						
ARA0	**ARCESS Array S**	**11.68**	**81**	Pn	**Pn**	**11 10 20.5**	**-0.4**
	baz=292,slow=12,SNR=8.0						
ARCES	**ARCESS Array B**	**11.68**	**81**	Pn	**Pn**	**11 10 20.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=294,slow=12,SNR=6.7						
NOA	**NORSAR Array B**	**13.01**	**131**	LR	LR	11 15 20.9	
	comp=Z,18nm,18.2s,baz=320,slow=36						
HFS	**Hagfors**	**14.41**	**129**	Pn	P	11 11 01.5	-3.8
	comp=Z,0.2nm,0.3s,baz=1.3,slow=13,SNR=5.3						
HFS				LR	LR	11 15 41.4	
	comp=Z,31nm,19.8s,baz=290,slow=34						
EKA	**Eskdalemuir Ar**	**16.12**	**168**	Pn	**P**	**11 11 23.6**	**-0.7**
	baz=354,slow=13,SNR=3.2						
FIA0	**FINESS Array S**	**16.89**	**107**	P	**Pn**	**11 11 30.5**	**-0.1**
	baz=324,slow=12						
FIA0	**FINESS Array S**	**16.89**	**107**	P	**Pn**	**11 11 30.5**	**-0.1**
	baz=324,slow=12,SNR=0.5						
FINES	**FINESS Array B**	**16.89**	**107**	Pn	**Pn**	**11 11 30.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=324,slow=12,SNR=9.3						
FINES				LR	LR	11 16 57.9	
	comp=Z,25nm,18.6s,baz=201,slow=34						
AKASG	**Malin Array Be**	**26.91**	**119**	P	**P**	**11 13 18.9**	**+3.5**
	comp=Z,0.4nm,0.4s,baz=332,slow=9.5,SNR=2.4						
BRTR	**Keskin Array B**	**38.22**	**122**	P	P	11 14 56.8	+2.5
	comp=Z,0.3nm,0.4s,baz=326,slow=11,SNR=3.4						
ILAR	**Eielson Array**	**41.26**	**334**	P	P	11 15 21.4	+2.2
	comp=Z,1.1nm,1.1s,baz=12,slow=7.5,SNR=9.3						
TORD	**Torodi Ar. Bea**	**58.38**	**168**	P	P	11 17 32.8	+2.9
	comp=Z,0.4nm,0.6s,baz=356,slow=5.9,SNR=2.7						

*BJI **17** 11:30:18.1, 13°.75N×55°.70E, h6km, mb4.9/53, mB5.1/46, Ms4.7/47, Ms7 4.6/48*

*IDC **17** 11:30:25.3±0.4, 14°.41N×56°.44E, h0km, mb4.4/40, mb1 4.5/40, mb1mx4.4/58, mbtmp4.4/40, MS4.2/33, Ms1 4.2/33, ms1mx4.1/38, Error ellipse: s-maj=11.7km s-min=10.7km az=24.0*

*ISCJB **17** 11:30:27.3±0.2, 14°.39N±0'.04×56°.34E±0'.02, h

KLRI IAmb IAmb 11 35 07.7
comp=Z,136nm,1.4s
KLRI eS **S** **11 38 41.0 +0.4**
KLRI IVMs_BB IVMs_BB 11 41 08.0
comp=Z,1μm,4.4s
URV Uravakonda 20.25 86 *e*P **P** **11 35 03.3 +0.2**
URV IAmb IAmb 11 35 10.4
comp=Z,19nm,0.8s
URV eS **S** **11 38 48.5 -1.3**
URV IVMs_BB IVMs_BB 11 41 01.7
comp=Z,828nm,4.5s
IVRN Varamin 20.92 349 *e*P **P** **11 35 11.5 +1.2**
IVRN Varamin 20.92 349 *e*P **P** **11 35 11.5 +1.2**
IANJ Anjilo 21.09 355 *e*P **P** **11 35 12.9 +0.6**
IANJ Anjilo 21.09 355 *e*P **P** **11 35 12.9 +0.6**
ILAS Lasjerd 21.11 352 *e*P P 11 35 17.7 +5.2
SRSP Sriramsagar 21.55 75 *e*P **P** **11 35 14.0 -3.2**
SRSP IAmb IAmb 11 35 24.4
comp=Z,38nm,1.2s
SRSP IVMs_BB IVMs_BB 11 42 08.9
comp=Z,763nm,9.4s
HYBB Hyderabad (bro 21.57 79 *e*P **P** **11 35 17.4 0.0**
HYBB IAmb IAmb 11 35 24.3
comp=Z,23nm,1.0s
HYBB eS **S** **11 39 14.2 -1.8**
HYBB IVMs_BB IVMs_BB 11 43 14.0
comp=Z,724nm,5.9s
HYB Hyderabad 21.57 79 *i* P **P** **11 35 18.0 +0.6**
IMOG Moghan 21.78 7 *e*P **P** **11 35 21.4 +1.6**
IMOG Moghan 21.78 7 *e*P **P** **11 35 21.4 +1.6**
BHPL Bhopal 21.79 63 *e*P **P** **11 35 20.0 +0.3**
BHPL AMB AMB 11 35 29.0
comp=Z,87nm,2.3s
SRLM Srisailam 21.83 83 *e*P **P** **11 35 21.7 +1.6**
SRLM IAmb IAmb 11 35 24.2
comp=Z,102nm,1.9s
SRLM eS **S** **11 39 21.7 +0.7**
SRLM IVMs_BB IVMs_BB 11 41 57.2
comp=Z,720nm,4.8s
RCLA Racherla 21.88 84 *e*P **P** **11 35 20.6 -0.1**
RCLA IAmb IAmb 11 35 26.4
comp=Z,11nm,0.8s
RCLA eS **S** **11 39 21.9 -0.1**
RCLA IVMs_BB IVMs_BB 11 42 35.9
comp=Z,828nm,4.3s
IMYA Miami 22.11 8 *e*P **P** **11 35 23.8 +0.7**
IMYA Miami 22.11 8 *e*P **P** **11 35 23.8 +0.7**
IDHR Dehrash 22.11 338 *e*P **P** **11 35 24.5 +1.3**
IDHR Dehrash 22.11 338 *e*P **P** **11 35 24.5 +1.3**
IAKL Akhelmad 22.21 5 *e*P **P** **11 35 24.6 +0.2**
NJS Nagarjunasagar 22.24 81 *e*P **P** **11 35 26.1 +1.5**
NJS IAmb IAmb 11 35 30.1
comp=Z,38nm,1.4s
NJS eS **S** **11 39 28.2 -0.5**
NJS IVMs_BB IVMs_BB 11 42 12.4
comp=Z,767nm,4.5s
RPR Rampur 22.43 75 *e*P **P** **11 35 30.4 +3.8**
RPR eS **S** **11 39 31.6 -0.7**
RPR IVMs_BB IVMs_BB 11 42 04.6
comp=Z,578nm,5.4s
ISFR Sfrayin 22.61 3 *e*P **P** **11 35 30.1 +1.5**
KHET Khetri 22.63 50 *e*P **P** **11 35 29.6 +0.9**
SKHT Srikalahasti 22.68 89 *e*P **P** **11 35 26.4 -2.9**
SKHT eS **S** **11 39 37.9 +1.0**
SKHT IVMs_BB IVMs_BB 11 43 52.9
comp=Z,920nm,5.1s
ADKI Addanki 22.86 83 *e*P **P** **11 35 31.2 +0.1**
ADKI eSn Sn 11 39 54.4 -1.1
ISHV Shirvan 23.07 3 *e*P **P** **11 35 35.8 +2.5**
KBL Kabul 23.10 28 *e*P **P** **11 35 34.6 +0.9**
KBL Kabul 23.10 28 *e*P **P** **11 35 34.6 +0.9**
KBL Kabul 23.10 28 *e*P **P** **11 35 34.6 +0.9**
RTK Rohtak 23.61 49 *e*P **P** **11 35 38.4 -0.1**
RTK AMB AMB 11 35 41.6
comp=Z,56nm,0.0s
SONA Sohna 23.68 51 *e*P **P** **11 35 39.5 +0.2**
AGRA Agra 23.84 54 *e*P **P** **11 35 42.9 +2.1**
AGRA AMB AMB 11 35 43.9
comp=Z,18nm,0.6s
NDI New Delhi 24.01 50 *e*P **P** **11 35 40.0 -2.4**
KMBO Kilima Mbogo 24.39 232 P **P** **11 35 47.1 +0.7**
comp=Z,7.5nm,0.9s,baz=26,slow=10.0,SNR=13
KMBO LR LR 11 45 51.5
comp=Z,3μm,18.1s,baz=56,slow=38
KMBO Kilima Mbogo 24.39 232 P **P** **11 35 47.1 +0.7**
KMBO pmax pmax
comp=Z,8.0nm,0.9s
KMBO MLR MLR
comp=Z,3μm,18.1s
KMBO Kilima Mbogo 24.39 232 *e*P **P** **11 35 48.2 +1.9**
ASOR Ausora 24.46 51 *e*P **P** **11 35 46.2 -0.4**
PVM Polavaram 24.49 80 *e*P **P** **11 35 48.5 +1.5**
PVM IAmb IAmb 11 35 53.7
comp=Z,16nm,1.3s
PVM eS **S** **11 40 07.0 +0.5**
PVM IVMs_BB IVMs_BB 11 44 55.9
comp=Z,643nm,5.3s
EIL Elat 24.91 311 P **P** **11 35 51.6 +1.0**
comp=Z,30nm,1.0s,baz=148,slow=8.7,SNR=8.1
EIL LR LR 11 46 04.7
comp=Z,910nm,19.9s,baz=78,slow=38
PALK Pallekele 24.94 104 P **P** **11 35 50.1 -1.0**
comp=Z,14nm,0.8s,baz=259,slow=9.9,SNR=4.9
PALK LR LR 11 43 37.5
comp=Z,709nm,20.7s,baz=293,slow=32
PALK Pallekele 24.94 104 P **P** **11 35 50.1 -1.0**
PALK pmax pmax
comp=Z,14nm,0.8s
PALK MLR MLR
comp=Z,709nm,20.7s
PALK Pallekele 24.94 104 *e*P **P** **11 35 52.6 +1.4**
PALK Pallekele 24.94 104 *e*P **P** **11 35 52.6 +1.4**
ASF Jabal al Asfar 25.06 318 P **P** **11 35 53.5 +1.4**
comp=Z,2.1nm,0.3s,baz=42,slow=0.7,SNR=12
ASF LR LR 11 46 53.1
comp=Z,278nm,20.2s,baz=93,slow=39
H08N2 Diego Garcia H 25.22 144 T T 12 02 01.0
baz=325,slow=76,SNR=121
H08N3 Diego Garcia H 25.23 144 T T 12 02 01.9
baz=325,slow=76,SNR=100
H08N1 Diego Garcia H 25.24 144 T T 12 01 58.6
baz=325,slow=76,SNR=105
SMLA Simla 25.34 45 *e*P **P** **11 35 54.2 -0.3**
SMLA AMB AMB 11 36 05.7
comp=Z,25nm,1.9s
DHRM DHARAMSHALA 25.45 42 *e*P **P** **11 35 56.5 +0.8**
DHRM AMB AMB 11 36 03.3
comp=Z,48nm,1.9s
KALG Kalgarh 25.58 50 *e*P **P** **11 35 56.5 -0.2**
KALG AMB AMB 11 36 08.9
comp=Z,26nm,1.4s
MMAI Mount Meron Ar 26.56 318 P **P** **11 36 06.7 +1.0**
comp=Z,18nm,1.1s,baz=110,slow=11,SNR=8.0
MMAI LR LR 11 46 25.8
comp=Z,225nm,20.9s,baz=100,slow=36
JOSI Joshimath 26.73 49 *e*P **P** **11 36 07.8 +0.4**
JOSI AMB AMB 11 36 16.9
comp=Z,136nm,1.4s
DGAR Diego Garcia 26.93 143 *e*P **P** **11 36 05.1 -4.0**
GNI Garni 27.59 341 P **P** **11 36 13.8 -1.1**
comp=Z,6.2nm,0.4s,baz=0.0,slow=20,SNR=2.7
GNI LR LR 11 48 25.1
comp=Z,610nm,18.8s,baz=137,slow=39
GNI Garni 27.59 341 P **P** **11 36 13.8 -1.1**
GNI pmax pmax
comp=Z,6.0nm,0.4s
GNI MLR MLR
comp=Z,610nm,18.8s
GNI Garni 27.59 341 *e*P **P** **11 36 15.7 +0.8**
GNI Garni 27.59 341 *e*P **P** **11 36 15.7 +0.8**
KOLN Koldanda 28.62 58 *e*P **P** **11 36 25.9 +1.5**
comp=Z,11nm,0.7s
BOK Bokaro 29.39 67 *e*P **P** **11 36 31.4 +0.4**
BOK AMB AMB 11 36 34.3
comp=Z,38nm,0.7s
MAK Makhachkala 29.45 347 *e*P **P** **11 36 30.8 -0.5**
MAK eS **S** **11 41 26.3 +1.7**
MAK pmax pmax
comp=Z,214nm,1.5s
MAK MLR MLR
comp=Z,748nm,17.0s
MAK Makhachkala 29.45 347 *e*P **P** **11 36 30.8 -0.5**
comp=Z,214nm,1.5s
GKN Gorkha 29.56 58 *e*P **P** **11 36 33.9 +1.2**
comp=Z,19nm,0.8s

KKN Kakani 30.02 59 *e*P **P** **11 36 37.8 +1.0**
PKIN Phulchoki 30.04 59 *e*P **P** **11 36 37.4 +0.4**
PKI Pulchoki 30.05 59 *e*P **P** **11 36 37.4 +0.2**
ONI Oni 30.20 341 P **P** **11 36 39.6 +1.6**
ONI Oni 30.20 341 P **P** **11 36 39.6 +1.6**
ONI Oni 30.20 341 P **P** **11 36 39.6 +1.6**
ZEI Tsey 30.25 342 *e*P **P** **11 36 39.0 +0.4**
ZEI pmax pmax
comp=Z,42nm,1.4s
KSH Kashi 30.39 31 P **P** **11 36 36.8 -3.0**
KSH sP **sP** **11 36 43.0 -4.9**
KSH PP **PnPn** **11 37 35.8 -2.6**
KSH S S 11 41 30.6 -9.1
KSH PMZ
comp=Z,19nm,1.1s
KSH PMZ
comp=Z,97nm,3.5s
KSH LN
comp=Z,410nm,11.7s
KSH LE
comp=Z,160nm,10.3s
KSH LZ
comp=Z,720nm,16.9s
GUN Gumba 30.56 59 *e*P **P** **11 36 43.1 +1.4**
comp=Z,63nm,1.0s
RAMN Ramite 30.86 61 *e*P **P** **11 36 44.4 +0.2**
comp=Z,110nm,1.6s
KKAR Karatay Array 31.09 20 *e*P **P** **11 36 47.8 +2.0**
KKAR Karatay Array 31.09 20 *e*P **P** **11 36 47.8 +2.0**
KKAR Karatay Array 31.09 20 *e*P **P** **11 36 47.8 +2.0**
KBZ Khabaz 31.41 341 P **P** **11 36 49.0 +0.5**
comp=Z,9.7nm,1.1s,baz=172,slow=1.2,SNR=8.5
KBZ LR LR 11 51 24.3
comp=Z,541nm,20.0s,baz=149,slow=40
KBZ Khabaz 31.41 341 P **P** **11 36 49.0 +0.5**
KBZ Khabaz 31.41 341 P **P** **11 36 49.0 +0.5**
ODAN Odare 31.50 62 *e*P **P** **11 36 50.9 +1.0**
KIV Kislovodsk 31.68 341 *e*P **P** **11 36 51.5 +0.5**
KIV *e*PPP PPP 11 38 04.6
KIV *e* 11 39 43.1
KIV eS **S** **11 42 02.0 +2.3**
KIV pmax pmax
comp=Z,33nm,1.1s
KIV MLR MLR
comp=Z,421nm,15.0s
KIV Kislovodsk 31.68 341 *e*P **P** **11 36 51.3 +0.3**
comp=Z,51nm,1.3s
KIV Kislovodsk 31.68 341 *e*P **P** **11 36 51.3 +0.3**
comp=Z,51nm,1.3s
UCH Uchtor 31.87 26 P **P** **11 36 55.6 +2.4**
SNR=7.3
TAPN Taplejung 31.92 61 *e*P **P** **11 36 53.2 -0.4**
comp=Z,192nm,1.7s
EKS2 Erkin-Say 31.92 25 P **P** **11 36 55.6 +2.3**
SNR=9.0
EKS2 Erkin-Say 31.92 25 *e*P **P** **11 36 55.3 +2.0**
EKS2 pmax pmax
comp=Z,34nm,1.4s
EKS2 Erkin-Say 31.92 25 *e*P **P** **11 36 55.3 +2.0**
comp=Z,34nm,1.4s
EKS2 Erkin-Say 31.92 25 *e*P **P** **11 36 55.3 +2.0**
comp=Z,34nm,1.4s
KZA Kyzart 32.06 27 P **P** **11 36 57.4 +2.6**
SNR=7.7
BR131 Keskin Array S 32.14 326 *e*P **P** **11 36 55.6 +0.4**
comp=Z,0.7nm,0.6s
BR131 Keskin Array S 32.14 326 *e*P **P** **11 36 55.6 +0.4**
comp=Z,0.7nm,0.6s
BRTR Keskin Array B 32.14 326 P **P** **11 36 56.5 +1.2**
comp=Z,3.0nm,1.2s,baz=149,slow=11,SNR=9.2
BRTR PP **PP** **11 38 09.6 +1.7**
comp=Z,6.8nm,1.1s,baz=139,slow=12,SNR=6.9
BRTR PcP **PcP** **11 39 44.6 +0.5**
comp=Z,1.3nm,0.8s,baz=140,slow=5.1,SNR=4.1
BRTR LR LR 11 51 46.5
comp=Z,360nm,18.9s,baz=130,slow=40
AAK Ala-Archa 32.19 26 P **P** **11 36 58.5 +2.8**
SNR=6.8
AAK Ala-Archa 32.19 26 P **P** **11 36 58.0 +2.3**
AAK pmax pmax
comp=Z,21nm,1.1s
AAK Ala-Archa 32.19 26 P **P** **11 36 58.0 +2.3**
comp=Z,21nm,1.1s
KBK Karagaybulak 32.40 26 P **P** **11 37 00.5 +2.9**
SNR=8.8
FRU Bishkek 32.41 26 *e*P P 11 37 01.0 +3.6
FRU pmax pmax
comp=Z,100nm,2.0s
GOF Gofitskoye 32.57 342 *e*P P 11 37 05.2 +6.5
GOF pmax pmax
comp=Z,30nm,1.3s
ULHL Ulahol 32.64 28 P **P** **11 37 02.3 +2.6**
SNR=11
ANTO Ankara 32.70 325 *e*P **P** **11 37 01.8 +1.8**
ANTO Ankara 32.70 325 *e*P **P** **11 37 01.8 +1.8**
ANTO Ankara 32.70 325 *e*P **P** **11 37 01.8 +1.8**
TKM2 Tokmak 2 32.90 26 *e*P **P** **11 37 02.5 +0.6**
TKM2 pmax pmax
comp=Z,9.0nm,1.0s
TKM2 Tokmak 2 32.90 26 *e*P **P** **11 37 02.5 +0.6**
comp=Z,9.1nm,1.0s
TKM2 Tokmak 2 32.90 26 *e*P **P** **11 37 02.5 +0.6**
comp=Z,9.1nm,1.0s
ANN Anapa 34.29 336 *e*P **P** **11 37 16.1 +2.4**
ANN eS S 11 42 47.9 +8.0
ANN pmax pmax
comp=Z,65nm,0.9s
ANN MLR MLR
comp=Z,323nm,16.0s
ANN MLR MLR
comp=E,430nm,16.0s
ANN Anapa 34.29 336 *e*P **P** **11 37 16.1 +2.4**
comp=E,65nm,0.9s
AB31 Akbulak array 34.88 4 *i* P **P** **11 37 18.8 0.0**
AB31 pmax pmax
comp=Z,13nm,1.0s
AB31 Akbulak array 34.88 4 *i* P **P** **11 37 18.8 0.0**
comp=Z,13nm,1.0s
ABKAR Akbulak array 34.88 4 *e*P **P** **11 37 19.1 +0.3**
ABKAR Akbulak array 34.88 4 *e*P **P** **11 37 19.1 +0.3**
PDGK Podgornoye 35.00 30 P **P** **11 37 21.0 +1.1**
PDGK pmax pmax
comp=Z,22nm,1.2s
PDGK Podgornoye 35.00 30 P **P** **11 37 21.0 +1.1**
comp=Z,22nm,1.2s
IDI Anoyia 35.07 312 P **P** **11 37 21.5 +0.8**
comp=Z,38nm,1.1s,baz=120,slow=7.7,SNR=10
SANT Santorini 35.20 314 *e*P **P** **11 37 23.6 +1.8**
comp=Z,67nm,1.2s
SANT Santorini 35.20 314 *e*P **P** **11 37 23.6 +1.8**
comp=Z,67nm,1.2s
APE Apeiranthos 35.51 315 P **P** **11 37 23.9 -0.5**
APE Apeiranthos 35.51 315 *e*P **P** **11 37 23.1 -1.3**
APE pmax pmax
comp=Z,12nm,1.2s
APE Apeiranthos 35.51 315 *i*P **P** **11 37 23.9 -0.5**
APE Apeiranthos 35.51 315 P **P** **11 37 23.9 -0.5**
SIM Simferopol' 35.80 333 *e*P **P** **11 37 28.7 +1.9**
SIM *i* 11 37 35.0
SIM *e* 11 38 46.0
SIM eS **S** **11 43 08.0 +4.7**
SIM pmax pmax
comp=Z,46nm,1.2s
SIM pmax pmax
comp=Z,30nm,8.2s
SIM MLR MLR
comp=N,230nm,19.2s
SIM Simferopol' 35.80 333 *e*P **P** **11 37 28.7 +1.9**
comp=N,46nm,1.2s
AKTK Aktyubinsk 35.96 2 P **P** **11 37 27.6 -0.5**
AKTO Aktyubinsk 35.96 2 P **P** **11 37 27.6 -0.5**
comp=N,6.1nm,0.9s,baz=182,slow=11,SNR=14
AKTO PcP **PcP** **11 39 53.4 -1.2**
comp=N,2.4nm,0.7s,baz=169,slow=4.5,SNR=5.2
RDO Rodhopi 37.76 321 *e*P **P** **11 37 45.3 +1.8**
comp=N,65nm,1.2s
RDO Rodhopi 37.76 321 *e*P **P** **11 37 45.3 +1.8**
comp=N,65nm,1.2s
PSN Preselentsi 37.82 326 *i*P P 11 37 51.5 +7.5
PSN Preselentsi 37.82 326 *i*P P 11 37 51.5 +7.5
TIRR Tirgusor 38.22 327 *i*P P 11 37 54.4 +7.1
TIRR Tirgusor 38.22 327 *i*P P 11 37 54.4 +7.1
MSAB Monastry St. A 38.28 326 *i*P P 11 37 55.6 +7.7
VRHR Novokhopersk 38.48 345 *e*P **P** **11 37 50.4 +1.0**
VRHR pmax pmax
comp=Z,40nm,1.0s
VRHR pmax pmax
comp=N,80nm,1.4s
VRHR pmax pmax
comp=E,40nm,1.5s
HARR Harsova 38.63 327 *i*P P 11 37 58.6 +7.8
HARR Harsova 38.63 327 *i*P P 11 37 58.6 +7.8
AGG Agios Georgios 38.67 316 *e*P **P** **11 37 50.6 -0.7**
AGG *e*PP **pP** **11 37 58.4 +1.3**
AGG pmax pmax
comp=Z,46nm,1.3s
AGG Agios Georgios 38.67 316 *e*P **P** **11 37 50.6 -0.7**
comp=Z,46nm,1.3s
AGG *e*pP **pP** **11 37 58.4 +1.3**
AGG Agios Georgios 38.67 316 *e*P **P** **11 37 50.6 -0.7**
comp=Z,46nm,1.3s
AGG *e*pP **pP** **11 37 58.4 +1.3**
CFR Carcaliu 38.85 328 *i*P P 11 37 55.9 +3.3
CFR Carcaliu 38.85 328 *i*P **P** **11 37 55.8 +3.2**
MK31 Makanchi Array 38.90 29 *i* P **P** **11 37 53.3 +0.2**
MK31 pmax pmax
comp=Z,11nm,1.0s
MK31 Makanchi Array 38.90 29 *e*P **P** **11 37 52.9 -0.2**
MK31 Makanchi Array 38.90 29 *e*P **P** **11 37 52.9 -0.2**
MKAR Makanchi Array 38.90 29 P **P** **11 37 52.9 -0.3**
comp=Z,3.5nm,0.8s,baz=216,slow=7.2,SNR=21
MKAR PcP **PcP** **11 40 03.2 -0.5**
comp=Z,1.4nm,0.9s,baz=254,slow=4.5,SNR=4.6
MKAR LR LR 11 56 06.0
comp=Z,846nm,20.1s,baz=230,slow=40
VORD Divnogorie 38.98 343 *e*P **P** **11 37 52.4 -1.2**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,30nm,1.0s
VORD pmax pmax
comp=E,10.0nm,0.6s
VSR Storozhevoye 39.24 343 *e*P **P** **11 37 55.2 -0.6**
VSR pmax pmax
comp=Z,40nm,1.2s
VSR pmax pmax
comp=N,40nm,1.0s
VSR pmax pmax
comp=E,20nm,0.5s
ISR Istrita 39.65 327 *i*P **P** **11 38 02.0 +2.6**
ISR Istrita 39.65 327 *i*P **P** **11 38 02.0 +2.6**
ISR Istrita 39.65 327 *i*P **P** **11 38 02.0 +2.6**
WMQ Urumqi 39.69 36 P **P** **11 37 59.6 -0.2**
WMQ pP **pP** **11 38 04.1 -1.5**
WMQ sP **sP** **11 38 06.6 -1.3**
WMQ PP **PnPn** **11 39 36.0 +1.8**
WMQ PcP **PcP** **11 40 08.1 +1.7**
WMQ PcS **PcS** **11 43 56.0 -0.4**
WMQ S S **11 44 03.5 +0.9**
WMQ ScS **ScS** **11 48 02.8 -4.2**
WMQ PMZ
comp=E,21nm,0.8s
WMQ PMZ
comp=E,350nm,4.4s
WMQ LN
comp=E,350nm,15.0s
WMQ LE
comp=E,400nm,19.0s
WMQ LZ
comp=E,490nm,28.0s
KIS Kishinev 39.79 330 *e*P **P** **11 38 03.0 +2.6**
KIS Kishinev 39.79 330 *e*PP PP 11 39 41.0 +9.0
KIS eS **S** **11 44 06.0 +2.3**
KIS *e*L L 11 54 56.0
KIS LRM MLR 11 58 36.0
comp=E,300nm,16.0s
KIS Kishinev 39.79 330 *e*P **P** **11 38 03.0 +2.6**
KIS *e* 11 38 12.0
KIS *e* 11 39 41.0
KIS eS **S** **11 44 06.0 +2.3**
KIS MLR MLR
comp=Z,300nm,16.0s
KIS MLR MLR
comp=Z,300nm,15.0s
KIS Kishinev 39.79 330 *e*P **P** **11 38 03.0 +2.6**
VTS Vitosha 40.01 321 *i*P **P** **11 38 03.3 +0.7**
VTS Vitosha 40.01 321 *i*P **P** **11 38 03.3 +0.7**
VTS Vitosha 40.01 321 *i*P **P** **11 38 03.3 +0.7**
MHMT Maesarieng 40.04 79 P **P** **11 38 05.3 +2.3**
comp=Z,22nm,1.1s,comp=Z,488nm
VRI Vrincioaia 40.05 328 *i*P **P** **11 38 03.3 +0.6**
VRI Vrincioaia 40.05 328 *i*P **P** **11 38 03.3 +0.6**
VRI Vrincioaia 40.05 328 *i*P **P** **11 38 03.3 +0.6**
PLOR Plostina 40.08 327 *i*P **P** **11 38 04.5 +1.6**
PLOR Plostina 40.08 327 *i*P **P** **11 38 04.5 +1.6**
PLOR Plostina 40.08 327 *i*P **P** **11 38 04.5 +1.6**
BVA0 Borovoye Array 40.11 13 P **P** **11 38 03.4 +0.3**
BVA0 pmax pmax
comp=Z,15nm,1.2s
BVAR Borovoye Array 40.11 13 P **P** **11 38 02.5 -0.6**
comp=Z,1.4nm,0.6s,baz=205,slow=6.6,SNR=11
BVAR PcP **PcP** **11 40 06.9 -0.5**
comp=Z,5.8nm,0.9s,baz=199,slow=4.1,SNR=9.9
BRVK Borovoye 40.12 13 *d* *i*P **P** **11 38 03.3 +0.2**
BRVK pmax pmax
comp=Z,27nm,2.5s
MLR Muntele Rosu 40.21 327 P **P** **11 38 05.2 +1.0**
comp=Z,4.3nm,1.2s,baz=121,slow=1.4,SNR=11
MLR Muntele Rosu 40.21 327 *i*P P 11 38 07.9 +3.7
MLR Muntele Rosu 40.21 327 *i*P P 11 38 07.9 +3.7
KURBB Kurchatov Arra 40.36 22 P **P** **11 38 05.2 +0.1**
comp=Z,6.2nm,0.8s,baz=221,slow=8.2,SNR=37
KURBB PcP **PcP** **11 40 08.7 +0.4**
comp=Z,1.0nm,0.5s,baz=221,slow=3.9,SNR=4.8
KURK Kurchatov 40.47 22 P **P** **11 38 05.2 -0.8**
KURK 11 40 08.7
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 40.47 22 P **P** **11 38 07.1 +1.1**
SNR=6.2
KURK Kurchatov 40.47 22 PcP **PcP** **11 40 08.6 +0.1**
KURK Kurchatov 40.47 22 P **P** **11 38 07.0 +1.1**
SNR=6.2
KURK Kurchatov 40.47 22 *e*P **P** **11 38 06.7 +0.7**
KURK PcP **PcP** **11 40 08.7 +0.1**
TESR Tescani 40.52 328 *i*P **P** **11 38 07.8 +1.2**
LSZ Lusaka 40.55 224 P **P** **11 38 07.8 +0.6**
comp=Z,8.4nm,1.0s,baz=47,slow=13,SNR=7.0
LSZ Lusaka 40.55 224 *e*P **P** **11 38 07.5 +0.3**
LSZ pmax pmax
comp=Z,26nm,1.3s
LSZ Lusaka 40.55 224 *e*P **P** **11 38 07.5 +0.3**
comp=Z,26nm,1.3s
LSZ Lusaka 40.55 224 *e*P **P** **11 38 07.5 +0.3**
comp=Z,26nm,1.3s
LPSR Galich'ya Gora 40.55 344 *e*P **P** **11 38 07.0 +0.3**
LPSR pmax pmax
comp=Z,20nm,0.9s
LPSR pmax pmax
comp=N,10.0nm,1.2s
LPSR pmax pmax
comp=E,20nm,1.9s
VOIR 40.66 326 *i*P **P** **11 38 06.7 -1.1**
VOIR 40.66 326 *i*P **P** **11 38 06.7 -1.1**
VOIR 40.66 326 *i*P **P** **11 38 06.7 -1.1**
CHTO Chiang Mai 41.00 78 *e*P **P** **11 38 11.8 +0.9**
CHTO pmax pmax
comp=Z,39nm,1.8s
CHTO Chiang Mai 41.00 78 *e*P **P** **11 38 11.8 +0.9**
comp=Z,40nm,1.8s
CHTO Chiang Mai 41.00 78 *e*P **P** **11 38 11.8 +0.9**
comp=Z,40nm,1.8s
CM31 Chiang Mai Arr 41.00 78 *e*P **P** **11 38 11.0 +0.1**
comp=Z,6.7nm,0.7s
CM31 Chiang Mai Arr 41.00 78 *e*P **P** **11 38 11.0 +0.1**
comp=Z,6.7nm,0.7s
CMAR Chiang Mai Arr 41.00 78 P **P** **11 38 10.8 -0.1**
comp=Z,9.4nm,0.9s,baz=274,slow=8.8,SNR=39
CMAR LR LR 11 53 38.6
comp=Z,162nm,21.8s,baz=285,slow=34
LOT Lotru 41.37 325 *i*P **P** **11 38 12.4 -1.3**
LAMP Lampang 41.65 78 P **P** **11 38 17.9 +1.6**
comp=Z,7.4nm,1.0s,comp=Z,76nm
GZR Gura Zlata 41.90 324 *i*P **P** **11 38 18.0 0.0**
GZR Gura Zlata 41.90 324 *i*P **P** **11 38 18.0 0.0**
GZR Gura Zlata 41.90 324 *i*P **P** **11 38 18.0 0.0**
ARU Arti 41.98 2 *d* *i*P **P** **11 38 17.5 -0.8**
ARU 11 39 55.5
ARU 11 40 13.0

ARU S **S** **11 44 36.7 +0.7**
ARU SS **SS** **11 47 42.2 -0.9**
ARU pmax pmax
comp=Z,16nm,2.5s
ARU MLR MLR
comp=Z,458nm,26.0s
BURAR Bucovina Array 41.99 328 ⇑P **P** **11 38 20.2 +1.5**
BURAR Bucovina Array 41.99 328 ⇑*i*P **P** **11 38 20.2 +1.5**
BUR08 Bucovina Ar. S 42.02 329 *e*P **P** **11 38 19.8 +0.9**
BUR08 Bucovina Ar. S 42.02 329 *e*P **P** **11 38 19.8 +0.9**
AK02 Malin Array Si 42.31 334 *e*P **P** **11 38 21.1 0.0**
AK02 Malin Array Si 42.31 334 *e*P **P** **11 38 21.1 +0.2**
AK01 Malin Array Si 42.33 334 *e*P **P** **11 38 21.5 +0.2**
AK01 Malin Array Si 42.33 334 *e*P **P** **11 38 21.5 +0.2**
AKASG Malin Array Be 42.33 335 P **P** **11 38 21.6 +0.3**
comp=Z,0.4nm,0.5s,baz=330,slow=29,SNR=4.3
AKASG PP **PP** **11 40 00.6 +1.1**
comp=Z,2.9nm,0.8s,baz=140,slow=10,SNR=4.6
AKASG LR LR 11 59 22.8
comp=Z,351nm,20.8s,baz=130,slow=41
AKBB Malin Array Si 42.33 335 *e*P **P** **11 38 21.1 -0.2**
AKBB Malin Array Si 42.33 335 *e*P **P** **11 38 21.1 -0.2**
AKBB Malin Array Si 42.33 335 *e*P **P** **11 38 21.1 -0.2**
KIEV Kiev 42.33 334 *d i*P **P** **11 38 20.4 -0.9**
KIEV Kiev 42.33 334 *e*P **P** **11 38 20.8 -0.5**
comp=Z,28nm,1.0s
KIEV Kiev 42.33 334 *e*P **P** **11 38 20.8 -0.5**
comp=Z,28nm,1.0s
SVE Sverdlovsk 42.47 4 *e*P **P** **11 38 23.2 +0.9**
SVE *e*S **S** **11 44 48.3 +5.1**
SVE pmax pmax
comp=Z,16nm,1.4s
SVE MLR MLR
comp=Z,562nm,20.0s
UTTA Uttaradit 42.55 79 P **P** **11 38 25.5 +1.9**
comp=Z,2.9nm,1.0s
TIP Timpagrande 42.60 313 *e*P **P** **11 38 24.5 +0.6**
comp=Z,16nm,1.1s
TIP Timpagrande 42.60 313 *e*P **P** **11 38 24.5 +0.6**
comp=Z,16nm,1.1s
DIVS Divibare 42.80 321 ⇓ *i*P **P** **11 38 22.6 -2.8**
DIVS Divibare 42.80 321 ⇓ *i*P **P** **11 38 24.9 -0.5**
CEL Celeste 42.86 311 *e*P **P** **11 38 27.5 +1.6**
comp=Z,31nm,0.9s
CEL Celeste 42.86 311 *e*P **P** **11 38 27.5 +1.6**
comp=Z,31nm,0.9s
TRTT Trang 42.99 94 P P 11 38 36.0 +8.8
comp=Z,32nm,1.6s
PBKT Sadao Pong 43.01 81 P **P** **11 38 28.5 +1.2**
comp=Z,19nm,1.4s,comp=Z,1μm
OBN Obninsk 43.43 344 P **P** **11 38 31.0 +0.9**
comp=Z,13nm,0.5s,baz=160,slow=20,SNR=5.0
OBN Obninsk 43.43 344 *i* P **P** **11 38 29.3 -0.8**
OBN *i* 11 38 35.7
OBN *i* 11 40 14.0
OBN *i* 11 40 21.5
OBN *i* SS SS 11 48 02.6 -9.0
OBN pmax pmax
comp=Z,33nm,1.7s
OBN MLR MLR
comp=Z,254nm,19.0s
OBN Obninsk 43.43 344 P **P** **11 38 31.0 +0.9**
PSI Prapat 43.57 101 *e*P **P** **11 38 33.6 +1.5**
PSI *e**PP **pP** **11 38 42.4 +4.5**
PSI pmax pmax
comp=Z,10.0nm,0.9s
PSI Prapat 43.57 101 *e*P **P** **11 38 33.6 +1.5**
comp=Z,9.5nm,0.9s
PSI *e*pP **pP** **11 38 42.4 +4.5**
CUC Castrocucco 43.60 314 *e*P **P** **11 38 33.2 +1.3**
comp=Z,19nm,0.8s
CUC Castrocucco 43.60 314 *e*P **P** **11 38 33.2 +1.3**
comp=Z,19nm,0.8s
MOS Moscow 43.70 345 *e*P **P** **11 38 31.2 -1.1**
MOS *e* 11 38 38.1
MOS *e* 11 40 13.9
MOS *e*S **S** **11 45 00.0 -1.4**
MOS pmax pmax
comp=Z,59nm,0.7s
LVV L'vov 44.04 330 *e*P P 11 38 41.4 +6.2
MATP Matopo 44.12 219 P **P** **11 38 36.9 +0.6**
comp=Z,13nm,0.7s,baz=39,slow=9.6,SNR=22
KOLS Kolonicke sedl 44.34 328 *e*P **P** **11 38 37.5 -0.1**
KOLS pmax pmax
comp=Z,11nm,1.3s
KOLS Kolonicke sedl 44.34 328 *e*P **P** **11 38 37.5 -0.1**
comp=Z,11nm,1.3s
KOLS Kolonicke sedl 44.34 328 *e*P **P** **11 38 37.5 -0.1**
KULM Kulim 44.52 97 *e*P **P** **11 38 39.5 0.0**
comp=Z,22nm,1.1s
KULM Kulim 44.52 97 *e*P **P** **11 38 39.5 0.0**
comp=Z,22nm,1.1s
PKS2 Kecel 44.56 324 *e*P P 11 38 47.3 +7.9
KWP Kalwaria Pacla 44.57 329 *e*P **P** **11 38 40.8 +1.4**
KWP Kalwaria Pacla 44.57 329 *e*P **P** **11 38 40.9 +1.5**
KWP Kalwaria Pacla 44.57 329 *e*P **P** **11 38 40.9 +1.5**
CLTB Caltabellotta 44.60 309 *e*P **P** **11 38 41.4 +1.4**
comp=Z,43nm,1.8s
CLTB *e*pP **pP** **11 38 47.9 +2.1**
CLTB Caltabellotta 44.60 309 *e*P **P** **11 38 41.4 +1.4**
comp=Z,43nm,1.8s
CLTB *e*pP **pP** **11 38 47.9 +2.1**
PKSM Moragy 44.74 323 *e*P **P** **11 38 41.1 +0.3**
KMI Kunming 44.76 69 P **P** **11 38 42.6 +1.0**
KMI pP **pP** **11 38 48.8 +1.3**
KMI sP **sP** **11 38 53.3 +3.5**
KMI PP **PP** **11 40 29.8 +3.6**
KMI S **S** **11 45 20.1 +1.9**
KMI sS **sS** **11 45 32.8 +5.0**
KMI SS **ScS** **11 48 37.5 -1.6**
KMI PMZ
comp=Z,8.0nm,1.2s
KMI PMZ
comp=Z,150nm,6.7s
KMI LN
comp=Z,220nm,22.1s
KMI LE
comp=Z,410nm,23.6s
KMI LZ
comp=Z,580nm,21.4s
PSZ Piszkesteto 44.99 326 *e*P **P** **11 38 43.9 +1.0**
PSZ pmax pmax
comp=Z,29nm,1.4s
PSZ Piszkesteto 44.99 326 *e*P **P** **11 38 43.9 +1.0**
comp=Z,29nm,1.4s
PSZ Piszkesteto 44.99 326 *e*P **P** **11 38 43.9 +1.0**
comp=Z,29nm,1.4s
PSZ Piszkesteto 44.99 326 *e*P **P** **11 38 42.8 -0.1**
NONG Nongkai 45.00 79 P **P** **11 38 43.5 +0.2**
comp=Z,20nm,1.2s
SOKR Solikamsk 45.12 0*c i*P **P** **11 38 44.3 +0.8**
SOKR pmax pmax
comp=Z,10.0nm,1.0s
SOKR MLR MLR
comp=Z,600nm,24.0s
PKS9 Tamasi 45.15 323 *e*P **P** **11 38 44.7 +0.6**
STHS Stebnicka Huta 45.17 328 *e*P P 11 38 51.1 +6.9
STHS pmax pmax
comp=Z,5.0nm,1.1s
STHS Stebnicka Huta 45.17 328 *e* P 11 38 51.1 +6.9
ZAA0 Zalesovo Array 45.35 23 *e*P **P** **11 38 45.3 -0.2**
ZAA0 Zalesovo Array 45.35 23 *e*P **P** **11 38 45.3 -0.2**
ZALV Zalesovo Beam 45.35 23 P **P** **11 38 44.0 -1.5**
comp=Z,7.4nm,0.7s,baz=231,slow=8.2,SNR=22
ZALV LR LR 11 59 58.5
comp=Z,431nm,18.1s,baz=250,slow=39
NVS Novosibirsk 45.45 22 *e*P **P** **11 38 46.5 +0.2**
NVS pmax pmax
comp=Z,70nm,1.7s
NVS pmax pmax
comp=N,35nm,1.5s
GTA Gaotai 45.49 48 *e*P **P** **11 38 48.3 +1.2**
GTA pP **pP** **11 38 52.8 -0.2**
GTA sP **sP** **11 38 55.3 0.0**
GTA PP **PP** **11 40 35.9 +2.2**
GTA S **S** **11 45 30.3 +2.1**
GTA PMZ
comp=N,7.0nm,1.1s
GTA PMZ
comp=N,170nm,4.5s
GTA LN
comp=N,220nm,18.5s
GTA LE
comp=N,750nm,21.9s
GTA LZ
comp=N,950nm,20.9s
PKSG 45.53 324 *e*P **P** **11 38 48.3 +1.2**
CSKK Cs˘tkako 45.59 324 *e*P **P** **11 38 47.5 0.0**
NIE Niedzica 45.65 328 *e*P **P** **11 38 49.9 +1.8**
NIE Niedzica 45.65 328 *e*P **P** **11 38 49.9 +1.8**
NIE Niedzica 45.65 328 *e*P **P** **11 38 49.9 +1.8**
SKNT Sakolnakorn 45.86 80 P **P** **11 38 50.9 +0.8**
comp=N,30nm,1.5s,comp=N,1μm
BEHE Becsehely 45.97 322 *e*P **P** **11 38 52.6 +2.0**
CD2 Chengdu 46.38 61 *e*P **P** **11 38 52.9 -1.3**
CD2 pP **pP** **11 38 56.0 -4.0**
CD2 PcP **PcP** **11 40 28.1 -1.0**
CD2 PP **PP** **11 40 41.3 -1.9**
CD2 PcS **PcS** **11 44 22.8 -1.0**
CD2 S **S** **11 45 40.4 -0.7**
CD2 SS **SS** **11 49 07.4 +0.5**
CD2 PMZ
comp=N,20nm,0.5s
CD2 PMZ
comp=N,140nm,5.4s
CD2 LN
comp=N,490nm,16.2s
CD2 LE
comp=N,500nm,18.6s
CD2 LZ
comp=N,580nm,21.1s
OJC Ojcow 46.40 328 *e*P **P** **11 38 53.6 -0.3**
OJC Ojcow 46.40 328 *e*P **P** **11 38 53.8 -0.1**
OJC *e**PP **pP** **11 39 00.5 +0.7**
OJC pmax pmax
comp=Z,33nm,1.4s
OJC Ojcow 46.40 328 *e*P **P** **11 38 53.8 -0.1**
comp=Z,33nm,1.4s
OJC *e*pP **pP** **11 39 00.5 +0.7**
OJC Ojcow 46.40 328 *e*P **P** **11 38 53.8 -0.1**
comp=Z,33nm,1.4s
OJC *e*pP **pP** **11 39 00.5 +0.7**
OKC Ostrava-Krasne 47.04 327 *e*P **P** **11 38 59.3 +0.4**
OKC *e*pP **pP** **11 39 05.1 +0.3**
OKC *e*x x 11 39 10.1
OKC *e*S **S** **11 45 49.9 +0.1**
OKC AMS AMS 12 02 20.0
comp=Z,200nm,13.1s
OKC Ostrava-Krasne 47.04 327 *e*P **P** **11 38 59.3 +0.4**
OKC *e* 11 39 10.1
OKC *e*S **S** **11 45 49.9 +0.1**
OKC MLR MLR
comp=Z,200nm,13.1s
OKC Ostrava-Krasne 47.04 327 P **P** **11 38 59.3 +0.4**
OKC *e*S **S** **11 45 49.9 +0.1**
KEST Kesra 47.04 306 LR LR 12 00 38.4
comp=Z,79nm,18.1s,baz=336,slow=38
KEST Kesra 47.04 306 *e*P **P** **11 39 00.9 +1.7**
KEST *e*pP **pP** **11 39 08.1 +3.0**
KEST Kesra 47.04 306 *e*P **P** **11 39 00.9 +1.7**
KEST *e*pP **pP** **11 39 08.1 +3.0**
SUW Suwalki 47.29 334 *e*P **P** **11 39 01.3 +0.6**
SUW Suwalki 47.29 334 *e*P **P** **11 39 01.4 +0.7**
SUW Suwalki 47.29 334 *e*P **P** **11 39 01.4 +0.7**
MORC Moravsky Berou 47.33 326 *e*P **P** **11 39 01.6 +0.4**
MORC pmax pmax
comp=Z,164nm,1.4s
MORC Moravsky Berou 47.33 326 *e*P **P** **11 39 01.6 +0.4**
comp=Z,164nm,1.4s
MORC Moravsky Berou 47.33 326 *e*P **P** **11 39 01.6 +0.4**
comp=Z,164nm,1.4s
HVS Khovu-Aksy 47.38 31*c i*P **P** **11 39 02.5 +0.8**
HVS pmax pmax
comp=Z,34nm,0.8s
UBPT Khong Chiam 47.42 82 P **P** **11 39 02.1 -0.3**
comp=Z,18nm,1.6s
TRI Trieste 47.44 320 *e*P **P** **11 39 01.5 -0.6**
TRI *e**PP **pP** **11 39 08.6 +0.6**
TRI pmax pmax
comp=Z,30nm,0.8s
TRI Trieste 47.44 320 *e*P **P** **11 39 01.5 -0.6**
comp=Z,30nm,0.8s
TRI *e*pP **pP** **11 39 08.6 +0.6**
TRI Trieste 47.44 320 *e*P **P** **11 39 01.5 -0.6**
comp=Z,30nm,0.8s
TRI *e*pP **pP** **11 39 08.6 +0.6**
LZH Lanzhou 47.54 54 *e*P **P** **11 39 03.5 +0.3**
LZH pP **pP** **11 39 07.1 -2.0**
LZH sP **sP** **11 39 09.1 -2.3**
LZH PP **PP** **11 40 57.0 +2.2**
LZH S **S** **11 45 57.3 -0.4**
LZH sS **sS** **11 46 10.1 +2.7**
LZH PMZ
comp=Z,20nm,1.0s
LZH PMZ
comp=Z,110nm,4.7s
LZH LN
comp=Z,370nm,14.2s
LZH LE
comp=Z,500nm,16.9s
LZH LZ
comp=Z,510nm,17.4s
VRAC Vranov 47.58 325 P **P** **11 39 02.8 -0.4**
comp=Z,2.2nm,0.3s,baz=139,slow=3.4,SNR=4.9
VRAC Vranov 47.58 325 *e*P **P** **11 39 03.5 +0.3**
TREC Trest 48.19 325 *e*P **P** **11 39 08.1 +0.2**
TREC *e*pP **pP** **11 39 14.2 +0.4**
TREC AMS AMS 12 05 30.0
comp=Z,200nm,15.7s
TREC Trest 48.19 325 *e*P **P** **11 39 08.1 +0.2**
TREC *e* 11 39 14.2
TREC MLR MLR
comp=Z,200nm,15.7s
TREC Trest 48.19 325 P **P** **11 39 08.1 +0.2**
DPC Dobruska-Polom 48.30 327 *e*P **P** **11 39 09.1 +0.3**
DPC *e*pP **pP** **11 39 15.2 +0.5**
DPC *e*x x 11 39 20.4
DPC *e*S **S** **11 46 09.1 +1.3**
DPC AMS AMS 12 04 10.0
comp=Z,200nm,15.8s
DPC Dobruska-Polom 48.30 327 *e*P **P** **11 39 09.1 +0.3**
DPC *e* 11 39 20.4
DPC *e*S **S** **11 46 09.1 +1.3**
DPC MLR MLR
comp=Z,200nm,15.8s
DPC Dobruska-Polom 48.30 327 P **P** **11 39 09.1 +0.3**
DPC *e*S **S** **11 46 09.1 +1.3**
GYA Guiyang 48.39 67⇑ *i*P **P** **11 39 09.8 -0.1**
GYA PP **PP** **11 41 05.9 +3.3**
GYA S **S** **11 46 05.8 -4.1**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,5.6s
GYA LN
comp=Z,590nm,18.8s
GYA LE
comp=Z,480nm,18.0s
GYA LZ
comp=Z,530nm,17.4s
UPC Upice 48.55 327 *e*P **P** **11 39 10.9 +0.3**
UPC *e*pP **pP** **11 39 16.9 +0.3**
UPC *e*x x 11 39 20.3
UPC Upice 48.55 327 *e*P **P** **11 39 10.9 +0.3**
UPC *e* 11 39 20.3
UPC Upice 48.55 327 P **P** **11 39 10.9 +0.3**
MYKOM Kota Tinggi 48.56 101 *e*P **P** **11 39 11.9 +0.6**
comp=Z,38nm,0.9s
MYKOM Kota Tinggi 48.56 101 *e*P **P** **11 39 11.9 +0.6**
comp=Z,38nm,0.9s
KSP Ksiaz 48.59 327 *e*P **P** **11 39 11.1 +0.2**
KSP Ksiaz 48.59 327 *e*P **P** **11 39 11.1 +0.2**
KSP Ksiaz 48.59 327 *e*P **P** **11 39 11.1 +0.2**
TAM Tamanrasset 48.68 288 *e*P **P** **11 39 13.0 +0.7**
TAM pmax pmax
comp=Z,14nm,1.4s
TAM Tamanrasset 48.68 288 *e*P **P** **11 39 13.0 +0.7**
comp=Z,14nm,1.4s
TAM Tamanrasset 48.68 288 *e*P **P** **11 39 13.0 +0.7**
comp=Z,14nm,1.4s
GOPC GO Pecny, Ondr 48.90 325 *e*P **P** **11 39 13.5 +0.2**
GOPC *e*pP **pP** **11 39 19.5 +0.2**
GOPC *e*x x 11 39 24.7
GOPC *e*S **S** **11 46 15.7 -0.5**
GOPC *e*SS **SS** **11 49 48.5 +1.6**
GOPC AMS AMS 12 02 40.0
comp=Z,200nm,15.4s
GERES GERESS Array B 48.97 324 P **P** **11 39 12.8 -1.2**
comp=Z,0.4nm,0.2s,baz=161,slow=16,SNR=3.5
GERES LR LR 12 01 49.2
comp=Z,87nm,19.6s,baz=100,slow=38
PRU Pruhonice 49.07 325 *e*P **P** **11 39 14.6 0.0**
PRU *e*pP **pP** **11 39 20.6 0.0**
PRU *e*S **S** **11 46 14.2 -4.4**
PRU *e*SS **SS** **11 49 45.6 -4.1**
PRU AMS AMS 12 02 20.0
comp=Z,200nm,15.2s
PRU Pruhonice 49.07 325 *e*P **P** **11 39 14.6 0.0**
PRU *e* 11 39 20.6
PRU *e*S **S** **11 46 14.2 -4.4**
PRU *e*SS **SS** **11 49 45.6 -4.1**
PRU MLR MLR
comp=Z,200nm,15.2s
PRU Pruhonice 49.07 325 P **P** **11 39 14.6 0.0**
PRA Prague 49.17 325 *e*pP pP 11 39 21.6 +0.3
KHC Kasperske Hory 49.18 324 *e*P **P** **11 39 14.9 -0.6**
KHC *e*pP **pP** **11 39 21.2 -0.2**
KHC *e*S **S** **11 46 16.3 -3.9**
KHC AMS AMS 12 06 40.0
comp=Z,200nm,19.0s
KHC Kasperske Hory 49.18 324 *e*P **P** **11 39 14.9 -0.6**
KHC *e* 11 39 21.2
KHC *e*S **S** **11 46 16.3 -3.9**
KHC MLR MLR
comp=Z,200nm,19.0s
KHC Kasperske Hory 49.18 324 *e*P **P** **11 39 14.7 -0.8**
comp=Z,9.7nm,1.4s
KHC Kasperske Hory 49.18 324 *e*P **P** **11 39 14.7 -0.8**
comp=Z,9.7nm,1.4s
VSU Vasula 49.22 340 *e*P **P** **11 39 15.1 -0.5**
VSU pmax pmax
comp=Z,70nm,1.4s
LBTB Lobatse 49.33 218 *e*P **P** **11 39 17.8 +0.8**
LBTB pmax pmax
comp=Z,70nm,1.3s
LBTB Lobatse 49.33 218 *e*P **P** **11 39 17.8 +0.8**
comp=Z,70nm,1.3s
LBTB Lobatse 49.33 218 *e*P **P** **11 39 17.8 +0.8**
comp=Z,70nm,1.3s
PVCC Panska Ves 49.34 326 *e*pP pP 11 39 22.9 +0.3
PVCC Panska Ves 49.34 326 *e*P pP 11 39 22.9 +0.3
BRG Berggiesshubel 49.86 326 *e*P **P** **11 39 20.5 -0.1**
comp=Z,3.7nm,1.0s
BRG *i* 11 39 26.6
comp=Z,14nm,1.1s
BRG Berggiesshubel 49.86 326 *e*P **P** **11 39 20.5 -0.1**
BRG *i* 11 39 26.6
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG pmax pmax
comp=Z,14nm,1.1s
FUORN Ofenpass-Fuorn 50.02 320 *e*P **P** **11 39 22.8 +0.5**
FUORN *e*pP **pP** **11 39 28.4 +0.2**
FUORN Ofenpass-Fuorn 50.02 320 *e*P **P** **11 39 22.8 +0.5**
FUORN *e*pP **pP** **11 39 28.4 +0.2**
DAVOX Davos/Dischmat 50.33 320 P **P** **11 39 24.2 -0.3**
comp=Z,3.7nm,0.6s,baz=133,slow=23,SNR=4.6
CLL Collm 50.59 326 *e*P **P** **11 39 26.0 -0.2**
CLL *i* (sP) **sP** **11 39 32.3 -2.1**
comp=Z,26nm,1.3s
CLL *e* 11 39 37.0
CLL *e*PP **PP** **11 41 25.0 +2.9**
CLL Collm 50.59 326 *e*P **P** **11 39 26.0 -0.2**
CLL *i* 11 39 32.3
RUE Ruedersdorf 50.79 328 P **P** **11 39 28.1 +0.5**
RUE Ruedersdorf 50.79 328 P **P** **11 39 28.1 +0.5**
ENH Enshi 51.19 63 Pn **P** **11 39 30.6 -0.5**
ENH Enshi 51.19 63 Pn **P** **11 39 30.6 -0.5**
XAN Xi'an 51.20 58 P **P** **11 39 30.6 -0.5**
XAN pP **pP** **11 39 35.4 -1.7**
XAN S **S** **11 46 47.0 -1.9**
XAN PMZ
comp=Z,3.0nm,1.0s
XAN PMZ
comp=Z,31nm,5.1s
XAN LN
comp=Z,200nm,22.4s
XAN LE
comp=Z,100nm,22.4s
XAN LZ
comp=Z,85nm,23.5s
QIZ Qiongzhong 51.30 77 P **P** **11 39 31.3 -0.7**
QIZ S **S** **11 46 49.6 -0.9**
QIZ PMZ
comp=Z,120nm,4.7s
QIZ LZ
comp=Z,220nm,36.0s
MOY Mondy 51.49 34 *e*P **P** **11 39 34.5 +1.4**
MOY pmax pmax
comp=Z,37nm,2.5s
BSD Bornholm Skovb 51.70 331 *i* P P 11 39 39.3 +4.9
comp=Z,16nm,1.0s
BSD Bornholm Skovb 51.70 331 *i* P P 11 39 39.3 +4.9
BSD pmax pmax
comp=Z,16nm,1.0s
BNI Bardonecchia 51.76 317 *e*P **P** **11 39 38.0 +2.8**
BNI pmax pmax
comp=Z,14nm,1.1s
BNI Bardonecchia 51.76 317 *e*P **P** **11 39 38.0 +2.8**
comp=Z,14nm,1.1s
BNI Bardonecchia 51.76 317 *e*P **P** **11 39 38.0 +2.8**
comp=Z,14nm,1.1s
FIA1 FINESS Array S 51.76 342 *e*P **P** **11 39 35.3 +0.5**
FIA1 FINESS Array S 51.76 342 *e*P **P** **11 39 35.3 +0.5**
FINES FINESS Array B 51.76 342 P **P** **11 39 33.6 -1.2**
comp=Z,3.2nm,0.7s,baz=152,slow=13,SNR=5.7
FINES LR LR 12 04 05.3
comp=Z,321nm,20.6s,baz=158,slow=39
SENIN Lac Senin/Sane 51.81 318 *e*P **P** **11 39 35.8 +0.1**
comp=Z,9.4nm,0.8s
SENIN *e*pP **pP** **11 39 42.0 +0.3**
SENIN Lac Senin/Sane 51.81 318 *e*P **P** **11 39 35.8 +0.1**
comp=Z,9.4nm,0.8s
SENIN *e*pP **pP** **11 39 42.0 +0.3**
BFO Black Forest 51.92 321 *e*P **P** **11 39 38.8 +2.5**
BFO pmax pmax
comp=Z,13nm,1.1s
BFO Black Forest 51.92 321 *e*P **P** **11 39 38.8 +2.5**
comp=Z,13nm,1.1s
BFO Black Forest 51.92 321 *e*P **P** **11 39 38.8 +2.5**
comp=Z,13nm,1.1s
ZAK Zakamensk 52.16 36 *e*P **P** **11 39 37.1 -1.0**
ZAK pmax pmax
comp=Z,4.0nm,2.3s
BOSA Boshof 52.27 215 P **P** **11 39 38.0 -1.2**
comp=Z,14nm,0.8s,baz=40,slow=8.5,SNR=13
BOSA LR LR 12 02 03.8
comp=Z,536nm,18.6s,baz=356,slow=36
BOSA Boshof 52.27 215 *e*P **P** **11 39 39.2 0.0**
BOSA Boshof 52.27 215 *e*P **P** **11 39 39.2 0.0**
BOSA Boshof 52.27 215 *e*P **P** **11 39 39.1 0.0**
TLY Talaya 52.95 35 *i* P **P** **11 39 45.2 +1.4**
TLY pmax pmax
comp=Z,7.0nm,1.7s
TORD Torodi Ar. Bea 52.98 276 P **P** **11 39 45.2 +0.6**
comp=Z,5.9nm,1.2s,baz=81,slow=5.5,SNR=17
TORD LR LR 12 01 31.2
comp=Z,347nm,18.7s,baz=80,slow=35
SONM Songino Array 53.00 40 P **P** **11 39 42.2 -2.2**
comp=Z,4.7nm,0.8s,baz=238,slow=7.8,SNR=34
SONM LR LR 12 05 30.6
comp=Z,444nm,19.9s,baz=256,slow=40
SSB Saint Sauveur 53.26 316 *e*P **P** **11 39 46.0 -0.2**
SSB pmax pmax
comp=Z,25nm,1.0s
SSB Saint Sauveur 53.26 316 *e*P **P** **11 39 46.0 -0.2**
comp=Z,25nm,1.0s
SSB Saint Sauveur 53.26 316 *e*P **P** **11 39 46.0 -0.2**
comp=Z,25nm,1.0s
HHC Hu-ho-hao-te 54.53 50 *e*P **P** **11 39 55.8 +0.1**
HHC PP **PP** **11 41 56.1 -1.9**
HHC S **S** **11 47 30.0 -4.2**
HHC ScS **ScS** **11 49 41.1 -3.4**
HHC PMZ
comp=Z,17nm,1.1s
HHC PMZ
comp=Z,190nm,6.8s
HHC LN
comp=Z,430nm,15.4s
HHC LE
comp=Z,820nm,15.3s
HHC LZ
comp=Z,970nm,15.4s
TIY Taiyuan 54.61 54 *e*P **P** **11 39 56.8 +0.5**

TIY S S 11 47 43.6 +8.3
TIY PMZ
comp=Z,220nm,5.8s
TIY LN
comp=Z,150nm,8.3s
TIY LE
comp=Z,210nm,14.7s
TIY LZ
comp=Z,240nm,13.5s
HFS Hagfors 55.20 336 P **P 11 39 58.3 -1.7**
comp=Z,3.4nm,0.9s,baz=1,1,slow=7.4,SNR=5.7
APA Apatity 55.20 350 *e*P P 11 40 04.0 +4.1
APA *i* S **S 11 47 43.0 +0.9**
APA MLR MLR
comp=Z,400nm,26.0s
WHN Wuhan 55.40 63 ⇑P **P 11 40 03.8 +1.8**
WHN S **S 11 47 41.1 -4.9**
WHN LZ
comp=Z,780nm,24.9s
NB2 NORSAR Subarra 56.72 336 P **P 11 40 09.6 -1.4**
comp=Z,8.3nm,1.0s,baz=121,slow=7.4
NB2 NORSAR Subarra 56.72 336 P **P 11 40 09.6 -1.4**
comp=Z,8.3nm,1.0s,baz=121,slow=7.3,SNR=6.5
NOA NORSAR Array B 56.72 336 P **P 11 40 09.1 -1.9**
comp=Z,2.1nm,1.0s,baz=116,slow=7.4,SNR=2.5
NOA LR LR 12 07 28.9
comp=Z,105nm,19.0s,baz=130,slow=39
BJI Beijing 57.85 52 P **P 11 40 19.8 +0.5**
BJI S **S 11 48 19.6 +1.5**
BJI PMZ
comp=Z,14nm,0.8s
BJI PMZ
comp=Z,120nm,5.2s
BJI LN
comp=Z,610nm,17.6s
BJI LE
comp=Z,520nm,21.3s
BJI LZ
comp=Z,560nm,23.5s
TIA Tai'an 58.14 56 ⇑P **P 11 40 21.1 -0.3**
TIA PMZ
comp=Z,20nm,1.0s
ESDC Sonseca Array 58.15 308 P **P 11 40 20.6 -0.8**
comp=Z,2.5nm,0.7s,baz=87,slow=6.7,SNR=8.8
ESDC LR LR 12 08 05.5
comp=Z,48nm,18.4s,baz=125,slow=39
ARCES ARCESS Array B 58.40 348 P **P 11 40 20.9 -1.7**
comp=Z,1.5nm,0.6s,baz=141,slow=7.8,SNR=11
ARCES LR LR 12 08 28.4
comp=Z,175nm,19.8s,baz=118,slow=39
NJ2 Nanjing 59.32 61 *e*P **P 11 40 29.1 -0.6**
NJ2 pP **pP 11 40 32.4 -3.3**
NJ2 sP **sP 11 40 34.3 -3.7**
NJ2 S **S 11 48 37.5 0.0**
NJ2 PMZ
comp=Z,30nm,1.0s
NJ2 PMZ
comp=Z,350nm,7.0s
NJ2 LN
comp=Z,260nm,24.0s
NJ2 LE
comp=Z,700nm,22.0s
NJ2 LZ
comp=Z,360nm,24.3s
DBIC Dimbokro 60.51 270 LR LR 12 06 50.7
comp=Z,164nm,19.8s,baz=62,slow=36
BOD Bodaibo 60.91 31 *e*P **P 11 40 39.8 -0.3**
BOD pmax pmax
comp=Z,7.0nm,2.0s
EKA Eskdalemuir Ar 61.06 326 P **P 11 40 39.8 -1.4**
comp=Z,0.7nm,0.7s,baz=112,slow=8.2,SNR=4.0
MYLDM Lahad Datu 61.79 92 *e*P **P 11 40 47.0 +0.2**
comp=Z,38nm,1.3s
MYLDM *ep*P **pP 11 40 54.0 +1.2**
MYLDM Lahad Datu 61.79 92 *e*P **P 11 40 47.0 +0.2**
comp=Z,38nm,1.3s
MYLDM *ep*P **pP 11 40 54.0 +1.2**
CN2 Changchun 65.13 48 *e*P **P 11 41 08.4 0.0**
CN2 *es*P **sP 11 41 14.9 -1.8**
CN2 *e*S **S 11 49 48.8 -1.6**
CN2 PMZ
comp=Z,20nm,0.9s
CN2 LN
comp=Z,270nm,18.0s
CN2 LE
comp=Z,150nm,18.0s
CN2 LZ
comp=Z,230nm,20.0s
KAPI Kappang 65.76 102 P **P 11 41 10.7 -2.3**
comp=Z,4.0nm,0.4s,baz=59,slow=5.9,SNR=3.4
KAPI Kappang 65.76 102 *e*P **P 11 41 12.6 -0.4**
KAPI Kappang 65.76 102 *e*P **P 11 41 12.6 -0.4**
TJN Taejon 66.41 56 *e*P **P 11 41 15.7 -1.1**
SPITS Spitsbergen Ar 66.73 352 P **P 11 41 17.8 -0.4**
comp=Z,2.1nm,0.8s,baz=142,slow=12,SNR=3.1
KSAR Wonju Array Be 66.81 55 P **P 11 41 18.5 -0.9**
KSAR Wonju Array Be 66.81 55 P **P 11 41 18.5 -0.9**
KSAR Wonju Array Be 66.81 55 P **P 11 41 18.4 -0.9**
KSRS Korea Array 66.84 55 P **P 11 41 18.4 -1.1**
comp=Z,6.5nm,0.8s,baz=270,slow=6.9,SNR=58
KSRS LR LR 12 12 30.9
comp=Z,212nm,18.9s,baz=265,slow=38
KSRS Korea Array 66.84 55 P **P 11 41 18.5 -1.1**
KSRS pmax pmax
comp=Z,7.0nm,0.8s
KSRS MLR MLR
comp=Z,212nm,18.9s
JOW Kunigami 67.70 67 LR LR 12 11 26.6
comp=Z,23nm,21.1s,baz=268,slow=36
MDJ Mudanjiang 68.14 47 P **P 11 41 27.3 -0.3**
MDJ pP **pP 11 41 30.4 -3.3**
MDJ sP **sP 11 41 31.8 -4.2**
MDJ S **S 11 50 26.5 -0.3**
MDJ ScS **ScS 11 51 27.5 +1.4**
MDJ PMZ
comp=Z,6.0nm,0.8s
MDJ PMZ
comp=Z,78nm,4.8s
MDJ LN
comp=Z,250nm,18.1s
MDJ LE
comp=Z,160nm,18.1s
MDJ LZ
comp=Z,260nm,18.1s
JNU Nakatsue 69.44 60 *e*P **P 11 41 36.0 -0.1**
comp=Z,23nm,1.3s
JNU Nakatsue 69.44 60 *e*P **P 11 41 36.0 -0.1**
comp=Z,23nm,1.3s
YAK Yakutsk 69.58 29 *e*P **P 11 41 35.8 -0.4**
YAK *e* 11 41 55.6
YAK *e* 11 44 12.1
YAK *e*PPP PPP 11 45 58.3
YAK *e* 11 51 17.9
YAK pmax pmax
comp=Z,21nm,0.8s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,34nm,2.3s
YAK pmax pmax
comp=N,22nm,2.2s
YAK pmax pmax
comp=E,11nm,2.5s
YAK Yakutsk 69.58 29 *e*P **P 11 41 35.3 -0.9**
comp=E,35nm,0.7s
YAK Yakutsk 69.58 29 *e*P **P 11 41 35.4 -0.9**
comp=E,35nm,0.7s
KLR Kul'dur 69.72 43 *e*P P 11 41 33.7 -3.7
VLA Vladivostok 69.79 49 *e*P **P 11 41 38.3 +0.4**
VLA pmax pmax
comp=Z,15nm,1.5s
USRK Ussuriysk Ar. 69.85 48 P **P 11 41 38.4 +0.1**
comp=Z,4.5nm,0.8s,baz=244,slow=6.9,SNR=11
USRK LR LR 12 15 26.8
comp=Z,227nm,19.6s,baz=262,slow=39
TIXI Tiksi 70.94 19 *d iP* **P 11 41 43.8 -0.6**
TIXI pmax pmax
comp=Z,26nm,2.5s
TIXI Tiksi 70.94 19 *e*P **P 11 41 44.5 +0.1**
comp=Z,12nm,0.8s
TIXI Tiksi 70.94 19 *e*P **P 11 41 44.5 +0.1**
comp=Z,12nm,0.8s
TNTI Ternate 71.44 94 *e*P **P 11 41 46.4 -2.1**
comp=Z,102nm,1.2s
TNTI *ep*P **pP 11 41 55.9 +1.3**
TNTI Ternate 71.44 94 *e*P **P 11 41 46.4 -2.1**
comp=Z,102nm,1.2s
TNTI *ep*P **pP 11 41 55.9 +1.3**
HABR Khabarovsk 71.90 43 *de*P **P 11 41 48.7 -1.9**
HABR *e* 11 42 07.3
HABR *e* 11 44 27.8
HABR *e*PPP PPP 11 46 11.4
HABR *e*S **S 11 51 09.8 -0.9**
HABR *e* 11 51 53.9
HABR *e*SS **SS 11 55 46.6 -0.4**
HABR pmax pmax
comp=N,9.0nm,1.8s
HABR pmax pmax
comp=E,12nm,1.8s
HABR pmax pmax
comp=Z,10.0nm,1.8s
HABR MLR MLR
comp=Z,293nm,18.0s
H01W3 Cape Leeuwin H 73.52 133 T T 13 02 09.2
baz=302,slow=75,SNR=56
H01W2 Cape Leeuwin H 73.52 134 T T 13 02 14.0
baz=302,slow=75,SNR=60
H01W1 Cape Leeuwin H 73.53 133 T T 13 02 15.1
baz=302,slow=75,SNR=59
MAJO Matsushiro 75.12 56 *e*P **P 11 42 09.4 -0.5**
MAJO pmax pmax
comp=Z,53nm,1.4s
MJAR Matsushiro Arr 75.12 56 P **P 11 42 09.5 -0.4**
comp=Z,1.6nm,0.8s,baz=282,slow=5.1,SNR=6.7
MJAR LR LR 12 17 07.9
comp=Z,113nm,20.4s,baz=285,slow=37
SUMG Summit 77.80 342 *e*P **P 11 42 25.7 +0.9**
SUMG pmax pmax
comp=Z,23nm,1.1s
SUMG Summit 77.80 342 *e*P **P 11 42 25.7 +0.9**
comp=Z,23nm,1.1s
SUMG Summit 77.80 342 *e*P **P 11 42 25.7 +0.9**
comp=Z,23nm,1.1s
SEY Seymchan 80.03 28 *i* P **P 11 42 37.3 +0.6**
MAW Mawson 81.92 177 LR LR 12 13 29.0
comp=Z,132nm,18.2s,baz=54,slow=32
WRA Warramunga Arr 83.94 112 P **P 11 42 57.3 -0.8**
comp=Z,8.8nm,0.8s,baz=298,slow=4.3,SNR=46
WRAB Tennant Creek 83.94 112 *e*P **P 11 42 57.1 -1.1**
WRAB pmax pmax
comp=Z,11nm,0.8s
WRAB Tennant Creek 83.94 112 *e*P **P 11 42 57.0 -1.1**
comp=Z,11nm,0.8s
WRAB Tennant Creek 83.94 112 *e*P **P 11 42 57.0 -1.1**
comp=Z,11nm,0.8s
BILL Bilibino 83.99 21 *d iP* **P 11 42 57.3 -0.2**
BILL *i* 11 43 04.3
BILL pmax pmax
comp=Z,13nm,1.7s
BILL MLR MLR
comp=Z,332nm,24.0s
BILL Bilibino 83.99 21 *e*P **P 11 42 58.3 +0.9**
comp=Z,30nm,1.3s
BILL Bilibino 83.99 21 *e*P **P 11 42 58.3 +0.9**
comp=Z,31nm,1.3s
ASAR Alice Springs 84.69 116 P **P 11 43 01.4 -0.5**
comp=Z,7.4nm,0.8s,baz=297,slow=4.9,SNR=37
ASAR LR LR 12 15 58.0
comp=Z,116nm,18.5s,baz=286,slow=32
PETK Petropavlovsk- 85.29 36 LR LR 12 25 55.4
comp=Z,117nm,19.4s,baz=280,slow=39
GUMO Guam 85.31 77 LR LR 12 20 36.9
comp=Z,37nm,20.7s,baz=272,slow=35
STKA Stephens Creek 93.54 122 LR LR 12 19 53.1
comp=Z,172nm,21.6s,baz=212,slow=32
SCHQ Schefferville 96.03 331 LR LR 12 33 35.1
comp=Z,43nm,18.1s,baz=66,slow=39
IM04 Indian Mountai 96.75 12 *e*P **P 11 43 58.0 +0.2**
IM04 Indian Mountai 96.75 12 *e*P **P 11 43 58.0 +0.2**
COLA College 98.85 10 *i* P **P 11 44 05.7 -1.5**
COLA pmax pmax
comp=Z,9.0nm,1.3s
ILAR Eielson Array 99.11 10 P **Pdif 11 44 07.5 -1.0**
comp=Z,0.3nm,0.9s,baz=327,slow=4.6,SNR=3.5
ILAR PP **PP 11 48 12.2 +2.2**
comp=Z,0.4nm,0.9s,baz=308,slow=8.4,SNR=4.6
ILAR LR LR 12 34 44.4
comp=Z,103nm,19.5s,baz=323,slow=39
H24A Dirks Ranch, A 118.62 345 P **PKPdf 11 49 16.1 +0.2**
baz=118
I25A Rochford 119.08 344 P **PKPdf 11 49 17.0 +0.2**
baz=119
I20A Worland 120.22 347 P **PKPdf 11 49 19.6 +0.6**
baz=120
PDAR Pinedale Array 121.65 348 PKP **PKPdf 11 49 20.7 -1.2**
comp=Z,1.9nm,0.8s,baz=60,slow=4.8,SNR=13
R34A Isabella, Hill 122.02 336 P **PKPdf 11 49 22.4 -0.1**
baz=122
MFID Camas Ranch 122.02 353 *e*PKIKP **PKPdf 11 49 23.0 +0.6**
MFID Camas Ranch 122.02 353 *e*PKPdf **PKPdf 11 49 23.0 +0.6**
R33A Olander Ranch, 122.30 336 P **PKPdf 11 49 23.0 0.0**
baz=122
R32A Long Quarter, 122.48 337 P **PKPdf 11 49 23.2 -0.2**
baz=122
N23A Red Feather La 122.58 344 P **PKPdf 11 49 24.0 +0.2**
baz=122
HWUT Hardware Ranch 123.16 349 *e*PKIKP **PKPdf 11 49 23.7 -1.1**
HWUT Hardware Ranch 123.16 349 *e*PKPdf **PKPdf 11 49 23.7 -1.1**
V37A Hulbert 123.17 332 P **PKPdf 11 49 24.7 0.0**
baz=123
W38A Poteau 123.56 331 P **PKPdf 11 49 25.7 +0.3**
baz=123
X38A Whitesboro 124.03 331 P **PKPdf 11 49 26.7 +0.4**
baz=124
R27A Eads 124.05 340 P **PKPdf 11 49 26.8 +0.3**
baz=124
M04C Macdoel 124.07 358 P **PKPdf 11 49 27.0 +0.5**
baz=124
R26A Arlington 124.25 341 P **PKPdf 11 49 27.5 +0.6**
baz=124
DUG Dugway, Tooele 124.75 350 P **PKPdf 11 49 28.6 +0.8**
baz=124
X36A Centrahoma 124.81 333 P **PKPdf 11 49 28.5 +0.7**
baz=125
SDCO Great Sand Dun 125.39 342 *e*PKIKP **PKPdf 11 49 29.1 -0.2**
SDCO Great Sand Dun 125.39 342 P **PKPdf 11 49 29.7 +0.4**
baz=125
SDCO Great Sand Dun 125.39 342 *e*PKPdf **PKPdf 11 49 29.1 -0.2**
X34A Smith Ranch, M 125.43 334 P **PKPdf 11 49 29.8 +0.8**
baz=125
W32A Sentinel 125.57 335 P **PKPdf 11 49 30.0 +0.7**
baz=125
V30A Spur Ranch, Mi 125.57 337 P **PKPdf 11 49 29.5 +0.1**
baz=125
T25A Trinidad 125.62 341 P **PKPdf 11 49 29.1 -0.5**
baz=125
WMOK Wichita Mounta 125.71 335 *e*PKIKP **PKPdf 11 49 29.6 -0.1**
WMOK Wichita Mounta 125.71 335 *e*PKIKP **PKPdf 11 49 29.5 -0.1**
WMOK Wichita Mounta 125.71 335 *e*PKPdf **PKPdf 11 49 29.6 -0.1**
S22A 4UR Ranch, Cre 125.77 344 P **PKPdf 11 49 30.1 +0.1**
baz=126
X32A Elmer 126.19 335 P **PKPdf 11 49 30.9 +0.3**
baz=126
X31A McDonald Ranch 126.29 336 P **PKPdf 11 49 30.6 -0.1**
baz=126
Y32A R-V Farms, Ver 126.62 335 P **PKPdf 11 49 31.2 -0.1**
baz=126
AMTX Amarillo 126.72 337 P **PKPdf 11 49 31.9 +0.2**
baz=126
X29A Tulia 127.12 337 P **PKPdf 11 49 32.9 +0.5**
baz=127
NVAR Mina Array Bea 127.21 355 PKP **PKPdf 11 49 34.1 +1.5**
comp=Z,4.6nm,0.8s,baz=300,slow=0.5,SNR=30
Z32A Haskell 127.24 334 P **PKPdf 11 49 32.8 +0.2**
baz=127
Z31A Sharp Cattle R 127.50 335 P **PKPdf 11 49 33.4 +0.3**
baz=127
438A Sam Houston St 127.55 329 P **PKPdf 11 49 34.1 +1.0**
baz=127
133A Hamilton Ranch 127.60 334 P **PKPdf 11 49 34.3 +1.0**
baz=127
ABTX Abilene, Hawle 127.89 334 P **PKPdf 11 49 34.3 +0.4**
baz=128
ANMO Albuquerque 128.27 342 *i* PKIKP **PKPdf 11 49 32.5 -2.2**
ANMO pmax pmax
comp=Z,12nm,1.7s
334A Lometa 128.38 332 P **PKPdf 11 49 35.1 +0.3**
baz=128
232A Coleman 128.53 334 P **PKPdf 11 49 35.6 +0.5**
baz=128
333A Richland Sprin 128.72 333 P **PKPdf 11 49 35.7 +0.2**
baz=128
434A Burnet 128.83 332 P **PKPdf 11 49 36.2 +0.5**
baz=129
FURC Furnace Creek, 129.00 353 P **PKPdf 11 49 37.1 +1.4**
baz=129
332A Millersview 129.01 333 P **PKPdf 11 49 36.2 +0.1**
baz=129
433A Art 129.26 332 P **PKPdf 11 49 36.6 +0.1**
baz=129
MPMC Manual Prospec 129.47 354 P **PKPdf 11 49 37.3 +0.3**
baz=129
228A UT Block 9, Go 129.53 337 P **PKPdf 11 49 37.0 -0.1**
baz=129
330A Mertzon 129.59 335 P **PKPdf 11 49 37.1 -0.1**
baz=129
431A Sonora 129.98 334 P **PKPdf 11 49 38.4 +0.5**
baz=130
532A Rocksprings 130.16 333 P **PKPdf 11 49 38.6 +0.4**
baz=130
633A Saathoff Ranch 130.40 332 P **PKPdf 11 49 39.4 +0.7**
baz=130
531A Rocksprings 130.41 333 P **PKPdf 11 49 39.2 +0.5**
baz=130
429A Davenport Ranc 130.57 335 P **PKPdf 11 49 38.8 -0.3**
baz=130
632A Uvalde 130.63 332 P **PKPdf 11 49 39.8 +0.6**
baz=130
PDMCI Parker Dam,Lak 130.72 350 P **PKPdf 11 49 39.8 +0.7**
baz=130
530A J-C Ranch, Com 130.76 334 P **PKPdf 11 49 39.8 +0.4**
baz=130
121A Cookes Peak, D 130.92 342 P **PKPdf 11 49 41.3 +1.5**
baz=131
529A Stev Forest Ra 131.14 335 P **PKPdf 11 49 40.9 +0.7**
baz=131
732A Laxson Ranch, 131.38 332 P **PKPdf 11 49 41.2 +0.7**
baz=131
833A Chaparral WMA, 131.46 331 P **PKPdf 11 49 41.7 +1.0**
baz=131
TXAR Lajitas Array 132.42 336 PKP **PKPdf 11 49 41.3 -1.3**
comp=Z,1.0nm,0.8s,baz=118,slow=0.6,SNR=7.6

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*IDC **17** 11:30:39.4±2.1,2.°02S×136.°75E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/37, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=47.3km s-min=26.0km az=69.0*
*DJA **17** 11:30:45.0±0.5, 1.°5S±17.°×13.°6E±.°, h10km, M4.4/3, mb5.4/2, mB6.5/1, MLv3.9/3, Mw(mB)6.3/1*
ISC 17 11:30:42.8±1.0, 2.°11S±0.°10×136.°16E±0.°07, h10km, n7, o0 874/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.25**	**19**	P	**Pg**		**11 30 47.4**	**-0.5**
RKPI	**Ransiki, Papua**	**2.07**	**287**	P	**Pn**		**11 31 17.2**	**-0.4**
SMPI	**Sarmi**	**2.55**	**87**	P	**Pb**		**11 31 29.4**	**+0.7**
SIJI	**Sorong**	**5.04**	**284**	Pn	Pn		11 32 03.3	+4.7
	1.1nm,0.3s,baz=60,slow=19,SNR=4.0							
SIJI					Sn	**Sb**	**11 33 12.9**	**+0.9**
	0.7nm,0.3s,baz=350,slow=22,SNR=4.6							
WRA	**Warramunga Arr**	**17.81**	**186**	P	**Pn**		**11 34 50.4**	**-0.6**
	0.1nm,0.3s,baz=8.6,slow=13,SNR=6.1							
ASAR	**Alice Springs**	**21.54**	**186**	P	**P**		**11 35 32.3**	**-0.1**
	1.4nm,0.9s,baz=11,slow=11,SNR=13							
MKAR	**Makanchi Array**	**67.77**	**323**	P	**P**		**11 41 41.1**	**+0.2**
	0.2nm,0.5s,baz=124,slow=6.0,SNR=2.4							

IDC 17 11:35:32.3±1.9, 31.°21S×178.°13W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.8/31, mbtmp4.0/4, ML3.4/1, Error ellipse: s-maj=47.0km s-min=33.1km az=59.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.04**	**208**	Pn	Pn		11 37 30.0	-0.4
	0.5nm,0.3s,baz=22,slow=19,SNR=5.0							
URZ					Sn	Sn	11 38 53.7	-8.4
	1.2nm,0.3s,baz=347,slow=21,SNR=8.9							
ASAR	**Alice Springs**	**42.96**	**268**	P	P		11 43 33.0	-0.3
	1.3nm,0.5s,baz=107,slow=7.5,SNR=16							
WRA	**Warramunga Arr**	**44.02**	**273**	P	P		11 43 41.9	0.0
	2.9nm,0.3s,baz=111,slow=8.1,SNR=57							
QSPA	**South Pole Qui**	**58.90**	**180**	P	P		11 45 32.9	0.0
	1.4nm,1.1s,baz=99,slow=5.0,SNR=2.0							
FINES	**FINESS Array B**	**145.87**	**339**	PKPbc	PKPdf		11 55 11.9	-0.3
	1.1nm,0.7s,baz=62,slow=3.3,SNR=4.9							

IDC 17 11:37:28.9±2.9, 1.°78S×136.°87E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.4/37, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=114.6km s-min=27.1km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.22**	**188**	P	Pn		11 41 43.2	-0.2
	0.3nm,0.3s,baz=9.4,slow=13,SNR=22							
ASAR	**Alice Springs**	**21.95**	**187**	P	P		11 42 24.5	+0.2
	2.9nm,0.8s,baz=18,slow=11,SNR=25							
MKAR	**Makanchi Array**	**67.93**	**323**	P	P		11 48 29.6	-0.1
	0.2nm,0.7s,baz=126,slow=7.4,SNR=2.9							

IDC 17 11:38:16.1±4.2, 17.°23S×177.°92W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/34, mbtmp3.9/4, Error ellipse: s-maj=185.5km s-min=34.8km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.37**	**241**	P	P		11 45 48.0	+0.3
	2.4nm,0.9s,baz=88,slow=11,SNR=5.2							
WRA	**Warramunga Arr**	**45.22**	**259**	P	P		11 46 34.9	-0.7
	0.4nm,0.3s,baz=96,slow=7.8,SNR=4.5							
ASAR	**Alice Springs**	**45.43**	**254**	P	P		11 46 37.1	-0.1
	3.9nm,0.6s,baz=89,slow=8.4,SNR=17							
ILAR	**Eielson Array**	**85.12**	**13**	P	P		11 50 53.6	0.0
	0.2nm,0.8s,baz=226,slow=5.0,SNR=5.0							

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*IDC **17** 11:40:15.9±0.8, 1.°77S×136.°34E, h0km, mb3.9/7, mb1 4.2/9, mb1mx3.9/34, mbtmp4.0/9, ML3.9/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/25, Error ellipse: s-maj=33.8km s-min=17.1km az=74.0*
*DJA **17** 11:40:17.1±0.5, 2.°5S±13.°×13.°6E±.°, h21km±5km, M4.5/3, MLv4.5/3*
*ISCJB **17** 11:40:18.1±0.8, 1.°81S±0.°09×136.°32E±0.°05, h28km±4km, mb3.9/7, MS3.3/1, Error ellipse: s-maj=15.0km s-min=8.6km az=3.6*
ISC 17 11:40:19.1±0.7, 1.°80S±0.°10×136.°31E±0.°05, h21km±8km, n15, σ1 917/18, mb3.9/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.10**	**225**	P	**Pb**		**11 40 22.6**	**-0.6**
SRPI				S	**Sb**		**11 40 26.9**	**+0.9**
GENI	**Genyem**	**3.94**	**102**	P	**Pn**		**11 41 20.5**	**+2.2**
GENI				S	**Sn**		**11 42 01.4**	**-2.5**
FAKI	**Fak Fak**	**4.21**	**255**	P	**Pn**		**11 41 22.7**	**+0.6**
FAKI				S	**Sn**		**11 42 10.9**	**+0.3**
SIJI	**Sorong**	**5.12**	**280**	Pn	**Pn**		**11 41 33.8**	**-0.9**
	2.9nm,0.3s,baz=69,slow=12,SNR=14							
KAPI	**Kappang**	**16.83**	**259**	LR	LR		11 50 52.4	
	comp=Z,54nm,22.0s,baz=234,slow=38							
WRA	**Warramunga Arr**	**18.13**	**186**	P	**Pn**		**11 44 29.4**	**-0.4**
	0.4nm,0.3s,baz=8.1,slow=12,SNR=10							
WRA				S	Sn		11 47 39.0	-13
	0.3nm,0.3s,baz=14,slow=22,SNR=5.4							
ASAR	**Alice Springs**	**21.86**	**186**	P	**P**		**11 45 10.9**	**+0.3**
	4.8nm,0.7s,baz=11,slow=12,SNR=27							
ASAR				S	**S**		**11 49 10.2**	**-1.2**
	1.1nm,0.9s,baz=16,slow=23,SNR=4.3							
ASAR				LR	LR		11 54 49.8	
	comp=Z,114nm,21.2s,baz=17,slow=40							
STKA	**Stephens Creek**	**30.33**	**171**	P	**P**		**11 46 30.2**	**+0.9**
	2.9nm,0.6s,baz=343,slow=9.9,SNR=5.6							
KSRS	**Korea Array**	**39.82**	**350**	P	**P**		**11 47 52.1**	**+1.1**
	0.4nm,0.6s,baz=183,slow=8.5,SNR=3.5							
CMAR	**Chiang Mai Arr**	**41.91**	**300**	P	**P**		**11 48 08.5**	**0.0**
	2.5nm,1.0s,baz=120,slow=7.6,SNR=9.1							
MKAR	**Makanchi Array**	**67.62**	**323**	P	**P**		**11 51 14.3**	**-0.1**
	0.9nm,0.5s,baz=112,slow=7.7,SNR=14							
VNDA	**Vanda**	**76.90**	**174**	P	**P**		**11 52 09.7**	**+0.3**
	0.9nm,0.7s,baz=319,slow=6.5,SNR=5.5							
ILAR	**Eielson Array**	**86.01**	**25**	P	**P**		**11 52 56.6**	**-1.1**
	0.7nm,0.8s,baz=263,slow=4.4,SNR=8.5							

TORD	**Torodi Ar. Bea**	**133.70**	**286**	PKP	**PKPdf**	**11 59 34.7**	**-0.7**
	0.9nm,1.0s,baz=70,slow=1.7,SNR=2.9						
LPAZ	**La Paz**	**149.91**	**128**	PKPbc	**PKPbc**	**12 00 09.7**	**0.0**
	0.8nm,0.8s,baz=225,slow=1.4,SNR=3.4						

DSN 17 11:42:29.9±1.4, 26°49N×54°73E, h15km, ML3.8/2, 5C-2D, Error ellipse: s-maj=16.2km s-min=4.3km az=167.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.52**	**111**	⇑*e*P	Pn	11 42 56.6	0.0
	SNR=63						
BANOM				⇑S	Sb	11 43 16.8	-0.1
NAZ	**Nazwa, Dubai**	**1.71**	**150**	⇑*e*P	Pn	11 42 59.5	+0.3
	SNR=31						
FAQ	**Al Faqa, Dubai**	**1.90**	**156**	⇑*e*P	Pn	11 43 01.6	-0.1
	SNR=6.3						
ASUD	**Al Ashush, Dub**	**1.93**	**164**	⇓*e*P	Pn	11 43 02.6	+0.4
	SNR=13						
HATD	**Hatta, Dubai**	**2.08**	**142**	⇓*e*P	Pn	11 43 04.1	-0.2
	SNR=9.3						
ASHO	**Ashiyiah**	**2.16**	**146**	⇑*e*P	Pn	11 43 05.1	-0.3
	SNR=57						

*CSEM **17** 11:47:40.1±0.3, 41°53N×20°15E, h2km, ML2.5, Error ellipse: s-maj=7.0km s-min=4.9km az=24.0*
*SKO **17** 11:47:40.7, 41°56N×20°16E, h1km*
*BEO **17** 11:47:41.3±0.4, 41°56N×20°19E, h0km±3km, ML2.1/6*
PDG 17 11:47:40.6±0.2, 41°58N×20°14E, h2km, ML2.5/11, 15C-10D, Error ellipse: s-maj=0.5km s-min=0.9km az=0.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.31**	**222**	*i* Pg	Pg	11 47 46.6	0.0
TIR	**Tirane**	**0.31**	**222**	*i* Pg	Pg	11 47 46.6	0.0
OHR	**Ohrid**	**0.68**	**133**	*i* Pg	Pg	11 47 51.7	-2.1
OHR				*i* Sg	Sg	11 48 02.2	-0.5
OHR	**Ohrid**	**0.68**	**133**	*i* Pg	Pg	11 47 51.6	-2.2
OHR				*i* Sg	Sg	11 48 02.1	-0.6
ULC	**Ulcinj**	**0.77**	**300**	⇑*i*Pg	Pg	11 47 54.7	-0.8
ULC				*e*Sg	Sb	11 48 07.1	-0.7
ULC	**Ulcinj**	**0.77**	**300**	⇑*i*Pg	Pg	11 47 54.7	-0.8
ULC				*e*Sg	Sb	11 48 07.1	-0.7
DRME	**Dracevica, Mon**	**0.94**	**311**	⇓*i*Pg	Pg	11 47 57.7	-0.9
DRME				*e*Sg	Sb	11 48 12.4	-0.1
DRME	**Dracevica, Mon**	**0.94**	**311**	⇓*i*Pg	Pg	11 47 57.7	-0.9
DRME				*e*Sg	Sb	11 48 12.4	-0.1
PVY	**Plav**	**1.02**	**352**	⇑*i*Pg	Pg	11 47 59.8	-0.7
PVY				*e*Sg	Sb	11 48 15.7	+0.4
PVY	**Plav**	**1.02**	**352**	⇑*i*Pg	Pg	11 47 59.8	-0.7
PVY				*e*Sg	Sb	11 48 15.7	+0.4
SKO	**Skopje**	**1.05**	**68**	*e*Pg	Pg	11 47 59.3	-1.4
SKO				*i* Sg	Sg	11 48 14.5	+0.1
SKO	**Skopje**	**1.05**	**68**	*e*Pg	Pg	11 47 59.3	-1.5
SKO				*i* Sg	Sg	11 48 14.4	0.0
PDG	**Podgorica**	**1.08**	**323**	⇓*i*Pg	Pg	11 47 59.9	-1.4
PDG				*e*Sg	Sn	11 48 17.9	-0.3
TTG	**Podgorica**	**1.08**	**323**	⇓*i*Pg	Pg	11 47 59.9	-1.4
TTG				*e*Sg	Sn	11 48 17.9	-0.3
BUM	**Brajici-Budva**	**1.18**	**308**	⇑*i*Pg	Pg	11 48 02.4	-0.9
BUM				*e*Sg	Sn	11 48 20.8	-0.1
BUM	**Brajici-Budva**	**1.18**	**308**	⇑*i*Pg	Pg	11 48 02.4	-0.9
BUM				*e*Sg	Sn	11 48 20.8	-0.1
BEY	**Berane**	**1.31**	**352**	*e*Pg	Pg	11 48 04.9	-0.9
BEY				*e*Sg	Sn	11 48 25.2	+1.1
IVA	**Berane**	**1.31**	**352**	*e*Pg	Pg	11 48 04.9	-0.9
IVA				*e*Sg	Sn	11 48 25.2	+1.1
NKME	**Niksic**	**1.48**	**324**	⇓*i*Pg	Pn	11 48 07.6	-0.8
NKME				*e*Sg	Sg	11 48 31.3	+2.9
NKME	**Niksic**	**1.48**	**324**	⇓*i*Pg	Pn	11 48 07.6	-0.8
NKME				*e*Sg	Sg	11 48 31.3	+2.9
NKY	**Niksic**	**1.50**	**326**	⇑*i*Pg	Pn	11 48 08.0	-0.7
NKY				*e*Sg	Sg	11 48 31.9	+2.8
NKY	**Niksic**	**1.50**	**326**	⇑*i*Pg	Pn	11 48 08.0	-0.7
NKY				*e*Sg	Sg	11 48 31.9	+2.8
HCY	**Herceg Novi**	**1.50**	**306**	⇓*i*Pg	Pn	11 48 07.9	-0.7
HCY				*e*Sg	Sg	11 48 31.7	+2.7
HCY	**Herceg Novi**	**1.50**	**306**	⇓*i*Pg	Pn	11 48 07.9	-0.7
HCY				*e*Sg	Sg	11 48 31.7	+2.7
SJES	**Sjenica**	**1.69**	**356**	⇑*i*Pn	Pn	11 48 11.8	+0.5
SJES				*e*Sg	Sg	11 48 35.0	-0.1
SJES	**Sjenica**	**1.69**	**356**	⇑*i*Pn	Pn	11 48 11.8	+0.5
SJES				*e*Sg	Sg	11 48 35.0	-0.1
BARS	**Barje**	**1.75**	**45**	*e*Pn	Pn	11 48 11.6	-0.5
BARS				*e*Sg	Sg	11 48 36.6	-0.5
BARS	**Barje**	**1.75**	**45**	*e*Pn	Pn	11 48 11.6	-0.5
BARS				*e*Sg	Sg	11 48 36.6	-0.5
BRY	**Bratogost**	**1.78**	**319**	⇓*i*Pn	Pn	11 48 12.9	+0.3
BRY				*e*Sn	Sg	11 48 39.6	+1.5
BRY	**Bratogost**	**1.78**	**319**	⇓*i*Pn	Pn	11 48 12.9	+0.3
BRY				*e*Sn	Sg	11 48 39.6	+1.5
SELS	**Selova**	**1.79**	**24**	⇑*i*Pn	Pn	11 48 12.7	+0.1
PLE	**Pljevlja**	**1.84**	**343**	⇑*i*Pn	Pb	11 48 14.3	-0.8
PLE				*e*Sn	Sg	11 48 41.1	+1.1
PLE	**Pljevlja**	**1.84**	**343**	⇑*i*Pn	Pb	11 48 14.3	-0.8
PLE				*e*Sn	Sg	11 48 41.1	+1.1
UPM	**Unac-Piva**	**1.86**	**331**	⇑*i*Pn	Pn	11 48 14.6	+0.8
UPM				*e*Sn	Sg	11 48 41.8	+0.8
UPM	**Unac-Piva**	**1.86**	**331**	⇑*i*Pn	Pn	11 48 14.6	+0.8
UPM				*e*Sn	Sg	11 48 41.8	+0.8
IVAS	**Ivanjica**	**2.00**	**0**	*i* Pn	Pn	11 48 15.5	0.0
IVAS	**Ivanjica**	**2.00**	**0**	*i* Pn	Pn	11 48 15.5	0.0
STON	**Ston**	**2.23**	**306**	*e*Pn	Pn	11 48 13.0	-5.5
STON				Sn	Sg	11 48 51.7	-0.5
STON	**Ston**	**2.23**	**306**	*e*Pn	Pb	11 48 20.4	-1.1
STON				Sn	Sn	11 48 47.1	+0.5
STON	**Ston**	**2.23**	**306**	*e*Pn	Pb	11 48 20.4	-1.1
STON				Sn	Sn	11 48 47.0	+0.5
GRUS	**Gruza**	**2.35**	**10**	*e*Pn	Pn	11 48 20.5	+0.3
GRUS	**Gruza**	**2.35**	**10**	*e*Pn	Pn	11 48 20.5	+0.3
BBLS	**Lazići**	**2.35**	**347**	*e*Pn	Pb	11 48 22.5	-1.3
BBLS				*e*Sn	Sb	11 48 51.7	-1.6
BBLS	**Lazići**	**2.35**	**347**	*e*Pn	Pb	11 48 22.5	-1.3
BBLS				*e*Sn	Sb	11 48 51.7	-1.6
ZAPS	**Zavoj**	**2.51**	**47**	*e*Pn	Pn	11 48 24.4	+2.0
ZAPS	**Zavoj**	**2.51**	**47**	*e*Pn	Pn	11 48 24.4	+2.0
DIVS	**Divibare**	**2.52**	**358**	*e*Pn	Pn	11 48 23.7	+1.0
DIVS				*e*Sn	Sn	11 48 55.3	+1.2
DIVS	**Divibare**	**2.52**	**358**	*e*Pn	Pn	11 48 23.7	+1.0
DIVS				*e*Sn	Sn	11 48 55.3	+1.2

BUC 17 11:49:12.4±0.8, 45°34N×25°92E, h24km±7km, MD2.5/3, 8C-4D, Error ellipse: s-maj=7.6km s-min=5.4km az=38.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.15**	**8**	⇓*i*P	Pb	11 49 17.6	0.0
MLR				S	Sb	11 49 22.4	+1.3
MLR	**Muntele Rosu**	**0.15**	**8**	⇓*i*P	Pb	11 49 17.6	0.0
MLR				*i* S	Sb	11 49 22.4	+1.3
SECR		**0.32**	**160**	S	Sb	11 49 25.9	+1.2
SECR		**0.32**	**160**	*i* S	Sb	11 49 25.9	+1.2
VOIR		**0.62**	**279**	⇓*i*P	Pb	11 49 25.0	+0.3
VOIR		**0.62**	**279**	⇓*i*P	Pb	11 49 25.0	+0.3
VOIR				*i* S	Sn	11 49 35.4	+0.3
PLOR	**Plostina**	**0.73**	**45**	⇑*i*P	Pn	11 49 27.5	+0.2
PLOR	**Plostina**	**0.73**	**45**	⇑*i*P	Pn	11 49 27.5	+0.2
PLOR				*i* S	Sn	11 49 39.4	+1.7
VRI	**Vrincioaia**	**0.78**	**47**	⇑*i*P	Pn	11 49 27.8	-0.1
VRI	**Vrincioaia**	**0.78**	**47**	⇑*i*P	Pn	11 49 27.8	-0.1
VRI				*i* S	Sn	11 49 40.7	+1.8
HUMR	**Humele**	**1.05**	**220**	S	Sn	11 49 47.2	+1.7
HUMR	**Humele**	**1.05**	**220**	*i* S	Sn	11 49 47.2	+1.7
HUMR	**Humele**	**1.05**	**220**	S	Sn	11 49 47.2	+1.7
CFR	**Carcaliu**	**1.58**	**95**	⇑*i*P	Pn	11 49 39.8	+0.9
CFR	**Carcaliu**	**1.58**	**95**	⇑*i*P	Pn	11 49 39.8	+0.9
CFR				*i* S	Sb	11 50 00.3	0.0
MSAB	**Monastry St. A**	**1.85**	**132**	S	Sb	11 50 07.3	-0.9
MSAB	**Monastry St. A**	**1.85**	**132**	*i* S	Sb	11 50 07.3	-0.9
TIRR	**Tirgusor**	**1.98**	**116**	⇑*i*P	Pn	11 49 45.3	+0.9
TIRR	**Tirgusor**	**1.98**	**116**	⇑*i*P	Pn	11 49 45.3	+0.9
TIRR				*i* S	Sb	11 50 11.2	-0.8

*THE **17** 12:11:55.1, 36°02N×21°16E, h0km±1km, ML3.0/2, Error ellipse: s-maj=2.9km s-min=1.2km az=258.0*
*CSEM **17** 12:11:56.7±0.7, 36°03N×21°31E, h8km, MD3.5, Error ellipse: s-maj=14.1km s-min=10.0km az=27.0*
*ATH **17** 12:11:58.6, 36°19N×21°30E, h21km±1km, MD3.5/5.10*
ISC 17 12:11:56.9±2.0, 36°06N±0°07×21°25E±0°06, h8km±11km, n38, σ0°79/52, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.92**	**25**	P	**Pg**	**12 12 14.4**	**-0.2**
PYL				S	**Sb**	**12 12 28.4**	**+0.8**
PYL	**PYLOS**	**0.92**	**25**	*e*PB	**Pg**	**12 12 13.5**	**-1.1**
PYL	**PYLOS**	**0.92**	**25**	P	**Pg**	**12 12 14.4**	**-0.2**
PYL				S	**Sb**	**12 12 28.4**	**+0.8**
ITM	**Ithomi**	**1.24**	**26**	P	**Pn**	**12 12 19.2**	**-1.4**
ITM				S	**Sn**	**12 12 39.0**	**+1.5**
ITM	**Ithomi**	**1.24**	**26**	*e*PN	**Pn**	**12 12 19.6**	**-1.0**
ITM				*e*SN	**Sb**	**12 12 35.8**	**-1.0**
ITM	**Ithomi**	**1.24**	**26**	P	**Pn**	**12 12 19.2**	**-1.4**
ITM	**Ithomi**	**1.24**	**26**	*e*Pn	**Pn**	**12 12 19.6**	**-1.0**
ITM				*e*Sn	**Sb**	**12 12 35.8**	**-1.0**
ITM				S	**Sn**	**12 12 39.0**	**+1.5**
KYTH	**Kithira**	**1.46**	**81**	P	**Pn**	**12 12 23.1**	**-0.5**
KYTH	**Kithira**	**1.46**	**81**	P	**Pn**	**12 12 23.1**	**-0.5**
VLI	**Veliai**	**1.51**	**64**	P	**Pn**	**12 12 23.8**	**-0.5**
VLI				S	**Sg**	**12 12 46.6**	**+1.1**
VLI	**Veliai**	**1.51**	**64**	*e*PN	**Pb**	**12 12 25.0**	**-0.2**
VLI				*e*SN	**Sb**	**12 12 45.0**	**+0.5**
VLI	**Veliai**	**1.51**	**64**	P	**Pn**	**12 12 23.8**	**-0.5**
VLI	**Veliai**	**1.51**	**64**	*e*Pn	**Pb**	**12 12 25.0**	**-0.2**
VLI				*e*Sn	**Sb**	**12 12 45.0**	**+0.5**
VLI				S	**Sg**	**12 12 46.6**	**+1.1**
AMT	**Artemida-Makis**	**1.51**	**14**	P	**Pn**	**12 12 23.8**	**-0.5**
AMT				S	**Sg**	**12 12 45.9**	**+0.3**
AMT	**Artemida-Makis**	**1.51**	**14**	*e*PN	**Pb**	**12 12 25.0**	**-0.3**
AMT	**Artemida-Makis**	**1.51**	**14**	P	**Pn**	**12 12 23.8**	**-0.5**
AMT	**Artemida-Makis**	**1.51**	**14**	*e*Pn	**Pb**	**12 12 25.0**	**-0.3**
AMT				S	**Sg**	**12 12 45.9**	**+0.3**
VLX	**Vlachokerasia**	**1.59**	**35**	P	**Pn**	**12 12 24.9**	**-0.6**
VLX	**Vlachokerasia**	**1.59**	**35**	P	**Pn**	**12 12 24.9**	**-0.6**
ZKS	**Zakynthos**	**1.67**	**347**	*e*PN	**Pb**	**12 12 27.6**	**-0.4**
ZKS	**Zakynthos**	**1.67**	**347**	*e*Pn	**Pb**	**12 12 27.6**	**-0.4**
ANKY	**Antikythira Is**	**1.68**	**96**	*e*PN	**Pg**	**12 12 29.0**	**-0.1**
DRO	**Drossia**	**1.92**	**11**	*e*PN	**Pn**	**12 12 30.5**	**+0.5**
DRO	**Drossia**	**1.92**	**11**	*e*Pn	**Pn**	**12 12 30.5**	**+0.5**
GUR	**Goura**	**2.06**	**25**	*e*PN	**Pn**	**12 12 32.8**	**+0.8**
GUR	**Goura**	**2.06**	**25**	*e*Pn	**Pn**	**12 12 32.8**	**+0.8**
KLV	**Kalavryta, Ach**	**2.10**	**20**	*e*PN	**Pn**	**12 12 33.0**	**+0.5**
KLV				*e*SN	**Sn**	**12 12 57.7**	**-1.2**
KLV	**Kalavryta, Ach**	**2.10**	**20**	*e*Pn	**Pn**	**12 12 33.0**	**+0.5**
KLV				*e*Sn	**Sn**	**12 12 57.7**	**-1.2**
DID	**Didima**	**2.15**	**47**	P	**Pn**	**12 12 32.6**	**-0.5**
DID	**Didima**	**2.15**	**47**	*e*PB	**Pn**	**12 12 33.4**	**+0.3**
DID	**Didima**	**2.15**	**47**	P	**Pn**	**12 12 32.6**	**-0.5**
DID	**Didima**	**2.15**	**47**	*e*Pb	**Pn**	**12 12 33.4**	**+0.3**
VLS	**Valsamata**	**2.17**	**346**	*e*PN	**Pn**	**12 12 34.5**	**+1.1**
VLS	**Valsamata**	**2.17**	**346**	*e*Pn	**Pn**	**12 12 34.5**	**+1.1**
LTK	**Loutraki**	**2.39**	**35**	*e*PN	**Pn**	**12 12 36.9**	**+0.5**
LTK	**Loutraki**	**2.39**	**35**	*e*Pn	**Pn**	**12 12 36.9**	**+0.5**
STON	**Ston**	**7.33**	**339**	*i* Pn	**Pn**	**12 13 44.1**	**-0.2**
STON				Sn	Sn	12 14 59.8	-7.8
STON	**Ston**	**7.33**	**339**	*i* Pn	**Pn**	**12 13 44.0**	**-0.2**

IDC 17 12:22:55.9±2.0, 16°89S×178°64W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.7/23, mbtmp3.7/5, Error ellipse: s-maj=130.7km s-min=24.8km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.61**	**259**	P	P	12 31 10.2	-0.2
	0.3nm,0.3s,baz=97,slow=7.3,SNR=6.5						
ASAR	**Alice Springs**	**44.86**	**253**	P	P	12 31 12.4	0.0
	1.7nm,0.4s,baz=90,slow=8.0,SNR=71						
NVAR	**Mina Array Bea**	**78.85**	**44**	P	P	12 35 02.2	+0.9
	0.5nm,0.7s,baz=230,slow=8.1,SNR=4.3						
ILAR	**Eielson Array**	**84.95**	**13**	P	P	12 35 31.3	-1.2
	0.3nm,0.8s,baz=220,slow=6.4,SNR=4.5						
TXAR	**Lajitas Array**	**85.64**	**58**	P	P	12 35 36.9	-0.1
	0.3nm,0.7s,baz=216,slow=6.2,SNR=5.2						

*DJA **17** 12:43:25.0±1.1, 4°N±8°×12°7E±°, h10km, M4.5/2, mb4.5/2, mB5.0/1, Mw(mB)4.4/1*
*IDC **17** 12:43:26.9±0.8, 3°67N×126°48E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.8/24, mbtmp3.8/9, ML4.0/1, MS2.8/3, Ms1 2.8/3, ms1mx2.5/49, Error ellipse: s-maj=44.3km s-min=15.6km az=66.0*
*ISCJB **17** 12:43:30.7±0.7, 3°81N±0°07×126°76E±0°05, h45km, mb3.6/8, MS2.8/2, Error ellipse: s-maj=9.8km s-min=7.4km az=21.2*
ISC 17 12:43:32.9±0.7, 3°80N±0°08×126°71E±0°07, h45km, n22, σ1°52/19, mb3.4/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.18**	**265**	P	**Pn**	**12 43 51.6**	**-1.4**
SGSI				S	**Sn**	**12 44 07.6**	**-0.4**
TNTI	**Ternate**	**3.08**	**168**	P	**Pn**	**12 44 18.8**	**-0.2**
KMSI	**Cibinong**	**4.20**	**220**	P	Pn	12 44 38.4	+3.9
KMSI				S	Sn	12 45 34.4	+12
GTOI	**Gorontalo**	**4.85**	**230**	P	**Pn**	**12 44 44.2**	**+0.8**
MRSI	**Marisa**	**5.79**	**235**	P	**Pn**	**12 44 57.5**	**+1.1**
	89nm,0.7s,1μm						
SANI	**Sanana**	**5.85**	**187**	P	**Pn**	**12 45 00.1**	**+2.9**
LUWI	**Luwuk**	**6.21**	**219**	P	**Pn**	**12 45 01.1**	**-1.0**
SIJI	**Sorong**	**6.50**	**135**	Pn	**Pn**	**12 45 05.4**	**-0.7**
	3.0nm,0.3s,baz=321,slow=19,SNR=9.3						
SIJI				Sn	**Sn**	**12 46 16.1**	**-2.9**
	5.4nm,0.3s,baz=330,slow=17,SNR=13						
APSI	**Ampana**	**6.89**	**227**	P	Pn	12 45 16.6	+5.2
MPSI	**Mapaga**	**7.62**	**243**	P	**Pn**	**12 45 20.6**	**-0.9**
TTSI	**Tana Toraja**	**9.67**	**225**	P	**Pn**	**12 45 51.7**	**+2.1**
KAPI	**Kappang**	**11.17**	**219**	LR	LR	12 49 43.8	
	comp=Z,40nm,18.1s,baz=54,slow=34						
GUMO	**Guam**	**20.40**	**60**	LR	LR	12 54 37.0	
	comp=Z,37nm,21.2s,baz=204,slow=32						
WRA	**Warramunga Arr**	**24.75**	**163**	P	**P**	**12 48 49.5**	**-1.0**
	6.5nm,0.9s,baz=342,slow=10,SNR=18						
ASAR	**Alice Springs**	**28.18**	**166**	P	**P**	**12 49 21.1**	**-0.3**
	0.4nm,0.5s,baz=342,slow=7.5,SNR=10						
CMAR	**Chiang Mai Arr**	**30.82**	**300**	P	**P**	**12 49 44.4**	**-0.4**
	0.3nm,0.4s,baz=119,slow=9.4,SNR=2.9						
KSRS	**Korea Array**	**33.52**	**2**	P	**P**	**12 50 08.9**	**+0.7**
	0.2nm,0.3s,baz=178,slow=9.4,SNR=4.2						
MJAR	**Matsushiro Arr**	**34.27**	**17**	LR	LR	13 01 52.0	
	comp=Z,19nm,21.7s,baz=230,slow=32						
STKA	**Stephens Creek**	**38.20**	**159**	P	**P**	**12 50 47.8**	**-0.6**
	2.3nm,0.6s,baz=332,slow=9.9,SNR=5.9						
SONM	**Songino Array**	**47.23**	**341**	P	**P**	**12 52 02.0**	**+0.4**
	0.2nm,0.4s,baz=159,slow=7.2,SNR=2.5						
MKAR	**Makanchi Array**	**57.49**	**325**	P	**P**	**12 53 16.7**	**-0.9**
	0.5nm,0.5s,baz=116,slow=7.6,SNR=6.2						
ILAR	**Eielson Array**	**85.05**	**25**	P	**P**	**12 56 06.1**	**+2.4**
	0.2nm,0.7s,baz=280,slow=5.4,SNR=3.3						

*ISCJB **17** 12:55:23.4±1.0, 56°9S±0°1×24°7W±0°5, h10km, mb4.3/3, Error ellipse: s-maj=41.8km s-min=14.6km az=157.4*
*IDC **17** 12:55:23.6±1.0, 56°86S×24°87W, h0km, mb4.3/3, mb1 4.6/3, mb1mx4.1/19, mbtmp4.3/3, Error ellipse: s-maj=44.4km s-min=30.1km az=76.0*
*AWI **17** 12:55:25.1, 56°79S×24°39W*
ISC 17 12:55:25.0±1.0, 56°9S±0°2×24°8W±0°3, h10km, n14, σ0°51/8, mb4.4/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.52**	**159**	P	**Pn**	**12 59 03.7**	**+0.2**
VNA2	**Neumayer--Watz**	**15.91**	**159**	P	**Pn**	**12 59 07.9**	**-0.8**
SNAA	**Sanae**	**17.43**	**157**	P	**Pn**	**12 59 27.7**	**-0.2**
VNDA	**Vanda**	**45.77**	**182**	P	**P**	**13 03 46.5**	**+0.5**
	1.2nm,0.3s,baz=355,slow=5.6,SNR=21						
H10S2	**ASCENSION HYDR**	**48.49**	**13**	T	T	13 57 09.5	
	baz=184,slow=74						
H10S3	**ASCENSION HYDR**	**48.49**	**13**	T	T	13 57 09.8	
	baz=184,slow=74						
H10S1	**ASCENSION HYDR**	**48.50**	**13**	T	T	13 57 10.8	
	baz=184,slow=74						
H10N1	**ASCENSION HYDR**	**49.60**	**14**	T	T	13 58 33.8	
	baz=198						
H10N3	**ASCENSION HYDR**	**49.61**	**13**	T	T	13 58 33.7	
	baz=198						
H10N2	**ASCENSION HYDR**	**49.62**	**13**	T	T	13 58 34.7	
	baz=198						
LPAZ	**La Paz**	**51.95**	**303**	P	**P**	**13 04 34.6**	**-0.1**
	9.0nm,0.5s,baz=146,slow=4.4,SNR=51						
TORD	**Torodi Ar. Bea**	**73.19**	**27**	P	**P**	**13 06 56.1**	**+0.3**
	0.3nm,0.4s,baz=194,slow=6.0,SNR=3.6						
SONM	**Songino Array**	**149.47**	**86**	PKPbc	**PKPbc**	**13 15 13.4**	**-0.1**
	0.4nm,0.4s,baz=236,slow=2.6,SNR=3.3						
ILAR	**Eielson Array**	**151.67**	**310**	PKPbc	**PKPbc**	**13 15 17.6**	**-0.5**
	1.5nm,0.8s,baz=134,slow=2.2,SNR=12						

*IDC **17** 13:05:24.1±2.4, 26°31N×54°66E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.7/44, mbtmp3.9/9, ML3.3/1, Error ellipse: s-maj=52.3km s-min=20.8km az=157.0*
*ISCJB **17** 13:05:26.2±0.5, 26°48N±0°05×54°57E±0°08, h10km, mb3.8/8, Error ellipse: s-maj=11.3km s-min=5.2km az=147.9*
*DSN **17** 13:05:27.6±1.3, 26°55N×54°66E, h15km, ML3.8/6, Error ellipse: s-maj=15.2km s-min=4.1km az=169.0*
*CSEM **17** 13:05:29.0±0.2, 26°46N×54°79E, h10km, ML3.8, Error ellipse: s-maj=13.0km s-min=4.1km az=63.0*
*TEH **17** 13:05:34.9, 26°89N×54°73E, h5km, ML3.6*
ISC 17 13:05:26.8±0.8, 26°36N±0°05×54°60E±0°06, h10km, n39, σ1°33/39, mb3.9/8, 3C-4D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.59**	**106**	P	**Pn**	**13 05 55.4**	**+0.4**
	SNR=84						
BANOM				S	**Sn**	**13 06 16.6**	**+1.0**
BANOM	**Banah**	**1.59**	**106**	⇓*e*P	**Pn**	**13 05 55.4**	**+0.4**
	SNR=84						
BANOM				⇓S	**Sn**	**13 06 16.6**	**+1.0**
NAZ	**Nazwa, Dubai**	**1.67**	**145**	P	**Pb**	**13 05 58.4**	**+0.8**
	SNR=21						
NAZ	**Nazwa, Dubai**	**1.67**	**145**	⇑*e*P	**Pb**	**13 05 58.4**	**+0.8**
	SNR=21						
FAQ	**Al Faqa, Dubai**	**1.84**	**151**	P	**Pn**	**13 06 00.5**	**+2.1**
	SNR=8.1						
FAQ	**Al Faqa, Dubai**	**1.84**	**151**	⇓*e*P	**Pn**	**13 06 00.5**	**+2.1**
	SNR=8.1						
ASUD	**Al Ashush, Dub**	**1.85**	**159**	P	**Pb**	**13 06 01.2**	**+0.6**
	SNR=14						
ASUD	**Al Ashush, Dub**	**1.85**	**159**	⇑*e*P	**Pb**	**13 06 01.2**	**+0.6**
	SNR=14						
IBND	**Bandar-abas**	**2.04**	**57**	*e*Pn	**Pb**	**13 06 05.1**	**+1.1**
IBND				*e*		13 06 58.8	
	comp=Z,6μm,0.4s						
IBND	**Bandar-abas**	**2.04**	**57**	*e*Pn	**Pb**	**13 06 05.1**	**+1.1**
HATD	**Hatta, Dubai**	**2.06**	**138**	P	**Pn**	**13 06 03.4**	**+1.9**
	SNR=8.5						
HATD	**Hatta, Dubai**	**2.06**	**138**	⇓*e*P	**Pn**	**13 06 03.4**	**+1.9**
	SNR=8.5						
ASHO	**Ashiyiah**	**2.12**	**141**	P	**Pn**	**13 06 04.1**	**+1.7**
	SNR=45						
ASHO	**Ashiyiah**	**2.12**	**141**	⇑*e*P	**Pn**	**13 06 04.1**	**+1.7**
	SNR=45						
ISRV	**Sarvestan**	**3.29**	**337**	*e*Pn	**Pn**	**13 06 21.0**	**+2.4**
ISRV				*e*		13 07 27.4	
	comp=Z,2μm,0.3s						
ISRV	**Sarvestan**	**3.29**	**337**	*e*Pn	**Pn**	**13 06 21.0**	**+2.4**
IPAR	**Pars**	**3.73**	**339**	*e*Pn	**Pn**	**13 06 26.5**	**+1.8**
IPAR				*e*		13 07 43.0	
	comp=Z,1μm,0.4s						
IPAR	**Pars**	**3.73**	**339**	*e*Pn	**Pn**	**13 06 26.5**	**+1.8**
IKAZ	**Kazeroun**	**4.19**	**325**	*e*Pn	Pn	13 06 35.1	+4.1
IKAZ				*e*		13 07 57.6	
	comp=Z,1μm,0.3s						
IKAZ	**Kazeroun**	**4.19**	**325**	*e*Pn	Pn	13 06 35.2	+4.1
IMEH	**Mehriz**	**5.01**	**0**	*e*Pn	**Pn**	**13 06 43.7**	**+1.4**
IMEH				*e*		13 06 43.8	
	comp=Z,270

Azm118.0000°;
ISC 17 13:06:51.4±0.5,33°19S±0'03×179°78E±0'03,h211km±3km, n1602,σ1ᵗ41/1706,mb5.7/176,77C-51D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.39**	**27**	P	Pn	13 07 49.8	-8.7
	886nm,0.3s,baz=77,slow=9.5,SNR=46						
RAO				S	S	13 08 40.3	-11
	5μm,0.3s,baz=102,slow=23,SNR=15						
RAO	**Raoul Island**	**4.39**	**27**	*e*P	Pn	13 07 49.1	-9.4
RAO				*e*		13 08 42.9	
RAO	**Raoul Island**	**4.39**	**27**	*e*Pn	Pn	13 07 49.1	-9.4
RAO				*e*Sn	S	13 08 42.9	-8.1
MXZ	**Matakaoa Point**	**4.53**	**195**	PN	**Pn**	**13 07 58.2**	**-1.8**
MXZ				SN	**S**	**13 08 54.6**	**+0.6**
GRZ	**Great Barrier**	**4.69**	**228**	⇑PN	Pn	13 08 05.4	+3.3
WMGZ	**Waiomatatini S**	**4.75**	**193**	PN	**Pn**	**13 08 01.6**	**-1.2**
WMGZ				SN	**S**	**13 09 00.6**	**+1.6**
WIZ	**White Island**	**4.82**	**205**	PN	**Pn**	**13 08 03.5**	**-0.2**
HAZ	**Te Kaha**	**4.84**	**199**	PN	**Pn**	**13 08 02.0**	**-1.9**
KUZ	**Kuaotunu**	**4.87**	**222**	PN	**Pn**	**13 08 07.0**	**+2.7**
MYRZ	**Mayor Island**	**5.01**	**214**	PN	**Pn**	**13 08 08.1**	**+2.1**
PUZ	**Puketiti**	**5.03**	**194**	PN	**Pn**	**13 08 04.3**	**-2.0**
PUZ				SN	**S**	**13 09 04.7**	**-0.7**
TWGZ	**Tauwhareparae**	**5.19**	**196**	PN	**Pn**	**13 08 06.7**	**-1.6**
WCZ	**Waipu Caves**	**5.26**	**237**	⇑*e*PN	Pn	13 08 12.9	+3.7
ABAZ	**Army Bay**	**5.30**	**229**	PN	Pn	13 08 13.5	+3.7
TGRZ	**Tauranga**	**5.36**	**211**	PN	**Pn**	**13 08 11.2**	**+0.6**
MTAZ	**Motutapu**	**5.37**	**227**	PN	Pn	13 08 14.4	+3.7
CNGZ	**Carnagh Statio**	**5.44**	**193**	PN	**Pn**	**13 08 09.5**	**-2.0**
MKAZ	**Moumakai**	**5.44**	**223**	PN	Pn	13 08 15.0	+3.4
MWZ	**Matawai**	**5.45**	**199**	PN	**Pn**	**13 08 09.5**	**-2.2**
MWZ				SN	**S**	**13 09 15.9**	**+0.7**
TKGZ	**Te Karaka**	**5.47**	**196**	PN	**Pn**	**13 08 09.5**	**-2.3**
ETAZ	**East Tamaki Re**	**5.47**	**225**	PN	Pn	13 08 15.7	+3.8
EDRZ	**Edgecumbe**	**5.50**	**206**	PN	**Pn**	**13 08 11.6**	**-0.7**
URZ	**Urewera**	**5.51**	**202**	P	**Pn**	**13 08 10.2**	**-2.2**
	102nm,0.3s,baz=272,slow=4.7,SNR=288						
URZ				S	**S**	**13 09 16.4**	**+0.1**
	813nm,0.3s,baz=306,slow=21,SNR=22						
URZ				ScS	**ScS**	**13 21 34.3**	**-6.7**
	0.5nm,0.3s,baz=148,slow=22,SNR=8.7						
URZ	**Urewera**	**5.51**	**202**	PN	**Pn**	**13 08 09.9**	**-2.5**
URZ	**Urewera**	**5.51**	**202**	*e*Pn	**Pn**	**13 08 10.0**	**-2.3**
URZ				*e*Sn	**S**	**13 09 11.7**	**-4.7**
URZ				S	S	13 09 16.4	+0.1
URZ				ScS	**ScS**	**13 21 34.3**	**-6.7**
OUZ	**Omahuta**	**5.51**	**247**	PN	**Pn**	**13 08 15.3**	**+2.9**
LIRZ	**Lichensteins R**	**5.54**	**209**	PN	**Pn**	**13 08 13.0**	**+0.1**
RVAZ	**Riverhead Bore**	**5.57**	**229**	PN	Pn	13 08 17.0	+3.8
KBAZ	**Karaka Road Bo**	**5.59**	**224**	PN	Pn	13 08 17.7	+4.2
KARZ	**Kaharoa**	**5.62**	**210**	PN	**Pn**	**13 08 14.0**	**+0.1**
MKRZ	**Makatiti**	**5.63**	**208**	PN	**Pn**	**13 08 14.2**	**+0.3**
RAGZ	**Rawiri**	**5.63**	**199**	PN	**Pn**	**13 08 12.0**	**-2.1**
OMRZ	**Omania**	**5.64**	**209**	PN	**Pn**	**13 08 13.9**	**-0.2**
WTAZ	**Waiatarua**	**5.67**	**227**	PN	Pn	13 08 18.5	+4.0
TARZ	**Mount Tarawera**	**5.70**	**207**	PN	**Pn**	**13 08 14.5**	**-0.5**
TOZ	**Tahuroa Road**	**5.72**	**216**	PN	**Pn**	**13 08 17.2**	**+2.2**
RIGZ	**Rimuhau**	**5.74**	**196**	PN	**Pn**	**13 08 12.9**	**-2.5**
UTU	**Utuhina**	**5.77**	**209**	PN	**Pn**	**13 08 16.0**	**+0.2**
HLRZ	**Highlands Stat**	**5.77**	**208**	PN	**Pn**	**13 08 15.5**	**-0.4**
RRRZ	**Republican Roa**	**5.79**	**206**	PN	**Pn**	**13 08 14.5**	**-1.5**
HSRZ	**Hossack Road**	**5.86**	**208**	PN	**Pn**	**13 08 16.6**	**-0.4**
HRRZ	**Handcock Road**	**5.92**	**208**	PN	**Pn**	**13 08 16.7**	**-1.0**
SNGZ	**Shannon Statio**	**5.92**	**199**	PN	**Pn**	**13 08 15.2**	**-2.5**
PRGZ	**Paritu Road**	**5.92**	**195**	PN	**Pn**	**13 08 15.1**	**-2.7**
GRRZ	**Galatos Road**	**5.95**	**209**	PN	**Pn**	**13 08 17.7**	**-0.4**
PRRZ	**Plateau Road**	**5.97**	**206**	PN	**Pn**	**13 08 16.6**	**-1.7**
ALRZ	**Allen Road**	**6.04**	**207**	PN	**Pn**	**13 08 17.5**	**-1.8**
KNZ	**Kokohu**	**6.06**	**196**	*e*PN	Pn	13 08 15.6	-3.9
RAHZ	**Arahi**	**6.12**	**200**	PN	**Pn**	**13 08 17.5**	**-2.8**
TLZ	**Tolley Road**	**6.18**	**213**	PN	**Pn**	**13 08 21.5**	**+0.5**
KUTZ	**Kaahu Road**	**6.19**	**210**	PN	**Pn**	**13 08 20.9**	**-0.2**
WHHZ	**Waihua**	**6.22**	**199**	PN	Pn	13 08 18.8	-2.8
WHTZ	**Whakaora**	**6.28**	**208**	PN	**Pn**	**13 08 21.8**	**-0.6**
NMHZ	**Naumai**	**6.37**	**201**	PN	**Pn**	**13 08 20.8**	**-2.7**
WATZ	**Wairara**	**6.41**	**210**	PN	**Pn**	**13 08 23.1**	**-0.9**
ARHZ	**Aropaoanui**	**6.46**	**200**	PN	Pn	13 08 21.4	-3.3
BKZ	**Black Stump Fm**	**6.53**	**203**	PN	Pn	13 08 22.5	-3.1
BKZ	**Black Stump Fm**	**6.53**	**203**	*e*Pn	Pn	13 08 22.6	-3.1
RITZ	**Rihia Road**	**6.59**	**208**	PN	**Pn**	**13 08 24.4**	**-1.9**
HIZ	**Hauiti**	**6.65**	**216**	PN	**Pn**	**13 08 28.1**	**+1.2**
KATZ	**Kakaramea**	**6.65**	**209**	PN	Pn	13 08 28.1	-1.2
MCHZ	**McNeill Hill**	**6.72**	**201**	PN	Pn	13 08 24.3	-3.6
KRVZ	**Karewarewa**	**6.78**	**208**	PN	**Pn**	**13 08 26.7**	**-2.1**
KWHZ	**Kaweka Forest**	**6.79**	**203**	PN	Pn	13 08 25.1	-3.8
CKHZ	**Cape Kidnapper**	**6.81**	**198**	PN	Pn	13 08 25.8	-3.4
WTVZ	**West Tongariro**	**6.82**	**209**	PN	**Pn**	**13 08 27.1**	**-2.3**
OTVZ	**Oturere**	**6.83**	**208**	PN	**Pn**	**13 08 27.3**	**-2.2**
TWVZ	**Taurewa**	**6.84**	**210**	PN	**Pn**	**13 08 27.7**	**-1.9**
NGZ	**Ngauruhoe**	**6.86**	**208**	PN	**Pn**	**13 08 27.7**	**-2.3**
COVZ	**Chateau Observ**	**6.91**	**209**	PN	**Pn**	**13 08 28.3**	**-2.2**
WPVZ	**Whakapapa**	**6.91**	**208**	PN	**Pn**	**13 08 28.4**	**-2.1**
TUVZ	**Tukino**	**6.92**	**208**	PN	**Pn**	**13 08 28.0**	**-2.7**
FWVZ	**Far West T-bar**	**6.95**	**208**	*e*PN	Pn	13 08 28.0	-3.2
WHVZ	**Whangaehu Hut**	**6.96**	**208**	PN	Pn	13 08 28.3	-3.0
BHHZ	**Black Hill Sta**	**6.96**	**204**	PN	Pn	13 08 27.8	-3.4
TRVZ	**Turoa**	**6.99**	**208**	PN	Pn	13 08 28.7	-3.0
KAHZ	**Kahuranaki**	**7.00**	**199**	PN	Pn	13 08 27.4	-4.2
WNVZ	**Wahianoa**	**7.00**	**208**	PN	Pn	13 08 28.5	-3.2
KRHZ	**Kereru**	**7.00**	**202**	PN	Pn	13 08 27.2	-4.4
MOVZ	**Moawhango**	**7.00**	**207**	PN	Pn	13 08 27.9	-3.8
PKVZ	**Pokaka**	**7.06**	**209**	PN	**Pn**	**13 08 29.9**	**-2.5**
MTVZ	**Mangateitei**	**7.09**	**208**	PN	Pn	13 08 30.1	-2.8
VRZ	**Vera Road**	**7.18**	**213**	PN	**Pn**	**13 08 33.3**	**-0.6**
PXZ	**Pawanui**	**7.22**	**198**	PN	Pn	13 08 29.4	-5.0
PNHZ	**Pukenui**	**7.30**	**202**	PN	Pn	13 08 30.8	-4.8
WPHZ	**Waipukurau**	**7.37**	**200**	*e*PN	Pn	13 08 31.4	-4.9
PRHZ	**Porangahau**	**7.50**	**199**	PN	Pn	13 08 33.1	-5.0
PKE	**Pukeiti**	**7.60**	**216**	PN	**Pn**	**13 08 40.2**	**+0.7**
WAZ	**Wanganui**	**7.61**	**209**	PN	Pn	13 08 36.3	-3.1
NEZ	**North Egmont**	**7.61**	**216**	PN	**Pn**	**13 08 40.0**	**+0.4**
LREZ	**Lake Rotokare**	**7.61**	**213**	PN	**Pn**	**13 08 38.9**	**-0.6**
DVHZ	**Dannevirke**	**7.67**	**201**	PN	Pn	13 08 34.8	-5.4
KHEZ	**Kahui Hut**	**7.67**	**216**	*e*PN	**Pn**	**13 08 40.3**	**+0.1**
ANWZ	**Angora Road**	**7.72**	**199**	PN	Pn	13 08 36.5	-4.4
POWZ	**Post Office Ro**	**7.88**	**203**	PN	Pn	13 08 38.2	-4.7
PRWZ	**Pori Road**	**7.96**	**201**	PN	Pn	13 08 39.4	-4.6
BFZ	**Birch Farm**	**7.99**	**200**	*e*Pn	Pn	13 08 39.7	-4.8
MRZ	**Mangatainoka R**	**8.18**	**203**	PN	Pn	13 08 41.0	-5.8
MRZ				PcP	**PcP**	**13 14 59.7**	**+0.9**
TIWZ	**Tintock**	**8.19**	**201**	PN	Pn	13 08 42.4	-4.6
CPWZ	**Castlepoint**	**8.22**	**199**	*e*PN	Pn	13 08 42.3	-5.0
HOWZ	**Holdsworth Sta**	**8.41**	**203**	PN	Pn	13 08 44.0	-5.9
OGWZ	**Otaki Gorge**	**8.46**	**205**	PN	Pn	13 08 45.1	-5.4
TMWZ	**Te Maipa**	**8.49**	**200**	PN	Pn	13 08 45.1	-5.8
KIW	**Kapiti Island**	**8.59**	**206**	PN	Pn	13 08 46.5	-5.6
MTW	**Mount Morrison**	**8.65**	**202**	PN	Pn	13 08 47.2	-5.7
CAW	**Cannon Point**	**8.75**	**204**	PN	Pn	13 08 48.3	-5.9
TRWZ	**Traveller**	**8.82**	**201**	*e*PN	Pn	13 08 49.2	-5.8
PAWZ	**Paruwai Farm**	**8.88**	**202**	*e*PN	Pn	13 08 49.9	-6.0
DUWZ	**D'Urville Isla**	**8.93**	**210**	PN	Pn	13 08 51.6	-4.9
MSWZ	**Moikau Station**	**8.97**	**202**	*e*PN	Pn	13 08 50.9	-6.2
WEL	**Wellington**	**9.01**	**205**	PN	Pn	13 08 51.8	-5.8
SNZO	**South Karori**	**9.06**	**205**	*e*Pn	Pn	13 08 51.5	-6.6
BHW	**Baring Head**	**9.09**	**204**	PN	Pn	13 08 52.3	-6.2
PLWZ	**Palliser**	**9.11**	**202**	PN	Pn	13 08 52.8	-6.1
TCW	**Tory Channel**	**9.13**	**207**	PN	Pn	13 08 53.2	-5.9
TUWZ	**Tuamarina**	**9.45**	**208**	PN	Pn	13 08 57.3	-5.8
NNZ	**Nelson**	**9.50**	**211**	*e*PN	Pn	13 08 57.9	-5.9
NNZ				PN	Pn	13 08 59.0	-4.9
NNZ				PcP	PcP	13 15 22.7	+23
QRZ	**Quartz Range**	**9.57**	**215**	PN	Pn	13 08 59.8	-5.0
CMWZ	**Cape Campbell**	**9.62**	**206**	PN	Pn	13 09 01.0	-4.5
BSWZ	**Blackbirch Sta**	**9.71**	**207**	PN	Pn	13 09 01.4	-5.3
THZ	**Tophouse**	**10.15**	**211**	PN	Pn	13 09 06.7	-5.6
KHZ	**Kahutara**	**10.45**	**206**	PN	Pn	13 09 10.1	-5.9
KHZ				PcP	**PcP**	**13 15 02.3**	**+1.6**
KHZ	**Kahutara**	**10.45**	**206**	*e*Pn	Pn	13 09 10.3	-5.8
KHZ				*e*Sn	**S**	**13 11 07.9**	**-5.1**
DSZ	**Denniston Nort**	**10.63**	**214**	PN	Pn	13 09 12.7	-5.7
DSZ				PcP	**PcP**	**13 15 01.0**	**-0.1**
CTZ	**Chatham Island**	**10.90**	**166**	PN	**Pn**	**13 09 21.8**	**0.0**
LTZ	**Lake Taylor**	**11.26**	**210**	*e*PN	Pn	13 09 20.0	-6.5
CRLZ	**Canterbury Las**	**11.79**	**206**	PN	Pn	13 09 26.9	-6.2
CRLZ				PcP	**PcP**	**13 15 04.1**	**+1.9**
OXZ	**Oxford**	**11.80**	**209**	PN	Pn	13 09 26.5	-6.8
OXZ				PcP	**PcP**	**13 15 04.1**	**+1.9**
MQZ	**McQueen's Vall**	**11.89**	**206**	*e*PN	Pn	13 09 27.4	-7.0
MQZ				PcP	**PcP**	**13 15 03.6**	**+1.3**
RPZ	**Rata Peaks**	**12.53**	**210**	P	Pn	13 09 37.3	-5.2
	22nm,0.3s,baz=356,slow=0.8,SNR=64						
RPZ				S	S	13 11 53.0	-8.3
	124nm,0.3s,baz=152,slow=23,SNR=20						
RPZ				ScP	**ScP**	**13 18 14.9**	**-1.1**
	1.2nm,0.3s,baz=201,slow=1.4,SNR=8.5						
RPZ				ScS	**ScS**	**13 21 48.0**	**-4.1**
	0.4nm,0.3s,baz=302,slow=22,SNR=11						
RPZ	**Rata Peaks**	**12.53**	**210**	*e*Pn	Pn	13 09 37.1	-5.4
RPZ				*e*Sn	S	13 11 52.2	-9.0
RPZ				S	S	13 11 53.0	-8.3
RPZ				ScP	**ScP**	**13 18 14.9**	**-1.1**
RPZ				ScS	**ScS**	**13 21 48.0**	**-4.1**
FOZ	**Fox Glacier**	**13.03**	**214**	PN	Pn	13 09 42.1	-6.5
FOZ				PcP	**PcP**	**13 15 03.6**	**0.0**
LBZ	**Lake Benmore**	**13.44**	**211**	PN	Pn	13 09 48.6	-5.2
JCZ	**Jackson Bay**	**13.85**	**215**	PN	Pn	13 09 54.3	-4.7
JCZ				PcP	**PcP**	**13 15 06.7**	**+1.8**
WKZ	**Wanaka**	**14.30**	**213**	PN	Pn	13 09 59.3	-5.2
EAZ	**Earnscleugh**	**14.49**	**211**	PcP	**PcP**	**13 15 07.8**	**+2.3**
HHSZ	**Highcliff Hill**	**14.51**	**206**	PN	**Pn**	**13 10 05.7**	**-1.3**
TUZ	**Tuapeka**	**14.94**	**208**	PN	Pn	13 10 09.2	-3.0
MLZ	**Mavora Lakes**	**15.09**	**213**	PN	**Pn**	**13 10 10.4**	**-3.6**
MLZ				PcP	**PcP**	**13 15 08.2**	**+1.8**
MSVF	**Nonsavu**	**15.47**	**354**	*e*P	**P**	**13 10 16.0**	**-2.9**
MSVF				pmax	pmax		
	comp=Z,407nm,0.7s						
MSVF	**Nonsavu**	**15.47**	**354**	*e*P	**P**	**13 10 16.0**	**-2.9**
	comp=Z,407nm,0.7s						
WHZ	**Wether Hill Ro**	**15.61**	**212**	*e*PN	**P**	**13 10 16.0**	**-4.0**
WHZ	**Wether Hill Ro**	**15.61**	**212**	*e*Pn	P	13 10 14.8	-5.3
	comp=Z,146nm,0.9s						
SYZ	**Scrubby Hill**	**15.62**	**208**	*e*PN	**P**	**13 10 17.9**	**-2.2**
DCZ	**Deep Cove**	**15.66**	**215**	*e*Pn	**P**	**13 10 17.3**	**-3.3**
	comp=Z,205nm,1.3s						
DZM	**Mont Dzumac**	**16.18**	**310**	*e*Pn	**Pn**	**13 10 27.9**	**+0.4**
	comp=Z,472nm,0.8s						
DZM	**Mont Dzumac**	**16.18**	**310**	P	**Pn**	**13 10 28.0**	**+0.5**
	comp=Z,7.0nm,0.3s,baz=91,slow=22,SNR=53						
DZM				ScP	**ScP**	**13 18 23.2**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=268,slow=24,SNR=9.2						
APZ	**The Paps**	**16.32**	**210**	*e*PN	**P**	**13 10 26.3**	**-1.6**
AFI	**Afiamalu**	**20.68**	**24**	*e*P	**P**	**13 11 11.7**	**-3.7**
AFI				pmax	pmax		
	comp=Z,34nm,0.9s						
AFI				MLR	MLR		
	comp=Z,4μm,21.0s						
AFI	**Afiamalu**	**20.68**	**24**	*e*P	**P**	**13 11 11.7**	**-3.7**
	comp=Z,34nm,0.9s						
AFI				LR	LR		
	comp=Z,4μm,21.0s						
RAR	**Rarotonga**	**21.70**	**62**	P	**P**	**13 11 24.8**	**-1.0**
	comp=Z,323nm,0.9s,baz=225,slow=4.3,SNR=24						
RAR	**Rarotonga**	**21.70**	**62**	*e*P	**P**	**13 11 24.2**	**-1.6**
RAR				pmax	pmax		
	comp=Z,476nm,1.0s						
RAR				MLR	MLR		
	comp=Z,2.0nm,20.0s						
RAR	**Rarotonga**	**21.70**	**62**	*e*P	**P**	**13 11 24.2**	**-1.6**
	comp=Z,476nm,1.0s						
RAR				LR	LR		
	comp=Z,2.0nm,20.0s						
CAN	**Canberra**	**25.48**	**257**	*e*P	**P**	**13 11 57.5**	**-2.8**
CAN				pmax	pmax		
	comp=Z,254nm,1.3s						
CAN				MLR	MLR		
	comp=Z,2μm,19.0s						
CAN	**Canberra**	**25.48**	**257**	*e*P	**P**	**13 11 57.5**	**-2.8**
	comp=Z,254nm,1.3s						
CAN				LR	LR		
	comp=Z,2μm,19.0s						
TAU	**Tasmania Unive**	**27.20**	**240**	*e*P	**P**	**13 12 13.5**	**-1.9**
TAU				*e*		13 15 31.3	
TAU				pmax	pmax		
	comp=Z,364nm,1.2s						
TAU				MLR	MLR		
	comp=Z,3μm,22.0s						
TAU	**Tasmania Unive**	**27.20**	**240**	*e*P	**P**	**13 12 13.4**	**-1.9**
	comp=Z,364nm,1.2s						
TAU				*e*PcP	**PcP**	**13 15 31.3**	**+1.4**
TAU				*e*		13 18 48.1	
TAU				LR	LR		
	comp=Z,3μm,22.0s						
TBI	**Tubuai**	**28.72**	**78**	*e*LR	LR	13 20 05.2	
	comp=Z,3μm,26.5s						
TBI	**Tubuai**	**28.72**	**78**	*e*T	T	13 41 55.7	
	comp=Z,172nm,0.3s						
HNR	**Honiara**	**29.89**	**318**	*e*P	**P**	**13 12 38.3**	**-1.2**
HNR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HNR				MLR	MLR		
	comp=Z,3μm,21.0s						
HNR	**Honiara**	**29.89**	**318**	*e*P	**P**	**13 12 39.0**	**-0.5**
HNR	**Honiara**	**29.89**	**318**	*e*P	**P**	**13 12 38.3**	**-1.2**
	comp=Z,5.0nm,0.9s						
HNR				LR	LR		
	comp=Z,3μm,21.0s						
PAE	**Paea**	**31.55**	**68**	⇑*i*P	**P**	**13 12 53.5**	**-0.5**
	comp=Z,37nm,1.0s						
PAE				*e*ScP	**ScP**	**13 19 03.4**	**-1.0**
	comp=Z,8.7nm,0.8s						
PAE	**Paea**	**31.55**	**68**	*e*T	T	13 45 23.9	
	comp=Z,38nm,0.2s						
PPT2	**Papeete2**	**31.59**	**68**	⇑*i*P	**P**	**13 12 53.6**	**-0.9**
	comp=Z,151nm,1.1s						
PPT2				*e*ScP	**ScP**	**13 19 03.8**	**-0.9**
	comp=Z,120nm,1.2s						
PPT2				*e*LR	LR	13 21 27.8	
	comp=Z,3μm,23.2s						
PPT2	**Papeete2**	**31.59**	**68**	*e*T	T	13 45 25.1	
	comp=Z,40nm,0.3s						
PPT	**Papeete**	**31.61**	**68**	P	**P**	**13 12 54.2**	**-0.3**
	comp=Z,145nm,0.9s,baz=209,slow=0.9,SNR=7.3						
TVO	**Taravao**	**31.74**	**69**	*e*T	T	13 45 31.8	
	comp=Z,3.8nm,0.3s						
TIAR	**Tiarei**	**31.79**	**68**	⇑*i*P	**P**	**13 12 55.9**	**-0.3**
	comp=Z,99nm,0.8s						
TIAR				*e*ScP	**ScP**	**13 19 04.3**	**-1.0**
	comp=Z,31nm,1.0s						
TIAR	**Tiarei**	**31.79**	**68**	*e*T	T	13 45 32.7	
	comp=Z,6.5nm,0.3s						
STKA	**Stephens Creek**	**32.10**	**262**	P	**P**	**13 13 00.5**	**+1.6**
	comp=Z,92nm,1.1s,baz=100,slow=8.8,SNR=33						
STKA				PcP	**PcP**	**13 15 42.6**	**-0.2**
	comp=Z,89nm,1.0s,baz=139,slow=2.9,SNR=6.5						
STKA				ScP	**ScP**	**13 19 05.2**	**-0.9**
	comp=Z,81nm,1.0s,baz=81,slow=2.8,SNR=14						
STKA				ScS	**ScS**	**13 23 00.1**	**-5.4**
	comp=Z,5.0nm,0.8s,baz=220,slow=22,SNR=6.9						
STKA	**Stephens Creek**	**32.10**	**262**	*e*P	**P**	**13 12 57.5**	**-1.3**
STKA				*e*		13 15 42.7	
STKA						13 23 00.1	
STKA				pmax	pmax		
	comp=Z,35nm,1.1s						
STKA	**Stephens Creek**	**32.10**	**262**	*e*P	**P**	**13 12 57.5**	**-1.3**
	comp=Z,35nm,1.1s						
STKA				PcP	**PcP**	**13 15 42.6**	**-0.2**
STKA				*e*PcP	PcP	13 15 42.7	0.0
STKA				*e*ScP	**ScP**	**13 19 04.3**	**-1.9**
STKA				ScS	**ScS**	**13 23 00.1**	**-5.4**
CTA	**Charters Tower**	**32.54**	**285**	P	**P**	**13 13 04.2**	**+1.5**
	comp=Z,390nm,0.6s,baz=115,slow=10,SNR=244						
CTA				S	**S**	**13 18 05.5**	**+3.3**
	comp=Z,61nm,1.1s,baz=231,slow=21,SNR=20						
CTA				ScP	**ScP**	**13 19 06.3**	**-1.5**
	comp=Z,80nm,1.1s,baz=140,slow=5.5,SNR=5.9						
CTAO	**Charters Tower**	**32.54**	**285**	*e*P	**P**	**13 13 03.9**	**+1.2**
CTAO				*e*		13 15 44.7	
CTAO				*e*S	**S**	**13 18 05.9**	**+3.6**
CTAO				pmax	pmax		
	comp=Z,502nm,0.8s						
CTAO				MLR	MLR		
	comp=Z,3μm,22.0s						
CTAO	**Charters Tower**	**32.54**	**285**	*e*P	**P**	**13 13 03.9**	**+1.2**
	comp=Z,502nm,0.8s						
CTAO				*e*PcP	**PcP**	**13 15 44.7**	**+0.5**
CTAO				*e*S	**S**	**13 18 05.9**	**+3.6**
CTAO				*e*		13 19 06.1	
CTAO				LR	LR		
	comp=Z,3μm,22.0s						
MEH	**Mehetia**	**32.62**	**70**	*e*P	**P**	**13 13 03.1**	**-0.3**
	comp=Z,46nm,1.1s						
MEH				*e*ScP	**ScP**	**13 19 06.6**	**-1.5**
	comp=Z,31nm,0.9s						
PMOR	**Pomariorio Ree**	**34.42**	**66**	⇑*i*P	**P**	**13 13 18.3**	**-0.6**
	comp=Z,147nm,1.2s						
PMOR				*e*ScP	**ScP**	**13 19 13.7**	**-0.7**
	comp=Z,63nm,1.0s						
PMOR	**Pomariorio Ree**	**34.42**	**66**	*e*T	T	13 48 47.9	
	comp=Z,14nm,0.3s						
VAH	**Vaihoa**	**34.48**	**67**	⇑*i*P	**P**	**13 13 18.7**	**-0.8**
	comp=Z,182nm,1.0s						
VAH				*e*ScP	**ScP**	**13 19 13.8**	**-0.9**
	comp=Z,78nm,1.0s						
VAH	**Vaihoa**	**34.48**	**67**	*e*T	T	13 49 11.8	
	comp=Z,106nm,0.3s						
BBOO	**Buckleboo**	**36.47**	**258**	*e*P	**P**	**13 13 36.8**	**+0.6**
	comp=Z,194nm,0.9s						
PMG	**Port Moresby**	**38.25**	**301**	*c i*P	**P**	**13 13 50.2**	**-1.1**
PMG				pmax	pmax		
	comp=Z,1μm,1.0s						
PMG	**Port Moresby**	**38.25**	**301**	*e*P	**P**	**13 13 51.1**	**-0.2**
	comp=Z,322nm,0.9s						
PMG				*e*PcP	**PcP**	**13 16 02.2**	**+1.1**
PMG				LR	LR		
	comp=Z,2μm,20.0s						
COEN	**Coen**	**38.36**	**291**	*e*P	**P**	**13 13 52.8**	**+0.5**
	comp=Z,1μm,1.4s						
DRV	**Dumont d'Urvil**	**40.84**	**203**	P	P	13 13 49.0	-23
DRV				S	S	13 19 54.0	-13
DRV				L	L	13 23 00.0	
DRV				R		13 26 00.0	
RKT	**Rikitea**	**40.86**	**88**	⇑*i*P	**P**	**13 14 13.0**	**+0.2**
	comp=Z,193nm,1.2s						
RKT				*e*ScP	**ScP**	**13 19 38.6**	**-0.1**
	comp=Z,201nm,1.1s						
RKT				*e*LR	LR	13 25 42.3	
	comp=Z,2μm,30.8s						
RKT	**Rikitea**	**40.86**	**88**	*e*T	T	13 57 28.1	
	comp=Z,7.8nm,0.3s						
XMAS	**Kiritimati**	**41.12**	**36**	*e*P	**P**	**13 14 12.4**	**-2.5**
	comp=Z,95nm,0.8s						
XMAS				*e*PcP	**PcP**	**13 16 12.0**	**+1.8**
AS01	**Alice Springs**	**41.13**	**271**	*e*P	**P**	**13 14 14.4**	**-0.7**
AS31	**Alice Springs**	**41.17**	**271**	*e*P	**P**	**13 14 15.8**	**+0.4**
AS31				*e*PcP	**PcP**	**13 16 11.2**	**+0.8**
ASAR	**Alice Springs**	**41.17**	**271**	P	**P**	**13 14 15.8**	**+0.3**
	comp=Z,644nm,0.8s,baz=109,slow=7.3,SNR=1055						
ASAR				PcP	**PcP**	**13 16 10.8**	**+0.4**
	comp=Z,108nm,0.9s,baz=118,slow=3.2,SNR=11						
ASAR				ScP	**ScP**	**13 19 39.0**	**-1.0**
	comp=Z,13nm,0.8s,baz=120,slow=4.3,SNR=5.2						
ASAR				S	**S**	**13 20 14.4**	**+1.5**
	comp=Z,72nm,0.9s,baz=111,slow=15,SNR=22						
ASAR				PKiKP	**PKiKP**	**13 23 17.1**	**-0.8**
	comp=Z,7.1nm,0.9s,baz=108,slow=1.4,SNR=9.8						
ASAR				ScS	**ScS**	**13 23 52.5**	**-4.2**
	comp=Z,25nm,1.1s,baz=134,slow=5.3,SNR=5.6						
ASAR				P3KPbc		13 43 49.2	
	comp=Z,0.3nm,0.8s,baz=301,slow=4.4,SNR=5.4						
WRAB	**Tennant Creek**	**42.41**	**276**	*e*P	**P**	**13 14 25.6**	**+0.1**
WRAB				*e*		13 16 13.8	
WRAB

POHA Pohakuloa 57.69 28 PFAKE 13 16 30.0 +10
POHA LR LR
comp=Z,97µm,19.0s
MMRI Maumere 58.25 281 P **P** **13 16 24.5 +0.4**
comp=Z,1µm,1.2s,comp=Z,12µm
MMRI Maumere 58.25 281 P **P** **13 16 22.4 -1.7**
KIP Kipapa 58.30 24 *e*P **P** **13 16 22.5 -1.6**
KIP *e* 13 17 13.2
KIP Kipapa 58.30 24 *e*P **P** **13 16 22.5 -1.6**
KIP *e*PcP **PcP** **13 17 13.2 +0.4**
SANI Sanana 59.05 290 P **P** **13 16 29.8 +0.3**
comp=Z,575nm,1.1s,comp=Z,6µm
WSI Waingapu 59.29 279 P **P** **13 16 32.4 +1.2**
comp=Z,2µm,1.1s,comp=Z,14µm
TNTI Ternate 59.73 293 P **P** **13 16 34.7 +0.5**
comp=Z,143nm,1.1s,comp=Z,3µm
TNTI Ternate 59.73 293 P **P** **13 16 32.5 -1.7**
WBSI Waikabubak, Su 60.05 278 P **P** **13 16 37.6 +1.1**
comp=Z,348nm,1.2s,comp=Z,5µm
RPN Rapa Nui 60.54 105 P **P** **13 16 40.3 +0.7**
comp=Z,62nm,0.8s,baz=314,slow=4.4,SNR=3.4
KDI Kendari 60.59 286 P **P** **13 16 40.4 +0.3**
comp=Z,399nm,1.1s,comp=Z,4µm
BSSI Bau Bau, Buton 61.07 282 P **P** **13 16 44.5 +1.2**
comp=Z,180nm,1.4s,comp=Z,2µm
MIDW Midway 61.13 3 PFAKE 13 16 50.0 +6.7
MIDW LR LR
comp=Z,1µm,20.0s
BKSI Bulukumba 61.84 283 P **P** **13 16 48.8 +0.4**
comp=Z,314nm,0.9s,comp=Z,3µm
LUWI Luwuk 62.20 289 P **P** **13 16 52.0 +1.1**
comp=Z,782nm,1.1s,comp=Z,8µm
LUWI Luwuk 62.20 289 *e*P **P** **13 16 50.5 -0.4**
LUWI *e*PcP **PcP** **13 17 28.6 -0.2**
KMSI Cibinong 62.23 291 P **P** **13 16 52.4 +1.4**
comp=Z,588nm,1.1s,comp=Z,5µm
KAPI Kappang 62.31 283 P **P** **13 16 52.7 +1.1**
comp=Z,136nm,0.8s,baz=140,slow=3.5,SNR=37
KAPI PKP2bc 13 46 03.2
comp=Z,16nm,1.0s,baz=249,slow=5.2,SNR=5.2
KAPI Kappang 62.31 283 P **P** **13 16 52.5 +0.9**
SNR=16
KAPI Kappang 62.31 283 P **P** **13 16 52.5 +0.9**
SNR=16
KAPI Kappang 62.31 283 P **P** **13 16 50.2 -1.4**
KAPI ⇑*e* 13 46 03.2
KAPI LR LR
comp=Z,899nm,20.0s
SPSI Sidrap Palu 62.90 284 P **P** **13 16 54.7 -0.8**
comp=Z,386nm,1.0s,comp=Z,4µm
SGSI Sangihe 62.99 295 P **P** **13 16 57.0 +0.9**
comp=Z,1µm,0.7s,comp=Z,70µm
APSI Ampana 63.18 288 P **P** **13 16 58.3 +1.0**
comp=Z,296nm,1.1s,comp=Z,4µm
TTSI Tana Toraja 63.39 285 P **P** **13 16 58.7 0.0**
comp=Z,246nm,1.0s,comp=Z,3µm
MRSI Marisa 63.78 289 P **P** **13 17 01.5 +0.3**
comp=Z,103nm,1.4s,comp=Z,2µm
IGBI Denpasar 64.03 277 P **P** **13 17 04.6 +1.8**
comp=Z,639nm,1.0s,comp=Z,5µm
DNP Denpasar 64.05 277 P P 13 17 06.2 +3.2
PCI Palu 64.63 287 P **P** **13 17 08.1 +1.3**
comp=Z,1µm,1.1s,comp=Z,11µm
JAGI Jajag, Banyuwa 65.04 276 *e*P P 13 17 06.2 -3.2
JAGI *e*PcP **PcP** **13 17 39.2 -1.3**
TOLI Toli-Toli 65.08 289 *e*P **P** **13 17 09.0 -0.7**
DAV Davao City (W) 65.15 297 PFAKE 13 17 20.0 +10
DAV LR LR
comp=Z,610nm,20.0s
MPSI Mapaga 65.32 288 P **P** **13 17 10.8 -0.4**
comp=Z,192nm,1.0s,comp=Z,2µm
ABJI Asem Bagus 65.33 277 P **P** **13 17 12.5 +1.2**
comp=Z,347nm,1.1s
BLJI Banyuglugur 65.89 277 P **P** **13 17 15.3 +0.4**
comp=Z,234nm,1.1s,comp=Z,3µm
KBKI Kotabaru 66.22 282 P **P** **13 17 17.8 +0.8**
comp=Z,493nm,1.0s,comp=Z,5µm
BKB Balikpapan 66.80 284 P P 13 17 24.4 +3.8
BBKI Banjar Baru 67.22 281 P **P** **13 17 23.8 +0.5**
comp=Z,613nm,0.9s,comp=Z,7µm
PWJI Pagerwojo 67.24 275 P **P** **13 17 23.6 +0.2**
comp=Z,419nm,1.1s,comp=Z,4µm
GRJI Gresik 67.27 277 P **P** **13 17 25.2 +1.6**
comp=Z,374nm,1.0s,comp=Z,3µm
BWJI Bawean 67.70 278 P **P** **13 17 27.0 +0.7**
TBJI Tambak Boyo 67.85 276 P **P** **13 17 28.8 +1.6**
comp=Z,456nm,1.1s,comp=Z,6µm
UGM Wanagama 68.36 275 P **P** **13 17 31.9 +1.4**
comp=Z,253nm,1.0s
UGM Wanagama 68.36 275 *e*P **P** **13 17 30.5 0.0**
UWJI Ujung Watu 68.81 276 P **P** **13 17 34.2 +1.0**
comp=Z,306nm,1.2s
SMRI Semarang 68.90 275 P **P** **13 17 35.0 +1.3**
comp=Z,192nm,1.0s
SMRI Semarang 68.90 275 *e*P **P** **13 17 32.6 -1.1**
SMRI *e*PP **PP** **13 20 06.4 -2.4**
MAW Mawson 69.03 201 P **P** **13 17 34.9 +1.3**
comp=Z,630nm,1.1s,baz=118,slow=7.6,SNR=255
MAW PKP2bc 13 45 40.8
comp=Z,3.7nm,1.0s,baz=44,slow=3.9,SNR=3.9
MAW Mawson 69.03 201 P **P** **13 17 34.9 +1.3**
MAW pmax pmax
comp=Z,631nm,1.1s
MAW pmax pmax
comp=Z,4.0nm,1.0s
MAW Mawson 69.03 201 *e*P **P** **13 17 34.0 +0.4**
MAW ⇑*e* 13 45 40.8
TSM Tawau 69.31 290 ⇑P **P** **13 17 36.4 +0.2**
CBIJ Chichi jima 69.79 325 *e*P **P** **13 17 36.4 -2.4**
JCJ Chichijima 69.79 325 P **P** **13 17 37.2 -1.6**
comp=Z,290nm,0.6s,baz=275,slow=13,SNR=28
CMJI Cimerak 70.17 274 P **P** **13 17 40.9 -0.6**
comp=Z,513nm,1.0s,comp=Z,5µm
RCP Roxas 70.21 299 ⇓*e*P **P** **13 17 42.0 +0.3**
PBKI Pangkalan Bun 70.26 280 P **P** **13 17 43.1 +1.1**
comp=Z,1µm,1.1s,comp=Z,10µm
PMSA Palmer Station 70.50 156 P **P** **13 17 44.6 +2.0**
comp=Z,71nm,1.0s,baz=226,slow=5.4,SNR=4.4
SDKM Sandakan 70.67 291 ⇑P **P** **13 17 43.7 -0.8**
CISI Cisompet, Garu 70.82 274 P **P** **13 17 45.0 -0.5**
comp=Z,701nm,1.0s,comp=Z,6µm
CISI Cisompet, Garu 70.82 274 *e*P **P** **13 17 44.2 -1.3**
XMIS Christmas Isla 71.09 270 *e*P **P** **13 17 47.1 0.0**
LEM Lembang 71.38 274 P **P** **13 17 48.9 -0.1**
comp=Z,566nm,1.0s,comp=Z,6µm
CNJI Cibinong 71.53 273 P **P** **13 17 49.7 +0.1**
comp=Z,616nm,1.0s,comp=Z,5µm
KKM Kota Kinabalu 71.69 290 ⇓P **P** **13 17 51.1 +0.4**
KKM Kota Kinabalu 71.69 290 *e*P **P** **13 17 50.5 -0.2**
KKM LR LR
comp=Z,999nm,21.0s
STKI Sintang 71.98 282 P **P** **13 17 52.8 +0.4**
comp=Z,520nm,0.9s,comp=Z,10µm
SKJI Sukabumi 72.17 273 P **P** **13 17 54.1 +0.6**
comp=Z,445nm,1.1s,comp=Z,4µm
SBUM Sibu 72.75 285 ⇑P **P** **13 17 57.6 +0.8**
SBUM Sibu 72.75 285 *e*P **P** **13 17 56.7 -0.1**
SBJI Serang 73.00 274 P P 13 18 02.0 +3.6
CGJI Cibinong 73.10 273 P **P** **13 17 58.3 -0.7**
comp=Z,382nm,1.1s,comp=Z,4µm
TGY Tagaytay City 73.20 300 P **P** **13 18 00.1 +0.6**
comp=Z,214nm,0.3s,baz=270,slow=20
TPI Tanjungpandan 73.56 278 P **P** **13 18 02.5 +0.9**
comp=Z,181nm,1.0s,comp=Z,2µm
KSM Kuching 73.74 283 ⇓P **P** **13 18 02.6 0.0**
KSM Kuching 73.74 283 *e*P **P** **13 18 02.0 -0.7**
KSM *e*PP **PP** **13 20 45.3 -4.9**
KSM LR LR
comp=Z,685nm,21.0s
SYO Syowa Base 73.97 194 ⇓*i*P **P** **13 18 01.9 -1.2**
BLSI Bandar Lampung 74.14 274 P **P** **13 18 04.8 -0.3**
comp=Z,348nm,0.9s
USHA Ushuaia 74.67 146 P **P** **13 18 08.9 +1.5**
comp=Z,38nm,1.1s,baz=184,slow=8.7,SNR=3.4
KASI Kota Agung 74.69 273 P **P** **13 18 07.6 -0.6**
comp=Z,294nm,1.0s,comp=Z,3µm
KLI Kotabumi 74.74 274 P **P** **13 18 07.6 -0.9**
comp=Z,399nm,1.0s,comp=Z,3µm
PPBI Pangkal Pinang 75.15 277 P **P** **13 18 11.4 +0.6**
comp=Z,148nm,1.2s,comp=Z,9µm
LWLI Liwa 75.32 274 P **P** **13 18 11.9 -0.1**
comp=Z,151nm,0.8s,comp=Z,3µm
SNAA Sanae 75.41 179 P **P** **13 18 12.9 +1.5**
SNAA Sanae 75.41 179 S **S** **13 27 35.5 +2.1**
SNAA Sanae 75.41 179 P **P** **13 18 13.3 +1.8**
comp=Z,520nm,1.1s,baz=195,slow=5.8,SNR=29
SNAA S **S** **13 27 35.9 +2.5**
comp=Z,6.7nm,1.2s,baz=47,slow=23,SNR=14
SNAA Sanae 75.41 179 P **P** **13 18 13.3 +1.8**
SNAA S **S** **13 27 35.9 +2.5**
SNAA pmax pmax
comp=Z,520nm,1.1s
SNAA smax smax
comp=N,7.0nm,1.2s
SNAA Sanae 75.41 179 *e*P **P** **13 18 12.5 +1.0**
SNAA S **S** **13 27 35.9 +2.5**
MDSI Maura Dua 75.51 274 P **P** **13 18 10.9 -2.0**
JHJ2 Mitsune 75.93 326 *e*P **P** **13 18 13.1 -1.6**
NVL N'lazarevskaya 75.98 184 *e*P **P** **13 18 12.8 -1.7**
NVL *e* 13 18 33.4
NVL *e* 13 27 47.5
NVL *e* 13 28 06.2
NVL *e*SS SS 13 32 45.3 +10
NVL pmax pmax
comp=Z,561nm,1.0s
VNA2 Neumayer--Watz 76.05 178 P **P** **13 18 16.8 +1.8**
VNA2 Neumayer--Watz 76.05 178 S **S** **13 27 44.1 +3.9**
VNA1 Neumayer--Stat 76.29 177 P **P** **13 18 18.4 +2.1**
VNA1 Neumayer--Stat 76.29 177 S **S** **13 27 48.2 +5.4**
LHSI Lahat 76.42 274 P **P** **13 18 17.1 -0.9**
comp=Z,314nm,1.0s,comp=Z,4µm
PAF Port-aux-Franc 76.79 219 P P 13 17 55.0 -24
PAF S SKiKP 13 27 25.0 +11
PAF R 13 43 00.0
JOW Kunigami 77.19 314 P **P** **13 18 21.7 -0.3**
comp=Z,7.8nm,0.9s,baz=216,slow=4.4,SNR=8.4
COCO West Island 77.59 264 PFAKE 13 18 40.0 +16
COCO LR LR
comp=Z,1µm,19.0s
YOJ Yonaguni jima 78.79 309 *e*P **P** **13 18 30.4 -0.4**
YOJ Yonaguni jima 78.79 309 *e*P **P** **13 18 30.4 -0.4**
TWG Pinlang 78.95 307 *e*P **P** **13 18 29.9 -1.8**
YULB Yu-li 79.19 307 *e*P **P** **13 18 30.1 -2.9**
MYKOM Kota Tinggi 79.23 279 ⇓P **P** **13 18 33.4 -0.1**
MYKOM Kota Tinggi 79.23 279 *e*P **P** **13 18 32.8 -0.7**
comp=Z,119nm,1.0s
MJAR Matsushiro Arr 79.50 327 P **P** **13 18 33.1 -1.3**
comp=Z,87nm,1.0s,baz=168,slow=5.5,SNR=138
MJAR PKPPKP P'P'df 13 45 16.3 -7.2
comp=Z,1.2nm,0.7s,baz=292,slow=2.7,SNR=4.2
MAJO Matsushiro 79.50 327 *c i*P **P** **13 18 32.8 -1.7**
MAJO pmax pmax
comp=Z,765nm,0.9s
MAJO Matsushiro 79.50 327 *e*P **P** **13 18 32.7 -1.7**
MAJO LR LR
comp=Z,431nm,21.0s
MAT Matsushiro 79.50 327 P **P** **13 18 31.6 -2.8**
MAT S **S** **13 28 12.8 -5.2**
TPUB Ta-pu 79.57 307 *e*P **P** **13 18 33.1 -2.0**
TPUB *e*PcP **PcP** **13 18 41.0 -1.2**
SSLB Suanglung 79.69 307 *e*P **P** **13 18 33.5 -2.2**
SDSI Sungai Dareh 79.74 276 P **P** **13 18 35.4 -0.9**
comp=Z,59nm,1.0s,comp=Z,2µm
KGM Kluang 79.80 279 ⇑P **P** **13 18 36.2 -0.4**
PPSI Pulau Pagai 79.93 273 P **P** **13 18 39.5 +2.2**
comp=Z,511nm,1.0s,comp=Z,6µm
YHNB Yeheng 80.01 308 PFAKE 13 18 50.0 +13
YHNB LR LR
comp=Z,456nm,20.0s
TATO Taipei 80.14 308 PFAKE 13 18 50.0 +12
TATO LR LR
comp=Z,395nm,22.0s
JNU Nakatsue 80.43 320 *e*P **P** **13 18 38.4 -1.1**
BKNI Bangkinang 80.76 276 P **P** **13 18 41.7 0.0**
comp=Z,370nm,1.0s,comp=Z,3µm
BKNI Bangkinang 80.76 276 *e*P **P** **13 18 41.3 -0.4**
BKNI *e*PP **PP** **13 21 48.8 -0.1**
EFI East Falkland 81.46 148 *e*P **P** **13 18 44.0 -0.7**
EFI East Falkland 81.46 148 *e*P **P** **13 18 44.0 -0.7**
EFI *e*PcP **PcP** **13 18 49.8 -0.4**
KTGM Kuala Trenggan 81.80 282 ⇑P **P** **13 18 46.4 -0.8**
QZH Quanzhou 82.05 307 P **P** **13 18 48.8 +0.7**
QZH S **S** **13 28 41.3 -3.4**
QZH PMZ
comp=Z,280nm,1.3s
QZH PMZ
comp=Z,1µm,2.6s
QZH LZ
comp=Z,1µm,19.2s
ERM Erimo 82.06 333 *c i*P **P** **13 18 47.7 0.0**
ERM pmax pmax
comp=Z,153nm,0.9s
ERM Erimo 82.06 333 *e*P **P** **13 18 49.5 +1.8**
ERM LR LR
comp=Z,674nm,20.0s
MNSI Mandailing Nat 82.23 276 P **P** **13 18 48.0 -1.4**
comp=Z,127nm,0.8s,comp=Z,1µm
YUK Yuzh-Kuril'sk 82.85 336 ⇑*i*P **P** **13 18 51.3 -0.5**
YUK *i* 13 21 58.3
YUK *i* S **S** **13 28 55.4 +3.4**
YUK *i* SS **SS** **13 34 19.9 -0.9**
KSBUS Busan 83.00 320 P **P** **13 18 52.9 +0.1**
SNR=15
KSBUS Busan 83.00 320 P **P** **13 18 52.9 +0.1**
SNR=15
KSJJU Jeju 83.05 318 P **P** **13 18 53.8 +0.6**
SNR=13
KSJJU Jeju 83.05 318 P **P** **13 18 53.6 +0.5**
SNR=12
IPM Ipoh 83.07 280 *e*P **P** **13 18 51.6 -2.1**
comp=Z,134nm,0.9s
IPM *e*PP PP 13 22 01.9 -6.0
KUR Kuril'sk 83.26 338 ⇓*i*P **P** **13 18 55.0 +1.2**
KSNAH Namhae 83.31 319 P **P** **13 18 54.7 +0.3**
SNR=11
KSNAH Namhae 83.31 319 P **P** **13 18 54.7 +0.3**
SNR=11
KSDAG Daegu 83.50 321 P **P** **13 18 56.3 +0.9**
SNR=7.1
KSDAG Daegu 83.50 321 P **P** **13 18 55.5 +0.1**
SNR=25
KSJIN Jinju 83.51 320 P **P** **13 18 56.6 +1.2**
SNR=9.3
KSJIN Jinju 83.51 320 P **P** **13 18 56.6 +1.2**
SNR=9.3
KSPHA Pohang 83.57 321 P **P** **13 18 57.2 +1.5**
SNR=8.3
KSPHA Pohang 83.57 321 P **P** **13 18 57.2 +1.5**
SNR=8.3
KSYOC YEONGCHEON 83.63 321 P **P** **13 18 57.4 +1.4**
SNR=6.9
KSWAN Wando 83.67 318 P **P** **13 18 56.7 +0.5**
SNR=13
KSWAN Wando 83.67 318 P **P** **13 18 56.7 +0.5**
SNR=13
KULM Kulim 83.83 280 *e*P **P** **13 18 56.3 -1.3**
KULM LR LR
comp=Z,744nm,21.0s
PSI Prapat 83.88 277 P **P** **13 18 55.5 -2.5**
comp=Z,110nm,1.0s,baz=180,slow=16,SNR=41
PSI PP PP 13 22 13.5 -1.1
comp=Z,177nm,1.1s,baz=74,slow=7.9,SNR=4.0
PSI Prapat 83.88 277 *e*P **P** **13 18 55.5 -2.5**
PSI *e* 13 22 09.0
PSI pmax pmax
comp=Z,119nm,0.9s
PSI Prapat 83.88 277 *e*P **P** **13 18 55.5 -2.5**
comp=Z,119nm,0.9s
PSI *e*PP PP 13 22 09.0 -5.7
KSULJ Uljin 83.94 322 P **P** **13 18 59.0 +1.4**
SNR=5.9
KSJDO Jindo 83.95 318 P **P** **13 18 58.7 +1.0**
SNR=6.7
KSJDO Jindo 83.95 318 P **P** **13 18 58.7 +1.0**
SNR=6.7
KSEUS ULSEONG 84.05 321 P **P** **13 18 59.5 +1.4**
SNR=9.8
KSEUS ULSEONG 84.05 321 P **P** **13 18 58.5 +0.4**
SNR=14
ASAJ Asahikawa 84.08 334 *e*P **P** **13 18 58.1 +0.1**
KSKWJ Gwangju 84.08 319 P **P** **13 18 58.8 +0.5**
SNR=17
KSKWJ Gwangju 84.08 319 P **P** **13 18 58.3 0.0**
SNR=37
KSGWJ Gwangju-acc 84.14 319 P **P** **13 18 59.1 +0.6**
SNR=12
KSGWJ Gwangju-acc 84.14 319 P **P** **13 18 59.1 +0.6**
SNR=12
GSI Gunungsitoli 84.18 275 P **P** **13 18 59.6 +0.2**
comp=Z,1µm,0.9s,comp=Z,10µm
GSI Gunungsitoli 84.18 275 *e*P **P** **13 18 59.1 -0.3**
KSCPR CHUPUNGNYEONG 84.34 320 P **P** **13 19 00.5 +0.9**
SNR=13
KSJEU Jeongeup 84.36 319 P **P** **13 19 00.2 +0.5**
SNR=16
KSSAJ Sangju 84.38 321 P **P** **13 19 00.9 +1.2**
SNR=7.3
KSTBA Taebaek 84.50 321 P **P** **13 19 01.2 +0.8**
SNR=49
QIZ Qiongzhong 84.52 297 P **P** **13 19 01.1 +0.2**
QIZ pP pP 13 19 40.3 -12
QIZ sP sP 13 19 56.0 -18
QIZ PP **PP** **13 22 19.8 +0.1**
QIZ S **SKKSac** **13 29 10.3 -0.6**
QIZ sS sS 13 30 23.8 -16
QIZ SS **SS** **13 34 50.6 +4.4**
QIZ PMZ
comp=Z,58nm,1.1s
QIZ PMZ
comp=Z,440nm,8.8s
QIZ Qiongzhong 84.52 297 *e*P **P** **13 19 02.3 +1.4**
comp=Z,69nm,1.1s
QIZ LR LR
comp=Z,277nm,21.0s
SSE Sheshan 84.56 313 P **P** **13 19 00.1 -0.7**
SSE S S 13 29 02.8 -6.8
SSE PMZ
comp=Z,31nm,0.9s
SSE PMZ
comp=Z,210nm,4.1s
SSE LN
comp=Z,440nm,21.1s
SSE LE
comp=Z,430nm,21.1s
SSE LZ
comp=Z,360nm,17.3s
TSI Tuntungan 84.56 278 P **P** **13 19 01.9 +0.6**
comp=Z,135nm,0.9s
KSHUK Heuksando 84.59 318 P **P** **13 19 02.0 +1.2**
SNR=12
KSBON Boeun 84.64 320 P **P** **13 19 02.1 +1.1**
SNR=8.5
KSTEJ Daejeon 84.77 320 P **P** **13 19 02.5 +0.8**
SNR=13
TJN Taejon 84.78 320 *i* P **P** **13 19 01.2 -0.5**
KSYOW Yeongwol 84.80 321 P **P** **13 19 03.6 +1.8**
SNR=5.9
KSCHJ Chungju 84.82 321 P **P** **13 19 02.2 +0.3**
SNR=24
KSGUS GUNSAN 84.84 319 P **P** **13 19 02.7 +0.6**
SNR=13
KSJES JEONGSEON 84.88 322 P **P** **13 19 03.3 +1.1**
SNR=17
SKLT Songkhla 84.90 282 P **P** **13 19 03.8 +0.9**
comp=Z,186nm,1.0s,comp=Z,2µm
KSKOJ Gongju 84.97 320 P **P** **13 19 03.2 +0.6**
SNR=12
KSDGY Daegwallycong 85.07 322 P **P** **13 19 04.3 +1.0**
SNR=13
KSCEA Cheonan 85.17 320 P **P** **13 19 04.5 +0.8**
SNR=19
KSJMJ Jumunjin 85.17 322 P **P** **13 19 04.6 +0.9**
SNR=12
KSWJU Wonju 85.18 321 P **P** **13 19 05.1 +1.4**
SNR=8.1
KSRS Korea Array 85.28 321 P **P** **13 19 03.4 -0.8**
comp=Z,81nm,0.8s,baz=140,slow=5.5,SNR=264
KSRS PKKPbc **PKKPbc** **13 37 10.3 +1.1**
comp=Z,1.2nm,0.6s,baz=323,slow=3.3,SNR=6.6
KSRS PKPPKP **P'P'df** **13 45 09.7 -3.5**
comp=Z,0.9nm,0.9s,baz=336,slow=2.7,SNR=3.2
KSRS Korea Array 85.28 321 P **P** **13 19 03.4 -0.8**
KSRS pmax pmax
comp=Z,81nm,0.8s
KSRS pmax pmax
comp=Z,1.0nm,0.6s
KSRS pmax pmax
comp=Z,1.0nm,0.9s
KSAR Wonju Array Be 85.30 321 P **P** **13 19 03.4 -0.9**
KSAR Wonju Array Be 85.30 321 P **P** **13 19 03.4 -0.9**
KSAR PKKPbc **PKKPbc** **13 37 10.3 +1.1**
KSAR P'P' 13 45 09.7
KSICN Icheon 85.43 321 P **P** **13 19 06.1 +1.2**
SNR=28
KSSES Seosan 85.58 320 P **P** **13 19 06.0 +0.3**
SNR=16
KSCHC Chuncheon 85.58 321 P **P** **13 19 06.7 +1.0**
SNR=55
KSIJA INJE 85.59 322 P **P** **13 19 06.6 +0.9**
SNR=81
KSSKC Sokcho 85.60 322 P **P** **13 19 06.9 +1.2**
SNR=19
UBPT Khong Chiam 85.63 291 P **P** **13 19 07.6 +1.1**
comp=Z,138nm,1.0s
KSSWO Suwon 85.65 320 P **P** **13 19 07.2 +1.2**
SNR=16
SEHB SEOHWA 85.72 322 P **P** **13 19 07.5 +1.1**
SNR=23
KSSEO Seoul 85.84 321 P **P** **13 19 08.7 +1.7**
SNR=13
KSCWO Cheorwon 85.97 321 P **P** **13 19 08.7 +1.1**
SNR=35
INCN Inchon 85.99 320 P **P** **13 19 09.5 +1.7**
SNR=10
INCN Inchon 85.99 320 P **P** **13 19 09.5 +1.7**
SNR=10
INCN Inchon 85.99 320 *e*P **P** **13 19 08.6 +0.8**
INCN LR LR
comp=Z,341nm,19.0s
KSDDC Dongducheon 86.07 321 P **P** **13 19 10.2 +2.1**
SNR=6.3
SKR Severo-Kuril's 86.09 345 *e*P P 13 19 13.7 +5.9
SKR *e* 13 22 33.0
SKR *e*PPP PPP 13 24 26.0
SKR *e* 13 29 06.0
SKR *e*S **S** **13 29 18.0 -5.7**
SKR *e**SS sS 13 30 47.0 -6.7
SKR *e*SS **SS** **13 35 07.0 -1.2**
SKR *e*SSS SSS 13 38 37.0
SKR pmax pmax
comp=N,90nm,1.0s
SKR pmax pmax
comp=Z,290nm,1.0s
SKR pmax pmax
comp=Z,800nm,2.0s
SKR smax smax
comp=N,1µm,10.0s
SKR smax smax
comp=E,2µm,12.0s
SKR MLR MLR
comp=N,900nm,16.0s
SKR MLR MLR
comp=Z,900nm,16.0s
KSMUS Musan 86.22 321 P **P** **13 19 10.4 +1.6**
SNR=6.9
YNCB YEONCHEON 86.25 321 P **P** **13 19 10.6 +1.7**
SNR=40
KSGAH Ganghwa 86.26 320 P **P** **13 19 09.6 +0.6**
SNR=84
NIKH Nikolski High 86.37 7 *e*P **P** **13 19 09.8 +0.6**
comp=Z,246nm,1.0s
YSS Yuzh-Sakhalins 86.47 336 *α i*P **P** **13 19 09.0 -0.8**
YSS *e*S **SKSac** **13 29 10.0 -5.5**
YSS *e* 13 29 28.0
YSS *e* 13 30 50.0
YSS pmax pmax
comp=N,280nm,1.0s
YSS pmax pmax
comp=Z,530nm,1.0s
YSS pmax pmax
comp=Z,700nm,2.0s
YSS MLR MLR
comp=N,600nm,18.0s
YSS MLR MLR
comp=Z,600nm,18.0s
YSS Yuzh-Sakhalins 86.47 336 *e*P **P** **13 19 10.3 +0.5**
YSS LR LR
comp=Z,395nm,21.0s
KRAB Krabi 86.65 282 P **P** **13 19 12.7 +1.2**
comp=Z,139nm,0.9s,comp=Z,1µm
NJ2 Nanjing 86.66 312 *e*P **P** **13 19 11.8 +0.7**
NJ2 pP pP 13 19 50.1 -13
NJ2 sP sP 13 20 06.0 -19
NJ2 SKS **SKSac** **13 29 17.0 -0.5**
NJ2 S **ScS** **13 29 35.0 -2.2**
NJ2 PMZ
comp=Z,220nm,1.0s

NJ2 PMZ
comp=Z,660nm,5.7s
NJ2 LN
comp=Z,3µm,28.1s
NJ2 LE
comp=Z,4µm,30.5s
NJ2 LZ
comp=Z,3µm,27.0s
LHMI Lhok Sumawe 86.86 278 P P 13 19 14.1 +1.6
PKDT Phuket 87.18 281 P P 13 19 15.7 +1.7
comp=Z,127nm,1.0s,comp=Z,1µm
KSBAR Backryungdo 87.39 320 P P 13 19 15.4 +1.0
SNR=17
SURT Suratani 87.39 282 P P 13 19 16.6 +1.6
comp=Z,39nm,1.0s
HOPE Hope Point 87.42 160 *eP* **P 13 19 14.8 +0.2**
comp=Z,236nm,0.9s
UNV Unalaska Valle 87.49 8 *eP* **P 13 19 15.1 +0.6**
comp=Z,136nm,1.0s
LPIG La Paz 87.59 59 P P 13 19 14.9 -0.9
comp=Z,20nm,0.3s,baz=278,slow=0.6,SNR=4.5
SLBS Sierra La Lagu 87.60 60 *eP* **P 13 19 17.0 +1.1**
VLA Vladivostok 87.67 327 ⇑*iP* **P 13 19 16.0 +0.3**
VLA *i* 13 22 43.4
VLA *eS* **SKSac 13 29 28.0 +4.9**
VLA pmax pmax
comp=Z,132nm,1.6s
SCI San Clemente I 87.75 48 P P 13 19 17.1 +0.8
baz=88
BSC Santa Cruz Isl 87.77 46 P P 13 19 17.2 +0.8
baz=88
SKNT Sakolnakorn 87.78 292 P P 13 19 16.7 -0.1
comp=Z,438nm,0.9s,comp=Z,4µm
PET Petropavlovsk 87.81 347 *ciP* **P 13 19 15.8 -0.2**
PET *e**PP pP 13 19 59.8 -8.0
PET *e* 13 29 15.5
PET *i S* **S 13 29 37.3 -2.7**
PET pmax pmax
comp=Z,500nm,1.2s
PET pmax pmax
comp=Z,284nm,0.9s
PET Petropavlovsk 87.81 347 *eP* **P 13 19 15.3 -0.7**
PET LR LR
comp=Z,540nm,21.0s
PATY Pattaya 87.93 287 P P 13 19 19.5 +1.9
comp=Z,89nm,0.8s,comp=Z,1µm
SBC Santa Barbara 88.02 46 P P 13 19 18.6 +1.0
baz=88
PEA0B Petropavlovsk- 88.07 347 *eP* **P 13 19 17.3 0.0**
PETK Petropavlovsk- 88.07 347 P P 13 19 16.9 -0.4
comp=Z,316nm,0.8s,baz=138,slow=7.0,SNR=165
PETK PKKPbc **PKKPbc 13 37 03.9 +0.6**
comp=Z,5.8nm,1.0s,baz=37,slow=7.9,SNR=4.3
PETK PKPPKP **P'P'df 13 45 11.1 +4.2**
comp=Z,5.5nm,1.0s,baz=77,slow=9.3,SNR=4.0
CIS Catalina Islan 88.12 48 P P 13 19 18.5 +0.4
baz=88,SNR=8.7
BLG Laguna Peak, P 88.19 47 P P 13 19 18.9 +0.5
baz=88
PKM Mcpherson Peak 88.27 46 P P 13 19 19.9 +0.9
baz=88
FMP Fort Macarthur 88.40 47 P P 13 19 19.8 +0.5
baz=89
SMMC Simmler 88.45 45 P P 13 19 20.5 +0.9
baz=89
USRK Ussuriysk Ar. 88.47 328 P P 13 19 19.5 +0.1
comp=Z,80nm,0.9s,baz=140,slow=2.9,SNR=129
WHN Wuhan 88.55 308 ⇓*P* **P 13 19 21.0 +0.9**
WHN PP **PP 13 22 50.5 -1.5**
WHN SKS **SKSac 13 29 26.1 -2.9**
WHN S **S 13 29 47.3 -0.8**
WHN PMZ
comp=Z,98nm,0.9s
WHN LZ
comp=Z,2µm,28.2s
109C Camp Elliot, M 88.59 49 P P 13 19 20.7 +0.4
baz=89
BAR Barrett 88.73 49 *eP* **P 13 19 21.8 +0.9**
comp=Z,17nm,1.2s
OSI Osito Audit: C 88.74 46 P P 13 19 21.8 +0.8
baz=89
PASC Pasadena Art C 88.77 47 *eP* **P 13 19 21.5 +0.4**
comp=Z,72nm,1.2s
TRQA Tornquist 88.78 136 PFAKE 13 19 30.0 +8.6
TRQA LR LR
comp=Z,419nm,19.0s
MWC Mount Wilson 88.89 47 *eP* **P 13 19 22.2 +0.3**
MWC Mount Wilson 88.89 47 *eP* **P 13 19 22.2 +0.3**
LCO Las Campanas 89.00 124 *eP* **P 13 19 24.4 +1.5**
comp=Z,102nm,1.4s
LCO LR LR
comp=Z,829nm,20.0s
MURC Murrieta 89.00 48 P P 13 19 22.8 +0.5
baz=89,SNR=22
ARVC Arvin 89.02 46 P P 13 19 22.4 +0.1
baz=89,SNR=16
MONP Monument Peak, 89.02 49 P P 13 19 23.6 +1.0
baz=89,SNR=45
NONG Nongkai 89.06 292 P P 13 19 22.9 +0.1
comp=Z,571nm,0.9s,comp=Z,5µm
IBP Imperial Bould 89.08 49 P P 13 19 23.6 +0.9
baz=89
BFSC Mount Baldy Ra 89.14 47 P P 13 19 23.3 +0.3
baz=89,SNR=49
EDW2 Edwards Air Fo 89.37 47 P P 13 19 24.5 +0.5
baz=90,SNR=58
SWSC Sam W. Stewart 89.45 49 P P 13 19 25.2 +0.9
baz=90,SNR=13
KCPM Cahto Peak 89.47 40 *eP* **P 13 19 23.1 -1.3**
comp=Z,41nm,1.0s
PFO Pinyon Flats O 89.47 48 *eP* **P 13 19 25.4 +0.9**
PFO MLR MLR
comp=Z,583nm,19.0s
PFO Pinyon Flats O 89.47 48 P P 13 19 25.6 +1.0
baz=90,SNR=32
PFO Pinyon Flats O 89.47 48 *eP* **P 13 19 25.4 +0.9**
PFO LR LR
comp=Z,583nm,19.0s
PAYG Puerto Ayora 89.58 91 PFAKE 13 19 40.0 +15
PAYG LR LR
comp=Z,3.0nm,20.0s
ISA Isabella, Lake 89.60 46 *eP* **P 13 19 25.1 +0.1**
ISA Isabella, Lake 89.60 46 P P 13 19 25.7 +0.7
baz=90,SNR=69
ISA Isabella, Lake 89.60 46 *eP* **P 13 19 25.1 +0.1**
ISA *e*PKKPbc **PKKPbc 13 37 00.4 +1.8**
KIPM Iron Peak 89.61 40 *eP* **P 13 19 26.1 +1.0**
comp=Z,81nm,1.3s
BBRC Big Bear Solar 89.61 48 P P 13 19 26.1 +0.8
baz=90,SNR=9.2
DL2 Dalian 89.75 318 ⇓*P* **P 13 19 23.4 -2.1**
DL2 S **S 13 29 58.4 -0.4**
DL2 sS sS 13 31 09.0 -21
DL2 PMZ
comp=Z,190nm,0.9s
DL2 PMZ
comp=Z,140nm,4.1s
KMRM Mail Ridge 89.78 40 *eP* **P 13 19 27.1 +1.3**
comp=Z,200nm,1.6s
TYV Tymovskoe 89.87 338 *eP* **P 13 19 26.8 +1.0**
TYV pmax pmax
comp=E,158nm,1.0s
TYV pmax pmax
comp=N,200nm,1.6s
MDJ Mudanjiang 89.88 327 P P 13 19 26.0 0.0
MDJ pP pP 13 20 03.8 -14
MDJ sP sP 13 20 19.9 -20
MDJ S **S 13 29 59.6 -0.2**
MDJ sS sS 13 31 08.4 -22
MDJ SS **SS 13 36 03.1 -0.5**
MDJ PMZ
comp=N,160nm,1.0s
MDJ PMZ
comp=N,130nm,4.0s
MDJ LN
comp=N,750nm,24.9s
MDJ LE
comp=N,920nm,24.9s
MDJ LZ
comp=N,400nm,21.3s
MDJ Mudanjiang 89.88 327 *eP* **P 13 19 26.1 0.0**
comp=N,140nm,0.9s
MDJ LR LR
comp=Z,441nm,20.0s
LRMC Laurel Mtn Rad 89.95 46 P P 13 19 27.2 +0.5
baz=90,SNR=51

BELC Belle Mtn. Jos 90.02 48 P P 13 19 28.0 +0.9
baz=90,SNR=54
CMB Columbia Colle 90.09 43 *eP* **P 13 19 27.7 +0.5**
CMB pmax pmax
comp=Z,74nm,1.1s
CMB Columbia Colle 90.09 43 *eP* **P 13 19 27.7 +0.5**
comp=Z,74nm,1.1s
SRDT SRDT 90.13 287 P P 13 19 29.7 +1.9
comp=Z,619nm,0.9s,comp=Z,6µm
BC3 Big Chuckawall 90.14 49 P P 13 19 28.9 +1.3
baz=90,SNR=45
GLA Glamis 90.14 50 P P 13 19 28.9 +1.3
baz=90,SNR=58
KHMM Horse Mountain 90.23 39 *eP* **P 13 19 29.6 +1.7**
comp=Z,56nm,0.9s
HEC Hector,Ludlow 90.35 48 P P 13 19 29.3 +0.7
baz=91,SNR=48
CWC Cottonwood Cre 90.36 45 P P 13 19 29.2 +0.6
baz=91
GSC Goldstone, Bar 90.37 47 *eP* **P 13 19 29.1 +0.4**
GSC *e* 13 23 12.1
GSC pmax pmax
comp=Z,57nm,1.0s
GSC Goldstone, Bar 90.37 47 P P 13 19 29.0 +0.4
baz=91,SNR=40
GSC Goldstone, Bar 90.37 47 *eP* **P 13 19 29.1 +0.4**
comp=Z,58nm,1.0s
GSC *e*PP PP 13 23 12.1 +5.6
GSC *e*PKKPbc **PKKPbc 13 36 58.1 +1.4**
MPMC Manual Prospec 90.46 46 P P 13 19 29.6 +0.4
baz=91,SNR=28
TIA Tai'an 90.52 314 P P 13 19 29.8 +0.6
TIA PMZ
comp=Z,170nm,0.8s
DAC Darwin (Calif) 90.54 46 *eP* **P 13 19 29.5 0.0**
DAC pmax pmax
comp=Z,21nm,1.3s
DAC Darwin (Calif) 90.54 46 *eP* **P 13 19 29.5 0.0**
comp=Z,21nm,1.3s
HABR Khabarovsk 90.59 332 *deP* **P 13 19 28.6 -0.5**
HABR *e* 13 23 05.1
HABR *e*PPP PPP 13 25 03.5
HABR *e* 13 30 12.2
HABR *e*SS SS 13 36 16.2 +2.6
HABR *e*SSS SSS 13 39 54.8
HABR pmax pmax
comp=Z,413nm,1.6s
HABR MLR MLR
comp=Z,149nm,16.0s
IRM Iron Mountain 90.65 49 P P 13 19 30.8 +0.9
baz=91,SNR=74
WDC Whiskeytown Da 90.66 40 *eP* **P 13 19 29.4 -0.3**
WDC pmax pmax
comp=Z,77nm,1.1s
WDC Whiskeytown Da 90.66 40 *eP* **P 13 19 29.4 -0.3**
comp=Z,77nm,1.1s
TIN Tinemaha, Big 90.68 45 P P 13 19 30.3 +0.3
baz=91
MLAC Mammoth, Mammc 90.71 44 P P 13 19 30.9 +0.5
baz=91,SNR=7.8
GMRC Granite Mounta 90.74 48 P P 13 19 31.1 +0.7
baz=91,SNR=27
214A Organ Pipe Nat 90.75 52 P P 13 19 31.7 +1.3
baz=91
214A Organ Pipe Nat 90.75 52 *eP* **P 13 19 31.5 +1.1**
comp=Z,85nm,1.2s
SNY Shenyang 90.77 322 ⇑*P* **P 13 19 30.0 -0.2**
SNY SKS **SKSac 13 29 39.1 -2.2**
SNY S **S 13 30 06.8 -1.2**
SNY PMZ
comp=Z,81nm,0.9s
SNY PMZ
comp=Z,250nm,3.5s
SNY LN
comp=Z,270nm,20.4s
SNY LE
comp=Z,300nm,20.4s
SNY LZ
comp=Z,460nm,28.8s
Y12C Blythe 90.79 49 P P 13 19 31.4 +0.9
baz=91,SNR=15
KHLT Khaolaem Dam 90.81 287 P P 13 19 32.8 +1.8
comp=Z,77nm,1.0s,comp=Z,642nm
N02D Trinity Center 90.85 40 P P 13 19 31.5 +0.8
baz=91,SNR=26
UTTA Uttaradit 90.90 291 P P 13 19 33.1 +1.8
comp=Z,16nm,0.9s,comp=Z,137nm
WAKR Walker 90.95 43 *eP* **P 13 19 31.8 +0.4**
TUQ Turquoise Moun 91.00 47 P P 13 19 32.4 +0.8
baz=91,SNR=18
M02C Callahan 91.07 39 P P 13 19 32.6 +0.9
baz=91,SNR=24
SHOC Shoshone, Teco 91.09 47 P P 13 19 32.6 +0.7
baz=91,SNR=16
FURC Furnace Creek, 91.11 46 P P 13 19 32.4 +0.6
baz=91,SNR=5.6
GRAC Grapevine Rang 91.15 45 P P 13 19 32.7 +0.5
baz=91,SNR=22
L02D Cave Junction, 91.22 38 P P 13 19 32.8 +0.5
baz=92,SNR=9.3
CN2 Changchun 91.25 324 *eP* **P 13 19 31.0 -1.4**
CN2 *e*pP pP 13 20 15.1 -9.2
CN2 *e*PP **PP 13 23 13.5 +0.4**
CN2 *e*S **S 13 30 12.5 +0.2**
CN2 sS sS 13 31 29.3 -14
CN2 PMZ
comp=Z,300nm,0.9s
CN2 PMZ
comp=Z,330nm,3.0s
CN2 LN
comp=Z,300nm,19.0s
CN2 LE
comp=Z,310nm,19.0s
CN2 LZ
comp=Z,410nm,21.0s
GYA Guiyang 91.33 301 P P 13 19 34.6 +1.3
GYA pP pP 13 20 14.8 -10
GYA sP sP 13 20 32.3 -15
GYA PP **PP 13 23 17.0 +2.8**
GYA SKS **SKSac 13 29 51.4 +5.9**
GYA S **ScS 13 30 18.6 +2.1**
GYA sS sS 13 31 28.3 -17
GYA PMZ
comp=Z,50nm,1.0s
GYA PMZ
comp=Z,190nm,5.9s
GYA LN
comp=Z,3µm,20.8s
GYA LE
comp=Z,3µm,21.0s
GYA LZ
comp=Z,3µm,20.4s
KEBM Edson Butte 91.35 38 *eP* **P 13 19 32.9 -0.1**
comp=Z,247nm,1.2s
NEE2 Needles Airpor 91.38 49 P P 13 19 34.4 +1.2
baz=92
PDMCI Parker Dam,Lak 91.38 49 P P 13 19 34.3 +1.1
baz=92,SNR=20
YBH Yreka Blue Hor 91.39 39 P P 13 19 33.8 +0.6
comp=Z,37nm,1.0s,baz=228,slow=3.9,SNR=27
YBH Yreka Blue Hor 91.39 39 *eP* **P 13 19 34.0 +0.8**
YBH pmax pmax
comp=Z,29nm,0.9s
YBH Yreka Blue Hor 91.39 39 *eP* **P 13 19 34.0 +0.8**
comp=Z,29nm,0.9s
LBCM Butte Creek Ri 91.49 41 P P 13 19 33.6 -0.2
NVAR Mina Array Bea 91.56 44 P P 13 19 34.6 +0.4
comp=Z,22nm,0.8s,baz=218,slow=7.6,SNR=94
NVAR PKiKP **PKiKP 13 24 29.2 +4.6**
comp=Z,0.6nm,0.8s,baz=227,slow=2.1,SNR=2.9
NVAR PKKPbc **PKKPbc 13 36 54.2 +0.2**
comp=Z,2.5nm,0.8s,baz=66,slow=5.1,SNR=8.3
NVAR SKKPbc SKKPbc 13 40 11.9 -3.2
comp=Z,0.6nm,0.7s,baz=46,slow=2.6,SNR=3.7
NVAR PKPPKP P'P'df 13 44 55.7 -6.5
comp=Z,0.7nm,0.7s,baz=66,slow=2.3,SNR=4.1
ENH Enshi 91.64 305 *eP* **P 13 19 34.2 -0.4**
comp=Z,110nm,0.9s
ENH *e*PKKPbc **PKKPbc 13 36 55.2 +2.2**
ENH LR LR
comp=Z,8.0nm,20.0s
TPNV Topopah Spring 91.79 46 *eP* **P 13 19 35.8 +0.5**
TPNV Topopah Spring 91.79 46 P P 13 19 35.9 +0.5
baz=92,SNR=35
TPNV Topopah Spring 91.79 46 *eP* **P 13 19 35.8 +0.5**
HUMO Hull Mountain 91.87 38 *eP* **P 13 19 36.3 +1.0**
comp=Z,144nm,1.5s
M04C Macdoel 91.88 40 P P 13 19 35.5 -0.1
baz=92,SNR=16
TPH Tonopah 91.95 45 *eP* **P 13 19 36.2 +0.1**
TPH pmax pmax
comp=Z,44nm,0.8s
TPH Tonopah 91.95 45 *eP* **P 13 19 36.1 +0.1**
comp=Z,44nm,0.8s
LAMP Lampang 92.06 291 P P 13 19 38.6 +1.9
comp=Z,14nm,0.9s,comp=Z,96nm
SHPR Sheep Range 92.17 47 *eP* **P 13 19 37.7 +0.6**
SHPR *e*PKKPbc **PKKPbc 13 36 54.1 +1.9**
BBOR Butler Butte 92.22 38 P P 13 19 37.5 +0.4
HOG Hogback Mounta 92.28 39 P P 13 19 37.9 +0.5
TUC Tucson 92.31 53 *eP* **P 13 19 39.0 +1.3**
TUC *e* 13 36 52.5
TUC pmax pmax
comp=Z,49nm,1.2s
TUC MLR MLR
comp=Z,335nm,20.0s
TUC Tucson 92.31 53 *eP* **P 13 19 39.0 +1.3**
comp=Z,49nm,1.2s
TUC *e*PKKPbc **PKKPbc 13 36 52.5 +1.0**
TUC LR LR
comp=Z,335nm,20.0s
I03D Drain, OR 92.45 37 P P 13 19 37.8 0.0
baz=93,SNR=12
KLR Kul'dur 92.51 331 *eP* P 13 19 33.9 -4.2
KLR *e*S **S 13 30 21.5 -1.8**
KLR pmax pmax
comp=E,38nm,1.4s
KLR pmax pmax
comp=Z,110nm,1.4s
K04D Chiloquin, OR 92.52 39 P P 13 19 38.6 +0.2
baz=93
CMAR Chiang Mai Arr 92.56 290 P P 13 19 40.3 +1.2
comp=Z,19nm,1.0s,baz=145,slow=3.5,SNR=70
CMAR PP **PP 13 23 24.4 +0.5**
comp=Z,52nm,1.1s,baz=135,slow=5.7,SNR=23
CMAR PKiKP **PKiKP 13 24 27.1 +0.5**
comp=Z,2.8nm,0.8s,baz=198,slow=1.4,SNR=4.1
CMAR PKKPbc **PKKPbc 13 36 52.4 +2.3**
comp=Z,6.2nm,0.9s,baz=294,slow=4.3,SNR=16
CMAR SKKPbc SKKPbc 13 40 12.4 +2.6
comp=Z,2.7nm,0.9s,baz=289,slow=4.1,SNR=9.2
CMMT Chiang Mai 92.76 291 P P 13 19 41.3 +1.3
comp=Z,42nm,1.1s,comp=Z,761nm
CHTO Chiang Mai 92.76 291 P P 13 19 41.3 +1.3
comp=Z,145nm,1.1s,comp=Z,2µm
CHTO Chiang Mai 92.76 291 *eP* **P 13 19 40.3 +0.3**
CHTO *e* 13 23 24.1
CHTO pmax pmax
comp=Z,27nm,1.0s
CHTO MLR MLR
comp=Z,368nm,19.0s
CHTO Chiang Mai 92.76 291 P P 13 19 42.1 +2.1
SNR=8.0
CHTO Chiang Mai 92.76 291 P P 13 19 42.1 +2.1
SNR=8.0
CHTO Chiang Mai 92.76 291 *eP* **P 13 19 40.2 +0.3**
comp=Z,27nm,1.0s
CHTO *e*PP **PP 13 23 24.1 -1.3**
CHTO LR LR
comp=Z,368nm,19.0s
J04D Umpqua Nationa 92.76 38 P P 13 19 39.9 +0.2
baz=93,SNR=25
MOD Modoc Plateau 92.79 40 *eP* **P 13 19 40.0 +0.2**
comp=Z,41nm,0.8s
MOD *e*PP **PP 13 23 24.3 -1.2**
MOD *e*PKKPbc **PKKPbc 13 36 52.8 +1.9**
OHAK Old Harbor 92.90 14 *eP* **P 13 19 38.8 -0.8**
comp=Z,38nm,0.9s
MPOR Mary's Peak 92.92 37 P P 13 19 40.9 +0.7
I04A Tendick Farm, 92.99 38 P P 13 19 41.1 +0.6
baz=93
K05A Summer Lake 93.04 39 *eP* **P 13 19 41.7 +0.7**
HBO Huckleberry Mo 93.08 38 P P 13 19 41.4 +0.4
R11A Troy Canyon, C 93.11 45 P P 13 19 41.1 -0.2
baz=93,SNR=12
R11A Troy Canyon, C 93.11 45 *eP* **P 13 19 41.2 -0.2**
comp=Z,5.1nm,0.8s
MHMT Maesarieng 93.21 290 P P 13 19 44.1 +2.1
comp=Z,19nm,1.1s,comp=Z,797nm
J05D Fort Rock, OR 93.25 39 P P 13 19 41.9 0.0
baz=94
KMI Kunming 93.42 298 P P 13 19 44.1 +1.0
KMI PP **PP 13 23 29.3 -1.4**
KMI SKS **SKSac 13 29 55.6 -1.8**
KMI S **ScS 13 30 34.8 +0.6**
KMI SS **SS 13 36 55.8 +0.4**
KMI PMZ
comp=Z,30nm,1.1s
KMI PMZ
comp=Z,250nm,7.2s
KMI LN
comp=Z,270nm,21.6s
KMI LE
comp=Z,330nm,24.9s
KMI LZ
comp=Z,340nm,21.6s
BMN Battle Mountai 93.52 43 *eP* **P 13 19 43.2 0.0**
BMN *e* 13 23 30.4
BMN *e* 13 36 50.0
BMN pmax pmax
comp=Z,30nm,0.8s
BMN Battle Mountai 93.52 43 *eP* **P 13 19 43.2 0.0**
comp=Z,30nm,0.8s
BMN *e*PP **PP 13 23 30.4 -0.8**
BMN *e*PKKPbc **PKKPbc 13 36 50.0 +1.1**
KDAK Kodiak Island 93.56 14 PFAKE 13 19 50.0 +7.4
KDAK LR LR
comp=Z,395nm,22.0s
G03D McMinnville, O 93.56 36 P P 13 19 44.3 +1.3
baz=94
BJT Baijiatuau 93.60 316 *eP* **P 13 19 43.9 +0.6**
BJT pmax pmax
comp=Z,40nm,0.8s
BJT MLR MLR
comp=Z,376nm,21.0s
BJT Baijiatuau 93.60 316 *eP* **P 13 19 43.9 +0.6**
comp=Z,40nm,0.8s
BJT LR LR
comp=Z,376nm,21.0s
BJI Beijing 93.61 316 P P 13 19 43.4 +0.1
BJI pP pP 13 20 23.8 -12
BJI sP sP 13 20 39.3 -18
BJI SKS **SKSac 13 29 55.0 -2.2**
BJI S **S 13 30 33.8 +0.5**
BJI SS **SS 13 36 59.4 +2.2**
BJI PMZ
comp=Z,52nm,0.9s
BJI PMZ
comp=Z,270nm,3.9s
WUAZ Wupatki 93.91 50 P P 13 19 45.6 +0.5
baz=94
WUAZ Wupatki 93.91 50 *eP* **P 13 19 46.2 +1.1**
comp=Z,25nm,1.2s
WUAZ *e*PKKPbc **PKKPbc 13 36 49.4 +1.8**
WUAZ LR LR
comp=Z,370nm,19.0s
I05D Terrebonne, OR 93.93 38 P P 13 19 44.7 -0.1
baz=94
CCUT Cedar City 93.94 47 *eP* **P 13 19 45.4 +0.2**
comp=Z,28nm,1.4s
CCUT *e*PP **PP 13 23 34.1 -0.5**
WVOR Wild Horse Val 94.06 41 *eP* **P 13 19 44.7 -0.9**
WVOR pmax pmax
comp=Z,39nm,1.1s
WVOR MLR MLR
comp=Z,390nm,20.0s
WVOR Wild Horse Val 94.06 41 *eP* **P 13 19 44.7 -0.9**
comp=Z,39nm,1.1s
WVOR LR LR
comp=Z,390nm,20.0s
LVC Limon Verde 94.20 120 P P 13 19 48.4 +1.4
comp=Z,68nm,1.0s,baz=222,slow=4.1,SNR=5.9
LVC PKKPbc **PKKPbc 13 36 47.3 +1.5**
comp=Z,40nm,1.0s,baz=316,slow=1.9,SNR=8.2
LVC Limon Verde 94.20 120 *eP* **P 13 19 49.5 +2.6**
comp=Z,28nm,1.1s
LVC *e*PKKPbc **PKKPbc 13 36 48.5 +2.7**
F04D Rainier, OR 94.31 36 P P 13 19 47.0 +0.6
baz=95
XAN Xi'an 94.32 308 P P 13 19 47.8 +1.0
XAN PP **PP 13 23 35.0 -2.4**
XAN S **S 13 30 37.4 -2.5**

XAN PMZ
comp=Z,69nm,7.2s
XAN LN
comp=Z,820nm,22.4s
XAN LZ
comp=Z,130nm,26.5s
TIY Taiyuan 94.34 313 *e*P **P** **13 19 48.3 +1.4**
TIY SKS **SKSac** **13 30 00.4 -1.2**
TIY S **ScS** **13 30 46.9 +5.9**
TIY PMZ
comp=Z,120nm,4.3s
TIY LN
comp=Z,220nm,9.2s
TIY LE
comp=Z,460nm,16.2s
TIY LZ
comp=Z,460nm,20.8s
NNA Nana 94.44 107 PFAKE 13 20 00.0 +12
NNA LR LR
comp=Z,855nm,22.0s
121A Cookes Peak, D 94.46 54 P **P** **13 19 48.1 +0.4**
baz=95
121A Cookes Peak, D 94.46 54 *e*P **P** **13 19 46.2 -1.5**
comp=Z,17nm,1.1s
CROR Criterion Ridg 94.56 38 P **P** **13 19 47.0 -0.7**
G05D Wamic, OR 94.57 37 P **P** **13 19 48.8 +1.1**
baz=95
I07A Izee 94.71 39 *e*P **P** **13 19 48.5 0.0**
W18A Petrified Fore 94.72 51 P **P** **13 19 49.1 +0.2**
baz=95
NLWA Neilton Lookou 94.82 35 PFAKE 13 20 00.0 +11
NLWA LR LR
comp=Z,524nm,19.0s
ELK Elko 94.86 44 *e*P **P** **13 19 48.9 -0.5**
ELK pmax pmax
comp=Z,15nm,1.1s
ELK Elko 94.86 44 *e*P **P** **13 19 48.9 -0.5**
comp=Z,15nm,1.1s
VTHM Trough 94.91 38 P **P** **13 19 49.6 +0.3**
MVU Marysvale 95.25 47 *e*P **P** **13 19 50.4 -0.9**
comp=Z,9.2nm,1.0s
LON Longmire 95.37 36 *e*P **P** **13 19 53.3 +2.0**
LON pmax pmax
comp=Z,5.0nm,0.8s
LON Longmire 95.37 36 *e*P **P** **13 19 53.3 +2.0**
comp=Z,5.3nm,0.8s
TXAR Lajitas Array 95.47 59 P **P** **13 19 52.6 +0.3**
comp=Z,9.9nm,1.1s,baz=212,slow=4.4,SNR=50
TXAR PP **PP** **13 23 46.2 -0.2**
comp=Z,4.1nm,1.1s,baz=214,slow=8.8,SNR=5.9
TXAR PKiKP **PKiKP** **13 24 35.0 +3.5**
comp=Z,0.3nm,0.5s,baz=238,slow=0.9,SNR=4.7
TXAR PKKPbc **PKKPdf** **13 36 45.1 +1.4**
comp=Z,3.4nm,0.9s,baz=96,slow=3.8,SNR=9.4
TXAR PKPPKP **P'P'df** **13 44 57.1 +1.5**
comp=Z,1.6nm,1.0s,baz=61,slow=4.2,SNR=5.7
D05A Enumclaw 95.58 36 *e*P **P** **13 19 53.5 +1.3**
BRLK Bradley Lake 95.74 14 *e*P **P** **13 19 54.3 +1.6**
comp=Z,27nm,1.1s
ATAH Atahualpa 95.93 102 P **P** **13 19 56.8 +1.6**
comp=Z,5.2nm,0.8s,baz=116,slow=2.4,SNR=6.6
DUG Dugway, Tooele 95.94 45 *e*P **P** **13 19 54.5 +0.3**
DUG pmax pmax
comp=Z,9.0nm,1.3s
DUG MLR MLR
comp=Z,384nm,19.0s
DUG Dugway, Tooele 95.94 45 P **P** **13 19 54.1 -0.1**
baz=96
DUG Dugway, Tooele 95.94 45 *e*P **P** **13 19 54.5 +0.3**
comp=Z,8.5nm,1.3s
DUG *e*PKKPbc **PKKPbc** **13 36 43.0 +0.7**
DUG LR LR
comp=Z,384nm,19.0s
CD2 Chengdu 96.00 303 ⇑P **P** **13 19 54.8 +0.2**
CD2 pP pP 13 20 34.3 -12
CD2 sP sP 13 20 50.9 -18
CD2 PP **PP** **13 23 49.8 -0.6**
CD2 S **ScS** **13 31 00.3 +5.2**
CD2 sS sS 13 32 09.9 -16
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,230nm,4.9s
CD2 LN
comp=Z,1μm,22.5s
CD2 LE
comp=Z,990nm,25.5s
CD2 LZ
comp=Z,530nm,24.5s
RSO Redoubt South 96.00 13 *e*P **P** **13 19 53.3 -0.7**
comp=Z,31nm,1.0s
NLU North Lily Min 96.23 46 *e*PKKPbc PKKPbc 13 36 41.4 -0.2
MFID Camas Ranch 96.26 41 *e*P **P** **13 19 55.5 -0.1**
comp=Z,16nm,0.8s
MFID *e*PKKPbc **PKKPbc** **13 36 42.0 +0.4**
HAWA Hanford 96.26 37 *e*P **P** **13 19 54.1 -1.3**
comp=Z,9.9nm,0.8s
HAWA LR LR
comp=Z,269nm,19.0s
TMUT Trail Mountain 96.35 47 *e*P **P** **13 19 55.8 -0.5**
comp=Z,12nm,0.7s
SRU San Rafael Swe 96.66 47 *e*P **P** **13 19 57.9 +0.3**
SRU pmax pmax
comp=Z,17nm,1.2s
SRU San Rafael Swe 96.66 47 *e*P **P** **13 19 57.9 +0.3**
comp=Z,17nm,1.2s
SRU *e*PKKPbc **PKKPbc** **13 36 38.5 -1.9**
ANMO Albuquerque 96.78 53 *d i*P **P** **13 19 56.3 -1.9**
ANMO pmax pmax
comp=Z,14nm,1.0s
ANMO Albuquerque 96.78 53 *e*P **P** **13 19 58.4 +0.2**
comp=Z,7.8nm,1.2s
ANMO *e*PKKPbc **PKKPdf** **13 36 41.3 -0.4**
ANMO LR LR
comp=Z,541nm,20.0s
MVCO Mesa Verde 96.78 50 P **P** **13 19 58.2 0.0**
baz=97
MVCO Mesa Verde 96.78 50 PFAKE 13 20 10.0 +12
MVCO LR LR
comp=Z,410nm,20.0s
HHC Hu-ho-hao-te 96.83 315 *e*P **P** **13 19 59.1 +0.9**
HHC PP **PP** **13 24 00.0 +3.3**
HHC SKS **SKSac** **13 30 19.9 +5.3**
HHC S **ScS** **13 31 04.5 +2.8**
HHC sS sS 13 32 16.1 -17
HHC SS **SS** **13 37 48.3 +5.3**
HHC PMZ
comp=Z,23nm,1.1s
HHC PMZ
comp=Z,120nm,8.5s
CTU Camp Tracy 96.88 45 *e*PKKPbc PKKPbc 13 36 41.2 +1.4
529A Stev Forest Ra 96.95 59 P **P** **13 19 58.9 -0.1**
baz=97
HVU Hansel Valley 96.95 44 *e*PKKPbc PKKPbc 13 36 39.3 -0.4
JLU Jordanelle 97.01 46 *e*P Pdif 13 20 00.3 +1.1
comp=Z,32nm,2.1s
D08A Wollman Farm, 97.02 37 *e*P Pdif 13 19 59.0 +0.2
HLID Hailey 97.14 42 P **P** **13 19 59.8 +0.2**
baz=97
HLID Hailey 97.14 42 *e*P Pdif 13 20 00.0 +0.3
comp=Z,7.7nm,0.8s
HLID *e*PP **PP** **13 23 58.1 -1.1**
HLID *e*PKKPbc PKKPbc 13 36 29.6 -10
HLID LR LR
comp=Z,312nm,19.0s
PV04 Paradox Valley 97.23 49 *e*P Pdif 13 20 01.8 +1.6
PV04 *e*PKKPbc **PKKPbc** **13 36 38.9 +0.2**
PV01 Paradox Valley 97.29 49 *e*P **P** **13 20 00.4 0.0**
comp=Z,882nm,1.3s
TCUT Toone Canyon 97.35 45 *e*P **P** **13 20 00.7 0.0**
comp=Z,18nm,1.0s
429A Davenport Ranc 97.46 58 P **P** **13 20 00.8 -0.5**
baz=98
832A Faith Ranch, C 97.56 61 P **P** **13 20 01.2 -0.5**
baz=98
HWUT Hardware Ranch 97.56 45 *e*PKKPbc PKKPbc 13 36 35.2 -2.8
HWUT LR LR
comp=Z,410nm,19.0s
530A J-C Ranch, Com 97.60 59 P **P** **13 20 01.7 -0.1**
baz=98
B08A Colville Reser 97.69 36 *e*P **P** **13 20 00.9 -0.8**
933A Laredo 97.71 62 P Pdif 13 20 03.1 +0.7
baz=98
631A Perdido Creek 97.74 60 P Pdif 13 20 03.1 +0.7
baz=98
732A Laxson Ranch, 97.80 61 P Pdif 13 20 03.6 +0.9
baz=98
228A UT Block 9, Go 97.81 57 P Pdif 13 20 03.2 +0.4
baz=98
034A Hebbronville 97.85 63 P Pdif 13 20 04.2 +1.2
baz=98
329A Wagon Wheel Ra 97.88 58 Pdiff Pdif 13 20 03.7 +0.5
baz=98
HIA Hailar 97.90 325 PFAKE 13 20 10.0 +7.3
HIA LR LR
comp=Z,351nm,20.0s
833A Chaparral WMA, 98.01 62 Pdiff Pdif 13 20 04.3 +0.6
baz=98
430A Baggett Ranch, 98.02 59 Pdiff Pdif 13 20 04.1 +0.4
baz=98
128A Castleberry Fa 98.16 56 Pdiff Pdif 13 20 04.7 +0.3
baz=98
S22A 4UR Ranch, Cre 98.17 50 Pdiff Pdif 13 20 05.3 +0.7
baz=98
531A Rocksprings 98.17 59 Pdiff Pdif 13 20 04.8 +0.4
baz=98
035A Encino 98.21 63 Pdiff Pdif 13 20 05.7 +1.1
baz=98
BMRM Bremner River 98.23 17 *e*P Pdif 13 20 06.4 +2.5
comp=Z,12nm,1.0s
SEY Seymchan 98.28 348 PKPPKP **P'P'df** **13 44 46.6 -1.0**
comp=Z,3.8nm,1.1s,baz=36,slow=4.9,SNR=4.1
SEY Seymchan 98.28 348 *i* P **P** **13 20 03.4 -0.5**
632A Uvalde 98.37 60 Pdiff Pdif 13 20 06.3 +1.0
baz=99
330A Mertzon 98.41 58 Pdiff Pdif 13 20 05.9 +0.4
baz=99
431A Sonora 98.42 59 Pdiff Pdif 13 20 06.5 +1.0
baz=99
834A Tilden 98.52 62 Pdiff Pdif 13 20 06.8 +0.9
baz=99
AHID Auburn Hatcher 98.54 44 PFAKE 13 20 20.0 +14
AHID LR LR
comp=Z,410nm,22.0s
Z28A Tucker Farm, M 98.60 56 Pdiff **P** **13 20 06.7 +0.4**
baz=99
532A Rocksprings 98.62 60 Pdiff **P** **13 20 06.9 +0.5**
baz=99
O20A White River Ci 98.68 48 *e*PKKPbc PKKPbc 13 36 35.8 +0.9
LPAZ La Paz 98.68 116 P Pdif 13 20 08.7 +0.9
comp=Z,4.5nm,0.7s,baz=235,slow=2.5,SNR=21
LPAZ PP **PP** **13 24 12.7 +1.5**
comp=Z,12nm,1.2s,baz=248,slow=4.6,SNR=8.4
LPAZ La Paz 98.68 116 P Pdif 13 20 08.7 +0.9
LPAZ 13 24 12.7
LPAZ pmax pmax
comp=Z,5.0nm,0.7s
LPAZ pmax pmax
comp=Z,12nm,1.2s
LPAZ La Paz 98.68 116 P **P** **13 20 07.1 -0.6**
comp=Z,4.0nm,0.7s
LPAZ PP **PP** **13 24 12.7 +1.5**
MSTX Muleshoe 98.72 55 Pdiff **P** **13 20 07.5 +0.7**
baz=99
MSTX Muleshoe 98.72 55 *e*P Pdif 13 20 07.0 +0.2
comp=Z,8.1nm,0.8s
NEW Newport 98.73 37 Pdiff **P** **13 20 07.8 +1.3**
baz=99
NEW Newport 98.73 37 *e*PP PP 13 24 09.7 -1.3
NEW LR LR
comp=Z,283nm,20.0s
MCMT McKenzie Canyo 98.81 42 *e*P **P** **13 20 08.3 +1.1**
MCMT *e*PP PP 13 24 17.8 +5.9
MCMT *e*PKKPbc **PKKPbc** **13 36 31.4 -3.3**
JCT Junction City 98.89 59 PFAKE 13 20 20.0 +12
JCT LR LR
comp=Z,385nm,20.0s
LZH Lanzhou 98.89 307 *e*P **P** **13 20 09.6 +2.0**
LZH pP pP 13 20 48.6 -11
LZH sP sP 13 21 07.6 -14
LZH PP **PP** **13 24 11.0 -1.6**
LZH SKS **SKSac** **13 30 24.1 -1.2**
LZH S **ScS** **13 31 23.0 +3.8**
LZH SS **SS** **13 38 15.0 +2.9**
LZH PMZ
comp=Z,23nm,1.0s
LZH PMZ
comp=Z,110nm,4.3s
LZH LN
comp=Z,350nm,12.7s
LZH LE
comp=Z,400nm,14.8s
LZH LZ
comp=Z,600nm,15.8s
SDCO Great Sand Dun 99.03 51 Pdiff **Pdif** **13 20 09.1 +0.7**
baz=99
SDCO Great Sand Dun 99.03 51 *e*PKKPbc PKKPbc 13 36 34.7 +0.8
SDCO LR LR
comp=Z,436nm,22.0s
REDW Red Top Meadow 99.05 44 *e*Pdif **Pdif** **13 20 08.5 +0.3**
comp=Z,22nm,1.4s
Z29A Hungry Hill Ra 99.06 56 Pdiff **Pdif** **13 20 08.8 +0.4**
baz=99
936A North Padre Is 99.07 63 Pdiff **Pdif** **13 20 09.0 +0.6**
baz=99
R23A Moffat 99.07 50 Pdiff **Pdif** **13 20 09.4 +0.9**
baz=99
432A Menard 99.11 59 Pdiff **Pdif** **13 20 08.8 +0.3**
baz=99
FXWY Fox Creek 99.11 43 *e*Pdif **Pdif** **13 20 09.3 +0.7**
comp=Z,36nm,2.1s
FXWY *e*PP **PP** **13 24 10.4 -3.9**
SNOW Snow King Moun 99.17 44 *e*Pdif **Pdif** **13 20 09.2 +0.4**
comp=Z,15nm,0.9s
TRF Thorofare Moun 99.22 13 *e*Pdif **Pdif** **13 20 08.8 +0.4**
comp=Z,49nm,0.2s
DLMT Dillon 99.28 41 *e*Pdif **Pdif** **13 20 10.2 +1.1**
comp=Z,5.0nm,0.8s
DLMT *e*PP **PP** **13 24 14.9 -0.5**
DLMT *e*PKKPbc **PKKPbc** **13 36 35.2 +1.9**
231A Bronte 99.31 58 Pdiff **Pdif** **13 20 10.2 +0.8**
baz=100
IMW Indian Meadow 99.32 43 *e*Pdif **Pdif** **13 20 10.0 +0.5**
comp=Z,4.9nm,0.8s
IMW *e*PKKPbc **PKKPbc** **13 36 35.0 +1.7**
Y29A Porterfield Fa 99.42 56 Pdiff **Pdif** **13 20 10.5 +0.6**
baz=100
332A Millersview 99.42 59 Pdiff **Pdif** **13 20 10.2 +0.3**
baz=100
BW06 Boulder Array 99.45 45 *e*Pdif **Pdif** **13 20 08.5 -1.5**
comp=Z,5.3nm,1.0s
BW06 LR LR
comp=Z,424nm,19.0s
PDAR Pinedale Array 99.45 45 P **Pdif** **13 20 10.0 0.0**
comp=Z,2.0nm,0.6s,baz=215,slow=1.8,SNR=12
PDAR PP PP 13 24 10.0 -6.8
comp=Z,2.7nm,1.0s,baz=239,slow=2.8,SNR=4.6
PDAR PKKPbc **PKKPbc** **13 36 30.3 -2.5**
comp=Z,4.0nm,0.7s,baz=72,slow=6.7,SNR=12
PDAR PKPPKP **P'P'df** **13 44 44.8 -2.6**
comp=Z,0.7nm,0.5s,baz=80,slow=2.0,SNR=4.2
MSO Missoula 99.47 40 Pdiff **Pdif** **13 20 10.9 +1.0**
baz=100
Z30A Sanderson Ranc 99.48 56 Pdiff **Pdif** **13 20 10.6 +0.5**
baz=100
433A Art 99.55 60 Pdiff **Pdif** **13 20 11.0 +0.5**
baz=100
534A Blanco 99.61 61 Pdiff **Pdif** **13 20 11.5 +0.7**
baz=100
131A Roby 99.66 57 Pdiff **Pdif** **13 20 11.6 +0.6**
baz=100
V27A Dan Oppiter Fa 99.67 54 Pdiff **Pdif** **13 20 11.5 +0.5**
baz=100
232A Coleman 99.76 58 Pdiff **Pdif** **13 20 11.7 +0.3**
baz=100
JTS JuntasAbangare 99.93 84 P **Pdif** **13 20 13.9 +1.3**
comp=Z,2.0nm,0.3s,baz=247,slow=6.5,SNR=3.8
JTS JuntasAbangare 99.93 84 P **Pdif** **13 20 13.9 +1.3**
JTS MLR MLR
comp=Z,568nm,19.0s
JTS JuntasAbangare 99.93 84 P **Pdif** **13 20 13.9 +1.3**
JTS LR LR
comp=Z,568nm,19.0s
333A Richland Sprin 99.93 59 Pdiff **Pdif** **13 20 12.9 +0.7**
baz=100
T26A Comanche Natio 99.96 52 Pdiff **Pdif** **13 20 12.9 +0.6**
baz=100
HYT Haines Junctio 99.97 20 *e*PP PP 13 24 19.6 -0.6
HYT *e*PKKPbc **PKKPbc** **13 36 27.7 -4.3**
BOZ Bozeman (W) 100.00 42 *e*P **Pdif** **13 20 12.5 +0.2**
BOZ Bozeman (W) 100.00 42 Pdiff **Pdif** **13 20 13.2 +0.9**
baz=100
BOZ Bozeman (W) 100.00 42 *e*Pdif **Pdif** **13 20 12.4 +0.2**
baz=98
LKWY Lake 100.03 43 PFAKE 13 20 20.0 +7.4
LKWY LR LR
comp=Z,654nm,19.0s
J19A Crowheart 100.04 45 Pdiff **Pdif** **13 20 13.4 +0.8**
baz=100
ABTX Abilene, Hawle 100.16 58 Pdiff **Pdif** **13 20 13.8 +0.6**
baz=100
Z31A Sharp Cattle R 100.19 57 Pdiff **Pdif** **13 20 13.9 +0.6**
baz=100
636A Smothers Creek 100.35 62 Pdiff **Pdif** **13 20 14.8 +0.8**
baz=101
I19A Meeteetse 100.53 44 Pdiff **Pdif** **13 20 15.4 +0.7**
baz=101
Z32A Haskell 100.65 57 Pdiff **Pdif** **13 20 16.4 +1.1**
baz=101
J20A Shoshoni 100.66 45 Pdiff **Pdif** **13 20 16.3 +1.0**
baz=101
HDA Harding Lake 100.73 14 *e*Pdif **Pdif** **13 20 16.1 +1.2**
HDA *e*PKKPbc **PKKPbc** **13 36 28.4 -1.3**
CCB Clear Creek Bu 100.78 14 *e*Pdif **Pdif** **13 20 14.5 -0.5**
H19A Powell 100.91 43 Pdiff **Pdif** **13 20 17.3 +1.0**
baz=101
IM04 Indian Mountai 100.93 11 *e*Pdif **Pdif** **13 20 16.4 +0.7**
IM04 *e*PP **PP** **13 24 31.2 +4.0**
IM04 *e*PKKPbc **PKKPbc** **13 36 26.6 -2.6**
COLA College 100.97 13 *e*P **Pdif** **13 20 16.0 +0.1**
COLA MLR MLR
comp=Z,277nm,20.0s
COLA College 100.97 13 *e*Pdif **Pdif** **13 20 16.0 +0.1**
COLA LR LR
comp=Z,277nm,20.0s
I20A Worland 100.99 44 Pdiff **Pdif** **13 20 17.4 +0.8**
baz=101
RLMT Red Lodge 101.01 43 PFAKE 13 20 30.0 +13
RLMT LR LR
comp=Z,606nm,20.0s
ILAR Eielson Array 101.07 14 P **Pdif** **13 20 15.7 -0.6**
comp=Z,5.6nm,0.9s,baz=217,slow=4.3,SNR=22
ILAR PP PP 13 24 22.9 -5.3
comp=Z,2.9nm,0.9s,baz=217,slow=7.6,SNR=5.2
ILAR PKiKP **PKiKP** **13 24 40.9 +0.7**
comp=Z,5.3nm,1.0s,baz=218,slow=3.4,SNR=13
ILAR PKKPbc PKKPbc 13 36 20.5 -8.3
comp=Z,1.6nm,0.6s,baz=0.3,slow=2.7,SNR=10
ILAR PKPPKP P'P'df 13 44 31.2 -11
comp=Z,1.5nm,1.2s,baz=12,slow=4.9,SNR=6.1
R27A Eads 101.10 52 Pdiff **Pdif** **13 20 17.6 +0.3**
baz=101
I21A Big Trails, Te 101.40 45 Pdiff **Pdif** **13 20 19.1 +0.6**
baz=102
BILL Bilibino 101.43 355 PFAKE 13 20 30.0 +12
BILL LR LR
comp=Z,244nm,20.0s
HKT Hockley 101.50 62 *e*PP PP 13 24 31.2 -0.9
PALK Pallekele 101.53 271 PP PP 13 24 33.3 +0.8
comp=Z,37nm,1.0s,baz=127,slow=6.4,SNR=6.6
KSCO Kaye Shedlock' 101.61 51 *e*PKKPbc PKKPbc 13 36 28.0 +1.7
WMOK Wichita Mounta 101.90 56 PFAKE 13 20 30.0 +9.1
WMOK LR LR
comp=Z,430nm,21.0s
I22A 9 Mile Ranch, 101.92 45 Pdiff **Pdif** **13 20 21.7 +0.8**
baz=102
TEIG Tepich 102.35 74 PKKPbc PKKPbc 13 36 23.5 +0.4
comp=Z,13nm,0.9s,baz=338,slow=12,SNR=4.1
TEIG Tepich 102.35 74 PKKPbc PKKPbc 13 36 23.5 +0.4
TEIG LR LR
comp=Z,305nm,21.0s
EGMT Eagleton 102.45 40 PFAKE 13 20 30.0 +7.0
EGMT LR LR
comp=Z,293nm,19.0s
COLD Coldfoot 102.66 12 *e*Pdif **Pdif** **13 20 25.3 +1.9**
OGNE Ogallala 103.04 50 PFAKE 13 20 40.0 +14
OGNE LR LR
comp=Z,529nm,22.0s
YAK Yakutsk 103.12 338 *e*P **Pdif** **13 20 24.4 -1.1**
YAK *e* 13 24 41.8
YAK *e*PPP PPP 13 26 52.4
YAK *e*S **SKSac** **13 30 44.4 +0.4**
YAK *e*SP **SP** **13 33 26.8 -3.3**
YAK *e*PS **PS** **13 33 55.0 -1.6**
YAK *e*SS SS 13 39 01.9 -7.3
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=Z,21nm,1.0s
YAK pmax pmax
comp=N,29nm,2.0s
YAK pmax pmax
comp=E,41nm,2.8s
YAK smax smax
comp=N,12nm,1.1s
YAK smax smax
comp=E,8.0nm,1.1s
YAK Yakutsk 103.12 338 PFAKE 13 20 40.0 +15
YAK LR LR
comp=Z,351nm,22.0s
B19A Brinkman Farms 103.14 40 Pdiff **Pdif** **13 20 27.8 +1.7**
baz=103
GTA Gaotai 103.38 308 *e*P **Pdif** **13 20 28.9 +1.5**
GTA pP 13 21 09.0
GTA sP 13 21 24.3
GTA PP **PP** **13 24 48.3 +2.1**
GTA SKS **SKSac** **13 30 52.8 +6.1**
GTA S **Sdif** **13 31 57.3 +0.9**
GTA sS 13 33 09.8
GTA SS **SS** **13 39 18.3 +4.2**
GTA LN
comp=Z,280nm,21.9s
GTA LE
comp=Z,300nm,22.3s
GTA LZ
comp=Z,280nm,22.3s
RSSD Black Hills 103.52 46 *e*P **Pdif** **13 20 28.9 +0.8**
RSSD Black Hills 103.52 46 *e*Pdif **Pdif** **13 20 28.9 +0.8**
RSSD *e*PKKPbc **PKKPbc** **13 36 21.2 +0.2**
H24A Dirks Ranch, A 103.55 45 Pdiff **Pdif** **13 20 28.8 +0.8**
baz=104
F23A Volborg 103.59 44 Pdiff **Pdif** **13 20 29.6 +1.4**
baz=104
ULN Ulaanbaatar 103.60 319 PFAKE 13 20 40.0 +12
ULN LR LR
comp=Z,319nm,21.0s
BCIP Isla Barro Col 103.62 88 PFAKE 13 20 40.0 +11
BCIP LR LR
comp=Z,636nm,21.0s
I25A Rochford 103.65 46 Pdiff **Pdif** **13 20 29.3 +0.7**
baz=104
SONM Songino Array 103.95 318 Pdiff **Pdif** **13 20 29.9 +0.1**
comp=Z,3.5nm,0.8s,baz=138,slow=4.8,SNR=13
SONM PKiKP **PKiKP** **13 24 46.5 +0.4**
comp=Z,5.5nm,0.9s,baz=122,slow=1.6,SNR=6.7
SONM PKKPbc **PKKPbc** **13 36 20.6 +0.9**
comp=Z,8.0nm,1.0s,baz=263,slow=2.6,SNR=16
SIV San Ignacio 104.10 120 PKiKP **PKiKP** **13 24 48.2 +0.9**
comp=Z,3.6nm,0.9s,baz=250,slow=9.9,SNR=5.6
SIV PKKPbc **PKKPbc** **13 36 19.0 +1.1**
comp=Z,3.3nm,0.9s,baz=72,slow=6.2,SNR=6.0
T36A Boggs Farm, Ca 105.12 56 PKiKP **PKiKP** **13 24 49.6 +1.2**
baz=105
M31A Lambtecht Ranc 105.21 50 PKiKP **PKiKP** **13 24 50.1 +1.6**
baz=106
B23A Brockton 105.33 42 PKiKP **PKiKP** **13 24 50.1 +1.6**
baz=106
J29A Okreek 105.42 48 PKiKP **PKiKP** **13 24 50.1 +1.3**
baz=106
MIAR Mount Ida 105.49 59 *e*PKKPbc PKKPbc 13 36 16.7 +2.4
MIAR *e*PKKPab **PKKPab** **13 36 33.2 +3.0**
MIAR LR LR
comp=Z,433nm,19.0s
KSU1 Kansas State U 105.64 53 PFAKE 13 25 00.0
KSU1 LR LR
comp=Z,313nm,22.0s
BGNE Belgrade 105.78 51 PKiKP **PKiKP** **13 24 51.2 +1.6**
baz=106
BGNE Belgrade 105.78 51 *e*PKKPbc PKKPbc 13 36 14.2 +0.4
ROSC El Rosal 105.94 95 PKKPbc PKKPbc 13 36 14.8 +2.1
comp=Z,8.8nm,0.4s,baz=120,slow=7.5,SNR=5.1
TAPN Taplejung 106.02 292 *e*P **PKiKP** **13 24 51.1 +0.3**
comp=Z,122nm,1.1s
ODAN Odare 106.03 292 *e*P **PKiKP** **13 24 50.3 -0.4**
comp=Z,93nm,1.1s
P35A Duane Minner, 106.25 53 PKiKP **PKiKP** **13 24 51.8 +1.3**
baz=106
R37A Teagarden Farm 106.46 55 PKiKP **PKiKP** **13 24 52.4 +1.6**
baz=107

RAMN	**Ramite**	**106.69**	**291**	*e*P		**PKiKP**	13 24 51.5	**-0.5**		
	comp=Z,114nm,1.0s									
INK	**Inuvik**	**106.98**	**16**	PKiKP	**PKiKP**		13 24 50.4	**-0.4**		
	comp=Z,2.5nm,0.3s,baz=221,slow=1.3,SNR=3.1									
SAML	**Samuel**	**107.00**	**113**	*e*PKKPbc	PKKPbc		13 36 11.0	+2.0		
SAML				LR	LR					
	comp=Z,523nm,22.0s									
ZAK	**Zakamensk**	**107.05**	**319**	*e*P		**Pdif**	13 20 43.1	**-0.4**		
ZAK				pmax	pmax					
	comp=Z,4.0nm,1.0s									
TLY	**Talaya**	**107.53**	**321**	PKiKP	**PKiKP**		13 24 53.4	**+0.9**		
	comp=Z,4.9nm,0.8s,baz=128,slow=2.9,SNR=6.3									
TLY				PKKPbc	**PKKPbc**		13 36 12.3	**+3.6**		
	comp=Z,3.2nm,0.7s,baz=346,slow=5.5,SNR=5.2									
TLY				PKKP	**PKKPab**		13 36 21.0	**+0.8**		
	comp=Z,1.4nm,0.3s,baz=43,slow=20,SNR=3.6									
TLY	**Talaya**	**107.53**	**321**	*e*PKiKP	**PKiKP**		13 24 53.4	**+0.9**		
TLY				PKKPbc	**PKKPbc**		13 36 12.3	**+3.6**		
TLY				PKKP	**PKKPab**		13 36 21.0	**+0.8**		
TLY				LR	LR					
	comp=Z,273nm,22.0s									
GUN	**Gumba**	**107.71**	**292**	*e*P		**PKiKP**	13 24 53.7	**-0.3**		
	comp=Z,67nm,1.0s									
PKI	**Pulchoki**	**107.92**	**292**	*e*P		**PKiKP**	13 24 53.3	**-1.0**		
	comp=Z,51nm,1.0s									
ECSD	**EROS Data Cent**	**107.92**	**49**	PKiKP	**PKiKP**		13 24 54.5	**+1.1**		
	baz=108									
ECSD	**EROS Data Cent**	**107.92**	**49**	*e*PKiKP	**PKiKP**		13 24 53.4	**0.0**		
ECSD				LR	LR					
	comp=Z,407nm,20.0s									
PKIN	**Phulchoki**	**107.93**	**292**	*e*P		**PKiKP**	13 24 52.9	**-1.4**		
	comp=Z,125nm,1.6s									
MDND	**Maddock**	**108.10**	**44**	*e*PP	PP		13 25 19.6	-1.0		
KKN	**Kakani**	**108.12**	**292**	*e*P		**PKiKP**	13 24 53.7	**-0.9**		
	comp=Z,102nm,1.3s									
DMN	**Daman**	**108.17**	**291**	*e*P		**PKiKP**	13 24 54.0	**-0.7**		
	comp=Z,116nm,1.2s									
BRAL	**Brewton**	**108.60**	**65**	PFAKE			13 25 10.0			
BRAL				LR	LR					
	comp=Z,374nm,20.0s									
GKN	**Gorkha**	**108.72**	**292**	*e*P		**PKiKP**	13 24 54.1	**-1.5**		
	comp=Z,85nm,1.1s									
YKA	**Yellowknife Ar**	**108.77**	**27**	PKiKP	**PKiKP**		13 24 54.7	**+0.4**		
	comp=Z,2.8nm,0.6s,baz=253,slow=1.9,SNR=12									
YKA				PKKPbc	**PKKPbc**		13 36 02.0	**-3.0**		
	comp=Z,14nm,0.7s,baz=41,slow=3.0,SNR=22									
YKA				PKKPab	**PKKPab**		13 36 15.9	**+1.7**		
	comp=Z,9.0nm,0.9s,baz=48,slow=5.1,SNR=7.9									
PBMO	**Poplar Bluff**	**108.80**	**58**	*e*PKKPbc	PKKPbc		13 36 05.3	+1.2		
SCIA	**State Center**	**109.26**	**52**	PFAKE			13 25 10.0			
SCIA				LR	LR					
	comp=Z,399nm,19.0s									
KOLN	**Koldanda**	**109.42**	**291**	*e*P		**PKiKP**	13 24 56.6	**-0.4**		
	comp=Z,30nm,0.8s									
MTDJ	**Mount Denham**	**110.14**	**81**	PFAKE			13 25 10.0			
MTDJ				LR	LR					
	comp=Z,745nm,20.0s									
WVT	**Waverly**	**110.37**	**60**	*e*PKiKP	**PKiKP**		13 24 56.5	**-1.8**		
WVT	**Waverly**	**110.37**	**60**	*e*PKiKP	**PKiKP**		13 24 56.5	**-1.8**		
TIXI	**Tiksi**	**110.45**	**345**	*i* PKiKP	**PKiKP**		13 24 55.2	**-2.1**		
AGMN	**Agassiz Nation**	**110.52**	**45**	*e*PKKPbc	PKKPbc		13 35 59.3	+0.3		
AGMN				*e*PKKPab	**PKKPab**		13 36 09.4	**+2.2**		
AGMN				LR	LR					
	comp=Z,404nm,21.0s									
SPMN	**Marine on St.**	**111.02**	**49**	PKiKP	**PKiKP**		13 25 00.4	**+1.2**		
	baz=111									
SPMN	**Marine on St.**	**111.02**	**49**	*e*PKiKP	**PKiKP**		13 25 00.3	**+1.2**		
SDV	**Santo Domingo**	**111.18**	**93**	PFAKE			13 25 10.0			
SDV				LR	LR					
	comp=Z,387nm,19.0s									
HDIL	**Hopedale**	**111.30**	**55**	PFAKE			13 25 10.0			
HDIL				LR	LR					
	comp=Z,385nm,20.0s									
OPO	**Ambohidratompo**	**111.46**	**229**	PKKPbc	PKKPbc		13 35 55.9	+0.5		
	comp=Z,6.6nm,1.1s,baz=252,slow=1.6,SNR=3.5									
JFWS	**Jewell Farm**	**111.67**	**52**	*e*PKiKP	**PKiKP**		13 25 00.7	**+0.2**		
JFWS				MLR	MLR					
	comp=Z,373nm,22.0s									
JFWS	**Jewell Farm**	**111.67**	**52**	*e*PKiKP	**PKiKP**		13 25 00.7	**+0.2**		
JFWS				LR	LR					
	comp=Z,373nm,22.0s									
SUR	**Sutherland**	**111.83**	**199**	*e*PKiKP	**PKiKP**		13 25 02.9	**+1.3**		
SUR				*e*PP	**PP**		13 25 45.2	**-1.1**		
SUR				LR	LR					
	comp=Z,542nm,20.0s									
WCI	**Wyandotte Cave**	**112.39**	**58**	*e*PKiKP	**PKiKP**		13 25 02.7	**+0.6**		
WCI	**Wyandotte Cave**	**112.39**	**58**	*e*PKiKP	**PKiKP**		13 25 02.7	**+0.6**		
WCI				*e*PKKPab	**PKKPab**		13 36 02.1	**+2.4**		
HVS	**Khovu-Aksy**	**112.77**	**317**	*d i* PKiKP	**PKiKP**		13 25 01.7	**-0.7**		
GTBY	**Guantanamo Bay**	**112.97**	**81**	PFAKE			13 25 20.0			
GTBY				LR	LR					
	comp=Z,362nm,22.0s									
EYMN	**Ely**	**113.00**	**47**	*e*PKiKP	**PKiKP**		13 25 01.8	**-1.1**		
EYMN				*e*PKKPbc	**PKKPbc**		13 35 48.6	**-2.2**		
EYMN				LR	LR					
	comp=Z,344nm,20.0s									
TKL	**Tuckaleechee C**	**113.13**	**62**	*e*PKiKP	**PKiKP**		13 25 02.5	**-1.0**		
TKL	**Tuckaleechee C**	**113.13**	**62**	*e*PKPdf	**PKiKP**		13 25 02.5	**-1.0**		
BDFB	**Brasilia**	**113.37**	**129**	PKiKP	**PKiKP**		13 25 05.7	**+0.9**		
	comp=Z,8.1nm,0.7s,baz=178,slow=2.6,SNR=8.6									
BDFB				SKP			13 28 20.7			
	comp=Z,4.4nm,0.8s,baz=151,slow=8.2,SNR=3.3									
BDFB				PKKPbc	**PKKPbc**		13 35 49.3	**+0.4**		
	comp=Z,6.6nm,0.8s,baz=116,slow=2.2,SNR=7.7									
BDFB				PKKPab	**PKKPab**		13 35 58.0	**-1.7**		
	comp=Z,6.4nm,0.7s,baz=85,slow=7.1,SNR=7.1									
WMQ	**Urumqi**	**113.46**	**308**	PKP	**PKiKP**		13 25 03.8	**-0.2**		
WMQ				PP	**PP**		13 26 02.9	**+3.7**		
WMQ				PKS	**PKSdf**		13 28 39.3	**-1.3**		
WMQ				SKS	**SKSdf**		13 31 54.8	**-1.0**		
WMQ				SKKS	**SKKSac**		13 32 35.4	**-3.3**		
WMQ				SS	**SS**		13 41 28.3	**-1.0**		
WMQ				PPMZ						
	comp=Z,200nm,12.1s									
WMQ				LN						
	comp=Z,330nm,15.8s									
WMQ				LE						
	comp=Z,150nm,16.5s									
WMQ				LZ						
	comp=Z,240nm,28.0s									
TZTN	**Tazewell**	**113.67**	**61**	*e*PKKPbc	PKKPbc		13 35 50.2	+2.1		
BOSA	**Boshof**	**113.95**	**204**	Pdiff	**Pdif**		13 21 17.2	**+2.3**		
	comp=Z,4.2nm,0.9s,baz=131,slow=9.1,SNR=3.9									
BOSA				PKP	**PKiKP**		13 25 06.1	**+0.5**		
	comp=Z,27nm,0.9s,baz=160,slow=2.3,SNR=32									
BOSA				PP	**PP**		13 26 00.5	**-0.9**		
	comp=Z,46nm,1.2s,baz=158,slow=8.6,SNR=4.7									
BOSA				PKKPbc	**PKKPbc**		13 35 46.8	**-0.6**		
	comp=Z,4.7nm,0.9s,baz=324,slow=4.0,SNR=4.5									
BOSA				PKKPab	**PKKPab**		13 35 55.8	**-2.3**		
	comp=Z,11nm,1.0s,baz=338,slow=1.6,SNR=7.1									
BOSA	**Boshof**	**113.95**	**204**	P	**Pdif**		13 21 17.2	**+2.3**		
BOSA				*e*			13 25 05.7			
BOSA							13 35 46.8			
BOSA	**Boshof**	**113.95**	**204**	Pdif	**Pdif**		13 21 17.2	**+2.3**		
BOSA				*e*PKPdf	**PKiKP**		13 25 05.7	**0.0**		
BOSA				PP	**PP**		13 26 00.5	**-0.9**		
BOSA				PKKPbc	**PKKPbc**		13 35 46.8	**-0.6**		
BOSA				PKKPab	**PKKPab**		13 35 55.8	**-2.3**		
PTGA	**Pitinga**	**114.55**	**108**	PKP	PKPdf		13 25 06.9	-0.1		
	comp=Z,12nm,0.8s,baz=230,slow=1.7,SNR=23									
PTGA	**Pitinga**	**114.55**	**108**	PKP	PKPdf		13 25 06.8	-0.1		
PTGA				*e*PKKPbc	**PKKPbc**		13 35 46.7	**+2.1**		
PTGA				LR	LR					
	comp=Z,41μm,19.0s									
KMSC	**Kings Mountain**	**114.73**	**63**	*e*PP	PP		13 26 08.0	-0.2		
NHSC	**New Hope**	**114.77**	**66**	PFAKE			13 25 20.0	+13		
NHSC				LR	LR					
	comp=Z,372nm,21.0s									
KRAR	**Krasnoyarsk**	**115.18**	**322**	*i* PKiKP	**PKPdf**		13 25 06.0	**-0.7**		
MSEY	**Mahe Island**	**115.27**	**246**	PFAKE			13 25 20.0	+12		
MSEY				LR	LR					
	comp=Z,357nm,19.0s									
ACSO	**Alum Creek Sta**	**115.56**	**57**	*e*PKPdf	**PKPdf**		13 25 08.4	**+0.4**		
ACSO				LR	LR					
	comp=Z,490nm,19.0s									
SDDR	**Presa de Saban**	**115.69**	**83**	*e*PKPdf	**PKPdf**		13 25 10.2	**+1.2**		
SDDR				LR	LR					
	comp=Z,325nm,20.0s									
FCC	**Fort Churchill**	**115.82**	**35**	*e*PKiKP	**PKPdf**		13 25 07.3	**-0.6**		
FCC	**Fort Churchill**	**115.82**	**35**	*e*PKPdf	**PKPdf**		13 25 07.3	**-0.6**		
AAM	**Ann Arbor**	**115.88**	**55**	PFAKE			13 25 20.0	+11		
AAM				LR	LR					
	comp=Z,465nm,20.0s									
GLMI	**Grayling**	**116.17**	**52**	PFAKE			13 25 20.0	+11		
GLMI				LR	LR					
	comp=Z,555nm,19.0s									
BLA	**Blacksburg**	**116.23**	**61**	PFAKE			13 25 20.0	+11		
BLA				LR	LR					
	comp=Z,344nm,20.0s									
GRTK	**Grand Turk**	**117.00**	**81**	PFAKE			13 25 20.0	+8.7		
GRTK				LR	LR					
	comp=Z,280nm,19.0s									
DHRM	**DHARAMSHALA**	**117.06**	**292**	*e*P		**PKPdf**	13 25 10.2	**-1.3**		
DHRM				AMB	AMB		13 25 12.0			
	comp=Z,95nm,0.7s									
CNNC	**Cliffs of the**	**117.36**	**64**	PFAKE			13 25 20.0	+8.4		
CNNC				LR	LR					
	comp=Z,244nm,21.0s									
MK31	**Makanchi Array**	**118.10**	**309**	*e*PKiKP	**PKPdf**		13 25 12.7	**-0.1**		
MK31	**Makanchi Array**	**118.10**	**309**	*e*PKPdf	**PKPdf**		13 25 12.7	**-0.1**		
MKAR	**Makanchi Array**	**118.10**	**309**	Pdiff	**Pdif**		13 21 39.2	**+6.6**		
	comp=Z,0.6nm,0.5s,baz=97,slow=7.0,SNR=5.9									
MKAR				PKP	**PKPdf**		13 25 11.6	**-1.2**		
	comp=Z,55nm,0.9s,baz=89,slow=1.4,SNR=132									
MKAR				PP	**PP**		13 26 30.0	**-1.5**		
	comp=Z,7.3nm,1.0s,baz=101,slow=7.8,SNR=3.6									
MKAR				SKP			13 28 26.3			
	comp=Z,7.9nm,1.0s,baz=85,slow=1.3,SNR=3.9									
MKAR				PKKPbc	**PKKPab**		13 35 34.1	**-0.1**		
	comp=Z,3.6nm,0.5s,baz=284,slow=3.1,SNR=24									
MKAR				SKKPbc	SKKPbc		13 39 01.7	+0.5		
	comp=Z,5.0nm,0.9s,baz=270,slow=3.9,SNR=6.6									
MKAR	**Makanchi Array**	**118.10**	**309**	P	**Pdif**		13 21 39.2	**+6.6**		
MKAR							13 25 11.6			
MKAR							13 26 30.0			
MKAR				pmax	pmax					
	comp=Z,1.0nm,0.5s									
MKAR				pmax	pmax					
	comp=Z,55nm,0.9s									
MKAR				pmax	pmax					
	comp=Z,7.0nm,1.0s									
MKAR				pmax	pmax					
	comp=N,8.0nm,1.0s									
MKAR				pmax	pmax					
	comp=Z,4.0nm,0.5s									
JSRW	**J. Sargeant Re**	**118.29**	**62**	*e*PKPdf	**PKPdf**		13 25 14.0	**+0.7**		
PDGK	**Podgornoye**	**118.81**	**305**	PKiKP	**PKPdf**		13 25 12.9	**-1.2**		
PDGK				pmax	pmax					
	comp=Z,132nm,0.9s									
ZAA0	**Zalesovo Array**	**118.84**	**318**	*e*PKPdf	**PKPdf**		13 25 13.0	**-0.9**		
ZALV	**Zalesovo Beam**	**118.84**	**318**	Pdiff	**Pdif**		13 21 36.0	**+0.3**		
	comp=Z,0.3nm,0.3s,baz=140,slow=5.6,SNR=3.6									
ZALV				PKP	**PKPdf**		13 25 12.2	**-1.7**		
	comp=Z,35nm,0.8s,baz=168,slow=1.6,SNR=81									
CBN	**Corbin Frederi**	**118.84**	**61**	PFAKE			13 25 30.0	+16		
CBN				LR	LR					
	comp=Z,407nm,21.0s									
SSPA	**Standing Stone**	**119.32**	**59**	*e*PKPdf	**PKPdf**		13 25 14.7	**-0.5**		
SSPA				*e*PKKPbc	**PKKPab**		13 35 29.1	**-0.2**		
SJG	**San Juan**	**119.58**	**87**	*e*PKiKP	**PKPdf**		13 25 17.4	**+1.0**		
SJG				MLR	MLR					
	comp=Z,249nm,20.0s									
SJG	**San Juan**	**119.58**	**87**	*e*PKPdf	**PKPdf**		13 25 17.4	**+1.0**		
SJG				LR	LR					
	comp=Z,249nm,20.0s									
NVS	**Novosibirsk**	**119.98**	**318**	*e*PKiKP	**PKPdf**		13 25 14.8	**-1.2**		
NVS				pmax	pmax					
	comp=Z,100nm,1.2s									
NVS				pmax	pmax					
	comp=N,16nm,0.9s									
NVS				pmax	pmax					
	comp=E,40nm,1.2s									
KSH	**Kashi**	**120.01**	**300**	PKP	**PKPdf**		13 25 16.9	**+0.1**		
KSH				sPKP			13 26 17.9			
KSH				PP	**PP**		13 26 44.0	**-0.9**		
KSH				PKS	**PKSdf**		13 28 54.8	**+1.3**		
KSH				SKS	**SKSdf**		13 32 11.5	**+2.8**		
KSH				SKKS	**SKKSac**		13 33 26.6	**+4.0**		
KSH				PPMZ						
	comp=E,270nm,5.1s									
KSH				LN						
	comp=E,98nm,8.0s									
KSH				LE						
	comp=E,82nm,5.1s									
KSH				LZ						
	comp=E,95nm,5.0s									
GRGR	**Grenville**	**120.39**	**95**	PFAKE			13 25 30.0	+12		
GRGR				LR	LR					
	comp=Z,238nm,19.0s									
ULHL	**Ulahol**	**120.71**	**303**	P	**PKPdf**		13 25 18.0	**-0.2**		
	comp=Z,16nm									
KSPA	**Keystone Colle**	**121.14**	**58**	*e*PKPdf	**PKPdf**		13 25 18.9	**+0.2**		
KSPA				*e*PKKPab	**PKKPbc**		13 35 23.2	**+1.5**		
KZA	**Kyzart**	**121.36**	**302**	P	**PKPdf**		13 25 19.4	**-0.3**		
	SNR=87									
TKM2	**Tokmak 2**	**121.38**	**303**	P	**PKPdf**		13 25 18.0	**-1.4**		
	SNR=83									
TKM2	**Tokmak 2**	**121.38**	**303**	*e*PKiKP	**PKPdf**		13 25 19.6	**+0.2**		
TKM2				MLR	MLR					
	comp=Z,218nm,20.0s									
TKM2	**Tokmak 2**	**121.38**	**303**	*e*PKPdf	**PKPdf**		13 25 19.6	**+0.2**		
TKM2				LR	LR					
	comp=Z,218nm,20.0s									
KURK	**Kurchatov**	**121.59**	**313**	PKiKP	**PKPdf**		13 25 17.6	**-1.7**		
KURK							13 26 53.7			
KURK				pmax	pmax					
	comp=Z,104nm,0.8s									
KURK				pmax	pmax					
	comp=Z,9.0nm,1.0s									
KURK				pmax	pmax					
	comp=N,16nm,1.1s									
KURK				pmax	pmax					
	comp=Z,2.0nm,0.8s									
KURK				pmax	pmax					
	comp=Z,1.0nm,0.6s									
KURK	**Kurchatov**	**121.59**	**313**	PKPdf	**PKPdf**		13 25 17.9	**-1.4**		
	SNR=66									
KURK	**Kurchatov**	**121.59**	**313**	P	**PKPdf**		13 25 17.9	**-1.4**		
	SNR=66									
KURK	**Kurchatov**	**121.59**	**313**	*e*PKPdf	**PKPdf**		13 25 17.0	**-2.2**		
KURK				PP	**PP**		13 26 53.7	**-1.5**		
KURK				PKKPbc	**PKKPbc**		13 35 21.0	**+0.7**		
KURK				PKKP	**PKKPdf**		13 35 55.4	**+0.3**		
KURK				SKKPbc	SKKPbc		13 38 50.6	+0.5		
KURK				LR	LR					
	comp=Z,291nm,21.0s									
KURBB	**Kurchatov Arra**	**121.62**	**313**	PKP	**PKPdf**		13 25 17.6	**-1.7**		
	comp=Z,104nm,0.8s,baz=113,slow=2.1,SNR=24									
KURBB				PP	**PP**		13 26 53.7	**-1.7**		
	comp=Z,9.3nm,1.0s,baz=106,slow=6.0,SNR=4.2									
KURBB				SKP			13 28 32.7			
	comp=Z,16nm,1.1s,baz=106,slow=1.8,SNR=4.6									
KURBB				PKKPbc	**PKKPbc**		13 35 21.0	**+0.9**		
	comp=Z,1.9nm,0.8s,baz=290,slow=4.6,SNR=9.6									
KURBB				PKKP	**PKKPdf**		13 35 55.4	**+0.3**		
	comp=Z,1.4nm,0.6s,baz=290,slow=2.6,SNR=7.8									
KURBB				SKKPbc	SKKPbc		13 38 50.6	+0.6		
	comp=Z,1.7nm,0.8s,baz=286,slow=3.2,SNR=8.8									
KBK	**Karagaybulak**	**121.75**	**303**	P	**PKPdf**		13 25 20.4	**+0.3**		
	SNR=61									
UCH	**Uchtor**	**121.93**	**302**	P	**PKPdf**		13 25 20.1	**-0.7**		
	SNR=114									
SFK	**Sufi-Kurgan**	**121.97**	**300**	PKiKP	**PKPdf**		13 25 20.3	**-0.4**		
SFK				pmax	pmax					
	comp=Z,190nm,1.1s									
CHMS	**Chumysh**	**121.99**	**303**	P	**PKPdf**		13 25 19.2	**-1.2**		
	SNR=64									
FRU	**Bishkek**	**122.04**	**303**	*e*PKiKP	**PKPdf**		13 25 18.0	**-2.5**		
FRU				pmax	pmax					
	comp=Z,210nm,1.4s									
AAK	**Ala-Archa**	**122.06**	**303**	P	**PKPdf**		13 25 21.0	**+0.2**		
	SNR=32									
AAK	**Ala-Archa**	**122.06**	**303**	PKiKP	**PKPdf**		13 25 20.0	**-0.7**		
AAK				pmax	pmax					
	comp=Z,68nm,1.0s									
SMRT	**St. Maarten**	**122.12**	**89**	*e*PKPdf	**PKPdf**		13 25 22.6	**+1.3**		
FDF	**Fort de France**	**122.13**	**93**	PFAKE			13 25 30.0	+8.6		
FDF				LR	LR					
	comp=Z,259nm,21.0s									
USP	**Ospenovka**	**122.25**	**304**	P	**PKPdf**		13 25 19.7	**-1.2**		
	SNR=48									
AML	**Almayashu**	**122.48**	**302**	P	**PKPdf**		13 25 21.1	**-0.7**		
	SNR=88									
EKS2	**Erkin-Say**	**122.58**	**303**	P	**PKPdf**		13 25 22.2	**+0.5**		
	SNR=74									
EKS2	**Erkin-Say**	**122.58**	**303**	*e*PKiKP	**PKPdf**		13 25 22.0	**+0.4**		
EKS2				MLR	MLR					
	comp=Z,330nm,21.0s									
EKS2	**Erkin-Say**	**122.58**	**303**	*e*PKPdf	**PKPdf**		13 25 22.0	**+0.4**		
EKS2				LR	LR					
	comp=Z,330nm,21.0s									
PTN	**Potsdam (NY)**	**122.59**	**55**	*e*PKiKP	**PKPdf**		13 25 20.8	**-0.6**		
PTN	**Potsdam (NY)**	**122.59**	**55**	*e*PKPdf	**PKPdf**		13 25 20.8	**-0.6**		
LONY	**Lake Ozonia**	**122.87**	**55**	*e*PKPdf	**PKPdf**		13 25 22.1	**+0.1**		
LONY				LR	LR					
	comp=Z,553nm,19.0s									
NCB	**Newcomb**	**122.94**	**56**	PFAKE			13 25 30.0	+7.8		
NCB				LR	LR					
	comp=Z,516nm,19.0s									
ANWB	**Willy Bob**	**123.03**	**90**	PFAKE			13 25 30.0	+7.0		
ANWB				LR	LR					
	comp=Z,333nm,19.0s									
KBL	**Kabul**	**123.55**	**292**	*e*PKiKP	**PKPdf**		13 25 24.2	**+0.3**		
KBL	**Kabul**	**123.55**	**292**	*e*PKPdf	**PKPdf**		13 25 24.2	**+0.3**		
QUA2	**Belchertown**	**123.79**	**58**	*e*PKPdf	**PKPdf**		13 25 23.7	**0.0**		
HNH	**Hanover**	**124.22**	**57**	*e*PKPdf	**PKPdf**		13 25 22.8	**-1.7**		
LSZ	**Lusaka**	**124.69**	**214**	PKKPab	PKKPab		13 35 09.0	-1.8		
	comp=Z,2.7nm,0.5s,baz=35,slow=5.7,SNR=5.1									
LSZ	**Lusaka**	**124.69**	**214**	*e*PKiKP	**PKPdf**		13 25 27.7	**+1.1**		
LSZ				MLR	MLR					
	comp=Z,331nm,20.0s									
LSZ	**Lusaka**	**124.69**	**214**	*e*PKPdf	**PKPdf**		13 25 27.7	**+1.1**		
LSZ				PKKPab	**PKKPbc**		13 35 09.0	**+0.9**		
LSZ				LR	LR					
	comp=Z,331nm,20.0s									
KK31	**Karatay Array**	**125.01**	**302**	PKiKP	**PKPdf**		13 25 25.2	**-0.9**		
KK31				pmax	pmax					
	comp=Z,91nm,0.7s									
KKAR	**Karatay Array**	**125.01**	**302**	*e*PKiKP	**PKPdf**		13 25 24.6	**-1.5**		
KKAR	**Karatay Array**	**125.01**	**302**	*e*PKPdf	**PKPdf**		13 25 24.6	**-1.5**		
DZET	**Dzherino**	**125.06**	**297**	PKiKP	**PKPdf**		13 25 26.1	**-0.4**		
DZET				pmax	pmax					
	comp=Z,137nm,1.1s									
TSUM	**Tsumeb**	**125.20**	**201**	*e*PKPdf	**PKPdf**		13 25 28.1	**+0.7**		
TSUM				*e*PP	PP		13 27 11.5	-6.9		
TSUM				LR	LR					
	comp=Z,458nm,20.0s									
WVL	**Waterville**	**126.27**	**56**	*e*PKPdf	**PKPdf**		13 25 27.9	**-0.5**		
BBSR	**BB Station**	**126.59**	**72**	PFAKE			13 25 40.0	+11		
BBSR				LR	LR					
	comp=Z,258nm,21.0s									
PKME	**Peaks-Kenny Pk**	**126.67**	**55**	*e*PKPdf	**PKPdf**		13 25 29.3	**+0.1**		
PKME				LR	LR					
	comp=Z,457nm,19.0s									
BVA0	**Borovoye Array**	**127.04**	**314**	PKiKP	**PKPdf**		13 25 27.9	**-1.8**		
BVA0				pmax	pmax					
	comp=Z,162nm,1.1s									
BVAR	**Borovoye Array**	**127.04**	**314**	PKhKP	PKPpre		13 25 13.6			
	comp=Z,2.9nm,0.9s,baz=116,slow=3.4,SNR=8.5									
BVAR				PKP	**PKPdf**		13 25 28.9	**-0.8**		
	comp=Z,89nm,0.8s,baz=124,slow=2.1,SNR=141									
BVAR				SKKPbc	SKKPbc		13 38 33.4	+1.6		
	comp=Z,1.5nm,0.7s,baz=251,slow=4.4,SNR=3.5									
BRVK	**Borovoye**	**127.11**	**314**	*c i* PKiKP	**PKPdf**		13 25 29.3	**-0.5**		
BRVK	**Borovoye**	**127.11**	**314**	PKPdf	**PKPdf**		13 25 28.9	**-0.9**		
	SNR=64									
BRVK	**Borovoye**	**127.11**	**314**	P	**PKPdf**		13 25 28.9	**-0.9**		
	SNR=64									
BRVK	**Borovoye**	**127.11**	**314**	*e*PKPdf	**PKPdf**		13 25 29.1	**-0.7**		
BRVK				LR	LR					
	comp=Z,273nm,22.0s									
PQI	**Presque Isle**	**127.83**	**54**	*e*PKPdf	**PKPdf**		13 25 30.6	**-0.7**		
JMDO	**Jabal Madar**	**127.86**	**274**	PKPdf	**PKPdf**		13 25 32.1	**-0.1**		
	SNR=12									
JMDO	**Jabal Madar**	**127.86**	**274**	P	**PKPdf**		13 25 32.1	**-0.1**		
	SNR=12									
SMDO	**Samad**	**128.20**	**275**

DAMY	**Dhamar**	**135.58**	**256**	*e*PKPdf	**PKPdf**	**13**	**25**	**48.9**	**+1.6**
DAMY				*e*SKPbc	**SKPbc**	**13**	**28**	**57.1**	**-1.5**
SUMG	**Summit**	**135.89**	**16**	*i* P	PP	13	28	11.0	-17
SUMG	**Summit**	**135.89**	**16**	*e*PKIKP	**PKPdf**	**13**	**25**	**46.7**	**+0.4**
SUMG	**Summit**	**135.89**	**16**	*e*PKPdf	**PKPdf**	**13**	**25**	**46.7**	**+0.4**
SUMG				*e*SKPbc	**SKPbc**	**13**	**28**	**57.4**	**-0.5**
IPIR	**Pirpir**	**137.46**	**284**	*e*P	**PKPdf**	**13**	**25**	**47.1**	**-3.2**
IRAZ	**Razeghan**	**138.87**	**288**	*e*P	**PKPdf**	**13**	**25**	**52.9**	**+0.1**
LVZ	**Lovozero**	**139.88**	**340**	*i* PKIKP	**PKPdf**	**13**	**25**	**52.9**	**-0.4**
APA	**Apatity**	**140.45**	**341**	⇓*i*PKHKP	PKPpre	13	25	48.2	
APA				pmax	pmax				
	comp=Z,90nm,1.2s								
APA				MLR	MLR				
	comp=Z,500nm,25.0s								
ARCES	**ARCESS Array B**	**140.87**	**346**	PKhKP	PKPpre	13	25	46.5	
	comp=Z,33nm,0.7s,baz=36,slow=3.1,SNR=52								
ARCES				SKPbc	**SKPbc**	**13**	**29**	**10.9**	**-0.7**
	comp=Z,8.5nm,0.6s,baz=33,slow=2.2,SNR=4.8								
ARCES				PKKP	**PKKPdf**	**13**	**35**	**17.1**	**-1.0**
	comp=Z,3.6nm,0.8s,baz=228,slow=1.5,SNR=4.9								
ARCES	**ARCESS Array B**	**140.87**	**346**	*i* PKHKP	PKPpre	13	25	46.5	
ARCES				pmax	pmax				
	comp=Z,33nm,0.7s								
ARCES				pmax	pmax				
	comp=N,9.0nm,0.6s								
ARCES				pmax	pmax				
	comp=Z,4.0nm,0.8s								
ISRB	**Sarab**	**141.08**	**291**	*e*P	PKPdf	13	25	51.4	-5.3
TMCR	**Tamitsa**	**141.10**	**334**	*e*PKHKP	PKPpre	13	25	50.0	
TMCR				pmax	pmax				
	comp=Z,90nm,1.2s								
IHRS	**Heris**	**141.63**	**291**	*e*P	PKPdf	13	25	52.1	-5.6
MAK	**Makhachkala**	**141.63**	**299**	*e*PKHKP	PKPpre	13	25	52.5	
MAK				*e*		13	29	03.7	
MAK				*e*PPP	PPP	13	32	11.3	
MAK				*e*		13	32	49.5	
MAK				pmax	pmax				
	comp=Z,243nm,0.9s								
MAK				MLR	MLR				
	comp=Z,306nm,18.0s								
IBST	**Bostanabad**	**141.67**	**290**	*e*P	PKPdf	13	25	51.8	-6.0
KTK1	**Kautokeino**	**141.76**	**347**	*e*P	PKPdf	13	25	50.9	-5.8
TRO	**Tromso**	**141.97**	**349**	*e*P	PKPdf	13	25	51.1	-5.9
IAZR	**Azarshahr**	**142.39**	**290**	*e*P	**PKPdf**	**13**	**25**	**54.0**	**-5.1**
IMRD	**Marand**	**142.72**	**292**	*e*P	**PKPdf**	**13**	**25**	**55.0**	**-4.5**
DGRG	**David-gareji**	**143.17**	**296**	P	PKPbc	13	25	57.3	-0.4
DGRG	**David-gareji**	**143.17**	**296**	PKIKP	PKPbc	13	25	57.3	-0.4
GNI	**Garni**	**143.58**	**294**	*e*PKIKP	PKPbc	13	25	59.5	+0.5
GNI				*e*		13	29	17.7	
GNI				MLR	MLR				
	comp=Z,210nm,19.0s								
GNI	**Garni**	**143.58**	**294**	PKPdf	PKPbc	13	25	59.5	+0.5
	SNR=18								
GNI	**Garni**	**143.58**	**294**	P	PKPbc	13	25	59.5	+0.5
	SNR=18								
GNI	**Garni**	**143.58**	**294**	*e*PKPdf	PKPbc	13	25	59.5	+0.5
GNI				*e*SKPbc	**SKPbc**	**13**	**29**	**17.7**	**-1.8**
GNI				LR	LR				
	comp=Z,210nm,19.0s								
TBLG	**Delisi**	**143.65**	**297**	*e*P	PKPbc	13	25	59.4	+0.4
TBLG	**Delisi**	**143.65**	**297**	P	PKPbc	13	25	58.6	-0.4
TBLG	**Delisi**	**143.65**	**297**	PKIKP	PKPbc	13	25	58.6	-0.4
DUS	**Dusheti**	**143.69**	**297**	P	PKPbc	13	25	60.0	+0.8
DUS	**Dusheti**	**143.69**	**297**	PKIKP	PKPbc	13	26	00.0	+0.8
STEI	**Steigen**	**144.08**	**350**	*e*P	**PKPab**	**13**	**25**	**57.6**	**-1.3**
STEI				IAmb	IAmb	13	25	59.9	
	comp=Z,273nm,1.0s								
LOF	**Lofoten**	**144.13**	**351**	*e*P	**PKPab**	**13**	**25**	**58.5**	**-0.6**
LOF				IAmb	IAmb	13	25	59.8	
	comp=Z,406nm,1.0s								
HKR	**Hakkari**	**144.14**	**290**	*e*P	**PKPab**	**13**	**26**	**00.2**	**-0.2**
CLDR	**Caldiran**	**144.15**	**292**	*e*P	PKPbc	13	26	01.0	+0.1
HAKT	**HAKKARI**	**144.16**	**290**	*i* P	**PKPab**	**13**	**25**	**59.8**	**-0.7**
CUKT	**Cukurca**	**144.21**	**289**	*e*P	**PKPab**	**13**	**25**	**59.6**	**-1.0**
CUKT	**Cukurca**	**144.21**	**289**	*e*P	**PKPab**	**13**	**25**	**59.6**	**-1.0**
ZEI	**Tsey**	**144.28**	**299**	*i* PKIKP	**PKPab**	**13**	**26**	**00.6**	**-0.2**
ZEI				pmax	pmax				
	comp=Z,297nm,1.3s								
DYDN	**Diyadin**	**144.35**	**293**	*i* P	PKPbc	13	26	01.7	+0.2
EAK	**Akyaka**	**144.48**	**295**	*i* P	**PKPab**	**13**	**26**	**01.5**	**0.0**
VANB	**Van**	**144.52**	**291**	*e*P	**PKPdf**	**13**	**26**	**02.8**	**+0.2**
AKH	**Akhalkalaki**	**144.58**	**296**	P	PKPbc	13	26	02.3	+0.3
AKH	**Akhalkalaki**	**144.58**	**296**	PKIKP	PKPbc	13	26	02.3	+0.3
ONI	**Oni**	**144.62**	**298**	P	PKPbc	13	26	01.9	0.0
ONI	**Oni**	**144.62**	**298**	PKIKP	**PKPab**	**13**	**26**	**01.9**	**0.0**
GEVA	**Gevas**	**144.75**	**291**	*i* P	PKPbc	13	26	02.5	-0.1
VRHR	**Novokhopersk**	**144.76**	**313**	*e*PKIKP	PKPbc	13	26	01.1	-0.9
VRHR				pmax	pmax				
	comp=N,50nm,0.7s								
VRHR				pmax	pmax				
	comp=Z,420nm,0.7s								
VRHR				pmax	pmax				
	comp=E,310nm,0.9s								
GOF	**Gofitskoye**	**144.80**	**303**	⇓*i*PKIKP	PKPbc	13	26	01.2	-1.1
GOF				pmax	pmax				
	comp=Z,1μm,1.3s								
KARS	**Kars**	**144.88**	**295**	*e*P	**PKPab**	**13**	**26**	**03.1**	**+0.1**
AGRB	**Hanur-Agry**	**144.89**	**293**	*e*P	PKPbc	13	26	02.6	-0.5
AGRB	**Hanur-Agry**	**144.89**	**293**	*e*P	PKPbc	13	26	02.6	-0.5
KBZ	**Khabaz**	**144.99**	**300**	PKP	**PKPab**	**13**	**26**	**03.1**	**0.0**
	comp=Z,300nm,1.0s,baz=116,slow=1.8,SNR=226								
KBZ				SKKPbc	SKKPbc	13	37	26.9	+3.9
	comp=Z,3.3nm,0.9s,baz=257,slow=5.1,SNR=4.8								
KIV	**Kislovodsk**	**145.13**	**301**	*e*P	**PKPbc**	**13**	**26**	**02.6**	**-0.8**
KIV	**Kislovodsk**	**145.13**	**301**	*i* PKIKP	**PKPbc**	**13**	**26**	**03.1**	**-0.4**
KIV				*e*		13	29	20.2	
KIV				*e*		13	32	52.1	
KIV				*e*SS	SS	13	47	58.3	0.0
KIV				*e*SSS	SSS	13	53	28.5	
KIV				pmax	pmax				
	comp=Z,249nm,1.1s								
KIV				MLR	MLR				
	comp=Z,203nm,22.0s								
KIV	**Kislovodsk**	**145.13**	**301**	PKPbc	**PKPbc**	**13**	**26**	**03.3**	**-0.2**
	SNR=51								
KIV	**Kislovodsk**	**145.13**	**301**	P	**PKPbc**	**13**	**26**	**03.3**	**-0.2**
	SNR=51								
KIV	**Kislovodsk**	**145.13**	**301**	*e*PKPdf	**PKPbc**	**13**	**26**	**03.0**	**-0.5**
KIV				LR	LR				
	comp=Z,220nm,21.0s								
SIRT	**Sirnak**	**145.16**	**289**	*e*P	**PKPdf**	**13**	**26**	**03.7**	**-0.1**
EATA	**Eleskirt**	**145.29**	**294**	*i* P	**PKPdf**	**13**	**26**	**04.3**	**+0.1**
MOS	**Moscow**	**145.47**	**322**	*e*PKIKP	**PKPdf**	**13**	**26**	**02.7**	**-0.8**
MOS				*e*		13	26	51.2	
MOS				pmax	pmax				
	comp=Z,2μm,1.3s								
MOS				pmax	pmax				
	comp=N,403nm,1.2s								
MOS				pmax	pmax				
	comp=E,296nm,1.3s								
MOS				pmax	pmax				
	comp=Z,2μm,1.4s								
MOS				pmax	pmax				
	comp=N,600nm,1.5s								
MOS				pmax	pmax				
	comp=E,300nm,1.4s								
EKAR	**Karacoban**	**145.59**	**292**	*i* P	**PKPab**	**13**	**26**	**06.0**	**+0.1**
KONS	**Konsvik**	**145.72**	**351**	*e*P	**PKPdf**	**13**	**26**	**03.3**	**-0.3**
KONS				IAmb	IAmb	13	26	05.7	
	comp=Z,702nm,1.1s								
HOMI	**Horasan**	**145.75**	**294**	*i* P	**PKPbc**	**13**	**26**	**06.0**	**+0.3**
ARTV	**Artvin**	**145.76**	**296**	*i* P	**PKPbc**	**13**	**26**	**05.5**	**-0.1**
DAGI	**Agillar**	**145.77**	**296**	*i* P	**PKPdf**	**13**	**26**	**05.0**	**+0.3**
FLOS	**Flostrand**	**145.84**	**350**	*e*P	**PKPdf**	**13**	**26**	**03.2**	**-0.5**
FLOS				IAmb	IAmb	13	26	05.1	
	comp=Z,490nm,1.0s								
BORG	**Borgarnes**	**145.87**	**16**	*e*PKP2	**PKPbc**	**13**	**26**	**05.1**	**+0.2**
BORG	**Borgarnes**	**145.87**	**16**	*e*PKPdf	**PKPbc**	**13**	**26**	**05.1**	**+0.2**
DDEM	**Demirkent**	**145.89**	**295**	*i* P	**PKPdf**	**13**	**26**	**05.1**	**+0.3**
STOK	**Stokkvaagen**	**145.89**	**351**	*e*P	**PKPdf**	**13**	**26**	**03.9**	**0.0**
STOK				*e*P	**PKPbc**	**13**	**26**	**04.7**	**-0.2**
STOK				IAmb	IAmb	13	26	06.2	
	comp=Z,1μm,1.4s								
LPSR	**Galich'ya Gora**	**145.94**	**317**	*e*PKP2	**PKPdf**	**13**	**26**	**04.9**	**+0.5**
LPSR				pmax	pmax				
	comp=Z,700nm,1.6s								
LPSR				pmax	pmax				
	comp=N,70nm,1.5s								
LPSR				pmax	pmax				
	comp=E,210nm,1.3s								
DBOC	**Borcka**	**145.96**	**296**	*i* P	**PKPdf**	**13**	**26**	**05.4**	**+0.5**
BTMT	**Batman**	**145.97**	**290**	*e*P	**PKPbc**	**13**	**26**	**06.0**	**-0.2**
BCA	**Borcka**	**145.99**	**296**	*e*P	**PKPdf**	**13**	**26**	**04.8**	**-0.2**
BCA	**Borcka**	**145.99**	**296**	*e*P	**PKPdf**	**13**	**26**	**04.8**	**-0.2**
VOR	**Voronezh**	**146.05**	**315**	*e*PKIKP	**PKPdf**	**13**	**26**	**03.0**	**-1.6**
VOR				pmax	pmax				
	comp=Z,1μm,1.6s								
VRTB	**Varto-Mus**	**146.06**	**292**	*e*P	**PKPbc**	**13**	**26**	**06.9**	**+0.4**
VRTB	**Varto-Mus**	**146.06**	**292**	*e*P	**PKPbc**	**13**	**26**	**06.9**	**+0.4**
BEST	**Besiri**	**146.12**	**290**	*i* P	**PKPbc**	**13**	**26**	**07.1**	**+0.4**
ERZM	**Erzurum**	**146.16**	**294**	*i* P	**PKPbc**	**13**	**26**	**07.5**	**+0.5**
EZM	**Erzurum**	**146.16**	**294**	*e*P	**PKPbc**	**13**	**26**	**07.5**	**+0.5**
SVAN	**Silvan-Diyarba**	**146.20**	**290**	*e*P	**PKPbc**	**13**	**26**	**06.4**	**-0.5**
VORD	**Divnogorie**	**146.22**	**314**	*e*PKP2	**PKPdf**	**13**	**26**	**05.7**	**+0.8**
VORD				pmax	pmax				
	comp=Z,620nm,1.9s								
VORD				pmax	pmax				
	comp=N,30nm,0.9s								
VORD				pmax	pmax				
	comp=E,110nm,0.8s								
VSR	**Storozhevoye**	**146.22**	**314**	*e*PKIKP	**PKPdf**	**13**	**26**	**05.4**	**+0.5**
VSR				pmax	pmax				
	comp=Z,430nm,1.0s								
VSR				pmax	pmax				
	comp=N,30nm,0.9s								
VSR				pmax	pmax				
	comp=E,170nm,1.0s								
OBN	**Obninsk**	**146.28**	**322**	*c i*PKIKP	**PKPdf**	**13**	**26**	**04.4**	**-0.5**
OBN				pmax	pmax				
	comp=Z,503nm,1.6s								
OBN	**Obninsk**	**146.28**	**322**	*e*PKPdf	**PKPdf**	**13**	**26**	**05.0**	**+0.1**
OBN				LR	LR				
	comp=Z,259nm,21.0s								
BNGB	**Bing¶ll**	**146.66**	**292**	*e*P	**PKPdf**	**13**	**26**	**06.8**	**+0.6**
MAZI	**Mazidag**	**146.73**	**289**	*e*P	**PKPdf**	**13**	**26**	**06.4**	**0.0**
DYBB	**Diyarbakir**	**147.01**	**290**	*e*P	**PKPab**	**13**	**26**	**10.5**	**-0.8**
FIA1	**FINESS Array S**	**147.04**	**337**	*e*PKPdf	**PKPdf**	**13**	**26**	**05.9**	**-0.1**
FINES	**FINESS Array B**	**147.04**	**337**	PKPbc	**PKPdf**	**13**	**26**	**06.4**	**+0.4**
	comp=Z,483nm,0.8s,baz=86,slow=2.7,SNR=163								
SOC	**Sochi**	**147.30**	**300**	*e*PKIKP	**PKPdf**	**13**	**26**	**06.7**	**-0.3**
SOC				*i*		13	26	11.1	
SOC				*e*		13	29	34.3	
SOC				pmax	pmax				
	comp=Z,272nm,0.9s								
KTUT	**Trabzon**	**147.39**	**295**	*e*P	**PKPdf**	**13**	**26**	**08.6**	**+1.3**
ERZN	**Erzincan**	**147.42**	**293**	*e*P	**PKPab**	**13**	**26**	**11.7**	**-1.2**
GUMT	**Gumushane**	**147.62**	**295**	*e*P	**PKPbc**	**13**	**26**	**11.2**	**+0.3**
PTK	**Pertek**	**147.65**	**292**	*e*P	**PKPdf**	**13**	**26**	**08.0**	**0.0**
SVRC	**Sivrice-ELAZID**	**147.70**	**291**	*e*P	**PKPdf**	**13**	**26**	**08.0**	**-0.1**
ELZG	**Elazig**	**147.96**	**291**	*i* P	**PKPdf**	**13**	**26**	**10.1**	**+1.6**
ESPY	**Espiye-Giresun**	**148.18**	**295**	*e*P	**PKPbc**	**13**	**26**	**10.7**	**-1.4**
ESPY	**Espiye-Giresun**	**148.18**	**295**	*e*P	**PKPbc**	**13**	**26**	**10.7**	**-1.4**
MALT	**Malatya**	**148.38**	**290**	*e*P	**PKPdf**	**13**	**26**	**09.8**	**+0.7**
MALT	**Malatya**	**148.38**	**290**	⇑PKIKP	**PKPdf**	**13**	**26**	**09.7**	**+0.6**
MALT	**Malatya**	**148.38**	**290**	⇑*i*P	**PKPdf**	**13**	**26**	**09.6**	**+0.5**
ATAB	**Bozova**	**148.44**	**289**	*i* P	**PKPbc**	**13**	**26**	**13.9**	**+0.9**
GRSN	**GIRESUNGRSN**	**148.53**	**295**	*i* P	**PKPbc**	**13**	**26**	**11.3**	**-1.8**
AKCD	**Akcadag**	**148.78**	**290**	*i* P	**PKPbc**	**13**	**26**	**14.1**	**+0.2**
ANN	**Anapa**	**148.79**	**303**	*e*PKHKP	PKPpre	13	26	08.2	
ANN				*e*SS	SS	13	48	45.5	+6.4
ANN				pmax	pmax				
	comp=Z,448nm,0.9s								
VSU	**Vasula**	**148.91**	**333**	*i* PKHKP	PKPpre	13	26	08.0	
GZT	**Gaziantep**	**149.01**	**289**	*i* P	**PKPbc**	**13**	**26**	**13.7**	**-0.9**
DARE	**Darende-Malaty**	**149.13**	**291**	*e*P	**PKPdf**	**13**	**26**	**10.7**	**+0.4**
TBLU	**Trondheim**	**149.20**	**351**	*e*P	**PKPbc**	**13**	**26**	**13.2**	**-0.8**
TBLU				IAmb	IAmb	13	26	14.6	
	comp=Z,264nm,1.0s								
RSDY	**Resadiye-TOKAT**	**149.26**	**294**	*e*P	**PKPdf**	**13**	**26**	**11.8**	**+1.4**
SVSK	**Karacayir**	**149.52**	**293**	*e*P	**PKPdf**	**13**	**26**	**11.3**	**+0.6**
HCB	**Kahramanmara¯**	**149.53**	**288**	*i* P	**PKPbc**	**13**	**26**	**15.5**	**-0.2**
KMRS	**Kahramanmaras**	**149.55**	**289**	*e*P	**PKPdf**	**13**	**26**	**12.3**	**+1.4**
EIL	**Elat**	**149.87**	**273**	*e*P	**PKPdf**	**13**	**26**	**12.3**	**+0.7**
RCY	**Rachaya**	**149.97**	**281**	*e*P	**PKPdf**	**13**	**26**	**12.6**	**+0.7**
ANDN	**Andirin**	**149.99**	**289**	*i* P	**PKPdf**	**13**	**26**	**11.7**	**0.0**
HWQ	**Hawqa**	**150.00**	**282**	*e*P	**PKPdf**	**13**	**26**	**11.8**	**0.0**
BHL	**Bhannes**	**150.19**	**281**	*e*P	**PKPdf**	**13**	**26**	**12.1**	**0.0**
MOL	**Molde**	**150.19**	**353**	*e*P	**PKPdf**	**13**	**26**	**13.3**	**+2.3**
MOL				IVmB_BB		13	26	17.6	
	comp=Z,3μm,1.2s								
MOL				IAmb	IAmb	13	26	17.8	
	comp=Z,340nm,1.1s								
KVT	**Kavak**	**150.20**	**296**	*e*P	**PKPdf**	**13**	**26**	**12.3**	**+0.5**
KOZT	**Kozan**	**150.40**	**289**	*e*P	**PKPdf**	**13**	**26**	**12.8**	**+0.5**
CEYT	**Ceyhan**	**150.44**	**288**	*e*P	**PKPbc**	**13**	**26**	**17.8**	**0.0**
HAVZ	**Havza**	**150.45**	**296**	*i* P	**PKPbc**	**13**	**26**	**16.8**	**-1.0**
AKN	**Aaknes**	**150.63**	**353**	*e*P	**PKPdf**	**13**	**26**	**12.5**	**+0.7**
AKN				IVmB_BB		13	26	18.9	
	comp=Z,4μm,1.0s								
AKN				IAmb	IAmb	13	26	19.1	
	comp=Z,441nm,1.0s								
KRTS	**Karatas**	**150.71**	**287**	*e*P	**PKPdf**	**13**	**26**	**14.0**	**+1.3**
DIKM	**Dikmen**	**150.75**	**297**	*e*P	**PKPbc**	**13**	**26**	**19.3**	**+0.9**
YOZ	**Yozgat**	**150.82**	**293**	*e*P	**PKPbc**	**13**	**26**	**18.7**	**-0.1**
IZAR	**Zarasai**	**150.91**	**329**	*e*P	**PKPdf**	**13**	**26**	**13.3**	**+0.9**
IZAR				IAmb	IAmb	13	26	20.1	
	comp=Z,268nm,1.2s								
MICGM	**Minsk**	**150.93**	**326**	*e*P	**PKPbc**	**13**	**26**	**18.0**	**-0.3**
MNK	**Minsk**	**150.95**	**326**	*e*PKIKP	**PKPbc**	**13**	**26**	**18.0**	**-0.4**
MNK				pmax	pmax				
	comp=Z,5μm,1.0s								
MNK				pmax	pmax				
	comp=N,5μm,1.2s								
MNK				pmax	pmax				
	comp=E,5μm,1.2s								
KARA	**Karaisali**	**151.00**	**288**	*e*P	**PKPdf**	**13**	**26**	**12.3**	**-0.8**
ISAL	**Salakas**	**151.07**	**329**	*e*P	**PKPdf**	**13**	**26**	**13.6**	**+1.0**
ISAL				IAmb	IAmb	13	26	20.5	
	comp=Z,143nm,1.0s								
SIM	**Simferopol'**	**151.08**	**304**	*c i*PKIKP	**PKPdf**	**13**	**26**	**13.5**	**+0.5**
SIM				*e*		13	26	28.0	
SIM				*e*SS	SS	13	50	10.0	+65
SIM				pmax	pmax				
	comp=Z,285nm,0.8s								
NB2	**NORSAR Subarra**	**151.16**	**348**	PKP	**PKPbc**	**13**	**26**	**18.0**	**-0.7**
	comp=Z,234nm,1.2s,baz=17,slow=2.6								
NB2	**NORSAR Subarra**	**151.16**	**348**	PKP	**PKPbc**	**13**	**26**	**18.0**	**-0.7**
	baz=17,slow=2.6								
NOA	**NORSAR Array B**	**151.16**	**348**	PKP	**PKPdf**	**13**	**26**	**12.7**	**0.0**
	comp=Z,11nm,0.6s,baz=230,slow=23,SNR=27								
NOA				PKPbc	**PKPbc**	**13**	**26**	**18.1**	**-0.7**
	comp=Z,86nm,1.0s,baz=16,slow=4.5,SNR=108								
NOA				PKPab	**PKPab**	**13**	**26**	**26.3**	**-1.1**
	comp=Z,99nm,0.8s,baz=25,slow=4.3,SNR=38								
IIGN	**Ignalina**	**151.17**	**328**	*e*P	**PKPdf**	**13**	**26**	**13.9**	**+1.1**
IIGN				IAmb	IAmb	13	26	20.8	
	comp=Z,197nm,0.9s								
CTKT	**Corum**	**151.18**	**295**	*i* P	**PKPdf**	**13**	**26**	**14.0**	**+0.5**
NACGM	**Naroch**	**151.20**	**327**	*e*	**PKPbc**	**13**	**26**	**20.0**	**+1.1**
CORM	**Corum**	**151.33**	**294**	*e*P	**PKPdf**	**13**	**26**	**13.6**	**-0.1**
FOO	**Floro**	**151.38**	**355**	*e*P	**PKPbc**	**13**	**26**	**18.7**	**-0.4**
FOO				IAmb	IAmb	13	26	20.5	
	comp=Z,165nm,1.3s								
NIG	**Nigde**	**151.38**	**290**	*e*P	**PKPdf**	**13**	**26**	**14.0**	**0.0**
NAO01	**NORSAR Array S**	**151.40**	**349**	*e*PKPdf	**PKPdf**	**13**	**26**	**13.2**	**+0.2**
NAO01				*e*PKPbc	**PKPbc**	**13**	**26**	**19.3**	**0.0**
NAO01				*e*PKPab	**PKPab**	**13**	**26**	**27.8**	**-0.5**
MERS	**Mersin**	**151.41**	**287**	*e*P	**PKPbc**	**13**	**26**	**20.3**	**+0.2**
CDAG	**Cicekdag**	**151.55**	**293**	*i* P	**PKPdf**	**13**	**26**	**13.5**	**-0.6**
EREN	**Erenkoy**	**151.60**	**284**	*e*P	**PKPdf**	**13**	**26**	**14.0**	**-0.1**
BZK	**Bozkurt**	**151.65**	**298**	*e*P	**PKPdf**	**13**	**26**	**12.3**	**-1.6**
HYA	**Hoyanger**	**151.70**	**353**	*e*P	**PKPbc**	**13**	**26**	**18.9**	**-1.0**
HYA				IAmb	IAmb	13	26	21.4	
	comp=Z,173nm,0.9s								
SUE	**Sulen**	**151.93**	**355**	*e*P	**PKPbc**	**13**	**26**	**19.5**	**-0.9**
SUE				IVmB_BB		13	26	21.2	
	comp=Z,2μm,1.2s								
SUE				IAmb	IAmb	13	26	21.4	
	comp=Z,216nm,1.0s								
CANT	**Cankiri**	**152.07**	**295**	*e*P	**PKPbc**	**13**	**26**	**18.3**	**-3.2**
KAMT	**Kaman**	**152.07**	**293**	*e*P	**PKPbc**	**13**	**26**	**20.2**	**-1.5**
SACV	**Santiago Islan**	**152.09**	**125**	*e*PKPbc	**PKPbc**	**13**	**26**	**22.6**	**+0.4**
SACV				LR	LR				
	comp=Z,254nm,19.0s								
LFK	**Lefkose**	**152.09**	**284**	*e*P	**PKPbc**	**13**	**26**	**22.8**	**+1.0**
BR131	**Keskin Array S**	**152.11**	**293**	*e*PKPdf	**PKPdf**	**13**	**26**	**14.5**	**-0.5**
BR131				*e*PKPbc	**PKiKP**	**13**	**26**	**22.2**	**+0.1**
BRTR	**Keskin Array B**	**152.11**	**293**	PKP	**PKPdf**	**13**	**26**	**13.6**	**-1.4**
	comp=Z,21nm,1.1s,baz=132,slow=1.8,SNR=62								
CSS	**Prodhromos**	**152.23**	**283**	*e*P	**PKPdf**	**13**	**26**	**14.3**	**-0.7**
CSS	**Prodhromos**	**152.23**	**283**	*e*P	**PKPdf**	**13**	**26**	**14.3**	**-0.7**
CSS	**Prodhromos**	**152.23**	**283**	P	**PKPdf**	**13**	**26**	**15.3**	**+0.2**
CSS	**Prodhromos**	**152.23**	**283**	*e*PKPdf	**PKPdf**	**13**	**26**	**14.6**	**-0.4**
CSS				LR	LR				
	comp=Z,96nm,22.0s								
ELDT	**Eldivan**	**152.23**	**295**	*i* P	**PKPbc**	**13**	**26**	**21.6**	**-0.4**
AKASG	**Malin Array Be**	**152.23**	**318**	PKP	**PKPdf**	**13**	**26**	**13.2**	**-1.4**
	comp=Z,13nm,0.9s,baz=61,slow=1.5,SNR=41								
AKASG				PKPbc	**PKPbc**	**13**	**26**	**21.5**	**+0.1**
	comp=Z,118nm,0.7s,baz=62,slow=2.4,SNR=113								
AKASG				PKPab	**PKPab**	**13**	**26**	**31.1**	**-1.1**
	comp=Z,58nm,0.8s,baz=54,slow=4.5,SNR=16								
AKBB	**Malin Array Si**	**152.23**	**318**	*e*PKIKP	**PKPdf**	**13**	**26**	**13.6**	**-0.9**
AKBB				*e*		13	26	32.1	
AKBB	**Malin Array Si**	**152.23**	**318**	*e*PKPdf	**PKPdf**	**13**	**26**	**13.6**	**-0.9**
AKBB				*e*PKPbc	**PKPbc**	**13**	**26**	**21.3**	**-0.2**
AKBB				*e*PKPab	**PKPab**	**13**	**26**	**32.1**	**-0.1**
AK01	**Malin Array Si**	**152.25**	**318**	*e*PKPdf	**PKPdf**	**13**	**26**	**13.6**	**-1.0**
AK01				*e*PKPbc	**PKiKP**	**13**	**26**	**21.7**	**0.0**
AK01				*e*PKPab	**PKPab**	**13**	**26**	**32.2**	**0.0**
KIEV	**Kiev**	**152.25**	**318**	*e*PKIKP	**PKPdf**	**13**	**26**	**13.1**	**-1.4**
KIEV				MLR	MLR				
	comp=Z,182nm,19.0s								
KIEV	**Kiev**	**152.25**	**318**	*e*PKPdf	**PKPdf**	**13**	**26**	**13.1**	**-1.4**
KIEV				LR	LR				
	comp=Z,182nm,19.0s								
SULT	**Sultanhani-AKS**	**152.25**	**290**	*e*P	**PKPdf**	**13**	**26**	**13.4**	**-1.7**
AK02	**Malin Array Si**	**152.26**	**318**	*e*PKPdf	**PKPdf**	**13**	**26**	**14.1**	**-0.5**
AK02				*e*PKPbc	**PKPbc**	**13**	**26**	**21.6**	**+0.1**
AK02				*e*PKPab	**PKPab**	**13**	**26**	**32.5**	**+0.3**
OSL	**Oslo**	**152.28**	**348**	*e*P	**PKPbc**	**13**	**26**	**20.4**	**-0.9**
ASK	**Askoy**	**152.47**	**354**	*e*P	**PKPbc**	**13**	**26**	**21.1**	**-0.5**
BBAL	**Bala**	**152.52**	**293**	*i* P	**PKPbc**	**13**	**26**	**21.5**	**-1.1**
RUND	**Rundenannen**	**152.52**	**354**	*e*P	**PKPbc**	**13**	**26**	**20.5**	**-1.3**
BER	**Bergen**	**152.55**	**354**	*e*P	**PKPbc**	**13**	**

MUD	**Monsted U'grnd**	**155.85**	**347**	⇑*iP*	**PKPdf**	**13 26 18.7**	**-0.7**
MUD				*i*		13 26 46.3	
MUD	**Monsted U'grnd**	**155.85**	**347**	⇑*i*PKIKP	**PKPdf**	**13 26 18.7**	**-0.7**
MUD				*i*		13 26 46.3	
PLOR	**Plostina**	**155.85**	**309**	⇑PKIKP	**PKPdf**	**13 26 19.6**	**-0.2**
PLOR	**Plostina**	**155.85**	**309**	⇓*i*P	PKPdf	13 26 30.1	+10
BEL	**Belsk**	**155.92**	**327**	*e*PKPdf	**PKPdf**	**13 26 20.2**	**+0.5**
BEL				*e*PKiKP	PKiKP	13 26 30.5	
BEL				*e*PKPab	**PKPab**	**13 26 48.1**	**+0.3**
BEL				*e*PP	**PP**	**13 30 27.0**	**+1.2**
BEL	**Belsk**	**155.92**	**327**	*e*PKP2	**PKPab**	**13 26 48.1**	**+0.3**
BEL				*e*		13 30 27.1	
BUR08	**Bucovina Ar. S**	**156.00**	**314**	*e*PKPdf	**PKPdf**	**13 26 20.1**	**0.0**
BURAR	**Bucovina Array**	**156.00**	**314**	⇑PKIKP	PKPdf	13 26 31.8	+12
BURAR	**Bucovina Array**	**156.00**	**314**	⇓*i*P	**PKPdf**	**13 26 19.6**	**-0.5**
KULA	**Kula-Manisa**	**156.05**	**291**	*e*P	**PKPdf**	**13 26 20.5**	**+0.1**
SLVT	**Silivri**	**156.06**	**298**	*e*P	**PKPdf**	**13 26 19.1**	**-1.1**
KCTX	**Karacabey (Bur**	**156.10**	**295**	*e*P	**PKPdf**	**13 26 18.9**	**-1.5**
ISR	**Istrita**	**156.19**	**308**	⇓PKIKP	**PKPdf**	**13 26 24.3**	**+4.0**
LLD	**Lille Linde**	**156.21**	**342**	*i* P	**PKPdf**	**13 26 20.2**	**+0.3**
LLD				*e*		13 26 30.3	
LLD				*i*		13 26 48.1	
LLD	**Lille Linde**	**156.21**	**342**	*i* PKIKP	**PKPdf**	**13 26 20.2**	**+0.3**
LLD				*i*		13 26 48.1	
GKP	**Gorka Klasztor**	**156.36**	**333**	*e*PKPdf	**PKPdf**	**13 26 20.3**	**+0.1**
GKP				*e*PKPab	**PKPab**	**13 26 49.6**	**0.0**
GKP	**Gorka Klasztor**	**156.36**	**333**	*e*PKIKP	**PKPdf**	**13 26 20.4**	**+0.2**
KWP	**Kalwaria Pacla**	**156.36**	**321**	*e*PKPdf	**PKPdf**	**13 26 19.5**	**-0.9**
KWP				*e*PKPab	**PKPab**	**13 26 50.2**	**+0.4**
KWP				*e*SKSdf	**SKSdf**	**13 33 05.7**	**-0.5**
KWP	**Kalwaria Pacla**	**156.36**	**321**	*e*PKP2	**PKPab**	**13 26 50.3**	**+0.4**
KWP				*e*		13 33 05.7	
MLR	**Muntele Rosu**	**156.44**	**309**	⇑PKIKP	**PKPdf**	**13 26 19.2**	**-1.6**
MLR	**Muntele Rosu**	**156.44**	**309**	⇑*i*P	**PKPdf**	**13 26 19.2**	**-1.6**
SECR		**156.53**	**308**	⇓*i*P	**PKPdf**	**13 26 20.1**	**-0.6**
BALB	**Balikesir**	**156.55**	**294**	*e*P	**PKPdf**	**13 26 19.2**	**-1.7**
TKR	**Tekirdag**	**156.60**	**297**	*e*P	**PKPdf**	**13 26 19.9**	**-1.0**
MRMT	**Marmara Adasi**	**156.62**	**296**	*e*P	**PKPdf**	**13 26 19.4**	**-1.7**
MRMT	**Marmara Adasi**	**156.62**	**296**	*e*P	**PKPdf**	**13 26 19.4**	**-1.7**
AKS	**Akhisar**	**156.68**	**292**	*e*P	**PKPdf**	**13 26 19.6**	**-1.5**
AYDB	**Zeytinkoy-Aydi**	**156.69**	**290**	*e*P	**PKPdf**	**13 26 20.0**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**156.69**	**290**	*e*P	**PKPdf**	**13 26 20.0**	**-1.3**
AYDN	**Tasoluk**	**156.71**	**289**	*i* P	**PKPdf**	**13 26 20.8**	**-0.5**
JMB	**Yambol**	**156.97**	**301**	⇑PKIKP	**PKPdf**	**13 26 21.5**	**+0.2**
JMB	**Yambol**	**156.97**	**301**	⇑*i*P	**PKPdf**	**13 26 21.5**	**+0.2**
BMR	**Baia Mare**	**156.99**	**316**	⇓PKIKP	**PKPdf**	**13 26 21.5**	**+0.3**
BMR	**Baia Mare**	**156.99**	**316**	⇓*i*P	**PKPdf**	**13 26 21.5**	**+0.3**
KOLS	**Kolonicke sedl**	**157.00**	**320**	*e*PKIKP	**PKPdf**	**13 26 21.4**	**+0.2**
KOLS	**Kolonicke sedl**	**157.00**	**320**	*e*PKP	**PKPdf**	**13 26 21.4**	**+0.2**
KOLS				*e*		13 26 52.7	
VOIR		**157.05**	**310**	⇓PKIKP	**PKPdf**	**13 26 20.5**	**-1.0**
VOIR		**157.05**	**310**	⇓*i*P	**PKPdf**	**13 26 20.5**	**-1.0**
IZM	**Izmir**	**157.15**	**291**	*e*P	**PKPdf**	**13 26 20.7**	**-1.1**
STHS	**Stebnicka Huta**	**157.26**	**322**	*e*PKIKP	**PKPdf**	**13 26 21.6**	**+0.1**
STHS				*e*		13 30 32.2	
STHS	**Stebnicka Huta**	**157.26**	**322**	*e*PKP	**PKPdf**	**13 26 21.6**	**+0.1**
STHS				*e*		13 26 55.7	
STHS				*e*		13 27 37.4	
STHS				*e*PP	**PP**	**13 30 32.2**	**-1.2**
LPK	**Lapseki**	**157.29**	**296**	*e*P	**PKPdf**	**13 26 21.0**	**-0.8**
LPK	**Lapseki**	**157.29**	**296**	*e*P	**PKPdf**	**13 26 21.0**	**-0.8**
CJR	**Cluj-Napoca**	**157.40**	**314**	⇓PKP2	**PKPab**	**13 26 55.5**	**+1.0**
CJR	**Cluj-Napoca**	**157.40**	**314**	⇑*i*P	**PKPdf**	**13 26 20.8**	**-1.0**
HUMR	**Humele**	**157.44**	**307**	⇓*i*P	**PKPdf**	**13 26 20.2**	**-1.7**
OJC	**Ojcow**	**157.47**	**325**	*e*PKPdfc	**PKPdf**	**13 26 20.8**	**-0.9**
OJC				*e*PKPab	**PKPab**	**13 26 54.6**	**0.0**
OJC	**Ojcow**	**157.47**	**325**	⇑*e*PKIKP	**PKPdf**	**13 26 20.8**	**-0.9**
OJC	**Ojcow**	**157.47**	**325**	*e*PKPab	**PKPab**	**13 26 53.9**	**-0.7**
GELI	**Tayfur-Gelibol**	**157.50**	**296**	*e*P	**PKPdf**	**13 26 21.0**	**-1.0**
ENEZ	**Enez**	**157.68**	**297**	*e*P	**PKPdf**	**13 26 19.9**	**-2.3**
NIE	**Niedzica**	**157.74**	**323**	*e*PKPdf	**PKPdf**	**13 26 22.1**	**0.0**
NIE				*e*PKPab	**PKPab**	**13 26 56.5**	**+0.7**
NIE	**Niedzica**	**157.74**	**323**	*e*PKIKP	**PKPdf**	**13 26 22.1**	**0.0**
ESK	**Eskdalemuir**	**157.78**	**5**	PFAKE		13 26 30.0	+8.1
ESK				LR	LR		
	comp=Z,357nm,20.0s						
PRK	**Paraskevi**	**157.83**	**293**	*e*P	**PKPdf**	**13 26 21.5**	**-1.0**
DRGR		**157.90**	**315**	⇑PKIKP	**PKPdf**	**13 26 22.3**	**-0.2**
DRGR		**157.90**	**315**	⇑*i*P	**PKPdf**	**13 26 22.3**	**-0.2**
KDZ	**Kurdzhali**	**158.02**	**300**	⇓PKIKP	**PKPdf**	**13 26 22.5**	**-0.2**
KDZ	**Kurdzhali**	**158.02**	**300**	⇓*i*P	**PKPdf**	**13 26 22.5**	**-0.2**
KDZ	**Kurdzhali**	**158.02**	**300**	P	**PKPdf**	**13 26 22.0**	**-0.7**
RDO	**Rodhopi**	**158.05**	**299**	*e*P	**PKPdf**	**13 26 21.5**	**-1.2**
RDO	**Rodhopi**	**158.05**	**299**	*e*PKPdf	**PKPdf**	**13 26 21.6**	**-1.2**
CHOS	**Chios island**	**158.10**	**291**	*e*P	**PKPdf**	**13 26 19.9**	**-3.1**
CHOS	**Chios island**	**158.10**	**291**	*e*P	**PKPdf**	**13 26 20.7**	**-2.3**
SIGR	**SIGRI**	**158.16**	**293**	*e*P	PKPdf	13 26 14.3	-8.6
SIGR	**SIGRI**	**158.16**	**293**	*e*P	PKPdf	13 26 14.3	-8.6
SIGR	**SIGRI**	**158.16**	**293**	*e*P	**PKPdf**	**13 26 21.8**	**-1.1**
SMTH	**Samothraki Isl**	**158.19**	**297**	P	PKPdf	13 26 17.0	-5.9
SMTH	**Samothraki Isl**	**158.19**	**297**	*e*P	PKPdf	13 26 17.0	-5.9
OKC	**Ostrava-Krasne**	**158.51**	**326**	*e*PKPDF	**PKPdf**	**13 26 22.5**	**-0.5**
OKC				*e*PKPAB	**PKPab**	**13 26 58.7**	**-0.4**
OKC				*ex*	x	13 40 19.1	
OKC				*ex*	x	13 50 13.0	
OKC				*ex*	x	13 51 41.8	
OKC				*ex*	x	13 56 46.4	
OKC				AMS	AMS	14 34 00.0	
	comp=Z,300nm,25.6s						
OKC	**Ostrava-Krasne**	**158.51**	**326**	*e*PKIKP	**PKPdf**	**13 26 22.5**	**-0.5**
OKC				*e*		13 26 58.7	
OKC				*e*		13 51 41.8	
OKC				MLR	MLR		
	comp=Z,300nm,25.6s						
GZR	**Gura Zlata**	**158.52**	**311**	⇑PKIKP	**PKPdf**	**13 26 22.9**	**-0.3**
GZR	**Gura Zlata**	**158.52**	**311**	⇑*i*P	**PKPdf**	**13 26 22.9**	**-0.3**
NPS	**Neapolis**	**158.56**	**283**	*e*P	**PKPdf**	**13 26 23.5**	**-0.1**
LIA	**Limnos Island**	**158.56**	**295**	*e*P	**PKPdf**	**13 26 23.9**	**+0.5**
KSP	**Ksiaz**	**158.60**	**330**	*e*PKPdf	**PKPdf**	**13 26 22.8**	**-0.3**
KSP				*i* PKPab	**PKPab**	**13 26 59.7**	**+0.3**
KSP				*e*PP	**PP**	**13 30 43.7**	**+3.3**
KSP	**Ksiaz**	**158.60**	**330**	*i* PKP2	**PKPab**	**13 26 59.7**	**+0.3**
KSP				*e*		13 30 43.7	
APE	**Apeiranthos**	**158.61**	**288**	*e*P	**PKPdf**	**13 26 23.4**	**-0.2**
APE	**Apeiranthos**	**158.61**	**288**	P	**PKPdf**	**13 26 21.1**	**-2.5**
APE	**Apeiranthos**	**158.61**	**288**	*e*P	**PKPdf**	**13 26 21.7**	**-1.9**
APE	**Apeiranthos**	**158.61**	**288**	⇑PKIKP	**PKPdf**	**13 26 21.7**	**-1.9**
APE	**Apeiranthos**	**158.61**	**288**	⇑*i*P	**PKPdf**	**13 26 21.7**	**-1.9**
APE	**Apeiranthos**	**158.61**	**288**	P	**PKPdf**	**13 26 21.1**	**-2.5**
SANT	**Santorini**	**158.69**	**286**	*e*PKPdf	**PKPdf**	**13 26 21.8**	**-1.9**
SANT				*e*PKPab	**PKPab**	**13 27 00.2**	**-0.2**
SANT				LR	LR		
	comp=Z,153nm,20.0s						
MORC	**Moravsky Berou**	**158.84**	**327**	⇑PKIKP	**PKPdf**	**13 26 26.2**	**+2.7**
MORC	**Moravsky Berou**	**158.84**	**327**	⇑*i*P	**PKPdf**	**13 26 22.8**	**-0.7**
MORC	**Moravsky Berou**	**158.84**	**327**	*e*PKPdf	**PKPdf**	**13 26 22.2**	**-1.3**
PSZ	**Piszkesteto**	**158.88**	**320**	⇑PKIKP	**PKPdf**	**13 26 22.7**	**-0.9**
PSZ	**Piszkesteto**	**158.88**	**320**	⇑*i*P	**PKPdf**	**13 26 22.7**	**-0.9**
PSZ	**Piszkesteto**	**158.88**	**320**	*e*PKPdf	**PKPdf**	**13 26 22.6**	**-0.9**
PSZ				LR	LR		
	comp=Z,364nm,22.0s						
PSZ	**Piszkesteto**	**158.88**	**320**	⇑*e*	**PKPdf**	**13 26 22.7**	**-0.9**
DPC	**Dobruska-Polom**	**158.96**	**329**	*e*PKPDF	**PKPdf**	**13 26 22.8**	**-0.8**
DPC				*ex*	x	13 26 48.0	
DPC				*e*PKPAB	**PKPab**	**13 27 00.8**	**-0.3**
DPC				*ex*	x	13 27 18.1	
DPC				*e*PP	**PP**	**13 30 43.1**	**+0.6**
DPC				*ex*	x	13 40 15.5	
DPC				*ex*	x	13 50 20.8	
DPC				AMS	AMS	14 29 40.0	
	comp=Z,400nm,21.4s						
DPC	**Dobruska-Polom**	**158.96**	**329**	*e*PKIKP	**PKPdf**	**13 26 22.8**	**-0.8**
DPC				*e*		13 27 00.8	
DPC				*e*		13 27 18.1	
DPC				*e*		13 30 43.1	
DPC				*e*		13 50 20.8	
DPC				MLR	MLR		
	comp=Z,400nm,21.4s						
UPC	**Upice**	**158.97**	**330**	*e*PKPDF	**PKPdf**	**13 26 23.2**	**-0.3**
UPC				*e*PKPAB	**PKPab**	**13 27 00.9**	**-0.2**
UPC				*e*PP	**PP**	**13 30 44.7**	**+2.2**
UPC	**Upice**	**158.97**	**330**	*e*PKIKP	**PKPdf**	**13 26 23.2**	**-0.3**
UPC				*e*		13 27 00.9	
UPC				*e*		13 30 44.7	
BZS	**Buzias**	**159.13**	**313**	*e*P	**PKPdf**	**13 26 22.9**	**-1.0**
BZS	**Buzias**	**159.13**	**313**	⇑PKIKP	**PKPdf**	**13 26 22.8**	**-1.1**
BZS	**Buzias**	**159.13**	**313**	⇑*i*P	**PKPdf**	**13 26 22.8**	**-1.1**
NVR	**Nevrokopi**	**159.22**	**300**	P	**PKPdf**	**13 26 21.8**	**-2.4**
NVR	**Nevrokopi**	**159.22**	**300**	*e*P	**PKPdf**	**13 26 21.7**	**-2.4**
NVR	**Nevrokopi**	**159.22**	**300**	P	**PKPdf**	**13 26 21.8**	**-2.4**
MMB	**Musomiste**	**159.26**	**301**	⇓PKIKP	**PKPdf**	**13 26 22.8**	**-1.4**
MMB	**Musomiste**	**159.26**	**301**	⇓*i*P	**PKPdf**	**13 26 22.8**	**-1.4**
MMB	**Musomiste**	**159.26**	**301**	P	**PKPdf**	**13 26 23.0**	**-1.2**
VTS	**Vitosha**	**159.32**	**304**	P	**PKPdf**	**13 26 23.1**	**-1.3**
VTS	**Vitosha**	**159.32**	**304**	⇑PKIKP	**PKPdf**	**13 26 22.1**	**-2.3**
VTS	**Vitosha**	**159.32**	**304**	⇑*i*P	**PKPdf**	**13 26 22.1**	**-2.3**
VTS	**Vitosha**	**159.32**	**304**	P	**PKPdf**	**13 26 24.0**	**-0.4**
VTS	**Vitosha**	**159.32**	**304**	P	**PKPdf**	**13 26 23.1**	**-1.3**
DSB	**Dublin**	**159.47**	**11**	*e*PKPdf	**PKPdf**	**13 26 23.9**	**-0.1**
CLL	**Collm**	**159.48**	**336**	*e*PKPdf	**PKPdf**	**13 26 24.1**	**0.0**
CLL				*e*PKPab	**PKPab**	**13 27 03.2**	**0.0**
CLL	**Collm**	**159.48**	**336**	*e*PKPdf	**PKPdf**	**13 26 23.0**	**-1.1**
	comp=Z,109nm,2.2s						
CLL				*e*PKPdiff	PKPdf	13 26 37.0	+13
	comp=Z,22nm,1.1s						
CLL				⇓*i*PKPab	**PKPab**	**13 27 02.6**	**-0.6**
	comp=Z,236nm,0.8s						
CLL				*e*PP	**PP**	**13 30 44.0**	**-1.0**
	comp=Z,25nm,1.4s						
CLL				*e*pPPPrev		13 39 42.0	
CLL				*e*PPS	PPS	13 44 06.0	
CLL				*e*SS	SS	13 50 36.0	+2.8
CLL				*e*(SSS)		13 56 06.0	
CLL				*e*SSPrev		13 58 30.0	
CLL				*e*SSSS		14 01 18.0	
CLL				LmV		14 43 00.0	
	comp=Z,200nm,20.4s						
CLL	**Collm**	**159.48**	**336**	⇓*e*PKIKP	**PKPdf**	**13 26 23.0**	**-1.1**
CLL				*i*		13 27 02.6	
CLL				pmax	pmax		
	comp=Z,109nm,2.2s						
CLL				pmax	pmax		
	comp=Z,22nm,1.1s						
CLL				pmax	pmax		
	comp=Z,236nm,0.8s						
CLL	**Collm**	**159.48**	**336**	*e*PKPdf	**PKPdf**	**13 26 23.9**	**-0.2**
PKSN	**Nyarlorinc**	**159.49**	**318**	*e*PKPdf	**PKPdf**	**13 26 24.3**	**+0.1**
BRG	**Berggiesshubel**	**159.50**	**334**	*i* PKP	**PKPdf**	**13 26 23.6**	**-0.6**
	comp=Z,96nm,1.5s						
BRG				*i*		13 27 03.5	
	comp=Z,127nm,0.9s						
BRG				*i* PP	PP	13 30 38.4	-6.9
	comp=Z,12nm,1.3s						
BRG				SS	SS	13 50 24.0	-10
BRG	**Berggiesshubel**	**159.50**	**334**	*e*PKPdf	**PKPdf**	**13 26 24.3**	**+0.2**
BRG				*e*PKPab	**PKPab**	**13 27 03.3**	**0.0**
BRG	**Berggiesshubel**	**159.50**	**334**	*i* PKIKP	**PKPdf**	**13 26 23.5**	**-0.6**
BRG				*i*		13 27 03.5	
BRG				pmax	pmax		
	comp=Z,96nm,1.5s						
BRG				pmax	pmax		
	comp=Z,127nm,0.9s						
BRG				pmax	pmax		
	comp=Z,13nm,1.3s						
MHLO	**Agia Marina, M**	**159.53**	**287**	*e*P	**PKPdf**	**13 26 24.0**	**-0.6**
PVCC	**Panska Ves**	**159.54**	**332**	*e*PKPDF	**PKPdf**	**13 26 24.4**	**+0.2**
PVCC				*e*PKPAB	**PKPab**	**13 27 03.9**	**+0.4**
PVCC	**Panska Ves**	**159.54**	**332**	*e*PKIKP	**PKPdf**	**13 26 24.4**	**+0.2**
PVCC				*e*		13 27 03.9	
VRAC	**Vranov**	**159.60**	**327**	⇑*i*P	**PKPdf**	**13 26 23.8**	**-0.5**
BUD	**Budapest**	**159.61**	**320**	⇑*e*PKPdf	**PKPdf**	**13 26 23.8**	**-0.5**
AOS	**Alonnisos**	**159.68**	**294**	*e*P	**PKPdf**	**13 26 20.2**	**-4.5**
SMOL	**Smolenice**	**159.76**	**324**	*e*PKIKP	**PKPdf**	**13 26 24.7**	**+0.2**
SMOL	**Smolenice**	**159.76**	**324**	*e*PKP	**PKPdf**	**13 26 24.7**	**+0.2**
SMOL				*e*		13 27 05.5	
PKS7	**Kunszentmiklos**	**159.80**	**319**	⇓*e*PKPdf	**PKPdf**	**13 26 23.5**	**-1.0**
VAL	**Valentia**	**159.90**	**18**	⇑*i*P	**PKPdf**	**13 26 25.8**	**+1.3**
GOPC	**GO Pecny, Ondr**	**159.93**	**331**	*e*PKPDF	**PKPdf**	**13 26 24.0**	**-0.7**
GOPC				*e*PKPAB	**PKPab**	**13 27 05.7**	**+0.4**
GOPC				*e*PP	**PP**	**13 30 50.5**	**+2.8**
GOPC				*ex*	x	13 39 30.2	
GOPC				*ex*	x	13 40 10.9	
GOPC				AMS	AMS	14 34 20.0	
	comp=Z,300nm,17.4s						
PRA	**Prague**	**159.95**	**332**	*e*PKPDF	**PKPdf**	**13 26 24.2**	**-0.4**
PRA				*e*PKPAB	**PKPab**	**13 27 05.9**	**+0.6**
PRA	**Prague**	**159.95**	**332**	*e*PKIKP	**PKPdf**	**13 26 24.2**	**-0.4**
TOA0	**Torodi Ar. Sit**	**159.97**	**185**	*e*PKP1	**PKPdf**	**13 26 24.0**	**-1.7**
TOA0	**Torodi Ar. Sit**	**159.97**	**185**	*e*PKPdf	**PKPdf**	**13 26 25.9**	**+0.1**
TOA0				*e*PKPab	**PKPab**	**13 27 07.2**	**+1.0**
TORD	**Torodi Ar. Bea**	**159.97**	**185**	PKP	**PKPdf**	**13 26 25.9**	**+0.1**
	comp=Z,84nm,1.0s,baz=228,slow=0.1,SNR=157						
TORD				PKPab	**PKPab**	**13 27 06.9**	**+0.7**
	comp=Z,447nm,1.1s,baz=177,slow=3.4,SNR=9.2						
TORD				PP	**PP**	**13 30 45.2**	**-2.2**
	comp=Z,20nm,1.0s,baz=201,slow=4.5,SNR=6.4						
HORT	**Hortiatis**	**159.97**	**298**	*e*P	**PKPdf**	**13 26 24.1**	**-1.0**
PRU	**Pruhonice**	**159.97**	**331**	*e*PKPDF	**PKPdf**	**13 26 23.9**	**-0.8**
PRU				*e*PKPAB	**PKPab**	**13 27 04.8**	**-0.6**
PRU				*ex*	x	13 40 08.1	
PRU				*ex*	x	13 50 30.5	
PRU				*ex*	x	13 51 56.0	
PRU				*ex*	x	13 56 50.1	
PRU				*ex*	x	13 58 32.7	
PRU				AMS	AMS	14 34 10.0	
	comp=Z,400nm,25.3s						
PRU	**Pruhonice**	**159.97**	**331**	*e*PKIKP	**PKPdf**	**13 26 23.9**	**-0.8**
PRU				*e*		13 27 04.8	
PRU				*e*		13 50 30.5	
PRU				*e*		13 51 56.0	
PRU				*e*		13 56 50.1	
PRU				MLR	MLR		
	comp=Z,400nm,25.3s						
TOA1	**Torodi Ar. Sit**	**159.98**	**185**	*e*PKP1	**PKPdf**	**13 26 24.2**	**-1.5**
TOB5	**Torodi Ar. Sit**	**159.98**	**185**	*e*PKP1	**PKPdf**	**13 26 24.2**	**-1.6**
MRKA	**Markates**	**159.98**	**293**	P	**PKPdf**	**13 26 22.8**	**-2.3**
MRKA	**Markates**	**159.98**	**293**	*e*P	**PKPdf**	**13 26 24.0**	**-1.1**
PKSG		**160.00**	**321**	⇓*e*PKPdf	**PKPdf**	**13 26 24.5**	**-0.3**
IBBN	**Ibbenburen**	**160.04**	**346**	*e*PKPdf	**PKPdf**	**13 26 25.3**	**+0.7**
IBBN				*e*PKPab	**PKPab**	**13 27 05.4**	**-0.2**
CSKK	**Cs˘ˇtkako**	**160.09**	**321**	*e*	**PKPdf**	**13 26 22.1**	**-2.8**
PKS2	**Kecel**	**160.09**	**318**	⇓*e*PKPdf	**PKPdf**	**13 26 24.0**	**-0.9**
TREC	**Trest**	**160.11**	**329**	*e*PKPDF	**PKPdf**	**13 26 24.1**	**-0.8**
TREC				*e*PKPAB	**PKPab**	**13 27 05.5**	**-0.6**
TREC				*ex*	x	13 40 11.1	
TREC	**Trest**	**160.11**	**329**	*e*PKIKP	**PKPdf**	**13 26 24.1**	**-0.8**
TREC				*e*		13 27 05.5	
NEO	**Neokhori**	**160.16**	**295**	*e*P	**PKPdf**	**13 26 24.0**	**-1.3**
VAY	**Valandovo**	**160.17**	**301**	*e*PKP	**PKPdf**	**13 26 23.9**	**-1.3**
XOR	**Xorichti**	**160.17**	**295**	P	**PKPdf**	**13 26 23.6**	**-1.7**
XOR	**Xorichti**	**160.17**	**295**	*e*P	**PKPdf**	**13 26 24.1**	**-1.2**
XOR	**Xorichti**	**160.17**	**295**	P	**PKPdf**	**13 26 23.6**	**-1.7**
PKST	**T˜˜s**	**160.28**	**321**	⇑*e*PKPdf	**PKPdf**	**13 26 23.8**	**-1.3**
DID	**Didima**	**160.40**	**289**	P	**PKPdf**	**13 26 22.8**	**-2.8**
DID	**Didima**	**160.40**	**289**	*e*P	**PKPdf**	**13 26 23.9**	**-1.7**
DID	**Didima**	**160.40**	**289**	P	**PKPdf**	**13 26 22.8**	**-2.8**
TANN	**Tannenbergstha**	**160.41**	**335**	*e*PKPdf	**PKPdf**	**13 26 25.3**	**+0.1**
TANN				*e*PKPab	**PKPab**	**13 27 07.3**	**-0.1**
ATAL	**Atalanti**	**160.42**	**293**	P	**PKPdf**	**13 26 22.2**	**-3.4**
LKR	**Lokris**	**160.44**	**293**	P	**PKPdf**	**13 26 23.7**	**-1.9**
LKR	**Lokris**	**160.44**	**293**	*e*P	**PKPdf**	**13 26 24.2**	**-1.4**
LKR	**Lokris**	**160.44**	**293**	P	**PKPdf**	**13 26 23.7**	**-1.9**
KRND	**KRANIDI**	**160.48**	**289**	*e*P	**PKPdf**	**13 26 24.2**	**-1.4**
MOX	**Moxa**	**160.51**	**337**	*e*PKPdf	**PKPdf**	**13 26 25.6**	**+0.3**
MOX				*e*PKPab	**PKPab**	**13 27 07.5**	**-0.2**
WTSB	**Winterswijk**	**160.56**	**347**	*e*PKPdf	**PKPdf**	**13 26 24.7**	**-0.5**
	comp=Z,162nm,1.5s						
WTSB				*e*PKPab	**PKPab**	**13 27 07.0**	**-0.8**
	comp=Z,108nm,1.1s						
LTK	**Loutraki**	**160.56**	**291**	P	**PKPdf**	**13 26 22.2**	**-3.6**
LTK	**Loutraki**	**160.56**	**291**	*e*P	**PKPdf**	**13 26 23.7**	**-2.1**
PKS9	**Tamasi**	**160.56**	**319**	⇓*e*	**PKPdf**	**13 26 25.0**	**-0.4**
PKSM	**Moragy**	**160.58**	**318**	⇓PKIKP	**PKPdf**	**13 26 25.0**	**-0.5**
PKSM	**Moragy**	**160.58**	**318**	⇓*i*P	**PKPdf**	**13 26 25.0**	**-0.5**
PKSM	**Moragy**	**160.58**	**318**	⇓*e*PKPdf	**PKPdf**	**13 26 24.7**	**-0.8**
SOP	**Sopron**	**160.76**	**324**	⇓*e*	**PKPdf**	**13 26 24.7**	**-0.9**
SKO	**Skopje**	**160.76**	**303**	*e*PKP	**PKPdf**	**13 26 25.0**	**-0.8**
UBBA	**Unterbreizbach**	**160.85**	**340**	*e*PKPdf	**PKPdf**	**13 26 26.0**	**+0.5**
UBBA				*e*PKPab	**PKPab**	**13 27 08.5**	**-0.6**
DIVS	**Divibare**	**160.87**	**311**	P	**PKPdf**	**13 26 24.9**	**-1.1**
DIVS	**Divibare**	**160.87**	**311**	⇓*i*P	**PKPdf**	**13 26 25.1**	**-0.9**
AGG	**Agios Georgios**	**160.89**	**294**	*e*P	PKPdf	13 26 20.8	-5.4
AGG	**Agios Georgios**	**160.89**	**294**	P	**PKPdf**	**13 26 22.8**	**-3.3**
AGG	**Agios Georgios**	**160.89**	**294**	*e*P	**PKPdf**	**13 26 24.9**	**-1.2**
AGG	**Agios Georgios**	**160.89**	**294**	*e*PKIKP	**PKPdf**	**13 26 25.2**	**-0.9**
AGG	**Agios Georgios**	**160.89**	**294**	*e*PKPdf	**PKPdf**	**13 26 25.2**	**-0.9**
CONA	**Conrad Observa**	**160.93**	**325**	*i* PKPdf	**PKPdf**	**13 26 24.9**	**-1.0**
	comp=Z,38nm,1.3s,SNR=16						
CONA				*i* pPKPdf	**PKPab**	**13 27 10.9**	**+1.1**
	comp=Z,126nm,1.0s,SNR=16						
BUG	**Bochum--Univer**	**160.96**	**346**	*e*PKPdf	**PKPdf**	**13 26 26.1**	**+0.4**
BUG				*e*PKPab	**PKPab**	**13 27 09.2**	**-0.4**
THL	**Klokotos Trika**	**161.02**	**296**	P	**PKPdf**	**13 26 23.2**	**-3.0**
THL	**Klokotos Trika**	**161.02**	**296**	*e*P	**PKPdf**	**13 26 24.0**	**-2.1**
KHC	**Kasperske Hory**	**161.04**	**331**	*e*PKPDF	**PKPdf**	**13 26 25.1**	**-0.8**
KHC				*e*PKPAB	**PKPab**	**13 27 09.7**	**-0.5**
KHC				*es*PKP		13 27 27.2	
KHC				*e*PP	**PP**	**13 30 52.0**	**-1.6**
KHC				*ex*	x	13 50 44.3	
KHC				*ex*	x	13 52 10.5	
KHC				*ex*	x	13 56 31.9	
KHC				AMS	AMS	14 34 50.0	
	comp=Z,400nm,21.2s						
KHC	**Kasperske Hory**	**161.04**	**331**	*e*PKIKP	**PKPdf**	**13 26 25.1**	**-0.8**
KHC				*e*		13 27 09.7	
KHC				*e*		13 30 52.0	
KHC				*e*		13 50 44.3	
KHC				*e*		13 52 10.5	
KHC				MLR	MLR		
	comp=Z,400nm,21.2s						
KHC	**Kasperske Hory**	**161.04**	**331**	*e*PKPdf	**PKPdf**	**13 26 24.6**	**-1.4**
ROTZ	**Rotzenmuhle**	**161.04**	**335**	*e*PKPdf	**PKPdf**	**13 26 26.1**	**+0.2**
ROTZ				*e*PKPab	**PKPab**	**13 27 11.0**	**+0.9**
MAKR	**Makrakomi, Fth**	**161.05**	**294**	P	**PKPdf**	**13 26 23.8**	**-2.5**
MAKR	**Makrakomi, Fth**	**161.05**	**294**	*e*P	**PKPdf**	**13 26 25.7**	**-0.6**
MAKR	**Makrakomi, Fth**	**161.05**	**294**	P	**PKPdf**	**13 26 23.

	comp=Z,55nm,1.2s,SNR=19							
ABTA				*i* PKPab	**PKPab**	**13 27 19.8**	**-0.6**
	comp=Z,62nm,0.8s,SNR=8.4							
MOTA	**Moosalm**	**163.46**	**332**	*i* PKPdf	**PKPdf**	**13 26 28.3**	**-0.2**
	comp=Z,78nm,1.2s,SNR=13							
MOTA				*i* PKPab	**PKPab**	**13 27 21.6**	**+0.7**
	comp=Z,81nm,0.8s,SNR=14							
RETA	**Reutte**	**163.47**	**333**	*i* PKPdf	**PKPdf**	**13 26 28.1**	**-0.4**
	comp=Z,22nm,1.2s,SNR=9.0							
RETA				⇑*i* PKPab	**PKPab**	**13 27 21.0**	**0.0**
	comp=Z,131nm,0.9s,SNR=19							
BFO	**Black Forest**	**163.57**	**339**	*e*PKPdf	**PKPdf**	**13 26 28.4**	**-0.1**
BFO				*e*PKPab	**PKPab**	**13 27 20.7**	**-0.5**
BFO	**Black Forest**	**163.57**	**339**	*e*PKIKP	**PKPdf**	**13 26 27.8**	**-0.7**
BFO				*e*		13 27 20.6	
BFO				MLR	MLR		
	comp=Z,367nm,22.0s							
BFO	**Black Forest**	**163.57**	**339**	*e*PKPdf	**PKPdf**	**13 26 27.8**	**-0.7**
BFO				*e*PKPab	**PKPab**	**13 27 20.6**	**-0.7**
BFO				LR	LR		
	comp=Z,367nm,22.0s							
FETA	**Feichten**	**163.87**	**332**	⇑*i* PKPdf	**PKPdf**	**13 26 28.4**	**-0.6**
	comp=Z,74nm,1.2s,SNR=32							
FETA				*i* PKPab	**PKPab**	**13 27 23.4**	**+0.6**
	comp=Z,108nm,1.0s,SNR=12							
DAVA	**Damuels**	**163.97**	**334**	*i* PKPdf	**PKPdf**	**13 26 28.8**	**-0.2**
	comp=Z,46nm,1.3s,SNR=13							
DAVA				*i* PKPab	**PKPab**	**13 27 23.9**	**+0.7**
	comp=Z,154nm,0.8s,SNR=21							
ECH	**Echery**	**164.00**	**342**	PKP	**PKPdf**	**13 26 28.1**	**-0.8**
ECH	**Echery**	**164.00**	**342**	PFAKE		13 26 40.0	+11
ECH				LR	LR		
	comp=Z,256nm,20.0s							
THEF	**They Montfort**	**164.27**	**345**	PKP	**PKPdf**	**13 26 28.5**	**-0.6**
MOF	**Molkenrain**	**164.34**	**341**	PKP	**PKPdf**	**13 26 28.5**	**-0.8**
TUE	**Stuetta**	**164.85**	**334**	PFAKE		13 26 40.0	+10
TUE				LR	LR		
	comp=Z,885nm,21.0s							
LOMF	**Lomont**	**164.88**	**341**	PKP	**PKPdf**	**13 26 29.1**	**-0.6**
TIP	**Timpagrande**	**165.05**	**298**	P	**PKPdf**	**13 26 28.6**	**-1.5**
TIP	**Timpagrande**	**165.05**	**298**	P	**PKPdf**	**13 26 28.6**	**-1.5**
TIP				*e*PKPdf	**PKPdf**	**13 26 29.6**	**-0.6**
TIP				LR	LR		
	comp=Z,162nm,21.0s							
CUC	**Castrocucco**	**165.45**	**302**	PFAKE		13 26 40.0	+10
CUC				LR	LR		
	comp=Z,133nm,22.0s							
SENIN	**Lac Senin/Sane**	**165.64**	**339**	*e*PKPab	**PKPab**	**13 27 30.6**	**0.0**
OG01	**Vacheresse**	**165.85**	**340**	PKP	**PKPdf**	**13 26 30.4**	**-0.2**
AQU	**L'Aquila**	**165.88**	**314**	⇓PKP2	**PKPab**	**13 27 32.2**	**+0.4**
AQU	**L'Aquila**	**165.88**	**314**	⇓*i*P	**PKPdf**	**13 26 31.0**	**+0.3**
AQU	**L'Aquila**	**165.88**	**314**	*e*PKPab	**PKPab**	**13 27 32.9**	**+1.2**
AQU				LR	LR		
	comp=Z,334nm,22.0s							
CEL	**Celeste**	**165.97**	**296**	*e*PKPdf	**PKPdf**	**13 26 29.9**	**-1.0**
CEL				*e*PKPab	**PKPab**	**13 27 33.3**	**+0.9**
CEL				LR	LR		
	comp=Z,263nm,22.0s							
VLC	**Villacollemand**	**166.28**	**326**	*e*PKPdf	**PKPdf**	**13 26 29.2**	**-1.7**
VLC				LR	LR		
	comp=Z,304nm,20.0s							
AGO	**Saint Agoulin**	**166.90**	**350**	PKP	**PKPdf**	**13 26 32.7**	**+1.4**
PLDF	**La Plantade**	**166.90**	**348**	PKP	**PKPdf**	**13 26 31.4**	**0.0**
BNI	**Bardonecchia**	**167.01**	**338**	*e*PKIKP	**PKPdf**	**13 26 31.4**	**-0.2**
BNI				*e*		13 27 36.1	
BNI				MLR	MLR		
	comp=Z,505nm,22.0s							
BNI	**Bardonecchia**	**167.01**	**338**	*e*PKPdf	**PKPdf**	**13 26 31.4**	**-0.2**
BNI				*e*PKPab	**PKPab**	**13 27 36.1**	**-0.5**
BNI				LR	LR		
	comp=Z,505nm,22.0s							
GDM	**Grand'Maison**	**167.04**	**340**	PKP	**PKPdf**	**13 26 31.5**	**-0.1**
GRN	**Grenoble**	**167.11**	**341**	PKP	**PKPdf**	**13 26 31.9**	**+0.3**
PYM	**Petit Puy Mans**	**167.21**	**350**	PKP	**PKPdf**	**13 26 31.8**	**+0.2**
COLF	**Collangettes**	**167.32**	**347**	PKP	**PKPdf**	**13 26 32.2**	**+0.5**
SSB	**Saint Sauveur**	**167.38**	**344**	PKP	**PKPdf**	**13 26 31.7**	**0.0**
SSB	**Saint Sauveur**	**167.38**	**344**	*e*PKIKP	**PKPdf**	**13 26 31.3**	**-0.4**
SSB				MLR	MLR		
	comp=Z,255nm,20.0s							
SSB	**Saint Sauveur**	**167.38**	**344**	*e*PKPdf	**PKPdf**	**13 26 31.3**	**-0.4**
SSB				LR	LR		
	comp=Z,255nm,20.0s							
SURF	**Saint Ours**	**167.47**	**336**	PKP	**PKPdf**	**13 26 32.3**	**+0.3**
WDD	**Wield Dalam**	**167.55**	**286**	PFAKE		13 26 40.0	+7.9
WDD				LR	LR		
	comp=Z,288nm,21.0s							
SAOF	**Saorge**	**167.63**	**333**	PKP	**PKPdf**	**13 26 31.3**	**-0.6**
AUTN	**L'Aution**	**167.67**	**333**	PKP	**PKPdf**	**13 26 33.2**	**+1.0**
LBL	**Lubilhac**	**167.68**	**348**	PKP	**PKPdf**	**13 26 32.5**	**+0.5**
TOUF	**Mont Tournerai**	**167.72**	**334**	PKP	**PKPdf**	**13 26 31.7**	**-0.5**
MVIF	**Mont Vial**	**167.86**	**334**	PKP	**PKPdf**	**13 26 31.7**	**-0.5**
REVF	**Revere**	**167.91**	**333**	PKP	**PKPdf**	**13 26 31.5**	**-0.7**
CALN	**Calern**	**168.08**	**334**	PKP	**PKPdf**	**13 26 32.2**	**-0.2**
CLTB	**Caltabellotta**	**168.20**	**296**	PFAKE		13 26 40.0	+7.4
CLTB				LR	LR			
	comp=Z,177nm,19.0s							
TAM	**Tamanrasset**	**168.47**	**208**	*e*PKIKP	**PKPdf**	**13 26 33.4**	**+0.1**
TAM				MLR	MLR			
	comp=Z,355nm,19.0s							
TAM	**Tamanrasset**	**168.47**	**208**	*e*PKPdf	**PKPdf**	**13 26 33.4**	**+0.1**
TAM				LR	LR			
	comp=Z,355nm,19.0s							
PGAV	**Gavieira, Arco**	**169.16**	**34**	*e*PKPdf	**PKPdf**	**13 26 34.5**	**+1.4**
PGAV	**Gavieira, Arco**	**169.16**	**34**	*e*PKPdf	**PKPdf**	**13 26 34.5**	**+1.4**
PCAB	**Cabril**	**169.48**	**34**	*e*PKPdf	**PKPdf**	**13 26 34.8**	**+1.6**
PCAB	**Cabril**	**169.48**	**34**	*e*PKPab	**PKPab**	**13 27 47.9**	**+0.3**
PCAB	**Cabril**	**169.48**	**34**	*e*PKPdf	**PKPdf**	**13 26 34.8**	**+1.6**
PCAB	**Cabril**	**169.48**	**34**	*e*PKPab	**PKPab**	**13 27 47.9**	**+0.3**
POLO	**Lamas de Olo**	**169.85**	**34**	*e*PKPdf	**PKPdf**	**13 26 34.5**	**+1.0**
POLO	**Lamas de Olo**	**169.85**	**34**	*e*PKPab	**PKPab**	**13 27 49.3**	**0.0**
POLO	**Lamas de Olo**	**169.85**	**34**	*e*PKPdf	**PKPdf**	**13 26 34.5**	**+1.0**
POLO	**Lamas de Olo**	**169.85**	**34**	*e*PKPab	**PKPab**	**13 27 49.3**	**0.0**
PVRL	**Vila Real**	**169.96**	**34**	*e*PKPdf	**PKPdf**	**13 26 35.5**	**+2.0**
PVRL	**Vila Real**	**169.96**	**34**	*e*PKPab	**PKPab**	**13 27 50.1**	**+0.4**
PVRL	**Vila Real**	**169.96**	**34**	*e*PKPdf	**PKPdf**	**13 26 35.5**	**+2.0**
PVRL	**Vila Real**	**169.96**	**34**	*e*PKPab	**PKPab**	**13 27 50.1**	**+0.4**
PBRG	**Braganca**	**169.96**	**29**	*e*PKPdf	**PKPdf**	**13 26 34.8**	**+1.3**
PBRG	**Braganca**	**169.96**	**29**	*e*PKPdf	**PKPdf**	**13 26 34.8**	**+1.3**
VSL	**Villasalto**	**170.03**	**312**	*e*PKPdf	**PKPdf**	**13 26 33.1**	**-0.5**
VSL				LR	LR			
	comp=Z,223nm,21.0s							
REYF	**Montagne du Re**	**170.14**	**1**	PKP	**PKPdf**	**13 26 34.3**	**+0.7**
PVIS	**Viseu**	**170.30**	**37**	*e*PKPdf	**PKPdf**	**13 26 35.2**	**+1.5**
PVIS	**Viseu**	**170.30**	**37**	*e*PKPab	**PKPab**	**13 27 51.3**	**0.0**
PVIS	**Viseu**	**170.30**	**37**	*e*PKPdf	**PKPdf**	**13 26 35.2**	**+1.5**
PVIS	**Viseu**	**170.30**	**37**	*e*PKPab	**PKPab**	**13 27 51.3**	**0.0**
MVO	**Moncorvo**	**170.37**	**32**	*e*PKPdf	**PKPdf**	**13 26 35.3**	**+1.5**
MVO	**Moncorvo**	**170.37**	**32**	*e*PKPab	**PKPab**	**13 27 51.9**	**+0.3**
MVO	**Moncorvo**	**170.37**	**32**	*e*PKPdf	**PKPdf**	**13 26 35.3**	**+1.5**
MVO	**Moncorvo**	**170.37**	**32**	*e*PKPab	**PKPab**	**13 27 51.9**	**+0.3**
RESF	**Ens**	**170.39**	**358**	PKP	**PKPdf**	**13 26 34.9**	**+1.1**
FILF	**Fillols**	**170.39**	**348**	PKP	**PKPdf**	**13 26 33.9**	**+0.1**
PCAS	**Casmilo, Conde**	**170.46**	**42**	*e*PKPdf	**PKPdf**	**13 26 35.1**	**+1.3**
PCAS	**Casmilo, Conde**	**170.46**	**42**	*e*PKPdf	**PKPdf**	**13 26 35.1**	**+1.3**
VALF	**Valcebollere**	**170.64**	**350**	PKP	**PKPdf**	**13 26 34.3**	**+0.3**
PMAFR	**Mafra**	**170.68**	**49**	*e*PKPdf	**PKPdf**	**13 26 35.4**	**+1.5**
PMAFR	**Mafra**	**170.68**	**49**	*e*PKPdf	**PKPdf**	**13 26 35.4**	**+1.5**
PTOM	**Tomar**	**170.80**	**43**	*e*PKPdf	**PKPdf**	**13 26 36.0**	**+2.0**
PTOM	**Tomar**	**170.80**	**43**	*e*PKPab	**PKPab**	**13 27 53.7**	**+0.2**
PTOM	**Tomar**	**170.80**	**43**	*e*PKPdf	**PKPdf**	**13 26 36.0**	**+2.0**
PTOM	**Tomar**	**170.80**	**43**	*e*PKPab	**PKPab**	**13 27 53.7**	**+0.2**
PMST	**Lisbon--Monsan**	**170.87**	**50**	*e*PKPdf	**PKPdf**	**13 26 36.5**	**+2.5**
PMST	**Lisbon--Monsan**	**170.87**	**50**	*e*PKPdf	**PKPdf**	**13 26 36.5**	**+2.5**
LIS	**Lisbon**	**170.90**	**50**	*e*P	**PKPdf**	**13 26 34.9**	**+0.8**
LIS				*e*SS	SS	13 52 36.2	+5.5
LIS				AMS	AMS	13 59 44.4	
	comp=E,1μm,20.0s							
LIS	**Lisbon**	**170.90**	**50**	*e*PKIKP	**PKPdf**	**13 26 34.8**	**+0.8**
LIS				*e*SS	SS	13 52 36.2	+5.5
PACT	**Alcochete**	**171.07**	**49**	*e*PKPdf	**PKPdf**	**13 26 36.2**	**+2.1**
PACT	**Alcochete**	**171.07**	**49**	*e*PKPdf	**PKPdf**	**13 26 36.2**	**+2.1**
PCBR	**Castelo Branco**	**171.16**	**39**	*e*PKPdf	**PKPdf**	**13 26 36.2**	**+2.1**
PCBR	**Castelo Branco**	**171.16**	**39**	*e*PKPdf	**PKPdf**	**13 26 36.2**	**+2.1**
PMTG	**Montargil**	**171.26**	**46**	*e*PKPdf	**PKPdf**	**13 26 35.1**	**+0.9**
PMTG	**Montargil**	**171.26**	**46**	*e*PKPab	**PKPab**	**13 27 55.0**	**-0.6**
PMTG	**Montargil**	**171.26**	**46**	*e*PKPdf	**PKPdf**	**13 26 35.1**	**+0.9**
PMTG	**Montargil**	**171.26**	**46**	*e*PKPab	**PKPab**	**13 27 55.0**	**-0.6**
PMRV	**Marv??o**	**171.50**	**41**	*e*PKPdf	**PKPdf**	**13 26 35.2**	**+0.8**
PMRV	**Marv??o**	**171.50**	**41**	*e*PKPab	**PKPab**	**13 27 55.7**	**-0.9**
PMRV	**Marv??o**	**171.50**	**41**	*e*PKPdf	**PKPdf**	**13 26 35.2**	**+0.8**
PMRV	**Marv??o**	**171.50**	**41**	*e*PKPab	**PKPab**	**13 27 55.7**	**-0.9**
PNCL	**Nicolau / Gran**	**171.64**	**52**	*e*PKPdf	**PKPdf**	**13 26 35.8**	**+1.4**
PNCL	**Nicolau / Gran**	**171.64**	**52**	*e*PKPab	**PKPab**	**13 27 57.1**	**-0.2**
PNCL	**Nicolau / Gran**	**171.64**	**52**	*e*PKPdf	**PKPdf**	**13 26 35.8**	**+1.4**
PNCL	**Nicolau / Gran**	**171.64**	**52**	*e*PKPab	**PKPab**	**13 27 57.1**	**-0.2**
KEST	**Kesra**	**171.71**	**290**	PKP	**PKPdf**	**13 26 35.3**	**+0.6**
	comp=E,27nm,1.1s,baz=181,slow=1.1,SNR=38							
KEST				PKPab	**PKPab**	**13 27 58.5**	**+0.7**
	comp=E,14nm,1.0s,baz=60,slow=5.3,SNR=5.5							
KEST	**Kesra**	**171.71**	**290**	*e*PKPdf	**PKPdf**	**13 26 34.7**	**+0.1**
KEST				PKPab	**PKPab**	**13 27 58.5**	**+0.7**
EVO	**Evora**	**171.73**	**48**	*e*PKPdf	**PKPdf**	**13 26 35.8**	**+1.3**
EVO	**Evora**	**171.73**	**48**	*e*PKPab	**PKPab**	**13 27 57.1**	**-0.6**
EVO	**Evora**	**171.73**	**48**	*e*PKPdf	**PKPdf**	**13 26 35.8**	**+1.3**
EVO	**Evora**	**171.73**	**48**	*e*PKPab	**PKPab**	**13 27 57.1**	**-0.6**
PESTR	**Estremoz**	**171.77**	**44**	*e*PKPdf	**PKPdf**	**13 26 35.8**	**+1.3**
PESTR	**Estremoz**	**171.77**	**44**	*e*PKPdf	**PKPdf**	**13 26 35.8**	**+1.3**
PTEO	**Sao Teotonio**	**171.81**	**56**	*e*PKPdf	**PKPdf**	**13 26 36.9**	**+2.4**
PTEO	**Sao Teotonio**	**171.81**	**56**	*e*PKPab	**PKPab**	**13 27 58.6**	**+0.5**
PTEO	**Sao Teotonio**	**171.81**	**56**	*e*PKPdf	**PKPdf**	**13 26 36.9**	**+2.4**
PTEO	**Sao Teotonio**	**171.81**	**56**	*e*PKPab	**PKPab**	**13 27 58.6**	**+0.5**
PFVI	**Vila Bisbo**	**171.93**	**58**	*e*PKPdf	**PKPdf**	**13 26 36.7**	**+2.1**
PFVI	**Vila Bisbo**	**171.93**	**58**	*e*PKPab	**PKPab**	**13 27 58.4**	**-0.3**
PFVI	**Vila Bisbo**	**171.93**	**58**	*e*PKPdf	**PKPdf**	**13 26 36.7**	**+2.1**
PFVI	**Vila Bisbo**	**171.93**	**58**	*e*PKPab	**PKPab**	**13 27 58.4**	**-0.3**
MORF	**Marmelete**	**171.97**	**57**	*e*P	**PKPdf**	**13 26 35.6**	**+1.0**
MORF				*e*PP	**PP**	**13 31 50.5**	**-0.1**
MORF	**Marmelete**	**171.97**	**57**	*e*PKIKP	**PKPdf**	**13 26 35.7**	**+1.0**
MORF				*e*		13 31 50.5	
MORF	**Marmelete**	**171.97**	**57**	*e*PKPdf	**PKPdf**	**13 26 37.0**	**+2.3**
MORF	**Marmelete**	**171.97**	**57**	*e*PKPdf	**PKPdf**	**13 26 37.0**	**+2.3**
PCVE	**Castro Verde**	**172.23**	**53**	*e*PKPdf	**PKPdf**	**13 26 36.6**	**+1.9**
PCVE	**Castro Verde**	**172.23**	**53**	*e*PKPab	**PKPab**	**13 28 00.1**	**+0.1**
PCVE	**Castro Verde**	**172.23**	**53**	*e*PKPdf	**PKPdf**	**13 26 36.6**	**+1.9**
PCVE	**Castro Verde**	**172.23**	**53**	*e*PKPab	**PKPab**	**13 28 00.1**	**+0.1**
PBDV	**Barranco-do-Ve**	**172.50**	**55**	*e*PKPdf	**PKPdf**	**13 26 36.8**	**+1.9**
PBDV	**Barranco-do-Ve**	**172.50**	**55**	*e*PKPdf	**PKPdf**	**13 26 36.8**	**+1.9**
PBAR	**Barrancos**	**172.55**	**46**	*e*PKPdf	**PKPdf**	**13 26 36.5**	**+1.7**
PBAR	**Barrancos**	**172.55**	**46**	*e*PKPab	**PKPab**	**13 28 01.6**	**+0.3**
PBAR	**Barrancos**	**172.55**	**46**	*e*PKPdf	**PKPdf**	**13 26 36.5**	**+1.7**
PBAR	**Barrancos**	**172.55**	**46**	*e*PKPab	**PKPab**	**13 28 01.6**	**+0.3**
PVAQ	**Vaqueiros**	**172.57**	**53**	*e*PKPdf	**PKPdf**	**13 26 36.4**	**+1.5**
PVAQ	**Vaqueiros**	**172.57**	**53**	*e*PKPdf	**PKPdf**	**13 26 36.4**	**+1.5**
PAB	**San Pablo**	**172.84**	**27**	*e*PKIKP	**PKPdf**	**13 26 36.3**	**+1.3**
PAB				MLR	MLR		
	comp=Z,281nm,19.0s							
PAB	**San Pablo**	**172.84**	**27**	*e*PKPdf	**PKPdf**	**13 26 36.3**	**+1.3**
PAB				LR	LR		
	comp=Z,281nm,19.0s							
CMAH	**Djebel Manchou**	**172.85**	**301**	P	**PKPdf**	**13 26 35.6**	**+0.5**
ESDC	**Sonseca Array**	**172.86**	**24**	PKP	**PKPdf**	**13 26 36.3**	**+1.3**
	comp=Z,42nm,1.1s,baz=347,slow=2.5,SNR=92							
ESDC				PKPab	**PKPab**	**13 28 01.5**	**-1.1**
	comp=E,6.2nm,0.8s,baz=330,slow=4.2,SNR=6.4							
ESDC				PP	**PP**	**13 31 54.4**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=338,slow=1.8,SNR=2.8							
ABSA	**Djebel Ababsia**	**172.96**	**298**	P	**PKPdf**	**13 26 36.0**	**+0.8**
CKFL	**Kef-Lekhel**	**173.46**	**301**	P	**PKPdf**	**13 26 36.2**	**+0.8**
CASM	**Ain Smara**	**173.69**	**301**	P	**PKPdf**	**13 26 36.2**	**+0.8**
CTEI	**Djebel Teioual**	**173.83**	**300**	P	**PKPdf**	**13 26 36.4**	**+0.8**
DFRA	**Djebel Bou Aff**	**173.98**	**305**	P	**PKPdf**	**13 26 37.2**	**+1.6**
SET	**Setif**	**174.48**	**305**	P	**PKPdf**	**13 26 36.0**	**+0.2**
CKHR	**Kef el Ahmar**	**174.50**	**302**	P	**PKPdf**	**13 26 37.2**	**+1.4**

DDA ***17*** *13:14:59.5, 38.61N×39.17E, h6km, MD2.6*
ISC 17 13:14:59.6±1.5, 38.61N±0.04×39.16E±0.05, h13km±14km, n5, σ0.967/7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.18**	**232**	*i* P	**Pg**	**13 15 03.6**	**-0.1**
SVRC	**Sivrice-ELAZID**	**0.25**	**153**	*e*PG	**Pg**	**13 15 05.2**	**+0.1**
SVRC				*e*SG	**Sb**	**13 15 09.9**	**-0.5**
PTK	**Pertek**	**0.34**	**32**	*e*PG	**Pg**	**13 15 06.7**	**+0.2**
MALT	**Malatya**	**0.65**	**243**	*e*PG	**Pg**	**13 15 12.5**	**+0.3**
KEMA	**Kemaliye**	**0.84**	**322**	*i* P	**Pg**	**13 15 15.3**	**-0.6**
KEMA				*i* S	**Sb**	**13 15 28.1**	**+0.7**

ISCJB ***17*** *13:21:08.2±1.0, 34.44S±0.03×72.52W±0.08, h16km, mb4.0/2, Error ellipse: s-maj=9.8km s-min=4.9km az=179.6*
GUC ***17*** *13:21:12.2±0.6, 34.46S×72.25W, h23km±4km, ML4.1*
NEIC ***17*** *13:21:12.0, 34.46S×72.24W, h23km, mb4.0/2, ML4.1(GUC), After GUC.*
NEIC Felt [IV] at Pichilemu and [II] at Navidad and Paredones.
ISC 17 13:21:09.7±1.1, 34.45S±0.03×72.35W±0.08, h16km, n17, σ0.969/28, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.92**	**58**	⇑*i* P	**Pb**	**13 21 27.7**	**+0.5**
LNV				*i* S	**Sb**	**13 21 39.4**	**+0.2**
NICH	**Los Niches**	**1.07**	**121**	⇑*i* P	**Pn**	**13 21 30.2**	**+0.1**
NICH				*i* S	**Sb**	**13 21 43.2**	**-0.4**
TALC	**Talca**	**1.11**	**148**	⇑*i* P	**Pg**	**13 21 31.1**	**-0.1**
TALC				*i* S	**Sb**	**13 21 44.6**	**-0.2**
TACH	**Talagante**	**1.42**	**56**	⇑*i* P	**Pn**	**13 21 35.2**	**+0.4**
TACH				*i* S	**Sn**	**13 21 53.3**	**+0.2**
CHCH	**Chadas Angostu**	**1.50**	**70**	*e*P	**Pn**	**13 21 36.5**	**+0.6**
CHCH				*i* S	**Sn**	**13 21 55.3**	**+0.1**
LNCH	**Linares**	**1.52**	**156**	*e*P	**Pb**	**13 21 38.0**	**+0.5**
LNCH				*e*S	**Sg**	**13 21 57.7**	**-1.1**
IHA	**Instituto Hidr**	**1.54**	**23**	*e*P	**Pb**	**13 21 37.9**	**+0.1**
SAN	**Santiago**	**1.72**	**55**	*e*P	**Pb**	**13 21 40.8**	**-0.1**
SAN				*i* S	**Sn**	**13 22 01.6**	**+1.0**
PCH	**Pirque**	**1.73**	**62**	⇑*i* P	**Pn**	**13 21 40.6**	**+1.3**
PCH				*i* S	**Sb**	**13 22 02.3**	**-0.4**
CLCH	**Cerro Calan**	**1.84**	**56**	⇓*i* P	**Pb**	**13 21 42.3**	**-0.6**
CLCH				*i* S	**Sb**	**13 22 05.2**	**-0.6**
CLCH				AML	AML	13 22 09.3	
	comp=E,2μm,0.6s						
SJCH	**San Jose de Ma**	**1.84**	**65**	*i* P	**Pn**	**13 21 42.1**	**+1.3**
PEL	**Peldehue**	**1.90**	**47**	⇑*i* P	**Pb**	**13 21 43.4**	**-0.6**
PEL				*i* S	**Sb**	**13 22 07.4**	**-0.2**
PEL				AML	AML	13 22 14.5	
	comp=E,3μm,0.7s						
LCO	**Las Campanas**	**5.60**	**15**	*e*Pn	**Pn**	**13 22 33.4**	**+0.9**
LCO				*e*Sn	**Sn**	**13 23 36.3**	**-0.5**
TRQA	**Tornquist**	**9.12**	**116**	*e*Pn	**Pn**	**13 23 21.5**	**+0.9**
	comp=E,4.6nm,0.6s						
LVC	**Limon Verde**	**12.17**	**15**	Pn	**Pn**	**13 24 01.6**	**-1.2**
SNAA	**Sanae**	**51.27**	**158**	P	**P**	**13 30 12.6**	**+0.2**
	comp=E,3.3nm,1.3s						
QSPA	**South Pole Qui**	**55.79**	**180**	P	**P**	**13 30 45.8**	**+0.1**
	comp=E,1.2nm,0.8s						

MOS ***17*** *13:36:21.8±1.6, 52.99N×99.91E, h6km, mb4.4/1, Error ellipse: s-maj=16.9km s-min=11.9km az=119.8*
BYKL ***17*** *13:36:24.6±0.5, 52.81N×100.12E, h13km±6km*
ISC 17 13:36:23.5±1.0, 52.92N±0.04×100.24E±0.03, h10km, n32, σ2.900/65, 7C-7D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORL	**Orlik**	**0.47**	**215**	⇑*i* Pg	**Pg**	**13 36 31.3**	**-1.3**
	167nm,0.6s						
ORL				⇑*i* Pg	**Pg**	**13 36 31.3**	**-1.3**
	93nm,0.6s						
ORL				⇓*i* Pg	**Pg**	**13 36 31.3**	**-1.3**
	202nm,0.6s						
ORL				Pmax		13 36 32.7	
	123nm,0.2s						
ORL				*i* Sg	**Sg**	**13 36 36.3**	**-2.5**
ORL				Smax		13 36 36.7	
	4μm,0.3s						
ORL	**Orlik**	**0.47**	**215**	⇓*i* PG	**Pg**	**13 36 31.3**	**-1.3**
ORL				*e*		13 36 36.3	
ORL				pmax	pmax		
	comp=Z,164nm,0.1s						
ORL				smax	smax		
	comp=N,5μm,0.4s						
MOY	**Mondy**	**1.34**	**160**	⇓*i* Pg	**Pn**	**13 36 47.7**	**-0.7**
	comp=N,171nm,0.7s						
MOY				⇑*i* Pg	**Pn**	**13 36 47.7**	**-0.7**
	comp=N,52nm,0.7s						
MOY				⇑*i* Pg	**Pn**	**13 36 47.7**	**-0.7**
	comp=N,319nm,0.7s						
MOY				Pmax		13 36 48.4	
	comp=N,374nm,0.7s						
MOY				*e*		13 36 50.5	
MOY				*e*Sg	**Sb**	**13 37 04.3**	**-1.7**
MOY				Smax		13 37 11.8	
	comp=N,1μm,0.8s						
MOY	**Mondy**	**1.34**	**160**	*e*PG	**Pn**	**13 36 47.7**	**-0.7**
MOY				*e*		13 37 04.2	
MOY				pmax	pmax		
	comp=Z,375nm,0.6s						
MOY				smax	smax		
	comp=E,1μm,0.7s						
ARS	**Arshan**	**1.67**	**126**	⇓*i* Pg	**Pb**	**13 36 54.4**	**0.0**
	comp=E,80nm,0.6s						
ARS				⇑*i* Pg	**Pb**	**13 36 54.4**	**0.0**
	comp=E,99nm,0.6s						
ARS				⇑*i* Pg	**Pb**	**13 36 54.4**	**0.0**
	comp=E,259nm,0.6s						
ARS				Pmax		13 37 01.2	
	comp=E,519nm,0.5s						
ARS				*i* Sg	**Sb**	**13 37 16.9**	**+1.4**
ARS				Smax		13 37 19.3	
	comp=E,2μm,0.4s						
ARS	**Arshan**	**1.67**	**126**	*e*PN	**Pb**	**13 36 54.4**	**0.0**
ARS				*e*		13 37 16.5	
ARS				pmax	pmax		
	comp=Z,508nm,0.3s						
ARS				smax	smax		
	comp=E,2μm,0.4s						
TLY	**Talaya**	**2.43**	**119**	⇓*i* Pg	**Pb**	**13 37 07.5**	**+0.3**
TLY				Pmax		13 37 08.6	
	comp=E,105nm,0.7s						
TLY				*e*PgPg	**PbPb**	**13 37 11.8**	**+1.4**
TLY				*e*Sg	**Sg**	**13 37 40.4**	**-1.1**
TLY				Smax		13 37 44.5	
	comp=E,886nm,1.5s						
TLY	**Talaya**	**2.43**	**119**	*e*PN	**Pb**	**13 37 07.6**	**+0.3**
TLY				*e*		13 37 40.4	
TLY				pmax	pmax		
	comp=Z,108nm,0.7s						
TLY				smax	smax		
	comp=E,884nm,1.5s						
IRK	**Irkutsk**	**2.55**	**104**	*e*Pg	**Pg**	**13 37 11.1**	**-1.2**
IRK				Pmax		13 37 12.8	
	comp=E,188nm,0.3s						
IRK				*e*		13 37 40.5	
IRK				*i* Sg	**Sg**	**13 37 44.8**	**-0.6**
IRK				Smax		13 37 47.1	
	comp=E,1μm,0.5s						
IRK	**Irkutsk**	**2.55**	**104**	*e*PN	**Pb**	**13 37 09.0**	**-0.3**
IRK				*e*		13 37 12.8	
IRK				*e*S	**Sb**	**13 37 40.6**	**-0.1**
IRK				*e*		13 37 44.9	
IRK				pmax	pmax		
	comp=Z,189nm,0.3s						
IRK				smax

	comp=N,195nm,1.3s							
YLYR	**Ulyunkhan**	**6.74**	**69**	*e*Pn	Pn	13 38 06.0	+3.5	
YLYR				*e*		13 38 11.8		
YLYR				max		13 38 18.2		
	comp=N,9.0nm,1.1s							
YLYR				*e*		13 38 31.5		
YLYR				*e*Sn	**Sn**	**13 39 22.2**	**+2.9**	
YLYR				*e*Sg	**Sg**	**13 39 55.7**	**-4.0**	
YLYR				Smax		13 39 59.6		
	comp=N,124nm,1.7s							
YLYR	**Ulyunkhan**	**6.74**	**69**	*e*PN	Pn	13 38 06.2	+3.7	
YLYR				*e*		13 38 26.3		
YLYR				*e*S	**Sn**	**13 39 20.4**	**+1.1**	
YLYR				*e*		13 39 54.3		
YLYR				pmax	pmax			
	comp=Z,16nm,1.1s							
YLYR				smax	smax			
	comp=N,124nm,1.6s							
KMO	**Kumora**	**7.05**	**61**	*e*	Pn	13 38 10.7	+4.0	
KMO				max		13 38 19.0		
	comp=N,26nm,0.3s							
KMO				*e*Sn	**Sn**	**13 39 28.6**	**+1.8**	
KMO				*e*Sg	**Sg**	**13 40 07.2**	**-2.4**	
KMO				Smax		13 40 26.3		
	comp=N,104nm,0.4s							
UKT	**Uakit**	**8.26**	**67**	*e*Pn	Pn	13 38 26.9	+3.6	
UKT				*e*		13 38 31.8		
UKT				*e*		13 38 55.6		
UKT				*e*		13 39 59.6		
UKT				*e*Sg	**Sg**	**13 40 42.8**	**-5.4**	
UKT				Smax		13 40 46.6		
	comp=N,49nm,1.3s							
KPC	**Khapcheranga**	**8.26**	**108**	*e*Pn	**Pn**	**13 38 25.0**	**+1.7**	
KPC				*e*		13 38 34.8		
KPC				*e*Pg	Pg	13 38 54.9	-6.6	
KPC				Pmax		13 38 57.3		
	comp=N,2.0nm,0.7s							
KPC				*e*Sg	Sg	13 40 41.7	-6.6	
KPC				Smax		13 40 49.7		
	comp=N,39nm,1.9s							
SVKR	**Severomuysk**	**8.38**	**62**	*e*		13 40 16.1		
SVKR				*e*		13 40 47.6		
SVKR				*e*Sg	**Sg**	**13 40 50.0**	**-2.2**	
SVKR				Smax		13 40 59.6		
	comp=N,172nm,1.4s							
NLYR	**Nelyaty**	**9.63**	**62**	*e*Pg	Pn	13 39 21.5	+39	
NLYR				Pmax		13 39 26.0		
	comp=N,7.0nm,0.5s							
NLYR				*e*Sg	Sn	13 41 27.0	+57	
NLYR				Smax		13 41 47.2		
	comp=N,47nm,1.1s							
TUP	**Tupik**	**11.78**	**75**	*e*	Pn	13 39 49.1	+38	
TUP				*e*		13 42 08.4		
TUP				*e*Sg		13 42 34.6		
TUP				Smax		13 42 50.7		
	comp=N,38nm,1.6s							

OMAN ***17*** *13:39:57.7±99.0, 27˚.51N×53˚.32E, h52km±97km, Error ellipse: s-maj=726.3km s-min=46.8km az=313.0*

IDC ***17*** *13:40:13.2±1.1, 26˚.38N×54˚.51E, h0km, mb3.8/14, mb1 3.9/15, mb1mx3.7/49, mbtmp3.9/15, ML3.3/1, Error ellipse: s-maj=26.4km s-min=17.8km az=164.0*

ISCJB ***17*** *13:40:14.3±0.4, 26˚.46N±0˚.04×54˚.54E±0˚.06, h10km, mb3.8/14, Error ellipse: s-maj=8.9km s-min=3.8km az=148.3*

CSEM ***17*** *13:40:16.2±0.1, 26˚.43N×54˚.70E, h2km, ML4.0, Error ellipse: s-maj=7.8km s-min=2.5km az=65.0*

DSN ***17*** *13:40:16.4±7.8, 26˚.53N×54˚.66E, h15km, ML4.0/6, Error ellipse: s-maj=6.4km s-min=2.3km az=330.0*

THR ***17*** *13:40:17.0±0.3, 26˚.51N×54˚.70E, h14km±5km, ML3.5*

TEH ***17*** *13:40:24.2, 26˚.78N×54˚.64E, h27km, ML3.7*

ISC 17 13:40:15.1±0.6, **26˚.41N**±0˚.04×**54˚.61E**±0˚.05, **h10**km, **n59, σ1§46/63, mb3.8**/14, **3C-4D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.60**	**107**	P	**Pn**	**13 40 44.2**	**+0.7**
	SNR=9.8						
BANOM				S	**Sn**	**13 41 05.1**	**+0.9**
BANOM	**Banah**	**1.60**	**107**	P	**Pn**	**13 40 44.1**	**+0.7**
	SNR=9.8						
BANOM	**Banah**	**1.60**	**107**	↑*e*P	**Pn**	**13 40 44.0**	**+0.5**
	SNR=97						
BANOM				↓S	**Sn**	**13 41 05.1**	**+0.9**
BNDS	**Bandar-Abbas**	**1.71**	**55**	*e*Pg	**Pn**	**13 40 46.2**	**+1.0**
BNDS				AML	AML	13 41 15.6	
	comp=N,371nm,0.6s						
BNDS				AML	AML	13 41 20.9	
	comp=E,578nm,0.6s						
NAZ	**Nazwa, Dubai**	**1.71**	**146**	P	**Pn**	**13 40 46.9**	**+1.9**
	SNR=45						
NAZ	**Nazwa, Dubai**	**1.71**	**146**	↑*e*P	**Pn**	**13 40 46.9**	**+1.9**
	SNR=45						
FAQ	**Al Faqa, Dubai**	**1.89**	**152**	P	**Pn**	**13 40 49.1**	**+1.7**
	SNR=19						
FAQ	**Al Faqa, Dubai**	**1.89**	**152**	↓*e*P	**Pn**	**13 40 49.1**	**+1.7**
	SNR=19						
ASUD	**Al Ashush, Dub**	**1.90**	**160**	P	**Pn**	**13 40 49.7**	**+2.1**
	SNR=20						
ASUD	**Al Ashush, Dub**	**1.90**	**160**	↑*e*P	**Pn**	**13 40 49.7**	**+2.1**
	SNR=20						
IBND	**Bandar-abas**	**2.01**	**59**	*e*Pn	**Pg**	**13 40 53.8**	**+0.1**
IBND	**Bandar-abas**	**2.01**	**59**	*e*Pn	**Pg**	**13 40 53.8**	**+0.1**
HATD	**Hatta, Dubai**	**2.10**	**139**	P	**Pn**	**13 40 51.5**	**+1.1**
	SNR=14						
HATD	**Hatta, Dubai**	**2.10**	**139**	↓*e*P	**Pn**	**13 40 51.5**	**+1.1**
	SNR=14						
ASHO	**Ashiyiah**	**2.17**	**142**	P	**Pn**	**13 40 52.6**	**+1.3**
	SNR=33						
ASHO	**Ashiyiah**	**2.17**	**142**	P	**Pn**	**13 40 52.7**	**+1.3**
	SNR=33						
ASHO	**Ashiyiah**	**2.17**	**142**	↓*e*P	**Pn**	**13 40 52.6**	**+1.3**
	SNR=33						
GHIR	**Ghir-Karzin**	**2.36**	**323**	*e*Pn	**Pb**	**13 40 56.9**	**-0.9**
GHIR				*e*Sg	**Sg**	**13 41 30.1**	**-0.8**
GHIR				AML	AML	13 41 37.9	
	comp=E,344nm,0.6s						
GHIR				AML	AML	13 41 41.2	
	comp=N,378nm,0.4s						
GHIR	**Ghir-Karzin**	**2.36**	**323**	*e*Pn	**Pb**	**13 40 56.9**	**-0.9**
GHIR				*e*Sg	**Sg**	**13 41 30.1**	**-0.8**
	comp=N,379nm,0.4s						
ISRV	**Sarvestan**	**3.24**	**336**	*e*Pn	**Pn**	**13 41 09.3**	**+2.9**
ISRV				*e*		13 42 34.6	
	comp=Z,3μm,0.6s						
ISRV	**Sarvestan**	**3.24**	**336**	*e*Pn	**Pn**	**13 41 09.3**	**+2.9**
ARQ	**Araqi**	**3.52**	**150**	P	**Pn**	**13 41 11.2**	**+1.2**
	SNR=8.7						
ARQ	**Araqi**	**3.52**	**150**	P	**Pn**	**13 41 11.2**	**+1.2**
	SNR=8.7						
IPAR	**Pars**	**3.68**	**338**	*e*Pn	**Pn**	**13 41 14.2**	**+1.8**
IPAR				*e*		13 42 31.2	
	comp=Z,1μm,0.4s						
IPAR	**Pars**	**3.68**	**338**	*e*Pn	**Pn**	**13 41 14.2**	**+1.8**
HOQ	**Hoqain**	**3.74**	**138**	P	**Pn**	**13 41 15.5**	**+2.6**
	SNR=6.7						
HOQ	**Hoqain**	**3.74**	**138**	P	**Pn**	**13 41 15.5**	**+2.6**
	SNR=6.7						
KRBR	**Kerman**	**4.03**	**28**	*e*Pn	**Pn**	**13 41 19.0**	**+1.8**
KRBR				AML	AML	13 42 12.6	
	comp=N,68nm,0.6s						
KRBR				AML	AML	13 42 30.9	
	comp=E,56nm,0.7s						
KRBR	**Kerman**	**4.03**	**28**	*e*Pn	**Pn**	**13 41 19.0**	**+1.8**
	comp=E,56nm,0.7s						
IKAZ	**Kazeroun**	**4.15**	**325**	*e*Pn	**Pg**	**13 41 35.4**	**+0.7**
IKAZ				*e*		13 42 14.7	
	comp=Z,991nm,0.3s						
BSY	**Bisya**	**4.35**	**147**	P	**Pn**	**13 41 22.8**	**+1.4**
	SNR=11						
BSYO	**Bisya**	**4.38**	**146**	P	**Pn**	**13 41 22.8**	**+1.0**
	SNR=11						
SMDO	**Samad**	**4.58**	**136**	P	**Pn**	**13 41 26.1**	**+1.5**
	SNR=29						
SMDO	**Samad**	**4.58**	**136**	P	**Pn**	**13 41 26.1**	**+1.5**
	SNR=29						
IMEH	**Mehriz**	**4.96**	**0**	*e*Pn	**Pn**	**13 41 32.0**	**+2.1**
IMEH				*e*		13 41 32.2	
	comp=Z,361nm,0.3s						
IMEH	**Mehriz**	**4.96**	**0**	*e*Pn	**Pn**	**13 41 32.0**	**+2.1**
IBAF	**Bafgh**	**5.23**	**9**	*e*Pn	**Pn**	**13 41 34.7**	**+1.2**
IBAF				*e*		13 41 35.7	
	comp=Z,807nm,0.2s						
IBAF	**Bafgh**	**5.23**	**9**	*e*Pn	**Pn**	**13 41 34.7**	**+1.2**
WBK	**Wadi Bani Khal**	**5.49**	**133**	P	**Pn**	**13 41 38.6**	**+1.6**
	SNR=6.6						
WBK	**Wadi Bani Khal**	**5.49**	**133**	P	**Pn**	**13 41 38.6**	**+1.6**
	SNR=6.6						
ISAD	**Sadrabad**	**5.54**	**352**	*e*Pn	**Pn**	**13 41 39.9**	**+2.0**
ISAD				*e*		13 41 46.5	
	comp=Z,413nm,0.2s						
ISAD				*e*Sn	Sn	13 42 34.8	-7.1
ISAD	**Sadrabad**	**5.54**	**352**	*e*Pn	**Pn**	**13 41 39.9**	**+2.0**
ICHK	**Chekchek**	**5.81**	**358**	*e*Pn	**Pn**	**13 41 43.0**	**+1.3**
ICHK				*e*		13 41 49.4	
	comp=Z,318nm,0.2s						
ICHK	**Chekchek**	**5.81**	**358**	*e*Pn	**Pn**	**13 41 43.0**	**+1.3**
KBZ	**Khabaz**	**19.72**	**334**	P	**Pn**	**13 44 45.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=153,slow=9.7,SNR=4.2						
BRTR	**Keskin Array B**	**21.95**	**312**	P	**P**	**13 45 08.8**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=133,slow=13,SNR=16						
AKTO	**Aktyubinsk**	**24.13**	**5**	P	**P**	**13 45 31.2**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=202,slow=9.4,SNR=5.4						
BVAR	**Bovovoye Array**	**29.09**	**20**	P	**P**	**13 46 15.6**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=198,slow=8.8,SNR=4.7						
MKAR	**Makanchi Array**	**29.88**	**40**	P	**P**	**13 46 23.0**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=222,slow=7.9,SNR=7.4						
KURBB	**Kurchatov Arra**	**30.32**	**31**	P	**P**	**13 46 26.7**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=229,slow=8.5,SNR=5.6						
ZALV	**Zalesovo Beam**	**35.41**	**31**	P	**P**	**13 47 10.8**	**-0.3**
	comp=Z,5.0nm,0.7s,baz=236,slow=8.9,SNR=16						
FINES	**FINESS Array B**	**39.95**	**339**	P	**P**	**13 47 48.0**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=138,slow=15,SNR=4.2						
NOA	**NORSAR Array B**	**45.28**	**332**	P	**P**	**13 48 31.4**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=123,slow=8.4,SNR=3.3						
SONM	**Songino Array**	**45.52**	**48**	P	**P**	**13 48 36.3**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=253,slow=8.6,SNR=6.1						
TORD	**Torodi Ar. Bea**	**51.19**	**266**	P	**P**	**13 49 17.8**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=60,slow=7.0,SNR=13						
DBIC	**Dimbokro**	**59.76**	**262**	P	**P**	**13 50 19.5**	**-1.3**
	comp=Z,3.4nm,0.8s,baz=72,slow=9.3,SNR=3.7						
KSRS	**Korea Array**	**61.78**	**60**	P	**P**	**13 50 33.6**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=271,slow=6.1,SNR=3.5						
ILAR	**Eielson Array**	**87.58**	**9**	P	**P**	**13 53 04.5**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=308,slow=5.1,SNR=3.5						
WRA	**Warramunga Arr**	**89.98**	**112**	P	**P**	**13 53 15.4**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=314,slow=4.2,SNR=2.9						

IDC ***17*** *13:42:08.0±2.5, 26˚.47N×142˚.61E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/23, mbtmp3.7/4, Error ellipse: s-maj=107.7km s-min=15.3km az=72.0*

ISCJB ***17*** *13:42:10.0±1.0, 26˚.51N±0˚.08×142˚.78E±0˚.09, h31km, mb3.7/4, Error ellipse: s-maj=14.2km s-min=8.5km az=139.8*

JMA ***17*** *13:42:11.2, 26˚.53N×142˚.72E, h28km, M3.7*

ISC 17 13:42:12.5±1.3, **26˚.52N**±0˚.08×**142˚.6E**±0˚.1, **h31**km, **n15, σ1§16/12, mb3.8**/4, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.40**	**286**	P	**Pb**	**13 42 21.2**	**-0.3**
JHHJ				S	**Sn**	**13 42 28.3**	**-0.4**
JCJ	**Chichijima**	**0.69**	**327**	Pn	**Pb**	**13 42 25.1**	**-1.0**
	100nm,0.3s,baz=90,slow=20,SNR=47						
JCJ				Sn	**Sn**	**13 42 38.4**	**+2.5**
	260nm,0.3s,baz=286,slow=22,SNR=27						
CBIJ	**Chichi jima**	**0.69**	**327**	P	**Pb**	**13 42 25.1**	**-1.0**
CBIJ				S	**Sb**	**13 42 35.2**	**-0.2**
JHO	**Hitachi**	**10.21**	**351**	P	**Pn**	**13 44 36.5**	**-0.4**
JAG	**Ashikaga**	**10.24**	**346**	S	**Sn**	**13 46 30.0**	**-1.0**
H11N2	**WAKE ISLAND Hy**	**23.31**	**102**	T	T	14 11 30.9	
	baz=287						
H11N1	**WAKE ISLAND Hy**	**23.31**	**102**	T	T	14 11 32.2	
	baz=287						
H11N3	**WAKE ISLAND Hy**	**23.33**	**102**	T	T	14 11 32.4	
	baz=287						
H11S3	**WAKE ISLAND Hy**	**23.60**	**105**	T	T	14 11 55.3	
	baz=292,slow=75						
H11S1	**WAKE ISLAND Hy**	**23.61**	**105**	T	T	14 12 04.8	
	baz=292,slow=75						
H11S2	**WAKE ISLAND Hy**	**23.62**	**105**	T	T	14 12 02.5	
	baz=292,slow=75						
WRA	**Warramunga Arr**	**46.88**	**191**	P	**P**	**13 50 39.7**	**-0.2**
	1.4nm,0.5s,baz=11,slow=8.7,SNR=19						
ASAR	**Alice Springs**	**50.59**	**190**	P	**P**	**13 51 07.8**	**-0.7**
	0.2nm,0.6s,baz=18,slow=9.2,SNR=4.9						
KURBB	**Kurchatov Arra**	**53.72**	**315**	P	**P**	**13 51 32.7**	**+1.2**
	0.2nm,0.4s,baz=89,slow=8.4,SNR=3.1						
FINES	**FINESS Array B**	**78.63**	**334**	P	**P**	**13 54 11.7**	**+0.6**
	1.0nm,0.6s,baz=72,slow=4.5,SNR=5.7						

WEL 17 14:15:25.7±0.6, **36˚.83S×179˚.76E, h12**km, **ML3.5/9, 1C-2D, Error ellipse: s-maj=5.8km s-min=4.9km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.37**	**237**	↓PN	Pn	14 15 48.9	-1.8
WMGZ	**Waiomatatini S**	**1.46**	**227**	PN	Pn	14 15 51.7	-0.2
PUZ	**Puketiti**	**1.72**	**224**	PN	Pn	14 15 55.1	-0.5
PUZ				SN	Sn	14 16 16.0	-1.6
PUZ				AML	AML	14 16 17.7	
HAZ	**Te Kaha**	**1.83**	**239**	↓PN	Pn	14 15 55.7	-1.3
HAZ				SN	Sn	14 16 19.6	-0.4
TWGZ	**Tauwhareparae**	**1.95**	**226**	PN	Pn	14 15 58.3	-0.5
CNGZ	**Carnagh Statio**	**2.06**	**216**	PN	Pn	14 16 00.4	+0.2
TKGZ	**Te Karaka**	**2.21**	**223**	PN	Pn	14 16 01.5	-0.7
MWZ	**Matawai**	**2.33**	**229**	↑PN	Pn	14 16 03.0	-0.9
RIGZ	**Rimuhau**	**2.45**	**220**	PN	Pn	14 16 04.7	-0.9
URZ	**Urewera**	**2.54**	**235**	PN	Pn	14 16 06.3	-0.6
PRGZ	**Paritu Road**	**2.56**	**215**	PN	Pn	14 16 06.3	-0.8
SNGZ	**Shannon Statio**	**2.73**	**224**	PN	Pn	14 16 08.5	-1.0
KNZ	**Kokohu**	**2.74**	**216**	PN	Pn	14 16 08.0	-1.5
KUZ	**Kuaotunu**	**3.25**	**270**	PN	Pn	14 16 14.8	-1.6
ARHZ	**Aropaoanui**	**3.27**	**221**	PN	Pn	14 16 15.8	-0.9
BKZ	**Black Stump Fm**	**3.48**	**227**	PN	Pn	14 16 18.4	-1.4
GRZ	**Great Barrier**	**3.52**	**278**	PN	Pn	14 16 20.2	0.0
MCHZ	**McNeill Hill**	**3.56**	**222**	PN	Pn	14 16 19.7	-1.1
KWHZ	**Kaweka Forest**	**3.69**	**225**	PN	Pn	14 16 21.6	-1.2
KAHZ	**Kahuranaki**	**3.73**	**217**	PN	Pn	14 16 21.0	-2.2
PXZ	**Pawanui**	**3.92**	**215**	PN	Pn	14 16 22.8	-3.0
BHHZ	**Black Hill Sta**	**3.94**	**227**	PN	Pn	14 16 25.0	-1.2
RVAZ	**Riverhead Bore**	**4.16**	**269**	PN	Pn	14 16 29.7	+0.6
TSZ	**Takapari Road**	**4.39**	**222**	PN	Pn	14 16 29.1	-3.2
MRZ	**Mangatainoka R**	**5.03**	**219**	PN	Pn	14 16 37.6	-3.4
THZ	**Tophouse**	**7.25**	**225**	AML	AML	14 16 57.9	

ISCJB ***17*** *14:19:44.2±0.8, 8˚.8S±0˚.1×159˚.6E±0˚.2, h100km, mb3.9/8, Error ellipse: s-maj=21.2km s-min=16.3km az=0.2*

IDC ***17*** *14:19:47.0±1.2, 8˚.92S×159˚.76E, h114km±8km, mb3.8/8, mb1 4.0/9, mb1mx3.6/35, mbtmp4.2/9, Error ellipse: s-maj=29.7km s-min=15.2km az=113.0*

ISC 17 14:19:46.0±0.8, **8˚.9S**±0˚.1×**159˚.8E**±0˚.2, **h100**km, **n18, σ1§65/16, mb4.0/8, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.61**	**162**	*i* P	**Pn**	**14 20 02.0**	**-0.7**
HNR				*i* S	Sn	14 20 26.0	+11
DZM	**Mont Dzumac**	**14.63**	**155**	P	**P**	**14 23 13.4**	**+1.5**
	0.4nm,0.3s,baz=274,slow=24,SNR=1.7						
CTA	**Charters Tower**	**17.18**	**228**	P	**P**	**14 23 41.4**	**+1.3**
	baz=69,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**26.93**	**243**	P	**P**	**14 25 16.8**	**-1.5**
	3.7nm,0.7s,baz=70,slow=9.4,SNR=46						
WRA				pP	**pP**	**14 25 42.1**	**+1.6**
	2.5nm,0.8s,baz=70,slow=9.9,SNR=2.2						
WRA				PcP	**PcP**	**14 28 37.0**	**-1.0**
	0.3nm,0.8s,baz=70,slow=3.1,SNR=3.0						
H11S3	**WAKE ISLAND Hy**	**28.02**	**14**	T	T	14 54 15.2	
	baz=194,slow=76,SNR=144						
H11S2	**WAKE ISLAND Hy**	**28.02**	**14**	T	T	14 54 15.2	
	baz=194,slow=76,SNR=134						
H11S1	**WAKE ISLAND Hy**	**28.03**	**14**	T	T	14 54 16.5	
	baz=194,slow=76,SNR=104						
STKA	**Stephens Creek**	**28.45**	**214**	P	**P**	**14 25 30.8**	**-0.9**
	2.5nm,0.5s,baz=47,slow=14,SNR=16						
ASAR	**Alice Springs**	**28.79**	**236**	P	**P**	**14 25 32.9**	**-1.9**
	1.8nm,0.7s,baz=71,slow=9.3,SNR=19						
ASAR				pP	**pP**	**14 26 01.0**	**+3.9**
	0.5nm,0.5s,baz=64,slow=10,SNR=2.1						
H11N1	**WAKE ISLAND Hy**	**29.24**	**14**	T	T	14 55 47.1	
	baz=194,slow=76,SNR=98						
H11N3	**WAKE ISLAND Hy**	**29.25**	**14**	T	T	14 55 47.7	
	baz=194,slow=76,SNR=114						
H11N2	**WAKE ISLAND Hy**	**29.26**	**14**	T	T	14 55 48.6	
	baz=194,slow=76,SNR=107						
KSRS	**Korea Array**	**54.86**	**329**	P	**P**	**14 29 06.3**	**+0.2**
	1.5nm,0.9s,baz=146,slow=7.9,SNR=7.4						
VNDA	**Vanda**	**68.66**	**180**	P	**P**	**14 30 37.3**	**-0.9**
	1.3nm,0.7s,baz=328,slow=7.1,SNR=7.1						
SONM	**Songino Array**	**73.48**	**326**	P	**P**	**14 31 08.1**	**+0.3**
	1.9nm,0.6s,baz=137,slow=5.6,SNR=12						
ILAR	**Eielson Array**	**83.41**	**20**	P	**P**	**14 32 01.1**	**-0.9**
	0.9nm,0.6s,baz=248,slow=5.2,SNR=20						
ILAR				pP	**pP**	**14 32 29.9**	**+1.9**
	0.2nm,0.6s,baz=247,slow=4.8,SNR=1.9						
MAW	**Mawson**	**84.51**	**202**	P	**P**	**14 32 07.0**	**-0.5**
	1.2nm,0.6s,baz=104,slow=8.3,SNR=4.9						
BRTR	**Keskin Array B**	**123.13**	**312**	PKP	**PKPdf**	**14 38 31.3**	**-0.3**
	0.6nm,0.8s,baz=347,slow=5.9,SNR=2.8						

ISCJB ***17*** *14:23:22.8±0.3, 46˚.13N±0˚.01×120˚.69W±0˚.02, h4km±2km, mb3.2/2, MS3.4/1, Error ellipse: s-maj=2.3km s-min=1.8km az=161.4*

IDC ***17*** *14:23:23.0±1.0, 46˚.25N×120˚.81W, h0km, mb3.2/2, mb1 3.8/8, mb1mx3.6/45, mbtmp3.5/8, ML3.7/6, MS3.6/1, Ms1 3.7/1, ms1mx2.7/17, Error ellipse: s-maj=15.6km s-min=6.7km az=121.0*

PNSN ***17*** *14:23:24.5, 46˚.11N×120˚.74W, h3km, MD4.2, Fault plane solution: NP1:ϕs287.00000°, δ56.00000°, NP2: ϕs40.00000°, δ60.00000°, Principal axes: T Plg48.0000°, Azm255.0000°; P Plg2.0000°, Azm163.0000°;*

NEIC ***17*** *14:23:24.0, 46˚.12N×120˚.75W, h1km, MW3.8, ML3.6(SEA), Moment Tensor Solution. s30 Moment tensor: Scale 10¹⁴Nm; Mrr2.72; Mθθ-4.30; Mϕϕ 1.58; Mrθ-1.77; Mθϕ-3.67; Mϕr0.95; Best double couple: M☐5.60000×10¹⁴ NP1: ϕs281.00000°, δ69.00000°, λ143.00000°. NP2: ϕs26.00000°, δ56.00000°, λ26.00000°. Principal axes: T 4.7400, Plg40.0000°, Azm238.0000°; N 1.4800, Plg48.0000°, Azm74.0000°; P -6.2200, Plg7.0000°, Azm335.0000°; After SEA.*

NEIC Felt [II] at Goldendale. Also felt at Wapato, White Swan and Yakima. Felt at Hermiston, Oregon.

ISC 17 14:23:23.8±1.1, **46˚.14N**±0˚.02×**120˚.73W**±0˚.02, **h1**km±9km, **n128, σ1§09/173, 33C-27D, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GL2	**New Goldendale**	**0.19**	**200**	↓P	**Pg**	**14 23 27.5**	**+0.1**
TRW	**Toppenish Ridg**	**0.20**	**40**	↑P	**Pg**	**14 23 28.7**	**+1.0**
YA2	**Yakima**	**0.41**	**19**	↓P	**Pg**	**14 23 32.9**	**+1.2**
MXC	**Moxie City**	**0.54**	**34**	↓P	**Pg**	**14 23 35.0**	**+1.0**
ASR	**Mount Adams--S**	**0.60**	**272**	↑P	**Pg**	**14 23 35.9**	**+0.6**
NAC	**Naches**	**0.60**	**354**	↓P	**Pg**	**14 23 35.8**	**+0.4**
F07A	**Phinny Hill Vi**	**0.61**	**113**	↓P	**Pg**	**14 23 36.1**	**+0.7**
BRVW	**Black Rock Val**	**0.62**	**55**	P	**Pg**	**14 23 36.6**	**+1.0**
VGB	**Gordon Butte**	**0.62**	**183**	↓P	**Pg**	**14 23 35.6**	**-0.1**
GULW	**Guler Mountain**	**0.64**	**251**	↑P	**Pg**	**14 23 36.4**	**+0.3**
PAT2	**Paterson 2**	**0.72**	**110**	↓P	**Pg**	**14 23 38.3**	**+0.6**
PRW	**Prosser**	**0.73**	**84**	↑P	**Pg**	**14 23 38.5**	**+0.8**
GLK	**Glacier Lake**	**0.74**	**305**	↑P	**Pg**	**14 23 38.4**	**+0.3**
APM	**Augspurger Mou**	**0.78**	**239**	↑P	**Pg**	**14 23 38.7**	**0.0**
EBG	**Ellensburg**	**0.78**	**8**	↓P	**Pg**	**14 23 39.2**	**+0.4**
WPW	**White Pass**	**0.80**	**315**	↑P	**Pg**	**14 23 39.5**	**+0.4**
BENWA	**Benson Ranch**	**0.80**	**61**	↑P	**Pg**	**14 23 39.5**	**+0.4**
SNIWA	**Sniwly Ranch**	**0.81**	**66**	↑P	**Pg**	**14 23 39.9**	**+0.5**
MDW	**Midway**	**0.82**	**54**	↑P	**Pg**	**14 23 39.9**	**+0.4**
RSW	**Rattlesnake Hi**	**0.83**	**71**	↑P	**Pg**	**14 23 40.1**	**+0.4**
HAWA	**Hanford**	**0.87**	**72**	*e*Pg	**Pg**	**14 23 40.8**	**+0.3**
HAWA				*e*Sg	**Sg**	**14 23 50.9**	**-0.8**
BVW	**Beverly**	**0.89**	**41**	↓P	**Pg**	**14 23 41.1**	**+0.2**
GBB	**Gable Butte**	**0.90**	**58**	↑P	**Pg**	**14 23 41.3**	**+0.4**
REDWA	**Red Mountain**	**0.91**	**79**	↑P	**Pg**	**14 23 41.5**	**+0.2**
CDFW	**Cedar Flats**	**0.92**	**269**	↓P	**Pg**	**14 23 41.0**	**-0.3**
JBO	**Jordan Butte**	**0.92**	**137**	↓P	**Pg**	**14 23 40.9**	**-0.5**
H2OWA	**Water**	**0.94**	**74**	↑P	**Pg**	**14 23 42.0**	**+0.2**
VLL	**Laurance Lake**	**0.95**	**225**	↑P	**Pg**	**14 23 41.6**	**-0.3**
VLL				S	**Sg**	**14 23 55.3**	**+1.2**
VTHM	**Trough**	**0.96**	**173**	↓P	**Pg**	**14 23 41.4**	**-0.8**
LON	**Longmire**	**0.97**	**310**	↓P	**Pg**	**14 23 42.2**	**-0.1**
VFP	**Flag Point**	**0.97**	**212**	↑P	**Pg**	**14 23 41.7**	**-0.6**
VT2	**Vantage 2**	**0.97**	**31**	↓P	**Pg**	**14 23 42.4**	**0.0**
**G05

NEW					Pg		Pb	14 24 21.2 -1.1
	8.0nm,0.3s,baz=226,slow=15,SNR=21							
NEW					Sn		Sn	14 24 54.6 -0.7
	14nm,0.3s,baz=212,slow=20,SNR=2.9							
NEW					Lg		Lg	14 25 04.0
	78nm,0.3s,baz=123,slow=17,SNR=13							
NEW	**Newport**	**3.25**	**48**	P			**Pn**	**14 24 14.8 -1.2**
	baz=3.3							
NEW					Sb		**Sg**	**14 25 05.8 -2.4**
	baz=3.3							
NEW	**Newport**	**3.25**	**48**	*e*Pn			**Pn**	**14 24 14.7 -1.3**
NEW					*e*Pg		**Pg**	**14 24 27.6 +1.5**
NEW					Sn		**Sn**	**14 24 54.6 -0.7**
NEW					Lg		Lg	14 25 04.0
NEW					*e*Sg		**Sg**	**14 25 09.1 +0.9**
K05A	**Summer Lake**	**3.41**	**182**	*e*Pn			**Pn**	**14 24 19.6 +1.3**
HUMO	**Hull Mountain**	**3.87**	**205**	*e*Pn			**Pn**	**14 24 24.1 -0.4**
HUMO					*e*Pg		**Pg**	**14 24 39.0 +1.1**
HUMO					*e*Sn		**Sn**	**14 25 11.1 +0.6**
WVOR	**Wild Horse Val**	**3.99**	**157**	*e*Pn			**Pn**	**14 24 26.1 -0.1**
WVOR					*e*Pg		**Pg**	**14 24 40.8 +0.5**
WVOR					*e*Sn		**Sn**	**14 25 12.5 -1.3**
MOD	**Modoc Plateau**	**4.24**	**176**	*e*Pn			Pn	14 24 34.1 +4.5
BSMT	**Bassoo Peak**	**4.41**	**65**	*e*Pn			**Pn**	**14 24 32.5 +0.4**
BSMT					*e*Pg		**Pg**	**14 24 48.7 +0.4**
BSMT					*e*Sn		**Sn**	**14 25 23.4 -0.7**
BSMT					*e*Sg		**Sg**	**14 25 46.9 +1.4**
MFID	**Camas Ranch**	**4.42**	**126**	*e*Pn			**Pn**	**14 24 30.4 -1.7**
MFID					*e*Pg		**Pg**	**14 24 47.2 -1.3**
MFID					*e*Sn		**Sn**	**14 25 22.7 -1.7**
M04C	**Macdoel**	**4.42**	**191**	P			**Pn**	**14 24 34.8 +2.6**
	baz=4.4,SNR=14							
L02D	**Cave Junction,**	**4.48**	**208**	P			**Pn**	**14 24 34.1 +1.3**
	baz=4.5							
YBH	**Yreka Blue Hor**	**4.63**	**199**	Pn			**Pn**	**14 24 37.6 +2.6**
	3.3nm,0.3s,baz=21,slow=12,SNR=50							
YBH					Sn		**Sn**	**14 25 32.5 +3.1**
	1.3nm,0.3s,baz=111,slow=20,SNR=1.7							
YBH					Lg		Lg	14 25 47.4
	0.9nm,0.3s,baz=148,slow=7.7,SNR=2.5							
YBH	**Yreka Blue Hor**	**4.63**	**199**	Pn			**Pn**	**14 24 33.9 -1.1**
YBH					Sn		**Sn**	**14 25 32.5 +3.1**
YBH					Lg		Lg	14 25 47.4
KBO	**Bosley Butte**	**4.66**	**214**	Pn			**Pn**	**14 24 35.7 +0.3**
KBO					*e*Pg		**Pg**	**14 24 52.8 -0.2**
JTMT	**Jette**	**4.70**	**68**	*e*Pn			**Pn**	**14 24 36.1 +0.2**
JTMT					*e*Pg		**Pg**	**14 24 53.5 -0.4**
JTMT					*e*Sn		**Sn**	**14 25 31.6 +0.5**
BLMT	**Blacktail Moun**	**4.74**	**64**	*e*Pn			**Pn**	**14 24 36.3 -0.2**
BLMT					*e*Pg		**Pg**	**14 24 56.5 +1.9**
BLMT					*e*Sn		**Sn**	**14 25 32.5 +0.3**
MSO	**Missoula**	**4.74**	**79**	P			**Pn**	**14 24 35.9 -0.5**
	baz=4.7							
MSO					S		**Sn**	**14 25 32.1 0.0**
	baz=4.7							
MSO	**Missoula**	**4.74**	**79**	*e*Pn			**Pn**	**14 24 36.0 -0.5**
SWMT	**Swartz Lake**	**4.82**	**71**	*e*Pn			**Pn**	**14 24 37.5 -0.1**
YBMT	**Yellow Bay**	**4.91**	**67**	*e*Pn			**Pn**	**14 24 37.9 -0.9**
M02C	**Callahan**	**4.99**	**199**	P			**Pn**	**14 24 42.9 +3.1**
	baz=5.0							
SLMT	**Seeley Lake**	**5.10**	**75**	*e*Pn			**Pn**	**14 24 40.6 -0.9**
	18nm,0.3s							
HLID	**Hailey**	**5.17**	**118**	P			**Pn**	**14 24 41.2 -1.3**
	baz=5.2							
HLID	**Hailey**	**5.17**	**118**	*e*Pn			**Pn**	**14 24 41.0 -1.5**
HLID					*e*Pg		**Pg**	**14 25 03.0 +0.1**
HLID					*e*Sn		**Sn**	**14 25 42.9 0.0**
N02D	**Trinity Center**	**5.36**	**196**	P			**Pn**	**14 24 47.9 +3.0**
	baz=5.3,SNR=28							
WALA	**Waterton Lakes**	**5.46**	**55**	*e*Pn			**Pn**	**14 24 44.9 -1.4**
	18nm,0.6s							
WALA					*e*Pg		**Pg**	**14 25 09.5 +1.2**
WALA					*e*Sg		**Sg**	**14 26 19.9 +0.8**
MCMT	**McKenzie Canyo**	**5.69**	**100**	*e*Pn			**Pn**	**14 24 49.4 -0.3**
MCMT					*e*Sn		**Sn**	**14 25 52.4 -3.4**
KHMM	**Horse Mountain**	**5.69**	**204**	*e*Pn			**Pn**	**14 24 48.2 -1.4**
	24nm,0.8s							
WDC	**Whiskeytown Da**	**5.71**	**194**	*e*Pn			**Pn**	**14 24 49.9 +0.3**
	11nm,0.7s							
DLMT	**Dillon**	**5.74**	**95**	*e*Pn			**Pn**	**14 24 50.6 +0.3**
	22nm,0.6s							
LRM	**Limekiln Ridge**	**5.78**	**90**	*e*Pn			**Pn**	**14 24 51.1 +0.2**
	115nm,0.6s							
LRM					*e*Pg		**Pg**	**14 25 15.1 +0.6**
BOZ	**Bozeman (W)**	**6.37**	**91**	P			**Pn**	**14 24 59.0 +0.1**
	baz=6.4							
ELK	**Elko**	**6.71**	**142**	Pn			**Pn**	**14 25 06.5 +2.9**
	0.3nm,0.3s,baz=325,slow=16,SNR=7.4							
ELK					Lg		Lg	14 26 49.9
	1.8nm,0.3s,baz=202,slow=20,SNR=6.1							
ELK	**Elko**	**6.71**	**142**	Pn			**Pn**	**14 25 01.8 -1.8**
	8.6nm,0.8s							
ELK					*e*Sg		**Sg**	**14 26 58.3 -0.9**
HVU	**Hansel Valley**	**7.20**	**124**	Pn			**Pn**	**14 25 08.0 -2.3**
IMW	**Indian Meadow**	**7.29**	**104**	Pn			**Pn**	**14 25 13.7 +2.0**
	14nm,0.7s							
TPAW	**Teton Pass**	**7.44**	**107**	*e*Pn			**Pn**	**14 25 13.7 0.0**
	5.6nm,0.6s							
BGU	**Big Grassy Mou**	**7.64**	**130**	Pn			**Pn**	**14 25 14.9 -1.5**
	7.8nm,1.1s							
WAKR	**Walker**	**7.69**	**172**	Pn			**Pn**	**14 25 16.4 -0.6**
	7.0nm,1.0s							
BBB	**Bella Bella**	**7.75**	**324**	Lg			Lg	14 27 22.1
	0.2nm,0.3s,baz=15,slow=15,SNR=3.4							
NVAR	**Mina Array Bea**	**7.91**	**166**	Pn			Pn	14 25 25.6 +5.5
	0.3nm,0.3s,baz=341,slow=13,SNR=13							
BW06	**Boulder Array**	**8.67**	**109**	*e*Pn			**Pn**	**14 25 30.4 -0.1**
PDAR	**Pinedale Array**	**8.67**	**109**	Pn			Pn	14 25 34.3 +3.8
	0.1nm,0.3s,baz=311,slow=15,SNR=12							
PDAR					Lg		Lg	14 27 58.2
	baz=316,slow=18,SNR=2.4							
JLU	**Jordanelle**	**8.73**	**126**	Pn			**Pn**	**14 25 32.0 +0.6**
	7.7nm,1.0s							
DGMT	**Dagmar**	**11.47**	**72**	*e*Pn			**Pn**	**14 26 08.3 -0.3**
	11nm,0.8s							
ANMO	**Albuquerque**	**15.55**	**131**	Pn			**Pn**	**14 27 06.5 +2.2**
	0.1nm,0.3s,baz=325,slow=23,SNR=3.8							
FCC	**Fort Churchill**	**20.40**	**42**	*e*P			**P**	**14 28 02.3 +0.4**
	2.2nm,0.5s							
TXAR	**Lajitas Array**	**21.45**	**136**	P			**P**	**14 28 14.9 +1.4**
	0.9nm,0.7s,baz=344,slow=6.0,SNR=6.8							
ILAR	**Eielson Array**	**23.54**	**332**	P			**P**	**14 28 34.7 -0.4**
	0.7nm,0.8s,baz=154,slow=6.5,SNR=10.0							
ILAR					LR		LR	14 38 01.3
	comp=Z,134nm,18.9s,baz=356,slow=38							

*ISCJB **17** 14:23:34.5±0.3,32.°73N±0.°02×115.°97W±0.°02,h20km±3km, Error ellipse: s-maj=3.9km s-min=3.4km az=23.8*
*NEIC **17** 14:23:34.9,32.°71N×115.°98W,h3km,ML3.3(PAS), ML3.5(ECX),After PAS.*
*ECX **17** 14:23:35.7±0.6,32.°69N×115.°95W,h2km,MD3.0,ML3.3*
*MEX **17** 14:23:36.1±0.7,32.°82N×115.°93W,h16km±15km,MD3.6*

ISC 17 14:23:34.3±0.8,32.°72N±0.°02×115.°96W±0.°02,h14km±6km, n36,σ0s67/63,10C-7D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.08**	**156**	⇑*i* P	**Pg**	**14 23 36.9**	**-0.4**
RMX	**La Rumorosa**	**0.15**	**220**	⇑*e* P	**Pg**	**14 23 38.4**	**+0.1**
RMX				*e*S	**Sg**	**14 23 40.9**	**-0.1**
RMX				IAML		14 23 43.1	
	comp=N,12μm,0.4s						
RMX				⇑*e*		14 23 43.1	
WESC	**Westside Schoo**	**0.20**	**79**	⇑*i* P	**Pg**	**14 23 39.3**	**+0.4**
WESC				*e*S	**Sb**	**14 23 42.9**	**-0.4**
SGL	**Mount Signal**	**0.21**	**110**	⇑*i* P	**Pg**	**14 23 39.4**	**+0.3**
COK	**Cook Ranch**	**0.24**	**57**	⇑*i* P	**Pg**	**14 23 40.1**	**+0.6**
ERPC	**Ernies Place**	**0.25**	**85**	⇑*i* P	**Pb**	**14 23 40.6**	**0.0**
DREC	**Desert Rsrch C**	**0.44**	**79**	⇑*e* P	**Pb**	**14 23 44.3**	**+0.4**
CLIC	**Calipatria**	**0.56**	**41**	⇑*i* P	**Pb**	**14 23 46.3**	**+0.5**
BAR	**Barrett**	**0.60**	**266**	*e*Pg	**Pg**	**14 23 46.5**	**+0.4**
BAR				*e*Sg	**Sg**	**14 23 54.2**	**+0.1**
CPBX	**Cerro Prieto**	**0.63**	**118**	*e*P	**Pb**	**14 23 47.2**	**+0.1**
CPBX				*i* S	**Sb**	**14 23 57.2**	**+1.4**
CPBX	**Cerro Prieto**	**0.63**	**118**	*e*Pn	**Pb**	**14 23 47.4**	**+0.2**
CPBX				*e*S	**Sb**	**14 23 56.4**	**+0.5**
MBIG	**Mexicali**	**0.72**	**116**	*e*P	**Pb**	**14 23 48.9**	**+0.3**
MBIG				*e*S	**Sb**	**14 23 58.1**	**-0.1**
CBX	**Cerro Bola**	**0.72**	**236**	*e*P	**Pg**	**14 23 48.8**	**+0.4**
CBX				*e*S	**Sg**	**14 23 58.4**	**+0.6**
CBX	**Cerro Bola**	**0.72**	**236**	*e*P	**Pg**	**14 23 48.8**	**+0.4**
CBX				*e*S	**Sg**	**14 23 58.4**	**+0.6**
CBX	**Cerro Bola**	**0.72**	**236**	⇑*i* P	**Pg**	**14 23 48.7**	**+0.4**
CBX				*e*S	**Sg**	**14 23 58.4**	**+0.6**
COA	**Coachella**	**0.72**	**78**	⇑*i* P	**Pb**	**14 23 48.7**	**+0.1**
RDX	**Rancho Dawling**	**0.79**	**179**	⇓*i* P	**Pg**	**14 23 49.5**	**-0.3**
RDX				*e*S	**Sg**	**14 23 59.5**	**-0.7**
PFO	**Pinyon Flats O**	**0.98**	**335**	*e*Pg	**Pb**	**14 23 52.7**	**-0.4**
PFO				*e*Sg	**Sb**	**14 24 06.1**	**+0.1**
GLA	**Glamis**	**1.01**	**71**	*e*Pg	**Pb**	**14 23 52.9**	**-0.7**
GLA				*e*Sg	**Sb**	**14 24 06.6**	**-0.2**
PBX	**Punta Banda**	**1.17**	**214**	⇓*e* P	**Pb**	**14 23 56.8**	**+0.4**
ECNX	**Esteban Cantu**	**1.19**	**207**	⇓*e* P	**Pb**	**14 23 57.0**	**+0.3**
ZAX	**El Zacaton**	**1.23**	**192**	⇓*e* P	**Pb**	**14 23 57.7**	**+0.3**
ECBX	**El Chinero**	**1.47**	**148**	*e*Pn	**Pn**	**14 24 00.5**	**+0.2**
ECBX				*e*S	**Sb**	**14 24 19.9**	**0.0**
SPIG	**San Pedro Mart**	**1.72**	**166**	*e*P	**Pn**	**14 24 03.9**	**-0.3**
SPIG				*i* S	**Sn**	**14 24 24.8**	**-1.3**
SPIG	**San Pedro Mart**	**1.72**	**166**	*e*P	**Pn**	**14 24 03.9**	**-0.3**
SPIG				*i* S	**Sn**	**14 24 24.8**	**-1.3**
SPIG	**San Pedro Mart**	**1.72**	**166**	⇓*e* P	**Pn**	**14 24 04.9**	**+0.7**
SPX	**San Pedro Mart**	**1.72**	**166**	*e*P	**Pn**	**14 24 03.4**	**-0.7**
SPX				*i* S	**Sn**	**14 24 24.3**	**-1.9**
SPX	**San Pedro Mart**	**1.72**	**166**	⇓*e* P	**Pn**	**14 24 04.8**	**+0.6**
MWC	**Mount Wilson**	**2.31**	**311**	*e*Pn	**Pb**	**14 24 15.3**	**-0.5**
MWC				*e*Sn	**Sn**	**14 24 40.4**	**+0.1**
MWC				*e*Sg	**Sg**	**14 24 48.6**	**+0.1**
PASC	**Pasadena Art C**	**2.35**	**308**	*e*Pn	**Pn**	**14 24 11.4**	**-1.1**
PASC				*e*Pg	**Pg**	**14 24 20.0**	**+0.5**
PASC				*e*Sn	**Sn**	**14 24 40.8**	**-0.5**
GSC	**Goldstone, Bar**	**2.67**	**345**	*e*Pn	**Pn**	**14 24 16.7**	**-0.3**
214A	**Organ Pipe Nat**	**2.77**	**105**	*e*Pn	**Pn**	**14 24 17.6**	**-0.8**
214A				*e*Sn	**Sn**	**14 24 53.0**	**+1.4**
ISA	**Isabella, Lake**	**3.60**	**325**	Pn	**Pn**	**14 24 51.0**	**+1.3**
ISA				*e*Pg	**Pg**	**14 24 44.2**	**+1.0**
ISA				*e*Sn	**Sn**	**14 25 12.6**	**+0.6**
ISA				*e*Sg	**Sg**	**14 25 30.1**	**+0.3**
DAC	**Darwin (Calif)**	**3.79**	**340**	*e*Pn	**Pn**	**14 24 32.3**	**-0.2**
DAC				*e*Pg	**Pg**	**14 24 46.3**	**-0.7**
DAC				*e*Sn	**Sn**	**14 25 16.4**	**-0.6**
DAC				*e*Sg	**Sg**	**14 25 34.9**	**-1.3**
WUAZ	**Wupatki**	**4.72**	**53**	*e*Pn	**Pn**	**14 24 45.7**	**+0.5**
121A	**Cookes Peak, D**	**6.90**	**89**	*e*P	**Pn**	**14 25 15.7**	**+0.5**
	comp=N,5.4nm,0.6s						

IDC 17 14:26:19.8±7.3,18.°10S×170.°85W,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.6/32,mbtmp3.8/4,Error ellipse: s-maj=308.7km s-min=36.8km az=142.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**40.51**	**260**	P	P	14 33 59.5	-1.4
	3.9nm,0.9s,baz=90,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**51.66**	**254**	P	P	14 35 29.6	+0.8
	0.6nm,0.5s,baz=93,slow=8.5,SNR=16						
WRA	**Warramunga Arr**	**51.66**	**259**	P	P	14 35 29.0	+0.2
	0.3nm,0.5s,baz=98,slow=5.8,SNR=9.1						
ILAR	**Eielson Array**	**84.64**	**10**	P	P	14 38 54.8	-0.1
	0.3nm,0.6s,baz=225,slow=6.2,SNR=4.8						

PGC 17 14:28:28.8±2.1,50.°72N×130.°53W,h10km,ML3.0/21, Mw3.6,219km west of Pt. Hardy, Bc Vancouver Island, Canada Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.53**	**92**	Pn	Pn	14 28 53.9	-2.2
HOLB				Sn	Sn	14 29 11.8	-4.3
BPBC	**Brooks Peninsu**	**1.85**	**107**	Pn	Pn	14 28 58.2	-2.5
BPBC				Sn	Sn	14 29 17.6	-6.6
PHC	**Port Hardy**	**1.97**	**89**	Pn	Pn	14 29 00.3	-1.8
PHC				Sn	Sn	14 29 22.8	-4.0
BNB	**Barry Inlet**	**2.01**	**338**	Pn	Pn	14 29 00.9	-1.9
BNB				Sn	Sn	14 29 22.7	-5.3
BBB	**Bella Bella**	**2.11**	**45**	Pn	Pn	14 29 02.7	-1.3
BBB				Sn	Sn	14 29 26.5	-3.7
MAYB	**Maynard**	**2.17**	**97**	Pn	Pn	14 29 03.3	-1.8
MAYB				Sn	Sn	14 29 27.6	-4.5
FHRB	**Fair Harbour**	**2.29**	**106**	Pn	Pn	14 29 04.4	-2.1
FHRB				Sn	Sn	14 29 30.4	-4.3
EDB	**Eliza Dome**	**2.35**	**110**	Pn	Pn	14 29 05.1	-2.2
TLCB	**Telegraph Cove**	**2.36**	**93**	Pn	Pn	14 29 06.4	-1.1
TLCB				Sn	Sn	14 29 33.6	-2.9
WOSB	**Woss**	**2.59**	**101**	Pn	Pn	14 29 09.8	-1.1
DIB	**Dawson Inlet,**	**2.76**	**335**	Pn	Pn	14 29 11.6	-1.4
DIB				Sn	Sn	14 29 42.3	-4.0
VIB	**Van Inlet**	**2.82**	**335**	Pn	Pn	14 29 12.1	-1.9
VIB				Sn	Sn	14 29 44.6	-3.6
NCRB	**Newcastle Ridg**	**2.87**	**95**	Pn	Pn	14 29 13.0	-1.7
ETB	**Estevan Point**	**2.91**	**116**	Pn	Pn	14 29 13.4	-1.6
GDR	**Gold River**	**3.04**	**106**	Pn	Pn	14 29 15.0	-1.8
TOFB	**Tofino**	**3.37**	**116**	Sn	Sn	14 29 56.3	-5.2
CBB	**Campbell River**	**3.38**	**100**	Pn	Pn	14 29 20.3	-1.2
CBB				Sn	Sn	14 29 58.4	-3.3
BTB	**Buttle Lake**	**3.46**	**109**	Pn	Pn	14 29 21.3	-1.6
NDB	**Naden**	**3.56**	**336**	Pn	Pn	14 29 22.7	-1.3
NDB				Sn	Sn	14 30 04.2	-2.0
OZB	**Mount Ozzard**	**3.71**	**116**	Pn	Pn	14 29 24.9	-1.2
OZB				Sn	Sn	14 30 04.2	-5.7
TXB	**Texada**	**4.05**	**102**	Pn	Pn	14 29 29.8	-1.0
MGB	**Mount Grey**	**4.15**	**112**	Pn	Pn	14 29 30.4	-2.0
SHB	**Sechelt**	**4.42**	**102**	Pn	Pn	14 29 35.2	-0.9
PFB	**Port Renfrew**	**4.50**	**116**	Pn	Pn	14 29 36.5	-0.5
WPB	**Watts Point**	**4.82**	**100**	Pn	Pn	14 29 41.5	+0.1
FSB	**Fort Saint Jam**	**5.33**	**43**	Pn	Pn	14 29 48.9	+0.5

IDC 17 14:29:08.3±3.0,54.°29N×86.°19E,h0km,mb1 3.7/1, mb1mx3.1/48,mbtmp3.7/1,ML3.4/1,Error ellipse: s-maj=21.7km s-min=12.2km az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.88**	**248**	*i*		14 33 38.7	
	baz=68,slow=311,SNR=4.3						
ZALV	**Zalesovo Beam**	**0.88**	**248**	Pg	Pg	14 29 23.7	-1.4
	2.7nm,0.3s,baz=69,slow=16,SNR=21						
ZALV				Lg	Lg	14 29 38.0	
	9.5nm,0.3s,baz=70,slow=27,SNR=49						
ZALV				Rg	Rg	14 29 43.2	
	20nm,0.4s,baz=57,slow=24,SNR=14						
MKAR	**Makanchi Array**	**7.90**	**200**	Pn	Pn	14 31 05.5	+1.1
	0.5nm,0.3s,baz=24,slow=12,SNR=12						
MKAR				Sn	Sn	14 32 35.6	+1.1
	0.1nm,0.3s,baz=15,slow=25,SNR=2.9						
MKAR				Lg	Lg	14 33 14.8	
	baz=28,slow=31,SNR=2.5						

NNC 17 14:32:09.9±3.3,37.°84N×71.°13E,h0km,mb3.6,mpv3.0, 4C-2D,Error ellipse: s-maj=31.2km s-min=19.5km az=162.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.05**	**299**	⇑Pn	Pn	14 32 45.1	-0.8
	12nm,0.4s						
DZET				⇓Lg	Lg	14 33 16.7	
	29nm,0.4s						
SFK	**Sufi-Kurgan**	**2.85**	**40**	⇑Pn	Pn	14 32 57.9	+0.9
	0.8nm,0.1s						
SFK				⇑Lg	Lg	14 33 39.0	
	2.9nm,0.2s						
KK31	**Karatay Array**	**5.28**	**355**	⇑Pn	Pn	14 33 32.9	+2.8
	0.4nm,0.3s						
KK31				⇓Sn	Sn	14 34 38.1	+6.4
	1.2nm,0.3s						

JMA 17 14:50:43.4±0.2,24.°08N×141.°82E,h177km,M4.6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**2.56**	**7**	P	Pn	14 51 26.8	+0.2
JHHJ				S	Sn	14 52 00.3	0.0
CBIJ	**Chichi jima**	**3.02**	**6**	P	Pn	14 51 32.7	+0.6
CBIJ				S	Sn	14 52 10.7	+0.4
BSO1	**Boso 1**	**10.56**	**356**	P	Pn	14 53 09.5	0.0
BSO1				S	Sn	14 55 02.9	-3.5
BSO3	**Boso 3**	**10.74**	**354**	P	Pn	14 53 12.0	-0.3
BSO4	**Boso 4**	**10.95**	**354**	P	Pn	14 53 15.6	+0.5
JIE	**Ise**	**11.20**	**338**	P	Pn	14 53 21.8	+3.3
HMMJ	**Hamamatsu 2**	**11.31**	**343**	P	Pn	14 53 21.7	+1.7
JOD2	**Odawara 2**	**11.39**	**349**	P	Pn	14 53 21.4	+0.3
JNY	**Yasuok**	**11.75**	**344**	P	Pn	14 53 25.0	-0.8
JHU	**Hanno**	**11.94**	**350**	P	Pn	14 53 27.9	-0.1
JRY	**Ryogami san**	**12.16**	**349**	P	Pn	14 53 31.2	+0.2
JYT	**Yasato**	**12.19**	**354**	P	Pn	14 53 31.1	-0.1
JAG	**Ashikaga**	**12.47**	**351**	P	Pn	14 53 33.5	-1.4
JAG				S	Sn	14 55 49.1	-4.3
JHO	**Hitachi**	**12.54**	**355**	P	Pn	14 53 35.1	-0.6
JHO				S	Sn	14 55 47.9	-7.0
JFK	**Kawauchi**	**13.27**	**357**	P	Pn	14 53 44.3	-0.7
JFK				S	Sn	14 56 05.4	-7.1
JMK	**Ichinoseki**	**14.84**	**358**	P	P	14 54 05.9	+0.1

*IDC **17** 14:53:12.7±1.0,1.°67S×136.°37E,h0km,mb3.8/7, mb1 4.0/8,mb1mx3.8/23,mbtmp3.8/8,ML3.1/1,Error ellipse: s-maj=34.9km s-min=19.5km az=65.0*
*ISCJB **17** 14:53:16.0±0.5,1.°80S±0.°10×136.°33E±0.°04,h33km, mb3.6/8,Error ellipse: s-maj=14.4km s-min=5.8km az=6.8*
*DJA **17** 14:53:15.3±0.4,2.°5S±6.°13×136.°6E±.°,h10km,M4.1/6,MLv4.1/6*

ISC 17 14:53:17.3±0.8,1.°9S±0.°1×136.°40E±0.°05,h35km,n15, σ2s08/15,mb3.7/8,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.16**	**266**	P	Pn	14 53 20.3	-3.5
SRPI				S	**Sn**	**14 53 25.2**	**-3.1**
RKPI	**Ransiki, Papua**	**2.25**	**279**	P	Pn	**14 53 52.1**	**0.0**
RKPI				S	**Sn**	**14 54 23.1**	**+4.5**
SMPI	**Sarmi**	**2.31**	**93**	P	Pn	**14 53 52.1**	**-0.8**
SMPI				S	**Sn**	**14 54 22.9**	**+2.7**
GENI	**Genyem**	**3.83**	**101**	P	Pn	14 54 15.5	+1.6
FAKI	**Fak Fak**	**4.28**	**256**	P	Pn	**14 54 20.2**	**+0.2**
SIJI	**Sorong**	**5.23**	**281**	Pn	Pn	**14 54 32.7**	**-0.4**
	0.7nm,0.3s,baz=185,slow=22,SNR=4.4						
SIJI				Sn	**Sn**	**14 55 32.6**	**+0.4**
	baz=241,slow=21,SNR=1.4						
WRA	**Warramunga Arr**	**18.09**	**186**	P	Pn	**14 57 23.4**	**-2.6**
	0.1nm,0.3s,baz=9.1,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**21.81**	**186**	P	**P**	**14 58 08.6**	**+1.9**
	3.9nm,0.7s,baz=8.0,slow=11,SNR=43						
STKA	**Stephens Creek**	**30.26**	**171**	P	**P**	**14 59 26.2**	**+1.2**
	1.1nm,0.4s,baz=324,slow=8.8,SNR=5.4						
KSRS	**Korea Array**	**39.90**	**349**	P	P	15 00 52.4	+4.4
	0.3nm,0.3s,baz=152,slow=8.0,SNR=3.1						
CMAR	**Chiang Mai Arr**	**42.02**	**300**	P	**P**	**15 01 04.1**	**-1.7**
	0.6nm,0.7s,baz=115,slow=6.4,SNR=5.4						
MKAR	**Makanchi Array**	**67.72**	**323**	P	**P**	**15 04 11.3**	**0.0**
	0.7nm,0.7s,baz=115,slow=7.9,SNR=8.3						
VNDA	**Vanda**	**76.83**	**174**	P	P	15 05 07.9	+2.8
	0.3nm,0.5s,baz=311,slow=7.3,SNR=5.9						
BVAR	**Borovoye Array**	**77.30**	**326**	P	**P**	**15 05 08.3**	**+0.1**
	0.6nm,0.6s,baz=139,slow=7.0,SNR=4.8						
ILAR	**Eielson Array**	**86.02**	**25**	P	**P**	**15 05 54.0**	**0.0**
	0.1nm,0.4s,baz=253,slow=3.2,SNR=4.8						

KRSC 17 15:01:20.8±0.6,55.°05N×160.°15E,h1km±3km,ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.10**	**53**	*i* P	Pg	15 01 23.6	+0.6
KZV				*e*S	Sg	15 01 24.9	+0.4
TUMR	**Tumrok**	**0.23**	**359**	*i* P	Pg	15 01 26.3	+0.8
TUMR				*e*S	Sg	15 01 30.0	+1.4
KMNR	**Kamenistaya**	**0.71**	**4**	*e*P	Pb	15 01 36.2	+0.1
KMNR				*e*S	Sb	15 01 47.8	+1.3
BZMR	**Bezymyannaya**	**0.91**	**12**	*e*P	Pb	15 01 40.1	+0.5
KIRR	**Kirishev**	**0.91**	**7**	*e*P	Pb	15 01 39.7	+0.1
KIRR				*e*S	Sb	15 01 53.2	+0.8
BZWR	**Bezymyannyi-We**

CBX	**Cerro Bola**	**0.93**	**258**	*e*P	**Pb**	**15 12 25.3**	**+0.3**
CBX				*i* S	**Sb**	**15 12 37.3**	**+0.2**
CBX	**Cerro Bola**	**0.93**	**258**⇑	*e*P	**Pb**	**15 12 25.3**	**+0.3**
CBX				*e*S	**Sb**	**15 12 37.2**	**+0.2**
CBX				⇓*e*		15 12 40.8	
CBX				IAML		15 12 40.8	
	comp=E,3µm,0.4s						
BAR	**Barrett**	**0.93**	**281**⇑	*e*P	**Pb**	**15 12 25.2**	**+0.3**
BAR				*e*S	**Sb**	**15 12 36.9**	**-0.1**
ECBX	**El Chinero**	**1.13**	**156**	*e*Pn	**Pg**	**15 12 29.0**	**-0.1**
ECBX				*e*S	**Sg**	**15 12 43.9**	**0.0**
ZAX	**El Zacaton**	**1.15**	**210**	*e*Pn	**Pb**	**15 12 29.1**	**+0.4**
ZAX				*e*S	**Sn**	**15 12 44.1**	**+0.1**
ZAX				IAML		15 12 48.2	
	comp=E,2µm,0.4s						
ZAX				⇑*e*		15 12 48.2	
ECNX	**Esteban Cantu**	**1.20**	**225**⇑	*e*P	**Pb**	**15 12 30.2**	**+0.5**
ECNX				*e*S	**Sn**	**15 12 45.8**	**+0.4**
PBX	**Punta Banda**	**1.23**	**232**	*e*P	**Pb**	**15 12 30.4**	**+0.4**
PBX				*e*S	**Sn**	**15 12 46.3**	**+0.4**
PFO	**Pinyon Flats O**	**1.31**	**327**	*e*Pn	**Pn**	**15 12 30.5**	**-0.5**
PFO				*e*Sn	**Sn**	**15 12 46.8**	**-1.4**
SPIG	**San Pedro Mart**	**1.46**	**176**	*e*P	**Pn**	**15 12 33.5**	**+0.3**
SPIG				*i* S	**Sn**	**15 12 51.3**	**-0.8**
SPIG	**San Pedro Mart**	**1.46**	**176**	*e*P	**Pn**	**15 12 33.5**	**+0.3**
SPIG				*i* S	**Sn**	**15 12 51.3**	**-0.8**
SPX	**San Pedro Mart**	**1.46**	**176**	*e*P	**Pn**	**15 12 33.1**	**-0.2**
SPX				*e*S	**Sn**	**15 12 50.4**	**-1.7**
SPX	**San Pedro Mart**	**1.46**	**176**⇑	*e*P	**Pn**	**15 12 33.5**	**+0.3**
SPX				*e*S	**Sg**	**15 12 54.3**	**-0.4**
SPX				IAML		15 12 56.4	
	comp=E,635nm,0.4s						
SPX				⇑*e*		15 12 56.4	
214A	**Organ Pipe Nat**	**2.42**	**102**	*e*Pn	**Pn**	**15 12 45.3**	**-0.8**
TUC	**Tucson**	**4.07**	**92**	*e*Pn	**Pn**	**15 13 07.1**	**-1.8**
WUAZ	**Wupatki**	**4.61**	**48**	*e*Pn	**Pn**	**15 13 16.5**	**+0.1**
121A	**Cookes Peak, D**	**6.60**	**88**	*e*Pn	**Pn**	**15 13 44.6**	**+1.0**

ISCJB ***17*** *15:48:50.6±0.4, 26°.57N±0°.09×125°.59E±0°.07, h213km±8km, mb3.7/5, Error ellipse: s-maj=16.6km s-min=3.9km az=146.1*
IDC ***17*** *15:48:50.3±3.2, 26°.28N×125°.53E, h218km±44km, mb3.6/5, mb1 3.4/8, mb1mx3.1/35, mbtmp4.0/8, Error ellipse: s-maj=60.3km s-min=48.3km az=94.0*
JMA ***17*** *15:48:52.8±0.4, 26°.66N×125°.50E, h191km, M3.7*
ISC 17 15:48:51.5±0.8, 26°.67N±0°.09×125°.55E±0°.07, h207km±10km, n31, σ1§62/52, mb3.7/5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.16**	**107**	P	**Pn**	**15 49 23.8**	**+0.7**
JKE				S	**S**	**15 49 47.3**	**-0.2**
JAGN	**Aguni-jima**	**1.52**	**93**	P	**Pn**	**15 49 26.5**	**+0.5**
JAGN				S	**S**	**15 49 51.7**	**-0.7**
JIKM	**Ikemajima**	**1.76**	**189**	S	**S**	**15 49 56.1**	**-0.4**
JMJ	**Miyako jima 2**	**1.86**	**187**	P	**Pn**	**15 49 28.8**	**-0.5**
JMJ				S	**S**	**15 49 57.6**	**-0.7**
JIRB	**Irabujima**	**1.87**	**191**	P	**Pn**	**15 49 29.6**	**+0.3**
JIRB				S	**S**	**15 49 56.6**	**-1.7**
JOGS	**Gusukube**	**1.91**	**184**	P	**Pn**	**15 49 30.5**	**+0.8**
JOGS				S	**S**	**15 49 58.8**	**-0.2**
JJT2	**Tamagusuku 2**	**2.04**	**105**	P	**Pn**	**15 49 32.6**	**+1.6**
JJT2				S	**S**	**15 50 01.8**	**+0.5**
JTJ	**Tarama**	**2.16**	**201**	P	**Pn**	**15 49 32.6**	**+0.3**
JTJ				S	**S**	**15 50 01.8**	**-1.8**
JIH	**Iheya**	**2.19**	**80**	P	**Pn**	**15 49 33.2**	**+0.7**
JIH				S	**S**	**15 50 02.7**	**-1.3**
JNTH	**Nagotoyohara**	**2.22**	**93**	P	**Pn**	**15 49 33.9**	**+1.1**
JNTH				S	**S**	**15 50 03.3**	**-1.2**
JISG	**Ishigakijimahi**	**2.36**	**209**	P	**Pn**	**15 49 34.3**	**-0.1**
JISG				S	**S**	**15 50 04.7**	**-2.6**
JOW	**Kunigami**	**2.44**	**86**	P	**Pn**	**15 49 36.0**	**+0.8**
JOW				S	**S**	**15 50 07.0**	**-1.8**
JOW	**Kunigami**	**2.44**	**86**	P	**Pn**	**15 49 36.0**	**+0.8**
	3.4nm,0.3s,baz=152,slow=27,SNR=94						
JOW				S	**S**	**15 50 07.0**	**-1.8**
	7.3nm,0.3s,baz=155,slow=28,SNR=31						
JIJ	**Ishigaki jima**	**2.63**	**209**	P	**Pn**	**15 49 36.8**	**-0.5**
JIJ				S	**S**	**15 50 09.2**	**-3.4**
JOKE	**Okinoerabujima**	**2.78**	**75**	P	**Pn**	**15 49 39.4**	**+0.4**
JOKE				S	**S**	**15 50 13.8**	**-1.8**
JKRS	**Kuro-shima**	**2.80**	**210**	P	**Pn**	**15 49 38.9**	**-0.3**
JKRS				S	**S**	**15 50 13.3**	**-2.7**
IRIF	**Iriomote-Funau**	**2.85**	**216**	P	**Pn**	**15 49 39.2**	**-0.6**
IRIF				S	**S**	**15 50 15.4**	**-1.7**
HATJ	**Hateruma jima**	**3.04**	**212**	P	**Pn**	**15 49 41.7**	**-0.4**
HATJ				S	**S**	**15 50 19.2**	**-2.0**
YOJ	**Yonaguni jima**	**3.18**	**227**	P	**Pn**	**15 49 43.5**	**-0.1**
YOJ				S	**S**	**15 50 23.4**	**-0.5**
JTK	**Tokunoshima**	**3.23**	**69**	P	**Pn**	**15 49 43.9**	**-0.3**
JTK				S	**S**	**15 50 22.0**	**-2.9**
JYNG	**Yonagunijimaku**	**3.23**	**227**	P	**Pn**	**15 49 44.1**	**-0.1**
JAMN	**Amaminishikomi**	**3.58**	**63**	P	**Pn**	**15 49 47.9**	**-0.5**
JAMN				S	**S**	**15 50 28.5**	**-4.1**
JAM	**Amami Oshima**	**4.00**	**63**	S	**S**	**15 50 38.4**	**-3.4**
JMZ	**Minamidaito 2**	**5.16**	**98**	P	**Pn**	**15 50 09.2**	**+1.0**
JMZ				S	**S**	**15 51 05.7**	**-2.7**
JNU	**Nakatsue**	**7.92**	**34**	P	**Pn**	**15 50 46.0**	**+2.4**
	1.7nm,0.3s,baz=215,slow=12,SNR=20						
KSRS	**Korea Array**	**10.94**	**10**	P	**Pn**	**15 51 24.7**	**+2.1**
	0.1nm,0.3s,baz=182,slow=14,SNR=5.3						
SONM	**Songino Array**	**25.92**	**330**	P	**P**	**15 54 07.4**	**+2.8**
	3.5nm,0.4s,baz=148,slow=11,SNR=25						
MKAR	**Makanchi Array**	**39.45**	**312**	P	**P**	**15 56 00.9**	**-0.7**
	1.6nm,0.5s,baz=99,slow=11,SNR=24						
ZALV	**Zalesovo Beam**	**40.45**	**324**	P	**P**	**15 56 08.7**	**-1.0**
	1.1nm,0.6s,baz=113,slow=9.0,SNR=5.6						
KURBB	**Kurchatov Arra**	**42.88**	**317**	P	**P**	**15 56 28.6**	**-0.8**
	0.6nm,0.3s,baz=108,slow=7.5,SNR=7.2						
FINES	**FINESS Array B**	**71.29**	**330**	P	**P**	**15 59 47.9**	**-0.2**
	1.1nm,0.8s,baz=86,slow=7.4,SNR=4.0						

IDC ***17*** *15:49:27.2±1.3, 5°.78S×131°.35E, h0km, mb3.8/3, mb1 4.3/6, mb1mx3.7/32, mbtmp4.1/6, ML4.4/3, Error ellipse: s-maj=104.0km s-min=20.9km az=73.0*
ISCJB ***17*** *15:49:29.4±0.9, 5°.9S±0°.1×131°.4E±0°.5, h33km, mb3.6/3, Error ellipse: s-maj=70.8km s-min=9.5km az=170.0*
ISC 17 15:49:31.4±1.0, 5°.9S±0°.1×131°.4E±0°.6, h35km, n6, σ2§77/7, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.00**	**358**	Pn	**Pn**	**15 50 42.6**	**-1.4**
	40nm,0.3s,baz=41,slow=19,SNR=221						
SIJI				Sn	Sn	15 51 31.5	-9.0
	24nm,0.3s,baz=270,slow=23,SNR=10						
WRA	**Warramunga Arr**	**14.25**	**169**	Pn	**Pn**	**15 52 50.8**	**0.0**
	1.2nm,0.3s,baz=353,slow=13,SNR=67						
WRA				Sn	Sn	15 55 21.0	-6.8
	0.7nm,0.3s,baz=352,slow=23,SNR=2.3						
ASAR	**Alice Springs**	**17.83**	**173**	Pn	**P**	**15 53 39.3**	**+1.9**
	1.3nm,0.3s,baz=355,slow=12,SNR=72						
ASAR				Sn	**Sn**	**15 56 50.3**	**-4.5**
	0.4nm,0.3s,baz=357,slow=27,SNR=5.6						
STKA	**Stephens Creek**	**27.55**	**161**	P	**P**	**15 55 17.2**	**+2.2**
	1.1nm,0.4s,baz=336,slow=12,SNR=8.3						
MKAR	**Makanchi Array**	**68.09**	**326**	P	**P**	**16 00 27.7**	**0.0**
	0.2nm,0.5s,baz=122,slow=8.0,SNR=3.8						
KURBB	**Kurchatov Arra**	**72.32**	**328**	P	**P**	**16 00 54.0**	**+0.5**
	0.2nm,0.3s,baz=120,slow=5.5,SNR=2.9						

MEX 17 15:58:03.7±1.1, 17°.11N×96°.10W, h84km±16km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.60**	**268**	*e*P	Pn	15 58 19.0	+0.1
OXX				*i* S	Sn	15 58 29.7	-0.6
CMIG	**Matias Romero**	**1.16**	**91**	*e*P	Pn	15 58 23.5	-1.4
CMIG				*e*S	Sn	15 58 38.9	-2.0
HUIG	**Huatulco**	**1.33**	**180**	*e*P	Pn	15 58 26.1	-1.0
HUIG				*i* S	Sn	15 58 43.5	-1.1
TPIG	**Tehuac#an**	**1.78**	**318**	*i* P	Pn	15 58 31.8	-1.3
TPIG				*e*S	Sn	15 58 54.1	-1.2
PNIG	**Pinotepa**	**2.07**	**250**	*e*P	Pn	15 58 34.5	-2.2
PNIG				*i* S	Sn	15 58 59.8	-2.0
TLIG	**Tlapa**	**2.40**	**281**	*i* P	Pn	15 58 40.8	-0.4
TLIG				*i* S	Sn	15 59 07.7	-2.3
TGIG		**2.87**	**96**	*e*P	Pn	15 58 45.9	-1.5
TGIG				*i* S	Sn	15 59 18.9	-2.1
YAIG	**Yautepec**	**3.32**	**302**	*i* P	Pn	15 58 52.1	-1.6
YAIG				*i* S	Sn	15 59 30.4	-1.9

ISCJB ***17*** *16:00:43.0±0.6, 23°.98S±0°.05×66°.85W±0°.07, h200km, mb3.5/1, Error ellipse: s-maj=10.3km s-min=6.0km az=152.5*
SJA ***17*** *16:00:42.5±0.3, 24°.02S×66°.94W, h200km±5km, ML3.2, MW2.7*
IDC ***17*** *16:00:43.0±1.4, 24°.01S×66°.75W, h186km±18km, mb3.5/1, mb1 3.4/6, mb1mx3.2/31, mbtmp3.9/6, Error ellipse: s-maj=24.3km s-min=20.8km az=117.0*
ISC 17 16:00:43.5±0.9, 23°.96S±0°.07×66°.83W±0°.08, h200km, n15, σ1§16/19, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.43**	**122**	*e*P	**Pn**	**16 01 16.8**	**+0.1**
SLA				IAML		16 01 19.5	
	comp=Z,43nm,0.6s						
SLA				*e*S	**Sn**	**16 01 42.3**	**-0.3**
HJA	**Humahuaca**	**1.50**	**60**	*e*P	**Pn**	**16 01 18.6**	**+0.9**
HJA				IAML		16 01 19.4	
	comp=Z,324nm,0.5s						
AZAP	**Zapla**	**1.63**	**100**	*e*P	**Pn**	**16 01 19.2**	**+0.5**
ASTB	**Santa Barbara**	**2.15**	**90**	*e*P	**Pn**	**16 01 24.7**	**+1.0**
FSA	**Cafayete**	**2.25**	**161**	*e*P	**Pn**	**16 01 24.7**	**-0.1**
FSA				*e*S	**Sn**	**16 01 55.8**	**-1.4**
LVC	**Limon Verde**	**2.34**	**305**	P	**Pn**	**16 01 26.7**	**+0.8**
	comp=Z,513nm,0.3s,baz=121,slow=6.8,SNR=80						
LVC				S	**Sn**	**16 01 58.6**	**-0.3**
	comp=Z,736nm,0.3s,baz=253,slow=21,SNR=35						
ALOL	**LOMAS DE OLMED**	**2.62**	**87**	*e*P	**Pn**	**16 01 29.3**	**+0.5**
AHML	**Horco Molle**	**3.12**	**155**	*e*P	**Pn**	**16 01 34.3**	**-0.3**
CFAA	**Coronel Fontan**	**7.71**	**189**	P	**Pn**	**16 02 31.7**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=30,slow=13,SNR=11						
CFAA				S	Sn	16 03 52.0	-8.2
	comp=Z,0.5nm,0.3s,baz=275,slow=20,SNR=8.1						
LPAZ	**La Paz**	**7.73**	**351**	P	**Pn**	**16 02 34.4**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=102,slow=3.7,SNR=14						
LPAZ				S	**Sn**	**16 03 58.4**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=7.6,slow=15,SNR=2.2						
SIV	**San Ignacio**	**9.60**	**35**	P	**Pn**	**16 02 56.6**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=225,slow=13,SNR=16						
BDFB	**Brasilia**	**19.53**	**68**	P	**P**	**16 04 57.0**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=229,slow=12,SNR=16						
TORD	**Torodi Ar. Bea**	**76.41**	**69**	P	**P**	**16 12 11.6**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=257,slow=6.1,SNR=7.8						
WRA	**Warramunga Arr**	**131.73**	**207**	PKP	**PKPdf**	**16 19 34.7**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=164,slow=1.6,SNR=6.4						
MKAR	**Makanchi Array**	**146.40**	**40**	PKPbc	**PKPbc**	**16 20 01.3**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=282,slow=5.1,SNR=4.1						

IDC ***17*** *16:35:28.8±0.4, 1°.15S×123°.82E, h0km, mb4.6/25, mb1 4.7/27, mb1mx4.6/38, mbtmp4.6/27, ML4.5/2, MS4.0/19, Ms1 4.0/19, ms1mx3.9/30, Error ellipse: s-maj=16.3km s-min=8.2km az=74.0*
MOS ***17*** *16:35:31.8±1.1, 1°.08S×123°.79E, h33km, mb5.1/30, Error ellipse: s-maj=11.2km s-min=6.2km az=114.0*
ISCJB ***17*** *16:35:32.2±0.2, 1°.21S±0°.02×123°.78E±0°.02, h33km, mb4.8/86, MS4.2/24, Error ellipse: s-maj=3.1km s-min=2.7km az=140.5*
BJI ***17*** *16:35:33.1, 1°.20S×123°.70E, h25km, mb4.7/53, mB4.9/40, Ms4.4/45, Ms7 4.2/46*
NEIC ***17*** *16:35:34.6±0.7, 1°.17S×123°.70E, h43km±6km, mb5.1/46, Error ellipse: s-maj=6.1km s-min=5.0km az=65.0*
NEIC Felt [III] at Luwuk.
GCMT ***17*** *16:35:34.6±0.2, 1°.19S×123°.68E, h28km±1km, MW5.1/76, Moment Tensor Solution. s41,c51; s76,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.74±.20; $M_{\theta\theta}$.85±.12; $M_{\phi\phi}$-5.59±.17; $M_{r\theta}$-2.83±.28; $M_{\theta\phi}$0.15±.11; $M_{\phi r}$0.65±.26; Best double couple: M_o5.74300×10^{16} NP1:ϕ_s319.00000°,δ71.00000°,λ30.00000°. NP2: ϕ_s218.00000°,δ61.00000°,λ158.00000°. Principal axes: T 5.8200, Plg35.0000°, Azm181.0000°; N -0.1550, Plg54.0000°, Azm349.0000°; P -5.6660, Plg6.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
DJA ***17*** *16:35:36.5±0.6, 1°.S±1°×12°.4E±°, h37km±7km, M5.2/34, mb5.4/34, mB5.6/24, MLv5.6/25, Mw(mB)5.1/24*
ISC 17 16:35:33.1±0.4, 1°.18S±0°.03×123°.76E±0°.03, h28km±2km, h27km:pP-P, n277, σ1§70/279, mb5.0/95, MS4.1/24, 7C-2D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.00**	**278**	P	**Pn**	**16 35 49.8**	**-1.5**
LUWI				S	**Sn**	**16 36 10.5**	**-1.0**
LUWI	**Luwuk**	**1.00**	**278**	*e*Pg	**Pn**	**16 35 49.8**	**-1.5**
LUWI				*e*Sg	**Sn**	**16 36 02.0**	**-2.5**
KMSI	**Cibinong**	**1.76**	**7**	P	**Pb**	**16 36 06.0**	**+1.3**
KMSI				S	**Sb**	**16 36 30.2**	**+3.9**
APSI	**Ampana**	**2.13**	**277**	P	**Pn**	**16 36 08.0**	**+1.2**
APSI				S	**Sb**	**16 36 38.3**	**+1.3**
SANI	**Sanana**	**2.39**	**111**	P	**Pn**	**16 36 12.5**	**+2.1**
SANI				S	**Sb**	**16 36 44.4**	**0.0**
MRSI	**Marisa**	**2.46**	**312**	P	**Pn**	**16 36 13.0**	**+1.7**
MRSI				S	**Sb**	**16 36 43.7**	**-2.7**
KDI	**Kendari**	**2.98**	**202**	P	**Pn**	**16 36 18.0**	**-0.6**
KDI				S	**Sn**	**16 36 53.6**	**+0.1**
TOLI	**Toli-Toli**	**3.75**	**308**	*e*Pn	**Pn**	**16 36 31.0**	**+1.9**
TOLI				*e*Sn	**Sn**	**16 37 11.2**	**-1.1**
NLAI	**Namlea**	**3.91**	**122**	P	Pn	16 36 34.9	+3.5
PCI	**Palu**	**3.93**	**274**	P	**Pn**	**16 36 33.3**	**+1.6**
PCI				S	**Sn**	**16 37 19.5**	**+2.5**
TNTI	**Ternate**	**4.09**	**62**	P	**Pn**	**16 36 37.5**	**+3.6**
TNTI				S	**Sb**	**16 37 28.9**	**-4.7**
TNTI	**Ternate**	**4.09**	**62**	*e*Pn	**Pn**	**16 36 36.6**	**+2.7**
TNTI				*e*Sn	**Sn**	**16 37 20.6**	**-0.3**
MPSI	**Mapaga**	**4.15**	**291**	P	**Pn**	**16 36 36.3**	**+1.7**
TTSI	**Tana Toraja**	**4.35**	**245**	P	**Pn**	**16 36 38.1**	**+0.7**
SPSI	**Sidrap Palu**	**4.85**	**235**	P	**Pn**	**16 36 45.2**	**+0.9**
SPSI				S	**Sn**	**16 37 41.7**	**+2.1**
SGSI	**Sangihe**	**5.15**	**20**	P	Pn	16 36 53.0	+4.6
	517nm,1.0s,6µm5.5nm						
BKSI	**Bulukumba**	**5.49**	**221**	P	**Pn**	**16 36 53.9**	**+0.8**
	583nm,0.7s,7µm2.2nm						
KAPI	**Kappang**	**5.53**	**226**	Pn	**Pn**	**16 36 54.4**	**+0.8**
	2µm,1.1s,SNR=43						
KAPI	**Kappang**	**5.53**	**226**	Pn	**Pn**	**16 36 54.0**	**+0.5**
	26nm,0.3s,baz=132,slow=3.9,SNR=65						
KAPI				Sn	**Sn**	**16 37 55.6**	**-0.6**
	22nm,0.3s,baz=258,slow=18,SNR=3.6						
KAPI				LR	LR	16 39 25.3	
	comp=Z,6µm,19.2s,baz=67,slow=42						
KAPI	**Kappang**	**5.53**	**226**‖	*e*Pn	**Pn**	**16 36 53.6**	**+0.1**
KAPI				Sn	**Sn**	**16 37 55.6**	**-0.6**
MSAI	**Masohi**	**5.59**	**113**	P	Pn	16 36 58.9	+4.4
	233nm,0.8s,2µm1.0nm						
BSSI	**Bau Bau, Buton**	**5.91**	**213**	P	**Pn**	**16 36 59.3**	**+0.4**
	2µm,1.1s,18µm5.9nm						
BKB	**Balikpapan**	**6.86**	**269**	P	**Pn**	**16 37 13.5**	**+1.5**
	1µm,0.9s,18µm4.7nm						
BNDI	**Bandanaira**	**6.97**	**119**	P	Pn	16 37 18.4	+4.9
	1µm,1.5s,13µm4.3nm						
SIJI	**Sorong**	**7.51**	**88**	Pn	**Pn**	**16 37 23.9**	**+3.1**
	24nm,0.3s,baz=241,slow=11,SNR=142						
SIJI				Sn	**Sn**	**16 38 47.1**	**+1.9**
	6.4nm,0.3s,baz=52,slow=19,SNR=7.3						
MMRI	**Maumere**	**7.56**	**192**	P	**Pn**	**16 37 21.7**	**+0.2**
	897nm,0.9s,10µm3.2nm						
MMRI	**Maumere**	**7.56**	**192**	*e*Pn	**Pn**	**16 37 21.2**	**-0.4**
KBKI	**Kotabaru**	**7.88**	**254**	P	**Pn**	**16 37 27.2**	**+1.3**
DAV	**Davao City (W)**	**8.39**	**12**	*e*Pn	**Pn**	**16 37 35.0**	**+2.0**
DAV				*e*ScS	ScS	16 51 13.3	+4.6
MATI	**Mati**	**8.45**	**17**	*e*P	Pn	16 37 40.0	+6.3
SOEI	**Soe**	**8.53**	**177**	P	**Pn**	**16 37 35.6**	**+0.6**
SOEI	**Soe**	**8.53**	**177**	*e*Pn	**Pn**	**16 37 35.6**	**+0.6**
FAKI	**Fak Fak**	**8.66**	**102**	P	**Pn**	**16 37 38.3**	**+1.7**
FAKI	**Fak Fak**	**8.66**	**102**	*e*Pn	**Pn**	**16 37 37.5**	**+0.9**
FAKI				*e*Sn	**Sn**	**16 39 07.9**	**-5.5**
PAGZ	**Pagadian**	**8.98**	**358**	*e*P	Pn	16 37 45.2	+4.2
IPIL	**Ipil**	**8.99**	**352**	*e*P	Pn	16 37 46.8	+5.7
BUKP	**Musuan**	**9.09**	**8**	*e*P	Pn	16 37 49.2	+6.6
WSI	**Waingapu**	**9.11**	**202**	P	Pn	16 37 47.0	+4.2
BBKI	**Banjar Baru**	**9.20**	**256**	P	**Pn**	**16 37 45.2**	**+1.2**
	101nm,1.1s,2µm						
WBSI	**Waikabubak, Su**	**9.46**	**207**	P	**Pn**	**16 37 49.5**	**+1.8**
	294nm,0.9s,3µm						
KKM	**Kota Kinabalu**	**10.41**	**314**	*e*Pn	Pn	16 38 04.7	+4.0
KKM				*e*Sn	**Sn**	**16 39 53.5**	**-3.1**
RKPI	**Ransiki, Papua**	**10.42**	**92**	P	Pn	16 38 05.6	+4.8
	346nm,0.8s,5µm						
ABJI	**Asem Bagus**	**11.55**	**235**	P	**Pn**	**16 38 17.6**	**+1.4**
BLJI	**Banyuglugur**	**12.05**	**237**	P	**Pn**	**16 38 24.1**	**+1.0**
SBUM	**Sibu**	**12.09**	**287**	*e*Pn	P	16 38 31.6	-4.6
STKI	**Sintang**	**12.35**	**276**	P	**Pn**	**16 38 28.4**	**+1.2**
TBJI	**Tambak Boyo**	**13.13**	**244**	P	**Pn**	**16 38 38.8**	**+0.9**
KSM	**Kuching**	**13.71**	**281**	*e*Pn	**Pn**	**16 38 46.7**	**+0.9**
PWJI	**Pagerwojo**	**13.71**	**240**	P	Pn	16 38 50.0	+4.1
SMRI	**Semarang**	**14.50**	**246**	P	**P**	**16 39 05.8**	**+2.8**
SMRI	**Semarang**	**14.50**	**246**	*e*Pn	**Pn**	**16 38 54.5**	**-2.1**
TPI	**Tanjungpandan**	**16.17**	**264**	P	P	16 39 31.1	+10
GENI	**Genyem**	**16.46**	**95**	P	**P**	**16 39 27.9**	**+3.2**
CMJI	**Cimerak**	**16.61**	**246**	P	**Pn**	**16 39 24.1**	**0.0**
LEM	**Lembang**	**17.05**	**250**	P	**Pn**	**16 39 30.9**	**+1.1**
	108nm,1.6s						
LEM	**Lembang**	**17.05**	**250**	P	**P**	**16 39 31.2**	**-0.2**
	0.8nm,0.3s,baz=0.7,slow=20,SNR=7.7						
CISI	**Cisompet, Garu**	**17.11**	**248**	*e*Pn	**Pn**	**16 39 28.3**	**-2.2**
PPBI	**Pangkal Pinang**	**17.64**	**267**	P	**P**	**16 39 38.1**	**+0.2**
CBJI	**Citeko**	**17.65**	**252**	P	**Pn**	**16 39 36.9**	**-0.3**
CGJI	**Cibinong**	**18.81**	**253**	P	Pn	16 39 59.8	+8.4
SZP	**Santa**	**18.90**	**350**	*e*P	**P**	**16 39 51.4**	**-0.2**
	84nm,0.9s						
SZP				*e*Sn	**S**	**16 43 25.7**	**+0.8**
BLSI	**Bandar Lampung**	**18.94**	**257**	P	Pn	16 40 01.6	+8.6
PMBI	**Palembang**	**19.06**	**264**	P	Pn	16 40 09.0	+15
KLI	**Kotabumi**	**19.23**	**259**	P	Pn	16 40 08.4	+12
KLSI		**19.32**	**259**	P	Pn	16 40 04.0	+6.5
KASI	**Kota Agung**	**19.70**	**257**	P	**Pn**	**16 40 03.4**	**+1.3**
MDSI	**Maura Dua**	**19.83**	**260**	P	**P**	**16 40 03.0**	**+1.1**
	81nm,0.8s,949nm						
LWLI	**Liwa**	**20.04**	**259**	P	Pn	16 40 12.3	+6.1
JMBI	**JAMBI**	**20.12**	**268**	P	Pn	16 40 15.3	+8.3
MYKOM	**Kota Tinggi**	**20.13**	**278**	*e*P	**P**	**16 40 05.9**	**+0.8**
	60nm,1.1s						
LHSI	**Lahat**	**20.39**	**262**	P	Pn	16 40 19.3	+9.1
WRAB	**Tennant Creek**	**21.32**	**152**	P	**P**	**16 40 18.2**	**+0.2**
	668nm,1.1s,SNR=47						
WRAB	**Tennant Creek**	**21.32**	**152***c*	*i*P	**P**	**16 40 17.8**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,604nm,1.7s						
WRAB	**Tennant Creek**	**21.32**	**152**	*e*P	**P**	**16 40 18.1**	**0.0**
	comp=Z,265nm,1.4s						
WRA	**Warramunga Arr**	**21.33**	**152**	P	**P**	**16 40 17.1**	**-1.0**
	comp=Z,63nm,0.9s,baz=331,slow=10,SNR=146						
WRA				S	**S**	**16 44 15.1**	**+1.4**
	comp=Z,11nm,1.3s,baz=322,slow=17,SNR=5.3						
SDSI	**Sungai Dareh**	**22.33**	**270**	P	P	16 40 38.5	+10
BKNI	**Bangkinang**	**22.77**	**274**	P	P	16 40 42.6	+9.0
BKNI	**Bangkinang**	**22.77**	**274**	*e*P	**P**	**16 40 34.7**	**+1.1**
	comp=Z,61nm,0.4s						
COEN	**Coen**	**23.02**	**124**	*e*P	**P**	**16 40 36.5**	**+0.4**
	comp=Z,60nm,1.0s						
IPM	**Ipoh**	**23.40**	**284**	*e*P	**P**	**16 40 39.5**	**-0.6**
	comp=Z,44nm,0.7s						
KULM	**Kulim**	**23.96**	**286**	*e*P	**P**	**16 40 46.1**	**+0.7**
	comp=Z,66nm,1.0s						
TWG	**Pinlang**	**24.00**	**354**	P	**P**	**16 40 47.3**	**+1.7**
MNSI	**Mandailing Nat**	**24.26**	**275**	P	**P**	**16 40 52.2**	**+4.0**
QIZ	**Qiongzhong**	**24.30**	**326**	*e*P	**P**	**16 40 45.0**	**-3.4**
	comp=Z,52nm,1.2s						
AS31	**Alice Springs**	**24.42**	**157**	*e*P	**P**	**16 40 49.6**	**0.0**
AS31				*e*PcP	**PcP**	**16 44 27.7**	**-0.7**
ASAR	**Alice Springs**	**24.42

	comp=E,320nm,12.6s										
WHN					LR	LR					
	comp=Z,910nm,20.6s										
KMI	**Kunming**	**33.14**	**324**		P	P	16 42 12.9	+5.4			
KMI					pP	pP	16 42 20.0	+4.4			
KMI					sP	sP	16 42 24.5	+5.5			
KMI					S	**S**	**16 47 27.3**	**+1.7**			
KMI					sS	sS	16 47 41.3	+2.3			
KMI					PMZ						
	comp=Z,9.0nm,0.9s										
KMI					LN						
	comp=Z,250nm,17.0s										
KMI					LE						
	comp=Z,230nm,18.3s										
KMI					LZ						
	comp=Z,330nm,27.4s										
CBIJ	**Chichi jima**	**33.24**	**31**	*e*P	**P**		**16 42 06.2**	**-1.9**			
	comp=Z,75nm,0.6s										
JCJ	**Chichijima**	**33.24**	**31**	P	**P**		**16 42 09.1**	**+1.0**			
	comp=Z,24nm,0.4s,baz=284,slow=17,SNR=7.6										
JCJ					LR	LR	16 53 47.0				
	comp=Z,162nm,19.6s,baz=248,slow=33										
NJ2	**Nanjing**	**33.38**	**352**	*e*P	**P**		**16 42 10.1**	**+0.9**			
NJ2					S	S	16 47 34.5	+5.9			
NJ2					PMZ						
	comp=Z,40nm,0.9s										
NJ2					PMZ						
	comp=Z,120nm,8.0s										
NJ2					LN						
	comp=Z,630nm,19.2s										
NJ2					LE						
	comp=Z,590nm,18.7s										
NJ2					LZ						
	comp=Z,630nm,19.4s										
ENH	**Enshi**	**34.11**	**338**	*e*P	**P**		**16 42 17.2**	**+1.5**			
	comp=Z,19nm,0.8s										
JNU	**Nakatsue**	**34.77**	**11**	P	**P**		**16 42 22.6**	**+1.3**			
	comp=Z,7.5nm,0.8s,baz=0.0,slow=20										
STKA	**Stephens Creek**	**34.87**	**153**	P	**P**		**16 42 22.6**	**+0.5**			
	comp=Z,51nm,0.9s,baz=325,slow=8.2,SNR=44										
STKA					LR	LR	16 58 28.3				
	comp=Z,353nm,18.0s,baz=317,slow=40										
STKA	**Stephens Creek**	**34.87**	**153**	*e*P	**P**		**16 42 22.1**	**0.0**			
STKA	**Stephens Creek**	**34.87**	**153**	*e*P	**P**		**16 42 22.1**	**0.0**			
	comp=Z,14nm,1.0s										
HNR	**Honiara**	**36.92**	**104**	*e*P	**P**		**16 42 41.1**	**+1.1**			
HNR	**Honiara**	**36.92**	**104**	*e*P	**P**		**16 42 41.1**	**+1.1**			
CD2	**Chengdu**	**37.16**	**331**	*e*P	**P**		**16 42 42.3**	**+0.5**			
CD2					pP	**pP**	**16 42 54.4**	**+4.4**			
CD2					PP	**PnPn**	**16 44 07.9**	**+0.5**			
CD2					PcP	**PcP**	**16 45 00.9**	**-0.8**			
CD2					S	**S**	**16 48 27.1**	**+0.3**			
CD2					sS	**ScP**	**16 48 48.0**	**+0.9**			
CD2					PMZ						
	comp=Z,40nm,0.7s										
CD2					PMZ						
	comp=Z,120nm,5.0s										
CD2					LN						
	comp=Z,350nm,16.6s										
CD2					LE						
	comp=Z,320nm,19.6s										
CD2					LZ						
	comp=Z,450nm,14.8s										
XAN	**Xi'an**	**37.71**	**340**	P	**P**		**16 42 46.6**	**+0.1**			
XAN					pP	pP	16 43 00.8	+6.1			
XAN					S	**S**	**16 48 38.8**	**+3.6**			
XAN					PMZ						
	comp=Z,3.0nm,0.7s										
XAN					PMZ						
	comp=Z,16nm,6.0s										
XAN					LN						
	comp=Z,320nm,19.4s										
XAN					LZ						
	comp=Z,140nm,21.4s										
TIA	**Tai'an**	**37.71**	**351**	*e*P	P		16 42 50.6	+4.2			
KSAR	**Wonju Array Be**	**38.62**	**5**	P	**P**		**16 42 53.5**	**-0.5**			
KSAR	**Wonju Array Be**	**38.62**	**5**	P	**P**		**16 42 53.5**	**-0.5**			
KSRS	**Korea Array**	**38.63**	**5**	P	**P**		**16 42 53.5**	**-0.6**			
	comp=Z,3.5nm,0.7s,baz=188,slow=9.6,SNR=19										
KSRS	**Korea Array**	**38.63**	**5**	P	**P**		**16 42 53.5**	**-0.6**			
KSRS					pmax	pmax					
	comp=Z,4.0nm,0.7s										
KS01	**Wonju Array Si**	**38.65**	**5**	*e*P	**P**		**16 42 56.2**	**+1.9**			
MJAR	**Matsushiro Arr**	**39.86**	**18**	P	**P**		**16 43 03.4**	**-1.0**			
	comp=Z,3.4nm,0.7s,baz=192,slow=9.6,SNR=14										
MJAR					LR	LR	16 57 55.2				
	comp=Z,187nm,22.0s,baz=220,slow=34										
MAJO	**Matsushiro**	**39.87**	**18**	*e*P	**P**		**16 43 02.7**	**-1.8**			
MAJO	**Matsushiro**	**39.87**	**18**	*e*P	**P**		**16 43 02.7**	**-1.8**			
MAT	**Matsushiro**	**39.87**	**18**	P	**P**		**16 43 02.9**	**-1.6**			
MAT					S	S	16 49 14.8	+7.2			
SHL	**Shillong**	**40.71**	**313**	*e*P	P		16 43 20.0	+8.2			
LZH	**Lanzhou**	**41.46**	**335**	*e*P	P		16 43 25.3	+7.5			
LZH					pP	pP	16 43 32.3	+6.2			
LZH					sP	sP	16 43 34.9	+5.4			
LZH					PP	**PnPn**	**16 44 58.1**	**-0.7**			
LZH					S	S	16 49 43.1	+11			
LZH					sS	sS	16 49 59.0	+14			
LZH					SS	**SS**	**16 52 32.3**	**-4.4**			
LZH					pmax	pmax					
	comp=Z,50nm,1.3s										
LZH					pmax	pmax					
	comp=Z,140nm,4.4s										
LZH					LR	LR					
	comp=N,570nm,13.9s										
LZH					LR	LR					
	comp=E,690nm,15.0s										
LZH					LR	LR					
	comp=Z,770nm,16.2s										
BJI	**Beijing**	**41.61**	**351**	P	P		16 43 23.6	+4.9			
BJI					PP	**PP**	**16 44 56.1**	**+0.8**			
BJI					S	S	16 49 40.8	+7.5			
BJI					SS	**SS**	**16 52 38.1**	**-1.0**			
BJI					PMZ						
	comp=Z,14nm,1.2s										
BJI					LN						
	comp=Z,250nm,25.6s										
BJI					LE						
	comp=Z,130nm,22.5s										
BJI					LZ						
	comp=Z,180nm,24.5s										
HHC	**Hu-ho-hao-te**	**43.28**	**346**	*e*P	**P**		**16 43 33.1**	**+0.6**			
HHC					PP	**PcP**	**16 45 19.3**	**-2.0**			
HHC					S	**S**	**16 50 03.3**	**+5.0**			
HHC					sS	**sS**	**16 50 13.3**	**+1.3**			
HHC					SS	**SS**	**16 53 10.6**	**-1.8**			
HHC					ScS	**ScS**	**16 53 32.3**	**+1.3**			
HHC					PMZ						
	comp=Z,19nm,1.1s										
HHC					PMZ						
	comp=Z,73nm,6.4s										
HHC					LZ						
	comp=Z,2µm,14.9s										
LSA	**Lhasa**	**43.73**	**317**	P	**P**		**16 43 36.8**	**+0.1**			
LSA	**Lhasa**	**43.73**	**317**	*e*P	**P**		**16 43 37.3**	**+0.6**			
LSA					pmax	pmax					
	comp=Z,11nm,0.8s										
LSA	**Lhasa**	**43.73**	**317**	*e*P	**P**		**16 43 37.3**	**+0.6**			
	comp=Z,11nm,0.8s										
VLA	**Vladivostok**	**44.70**	**8**⇑	*e*P	**P**		**16 43 42.5**	**-1.2**			
VLA				*e*			16 45 23.7				
VLA				*i*			16 45 26.2				
VLA				*e*S	**S**		**16 50 16.1**	**-2.5**			
VLA				pmax	pmax						
	comp=Z,9.0nm,1.2s										
ODAN	**Odare**	**44.77**	**311**	*e*P	P		16 43 49.0	+4.2			
	comp=Z,30nm,0.8s										
TAPN	**Taplejung**	**44.80**	**312**	*e*P	P		16 43 48.3	+3.2			
	comp=Z,42nm,0.9s										
CN2	**Changchun**	**44.81**	**2**	*e*P	**P**		**16 43 46.4**	**+1.8**			
CN2				*e*pP	**pP**		**16 43 52.4**	**-0.5**			
CN2				*e*S	**S**		**16 50 23.5**	**+3.3**			
CN2				*e*sS	**sS**		**16 50 33.4**	**-0.5**			
CN2				*e*SS	**ScS**		**16 53 36.6**	**-3.7**			
CN2				LN							
	comp=Z,160nm,19.0s										
CN2				LE							
	comp=Z,130nm,19.0s										
CN2				LZ							
	comp=Z,180nm,20.0s										
RAMN	**Ramite**	**45.41**	**311**	*e*P	P		16 43 53.9	+3.9			
	comp=Z,48nm,0.6s										
USRK	**Usuriysk Ar.**	**45.77**	**8**	P	**P**		**16 43 52.0**	**-0.2**			
	comp=Z,3.8nm,0.8s,baz=173,slow=7.2,SNR=8.5										
MDJ	**Mudanjiang**	**45.89**	**6**	P	P		16 43 56.4	+3.3			
MDJ					pP	pP	16 44 07.9	+6.4			
MDJ					sP	sP	16 44 12.8	+7.9			
MDJ					PP	**PP**	**16 45 43.6**	**+2.5**			
MDJ					S	**S**	**16 50 37.0**	**+1.2**			
MDJ					sS	sS	16 50 56.9	+7.3			
MDJ					PMZ						
	comp=Z,6.0nm,0.7s										
MDJ					PMZ						
	comp=Z,51nm,4.5s										
MDJ					LN						
	comp=Z,160nm,23.7s										
MDJ					LE						
	comp=Z,130nm,22.6s										
MDJ					LZ						
	comp=Z,270nm,20.4s										
MDJ	**Mudanjiang**	**45.89**	**6**	*e*P	**P**		**16 43 53.0**	**-0.1**			
	comp=Z,18nm,0.9s										
GTA	**Gaotai**	**45.98**	**334**	*e*P	**P**		**16 43 54.8**	**+0.7**			
GTA					pP	**pP**	**16 44 01.8**	**-0.7**			
GTA					sP	**sP**	**16 44 04.6**	**-1.2**			
GTA					PcP	**PcP**	**16 45 31.1**	**+0.5**			
GTA					S	**S**	**16 50 38.3**	**+0.8**			
GTA					SS	**ScS**	**16 53 55.0**	**+6.7**			
GTA					PMZ						
	comp=Z,10.0nm,1.1s										
GTA					PMZ						
	comp=Z,31nm,4.5s										
GTA					LN						
	comp=Z,210nm,20.9s										
GTA					LE						
	comp=Z,220nm,20.9s										
GTA					LZ						
	comp=Z,280nm,20.0s										
GUN	**Gumba**	**46.46**	**311**	*e*P	**P**		**16 43 58.9**	**+0.5**			
	comp=Z,101nm,1.0s										
PKI	**Pulchoki**	**46.64**	**311**	*e*P	**P**		**16 44 00.9**	**+1.2**			
	comp=Z,16nm,0.8s										
PKIN	**Phulchoki**	**46.65**	**311**	*e*P	**P**		**16 44 01.4**	**+1.6**			
	comp=Z,15nm,0.8s										
KKN	**Kakani**	**46.85**	**311**	*e*P	**P**		**16 44 02.6**	**+1.3**			
	comp=Z,27nm,0.9s										
DMN	**Daman**	**46.89**	**311**	*e*P	**P**		**16 44 03.5**	**+1.9**			
	comp=Z,20nm,0.7s										
KOLN	**Koldanda**	**48.12**	**310**	*e*P	**P**		**16 44 10.2**	**-0.9**			
	comp=Z,35nm,0.6s										
ASAJ	**Asahikawa**	**48.14**	**18**	*e*P	**P**		**16 44 08.4**	**-2.2**			
	comp=Z,32nm,1.0s										
HIA	**Hailar**	**50.37**	**357**	*e*P	**P**		**16 44 27.0**	**-0.7**			
HIA	**Hailar**	**50.37**	**357**	*e*P	**P**		**16 44 27.0**	**-0.7**			
KLR	**Kul'dur**	**50.69**	**7**	*e*P	**P**		**16 44 29.8**	**-0.3**			
YSS	**Yuzh-Sakhalins**	**50.75**	**17**	*e*P	**P**		**16 44 28.8**	**-1.8**			
YSS					pmax	pmax					
	comp=Z,48nm,1.2s										
YSS	**Yuzh-Sakhalins**	**50.75**	**17**	*e*P	**P**		**16 44 28.8**	**-1.8**			
	comp=Z,48nm,1.2s										
SONM	**Songino Array**	**51.11**	**345**	P	**P**		**16 44 32.3**	**-1.2**			
	comp=Z,4.9nm,0.7s,baz=160,slow=8.6,SNR=29										
SONM					LR	LR	17 07 00.7				
	comp=Z,175nm,21.7s,baz=156,slow=37										
SONA1	**Songino Array**	**51.12**	**345**	*e*P	**P**		**16 44 33.2**	**-0.4**			
ZAK	**Zakamensk**	**54.28**	**344**	*e*P	**P**		**16 44 56.7**	**-0.1**			
ZAK					pmax	pmax					
	comp=Z,4.0nm,1.3s										
WMQ	**Urumqi**	**55.19**	**329**	P	**P**		**16 45 03.9**	**+0.4**			
WMQ					pP	**pP**	**16 45 10.0**	**-2.1**			
WMQ					PcP	**PcP**	**16 46 03.8**	**-0.6**			
WMQ					PP	**PP**	**16 47 08.3**	**+1.1**			
WMQ					PcS	**PcS**	**16 50 04.5**	**+0.2**			
WMQ					ScS	ScS	16 54 48.5	-2.6			
WMQ					SS	**SS**	**16 56 27.4**	**-2.4**			
WMQ					PMZ						
	comp=Z,18nm,0.4s										
WMQ					PMZ						
	comp=Z,38nm,4.3s										
WMQ					LN						
	comp=Z,160nm,17.5s										
WMQ					LE						
	comp=Z,110nm,18.2s										
WMQ					LZ						
	comp=Z,160nm,23.0s										
TLY	**Talaya**	**55.36**	**345**	*e*P	**P**		**16 45 04.2**	**-0.3**			
TLY					pmax	pmax					
	comp=Z,6.0nm,0.7s										
TLY	**Talaya**	**55.36**	**345**	*e*P	**P**		**16 45 04.2**	**-0.3**			
	comp=Z,5.8nm,0.7s										
MOY	**Mondy**	**56.07**	**343**	*e*P	**P**		**16 45 10.8**	**+1.0**			
MOY					pmax	pmax					
	comp=Z,18nm,1.4s										
BOD	**Bodaibo**	**59.34**	**354**	*e*P	**P**		**16 45 33.0**	**+0.6**			
BOD					pmax	pmax					
	comp=Z,11nm,1.1s										
PDGK	**Podgornoye**	**59.45**	**324**	P	**P**		**16 45 32.1**	**-1.3**			
PDGK					pmax	pmax					
	comp=Z,17nm,1.4s										
KSH	**Kashi**	**59.56**	**318**	P	**P**		**16 45 35.1**	**+0.6**			
KSH					PcS	**PcS**	**16 50 26.6**	**+2.7**			
KSH					S	**S**	**16 53 46.0**	**+3.0**			
KSH					sS	**sS**	**16 53 58.5**	**+1.4**			
KSH					SS	**SS**	**16 57 39.8**	**+1.0**			
KSH					PMZ						
	comp=Z,13nm,1.0s										
KSH					PMZ						
	comp=Z,100nm,4.3s										
KSH					LN						
	comp=Z,83nm,5.2s										
KSH					LE						
	comp=Z,80nm,5.0s										
KSH					LZ						
	comp=Z,140nm,5.2s										
RPZ	**Rata Peaks**	**59.62**	**142**	*e*P	**P**		**16 45 35.8**	**+1.1**			
	comp=Z,88nm,1.1s										
MK01	**Makanchi Array**	**59.99**	**328**	*e*P	**P**		**16 45 35.3**	**-1.9**			
MK31	**Makanchi Array**	**60.01**	**328**	*e*P	**P**		**16 45 34.9**	**-2.4**			
MK31	**Makanchi Array**	**60.01**	**328**	*e*P	**P**		**16 45 34.9**	**-2.4**			
MKAR	**Makanchi Array**	**60.01**	**328**	P	**P**		**16 45 35.9**	**-1.4**			
	comp=Z,2.2nm,0.5s,baz=128,slow=9.1,SNR=29										
MKAR					LR		17 13 07.7				
	comp=Z,145nm,20.3s,baz=120,slow=38										
MKAR	**Makanchi Array**	**60.01**	**328**	*e*P	**P**		**16 45 35.8**	**-1.6**			
MKAR	**Makanchi Array**	**60.01**	**328**	*e*P	**P**		**16 45 35.8**	**-1.6**			
PEA0	**Petropavlovsk-**	**61.07**	**23**	*e*P	**P**		**16 45 46.9**	**+2.4**			
PETK	**Petropavlovsk-**	**61.07**	**23**	P	**P**		**16 45 44.5**	**+0.1**			
	comp=Z,4.3nm,0.8s,baz=206,slow=6.4,SNR=5.9										
PETK					LR	LR	17 12 10.4				
	comp=Z,48nm,20.4s,baz=224,slow=36										
BKZ	**Black Stump Fm**	**61.08**	**135**	*e*P	**P**		**16 45 46.0**	**+1.1**			
	comp=Z,22nm,0.8s										
URZ	**Urewera**	**61.15**	**134**	P	**P**		**16 45 45.9**	**+0.6**			
	comp=Z,10nm,0.7s,baz=339,slow=3.2										
URZ	**Urewera**	**61.15**	**134**	*e*P	**P**		**16 45 45.8**	**+0.5**			
	comp=Z,45nm,1.5s										
PET	**Petropavlovsk**	**61.38**	**23**	*e*P	P		16 45 53.5	+7.1			
PET				*e*S	**S**		**16 54 01.6**	**-3.8**			
PET				pmax	pmax						
	comp=Z,41nm,1.3s										
PET				pmax	pmax						
	comp=Z,100nm,15.7s										
PET	**Petropavlovsk**	**61.38**	**23**	*e*P	**P**		**16 45 45.9**	**-0.5**			
SFK	**Sufi-Kurgan**	**61.46**	**318**	P	**P**		**16 45 46.6**	**-1.0**			
SFK					pmax	pmax					
	comp=Z,4.0nm,0.6s										
TKM2	**Tokmak 2**	**61.58**	**322**	*e*P	**P**		**16 45 46.3**	**-2.0**			
TKM2					pmax	pmax					
	comp=Z,9.0nm,1.1s										
TKM2	**Tokmak 2**	**61.58**	**322**	*e*P	**P**		**16 45 46.3**	**-2.0**			
	comp=Z,9.0nm,1.1s										
KBL	**Kabul**	**62.28**	**310**	*e*P	P		16 45 57.1	+3.9			
KBL	**Kabul**	**62.28**	**310**	*e*P	P		16 45 57.1	+3.9			
EKS2	**Erkin-Say**	**62.59**	**320**	*e*P	**P**		**16 45 54.3**	**-0.8**			
EKS2					pmax	pmax					
	comp=Z,7.0nm,1.0s										
EKS2	**Erkin-Say**	**62.59**	**320**	*e*P	**P**		**16 45 54.2**	**-0.8**			
	comp=Z,7.4nm,1.0s										
YAK	**Yakutsk**	**63.21**	**3**	P	**P**		**16 45 58.1**	**-0.4**			
	comp=Z,0.7nm,0.3s,baz=192,slow=18,SNR=5.0										
YAK	**Yakutsk**	**63.21**	**3**	*e*P	**P**		**16 45 59.2**	**+0.7**			
YAK				*e*			16 46 33.7				
YAK				*e*			16 48 19.0				
YAK				*e*PPP	PPP		16 49 46.3				
YAK				*e*S	**S**		**16 54 24.1**	**-4.0**			
YAK				*e*			16 55 44.1				
YAK				*e*SS	**SS**		**16 58 33.3**	**-1.4**			
YAK				pmax	pmax						
	comp=Z,34nm,1.0s										
YAK				pmax	pmax						
	comp=N,15nm,1.1s										
YAK				pmax	pmax						
	comp=Z,57nm,4.1s										
YAK				pmax	pmax						
	comp=N,38nm,3.9s										
YAK				pmax	pmax						
	comp=E,39nm,4.3s										
YAK				smax	smax						
	comp=N,16nm,2.1s										
YAK				smax	smax						
	comp=E,5.0nm,1.5s										
YAK	**Yakutsk**	**63.21**	**3**	*e*P	**P**		**16 45 57.6**	**-0.9**			
	comp=E,65nm,0.8s										
ZAA0	**Zalesovo Array**	**63.70**	**336**	*e*P	P		16 45 58.5	-3.4			
ZALV	**Zalesovo Beam**	**63.70**	**336**	P	**P**		**16 46 00.8**	**-1.2**			
	comp=E,1.1nm,0.5s,baz=120,slow=5.8,SNR=5.4										
ZALV					LR	LR	17 15 24.6				
	comp=E,170nm,21.3s,baz=70,slow=38										
KURK	**Kurchatov**	**64.37**	**330**	P	**P**		**16 46 04.0**	**-2.5**			
KURK					pmax	pmax					
	comp=Z,7.0nm,1.0s										
KURK	**Kurchatov**	**64.37**	**330**	*e*P	P		16 46 01.9	-4.6			
	comp=Z,20nm,1.2s										
KKAR	**Karatay Array**	**64.90**	**320**	*e*P	**P**		**16 46 08.3**	**-1.9**			
KKAR					pmax	pmax					
	comp=Z,5.0nm,1.0s										
KKAR	**Karatay Array**	**64.90**	**320**	*e*P	**P**		**16 46 08.3**	**-1.9**			
	comp=Z,4.7nm,1.0s										
NVS	**Novosibirsk**	**64.98**	**335**	*e*P	**P**		**16 46 09.2**	**-1.1**			
NVS					pmax	pmax					
	comp=Z,10.0nm,1.0s										
NVS					pmax	pmax					
	comp=N,5.0nm,1.1s										
NVS					pmax	pmax					
	comp=E,6.0nm,1.0s										
CASY	**Casey**	**65.64**	**186**	*e*P	**P**		**16 46 13.6**	**-0.8**			
	comp=E,13nm,1.0s										
SEY	**Seymchan**	**67.46**	**14**	P	**P**		**16 46 24.2**	**-1.9**			
	comp=E,3.0nm,0.9s,baz=198,slow=18,SNR=2.8										
BVA0	**Borovoye Array**	**69.88**	**329**	*i* P	**P**		**16 46 40.1**	**-1.3**			
BVA0					pmax	pmax					
	comp=Z,5.0nm,0.9s										
BRVK	**Borovoye**	**69.95**	**329**	*ce*P	**P**		**16 46 40.7**	**-1.1**			
BRVK					pmax	pmax					
	comp=Z,4.0nm,1.7s										
BRVK	**Borovoye**	**69.95**	**329**	P	**P**		**16 46 39.1**	**-2.7**			
TIXI	**Tiksi**	**72.78**	**2**	*ce*P	**P**		**16 46 57.1**	**-1.5**			
TIXI					pmax	pmax					
	comp=Z,19nm,2.5s										
TIXI	**Tiksi**	**72.78**	**2**	*e*P	**P**		**16 46 57.3**	**-1.3**			
	comp=Z,23nm,1.1s										
AB31	**Akbulak array**	**74.12**	**322**	P	P		16 47 12.3	+5.4			
ABKAR	**Akbulak array**	**74.12**	**322**	*e*P	**P**		**16 47 05.8**	**-1.1**			
	comp=Z,1.2nm,0.5s										
AKTO	**Aktyubinsk**	**75.70**	**323**	P	**P**		**16 47 14.0**	**-2.1**			
AKTO					pmax	pmax					
	comp=Z,5.0nm,1.1s										
SVE	**Sverdlovsk**	**76.62**	**330**	*e*P	P		16 47 26.2	+5.1			
SVE					pmax	pmax					
	comp=Z,23nm,1.2s										
ARU	**Arti**	**77.53**	**329**	*d* iP	P		16 47 30.7	+4.5			
ARU							16 50 19.7				
ARU					S	S	16 57 26.4	+11			
ARU					pmax	pmax					
	comp=Z,8.0nm,1.2s										
ARU	**Arti**	**77.53**	**329**	*e*P	**P**		**16 47 23.5**	**-2.7**			
MAW	**Mawson**	**78.15**	**200**	P	**P**		**16 47 29.9**	**+0.5**			
	comp=Z,15nm,1.0s,baz=55,slow=7.7,SNR=18										
MAW					LR	LR	17 17 16.9				
	comp=Z,93nm,22.0s,baz=60,slow=32										
MAW	**Mawson**	**78.15**	**200**	*e*P	**P**		**16 47 29.4**	**-0.1**			
MAW					pmax	pmax					
	comp=Z,8.0nm,1.3s										
MAW	**Mawson**	**78.15**	**200**	*e*P	**P**		**16 47 29.4**	**-0.1**			
	comp=Z,7.5nm,1.3s										
VNDA	**Vanda**	**78.98**	**172**	P	**P**		**16 47 34.1**	**+0.2**			
	comp=Z,3.9nm,0.7s,baz=317,slow=5.8,SNR=26										
VNDA					LR	LR	17 21 36.9				
	comp=Z,309nm,19.8s,baz=336,slow=35										
VNDA	**Vanda**	**78.98**	**172**	*e*P	**P**		**16 47 33.7**	**-0.2**			
VNDA					pmax	pmax					
	comp=Z,5.0nm,0.8s										
VNDA	**Vanda**	**78.98**	**172**	*e*P	**P**		**16 47 33.7**	**-0.2**			
	comp=Z,4.9nm,0.8s										
SBA	**Scott Base**	**79.93**	**172**	*e*P	**P**		**16 47 39.8**	**+0.8**			
SBA					pmax	pmax					
	comp=Z,48nm,1.9s										
SBA	**Scott Base**	**79.93**	**172**	*e*P	**P**		**16 47 39.8**	**+0.8**			
	comp=Z,48nm,1.9s										
ZEI	**Tsey**	**83.36**	**313**	*e*P	**P**		**16 47 59.8**	**+1.7**			
ZEI					pmax	pmax					
	comp=Z,11nm,0.5s										
KBZ	**Khabaz**	**84.20**	**314**	P	**P**		**16 48 02.7**	**+0.6**			
	comp=Z,1.3nm,0.6s,baz=45,slow=4.3,SNR=3.2										
KBZ					LR	LR	17 31 01.5				
	comp=Z,41nm,20.8s,baz=66,slow=40										
KIV	**Kislovodsk**	**84.38**	**314**	*e*P	P		16 47 59.0	-4.2			
KIV				*e*			16 58 18.3				
KIV				pmax	pmax						
	comp=Z,4.0nm,0.9s										
VRHR	**Novokhopersk**	**85.97**	**321**	*e*P	**P**		**16 48 09.6**	**-1.2**			
VRHR					pmax	pmax					
	comp=N,10.0nm,0.6s										
VRHR					pmax	pmax					

comp=Z,200nm,24.0s
AKASG **Malin Array Be 93.79 321** LR LR 17 36 31.1
comp=Z,62nm,20.3s,baz=115,slow=39
ARCES **ARCESS Array B 93.99 340** P **P** **16 48 47.1 -1.2**
comp=Z,1.3nm,0.8s,baz=103,slow=5.4,SNR=4.8
SPITS **Spitsbergen Ar 94.68 349** P **P** **16 48 50.1 -1.2**
comp=Z,1.0nm,0.5s,baz=94,slow=7.6,SNR=8.6
FINES **FINESS Array B 94.71 331** P **P** **16 48 50.6 -1.0**
comp=Z,0.7nm,0.7s,baz=79,slow=7.2,SNR=2.8
FINES LR LR 17 34 30.5
comp=Z,75nm,21.5s,baz=90,slow=37
LSZ **Lusaka 95.07 255** *e*P **P** **16 48 53.9 -0.5**
LSZ pmax pmax
comp=Z,9.0nm,0.9s
LSZ **Lusaka 95.07 255** *e*P **P** **16 48 53.9 -0.5**
comp=Z,9.2nm,0.9s
INK **Inuvik 95.79 21** P **P** **16 48 57.0 +0.6**
comp=Z,3.0nm,0.2s,baz=238,slow=11,SNR=2.6
INK **Inuvik 95.79 21** P **P** **16 48 57.0 +0.6**
BUR04 **Bucovina Ar. S 96.64 318** *e*P **P** **16 48 58.2 -2.7**
BOSA **Boshof 96.91 241** LR LR 17 27 23.9
comp=Z,162nm,20.2s,baz=150,slow=32
KOLS **Kolonicke sedl 98.44 319** *e*P Pdif 16 49 09.3 +0.4
KOLS **Kolonicke sedl 98.44 319** PDIF Pdif 16 49 09.3 +0.4
SNAA **Sanae 99.74 195** P **Pdif** **16 49 13.5 -0.8**
SNAA **Sanae 99.74 195** P **Pdif** **16 49 13.4 -0.8**
SMOL **Smolenice 101.67 319** *e*P **Pdif** **16 49 24.1 +0.8**
SMOL **Smolenice 101.67 319** PDIF **Pdif** **16 49 24.0 +0.8**
GOPC **GO Pecny, Ondr 103.05 321** AMS AMS 17 39 30.0
comp=Z,100nm,22.6s
PRU **Pruhonice 103.18 321** AMS AMS 17 39 30.0
comp=Z,100nm,16.9s
KHC **Kasperske Hory 104.00 321** AMS AMS 17 40 00.0
comp=Z,100nm,24.1s
PDAR **Pinedale Array 116.98 42** PKKPab PKKPab 17 04 45.0 -0.8
comp=Z,1.0nm,0.8s,baz=98,slow=5.5,SNR=5.6
TOA0 **Torodi Ar. Sit 121.45 285** *e*PKPdf **PKPdf** **16 54 25.1 +0.1**
TORD **Torodi Ar. Bea 121.45 285** PKP **PKPdf** **16 54 24.9 -0.2**
comp=Z,1.9nm,0.8s,baz=75,slow=1.7,SNR=10
LPAZ **La Paz 159.04 146** PKP **PKPdf** **16 55 32.5 +2.0**
comp=Z,1.9nm,0.9s,baz=169,slow=2.5,SNR=4.7
LPAZ PKPab **PKPab** **16 56 08.0 +1.2**
comp=Z,1.7nm,0.7s,baz=157,slow=3.1,SNR=5.3
BDFB **Brasilia 161.41 206** PKPab **PKPab** **16 56 16.6 +0.1**
comp=Z,7.4nm,0.9s,baz=96,slow=3.8,SNR=6.9

IDC ***17*** *16:35:33.5±12.0, 51.1°N×179.6°E, h43km±9km, mb3.5/6, mb1 3.9/6, mb1mx3.4/47, mbtmp3.7/6, MS3.8/1, Ms1 3.8/1, ms1mx2.6/32, Error ellipse: s-maj=230.7km s-min=55.7km az=81.0*
ISCJB ***17*** *16:35:45.7±0.7, 51.3°N±0.0°9×177.4°45W±0.0°04, h45km, mb3.8/5, MS3.8/1, Error ellipse: s-maj=12.5km s-min=3.4km az=173.5*
NEIC ***17*** *16:35:45.0, 51.3°N×177.4°7W, h23km, mb4.2/1, ML3.9(AEIC), After AEIC.*
ISC 17 16:35:47.1±0.8, 51.5°N±0.1°×177.5°0W±0.0°03, h45km, n42, σ1s10/42, mb3.8/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TAFL	**Tanaga Flats**	**0.38**	**319**	P		P	**Pn**	**16 35 56.0**	**-0.5**
KIKV	**Kanaga Island**	**0.45**	**27**	P		P	**Pn**	**16 35 56.9**	**-0.6**
KICM	**Kanaga Island**	**0.48**	**23**	P		P	**Pn**	**16 35 57.5**	**-0.3**
TASE	**Tanaga Southea**	**0.49**	**317**	P		P	**Pn**	**16 35 57.8**	**-0.2**
KIRH	**Kanaga Island**	**0.49**	**30**	P		P	**Pn**	**16 35 57.5**	**-0.5**
TAFP	**Tanaga Falls P**	**0.52**	**325**	P		P	**Pn**	**16 35 57.8**	**-0.5**
TANO	**Tanaga North**	**0.59**	**319**	P		P	**Pn**	**16 35 59.0**	**-0.1**
ADAG	**Mount Adagdak**	**0.75**	**47**	P		P	**Pn**	**16 36 01.3**	**-0.1**
ETKA	**Kagalaska Isla**	**0.78**	**60**	P		P	**Pn**	**16 36 01.0**	**-0.8**
GAEA	**Gareloi East**	**0.84**	**292**	P		P	**Pn**	**16 36 02.2**	**-0.2**
GANE	**Gareloi Northe**	**0.87**	**294**	P		P	**Pn**	**16 36 02.6**	**-0.3**
GSCK	**Great Sitkin C**	**0.99**	**57**	P		P	**Pn**	**16 36 04.3**	**-0.3**
GSTD	**Great Sitkin T**	**1.02**	**55**	P		P	**Pn**	**16 36 04.6**	**-0.5**
GSTD				S		S	**Sn**	**16 36 19.0**	**+0.7**
GSMY	**Great Sitkin M**	**1.06**	**57**	P		P	**Pn**	**16 36 05.1**	**-0.4**
GSTR	**Great Sitkin T**	**1.09**	**55**	*e*Pn		P	**Pn**	**16 36 05.6**	**-0.3**
CERAA	**Semis' Rag'd T**	**1.81**	**285**	P		P	**Pn**	**16 36 15.5**	**-0.2**
CESW	**Semis' Southwe**	**1.88**	**284**	P		P	**Pn**	**16 36 16.3**	**-0.4**
CEAP	**Semis' Anvil P**	**1.89**	**287**	P		P	**Pn**	**16 36 16.8**	**-0.1**
AMKA	**Amchitka**	**2.01**	**268**	P		P	**Pn**	**16 36 17.9**	**-0.5**
AMKA				S		S	**Sn**	**16 36 44.5**	**+2.2**
ATKA	**Atka Island**	**2.17**	**69**	P		P	**Pn**	**16 36 20.7**	**0.0**
ATKA				S		S	**Sn**	**16 36 46.5**	**+0.1**
LSSE	**Little Sitkin**	**2.49**	**282**	P		P	**Pn**	**16 36 25.2**	**+0.2**
LSPA	**Little Sitkin**	**2.49**	**283**	P		P	**Pn**	**16 36 25.3**	**+0.2**
LSPA				S		S	**Sn**	**16 36 56.5**	**+2.3**
LSNW	**Little Sitkin**	**2.53**	**283**	P		P	**Pn**	**16 36 25.4**	**-0.2**
NIKH	**Nikolski High**	**5.52**	**71**	P		P	**Pn**	**16 37 07.5**	**+0.9**
NIKH				S		S	**Sn**	**16 38 10.7**	**+1.9**
OKTU	**Okmok Mt. Tuli**	**6.09**	**68**	P		P	**Pn**	**16 37 15.6**	**+1.1**
MREP	**Makushin Rep't**	**6.95**	**66**	P		P	**Pn**	**16 37 28.1**	**+1.8**
UNV	**Unalaska Valle**	**7.10**	**66**	P		P	**Pn**	**16 37 29.7**	**+1.5**
SPIA	**Saint Paul Isl**	**7.11**	**34**	P		P	**Pn**	**16 37 31.0**	**+2.6**
KDAK	**Kodiak Island**	**15.69**	**57**	*e*Pn		P	Pn	**16 39 21.7**	**-3.0**
	8.9nm,0.4s								
ILAR	**Eielson Array**	**20.66**	**38**	P		P	Pn	16 40 25.1	-0.3
	0.5nm,0.7s,baz=232,slow=10.0,SNR=4.9								
H11N2	**WAKE ISLAND Hy**	**33.97**	**207**	T		T	T	17 18 35.7	
	baz=18,slow=76,SNR=325								
H11N3	**WAKE ISLAND Hy**	**33.98**	**207**	T		T	T	17 18 58.5	
	baz=18,slow=76,SNR=282								
H11N1	**WAKE ISLAND Hy**	**33.99**	**207**	T		T	T	17 18 53.9	
	baz=18,slow=76,SNR=294								
YKA	**Yellowknife Ar**	**34.57**	**47**	P		P	**P**	**16 42 29.3**	**-1.7**
	0.4nm,0.7s,baz=293,slow=11,SNR=2.9								
H11S1	**WAKE ISLAND Hy**	**35.19**	**207**	T		T	T	17 20 23.9	
	baz=17,slow=76,SNR=187								
H11S2	**WAKE ISLAND Hy**	**35.21**	**207**	T		T	T	17 20 28.7	
	baz=17,slow=76,SNR=155								
H11S3	**WAKE ISLAND Hy**	**35.21**	**207**	T		T	T	17 20 30.9	
	baz=17,slow=76,SNR=157								
NEW	**Newport**	**38.08**	**70**	P		P	**P**	**16 43 01.8**	**+0.6**
	2.2nm,0.4s,baz=297,slow=5.8,SNR=3.5								
KSRS	**Korea Array**	**40.45**	**272**	LR		LR		16 57 51.9	
	comp=Z,156nm,21.5s,baz=188,slow=35								
NVAR	**Mina Array Bea**	**42.73**	**84**	P		P	**P**	**16 43 40.8**	**+0.9**
	0.4nm,0.6s,baz=312,slow=6.9,SNR=4.1								
NVAR				pP		pP	**pP**	**16 43 53.4**	**+1.2**
	0.6nm,0.6s,baz=297,slow=9.8,SNR=3.7								
PDAR	**Pinedale Array**	**45.50**	**73**	P		P	**P**	**16 44 02.3**	**+0.2**
	2.3nm,0.6s,baz=335,slow=4.3,SNR=15								
PDAR				pP		pP	**pP**	**16 44 13.4**	**-1.0**
	0.8nm,0.5s,baz=340,slow=5.0,SNR=4.1								
TXAR	**Lajitas Array**	**57.83**	**82**	P		P	**P**	**16 45 34.0**	**-0.1**
	0.7nm,0.9s,baz=292,slow=5.1,SNR=4.9								
TXAR				pP		pP	**pP**	**16 45 46.0**	**-0.8**
	0.5nm,0.7s,baz=292,slow=5.6,SNR=4.2								

IDC 17 16:41:40.4±5.1, 22.6°S×68.8°W, h0km, mb4.0/1, mb1 3.9/2, mb1mx3.5/27, mbtmp3.8/2, ML3.7/1, Error ellipse: s-maj=154.3km s-min=54.5km az=68.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.35**	**0**	Pn		Pn	Pn	16 43 15.9	-0.2
	0.8nm,0.3s,baz=160,slow=6.0,SNR=13								
TORD	**Torodi Ar. Bea**	**77.12**	**70**	P		P	P	16 53 36.4	+0.1
	1.0nm,0.8s,baz=249,slow=5.3,SNR=7.6								
MKAR	**Makanchi Array**	**146.16**	**37**	PKPbc		PKPdf		17 01 21.8	+0.1
	0.5nm,0.7s,baz=304,slow=3.1,SNR=6.1								

IDC 17 16:46:01.8±59.0, 17.4°S×177.1°W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/35, mbtmp3.9/3, Error ellipse: s-maj=1093.0km s-min=161.5km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.96**	**241**	P		P		16 53 37.8	-0.4
	3.5nm,1.2s,baz=72,slow=13,SNR=3.3								
WRA	**Warramunga Arr**	**45.95**	**259**	P		P		16 54 26.9	-0.1
	0.6nm,1.0s,baz=92,slow=8.2,SNR=7.0								
ASAR	**Alice Springs**	**46.13**	**254**	P		P		16 54 28.5	+0.1
	1.6nm,0.5s,baz=90,slow=7.8,SNR=56								

IDC ***17*** *17:17:09.7±0.9, 15.2°S×173.7°W, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.8/37, mbtmp4.0/6, MS3.4/7, Ms1 3.4/7, ms1mx3.1/21, Error ellipse: s-maj=41.4km s-min=24.0km az=133.0*
ISCJB ***17*** *17:17:12.6±0.9, 15.2°S±0.2°×173.8°W±0.2°, h30km, mb4.0/6, MS3.5/6, Error ellipse: s-maj=38.1km s-min=22.2km az=43.4*
ISC 17 17:17:14.4±1.0, 15.1°S±0.2°×173.8°W±0.3°, h30km, n18, σ0s59/7, mb4.0/6, MS3.4/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**14.55**	**195**	LR		LR	LR	17 25 30.9	
	comp=Z,162nm,18.3s,baz=102,slow=34								
H11S2	**WAKE ISLAND Hy**	**38.55**	**329**	T		T	T	18 05 20.8	
	baz=147,slow=76,SNR=7.0								
H11S3	**WAKE ISLAND Hy**	**38.57**	**329**	T		T	T	18 05 21.4	
	baz=147,slow=76,SNR=6.7								
H11S1	**WAKE ISLAND Hy**	**38.57**	**329**	T		T	T	18 05 30.1	
	baz=147,slow=76,SNR=6.3								
H11N3	**WAKE ISLAND Hy**	**39.51**	**331**	T		T	T	18 06 55.2	
	baz=150,slow=76,SNR=7.3								
H11N1	**WAKE ISLAND Hy**	**39.51**	**331**	T		T	T	18 07 08.1	
	baz=150,slow=76,SNR=7.6								
H11N2	**WAKE ISLAND Hy**	**39.52**	**331**	T		T	T	18 06 58.1	
	baz=150,slow=76,SNR=7.3								
WRA	**Warramunga Arr**	**49.54**	**257**	P		P	**P**	**17 26 02.6**	**-0.3**
	0.5nm,0.4s,baz=90,slow=6.8,SNR=19								
ASAR	**Alice Springs**	**49.83**	**252**	P		P	**P**	**17 26 05.3**	**+0.3**
	4.3nm,0.7s,baz=85,slow=8.1,SNR=73								
VNDA	**Vanda**	**63.59**	**186**	P		P	**P**	**17 27 41.2**	**-0.7**
	0.6nm,0.6s,baz=333,slow=4.8,SNR=5.8								
MJAR	**Matsushiro Ar**	**68.50**	**320**	LR		LR	LR	17 51 36.5	
	comp=Z,22nm,21.9s,baz=340,slow=30								
NVAR	**Mina Array Bea**	**74.39**	**42**	P		P	**P**	**17 28 50.1**	**+0.3**
	1.8nm,0.9s,baz=230,slow=9.5,SNR=8.9								
KSRS	**Korea Array**	**75.72**	**316**	LR		LR	LR	17 55 03.8	
	comp=Z,17nm,21.0s,baz=230,slow=30								
ILAR	**Eielson Array**	**82.27**	**11**	P		P	**P**	**17 29 32.1**	**-0.4**
	0.3nm,0.7s,baz=229,slow=7.1,SNR=5.5								
ILAR				LR		LR	LR	17 58 58.1	
	comp=Z,20nm,20.7s,baz=300,slow=30								
MAW	**Mawson**	**87.91**	**199**	P		P	**P**	**17 30 01.6**	**+0.8**
	0.9nm,0.4s,baz=180,slow=7.1,SNR=4.0								
MAW				LR		LR	LR	18 07 49.5	
	comp=Z,29nm,18.3s,baz=58,slow=35								
CMAR	**Chiang Mai Arr**	**92.18**	**288**	LR		LR	LR	18 13 49.4	
	comp=Z,9.7nm,18.1s,baz=170,slow=37								
SONM	**Songino Array**	**94.41**	**318**	LR		LR	LR	18 06 56.6	
	comp=Z,20nm,21.8s,baz=190,slow=32								
BRTR	**Keskin Array B**	**145.72**	**321**	PKPbc		**PKPab**		**17 36 51.2**	**0.0**
	1.2nm,0.9s,baz=101,slow=3.9,SNR=5.2								

IDC 17 17:25:39.7±3.4, 5.8°S×150.7°E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.3/30, mbtmp3.5/2, Error ellipse: s-maj=130.1km s-min=46.3km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.18**	**227**	P		P		17 30 26.9	-0.1
	2.0nm,0.8s,baz=52,slow=11,SNR=12								
ASAR	**Alice Springs**	**23.97**	**221**	P		P		17 30 55.9	-0.2
	0.8nm,0.5s,baz=57,slow=8.9,SNR=29								
TORD	**Torodi Ar. Bea**	**148.62**	**286**	PKPbc		PKPbc		17 45 29.4	-0.4
	0.4nm,0.5s,baz=60,slow=2.1,SNR=4.9								

ISCJB ***17*** *17:33:02.1±0.4, 32.7°N±0.0°3×115.9°W±0.0°3, h12km±3km, Error ellipse: s-maj=5.1km s-min=3.7km az=171.3*
NEIC ***17*** *17:33:02.4, 32.7°N×115.9°W, h0km, ML2.8(PAS), After PAS.*
ECX ***17*** *17:33:03.2±0.6, 32.6°8N×115.9°2W, h3km, MD2.5, ML2.7*
MEX ***17*** *17:33:04.8±0.6, 32.8°9N×116.0°4W, h16km±18km, MD3.5*
ISC 17 17:33:03.1±0.9, 32.7°0N±0.0°3×115.9°3W±0.0°2, h10km±6km, n26, σ1s13/45, 9C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.05**	**172**	⇓*i*P		**Pg**		**17 33 04.4**	**-0.7**
RMX	**La Rumorosa**	**0.16**	**233**	⇓*e*P		**Pg**		**17 33 06.4**	**-0.2**
RMX				*e*S		**Sg**		**17 33 09.0**	**-0.1**
WESC	**Westside Schoo**	**0.18**	**69**	⇑*e*P		**Pg**		**17 33 06.6**	**-0.3**
WESC				*e*S		**Sg**		**17 33 09.6**	**+0.1**
SGL	**Mount Signal**	**0.18**	**105**	⇑*i*P		**Pg**		**17 33 06.4**	**-0.5**
CRR	**Carrizo Plain**	**0.19**	**350**	⇓*i*P		**Pg**		**17 33 06.8**	**-0.4**
COK	**Cook Ranch**	**0.23**	**48**	⇑*i*P		**Pg**		**17 33 07.6**	**-0.3**
ERPC	**Ernies Place**	**0.23**	**78**	⇑*i*P		**Pg**		**17 33 07.8**	**-0.1**
SWSC	**Sam W. Stewart**	**0.27**	**25**	⇑*i*P		**Pg**		**17 33 08.1**	**-0.5**
CPBX	**Cerro Prieto**	**0.60**	**117**	*e*P		**Pg**		**17 33 18.5**	**+0.8**
CPBX				*i*S		**Sn**		**17 33 28.1**	**+0.6**
CPBX	**Cerro Prieto**	**0.60**	**117**	*e*Pn		**Pg**		**17 33 14.2**	**-0.5**
CPBX				*e*S		**Sg**		**17 33 22.4**	**-0.1**
CPBX				IAML				17 33 28.4	
	comp=E,1μm,0.3s								
CPBX				*e*				17 33 28.4	
BAR	**Barrett**	**0.62**	**269**	*e*Pg		**Pg**		**17 33 14.6**	**-0.7**
BAR				*e*Sg		**Sg**		**17 33 22.9**	**-0.5**
BAR	**Barrett**	**0.62**	**269**	⇑*e*P		**Pg**		**17 33 14.9**	**-0.4**
MBIG	**Mexicali**	**0.68**	**115**	*e*P		**Pb**		**17 33 17.9**	**+0.8**
MBIG				*i*S		**Sb**		**17 33 28.6**	**+1.9**
CBX	**Cerro Bola**	**0.73**	**239**	*e*P		**Pg**		**17 33 16.5**	**-0.7**
CBX				*i*S		**Sg**		**17 33 26.8**	**+0.1**
CBX	**Cerro Bola**	**0.73**	**239**	*e*P		**Pg**		**17 33 16.5**	**-0.7**
CBX				*i*S		**Sg**		**17 33 26.8**	**+0.1**
CBX	**Cerro Bola**	**0.73**	**239**	⇑*e*P		**Pg**		**17 33 16.8**	**-0.4**
CBX				*e*S		**Sg**		**17 33 26.1**	**-0.6**
CBX				IAML				17 33 27.9	
	comp=E,310nm,0.2s								
CBX				⇑*e*				17 33 27.9	
RDX	**Rancho Dawling**	**0.77**	**181**	⇓*e*P		**Pg**		**17 33 16.8**	**-1.1**
RDX				*e*S		**Sg**		**17 33 26.6**	**-1.3**
GLA	**Glamis**	**0.99**	**69**	*e*Pg		**Pg**		**17 33 20.1**	**-2.1**
GLA				*e*Sg		**Sg**		**17 33 33.0**	**-2.2**
PFO	**Pinyon Flats O**	**1.01**	**334**	*e*Pg		**Pg**		**17 33 20.7**	**-1.9**
PFO				*e*Sg		**Sg**		**17 33 34.3**	**-1.5**
PBX	**Punta Banda**	**1.17**	**216**	*e*Pn		**Pg**		**17 33 24.4**	**-1.2**
PBX				*e*S		**Sg**		**17 33 39.3**	**-1.3**
ECNX	**Esteban Cantu**	**1.18**	**209**	*e*Pn		**Pg**		**17 33 24.5**	**-1.3**
ECNX				*e*S		**Sg**		**17 33 40.0**	**-1.2**
ZAX	**El Zacaton**	**1.21**	**194**	*e*Pn		**Pg**		**17 33 24.4**	**-2.1**
ZAX				*e*S		**Sg**		**17 33 40.9**	**-1.3**
ECBX	**El Chinero**	**1.43**	**148**	*e*Pn		**Pg**		**17 33 27.8**	**-1.3**
ECBX				*e*S		**Sg**		**17 33 46.8**	**-2.4**
ECBX				IAML				17 33 49.1	
	comp=E,104nm,0.4s								
ECBX				⇓*e*				17 33 49.1	
SPIG	**San Pedro Mart**	**1.69**	**166**	*e*P		**Pn**		**17 33 34.2**	**+1.1**
SPIG				*i*S		**Sn**		**17 33 55.8**	**+0.8**
SPIG	**San Pedro Mart**	**1.69**	**166**	*e*P		**Pn**		**17 33 34.2**	**+1.1**
SPIG				*i*S		**Sn**		**17 33 55.8**	**+0.8**
SPX	**San Pedro Mart**	**1.69**	**166**	*e*P		**Pn**		**17 33 34.0**	**+0.9**
SPX				*i*S		**Sn**		**17 33 55.4**	**+0.3**

IDC 17 17:50:11.3±2.1, 1.8°9S×136.4°4E, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.2/24, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=47.0km s-min=25.8km az=68.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.27**	**281**	Pn		Pn		17 51 32.1	+0.7
	0.5nm,0.3s,baz=253,slow=19,SNR=4.3								
SIJI				Sn		Sn		17 52 31.5	-1.5
	0.6nm,0.3s,baz=319,slow=20,SNR=2.5								
WRA	**Warramunga Arr**	**18.06**	**186**	P		Pn		17 54 23.5	-0.3
	0.1nm,0.3s,baz=8.7,slow=12,SNR=8.6								
ASAR	**Alice Springs**	**21.79**	**186**	P		P		17 55 05.0	-0.1
	0.7nm,0.7s,baz=12,slow=11,SNR=12								
MKAR	**Makanchi Array**	**67.77**	**323**	P		P		18 01 11.1	+0.1
	0.2nm,0.7s,baz=112,slow=6.7,SNR=2.2								

IDC 17 18:02:59.2±2.0, 1.8°1S×136.4°7E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.5/37, mbtmp3.8/5, ML3.5/2, Error ellipse: s-maj=46.7km s-min=23.4km az=61.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.29**	**280**	Pn		Pn		18 04 20.0	+0.4
	0.4nm,0.3s,baz=151,slow=19,SNR=6.6								
SIJI				Sn		Sn		18 05 20.6	-0.6
	0.7nm,0.3s,baz=287,slow=19,SNR=2.1								
WRA	**Warramunga Arr**	**18.14**	**186**	P		Pn		18 07 11.2	-1.6
	0.3nm,0.3s,baz=8.8,slow=13,SNR=18								
ASAR	**Alice Springs**	**21.87**	**186**	P		P		18 07 54.7	+0.9
	3.7nm,0.7s,baz=9.6,slow=11,SNR=43								
STKA	**Stephens Creek**	**30.30**	**171**	P		P		18 09 12.2	-0.1
	3.9nm,1.1s,baz=356,slow=14,SNR=5.0								
MKAR	**Makanchi Array**	**67.72**	**323**	P		P		18 13 58.6	0.0
	0.3nm,0.6s,baz=104,slow=7.6,SNR=4.2								

ISCJB ***17*** *18:03:57.0±1.3, 22.7°S±0.2°×179.6°W±0.2, h579km, mb3.7/4, Error ellipse: s-maj=28.8km s-min=22.2km az=5.4*
IDC ***17*** *18:03:57.5±4.4, 22.5°0S×179.5°5W, h578km±49km, mb3.1/4, mb1 3.4/6, mb1mx2.9/36, mbtmp4.2/6, Error ellipse: s-maj=49.7km s-min=29.8km az=179.0*
ISC 17 18:03:57.3±1.1, 22.7°S±0.2°×179.5°W±0.2, h579km, n11, σ0s80/10, mb3.6/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.01**	**270**	P		P	**P**	**18 06 46.7**	**+0.2**
	0.6nm,0.3s,baz=90,slow=24,SNR=18								
URZ	**Urewera**	**15.80**	**190**	P		P	**P**	**18 07 13.5**	**-0.1**
	1.0nm,0.3s,baz=315,slow=5.7,SNR=7.6								
CTA	**Charters Tower**	**31.95**	**268**	P		P	**P**	**18 09 37.4**	**+0.4**
	2.6nm,0.4s,baz=84,slow=11,SNR=5.7								
ASAR	**Alice Springs**	**42.70**	**259**	P		P	**P**	**18 11 04.8**	**+0.3**
	0.9nm,0.4s,baz=83,slow=8.1,SNR=14								
ASAR				PcP		**PcP**	**PcP**	**18 12 42.5**	**-0.4**
	0.4nm,0.6s,baz=110,slow=4.3,SNR=4.6								
WRA	**Warramunga Arr**	**42.96**	**265**	P		P	**P**	**18 11 06.1**	**-0.5**
	0.7nm,0.4s,baz=96,slow=7.8,SNR=22								
TXAR	**Lajitas Array**	**89.40**	**58**	P		P	**P**	**18 15 54.4**	**+0.9**
	0.8nm,1.0s,baz=215,slow=7.7,SNR=5.0								
ARCES	**ARCESS Array B**	**130.78**	**349**	PKP		**PKPdf**		**18 22 02.3**	**-0.3**
	1.9nm,1.0s,baz=45,slow=0.4,SNR=3.2								
HFS	**Hagfors**	**141.43**	**349**	PKhKP		PKPpre		18 22 16.3	
	1.2nm,0.4s,baz=72,slow=4.8,SNR=12								
AKASG	**Malin Array Be**	**144.18**	**329**	PKP		PKPbc		18 22 25.5	-1.8
	1.1nm,0.5s,baz=44,slow=4.1,SNR=9.9								
EKA	**Eskdalemuir Ar**	**147.27**	**4**	PKPbc		**PKPbc**		**18 22 34.4**	**-1.6**
	0.5nm,0.5s,baz=358,slow=3.2,SNR=5.1								
MMAI	**Mount Meron Ar**	**147.59**	**296**	PKPbc		**PKPbc**		**18 22 38.0**	**+0.3**
	1.1nm,0.4s,baz=98,slow=6.2,SNR=5.6								

CRAAG ***17*** *18:08:19.7, 36.1°4N×4.2°1E, Ml4.2*
IDC ***17*** *18:08:22.1±1.3, 35.9°7N×4.1°1E, h0km, mb3.5/3, mb1 3.5/6, mb1mx3.2/54, mbtmp3.4/6, ML3.5/3, MS2.7/3, Ms1 2.7/3, ms1mx2.3/35, Error ellipse: s-maj=32.2km s-min=22.3km az=145.0*
MDD ***17*** *18:08:22.3±0.8, 36.0°8N×4.2°1E, h9km±8km, mb4.1/20, Error ellipse: s-maj=9.5km s-min=8.3km az=12.0, PRXIMO*
ISCJB ***17*** *18:08:24.0±0.4, 36.1°8N±0.0°3×4.0°7E±0.0°3, h10km, mb3.5/3, Error ellipse: s-maj=4.3km s-min=3.6km az=167.3*
CSEM ***17*** *18:08:25.8±0.2, 36.1°9N×3.9°8E, h2km, ML4.2, Error ellipse: s-maj=6.0km s-min=4.3km az=169.0*
LDG ***17*** *18:08:25.6±0.3, 36.3°0N×3.9°5E, h10km, Ml3.1/7, Error ellipse: s-maj=6.0km s-min=3.0km az=151.0*
ISC 17 18:08:23.5±0.7, 36.0°4N±0.0°4×4.1°4E±0.0°2, h10km, n138, σ1s46/159, mb3.4/3, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.20**	**146**	P		P	**Pg**	**18 08 26.1**	**-1.6**
ATAF	**Djebel Tarf**	**0.20**	**146**	P		P	**Pg**	**18 08 26.1**	**-1.6**
ATAF	**Djebel Tarf**	**0.20**	**146**	P		P	**Pg**	**18 08 26.1**	**-1.6**
AKET	**Djebel Ketaf**	**0.21**	**272**	P		P	**Pg**	**18 08 27.1**	**-0.9**
AKET	**Djebel Ketaf**	**0.21**	**272**	P		P	**Pg**	**18 08 27.1**	**-0.9**
AKET	**Djebel Ketaf**	**0.21**	**272**	P		P	**Pg**	**18 08 27.1**	**-0.9**
ADJB	**Djebel Djouab**	**0.58**	**282**	P		P	**Pg**	**18 08 34.3**	**-0.6**
ADJB	**Djebel Djouab**	**0.58**	**282**	P		P	**Pg**	**18 08 34.3**	**-0.6**
ADJB	**Djebel Djouab**	**0.58**	**282**	P		P	**Pg**	**18 08 34.3**	**-0.6**
EMHD	**Djebel Mahouad**	**0.98**	**280**	P		P	**Pg**	**18

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	4.7nm,0.6s,SNR=7.9						
ETOB	Tobarra	5.23	302	P	Pn	18 09 43.5	+1.7
	3.5nm,0.4s,SNR=6.8						
ETOB				S	Sn	18 10 41.7	-0.4
	4.7nm,0.6s,SNR=7.9						
EMOS	Mosqueruela	5.64	321	P	Pn	18 09 48.1	+0.5
	1.8nm,0.4s,SNR=7.9						
EMOS				S	Sn	18 10 51.6	-1.0
	1.9nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	5.64	321	P	Pn	18 09 48.1	+0.5
	1.8nm,0.4s,SNR=7.9						
EMOS				S	Sn	18 10 50.0	-2.5
	3.9nm,0.4s,SNR=7.9						
EHUE	Huescar	5.68	290	P	Pn	18 09 50.7	+2.6
	2.5nm,0.3s,SNR=7.9						
EHUE	Huescar	5.68	290	P	Pn	18 09 50.4	+2.4
	2.5nm,0.3s,SNR=7.9						
EBER	Berja	5.73	281	P	Pn	18 09 48.4	-0.4
	4.4nm,0.4s,SNR=5.3						
EBER				S	Sn	18 10 59.6	+4.9
	8.2nm,1.0s,SNR=7.9						
EBER	Berja	5.73	281	P	Pn	18 09 48.4	-0.4
	4.4nm,0.4s,SNR=5.3						
EBER				S	Sn	18 10 52.3	-2.5
	5.9nm,0.6s,SNR=7.9						
SESP	Santiago Espad	5.74	293	P	Pn	18 09 50.2	+1.3
	19nm,0.6s,SNR=7.9						
SESP				S	Sn	18 10 56.2	+1.4
	6.0nm,0.4s,SNR=7.9						
SESP	Santiago Espad	5.74	293	P	Pn	18 09 50.2	+1.3
	19nm,0.6s,SNR=7.9						
SESP				S	Sn	18 10 54.5	-0.3
	6.0nm,0.4s,SNR=7.9						
ERTA	Horta de San J	5.75	330	P	Pn	18 09 49.1	+0.2
	1.6nm,0.3s,SNR=4.0						
ERTA				S	Sn	18 10 54.1	-0.8
	3.8nm,0.3s,SNR=7.9						
ERTA	Horta de San J	5.75	330	P	Pn	18 09 49.1	+0.2
	1.6nm,0.3s,SNR=7.9						
ERTA				S	Sn	18 10 52.9	-2.0
	3.8nm,0.3s,SNR=7.9						
EPOB	Poblet	5.82	337	P	Pn	18 09 51.1	+1.2
	2.6nm,0.5s,SNR=7.9						
EPOB				S	Sn	18 10 56.3	-0.5
	1.3nm,0.3s,SNR=7.9						
EPOB	Poblet	5.82	337	P	Pn	18 09 51.1	+1.2
	2.6nm,0.5s,SNR=7.9						
EPOB				S	Sn	18 10 55.3	-1.5
	3.5nm,0.6s,SNR=7.9						
CFON	Fontmartina	5.87	347	P	Pn	18 09 51.1	+0.5
	2.5nm,0.4s,SNR=7.9						
CFON				S	Sn	18 10 59.6	+1.6
	3.9nm,0.3s,SNR=7.9						
CFON	Fontmartina	5.87	347	P	Pn	18 09 51.1	+0.5
	2.5nm,0.4s,SNR=7.9						
CFON				S	Sn	18 10 55.8	-2.2
	3.9nm,0.3s,SNR=7.9						
EVIA	Vianos	5.89	298	P	Pn	18 09 52.0	+1.0
	4.6nm,0.8s,SNR=7.9						
EVIA	Vianos	5.89	298	P	Pn	18 09 52.6	+1.6
	7.1nm,0.4s,SNR=7.9						
EQES	Quesada	6.04	289	P	Pn	18 09 54.4	+1.4
	0.5nm,0.7s,SNR=10						
EQES				S	Sn	18 11 04.9	+2.6
	20nm,0.9s,SNR=7.9						
EQES	Quesada	6.04	289	P	Pn	18 09 54.4	+1.4
	5.1nm,0.3s,SNR=10						
EQES				S	Sn	18 11 01.3	-1.0
	7.7nm,0.6s,SNR=7.9						
EQUE	Quentar	6.21	283	P	Pn	18 09 56.0	+0.7
	2.6nm,0.3s,SNR=9.3						
EQUE	Quentar	6.21	283	P	Pn	18 09 56.0	+0.7
	2.6nm,0.3s,SNR=9.3						
EMIR	Miracle	6.21	342	P	Pn	18 09 57.6	+2.3
	11nm,0.4s,SNR=5.6						
EMIR				S	Sn	18 11 06.4	0.0
	8.9nm,0.5s,SNR=7.9						
EMIR	Miracle	6.21	342	P	Pn	18 09 57.6	+2.3
	11nm,0.4s,SNR=5.6						
EMIR				S	Sn	18 11 03.7	-2.7
	10nm,0.4s,SNR=7.9						
EJON	La Jonquera	6.47	352	P	Pn	18 09 60.0	+1.1
	0.1nm,0.5s,SNR=7.9						
EJON				S	Sn	18 11 13.8	+1.0
	2.8nm,0.4s,SNR=7.9						
EJON	La Jonquera	6.47	352	P	Pn	18 09 59.0	+0.1
	3.1nm,0.4s,SNR=7.9						
EJON				S	Sn	18 11 09.8	-3.0
	5.0nm,0.6s,SNR=7.9						
SJAF	Saint Jean de	6.51	352	P	Pn	18 09 59.9	+0.5
	3.0nm,0.4s,SNR=7.9						
SJAF				S	Sn	18 11 14.2	+0.5
	1.2nm,0.4s,SNR=7.9						
SJAF	Saint Jean de	6.51	352	P	Pn	18 09 59.9	+0.5
	3.0nm,0.4s,SNR=7.9						
SJAF				S	Sn	18 11 10.4	-3.3
	0.7nm,0.3s,SNR=7.9						
CLLI	Llivia	6.65	346	P	Pn	18 10 02.3	+0.9
	1.2nm,0.4s,SNR=7.9						
CLLI				S	Sn	18 11 19.6	+2.3
	0.8nm,0.5s,SNR=7.9						
CLLI	Llivia	6.65	346	P	Pn	18 10 02.3	+0.9
	1.2nm,0.4s,SNR=7.9						
CLLI				S	Sn	18 11 14.5	-2.7
	2.2nm,0.5s,SNR=7.9						
CSOR	Sort	6.74	341	P	Pn	18 10 01.9	-0.8
	0.5nm,0.2s,SNR=7.9						
CSOR				S	Sn	18 11 20.4	+0.8
	2.6nm,0.4s,SNR=7.9						
CSOR	Sort	6.74	341	P	Pn	18 10 01.8	-0.9
	0.8nm,0.4s,SNR=7.9						
CSOR				S	Sn	18 11 15.4	-4.2
	5.2nm,0.6s,SNR=7.9						
EADA	Adamuz	7.28	290	S	Sn	18 11 32.4	-0.4
	1.9nm,0.5s,SNR=7.9						
EADA	Adamuz	7.28	290	S	Sn	18 11 32.4	-0.4
	1.9nm,0.5s,SNR=7.9						
ESDC	Sonseca Array	7.37	302	Pn	Pn	18 10 12.3	+1.2
	0.6nm,0.3s,baz=116,slow=13,SNR=7.7						
MTLF	Montolieu	7.44	349	ePn	Pn	18 10 07.7	-4.4
MTLF	Montolieu	7.44	349	ePKP2	Pn	18 10 13.1	+1.0
MTLF				eSn	Sn	18 11 24.6	-12
	3.2nm,0.7s						
MTLF	Montolieu	7.44	349	ePKPab	Pn	18 10 13.1	+1.0
LMR	La Mourre	7.51	13	ePn	Pn	18 10 09.7	-3.4
LMR	La Mourre	7.51	13	ePKP2	Pn	18 10 15.3	+2.2
LMR				eSn	Sn	18 11 27.7	-11
	2.1nm,0.5s						
LMR	La Mourre	7.51	13	ePKPab	Pn	18 10 15.3	+2.2
PGF	Pioggiola	7.51	29	ePn	Pn	18 10 11.6	-1.6
PGF	Pioggiola	7.51	29	ePKP2	Pn	18 10 16.1	+2.9
PGF				eSn	Sn	18 11 30.7	-7.7
	1.3nm,0.3s						
PGF	Pioggiola	7.51	29	Pn	Pn	18 10 11.6	-1.6
PGF	Pioggiola	7.51	29	ePKPab	Pn	18 10 16.1	+2.9
EPF	Esparros	7.57	338	ePn	Pn	18 10 09.5	-4.5
EPF	Esparros	7.57	338	ePKP2	Pn	18 10 14.7	+0.7
EPF				eSn	Sn	18 11 27.0	-13
	2.1nm,0.3s						
EPF	Esparros	7.57	338	ePKPab	Pn	18 10 14.7	+0.7
ETSF	Etsaut	7.75	333	ePn	Pn	18 10 11.7	-4.8
ETSF	Etsaut	7.75	333	ePKP2	Pn	18 10 17.0	+0.5
ETSF				eSn	Sn	18 11 30.2	-14
	1.1nm,0.3s						
ETSF	Etsaut	7.75	333	ePKPab	Pn	18 10 17.0	+0.5
FRF	La Foret Royal	7.75	14	ePn	Pn	18 10 13.2	-3.2
FRF				eSn	Sn	18 11 34.4	-10
	2.9nm,0.5s						
ECAB	El Cabril	7.91	288	P	Pn	18 10 18.7	+0.1
	1.9nm,0.6s,SNR=7.9						
ECAB	El Cabril	7.91	288	P	Pn	18 10 18.4	-0.2
	1.9nm,0.6s,SNR=7.9						
MDT	Midelt	7.92	249	Pn	Pn	18 10 17.7	-1.1
	0.3nm,0.3s,baz=72,slow=17,SNR=12						
MDT				LR	LR	18 13 36.9	
	comp=Z,56nm,21.2s,baz=66,slow=40						
SMRF	Simiane la Rot	8.00	7	ePKP2	Pn	18 10 21.8	+1.9
SMRF	Simiane la Rot	8.00	7	ePKPab	Pn	18 10 21.8	+1.9
LASF	Ste Croix	8.03	359	ePn	Pn	18 10 16.4	-3.8
LASF	Ste Croix	8.03	359	ePKP2	Pn	18 10 21.5	+1.3
LASF	Ste Croix	8.03	359	ePKPab	Pn	18 10 21.5	+1.3
EALK	Alkurruntz	8.39	330	S	Sn	18 12 01.3	+1.5
	2.2nm,0.4s,SNR=7.9						
VIVF	Saint-Julien-l	8.82	2	ePn	Pn	18 10 26.2	-4.8
VIVF	Saint-Julien-l	8.82	2	eP	Pn	18 10 31.7	+0.7
VIVF	Saint-Julien-l	8.82	2	eP	Pn	18 10 31.7	+0.7
MBDF	Montbardon	8.91	12	ePn	Pn	18 10 28.7	-3.7
MBDF	Montbardon	8.91	12	ePKP2	Pn	18 10 34.3	+1.9
MBDF	Montbardon	8.91	12	ePKPab	Pn	18 10 34.3	+1.9
EVO	Evora	10.00	288	eP	Pn	18 10 50.4	+3.2
EVO				eSn	Sn	18 12 28.2	-11
	3.3nm,0.4s						
EVOP	Sao Brissos	10.09	288	eP	Pn	18 10 50.4	+2.0
EARI	Arriondas	10.22	318	P	Pn	18 10 51.6	+1.3
	2.1nm,0.5s,SNR=7.9						
EARI	Arriondas	10.22	318	P	Pn	18 10 51.6	+1.3
	2.1nm,0.5s,SNR=7.9						
ECAL	Calabor	10.31	308	P	Pn	18 10 52.5	+0.9
	3.1nm,0.5s,SNR=5.0						
ECAL	Calabor	10.31	308	P	Pn	18 10 52.5	+0.9
	3.1nm,0.5s,SNR=5.0						
GERES	GERESS Array B	14.60	26	LR	LR	18 17 11.5	
	comp=Z,33nm,19.5s,baz=297,slow=36						
VRAC	Vranov	16.08	31	LR	LR	18 17 32.7	
	comp=Z,22nm,20.2s,baz=192,slow=34						
TORD	Torodi Ar. Bea	22.90	186	P	P	18 13 26.4	-1.1
	0.9nm,0.7s,baz=2.5,slow=9.9,SNR=6.8						
AKASG	Malin Array Be	23.24	43	P	P	18 13 30.5	-0.3
	0.6nm,0.5s,baz=241,slow=10,SNR=2.8						
MKAR	Makanchi Array	57.32	53	P	P	18 18 12.1	+0.5
	0.8nm,0.6s,baz=279,slow=6.0,SNR=10						

NNC 17 19:09:08.4±8.9**, 39°.15N×75°.65E, h0km, mb3.6, mpv3.3, 5C-4D, Error ellipse: s-maj=67.6km s-min=58.5km az=150.0, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.87	298	⇑Pn	Pn	19 09 42.0	0.0
	12nm,0.3s						
SFK				⇑Lg	Lg	19 10 11.4	
	60nm,0.6s						
AAK	Ala-Archa	3.58	346	⇑Pg	Pg	19 10 21.5	+4.1
	5.2nm,0.5s						
AAK				⇑Lg	Lg	19 11 11.7	
	12nm,1.2s						
TKM2	Tokmak 2	3.76	359	⇑Pg	Pb	19 10 16.8	+0.7
	5.9nm,0.3s						
TKM2				⇓Lg	Lg	19 11 09.6	
	6.1nm,0.5s						
KK31	Karatay Array	5.53	317	⇓Pn	Pn	19 10 33.7	+1.6
	0.2nm,0.3s,baz=124,slow=12						
KK31				⇓Sn	Sn	19 11 39.8	+3.3
	1.3nm,0.6s,baz=133,slow=26						
KK31				⇓Lg	Lg	19 12 05.5	
	1.0nm,0.5s,baz=123,slow=27						

IDC 17 19:17:16.7±3.2**, 6°.23S×132°.37E, h0km, mb3.2**/1**, mb1 3.4**/4**, mb1mx3.3**/31**, mbtmp3.3**/4**, ML2.8**/3**, Error ellipse: s-maj=209.0km s-min=27.9km az=78.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	5.43	348	Pn	Pn	19 18 38.1	-0.9
	0.4nm,0.3s,baz=29,slow=23,SNR=8.9						
SIJI				Sn	Sn	19 19 33.8	-8.6
	0.9nm,0.3s,baz=296,slow=23,SNR=9.5						
WRA	Warramunga Arr	13.77	172	Pn	Pn	19 20 33.5	+0.1
	0.0nm,0.3s,baz=351,slow=13,SNR=4.9						
WRA				Sn	Sn	19 23 01.2	-5.9
	0.1nm,0.3s,baz=14,slow=23,SNR=5.9						
ASAR	Alice Springs	17.40	175	P	Pn	19 21 20.6	-0.6
	0.0nm,0.3s,baz=343,slow=9.3,SNR=4.2						
MKAR	Makanchi Array	68.90	326	P	P	19 28 23.8	+0.3
	0.2nm,0.6s,baz=143,slow=5.0,SNR=2.7						

IDC 17 19:19:46.2±5.2**, 19°.85S×172°.20W, h0km, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.6**/30**, mbtmp3.9**/3**, Error ellipse: s-maj=270.9km s-min=54.5km az=151.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	38.98	262	P	P	19 27 14.8	+0.3
	1.7nm,0.4s,baz=95,slow=13,SNR=5.4						
ASAR	Alice Springs	49.96	255	P	P	19 28 41.3	-1.1
	0.5nm,0.5s,baz=97,slow=7.2,SNR=13						
WRA	Warramunga Arr	50.09	260	P	P	19 28 43.9	+0.5
	1.0nm,0.6s,baz=96,slow=8.4,SNR=57						
BRTR	Keskin Array B	150.26	317	PKPbc	PKPbc	19 39 39.3	-0.4
	0.2nm,0.4s,baz=33,slow=5.5,SNR=2.4						

IDC 17 19:47:13.4±1.2, 2°.47S×140°.10E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/25, mbtmp3.7/6, ML3.8/1, MS3.3/7, Ms1 3.3/7, ms1mx3.0/19, Error ellipse: s-maj=63.9km s-min=21.0km az=90.0

ISCJB 17 19:47:15.6±1.0, 2°.50S±0°.09×140°.0E±0°.3, h25km, mb3.6/5, MS3.3/5, Error ellipse: s-maj=46.7km s-min=10.8km az=8.3

ISC 17 19:47:17.5±1.2**, 2°.6S**±0°.1×**140°.0E**±0°.4**, h25km, n11, σ1s.29**/8**, mb3.7**/5**, MS3.3**/5**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	8.84	281	LR	LR	19 53 42.7	
	comp=Z,121nm,19.9s,baz=74,slow=43						
GUMO	Guam	16.77	17	LR	LR	19 56 52.8	
	comp=Z,56nm,19.0s,baz=210,slow=35						
WRA	Warramunga Arr	18.13	197	P	P	19 51 29.7	+1.8
	0.4nm,0.3s,baz=21,slow=11,SNR=21						
WRA				S	Sn	19 54 47.8	-1.7
	0.0nm,0.3s,baz=8.1,slow=24,SNR=3.2						
ASAR	Alice Springs	21.78	195	P	P	19 52 08.6	+0.8
	2.5nm,0.7s,baz=30,slow=9.9,SNR=41						
ASAR				LR	LR	20 01 47.6	
	comp=Z,97nm,21.0s,baz=30,slow=40						
STKA	Stephens Creek	29.20	177	P	P	19 53 17.1	-0.1
	1.5nm,0.7s,baz=335,slow=14,SNR=2.8						
STKA				LR	LR	20 06 44.0	
	comp=Z,148nm,20.4s,baz=23,slow=40						
KSRS	Korea Array	41.35	345	LR	LR	20 09 55.9	
	comp=Z,19nm,19.2s,baz=184,slow=33						
SONM	Songino Array	58.12	334	P	P	19 57 09.8	+0.7
	0.2nm,0.6s,baz=141,slow=9.3,SNR=3.1						
SONM				LR	LR	20 21 32.9	
	comp=Z,28nm,19.9s,baz=184,slow=35						
MKAR	Makanchi Array	70.43	322	P	P	19 58 28.9	-0.9
	0.3nm,0.6s,baz=108,slow=6.5,SNR=6.5						
ZALV	Zalesovo Beam	72.43	329	LR	LR	20 30 37.6	
	comp=Z,18nm,20.0s,baz=74,slow=36						
ILAR	Eielson Array	85.19	24	P	P	19 59 50.9	-0.6
	0.8nm,0.8s,baz=269,slow=4.1,SNR=7.6						
DBIC	Dimbokro	144.69	278	PKP	PKPab	20 06 52.3	+0.3
	2.6nm,0.9s,baz=27,slow=2.3,SNR=2.4						

GUC 17 19:53:29.8±0.8**, 34°.84S×71°.70W, h46km**±2km**, ML3.7, 10D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NICH	Los Niches	0.42	113	⇓iP	Pn	19 53 40.1	+0.2
NICH				iS	Sn	19 53 48.0	+1.1
TALC	Talca	0.56	174	⇓iP	Pn	19 53 41.6	+0.1
TALC				iS	Sn	19 53 50.5	+0.5
LNV	Longovilo	0.91	15	⇓iP	Pn	19 53 47.2	+0.9
LNV				eS	Sn	19 53 59.7	+1.4
LNCH	Linares	1.01	175	⇓iP	Pn	19 53 48.5	+0.9
CHCH	Chadas Angostu	1.25	44	⇓iP	Pn	19 53 51.5	+0.5
CHCH				iS	Sn	19 54 07.8	+1.1
TACH	Talagante	1.34	28	⇓iP	Pn	19 53 52.6	+0.5
TACH				iS	Sn	19 54 09.5	+0.7
PCH	Pirque	1.56	39	⇓iP	Pn	19 53 55.9	+0.6
PCH				iS	Sn	19 54 16.0	+1.6
SAN	Santiago	1.63	32	iS	Sn	19 54 17.0	+1.1
SJCH	San Jose de Ma	1.64	43	⇓iP	Pn	19 53 56.4	+0.1
SJCH				iS	Sn	19 54 17.4	+1.1
CLCH	Cerro Calan	1.73	34	⇓iP	Pn	19 53 58.2	+0.6
CLCH				iS	Sn	19 54 20.4	+1.8
CLCH				AML	AML	19 54 23.5	
	comp=E,1μm,0.6s						
PEL	Peldehue	1.89	27	⇓iP	Pn	19 54 00.8	+1.1
PEL				AML	AML	19 54 30.8	
	comp=N,1μm,0.4s						

IDC 17 20:03:37.4±2.8**, 7°.93N×92°.31E, h0km, mb3.4**/3**, mb1 3.5**/4**, mb1mx3.2**/32**, mbtmp3.3**/4**, ML3.4**/1**, Error ellipse: s-maj=82.0km s-min=29.7km az=67.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.29	31	Pn	Pn	20 06 32.2	-1.6
	0.1nm,0.3s,baz=229,slow=14,SNR=2.8						
H08S3	Diego Garcia H	25.09	232	T	T	20 35 09.5	
	baz=52,slow=75,SNR=8.2						
H08S2	Diego Garcia H	25.10	232	T	T	20 35 22.1	
	baz=52,slow=75,SNR=8.3						
H08S1	Diego Carcia H	25.11	232	T	T	20 35 16.5	
	baz=52,slow=75,SNR=12						
MKAR	Makanchi Array	39.66	349	P	P	20 11 10.8	-0.4
	0.3nm,0.5s,baz=165,slow=9.1,SNR=4.3						
SONM	Songino Array	41.53	14	P	P	20 11 27.7	+1.0
	0.3nm,0.4s,baz=191,slow=9.2,SNR=4.5						
WRA	Warramunga Arr	49.78	124	P	P	20 12 31.8	-0.4
	0.4nm,1.0s,baz=307,slow=8.8,SNR=3.8						

IDC 17 20:03:40.3±7.6, 34°.68N×26°.44E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.3/30, mbtmp3.5/4, ML3.8/2, MS3.0/2, Ms1 3.0/2, ms1mx2.4/33, Error ellipse: s-maj=137.1km s-min=42.3km az=34.0

DDA 17 20:03:44.9, 35°.30N×26°.03E, h41km, MD3.6

HLW 17 20:03:46.9, 35°.84N×26°.25E, h30km±11km, Md3.6

ISK 17 20:03:46.3, 35°.52N×26°.54E, h2km, ML3.3

CSEM 17 20:03:49.8±0.3, 35°.49N×26°.57E, h24km±4km, MD3.4, Error ellipse: s-maj=5.0km s-min=3.4km az=178.0

THE 17 20:03:49.7, 35°.58N×26°.56E, h8km±2km, ML3.1/3, Error ellipse: s-maj=2.4km s-min=0.6km az=147.0

ATH 17 20:03:49.0, 35°.64N×26°.58E, h27km±1km, MD3.4/11

ISCJB 17 20:03:49.6±0.3, 35°.43N±0°.03×26°.61E±0°.03, h46km±6km, mb3.5/2, MS3.1/2, Error ellipse: s-maj=4.5km s-min=3.5km az=162.3

ISC 17 20:03:49.9±1.0**, 35°.50N**±0°.03×**26°.60E**±0°.02**, h33km**±4km**, n102, σ1s.34**/134**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	Karpathos	0.47	84	P	Pb	20 03 59.3	-0.6
KARP				S	Sb	20 04 06.7	-0.2
KARP	Karpathos	0.47	84	ePB	Pb	20 03 59.3	-0.6
KARP				eSB	Sb	20 04 06.6	-0.3
KARP	Karpathos	0.47	84	P	Pb	20 03 59.3	-0.6
KARP				S	Sb	20 04 06.7	-0.2
ZKR	Zakros	0.49	219	P	Pb	20 04 00.2	-0.1
ZKR				S	Sn	20 04 08.0	0.0
ZKR	Zakros	0.49	219	P	Pb	20 04 00.2	-0.1
ZKR				S	Sn	20 04 08.0	0.0
NPS	Neapolis	0.84	254	P	Pb	20 04 06.1	+0.1
NPS				S	Sb	20 04 17.6	+0.6
NPS	Neapolis	0.84	254	ePN	Pb	20 04 06.1	+0.1
NPS				eSN	Sb	20 04 17.5	+0.6
NPS	Neapolis	0.84	254	P	Pb	20 04 06.1	+0.1
NPS				eSn	Sb	20 04 17.5	+0.6
LAST	Lasithi	0.97	250	P	Pb	20 04 08.3	0.0
LAST				S	Sb	20 04 22.3	+1.4
LAST	Lasithi	0.97	250	P	Pb	20 04 08.3	0.0
LAST				S	Sb	20 04 22.3	+1.4
NIS3	Nisyros Isl.	1.17	23	P	Pn	20 04 09.4	-0.5
NIS3	Nisyros Isl.	1.17	23	P	Pn	20 04 09.4	-0.5
NISR	Nisiros	1.19	21	P	Pn	20 04 09.8	-0.4
NISR				S	Sn	20 04 25.8	+0.5
NISR	Nisiros	1.19	21	P	Pn	20 04 09.8	-0.4
NISR				S	Sn	20 04 25.8	+0.5
SANT	Santorini	1.27	314	ePN	Pn	20 04 11.2	-0.1
SANT				eSN	Sn	20 04 27.3	+0.1
SANT	Santorini	1.27	314	ePn	Pn	20 04 11.2	-0.1
SANT				eSn	Sn	20 04 27.3	+0.1
THR6	Thira Island,	1.30	312	P	Pn	20 04 11.9	+0.3
THR6	Thira Island,	1.30	312	P	Pn	20 04 11.9	+0.3
THR3	Thira Island,	1.33	314	P	Pn	20 04 12.2	+0.1
THR3	Thira Island,	1.33	314	P	Pn	20 04 12.2	+0.1
THR5	Thira Island,	1.37	313	ePN	Pn	20 04 12.5	-0.1
THR5	Thira Island,	1.37	313	P	Pn	20 04 12.5	-0.1
THR5	Thira Island,	1.37	313	P	Pn	20 04 12.5	-0.1
ARG	Arkhangelos	1.44	60	P	Pn	20 04 14.3	+0.7
ARG				S	Sb	20 04 33.4	-0.6
ARG	Arkhangelos	1.44	60	ePN	Pn	20 04 14.7	+1.1
ARG				eSN	Sn	20 04 33.0	+1.7
ARG	Arkhangelos	1.44	60	P	Pn	20 04 14.3	+0.7
ARG	Arkhangelos	1.44	60	ePn	Pn	20 04 14.7	+1.1
ARG				eSn	Sn	20 04 33.0	+1.7
SIVA	Sivas	1.54	252	P	Pb	20 04 17.0	-0.7
SIVA				S	Sb	20 04 36.5	-0.3
SIVA	Sivas	1.54	252	P	Pb	20 04 17.0	-0.7
SIVA				S	Sb	20 04 36.5	-0.3
BODT	Bodrum	1.67	20	ePN	Pn	20 04 18.1	+1.4
BODT				eSN	Sb	20 04 40.2	-0.4
BODT	Bodrum	1.67	20	ePn	Pn	20 04 18.1	+1.4
BODT				eSn	Sb	20 04 40.2	-0.4
BDRM	Kayabasi	1.71	23	iP	Pn	20 04 16.8	-0.6
BDRM				iS	Sb	20 04 41.4	-0.4
BDRM	Kayabasi	1.71	23	iP	Pn	20 04 16.8	-0.6
BDRM				iS	Sb	20 04 41.4	-0.4
APE	Apeiranthos	1.79	332	ePN	Pn	20 04 19.2	+0.7
APE	Apeiranthos	1.79	332	P	Pn	20 04 18.4	-0.1
APE				S	Sn	20 04 40.2	+0.1
APE	Apeiranthos	1.79	332	ePN	Pn	20 04 18.7	+0.2
APE				eSN	Sn	20 04 39.4	-0.7
APE	Apeiranthos	1.79	332	P	Pn	20 04 18.4	-0.1
APE	Apeiranthos	1.79	332	ePn	Pn	20 04 18.7	+0.2
APE				eSn	Sn	20 04 39.4	-0.7
APE				S	Sn	20 04 40.2	+0.1
VAM	Vamos	1.96	268	ePB	Pn	20 04 22.0	+1.3
VAM	Vamos	1.96	268	ePb	Pn	20 04 22.0	+1.3
TURN	Turunc	2.13	49	iP	Pn	20 04 19.3	-3.8
TURN				iS	Sn	20 04 42.9	-5.4
TURN	Turunc	2.13	49	iP	Pn	20 04 19.3	-3.8
YER	Yerkesik	2.13	39	ePN	Pn	20 04 24.0	+0.9
YER	Yerkesik	2.13	39	ePn	Pn	20 04 24.0	+0.9
AYDN	Tasoluk	2.39	25	iP	Pn	20 04 28.8	+2.0
AYDN				iS	Sb	20 04 59.7	-1.8
AYDN	Tasoluk	2.39	25	iP	Pn	20 04 28.8	+2.0
AYDN				iS	Sb	20 04 59.7	-1.8
AKAS	Kas	2.55	72	iP	Pn	20 04 30.9	+1.9
AKAS				iS	Sn	20 04 59.4	+0.3
AKAS	Kas	2.55	72	iP	Pn	20 04 30.9	+1.9
AKAS				iS	Sn	20 04 59.4	+0.3
ANKY	Antikythira Is	2.71	279	P	Pn	20 04 31.3	+0.3
ANKY	Antikythira Is	2.71	279	P	Pn	20 04 31.3	+0.3
CHOS	Chios island	2.92	352	ePN	Pn	20 04 34.1	+0.1
CHOS	Chios island	2.92	352	ePN	Pn	20 04 34.0	+0.1
CHOS	Chios island	2.92	352	ePn	Pn	20 04 34.1	+0.1
GOLH	Golhisar	2.96	53	iP	Pn	20 04 36.3	+1.7
GOLH				iS	Sb	20 05 17.5	-0.2
GOLH	Golhisar	2.96	53	iP	Pn	20 04 36.3	+1.7
ELL	Elmali	2.96	64	ePN	Pn	20 04 36.4	+1.8
ELL	Elmali	2.96	64	ePn	Pn	20 04 36.4	+1.8
KYTH	Kithira	2.99	286	P	Pn	20 04 35.5	+0.5
KYTH	Kithira	2.99	286	ePN	Pn	20 04 36.2	+1.2
KYTH	Kithira	2.99	286	P	Pn	20 04 35.5	+0.5
KYTH	Kithira	2.99	286	ePn	Pn	20 04 36.2	+1.2
VLI	Veliai	3.20	293	P	Pn	20 04 38.0	+0.1
VLI				S	Sn	20 05 15.0	+0.1
VLI	Veliai	3.20	293	ePN	Pn	20 04 38.3	+0.4
VLI	Veliai	3.20	293	P	Pn	20 04 38.0	+0.1
VLI	Veliai	3.20	293	ePn	Pn	20 04 38.3	+0.4
VLI				S	Sn	20 05 15.0	+0.1
KRND	KRANIDI	3.35	305	ePN	Pn	20 04 41.2	+1.3
KRND	KRANIDI	3.35	305	ePn	Pn	20 04 41.2	+1.3
KULA	Kula-Manisa	3.44	28	ePN	Pn	20 04 42.9	+1.8
KULA	Kula-Manisa	3.44	28	ePn	Pn	20 04 42.9	+1.8
SIGR	SIGRI	3.75	351	ePN	Pn	20 04 46.4	+1.0
SIGR	SIGRI	3.75	351	ePn	Pn	20 04 46.4	+1.0
VLX	Vlachokerasia	3.88	300	ePN	Pn	20 04 49.1	+1.8
VLX	Vlachokerasia	3.88	300	ePn	Pn	20 04 49.1	+1.8
SUTC	Sutluce-Ispart	4.06	60	ePN	Pn	20 04 52.4	+2.6
SUTC	Sutluce-Ispart	4.06	60	ePn	Pn	20 04 52.4	+2.6
HMAT	Matruh	4.41	174	S	Sn	20 05 43.6	-1.1
	baz=171						
HMAT	Matruh	4.41	174	S	Sn	20 05 43.6	-1.1
TVSB	Tavsanli	4.56	29	ePN	Pn	20 04 58.8	+2.2
TVSB	Tavsanli	4.56	29	ePn	Pn	20 04 58.8	+2.2
HDMB	Hadim	4.98	71	ePN	Pn	20 05 05.6	+3.1
HDMB	Hadim	4.98	71	ePn	Pn	20 05 05.6	+3.1
CSS	Prodhromos	5.54	94	ePN	Pn	20 05 12.2	+2.2

CSS	**Prodhromos**	**5.54**	**94**	*e*Pn	**Pn**	**20 05 12.2**	**+2.2**
GLL	**Jalalah**	**7.31**	**142**	P	**Pn**	**20 05 34.6**	**+0.2**
	baz=142						
GLL				S	**Sn**	**20 06 51.1**	**-5.2**
	baz=142						
GLL	**Jalalah**	**7.31**	**142**	P	**Pn**	**20 05 34.6**	**+0.2**
AMAG	**Maghara**	**7.36**	**129**	P	**Pn**	**20 05 34.9**	**-0.2**
	baz=129						
AMAG				S	**Sn**	**20 06 52.1**	**-5.4**
	baz=129						
AMAG	**Maghara**	**7.36**	**129**	P	**Pn**	**20 05 34.9**	**-0.2**
RSH		**7.49**	**125**	P	**Pn**	**20 05 36.6**	**-0.2**
	baz=125						
RSH				S	**Sn**	**20 06 54.8**	**-5.8**
	baz=125						
RSH		**7.49**	**125**	P	**Pn**	**20 05 36.6**	**-0.2**
SUZ		**7.71**	**135**	P	**Pn**	**20 05 40.2**	**+0.4**
	baz=135						
SUZ				S	Sn	20 06 59.9	-6.1
	baz=135						
SUZ		**7.71**	**135**	P	**Pn**	**20 05 40.2**	**+0.4**
HNKL	**Nakhl**	**8.34**	**130**	P	**Pn**	**20 05 48.2**	**-0.2**
	baz=130						
HNKL				S	Sn	20 07 14.5	-7.0
	baz=130						
HNKL	**Nakhl**	**8.34**	**130**	P	**Pn**	**20 05 48.2**	**-0.2**
KOLS	**Kolonicke sedl**	**13.80**	**348**	*e*PN	**P**	**20 07 11.0**	**-0.1**
STHS	**Stebnicka Huta**	**14.45**	**346**	*e*PN	**P**	**20 07 18.4**	**+0.1**
STHS	**Stebnicka Huta**	**14.45**	**346**	*e*SN	Sn	20 09 36.7	-14
AKASG	**Malin Array Be**	**15.32**	**6**	Pn	**P**	**20 07 27.5**	**-0.4**
	0.5nm,0.3s,baz=192,slow=11,SNR=2.6						
GERES	**GERESS Array B**	**16.38**	**328**	Pn	**P**	**20 07 40.8**	**+1.1**
	0.1nm,0.3s,baz=143,slow=13,SNR=3.6						
KMBO	**Kilima Mbogo**	**37.77**	**162**	LR	LR	20 27 20.8	
	comp=Z,20nm,18.9s,baz=247,slow=38						
MKAR	**Makanchi Array**	**42.61**	**57**	P	**P**	**20 11 43.6**	**+0.8**
	0.5nm,0.5s,baz=266,slow=8.2,SNR=8.0						
ZALV	**Zalesovo Beam**	**43.92**	**46**	P	**P**	**20 11 52.6**	**-0.7**
	0.3nm,0.4s,baz=276,slow=8.3,SNR=2.7						
TGY	**Tagaytay City**	**85.41**	**76**	LR	LR	21 00 36.0	
	comp=Z,10.0nm,20.1s,baz=110,slow=40						

IDC ***17*** *20:13:02.3±1.1, 1°.82S×136°.48E, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.6/30, mbtmp3.6/7, ML3.1/2, MS3.1/3, Ms1 3.1/3, ms1mx2.6/23, Error ellipse: s-maj=38.4km s-min=21.9km az=73.0*

ISCJB ***17*** *20:13:05.4±0.9, 1°.9S±0°.1×136°.46E±0°.09, h33km, mb3.6/5, MS3.0/3, Error ellipse: s-maj=18.5km s-min=10.9km az=33.2*

ISC 17 20:13:07.3±1.0, 1°.9S±0°.1×136°.5E±0°.1, h35km, n10, σ1§47/10, mb3.7/5, MS3.2/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.30**	**281**	Pn	**Pn**	**20 14 22.6**	**-1.5**
	0.4nm,0.3s,baz=79,slow=16,SNR=3.9						
SIJI				Sn	**Sn**	**20 15 26.0**	**+1.9**
	1.0nm,0.3s,baz=306,slow=23,SNR=5.8						
WRA	**Warramunga Arr**	**18.03**	**186**	P	**Pn**	**20 17 13.8**	**-1.5**
	0.1nm,0.3s,baz=7.2,slow=12,SNR=6.0						
WRA				S	Sn	20 20 26.0	-9.4
	0.1nm,0.3s,baz=2.2,slow=23,SNR=6.5						
ASAR	**Alice Springs**	**21.75**	**186**	P	**P**	**20 17 57.9**	**+1.8**
	2.3nm,0.7s,baz=14,slow=10,SNR=24						
ASAR				S	**S**	**20 21 53.9**	**-1.1**
	0.7nm,1.0s,baz=4.3,slow=26,SNR=3.8						
ASAR				LR	LR	20 27 39.9	
	comp=Z,104nm,18.5s,baz=3.5,slow=40						
KSRS	**Korea Array**	**39.98**	**349**	LR	LR	20 37 59.0	
	comp=Z,11nm,18.7s,baz=235,slow=38						
CMAR	**Chiang Mai Arr**	**42.11**	**300**	P	**P**	**20 20 56.0**	**-0.5**
	0.6nm,0.8s,baz=117,slow=7.1,SNR=5.5						
SONM	**Songino Array**	**56.08**	**336**	LR	LR	20 45 55.0	
	comp=Z,18nm,20.0s,baz=174,slow=35						
MKAR	**Makanchi Array**	**67.81**	**323**	P	**P**	**20 24 01.7**	**-0.2**
	0.3nm,0.6s,baz=122,slow=7.5,SNR=5.7						
VNDA	**Vanda**	**76.76**	**175**	P	**P**	**20 24 55.7**	**+0.9**
	0.8nm,0.8s,baz=322,slow=5.5,SNR=3.0						
ILAR	**Eielson Array**	**86.06**	**25**	P	**P**	**20 25 44.0**	**-0.2**
	0.4nm,0.9s,baz=241,slow=3.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**133.88**	**286**	PKP	**PKPdf**	**20 32 22.9**	**+1.1**
	0.4nm,0.8s,baz=18,slow=1.7,SNR=3.1						

ISCJB ***17*** *20:45:09.5±1.0, 32°.31N±0°.03×115°.32W±0°.04, h20km±3km, Error ellipse: s-maj=4.8km s-min=4.5km az=21.7*

NEIC ***17*** *20:45:10.1, 32°.28N×115°.33W, h0km, ML2.9(PAS), After PAS.*

ECX ***17*** *20:45:11.5±0.5, 32°.32N×115°.38W, h5km, MD2.5, ML2.7*

MEX ***17*** *20:45:12.2±0.7, 32°.32N×115°.28W, h10km, MD3.8*

ISC 17 20:45:09.5±1.0, 32°.31N±0°.03×115°.32W±0°.04, h20km±3km, n23, σ0§37/38, 1C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.10**	**7**	*e*P	**Pg**	**20 45 13.6**	**0.0**
CPBX				*i* S	**Sg**	**20 45 15.9**	**-0.3**
CPBX	**Cerro Prieto**	**0.10**	**7**	*e*P	**Pg**	**20 45 13.7**	**+0.2**
CPBX				*e*S	**Sg**	**20 45 15.9**	**-0.3**
CPBX				⇑*e*		20 45 18.0	
CPBX				IAML		20 45 18.0	
	comp=N,16μm,0.3s						
MBIG	**Mexicali**	**0.14**	**47**	*e*P	**Pg**	**20 45 14.3**	**+0.5**
MBIG				*i* S	**Sg**	**20 45 16.9**	**+0.2**
SGL	**Mount Signal**	**0.48**	**314**	⇓*i*P	**Pb**	**20 45 19.7**	**+0.3**
EMSC	**East Mesa**	**0.51**	**33**	*e*Pn	**Pn**	**20 45 21.4**	**-0.3**
COA	**Coachella**	**0.57**	**17**	*e*Pn	**Pn**	**20 45 22.2**	**-0.4**
YUH	**Yuha Desert**	**0.61**	**303**	*e*Pn	**Pb**	**20 45 21.6**	**+0.1**
RDX	**Rancho Dawling**	**0.65**	**234**	*e*P	**Pb**	**20 45 22.1**	**-0.2**
RDX				*e*S	**Sb**	**20 45 30.8**	**-0.3**
RDX				IAML		20 45 33.0	
	comp=N,266nm,0.4s						
YMD	**Yuma Desert**	**0.70**	**70**	*e*Pn	**Pn**	**20 45 24.3**	**0.0**
RMX	**La Rumorosa**	**0.70**	**294**	*e*P	**Pb**	**20 45 23.2**	**0.0**
RMX				*e*S	**Sb**	**20 45 32.1**	**-0.4**
RMX				*e*		20 45 34.9	
RMX				IAML		20 45 34.9	
	comp=N,320nm,0.3s						
ECBX	**El Chinero**	**0.87**	**165**	*e*Pn	**Pb**	**20 45 25.4**	**-0.5**
ECBX				*e*S	**Sb**	**20 45 37.5**	**+0.3**
ZAX	**El Zacaton**	**1.14**	**226**	*e*P	**Pn**	**20 45 30.7**	**+0.2**
ZAX				*e*S	**Sn**	**20 45 46.0**	**+0.4**
CBX	**Cerro Bola**	**1.14**	**270**	*e*P	**Pb**	**20 45 30.8**	**+0.2**
CBX				*i* S	**Sn**	**20 45 45.9**	**+0.3**
CBX	**Cerro Bola**	**1.14**	**270**	*e*P	**Pb**	**20 45 30.8**	**+0.2**
CBX				*i* S	**Sn**	**20 45 45.9**	**+0.3**
CBX	**Cerro Bola**	**1.14**	**270**	*e*P	**Pb**	**20 45 30.9**	**+0.2**
CBX				*e*S	**Sb**	**20 45 44.8**	**-0.3**
CBX				⇓*e*		20 45 49.7	
CBX				IAML		20 45 49.7	
	comp=N,171nm,0.6s						
BAR	**Barrett**	**1.20**	**288**	*e*Pg	**Pn**	**20 45 30.0**	**-1.3**
BAR				*e*Sg	**Sb**	**20 45 46.8**	**0.0**
ECNX	**Esteban Cantu**	**1.27**	**239**	*e*P	**Pb**	**20 45 33.0**	**+0.2**
ECNX				*e*S	**Sb**	**20 45 49.5**	**+0.7**
SPIG	**San Pedro Mart**	**1.27**	**186**	*e*P	**Pn**	**20 45 32.4**	**-0.1**
SPIG				*i* S	**Sn**	**20 45 49.0**	**-0.1**
SPIG	**San Pedro Mart**	**1.27**	**186**	*e*P	**Pn**	**20 45 32.4**	**-0.1**
SPIG				*i* S	**Sn**	**20 45 49.0**	**-0.1**
SPX	**San Pedro Mart**	**1.27**	**186**	*e*P	**Pn**	**20 45 32.6**	**+0.1**
SPX				*i* S	**Sn**	**20 45 48.6**	**-0.5**
PBX	**Punta Banda**	**1.32**	**245**	*e*P	**Pb**	**20 45 33.6**	**-0.2**
PFO	**Pinyon Flats O**	**1.61**	**324**	*e*Pn	**Pn**	**20 45 37.1**	**+0.2**
214A	**Organ Pipe Nat**	**2.16**	**99**	*e*Pn	**Pn**	**20 45 44.3**	**-0.1**

IDC ***17*** *20:46:58.9±1.9, 2°.15S×136°.74E, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.5/30, mbtmp3.6/6, ML3.7/2, Error ellipse: s-maj=54.6km s-min=24.2km az=75.0*

ISCJB ***17*** *20:47:04.3±1.2, 2°.44S±0°.09×136°.3E±0°.1, h42km, mb3.5/4, Error ellipse: s-maj=19.5km s-min=9.5km az=149.3*

ISC 17 20:47:05.9±1.6, 2°.5S±0°.1×136°.4E±0°.2, h42km, n6, σ2§04/8, mb3.5/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.34**	**288**	Pn	**Pn**	**20 48 23.4**	**+0.3**
	5.4nm,0.3s,baz=56,slow=15,SNR=22						
SIJI				Sn	**Sn**	**20 49 23.5**	**0.0**
	3.6nm,0.3s,baz=286,slow=22,SNR=7.7						
WRA	**Warramunga Arr**	**17.43**	**186**	P	**P**	**20 51 08.9**	**+2.0**
	0.2nm,0.3s,baz=8.8,slow=12,SNR=7.6						
WRA				S	**Sn**	**20 54 16.4**	**-2.9**
	0.1nm,0.3s,baz=5.0,slow=23,SNR=3.1						
ASAR	**Alice Springs**	**21.16**	**186**	P	**P**	**20 51 50.0**	**+2.3**
	1.8nm,0.5s,baz=10,slow=11,SNR=25						
CMAR	**Chiang Mai Arr**	**42.31**	**301**	P	**P**	**20 54 56.2**	**+0.3**
	0.4nm,0.6s,baz=98,slow=5.8,SNR=2.9						
MKAR	**Makanchi Array**	**68.21**	**323**	P	**P**	**20 58 01.4**	**-0.8**
	0.4nm,0.6s,baz=111,slow=7.9,SNR=4.9						
KURBB	**Kurchatov Arra**	**72.22**	**326**	P	**P**	**20 58 25.1**	**-1.5**
	0.4nm,0.8s,baz=117,slow=5.6,SNR=3.9						

IDC ***17*** *20:49:20.1±2.0, 38°.52N×75°.20E, h0km, mb3.5/4, mb1 3.5/8, mb1mx3.3/40, mbtmp3.4/8, ML2.8/4, MS3.1/2, Ms1 3.1/2, ms1mx2.4/31, Error ellipse: s-maj=38.6km s-min=22.7km az=151.0*

ISCJB ***17*** *20:49:22.7±0.5, 38°.60N±0°.05×75°.21E±0°.06, h20km, mb3.3/4, MS3.7/1, Error ellipse: s-maj=8.0km s-min=5.7km az=141.6*

NNC ***17*** *20:49:23.7±3.2, 38°.86N×75°.05E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=28.7km s-min=16.7km az=170.0*

ISC 17 20:49:24.3±0.8, 38°.65N±0°.07×75°.18E±0°.06, h20km, n31, σ1§53/36, mb3.6/4, 18C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.89**	**317**	⇑Pg	**Pn**	**20 49 54.5**	**-1.1**
	22nm,0.3s						
SFK				⇓Lg	Lg	20 50 23.2	
	207nm,0.7s						
KZA	**Kyzart**	**3.43**	**1**	P	**Pn**	**20 50 18.4**	**+1.5**
	SNR=15						
UCH	**Uchtor**	**3.61**	**352**	P	**Pn**	**20 50 21.4**	**+1.9**
	SNR=9.3						
AML	**Almayashu**	**3.66**	**342**	P	**Pb**	**20 50 27.7**	**-0.7**
	SNR=13						
ULHL	**Ulahol**	**3.68**	**12**	P	**Pb**	**20 50 28.4**	**-0.4**
	SNR=22						
KBK	**Karagaybulak**	**4.01**	**358**	P	**Pn**	**20 50 27.6**	**+2.9**
	SNR=6.0						
AAK	**Ala-Archa**	**4.01**	**353**	P	**Pb**	**20 50 36.3**	**+1.9**
	SNR=8.9						
AAK	**Ala-Archa**	**4.01**	**353**	⇑Pn	**Pn**	**20 50 27.0**	**+2.2**
	3.3nm,0.7s						
AAK				⇑Pg	**Pb**	**20 50 35.3**	**+0.9**
	27nm,0.8s						
AAK				⇑Lg	Lg	20 51 27.3	
	13nm,0.6s						
TKM2	**Tokmak 2**	**4.28**	**4**	P	**Pn**	**20 50 31.1**	**+2.7**
	SNR=7.8						
TKM2	**Tokmak 2**	**4.28**	**4**	⇑Pn	**Pn**	**20 50 30.7**	**+2.3**
	13nm,0.3s						
TKM2				⇑Lg	Lg	20 51 35.3	
	19nm,0.7s						
USP	**Ospenovka**	**4.64**	**354**	P	**Pb**	**20 50 47.1**	**+2.1**
	SNR=11						
KNDC	**Almaty**	**4.76**	**16**	⇓Pn	**Pn**	**20 50 35.7**	**+0.8**
	6.2nm,0.3s						
KNDC				⇑Pg	**Pb**	**20 50 48.2**	**+1.2**
	32nm,0.8s						
KNDC				⇓Lg	Lg	20 51 49.3	
	48nm,0.6s						
DZET	**Dzherino**	**4.97**	**274**	⇑Pn	**Pn**	**20 50 39.5**	**+1.6**
	3.2nm,0.4s						
DZET				⇓Pg	**Pb**	**20 50 50.6**	**-0.1**
	12nm,0.6s						
DZET				⇑Sn	**Sn**	**20 51 37.6**	**+2.7**
	20nm,0.5s						
DZET				⇑Lg	Lg	20 51 54.4	
	28nm,0.6s						
KK31	**Karatay Array**	**5.69**	**323**	⇑Pn	**Pn**	**20 50 47.8**	**+0.2**
	0.6nm,0.3s,baz=131,slow=13,SNR=35						
KK31				⇑Pg	Pb	20 50 59.1	-3.7
	0.8nm,0.3s,baz=127,slow=12,SNR=10						
KK31				⇑Sn	**Sn**	**20 51 52.0**	**-0.3**
	1.1nm,0.3s,baz=250,slow=78,SNR=4.1						
KK31				⇓Lg	Lg	20 52 20.0	
	3.3nm,0.5s						
PDGK	**Podgornoye**	**5.69**	**33**	⇑Pn	**Pn**	**20 50 49.8**	**+2.2**
	1.8nm,0.6s						
PDGK				⇑Pg	**Pb**	**20 51 02.8**	**-0.1**
	12nm,0.7s						
PDGK				⇓Lg	Lg	20 52 14.8	
	24nm,1.1s						
MK31	**Makanchi Array**	**9.67**	**30**	⇑Pn	**Pn**	**20 51 43.4**	**+1.1**
	0.6nm,0.6s,baz=203,slow=11,SNR=11						
MK31				⇑Lg	Lg	20 54 28.9	
	1.7nm,1.1s						
MKAR	**Makanchi Array**	**9.67**	**30**	Pn	**Pn**	**20 51 42.6**	**+0.4**
	0.2nm,0.3s,baz=208,slow=15,SNR=14						
MKAR				Lg	Lg	20 54 25.7	
	0.1nm,0.3s,baz=214,slow=23,SNR=2.5						
MKAR				LR	LR	20 55 15.6	
	comp=Z,26nm,19.2s,baz=200,slow=36						
KURBB	**Kurchatov Arra**	**12.21**	**10**	Pn	**Pn**	**20 52 15.8**	**-1.0**
	0.0nm,0.3s,baz=196,slow=12,SNR=4.4						
KURBB				Lg	Lg	20 55 48.8	
	0.0nm,0.3s,baz=192,slow=26,SNR=5.4						
KOLN	**Koldanda**	**12.93**	**145**	*e*P	**Pn**	**20 52 27.3**	**+0.3**
	5.8nm,0.5s						
GKN	**Gorkha**	**13.22**	**141**	*e*P	**Pn**	**20 52 31.9**	**+0.8**
	5.9nm,0.4s						
KKN	**Kakani**	**13.72**	**139**	*e*P	**Pn**	**20 52 37.7**	**-0.2**
PKI	**Pulchoki**	**13.97**	**139**	*e*P	**Pn**	**20 52 41.7**	**+0.3**
RAMN	**Ramite**	**15.09**	**137**	*e*P	**Pn**	**20 52 56.2**	**-0.4**
	8.3nm,0.6s						
AB31	**Akbulak array**	**15.23**	**319**	⇑Pn	**Pn**	**20 52 54.7**	**-3.3**
	0.2nm,0.2s,baz=123,slow=13,SNR=9.6						
ZALV	**Zalesovo Beam**	**16.66**	**20**	Pn	**Pn**	**20 53 15.1**	**-1.3**
	0.1nm,0.3s,baz=204,slow=14,SNR=3.8						
AKTO	**Akbinsk**	**16.94**	**320**	Pn	**Pn**	**20 53 19.8**	**-0.1**
	0.1nm,0.3s,baz=131,slow=17,SNR=2.0						
SONM	**Songino Array**	**24.38**	**58**	P	**P**	**20 54 41.4**	**+0.3**
	0.3nm,0.7s,baz=256,slow=4.3,SNR=2.5						
FINES	**FINESS Array B**	**37.65**	**324**	P	**P**	**20 56 37.1**	**-0.4**
	0.8nm,0.7s,baz=134,slow=12,SNR=2.9						
ARCES	**ARCESS Array B**	**40.50**	**336**	P	**P**	**20 57 00.7**	**-0.6**
	1.4nm,1.1s,baz=106,slow=8.9,SNR=5.6						
TORD	**Torodi Ar. Bea**	**69.06**	**270**	P	**P**	**21 00 27.9**	**-1.1**
	0.2nm,0.5s,baz=55,slow=3.9,SNR=7.4						
WRA	**Warramunga Arr**	**80.40**	**125**	LR	LR	21 41 16.1	
	comp=Z,38nm,21.1s,baz=290,slow=39						

IDC ***17*** *21:46:11.2±1.9, 8°.79S×157°.51E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.8/31, mbtmp3.9/9, MS3.5/2, Ms1 3.4/2, ms1mx2.6/25, Error ellipse: s-maj=56.8km s-min=20.7km az=110.0*

ISC 17 21:46:14.1±0.8, 8°.8S±0°.2×157°.49E±0°.08, h17km, n14, σ1§42/11, mb4.0/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.51**	**105**	*e*P	**Pg**	**21 47 04.0**	**+1.7**
HNR				*e*S	**Sg**	**21 47 33.0**	**-2.0**
WRA	**Warramunga Arr**	**24.99**	**241**	P	**P**	**21 51 36.5**	**-0.8**
	3.8nm,0.8s,baz=63,slow=9.6,SNR=29						
ASAR	**Alice Springs**	**27.00**	**234**	P	**P**	**21 51 53.8**	**-1.6**
	1.2nm,1.0s,baz=62,slow=9.5,SNR=8.3						
STKA	**Stephens Creek**	**27.33**	**211**	P	**P**	**21 51 58.9**	**+0.7**
	3.7nm,0.8s,baz=45,slow=14,SNR=6.6						
STKA				LR	LR	22 03 06.1	
	comp=Z,20nm,21.7s,baz=24,slow=37						
H11S3	**WAKE ISLAND Hy**	**28.57**	**18**	T	T	22 20 35.4	
	baz=198,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.57**	**19**	T	T	22 20 41.8	
	baz=198,slow=74						
H11S1	**WAKE ISLAND Hy**	**28.59**	**19**	T	T	22 20 48.1	
	baz=198						
MJAR	**Matsushiro Arr**	**48.58**	**339**	P	**P**	**21 54 56.3**	**-0.5**
	1.0nm,0.8s,baz=170,slow=8.7,SNR=3.2						
KSRS	**Korea Array**	**53.67**	**331**	P	**P**	**21 55 33.5**	**-1.4**
	0.5nm,0.3s,baz=148,slow=7.2,SNR=2.9						
PSI	**Prapat**	**59.50**	**278**	LR	LR	22 25 28.0	
	comp=Z,226nm,19.0s,baz=1.5,slow=40						
CMAR	**Chiang Mai Arr**	**63.78**	**295**	P	**P**	**21 56 47.1**	**+1.4**
	1.4nm,0.8s,baz=122,slow=6.0,SNR=8.2						
SONM	**Songino Array**	**72.16**	**327**	P	**P**	**21 57 39.2**	**+1.1**
	1.0nm,0.9s,baz=130,slow=5.8,SNR=4.5						
ILAR	**Eielson Array**	**84.13**	**21**	P	**P**	**21 58 43.5**	**-0.4**
	0.5nm,1.0s,baz=260,slow=5.4,SNR=4.4						
MKAR	**Makanchi Array**	**86.36**	**318**	P	**P**	**21 58 55.0**	**-0.6**
	0.6nm,0.6s,baz=101,slow=7.4,SNR=3.5						

IDC 17 21:57:22.8±3.4, 21°.88S×176°.66W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/26, mbtmp3.6/3, Error ellipse: s-maj=345.2km s-min=35.3km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.43**	**258**	P	P	22 05 44.4	+0.6
	0.7nm,0.9s,baz=92,slow=9.3,SNR=4.0						
WRA	**Warramunga Arr**	**45.66**	**263**	P	P	22 05 44.8	-0.8
	0.5nm,0.7s,baz=102,slow=8.4,SNR=8.5						
TXAR	**Lajitas Array**	**86.75**	**57**	P	P	22 10 09.2	0.0
	0.3nm,0.7s,baz=219,slow=6.9,SNR=3.7						

ISCJB ***17*** *22:07:53.7±0.3, 0°.66N±0°.03×123°.29E±0°.02, h75km±4km, mb4.3/19, Error ellipse: s-maj=4.6km s-min=3.6km az=158.5*

BJI ***17*** *22:07:53.9, 0°.55N×123°.63E, h96km, mb4.4/23, mB4.7/15*

NEIC ***17*** *22:07:54.3±0.5, 0°.64N×123°.29E, h68km±6km, mb4.6/9, Error ellipse: s-maj=7.0km s-min=6.7km az=209.0*

NEIC Felt [III] at Gorontalo.

DJA ***17*** *22:07:55.6±0.5, 1°.N±2°×12°.3E±°, h34km±7km, M5.1/23, mb5.2/20, mB5.6/13, MLv5.1/23, Mw(mB)5.1/13, Mwp5.4/1*

IDC ***17*** *22:07:55.1±2.6, 0°.67N×123°.35E, h75km±25km, mb3.8/11, mb1 4.0/13, mb1mx3.7/36, mbtmp4.2/13, MS3.0/6, Ms1 3.1/6, ms1mx2.7/31, Error ellipse: s-maj=17.4km s-min=12.3km az=77.0*

ISC 17 22:07:55.4±0.5, 0°.65N±0°.04×123°.32E±0°.04, h82km±4km, h82km:pP-P, n85, σ1§77/111, mb4.6/29, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.66**	**96**	P	**Pn**	**22 08 09.3**	**-1.6**
KMSI				S	**Sn**	**22 08 21.6**	**-0.8**
MRSI	**Marisa**	**1.39**	**263**	P	**Pn**	**22 08 17.0**	**-2.5**
MRSI				S	**Sn**	**22 08 34.0**	**-3.6**
LUWI	**Luwuk**	**1.77**	**198**	P	**Pn**	**22 08 23.9**	**-0.5**
LUWI				S	**Sn**	**22 08 46.4**	**+0.1**
LUWI	**Luwuk**	**1.77**	**198**	*e*Pn	**Pn**	**22 08 23.4**	**-1.0**
LUWI				*e*Sn	**Sn**	**22 08 49.4**	**+3.1**
APSI	**Ampana**	**2.28**	**227**	P	**Pn**	**22 08 32.1**	**+0.9**
APSI				S	**Sn**	**22 08 58.9**	**+0.4**
TOLI	**Toli-Toli**	**2.57**	**281**	*e*Pn	**Pn**	**22 08 34.8**	**-0.3**
TOLI				*e*Sn	**Sn**	**22 09 05.6**	**+0.1**
MPSI	**Mapaga**	**3.44**	**265**	P	**Pn**	**22 08 45.7**	**-1.1**
MPSI				S	**Sn**	**22 09 24.6**	**-1.9**
SGSI	**Sangihe**	**3.73**	**36**	P	**Pn**	**22 08 51.2**	**+0.4**
SGSI				S	**Sn**	**22 09 33.3**	**-0.4**
SANI	**Sanana**	**3.78**	**135**	P	**Pn**	**22 08 50.6**	**-0.8**
SANI				S	**Sn**	**22 09 31.4**	**-3.4**
PCI	**Palu**	**3.81**	**246**	P	**Pn**	22 08 48.2	-3.7
PCI				S	**Sn**	**22 09 34.3**	**-1.3**
TNTI	**Ternate**	**4.04**	**88**	P	**Pn**	**22 08 55.6**	**+0.6**
TNTI	**Ternate**	**4.04**	**88**	*e*Pn	**Pn**	**22 08 55.0**	**0.0**
KDI	**Kendari**	**4.63**	**189**	P	**Pn**	**22 09 03.2**	**+0.2**
TTSI	**Tana Toraja**	**5.07**	**224**	P	**Pn**	**22 09 08.9**	**-0.1**
	1μm,0.7s,13μm3.8nm						
TTSI				S	**Sn**	**22 10 07.4**	**+1.0**
	1μm,0.7s,13μm3.8nm						
NLAI	**Namlea**	**5.40**	**136**	P	**Pn**	**22 09 13.4**	**-0.1**
	514nm,0.4s,12μm3.1nm						
SPSI	**Sidrap Palu**	**5.80**	**218**	P	**Pn**	**22 09 18.3**	**-0.6**
	395nm,0.7s,6μm1.9nm						
SPSI				S	**Sn**	**22 10 23.3**	**-0.8**
	395nm,0.7s,6μm1.9nm						
SGKI	**Sangatta, Kali**	**5.84**	**258**	S	**Sn**	**22 10 21.6**	**-3.5**
KAPI	**Kappang**	**6.66**	**212**	P	**Pn**	**22 09 30.5**	**-0.2**
	53nm,0.3s,baz=29,slow=6.8,SNR=83						
KAPI				S	**Sn**	**22 10 42.9**	**-2.3**
	17nm,0.3s,baz=233,slow=20,SNR=7.2						
KAPI				LR	LR	22 12 19.8	
	comp=Z,376nm,20.6s,baz=61,slow=40						
KAPI	**Kappang**	**6.66**	**212**	*e*Pn	**Pn**	**22 09 30.2**	**-0.6**
KAPI				*e*Sn	**Sn**	**22 10 43.2**	**-2.1**
BKB	**Balikpapan**	**6.70**	**254**	P	**Pn**	**22 09 28.9**	**-2.4**
	166nm,0.9s,0.6nm						
BKB				S	**Sn**	**22 10 45.0**	**-1.2**
	166nm,0.9s,0.6nm						
BKSI	**Bulukumba**	**6.74**	**208**	P	**Pn**	**22 09 31.9**	**+0.1**
	132nm,0.6s,1μm0.5nm						
DAV	**Davao City (W)**	**6.76**	**19**	*e*Pn	**Pn**	**22 09 33.9**	**+1.8**
DAV				*e*Sn	Sn	22 10 55.1	+7.4
MSAI	**Masohi**	**6.87**	**125**	P	**Pn**	**22 09 34.9**	**+1.4**
	48nm,0.7s,999nm0.2nm						
BSSI	**Bau Bau, Buton**	**7.32**	**203**	P	**Pn**	**22 09 40.9**	**+1.2**
	233nm,0.8s,3μm0.9nm						
SIJI	**Sorong**	**8.08**	**101**	P	**Pn**	**22 09 50.4**	**+0.2**
	2.9nm,0.3s,baz=175,slow=23,SNR=6.8						
KBKI	**Kotabaru**	**8.16**	**241**	P	**Pn**	**22 09 49.5

	comp=Z,17nm,21.2s,baz=196,slow=36							
MAT	**Matsushiro**	**38.29**	**20**	P	**P**	**22 15 07.0**	**-1.0**	
MJAR	**Matsushiro Arr**	**38.29**	**20**	P	**P**	**22 15 06.7**	**-1.2**	
	4.5nm,0.8s,baz=196,slow=10,SNR=21							
MJAR				LR	LR	22 29 19.8		
	comp=Z,17nm,21.5s,baz=285,slow=34							
LZH	**Lanzhou**	**39.63**	**335**	*e*P	**P**	**22 15 18.6**	**-0.8**	
LZH				pP	**pP**	**22 15 39.8**	**+0.8**	
LZH				sP	**sP**	**22 15 49.6**	**+1.2**	
LZH				PMZ				
	17nm,1.0s							
BJI	**Beijing**	**39.74**	**351**	P	**P**	**22 15 21.5**	**+1.5**	
BJI				PMZ				
	10.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**41.41**	**346**	*e*P	**P**	**22 15 31.5**	**-2.4**	
HHC				PP	**PnPn**	**22 17 15.6**	**-0.9**	
HHC				S	**S**	**22 21 43.5**	**+0.5**	
HHC				sS	sS	22 22 23.1	+6.3	
HHC				SS	**SS**	**22 24 46.5**	**-3.7**	
HHC				ScS	**ScS**	**22 25 26.0**	**-3.8**	
HHC				PMZ				
	17nm,1.0s							
HHC				PMZ				
	59nm,5.7s							
HHC				LN				
	280nm,13.6s							
HHC				LE				
	140nm,13.2s							
HHC				LZ				
	250nm,13.7s							
ODAN	**Odare**	**43.25**	**310**	*e*P	**P**	**22 15 52.4**	**+3.1**	
	16nm,0.9s							
TAPN	**Taplejung**	**43.26**	**311**	*e*P	P	22 15 53.4	+4.0	
	8.4nm,0.5s							
RAMN	**Ramite**	**43.91**	**310**	*e*P	P	22 15 58.0	+3.5	
	13nm,0.4s							
GTA	**Gaotai**	**44.15**	**334**	*e*P	**P**	**22 15 57.8**	**+1.6**	
GTA				S	**S**	**22 22 27.5**	**+4.2**	
GTA				SS	**SS**	**22 25 39.0**	**-4.9**	
GTA				PMZ				
	4.0nm,0.9s							
GTA				PMZ				
	53nm,5.5s							
GTA				LN				
	83nm,14.7s							
GTA				LE				
	90nm,14.7s							
GTA				LZ				
	67nm,16.2s							
GUN	**Gumba**	**44.94**	**310**	*e*P	**P**	**22 16 04.9**	**+2.0**	
	32nm,0.7s							
PKI	**Pulchoki**	**45.13**	**310**	*e*P	**P**	**22 16 06.0**	**+1.6**	
	6.0nm,0.5s							
PKIN	**Phulchoki**	**45.15**	**310**	*e*P	**P**	**22 16 07.2**	**+2.8**	
	4.6nm,0.5s							
KKN	**Kakani**	**45.34**	**310**	*e*P	**P**	**22 16 08.1**	**+2.2**	
	6.9nm,0.5s							
DMN	**Daman**	**45.38**	**310**	*e*P	**P**	**22 16 08.6**	**+2.3**	
	11nm,0.7s							
GKN	**Gorkha**	**45.94**	**310**	*e*P	**P**	**22 16 12.4**	**+1.8**	
	11nm,0.8s							
KOLN	**Koldanda**	**46.63**	**309**	*e*P	**P**	**22 16 16.7**	**+0.7**	
	22nm,0.6s							
SONM	**Songino Array**	**49.24**	**345**	P	**P**	**22 16 37.0**	**+1.2**	
	0.3nm,0.5s,baz=158,slow=9.1,SNR=4.1							
WMQ	**Urumqi**	**53.41**	**328**	P	**P**	**22 17 07.8**	**+0.9**	
WMQ				pP	**pP**	**22 17 31.4**	**+4.0**	
WMQ				sP	sP	22 17 42.6	+5.9	
WMQ				PMZ				
	2.0nm,0.5s							
WMQ				PMZ				
	11nm,4.6s							
WMQ				LN				
	13nm,19.2s							
WMQ				LE				
	12nm,18.9s							
WMQ				LZ				
	11nm,20.1s							
KSH	**Kashi**	**57.91**	**318**	P	**P**	**22 17 41.1**	**+1.8**	
KSH				PMZ				
	3.0nm,1.2s							
MKAR	**Makanchi Array**	**58.24**	**328**	P	**P**	**22 17 41.9**	**+0.6**	
	0.6nm,0.4s,baz=128,slow=8.2,SNR=14							
MKAR				pP	**pP**	**22 17 57.5**	**-4.7**	
	3.8nm,0.7s,baz=131,slow=8.1,SNR=14							
PETK	**Petropavlovsk-**	**59.57**	**23**	P	**P**	**22 17 51.4**	**+1.0**	
	2.3nm,0.5s,baz=217,slow=7.0,SNR=4.4							
ZALV	**Zalesovo Beam**	**61.86**	**335**	pP	pP	22 18 21.9	-5.0	
	1.8nm,0.6s,baz=122,slow=7.0,SNR=5.6							
VNDA	**Vanda**	**80.84**	**172**	P	**P**	**22 20 00.0**	**+0.2**	
	0.7nm,0.8s,baz=305,slow=8.5,SNR=3.8							
SYO	**Syowa Base**	**88.35**	**201**⇑	*e*P	**P**	**22 20 36.2**	**-1.5**	
BRTR	**Keskin Array B**	**89.35**	**310**	LR	LR	23 07 37.0		
	comp=Z,5.2nm,18.4s,baz=118,slow=40							
TORD	**Torodi Ar. Bea**	**120.55**	**286**	PKP	**PKPdf**	**22 26 38.1**	**-0.6**	
	0.4nm,0.6s,baz=134,slow=1.9,SNR=4.2							

IDC ***17*** *22:09:26.6±2.6,21°.39S×169°.87E,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.8/25,mbtmpb3.9/4,MS3.4/1,Ms1 3.3/1, ms1mx2.6/24,Error ellipse: s-maj=134.7km s-min=30.5km az=159.0*

ISCJB ***17*** *22:09:32.0±1.2,21°.1S±0°.2×169°.72E±0°.09,h36km, mb3.9/4,MS3.3/1,Error ellipse: s-maj=24.2km s-min=9.6km az=162.0*

NOU ***17*** *22:09:33.2±1.6,21°.12S×169°.81E,h30km,MD3.9,ML6.0*

ISC 17 22:09:33.3±1.2,21°.1S±0°.2×169°.7E±0°.1,h36km,n11, σ0§79/12,mb4.0/4,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.34**	**277**	*e*P	**Pn**	**22 10 09.6**	**+0.4**
LIFNC				*e*S	**Sn**	**22 10 36.7**	**0.0**
LIFNC				AMP		22 10 40.1	
	comp=Z,3139μm,4.7s						
BAYA	**Yate Dam**	**2.85**	**247**	*e*P	**Pn**	**22 10 17.5**	**+1.2**
BAYA				*e*S	**Sn**	**22 10 48.6**	**-0.8**
DZM	**Mont Dzumac**	**3.21**	**251**	AMP		22 10 03.3	
	comp=Z,5μm,4.6s						
NOUC	**Port Laguerre**	**3.34**	**252**	*e*P	**Pn**	**22 10 23.1**	**+0.1**
NOUC				*e*S	**Sn**	**22 11 01.8**	**+0.2**
NOUC				AMP		22 11 03.8	
	comp=Z,269nm,5.8s						
STKA	**Stephens Creek**	**27.31**	**241**	LR	LR	22 25 22.9	
	comp=Z,77nm,19.0s,baz=23,slow=35						
WRA	**Warramunga Arr**	**33.12**	**266**	P	**P**	**22 16 05.4**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=95,slow=8.4,SNR=5.7						
ASAR	**Alice Springs**	**33.17**	**259**	P	**P**	**22 16 06.3**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=84,slow=9.2,SNR=9.6						
SONM	**Songino Array**	**88.95**	**323**	P	**P**	**22 22 25.1**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=149,slow=3.8,SNR=3.2						
NVAR	**Mina Array Bea**	**89.67**	**48**	P	**P**	**22 22 28.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=221,slow=6.6,SNR=3.5						
ARCES	**ARCESS Array B**	**126.95**	**345**	PKP	**PKPdf**	**22 28 31.4**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=50,slow=2.8,SNR=7.7						
GERES	**GERESS Array B**	**146.31**	**331**	PKPbc	**PKPdf**	**22 29 09.1**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=25,slow=3.2,SNR=9.8						

ISN ***17*** *22:21:43.6±4.5,24°.70N×50°.97E,h39km,ML4.1*

IDC ***17*** *22:22:12.0±1.0,28°.22N×52°.49E,h0km,mb3.9/17, mb1 4.0/20,mb1mx3.8/40,mbtmpb3.8/20,ML3.6/3,MS3.0/12, Ms1 3.0/12,ms1mx2.8/37,Error ellipse: s-maj=24.3km s-min=15.2km az=166.0*

THR ***17*** *22:22:13.9±0.9,28°.40N×52°.48E,h10km±9km,ML3.7*

ISCJB ***17*** *22:22:13.8±0.3,28°.33N±0°.04×52°.41E±0°.04,h15km, mb3.8/18,MS3.1/9,Error ellipse: s-maj=6.0km s-min=3.8km az=41.3*

TEH ***17*** *22:22:14.2,28°.25N×52°.24E,h5km,ML3.6*

CSEM ***17*** *22:22:14.2±0.3,28°.33N×52°.44E,h0km±2km,ML3.7,Error ellipse: s-maj=5.9km s-min=3.2km az=59.0*

DSN ***17*** *22:22:27.6±6.6,27°.80N×53°.25E,h15km,ML4.0/2,Error ellipse: s-maj=5.9km s-min=3.7km az=347.0*

ISC 17 22:22:14.8±0.6,28°.30N±0°.06×52°.38E±0°.06,h15km,n71, σ1§03/69,mb3.8/19,MS3.1/9,2C-7D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.53**	**91**	*e*Pg	Pg	22 22 23.0	-2.3
GHIR				AML	AML	22 22 40.5	
	comp=N,10μm,0.3s						
GHIR				AML	AML	22 22 43.0	
	comp=E,7μm,0.6s						
GHIR	**Ghir-Karzin**	**0.53**	**91**	*e*Pg	Pg	22 22 23.0	-2.3
	comp=E,7μm,0.6s						
AHBU	**AHRAM**	**1.11**	**301**	*e*Pg	**Pg**	**22 22 36.2**	**0.0**
AHBU				*e*Sg	**Sn**	**22 22 51.7**	**+0.9**
SHI	**Shiraz**	**1.34**	**5**	*e*Pg	**Pn**	**22 22 39.6**	**+0.4**
SHI				*e*		22 23 07.1	
	comp=Z,13μm,0.2s						
SHI	**Shiraz**	**1.34**	**5**	*e*Pg	**Pn**	**22 22 39.6**	**+0.4**
IKAZ	**Kazeroun**	**1.55**	**342**	*e*Pn	**Pn**	**22 22 42.6**	**+0.5**
IKAZ				*e*Sg	**Sb**	**22 23 03.1**	**+0.1**
IKAZ				*e*		22 23 10.8	
	comp=Z,18μm,0.2s						
IKAZ	**Kazeroun**	**1.55**	**342**	*e*Pn	**Pn**	**22 22 42.6**	**+0.5**
IKAZ				*e*Sg	**Sb**	**22 23 03.1**	**+0.1**
BNDS	**Bandar-Abbas**	**3.47**	**104**	*e*Pn	**Pn**	**22 23 09.1**	**+0.7**
BNDS				AML	AML	22 24 16.1	
	comp=E,144nm,0.5s						
BNDS				AML	AML	22 24 25.6	
	comp=N,169nm,0.5s						
BNDS	**Bandar-Abbas**	**3.47**	**104**	*e*Pn	**Pn**	**22 23 09.1**	**+0.7**
	comp=N,169nm,0.5s						
IMEH	**Mehriz**	**3.64**	**32**	*e*Pn	**Pn**	**22 23 12.7**	**+1.8**
IMEH				*e*		22 24 03.1	
	comp=Z,1μm,0.3s						
IMEH	**Mehriz**	**3.64**	**32**	*e*Pn	**Pn**	**22 23 12.6**	**+1.8**
ISAD	**Sadrabad**	**3.77**	**17**	*e*Pn	**Pn**	**22 23 13.9**	**+1.2**
ISAD				*e*		22 24 02.8	
	comp=Z,1μm,0.3s						
ISAD	**Sadrabad**	**3.77**	**17**	*e*Pn	**Pn**	**22 23 13.9**	**+1.2**
KRBR	**Kerman**	**4.18**	**65**	*e*Pn	**Pn**	**22 23 18.9**	**+0.6**
KRBR				AML	AML	22 24 34.2	
	comp=N,88nm,0.6s						
KRBR				AML	AML	22 24 45.6	
	comp=E,90nm,0.6s						
KRBR	**Kerman**	**4.18**	**65**	*e*Pn	**Pn**	**22 23 18.9**	**+0.6**
	comp=E,90nm,0.6s						
BANOM	**Banah**	**4.22**	**123**	P	**Pn**	**22 23 19.1**	**+0.5**
	SNR=22						
BANOM	**Banah**	**4.22**	**123**	⇓*i*P	**Pn**	**22 23 19.1**	**+0.5**
	SNR=22						
BANOM				⇓S	Sn	22 23 58.8	-8.8
IBAF	**Bafgh**	**4.29**	**39**	*e*Pn	**Pn**	**22 23 21.1**	**+1.4**
IBAF				*e*		22 24 39.2	
	comp=Z,635nm,0.4s						
IBAF	**Bafgh**	**4.29**	**39**	*e*Pn	**Pn**	**22 23 21.1**	**+1.4**
ICHK	**Chekchek**	**4.30**	**23**	*e*Pn	**Pn**	**22 23 21.1**	**+1.1**
ICHK				*e*		22 24 17.3	
	comp=Z,615nm,0.3s						
ICHK	**Chekchek**	**4.30**	**23**	*e*Pn	**Pn**	**22 23 21.1**	**+1.1**
NAZ	**Nazwa, Dubai**	**4.41**	**138**	P	**Pn**	**22 23 22.7**	**+1.4**
	SNR=14						
NAZ	**Nazwa, Dubai**	**4.41**	**138**	⇓*i*P	**Pn**	**22 23 22.7**	**+1.4**
	SNR=14						
NASN	**Na'in**	**4.50**	**5**	*e*Pn	**Pn**	**22 23 22.6**	**-0.1**
NASN	**Na'in**	**4.50**	**5**	*e*Pn	**Pn**	**22 23 22.6**	**-0.1**
ASUD	**Al Ashush, Dub**	**4.51**	**144**	P	**Pn**	**22 23 24.1**	**+1.5**
	SNR=32						
ASUD	**Al Ashush, Dub**	**4.51**	**144**	⇑*i*P	**Pn**	**22 23 24.1**	**+1.5**
	SNR=32						
FAQ	**Al Faqa, Dubai**	**4.56**	**140**	P	**Pn**	**22 23 24.3**	**+1.0**
	SNR=10.0						
FAQ	**Al Faqa, Dubai**	**4.56**	**140**	⇓*i*P	**Pn**	**22 23 24.3**	**+1.0**
	SNR=10.0						
IZEF	**Zefreh**	**4.58**	**359**	*e*Pn	**Pn**	**22 23 24.5**	**+0.7**
IZEF				*e*		22 23 43.5	
	comp=Z,270nm,0.3s						
IZEF	**Zefreh**	**4.58**	**359**	*e*Pn	**Pn**	**22 23 24.5**	**+0.7**
HATD	**Hatta, Dubai**	**4.82**	**135**	P	**Pn**	**22 23 27.6**	**+0.7**
HATD	**Hatta, Dubai**	**4.82**	**135**	⇓P	**Pn**	**22 23 27.6**	**+0.7**
ASHO	**Ashiyiah**	**4.88**	**137**	P	**Pn**	**22 23 28.3**	**+0.6**
	SNR=32						
ASHO	**Ashiyiah**	**4.88**	**137**	*i* P	**Pn**	**22 23 28.3**	**+0.6**
	SNR=32						
IKLH	**Kolahrood**	**5.05**	**352**	*e*Pn	**Pn**	**22 23 30.8**	**+0.6**
IKLH				*e*		22 24 35.0	
	comp=Z,308nm,0.2s						
IKLH	**Kolahrood**	**5.05**	**352**	*e*Pn	**Pn**	**22 23 30.8**	**+0.6**
TABS	**Tabas**	**6.71**	**36**	*e*Pn	**Pn**	**22 23 53.0**	**+0.2**
TABS	**Tabas**	**6.71**	**36**	*e*Pn	**Pn**	**22 23 53.0**	**+0.2**
IBDR	**Badra**	**7.34**	**312**	*e*PN	x	22 24 24.1	
IBDR				*e*SN	x	22 26 01.5	
	baz=151						
SHRO	**Shahrood**	**8.26**	**21**	*e*Pn	**Pn**	**22 24 14.6**	**+0.4**
SHRO	**Shahrood**	**8.26**	**21**	*e*Pn	**Pn**	**22 24 14.6**	**+0.4**
RTB	**Rutbah**	**11.41**	**297**	*e*P	x	22 24 47.2	
RTB				*i* S	x	22 26 44.7	
GNI	**Garni**	**13.40**	**334**	LR	LR	22 31 13.0	
	comp=Z,61nm,19.9s,baz=107,slow=40						
ASF	**Jal al Asfar**	**13.93**	**290**	Pn	**Pn**	**22 25 33.8**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=38,slow=16,SNR=2.8						
ASF				Sn	Sn	22 27 59.2	-7.0
	comp=Z,0.1nm,0.3s,baz=101,slow=16,SNR=2.7						
EIL	**Elat**	**15.32**	**279**	Pn	**P**	**22 25 54.1**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=51,slow=4.9,SNR=1.9						
MMAI	**Mount Meron Ar**	**15.35**	**292**	Pn	**Pn**	**22 25 52.0**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=109,slow=18,SNR=3.1						
MMAI				LR	LR	22 32 02.4	
	comp=Z,32nm,19.3s,baz=40,slow=38						
BRTR	**Keskin Array B**	**19.23**	**311**	P	**Pn**	**22 26 39.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=133,slow=12,SNR=10						
BRTR				LR	LR	22 35 23.2	
	comp=Z,23nm,18.9s,baz=104,slow=41						
AKTO	**Aktyubinsk**	**22.52**	**9**	P	**P**	**22 27 14.2**	**+0.4**
	comp=Z,1.5nm,0.4s,baz=171,slow=6.7,SNR=8.3						
AKTO				LR	LR	22 38 03.4	
	comp=Z,58nm,18.7s,baz=190,slow=42						
IDI	**Anoyia**	**24.34**	**294**	P	**P**	**22 27 34.7**	**+2.5**
	comp=Z,6.4nm,0.7s,baz=103,slow=14,SNR=4.5						
MLR	**Muntele Rosu**	**27.05**	**316**	P	**P**	**22 27 59.1**	**+2.5**
	comp=Z,0.7nm,0.8s,baz=90,slow=20						
MLR				LR	LR	22 41 01.9	
	comp=Z,8.0nm,21.0s,baz=98,slow=42						
BVAR	**Borovoye Array**	**28.06**	**23**	P	**P**	**22 28 05.1**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=216,slow=7.1,SNR=5.7						
BVAR				PcP	**PcP**	**22 31 19.4**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=208,slow=3.4,SNR=4.2						
AKASG	**Malin Array Be**	**28.41**	**328**	P	**P**	**22 28 08.0**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=134,slow=7.6,SNR=3.3						
MKAR	**Makanchi Array**	**29.79**	**44**	P	**P**	**22 28 20.4**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=225,slow=6.5,SNR=6.7						
MKAR				PcP	**PcP**	**22 31 23.0**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=241,slow=3.7,SNR=5.6						
KURBB	**Kurchatov Arra**	**29.80**	**34**	P	**P**	**22 28 20.9**	**0.0**
	comp=Z,1.0nm,0.9s,baz=236,slow=9.1,SNR=5.7						
ZALV	**Zalesovo Beam**	**34.88**	**34**	P	**P**	**22 29 04.9**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=238,slow=10.0,SNR=8.6						
GERES	**GERESS Array B**	**36.02**	**315**	P	**P**	**22 29 16.9**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=95,slow=7.0,SNR=4.9						
SQTA	**Sankt Quirin**	**37.11**	**312**	⇓*i*P	**P**	**22 29 25.0**	**+0.3**
FETA	**Feichten**	**37.37**	**311**	⇓P	**P**	**22 29 24.5**	**-2.5**
	comp=Z,6.1nm,1.7s						
FINES	**FINESS Array B**	**37.49**	**340**	P	**P**	**22 29 27.2**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=145,slow=11,SNR=24						
FINES				LR	LR	22 47 41.5	
	comp=Z,25nm,19.5s,baz=88,slow=41						
DAVA	**Damuels**	**38.00**	**312**	⇑*i*pP	**P**	**22 29 32.8**	**+0.5**
	comp=Z,5.1nm,0.6s						
NB2	**NORSAR Subarra**	**42.69**	**332**	P	**P**	**22 30 09.4**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=121,slow=8.6						
NOA	**NORSAR Array B**	**42.69**	**332**	P	**P**	**22 30 09.8**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=115,slow=6.4,SNR=5.5						
NOA				LR	LR	22 48 04.3	
	comp=Z,11nm,20.0s,baz=75,slow=36						
ARCES	**ARCESS Array B**	**44.10**	**347**	P	**P**	**22 30 21.6**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=140,slow=7.9,SNR=20						
ARCES				LR	LR	22 49 56.8	
	comp=Z,22nm,20.3s,baz=150,slow=38						
SONM	**Songino Array**	**45.76**	**50**	P	**P**	**22 30 35.8**	**0.0**
	comp=Z,0.6nm,0.7s,baz=268,slow=8.7,SNR=5.7						
SONM				LR	LR	22 50 23.6	
	comp=Z,35nm,19.9s,baz=223,slow=37						
TORD	**Torodi Ar. Bea**	**49.40**	**263**	P	**P**	**22 31 03.6**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=62,slow=8.0,SNR=31						
TORD				LR	LR	22 53 45.9	
	comp=Z,40nm,18.9s,baz=170,slow=38						
DBIC	**Dimbokro**	**58.10**	**260**	P	**P**	**22 32 07.6**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=20,slow=10,SNR=3.7						
KSRS	**Korea Array**	**62.56**	**60**	LR	LR	23 01 51.2	
	comp=Z,20nm,18.3s,baz=50,slow=38						
PETK	**Petropavlovsk-**	**76.36**	**37**	LR	LR	23 11 11.0	
	comp=Z,21nm,19.9s,baz=27,slow=38						
YKA	**Yellowknife Ar**	**88.92**	**354**	P	**P**	**22 35 08.3**	**0.0**
	comp=Z,0.5nm,0.5s,baz=10,slow=5.5,SNR=5.3						
WRA	**Warramunga Arr**	**92.51**	**111**	P	**P**	**22 35 25.6**	**-0.2**
	comp=Z,0.6nm,1.1s,baz=310,slow=4.1,SNR=4.7						

ISCJB ***17*** *22:35:24.3±0.5,41°.94N±0°.05×83°.18E±0°.06,h10km, mb3.6/6,MS3.3/2,Error ellipse: s-maj=7.5km s-min=6.3km az=151.3*

IDC ***17*** *22:35:24.4±1.2,42°.03N×83°.23E,h0km,mb3.7/6, mb1 3.7/11,mb1mx3.5/35,mbtmpb3.6/11,ML3.0/5,MS3.3/2, Ms1 3.4/2,ms1mx2.5/40,Error ellipse: s-maj=28.8km s-min=20.8km az=59.0*

BJI ***17*** *22:35:27.7,41°.99N×83°.26E,h10km,ML3.5/12*

NNC ***17*** *22:35:30.0±3.5,42°.31N×83°.30E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=32.3km s-min=16.0km az=147.0*

ISC 17 22:35:26.4±0.7,41°.95N±0°.06×83°.33E±0°.06,h10km,n29, σ1§74/30,mb3.6/6,12C-9D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**3.15**	**297**	⇓Pn	**Pn**	**22 36 17.7**	**+1.6**
	2.7nm,0.3s						
PDGK				⇓Pg	**Pb**	**22 36 23.3**	**+0.7**
	23nm,0.6s						
PDGK				⇓Lg	Lg	22 37 01.8	
	244nm,0.9s						
WMQ	**Urumqi**	**3.71**	**58**	Pn	**Pn**	**22 36 25.4**	**+1.5**
WMQ				Sn	**Sn**	**22 37 09.8**	**+2.1**
WMQ				SMN			
	170nm,0.6s						
WMQ				SME			
	120nm,0.7s						
KNDC	**Almaty**	**4.87**	**287**	⇑Pn	Pb	22 36 48.3	-3.5
KNDC				⇓Sn	**Sn**	**22 37 41.1**	**+4.9**
KNDC				⇑Lg	Lg	22 38 04.2	
	149nm,1.1s						
MK31	**Makanchi Array**	**4.90**	**352**	⇑Pn	**Pn**	**22 36 41.8**	**+1.6**
	0.6nm,0.3s,baz=139,slow=15,SNR=185						
MK31				⇑Pg	**Pb**	**22 36 54.6**	**+2.3**
	35nm,0.8s,baz=166,slow=16,SNR=54						
MK31				⇑Lg	Lg	22 37 56.8	
	64nm,0.6s,baz=170,slow=29,SNR=12						
MKAR	**Makanchi Array**	**4.90**	**352**	Pn	**Pn**	**22 36 40.9**	**+0.7**
	0.7nm,0.3s,baz=168,slow=13,SNR=23						
MKAR				Pg	**Pb**	**22 36 53.8**	**+1.4**
	5.3nm,0.3s,baz=168,slow=16,SNR=46						
MKAR				Lg	Lg	22 37 55.5	
	12nm,0.3s,baz=160,slow=27,SNR=9.8						
TKM2	**Tokmak 2**	**5.81**	**282**	⇓Pn	**Pn**	**22 36 53.9**	**+1.1**
	1.5nm,0.3s						
TKM2				⇓Lg	Lg	22 38 28.9	
	40nm,0.9s						
KSH	**Kashi**	**6.09**	**249**	Pn	Pn	22 37 04.4	+7.7
KSH				Sn	Sn	22 38 16.6	+10
KSH				SMN			
	22nm,0.6s						
KSH				SME			
	22nm,0.9s						
AAK	**Ala-Archa**	**6.59**	**279**	⇑Pg	Pg	22 37 29.1	-3.4
	2.1nm,0.5s						
AAK				⇓Lg	Lg	22 38 54.2	
	22nm,1.1s						
KURBB	**Kurchatov Arra**	**9.29**	**341**	⇑Pn	**Pn**	**22 37 40.5**	**+0.2**
	1.8nm,0.5s						
KURBB				⇑Sn	**Sn**	**22 39 21.9**	**-2.9**
	16nm,0.8s						
KURBB				⇑Lg	Lg	22 40 15.1	
	27nm,0.7s						
KURBB	**Kurchatov Arra**	**9.29**	**341**	Pn	**Pn**	**22 37 38.2**	**-2.2**
	0.2nm,0.3s,baz=149,slow=13,SNR=5.5						
KURBB				Sn	**Sn**	**22 39 24.6**	**-0.2**
	0.2nm,0.3s,baz=136,slow=29,SNR=7.1						
KURBB				Lg	Lg	22 40 13.1	
	0.2nm,0.3s,baz=159,slow=32,SNR=5.8						
KURK	**Kurchatov**	**9.35**	**341**	⇑Pn	**Pn**	**22 37 44.0**	**+2.8**
	2.3nm,0.7s						
KURK				⇑Sn	**Sn**	**22 39 24.6**	**-1.7**
	4.6nm,1.0s						
KURK				⇓Lg	Lg	22 40 20.5	
	8.6nm,0.7s						
KK31	**Karatay Array**	**9.54**	**281**	⇓Pg	Pn	22 38 20.2	+36
	0.7nm,0.6s,baz=80,slow=15,SNR=4.2						
KK31				⇑Lg	Lg	22 40 28.4	
	9.2nm,1.1s						
CHCP	**Chirah Chowk**	**11.48**	**227**	P	**Pn**	**22 38 10.9**	**+0.5**
ZALV	**Zalesovo Beam**	**12.05**	**4**	Pn	Pn	22 38 15.4	-2.6
	0.4nm,0.3s,baz=183,slow=14,SNR=7.4						
ZALV				Lg	Lg	22 41 38.6	
	0.1nm,0.3s,baz=183,slow=24,SNR=2.8						
CEP	**Cherat**	**12.12**	**232**	P	**Pn**	**22 38 18.2**	**-1.1**
THW	**Thamme Wali**	**12.97**	**229**	P	**Pn**	**22 38 29.2**	**-1.5**
BVAR	**Borovoye Array**	**14.09**	**326**	Pn	**Pn**	**22 38 46.9**	**+0.9**
	0.2nm,0.3s,baz=123,slow=11,SNR=2.5						
BVAR				Lg	Lg	22 42 47.5	
	0.1nm,0.3s,baz=136,slow=26,SNR=3.8						
SONM	**Songino Array**	**17.34**	**62**	P	**Pn**	**22 39 29.0**	**+0.4**
	0.0nm,0.3s,baz=257,slow=13,SNR=4.5						
AKTO	**Aktyubinsk**	**19.40**	**305**	P	**P**	**22 39 51.7**	**-0.7**
	0.1nm,0.3s,baz=111,slow=8.6,SNR=2.6						
CD2	**Chengdu**	**19.74**	**117**	*e*P	**P**	**22 39 57.0**	**+0.7**
JNU	**Nakatsue**	**38.30**	**87**	LR	LR	23 00 26.3	
	comp=Z,23nm,18.8s,slow=39						
FINES	**

1.4nm,0.3s,baz=348,slow=20,SNR=3.3
WRA Warramunga Arr 26.77 162 P **P** **22 57 29.6 -0.3**
0.5nm,0.5s,baz=338,slow=10,SNR=12
CMAR Chiang Mai Arr 29.21 298 LR LR 23 10 04.8
comp=Z,11nm,18.8s,baz=175,slow=37
ASAR Alice Springs 30.18 165 P **P** **22 58 00.1 -0.1**
0.5nm,0.5s,baz=346,slow=7.7,SNR=6.0
KSRS Korea Array 31.69 3 P **P** **22 58 15.1 +1.9**
0.6nm,0.3s,baz=183,slow=12,SNR=4.8
STKA Stephens Creek 40.22 159 P **P** **22 59 26.7 +0.7**
5.0nm,0.7s,baz=323,slow=7.5,SNR=11
SONM Songino Array 45.21 342 P **P** **23 00 06.8 +0.6**
0.2nm,0.5s,baz=168,slow=8.7,SNR=2.2
SONM PcP **PcP** **23 01 45.0 +0.5**
0.3nm,0.4s,baz=184,slow=3.8,SNR=3.6
SONM LR LR 23 19 22.2
comp=Z,24nm,18.1s,baz=222,slow=36
PETK Petropavlovsk- 53.97 23 P P 23 01 15.2 +2.8
1.1nm,0.6s,baz=177,slow=1.9,SNR=4.2
MKAR Makanchi Array 55.51 325 P **P** **23 01 24.4 +0.7**
0.7nm,0.3s,baz=117,slow=7.3,SNR=15
MKAR ScP **ScP** **23 06 11.2 +0.5**
0.2nm,0.6s,baz=139,slow=3.2,SNR=3.1
MKAR LR LR 23 26 00.3
comp=Z,11nm,19.0s,baz=120,slow=37
ZALV Zalesovo Beam 58.50 333 P **P** **23 01 44.6 +0.1**
0.4nm,0.3s,baz=152,slow=6.4,SNR=2.1
KURBB Kurchatov Arra 59.67 327 P **P** **23 01 53.1 +0.3**
0.6nm,0.4s,baz=126,slow=6.1,SNR=9.3
BVAR Borovoye Array 65.26 327 P **P** **23 02 31.1 +1.2**
0.5nm,0.5s,baz=107,slow=4.8,SNR=7.7
ILAR Eielson Array 83.72 26 P **P** **23 04 16.8 +0.3**
1.0nm,0.6s,baz=250,slow=4.9,SNR=9.0
ARCES ARCESS Array B 88.36 340 P **P** **23 04 38.9 -0.2**
0.8nm,0.7s,baz=79,slow=4.8,SNR=6.2
FINES FINESS Array B 89.75 332 P **P** **23 04 45.0 -0.7**
0.6nm,0.5s,baz=71,slow=6.0,SNR=7.3
TORD Torodi Ar. Bea 121.53 289 PKP **PKPdf** **23 10 41.3 -0.3**
0.3nm,0.6s,baz=38,slow=2.8,SNR=8.0

TRN 17 22:53:27.9, 15.05N×60.55W, h45km, MD3.9, M3.1 (FDF), 1C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVM	**Montagne Vaucl**	**0.60**	**214**	⇑*iP*	Pn	22 53 41.0	+0.9
LPMF	**Morne Lapointe**	**0.62**	**221**	⇓*iP*	Pn	22 53 41.1	+0.6
SVN	**Savane Anatole**	**0.63**	**251**	*eP*	Pn	22 53 42.2	+1.5
FDF	**Fort de France**	**0.66**	**242**	*eP*	Pn	22 53 42.4	+1.3
FDF				*eS*	Sn	22 53 53.4	+2.9
ZAM	**Aeronautique**	**0.66**	**225**	⇓*iP*	Pn	22 53 41.9	+0.9
BIM	**Bigot**	**0.73**	**224**	⇓*iP*	Pn	22 53 43.8	+1.8
DBCT	**Belle View Cho**	**0.80**	**286**	*eP*	Pn	22 53 44.7	+1.8
DBCT				*eS*	Sn	22 53 56.5	+2.6
DSHT	**Scott's Head**	**0.81**	**282**	*eP*	Pn	22 53 45.1	+2.1
DSHT				*eS*	Sn	22 53 56.1	+2.1
MDN	**Morne-Daniel**	**0.86**	**288**	*eP*	Pn	22 53 45.2	+1.6
DWS	**Wesley**	**0.90**	**305**	*eP*	Pn	22 53 48.6	+4.4
DWS				*eS*	Sn	22 54 00.9	+4.8
MGG	**Marie-Galante**	**1.14**	**319**	*eP*	Pn	22 53 48.4	+1.0
MGG				*eS*	Sn	22 54 04.3	+2.4
TBG	**Guadaloupe-3**	**1.33**	**307**	*eP*	Pn	22 53 51.4	+1.3
TBG				*eS*	Sn	22 54 08.7	+2.2
MCLT	**Moule a Chique**	**1.39**	**196**	*eP*	Pn	22 53 51.5	+0.6
MCLT				*eS*	Sn	22 54 09.6	+1.6
DOG	**Dongo Capester**	**1.42**	**314**	*eP*	Pn	22 53 52.8	+1.4
TAG	**Tarade**	**1.46**	**313**	*eP*	Pn	22 53 53.5	+1.5
MLG	**Mont-d'or**	**1.51**	**312**	*eP*	Pn	22 53 54.5	+2.0
SEG	**Port Louis**	**1.63**	**326**	*eP*	Pn	22 53 55.8	+1.6
SVV	**Soufriere Volc**	**1.84**	**201**	*eP*	Pn	22 53 59.3	+2.3
SVV				*eS*	Sn	22 54 21.1	+1.9
SVB	**Belmont**	**1.89**	**201**	*eP*	Pn	22 53 59.4	+1.6
SVB				*eS*	Sn	22 54 22.3	+1.7
FCV	**Fort Charlotte**	**2.00**	**200**	*eP*	Pn	22 54 01.0	+1.7
FCV				*eS*	Sn	22 54 24.1	+1.0
GRW	**Mount Saint Ca**	**3.07**	**201**	*eP*	Pn	22 54 16.3	+2.2
GRW				*eS*	Sn	22 54 51.8	+2.1
GRGR	**Grenville**	**3.09**	**201**	*eP*	Pn	22 54 16.1	+1.8
GRGR	**Grenville**	**3.09**	**201**	*eP*	Pn	22 54 16.4	+2.1
TOSP	**Speyside**	**3.73**	**180**	*eP*	Pn	22 54 24.9	+2.0
TOSP				*eS*	Sn	22 55 06.9	+1.2
TRN	**Trinidad (W)**	**4.45**	**191**	*eP*	Pn	22 54 34.6	+1.7

IDC 17 22:56:05.2±7.0, 36.14N×71.40E, h50km±66km, mb3.6/6, mb1 3.7/9, mb1mx3.3/42, mbtmp3.8/9, ML3.4/3, Error ellipse: s-maj=47.1km s-min=27.4km az=28.0
ISCJB 17 22:56:10.3±0.5, 36.35N±0.04×71.35E±0.07, h106km, mb3.5/5, Error ellipse: s-maj=8.5km s-min=4.9km az=151.6
NNC 17 22:56:21.9±7.0, 37.38N×71.21E, h0km, mb4.2, mpv4.1, Error ellipse: s-maj=58.1km s-min=24.2km az=169.0
ISC 17 22:56:11.5±0.8, 36.41N±0.07×71.47E±0.07, h106km, n38, σ1§71/40, mb3.7/5, 5C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.18**	**320**	⇓*Pn*	**Pn**	**22 57 01.8**	**+2.0**
	98nm,0.4s						
DZET				⇑*Sn*	**Sn**	**22 57 35.6**	**-1.6**
	311nm,0.6s						
SFK	**Sufi-Kurgan**	**3.94**	**23**	⇓*Pn*	Pn	22 57 13.9	+3.8
	27nm,0.3s						
SFK				⇓*Sn*	**Sn**	**22 57 58.1**	**+2.6**
	11nm,0.2s						
AML	**Almayashu**	**5.97**	**16**	*P*	**Pn**	**22 57 39.3**	**+1.6**
	SNR=121						
UCH	**Uchtor**	**6.27**	**21**	*P*	**Pn**	**22 57 43.6**	**+1.8**
	SNR=84						
KZA	**Kyzart**	**6.38**	**26**	*P*	**Pn**	**22 57 44.6**	**+1.4**
	SNR=14						
EKS2	**Erkin-Say**	**6.50**	**15**	*P*	**Pn**	**22 57 46.2**	**+1.7**
	SNR=15						
AAK	**Ala-Archa**	**6.64**	**20**	*P*	**Pn**	**22 57 48.8**	**+2.2**
	SNR=11						
AAK	**Ala-Archa**	**6.64**	**20**	⇓*Pn*	**Pn**	**22 57 48.6**	**+2.0**
	6.5nm,0.4s						
AAK				⇓*Sn*	**Sn**	**22 59 00.3**	**-0.6**
	13nm,0.6s						
KK31	**Karatay Array**	**6.73**	**354**	*Pn*	**Pn**	**22 57 48.6**	**+1.0**
	3.2nm,0.3s,baz=189,slow=14,SNR=187						
KK31				⇑*Sn*	**Sn**	**22 58 58.5**	**-4.2**
	16nm,0.3s						
KBK	**Karagaybulak**	**6.79**	**22**	*P*	**Pn**	**22 57 50.7**	**+2.0**
	SNR=15						
ULHL	**Ulahol**	**6.90**	**31**	*P*	**Pn**	**22 57 52.0**	**+1.8**
	SNR=15						
CHMS	**Chumysh**	**7.05**	**20**	*P*	**Pn**	**22 57 53.8**	**+1.8**
	SNR=30						
USP	**Ospenovka**	**7.24**	**18**	*P*	**Pn**	**22 57 56.2**	**+1.7**
	SNR=11						
TKM2	**Tokmak 2**	**7.24**	**25**	*P*	**Pn**	**22 57 56.4**	**+1.6**
	SNR=16						
TKM2	**Tokmak 2**	**7.24**	**25**	⇓*Pn*	**Pn**	**22 57 56.1**	**+1.4**
	7.1nm,0.5s						
TKM2				⇑*Sn*	**Sn**	**22 59 12.8**	**-2.7**
	2.6nm,0.7s						
MKAR	**Makanchi Array**	**13.15**	**35**	*P*	**Pn**	**22 59 13.9**	**-0.1**
	0.2nm,0.3s,baz=227,slow=16,SNR=10						
KOLN	**Koldanda**	**13.41**	**127**	*eP*	**Pn**	**22 59 18.3**	**+0.6**
	5.1nm,0.3s						
GKN	**Gorkha**	**13.94**	**123**	*eP*	**Pn**	**22 59 26.5**	**+2.0**
	8.5nm,0.3s						
DMN	**Daman**	**14.51**	**123**	*eP*	**Pn**	**22 59 30.4**	**-1.5**
	7.0nm,0.3s						
KKN	**Kakani**	**14.51**	**122**	*eP*	**Pn**	**22 59 33.4**	**+1.5**
	11nm,0.5s						
PKIN	**Phulchoki**	**14.73**	**123**	*eP*	**Pn**	**22 59 33.4**	**-1.3**
	4.7nm,0.4s						
PKI	**Pulchoki**	**14.74**	**123**	*eP*	**Pn**	**22 59 33.6**	**-1.3**
	5.7nm,0.5s						
GUN	**Gumba**	**14.85**	**121**	*eP*	**P**	**22 59 37.9**	**-1.5**
	5.5nm,0.4s						
KURBB	**Kurchatov Arra**	**15.09**	**18**	*P*	**Pn**	**22 59 36.9**	**-2.0**
	0.1nm,0.3s,baz=207,slow=11,SNR=3.8						
JIRN	**Jiri**	**15.22**	**121**	*eP*	**Pn**	**22 59 40.4**	**-0.6**
AB31	**Akbulak array**	**15.35**	**330**	⇑*Pn*	**Pn**	**22 59 42.2**	**+0.1**
	0.3nm,0.3s,baz=142,slow=11,SNR=14						
AB31				*Sn*	Sn	23 02 19.7	-12
	0.8nm,0.3s,baz=151,slow=23,SNR=7.9						
RAMN	**Ramite**	**15.95**	**122**	*eP*	Pn	22 59 40.5	-10
	6.2nm,0.5s						
ODAN	**Odare**	**16.55**	**121**	*eP*	Pn	22 59 46.5	-11
	14nm,0.8s						
BVAR	**Borovoye Array**	**16.63**	**358**	*P*	**Pn**	**22 59 55.6**	**-2.4**
	0.2nm,0.3s,baz=163,slow=11,SNR=7.6						
AKTO	**Aktyubinsk**	**17.05**	**330**	⇑*Pn*	**Pn**	**23 00 02.4**	**-0.7**
	1.2nm,0.5s						
AKTO				⇓*Sn*	Sn	23 03 02.1	-10
	1.4nm,0.6s						
AKTO	**Aktyubinsk**	**17.05**	**330**	*P*	**P**	**23 00 02.8**	**-0.4**
	0.4nm,0.3s,baz=140,slow=13,SNR=5.0						
ZALV	**Zalesovo Beam**	**19.84**	**24**	*P*	**P**	**23 00 33.8**	**0.0**
	7.2nm,0.3s,baz=209,slow=10,SNR=48						
FINES	**FINESS Array B**	**37.77**	**326**	*P*	**P**	**23 03 17.9**	**+1.1**
	0.8nm,0.6s,baz=119,slow=12,SNR=6.5						
ARCES	**ARCESS Array B**	**41.37**	**338**	*P*	**P**	**23 03 48.1**	**+1.4**
	0.7nm,0.5s,baz=115,slow=8.1,SNR=12						
NB2	**NORSAR Subarra**	**44.68**	**323**	*P*	**P**	**23 04 14.4**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.68**	**323**	*P*	**P**	**23 04 14.3**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=97,slow=7.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**66.09**	**269**	*P*	**P**	**23 06 46.6**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=56,slow=6.0,SNR=6.7						
WRA	**Warramunga Arr**	**81.62**	**122**	*P*	**P**	**23 08 17.8**	**-0.1**
	comp=Z,0.5nm,1.1s,baz=328,slow=4.7,SNR=5.0						

ISCJB 17 22:57:41.9±2.1, 17.4S±0.7×179.1W±0.5, h539km, mb3.4/5, Error ellipse: s-maj=114.3km s-min=20.7km az=145.5
IDC 17 22:57:41.5±6.5, 17.46S×178.93W, h525km±67km, mb3.0/5, mb1 3.3/5, mb1mx3.0/27, mbtmp3.9/5, Error ellipse: s-maj=91.6km s-min=25.3km az=145.0
ISC 17 22:57:42.6±2.0, 17.4S±0.6×179.0W±0.5, h539km, n7, σ0§37/9, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.37**	**240**	*P*	**P**	**23 04 17.4**	**-0.4**
	2.5nm,0.8s,baz=93,slow=8.9,SNR=6.0						
WRA	**Warramunga Arr**	**44.16**	**259**	*P*	**P**	**23 05 04.0**	**+0.1**
	0.5nm,0.5s,baz=96,slow=7.6,SNR=15						
WRA				PcP	**PcP**	**23 06 37.4**	**+0.3**
	0.3nm,0.5s,baz=98,slow=3.3,SNR=3.8						
ASAR	**Alice Springs**	**44.38**	**254**	*P*	**P**	**23 05 06.1**	**+0.5**
	6.5nm,0.6s,baz=90,slow=8.3,SNR=60						
ASAR				PcP	**PcP**	**23 06 37.7**	**-0.2**
	0.3nm,0.5s,baz=102,slow=4.0,SNR=3.6						
NVAR	**Mina Array Bea**	**79.47**	**44**	*P*	**P**	**23 08 53.9**	**+0.3**
	0.3nm,0.5s,baz=241,slow=3.0,SNR=3.2						
ILAR	**Eielson Array**	**85.54**	**13**	*P*	**P**	**23 09 22.9**	**-0.4**
	0.1nm,0.3s,baz=234,slow=4.3,SNR=3.9						
BRTR	**Keskin Array B**	**144.03**	**315**	*PKP*	**PKPab**	**23 16 17.1**	**+0.1**
	0.8nm,0.8s,baz=160,slow=3.9,SNR=5.3						
GERES	**GERESS Array B**	**146.99**	**345**	*PKPbc*	**PKPbc**	**23 16 24.9**	**0.0**
	0.6nm,0.6s,baz=8.5,slow=2.7,SNR=6.9						

SJA 17 23:02:29.0±0.5, 34.27S×72.70W, h194km±26km, ML3.7, MW3.1
GUC 17 23:02:32.0±0.5, 34.05S×72.31W, h22km±4km, ML3.5
ISC 17 23:02:32.8±2.7, 34.15S±0.07×72.2W±0.1, h1km±13km, n13, σ1§59/21, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.69**	**74**	*eP*	**Pg**	**23 02 46.6**	**+0.6**
LNV				*eS*	**Sb**	**23 02 57.7**	**+0.2**
U73B	**San Pedro**	**0.69**	**71**	⇓*eP*	**Pg**	**23 02 46.6**	**+0.5**
U73B				*eS*	**Sb**	**23 02 57.7**	**0.0**
U73B				AML	AML	23 02 59.7	
	comp=E,11μm,0.2s						
U65B	**HualaæØ**	**0.89**	**157**	*eP*	**Pb**	**23 02 50.8**	**-0.2**
U65B				*eS*	**Sn**	**23 03 04.9**	**-1.0**
U65B				AML	AML	23 03 06.7	
	comp=N,2μm,0.3s						
TALC	**Talca**	**1.33**	**160**	*eP*	**Pg**	**23 02 58.1**	**-0.3**
TALC				*eS*	**Sn**	**23 03 17.4**	**+0.4**
CLCH	**Cerro Calan**	**1.58**	**62**	*eP*	**Pn**	**23 03 00.5**	**-1.5**
CLCH				*eS*	**Sg**	**23 03 22.2**	**-1.4**
CLCH				AML	AML	23 03 33.0	
	comp=N,514nm,0.6s						
PEL	**Peldehue**	**1.61**	**52**	*eP*	**Pn**	**23 03 00.7**	**-1.8**
PEL				*eS*	**Sn**	**23 03 22.7**	**-1.3**
PEL				AML	AML	23 03 30.7	
	comp=E,1μm,0.4s						
AAGR	**Agrelo**	**3.01**	**70**	*eP*	**Pn**	**23 03 24.6**	**+2.9**
ARCO	**CERRO ARCO**	**3.03**	**65**	*eP*	**Pn**	**23 03 24.6**	**+2.6**
ARCO				IAML		23 03 31.8	
	comp=Z,105nm,0.4s						
AUSP	**Uspallata**	**3.04**	**52**	*eP*	**Pn**	**23 03 25.2**	**+2.9**
AUSP				*eS*	**Sb**	**23 04 06.3**	**+0.5**
RTLS	**Leoncito**	**3.38**	**47**	*eP*	**Pn**	**23 03 28.9**	**+1.9**
RTLS				*eS*	**Sb**	**23 04 14.0**	**-1.6**
RTCV	**Cerro Valdivia**	**3.83**	**54**	*eP*	**Pn**	**23 03 34.2**	**+1.2**
RTLL	**Cerro Villicun**	**4.21**	**49**	*eP*	**Pn**	**23 03 39.1**	**+0.8**
ACAN	**Cantantal**	**4.60**	**67**	*eP*	**Pn**	**23 03 44.3**	**+0.7**

ISCJB 17 23:08:34.2±0.7, 43.44N±0.04×28.8W±0.1, h14km, mb3.7/6, MS3.2/14, Error ellipse: s-maj=12.4km s-min=5.6km az=175.5
IDC 17 23:08:34.2±1.0, 43.88N×28.92W, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/41, mbtmp3.7/8, ML4.4/1, MS3.2/14, Ms1 3.2/14, ms1mx3.0/36, Error ellipse: s-maj=32.0km s-min=23.5km az=176.0
PDA 17 23:08:35.3±1.0, 43.77N×28.92W, h5km, ML4.4, Error ellipse: s-maj=11.7km s-min=5.4km az=72.0
ISC 17 23:08:35.5±0.9, 43.51N±0.06×28.9W±0.1, h14km, n42, σ1§54/37, mb3.8/6, MS3.2/14, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSA	**Rosais**	**4.82**	**174**	*eP*	**Pn**	**23 09 47.3**	**-0.3**
ROSA				*eS*	**Sn**	**23 10 41.3**	**-1.9**
ROSA				*A*	A	23 10 43.6	
	6.6nm,0.1s						
PCED	**Cedros**	**4.88**	**178**	*eP*	**Pn**	**23 09 49.2**	**+0.7**
PMAN	**Manadas**	**4.92**	**172**	*eP*	**Pn**	**23 09 48.6**	**-0.4**
PMAN				*eS*	**Sn**	**23 10 44.0**	**-1.6**
PMAN				*A*	A	23 10 44.6	
	8.6nm,0.2s						
CALA	**Caldeira**	**4.93**	**178**	*eP*	**Pn**	**23 09 49.3**	**0.0**
ADH	**Angra Heroismo**	**5.02**	**165**	*eP*	**Sb**	**23 11 04.1**	**+0.9**
PICO	**Pico**	**5.02**	**176**	*eP*	**Pn**	**23 09 50.6**	**+0.1**
PCAN	**Candelaria**	**5.05**	**176**	*eP*	**Pn**	**23 09 51.4**	**+0.5**
PPNO	**Prainha do Nor**	**5.06**	**174**	*eP*	**Pn**	**23 09 51.3**	**+0.3**
PSET	**Sete Cidades**	**6.18**	**156**	*eP*	**Pn**	**23 10 06.2**	**-0.2**
PSET				*eS*	**Sn**	**23 11 14.8**	**-2.0**
PSET				*A*	A	23 11 18.2	
	16nm,0.2s						
PDA	**Ponta Delgada**	**6.27**	**156**	*eP*	**Pn**	**23 10 07.5**	**0.0**
PDA				*eS*	**Sn**	**23 11 16.7**	**-2.2**
PDA				*A*	A	23 11 17.8	
	12nm,0.1s						
GRON	**Grota Negra**	**6.29**	**155**	*eP*	**Pn**	**23 10 08.1**	**+0.2**
BART	**Pico Bartolome**	**6.40**	**152**	*eP*	**Pn**	**23 10 09.0**	**-0.4**
BART				*eS*	**Sn**	**23 11 19.8**	**-2.5**
BART				*A*	A	23 11 23.2	
	28nm,0.5s						
PSMA	**Santa Maria**	**7.12**	**155**	*eP*	**Pn**	**23 10 19.4**	**+0.1**
PSMA				*eS*	**Sn**	**23 11 37.8**	**-2.2**
PSMA				*A*	A	23 11 39.7	
	9.0nm,0.2s						
PSMN	**Pico do Norte,**	**7.14**	**154**	*eP*	**Pn**	**23 10 19.3**	**-0.2**
PMOZ	**Porto Moniz, M**	**14.08**	**135**	*eP*	**Pn**	**23 11 57.3**	**+2.6**
PMOZ	**Porto Moniz, M**	**14.08**	**135**	*eP*	**Pn**	**23 11 57.3**	**+2.6**
PMAR	**Madeira**	**14.31**	**135**	*eP*	**Pn**	**23 11 59.5**	**+1.7**
PMAR	**Madeira**	**14.31**	**135**	*eP*	**Pn**	**23 11 59.5**	**+1.7**
PMPS	**Porto Santo**	**14.35**	**132**	*eP*	**Pn**	**23 12 00.3**	**+2.0**
PMPS	**Porto Santo**	**14.35**	**132**	*eP*	**Pn**	**23 12 00.3**	**+2.0**
FUL	**Funchal**	**14.38**	**135**	*eP*	**Pn**	**23 12 00.7**	**+2.1**
FUL				*A*	A	23 12 01.2	
	143nm,1.8s						
FUL	**Funchal**	**14.38**	**135**	*eP*	**Pn**	**23 12 00.7**	**+2.1**
FUL				*A*	A	23 12 01.2	
	143nm,1.8s						
ESDC	**Sonseca Array**	**19.03**	**93**	*P*	**Pn**	**23 12 57.6**	**-0.1**
	0.2nm,0.3s,baz=287,slow=13,SNR=4.9						
EKA	**Eskdalemuir Ar**	**20.37**	**45**	*P*	**P**	**23 13 10.3**	**-1.2**
	1.4nm,0.8s,baz=243,slow=9.5,SNR=3.8						
MDT	**Midelt**	**21.81**	**111**	LR	LR	23 19 56.5	
	comp=Z,54nm,21.5s,baz=316,slow=31						
SFJD	**Kangerlussuaq**	**26.30**	**341**	LR	LR	23 21 52.7	
	comp=Z,88nm,21.0s,baz=144,slow=31						
SCHQ	**Schefferville**	**26.92**	**308**	LR	LR	23 23 25.9	
	comp=Z,67nm,18.7s,baz=358,slow=33						
DAVOX	**Davos/Dischmat**	**27.36**	**69**	LR	LR	23 23 49.1	
	comp=Z,23nm,20.8s,baz=270,slow=34						
NOA	**NORSAR Array B**	**29.53**	**40**	LR	LR	23 26 11.7	
	comp=Z,14nm,18.0s,baz=260,slow=36						
GERES	**GERESS Array B**	**29.68**	**65**	LR	LR	23 25 08.2	
	comp=Z,28nm,19.1s,baz=273,slow=34						
FRB	**Frobisher Bay**	**30.27**	**326**	LR	LR	23 23 37.0	
	comp=Z,86nm,19.7s,baz=189,slow=30						
AKASG	**Malin Array Be**	**39.31**	**58**	LR	LR	23 31 57.5	
	comp=Z,18nm,20.1s,baz=210,slow=36						
TORD	**Torodi Ar. Bea**	**40.09**	**130**	*P*	**P**	**23 16 12.9**	**+2.2**
	1.3nm,1.0s,baz=319,slow=7.2,SNR=5.3						
TORD				LR	LR	23 31 45.2	
	comp=Z,73nm,18.1s,baz=300,slow=34						
DBIC	**Dimbokro**	**42.35**	**143**	LR	LR	23 33 01.6	
	comp=Z,43nm,19.3s,baz=315,slow=34						
BRTR	**Keskin Array B**	**45.94**	**72**	*P*	**P**	**23 16 58.5**	**+0.4**
	1.0nm,1.0s,baz=261,slow=5.7,SNR=3.7						
BRTR				LR	LR	23 36 25.4	
	comp=Z,9.7nm,19.6s,baz=278,slow=36						
PDAR	**Pinedale Array**	**56.55**	**299**	LR	LR	23 41 12.6	
	comp=Z,37nm,18.8s,baz=70,slow=35						
TXAR	**Lajitas Array**	**59.91**	**283**	*P*	**P**	**23 18 41.4**	**+0.2**
	1.1nm,0.7s,baz=70,slow=7.5,SNR=14						
TXAR				LR	LR	23 43 19.6	
	comp=Z,34nm,21.3s,baz=0.0,slow=35						
BDFB	**Brasilia**	**61.41**	**201**	LR	LR	23 41 46.5	
	comp=Z,39nm,19.0s,baz=254,slow=32						
ZALV	**Zalesovo Beam**	**67.64**	**36**	*P*	**P**	**23 19 31.6**	**-0.1**
	0.3nm,0.3s,baz=280,slow=8.6,SNR=2.8						
MKAR	**Makanchi Array**	**71.47**	**42**	*P*	**P**	**23 19 53.8**	**-1.7**
	0.7nm,0.9s,baz=342,slow=7.6,SNR=5.6						
SONM	**Songino Array**	**80.88**	**29**	*P*	**P**	**23 20 47.5**	**-1.6**
	0.9nm,0.9s,baz=335,slow=6.4,SNR=4.5						
VNDA	**Vanda**	**145.60**	**184**	*PKPbc*	**PKPab**	**23 28 14.5**	**+2.0**
	1.0nm,1.0s,baz=188,slow=1.4,SNR=4.2						

DSN 17 23:28:22.1±5.8, 26.57N×54.63E, h15km, ML3.7/7, 3C-4D, Error ellipse: s-maj=5.5km s-min=2.0km az=324.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.63**	**113**	⇓*eP*	Pn	23 28 50.4	+0.1
	SNR=36						
BANOM				⇓*S*	Sb	23 29 11.7	-0.6
NAZ	**Nazwa, Dubai**	**1.83**	**149**	⇑*eP*	Pn	23 28 53.3	+0.3
	SNR=32						
FAQ	**Al Faqa, Dubai**	**2.01**	**154**	⇓*eP*	Pn	23 28 55.4	-0.1
	SNR=11						
ASUD	**Al Ashush, Dub**	**2.03**	**162**	⇓*eP*	Pn	23 28 56.1	+0.2
	SNR=8.5						
HATD	**Hatta, Dubai**	**2.20**	**142**	⇑*eP*	Pn	23 28 57.9	-0.2
	SNR=9.8						
ASHO	**Ashiyiah**	**2.27**	**145**	⇑*eP*	Pn	23 28 58.9	-0.4
	SNR=38						

ISCJB 17 23:42:46.1±0.8, 7.4S±0.1×121.0E±0.2, h550km, mb3.7/6, Error ellipse: s-maj=28.7km s-min=12.3km az=143.9
IDC 17 23:42:48.4±1.2, 7.29S×121.14E, h565km±17km, mb3.2/7, mb1 3.3/10, mb1mx3.0/39, mbtmp4.1/10, Error ellipse: s-maj=41.4km s-min=11.0km az=57.0
ISC 17 23:42:47.8±0.9, 7.4S±0.2×121.1E±0.2, h550km, n10, σ1§33/11, mb3.8/6, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.69**	**330**	*P*	**P**	**23 44 02.3**	**+1.2**
	1.6nm,0.3s,baz=117,slow=9.0,SNR=4.3						
KAPI				*S*	**S**	**23 45 02.8**	**+2.2**
	baz=273,slow=22,SNR=3.8						
SIJI	**Sorong**	**12.02**	**58**	*P*	**P**	**23 45 27.0**	**+0.3**
	2.1nm,0.3s,baz=186,slow=10,SNR=6.8						
WRA	**Warramunga Arr**	**17.92**	**136**	*P*	**P**	**23 46 24.8**	**-0.2**
	1.3nm,0.3s,baz=304,slow=10,SNR=57						
ASAR	**Alice Springs**	**20.34**	**144**	*P*	**P**	**23 46 47.0**	**-0.1**
	1.7nm,0.5s,baz=318,slow=8.1,SNR=35						
STKA	**Stephens Creek**	**30.98**	**145**	*P*	**P**	**23 48 20.9**	**+0.3**
	2.7nm,0.4s,baz=324,slow=8.4,SNR=16						
CMAR	**Chiang Mai Arr**	**33.71**	**320**	*P*	**P**	**23 48 43.9**	**-0.1**
	2.1nm,0.7s,baz=146,slow=6.5,SNR=10						
SONM	**Songino Array**	**56.48**	**348**	*P*	**P**	**23 51 37.2**	**-0.7**
	1.0nm,0.5s,baz=164,slow=9.0,SNR=8.6						
MKAR	**Makanchi Array**	**63.99**	**331**	*P*	**P**	**23 52 26.8**	**-0.7**
	1.3nm,0.5s,baz=138,slow=7.7,SNR=17						
ZALV	**Zalesovo Beam**	**68.29**	**338**	*P*	**P**	**23 52 51.6**	**-2.3**
	1.4nm,0.5s,baz=142,slow=5.7,SNR=6.2						
KURBB	**Kurchatov Arra**	**68.47**	**332**	*P*	**P**	**23 52 53.9**	**-1.1**
	1.0nm,0.7s,baz=145,slow=5.6,SNR=5.8						

**IDC 18 00:14:42.4±2.6, 7.14S×128.36E, h0km, mb3.3/1, mb1 3.5/3, mb

URZ			SN	Sn	00 58 53.3	-1.8	
URZ	**Urewera**	**6.99 213**	*e*Pn	**Pn**	**00 57 35.3**	**-0.9**	
URZ			*e*Sn	**Sn**	**00 58 54.4**	**-0.8**	
SNGZ	**Shannon Statio**	**7.32 209**	*e*PN	**Pn**	**00 57 40.6**	**-0.2**	
OUZ	**Omahuta**	**7.46 246**	*e*Pn	**Pn**	**00 57 43.7**	**+1.1**	
MRZ	**Mangatainoka R**	**9.64 210**	*e*SN	Sn	00 59 51.6	-8.7	
MQZ	**McQueen's Vall**	**13.38 210**	*e*SN	Sn	01 01 16.4	-15	
RPZ	**Rata Peaks**	**14.11 214**	LR	LR	01 04 52.2		
	comp=Z,312nm,18.9s,baz=124,slow=38						
DZM	**Mont Dzumac**	**17.21 303**	*e*LR	LR	01 03 21.0		
	527nm,22.5s						
DZM	**Mont Dzumac**	**17.21 303**	P	**Pn**	**00 59 53.6**	**-0.7**	
	0.1nm,0.3s,baz=90,slow=20,SNR=1.8						
TBI	**Tubuai**	**26.80 77**	*e*LR	LR	01 08 17.2		
	211nm,31.5s						
PPT2	**Papeete2**	**29.65 67**	*e*LR	LR	01 09 32.6		
	209nm,27.8s,baz=234						
PPT	**Papeete**	**29.66 67**	LR	LR	01 13 47.3		
	comp=Z,89nm,18.2s,baz=272,slow=36						
STKA	**Stephens Creek**	**34.01 260**	P	**P**	**01 02 37.9**	**+0.4**	
	3.3nm,1.1s,baz=83,slow=12,SNR=2.0						
STKA			LR	LR	01 15 32.9		
	comp=Z,240nm,18.1s,baz=39,slow=35						
STKA	**Stephens Creek**	**34.01 260**	*e*P	**P**	**01 02 38.4**	**+0.9**	
	2.0nm,1.1s						
CTA	**Charters Tower**	**34.12 282**	P	**P**	**01 02 39.1**	**+0.4**	
	3.9nm,0.4s,baz=104,slow=9.7,SNR=9.7						
ASAR	**Alice Springs**	**42.98 269**	P	**P**	**01 03 52.8**	**-0.2**	
	4.6nm,0.6s,baz=106,slow=7.4,SNR=35						
WRAB	**Tennant Creek**	**44.15 274**	*e*P	**P**	**01 04 02.1**	**-0.4**	
	7.0nm,0.7s						
WRA	**Warramunga Arr**	**44.15 274**	P	**P**	**01 04 02.0**	**-0.5**	
	8.1nm,0.7s,baz=114,slow=8.0,SNR=83						
QSPA	**South Pole Qui**	**57.65 180**	*e*P	**P**	**01 05 46.3**	**+2.7**	
	6.0nm,0.6s						
SNAA	**Sanae**	**76.10 178**	P	P	01 07 49.0	+8.2	
VNA1	**Neumayer--Stat**	**76.92 177**	P	P	01 07 54.0	+8.6	
PETK	**Petropavlovsk-**	**87.79 346**	P	**P**	**01 08 43.2**	**+1.0**	
	2.2nm,0.6s,baz=134,slow=6.2,SNR=2.4						
NVAR	**Mina Array Bea**	**89.79 43**	P	**P**	**01 08 51.1**	**-1.1**	
	0.1nm,0.2s,baz=210,slow=8.2,SNR=2.9						
MKAR	**Makanchi Array**	**119.04 309**	PKP	**PKPdf**	**01 14 42.1**	**+0.1**	
	0.7nm,0.7s,baz=101,slow=1.5,SNR=4.8						
KURK	**Kurchatov**	**122.42 313**	*e*PKPdf	**PKPdf**	**01 14 47.8**	**-0.5**	
ARCES	**ARCESS Array B**	**140.59 347**	PKhKP	PKPpre	01 15 18.1		
	0.6nm,0.5s,baz=29,slow=2.8,SNR=9.8						
KBZ	**Khabaz**	**146.17 301**	PKPbc	**PKPab**	**01 15 34.8**	**+0.6**	
	1.3nm,0.5s,baz=158,slow=6.3,SNR=5.0						
FIA1	**FINESS Array S**	**147.05 339**	*e*PKPbc	**PKPbc**	**01 15 35.8**	**+0.2**	
FINES	**FINESS Array B**	**147.05 339**	PKPbc	**PKPbc**	**01 15 35.8**	**+0.3**	
	11nm,0.7s,baz=79,slow=2.8,SNR=85						
NB2	**NORSAR Subarra**	**150.78 351**	PKP	**PKPbc**	**01 15 45.7**	**+0.5**	
	comp=Z,1.6nm,0.7s,baz=14,slow=4.1						
NOA	**NORSAR Array B**	**150.78 351**	PKPbc	**PKPbc**	**01 15 45.8**	**+0.7**	
	comp=Z,0.7nm,0.6s,baz=59,slow=1.5,SNR=5.0						
AKASG	**Malin Array Be**	**152.88 320**	PKPbc	**PKPbc**	**01 15 50.9**	**+0.7**	
	comp=Z,0.6nm,0.2s,baz=60,slow=2.3,SNR=4.4						
BR131	**Keskin Array S**	**153.47 295**	*e*PKPbc	**PKPbc**	**01 15 51.2**	**-0.8**	
BRTR	**Keskin Array B**	**153.47 295**	PKPbc	**PKPbc**	**01 15 52.3**	**+0.3**	
	comp=Z,1.3nm,0.6s,baz=125,slow=3.0,SNR=9.3						
CLL	**Collm**	**159.49 340**	⇓*i*PKPab	**PKPab**	**01 16 30.0**	**+0.4**	
TORD	**Torodi Ar. Bea**	**160.77 179**	PKPab	**PKPab**	**01 16 37.5**	**+1.5**	
	comp=Z,0.7nm,0.7s,baz=169,slow=3.9,SNR=9.1						

IDC ***18*** *01:02:29.6±0.9,2.°12S×136.°61E,h0km,mb4.0/9, mb1 4.2/11,mb1mx4.0/20,mbtmp4.1/11,ML4.0/2,MS2.9/1, Ms1 2.9/1,ms1mx2.5/24,Error ellipse: s-maj=30.9km s-min=18.8km az=85.0*

ISCJB ***18*** *01:02:32.5±0.4,2.°16S±0.°06×136.°57E±0.°04,h33km, mb4.1/12,Error ellipse: s-maj=8.6km s-min=5.6km az=6.2*

DJA ***18*** *01:02:33.1±1.4,2.°S±41.″×13.″7E±.″,h19km±10km,M4.5/6, MLv4.5/6*

NEIC ***18*** *01:02:35.7±2.9,2.°17S×136.°47E,h46km±26km,mb4.1/3, Error ellipse: s-maj=27.5km s-min=11.0km az=77.0*

ISC 18 01:02:34.4±0.6,2.°19S±0.°07×136.°59E±0.°05,h35km,n21, σ1§19/25,**mb4.1**/11,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.47**	**312**	P	**Pn**	**01 02 42.7**	**-2.0**
SMPI	**Sarmi**	**2.13**	**85**	P	**Pn**	**01 03 06.5**	**-0.9**
RKPI	**Ransiki, Papua**	**2.51**	**286**	P	**Pn**	**01 03 12.9**	**+0.2**
RKPI				S	**Sn**	**01 03 44.1**	**+2.0**
GENI	**Genyem**	**3.59**	**96**	P	**Pn**	**01 03 28.0**	**+0.3**
JAY	**Jayapura**	**4.12**	**95**	P	**Pn**	**01 03 35.1**	**+0.1**
FAKI	**Fak Fak**	**4.40**	**260**	*e*Pn	**Pn**	**01 03 38.4**	**-0.4**
FAKI				*e*Sn	**Sn**	**01 04 27.6**	**-1.1**
SIJI	**Sorong**	**5.48**	**284**	Pn	**Pn**	**01 03 53.5**	**-0.1**
	7.2nm,0.3s,baz=183,slow=22,SNR=17						
SIJI				Sn	**Sn**	**01 04 56.6**	**+1.0**
	4.3nm,0.3s,baz=282,slow=20,SNR=7.3						
SIJI				LR	LR	01 06 23.9	
	comp=Z,121nm,21.7s,baz=64,slow=43						
SOEI	**Soe**	**14.37**	**238**	*e*Pn	**Pn**	**01 05 55.3**	**-0.3**
WRA	**Warramunga Arr**	**17.78**	**187**	P	**P**	**01 06 39.6**	**-0.2**
	0.4nm,0.3s,baz=7.1,slow=12,SNR=9.7						
WRA				S	Sn	01 09 43.3	-13
	0.2nm,0.3s,baz=4.6,slow=23,SNR=5.0						
ASAR	**Alice Springs**	**21.51**	**187**	P	**P**	**01 07 20.4**	**-0.1**
	6.2nm,0.6s,baz=10,slow=11,SNR=46						
ASAR				S	**S**	**01 11 14.8**	**-2.4**
	0.5nm,0.5s,baz=6.8,slow=24,SNR=3.3						
MBWA	**Marble Bar**	**25.01**	**220**	*e*P	**P**	**01 07 55.9**	**+0.7**
	3.5nm,0.7s						
FORT	**Forrest**	**29.56**	**195**	*e*P	**P**	**01 08 35.5**	**-0.5**
	6.6nm,0.7s						
STKA	**Stephens Creek**	**29.90**	**171**	P	**P**	**01 08 40.8**	**+1.8**
	4.6nm,1.1s,baz=355,slow=9.2,SNR=3.7						
SONM	**Songino Array**	**56.37**	**336**	P	**P**	**01 12 11.7**	**-0.5**
	0.3nm,0.5s,baz=134,slow=10,SNR=2.2						
PETK	**Petropavlovsk-**	**57.88**	**15**	P	**P**	**01 12 23.2**	**+0.6**
	3.4nm,0.8s,baz=177,slow=5.9,SNR=4.3						
SEY	**Seymchan**	**66.04**	**8**	P	**P**	**01 13 17.9**	**+0.6**
	0.7nm,0.2s,baz=204,slow=20,SNR=4.3						
MKAR	**Makanchi Array**	**68.10**	**323**	P	**P**	**01 13 31.8**	**+1.0**
	0.8nm,0.7s,baz=113,slow=8.1,SNR=9.2						
ZALV	**Zalesovo Beam**	**70.44**	**330**	P	**P**	**01 13 45.1**	**0.0**
	0.4nm,0.4s,baz=101,slow=7.5,SNR=2.4						
TKM2	**Tokmak 2**	**70.72**	**317**	*e*P	**P**	**01 13 45.3**	**-2.1**
	1.0nm,0.6s						
ILAR	**Eielson Array**	**86.25**	**25**	P	**P**	**01 15 11.8**	**-0.4**
	0.8nm,1.0s,baz=253,slow=5.0,SNR=5.6						
ARCES	**ARCESS Array B**	**99.32**	**341**	P	**Pdif**	**01 16 10.9**	**-1.7**
	0.8nm,0.6s,baz=82,slow=6.5,SNR=3.1						

NIED ***18*** *01:08:00,24.°10N×121.°70E,h5km,Mw4.9 Best double couple: Mo2.40000×1016 NP1:φ1223.00000°,δ9.00000°, λ48.00000°. NP2:φ285.00000°,δ83.00000°,λ96.00000°.*

IDC ***18*** *01:08:41.1±0.5,24.°13N×121.°75E,h0km,mb4.3/24, mb1 4.4/28,mb1mx4.4/35,mbtmp4.3/28,ML3.4/4,MS3.8/18, Ms1 3.8/18,ms1mx3.6/26,Error ellipse: s-maj=15.3km s-min=11.1km az=73.0*

JMA ***18*** *01:08:42.6±0.1,24.°10N×121.°70E,h0km,M4.9*

BJI ***18*** *01:08:43.2,24.°18N×121.°79E,h6km,mb4.5/52,mB4.7/45, ML5.0/11,Ms4.7/63,Ms7 4.5/56*

NEIC ***18*** *01:08:43.0±0.8,24.°11N×121.°75E,h9km±4km,mb4.9/51, MW4.5,ML4.7(TAP),Error ellipse: s-maj=5.8km s-min=4.8km az=110.0,Moment Tensor Solution. s16 Moment tensor: Scale 1015Nm; Mrr4.08; Mθθ-5.46; Mφφ1.38; Mrθ4.46; Mθφ-2.83; Mφr-0.93; Best double couple: Mo7.30000×1015 NP1:φs220.00000°,δ35.00000°, λ40.00000°. NP2:φs95.00000°,δ69.00000°,λ118.00000°. Principal axes: T 6.5900, Plg57.0000°, Azm42.0000°; N 1.2200, Plg25.0000°, Azm264.0000°; P -7.8100, Plg18.0000°, Azm164.0000°;*

NEIC Felt [II] at Taipei. Recorded [4 TAP] in Hua-lien, [3 TAP] in I-lan, [2 TAP] in Nan-t'ou and [1 TAP] in Hsin-chu, T'ai-chung, T'ai-pei and T'ao-yuan.

ISCJB ***18*** *01:08:43.4±0.3,24.°14N±0.°01×121.°78E±0.°01,h13km±1km, mb4.6/91,MS3.9/19 Error ellipse: s-maj=2.2km s-min=1.7km az=44.4*

TAP ***18*** *01:08:43.6,24.°12N×121.°72E,h11km,ML4.7,B*

MOS ***18*** *01:08:44.7±1.3,24.°20N×121.°81E,h32km,mb4.9/45, MS4.0/6,Error ellipse: s-maj=8.3km s-min=5.5km az=105.0*

ISC 18 01:08:43.9±0.3,24.°12N±0.°01×121.°77E±0.°02,h14km±1km, h13km:pP-P,n308,σ1§**52**/394,**mb4.7**/91,**MS3.9**/20,

31C-15D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.16**	**256**	⇓*i*P	**Pg**	**01 08 46.8**	**-1.1**
	baz=258						
TWD				*e*S	**Sg**	**01 08 49.1**	**-1.4**
	baz=258						
NACB	**Ninganchiao**	**0.17**	**289**	*e*Pg	**Pg**	**01 08 46.5**	**-1.4**
NACB				*e*Sg	**Sg**	**01 08 48.5**	**-2.1**
EHP	**Heping Village**	**0.19**	**352**	⇓*i*P	**Pg**	**01 08 48.6**	**+0.3**
	baz=6.0						
EHP				S	**Sg**	**01 08 51.4**	**+0.1**
	baz=6.0						
HWA	**Hwalien**	**0.20**	**227**	⇓*i*P	**Pg**	**01 08 48.2**	**-0.2**
	baz=223						
ENA	**Nanau**	**0.31**	**355**	⇑*i*P	**Pg**	**01 08 49.9**	**-0.4**
	baz=4.0						
ESF	**Shoufeng Towns**	**0.34**	**224**	*e*P	**Pg**	**01 08 51.1**	**+0.2**
	baz=229						
ESL	**Shilin**	**0.43**	**225**	⇓*i*P	**Pg**	**01 08 51.8**	**-0.7**
	baz=229						
TEGC	**Jichi Village**	**0.46**	**207**	*e*P	**Pb**	**01 08 54.9**	**+1.1**
	baz=193						
WHF	**Hehuan Shan**	**0.46**	**273**	⇑*i*P	**Pg**	**01 08 52.1**	**-1.1**
	baz=274						
NNS	**Nan Shan**	**0.48**	**312**	⇑*i*P	**Pg**	**01 08 52.7**	**-0.8**
	baz=314						
NNS				*i* S	**Sg**	**01 08 59.3**	**-0.7**
	baz=314						
TWC	**Suao**	**0.49**	**8**	⇑*i*P	**Pg**	**01 08 53.6**	**-0.1**
	baz=6.0						
ENTT	**Nioudou**	**0.55**	**340**	⇑*i*P	**Pg**	**01 08 54.5**	**-0.3**
	baz=343						
TWT	**Tachien**	**0.56**	**284**	⇑*i*P	**Pg**	**01 08 54.5**	**-0.4**
	baz=284						
TWT				S	**Sg**	**01 09 01.1**	**-1.3**
	baz=284						
TWE	**Neicheng**	**0.61**	**351**	⇑*i*P	**Pg**	**01 08 55.7**	**-0.1**
	baz=355						
TWE				*e*S	**Sg**	**01 09 03.7**	**-0.2**
	baz=355						
ILA	**Ilan**	**0.65**	**358**	⇑*i*P	**Pb**	**01 08 56.7**	**-0.3**
	baz=354						
ILA				*e*S	**Sb**	**01 09 06.0**	**+0.1**
	baz=354						
YHNB	**Yeheng**	**0.66**	**327**	*e*Pg	**Pg**	**01 08 56.0**	**-0.8**
YHNB				*e*Sg	**Sg**	**01 09 03.7**	**-1.8**
NSK	**Sanguang**	**0.67**	**326**	⇑*i*P	**Pg**	**01 08 56.4**	**-0.6**
	baz=328						
NSK				*i* S	**Sg**	**01 09 04.5**	**-1.4**
	baz=328						
EHY	**Hungye**	**0.73**	**214**	⇑*e*P	**Pg**	**01 08 57.5**	**-0.7**
	baz=213						
EGS		**0.74**	**12**	⇑*i*P	**Pb**	**01 08 58.5**	**-0.1**
	baz=21						
SSLB	**Suanglung**	**0.81**	**246**	*e*Pg	**Pg**	**01 08 58.6**	**-1.1**
SSLB				*e*Sg	**Sg**	**01 09 08.3**	**-2.2**
SMLT	**Sun Moon Lake**	**0.83**	**254**	⇓P	**Pg**	**01 08 59.3**	**-0.7**
	baz=253						
SMLT				S	**Sg**	**01 09 09.1**	**-1.8**
	baz=253						
YULB	**Yu-li**	**0.84**	**211**	*e*Pg	**Pg**	**01 08 58.7**	**-1.6**
YULB				*e*Sn	**Sn**	**01 09 13.5**	**-0.1**
TYC	**Yuchr**	**0.86**	**256**	⇓P	**Pg**	**01 08 59.7**	**-0.9**
	baz=256						
TYC				*e*S	**Sg**	**01 09 10.0**	**-1.9**
	baz=256						
NSTT	**Nanjuang**	**0.87**	**306**	⇑*i*P	**Pg**	**01 09 00.3**	**-0.4**
	baz=307						
NSTT				S	**Sg**	**01 09 10.3**	**-1.8**
	baz=307						
TWA	**Mucha**	**0.88**	**349**	⇑*i*P	**Pb**	**01 09 00.8**	**-0.1**
	baz=350						
TWA				S	**Sb**	**01 09 13.0**	**+0.5**
	baz=350						
TWF1	**Yuli**	**0.88**	**210**	*e*P	**Pg**	**01 08 59.5**	**-1.4**
	baz=219						
TATO	**Taipei**	**0.89**	**343**	*e*Pg	**Pg**	**01 09 00.4**	**-0.8**
TATO				*e*Sg	**Sg**	**01 09 10.3**	**-2.5**
TATO				*e*Sn	**Sn**	**01 09 14.3**	**-0.5**
TWB1	**Santiao Chiao**	**0.91**	**13**	⇑*i*P	**Pg**	**01 09 01.4**	**-0.1**
	baz=6.0						
TWQ1	**Liyutan**	**0.94**	**284**	*e*P	**Pb**	**01 09 02.0**	**0.0**
	baz=284						
TAP1	**Taipei**	**0.94**	**346**	⇑*i*P	**Pb**	**01 09 02.0**	**0.0**
	baz=346						
TAP1				*e*S	**Sg**	**01 09 13.4**	**-1.1**
	baz=346						
TAP	**Taipei**	**0.95**	**345**	*e*P	**Pb**	**01 09 02.1**	**-0.1**
	baz=346						
NWF	**Wu-fen Shan**	**0.95**	**1**	⇑*i*P	**Pb**	**01 09 02.4**	**+0.1**
	baz=353						
NWF				*e*S	**Sg**	**01 09 14.2**	**-0.5**
	baz=353						
NSY	**Sanyi**	**0.97**	**288**	⇑*e*P	**Pn**	**01 09 02.9**	**-0.2**
	baz=288						
NSY				*e*S	**Sb**	**01 09 15.3**	**+0.1**
	baz=288						
YUS	**Yu-Shan**	**0.98**	**230**	⇓P	**Pb**	**01 09 02.4**	**-0.6**
	baz=231						
HSN	**Hsinchu**	**1.00**	**313**	⇓P	**Pn**	**01 09 03.5**	**-0.1**
	baz=316						
HSN				*e*S	**Sn**	**01 09 16.7**	**-0.7**
	baz=316						
TCU	**Taichung**	**1.00**	**272**	⇑*i*P	**Pn**	**01 09 03.9**	**+0.3**
	baz=264						
TCU				*i* S	**Sg**	**01 09 16.6**	**+0.3**
	baz=264						
NCU	**National Centr**	**1.00**	**328**	*e*P	**Pn**	**01 09 03.7**	**+0.1**
	baz=335						
NCU				*e*S	**Sn**	**01 09 17.7**	**+0.2**
	baz=335						
WNT	**Mingjian**	**1.02**	**257**	⇑P	**Pn**	**01 09 04.2**	**+0.4**
	baz=252						
WNT				S	**Sg**	**01 09 17.1**	**+0.2**
	baz=252						
TWS1	**Kuangyinshan**	**1.03**	**342**	⇑*i*P	**Pn**	**01 09 04.2**	**+0.2**
	baz=350						
TWS1				*e*S	**Sb**	**01 09 16.7**	**-0.3**
	baz=350						
ALS	**Alishan**	**1.07**	**236**	⇓*i*P	**Pb**	**01 09 04.3**	**-0.1**
	baz=226						
ALS				*e*S	**Sb**	**01 09 18.8**	**+0.4**
	baz=226						
CHKT	**Chengkung**	**1.08**	**200**	*e*P	**Pb**	**01 09 03.2**	**-1.2**
	baz=192						
CHKT				*e*S	**Sn**	**01 09 21.4**	**+2.0**
	baz=192						
JYNG	**Yonagunijimaku**	**1.12**	**73**	P	**Pg**	**01 09 06.1**	**+0.5**
JYNG				S	**Sn**	**01 09 20.8**	**+0.2**
CHN5	**Tsauling**	**1.12**	**243**	⇑*i*P	**Pg**	**01 09 06.0**	**+0.4**
	baz=244						
ELDTW	**Lidau**	**1.15**	**217**	*e*P	**Pb**	**01 09 04.3**	**-1.5**
	baz=218						
TWY	**Chenhua**	**1.16**	**352**	*i* P	**Pg**	**01 09 06.2**	**-0.2**
	baz=338						
YOJ	**Yonaguni jima**	**1.18**	**73**	P	**Pg**	**01 09 06.9**	**+0.2**
YOJ				S	**Sn**	**01 09 24.6**	**+2.6**
YOJ	**Yonaguni jima**	**1.18**	**73**	*e*P	**Pg**	**01 09 06.9**	**+0.2**
YOJ				*e*		01 09 22.6	
YOJ	**Yonaguni jima**	**1.18**	**73**	⇑*i*P	**Pg**	**01 09 07.0**	**+0.2**
	baz=69						
YOJ				S	**Sn**	**01 09 24.6**	**+2.6**
	baz=69						
YOJ	**Yonaguni jima**	**1.18**	**73**	*e*Pn	**Pg**	**01 09 06.9**	**+0.2**
YOJ				*e*Sg	**Sn**	**01 09 22.6**	**+0.5**
WGK	**Gukeng**	**1.19**	**249**	*e*P	**Pg**	**01 09 06.9**	**+0.2**
	baz=250						
CHN2	**Minshiung**	**1.32**	**244**	*e*P	**Pg**	**01 09 09.4**	**+0.1**
	baz=245						
CHN2				*e*S	**Sg**	**01 09 27.0**	**+0.5**
	baz=245						
CHN4	**Tsaushan**	**1.32**	**235**	⇑*i*P	**Pg**	**01 09 09.1**	**-0.3**
	baz=223						
CHN4				*e*S	**Sg**	**01 09 28.9**	**+2.4**
	baz=223						
TPUB	**Ta-pu**	**1.32**	**232**	*e*Pn	**Pn**	**01 09 08.2**	**+0.1**
TPUB				*e*Sg	**Sg**	**01 09 27.1**	**+0.4**
STYT	**Tauyuan**	**1.33**	**225**	⇑*i*P	**Pn**	**01 09 08.2**	**+0.1**
	baz=225						
WTP	**Ta-pu**	**1.37**	**231**	⇑*i*P	**Pb**	**01 09 09.3**	**-0.1**
	baz=232						
CHY	**Chiayi**	**1.38**	**244**	*e*P	**Pb**	**01 09 09.8**	**+0.3**
	baz=244						
CHY				*e*S	**Sg**	**01 09 28.2**	**-0.1**
	baz=244						
WTCT	**Ta-ch'eng**	**1.38**	**260**	*e*P	**Pg**	**01 09 10.3**	**-0.3**
	baz=260						
WTCT				*e*S	**Sg**	**01 09 29.1**	**+0.5**
	baz=260						
TWG	**Pinlang**	**1.44**	**206**	*e*P	**Pn**	**01 09 07.7**	**-2.0**
	baz=208						
TWG	**Pinlang**	**1.44**	**206**	*e*Pn	**Pn**	**01 09 07.6**	**-2.0**
TWK	**Hsinying**	**1.45**	**234**	*e*P	**Pb**	**01 09 10.9**	**+0.1**
	baz=235						
TWK				*e*S	**Sg**	**01 09 31.0**	**+0.4**
	baz=235						
CHN1	**Nanshi**	**1.47**	**231**	⇑P	**Pb**	**01 09 10.9**	**-0.1**
	baz=232						
CHN1				*e*S	**Sg**	**01 09 31.6**	**+0.4**
	baz=232						
TTN	**Taitung**	**1.47**	**203**	*e*P	**Pn**	**01 09 10.6**	**+0.5**
	baz=204						
WSF	**Szhu**	**1.50**	**252**	*e*P	**Pb**	**01 09 11.6**	**+0.1**
	baz=253						
WSF				*e*S	**Sg**	**01 09 32.4**	**+0.3**
	baz=253						
SGST	**Jiashian**	**1.50**	**227**	⇑*i*P	**Pb**	**01 09 11.7**	**+0.1**
	baz=228						
SGST				*e*S	**Sg**	**01 09 32.9**	**+0.6**
	baz=228						
PCYT	**Pengchaiyu**	**1.53**	**10**	*e*P	**Pb**	**01 09 12.0**	**-0.1**
	baz=7.0						
CHN8	**Yiju**	**1.62**	**242**	*e*P	**Pb**	**01 09 13.2**	**-0.4**
	baz=243						
CHN8				*e*S	**Sg**	**01 09 36.0**	**-0.1**
	baz=243						
CHN3	**Shinhua**	**1.65**	**231**	*e*P	**Pb**	**01 09 14.6**	**+0.4**
	baz=233						
SSD	**Sandimen**	**1.72**	**218**	*e*P	**Pn**	**01 09 14.0**	**+0.5**
	baz=232						
SCLT	**Jiali**	**1.72**	**237**	*e*P	**Pb**	**01 09 15.1**	**-0.3**
	baz=239						
SCLT				*e*S	**Sg**	**01 09 38.4**	**-1.0**
	baz=239						
TAI1	**Yung-k'ang**	**1.77**	**233**	*e*P	**Pn**	**01 09 14.8**	**+0.6**
	baz=234						
TWM1	**Shoushan**	**1.79**	**224**	*e*P	**Pb**	**01 09 16.7**	**+0.3**
	baz=225						
IRIF	**Iriomote-Funau**	**1.80**	**83**	P	**Pn**	**01 09 15.5**	**+0.9**
IRIF				*e*S	**Sb**	**01 09 39.1**	**-0.1**
SGLT	**Jiouru**	**1.82**	**220**	*e*P	**Pb**	**01 09 17.3**	**+0.3**
	baz=211						
HATJ	**Hateruma jima**	**1.86**	**91**	P	**Pb**	**01 09 16.9**	**-0.8**
HATJ				*e*S	**Sb**	**01 09 41.3**	**+0.4**
EAST	**Anshuo**	**1.92**	**206**	*e*P	**Pn**	**01 09 15.0**	**-1.3**
	baz=196						
TAW	**Tawu**	**1.93**	**205**	*e*P	**Pb**	**01 09 17.8**	**-1.1**
	baz=194						
SCZT	**Fangliau**	**2.03**	**212**	*e*P	**Pn**	**01 09 18.5**	**+0.7**
	baz=197						
KAU	**Kaohsiung**	**2.05**	**221**	*e*P	**Pb**	**01 09 20.8**	**-0.1**
	baz=241						
JKRS	**Kuro-shima**	**2.05**	**86**	P	**Pb**	**01 09 20.0**	**-0.9**
JKRS				*e*S	**Sb**	**01 09 46.2**	**-0.1**
LAY	**Lan-yu**	**2.08**	**186**	*e*P	**Pn**	**01 09 16.2**	**-2.3**
	baz=189						
PNG	**Penghu**	**2.10**	**255**	*e*P	**Pn**	**01 09 19.5**	**+0.8**
	baz=258						
PNG				*e*S	**Sb**	**01 09 47.1**	**-0.7**
	baz=258						
WDGT	**Dungji**	**2.11**	**247**	*e*P	**Pn**	**01 09 19.6**	**+0.7**
	baz=234						
WDGT				*e*S	**Sn**	**01 09 46.5**	**+1.5**
	baz=234						
JIJ	**Ishigaki jima**	**2.18**	**83**	P	**Pn**	**01 09 20.5**	**+0.7**
JIJ				S	**Sn**	**01 09 48.3**	**+1.6**
TWP	**Hsiaoliuchiu**	**2.19**	**217**	*e*P	**Pb**	**01 09 22.0**	**-1.3**
	baz=217						
HEN	**Hengchun**	**2.31**	**204**	*e*P	**Pn**	**01 09 22.3**	**+0.7**
	baz=196						
TWK1	**Hengchun**	**2.34**	**202**	*e*P	**Pn**	**01 09 21.7**	**-0.3**
	baz=194						
TSEB	**Hengchuen, Pin**	**2.35**	**200**	*e*P	**Pn**	**01 09 22.4**	**+0.2**
	baz=192						
JISG	**Ishigakijimahi**	**2.37**	**78**	P	**Pn**	**01 09 23.4**	**+1.1**
JISG				S	**Sn**	**01 09 53.2**	**+2.0**
JTJ	**Tarama**	**2.73**	**78**	P	**Pb**	**01 09 30.5**	**-2.0**
QZH	**Quanzhou**	**3.01**	**286**	Pn	**Pn**	**01 09 31.0**	**-0.2**
QZH				Sn	**Sn**	**01 10 05.6**	**-1.5**
QZH				SMN			
	3μm,1.0s						
QZH				SME			
	2μm,0.9s						
QZH				LN			
	8μm,9.6s						
QZH				LE			
	8μm,8.5s						
QZH				LZ			
	10μm,9.5s						
KNM	**Kinmen**	**3.06**	**276**	*e*P	**Pn**	**01 09 33.0**	**+1.1**
	baz=277						
JIRB	**Irabujima**	**3.18**	**76**	P	**Pn**	**01 09 36.7**	**+3.1**
JIKM	**Ikemajima**	**3.27**	**75**	P	**Pb**	**01 09 38.6**	**-3.1**
JKE	**Kume jima 2**	**5.05**	**63**	P	**Pn**	**01 10 01.7**	**+2.4**
JAGN	**Aguni-jima**	**5.53**	**62**	P	Pn	01 10 09.6	+3.7
JOW	**Kunigami**	**6.47**	**64**	Pn	**Pn**	**01 10 19.2**	**+0.4**
	0.8nm,0.3s,baz=148,slow=14,SNR=6.0						
JOW	**Kunigami**	**6.47**	**64**	*e*Pn	**Pn**	**01 10 17.8**	**-1.0**
SSE	**Sheshan**	**6.97**	**356**	Pn	**Pn**	**01 10 26.3**	**+0.7**
SSE				Sn	**Sn**	**01 11 45.3**	**+0.5**
SSE				SMN			
	170nm,1.0s						
SSE				SME			

GYA SS **S** **01 14 51.8 -4.5**
GYA PMZ
comp=Z,20nm,0.7s
GYA PMZ
comp=Z,120nm,4.2s
GYA LN
comp=Z,2µm,10.0s
GYA LE
comp=Z,1µm,10.0s
GYA LZ
comp=Z,2µm,10.0s
KSULJ Ulijin 14.16 26 P **P** **01 12 09.4 -2.3**
SNR=6.1
KSAR Wonju Array Be 14.28 20 P **Pn** **01 12 06.2 +0.5**
KSAR Wonju Array Be 14.28 20 Pn **Pn** **01 12 06.2 +0.5**
KSRS Korea Array 14.30 20 Pn **Pn** **01 12 06.2 +0.2**
comp=Z,0.6nm,0.3s,baz=199,slow=13,SNR=20
KSRS LR LR 01 18 20.1
comp=Z,417nm,18.9s,baz=180,slow=41
KSRS Korea Array 14.30 20 P **Pn** **01 12 06.2 +0.2**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS MLR MLR
comp=Z,417nm,18.9s
KSTBA Taebaek 14.35 24 P **P** **01 12 12.1 -1.8**
SNR=10
KSCWO Cheorwon 14.76 18 P **P** **01 12 20.5 +2.2**
SNR=7.7
KSIJA INJE 14.85 20 P **P** **01 12 21.2 +1.9**
SNR=9.9
XAN Xi'an 14.95 314 P **Pn** **01 12 15.8 +0.8**
XAN PMZ
comp=Z,4.0nm,1.4s
XAN LN
comp=Z,280nm,8.7s
XAN LE
comp=Z,530nm,10.9s
XAN LZ
comp=Z,620nm,10.5s
KSJMJ Jumunjin 14.96 22 P **P** **01 12 19.7 -0.9**
SNR=12
SEHB SEOHWA 15.15 20 P **P** **01 12 24.5 +1.8**
SNR=12
KSSKC Sokcho 15.26 21 P **P** **01 12 25.8 +2.0**
SNR=9.9
TIY Taiyuan 15.73 332 *e*P **P** **01 12 31.5 +2.3**
TIY S **Sn** **01 15 20.5 +1.1**
TIY PMZ
comp=Z,160nm,3.9s
TIY LN
comp=Z,2µm,12.9s
TIY LE
comp=Z,670nm,9.6s
TIY LZ
comp=Z,1µm,14.5s
BJI Beijing 16.56 345 P **P** **01 12 37.5 -0.8**
BJI S **Sn** **01 15 43.9 +4.5**
BJI PMZ
comp=Z,17nm,1.6s
BJI PMZ
comp=Z,250nm,6.9s
BJI LN
comp=Z,920nm,13.1s
BJI LE
comp=Z,400nm,14.8s
BJI LZ
comp=Z,370nm,15.5s
KMI Kunming 17.33 277 P **Pn** **01 12 46.0 +0.2**
KMI sP **sP** **01 12 50.8 -2.0**
KMI PP **PnPn** **01 13 01.3 +5.4**
KMI S **Sn** **01 15 58.0 -0.7**
KMI sS **sS** **01 16 10.9 -2.6**
KMI PMZ
comp=Z,13nm,0.6s
KMI PMZ
comp=Z,140nm,4.5s
KMI LN
comp=Z,2µm,12.2s
KMI LE
comp=Z,470nm,6.6s
KMI LZ
comp=Z,1µm,9.8s
CD2 Chengdu 17.34 297 P **Pn** **01 12 45.0 -0.7**
CD2 pP **pP** **01 12 49.0 -1.9**
CD2 sP **sP** **01 12 50.4 -2.2**
CD2 S **Sn** **01 15 58.3 -0.3**
CD2 sS **sS** **01 16 11.3 -2.0**
CD2 PcP **PcP** **01 17 27.9 +0.1**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,130nm,4.5s
CD2 LN
comp=Z,1µm,7.1s
CD2 LE
comp=Z,1µm,7.6s
CD2 LZ
comp=Z,1µm,6.1s
SNY Shenyang 17.73 4 ⇓P **P** **01 12 51.3 +0.2**
SNY PMZ
comp=Z,14nm,1.9s
SNY PMZ
comp=Z,310nm,7.7s
SNY LN
comp=Z,2µm,12.2s
SNY LE
comp=Z,600nm,12.1s
SNY LZ
comp=Z,2µm,12.5s
CBIJ Chichi jima 18.65 77 P **P** **01 13 00.2 -1.2**
JCJ Chichijima 18.65 77 P **P** **01 13 00.2 -1.2**
comp=Z,2.8nm,0.3s,baz=286,slow=15,SNR=3.9
JCJ LR LR 01 17 48.6
comp=Z,76nm,21.2s,baz=114,slow=29
HHC Hu-ho-hao-te 18.75 335 *e*P **Pn** **01 13 05.8 +2.8**
HHC PP **PnPn** **01 13 20.3 +5.1**
HHC SS SS 01 16 57.3
HHC PMZ
comp=Z,22nm,0.7s
HHC PMZ
comp=Z,360nm,4.1s
HHC LN
comp=Z,1µm,10.9s
HHC LE
comp=Z,360nm,10.4s
HHC LZ
comp=Z,760nm,10.7s
MJAR Matsushiro Arr 18.80 45 P **P** **01 13 01.5 -1.6**
comp=Z,0.6nm,0.3s,baz=236,slow=9.5,SNR=4.9
MJAR LR LR 01 21 02.6
comp=Z,263nm,19.5s,baz=235,slow=39
LZH Lanzhou 19.53 312 P **Pn** **01 13 15.0 +2.5**
LZH pP **pP** **01 13 17.5 +2.4**
LZH sP **sP** **01 13 20.1 +3.3**
LZH PP PnPn 01 13 33.4 +7.5
LZH S **Sn** **01 16 48.5 -3.1**
LZH sS **sS** **01 16 57.3 -0.4**
LZH PMZ
comp=Z,93nm,1.0s
LZH PMZ
comp=Z,380nm,4.5s
LZH LN
comp=Z,1µm,12.8s
LZH LE
comp=Z,2µm,11.9s
LZH LZ
comp=Z,2µm,13.0s
CN2 Changchun 19.86 8 *e*P **Pn** **01 13 15.6 -0.7**
CN2 *e*S **S** **01 16 55.8 -2.2**
CN2 PMZ
comp=Z,20nm,0.6s
CN2 LN
comp=Z,2µm,12.0s
CN2 LE
comp=Z,300nm,12.0s
CN2 LZ
comp=Z,1µm,16.0s
VLA Vladivostok 20.71 21 ⇓*i*P **P** **01 13 21.2 -2.6**
VLA *i* 01 13 39.0
VLA *e*S **S** **01 17 12.5 -2.2**
VLA *e* 01 17 31.4
VLA pmax pmax
comp=Z,14nm,0.6s
MDJ Mudanjiang 21.42 15 P **P** **01 13 32.4 +0.9**
MDJ PMZ
comp=Z,17nm,0.8s
MDJ PMZ
comp=Z,75nm,7.6s
USRK Ussuriysk Ar. 21.71 20 P **P** **01 13 34.5 -0.1**
comp=Z,11nm,0.8s,baz=210,slow=9.8,SNR=28
USRK LR LR 01 22 32.6
comp=Z,309nm,18.3s,baz=184,slow=38
CHTO Chiang Mai 21.88 260 *e*P **P** **01 13 38.6 +2.0**
CHTO pmax pmax
comp=Z,12nm,1.0s
CHTO Chiang Mai 21.88 260 *e*P **P** **01 13 38.6 +2.0**
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 21.99 260 P **P** **01 13 36.8 -1.0**
comp=Z,1.2nm,0.3s,baz=63,slow=8.9,SNR=9.1
CMAR LR LR 01 23 00.5
comp=Z,106nm,19.0s,baz=65,slow=39
GTA Gaotai 24.01 315 *e*P **P** **01 13 58.9 +0.4**
GTA pP **pP** **01 14 02.8 +0.2**
GTA sP **sP** **01 14 05.9 +1.6**
GTA PP PnPn 01 14 34.5 +7.3
GTA S **S** **01 18 20.3 +5.0**
GTA sS **sS** **01 18 26.4 +4.4**
GTA PMZ
comp=Z,10.0nm,1.2s
GTA PMZ
comp=Z,190nm,5.3s
GTA LN
comp=Z,600nm,9.5s
GTA LE
comp=Z,920nm,11.8s
GTA LZ
comp=Z,1µm,11.9s
KSM Kuching 25.10 208 *e*P **P** **01 14 08.0 -0.4**
comp=Z,36nm,1.1s
HIA Hailar 25.15 357⇑*i*P **P** **01 14 07.4 -1.3**
HIA pmax pmax
comp=Z,16nm,1.0s
HIA Hailar 25.15 357 *e*P **P** **01 14 09.3 +0.6**
comp=Z,8.8nm,0.6s
ASAJ Asahikawa 26.23 35 P **P** **01 14 19.2 +0.7**
comp=Z,2.4nm,0.4s,baz=131,slow=13,SNR=3.6
ASAJ Asahikawa 26.23 35 P **P** **01 14 19.2 +0.7**
ASAJ pmax pmax
comp=Z,2.0nm,0.4s
KLR Kul'dur 26.26 15 *e*P **P** **01 14 14.2 -4.5**
KLR pmax pmax
comp=Z,64nm,1.8s
KLR MLR MLR
comp=E,1µm,18.0s
KLR MLR MLR
comp=Z,6µm,12.5s
HABR Khabarovsk 26.48 20 *e*P **P** **01 14 17.4 -3.2**
HABR *e**SP **sP** **01 14 21.6 -4.9**
HABR 01 14 56.8
HABR *e* 01 17 42.7
HABR *e*S **S** **01 18 51.4 -2.7**
HABR *e*SS **SnSn** **01 19 52.8 -2.9**
HABR *e* 01 25 13.1
HABR pmax pmax
comp=Z,11nm,0.9s
HABR MLR MLR
comp=Z,427nm,14.0s
SIJI Sorong 26.50 158 P **P** **01 14 20.8 -0.3**
comp=Z,5.1nm,0.5s,baz=17,slow=20,SNR=3.0
SONM Songino Array 26.64 337 P **P** **01 14 22.2 -0.1**
comp=Z,6.6nm,0.9s,baz=151,slow=8.5,SNR=31
SONM LR LR 01 26 04.5
comp=Z,694nm,18.1s,baz=158,slow=39
LSA Lhasa 27.82 288 P **P** **01 14 34.3 +0.8**
YSS Yuzh-Sakhalins 28.30 31 *i*P **P** **01 14 36.6 -0.5**
YSS pmax pmax
comp=Z,37nm,2.1s
KAPI Kappang 29.02 184 P **P** **01 14 42.8 -0.9**
comp=Z,2.5nm,0.5s,baz=55,slow=18,SNR=3.0
TLY Talaya 30.84 338 P **P** **01 14 58.8 -0.7**
comp=Z,3.2nm,0.6s,baz=144,slow=13,SNR=2.5
WMQ Urumqi 34.09 314 P **P** **01 15 29.5 +1.4**
WMQ pP **pP** **01 15 33.9 +1.6**
WMQ sP **sP** **01 15 35.8 +1.8**
WMQ PP **PnPn** **01 16 43.4 +1.8**
WMQ PcP **PcP** **01 18 09.9 +4.4**
WMQ S **S** **01 20 50.9 -2.7**
WMQ sS **sS** **01 21 00.5 0.0**
WMQ PcS **PcS** **01 21 52.5 +0.9**
WMQ ScS **ScS** **01 25 48.6 -3.6**
WMQ PMZ
comp=Z,12nm,0.8s
WMQ PMZ
comp=Z,58nm,5.0s
WMQ LN
comp=Z,520nm,11.8s
WMQ LE
comp=Z,610nm,12.1s
WMQ LZ
comp=Z,150nm,13.5s
BOD Bodaibo 34.13 353 *e*P **P** **01 15 25.8 -2.4**
YAK Yakutsk 38.28 6 *i*P **P** **01 16 01.4 -2.2**
YAK pmax pmax
comp=Z,30nm,1.3s
MK31 Makanchi Array 38.76 316 *i*P **P** **01 16 07.9 0.0**
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MK31 Makanchi Array 38.76 316 *e*P **P** **01 16 08.2 +0.2**
MKAR Makanchi Array 38.76 316 P **P** **01 16 08.1 +0.2**
comp=Z,6.8nm,0.7s,baz=109,slow=9.9,SNR=56
MKAR PcP **PcP** **01 18 17.8 -1.6**
comp=Z,0.5nm,0.7s,baz=85,slow=3.2,SNR=2.8
MKAR LR LR 01 31 53.8
comp=Z,88nm,19.3s,baz=110,slow=36
MKAR Makanchi Array 38.76 316 P **P** **01 16 08.1 +0.2**
MKAR 01 18 17.8
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR MLR MLR
comp=Z,88nm,19.3s
MKAR Makanchi Array 38.76 316 *e*P **P** **01 16 08.4 +0.5**
MKAR PcP **PcP** **01 18 17.8 -1.6**
PDGK Podgornoye 39.55 310 P **P** **01 16 14.9 +0.4**
PDGK pmax pmax
comp=Z,16nm,1.0s
PETK Petropavlovsk- 39.62 34 LR LR 01 33 53.0
comp=Z,199nm,18.2s,baz=225,slow=38
ZAA0 Zalesovo Array 40.59 327 *e*P **P** **01 16 21.7 -1.3**
ZALV Zalesovo Beam 40.59 327 P **P** **01 16 21.9 -1.1**
comp=Z,8.1nm,0.8s,baz=121,slow=7.4,SNR=20
ZALV LR LR 01 33 22.2
comp=Z,106nm,20.5s,baz=258,slow=36
KSH Kashi 41.38 303 P P 01 16 33.4 +3.4
KSH PP **PnPn** **01 18 17.1 +7.0**
KSH PcP PcP 01 18 34.5 +6.4
KSH PcS **PcS** **01 22 23.6 +4.2**
KSH S S 01 22 51.8 +7.3
KSH SS **SS** **01 25 52.0 +3.6**
KSH PMZ
comp=Z,7.0nm,1.3s
KSH PMZ
comp=Z,120nm,4.6s
KSH LN
comp=Z,260nm,5.5s
KSH LE
comp=Z,250nm,4.9s
KSH LZ
comp=Z,130nm,5.4s
PMG Port Moresby 41.54 140 *e*P **P** **01 16 31.6 +0.4**
PMG pmax pmax
comp=Z,46nm,1.2s
PMG Port Moresby 41.54 140 *e*P **P** **01 16 31.6 +0.4**
comp=Z,46nm,1.2s
NVS Novosibirsk 41.85 327 *e*P **P** **01 16 31.6 -1.8**
H11N1 WAKE ISLAND Hy 41.96 87 T T 02 01 54.8
baz=283,slow=74,SNR=5.5
H11N2 WAKE ISLAND Hy 41.96 87 T T 02 01 54.8
baz=283,slow=74,SNR=6.1
H11N3 WAKE ISLAND Hy 41.97 87 T T 02 01 45.4
baz=283,slow=74,SNR=7.7
H11S3 WAKE ISLAND Hy 42.09 89 T T 02 02 21.2
baz=274,slow=75,SNR=26
H11S1 WAKE ISLAND Hy 42.09 89 T T 02 02 27.4
baz=274,slow=75,SNR=15
H11S2 WAKE ISLAND Hy 42.10 89 T T 02 02 25.7
baz=274,slow=75,SNR=12
TKM2 Tokmak 2 42.23 308 P **P** **01 16 37.7 +0.8**
TKM2 pmax pmax
comp=Z,8.0nm,0.9s
TKM2 Tokmak 2 42.23 308 *e*P **P** **01 16 37.9 +1.0**
comp=Z,7.2nm,0.8s
KURK Kurchatov 42.48 320 P P 01 16 35.4 -3.2
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 42.48 320 *e*P **P** **01 16 37.7 -1.0**
comp=Z,7.8nm,0.9s
COEN Coen 43.24 149 *e*P **P** **01 16 45.7 +0.6**
SFK Sufi-Kurgan 43.33 303 P **P** **01 16 47.0 +1.0**
SFK pmax pmax
comp=Z,2.0nm,0.4s
EKS2 Erkin-Say 43.50 307 *e*P **P** **01 16 47.4 +0.3**
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 43.50 307 *e*P **P** **01 16 47.4 +0.3**
comp=Z,3.6nm,0.8s
SEY Seymchan 43.86 20⇑*e*P **P** **01 16 49.5 0.0**
WRAB Tennant Creek 45.47 163 *e*P **P** **01 17 02.3 -0.6**
WRAB pmax pmax
comp=Z,21nm,1.5s
WRAB Tennant Creek 45.47 163 *e*P **P** **01 17 02.3 -0.6**
comp=Z,21nm,1.5s
WRA Warramunga Arr 45.48 163 P **P** **01 17 01.6 -1.3**
comp=Z,3.8nm,0.9s,baz=345,slow=8.8,SNR=21
KK31 Karatay Array 45.94 307 *i*P **P** **01 17 07.4 +1.0**
KK31 pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 45.94 307 *e*P **P** **01 17 07.8 +1.3**
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 45.94 307 *e*P **P** **01 17 07.8 +1.3**
comp=Z,3.1nm,0.7s
KBL Kabul 46.67 295 *e*P **P** **01 17 14.1 +1.5**
KBL pmax pmax
comp=Z,22nm,1.2s
KBL Kabul 46.67 295 *e*P **P** **01 17 14.1 +1.5**
comp=Z,22nm,1.2s
DZET Dzherino 46.86 301 P **P** **01 17 14.7 +0.8**
DZET pmax pmax
comp=Z,4.0nm,0.5s
TIXI Tiksi 47.73 3*c i*P **P** **01 17 18.1 -1.9**
TIXI pmax pmax
comp=Z,37nm,1.2s
TIXI Tiksi 47.73 3 *e*P **P** **01 17 17.9 -2.1**
comp=Z,27nm,1.0s
BVA0 Borovoye Array 48.06 321 P **P** **01 17 22.6 -0.3**
BVA0 pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 48.13 321 ⇓*i*P **P** **01 17 22.6 -0.8**
BRVK pmax pmax
comp=Z,10.0nm,1.2s
BRVK Borovoye 48.13 321 *e*P **P** **01 17 21.4 -2.0**
comp=Z,9.0nm,0.9s
ASAR Alice Springs 48.94 165 P **P** **01 17 29.3 -0.6**
comp=Z,2.3nm,0.9s,baz=342,slow=8.2,SNR=9.5
ASAR LR LR 01 40 01.6
comp=Z,75nm,18.1s,baz=316,slow=38
CTA Charters Tower 50.00 149 P **P** **01 17 38.3 +0.2**
comp=Z,6.8nm,0.9s,baz=315,slow=4.3,SNR=2.6
CTAO Charters Tower 50.00 149 *e*P **P** **01 17 38.8 +0.8**
CTAO pmax pmax
comp=Z,12nm,1.0s
CTAO Charters Tower 50.00 149 *e*P **P** **01 17 38.8 +0.8**
comp=Z,12nm,1.0s
BILL Bilibino 51.56 20 *i*P **P** **01 17 47.8 -1.5**
BILL *i* 01 19 03.1
BILL *i* 01 19 46.1
BILL pmax pmax
comp=Z,11nm,1.4s
BILL MLR MLR
comp=Z,213nm,20.0s
BILL Bilibino 51.56 20 *e*P **P** **01 17 49.0 -0.3**
comp=Z,8.7nm,1.2s
AB31 Akbulak array 53.87 314 P **P** **01 18 06.5 -0.1**
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 53.87 314 *e*P **P** **01 18 07.0 +0.4**
SVE Sverdlovsk 54.41 324 *e*P **P** **01 18 10.7 +0.2**
SVE pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 55.48 323*d i*P **P** **01 18 16.8 -1.4**
ARU 01 20 19.8
ARU S **S** **01 26 03.5 +0.7**
ARU SS **SS** **01 29 45.5 -1.8**
ARU pmax pmax
comp=Z,10.0nm,1.0s
STKA Stephens Creek 58.82 160 P **P** **01 18 41.5 -0.5**
comp=Z,2.7nm,0.7s,baz=332,slow=7.9,SNR=4.5
MAK Makhachkala 62.75 307 *e*P P 01 19 05.3 -3.5
GNI Garni 65.28 305⇓*i*P **P** **01 19 26.7 +1.0**
GNI pmax pmax
comp=Z,10.0nm,1.7s
TMCR Tamitsa 65.86 331 *e*P **P** **01 19 28.3 -0.5**
TMCR pmax pmax
comp=Z,28nm,1.3s
KBZ Khabaz 65.94 309 P **P** **01 19 29.6 0.0**
comp=Z,2.3nm,0.8s,baz=86,slow=4.7,SNR=3.5
KBZ LR LR 01 50 29.8
comp=Z,60nm,18.1s,baz=71,slow=38
IM04 Indian Mountai 65.99 26 *e*P **P** **01 19 29.0 -0.7**
KIV Kislovodsk 66.04 309 *i*P **P** **01 19 30.6 +0.1**
KIV *i* 01 19 38.5
KIV *i* 01 20 04.3
KIV *i*S S 01 28 30.3 +12
KIV pmax pmax
comp=Z,19nm,1.6s
KIV MLR MLR
comp=Z,48nm,17.0s
KIV Kislovodsk 66.04 309 *e*P **P** **01 19 30.3 -0.2**
comp=Z,3.7nm,0.8s
PPLA Purkeypile 67.04 30 *e*P **P** **01 19 37.4 +0.8**
comp=Z,12nm,1.0s
COLD Coldfoot 67.26 25 *e*P **P** **01 19 36.1 -1.7**
comp=Z,9.1nm,1.3s
APA Apatity 67.34 335⇓*i*P **P** **01 19 37.5 -0.7**
APA MLR MLR
comp=Z,200nm,14.0s
BPAW Bear Paw Mtn. 67.40 28 *e*P **P** **01 19 38.0 -0.7**
comp=Z,14nm,1.2s
TRF Thorofare Moun 67.81 29 *e*P **P** **01 19 40.8 -0.7**
comp=Z,28nm,1.8s
OBN Obninsk 67.88 322 *i*P **P** **01 19 40.7 -1.1**
OBN *i* 01 19 47.3
OBN *i* 01 20 10.4
OBN *i*S S 01 28 33.8 -6.0
OBN *i*SS **SS** **01 33 06.9 +5.8**
OBN pmax pmax
comp=Z,13nm,1.2s
OBN MLR MLR
comp=Z,98nm,24.0s
BRLK Bradley Lake 68.17 33 *e*P **P** **01 19 46.2 +2.5**
comp=Z,19nm,0.9s
MCK McKinley 68.35 29 *e*P **P** **01 19 44.8 +0.1**
MCK pmax pmax
comp=Z,14nm,1.0s
MCK McKinley 68.35 29 *e*P **P** **01 19 44.8 +0.1**
comp=Z,14nm,1.0s
COLA College 68.60 27 *i*P **P** **01 19 46.9 +0.7**
COLA pmax pmax
comp=Z,20nm,0.9s
CCB Clear Creek Bu 68.67 28 *e*P **P** **01 19 47.0 +0.4**
comp=Z,5.1nm,1.0s
ILAR Eielson Array 69.03 27 P **P** **01 19 47.2 -1.7**
comp=Z,0.8nm,0.5s,baz=262,slow=5.5,SNR=16
ARCES ARCESS Array B 69.80 338 P **P** **01 19 51.7 -1.8**
comp=Z,2.9nm,0.9s,baz=50,slow=11,SNR=6.5
ARCES LR LR 01 55 47.8
comp=Z,53nm,19.6s,baz=70,slow=40
PAX Paxson 70.04 29 *e*P **P** **01 19 55.1 -0.2**
PAX pmax pmax
comp=Z,8.0nm,1.0s
PAX Paxson 70.04 29 *e*P **P** **01 19 55.1 -0.2**
comp=Z,7.9nm,1.0s
HARP HAARP 70.32 30 *e*P **P** **01 19 59.7 +2.8**
comp=Z,12nm,0.8s
DIV Divide 70.35 31 *e*P **P** **01 19 56.5 -0.7**
comp=Z,23nm,1.1s
BMRM Bremner River 70.94 31 *e*P **P** **01 19 59.1 -1.7**
comp=Z,20nm,0.9s
EGAK Eagle 71.40 27 *e*P **P** **01 20 02.2 -1.2**
comp=Z,7.5nm,0.8s
FINES FINESS Array B 71.77 330 P **P** **01 20 04.9 -0.7**
comp=Z,5.9nm,0.9s,baz=91,slow=7.8,SNR=16
FINES LR LR 01 54 26.1
comp=Z,181nm,20.0s,baz=64,slow=38
DAWY Dawson 72.35 27 *e*P **P** **01 20 08.2 -1.0**
INK Inuvik 73.08 22 *e*P **P** **01 20 12.4 -1.0**

INK					pmax	pmax			
	comp=Z,9.0nm,0.8s								
INK	**Inuvik**	**73.08**	**22**	*e*P		**P**	**01 20 12.4**	**-1.0**	
	comp=Z,9.3nm,0.8s								
AKASG	**Malin Array Be**	**73.27**	**318**	P		**P**	**01 20 13.8**	**-1.0**	
	comp=Z,0.7nm,0.3s,baz=59,slow=6.5,SNR=5.5								
AKASG					LR	LR	01 51 39.1		
	comp=Z,38nm,18.7s,baz=55,slow=35								
KIEV	**Kiev**	**73.28**	**318**	/P		**P**	**01 20 16.7**	**+1.8**	
BR131	**Keskin Array S**	**73.64**	**307**	*e*P		**P**	**01 20 17.3**	**-0.1**	
	comp=Z,1.0nm,0.6s								
BRTR	**Keskin Array B**	**73.64**	**307**	P		**P**	**01 20 15.6**	**-1.9**	
	comp=Z,1.4nm,0.9s,baz=104,slow=4.0,SNR=8.7								
BRTR					LR	LR	01 59 37.8		
	comp=Z,26nm,18.0s,baz=88,slow=42								
HYT	**Haines Junctio**	**74.28**	**30**	*e*P		**P**	**01 20 20.8**	**0.0**	
CSS	**Prodhromos**	**75.39**	**302**	*e*P		**P**	**01 20 27.0**	**-0.5**	
	comp=Z,1.5nm,0.7s								
BUR08	**Bucovina Ar. S**	**76.78**	**316**	*e*P		**P**	**01 20 35.0**	**-0.3**	
KOLS	**Kolonicke sedl**	**78.11**	**318**	*e*P		**P**	**01 20 41.7**	**-0.9**	
KOLS					pmax	pmax			
	comp=Z,6.0nm,1.7s								
KOLS	**Kolonicke sedl**	**78.11**	**318**	*e*P		**P**	**01 20 41.7**	**-0.9**	
KOLS				*e*PCP		**PcP**	**01 20 52.8**	**+0.6**	
NB2	**NORSAR Subarra**	**78.53**	**332**	P		**P**	**01 20 43.0**	**-1.7**	
	comp=Z,2.1nm,0.8s,baz=63,slow=5.3								
NOA	**NORSAR Array B**	**78.53**	**332**	P		**P**	**01 20 43.4**	**-1.3**	
	comp=Z,1.3nm,0.7s,baz=61,slow=5.6,SNR=4.4								
NOA					LR	LR	01 58 14.4		
	comp=Z,110nm,19.5s,baz=40,slow=38								
STHS	**Stebnicka Huta**	**78.54**	**319**	*e*P		**P**	**01 20 45.7**	**+0.7**	
STHS					pmax	pmax			
	comp=Z,2.0nm,1.1s								
STHS	**Stebnicka Huta**	**78.54**	**319**	*e*P		**P**	**01 20 45.7**	**+0.7**	
STHS				*e*PCP		**PcP**	**01 20 53.4**	**-0.6**	
STHS				*e*PP		**PP**	**01 23 41.9**	**-0.3**	
RES	**Resolute Bay**	**78.64**	**9**	*e*P		**P**	**01 20 44.0**	**-1.0**	
RES					pmax	pmax			
	comp=Z,2.0nm,0.8s								
RES	**Resolute Bay**	**78.64**	**9**	*e*P		**P**	**01 20 44.0**	**-1.0**	
	comp=Z,2.3nm,0.8s								
DLBC	**Dease Lake**	**78.73**	**31**	*e*P		**P**	**01 20 46.0**	**+0.1**	
OJC	**Ojcow**	**79.07**	**320**	*e*P		P	01 20 53.9	+6.1	
OJC					pmax	pmax			
	comp=Z,6.0nm,0.8s								
OJC	**Ojcow**	**79.07**	**320**	*e*P		P	01 20 53.9	+6.1	
	comp=Z,5.9nm,0.8s								
MORC	**Moravsky Berou**	**80.57**	**320**	*e*P		**P**	**01 20 56.1**	**0.0**	
MORC					pmax	pmax			
	comp=Z,13nm,1.1s								
MORC	**Moravsky Berou**	**80.57**	**320**	*e*P		**P**	**01 20 56.1**	**0.0**	
	comp=Z,13nm,1.1s								
CLL	**Collm**	**82.43**	**323**	*e*P		**P**	**01 21 05.0**	**-0.8**	
	comp=Z,3.0nm,1.2s								
CLL				*e*(PcP)		**PcP**	**01 21 12.0**	**+1.1**	
	comp=Z,6.0nm,1.3s								
CLL	**Collm**	**82.43**	**323**	*i* P		**P**	**01 21 04.1**	**-1.7**	
CLL				*e*			01 21 13.0		
CLL					pmax	pmax			
	comp=Z,3.0nm,1.2s								
YKA	**Yellowknife Ar**	**82.82**	**23**	P		**P**	**01 21 06.7**	**-0.9**	
	comp=Z,3.9nm,0.7s,baz=311,slow=4.8,SNR=36								
GERES	**GERESS Array B**	**83.23**	**321**	P		**P**	**01 21 10.1**	**0.0**	
	comp=Z,0.3nm,0.6s,baz=69,slow=4.4,SNR=5.4								
GERES					LR	LR	02 00 42.9		
	comp=Z,69nm,20.0s,baz=62,slow=38								
KMBO	**Kilima Mbogo**	**85.45**	**267**	P		**P**	**01 21 22.9**	**+0.8**	
	comp=Z,0.7nm,0.3s,baz=36,slow=9.3,SNR=4.4								
KMBO	**Kilima Mbogo**	**85.45**	**267**	*e*P		**P**	**01 21 23.0**	**+0.8**	
KMBO					pmax	pmax			
	comp=Z,6.0nm,1.1s								
KMBO	**Kilima Mbogo**	**85.45**	**267**	*e*P		**P**	**01 21 23.0**	**+0.8**	
	comp=Z,6.3nm,1.1s								
TIP	**Timpagrande**	**85.89**	**311**	*e*P		**P**	**01 21 24.8**	**+1.0**	
	comp=Z,2.0nm,1.1s								
B06A	**Marblemount**	**88.28**	**36**	*e*P		**P**	**01 21 36.4**	**+1.3**	
	comp=Z,12nm,0.8s								
D05A	**Enumclaw**	**88.76**	**38**	*e*P		**P**	**01 21 39.2**	**+1.8**	
LON	**Longmire**	**89.11**	**38**	*e*P		**P**	**01 21 39.2**	**+0.1**	
LON					pmax	pmax			
	comp=Z,4.0nm,0.8s								
LON	**Longmire**	**89.11**	**38**	*e*P		**P**	**01 21 39.2**	**+0.1**	
	comp=Z,4.5nm,0.8s								
BNI	**Bardonecchia**	**89.31**	**320**	*e*P		**P**	**01 21 38.5**	**-1.7**	
BNI					pmax	pmax			
	comp=Z,12nm,1.4s								
BNI	**Bardonecchia**	**89.31**	**320**	*e*P		**P**	**01 21 38.5**	**-1.7**	
	comp=Z,12nm,1.4s								
EDM	**Edmonton**	**89.40**	**30**	*e*P		**P**	**01 21 41.4**	**+1.1**	
EDM	**Edmonton**	**89.40**	**30**	*e*P		**P**	**01 21 41.4**	**+1.1**	
B08A	**Colville Reser**	**89.53**	**36**	*e*P		**P**	**01 21 41.1**	**+0.1**	
D08A	**Wollman Farm,**	**90.53**	**37**	*e*P		**P**	**01 21 47.1**	**+1.4**	
NEW	**Newport**	**90.75**	**35**	*e*P		**P**	**01 21 47.9**	**+1.2**	
NEW					pmax	pmax			
	comp=Z,55nm,2.0s								
NEW	**Newport**	**90.75**	**35**	*e*P		**P**	**01 21 47.9**	**+1.2**	
	comp=Z,55nm,2.0s								
K05A	**Summer Lake**	**91.98**	**41**	*e*P		**P**	**01 21 54.5**	**+1.8**	
I07A	**Izee**	**91.99**	**39**	*e*P		**P**	**01 21 54.4**	**+1.7**	
BSMT	**Bassoo Peak**	**92.22**	**34**	*e*P		**P**	**01 21 54.9**	**+1.1**	
	comp=Z,9.1nm,1.3s								
FCC	**Fort Churchill**	**92.24**	**18**	*e*P		**P**	**01 21 51.9**	**-1.4**	
FCC	**Fort Churchill**	**92.24**	**18**	*e*P		**P**	**01 21 51.9**	**-1.4**	
KEST	**Kesra**	**92.71**	**311**	*e*P		**P**	**01 21 56.1**	**0.0**	
BMO	**Blue Mountains**	**92.77**	**38**	*e*P		**P**	**01 21 56.4**	**+0.1**	
BMO					pmax	pmax			
	comp=Z,6.0nm,1.0s								
BMO	**Blue Mountains**	**92.77**	**38**	*e*P		**P**	**01 21 56.4**	**+0.1**	
	comp=Z,6.4nm,1.0s								
MOD	**Modoc Plateau**	**92.81**	**41**	*e*P		**P**	**01 21 57.6**	**+1.0**	
	comp=Z,14nm,1.3s								
SWMT	**Swartz Lake**	**92.85**	**34**	*e*P		**P**	**01 21 57.4**	**+0.9**	
	comp=Z,5.3nm,0.9s								
FFC	**Flin Flon**	**92.98**	**24**	*e*P		**P**	**01 21 55.8**	**-1.0**	
FFC					pmax	pmax			
	comp=Z,10.0nm,1.1s								
FFC	**Flin Flon**	**92.98**	**24**	*e*P		**P**	**01 21 55.8**	**-1.0**	
	comp=Z,10nm,1.1s								
SLMT	**Seeley Lake**	**93.29**	**34**	*e*P		**P**	**01 21 59.1**	**+0.5**	
	comp=Z,16nm,1.3s								
MSO	**Missoula**	**93.33**	**35**	*e*P		**P**	**01 21 59.7**	**+0.9**	
	comp=Z,14nm,1.4s								
WVOR	**Wild Horse Val**	**93.49**	**40**	*e*P		**P**	**01 22 00.6**	**+1.0**	
WVOR					pmax	pmax			
	comp=Z,3.0nm,0.9s								
WVOR	**Wild Horse Val**	**93.49**	**40**	*e*P		**P**	**01 22 00.6**	**+1.0**	
	comp=Z,3.4nm,0.9s								
MFID	**Camas Ranch**	**94.50**	**38**	*e*P		**P**	**01 22 05.1**	**+0.9**	
	comp=Z,4.8nm,1.0s								
DLMT	**Dillon**	**95.00**	**35**	*e*P		**P**	**01 22 06.7**	**+0.1**	
	comp=Z,6.7nm,0.9s								
HLID	**Hailey**	**95.20**	**37**	*e*P		**P**	**01 22 08.4**	**+0.9**	
	comp=Z,4.1nm,0.9s								
NVAR	**Mina Array Bea**	**96.11**	**43**	P		**P**	**01 22 11.4**	**-0.5**	
	comp=Z,1.2nm,0.8s,baz=282,slow=6.3,SNR=6.3								
LSZ	**Lusaka**	**99.29**	**257**	*e*P		**Pdif**	**01 22 26.3**	**-0.1**	
LSZ					pmax	pmax			
	comp=Z,3.0nm,0.9s								
LSZ	**Lusaka**	**99.29**	**257**	*e*P		**Pdif**	**01 22 26.3**	**-0.1**	
	comp=Z,2.7nm,0.9s								
TOA0	**Torodi Ar. Sit**	**110.74**	**296**	*e*PKP		**PKiKP**	**01 27 17.9**	**+0.6**	
SDV	**Santo Domingo**	**145.03**	**22**	*e*PKPdf		**PKPbc**	**01 28 20.4**	**-0.9**	
ROSC	**El Rosal**	**147.21**	**31**	PKPbc		**PKPdf**	**01 28 26.8**	**+0.8**	
	comp=Z,3.1nm,0.4s,baz=282,slow=20,SNR=6.2								
ROSC	**El Rosal**	**147.21**	**31**	*e*PKPbc		**PKPbc**	**01 28 29.0**	**+0.7**	
OTAV	**Otavalo**	**148.84**	**42**	*e*PKPbc		**PKPbc**	**01 28 32.8**	**+0.1**	
SAML	**Samuel**	**164.19**	**18**	*e*PKPab		**PKPab**	**01 29 39.2**	**-2.1**	
LPAZ	**La Paz**	**167.88**	**52**	PKPab		**PKPab**	**01 29 57.3**	**-1.1**	
	comp=Z,1.0nm,0.8s,baz=5.5,slow=7.5,SNR=3.8								
LPAZ	**La Paz**	**167.88**	**52**	*e*PKIKP		**PKPdf**	**01 28 48.8**	**-2.8**	
LPAZ				*e*			01 29 57.4		
LPAZ	**La Paz**	**167.88**	**52**	*e*PKPdf		**PKPdf**	**01 28 48.8**	**-2.8**	
LPAZ				*e*PKPab		**PKPab**	**01 29 57.4**	**-1.0**	

*ISCJB **18** 02:10:25.9±0.4, 9.°17S±0.°06×123.°76E±0.°05, h86km, mb4.0/11, Error ellipse: s-maj=8.8km s-min=6.3km az=25.1*

*IDC **18** 02:10:26.3±3.3, 8.°89S×124.°33E, h68km±31km, mb3.8/8, mb1 4.0/11, mb1mx3.7/33, mbtmp4.1/11, ML4.2/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/29, Error ellipse: s-maj=55.7km s-min=15.0km az=60.0*

*DJA **18** 02:10:26.6±0.6, 9.°S±6.°×12.°4E±.°, h92km±10km, M4.4/10, mb4.4/6, MLv4.5/10*

*NEIC **18** 02:10:26.7±0.7, 8.°79S×124.°59E, h73km±7km, mb4.2/3, Error ellipse: s-maj=13.0km s-min=5.5km az=60.0*

ISC 18 02:10:28.0±0.6, 9.°16S±0.°07×123.°67E±0.°05, h86km, n34, σ1§54/31, mb4.1/10, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SOEI	**Soe**	**0.83**	**135**	P		**Pn**	**02 10 45.6**	**-0.1**
SOEI				S		**Sn**	**02 10 58.7**	**-0.2**
SOEI	**Soe**	**0.83**	**135**	*e*Pn		**Pn**	**02 10 45.7**	**0.0**
SOEI				*e*Sn		**Sn**	**02 10 59.5**	**+0.6**
MMRI	**Maumere**	**1.51**	**290**	P		**Pn**	**02 10 54.6**	**+0.9**
MMRI				S		**Sn**	**02 11 14.2**	**+1.1**
MMRI	**Maumere**	**1.51**	**290**	*e*Pn		**Pn**	**02 10 55.0**	**+1.3**
WSI	**Waingapu**	**3.37**	**261**	S		**Sn**	**02 11 57.3**	**-0.1**
WBSI	**Waikabubak, Su**	**4.25**	**263**	P		**Pn**	**02 11 29.0**	**-1.5**
WBSI				S		**Sn**	**02 12 14.5**	**-4.5**
BSSI	**Bau Bau, Buton**	**4.35**	**313**	P		Pn	02 11 28.1	-3.7
BKSI	**Bulukumba**	**5.19**	**317**	P		**Pn**	**02 11 42.4**	**-0.8**
	56nm,0.7s,0.2nm							
KAPI	**Kappang**	**5.66**	**316**	P		Pn	02 11 53.1	+3.4
	22nm,0.3s,baz=163,slow=7.6,SNR=8.1							
KAPI	**Kappang**	**5.66**	**316**	*e*Pn		Pn	02 11 54.8	+5.2
	18nm,0.8s							
NLAI	**Namlea**	**6.79**	**30**	P		**Pn**	**02 12 03.6**	**-1.5**
	39nm,0.9s,0.2nm							
AAI	**Ambon**	**7.05**	**40**	P		**Pn**	**02 12 06.8**	**-1.8**
	84nm,1.3s,0.4nm							
TTSI	**Tana Toraja**	**7.18**	**328**	P		**Pn**	**02 12 09.2**	**-1.1**
	13nm,0.9s,0.1nm							
LUWI	**Luwuk**	**8.11**	**354**	*e*Pn		Pn	02 12 19.1	-4.0
MBWA	**Marble Bar**	**12.52**	**197**	*e*Pn		**P**	**02 13 30.4**	**-0.8**
WRA	**Warramunga Arr**	**14.88**	**137**	P		Pn	02 13 48.2	-5.6
	1.3nm,0.3s,baz=317,slow=14,SNR=30							
WRA				S		Sn	02 16 21.6	-16
	3.5nm,0.3s,baz=310,slow=24,SNR=17							
WRAB	**Tennant Creek**	**14.88**	**137**	*e*Pn		Pn	02 13 48.3	-5.5
	12nm,0.6s							
AS31	**Alice Springs**	**17.43**	**147**	*e*Pn		**Pn**	**02 14 23.7**	**-2.1**
ASAR	**Alice Springs**	**17.43**	**147**	P		**Pn**	**02 14 23.6**	**-2.1**
	2.0nm,0.3s,baz=317,slow=11,SNR=67							
ASAR				S		Sn	02 17 24.1	-16
	1.7nm,0.3s,baz=318,slow=22,SNR=20							
ASAR				LR		LR	02 22 15.2	
	comp=Z,43nm,18.6s,baz=332,slow=41							
COEN	**Coen**	**19.69**	**106**	*e*P		P	02 14 41.2	-9.3
FORT	**Forrest**	**21.90**	**170**	*e*P		**P**	**02 15 16.4**	**+2.3**
	18nm,0.8s							
STKA	**Stephens Creek**	**28.07**	**146**	P		**P**	**02 16 10.3**	**-1.2**
	1.9nm,0.7s,baz=303,slow=11,SNR=3.9							
CMAR	**Chiang Mai Arr**	**36.72**	**318**	P		**P**	**02 17 28.8**	**+1.7**
	1.1nm,0.4s,baz=146,slow=6.6,SNR=3.7							
SONM	**Songino Array**	**58.77**	**346**	P		**P**	**02 20 15.9**	**-1.3**
	0.2nm,0.4s,baz=152,slow=6.5,SNR=2.0							
MK31	**Makanchi Array**	**66.79**	**330**	*e*P		**P**	**02 21 11.7**	**+1.3**
MKAR	**Makanchi Array**	**66.79**	**330**	P		**P**	**02 21 11.7**	**+1.3**
	2.0nm,0.5s,baz=131,slow=7.8,SNR=32							
MKAR				pP		**pP**	**02 21 32.5**	**0.0**
	1.0nm,0.7s,baz=132,slow=7.5,SNR=5.0							
TKM2	**Tokmak 2**	**67.83**	**324**	*e*P		**P**	**02 21 18.3**	**+1.0**
	2.2nm,0.8s							
EKS2	**Erkin-Say**	**68.75**	**323**	*e*P		**P**	**02 21 24.4**	**+1.4**
	0.9nm,0.5s							
ZALV	**Zalesovo Beam**	**70.91**	**337**	P		**P**	**02 21 35.9**	**+0.2**
	2.7nm,0.4s,baz=135,slow=4.8,SNR=11							
VNDA	**Vanda**	**71.15**	**172**	P		**P**	**02 21 38.2**	**+1.3**
	0.4nm,0.5s,baz=306,slow=8.2,SNR=5.2							
KURBB	**Kurchatov Arra**	**71.23**	**332**	P		**P**	**02 21 38.0**	**+0.3**
	1.6nm,0.5s,baz=146,slow=5.2,SNR=14							
KURK	**Kurchatov**	**71.25**	**332**	P		**P**	**02 21 38.0**	**+0.2**
ILAR	**Eielson Array**	**97.97**	**26**	P		Pdif	02 23 53.6	-0.6
	0.2nm,0.6s,baz=258,slow=1.7,SNR=2.9							
TORD	**Torodi Ar. Bea**	**123.03**	**280**	PKP		**PKPdf**	**02 29 17.4**	**+1.9**
	0.4nm,0.6s,baz=48,slow=2.2,SNR=9.3							

*ISCJB **18** 02:22:59.7±1.2, 43.°88N±0.°08×129.°0W±0.°1, h15km, mb3.5/4, Error ellipse: s-maj=15.8km s-min=6.7km az=141.0*

*IDC **18** 02:22:59.8±2.4, 43.°96N×128.°85W, h0km, mb2.9/3, mb1 3.5/9, mb1mx3.4/42, mbtmp3.1/9, ML3.5/6, MS3.0/1, Ms1 3.0/1, ms1mx2.8/10, Error ellipse: s-maj=41.2km s-min=16.0km az=51.0*

*NEIC **18** 02:23:00.2±1.0, 43.°85N×129.°14W, h10km, mb4.0/4, Error ellipse: s-maj=13.8km s-min=6.3km az=53.0*

ISC 18 02:23:00.5±1.8, 43.°8N±0.°1×129.°1W±0.°2, h15km, n41, σ1§01/34, mb3.6/4, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BBOR	**Butler Butte**	**4.80**	**99**	P		**Pn**	**02 24 12.5**	**+0.1**
HBO	**Huckleberry Mo**	**4.93**	**87**	P		**Pn**	**02 24 15.5**	**+1.2**
BMW	**Boistfort Moun**	**4.96**	**55**	P		**Pn**	**02 24 13.9**	**-0.6**
RVW	**Rose Valley**	**5.10**	**61**	P		**Pn**	**02 24 16.3**	**-0.1**
NLWA	**Neilton Lookou**	**5.14**	**44**	*e*Pn		**Pn**	**02 24 16.5**	**-0.5**
YBH	**Yreka Blue Hor**	**5.17**	**112**	Pn		**Pn**	**02 24 17.2**	**-0.2**
	0.2nm,0.3s,baz=300,slow=14,SNR=3.9							
YBH				Sn		**Sn**	**02 25 16.0**	**-0.8**
	0.1nm,0.3s,baz=254,slow=19,SNR=3.0							
YBH				LR		LR	02 25 51.4	
	comp=Z,141nm,18.1s,baz=302,slow=34							
TDH	**Tom, Dick, Har**	**5.46**	**72**	P		**Pn**	**02 24 21.9**	**+0.5**
VBEM	**Beaver Butte**	**5.55**	**74**	P		**Pn**	**02 24 23.3**	**+0.6**
VFP	**Flag Point**	**5.69**	**72**	P		**Pn**	**02 24 25.2**	**+0.6**
LON	**Longmire**	**5.95**	**58**	*e*Pn		**Pn**	**02 24 27.8**	**-0.3**
	17nm,0.6s							
PGC	**Sidney**	**6.24**	**37**	*e*Pn		**Pn**	**02 24 30.9**	**-1.1**
HAWA	**Hanford**	**7.27**	**66**	*e*Pn		**Pn**	**02 24 46.6**	**+0.5**
WVOR	**Wild Horse Val**	**7.81**	**97**	*e*Pn		**Pn**	**02 24 54.0**	**+0.3**
BBB	**Bella Bella**	**8.41**	**4**	Pn		**Pn**	**02 25 04.0**	**+2.3**
	0.5nm,0.3s,baz=270,slow=24,SNR=7.1							
NEW	**Newport**	**9.47**	**58**	Pn		**Pn**	**02 25 14.9**	**-1.4**
	0.5nm,0.3s,baz=253,slow=14,SNR=5.7							
NEW	**Newport**	**9.47**	**58**	*e*Pn		**Pn**	**02 25 14.7**	**-1.7**
	3.6nm,0.9s							
H02S1	**DAWSON INLET T**	**9.65**	**348**	T		T	02 32 02.5	
	SNR=36							
H02N1	**VAN INLET T-PH**	**9.71**	**348**	T		T	02 32 05.0	
	SNR=26							
NVAR	**Mina Array Bea**	**9.78**	**120**	Pn		**Pn**	**02 25 21.8**	**+0.9**
	0.2nm,0.3s,baz=295,slow=13,SNR=2.6							
HLID	**Hailey**	**10.67**	**86**	*e*Pn		**Pn**	**02 25 33.2**	**+0.2**
	8.1nm,1.7s							
ELK	**Elko**	**10.75**	**102**	Pn		**Pn**	**02 25 36.3**	**+2.2**
	0.1nm,0.3s,baz=293,slow=13,SNR=1.7							
ELK	**Elko**	**10.75**	**102**	*e*Pn		**Pn**	**02 25 34.6**	**+0.5**
SLMT	**Seeley Lake**	**11.50**	**67**	*e*Pn		**Pn**	**02 25 44.0**	**-0.2**
	2.2nm,0.7s							
DUG	**Dugway, Tooele**	**12.67**	**101**	*e*Pn		**Pn**	**02 26 00.9**	**+0.6**
HWUT	**Hardware Ranch**	**13.11**	**94**	*e*Pn		**Pn**	**02 26 07.7**	**+1.3**
PDAR	**Pinedale Array**	**14.30**	**87**	Pn		**Pn**	**02 26 23.9**	**+1.3**
	0.1nm,0.3s,baz=281,slow=8.7,SNR=2.0							
DLBC	**Dease Lake**	**14.65**	**358**	Pn		**Pn**	**02 26 27.4**	**+0.2**
	0.2nm,0.6s,baz=192,slow=20,SNR=2.4							
RSSD	**Black Hills**	**18.06**	**80**	*e*P		**P**	**02 27 11.8**	**+0.4**
	1.9nm,0.6s							
YKA	**Yellowknife Ar**	**20.55**	**19**	P		**P**	**02 27 37.5**	**-0.7**
	0.3nm,0.7s,baz=210,slow=11,SNR=2.6							
FFC	**Flin Flon**	**20.68**	**49**	*e*P		**P**	**02 27 40.9**	**+1.2**
	4.0nm,0.8s							
ILAR	**Eielson Array**	**23.25**	**341**	P		**P**	**02 28 07.2**	**+0.2**
	0.5nm,0.8s,baz=159,slow=7.9,SNR=5.0							
TXAR	**Lajitas Array**	**24.92**	**117**	P		**P**	**02 28 23.8**	**+0.7**
	0.2nm,0.6s,baz=311,slow=8.7,SNR=2.5							
WMOK	**Wichita Mounta**	**25.07**	**101**	*e*P		**P**	**02 28 23.1**	**-1.3**
	11nm,1.4s							
FCC	**Fort Churchill**	**26.15**	**43**	*e*P		**P**	**02 28 32.6**	**-1.2**
RES	**Resolute Bay**	**34.50**	**15**	*e*P		**P**	**02 29 47.0**	**-0.5**
	2.8nm,1.0s							
H11N3	**WAKE ISLAND Hy**	**57.94**	**267**	T		T	03 35 46.2	
	baz=49,slow=75,SNR=231							
H11N2	**WAKE ISLAND Hy**	**57.94**	**267**	T		T	03 35 47.0	
	baz=49,slow=75,SNR=246							
H11N1	**WAKE ISLAND Hy**	**57.95**	**267**	T		T	03 35 56.1	
	baz=49,slow=75,SNR=194							
H11S1	**WAKE ISLAND Hy**	**58.86**	**266**	T		T	03 36 58.8	
	baz=48,slow=75,SNR=33							
H11S2	**WAKE ISLAND Hy**	**58.87**	**266**	T		T	03 36 56.2	
	baz=48,slow=75,SNR=29							
H11S3	**WAKE ISLAND Hy**	**58.88**	**266**	T		T	03 37 00.7	
	baz=48,slow=75,SNR=18							

*IDC **18** 02:23:00.8±0.4, 44.°44N×148.°73E, h0km, mb5.6/31, mb1 5.7/37, mb1mx5.7/38, mbtmp5.6/37, ML5.0/6, MS6.0/26, Ms1 6.0/26, ms1mx5.7/33, Error ellipse: s-maj=12.5km s-min=8.1km az=139.0*

*JMA **18** 02:23:00.8±0.5, 44.°60N×149.°20E, h30km, M6.5*

JMA Felt III J1.

*NIED **18** 02:23:00, 44.°60N×149.°20E, h35km, Mw6.2 Best double couple: M0 2.07000×10^18 NP1:ϕs227.00000°, δ32.00000°, λ130.00000°. NP2:ϕs 2.00000°, δ66.00000°, λ68.00000°.*

*BJI **18** 02:23:03.9, 44.°30N×148.°93E, h40km, mb6.1/74, mB6.3/69, Ms6.3/92, Ms7 6.2/87*

*ISCJB **18** 02:23:03.9±0.5, 44.°38N±0.°02×148.°83E±0.°01, h28km±3km, mb5.9/460, MS6.0/235, Error ellipse: s-maj=2.8km s-min=1.4km az=163.3*

*SKHL **18** 02:23:04.5±0.2, 44.°22N×149.°05E, h53km±4km, mb6.7/5, mbh6.4/7, Ms6.2/10, msh6.6/4*

SKHL Felt (III) at Kurilsk, Malokurilskoe; (II) at Yushno-Kurilsk.

*GCMT **18** 02:23:05.2±0.1, 44.°34N×148.°94E, h32km, MW6.2/129, Moment Tensor Solution. s123,c294; s129,c451; Duration: 29 Moment tensor: Scale 1018Nm; Mrr1.39±.01; Mθθ-0.37±.01; Mϕϕ-1.02±.01; Mrθ0.46±.01; Mθϕ-1.03±.01; Mϕr1.45±.02; Best double couple: M0 2.20700×1018 NP1:ϕs22.00000°, δ68.00000°, λ76.00000°. NP2:ϕs235.00000°, δ26.00000°, λ120.00000°. Principal axes: T 2.0710, Plg65.0000°, Azm268.0000°; N 0.2690, Plg13.0000°, Azm27.0000°; P -2.3440, Plg21.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **18** 02:23:05.6±0.1, 44.°45N×148.°69E, h28km, mb5.9/272, ME5.9, MS6.0/150, MW6.1, MW6.1, MW6.1 Error ellipse: s-maj=3.5km s-min=2.0km az=150.0, Moment Tensor Solution. s73 Moment tensor: Scale 1018Nm; Mrr0.98; Mθθ-0.08; Mϕϕ-0.90; Mrθ0.47; Mθϕ-0.29; Mϕr1.01; Best double couple: M0 1.50000×1018 NP1:ϕs192.00000°, δ21.00000°, λ79.00000°. NP2:ϕs23.00000°, δ69.00000°, λ94.00000°. Principal axes: T 1.4900, Plg65.0000°, Azm300.0000°; N 0.0000, Plg3.0000°, Azm201.0000°; P -1.4900, Plg24.0000°, Azm110.0000°; Broadband fault plane solution: P waves. NP1:ϕs200.00000°, δ15.00000°, λ90.00000°. NP2:ϕs20.00000°, δ75.00000°, λ90.00000°. Principal axes: T Plg60.0000°, Azm290.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm110.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III] at Shakotan and Kuril'sk and [II] at Yuzhno-Kuril'sk. Felt at Sapporo, Hokkaido. Recorded [3 JMA] in southern and eastern Hokkaido and [2 JMA] in central and southwestern Hokkaido. Also recorded [2 JMA] in Aomori and Iwate and [1 JMA] in Miyagi, Honshu.

*MOS **18** 02:23:05.7±1.1, 44.°39N×148.°74E, h46km, mb6.1/97, MS6.1/98 Error ellipse: s-maj=5.7km s-min=3.8km az=113.0 Broadband fault plane solution: P waves. M0 3.80000×1018 NP1:ϕs12.00000°, δ58.00000°, λ78.00000°. NP2:ϕs215.00000°, δ34.00000°, λ109.00000°. Principal axes: T Plg73.0000°, Azm250.0000°; N Plg11.0000°, Azm18.0000°; P Plg13.0000°, Azm111.0000°;*

MOS Fault plane solution: P-wave C148, D26 . Felt (III) at Malokuril'skoye, Kuril'sk, (II) at Yuzhno-Kuril'sk.

*SZGRF **18** 02:23:07.5, 44.°73N×148.°96E, h33km, mb6.4, MS6.1, Kuril Islands, Russia*

*NEIC **18** 02:23:08.0±0.0, 44.°53N×148.°63E, h48km, Moment Tensor Solution. s56 Moment tensor: Scale 1018Nm; Mrr0.86; Mθθ-0.35; Mϕϕ-0.51; Mrθ0.75; Mθϕ-0.64; Mϕr1.50; Best double couple: M0 1.90000×1018 NP1:ϕs28.00000°, δ75.00000°, λ81.00000°. NP2:ϕs239.00000°, δ16.00000°, λ120.00000°. Principal axes: T 1.8700, Plg58.0000°, Azm285.0000°; N 0.1500, Plg8.0000°, Azm30.0000°; P -2.0200, Plg29.

comp=N,200nm,0.3s,baz=70,slow=12,SNR=4.6
ASAJ LR LR 02 26 06.1
comp=N,446µm,20.6s,baz=162,slow=42
ASAJ Asahikawa 4.43 267 *e*Pn **Pn 02 24 14.9 +2.7**
ASAJ Sn Sn 02 25 15.1 +13
MYR Moyori 4.54 243 *e*P **Pn 02 24 12.3 -1.5**
JFR Furan 4.64 256 P **Pn 02 24 15.7 +0.5**
JFR *e*S **Sn 02 25 10.5 +2.7**
ERM Erimo 4.77 241 Pn **Pn 02 24 16.6 -0.3**
comp=N,101µm,0.5s
ERM Erimo 4.77 241 *e*PN **Pn 02 24 16.9 0.0**
ERM *e* 02 25 14.0
ERM Erimo 4.77 241 *e*P **Pn 02 24 16.9 0.0**
ERM Erimo 4.77 241 *e*Pn **Pn 02 24 16.9 0.0**
ERM *e*Sn **Sn 02 25 14.0 +3.1**
JEM Erimo 4.77 241 P **Pn 02 24 15.4 -1.5**
JAB Ashibetsu 4.81 260 P **Pn 02 24 19.3 +1.9**
YSS Yuzh-Sakhalins 4.86 303 *e*PN **Pn 02 24 18.0 -0.1**
YSS *e*S **Sn 02 25 14.0 +0.9**
YSS pmax pmax
comp=Z,1µm,0.9s
YSS smax smax
comp=E,980nm,1.0s
YSS MLR MLR
comp=Z,306µm,17.0s
YSS MLR MLR
comp=N,155µm,15.0s
YSS MLR MLR
comp=E,192µm,15.0s
YSS Yuzh-Sakhalins 4.86 303 *e*P **Pn 02 24 20.8 +2.7**
YSS AMB AMB 02 24 29.9
comp=E,1µm,0.8s
YSS *e*S **Sn 02 25 16.8 +3.7**
YSS A A 02 25 28.5
comp=E,4µm,1.0s
YSS AMS AMS 02 26 18.0
comp=E,155µm,15.0s
YSS AMS AMS 02 26 18.0
comp=E,192µm,15.0s
YSS AMS AMS 02 26 18.0
comp=E,306µm,15.0s
YSS Yuzh-Sakhalins 4.86 303 *e*Pn **Pn 02 24 19.5 +1.4**
JNBK Urakawa-nobuka 4.89 245 P **Pn 02 24 16.6 -2.0**
JNBK *e*S **Sn 02 25 15.5 +1.6**
JWK2 Keihoku 4.93 282 P **Pn 02 24 22.3 +3.2**
JSS Shosan 4.93 271 P **Pn 02 24 22.1 +3.0**
JBT2 Biratori 2 4.94 252 P **Pn 02 24 17.9 -1.3**
JHR Hokuryu 5.11 264 P **Pn 02 24 23.6 +2.1**
NEVR Nevel'sk 5.30 297 *e*P **Pn 02 24 26.7 +2.5**
NEVR *e*S **Sn 02 25 28.7 +4.8**
NEVR AMS AMS 02 27 00.0
comp=E,89µm,18.0s
NEVR AMS AMS 02 27 00.0
comp=E,115µm,18.0s
NEVR AMS AMS 02 27 00.0
comp=E,109µm,18.0s
KHLM Kholmsk 5.33 301 *e*P **Pn 02 24 27.5 +2.9**
JEW Eniwo 5.54 255 P **Pn 02 24 28.7 +1.2**
JEW *e*S Sn 02 25 39.4 +10
JNB Noboribetsu 5.96 253 P **Pn 02 24 32.6 -0.6**
JNB *e*S **Sn 02 25 41.1 +1.0**
JSK Shakotan 6.08 262 P **Pn 02 24 36.3 +1.5**
JKB Kayabe 6.21 248 ⇑P **Pn 02 24 35.0 -1.6**
JKB *e*S **Sn 02 25 43.7 -2.5**
UGL Uglegorsk 6.48 317 ⇓*i*PN **Pn 02 24 42.5 +2.1**
UGL pmax pmax
comp=Z,10µm,5.0s
UGL pmax pmax
comp=N,8µm,6.0s
UGL pmax pmax
comp=E,7µm,4.0s
UGL pmax pmax
comp=Z,560nm,0.7s
UGL MLR MLR
comp=N,106µm,14.0s
UGL MLR MLR
comp=Z,140µm,14.0s
UGL MLR MLR
comp=E,72µm,17.0s
UGL Uglegorsk 6.48 317 *i*P Pn 02 24 44.0 +3.6
UGL AMB AMB 02 24 49.5
comp=E,8µm,5.0s
UGL AMB AMB 02 24 49.5
comp=E,7µm,5.0s
UGL AMB AMB 02 24 49.5
comp=E,10µm,5.0s
UGL AMB AMB 02 24 49.5
comp=E,560nm,0.7s
UGL *e*S **Sn 02 25 58.5 +5.5**
UGL A A 02 26 04.0
comp=E,870nm,0.6s
UGL A A 02 26 04.0
comp=E,1µm,0.6s
UGL A A 02 26 04.0
comp=E,610nm,0.6s
UGL AMS AMS 02 27 34.0
comp=E,106µm,14.0s
UGL AMS AMS 02 27 34.0
comp=E,72µm,14.0s
UGL AMS AMS 02 27 34.0
comp=E,140µm,14.0s
JYM2 Yakumo 2 6.55 252 P **Pn 02 24 40.5 -0.9**
JSH Shimam 6.58 257 P **Pn 02 24 41.8 0.0**
JSH *e*S **Sn 02 26 01.2 +5.7**
JANG Nango 6.75 235 P Pn 02 24 39.8 -4.2
JTM Tenmabayashi 6.76 239 P **Pn 02 24 41.3 -2.9**
JTM *e*S Sn 02 25 53.8 -6.1
JSR Shiriuchi 6.78 247 P **Pn 02 24 42.3 -2.2**
JSR *e*S **Sn 02 25 57.2 -3.2**
JTH Tanohata 6.84 231 P Pn 02 24 41.0 -4.3
JTH *e*S Sn 02 25 51.7 -10
JOSM Okushiri--Mats 7.18 254 P **Pn 02 24 49.2 -0.7**
JOSM *e*S **Sn 02 26 10.6 +0.5**
OFUJ Ofunato 7.56 227 P Pn 02 24 50.1 -5.1
TYV Tymovskoe 7.58 329 *e*PN Pn 02 25 00.5 +5.1
TYV pmax pmax
comp=N,194nm,0.8s
TYV pmax pmax
comp=E,6µm,12.0s
TYV Tymovskoe 7.58 329 *e*P **Pn 02 24 58.5 +3.1**
TYV AMB AMB 02 25 06.0
comp=E,194nm,0.8s
TYV AMB AMB 02 25 10.0
comp=E,6µm,12.0s
TYV *e*S **Sn 02 26 24.0 +4.1**
TYV A A 02 26 48.0
comp=E,30µm,6.0s
JRG Rokugo 7.90 233 P Pn 02 24 56.0 -3.9
SKR Severo-Kuril's 7.95 36 ⇓*i*PN Pn 02 24 56.7 -3.7
SKR pmax pmax
comp=E,270nm,0.5s
SKR pmax pmax
comp=Z,1µm,0.5s
SKR pmax pmax
comp=N,600nm,0.7s
SKR pmax pmax
comp=N,7µm,3.0s
SKR pmax pmax
comp=Z,8µm,3.0s
SKR pmax pmax
comp=E,4µm,5.0s
SKR MLR MLR
comp=N,43µm,16.0s
SKR MLR MLR
comp=E,58µm,16.0s
SKR MLR MLR
comp=Z,70µm,16.0s
SKR Severo-Kuril's 7.95 36 *e*P **Pn 02 25 00.8 +0.4**
SKR AMB AMB 02 25 05.0
comp=Z,7µm,3.0s
SKR AMB AMB 02 25 05.0
comp=Z,4µm,3.0s
SKR AMB AMB 02 25 05.0
comp=Z,8µm,3.0s
SKR AMB AMB 02 25 06.7
comp=Z,2µm,0.7s
SKR *e*S **Sn 02 26 27.5 -1.4**
SKR A A 02 26 50.0
comp=Z,3µm,1.1s
SKR AMS AMS 02 28 25.0
comp=Z,99µm,20.0s
SKR AMS AMS 02 28 25.0
comp=Z,93µm,20.0s
JOG2 Oga 2 8.06 239 P **Pn 02 24 59.8 -2.3**
JOG2 *e*S **Sn 02 26 27.7 -4.2**

JIO Ouri 8.19 225 P Pn 02 24 57.5 -6.4
JIO *e*S Sn 02 26 25.5 -10
TEY Ternei 8.66 278 *e*P **Pn 02 25 12.8 +2.6**
TEY AMB AMB 02 25 13.3
comp=Z,1µm,5.0s
TEY AMB AMB 02 25 13.3
comp=Z,8µm,5.0s
TEY AMB AMB 02 25 13.3
comp=Z,9µm,5.0s
TEY AMB AMB 02 25 13.3
comp=Z,56nm,1.0s
TEY *e*S **Sn 02 26 47.0 +0.6**
TEY A A 02 27 00.6
comp=Z,21µm,6.0s
TEY A A 02 27 00.6
comp=Z,24µm,6.0s
PAU Pauzhetka 8.83 35 *e*P **Pn 02 25 13.5 +1.0**
PAU AMB AMB 02 25 22.8
comp=Z,1µm,0.7s
PAU *e*S **Sn 02 26 50.0 -0.5**
PAU A A 02 27 17.5
comp=Z,2µm,0.8s
PAU AMS AMS 02 29 00.0
comp=Z,48µm,19.0s
PAU AMS AMS 02 29 00.0
comp=Z,53µm,19.0s
PAU AMS AMS 02 29 00.0
comp=Z,44µm,19.0s
JYA Atsumi 8.97 232 P Pn 02 25 10.8 -3.7
JFK Kawauchi 9.28 223 P Pn 02 25 13.7 -5.1
JAW Awa shima 9.33 233 P **Pn 02 25 16.3 -3.1**
OKH Okha 9.83 339 *i*PN Pn 02 25 30.1 +3.9
OKH *i*S Sn 02 27 31.0 +16
OKH pmax pmax
comp=Z,10µm,6.0s
OKH smax smax
comp=N,40µm,7.0s
OKH smax smax
comp=E,22µm,7.0s
OKH smax smax
comp=Z,25µm,14.0s
OKH Okha 9.83 339 *e*P Pn 02 25 30.6 +4.4
OKH AMB AMB 02 25 32.0
comp=Z,8µm,6.0s
OKH AMB AMB 02 25 32.0
comp=Z,6µm,6.0s
OKH AMB AMB 02 25 32.0
comp=Z,10µm,6.0s
OKH AMB AMB 02 25 32.0
comp=Z,2µm,0.9s
OKH *e*S Sn 02 27 22.0 +6.9
OKH A A 02 27 39.0
comp=Z,40µm,7.0s
OKH A A 02 27 39.0
comp=Z,22µm,7.0s
OKH AMS AMS 02 30 50.0
comp=Z,60µm,13.0s
OKH AMS AMS 02 30 50.0
comp=Z,25µm,13.0s
OKH AMS AMS 02 30 50.0
comp=Z,88µm,13.0s
JFY Yanaizu 9.84 227 P Pn 02 25 22.1 -4.3
NKL Nikolayevsk 10.16 331 *i*PN **Pn 02 25 29.0 -1.7**
NKL pmax pmax
comp=N,1µm,1.1s
NKL pmax pmax
comp=E,500nm,1.1s
NKL pmax pmax
comp=Z,1µm,1.1s
NKL pmax pmax
comp=N,7µm,4.0s
NKL pmax pmax
comp=E,6µm,4.0s
NKL MLR MLR
comp=N,88µm,16.0s
NKL MLR MLR
comp=E,260nm,14.0s
NKL Nikolayevsk 10.16 331 *e*P **Pn 02 25 29.0 -1.7**
NKL AMB AMB 02 25 34.2
comp=E,1µm,1.0s
NKL AMB AMB 02 25 34.2
comp=E,500nm,1.0s
NKL AMB AMB 02 25 34.2
comp=E,1µm,1.0s
NKL AMB AMB 02 25 35.0
comp=E,7µm,4.0s
NKL AMB AMB 02 25 35.0
comp=E,6µm,4.0s
NKL AMS AMS 02 29 42.0
comp=E,88µm,15.0s
NKL AMS AMS 02 29 42.0
comp=E,26µm,15.0s
JSD Sado 10.19 234 P Pn 02 25 27.9 -3.2
HABR Khabarovsk 10.25 298 *c i*PN Pn 02 25 36.1 +4.2
HABR *e*S Sn 02 27 32.3 +7.0
HABR pmax pmax
comp=Z,116nm,1.0s
HABR pmax pmax
comp=E,98nm,1.0s
HABR pmax pmax
comp=N,26nm,1.0s
HABR MLR MLR
comp=Z,122µm,17.0s
HABR Khabarovsk 10.25 298 *e*P Pn 02 25 36.1 +4.2
GRNR Gornyy 10.41 311 *e*P **Pn 02 25 37.0 +2.8**
GRNR AMB AMB 02 25 37.9
comp=Z,160nm,1.0s
GRNR AMB AMB 02 25 37.9
comp=Z,63nm,1.0s
PEA0B Petropavlovsk- 10.44 31 *e*Pn **Pn 02 25 35.1 +0.5**
PETK Petropavlovsk- 10.44 31 Pn **Pn 02 25 34.1 -0.5**
comp=Z,6.9nm,0.3s,baz=205,slow=15,SNR=54
PET Petropavlovsk 10.75 34 ⇓*e*PN **Pn 02 25 39.8 +1.1**
PET *e*S Sn 02 27 51.9 +14
PET pmax pmax
comp=Z,104nm,1.2s
PET pmax pmax
comp=Z,3µm,11.7s
PET pmax pmax
comp=Z,2µm,13.2s
PET MLR MLR
comp=Z,85µm,18.0s
PET Petropavlovsk 10.75 34 *e*P **Pn 02 25 39.1 +0.4**
PET AMB AMB 02 25 51.5
comp=Z,210nm,0.7s
PET *e*S **Sn 02 27 34.0 -3.5**
PET AMS AMS 02 30 20.0
comp=Z,53µm,19.0s
PET AMS AMS 02 30 20.0
comp=Z,75µm,19.0s
PET AMS AMS 02 30 20.0
comp=Z,96µm,19.0s
PET Petropavlovsk 10.75 34 *e*Pn **Pn 02 25 40.3 +1.6**
PET *e*Sn **Sn 02 27 33.8 -3.7**
JSZ Suzu 11.11 235 P **Pn 02 25 40.7 -3.0**
I30JP ISUMI INFRASON 11.22 218 *i*
baz=22,slow=317,SNR=0.4
MAJO Matsushiro 11.28 229 *c i*PN Pn 02 25 42.5 -3.6
MAJO pmax pmax
comp=Z,2µm,0.7s
MAJO Matsushiro 11.28 229 *e*P Pn 02 25 42.6 -3.6
MAJO Matsushiro 11.28 229 *e*Pn Pn 02 25 42.0 -4.1
MAT Matsushiro 11.28 229 P Pn 02 25 42.6 -3.5
MAT S Sn 02 27 57.6 +6.9
MJAR Matsushiro Arr 11.28 229 Pn Pn 02 25 42.8 -3.3
comp=Z,17nm,0.3s,baz=30,slow=13,SNR=181
USRK Ussuriysk Ar. 12.00 274 Pn **Pn 02 25 55.5 -0.5**
comp=Z,7.8nm,0.3s,baz=88,slow=13,SNR=123
USRK Sn **Sn 02 28 03.6 -4.7**
baz=82,slow=34,SNR=1.6
USRK LR LR 02 30 39.6
comp=Z,126µm,19.7s,baz=81,slow=38
VLA Vladivostok 12.26 269 ⇑*i*PN **Pn 02 26 01.4 +1.9**
VLA *e*S **Sn 02 28 19.1 +4.5**
VLA Vladivostok 12.26 269 *e*P **Pn 02 26 00.1 +0.7**
KLR Kul'dur 12.55 298 *e*PN **Pn 02 26 02.3 -1.1**
KLR *e*S Sn 02 28 29.0 +7.3
KLR pmax pmax
comp=E,200nm,1.4s
KLR pmax pmax
comp=Z,660nm,1.4s
KLR Kul'dur 12.55 298 *e*P **Pn 02 26 02.3 -1.1**
KLR AMB AMB 02 26 09.0
comp=Z,200nm,1.4s
KLR AMB AMB 02 26 09.0
comp=Z,660nm,1.4s

JHJ2 Mitsune 13.31 214 *e*Pn Pn 02 26 10.1 -3.9
JHJ2 *e*Sn Sn 02 28 23.5 -17
EKMR Ekimchan 13.47 315 *e*P **Pn 02 26 18.0 +2.0**
EKMR AMB AMB 02 26 25.8
comp=Z,590nm,1.0s
EKMR AMB AMB 02 26 25.8
comp=Z,600nm,1.0s
EKMR AMB AMB 02 26 25.8
comp=Z,1µm,1.0s
MDJ Mudanjiang 13.66 277 P **Pn 02 26 21.3 +2.7**
MDJ S **Sn 02 28 50.0 +1.2**
MDJ PMZ
comp=Z,480nm,0.6s
MDJ PMZ
comp=Z,14µm,7.9s
MDJ LN
comp=Z,34µm,19.8s
MDJ LE
comp=Z,54µm,24.5s
MDJ LZ
comp=Z,109µm,16.3s
MDJ Mudanjiang 13.66 277 *e*Pn **Pn 02 26 18.8 +0.2**
comp=Z,479nm,0.9s
JHS Saijyo 15.29 237 P **Pn 02 26 38.6 -1.8**
KSSKC Sokcho 16.37 255 P **Pn 02 26 50.6 -3.6**
SNR=32
KSSKC Sokcho 16.37 255 P **Pn 02 26 51.9 -2.3**
SNR=26
BMKR Bomnak 16.40 316 *e*P **Pn 02 26 55.5 +1.0**
BMKR AMB AMB 02 27 03.0
comp=Z,800nm,0.9s
KSJMJ Jumunjin 16.41 253 P **Pn 02 26 52.3 -2.4**
SNR=75
KSJMJ Jumunjin 16.41 253 P **Pn 02 26 52.3 -2.4**
SNR=75
KSDGY Daegwallycong 16.56 253 P **Pn 02 26 54.3 -2.4**
SNR=23
KSDGY Daegwallycong 16.56 253 P **Pn 02 26 54.3 -2.4**
SNR=23
SEHB SEOHWA 16.57 255 P **Pn 02 26 53.6 -3.1**
SNR=125
SEHB SEOHWA 16.57 255 P **Pn 02 26 54.5 -2.2**
SNR=27
KSULJ Uljin 16.59 249 P **P 02 27 01.2 +2.2**
SNR=12
KSULJ Uljin 16.59 249 P **Pn 02 26 55.6 -1.3**
SNR=53
KSTBA Taebaek 16.67 251 P **P 02 26 59.4 -0.6**
SNR=99
KSJES JEONGSEON 16.70 252 P **Pn 02 26 57.6 -0.8**
SNR=24
KSJES JEONGSEON 16.70 252 P **Pn 02 26 56.5 -1.9**
SNR=40
CN2 Changchun 16.73 276 *e*P **Pn 02 26 57.3 -1.3**
CN2 *ep*P **pP 02 27 06.1 -4.7**
CN2 *e*S **Sn 02 30 02.8 -0.5**
CN2 PMZ
comp=Z,5µm,9.0s
CN2 LN
comp=Z,20µm,16.0s
CN2 LE
comp=Z,71µm,16.0s
CN2 LZ
comp=Z,89µm,20.0s
ZEA Zeya 16.78 311 *e*P **Pn 02 26 59.5 +0.3**
ZEA AMB AMB 02 27 06.3
comp=Z,310nm,1.0s
ZEA AMB AMB 02 27 06.3
comp=Z,250nm,1.0s
ZEA AMB AMB 02 27 06.3
comp=Z,490nm,1.0s
ZEA AMB AMB 02 27 21.0
comp=Z,7µm,12.0s
ZEA AMB AMB 02 27 21.0
comp=Z,17µm,12.0s
ZEA AMB AMB 02 27 21.0
comp=Z,22µm,12.0s
ZEA *e*S **Sn 02 29 58.0 -6.4**
ZEA A A 02 30 17.0
comp=Z,11µm,10.0s
ZEA A A 02 30 17.0
comp=Z,8µm,10.0s
ZEA AMS AMS 02 34 09.0
comp=Z,45µm,16.0s
ZEA AMS AMS 02 34 09.0
comp=Z,61µm,16.0s
ZEA AMS AMS 02 34 09.0
comp=Z,78µm,16.0s
KSIJA INJE 16.80 254 P **Pn 02 26 56.9 -2.7**
SNR=133
KSIJA INJE 16.80 254 P **Pn 02 26 56.9 -2.7**
SNR=133
KSPHA Pohang 16.91 247 P **Pn 02 26 59.3 -1.6**
SNR=52
KSYOW Yeongwol 16.98 252 P **Pn 02 27 00.5 -1.3**
SNR=29
KSCHC Chuncheon 17.11 254 P **Pn 02 27 00.5 -3.0**
SNR=53
KSCHC Chuncheon 17.11 254 P **Pn 02 27 02.3 -1.1**
SNR=26
KSWJU Wonju 17.14 253 P **Pn 02 27 02.3 -1.4**
SNR=13
KSWJU Wonju 17.14 253 P **Pn 02 27 02.3 -1.4**
SNR=13
KSCWO Cheorwon 17.17 255 P **Pn 02 27 01.3 -2.9**
SNR=35
KSCWO Cheorwon 17.17 255 P **Pn 02 27 02.4 -1.7**
SNR=35
KSRS Korea Array 17.20 253 P **Pn 02 27 01.8 -2.7**
comp=Z,3.6nm,0.3s,baz=64,slow=12,SNR=54
KSRS LR LR 02 34 02.7
comp=Z,81µm,18.9s,baz=54,slow=38
KSRS Korea Array 17.20 253 P **Pn 02 27 01.8 -2.7**
KSRS pmax pmax
comp=Z,4.0nm,0.3s
KSRS MLR MLR
comp=Z,81µm,18.9s
KSAR Wonju Array Be 17.23 253 P **Pn 02 27 01.8 -3.2**
KSAR Wonju Array Be 17.23 253 P **Pn 02 27 01.8 -3.2**
KSEUS ULSEONG 17.27 249 P **Pn 02 27 05.3 -0.2**
SNR=30
KSCHJ Chungju 17.46 251 P **Pn 02 27 06.5 -1.4**
SNR=88
KSDAG Daegu 17.47 247 P **Pn 02 27 07.6 -0.3**
SNR=32
KSDDC Dongducheon 17.57 255 P **Pn 02 27 09.1 -0.1**
SNR=25
KSSAJ Sangju 17.59 250 P **Pn 02 27 08.9 -0.5**
SNR=30
YNCB YEONCHEON 17.60 256 P **P 02 27 10.0 0.0**
SNR=29
KSBUS Busan 17.64 245 P **Pn 02 27 10.0 0.0**
SNR=31
KSMUS Musan 17.79 256 P **Pn 02 27 11.8 +0.1**
SNR=17
KSCPR CHUPUNGNYEONG 17.82 250 P **Pn 02 27 11.8 -0.5**
SNR=43
KSSEO Seoul 17.87 254 P **P 02 27 13.1 +0.1**
SNR=23
JNU Nakatsue 17.92 237 P **Pn 02 27 11.6 -1.9**
comp=Z,4.8nm,0.3s,baz=40,slow=14,SNR=26
JNU S **Sn 02 30 32.8 +0.4**
comp=Z,0.2nm,0.3s,baz=53,slow=20,SNR=1.5
JNU LR LR 02 34 25.0
comp=Z,53µm,21.7s,baz=36,slow=38
JNU Nakatsue 17.92 237 *e*Pn **Pn 02 27 11.2 -2.4**
comp=Z,235nm,1.0s
JNU S **Sn 02 30 32.8 +0.4**
KSSWO Suwon 17.95 254 P **Pn 02 27 13.5 -0.3**
SNR=59
KSCEJ CHEONGJU 17.95 251 P **P 02 27 14.6 +0.6**
SNR=30
KSCEA Cheonan 17.98 252 P **P 02 27 14.3 0.0**
SNR=132
INCN Inchon 18.07 255 P **P 02 27 15.6 +0.3**
SNR=40
INCN Inchon 18.07 255 *e*Pn **Pn 02 27 15.1 -0.2**
KSGAH Ganghwa 18.09 256 P **P 02 27 15.1 -0.3**
SNR=86
CBIJ Chichi jima 18.14 199 *e*P **Pn 02 27 16.7 +0.5**
comp=Z,191nm,1.0s
CBIJ S Sn 02 30 15.6 -22
CBIJ *e*Sn S 02 30 18.4 -23
JCJ Chichijima 18.14 199 P **P 02 27 13.7 -2.4**
comp=Z,8.9nm,0.3s,baz=8.4,slow=6.4,SNR=20
JCJ S Sn 02 30 15.6 -22
comp=Z,8.4nm,0.3s,baz=73,slow=19,SNR=4.6

KSTEJ	**Daejeon**	**18.15**	**251**		P		**Pn**	**02 27 16.5**	**+0.3**
	SNR=27								
TJN	**Taejon**	**18.15**	**251**	*d*	*i*P		**P**	**02 27 15.1**	**-1.0**
KSKOJ	**Gongju**	**18.24**	**251**		P		**Pn**	**02 27 17.4**	**+0.1**
	SNR=33								
KSJIN	**Jinju**	**18.39**	**247**		P		**P**	**02 27 19.0**	**+0.1**
	SNR=38								
KSJEO	**Jeonju**	**18.44**	**250**		P		**Pn**	**02 27 19.6**	**-0.2**
	SNR=48								
KSSES	**Seosan**	**18.55**	**253**		P		**Pn**	**02 27 21.4**	**+0.3**
	SNR=38								
SEY	**Seymchan**	**18.60**	**5**		P		**P**	**02 27 20.2**	**-0.6**
	comp=Z,8.8nm,0.3s,baz=186,slow=8.0,SNR=124								
SEY					S		**Sn**	**02 30 46.4**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=210,slow=2.2,SNR=1.7								
SEY					LR		LR	02 34 57.7	
	comp=Z,37µm,18.8s,baz=185,slow=38								
SEY	**Seymchan**	**18.60**	**5**	*c*	*e*P		**P**	**02 27 20.7**	**-0.1**
KSNAH	**Namhae**	**18.67**	**246**		P		**Pn**	**02 27 23.4**	**+0.9**
	SNR=11								
KSGUS	**GUNSAN**	**18.73**	**251**		P		**Pn**	**02 27 23.4**	**+0.2**
	SNR=42								
KSJEU	**Jeongeup**	**18.93**	**249**		P		**Pn**	**02 27 25.9**	**+0.2**
	SNR=14								
KSKWJ	**Gwangju**	**19.08**	**248**		P		**Pn**	**02 27 27.4**	**-0.1**
	SNR=15								
KSBAR	**Backryungdo**	**19.17**	**258**		P		**Pn**	**02 27 31.1**	**+2.5**
	SNR=10.0								
CLNS	**Chul'man**	**19.40**	**318**		*e*P		**Pn**	**02 27 31.4**	**+0.2**
CLNS					*e*S		**Sn**	**02 31 12.1**	**+4.4**
CLNS					pmax		pmax		
	comp=N,147nm,0.9s								
CLNS					pmax		pmax		
	comp=Z,275nm,0.9s								
CLNS					pmax		pmax		
	comp=E,137nm,1.0s								
CLNS					smax		smax		
	comp=E,2µm,9.2s								
CLNS					smax		smax		
	comp=N,997nm,9.5s								
CLNS					MLR		MLR		
	comp=N,57µm,14.0s								
CLNS					MLR		MLR		
	comp=Z,90µm,14.0s								
CLNS					MLR		MLR		
	comp=E,45µm,13.0s								
CLNS	**Chul'man**	**19.40**	**318**		*e*P		**Pn**	**02 27 31.4**	**+0.2**
HIA	**Hailar**	**20.32**	**294**	⇓	*i*P		**P**	**02 27 38.6**	**-1.3**
HIA					pmax		pmax		
	comp=Z,241nm,1.3s								
HIA					MLR		MLR		
	comp=Z,98µm,20.0s								
HIA	**Hailar**	**20.32**	**294**		*e*P		**P**	**02 27 38.8**	**-1.1**
	comp=Z,296nm,1.1s								
HIA					LR		LR		
	comp=Z,80µm,19.0s								
YAK	**Yakutsk**	**20.80**	**334**		P		**P**	**02 27 43.8**	**-0.9**
	comp=Z,30nm,0.4s,baz=315,slow=22,SNR=31								
YAK					S		S	02 31 26.3	-7.8
	comp=Z,3.1nm,0.4s,baz=225,slow=20,SNR=2.2								
YAK					LR		LR	02 36 25.1	
	comp=Z,64µm,19.3s,baz=141,slow=39								
YAK	**Yakutsk**	**20.80**	**334**		*e*P		**P**	**02 27 44.9**	**+0.1**
YAK					*e*			02 28 01.1	
YAK					*e*S		**S**	**02 31 32.0**	**-2.2**
YAK					*e*SS		**SnSn**	**02 31 51.5**	**-4.7**
YAK					*e*SSS		SSS	02 32 05.8	
YAK					*e*			02 39 07.2	
YAK					pmax		pmax		
	comp=Z,244nm,1.0s								
YAK					pmax		pmax		
	comp=N,164nm,1.3s								
YAK					pmax		pmax		
	comp=E,108nm,1.1s								
YAK					smax		smax		
	comp=N,6µm,3.3s								
YAK					smax		smax		
	comp=E,6µm,3.9s								
YAK					MLR		MLR		
	comp=Z,58µm,19.0s								
YAK					MLR		MLR		
	comp=N,43µm,18.0s								
YAK					MLR		MLR		
	comp=E,30µm,19.0s								
YAK	**Yakutsk**	**20.80**	**334**		*e*P		**P**	**02 27 43.9**	**-0.9**
	comp=E,960nm,0.8s								
YAK					S		S	02 31 26.3	-7.8
DL2	**Dalian**	**20.95**	**264**	⇑	*i*P		**P**	**02 27 46.3**	**-0.4**
DL2					S		**S**	**02 31 36.1**	**-1.5**
DL2					sS		Sn	02 31 47.6	+2.4
DL2					PMZ				
	comp=E,1µm,1.1s								
DL2					PMZ				
	comp=E,8µm,5.5s								
DL2					LN				
	comp=E,12µm,15.8s								
DL2					LE				
	comp=E,19µm,17.2s								
DL2					LZ				
	comp=E,24µm,17.7s								
ADK	**Adak**	**24.03**	**60**		*e*P		**P**	**02 28 18.6**	**+0.4**
ADK					pmax		pmax		
	comp=Z,377nm,1.4s								
ADK					MLR		MLR		
	comp=Z,32µm,22.0s								
ADK	**Adak**	**24.03**	**60**		*e*P		**P**	**02 28 18.6**	**+0.4**
	comp=Z,377nm,1.4s								
ADK					LR		LR		
	comp=Z,32µm,22.0s								
JOW	**Kunigami**	**24.12**	**230**		P		**P**	**02 28 18.6**	**-0.6**
	comp=Z,22nm,1.0s,baz=39,slow=11,SNR=16								
JOW					S		**S**	**02 32 33.0**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=72,slow=19,SNR=2.6								
JOW					LR		LR	02 37 21.5	
	comp=Z,1µm,21.5s,baz=34,slow=36								
JOW	**Kunigami**	**24.12**	**230**		*e*P		**P**	**02 28 18.3**	**-0.9**
	comp=Z,688nm,1.4s								
JOW					S		**S**	**02 32 33.0**	**-1.0**
BJI	**Beijing**	**24.41**	**271**		P		**P**	**02 28 21.9**	**+0.1**
BJI					sP		**sP**	**02 28 38.8**	**+0.1**
BJI					S		**S**	**02 32 36.6**	**-1.9**
BJI					sS		**sS**	**02 32 55.9**	**-2.0**
BJI					PMZ				
	comp=Z,1µm,0.8s								
BJI					PMZ				
	comp=Z,10µm,8.2s								
BJI					LN				
	comp=Z,28µm,17.7s								
BJI					LE				
	comp=Z,60µm,18.4s								
BJI					LZ				
	comp=Z,50µm,19.1s								
CIT	**Chita**	**24.42**	**301**		*e*P		**P**	**02 28 22.4**	**+0.5**
CIT					*e*			02 29 11.4	
CIT					*e*			02 32 42.6	
CIT					pmax		pmax		
	comp=Z,488nm,2.8s								
BJT	**Baijiatuau**	**24.43**	**271**		*e*P		**P**	**02 28 21.4**	**-0.6**
BJT					pmax		pmax		
	comp=Z,1µm,0.9s								
BJT					MLR		MLR		
	comp=Z,70µm,19.0s								
BJT	**Baijiatuau**	**24.43**	**271**		*e*P		**P**	**02 28 21.4**	**-0.6**
	comp=Z,1µm,0.9s								
BJT					LR		LR		
	comp=Z,70µm,19.0s								
GSTR	**Great Sitkin T**	**24.43**	**59**		*e*P		**P**	**02 28 22.5**	**+0.6**
	comp=Z,255nm,1.0s								
BOD	**Bodaibo**	**25.21**	**314**		*e*P		**P**	**02 28 26.1**	**-2.8**
BOD					pmax		pmax		
	comp=Z,125nm,1.5s								
BILL	**Bilibino**	**25.33**	**15**	⇑	*i*P		**P**	**02 28 28.8**	**-1.1**
BILL					pmax		pmax		
	comp=Z,19nm,0.6s								
BILL					MLR		MLR		
	comp=Z,63µm,22.0s								
BILL	**Bilibino**	**25.33**	**15**		*e*P		**P**	**02 28 29.0**	**-0.9**
BILL	**Bilibino**	**25.33**	**15**		*e*P		**P**	**02 28 28.4**	**-1.6**
	comp=Z,45nm,0.6s								
TIA	**Tai'an**	**25.35**	**262**	⇑	P		**P**	**02 28 29.6**	**-0.8**
TIA					S		**S**	**02 32 55.3**	**+1.6**
TIA					PMZ				
	comp=Z,1µm,1.0s								
TIA					PMZ				
	comp=Z,11µm,8.0s								
TIA					LN				
	comp=Z,12µm,18.0s								
TIA					LE				
	comp=Z,36µm,19.0s								
TIA					LZ				
	comp=Z,43µm,18.0s								
SSE	**Sheshan**	**25.41**	**248**		P		**P**	**02 28 31.1**	**+0.1**
SSE					pP		**pP**	**02 28 41.1**	**-1.4**
SSE					S		**S**	**02 32 56.6**	**+1.9**
SSE					PMZ				
	comp=Z,300nm,1.2s								
SSE					PMZ				
	comp=Z,7µm,6.9s								
SSE					LN				
	comp=Z,22µm,21.2s								
SSE					LE				
	comp=Z,23µm,21.2s								
SSE					LZ				
	comp=Z,43µm,21.0s								
NJ2	**Nanjing**	**26.39**	**252**		*e*P		**P**	**02 28 41.3**	**+1.5**
NJ2					pP		**pP**	**02 28 52.3**	**+0.9**
NJ2					sP		**sP**	**02 28 57.0**	**+0.3**
NJ2					S		**S**	**02 33 13.0**	**+2.9**
NJ2					sS		**sS**	**02 33 24.8**	**-4.9**
NJ2					PMZ				
	comp=Z,120nm,1.2s								
NJ2					PMZ				
	comp=Z,11µm,8.5s								
NJ2					LN				
	comp=Z,157µm,17.3s								
NJ2					LE				
	comp=Z,187µm,17.2s								
NJ2					LZ				
	comp=Z,187µm,17.3s								
HHC	**Hu-ho-hao-te**	**27.42**	**276**	⇑	P		**P**	**02 28 49.0**	**-0.2**
HHC					S		**S**	**02 33 27.3**	**+0.8**
HHC					sS		sS	02 33 40.8	-5.3
HHC					SS		SnSn	02 34 49.8	+11
HHC					PMZ				
	comp=Z,290nm,0.9s								
HHC					PMZ				
	comp=Z,7µm,5.5s								
HHC					LN				
	comp=Z,26µm,11.1s								
HHC					LE				
	comp=Z,55µm,11.1s								
HHC					LZ				
	comp=Z,64µm,10.6s								
TIY	**Taiyuan**	**28.02**	**269**		*e*P		**P**	**02 28 56.5**	**+2.0**
TIY					pP		**pP**	**02 29 01.3**	**-4.8**
TIY					S		**S**	**02 33 40.4**	**+4.6**
TIY					sS		**sS**	**02 33 57.4**	**+2.0**
TIY					PMZ				
	comp=Z,250nm,1.1s								
TIY					PMZ				
	comp=Z,5µm,6.5s								
TIY					LN				
	comp=Z,12µm,15.6s								
TIY					LE				
	comp=Z,20µm,19.5s								
TIY					LZ				
	comp=Z,27µm,18.0s								
BTO	**Baotou**	**28.61**	**276**		*e*P		**P**	**02 29 00.4**	**+0.7**
TIXI	**Tiksi**	**28.88**	**347**	*c*	*i*P		**P**	**02 28 59.8**	**-1.9**
TIXI					pmax		pmax		
	comp=Z,22nm,0.7s								
TIXI					MLR		MLR		
	comp=Z,19µm,15.0s								
TIXI	**Tiksi**	**28.88**	**347**		*e*P		**P**	**02 28 60.0**	**-1.7**
	comp=Z,32nm,0.9s								
TIXI					LR		LR		
	comp=Z,19µm,21.0s								
H11N2	**WAKE ISLAND Hy**	**28.95**	**143**		T		T	02 59 53.5	
	baz=333,slow=76,SNR=3166								
H11N1	**WAKE ISLAND Hy**	**28.97**	**143**		T		T	02 59 57.0	
	baz=333,slow=76,SNR=5097								
H11N3	**WAKE ISLAND Hy**	**28.97**	**143**		T		T	02 59 54.8	
	baz=333,slow=76,SNR=6576								
WAKE	**Wake Island**	**29.25**	**144**		PFAKE			02 29 10.0	+4.6
WAKE					LR		LR		
	comp=Z,19µm,21.0s								
SONM	**Songino Array**	**29.25**	**292**		P		**P**	**02 29 05.4**	**-0.1**
	comp=Z,72nm,0.9s,baz=81,slow=8.6,SNR=70								
SONM					ScP		**ScP**	**02 35 52.0**	**+2.7**
	comp=Z,10nm,1.1s,baz=97,slow=4.6,SNR=4.4								
SONM					LR		LR	02 41 56.0	
	comp=Z,79nm,19.1s,baz=84,slow=39								
TATO	**Taipei**	**29.46**	**238**		*e*P		P	02 29 20.4	+13
TATO					LR		LR		
	comp=Z,58nm,19.0s								
YHNB	**Yeheng**	**29.75**	**237**		*e*P		P	02 29 21.8	+12
YHNB					LR		LR		
	comp=Z,48µm,20.0s								
H11S1	**WAKE ISLAND Hy**	**29.95**	**144**		T		T	03 01 09.9	
	baz=334,slow=76,SNR=4255								
H11S3	**WAKE ISLAND Hy**	**29.96**	**144**		T		T	03 01 16.7	
	baz=334,slow=76,SNR=4459								
H11S2	**WAKE ISLAND Hy**	**29.97**	**144**		T		T	03 01 08.1	
	baz=334,slow=76,SNR=6481								
IRK	**Irkutsk**	**30.14**	**301**		*e*P		**P**	**02 29 13.9**	**+0.8**
IRK					pmax		pmax		
	comp=Z,109nm,1.7s								
IRK	**Irkutsk**	**30.14**	**301**		*e*P		**P**	**02 29 13.9**	**+0.8**
WHN	**Wuhan**	**30.38**	**254**		P		**P**	**02 29 13.0**	**-2.4**
WHN					pP		**pP**	**02 29 22.4**	**-4.7**
WHN					S		**S**	**02 34 11.3**	**-1.6**
WHN					LN				
	comp=Z,45µm,26.3s								
WHN					LE				
	comp=Z,109µm,17.7s								
WHN					LZ				
	comp=Z,122µm,18.5s								
TLY	**Talaya**	**30.56**	**300**		P		**P**	**02 29 17.9**	**+1.0**
	comp=Z,22nm,0.7s,baz=92,slow=7.0,SNR=31								
SSLB	**Suanglung**	**30.67**	**237**		*e*P		**P**	**02 29 19.1**	**+1.1**
	comp=Z,99nm,1.2s								
YULB	**Yu-li**	**30.76**	**236**		*e*P		**P**	**02 29 20.4**	**+1.6**
	comp=Z,53nm,0.8s								
ZAK	**Zakamensk**	**30.92**	**297**		*e*P		**P**	**02 29 19.9**	**-0.2**
ZAK					pmax		pmax		
	comp=Z,39nm,1.3s								
GUMO	**Guam**	**30.98**	**187**		PFAKE			02 29 30.0	+9.3
GUMO					LR		LR		
	comp=Z,2µm,19.0s								
TPUB	**Ta-pu**	**31.23**	**237**		*e*P		**P**	**02 29 22.2**	**-0.7**
	comp=Z,138nm,0.7s								
QZH	**Quanzhou**	**31.27**	**241**	⇑	*i*P		**P**	**02 29 23.4**	**+0.1**
QZH					pP		**pP**	**02 29 36.4**	**+1.4**
QZH					S		**S**	**02 34 27.0**	**+0.1**
QZH					PMZ				
	comp=Z,770nm,1.5s								
QZH					PMZ				
	comp=Z,7µm,5.7s								
QZH					LN				
	comp=Z,29µm,16.2s								
QZH					LE				
	comp=Z,7µm,11.0s								
QZH					LZ				
	comp=Z,38µm,20.2s								
TWG	**Pinlang**	**31.33**	**235**		*e*P		**P**	**02 29 24.3**	**+0.5**
	comp=Z,897nm,1.1s								
MIDW	**Midway**	**31.48**	**110**		PFAKE			02 29 40.0	+15
MIDW					LR		LR		
	comp=Z,20µm,22.0s								
TNA	**Tin City**	**31.61**	**33**		*e*P		**P**	**02 29 26.9**	**+1.1**
	comp=Z,151nm,1.0s								
MOY	**Mondy**	**32.21**	**300**		*e*P		**P**	**02 29 34.5**	**+3.1**
XAN	**Xi'an**	**32.26**	**265**		P		**P**	**02 29 31.0**	**-1.0**
XAN					pP		**pP**	**02 29 43.8**	**0.0**
XAN					sP		**sP**	**02 29 50.3**	**+1.3**
XAN					PP		**PnPn**	**02 30 36.3**	**-3.0**
XAN					S		S	02 34 34.8	-7.6
XAN					PMZ				
	comp=Z,57nm,1.2s								
XAN					PMZ				
	comp=Z,690nm,7.9s								
ENH	**Enshi**	**33.93**	**259**		*e*P		**P**	**02 29 45.0**	**-1.5**
	comp=Z,192nm,1.0s								
LZH	**Lanzhou**	**34.89**	**272**	⇑	P		**P**	**02 29 55.3**	**+0.3**
LZH					pP		**pP**	**02 30 08.0**	**+1.2**
LZH					sP		**sP**	**02 30 12.6**	**+0.6**
LZH					PP		**PP**	**02 31 16.5**	**+1.9**
LZH					S		**S**	**02 35 19.6**	**-3.7**
LZH					PMZ				
	comp=Z,420nm,1.0s								
LZH					PMZ				
	comp=Z,2µm,4.5s								
LZH					LN				
	comp=Z,33µm,15.9s								
LZH					LE				
	comp=Z,32µm,16.7s								
LZH					LZ				
	comp=Z,40µm,17.9s								
SZP	**Santa**	**35.85**	**231**		*e*P		**P**	**02 30 03.7**	**+0.6**
	comp=Z,705nm,1.3s								
SVW2	**Sparrevohn**	**36.24**	**43**		*e*P		**P**	**02 30 07.7**	**+1.6**
	comp=Z,83nm,1.0s								
GTA	**Gaotai**	**36.30**	**279**	⇑	P		**P**	**02 30 07.3**	**+0.3**
GTA					pP		**pP**	**02 30 20.1**	**+1.2**
GTA					sP		**sP**	**02 30 26.0**	**+1.9**
GTA					PP		**PP**	**02 31 31.1**	**+1.1**
GTA					PcP		**PcP**	**02 32 32.3**	**+1.2**
GTA					S		**S**	**02 35 47.0**	**+2.2**
GTA					sS		**sS**	**02 36 06.6**	**+2.0**
GTA					ScP		**ScP**	**02 36 16.4**	**+2.6**
GTA					PcS		**PcS**	**02 36 22.1**	**+3.2**
GTA					SS		**SnSn**	**02 38 14.0**	**-0.4**
GTA					PMZ				
	comp=Z,88nm,1.3s								
GTA					PMZ				
	comp=Z,4µm,6.0s								
GTA					LN				
	comp=Z,30µm,14.7s								
GTA					LE				
	comp=Z,29µm,15.7s								
GTA					LZ				
	comp=Z,42µm,15.7s								
KRAR	**Krasnoyarsk**	**36.55**	**309**		*e*P		**P**	**02 30 07.6**	**-1.1**
KRAR					pmax		pmax		
	comp=Z,44nm,1.1s								
KRAR					MLR		MLR		
	comp=Z,50µm,22.0s								
HVS	**Khovu-Aksy**	**36.80**	**300**	*c*	*i*P		**P**	**02 30 11.7**	**+0.6**
HVS					pmax		pmax		
	comp=Z,332nm,1.1s								
HVS					MLR		MLR		
	comp=Z,195µm,17.0s								
HVS	**Khovu-Aksy**	**36.80**	**300**		*e*P		**P**	**02 30 11.7**	**+0.6**
IM04	**Indian Mountai**	**37.37**	**35**		*e*P		**P**	**02 30 15.8**	**+0.2**
IM04					*e*S		**S**	**02 35 58.4**	**-1.8**
OHAK	**Old Harbor**	**37.58**	**49**		*e*P		**P**	**02 30 16.5**	**-1.0**
	comp=Z,284nm,1.2s								
CD2	**Chengdu**	**37.62**	**264**	⇑	*i*P		**P**	**02 30 17.5**	**-0.7**
CD2					pP		**pP**	**02 30 30.3**	**+0.2**
CD2					PP		**PP**	**02 31 43.8**	**-0.7**
CD2					PcP		**PcP**	**02 32 34.9**	**-0.2**
CD2					S		**S**	**02 36 03.3**	**-1.5**
CD2					PcS		**PcS**	**02 36 23.6**	**-0.3**
CD2					PMZ				
	comp=Z,870nm,0.8s								
CD2					PMZ				
	comp=Z,4µm,4.7s								
CD2					LN				
	comp=Z,18µm,16.6s								
CD2					LE				
	comp=Z,18µm,19.1s								
CD2					LZ				
	comp=Z,15µm,18.6s								
RSO	**Redoubt South**	**37.63**	**44**		*e*P		**P**	**02 30 18.8**	**+0.6**
	comp=Z,322nm,0.9s								
PPLA	**Purkeypile**	**37.88**	**40**		*e*P		**P**	**02 30 21.6**	**+1.5**
	comp=Z,422nm,1.2s								
KDAK	**Kodiak Island**	**37.90**	**48**		P		**P**	**02 30 20.6**	**+0.4**
	comp=Z,912nm,1.2s,SNR=26								
KDAK	**Kodiak Island**	**37.90**	**48**		*e*P		**P**	**02 30 19.5**	**-0.7**
KDAK					*e*S		**S**	**02 36 05.2**	**-3.1**
KDAK					pmax		pmax		
	comp=Z,368nm,1.4s								
KDAK					MLR		MLR		
	comp=Z,27µm,21.0s								
KDAK	**Kodiak Island**	**37.90**	**48**		*e*P		**P**	**02 30 19.4**	**-0.7**
	comp=Z,368nm,1.4s								
KDAK					*e*S		**S**	**02 36 05.2**	**-3.1**
KDAK					LR		LR		
	comp=Z,27µm,21.0s								
GYA	**Guiyang**	**38.21**	**256**	⇑	*i*P		**P**	**02 30 21.8**	**-1.5**
GYA					pP		**pP**	**02 30 36.3**	**+1.1**
GYA					sP		**sP**	**02 30 43.0**	**+2.6**
GYA					PP		**PnPn**	**02 31 54.6**	**+1.5**
GYA					PcP		**PcP**	**02 32 38.4**	**+1.3**
GYA					S		S	02 36 07.5	-6.5
GYA					ScP		**ScP**	**02 36 22.0**	**+0.9**
GYA					SS		**SnSn**	**02 38 52.9**	**-7.9**
GYA					PMZ				
	comp=Z,390nm,1.1s								
GYA					PMZ				
	comp=Z,3µm,8.8s								
GYA					LN				
	comp=Z,25µm,16.8s								
GYA					LE				
	comp=Z,29µm,16.5s								
GYA					LZ				
	comp=Z,42µm,17.5s								
TGY	**Tagaytay City**	**38.43**	**227**		P		**P**	**02 30 25.1**	**-0.1**
	comp=Z,162nm,0.4s								
BPAW	**Bear Paw Mtn.**	**38.44**	**38**		*e*P		**P**	**02 30 25.2**	**+0.5**
	comp=Z,175nm,1.2s								
BRLK	**Bradley Lake**	**38.61**	**45**		*e*P		**P**	**02 30 26.5**	**+0.3**
	comp=Z,109nm,0.7s								
TRF	**Thorofare Moun**	**38.74**	**39**		*e*P		**P**	**02 30 28.3**	**+0.9**
	comp=Z,101nm,1.0s								
COLD	**Coldfoot**	**38.91**	**33**		*e*P		**P**	**02 30 28.9**	**+0.4**
	comp=Z,168nm,1.2s								
RC01	**Rabbit Creek A**	**39.08**	**43**		*e*P		**P**	**02 30 30.2**	**+0.1**
	comp=Z,134nm,0.8s								
RC01					*e*PcP		**PcP**	**02 32 39.8**	**+0.8**
BWN	**Browne**	**39.10**	**38**		*e*P		**P**	**02 30 31.1**	**+0.9**
	comp=Z,2µm,1.3s								
SEW	**Seward**	**39.30**	**44**		*e*P		**P**	**02 30 31.4**	**-0.5**
	comp=Z,115nm,0.8s								
MCK	**McKinley**	**39.34**	**38**		*e*P		**P**	**02 30 32.7**	**+0.5**
MCK					pmax		pmax		
	comp=Z,291nm,1.2s								
MCK	**McKinley**	**39.34**	**38**		*e*P		**P**	**02 30 32.7**	**+0.5**
MCK	**McKinley**	**39.34**	**38**		*e*P		**P**	**02 30 32.7**	**+0.5**
	comp=Z,291nm,1.2s								
COLA	**College**	**39.80**	**37**	*i*	P		**P**	**02 30 37.0**	**+1.1**
COLA					pmax		pmax		
	comp=Z,746nm,1.1s								
COLA					MLR		MLR		
	comp=Z,48µm,20.0s								
COLA	**College**	**39.80**	**37**		*e*P		**P**	**02 30 37.0**	**+1.1**
COLA	**College**	**39.80**	**37**		*e*P		**P**	**02 30 36.2**	**+0.3**
	comp=Z,342nm,1.1s								
COLA					LR		LR		
	comp=Z,12µm,19.0s								
CCB	**Clear Creek Bu**	**39.82**	**37**		*e*P		**P**	**02 30 36.1**	**0.0**
	comp=Z,181nm,1.3s								
DHY	**Denali Highway**	**40.07**	**39**		*e*P		**P**	**02 30 39.3**	**+0.9**
	comp=Z,77nm,1.0s								
HDA	**Harding Lake**	**40.19**	**37**		*e*P		**P**	**02 30 38.6**	**-0.7**
	comp=Z,119nm,0.9s								
ILAR	**Eielson Array**	**40.21**	**37**		P		**P**	**02 30 38.8**	**-0.7**
	comp=Z,14nm,0.6s,baz=260,slow=7.2,SNR=100								
ILAR					LR		LR	02 48 21.2	
	comp=Z,7µm,20.7s,baz=271,slow=38								
PAX	**Paxson**	**40.94**	**39**		*e*P		**P**	**02 30 46.2**	**+0.6**
PAX					pmax		pmax		
	comp=Z,110nm,1.1s								
PAX	**Paxson**	**40.94**	**39**		*e*P		**P**	**02 30 46.2**	**+0.6**
	comp=Z,110nm,1.1s								
DIV	**Divide**	**40.99**	**42**		*e*P		**P**	**02 30 47.0**	**+1.0**
	comp=Z,340nm,1.4s								
EYAK	**Cordova Ski Ar**	**41.08**	**43**		*e*P		**P**	**02 30 48.2**	**+1.6**
	comp=Z,202nm,1.4s								
QIZ	**Qiongzhong**	**41.12**	**245**		P		**P**	**02 30 48.8**	**+1.4**
QIZ					pP		**pP**	**02 30 59.9**	**+0.5**
QIZ					PP		**PP**	**02 32 24.3**	**+1.4**
QIZ					S		**S**	**02 36 58.5**	**+1.0**
QIZ					PMZ				
	comp=Z,3µm,9.6s								
QIZ					LN				
	comp=Z,15µm,21.4s								
QIZ					LZ				
	comp=Z,23µm,22.6s								
QIZ	**Qiongzhong**	**41.12**	**245**		*e*P		**P**	**02

comp=Z,9.7nm,0.4s,baz=57,slow=6.5,SNR=31
ZALV PcP **PcP** **02 32 46.1 -0.7**
comp=Z,51nm,0.6s,baz=87,slow=3.1,SNR=10
ZALV LR LR 02 49 14.4
comp=Z,24μm,19.3s,baz=74,slow=38
BMRM Bremner River 41.58 42 *eP* **P** **02 30 52.0 +1.2**
comp=Z,181nm,0.8s
KMI Kunming 41.79 258 P **P** **02 30 52.8 -0.4**
KMI pP **pP** **02 31 05.9 +0.7**
KMI sP **sP** **02 31 11.6 +1.3**
KMI PP **PP** **02 32 32.9 +2.6**
KMI S **S** **02 37 03.4 -4.4**
KMI sS **sS** **02 37 25.3 -2.5**
KMI PMZ
comp=Z,520nm,1.2s
KMI PMZ
comp=Z,4μm,4.9s
KMI LN
comp=Z,17μm,16.9s
KMI LE
comp=Z,14μm,18.9s
KMI LZ
comp=Z,21μm,18.8s
NVS Novosibirsk 42.15 308 *eP* **P** **02 30 55.4 -0.1**
NVS *ePPP* PPP 02 32 49.2
NVS *eSSS* SSS 02 40 52.0
NVS pmax pmax
comp=Z,79nm,1.4s
NVS pmax pmax
comp=E,46nm,1.2s
EGAK Eagle 42.66 36 *eP* **P** **02 30 59.1 -0.3**
comp=E,248nm,1.1s
EGAK LR LR
comp=Z,18μm,20.0s
WMQ Urumqi 42.89 291 P **P** **02 31 03.0 +1.3**
WMQ pP **pP** **02 31 15.9 +2.2**
WMQ sP **sP** **02 31 20.8 +1.9**
WMQ PP **PP** **02 32 45.4 +3.8**
WMQ S **S** **02 37 23.6 +0.3**
WMQ sS **sS** **02 37 44.3 +0.9**
WMQ ScS **ScS** **02 40 55.6 -2.9**
WMQ PMZ
comp=Z,430nm,1.0s
WMQ PMZ
comp=Z,6μm,4.4s
WMQ LN
comp=Z,55μm,19.0s
WMQ LE
comp=Z,43μm,19.5s
WMQ LZ
comp=Z,43μm,22.4s
DAWY Dawson 43.51 37 *eP* **P** **02 31 07.3 +0.9**
comp=Z,40nm,0.7s
HYT Haines Junctio 45.01 42 *eP* **P** **02 31 19.8 +1.2**
comp=Z,250nm,1.0s
INK Inuvik 45.18 31 P **P** **02 31 20.1 +0.5**
comp=Z,76nm,0.6s,baz=293,slow=7.2,SNR=47
INK Inuvik 45.18 31 *eP* **P** **02 31 20.1 +0.5**
INK pmax pmax
comp=Z,103nm,0.8s
INK Inuvik 45.18 31 *eP* **P** **02 31 20.1 +0.5**
comp=Z,103nm,0.8s
MK31 Makanchi Array 45.26 298 *eP* **P** **02 31 19.9 -0.7**
MK31 Makanchi Array 45.26 298 *eP* **P** **02 31 19.9 -0.7**
MKAR Makanchi Array 45.26 298 *eP* **P** **02 31 20.3 -0.3**
MKAR Makanchi Array 45.26 298 *eP* **P** **02 31 20.2 -0.3**
KURK Kurchatov 46.07 304 P **P** **02 31 27.8 +1.0**
comp=Z,996nm,0.6s,SNR=41
KURK Kurchatov 46.07 304 *eP* **P** **02 31 25.9 -0.9**
KURK 02 33 02.9
KURK pmax pmax
comp=Z,225nm,0.7s
KURK MLR MLR
comp=Z,13μm,22.0s
KURK Kurchatov 46.07 304 *eP* **P** **02 31 26.5 -0.3**
KURK Kurchatov 46.07 304 P **P** **02 31 27.6 +0.8**
SNR=51
KURK Kurchatov 46.07 304 *eP* **P** **02 31 25.9 -0.9**
comp=Z,225nm,0.7s
KURK PcP **PcP** **02 33 02.9 +0.4**
KURK LR LR
comp=Z,13μm,22.0s
KURBB Kurchatov Arra 46.15 304 P **P** **02 31 26.9 -0.6**
comp=Z,37nm,0.5s,baz=73,slow=9.1,SNR=127
KURBB PcP **PcP** **02 33 02.9 +0.1**
comp=Z,49nm,0.9s,baz=69,slow=3.1,SNR=8.5
SKNT Sakolnakorn 46.45 248 P **P** **02 31 30.1 -0.1**
comp=Z,412nm,1.0s,comp=Z,6μm
KDM Kudat 46.63 226 ⇑P **P** **02 31 31.0 -0.6**
UBPT Khong Chiam 46.70 245 P **P** **02 31 32.9 +0.7**
comp=Z,286nm,1.1s,comp=Z,4μm
SMPI Sarmi 47.14 194 P **P** **02 31 36.2 +0.7**
comp=Z,176nm,1.3s,comp=Z,5μm
SIT Sitka 47.16 46 *eP* **P** **02 31 38.0 +2.8**
SIT pmax pmax
comp=Z,178nm,1.2s
SIT Sitka 47.16 46 *eP* **P** **02 31 38.0 +2.8**
comp=Z,178nm,1.2s
LSA Lhasa 47.31 272 P **P** **02 31 38.1 +0.7**
LSA pP **pP** **02 31 52.1 +2.5**
LSA PcP **PcP** **02 33 04.8 -3.1**
LSA S **S** **02 38 29.5 +1.2**
LSA sS **sS** **02 38 51.8 +3.3**
LSA ScS **ScS** **02 41 28.4 +0.3**
LSA LN
comp=Z,7μm,18.5s
LSA LE
comp=Z,16μm,23.4s
LSA LZ
comp=Z,26μm,20.9s
LSA Lhasa 47.31 272 *eP* **P** **02 31 37.8 +0.4**
LSA pmax pmax
comp=Z,228nm,1.0s
LSA MLR MLR
comp=Z,27μm,20.0s
LSA Lhasa 47.31 272 *eP* **P** **02 31 37.8 +0.4**
comp=Z,228nm,1.0s
LSA LR LR
comp=Z,27μm,20.0s
TNTI Ternate 47.49 210 P **P** **02 31 40.1 +1.8**
comp=Z,225nm,1.5s,comp=Z,5μm
TNTI Ternate 47.49 210 *eP* **P** **02 31 38.0 -0.3**
comp=Z,213nm,1.1s
GENI Genyem 47.50 192 P **P** **02 31 39.5 +1.2**
comp=Z,210nm,1.2s,comp=Z,5μm
SDKM Sandakan 47.53 225 ⇓P **P** **02 31 38.5 -0.2**
RKPI Ransiki, Papua 47.61 200 P **P** **02 31 40.9 +1.7**
comp=Z,149nm,1.3s,comp=Z,3μm
KKM Kota Kinabalu 47.69 226 *eP* **P** **02 31 38.9 -1.0**
comp=Z,204nm,1.4s
KKM LR LR
comp=Z,20μm,20.0s
UTTA Uttaradit 48.22 252 P **P** **02 31 44.2 +0.2**
comp=Z,84nm,1.0s,comp=Z,660nm
IMP Imphal 48.24 265 *eP* **P** **02 31 42.0 -2.2**
IMP *ex* x 02 31 55.0
TSM Tawau 48.35 223 ⇓P **P** **02 31 44.9 -0.1**
PDGK Podgornoye 48.51 294 P **P** **02 31 44.6 -1.3**
PDGK pmax pmax
comp=Z,317nm,1.3s
CMMT Chiang Mai 48.59 255 P **P** **02 31 46.5 -0.3**
comp=Z,351nm,1.0s,comp=Z,5μm
CHTO Chiang Mai 48.59 255 P **P** **02 31 46.5 -0.4**
comp=Z,1μm,1.0s,comp=Z,15μm
CHTO Chiang Mai 48.59 255 *eP* **P** **02 31 46.5 -0.4**
CHTO pmax pmax
comp=Z,238nm,1.0s
CHTO MLR MLR
comp=Z,32μm,19.0s
CHTO Chiang Mai 48.59 255 P **P** **02 31 46.7 -0.2**
SNR=59
CHTO Chiang Mai 48.59 255 *eP* **P** **02 31 46.5 -0.4**
comp=Z,238nm,1.0s
CHTO LR LR
comp=Z,32μm,19.0s
PBKT Sadao Pong 48.76 251 P **P** **02 31 48.1 0.0**
comp=Z,147nm,1.2s,comp=Z,3μm
CM31 Chiang Mai Arr 48.83 254 *eP* **P** **02 31 48.8 +0.1**
comp=Z,173nm,1.0s
CMAR Chiang Mai Arr 48.83 254 P **P** **02 31 48.5 -0.2**
comp=Z,40nm,0.7s,baz=38,slow=8.0,SNR=36
CMAR ScP **ScP** **02 37 07.7 +3.6**
comp=Z,2.3nm,0.7s,baz=25,slow=2.6,SNR=4.8
CMAR LR LR 02 54 39.9
comp=Z,31μm,18.1s,baz=55,slow=39
CMAR Chiang Mai Arr 48.83 254 *eP* **P** **02 31 48.9 +0.2**

CRAG Craig 48.86 48 *eP* **P** **02 31 49.4 +1.0**
comp=Z,75nm,1.0s
WRAK Wrangell Islan 48.92 46 *eP* **P** **02 31 50.1 +1.2**
comp=Z,114nm,1.3s
WRAK LR LR
comp=Z,11μm,20.0s
KMSI Cibinong 48.94 214 P P 02 31 53.3 +3.8
comp=Z,429nm,1.3s,comp=Z,8μm
SHL Shillong 49.22 267 *eP* **P** **02 31 50.5 -1.3**
SHL AMB AMB 02 31 55.7
comp=Z,494nm,2.2s
SHL *eS* **S** **02 38 55.0 +0.3**
KIP Kipapa 49.26 100 *i* P **P** **02 31 50.3 -1.6**
KIP pmax pmax
comp=Z,68nm,1.3s
KIP Kipapa 49.26 100 PFAKE 02 32 00.0 +8.1
KIP LR LR
comp=Z,15μm,19.0s
DLBC Dease Lake 49.35 43 P **P** **02 31 53.6 +1.3**
comp=Z,39nm,0.8s,baz=290,slow=7.6,SNR=44
DLBC Dease Lake 49.35 43 *eP* **P** **02 31 53.8 +1.5**
comp=Z,87nm,1.0s
FAKI Fak Fak 49.46 202 P **P** **02 31 53.5 +0.1**
comp=Z,147nm,1.2s,comp=Z,3μm
FAKI Fak Fak 49.46 202 *eP* **P** **02 31 52.5 -1.0**
comp=Z,128nm,1.0s
MHMT Maesarieng 49.72 255 P **P** **02 31 56.4 +0.9**
comp=Z,133nm,1.2s,comp=Z,2μm
MRSI Marisa 49.87 216 P **P** **02 31 55.3 -1.3**
comp=Z,482nm,1.3s,comp=Z,7μm
BVA0 Borovoye Array 49.92 309 *i* P **P** **02 31 56.9 +0.3**
BVA0 pmax pmax
comp=Z,111nm,1.3s
BRVK Borovoye 49.96 309 *c iP* **P** **02 31 56.2 -0.7**
BRVK pmax pmax
comp=Z,135nm,1.2s
BRVK MLR MLR
comp=Z,37μm,16.0s
BRVK Borovoye 49.96 309 *eP* **P** **02 31 56.2 -0.7**
BRVK Borovoye 49.96 309 P **P** **02 31 57.6 +0.7**
SNR=69
BRVK Borovoye 49.96 309 *eP* **P** **02 31 56.7 -0.2**
comp=Z,182nm,1.3s
BRVK LR LR
comp=Z,33μm,19.0s
AAA Alma-Ata 50.18 295 *eP* **P** **02 32 00.6 +1.8**
AAA *eS* **S** **02 39 02.7 -4.9**
AAA pmax pmax
comp=Z,4μm,4.6s
AAA smax smax
comp=E,4μm,6.2s
AAA MLR MLR
comp=Z,23μm,14.0s
AAA Alma-Ata 50.18 295 *eP* **P** **02 31 59.0 +0.2**
MSAI Masohi 50.82 206 P **P** **02 32 06.4 +2.6**
comp=Z,51nm,1.7s,comp=Z,2μm
MPSI Mapaga 50.88 218 P **P** **02 32 04.7 +0.5**
comp=Z,82nm,1.4s,comp=Z,2μm
LUWI Luwuk 50.90 214 P **P** **02 32 04.3 0.0**
comp=Z,256nm,1.4s,comp=Z,3μm comp=Z,14μm
LUWI Luwuk 50.90 214 *eP* **P** **02 32 02.7 -1.6**
comp=Z,508nm,1.3s
ULHL Ulahol 51.13 295 P **P** **02 32 06.5 +0.4**
SNR=25
TAPN Taplejung 51.13 272 *eP* **P** **02 32 06.8 +0.3**
comp=Z,1μm,1.1s
TKM2 Tokmak 2 51.22 296 P **P** **02 32 07.2 +0.3**
SNR=235
TKM2 Tokmak 2 51.22 296 *eP* **P** **02 32 06.5 -0.3**
TKM2 pmax pmax
comp=Z,404nm,1.1s
TKM2 MLR MLR
comp=Z,12μm,19.0s
TKM2 Tokmak 2 51.22 296 *eP* **P** **02 32 06.5 -0.3**
comp=Z,404nm,1.1s
TKM2 LR LR
comp=Z,12μm,19.0s
APSI Ampana 51.24 216 P **P** **02 32 06.3 -0.6**
comp=Z,396nm,1.3s,comp=Z,4μm
PATY Pattaya 51.45 248 P **P** **02 32 10.3 +1.8**
comp=Z,104nm,1.0s,comp=Z,1μm
SRDT SRDT 51.58 250 P **P** **02 32 11.8 +2.3**
comp=Z,1μm,0.7s,comp=Z,10μm
KHLT Khaolaem Dam 51.62 251 P **P** **02 32 12.0 +2.2**
comp=Z,102nm,0.8s,comp=Z,2μm
BNDI Bandanaira 51.64 204 P P 02 32 14.0 +4.1
ODAN Odare 51.66 272 *eP* **P** **02 32 11.4 +1.1**
comp=Z,798nm,1.0s
CHMS Chumysh 51.73 296 P **P** **02 32 12.7 +2.3**
SNR=51
USP Ospenovka 51.76 296 P **P** **02 32 10.8 +0.1**
SNR=204
KBK Karagaybulak 51.77 296 P **P** **02 32 11.2 +0.3**
SNR=233
KZA Kyzart 51.85 295 P **P** **02 32 12.7 +0.9**
SNR=299
FRU Bishkek 51.89 296 *eP* **P** **02 32 12.0 +0.4**
FRU *e* 02 34 15.5
FRU *eS* **S** **02 39 31.0 -0.2**
FRU *eSS* **SS** **02 43 06.0 -1.9**
FRU pmax pmax
comp=Z,4μm,8.0s
FRU pmax pmax
comp=Z,750nm,2.0s
FRU smax smax
comp=N,1μm,3.5s
FRU smax smax
comp=E,3μm,8.0s
FRU MLR MLR
comp=E,24μm,16.0s
FRU MLR MLR
comp=Z,30μm,16.0s
PCI Palu 52.01 218 P **P** **02 32 11.9 -0.8**
comp=Z,335nm,1.2s,comp=Z,3μm
AAK Ala-Archa 52.07 296 P **P** **02 32 13.5 +0.4**
SNR=90
POHA Pohakuloa 52.10 99 *eP* **P** **02 32 13.2 -0.5**
comp=Z,259nm,1.1s
POHA LR LR
comp=Z,19μm,19.0s
GUN Gumba 52.11 274 *eP* **P** **02 32 13.5 -0.3**
comp=Z,2μm,1.0s
RAMN Ramite 52.17 272 *eP* **P** **02 32 14.1 0.0**
comp=Z,2μm,0.9s
UCH Uchtor 52.26 295 P **P** **02 32 17.6 +2.8**
SNR=49
ALE Alert 52.27 5 P **P** **02 32 13.0 -0.9**
comp=Z,137nm,0.6s,SNR=13
EKS2 Erkin-Say 52.52 296 P **P** **02 32 16.9 +0.5**
SNR=8.8
EKS2 Erkin-Say 52.52 296 *eP* **P** **02 32 16.0 -0.4**
EKS2 pmax pmax
comp=Z,249nm,0.9s
EKS2 MLR MLR
comp=Z,17μm,22.0s
EKS2 Erkin-Say 52.52 296 *eP* **P** **02 32 16.0 -0.4**
comp=Z,249nm,0.9s
EKS2 LR LR
comp=Z,17μm,22.0s
KKN Kakani 52.61 274 *eP* **P** **02 32 17.0 -0.4**
comp=Z,2μm,1.2s
PKI Pulchoki 52.65 274 *eP* **P** **02 32 17.3 -0.5**
comp=Z,1μm,1.1s
KSH Kashi 52.66 292 P P 02 32 21.1 +3.7
KSH *eSP* sP 02 32 38.8 +4.0
KSH PcP **PcP** **02 33 29.1 +2.2**
KSH PP PP 02 34 26.5 +10
KSH S S 02 39 49.4 +7.5
KSH sS sS 02 40 12.3 +10
KSH SS **SS** **02 43 25.8 +5.6**
KSH PMZ
comp=Z,380nm,1.2s
KSH PMZ
comp=Z,4μm,6.3s
KSH LN
comp=Z,14μm,14.5s
KSH LE
comp=Z,26μm,15.9s
KSH LZ
comp=Z,28μm,15.2s
PKIN Phulchoki 52.66 274 *eP* **P** **02 32 18.3 +0.5**
comp=Z,344nm,0.7s
SBUM Sibu 52.82 228 ⇑P **P** **02 32 19.0 +0.2**
AML Almayashu 52.83 296 P **P** **02 32 19.5 +0.5**
SNR=113
DMN Daman 52.84 274 *eP* **P** **02 32 19.5 +0.4**
comp=Z,1μm,0.9s

BBB Bella Bella 52.92 50 P **P** **02 32 19.1 +0.1**
comp=Z,17nm,0.9s,baz=268,slow=8.7,SNR=2.0
GKN Gorkha 52.95 275 *eP* **P** **02 32 19.4 -0.4**
comp=Z,2μm,1.0s
SVE Sverdlovsk 53.39 317 ⇓*eP* **P** **02 32 21.6 -0.8**
SVE *e* 02 34 22.3
SVE *ePPP* PPP 02 35 31.6
SVE *eS* **S** **02 39 52.6 +1.6**
SVE *e* 02 42 05.6
SVE *eSS* **SS** **02 43 30.7 0.0**
SVE pmax pmax
comp=Z,79nm,0.8s
SVE MLR MLR
comp=E,31μm,16.0s
SVE MLR MLR
comp=Z,46μm,16.0s
KDI Kendari 53.62 213 P **P** **02 32 25.8 +1.3**
comp=Z,231nm,1.5s,comp=Z,3μm
BKB Balikpapan 53.66 221 P **P** **02 32 26.4 +1.5**
comp=Z,439nm,1.5s,comp=Z,7μm
PMG Port Moresby 53.66 182 ⇑*iP* **P** **02 32 24.3 -0.5**
PMG pmax pmax
comp=Z,126nm,1.5s
PMG MLR MLR
comp=Z,11μm,20.0s
PMG Port Moresby 53.66 182 *eP* **P** **02 32 25.2 +0.4**
comp=Z,105nm,1.3s
PMG LR LR
comp=Z,6μm,22.0s
KOLN Koldanda 53.82 275 *eP* **P** **02 32 26.2 -0.1**
comp=Z,868nm,0.9s
RES Resolute Bay 53.92 17 P **P** **02 32 25.4 -0.7**
comp=Z,166nm,0.8s,baz=318,slow=7.9,SNR=115
TTSI Tana Toraja 53.94 217 P **P** **02 32 29.8 +3.0**
comp=Z,36nm,1.4s,comp=Z,2μm
SFK Sufi-Kurgan 54.03 293 P **P** **02 32 27.6 -0.1**
SFK pmax pmax
comp=Z,686nm,1.1s
HOPEN Hopen 54.16 346 *eP* **P** **02 32 26.2 -1.5**
HOPEN *e* 02 44 36.2
HOPEN IAMs_20 IAMs_20 02 59 15.6
comp=Z,14μm,19.1s
HOPEN IVMs_BB IVMs_BB 02 59 20.2
comp=Z,5μm,18.0s
KBS Kingsbay 54.24 351 *eP* **P** **02 32 26.3 -2.0**
KBS pmax pmax
comp=Z,42nm,0.7s
KBS MLR MLR
comp=Z,11μm,19.0s
KBS Kingsbay 54.24 351 *eP* **P** **02 32 26.3 -2.0**
comp=Z,42nm,0.7s
KBS LR LR
comp=Z,11μm,19.0s
KK31 Karatay Array 54.38 298 *i* P **P** **02 32 29.7 -0.2**
KK31 pmax pmax
comp=Z,88nm,0.6s
KKAR Karatay Array 54.38 298 *eP* **P** **02 32 29.5 -0.4**
KKAR pmax pmax
comp=Z,183nm,0.8s
KKAR Karatay Array 54.38 298 *eP* **P** **02 32 29.5 -0.4**
comp=Z,183nm,0.8s
YKA Yellowknife Ar 54.54 34 P **P** **02 32 30.5 -0.2**
comp=Z,50nm,0.7s,baz=298,slow=7.3,SNR=96
YKA PcP **PcP** **02 33 33.9 +0.4**
comp=Z,12nm,0.8s,baz=312,slow=4.1,SNR=4.0
YKA PKPPKP **P'P'df** **03 02 43.3 -5.1**
comp=Z,1.3nm,1.0s,baz=143,slow=3.0,SNR=4.2
ARU Arti 54.59 317 P **P** **02 32 31.2 +0.1**
comp=Z,534nm,0.7s,SNR=29
ARU Arti 54.59 317 *c iP* **P** **02 32 30.0 -1.2**
ARU 02 33 32.3
ARU PPP PPP 02 35 43.7
ARU S **S** **02 40 05.2 -2.1**
ARU 02 42 13.7
ARU SS **SS** **02 43 53.6 +3.9**
ARU pmax pmax
comp=Z,48nm,0.6s
ARU pmax pmax
comp=Z,530nm,5.9s
ARU MLR MLR
comp=Z,43μm,16.0s
ARU Arti 54.59 317 *eP* **P** **02 32 30.2 -0.9**
ARU Arti 54.59 317 *eP* **P** **02 32 29.9 -1.2**
comp=Z,55nm,0.6s
ARU LR LR
comp=Z,42μm,19.0s
BOK Bokaro 54.60 270 *eP* **P** **02 32 29.8 -1.9**
BOK AMB AMB 02 32 36.1
comp=Z,194nm,1.5s
KSM Kuching 54.67 230 ⇑P **P** **02 32 33.3 +1.0**
KSM Kuching 54.67 230 *eP* **P** **02 32 32.4 +0.1**
comp=Z,441nm,1.4s
KSM LR LR
comp=Z,8μm,20.0s
SPSI Sidrap Palu 54.78 216 P **P** **02 32 33.1 +0.1**
JOSI Joshimath 55.06 280 *eP* **P** **02 32 33.2 -2.0**
STKI Sintang 55.22 227 P **P** **02 32 38.0 +1.8**
comp=Z,207nm,1.4s
HSPB Hornsund (broa 55.29 348 *eP* **P** **02 32 35.4 -0.6**
HSPB *eS* **S** **02 40 16.4 +0.3**
HSPB *e* 02 44 29.4
HSPB IAMs_20 IAMs_20 03 01 28.4
comp=Z,11μm,18.2s
HSPB IVMs_BB IVMs_BB 03 01 33.1
comp=Z,4μm,17.5s
SURT Suratani 55.73 246 P **P** **02 32 42.6 +2.7**
comp=Z,69nm,1.2s,comp=Z,1μm
KAPI Kappang 55.73 216 P **P** **02 32 39.6 -0.2**
comp=Z,588nm,0.8s,SNR=10.0
KAPI Kappang 55.73 216 P **P** **02 32 39.7 -0.2**
SNR=13
KAPI Kappang 55.73 216 *eP* **P** **02 32 39.1 -0.7**
comp=Z,80nm,0.8s
KAPI LR LR
comp=Z,6μm,22.0s
KTGM Kuala Trenggan 55.74 239 ⇓P **P** **02 32 41.1 +1.1**
KBKI Kotabaru 55.79 221 P **P** **02 32 40.7 +0.4**
comp=Z,145nm,1.8s,comp=Z,3μm
BKSI Bulukumba 55.86 215 P **P** **02 32 40.5 -0.2**
SKLT Songkhla 55.90 243 P **P** **02 32 42.6 +1.5**
comp=Z,262nm,1.2s,comp=Z,3μm
TRTT Trang 55.99 245 P **P** **02 32 43.7 +1.9**
comp=Z,287nm,1.1s,comp=Z,3μm
KRAB Krabi 56.02 245 P **P** **02 32 44.1 +2.1**
comp=Z,248nm,1.1s,comp=Z,2μm
KALG Kalgarh 56.24 280 *eP* **P** **02 32 42.5 -0.9**
DDI Dehra Dun 56.25 281 *eP* **P** **02 32 43.3 -0.3**
DHRM DHARAMSHALA 56.37 284 *eP* **P** **02 32 44.1 -0.5**
SMLA Simla 56.41 282 *eP* **P** **02 32 43.9 -0.7**
BSSI Bau Bau, Buton 56.45 214 P **P** **02 32 44.7 -0.3**
comp=Z,160nm,1.1s,comp=Z,3μm
BBKI Banjar Baru 56.56 222 P **P** **02 32 46.0 +0.2**
comp=Z,346nm,1.0s,comp=Z,11μm
DGPR DIGLIPUR 56.64 255 *eP* **P** **02 32 47.0 +0.6**
PKDT Phuket 56.83 246 P **P** **02 32 50.2 +2.5**
comp=Z,317nm,1.1s,comp=Z,6μm
OBC Olympics--Boni 57.22 53 P **P** **02 32 50.5 +0.3**
PGC Sidney 57.25 52 *eP* **P** **02 32 51.7 +1.4**
KULM Kulim 57.32 242 ⇓P **P** **02 32 52.7 +1.6**
KULM Kulim 57.32 242 *eP* **P** **02 32 51.6 +0.5**
comp=Z,352nm,1.1s
KULM LR LR
comp=Z,6μm,22.0s
KKR Kurukshetra 57.33 281 *eP* **P** **02 32 49.1 -2.0**
ASOR Ausora 57.37 280 *eP* **P** **02 32 50.1 -1.3**
ASOR AMB AMB 02 33 00.0
comp=Z,347nm,1.3s
PBKI Pangkalan Bun 57.48 226 P **P** **02 32 54.3 +2.0**
AB31 Akbulak array 57.49 309 P **P** **02 32 51.5 -0.5**
AB31 pmax pmax
comp=Z,75nm,0.5s
ABKAR Akbulak array 57.49 309 *eP* **P** **02 32 51.3 -0.7**
OSD Olympics--Snow 57.55 53 P **P** **02 32 53.4 +0.6**
LVZ Lovozero 57.59 336 P **P** **02 32 53.4 +0.9**
comp=Z,208nm,1.3s,SNR=5.6
LVZ Lovozero 57.59 336 *c iP* **P** **02 32 51.8 -0.7**
LVZ pmax pmax
comp=Z,69nm,1.7s
LVZ MLR MLR
comp=Z,15μm,21.0s
LVZ Lovozero 57.59 336 *eP* **P** **02 32 51.6 -0.9**
comp=Z,58nm,1.1s
LVZ LR LR
comp=Z,15μm,21.0s
NLWA Neilton Lookou 57.68 53 *eP* **P** **02 32 54.8 +1.3**
comp=Z,82nm,0.9s

NLWA LR LR
comp=Z,11µm,22.0s
IPM Ipoh 57.71 241 ⇓P **P 02 32 55.5 +1.5**
IPM Ipoh 57.71 241 *e*P **P 02 32 53.9 -0.1**
comp=Z,407nm,1.7s
BISR Bishrakh 57.72 280 *e*P **P 02 32 53.3 -0.6**
DZET Dzherino 57.74 295 P **P 02 32 53.6 -0.5**
DZET pmax pmax
comp=Z,545nm,0.9s
NDI New Delhi 57.81 280 ⇑*i*P **P 02 32 53.0 -1.5**
NDI *e*S **S 02 40 52.0 +1.2**
PBA Port Blair 57.84 254 *e*P P 02 32 55.3 +0.5
PBA AMB AMB 02 32 57.9
comp=Z,258nm,0.8s
AYAN Aya Nagar 57.99 280 *e*P **P 02 32 55.7 -0.1**
BHGR Bahadurgarh 58.00 280 *e*P **P 02 32 55.4 -0.5**
HDW Hoodsport 58.01 53 P **P 02 32 57.5 +1.7**
MBW Mount Baker 58.05 51 P **P 02 32 56.5 +0.3**
MMRI Maumere 58.05 211 P **P 02 32 57.8 +1.5**
comp=Z,266nm,1.9s,comp=Z,6µmcomp=Z,14µm
MMRI Maumere 58.05 211 *e*P **P 02 32 56.7 +0.5**
comp=Z,538nm,1.4s
MYKOM **Kota Tinggi 58.10 236** *e*P **P 02 32 57.3 +0.6**
CMW Cultus Mountai 58.12 52 P **P 02 32 57.3 +0.7**
SONA Sohna 58.16 280 *e*P **P 02 32 56.4 -0.6**
AGRA Agra 58.16 278 *e*P **P 02 32 56.8 -0.2**
APA Apatity 58.17 336 ⇓*i*P **P 02 32 55.7 -0.8**
APA *i* 02 33 48.0
APA *i* 02 35 14.0
APA *i* S S 02 40 47.0 -7.4
APA *i* SS **ScS 02 42 44.0 +2.1**
APA pmax pmax
comp=Z,14nm,0.7s
APA MLR MLR
comp=Z,16µm,20.0s
KGM Kluang 58.24 237 ⇓P **P 02 32 58.6 +1.0**
FRIM Kepong 58.30 239 ⇑P **P 02 32 59.1 +1.0**
JCW Jim Creek 58.35 52 P **P 02 32 58.7 +0.5**
SOEI Soe 58.36 209 P **P 02 32 59.7 +1.1**
comp=Z,220nm,1.1s,comp=Z,3µm
SOEI Soe 58.36 209 *e*P **P 02 32 58.1 -0.5**
comp=Z,256nm,1.3s
COEN Coen 58.39 186 *e*P **P 02 32 57.2 -1.4**
KEV Kevo 58.42 340 *e*P **P 02 32 56.9 -1.3**
KEV pmax pmax
comp=Z,32nm,0.7s
KEV MLR MLR
comp=Z,13µm,20.0s
KEV Kevo 58.42 340 *e*P **P 02 32 56.9 -1.3**
comp=Z,32nm,0.7s
KEV LR LR
comp=Z,13µm,20.0s
B06A Marblemount 58.43 51 *e*P **P 02 32 59.0 +0.4**
comp=Z,132nm,1.3s
RPW Rockport 58.45 51 P **P 02 32 58.4 -0.4**
HAMF Hammerfest 58.58 341 *e*P **P 02 32 57.0 -2.2**
KUDL Kundal 58.64 280 *e*P **P 02 32 59.8 -0.6**
KUDL AMB AMB 02 33 04.8
comp=Z,369nm,1.1s
HTW Haystack Looko 58.66 52 P **P 02 33 01.3 +1.0**
LCW Lucas Creek 58.75 54 P **P 02 33 02.5 +1.7**
DAG Danmarks Havn 58.75 357 *i*P **P 02 32 59.0 -1.4**
comp=Z,399nm,0.8s
DAG Danmarks Havn 58.75 357 *e*P **P 02 32 59.0 -1.4**
DAG pmax pmax
comp=Z,29nm,0.8s
DAG MLR MLR
comp=Z,9µm,17.0s
D05A Enumclaw 58.87 53 *e*P **P 02 33 03.5 +1.8**
TMCR Tamitsa 58.87 331 *e*P **P 02 33 01.9 +0.5**
TMCR *e* 02 35 12.9
TMCR pmax pmax
comp=Z,180nm,1.4s
F04D Rainier, OR 58.89 54 P **P 02 33 01.6 -0.2**
baz=59
ARCES **ARCESS Array B 58.95 340** P **P 02 33 00.4 -1.5**
comp=Z,6.8nm,0.6s,baz=47,slow=7.6,SNR=26
ARCES PcP **PcP 02 33 51.2 +0.6**
comp=Z,11nm,0.6s,baz=40,slow=4.7,SNR=5.3
ARCES LR LR 03 02 25.1
comp=Z,11µm,19.4s,baz=38,slow=40
ARCES PKP2bc 03 02 45.2
comp=Z,2.9nm,1.0s,baz=249,slow=3.4,SNR=3.9
ARCES **ARCESS Array B 58.95 340** *e*P **P 02 33 00.9 -1.0**
ARE0 **ARCESS Array S 58.95 340** *e*P **P 02 33 00.9 -0.9**
KHET Khetri 59.17 280 *e*P **P 02 33 03.3 -0.7**
KHET AMB AMB 02 33 07.6
comp=Z,211nm,1.2s
TDL Tradedollar La 59.20 54 P **P 02 33 05.1 +0.9**
FL2 Flat Top 2 59.21 54 P **P 02 33 05.3 +1.1**
LON Longmire 59.21 53 *e*P **P 02 33 05.1 +0.9**
LON pmax pmax
comp=Z,25nm,0.9s
LON Longmire 59.21 53 *e*P **P 02 33 05.1 +0.9**
comp=Z,25nm,0.9s
G03D McMinnville, O 59.22 55 P **P 02 33 03.7 -0.5**
baz=59
CHLP Challavanipeta 59.29 266 *e*P **P 02 33 04.8 -0.2**
CHLP IAmb IAmb 02 33 08.5
comp=Z,229nm,1.2s
CHLP *e*PP **PP 02 35 13.6 -2.5**
CHLP *e*S **S 02 41 12.5 +2.4**
CHLP IVMs_BB IVMs_BB 03 05 56.0
comp=Z,2µm,15.6s
NLW Nelson Butte 59.31 51 P **P 02 33 06.0 +1.1**
WPW White Pass 59.39 53 P **P 02 33 06.6 +1.2**
COR Corvallis 59.55 56 *e*P **P 02 33 06.9 +0.5**
COR pmax pmax
comp=Z,241nm,1.4s
COR Corvallis 59.55 56 *e*P **P 02 33 06.9 +0.5**
comp=Z,241nm,1.4s
B08A Colville Reser 59.71 51 *e*P **P 02 33 06.8 -0.8**
LHMI Lhok Sumawe 59.73 245 P P 02 33 12.7 +4.7
LHMI Lhok Sumawe 59.73 245 *e*P P 02 33 03.8 -4.3
comp=Z,159nm,1.1s
KTK1 Kautokeino 59.88 340 *e*P **P 02 33 08.4 +0.1**
KEBM Edson Butte 59.89 58 *e*P **P 02 33 11.1 +2.3**
comp=Z,109nm,1.1s
KULLO **Kullorsuaq 59.95 8** *i*P **P 02 33 08.1 -0.6**
comp=Z,83nm,0.6s
KULLO *i* S **S 02 41 14.5 -2.7**
PPBI Pangkal Pinang 59.98 231 P **P 02 33 10.8 +1.1**
comp=Z,279nm,1.0s,comp=Z,5µm
KBL Kabul 60.01 290 *e*P **P 02 33 08.3 -1.7**
KBL pmax pmax
comp=Z,583nm,1.1s
KBL Kabul 60.01 290 *e*P **P 02 33 08.3 -1.7**
comp=Z,583nm,1.1s
I03D Drain, OR 60.02 57 P **P 02 33 09.1 -0.5**
baz=60
WBSI Waikabubak, Su 60.07 214 P **P 02 33 08.8 -1.5**
EDM Edmonton 60.08 43 *e*P **P 02 33 09.7 -0.3**
EDM pmax pmax
comp=Z,259nm,0.8s
EDM Edmonton 60.08 43 *e*P **P 02 33 09.7 -0.3**
comp=Z,259nm,0.8s
VFP Flag Point 60.21 54 P **P 02 33 12.2 +1.0**
PSI Prapat 60.32 241 *e*P **P 02 33 11.8 -0.4**
PSI Prapat 60.32 241 *e*P **P 02 33 11.8 -0.4**
VIS Vishakhapatnam 60.32 266 *e*P **P 02 33 10.0 -2.1**
VIS AMB AMB 02 33 16.2
comp=Z,202nm,0.6s
G05D Wamic, OR 60.34 54 P **P 02 33 12.8 +0.8**
baz=60,SNR=15
TRO Tromso 60.41 342 *e*P **P 02 33 10.5 -1.4**
TRO *i* 02 37 07.2
TRO *e*S **S 02 41 23.6 +0.4**
TRO IVMs_BB IVMs_BB 03 05 27.2
comp=Z,6µm,16.3s
I04A Tendick Farm, 60.52 56 P **P 02 33 14.0 +0.8**
baz=60,SNR=14
ABJI Asem Bagus 60.64 220 P **P 02 33 15.2 +1.1**
D08A Wollman Farm, 60.68 52 *e*P **P 02 33 14.1 0.0**
HAWA Hanford 60.71 52 *e*P **P 02 33 14.0 -0.4**
comp=Z,110nm,1.3s
HAWA LR LR
comp=Z,8µm,22.0s
L02D Cave Junction, 60.74 58 P **P 02 33 15.8 +1.2**
baz=61
I05D Terrebonne, OR 60.84 55 P **P 02 33 16.1 +0.7**
baz=61,SNR=28
HUMO Hull Mountain 60.87 58 *e*P **P 02 33 17.8 +2.2**
comp=Z,159nm,1.9s
BLJI Banyuglugur 60.89 221 P **P 02 33 17.7 +1.8**
comp=Z,95nm,1.3s

BKNI Bangkinang 60.95 238 P **P 02 33 17.8 +1.5**
comp=Z,1µm,1.1s,comp=Z,11µm
BKNI Bangkinang 60.95 238 *e*P **P 02 33 17.4 +1.1**
comp=Z,860nm,1.0s
JMBI JAMBI 60.97 234 P P 02 33 21.2 +4.7
NEW Newport 60.98 50 P **P 02 33 16.2 0.0**
comp=Z,38nm,1.0s,baz=306,slow=5.0,SNR=25
NEW Newport 60.98 50 *e*P **P 02 33 15.2 -1.0**
NEW pmax pmax
comp=Z,115nm,1.3s
NEW MLR MLR
comp=Z,6µm,22.0s
NEW Newport 60.98 50 P **P 02 33 16.6 +0.4**
baz=61,SNR=42
NEW S **S 02 41 30.7 -0.6**
baz=61
NEW Newport 60.98 50 *e*P **P 02 33 15.2 -1.0**
comp=Z,115nm,1.3s
NEW LR LR
comp=Z,6µm,22.0s
BHPL Bhopal 60.99 275 *e*P **P 02 33 16.2 -0.5**
J04D Umpqua Nationa 61.02 57 P **P 02 33 17.2 +0.4**
baz=61,SNR=18
NGP Nagpur 61.16 272 *e*P **P 02 33 15.6 -2.2**
NGP AMB AMB 02 33 18.5
comp=Z,456nm,0.0s
PMBI Palembang 61.38 232 P P 02 33 23.5 +4.3
KHMM Horse Mountain 61.40 60 *e*P **P 02 33 20.2 +0.9**
comp=Z,137nm,1.3s
J05D Fort Rock, OR 61.52 56 P **P 02 33 20.5 +0.5**
baz=61,SNR=39
YBH Yreka Blue Hor 61.53 58 *e*P **P 02 33 21.4 +1.3**
YBH pmax pmax
comp=Z,153nm,1.5s
YBH Yreka Blue Hor 61.53 58 *e*P **P 02 33 21.4 +1.3**
comp=Z,153nm,1.5s
K04D Chiloquin, OR 61.59 57 P **P 02 33 21.3 +0.8**
baz=61
M02C Callahan 61.64 59 P **P 02 33 21.3 +0.5**
baz=62,SNR=9.8
SMRI Semarang 61.81 224 P **P 02 33 23.4 +1.3**
comp=Z,641nm,1.2s,comp=Z,12µm
SMRI Semarang 61.81 224 *e*P **P 02 33 21.2 -0.9**
comp=Z,753nm,1.2s
PVM Polavaram 61.85 267 *e*P **P 02 33 21.5 -0.9**
PVM IAmb IAmb 02 33 25.9
comp=Z,538nm,1.5s
PVM IVMs_BB IVMs_BB 03 05 15.7
comp=Z,2µm,17.4s
N02D Trinity Center 61.97 59 P **P 02 33 24.2 +1.1**
baz=62,SNR=18
M04C Macdoel 62.03 58 P **P 02 33 24.4 +0.9**
baz=62,SNR=14
K05A Summer Lake 62.04 57 *e*P **P 02 33 24.1 +0.4**
I07A Izee 62.07 55 *e*P **P 02 33 24.2 +0.5**
WALA Waterton Lakes 62.23 48 *e*P **P 02 33 25.2 +0.4**
comp=Z,99nm,1.0s
WDC Whiskeytown Da 62.30 59 *e*P **P 02 33 25.3 +0.1**
WDC pmax pmax
comp=Z,194nm,1.8s
WDC Whiskeytown Da 62.30 59 *e*P **P 02 33 25.3 +0.1**
comp=Z,194nm,1.8s
GSI Gunungsitoli 62.33 242 *e*P **P 02 33 26.5 +0.9**
RPR Rampur 62.46 270 *e*P **P 02 33 25.4 -1.1**
RPR IAmb IAmb 02 33 29.8
comp=Z,458nm,1.1s
RPR *e*PP **PP 02 35 44.3 +0.2**
RPR *e*S **S 02 41 52.8 +2.1**
RPR *e*SS **SS 02 45 58.1 +3.2**
BSMT Bassoo Peak 62.49 49 *e*P **P 02 33 27.3 +0.8**
comp=Z,96nm,1.3s
UGM Wanagama 62.52 224 P **P 02 33 27.5 +0.7**
BLMT Blacktail Moun 62.62 49 *e*P **P 02 33 28.8 +1.3**
LOF Lofoten 62.79 343 *e*P **P 02 33 28.4 +0.5**
JTMT Jette 62.82 49 *e*P **P 02 33 29.4 +0.7**
BMO Blue Mountains 62.88 53 *e*P **P 02 33 29.1 0.0**
BMO pmax pmax
comp=Z,75nm,1.3s
BMO MLR MLR
comp=Z,9µm,22.0s
BMO Blue Mountains 62.88 53 *e*P **P 02 33 29.1 0.0**
comp=Z,75nm,1.3s
BMO LR LR
comp=Z,9µm,22.0s
MOD Modoc Plateau 62.88 57 *e*P **P 02 33 29.0 -0.3**
AKL Akola 62.90 273 *e*P **P 02 33 31.1 +1.6**
AKL AMB AMB 02 33 36.0
comp=Z,351nm,2.1s
YBMT Yellow Bay 62.90 49 *e*P **P 02 33 30.4 +1.1**
comp=Z,96nm,1.3s
SRSP Sriramsagar 63.10 271 *e*P **P 02 33 29.0 -1.7**
SRSP IAmb IAmb 02 33 33.6
comp=Z,565nm,1.1s
SRSP *e*S **S 02 42 00.1 +1.5**
SRSP *e*SS **SS 02 46 04.1 -0.7**
SRSP IVMs_BB IVMs_BB 03 04 27.3
comp=Z,3µm,20.2s
SWMT Swartz Lake 63.12 49 *e*P **P 02 33 31.3 +0.6**
comp=Z,121nm,1.2s
XMAS Kiritimati 63.45 116 PFAKE 02 33 40.0 +7.0
XMAS LR LR
comp=Z,21µm,22.0s
SLMT Seeley Lake 63.56 49 *e*P **P 02 33 33.8 +0.2**
comp=Z,102nm,0.7s
WVOR Wild Horse Val 63.56 56 *e*P **P 02 33 33.4 -0.3**
WVOR pmax pmax
comp=Z,105nm,1.2s
WVOR MLR MLR
comp=Z,7µm,20.0s
WVOR Wild Horse Val 63.56 56 *e*P **P 02 33 33.4 -0.3**
comp=Z,105nm,1.2s
WVOR LR LR
comp=Z,7µm,20.0s
MSO Missoula 63.56 50 P **P 02 33 34.1 +0.5**
baz=63,SNR=30
MSO Missoula 63.56 50 *e*P **P 02 33 34.4 +0.7**
comp=Z,137nm,1.1s
MNAI Manna 63.58 233 *e*P **P 02 33 33.0 -0.9**
comp=Z,974nm,1.4s
CISI Cisompet, Garu 63.58 226 *e*P **P 02 33 32.1 -1.8**
comp=Z,219nm,1.4s
JMIC Jan Mayen 63.67 352 *e*P **P 02 33 32.9 -0.9**
JMIC *e* 02 46 07.5
JMIC IAMs_20 IAMs_20 03 00 16.7
comp=Z,5µm,20.2s
JMIC IVMs_BB IVMs_BB 03 00 20.0
comp=Z,2µm,20.4s
CHMT Chamberlain Mo 63.89 49 *e*P **P 02 33 35.9 0.0**
comp=Z,18nm,0.8s
HYB Hyderabad 63.94 269 *i*P **P 02 33 36.0 -0.3**
comp=Z,220nm,1.0s
HYB *e*S **S 02 42 09.0 -0.2**
HYB Hyderabad 63.94 269 *e*P **P 02 33 35.6 -0.7**
HYBB Hyderabad (bro 63.94 269 *e*P **P 02 33 35.2 -1.1**
HYBB IAmb IAmb 02 33 39.3
comp=Z,334nm,1.0s
HYBB *e*PP **PP 02 35 57.7 +0.5**
HYBB *e*S **S 02 42 07.0 -2.2**
HYBB *e*SS **SS 02 46 18.3 +0.3**
HYBB IVMs_BB IVMs_BB 03 03 56.0
comp=Z,3µm,16.3s
ADKI Addanki 63.97 267 *e*P **P 02 33 35.6 -0.8**
ADKI IAmb IAmb 02 33 40.2
comp=Z,347nm,1.0s
ADKI *e*PP **PP 02 35 58.2 +0.8**
NJS Nagarjunasagar 63.97 268 *e*P **P 02 33 35.7 -0.8**
NJS IAmb IAmb 02 33 39.5
comp=Z,337nm,0.9s
NJS *e*PP **PP 02 35 57.1 -0.3**
NJS *e*S **S 02 42 08.5 -0.9**
NJS *e*SKSac **ScS 02 43 27.0 +0.2**
NJS *e*SS **SS 02 46 20.5 +2.0**
NJS IVMs_BB IVMs_BB 03 07 22.9
comp=Z,3µm,19.4s
KONS Konsvik 64.24 342 *e*P **P 02 33 38.8 +1.3**
CTAO Charters Tower 64.31 183 *e*P **P 02 33 37.3 -1.2**
CTAO pmax pmax
comp=Z,41nm,1.1s
CTAO MLR MLR
comp=Z,3µm,19.0s
CTAO Charters Tower 64.31 183 *e*P **P 02 33 37.3 -1.2**
comp=Z,41nm,1.1s
CTAO LR LR
comp=Z,3µm,19.0s
FLOS Flostrand 64.32 342 *e*P **P 02 33 38.7 +0.7**
STOK Stokkvaagen 64.40 342 *e*P **P 02 33 39.9 +1.3**

FFC Flin Flon 64.42 37 P **P 02 33 38.0 -0.9**
comp=Z,1µm,0.9s,SNR=96
FFC Flin Flon 64.42 37 *e*P **P 02 33 38.8 -0.1**
FFC pmax pmax
comp=Z,187nm,0.9s
FFC MLR MLR
comp=Z,6µm,19.0s
FFC Flin Flon 64.42 37 *e*P **P 02 33 38.8 -0.1**
FFC Flin Flon 64.42 37 *e*P **P 02 33 38.8 -0.1**
comp=Z,187nm,0.9s
FFC LR LR
comp=Z,6µm,19.0s
MOS Moscow 64.52 324 *e*P **P 02 33 39.2 -0.4**
MOS *e* 02 34 15.8
MOS *e* 02 36 01.5
MOS *e*S **S 02 42 15.5 +0.2**
MOS *e*PS **PnS 02 42 46.0 +8.5**
MOS *i* 02 43 29.5
MOS *e*SS **SS 02 46 32.0 +6.8**
MOS pmax pmax
comp=Z,2µm,4.8s
MOS pmax pmax
comp=N,1µm,4.2s
MOS pmax pmax
comp=E,1µm,4.3s
MOS pmax pmax
comp=Z,116nm,1.0s
MOS MLR MLR
comp=Z,21µm,16.0s
MOS MLR MLR
comp=N,16µm,15.0s
MOS MLR MLR
comp=E,14µm,15.0s
PUL Pulkovo 64.53 330 ⇓*i*P **P 02 33 40.0 +0.5**
PUL pmax pmax
comp=Z,370nm,1.0s
PUL MLR MLR
comp=Z,11µm,17.0s
PUL Pulkovo 64.53 330 *e*P **P 02 33 40.0 +0.5**
SRLM Srisailam 64.57 268 *e*P **P 02 33 38.7 -1.7**
SRLM IAmb IAmb 02 33 43.3
comp=Z,516nm,1.1s
SRLM *e*PP **PP 02 36 02.1 -0.6**
SRLM *e*S **S 02 42 18.9 +2.0**
SRLM *e*SS **SS 02 46 30.7 +2.9**
SRLM IVMs_BB IVMs_BB 03 07 39.2
comp=Z,3µm,16.9s
MFID Camas Ranch 64.60 53 *e*P **P 02 33 41.0 +0.6**
comp=Z,56nm,1.2s
FINES FINESS Array B 64.73 333 P **P 02 33 39.8 -1.0**
comp=Z,202nm,0.7s,baz=53,slow=7.4,SNR=127
FINES LR LR 03 04 03.5
comp=Z,14µm,20.8s,baz=39,slow=38
HRY Holter Researc 64.78 49 *e*P **P 02 33 42.4 +0.8**
comp=Z,58nm,0.8s
FCC Fort Churchill 64.80 31 *e*P **P 02 33 40.7 -0.6**
FCC Fort Churchill 64.80 31 *e*P **P 02 33 40.7 -0.6**
KLRI Killari 64.91 271 *e*P **P 02 33 41.5 -1.2**
KLRI IAmb IAmb 02 33 45.2
comp=Z,515nm,1.2s
KLRI *e*PP **PP 02 36 03.5 -2.2**
KLRI *e*S **S 02 42 25.1 +3.9**
KLRI *e*SKSac **ScS 02 43 34.2 0.0**
KLRI *e*SS **SS 02 46 32.2 -1.0**
KLRI IVMs_BB IVMs_BB 03 05 19.6
comp=Z,5µm,18.2s
RCLA Racherla 64.95 267 *e*P **P 02 33 41.6 -1.4**
RCLA IAmb IAmb 02 33 46.1
comp=Z,570nm,1.4s
RCLA *e*S **S 02 42 22.6 +1.0**
RCLA *e*SKSac **SKSac 02 43 34.1 -0.2**
RCLA *e*SS **SS 02 46 35.3 +1.6**
RCLA IVMs_BB IVMs_BB 03 06 38.4
comp=Z,4µm,15.2s
A19A Klindworth Far 64.99 45 P **P 02 33 43.5 +0.6**
baz=65,SNR=25
LRM Limekiln Ridge 65.00 50 *e*P **P 02 33 43.1 -0.1**
comp=Z,612nm,0.8s
EGMT Eagleton 65.05 47 P **P 02 33 43.6 +0.3**
baz=65
EGMT Eagleton 65.05 47 *e*P **P 02 33 41.9 -1.4**
comp=Z,212nm,1.2s
EGMT LR LR
comp=Z,8µm,20.0s
CMB Columbia Colle 65.17 60 *e*P **P 02 33 44.8 +0.6**
CMB pmax pmax
comp=Z,39nm,0.8s
CMB Columbia Colle 65.17 60 *e*P **P 02 33 44.8 +0.6**
comp=Z,39nm,0.8s
B19A Brinkman Farms 65.19 46 P **P 02 33 44.9 +0.7**
baz=65,SNR=20
DLMT Dillon 65.21 50 *e*P **P 02 33 45.4 +1.0**
HLID Hailey 65.32 53 P **P 02 33 45.5 +0.3**
baz=65,SNR=43
HLID Hailey 65.32 53 *e*P **P 02 33 45.2 0.0**
comp=Z,54nm,1.1s
HLID LR LR
comp=Z,7µm,21.0s
OBN Obninsk 65.39 324 *c i*P **P 02 33 44.3 -0.9**
OBN *i* 02 33 57.6
OBN *i* 02 34 18.9
OBN pmax pmax
comp=Z,201nm,1.2s
OBN MLR MLR
comp=Z,26µm,17.0s
OBN Obninsk 65.39 324 P **P 02 33 45.4 +0.2**
comp=Z,895nm,0.9s,SNR=9.1
OBN Obninsk 65.39 324 *e*P **P 02 33 44.9 -0.3**
OBN Obninsk 65.39 324 *e*P **P 02 33 44.7 -0.4**
comp=Z,113nm,0.8s
OBN LR LR
comp=Z,16µm,21.0s
MCMT McKenzie Canyo 65.40 51 *e*P **P 02 33 46.5 +0.7**
A20A Cobblestone Ra 65.44 45 P **P 02 33 46.5 +0.7**
baz=65,SNR=32
WRAB Tennant Creek 65.45 195 P **P 02 33 44.3 -1.6**
comp=Z,790nm,0.9s,SNR=38
WRAB Tennant Creek 65.45 195 *c i*P **P 02 33 45.1 -0.8**
WRAB pmax pmax
comp=Z,280nm,0.8s
WRAB MLR MLR
comp=Z,11µm,19.0s
WRAB Tennant Creek 65.45 195 *e*P **P 02 33 43.4 -2.5**
comp=Z,132nm,0.9s
WRAB LR LR
comp=Z,5µm,20.0s
WRA Warramunga Arr 65.46 195 P **P 02 33 44.1 -1.9**
comp=Z,96nm,0.8s,baz=15,slow=6.8,SNR=71
WRA PKP2bc 03 02 28.3
comp=Z,3.9nm,1.0s,baz=195,slow=2.9,SNR=9.3
WRA LR LR 03 02 53.5
comp=Z,3µm,19.0s,baz=355,slow=37
WAKR Walker 65.47 60 *e*P **P 02 33 47.1 +0.8**
BOZ Bozeman (W) 65.56 49 *e*P **P 02 33 46.8 +0.1**
BOZ pmax pmax
comp=Z,283nm,1.5s
BOZ Bozeman (W) 65.56 49 *e*P **P 02 33 46.8 +0.1**
BOZ Bozeman (W) 65.56 49 P **P 02 33 47.2 +0.5**
baz=65,SNR=100
BOZ Bozeman (W) 65.56 49 *e*P **P 02 33 46.8 +0.1**
comp=Z,283nm,1.5s
SKHT Srikalahasti 65.56 265 *e*P **P 02 33 46.7 -0.2**
SKHT IAmb IAmb 02 33 50.7
comp=Z,330nm,1.0s
SKHT *e*PP **PP 02 36 11.0 -0.4**
SKHT *e*S **S 02 42 31.1 +2.0**
SKHT *e*SS **SS 02 46 44.0 +0.7**
SKHT IVMs_BB IVMs_BB 03 07 25.2
comp=Z,3µm,22.5s
BMN Battle Mountai 65.62 57 *e*P **P 02 33 47.1 -0.1**
BMN pmax pmax
comp=Z,59nm,0.7s
BMN Battle Mountai 65.62 57 *e*P **P 02 33 47.1 -0.1**
comp=Z,59nm,0.7s
MDRS Chennai 65.63 264 *e*P **P 02 33 44.5 -2.9**
ILULI Ilulissat 65.67 8 *i*P **P 02 33 47.5 +0.8**
comp=Z,150nm,1.0s
B20A Solberg Farm, 65.67 45 P **P 02 33 48.0 +0.7**
baz=66,SNR=27
VRHR Novokhopersk 65.84 319 *e*P **P 02 33 47.2 -1.0**
VRHR pmax pmax
comp=Z,90nm,0.8s
VRHR pmax pmax
comp=N,60nm,1.5s
VRHR pmax pmax
comp=E,50nm,1.1s

A21A	**Bergtoll Ranch**	**65.87**	**44**	P		**P**		**02 33 49.4**	**+0.9**
	baz=66,SNR=11								
LPSR	**Galich'ya Gora**	**66.08**	**321**	*e*P		**P**		**02 33 49.1**	**-0.6**
LPSR				*e*S		**S**		**02 42 32.4**	**-2.0**
LPSR				pmax		pmax			
	comp=Z,40nm,0.8s								
LPSR				smax		smax			
	comp=N,1µm,7.6s								
LPSR				smax		smax			
	comp=Z,280nm,6.4s								
LPSR				smax		smax			
	comp=E,420nm,4.5s								
LPSR				MLR		MLR			
	comp=N,10µm,15.0s								
LPSR				MLR		MLR			
	comp=E,14µm,15.0s								
LPSR				MLR		MLR			
	comp=Z,16µm,15.0s								
C20A	**Veseth Ranch,**	**66.15**	**46**	P		**P**		**02 33 50.5**	**+0.1**
	baz=66								
NSS	**Namsos**	**66.16**	**341**	*e*P		**P**		**02 33 50.0**	**0.0**
NSS				IAMs_20		IAMs_20		03 06 37.7	
	comp=Z,24µm,21.0s								
NSS				IVMs_BB		IVMs_BB		03 06 41.5	
	comp=Z,7µm,22.2s								
QLMT	**Earthquake Lak**	**66.18**	**50**	*e*P		**P**		**02 33 51.9**	**+1.1**
	comp=Z,19nm,1.2s								
B21A	**Ellsworth Farm**	**66.19**	**45**	P		**P**		**02 33 51.3**	**+0.8**
	baz=66,SNR=11								
NVAR	**Mina Array Bea**	**66.21**	**59**	P		**P**		**02 33 50.4**	**-0.7**
	comp=Z,48nm,0.6s,baz=294,slow=7.3,SNR=72								
NVAR				PKP2ab				03 02 27.8	
	comp=Z,0.6nm,0.6s,baz=128,slow=4.7,SNR=4.8								
A22A	**Carney Farms,**	**66.37**	**44**	P		**P**		**02 33 52.2**	**+0.5**
	baz=66,SNR=83								
MLAC	**Mammoth, Mammo**	**66.38**	**60**	P		**P**		**02 33 52.5**	**+0.3**
	baz=66								
BHJ	**Bhuj**	**66.50**	**280**	*e*P		**P**		**02 33 53.5**	**+0.7**
URV	**Uravakonda**	**66.50**	**268**	*e*P		**P**		**02 33 51.4**	**-1.6**
URV				IAmb		IAmb		02 33 55.8	
	comp=Z,333nm,1.3s								
URV				*e*S		**S**		**02 42 40.8**	**+0.1**
YMR	**Madison River**	**66.54**	**50**	*e*P		**P**		**02 33 54.4**	**+1.3**
	comp=Z,205nm,1.4s								
C21A	**Desert Coulee**	**66.54**	**45**	P		**P**		**02 33 53.6**	**+0.7**
	baz=66,SNR=12								
VOR	**Voronezh**	**66.55**	**320**	*e*P		**P**		**02 33 51.0**	**-1.7**
VOR				pmax		pmax			
	comp=Z,560nm,1.4s								
POO	**Poona**	**66.57**	**273**	*e*P		**P**		**02 33 52.2**	**-1.2**
POO				AMB		AMB		02 33 57.6	
	comp=Z,372nm,5.2s								
ELK	**Elko**	**66.61**	**55**	P		**P**		**02 33 53.4**	**-0.2**
	comp=Z,12nm,0.9s,baz=303,slow=6.4,SNR=31								
ELK	**Elko**	**66.61**	**55**	P		**P**		**02 33 53.4**	**-0.2**
ELK				pmax		pmax			
	comp=Z,12nm,0.9s								
ELK	**Elko**	**66.61**	**55**	*e*P		**P**		**02 33 53.9**	**+0.3**
	comp=Z,77nm,1.6s								
YNR	**Norris Junctio**	**66.67**	**50**	*e*P		P		02 33 57.4	+3.4
	comp=Z,97nm,1.2s								
VSU	**Vasula**	**66.75**	**331⇑**	*i*P		**P**		**02 33 52.7**	**-1.1**
VSU				pmax		pmax			
	comp=Z,700nm,1.2s								
VSU				MLR		MLR			
	comp=Z,23µm,18.0s								
YFT	**Old Faithful**	**66.75**	**50**	*e*P		**P**		**02 33 56.0**	**+1.5**
	comp=Z,100nm,1.0s								
B22A	**Reddig Ranch S**	**66.79**	**44**	P		**P**		**02 33 54.3**	**-0.1**
	baz=67								
A23A	**Redstone**	**66.91**	**43**	P		**P**		**02 33 55.0**	**-0.1**
	baz=67								
VSR	**Storozhevoye**	**66.91**	**320**	*e*P		**P**		**02 33 54.2**	**-0.8**
VSR				*e*S		**S**		**02 42 39.2**	**-5.3**
VSR				pmax		pmax			
	comp=Z,70nm,0.9s								
VSR				pmax		pmax			
	comp=N,50nm,1.0s								
VSR				pmax		pmax			
	comp=E,30nm,1.0s								
VSR				smax		smax			
	comp=N,1µm,6.5s								
VSR				smax		smax			
	comp=Z,690nm,7.1s								
VSR				smax		smax			
	comp=E,210nm,2.9s								
VSR				MLR		MLR			
	comp=N,16µm,16.0s								
VSR				MLR		MLR			
	comp=E,13µm,16.0s								
VSR				MLR		MLR			
	comp=Z,27µm,16.0s								
LKWY	**Lake**	**66.92**	**50**	PFAKE				02 34 10.0	+14
LKWY				LR		LR			
	comp=Z,7µm,22.0s								
H17A	**Grant Village**	**66.93**	**50**	P		**P**		**02 33 56.9**	**+1.3**
	baz=67,SNR=14								
H17A	**Grant Village**	**66.93**	**50**	*e*P		**P**		**02 33 56.9**	**+1.3**
	comp=Z,192nm,1.2s								
RCTC	**Rector, Farmer**	**66.96**	**61**	P		**P**		**02 33 55.3**	**-0.3**
	baz=67								
VORD	**Divnogorie**	**67.02**	**320**	*e*P		**P**		**02 33 54.4**	**-1.3**
VORD				*e*S		**S**		**02 42 41.8**	**-4.1**
VORD				pmax		pmax			
	comp=Z,50nm,0.9s								
VORD				pmax		pmax			
	comp=N,10.0nm,1.4s								
VORD				pmax		pmax			
	comp=E,10.0nm,0.8s								
VORD				smax		smax			
	comp=N,2µm,8.1s								
VORD				smax		smax			
	comp=Z,420nm,7.6s								
VORD				smax		smax			
	comp=E,1µm,9.1s								
VORD				MLR		MLR			
	comp=Z,23µm,16.0s								
VORD				MLR		MLR			
	comp=N,17µm,15.0s								
VORD				MLR		MLR			
	comp=E,25µm,19.0s								
IMW	**Indian Meadow**	**67.05**	**51**	*e*P		**P**		**02 33 58.1**	**+1.7**
	comp=E,65nm,1.0s								
FLWY	**Flagg Ranch**	**67.06**	**50**	*e*P		**P**		**02 33 58.2**	**+1.7**
	comp=E,187nm,1.3s								
D21A	**La Casta Ranch**	**67.10**	**46**	P		**P**		**02 33 57.0**	**+0.6**
	baz=67,SNR=6.3								
TPH	**Tonopah**	**67.10**	**59**	*e*P		**P**		**02 33 56.4**	**-0.3**
TPH				pmax		pmax			
	comp=Z,61nm,0.7s								
TPH	**Tonopah**	**67.10**	**59**	*e*P		**P**		**02 33 56.4**	**-0.3**
	comp=Z,61nm,0.7s								
SMMC	**Simmler**	**67.11**	**63**	P		**P**		**02 33 57.2**	**+0.6**
	baz=67								
TIN	**Tinemaha, Big**	**67.12**	**60**	P		**P**		**02 33 57.1**	**+0.4**
	baz=67								
FXWY	**Fox Creek**	**67.17**	**51**	*e*P		**P**		**02 33 57.5**	**+0.4**
RLMT	**Red Lodge**	**67.17**	**49**	P		**P**		**02 33 57.4**	**+0.3**
	baz=67,SNR=22								
RLMT	**Red Lodge**	**67.17**	**49**	*e*P		**P**		**02 33 58.1**	**+1.0**
	comp=Z,165nm,1.4s								
RLMT				LR		LR			
	comp=Z,6µm,20.0s								
XMIS	**Christmas Isla**	**67.18**	**227**	*e*P		**P**		**02 33 55.5**	**-1.7**
XMIS				*e*pP		**pP**		**02 34 10.9**	**+1.0**
B23A	**Brockton**	**67.18**	**44**	P		**P**		**02 33 57.4**	**+0.5**
	baz=67,SNR=29								
IDAH	**Dahanechah**	**67.18**	**294**	*e*P		**P**		**02 33 57.7**	**+0.3**
C22A	**Vida**	**67.21**	**45**	P		**P**		**02 33 57.5**	**+0.4**
	baz=67								
MOOW	**Moose Ponds**	**67.26**	**51**	*e*P		**P**		**02 33 58.0**	**+0.3**
	comp=Z,118nm,1.2s								
TPAW	**Teton Pass**	**67.31**	**51**	*e*P		**P**		**02 33 59.3**	**+1.3**
	comp=Z,219nm,1.2s								
F20A	**Billings**	**67.33**	**48**	P		**P**		**02 33 58.4**	**+0.5**
	baz=67,SNR=14								
VES	**Vestal, Richgr**	**67.35**	**62**	P		**P**		**02 33 57.5**	**-0.6**
	baz=67,SNR=7.1								
A24A	**Westby**	**67.36**	**43**	P		**P**		**02 33 58.2**	**+0.2**
	baz=67,SNR=18								
HVU	**Hansel Valley**	**67.38**	**53**	*e*P		**P**		**02 33 58.2**	**-0.2**
HVU				pmax		pmax			
	comp=Z,35nm,0.9s								
HVU	**Hansel Valley**	**67.38**	**53**	*e*P		**P**		**02 33 58.2**	**-0.2**
	comp=Z,34nm,0.9s								
E21A	**Keefer Ranch,**	**67.40**	**46**	P		**P**		**02 33 59.1**	**+0.7**
	baz=67,SNR=6.2								
LOHW	**Long Hollow**	**67.42**	**51**	*e*P		**P**		**02 33 59.5**	**+0.8**
	comp=Z,173nm,1.4s								
SNOW	**Snow King Moun**	**67.44**	**51**	*e*P		**P**		**02 33 58.6**	**-0.3**
	comp=Z,98nm,1.1s								
REDW	**Red Top Meadow**	**67.45**	**51**	*e*P		**P**		**02 33 59.4**	**+0.5**
	comp=Z,143nm,1.1s								
D22A	**Cohagen**	**67.46**	**46**	P		**P**		**02 33 59.5**	**+0.9**
	baz=67,SNR=11								
MSVF	**Nonsavu**	**67.46**	**150**	*e*P		**P**		**02 34 00.7**	**+1.8**
MSVF				pmax		pmax			
	comp=Z,41nm,1.1s								
MSVF				MLR		MLR			
	comp=Z,7µm,19.0s								
MSVF	**Nonsavu**	**67.46**	**150**	*e*P		**P**		**02 34 00.7**	**+1.8**
	comp=Z,41nm,1.1s								
MSVF				LR		LR			
	comp=Z,7µm,19.0s								
PKM	**Mcpherson Peak**	**67.48**	**63**	P		**P**		**02 33 59.7**	**+0.5**
	baz=67								
C23A	**Lambert**	**67.53**	**45**	P		**P**		**02 33 59.6**	**+0.5**
	baz=67,SNR=16								
DGMT	**Dagmar**	**67.57**	**43**	P		**P**		**02 33 59.8**	**+0.5**
	baz=67,SNR=15								
DGMT	**Dagmar**	**67.57**	**43**	*e*P		**P**		**02 33 59.3**	**-0.1**
	comp=Z,149nm,0.6s								
DGMT				LR		LR			
	comp=Z,10µm,21.0s								
CWC	**Cottonwood Cre**	**67.60**	**61**	P		**P**		**02 33 59.9**	**+0.1**
	baz=67								
H19A	**Powell**	**67.62**	**49**	P		**P**		**02 34 00.6**	**+0.8**
	baz=67,SNR=7.3								
TBLU	**Trondheim**	**67.64**	**341**	*e*P		**P**		**02 33 57.4**	**-2.1**
TBLU				*e*S		**S**		**02 42 50.1**	**-2.9**
G20A	**Bridger**	**67.67**	**48**	P		**P**		**02 34 00.3**	**+0.2**
	baz=68,SNR=13								
GRAC	**Grapevine Rang**	**67.69**	**60**	P		**P**		**02 34 01.0**	**+0.7**
	baz=68,SNR=26								
AHID	**Auburn Hatcher**	**67.69**	**52**	*e*P		**P**		**02 34 00.1**	**-0.3**
	comp=Z,43nm,0.9s								
AHID				LR		LR			
	comp=Z,10µm,22.0s								
BGU	**Big Grassy Mou**	**67.78**	**54**	*e*P		**P**		**02 34 00.9**	**0.0**
	comp=Z,32nm,1.1s								
A25A	**Svangstu Ranch**	**67.78**	**43**	P		**P**		**02 34 01.0**	**+0.4**
	baz=68,SNR=12								
ITEG	**Tejag**	**67.81**	**295**	*e*P		**P**		**02 34 01.3**	**-0.1**
SBC	**Santa Barbara**	**67.84**	**63**	P		**P**		**02 34 00.9**	**-0.3**
	baz=68								
ISA	**Isabella, Lake**	**67.85**	**61**	*e*P		**P**		**02 34 01.0**	**-0.4**
ISA				pmax		pmax			
	comp=Z,101nm,1.5s								
ISA	**Isabella, Lake**	**67.85**	**61**	P		**P**		**02 34 00.8**	**-0.6**
	baz=68,SNR=5.5								
ISA	**Isabella, Lake**	**67.85**	**61**	*e*P		**P**		**02 34 01.0**	**-0.4**
	comp=Z,101nm,1.5s								
F21A	**Absaloka Mine,**	**67.85**	**47**	P		**P**		**02 34 01.3**	**+0.1**
	baz=68								
SFJD	**Kangerlussuaq**	**67.86**	**8**	*i* P		**P**		**02 34 01.6**	**+0.8**
	comp=Z,91nm,0.8s								
SFJD	**Kangerlussuaq**	**67.86**	**8**	*e*P		**P**		**02 34 01.3**	**+0.5**
SFJD				pmax		pmax			
	comp=Z,98nm,0.8s								
SFJD				MLR		MLR			
	comp=Z,9µm,20.0s								
SFJD	**Kangerlussuaq**	**67.86**	**8**	*e*P		**P**		**02 34 01.2**	**+0.5**
	comp=Z,98nm,0.8s								
SFJD				LR		LR			
	comp=Z,9µm,20.0s								
R11A	**Troy Canyon, C**	**67.92**	**58**	P		**P**		**02 34 02.0**	**+0.1**
	baz=68,SNR=90								
R11A	**Troy Canyon, C**	**67.92**	**58**	*e*P		**P**		**02 34 01.4**	**-0.5**
	comp=Z,46nm,0.9s								
IKOO	**Kooshah**	**67.95**	**294**	*e*P		**P**		**02 34 02.2**	**0.0**
ARVC	**Arvin**	**67.96**	**62**	P		**P**		**02 34 01.8**	**-0.2**
	baz=68								
DAC	**Darwin (Calif)**	**68.01**	**60**	*e*P		**P**		**02 33 59.7**	**-2.8**
DAC				pmax		pmax			
	comp=Z,24nm,0.8s								
DAC	**Darwin (Calif)**	**68.01**	**60**	*e*P		**P**		**02 33 59.7**	**-2.8**
	comp=Z,24nm,0.8s								
I19A	**Meeteetse**	**68.03**	**49**	P		**P**		**02 34 03.4**	**+0.8**
	baz=68,SNR=16								
E22A	**Miles City**	**68.05**	**46**	P		**P**		**02 34 02.8**	**+0.4**
	baz=68								
C24A	**Savage**	**68.09**	**44**	P		**P**		**02 34 03.3**	**+0.6**
	baz=68,SNR=12								
MAK	**Makhachkala**	**68.17**	**309**	*e*P		**P**		**02 34 03.9**	**+0.8**
MAK				*e*				02 36 34.5	
MAK				*e*PPP		PPP		02 38 13.7	
MAK				*e*S		**S**		**02 43 01.6**	**+1.7**
MAK				*e*SS		**SS**		**02 47 21.2**	**-1.1**
MAK				pmax		pmax			
	comp=Z,517nm,1.4s								
MAK				MLR		MLR			
	comp=Z,17µm,17.0s								
BSC	**Santa Cruz Isl**	**68.17**	**63**	P		**P**		**02 34 03.1**	**-0.2**
	baz=68								
HWUT	**Hardware Ranch**	**68.18**	**53**	*e*P		**P**		**02 34 04.0**	**+0.5**
	comp=Z,60nm,1.0s								
HWUT				LR		LR			
	comp=Z,6µm,22.0s								
DZM	**Mont Dzumac**	**68.19**	**162**	*e*P		**P**		**02 34 06.2**	**+2.8**
	comp=Z,229nm,1.6s								
DZM				*e*S		**S**		**02 43 02.3**	**+1.8**
	comp=Z,13µm,28.4s								
DZM				*e*SS		**SS**		**02 47 25.1**	**+0.6**
	comp=Z,4µm,27.3s								
DZM				*e*LR		LR		02 54 41.4	
	comp=Z,12µm,22.3s								
DZM	**Mont Dzumac**	**68.19**	**162**	*e*P		**P**		**02 34 03.1**	**-0.3**
	comp=Z,223nm,1.6s								
G21A	**Lodge Grass**	**68.20**	**48**	P		**P**		**02 34 03.0**	**-0.4**
	baz=68								
MPMC	**Manual Prospec**	**68.21**	**61**	P		**P**		**02 34 03.8**	**0.0**
	baz=68,SNR=30								
B25A	**Knox Farm, Ray**	**68.21**	**43**	P		**P**		**02 34 04.1**	**+0.7**
	baz=68								
H20A	**Greybull**	**68.27**	**49**	P		**P**		**02 34 04.5**	**+0.6**
	baz=68,SNR=5.7								
AFI	**Afiamalu**	**68.31**	**138**	PFAKE				02 34 10.0	+5.7
AFI				LR		LR			
	comp=Z,8µm,21.0s								
A26A	**Wade Farm, Ken**	**68.33**	**42**	P		**P**		**02 34 03.2**	**-0.9**
	baz=68								
F22A	**Rosebud**	**68.33**	**47**	P		**P**		**02 34 04.6**	**+0.4**
	baz=68								
E23A	**Ismay**	**68.34**	**46**	P		**P**		**02 34 04.8**	**+0.6**
	baz=68,SNR=34								
FURC	**Furnace Creek,**	**68.34**	**60**	P		**P**		**02 34 04.6**	**+0.3**
	baz=68,SNR=80								
OSI	**Osito Audit: C**	**68.36**	**62**	P		**P**		**02 34 04.4**	**-0.1**
	baz=68								
DUG	**Dugway, Tooele**	**68.38**	**55**	*e*P		**P**		**02 34 05.2**	**+0.5**
DUG				pmax		pmax			
	comp=Z,74nm,1.0s								
DUG				MLR		MLR			
	comp=Z,6µm,20.0s								
DUG	**Dugway, Tooele**	**68.38**	**55**	*e*P		**P**		**02 34 05.2**	**+0.5**
DUG	**Dugway, Tooele**	**68.38**	**55**	P		**P**		**02 34 05.3**	**+0.6**
	baz=68,SNR=74								
DUG	**Dugway, Tooele**	**68.38**	**55**	*e*P		**P**		**02 34 05.2**	**+0.5**
	comp=Z,74nm,1.0s								
DUG				LR		LR			
	comp=Z,6µm,20.0s								
TPNV	**Topopah Spring**	**68.41**	**59**	P		**P**		**02 34 05.5**	**+0.5**
	baz=68,SNR=82								
D24A	**Glendive**	**68.42**	**45**	P		**P**		**02 34 05.3**	**+0.6**
	baz=68,SNR=40								
LRMC	**Laurel Mtn Rad**	**68.46**	**61**	P		**P**		**02 34 05.3**	**0.0**
	baz=68,SNR=5.0								
BLG	**Laguna Peak, P**	**68.46**	**63**	P		**P**		**02 34 05.1**	**-0.1**
	baz=68								
J19A	**Cr/wheart**	**68.50**	**50**	P		**P**		**02 34 05.9**	**+0.4**
	baz=68,SNR=24								
C25A	**Freed Ranch, W**	**68.55**	**44**	P		**P**		**02 34 05.6**	**+0.1**
	baz=68								
BW06	**Boulder Array**	**68.55**	**51**	*e*P		**P**		**02 34 05.1**	**-0.8**
	comp=Z,90nm,1.1s								
BW06				LR		LR			
	comp=Z,7µm,22.0s								
PDAR	**Pinedale Array**	**68.55**	**51**	P		**P**		**02 34 05.2**	**-0.7**
	comp=Z,28nm,0.7s,baz=335,slow=2.3,SNR=61								
PDAR				PKP2bc				03 02 14.2	
	comp=Z,0.4nm,0.5s,baz=73,slow=2.0,SNR=5.2								
PDAR				LR		LR		03 02 44.6	
	comp=Z,4µm,21.5s,baz=332,slow=35								
I20A	**Worland**	**68.56**	**49**	P		**P**		**02 34 06.4**	**+0.7**
	baz=68,SNR=38								
TCUT	**Toone Canyon**	**68.59**	**53**	*e*P		**P**		**02 34 06.5**	**+0.3**
	comp=Z,15nm,0.9s								
B26A	**Jensen Ranch,**	**68.59**	**43**	P		**P**		**02 34 05.9**	**+0.1**
	baz=68								
GOA	**Goa**	**68.60**	**271**	*e*P		**P**		**02 34 06.2**	**+0.1**
GOA				AMB		AMB		02 34 10.0	
	comp=Z,262nm,1.0s								
EDW2	**Edwards Air Fo**	**68.65**	**62**	P		**P**		**02 34 06.6**	**+0.2**
	baz=68,SNR=26								
A27A	**Ledoux Ranch,**	**68.67**	**42**	P		**P**		**02 34 07.1**	**+0.9**
	baz=68,SNR=21								
CTU	**Camp Tracy**	**68.67**	**54**	*e*P		**P**		**02 34 06.7**	**+0.2**
G22A	**Birney**	**68.69**	**47**	P		**P**		**02 34 06.6**	**+0.1**
	baz=68,SNR=15								
E24A	**Baker**	**68.81**	**45**	P		**P**		**02 34 07.5**	**+0.3**
	baz=69,SNR=9.1								
F23A	**Volborg**	**68.81**	**46**	P		**P**		**02 34 07.7**	**+0.5**
	baz=69,SNR=22								
DECC	**Green Verdugo**	**68.84**	**63**	P		**P**		**02 34 07.6**	**+0.1**
	baz=69								
MOL	**Molde**	**68.86**	**342**	*i*		**P**		**02 34 08.0**	**+1.0**
MOL				*e*S		**S**		**02 43 06.6**	**-0.8**
D25A	**Fairfield**	**68.90**	**44**	P		**P**		**02 34 08.1**	**+0.3**
	baz=69,SNR=9.9								
JLU	**Jordanelle**	**68.90**	**54**	*e*P		**P**		**02 34 09.3**	**+1.2**
	comp=Z,45nm,1.1s								
NLU	**North Lily Min**	**68.97**	**54**	*e*P		**P**		**02 34 09.2**	**+0.8**
	comp=Z,36nm,0.9s								
J20A	**Shoshoni**	**68.97**	**50**	P		**P**		**02 34 08.8**	**+0.4**
	baz=69,SNR=20								
IZAR	**Zarasai**	**68.98**	**329**	*e*P		**P**		**02 34 07.8**	**-0.2**
IZAR				IAmb		IAmb		02 34 12.2	
	comp=Z,86nm,1.1s								
PASC	**Pasadena Art C**	**68.98**	**62**	*e*P		**P**		**02 34 09.0**	**+0.7**
	comp=Z,147nm,1.5s								
C26A	**Wahner Farm, P**	**69.04**	**43**	P		**P**		**02 34 08.7**	**+0.1**
	baz=69								
B27A	**Peterej Farms,**	**69.04**	**42**	P		**P**		**02 34 08.9**	**+0.4**
	baz=69								
SHOC	**Shoshone, Teco**	**69.06**	**60**	P		**P**		**02 34 09.1**	**+0.3**
	baz=69,SNR=15								
H22A	**Clearmont**	**69.08**	**48**	P		**P**		**02 34 09.2**	**+0.3**
	baz=69								
I21A	**Big Trails, Te**	**69.10**	**49**	P		**P**		**02 34 09.3**	**+0.1**
	baz=69,SNR=78								
GSC	**Goldstone, Bar**	**69.12**	**61**	*e*P		**P**		**02 34 09.5**	**+0.1**
GSC				pmax		pmax			
	comp=Z,68nm,1.2s								
GSC	**Goldstone, Bar**	**69.12**	**61**	P		**P**		**02 34 09.4**	**0.0**
	baz=69,SNR=20								
GSC	**Goldstone, Bar**	**69.12**	**61**	*e*P		**P**		**02 34 09.5**	**+0.1**
	comp=Z,68nm,1.2s								
ISAL	**Salakas**	**69.16**	**329**	*e*P		**P**		**02 34 08.9**	**-0.2**
ISAL				IAmb		IAmb		02 34 13.6	
	comp=Z,140nm,0.9s								
A28A	**Rude Farm, Bot**	**69.16**	**41**	P		**P**		**02 34 09.1**	**-0.1**
	baz=69								
AS31	**Alice Springs**	**69.17**	**195**	*e*P		**P**		**02 34 08.2**	**-1.3**
G23A	**Biddle**	**69.17**	**47**	P		**P**		**02 34 09.6**	**+0.1**
	baz=69,SNR=18								
ASAR	**Alice Springs**	**69.17**	**195**	P		**P**		**02 34 08.0**	**-1.5**
	comp=Z,70nm,0.8s,baz=11,slow=5.6,SNR=81								
ASAR				PKP2bc				03 02 17.4	
	comp=Z,4.5nm,0.9s,baz=177,slow=2.9,SNR=11								
ASAR				LR		LR		03 04 57.6	
	comp=Z,2µm,18.7s,baz=7.0,slow=36								
ASAR	**Alice Springs**	**69.17**	**195**	P		**P**		**02 34 08.0**	**-1.5**
GOF	**Gofitskoye**	**69.18**	**313⇑**	*i*P		**P**		**02 34 09.6**	**+0.2**
GOF				*e*S		**S**		**02 43 14.8**	**+3.0**
GOF				pmax		pmax			
	comp=Z,890nm,1.2s								
MPU	**Maple Canyon**	**69.18**	**54**	*e*P		**P**		**02 34 10.1**	**+0.3**
	comp=Z,223nm,1.1s								
FMP	**Fort Macarthur**	**69.21**	**63**	P		**P**		**02 34 10.3**	**+0.6**
	baz=69								
F24A	**Ekalaka**	**69.22**	**46**	P		**P**		**02 34 10.0**	**+0.2**
	baz=69,SNR=32								
BFSC	**Mount Baldy Ra**	**69.27**	**62**	P		**P**		**02 34 10.8**	**+0.5**
	baz=69,SNR=12								
RRX	**Edison Barstow**	**69.27**	**61**	P		**P**		**02 34 10.6**	**+0.4**
	baz=69								
IIGN	**Ignalina**	**69.30**	**329**	*e*P		**P**		**02 34 09.7**	**-0.2**
IIGN				IAmb		IAmb		02 34 14.3	
	comp=Z,113nm,0.7s								
E25A	**Miller Ranch,**	**69.30**	**45**	P		**P**		**02 34 10.7**	**+0.5**
	baz=69,SNR=30								
PALK	**Pallekele**	**69.31**	**260**	*e*P		**P**		**02 34 10.4**	**-0.3**
PALK				pmax		pmax			
	comp=Z,302nm,1.2s								
PALK	**Pallekele**	**69.31**	**260**	P		**P**		**02 34 11.4**	**+0.8**
	SNR=7.4								
PALK	**Pallekele**	**69.31**	**260⇑**	*i*P		**P**		**02 34 09.9**	**-0.7**
	SNR=27								
PALK	**Pallekele**	**69.31**	**260⇑**	*i*P		**P**		**02 34 09.9**	**-0.7**
	SNR=27								
PALK	**Pallekele**	**69.31**	**260**	*e*P		**P**		**02 34 10.3**	**-0.3**
	comp=Z,302nm,1.2s								
MICGM	**Minsk**	**69.32**	**328⇑**	*e*P		**P**		**02 34 10.0**	**-0.1**
MICGM	**Minsk**	**69.32**	**328**	*e*P		P		02 34 24.0	+14
MICGM	**Minsk**	**69.32**	**328**	*e*PP		PP		02 36 52.0	+9.0
MICGM	**Minsk**	**69.32**	**328**	*e*PPP		PPP		02 38 20.0	
NB2	**NORSAR Subarra**	**69.32**	**339**	P		**P**		**02 34 09.2**	**-0.8**
	comp=Z,165nm,0.8s,baz=30,slow=6.2								
NB2	**NORSAR Subarra**	**69.32**	**339**	P		**P**		**02 34 09.2**	**-0.8**
	baz=30,slow=6.2								
NOA	**NORSAR Array B**	**69.32**	**339**	P		**P**		**02 34 08.9**	**-1.1**
	comp=Z,40nm,0.6s,baz=301,slow=21,SNR=180								
NOA				PKP2bc				03 02 15.2	
	comp

baz=70,SNR=13
BBRC Big Bear Solar 69.72 62 P P 02 34 13.1 -0.1
baz=70
HEC Hector,Ludlow 69.73 61 P P 02 34 13.3 +0.3
baz=70,SNR=19
CCUT Cedar City 69.77 57 *e*P P 02 34 13.7 +0.2
comp=N,54nm,1.1s
E26A Carlson Angus 69.80 44 P P 02 34 13.2 0.0
baz=70
J22A Midwest 69.80 49 P P 02 34 13.5 0.0
baz=70,SNR=64
D27A Center 69.82 43 P P 02 34 13.5 +0.1
baz=70
MVU Marysvale 69.83 56 *e*P P 02 34 14.1 +0.2
comp=N,40nm,1.1s
MSU Marysvale 69.85 56 *e*P P 02 34 14.0 0.0
MSU pmax pmax
comp=Z,46nm,1.2s
MSU Marysvale 69.85 56 *e*P P 02 34 14.0 0.0
comp=Z,46nm,1.2s
IFIR Firoozkooh 69.86 300 *e*P P 02 34 14.6 +0.5
TMUT Trail Mountain 69.90 54 *e*P P 02 34 14.3 -0.1
comp=Z,65nm,1.1s
B29A Wagenman Farm, 69.91 41 P P 02 34 14.5 +0.6
baz=70,SNR=10
H24A Dirks Ranch, A 69.92 47 P P 02 34 13.7 -0.4
baz=70,SNR=32
C28A Hausauer Farms 69.94 42 P P 02 34 13.9 -0.2
baz=70
NCK Nalchik 69.94 312 *i* P P 02 34 14.6 +0.4
I23A Meade Ranch, G 69.97 48 P P 02 34 14.2 -0.3
baz=70
MURC Murrieta 69.97 62 P P 02 34 14.6 0.0
baz=70,SNR=15
A30A Hoffart Farm, 70.06 40 P P 02 34 15.5 +0.7
baz=70,SNR=16
KIV Kislovodsk 70.12 312 *e*P P 02 34 16.1 +0.7
KIV Kislovodsk 70.12 312 P P 02 34 16.4 +1.1
comp=Z,4μm,1.0s,SNR=71
KIV Kislovodsk 70.12 312 *c i*P P 02 34 15.6 +0.3
KIV *i* S S 02 43 19.9 -3.2
KIV *i* SS SS 02 48 10.7 +18
KIV pmax pmax
comp=Z,884nm,1.2s
KIV MLR MLR
comp=Z,36μm,18.0s
KIV Kislovodsk 70.12 312 *e*P P 02 34 15.6 +0.3
KIV Kislovodsk 70.12 312 P P 02 34 15.7 +0.3
SNR=132
KIV Kislovodsk 70.12 312 ⇓ *i*P P 02 34 15.6 +0.3
SNR=128
KIV Kislovodsk 70.12 312 ⇓ *i*P P 02 34 15.6 +0.3
SNR=128
KIV Kislovodsk 70.12 312 *e*P P 02 34 15.6 +0.3
comp=Z,1μm,1.2s
KIV LR LR
comp=Z,36μm,19.0s
F26A Lodgepole 70.12 45 P P 02 34 14.8 -0.5
baz=70,SNR=18
KBZ Khabaz 70.16 312 P P 02 34 15.9 +0.5
comp=Z,219nm,0.9s,baz=60,slow=3.3,SNR=83
KBZ LR LR 03 10 05.8
comp=Z,44μm,18.2s,baz=38,slow=40
GMRC Granite Mounta 70.18 61 P P 02 34 15.9 0.0
baz=70,SNR=35
G25A Newell 70.19 46 P P 02 34 15.9 +0.1
baz=70,SNR=11
D28A Regan 70.22 43 P P 02 34 15.7 -0.1
baz=70
MDND Maddock 70.23 42 P P 02 34 15.8 0.0
baz=70
MDND Maddock 70.23 42 *e*P P 02 34 17.2 +1.4
comp=Z,2μm,1.4s
ZEI Tsey 70.26 311 *e*P P 02 34 15.8 -0.5
ZEI *e*S S 02 43 25.1 +0.1
ZEI *e* 02 44 11.3
ZEI pmax pmax
comp=Z,244nm,1.0s
ZEI pmax pmax
comp=N,156nm,0.9s
ZEI pmax pmax
comp=E,431nm,1.5s
ZEI pmax pmax
comp=Z,1μm,8.8s
ZEI Tsey 70.26 311 *e*P P 02 34 15.8 -0.5
FOO Floro 70.27 342 *e*P P 02 34 14.9 -0.9
FOO IVMs_BB IVMs_BB 03 09 22.4
comp=Z,916nm,16.4s
E27A Carson 70.27 44 P P 02 34 16.0 -0.1
baz=70,SNR=17
K22A Casper 70.30 49 P P 02 34 16.7 +0.1
baz=70,SNR=25
K22A Casper 70.30 49 *e*P P 02 34 16.4 -0.1
J23A Dilts Ranch, B 70.31 48 P P 02 34 16.2 -0.3
baz=70
LDFC Landfair 70.32 60 *e*P P 02 34 17.1 +0.4
comp=Z,774nm,2.0s
IDMV Damavand 70.34 301 *e*P P 02 34 17.0 -0.1
IAFJ Afjeh 70.36 301 *e*P P 02 34 18.2 +1.0
OSL Oslo 70.39 339 *e*P P 02 34 16.7 +0.2
B30A Myrvik Farm, E 70.40 41 P P 02 34 17.2 +0.4
baz=70,SNR=56
HYA Hoyanger 70.40 342 *e*P P 02 34 17.3 +0.7
HYA IAmb IAmb 02 34 20.6
comp=Z,148nm,0.8s
SRU San Rafael Swe 70.42 54 *e*P P 02 34 16.9 -0.5
SRU pmax pmax
comp=Z,101nm,0.9s
SRU San Rafael Swe 70.42 54 *e*P P 02 34 16.9 -0.5
comp=Z,100nm,0.9s
F27A Lemmon 70.43 44 P P 02 34 17.4 +0.2
baz=70,SNR=8.3
PFO Pinyon Flats O 70.44 62 *e*P P 02 34 16.9 -0.6
PFO pmax pmax
comp=Z,47nm,1.3s
PFO MLR MLR
comp=Z,9μm,22.0s
PFO Pinyon Flats O 70.44 62 P P 02 34 17.1 -0.4
baz=70,SNR=10
PFO Pinyon Flats O 70.44 62 *e*P P 02 34 16.9 -0.6
comp=Z,47nm,1.3s
PFO LR LR
comp=Z,9μm,22.0s
BELC Belle Mtn. Jos 70.47 61 P P 02 34 17.3 -0.4
baz=70,SNR=16
I24A Kuemmerle Ranc 70.48 47 P P 02 34 17.5 -0.1
baz=70
H25A Fruitdale 70.50 46 P P 02 34 17.3 -0.3
baz=70,SNR=7.5
109C Camp Elliot, M 70.50 63 P P 02 34 17.3 -0.4
baz=70,SNR=8.1
MBWA Marble Bar 70.51 209 P P 02 34 18.8 +1.1
SNR=12
MBWA Marble Bar 70.51 209 *e*P P 02 34 17.5 -0.2
comp=Z,154nm,1.2s
MBWA LR LR
comp=Z,3μm,21.0s
TBLG Delisi 70.52 310 *e*P P 02 34 18.3 +0.6
TBLG Delisi 70.52 310 P P 02 34 18.3 +0.6
TBLG Delisi 70.52 310 P P 02 34 18.3 +0.6
G26A Maurine 70.54 45 P P 02 34 17.7 -0.1
baz=70,SNR=28
RWWY Rawlins 70.57 50 *e*P P 02 34 20.2 +1.8
comp=Z,118nm,1.3s
E28A Huff 70.60 43 P P 02 34 17.6 -0.5
baz=70,SNR=6.6
RSSD Black Hills 70.61 47 *e*P P 02 34 18.6 +0.1
RSSD pmax pmax
comp=Z,55nm,0.8s
RSSD Black Hills 70.61 47 *e*P P 02 34 18.6 +0.1
comp=Z,56nm,0.8s
K23A Bowen Ranch, D 70.71 49 P P 02 34 18.6 -0.5
baz=70,SNR=6.9
D29A Pettibone, Tap 70.79 42 P P 02 34 19.0 -0.2
baz=71
SUE Sulen 70.81 342 *e*P P 02 34 19.4 +0.3
SUE *e* 02 43 36.0
SUE *i* 02 48 51.8
SUE IVMs_BB IVMs_BB 03 09 37.9
comp=Z,5μm,19.7s
G27A Dupree 70.82 45 P P 02 34 19.3 -0.2
baz=71,SNR=20
BORG Borgarnes 70.82 356 *e*P P 02 34 21.3 +2.2
BORG pmax pmax
comp=Z,196nm,0.8s
BORG MLR MLR
comp=Z,4μm,20.0s
BORG Borgarnes 70.82 356 *e*P P 02 34 21.3 +2.2
comp=Z,196nm,0.8s
BORG LR LR
comp=Z,4μm,20.0s
J24A Dixon Ranch, L 70.83 48 P P 02 34 19.2 -0.6
baz=71
NEE2 Needles Airpor 70.83 60 P P 02 34 19.7 0.0
baz=71
I25A Rochford 70.84 47 P P 02 34 19.7 -0.2
baz=71
C30A Mose, Pekin 70.86 41 P P 02 34 19.3 -0.4
baz=71
IRM Iron Mountain 70.90 61 P P 02 34 20.7 +0.5
baz=71,SNR=44
BAR Barrett 70.91 63 *e*P P 02 34 20.6 +0.4
comp=Z,85nm,1.3s
IVRN Varamin 70.91 300 *e*P P 02 34 20.6 +0.3
H26A Fairpoint 70.92 46 P P 02 34 20.3 +0.1
baz=71,SNR=14
KONO Kongsberg 70.93 339 *e*P P 02 34 18.9 -0.9
KONO *e*S S 02 43 29.1 -2.7
KONO IAMs_20 IAMs_20 03 06 37.8
comp=Z,11μm,21.5s
KONO Kongsberg 70.93 339 *e*P P 02 34 20.4 +0.5
KONO pmax pmax
comp=Z,60nm,0.7s
KONO MLR MLR
comp=Z,10μm,21.0s
KONO Kongsberg 70.93 339 *e*P P 02 34 20.4 +0.5
comp=Z,60nm,0.7s
KONO LR LR
comp=Z,10μm,21.0s
MONP Monument Peak, 70.93 63 P P 02 34 20.0 -0.6
baz=71,SNR=16
BC3 Big Chuckawall 71.04 61 P P 02 34 21.3 +0.2
baz=71,SNR=31
O20A White River Ci 71.04 52 P P 02 34 21.2 0.0
baz=71,SNR=38
O20A White River Ci 71.04 52 *e*P P 02 34 21.3 +0.1
comp=Z,79nm,0.9s
F28A McLaughlin 71.06 44 P P 02 34 20.9 0.0
baz=71,SNR=9.5
TRD Trivandrum 71.10 263 *e*P P 02 34 21.3 -0.2
TRD AMB AMB 02 34 24.9
comp=Z,348nm,0.0s
IMHD Mahdasht 71.11 302 *e*P P 02 34 21.5 0.0
E29A Napoleon 71.11 43 P P 02 34 21.0 -0.2
baz=71
D30A Buchanan 71.16 42 P P 02 34 21.0 -0.5
baz=71
K24A Anderson Ranch 71.17 48 P P 02 34 21.1 -0.7
baz=71
ASK Askoy 71.23 342 *e*P P 02 34 23.5 +1.9
J25A Sunshine Ranch 71.24 47 P P 02 34 21.5 -0.7
baz=71,SNR=7.0
RUND Rundenannen 71.26 342 *e*P P 02 34 21.5 -0.3
H27A Howes 71.27 45 P P 02 34 22.4 +0.1
baz=71,SNR=8.0
I26A New Underwood 71.29 46 P P 02 34 22.5 +0.1
baz=71,SNR=6.5
IBP Imperial Bould 71.29 62 P P 02 34 22.6 0.0
baz=71
BER Bergen 71.29 342 *e*P P 02 34 23.9 +1.9
BER *e*S S 02 43 35.9 0.0
BER IAMs_20 IAMs_20 03 09 44.4
comp=Z,16μm,20.1s
SWSC Sam W. Stewart 71.30 62 P P 02 34 23.2 +0.7
baz=71,SNR=6.5
ODD1 Odda 71.42 341 *e*P P 02 34 23.6 +0.7
ODD1 IAmb IAmb 02 34 27.6
comp=Z,141nm,1.0s
AKH Akhalkalaki 71.42 310 *e*P P 02 34 28.6 +5.2
PDMCI Parker Dam,Lak 71.44 60 P P 02 34 23.5 +0.2
baz=71,SNR=50
SUW Suwalki 71.45 330 *e*P P 02 34 22.1 -1.0
SUW *e*S S 02 43 35.5 -2.4
SUW *e*SKS ScS 02 44 24.3 +0.2
SUW LMZ LR 03 07 22.9
SUW Suwalki 71.45 330 *e*P P 02 34 22.1 -1.0
SUW *e*S S 02 43 35.6 -2.4
SUW *e* 02 44 24.4
SUW MLR MLR
comp=Z,15μm,22.1s
E30A Jud 71.52 42 P P 02 34 23.4 -0.2
baz=71
G28A Parade 71.55 44 P P 02 34 23.8 -0.1
baz=71,SNR=11
F29A Eureka 71.55 43 P P 02 34 23.4 -0.5
baz=71
Y12C Blythe 71.56 61 P P 02 34 24.4 +0.3
baz=71,SNR=28
GNI Garni 71.59 308 *c e*P P 02 34 25.5 +1.1
GNI pmax pmax
comp=Z,526nm,1.2s
GNI MLR MLR
comp=Z,10μm,18.0s
GNI Garni 71.59 308 P P 02 34 26.0 +1.6
SNR=114
GNI Garni 71.59 308 ⇓ *i*P P 02 34 25.6 +1.2
SNR=80
GNI Garni 71.59 308 ⇓ *i*P P 02 34 25.6 +1.2
SNR=80
GNI Garni 71.59 308 *e*P P 02 34 25.6 +1.2
GNI LR LR
comp=Z,720nm,1.4s
GNI LR LR
comp=Z,10μm,19.0s
AGMN Agassiz Nation 71.64 39 P P 02 34 24.3 -0.1
baz=71,SNR=42
AGMN Agassiz Nation 71.64 39 *e*P P 02 34 23.3 -1.1
comp=Z,107nm,1.0s
AGMN LR LR
comp=Z,5μm,21.0s
AKASG Malin Array Be 71.65 324 P P 02 34 23.4 -0.9
comp=Z,141nm,0.8s,baz=37,slow=6.3,SNR=138
AKASG PKP2bc 03 02 05.7
comp=Z,0.2nm,0.3s,baz=243,slow=0.9,SNR=4.8
AKASG LR LR 03 09 36.1
comp=Z,9μm,18.6s,baz=50,slow=39
KIEV Kiev 71.67 324 *d i*P P 02 34 23.8 -0.6
KIEV Kiev 71.67 324 *e*P P 02 34 23.8 -0.6
KIEV Kiev 71.67 324 *e*P P 02 34 23.2 -1.2
comp=Z,518nm,1.2s
KIEV LR LR
comp=Z,9μm,19.0s
I27A Quinn 71.68 46 P P 02 34 24.7 0.0
baz=72,SNR=16
J26A Sides Ranch, S 71.68 47 P P 02 34 25.0 +0.2
baz=72,SNR=6.6
IRAZ Zanghan 71.75 302 *e*P P 02 34 25.6 +0.1
K25A Mack Ranch, Ha 71.75 48 P P 02 34 25.2 -0.1
baz=72,SNR=7.4
H28A Mission Ridge 71.78 45 P P 02 34 25.6 +0.3
baz=72,SNR=35
PHWY Pilot Hill 71.80 50 *e*P P 02 34 26.1 +0.3
comp=Z,88nm,1.5s
N23A Red Feather La 71.81 50 P P 02 34 26.4 +0.5
baz=72,SNR=31
GLA Glamis 71.83 61 *e*P P 02 34 25.7 -0.1
GLA pmax pmax
comp=Z,59nm,0.8s
GLA Glamis 71.83 61 P P 02 34 26.0 +0.1
baz=72,SNR=31
GLA Glamis 71.83 61 *e*P P 02 34 25.7 -0.1
comp=Z,59nm,0.8s
PV04 Paradox Valley 71.84 54 *e*P P 02 34 26.6 +0.6
EAK Akyaka 71.85 309 *i*P P 02 34 26.0 0.0
BLS5 Blasjo 71.89 341 *e*P P 02 34 26.0 +0.3
BLS5 IAmb IAmb 02 34 29.6
comp=Z,303nm,1.5s
BLS5 IVMs_BB IVMs_BB 03 11 19.4
comp=Z,5μm,14.0s
SOC Sochi 71.93 314 *c*iP P 02 34 26.0 -0.1
SOC *e*PP pP 02 34 34.9 -4.0
SOC *e*SP sP 02 34 44.1 +0.2
SOC *e*PPP PPP 02 38 52.4
SOC *e*S S 02 43 43.7 -0.1
SOC *e* 02 44 24.0
SOC pmax pmax
comp=Z,403nm,1.5s
SOC pmax pmax
comp=Z,4μm,6.3s
SOC MLR MLR
comp=Z,21μm,17.0s
F30A Leola 71.94 43 P P 02 34 25.9 -0.4
baz=72
G29A Hoven 71.96 44 P P 02 34 26.0 -0.4
baz=72
K26A Motz Farm, Whi 72.05 47 P P 02 34 27.1 +0.1
baz=72,SNR=13
DIGO Kars 72.17 309 *i*P P 02 34 30.9 +2.9
I28A Midland 72.18 45 P P 02 34 27.9 +0.2
baz=72,SNR=18
KARS Kars 72.19 310 *e*P P 02 34 30.4 +2.5
PV01 Paradox Valley 72.21 54 *e*P P 02 34 28.5 +0.2
H29A Onida 72.22 44 P P 02 34 27.7 -0.2
baz=72,SNR=6.5
ANN Anapa 72.22 316 *i*P P 02 34 27.5 -0.4
ANN *e**PP pP 02 34 40.6 -0.1
ANN *i* 02 34 44.4
ANN *i* 02 37 10.1
ANN *i*PPP PPP 02 38 54.7
ANN *e*S S 02 43 49.9 +2.7
ANN pmax pmax
comp=E,103nm,1.1s
ANN pmax pmax
comp=N,97nm,1.1s
ANN pmax pmax
comp=Z,447nm,1.2s
ANN smax smax
comp=E,630nm,5.1s
ANN smax smax
comp=N,2μm,5.1s
J27A Elkhorn Farm, 72.28 46 P P 02 34 28.0 -0.4
baz=72
WUAZ Wupatki 72.32 58 P P 02 34 29.9 +1.0
baz=72,SNR=24
WUAZ Wupatki 72.32 58 *e*P P 02 34 28.6 -0.3
comp=N,68nm,1.1s
WUAZ LR LR
comp=Z,5μm,22.0s
KMY Karmoy 72.36 341 *e*P P 02 34 29.2 +0.7
KMY IAmb IAmb 02 34 32.5
comp=Z,129nm,1.0s
G30A Faulkton 72.39 43 P P 02 34 28.8 -0.1
baz=72,SNR=6.4
HOMB Homborsund 72.41 339 *e*P P 02 34 27.9 -0.8
HOMB *e* 02 43 20.5
HOMB IAMs_20 IAMs_20 03 06 04.0
comp=Z,11μm,21.9s
HOMB IVMs_BB IVMs_BB 03 09 33.7
comp=Z,3μm,18.0s
SMCO Snowmass 72.41 52 *e*P P 02 34 26.9 -2.8
comp=Z,37nm,0.8s
BCA Borcka 72.41 311 *e*P P 02 34 30.6 +1.4
ARTV Artvin 72.43 311 *i*P P 02 34 30.6 +1.1
YEL1 Yell 72.46 345 ⇑ *e*P P 02 34 29.5 +0.5
M25A Palm-Egli Farm 72.47 49 P P 02 34 30.4 +0.8
baz=72,SNR=7.3
K27A Flueckinger Fa 72.54 47 P P 02 34 29.8 -0.2
baz=72
J28A Allard Ranch, 72.55 46 P P 02 34 29.7 -0.2
baz=72,SNR=37
L26A Underwood Farm 72.57 48 P P 02 34 30.1 0.0
baz=72
I29A Vivian Onida 72.60 45 P P 02 34 30.0 -0.2
baz=72,SNR=10
DBAD Bademkaya 72.67 311 *i*P P 02 34 30.5 -0.2
SNART Snartemo 72.67 340 *e*P P 02 34 30.2 -0.1
DDM Demirkent 72.73 311 *i*P P 02 34 31.3 +0.2
CLDR Caldiran 72.74 308 *e*P P 02 34 35.0 +3.6
ISCO Idaho Springs 72.75 51 *e*P P 02 34 32.4 +0.9
ISCO pmax pmax
comp=Z,218nm,1.8s
ISCO MLR MLR
comp=Z,6μm,22.0s
ISCO Idaho Springs 72.75 51 P P 02 34 32.3 +0.7
baz=72,SNR=68
ISCO Idaho Springs 72.75 51 *e*P P 02 34 32.4 +0.9
comp=Z,218nm,1.8s
ISCO LR LR
comp=Z,6μm,22.0s
WAL1 Walls 72.83 345 *e*P P 02 34 32.0 +0.8
LRW Lerwick 72.86 345 *e*P P 02 34 31.6 +0.2
LRW AMS AMS 03 13 51.9
comp=Z,5μm,18.2s
MVCO Mesa Verde 72.88 55 P P 02 34 32.5 +0.3
baz=73,SNR=36
MVCO Mesa Verde 72.88 55 *e*P P 02 34 32.7 +0.4
comp=Z,155nm,1.2s
MVCO LR LR
comp=Z,6μm,22.0s
M26A McRoberts Ranc 72.93 48 P P 02 34 32.8 +0.4
baz=73,SNR=17
L27A T5 Ranch, Ells 72.94 47 P P 02 34 32.0 -0.4
baz=73
AGRB Hanur-Agry 72.96 309 *e*P P 02 34 35.2 +2.6
SAN1 Sandwick 72.98 345 *e*P P 02 34 33.2 +1.1
K28A Ten Mile Ranch 72.99 46 P P 02 34 32.7 +0.1
baz=73,SNR=18
J29A Okreek 73.03 45 P P 02 34 32.6 -0.2
baz=73,SNR=19
EATA Eleskirt 73.04 309 *i*P P 02 34 34.9 +1.6
I30A Oacoma 73.12 45 P P 02 34 33.1 -0.2
baz=73,SNR=13
TUTA Tutak 73.18 309 *i*P P 02 34 45.0 +11
HOMI Horasan 73.23 310 *i*P P 02 34 34.3 0.0
M27A Reverse DX Ran 73.29 48 P P 02 34 34.4 0.0
baz=73,SNR=5.5
BSD Bornholm Skovb 73.33 334 *i*P P 02 34 33.3 -0.9
comp=Z,316nm,0.8s
BSD *i*S S 02 43 56.2 -3.2
BSD Bornholm Skovb 73.33 334 *i*P P 02 34 33.3 -0.9
BSD *i*S S 02 43 56.2 -3.2
BSD *i* 02 44 50.9
BSD pmax pmax
comp=Z,320nm,0.8s
BSD MLR MLR
comp=Z,16μm,16.0s
N26A Koester Ranch, 73.34 49 P P 02 34 35.1 +0.3
baz=73,SNR=6.7
L28A Connealy Angus 73.41 47 P P 02 34 35.5 +0.3
baz=73
VANB Van 73.42 308 *e*P P 02 34 38.3 +3.1
COCO West Island 73.43 233 PFAKE 02 34 40.0 +4.7
COCO LR LR
comp=Z,4μm,20.0s
TVAN Van 73.45 308 *i*P P 02 34 36.7 +1.1
S22A 4UR Ranch, Cre 73.48 53 P P 02 34 36.0 +0.2
baz=73,SNR=43
K29A Lazy Trails An 73.50 46 P P 02 34 35.7 +0.1
baz=73,SNR=7.1
J30A Dallas 73.51 45 P P 02 34 35.8 +0.2
baz=73,SNR=6.8
W18A Petrified Fore 73.57 57 P P 02 34 36.3 0.0
baz=73
W18A Petrified Fore 73.57 57 *e*P P 02 34 36.6 +0.3
comp=Z,54nm,1.2s
Q24A Divide 73.58 51 P P 02 34 36.4 -0.1
baz=73,SNR=21
COP Copenhagen 73.59 336 *i*P P 02 34 36.4 +0.7
comp=Z,201nm,0.8s
COP *i*S SKiKP 02 44 00.8 -0.9
COP Copenhagen 73.59 336 *i*P P 02 34 36.4 +0.7
COP *i*S SKiKP 02 44 00.8 -0.9
COP *i* 02 44 57.7
COP pmax pmax
comp=Z,200nm,0.8s
COP MLR MLR
comp=Z,8μm,16.0s
ERZM Erzurum 73.63 310 *i*P P 02 34 38.6 +2.0
EKAR Karacoban 73.70 309 *i*P P 02 34 38.9 +1.9
O26A Horse Wrangler 73.70 49 P P 02 34 36.8 -0.2
baz=74,SNR=11
N27A Anderson Farm, 73.72 48 P P 02 34 37.2 +0.2
baz=74,SNR=19
KTUT Trabzon 73.73 312 *e*P P 02 34 38.5 +1.6
SIM Simferopol' 73.74 318 *d i*P P 02 34 37.1 +0.2
SIM *i*S S 02 44 05.0 +0.5
SIM *e*SS SS 02 48 52.0 +4.4
SIM pmax pmax
comp=Z,317nm,1.1s
SIM MLR MLR
comp=Z,13μm,15.8s
MACK Trabzon 73.76 312 *i*P P 02 34 37.9 +0.8
GEVA Gevas 73.80 308 *i*P P 02 34 38.5 +0.9
214A Organ Pipe Nat 73.83 61 P P 02 34 37.8 +0.2
baz=74,SNR=43
214A Organ Pipe Nat 73.83 61 *e*P P 02 34 37.3 -0.4
comp=Z,136nm,1.3s
MUD Monsted U'grnd 73.83 338 ⇑ *i*P P 02 34 37.9 +0.7
comp=Z,148nm,0.9s
MUD *i*S S 02 44 03.8 -1.2
MUD Monsted U'grnd 73.83 338 ⇑ *i*P P 02 34 37.9 +0.7

MUD *i* S **S** 02 44 03.8 -1.2
MUD pmax pmax
comp=Z,150nm,0.9s
MUD MLR MLR
comp=Z,15µm,20.0s
EYMN Ely 73.85 37 *e*P **P** 02 34 36.8 -0.7
comp=Z,125nm,1.2s
EYMN LR LR
comp=Z,8µm,20.0s
OGNE Ogallala 73.89 48 P **P** 02 34 38.1 +0.1
baz=74,SNR=49
OGNE Ogallala 73.89 48 *e*P **P** 02 34 37.2 -0.8
comp=Z,189nm,0.7s
OGNE LR LR
comp=Z,3µm,19.0s
L29A Maesberg Ranch 73.91 46 P **P** 02 34 37.7 -0.4
baz=74
K30A Basset 73.92 46 P **P** 02 34 38.3 +0.3
baz=74,SNR=6.8
M28A Bar X Bar Ranc 73.92 47 P **P** 02 34 38.4 +0.2
baz=74
LLD Lille Linde 73.95 336 *i* P **P** 02 34 38.5 +0.6
LLD Lille Linde 73.95 336 *i* P **P** 02 34 38.5 +0.6
HAKT HAKKARI 73.95 307 *i* P **P** 02 34 39.5 +0.9
BANOM Banah 73.97 291 P **P** 02 34 38.7 +0.1
SNR=28
BANOM Banah 73.97 291⇑ *i*P **P** 02 34 38.3 -0.3
SNR=61
BANOM Banah 73.97 291⇑ *i*P **P** 02 34 38.3 -0.3
SNR=61
SORM Soroca 73.98 323⇑ *i*P **P** 02 34 38.8 +0.6
BEL Belsk 74.06 329 *e*P **P** 02 34 38.9 +0.3
BEL *e*S **S** 02 44 07.9 +0.2
BEL LMZ LR 03 09 07.3
BEL Belsk 74.06 329 *e*P **P** 02 34 38.9 +0.3
BEL *e*S **S** 02 44 08.0 +0.2
BEL MLR MLR
comp=Z,15µm,21.1s
VRTB Varto-Mus 74.10 309 *e*P **P** 02 34 42.1 +2.8
TATV Tatvan 74.11 309 *i* P **P** 02 34 41.9 +2.5
GKP Gorka Klasztor 74.12 332 *e*P **P** 02 34 38.5 -0.4
GKP *e*S **S** 02 44 06.6 -1.9
GKP LMZ LR 03 10 37.6
GKP Gorka Klasztor 74.12 332 *e*P **P** 02 34 38.5 -0.4
GKP *e*S **S** 02 44 06.6 -1.9
GKP MLR MLR
comp=Z,22µm,18.9s
P26A Davis Ranch, A 74.16 50 P **P** 02 34 39.7 +0.1
baz=74,SNR=16
O27A Beecher Island 74.19 49 P **P** 02 34 39.5 -0.3
baz=74
CUKT Cukurca 74.23 307 *e*P **P** 02 34 40.5 +0.5
SDCO Great Sand Dun 74.24 52 P **P** 02 34 40.3 +0.1
baz=74,SNR=29
SDCO Great Sand Dun 74.24 52 *e*P **P** 02 34 40.8 +0.5
comp=Z,82nm,1.4s
SDCO LR LR
comp=Z,6µm,22.0s
M29A Burnside Ranch 74.25 47 P **P** 02 34 39.7 -0.4
baz=74
GUMT Gumushane 74.26 312 *e*P **P** 02 34 42.0 +1.8
RGN Rugen 74.30 335 *e*P **P** 02 34 40.2 +0.3
comp=Z,658nm,1.0s
RGN Rugen 74.30 335 *e*P **P** 02 34 40.5 +0.6
comp=Z,321nm,0.7s
IKAZ Kazeroun 74.31 296 *e*P **P** 02 34 41.0 0.0
ESPY Espiye-Giresun 74.33 312 *e*P **P** 02 34 40.9 +0.4
N28A Pribbeno Ranch 74.34 48 P **P** 02 34 40.1 -0.5
baz=74,SNR=5.9
WBK Wadi Bani Khal 74.36 286 P **P** 02 34 42.2 +1.3
SNR=21
L30A Spencer Herefo 74.39 46 P **P** 02 34 40.3 -0.5
baz=74
LVV L'vov 74.45 326 *e*P **P** 02 34 41.0 +0.1
LVV *e*PPP PPP 02 39 12.6
LVV *e*S **S** 02 44 10.2 -2.0
LVV *e*PS **PnS** 02 44 41.8 -8.6
LVV *e*SS SS 02 49 05.6 +7.5
LVV *e*SSS SSS 02 52 21.8
LVV MLR MLR
comp=N,12µm,20.0s
LVV MLR MLR
comp=E,12µm,20.0s
LVV MLR MLR
comp=Z,16µm,20.0s
Q26A Hugo 74.52 50 P **P** 02 34 41.3 -0.4
baz=74,SNR=22
GRSN GIRESUNGRSN 74.57 313 *i* P **P** 02 34 42.4 +0.5
P27A Ficken Ranch, 74.59 49 P **P** 02 34 41.9 -0.1
baz=74
ARMA Armidale 74.60 177 *e*P **P** 02 34 43.5 +1.5
comp=Z,98nm,1.5s
KELT Kelkit 74.60 311 *i* P **P** 02 34 42.0 -0.3
M30A Dale-Ortello V 74.61 46 P **P** 02 34 41.5 -0.6
baz=74
O28A Krutsinger Ran 74.61 49 P **P** 02 34 41.7 -0.5
baz=74
ECSD EROS Data Cent 74.64 43 P **P** 02 34 42.0 -0.2
baz=74,SNR=21
ECSD EROS Data Cent 74.64 43 *e*P **P** 02 34 42.6 +0.4
comp=Z,329nm,1.5s
ECSD LR LR
comp=Z,10µm,22.0s
KIS Kishinev 74.64 322 *i* P **P** 02 34 42.0 -0.1
comp=Z,1µm,1.4s
KIS Kishinev 74.64 322 *i* PcP P 02 34 49.0 +6.9
KIS Kishinev 74.64 322 *e*PP PP 02 37 42.0 +13
KIS Kishinev 74.64 322 *e*PPP PPP 02 39 28.0
KIS *e*S **S** **02 44 14.0 -0.5**
KIS *e*ScS SKSac 02 44 28.0 -19
KIS Kishinev 74.64 322 *e*PS 02 44 50.0
KIS *e*SS SS 02 49 00.0 -1.2
KIS *e*SSS SSS 02 53 48.0
KIS *e*LQ LQ 03 01 06.0
comp=Z,9µm,18.0s
KIS LRM MLR 03 10 04.0
comp=Z,38µm,18.0s
KIS Kishinev 74.64 322 *i* P **P** 02 34 42.0 -0.1
KIS *i* 02 34 55.0
KIS *i* 02 34 59.0
KIS *e*S **S** **02 44 14.0 -0.5**
KIS *e*PS **PnS** **02 44 50.0 -3.0**
KIS *e*SS **SS** **02 49 00.0 -1.2**
KIS pmax pmax
comp=Z,1µm,1.4s
KIS pmax pmax
comp=Z,3µm,6.0s
KIS pmax pmax
comp=Z,3µm,8.0s
KIS pmax pmax
comp=N,500nm,1.7s
KIS pmax pmax
comp=E,400nm,1.7s
KIS MLR MLR
comp=Z,38µm,18.0s
KIS MLR MLR
comp=Z,38µm,18.0s
KIS MLR MLR
comp=N,26µm,18.0s
KIS MLR MLR
comp=E,14µm,18.0s
KIS Kishinev 74.64 322⇑ *i*P **P** 02 34 43.0 +0.9
BNGB Bing¶‖ 74.65 310 *e*P **P** 02 34 43.6 +1.2
L31A Butterfield Fa 74.67 45 P **P** 02 34 41.9 -0.6
baz=74,SNR=14
EUZM Uzumlu 74.68 311 *i* P **P** 02 34 44.6 +2.0
UOSS Wadi Hilu 74.68 290 *e*P **P** 02 34 42.3 -0.4
SMDO Samad 74.69 287 P **P** 02 34 43.6 +0.7
SNR=21
N29A Votaw Ranch, W 74.73 47 P **P** 02 34 42.6 -0.2
baz=74
HATD Hatta, Dubai 74.81 290⇓ *i*P **P** 02 34 43.3 -0.2
SNR=142
HATD Hatta, Dubai 74.81 290⇓ *i*P **P** 02 34 43.3 -0.2
SNR=142
HOQ Hoqain 74.84 288 P **P** 02 34 44.0 +0.3
SNR=46
TUC Tucson 74.85 60 *e*P **P** 02 34 43.8 +0.1
TUC pmax pmax
comp=Z,36nm,1.0s
TUC MLR MLR
comp=Z,5µm,20.0s
TUC Tucson 74.85 60 *e*P **P** 02 34 43.8 +0.1
comp=Z,36nm,1.0s
TUC LR LR
comp=Z,5µm,20.0s

KSCO Kaye Shedlock' 74.95 50 P **P** 02 34 44.0 -0.1
baz=75
KSCO Kaye Shedlock' 74.95 50 *e*P **P** 02 34 44.4 +0.3
comp=Z,418nm,1.8s
ASHO Ashiyiah 74.96 290 P **P** 02 34 44.6 +0.3
SNR=62
ASHO Ashiyiah 74.96 290⇑ *i*P **P** 02 34 43.7 -0.6
SNR=130
ASHO Ashiyiah 74.96 290⇑ *i*P **P** 02 34 43.7 -0.6
SNR=130
SVAN Silvan-Diyarba 74.96 309 *e*P **P** 02 34 45.7 +1.5
MLA1 Latheron 74.98 345⇑ *e*P **P** 02 34 43.3 -0.5
R26A Arlington 75.00 51 P **P** 02 34 44.4 -0.1
baz=75,SNR=48
NAZ Nazwa, Dubai 75.02 290 *i* P **P** 02 34 44.4 -0.2
SNR=61
NAZ Nazwa, Dubai 75.02 290 *i* P **P** 02 34 44.4 -0.2
SNR=61
P28A Saint Francis 75.02 49 P **P** 02 34 44.6 0.0
baz=75
N30A Hueftle Ranch, 75.02 47 P **P** 02 34 44.4 -0.1
baz=75
IAS Iasi 75.04 323⇑ *i*P **P** 02 34 45.7 +1.3
BEST Besiri 75.10 309 *i* P **P** 02 34 47.6 +2.6
JMDO Jabal Madar 75.11 287 P **P** 02 34 45.1 -0.1
SNR=35
KWP Kalwaria Pacla 75.12 327 *e*P **P** 02 34 44.9 +0.1
KWP *e*S **S** 02 44 19.3 -0.4
KWP LMZ LR 03 10 33.7
KWP Kalwaria Pacla 75.12 327 *e*P **P** 02 34 45.0 +0.1
KWP *e*S **S** 02 44 19.4 -0.3
KWP MLR MLR
comp=Z,38µm,19.0s
SUSE Susehri 75.12 312 *i* P **P** 02 34 46.1 +0.9
O29A 4D Ranch, Culb 75.14 48 P **P** 02 34 44.7 -0.5
baz=75,SNR=16
M31A Lambtecht Ranc 75.21 46 P **P** 02 34 44.8 -0.7
baz=75
FAQ Al Faqa, Dubai 75.23 290 *i* P **P** 02 34 45.2 -0.7
SNR=87
FAQ Al Faqa, Dubai 75.23 290 *i* P **P** 02 34 45.2 -0.7
SNR=87
T25A Trinidad 75.28 52 P **P** 02 34 46.1 -0.1
baz=75,SNR=37
LEOM Leova 75.30 322⇓ *i*P **P** 02 34 46.2 +0.3
SPMN Marine on St. 75.34 40 P **P** 02 34 45.8 -0.3
baz=75
SPMN Marine on St. 75.34 40 *e*P **P** 02 34 46.0 -0.1
comp=Z,49nm,0.8s
Q28A Sharon Springs 75.34 49 P **P** 02 34 46.0 -0.5
baz=75,SNR=9.8
R27A Eads 75.37 50 P **P** 02 34 45.9 -0.7
baz=75,SNR=37
PTK Pertek 75.42 310 *e*P **P** 02 34 48.2 +1.2
P29A Atwood 75.44 48 P **P** 02 34 46.5 -0.5
baz=75
RSDY Resadiye-TOKAT 75.45 313 *e*P **P** 02 34 47.8 +0.9
BSY Bisya 75.48 288 P **P** 02 34 47.8 +0.4
SNR=54
ASUD Al Ashush, Dub 75.48 290⇑ *i*P **P** 02 34 46.8 -0.5
SNR=54
ASUD Al Ashush, Dub 75.48 290⇑ *i*P **P** 02 34 46.8 -0.5
SNR=54
MVH1 Achvaich 75.48 345⇑ *e*P **P** 02 34 47.0 +0.3
O30A MW Ranch, Wils 75.49 48 P **P** 02 34 46.1 -1.1
baz=75
ARQ Araqi 75.55 288 P **P** 02 34 48.0 +0.3
SNR=41
BGNE Belgrade 75.59 46 P **P** 02 34 47.0 -0.7
baz=75
BGNE Belgrade 75.59 46 *e*P **P** 02 34 47.5 -0.2
comp=Z,159nm,1.0s
N31A Bailey Ranch, 75.60 46 P **P** 02 34 47.2 -0.6
baz=75
DIKM Dikmen 75.60 315 *e*P **P** 02 34 48.6 +0.9
KVT Kavak 75.61 314 *e*P **P** 02 34 49.1 +1.2
LAZ Ladron 75.61 56 *e*P **P** 02 34 49.0 +0.8
comp=Z,96nm,0.9s
MCD Coleburn Disti 75.64 345⇑ *e*P **P** 02 34 49.3 +1.7
ANMO Albuquerque 75.64 55 P **P** 02 34 48.7 +0.4
comp=Z,211nm,0.8s,baz=319,slow=7.9,SNR=30
ANMO Albuquerque 75.64 55⇑ *i*P **P** 02 34 48.0 -0.3
ANMO pmax pmax
comp=Z,219nm,1.7s
ANMO MLR MLR
comp=Z,13µm,18.0s
ANMO Albuquerque 75.64 55 *e*P **P** 02 34 48.1 -0.3
comp=Z,23nm,0.7s
ANMO LR LR
comp=Z,6µm,22.0s
KEMA Kemaliye 75.64 311 *i* P **P** 02 34 48.5 +0.4
DYBB Diyarbakir 75.69 309 *e*P P 02 34 51.6 +3.2
BUR08 Bucovina Ar. S 75.69 324 *e*P **P** 02 34 47.9 -0.3
BURAR Bucovina Array 75.71 324⇑ *i*P **P** 02 34 48.2 -0.2
T26A Comanche Natio 75.72 52 P **P** 02 34 47.9 -0.8
baz=76,SNR=59
DIYA Diyarbakir 75.72 309 *i* P **P** 02 34 48.9 +0.4
BSEG Bad Segeberg 75.72 336 *e*P **P** 02 34 48.1 0.0
comp=Z,331nm,1.0s
S27A Las Animas 75.74 51 P **P** 02 34 48.4 -0.4
baz=76
OJC Ojcow 75.74 329 *e*P **P** 02 34 48.2 -0.2
OJC *e*S **S** 02 44 25.7 -0.9
OJC LMZ LR 03 10 10.5
OJC Ojcow 75.74 329 *e*P **P** 02 34 48.2 -0.2
OJC *e*S **S** 02 44 25.7 -0.9
OJC MLR MLR
comp=Z,15µm,21.9s
OJC Ojcow 75.74 329 *e*P **P** 02 34 48.2 -0.2
MARD Mardin 75.78 309 *i* P **P** 02 34 49.6 +0.6
HAVZ Havza 75.79 314 *i* P **P** 02 34 47.9 -0.9
SVRC Sivrice-ELAZID 75.84 310 *e*P **P** 02 34 51.7 +2.3
KOLS Kolonicke sedl 75.85 327 *e*P **P** 02 34 49.3 +0.3
KOLS pmax pmax
comp=Z,49nm,1.0s
KOLS Kolonicke sedl 75.85 327 *e*P **P** 02 34 49.3 +0.3
KOLS *e*S **S** 02 44 27.3 -0.6
P30A Selden 75.85 48 P **P** 02 34 48.9 -0.3
baz=76,SNR=11
STHS Stebnicka Huta 75.86 328 *e*P **P** 02 34 50.2 +1.1
STHS pmax pmax
comp=Z,58nm,0.9s
STHS Stebnicka Huta 75.86 328 *e*P **P** 02 34 50.2 +1.1
STHS *e*S **S** 02 44 29.9 +2.0
MAZI Mazidag 75.87 309 *e*P **P** 02 34 52.4 +2.9
R28A Tribune 75.87 50 P **P** 02 34 49.0 -0.5
baz=76,SNR=23
LENM Lemitar 75.88 56 *e*P **P** 02 34 50.2 +0.5
comp=Z,28nm,1.1s
O31A Woolen Ranch, 75.89 47 P **P** 02 34 49.1 -0.4
baz=76
RUE Ruedersdorf 75.92 334 *e*P **P** 02 34 49.0 -0.3
comp=Z,602nm,1.0s
RUE Ruedersdorf 75.92 334 *e*P **P** 02 34 49.4 +0.1
comp=Z,823nm,1.3s
ELZG Elazig 75.93 310 *i* P **P** 02 34 51.8 +1.9
Q29A Oakley 75.93 49 P **P** 02 34 49.3 -0.4
baz=76,SNR=29
SCER sogukcermik 75.94 312 *i* P **P** 02 34 53.0 +3.2
TOKA Tokat 75.94 313 *i* P **P** 02 34 47.0 -2.7
TESR Tescani 75.97 323⇑ *i*P **P** 02 34 50.2 +0.5
SVSK Karacayir 75.97 313 *e*P **P** 02 34 52.0 +2.2
Y22D IRIS PASSCAL I 75.97 56 P **P** 02 34 50.1 -0.1
baz=76
MDO Dochfour 75.97 345⇑ *e*P **P** 02 34 49.6 +0.1
BYBT Boyabat 75.98 315 *e*P **P** 02 34 51.9 +2.0
N32A Stulken Farm, 75.98 46 P **P** 02 34 49.2 -0.8
baz=76
BZK Bozkurt 76.00 316 *e*P **P** 02 34 51.7 +1.7
TLCR 76.04 321⇑ *i*P **P** 02 34 51.5 +1.4
L34A Svendsen Farm, 76.07 44 P **P** 02 34 49.7 -0.7
baz=76,SNR=9.9
GIUM Giurgiulesti 76.08 321⇑ *i*P **P** 02 34 52.3 +2.0
KAC Achnashellach 76.08 346⇑ *e*P **P** 02 34 49.6 -0.5
R29A Marienthal 76.18 49 P **P** 02 34 51.0 -0.2
baz=76,SNR=31
NIE Niedzica 76.21 328 *e*P **P** 02 34 51.5 +0.5
NIE *e*S **S** 02 44 32.7 +0.9
NIE LMZ LR 03 11 11.8
NIE Niedzica 76.21 328 *e*P **P** 02 34 51.6 +0.5
NIE *e*S **S** 02 44 32.8 +0.9
NIE MLR MLR
comp=Z,13µm,19.8s
Q30A Quinter 76.28 48 P **P** 02 34 51.1 -0.6
baz=76,SNR=14

STKA Stephens Creek 76.28 186 P **P** 02 34 50.8 -0.6
comp=Z,54nm,0.8s,baz=16,slow=5.4,SNR=30
STKA LR LR 03 10 16.0
comp=Z,4µm,19.2s,baz=4.2,slow=37
STKA Stephens Creek 76.28 186 *e*P **P** 02 34 50.2 -1.2
STKA pmax pmax
comp=Z,16nm,1.0s
STKA Stephens Creek 76.28 186 *e*P **P** 02 34 50.2 -1.2
comp=Z,16nm,1.0s
T27A Campo 76.28 51 P **P** 02 34 51.5 -0.4
baz=76,SNR=18
KPL Plockton 76.30 346 *e*P **P** 02 34 51.7 +0.4
KPL AMB AMB 02 34 56.0
comp=Z,363nm,1.0s
KPL AMS AMS 03 15 57.2
comp=Z,4µm,17.4s
M34A Aspy Farms, Fr 76.31 45 P **P** 02 34 51.1 -0.7
baz=76,SNR=5.1
P31A Stockton 76.33 48 P **P** 02 34 51.2 -0.8
baz=76,SNR=16
PETR Petresti 76.33 322⇑ *i*P **P** 02 34 53.7 +2.0
CFR Carcaliu 76.35 321⇑ *i*P **P** 02 34 52.3 +0.4
O32A Brockman Farm, 76.36 46 P **P** 02 34 51.0 -1.2
baz=76
S28A Manter 76.36 50 P **P** 02 34 51.9 -0.3
baz=76,SNR=25
MALT Malatya 76.36 311 *e*P **P** 02 34 55.0 +2.7
MALT Malatya 76.36 311⇑ *i*P **P** 02 34 54.0 +1.7
BMR Baia Mare 76.37 325⇑ *i*P **P** 02 34 53.1 +1.1
L35A Bielow Farm, R 76.38 44 P **P** 02 34 51.0 -1.2
baz=76
KSB Sheil Bridge 76.38 346 *e*P **P** 02 34 52.1 +0.3
VRI Vrincioaia 76.44 322 *e*P **P** 02 34 53.9 +1.4
VRI Vrincioaia 76.44 322⇑ *i*P **P** 02 34 53.3 +0.9
RAC Raciborz 76.44 330 *e*P **P** 02 34 52.7 +0.4
RAC *e*S **S** 02 44 33.3 -1.0
RAC MLR MLR
comp=Z,19µm,17.6s
KSP Ksiaz 76.48 331 *e*P **P** 02 34 52.3 -0.2
KSP *i* S **S** 02 44 34.3 -0.4
KSP LMZ LR 03 11 54.6
KSP Ksiaz 76.48 331 *e*P **P** 02 34 52.4 -0.1
KSP *i* S **S** 02 44 34.3 -0.4
KSP MLR MLR
comp=Z,17µm,19.1s
PLOR Plostina 76.48 322⇑ *i*P **P** 02 34 53.5 +0.8
121A Cookes Peak, D 76.53 58 P **P** 02 34 53.7 +0.3
baz=76,SNR=49
121A Cookes Peak, D 76.53 58 *e*P **P** 02 34 54.1 +0.7
comp=Z,153nm,1.3s
SCHQ Schefferville 76.53 20 P **P** 02 34 52.4 -0.4
comp=Z,86nm,0.9s,baz=330,slow=5.1,SNR=39
SCHQ LR LR 03 11 39.0
comp=Z,13µm,20.4s,baz=336,slow=38
SCHQ Schefferville 76.53 20 *e*P **P** 02 34 53.0 +0.2
comp=Z,112nm,0.9s
EDU Dundee 76.56 344 *e*P **P** 02 34 52.9 0.0
T28A Walsh 76.58 51 P **P** 02 34 52.9 -0.6
baz=76,SNR=19
CTKT Corum 76.60 314 *i* P **P** 02 34 53.5 -0.1
AKCD Akcadag 76.65 311 *i* P **P** 02 34 56.3 +2.3
OKC Ostrava-Krasne 76.66 330‖ *e*P **P** 02 34 54.0 +0.4
OKC *ex* x 02 38 01.7
OKC *e*S **S** 02 44 36.3 -0.4
OKC *e*XS **sS** 02 44 54.8 -3.4
OKC AMS AMS 03 11 30.0
comp=Z,12µm,18.9s
OKC Ostrava-Krasne 76.66 330 *e*P **P** 02 34 54.0 +0.4
OKC *e*S **S** 02 44 36.3 -0.4
OKC *e* 02 44 54.8
OKC MLR MLR
comp=Z,12µm,18.9s
P32A Huiting Farm, 76.66 47 P **P** 02 34 52.7 -1.2
baz=76
TOS Tosya 76.68 315 *e*P **P** 02 34 56.4 +2.4
U27A Thompson Grove 76.68 52 P **P** 02 34 53.3 -0.8
baz=76
DARE Darende-Malaty 76.69 311 *e*P P 02 34 57.6 +3.6
Q31A Ellis 76.69 48 P **P** 02 34 52.9 -1.2
baz=76
GRER 76.71 322⇓ *i*P **P** 02 34 56.4 +2.5
R30A Dighton 76.75 49 P **P** 02 34 53.3 -1.0
baz=76
S29A Ulysses 76.77 50 P **P** 02 34 54.0 -0.6
baz=77
URFA Urfa 76.78 310 *e*P **P** 02 34 56.5 +1.9
TIRR Tirgusor 76.78 321 *e*P **P** 02 34 56.4 +2.0
TIRR Tirgusor 76.78 321 *e*P **P** 02 34 54.2 -0.1
TIRR pmax pmax
comp=Z,286nm,1.3s
TIRR Tirgusor 76.78 321⇑ *i*P **P** 02 34 56.1 +1.8
TIRR Tirgusor 76.78 321 *e*P **P** 02 34 54.2 -0.1
comp=Z,286nm,1.3s
HARR Harsova 76.82 321⇓ *i*P **P** 02 34 55.7 +1.2
ILGA Ilgaz 76.82 315 *i* P **P** 02 34 56.4 +1.4
N34A Lincoln 76.85 45 P **P** 02 34 53.8 -1.0
baz=77
UPC Upice 76.86 331⇑ *e*P **P** 02 34 54.9 +0.2
UPC *ex* x 02 35 10.8
UPC Upice 76.86 331 *e*P **P** 02 34 54.9 +0.2
UPC *e* 02 35 10.8
O33A Hebron 76.86 46 P **P** 02 34 53.8 -1.2
baz=77
DPC Dobruska-Polom 76.88 331⇑ *i*P **P** 02 34 55.1 +0.2
DPC *ex* x 02 35 10.2
DPC *e*PP **PP** **02 37 47.5 0.0**
DPC *e*S **S** **02 44 39.7 +0.5**
DPC *ex* x 02 49 53.6
DPC AMS AMS 03 12 30.0
comp=Z,12µm,15.5s
DPC Dobruska-Polom 76.88 331⇑ *i*P **P** 02 34 55.1 +0.2
DPC *e* 02 35 10.2
DPC *e* 02 37 47.5
DPC *e*S **S** **02 44 39.7 +0.5**
DPC MLR MLR
comp=Z,12µm,15.5s
MORC Moravsky Berou 76.93 330 *e*P **P** 02 34 54.9 -0.3
MORC Moravsky Berou 76.93 330⇑ *i*P **P** 02 34 55.4 +0.2
MORC Moravsky Berou 76.93 330 *e*P **P** 02 34 54.9 -0.3
comp=Z,2µm,1.0s
CORM Corum 77.01 314 *e*P **P** 02 34 57.1 +1.2
T29A Hugoton 77.01 50 P **P** 02 34 55.1 -0.8
baz=77
ATAB Bozova 77.05 310 *i* P **P** 02 34 57.2 +1.1
U28A Mallet 77.05 52 P **P** 02 34 55.7 -0.5
baz=77
MLR Muntele Rosu 77.07 323⇑ *i*P **P** 02 34 56.7 +0.5
PGOR Pogoanele 77.07 322⇑ *i*P **P** 02 34 58.0 +2.0
ESY Stoneypath 77.08 344 *e*P **P** 02 34 56.0 +0.2
CJR Cluj-Napoca 77.10 325⇑ *i*P **P** 02 34 57.7 +1.5
ISR Istrita 77.10 322⇑ *i*P **P** 02 34 57.5 +1.3
S30A Montezuma 77.11 50 P **P** 02 34 55.5 -0.9
baz=77
R31A Burdett 77.15 49 P **P** 02 34 56.1 -0.5
baz=77,SNR=8.1
AMRR Amara 77.15 321⇓ *i*P **P** 02 34 56.8 +0.4
Q32A Meitler Ranch, 77.15 48 P **P** 02 34 55.4 -1.1
baz=77,SNR=12
V27A Dan Oppiter Fa 77.15 52 P **P** 02 34 56.3 -0.4
baz=77,SNR=8.0
EAB Aberfoyle 77.16 345⇑ *e*P **P** 02 34 56.6 +0.4
CLL Collm 77.18 333 *e*P **P** 02 34 55.8 -0.6
comp=Z,613nm,0.9s
CLL Collm 77.18 333 *e*P **P** 02 34 56.0 -0.4
CLL *e*Pmax 02 34 57.0
CLL *e*PP **PP** **02 37 48.0 -1.9**
CLL *e*S **S** **02 44 48.0 +5.8**
CLL *e*PS **PnS** **02 45 28.0 +2.7**
CLL *e*SS SS 02 49 54.0 +15
CLL LmH 03 07 00.0
comp=N,7µm,21.8s
CLL LmH 03 07 00.0
comp=E,14µm,20.9s
CLL Lmax 03 14 00.0
CLL Collm 77.18 333⇓ *e*P **P** 02 34 56.0 -0.4
CLL *e*S **S** **02 44 48.0 +5.8**
CLL Collm 77.18 333 *e*P **P** 02 34 56.0 -0.4
PINB Pinarbasi 77.19 312 *i* P **P** 02 34 57.4 +0.3
SAFT Safranbolu 77.20 316 *e*P P 02 35 00.3 +3.5
CANT Cankiri 77.20 315 *e*P P 02 35 00.2 +3.3
MDB Medias 77.23 324⇓ *i*P **P** 02 34 58.6 +1.8
O34A Beatrice 77.24 46 P **P** 02 34 55.9 -1.2
baz=77,SNR=25
BRG Berggiesshubel 77.24 333 *i* P **P** 02 34 56.9 +0.1

	comp=E,256nm,1.2s										
BRG					PP	**PP**		02 37 47.0	-3.4
BRG					S	**S**		02 44 42.0	-1.0
BRG					SS	**SS**		02 49 44.0	+3.8
BRG					*e*PKPPKP	**P'P'df**		03 02 11.2	+0.6
	comp=E,8.1nm,1.7s										
BRG	**Berggiesshubel**	**77.24**	**333**	*e*P		**P**		02 34 56.3	-0.5
	comp=Z,255nm,1.2s										
BRG	**Berggiesshubel**	**77.24**	**333**	*i* P		**P**		02 34 56.9	+0.1
BRG				*i*				02 35 13.7	
BRG								02 37 47.0	
BRG					S	**S**		02 44 42.0	-1.0
BRG					SS	**SS**		02 49 44.0	+3.8
BRG					pmax	pmax			
	comp=Z,256nm,1.2s										
FORT	**Forrest**	**77.25**	**198**	*e*P		**P**		02 34 55.5	-1.4
	comp=Z,202nm,0.9s										
N35A	**Tabor**	**77.26**	**45**	P		**P**		02 34 56.9	-0.3
	baz=77,SNR=16										
P33A	**Williams Farm,**	**77.27**	**47**	P		**P**		02 34 56.4	-0.9
	baz=77										
EBL	**Broad Law**	**77.30**	**344**⇑	*e*P		**P**		02 34 57.5	+0.4
PVCC	**Panska Ves**	**77.33**	**332**⇑	*e*P		**P**		02 34 57.6	+0.3
PVCC				*e*S		**S**		02 44 44.1	+0.2
PVCC					AMS	AMS		03 12 50.0	
	comp=Z,20µm,16.9s										
PVCC	**Panska Ves**	**77.33**	**332**	*e*P		**P**		02 34 57.6	+0.3
PVCC				*e*S		**S**		02 44 44.1	+0.2
PVCC					MLR	MLR			
	comp=Z,20µm,16.9s										
MSAB	**Monastry St. A**	**77.33**	**321**⇑	*i*P		**P**		02 34 58.1	+0.7
SECR		**77.38**	**322**⇑	*i*P		**P**		02 34 59.5	+1.8
FBE	**Freiberg**	**77.39**	**333**	*e*P		**P**		02 34 57.6	-0.1
	comp=Z,475nm,1.0s										
DRGR		**77.40**	**325**⇑	*i*P		**P**		02 34 58.6	+0.7
R32A	**Long Quarter,**	**77.48**	**48**	P		**P**		02 34 57.6	-0.9
	baz=77,SNR=7.9										
PSN	**Preselentsi**	**77.49**	**320**⇑	*i*P		**P**		02 34 59.6	+1.3
PSN	**Preselentsi**	**77.49**	**320**	*e*P		**P**		02 34 59.3	+1.0
V28A	**Channing**	**77.50**	**52**	P		**P**		02 34 58.4	-0.3
	baz=77,SNR=6.2										
T30A	**Plains**	**77.50**	**50**	P		**P**		02 34 57.7	-0.9
	baz=77										
Q33A	**Connelly Farm,**	**77.53**	**47**	P		**P**		02 34 57.5	-1.1
	baz=77,SNR=70										
GZT	**Gaziantep**	**77.53**	**310**	*i* P		**P**		02 35 00.5	+1.6
U29A	**Oasis Ranch, S**	**77.53**	**51**	P		**P**		02 34 57.5	-1.3
	baz=77										
CLZ	**Clausthal**	**77.53**	**335**	*e*P		**P**		02 34 58.6	+0.1
	comp=Z,662nm,1.1s										
PGBU	**Glenifferbraes**	**77.54**	**345**⇑	*e*P		**P**		02 34 58.7	+0.3
PGBU					AMB	AMB		02 35 03.0	
	comp=Z,494nm,1.2s										
PGBU					AMS	AMS		03 12 11.1	
	comp=Z,5µm,20.3s										
CDAG	**Cicekdag**	**77.55**	**314**	*i* P		**P**		02 34 58.4	-0.5
O35A	**Humboldt**	**77.57**	**45**	P		**P**		02 34 58.0	-0.9
	baz=77										
SULR		**77.58**	**322**⇑	*i*P		**P**		02 34 59.1	+0.3
PSZ	**Piszkesteto**	**77.59**	**328**	*e*P		**P**		02 34 59.0	0.0
PSZ					pmax	pmax			
	comp=Z,868nm,1.5s										
PSZ					MLR	MLR			
	comp=Z,36µm,19.0s										
PSZ	**Piszkesteto**	**77.59**	**328**	*e*P		**P**		02 34 59.0	0.0
	comp=Z,868nm,1.5s										
PSZ					LR	LR			
	comp=Z,36µm,19.0s										
PSZ	**Piszkesteto**	**77.59**	**328**⇑	*e*P		**P**		02 34 59.2	+0.2
P34A	**Walnut Farm, R**	**77.64**	**46**	P		**P**		02 34 58.3	-1.0
	baz=77,SNR=30										
NEUB	**Neuenburg**	**77.65**	**334**	*e*P		**P**		02 34 58.6	-0.5
	comp=Z,602nm,1.1s										
S31A	**Mullinville**	**77.66**	**49**	P		**P**		02 34 58.8	-0.7
	baz=78										
VRAC	**Vranov**	**77.66**	**330**⇑	*i*P		**P**		02 35 00.4	+1.2
SCIA	**State Center**	**77.67**	**42**	*e*P		**P**		02 34 59.9	+0.5
SCIA					LR	LR			
	comp=Z,10µm,21.0s										
ESK	**Eskdalemuir**	**77.76**	**344**	*e*P		**P**		02 34 58.1	-1.5
ESK					AMS	AMS		03 14 12.8	
	comp=Z,9µm,19.2s										
ESK	**Eskdalemuir**	**77.76**	**344**	*e*P		**P**		02 34 59.0	-0.6
ESK					pmax	pmax			
	comp=Z,148nm,0.8s										
ESK					MLR	MLR			
	comp=Z,12µm,20.0s										
ESK	**Eskdalemuir**	**77.76**	**344**	*e*P		**P**		02 34 59.0	-0.6
	comp=Z,148nm,0.8s										
ESK					LR	LR			
	comp=Z,12µm,20.0s										
PRA	**Prague**	**77.76**	**332**⇑	*e*P		**P**		02 35 00.3	+0.5
PRA				*e*S		**S**		02 44 49.2	+0.5
PRA					AMS	AMS		03 13 00.0	
	comp=Z,22µm,16.9s										
PRA	**Prague**	**77.76**	**332**	*e*P		**P**		02 35 00.3	+0.5
PRA				*e*S		**S**		02 44 49.2	+0.5
PRA					MLR	MLR			
	comp=Z,22µm,16.9s										
GOPC	**GO Pecny, Ondr**	**77.78**	**332**⇑	*e*P		**P**		02 35 00.4	+0.5
GOPC				*e*S		**S**		02 44 49.0	+0.1
KMRS	**Kahramanmaras**	**77.78**	**311**	*e*P		**P**		02 35 02.5	+2.3
PRU	**Pruhonice**	**77.80**	**332**⇑	*i*P		**P**		02 34 59.7	-0.3
PRU				*e*pP		**PcP**		02 35 10.8	+1.0
PRU				*e*sP		sP		02 35 11.4	-6.4
PRU				*e*S		**S**		02 44 47.8	-1.2
PRU				*e*XS		**SKSac**		02 45 05.0	-4.9
PRU				*e*x		x		02 50 20.5	
PRU					AMS	AMS		03 12 40.0	
	comp=Z,9µm,17.7s										
PRU	**Pruhonice**	**77.80**	**332**⇑	*i*P		**P**		02 34 59.7	-0.3
PRU				*e*				02 35 10.8	
PRU				*e*				02 35 11.4	
PRU				*e*S		**S**		02 44 47.8	-1.2
PRU				*e*				02 45 05.0	
PRU					MLR	MLR			
	comp=Z,9µm,17.7s										
PRU	**Pruhonice**	**77.80**	**332**	*e*P		**P**		02 34 59.7	-0.3
BBOO	**Buckleboo**	**77.80**	**191**	*e*P		**P**		02 34 59.9	0.0
V29A	**Stinnett**	**77.81**	**51**	P		**P**		02 34 59.5	-0.9
	baz=78										
U30A	**WK&E Inc. Balk**	**77.82**	**50**	P		**P**		02 34 59.4	-1.0
	baz=78,SNR=5.1										
BCAM	**Yenicaga**	**77.83**	**316**	*i* P		**P**		02 35 00.3	-0.2
BR131	**Keskin Array S**	**77.85**	**314**	*e*P		**P**		02 35 00.7	0.0
	comp=Z,57nm,0.8s										
BRTR	**Keskin Array B**	**77.85**	**314**	P		**P**		02 35 00.6	0.0
	comp=Z,82nm,0.9s,baz=76,slow=3.2,SNR=61										
BRTR					LR	LR		03 15 43.8	
	comp=Z,6µm,18.2s,baz=51,slow=41										
W28A	**Vega**	**77.87**	**52**	P		**P**		02 35 00.3	-0.4
	baz=78										
ECK	**Cauldkaine Hil**	**77.87**	**344**⇑	*e*P		**P**		02 35 00.6	+0.4
IBBN	**Ibbenburen**	**77.89**	**337**	*e*P		**P**		02 35 00.2	-0.2
	comp=Z,357nm,1.0s										
HCB	**Kahramanmara¯**	**77.89**	**311**	*i* P		**P**		02 35 00.4	-0.3
S32A	**Newby Ranch, P**	**77.90**	**49**	P		**P**		02 34 59.9	-0.9
	baz=78										
AVNT	**Avonos**	**77.93**	**313**	*i* P		**P**		02 35 01.1	0.0
T31A	**Randall Ranch,**	**77.94**	**49**	P		**P**		02 35 00.1	-0.9
	baz=78										
LCP	**Cassop**	**77.95**	**343**	*e*P		**P**		02 35 00.7	0.0
R33A	**Olander Ranch,**	**77.95**	**48**	P		**P**		02 35 00.1	-1.0
	baz=78,SNR=13										
ANDN	**Andirin**	**78.02**	**311**	*i* P		**P**		02 34 58.7	-2.9
SMOL	**Smolenice**	**78.03**	**329**	*e*P		**P**		02 35 03.0	+1.7
SMOL	**Smolenice**	**78.03**	**329**	*e*P		**P**		02 35 03.0	+1.7
LOT	**Lotru**	**78.04**	**324**	*e*P		**P**		02 35 00.1	-1.4
LOT	**Lotru**	**78.04**	**324**⇑	*i*P		**P**		02 35 01.8	+0.3
Q34A	**Chapman**	**78.05**	**47**	P		**P**		02 35 01.1	-0.5
	baz=78,SNR=14										
DEV	**Deva**	**78.05**	**325**⇑	*i*P		**P**		02 35 02.3	+0.9
TREC	**Trest**	**78.06**	**331**⇑	*i*P		**P**		02 35 01.3	-0.2
TREC				*e*x		x		02 35 16.5	
TREC				*e*S		**S**		02 44 53.3	+1.3
TREC				*e*x		x		02 50 28.7	
TREC					AMS	AMS		03 12 20.0	
	comp=Z,12µm,18.2s										
TREC	**Trest**	**78.06**	**331**⇑	*i*P		**P**		02 35 01.3	-0.2
TREC				*e*				02 35 16.5	
TREC				*e*S		**S**		02 44 53.3	+1.3
TREC					MLR	MLR			
	comp=Z,12µm,18.2s										
P35A	**Duane Minner,**	**78.07**	**46**	P		**P**		02 35 00.8	-0.9
	baz=78,SNR=8.8										
KAMT	**Kaman**	**78.08**	**314**	*e*P		**P**		02 35 02.4	+0.6
KSU1	**Kansas State U**	**78.09**	**46**	P		**P**		02 35 00.8	-1.0
	baz=78,SNR=29										
KSU1	**Kansas State U**	**78.09**	**46**	*e*P		**P**		02 35 00.2	-1.5
KSU1					LR	LR			
	comp=Z,7µm,20.0s										
TANN	**Tannenbergstha**	**78.12**	**333**	*e*P		**P**		02 35 01.5	-0.3
	comp=Z,338nm,1.6s										
KAMA	**Osmaniye**	**78.14**	**311**	*i* P		**P**		02 35 02.1	-0.1
WERD	**Werda**	**78.14**	**333**	*e*P		**P**		02 35 01.7	-0.2
	comp=Z,284nm,1.1s										
O36A	**Bolckow**	**78.15**	**45**	P		**P**		02 35 01.3	-0.8
	baz=78,SNR=6.6										
PLN	**Plauen**	**78.16**	**333**	*e*P		**P**		02 35 01.7	-0.3
	comp=Z,311nm,1.2s										
ANTO	**Ankara**	**78.17**	**315**	*e*P		**P**		02 35 03.0	+0.7
ANTO					pmax	pmax			
	comp=Z,364nm,1.0s										
ANTO					MLR	MLR			
	comp=Z,5µm,20.0s										
ANTO	**Ankara**	**78.17**	**315**⇓	*i*P		**P**		02 35 02.7	+0.4
ANTO	**Ankara**	**78.17**	**315**	P		**P**		02 35 03.2	+0.8
	SNR=65										
ANTO	**Ankara**	**78.17**	**315**	*e*P		**P**		02 35 03.0	+0.7
	comp=Z,364nm,1.0s										
ANTO					LR	LR			
	comp=Z,5µm,20.0s										
LOD	**Lodumlu**	**78.17**	**315**	*e*P		**P**		02 35 02.8	+0.5
MOX	**Moxa**	**78.19**	**334**	*e*P		**P**		02 35 01.8	-0.4
	comp=Z,349nm,1.2s										
GUNZ	**Gunzen**	**78.21**	**333**	*e*P		**P**		02 35 01.9	-0.4
	comp=Z,270nm,1.0s										
PRD	**Provadia**	**78.22**	**320**	*e*P		**P**		02 35 03.8	+1.4
KUZU	**Kuzuini**	**78.22**	**310**	*i* P		**P**		02 35 03.3	+0.7
HUMR	**Humele**	**78.25**	**323**⇑	*i*P		**P**		02 35 02.6	0.0
WERN	**Wernitzgruen**	**78.26**	**333**	*e*P		**P**		02 35 02.3	-0.3
	comp=Z,294nm,1.0s										
W29A	**Amarillo**	**78.28**	**52**	P		**P**		02 35 02.3	-0.8
	baz=78										
T32A	**Hudler Ranch,**	**78.28**	**49**	P		**P**		02 35 02.4	-0.5
	baz=78,SNR=12										
BUD	**Budapest**	**78.29**	**328**⇑	*e*P		**P**		02 35 03.1	+0.4
JFWS	**Jewell Farm**	**78.29**	**40**	*e*P		**P**		02 35 01.7	-1.1
JFWS					pmax	pmax			
	comp=Z,16nm,0.5s										
JFWS					MLR	MLR			
	comp=Z,10µm,22.0s										
JFWS	**Jewell Farm**	**78.29**	**40**	*e*P		**P**		02 35 01.7	-1.1
	comp=Z,16nm,0.5s										
JFWS					LR	LR			
	comp=Z,10µm,22.0s										
GCD	**Castle Douglas**	**78.33**	**344**⇑	*e*P		**P**		02 35 03.2	+0.4
R34A	**Isabella, Hill**	**78.35**	**47**	P		**P**		02 35 02.7	-0.5
	baz=78,SNR=5.1										
AFSR	**Af˙ar-Bala (A**	**78.35**	**315**	*e*P		**P**		02 35 05.8	+2.4
V30A	**Spur Ranch, Mi**	**78.35**	**51**	P		**P**		02 35 03.2	-0.2
	baz=78										
U31A	**Nine Bar Ranch**	**78.38**	**50**	P		**P**		02 35 03.1	-0.4
	baz=78										
KOZT	**Kozan**	**78.38**	**312**	*e*P		**P**		02 35 04.2	+0.8
X28A	**Dimnitt**	**78.41**	**53**	P		**P**		02 35 03.6	-0.2
	baz=78,SNR=13										
P36A	**Good Intent, A**	**78.42**	**45**	P		**P**		02 35 02.8	-0.8
	baz=78,SNR=11										
KESW	**Keswick, Cumbr**	**78.42**	**344**	*e*P		**P**		02 35 03.6	+0.3
KESW					AMB	AMB		02 35 08.0	
	comp=Z,399nm,1.1s										
KESW					AMS	AMS		03 14 31.4	
	comp=Z,9µm,20.1s										
AMTX	**Amarillo**	**78.44**	**52**	P		**P**		02 35 03.6	-0.3
	baz=78										
AMTX	**Amarillo**	**78.44**	**52**	*e*P		**P**		02 35 04.2	+0.3
	comp=Z,85nm,0.8s										
PKSN	**Nyarlorinc**	**78.45**	**327**	*e*P		**P**		02 35 04.7	+1.1
WTSB	**Winterswijk**	**78.46**	**337**	*e*P		**P**		02 35 03.2	-0.4
	comp=Z,915nm,1.7s										
MSTX	**Muleshoe**	**78.47**	**54**	P		**P**		02 35 03.6	-0.5
	baz=78										
MSTX	**Muleshoe**	**78.47**	**54**	*e*P		**P**		02 35 04.9	+0.8
	comp=Z,79nm,1.2s										
S33A	**Kaszmaul Farm,**	**78.47**	**48**	P		**P**		02 35 03.0	-1.0
	baz=78										
GAL1	**Galloway**	**78.47**	**345**	*e*P		**P**		02 35 03.5	-0.1
GAL1					AMB	AMB		02 35 07.8	
	comp=Z,249nm,1.1s										
GAL1					AMS	AMS		03 14 39.1	
	comp=Z,6µm,19.0s										
GZR	**Gura Zlata**	**78.50**	**324**⇑	*i*P		**P**		02 35 04.6	+0.6
BTAS	**Taskesti**	**78.54**	**317**	*i* P		**P**		02 35 04.2	-0.1
UBBA	**Unterbreizbach**	**78.54**	**335**	*e*P		**P**		02 35 03.2	-0.7
	comp=Z,469nm,1.8s										
NIG	**Nigde**	**78.56**	**313**	*e*P		**P**		02 35 05.9	+1.2
Q35A	**Mercer Eighty,**	**78.56**	**46**	P		**P**		02 35 03.4	-1.0
	baz=78,SNR=14										
PKS7	**Kunszentmiklos**	**78.59**	**327**⇓	*e*P		**P**		02 35 05.5	+1.1
PKSG		**78.60**	**328**	*e*P		**P**		02 35 05.2	+0.8
CSKK	**Cs˙tkako**	**78.68**	**328**⇓	*e*P		**P**		02 35 05.6	+0.7
HPK	**Haverah Park**	**78.71**	**343**	*e*P		**P**		02 35 04.7	-0.3
HPK					AMB	AMB		02 35 09.5	
	comp=Z,402nm,1.0s										
HPK					AMS	AMS		03 14 35.1	
	comp=Z,8µm,19.5s										
T33A	**Patterson Ranc**	**78.72**	**49**	P		**P**		02 35 04.2	-1.1
	baz=78										
X29A	**Tulia**	**78.74**	**53**	P		**P**		02 35 05.7	+0.1
	baz=78,SNR=16										
ROTZ	**Rotzenmuhle**	**78.76**	**333**	*e*P		**P**		02 35 05.3	0.0
	comp=Z,341nm,1.1s										
CEYT	**Ceyhan**	**78.77**	**311**	*e*P		P		02 35 08.9	+3.4
Q36A	**Arnold C. Orve**	**78.78**	**46**	P		**P**		02 35 04.4	-1.3
	baz=79										
SPNC	**Sapanca-Adapaz**	**78.79**	**317**	*e*P		**P**		02 35 07.3	+1.7
BZS	**Buzias**	**78.80**	**325**	*e*P		**P**		02 35 06.2	+0.6
BZS	**Buzias**	**78.80**	**325**⇓	*i*P		**P**		02 35 05.3	-0.2
BUG	**Bochum--Univer**	**78.80**	**337**	*e*P		**P**		02 35 05.0	-0.4
	comp=Z,390nm,1.2s										
V31A	**Spring Creek L**	**78.81**	**51**	P		**P**		02 35 06.4	+0.5
	baz=79,SNR=14										
Y28A	**McKinney Farm,**	**78.82**	**53**	P		**P**		02 35 04.7	-1.3
	baz=79										
SZH	**Strazhica**	**78.83**	**321**	*e*P		**P**		02 35 06.2	+0.4
U32A	**Winter Ranch,**	**78.83**	**50**	P		**P**		02 35 05.8	-0.1
	baz=79,SNR=5.9										
W30A	**Crocket Farms**	**78.84**	**51**	P		**P**		02 35 05.7	-0.4
	baz=79										
PKST	**T¯'s**	**78.85**	**328**	*e*P		**P**		02 35 06.4	+0.6
KHC	**Kasperske Hory**	**78.86**	**332**⇑	*i*P		**P**		02 35 05.9	0.0
KHC				*e*PP		**PP**		02 38 04.3	+0.3
KHC				*e*S		**S**		02 45 00.4	-0.1
KHC				*e*XS		**SKKSac**		02 45 19.6	+0.7
KHC					AMS	AMS		03 13 30.0	
	comp=Z,28µm,17.4s										
KHC	**Kasperske Hory**	**78.86**	**332**⇑	*i*P		**P**		02 35 05.9	0.0
KHC				*e*				02 38 04.3	
KHC				*e*S		**S**		02 45 00.4	-0.1
KHC				*e*				02 45 19.6	
KHC					MLR	MLR			
	comp=Z,28µm,17.4s										
KHC	**Kasperske Hory**	**78.86**	**332**	*e*P		**P**		02 35 05.9	0.0
KHC	**Kasperske Hory**	**78.86**	**332**	*e*P		**P**		02 35 05.8	0.0
	comp=Z,204nm,1.0s										
S34A	**Willow Spring**	**78.87**	**48**	P		**P**		02 35 05.5	-0.6
	baz=79										
R35A	**Emporia Munici**	**78.88**	**47**	P		**P**		02 35 05.5	-0.6
	baz=79,SNR=17										
GULT	**Gulveren**	**78.88**	**317**	*e*P		**P**		02 35 07.4	+1.2
LMK	**Market Rasen**	**78.89**	**342**	*e*P		**P**		02 35 05.7	-0.2
LMK					AMB	AMB		02 35 10.9	
	comp=Z,213nm,1.4s										
LMK					AMS	AMS		03 12 57.6	
	comp=Z,7µm,20.6s										
SRE	**Strehaia**	**78.91**	**324**⇑	*i*P		**P**		02 35 07.8	+1.6
KARA	**Karaisali**	**78.95**	**312**	*e*P		**P**		02 35 07.3	+0.7
YURE	**YUREGIR**	**78.96**	**311**	*i* P		**P**		02 35 08.4	+1.7
HRT	**Hereke**	**79.00**	**317**	*e*P		**P**		02 35 08.5	+1.7
PKS2	**Kecel**	**79.03**	**327**⇓	*e*P		**P**		02 35 09.0	+2.2
SOP	**Sopron**	**79.04**	**329**⇑	*e*P		**P**		02 35 07.3	+0.5
GEC2	**GERESS Array S**	**79.06**	**332**	*e*P		**P**		02 35 06.6	-0.5
	comp=Z,168nm,1.0s										
GERES	**GERESS Array B**	**79.06**	**332**	P		**P**		02 35 06.6	-0.5
	comp=Z,42nm,0.4s,baz=38,slow=5.7,SNR=125										
GERES					PKKPbc	**PKKPbc**		02 53 57.6	+0.3
	comp=Z,0.5nm,0.7s,baz=146,slow=2.6,SNR=4.8										
GERES					LR	LR		03 14 20.0	
	comp=Z,22µm,18.2s,baz=30,slow=39										
SULT	**Sultanhani-AKS**	**79.06**	**313**	*e*P		**P**		02 35 09.5	+2.2
WET	**Wettzell**	**79.08**	**332**	*e*P		**P**		02 35 07.2	+0.1
	comp=Z,498nm,1.1s										
CONA	**Conrad Observa**	**79.09**	**330**	*i* P		**P**		02 35 07.6	+0.4
	comp=Z,499nm,1.8s,SNR=258										
ISK	**Istanbul-Kandi**	**79.10**	**318**	*e*P		P		02 35 11.3	+4.0
AUSIV	**SIVRIHISAR**	**79.13**	**315**	*i* P		**P**		02 35 05.8	-1.8
SVRH	**Sivrihisar-ESK**	**79.14**	**315**	*e*P		**P**		02 35 07.9	+0.3
LHO	**Holmfirth**	**79.14**	**343**	*e*P		**P**		02 35 06.1	-1.3
GRF	**Grafenberg Arr**	**79.15**	**333**	*e*P		**P**		02 35 07.5	+0.1
	comp=Z,598nm,0.9s										
GRF				*e*L		L		03 09 55.6	
	comp=N,10µm,20.9s										
GRFO	**Grafenberg**	**79.15**	**333**	*e*P		**P**		02 35 07.4	0.0
GRFO					pmax	pmax			
	comp=Z,532nm,1.0s										
GRFO	**Grafenberg**	**79.15**	**333**	*e*P		**P**		02 35 07.4	0.0
	comp=Z,532nm,1.0s										
BGKT	**Bogazkoy**	**79.15**	**318**	*e*P		**P**		02 35 08.5	+0.9
JMB	**Yambol**	**79.17**	**320**	P		**P**		02 35 09.7	+2.1
JMB	**Yambol**	**79.17**	**320**	P		**P**		02 35 09.7	+2.1
JMB	**Yambol**	**79.17**	**320**	*e*P		**P**		02 35 08.8	+1.2
JMB	**Yambol**	**79.17**	**320**	P		**P**		02 35 09.7	+2.1
BANR	**Banloc**	**79.18**	**325**⇑	*i*P		**P**		02 35 07.8	+0.2
Y29A	**Porterfield Fa**	**79.18**	**53**	P		**P**		02 35 08.0	0.0
	baz=79,SNR=9.9										
Z28A	**Tucker Farm, M**	**79.19**	**54**	P		**P**		02 35 07.8	-0.3
	baz=79,SNR=9.9										
W31A	**Holland Ranch,**	**79.19**	**51**	P		**P**		02 35 08.0	0.0
	baz=79,SNR=19										
X30A	**Coker Ranch, T**	**79.21**	**52**	P		**P**		02 35 07.9	-0.2
	baz=79										
CTKS	**Kestanelik-??a**	**79.23**	**318**	*e*P		**P**		02 35 09.7	+1.7
BUY	**Buyukada**	**79.24**	**318**	*i* P		**P**		02 35 06.8	-1.3
GLMI	**Grayling**	**79.24**	**36**	*e*P		**P**		02 35 08.4	+0.4
	comp=Z,148nm,0.8s										
GLMI					LR	LR			
	comp=Z,7µm,20.0s										
R36A	**Gordon, Harris**	**79.24**	**46**	P		**P**		02 35 07.6	-0.5
	baz=79,SNR=59										
ADVT	**Abdulvahap**	**79.26**	**317**	*e*P		**P**		02 35 10.6	+2.4
U33A	**Lingo Farm, Me**	**79.27**	**49**	P		**P**		02 35 08.3	-0.1
	baz=79										
KRTS	**Karatas**	**79.29**	**311**	*e*P		**P**		02 35 09.7	+1.3
YAYL	**Yayladag**	**79.29**	**310**	*i* P		**P**		02 35 05.8	-2.8
V32A	**Arapaho**	**79.29**	**50**	P		**P**		02 35 08.6	+0.1
	baz=79										
S35A	**Otter Creek Ra**	**79.30**	**47**	P		**P**		02 35 08.0	-0.5
	baz=79,SNR=19										
GMM	**Mts of Mourne**	**79.30**	**345**⇑	*e*P		**P**		02 35 08.4	+0.2
PKS9	**Tamasi**	**79.32**	**328**⇓	*e*P		**P**		02 35 08.7	+0.3
T34A	**McClaskey Farm**	**79.33**	**48**	P		**P**		02 35 08.2	-0.5
	baz=79,SNR=17										
BORA	**Eskisehir**	**79.34**	**316**	*i* P		**P**		02 35 06.6	-2.2
ELBA	**Catalca**	**79.34**	**318**	*i* P		P		02 35 19.3	+11
Q37A	**Longview Farm,**	**79.36**	**45**	P		**P**		02 35 08.1	-0.6
	baz=79,SNR=18										
SLVT	**Silivri**	**79.38**	**319**	*e*P		**P**		02 35 10.9	+2.1
KIZT	**Kizilcal**	**79.39**	**315**	*e*P		**P**		02 35 09.9	+0.9
PHSR	**Pinarhisar**	**79.39**	**319**	*e*P		**P**		02 35 10.9	+2.0
CAVI	**Cavuskoy**	**79.39**	**317**	*e*P		**P**		02 35 10.7	+1.7
ESKT	**Eskisehir**	**79.42**	**316**	*e*P		**P**		02 35 11.1	+1.9
SEYT	**Eskypehyr**	**79

PLD Plovdiv 80.30 321 P P 02 35 15.3 +1.5
SHUT Suhut-Afyon 80.31 315 *e*P P 02 35 14.6 +0.6
RJOB Jochberg 80.32 332 *e*P P 02 35 13.8 -0.1
comp=Z,188nm,1.0s
HLM1 Long Mynd 80.33 343⇑ *e*P P 02 35 14.5 +0.8
HLM1 AMB AMB 02 35 18.4
comp=Z,203nm,1.4s
HLM1 AMS AMS 03 17 42.9
comp=Z,6µm,17.7s
DSB Dublin 80.33 345 *e*P P 02 35 13.5 -0.2
comp=Z,177nm,1.0s
Y32A R-V Farms, Ver 80.34 51 P P 02 35 14.1 -0.1
baz=80,SNR=16
KDZ Kurdzhali 80.34 321⇓ *i*P P 02 35 15.5 +1.4
KDZ Kurdzhali 80.34 321 *e*P P 02 35 14.9 +0.8
W34A Bridge Creek, 80.35 50 P P 02 35 14.0 -0.2
baz=80,SNR=9.8
W34A Bridge Creek, 80.35 50 *e*P P 02 35 14.7 +0.5
comp=Z,115nm,1.1s
GDZ Gediz 80.42 316 *i*P P 02 35 14.6 -0.1
SOKA Soboth 80.45 330 *i*P P 02 35 14.4 -0.2
comp=Z,577nm,1.5s,SNR=315
Z31A Sharp Cattle R 80.45 52 P P 02 35 14.7 -0.1
baz=80,SNR=25
PERS Pernice 80.45 330 *i*P P 02 35 14.1 -0.5
PERS *e*S S 02 45 17.0 -0.5
PERS *i*SKSac ScS 02 45 36.8 -0.3
T37A Cheneyville 18 80.45 47 P P 02 35 14.3 -0.4
baz=80,SNR=20
FUR Furstenfeldbru 80.46 333 *e*P P 02 35 14.7 +0.1
comp=Z,693nm,1.2s
V35A Meyer Ranch, C 80.46 49 P P 02 35 14.7 -0.1
baz=80
SNF Seneffe 80.46 338 P P 02 35 15.0 +0.5
X33A Lawton 80.47 51 P P 02 35 14.0 -0.8
baz=80
229A Bryant Ranch, 80.48 54 P P 02 35 15.2 +0.2
baz=80,SNR=22
130A Snyder 80.51 53 P P 02 35 14.6 -0.6
baz=80,SNR=8.8
DURS Dursunbey 80.52 317 *i*P P 02 35 13.6 -1.5
HDMB Hadim 80.53 313 *e*P P 02 35 14.9 -0.5
ERMK Ermenek 80.55 313 *i*P P 02 35 15.4 -0.1
VTS Vitosha 80.57 322 P P 02 35 17.4 +1.9
VTS Vitosha 80.57 322 P P 02 35 17.4 +1.9
VTS Vitosha 80.57 322⇑ *i*P P 02 35 16.3 +0.8
VTS Vitosha 80.57 322 *e*P P 02 35 15.2 -0.3
VTS Vitosha 80.57 322 P P 02 35 17.4 +1.9
HDIL Hopedale 80.58 41 *e*P P 02 35 15.3 0.0
comp=Z,163nm,0.8s
HDIL LR LR
comp=Z,5µm,19.0s
STU Stuttgart 80.59 334 *e*P P 02 35 14.7 -0.5
comp=Z,408nm,1.2s
STU Stuttgart 80.59 334 *e*P P 02 35 15.4 +0.2
STU pmax pmax
comp=Z,404nm,1.1s
STU Stuttgart 80.59 334 *e*P P 02 35 15.4 +0.2
comp=Z,404nm,1.1s
RZN Rozhen 80.63 321 *e*P P 02 35 17.7 +1.9
ALN Alexandroupoli 80.65 320 *e*P P 02 35 16.1 +0.4
ALN Alexandroupoli 80.65 320 P P 02 35 16.9 +1.2
ALN Alexandroupoli 80.65 320 P P 02 35 16.9 +1.2
ALN Alexandroupoli 80.65 320 P P 02 35 16.9 +1.2
HWQ Hawqa 80.68 309 *e*P P 02 35 17.1 +1.0
RDO Rodhopi 80.69 320 *e*P P 02 35 17.0 +1.1
DIVS Divibare 80.70 325 P P 02 35 17.2 +1.2
DIVS Divibare 80.70 325⇑ *i*P P 02 35 16.1 +0.1
KBA Koelnbreinsper 80.70 331 *i*P P 02 35 16.6 +0.5
comp=Z,396nm,1.1s,SNR=148
WLF Walferdange 80.71 336 P P 02 35 15.8 -0.1
comp=Z,146nm,1.8s
WLF Walferdange 80.71 336 *e*P P 02 35 16.3 +0.4
WLF pmax pmax
comp=Z,284nm,1.4s
WLF MLR MLR
comp=Z,17µm,19.0s
WLF Walferdange 80.71 336 *e*P P 02 35 16.2 +0.4
comp=Z,284nm,1.4s
WLF LR LR
comp=Z,17µm,19.0s
EREN Erenkoy 80.72 311 *e*P P 02 35 16.9 +0.8
329A Wagon Wheel Ra 80.73 55 P P 02 35 16.3 -0.1
baz=80,SNR=24
ENEZ Enez 80.73 320 *e*P P 02 35 16.9 +0.8
LPK Lapseki 80.73 319 *e*P P 02 35 18.1 +2.0
DOU Dourbes 80.75 338 P P 02 35 15.9 -0.2
comp=Z,90nm,1.6s
OBKA Obir 80.76 330⇓ *i*P P 02 35 16.2 -0.1
comp=Z,54nm,0.7s,SNR=44
BALB Balikesir 80.78 318 *e*P P 02 35 18.6 +2.2
131A Roby 80.78 53 P P 02 35 16.3 -0.3
baz=81,SNR=9.7
X34A Smith Ranch, M 80.79 50 P P 02 35 15.7 -0.8
baz=81,SNR=19
Y33A Hilltop Ranch, 80.79 51 P P 02 35 15.9 -0.7
baz=81,SNR=19
BALY Balya 80.82 318 *i*P P 02 35 15.8 -0.9
LPIG La Paz 80.83 65 P P 02 35 17.9 +1.0
comp=Z,23nm,0.3s,baz=259,slow=5.2,SNR=3.7
Z32A Haskell 80.83 52 P P 02 35 16.6 -0.2
baz=81,SNR=21
LANF Langenberg 80.83 335⇑ *e*P P 02 35 17.2 +0.6
DEMI Demirci 80.84 317 *i*P P 02 35 15.3 -1.5
MCH1 Michaelchurch 80.84 343 AMB AMB 02 35 18.5
comp=Z,269nm,1.1s
MCH1 AMS AMS 03 18 03.7
comp=Z,7µm,18.5s
GELI Tayfur-Gelibol 80.85 319 *e*P P 02 35 16.9 +0.2
STRD Stroud 80.87 342⇑ *e*P P 02 35 16.5 -0.1
STRD AMB AMB 02 35 21.3
comp=Z,435nm,1.2s
STRD AMS AMS 03 15 27.4
comp=Z,9µm,21.2s
ISP Isparta 80.88 315 *e*P P 02 35 15.9 -1.2
ISP Isparta 80.88 315 P P 02 35 17.8 +0.7
ISP Isparta 80.88 315 *e*P P 02 35 16.8 -0.3
ISP pmax pmax
comp=Z,61nm,0.9s
ISP MLR MLR
comp=Z,8µm,20.0s
ISP Isparta 80.88 315⇑ *i*P P 02 35 18.2 +1.1
ISP Isparta 80.88 315 *e*P P 02 35 16.8 -0.3
comp=Z,61nm,0.9s
ISP LR LR
comp=Z,8µm,20.0s
W35A Tecumseh 80.90 49 P P 02 35 16.7 -0.5
baz=81,SNR=20
SUTC Sutluce-Ispart 80.90 315 *e*P P 02 35 17.3 0.0
TUL1 Leonard 80.91 48 P P 02 35 16.9 -0.2
baz=81,SNR=28
TUL1 Leonard 80.91 48 *e*P P 02 35 16.2 -1.0
comp=Z,51nm,0.6s
V36A Jenks 80.92 48 P P 02 35 17.3 0.0
baz=81
230A Sterling City 80.94 54 P P 02 35 17.2 -0.3
baz=81,SNR=30
MONM Monmouth 80.95 343⇑ *e*P P 02 35 16.4 -0.6
MONM AMB AMB 02 35 22.2
comp=Z,320nm,1.0s
MONM AMS AMS 03 18 18.1
comp=Z,6µm,17.6s
LPW Lampeter 80.95 343 *e*P P 02 35 17.0 -0.1
LPW AMB AMB 02 35 21.6
comp=Z,240nm,1.8s
LPW AMS AMS 03 15 56.2
comp=Z,8µm,19.6s
SISC Sisak 80.97 328 *i*P P 02 35 18.8 +1.5
MENF Mencas 80.98 339⇑ *e*P P 02 35 18.8 +1.6
MYKA Terra Mystica 80.98 330 *i*P P 02 35 17.1 -0.4
comp=Z,156nm,1.0s,SNR=64
SWN1 Swindon 81.03 342⇑ *e*P P 02 35 17.3 -0.2
SWN1 AMB AMB 02 35 22.9
comp=Z,418nm,1.0s
SWN1 AMS AMS 03 13 39.8
comp=Z,5µm,21.8s
WATA Walderalm 81.08 332⇑ *i*P P 02 35 17.9 -0.1
comp=Z,101nm,0.5s,SNR=76
WOL Wolverton 81.09 341⇑ *e*P P 02 35 17.0 -0.9
WOL AMB AMB 02 35 22.3
comp=Z,251nm,0.7s
WOL AMS AMS 03 13 42.4
comp=Z,6µm,21.0s
RBK Rabkut 81.10 286 P P 02 35 20.1 +1.6
SNR=7.7
BHL Bhannes 81.12 309 *e*P P 02 35 18.1 -0.4

BCK Bucak 81.12 315 *e*P P 02 35 18.1 -0.3
WTTA Wattenberg 81.12 332⇑ *i*P P 02 35 18.9 +0.5
comp=Z,314nm,0.9s,SNR=117
HMNX Herstmonceux 81.14 340⇑ *e*P P 02 35 19.5 +1.4
HMNX AMB AMB 02 35 23.3
comp=Z,736nm,1.3s
HMNX AMS AMS 03 17 12.8
comp=Z,6µm,16.3s
MMB Musomiste 81.15 322⇓ *i*P P 02 35 18.8 +0.4
MMB Musomiste 81.15 322 *e*P P 02 35 18.8 +0.4
GAZI Gazipasa 81.17 313 *i*P P 02 35 16.9 -1.7
LJU Ljubljana 81.17 330 *i*P P 02 35 18.1 -0.2
LJU *e*S S 02 45 22.9 -1.9
LJU *e*SKSac ScS 02 45 41.3 -1.6
LJU *e*SS tx 02 51 42.6
KKB Krupnik 81.21 322 *e*P P 02 35 19.5 +0.8
BATH Bath 81.22 342⇑ *e*P P 02 35 19.1 +0.6
BATH AMS AMS 03 15 37.6
comp=Z,9µm,19.9s
RETA Reutte 81.22 333⇑ *i*P P 02 35 18.8 +0.1
comp=Z,316nm,1.2s,SNR=163
SMTH Samothraki Isl 81.23 320 *e*P P 02 35 19.4 +0.6
MOTA Moosalm 81.23 332⇑ *i*P P 02 35 18.6 -0.2
comp=Z,680nm,1.4s,SNR=285
ABTX Abilene, Hawle 81.24 53 P P 02 35 18.8 -0.2
baz=81,SNR=8.2
ABTX Abilene, Hawle 81.24 53 *e*P P 02 35 18.9 -0.2
comp=Z,37nm,0.9s
LFK Lefkose 81.25 311 *e*P P 02 35 20.5 +1.4
Z33A Whitaker Ranch 81.25 52 P P 02 35 18.6 -0.4
baz=81
BFO Black Forest 81.25 335 P P 02 35 19.2 +0.4
comp=Z,712nm,1.1s,SNR=13
BFO Black Forest 81.25 335 *e*P P 02 35 18.2 -0.6
comp=Z,240nm,1.2s
BFO Black Forest 81.25 335 *e*P P 02 35 18.2 -0.6
BFO pmax pmax
comp=Z,250nm,1.3s
BFO MLR MLR
comp=Z,5µm,19.0s
BFO Black Forest 81.25 335 *e*P P 02 35 18.2 -0.6
comp=Z,250nm,1.3s
BFO LR LR
comp=Z,5µm,19.0s
330A Mertzon 81.25 54 P P 02 35 19.0 -0.2
baz=81,SNR=30
W36A Wetumka 81.26 49 P P 02 35 18.9 -0.1
baz=81,SNR=30
KULA Kula-Manisa 81.27 317 *e*P P 02 35 20.2 +1.1
V37A Hulbert 81.27 48 P P 02 35 18.9 -0.2
baz=81,SNR=52
KAVA Kavala 81.28 321 P P 02 35 20.5 +1.5
KAVA Kavala 81.28 321 *e*P P 02 35 21.4 +2.4
KAVA Kavala 81.28 321 P P 02 35 20.5 +1.5
ABTA Abfaltersbach 81.28 331 *i*P P 02 35 18.7 -0.3
comp=Z,170nm,1.5s,SNR=68
GADA Gvkgeada 81.28 319 *e*P P 02 35 18.1 -0.9
TXAR Lajitas Array 81.28 57 P P 02 35 18.6 -0.8
comp=Z,52nm,0.6s,baz=298,slow=3.3,SNR=185
TXAR PKKP **PKKPdf** 02 53 44.0 +3.0
comp=Z,1.1nm,1.1s,baz=236,slow=0.5,SNR=4.7
TXAR PKKPbc **PKKPbc** 02 53 53.6 +1.6
comp=Z,1.4nm,0.9s,baz=154,slow=4.0,SNR=7.9
TXAR PKPPKP **P'P'df** 03 02 03.6 +1.3
comp=Z,0.3nm,0.8s,baz=151,slow=2.9,SNR=4.6
TXAR LR LR 03 06 48.0
comp=Z,4µm,21.8s,baz=0.0,slow=32
NVR Nevrokopi 81.28 321 *e*P P 02 35 19.8 +0.7
Y34A Reagan Ranch, 81.31 50 P P 02 35 19.0 -0.3
baz=81,SNR=16
DQRL Deir Qamar 81.31 309 *e*P P 02 35 20.2 +0.8
RCY Rachaya 81.32 309 *e*P P 02 35 19.5 -0.1
MANT Manisa 81.34 317 *i*P P 02 35 20.3 +0.6
231A Bronte 81.36 53 P P 02 35 19.5 -0.2
baz=81,SNR=11
BOJS Bojanci 81.36 329 *i*P P 02 35 19.3 -0.1
BOJS *e*S S 02 45 25.1 -1.8
BOJS *e*SS tx 02 51 46.9
EZN Ezine 81.37 319 *e*P P 02 35 21.5 +2.0
AKHS Akhisar 81.40 317 *i*P P 02 35 19.8 0.0
AKS Akhisar 81.40 317 *e*P P 02 35 20.9 +1.2
429A Davenport Ranc 81.41 55 P P 02 35 19.5 -0.4
baz=81,SNR=37
X35A Drake 81.41 50 P P 02 35 19.3 -0.6
baz=81,SNR=28
JAVS Javornik 81.47 330 *i*P P 02 35 18.6 -1.4
JAVS *e*S S 02 45 26.1 -2.1
BOZC Bozcaada 81.48 319 *i*P P 02 35 19.3 -0.8
ANTB Antalya 81.52 314 *e*P P 02 35 19.3 -1.1
529A Stev Forest Ra 81.58 56 P P 02 35 21.0 +0.1
baz=81,SNR=84
PLE Pljevlja 81.58 325⇑ *i*P P 02 35 20.6 -0.2
SRS Serrai 81.59 321 P P 02 35 21.9 +1.2
SRS Serrai 81.59 321 *e*P P 02 35 22.1 +1.4
SRS Serrai 81.59 321 P P 02 35 21.9 +1.2
SRS Serrai 81.59 321 P P 02 35 21.9 +1.2
CSS Prodhromos 81.59 311 *e*P P 02 35 22.1 +1.3
CSS Prodhromos 81.59 311 P P 02 35 22.3 +1.4
CSS Prodhromos 81.59 311 *e*P P 02 35 21.0 +0.1
comp=Z,26nm,0.8s
CSS LR LR
comp=Z,3µm,19.0s
KORT Korkueli 81.60 315 *i*P P 02 35 19.3 -1.7
AYVA Ayvalik 81.61 318 *i*P P 02 35 21.7 +0.9
X36A Centrahoma 81.62 49 P P 02 35 20.8 -0.2
baz=81,SNR=18
SLM Saint Louis 81.64 43 *e*P P 02 35 21.1 +0.1
SLM pmax pmax
comp=Z,140nm,1.1s
SLM Saint Louis 81.64 43 *e*P P 02 35 21.1 +0.1
comp=Z,140nm,1.1s
FETA Feichten 81.64 332 *i*P P 02 35 21.5 +0.4
comp=Z,138nm,1.0s,SNR=94
Z34A Collier Ranch, 81.66 51 P P 02 35 20.8 -0.4
baz=82
133A Hamilton Ranch 81.67 52 P P 02 35 20.8 -0.4
baz=82,SNR=7.3
430A Baggett Ranch, 81.67 55 P P 02 35 21.2 -0.2
baz=82,SNR=56
DAVA Damuels 81.68 333 *i*P P 02 35 21.4 +0.1
comp=Z,261nm,1.3s,SNR=113
W37A Quinton 81.69 48 P P 02 35 21.6 +0.3
baz=82,SNR=38
AAM Ann Arbor 81.70 36 *e*P P 02 35 21.9 +0.7
AAM pmax pmax
comp=Z,38nm,0.6s
AAM MLR MLR
comp=Z,5µm,21.0s
AAM Ann Arbor 81.70 36 *e*P P 02 35 21.9 +0.7
comp=Z,38nm,0.6s
AAM LR LR
comp=Z,5µm,21.0s
ECH Echery 81.71 335⇑ *e*P P 02 35 23.0 +1.8
ECH Echery 81.71 335 *e*P P 02 35 20.5 -0.7
ECH pmax pmax
comp=Z,309nm,1.3s
ECH MLR MLR
comp=Z,11µm,19.0s
ECH Echery 81.71 335 *e*P P 02 35 20.5 -0.7
comp=Z,309nm,1.3s
ECH LR LR
comp=Z,11µm,19.0s
LEF Lefka 81.71 312 *e*P P 02 35 21.7 +0.3
TRI Trieste 81.73 330 *e*P P 02 35 19.7 -1.6
TRI pmax pmax
comp=Z,181nm,1.0s
TRI Trieste 81.73 330 *e*P P 02 35 19.7 -1.6
comp=Z,181nm,1.0s
SFIN Lafayette 81.74 40 P P 02 35 21.0 -0.4
baz=82
SFIN Lafayette 81.74 40 *e*P P 02 35 21.4 -0.1
comp=Z,193nm,1.4s
Y35A Marietta 81.74 50 P P 02 35 21.4 -0.2
baz=82
IVA Berane 81.75 325⇑ *i*P P 02 35 21.3 -0.3
331A San Angelo 81.76 54 P P 02 35 21.4 -0.4
baz=82,SNR=27
232A Coleman 81.78 53 P P 02 35 21.7 -0.2
baz=82,SNR=44
GOLH Golhisar 81.82 315 *i*P P 02 35 19.4 -2.7
ABTO Aybut 81.83 286 P P 02 35 24.3 +1.9
SNR=9.7
SKO Skopje 81.84 323 P P 02 35 23.9 +1.9
SKO Skopje 81.84 323 *i*P P 02 35 22.4 +0.4
SKO Skopje 81.84 323 P P 02 35 23.9 +1.9

SKO Skopje 81.84 323 P P 02 35 23.9 +1.9
LIA Limnos Island 81.84 320 *e*P P 02 35 22.4 +0.4
PRK Paraskevi 81.85 319 *e*P P 02 35 23.5 +1.4
KNT Kendrikon 81.86 322 *e*P P 02 35 23.6 +1.5
KNT Kendrikon 81.86 322 P P 02 35 23.7 +1.5
KNT Kendrikon 81.86 322 P P 02 35 23.7 +1.5
KNT Kendrikon 81.86 322 P P 02 35 23.7 +1.5
VAY Valandovo 81.88 322 P P 02 35 23.1 +0.9
VAY Valandovo 81.88 322 *i*P P 02 35 22.4 +0.2
VAY Valandovo 81.88 322 P P 02 35 23.1 +0.9
VAY Valandovo 81.88 322 P P 02 35 23.1 +0.9
UPM Unac-Piva 81.89 325 *e*P P 02 35 21.7 -0.7
HEX Exmoor 81.89 343 *e*P P 02 35 22.1 0.0
SOH Sokhos 81.94 321 P P 02 35 23.6 +1.0
SOH Sokhos 81.94 321 P P 02 35 23.6 +1.0
SOH Sokhos 81.94 321 P P 02 35 23.6 +1.0
PVY Plav 81.96 324⇑ *i*P P 02 35 23.0 +0.2
UDBI Udbina 82.00 328 *i*P P 02 35 23.3 +0.4
ELL Elmali 82.02 315 *e*P P 02 35 24.4 +1.2
MOF Molkenrain 82.04 335⇑ *e*P P 02 35 24.7 +1.6
IZM Izmir 82.05 317 *e*P P 02 35 25.3 +2.1
THEF They Montfort 82.05 336⇑ *e*P P 02 35 24.9 +1.9
Z35A Perchaven, San 82.06 51 P P 02 35 22.4 -0.9
baz=82
SIGR SIGRI 82.08 319 *e*P P 02 35 23.0 -0.3
SIGR SIGRI 82.08 319 P P 02 35 24.5 +1.2
SIGR SIGRI 82.08 319 *e*P P 02 35 25.2 +1.9
SIGR SIGRI 82.08 319 P P 02 35 24.5 +1.2
530A J-C Ranch, Com 82.08 55 P P 02 35 23.4 -0.2
baz=82,SNR=68
AYDB Zeytinkoy-Aydi 82.10 317 *e*P P 02 35 25.8 +2.2
HTL Hartland 82.10 343 *e*P P 02 35 22.5 -0.6
HTL AMB AMB 02 35 27.9
comp=Z,336nm,1.5s
HTL AMS AMS 03 15 59.4
comp=Z,8µm,19.9s
332A Millersview 82.10 53 P P 02 35 23.4 -0.2
baz=82,SNR=47
233A Rising Star 82.11 52 P P 02 35 23.2 -0.4
baz=82,SNR=13
431A Sonora 82.12 54 P P 02 35 23.4 -0.3
baz=82,SNR=48
X37A Clayton 82.13 49 P P 02 35 23.6 -0.1
baz=82,SNR=16
Y36A Durant 82.16 50 P P 02 35 22.7 -1.1
baz=82
134A White-Moore Ra 82.16 52 P P 02 35 23.8 0.0
baz=82,SNR=5.7
BLCB Balcova 82.16 318 *e*P P 02 35 25.5 +1.8
NKY Niksic 82.17 325⇑ *i*P P 02 35 23.6 -0.3
W38A Poteau 82.22 48 P P 02 35 23.9 -0.2
baz=82,SNR=27
NKME Niksic 82.23 325 *e*P P 02 35 23.1 -1.0
HORT Hortiatis 82.23 321 *e*P P 02 35 24.8 +0.6
HORT Hortiatis 82.23 321 P P 02 35 25.0 +0.8
HORT Hortiatis 82.23 321 *e*P P 02 35 24.1 -0.1
HORT Hortiatis 82.23 321 P P 02 35 25.0 +0.8
VAL Valentia 82.25 347 *e*P P 02 35 25.1 +1.2
PLG Polygyros 82.26 321 *e*P P 02 35 24.5 +0.2
THE Thessaloniki 82.26 321 P P 02 35 25.2 +1.0
THE Thessaloniki 82.26 321 *e*P P 02 35 24.0 -0.2
THE Thessaloniki 82.26 321 P P 02 35 25.2 +1.0
THE Thessaloniki 82.26 321 *e*P P 02 35 25.2 +1.0
BRY Bratogost 82.28 326⇑ *i*P P 02 35 23.9 -0.6
NVLJ Novalja 82.31 329 *i*P P 02 35 24.2 -0.1
AYDN Tasoluk 82.33 317 *i*P P 02 35 24.6 -0.1
X38A Whitesboro 82.36 48 P P 02 35 24.6 -0.2
baz=82,SNR=35
PDG Podgorica 82.38 325 P P 02 35 25.6 +0.8
TTG Podgorica 82.38 325 P P 02 35 25.6 +0.8
TTG Podgorica 82.38 325 P P 02 35 25.6 +0.8
TTG Podgorica 82.38 325⇑ *i*P P 02 35 24.3 -0.5
432A Menard 82.45 54 P P 02 35 25.2 -0.2
baz=82,SNR=45
Y37A Hugo 82.46 49 P P 02 35 25.2 -0.2
baz=82
PHP Peshkopia 82.50 324 P P 02 35 25.6 +0.1
PHP Peshkopia 82.50 324 P P 02 35 25.6 +0.1
PHP Peshkopia 82.50 324 P P 02 35 25.6 +0.1
PMOR Pomariorio Ree 82.51 119 *e*P P 02 35 27.9 +2.2
comp=Z,233nm,1.3s
PMOR Pomariorio Ree 82.51 119 *e*T T 04 06 09.1
comp=Z,149nm,0.2s
PAIG Paliouri 82.51 321 P P 02 35 26.5 +1.0
PAIG Paliouri 82.51 321 *e*P P 02 35 27.0 +1.5
PAIG Paliouri 82.51 321 P P 02 35 26.5 +1.0
PAIG Paliouri 82.51 321 P P 02 35 26.5 +1.0
531A Rocksprings 82.53 55 P P 02 35 25.5 -0.4
baz=82,SNR=54
YER Yerkesik 82.54 316 *e*P P 02 35 28.0 +2.2
ZEY ˙zmir 82.54 318 *i*P P 02 35 25.6 -0.1
135A Vickery Place, 82.55 51 P P 02 35 25.3 -0.5
baz=82
Z36A Blue Ridge 82.55 50 P P 02 35 24.9 -0.9
baz=82,SNR=14
234A Clairette 82.55 52 P P 02 35 25.5 -0.4
baz=82,SNR=24
AKAS Kas 82.57 315 *i*P P 02 35 24.8 -1.3
TUE Stuetta 82.58 333 *e*P P 02 35 24.9 -1.1
TUE LR LR
comp=Z,14µm,19.0s
333A Richland Sprin 82.58 53 P P 02 35 26.0 0.0
baz=82,SNR=42
TURN Turunc 82.58 316 *i*P P 02 35 25.6 -0.4
LOMF Lomont 82.58 335⇑ *e*P P 02 35 27.9 +2.0
OLIL Olney 82.58 41 *e*P P 02 35 25.9 -0.1
comp=Z,234nm,1.4s
GCAM G?zelcaml? 82.61 317 *i*P P 02 35 25.8 -0.2
DRME Dracevica, Mon 82.61 325⇑ *i*P P 02 35 25.6 -0.4
CHOS Chios island 82.64 318 *e*P P 02 35 26.9 +0.6
CHOS Chios island 82.64 318 P P 02 35 27.2 +0.9
CHOS Chios island 82.64 318 P P 02 35 27.2 +0.9
BUM Hrajici-Budva 82.64 325⇓ *i*P P 02 35 25.5 -0.8
STON Ston 82.65 326 *i*P P 02 35 24.0 -2.2
HCY Herceg Novi 82.68 325⇑ *i*P P 02 35 25.7 -0.7
RAYN Ar Rayn 82.72 296 P P 02 35 27.5 +0.5
comp=Z,704nm,1.1s,SNR=27
RAYN Ar Rayn 82.72 296 *e*P P 02 35 26.5 -0.5
comp=Z,228nm,1.3s
JCT Junction City 82.73 54 *e*P P 02 35 25.3 -1.6
JCT pmax pmax
comp=Z,56nm,0.8s
JCT MLR MLR
comp=Z,7µm,22.0s
JCT Junction City 82.73 54 P P 02 35 26.7 -0.2
baz=83,SNR=38
JCT Junction City 82.73 54 *e*P P 02 35 25.3 -1.6
comp=Z,56nm,0.8s
JCT LR LR
comp=Z,7µm,22.0s
ULC Ulcinj 82.78 325⇑ *i*P P 02 35 26.5 -0.4
SMG Samos 82.80 317 *e*P P 02 35 27.9 +0.8
FNA Florina 82.84 323 *e*P P 02 35 27.1 -0.2
FNA Florina 82.84 323 P P 02 35 28.1 +0.8
FNA Florina 82.84 323 P P 02 35 28.1 +0.8
FNA Florina 82.84 323 P P 02 35 28.1 +0.8
VAH Vaihoa 82.85 119 *e*P P 02 35 29.3 +1.9
comp=Z,114nm,1.2s
SIUC Southern Illin 82.86 43 *e*P P 02 35 26.9 -0.4
comp=Z,140nm,1.0s
LIT Litokhoron 82.91 321 P P 02 35 28.3 +0.7
LIT Litokhoron 82.91 321 *e*P P 02 35 26.2 -1.4
LIT Litokhoron 82.91 321 P P 02 35 28.3 +0.7
LIT Litokhoron 82.91 321 P P 02 35 28.3 +0.7
532A Rocksprings 82.93 54 P P 02 35 27.9 -0.1
baz=83,SNR=62
433A Art 82.94 53 P P 02 35 27.7 -0.3
baz=83,SNR=30
WHTX Lake Whitney, 82.95 52 P P 02 35 27.8 -0.2
baz=83,SNR=12
WHTX Lake Whitney, 82.95 52 *e*P P 02 35 28.1 +0.2
comp=Z,45nm,0.6s
BLO Bloomington 82.97 40 *e*P P 02 35 29.3 +1.4
BLO pmax pmax
comp=Z,30nm,0.6s
BLO Bloomington 82.97 40 *e*P P 02 35 29.3 +1.4
comp=Z,30nm,0.6s
Y38A Idabel 82.98 49 P P 02 35 27.6 -0.4
baz=83
TAOE Nuku Hiva Isla 82.98 110 *e*S S 02 45 44.3 -0.1
comp=Z,8µm,31.1s
TAOE Nuku Hiva Isla 82.98 110 *e*LR LR 03 01 23.0
comp=Z,20µm,25.4s,baz=321
334A Lometa 83.00 53 P P 02 35 28.1 -0.2

baz=83,SNR=31
BDRM Kayabasi 83.01 316 *i* P **P** **02 35 27.1 -1.0**
TIR Tirane 83.03 324 P **P** **02 35 29.1 +0.9**
TIR Tirane 83.03 324 *e*P **P** **02 35 27.3 -0.9**
TIR pmax pmax
comp=Z,185nm,0.6s
TIR MLR MLR
comp=Z,15µm,19.0s
TIR Tirane 83.03 324 *e*P **P** **02 35 27.3 -0.9**
TIR LR LR
comp=Z,15µm,19.0s
AOS Alonnisos 83.03 320 *e*P **P** **02 35 30.8 +2.6**
AOS Alonnisos 83.03 320 P **P** **02 35 29.1 +0.9**
AOS Alonnisos 83.03 320 P **P** **02 35 29.1 +0.9**
Z37A Pogue Cattle C 83.05 50 P **P** **02 35 28.4 -0.1**
baz=83,SNR=12
KZN Kozani 83.06 322 *e*P **P** **02 35 28.0 -0.5**
631A Perdido Creek 83.07 55 P **P** **02 35 28.5 -0.1**
baz=83,SNR=148
BODT Bodrum 83.08 317 *e*P **P** **02 35 30.3 +1.8**
136A Ennis 83.10 51 P **P** **02 35 28.3 -0.4**
baz=83,SNR=7.0
MIAR Mount Ida 83.12 47 *e*P **P** **02 35 27.6 -1.2**
MIAR pmax pmax
comp=Z,106nm,0.9s
MIAR MLR MLR
comp=Z,6µm,21.0s
MIAR Mount Ida 83.12 47 *e*P **P** **02 35 27.6 -1.2**
MIAR LR LR
comp=Z,6µm,21.0s
XOR Xorichti 83.19 321 P **P** **02 35 29.1 0.0**
XOR Xorichti 83.19 321 *e*P **P** **02 35 29.0 0.0**
XOR Xorichti 83.19 321 P **P** **02 35 29.1 0.0**
NEO Neokhori 83.22 321 *e*P **P** **02 35 29.5 +0.2**
KBN Korca 83.23 323 P **P** **02 35 30.1 +0.8**
KBN Korca 83.23 323 P **P** **02 35 30.1 +0.8**
KBN Korca 83.23 323 P **P** **02 35 30.1 +0.8**
FYTO Fytoko, Volos 83.27 321 P **P** **02 35 30.4 +0.9**
FYTO Fytoko, Volos 83.27 321 P **P** **02 35 30.4 +0.9**
LONY Lake Ozonia 83.28 30 *e*P **P** **02 35 28.7 -0.7**
comp=Z,101nm,1.5s
LONY LR LR
comp=Z,5µm,19.0s
NEST Nestorio 83.29 323 P **P** **02 35 30.6 +0.9**
NEST Nestorio 83.29 323 *e*P **P** **02 35 28.9 -0.8**
Y39A Lockesburg 83.31 48 P **P** **02 35 29.5 -0.3**
baz=83,SNR=15
ARG Arkhangelos 83.33 316 *e*P **P** **02 35 30.0 +0.1**
Z38A Mt. Pleasant 83.36 49 P **P** **02 35 29.8 -0.2**
baz=83,SNR=5.1
434A Burnet 83.37 53 P **P** **02 35 29.9 -0.3**
baz=83,SNR=16
USIN University of 83.40 42 *e*P **P** **02 35 30.0 -0.2**
comp=Z,214nm,1.4s
PARMO **Parma 83.42 44** *e*P **P** **02 35 30.1 -0.2**
137A Heron Place, G 83.43 50 P **P** **02 35 30.6 +0.2**
baz=83
PPT Papeete 83.44 122 LR LR 03 11 31.4
comp=Z,6µm,18.3s,baz=298,slow=35
PPT2 Papeete2 83.45 122 *e*S **S** **02 45 51.0 +2.1**
comp=Z,8µm,27.8s
PPT2 *e*SS **SS** **02 51 21.7 +5.9**
comp=Z,3µm,26.8s
PPT2 *e*LR LR 03 01 12.4
comp=Z,22µm,25.5s,baz=321
PPT2 Papeete2 83.45 122 *e*T T 04 07 19.2
comp=Z,44nm,0.3s
236A Katherine and 83.46 51 P **P** **02 35 30.8 +0.2**
baz=83
632A Uvalde 83.46 55 P **P** **02 35 30.4 -0.3**
baz=83,SNR=36
533A Kerrville 83.48 54 P **P** **02 35 30.4 -0.4**
baz=83,SNR=28
335A Moody 83.50 52 P **P** **02 35 31.0 +0.2**
baz=83
NIS1 Nisyros Isl. 83.50 316 *e*P **P** **02 35 30.7 0.0**
NIS1 Nisyros Isl. 83.50 316 P **P** **02 35 31.3 +0.6**
NIS1 Nisyros Isl. 83.50 316 P **P** **02 35 31.3 +0.6**
NIS3 Nisyros Isl. 83.53 316 P **P** **02 35 31.8 +0.9**
MRKA Markates 83.54 320 P **P** **02 35 30.6 -0.3**
THL Klokotos Trika 83.56 321 *e*P **P** **02 35 30.4 -0.5**
TIAR Tiarei 83.57 122 *e*T T 04 07 27.2
comp=Z,20nm,0.3s
SMIA Simia 83.57 320 P **P** **02 35 30.9 -0.2**
PQI Presque Isle 83.59 24 *e*P **P** **02 35 29.6 -1.4**
comp=Z,61nm,0.9s
ACSO Alum Creek Sta 83.69 37 *e*P **P** **02 35 31.8 +0.1**
comp=Z,128nm,1.2s
ACSO LR LR
comp=Z,6µm,20.0s
336A Riesel 83.74 52 P **P** **02 35 32.1 +0.1**
baz=84
138A Matatall Enter 83.75 50 P **P** **02 35 32.5 +0.4**
baz=84
435B Jarrell 83.78 52 P **P** **02 35 32.2 0.0**
baz=84
TVO Taravao 83.80 122 *e*T T 04 07 44.2
comp=Z,5.0nm,0.3s
Z39A Irene McRaven, 83.80 49 P **P** **02 35 32.2 -0.1**
baz=84
ATAL Atalanti 83.81 320 P **P** **02 35 30.8 -1.5**
ATAL Atalanti 83.81 320 P **P** **02 35 30.8 -1.5**
534A Blanco 83.83 54 P **P** **02 35 32.4 -0.2**
baz=84
WCI Wyandotte Cave 83.84 40 *e*P **P** **02 35 32.1 -0.3**
WCI pmax pmax
comp=Z,94nm,1.1s
WCI Wyandotte Cave 83.84 40 *e*P **P** **02 35 32.1 -0.3**
comp=Z,94nm,1.1s
HBAR Harrisburg 83.84 45 *e*P **P** **02 35 33.5 +1.0**
633A Saathoff Ranch 83.85 54 P **P** **02 35 32.8 +0.1**
baz=84,SNR=33
LKR Lokris 83.85 320 *e*P **P** **02 35 30.9 -1.6**
237A Washetta, Mont 83.86 50 P **P** **02 35 32.6 0.0**
baz=84
AGG Agios Georgios 83.86 321 *e*P **P** **02 35 32.3 -0.2**
AGG Agios Georgios 83.86 321 P **P** **02 35 32.0 -0.5**
AGG Agios Georgios 83.86 321 P **P** **02 35 32.0 -0.5**
AGG Agios Georgios 83.86 321 P **P** **02 35 32.0 -0.5**
VLO Vlora 83.91 324 P **P** **02 35 34.6 +1.9**
VLO Vlora 83.91 324 P **P** **02 35 34.6 +1.9**
VLO Vlora 83.91 324 P **P** **02 35 34.6 +1.9**
AXAR Agios Charalam 83.92 321 P **P** **02 35 33.0 +0.2**
AXAR Agios Charalam 83.92 321 P **P** **02 35 33.0 +0.2**
732A Laxson Ranch, 83.93 55 P **P** **02 35 33.1 0.0**
baz=84,SNR=54
APE Apeiranthos 83.94 318 *e*P **P** **02 35 30.3 -2.7**
APE Apeiranthos 83.94 318 *e*P **P** **02 35 32.8 -0.2**
APE Apeiranthos 83.94 318*c i*P **P** **02 35 32.9 -0.1**
APE pmax pmax
comp=Z,156nm,1.9s
APE MLR MLR
comp=Z,6µm,18.0s
APE Apeiranthos 83.94 318⇑ *i*P **P** **02 35 32.5 -0.5**
MAKR Makrakomi, Fth 83.95 321 P **P** **02 35 33.3 +0.3**
MAKR Makrakomi, Fth 83.95 321 P **P** **02 35 33.3 +0.3**
NCB Newcomb 83.97 30 *e*P **P** **02 35 32.5 -0.6**
comp=Z,130nm,1.5s
NCB LR LR
comp=Z,7µm,19.0s
JAN Janina 84.00 322 *e*P **P** **02 35 33.3 +0.1**
ATH Athens Observa 84.07 319 *e*P **P** **02 35 32.1 -1.5**
139A Bunkhouse Ranc 84.11 49 P **P** **02 35 34.1 +0.2**
baz=84
SRN Sarande 84.18 323 P **P** **02 35 34.9 +0.8**
SRN Sarande 84.18 323 P **P** **02 35 34.9 +0.8**
238A Jacksonville 84.23 50 P **P** **02 35 34.8 +0.3**
baz=84
436A Wall Ranch, Ga 84.23 52 P **P** **02 35 34.5 0.0**
baz=84
832A Faith Ranch, C 84.25 56 P **P** **02 35 35.1 +0.4**
baz=84,SNR=22
DSF Desfina 84.26 320 P **P** **02 35 33.9 -0.8**
DSF Desfina 84.26 320 P **P** **02 35 33.9 -0.8**
VLC Villacollemand 84.27 331 *e*P **P** **02 35 35.3 +0.8**
comp=Z,373nm,1.4s
VLC LR LR
comp=Z,12µm,19.0s
MDV Middlebury 84.31 29 *e*P **P** **02 35 34.6 0.0**
comp=Z,95µm,0.6s
DSL Palaion Diasel 84.32 322 P **P** **02 35 35.2 +0.3**
DSL Palaion Diasel 84.32 322 P **P** **02 35 35.2 +0.3**
IGT Igoumenitsa 84.32 322 *e*P **P** **02 35 35.5 +0.6**
IGT Igoumenitsa 84.32 322 P **P** **02 35 35.8 +0.9**
IGT Igoumenitsa 84.32 322 P **P** **02 35 35.8 +0.9**
IGT Igoumenitsa 84.32 322 P **P** **02 35 35.8 +0.9**
337A Centerville 84.33 51 P **P** **02 35 35.3 +0.2**
baz=84
733A Divot King Ran 84.33 55 P **P** **02 35 35.5 +0.4**
baz=84,SNR=16
KARP Karpathos 84.34 316 *e*P **P** **02 35 35.0 -0.1**
535A Dale 84.35 53 P **P** **02 35 35.0 -0.1**
baz=84
LTK Loutraki 84.38 320 P **P** **02 35 34.9 -0.3**
LTK Loutraki 84.38 320 P **P** **02 35 34.9 -0.3**
634A China Grove, S 84.39 54 P **P** **02 35 35.5 +0.1**
baz=84
KALE Kalithea 84.46 321 P **P** **02 35 35.7 +0.1**
KALE Kalithea 84.46 321 P **P** **02 35 35.7 +0.1**
PKME Peaks-Kenny Pk 84.47 26 *e*P **P** **02 35 36.2 +0.8**
comp=Z,55nm,1.0s
PKME LR LR
comp=Z,6µm,19.0s
THAL Thalero 84.51 320 P **P** **02 35 35.4 -0.4**
SANT Santorini 84.53 317 *e*P **P** **02 35 35.5 -0.5**
SANT Santorini 84.53 317 *e*P **P** **02 35 34.0 -2.0**
comp=Z,123nm,1.0s
SANT LR LR
comp=Z,8µm,19.0s
ACOR Acrocorinthos 84.53 320 P **P** **02 35 35.3 -0.7**
EFP Efpalio 84.53 321 P **P** **02 35 36.9 +1.0**
437A Phantom Ranch, 84.56 51 P **P** **02 35 36.2 0.0**
baz=84
833A Chaparral WMA, 84.57 55 P **P** **02 35 36.4 +0.2**
baz=84,SNR=12
239A Gary 84.58 50 P **P** **02 35 36.2 0.0**
baz=84
MEH Mehetia 84.59 121 *e*T T 04 08 44.2
comp=Z,115nm,0.3s
536A Bastrop 84.61 53 P **P** **02 35 36.7 +0.2**
baz=84,SNR=9.6
338A Crockett 84.62 51 P **P** **02 35 37.0 +0.5**
baz=84
734A La Parita Cree 84.67 54 P **P** **02 35 37.0 +0.3**
baz=84,SNR=7.1
NATX Nacogdoches 84.67 50 P **P** **02 35 37.2 +0.4**
baz=84
NATX Nacogdoches 84.67 50 *e*P **P** **02 35 37.3 +0.6**
comp=Z,158nm,1.1s
NATX LR LR
comp=Z,6µm,22.0s
ACCN Adirondack Com 84.68 30 *e*P **P** **02 35 36.3 -0.2**
comp=Z,73nm,1.1s
EIL Elat 84.68 307 *e*P **P** **02 35 37.0 +0.2**
BNI Bardonecchia 84.69 334 *e*P **P** **02 35 37.1 +0.3**
BNI pmax pmax
comp=Z,50nm,0.6s
BNI MLR MLR
comp=Z,10µm,22.0s
BNI Bardonecchia 84.69 334 *e*P **P** **02 35 37.1 +0.3**
comp=Z,50nm,0.6s
BNI LR LR
comp=Z,10µm,22.0s
635A Leesville 84.72 53 P **P** **02 35 37.6 +0.6**
baz=84,SNR=11
GDM Grand'Maison 84.73 334⇑ *e*P **P** **02 35 39.5 +2.5**
GUR Goura 84.73 320 P **P** **02 35 37.3 +0.2**
GUR Goura 84.73 320 P **P** **02 35 37.3 +0.2**
AQU L'Aquila 84.75 328 *e*P **P** **02 35 36.4 -0.6**
AQU pmax pmax
comp=Z,162nm,0.8s
AQU MLR MLR
comp=Z,24µm,20.0s
AQU L'Aquila 84.75 328⇑ *i*P **P** **02 35 37.6 +0.5**
AQU L'Aquila 84.75 328 *e*P **P** **02 35 36.4 -0.6**
comp=Z,162nm,0.8s
AQU LR LR
comp=Z,24µm,20.0s
PLDF La Plantade 84.78 336⇑ *e*P P 02 35 40.5 +3.4
WVT Waverly 84.79 43 *e*P **P** **02 35 36.9 -0.4**
WVT pmax pmax
comp=Z,47nm,0.8s
WVT Waverly 84.79 43 *e*P **P** **02 35 36.9 -0.4**
comp=Z,47nm,0.8s
LKD2 Lefkada island 84.79 322 P **P** **02 35 37.9 +0.6**
LKD2 Lefkada island 84.79 322 P **P** **02 35 37.9 +0.6**
GRN Grenoble 84.81 335⇑ *e*P **P** **02 35 40.0 +2.7**
KRND KRANIDI 84.81 319 P **P** **02 35 36.6 -0.7**
KRND KRANIDI 84.81 319 *e*P **P** **02 35 35.5 -1.8**
AGO Saint Agoulin 84.84 337⇑ *e*P P 02 35 40.8 +3.4
HNH Hanover 84.88 29 *e*P **P** **02 35 37.9 +0.3**
comp=Z,50nm,1.0s
WVL Waterville 84.98 26 *e*P **P** **02 35 37.9 -0.2**
comp=Z,75nm,0.9s
438A Sam Houston St 84.99 51 P **P** **02 35 38.2 -0.1**
baz=85
DRO Drossia 85.01 321 P **P** **02 35 38.8 +0.4**
537A Green Hill Far 85.03 52 P **P** **02 35 39.0 +0.5**
baz=85
RLS Riolos of Patr 85.03 321 *e*P **P** **02 35 38.2 -0.2**
339A Huntington 85.05 50 P **P** **02 35 39.1 +0.5**
baz=85
636A Smothers Creek 85.06 53 P **P** **02 35 39.3 +0.6**
baz=85,SNR=14
735A Kenedy 85.10 54 P **P** **02 35 39.9 +1.0**
baz=85,SNR=14
SSB Saint Sauveur 85.14 336 *e*P **P** **02 35 38.5 -0.4**
SSB pmax pmax
comp=Z,237nm,1.3s
SSB MLR MLR
comp=Z,5µm,20.0s
SSB Saint Sauveur 85.14 336 *e*P **P** **02 35 38.5 -0.4**
comp=Z,237nm,1.3s
SSB LR LR
comp=Z,5µm,20.0s
PYM Petit Puy Mans 85.15 337⇑ *e*P P 02 35 42.4 +3.4
SURF Saint Ours 85.16 334⇑ *e*P **P** **02 35 41.5 +2.3**
933A Laredo 85.17 56 P **P** **02 35 39.8 +0.5**
baz=85,SNR=33
VLX Vlachokerasia 85.18 320 P **P** **02 35 39.6 +0.3**
VLX Vlachokerasia 85.18 320 P **P** **02 35 39.6 +0.3**
834A Tilden 85.21 55 P **P** **02 35 40.7 +1.2**
baz=85,SNR=7.2
TRY Troy 85.25 30 *e*P **P** **02 35 39.3 -0.2**
comp=Z,39nm,1.1s
OXF Oxford 85.29 45 *e*P **P** **02 35 39.6 -0.2**
OXF pmax pmax
comp=Z,142nm,0.9s
OXF Oxford 85.29 45 *e*P **P** **02 35 39.6 -0.2**
comp=Z,142nm,0.9s
KFL Anninata 85.30 321 P **P** **02 35 39.4 -0.4**
FFD Franklin Falls 85.30 28 *e*P **P** **02 35 40.4 +0.7**
comp=Z,169nm,1.3s
VLS Valsamata 85.33 322 *e*P **P** **02 35 39.8 -0.2**
439A Center Grove, 85.35 51 P **P** **02 35 40.8 +0.6**
baz=85
AMT Artemida-Makis 85.35 320 P **P** **02 35 40.4 +0.3**
340A Bronson 85.36 50 P **P** **02 35 40.4 +0.2**
baz=85,SNR=9.5
SAOF Saorge 85.36 333⇑ *e*P **P** **02 35 41.5 +1.4**
538A Harpers Horsep 85.38 51 P **P** **02 35 40.8 +0.5**
baz=85
HKT Hockley 85.40 52 *e*P **P** **02 35 40.0 -0.3**
HKT pmax pmax
comp=Z,82nm,1.8s
HKT Hockley 85.40 52 *e*P **P** **02 35 40.0 -0.3**
comp=Z,82nm,1.8s
TOUF Mont Tournerai 85.44 333⇑ *e*P **P** **02 35 42.1 +1.5**
736A Circle Diamond 85.45 53 P **P** **02 35 41.8 +1.1**
baz=85,SNR=18
VLI Veliai 85.45 319 *e*P **P** **02 35 39.5 -1.1**
SSPA Standing Stone 85.47 34 *e*P **P** **02 35 40.5 -0.1**
comp=Z,325nm,1.7s
DGAR Diego Garcia 85.48 255 PFAKE 02 35 50.0 +9.1
DGAR LR LR
comp=Z,8µm,19.0s
637A Eagle Lake 85.50 53 P **P** **02 35 41.4 +0.5**
baz=85
835A Beeville 85.51 54 P **P** **02 35 41.5 +0.5**
baz=85
EMMW East Machias 85.53 25 *e*P **P** **02 35 41.0 +0.2**
comp=Z,90nm,1.1s
ITM Ithomi 85.54 320 *e*P **P** **02 35 40.1 -0.9**
LBL Lubilhac 85.56 336⇑ *e*P P 02 35 44.6 +3.5
MVIF Mont Vial 85.58 333⇑ *e*P **P** **02 35 42.9 +1.6**
934A Benavides 85.62 55 P **P** **02 35 41.8 +0.3**
baz=85
REVF Revere 85.65 333⇑ *e*P **P** **02 35 43.8 +2.3**
KYTH Kithira 85.76 319 *e*P **P** **02 35 40.2 -1.9**
CALN Calern 85.79 333⇑ *e*P **P** **02 35 44.0 +1.7**
440A Kirbyville 85.83 50 P **P** **02 35 42.4 -0.2**
baz=86
CUC Castrocucco 85.83 326 *e*P **P** **02 35 40.8 -1.7**
comp=Z,42nm,1.1s
CUC LR LR
comp=Z,9µm,21.0s
PYL PYLOS 85.86 320 P **P** **02 35 42.5 -0.1**
PYL PYLOS 85.86 320 P **P** **02 35 42.5 -0.1**
539A Cross D Ranch, 85.90 51 P **P** **02 35 43.6 +0.7**
baz=86
VAM Vamos 85.91 318 *e*P **P** **02 35 43.9 +1.0**
034A Hebbronville 85.92 56 P **P** **02 35 44.0 +0.9**
baz=86,SNR=16
737A Port Lavaca 85.95 53 P **P** **02 35 43.8 +0.6**
baz=86
ANKY Antikythira Is 85.97 318 *e*P **P** **02 35 43.8 +0.7**
TIP Timpagrande 86.14 325 P **P** **02 35 45.1 +1.1**
TIP Timpagrande 86.14 325 *e*P **P** **02 35 43.0 -1.1**
comp=Z,121nm,1.4s
TIP LR LR
comp=Z,12µm,20.0s
HRV Adam Dziewonsk 86.18 29 *e*P **P** **02 35 44.6 +0.5**
HRV pmax pmax
comp=Z,58nm,1.1s
HRV Adam Dziewonsk 86.18 29 *e*P **P** **02 35 44.6 +0.5**
comp=Z,58nm,1.1s
540A Vidor 86.23 50 P **P** **02 35 45.1 +0.6**
baz=86
URZ Urewera 86.27 158 *e*P **P** **02 35 44.9 +0.7**
comp=Z,31nm,1.1s
738A Farr-Stevens R 86.34 52 P **P** **02 35 45.9 +0.8**
baz=86
035A Encino 86.36 55 P **P** **02 35 45.2 -0.1**
baz=86
035Z Hargill 86.74 56 P **P** **02 35 47.8 +0.7**
baz=87
CPNY Central Park 86.84 31 *e*P **P** **02 35 48.0 +0.7**
comp=Z,198nm,1.4s
CPCT Cooper Cave 86.92 41 *e*P **P** **02 35 47.3 -0.6**
SDMD Soldier's Deli 86.93 34 *e*P **P** **02 35 48.1 +0.3**
comp=Z,217nm,1.2s
TAU Tasmania Unive 87.03 181 PFAKE 02 36 00.0 +12
TAU LR LR
comp=Z,4µm,19.0s
CEL Celeste 87.28 325 *e*P **P** **02 35 48.5 -1.1**
comp=Z,34nm,0.6s
CEL LR LR
comp=Z,13µm,19.0s
BLA Blacksburg 87.31 37 *e*P **P** **02 35 49.2 -0.6**
BLA pmax pmax
comp=Z,91nm,1.0s
BLA MLR MLR
comp=Z,6µm,20.0s
BLA Blacksburg 87.31 37 *e*P **P** **02 35 49.1 -0.6**
comp=Z,91nm,1.0s
BLA LR LR
comp=Z,6µm,20.0s
VWCC Virginia Weste 87.47 37 *e*P **P** **02 35 51.5 +1.0**
LRAL Lakeview Retre 87.68 44 *e*P **P** **02 35 50.7 -0.9**
comp=Z,31nm,1.1s
CBN Corbin Frederi 87.75 35 *e*P **P** **02 35 52.5 +0.8**
comp=Z,41nm,0.6s
CBN LR LR
comp=Z,7µm,20.0s
LRDF Laroque-de-Fa 87.86 336⇑ *e*P **P** **02 35 55.0 +2.7**
TBI Tubuai 87.96 126 *e*PP PP 02 39 14.3 -5.6
comp=Z,430nm,29.2s
TBI *e*S **S** **02 46 32.7 0.0**
comp=Z,8µm,29.0s
TBI *e*SS **SS** **02 52 26.7 +4.9**
comp=Z,3µm,26.5s
TBI Tubuai 87.96 126 *e*LR LR 03 03 20.8
comp=Z,16µm,26.0s,baz=318
TBI Tubuai 87.96 126 *e*T T 04 12 54.5
comp=Z,24nm,0.3s
JSRW J. Sargeant Re 87.98 35 *e*P **P** **02 35 52.9 0.0**
CARF Carcanieres 88.19 336⇑ *e*P **P** **02 35 57.0 +3.0**
FILF Fillols 88.20 336 *e*P P 02 35 57.2 +3.2
MLS Moulis 88.26 337 *e*P **P** **02 35 56.7 +2.6**
VALF Valcebollere 88.51 336⇑ *e*P P 02 35 58.8 +3.3
SNZO South Karori 88.54 161 PFAKE 02 36 00.0 +5.0
SNZO LR LR
comp=Z,9µm,22.0s
REYF Montagne du Re 88.56 338 *e*P P 02 35 59.0 +3.3
RESF Ens 88.61 337⇑ *e*P **P** **02 35 58.4 +2.5**
OSSF Osses 88.62 339⇑ *e*P **P** **02 35 57.9 +2.1**
VIEF Viey 88.62 338⇑ *e*P P 02 35 59.7 +3.7
KMSC Kings Mountain 88.64 39 P **P** **02 35 55.8 -0.2**
baz=88,SNR=27
KMSC Kings Mountain 88.64 39 *e*P **P** **02 35 55.9 -0.1**
comp=Z,115nm,1.3s
VSL Villasalto 88.73 330 *e*P **P** **02 35 55.9 -0.5**
comp=Z,75nm,1.4s
VSL LR LR
comp=Z,6µm,21.0s
LARF Larrau 88.75 338⇑ *e*P **P** **02 35 59.2 +2.7**
CLTB Caltabellotta 88.95 326 *e*P **P** **02 35 57.0 -0.6**
comp=Z,12nm,1.0s
CLTB LR LR
comp=Z,8µm,21.0s
BRAL Brewton 89.28 45 PFAKE 02 36 10.0 +11
BRAL LR LR
comp=Z,4µm,21.0s
DAMY Dhamar 89.84 290 *e*P **P** **02 36 03.3 +1.0**
comp=Z,132nm,1.1s
WDD Wield Dalam 89.89 324 *e*P **P** **02 36 02.4 +0.6**
comp=Z,81nm,0.9s
WDD LR LR
comp=Z,7µm,19.0s
CNNC Cliffs of the 90.06 37 *e*P **P** **02 36 01.9 -0.8**
comp=Z,72nm,1.1s
CNNC LR LR
comp=Z,7µm,20.0s
TIGA Tifton 90.65 43 P **P** **02 36 05.6 +0.1**
baz=90
TIGA Tifton 90.65 43 *e*P **P** **02 36 06.0 +0.5**
comp=Z,43nm,0.8s
NHSC New Hope 90.86 39 PFAKE 02 36 20.0 +14
NHSC LR LR
comp=Z,9µm,22.0s
PBRG Braganca 91.32 342 *e*P **P** **02 36 09.1 +0.6**
PBRG Braganca 91.32 342 *e*P **P** **02 36 09.1 +0.6**
PGAV Gavieira, Arco 91.50 343 *e*P **P** **02 36 09.1 -0.3**
comp=Z,52nm,2.2s
PGAV Gavieira, Arco 91.50 343 *e*PP PP 02 39 52.4 +5.8
PGAV *e*S **S** **02 47 01.8 -3.9**
PGAV *e*P x 02 48 39.6
PGAV *e*SS SS 02 54 01.2 +51
PGAV *e*LQ LQ 03 00 22.7
PGAV *e*LR LR 03 09 37.8
comp=Z,6µm,20.0s
PGAV Gavieira, Arco 91.50 343 *e*P **P** **02 36 09.1 -0.3**
comp=Z,52nm,2.2s
PGAV Gavieira, Arco 91.50 343 *e*PP PP 02 39 52.4 +5.8
PGAV *e*S **S** **02 47 01.8 -3.9**
PGAV *e*P x 02 48 39.6
PGAV *e*SS SS 02 54 01.2 +51
PGAV *e*LQ LQ 03 00 22.7
PGAV *e*LR LR 03 09 37.8
comp=Z,6µm,20.0s
PCAB Cabril 91.69 343 *e*P **P** **02 36 12.4 +2.2**
comp=Z,88nm,1.5s
PCAB Cabril 91.69 343 *e*P **P** **02 36 12.4 +2.2**
comp=Z,88nm,1.5s
POLO Lamas de Olo 91.96 343 *e*P **P** **02 36 13.4 +1.8**
comp=Z,41nm,1.6s
POLO Lamas de Olo 91.96 343 *e*P **P** **02 36 13.4 +1.8**
comp=Z,41nm,1.6s
CMAH Djebel Manchou 91.98 330 P **P** **02 36 10.0 -1.7**
MVO Moncorvo 91.99 342 *e*P **P** **02 36 12.9 +1.2**
comp=Z,50nm,1.9s
MVO Moncorvo 91.99 342 *e*PP PP 02 39 53.3 +2.8
MVO *e*S **S** **02 47 07.0 -3.1**
MVO *e*P x 02 48 30.3
MVO *e*SS SS 02 54 03.8 +46
MVO *i*P x 02 57 36.9
MVO *e*LQ LQ 03 00 29.6
MVO *e*LR LR 03 09 42.1
comp=Z,8µm,18.0s
MVO Moncorvo 91.99 342 *e*P **P** **02 36 12.9 +1.2**
comp=Z,50nm,1.9s
MVO Moncorvo 91.99 342 *e*PP PP 02 39 53.3 +2.8
MVO *e*S **S** **02 47 07.0 -3.1**
MVO *e*P x 02 48 30.3
MVO *e*SS SS 02 54 03.8 +46

MVO				*i* P		x		02 57 36.9	
MVO				*e*LQ		LQ		03 00 29.6	
MVO				*e*LR		LR		03 09 42.1	
	comp=Z,8μm,18.0s								
PVRL	**Vila Real**	**92.04**	**342**	*e*P		**P**		**02 36 11.4**	**-0.4**
	comp=Z,85nm,1.6s								
PVRL	**Vila Real**	**92.04**	**342**	*e*P		**P**		**02 36 11.4**	**-0.4**
	comp=Z,85nm,1.6s								
KEST	**Kesra**	**92.06**	**328**	P		**P**		**02 36 11.2**	**-0.9**
	comp=Z,9.2nm,0.6s,baz=315,slow=2.5,SNR=36								
KEST				LR		LR		03 21 16.3	
	comp=Z,7μm,20.7s,baz=327,slow=38								
KEST	**Kesra**	**92.06**	**328**	*e*P		**P**		**02 36 11.4**	**-0.7**
ABSA	**Djebel Ababsia**	**92.28**	**330**	P		**P**		**02 36 13.5**	**+0.4**
CKFL	**Kef-Lekhel**	**92.44**	**330**	P		**P**		**02 36 14.0**	**+0.1**
DFRA	**Djebel Bou Aff**	**92.60**	**331**	P		**P**		**02 36 15.0**	**+0.4**
PVIS	**Viseu**	**92.61**	**342**	*e*P		**P**		**02 36 16.4**	**+1.9**
	comp=Z,67nm,1.9s								
PVIS	**Viseu**	**92.61**	**342**	*e*P		**P**		**02 36 16.4**	**+1.9**
	comp=Z,67nm,1.9s								
CASM	**Ain Smara**	**92.64**	**330**	P		**P**		**02 36 14.9**	**+0.2**
ESDC	**Sonseca Array**	**92.68**	**339**	P		**P**		**02 36 14.3**	**-0.6**
	comp=Z,11nm,0.6s,baz=19,slow=4.2,SNR=29								
ESDC				LR		LR		03 24 32.0	
	comp=Z,7μm,18.0s,baz=25,slow=40								
PAB	**San Pablo**	**92.90**	**339**	*e*P		**P**		**02 36 16.7**	**+0.8**
PAB				pmax		pmax			
	comp=Z,26nm,1.1s								
PAB				MLR		MLR			
	comp=Z,13μm,19.0s								
PAB	**San Pablo**	**92.90**	**339**	*e*P		**P**		**02 36 16.6**	**+0.8**
	comp=Z,26nm,1.1s								
PAB				LR		LR			
	comp=Z,13μm,19.0s								
SET	**Setif**	**93.08**	**331**	P		**P**		**02 36 19.0**	**+2.2**
PCBR	**Castelo Branco**	**93.36**	**342**	*e*P		P		02 36 21.3	+3.4
	comp=Z,31nm,1.1s								
PCBR	**Castelo Branco**	**93.36**	**342**	*e*P		P		02 36 21.3	+3.4
	comp=Z,31nm,1.1s								
PCAS	**Casmilo, Conde**	**93.38**	**343**	*e*P		**P**		**02 36 17.1**	**-0.9**
	comp=Z,71nm,2.2s								
PCAS	**Casmilo, Conde**	**93.38**	**343**	*e*P		**P**		**02 36 17.1**	**-0.9**
	comp=Z,71nm,2.2s								
PMRV	**Marv??o**	**93.73**	**342**	*e*P		**P**		**02 36 19.1**	**-0.6**
	comp=Z,36nm,1.6s								
PMRV	**Marv??o**	**93.73**	**342**	*e*PP		PP		02 40 06.1	+2.0
PMRV				*e*S		S		02 47 13.9	-12
PMRV				*e*P		x		02 49 09.5	
PMRV				*i* P		x		02 57 54.5	
PMRV				*e*LQ		LQ		03 00 56.9	
PMRV	**Marv??o**	**93.73**	**342**	*e*LR		LR		03 11 34.1	
	comp=Z,7μm,18.0s								
PMRV	**Marv??o**	**93.73**	**342**	*e*P		**P**		**02 36 19.1**	**-0.6**
	comp=Z,36nm,1.6s								
PMRV	**Marv??o**	**93.73**	**342**	*e*PP		PP		02 40 06.1	+2.0
PMRV				*e*S		S		02 47 13.9	-12
PMRV				*e*P		x		02 49 09.5	
PMRV				*i* P		x		02 57 54.5	
PMRV				*e*LQ		LQ		03 00 56.9	
PMRV	**Marv??o**	**93.73**	**342**	*e*LR		LR		03 11 34.1	
	comp=Z,7μm,18.0s								
PMTG	**Montargil**	**94.26**	**342**	*e*P		**P**		**02 36 20.8**	**-1.3**
	comp=Z,42nm,1.7s								
PMTG	**Montargil**	**94.26**	**342**	*e*P		**P**		**02 36 20.8**	**-1.3**
	comp=Z,42nm,1.7s								
PESTR	**Estremoz**	**94.31**	**342**	*e*P		**P**		**02 36 23.8**	**+1.5**
	comp=Z,32nm,2.2s								
PESTR	**Estremoz**	**94.31**	**342**	*e*P		**P**		**02 36 23.8**	**+1.5**
	comp=Z,32nm,2.2s								
PMAFR	**Mafra**	**94.60**	**343**	*e*P		**P**		**02 36 25.1**	**+1.5**
PMAFR	**Mafra**	**94.60**	**343**	*e*P		**P**		**02 36 25.1**	**+1.5**
EVO	**Evora**	**94.73**	**342**	*e*P		**P**		**02 36 23.1**	**-1.1**
	comp=Z,39nm,1.5s								
EVO	**Evora**	**94.73**	**342**	*e*P		**P**		**02 36 23.1**	**-1.1**
	comp=Z,39nm,1.5s								
PMST	**Lisbon--Monsan**	**94.79**	**343**	*e*P		**P**		**02 36 24.5**	**0.0**
PMST	**Lisbon--Monsan**	**94.79**	**343**	*e*P		**P**		**02 36 24.5**	**0.0**
LIS	**Lisbon**	**94.80**	**343**	*e*P		**P**		**02 36 24.7**	**+0.2**
LIS				*e*PP		**PP**		**02 40 13.6**	**+1.2**
LIS				AMS		AMS		03 24 00.6	
	comp=Z,7μm,19.1s								
LIS	**Lisbon**	**94.80**	**343**	*e*P		**P**		**02 36 24.7**	**+0.2**
LIS				*e*				02 40 13.6	
PBAR	**Barrancos**	**94.85**	**341**	*e*P		**P**		**02 36 25.0**	**+0.2**
PBAR	**Barrancos**	**94.85**	**341**	*e*P		**P**		**02 36 25.0**	**+0.2**
PNCL	**Nicolau / Gran**	**95.25**	**342**	*e*P		**P**		**02 36 27.8**	**+1.2**
	comp=Z,49nm,1.8s								
PNCL	**Nicolau / Gran**	**95.25**	**342**	*e*P		**P**		**02 36 27.8**	**+1.2**
	comp=Z,49nm,1.8s								
MESJ	**Messejana**	**95.44**	**342**	*e*P		**P**		**02 36 27.7**	**+0.2**
MESJ				*e*PP		**PP**		**02 40 19.1**	**+1.8**
MESJ				AMS		AMS		03 26 08.4	
	comp=Z,8μm,16.6s								
MESJ	**Messejana**	**95.44**	**342**	*e*P		**P**		**02 36 27.7**	**+0.2**
MESJ				*e*				02 40 19.1	
MESJ	**Messejana**	**95.44**	**342**	*e*P		**P**		**02 36 27.4**	**-0.1**
	comp=Z,47nm,1.9s								
MESJ	**Messejana**	**95.44**	**342**	*e*P		**P**		**02 36 27.4**	**-0.1**
	comp=Z,47nm,1.9s								
MSEY	**Mahe Island**	**95.57**	**269**	PFAKE				02 36 40.0	+12
MSEY				LR		LR			
	comp=Z,5μm,19.0s								
PCVE	**Castro Verde**	**95.60**	**342**	*e*P		**P**		**02 36 28.1**	**-0.1**
	comp=Z,56nm,1.5s								
PCVE	**Castro Verde**	**95.60**	**342**	*e*P		**P**		**02 36 28.1**	**-0.1**
	comp=Z,56nm,1.5s								
PVAQ	**Vaqueiros**	**95.74**	**341**	*e*P		**P**		**02 36 29.1**	**+0.2**
PVAQ	**Vaqueiros**	**95.74**	**341**	*e*PP		PP		02 40 20.1	+0.4
PVAQ				*e*S		S		02 47 25.6	-17
PVAQ				*e*P		x		02 49 33.2	
PVAQ				*i* P		x		02 58 27.0	
PVAQ				*e*LQ		LQ		03 01 24.3	
PVAQ	**Vaqueiros**	**95.74**	**341**	*e*LR		LR		03 12 12.8	
	comp=Z,7μm,18.0s								
PVAQ	**Vaqueiros**	**95.74**	**341**	*e*P		**P**		**02 36 29.1**	**+0.2**
PVAQ	**Vaqueiros**	**95.74**	**341**	*e*PP		PP		02 40 20.1	+0.4
PVAQ				*e*S		S		02 47 25.6	-17
PVAQ				*e*P		x		02 49 33.2	
PVAQ				*i* P		x		02 58 27.0	
PVAQ				*e*LQ		LQ		03 01 24.3	
PVAQ	**Vaqueiros**	**95.74**	**341**	*e*LR		LR		03 12 12.8	
	comp=Z,7μm,18.0s								
PTEO	**Sao Teotonio**	**95.83**	**342**	*e*P		**P**		**02 36 29.5**	**+0.3**
	comp=Z,88nm,1.3s								
PTEO	**Sao Teotonio**	**95.83**	**342**	*e*P		**P**		**02 36 29.5**	**+0.3**
	comp=Z,88nm,1.3s								
PBDV	**Barranco-do-Ve**	**95.95**	**341**	*e*P		**P**		**02 36 29.9**	**+0.1**
PBDV	**Barranco-do-Ve**	**95.95**	**341**	*e*P		**P**		**02 36 29.9**	**+0.1**
MORF	**Marmelete**	**96.05**	**342**	*e*P		**P**		**02 36 30.6**	**+0.3**
MORF				*e*PP		**PP**		**02 40 23.6**	**+1.4**
MORF				AMS		AMS		03 26 36.8	
	comp=Z,8μm,17.5s								
MORF	**Marmelete**	**96.05**	**342**	*e*P		**P**		**02 36 30.6**	**+0.3**
MORF				*e*				02 40 23.6	
MORF	**Marmelete**	**96.05**	**342**	*e*P		**P**		**02 36 30.3**	**0.0**
	comp=Z,68nm,1.3s								
MORF	**Marmelete**	**96.05**	**342**	*e*P		**P**		**02 36 30.3**	**0.0**
	comp=Z,68nm,1.3s								
PFVI	**Vila Bisbo**	**96.25**	**342**	*e*P		**P**		**02 36 32.2**	**+1.0**
PFVI	**Vila Bisbo**	**96.25**	**342**	*e*P		**P**		**02 36 32.2**	**+1.0**
RKT	**Rikitea**	**96.69**	**116**	*e*PP		PP		02 40 24.7	-3.9
	comp=Z,344nm,35.2s								
RKT				*e*SKSac		**SKSac**		**02 47 07.5**	**+1.1**
	comp=Z,2μm,32.0s								
RKT	**Rikitea**	**96.69**	**116**	*e*PS		PS		02 49 13.1	-4.3
	comp=Z,3μm,33.8s								
RKT				*e*SS		SS		02 54 29.9	+2.7
	comp=Z,4μm,26.5s								
PGRA	**Graciosa**	**96.81**	**357**	*e*P		**P**		**02 36 35.3**	**+1.6**
	comp=Z,52nm,0.7s								
PGRA	**Graciosa**	**96.81**	**357**	*e*LQ		LQ		03 04 08.1	
PGRA				*e*LR		LR		03 10 20.6	
	comp=Z,435nm,22.2s								
ROSA	**Rosais**	**97.12**	**358**	*e*P		**P**		**02 36 34.4**	**-0.7**
	comp=Z,162nm,1.6s								
ROSA	**Rosais**	**97.12**	**358**	*e*LQ		LQ		03 04 35.8	
ROSA				*e*LR		LR		03 10 17.1	
	comp=Z,517nm,22.2s								
TEIG	**Tepich**	**97.23**	**53**	PFAKE				02 36 50.0	+14
TEIG				LR		LR			
	comp=Z,3μm,21.0s								
BBSR	**BB Station**	**97.66**	**28**	PFAKE				02 36 50.0	+12
BBSR				LR		LR			
	comp=Z,3μm,20.0s								
PSET	**Sete Cidades**	**97.91**	**356**	*e*P		Pdif		02 36 40.2	+1.5
	comp=Z,33nm,1.1s								
PSET	**Sete Cidades**	**97.91**	**356**	*e*LQ		LQ		03 04 18.9	
PSET				*e*LR		LR		03 10 27.8	
	comp=Z,180nm,16.1s								
PSMN	**Pico do Norte,**	**98.69**	**355**	*e*P		**P**		**02 36 41.8**	**-0.4**
	comp=Z,39nm,0.8s								
PSMN	**Pico do Norte,**	**98.69**	**355**	*e*LQ		LQ		03 04 34.6	
PSMN				*e*LR		LR		03 10 31.4	
	comp=Z,397nm,22.2s								
PTCN	**Pitcairn Islan**	**101.22**	**114**	PFAKE				02 37 00.0	+6.6
PTCN				LR		LR			
	comp=Z,7μm,21.0s								
PMPST	**Porto Santo, M**	**101.61**	**347**	*e*P		**Pdif**		**02 36 56.9**	**+1.7**
PMPST	**Porto Santo, M**	**101.61**	**347**	*e*P		**Pdif**		**02 36 56.9**	**+1.7**
PMOZ	**Porto Moniz, M**	**101.99**	**348**	*e*P		**Pdif**		**02 36 57.3**	**+0.2**
PMOZ	**Porto Moniz, M**	**101.99**	**348**	*e*PP		PP		02 41 12.0	+4.4
PMOZ	**Porto Moniz, M**	**101.99**	**348**	*e*LR		LR		03 10 23.0	
	comp=Z,4μm,20.0s								
PMOZ	**Porto Moniz, M**	**101.99**	**348**	*e*P		**Pdif**		**02 36 57.3**	**+0.2**
PMOZ	**Porto Moniz, M**	**101.99**	**348**	*e*PP		PP		02 41 12.0	+4.4
PMOZ	**Porto Moniz, M**	**101.99**	**348**	*e*LR		LR		03 10 23.0	
	comp=Z,4μm,20.0s								
GTBY	**Guantanamo Bay**	**104.42**	**42**	PFAKE				02 37 20.0	+12
GTBY				LR		LR			
	comp=Z,4μm,19.0s								
MTDJ	**Mount Denham**	**104.66**	**45**	PFAKE				02 37 20.0	+11
MTDJ				LR		LR			
	comp=Z,5μm,21.0s								
GRTK	**Grand Turk**	**104.88**	**38**	PFAKE				02 37 20.0	+10
GRTK				LR		LR			
	comp=Z,4μm,19.0s								
TAM	**Tamanrasset**	**105.07**	**325**	*e*P		**Pdif**		**02 37 12.8**	**+1.8**
TAM				pmax		pmax			
	comp=Z,16nm,1.6s								
TAM				MLR		MLR			
	comp=Z,7μm,21.0s								
TAM	**Tamanrasset**	**105.07**	**325**	*e*Pdif		**Pdif**		**02 37 12.8**	**+1.8**
	comp=Z,16nm,1.6s								
TAM				LR		LR			
	comp=Z,7μm,21.0s								
KMBO	**Kilima Mbogo**	**106.01**	**285**	PP		PP		02 41 33.9	-5.2
	comp=Z,5.3nm,1.0s,baz=36,slow=11,SNR=4.0								
KMBO	**Kilima Mbogo**	**106.01**	**285**	*e*P		**Pdif**		**02 37 17.1**	**+1.7**
KMBO				*e*				02 41 34.3	
KMBO				pmax		pmax			
	comp=Z,41nm,2.0s								
KMBO				MLR		MLR			
	comp=Z,8μm,19.0s								
KMBO	**Kilima Mbogo**	**106.01**	**285**	*e*Pdif		**Pdif**		**02 37 17.1**	**+1.7**
	comp=Z,41nm,2.0s								
KMBO				*e*PP		**PP**		**02 41 34.2**	**-4.7**
KMBO				LR		LR			
	comp=Z,8μm,19.0s								
SDDR	**Presa de Saban**	**107.02**	**40**	PFAKE				02 41 40.0	
SDDR				LR		LR			
	comp=Z,5μm,20.0s								
JTS	**JuntasAbangare**	**107.04**	**56**	*e*PKP				02 41 29.2	
JTS				LR		LR			
	comp=Z,2μm,21.0s								
SJG	**San Juan**	**110.03**	**35**	PFAKE				02 41 40.0	
SJG				LR		LR			
	comp=Z,3μm,20.0s								
BCIP	**Isla Barro Col**	**110.92**	**52**	PFAKE				02 41 50.0	
BCIP				LR		LR			
	comp=Z,3μm,22.0s								
ABPO	**Ambohimpanom**	**111.19**	**264**	PFAKE				02 41 50.0	
ABPO				LR		LR			
	comp=Z,4μm,19.0s								
ANWB	**Willy Bob**	**112.15**	**32**	PFAKE				02 41 50.0	
ANWB				LR		LR			
	comp=Z,5μm,21.0s								
CASY	**Casey**	**114.28**	**196**	PFAKE				02 41 50.0	+9.0
CASY				LR		LR			
	comp=Z,2μm,21.0s								
FDF	**Fort de France**	**115.08**	**32**	PFAKE				02 41 50.0	+5.7
FDF				LR		LR			
	comp=Z,4μm,20.0s								
TOA1	**Torodi Ar. Sit**	**115.28**	**324**	*e*PKP1		**PKPdf**		**02 41 43.9**	**-0.8**
TOA0	**Torodi Ar. Sit**	**115.29**	**324**	*e*PKPdf		**PKPdf**		**02 41 44.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**115.29**	**324**	PKP		**PKPdf**		**02 41 43.7**	**-0.9**
	comp=Z,7.9nm,0.5s,baz=16,slow=1.7,SNR=96								
TORD				PKKPbc		**PKKPbc**		**02 52 19.0**	**+1.5**
	comp=Z,2.3nm,0.9s,baz=214,slow=1.8,SNR=16								
SDV	**Santo Domingo**	**116.07**	**44**	*e*PKPdf		**PKPdf**		**02 41 46.9**	**+0.5**
SDV				LR		LR			
	comp=Z,3μm,22.0s								
BBGH	**Gun Hill**	**117.13**	**31**	PFAKE				02 42 00.0	+12
BBGH				LR		LR			
	comp=Z,10μm,21.0s								
GRGR	**Grenville**	**117.25**	**34**	PFAKE				02 42 00.0	+12
GRGR				LR		LR			
	comp=Z,5μm,20.0s								
OTAV	**Otavalo**	**118.91**	**57**	*e*PKPdf		**PKPdf**		**02 41 52.2**	**0.0**
OTAV				LR		LR			
	comp=Z,2μm,22.0s								
SACV	**Santiago Islan**	**120.42**	**351**	PFAKE				02 42 00.0	+5.5
SACV				LR		LR			
	comp=Z,2μm,19.0s								
VNDA	**Vanda**	**122.01**	**177**	PKP		**PKPdf**		**02 41 55.2**	**-0.4**
	comp=Z,12nm,0.7s,baz=323,slow=4.5,SNR=42								
VNDA				PKKPbc		**PKKPbc**		**02 51 54.0**	**-0.2**
	comp=Z,9.4nm,1.2s,baz=260,slow=3.1,SNR=10.0								
VNDA	**Vanda**	**122.01**	**177**	*e*PKPdf		**PKPdf**		**02 41 55.6**	**-0.1**
VNDA				PKKPbc		**PKKPbc**		**02 51 54.0**	**-0.2**
LSZ	**Lusaka**	**122.28**	**281**	*e*PKIKP		**PKPdf**		**02 41 58.4**	**+0.3**
LSZ				MLR		MLR			
	comp=Z,8μm,19.0s								
LSZ	**Lusaka**	**122.28**	**281**	*e*PKPdf		**PKPdf**		**02 41 58.4**	**+0.3**
LSZ				LR		LR			
	comp=Z,8μm,19.0s								
SBA	**Scott Base**	**122.58**	**176**	*e*PKIKP		**PKPdf**		**02 41 57.2**	**+0.5**
SBA				MLR		MLR			
	comp=Z,2μm,19.0s								
SBA	**Scott Base**	**122.58**	**176**	*e*PKPdf		**PKPdf**		**02 41 57.2**	**+0.5**
SBA				LR		LR			
	comp=Z,2μm,19.0s								
DBIC	**Dimbokro**	**123.79**	**328**	PKP		**PKPdf**		**02 42 00.8**	**-0.2**
	comp=Z,26nm,0.5s,baz=0.4,slow=2.6,SNR=54								
DBIC	**Dimbokro**	**123.79**	**328**	*e*PKIKP		**PKPdf**		**02 42 00.5**	**-0.5**
DBIC	**Dimbokro**	**123.79**	**328**	*e*PKPdf		**PKPdf**		**02 42 00.5**	**-0.5**
DBIC				PKP		**PKPdf**		**02 42 00.8**	**-0.2**
TIC	**Toumodi**	**123.88**	**328**	*e*PKP1		**PKPdf**		**02 42 00.5**	**-0.7**
KIC	**Kosan Boka**	**124.03**	**328**	*e*PKP1		**PKPdf**		**02 42 00.8**	**-0.7**
	comp=Z,101nm,1.0s								
LIC	**Lamto**	**124.27**	**328**	*e*PKP1		**PKPdf**		**02 42 02.6**	**+0.6**
	comp=Z,166nm,1.4s								
MAW	**Mawson**	**128.71**	**209**	PKP		**PKPdf**		**02 42 08.9**	**+0.2**
	comp=Z,8.3nm,0.9s,baz=94,slow=4.8,SNR=11								
NNA	**Nana**	**129.36**	**65**	PKP		**PKPdf**		**02 42 11.7**	**+0.1**
	comp=Z,15nm,0.7s,baz=329,slow=2.9,SNR=3.5								
NNA	**Nana**	**129.36**	**65**	*e*PKIKP		**PKPdf**		**02 42 11.3**	**-0.3**
NNA				MLR		MLR			
	comp=Z,4μm,20.0s								
NNA	**Nana**	**129.36**	**65**	*e*PKPdf		**PKPdf**		**02 42 11.3**	**-0.3**
NNA				PKP		**PKPdf**		**02 42 11.7**	**+0.1**
NNA				LR		LR			
	comp=Z,4μm,20.0s								
PTGA	**Pitinga**	**129.53**	**39**	PFAKE				02 42 20.0	+8.0
PTGA				LR		LR			
	comp=Z,14μm,20.0s								
TSUM	**Tsumeb**	**132.34**	**286**	*e*PKPpre		PKPpre		02 42 09.4	
TSUM				LR		LR			
	comp=Z,6μm,20.0s								
BOSA	**Boshof**	**132.84**	**270**	PKP		**PKPdf**		**02 42 18.4**	**+0.4**
	comp=Z,6.1nm,0.7s,baz=74,slow=1.2,SNR=7.7								
BOSA				PP		**PP**		**02 44 42.9**	**-1.0**
	comp=Z,27nm,1.2s,baz=40,slow=8.1,SNR=4.3								
BOSA				SKPbc		**SKPab**		**02 45 44.5**	**+1.1**
	comp=Z,12nm,1.0s,baz=78,slow=5.1,SNR=3.2								
BOSA	**Boshof**	**132.84**	**270**	*e*PKIKP		**PKPdf**		**02 42 16.5**	**-1.4**
BOSA				*e*				02 44 42.4	
BOSA	**Boshof**	**132.84**	**270**	*e*PKPdf		**PKPdf**		**02 42 16.5**	**-1.4**
BOSA				*e*PP		**PP**		**02 44 42.4**	**-1.4**
BOSA				SKPbc		**SKPab**		**02 45 44.5**	**+1.1**
QSPA	**South Pole Qui**	**134.23**	**180**	PFAKE				02 42 30.0	+11
QSPA				LR		LR			
	comp=Z,2μm,21.0s								
SAML	**Samuel**	**135.08**	**48**	*e*PKPdf		**PKPdf**		**02 42 20.0**	**-2.4**
SAML				*e*PP		**PP**		**02 44 55.5**	**-1.8**
SAML				LR		LR			
	comp=Z,4μm,22.0s								
SUR	**Sutherland**	**138.12**	**268**	*e*PKPdf		**PKPdf**		**02 42 27.2**	**-0.5**
SUR				LR		LR			
	comp=Z,3μm,20.0s								
LPAZ	**La Paz**	**138.12**	**60**	PKhKP		PKPpre		02 42 17.4	
	comp=Z,2.0nm,0.7s,baz=33,slow=5.4,SNR=8.3								
LPAZ	**La Paz**	**138.12**	**60**	*e*PKHKP		PKPpre		02 42 17.9	
LPAZ				*e*				02 42 29.2	
LPAZ	**La Paz**	**138.12**	**60**	*e*PKPpre		PKPpre		02 42 17.9	
LPAZ				*e*PKPdf		**PKPdf**		**02 42 29.2**	**+0.5**
RCBR	**Riachuelo**	**141.27**	**7**	*e*PKPdf		**PKPdf**		**02 42 33.1**	**-0.8**
RCBR				LR		LR			
	comp=Z,3μm,20.0s								
LVC	**Limon Verde**	**142.24**	**67**	PKhKP		PKPpre		02 42 30.8	
	comp=Z,12nm,0.7s,baz=281,slow=5.2,SNR=4.3								
LVC	**Limon Verde**	**142.24**	**67**	*e*PKPdf		**PKPdf**		**02 42 34.7**	**-0.9**
LVC				LR		LR			
	comp=Z,7μm,20.0s								
SHEL	**Horse Pasture**	**144.31**	**315**	*e*PKIKP		PKPbc		02 42 38.2	+0.7
SHEL				MLR		MLR			
	comp=Z,5μm,20.0s								
SHEL	**Horse Pasture**	**144.31**	**315**	*e*PKPdf		PKPbc		02 42 38.2	+0.7
SHEL				LR		LR			
	comp=Z,5μm,20.0s								
LCO	**Las Campanas**	**145.19**	**77**	*e*PKPbc		**PKPbc**		**02 42 40.1**	**-0.2**
LCO				LR		LR			
	comp=Z,3μm,22.0s								
NVL	**N'lazarevskaya**	**146.32**	**204**	⇑*i* PKP2		**PKPab**		**02 42 42.7**	**-0.3**
NVL				*e*				02 46 14.3	
NVL				*e*PPP		PPP		02 49 44.8	
NVL				*e*SS		SS		03 04 56.4	-2.3
NVL				*e*SSS		SSS		03 10 27.3	
BDFB	**Brasilia**	**147.93**	**32**	PKPbc		**PKPbc**		**02 42 47.9**	**-0.5**
	comp=Z,61nm,0.7s,baz=272,slow=1.6,SNR=42								
CFAA	**Coronel Fontan**	**148.44**	**79**	PKPbc		**PKPbc**		**02 42 48.5**	**-0.8**
	comp=Z,13nm,0.7s,baz=282,slow=2.5,SNR=80								
SNAA	**Sanae**	**149.51**	**197**	*e*PKPdf		**PKPdf**		**02 42 46.2**	**0.0**
SNAA				*e*PKPbc		**PKiKP**		**02 42 51.4**	**-0.4**
CPUP	**Villa Florida**	**152.26**	**58**	*e*PKPdf		**PKPdf**		**02 42 52.1**	**+0.4**
CPUP				*e*PKPbc		**PKPbc**		**02 42 58.2**	**-0.3**
CPUP				*e*PKPab		**PKPab**		**02 43 09.1**	**+0.7**
PMSA	**Palmer Station**	**152.73**	**150**	*e*PKPdf		**PKPdf**		**02 42 51.1**	**0.0**
PMSA				LR		LR			
	comp=Z,6μm,20.0s								
TRQA	**Tornquist**	**156.12**	**85**	*e*PKPdf		**PKPdf**		**02 42 57.6**	**+0.8**
TRQA				LR		LR			
	comp=Z,4μm,20.0s								
EFI	**East Falkland**	**160.78**	**121**	PFAKE				02 43 10.0	+8.1
EFI				LR		LR			
	comp=Z,8μm,19.0s								

IDC ***18*** *02:31:34.2±0.6, 44.°43N×148.°81E, h0km, mb3.9/15, mb1 4.1/19, mb1mx4.0/33, mbtmp3.9/19, ML3.2/4, Error ellipse: s-maj=19.7km s-min=15.6km az=134.0*

MOS ***18*** *02:31:38.7±1.2, 44.°31N×148.°91E, h49km, mb4.7/8, Error ellipse: s-maj=11.9km s-min=9.6km az=69.7*

JMA ***18*** *02:31:39.2±0.7, 44.°55N×148.°99E, h30km, M4.7*

SKHL ***18*** *02:31:39.5±0.7, 44.°31N×149.°10E, h56km±3km, mb5.2/3*

ISCJB ***18*** *02:31:39.2±0.9, 44.°32N±0.°05×148.°96E±0.°08, h54km±8km, mb4.0/22, Error ellipse: s-maj=11.4km s-min=6.7km az=36.4*

NEIC ***18*** *02:31:39.2±0.4, 44.°34N×149.°03E, h35km, mb4.4/6, Error ellipse: s-maj=12.1km s-min=7.7km az=147.0*

ISC 18 02:31:39.6±1.4, 44.°31N±0.°06×148.°98E±0.°08, h40km±12km, n88, σ1°36/89, mb4.2/22, 4C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.22**	**320**	*c i* PN		**Pn**	**02 31 59.6**	**-0.5**
KUR				*i* S		**Sn**	**02 32 14.2**	**-1.1**
KUR				pmax		pmax		
	comp=N,144nm,0.2s							
KUR				pmax		pmax		
	comp=E,159nm,0.2s							
KUR				pmax		pmax		
	comp=Z,535nm,0.2s							
KUR				smax		smax		
	comp=N,2μm,0.2s							
KUR				smax		smax		
	comp=E,552nm,0.2s							
KUR	**Kuril'sk**	**1.22**	**320**	⇑*i* P		**Pn**	**02 31 59.6**	**-0.5**
KUR				AMB		AMB	02 32 02.9	
	comp=E,144nm

	comp=Z,54nm,1.2s							
ADK	**Adak**	**23.98**	**59**	*e*P		**P**	**02 36 50.5**	**+0.5**
	comp=Z,54nm,1.2s							
H11N2	**WAKE ISLAND Hy**	**28.71**	**143**	T		T	03 08 25.7	
	baz=333,slow=76,SNR=5.0							
H11N1	**WAKE ISLAND Hy**	**28.72**	**143**	T		T	03 08 23.7	
	baz=333,slow=76,SNR=4.7							
H11N3	**WAKE ISLAND Hy**	**28.72**	**143**	T		T	03 08 23.4	
	baz=333,slow=76,SNR=5.2							
SONM	**Songino Array**	**29.48**	**292**	P		**P**	**02 37 37.6**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=80,slow=8.1,SNR=3.2							
H11S1	**WAKE ISLAND Hy**	**29.71**	**144**	T		T	03 09 35.8	
	baz=334,slow=76,SNR=7.9							
H11S3	**WAKE ISLAND Hy**	**29.71**	**144**	T		T	03 09 39.3	
	baz=334,slow=76,SNR=8.4							
H11S2	**WAKE ISLAND Hy**	**29.73**	**144**	T		T	03 09 43.3	
	baz=334,slow=76,SNR=5.3							
COLA	**College**	**39.84**	**36**	*i* P		**P**	**02 39 09.1**	**+0.5**
COLA				pmax		pmax		
	comp=Z,8.0nm,0.9s							
COLA	**College**	**39.84**	**36**	*e*P		**P**	**02 39 09.1**	**+0.5**
ILAR	**Eielson Array**	**40.26**	**37**	P		**P**	**02 39 11.5**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=266,slow=5.3,SNR=3.1							
EGAK	**Eagle**	**42.70**	**36**	*e*P		**P**	**02 39 31.2**	**-0.9**
	comp=Z,6.3nm,1.1s							
KURK	**Kurchatov**	**46.31**	**304**	*e*P		**P**	**02 40 01.1**	**0.0**
KURK				pmax		pmax		
	comp=Z,5.0nm,0.6s							
KURK	**Kurchatov**	**46.31**	**304**	*e*P		**P**	**02 40 01.1**	**0.0**
KURK	**Kurchatov**	**46.31**	**304**	*e*P		**P**	**02 40 01.1**	**0.0**
	comp=Z,4.9nm,0.6s							
FAKI	**Fak Fak**	**49.35**	**202**	*e*P		**P**	**02 40 25.8**	**+0.9**
RES	**Resolute Bay**	**54.05**	**17**	P		**P**	**02 40 59.4**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=351,slow=8.3,SNR=4.2							
YKA	**Yellowknife Ar**	**54.60**	**34**	P		**P**	**02 41 03.8**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=303,slow=7.4,SNR=2.9							
KKAR	**Karatay Array**	**54.61**	**298**	*e*P		**P**	**02 41 03.4**	**-0.5**
KKAR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KKAR	**Karatay Array**	**54.61**	**298**	*e*P		**P**	**02 41 03.4**	**-0.5**
	comp=Z,3.4nm,0.7s							
ABKAR	**Akbulak array**	**57.73**	**309**	*e*P		**P**	**02 41 26.3**	**+0.2**
ARCES	**ARCESS Array B**	**59.18**	**340**	P		**P**	**02 41 34.8**	**-1.0**
	comp=Z,1.7nm,1.0s,baz=40,slow=8.6,SNR=2.6							
FINES	**FINESS Array B**	**64.97**	**334**	P		**P**	**02 42 14.2**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=49,slow=4.8,SNR=7.2							
FINES	**FINESS Array B**	**64.97**	**334**	*e*P		**P**	**02 42 14.9**	**+0.2**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.5s							
FINES	**FINESS Array B**	**64.97**	**334**	*e*P		**P**	**02 42 14.9**	**+0.2**
HLID	**Hailey**	**65.30**	**53**	*e*P		**P**	**02 42 17.0**	**-0.4**
	comp=Z,2.3nm,1.1s							
WRAB	**Tennant Creek**	**65.31**	**195**	*e*P		**P**	**02 42 17.3**	**-0.1**
WRAB				pmax		pmax		
	comp=Z,8.0nm,1.1s							
WRAB	**Tennant Creek**	**65.31**	**195**	*e*P		**P**	**02 42 17.3**	**-0.1**
	comp=Z,7.8nm,1.1s							
WRA	**Warramunga Ar**	**65.33**	**195**	P		**P**	**02 42 18.4**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=19,slow=7.1,SNR=4.6							
NVAR	**Mina Array Bea**	**66.16**	**59**	P		**P**	**02 42 24.3**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=294,slow=7.6,SNR=2.1							
ASAR	**Alice Springs**	**69.04**	**195**	P		**P**	**02 42 42.8**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=4.8,slow=5.2,SNR=3.6							
NOA	**NORSAR Array B**	**69.55**	**340**	P		**P**	**02 42 43.6**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=18,slow=7.5,SNR=7.2							
KBZ	**Khabaz**	**70.41**	**312**	P		**P**	**02 42 49.4**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=90,slow=1.0,SNR=3.2							
AKASG	**Malin Array Be**	**71.90**	**324**	P		**P**	**02 42 58.4**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=38,slow=6.0,SNR=5.5							
AKASG	**Malin Array Be**	**71.90**	**324**	*e*P		**P**	**02 42 58.8**	**+0.6**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
CLL	**Collm**	**77.42**	**333**	*e*P		**P**	**02 43 31.0**	**+0.8**
CLL	**Collm**	**77.42**	**333**	*e*P		**P**	**02 43 31.0**	**+0.8**
CLL	**Collm**	**77.42**	**333**	*e*P		**P**	**02 43 31.0**	**+0.8**
BRTR	**Keskin Array B**	**78.10**	**315**	P		**P**	**02 43 33.7**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=34,slow=6.2,SNR=2.7							
GERES	**GERESS Array B**	**79.30**	**332**	P		**P**	**02 43 40.9**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=44,slow=5.7,SNR=14							
GERES	**GERESS Array B**	**79.30**	**332**	*e*P		**P**	**02 43 41.3**	**+0.5**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
GERES	**GERESS Array B**	**79.30**	**332**	*e*P		**P**	**02 43 41.3**	**+0.5**
TXAR	**Lajitas Array**	**81.24**	**57**	P		**P**	**02 43 52.0**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=304,slow=4.4,SNR=4.9							
TXAR	**Lajitas Array**	**81.24**	**57**	*e*P		**P**	**02 43 52.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**115.53**	**324**	PKP		**PKPdf**	**02 50 16.6**	**-0.9**
	comp=Z,0.9nm,1.1s,baz=22,slow=2.2,SNR=3.4							
DBIC	**Dimbokro**	**124.04**	**329**	PKP		**PKPdf**	**02 50 33.4**	**-0.5**
	comp=Z,3.2nm,0.9s,baz=317,slow=9.9,SNR=3.4							
LCO	**Las Campanas**	**145.07**	**78**	*e*PKPbc		**PKPdf**	**02 51 13.1**	**+0.3**
BDFB	**Brasilia**	**148.00**	**32**	PKPbc		**PKPbc**	**02 51 21.7**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=308,slow=19,SNR=2.4							
CFAA	**Coronel Fontan**	**148.31**	**79**	PKPbc		**PKPbc**	**02 51 21.3**	**0.0**
	comp=Z,0.1nm,0.5s,baz=333,slow=2.3,SNR=3.0							

*ISCJB **18** 02:37:00.1±0.5,50.10N±0.03×18.32E±0.03,h0km, Error ellipse: s-maj=4.3km s-min=2.7km az=6.8*
*IPEC **18** 02:37:01.5±0.2,50.04N×18.45E,h2km±2km,ML2.3/3, Error ellipse: s-maj=2.1km s-min=1.1km az=160.0*
*CSEM **18** 02:37:02.6±0.7,50.08N×18.24E,h1km,ML3.0/10,Error ellipse: s-maj=9.6km s-min=5.5km az=57.0*
*PRU **18** 02:37:02.7,50.06N×18.31E,h0km*

ISC 18 02:37:01.6±0.8,50.08N±0.03×18.39E±0.02,h0km,n26, σ0s79/43,Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.29**	**213**	*e*PG		**Pg**	**02 37 07.6**	**+0.5**
OKC				*e*SG		**Sg**	**02 37 11.5**	**+0.8**
	comp=Z,328nm,0.7s							
OKC	**Ostrava-Krasne**	**0.29**	**213**	Pg		**Pg**	**02 37 07.6**	**+0.5**
OKC				Sg		**Sg**	**02 37 11.5**	**+0.8**
	328nm,0.7s							
CHZP	**Chorzow**	**0.44**	**61**	*e*P		**Pg**	**02 37 10.6**	**+0.5**
MORC	**Moravsky Berou**	**0.62**	**241**	*e*Pg		**Pg**	**02 37 13.9**	**+0.4**
MORC				*e*Sg		**Sg**	**02 37 21.7**	**+0.1**
	72nm,0.5s							
OJC	**Ojcow**	**0.92**	**81**	*e*Pg		**Pg**	**02 37 18.7**	**-0.5**
OJC				*e*Sg		**Sg**	**02 37 31.0**	**-0.1**
DPC	**Dobruska-Polom**	**1.35**	**282**	*e*PG		**Pg**	**02 37 27.3**	**-0.2**
DPC				*e*SG		**Sg**	**02 37 45.0**	**-0.1**
	comp=Z,74nm,0.4s							
DPC	**Dobruska-Polom**	**1.35**	**282**	Pg		**Pg**	**02 37 27.3**	**-0.2**
DPC				Sg		**Sg**	**02 37 45.0**	**-0.1**
	74nm,0.4s							
VRAC	**Vranov**	**1.40**	**237**	*e*Pg		**Pg**	**02 37 27.7**	**-0.6**
VRAC				*e*Sg		**Sg**	**02 37 45.7**	**-0.7**
	42nm,0.4s							
NIE	**Niedzica**	**1.41**	**117**	*e*Pg		**Pn**	**02 37 28.2**	**-0.4**
NIE				*e*Sg		**Sg**	**02 37 47.6**	**+0.6**
KSP	**Ksiaz**	**1.54**	**301**	*e*Pn		**Pn**	**02 37 29.8**	**-0.5**
KSP				*e*Pg		**Pg**	**02 37 31.9**	**+0.8**
KSP				*e*Sg		**Sn**	**02 37 52.2**	**+1.1**
UPC	**Upice**	**1.58**	**287**	*e*PG		**Pn**	**02 37 31.6**	**+0.7**
UPC				*e*SG		**Sn**	**02 37 51.9**	**-0.2**
	comp=Z,24nm,1.0s							
UPC	**Upice**	**1.58**	**287**	Pg		**Pn**	**02 37 31.6**	**+0.7**
UPC				Sg		**Sn**	**02 37 51.9**	**-0.2**
	24nm,1.0s							
KRUC	**Moravsky**	**1.65**	**233**	*e*Pn		**Pn**	**02 37 31.5**	**-0.3**
KRUC				*e*Sg		**Sn**	**02 37 53.2**	**-0.5**
	20nm,0.2s							
SMOL	**Smolenice**	**1.69**	**202**	*e*PN		**Pn**	**02 37 31.4**	**-0.9**
SMOL				*e*SN		**Sn**	**02 37 53.5**	**-1.1**
TREC	**Trest**	**2.04**	**248**	*e*SG		**Sb**	**02 38 05.0**	**-0.4**
	comp=Z,23nm,0.3s							
TREC	**Trest**	**2.04**	**248**	Sg		**Sb**	**02 38 05.0**	**-0.4**
	23nm,0.3s							
GOPC	**GO Pecny, Ondr**	**2.33**	**267**	*e*SG		**Sb**	**02 38 14.5**	**+0.8**
GOPC	**GO Pecny, Ondr**	**2.33**	**267**	Sg		**Sb**	**02 38 14.5**	**+0.8**
PRU	**Pruhonice**	**2.48**	**269**	*e*PG		**Pb**	**02 37 47.1**	**+0.1**
PRU				*e*SG		**Sb**	**02 38 18.6**	**+0.5**
	comp=Z,7.7nm,0.7s							
PRU	**Pruhonice**	**2.48**	**269**	Pg		**Pb**	**02 37 47.1**	**+0.1**
PRU				Sg		**Sb**	**02 38 18.6**	**+0.5**
	7.7nm,0.7s							
PVCC	**Panska Ves**	**2.49**	**282**	*e*SG		**Sg**	**02 38 20.0**	**-1.5**
	comp=Z,26nm,0.4s							
PVCC	**Panska Ves**	**2.49**	**282**	Sg		**Sg**	**02 38 20.0**	**-1.5**
	26nm,0.4s							
BRG	**Berggiesshubel**	**2.95**	**287**	PG		**Pb**	**02 37 54.8**	**-0.2**
BRG				SG		**Sg**	**02 38 34.9**	**-1.4**
	12nm,0.6s							
KHC	**Kasperske Hory**	**3.27**	**255**	*e*SG		**Sb**	**02 38 42.6**	**+1.8**
	comp=Z,18nm,0.5s							
KHC	**Kasperske Hory**	**3.27**	**255**	Sg		**Sb**	**02 38 42.6**	**+1.8**
	18nm,0.5s							
CLL	**Collm**	**3.64**	**292**	*e*Sg		**Sg**	**02 38 58.0**	**-0.4**

GUC 18 02:52:35.7±0.4,20.44S×69.48W,h72km±4km,ML3.6,3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB01	**IPOC Station P**	**0.60**	**181**	*i* P		Pn	02 52 50.0	+0.2
PB01				⇓*i*P		Pn	02 52 50.0	+0.2
PB01				*i* S		Sn	02 53 00.9	+0.6
PB01				AML		AML	02 53 01.6	
	comp=E,7μm,0.2s							
PATCX	**Punta Patache**	**0.74**	**239**	*i* P		Pn	02 52 51.5	+0.1
PATCX				*i* S		Sn	02 53 03.8	+0.9
PATCX				AML		AML	02 53 05.7	
	comp=N,2μm,0.2s							
PSGC	**Pisagua**	**1.04**	**324**	⇓*i*P		Pn	02 52 54.8	-0.1
PSGC				*i* S		Sn	02 53 09.7	+0.4
PSGC				AML		AML	02 53 12.8	
	comp=N,1μm,0.5s							
MNMC	**Minimini**	**1.31**	**355**	⇓*i*P		Pn	02 52 58.9	+0.3
MNMC				*i* S		Sn	02 53 17.0	+1.2
MNMC				AML		AML	02 53 21.1	
	comp=E,3μm,0.2s							
PB07	**IPOC Station P**	**1.33**	**197**	*i* P		Pn	02 52 59.2	+0.3
PB07				*i* S		Sn	02 53 17.6	+1.4
PB07				AML		AML	02 53 20.6	
	comp=E,2μm,0.2s							
PB09	**IPOC Station P**	**1.37**	**171**	*i* P		Pn	02 53 00.1	+0.9
PB09				*i* S		Sn	02 53 18.0	+1.0
PB09				AML		AML	02 53 22.0	
	comp=N,3μm,0.2s							
PB04	**IPOC Station P**	**1.81**	**180**	*e*P		Pn	02 53 08.0	+3.0
PB04				*e*S		Sn	02 53 32.6	+5.5
PB04				AML		AML	02 53 38.6	
	comp=E,597nm,0.6s							
PB06	**IPOC Station P**	**2.25**	**182**	*e*P		Pn	02 53 11.6	+0.5

IDC 18 03:09:56.3±22.0,3.39S×140.87E,h0km,mb3.8/2, mb1 3.9/3,mb1mx3.5/27,mbtmp3.8/3,ML3.3/1,Error ellipse: s-maj=401.9km s-min=123.5km az=154.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.64**	**201**	P		Pn	03 14 04.0	+0.2
	0.1nm,0.3s,baz=22,slow=12,SNR=5.5							
ASAR	**Alice Springs**	**21.25**	**198**	P		P	03 14 44.0	-0.3
	0.8nm,0.6s,baz=24,slow=11,SNR=9.0							
STKA	**Stephens Creek**	**28.34**	**179**	P		P	03 15 52.2	+0.1
	5.4nm,1.0s,baz=337,slow=7.7,SNR=3.1							

*IDC **18** 03:20:35.2±0.8,16.87N×94.74E,h0km,mb3.9/9, mb1 4.1/10,mb1mx3.8/27,mbtmp4.0/10,ML4.6/1,Error ellipse: s-maj=29.0km s-min=18.4km az=49.0*
*NEIC **18** 03:20:36.8±0.5,16.86N×94.69E,h10km,mb4.0/1,Error ellipse: s-maj=13.4km s-min=8.8km az=190.0*
*ISCJB **18** 03:20:38.5±0.7,16.98N±0.08×94.77E±0.04,h33km, mb3.9/10,Error ellipse: s-maj=11.5km s-min=5.1km az=5.8*

ISC 18 03:20:40.5±0.9,16.9N±0.1×94.76E±0.07,h35km,n26, σ0s72/29,mb3.9/10,Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**4.26**	**69**	*e*Pn		**Pn**	**03 21 43.2**	**+0.3**
CM31				*e*Sn		**Sn**	**03 22 30.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**4.26**	**69**	Pn		**Pn**	**03 21 43.2**	**+0.3**
	7.8nm,0.3s,baz=253,slow=15,SNR=36							
CMAR				Sn		**Sn**	**03 22 32.4**	**+0.9**
	5.2nm,0.3s,baz=297,slow=10,SNR=5.7							
CHTO	**Chiang Mai**	**4.39**	**64**	*e*Pn		**Pn**	**03 21 45.0**	**+0.2**
CHTO				*e*Sn		**Sn**	**03 22 35.1**	**+0.3**
SHL	**Shillong**	**8.99**	**343**	*e*PN		**Pn**	**03 22 48.0**	**-0.1**
SHL				*e*SN			03 23 24.0	
ODAN	**Odare**	**12.01**	**327**	*e*P		**Pn**	**03 23 28.3**	**-1.2**
	72nm,0.3s							
TAPN	**Taplejung**	**12.24**	**329**	*e*P		**Pn**	**03 23 32.1**	**-0.7**
	43nm,0.3s							
RAMN	**Ramite**	**12.51**	**324**	*e*P		**Pn**	**03 23 35.6**	**-0.7**
	34nm,0.3s							
GUN	**Gumba**	**13.66**	**325**	*e*P		**Pn**	**03 23 51.9**	**-0.2**
	33nm,0.4s							
PKI	**Pulchoki**	**13.66**	**322**	*e*P		**Pn**	**03 23 52.3**	**+0.1**
	64nm,0.3s							
PKIN	**Phulchoki**	**13.68**	**322**	*e*P		**Pn**	**03 23 52.9**	**+0.6**
	53nm,0.3s							
DMN	**Daman**	**13.87**	**322**	*e*P		**Pn**	**03 23 55.3**	**+0.3**
	57nm,0.5s							
KKN	**Kakani**	**13.90**	**323**	*e*P		**Pn**	**03 23 55.2**	**-0.2**
	19nm,0.3s							
GKN	**Gorkha**	**14.44**	**321**	*e*P		**Pn**	**03 24 02.1**	**-0.5**
	100nm,0.3s							
KOLN	**Koldanda**	**14.92**	**318**	*e*P		**Pn**	**03 24 08.9**	**-0.2**
	103nm,0.3s							
TKM2	**Tokmak 2**	**30.62**	**332**	*e*P		**P**	**03 26 51.2**	**-0.3**
	1.5nm,0.7s							
KURBB	**Kurchatov Arra**	**36.04**	**342**	P		P	**03 27 37.2**	**-1.3**
	1.2nm,0.4s,baz=153,slow=8.4,SNR=4.8							
KURK	**Kurchatov**	**36.10**	**343**	P		P	**03 27 37.2**	**-1.7**
ZALV	**Zalesovo Beam**	**37.74**	**350**	P		P	**03 27 53.5**	**+0.7**
	1.7nm,0.4s,baz=176,slow=7.9,SNR=8.3							
ABKAR	**Akbulak array**	**42.81**	**327**	*e*P		**P**	**03 28 35.8**	**+0.8**
WRA	**Warramunga Arr**	**53.42**	**132**	P		**P**	**03 29 56.3**	**-1.0**
	0.7nm,0.7s,baz=314,slow=7.1,SNR=10							
ASAR	**Alice Springs**	**55.59**	**135**	P		**P**	**03 30 12.9**	**-0.1**
	0.6nm,0.6s,baz=324,slow=6.7,SNR=5.8							
FINES	**FINESS Array B**	**65.09**	**330**	P		**P**	**03 31 17.6**	**+0.3**
	1.3nm,0.5s,baz=119,slow=6.7,SNR=7.9							
ARCES	**ARCESS Array B**	**67.03**	**339**	P		**P**	**03 31 30.6**	**+0.9**
	0.6nm,0.5s,baz=83,slow=6.8,SNR=14							
GERES	**GERESS Array B**	**71.60**	**317**	P		**P**	**03 31 58.8**	**+0.3**
	0.8nm,0.7s,baz=79,slow=7.2,SNR=8.6							
BOSA	**Boshof**	**80.99**	**236**	P		**P**	**03 32 52.2**	**+0.1**
	3.2nm,1.0s,baz=48,slow=6.7,SNR=3.5							
ESDC	**Sonseca Array**	**85.87**	**310**	P		**P**	**03 33 17.3**	**+0.3**
	0.1nm,0.4s,baz=51,slow=5.5,SNR=3.0							

*SJA **18** 03:27:59.0±0.8,33.15S×70.79W,h112km±8km,ML3.4, MW3.6*
*GUC **18** 03:28:01.3±0.4,33.10S×70.72W,h77km±2km,ML3.2*

ISC 18 03:28:01.8±1.6,33.11S±0.06×70.78W±0.07,h81km±10km, n26,σ0s87/44,2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PEL	**Peldehue**	**0.08**	**114**	*i* P		**Pn**	**03 28 13.1**	**-0.4**
PEL				*i* S		**Sn**	**03 28 21.5**	**-0.5**
PEL				AML		AML	03 28 22.6	
	comp=E,2μm,0.3s							
STL	**Santa Lucia**	**0.34**	**161**	*e*P		**Pn**	**03 28 14.7**	**+0.1**
CLCH	**Cerro Calan**	**0.35**	**145**	⇓*i*P		**Pn**	**03 28 14.3**	**-0.3**
CLCH				*i* S		**Sn**	**03 28 24.1**	**0.0**
CLCH				AML		AML	03 28 25.4	
	comp=E,2μm,0.7s							
SAN	**Santiago**	**0.35**	**165**	*e*P		**Pn**	**03 28 14.2**	**-0.4**
SAN				*e*S		**Sn**	**03 28 24.2**	**+0.2**
LACH	**Col Las Americ**	**0.40**	**149**	*e*S		**Sn**	**03 28 24.4**	**-0.1**
FSR	**Penalolen**	**0.42**	**151**	*e*P		**Pn**	**03 28 14.5**	**-0.6**
FSR				*e*S		**Sn**	**03 28 24.8**	**-0.1**
PCH	**Pirque**	**0.55**	**157**	*e*P		**Pn**	**03 28 15.9**	**-0.3**
PCH				*i* S		**Sn**	**03 28 27.2**	**+0.3**
TACH	**Talagante**	**0.56**	**194**	*i* P		**Pn**	**03 28 16.4**	**+0.1**
TACH				*i* S		**Sn**	**03 28 27.5**	**+0.7**
SJCH	**San Jose de Ma**	**0.64**	**146**	*i* P		**Pn**	**03 28 16.6**	**-0.4**
SJCH				*i* S		**Sn**	**03 28 28.4**	**+0.1**
CHCH	**Chadas Angostu**	**0.83**	**173**	*i* P		**Pn**	**03 28 19.1**	**+0.1**
LNV	**Longovilo**	**1.00**	**212**	⇓*i*P		**Pn**	**03 28 21.2**	**+0.4**
LNV				*e*S		**Sn**	**03 28 36.1**	**+1.0**
AUSP	**Uspallata**	**1.47**	**53**	*e*P		**Pn**	**03 28 27.2**	**+0.2**
AUSP				*e*S		**Sn**	**03 28 48.6**	**+2.6**
ARCO	**CERRO ARCO**	**1.57**	**81**	*e*P		**Pn**	**03 28 28.7**	**+0.4**
ARCO				*e*S		**Sn**	**03 28 49.8**	**+1.6**
ARCO				IAML			03 28 52.9	
	comp=Z,122nm,0.5s							
AAGR	**Agrelo**	**1.63**	**90**	*e*P		**Pn**	**03 28 28.9**	**-0.1**
AAGR				*e*S		**Sn**	**03 28 50.3**	**+0.7**
ASAL	**Salagasta**	**1.71**	**73**	*e*P		**Pn**	**03 28 30.1**	**+0.1**
ASAL				*e*S		**Sn**	**03 28 53.0**	**+1.6**
RTLS	**Leoncito**	**1.81**	**44**	*e*P		**Pn**	**03 28 31.6**	**+0.2**
RTLS				*e*S		**Sn**	**03 28 56.5**	**+2.6**
RTCV	**Cerro Valdivia**	**2.26**	**57**	*e*P		**Pn**	**03 28 36.8**	**-0.4**
RTCV				*e*S		**Sn**	**03 29 05.0**	**+0.6**
CFAA	**Coronel Fontan**	**2.62**	**56**	*e*P		**Pn**	**03 28 41.6**	**-0.4**
CFAA				*e*S		**Sn**	**03 29 12.8**	**-0.2**
RTLL	**Cerro Villicun**	**2.64**	**48**	*e*P		**Pn**	**03 28 42.4**	**+0.1**
RTLL				*e*S		**Sn**	**03 29 13.4**	**0.0**
AMOG	**MOGNA**	**2.91**	**42**	*e*P		**Pn**	**03 28 45.4**	**-0.6**
AMOG				*e*S		**Sn**	**03 29 20.2**	**+0.2**
ACAN	**Cantantal**	**3.14**	**76**	*e*P		**Pn**	**03 28 48.5**	**-0.6**
ACAN				*e*S		**Sn**	**03 29 25.1**	**-0.4**
AVFE	**Valle Fertil**	**3.73**	**50**	*e*P		**Pn**	**03 28 56.4**	**-0.8**
AVFE				*e*S		**Sn**	**03 29 39.5**	**-0.6**
AVFE				IAML			03 29 42.0	
	comp=Z,48nm,0.8s							
VCA	**Vinchina**	**4.89**	**28**	*e*P		**Pn**	**03 29 11.7**	**-1.3**
VCA				IAML			03 30 17.1	
	comp=Z,43nm,0.3s							
ACLC	**CERRO LA CRUZ**	**4.92**	**43**	*e*P		**Pn**	**03 29 12.5**	**-0.9**
TCA	**Tanti**	**5.53**	**73**	*e*P		**Pn**	**03 29 20.1**	**-1.5**
TCA				IAML			03 29 21.1	
	comp=Z,23nm,0.5s							
CYA	**Choya**	**6.32**	**44**	IAML			03 29 32.4	
	comp=Z,12nm,0.7s							

JMA 18 04:03:40.8±0.5,33.04N×142.38E,h0km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**1.99**	**324**	P		Pb	04 04 16.3	-0.8
BSO1				*e*S		Sg	04 04 42.8	-0.7
JHJ2	**Mitsune**	**2.15**	**273**	P		Pn	04 04 18.8	+0.8
JHJ2				*e*S		Sn	04 04 46.6	+1.2
BSO3	**Boso 3**	**2.35**	**319**	P		Pn	04 04 21.8	+1.5
BSO3				S		Sg	04 04 55.2	-0.5
BSO4	**Boso 4**	**2.58**	**319**	P		Pn	04 04 25.7	+2.0
BSO4				*e*S		Sn	04 04 57.5	+1.8
JOD2	**Odawara 2**	**3.52**	**310**	*e*S		Sn	04 05 17.5	-1.6
JYN	**Shimob**	**4.01**	**309**	P		Pn	04 04 46.7	+3.1
JYN				S		Sn	04 05 34.2	+2.8
JRY	**Ryogami san**	**4.13**	**317**	P		Pn	04 04 47.1	+1.9
JRY				*e*S		Sn	04 05 35.9	+1.6
JAG	**Ashikaga**	**4.15**	**325**	P		Pn	04 04 47.1	+1.7
JAG				S		Sn	04 05 35.3	+0.7
JFT	**Otama**	**4.77**	**340**	P		Pn	04 04 55.7	+1.7
JFT				S		Sn	04 05 49.1	-0.9

IDC 18 04:04:40.4±2.2,7.19S×150.84E,h0km,mb3.3/3, mb1 3.7/3,mb1mx3.5/24,mbtmp3.4/3,Error ellipse: s-maj=144.0km s-min=29.3km az=128.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.42**	**230**	P		P	04 09 19.8	+0.4
	0.7nm,0.5s,baz=55,slow=11,SNR=11							
ASAR	**Alice Springs**	**23.09**	**223**	P		P	04 09 47.2	-0.8
	0.3nm,0.4s,baz=50,slow=8.6,SNR=4.9							
ILAR	**Eielson Array**	**85.09**	**22**	P		P	04 17 17.7	-0.2
	0.4nm,0.9s,baz=245,slow=3.9,SNR=4.0							
TORD	**Torodi Ar. Bea**	**149.08**	**284**	PKPbc		PKPbc	04 24 31.6	-0.1
	0.3nm,0.8s,baz=73,slow=2.9,SNR=3.9							

IDC 18 04:25:41.4±2.6,18.90S×169.85E,h0km,mb4.0/4, mb1 4.1/5,mb1mx3.8/28,mbtmp3.9/5,ML2.5/1,Error ellipse: s-maj=95.1km s-min=27.0km az=135.0,Vanuatu Islands

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

TUC	**Tucson**	**3.75**	**87**	*e*Pn		**Pn**	**04 50 09.3**	**+0.7**
TUC				*e*Pg		**Pg**	**04 50 21.3**	**-1.3**
TUC				*e*Sg		**Sg**	**04 51 08.9**	**-2.4**
SHPR	**Sheep Range**	**4.31**	**1**	*e*Pn		**Pn**	**04 50 17.3**	**+0.9**
SHPR				*e*Pg		**Pg**	**04 50 32.6**	**-0.8**
SHPR				*e*Sg		**Sg**	**04 51 27.1**	**-2.1**
DAC	**Darwin (Calif)**	**4.53**	**335**	*e*P		**Pg**	**04 50 35.3**	**-2.4**
WUAZ	**Wupatki**	**4.61**	**43**	*e*Pn		**Pn**	**04 50 21.2**	**+0.8**
WUAZ				*e*Pg		**Pg**	**04 50 37.8**	**-1.3**
WUAZ				*e*Sg		**Sg**	**04 51 38.3**	**-0.4**
W18A	**Petrified Fore**	**5.42**	**56**	*e*Pn		**Pn**	**04 50 33.2**	**+1.6**
CCUT	**Cedar City**	**5.56**	**15**	*e*Pn		**Pn**	**04 50 35.2**	**+1.6**
	comp=E,2.0nm,0.7s							
CCUT				*e*P		**Pg**	**04 50 55.7**	**-1.6**
CCUT				*e*S		**Sg**	**04 52 05.3**	**-4.0**
R11A	**Troy Canyon, C**	**6.16**	**357**	*e*Pg		**Pg**	**04 51 06.4**	**-2.3**
	comp=E,1.4nm,0.5s							
R11A				*e*Sg		**Sg**	**04 52 27.6**	**-0.8**
121A	**Cookes Peak, D**	**6.29**	**85**	*e*Pn		**Pn**	**04 50 44.2**	**+0.7**
	comp=E,2.9nm,0.4s							
121A				*e*Sg		Sg	04 52 26.5	-6.3
MSU	**Marysvale**	**6.78**	**21**	*e*Pg		Pg	04 51 17.5	-3.1
	comp=E,2.2nm,0.7s							

SJA ***18*** *04:57:57.6±0.7, 34°.28S×73°.27W, h16km±19km, ML4.3, MW4.3*
IDC ***18*** *04:58:09.7±0.8, 33°.75S×72°.21W, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.9/27, mbtmp3.8/9, ML3.2/2, MS2.4/1, Ms1 2.4/1, ms1mx2.4/13, Error ellipse: s-maj=27.4km s-min=21.2km az=92.0*
GUC ***18*** *04:58:11.7±0.4, 33°.74S×72°.35W, h43km±2km, ML4.0*
NEIC ***18*** *04:58:15.3±1.4, 33°.69S×72°.08W, h39km±10km, mb4.3/9, Error ellipse: s-maj=15.6km s-min=7.4km az=67.0*

ISC 18 04:58:09.1±2.7, 33°.80S±0°.07×72°.31W±0°.06, h0km±15km, n47, σ1$52/64, mb4.1/14, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.95**	**36**	*i* P	**Pn**	**04 58 29.0**	**-0.6**
IHA				*i* S	**Sb**	**04 58 41.6**	**+0.1**
SAN	**Santiago**	**1.41**	**76**	*e*P	**Pn**	**04 58 36.4**	**+0.3**
SAN				*e*S	**Sb**	**04 58 54.4**	**-0.5**
PEL	**Peldehue**	**1.50**	**65**	*e*P	**Pn**	**04 58 37.7**	**+0.4**
PEL				*e*S	**Sn**	**04 58 56.9**	**-0.8**
PEL				AML	AML	04 59 04.8	
	comp=N,5μm,0.8s						
PCH	**Pirque**	**1.50**	**84**	*i* P	**Pn**	**04 58 37.6**	**+0.2**
PCH				*i* S	**Sn**	**04 58 57.6**	**-0.2**
LACH	**Col Las Americ**	**1.52**	**77**	*i* P	**Pn**	**04 58 37.5**	**-0.1**
LACH				*e*S	**Sn**	**04 58 57.2**	**-0.9**
CLCH	**Cerro Calan**	**1.53**	**75**	*i* P	**Pn**	**04 58 38.2**	**+0.5**
CLCH				*e*S	**Sn**	**04 58 57.9**	**-0.5**
CLCH				AML	AML	04 59 13.3	
	comp=E,2μm,0.7s						
SJCH	**San Jose de Ma**	**1.63**	**85**	*i* P	**Pn**	**04 58 39.3**	**+0.1**
SJCH				*i* S	**Sn**	**04 59 00.4**	**-0.6**
AUSP	**Uspallata**	**2.91**	**58**	*e*P	**Pb**	**04 58 59.8**	**-2.3**
AUSP				*e*S	**Sg**	**04 59 45.7**	**+3.0**
ARCO	**CERRO ARCO**	**2.98**	**72**	*e*P	**Pn**	**04 59 00.3**	**+2.5**
ARCO				IAML		04 59 06.2	
	comp=Z,414nm,0.6s						
ARCO				*e*S	**Sg**	**04 59 46.1**	**+1.1**
AAGR	**Agrelo**	**2.99**	**77**	*e*P	**Pn**	**04 59 00.4**	**+2.5**
AAGR				*e*S	**Sg**	**04 59 46.2**	**+0.9**
ASAL	**Salagasta**	**3.15**	**68**	*e*P	**Pn**	**04 59 03.0**	**+3.0**
ASAL				*e*S	**Sg**	**04 59 51.2**	**+0.9**
RTLS	**Leoncito**	**3.22**	**53**	*e*P	**Pb**	**04 59 04.6**	**-2.8**
RTLS				*e*S	**Sg**	**04 59 54.0**	**+1.3**
RTCV	**Cerro Valdivia**	**3.71**	**60**	*e*P	**Pn**	**04 59 10.8**	**+3.1**
RTCV				*e*S	**Sg**	**05 00 04.9**	**-3.5**
SJA	**San Juan**	**3.89**	**55**	*e*P	Pn	04 59 13.4	+3.3
SJA				IAML		04 59 25.1	
	comp=Z,106nm,0.7s						
SJA				*e*S	**Sb**	**05 00 08.7**	**+2.5**
RTLL	**Cerro Villicun**	**4.06**	**54**	*e*P	**Pn**	**04 59 15.3**	**+2.7**
RTLL				*e*S	**Sb**	**05 00 13.6**	**+2.3**
CFAA	**Coronel Fontan**	**4.07**	**59**	Pn	**Pn**	**04 59 13.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=227,slow=17,SNR=78						
CFAA				Lg	Lg	05 00 12.1	
	comp=Z,1.2nm,0.3s,baz=5.3,slow=12,SNR=5.9						
CFAA				LR	LR	05 01 07.3	
	comp=Z,44nm,19.2s,baz=251,slow=45						
CFAA	**Coronel Fontan**	**4.07**	**59**	*e*P	**Pn**	**04 59 14.9**	**+2.3**
CFAA				*e*S	**Sb**	**05 00 13.7**	**+2.4**
AMOG	**MOGNA**	**4.30**	**50**	*e*P	**Pn**	**04 59 18.3**	**+2.4**
AMOG				*e*S	**Sb**	**05 00 18.6**	**+0.4**
ACAN	**Cantantal**	**4.56**	**72**	*e*P	**Pn**	**04 59 21.7**	**+2.4**
ACAN				*e*S	**Sb**	**05 00 24.9**	**-0.6**
LCO	**Las Campanas**	**4.97**	**16**	*e*Pn	**Pn**	**04 59 24.5**	**-0.6**
VCA	**Vinchina**	**6.15**	**36**	*e*P	**Pn**	**04 59 42.9**	**+1.6**
VCA				*e*S	Sb	05 01 01.8	-9.5
VCA				IAML		05 01 15.0	
	comp=Z,59nm,0.6s						
TCA	**Tanti**	**6.96**	**71**	*e*P	**Pn**	**04 59 54.5**	**+2.1**
TCA				IAML		04 59 58.7	
	comp=Z,66nm,0.5s						
CYA	**Choya**	**7.72**	**48**	*e*S	Sn	05 01 39.7	+8.8
CYA				IAML		05 02 30.4	
	comp=Z,16nm,0.7s						
TRQA	**Tornquist**	**9.39**	**120**	*e*Pn	**Pn**	**05 00 26.7**	**+1.1**
LVC	**Limon Verde**	**11.54**	**16**	Pn	Pn	05 00 52.1	-3.2
	comp=Z,4.7nm,0.3s,baz=243,slow=18,SNR=2.5						
LVC	**Limon Verde**	**11.54**	**16**	*e*Pn	**Pn**	**05 00 56.6**	**+1.2**
LPAZ	**La Paz**	**17.84**	**13**	P	**P**	**05 02 19.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=180,slow=7.3,SNR=14						
LPAZ	**La Paz**	**17.84**	**13**	*e*Pn	**P**	**05 02 19.8**	**-0.4**
	comp=Z,3.6nm,0.8s						
SIV	**San Ignacio**	**20.42**	**32**	P	**P**	**05 02 46.8**	**-1.1**
	comp=Z,2.9nm,0.7s,baz=215,slow=13,SNR=7.5						
SAML	**Samuel**	**26.12**	**21**	*e*P	**P**	**05 03 44.8**	**-0.1**
	comp=Z,2.8nm,0.7s						
BDFB	**Brasilia**	**28.41**	**56**	P	**P**	**05 04 04.3**	**-1.3**
	comp=Z,1.6nm,0.5s,baz=230,slow=12,SNR=4.9						
SNAA	**Sanae**	**51.85**	**158**	P	**P**	**05 07 19.7**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=224,slow=18,SNR=3.6						
SNAA	**Sanae**	**51.85**	**158**	*e*P	**P**	**05 07 19.9**	**+1.2**
	comp=Z,4.7nm,1.3s						
HKT	**Hockley**	**67.19**	**338**	*e*P	**P**	**05 09 04.1**	**-0.7**
	comp=Z,2.9nm,1.1s						
GOGA	**Godfrey**	**67.67**	**350**	*e*P	**P**	**05 09 07.8**	**0.0**
	comp=Z,3.4nm,1.0s						
TXAR	**Lajitas Array**	**69.45**	**331**	P	**P**	**05 09 20.5**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=150,slow=8.0,SNR=3.9						
WVT	**Waverly**	**71.06**	**347**	*e*P	**P**	**05 09 28.8**	**0.0**
	comp=Z,2.5nm,0.6s						
MAW	**Mawson**	**73.44**	**164**	P	**P**	**05 09 43.3**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=288,slow=3.2,SNR=4.0						
DBIC	**Dimbokro**	**75.33**	**71**	*e*P	**P**	**05 09 53.7**	**-0.8**
	comp=Z,20nm,1.3s						
ANMO	**Albuquerque**	**75.50**	**332**	*e*P	**P**	**05 09 55.4**	**0.0**
	comp=Z,1.1nm,0.9s						
PDAR	**Pinedale Array**	**83.48**	**333**	P	**P**	**05 10 38.8**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=110,slow=5.9,SNR=3.0						
NVAR	**Mina Array Bea**	**83.59**	**325**	P	**P**	**05 10 39.3**	**0.0**
	comp=Z,0.1nm,0.4s,baz=138,slow=4.4,SNR=2.5						
TOA0	**Torodi Ar. Sit**	**84.35**	**70**	*e*P	**P**	**05 10 42.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**84.35**	**70**	P	**P**	**05 10 43.5**	**0.0**
	comp=Z,1.5nm,0.8s,baz=240,slow=4.4,SNR=6.5						
LSZ	**Lusaka**	**90.08**	**108**	*e*P	**P**	**05 11 10.1**	**-1.4**
	comp=Z,2.8nm,0.8s						
WRA	**Warramunga Arr**	**120.83**	**209**	PKP	**PKPdf**	**05 17 04.2**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=163,slow=1.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**154.17**	**32**	PKP	**PKPdf**	**05 18 03.2**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=330,slow=3.3,SNR=2.3						
ZALV				PKPbc	**PKPbc**	**05 18 10.5**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=259,slow=1.5,SNR=3.0						
ZALV				PKPab	**PKPab**	**05 18 24.6**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=293,slow=6.1,SNR=3.0						

JMA ***18*** *05:06:15.0±0.6, 44°.65N×148°.99E, h30km, M3.9*
SKHL ***18*** *05:06:16.4±1.1, 44°.36N×149°.10E, h52km±4km, mb4.4/3*

ISC 18 05:06:13.5±3.9, 44°.25N±0°.08×149°.2E±0°.2, h42km, n19, σ2$35/28, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.38**	**316**	⇑*i* P	**Pn**	**05 06 36.2**	**-0.1**
KUR				AMB	AMB	05 06 38.2	
	150nm,0.5s						
KUR				*i* S	**Sn**	**05 06 51.0**	**-2.4**
KUR				A	A	05 06 54.0	
	160nm,0.2s						
KUR				A	A	05 06 54.0	
	300nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.44**	**266**	⇑*i* P	**Pn**	**05 06 53.8**	**+3.0**
YUK				AMB	AMB	05 06 54.0	
	29nm,0.3s						
YUK				AMB	AMB	05 06 54.0	
	31nm,0.3s						
YUK				AMB	AMB	05 06 54.0	
	63nm,0.3s						
YUK				*i* S	**Sn**	**05 07 21.6**	**+2.2**
YUK				A	A	05 07 22.6	
	185nm,0.6s						
YUK				A	A	05 07 22.6	
	141nm,0.6s						
NEM2	**Nemuro 2**	**2.68**	**252**	P	**Pn**	**05 06 54.6**	**+0.4**
NEM2				*e*S	**Sn**	**05 07 25.2**	**-0.2**
JRA	**Rausu**	**2.98**	**265**	P	**Pn**	**05 06 59.9**	**+1.6**
JRA				*e*S	**Sn**	**05 07 32.4**	**-0.4**
JNK	**Nakash**	**3.33**	**260**	P	**Pn**	**05 07 04.6**	**+1.5**
JAK	**Akkeshi**	**3.53**	**251**	P	**Pn**	**05 07 06.8**	**+1.0**
JAK				*e*S	**Sn**	**05 07 46.6**	**+0.3**
JTKR	**Abashiri--Toko**	**3.85**	**268**	P	**Pn**	**05 07 11.8**	**+1.6**
JAR	**Ashorobuto**	**4.08**	**258**	P	**Pn**	**05 07 14.8**	**+1.5**
JAR				*e*S	**Sn**	**05 07 58.7**	**-1.0**
JOB	**Onbets**	**4.15**	**253**	P	**Pn**	**05 07 16.7**	**+2.3**
JOB				*e*S	**Sn**	**05 08 00.4**	**-1.2**
JMP	**Maruseppu**	**4.24**	**269**	P	**Pn**	**05 07 18.5**	**+2.9**
HRK	**Horoka**	**4.49**	**262**	*e*P	**Pn**	**05 07 21.6**	**+2.6**
JCH	**Churui**	**4.58**	**251**	P	**Pn**	**05 07 22.1**	**+1.8**
JCH				*e*S	**Sn**	**05 08 09.3**	**-2.9**
MYR	**Moyori**	**4.77**	**248**	*e*P	**Pn**	**05 07 24.5**	**+1.7**
MYR				*e*S	**Sn**	**05 08 14.6**	**-2.2**
JNBK	**Urakawa-nobuka**	**5.13**	**250**	P	**Pn**	**05 07 30.4**	**+2.6**
YSS	**Yuzh-Sakhalins**	**5.29**	**303**	*e*P	**Pn**	**05 07 31.7**	**+1.7**
YSS				AMB	AMB	05 07 32.1	
	10.0nm,0.2s						
YSS				*e*S	**Sn**	**05 08 28.2**	**-1.4**
YSS				A	A	05 08 31.9	
	40nm,0.5s						
JKB	**Kayabe**	**6.46**	**251**	P	**Pn**	**05 07 46.7**	**+0.7**
JKB				*e*S	**Sn**	**05 08 53.6**	**-4.8**
JANG	**Nango**	**6.91**	**239**	*e*S	Sn	05 09 02.3	-7.3
JTM	**Tenmabayashi**	**6.96**	**243**	*e*S	**Sn**	**05 09 05.2**	**-5.5**
JTH	**Tanohata**	**6.97**	**234**	*e*S	Sn	05 09 03.0	-8.1

ISCJB ***18*** *05:15:21.9±0.7, 34°.01N±0°.07×73°.4E±0°.1, h10km, mb3.5/5, Error ellipse: s-maj=17.0km s-min=5.2km az=145.9*
IDC ***18*** *05:15:21.5±1.1, 34°.16N×73°.71E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/28, mbtmp3.6/5, Error ellipse: s-maj=39.3km s-min=27.1km az=52.0*
NDI ***18*** *05:15:22.2±1.7, 34°.04N×73°.29E, h10km, ML3.7*
NNC ***18*** *05:15:23.5±5.4, 34°.12N×73°.91E, h0km, mb3.7, mpv3.8, Error ellipse: s-maj=52.2km s-min=45.9km az=89.0*

ISC 18 05:15:23.7±0.8, 33°.97N±0°.08×73°.6E±0°.1, h10km, n18, σ2$38/21, mb3.6/5, 3C-4D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**2.47**	**125**	*e*P	**Pn**	**05 16 05.0**	**+0.7**
DLH				*e*S	**Sn**	**05 16 38.0**	**+3.4**
SDNR	**Sundarnagar**	**3.79**	**130**	*e*P	**Pn**	**05 16 24.0**	**+1.8**
SDNR				*ex*	x	05 17 25.0	
SMLA	**Simla**	**4.16**	**132**	*i* P	**Pn**	**05 16 30.3**	**+3.0**
SMLA				*i* S	**Sn**	**05 17 17.7**	**+1.7**
SMLA				*i* S	Sb	05 17 18.7	-8.7
SMLA				AML	AML	05 17 21.7	
	comp=N,1μm,0.2s						
SMLA				AML	AML	05 17 22.6	
	comp=E,933nm,0.2s						
SFK	**Sufi-Kurgan**	**6.03**	**360**	⇑Pn	**Pn**	**05 16 55.4**	**+2.1**
	comp=E,2.0nm,0.2s						
SFK				⇓Sn	**Sn**	**05 18 01.9**	**-0.5**
	comp=E,6.5nm,0.3s						
JOSI	**Joshimath**	**6.12**	**122**	*e*P	**Pn**	**05 16 54.9**	**+0.5**
JOSI				*e*S	**Sn**	**05 18 03.1**	**-1.5**
JOSI				AML	AML	05 18 33.9	
	comp=N,84nm,0.9s						
JOSI				AML	AML	05 18 40.7	
	comp=E,62nm,0.3s						
NDI	**New Delhi**	**6.13**	**148**	*ex*	Sg	05 18 34.0	-6.5
DZET	**Dzherino**	**6.15**	**323**	Pn	Pn	05 16 59.1	+4.3
	comp=E,2.1nm,0.3s						
DZET				⇑Sn	**Sn**	**05 18 11.1**	**+5.9**
	comp=E,6.8nm,0.4s						
KHET	**Khetri**	**6.19**	**161**	*e*S	**Sn**	**05 18 02.3**	**-3.7**
KHET				AML	AML	05 18 35.7	
	comp=N,106nm,0.1s						
KHET				AML	AML	05 18 36.3	
	comp=E,100nm,0.1s						
SONA	**Sohna**	**6.45**	**151**	*e*S	**Sn**	**05 18 10.7**	**-1.8**
SONA				AML	AML	05 18 55.9	
	comp=E,22nm,0.5s						
SONA				AML	AML	05 18 57.0	
	comp=N,16nm,0.3s						
KK31	**Karatay Array**	**9.42**	**346**	⇓Pn	**Pn**	**05 17 38.8**	**-0.8**
	comp=N,1.6nm,0.5s,baz=165,slow=13,SNR=4.2						
KK31				⇓Sn	**Sn**	**05 19 22.3**	**-3.3**
	comp=N,0.8nm,0.4s,baz=165,slow=23,SNR=3.8						
AB31	**Akbulak array**	**18.31**	**331**	P	**Pn**	**05 19 38.8**	**+1.1**
	comp=N,0.4nm,0.5s,baz=130,slow=12,SNR=6.0						
BVA0	**Borovoye Array**	**19.18**	**354**	⇓P	**P**	**05 19 47.3**	**-0.1**
	comp=N,1.3nm,0.5s,baz=318,slow=36,SNR=4.8						
AKTO	**Aktyubinsk**	**20.01**	**330**	⇑P	**P**	**05 19 55.5**	**-1.0**
	comp=N,2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**21.50**	**18**	P	**P**	05 20 08.6	-3.9
	comp=N,0.8nm,0.3s,baz=223,slow=9.8,SNR=3.4						
ARCES	**ARCESS Array B**	**44.27**	**338**	P	**P**	**05 23 32.1**	**-1.0**
	comp=N,0.8nm,0.7s,baz=108,slow=7.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**67.81**	**271**	P	**P**	**05 26 22.1**	**-0.2**
	comp=N,0.2nm,0.3s,baz=50,slow=6.1,SNR=4.8						
WRA	**Warramunga Arr**	**78.87**	**123**	P	**P**	**05 27 27.1**	**-0.3**
	comp=N,0.4nm,0.7s,baz=320,slow=4.8,SNR=3.9						
ASAR	**Alice Springs**	**81.08**	**126**	P	**P**	**05 27 38.6**	**-0.7**
	comp=N,0.2nm,0.3s,baz=316,slow=6.5,SNR=3.5						

MAN 18 05:36:09, 6°.02N×125°.67E, h57km, mb4.8, ML3.7, MS3.7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.72**	**275**	⇓*e*P	Pn	05 36 22.2	-1.3
GSPH				*e*S	Sn	05 36 32.7	-1.5
MATI	**Mati**	**1.09**	**32**	*e*P	Pn	05 36 29.4	+1.2
MATI				*e*S	Sn	05 36 44.2	+1.8
BUKP	**Musuan**	**1.94**	**342**	*e*P	Pn	05 36 40.7	+0.9
BUKP				*e*S	Sn	05 37 04.4	+1.3
PAGZ	**Pagadian**	**2.91**	**309**	*e*P	Pn	05 36 54.7	+1.8

DJA 18 05:40:36.8±0.7, 2°.S±7°×13°.6E±°, h11km±5km, M4.5/9, mb4.8/2, MLv4.4/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.12**	**355**	P	Pb	05 40 40.7	-0.4
SRPI				S	Sg	05 40 43.1	+1.1
RKPI	**Ransiki, Papua**	**2.13**	**283**	P	Pn	05 41 12.4	+0.1
RKPI				S	Sn	05 41 39.8	+1.1
SMPI	**Sarmi**	**2.46**	**90**	P	Pn	05 41 16.6	-0.3
SMPI				S	Sn	05 41 48.7	+1.8
GENI	**Genyem**	**3.96**	**99**	P	Pn	05 41 37.8	+0.3
GENI				S	Sn	05 42 25.3	+1.3
FAKI	**Fak Fak**	**4.10**	**257**	P	Pn	05 41 39.7	+0.2
FAKI				S	Sn	05 42 28.1	+0.5
JAY	**Jayapura**	**4.48**	**97**	P	Pn	05 41 44.7	-0.1
BNDI	**Bandanaira**	**6.82**	**248**	P	Pn	05 42 16.6	-0.2
	316nm,1.6s,1.6nm						
MSAI	**Masohi**	**7.44**	**259**	P	Pn	05 42 25.2	-0.2

CASC 18 05:55:41.1±1.7, 13°.96N×91°.59W, h19km±14km, MD3.6, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.36**	**353**	⇓*i* P	Pb	05 55 49.6	+0.5
FUG	**Fuego 3**	**0.87**	**56**	*e*P	Pb	05 55 56.7	-1.2
PCG	**Pacaya**	**1.05**	**66**	*e*P	Pb	05 56 00.1	-0.9
PCG				*e*S	Sg	05 56 16.2	+0.3
RBDL	**Robledal**	**1.85**	**85**	⇓*i* P	Pn	05 56 11.5	-0.6
RBDL				*e*S	Sn	05 56 36.0	+0.8
RTR	**El Retiro**	**1.89**	**92**	*e*P	Pn	05 56 12.5	-0.1
RTR				*e*S	Sn	05 56 37.4	+1.2
MRL	**Marmol**	**2.14**	**59**	*e*P	Pn	05 56 15.7	-0.4
LFU	**La Fuente**	**2.42**	**95**	*e*P	Pn	05 56 19.7	0.0
LFRS	**El Faro**	**2.48**	**97**	*e*P	Pn	05 56 20.6	0.0
LBRS	**Las Brisas**	**2.48**	**95**	*e*P	Pn	05 56 20.8	+0.1
LBRS				*e*S	Sb	05 56 53.3	-2.3

ISCJB ***18*** *06:10:14.7±1.1, 32°.81N±0°.09×142°.4E±0°.2, h39km, mb3.3/2, Error ellipse: s-maj=26.9km s-min=6.9km az=153.1*
JMA ***18*** *06:10:16.2±0.5, 33°.06N×142°.56E, h74km, M3.3*
IDC ***18*** *06:10:16.5±1.4, 32°.33N×141°.09E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/31, mbtmp3.4/4, ML3.6/2, Error ellipse: s-maj=53.4km s-min=20.9km az=84.0*

ISC 18 06:10:14.4±1.6, 32°.81N±0°.08×142°.6E±0°.2, h39km, n14, σ1$77/20, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.29**	**324**	P	**Pn**	**06 10 49.3**	**+0.1**
BSO1				*e*S	**Sn**	**06 11 15.5**	**-0.5**
JHJ2	**Mitsune**	**2.38**	**278**	P	Pn	06 10 53.2	+2.3
BSO3	**Boso 3**	**2.66**	**319**	P	**Pn**	**06 10 54.7**	**+0.3**
BSO4	**Boso 4**	**2.89**	**319**	P	**Pn**	**06 10 58.5**	**+0.7**
BSO4				S	**Sn**	**06 11 30.2**	**-1.0**
JOD2	**Odawara 2**	**3.82**	**311**	P	**Pn**	**06 11 09.9**	**-0.9**
JYN	**Shimob**	**4.32**	**309**	P	**Pn**	**06 11 18.5**	**+0.9**
JYN				S	**Sn**	**06 12 07.1**	**+0.4**
JRY	**Ryogami san**	**4.44**	**317**	P	**Pn**	**06 11 20.0**	**+0.8**
JRY				S	**Sn**	**06 12 08.6**	**-1.1**
JAG	**Ashikaga**	**4.45**	**325**	P	**Pn**	**06 11 20.3**	**+0.9**
JFT	**Otama**	**5.06**	**339**	P	**Pn**	**06 11 28.5**	**+0.8**
JFT				S	**Sn**	**06 12 21.3**	**-3.5**
MJAR	**Matsushiro Arr**	**5.21**	**317**	Pn	**Pn**	**06 11 30.9**	**+1.2**
	1.5nm,0.3s,baz=152,slow=11,SNR=7.1						
MJAR				Sn	**Sn**	**06 12 25.6**	**-2.9**
	0.6nm,0.3s,baz=165,slow=15,SNR=4.1						
MAT	**Matsushiro**	**5.21**	**317**	P	**Pn**	**06 11 31.5**	**+1.7**
MAT				S	**Sn**	**06 12 25.8**	**-2.8**
JCJ	**Chichijima**	**5.71**	**184**	Pn	**Pn**	**06 11 37.9**	**+1.2**
	3.5nm,0.3s,baz=342,slow=19,SNR=5.9						
JCJ				Sn	**Sn**	**06 12 38.5**	**-2.4**
	4.2nm,0.3s,baz=311,slow=19,SNR=2.6						
ILAR	**Eielson Array**	**52.57**	**31**	P	P	06 19 39.2	+16
	0.1nm,0.5s,baz=264,slow=6.3,SNR=2.6						
WRA	**Warramunga Arr**	**53.05**	**190**	P	**P**	**06 19 30.2**	**+2.5**
	0.4nm,0.6s,baz=7.5,slow=7.6,SNR=5.0						

IDC ***18*** *06:28:47.3±7.3, 7°.08N×75°.78W, h106km±84km, mb3.5/1, mb1 3.9/2, mb1mx3.1/21, mbtmp4.0/2, ML3.1/1, Error ellipse: s-maj=183.2km s-min=40.6km az=77.0*
ISCJB ***18*** *06:28:48.2±0.7, 6°.97N±0°.06×73°.03W±0°.08, h166km, mb3.6/1, Error ellipse: s-maj=13.2km s-min=5.4km az=35.5*
FUNV ***18*** *06:28:48.6, 6°.79N×73°.13W, h165km, MW3.7*

ISC 18 06:28:47.8±1.1, 6°.93N±0°.07×73°.07W±0°.08, h166km, n16, σ1$05/24, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.19**	**39**	⇓*i* P	**Pn**	**06 29 17.3**	**+1.3**
CAPV				*e*S	**Sn**	**06 29 38.5**	**+0.8**
ROSC	**El Rosal**	**2.41**	**211**	P	**Pn**	**06 29 29.1**	**-0.1**
	70nm,0.3s,baz=286,slow=20,SNR=191						
ROSC				S	**Sn**	**06 30 01.7**	**+0.6**
	96nm,0.3s,baz=30,slow=23,SNR=10.0						
VIGV	**El Vigia**	**2.54**	**42**	*e*P	**Pn**	**06 29 31.8**	**+1.5**
VIGV				*e*S	**Sn**	**06 30 03.2**	**-0.1**
SOCV	**Socops**	**2.58**	**58**	*e*P	**Pn**	**06 29 32.1**	**+1.4**
SOCV				*e*S	**Sn**	**06 30 03.8**	**-0.2**
ELOV	**Elorza**	**3.56**	**89**	*e*P	**Pn**	**06 29 43.3**	**+0.3**
VIRV	**Villa del Rosa**	**3.61**	**10**	*e*P	**Pn**	**06 29 44.1**	**+0.6**
VIRV				*e*S	**Sn**	**06 30 26.7**	**-0.3**
QARV	**Quebrada Arrib**	**4.12**	**38**	⇓*i* P	**Pn**	**06 29 51.6**	**+1.5**
QARV				*e*S	**Sn**	**06 30 37.3**	**-1.4**
SANV	**Sanarito**	**4.33**	**54**	*e*P	**Pn**	**06 29 53.7**	**+0.7**
SANV				*e*S	**Sn**	**06 30 42.8**	**-1.0**
CURV	**Curarigua**	**4.34**	**45**	*e*P	**Pn**	**06 29 53.9**	**+0.9**
CURV				*e*S	Sn	06 30 41.8	-2.2
DABV	**Dabajuro**	**4.64**	**31**	*e*P	**Pn**	**06 29 58.3**	**+1.5**
DABV				*e*S	**Sn**	**06 30 49.3**	**-1.6**
TEPV	**

CMAR					LR	LR	07 01 44.3	
	comp=Z,26nm,18.2s,baz=240,slow=36							
BOSA	**Boshof**		**49.84**	**230**	P	**P**	**06 48 59.8**	**-0.3**
	2.5nm,0.9s,baz=79,slow=3.8,SNR=3.6							
BOSA					LR	LR	07 07 30.6	
	comp=Z,108nm,18.7s,baz=70,slow=33							
BOSA	**Boshof**		**49.84**	**230**	*e*P	**P**	**06 49 00.2**	**+0.1**
	1.5nm,0.7s							
ZALV	**Zalesovo Beam**		**54.24**	**13**	P	**P**	**06 49 30.9**	**-1.3**
	1.3nm,0.5s,baz=207,slow=7.0,SNR=5.9							
H01W3	**Cape Leeuwin H**		**57.27**	**134**	T	T	07 51 41.8	
	baz=300,slow=75,SNR=24							
H01W2	**Cape Leeuwin H**		**57.28**	**134**	T	T	07 51 42.3	
	baz=300,slow=75,SNR=20							
H01W1	**Cape Leeuwin H**		**57.29**	**134**	T	T	07 51 43.2	
	baz=300,slow=75,SNR=22							
SONM	**Songino Array**		**57.36**	**31**	P	**P**	**06 49 56.0**	**+1.1**
	0.8nm,0.6s,baz=227,slow=7.6,SNR=7.2							
TORD	**Torodi Ar. Bea**		**65.37**	**284**	P	**P**	**06 50 49.7**	**+0.2**
	0.4nm,1.0s,baz=90,slow=7.1,SNR=2.1							
WRA	**Warramunga Arr**		**69.56**	**112**	P	**P**	**06 51 15.3**	**-0.7**
	2.3nm,0.9s,baz=291,slow=5.7,SNR=10							
ASAR	**Alice Springs**		**69.83**	**116**	P	**P**	**06 51 17.6**	**0.0**
	1.3nm,0.8s,baz=280,slow=5.5,SNR=9.1							
DBIC	**Dimbokro**		**71.56**	**276**	LR	LR	07 21 48.5	
	comp=Z,42nm,18.6s,baz=125,slow=35							
NOA	**NORSAR Array B**		**72.56**	**335**	LR	LR	07 24 14.4	
	comp=Z,8.9nm,19.3s,baz=70,slow=36							
TXAR	**Lajitas Array**		**147.89**	**344**	PKPbc	**PKPbc**	**06 59 52.3**	**-0.2**
	1.5nm,0.9s,baz=64,slow=2.2,SNR=15							

NIED ***18*** *06:55:00,25˚.40N×142˚.60E,h50km,Mw4.2 Best double couple: M₀2.65000×10¹⁵ NP1:φ₁193.00000°,δ22.00000°, λ121.00000°. NP2:φ₂340.00000°,δ71.00000°,λ78.00000°.*

ISCJB ***18*** *06:55:05.4±0.5,25˚.53N±0˚.06×141˚.14E±0˚.10,h10km, mb4.2/19,MS3.4/1, Error ellipse: s-maj=14.2km s-min=6.5km az=29.8*

IDC ***18*** *06:55:05.1±0.6,25˚.59N×141˚.05E,h0km,mb4.1/13, mb1 4.3/13,mb1mx4.1/29,mbtmp4.1/13,MS3.2/5, Ms1 3.2/5,ms1mx2.9/26,Error ellipse: s-maj=25.7km s-min=15.5km az=106.0*

NEIC ***18*** *06:55:08.7±3.6,25˚.54N×141˚.16E,h21km±25km,mb4.4/6, Error ellipse: s-maj=13.8km s-min=9.9km az=104.0*

ISC 18 06:55:06.9±0.6,25˚.51N±0˚.08×141˚.3E±0˚.1,h10km,n37, σ1ᵖ02/30,mb4.1/19,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.78**	**27**	*e*Pn		**Pn**		**06 55 37.1**	**-0.7**
CBIJ				*e*Sn		**Sn**		**06 55 59.9**	**-0.5**
JCJ	**Chichijima**	**1.78**	**27**	Pn		**Pn**		**06 55 37.3**	**-0.5**
	225nm,0.3s,baz=194,slow=23,SNR=186								
JCJ				Sn		**Sn**		**06 55 59.7**	**-0.7**
	168nm,0.3s,baz=328,slow=23,SNR=27								
JCJ				LR		LR		06 56 26.4	
	comp=Z,565nm,18.8s,baz=128,slow=45								
MJAR	**Matsushiro Arr**	**11.30**	**347**	LR		LR		07 01 58.8	
	comp=Z,195nm,19.2s,baz=175,slow=37								
MAJO	**Matsushiro**	**11.30**	**347**	*e*Pn		**Pn**		**06 57 49.6**	**+1.2**
JNU	**Nakatsue**	**11.81**	**312**	LR		LR		07 01 51.3	
	comp=Z,52nm,20.9s,baz=105,slow=35								
GUMO	**Guam**	**12.34**	**163**	LR		LR		07 02 01.7	
	comp=Z,160nm,19.3s,baz=119,slow=33								
KSRS	**Korea Array**	**16.45**	**320**	Pn		**P**		**06 59 02.1**	**+1.6**
	0.5nm,0.3s,baz=132,slow=12,SNR=27								
KSRS				LR		LR		07 04 24.7	
	comp=Z,81nm,19.9s,baz=146,slow=34								
KSAR	**Wonju Array Be**	**16.46**	**319**	Pn		**P**		**06 59 02.1**	**+1.5**
H11N2	**WAKE ISLAND Hy**	**24.33**	**98**	T		T		07 25 38.9	
	baz=289,slow=75,SNR=80								
H11N1	**WAKE ISLAND Hy**	**24.33**	**98**	T		T		07 25 40.5	
	baz=289,slow=75,SNR=73								
H11N3	**WAKE ISLAND Hy**	**24.34**	**98**	T		T		07 25 40.1	
	baz=289,slow=75,SNR=91								
H11S3	**WAKE ISLAND Hy**	**24.56**	**101**	T		T		07 25 58.1	
	baz=291,slow=75,SNR=316								
H11S1	**WAKE ISLAND Hy**	**24.57**	**101**	T		T		07 25 57.9	
	baz=291,slow=75,SNR=421								
H11S2	**WAKE ISLAND Hy**	**24.58**	**101**	T		T		07 25 58.5	
	baz=291,slow=75,SNR=567								
SONM	**Songino Array**	**35.31**	**318**	P		**P**		**07 02 01.4**	**-0.8**
	1.2nm,0.6s,baz=129,slow=8.5,SNR=12								
WRAB	**Tennant Creek**	**45.67**	**189**	*e*P		**P**		**07 03 28.0**	**0.0**
	15nm,0.8s								
WRA	**Warramunga Arr**	**45.68**	**189**	P		**P**		**07 03 28.2**	**+0.1**
	12nm,0.8s,baz=9.1,slow=8.6,SNR=81								
PSI	**Prapat**	**46.53**	**248**	P		**P**		**07 03 34.4**	**-0.8**
	3.4nm,0.7s,baz=87,slow=19,SNR=4.9								
ASAR	**Alice Springs**	**49.41**	**189**	P		**P**		**07 03 57.3**	**+0.3**
	1.0nm,0.8s,baz=14,slow=12,SNR=9.9								
MK31	**Makanchi Array**	**50.86**	**311**	*e*P		**P**		**07 04 08.7**	**+0.8**
KURK	**Kurchatov**	**53.51**	**315**	*e*P		**P**		**07 04 27.2**	**-0.4**
	6.0nm,1.1s								
STKA	**Stephens Creek**	**57.07**	**180**	P		**P**		**07 04 53.1**	**-0.2**
	2.4nm,0.7s,baz=7.6,slow=8.8,SNR=4.3								
STKA	**Stephens Creek**	**57.07**	**180**	*e*P		**P**		**07 04 54.2**	**+0.9**
	1.2nm,0.9s								
KKAR	**Karatay Array**	**59.35**	**307**	*e*P		**P**		**07 05 10.2**	**+0.8**
	1.9nm,0.6s								
ILAR	**Eielson Array**	**59.49**	**28**	P		**P**		**07 05 09.3**	**-0.6**
	0.7nm,0.8s,baz=260,slow=5.7,SNR=8.6								
PAX	**Paxson**	**60.01**	**30**	*e*P		**P**		**07 05 14.1**	**+0.6**
	9.1nm,1.4s								
YKA	**Yellowknife Ar**	**73.92**	**28**	P		**P**		**07 06 42.4**	**+0.5**
	1.0nm,0.8s,baz=291,slow=5.7,SNR=4.6								
ARCES	**ARCESS Array B**	**74.76**	**341**	P		**P**		**07 06 46.9**	**+0.1**
	1.0nm,0.7s,baz=63,slow=5.9,SNR=4.7								
ARCES				LR		LR		07 44 22.4	
	comp=Z,16nm,18.2s,baz=90,slow=40								
NEW	**Newport**	**78.63**	**42**	*e*P		**P**		**07 07 09.8**	**+0.7**
	3.6nm,1.0s								
FINES	**FINESS Array B**	**79.00**	**334**	P		**P**		**07 07 09.3**	**-1.5**
	1.5nm,0.5s,baz=75,slow=4.7,SNR=10								
WALA	**Waterton Lakes**	**80.18**	**40**	*e*P		**P**		**07 07 19.0**	**+1.4**
	3.7nm,0.6s								
NVAR	**Mina Array Bea**	**82.15**	**51**	P		**P**		**07 07 29.6**	**+1.2**
	0.7nm,0.6s,baz=296,slow=5.9,SNR=7.7								
AKASG	**Malin Array Be**	**83.40**	**324**	P		**P**		**07 07 32.6**	**-1.8**
	0.6nm,0.5s,baz=44,slow=2.8,SNR=3.3								
NOA	**NORSAR Array B**	**84.77**	**338**	P		**P**		**07 07 39.3**	**-1.9**
	0.4nm,0.5s,baz=48,slow=4.6,SNR=2.5								
PDAR	**Pinedale Array**	**85.92**	**44**	P		**P**		**07 07 48.7**	**+1.1**
	0.6nm,0.8s,baz=293,slow=2.7,SNR=4.7								
TORD	**Torodi Ar. Bea**	**124.97**	**310**	PKP		**PKPdf**		**07 14 06.7**	**-1.5**
	0.3nm,0.7s,baz=23,slow=3.2,SNR=2.6								
LPAZ	**La Paz**	**151.10**	**77**	*e*PKPbc		**PKPbc**		**07 15 02.1**	**+0.3**

ISCJB ***18*** *07:00:49.9±0.5,32˚.28N±0˚.04×115˚.29W±0˚.05,h14km±6km, Error ellipse: s-maj=7.8km s-min=5.2km az=148.2*

ECX ***18*** *07:00:51.0±0.5,32˚.28N×115˚.30W,h6km, MD2.5,ML2.7*

MEX ***18*** *07:00:51.6±0.6,32˚.38N×115˚.17W,h18km±6km,MD3.6*

ISC 18 07:00:49.5±0.9,32˚.26N±0˚.04×115˚.30W±0˚.04,h15km±8km, n14,σ0ᵖ28/22,5C-2D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.16**	**358**	*e*P		**Pg**		**07 00 53.6**	**+0.1**
CPBX				*e*S		**Sg**		**07 00 56.1**	**-0.1**
CPBX				IAML				07 00 57.5	
	comp=N,13μm,0.3s								
CPBX				⇑*e*				07 00 57.5	
CPBX				⇑*e*				07 00 57.9	
MBIG	**Mexicali**	**0.17**	**30**	*e*P		**Pg**		**07 00 54.0**	**+0.3**
MBIG				*i*S		**Sg**		**07 00 56.2**	**-0.2**
SGL	**Mount Signal**	**0.53**	**317**	⇓*i*P		**Pg**		**07 01 00.1**	**+0.1**
WESC	**Westside Schoo**	**0.62**	**324**	*e*P		**Pb**		**07 01 02.1**	**+0.1**
COA	**Coachella**	**0.62**	**14**	⇑*i*P		**Pb**		**07 01 02.0**	**0.0**
RDX	**Rancho Dawling**	**0.64**	**239**	*e*P		**Pg**		**07 01 02.4**	**+0.3**
RDX				*e*S		**Sb**		**07 01 11.4**	**0.0**
RDX				IAML				07 01 13.1	
	comp=N,173nm,0.5s								
RDX				*e*				07 01 13.1	
YMD	**Yuma Desert**	**0.70**	**65**	⇓*i*P		**Pg**		**07 01 03.3**	**+0.1**
RMX	**La Rumorosa**	**0.74**	**297**	*e*P		**Pg**		**07 01 04.1**	**+0.1**
RMX				*e*S		**Sg**		**07 01 13.6**	**-0.3**
RMX				IAML				07 01 14.9	
	comp=N,235nm,0.1s								
RMX				⇑*e*				07 01 14.9	
ECBX	**El Chinero**	**0.81**	**165**	*e*Pn		**Pb**		**07 01 04.8**	**-0.6**
ECBX				*e*S		**Sb**		**07 01 16.4**	**+0.3**
ZAX	**El Zacaton**	**1.11**	**228**	IAML				07 01 30.0	
	comp=N,130nm,0.8s								
ZAX				⇑*e*				07 01 30.0	
CBX	**Cerro Bola**	**1.16**	**273**	*e*P		**Pn**		**07 01 11.3**	**0.0**
CBX				*i*S		**Sb**		**07 01 25.7**	**-0.5**
CBX	**Cerro Bola**	**1.16**	**273**	*e*P		**Pb**		**07 01 11.5**	**+0.2**
CBX				*e*S		**Sn**		**07 01 26.8**	**-0.2**
SPIG	**San Pedro Mart**	**1.22**	**187**	*i*P		**Pn**		**07 01 12.4**	**0.0**
SPIG				*i*S		**Sn**		**07 01 28.9**	**+0.2**
SPX	**San Pedro Mart**	**1.22**	**187**	*e*P		**Pn**		**07 01 12.3**	**-0.1**
SPX				*e*S		**Sn**		**07 01 29.4**	**+0.5**

IDC 18 07:01:36.7±16.0,0˚.22S×125˚.68E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.5/34,mbtmp3.8/3,Error ellipse: s-maj=256.9km s-min=171.1km az=161.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.36**	**157**	P		P	P	07 06 25.6	-0.3
	1.7nm,0.5s,baz=335,slow=11,SNR=13								
ASAR	**Alice Springs**	**24.64**	**162**	P		P	P	07 07 00.2	+1.0
	0.4nm,0.4s,baz=334,slow=9.6,SNR=3.8								
STKA	**Stephens Creek**	**34.90**	**156**	P		P	P	07 08 29.1	-1.1
	2.7nm,0.7s,baz=335,slow=11,SNR=3.3								

CSEM ***18*** *07:14:00.1,43˚.43N×12˚.43E,h7km,MD1.6/6*

ROM 18 07:14:00.1±0.1,43˚.43N×12˚.43E,h7km,Md1.6/6,Ml1.1/2, Error ellipse: s-maj=0.7km s-min=0.6km az=103.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.03**	**315**	Pg		Pg	Pg	07 14 01.6	+0.1
ATPI				Sg		Sg	Sg	07 14 02.6	0.0
	88nm,0.2s								
ATPI	**Pietralunga -**	**0.03**	**315**	Pg		Pg	Pg	07 14 01.6	+0.1
ATPI				Sg		Sg	Sg	07 14 02.6	0.0
	88nm,0.2s								
ATVO	**AVT- Monte Val**	**0.05**	**202**	Pg		Pg	Pg	07 14 01.9	+0.2
ATVO				Sg		Sg	Sg	07 14 03.2	+0.3
	156nm,0.2s								
ATVO	**AVT- Monte Val**	**0.05**	**202**	Pg		Pg	Pg	07 14 01.9	+0.2
ATVO				Sg		Sg	Sg	07 14 03.2	+0.3
	156nm,0.2s								
ATPC	**Poggio Castell**	**0.06**	**19**	Pg		Pg	Pg	07 14 02.0	+0.2
ATPC				Sg		Sg	Sg	07 14 03.4	+0.4
	197nm,0.1s								
ATPC	**Poggio Castell**	**0.06**	**19**	Pg		Pg	Pg	07 14 02.0	+0.2
ATPC				Sg		Sg	Sg	07 14 03.4	+0.4
	197nm,0.1s								
PIEI	**Pieia**	**0.13**	**35**	Pg		Pg	Pg	07 14 03.3	+0.3
PIEI				Sg		Sg	Sg	07 14 05.7	+0.8
	39nm,0.1s								
PIEI	**Pieia**	**0.13**	**35**	Pg		Pg	Pg	07 14 03.3	+0.3
PIEI				Sg		Sg	Sg	07 14 05.7	+0.8
	39nm,0.1s								
BADI	**Badiali**	**0.16**	**301**	Pg		Pg	Pg	07 14 03.9	+0.5
BADI				Sg		Sg	Sg	07 14 06.9	+1.2
	62nm,0.3s								
BADI	**Badiali**	**0.16**	**301**	Pg		Pg	Pg	07 14 03.9	+0.5
BADI				Sg		Sg	Sg	07 14 06.9	+1.2
	62nm,0.3s								
PARC	**Parchiule**	**0.26**	**327**	Pg		Pg	Pg	07 14 05.8	+0.5
PARC				Sg		Sg	Sg	07 14 10.4	+1.5
PARC	**Parchiule**	**0.26**	**327**	Pg		Pg	Pg	07 14 05.8	+0.5
PARC				Sg		Sg	Sg	07 14 10.4	+1.5

ISCJB ***18*** *07:14:37.6±0.3,51˚.55N±0˚.02×16˚.13E±0˚.02,h0km, mb2.8/1,MS2.7/1, Error ellipse: s-maj=2.4km s-min=2.0km az=11.4*

IPEC ***18*** *07:14:38.5±0.4,51˚.62N×16˚.23E,h0km±1km,ML3.0/3, Error ellipse: s-maj=3.5km s-min=1.8km az=60.0*

CSEM ***18*** *07:14:39.4±0.1,51˚.56N×16˚.14E,h2km,ML3.9/8,Error ellipse: s-maj=2.4km s-min=2.1km az=17.0*

IDC ***18*** *07:14:40.6±0.6,51˚.53N×16˚.03E,h0km,mb3.1/1, mb1 3.5/8,mb1mx3.3/37,mbtmp3.4/8,ML3.4/6,MS2.6/2, Ms1 2.6/2,ms1mx2.1/23,Error ellipse: s-maj=10.0km s-min=6.2km az=108.0*

VIE ***18*** *07:14:41.8±0.9,51˚.37N×16˚.02E,h0km,mb2.9/8,ML3.4/8, Error ellipse: s-maj=5.6km s-min=3.7km az=11.0 75 km WNW of Wroclaw Suspected Mining induced.*

BGR ***18*** *07:14:41.1±0.3,51˚.51N×16˚.12E,h1km,ML3.6/17,Error ellipse: s-maj=4.4km s-min=2.2km az=15.0*

UPP ***18*** *07:14:43.6,51˚.80N×15˚.65E,h0km,ML2.4,Suspected Mining explosion.*

ISC 18 07:14:37.8±0.6,51˚.61N±0˚.03×16˚.17E±0˚.02,h0km,n127, σ1ᵖ49/213,9C-10D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.78**	**174**	*e*Pg		**Pg**		**07 14 54.0**	**+1.4**
KSP				*e*Sg		**Sg**		**07 15 03.5**	**+0.9**
KSP	**Ksiaz**	**0.78**	**174**	*i*Pg		**Pg**		**07 14 54.0**	**+1.4**
KSP				*e*Sg		**Sg**		**07 15 03.9**	**+1.3**
KSP				*e*				07 15 07.2	
KSP	**Ksiaz**	**0.78**	**174**	Pg		**Pg**		**07 14 54.0**	**+1.4**
KSP				Sg		**Sg**		**07 15 03.5**	**+0.9**
UPC	**Upice**	**1.11**	**185**	*e*PG		**Pg**		**07 15 00.1**	**+1.0**
UPC				*e*SG		**Sg**		**07 15 13.9**	**+0.5**
	comp=Z,204nm,0.5s								
UPC	**Upice**	**1.11**	**185**	Pg		**Pg**		**07 15 00.1**	**+1.0**
DPC	**Dobruska-Polom**	**1.27**	**176**	*e*Pg		**Pg**		**07 15 02.9**	**+0.8**
DPC				*e*Sg		**Sg**		**07 15 19.2**	**+0.7**
DPC	**Dobruska-Polom**	**1.27**	**176**	*e*PG		**Pg**		**07 15 02.8**	**+0.8**
DPC				*e*SG		**Sg**		**07 15 17.9**	**-0.6**
	comp=Z,175nm,0.6s								
DPC	**Dobruska-Polom**	**1.27**	**176**	Pg		**Pg**		**07 15 02.8**	**+0.8**
DPC				Sg		**Sg**		**07 15 19.2**	**+0.7**
PVCC	**Panska Ves**	**1.48**	**224**	*e*PG		**Pn**		**07 15 06.5**	**+0.8**
PVCC				*e*SG		**Sg**		**07 15 24.8**	**-0.6**
	comp=Z,764nm,0.2s								
PVCC	**Panska Ves**	**1.48**	**224**	Pg		**Pn**		**07 15 06.5**	**+0.8**
BRG	**Berggiesshubel**	**1.58**	**243**	PN		**Pb**		**07 15 08.3**	**+0.4**
BRG				PG		**Pg**		**07 15 09.2**	**+1.1**
BRG				SG		**Sg**		**07 15 30.0**	**+1.4**
	893nm,0.4s								
BRG	**Berggiesshubel**	**1.58**	**243**	*e*Pn		**Pb**		**07 15 08.5**	**+0.6**
BRG				*e*Sg		**Sg**		**07 15 29.5**	**+0.9**
BRG	**Berggiesshubel**	**1.58**	**243**	Pn		**Pb**		**07 15 08.5**	**+0.6**
BRG				Sg		**Sg**		**07 15 29.5**	**+0.9**
PRA	**Prague**	**1.90**	**216**	*e*PN		**Pn**		**07 15 12.3**	**+0.9**
PRA				*e*PG		**Pg**		**07 15 15.0**	**+0.9**
PRA				*e*SG		**Sb**		**07 15 38.4**	**+1.0**
PRA	**Prague**	**1.90**	**216**	Pn		**Pn**		**07 15 12.3**	**+0.9**
PRA	**Prague**	**1.90**	**216**	Pg		**Pg**		**07 15 15.0**	**+0.9**
FBE	**Freiberg**	**1.90**	**250**	*e*Pg		**Pg**		**07 15 15.0**	**+0.9**
FBE				*e*Sg		**Sg**		**07 15 39.8**	**+1.1**
FBE	**Freiberg**	**1.90**	**250**	Pg		**Pg**		**07 15 15.0**	**+0.9**
FBE				Sg		**Sg**		**07 15 39.8**	**+1.1**
GOPC	**GO Pecny, Ondr**	**1.91**	**208**	*e*PN		**Pn**		**07 15 12.4**	**+0.7**
GOPC				*e*PG		**Pb**		**07 15 14.5**	**+0.9**
GOPC				*e*SG		**Sb**		**07 15 38.9**	**+0.9**
	comp=Z,72nm,0.3s								
GOPC	**GO Pecny, Ondr**	**1.91**	**208**	Pn		**Pn**		**07 15 12.4**	**+0.7**
PRU	**Pruhonice**	**1.93**	**213**	*e*PN		**Pn**		**07 15 12.2**	**+0.4**
PRU				*e*PG		**Pb**		**07 15 13.7**	**-0.1**
PRU				*e*SG		**Sb**		**07 15 38.8**	**+0.5**
	comp=Z,97nm,0.3s								
PRU	**Pruhonice**	**1.93**	**213**	Pn		**Pn**		**07 15 12.2**	**+0.4**
PRU	**Pruhonice**	**1.93**	**213**	Pg		**Pb**		**07 15 13.7**	**-0.1**
RAC	**Raciborz**	**2.00**	**139**	*e*Pg		**Pg**		**07 15 16.7**	**+0.6**
RAC				*e*Sg		**Sg**		**07 15 43.5**	**+1.6**
CLL	**Collm**	**2.00**	**262**	*e*Pn		**Pn**		**07 15 13.7**	**+0.8**
CLL				*e*Sg		**Sg**		**07 15 43.2**	**+1.1**
CLL	**Collm**	**2.00**	**262**	*e*Pn		**Pn**		**07 15 14.0**	**+1.1**
CLL				*e*Pg		**Pg**		**07 15 17.0**	**+0.8**
CLL				*e*				07 15 21.0	
CLL				*i*Sg		**Sg**		**07 15 43.6**	**+1.5**
	comp=Z,127nm,0.4s								
CLL	**Collm**	**2.00**	**262**	Pn		**Pn**		**07 15 13.7**	**+0.8**
CLL				Sg		**Sg**		**07 15 43.2**	**+1.1**
MORC	**Moravsky Berou**	**2.04**	**154**	*e*Pn		**Pn**		**07 15 14.3**	**+1.0**
MORC				*e*Pg		**Pg**		**07 15 17.7**	**+1.0**
MORC				*e*Sg		**Sb**		**07 15 43.1**	**+1.6**
MORC	**Moravsky Berou**	**2.04**	**154**	⇓*i*P		**Pn**		**07 15 14.0**	**+0.7**
MORC	**Moravsky Berou**	**2.04**	**154**	S		**Sb**		**07 15 42.9**	**+1.4**
MORC	**Moravsky Berou**	**2.04**	**154**	⇓*i*P		**Pn**		**07 15 14.0**	**+0.7**
MORC	**Moravsky Berou**	**2.04**	**154**	Pn		**Pn**		**07 15 14.3**	**+1.0**
OKC	**Ostrava-Krasne**	**2.18**	**144**	*e*Pn		**Pn**		**07 15 16.5**	**+1.3**
OKC				*e*Pg		**Pg**		**07 15 20.0**	**+0.5**
OKC				*e*Sg		**Sb**		**07 15 47.5**	**+2.0**
OKC	**Ostrava-Krasne**	**2.18**	**144**	*e*PN		**Pn**		**07 15 16.4**	**+1.2**
OKC				*e*PG		**Pg**		**07 15 20.0**	**+0.5**
OKC				*e*SG		**Sb**		**07 15 47.2**	**+1.7**
	comp=Z,155nm,0.6s								
OKC	**Ostrava-Krasne**	**2.18**	**144**	Pn		**Pn**		**07 15 16.4**	**+1.2**
OKC	**Ostrava-Krasne**	**2.18**	**144**	Pg		**Pg**		**07 15 20.0**	**+0.5**
OKC				Sg		**Sb**		**07 15 47.5**	**+2.0**
VRAC	**Vranov**	**2.32**	**173**	Pn		**Pn**		**07 15 18.8**	**+1.5**
	comp=Z,7.6nm,0.3s,baz=337,slow=15,SNR=40								
VRAC				Lg		Lg		07 15 51.2	
	comp=Z,29nm,0.3s,baz=241,slow=20,SNR=12								
VRAC	**Vranov**	**2.32**	**173**	⇑*i*P		**Pn**		**07 15 18.9**	**+1.6**
VRAC	**Vranov**	**2.32**	**173**	S		**Sb**		**07 15 49.9**	**+0.1**
VRAC	**Vranov**	**2.32**	**173**	*e*Pn		**Pn**		**07 15 18.1**	**+0.8**
VRAC	**Vranov**	**2.32**	**173**	⇑*i*P		**Pn**		**07 15 18.9**	**+1.6**
VRAC				*e*Sg		**Sb**		**07 15 51.5**	**+1.7**
	comp=Z,86nm,0.3s								
TREC	**Trest**	**2.36**	**191**	*e*PN		**Pn**		**07 15 18.9**	**+1.1**
TREC				*e*PG		**Pb**		**07 15 22.7**	**+1.5**
TREC				*e*SG		**Sb**		**07 15 52.3**	**+1.4**
	comp=Z,97nm,0.6s								
TREC	**Trest**	**2.36**	**191**	Pn		**Pn**		**07 15 18.9**	**+1.1**
KRUC	**Moravsky**	**2.56**	**177**	*e*Pn		**Pn**		**07 15 21.3**	**+0.8**
KRUC				*e*Sg		**Sb**		**07 15 58.9**	**+2.4**
	comp=Z,48nm,0.3s								
TANN	**Tannenbergstha**	**2.63**	**244**	*e*Pn		**Pn**		**07 15 23.0**	**+1.4**
TANN				*e*Pg		**Pg**		**07 15 29.0**	**+0.8**
TANN				*e*Sg		**Sg**		**07 16 02.2**	**0.0**
TANN	**Tannenbergstha**	**2.63**	**244**	Pn		**Pn**		**07 15 23.0**	**+1.4**
TANN	**Tannenbergstha**	**2.63**	**244**	Pg		**Pg**		**07 15 29.0**	**+0.8**
TANN				Sg		**Sg**		**07 16 02.2**	**0.0**
OJC	**Ojcow**	**2.69**	**120**	*e*Pn		**Pn**		**07 15 22.4**	**+0.1**
OJC				*e*Sg		**Sg**		**07 16 05.9**	**+1.8**
OJC	**Ojcow**	**2.69**	**120**	*e*Pn		**Pn**		**07 15 22.4**	**+0.1**
OJC				*e*Pg		**Pg**		**07 15 30.9**	**+1.6**
OJC				*e*Sg		**Sg**		**07 16 06.2**	**+2.1**
OJC	**Ojcow**	**2.69**	**120**	Pn		**Pn**		**07 15 22.4**	**+0.1**
OJC	**Ojcow**	**2.69**	**120**	*e*Pg		**Pg**		**07 15 30.9**	**+1.6**
OJC				Sg		**Sg**		**07 16 05.9**	**+1.8**
WERD	**Werda**	**2.70**	**246**	*e*Pn		**Pn**		**07 15 23.8**	**+1.3**
WERD				*e*Pg		**Pg**		**07 15 30.3**	**+0.7**
WERD				*e*Sg		**Sg**		**07 16 03.4**	**-1.1**
WERD	**Werda**	**2.70**	**246**	Pn		**Pn**		**07 15 23.8**	**+1.3**
KHC	**Kasperske Hory**	**2.99**	**215**	*e*PN		**Pn**		**07 15 27.2**	**+0.8**
KHC				*e*PG		**Pb**		**07 15 33.7**	**+1.8**
KHC				*e*SN		**Sn**		**07 16 02.0**	**-0.9**
KHC				*e*SG		**Sb**		**07 16 12.1**	**+3.2**
	comp=Z,73nm,0.4s								
KHC	**Kasperske Hory**	**2.99**	**215**	Pn		**Pn**		**07 15 27.2**	**+0.8**
KHC	**Kasperske Hory**	**2.99**	**215**	Pg		**Pb**		**07 15 33.7**	**+1.8**
KHC				Sg		**Sb**		**07 16 12.1**	**+3.2**
	comp=Z,73nm,0.4s								
MOX	**Moxa**	**3.03**	**253**	*e*Pn		**Pn**		**07 15 28.5**	**+1.6**
MOX				*e*Pg		**Pg**		**07 15 36.4**	**+0.6**
MOX				*e*Sg		**Sg**		**07 16 16.1**	**+1.1**
MOX	**Moxa**	**3.03**	**253**	Pn		**Pn**		**07 15 28.5**	**+1.6**
MANZ	**Manzenberg**	**3.05**	**239**	*e*P

OSKU	**Oskarshamn**	5.59	360	P		Pn	07 16 04.4	+2.3
OSKU	**Oskarshamn**	5.59	360	P		Pn	07 16 04.4	+2.3
PKSM	**Moragy**	5.65	162	⇑*iP*		Pn	07 16 04.1	+1.2
PKSM	**Moragy**	5.65	162	*eP*		Pn	07 16 04.3	+1.4
PKSM	**Moragy**	5.65	162	*e*		Pn	07 16 04.3	+1.4
ASPU	**Aespoe**	5.82	2	P		Pn	07 16 07.9	+2.6
ASPU	**Aespoe**	5.82	2	P		Pn	07 16 07.9	+2.6
VSTU	**Vaestervik**	6.06	2	P		Pn	07 16 11.0	+2.4
VSTU	**Vaestervik**	6.06	2	P		Pn	07 16 11.0	+2.4
BOJS	**Bojanci**	6.14	186	*i* Pn		Pn	07 16 11.7	+1.9
DAVOX	**Davos/Dischmat**	6.35	223	Pn		Pn	07 16 14.0	+1.2
	comp=Z,0.4nm,0.3s,baz=14,slow=8.7,SNR=2.5							
DAVOX				Sn		Sn	07 17 26.1	0.0
	comp=Z,0.6nm,0.3s,baz=73,slow=19,SNR=2.6							
DAVOX				Lg	Lg		07 17 58.6	
	comp=Z,0.9nm,0.3s,baz=171,slow=10,SNR=3.7							
BURAR	**Bucovina Array**	7.11	121	⇓*iP*		Pn	07 16 24.4	+1.3
BURAR	**Bucovina Array**	7.11	121	⇓*iP*		Pn	07 16 24.4	+1.3
MICGM	**Minsk**	7.63	63	*e*		Pg	07 17 02.0	-1.8
AKASG	**Malin Array Be**	8.26	91	Pn		Pn	07 16 39.4	+0.7
	comp=Z,3.1nm,0.3s,baz=278,slow=12,SNR=5.6							
AKASG				Sn		Sn	07 18 10.0	-2.7
	comp=Z,1.3nm,0.3s,baz=291,slow=26,SNR=2.4							
AKASG				Lg	Lg		07 19 08.7	
	baz=273,slow=28,SNR=3.5							
HFS	**Hagfors**	8.65	352	Pn		Pn	07 16 45.7	+1.6
	comp=Z,0.1nm,0.3s,baz=165,slow=13,SNR=4.9							
HFS				Sn		Sn	07 18 19.8	-2.5
	comp=Z,0.3nm,0.3s,baz=169,slow=24,SNR=3.0							
HFS				Lg	Lg		07 19 16.9	
	comp=Z,0.4nm,0.3s,baz=159,slow=29,SNR=2.3							
HFS				LR	LR		07 20 44.4	
	comp=Z,20nm,19.4s,baz=314,slow=42							
FINES	**FINESS Array B**	11.25	25	Pn		Pn	07 17 18.9	-0.8
	comp=Z,0.3nm,0.3s,baz=211,slow=12,SNR=6.7							
FINES				Sn		Sn	07 19 23.2	-2.8
	comp=Z,0.6nm,0.3s,baz=217,slow=21,SNR=5.5							
EKA	**Eskdalemuir Ar**	12.09	295	Pn		Pn	07 17 29.4	-1.8
	baz=105,slow=13,SNR=2.6							
ARCES	**ARCESS Array B**	18.51	10	Pn		P	07 18 53.0	-2.4
	comp=Z,0.2nm,0.3s,baz=192,slow=13,SNR=5.1							
MMAI	**Mount Meron Ar**	23.28	136	LR		LR	07 31 47.4	
	comp=Z,29nm,19.5s,baz=165,slow=44							
TORD	**Torodi Ar. Bea**	40.11	202	P		P	07 22 16.4	+1.3
	comp=Z,0.2nm,0.7s,baz=14,slow=7.2,SNR=2.9							

SJA ***18*** *07:34:39.6±0.5, 31°.85S×71°.83W, h10km, ML3.7, MW3.6*
GUC ***18*** *07:34:46.0±0.4, 32°.04S×71°.37W, h50km±6km, ML3.8*

ISC 18 07:34:42.9±2.7, 32°.01S±0°.04×71°.62W±0°.07, h10km±18km, n21, σ1°13/37, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	1.38	145	⇓*iP*	**Pb**	**07 35 08.6**	**-0.3**
PEL				*i* S	**Sn**	**07 35 25.5**	**-1.2**
PEL				AML	AML	07 35 26.8	
	comp=E,4μm,0.4s						
STL	**Santa Lucia**	1.65	150	*e*P	**Pn**	**07 35 12.1**	**+0.1**
STL				*e*S	**Sn**	**07 35 32.7**	**-0.6**
SAN	**Santiago**	1.65	151	*i* P	**Pb**	**07 35 12.8**	**-0.7**
SAN				*i* S	**Sn**	**07 35 33.0**	**-0.5**
CLCH	**Cerro Calan**	1.66	147	*i* P	**Pn**	**07 35 12.8**	**+0.6**
CLCH				*i* S	**Sn**	**07 35 32.9**	**-0.8**
CLCH				AML	AML	07 35 34.5	
	comp=N,2μm,0.5s						
LACH	**Col Las Americ**	1.71	148	*i* P	**Pn**	**07 35 13.2**	**+0.3**
LACH				*i* S	**Sn**	**07 35 34.4**	**-0.5**
TACH	**Talagante**	1.74	161	*i* P	**Pb**	**07 35 14.4**	**-0.6**
TACH				*i* S	**Sn**	**07 35 35.5**	**0.0**
AUSP	**Uspallata**	1.91	97	*e*P	**Pb**	**07 35 17.9**	**0.0**
TLL	**Tololo Astrono**	1.96	21	*i* P	**Pb**	**07 35 18.7**	**-0.2**
TLL				*i* S	**Sb**	**07 35 43.4**	**-0.2**
RTLS	**Leoncito**	1.99	85	*e*P	**Pb**	**07 35 18.6**	**-0.8**
RTLS				*e*S	**Sg**	**07 35 47.0**	**+0.2**
CHCH	**Chadas Angostu**	2.08	157	*i* P	**Pn**	**07 35 19.1**	**+1.1**
CHCH				*e*S	**Sn**	**07 35 43.8**	**-0.4**
ARCO	**CERRO ARCO**	2.42	111	*e*P	**Pb**	**07 35 25.0**	**-1.7**
ARCO				IAML		07 35 39.7	
	comp=Z,180nm,0.6s						
ARCO				*e*S	**Sb**	**07 35 58.5**	**+1.8**
ASAL	**Salagasta**	2.43	105	*e*P	**Pb**	**07 35 25.2**	**-1.6**
ASAL				*e*S	**Sb**	**07 35 58.4**	**+1.5**
AAGR	**Agrelo**	2.59	115	*e*P	**Pb**	**07 35 27.7**	**-1.9**
AAGR				*e*S	**Sb**	**07 36 03.1**	**+1.5**
RTCV	**Cerro Valdivia**	2.62	88	*e*P	**Pn**	**07 35 26.9**	**+1.4**
RTCV				*e*S	**Sb**	**07 36 02.2**	**-0.1**
SJA	**San Juan**	2.65	80	*e*P	**Pn**	**07 35 27.0**	**+1.2**
SJA				IAML		07 35 42.5	
	comp=Z,312nm,0.2s						
SJA				*e*S	**Sb**	**07 36 02.5**	**-0.7**
RTLL	**Cerro Villicun**	2.76	77	*e*P	**Pn**	**07 35 28.6**	**+1.2**
RTLL				*e*S	**Sb**	**07 36 05.1**	**-1.4**
AMOG	**MOGNA**	2.88	69	*e*P	**Pn**	**07 35 30.2**	**+1.3**
CFAA	**Coronel Fontan**	2.91	83	*e*P	**Pn**	**07 35 30.5**	**+1.1**
CFAA				*e*S	**Sb**	**07 36 09.3**	**-1.2**
ACAN	**Cantantal**	3.77	95	*e*P	**Pn**	**07 35 43.6**	**+2.4**
VCA	**Vinchina**	4.40	43	*e*P	**Pn**	**07 35 50.3**	**+0.4**
VCA				IAML		07 37 09.0	
	comp=Z,124nm,0.6s						
CYA	**Choya**	6.16	56	*e*P	**Pn**	**07 36 14.8**	**+0.8**
CYA				IAML		07 37 33.9	
	comp=Z,17nm,0.5s						

IDC ***18*** *07:49:48.9±0.9, 1°.70S×136°.40E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.9/35, mbtmp3.9/9, ML3.8/2, MS3.4/5, Ms1 3.4/5, ms1mx2.9/34, Error ellipse: s-maj=27.2km s-min=17.6km az=61.0*
DJA ***18*** *07:49:52.1±0.3, 2°.5S×13°.6E±°, h10km, M4.5/6, mb4.8/4, mB5.3/2, MLv4.3/6, Mw(mB)4.8/2*
ISCJB ***18*** *07:49:53.3±0.8, 1°.96S±0°.07×136°.27E±0°.04, h42km±9km, mb3.8/7, MS3.5/3, Error ellipse: s-maj=11.3km s-min=7.4km az=178.5*

ISC 18 07:49:55.4±1.3, 1°.99S±0°.08×136°.33E±0°.06, h44km±15km, n18, σ2°18/19, mb3.9/7, MS3.5/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	0.15	324	P	Pn	07 49 56.3	-6.5
RKPI	**Ransiki, Papua**	2.20	282	P	**Pn**	**07 50 29.1**	**-0.4**
RKPI				S	**Sn**	**07 50 59.2**	**+3.6**
SMPI	**Sarmi**	2.38	90	P	**Pn**	**07 50 30.6**	**-1.3**
SMPI				S	**Sn**	**07 51 01.8**	**+1.9**
FAKI	**Fak Fak**	4.18	257	P	**Pn**	**07 50 55.8**	**-0.9**
FAKI				S	**Sn**	**07 51 45.5**	**+1.2**
SIJI	**Sorong**	5.18	282	Pn	**Pn**	**07 51 09.1**	**-1.4**
	1.7nm,0.3s,baz=57,slow=12,SNR=10						
SIJI				Lg	Lg	07 52 33.4	
	1.9nm,0.3s,baz=357,slow=21,SNR=4.5						
SAUI	**Saumlaki**	7.78	220	P	**Pn**	**07 51 44.8**	**-1.3**
	597nm,1.1s,2.7nm						
AAI	**Ambon**	8.30	258	P	**Pn**	**07 51 52.3**	**-0.9**
	87nm,1.1s						
NLAI	**Namlea**	9.30	262	P	**Pn**	**07 52 06.1**	**-0.9**
GUMO	**Guam**	17.65	28	LR	LR	08 00 30.9	
	comp=Z,20nm,20.3s,baz=146,slow=37						
WRA	**Warramunga Arr**	17.95	186	P	**Pn**	**07 54 01.8**	**-0.1**
	0.4nm,0.3s,baz=7.6,slow=13,SNR=18						
WRA				S	**Sn**	**07 57 16.2**	**-4.9**
	0.2nm,0.3s,baz=3.3,slow=24,SNR=6.3						
WRA				LR	LR	08 02 00.2	
	comp=Z,201nm,19.4s,baz=225,slow=40						
ASAR	**Alice Springs**	21.67	186	P	**P**	**07 54 45.5**	**+2.9**
	5.8nm,0.8s,baz=12,slow=11,SNR=38						
ASAR				LR	LR	08 04 26.5	
	comp=Z,159nm,20.2s,baz=356,slow=40						
STKA	**Stephens Creek**	30.14	171	P	**P**	**07 56 02.7**	**+1.5**
	1.6nm,0.7s,baz=340,slow=12,SNR=4.3						
STKA				LR	LR	08 09 30.0	
	comp=Z,108nm,20.3s,baz=22,slow=39						
CMAR	**Chiang Mai Arr**	42.02	301	P	**P**	**07 57 41.9**	**-1.0**
	0.7nm,0.3s,baz=118,slow=7.4,SNR=7.1						
YAK	**Yakutsk**	64.05	357	LR	LR	08 25 31.7	
	comp=Z,29nm,18.1s,baz=189,slow=34						
KURBB	**Kurchatov Arra**	71.78	325	P	**P**	**08 01 11.8**	**-1.4**
	0.2nm,0.3s,baz=120,slow=5.4,SNR=3.2						
VNDA	**Vanda**	76.71	174	P	**P**	**08 01 43.5**	**+2.1**
	1.1nm,0.8s,baz=322,slow=6.1,SNR=6.4						
BVAR	**Borovoye Array**	77.37	326	P	**P**	**08 01 44.6**	**-1.0**
	0.6nm,0.7s,baz=128,slow=9.3,SNR=3.0						
ILAR	**Eielson Array**	86.17	25	P	**P**	**08 02 30.5**	**-1.2**
	0.8nm,1.1s,baz=264,slow=4.8,SNR=7.3						

DJA 18 07:53:47.3±0.5, 1°.3S×122°.1E±°, h21km±7km, M3.9/15, MLv3.9/15, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	0.85	274	P	Pn	07 54 04.1	0.0
APSI	**Ampana**	0.96	87	P	Pb	07 54 03.7	-1.5
MPSI	**Mapaga**	1.51	328	P	Pn	07 54 11.5	-1.7
MRSI	**Marisa**	1.90	41	P	Pn	07 54 18.3	-0.2
MRSI				S	Sn	07 54 42.9	+1.1
LUWI	**Luwuk**	2.08	92	P	Pn	07 54 21.6	+0.6
TTSI	**Tana Toraja**	2.25	203	P	Pn	07 54 23.2	-0.1
SPSI	**Sidrap Palu**	3.12	197	P	Pn	07 54 35.4	+0.1
KDI	**Kendari**	3.55	147	P	Pn	07 54 41.4	+0.2
KMSI	**Cibinong**	3.63	65	P	Pn	07 54 42.5	+0.2
BKB	**Balikpapan**	3.81	265	P	Pn	07 54 44.4	-0.3
BKSI	**Bulukumba**	4.37	187	P	Pn	07 54 52.7	+0.2

IDC 18 08:00:14.5±3.9, 52°.87N×35°.80E, h0km, mb1 3.5/3, mb1mx3.2/24, mbtmp3.4/3, ML3.1/3, Error ellipse: s-maj=45.9km s-min=16.2km az=112.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	4.62	245	Pn	Pn	08 01 23.5	-2.0
	1.0nm,0.3s,baz=57,slow=16,SNR=3.3						
AKASG				Sn	Sn	08 02 17.0	-2.9
	1.7nm,0.3s,baz=62,slow=28,SNR=3.0						
FINES	**FINESS Array B**	10.07	332	Pn	Pn	08 02 36.7	-3.6
	0.1nm,0.3s,baz=150,slow=14,SNR=4.9						
FINES				Lg	Lg	08 05 28.7	
	baz=146,slow=30,SNR=2.4						
I26DE	**FREYUNG INFRAS**	14.50	263	*i*		09 26 50.0	
	baz=68,slow=321,SNR=1.3						
ARCES	**ARCESS Array B**	17.39	348	P	Pn	08 04 16.5	-1.8
	0.2nm,0.3s,baz=158,slow=10,SNR=13						

IDC 18 08:09:33.4±4.1, 5°.31S×151°.56E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/33, mbtmp3.3/2, Error ellipse: s-maj=164.2km s-min=54.2km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	22.19	228	P	P	08 14 30.9	-0.5
	0.8nm,0.9s,baz=54,slow=10,SNR=5.1						
ASAR	**Alice Springs**	24.35	221	P	P	08 14 59.1	+0.3
	0.6nm,0.6s,baz=56,slow=8.9,SNR=8.3						
TORD	**Torodi Ar. Bea**	149.28	287	PKPbc	PKPbc	08 29 24.8	-0.5
	0.3nm,0.6s,baz=89,slow=2.9,SNR=3.1						

IDC ***18*** *08:14:59.1±2.1, 6°.03S×153°.79E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/37, mbtmp4.0/7, MS3.2/3, Ms1 3.2/3, ms1mx2.8/22, Error ellipse: s-maj=77.1km s-min=24.4km az=117.0*
ISCJB ***18*** *08:15:03.9±2.0, 6°.1S±0°.3×153°.8E±0°.5, h48km, mb3.9/7, MS3.1/3, Error ellipse: s-maj=72.9km s-min=20.0km az=28.2*

ISC 18 08:15:05.9±2.2, 6°.1S±0°.3×153°.8E±0°.5, h48km, n13, σ1°22/8, mb3.9/7, MS3.0/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	21.46	336	LR	LR	08 27 53.3	
	comp=Z,39nm,20.1s,baz=175,slow=36						
WRA	**Warramunga Arr**	23.35	232	P	**P**	**08 20 08.8**	**-1.4**
	0.7nm,0.6s,baz=53,slow=9.8,SNR=6.1						
ASAR	**Alice Springs**	25.88	226	P	**P**	**08 20 34.0**	**+0.7**
	1.5nm,0.8s,baz=57,slow=9.2,SNR=14						
ASAR				LR	LR	08 30 23.5	
	comp=Z,41nm,18.4s,baz=341,slow=36						
H11S3	**WAKE ISLAND Hy**	27.57	27	T	T	08 49 09.1	
	baz=208,slow=73,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	27.58	27	T	T	08 49 14.6	
	baz=208,slow=73,SNR=8.2						
H11S1	**WAKE ISLAND Hy**	27.59	27	T	T	08 49 16.2	
	baz=208,slow=73,SNR=3.4						
STKA	**Stephens Creek**	28.05	202	LR	LR	08 32 38.3	
	comp=Z,112nm,18.2s,baz=214,slow=38						
SONM	**Songino Array**	67.92	328	P	**P**	**08 25 59.9**	**+0.1**
	0.8nm,0.6s,baz=125,slow=3.2,SNR=3.3						
ZALV	**Zalesovo Beam**	82.75	326	P	**P**	**08 27 24.9**	**+0.2**
	1.7nm,0.4s,baz=113,slow=5.8,SNR=7.0						
ILAR	**Eielson Array**	83.00	22	P	**P**	**08 27 24.9**	**-0.8**
	0.4nm,0.8s,baz=242,slow=6.5,SNR=5.8						
KURBB	**Kurchatov Arra**	85.40	322	P	**P**	**08 27 38.7**	**+0.6**
	1.3nm,0.6s,baz=107,slow=3.7,SNR=15						
BVAR	**Borovoye Array**	90.84	323	P	**P**	**08 28 03.3**	**-0.9**
	2.6nm,0.8s,baz=94,slow=6.1,SNR=9.2						
TORD	**Torodi Ar. Bea**	151.59	286	PKPbc	**PKPbc**	**08 34 57.7**	**+1.8**
	0.9nm,0.7s,baz=69,slow=1.2,SNR=5.4						

IDC 18 08:33:00.2±2.5, 2°.54S×136°.04E, h0km, mb3.9/3, mb1 4.2/5, mb1mx3.8/19, mbtmp4.1/5, ML3.8/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/25, Error ellipse: s-maj=37.8km s-min=22.2km az=65.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	5.05	289	Pn	Pn	08 34 17.1	-0.3
	1.1nm,0.3s,baz=93,slow=12,SNR=4.0						
SIJI				Sn	Sn	08 35 16.2	-0.3
	2.0nm,0.3s,baz=90,slow=20,SNR=2.9						
SIJI				LR	LR	08 36 21.5	
	comp=Z,215nm,20.1s,baz=34,slow=40						
WRA	**Warramunga Arr**	17.37	185	P	Pn	08 37 03.5	-0.8
	0.6nm,0.3s,baz=8.7,slow=13,SNR=23						
WRA				S	Sn	08 40 17.6	-0.8
	0.4nm,0.3s,baz=3.0,slow=23,SNR=9.4						
CTA	**Charters Tower**	20.09	151	P	Pn	08 37 36.5	-0.8
	1.3nm,0.4s,baz=334,slow=9.5,SNR=4.0						
ASAR	**Alice Springs**	21.10	185	P	P	08 37 48.0	+1.5
	4.8nm,0.7s,baz=16,slow=11,SNR=39						
ASAR				S	S	08 41 43.9	+1.4
	1.5nm,1.0s,baz=18,slow=30,SNR=5.0						
STKA	**Stephens Creek**	29.64	170	P	P	08 39 06.9	-0.7
	2.1nm,0.5s,baz=348,slow=9.2,SNR=12						

GUC 18 08:39:06.9±0.3, 35°.43S×72°.62W, h16km±2km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	0.71	191	*i* P	Pg	08 39 19.8	-1.0
COCH				*i* S	Sg	08 39 29.5	-0.7
TALC	**Talca**	0.81	88	*e*P	Pb	08 39 21.4	-1.1
TALC				*i* S	Sb	08 39 32.4	-0.7
LNCH	**Linares**	0.93	117	*i* P	Pb	08 39 24.3	-0.2
LNCH				*i* S	Sb	08 39 36.8	+0.2
NICH	**Los Niches**	1.22	70	*e*P	Pn	08 39 28.2	-1.0
NICH				*e*S	Sb	08 39 43.9	-1.0
CLCH	**Cerro Calan**	2.66	41	*e*P	Pn	08 39 50.1	+0.9
CLCH				*e*S	Sn	08 40 23.1	+1.8
CLCH				AML	AML	08 40 31.2	
	comp=N,243nm,0.7s						
PEL	**Peldehue**	2.79	36	*e*P	Pn	08 39 52.0	+1.1
PEL				*e*S	Sn	08 40 26.1	+1.8
PEL				AML	AML	08 40 43.1	
	comp=E,249nm,0.5s						

ISCJB ***18*** *08:53:40.9±0.9, 7°.6N±0°.1×91°.33E±0°.07, h10km, mb3.6/3, Error ellipse: s-maj=18.7km s-min=10.2km az=3.1*
IDC ***18*** *08:53:44.7±1.6, 7°.71N×91°.77E, h0km, mb3.7/3, mb1 4.0/6, mb1mx3.6/41, mbtmp3.8/6, ML3.9/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/35, Error ellipse: s-maj=37.9km s-min=26.5km az=58.0*

ISC 18 08:53:43.4±1.1, 7°.6N±0°.1×91°.39E±0°.10, h10km, n9, σ1°57/6, mb3.7/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	8.90	122	Pn	**Pn**	**08 55 51.2**	**-1.1**
	0.8nm,0.3s,baz=334,slow=13,SNR=7.2						
PALK	**Pallekele**	10.61	269	Pn	Pn	08 56 23.0	+7.4
	1.0nm,0.3s,baz=89,slow=16,SNR=4.7						
PALK				Sn	**Sn**	**08 58 13.8**	**-0.8**
	3.7nm,0.3s,baz=160,slow=20,SNR=8.2						
PALK				LR	LR	08 59 37.7	
	comp=Z,72nm,21.5s,baz=124,slow=32						
CMAR	**Chiang Mai Arr**	13.03	34	Pn	**Pn**	**08 56 47.5**	**-1.2**
	0.3nm,0.3s,baz=233,slow=14,SNR=3.0						
H08S3	**Diego Garcia H**	24.19	232	T	T	09 25 40.4	
	baz=51,slow=75,SNR=9.7						
H08S2	**Diego Garcia H**	24.20	232	T	T	09 25 31.5	
	baz=51,slow=75,SNR=11						
H08S1	**Diego Garcia H**	24.21	232	T	T	09 25 42.2	
	baz=51,slow=75,SNR=9.6						
SONM	**Songino Array**	42.05	15	P	**P**	**09 01 36.8**	**+1.4**
	1.1nm,0.6s,baz=193,slow=8.7,SNR=4.7						
WRA	**Warramunga Arr**	50.37	124	P	**P**	**09 02 41.8**	**+0.6**
	0.8nm,0.8s,baz=304,slow=8.6,SNR=16						
ASAR	**Alice Springs**	51.88	128	P	**P**	**09 02 53.8**	**+1.3**
	0.2nm,0.4s,baz=300,slow=8.3,SNR=8.9						

IDC 18 09:16:02.7±16.0, 0°.09N×124°.42E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/21, mbtmp3.2/3, Error ellipse: s-maj=261.3km s-min=208.7km az=166.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	22.16	155	P	P	09 21 00.0	-0.4
	0.1nm,0.4s,baz=332,slow=11,SNR=4.7						
ASAR	**Alice Springs**	25.35	159	P	P	09 21 33.4	+1.7
	0.2nm,0.7s,baz=344,slow=11,SNR=3.1						
STKA	**Stephens Creek**	35.71	155	P	P	09 23 01.8	-1.3
	1.3nm,0.6s,baz=336,slow=9.9,SNR=3.3						

IDC 18 09:34:37.7±7.2, 2°.85N×127°.06E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/26, mbtmp3.7/3, Error ellipse: s-maj=145.8km s-min=113.2km az=77.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	23.75	163	P	P	09 39 51.0	-1.0
	0.5nm,0.6s,baz=343,slow=11,SNR=14						
ASAR	**Alice Springs**	27.18	166	P	P	09 40 21.9	-1.4
	0.9nm,1.0s,baz=354,slow=8.4,SNR=4.7						
STKA	**Stephens Creek**	37.19	159	P	P	09 41 52.5	+1.7
	2.2nm,0.7s,baz=353,slow=8.1,SNR=2.6						

JMA ***18*** *09:49:31.2±0.5, 44°.48N×149°.04E, h30km, M3.7*
SKHL ***18*** *09:49:31.2±2.0, 44°.30N×149°.18E, h38km±1km, mb4.7/2*

ISC 18 09:49:29.5±4.0, 44°.22N±0°.09×149°.3E±0°.2, h42km, n19, σ1°94/26, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	1.42	316	*e*P	**Pn**	**09 49 52.7**	**-0.1**
KUR				AMB	AMB	09 49 53.1	
	143nm,0.1s						
KUR				*e*S	**Sn**	**09 50 07.6**	**-2.6**
KUR				A	A	09 50 12.1	
	300nm,0.2s						
KUR				A	A	09 50 12.1	
	210nm,0.2s						
YUK	**Yuzh-Kuril'sk**	2.45	267	*i* P	**Pn**	**09 50 07.6**	**+0.6**
YUK				AMB	AMB	09 50 08.4	
	42nm,0.2s						
YUK				*e*S	**Sn**	**09 50 36.5**	**+0.8**
YUK				A	A	09 50 41.0	
	83nm,0.2s						
YUK				A	A	09 50 41.0	
	94nm,0.2s						
NEM2	**Nemuro 2**	2.69	253	P	**Pn**	**09 50 10.6**	**+0.4**
NEM2				*e*S	**Sn**	**09 50 39.9**	**-1.5**
JRA	**Rausu**	2.99	266	P	**Pn**	**09 50 15.7**	**+1.3**
JRA				*e*S	**Sn**	**09 50 49.4**	**+0.4**
JNK	**Nakash**	3.34	261	P	**Pn**	**09 50 20.8**	**+1.6**
JNK				*e*S	**Sn**	**09 50 57.0**	**-0.6**
JAK	**Akkeshi**	3.53	251	P	**Pn**	**09 50 22.6**	**+0.8**
JAK				*e*S	**Sn**	**09 51 00.9**	**-1.4**
JTKR	**Abashiri--Toko**	3.86	268	P	**Pn**	**09 50 28.8**	**+2.5**
JAR	**Ashorobuto**	4.08	259	P	**Pn**	**09 50 31.0**	**+1.6**
JAR				*e*S	**Sn**	**09 51 16.7**	**+0.8**
JOB	**Onbets**	4.16	253	*e*S	**Sn**	**09 51 15.3**	**-2.4**
JMP	**Maruseppu**	4.25	269	P	**Pn**	**09 50 34.3**	**+2.6**
JCH	**Churui**	4.58	252	*e*S	**Sn**	**09 51 27.6**	**-0.7**
MYR	**Moyori**	4.77	248	*e*S	**Sn**	**09 51 31.1**	**-1.7**
JNBK	**Urakawa-nobuka**	5.13	250	P	**Pn**	**09 50 45.3**	**+1.5**
JNBK				*e*S	**Sn**	**09 51 40.0**	**-1.7**
YSS	**Yuzh-Sakhalins**	5.32	303	*e*P	**Pn**	**09 50 47.8**	**+1.5**
JKB	**Kayabe**	6.46	252	P	**Pn**	**09 51 03.4**	**+1.4**
JKB				*e*S	**Sn**	**09 52 10.8**	**-3.6**
JANG	**Nango**	6.91	239	*e*S	Sn	09 52 19.0	-6.5
JTM	**Tenmabayashi**	6.96	243	*e*S	**Sn**	**09 52 22.5**	**-4.1**
JOSM	**Okushiri--Mats**	7.47	257	P	**Pn**	**09 51 18.0**	**+2.2**
JIO	**Ouri**	8.28	229	*e*S	Sn	09 52 52.5	-6.6

BJI ***18*** *09:50:12.9, 12°.80N×87°.40

URSC				eS		Sn	09 52 19.6	+2.4
QCR	**Quepos**	**4.63**	**137**	eP		Pn	09 51 24.3	+1.2
QCR				eS		Sn	09 52 17.3	+0.2
BUS	**Buena Vista**	**4.82**	**132**	eP		Pn	09 51 27.8	+1.8
BUS				eS		Sn	09 52 24.9	+2.7
TEIG	**Tepich**	**7.40**	**353**	P		Pn	09 51 59.0	-0.4
	comp=Z,1.9nm,0.3s,baz=319,slow=0.6,SNR=16							
TEIG	**Tepich**	**7.40**	**353**	eP	n	Pn	09 52 00.1	+0.7
BCIP	**Isla Barro Col**	**8.26**	**115**	eP	n	Pn	09 52 08.5	-2.4
CMIG	**Matias Romero**	**8.39**	**301**	P		Pn	09 52 12.2	-0.4
	comp=Z,3.9nm,0.3s,baz=158,slow=11,SNR=75							
CMIG				S		Sn	09 53 36.5	-10
	comp=Z,1.7nm,0.3s,baz=311,slow=21,SNR=8.4							
ROSC	**El Rosal**	**15.13**	**120**	P		Pn	09 53 39.1	-0.7
	comp=Z,1.3nm,0.3s,baz=298,slow=16,SNR=2.2							
SDV	**Santo Domingo**	**16.91**	**102**	eP		Pn	09 54 02.1	+1.0
	comp=Z,32nm,0.8s							
936A	**North Padre Is**	**17.23**	**329**	P		Pn	09 54 04.6	-0.1
	baz=17							
034A	**Hebbronville**	**17.68**	**325**	P		Pn	09 54 10.2	+0.2
	baz=18							
934A	**Benavides**	**18.01**	**326**	P		Pn	09 54 13.4	-0.4
	baz=18							
BRAL	**Brewton**	**18.09**	**1**	eP		Pn	09 54 16.7	+1.9
	comp=Z,35nm,0.8s							
540A	**Vidor**	**18.34**	**342**	P		Pn	09 54 17.8	+0.2
	baz=18							
736A	**Circle Diamond**	**18.40**	**332**	P		Pn	09 54 17.9	-0.5
	baz=18							
933A	**Laredo**	**18.43**	**325**	P		P	09 54 17.7	+1.0
	baz=18							
834A	**Tilden**	**18.44**	**327**	P		P	09 54 17.8	+1.0
	baz=18							
539A	**Cross D Ranch,**	**18.48**	**340**	P		P	09 54 17.5	+0.2
	baz=19							
637A	**Eagle Lake**	**18.49**	**335**	P		P	09 54 18.4	+1.0
	baz=19							
HKT	**Hockley**	**18.74**	**337**	eP		P	09 54 20.6	+0.7
	comp=Z,7.1nm,0.9s							
HKT				eS		S	09 57 41.6	-2.8
440A	**Kirbyville**	**18.83**	**342**	P		Pn	09 54 22.5	-1.0
	baz=19							
TIGA	**Tifton**	**18.84**	**10**	P		Pn	09 54 23.0	-0.6
	baz=19,SNR=10							
TIGA	**Tifton**	**18.84**	**10**	eP		Pn	09 54 23.0	-0.6
	comp=Z,67nm,0.7s							
636A	**Smothers Creek**	**18.84**	**333**	P		Pn	09 54 22.7	-0.9
	baz=19,SNR=6.1							
734A	**La Parita Cree**	**19.03**	**329**	P		P	09 54 23.1	-0.1
	baz=19							
537A	**Green Hill Far**	**19.05**	**336**	P		P	09 54 24.7	+1.3
	baz=19,SNR=12							
833A	**Chaparral WMA,**	**19.05**	**326**	P		P	09 54 24.0	+0.6
	baz=19,SNR=5.8							
733A	**Divot King Ran**	**19.31**	**327**	P		P	09 54 25.6	-0.6
	baz=19							
438A	**Sam Houston St**	**19.33**	**339**	P		P	09 54 26.4	0.0
	baz=19							
832A	**Faith Ranch, C**	**19.34**	**325**	P		P	09 54 26.8	+0.2
	baz=19,SNR=5.1							
536A	**Bastrop**	**19.36**	**334**	P		P	09 54 27.9	+1.2
	baz=20							
340A	**Bronson**	**19.44**	**343**	P		P	09 54 29.1	+1.5
	baz=20,SNR=5.4							
535A	**Dale**	**19.54**	**333**	P		Pn	09 54 30.3	-1.6
	baz=20,SNR=6.7							
732A	**Laxson Ranch,**	**19.68**	**325**	P		P	09 54 31.3	+1.1
	baz=20,SNR=6.1							
436A	**Wall Ranch, Ga**	**19.85**	**336**	P		P	09 54 33.1	+1.1
	baz=20							
534A	**Blanco**	**19.96**	**331**	P		P	09 54 34.0	+0.8
	baz=20							
NATX	**Nacogdoches**	**19.99**	**342**	P		P	09 54 35.2	+1.8
	baz=20							
NATX	**Nacogdoches**	**19.99**	**342**	eP		P	09 54 33.8	+0.3
	comp=Z,21nm,0.6s							
337A	**Centerville**	**19.99**	**338**	P		P	09 54 33.9	+0.4
	baz=20							
LRAL	**Lakeview Retre**	**20.11**	**1**	eP		P	09 54 36.1	+1.4
	comp=Z,17nm,0.9s							
239A	**Gary**	**20.17**	**342**	P		P	09 54 37.0	+1.5
	baz=20							
435B	**Jarrell**	**20.19**	**334**	P		P	09 54 36.5	+0.8
	baz=20							
632A	**Uvalde**	**20.19**	**327**	P		P	09 54 36.2	+0.5
	baz=20							
533A	**Kerrville**	**20.26**	**330**	P		P	09 54 36.3	-0.2
	baz=20							
336A	**Riesel**	**20.41**	**336**	P		P	09 54 38.9	+0.8
	baz=20							
434A	**Burnet**	**20.52**	**332**	P		P	09 54 40.2	+1.0
	baz=21							
631A	**Perdido Creek**	**20.55**	**325**	P		P	09 54 40.7	+1.2
	baz=21							
335A	**Moody**	**20.56**	**335**	P		P	09 54 40.6	+1.1
	baz=21							
532A	**Rocksprings**	**20.75**	**328**	P		P	09 54 42.0	+0.4
	baz=21							
139A	**Bunkhouse Ranc**	**20.77**	**343**	P		P	09 54 42.2	+0.5
	baz=21							
GOGA	**Godfrey**	**20.79**	**9**	eP		P	09 54 43.0	+1.0
	comp=Z,48nm,0.6s							
236A	**Katherine and**	**20.84**	**338**	P		P	09 54 43.2	+0.6
	baz=21							
433A	**Art**	**20.85**	**331**	P		P	09 54 42.5	-0.3
	baz=21							
334A	**Lometa**	**20.95**	**333**	P		P	09 54 45.9	+2.1
	baz=21,SNR=10							
138A	**Matatall Enter**	**20.96**	**342**	P		P	09 54 44.6	+0.8
	baz=21							
JCT	**Junction City**	**20.98**	**329**	P		P	09 54 44.6	+0.5
	baz=21							
137A	**Heron Place, G**	**21.11**	**340**	P		P	09 54 47.0	+1.5
	baz=21							
531A	**Rocksprings**	**21.11**	**327**	P		P	09 54 46.8	+1.2
	baz=21							
WHTX	**Lake Whitney,**	**21.19**	**336**	P		P	09 54 47.0	+0.7
	baz=21							
WHTX	**Lake Whitney,**	**21.19**	**336**	eP		P	09 54 46.7	+0.3
	comp=Z,21nm,0.6s							
136A	**Ennis**	**21.27**	**338**	P		P	09 54 48.1	+1.0
	baz=21,SNR=5.3							
333A	**Richland Sprin**	**21.28**	**332**	P		P	09 54 48.1	+0.8
	baz=21,SNR=19							
Z38A	**Mt. Pleasant**	**21.47**	**342**	P		P	09 54 49.2	-0.1
	baz=22							
234A	**Clairette**	**21.48**	**334**	P		P	09 54 49.4	0.0
	baz=22,SNR=10							
530A	**J-C Ranch, Com**	**21.53**	**325**	P		P	09 54 51.3	+1.2
	baz=22,SNR=5.5							
431A	**Sonora**	**21.56**	**328**	P		P	09 54 51.4	+1.2
	baz=22,SNR=6.9							
Z37A	**Pogue Cattle C**	**21.62**	**341**	P		P	09 54 51.7	+0.9
	baz=22							
OXF	**Oxford**	**21.66**	**355**	eP		P	09 54 51.4	+0.2
	comp=Z,41nm,1.2s							
135A	**Vickery Place,**	**21.67**	**337**	P		P	09 54 50.8	-0.6
	baz=22							
332A	**Millersview**	**21.69**	**330**	P		P	09 54 52.6	+1.0
	baz=22,SNR=18							
ATAH	**Atahualpa**	**21.76**	**155**	P		P	09 54 52.9	-0.1
	comp=Z,5.1nm,0.9s,baz=335,slow=6.9,SNR=1.9							
233A	**Rising Star**	**21.83**	**333**	P		P	09 54 53.4	+0.3
	baz=22,SNR=17							
Y39A	**Lockesburg**	**21.88**	**345**	P		P	09 54 53.1	-0.4
	baz=22							
134A	**White-Moore Ra**	**21.95**	**335**	P		P	09 54 55.0	+0.7
	baz=22,SNR=9.2							
Z36A	**Blue Ridge**	**21.95**	**339**	P		P	09 54 53.5	-0.8
	baz=22							
331A	**San Angelo**	**21.96**	**329**	P		P	09 54 53.9	-0.6
	baz=22							
430A	**Baggett Ranch,**	**21.97**	**327**	P		P	09 54 53.6	-1.0
	baz=22							
529A	**Stev Forest Ra**	**22.02**	**324**	P		P	09 54 54.1	-1.0
	baz=22							
Y38A	**Idabel**	**22.04**	**344**	P		P	09 54 55.6	+0.6
	baz=22							
232A	**Coleman**	**22.06**	**331**	P		P	09 54 56.1	+0.7
	baz=22,SNR=8.7							
JSC	**Jenkinsville**	**22.06**	**14**	eP		P	09 54 55.9	+0.6
	comp=Z,38nm,1.0s							
429A	**Davenport Ranc**	**22.21**	**325**	P		P	09 54 57.9	+1.1
	baz=22,SNR=8.5							
STVI	**Saint Thomas**	**22.28**	**73**	eP		P	09 54 58.6	+1.1
	comp=Z,58nm,0.6s							
Z35A	**Perchaven, San**	**22.30**	**338**	P		P	09 54 58.4	+0.7
	baz=22							
TXAR	**Lajitas Array**	**22.32**	**320**	P		P	09 54 58.4	+0.4
	comp=Z,2.6nm,0.6s,baz=139,slow=9.7,SNR=46							
TXAR				pP		pP	09 55 29.1	+0.8
	comp=Z,5.5nm,1.1s,baz=145,slow=11,SNR=5.0							
TXAR				PcP		PcP	09 58 47.5	+0.2
	comp=Z,0.4nm,0.9s,baz=158,slow=2.9,SNR=3.7							
TXAR				ScP		ScP	10 02 09.6	+0.6
	comp=Z,0.3nm,0.5s,baz=153,slow=5.5,SNR=9.6							
TX31	**Lajitas Ar. Si**	**22.32**	**320**	eP		P	09 54 58.4	+0.4
TX31				epP		pP	09 55 30.4	+2.0
MIAR	**Mount Ida**	**22.33**	**346**	eP		P	09 54 58.4	+0.4
	comp=Z,14nm,0.8s							
133A	**Hamilton Ranch**	**22.34**	**334**	P		P	09 54 59.0	+1.0
	baz=22,SNR=5.3							
Y37A	**Hugo**	**22.34**	**342**	P		P	09 54 59.2	+1.2
	baz=22,SNR=15							
231A	**Bronte**	**22.42**	**330**	P		P	09 54 58.7	-0.1
	baz=22							
330A	**Mertzon**	**22.43**	**328**	P		P	09 54 58.4	-0.5
	baz=22							
PCRV	**Puerto La Cruz**	**22.44**	**94**	P		P	09 55 00.1	+0.8
	comp=Z,9.2nm,0.4s,baz=259,slow=5.5,SNR=6.2							
Y36A	**Durant**	**22.48**	**340**	P		P	09 54 59.7	+0.4
	baz=23,SNR=5.1							
Z34A	**Collier Ranch,**	**22.59**	**337**	P		P	09 55 01.1	+0.8
	baz=23,SNR=9.3							
CPCT	**Cooper Cave**	**22.66**	**6**	eP		P	09 55 01.9	+0.9
ABTX	**Abilene, Hawle**	**22.67**	**332**	P		P	09 55 01.6	+0.4
	baz=23,SNR=6.8							
ABTX	**Abilene, Hawle**	**22.67**	**332**	eP		P	09 55 01.9	+0.8
	comp=Z,10nm,0.6s							
Y35A	**Marietta**	**22.74**	**339**	P		P	09 55 03.2	+1.5
	baz=23,SNR=11							
X38A	**Whitesboro**	**22.76**	**344**	P		P	09 55 02.8	+0.9
	baz=23,SNR=5.8							
X37A	**Clayton**	**22.84**	**343**	P		P	09 55 03.6	+1.0
	baz=23,SNR=14							
Z33A	**Whitaker Ranch**	**22.86**	**335**	P		P	09 55 03.3	+0.5
	baz=23,SNR=10							
KMSC	**Kings Mountain**	**22.87**	**13**	P		P	09 55 04.1	+1.2
	baz=23,SNR=16							
KMSC	**Kings Mountain**	**22.87**	**13**	eP		P	09 55 04.1	+1.2
	comp=Z,29nm,0.7s							
329A	**Wagon Wheel Ra**	**22.91**	**326**	P		P	09 55 04.6	+1.2
	baz=23,SNR=8.6							
TKL	**Tuckaleechee C**	**22.95**	**8**	P		P	09 55 04.7	+1.1
	comp=Z,25nm,0.8s,baz=186,slow=12,SNR=37							
Y34A	**Reagan Ranch,**	**23.05**	**338**	P		P	09 55 05.1	+0.6
	baz=23,SNR=8.9							
131A	**Roby**	**23.06**	**331**	P		P	09 55 04.7	0.0
	baz=23							
W38A	**Poteau**	**23.06**	**345**	P		P	09 55 05.0	+0.4
	baz=23							
X36A	**Centrahoma**	**23.12**	**341**	P		P	09 55 06.0	+0.9
	baz=23,SNR=14							
X35A	**Drake**	**23.17**	**339**	P		P	09 55 06.2	+0.6
	baz=23,SNR=5.9							
Z32A	**Haskell**	**23.18**	**334**	P		P	09 55 07.0	+1.2
	baz=23,SNR=17							
WVT	**Waverly**	**23.20**	**359**	eP		P	09 55 05.3	-0.5
	comp=Z,4.0nm,0.5s							
229A	**Bryant Ranch,**	**23.20**	**327**	P		P	09 55 06.8	+0.8
	baz=23,SNR=5.2							
130A	**Snyder**	**23.27**	**330**	P		P	09 55 07.2	+0.5
	baz=23							
W37A	**Quinton**	**23.37**	**343**	P		P	09 55 08.1	+0.7
	baz=24,SNR=10							
Y33A	**Hilltop Ranch,**	**23.43**	**336**	P		P	09 55 08.7	+0.7
	baz=24,SNR=10							
Z31A	**Sharp Cattle R**	**23.48**	**332**	P		P	09 55 09.5	+1.0
	baz=24,SNR=8.2							
W36A	**Wetumka**	**23.60**	**342**	P		P	09 55 09.7	+0.2
	baz=24							
X34A	**Smith Ranch, M**	**23.65**	**338**	P		P	09 55 11.1	+1.1
	baz=24,SNR=13							
228A	**UT Block 9, Go**	**23.73**	**326**	P		P	09 55 10.5	-0.3
	baz=24							
129A	**Stewart Farms,**	**23.75**	**328**	P		P	09 55 11.2	+0.2
	baz=24,SNR=5.8							
Y32A	**R-V Farms, Ver**	**23.76**	**334**	P		P	09 55 12.1	+1.1
	baz=24,SNR=6.2							
W35A	**Tecumseh**	**23.82**	**340**	P		P	09 55 10.6	-1.0
	baz=24							
X33A	**Lawton**	**23.85**	**337**	P		P	09 55 12.9	+1.1
	baz=24,SNR=73							
TZTN	**Tazewell**	**23.86**	**8**	eP		P	09 55 12.7	+0.9
	comp=Z,20nm,0.8s							
Z30A	**Sanderson Ranc**	**23.91**	**331**	P		P	09 55 12.8	+0.3
	baz=24,SNR=5.4							
V37A	**Hulbert**	**23.99**	**344**	P		P	09 55 12.9	-0.2
	baz=24,SNR=5.8							
PBMO	**Poplar Bluff**	**24.00**	**354**	eP		P	09 55 12.9	-0.1
	comp=Z,10nm,0.7s							
X32A	**Elmer**	**24.05**	**335**	P		P	09 55 14.6	+0.9
	baz=24,SNR=17							
128A	**Castleberry Fa**	**24.07**	**327**	P		P	09 55 14.2	+0.3
	baz=24,SNR=5.5							
Y31A	**Rekieta Farm,**	**24.08**	**333**	P		P	09 55 14.7	+0.7
	baz=24,SNR=8.7							
V36A	**Jenks**	**24.12**	**343**	P		P	09 55 14.2	-0.1
	baz=24,SNR=10							
WMOK	**Wichita Mounta**	**24.13**	**337**	eP		P	09 55 14.5	+0.1
	comp=Z,16nm,0.9s							
Z29A	**Hungry Hill Ra**	**24.17**	**330**	P		P	09 55 15.6	+0.7
	baz=24,SNR=11							
TUL1	**Leonard**	**24.19**	**343**	P		P	09 55 14.7	-0.2
	baz=24							
TUL1	**Leonard**	**24.19**	**343**	eP		P	09 55 14.8	-0.1
	comp=Z,19nm,0.7s							
W34A	**Bridge Creek,**	**24.20**	**339**	P		P	09 55 15.2	+0.2
	baz=24,SNR=7.4							
W34A	**Bridge Creek,**	**24.20**	**339**	eP		P	09 55 15.5	+0.5
	comp=Z,33nm,0.6s							
Y30A	**Stafford Cattl**	**24.29**	**332**	P		P	09 55 16.6	+0.7
	baz=24,SNR=5.5							
V35A	**Meyer Ranch, C**	**24.37**	**341**	P		P	09 55 15.9	-0.6
	baz=24,SNR=5.5							
W33A	**Caddo, Fort Co**	**24.38**	**338**	P		P	09 55 16.9	+0.3
	baz=24							
X31A	**Mcdonald Ranch**	**24.52**	**334**	P		P	09 55 18.7	+0.8
	baz=25,SNR=13							
Z28A	**Tucker Farm, M**	**24.54**	**329**	P		P	09 55 18.3	+0.1
	baz=25,SNR=9.9							
Y29A	**Porterfield Fa**	**24.64**	**330**	P		P	09 55 20.0	+0.9
	baz=25,SNR=7.1							
W32A	**Sentinel**	**24.65**	**336**	P		P	09 55 19.4	+0.3
	baz=25,SNR=15							
V34A	**Guthrie**	**24.66**	**340**	P		P	09 55 18.8	-0.3
	baz=25							
V34A	**Guthrie**	**24.66**	**340**	eP		P	09 55 18.8	-0.3
	comp=Z,20nm,0.6s							
X30A	**Coker Ranch, T**	**24.76**	**333**	P		P	09 55 21.1	+0.9
	baz=25,SNR=13							
SIUC	**Southern Illin**	**24.83**	**357**	eP		P	09 55 20.8	+0.1
	comp=Z,16nm,0.6s							
V33A	**Lossen Ranch,**	**24.91**	**339**	P		P	09 55 21.2	-0.3
	baz=25							
Y28A	**McKinney Farm,**	**24.96**	**330**	P		P	09 55 21.9	-0.2
	baz=25							
W31A	**Holland Ranch,**	**24.99**	**335**	P		P	09 55 22.6	+0.4
	baz=25							
BLA	**Blacksburg**	**25.06**	**13**	eP		P	09 55 24.2	+1.5
	comp=Z,11nm,0.7s							
V32A	**Arapaho**	**25.10**	**337**	P		P	09 55 23.2	+0.1
	baz=25							
T37A	**Cheneyville 18**	**25.11**	**346**	P		P	09 55 22.9	-0.3
	baz=25,SNR=6.6							
X29A	**Tulia**	**25.14**	**331**	P		P	09 55 23.8	+0.2
	baz=25,SNR=12							
VWCC	**Virginia Weste**	**25.19**	**14**	eP		P	09 55 25.1	+1.1
U34A	**Anderson Ranch**	**25.21**	**340**	P		P	09 55 23.4	-0.7
	baz=25							
U34A	**Anderson Ranch**	**25.21**	**340**	eP		P	09 55 23.8	-0.4
	comp=Z,12nm,0.6s							
W30A	**Crocket Farms**	**25.25**	**334**	P		P	09 55 24.9	+0.3
	baz=25							
MSTX	**Muleshoe**	**25.27**	**329**	P		P	09 55 25.3	+0.4
	baz=25,SNR=9.2							
MSTX	**Muleshoe**	**25.27**	**329**	eP		P	09 55 25.1	+0.3
	comp=Z,14nm,0.8s							
T36A	**Boggs Farm, Ca**	**25.30**	**344**	P		P	09 55 24.7	-0.2
	baz=25,SNR=9.3							
T35A	**Sooner Cattle**	**25.34**	**343**	P		P	09 55 25.3	0.0
	baz=26							
U33A	**Lingo Farm, Me**	**25.40**	**340**	P		P	09 55 25.4	-0.5
	baz=26							
X28A	**Dimmitt**	**25.43**	**331**	P		P	09 55 26.1	-0.2
	baz=26							
V31A	**Spring Creek L**	**25.45**	**336**	P		P	09 55 27.4	+1.0
	baz=26,SNR=9.0							
AMTX	**Amarillo**	**25.49**	**332**	P		P	09 55 27.0	+0.3
	baz=26							
T34A	**McClaskey Farm**	**25.64**	**342**	P		P	09 55 27.6	-0.3
	baz=26							
U32A	**Winter Ranch,**	**25.66**	**338**	P		P	09 55 28.2	0.0
	baz=26							
S36A	**Lake Cedric, C**	**25.84**	**345**	P		P	09 55 29.7	-0.2
	baz=26,SNR=12							
S35A	**Otter Creek Ra**	**26.00**	**344**	P		P	09 55 31.0	-0.2
	baz=26,SNR=7.9							
T32A	**Huddler Ranch,**	**26.35**	**339**	P		P	09 55 33.9	-0.5
	baz=26							
R36A	**Gordon, Harris**	**26.39**	**346**	P		P	09 55 34.1	-0.7
	baz=26							
S33A	**Kaszmaul Farm,**	**26.42**	**341**	P		P	09 55 35.1	+0.1
	baz=26							
U30A	**WK&E Inc. Balk**	**26.43**	**335**	P		P	09 55 35.8	+0.6
	baz=26							
V28A	**Channing**	**26.45**	**332**	P		P	09 55 36.0	+0.5
	baz=27							
T31A	**Randall Ranch,**	**26.55**	**338**	P		P	09 55 36.2	-0.1
	baz=27							
R35A	**Emporia Munici**	**26.57**	**344**	P		P	09 55 35.9	-0.4
	baz=27							
Q37A	**Longview Farm,**	**26.68**	**348**	P		P	09 55 37.0	-0.4
	baz=27							
CBN	**Corbin Frederi**	**26.79**	**18**	eP		P	09 55 39.7	+1.5
	comp=Z,41nm,0.3s							
S32A	**Newby Ranch, P**	**26.82**	**339**	P		P	09 55 38.6	0.0
	baz=27							
S31A	**Mullinville**	**26.94**	**338**	P		P	09 55 39.6	-0.2
	baz=27,SNR=5.0							
Q36A	**Arnold C. Orve**	**26.99**	**346**	P		P	09 55 39.7	-0.4
	baz=27							
Q35A	**Mercer Eighty,**	**27.03**	**345**	P		P	09 55 40.2	-0.3
	baz=27							
R33A	**Olander Ranch,**	**27.07**	**341**	P		P	09 55 40.2	-0.6
	baz=27							
T29A	**Hugoton**	**27.23**	**335**	P		P	09 55 42.2	-0.1
	baz=27							
U27A	**Thompson Grove**	**27.28**	**332**	P		P	09 55 44.2	+1.3
	baz=27							
S30A	**Montezuma**	**27.32**	**337**	P		P	09 55 42.7	-0.5
	baz=27							
Q34A	**Chapman**	**27.33**	**344**	P		P	09 55 42.4	-0.7
	baz=28							
R32A	**Long Quarter,**	**27.40**	**340**	P		P	09 55 42.9	-0.9
	baz=28							
KSU1	**Kansas State U**	**27.41**	**344**	P		P	09 55 43.3	-0.5
	baz=28							
KSU1	**Kansas State U**	**27.41**	**344**	eP		P	09 55 43.8	0.0
	comp=Z,18nm,1.1s							
T28A	**Walsh**	**27.55**	**334**	P		P	09 55 44.3	-0.9
	baz=28							
R31A	**Burdett**	**27.56**	**339**	P		P	09 55 45.3	+0.1
	baz=28							
P36A	**Good Intent, A**	**27.56**	**347**	P		P	09 55 44.6	-0.5
	baz=28							
ACSO	**Alum Creek Sta**	**27.56**	**7**	eP		P	09 55 45.4	+0.3
	comp=Z,16nm,0.8s							
Q33A	**Connelly Farm,**	**27.65**	**342**	P		P	09 55 45.6	-0.4
	baz=28							
P35A	**Duane Minner,**	**27.66**	**346**	P		P	09 55 46.0	0.0
	baz=28							
R30A	**Dighton**	**27.82**	**338**	P		P	09 55 47.9	+0.3
	baz=28,SNR=8.9							
Q32A	**Meitler Ranch,**	**27.87**	**341**	P		P	09 55 47.6	-0.3
	baz=28							
P34A	**Walnut Farm, R**	**27.88**	**344**	P		P	09 55 48.0	0.0
	baz=28,SNR=6.8							
ANMO	**Aubuquerque**	**27.98**	**325**	P		P	09 55 51.2	+2.1
	comp=Z,0.5nm,0.6s,baz=143,slow=10,SNR=3.2							
O36A	**Bolckow**	**28.00**	**348**	P		P	09 55 48.4	-0.6
	baz=28							
SDMD	**Soldier's Deli**	**28.06**	**18**	eP		P	09 55 50.6	+1.1
Q31A	**Ellis**	**28.16**	**340**	P		P	09 55 50.6	+0.1
	baz=28							
Q30A	**Quinter**	**28.41**	**339**	P		P	09 55 52.2	-0.7
	baz=28							
O34A	**Beatrice**	**28.45**	**345**	P		P	09 55 52.6	-0.4
	baz=29,SNR=6.8							
P32A	**Huiting Farm,**	**28.46**	**342**	P		P	09 55 53.2	0.0
	baz=29,SNR=6.7							
R28A	**Tribune**	**28.46**	**336**	P		P	09 55 52.6	-0.6
	baz=29							
O33A	**Hebron**	**28.58**	**343**	P		P	09 55 54.2	-0.1
	baz=29,SNR=5.7							
T25A	**Trinidad**	**28.60**	**331**	P		P	09 55 55.4	+0.7
	baz=29							
P31A	**Stockton**	**28.61**	**340**	P		P	09 55 54.6	0.0
	baz=29							
Q29A	**Oakley**	**28.61**	**337**	P		P	09 55 54.7	0.0
	baz=29							
MVL	**Millersville**	**28.75**	**18**	eP		P	09 55 56.9	+1.2
	comp=Z,23nm,1.4s							
R27A	**Eads**	**28.82**	**334**	P		P	09 55 56.4	-0.1
	baz=29							
SSPA	**Standing Stone**	**28.92**	**15**	eP		P	09 55 58.1	+0.9
	comp=Z,12nm,0.6s							
P30A	**Selden**	**28.93**	**339**	P		P	09 55 57.1	-0.3
	baz=29							
O32A	**Brockman Farm,**	**28.95**	**343**	P		P	09 55 57.4	-0.1
	baz=29							
N34A	**Lincoln**	**29.02**	**346**	P		P	09 55 56.8	-1.3
	baz=29							
Q28A	**Sharon Springs**	**29.09**	**336**	P		P	09 55 58.7	-0.1
	baz=29							
R26A	**Arlington**	**29.11**	**333**	P		P	09 55 58.9	-0.2
	baz=29							
O31A	**Woolen Ranch,**	**29.17**	**341**	P		P	09 55 59.2	-0.2
	baz=29							
P29A	**Atwood**	**29.22**	**338**	P		P	09 56 00.5	+0.5
	baz=29,SNR=7.8							
KSCO	**Kaye Shedlock'**	**29.36**	**335**	P		P	09 56 01.2	-0.1
	baz=30							
**KSCO

baz=31
L29A **Maesberg Ranch** 31.27 341 P P 09 56 17.8 -0.2
baz=31
K30A **Basset** 31.56 343 P P 09 56 20.4 -0.1
baz=32,SNR=9.6
ECSD **EROS Data Cent** 31.80 347 P P 09 56 21.1 -1.4
baz=32,SNR=9.1
K29A **Lazy Trails An** 31.85 342 P P 09 56 23.0 0.0
baz=32,SNR=6.5
PV10 **Paradox Valley** 31.90 327 eP P 09 56 24.8 +1.0
J30A **Dallas** 32.13 343 P P 09 56 25.4 0.0
baz=32
K28A **Ten Mile Ranch** 32.14 340 P P 09 56 25.4 -0.2
baz=32
N23A **Red Feather La** 32.34 333 P P 09 56 26.4 -1.2
baz=32
K27A **Flueckinger Fa** 32.42 339 P P 09 56 27.8 -0.3
baz=32
J29A **Okreek** 32.44 342 P P 09 56 28.7 +0.5
baz=33,SNR=26
SPMN **Marine on St.** 32.61 353 P P 09 56 28.3 -1.2
baz=33,SNR=5.1
SPMN **Marine on St.** 32.61 353 eP P 09 56 28.4 -1.1
comp=Z,9.7nm,0.8s
I30A **Oacoma** 32.65 344 P P 09 56 29.8 -0.2
baz=33,SNR=22
J28A **Allard Ranch,** 32.74 341 P P 09 56 31.1 +0.3
baz=33,SNR=6.5
O20A **White River Ci** 32.81 330 P P 09 56 30.3 -1.3
baz=33
O20A **White River Ci** 32.81 330 eP P 09 56 33.5 +1.8
comp=Z,4.1nm,0.6s
J27A **Elkhorn Farm,** 32.83 340 P P 09 56 32.6 +1.0
baz=33,SNR=6.1
I29A **Vivian Onida** 33.00 343 P P 09 56 32.9 -0.1
baz=33,SNR=7.9
SRU **San Rafael Swe** 33.23 326 eP P 09 56 36.7 +1.4
comp=Z,5.5nm,0.5s
I28A **Midland** 33.24 342 P P 09 56 35.3 +0.2
baz=33,SNR=18
J26A **Sides Ranch, S** 33.25 339 P P 09 56 35.0 -0.3
baz=33
PTN **Potsdam (NY)** 33.36 16 eP P 09 56 36.6 +0.5
comp=Z,32nm,0.9s
LONY **Lake Ozonia** 33.51 17 eP P 09 56 37.6 +0.2
comp=Z,16nm,0.9s
H29A **Onida** 33.53 343 P P 09 56 36.2 -1.4
baz=34
I27A **Quinn** 33.58 341 P P 09 56 38.6 +0.5
baz=34,SNR=7.2
J25A **Sunshine Ranch** 33.58 338 P P 09 56 38.4 +0.3
baz=34
G30A **Faulkton** 33.71 345 P P 09 56 38.5 -0.6
baz=34,SNR=6.1
H28A **Mission Ridge** 33.80 342 P P 09 56 39.3 -0.7
baz=34
G29A **Hoven** 33.97 344 P P 09 56 40.5 -0.9
baz=34
H27A **Howes** 34.09 341 P P 09 56 43.0 +0.6
baz=34,SNR=20
I25A **Rochford** 34.10 339 P P 09 56 43.7 +1.0
baz=34,SNR=5.1
G28A **Parade** 34.14 343 P P 09 56 42.1 -0.8
baz=34
I24A **Kuemmerle Ranc** 34.29 338 P P 09 56 44.0 -0.2
baz=34
RSSD **Black Hills** 34.30 339 eP P 09 56 45.9 +1.4
comp=Z,4.4nm,0.6s
H26A **Fairpoint** 34.30 340 P P 09 56 44.4 +0.1
baz=34,SNR=7.3
F29A **Eureka** 34.54 345 P P 09 56 45.3 -1.0
baz=35
J22A **Midwest** 34.63 335 P P 09 56 47.3 +0.1
baz=35
LPAZ **La Paz** 34.64 146 P P 09 56 49.0 +0.9
comp=Z,3.1nm,0.6s,baz=331,slow=7.7,SNR=20
LPAZ **La Paz** 34.64 146 eP P 09 56 49.4 +1.3
comp=Z,3.1nm,0.6s
G27A **Dupree** 34.72 342 P P 09 56 47.8 -0.1
baz=35,SNR=11
F28A **McLaughlin** 34.81 343 P P 09 56 48.4 -0.3
baz=35
G26A **Maurine** 34.85 341 P P 09 56 49.4 +0.4
baz=35,SNR=9.8
J21A **Lysite** 34.98 334 P P 09 56 51.4 +1.1
baz=35,SNR=7.2
G25A **Newell** 35.02 340 P P 09 56 50.8 +0.4
baz=35
H24A **Dirks Ranch, A** 35.02 338 P P 09 56 51.2 +0.7
baz=35,SNR=7.2
I22A **9 Mile Ranch,** 35.03 336 P P 09 56 51.4 +0.7
baz=35
F27A **Lemmon** 35.19 342 P P 09 56 51.9 +0.1
baz=35,SNR=7.7
J20A **Shoshoni** 35.26 333 P P 09 56 53.7 +1.0
baz=35
TPNV **Topopah Spring** 35.27 318 P P 09 56 53.0 +0.1
baz=35
I21A **Big Trails, Te** 35.30 335 P P 09 56 53.7 +0.8
baz=35
F26A **Lodgepole** 35.37 341 P P 09 56 54.3 +0.9
baz=36
E28A **Huff** 35.45 344 P P 09 56 54.1 0.0
baz=36
BW06 **Boulder Array** 35.47 331 eP P 09 56 54.6 +0.1
PDAR **Pinedale Array** 35.47 331 P P 09 56 54.6 +0.1
comp=Z,1.5nm,0.6s,baz=118,slow=9.8,SNR=12
D30A **Buchanan** 35.48 347 P P 09 56 54.3 0.0
baz=36
E27A **Carson** 35.56 343 P P 09 56 55.3 +0.3
baz=36,SNR=11
HWUT **Hardware Ranch** 35.58 328 eP P 09 56 56.6 +1.1
comp=Z,5.3nm,0.7s
J19A **Crowheart** 35.62 332 P P 09 56 56.3 +0.6
baz=36
F25A **Bowman** 35.68 341 P P 09 56 56.5 +0.4
baz=36
G23A **Biddle** 35.72 338 P P 09 56 56.9 +0.4
baz=36
I20A **Worland** 35.76 334 P P 09 56 57.7 +0.8
baz=36
E26A **Carlson Angus** 35.86 342 P P 09 56 57.5 -0.1
baz=36
F24A **Ekalaka** 35.94 340 P P 09 56 58.5 +0.2
baz=36
C30A **Mose, Pekin** 35.98 347 P P 09 56 58.4 -0.1
baz=36
ARVC **Arvin** 36.05 313 eP P 09 57 03.0 +3.7
H20A **Greybull** 36.14 335 P P 09 57 00.6 +0.6
baz=36
F23A **Volborg** 36.17 338 P P 09 56 59.4 -0.8
baz=36
D27A **Center** 36.17 344 P P 09 57 00.4 +0.2
baz=36,SNR=6.5
E25A **Miller Ranch,** 36.18 341 P P 09 57 00.4 +0.1
baz=36
D26A **Manning** 36.36 343 P P 09 57 02.0 +0.2
baz=36
MDND **Maddock** 36.37 346 P P 09 57 02.2 +0.4
baz=36
G21A **Lodge Grass** 36.43 336 P P 09 57 02.5 0.0
baz=36
C28A **Hausauer Farms** 36.43 345 P P 09 57 02.7 +0.4
baz=37
E24A **Baker** 36.52 340 P P 09 57 03.2 0.0
baz=37
F22A **Rosebud** 36.53 338 P P 09 57 02.2 -1.1
baz=37
REDW **Red Top Meadow** 36.53 331 epP pP 09 57 40.3 +0.6
SNOW **Snow King Moun** 36.56 331 eP P 09 57 05.1 +1.2
comp=Z,6.3nm,0.7s
SNOW epP pP 09 57 40.7 +0.7
B30A **Myrvik Farm, E** 36.65 348 P P 09 57 03.6 -0.6
baz=37
TPAW **Teton Pass** 36.68 331 eP P 09 57 05.1 +0.3
comp=Z,4.3nm,0.6s
TPAW epP pP 09 57 42.2 +1.2
E23A **Ismay** 36.80 339 P P 09 57 05.9 +0.4
baz=37
G20A **Bridger** 36.83 335 P P 09 57 06.1 +0.2
baz=37
B29A **Wagenman Farm,** 36.89 347 P P 09 57 06.2 0.0
baz=37
D24A **Glendive** 37.02 341 P P 09 57 07.4 0.0
baz=37
B28A **Dugan Ranch, T** 37.11 346 P P 09 57 08.1 0.0
baz=37
C25A **Freed Ranch, W** 37.22 342 P P 09 57 09.4 +0.4
baz=37
A29A **Manning Farm,** 37.29 347 P P 09 57 09.4 -0.2
baz=37
C24A **Savage** 37.41 341 P P 09 57 11.2 +0.5
baz=38
NVAR **Mina Array Bea** 37.46 318 P P 09 57 13.0 +1.6
comp=Z,0.5nm,0.5s,baz=127,slow=7.9,SNR=8.5
NVAR pP pP 09 57 46.3 -1.4
comp=Z,0.4nm,0.7s,baz=115,slow=9.5,SNR=2.0
NVAR PcP PcP 09 59 27.1 +0.7
comp=Z,0.6nm,0.6s,baz=142,slow=3.2,SNR=5.4
NVAR ScP ScP 10 02 58.2 +0.5
comp=Z,0.6nm,0.7s,baz=128,slow=3.6,SNR=6.4
B25A **Knox Farm, Ray** 37.69 343 P P 09 57 13.7 +0.7
baz=38
C23A **Lambert** 37.90 340 P P 09 57 15.4 +0.6
baz=38
A26A **Wade Farm, Ken** 37.95 344 P P 09 57 15.7 +0.6
baz=38
DGMT **Dagmar** 38.17 342 P P 09 57 17.5 +0.4
baz=38
A25A **Svangstu Ranch** 38.28 343 P P 09 57 18.2 +0.3
baz=38
B23A **Brockton** 38.42 341 P P 09 57 19.7 +0.6
baz=38,SNR=5.0
HLID **Hailey** 38.45 328 P P 09 57 19.5 -0.1
baz=38
HLID **Hailey** 38.45 328 eP P 09 57 20.8 +1.1
comp=Z,26nm,2.5s
A24A **Westby** 38.52 342 P P 09 57 20.6 +0.6
baz=39
C21A **Desert Coulee** 38.57 339 P P 09 57 22.0 +1.6
baz=39
MCMT **McKenzie Canyo** 38.58 331 eP P 09 57 22.8 +2.0
MCMT epP pP 09 57 58.6 +1.4
BOZ **Bozeman (W)** 38.63 333 P P 09 57 21.9 +0.8
baz=39
A22A **Carney Farms,** 39.17 341 P P 09 57 26.1 +0.7
baz=39
A21A **Bergtoll Ranch** 39.51 340 P P 09 57 28.8 +0.7
baz=40
LVC **Limon Verde** 39.61 153 P P 09 57 32.0 +2.5
comp=Z,7.4nm,0.7s,baz=328,slow=8.3,SNR=5.3
EGMT **Eagleton** 39.73 336 eP P 09 57 29.9 -0.2
EGMT epP pP 09 58 11.0 +4.3
MSO **Missoula** 40.58 332 eP P 09 57 35.8 -1.3
MSO epP pP 09 58 14.6 +0.8
HJA **Humahuaca** 41.78 149 eP P 09 57 50.3 +2.8
AZAP **Zapla** 42.80 149 eP P 09 57 55.4 -0.2
ASTB **Santa Barbara** 42.87 148 eP P 09 57 56.9 +0.8
SLA **San Lorenzo** 43.01 150 eP P 09 57 56.6 -0.5
SLA eS pP 09 58 37.4 +3.1
SLA IAML 09 58 40.0
comp=Z,5.3nm,0.2s
ALOL **LOMAS DE OLMED** 43.02 148 eP P 09 57 58.8 +1.7
FFC **Flin Flon** 43.34 348 eP P 09 57 59.1 0.0
comp=Z,11nm,0.6s
FSA **Cafayete** 43.93 152 eP P 09 58 06.5 +2.0
FSA IAML 09 58 07.8
comp=Z,7.4nm,0.6s
SCHQ **Schefferville** 44.89 17 P P 09 58 10.3 -1.2
comp=Z,16nm,0.6s,baz=221,slow=6.1,SNR=23
EDM **Edmonton** 45.28 338 eP P 09 58 14.4 -0.3
YKA **Yellowknife Ar** 53.26 345 P P 09 59 13.9 -1.0
comp=Z,1.5nm,0.5s,baz=143,slow=6.7,SNR=9.3
ILAR **Eielson Array** 65.69 336 P P 10 00 39.0 -1.0
comp=Z,0.8nm,0.7s,baz=146,slow=4.2,SNR=16
ILAR pP pP 10 01 16.9 -3.3
comp=Z,0.4nm,0.9s,baz=134,slow=5.2,SNR=2.7
ARCES **ARCESS Array B** 85.80 19 P P 10 02 32.1 -1.9
comp=Z,1.2nm,0.9s,baz=298,slow=2.6,SNR=5.0
WMQ **Urumqi** 123.44 4 ePKP PKPdf 10 08 51.0 -0.5
HHC **Hu-ho-hao-te** 123.78 343 ePKP PKPdf 10 08 51.1 -1.1
HHC PP PP 10 10 41.3 +5.4
HHC SS SS 10 27 07.1 -3.3
HHC PPMZ
comp=Z,63nm,10.0s
LZH **Lanzhou** 130.20 348 ePKP PKPdf 10 09 05.0 +0.3
LZH sPKP 10 10 04.6
LZH LN
comp=Z,130nm,14.6s
LZH LE
comp=Z,140nm,17.0s
LZH LZ
comp=Z,180nm,19.2s
STKA **Stephens Creek** 131.35 239 PKP PKPdf 10 09 07.5 +0.8
comp=Z,2.8nm,0.6s,baz=80,slow=5.5,SNR=6.2
WHN **Wuhan** 132.07 335 PKP PKPdf 10 09 04.5 -3.7
CD2 **Chengdu** 135.21 346 PKP PKPdf 10 09 12.5 -1.6
WRA **Warramunga Arr** 139.44 254 PKhKP PKPpre 10 09 15.6
comp=Z,0.2nm,0.4s,baz=91,slow=3.5,SNR=6.6
WRA PKP PKPdf 10 09 23.0 +0.9
comp=Z,6.4nm,0.7s,baz=90,slow=2.3,SNR=71
WRA SKPbc SKPbc 10 12 43.3 +1.5
comp=Z,0.7nm,0.8s,baz=91,slow=3.4,SNR=6.2
ASAR **Alice Springs** 139.47 249 PKhKP PKPpre 10 09 16.4
comp=Z,0.4nm,0.5s,baz=108,slow=3.8,SNR=5.8
ASAR PKP PKPdf 10 09 23.2 +1.1
comp=Z,3.3nm,0.6s,baz=92,slow=1.7,SNR=37
ASAR SKPbc SKPbc 10 12 43.0 +1.2
comp=Z,1.3nm,0.7s,baz=103,slow=3.3,SNR=8.9

IDC 18 09:51:28.0±2.5, 2°90S×136°47E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/17, mbtmp3.9/3, ML4.1/1, Error ellipse: s-maj=108.8km s-min=29.3km az=84.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.06**	**187**	P	Pn	09 55 29.1	+0.8
	0.6nm,0.3s,baz=8.4,slow=13,SNR=35						
WRA				S	S	09 58 52.1	+3.3
	0.1nm,0.3s,baz=9.8,slow=23,SNR=5.0						
ASAR	**Alice Springs**	**20.79**	**187**	P	P	09 56 10.6	-0.5
	6.5nm,0.8s,baz=22,slow=10,SNR=45						
ASAR				S	Sn	10 00 18.7	+10
	1.7nm,0.8s,baz=11,slow=23,SNR=8.0						
SONM	**Songino Array**	**56.97**	**336**	P	P	10 01 15.4	0.0
	0.6nm,0.4s,baz=145,slow=5.4,SNR=3.9						

*ISCJB **18** 10:01:47.4±0.6, 32°.24N±0°.03×115°.20W±0°.05, h24km±5km, Error ellipse: s-maj=7.0km s-min=5.6km az=158.6*
*ECX **18** 10:01:49.1±0.5, 32°.22N×115°.25W, h8km, MD2.3, ML2.6*
*MEX **18** 10:01:49.7±0.8, 32°.21N×115°.22W, h7km±21km, MD3.5*
ISC 18 10:01:47.7±1.1, 32°.21N±0°.03×115°.22W±0°.04, h19km±2km, n14, σ0°40/25, 2C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.20**	**6**	eP	**Pg**	**10 01 53.3**	**+0.6**
MBIG				*i* S	**Sb**	**10 01 55.3**	**+0.3**
CPBX	**Cerro Prieto**	**0.22**	**342**	ePn	**Pg**	**10 01 53.3**	**+0.3**
CPBX				eS	**Sg**	**10 01 56.4**	**-0.3**
CPBX				⇓*e*		10 01 58.9	
CPBX				IAML		10 01 58.9	
	comp=N,3μm,0.2s						
SGL	**Mount Signal**	**0.61**	**316**	⇓*iP*	**Pg**	**10 01 60.0**	**+0.1**
YMD	**Yuma Desert**	**0.67**	**59**	⇑*iP*	**Pg**	**10 02 01.0**	**+0.1**
RDX	**Rancho Dawling**	**0.67**	**246**	eP	**Pb**	**10 02 01.1**	**+0.2**
RDX				eS	**Sb**	**10 02 09.9**	**0.0**
RDX				⇑*e*		10 02 11.6	
RDX				IAML		10 02 11.6	
	comp=N,189nm,0.4s						
YUH	**Yuha Desert**	**0.74**	**307**	ePn	**Pb**	**10 02 01.8**	**-0.2**
ECBX	**El Chinero**	**0.75**	**169**	ePn	**Pb**	**10 02 01.5**	**-0.5**
ECBX				eS	**Sb**	**10 02 12.0**	**+0.2**
RMX	**La Rumorosa**	**0.83**	**299**	eP	**Pb**	**10 02 03.5**	**-0.1**
RMX				eS	**Sb**	**10 02 13.9**	**-0.4**
RMX				IAML		10 02 14.8	
	comp=N,220nm,0.2s						
RMX				*e*		10 02 14.8	
ZAX	**El Zacaton**	**1.13**	**233**	eP	**Pn**	**10 02 08.4**	**-0.2**
ZAX				eS	**Sn**	**10 02 23.6**	**0.0**
SPIG	**San Pedro Mart**	**1.18**	**190**	eP	**Pn**	**10 02 09.2**	**-0.2**
SPIG				eS	**Sb**	**10 02 24.4**	**-0.2**
SPX	**San Pedro Mart**	**1.18**	**190**	eP	**Pn**	**10 02 09.2**	**-0.2**
SPX				eS	**Sn**	**10 02 26.0**	**+0.8**
SPX				IAML		10 02 26.6	
	comp=E,72nm,0.3s						
SPX				⇓*e*		10 02 26.6	
CBX	**Cerro Bola**	**1.23**	**275**	*i* P	**Pn**	**10 02 09.6**	**-0.3**
CBX				*i* S	**Sb**	**10 02 25.1**	**-0.7**
CBX	**Cerro Bola**	**1.23**	**275**	eP	**Pn**	**10 02 09.6**	**-0.3**
CBX				eS	**Sb**	**10 02 25.8**	**0.0**
CBX				⇓*e*		10 02 30.7	
CBX				IAML		10 02 30.7	
	comp=N,115nm,0.5s						
ECNX	**Esteban Cantu**	**1.29**	**245**	eP	**Pn**	**10 02 11.1**	**+0.3**
ECNX				eS	**Sb**	**10 02 28.4**	**+0.7**

*IDC **18** 10:05:08.9±0.7, 22°.54S×176°.10W, h0km, mb4.1/10, mb1 4.4/12, mb1mx4.2/21, mbtmp4.2/12, ML3.8/2, MS3.7/8, Ms1 3.7/8, ms1mx3.4/25, Error ellipse: s-maj=29.4km s-min=17.4km az=147.0*
*ISCJB **18** 10:05:09.8±0.3, 22°.70S±0°.06×176°.26W±0°.09, h10km, mb4.5/32, MS3.7/8, Error ellipse: s-maj=13.3km s-min=7.6km az=29.7*
*NEIC **18** 10:05:11.2±0.4, 22°.61S×176°.06W, h10km, mb4.7/23, Error ellipse: s-maj=14.0km s-min=9.2km az=136.0*
ISC 18 10:05:10.7±0.5, 22°.66S±0°.08×176°.05W±0°.10, h10km, n53, σ1s49/47, mb4.5/32, MS3.7/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.40**	**310**	Pn	**Pn**	**10 06 59.0**	**+0.1**
	58nm,1.0s						
AFI	**Afiamalu**	**9.60**	**26**	ePn	**Pn**	**10 07 26.8**	**-2.3**
RAR	**Rarotonga**	**15.17**	**88**	Pn	**Pn**	**10 08 43.3**	**-1.8**
	1.8nm,0.3s,baz=259,slow=7.0,SNR=4.0						
RAR				Sn	Sn	10 11 13.6	-20
	1.0nm,0.3s,baz=97,slow=8.1,SNR=2.7						
URZ	**Urewera**	**16.62**	**199**	Pn	**Pn**	**10 09 03.6**	**-0.1**
	0.9nm,0.3s,baz=32,slow=4.2,SNR=7.3						
URZ				Sn	**Sn**	**10 12 03.8**	**-4.5**
	0.2nm,0.3s,baz=126,slow=19,SNR=2.5						
SNZO	**South Karori**	**20.16**	**201**	eP	**P**	**10 09 45.6**	**+0.6**
	44nm,1.0s						
TBI	**Tubuai**	**24.47**	**97**	eS	S	10 15 13.6	+23
	695nm,27.2s						
TBI				eLR	LR	10 16 33.6	
	108nm,25.0s						
PPT2	**Papeete2**	**25.34**	**83**	eS	S	10 15 17.6	+13
PPT2	563nm,24.5s					10 16 56.4	
	222nm,24.8s			eLR	LR		
PPT	**Papeete**	**25.35**	**83**	LR	LR	10 20 04.0	
	comp=Z,90nm,18.3s,baz=274,slow=35						
CTA	**Charters Tower**	**35.14**	**267**	P	**P**	**10 12 05.2**	**+0.4**
	3.6nm,0.7s,baz=94,slow=9.5,SNR=8.1						
CTAO	**Charters Tower**	**35.14**	**267**	eP	**P**	**10 12 05.2**	**+0.4**
	4.8nm,0.4s						
STKA	**Stephens Creek**	**38.55**	**247**	P	**P**	**10 12 33.6**	**-0.1**
	1.8nm,0.7s,baz=113,slow=15,SNR=3.3						
STKA				LR	LR	10 26 41.6	
	comp=Z,142nm,18.3s,baz=46,slow=34						
ASAR	**Alice Springs**	**45.83**	**258**	P	**P**	**10 13 32.7**	**-0.5**
	1.6nm,0.9s,baz=93,slow=7.9,SNR=8.8						
ASAR				LR	LR	10 32 08.7	
	comp=Z,145nm,18.2s,baz=108,slow=35						
WRAB	**Tennant Creek**	**46.13**	**264**	eP	P	10 13 39.6	+4.0
	17nm,1.6s						
WRA	**Warramunga Arr**	**46.14**	**264**	P	**P**	**10 13 34.2**	**-1.5**
	0.4nm,0.3s,baz=90,slow=5.9,SNR=43						
SBA	**Scott Base**	**55.85**	**184**	eP	**P**	**10 14 50.9**	**+3.0**
	4.2nm,0.8s						
VNDA	**Vanda**	**55.94**	**186**	P	**P**	**10 14 49.8**	**+1.2**
	0.5nm,0.8s,baz=32,slow=12,SNR=2.3						
VNDA				LR	LR	10 34 45.0	
	comp=Z,54nm,21.8s,baz=306,slow=32						
VNDA	**Vanda**	**55.94**	**186**	P	**P**	**10 14 50.8**	**+2.3**
CASY	**Casey**	**62.81**	**206**	eP	**P**	**10 15 36.2**	**+0.1**
	11nm,0.7s						
QSPA	**South Pole Qui**	**67.42**	**180**	eP	P	10 16 15.1	+8.8
SBUM	**Sibu**	**74.16**	**280**	eP	P	10 16 44.3	-3.7
	7.7nm,0.4s						
PETK	**Petropavlovsk-**	**78.83**	**344**	LR	LR	10 47 32.9	
	comp=Z,30nm,19.4s,baz=160,slow=32						
MAW	**Mawson**	**80.15**	**199**	P	**P**	**10 17 21.1**	**+0.4**
	3.0nm,0.8s,baz=138,slow=5.6,SNR=5.8						
MAW				LR	LR	10 51 07.9	
	comp=Z,116nm,20.1s,baz=55,slow=34						
MAW	**Mawson**	**80.15**	**199**	eP	**P**	**10 17 21.3**	**+0.6**
NVAR	**Mina Array Bea**	**81.37**	**42**	P	**P**	**10 17 27.3**	**-0.6**
	2.1nm,0.9s,baz=223,slow=9.1,SNR=13						
TPH	**Tonopah**	**81.83**	**43**	eP	**P**	**10 17 32.4**	**+2.0**
	1.8nm,0.8s						
MOD	**Modoc Plateau**	**82.34**	**39**	eP	**P**	**10 17 35.2**	**+2.3**
	4.2nm,1.0s						
TUC	**Tucson**	**82.90**	**51**	eP	**P**	**10 17 38.1**	**+2.2**
	5.9nm,1.2s						
WVOR	**Wild Horse Val**	**83.64**	**39**	eP	**P**	**10 17 41.2**	**+1.7**
	4.9nm,1.1s						
WUAZ	**Wupatki**	**84.21**	**48**	eP	**P**	**10 17 45.2**	**+2.5**
	8.5nm,1.4s						
MSU	**Marysvale**	**85.32**	**45**	eP	**P**	**10 17 50.0**	**+1.6**
	3.4nm,1.2s						
TXAR	**Lajitas Array**	**86.71**	**56**	P	**P**	**10 17 55.9**	**+0.7**
	1.7nm,0.9s,baz=210,slow=7.2,SNR=20						
TXAR				LR	LR	10 48 30.5	
	comp=Z,25nm,21.8s,baz=0.0,slow=30						
PMR	**Palmer**	**86.71**	**13**	eP	**P**	**10 17 54.9**	**+0.7**
	1.3nm,0.5s						
SRU	**San Rafael Swe**	**86.73**	**45**	eP	**P**	**10 17 53.8**	**-1.4**
	4.1nm,0.8s						
BMRM	**Bremner River**	**87.13**	**15**	eP	**P**	**10 17 57.6**	**+1.1**
	5.9nm,0.9s						
ANMO	**Albuquerque**	**87.35**	**50**	eP	**P**	**10 18 00.3**	**+2.0**
	5.1nm,1.2s						
PV01	**Paradox Valley**	**87.51**	**47**	eP	**P**	**10 18 00.1**	**+1.0**
	130nm,0.9s						
TRF	**Thorofare Moun**	**88.19**	**11**	eP	**P**	**10 18 01.7**	**+0.1**
	10nm,0.8s						
MCK	**McKinley**	**88.69**	**12**	eP	**P**	**10 18 04.1**	**+0.3**
	5.8nm,0.9s						
SMCO	**Snowmass**	**89.12**	**47**	eP	**P**	**10 18 08.3**	**+1.4**
	1.4nm,0.8s						
PDAR	**Pinedale Array**	**89.30**	**42**	P	**P**	**10 18 06.8**	**-0.6**
	0.8nm,0.7s,baz=209,slow=2.7,SNR=3.8						
PDAR				LR	LR	10 51 53.8	
	comp=Z,36nm,18.4s,baz=257,slow=31						
SDCO	**Great Sand Dun**	**89.41**	**48**	eP	**P**	**10 18 08.4**	**+0.2**
	1.6nm,1.1s						
COLA	**College**	**89.93**	**12**	eP	**P**	**10 18 08.2**	**-1.3**
	3.9nm,0.6s						
ILAR	**Eielson Array**	**90.02**	**12**	P	**P**	**10 18 09.7**	**-0.4**
	1.5nm,0.9s,baz=218,slow=4.7,SNR=13						
DAWY	**Dawson**	**91.04**	**15**	eP	**P**	**10 18 16.4**	**+1.5**
	6.2nm,1.1s						
EGAK	**Eagle**	**91.23**	**14**	eP	**P**	**10 18 16.9**	**+1.3**
	5.4nm,1.0s						
HHC	**Hu-ho-hao-te**	**92.16**	**314**	eP	P	10 18 15.5	-5.1
RSSD	**Black Hills**	**93.46**	**43**	eP	**P**	**10 18 27.7**	**+1.0**
AKASG	**Malin Array Be**	**145.78**	**331**	PKPbc	**PKPdf**	**10 24 49.0**	**-0.4**
	2.0nm,0.7s,baz=39,slow=3.5,SNR=9.3						
BRTR	**Keskin Array B**	**149.63**	**311**	PKPbc	**PKPbc**	**10 25 00.1**	**-0.8**
	0.5nm,0.7s,baz=136,slow=2.2,SNR=3.0						
CLL	**Collm**	**150.55**	**348**	*i* PKPbc	**PKPbc**	**10 25 02.9**	**+0.3**
	comp=Z,11nm,0.9s						
CLL				*i* PKPab	**PKPab**	**10 25 09.2**	**0.0**
	comp=Z,7.0nm,1.0s						
BRG	**Berggiesshubel**	**150.78**	**347**	eP	**PKPbc**	**10 25 04.0**	**+0.9**
	comp=Z,7.1nm,0.8s						
BRG				*e*		10 25 10.0	
	comp=Z,5.6nm,1.0s						
GERES	**GERESS Array B**	**152.75**	**346**	PKPbc	**PKPbc**	**10 25 06.8**	**-1.0**
	comp=Z,1.2nm,0.9s,baz=29,slow=3.0,SNR=6.1						
TORD	**Torodi Ar. Bea**	**170.30**	**167**	PKP	**PKPdf**	**10 25 18.3**	**-1.4**
	comp=Z,0.9nm,1.0s,baz=242,slow=3.1,SNR=2.8						

*SJA **18** 10:12:07.6±0.3, 37°.28S×75°.77W, h180km±162km, ML4.4, MW3.4*
*GUC **18** 10:12:39.0±0.5, 35°.75S×73°.37W, h10km±8km, ML4.0*
ISC 18 10:12:37.6±2.2, 35°.75S±0°.05×73°.4W±0°.1, h3km±13km, n16, σ1s16/23, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.61**	**129**	*i* P	**Pg**	**10 12 50.7**	**+1.4**
COCH				*i* S	**Sb**	**10 12 59.6**	**-0.3**
CCSP	**San Pedro de C**	**1.12**	**169**	*i* P	**Pb**	**10 12 59.3**	**-0.2**
CCSP				*i* S	**Sb**	**10 13 13.8**	**-0.7**
LNCH	**Linares**	**1.44**	**95**	*i* P	**Pn**	**10 13 04.3**	**-0.4**
LNCH				*i* S	**Sn**	**10 13 23.7**	**-0.4**
TALC	**Talca**	**1.46**	**77**	*i* P	**Pn**	**10 13 04.2**	**-0.6**
TALC				*i* S	**Sn**	**10 13 23.7**	**-0.8**
NICH	**Los Niches**	**1.90**	**68**	*i* P	**Pn**	**10 13 11.3**	**+0.3**

NICH				*i* S		**Sn**	**10 13 36.3**	**+0.8**
CLCH	**Cerro Calan**	**3.31**	**46**	*e*S		**Sn**	**10 14 11.9**	**+1.5**
CLCH				AML		AML	10 14 40.6	
	comp=N,393nm,0.6s							
PEL	**Peldehue**	**3.42**	**41**	*e*S		**Sn**	**10 14 14.4**	**+1.4**
PEL				AML		AML	10 14 40.1	
	comp=E,392nm,0.4s							
AAGR	**Agrelo**	**4.60**	**56**	*e*P		**Pn**	**10 13 49.6**	**+1.4**
AAGR				*e*S		**Sg**	**10 15 04.6**	**-0.7**
ARCO	**CERRO ARCO**	**4.68**	**53**	*e*P		**Pn**	**10 13 50.4**	**+1.1**
ARCO				IAML			10 14 05.2	
	comp=Z,26nm,0.4s							
AUSP	**Uspallata**	**4.83**	**44**	*e*P		**Pn**	**10 13 52.6**	**+1.1**
AUSP				*e*S		**Sg**	**10 15 10.6**	**-2.1**
RTLS	**Leoncito**	**5.20**	**42**	*e*P		**Pn**	**10 13 57.6**	**+1.0**
RTCV	**Cerro Valdivia**	**5.58**	**47**	*e*P		**Pn**	**10 14 01.9**	**+0.2**
CFAA	**Coronel Fontan**	**5.95**	**47**	*e*P		**Pn**	**10 14 06.6**	**-0.1**
RTLL	**Cerro Villicun**	**6.01**	**44**	*e*P		**Pn**	**10 14 07.5**	**0.0**
AMOG	**MOGNA**	**6.30**	**42**	*e*P		**Pn**	**10 14 11.0**	**-0.5**
VCA	**Vinchina**	**8.24**	**33**	*e*P		**Pn**	**10 14 35.9**	**-2.4**
VCA				IAML			10 14 42.1	
	comp=Z,16nm,0.2s							

TRN 18 10:13:33.9,15°.85N×60°.77W,h20km,MD3.6,M3.2(FDF),
1C-2D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEG	**La Desirade**	**0.54**	**329**	*e*P	Pn	10 13 45.7	-0.8
DEG				*e*S	Sn	10 13 54.0	-1.1
DWS	**Wesley**	**0.59**	**242**	*e*S	Sn	10 14 02.0	+5.8
BBL	**Barber's Block**	**0.75**	**245**	*e*P	Pn	10 13 50.4	+1.1
DBCT	**Belle View Cho**	**0.80**	**224**	*e*S	Sn	10 14 04.9	+3.4
MDN	**Morne-Daniel**	**0.80**	**229**	*e*P	Pn	10 13 52.1	+2.1
MDN				*e*S	Sn	10 14 03.8	+2.4
TBG	**Guadaloupe-3**	**0.84**	**270**	*e*P	Pn	10 13 52.3	+1.7
TBG				*e*S	Sn	10 14 05.3	+2.8
PHG	**Guadaloupe-2**	**0.86**	**281**	*e*P	Pn	10 13 52.6	+1.7
DSHT	**Scott's Head**	**0.86**	**223**	*e*P	Pn	10 13 52.2	+1.3
DSHT				*e*S	Sn	10 14 05.6	+2.7
LKG	**Breislack**	**0.88**	**283**	*e*P	Pn	10 13 53.0	+1.7
CRG	**Carmichael**	**0.88**	**283**	*e*P	Pn	10 13 52.9	+1.6
TAG	**Tarade**	**0.88**	**283**	*e*P	Pn	10 13 53.5	+2.2
SEG	**Port Louis**	**0.90**	**308**⇑	*i*P	Pn	10 13 52.6	+1.3
HMG	**Houelmont**	**0.91**	**278**	*e*P	Pn	10 13 52.2	+0.7
HMG				*e*S	Sn	10 14 07.5	+3.4
FNG	**Fond-Bernard**	**0.91**	**283**	*e*P	Pn	10 13 53.3	+1.7
SSG	**Sans Toucher**	**0.91**	**285**	*e*P	Pn	10 13 53.2	+1.5
MLG	**Mont-d'or**	**0.93**	**283**	*e*P	Pn	10 13 53.8	+1.9
LZG	**Guadaloupe-1**	**1.01**	**287**	*e*P	Pn	10 13 54.7	+1.8
SVN	**Savane Anatole**	**1.07**	**201**	*e*P	Pn	10 13 55.7	+1.8
FDF	**Fort de France**	**1.17**	**198**	*e*P	Pb	10 13 56.4	+0.9
FDF				*e*S	Sn	10 14 12.6	+2.0
MVM	**Montagne Vaucl**	**1.29**	**185**⇓	*e*P	Pb	10 13 58.1	+0.5
ZAM	**Aeronautique**	**1.29**	**191**⇓	*e*P	Pb	10 13 57.8	+0.3
TRMF	**Trois Ilets**	**1.33**	**192**	*e*P	Pb	10 13 58.5	+0.3
BIM	**Bigot**	**1.36**	**192**	*e*P	Pb	10 13 59.6	+0.9
BIM				*e*S	Sb	10 14 17.4	+1.8
MCLT	**Moule a Chique**	**2.13**	**184**	*e*P	Pb	10 14 11.0	-0.9
MCLT				*e*S	Sb	10 14 37.5	-0.4
SVB	**Belmont**	**2.60**	**190**	*e*P	Pb	10 14 17.8	-2.1
SVB				*e*S	Sb	10 14 49.1	-2.5

SKHL ***18*** *10:27:33.6±0.5,44°.24N×149°.09E,h43km±8km,mb4.5/2*
JMA ***18*** *10:27:34.3±0.6,44°.49N×148°.89E,h30km,M3.7*
ISC 18 10:27:32.9±3.7,44°.03N±0°.08×149°.1E±0°.2,h42km,n22,
σ2§22/29,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.49**	**324**	*i* P	Pn	10 27 54.6	-2.5
KUR				AMB	AMB	10 27 56.3	
	140nm,0.3s						
KUR				*e*S	Sn	10 28 10.0	-5.4
KUR				A	A	10 28 14.6	
	180nm,0.3s						
KUR				A	A	10 28 14.6	
	140nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.34**	**271**	*e*P	**Pn**	**10 28 09.2**	**+0.4**
YUK				AMB	AMB	10 28 13.1	
	80nm,0.2s						
YUK				AMB	AMB	10 28 13.1	
	11nm,0.2s						
YUK				AMB	AMB	10 28 13.1	
	36nm,0.2s						
YUK				*e*S	**Sn**	**10 28 36.3**	**0.0**
YUK				A	A	10 28 40.2	
	69nm,0.2s						
YUK				A	A	10 28 40.2	
	87nm,0.2s						
NEM2	**Nemuro 2**	**2.53**	**256**	P	**Pn**	**10 28 12.4**	**+1.0**
NEM2				*e*S	**Sn**	**10 28 40.7**	**-0.2**
JRA	**Rausu**	**2.88**	**269**	P	**Pn**	**10 28 17.4**	**+1.2**
JRA				*e*S	**Sn**	**10 28 48.7**	**-0.8**
JNK	**Nakash**	**3.21**	**264**	P	**Pn**	**10 28 22.4**	**+1.7**
JAK	**Akkeshi**	**3.37**	**254**	P	**Pn**	**10 28 24.6**	**+1.7**
JAK				*e*S	**Sn**	**10 29 01.6**	**-0.1**
JTKR	**Abashiri--Toko**	**3.75**	**271**	P	**Pn**	**10 28 30.2**	**+2.0**
JAR	**Ashorobuto**	**3.94**	**261**	P	**Pn**	**10 28 33.3**	**+2.5**
JOB	**Onbets**	**4.00**	**255**	P	**Pn**	**10 28 33.7**	**+2.1**
JMP	**Maruseppu**	**4.14**	**272**	P	**Pn**	**10 28 36.1**	**+2.5**
JCH	**Churui**	**4.42**	**253**	*e*S	**Sn**	**10 29 28.2**	**+0.6**
MYR	**Moyori**	**4.60**	**250**	*e*P	**Pn**	**10 28 42.4**	**+2.6**
JNBK	**Urakawa-nobuka**	**4.97**	**252**	P	**Pn**	**10 28 47.0**	**+2.1**
JBT2	**Biratori 2**	**5.07**	**258**	P	**Pn**	**10 28 49.1**	**+2.8**
YSS	**Yuzh-Sakhalins**	**5.34**	**305**	*e*P	**Pn**	**10 28 50.0**	**+0.1**
YSS				*e*S	**Sn**	**10 29 47.0**	**-3.0**
JNB	**Noboribetsu**	**6.10**	**258**	P	**Pn**	**10 29 02.5**	**+2.1**
JKB	**Kayabe**	**6.30**	**253**	P	**Pn**	**10 29 04.8**	**+1.6**
JKB				*e*S	**Sn**	**10 30 11.6**	**-2.2**
JANG	**Nango**	**6.72**	**240**	P	**Pn**	**10 29 10.1**	**+1.2**
JANG				*e*S	**Sn**	**10 30 20.2**	**-3.9**
JTM	**Tenmabayashi**	**6.78**	**244**	P	**Pn**	**10 29 12.1**	**+2.4**
JTM				*e*S	**Sn**	**10 30 23.3**	**-2.2**
OFUJ	**Ofunato**	**7.45**	**231**	*e*S	**Sn**	**10 30 39.4**	**-2.8**
JRG	**Rokugo**	**7.85**	**237**	*e*S	**Sn**	**10 30 49.5**	**-2.4**
JIO	**Ouri**	**8.07**	**229**	*e*S	**Sn**	**10 30 53.4**	**-4.0**

IDC ***18*** *10:32:59.5±0.9,32°.81N×142°.51E,h0km,mb3.8/11,*
mb1 3.9/14,mb1mx3.8/28,mbtmp3.8/14,ML3.8/3,MS3.0/4,
Ms1 3.0/4,ms1mx2.5/31,Error ellipse: s-maj=27.9km
s-min=17.6km az=73.0
NIED ***18*** *10:33:00,32°.80N×142°.60E,h5km,Mw3.9 Best double*
couple: M₀7.98000×10¹⁴ NP1:φs344.00000°,δ27.00000°,
λ-82.00000°. NP2:φs155.00000°,δ63.00000°,
λ-94.00000°.
JMA ***18*** *10:33:00.4±0.5,32°.80N×142°.65E,h57km,M3.9*
ISCJB ***18*** *10:33:01.9±0.5,32°.84N±0°.04×142°.53E±0°.06,h33km,*
mb4.0/15,MS3.2/2,Error ellipse: s-maj=8.7km
s-min=4.1km az=149.0
NEIC ***18*** *10:33:01.1±0.4,32°.80N×142°.52E,h10km,mb4.3/4,Error*
ellipse: s-maj=11.3km s-min=6.5km az=64.0
ISC 18 10:33:04.7±0.7,32°.82N±0°.06×142°.37E±0°.07,h33km,n40,
σ1§46/52,mb4.0/15,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.17**	**328**	P	**Pn**	**10 33 37.0**	**-1.0**
BSO1				*e*S	**Sn**	**10 34 03.8**	**+0.4**
JHJ2	**Mitsune**	**2.17**	**278**	P	**Pn**	**10 33 38.9**	**+0.4**
JHJ2				S	**Sb**	**10 34 07.4**	**-2.4**
JHJ2	**Mitsune**	**2.17**	**278**	*e*Pn	**Pn**	**10 33 39.2**	**+0.7**
JHJ2				*e*Sn	**Sb**	**10 34 06.5**	**-3.3**
BSO2	**Boso 2**	**2.35**	**325**	*e*S	**Sn**	**10 34 09.4**	**+1.1**
BSO3	**Boso 3**	**2.51**	**322**	P	**Pn**	**10 33 42.7**	**-0.3**
BSO3				*e*S	**Sn**	**10 34 13.0**	**+0.7**
BSO4	**Boso 4**	**2.75**	**323**	P	**Pn**	**10 33 46.6**	**+0.2**
BSO4				S	**Sn**	**10 34 19.6**	**+1.2**
JOD2	**Odawara 2**	**3.66**	**313**	P	**Pn**	**10 33 57.9**	**-1.1**
JOD2				*e*S	**Sn**	**10 34 41.4**	**+0.4**
JYN	**Shimob**	**4.15**	**311**	P	**Pn**	**10 34 05.9**	**+0.1**
JYN				S	**Sn**	**10 34 54.9**	**+1.7**
JRY	**Ryogami san**	**4.29**	**319**	P	**Pn**	**10 34 07.0**	**-0.7**
JRY				S	**Sn**	**10 34 56.4**	**-0.2**
JAG	**Ashikaga**	**4.33**	**327**	P	**Pn**	**10 34 07.5**	**-0.7**
JFT	**Otama**	**4.97**	**341**	P	**Pn**	**10 34 15.7**	**-1.4**
JFT				S	**Sn**	**10 35 08.8**	**-4.7**
MJAR	**Matsushiro Arr**		**5.05 318**	Pn	**Pn**	**10 34 17.9**	**-0.3**
	2.5nm,0.3s,baz=149,slow=11,SNR=27						
MJAR				Sn	**Sn**	**10 35 14.6**	**-0.8**
	1.5nm,0.3s,baz=159,slow=17,SNR=5.8						
MAJO	**Matsushiro**		**5.05 318**	*e*Pn	**Pn**	**10 34 18.9**	**+0.6**
	12nm,0.6s						
MAJO				*e*Sn	**Sn**	**10 35 15.9**	**+0.4**
MAT	**Matsushiro**		**5.05 318**	P	**Pn**	**10 34 18.7**	**+0.5**
MAT				S	**Sn**	**10 35 14.0**	**-1.5**
MAT	**Matsushiro**		**5.05 318**	P	**Pn**	**10 34 18.7**	**+0.5**
MAT				*e*S	**Sn**	**10 35 15.4**	**-0.1**
JNS	**Sasagawa**		**5.58 334**	P	**Pn**	**10 34 24.6**	**-0.7**
CBIJ	**Chichi jima**		**5.71 182**	P	**Pn**	**10 34 25.1**	**-2.1**
CBIJ	**Chichi jima**		**5.71 182**	Pn	**Pn**	**10 34 25.5**	**-1.7**
CBIJ				Sn	**Sn**	**10 35 27.9**	**-3.7**
JCJ	**Chichijima**		**5.71 182**	Pn	**Pn**	**10 34 25.5**	**-1.7**
	11nm,0.3s,baz=1.3,slow=19,SNR=13						
JCJ				Sn	**Sn**	**10 35 27.9**	**-3.7**
	10nm,0.3s,baz=3.8,slow=19,SNR=4.8						
JNU	**Nakatsue**		**9.66 275**	LR	LR	10 38 54.4	
	comp=Z,67nm,21.0s,baz=90,slow=36						
KSRS	**Korea Array**		**12.70 295**	Pn	**Pn**	**10 36 03.9**	**+1.0**
	0.2nm,0.3s,baz=108,slow=15,SNR=2.6						
KSRS				LR	LR	10 42 08.0	
	comp=Z,33nm,18.9s,baz=194,slow=43						
KSAR	**Wonju Array Be**		**12.72 295**	Pn	**Pn**	**10 36 03.9**	**+0.6**
SONM	**Songino Array**		**30.94 310**	P	**P**	**10 39 20.0**	**+1.4**
	0.9nm,0.5s,baz=101,slow=10.0,SNR=4.5						
CMAR	**Chiang Mai Arr**		**41.39 261**	P	**P**	**10 40 48.6**	**+0.5**
	0.6nm,0.3s,baz=50,slow=8.4,SNR=3.6						
ZALV	**Zalesovo Beam**		**45.40 316**	P	**P**	**10 41 19.3**	**-0.7**
	0.3nm,0.3s,baz=79,slow=7.5,SNR=1.8						
MK31	**Makanchi Array**		**47.12 306**	*e*P	**P**	**10 41 34.5**	**+0.8**
KURK	**Kurchatov**		**49.22 311**	*e*P	**P**	**10 41 50.3**	**+0.5**
	6.2nm,0.8s						
KURBB	**Kurchatov Arra**		**49.28 311**	P	**P**	**10 41 50.8**	**+0.6**
	4.1nm,0.8s,baz=85,slow=7.4,SNR=37						
ILAR	**Eielson Array**		**52.67 31**	P	**P**	**10 42 14.5**	**-1.0**
	0.4nm,0.9s,baz=268,slow=6.2,SNR=6.1						
WRAB	**Tennant Creek**		**53.01 189**	*e*P	**P**	**10 42 18.3**	**-0.2**
	1.3nm,0.5s						
WRA	**Warramunga Arr**		**53.02 189**	P	**P**	**10 42 17.9**	**-0.7**
	1.4nm,0.6s,baz=7.9,slow=7.7,SNR=16						
BVAR	**Borovoye Array**		**54.04 315**	P	**P**	**10 42 25.8**	**+0.1**
	0.8nm,0.5s,baz=99,slow=9.2,SNR=5.3						
KKAR	**Karatay Array**		**55.99 303**	*e*P	**P**	**10 42 41.1**	**+1.1**
	1.6nm,0.8s						
ASAR	**Alice Springs**		**56.75 189**	P	**P**	**10 42 45.7**	**+0.2**
	0.2nm,0.4s,baz=3.1,slow=5.7,SNR=3.9						
ABKAR	**Akbulak array**		**61.30 312**	*e*P	**P**	**10 43 17.1**	**+0.3**
	3.3nm,0.8s						
AKTO	**Aktyubinsk**		**62.12 314**	P	**P**	**10 43 21.8**	**-0.5**
	1.3nm,0.6s,baz=78,slow=13,SNR=6.3						
HFS	**Hagfors**		**78.25 336**	LR	LR	11 22 51.4	
	comp=Z,22nm,19.3s,baz=16,slow=38						
BRTR	**Keskin Array B**		**82.25 313**	P	**P**	**10 45 24.4**	**+1.4**
	0.9nm,0.8s,baz=50,slow=9.5,SNR=3.3						
MLR	**Muntele Rosu**		**83.12 321**	LR	LR	11 26 38.6	
	comp=Z,5.4nm,19.2s,baz=79,slow=39						
TXAR	**Lajitas Array**		**92.04 53**	P	**P**	**10 46 11.3**	**+0.5**
	0.1nm,0.4s,baz=309,slow=5.3,SNR=3.9						

ISCJB ***18*** *10:46:36.5±0.6,32°.68N±0°.05×115°.72W±0°.04,h20km±6km,*
Error ellipse: s-maj=7.7km s-min=4.9km az=10.6
MEX ***18*** *10:46:36.3±0.8,32°.90N×115°.63W,h17km±39km,MD3.5*
ECX ***18*** *10:46:37.9±0.6,32°.65N×115°.76W,h2km,MD2.4,ML2.6*
ISC 18 10:46:36.5±0.9,32°.64N±0°.04×115°.73W±0°.03,h16km±7km,
n17,σ0§51/25,4C-5D,California-Baja California border
region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.01**	**23**⇑	*i*P	**Pg**	**10 46 38.8**	**-0.5**
ERPC	**Ernies Place**	**0.12**	**29**⇓	*i*P	**Pg**	**10 46 40.2**	**+0.1**
WESC	**Westside Schoo**	**0.12**	**359**⇓	*e*P	**Pg**	**10 46 40.1**	**0.0**
YUH	**Yuha Desert**	**0.16**	**272**⇑	*i*P	**Pg**	**10 46 40.9**	**+0.2**
COK	**Cook Ranch**	**0.21**	**0**⇓	*i*P	**Pg**	**10 46 41.8**	**+0.4**
DREC	**Desert Rsrch C**	**0.29**	**55**	*e*P	**Pb**	**10 46 43.5**	**+0.2**
RMX	**La Rumorosa**	**0.30**	**263**⇑	*e*P	**Pb**	**10 46 43.3**	**-0.2**
RMX				*e*S	**Sg**	**10 46 47.5**	**+0.2**
CRR	**Carrizo Plain**	**0.32**	**320**⇑	*i*P	**Pb**	**10 46 43.5**	**-0.3**
CPBX	**Cerro Prieto**	**0.42**	**122**	*e*Pn	**Pb**	**10 46 45.8**	**+0.2**
CPBX				*e*S	**Sb**	**10 46 52.5**	**+0.8**
CPBX				IAML		10 47 00.2	
	comp=N,1μm,0.2s						
CPBX				⇓*e*		10 47 00.2	
MBIG	**Mexicali**	**0.51**	**117**	*e*P	**Pg**	**10 46 46.5**	**-0.1**
MBIG				*e*S	**Sb**	**10 46 54.5**	**+0.4**
RDX	**Rancho Dawling**	**0.73**	**194**	*e*P	**Pb**	**10 46 50.8**	**-0.2**
BAR	**Barrett**	**0.80**	**273**	*e*P	**Pg**	**10 46 52.1**	**+0.1**
CBX	**Cerro Bola**	**0.85**	**248**	*e*P	**Pb**	**10 46 53.0**	**0.0**
CBX				*i*S	**Sg**	**10 47 04.8**	**+0.4**
CBX	**Cerro Bola**	**0.85**	**248**	*e*Pn	**Pb**	**10 46 53.0**	**0.0**
CBX				*e*S	**Sg**	**10 47 04.8**	**+0.4**
CBX				⇓*e*		10 47 07.0	
CBX				IAML		10 47 07.0	
	comp=N,258nm,0.3s						
ZAX	**El Zacaton**	**1.22**	**202**	*e*P	**Pb**	**10 46 59.7**	**+0.5**
ZAX				*e*S	**Sn**	**10 47 15.4**	**+0.4**
ECBX	**El Chinero**	**1.30**	**154**	*e*Pn	**Pn**	**10 46 58.5**	**-1.5**
ECBX				*e*S	**Sn**	**10 47 16.2**	**-0.8**
SPIG	**San Pedro Mart**	**1.61**	**172**	*e*P	**Pn**	**10 47 05.0**	**+0.4**
SPIG				*i*S	**Sb**	**10 47 26.3**	**+0.2**

ECX ***18*** *10:54:32.8±0.5,31°.89N×116°.21W,h6km,MD2.2,ML2.4*
MEX ***18*** *10:54:33.5±0.7,31°.87N×116°.25W,h12km±7km,MD3.5*
ISC 18 10:54:31.1±1.1,31°.87N±0°.04×116°.16W±0°.05,
h14km±16km,n13,σ0§75/21,4C-6D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RDX	**Rancho Dawling**	**0.19**	**71**⇑	*e*P	**Pb**	**10 54 37.2**	**+0.7**
RDX				*e*S	**Sb**	**10 54 40.8**	**+0.7**
RDX				IAML		10 54 41.2	
	comp=N,425nm,0.5s						
RDX				⇑*e*		10 54 41.2	
ZAX	**El Zacaton**	**0.36**	**196**⇓	*e*P	**Pb**	**10 54 39.4**	**0.0**
ZAX				*e*S	**Sb**	**10 54 44.8**	**-0.2**
ECNX	**Esteban Cantu**	**0.43**	**241**	*e*P	**Pg**	**10 54 40.2**	**+0.5**
PBX	**Punta Banda**	**0.50**	**256**⇑	*e*P	**Pg**	**10 54 41.2**	**+0.3**
PBX				*e*S	**Sg**	**10 54 47.9**	**+0.2**
CBX	**Cerro Bola**	**0.62**	**316**	*e*P	**Pg**	**10 54 43.1**	**-0.1**
CBX				*e*S	**Sg**	**10 54 50.8**	**-0.7**
CBX	**Cerro Bola**	**0.62**	**316**⇑	*e*P	**Pg**	**10 54 43.0**	**-0.3**
CBX				*e*S	**Sg**	**10 54 50.9**	**-0.7**
CBX				IAML		10 54 52.0	
	comp=N,351nm,0.2s						
CBX				*e*		10 54 52.0	
RMX	**La Rumorosa**	**0.74**	**5**⇓	*e*P	**Pg**	**10 54 45.8**	**+0.3**
RMX				*e*S	**Sg**	**10 54 55.3**	**0.0**
RMX				IAML		10 54 56.1	
	comp=N,227nm,0.1s						
RMX				⇓*e*		10 54 56.1	
YUH	**Yuha Desert**	**0.81**	**14**⇓	*i*P	**Pb**	**10 54 46.9**	**+0.1**
SGL	**Mount Signal**	**0.86**	**25**	*e*Pn	**Pg**	**10 54 48.4**	**+0.6**
SPIG	**San Pedro Mart**	**1.01**	**144**	*e*P	**Pb**	**10 54 50.5**	**0.0**
SPIG				*i*S	**Sb**	**10 55 03.9**	**+0.1**
SPIG	**San Pedro Mart**	**1.01**	**144**⇓	*e*P	**Pn**	**10 54 51.4**	**+0.3**
SPX	**San Pedro Mart**	**1.01**	**144**⇓	*e*P	**Pb**	**10 54 51.2**	**+0.7**
ECBX	**El Chinero**	**1.02**	**112**	*e*Pn	**Pb**	**10 54 48.3**	**-2.2**
ECBX				*e*S	**Sb**	**10 55 02.6**	**-1.1**

ISCJB ***18*** *10:59:53.8±0.6,37°.27N±0°.05×120°.97E±0°.05,h10km,*
Error ellipse: s-maj=8.2km s-min=5.5km az=150.1
BJI ***18*** *10:59:59.7,37°.23N×121°.16E,h8km,ML4.1/9*
ISC 18 10:59:58.4±1.0,37°.31N±0°.06×121°.09E±0°.04,h10km,n8,
σ2§38/14,3C-6D,Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DL2	**Dalian**	**1.65**	**15**	Pn	**Pn**	**11 00 26.1**	**-1.3**
DL2				Pg	**Pb**	**11 00 28.0**	**-0.9**
DL2				Sg	**Sn**	**11 00 49.8**	**+1.1**
DL2				SMN			
	2μm,0.6s						
DL2				SME			
	2μm,0.5s						
TIA	**Tai'an**	**3.37**	**252**	Pg	**Pb**	**11 00 58.1**	**-0.1**
TIA				Sg	**Sb**	**11 01 42.6**	**+3.4**
TIA				SMN			
	220nm,1.0s						
TIA				SME			
	160nm,0.6s						
KSGBI	**Gyogryolbido**	**3.65**	**99**	⇑P	Pn	11 00 51.6	-3.3
KSGBI				⇓S	**Sb**	**11 01 47.9**	**+0.8**
KSGAH	**Ganghwa**	**4.28**	**83**	⇓P	**Pn**	**11 01 02.3**	**-1.3**
	SNR=17						
KSGAH				⇓S	**Sb**	**11 02 06.7**	**+1.3**
KSSES	**Seosan**	**4.32**	**95**	⇑P	**Pn**	**11 01 03.4**	**-0.8**
KSSES				⇓S	**Sb**	**11 02 09.9**	**+3.2**
KSHUK	**Heuksando**	**4.40**	**125**	⇓P	**Pn**	**11 01 02.6**	**-2.7**
	SNR=8.1						
KSCEA	**Cheonan**	**4.96**	**94**	⇓P	**Pn**	**11 01 11.2**	**-1.7**
	SNR=12						
KSCEA				⇑S	**Sb**	**11 02 29.6**	**+4.6**
CD2	**Chengdu**	**15.70**	**251**	*e*P	**Pn**	**11 03 38.8**	**-1.0**

IDC 18 11:22:01.3±3.3,47°.72N×151°.65E,h0km,mb3.4/4,
mb1 3.8/4,mb1mx3.4/38,mbtmp3.4/4,Error ellipse:
s-maj=260.7km s-min=24.8km az=123.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**36.42**	**39**	P	P	11 29 07.3	+0.1
	0.2nm,0.7s,baz=272,slow=7.1,SNR=3.6						
WRA	**Warramunga Arr**	**69.12**	**197**	P	P	11 33 08.5	-0.6
	0.4nm,0.9s,baz=14,slow=6.4,SNR=2.8						
ASAR	**Alice Springs**	**72.83**	**197**	P	P	11 33 32.5	+0.9
	0.2nm,0.4s,baz=8.5,slow=5.6,SNR=5.5						
TXAR	**Lajitas Array**	**77.87**	**60**	P	P	11 34 00.7	-0.2
	0.2nm,0.5s,baz=290,slow=5.4,SNR=6.2						

ISCJB ***18*** *11:54:35.0±0.9,7°.3N±0°.2×80°.0W±0°.2,h33km,mb3.6/10,*
MS2.9/4,Error ellipse: s-maj=32.1km s-min=11.9km
az=42.7
IDC ***18*** *11:54:39.8±2.8,7°.15N×79°.97W,h66km±26km,mb3.4/10,*
mb1 3.7/12,mb1mx3.6/21,mbtmp3.7/12,ML3.0/2,MS3.0/6,
Ms1 3.0/6,ms1mx2.8/18,Error ellipse: s-maj=37.6km
s-min=16.8km az=39.0
ISC 18 11:54:36.8±1.0,7°.2N±0°.2×80°.0W±0°.2,h35km,n18,
σ0§76/12,mb3.5/10,MS3.0/4,Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**5.73**	**302**	P	Pn	11 56 04.6	+5.1
	2.0nm,0.3s,baz=102,slow=16,SNR=8.5						
ROSC	**El Rosal**	**6.15**	**112**	P	**Pn**	**11 56 06.5**	**+1.0**
	2.4nm,0.3s,baz=275,slow=18,SNR=3.1						
ATAH	**Atahualpa**	**14.37**	**173**	LR	LR	12 03 44.7	
	comp=Z,33nm,19.2s,baz=354,slow=38						
TEIG	**Tepich**	**15.18**	**329**	LR	LR	12 04 05.8	
	comp=Z,99nm,19.3s,baz=275,slow=37						
PTGA	**Pitinga**	**21.53**	**111**	P	**P**	**11 59 22.7**	**-0.4**
	1.2nm,0.3s,baz=297,slow=6.8,SNR=3.9						
LPAZ	**La Paz**	**25.18**	**153**	P	**P**	**12 00 08.0**	**-1.0**
	0.4nm,0.5s,baz=329,slow=5.9,SNR=1.9						
LPAZ				LR	LR	12 10 40.3	
	comp=Z,36nm,18.5s,baz=268,slow=37						
TKL	**Tuckaleechee C**	**28.49**	**354**	LR	LR	12 13 38.0	
	comp=Z,7.7nm,20.0s,baz=196,slow=40						
LPIG	**La Paz**	**33.51**	**303**	LR	LR	12 15 28.0	
	comp=Z,53nm,18.1s,baz=232,slow=37						
PDAR	**Pinedale Array**	**43.91**	**328**	P	**P**	**12 02 41.0**	**+0.5**
	0.4nm,0.5s,baz=129,slow=9.4,SNR=3.0						
NVAR	**Mina Array Bea**	**46.43**	**318**	P	**P**	**12 03 01.2**	**+0.6**
	0.5nm,0.7s,baz=124,slow=5.8,SNR=4.7						
SCHQ	**Schefferville**	**48.63**	**10**	P	**P**	**12 03 16.9**	**-0.2**
	3.1nm,0.7s,baz=190,slow=15,SNR=3.6						
SCHQ				LR	LR	12 25 30.8	
	comp=Z,21nm,18.6s,baz=310,slow=38						
YKA	**Yellowknife Ar**	**60.65**	**342**	P	**P**	**12 04 43.4**	**-0.7**
	1.1nm,0.6s,baz=130,slow=7.5,SNR=4.5						
ILAR	**Eielson Array**	**73.72**	**336**	P	**P**	**12 06 07.2**	**+0.2**
	0.3nm,0.7s,baz=140,slow=3.0,SNR=5.8						
ESDC	**Sonseca Array**	**74.70**	**51**	P	**P**	**12 06 12.3**	**-1.0**
	0.2nm,0.4s,baz=283,slow=7.6,SNR=4.0						
TORD	**Torodi Ar. Bea

σ1ᵍ61/16, **mb4.0/7, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**7.91**	**16**	Pn	**Pn**	**12 37 25.4**	**-0.3**
	1.3nm,0.3s,baz=8.1,slow=22,SNR=12						
SIJI				Sn	**Sn**	**12 38 54.7**	**+0.5**
	0.3nm,0.3s,baz=253,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**12.43**	**156**	Pn	**Pn**	**12 38 27.7**	**0.0**
	2.7nm,0.3s,baz=323,slow=14,SNR=94						
WRA				Sn	**Sn**	**12 40 43.9**	**-1.2**
	2.4nm,0.3s,baz=329,slow=22,SNR=11						
ASAR	**Alice Springs**	**15.74**	**164**	Pn	**Pn**	**12 39 11.9**	**-0.5**
	1.2nm,0.3s,baz=338,slow=9.4,SNR=100						
ASAR				Sn	**Sn**	**12 42 04.0**	**-1.8**
	0.9nm,0.3s,baz=328,slow=21,SNR=4.5						
CTA	**Charters Tower**	**20.19**	**127**	P	Pn	12 40 05.7	-1.3
	1.5nm,0.8s,baz=300,slow=14,SNR=1.9						
STKA	**Stephens Creek**	**25.98**	**155**	P	**P**	**12 41 05.5**	**+2.9**
	5.4nm,0.8s,baz=333,slow=9.9,SNR=9.1						
CMAR	**Chiang Mai Arr**	**40.05**	**312**	P	**P**	**12 43 04.1**	**-1.2**
	1.0nm,0.6s,baz=140,slow=7.0,SNR=7.0						
CMAR				PcP	**PcP**	**12 45 11.8**	**+1.9**
	0.8nm,0.7s,baz=155,slow=2.4,SNR=4.6						
VNDA	**Vanda**	**71.05**	**173**	P	**P**	**12 46 48.8**	**+1.7**
	0.2nm,0.4s,baz=349,slow=7.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**72.56**	**334**	P	**P**	**12 46 55.5**	**-1.0**
	0.5nm,0.3s,baz=134,slow=4.3,SNR=4.0						
KURBB	**Kurchatov Arra**	**73.34**	**329**	P	**P**	**12 47 00.7**	**-0.5**
	1.9nm,0.7s,baz=131,slow=5.1,SNR=30						
BVAR	**Borovoye Array**	**78.88**	**328**	P	**P**	**12 47 32.6**	**-0.1**
	0.7nm,0.7s,baz=165,slow=6.0,SNR=5.8						
ILAR	**Eielson Array**	**95.11**	**25**	P	**P**	**12 48 51.9**	**-0.4**
	0.6nm,0.8s,baz=275,slow=4.5,SNR=7.9						
TORD	**Torodi Ar. Bea**	**128.20**	**280**	PKP	**PKPdf**	**12 54 37.9**	**+1.1**
	0.4nm,0.7s,baz=87,slow=1.8,SNR=3.6						
LPAZ	**La Paz**	**150.02**	**145**	PKPbc	**PKPab**	**12 55 24.4**	**-3.1**
	2.0nm,1.0s,baz=91,slow=2.2,SNR=6.1						

*IDC **18** 12:42:43.0±0.8, 7.77N×91.85E, h0ᵏᵐ, mb4.0/11, mb1 4.2/14, mb1mx3.8/47, mbtmp4.1/14, ML4.1/3, MS3.2/7, Ms1 3.2/7, ms1mx2.9/45, Error ellipse: s-maj=32.6km s-min=14.0km az=54.0*

*ISCJB **18** 12:42:44.8±0.5, 7.70N±0.07×91.86E±0.09, h25ᵏᵐ, mb4.2/18, MS3.2/4, Error ellipse: s-maj=14.1km s-min=7.6km az=142.9*

*NEIC **18** 12:42:48.2±0.5, 7.74N×91.89E, h35ᵏᵐ, mb4.6/7, Error ellipse: s-maj=11.6km s-min=7.8km az=52.0*

ISC 18 12:42:47.0±0.7, 7.72N±0.09×91.9E±0.1, h25ᵏᵐ, n41, σ1ᵍ24/33, mb4.2/20, MS3.2/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.56**	**124**	Pn	**Pn**	**12 44 49.4**	**-0.1**
	1.2nm,0.3s,baz=348,slow=19,SNR=4.5						
PSI				LR	LR	12 48 55.3	
	comp=Z,311nm,18.2s,baz=222,slow=43						
PALK	**Pallekele**	**11.07**	**268**	Pn	**Pn**	**12 45 23.2**	**-0.7**
	3.0nm,0.3s,baz=83,slow=13,SNR=17						
PALK				Sn	Sn	12 47 12.9	-14
	7.2nm,0.3s,baz=162,slow=19,SNR=13						
PALK				LR	LR	12 48 50.2	
	comp=Z,316nm,21.7s,baz=93,slow=33						
CMAR	**Chiang Mai Arr**	**12.71**	**32**	Pn	**Pn**	**12 45 44.9**	**-1.3**
	0.2nm,0.3s,baz=231,slow=14,SNR=7.7						
CMAR				LR	LR	12 49 48.7	
	comp=Z,20nm,20.1s,baz=198,slow=34						
CHTO	**Chiang Mai**	**13.00**	**31**	ePn	**Pn**	**12 45 49.2**	**-1.1**
ODAN	**Odare**	**19.51**	**348**	*eP*	**Pn**	**12 47 18.0**	**+3.9**
	26nm,0.7s						
RAMN	**Ramite**	**19.77**	**346**	*eP*	**Pn**	**12 47 20.7**	**+3.5**
	30nm,0.5s						
TAPN	**Taplejung**	**19.92**	**349**	*eP*	**Pn**	**12 47 18.7**	**-0.4**
	34nm,0.8s						
PKI	**Pulchoki**	**20.67**	**344**	*eP*	Pn	12 47 27.2	-0.8
	25nm,0.7s						
PKIN	**Phulchoki**	**20.68**	**344**	*eP*	Pn	12 47 27.2	-0.8
	15nm,0.6s						
DMN	**Daman**	**20.80**	**343**	*eP*	Pn	12 47 28.3	-1.0
	34nm,0.7s						
GUN	**Gumba**	**20.87**	**345**	*eP*	**P**	**12 47 27.3**	**-0.4**
	40nm,0.6s						
KKN	**Kakani**	**20.92**	**343**	*eP*	**P**	**12 47 28.2**	**+0.2**
	4.5nm,0.2s						
GKN	**Gorkha**	**21.30**	**342**	*eP*	**P**	**12 47 31.7**	**-0.4**
	40nm,0.8s						
KOLN	**Koldanda**	**21.43**	**340**	*eP*	**P**	**12 47 33.5**	**0.0**
	36nm,0.7s						
LSA	**Lhasa**	**21.88**	**358**	*eP*	**P**	**12 47 40.9**	**+2.3**
	70nm,1.5s						
H08S3	**Diego Garcia H**	**24.61**	**232**	T	T	13 14 33.8	
	baz=51,slow=75,SNR=28						
H08S2	**Diego Garcia H**	**24.61**	**232**	T	T	13 14 21.8	
	baz=51,slow=75,SNR=21						
H08S1	**Diego Carcia H**	**24.63**	**232**	T	T	13 14 35.9	
	baz=51,slow=75,SNR=22						
KAPI	**Kappang**	**30.56**	**114**	LR	LR	13 01 35.3	
	comp=Z,84nm,19.4s,baz=247,slow=37						
EKS2	**Erkin-Say**	**38.28**	**338**	*eP*	**P**	**12 50 06.3**	**+0.8**
	2.9nm,0.8s						
SONM	**Songino Array**	**41.85**	**15**	P	**P**	**12 50 34.8**	**-0.3**
	3.2nm,0.8s,baz=194,slow=8.8,SNR=14						
FITZ	**Fitzroy Crossi**	**42.07**	**128**	*eP*	**P**	**12 50 37.7**	**+0.6**
	2.8nm,0.7s						
KURBB	**Kurchatov Arra**	**44.19**	**348**	P	**P**	**12 50 53.1**	**-0.6**
	2.3nm,0.8s,baz=171,slow=7.4,SNR=26						
KURK	**Kurchatov**	**44.26**	**348**	*eP*	**P**	**12 50 53.9**	**-0.4**
ZALV	**Zalesovo Beam**	**46.45**	**354**	P	**P**	**12 51 11.0**	**-0.7**
	0.9nm,0.5s,baz=181,slow=8.6,SNR=2.3						
BVAR	**Borovoye Array**	**48.44**	**343**	P	**P**	**12 51 26.5**	**-0.7**
	2.5nm,1.0s,baz=134,slow=6.2,SNR=7.6						
ABKAR	**Akbulak array**	**49.31**	**333**	*eP*	**P**	**12 51 34.1**	**+0.2**
	2.9nm,0.6s						
WRA	**Warramunga Arr**	**50.02**	**124**	P	**P**	**12 51 39.4**	**-0.5**
	1.1nm,0.5s,baz=303,slow=8.7,SNR=30						
WRA				PcP	**PcP**	**12 52 58.9**	**-0.7**
	0.3nm,0.4s,baz=309,slow=2.8,SNR=5.1						
WRAB	**Tennant Creek**	**50.03**	**124**	*eP*	**P**	**12 51 40.1**	**+0.2**
	1.5nm,0.3s						
AKTO	**Aktyubinsk**	**51.03**	**333**	P	**P**	**12 51 45.9**	**-1.0**
	1.1nm,0.7s,baz=155,slow=9.6,SNR=4.1						
ASAR	**Alice Springs**	**51.56**	**128**	P	**P**	**12 51 51.5**	**0.0**
	0.5nm,0.3s,baz=300,slow=8.2,SNR=29						
ASAR				PcP	**PcP**	**12 53 06.3**	**+1.0**
	0.4nm,0.7s,baz=304,slow=3.3,SNR=2.8						
GUMO	**Guam**	**52.34**	**79**	LR	LR	13 15 39.5	
	comp=Z,12nm,18.1s,baz=94,slow=38						
GNI	**Garni**	**52.95**	**315**	LR	LR	13 16 51.0	
	comp=Z,18nm,19.9s,baz=94,slow=39						
ARU	**Arti**	**55.17**	**338**	*eP*	**P**	**12 52 17.4**	**0.0**
	8.7nm,1.0s						
BRTR	**Keskin Array B**	**60.83**	**311**	LR	LR	13 22 14.2	
	comp=Z,17nm,18.3s,baz=126,slow=39						
STKA	**Stephens Creek**	**61.65**	**132**	P	**P**	**12 53 03.7**	**+0.7**
	2.2nm,0.9s,baz=280,slow=12,SNR=2.8						
STKA	**Stephens Creek**	**61.65**	**132**	*eP*	**P**	**12 53 04.1**	**+1.2**
TIXI	**Tiksi**	**67.84**	**12**	*eP*	**P**	**12 53 41.4**	**-1.2**
	12nm,1.1s						
FINES	**FINESS Array B**	**71.80**	**333**	P	**P**	**12 54 06.2**	**-1.0**
	3.6nm,0.9s,baz=160,slow=8.7,SNR=5.3						
ARCES	**ARCESS Array B**	**74.66**	**340**	P	**P**	**12 54 23.6**	**-0.3**
	0.8nm,0.7s,baz=90,slow=6.3,SNR=3.4						
GERES	**GERESS Array B**	**76.44**	**318**	P	**P**	**12 54 35.0**	**+0.3**
	0.6nm,0.7s,baz=76,slow=5.6,SNR=4.6						

*JMA **18** 12:57:24.9±0.7, 44.53N×149.12E, h30ᵏᵐ, M3.6*

ISC 18 12:57:27.0±2.7, 43.9N±0.2×149.2E±0.2, h42ᵏᵐ, n12, σ1ᵍ07/15, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.57**	**260**	P	**Pn**	**12 58 05.0**	**-1.0**
NEM2				*eS*	**Sn**	**12 58 35.5**	**-0.5**
JRA	**Rausu**	**2.95**	**273**	P	**Pn**	**12 58 10.6**	**-0.7**
JRA				*eS*	**Sn**	**12 58 44.5**	**-1.0**
JAK	**Akkeshi**	**3.40**	**256**	P	**Pn**	**12 58 17.1**	**-0.4**
JAK				*eS*	**Sn**	**12 58 55.3**	**-1.2**
JTKR	**Abashiri--Toko**	**3.83**	**273**	P	**Pn**	**12 58 23.6**	**+0.2**
JTKR				*eS*	**Sn**	**12 59 09.0**	**+1.9**
JOB	**Onbets**	**4.03**	**258**	P	**Pn**	**12 58 26.7**	**+0.5**
JOB				*eS*	**Sn**	**12 59 12.0**	**-0.2**
JMP	**Maruseppu**	**4.22**	**274**	P	**Pn**	**12 58 29.2**	**+0.4**
JCH	**Churui**	**4.45**	**255**	P	**Pn**	**12 58 33.7**	**+1.8**
JKB	**Kayabe**	**6.33**	**254**	P	**Pn**	**12 58 58.3**	**+0.7**
MJAR	**Matsushiro Arr**	**11.15**	**233**	Pn	Pn	13 00 01.8	-2.0
	0.6nm,0.3s,baz=167,slow=11,SNR=14						
MAT	**Matsushiro**	**11.15**	**233**	P	Pn	13 00 02.2	-1.6
KSRS	**Korea Array**	**17.35**	**256**	Pn	**P**	**13 01 27.9**	**+1.0**
	0.2nm,0.3s,baz=118,slow=12,SNR=3.3						
CMAR	**Chiang Mai Arr**	**48.99**	**255**	P	**P**	**13 06 08.8**	**-0.8**
	1.2nm,0.6s,baz=48,slow=7.5,SNR=6.4						

DJA 18 13:22:22.2±0.8, 3°N±10°×127°E±°, h44ᵏᵐ±64ᵏᵐ, M4.2/7, mb4.4/3, mB4.7/1, MLv4.2/7, Mw(mB)4.0/1, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.23**	**294**	P	Pn	13 22 42.8	-0.1
SGSI				S	Sn	13 22 58.8	+0.4
KMSI	**Cibinong**	**3.72**	**226**	P	Pn	13 23 17.9	+0.8
KMSI				S	Sn	13 24 01.7	+2.0
MRSI	**Marisa**	**5.42**	**240**	P	Pn	13 23 40.4	-0.1
	45nm,0.5s,805nm0.2nm						
APSI	**Ampana**	**6.44**	**231**	P	Pn	13 23 55.1	+0.5
	54nm,1.2s,0.2nm						
MPSI	**Mapaga**	**7.32**	**247**	P	Pn	13 24 05.4	-1.2

*IDC **18** 13:27:01.0±1.0, 10.94N×143.00E, h0ᵏᵐ, mb3.6/7, mb1 3.9/7, mb1mx3.6/30, mbtmp3.6/7, Error ellipse: s-maj=33.8km s-min=22.3km az=95.0*

*ISCJB **18** 13:27:03.9±1.1, 10.9N±0.1×143.0E±0.3, h33ᵏᵐ, mb3.7/7, Error ellipse: s-maj=36.2km s-min=19.5km az=179.5*

ISC 18 13:27:06.4±1.0, 10.9N±0.2×142.9E±0.2, h35ᵏᵐ, n7, σ1ᵍ57/7, mb3.7/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.80**	**195**	P	**P**	**13 33 27.5**	**-0.3**
	0.3nm,0.6s,baz=16,slow=9.8,SNR=4.7						
ASAR	**Alice Springs**	**35.48**	**194**	P	**P**	**13 33 60.0**	**+0.2**
	0.2nm,0.4s,baz=11,slow=11,SNR=6.0						
CMAR	**Chiang Mai Arr**	**43.12**	**285**	P	**P**	**13 35 03.6**	**-0.2**
	1.0nm,0.6s,baz=89,slow=6.2,SNR=6.8						
SONM	**Songino Array**	**47.89**	**327**	P	**P**	**13 35 42.8**	**+1.5**
	0.3nm,0.3s,baz=116,slow=6.6,SNR=2.9						
ZALV	**Zalesovo Beam**	**62.72**	**326**	P	**P**	**13 37 27.0**	**-0.8**
	0.3nm,0.3s,baz=120,slow=8.5,SNR=2.2						
ILAR	**Eielson Array**	**71.79**	**25**	P	**P**	**13 38 23.1**	**-2.0**
	0.4nm,0.6s,baz=247,slow=6.4,SNR=8.0						
NVAR	**Mina Array Bea**	**90.07**	**51**	P	**P**	**13 40 05.0**	**+1.7**
	0.8nm,0.7s,baz=292,slow=4.8,SNR=6.0						

MAN 18 13:52:02, 13.72N×120.46E, h63ᵏᵐ, mb4.0, ML2.8, MS2.5, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.20**	**274**	*eP*	Pn	13 52 13.8	+1.9
LUBP				*eS*	Sn	13 52 21.6	+2.6
PGP	**Puerto Galera**	**0.53**	**114**	↓*eP*	Pn	13 52 16.2	+1.7
SJMP	**San Jose**	**1.41**	**153**	*eP*	Pn	13 52 27.2	+1.7
SJMP				*eS*	Sn	13 52 45.1	+1.9
BUSP	**Coron**	**1.72**	**188**	*eP*	Pn	13 52 30.8	+1.0
ENPP	**El Nido**	**2.69**	**202**	*eP*	Pn	13 52 43.9	+0.9

*ISCJB **18** 13:57:24.8±0.3, 32.73N±0.02×115.93W±0.02, h8ᵏᵐ±3ᵏᵐ, Error ellipse: s-maj=3.9km s-min=2.9km az=16.8*

*NEIC **18** 13:57:25.8, 32.70N×115.93W, h2ᵏᵐ, ML3.4(PAS), ML3.6(ECX), After PAS.*

*ECX **18** 13:57:26.1±0.6, 32.69N×115.93W, h3ᵏᵐ, MD3.2, ML3.4*

ISC 18 13:57:25.5±0.9, 32.70N±0.02×115.94W±0.02, h10ᵏᵐ±6ᵏᵐ, n24, σ1ᵍ75/44, 10C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.05**	**165**	↓*iP*	**Pg**	**13 57 27.0**	**-0.5**
RMX	**La Rumorosa**	**0.15**	**231**	↑*eP*	**Pg**	**13 57 29.1**	**+0.1**
RMX				*eS*	**Sg**	**13 57 31.7**	**+0.3**
WESC	**Westside Schoo**	**0.18**	**71**	↑*iP*	**Pg**	**13 57 29.4**	**0.0**
WESC				*eS*	**Sg**	**13 57 32.9**	**+0.8**
COK	**Cook Ranch**	**0.23**	**50**	↑*iP*	**Pg**	**13 57 30.4**	**+0.1**
ERPC	**Ernies Place**	**0.24**	**79**	↑*iP*	**Pg**	**13 57 30.6**	**+0.3**
SWSC	**Sam W. Stewart**	**0.27**	**27**	↑*iP*	**Pg**	**13 57 30.9**	**-0.1**
DREC	**Desert Rsrch C**	**0.43**	**76**	↑*iP*	**Pb**	**13 57 34.4**	**-0.8**
CPBX	**Cerro Prieto**	**0.60**	**117**	*ePn*	**Pg**	**13 57 37.1**	**-0.1**
CPBX				*eS*	**Sg**	**13 57 45.7**	**+0.5**
BAR	**Barrett**	**0.62**	**268**	*ePg*	**Pg**	**13 57 37.5**	**+0.1**
BAR				*eSg*	**Sg**	**13 57 45.9**	**+0.3**
BAR	**Barrett**	**0.62**	**268**	↑*iP*	**Pg**	**13 57 37.6**	**+0.1**
CBX	**Cerro Bola**	**0.72**	**238**	↑*eP*	**Pg**	**13 57 39.5**	**0.0**
CBX				*eS*	**Sg**	**13 57 49.6**	**+0.7**
RDX	**Rancho Dawling**	**0.77**	**180**	↓*eP*	**Pg**	**13 57 39.6**	**-0.7**
SDRC	**San Diego Road**	**0.85**	**273**	↑*eP*	**Pg**	**13 57 41.4**	**-0.4**
SDRC				*eS*	**Sg**	**13 57 52.7**	**-0.1**
GLA	**Glamis**	**1.00**	**69**	*ePg*	**Pg**	**13 57 43.2**	**-1.5**
GLA				*eSg*	**Sg**	**13 57 56.7**	**-1.0**
PFO	**Pinyon Flats O**	**1.00**	**335**	*ePg*	**Pg**	**13 57 43.7**	**-1.1**
PFO				*eSg*	**Sg**	**13 57 57.4**	**-0.6**
ECBX	**El Chinero**	**1.44**	**148**	*ePn*	**Pn**	**13 57 50.9**	**-0.7**
ECBX				*eS*	**Sn**	**13 58 10.1**	**-0.4**
ECBX				IAML		13 58 13.9	
	comp=N,564nm,0.5s						
ECBX				↓*e*		13 58 13.9	
SPX	**San Pedro Mart**	**1.70**	**166**	↑*e*	**Sg**	**13 58 21.0**	**+0.8**
SPX				IAML		13 58 21.0	
	comp=N,213nm,0.6s						
SPX				↓*e*		13 58 25.0	
SPX				IAML		13 58 25.0	
	comp=E,288nm,0.7s						
MWC	**Mount Wilson**	**2.33**	**311**	*ePn*	**Pb**	**13 58 07.5**	**-0.3**
MWC				*eSn*	**Sn**	**13 58 33.5**	**+0.5**
PASC	**Pasadena Art C**	**2.38**	**309**	*ePn*	**Pb**	**13 58 07.2**	**-1.4**
PASC				*ePg*	**Pg**	**13 58 11.3**	**+0.1**
PASC				*eSn*	**Sn**	**13 58 35.3**	**+1.3**
PASC				*eSg*	**Sg**	**13 58 42.7**	**+0.6**
LDFC	**Landfair**	**2.47**	**16**	Pn	**Pn**	**13 58 07.1**	**+1.1**
GSC	**Goldstone, Bar**	**2.69**	**345**	*ePn*	**Pn**	**13 58 08.1**	**-1.0**
GSC				*ePg*	**Pg**	**13 58 16.7**	**-0.4**
GSC				*eSn*	**Sn**	**13 58 42.2**	**+0.4**
GSC				*eSg*	**Sg**	**13 58 51.2**	**-0.9**
214A	**Organ Pipe Nat**	**2.75**	**105**	*ePn*	**Pn**	**13 58 09.8**	**+0.1**
214A				*ePg*	**Pg**	**13 58 18.4**	**+0.2**
214A				*eSn*	**Sn**	**13 58 44.6**	**+1.5**
214A				*eSg*	**Sg**	**13 58 53.7**	**-0.1**
SHPR	**Sheep Range**	**3.85**	**9**	Pn	**Pn**	**13 58 26.3**	**+1.4**
SHPR				*ePg*	**Pg**	**13 58 40.1**	**+0.8**
WUAZ	**Wupatki**	**4.71**	**52**	*ePn*	**Pn**	**13 58 37.5**	**+0.6**

SJA 18 14:01:45.8±0.5, 32.17S×71.98W, h10ᵏᵐ, ML3.6, MW3.3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**2.19**	**92**	*eP*	Pb	14 02 25.0	-1.0
AUSP				*eS*	Sb	14 02 54.6	+1.1
RTLS	**Leoncito**	**2.31**	**81**	*eP*	Pb	14 02 26.8	-1.1
RTLS				*eS*	Sb	14 02 57.3	+0.7
ARCO	**CERRO ARCO**	**2.66**	**105**	*eP*	Pb	14 02 31.6	-2.2
ASAL	**Salagasta**	**2.69**	**100**	*eP*	Pn	14 02 31.7	+2.4
AAGR	**Agrelo**	**2.81**	**110**	*eP*	Pb	14 02 33.7	-2.6
RTCV	**Cerro Valdivia**	**2.93**	**85**	*eP*	Pn	14 02 34.9	+2.3
RTLL	**Cerro Villicun**	**3.10**	**75**	*eP*	Pn	14 02 37.2	+2.4
RTLL				*eS*	Sn	14 03 15.5	+3.5
AMOG	**MOGNA**	**3.22**	**68**	*eP*	Pn	14 02 39.1	+2.6
ACAN	**Cantantal**	**4.06**	**93**	*eP*	Pn	14 02 50.7	+2.6
AVFE	**Valle Fertil**	**4.15**	**70**	*eP*	Pn	14 02 52.5	+3.2
AVFE				IAML		14 03 51.8	
	comp=Z,39nm,0.5s						
VCA	**Vinchina**	**4.72**	**45**	*eP*	Pn	14 03 01.3	+3.9
VCA				IAML		14 04 13.4	
	comp=Z,81nm,0.6s						

IDC 18 14:06:25.9±27.0, 23.29S×173.52W, h0ᵏᵐ, mb4.1/4, mb1 4.3/4, mb1mx3.8/26, mbtmp4.1/4, Error ellipse: s-maj=491.6km s-min=148.6km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.43**	**267**	P	P	14 13 41.3	+0.1
	3.7nm,0.4s,baz=90,slow=12,SNR=13						
STKA	**Stephens Creek**	**40.46**	**248**	P	P	14 14 06.2	-0.2
	0.8nm,0.4s,baz=90,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**47.99**	**259**	P	P	14 15 06.8	-0.2
	0.6nm,0.5s,baz=97,slow=7.4,SNR=28						
WRA	**Warramunga Arr**	**48.38**	**263**	P	P	14 15 09.8	-0.2
	1.8nm,0.5s,baz=103,slow=8.1,SNR=9.1						

*ISCJB **18** 14:09:45.1±0.5, 31.27N±0.04×115.65W±0.04, h10ᵏᵐ±7ᵏᵐ, Error ellipse: s-maj=6.6km s-min=4.8km az=31.0*

*MEX **18** 14:09:46.9±0.7, 31.11N×115.67W, h18ᵏᵐ±26ᵏᵐ, MD3.7*

*ECX **18** 14:09:46.1±0.5, 31.25N×115.65W, h5ᵏᵐ, MD3.6, ML3.9*

ISC 18 14:09:44.8±0.9, 31.24N±0.06×115.66W±0.03, h17ᵏᵐ±11ᵏᵐ, n12, σ0ˢ35/22, 4C-3D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.26**	**140**	*iP*	**Pg**	**14 09 51.0**	**+0.2**
SPIG				*iS*	**Sg**	**14 09 54.6**	**-0.4**
SPIG	**San Pedro Mart**	**0.26**	**140**	↓*eP*	**Pg**	**14 09 51.1**	**+0.2**
SPIG				*eS*	**Sg**	**14 09 54.8**	**-0.2**
SPX	**San Pedro Mart**	**0.26**	**140**	*eP*	**Pg**	**14 09 51.1**	**+0.2**
SPX				*eS*	**Sg**	**14 09 54.8**	**-0.3**
SPX				IAML		14 09 55.6	
	comp=E,18μm,0.3s						
ECBX	**El Chinero**	**0.57**	**66**	↑*eP*	**Pg**	**14 09 56.1**	**-0.1**
ECBX				*eS*	**Sg**	**14 10 03.4**	**-0.3**
ZAX	**El Zacaton**	**0.59**	**297**	↑*eP*	**Pg**	**14 09 56.4**	**-0.3**
ZAX				*eS*	**Sg**	**14 10 04.8**	**+0.3**
RDX	**Rancho Dawling**	**0.72**	**341**	↓*eP*	**Pb**	**14 09 59.1**	**0.0**
RDX				*eS*	**Sb**	**14 10 09.1**	**+0.3**
ECNX	**Esteban Cantu**	**0.90**	**297**	↓*eP*	**Pb**	**14 10 02.1**	**+0.1**
ECNX				*eS*	**Sg**	**14 10 14.6**	**+0.2**
PBX	**Punta Banda**	**1.04**	**299**	↑*eP*	**Pb**	**14 10 04.0**	**-0.4**
PBX				*eS*	**Sg**	**14 10 18.4**	**-0.2**
MBIG	**Mexicali**	**1.23**	**19**	*eP*	**Pb**	**14 10 07.9**	**+0.4**
MBIG				*iS*	**Sb**	**14 10 22.8**	**-0.2**
CBX	**Cerro Bola**	**1.37**	**322**	*eP*	Pn	**14 10 09.4**	**+0.2**
CBX				*eS*	Sn	**14 10 26.2**	**-0.8**
CBX	**Cerro Bola**	**1.37**	**322**	↑*eP*	**Pn**	**14 10 09.5**	**+0.2**
CBX				*eS*	**Sb**	**14 10 27.9**	**+0.6**
CBX				*e*		14 10 31.4	
CBX				IAML		14 10 31.4	
	comp=N,2μm,0.6s						
RMX	**La Rumorosa**	**1.40**	**345**	IAML		14 10 30.6	
	comp=N,1μm,0.2s						
RMX				*e*		14 10 30.6	

*ISCJB **18** 14:10:15.3±0.5, 33.20N±0.06×96.30E±0.06, h10ᵏᵐ, mb3.6/9, MS3.0/2, Error ellipse: s-maj=9.1km s-min=7.5km az=172.5*

*IDC **18** 14:10:16.0±0.9, 33.13N×95.93E, h0ᵏᵐ, mb3.5/9, mb1 3.7/11, mb1mx3.5/38, mbtmp3.5/11, ML3.9/2, MS3.1/3, Ms1 3.2/3, ms1mx2.6/36, Error ellipse: s-maj=43.2km s-min=16.2km az=59.0*

*BJI **18** 14:10:19.3, 33.32N×96.20E, h10ᵏᵐ, mb3.7/1, ML3.4/10, Ms3.4/5, Ms7 3.1/3*

ISC 18 14:10:17.4±0.7, 33.26N±0.09×96.41E±0.06, h10ᵏᵐ, n21, σ1ᵍ32/22, mb3.7/9, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.72**	**233**	Pn	**Pn**	**14 11 45.3**	**+2.5**
CD2	**Chengdu**	**6.66**	**109**	Pn	**Pn**	**14 11 57.0**	**+1.6**
CD2				Pg	**Pg**	**14 12 22.8**	**-2.2**
CD2				Sn	**Sn**	**14 13 11.0**	**-0.4**
CD2				Sg	**Sg**	**14 13 50.5**	**-0.8**
CD2				SMN			
	40nm,1.0s						
CD2				SME			
	20nm,1.1s						
CD2				LN			
	250nm,6.5s						
CD2				LZ			
	240nm,8.0s						
GTA	**Gaotai**	**6.73**	**23**	*ePn*	Pn	14 12 02.8	+6.5
GTA				Sn	Sn	14 13 25.3	+12
GTA				LN			
	140nm,10.4s						
GTA				LE			
	280nm,9.2s						
GTA				LZ			
	100nm,7.1s						
TAPN	**Taplejung**	**9.54**	**234**	*eP*	**Pn**	**14 12 35.4**	**+0.3**
	16nm,0.7s						
ODAN	**Odare**	**10.08**	**233**	*eP*	**Pn**	**14 12 41.8**	**-0.6**
	24nm,0.5s						
GUN	**Gumba**	**10.52**	**242**	*eP*	**Pn**	**14 12 47.4**	**-1.1**
	4.4nm,0.2s						
RAMN	**Ramite**	**10.56**	**236**	*eP*	**Pn**	**14 12 48.2**	**-0.8**
	12nm,0.4s						
PKI	**

MLv4.1/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.56**	**306**	P	Pg	14 34 48.3	-0.1
SRPI				S	Sg	14 34 56.3	+0.5
BAKI	**Biak**	**1.16**	**330**	P	Pb	14 34 57.8	-1.7
BAKI				S	Sb	14 35 14.7	+0.2
SMPI	**Sarmi**	**2.03**	**84**	P	Pn	14 35 11.1	-0.4
SMPI				S	Sn	14 35 37.1	+0.3
RKPI	**Ransiki, Papua**	**2.60**	**285**	P	Pn	14 35 19.7	+0.2
GENI	**Genyem**	**3.50**	**96**	P	Pn	14 35 32.2	+0.5
GENI				S	Sn	14 36 13.9	+0.8
FAKI	**Fak Fak**	**4.49**	**261**	P	Pn	14 35 44.4	-1.1
FAKI				S	Sn	14 36 34.3	-3.4

*SJA **18** 14:36:52.2±0.7, 33.°55S×72.°38W, h64km±12km, ML3.7, MW3.8*

*GUC **18** 14:36:53.0±0.5, 33.°58S×71.°96W, h29km±7km, ML3.9*

ISC 18 14:36:55.3±1.9, 33.°54S±0.°04×71.°74W±0.°08, h6km±11km, n19, σ1§14/25, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.49**	**147**	*e*P	**Pg**	**14 37 04.6**	**-0.2**
LNV				*e*S	**Sb**	**14 37 13.0**	**-0.9**
IHA	**Instituto Hidr**	**0.52**	**9**	*e*P	**Pg**	**14 37 04.8**	**-0.5**
IHA				*e*S	**Sb**	**14 37 13.6**	**-1.0**
TACH	**Talagante**	**0.68**	**100**	*e*P	**Pg**	**14 37 08.4**	**+0.1**
SAN	**Santiago**	**0.90**	**85**	*e*P	**Pg**	**14 37 12.6**	**0.0**
SAN				*e*S	**Sn**	**14 37 27.0**	**-0.9**
STL	**Santa Lucia**	**0.92**	**84**	*e*P	**Pg**	**14 37 12.2**	**-0.7**
STL				*e*S	**Sn**	**14 37 27.5**	**-0.9**
PEL	**Peldehue**	**0.96**	**66**	*e*P	**Pg**	**14 37 13.3**	**-0.5**
PEL				*e*S	**Sn**	**14 37 28.9**	**-0.5**
PEL	comp=N,8μm,0.3s			AML	AML	14 37 32.6	
CLCH	**Cerro Calan**	**1.01**	**82**	*e*P	**Pb**	**14 37 14.0**	**-1.3**
CLCH				*e*S	**Sn**	**14 37 30.3**	**-0.4**
CLCH	comp=N,3μm,0.5s			AML	AML	14 37 37.6	
PCH	**Pirque**	**1.02**	**95**	*e*P	**Pb**	**14 37 14.3**	**-1.2**
PCH				*e*S	**Sn**	**14 37 30.1**	**-0.9**
AUSP	**Uspallata**	**2.37**	**57**	*e*P	**Pb**	**14 37 38.6**	**-0.3**
AUSP				*e*S	**Sg**	**14 38 11.7**	**+0.2**
ARCO	**CERRO ARCO**	**2.45**	**74**	*e*P	**Pb**	**14 37 39.4**	**-0.4**
ARCO				*e*S	**Sg**	**14 38 14.5**	**+0.5**
AAGR	**Agrelo**	**2.48**	**80**	*e*P	**Pb**	**14 37 39.6**	**-0.6**
AAGR				*e*S	**Sg**	**14 38 15.7**	**+0.8**
RTLS	**Leoncito**	**2.69**	**50**	*e*P	**Pb**	**14 37 42.5**	**-1.5**
RTCV	**Cerro Valdivia**	**3.17**	**59**	*e*P	Pb	14 37 48.7	-3.3
CFAA	**Coronel Fontan**	**3.53**	**58**	*e*P	Pn	14 37 53.8	+3.1
RTLL	**Cerro Villicun**	**3.53**	**52**	*e*P	**Pn**	**14 37 53.3**	**+2.6**
AMOG	**MOGNA**	**3.78**	**48**	*e*P	**Pn**	**14 37 55.8**	**+1.6**
ACAN	**Cantantal**	**4.03**	**73**	*e*P	Pn	14 38 00.5	+2.9
AVFE	**Valle Fertil**	**4.63**	**53**	*e*P	**Pn**	**14 38 08.2**	**+2.3**
AVFE	comp=Z,25nm,0.7s			IAML		14 39 34.0	
VCA	**Vinchina** comp=Z,37nm,0.7s	**5.66**	**33**	IAML		14 39 56.7	

*ISCJB **18** 14:42:46.5±0.2, 8.°90S±0.°04×111.°07E±0.°02, h33km, mb4.9/73, MS3.5/9, Error ellipse: s-maj=5.5km s-min=3.2km az=16.1*

*BJI **18** 14:42:46.0, 8.°80S×111.°20E, h40km, mb5.0/50, mB4.9/36, Ms4.5/27, Ms7 4.0/26*

*KLM **18** 14:42:50.7, 8.°98S×111.°14E, h96km, mb5.1, ML5.2, MS6.0*

*MOS **18** 14:42:50.2±1.2, 8.°42S×111.°30E, h54km, mb5.3/27, Error ellipse: s-maj=11.1km s-min=6.2km az=109.8*

*DJA **18** 14:42:52.4±0.2, 9.°S±2.°×111.°1E±1.°, h49km±4km, M5.0/38, mb5.1/38, mB5.5/17, MLv5.3/28, Mw(mB)4.9/17, Mwp6.4/1*

*NEIC **18** 14:42:53.3±0.8, 8.°58S×111.°34E, h74km±6km, mb5.0/24, Error ellipse: s-maj=9.6km s-min=5.9km az=213.0*

NEIC Felt [III] at Bantul, Karangkates and Pacitan. Also felt at Blitar.

*IDC **18** 14:42:54.2±1.6, 8.°52S×111.°32E, h75km±14km, mb4.5/34, mb1 4.5/36, mb1mx4.4/48, mbtmp4.8/36, MS3.5/10, Ms1 3.6/10, ms1mx3.3/31, Error ellipse: s-maj=12.2km s-min=8.7km az=39.0*

ISC 18 14:42:50.8±0.4, 8.°72S±0.°04×111.°28E±0.°02, h49km±2km, n384, σ1§55/362, mb4.9/81, MS3.4/9, 30C-15D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.53**	**349**	P	Pn	14 43 05.4	+2.9
UGM	**Wanagama**	**1.10**	**317**	P	Pn	14 43 13.1	+3.1
UGM				S	**Sn**	**14 43 28.3**	**+4.2**
SMRI	**Semarang**	**1.86**	**333**	P	Pn	14 43 25.1	+4.7
SMRI				S	Sn	14 43 50.0	+7.3
SMRI	**Semarang**	**1.86**	**333**	*e*Pn	Pn	14 43 25.0	+4.7
SMRI				*e*Sn	**Sn**	**14 43 38.7**	**-4.0**
TBJI	**Tambak Boyo**	**1.97**	**17**	P	Pn	14 43 26.5	+4.7
TBJI				S	Sn	14 43 52.6	+7.2
GRJI	**Gresik**	**2.15**	**33**	P	Pn	14 43 28.8	+4.5
UWJI	**Ujung Watu**	**2.31**	**352**	P	Pn	14 43 30.7	+4.2
BLJI	**Banyuglugur**	**2.48**	**67**	P	Pn	14 43 32.7	+3.8
KPJI	**Karang Pucung**	**2.71**	**300**	P	Pn	14 43 34.6	+2.7
KPJI				S	**Sn**	**14 44 08.3**	**+4.8**
JAGI	**Jajag, Banyuwa**	**2.85**	**85**	P	**Pn**	**14 43 36.5**	**+2.7**
JAGI				S	**Sn**	**14 44 11.1**	**+4.2**
JAGI	**Jajag, Banyuwa**	**2.85**	**85**	*e*Pn	**Pn**	**14 43 36.2**	**+2.4**
JAGI				*e*Sn	**Sn**	**14 44 08.9**	**+2.0**
CMJI	**Cimerak**	**2.96**	**288**	P	**Pn**	**14 43 36.5**	**+1.2**
CMJI				S	**Sn**	**14 44 09.6**	**0.0**
ABJI	**Asem Bagus**	**3.06**	**73**	P	Pn	14 43 40.7	+3.9
BWJI	**Bawean**	**3.16**	**26**	P	Pn	14 43 42.7	+4.5
CISI	**Cisompet, Garu**	**3.62**	**288**	P	**Pn**	**14 43 46.0**	**+1.4**
CISI				S	**Sn**	**14 44 26.3**	**+0.2**
CISI	**Cisompet, Garu**	**3.62**	**288**	*e*Pn	**Pn**	**14 43 45.9**	**+1.3**
CISI				*e*Sn	**Sn**	**14 44 26.1**	**0.0**
IGBI	**Denpasar**	**3.82**	**92**	P	Pn	14 43 50.3	+3.1
IGBI				S	**Sn**	**14 44 33.2**	**+2.4**
DNP	**Denpasar**	**3.88**	**90**	P	**Pn**	**14 43 51.0**	**+3.0**
DNP				S	**Sn**	**14 44 36.9**	**+4.5**
LEM	**Lembang**	**4.09**	**297**	P	Pn	14 43 54.4	+3.3
LEM				S	**Sn**	**14 44 42.0**	**+4.2**
LEM	**Lembang** 26nm,0.3s,baz=350,slow=23,SNR=36	**4.09**	**297**	P	Pn	14 43 54.3	+3.2
LEM	20nm,0.3s,baz=288,slow=20,SNR=3.7			S	**Sn**	**14 44 42.1**	**+4.2**
LEM	comp=Z,971nm,19.9s,baz=102,slow=42			LR	LR	14 45 44.3	
CNJI	**Cibinong**	**4.35**	**289**	P	**Pn**	**14 43 55.8**	**+1.4**
CNJI				S	**Sn**	**14 44 43.5**	**-0.3**
SKJI	**Sukabumi** 352nm,0.9s,6μm4.4nm	**4.98**	**290**	P	**Pn**	**14 44 04.8**	**+1.6**
SKJI	352nm,0.9s,6μm4.4nm			S	**Sn**	**14 45 01.2**	**+1.6**
CGJI	**Cibinong**	**5.92**	**290**	P	Pn	14 44 20.1	+4.0
PBKI	**Pangkalan Bun** 656nm,1.0s,6μm2.1nm	**5.99**	**4**	P	Pn	14 44 21.8	+4.8
TPI	**Tanjungpandan** 55nm,0.9s,0.3nm	**6.94**	**328**	P	Pn	14 44 34.6	+4.6
KBKI	**Kotabaru** 77nm,0.9s,2μm0.3nm	**7.25**	**42**	P	Pn	14 44 39.2	+4.9
KLI	**Kotabumi**	**7.44**	**301**	P	Pn	14 44 46.1	+9.2
KASI	**Kota Agung**	**7.45**	**295**	P	Pn	14 44 41.6	+4.6
WBSI	**Waikabubak, Su** 191nm,0.6s,3μm	**8.06**	**97**	P	**Pn**	**14 44 46.9**	**+1.5**
LWLI	**Liwa**	**8.06**	**297**	P	Pn	14 44 58.7	+13
MDSI	**Maura Dua** 38nm,1.0s	**8.22**	**300**	P	Pn	14 44 51.0	+3.5
PPBI	**Pangkal Pinang** 92nm,0.8s	**8.29**	**322**	P	Pn	14 44 53.1	+4.6
STKI	**Sintang** 91nm,0.8s,15μm	**8.73**	**1**	P	Pn	14 45 00.4	+5.8
WSI	**Waingapu** 600nm,0.5s,8μm	**8.95**	**97**	P	**Pn**	**14 44 59.3**	**+1.7**
LHSI	**Lahat**	**9.12**	**302**	P	Pn	14 45 16.0	+16
KAPI	**Kappang** 3.5nm,0.3s,baz=254,slow=9.3,SNR=12	**9.18**	**67**	P	**Pn**	**14 45 03.7**	**+3.0**
BKSI	**Bulukumba** 55nm,0.7s,575nm	**9.40**	**70**	P	Pn	14 45 09.0	+5.2
BSSI	**Bau Bau, Buton** 182nm,1.0s	**9.48**	**75**	P	**Pn**	**14 45 07.9**	**+3.0**
SPSI	**Sidrap Palu** 36nm,1.2s	**9.67**	**61**	P	Pn	14 45 10.6	+3.2
KSM	**Kuching**	**10.18**	**354**	⇑P	**Pn**	**14 45 16.1**	**+1.7**
KSM	**Kuching** 58nm,0.9s	**10.18**	**354**	*e*Pn	**Pn**	**14 45 14.7**	**+0.3**
TTSI	**Tana Toraja** 57nm,1.0s,461nm	**10.19**	**57**	P	Pn	14 45 19.7	+5.1
DSRI	**Dabo** 113nm,0.9s,4μm197μm	**10.57**	**320**	P	Pn	14 45 23.9	+4.2
MMRI	**Maumere** 140nm,0.7s	**10.83**	**90**	P	**Pn**	**14 45 24.2**	**+0.9**
MMRI	**Maumere**	**10.83**	**90**	*e*Pn	**Pn**	**14 45 22.1**	**-1.2**
SBUM	**Sibu**	**11.14**	**5**	⇑P	**Pn**	**14 45 30.0**	**+2.5**
SBUM	**Sibu**	**11.14**	**5**	*e*Pn	Pn	14 45 30.5	+3.0
PCI	**Palu**	**11.53**	**48**	P	Pn	14 45 39.7	+6.8
BTM	**Bintulu**	**11.98**	**9**	⇑P	Pn	14 45 42.8	+3.8
MPSI	**Mapaga**	**12.44**	**44**	P	P	14 46 03.3	+7.4
MYKOM	**Kota Tinggi**	**12.80**	**324**	⇑P	**Pn**	**14 45 50.4**	**+0.1**
SOEI	**Soe** 226nm,0.9s,2μm	**12.86**	**96**	P	**Pn**	**14 45 51.9**	**+0.7**
SOEI	**Soe**	**12.86**	**96**	*e*Pn	**Pn**	**14 45 51.1**	**-0.1**
APSI	**Ampana**	**12.91**	**54**	P	P	14 46 05.7	+4.5
KGM	**Kluang**	**13.30**	**323**	⇑P	**Pn**	**14 45 57.1**	**+0.1**
MRSI	**Marisa** 70nm,0.8s,624nm	**14.01**	**50**	P	Pn	14 46 10.0	+3.2
TSM	**Tawau**	**14.50**	**27**	⇑P	**P**	**14 46 17.5**	**-1.3**
MBWA	**Marble Bar**	**14.81**	**148**	*e*Pn	Pn	14 46 12.1	-5.2
MNSI	**Mandailing Nat**	**15.01**	**308**	P	**P**	**14 46 23.1**	**-1.4**
FRIM	**Kepong**	**15.29**	**321**	⇑P	**Pn**	**14 46 23.9**	**+0.3**
SDKM	**Sandakan**	**15.44**	**23**	⇑P	**Pn**	**14 46 28.3**	**+2.8**
KKM	**Kota Kinabalu**	**15.47**	**19**	⇑P	**Pn**	**14 46 27.9**	**+1.9**
KDM	**Kudat**	**16.49**	**20**	⇑P	**P**	**14 46 41.0**	**0.0**
IPM	**Ipoh**	**16.63**	**322**	⇑P	**Pn**	**14 46 40.8**	**0.0**
FITZ	**Fitzroy Crossi** 19nm,0.9s	**16.78**	**125**	*e*Pn	**Pn**	**14 46 42.4**	**-0.2**
PSI	**Prapat** comp=Z,439nm,18.7s,baz=90,slow=39	**16.82**	**312**	LR	LR	14 53 48.3	
TNTI	**Ternate** 83nm,0.8s,1μm	**18.59**	**60**	P	**Pn**	**14 47 06.0**	**+1.1**
TNTI	**Ternate**	**18.59**	**60**	*e*P	**P**	**14 47 03.2**	**-1.0**
KRAB	**Krabi** 20nm,0.7s,528nm	**20.70**	**324**	P	Pn	14 47 32.6	+2.7
SIJI	**Sorong** 68nm,0.8s,baz=253,slow=13,SNR=14	**21.37**	**70**	P	**P**	**14 47 34.6**	**+0.2**
FAKI	**Fak Fak** 70nm,0.9s	**21.63**	**76**	P	**P**	**14 47 37.9**	**+0.7**
FAKI	**Fak Fak** 44nm,0.7s	**21.63**	**76**	*e*P	**P**	**14 47 34.5**	**-2.6**
RKPI	**Ransiki, Papua**	**23.89**	**74**	P	**P**	**14 48 01.7**	**+1.5**
WRA	**Warramunga Arr** 24nm,0.9s,baz=293,slow=11,SNR=51	**24.93**	**119**	P	**P**	**14 48 10.2**	**+0.5**
WRA	2.6nm,0.7s,baz=298,slow=1.8,SNR=5.5			PcP	**PcP**	**14 51 44.6**	**+0.2**
WRA	1.5nm,0.8s,baz=291,slow=21,SNR=3.4			S	S	14 52 45.6	+16
WRAB	**Tennant Creek** 236nm,0.8s,SNR=7.9	**24.94**	**119**	P	**P**	**14 48 10.3**	**+0.6**
WRAB	**Tennant Creek**	**24.94**	**119**	*c iP*	**P**	**14 48 10.0**	**+0.3**
WRAB	comp=Z,99nm,1.0s			pmax	pmax		
ASAR	**Alice Springs** comp=Z,14nm,0.7s,baz=304,slow=9.2,SNR=66	**26.26**	**127**	P	**P**	**14 48 22.8**	**+1.1**
ASAR	comp=Z,4.7nm,0.7s,baz=310,slow=1.7,SNR=9.5			PcP	**PcP**	**14 51 48.1**	**+0.7**
ASAR	comp=Z,0.6nm,0.7s,baz=316,slow=3.9,SNR=4.2			ScP	**ScP**	**14 55 21.0**	**-2.3**
ASAR	comp=Z,96nm,21.4s,baz=301,slow=37			LR	LR	14 59 04.2	
FORT	**Forrest** comp=Z,73nm,0.7s	**26.96**	**147**	*e*P	**P**	**14 48 27.3**	**-0.5**
QIZ	**Qiongzhong**	**27.61**	**357**	P	**P**	**14 48 34.4**	**+0.6**
QIZ				S	**S**	**14 53 16.3**	**+4.1**
QIZ	comp=Z,150nm,18.1s			LN			
QIZ	comp=Z,230nm,30.2s			LZ			
CM31	**Chiang Mai Arr** comp=Z,5.5nm,0.9s	**29.63**	**336**	*e*P	**P**	**14 48 51.0**	**-0.8**
CMAR	**Chiang Mai Arr** comp=Z,3.9nm,0.8s,baz=172,slow=7.6,SNR=20	**29.63**	**336**	P	**P**	**14 48 50.8**	**-0.9**
CMAR	comp=Z,4.8nm,0.7s,baz=187,slow=3.2,SNR=15			PcP	**PcP**	**14 51 57.0**	**+1.3**
CMAR	comp=Z,192nm,19.0s,baz=162,slow=39			LR	LR	15 01 53.2	
COEN	**Coen** comp=Z,5.6nm,0.8s	**31.68**	**102**	*e*P	**P**	**14 49 08.8**	**-1.2**
SSLB	**Suanglung** comp=Z,25nm,1.2s	**33.66**	**16**	*e*P	**P**	**14 49 25.3**	**-1.9**
PALK	**Pallekele** comp=Z,53nm,20.5s,baz=142,slow=34	**34.37**	**297**	LR	LR	15 02 09.3	
KMI	**Kunming**	**34.66**	**346**	P	**P**	**14 49 38.8**	**+2.8**
KMI				pP	**pP**	**14 49 47.3**	**-1.6**
KMI				sP	**sP**	**14 49 51.4**	**-3.3**
KMI				S	**S**	**14 55 04.0**	**+1.4**
KMI	comp=Z,13nm,0.8s			PMZ			
KMI	comp=Z,61nm,4.3s			PMZ			
KMI	comp=Z,190nm,13.2s			LN			
KMI	comp=Z,120nm,11.4s			LE			
KMI	comp=Z,240nm,16.7s			LZ			
GYA	**Guiyang**	**35.26**	**353**	P	**P**	**14 49 42.8**	**+1.7**
GYA				pP	**pP**	**14 49 52.6**	**-1.4**
GYA				PP	**PP**	**14 51 02.0**	**+0.1**
GYA				S	**S**	**14 55 15.3**	**+3.7**
GYA				sS	**sS**	**14 55 32.4**	**-0.9**
GYA				SS	**SnSn**	**14 57 33.8**	**+0.6**
GYA	comp=Z,20nm,0.8s			PMZ			
GYA	comp=Z,130nm,4.9s			PMZ			
GYA	comp=Z,680nm,17.4s			LN			
GYA	comp=Z,590nm,18.0s			LE			
GYA	comp=Z,640nm,17.8s			LZ			
CTA	**Charters Tower** comp=Z,9.8nm,1.0s,baz=280,slow=12,SNR=9.6	**35.62**	**112**	P	**P**	**14 49 45.9**	**+1.6**
CTAO	**Charters Tower**	**35.62**	**112**	*e*P	**P**	**14 49 44.8**	**+0.5**
CTAO	comp=Z,8.0nm,0.8s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,8.1nm,0.8s	**35.62**	**112**	*e*P	**P**	**14 49 44.8**	**+0.5**
STKA	**Stephens Creek** comp=Z,7.8nm,0.7s,baz=320,slow=9.1,SNR=22	**36.37**	**134**	P	**P**	**14 49 52.0**	**+1.6**
STKA	comp=Z,7.5nm,0.4s,baz=356,slow=3.3,SNR=7.5			PcP	**PcP**	**14 52 15.0**	**+0.7**
STKA	comp=Z,144nm,22.0s,baz=286,slow=37			LR	LR	15 05 14.0	
STKA	**Stephens Creek**	**36.37**	**134**	P	**P**	**14 49 52.0**	**+1.6**
STKA						14 52 15.0	
STKA	comp=Z,135nm,2.8s			pmax	pmax		
STKA	**Stephens Creek** comp=Z,135nm,2.8s	**36.37**	**134**	P	**P**	**14 49 52.0**	**+1.6**
STKA				PcP	**PcP**	**14 52 15.0**	**+0.7**
H08S2	**Diego Garcia H** baz=94,slow=76,SNR=14	**38.40**	**269**	T	T	15 31 06.6	
H08S3	**Diego Garcia H** baz=94,slow=76,SNR=14	**38.41**	**269**	T	T	15 31 14.0	
H08S1	**Diego Carcia H** baz=94,slow=76,SNR=12	**38.42**	**269**	T	T	15 31 13.9	
ENH	**Enshi** comp=Z,9.3nm,0.6s	**38.81**	**358**	*e*P	P	14 50 08.2	-2.9
CD2	**Chengdu**	**40.06**	**350**	*e*P	**P**	**14 50 22.4**	**+0.9**
CD2				pP	**pP**	**14 50 32.4**	**-2.2**
CD2				PP	**PP**	**14 51 55.5**	**+1.0**
CD2				ScP	**ScP**	**14 56 11.8**	**+0.9**
CD2				S	**S**	**14 56 28.1**	**+3.9**
CD2				sS	**sS**	**14 56 45.4**	**-0.8**
CD2	comp=Z,30nm,0.7s			PMZ			
CD2	comp=Z,140nm,6.6s			PMZ			
NJ2	**Nanjing**	**41.18**	**10**	*e*P	**P**	**14 50 33.3**	**+2.6**
NJ2	comp=Z,80nm,0.9s			PMZ			
ODAN	**Odare** comp=Z,14nm,0.7s	**42.29**	**327**	*e*P	**P**	**14 50 39.9**	**-0.2**
TAPN	**Taplejung** comp=Z,44nm,1.1s	**42.52**	**328**	*e*P	**P**	**14 50 41.8**	**-0.2**
XAN	**Xi'an**	**42.59**	**357**	P	**P**	**14 50 41.5**	**-0.7**
XAN				pP	**pP**	**14 50 51.5**	**-3.9**
XAN	comp=Z,3.0nm,0.8s			PMZ			
RAMN	**Ramite**	**42.79**	**327**	*e*P	**P**	**14 50 43.3**	**-0.9**
LSA	**Lhasa** comp=Z,8.0nm,0.5s	**42.84**	**334**	P	**P**	**14 50 43.6**	**-1.2**
LSA	**Lhasa**	**42.84**	**334**	P	P	14 50 40.5	-4.3
LSA	comp=Z,16nm,0.8s			pmax	pmax		
LSA	**Lhasa** comp=Z,16nm,0.8s	**42.84**	**334**	P	P	14 50 40.5	-4.3
PKI	**Pulchoki**	**43.93**	**326**	*e*P	**P**	**14 50 52.1**	**-1.4**
GUN	**Gumba** comp=Z,28nm,0.6s	**43.94**	**327**	*e*P	**P**	**14 50 52.4**	**-1.1**
PKIN	**Phulchoki** comp=Z,7.3nm,0.7s	**43.94**	**326**	*e*P	**P**	**14 50 52.7**	**-0.8**
KKN	**Kakani** comp=Z,5.9nm,0.5s	**44.17**	**326**	*e*P	**P**	**14 50 54.2**	**-1.1**
GKN	**Gorkha** comp=Z,12nm,0.5s	**44.69**	**326**	*e*P	**P**	**14 50 58.1**	**-1.3**
TIA	**Tai'an**	**45.03**	**7**	⇓P	**P**	**14 51 01.3**	**-0.4**
TIA	comp=Z,40nm,0.7s			PMZ			
KOLN	**Koldanda** comp=Z,17nm,0.5s	**45.10**	**324**	*e*P	**P**	**14 51 01.3**	**-1.4**
LZH	**Lanzhou**	**45.12**	**351**	P	**P**	**14 51 05.0**	**+2.4**
LZH				pP	**pP**	**14 51 11.8**	**-4.1**
LZH				sP	sP	14 51 16.3	-5.3
LZH				S	S	14 57 45.3	+6.6
LZH				sS	**sS**	**14 57 58.4**	**-2.5**
LZH	comp=Z,33nm,1.0s			PMZ			
LZH	comp=Z,160nm,5.1s			LN			
LZH	comp=Z,470nm,13.3s			LE			
LZH	comp=Z,600nm,12.8s			LZ			
HNR	**Honiara**	**48.03**	**95**	*e*P	**P**	**14 51 22.9**	**-2.7**
HNR	comp=Z,2.0nm,0.8s			pmax	pmax		
HNR	**Honiara** comp=Z,2.4nm,0.8s	**48.03**	**95**	*e*P	**P**	**14 51 22.9**	**-2.7**
KSAR	**Wonju Array Be**	**48.48**	**18**	P	**P**	**14 51 29.2**	**+0.5**
KSAR						14 52 55.2	
KSAR	**Wonju Array Be**	**48.48**	**18**	P	**P**	**14 51 29.2**	**+0.5**
KSAR				PcP	**PcP**	**14 52 55.1**	**+0.9**
KSRS	**Korea Array** comp=Z,9.5nm,0.8s,baz=202,slow=8.4,SNR=53	**48.51**	**18**	P	**P**	**14 51 29.2**	**+0.4**
KSRS	comp=Z,3.2nm,0.8s,baz=190,slow=3.5,SNR=8.9			PcP	**PcP**	**14 52 55.1**	**+0.9**
KSRS	comp=Z,20nm,19.9s,baz=196,slow=38			LR	LR	15 13 10.9	
KSRS	**Korea Array**	**48.51**	**18**	P	**P**	**14 51 29.2**	**+0.4**
KSRS						14 52 55.2	
KSRS	comp=Z,10.0nm,0.8s			pmax	pmax		
KSRS	comp=Z,3.0nm,0.8s			pmax	pmax		
KSRS	comp=Z,20nm,19.9s			MLR	MLR		
BJT	**Baijiatuau** comp=Z,27nm,0.4s	**48.70**	**5**	*e*P	**P**	**14 51 29.4**	**-0.9**
BJT				pmax	pmax		
BJT	**Baijiatuau** comp=Z,27nm,0.4s	**48.70**	**5**	*e*P	**P**	**14 51 29.4**	**-0.9**
BJI	**Beijing**	**48.73**	**5**	P	**P**	**14 51 30.3**	**-0.2**
BJI				S	S	14 58 35.8	+6.1
BJI	comp=Z,55nm,1.0s			PMZ			
BJI	comp=Z,130nm,18.1s			LN			
BJI	comp=Z,82nm,16.7s			LE			
BJI	comp=Z,74nm,30.8s			LZ			
GTA	**Gaotai**	**49.06**	**348**	*e*P	**P**	**14 51 34.0**	**+0.7**
GTA				pP	**pP**	**14 51 43.6**	**-3.1**
GTA				sP	sP	14 51 47.4	-5.0
GTA				PcP	**PcP**	**14 52 57.6**	**+1.2**
GTA				S	**S**	**14 58 37.4**	**+2.7**
GTA				sS	**sS**	**14 58 54.4**	**-2.7**
GTA	comp=Z,7.0nm,1.2s			PMZ			
GTA	comp=Z,40nm,6.3s			PMZ			
GTA	comp=Z,100nm,22.8s			LN			
GTA	comp=Z,130nm,20.6s			LE			
GTA	comp=Z,140nm,17.6s			LZ			
HHC	**Hu-ho-hao-te**	**49.32**	**0**	*e*P	**P**	**14 51 35.5**	**+0.3**
HHC				sP	**sP**	**14 51 52.4**	**-2.0**
HHC				S	**S**	**14 58 39.1**	**+0.8**
HHC				sS	sS	14 58 56.5	-4.3
HHC	comp=Z,25nm,1.0s			PMZ			
HHC	comp=Z,92nm,6.2s			PMZ			
HHC	comp=Z,2μm,16.3s			LN			
HHC	comp=Z,2μm,16.3s			LE			
SNY	**Shenyang**	**51.55**	**12**	⇑P	**P**	**14 51 50.6**	**-1.3**
SNY	comp=Z,23nm,0.8s			PMZ			
MAJO	**Matsushiro**	**51.65**	**28**	⇓*e*P	**P**	**14 51 51.4**	**-1.3**
MAJO	comp=Z,26nm,0.6s			pmax	pmax		
MAJO	**Matsushiro** comp=Z,9.4nm,0.7s	**51.65**	**28**	*e*P	P	14 51 49.7	-3.1
MAT	**Matsushiro**	**51.65**	**28**	P	**P**	**14 51 51.0**	**-1.7**
MAT				*e*S	S	14 59 22.6	+12
MJAR	**Matsushiro Arr** comp=Z,12nm,0.7s,baz=205,slow=9.3,SNR=40	**51.65**	**28**	P	**P**	**14 51 51.3**	**-1.5**
MJAR	comp=Z,5.4nm,0.8s,baz=212,slow=5.3,SNR=7.6			PcP	**PcP**	**14 53 06.8**	**+0.9**
MJAR	comp=Z,41nm,20.9s,baz=205,slow=36			LR	LR	15 13 25.2	
CN2	**Changchun**	**53.83**	**13**	*e*P	**P**	**14 52 07.3**	**-1.4**
CN2	comp=Z,10.0nm,0.5s			PMZ			
VLA	**Vladivostok**	**54.90**	**18**	⇓*iP*	**P**	**14 52 14.3**	**-2.2**
VLA				*i*		14 53 15.6	
VLA				*e*S	**S**	**14 59 52.3**	**-2.1**
VLA	comp=Z,8.0nm,0.9s			pmax	pmax		
MDJ	**Mudanjiang**	**55.61**	**16**	P	**P**	**14 52 20.9**	**-0.7**
MDJ	comp=Z,11nm,0.8s			PMZ			
MDJ	comp=Z,47nm,8.2s			PMZ			
USRK	**Ussuriysk Ar.** comp=Z,16nm,0.9s,baz=210,slow=5.6,SNR=33	**55.91**	**18**	P	**P**	**14 52 23.1**	**-0.6**
SONM	**Songino Array** comp=Z,10nm,0.5s,baz=177,slow=8.2,SNR=49	**56.47**	**356**	P	**P**	**14 52 27.4**	**-0.5**
SONM	comp=Z,7.7nm,0.6s,baz=175,slow=3.3,SNR=11			PcP	**PcP**	**14 53 24.2**	**0.0**
WMQ	**Urumqi**	**56.51**	**340**	P	**P**	**14 52 28.9**	**+0.8**
WMQ				pP	**pP**	**14 52 39.0**	**-2.8**
WMQ				sP	sP	14 52 42.9	-4.5
WMQ				PcP	**PcP**	**14 53 25.3**	**+0.9**
WMQ				PP	**PP**	**14 54 36.3**	**+1.9**
WMQ	comp=Z,23nm,1.0s			PMZ			
WMQ	comp=Z,100nm,4.8s			PMZ			
WMQ	comp=Z,130nm,8.2s			LN			
WMQ	comp=Z,110nm,9.2s			LE			
WMQ	comp=Z,58nm,23.0s			LZ			
KSH	**Kashi**	**58.09**	**328**	P	**P**	**14 52 36.4**	**-3.1**
KSH				sP	**sP**	**14 52 55.9**	**-2.9**
KSH				PcP	**PcP**	**14 53 29.0**	**-1.8**
KSH				PP	**PP**	**14 54 52.3**	**+3.6**
KSH				S	**S**	**15 00 41.8**	**+4.6**
KSH				sS	sS	15 00 54.9	-5.2
KSH	comp=Z,94nm,5.2s			PMZ			
KSH	comp=Z

comp=Z,7.0nm,0.7s
KBL Kabul 58.73 320 *e*P P **14 52 41.9 -2.2**
comp=Z,7.2nm,0.7s
ZAK Zakamensk 59.27 354 *e*P P **14 52 46.6 -0.8**
ZAK *e* 14 53 34.3
ZAK pmax pmax
comp=Z,2.0nm,1.0s
ASAJ Asahikawa 59.75 26 P P **14 52 49.9 -0.8**
comp=Z,4.7nm,0.5s,baz=216,slow=5.3,SNR=11
ASAJ Asahikawa 59.75 26 P P **14 52 49.9 -0.8**
ASAJ pmax pmax
comp=Z,5.0nm,0.5s
ASAJ Asahikawa 59.75 26 P P **14 52 49.9 -0.8**
comp=Z,0.6nm,1.1s
KLR Kul'dur 60.44 15 *e*P P 14 52 49.8 -5.5
TLY Talaya 60.52 355 P P **14 52 53.2 -2.6**
comp=Z,1.7nm,0.5s,baz=192,slow=11,SNR=4.2
TLY PcP **PcP** **14 53 40.6 +0.6**
comp=Z,0.9nm,0.4s,baz=214,slow=9.6,SNR=3.8
HABR Khabarovsk 60.68 18 *e*P P 14 52 53.7 -3.3
HABR *e**SP sP 14 53 10.4 -6.0
HABR *e* 14 53 37.5
HABR *e* 14 55 07.7
HABR *e*S **S** **15 01 07.7 -2.2**
HABR *e* 15 01 22.0
HABR *e**SS sS 15 01 27.1 -5.9
HABR *e* 15 02 41.6
HABR pmax pmax
comp=Z,7.0nm,1.9s
HABR MLR MLR
comp=Z,54nm,20.0s
TKM2 Tokmak 2 60.82 331 *e*P P **14 52 56.1 -2.2**
TKM2 pmax pmax
comp=Z,14nm,0.6s
TKM2 Tokmak 2 60.82 331 *e*P P **14 52 56.1 -2.2**
comp=Z,14nm,0.6s
MKAR Makanchi Array 61.01 338 *e*P P **14 52 58.2 -1.1**
MKAR Makanchi Array 61.01 338 *e*P P **14 52 58.2 -1.1**
EKS2 Erkin-Say 61.53 329 *e*P P **14 53 00.2 -2.8**
EKS2 pmax pmax
comp=Z,4.0nm,0.6s
EKS2 Erkin-Say 61.53 329 *e*P P **14 53 00.1 -2.8**
comp=Z,4.1nm,0.6s
YSS Yuzh-Sakhalins 62.10 24 *e*P P **14 53 04.5 -2.1**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 62.10 24 *e*P P **14 53 05.4 -1.2**
comp=Z,16nm,0.6s
UOSS Wadi Hilu 63.22 304 *e*P P **14 53 11.5 -3.0**
comp=Z,28nm,1.1s
HATD Hatta, Dubai 63.23 303⇑ *e*P P **14 53 14.2 -0.4**
SNR=6.4
ASHO Ashiyiah 63.23 303 ⇓P P **14 53 14.1 -0.6**
FAQ Al Faqa, Dubai 63.65 303⇓ *i*P P **14 53 16.8 -0.6**
SNR=19
NAZ Nazwa, Dubai 63.69 303 ⇓P P **14 53 17.2 -0.4**
ASUD Al Ashush, Dub 63.81 303 *i*P P **14 53 18.2 -0.2**
SNR=6.1
IDAH Dahanechah 63.99 313 *e*P P **14 53 18.2 -1.5**
ITEG Tejag 64.88 312 *e*P P **14 53 23.4 -2.2**
KURBB Kurchatov Arra 65.58 338 P P **14 53 28.0 -1.4**
comp=Z,5.3nm,0.8s,baz=156,slow=5.6,SNR=37
KURBB PcP **PcP** **14 54 00.4 -0.3**
comp=Z,6.6nm,0.8s,baz=142,slow=3.4,SNR=14
KURK Kurchatov 65.62 338 P P **14 53 28.0 -1.6**
comp=Z,94nm,0.8s,SNR=7.9
KURK Kurchatov 65.62 338 P P **14 53 28.0 -1.6**
KURK 14 54 00.4
KURK pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 65.62 338 P P **14 53 28.0 -1.6**
comp=Z,1.4nm,0.7s
KURK PcP **PcP** **14 54 00.4 -0.4**
CLNS Chul'man 66.28 8 *e*P P **14 53 33.0 -0.9**
CLNS pmax pmax
comp=Z,20nm,1.1s
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,1.1s
ZAA0 Zalesovo Array 66.32 343 *e*P P 14 53 30.3 -3.8
ZALV Zalesovo Beam 66.32 343 P P **14 53 32.2 -1.9**
comp=E,3.3nm,0.4s,baz=155,slow=5.8,SNR=16
ZALV PcP **PcP** **14 54 01.5 -2.2**
comp=E,3.0nm,0.5s,baz=160,slow=4.0,SNR=4.9
BOD Bodaibo 66.35 2 *e*P P **14 53 33.1 -1.1**
BOD pmax pmax
comp=Z,16nm,0.8s
MAW Mawson 67.01 198 P P **14 53 39.5 +1.2**
comp=Z,1.8nm,0.6s,baz=59,slow=6.9,SNR=3.9
NVS Novosibirsk 67.56 343 *e*P P 14 53 36.7 -5.2
NVS pmax pmax
comp=N,6.0nm,1.6s
NVS pmax pmax
comp=Z,14nm,1.6s
ISAD Sadrabad 68.21 309 *e*P P **14 53 45.0 -1.9**
IANJ Anjilo 69.63 313 *e*P P **14 53 54.1 -1.5**
ISHM Shahmirzad 70.23 313 *e*P P **14 53 58.4 -1.0**
ILAS Lasjerd 70.28 312 *e*P P **14 53 58.5 -1.2**
BVAR Borovoye Array 70.65 335 P P **14 53 59.8 -1.3**
comp=Z,7.1nm,0.7s,baz=134,slow=8.3,SNR=35
BRVK Borovoye 70.72 335*d i*P P **14 53 59.7 -1.9**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 70.72 335 *e*P P **14 54 00.3 -1.2**
RAYN Ar Rayn 71.79 298 P P **14 54 07.6 -1.2**
comp=Z,86nm,0.6s,SNR=8.6
RAYN Ar Rayn 71.79 298 *e*P P **14 54 06.7 -2.1**
YAK Yakutsk 71.98 9 P P **14 54 07.9 -1.0**
comp=Z,4.6nm,0.5s,baz=196,slow=24,SNR=15
YAK Yakutsk 71.98 9*c i*P P **14 54 07.7 -1.2**
YAK *e* 14 54 23.2
YAK *e**PP PcP 14 54 33.7 +6.4
YAK *e*S **S** **15 03 22.1 -4.3**
YAK *e* 15 03 58.8
YAK *e**SS **ScS** **15 04 10.1 -0.4**
YAK *e*SS SS 15 07 56.3 -7.9
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,48nm,3.7s
YAK pmax pmax
comp=N,41nm,3.9s
YAK smax smax
comp=N,22nm,3.2s
YAK Yakutsk 71.98 9 *e*P P **14 54 06.7 -2.2**
comp=N,58nm,0.7s
ABKAR Akbulak array 73.09 328 *e*P P **14 54 14.8 -1.1**
PETK Petropavlovsk- 73.10 27 P P **14 54 15.3 -0.5**
comp=N,10.0nm,0.7s,baz=208,slow=7.1,SNR=16
VNDA Vanda 73.52 170 P P **14 54 19.0 +1.0**
comp=N,1.5nm,0.5s,baz=320,slow=7.2,SNR=20
VNDA LR LR 15 23 39.4
comp=N,58nm,21.0s,baz=289,slow=33
VNDA Vanda 73.52 170 P P **14 54 19.0 +1.0**
KMBO Kilima Mbogo 74.05 271 P P **14 54 23.6 +1.0**
comp=N,3.5nm,0.6s,baz=41,slow=7.0,SNR=7.6
AKTO Aktyubinsk 74.79 328 P P **14 54 24.8 -1.0**
comp=N,15nm,0.8s,baz=92,slow=3.1,SNR=45
SVE Sverdlovsk 77.36 334⇑ *i*P P **14 54 39.8 -0.5**
SVE pmax pmax
comp=Z,19nm,1.0s
ARU Arti 78.03 333*c i*P P **14 54 42.7 -1.3**
ARU S **S** **15 04 32.8 -1.2**
ARU SS SS 15 09 26.8 -10
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 78.03 333 *e*P P **14 54 42.9 -1.1**
SEY Seymchan 78.06 18⇑ *i*P P **14 54 43.7 -0.3**
GNI Garni 78.18 314 P P **14 54 45.1 -0.3**
comp=Z,4.7nm,0.4s,baz=180,slow=7.1,SNR=5.0
GNI Garni 78.18 314⇓ *e*P P **14 54 44.9 -0.5**
GNI pmax pmax
comp=Z,15nm,1.0s
ZEI Tsey 79.75 316 *e*P P **14 54 53.2 -0.9**
ZEI pmax pmax
comp=Z,9.0nm,0.4s
KBZ Khabaz 80.78 317 P P **14 54 58.7 -0.6**
comp=Z,19nm,0.8s,baz=112,slow=5.1,SNR=33
KIV Kislovodsk 81.00 317 *i*P P **14 54 59.5 -1.1**
KIV pmax pmax
comp=Z,16nm,0.9s
KIV Kislovodsk 81.00 317⇑ *e*P P **14 55 01.8 +1.1**
KIV Kislovodsk 81.00 317 *e*P P **14 54 58.9 -1.7**
TIXI Tiksi 81.05 6⇓ *i*P P **14 54 58.5 -1.6**
TIXI pmax pmax
comp=Z,26nm,0.7s
TIXI Tiksi 81.05 6 *e*P P **14 54 58.6 -1.5**
comp=Z,33nm,0.8s
LSZ Lusaka 81.13 256 *e*P P **14 55 00.5 -1.5**
LSZ pmax pmax
comp=Z,8.0nm,0.7s
LSZ Lusaka 81.13 256 *e*P P **14 55 00.5 -1.5**
comp=Z,7.6nm,0.7s
GOF Gofitskoye 81.17 318 *e*P P **14 54 58.8 -2.5**
GOF pmax pmax
comp=Z,28nm,0.8s
QSPA South Pole Qui 81.28 180 *e*P P **14 55 01.7 0.0**
comp=Z,83nm,2.4s
ASF Jabal al Asfar 81.61 304 P P **14 55 04.9 +0.8**
comp=Z,11nm,0.8s,baz=88,slow=4.1,SNR=16
MALT Malatya 82.17 311⇑ *i*P P **14 55 07.9 +1.0**
MALT Malatya 82.17 311 *i*P P **14 55 07.9 +1.0**
BOSA Boshof 82.42 242 P P **14 55 09.8 +1.3**
comp=Z,3.2nm,0.7s,baz=116,slow=8.6,SNR=4.7
EIL Elat 82.58 301 P P **14 55 09.5 +0.4**
comp=Z,11nm,0.9s,baz=142,slow=4.0,SNR=9.2
SOC Sochi 82.90 316 *e*P P **14 55 09.5 -0.9**
SOC *e*PPP PPP 15 00 11.9
SOC pmax pmax
comp=Z,63nm,0.9s
MMAI Mount Meron Ar 83.06 305 P P **14 55 12.7 +1.1**
comp=Z,13nm,0.8s,baz=93,slow=7.7,SNR=11
VRHR Novokhopersk 84.27 324 *e*P P **14 55 16.2 -1.1**
VRHR pmax pmax
comp=N,8.0nm,0.6s
VRHR pmax pmax
comp=Z,7.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.7s
CSS Prodhromos 85.21 306 *e*P P 14 55 19.2 -3.2
VORD Divnogorie 85.61 323 *e*P P **14 55 22.6 -1.4**
VORD pmax pmax
comp=Z,20nm,0.6s
VORD pmax pmax
comp=N,10.0nm,0.5s
VORD pmax pmax
comp=E,40nm,0.6s
VSR Storozhevoye 85.77 323 *e*P P **14 55 23.4 -1.4**
VSR pmax pmax
comp=N,8.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR pmax pmax
comp=Z,20nm,0.6s
BILL Bilibino 85.77 18*c i*P P **14 55 23.3 -1.1**
BILL *i* 14 58 43.9
BILL pmax pmax
comp=Z,12nm,2.5s
BR131 Keskin Array S 86.14 311 *e*P P **14 55 25.1 -2.0**
comp=Z,10nm,0.9s
BRTR Keskin Array B 86.14 311 P P **14 55 26.6 -0.5**
comp=Z,8.9nm,0.9s,baz=128,slow=6.6,SNR=28
BRTR LR LR 15 39 36.9
comp=Z,8.7nm,18.3s,baz=118,slow=40
OBN Obninsk 88.49 326 P P **14 55 37.0 -0.8**
comp=Z,42nm,0.7s,baz=32,slow=2.6,SNR=9.9
OBN Obninsk 88.49 326⇑ *i*P P **14 55 35.3 -2.5**
OBN *i* 14 55 53.7
OBN pmax pmax
comp=Z,36nm,0.8s
SNAA Sanae 89.14 197 P P **14 55 42.6 +1.8**
SNAA Sanae 89.14 197 P P **14 55 42.2 +1.4**
comp=Z,1.9nm,0.8s,baz=123,slow=6.1,SNR=18
SNAA Sanae 89.14 197 *i*P P **14 55 41.3 +0.5**
SNAA pmax pmax
comp=Z,7.0nm,1.2s
TMCR Tamitsa 90.61 335 *e*P P **14 55 46.1 -1.4**
TMCR pmax pmax
comp=Z,21nm,0.7s
AKASG Malin Array Be 91.69 321 P P **14 55 51.3 -1.6**
comp=Z,2.0nm,0.6s,baz=88,slow=4.4,SNR=9.4
KIEV Kiev 91.69 321⇑ *i*P P **14 55 51.3 -1.6**
KIEV Kiev 91.69 321 *e*P P **14 55 51.1 -1.8**
JMB Yambol 91.94 313 ⇓P P **14 55 54.1 -0.2**
JMB Yambol 91.94 313⇓ *i*P P **14 55 54.1 -0.2**
VRI Vrincioaia 92.42 316 ⇓P P **14 55 56.2 -0.3**
VRI Vrincioaia 92.42 316⇓ *i*P P **14 55 56.2 -0.3**
PLOR Plostina 92.47 316 ⇓P P **14 55 57.6 +0.9**
PLOR Plostina 92.47 316⇓ *i*P P **14 55 57.6 +0.9**
MLR Muntele Rosu 92.90 315 P P **14 55 57.8 -1.0**
comp=Z,0.7nm,0.6s,baz=207,slow=9.0,SNR=4.6
MLR Muntele Rosu 92.90 315⇑ *i*P P **14 55 58.4 -0.4**
MLR Muntele Rosu 92.90 315⇑ *i*P P **14 55 58.4 -0.4**
MTUR Matau 93.47 315⇑ *i*P P 14 56 06.9 +5.5
MTUR Matau 93.47 315⇑ *i*P P 14 56 06.9 +5.5
FINES FINESS Array B 95.30 331 P P **14 56 08.6 -0.7**
comp=Z,2.4nm,0.7s,baz=115,slow=6.3,SNR=7.6
ARCES ARCESS Array B 96.63 339 P P **14 56 13.6 -1.6**
comp=Z,1.2nm,0.6s,baz=96,slow=6.1,SNR=12
PKSM Moragy 98.05 316⇑ ⇓P P **14 56 20.9 -1.2**
PKSM Moragy 98.05 316⇑ *i*P P **14 56 20.9 -1.2**
HFS Hagfors 101.29 330 P Pdif **14 56 35.4 -0.8**
comp=Z,3.4nm,0.8s,baz=112,slow=3.9,SNR=4.1
ILAR Eielson Array 102.88 25 Pdiff **Pdif** **14 56 41.7 -1.6**
comp=Z,0.3nm,0.6s,baz=287,slow=4.6,SNR=3.3
TORD Torodi Ar. Bea 110.91 281 PKIKP **PKiKP** **15 01 18.6 -1.1**
comp=Z,1.0nm,0.8s,baz=75,slow=1.8,SNR=5.1
YKA Yellowknife Ar 116.93 22 PKP **PKPdf** **15 01 29.2 -0.6**
comp=Z,1.5nm,0.7s,baz=343,slow=2.2,SNR=6.2
I03D Drain, OR 121.25 44 P **PKPdf** **15 01 39.7 +1.0**
baz=121
I04A Tendick Farm, 121.85 43 P **PKPdf** **15 01 40.6 +0.6**
baz=122
J04D Umpqua Nationa 122.25 44 P **PKPdf** **15 01 41.5 +0.6**
baz=122
M02C Callahan 122.34 46 P **PKPdf** **15 01 41.6 +0.6**
baz=122
I05D Terrebonne, OR 122.38 42 P **PKPdf** **15 01 41.8 +0.9**
baz=122
N02D Trinity Center 122.58 47 P **PKPdf** **15 01 42.4 +1.0**
baz=122
J05D Fort Rock, OR 122.83 44 P **PKPdf** **15 01 43.0 +1.0**
baz=123
M04C Macdoel 122.94 45 P **PKPdf** **15 01 42.8 +0.7**
baz=123
NEW Newport 123.41 37 P **PKPdf** **15 01 43.6 +0.8**
baz=123
MSO Missoula 125.99 37 P **PKPdf** **15 01 48.2 +0.4**
baz=126
MFID Camas Ranch 126.40 42 *e*PKPdf **PKPdf** **15 01 49.9 +1.1**
NVAR Mina Array Bea 126.63 48 PKP **PKPdf** **15 01 51.0 +1.5**
comp=Z,2.2nm,0.7s,baz=298,slow=1.9,SNR=17
HLID Hailey 127.26 41 P **PKPdf** **15 01 52.1 +1.7**
baz=127
HLID Hailey 127.26 41 *e*PKPdf **PKPdf** **15 01 52.2 +1.7**
ELK Elko 127.94 44 *e*PKIKP **PKPdf** **15 01 52.9 +1.0**
ELK Elko 127.94 44 *e*PKPdf **PKPdf** **15 01 52.9 +1.0**
BOZ Bozeman (W) 127.97 37 P **PKPdf** **15 01 53.1 +1.4**
baz=128
EDW2 Edwards Air Fo 128.03 52 P **PKPdf** **15 01 53.1 +1.1**
baz=128
MPMC Manual Prospec 128.04 51 P **PKPdf** **15 01 53.4 +1.2**
baz=128
R11A Troy Canyon, C 128.65 47 P **PKPdf** **15 01 54.7 +1.4**
baz=128
A21A Bergtoll Ranch 128.68 31 P **PKPdf** **15 01 53.7 +0.9**
baz=128
PDAR Pinedale Array 130.74 39 PKP **PKPdf** **15 01 57.6 +0.4**
comp=Z,0.8nm,0.6s,baz=345,slow=2.8,SNR=5.5
I20A Worland 130.98 37 P **PKPdf** **15 01 58.4 +1.0**
baz=131
MSU Marysvale 131.02 46 *e*PKIKP **PKPdf** **15 01 58.8 +1.0**
MSU Marysvale 131.02 46 *e*PKPdf **PKPdf** **15 01 58.8 +1.0**
J20A Shoshoni 131.34 38 P **PKPdf** **15 01 58.8 +0.7**
baz=131
I21A Big Trails, Te 131.56 37 P **PKPdf** **15 01 58.5 -0.1**
baz=131
J22A Midwest 132.28 37 P **PKPdf** **15 02 00.2 +0.2**
baz=132
G25A Newell 132.94 33 P **PKPdf** **15 02 02.2 +1.1**
baz=133
O20A White River Ci 132.95 42 P **PKPdf** **15 02 02.2 +0.8**
baz=133
RSSD Black Hills 133.27 35 *e*PKIKP **PKPdf** **15 02 01.7 -0.2**
RSSD Black Hills 133.27 35 *e*PKPdf **PKPdf** **15 02 01.6 -0.2**
G27A Dupree 133.61 32 P **PKPdf** **15 02 02.8 +0.6**
baz=133
SCHQ Schefferville 133.99 358 PKP **PKPdf** **15 02 02.2 -0.4**
comp=Z,5.7nm,0.9s,baz=46,slow=4.5,SNR=5.0
ECSD EROS Data Cent 137.49 30 *e*PKPdf **PKPdf** **15 02 08.8 -0.7**
T26A Comanche Natio 137.60 43 P **PKPdf** **15 02 10.8 +0.7**
baz=137
TXAR Lajitas Array 141.35 53 PKhKP PKPpre 15 02 10.8
comp=Z,0.8nm,0.6s,baz=242,slow=1.8,SNR=10
TXAR Lajitas Array 141.35 53 PKHKP PKPpre 15 02 10.8
TXAR pmax pmax
comp=Z,1.0nm,0.6s
430A Baggett Ranch, 142.57 50 P **PKPdf** **15 02 15.7 -3.5**
baz=142
530A J-C Ranch, Com 142.80 51 P **PKPdf** **15 02 16.4 -3.2**
baz=143
431A Sonora 143.09 49 P PKPbc 15 02 17.8 +0.8
baz=143
232A Coleman 143.18 47 P PKPbc 15 02 18.3 +1.1
baz=143
133A Hamilton Ranch 143.31 45 P PKPbc 15 02 18.5 +0.9
baz=143
Y34A Reagan Ranch, 143.34 43 P PKPbc 15 02 18.5 +1.0
baz=143
V36A Jenks 143.36 39 P PKPbc 15 02 17.5 0.0
baz=143
332A Millersview 143.38 48 P PKPbc 15 02 18.0 +0.2
baz=143
531A Rocksprings 143.39 50 P PKPbc 15 02 18.6 +0.8
baz=143
X35A Drake 143.59 41 P PKPbc 15 02 18.5 +0.3
baz=143
432A Menard 143.60 48 P PKPbc 15 02 18.8 +0.3
baz=143
W36A Wetumka 143.60 40 P PKPbc 15 02 18.1 -0.2
baz=143
233A Rising Star 143.65 46 P PKPbc 15 02 18.9 +0.4
baz=144
631A Perdido Creek 143.73 51 P PKPbc 15 02 19.1 +0.3
baz=144
V37A Hulbert 143.79 38 P PKPbc 15 02 18.4 -0.3
baz=144
JCT Junction City 143.80 49 *e*PKIKP **PKPdf** **15 02 20.3 -1.0**
JCT Junction City 143.80 49 *e*PKPdf **PKPdf** **15 02 20.3 -1.0**
U38A Gravette 143.86 36 P PKPbc 15 02 18.8 -0.2
baz=144
LONY Lake Ozonia 143.88 7 *e*PKPdf PKPab 15 02 18.3 +0.2
X36A Centrahoma 143.88 40 P PKPbc 15 02 19.0 -0.1
baz=144
532A Rocksprings 143.89 50 P PKPbc 15 02 19.8 +0.5
baz=144
333A Richland Sprin 143.96 47 P **PKPdf** **15 02 20.4 -1.2**
baz=144
W37A Quinton 144.10 39 P PKPbc 15 02 19.9 +0.1
baz=144
EMMW East Machias 144.13 358 *e*PKPdf PKPbc 15 02 19.5 0.0
234A Clairette 144.20 46 P PKPbc 15 02 20.6 +0.4
baz=144
WVL Waterville 144.28 1 *e*PKPdf PKPbc 15 02 19.8 -0.2
632A Uvalde 144.29 50 P PKPbc 15 02 20.8 +0.3
baz=144
Y36A Durant 144.34 41 P PKPbc 15 02 20.8 +0.3
baz=144
SFIN Lafayette 144.48 24 P PKPbc 15 02 20.8 +0.1
baz=144
X37A Clayton 144.49 40 P PKPbc 15 02 21.0 0.0
baz=144
334A Lometa 144.50 47 P PKPbc 15 02 21.4 +0.3
baz=144
732A Laxson Ranch, 144.51 52 P **PKPdf** **15 02 22.6 0.0**
baz=144
NCB Newcomb 144.56 7 *e*PKPdf PKPbc 15 02 21.2 +0.3
533A Kerrville 144.57 49 P **PKPdf** **15 02 22.5 -0.2**
baz=144
WHTX Lake Whitney, 144.68 45 P **PKPdf** **15 02 22.5 -0.3**
baz=144
W38A Poteau 144.71 38 P PKPbc 15 02 21.7 +0.1
baz=144
832A Faith Ranch, C 144.72 52 P **PKPdf** **15 02 23.0 0.0**
baz=145
Y37A Hugo 144.72 41 P PKPbc 15 02 22.0 +0.3
baz=144
434A Burnet 144.75 47 P PKPbc 15 02 22.1 +0.1
baz=145
633A Saathoff Ranch 144.77 50 P **PKPdf** **15 02 23.2 +0.2**
baz=145
X38A Whitesboro 144.78 39 P **PKPdf** **15 02 22.4 -0.5**
baz=145
534A Blanco 145.01 49 P **PKPdf** **15 02 23.4 -0.1**
baz=145
HNH Hanover 145.01 5 *e*PKPdf **PKPdf** **15 02 22.6 -0.3**
136A Ennis 145.04 43 P **PKPdf** **15 02 23.6 +0.2**
baz=145
733A Divot King Ran 145.04 51 P **PKPdf** **15 02 23.9 +0.4**
baz=145
335A Moody 145.10 46 P **PKPdf** **15 02 23.5 0.0**
baz=145
833A Chaparral WMA, 145.15 52 P **PKPdf** **15 02 24.5 +0.8**
baz=145
ACCN Adirondack Com 145.20 6 *e*PKPdf **PKPdf** **15 02 23.1 -0.2**
Z37A Pogue Cattle C 145.21 42 P **PKPdf** **15 02 24.0 +0.4**
baz=145
435B Jarrell 145.26 47 P **PKPab** **15 02 24.1 +0.4**
baz=145
OLIL Olney 145.41 27 *e*PKPdf **PKPbc** **15 02 23.7 -0.1**
336A Riesel 145.46 45 P **PKPab** **15 02 25.1 +0.7**
baz=145
734A La Parita Cree 145.55 50 P **PKPab** **15 02 25.9 +1.1**
baz=145
933A Laredo 145.57 53 P **PKPab** **15 02 26.1 +1.2**
baz=145
Z38A Mt. Pleasant 145.59 41 P **PKPab** **15 02 25.0 +0.2**
baz=145
MIAR Mount Ida 145.64 38 *e*PKIKP **PKPab** **15 02 24.9 -0.1**
MIAR Mount Ida 145.64 38 *e*PKPbc **PKPab** **15 02 24.9 -0.1**
535A Dale 145.68 48 P **PKPab** **15 02 25.7 +0.4**
baz=146
SIUC Southern Illin 145.70 30 *e*PKPdf **PKPbc** **15 02 24.5 -0.2**
Y39A Lockesburg 145.72 39 P **PKPab** **15 02 25.3 0.0**
baz=146
BLO Bloomington 145.73 25 *e*PKIKP **PKPbc** **15 02 24.5 -0.2**
BLO Bloomington 145.73 25 *e*PKPdf **PKPbc** **15 02 24.5 -0.2**
237A Washetta, Mont 145.81 44 P **PKPab** **15 02 26.4 +0.8**
baz=146
436A Wall Ranch, Ga 145.84 46 P **PKPab** **15 02 26.8 +1.0**
baz=146
TRY Troy 145.85 7 *e*PKPbc **PKPab** **15 02 26.1 +0.7**
635A Leesville 145.87 49 P **PKPab** **15 02 26.8 +0.9**
baz=146
138A Matatall Enter 145.90 42 P **PKPab** **15 02 27.0 +1.0**
baz=146
834A Tilden 145.90 52 P **PKPab** **15 02 27.5 +1.4**
baz=146
536A Bastrop 146.02 47 P **PKPab** **15 02 27.0 +0.4**
baz=146
735A Kenedy 146.11 50 P **PKPab** **15 02 27.8 +0.9**
baz=146
Z39A Irene McRaven, 146.12 40 P **PKPab** **15 02 27.6 +0.8**
baz=146
ACSO Alum Creek Sta 146.14 20 *e*PKPbc **PKPbc** **15 02 26.1 +0.1**
337A Centerville 146.17 45 P **PKPab** **15 02 27.9 +0.8**
baz=146
934A Benavides 146.17 52 P **PKPab** **15 02 28.5 +1.3**
baz=146
HRV Adam Dziewonsk 146.26 4 *e*PKP2 **PKPbc** **15 02 26.1 -0.2**
HRV Adam Dziewonsk 146.26 4 *e*PKPbc **PKPbc** **15 02 26.1 -0.2**
034A Hebbronville 146.29 53 P **PKPab** **15 02 29.0 +1.4**
baz=146
139A Bunkhouse Ranc 146.34 41 P **PKPab** **15 02 27.9 +0.3**
baz=146
636A Smothers Creek 146.35 48 P **PKPab** **15 02 28.9 +1.2**
baz=146
835A Beeville 146.38 51 P **PKPab** **15 02 29.0 +1.1**
baz=146
338A Crockett 146.54 44 P **PKPab** **15 02 29.0 +0.5**
baz=146
WCI Wyandotte Cave 146.62 26 *e*PKP2 **PKPbc** **15 02 27.5 0.0**
WCI Wyandotte Cave 146.62 26 *e*PKPab **PKPbc** **15 02 27.5 0.0**
239A Gary 146.70 42 P **PKPab** **15 02 29.4 +0.3**
baz=146
NATX Nacogdoches 146.74 43 P **PKPab** **15 02 29.4 +0.2**
baz=146
438A Sam Houston St 146.78 45 P **PKPab** **15 02 30.1 +0.7**
baz=147
035A Encino 146.81 53 P **PKPab** **15 02 30.4 +0.7**
baz=146
SSPA Standing Stone 147.19 13 *e*PKPab **PKPbc** **15 02 29.1 +0.1**
340A Bronson 147.47 43 P **PKPbc** **15 02 30.9 +0.8**

baz=147
WVT Waverly 147.63 30 *e*PKP2 **PKPbc 15 02 30.6 +0.2**
WVT Waverly 147.63 30 *e*PKPbc **PKPbc 15 02 30.6 +0.2**
440A Kirbyville 147.83 44 P **PKPab 15 02 33.1 -0.4**
baz=148
OXF Oxford 148.07 33 *e*PKP2 **PKPbc 15 02 31.4 -0.2**
OXF Oxford 148.07 33 *e*PKPbc **PKPbc 15 02 31.4 -0.2**
LRAL Lakeview Retre 150.49 32 *e*PKPbc **PKPbc 15 02 37.7 +0.1**
KMSC Kings Mountain 151.28 22 P **PKPbc 15 02 39.4 -0.1**
baz=151
KMSC Kings Mountain 151.28 22 *e*PKPbc **PKPbc 15 02 39.1 -0.3**
LPAZ La Paz 155.14 181 PKP **PKPdf 15 02 41.4 +1.1**
comp=Z,1.5nm,1.0s,baz=143,slow=5.1,SNR=6.2

IDC 18 14:43:20.9±1.6,2°98'S×127°54'E, h0km, mb3.8/3, mb1 4.2/5, mb1mx3.7/44, mbtmp4.0/5, ML4.4/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/28, Error ellipse: s-maj=41.9km s-min=23.1km az=90.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.28**	**61**	Pn	Pn	14 44 28.9	+1.5
	24nm,0.3s,baz=247,slow=23,SNR=88						
SIJI				Sn	Sn	14 45 18.8	+0.7
	4.0nm,0.3s,baz=57,slow=23,SNR=7.2						
SIJI				LR	LR	14 46 47.5	
	comp=Z,135nm,20.3s,baz=236,slow=48						
WRA	**Warramunga Arr**	**18.12**	**159**	P	Pn	14 47 33.5	-0.7
	1.2nm,0.3s,baz=341,slow=12,SNR=27						
ASAR	**Alice Springs**	**21.47**	**164**	P	P	14 48 10.6	-0.6
	5.0nm,0.7s,baz=344,slow=12,SNR=79						
ASAR				S	S	14 52 03.8	-6.5
	2.6nm,0.9s,baz=346,slow=19,SNR=5.3						
KSRS	**Korea Array**	**40.23**	**0**	P	P	14 50 59.2	-0.2
	1.4nm,0.9s,baz=181,slow=9.3,SNR=7.4						
ILAR	**Eielson Array**	**90.78**	**25**	P	P	14 56 25.8	0.0
	0.2nm,0.8s,baz=277,slow=4.5,SNR=2.4						
LSZ	**Lusaka**	**98.22**	**254**	LR	LR	15 35 24.4	
	comp=Z,66nm,19.2s,baz=294,slow=32						

MAN 18 14:51:39,7°12N×125°77E, h29km, mb4.8, ML3.7, MS3.8, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.52**	**109**	*e*P	Pn	14 51 50.9	+0.5
MATI				*e*S	Sn	14 51 59.9	+1.6
BUKP	**Musuan**	**1.03**	**317**	*e*P	Pb	14 51 58.4	0.0
BUKP				*e*S	Sn	14 52 11.0	-0.1
GSPH	**General Santos**	**1.31**	**219**	*e*P	Pn	14 51 58.7	-2.8
GSPH				*e*S	Sn	14 52 14.2	-3.9
CTBH	**Cotabato--PC H**	**1.51**	**274**	*i*P	Pn	14 52 02.8	-1.3
CTBH				*i*S	Sn	14 52 19.9	-3.0
CGP	**Cagayan de Oro**	**1.70**	**321**	*e*P	Pn	14 52 08.0	+1.2
CGP				*e*S	Sn	14 52 29.1	+1.5
PAGZ	**Pagadian**	**2.47**	**287**	*e*P	Pn	14 52 17.3	-0.1
MSLP	**Maasin**	**3.13**	**343**	*e*P	Pn	14 52 26.9	+0.4
TBP	**Tagbilaran**	**3.18**	**324**	*e*P	Pn	14 52 28.0	+0.9

IDC 18 15:07:37.1±0.9, 1°78S×136°99E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.8/27, mbtmp3.9/8, ML4.1/2, MS3.4/7, Ms1 3.5/7, ms1mx3.2/27, Error ellipse: s-maj=35.3km s-min=19.3km az=74.0
ISCJB 18 15:07:40.9±0.5, 1°89S±0°06×136°81E±0°03, h33km, mb3.8/7, MS3.5/5, Error ellipse: s-maj=8.3km s-min=4.6km az=14.8
DJA 18 15:07:40.8±0.3,2°S±4°×137°7E±°, h10km, M4.8/9, mb4.9/2, mB5.0/1, MLv4.7/9, Mw(mB)4.3/1
NEIC 18 15:07:42.4±0.7, 1°88S×136°84E, h35km, mb4.0/2, Error ellipse: s-maj=18.7km s-min=11.3km az=84.0
NEIC Felt [III] at Serui.
ISC 18 15:07:42.6±0.7, 1°82S±0°07×136°82E±0°04, h35km, n26, σ1§75/29, mb3.9/7, MS3.6/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.59**	**265**	P	Pn	15 07 51.3	-3.2
SRPI				S	**Sn**	**15 08 00.1**	**-2.7**
BAKI	**Biak**	**0.95**	**311**	P	**Pn**	**15 07 57.4**	**-2.0**
BAKI				S	**Sn**	**15 08 11.2**	**-0.6**
SMPI	**Sarmi**	**1.89**	**95**	P	**Pn**	**15 08 10.9**	**-1.5**
SMPI				S	**Sn**	**15 08 37.6**	**+2.5**
RKPI	**Ransiki, Papua**	**2.66**	**277**	P	**Pn**	**15 08 23.4**	**+0.4**
RKPI				S	**Sn**	**15 08 58.5**	**+4.4**
GENI	**Genyem**	**3.43**	**103**	P	**Pn**	**15 08 34.1**	**+0.5**
JAY	**Jayapura**	**3.94**	**100**	P	**Pn**	**15 08 41.7**	**+1.1**
FAKI	**Fak Fak**	**4.70**	**256**	P	**Pn**	**15 08 51.0**	**-0.1**
FAKI	**Fak Fak**	**4.70**	**256**	*e*Pn	**Pn**	**15 08 50.9**	**-0.2**
FAKI				*e*Sn	**Sn**	**15 09 45.9**	**+1.5**
SIJI	**Sorong**	**5.64**	**280**	Pn	**Pn**	**15 09 05.0**	**+1.1**
	4.8nm,0.3s,baz=64,slow=15,SNR=12						
SIJI				Sn	**Sn**	**15 10 10.5**	**+3.0**
	2.8nm,0.3s,baz=292,slow=21,SNR=3.9						
SIJI				LR	LR	15 11 32.1	
	comp=Z,437nm,21.3s,baz=158,slow=40						
NLAI	**Namlea**	**9.82**	**262**	P	**Pn**	**15 10 04.0**	**+2.6**
GUMO	**Guam**	**17.26**	**27**	LR	LR	15 18 17.5	
	comp=Z,87nm,19.7s,baz=200,slow=37						
WRAB	**Tennant Creek**	**18.17**	**187**	*e*Pn	**Pn**	**15 11 49.2**	**-3.1**
	6.7nm,0.8s						
WRA	**Warramunga Arr**	**18.18**	**188**	P	**Pn**	**15 11 51.4**	**-1.0**
	0.6nm,0.3s,baz=9.6,slow=12,SNR=17						
WRA				S	Sn	15 15 02.4	-12
	0.2nm,0.3s,baz=10,slow=22,SNR=5.3						
FITZ	**Fitzroy Crossi**	**19.56**	**213**	*e*P	**P**	**15 12 07.5**	**0.0**
AS31	**Alice Springs**	**21.90**	**187**	*e*P	**P**	**15 12 32.1**	**-0.7**
ASAR	**Alice Springs**	**21.90**	**187**	P	**P**	**15 12 32.3**	**-0.6**
	2.9nm,0.6s,baz=11,slow=9.7,SNR=55						
ASAR				S	**S**	**15 16 33.0**	**-0.1**
	0.7nm,0.7s,baz=7.3,slow=30,SNR=4.2						
ASAR				LR	LR	15 22 20.8	
	comp=Z,314nm,18.1s,baz=4.0,slow=40						
STKA	**Stephens Creek**	**30.24**	**172**	P	**P**	**15 13 50.4**	**+0.2**
	2.3nm,0.5s,baz=347,slow=6.6,SNR=7.2						
STKA				LR	LR	15 28 22.6	
	comp=Z,148nm,18.5s,baz=352,slow=41						
CMAR	**Chiang Mai Arr**	**42.36**	**300**	P	**P**	**15 15 34.1**	**+0.3**
	0.4nm,0.6s,baz=114,slow=6.3,SNR=4.5						
USRK	**Ussuriysk Ar.**	**46.02**	**355**	LR	LR	15 32 34.0	
	comp=Z,31nm,20.1s,baz=190,slow=32						
PETK	**Petropavlovsk-**	**57.46**	**15**	LR	LR	15 38 23.2	
	comp=Z,12nm,21.4s,baz=212,slow=32						
ZALV	**Zalesovo Beam**	**70.23**	**330**	P	**P**	**15 18 52.0**	**+0.1**
	0.4nm,0.4s,baz=140,slow=9.4,SNR=3.2						
VNDA	**Vanda**	**76.84**	**175**	P	**P**	**15 19 30.7**	**+0.3**
	0.6nm,0.6s,baz=349,slow=5.2,SNR=3.7						
ABKAR	**Akbulak array**	**82.83**	**320**	P	**P**	**15 20 02.0**	**-1.4**
	1.1nm,0.6s						
ILAR	**Eielson Array**	**85.81**	**25**	P	**P**	**15 20 18.2**	**0.0**
	0.6nm,0.7s,baz=283,slow=4.4,SNR=7.5						
ILAR				LR	LR	15 51 42.6	
	comp=Z,26nm,21.6s,baz=310,slow=31						
TORD	**Torodi Ar. Bea**	**134.20**	**287**	PKP	**PKPdf**	**15 26 59.6**	**+1.9**
	0.5nm,0.7s,baz=44,slow=1.1,SNR=3.6						
LPAZ	**La Paz**	**149.49**	**127**	PKPbc	**PKPbc**	**15 27 28.6**	**-1.4**
	0.4nm,0.4s,baz=252,slow=6.4,SNR=2.6						

ISCJB 18 15:25:57.5±0.4, 35°36S±0°07×38°29E±0°07, h10km, mb4.3/27, MS3.6/5, Error ellipse: s-maj=11.0km s-min=7.1km az=26.6
IDC 18 15:25:57.6±0.5, 35°27S×38°54E, h0km, mb4.3/20, mb1 4.4/25, mb1mx4.3/39, mbtmp4.3/25, ML4.2/5, MS3.6/8, Ms1 3.6/8, ms1mx3.3/36, Error ellipse: s-maj=18.9km s-min=13.1km az=54.0
NEIC 18 15:25:58.9±0.3, 35°30S×38°38E, h10km, mb4.6/9, Error ellipse: s-maj=9.6km s-min=6.2km az=203.0
PRE 18 15:26:10.8±1.5, 34°08S×37°09E, h5km, ML4.8
ISC 18 15:25:59.0±0.4, 35°29S±0°09×38°45E±0°09, h10km, n103, σ1§08/93, mb4.3/27, MS3.6/5, 5C-4D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRM	**Grahamstown**	**10.07**	**278**	P	Pn	15 28 19.9	-3.9
SOE	**Somerset East**	**11.00**	**280**	P	Pn	15 28 26.9	-10
BUFB	**Buffelsbos**	**11.34**	**272**	*e*P	**Pn**	**15 28 38.3**	**-2.8**
BUFB				*e*S	Sn	15 30 29.2	-19
BUFB				AML	AML	15 30 41.0	
	comp=Z,23nm,0.2s						
BUFB	**Buffelsbos**	**11.34**	**272**	P	**Pn**	**15 28 38.0**	**-3.1**
	comp=Z,6.5nm,1.1s						
SEK	**Senekal**	**11.53**	**304**	P	**Pn**	**15 28 42.8**	**-1.0**
HVD	**Gariep Dam**	**11.84**	**290**	P	**Pn**	**15 28 48.2**	**+0.1**
PRYS	**Parys**	**12.63**	**308**	*e*P	Pn	15 28 50.8	-8.2
PRYS				*e*S	Sn	15 30 46.8	-33
PRYS				AML	AML	15 31 12.0	
	comp=Z,9.6nm,0.7s						
PRYS	**Parys**	**12.63**	**308**	P	**Pn**	**15 28 58.0**	**-0.9**
SLR	**Silverton**	**12.93**	**315**	P	**Pn**	**15 29 03.8**	**+0.7**
BOSA	**Boshof**	**13.02**	**297**	*e*P	Pn	15 28 57.2	-7.0
BOSA				*e*S	Sn	15 30 58.3	-31
BOSA				AML	AML	15 31 49.7	
	comp=Z,6.7nm,0.8s						
BOSA	**Boshof**	**13.02**	**297**	Pn	**Pn**	**15 29 02.9**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=121,slow=12,SNR=5.7						
BOSA				Sn	Sn	15 31 13.5	-16
	comp=Z,0.8nm,0.3s,baz=129,slow=13,SNR=3.0						
BOSA				LR	LR	15 33 38.8	
	comp=Z,266nm,19.0s,baz=148,slow=35						
SWZ	**Schweizer**	**13.82**	**302**	*e*P	Pn	15 29 06.8	-8.3
SWZ				*e*S	Sn	15 31 15.9	-33
SWZ				AML	AML	15 31 42.5	
	comp=Z,7.7nm,0.6s						
SWZ	**Schweizer**	**13.82**	**302**	P	**Pn**	**15 29 13.3**	**-1.8**
SUR	**Sutherland**	**14.94**	**276**	Pn	**Pn**	**15 29 31.0**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=149,slow=12,SNR=3.1						
SUR				Sn	Sn	15 31 58.8	-18
	comp=Z,0.8nm,0.3s,baz=9.4,slow=22,SNR=2.8						
SUR				LR	LR	15 34 59.4	
	comp=Z,334nm,18.8s,baz=182,slow=36						
LBTB	**Lobatse**	**15.10**	**309**	*e*P	Pn	15 29 25.4	-7.1
LBTB				*e*S	Sn	15 31 45.1	-35
LBTB				AML	AML	15 32 14.4	
	comp=Z,7.8nm,0.5s						
LBTB	**Lobatse**	**15.10**	**309**	Pn	**Pn**	**15 29 32.0**	**-0.6**
	comp=Z,4.1nm,0.3s,baz=147,slow=12,SNR=44						
LBTB				Sn	Sn	15 32 04.8	-15
	comp=Z,2.2nm,0.3s,baz=318,slow=13,SNR=4.9						
MATP	**Matopo**	**17.20**	**327**	P	**Pn**	**15 29 59.8**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=146,slow=13,SNR=20						
MATP				Sn	Sn	15 32 50.7	-21
	comp=Z,0.5nm,0.3s,baz=133,slow=18,SNR=2.0						
MATP				LR	LR	15 35 41.7	
	comp=Z,63nm,18.8s,baz=148,slow=34						
ABPO	**Ambohimpanom**	**17.97**	**28**	*e*Pn	**Pn**	**15 30 07.3**	**-1.9**
	comp=Z,16nm,0.4s						
OPO	**Ambohidratompo**	**18.37**	**27**	P	**P**	**15 30 14.9**	**+0.8**
	comp=Z,2.7nm,0.3s,baz=213,slow=16,SNR=16						
OPO				S	Sn	15 33 26.3	-13
	comp=Z,0.9nm,0.3s,baz=253,slow=14,SNR=2.5						
LSZ	**Lusaka**	**21.95**	**333**	P	**P**	**15 30 54.2**	**+1.1**
	comp=Z,12nm,0.9s,baz=133,slow=9.0,SNR=12						
TSUM	**Tsumeb**	**24.43**	**306**	P	**P**	**15 31 18.7**	**+0.6**
	comp=Z,4.2nm,0.6s,baz=124,slow=3.9,SNR=9.3						
TSUM				LR	LR	15 40 53.8	
	comp=Z,319nm,18.0s,baz=134,slow=37						
TSUM	**Tsumeb**	**24.43**	**306**	*e*P	**P**	**15 31 15.7**	**-2.4**
	comp=Z,5.4nm,0.7s						
KMBO	**Kilima Mbogo**	**34.01**	**358**	LR	LR	15 45 32.6	
	comp=Z,96nm,19.1s,baz=78,slow=35						
MAW	**Mawson**	**35.25**	**164**	P	**P**	**15 32 53.7**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=358,slow=9.1,SNR=8.9						
SNAA	**Sanae**	**42.27**	**198**	P	P	15 33 57.9	+5.7
SNAA	**Sanae**	**42.27**	**198**	P	**P**	**15 33 54.1**	**+1.9**
	comp=Z,0.9nm,0.8s,baz=106,slow=18,SNR=2.9						
DBIC	**Dimbokro**	**58.33**	**307**	P	**P**	**15 35 55.5**	**+1.0**
	comp=Z,9.1nm,0.8s,baz=118,slow=9.7,SNR=8.6						
TORD	**Torodi Ar. Bea**	**59.44**	**317**	P	**P**	**15 36 03.0**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=143,slow=7.4,SNR=9.8						
TORD				LR	LR	16 00 30.6	
	comp=Z,27nm,19.8s,baz=135,slow=35						
VNDA	**Vanda**	**62.40**	**168**	P	**P**	**15 36 21.1**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=260,slow=9.0,SNR=4.2						
MBWA	**Marble Bar**	**71.21**	**103**	P	**P**	**15 37 16.9**	**-1.6**
BRTR	**Keskin Array B**	**74.77**	**356**	P	**P**	**15 37 38.5**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=174,slow=8.2,SNR=6.8						
FITZ	**Fitzroy Crossi**	**77.54**	**103**	*e*P	**P**	**15 37 55.6**	**+0.2**
	comp=Z,5.2nm,0.7s						
BDFB	**Brasília**	**78.31**	**259**	P	**P**	**15 38 00.3**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=243,slow=4.5,SNR=3.0						
CMAR	**Chiang Mai Arr**	**78.38**	**57**	P	**P**	**15 37 59.7**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=229,slow=6.9,SNR=18						
CMAR				LR	LR	16 11 50.4	
	comp=Z,41nm,18.3s,baz=182,slow=35						
CFR	**Carcaliu**	**80.64**	**353**	*i*P	**P**	**15 38 12.0**	**+0.5**
DIVS	**Divibare**	**80.78**	**347**	*i*P	**P**	**15 38 13.0**	**+0.5**
ASAR	**Alice Springs**	**80.89**	**112**	P	**P**	**15 38 13.8**	**0.0**
	comp=Z,2.7nm,0.7s,baz=227,slow=5.1,SNR=51						
MLR	**Muntele Rosu**	**81.20**	**351**	P	**P**	**15 38 15.6**	**+0.8**
	comp=Z,3.7nm,0.6s,baz=181,slow=11,SNR=4.5						
MLR	**Muntele Rosu**	**81.20**	**351**	*i*P	**P**	**15 38 15.0**	**+0.3**
VOIR		**81.26**	**350**	*i*P	**P**	**15 38 15.7**	**+0.7**
PLOR	**Plostina**	**81.47**	**352**	*i*P	**P**	**15 38 16.6**	**+0.6**
VRI	**Vrincioaia**	**81.47**	**352**	*i*P	**P**	**15 38 16.6**	**+0.6**
LSA	**Lhasa**	**81.50**	**44**	*e*P	**P**	**15 38 17.5**	**+0.4**
	comp=Z,18nm,0.7s						
GZR	**Gura Zlata**	**81.55**	**349**	*i*P	**P**	**15 38 18.9**	**+2.4**
STKA	**Stephens Creek**	**81.72**	**123**	P	**P**	**15 38 18.1**	**+0.1**
	comp=Z,8.0nm,0.6s,baz=225,slow=2.6,SNR=27						
STKA	**Stephens Creek**	**81.72**	**123**	*e*P	**P**	**15 38 17.7**	**-0.3**
	comp=Z,1.6nm,0.7s						
BZS	**Buzias**	**81.96**	**348**	*i*P	**P**	**15 38 19.4**	**+0.8**
WRA	**Warramunga Arr**	**83.34**	**110**	P	**P**	**15 38 26.8**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=228,slow=3.5,SNR=43						
WRAB	**Tennant Creek**	**83.35**	**110**	*e*P	**P**	**15 38 26.0**	**-0.7**
	comp=Z,5.7nm,0.8s						
BURAR	**Bucovina Array**	**83.38**	**351**	*i*P	**P**	**15 38 28.8**	**+2.7**
BUR08	**Bucovina Ar. S**	**83.41**	**351**	*e*P	**P**	**15 38 27.7**	**+1.5**
EKS2	**Erkin-Say**	**84.03**	**25**	*e*P	**P**	**15 38 30.2**	**+0.6**
	comp=Z,2.7nm,0.8s						
ESDC	**Sonseca Array**	**84.23**	**328**	P	**P**	**15 38 31.9**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=134,slow=3.7,SNR=3.5						
TKM2	**Tokmak 2**	**84.91**	**26**	*e*P	**P**	**15 38 34.8**	**+0.7**
	comp=Z,3.1nm,0.6s						
DAVOX	**Davos/Dischmat**	**85.64**	**341**	P	**P**	**15 38 37.7**	**0.0**
	comp=Z,3.0nm,0.7s,baz=155,slow=23,SNR=4.1						
AKASG	**Malin Array Be**	**86.00**	**354**	P	P	15 38 34.8	-4.3
	comp=Z,0.3nm,0.3s,baz=176,slow=3.7,SNR=2.7						
ABKAR	**Akbulak array**	**86.31**	**14**	*e*P	**P**	**15 38 40.2**	**-0.4**
	comp=Z,1.4nm,0.8s						
GERES	**GERESS Array B**	**86.61**	**344**	P	**P**	**15 38 42.9**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=132,slow=3.8,SNR=5.4						
GERES				LR	LR	16 20 13.2	
	comp=Z,21nm,18.2s,baz=289,slow=38						
AKTO	**Aktyubinsk**	**87.09**	**12**	P	**P**	**15 38 44.4**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=224,slow=2.0,SNR=14						
MK31	**Makanchi Array**	**90.71**	**28**	*e*P	**P**	**15 39 01.6**	**-0.2**
LPAZ	**La Paz**	**93.66**	**247**	P	**P**	**15 39 16.4**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=108,slow=4.3,SNR=3.8						
ZALV	**Zalesovo Beam**	**97.48**	**26**	P	**P**	**15 39 31.9**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=242,slow=11,SNR=2.8						
832A	**Faith Ranch, C**	**144.18**	**271**	P	**PKPdf**	**15 45 35.1**	**-0.2**
	baz=144						
433A	**Art**	**144.31**	**275**	P	PKPbc	15 45 33.9	0.0
	baz=144						
632A	**Uvalde**	**144.46**	**273**	P	**PKPdf**	**15 45 35.6**	**-0.2**
	baz=144						
532A	**Rocksprings**	**144.77**	**274**	P	**PKPdf**	**15 45 36.3**	**-0.1**
	baz=145						
JCT	**Junction City**	**144.80**	**274**	P	**PKPdf**	**15 45 36.5**	**+0.1**
	baz=145						
332A	**Millersview**	**145.04**	**276**	P	**PKPdf**	**15 45 36.5**	**-0.2**
	baz=145						
631A	**Perdido Creek**	**145.07**	**272**	P	**PKPdf**	**15 45 37.1**	**+0.3**
	baz=145						
232A	**Coleman**	**145.11**	**277**	P	**PKPdf**	**15 45 37.2**	**+0.3**
	baz=145,SNR=8.1						
531A	**Rocksprings**	**145.31**	**273**	P	**PKPdf**	**15 45 38.0**	**+0.7**
	baz=145						
431A	**Sonora**	**145.53**	**274**	P	**PKPab**	**15 45 38.9**	**+0.9**
	baz=146						
231A	**Bronte**	**145.67**	**276**	P	**PKPab**	**15 45 39.2**	**+0.7**
	baz=146						
Z31A	**Sharp Cattle R**	**145.91**	**279**	P	**PKPab**	**15 45 39.7**	**+0.3**
	baz=146,SNR=6.1						
530A	**J-C Ranch, Com**	**145.95**	**273**	P	**PKPab**	**15 45 40.0**	**+0.4**
	baz=146						
430A	**Baggett Ranch,**	**146.07**	**274**	P	**PKPab**	**15 45 40.0**	**-0.1**
	baz=146						
Y31A	**Rekieta Farm,**	**146.17**	**280**	P	**PKPbc**	**15 45 39.7**	**+0.1**
	baz=146						
330A	**Mertzon**	**146.21**	**275**	P	**PKPbc**	**15 45 40.1**	**+0.3**
	baz=146						
130A	**Snyder**	**146.39**	**277**	P	**PKPab**	**15 45 41.1**	**-0.1**
	baz=146						
429A	**Davenport Ranc**	**146.56**	**273**	P	**PKPab**	**15 45 41.9**	**-0.1**
	baz=147						
529A	**Stev Forest Ra**	**146.66**	**272**	P	**PKPbc**	**15 45 41.2**	**-0.1**
	baz=147						
Y30A	**Stafford Cattl**	**146.66**	**280**	P	**PKPab**	**15 45 42.2**	**0.0**
	baz=147,SNR=7.3						
Z30A	**Sanderson Ranc**	**146.70**	**278**	P	**PKPbc**	**15 45 41.3**	**0.0**
	baz=147,SNR=8.4						
X29A	**Tulia**	**147.44**	**280**	P	**PKPdf**	**15 45 40.5**	**-0.3**
	baz=148						
TXAR	**Lajitas Array**	**147.58**	**270**	PKPbc	**PKPdf**	**15 45 42.3**	**+1.1**
	comp=Z,2.8nm,0.8s,baz=130,slow=5.1,SNR=24						
Z28A	**Tucker Farm, M**	**147.72**	**278**	P	**PKPbc**	**15 45 44.3**	**+0.1**
	baz=148						
Y28A	**McKinney Farm,**	**147.76**	**279**	P	**PKPbc**	**15 45 45.1**	**+0.8**
	baz=148,SNR=5.2						
YKA	**Yellowknife Ar**	**147.99**	**337**	PKPbc	**PKPbc**	**15 45 43.7**	**-0.1**
	comp=Z,3.8nm,0.7s,baz=40,slow=2.1,SNR=18						
MSTX	**Muleshoe**	**148.20**	**279**	P	**PKPab**	**15 45 47.1**	**-1.3**
	baz=148						
T26A	**Comanche Natio**	**149.46**	**285**	P	**PKPbc**	**15 45 48.9**	**+0.3**
	baz=150,SNR=6.0						
T25A	**Trinidad**	**150.10**	**285**	P	**PKPbc**	**15 45 51.5**	**+1.3**
	baz=150						
ILAR	**Eielson Array**	**150.31**	**5**	PKPbc	**PKPbc**	**15 45 49.1**	**-0.4**
	comp=Z,4.3nm,0.7s,baz=325,slow=3.3,SNR=29						
SDCO	**Great Sand Dun**	**151.03**	**286**	P	**PKPbc**	**15 45 53.0**	**+0.4**
	baz=151,SNR=6.7						
ANMO	**Albuquerque**	**151.38**	**280**	PKPbc	**PKPbc**	**15 45 53.7**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=109,slow=5.9,SNR=9.0						
N23A	**Red Feather La**	**151.56**	**292**	P	**PKPbc**	**15 45 53.5**	**-0.1**
	baz=152,SNR=5.3						
J22A	**Midwest**	**151.85**	**297**	P	**PKPbc**	**15 45 51.7**	**-2.4**
	baz=152						
121A	**Cookes Peak, D**	**151.92**	**274**	P	**PKPbc**	**15 45 56.4**	**+1.8**
	baz=152						
S22A	**4UR Ranch, Cre**	**152.08**	**285**	P	**PKPbc**	**15 45 54.6**	**-0.3**
	baz=152						
C20A	**Veseth Ranch,**	**152.20**	**307**	P	**PKPdf**	**15 45 45.2**	**-2.7**
	baz=152						
J21A	**Lysite**	**152.56**	**297**	P	**PKPbc**	**15 45 52.7**	**-3.0**
	baz=153						
MVCO	**Mesa Verde**	**153.35**	**284**	P	**PKPbc**	**15 45 58.8**	**+1.1**
	baz=153						
PDAR	**Pinedale Array**	**154.16**	**296**	PKPbc	**PKPbc**	**15 45 58.8**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=90,slow=4.4,SNR=12						
NVAR	**Mina Array Bea**	**161.15**	**286**	PKPab	**PKPab**	**15 46 44.5**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=98,slow=6.5,SNR=3.3						

IDC 18 15:27:01.5±1.4, 15°85S×173°35W, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/23, mbtmp3.9/8, MS3.5/2, Ms1 3.4/2, ms1mx2.9/20, Error ellipse: s-maj=81.5km s-min=20.0km az=147.0
ISCJB 18 15:27:09.9±1.2, 15°95S±0°4×173°4W±0°3, h79km, mb3.8/8, Error ellipse: s-maj=71.0km s-min=17.3km az=148.1
ISC 18 15:27:11.4±1.4, 15°95S±0°4×173°4W±0°3, h79km, n13, σ0§67/10, mb3.8/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**20.02**	**249**	*e*LR	LR	15 37 04.1	
	169nm,23.6s						
PPT2	**Papeete2**	**22.89**	**98**	*e*LR	LR	15 37 09.5	
	95nm,24.5s						
TBI	**Tubuai**	**23.75**	**112**	*e*LR	LR	15 37 36.2	
	114nm,23.5s						
STKA	**Stephens Creek**	**43.80**	**240**	P	**P**	**15 35 09.5**	**-0.2**
	2.2nm,1.0s,baz=68,slow=16,SNR=2.8						
STKA				LR	LR	15 51 36.3	
	comp=Z,48nm,19.5s,baz=207,slow=34						
WRA	**Warramunga Arr**	**49.73**	**257**	P	**P**	**15 35 57.1**	**+1.0**
	0.6nm,0.6s,baz=91,slow=7.3,SNR=4.1						
WRA				LR	LR	15 55 48.1	
	comp=Z,52nm,19.3s,baz=245,slow=35						
ASAR	**Alice Springs**	**49.96**	**252**	P	**P**	**15 35 57.7**	**-0.2**
	2.8nm,0.7s,baz=91,slow=7.8,SNR=54						
NVAR	**Mina Array Bea**	**74.67**	**42**	P	**P**	**15 38 43.1**	**+0.3**
	0.8nm,0.9s,baz=228,slow=9.5,SNR=3.7						
TXAR	**Lajitas Array**	**80.87**	**56**	P	**P**	**15 39 17.1**	**-0.2**
	0.6nm,0.9s,baz=213,slow=6.5,SNR

WRA	**Warramunga Arr**	**49.96**	**124**	P	**P**	**16 55 36.5**	**+0.1**
	0.8nm,0.8s,baz=306,slow=8.9,SNR=8.3						
AKTO	**Aktyubinsk**	**51.04**	**333**	P	**P**	**16 55 46.0**	**+2.0**
	0.5nm,0.4s,baz=143,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**51.51**	**128**	P	**P**	**16 55 48.3**	**+0.3**
	0.3nm,0.8s,baz=298,slow=8.2,SNR=4.4						

ISCJB ***18*** *16:49:02.3±0.7, 51°.41N±0°.03×16°.21E±0°.04, h0km, Error ellipse: s-maj=4.7km s-min=3.2km az=10.7*

CSEM ***18*** *16:49:03.0±0.3, 51°.46N×16°.17E, h2km, ML3.1/9, Error ellipse: s-maj=4.8km s-min=4.5km az=138.0*

IDC ***18*** *16:49:04.7±0.8, 51°.44N×16°.02E, h0km, mb1 3.2/6, mb1mx3.1/46, mbtmp3.1/6, ML2.7/6, Error ellipse: s-maj=14.3km s-min=7.7km az=111.0*

VIE ***18*** *16:49:05.5±0.6, 51°.28N×16°.25E, h0km, mb2.2/4, ML2.7/4, Error ellipse: s-maj=4.5km s-min=4.1km az=33.0 57 km WNW of Wroclaw Suspected Mining induced.*

ISC 18 16:49:02.6±0.8, 51°.49N±0°.04×16°.21E±0°.03, h0km, n37, σ0s91/66, 2C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KSP	**Ksiaz**	**0.65**	**176**	*i* Pg		**Pg**	**16 49 15.5**	**+0.4**
KSP				*e*Sg		**Sg**	**16 49 23.5**	**0.0**
KSP	**Ksiaz**	**0.65**	**176**	⇓*i* Pg		**Pg**	**16 49 15.5**	**+0.4**
KSP				*e*Sg		**Sg**	**16 49 23.5**	**0.0**
UPC	**Upice**	**0.99**	**187**	*e*PG		**Pg**	**16 49 21.8**	**+0.2**
UPC				*e*SG		**Sg**	**16 49 34.1**	**-0.4**
	comp=Z,43nm,0.4s							
UPC	**Upice**	**0.99**	**187**	Pg		**Pg**	**16 49 21.8**	**+0.2**
UPC				Sg		**Sg**	**16 49 34.1**	**-0.4**
	43nm,0.4s							
DPC	**Dobruska-Polom**	**1.15**	**176**	*e*PG		**Pg**	**16 49 24.5**	**0.0**
DPC				*e*SG		**Sg**	**16 49 38.5**	**-0.9**
	comp=Z,23nm,0.3s							
DPC	**Dobruska-Polom**	**1.15**	**176**	Pg		**Pg**	**16 49 24.5**	**0.0**
DPC				Sg		**Sg**	**16 49 38.5**	**-0.9**
	23nm,0.3s							
PVCC	**Panska Ves**	**1.42**	**228**	*e*PG		**Pb**	**16 49 30.0**	**+0.1**
PVCC				*e*SG		**Sn**	**16 49 49.2**	**+0.2**
	comp=Z,156nm,0.4s							
PVCC	**Panska Ves**	**1.42**	**228**	Pg		**Pb**	**16 49 30.0**	**+0.1**
PVCC				Sg		**Sn**	**16 49 49.2**	**+0.2**
	156nm,0.4s							
BRG	**Berggiesshubel**	**1.56**	**247**	PN		**Pn**	**16 49 31.8**	**+0.3**
BRG				PG		**Pg**	**16 49 32.8**	**+0.4**
BRG				SG		**Sn**	**16 49 52.4**	**0.0**
	36nm,0.4s							
PRA	**Prague**	**1.82**	**219**	*e*SG		**Sb**	**16 49 59.7**	**-0.3**
	comp=Z,15nm,0.4s							
PRA	**Prague**	**1.82**	**219**	Sg		**Sb**	**16 49 59.7**	**-0.3**
	15nm,0.4s							
GOPC	**GO Pecny, Ondr**	**1.82**	**210**	*e*PN		**Pn**	**16 49 35.5**	**+0.3**
GOPC				*e*PG		**Pb**	**16 49 36.9**	**+0.1**
GOPC				*e*SG		**Sb**	**16 50 00.2**	**0.0**
GOPC	**GO Pecny, Ondr**	**1.82**	**210**	Pn		**Pn**	**16 49 35.5**	**+0.3**
PRU	**Pruhonice**	**1.84**	**216**	*e*PG		**Pb**	**16 49 37.1**	**0.0**
PRU				*e*SG		**Sb**	**16 50 01.1**	**+0.4**
	comp=Z,9.7nm,0.5s							
PRU	**Pruhonice**	**1.84**	**216**	Pg		**Pb**	**16 49 37.1**	**0.0**
PRU				Sg		**Sb**	**16 50 01.1**	**+0.4**
	9.7nm,0.5s							
MORC	**Moravsky Berou**	**1.92**	**153**	*e*Pn		**Pn**	**16 49 36.2**	**-0.3**
MORC				*e*Sg		**Sb**	**16 50 02.6**	**-0.3**
CLL	**Collm**	**2.02**	**266**	*e*Pg		**Pg**	**16 49 42.0**	**+0.7**
CLL				*i* Sg		**Sg**	**16 50 08.8**	**+1.4**
	comp=Z,14nm,0.8s							
OKC	**Ostrava-Krasne**	**2.06**	**143**	*e*PG		**Pg**	**16 49 42.0**	**-0.1**
OKC				*e*SG		**Sb**	**16 50 07.2**	**+0.1**
	comp=Z,19nm,0.7s							
OKC	**Ostrava-Krasne**	**2.06**	**143**	Pg		**Pg**	**16 49 42.0**	**-0.1**
OKC				Sg		**Sb**	**16 50 07.2**	**+0.1**
	comp=Z,19nm,0.7s							
VRAC	**Vranov**	**2.20**	**173**	Pn		**Pn**	**16 49 40.9**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=333,slow=17,SNR=7.9							
VRAC				Lg		Lg	16 50 12.3	
	comp=Z,3.4nm,0.3s,baz=73,slow=20,SNR=7.7							
VRAC	**Vranov**	**2.20**	**173**	*e*Pn		**Pn**	**16 49 40.9**	**+0.5**
VRAC				*e*Sg		**Sb**	**16 50 11.3**	**+0.2**
TREC	**Trest**	**2.25**	**192**	*e*PG		**Pb**	**16 49 44.5**	**+0.4**
TREC	**Trest**	**2.25**	**192**	Pg		**Pb**	**16 49 44.5**	**+0.4**
OJC	**Ojcow**	**2.61**	**118**	*e*Pg		**Pg**	**16 49 53.6**	**+1.1**
OJC				*e*Sg		**Sg**	**16 50 28.3**	**+2.0**
OJC	**Ojcow**	**2.61**	**118**	*e*Pg		**Pg**	**16 49 53.6**	**+1.1**
OJC				*e*Sg		**Sg**	**16 50 28.3**	**+2.0**
KHC	**Kasperske Hory**	**2.91**	**217**	*e*PN		**Pn**	**16 49 50.7**	**+0.6**
KHC				*e*PG		**Pb**	**16 49 56.3**	**+1.0**
KHC				*e*SG		**Sb**	**16 50 33.5**	**+2.1**
	comp=Z,7.4nm,0.4s							
KHC	**Kasperske Hory**	**2.91**	**217**	Pn		**Pn**	**16 49 50.7**	**+0.6**
KHC	**Kasperske Hory**	**2.91**	**217**	Pg		**Pb**	**16 49 56.3**	**+1.0**
KHC				Sg		**Sb**	**16 50 33.5**	**+2.1**
	comp=Z,7.4nm,0.4s							
GERES	**GERESS Array B**	**3.10**	**212**	Pn		**Pn**	**16 49 53.7**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=32,slow=13,SNR=11							
GERES				Pg		**Pb**	**16 49 59.5**	**+0.9**
	comp=Z,3.5nm,0.3s,baz=30,slow=17,SNR=56							
GERES				Lg		Lg	16 50 38.4	
	comp=Z,2.2nm,0.3s,baz=32,slow=26,SNR=5.9							
CONA	**Conrad Observa**	**3.58**	**184**	⇑*e*Pn		**Pn**	**16 50 00.4**	**+1.0**
	comp=Z,0.4nm,0.2s							
CONA				⇓*e*Sg		**Sg**	**16 50 56.3**	**-1.1**
	comp=Z,8.4nm,0.3s							
CONA	**Conrad Observa**	**3.58**	**184**	Pn		**Pn**	**16 50 00.4**	**+1.0**
	comp=Z,0.4nm,0.2s							
CONA				Sg		**Sg**	**16 50 56.3**	**-1.1**
	comp=Z,8.4nm,0.3s							
MOA	**Molln**	**3.86**	**200**	⇓*i* Pn		**Pn**	**16 50 03.8**	**+0.6**
	comp=Z,0.9nm,0.2s							
MOA				⇑*e*Sg		**Sg**	**16 51 06.8**	**+0.3**
	comp=Z,5.0nm,0.4s							
MOA	**Molln**	**3.86**	**200**	Pn		**Pn**	**16 50 03.8**	**+0.6**
	comp=Z,0.9nm,0.2s							
MOA				Sg		**Sg**	**16 51 06.8**	**+0.3**
	comp=Z,5.0nm,0.4s							
AKASG	**Malin Array Be**	**8.23**	**90**	Pn		**Pn**	**16 51 04.3**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=275,slow=14,SNR=2.5							
HFS	**Hagfors**	**8.78**	**352**	Pn		**Pn**	**16 51 10.6**	**0.0**
	comp=Z,0.1nm,0.3s,baz=170,slow=10,SNR=5.2							
FINES	**FINESS Array B**	**11.35**	**25**	Pn		**Pn**	**16 51 44.2**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=212,slow=13,SNR=3.8							
ARCES	**ARCESS Array B**	**18.63**	**10**	Pn		**P**	**16 53 17.9**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=192,slow=11,SNR=7.5							

IDC ***18*** *16:52:42.9±0.6, 52°.05N×169°.79W, h0km, mb4.6/31, mb1 4.7/33, mb1mx4.6/46, mbtmp4.5/33, ML4.4/2, MS4.0/19, Ms1 4.0/19, ms1mx3.8/33, Error ellipse: s-maj=16.5km s-min=10.5km az=164.0*

GCMT ***18*** *16:52:45.9±0.4, 51°.87N×169°.82W, h22km, MW4.9/59, Moment Tensor Solution. s26,c34; s59,c86; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.95±.18; Mθθ-1.87±.12; Mϕϕ-1.09±.12; Mrθ1.57±.18; Mrϕ-0.91±.07; Mθϕ-0.12±.20; Best double couple: Mw3.10 700×10¹⁶ NP1:ϕs72.00000°, δ59.00000°, λ104.00000°. NP2: ϕs226.00000°, δ34.00000°, λ68.00000°. Principal axes: T 3.4470, Plg72.0000°, Azm16.0000°; N -0.6910, Plg12.0000°, Azm245.0000°; P -2.7660, Plg13.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***18*** *16:52:45.9, 52°.06N×169°.73W, h11km, mb4.6/58, ML4.2(AEIC), After AEIC.*

MOS ***18*** *16:52:46.7±1.1, 52°.13N×169°.70W, h33km, mb5.1/44, MS4.0/6, Error ellipse: s-maj=8.8km s-min=5.2km az=93.1*

ISCJB ***18*** *16:52:46.0±0.7, 52°.08N±0°.04×169°.73W±0°.03, h27km±5km, mb4.7/115, MS4.1/23, Error ellipse: s-maj=6.7km s-min=2.5km az=167.1*

BJI ***18*** *16:52:48.6, 52°.64N×170°.37W, h29km, mb5.0/47, mB5.1/37, Ms4.8/35, Ms7 4.5/35*

ISC 18 16:52:48.2±0.5, 52°.05N±0°.07×169°.70W±0°.03, h35km±1km, h34km:pP-P, n393, σ1s21/437, mb4.8/118, MS4.0/23, 32C-13D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
NIKH	**Nikolski High**	**1.06**	**29**	*e*Pn		**Pn**	**16 53 05.7**	**-0.9**
OKFG	**Magazine Ridge**	**1.74**	**38**	P		**Pn**	**16 53 15.7**	**-0.2**
OKFG				S		**Sb**	**16 53 40.3**	**-0.8**
MCIR	**Makushin Cirqu**	**2.55**	**41**	P		**Pn**	**16 53 28.1**	**+1.0**
MSW	**Makushin Switc**	**2.57**	**42**	P		**Pn**	**16 53 27.7**	**+0.4**
UNV	**Unalaska Valle**	**2.64**	**46**	P		**Pn**	**16 53 28.2**	**-0.1**
UNV				S		**Sn**	**16 54 01.1**	**+2.0**
AKRB	**Akutan Reef Bi**	**3.02**	**45**	P		**Pn**	**16 53 34.6**	**+1.1**
ZRO	**Akutan Zero**	**3.04**	**46**	P		**Pn**	**16 53 35.5**	**+1.7**
AKGG	**Akutan Green G**	**3.10**	**45**	P		**Pn**	**16 53 36.1**	**+1.5**
AKUT	**Akutan**	**3.16**	**47**	P		**Pn**	**16 53 36.5**	**+1.1**
AKSA	**Akutan Strait**	**3.19**	**48**	P		**Pn**	**16 53 36.6**	**+0.8**
WESP	**Westdahl Peak**	**3.86**	**49**	P		**Pn**	**16 53 46.6**	**+1.4**
WESP				S		**Sn**	**16 54 32.4**	**+3.1**
GSTR	**Great Sitkin T**	**3.92**	**273**	*e*Pn		**Pn**	**16 53 46.7**	**+0.8**
GSTR				*e*Sn		**Sn**	**16 54 31.1**	**+0.3**
GSMY	**Great Sitkin M**	**3.92**	**272**	P		**Pn**	**16 53 46.3**	**+0.4**
GSTD	**Great Sitkin T**	**3.98**	**273**	P		**Pn**	**16 53 47.1**	**+0.4**
GSTD				S		**Sn**	**16 54 34.7**	**+2.5**
GSCK	**Great Sitkin C**	**3.99**	**272**	P		**Pn**	**16 53 47.4**	**+0.5**
ADAG	**Mount Adagdak**	**4.26**	**272**	P		**Pn**	**16 53 51.5**	**+1.0**
KIKV	**Kanaga Island**	**4.62**	**271**	P		**Pn**	**16 53 56.2**	**+0.7**
TAPA	**Tanaga Point A**	**5.02**	**270**	P		**Pn**	**16 54 01.2**	**+0.2**
TAFP	**Tanaga Falls P**	**5.12**	**272**	P		**Pn**	**16 54 03.6**	**+1.2**
TAFP				S		**Sn**	**16 55 02.0**	**+1.7**
SPIA	**Saint Paul Isl**	**5.15**	**357**	P		**Pn**	**16 54 03.9**	**+1.2**
TASE	**Tanaga Southea**	**5.16**	**271**	P		**Pn**	**16 54 03.8**	**+0.9**
GAEA	**Gareloi East**	**5.61**	**271**	P		**Pn**	**16 54 10.6**	**+1.6**
SDPT	**Sand Point**	**6.40**	**55**	P		**Pn**	**16 54 21.6**	**+1.8**
CEAP	**Semis' Anvil P**	**6.62**	**274**	P		**Pn**	**16 54 24.8**	**+1.9**
CESW	**Semis' Southwe**	**6.63**	**273**	P		**Pn**	**16 54 24.6**	**+1.5**
AMKA	**Amchitka**	**6.87**	**269**	P		**Pn**	**16 54 27.5**	**+1.3**
LSPA	**Little Sitkin**	**7.24**	**274**	P		**Pn**	**16 54 33.4**	**+2.0**
LSNW	**Little Sitkin**	**7.27**	**274**	P		**Pn**	**16 54 33.6**	**+1.7**
VNHG	**Veniaminof 1**	**7.46**	**52**	P		**Pn**	**16 54 37.2**	**+2.6**
CHGN	**Chignik**	**7.87**	**53**	*e*Pn		**Pn**	**16 54 40.3**	**+0.3**
CHGN				*e*Sn		**Sn**	**16 56 08.3**	**+0.6**
ANPB	**Aniakchak Plen**	**8.18**	**50**	P		**Pn**	**16 54 46.0**	**+1.7**
OHAK	**Old Harbor**	**10.82**	**55**	*e*Pn		**Pn**	**16 55 18.6**	**-1.8**
KDAK	**Kodiak Island**	**11.38**	**53**	*ce*P		**Pn**	**16 55 28.1**	**0.0**
KDAK	**Kodiak Island**	**11.38**	**53**	*e*Pn		**Pn**	**16 55 25.6**	**-2.6**
SVW2	**Sparrevohn**	**11.92**	**35**	*e*Pn		**Pn**	**16 55 34.9**	**-0.5**
RSO	**Redoubt South**	**12.61**	**41**	*e*Pn		**Pn**	**16 55 43.4**	**-1.6**
	80nm,0.9s							
BRLK	**Bradley Lake**	**13.04**	**46**	*e*Pn		**Pn**	**16 55 49.9**	**-0.9**
SEW	**Seward**	**13.84**	**46**	*e*Pn		**Pn**	**16 55 58.7**	**-2.9**
	18nm,0.5s							
PPLA	**Purkeypile**	**14.32**	**34**	*e*Pn		**Pn**	**16 56 08.5**	**+0.2**
	34nm,1.0s							
TRF	**Throfare Moun**	**15.34**	**34**	*e*Pn		**Pn**	**16 56 21.5**	**-0.4**
	24nm,1.0s							
BPAW	**Bear Paw Mtn.**	**15.53**	**32**	*e*Pn		**Pn**	**16 56 24.4**	**+0.1**
	92nm,1.2s							
EYAK	**Cordova Ski Ar**	**15.70**	**48**	*e*Pn		**Pn**	**16 56 24.1**	**-2.4**
	16nm,0.8s							
DIV	**Divide**	**15.92**	**46**	*e*Pn		**Pn**	**16 56 26.6**	**-2.7**
	25nm,0.9s							
MCK	**McKinley**	**15.99**	**35**	*e*P		**Pn**	**16 56 28.8**	**-1.4**
MCK				pmax		pmax		
	comp=Z,22nm,1.1s							
MCK	**McKinley**	**15.99**	**35**	*e*Pn		**Pn**	**16 56 28.8**	**-1.4**
	comp=Z,22nm,1.1s							
BWN	**Browne**	**16.08**	**33**	*e*Pn		**Pn**	**16 56 31.4**	**+0.1**
	comp=Z,83nm,1.1s							
DHY	**Denali Highway**	**16.19**	**38**	*e*Pn		**Pn**	**16 56 31.7**	**-1.1**
	comp=Z,9.3nm,0.9s							
BMRM	**Bremner River**	**16.38**	**47**	*e*Pn		**Pn**	**16 56 32.4**	**-2.8**
	comp=Z,60nm,1.1s							
HARP	**HAARP**	**16.74**	**42**	*e*Pn		**Pn**	**16 56 38.6**	**-1.1**
	comp=Z,80nm,1.2s							
CCB	**Clear Creek Bu**	**16.94**	**33**	*e*Pn		**Pn**	**16 56 40.5**	**-1.7**
	comp=Z,24nm,1.2s							
COLA	**College**	**17.07**	**33**	⇓*i* P		**Pn**	**16 56 42.4**	**-1.3**
COLA				pmax		pmax		
	comp=Z,48nm,1.0s							
COLA	**College**	**17.07**	**33**	*e*Pn		**Pn**	**16 56 42.3**	**-1.3**
	comp=Z,18nm,0.9s							
ILAR	**Eielson Array**	**17.33**	**34**	Pn		**Pn**	**16 56 45.0**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=232,slow=9.6,SNR=27							
COLD	**Coldfoot**	**17.99**	**25**	*e*Pn		**Pn**	**16 56 54.0**	**-1.1**
	comp=Z,24nm,1.2s							
PET	**Petropavlovsk**	**19.20**	**285**	*e*P		**Pn**	**16 57 09.4**	**-0.4**
PET				*e*S		**Sn**	**17 00 40.2**	**-3.5**
PET				pmax		pmax		
	comp=Z,16nm,0.8s							
PET				pmax		pmax		
	comp=Z,400nm,7.6s							
PET				MLR		MLR		
	comp=Z,400nm,19.0s							
PET				MLR		MLR		
	comp=Z,400nm,15.0s							
PET	**Petropavlovsk**	**19.20**	**285**	*e*P		**P**	**16 57 09.1**	**+0.4**
	comp=Z,62nm,1.5s							
EGAK	**Eagle**	**19.42**	**38**	*e*P		**P**	**16 57 08.8**	**-2.3**
	comp=Z,13nm,0.8s							
HYT	**Haines Junctio**	**19.66**	**51**	*e*Pn		**Pn**	**16 57 16.0**	**+0.5**
PEA0B	**Petropavlovsk-**	**19.75**	**286**	*e*P		**P**	**16 57 14.6**	**-0.2**
PETK	**Petropavlovsk-**	**19.75**	**286**	P		**P**	**16 57 15.0**	**+0.2**
	comp=Z,6.0nm,0.3s,baz=93,slow=13,SNR=122							
PETK	**Petropavlovsk-**	**19.75**	**286**	P		**P**	**16 57 15.0**	**+0.2**
BILL	**Bilibino**	**19.79**	**333**	*e*P		**P**	**16 57 15.8**	**+0.7**
BILL				pmax		pmax		
	comp=Z,37nm,1.3s							
DAWY	**Dawson**	**19.81**	**41**	*e*P		**P**	**16 57 13.5**	**-1.8**
SIT	**Sitka**	**20.41**	**62**	*e*P		**P**	**16 57 20.3**	**-1.5**
SIT				pmax		pmax		
	comp=Z,51nm,1.5s							
SIT	**Sitka**	**20.41**	**62**	*e*P		**P**	**16 57 20.3**	**-1.5**
	comp=Z,51nm,1.5s							
BESE	**Bessie Mountai**	**20.70**	**58**	*e*P		**P**	**16 57 25.2**	**+0.1**
	comp=Z,39nm,1.4s							
SKR	**Severo-Kuril's**	**21.27**	**280**	*e*P		P	16 57 21.0	-10
SKR				MLR		MLR		
	comp=N,1μm,20.0s							
SKR				MLR		MLR		
	comp=E,1μm,20.0s							
SKR				MLR		MLR		
	comp=Z,1μm,20.0s							
SEY	**Semychan**	**22.74**	**313**	P		**P**	**16 57 46.3**	**-0.5**
	comp=Z,17nm,1.1s,baz=104,slow=10.0,SNR=39							
SEY				LR		LR	17 07 03.7	
	comp=Z,700nm,18.3s,baz=104,slow=38							
SEY	**Seymchan**	**22.74**	**313**	⇑*i* P		**P**	**16 57 46.8**	**0.0**
DLBC	**Dease Lake**	**23.23**	**58**	P		**P**	**16 57 52.7**	**+0.8**
	comp=Z,16nm,1.1s,baz=267,slow=9.4,SNR=18							
INK	**Inuvik**	**23.73**	**33**	P		**P**	**16 57 55.2**	**-1.3**
	comp=Z,6.5nm,0.3s,baz=259,slow=5.7,SNR=7.9							
YKA	**Yellowknife Ar**	**30.61**	**48**	P		**P**	**16 58 57.6**	**-0.8**
	comp=Z,4.9nm,0.7s,baz=274,slow=10,SNR=22							
YSS	**Yuzh-Sakhalins**	**30.84**	**280**	*e*P		**P**	**16 59 02.6**	**+1.9**
YSS				*e*			16 59 09.3	
YSS				*e*			16 59 15.0	
YSS				MLR		MLR		
	comp=Z,300nm,20.0s							
B08A	**Colville Reser**	**31.92**	**76**	*e*P		**P**	**16 59 11.9**	**+1.7**
ASAJ	**Asahikawa**	**32.33**	**275**	*e*P		**P**	**16 59 13.3**	**-0.5**
	comp=Z,16nm,1.0s							
TIXI	**Tiksi**	**32.90**	**329**	*c i* P		**P**	**16 59 18.4**	**-0.1**
TIXI				pmax		pmax		
	comp=Z,9.0nm,1.2s							
TIXI	**Tiksi**	**32.90**	**329**	*e*P		**P**	**16 59 18.0**	**-0.5**
	comp=Z,8.0nm,1.1s							
ERM	**Erimo**	**33.12**	**271**	⇑*i* P		**P**	**16 59 22.4**	**+1.7**
ERM				pmax		pmax		
	comp=Z,22nm,1.7s							
YBH	**Yreka Blue Hor**	**33.19**	**89**	P		**P**	**16 59 22.2**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=284,slow=4.2,SNR=2.1							
YAK	**Yakutsk**	**33.23**	**311**	P		**P**	**16 59 20.7**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=255,slow=20,SNR=3.5							
YAK	**Yakutsk**	**33.23**	**311**	*e*P		**P**	**16 59 19.0**	**-2.4**
YAK				*e**PP		**pP**	**16 59 31.6**	**+0.2**
YAK				*e*			17 00 31.1	
YAK				*e*			17 02 01.7	
YAK				*e*S		**S**	**17 04 40.0**	**+1.3**
YAK				*e**SS		sS	17 04 59.3	+4.2
YAK				*e*SS		**SnSn**	**17 06 41.4**	**+1.5**
YAK				*e*SSS		SSS	17 06 59.6	
YAK				*e*			17 09 42.5	
YAK				pmax		pmax		
	comp=Z,13nm,1.0s							
YAK				pmax		pmax		
	comp=E,5.0nm,1.0s							
YAK				pmax		pmax		
	comp=Z,47nm,3.5s							
YAK				pmax		pmax		
	comp=N,15nm,3.5s							
YAK				pmax		pmax		
	comp=E,41nm,3.5s							
YAK				smax		smax		
	comp=E,85nm,4.1s							
YAK				MLR		MLR		
	comp=Z,646nm,17.0s							
YAK				MLR		MLR		
	comp=E,386nm,15.0s							
YAK				MLR		MLR		
	comp=N,349nm,16.0s							
YAK	**Yakutsk**	**33.23**	**311**	*e*P		**P**	**16 59 20.6**	**-0.8**
	comp=N,13nm,1.0s							
YAK				P		**P**	**16 59 20.7**	**-0.7**
NEW	**Newport**	**33.29**	**75**	P		**P**	**16 59 23.6**	**+1.4**
	comp=N,5.4nm,0.8s,baz=317,slow=6.6,SNR=7.0							
NEW	**Newport**	**33.29**	**75**	*e*P		**P**	**16 59 22.8**	**+0.6**
NEW				pmax		pmax		
	comp=Z,12nm,1.0s							
NEW	**Newport**	**33.29**	**75**	*e*P		**P**	**16 59 22.8**	**+0.6**
	comp=Z,12nm,1.0s							
NEW				P		**P**	**16 59 23.6**	**+1.4**
EDM	**Edmonton**	**33.47**	**65**	*e*P		**P**	**16 59 24.7**	**+1.0**
EDM	**Edmonton**	**33.47**	**65**	*e*P		**P**	**16 59 24.7**	**+1.0**
I07A	**Izee**	**33.88**	**83**	*e*P		P	16 59 31.4	+3.8
HABR	**Khabarovsk**	**34.78**	**287**	*ce*P		**P**	**16 59 34.2**	**-0.8**
HABR				*e**SP		**sP**	**16 59 48.1**	**-1.1**
HABR				*e*			17 00 50.9	
HABR				*e*			17 02 06.9	
HABR				*e*S		**S**	**17 05 03.2**	**+0.3**
HABR				*e**SS		**sS**	**17 05 19.5**	**+0.1**
HABR				*e*SS		**SnSn**	**17 07 19.6**	**+1.8**
HABR				*e*			17 09 52.6	
HABR				pmax		pmax		
	comp=N,8.0nm,1.1s							
HABR				pmax		pmax		
	comp=Z,44nm,1.1s							
HABR				pmax		pmax		
	comp=E,22nm,1.1s							
HABR				MLR		MLR		
	comp=Z,319nm,17.0s							
BSMT	**Bassoo Peak**	**34.87**	**75**	*e*P		**P**	**16 59 36.8**	**+0.7**
	comp=Z,7.3nm,0.8s							
BLMT	**Blacktail Moun**	**35.05**	**74**	*e*P		**P**	**16 59 36.9**	**-0.7**
WVOR	**Wild Horse Val**	**35.31**	**85**	*e*P		**P**	**16 59 38.4**	**-1.5**
WVOR				pmax		pmax		
	comp=Z,9.0nm,1.2s							
WVOR	**Wild Horse Val**	**35.31**	**85**	*e*P		**P**	**16 59 38.4**	**-1.5**
	comp=Z,8.8nm,1.2s							
YBMT	**Yellow Bay**	**35.33**	**74**	*e*P		**P**	**16 59 39.7**	**-0.2**
	comp=Z,6.4nm,1.0s							
MSO	**Missoula**	**35.87**	**76**	*e*P		**P**	**16 59 45.7**	**+1.2**
	comp=Z,12nm,1.1s							
KLR	**Kul'dur**	**36.37**	**289**	*e*P		P	16 59 43.4	-5.3
KLR				pmax		pmax		
	comp=E,24nm,1.4s							
KLR				pmax		pmax		
	comp=Z,48nm,1.4s							
RES	**Resolute Bay**	**36.75**	**25**	P		**P**	**16 59 50.5**	**-1.0**
	comp=Z,1.9nm,1.0s,baz=270,slow=7.1,SNR=3.6							
H11N2	**WAKE ISLAND Hy**	**37.08**	**218**	T		T	17 40 08.2	
	baz=23,slow=76,SNR=5.6							
H11N3	**WAKE ISLAND Hy**	**37.08**	**218**	T		T	17 40 27.4	
	baz=23,slow=76,SNR=5.5							
H11N1	**WAKE ISLAND Hy**	**37.09**	**218**	T		T	17 40 09.5	
	baz=23,slow=76,SNR=5.2							
HLID	**Hailey**	**37.27**	**81**	*e*P		**P**	**16 59 58.2**	**+1.6**
	comp=Z,2.3nm,0.8s							
MCMT	**McKenzie Canyo**	**37.54**	**78**	*e*P		**P**	**17 00 00.2**	**+1.2**
BOZ	**Bozeman (W)**	**37.85**	**76**	*e*P		**P**	**17 00 02.4**	**+0.9**
BOZ				pmax		pmax		
	comp=Z,37nm,1.8s							
BOZ	**Bozeman (W)**	**37.85**	**76**	*e*P		**P**	**17 00 02.4**	**+0.9**
	comp=Z,37nm,1.8s							
NVAR	**Mina Array Bea**	**37.87**	**90**	P		P	17 00 05.2	+3.4
	comp=Z,1.2nm,0.8s,baz=298,slow=7.6,SNR=6.4							
NVAR				ScP		**ScP**	**17 06 02.8**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=299,slow=6.1,SNR=4.8							
H11S1	**WAKE ISLAND Hy**	**38.26**	**218**	T		T	17 41 20.1	
	baz=22,slow=76,SNR=45							
H11S2	**WAKE ISLAND Hy**	**38.28**	**218**	T		T	17 41 45.9	
	baz=22,slow=76,SNR=27							
H11S3	**WAKE ISLAND Hy**	**38.28**	**218**	T		T	17 41 17.4	
	baz=22,slow

MVCO	**Mesa Verde**	**44.67**	**84**	*e*P		**P**		**17 00 59.4**	**+1.7**
	comp=Z,126nm,3.0s									
KSIJA	**INJE**	**44.78**	**277**	P		**P**		**17 00 59.0**	**+0.8**
	SNR=8.0									
KSTBA	**Taebaek**	**44.82**	**276**	P		**P**		**17 00 59.1**	**+0.5**
	SNR=12									
KSCWO	**Cheorwon**	**45.09**	**278**	P		**P**		**17 01 01.7**	**+1.0**
	SNR=5.4									
KSCHC	**Chuncheon**	**45.10**	**277**	P		**P**		**17 01 01.4**	**+0.6**
	SNR=6.8									
KSRS	**Korea Array**	**45.24**	**277**	P		**P**		**17 01 01.9**	**0.0**
	comp=Z,12nm,0.9s,baz=58,slow=7.6,SNR=59									
KSRS				LR		LR		17 18 53.7		
	comp=Z,134nm,20.8s,baz=45,slow=35									
KSRS	**Korea Array**	**45.24**	**277**	P		**P**		**17 01 01.9**	**0.0**
KSRS				pmax		pmax				
	comp=Z,12nm,1.0s									
KSRS				MLR		MLR				
	comp=Z,134nm,20.8s									
KSAR	**Wonju Array Be**	**45.27**	**277**	P		**P**		**17 01 01.9**	**-0.2**
KSAR	**Wonju Array Be**	**45.27**	**277**	P		**P**		**17 01 01.9**	**-0.2**
KSBON	**Boeun**	**45.92**	**276**	P		**P**		**17 01 07.7**	**+0.4**
	SNR=5.3									
KSGAH	**Ganghwa**	**45.98**	**278**	P		**P**		**17 01 08.1**	**+0.4**
	SNR=6.1									
SDCO	**Great Sand Dun**	**46.17**	**82**	*e*P		**P**		**17 01 10.4**	**+0.8**
	comp=Z,5.2nm,1.0s									
JNU	**Nakatsue**	**46.26**	**270**	LR		LR		17 20 03.2		
	comp=Z,192nm,19.9s,baz=58,slow=36									
TUC	**Tucson**	**46.50**	**91**	*e*P		**P**		**17 01 13.3**	**+1.3**
TUC				pmax		pmax				
	comp=Z,4.0nm,0.8s									
TUC	**Tucson**	**46.50**	**91**	*e*P		**P**		**17 01 13.3**	**+1.3**
	comp=Z,4.5nm,0.8s									
KSJEU	**Jeongeup**	**47.12**	**275**	P		**P**		**17 01 16.8**	**+0.2**
	SNR=6.7									
ANMO	**Albuquerque**	**47.40**	**85**⇓	*i*P		**P**		**17 01 20.6**	**+1.5**
ECSD	**EROS Data Cent**	**47.77**	**69**	*e*P		**P**		**17 01 20.7**	**-1.0**
	comp=Z,116nm,2.8s									
SPITS	**Spitsbergen Ar**	**49.98**	**358**	P		**P**		**17 01 37.5**	**-0.7**
	comp=Z,14nm,1.1s,baz=23,slow=7.8,SNR=5.3									
DAG	**Danmarks Havn**	**50.14**	**8**⇑	*i*P		**P**		**17 01 38.8**	**-0.5**
	comp=Z,34nm,1.0s									
DAG	**Danmarks Havn**	**50.14**	**8**⇑	*i*P		**P**		**17 01 38.8**	**-0.5**
DAG				pmax		pmax				
	comp=Z,34nm,1.0s									
MSTX	**Muleshoe**	**50.32**	**83**	*e*P		**P**		**17 01 42.1**	**+0.7**
	comp=Z,18nm,1.0s									
BJI	**Beijing**	**50.67**	**287**	P		**P**		**17 01 43.5**	**-0.4**
BJI				PMZ						
	comp=Z,10.0nm,0.5s									
BJI				PMZ						
	comp=Z,63nm,4.1s									
BJI				LN						
	comp=Z,260nm,21.0s									
BJI				LE						
	comp=Z,280nm,17.4s									
BJI				LZ						
	comp=Z,190nm,18.3s									
SUMG	**Summit**	**51.15**	**17**	*i* P		**P**		**17 01 47.9**	**+0.4**
	comp=Z,43nm,1.0s									
SUMG	**Summit**	**51.15**	**17**	*i* P		**P**		**17 01 47.9**	**+0.4**
SUMG				pmax		pmax				
	comp=Z,43nm,1.0s									
SUMG	**Summit**	**51.15**	**17**	*e*P		**P**		**17 01 47.3**	**-0.2**
	comp=Z,41nm,1.0s									
SONM	**Songino Array**	**51.29**	**301**	P		**P**		**17 01 48.4**	**-0.1**
	comp=Z,12nm,1.1s,baz=55,slow=7.8,SNR=14									
SONM				LR		LR		17 25 41.2		
	comp=Z,482nm,18.4s,baz=67,slow=39									
ZAK	**Zakamensk**	**51.33**	**305**	*e*P		**P**		**17 01 48.4**	**-0.4**
ZAK				*e*				17 03 00.8		
ZAK				pmax		pmax				
	comp=Z,8.0nm,1.3s									
MOY	**Mondy**	**51.68**	**307**	*e*P		**P**		**17 01 51.5**	**+0.1**
MOY				pmax		pmax				
	comp=Z,20nm,1.5s									
JFWS	**Jewell Farm**	**51.93**	**67**	*e*P		**P**		**17 01 52.1**	**-1.1**
JFWS				pmax		pmax				
	comp=Z,7.0nm,0.6s									
JFWS	**Jewell Farm**	**51.93**	**67**	*e*P		**P**		**17 01 52.1**	**-1.1**
	comp=Z,7.4nm,0.6s									
TIA	**Tai'an**	**52.61**	**283**	*e*P		**P**		**17 01 58.4**	**0.0**
TIA				PMZ						
	comp=Z,20nm,1.2s									
TIA				LN						
	comp=Z,300nm,19.0s									
TIA				LE						
	comp=Z,300nm,15.5s									
TIA				LZ						
	comp=Z,350nm,18.0s									
HHC	**Hu-ho-hao-te**	**52.84**	**291**	*e*P		**P**		**17 02 01.0**	**+0.8**
HHC				sP		**sP**		**17 02 14.5**	**-0.2**
HHC				S		**S**		**17 09 26.0**	**-0.4**
HHC				sS		**sS**		**17 09 42.3**	**-1.2**
HHC				ScS		**ScS**		**17 11 45.3**	**-1.7**
HHC				PMZ						
	comp=Z,21nm,1.1s									
HHC				PMZ						
	comp=Z,82nm,6.8s									
HHC				LN						
	comp=Z,260nm,16.2s									
HHC				LE						
	comp=Z,200nm,16.2s									
HHC				LZ						
	comp=Z,230nm,16.6s									
TXAR	**Lajitas Array**	**52.96**	**88**	P		**P**		**17 02 01.4**	**+0.2**
	comp=Z,5.6nm,0.8s,baz=299,slow=4.9,SNR=45									
TXAR				LR		LR		17 24 11.4		
	comp=Z,93nm,18.2s,baz=0.0,slow=36									
NJ2	**Nanjing**	**54.39**	**278**	*e*P		**P**		**17 02 12.3**	**+0.8**
NJ2				PMZ						
	comp=Z,20nm,0.5s									
SFIN	**Lafayette**	**55.37**	**67**	*e*P		**P**		**17 02 17.6**	**-0.9**
	comp=Z,14nm,0.9s									
MIAR	**Mount Ida**	**55.52**	**76**	*e*P		**P**		**17 02 19.8**	**+0.2**
MIAR				pmax		pmax				
	comp=Z,12nm,1.0s									
MIAR	**Mount Ida**	**55.52**	**76**	*e*P		**P**		**17 02 19.8**	**+0.2**
	comp=Z,12nm,1.0s									
SCHQ	**Schefferville**	**55.81**	**43**	P		**P**		**17 02 21.4**	**-0.1**
	comp=Z,10nm,1.0s,baz=328,slow=7.4,SNR=7.5									
SCHQ				LR		LR		17 29 34.4		
	comp=Z,230nm,18.0s,baz=320,slow=40									
ZALV	**Zalesovo Beam**	**57.52**	**318**	P		**P**		**17 02 33.2**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=37,slow=7.6,SNR=6.4									
ZALV				PcP		**PcP**		**17 03 27.7**	**+1.0**
	comp=Z,3.4nm,0.6s,baz=44,slow=3.5,SNR=9.4									
ZALV				LR		LR		17 28 20.7		
	comp=Z,112nm,19.4s,baz=70,slow=37									
NVS	**Novosibirsk**	**57.53**	**319**	*e*P		**P**		**17 02 32.1**	**-1.5**
NVS				pmax		pmax				
	comp=N,3.0nm,1.0s									
NVS				pmax		pmax				
	comp=Z,6.0nm,1.0s									
NVS				pmax		pmax				
	comp=E,5.0nm,1.2s									
WVT	**Waverly**	**57.83**	**71**	*e*P		**P**		**17 02 35.3**	**-0.7**
WVT				pmax		pmax				
	comp=Z,9.0nm,1.1s									
WVT	**Waverly**	**57.83**	**71**	*e*P		**P**		**17 02 35.3**	**-0.7**
	comp=Z,8.7nm,1.1s									
KEV	**Kevo**	**57.89**	**353**	*e*P		**P**		**17 02 34.7**	**-1.2**
KEV				pmax		pmax				
	comp=Z,23nm,1.1s									
KEV	**Kevo**	**57.89**	**353**	*e*P		**P**		**17 02 34.7**	**-1.2**
	comp=Z,23nm,1.1s									
WHN	**Wuhan**	**58.19**	**280**	P		**P**		**17 02 38.6**	**0.0**
WHN				PMZ						
	comp=Z,86nm,1.1s									
WHN				LZ						
	comp=Z,510nm,20.4s									
ARCES	**ARCESS Array B**	**58.22**	**354**	P		**P**		**17 02 38.0**	**-0.3**
	comp=Z,13nm,1.1s,baz=12,slow=6.6,SNR=14									
ARCES				LR		LR		17 27 10.7		
	comp=Z,154nm,21.9s,baz=358,slow=36									
ARCES	**ARCESS Array B**	**58.22**	**354**	P		**P**		**17 02 38.0**	**-0.3**
LVZ	**Lovozero**	**58.99**	**350***d*	*i*P		**P**		**17 02 43.7**	**0.0**
LVZ				pmax		pmax				
	comp=Z,22nm,1.0s									
LVZ	**Lovozero**	**58.99**	**350**	*e*P		**P**		**17 02 43.5**	**-0.2**
XAN	**Xi'an**	**58.99**	**287**	P		**P**		**17 02 43.9**	**-0.3**
XAN				pP		**pP**		**17 02 54.0**	**-0.7**
XAN				sP		**sP**		**17 02 59.0**	**+0.2**
XAN				S		S		17 10 42.8	-5.4
XAN				PMZ						
	comp=Z,6.0nm,1.2s									
XAN				PMZ						
	comp=Z,25nm,5.4s									
XAN				LN						
	comp=Z,150nm,18.5s									
XAN				LZ						
	comp=Z,96nm,19.5s									
SSLB	**Suanglung**	**59.00**	**270**	*e*P		**P**		**17 02 44.1**	**-0.3**
	comp=Z,24nm,1.0s									
PTN	**Potsdam (NY)**	**59.08**	**56**	*e*P		**P**		**17 02 44.3**	**-0.3**
PTN	**Potsdam (NY)**	**59.08**	**56**	*e*P		**P**		**17 02 44.3**	**-0.3**
SSPA	**Standing Stone**	**60.30**	**61**	*e*P		**P**		**17 02 53.2**	**+0.1**
	comp=Z,10nm,0.8s									
GTA	**Gaotai**	**60.44**	**297**	*e*P		**P**		**17 02 53.9**	**-0.3**
GTA				pP		**pP**		**17 03 06.4**	**+1.7**
GTA				sP		**sP**		**17 03 11.1**	**+2.3**
GTA				S		**S**		**17 11 04.9**	**-2.0**
GTA				PMZ						
	comp=Z,6.0nm,1.7s									
GTA				PMZ						
	comp=Z,52nm,5.6s									
GTA				LN						
	comp=Z,310nm,20.4s									
GTA				LE						
	comp=Z,390nm,17.6s									
GTA				LZ						
	comp=Z,460nm,17.6s									
LZH	**Lanzhou**	**60.52**	**292**	P		**P**		**17 02 56.3**	**+1.5**
LZH				pP		**pP**		**17 03 06.5**	**+1.2**
LZH				sP		**sP**		**17 03 09.6**	**+0.2**
LZH				PP		**PP**		**17 05 07.0**	**-1.0**
LZH				S		**S**		**17 11 07.0**	**-1.0**
LZH				sS		**sS**		**17 11 23.1**	**-2.2**
LZH				SS		**SS**		**17 15 03.0**	**-2.8**
LZH				PMZ						
	comp=Z,57nm,1.2s									
LZH				PMZ						
	comp=Z,180nm,4.3s									
LZH				LN						
	comp=Z,620nm,16.6s									
LZH				LE						
	comp=Z,670nm,16.8s									
LZH				LZ						
	comp=Z,770nm,17.9s									
BORG	**Borgarnes**	**60.99**	**15**	P		**P**		**17 02 58.9**	**+1.5**
	comp=Z,12nm,1.0s,baz=270,slow=6.1,SNR=2.7									
BLA	**Blacksburg**	**61.33**	**65**	*e*P		**P**		**17 03 00.4**	**+0.2**
BLA				pmax		pmax				
	comp=Z,19nm,0.8s									
BLA	**Blacksburg**	**61.33**	**65**	*e*P		**P**		**17 03 00.4**	**+0.2**
	comp=Z,19nm,0.8s									
TMCR	**Tamitsa**	**62.12**	**347**	*e*P		**P**		**17 03 04.7**	**-0.3**
TMCR				pmax		pmax				
	comp=Z,36nm,1.1s									
JSRW	**J. Sargeant Re**	**62.40**	**63**	*e*P		**P**		**17 03 07.6**	**+0.3**
KURK	**Kurchatov**	**62.47**	**318**	P		**P**		**17 03 06.7**	**-0.9**
KURK				pmax		pmax				
	comp=Z,8.0nm,1.0s									
KURK	**Kurchatov**	**62.47**	**318**	*e*P		**P**		**17 03 06.4**	**-1.2**
SOKR	**Solikamsk**	**62.55**	**335***d*	*i*P		**P**		**17 03 07.9**	**0.0**
SOKR				pmax		pmax				
	comp=Z,30nm,1.0s									
WMQ	**Urumqi**	**63.56**	**308**	P		**P**		**17 03 15.8**	**+0.8**
WMQ				pP		**pP**		**17 03 26.0**	**+0.4**
WMQ				sP		**sP**		**17 03 29.9**	**+0.2**
WMQ				PcP		**PcP**		**17 03 52.3**	**+1.0**
WMQ				PP		**PP**		**17 05 36.8**	**+2.2**
WMQ				PMZ						
	comp=Z,11nm,1.0s									
WMQ				PMZ						
	comp=Z,110nm,8.0s									
WMQ				LN						
	comp=Z,410nm,21.2s									
WMQ				LE						
	comp=Z,220nm,15.6s									
WMQ				LZ						
	comp=Z,180nm,22.4s									
BVA0	**Borovoye Array**	**63.84**	**324**	*i* P		**P**		**17 03 16.4**	**-0.2**
BVA0				pmax		pmax				
	comp=Z,20nm,0.7s									
BRVK	**Borovoye**	**63.85**	**324***d*	*i*P		**P**		**17 03 16.7**	**0.0**
BRVK				pmax		pmax				
	comp=Z,35nm,1.2s									
BRVK	**Borovoye**	**63.85**	**324**	*e*P		**P**		**17 03 16.8**	**0.0**
SVE	**Sverdlovsk**	**63.87**	**332**⇑	*i*P		**P**		**17 03 17.5**	**+0.7**
SVE				pmax		pmax				
	comp=Z,26nm,1.2s									
MK31	**Makanchi Array**	**63.87**	**313**	*i* P		**P**		**17 03 15.9**	**-1.1**
MKAR	**Makanchi Array**	**63.87**	**313**	*e*P		**P**		**17 03 16.3**	**-0.7**
MKAR	**Makanchi Array**	**63.87**	**313**	*e*P		**P**		**17 03 16.2**	**-0.7**
CD2	**Chengdu**	**64.27**	**288**	*e*P		**P**		**17 03 19.0**	**-0.9**
CD2				pP		**pP**		**17 03 30.1**	**-0.3**
CD2				PcP		**PcP**		**17 03 53.9**	**-0.5**
CD2				PP		**PP**		**17 05 39.9**	**-1.2**
CD2				S		**S**		**17 11 53.3**	**-1.9**
CD2				sS		**sS**		**17 12 12.3**	**-0.3**
CD2				SS		**SS**		**17 16 03.5**	**-1.0**
CD2				PMZ						
	comp=Z,10.0nm,0.5s									
CD2				PMZ						
	comp=Z,100nm,6.2s									
ARU	**Arti**	**64.81**	**333***d*	*i*P		**P**		**17 03 23.1**	**+0.2**
ARU								17 03 57.6		
ARU				S		**S**		**17 12 02.1**	**+1.2**
ARU				SS		**SS**		**17 16 17.0**	**+5.5**
ARU				pmax		pmax				
	comp=Z,29nm,1.2s									
ARU	**Arti**	**64.81**	**333**	*e*P		**P**		**17 03 22.7**	**-0.2**
FINES	**FINESS Array B**	**66.16**	**352**	P		**P**		**17 03 31.3**	**-0.2**
	comp=Z,9.5nm,0.8s,baz=17,slow=7.0,SNR=21									
FINES				LR		LR		17 32 45.2		
	comp=Z,116nm,21.7s,baz=18,slow=36									
OTUK	**Ortayu**	**66.95**	**320**	P		**P**		**17 03 36.6**	**-0.3**
OTUK				pmax		pmax				
	comp=Z,23nm,1.1s									
NB2	**NORSAR Subarra**	**67.26**	**360**	P		**P**		**17 03 38.4**	**-0.2**
	comp=Z,3.9nm,0.8s,baz=1.2,slow=6.2									
NOA	**NORSAR Array B**	**67.26**	**360**	P		**P**		**17 03 38.7**	**+0.1**
	comp=Z,5.9nm,0.8s,baz=0.6,slow=6.3,SNR=10									
NOA				LR		LR		17 32 32.4		
	comp=Z,41nm,21.6s,baz=50,slow=36									
PDGK	**Podgornoye**	**67.81**	**313**	P		**P**		**17 03 42.0**	**-0.3**
PDGK				pmax		pmax				
	comp=Z,13nm,1.1s									
KMI	**Kunming**	**69.15**	**284**	P		**P**		**17 03 51.9**	**+0.7**
KMI				pP		**pP**		**17 04 03.5**	**+1.6**
KMI				sP		**sP**		**17 04 07.3**	**+1.4**
KMI				S		**S**		**17 12 53.3**	**-1.3**
KMI				sS		**sS**		**17 13 10.9**	**-1.3**
KMI				SS		**SS**		**17 17 14.8**	**-5.8**
KMI				PMZ						
	comp=Z,24nm,1.1s									
KMI				PMZ						
	comp=Z,91nm,5.1s									
KMI				LN						
	comp=Z,140nm,19.1s									
KMI				LE						
	comp=Z,140nm,15.7s									
KMI				LZ						
	comp=Z,190nm,16.3s									
TKM2	**Tokmak 2**	**69.87**	**315**	P		**P**		**17 03 55.7**	**+0.3**
	SNR=8.3									
USP	**Ospenovka**	**70.07**	**316**	P		**P**		**17 03 56.9**	**+0.5**
	SNR=8.9									
AKTO	**Aktyubinsk**	**70.18**	**330**	P		**P**		**17 03 56.8**	**-0.1**
	comp=Z,11nm,0.8s,baz=31,slow=6.0,SNR=34									
AKTO	**Aktyubinsk**	**70.18**	**330**	P		**P**		**17 03 56.6**	**-0.3**
AKTO				pmax		pmax				
	comp=Z,21nm,1.0s									
MOS	**Moscow**	**70.22**	**344**	*e*P		**P**		**17 03 55.0**	**-2.0**
MOS				pmax		pmax				
	comp=Z,45nm,0.8s									
KBK	**Karagaybulak**	**70.37**	**315**	P		**P**		**17 03 58.8**	**+0.4**
	SNR=9.6									
AAK	**Ala-Archa**	**70.58**	**315**	P		**P**		**17 04 00.2**	**+0.5**
	SNR=5.4									
AAK	**Ala-Archa**	**70.58**	**315**	*i* P		**P**		**17 03 59.9**	**+0.2**
AAK				pmax		pmax				
	comp=Z,15nm,1.0s									
AB31	**Akbulak array**	**70.60**	**328**	*i* P		**P**		**17 03 59.5**	**0.0**
AB31				pmax		pmax				
	comp=Z,1.0nm,0.4s									
ABKAR	**Akbulak array**	**70.60**	**328**	*e*P		**P**		**17 03 59.5**	**0.0**
EKS2	**Erkin-Say**	**70.87**	**316**	P		**P**		**17 04 01.3**	**-0.1**
	SNR=7.0									
OBN	**Obninsk**	**71.00**	**344**	*i* P		**P**		**17 04 01.0**	**-0.7**
OBN				*i*				17 04 17.1		
OBN				pmax		pmax				
	comp=Z,19nm,1.2s									
PPT	**Papeete**	**71.51**	**160**	LR		LR		17 30 16.9		
	comp=Z,40nm,21.4s,baz=322,slow=32									
PPT2	**Papeete2**	**71.53**	**160**	*e*LR		LR		17 25 38.3		
	comp=Z,225nm,32.0s									
KK31	**Karatay Array**	**71.89**	**318**	*i* P		**P**		**17 04 07.0**	**-0.4**
KK31				pmax		pmax				
	comp=Z,16nm,1.0s									
KKAR	**Karatay Array**	**71.89**	**318**	*e*P		**P**		**17 04 07.3**	**-0.1**
KKAR	**Karatay Array**	**71.89**	**318**	*e*P		**P**		**17 04 07.3**	**-0.1**
KSH	**Kashi**	**72.44**	**312**	P		P		17 04 14.6	+3.7
KSH				sP		sP		17 04 29.3	+3.7
KSH				PcP		**PcP**		**17 04 31.6**	**+3.0**
KSH				PP		PP		17 06 59.3	+7.7
KSH				S		**S**		**17 13 33.3**	**+1.0**
KSH				sS		sS		17 13 52.6	+2.6
KSH				SKS		**SKSac**		**17 14 11.8**	**-1.2**
KSH				PMZ						
	comp=Z,20nm,1.2s									
KSH				PMZ						
	comp=Z,110nm,4.6s									
KSH				LN						
	comp=Z,140nm,6.3s									
KSH				LE						
	comp=Z,110nm,6.7s									
KSH				LZ						
	comp=Z,130nm,6.4s									
SUW	**Suwalki**	**73.76**	**352**	*e*P		**P**		**17 04 18.4**	**+0.1**
SUW	**Suwalki**	**73.76**	**352**	*e*P		**P**		**17 04 18.4**	**+0.1**
SHL	**Shillong**	**75.17**	**292**	*e*P		**P**		**17 04 28.0**	**+0.8**
TAPN	**Taplejung**	**76.13**	**297**	*e*P		**P**		**17 04 33.3**	**+0.5**
	comp=Z,99nm,1.4s									
CHTO	**Chiang Mai**	**76.21**	**283**	*e*P		**P**		**17 04 33.2**	**+0.2**
CHTO				pmax		pmax				
	comp=Z,11nm,1.3s									
CHTO	**Chiang Mai**	**76.21**	**283**	*e*P		**P**		**17 04 33.1**	**+0.2**
	comp=Z,11nm,1.3s									
AKASG	**Malin Array Be**	**76.38**	**348**	P		**P**		**17 04 32.2**	**-1.2**
	comp=Z,4.0nm,0.8s,baz=14,slow=5.8,SNR=18									
AKASG				LR		LR		17 40 55.9		
	comp=Z,86nm,20.9s,baz=330,slow=38									
KIEV	**Kiev**	**76.38**	**348**	*e*P		**P**		**17 04 32.7**	**-0.8**
KIEV				pmax		pmax				
	comp=Z,11nm,1.0s									
KIEV	**Kiev**	**76.38**	**348**	*e*P		**P**		**17 04 32.6**	**-0.8**
	comp=Z,11nm,1.0s									
CMAR	**Chiang Mai Arr**	**76.49**	**283**	P		**P**		**17 04 34.6**	**+0.1**
	comp=Z,5.4nm,1.0s,baz=28,slow=6.1,SNR=29									
CMAR				LR		LR		17 43 06.0		
	comp=Z,145nm,18.0s,baz=120,slow=40									
ODAN	**Odare**	**76.69**	**297**	*e*P		**P**		**17 04 36.3**	**+0.4**
	comp=Z,42nm,1.2s									
GUN	**Gumba**	**76.69**	**298**	*e*P		**P**		**17 04 36.4**	**+0.4**
	comp=Z,71nm,1.0s									
CLL	**Collm**	**76.99**	**358**	*i* P		**P**		**17 04 37.3**	**+0.4**
	comp=Z,13nm,1.4s									
CLL	**Collm**	**76.99**	**358**	*i* P		**P**		**17 04 37.3**	**+0.4**
CLL				pmax		pmax				
	comp=Z,13nm,1.4s									
RAMN	**Ramite**	**77.05**	**297**	*e*P		**P**		**17 04 38.1**	**+0.1**
	comp=Z,122nm,1.3s									
KKN	**Kakani**	**77.11**	**299**	*e*P		**P**		**17 04 37.9**	**-0.4**
	comp=Z,62nm,1.4s									
PKI	**Pulchoki**	**77.22**	**298**	*e*P		**P**		**17 04 38.9**	**-0.1**
	comp=Z,90nm,1.3s									
PKIN	**Phulchoki**	**77.22**	**298**	*e*P		**P**		**17 04 39.7**	**+0.8**
	comp=Z,17nm,0.9s									
GKN	**Gorkha**	**77.29**	**299**	*e*P		**P**		**17 04 38.9**	**-0.3**
	comp=Z,73nm,1.3s									
DMN	**Daman**	**77.35**	**299**	*e*P		**P**		**17 04 38.8**	**-0.8**
	comp=Z,54nm,1.3s									
KSP	**Ksiaz**	**77.36**	**356**	*e*P		**P**		**17 04 40.0**	**+1.1**
KSP	**Ksiaz**	**77.36**	**356**	*e*P		**P**		**17 04 40.0**	**+1.1**
BRG	**Berggiesshubel**	**77.40**	**358**	*e*P		**P**		**17 04 39.7**	**+0.5**
	comp=Z,16nm,1.3s									
BRG				*e*				17 04 47.3		
	comp=Z,12nm,1.3s									
BRG	**Berggiesshubel**	**77.40**	**358**	*e*P		**P**		**17 04 39.7**	**+0.5**
BRG				*e*				17 04 47.3		
BRG				pmax		pmax				
	comp=Z,17nm,1.3s									
BRG				pmax		pmax				
	comp=Z,12nm,1.3s									
BEBN	**Eben Emael**	**77.45**	**3**	P		**P**		**17 04 40.3**	**+0.8**
MEM	**Membach**	**77.65**	**3**	P		**P**		**17 04 41.6**	**+1.0**
	comp=Z,9.8nm,1.5s									
SNF	**Seneffe**	**77.69**	**4**	P		**P**		**17 04 41.8**	**+1.0**
UPC	**Upice**	**77.70**	**356**	*e*P		**P**		**17 04 41.8**	**+0.9**
UPC	**Upice**	**77.70**	**356**	*e*P		**P**		**17 04 41.8**	**+0.9**
PVCC	**Panska Ves**	**77.73**	**357**	*e*P		**P**		**17 04 42.2**	**+1.1**
PVCC	**Panska Ves**	**77.73**	**357**	*e*P		**P**		**17 04 42.2**	**+1.1**
OJC	**Ojcow**	**77.79**	**354**	*e*P		**P**		**17 04 42.3**	**+0.9**
OJC	**Ojcow**	**77.79**	**354**	*e*P		**P**		**17 04 42.3**	**+0.9**
BCLA	**Clavier**	**77.82**	**3**	P		**P**		**17 04 42.4**	**+0.9**
LVV	**L'vov**	**77.84**	**351**	*e*P		**P**		**17 04 40.8**	**-0.8**
DPC	**Dobruska-Polom**	**77.85**	**356**	*e*P		**P**		**17 04 42.6**	**+0.8**
DPC				*ex*		x		17 04 51.0		
DPC	**Dobruska-Polom**	**77.85**	**356**	*e*P		**P**		**17 04 42.6**	**+0.8**
DPC				*e*				17 04 51.0		
KOLN	**Koldanda**	**78.03**	**300**	*e*P		**P**		**17 04 43.7**	**+0.3**
	comp=Z,30nm,1.1s									
DOU	**Dourbes**	**78.11**	**4**	P		**P**		**17 04 44.2**	**+1.0**
	comp=Z,8.7nm,1.4s									
KWP	**Kalwaria Pacla**	**78.15**	**352**	*e*P		**P**		**17 04 44.4**	**+1.0**

	comp=Z,4.9nm,1.0s								
MOF	**Molkenrain**	**80.44**	**2**	*e*P		**P**	**17 04 56.6**	**+0.6**	
KBZ	**Khabaz**	**80.52**	**337**	P		**P**	**17 04 57.6**	**+1.2**	
	comp=Z,9.3nm,1.0s,baz=325,slow=1.0,SNR=9.9								
NCK	**Nalchik**	**80.57**	**336**⇑	*e*P		**P**	**17 04 57.9**	**+1.2**	
RETA	**Reutte**	**80.84**	**360**⇑	*i*P		**P**	**17 04 59.2**	**+1.0**	
	comp=Z,14nm,1.5s								
LOMF	**Lomont**	**80.93**	**2**	*e*P		**P**	**17 04 59.6**	**+0.9**	
MOTA	**Moosalm**	**80.98**	**359**⇑	*i*P		**P**	**17 04 59.8**	**+0.8**	
	comp=Z,18nm,1.2s,SNR=6.2								
DAVA	**Damuels**	**81.04**	**0**⇑	*i*pP		**P**	**17 05 00.9**	**+1.6**	
	comp=Z,6.9nm,0.9s								
WTTA	**Wattenberg**	**81.06**	**359**⇑	*i*P		**P**	**17 05 00.7**	**+1.2**	
	comp=Z,26nm,1.5s,SNR=7.5								
ZEI	**Tsey**	**81.16**	**336**	*e*P		**P**	**17 04 58.4**	**-1.7**	
ZEI				pmax	pmax				
	comp=Z,45nm,1.3s								
KBA	**Koelnbreinsper**	**81.22**	**358**⇑	*i*pP		**P**	**17 05 01.9**	**+1.6**	
	comp=Z,28nm,0.9s,SNR=14								
SIM	**Simferopol'**	**81.22**	**343**	P		**P**	**17 05 01.1**	**+1.0**	
SIM				pmax	pmax				
	comp=Z,16nm,0.9s								
FETA	**Feichten**	**81.31**	**360**⇑	*i*P		**P**	**17 05 01.9**	**+1.2**	
	comp=Z,18nm,1.1s,SNR=8.9								
ABTA	**Abfaltersbach**	**81.56**	**358**⇑	*i*P		**P**	**17 05 03.0**	**+1.0**	
	comp=Z,20nm,1.3s,SNR=6.8								
SOKA	**Soboth**	**81.57**	**357**⇑	*i*P		**P**	**17 05 02.9**	**+0.9**	
	comp=Z,30nm,1.3s,SNR=20								
FUORN	**Ofenpass-Fuorn**	**81.71**	**0**	*e*P		**P**	**17 05 04.5**	**+1.5**	
OBKA	**Obir**	**81.75**	**357**⇑	*i*P		**P**	**17 05 03.9**	**+0.8**	
	comp=Z,9.1nm,0.9s								
PKSM	**Moragy**	**81.85**	**354**⇑	P		**P**	**17 05 04.1**	**+0.7**	
PKSM	**Moragy**	**81.85**	**354**⇑	*i*P		**P**	**17 05 04.1**	**+0.7**	
VOIR		**82.06**	**350**⇓	P		**P**	**17 05 06.8**	**+2.1**	
VOIR		**82.06**	**350**⇓	*i*P		**P**	**17 05 06.8**	**+2.1**	
PLDF	**La Plantade**	**82.19**	**5**	*e*P		**P**	**17 05 07.6**	**+2.3**	
GZR	**Gura Zlata**	**82.34**	**351**	⇓P		**P**	**17 05 06.5**	**+0.4**	
GZR	**Gura Zlata**	**82.34**	**351**	⇓*i*P		**P**	**17 05 06.5**	**+0.4**	
PYM	**Petit Puy Mans**	**82.38**	**5**	*e*P		**P**	**17 05 08.3**	**+2.0**	
LBL	**Lubilhac**	**82.91**	**5**	*e*P		**P**	**17 05 11.3**	**+2.2**	
BNI	**Bardonecchia**	**83.22**	**3**	*e*P		**P**	**17 05 13.2**	**+2.4**	
BNI	**Bardonecchia**	**83.22**	**3**	*e*P		**P**	**17 05 13.2**	**+2.4**	
GNI	**Garni**	**83.41**	**334**⇑	*i*P		**P**	**17 05 14.2**	**+2.3**	
GNI				pmax	pmax				
	comp=Z,14nm,1.7s								
DIVS	**Divibare**	**83.86**	**353**⇑	*i*P		P	17 05 08.4	-5.6	
TOUF	**Mont Tournerai**	**84.28**	**2**	*e*P		**P**	**17 05 17.0**	**+0.7**	
AUTN	**L'Aution**	**84.30**	**2**	*e*P		**P**	**17 05 16.6**	**+0.2**	
SAOF	**Saorge**	**84.31**	**2**	*e*P		**P**	**17 05 17.0**	**+0.7**	
MVIF	**Mont Vial**	**84.39**	**2**	*e*P		**P**	**17 05 17.6**	**+0.8**	
REVF	**Revere**	**84.55**	**2**	*e*P		**P**	**17 05 19.8**	**+2.3**	
MLS	**Moulis**	**85.03**	**7**	*e*P		**P**	**17 05 21.0**	**+1.1**	
RESF	**Ens**	**85.13**	**7**	*e*P		**P**	**17 05 22.0**	**+1.5**	
KDZ	**Kurdzhali**	**85.76**	**349**	⇓P		**P**	**17 05 24.0**	**+0.5**	
KDZ	**Kurdzhali**	**85.76**	**349**	⇓*i*P		**P**	**17 05 24.0**	**+0.5**	
MMB	**Musomiste**	**86.01**	**350**	⇑P		**P**	**17 05 26.5**	**+1.7**	
MMB	**Musomiste**	**86.01**	**350**	⇑*i*P		**P**	**17 05 26.5**	**+1.7**	
NVR	**Nevrokopi**	**86.23**	**350**	*e*P		**P**	**17 05 26.1**	**+0.2**	
RDO	**Rodhopi**	**86.24**	**349**	*e*P		**P**	**17 05 26.8**	**+0.9**	
RDO	**Rodhopi**	**86.24**	**349**	*e*P		**P**	**17 05 27.3**	**+1.4**	
BRTR	**Keskin Array B**	**86.36**	**342**	P		**P**	**17 05 26.8**	**0.0**	
	comp=Z,0.9nm,0.7s,baz=37,slow=3.1,SNR=5.1								
BRTR				LR	LR		17 49 05.5		
	comp=Z,50nm,19.6s,baz=8.0,slow=39								
ALN	**Alexandroupoli**	**86.42**	**348**	*e*P		**P**	**17 05 26.9**	**+0.1**	
SRS	**Serrai**	**86.49**	**350**	*e*P		**P**	**17 05 27.8**	**+0.7**	
KAVA	**Kavala**	**86.51**	**349**	*e*P		**P**	**17 05 28.0**	**+0.8**	
KNT	**Kendrikon**	**86.52**	**351**	*e*P		**P**	**17 05 28.4**	**+1.1**	
WRA	**Warramunga Arr**	**86.64**	**231**	P		**P**	**17 05 26.9**	**-1.1**	
	comp=Z,3.7nm,0.9s,baz=38,slow=5.8,SNR=18								
MALT	**Malatya**	**86.72**	**338**	⇓P		**P**	**17 05 31.1**	**+2.7**	
MALT	**Malatya**	**86.72**	**338**	⇓*i*P		**P**	**17 05 31.1**	**+2.7**	
GRG	**Griva**	**86.77**	**351**	*e*P		**P**	**17 05 29.2**	**+0.6**	
FNA	**Florina**	**87.04**	**352**	*e*P		**P**	**17 05 30.0**	**+0.1**	
NEST	**Nestorio**	**87.44**	**352**	*e*P		**P**	**17 05 32.0**	**+0.1**	
RPR	**Rampur**	**87.53**	**298**	*e*P		**P**	**17 05 34.0**	**+1.5**	
PVM	**Polavaram**	**87.54**	**295**	*e*P		**P**	**17 05 32.0**	**-0.6**	
LIT	**Litokhoron**	**87.61**	**351**	*e*P		P	17 05 29.4	-3.2	
ESDC	**Sonseca Array**	**87.81**	**11**	P		**P**	**17 05 33.8**	**+0.2**	
	comp=Z,3.1nm,0.8s,baz=352,slow=4.7,SNR=13								
SRSP	**Sriramsagar**	**87.99**	**299**	*e*P		**P**	**17 05 33.6**	**-1.1**	
DSL	**Palaion Diasel**	**88.70**	**352**	*e*P		**P**	**17 05 38.0**	**+0.2**	
HYBB	**Hyderabad (bro**	**89.11**	**298**	*e*P		**P**	**17 05 41.2**	**+1.2**	
HYB	**Hyderabad**	**89.11**	**298**	*i*P		**P**	**17 05 40.5**	**+0.5**	
EFP	**Efpalio**	**89.33**	**351**	*e*P		**P**	**17 05 42.1**	**+1.4**	
NJS	**Nagarjunasagar**	**89.39**	**296**	*e*P		**P**	**17 05 42.4**	**+1.1**	
ADKI	**Addanki**	**89.60**	**296**	*e*P		**P**	**17 05 43.2**	**+0.9**	
KLRI	**Killari**	**89.64**	**299**	*e*P		**P**	**17 05 41.7**	**-0.8**	
KLV	**Kalavryta, Ach**	**89.68**	**351**	*e*P		**P**	**17 05 42.8**	**+0.3**	
VLS	**Valsamata**	**89.70**	**352**	*e*P		**P**	**17 05 42.2**	**-0.3**	
GUR	**Goura**	**89.77**	**351**	*e*P		**P**	**17 05 43.1**	**+0.2**	
ASAR	**Alice Springs**	**90.03**	**230**	P		**P**	**17 05 43.8**	**-0.2**	
	comp=Z,6.1nm,0.6s,baz=29,slow=4.4,SNR=66								
ASAR				LR	LR		17 49 56.0		
	comp=Z,38nm,18.3s,baz=323,slow=38								
MMAI	**Mount Meron Ar**	**92.48**	**339**	P		**P**	**17 05 56.0**	**+0.5**	
	comp=Z,4.6nm,0.9s,baz=24,slow=11,SNR=4.5								
STKA	**Stephens Creek**	**93.82**	**220**	P		**P**	**17 06 01.1**	**-0.2**	
	comp=Z,5.7nm,1.1s,baz=96,slow=9.2,SNR=4.0								
STKA				LR	LR		17 43 05.6		
	comp=Z,114nm,21.3s,baz=6.2,slow=32								
MAW	**Mawson**	**150.50**	**218**	PKPbc		**PKPbc**	**17 12 34.9**	**+0.4**	
	comp=Z,6.0nm,1.0s,baz=13,slow=1.0,SNR=6.1								
BOSA	**Boshof**	**154.06**	**329**	PKPbc		**PKPbc**	**17 12 44.1**	**+0.1**	
	comp=Z,3.1nm,1.0s,baz=67,slow=7.7,SNR=3.0								

NIED **18** *17:12:00,44.˙50N×148.˙90E,h32km,Mw4.0 Best double couple: M₀1.22000×10¹⁵ NP1:φ=154.00000°,δ47.00000°, λ25.00000°. NP2:φ=47.00000°,δ72.00000°,λ134.00000°.*

JMA **18** *17:12:02.8±0.5,44.˙52N×148.˙88E,h30km,M4.3*

ISCJB **18** *17:12:02.0±1.1,44.˙21N±0.˙04×148.˙89E±0.˙04,h28km±7km, mb4.5/38,MS3.1/1,Error ellipse: s-maj=7.5km s-min=4.0km az=145.7*

BJI **18** *17:12:03.7,44.˙35N×149.˙13E,h58km,mb4.5/32,mB4.9/20, Ms4.6/19,Ms7 4.1/18*

NEIC **18** *17:12:05.0±1.5,44.˙25N×148.˙88E,h42km±12km,mb4.5/13, Error ellipse: s-maj=23.7km s-min=9.8km az=156.0*

IDC **18** *17:12:05.8±0.8,44.˙34N×148.˙70E,h38km±6km,mb3.7/17, mb1 3.9/21,mb1mx3.8/31,mbtmp3.9/21,ML3.4/4,MS3.3/2, Ms1 3.3/2,ms1mx2.8/26,Error ellipse: s-maj=19.8km s-min=12.5km az=139.0*

SKHL **18** *17:12:05.0±0.5,44.˙24N×148.˙83E,h53km±6km,mb4.7/7*

MOS **18** *17:12:05.1±1.5,44.˙31N×148.˙64E,h50km,mb4.5/17,Error ellipse: s-maj=8.3km s-min=6.7km az=110.3*

ISC 18 17:12:06.6±0.6,44.˙32N±0.˙05×148.˙80E±0.˙05,h50km±3km, h50km:pP-P,n179,σ1s43/186,mb4.4/44,14C-6D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.13**	**324**	*d* iPN		**Pn**	**17 12 24.7**	**-1.4**
KUR				*i* S		**Sn**	**17 12 39.9**	**-0.6**
KUR				pmax	pmax			
	comp=N,251nm,0.6s							
KUR				pmax	pmax			
	comp=E,96nm,0.6s							
KUR				pmax	pmax			
	comp=Z,397nm,0.6s							
KUR				smax	smax			
	comp=N,739nm,0.4s							
KUR				smax	smax			
	comp=E,819nm,0.4s							
KUR	**Kuril'sk**	**1.13**	**324**	*i* P		**Pn**	**17 12 24.7**	**-1.4**
KUR				AMB	AMB		17 12 25.2	
	comp=E,1μm,0.5s							
KUR				*e*S		**Sn**	**17 12 39.9**	**-0.6**
KUR				A	A		17 12 42.6	
	comp=E,2μm,0.5s							
KUR				A	A		17 12 42.6	
	comp=E,2μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.13**	**263**	*c i* PN		Pn	17 12 35.9	-3.8
YUK				*i* S		**Sn**	**17 13 05.4**	**+0.5**
YUK				pmax	pmax			
	comp=Z,92nm,0.3s							
YUK				pmax	pmax			
	comp=E,27nm,0.2s							
YUK				pmax	pmax			
	comp=N,92nm,0.3s							
YUK				smax	smax			
	comp=N,513nm,0.5s							
YUK				smax	smax			
	comp=E,1μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.13**	**263**	*e*P		Pn	17 12 35.9	-3.8
YUK				AMB	AMB		17 12 43.0	
	comp=E,32nm,0.3s							
YUK				AMB	AMB		17 12 43.0	
	comp=E,27nm,0.3s							
YUK				AMB	AMB		17 12 43.0	
	comp=E,92nm,0.3s							
YUK				*e*S		**Sn**	**17 13 05.4**	**+0.5**
YUK				A	A		17 13 10.6	
	comp=E,510nm,0.5s							
YUK				A	A		17 13 10.6	
	comp=E,1μm,0.5s							
NEM2	**Nemuro 2**	**2.41**	**248**	P		**Pn**	**17 12 40.8**	**-2.7**
NEM2				*e*S		**Sn**	**17 13 09.0**	**-2.7**
JRA	**Rausu**	**2.67**	**263**	P		**Pn**	**17 12 46.3**	**-0.8**
JNK	**Nakash**	**3.03**	**257**	P		**Pn**	**17 12 50.7**	**-1.4**
JNK				*e*S		**Sn**	**17 13 27.2**	**0.0**
JAK	**Akkeshi**	**3.25**	**247**	P		**Pn**	**17 12 52.9**	**-2.2**
JAK				*e*S		**Sn**	**17 13 29.8**	**-2.8**
JTKR	**Abashiri--Toko**	**3.54**	**266**	P		**Pn**	**17 12 58.5**	**-0.5**
JAR	**Ashorobuto**	**3.78**	**256**	P		**Pn**	**17 13 01.3**	**-1.0**
JOB	**Onbets**	**3.87**	**250**	P		**Pn**	**17 13 02.3**	**-1.3**
JMP	**Maruseppu**	**3.92**	**267**	P		**Pn**	**17 13 04.5**	**+0.2**
JCH	**Churui**	**4.31**	**249**	P		**Pn**	**17 13 08.4**	**-1.1**
JCH				*e*S		**Sn**	**17 13 57.8**	**-0.7**
ASAJ	**Asahikawa**	**4.46**	**270**	Pn		**Pn**	**17 13 13.2**	**+1.6**
	comp=E,1.3nm,0.3s,baz=70,slow=17,SNR=18							
ASAJ				LR	LR		17 15 17.4	
	comp=E,514nm,18.6s,baz=96,slow=44							
ASAJ	**Asahikawa**	**4.46**	**270**	PN		**Pn**	**17 13 13.3**	**+1.6**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,514nm,18.6s							
ASAJ	**Asahikawa**	**4.46**	**270**	*e*Pn		**Pn**	**17 13 13.5**	**+1.9**
ASAJ				*e*Sn		Sn	17 14 14.5	+12
MYR	**Moyori**	**4.50**	**245**	*e*P		**Pn**	**17 13 11.0**	**-1.2**
ERM	**Erimo**	**4.72**	**243**	*de*PN		**Pn**	**17 13 15.7**	**+0.4**
ERM	**Erimo**	**4.72**	**243**	*e*P		**Pn**	**17 13 15.7**	**+0.4**
JNBK	**Urakawa-nobuka**	**4.86**	**247**	P		**Pn**	**17 13 16.0**	**-1.1**
JNBK				*e*S		**Sn**	**17 14 11.0**	**-1.0**
YSS	**Yuzh-Sakhalins**	**4.99**	**304**	*e*PN		**Pn**	**17 13 19.5**	**+0.6**
YSS				*e*S		**Sn**	**17 14 16.0**	**+0.8**
YSS				smax	smax			
	comp=E,30nm,0.9s							
YSS				MLR	MLR			
	comp=Z,400nm,15.0s							
YSS				MLR	MLR			
	comp=E,300nm,16.0s							
YSS	**Yuzh-Sakhalins**	**4.99**	**304**	*e*P		**Pn**	**17 13 19.1**	**+0.2**
YSS				AMB	AMB		17 13 21.9	
	comp=E,162nm,0.5s							
YSS				*e*S		**Sn**	**17 14 14.3**	**-0.9**
YSS				A	A		17 14 17.5	
	comp=E,390nm,0.6s							
YSS	**Yuzh-Sakhalins**	**4.99**	**304**	*e*Pn		**Pn**	**17 13 19.0**	**+0.2**
YSS				*e*Sn		**Sn**	**17 14 12.2**	**-3.0**
JKB	**Kayabe**	**6.18**	**250**	P		**Pn**	**17 13 32.9**	**-2.3**
UGL	**Uglegorsk**	**6.64**	**318**	*e*PN		**Pn**	**17 13 39.0**	**-2.5**
JANG	**Nango**	**6.68**	**236**	P		Pn	17 13 38.6	-3.5
JANG				*e*S		Sn	17 14 48.9	-7.9
JTH	**Tanohata**	**6.76**	**232**	P		Pn	17 13 39.6	-3.6
JTH				*e*S		Sn	17 14 48.7	-10
TYV	**Tymovskoe**	**7.75**	**330**	*e*P		**Pn**	**17 13 58.0**	**+1.3**
SKR	**Severo-Kuril's**	**8.07**	**35**	*e*PN		Pn	17 13 57.0	-4.0
SKR				pmax	pmax			
	comp=N,20nm,0.5s							
SKR				pmax	pmax			
	comp=E,30nm,0.5s							
SKR				pmax	pmax			
	comp=Z,50nm,0.5s							
SKR	**Severo-Kuril's**	**8.07**	**35**	*e*P		**Pn**	**17 14 00.0**	**-1.0**
SKR				AMB	AMB		17 14 02.5	
	comp=Z,20nm,0.5s							
SKR				AMB	AMB		17 14 02.5	
	comp=Z,30nm,0.5s							
SKR				AMB	AMB		17 14 02.5	
	comp=Z,50nm,0.5s							
JIO	**Ouri**	**8.10**	**226**	P		Pn	17 13 57.9	-3.7
JIO				*e*S		Sn	17 15 21.5	-10
TEY	**Ternei**	**8.72**	**279**	*e*rx		rx	17 14 14.0	
HABR	**Khabarovsk**	**10.36**	**298**	*e*PN		**Pn**	**17 14 30.1**	**-2.3**
HABR				pmax	pmax			
	comp=N,5.0nm,0.6s							
HABR				pmax	pmax			
	comp=Z,13nm,1.3s							
HABR				pmax	pmax			
	comp=E,6.0nm,0.6s							
HABR				MLR	MLR			
	comp=Z,181nm,17.0s							
GRNR	**Gornyy**	**10.56**	**312**	*e*P		**Pn**	**17 14 36.0**	**+0.9**
PETK	**Petropavlovsk-**	**10.57**	**31**	Pn		**Pn**	**17 14 35.5**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=217,slow=19,SNR=14							
PETK	**Petropavlovsk-**	**10.57**	**31**	PN		**Pn**	**17 14 35.5**	**+0.1**
PETK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PET	**Petropavlovsk**	**10.87**	**33**	*e*PN		Pn	17 14 36.0	-3.3
PET	**Petropavlovsk**	**10.87**	**33**	*e*Pn		Pn	17 14 36.0	-3.3
MJA0	**Matsu Arr-Jizo**	**11.17**	**230**	*e*PN		**Pn**	**17 14 41.4**	**-2.2**
MAJO	**Matsushiro**	**11.19**	**230**	*e*PN		**Pn**	**17 14 40.8**	**-3.1**
MAJO	**Matsushiro**	**11.19**	**230**	*e*Pn		**Pn**	**17 14 40.8**	**-3.1**
MJAR	**Matsushiro Arr**	**11.19**	**230**	Pn		**Pn**	**17 14 41.4**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=27,slow=14,SNR=5.3							
USRK	**Ussuriysk Ar.**	**12.06**	**275**	Pn		**Pn**	**17 14 56.6**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=80,slow=16,SNR=4.2							
KLR	**Kul'dur**	**12.67**	**299**	*e*PN		**Pn**	**17 15 05.0**	**+1.1**
KLR	**Kul'dur**	**12.67**	**299**	*e*rx		rx	17 15 05.0	
EKMR	**Ekimchan**	**13.62**	**316**	*e*P		**Pn**	**17 15 15.0**	**-1.9**
EKMR				AMB	AMB		17 15 21.4	
	comp=Z,6.0nm,1.0s							
BMKR	**Bomnak**	**16.55**	**316**	*e*P		**P**	**17 15 56.0**	**-0.9**
BMKR				AMB	AMB		17 15 59.5	
	comp=Z,4.0nm,0.8s							
KSRS	**Korea Array**	**17.18**	**254**	P		**Pn**	**17 16 02.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=61,slow=13,SNR=3.9							
SEY	**Seymchan**	**18.77**	**5**	P		**P**	**17 16 20.1**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=190,slow=8.1,SNR=22							
HIA	**Hailar**	**20.43**	**294**	⇑P		**P**	**17 16 39.6**	**+0.1**
HIA				pmax	pmax			
	comp=Z,2.0nm,0.5s							
HIA	**Hailar**	**20.43**	**294**	*e*P		**P**	**17 16 39.6**	**+0.1**
YAK	**Yakutsk**	**20.97**	**334**	*e*P		Pn	17 16 49.2	+0.9
YAK				*e**PP		pP	17 17 08.8	+12
YAK				*e**SS		x	17 21 15.4	
YAK				pmax	pmax			
	comp=Z,9.0nm,1.0s							
YAK				pmax	pmax			
	comp=N,4.0nm,1.3s							
BJI	**Beijing**	**24.45**	**271**	P		**P**	**17 17 21.1**	**+0.5**
BJI				PMZ				
	comp=N,10.0nm,0.7s							
TIA	**Tai'an**	**25.37**	**262**	⇓P		**P**	**17 17 29.9**	**+0.9**
TIA				PMZ				
	comp=N,20nm,0.7s							
NJ2	**Nanjing**	**26.38**	**253**	*e*P		**P**	**17 17 40.1**	**+2.0**
NJ2				PMZ				
	comp=N,20nm,0.5s							
HHC	**Hu-ho-hao-te**	**27.48**	**276**	*e*P		**P**	**17 17 50.4**	**+2.3**
HHC				sP		**sP**	**17 18 11.5**	**+4.6**
HHC				S		**S**	**17 22 29.3**	**+4.0**
HHC				sS		**sS**	**17 22 47.8**	**+0.7**
HHC				PMZ				
	comp=N,19nm,0.8s							
HHC				LN				
	comp=N,1μm,10.3s							
HHC				LE				
	comp=N,1μm,11.0s							
HHC				LZ				
	comp=N,1μm,10.9s							
H11N2	**WAKE ISLAND Hy**	**28.79**	**143**	T		T	17 48 54.6	
	baz=333,slow=76,SNR=114							
H11N1	**WAKE ISLAND Hy**	**28.80**	**143**	T		T	17 48 43.2	
	baz=333,slow=76,SNR=117							
H11N3	**WAKE ISLAND Hy**	**28.81**	**143**	T		T	17 48 57.9	
	baz=333,slow=76,SNR=73							
SONM	**Songino Array**	**29.35**	**292**	P		**P**	**17 18 04.1**	**-0.6**
	comp=N,0.7nm,0.6s,baz=96,slow=6.5,SNR=2.7							
SONM	**Songino Array**	**29.35**	**292**	P		**P**	**17 18 04.1**	**-0.6**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.6s							
H11S1	**WAKE ISLAND Hy**	**29.79**	**144**	T		T	17 50 12.1	
	baz=334,slow=76,SNR=89							
H11S3	**WAKE ISLAND Hy**	**29.80**	**144**	T		T	17 50 10.3	
	baz=334,slow=76,SNR=76							
H11S2	**WAKE ISLAND Hy**	**29.81**	**144**	T		T	17 50 11.6	
	baz=334,slow=76,SNR=107							
GUMO	**Guam**	**30.81**	**187**	LR		LR	17 32 34.2	
	comp=Z,36nm,18.0s,baz=42,slow=40							
LZH	**Lanzhou**	**34.94**	**272**	P		**P**	**17 18 54.9**	**+1.1**
LZH				pP		**pP**	**17 19 09.0**	**+2.1**
LZH				sP		**sP**	**17 19 15.3**	**+2.5**
LZH				S		**S**	**17 24 18.5**	**-3.4**
LZH				sS		**sS**	**17 24 46.3**	**+2.4**
LZH				SS		**SnSn**	**17 26 37.6**	**-2.6**
LZH				PMZ				
	comp=Z,19nm,1.0s							
LZH				PMZ				
	comp=Z,82nm,4.2s							
LZH				LN				
	comp=Z,340nm,15.0s							
LZH				LE				
	comp=Z,440nm,14.6s							
LZH				LZ				
	comp=Z,590nm,15.3s							
GTA	**Gaotai**	**36.37**	**280**	*e*P		**P**	**17 19 06.8**	**+0.8**
GTA				S		**S**	**17 24 46.6**	**+2.9**
GTA				SS		**SnSn**	**17 27 12.0**	**-2.7**
GTA				PMZ				
	comp=Z,4.0nm,1.0s							
GTA				PMZ				
	comp=Z,78nm,5.5s							
GTA				LN				
	comp=Z,300nm,17.6s							
GTA				LE				
	comp=Z,380nm,19.0s							
GTA				LZ				
	comp=Z,460nm,17.1s							
IM04	**Indian Mountai**	**37.49**	**35**	*e*P		**P**	**17 19 15.2**	**+0.2**
CD2	**Chengdu**	**37.64**	**265**	*e*P		**P**	**17 19 15.5**	**-1.2**
OHAK	**Old Harbor**	**37.66**	**49**	*e*P		**P**	**17 19 16.4**	**-0.2**
	comp=Z,27nm,1.7s							
COLD	**Coldfoot**	**39.03**	**33**	*e*P		**P**	**17 19 28.4**	**+0.5**
	comp=Z,2.1nm,0.6s							
COLA	**College**	**39.91**	**36**⇑	*e*P		**P**	**17 19 36.8**	**+1.6**
COLA				pmax	pmax			
	comp=Z,13nm,1.0s							
COLA	**College**	**39.91**	**36**	*e*P		**P**	**17 19 36.8**	**+1.6**
IL1	**Eielson Array**	**40.33**	**37**	*e*P		**P**	**17 19 39.1**	**+0.4**
ILAR	**Eielson Array**	**40.33**	**37**	P		**P**	**17 19 39.3**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=269,slow=7.8,SNR=8.4							
ILAR	**Eielson Array**	**40.33**	**37**	P		**P**	**17 19 39.3**	**+0.6**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
QIZ	**Qiongzhong**	**41.09**	**245**	P		**P**	**17 19 46.0**	**+0.5**
QIZ				S		**S**	**17 25 54.8**	**+0.1**
QIZ				LZ				
	comp=Z,210nm,15.6s							
ZALV	**Zalesovo Beam**	**41.60**	**307**	PcP		**PcP**	**17 21 46.4**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=90,slow=2.5,SNR=3.7							
ZALV				pPcP			17 21 57.4	
	comp=Z,0.5nm,0.4s,baz=33,slow=3.5,SNR=3.6							
KMI	**Kunming**	**41.80**	**258**	P		**P**	**17 19 52.8**	**+1.3**
KMI				PMZ				
	comp=Z,11nm,0.9s							
EGAK	**Eagle**	**42.77**	**36**	*e*P		**P**	**17 19 58.4**	**-0.3**
	comp=Z,12nm,1.6s							
WMQ	**Urumqi**	**42.99**	**292**	P		**P**	**17 20 01.5**	**+0.7**
WMQ				pP		**pP**	**17 20 13.8**	**-0.4**
WMQ				sP		**sP**	**17 20 19.3**	**-0.8**
WMQ				PMZ				
	comp=Z,6.0nm,0.4s							
WMQ				PMZ				
	comp=Z,73nm,5.6s							
WMQ				LN				
	comp=Z,370nm,16.8s							
WMQ				LE				
	comp=Z,210nm,17.8s							
WMQ				LZ				
	comp=Z,230nm,18.8s							
HYT	**Haines Junctio**	**45.12**	**42**	*e*P		**P**	**17 20 19.4**	**+1.7**
INK	**Inuvik**	**45.31**	**31**	P		**P**	**17 20 19.9**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=278,slow=7.1,SNR=4.7							
INK	**Inuvik**	**45.31**	**31**	P		**P**	**17 20 19.9**	**+0.9**
INK				pmax	pmax			
	comp=Z,1.0nm,0.4s							
MK31	**Makanchi Array**	**45.37**	**298**	*e*P		**P**	**17 20 19.8**	**0.0**
MK31	**Makanchi Array**	**45.37**	**298**	*e*P		**P**	**17 20 19.8**	**0.0**
MKAR	**Makanchi Array**	**45.37**	**298**	*e*P		**P**	**17 20 20.3**

KBL	**Kabul**	**60.11**	**290**	*eP*	**P**	**17 22 08.0**	**-1.0**
	comp=Z,7.6nm,0.3s							
FINES	**FINESS Array B**	**64.90**	**333**	P	**P**	**17 22 40.1**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=43,slow=7.0,SNR=16							
FINES	**FINESS Array B**	**64.90**	**333**	P	**P**	**17 22 40.1**	**-0.1**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.6s							
FCC	**Fort Churchill**	**64.93**	**31**	P	**P**	**17 22 40.8**	**+0.4**
FCC	**Fort Churchill**	**64.93**	**31**	*eP*	**P**	**17 22 40.8**	**+0.4**
FCC	**Fort Churchill**	**64.93**	**31**	P	**P**	**17 22 40.8**	**+0.4**
WRA	**Warramunga Arr**	**65.30**	**195**	P	**P**	**17 22 42.9**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=20,slow=5.8,SNR=3.0							
WRA	**Warramunga Arr**	**65.30**	**195**	P	**P**	**17 22 42.9**	**-0.4**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
NVAR	**Mina Array Bea**	**66.27**	**59**	P	**P**	**17 22 50.5**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=291,slow=7.2,SNR=4.6							
NVAR				pP	**pP**	**17 23 01.7**	**-2.2**
	comp=Z,1.2nm,0.7s,baz=295,slow=7.4,SNR=6.8							
PDAR	**Pinedale Array**	**68.63**	**51**	P	**P**	**17 23 05.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=324,slow=3.7,SNR=3.7							
PDAR				pP	**pP**	**17 23 17.1**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=343,slow=4.6,SNR=4.6							
ASAR	**Alice Springs**	**69.01**	**195**	P	**P**	**17 23 07.8**	**+1.1**
	comp=Z,0.3nm,0.9s,baz=6.1,slow=6.8,SNR=5.2							
ASAR	**Alice Springs**	**69.01**	**195**	*eP*	**P**	**17 23 09.5**	**+2.7**
NB2	**NORSAR Subarra**	**69.49**	**339**	P	**P**	**17 23 09.4**	**0.0**
	comp=Z,1.4nm,0.6s,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**69.49**	**339**	P	**P**	**17 23 09.0**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=54,slow=7.7,SNR=8.1							
NOA	**NORSAR Array B**	**69.49**	**339**	P	**P**	**17 23 09.0**	**-0.4**
NOA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KBZ	**Khabaz**	**70.30**	**312**	P	**P**	**17 23 14.8**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=353,slow=4.4,SNR=5.6							
KBZ	**Khabaz**	**70.30**	**312**	P	**P**	**17 23 14.8**	**+0.3**
KBZ				pmax	pmax			
	comp=Z,3.0nm,0.8s							
AKASG	**Malin Array Be**	**71.82**	**324**	P	**P**	**17 23 23.4**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=35,slow=6.0,SNR=8.8							
AKASG	**Malin Array Be**	**71.82**	**324**	*eP*	**P**	**17 23 23.5**	**-0.1**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
SMCO	**Snowmass**	**72.49**	**52**	*eP*	**P**	**17 23 25.2**	**-3.2**
	comp=Z,58nm,1.4s							
BUR08	**Bucovina Ar. S**	**75.86**	**324**	*eP*	**P**	**17 23 47.9**	**+0.5**
BUR04	**Bucovina Ar. S**	**75.87**	**324**	*eP*	**P**	**17 23 48.0**	**+0.5**
BURAR	**Bucovina Array**	**75.87**	**324**	⇑P	**P**	**17 23 48.4**	**+0.8**
BURAR	**Bucovina Array**	**75.87**	**324**	⇑*iP*	**P**	**17 23 48.4**	**+0.8**
STHS	**Stebnicka Huta**	**76.02**	**328**	*eP*	**P**	**17 23 49.1**	**+0.8**
STHS				pmax	pmax			
	comp=Z,2.0nm,0.7s							
STHS	**Stebnicka Huta**	**76.02**	**328**	*eP*	**P**	**17 23 49.1**	**+0.8**
TESR	**Tescani**	**76.13**	**323**	⇑*iP*	**P**	**17 23 49.8**	**+0.9**
MORC	**Moravsky Berou**	**77.10**	**330**	⇑P	**P**	**17 23 55.9**	**+1.5**
MORC	**Moravsky Berou**	**77.10**	**330**	⇑*iP*	**P**	**17 23 55.9**	**+1.5**
MORC	**Moravsky Berou**	**77.10**	**330**	*eP*	**P**	**17 23 53.3**	**-1.1**
	comp=Z,19nm,0.8s							
ISR	**Istrita**	**77.26**	**322**	⇓P	P	17 23 59.5	+4.1
ISR	**Istrita**	**77.26**	**322**	⇓*iP*	P	17 23 59.5	+4.1
CLL	**Collm**	**77.35**	**333**	⇑*iP*	**P**	**17 23 55.6**	**-0.1**
	comp=Z,8.0nm,0.9s							
CLL	**Collm**	**77.35**	**333**	⇑*iP*	**P**	**17 23 55.6**	**-0.1**
CLL				*e**PP	**PcP**	**17 24 06.0**	**-0.1**
CLL				pmax	pmax			
	comp=Z,8.0nm,0.9s							
CLL	**Collm**	**77.35**	**333**	*eP*	**P**	**17 23 55.6**	**-0.1**
CLL	**Collm**	**77.35**	**333**	*eP*	**P**	**17 23 55.5**	**-0.1**
	comp=Z,7.2nm,0.7s							
VOIR		**77.66**	**323**	⇑P	**P**	**17 23 59.6**	**+1.9**
VOIR		**77.66**	**323**	⇑*iP*	**P**	**17 23 59.6**	**+1.9**
PSZ	**Piszkesteto**	**77.76**	**328**	P	**P**	**17 23 57.3**	**-0.9**
PSZ	**Piszkesteto**	**77.76**	**328**	*eP*	**P**	**17 23 57.3**	**-0.9**
VRAC	**Vranov**	**77.83**	**330**	⇑P	**P**	**17 24 00.0**	**+1.6**
VRAC	**Vranov**	**77.83**	**330**	⇑*iP*	**P**	**17 24 00.0**	**+1.6**
BRTR	**Keskin Array B**	**78.00**	**314**	P	**P**	**17 24 00.7**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=5,slow=3.5,SNR=3.1							
GERES	**GERESS Array B**	**79.23**	**332**	P	**P**	**17 24 06.9**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=34,slow=6.4,SNR=13							
GERES	**GERESS Array B**	**79.23**	**332**	*eP*	**P**	**17 24 07.2**	**+0.9**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
GERES	**GERESS Array B**	**79.23**	**332**	*eP*	**P**	**17 24 07.2**	**+0.9**
PGRA	**Graciosa**	**96.98**	**357**	*eP*	**P**	**17 25 29.7**	**-3.0**
	comp=Z,220nm,0.9s							
ROSA	**Rosais**	**97.30**	**358**	*eP*	P	17 25 29.0	-5.1
	comp=Z,210nm,0.9s							
PMAN	**Manadas**	**97.38**	**358**	*eP*	**P**	**17 25 31.3**	**-3.2**
	comp=Z,69nm,1.0s							
PCED	**Cedros**	**97.40**	**358**	*eP*	P	17 25 29.5	-5.1
	comp=Z,65nm,0.6s							
CALA	**Caldeira**	**97.45**	**358**	*eP*	P	17 25 27.0	-7.9
PICO	**Pico**	**97.52**	**358**	*eP*	P	17 25 29.6	-5.6
PCAN	**Candelaria**	**97.56**	**358**	*eP*	P	17 25 29.7	-5.6
	comp=Z,52nm,0.6s							

DJA 18 18:05:06.0±0.6, 2°S±4°×13°7E±°, h15km±4km, M4.0/9, MLv4.0/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.65**	**323**	P	Pg	18 05 17.5	-1.2
SRPI				S	Sb	18 05 27.9	0.0
BAKI	**Biak**	**1.30**	**336**	P	Pn	18 05 27.8	-1.9
BAKI				S	Sb	18 05 46.5	-0.2
SMPI	**Sarmi**	**2.12**	**79**	P	Pn	18 05 40.2	-0.7
SMPI				S	Sn	18 06 08.0	+1.1
RKPI	**Ransiki, Papua**	**2.60**	**290**	P	Pn	18 05 48.2	+0.6
RKPI				S	Sn	18 06 20.3	+1.3
GENI	**Genyem**	**3.54**	**93**	P	Pn	18 06 00.5	0.0
GENI				S	Sn	18 06 43.1	+1.0
JAY	**Jayapura**	**4.07**	**92**	P	Pn	18 06 06.9	-1.0
FAKI	**Fak Fak**	**4.41**	**263**	P	Pn	18 06 12.8	+0.4
FAKI				S	Sn	18 07 03.8	+0.2

DJA 18 18:27:04.8±0.8, 4°S±4°×10°2E±°, h32km±8km, M3.6/7, MLv3.6/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.76**	**88**	P	Pn	18 27 19.3	-0.1
MNAI				S	Sb	18 27 30.7	+0.8
MASI	**Maura Aman, Be**	**1.24**	**2**	P	Pn	18 27 25.5	-0.5
MASI				S	Sn	18 27 42.3	+0.6
LHSI	**Lahat**	**1.44**	**67**	P	Pn	18 27 29.1	+0.4
LHSI				S	Sn	18 27 47.6	+1.0
LWLI	**Liwa**	**1.96**	**109**	P	Pn	18 27 36.6	+0.6
LWLI				S	Sn	18 28 00.3	+0.6
MDSI	**Maura Dua**	**1.98**	**93**	P	Pn	18 27 36.7	+0.5
MDSI				S	Sn	18 28 01.1	+1.1
KASI	**Kota Agung**	**2.56**	**116**	P	Pn	18 27 44.5	+0.4
KASI				S	Sn	18 28 13.6	-0.5
PPSI	**Pulau Pagai**	**2.71**	**307**	P	Pn	18 27 46.3	+0.1

SJA 18 19:10:34.3±0.3, 31°25S×68°76W, h98km±2km, ML3.4, MW4.2, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**0.57**	**128**	*eP*	Pn	19 10 51.4	+0.8
CFAA				*eS*	Sn	19 11 03.6	+1.0
RTCV	**Cerro Valdivia**	**0.64**	**163**	*eP*	Pn	19 10 51.8	+0.7
RTCV				*eS*	Sn	19 11 04.8	+1.1
RTLS	**Leoncito**	**0.71**	**220**	*eP*	Pn	19 10 53.1	+1.0
AUSP	**Uspallata**	**1.11**	**209**	*eP*	Pn	19 10 57.4	+1.2
AUSP				*eS*	Sn	19 11 14.6	+1.9
AVFE	**Valle Fertil**	**1.27**	**63**	*eP*	Pn	19 10 58.9	+1.1
AVFE				IAML		19 11 17.4	
	comp=Z,650nm,0.3s						
ARCO	**CERRO ARCO**	**1.59**	**185**	*eP*	Pn	19 11 03.0	+1.1
ARCO				IAML		19 11 26.4	
	comp=Z,253nm,0.3s						
ACAN	**Cantantal**	**1.68**	**128**	*eP*	Pn	19 11 03.8	+1.0
APLL	**PUNTA DE LOS L**	**2.10**	**67**	*eP*	Pn	19 11 09.4	+1.1
ACLC	**CERRO LA CRUZ**	**2.40**	**41**	*eP*	Pn	19 11 13.5	+1.2

*IDC **18** 19:14:12.8±0.8, 2°23S×136°57E, h0km, mb4.1/7, mb1 4.4/8, mb1mx4.0/23, mbtmp4.2/8, ML4.5/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/31, Error ellipse: s-maj=31.4km s-min=18.3km az=76.0*

*ISCJB **18** 19:14:16.0±0.3, 2°18S±0°04×136°54E±0°03, h33km, mb4.0/12, MS3.5/2, Error ellipse: s-maj=6.3km s-min=3.8km az=15.7*

*DJA **18** 19:14:16.1±0.5, 2°S±4°×13°7E±°, h11km±4km, M4.6/9, mb4.7/3, MLv4.5/9*

*NEIC **18** 19:14:18.3±0.5, 2°24S×136°48E, h35km, mb4.1/7, Error ellipse: s-maj=15.7km s-min=9.8km az=52.0*

ISC 18 19:14:17.9±0.5, 2°24S±0°06×136°57E±0°04, h35km, n37, σ1°74/41, mb4.1/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.49**	**317**	P	Pn	19 14 24.8	-3.7
SRPI				S	**Sn**	**19 14 31.5**	**-4.3**
BAKI	**Biak**	**1.14**	**336**	P	Pn	19 14 34.0	-3.3
BAKI				S	**Sn**	**19 14 49.1**	**-2.6**
SMPI	**Sarmi**	**2.15**	**84**	P	**Pn**	**19 14 49.6**	**-1.6**
SMPI				S	**Sn**	**19 15 16.1**	**-0.6**
RKPI	**Ransiki, Papua**	**2.50**	**287**	P	**Pn**	**19 14 56.5**	**+0.4**
RKPI				S	**Sn**	**19 15 28.5**	**+3.1**
GENI	**Genyem**	**3.61**	**96**	P	**Pn**	**19 15 11.5**	**+0.2**
GENI				S	**Sn**	**19 15 54.3**	**+1.5**
JAY	**Jayapura**	**4.14**	**94**	P	**Pn**	**19 15 19.0**	**+0.3**
FAKI	**Fak Fak**	**4.37**	**261**	P	**Pn**	**19 15 22.2**	**+0.3**
FAKI				S	**Sn**	**19 16 12.8**	**+1.1**
FAKI	**Fak Fak**	**4.37**	**261**	*e*Pn	**Pn**	**19 15 18.8**	**-3.0**
FAKI				*e*Sn	**Sn**	**19 16 09.0**	**-2.7**
SIJI	**Sorong**	**5.48**	**284**	Pn	**Pn**	**19 15 37.0**	**-0.1**
	16nm,0.3s,baz=127,slow=20,SNR=86						
SIJI				Sn	**Sn**	**19 16 36.5**	**-2.4**
	1.8nm,0.3s,baz=108,slow=20,SNR=3.3						
NLAI	**Namlea**	**9.52**	**264**	P	**Pn**	**19 16 34.2**	**+1.7**
	33nm,1.0s						
TNTI	**Ternate**	**9.68**	**288**	P	**Pn**	**19 16 36.2**	**+1.5**
TNTI	**Ternate**	**9.68**	**288**	*e*Pn	**Pn**	**19 16 36.3**	**+1.5**
	48nm,1.0s						
PMG	**Port Moresby**	**12.71**	**125**	*e*Pn	**Pn**	**19 17 16.6**	**+0.4**
MRSI	**Marisa**	**14.88**	**280**	P	**P**	**19 17 53.6**	**+2.5**
WRAB	**Tennant Creek**	**17.72**	**187**	*e*Pn	**Pn**	**19 18 21.9**	**-0.2**
	12nm,0.8s						
WRAB				*e*Sn	Sn	19 21 27.3	-11
WRA	**Warramunga Arr**	**17.73**	**187**	P	**Pn**	**19 18 18.0**	**-4.2**
	0.4nm,0.3s,baz=9.3,slow=12,SNR=24						
WRA				S	Sn	19 21 26.8	-12
	0.2nm,0.3s,baz=12,slow=22,SNR=4.6						
CTA	**Charters Tower**	**20.11**	**153**	P	Pn	19 18 52.3	+1.5
	5.4nm,0.5s,baz=327,slow=11,SNR=8.5						
CTAO	**Charters Tower**	**20.11**	**153**	*e*P	Pn	19 18 51.8	+0.9
ASAR	**Alice Springs**	**21.46**	**187**	P	**P**	**19 19 02.6**	**-0.8**
	5.2nm,0.5s,baz=11,slow=11,SNR=65						
ASAR				S	**S**	**19 22 57.9**	**-1.9**
	1.4nm,0.8s,baz=6.1,slow=27,SNR=3.9						
ASAR				LR	LR	19 27 58.6	
	comp=Z,116nm,19.9s,baz=15,slow=38						
MBWA	**Marble Bar**	**24.96**	**220**	*e*P	**P**	**19 19 38.9**	**+0.6**
	12nm,1.1s						
STKA	**Stephens Creek**	**29.86**	**171**	P	**P**	**19 20 22.3**	**+0.2**
	3.5nm,0.7s,baz=333,slow=9.3,SNR=11						
STKA	**Stephens Creek**	**29.86**	**171**	*e*P	**P**	**19 20 19.8**	**-2.4**
	0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**42.36**	**301**	P	**P**	**19 22 09.0**	**0.0**
	1.9nm,0.8s,baz=116,slow=6.3,SNR=19						
CHTO	**Chiang Mai**	**42.51**	**301**	*e*P	**P**	**19 22 09.7**	**-0.6**
	2.5nm,0.8s						
LSA	**Lhasa**	**53.76**	**310**	*e*P	**P**	**19 23 38.3**	**+0.6**
	2.0nm,0.6s						
PETK	**Petropavlovsk-**	**57.92**	**15**	P	**P**	**19 24 07.9**	**+1.4**
	1.7nm,0.6s,baz=180,slow=7.2,SNR=3.2						
ZALV	**Zalesovo Beam**	**70.47**	**330**	P	**P**	**19 25 28.0**	**-0.7**
	0.5nm,0.5s,baz=123,slow=5.3,SNR=2.9						
KURK	**Kurchatov**	**72.11**	**326**	*e*P	**P**	**19 25 38.9**	**+0.2**
	3.2nm,0.9s						
VNDA	**Vanda**	**76.45**	**175**	P	**P**	**19 26 03.5**	**0.0**
	1.7nm,0.7s,baz=327,slow=5.8,SNR=9.9						
SBA	**Scott Base**	**77.24**	**174**	*e*P	**P**	**19 26 09.4**	**+1.4**
	1.3nm,0.7s						
BRVK	**Borovoye**	**77.78**	**326**	P	**P**	**19 26 11.3**	**-0.1**
ILAR	**Eielson Array**	**86.29**	**25**	P	**P**	**19 26 54.9**	**-1.0**
	0.8nm,0.8s,baz=266,slow=4.5,SNR=7.9						
QSPA	**South Pole Qui**	**87.71**	**180**	*e*P	**P**	**19 27 03.1**	**+0.2**
BBB	**Bella Bella**	**95.02**	**38**	LR	LR	20 07 23.9	
	comp=Z,25nm,18.4s,baz=54,slow=34						
KMBO	**Kilima Mbogo**	**99.27**	**269**	P	**Pdif**	**19 27 58.3**	**+0.9**
LPAZ	**La Paz**	**149.43**	**128**	PKPbc	**PKPbc**	**19 34 06.6**	**+1.5**
	0.5nm,0.4s,baz=356,slow=4.2,SNR=3.0						
SDV	**Santo Domingo**	**152.14**	**75**	*e*PKPbc	**PKPbc**	**19 34 10.7**	**-0.4**

IDC 18 19:39:55.2±48.0, 24°16S×175°94W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/23, mbtmp3.7/3, Error ellipse: s-maj=899.4km s-min=165.5km az=89.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.08**	**249**	P	P	19 47 15.3	-0.5
	1.8nm,1.0s,baz=107,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**45.65**	**260**	P	P	19 48 17.9	-0.1
	0.5nm,0.4s,baz=91,slow=7.7,SNR=25						
WRA	**Warramunga Arr**	**46.09**	**265**	P	P	19 48 21.7	+0.3
	0.5nm,0.5s,baz=104,slow=8.1,SNR=4.7						

*IDC **18** 19:44:45.6±1.0, 7°84N×91°89E, h0km, mb3.9/8, mb1 4.0/11, mb1mx3.7/42, mbtmp3.9/11, ML3.8/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/34, Error ellipse: s-maj=33.4km s-min=17.2km az=54.0*

*ISCJB **18** 19:44:46.5±0.6, 7°69N±0°08×91°95E±0°08, h25km, mb4.1/14, MS3.1/1, Error ellipse: s-maj=15.0km s-min=7.5km az=44.1*

*NEIC **18** 19:44:49.2±0.5, 7°65N×91°83E, h35km, mb4.2/6, Error ellipse: s-maj=12.7km s-min=8.0km az=215.0*

ISC 18 19:44:48.7±0.7, 7°75N±0°10×91°95E±0°09, h25km, n44, σ1°34/38, mb4.0/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.51**	**125**	Pn	**Pn**	**19 46 52.2**	**+1.8**
	0.9nm,0.3s,baz=0.0,slow=20,SNR=6.1						
KULM	**Kulim**	**8.98**	**105**	*e*Pn	**Pn**	**19 46 55.9**	**-1.0**
PALK	**Pallekele**	**11.16**	**268**	Pn	**Pn**	**19 47 26.9**	**0.0**
	1.1nm,0.3s,baz=89,slow=13,SNR=14						
PALK				Sn	Sn	19 49 17.0	-14
	1.7nm,0.3s,baz=1.5,slow=23,SNR=9.7						
PALK				LR	LR	19 50 53.8	
	comp=Z,142nm,19.3s,baz=110,slow=33						
PALK	**Pallekele**	**11.16**	**268**	*e*Pn	Pn	19 47 22.9	-4.0
PALK				*e*Sn	Sn	19 49 16.2	-15
CMAR	**Chiang Mai Arr**	**12.63**	**32**	Pn	**Pn**	**19 47 47.9**	**+1.0**
	0.2nm,0.3s,baz=233,slow=15,SNR=7.5						
CMAR				LR	LR	19 51 53.4	
	comp=Z,85nm,19.3s,baz=236,slow=34						
CHTO	**Chiang Mai**	**12.93**	**31**	Pn	Pn	19 47 45.3	-5.6
KSM	**Kuching**	**19.32**	**108**	*e*P	**P**	**19 49 08.0**	**-4.3**
	12nm,1.1s						
ODAN	**Odare**	**19.49**	**348**	*e*P	**Pn**	**19 49 15.6**	**0.0**
RAMN	**Ramite**	**19.76**	**346**	*e*P	**Pn**	**19 49 19.0**	**+0.2**
	16nm,0.6s						
TAPN	**Taplejung**	**19.90**	**349**	*e*P	**Pn**	**19 49 20.4**	**-0.1**
	20nm,1.1s						
PKI	**Pulchoki**	**20.66**	**343**	*e*P	**P**	**19 49 28.1**	**+1.0**
PKIN	**Phulchki**	**20.67**	**343**	*e*P	Pn	19 49 29.2	-0.4
	15nm,1.3s						
QIZ	**Qiongzhong**	**20.68**	**55**	P	**P**	**19 49 27.7**	**+0.7**
DMN	**Daman**	**20.79**	**343**	*e*P	**P**	**19 49 29.1**	**+0.7**
GUN	**Gumba**	**20.86**	**345**	*e*P	**P**	**19 49 30.3**	**+1.1**
	16nm,0.6s						
KKN	**Kakani**	**20.91**	**343**	*e*P	**P**	**19 49 30.3**	**+0.7**
	23nm,1.3s						
GKN	**Gorkha**	**21.30**	**342**	*e*P	**P**	**19 49 34.8**	**+1.0**
	19nm,0.9s						
KOLN	**Koldanda**	**21.42**	**339**	*e*P	**P**	**19 49 36.3**	**+1.1**
	20nm,0.7s						
LSA	**Lhasa**	**21.85**	**358**	*e*P	**P**	**19 49 42.3**	**+2.3**
	8.5nm,0.7s						
H08S3	**Diego Garcia H**	**24.70**	**232**	T	T	20 16 22.9	
	baz=52,slow=76,SNR=20						
H08S2	**Diego Garcia H**	**24.70**	**232**	T	T	20 16 16.9	
	baz=52,slow=76,SNR=17						
H08S1	**Diego Carcia H**	**24.72**	**232**	T	T	20 16 23.4	
	baz=52,slow=76,SNR=22						
ENH	**Enshi**	**27.79**	**34**	*e*P	**P**	**19 50 34.7**	**-1.2**
EKS2	**Erkin-Say**	**38.28**	**338**	*e*P	**P**	**19 52 08.8**	**+1.5**
	3.7nm,0.8s						
MK31	**Makanchi Array**	**39.77**	**350**	*e*P	**P**	**19 52 19.0**	**-0.6**
KKAR	**Karatay Array**	**39.93**	**335**	*e*P	**P**	**19 52 20.8**	**-0.2**
	2.7nm,0.9s						
SONM	**Songino Array**	**41.79**	**15**	P	**P**	**19 52 36.6**	**+0.3**
	2.8nm,0.8s,baz=198,slow=8.4,SNR=18						
KSRS	**Korea Array**	**44.00**	**42**	LR	LR	20 14 58.4	
	comp=Z,21nm,18.4s,baz=325,slow=41						
KURBB	**Kurchatov Arra**	**44.17**	**348**	P	**P**	**19 52 55.7**	**+0.3**
	0.7nm,0.3s,baz=170,slow=6.8,SNR=7.9						
KURK	**Kurchatov**	**44.24**	**348**	P	**P**	**19 52 55.7**	**-0.2**
ZAA0	**Zalesovo Array**	**46.42**	**354**	*e*P	**P**	**19 53 13.1**	**-0.1**
ZALV	**Zalesovo Beam**	**46.42**	**354**	P	**P**	**19 53 13.1**	**-0.1**
	1.3nm,0.7s,baz=170,slow=9.0,SNR=8.2						
BVAR	**Borovoye Array**	**48.43**	**343**	P	**P**	**19 53 28.2**	**-0.7**
	1.2nm,0.8s,baz=148,slow=8.7,SNR=8.5						
BRVK	**Borovoye**	**48.49**	**343**	P	**P**	**19 53 29.6**	**+0.3**
ABKAR	**Akbulak array**	**49.32**	**333**	*e*P	**P**	**19 53 35.9**	**+0.2**
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**49.97**	**124**	P	**P**	**19 53 41.3**	**+0.2**
	1.1nm,0.9s,baz=307,slow=8.7,SNR=5.3						
AKTO	**Aktyubinsk**	**51.04**	**333**	P	**P**	**19 53 47.9**	**-0.9**
	0.8nm,0.5s,baz=135,slow=10.0,SNR=4.1						
ASAR	**Alice Springs**	**51.52**	**128**	P	**P**	**19 53 53.9**	**+1.1**
	0.6nm,0.8s,baz=313,slow=8.3,SNR=3.7						
ASAR				PcP	**PcP**	**19 55 10.5**	**+3.7**
	0.2nm,0.7s,baz=298,slow=3.9,SNR=2.2						
ARU	**Arti**	**55.17**	**338**	P	**P**	**19 54 18.8**	**-0.2**
PMG	**Port Moresby**	**57.58**	**106**	P	**P**	**19 54 37.0**	**+0.1**
	42nm,1.3s						
YAK	**Yakutsk**	**60.81**	**19**	P	**P**	**19 54 58.2**	**-0.2**
SANT	**Santorini**	**66.54**	**306**	P	**P**	**19 55 34.1**	**-2.8**
TIXI	**Tiksi**	**67.79**	**12**	*e*P	**P**	**19 55 43.6**	**-0.4**
	6.4nm,1.0s						
GERES	**GERESS Array B**	**76.47**	**318**	P	**P**	**19 56 36.7**	**+0.1**
	0.4nm,0.5s,baz=113,slow=10,SNR=3.8						

MEX 18 20:01:49.9±0.5, 15°66N×95°67W, h15km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.44**	**284**	*e*P	Pg	20 01 57.7	-1.0
HUIG				*i* S	Sg	20 02 03.5	-1.2
CMIG	**Matias Romero**	**1.61**	**28**	*e*P	Pn	20 02 14.8	-3.0
CMIG				*i* S	Sn	20 02 33.4	-4.9
PNIG	**Pinotepa**	**2.47**	**287**	*e*P	Pn	20 02 27.2	-2.6
PNIG				*i* S	Sn	20 02 55.1	-4.6
TGIG		**2.69**	**65**	*i* P	Pn	20 02 29.8	-2.9
TGIG				*i* S	Sn	20 03 00.2	-4.9

MEX 18 20:11:57.5±0.5, 15°24N×95°64W, h13km±14km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.69**	**320**	*e*P	Pg	20 12 09.3	-1.7
HUIG				*i* S	Sg	20 12 18.1	-2.0
CMIG	**Matias Romero**	**1.98**	**21**	*e*P	Pn	20 12 27.7	-3.1
CMIG				*i* S	Sn	20 12 50.7	-4.9
PNIG	**Pinotepa**	**2.65**	**296**	*e*P	Pn	20 12 36.6	-3.5
PNIG				*e*S	Sn	20 13 08.0	-4.2
TGIG		**2.87**	**57**	*i* P	Pn	20 12 40.6	-2.5
TGIG				*i* S	Sn	20 13 13.9	-3.6

IDC 18 20:25:49.2±8.7, 2°17S×136°66E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.5/23, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=131.3km s-min=94.9km az=153.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.81**	**187**	P	Pn	20 29 57.9	-0.8
	0.4nm,0.3s,baz=9.5,slow=13,SNR=6.5						
WRA				S	Sn	20 33 04.4	-14
	0.1nm,0.3s,baz=4.1,slow=23,SNR=4.1						
ASAR	**Alice Springs**	**21.54**	**187**	P	P	20 30 39.6	-0.6
	1.7nm,0.6s,baz=12,slow=11,SNR=31						
ASAR				S	S	20 34 33.8	-6.3
	0.2nm,0.6s,baz=2.7,slow=28,SNR=3.0						
STKA	**Stephens Creek**	**29.91**	**172**	P	P	20 31 59.6	+0.6
	2.6nm,1.0s,baz=339,slow=14,SNR=2.9						

**DJA 18 20:32:33.0±0.6,

CMAR				LR	LR	20 58 53.3		
	comp=Z,292nm,19.5s,baz=196,slow=40							
CHTO	**Chiang Mai**	**16.73**	**9**	*e*Pn	**Pn**	**20 51 52.1**	**-1.8**	
KKM	**Kota Kinabalu**	**20.30**	**79**	*e*Pn	**P**	**20 52 35.4**	**0.0**	
	20nm,1.0s							
H08S2	**Diego Garcia H**	**25.61**	**247**	T	T	21 19 56.4		
	baz=68,slow=76,SNR=2241							
H08S3	**Diego Garcia H**	**25.61**	**247**	T	T	21 19 56.5		
	baz=68,slow=76,SNR=1741							
H08S1	**Diego Garcia H**	**25.63**	**247**	T	T	21 19 57.7		
	baz=68,slow=76,SNR=1188							
ODAN	**Odare**	**25.95**	**342**	*e*P	**P**	**20 53 32.7**	**+0.9**	
RAMN	**Ramite**	**26.29**	**340**	*e*P	**P**	**20 53 36.2**	**+1.3**	
	17nm,0.7s							
TAPN	**Taplejung**	**26.31**	**343**	*e*P	**P**	**20 53 35.4**	**+0.2**	
	17nm,0.8s							
PKI	**Pulchoki**	**27.27**	**339**	*e*P	**P**	**20 53 44.3**	**+0.4**	
	8.1nm,0.6s							
PKIN	**Phulchoki**	**27.29**	**339**	*e*P	**P**	**20 53 45.0**	**+1.1**	
	6.0nm,0.6s							
GUN	**Gumba**	**27.42**	**340**	*e*P	**P**	**20 53 46.7**	**+1.5**	
	22nm,0.6s							
DMN	**Daman**	**27.42**	**338**	*e*P	**P**	**20 53 46.9**	**+1.8**	
	23nm,1.1s							
KKN	**Kakani**	**27.52**	**339**	*e*P	**P**	**20 53 47.2**	**+1.2**	
	13nm,0.9s							
LSA	**Lhasa**	**27.78**	**351**	*e*P	**P**	**20 53 48.6**	**0.0**	
	9.3nm,0.8s							
GKN	**Gorkha**	**27.95**	**338**	*e*P	**P**	**20 53 51.3**	**+1.5**	
	18nm,0.8s							
KOLN	**Koldanda**	**28.15**	**336**	*e*P	**P**	**20 53 52.7**	**+1.1**	
	9.5nm,0.6s							
ENH	**Enshi**	**30.63**	**23**	*e*P	**P**	**20 54 11.8**	**-1.6**	
MBWA	**Marble Bar**	**32.69**	**136**	P	**P**	**20 54 31.5**	**0.0**	
H01W3	**Cape Leeuwin H**	**40.53**	**157**	T	T	21 38 41.8		
	baz=333,slow=76,SNR=471							
H01W2	**Cape Leeuwin H**	**40.54**	**157**	T	T	21 38 42.7		
	baz=333,slow=76,SNR=522							
H01W1	**Cape Leeuwin H**	**40.55**	**157**	T	T	21 38 43.0		
	baz=333,slow=76,SNR=552							
WRA	**Warramunga Arr**	**43.39**	**122**	P	**P**	**20 56 01.5**	**-0.4**	
	0.7nm,0.6s,baz=299,slow=9.2,SNR=5.5							
WRA				LR	LR	21 14 21.4		
	comp=Z,104nm,20.8s,baz=235,slow=36							
TKM2	**Tokmak 2**	**44.54**	**338**	P	**P**	**20 56 10.2**	**-0.7**	
JNU	**Nakatsue**	**44.73**	**43**	LR	LR	21 17 23.3		
	comp=Z,97nm,18.5s,slow=40							
ASAR	**Alice Springs**	**44.77**	**127**	P	**P**	**20 56 12.9**	**0.0**	
	0.8nm,0.6s,baz=300,slow=7.9,SNR=15							
ASAR				PcP	**PcP**	**20 57 56.0**	**+1.1**	
	0.2nm,0.6s,baz=316,slow=5.2,SNR=3.2							
EKS2	**Erkin-Say**	**45.01**	**337**	*e*P	**P**	**20 56 15.1**	**+0.5**	
	2.0nm,0.7s							
KSRS	**Korea Array**	**45.61**	**36**	LR	LR	21 17 41.4		
	comp=Z,63nm,18.6s,baz=219,slow=39							
MK31	**Makanchi Array**	**46.05**	**347**	*e*P	**P**	**20 56 22.0**	**-0.7**	
SONM	**Songino Array**	**46.31**	**9**	P	**P**	**20 56 24.4**	**-0.4**	
	1.9nm,0.4s,baz=189,slow=9.4,SNR=11							
KURK	**Kurchatov**	**50.59**	**346**	*e*P	**P**	**20 56 56.2**	**-1.4**	
	2.1nm,0.6s							
MAJO	**Matsushiro**	**51.63**	**43**	P	**P**	**20 57 06.1**	**+0.4**	
	24nm,1.4s							
MJAR	**Matsushiro Arr**	**51.63**	**43**	LR	LR	21 19 33.6		
	comp=Z,31nm,20.9s,baz=270,slow=37							
ZAA0	**Zalesovo Array**	**52.44**	**352**	*e*P	**P**	**20 57 10.7**	**-0.6**	
ZALV	**Zalesovo Beam**	**52.44**	**352**	P	**P**	**20 57 11.2**	**-0.1**	
	9.1nm,0.6s,baz=180,slow=7.2,SNR=44							
USRK	**Ussuriysk Ar.**	**52.44**	**32**	LR	LR	21 21 23.2		
	comp=Z,85nm,18.4s,baz=217,slow=38							
STKA	**Stephens Creek**	**54.74**	**132**	P	**P**	**20 57 28.7**	**+0.1**	
	1.5nm,0.6s,baz=319,slow=10,SNR=3.5							
ABKAR	**Akbulak array**	**56.18**	**332**	*e*P	**P**	**20 57 37.5**	**-1.2**	
	1.5nm,0.8s							
KBZ	**Khabaz**	**62.69**	**319**	LR	LR	21 27 21.2		
	comp=Z,54nm,18.9s,baz=106,slow=38							
LSZ	**Lusaka**	**69.46**	**253**	P	**P**	**20 59 08.8**	**+0.9**	
MAW	**Mawson**	**73.45**	**193**	*e*P	**P**	**20 59 28.5**	**-2.3**	
	1.1nm,1.2s							
FINES	**FINESS Array B**	**78.67**	**333**	P	**P**	**21 00 00.4**	**-0.3**	
	1.1nm,0.6s,baz=108,slow=6.2,SNR=6.5							
ARCES	**ARCESS Array B**	**81.28**	**340**	P	**P**	**21 00 14.5**	**-0.2**	
	1.6nm,0.7s,baz=86,slow=5.0,SNR=10							
GERES	**GERESS Array B**	**83.43**	**319**	P	**P**	**21 00 28.2**	**+1.7**	
	0.1nm,0.3s,baz=95,slow=6.0,SNR=2.1							
TXAR	**Lajitas Array**	**143.32**	**30**	PKP	**PKPdf**	**21 07 34.9**	**+0.9**	
	0.2nm,0.8s,baz=12,slow=4.9,SNR=3.1							

MEX 18 20:54:01.2±0.6, 19°26N×103°82W, h8km±60km, MD3.5, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.18**	**241**	*i* P	Pg	20 54 04.2	-0.8
R15V				*e*S	Sg	20 54 07.3	-0.2
EZ5V		**0.30**	**43**	*e*P	Pg	20 54 06.8	-0.7
EZ5V				*i* S	Sg	20 54 11.1	-0.7
MMIG	**Aquila**	**1.06**	**155**	*e*P	Pg	20 54 19.0	-2.7
MMIG				*i* S	Sg	20 54 31.6	-3.9

*ISCJB **18** 21:01:42.7±1.2, 35°21S±0°10×72°74W±0°08, h20km, mb4.1/2, Error ellipse: s-maj=15.0km s-min=8.3km az=22.7*
*GUC **18** 21:01:44.6±0.7, 35°27S×72°59W, h30km±6km, ML4.2*
*NEIC **18** 21:01:44.0, 35°27S×72°59W, h30km, mb4.0/3, ML4.2(GUC), After GUC.*
NEIC Felt [III] at Cauquenes and Chanco; [II] at Constitucion.

ISC 18 21:01:44.4±1.3, 35°13S±0°06×72°66W±0°09, h20km, n12, σ1°54/15, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.89**	**108**	⇑*i* P	**Pb**	**21 02 00.2**	**-0.9**
TALC				*i* S	**Sb**	**21 02 11.6**	**-0.9**
LNCH	**Linares**	**1.13**	**130**	⇑*i* P	Pb	21 02 09.7	+4.4
LNCH				*i* S	**Sn**	**21 02 23.5**	**+3.5**
NICH	**Los Niches**	**1.18**	**84**	*e*P	**Pn**	**21 02 06.1**	**+0.3**
NICH				*i* S	**Sn**	**21 02 21.5**	**+0.2**
LNV	**Longovilo**	**1.56**	**42**	*e*P	**Pb**	**21 02 12.2**	**-0.4**
CHCH	**Chadas Angostu**	**2.04**	**55**	*e*P	**Pb**	**21 02 20.2**	**-0.6**
CHCH				*e*S	**Sb**	**21 02 47.5**	**+1.6**
CLCH	**Cerro Calan**	**2.46**	**46**	*e*P	**Pb**	**21 02 26.7**	**-1.4**
CLCH				AML	AML	21 03 09.2	
	comp=N,1μm,0.8s						
PEL	**Peldehue**	**2.57**	**40**	*e*P	**Pb**	**21 02 27.7**	**-2.2**
PEL				AML	AML	21 03 11.0	
	comp=N,1μm,0.4s						
LCO	**Las Campanas**	**6.32**	**16**	*e*Pn	**Pn**	**21 03 17.8**	**+1.1**
TRQA	**Tornquist**	**9.08**	**112**	*e*Pn	**Pn**	**21 03 52.6**	**-1.7**
LPAZ	**La Paz**	**19.19**	**13**	*e*Pn	**Pn**	**21 06 08.9**	**+0.3**
	comp=N,1.1nm,0.5s						
NNA	**Nana**	**23.34**	**350**	*e*P	**P**	**21 06 52.4**	**+0.8**
	comp=N,4.1nm,0.5s						
QSPA	**South Pole Qui**	**55.11**	**180**	*e*P	**P**	**21 11 14.7**	**-0.3**
	comp=N,1.3nm,0.7s						

*IDC **18** 21:18:36.7±0.9, 7°62N×91°86E, h0km, mb3.8/7, mb1 4.0/10, mb1mx3.7/33, mbtmp3.8/10, ML3.8/3, MS3.5/4, Ms1 3.5/4, ms1mx3.0/33, Error ellipse: s-maj=33.0km s-min=17.2km az=46.0*
*ISCJB **18** 21:18:38.1±0.6, 7°56N±0°08×91°91E±0°08, h24km, mb3.9/7, MS3.6/2, Error ellipse: s-maj=14.6km s-min=7.3km az=138.0*

ISC 18 21:18:40.4±0.7, 7°61N±0°10×91°96E±0°09, h24km, n25, σ0°63/22, mb4.1/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**2.04**	**107**	*e*P	**Pb**	**21 19 15.7**	**-1.2**
PSI	**Prapat**	**8.43**	**124**	Pn	**Pn**	**21 20 41.9**	**+0.7**
	0.7nm,0.3s,baz=186,slow=23,SNR=5.1						
PSI				Sn	**Sn**	**21 22 14.9**	**-0.8**
	0.2nm,0.3s,baz=0.0,slow=20,SNR=1.7						
PSI				LR	LR	21 24 28.0	
	comp=Z,185nm,18.2s,baz=271,slow=41						
PALK	**Pallekele**	**11.16**	**269**	Pn	**Pn**	**21 21 18.6**	**-0.1**
	1.2nm,0.3s,baz=85,slow=14,SNR=12						
PALK				Sn	Sn	21 23 06.4	-16
	1.6nm,0.3s,baz=180,slow=20,SNR=5.7						
PALK				LR	LR	21 25 05.2	
	comp=Z,204nm,18.7s,baz=106,slow=35						
CMAR	**Chiang Mai Arr**	**12.75**	**32**	Pn	**Pn**	**21 21 40.6**	**+0.4**
	0.1nm,0.3s,baz=229,slow=14,SNR=5.8						
ODAN	**Odare**	**19.63**	**348**	*e*P	**Pn**	**21 23 08.9**	**-0.2**
	16nm,0.7s						
RAMN	**Ramite**	**19.89**	**346**	*e*P	**Pn**	**21 23 11.8**	**-0.4**
	14nm,0.5s						
TAPN	**Taplejung**	**20.04**	**349**	*e*P	Pn	21 23 13.2	-0.9
	38nm,0.9s						
PKI	**Pulchoki**	**20.80**	**343**	*e*P	**P**	**21 23 20.5**	**+0.1**
	15nm,0.9s						
PKIN	**Phulchoki**	**20.81**	**343**	*e*P	**P**	**21 23 21.0**	**+0.6**
DMN	**Daman**	**20.92**	**343**	*e*P	**P**	**21 23 22.2**	**+0.5**
	18nm,0.8s						
GUN	**Gumba**	**20.99**	**345**	*e*P	**P**	**21 23 22.5**	**0.0**
	18nm,0.6s						
KKN	**Kakani**	**21.04**	**343**	*e*P	**P**	**21 23 23.0**	**+0.1**
	14nm,0.9s						
GKN	**Gorkha**	**21.43**	**342**	*e*P	**P**	**21 23 27.0**	**0.0**
	15nm,0.7s						
KOLN	**Koldanda**	**21.55**	**339**	*e*P	**P**	**21 23 28.4**	**0.0**
	24nm,0.7s						
H08S3	**Diego Garcia H**	**24.62**	**232**	T	T	21 50 17.6	
	baz=52,slow=75,SNR=22						
H08S2	**Diego Garcia H**	**24.62**	**232**	T	T	21 50 16.1	
	baz=52,slow=75,SNR=30						
H08S1	**Diego Garcia H**	**24.64**	**232**	T	T	21 50 23.7	
	baz=52,slow=75,SNR=26						
SONM	**Songino Array**	**41.92**	**15**	P	**P**	**21 26 29.5**	**+0.2**
	1.1nm,0.8s,baz=194,slow=5.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**46.56**	**354**	P	**P**	**21 27 06.4**	**+0.3**
	0.4nm,0.3s,baz=173,slow=6.0,SNR=5.9						
ZALV				LR	LR	21 50 38.7	
	comp=Z,40nm,19.2s,baz=253,slow=41						
WRA	**Warramunga Arr**	**49.89**	**124**	P	**P**	**21 27 32.9**	**+0.5**
	2.0nm,0.7s,baz=303,slow=8.9,SNR=10						
ASAR	**Alice Springs**	**51.43**	**128**	P	**P**	**21 27 44.1**	**+0.1**
	1.0nm,0.9s,baz=314,slow=7.4,SNR=7.1						
ASAR				PcP	**PcP**	**21 28 59.7**	**+1.3**
	0.4nm,0.5s,baz=302,slow=4.2,SNR=3.3						
BRTR	**Keskin Array B**	**60.97**	**311**	P	**P**	**21 28 50.9**	**-1.2**
	0.5nm,0.8s,baz=120,slow=8.5,SNR=3.3						
STKA	**Stephens Creek**	**61.51**	**132**	P	**P**	**21 28 56.2**	**+0.6**
	2.9nm,0.8s,baz=325,slow=5.4,SNR=3.7						
ARCES	**ARCESS Array B**	**74.78**	**340**	LR	LR	22 05 35.3	
	comp=Z,48nm,20.5s,baz=198,slow=38						
GERES	**GERESS Array B**	**76.58**	**318**	P	**P**	**21 30 28.6**	**-0.5**
	0.5nm,0.7s,baz=76,slow=5.2,SNR=3.9						

*JMA **18** 21:23:51.5±0.1, 22°72N×121°50E, h14km±3km, M3.3*
*ISCJB **18** 21:23:52.2±0.4, 22°65N±0°02×121°44E±0°02, h24km±4km, Error ellipse: s-maj=3.7km s-min=3.0km az=9.1*
*TAP **18** 21:23:52.6, 22°65N×121°32E, h35km, ML3.7, A*

ISC 18 21:23:52.0±1.1, 22°68N±0°02×121°41E±0°02, h19km±2km, n63, σ0°85/100, 7C-8D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.26**	**286**	⇑*i* P	**Pn**	**21 24 00.8**	**-0.1**
	baz=302						
TWG	**Pinlang**	**0.34**	**294**	⇑*i* P	**Pb**	**21 24 00.8**	**+1.1**
TWG	baz=306			S	**Sb**	**21 24 06.2**	**+1.4**
	baz=306						
CHKT	**Chengkung**	**0.42**	**354**	⇑*i* P	**Pn**	**21 24 02.9**	**-0.1**
	baz=5.0						
CHKT				S	**Sn**	**21 24 10.2**	**-0.1**
	baz=5.0						
ECL	**Taimali**	**0.43**	**259**	⇑*i* P	**Pb**	**21 24 01.2**	**0.0**
	baz=260						
ECL				*e*S	**Sg**	**21 24 06.9**	**0.0**
	baz=260						
TAW	**Tawu**	**0.58**	**236**	⇑P	**Pb**	**21 24 03.3**	**-0.1**
	baz=232						
TAW				*e*S	**Sb**	**21 24 10.7**	**-0.6**
	baz=232						
EAST	**Anshuo**	**0.60**	**240**	⇑P	**Pb**	**21 24 03.6**	**-0.3**
	baz=237						
EAST				*e*S	**Sb**	**21 24 11.2**	**-0.8**
	baz=237						
ELDTW	**Lidau**	**0.62**	**324**	⇓*i* P	**Pg**	**21 24 04.5**	**0.0**
	baz=332						
ELDTW				*e*S	**Sg**	**21 24 13.5**	**+0.6**
	baz=332						
LAY	**Lan-yu**	**0.65**	**169**	P	**Pg**	**21 24 05.6**	**+0.7**
	baz=160						
LAY				*e*S	**Sn**	**21 24 15.7**	**-0.4**
	baz=160						
TWF1	**Yuli**	**0.68**	**351**	⇓*i* P	**Pg**	**21 24 05.4**	**0.0**
	baz=358						
TWF1				*e*S	**Sb**	**21 24 14.0**	**-0.2**
	baz=358						
SSD	**Sandimen**	**0.72**	**275**	⇑P	**Pb**	**21 24 05.8**	**-0.2**
	baz=278						
SSD				*e*S	**Sb**	**21 24 14.2**	**-1.4**
	baz=278						
STYT	**Tauyuan**	**0.77**	**308**	⇓P	**Pg**	**21 24 07.2**	**0.0**
	baz=314						
STYT				*e*S	**Sg**	**21 24 17.6**	**+0.1**
	baz=314						
SCZT	**Fangliau**	**0.80**	**247**	*e*P	**Pb**	**21 24 07.4**	**+0.1**
	baz=246						
EHY	**Hungye**	**0.82**	**354**	P	**Pb**	**21 24 07.5**	**-0.3**
EHY				*e*S	**Sb**	**21 24 17.6**	**-0.9**
SGST	**Jiashian**	**0.86**	**298**	*e*P	**Pn**	**21 24 09.3**	**+0.1**
	baz=302						
SGST				*e*S	**Sn**	**21 24 21.2**	**-0.1**
	baz=302						
YUS	**Yu-Shan**	**0.91**	**332**	*e*P	**Pb**	**21 24 09.8**	**+0.2**
	baz=338						
YUS				S	**Sb**	**21 24 21.3**	**-0.1**
	baz=338						
TSEB	**Hengchuen, Pin**	**0.91**	**212**	P	**Pb**	**21 24 08.7**	**-0.5**
	baz=210						
TSEB				*e*S	**Sb**	**21 24 20.8**	**-0.2**
	baz=210						
HEN	**Hengchun**	**0.92**	**223**	*e*P	**Pb**	**21 24 08.8**	**-0.6**
	baz=219						
HEN				*e*S	**Sb**	**21 24 19.9**	**-1.3**
	baz=219						
TWM1	**Shoushan**	**0.93**	**279**	*e*P	**Pg**	**21 24 11.3**	**+1.3**
	baz=281						
WTP	**Ta-pu**	**0.93**	**307**	⇓*e*P	**Pg**	**21 24 10.2**	**+0.1**
	baz=312						
WTP				*e*S	**Sn**	**21 24 23.3**	**+0.3**
	baz=312						
TWK1	**Hengchun**	**0.93**	**218**	⇓P	**Pb**	**21 24 08.5**	**-1.0**
	baz=213						
TWK1				*e*S	**Sb**	**21 24 20.0**	**-1.5**
	baz=213						
CHN1	**Nanshi**	**0.96**	**302**	⇓*e*P	**Pg**	**21 24 10.9**	**+0.2**
	baz=305						
CHN1				*e*S	**Sn**	**21 24 24.2**	**+0.5**
	baz=305						
ALS	**Alishan**	**1.00**	**326**	P	**Pg**	**21 24 11.4**	**-0.1**
	baz=331						
ALS				*e*S	**Sg**	**21 24 24.6**	**-0.1**
	baz=331						
CHN4	**Tsaushan**	**1.01**	**311**	*e*P	**Pg**	**21 24 11.7**	**0.0**
	baz=316						
CHN4				*e*S	**Sg**	**21 24 26.0**	**+1.1**
	baz=316						
TWP	**Hsiaoliuchiu**	**1.03**	**251**	*e*P	**Pb**	**21 24 10.8**	**-0.5**
	baz=250						
TWK	**Hsinying**	**1.03**	**304**	*e*P	**Pg**	**21 24 11.9**	**-0.2**
	baz=308						
TWK				*e*S	**Sn**	**21 24 25.5**	**0.0**
	baz=308						
CHN3	**Shinhua**	**1.04**	**292**	*e*P	**Pg**	**21 24 13.6**	**+1.3**
	baz=295						
WDT	**Danda**	**1.10**	**346**	P	**Pb**	**21 24 12.3**	**-0.4**
	baz=351						
WDT				*e*S	**Sb**	**21 24 26.0**	**-0.7**
	baz=351						
ESL	**Shilin**	**1.13**	**1**	*e*P	**Pn**	**21 24 11.7**	**-1.2**
	baz=5.0						
ESL				*e*S	**Sb**	**21 24 25.1**	**-2.1**
	baz=5.0						
CHN5	**Tsauling**	**1.14**	**323**	*e*P	**Pb**	**21 24 13.6**	**+0.5**
	baz=327						
CHN2	**Minshiung**	**1.21**	**315**	*e*P	**Pb**	**21 24 14.6**	**+0.3**
	baz=318						
CHY	**Chiayi**	**1.22**	**312**	*e*P	**Pb**	**21 24 14.9**	**+0.4**
	baz=315						
SCLT	**Jiali**	**1.23**	**294**	*e*S	**Sn**	**21 24 30.7**	**+0.5**
	baz=296						
WGK	**Gukeng**	**1.27**	**322**	*e*P	**Pb**	**21 24 15.6**	**+0.2**
	baz=326						
SMLT	**Sun Moon Lake**	**1.28**	**339**	⇓*e*P	**Pb**	**21 24 16.0**	**+0.3**
	baz=342						
SMLT				*e*S	**Sb**	**21 24 32.1**	**+0.2**
	baz=342						
HWA	**Hwalien**	**1.30**	**8**	*e*P	**Pn**	**21 24 15.3**	**+0.1**
	baz=11						
TYC	**Yuchr**	**1.32**	**337**	*e*P	**Pb**	**21 24 16.6**	**+0.4**
	baz=341						
WNT	**Mingjian**	**1.37**	**331**	⇓*e*P	**Pb**	**21 24 17.5**	**+0.5**
	baz=334						
WNT				*e*S	**Sg**	**21 24 35.8**	**-0.5**
	baz=334						
TWD	**Chiawan**	**1.40**	**7**	*e*P	**Pn**	**21 24 15.9**	**-0.7**
	baz=10.0						
WHF	**Hehuan Shan**	**1.46**	**355**	*e*P	**Pn**	**21 24 17.6**	**-0.2**
	baz=358						
WHF				*e*S	**Sn**	**21 24 35.1**	**-1.6**
	baz=358						
TWT	**Tachien**	**1.58**	**352**	*e*P	**Pb**	**21 24 20.0**	**-0.8**
	baz=354						
TCU	**Taichung**	**1.61**	**335**	*e*P	**Pb**	**21 24 21.0**	**-0.1**
	baz=338						
WDGT	**Dungji**	**1.72**	**290**	*e*P	**Pn**	**21 24 19.7**	**-1.2**
	baz=291						
NNS	**Nan Shan**	**1.75**	**359**	*e*P	**Pn**	**21 24 22.1**	**+0.5**
	baz=1.0						
TWQ1	**Liyutan**	**1.76**	**341**	*e*P	**Pb**	**21 24 23.3**	**-0.4**
	baz=343						
TWQ1				*e*S	**Sb**	**21 24 45.4**	**0.0**
	baz=343						
ENA	**Nanau**	**1.76**	**10**	*e*P	**Pn**	**21 24 21.3**	**-0.3**
	baz=12						
NSY	**Sanyi**	**1.83**	**341**	*e*P	**Pb**	**21 24 24.7**	**-0.2**
	baz=343						
PNG	**Penghu**	**1.93**	**298**	*e*P	**Pn**	**21 24 23.0**	**-0.7**
	baz=299						
ENTT	**Nioudou**	**1.95**	**4**	*e*P	**Pn**	**21 24 24.3**	**0.0**
	baz=6.0						
TWC	**Suao**	**1.96**	**12**	*e*P	**Pn**	**21 24 25.2**	**+1.0**
	baz=14						
TWC				*e*S	**Sn**	**21 24 47.5**	**-0.8**
	baz=14						
NSTT	**Nanjuang**	**1.98**	**349**	*e*P	**Pb**	**21 24 26.4**	**-1.0**
	baz=351						
NSK	**Sanguang**	**1.98**	**359**	*e*P	**Pn**	**21 24 25.6**	**+0.9**
	baz=1.0						
NSK				*e*S	**Sn**	**21 24 48.8**	**-0.4**
	baz=1.0						
TWE	**Neicheng**	**2.04**	**6**	*e*P	**Pb**	**21 24 27.3**	**-1.3**
	baz=9.0						
EGS		**2.20**	**12**	*e*P	**Pb**	**21 24 30.2**	**-1.1**
	baz=14						
JYNG	**Yonagunijimaku**	**2.25**	**38**	P	**Pn**	**21 24 29.4**	**+1.1**
JYNG				*e*S	**Sn**	**21 24 54.8**	**-0.8**
TWA	**Mucha**	**2.29**	**4**	*e*P	**Pn**	**21 24 29.9**	**+1.0**
	baz=6.0						
YOJ	**Yonaguni jima**	**2.30**	**39**	P	**Pb**	**21 24 31.1**	**-1.8**
YOJ				S	**Sn**	**21 24 57.3**	**+0.6**
NWF	**Wu-fen Shan**	**2.40**	**8**	*e*P	**Pn**	**21 24 31.4**	**+1.0**
	baz=9.0						
HATJ	**Hateruma jima**	**2.59**	**58**	P	**Pn**	**21 24 34.0**	**+1.1**
HATJ				S	**Sn**	**21 25 03.4**	**-0.5**
IRIF	**Iriomote-Funau**	**2.69**	**52**	P	**Pn**	**21 24 36.6**	**+2.3**
IRIF				*e*S	**Sn**	**21 25 07.7**	**+1.4**
JKRS	**Kuro-shima**	**2.84**	**56**	P	**Pn**	**21 24 38.1**	**+1.7**
JKRS				S	**Sn**	**21 25 10.5**	**+0.4**
JIJ	**Ishigaki jima**	**3.01**	**56**	P	**Pn**	**21 24 41.0**	**+2.2**
JIJ				S	**Sn**	**21 25 14.1**	**-0.3**
JISG	**Ishigakijimahi**	**3.26**	**54**	P	**Pn**	**21 24 42.9**	**+0.7**
JISG				S	**Sn**	**21 25 20.9**	**+0.4**
JTJ	**Tarama**	**3.59**	**56**	P	**Pn**	**21 24 48.9**	**+2.2**
JTJ				*e*S	**Sn**	**21 25 28.4**	**-0.2**

GUC 18 21:30:36.0±0.6, 35°28S×72°58W, h33km±5km, ML3.5, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.78**	**99**	⇓*i* P	Pb	21 30 51.3	+0.1
TALC				*i* S	Sb	21 31 02.5	+1.0
LNCH	**Linares**	**0.98**	**126**	⇑*i* P	Pb	21 30 54.6	+0.1
LNCH				*i* S	Sb	21 31 08.2	+1.1
NICH	**Los Niches**	**1.14**	**77**	⇑*i* P	Pb	21 30 57.5	+0.3
NICH				*i* S	Sb	21 31 12.8	+1.1
LNV	**Longovilo**	**1.63**	**36**	*e*P	Pb	21 31 04.3	-1.1
CHCH	**Chadas Angostu**	**2.08**	**50**	*e*P	Pb	21 31 11.3	-1.8
CLCH	**Cerro Calan**	**2.52**	**43**	AML	AML	21 32 01.6	
	comp=N,221nm,0.6s						
PEL	**Peldehue**	**2.64**	**37**	*e*P	Pn	21 31 19.1	+2.7
PEL				AML	AML	21 32 03.7	
	comp=N,281nm,0.5s						

*IDC **18** 21:47:20.2±1.8, 2°12S×136°76E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/33, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=70.4km s-min=22.7km az=73.0*
*ISCJB **18** 21:47:24.2±0.5, 2°27S±0°05×136°57E±0°03, h33km, mb3.5/4, Error ellipse: s-maj=7.2km s-min=4.7km az=18.7*
*DJA **18** 21:47:24.0±0.7, 2°S±6°×13°7E±°, h12km±4km, M4.1/7, MLv4.1/7*

ISC 18 21:47:25.6±0.8, 2°22S±0°07×136°58E±0°04, h35km, n12, σ2°03/19, mb3.6/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.49**	**315**	P	**Pn**	**21 47 34.1**	**-2.1**
SRPI				S	**Sn**	**21 47 42.5**	**-1.0**
BAKI	**Biak**	**1.13**	**335**	P	**Pn**	**21 47 43.6**	**-1.4**
BAKI				S	**Sn**	**21 48 00.0**	**+0.7**
SMPI	**Sarmi**	**2.14**	**84**	P	**Pn**	**21 47 58.0**	**-0.8**
SMPI				S	**Sn**	**21 48 24.6**	**+0.5**
RKPI	**Ransiki, Papua**	**2.51**	**286**	P	**Pn**	**21 48 05.7**	**+1.8**
RKPI				S	**Sn**	**21 48 37.7**	**+4.4**
GENI	**Genyem**	**3.60**	**96**	P	**Pn**	**21 48 19.1**	**+0.1**
GENI				S	**Sn**	**21 49 02.3**	**+2.0**
JAY	**Jayapura**	**4.13**	**94**	P	**Pn**	**21 48 26.2**	**-0.1**
FAKI	**Fak Fak**

URZ				Sn	Sn	22 49 19.3	-3.8	
	3.4nm,0.3s,baz=162,slow=23,SNR=13							
CTA	**Charters Tower**	**34.38**	**280**	P	P	22 52 38.4	+1.0	
	4.2nm,1.0s,baz=90,slow=9.1,SNR=3.7							
ASAR	**Alice Springs**	**43.51**	**268**	P	P	22 53 52.9	-1.0	
	0.6nm,0.6s,baz=106,slow=7.1,SNR=6.1							
WRA	**Warramunga Arr**	**44.58**	**273**	P	P	22 54 02.1	-0.3	
	0.6nm,0.3s,baz=113,slow=8.0,SNR=3.3							
FINES	**FINESS Array B**	**146.14**	**340**	PKPbc	PKPdf	23 05 28.9	+0.1	
	1.5nm,0.7s,baz=64,slow=3.3,SNR=9.7							

*ISCJB **18** 23:02:10.3±0.7, 32.63N±0.04×115.95W±0.04, h12km±6km, Error ellipse: s-maj=7.3km s-min=4.1km az=29.2*
*NEIC **18** 23:02:10.8, 32.68N×115.92W, h6km, ML3.0(PAS), After PAS.*
*MEX **18** 23:02:11.9±0.6, 32.78N×115.89W, h16km±13km, MD3.6*
ISC 18 23:02:10.2±1.1, 32.66N±0.04×115.92W±0.03, h17km±10km, n13, σ1s00/23, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.57**	**114**	*eP*	**Pb**	**23 02 22.6**	**+0.8**
CPBX				*i* S	**Sb**	**23 02 31.3**	**+1.6**
BAR	**Barrett**	**0.63**	**272**	*e*Pg	**Pg**	**23 02 22.4**	**-0.2**
BAR				*e*Sg	**Sg**	**23 02 30.7**	**-0.4**
MBIG	**Mexicali**	**0.66**	**112**	*i* P	**Pg**	**23 02 23.2**	**+0.1**
MBIG				*i* S	**Sg**	**23 02 31.9**	**-0.1**
CBX	**Cerro Bola**	**0.71**	**242**	*e*P	**Pb**	**23 02 24.6**	**+0.4**
CBX				*i* S	**Sb**	**23 02 33.8**	**+0.1**
CBX	**Cerro Bola**	**0.71**	**242**	*e*P	**Pb**	**23 02 24.6**	**+0.4**
CBX				*i* S	**Sb**	**23 02 33.8**	**+0.1**
PFO	**Pinyon Flats O**	**1.05**	**335**	*e*Pg	**Pb**	**23 02 28.4**	**-1.6**
PFO				*e*Sg	**Sb**	**23 02 43.0**	**-0.6**
SPIG	**San Pedro Mart**	**1.65**	**166**	*e*P	**Pn**	**23 02 39.3**	**+0.6**
SPIG				*i* S	**Sn**	**23 02 59.0**	**-0.7**
SPIG	**San Pedro Mart**	**1.65**	**166**	*e*P	**Pn**	**23 02 39.3**	**+0.6**
SPIG				*i* S	**Sn**	**23 02 59.0**	**-0.7**
SPX	**San Pedro Mart**	**1.65**	**166**	*e*P	**Pn**	**23 02 38.2**	**-0.5**
SPX				*i* S	**Sn**	**23 02 59.0**	**-0.7**
MWC	**Mount Wilson**	**2.37**	**312**	*e*Pb	**Pb**	**23 02 52.3**	**-0.3**
MWC				*e*Sb	**Sb**	**23 03 22.1**	**+0.4**
214A	**Organ Pipe Nat**	**2.73**	**104**	*e*Pn	**Pb**	**23 02 56.6**	**-1.9**
GSC	**Goldstone, Bar**	**2.74**	**345**	*e*Pb	**Pb**	**23 03 00.4**	**+1.6**
ISA	**Isabella, Lake**	**3.67**	**326**	*e*Pb	**Pb**	**23 03 16.4**	**+1.8**

*SZGRF **18** 23:09:29.1, 12.56N×93.35E, h33km, mb6.2, MS5.7, Andaman Islands, India, region*
*BJI **18** 23:09:31.6, 13.24N×93.09E, h31km, mb5.8/86, mB5.9/55, Ms6.0/95, Ms7 5.8/85*
*ISCJB **18** 23:09:31.2±0.5, 13.27N±0.02×93.04E±0.01, h29km±3km, mb6.0/338, MS5.8/358, Error ellipse: s-maj=3.0km s-min=1.9km az=15.3*
*NEIC **18** 23:09:31.0±0.1, 13.20N×93.09E, h20km, mb6.1/149, ME6.1, MS5.9/285, MW5.8, Error ellipse: s-maj=3.5km s-min=2.7km az=222.0, Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Several buildings damaged slightly in the Diglipur area. Felt [VI] at Port Blair.
*GCMT **18** 23:09:31.0±0.1, 13.21N×93.12E, h20km, MW5.9/119, Moment Tensor Solution. s119,c247; s111,c344; Duration: 2s2 Moment tensor: Scale 10^18 Nm; Mrr 0.73±.01; Mθθ-0.37±.01; Mφφ-0.36±.01; Mrθ-0.02±.01; Mθφ 0.49±.01; Mφr 0.39±.01; Best double couple: M=0.89000×10^18 NP1:φs 333.00000°, δ 58.00000°, λ 112.00000°. NP2:φs 116.00000°, δ 38.00000°, λ 59.00000°. Principal axes: T 0.8700, Plg 69.0000°, Azm 289.0000°; N 0.0410, Plg 18.0000°, Azm 141.0000°; P -0.9110, Plg 10.0000°, Azm 48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **18** 23:09:32.0±1.2, 13.20N×93.13E, h24km±7km, mb5.5/31, mb1 5.5/34, mb1mx5.5/36, mbtmp5.6/34, ML5.2/3, MS5.6/30, Ms1 5.6/30, ms1mx5.5/34 Error ellipse: s-maj=11.0km s-min=9.7km az=36.0*
*NEIC **18** 23:09:32.0±0.0, 13.25N×93.09E, h27km, Moment Tensor Solution. s56 Moment tensor: Scale 10^17 Nm; Mrr 4.95; Mθθ-2.75; Mφφ-2.20; Mrθ-0.20; Mθφ 2.65; Mφr 5.07; Best double couple: M=7.10000×10^17 NP1:φs 339.00000°, δ 68.00000°, λ 111.00000°. NP2:φs 113.00000°, δ 30.00000°, λ 47.00000°. Principal axes: T 7.6900, Plg 60.0000°, Azm 282.0000°; N -1.2200, Plg 20.0000°, Azm 151.0000°; P -6.4700, Plg 20.0000°, Azm 53.0000°;*
*MOS **18** 23:09:32.3±1.0, 13.23N×93.08E, h37km, mb6.3/86, MS5.7/106 Error ellipse: s-maj=6.0km s-min=4.0km az=112.3*
*BKK **18** 23:09:32.6±0.2, 13.2N±2.2×93.3E±.1, h10km, M6.0/59, mb6.0/59, mB6.3/54, MLv6.0/17, Mw(mB)6.0/54, Mwp6.0/12*
*BEO **18** 23:09:35.6±0.6, 14.65N×93.87E, h33km*
*DJA **18** 23:09:36.8±0.3, 13.2N±2.2×93.3E±.1, h60km±3km, M5.9/100, mb5.7/100, mB6.2/82, MLv6.5/3, Mw(mB)5.9/82, Mwp5.8/12*
*KLM **18** 23:09:36.8, 13.13N×92.92E, h71km, mb5.9, MS6.8*
ISC 18 23:09:32.4±0.2, 13.20N±0.02×93.08E±0.02, h30km±1km, h30km:pP-P, n1882, σ1s43/2111, mb6.0/343, MS5.8/370, 278C-34D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGPR	**DIGLIPUR**	**0.15**	**261**	*e*P	**Pb**	**23 09 37.6**	**-0.5**
DGPR				AMB	AMB	23 09 40.6	
	comp=Z,2448μm,2.2s						
PBA	**Port Blair**	**1.57**	**192**	*e*P	Pb	23 10 00.2	-0.6
PBA				AMB	AMB	23 10 29.3	
	comp=Z,82μm,2.2s						
KHLT	**Khaolaem Dam**	**5.58**	**73**	P	**Pn**	**23 10 55.2**	**+1.8**
	comp=Z,3μm,1.1s,comp=Z,26μmcomp=Z,11nm						
SRDT	**SRDT**	**5.98**	**78**	P	**Pn**	**23 11 00.7**	**+1.8**
	comp=Z,11μm,0.8s,comp=Z,92μmcomp=Z,33nm						
CMBY	**CAMPBELL BAY**	**6.21**	**172**	*e*P	**Pn**	**23 11 03.9**	**+1.8**
CMBY				AMB	AMB	23 11 14.9	
	comp=Z,581nm,0.3s						
MHMT	**Maesarieng**	**6.80**	**43**	P	**Pn**	**23 11 10.7**	**+0.5**
	comp=Z,2μm,1.0s,comp=Z,20μmcomp=Z,7.4nm						
SURT	**Suratani**	**7.01**	**126**	P	Pn	23 11 17.2	+4.0
	comp=Z,342nm,0.9s,comp=Z,4μmcomp=Z,1.3nm						
PKDT	**Phuket**	**7.38**	**135**	P	Pn	23 11 22.9	+4.7
	comp=Z,731nm,0.9s,comp=Z,9μmcomp=Z,2.5nm						
PATY	**Pattaya**	**7.59**	**91**	P	**Pn**	**23 11 23.1**	**+2.1**
	comp=Z,206nm,0.7s,comp=Z,2μmcomp=Z,0.8nm						
CM01	**Chiang Mai Arr**	**7.68**	**47**	*e*Pn	**Pn**	**23 11 23.0**	**+0.8**
CM01				*e*Sn	**Sn**	**23 12 45.8**	**-2.5**
CMAR	**Chiang Mai Arr**	**7.69**	**46**	Pn	**Pn**	**23 11 23.6**	**+1.2**
	comp=Z,26nm,0.3s,baz=238,slow=15,SNR=1522						
CMAR				Sn	**Sn**	**23 12 48.5**	**-0.1**
	comp=Z,10nm,0.3s,baz=237,slow=28,SNR=4.5						
CMAR				LR	LR	23 14 54.8	
	comp=Z,53μm,19.2s,baz=262,slow=42						
CMAR				ScP	**ScP**	**23 21 34.2**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=260,slow=2.0,SNR=8.4						
CMAR				P3KP		23 49 18.0	
	comp=Z,0.4nm,0.3s,baz=343,slow=2.8,SNR=5.3						
CMAR	**Chiang Mai Arr**	**7.69**	**46**	Pn	**Pn**	**23 11 23.6**	**+1.2**
CMAR				Sn	**Sn**	**23 12 48.5**	**-0.1**
CMAR				ScP	**ScP**	**23 21 34.2**	**+1.9**
CMAR				PKKKP		23 49 18.0	
KRAB	**Krabi**	**7.78**	**129**	P	Pn	23 11 27.2	+3.5
	comp=Z,1μm,0.5s,comp=Z,16μmcomp=Z,5.3nm						
CHTO	**Chiang Mai**	**7.93**	**45**	P	**Pn**	**23 11 26.3**	**+0.6**
	comp=Z,5μm,1.0s,comp=Z,45μmcomp=Z,21nm						
CHTO	**Chiang Mai**	**7.93**	**45**	*e*P	**Pn**	**23 11 26.6**	**+0.9**
CHTO				*e*		23 12 51.7	
CHTO	**Chiang Mai**	**7.93**	**45**	P	**Pn**	**23 11 27.0**	**+1.2**
SNR=356							
CHTO	**Chiang Mai**	**7.93**	**45**	*e*Pn	**Pn**	**23 11 26.6**	**+0.9**
CHTO				*e*Sn	**Sn**	**23 12 51.7**	**-2.8**
CMMT	**Chiang Mai**	**7.93**	**45**	P	**Pn**	**23 11 26.3**	**+0.5**
	comp=Z,2μm,1.0s,comp=Z,13μmcomp=Z,5.9nm						
PBKT	**Sadao Pong**	**8.33**	**65**	P	**Pn**	**23 11 33.0**	**+1.8**
	comp=Z,2μm,0.9s,comp=Z,14μmcomp=Z,5.2nm						
TRTT	**Trang**	**8.40**	**129**	P	Pn	23 11 36.5	+4.3
	comp=Z,290nm,1.5s,comp=Z,7μmcomp=Z,1.3nm						
UTTA	**Uttaradit**	**8.50**	**57**	P	**Pn**	**23 11 35.4**	**+1.8**
	comp=Z,282nm,0.8s,comp=Z,2μmcomp=Z,0.7nm						
LHMI	**Lhok Sumawe**	**8.79**	**154**	P	Pn	23 11 43.3	+5.8
	comp=Z,903nm,0.8s,comp=Z,19μm						
LHMI	**Lhok Sumawe**	**8.79**	**154**	*e*Pn	Pn	23 11 42.4	+4.8
LOEI	**Loei**	**8.98**	**60**	P	Pn	23 11 46.8	+6.7
	comp=Z,633nm,0.7s,comp=Z,9μmcomp=Z,2.4nm						
CHAI	**Chaiyaphum**	**9.03**	**72**	P	Pn	23 11 44.1	+3.3
	comp=Z,552nm,1.2s,comp=Z,5μm						
SKLT	**Songkhla**	**9.54**	**128**	P	Pn	23 11 52.2	+4.4
	comp=Z,265nm,1.8s,comp=Z,6μm						
CHLP	**Challavanipeta**	**10.16**	**302**	*e*P	**Pn**	**23 11 53.9**	**-2.4**
CHLP				IAmb	IAmb	23 12 09.3	
	comp=Z,3μm,1.4s						
CHLP				*e*		23 13 41.3	
CHLP				*e*Sn	**Sn**	**23 13 50.7**	**+1.4**
CHLP				IVMs_BB	IVMs_BB	23 16 36.5	
	comp=Z,20μm,17.4s						
VIS	**Vishakhapatnam**	**10.42**	**297**	*i* P	**Pn**	**23 11 59.8**	**-0.1**
VIS				AMB	AMB	23 12 02.8	
	comp=Z,3μm,1.2s						
VIS				*i* x	x	23 13 46.8	
NONG	**Nongkai**	**10.83**	**62**	P	**Pn**	**23 12 08.3**	**+2.8**
	comp=Z,813nm,1.1s,comp=Z,11μm						
KULM	**Kulim**	**10.84**	**136**	⇑P	Pn	23 12 09.9	+4.2
KULM	**Kulim**	**10.84**	**136**	*e*Pn	Pn	23 12 09.4	+3.8
TSI	**Tuntungan**	**11.06**	**150**	P	Pn	23 12 13.4	+4.8
	comp=Z,1μm,1.4s,comp=Z,22μm						
SKNT	**Sakolnakorn**	**11.17**	**69**	P	Pn	23 12 13.8	+3.6
	comp=Z,1μm,1.2s,comp=Z,27μm						
SNSI	**Sinabang, Aceh**	**11.19**	**163**	P	**Pn**	**23 12 09.1**	**-1.4**
	comp=Z,584nm,1.7s,comp=Z,14μm						
IPM	**Ipoh**	**11.69**	**137**	⇑P	**Pn**	**23 12 19.7**	**+2.4**
IPM	**Ipoh**	**11.69**	**137**	*e*Pn	**Pn**	**23 12 19.8**	**+2.6**
PVM	**Polavaram**	**11.77**	**291**	*e*P	**Pn**	**23 12 16.9**	**-1.4**
PVM				IAmb	IAmb	23 12 21.5	
	comp=Z,642nm,0.8s						
PVM				*e*		23 14 17.4	
PVM				*e*Sn	**Sn**	**23 14 29.1**	**+0.4**
PVM				IVMs_BB	IVMs_BB	23 18 30.3	
	comp=Z,18μm,15.1s						
PSI	**Prapat**	**11.84**	**150**	Pn	**Pn**	**23 12 22.5**	**+3.1**
	comp=Z,5.1nm,0.3s,baz=331,slow=12,SNR=37						
PSI				ScP	**ScP**	**23 21 39.0**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=256,slow=4.2,SNR=5.8						
PSI	**Prapat**	**11.84**	**150**	*e*P	Pn	23 12 23.0	+3.6
PSI	**Prapat**	**11.84**	**150**	*e*Pn	Pn	23 12 23.0	+3.6
PSI				ScP	**ScP**	**23 21 39.0**	**+1.5**
UBPT	**Khong Chiam**	**12.19**	**79**	P	Pn	23 12 27.3	+3.2
	comp=Z,544nm,1.8s,comp=Z,14μm						
SHL	**Shillong**	**12.35**	**355**	⇑*i*P	**Pn**	**23 12 24.0**	**-2.5**
SHL				AMB	AMB	23 12 25.9	
	comp=Z,444nm,1.1s						
SHL				*i* x	x	23 14 38.0	
MDRS	**Chennai**	**12.50**	**271**	*e*P	**Pn**	**23 12 25.8**	**-2.6**
MDRS				AMB	AMB	23 12 56.8	
	comp=Z,895nm,0.0s						
BOK	**Bokaro**	**12.55**	**328**	*ex*	Pn	23 12 23.1	-5.9
BOK				AMB	AMB	23 12 29.4	
	comp=Z,348nm,1.5s						
KTGM	**Kuala Trenggan**	**12.63**	**127**	⇑P	**Pn**	**23 12 33.1**	**+3.0**
GSI	**Gunungsitoli**	**12.63**	**159**	P	**Pn**	**23 12 31.3**	**+1.1**
	comp=Z,171nm,0.8s,comp=Z,10μm						
GSI	**Gunungsitoli**	**12.63**	**159**	*e*Pn	**Pn**	**23 12 27.7**	**-2.5**
GSI				*e*ScP	**ScP**	**23 21 41.5**	**+3.0**
ADKI	**Addanki**	**12.97**	**283**	*e*P	**Pn**	**23 12 31.6**	**-3.1**
ADKI				IAmb	IAmb	23 12 39.7	
	comp=Z,368nm,0.8s						
ADKI				*e*		23 14 43.5	
ADKI				*e*Sn	**Sn**	**23 14 58.4**	**+0.4**
ADKI				IVMsBB		23 17 35.0	
	comp=Z,11μm,21.7s						
FRIM	**Kepong**	**13.01**	**139**	⇑P	P	23 12 41.0	-4.4
SKHT	**Srikalahasti**	**13.02**	**274**	*e*P	**Pn**	**23 12 34.3**	**-1.2**
SKHT				IAmb	IAmb	23 12 44.2	
	comp=Z,843nm,1.6s						
SKHT				*e*		23 14 47.1	
SKHT				*e*Sn	**Sn**	**23 15 00.3**	**+1.0**
SKHT				IVMs_BB	IVMs_BB	23 17 05.8	
	comp=Z,24μm,22.8s						
PALK	**Pallekele**	**13.53**	**245**	Pn	**Pn**	**23 12 42.2**	**-0.3**
	comp=Z,1μm,0.9s,SNR=10						
PALK	**Pallekele**	**13.53**	**245**	Pn	**Pn**	**23 12 41.7**	**-0.7**
	comp=Z,6.7nm,0.3s,baz=76,slow=9.2,SNR=52						
PALK				Sn	Sn	23 15 01.6	-10
	comp=Z,31nm,0.3s,baz=169,slow=16,SNR=7.3						
PALK				LR	LR	23 17 38.7	
	comp=Z,83μm,19.6s,baz=70,slow=36						
PALK	**Pallekele**	**13.53**	**245**	*e*P	**Pn**	**23 12 42.2**	**-0.3**
PALK	**Pallekele**	**13.53**	**245**	Pn	**Pn**	**23 12 43.2**	**+0.8**
SNR=27							
PALK	**Pallekele**	**13.53**	**245**	⇓*i*P	**Pn**	**23 12 42.3**	**-0.1**
SNR=15							
PALK	**Pallekele**	**13.53**	**245**	*e*Pn	**Pn**	**23 12 42.2**	**-0.3**
PALK				*e*Sn	Sn	23 15 01.2	-11
NJS	**Nagarjunasagar**	**13.73**	**286**	*e*P	**Pn**	**23 12 44.0**	**-1.1**
NJS				IAmb	IAmb	23 13 02.2	
	comp=Z,362nm,0.9s						
NJS				*e*		23 15 04.9	
NJS				*e*Sn	**Sn**	**23 15 14.9**	**-1.7**
NJS				IVMs_BB	IVMs_BB	23 19 54.4	
	comp=Z,15μm,17.7s						
RCLA	**Racherla**	**13.87**	**281**	*e*P	**Pn**	**23 12 44.8**	**-2.3**
RCLA				IAmb	IAmb	23 12 48.0	
	comp=Z,920nm,1.7s						
RCLA				*e*		23 15 07.9	
RCLA				*e*Sn	**Sn**	**23 15 20.1**	**-0.1**
RCLA				IVMs_BB	IVMs_BB	23 18 21.2	
	comp=Z,16μm,20.1s						
MNSI	**Mandailing Nat**	**13.90**	**152**	P	P	23 12 51.8	-3.6
	comp=Z,239nm,2.1s,comp=Z,9μm						
SRLM	**Srisailam**	**14.03**	**284**	*e*P	**Pn**	**23 12 46.6**	**-2.7**
SRLM				IAmb	IAmb	23 12 50.3	
	comp=Z,2μm,1.6s						
SRLM				*e*		23 15 14.2	
SRLM				*e*Sn	**Sn**	**23 15 24.8**	**+0.7**
SRLM				IVMs_BB	IVMs_BB	23 19 59.8	
	comp=Z,16μm,16.7s						
PBSI	**Pulau Batu**	**14.14**	**158**	P	**P**	**23 12 55.2**	**-2.8**
	comp=Z,229nm,2.0s,comp=Z,7μm						
RPR	**Rampur**	**14.39**	**295**	*e*P	**Pn**	**23 12 52.2**	**-2.0**
RPR				IAmb	IAmb	23 12 55.3	
	comp=Z,245nm,0.8s						
RPR				*e*		23 15 21.4	
RPR				*e*Sn	**Sn**	**23 15 33.2**	**+0.3**
RPR				IVMs_BB	IVMs_BB	23 19 30.3	
	comp=Z,24μm,19.2s						
ODAN	**Odare**	**14.60**	**339**	*e*P	Pn	23 12 52.3	-4.9
	comp=Z,614nm,0.4s						
HYB	**Hyderabad**	**14.63**	**288**	⇓*i*P	**Pn**	**23 12 56.5**	**-0.9**
	comp=Z,300nm,1.0s						
HYB				*e*S	**Sn**	**23 15 40.0**	**+1.3**
HYB				LR	LR	23 16 32.0	
	comp=Z,67nm,20.0s						
HYB	**Hyderabad**	**14.63**	**288**	*e*P	**Pn**	**23 12 54.7**	**-2.7**
HYB				AMB	AMB	23 13 06.0	
	comp=Z,625nm,1.0s						
HYBB	**Hyderabad (bro**	**14.63**	**288**	*e*P	**Pn**	**23 12 56.2**	**-1.2**
HYBB				*e*		23 13 05.3	
HYBB				IAmb	IAmb	23 13 06.5	
	comp=Z,1μm,1.5s						
HYBB				*e*		23 15 27.9	
HYBB				*e*Sn	**Sn**	**23 15 39.6**	**+0.9**
HYBB				IVMs_BB	IVMs_BB	23 20 32.4	
	comp=Z,16μm,15.2s						
TAPN	**Taplejung**	**14.95**	**341**	*e*P	Pn	23 12 57.1	-4.9
	comp=Z,1μm,0.8s						
KMI	**Kunming**	**14.95**	**36**	P	**Pn**	**23 13 04.3**	**+2.3**
KMI				pP	**P**	**23 13 09.0**	**+1.8**
KMI				sP		23 13 12.3	
KMI				S	Sn	23 15 53.3	+6.5
KMI				sS	**S**	**23 16 00.0**	**-4.0**
KMI				SS	**SnSn**	**23 16 09.5**	**+10**
KMI				PMZ			
	comp=Z,70nm,1.1s						
KMI				PMZ			
	comp=Z,1μm,4.1s						
KMI				LN			
	comp=Z,48μm,15.8s						
KMI				LE			
	comp=Z,40μm,14.2s						
KMI				LZ			
	comp=Z,65μm,15.3s						
RAMN	**Ramite**	**14.97**	**337**	*e*P	Pn	23 12 57.5	-4.7
	comp=Z,900nm,0.5s						
BKNI	**Bangkinang**	**15.03**	**148**	P	**Pn**	**23 13 05.3**	**+2.5**
	comp=Z,860nm,1.4s,comp=Z,15μm						
BKNI	**Bangkinang**	**15.03**	**148**	*e*Pn	**Pn**	**23 13 03.7**	**+0.9**
	comp=Z,1μm,1.3s						
KGM	**Kluang**	**15.04**	**137**	⇑P	**P**	**23 13 06.7**	**-1.3**
SRSP	**Sriramsagar**	**15.26**	**294**	*e*P	**Pn**	**23 13 03.3**	**-2.6**
SRSP				IAmb	IAmb	23 13 07.6	
	comp=Z,239nm,0.9s						
SRSP				*e*		23 15 42.1	
SRSP				*e*Sn	**Sn**	**23 15 54.3**	**+0.2**
SRSP				IVMs_BB	IVMs_BB	23 18 40.1	
	comp=Z,15μm,20.4s						
URV	**Uravakonda**	**15.45**	**278**	*e*P	**Pn**	**23 13 06.7**	**-1.7**
URV				IAmb	IAmb	23 13 26.3	
	comp=Z,2μm,1.7s						
URV				*e*		23 15 44.9	
URV				*e*Sn	**Sn**	**23 15 59.1**	**+0.4**
URV				IVMs_BB	IVMs_BB	23 18 31.4	
	comp=Z,15μm,21.3s						
NGP	**Nagpur**	**15.56**	**302**	*e*P	**Pn**	**23 13 07.6**	**-2.1**
NGP				AMB	AMB	23 13 11.5	
	comp=Z,667nm,1.4s						
NGP				*ex*	x	23 15 57.1	
MYKOM	**Kota Tinggi**	**15.56**	**136**	⇑P	**P**	**23 13 14.0**	**+0.2**
MYKOM	**Kota Tinggi**	**15.56**	**136**	*e*Pn	**Pn**	**23 13 10.5**	**+0.7**
	comp=Z,725nm,1.1s						
SISI	**Saibi**	**15.62**	**157**	P	**P**	**23 13 18.7**	**+4.3**
	comp=Z,278nm,1.7s,comp=Z,4μm						
PKI	**Pulchoki**	**15.99**	**335**	*e*P	**Pn**	**23 13 11.0**	**-4.7**
	comp=Z,2μm,1.0s						
PKIN	**Phulchoki**	**16.01**	**334**	*e*P	**Pn**	**23 13 11.5**	**-4.2**
	comp=Z,999nm,0.6s						
GUN	**Gumba**	**16.11**	**336**	*e*P	**Pn**	**23 13 12.6**	**-4.5**
	comp=Z,2μm,1.1s						
DMN	**Daman**	**16.16**	**334**	*e*P	**Pn**	**23 13 13.1**	**-4.6**
	comp=Z,2μm,0.8s						
KKN	**Kakani**	**16.24**	**335**	*e*P	Pn	23 13 13.8	-4.9
	comp=Z,1μm,1.1s						
SDSI	**Sungai Dareh**	**16.30**	**149**	P	**P**	**23 13 20.8**	**-1.2**
	comp=Z,320nm,1.4s,comp=Z,6μm						
TRD	**Trivandrum**	**16.50**	**255**	*e*P	**Pn**	**23 13 20.7**	**-1.2**
TRD				⇑*i* x	x	23 13 33.2	
TRD				AMB	AMB	23 13 34.9	
	comp=Z,800nm,0.6s						
TRD				*i* x	x	23 16 47.2	
LSA	**Lhasa**	**16.52**	**354**	P	**Pn**	**23 13 19.3**	**-3.2**
LSA				pP	**P**	**23 13 27.4**	**+2.6**
LSA				sP	**sP**	**23 13 38.8**	**+2.1**
LSA				S	**Sn**	**23 16 29.3**	**+4.2**
LSA				LN			
	comp=Z,17μm,22.9s						
LSA				LE			
	comp=Z,37μm,30.6s						
LSA				LZ			
	comp=Z,50μm,22.9s						
LSA	**Lhasa**	**16.52**	**354**	*e*P	**Pn**	**23 13 19.2**	**-3.2**
LSA				*e*		23 16 22.3	
LSA				pmax	pmax		
	comp=Z,479nm,1.0s						
LSA	**Lhasa**	**16.52**	**354**	*e*Pn	**Pn**	**23 13 19.2**	**-3.2**
	comp=Z,479nm,1.0s						
LSA				*e*Sn	**Sn**	**23 16 22.3**	**-2.8**
KLRI	**Killari**	**16.59**	**289**	*e*P	**Pn**	**23 13 20.7**	**-2.3**
KLRI				IAmb	IAmb	23 13 28.2	
	comp=Z,878nm,1.0s						
KLRI				*e*		23 16 16.4	
KLRI				*e*Sn	**Sn**	**23 16 27.6**	**+1.1**
KLRI				IVMs_BB	IVMs_BB	23 21 48.2	
	comp=Z,24μm,14.0s						
GKN	**Gorkha**	**16.70**	**333**	*e*P	**Pn**	**23 13 20.1**	**-4.4**
	comp=Z,2μm,1.0s						
KOLN	**Koldanda**	**16.99**	**330**	*e*P	**Pn**	**23 13 23.8**	**-4.3**
	comp=Z,1μm,0.6s						
AKL	**Akola**	**17.07**	**298**	*e*P	**P**	**23 13 30.4**	**-0.2**
AKL				AMB	AMB	23 13 35.9	
	comp=Z,757nm,1.0s						
QIZ	**Qiongzhong**	**17.11**	**68**	P	**P**	**23 13 30.4**	**-0.6**
QIZ				sP	**sP**	**23 13 41.0**	**-1.8**
QIZ				S	**Sn**	**23 16 42.3**	**+3.3**
QIZ				PMZ			
	comp=Z,110nm,0.9s						
QIZ				LN			
	comp=Z,45μm,17.2s						
QIZ				LZ			
	comp=Z,31μm,16.1s						
QIZ	**Qiongzhong**	**17.11**	**68**	*e*Pn	**Pn**	**23 13 29.5**	**0.0**
	comp=Z,346nm,1.2s						
PPSI	**Pulau Pagai**	**17.29**	**156**	P	**P**	**23 13 37.5**	**+4.6**
	comp=Z,387nm,1.0s,comp=Z,7μm						
BHPL	**Bhopal**	**17.90**	**306**	*e*P	**Pn**	**23 13 37.5**	**-1.8**
BHPL				AMB	AMB	23 13 41.9	
	comp=Z,869nm,1.1s						
JMBI	**JAMBI**	**18.08**	**144**	P	**P**	**23 13 44.3**	**+2.6**
	comp=Z,6μm,1.3s,comp=Z,57μm						
GYA	**Guiyang**	**18.34**	**42**	⇓*i*P	**Pn**	**23 13 44.9**	**+0.1**
GYA				pP	**pP**	**23 13 52.8**	**+0.1**
GYA				PP	**PnPn**	**23 14 03.0**	**+6.4**
GYA				S	**Sn**	**23 17 08.6**	**-0.3**
GYA				sS	**S**	**23 17 17.4**	**+4.5**
GYA				SS	**SnSn**	**23 17 31.3**	**+8.3**
GYA				PMZ			
	comp=Z,190nm,0.9s						
GYA				PMZ			
	comp=Z,3μm,8.1s						
GYA				LN			
	comp=Z,30μm,14.9s						
GYA				LE			
	comp=Z,15μm,13.9s						
GYA				LZ			
	comp=Z,24μm,14.3s						
MASI	**Maura Aman, Be**	**18.61**	**150**	P	**Pn**	**23 13 47.9**	**-0.1**
	comp=Z,1μm,2.0s,comp=Z,16μm						
GOA	**Goa**	**18.80**	**279**	*e*P	**P**	**23 13 49.8**	**+0.2**
GOA				AMB	AMB	23 13 54.6	
	comp=Z,

JOSI	**Joshimath**	**21.31**	**326**	*e*P		**P**	**23 14 16.6**	**-0.4**	GTA				LZ				
JOSI				AMB		AMB	23 14 18.3			comp=Z,11µm,22.3s							
	comp=Z,6µm,0.9s								**TGY**	**Tagaytay City**	**27.08**	**85**	LR	LR	23 26 22.5		
KLI	**Kotabumi**	**21.42**	**146**	P		P	23 14 23.5	+5.4		comp=Z,289nm,18.4s,baz=260,slow=37							
KUDL	**Kundal**	**21.45**	**316**	*e*P		**P**	**23 14 19.0**	**+0.6**	**UGM**	**Wanagama**	**27.20**	**140**	P	**P**	**23 15 15.7**	**+1.9**	
KUDL				AMB		AMB	23 14 20.2			comp=Z,384nm,1.4s							
	comp=Z,722nm,0.8s								**UGM**	**Wanagama**	**27.20**	**140**	*e*P	**P**	**23 15 15.1**	**+1.3**	
TPI	**Tanjungpandan**	**21.46**	**137**	P		**P**	**23 14 19.0**	**+0.5**		comp=Z,1µm,1.6s							
	comp=Z,315nm,1.2s,comp=Z,7µm								UGM				LR	LR			
BHGR	**Bahadurgarh**	**21.52**	**318**	*e*P		**P**	**23 14 20.0**	**+0.9**		comp=Z,18µm,18.0s							
BHGR				AMB		AMB	23 14 24.3		**TBJI**	**Tambak Boyo**	**27.26**	**136**	P	**P**	**23 15 16.8**	**+2.5**	
	comp=Z,1µm,1.3s									comp=Z,420nm,1.3s,comp=Z,8µm							
GZH	**Guangzhou**	**21.59**	**60**	P		**P**	**23 14 23.3**	**+3.4**	**BKB**	**Balikpapan**	**27.65**	**120**	P	**P**	**23 15 20.1**	**+2.3**	
GZH				sP		**sP**	**23 14 34.4**	**+2.5**		comp=Z,136nm,1.1s,comp=Z,4µmcomp=Z,14µm							
GZH				LN					**GRJI**	**Gresik**	**27.76**	**135**	P	**P**	**23 15 19.8**	**+1.1**	
	comp=Z,32µm,17.5s									comp=Z,127nm,0.7s							
GZH				LE					**PCJI**	**Pacitan**	**27.84**	**139**	P	**P**	**23 15 20.9**	**+1.5**	
	comp=Z,39µm,19.0s									comp=Z,135nm,1.8s							
GZH				LZ					**TPUB**	**Ta-pu**	**27.98**	**65**	*e*P	**P**	**23 15 19.9**	**-0.8**	
	comp=Z,65µm,15.4s									comp=Z,73nm,1.0s							
SBUM	**Sibu**	**21.74**	**118**	⇑P		**P**	**23 14 22.4**	**+0.9**	TPUB				*e*PcP	**PcP**	**23 18 36.4**	**+0.8**	
SBUM	**Sibu**	**21.74**	**118**	*e*P		**P**	**23 14 22.4**	**+0.9**	TPUB				*e*ScP	**ScP**	**23 22 14.4**	**0.0**	
	comp=Z,582nm,1.5s								**PWJI**	**Pagerwojo**	**28.11**	**138**	P	**P**	**23 15 21.5**	**-0.4**	
SBUM				*e*ScP		**ScP**	**23 21 58.1**	**+1.0**		comp=Z,125nm,1.1s							
SBUM				LR		LR			**KBKI**	**Kotabaru**	**28.18**	**124**	P	P	23 15 26.0	+3.5	
	comp=Z,16µm,20.0s									comp=Z,72nm,1.5s,comp=Z,2µm							
KASI	**Kota Agung**	**21.79**	**148**	P		**P**	**23 14 20.3**	**-1.7**	**TWG**	**Pinlang**	**28.24**	**66**	*e*P	**P**	**23 15 24.0**	**+0.9**	
	comp=Z,267nm,1.0s,comp=Z,5µm									comp=Z,471nm,1.1s							
KHET	**Khetri**	**21.87**	**315**	*e*P		**P**	**23 14 23.8**	**+0.9**	TWG				*e*ScP	**ScP**	**23 22 16.1**	**+0.9**	
KHET				AMB		AMB	23 14 25.8		TWG				LR	LR			
	comp=Z,638nm,0.8s									comp=Z,93µm,19.0s							
DDI	**Dehra Dun**	**21.98**	**323**	*e*P		**P**	**23 14 25.6**	**+1.5**	**SSLB**	**Suanglung**	**28.40**	**64**	*e*P	**P**	**23 15 25.2**	**+0.7**	
DDI				AMB		AMB	23 14 30.3			comp=Z,228nm,1.6s							
	comp=Z,3µm,1.0s								SSLB				*e*ScP	**ScP**	**23 22 16.6**	**+0.9**	
HKC	**Hong Kong Obse**	**22.01**	**63**	*i* P		**P**	**23 14 26.0**	**+1.6**	**YULB**	**Yu-li**	**28.59**	**65**	*e*P	**P**	**23 15 27.8**	**+1.6**	
HKC				*i* S		**S**	**23 18 24.0**	**-1.8**		comp=Z,67nm,0.9s							
BTM	**Bintulu**	**22.13**	**115**	⇑P		**P**	**23 14 28.2**	**+2.4**	YULB				*e*PcP	**PcP**	**23 18 36.1**	**-1.0**	
STKI	**Sintang**	**22.42**	**124**	P		**P**	**23 14 31.4**	**+2.5**	YULB				*e*ScP	**ScP**	**23 22 17.5**	**+1.1**	
	comp=Z,288nm,1.3s,comp=Z,7µm								YULB				LR	LR			
KKR	**Kurukshetra**	**22.46**	**321**	*e*P		**P**	**23 14 27.7**	**-1.6**		comp=Z,14µm,21.0s							
KKR				AMB		AMB	23 14 29.4		**DGAR**	**Diego Garcia**	**28.97**	**226**	PFAKE		23 15 40.0	+10	
	comp=Z,806nm,1.4s								DGAR				LR	LR			
ENH	**Enshi**	**22.77**	**39**	*e*P		**P**	**23 14 31.8**	**-0.7**		comp=Z,22µm,20.0s							
	comp=Z,506nm,0.9s								**RCP**	**Roxas**	**29.01**	**90**⇓	*e*P	**P**	**23 15 32.2**	**+2.3**	
ENH				*e*S		**S**	**23 18 38.7**	**-1.0**	**YHNB**	**Yeheng**	**29.03**	**63**	*e*P	**P**	**23 15 29.4**	**-0.7**	
ENH				*e*ScP		**ScP**	**23 22 00.3**	**+0.8**		comp=Z,336nm,1.6s							
ENH				*e*ScS		**ScS**	**23 25 43.9**	**-1.3**	**NACB**	**Ninganchiao**	**29.07**	**64**	PFAKE		23 15 40.0	+10	
SMLA	**Simla**	**23.09**	**323**	*i* P		**P**	**23 14 37.3**	**+1.6**	NACB				LR	LR			
SMLA				AMB		AMB	23 14 40.3			comp=Z,18µm,19.0s							
	comp=Z,4µm,0.8s								**H08S3**	**Diego Garcia H**	**29.10**	**226**	T	T	23 45 21.6		
SMLA				*i* x		x	23 18 44.9			baz=43,slow=76,SNR=1566							
SBJI	**Serang**	**23.16**	**145**	P		P	23 14 46.5	+10	**H08S2**	**Diego Garcia H**	**29.11**	**226**	T	T	23 45 20.9		
CGJI	**Cibinong**	**23.33**	**147**	P		P	23 14 32.9	-5.4		baz=43,slow=76,SNR=1556							
	comp=Z,96nm,0.9s,comp=Z,4µm								**H08S1**	**Diego Carcia H**	**29.12**	**226**	T	T	23 45 23.1		
KKM	**Kota Kinabalu**	**23.88**	**105**	⇑P		**P**	**23 14 45.6**	**+2.0**		baz=43,slow=76,SNR=1314							
KKM	**Kota Kinabalu**	**23.88**	**105**	*e*P		**P**	**23 14 44.0**	**+0.3**	**BLJI**	**Banyuglugur**	**29.12**	**134**	P	**P**	**23 15 32.7**	**+1.8**	
	comp=Z,346nm,1.3s									comp=Z,374nm,1.0s,comp=Z,5µm							
KKM				*e*ScP		**ScP**	**23 22 01.9**	**-0.9**	**MPSI**	**Mapaga**	**29.48**	**114**	P	**P**	**23 15 35.4**	**+1.3**	
KKM				LR		LR				comp=Z,51nm,1.5s,comp=Z,2µm							
	comp=Z,13µm,20.0s								**ABJI**	**Asem Bagus**	**29.61**	**134**	P	**P**	**23 15 37.9**	**+2.7**	
SKJI	**Sukabumi**	**24.13**	**146**	P		P	23 14 55.9	+10		comp=Z,245nm,1.1s,comp=Z,6µm							
KDM	**Kudat**	**24.19**	**103**	⇑P		**P**	**23 14 47.2**	**+0.7**	**TIY**	**Taiyuan**	**29.89**	**32**	*e*P	**P**	**23 15 39.4**	**+1.8**	
PBKI	**Pangkalan Bun**	**24.29**	**129**	P		**P**	**23 14 49.7**	**+2.3**	TIY				pP	**pP**	**23 15 48.8**	**+2.4**	
	comp=Z,428nm,1.4s,comp=Z,19µm								TIY				sP	sP	23 15 57.0	+7.0	
BHJ	**Bhuj**	**24.36**	**298**	*e*P		**P**	**23 14 49.9**	**+1.9**	TIY				S	**S**	**23 20 31.8**	**-1.3**	
BHJ				AMB		AMB	23 14 52.0		TIY				PMZ				
	comp=Z,682nm,0.9s									comp=Z,53nm,1.2s							
DHRM	**DHARAMSHALA**	**24.41**	**324**	*e*P		**P**	**23 14 49.1**	**+0.5**	TIY				LN				
DHRM				AMB		AMB	23 14 52.2			comp=Z,16µm,13.3s							
	comp=Z,954nm,1.1s								TIY				LE				
LEM	**Lembang**	**24.58**	**143**	P		**P**	**23 14 49.1**	**-1.1**		comp=Z,17µm,11.9s							
	comp=Z,184nm,1.2s,comp=Z,6µm								TIY				LZ				
CNJI	**Cibinong**	**24.70**	**145**	P		**P**	**23 14 48.2**	**-2.9**		comp=Z,13µm,12.7s							
	comp=Z,184nm,1.2s,comp=Z,3µm								**TOLI**	**Toli-Toli**	**29.95**	**111**	PFAKE		23 15 50.0	+12	
LZH	**Lanzhou**	**24.76**	**21**	⇑P		**P**	**23 14 53.3**	**+1.6**	TOLI				LR	LR			
LZH				pP		**pP**	**23 15 02.5**	**+2.1**		comp=Z,6µm,21.0s							
LZH				sP		**sP**	**23 15 06.3**	**+2.2**	**PCI**	**Palu**	**30.00**	**116**	P	**P**	**23 15 41.3**	**+2.5**	
LZH				PP		**PnPn**	**23 15 30.1**	**+5.7**		comp=Z,79nm,0.9s,comp=Z,3µm							
LZH				S		**S**	**23 19 11.3**	**-0.9**	**NJ2**	**Nanjing**	**30.16**	**47**	*e*P	**P**	**23 15 42.0**	**+2.0**	
LZH				sS		**sS**	**23 19 26.4**	**-0.2**	NJ2				pP	**pP**	**23 15 48.8**	**+0.1**	
LZH				SS		**SnSn**	**23 20 08.0**	**+7.7**	NJ2				sP	**sP**	**23 15 50.0**	**-2.4**	
LZH				PMZ					NJ2				S	**S**	**23 20 43.0**	**+5.7**	
	comp=Z,670nm,1.0s								NJ2				sS	**sS**	**23 20 55.0**	**+3.2**	
LZH				PMZ					NJ2				PMZ				
	comp=Z,3µm,4.3s									comp=Z,330nm,1.1s							
LZH				LN					NJ2				PMZ				
	comp=Z,16µm,12.9s									comp=Z,2µm,10.4s							
LZH				LE					NJ2				LN				
	comp=Z,20µm,13.4s									comp=Z,43µm,15.7s							
LZH				LZ					NJ2				LE				
	comp=Z,31µm,15.2s									comp=Z,85µm,14.9s							
SDKM	**Sandakan**	**24.93**	**105**	⇑P		**P**	**23 14 54.6**	**+1.3**	NJ2				LZ				
XAN	**Xi'an**	**25.25**	**32**	P		**P**	**23 14 55.4**	**-0.6**		comp=Z,86µm,14.8s							
XAN				pP		**pP**	**23 15 05.8**	**+1.1**	**KSH**	**Kashi**	**30.25**	**333**	P	**P**	**23 15 40.4**	**-0.4**	
XAN				sP		**sP**	**23 15 11.0**	**+2.6**	KSH				pP	**pP**	**23 15 48.1**	**-1.5**	
XAN				S		**S**	**23 19 16.6**	**-3.3**	KSH				PP	**PnPn**	**23 16 37.6**	**-1.6**	
XAN				SS		**SnSn**	**23 20 15.9**	**+3.8**	KSH				PcP	**PcP**	**23 18 37.6**	**-3.5**	
XAN				PMZ					KSH				S	**S**	**23 20 35.8**	**-3.0**	
	comp=Z,150nm,0.7s								KSH				sS	**sS**	**23 20 52.0**	**-1.2**	
XAN				PMZ					KSH				ScS	**ScS**	**23 26 17.3**	**0.0**	
	comp=Z,740nm,7.6s								KSH				PMZ				
XAN				LN						comp=Z,380nm,0.8s							
	comp=Z,13µm,17.4s								KSH				LN				
XAN				LZ						comp=Z,9µm,12.3s							
	comp=Z,5µm,21.5s								KSH				LE				
CISI	**Cisompet, Garu**	**25.29**	**144**	P		**P**	**23 14 52.6**	**-3.9**		comp=Z,10µm,15.6s							
	comp=Z,128nm,1.1s,comp=Z,5µm								**YOJ**	**Yonaguni jima**	**30.39**	**64**	PFAKE		23 15 50.0	+7.9	
CISI	**Cisompet, Garu**	**25.29**	**144**	*e*P		**P**	**23 14 55.6**	**-0.9**	YOJ				LR	LR			
	comp=Z,404nm,1.6s									comp=Z,16µm,20.0s							
CISI				*e*PcP		**PcP**	**23 18 29.0**	**-0.3**	**KBL**	**Kabul**	**30.42**	**318**	*e*P	**P**	**23 15 43.2**	**+0.7**	
CISI				*e*ScP		**ScP**	**23 22 05.0**	**-1.6**	KBL				pmax	pmax			
CISI				LR		LR				comp=Z,211nm,0.9s							
	comp=Z,19µm,18.0s								KBL				MLR	MLR			
COCO	**West Island**	**25.50**	**171**	PFAKE			23 15 10.0	+12		comp=Z,21µm,20.0s							
COCO				LR		LR			**KBL**	**Kabul**	**30.42**	**318**	*e*P	**P**	**23 15 43.2**	**+0.7**	
	comp=Z,15µm,19.0s									comp=Z,211nm,0.9s							
KPJI	**Karang Pucung**	**25.77**	**141**	P		**P**	**23 14 59.6**	**-1.2**	KBL				LR	LR			
	comp=Z,192nm,1.2s,comp=Z,5µm									comp=Z,21µm,20.0s							
TSM	**Tawau**	**26.03**	**108**	⇑P		**P**	**23 15 04.0**	**+0.8**	**WMQ**	**Urumqi**	**30.86**	**352**	P	**P**	**23 15 47.8**	**+1.7**	
WHN	**Wuhan**	**26.14**	**45**	P		**P**	**23 15 03.5**	**-0.5**	WMQ				pP	**pP**	**23 15 55.8**	**+0.9**	
WHN				S		**S**	**23 19 32.1**	**-1.8**	WMQ				sP	**sP**	**23 15 58.4**	**-0.1**	
WHN				LN					WMQ				PP	**PnPn**	**23 16 48.4**	**+1.3**	
	comp=Z,82µm,14.3s								WMQ				PcP	**PcP**	**23 18 43.8**	**+1.2**	
WHN				LE					WMQ				S	**S**	**23 20 48.6**	**+0.5**	
	comp=Z,19µm,12.4s								WMQ				sS	**sS**	**23 21 00.6**	**-2.0**	
WHN				LZ					WMQ				PcS	**PcS**	**23 22 23.3**	**-3.2**	
	comp=Z,76µm,16.9s								WMQ				SS	**SnSn**	**23 22 31.1**	**+2.3**	
SMRI	**Semarang**	**26.50**	**138**	P		**P**	**23 15 09.2**	**+1.8**	WMQ				ScS	**ScS**	**23 26 21.0**	**+1.0**	
	comp=Z,882nm,1.1s,comp=Z,13µm								WMQ				PMZ				
SMRI	**Semarang**	**26.50**	**138**	*e*P		**P**	**23 15 08.5**	**+1.1**		comp=Z,130nm,1.6s							
	comp=Z,976nm,1.1s								WMQ				PMZ				
SZP	**Santa**	**26.73**	**77**	*e*P		**P**	**23 15 07.0**	**-2.5**		comp=Z,2µm,5.2s							
	comp=Z,1µm,2.3s								WMQ				LN				
SZP				LR		LR				comp=Z,13µm,20.0s							
	comp=Z,17µm,18.0s								WMQ				LE				
QZH	**Quanzhou**	**26.73**	**60**⇑	*i*P		**P**	**23 15 10.6**	**+1.1**		comp=Z,11µm,17.5s							
QZH				S		**S**	**23 19 42.0**	**-1.4**	WMQ				LZ				
QZH				PMZ						comp=Z,14µm,25.0s							
	comp=Z,190nm,1.0s								**TTSI**	**Tana Toraja**	**31.06**	**119**	P	**P**	**23 15 51.2**	**+3.1**	
QZH				PMZ						comp=Z,126nm,1.3s,comp=Z,4µm							
	comp=Z,3µm,10.7s								**BTO**	**Baotou**	**31.08**	**25**	*e*P	**P**	**23 15 48.5**	**+0.4**	
QZH				LN					**MRSI**	**Marisa**	**31.26**	**112**	P	**P**	**23 15 52.2**	**+2.4**	
	comp=Z,29µm,15.5s									comp=Z,90nm,0.7s,comp=Z,2µm							
QZH				LE					**SSE**	**Sheshan**	**31.40**	**51**	P	**P**	**23 15 52.6**	**+1.7**	
	comp=Z,26µm,15.4s								SSE				pP	**pP**	**23 16 01.3**	**+1.6**	
QZH				LZ					SSE				PcP	**PcP**	**23 18 47.5**	**+3.4**	
	comp=Z,50µm,16.9s								SSE				S	**S**	**23 20 53.3**	**-3.3**	
GTA	**Gaotai**	**26.78**	**12**	⇑P		**P**	**23 15 11.5**	**+1.6**	SSE				PMZ				
GTA				pP		**pP**	**23 15 18.9**	**+0.3**		comp=Z,68nm,0.7s							
GTA				sP		**sP**	**23 15 22.3**	**0.0**	SSE				PMZ				
GTA				PcP		**PcP**	**23 18 34.3**	**+1.8**		comp=Z,320nm,3.8s							
GTA				S		**S**	**23 19 45.8**	**+1.7**	SSE				LN				
GTA				sS		**sS**	**23 19 57.5**	**-1.0**		comp=Z,18µm,13.5s							
GTA				SS		SnSn	23 20 59.8	+10	SSE				LE				
GTA				ScP		**ScP**	**23 22 12.4**	**+1.8**		comp=Z,21µm,14.0s							
GTA				PcS		**PcS**	**23 22 14.6**	**+0.7**	SSE				LZ				
GTA				ScS		**ScS**	**23 26 01.3**	**-0.1**		comp=Z,35µm,14.7s							
GTA				PMZ					**TIA**	**Tai'an**	**31.49**	**39**⇓	P	**P**	**23 15 52.9**	**+1.3**	
	comp=Z,290nm,1.3s								TIA				S	**S**	**23 20 58.3**	**+0.4**	
GTA				PMZ					TIA				PMZ				
	comp=Z,2µm,7.3s									comp=Z,130nm,1.0s							
GTA				LN					TIA				PMZ				
	comp=Z,8µm,21.9s									comp=Z,2µm,8.0s							
GTA				LE					TIA				LN				
	comp=Z,11µm,17.6s									comp=Z,20µm,18.0s							
	comp=Z,17µm,20.0s								TIA				LE				
TIA				LZ						comp=Z,12µm,18.0s							
	comp=Z,12µm,18.0s								**SPSI**	**Sidrap Palu**	**31.51**	**121**	P	**P**	**23 15 54.6**	**+2.6**	
SPSI	**Sidrap Palu**	**31.51**	**121**	P		**P**	**23 15 54.6**	**+2.6**		comp=Z,76nm,1.5s,comp=Z,2µm							
	comp=Z,76nm,1.5s,comp=Z,2µm								**APSI**	**Ampana**	**31.61**	**114**	P	P	23 16 00.1	+7.2	
APSI	**Ampana**	**31.61**	**114**	P		P	23 16 00.1	+7.2		comp=Z,267nm,1.3s,comp=Z,4µm							
	comp=Z,267nm,1.3s,comp=Z,4µm								**HHC**	**Hu-ho-hao-te**	**31.95**	**27**⇑	*i*P	**P**	**23 15 56.9**	**+1.2**	
HHC	**Hu-ho-hao-te**	**31.95**	**27**⇑	*i*P		**P**	**23 15 56.9**	**+1.2**	HHC				pP	**pP**	**23 16 04.5**	**0.0**	
HHC				pP		**pP**	**23 16 04.5**	**0.0**	HHC				S	**S**	**23 21 03.8**	**-1.4**	
HHC				S		**S**	**23 21 03.8**	**-1.4**	HHC				sS	**sS**	**23 21 20.8**	**+1.1**	
HHC				sS		**sS**	**23 21 20.8**	**+1.1**	HHC				SS	**SnSn**	**23 22 59.5**	**+4.2**	
HHC				SS		**SnSn**	**23 22 59.5**	**+4.2**	HHC				PMZ				
HHC				PMZ						comp=Z,150nm,0.9s							
	comp=Z,150nm,0.9s								HHC				PMZ				
HHC				PMZ						comp=Z,1µm,4.8s							
	comp=Z,1µm,4.8s								HHC				LN				
HHC				LN						comp=Z,11µm,12.6s							
	comp=Z,11µm,12.6s								HHC				LE				
HHC				LE						comp=Z,12µm,12.3s							
	comp=Z,12µm,12.3s								HHC				LZ				
HHC				LZ						comp=Z,9µm,12.6s							
	comp=Z,9µm,12.6s								**KAPI**	**Kappang**	**32.08**	**123**	P	**P**	**23 15 56.9**	**-0.1**	
KAPI	**Kappang**	**32.08**	**123**	P		**P**	**23 15 56.9**	**-0.1**		comp=Z,11nm,0.6s,baz=308,slow=15,SNR=6.3							
	comp=Z,11nm,0.6s,baz=308,slow=15,SNR=6.3								KAPI				PcP	**PcP**	**23 18 46.9**	**+0.6**	
KAPI				PcP		**PcP**	**23 18 46.9**	**+0.6**		comp=Z,20nm,0.6s,baz=275,slow=3.1,SNR=4.5							
	comp=Z,20nm,0.6s,baz=275,slow=3.1,SNR=4.5								KAPI				ScP	**ScP**	**23 22 27.9**	**0.0**	
KAPI				ScP		**ScP**	**23 22 27.9**	**0.0**		comp=Z,6.0nm,0.6s,baz=267,slow=5.9,SNR=4.2							
	comp=Z,6.0nm,0.6s,baz=267,slow=5.9,SNR=4.2								KAPI				LR	LR	23 30 15.9		
KAPI				LR		LR	23 30 15.9			comp=Z,5µm,19.2s,baz=253,slow=39							
	comp=Z,5µm,19.2s,baz=253,slow=39								**KAPI**	**Kappang**	**32.08**	**123**	P	**P**	**23 15 58.0**	**+1.0**	
KAPI	**Kappang**	**32.08**	**123**	P		**P**	**23 15 58.0**	**+1.0**		SNR=6.3							
	SNR=6.3								**KAPI**	**Kappang**	**32.08**	**123**	*e*P	**P**	**23 15 57.2**	**+0.1**	
KAPI	**Kappang**	**32.08**	**123**	*e*P		**P**	**23 15 57.2**	**+0.1**		comp=Z,66nm,1.8s							
	comp=Z,66nm,1.8s								KAPI				PcP	**PcP**	**23 18 46.9**	**+0.6**	
KAPI				PcP		**PcP**	**23 18 46.9**	**+0.6**	KAPI				ScP	**ScP**	**23 22 27.9**	**0.0**	
KAPI				ScP		**ScP**	**23 22 27.9**	**0.0**	**ULHL**	**Ulahol**	**32.42**	**336**	P	**P**	**23 16 01.3**	**+1.3**	
ULHL	**Ulahol**	**32.42**	**336**	P		**P**	**23 16 01.3**	**+1.3**		SNR=86							
	SNR=86								**BKSI**	**Bulukumba**	**32.56**	**123**	P	**P**	**23 16 01.4**	**+0.2**	
BKSI	**Bulukumba**	**32.56**	**123**	P		**P**	**23 16 01.4**	**+0.2**		comp=Z,71nm,0.9s,comp=Z,2µm							
	comp=Z,71nm,0.9s,comp=Z,2µm								**LUWI**	**Luwuk**	**32.67**	**113**	P	**P**	**23 16 05.4**	**+3.2**	
LUWI	**Luwuk**	**32.67**	**113**	P		**P**	**23 16 05.4**	**+3.2**		comp=Z,402nm,0.9s,comp=Z,7µm							
	comp=Z,402nm,0.9s,comp=Z,7µm								**LUWI**	**Luwuk**	**32.67**	**113**	*e*P	**P**	**23 16 03.0**	**+0.8**	
LUWI	**Luwuk**	**32.67**	**113**	*e*P		**P**	**23 16 03.0**	**+0.8**		comp=Z,571nm,1.1s							
	comp=Z,571nm,1.1s								LUWI				LR	LR			
LUWI				LR		LR				comp=Z,7µm,22.0s							
	comp=Z,7µm,22.0s								**KZA**	**Kyzart**	**32.68**	**335**	P	**P**	**23 16 04.0**	**+1.5**	
KZA	**Kyzart**	**32.68**	**335**	P		**P**	**23 16 04.0**	**+1.5**		SNR=144							
	SNR=144								**AAA**	**Alma-Ata**	**33.04**	**338**	*e*P	**P**	**23 16 07.2**	**+2.0**	
AAA	**Alma-Ata**	**33.04**	**338**	*e*P		**P**	**23 16 07.2**	**+2.0**	AAA				*e*S	**S**	**23 21 24.6**	**+2.6**	
AAA				*e*S		**S**	**23 21 24.6**	**+2.6**	AAA				pmax	pmax			
AAA				pmax		pmax				comp=Z,4µm,2.0s							
	comp=Z,4µm,2.0s								AAA				smax	smax			
AAA				smax		smax				comp=E,5µm,5.4s							
	comp=E,5µm,5.4s								AAA				MLR	MLR			
AAA				MLR		MLR				comp=Z,10µm,18.0s							
	comp=Z,10µm,18.0s								**KMSI**	**Cibinong**	**33.08**	**110**	P	**P**	**23 16 08.3**	**+2.5**	
KMSI	**Cibinong**	**33.08**	**110**	P		**P**	**23 16 08.3**	**+2.5**		comp=Z,477nm,1.3s,comp=Z,8µm							
	comp=Z,477nm,1.3s,comp=Z,8µm								**UCH**	**Uchtor**	**33.11**	**334**	P	**P**	**23 16 07.8**	**+1.5**	
UCH	**Uchtor**	**33.11**	**334**	P		**P**	**23 16 07.8**	**+1.5**		SNR=104							
	SNR=104								**TKM2**	**Tokmak 2**	**33.25**	**336**	P	**P**	**23 16 08.5**	**+1.2**	
TKM2	**Tokmak 2**	**33.25**	**336**	P		**P**	**23 16 08.5**	**+1.2**		SNR=110							
	SNR=110								**TKM2**	**Tokmak 2**	**33.25**	**336**	*e*P	**P**	**23 16 08.4**	**+1.2**	
TKM2	**Tokmak 2**	**33.25**	**336**	*e*P		**P**	**23 16 08.4**	**+1.2**	TKM2				pmax	pmax			
TKM2				pmax		pmax				comp=Z,128nm,0.9s							
	comp=Z,128nm,0.9s								TKM2				MLR	MLR			
TKM2				MLR		MLR				comp=Z,13µm,20.0s							
	comp=Z,13µm,20.0s								**TKM2**	**Tokmak 2**	**33.25**	**336**	*e*P	**P**	**23 16 08.3**	**+1.1**	
TKM2	**Tokmak 2**	**33.25**	**336**	*e*P		**P**	**23 16 08.3**	**+1.1**		comp=Z,128nm,0.9s							
	comp=Z,128nm,0.9s								TKM2				LR	LR			
TKM2				LR		LR				comp=Z,13µm,20.0s							
	comp=Z,13µm,20.0s								**KBK**	**Karagaybulak**	**33.28**	**335**	P	**P**	**23 16 09.4**	**+1.9**	
KBK	**Karagaybulak**	**33.28**	**335**	P		**P**	**23 16 09.4**	**+1.9**		SNR=186							
	SNR=186								**BSSI**	**Bau Bau, Buton**	**33.33**	**124**	P	**P**	**23 16 07.9**	**0.0**	
BSSI	**Bau Bau, Buton**	**33.33**	**124**	P		**P**	**23 16 07.9**	**0.0**		comp=Z,214nm,1.4s,comp=Z,4µm							
	comp=Z,214nm,1.4s,comp=Z,4µm								**AML**	**Almayashu**	**33.38**	**333**	P	**P**	**23 16 10.7**	**+2.1**	
AML	**Almayashu**	**33.38**	**333**	P		**P**	**23 16 10.7**	**+2.1**		SNR=10							
	SNR=10								**AAK**	**Ala-Archa**	**33.45**	**335**	P	**P**	**23 16 11.0**	**+2.0**	
AAK	**Ala-Archa**	**33.45**	**335**	P		**P**	**23 16 11.0**	**+2.0**		SNR=89							
	SNR=89								**AAK**	**Ala-Archa**	**33.45**	**335**	P	P	23 16 23.1	+14	
AAK	**Ala-Archa**	**33.45**	**335**	P		P	23 16 23.1	+14		comp=Z,140nm,1.0s,baz=124,slow=8.4,SNR=244							
	comp=Z,140nm,1.0s,baz=124,slow=8.4,SNR=244								AAK				S	S	23 21 39.6	+11	
AAK				S		S	23 21 39.6	+11		comp=Z.5.1nm,0.8s,baz=6.8,slow

ARQ	**Araqi**	**36.06**	**292**		P		**P**	**23 16 34.3**	**+2.8**
	SNR=34								
TNTI	**Ternate**	**36.13**	**107**		P		**P**	**23 16 33.5**	**+1.3**
	comp=Z,89nm,1.1s								
TNTI	**Ternate**	**36.13**	**107**		*e*P		**P**	**23 16 32.6**	**+0.4**
	comp=Z,87nm,1.0s								
TNTI					*e*ScP		**ScP**	**23 22 39.6**	**-2.6**
MMRI	**Maumere**	**36.18**	**125**		P		**P**	**23 16 33.6**	**+1.0**
	comp=Z,193nm,1.2s,comp=Z,3μm								
MMRI	**Maumere**	**36.18**	**125**		*e*P		**P**	**23 16 32.6**	**-0.1**
	comp=Z,170nm,1.0s								
MMRI					LR		LR		
	comp=Z,8μm,20.0s								
KSHUK	**Heuksando**	**36.25**	**48**	⇑	P		P	23 16 27.4	-5.7
	SNR=16								
SONM	**Songino Array**	**36.27**	**15**		P		**P**	**23 16 33.8**	**+0.6**
	comp=Z,136nm,1.0s,baz=199,slow=8.2,SNR=333								
SONM					PcP		**PcP**	**23 18 58.9**	**+1.1**
	comp=Z,33nm,0.7s,baz=208,slow=4.5,SNR=6.7								
SONM					ScP		**ScP**	**23 22 44.0**	**+1.8**
	comp=Z,15nm,0.9s,baz=187,slow=3.2,SNR=7.5								
SONM					LR		LR	23 33 57.2	
	comp=Z,15μm,21.6s,baz=190,slow=40								
SONM					P3KPbc			23 47 09.3	
	comp=Z,0.9nm,0.9s,baz=11,slow=3.8,SNR=4.6								
SONM	**Songino Array**	**36.27**	**15**		P		**P**	**23 16 33.8**	**+0.6**
SONM					PcP		**PcP**	**23 18 58.9**	**+1.1**
SONM					ScP		**ScP**	**23 22 44.0**	**+1.8**
SONM					*e*			23 47 09.3	
SONA1	**Songino Array**	**36.28**	**15**		*e*P		**P**	**23 16 34.4**	**+1.1**
SONA1					*e*PcP		**PcP**	**23 18 58.9**	**+1.1**
SONA1					*e*ScP		**ScP**	**23 22 42.8**	**+0.4**
UOSS	**Wadi Hilu**	**36.64**	**294**		P		**P**	**23 16 38.9**	**+2.4**
	comp=Z,2μm,1.2s,SNR=55								
HATD	**Hatta, Dubai**	**36.68**	**294**	⇑	P		P	23 16 40.0	+3.2
HATD	**Hatta, Dubai**	**36.68**	**294**	⇑	*i*P		**P**	**23 16 39.7**	**+2.9**
	SNR=105								
ASHO	**Ashiyiah**	**36.72**	**294**	⇓	P		**P**	**23 16 40.3**	**+3.0**
ASHO	**Ashiyiah**	**36.72**	**294**	⇑	*i*P		**P**	**23 16 40.2**	**+3.0**
	SNR=141								
BANOM	**Banah**	**36.77**	**296**	⇑	P		**P**	**23 16 39.8**	**+2.3**
BANOM	**Banah**	**36.77**	**296**	⇑	*i*P		**P**	**23 16 39.9**	**+2.3**
	SNR=38								
ITEG	**Tejag**	**36.94**	**308**		*e*P		**P**	**23 16 41.0**	**+1.9**
KSWAN	**Wando**	**37.04**	**49**	⇓	P		**P**	**23 16 40.4**	**+0.8**
NAZ	**Nazwa, Dubai**	**37.13**	**294**	⇑	P		**P**	**23 16 43.1**	**+2.4**
NAZ	**Nazwa, Dubai**	**37.13**	**294**	⇓	*i*P		**P**	**23 16 43.1**	**+2.4**
	SNR=90								
FAQ	**Al Faqa, Dubai**	**37.15**	**294**		*i* P		**P**	**23 16 43.2**	**+2.4**
	SNR=67								
ASUD	**Al Ashush, Dub**	**37.36**	**293**	⇑	P		**P**	**23 16 45.6**	**+3.0**
ASUD	**Al Ashush, Dub**	**37.36**	**293**	⇑	*i*P		**P**	**23 16 45.6**	**+3.0**
	SNR=248								
KSBAR	**Backryungdo**	**37.41**	**43**	⇑	P		**P**	**23 16 42.4**	**-0.4**
	SNR=5.9								
IMYA	**Miami**	**37.49**	**314**		*e*P		**P**	**23 16 45.3**	**+1.5**
NLAI	**Namlea**	**37.51**	**113**		P		P	23 16 57.4	+13
RBK	**Rabkut**	**37.69**	**282**		P		**P**	**23 16 48.1**	**+2.6**
	SNR=5.6								
KSJEU	**Jeongeup**	**37.70**	**48**	⇓	P		**P**	**23 16 45.9**	**+0.6**
	SNR=42								
KSGUS	**GUNSAN**	**37.85**	**47**		P		**P**	**23 16 47.0**	**+0.5**
	SNR=6.7								
IMOG	**Moghan**	**37.91**	**313**		*e*P		**P**	**23 16 48.8**	**+1.3**
ISRO	**Mashad**	**37.92**	**313**		*e*P		**P**	**23 16 49.1**	**+1.8**
KSSES	**Seosan**	**37.98**	**46**	⇑	P		**P**	**23 16 47.7**	**+0.1**
	SNR=23								
ZAK	**Zakamensk**	**38.00**	**11**		*i* P		**P**	**23 16 48.6**	**+0.8**
ZAK					*e*			23 19 02.0	
ZAK					*e*			23 22 30.1	
ZAK					pmax		pmax		
	comp=Z,81nm,1.7s								
IPAY	**Payeh**	**38.32**	**313**		*e*P		**P**	**23 16 52.6**	**+1.7**
TJN	**Taejon**	**38.42**	**47**	⇓	*i*P		**P**	**23 16 51.6**	**+0.2**
KSTEJ	**Daejeon**	**38.43**	**47**		P		**P**	**23 16 52.3**	**+0.9**
	SNR=12								
INCN	**Inchon**	**38.45**	**45**		P		**P**	**23 16 52.2**	**+0.5**
	SNR=8.4								
INCN	**Inchon**	**38.45**	**45**		*e*P		**P**	**23 16 51.4**	**-0.3**
	comp=Z,135nm,1.0s								
INCN					*e*S		**S**	**23 22 50.0**	**+4.9**
INCN					LR		LR		
	comp=Z,20μm,20.0s								
SOEI	**Soe**	**38.46**	**125**		P		**P**	**23 16 50.5**	**-1.6**
	comp=Z,138nm,1.0s,comp=Z,2μm								
SOEI	**Soe**	**38.46**	**125**		*e*P		**P**	**23 16 50.7**	**-1.4**
	comp=Z,102nm,0.8s								
SOEI					LR		LR		
	comp=Z,15μm,21.0s								
ABTO	**Aybut**	**38.55**	**281**		P		**P**	**23 16 55.8**	**+3.0**
	SNR=10								
KSCEA	**Cheonan**	**38.56**	**46**	⇓	P		**P**	**23 16 53.0**	**+0.5**
	SNR=25								
IAKL	**Akhelmad**	**38.56**	**313**		*e*P		**P**	**23 16 54.0**	**+1.1**
KSSWO	**Suwon**	**38.57**	**46**	⇓	P		**P**	**23 16 53.1**	**+0.5**
	SNR=9.9								
KSCPR	**CHUPUNGNYEONG**	**38.79**	**48**	⇑	P		**P**	**23 16 54.8**	**+0.3**
	SNR=24								
IKRD	**Kardeh**	**38.81**	**313**		*e*P		P	23 16 51.3	-3.7
MOY	**Mondy**	**38.89**	**8**		*e*P		**P**	**23 16 57.0**	**+1.7**
MOY					pmax		pmax		
	comp=Z,187nm,2.3s								
KSICN	**Icheon**	**38.90**	**46**	⇓	P		**P**	**23 16 55.7**	**+0.3**
	SNR=9.0								
SNY	**Shenyang**	**38.93**	**37**	⇑	P		**P**	**23 16 56.3**	**+0.8**
SNY					S		**S**	**23 22 46.8**	**-5.3**
SNY					PMZ				
	comp=Z,130nm,1.0s								
SNY					LN				
	comp=Z,14μm,16.5s								
SNY					LE				
	comp=Z,21μm,16.9s								
SNY					LZ				
	comp=Z,19μm,15.5s								
YNCB	**YEONCHEON**	**38.93**	**44**		P		**P**	**23 16 55.9**	**+0.3**
	SNR=61								
YNCB				⇓	S		**S**	**23 22 50.6**	**-1.7**
KSCHJ	**Chungju**	**39.09**	**47**	⇑	P		**P**	**23 16 57.4**	**+0.4**
	SNR=6.1								
KURBB	**Kurchatov Arra**	**39.16**	**345**		P		**P**	**23 16 58.0**	**+0.7**
	comp=Z,174nm,0.8s,baz=163,slow=7.9,SNR=802								
KURK	**Kurchatov**	**39.22**	**345**		P		**P**	**23 16 58.5**	**+0.6**
	comp=Z,2μm,0.9s,SNR=64								
KURK	**Kurchatov**	**39.22**	**345**		*e*P		**P**	**23 16 58.8**	**+0.9**
KURK					pmax		pmax		
	comp=Z,404nm,1.1s								
KURK					MLR		MLR		
	comp=Z,23μm,20.0s								
KURK	**Kurchatov**	**39.22**	**345**		P		**P**	**23 16 58.9**	**+0.9**
	SNR=205								
KURK	**Kurchatov**	**39.22**	**345**		*e*P		**P**	**23 16 58.8**	**+0.9**
	comp=Z,404nm,1.1s								
KURK					LR		LR		
	comp=Z,23μm,20.0s								
KSAR	**Wonju Array Be**	**39.30**	**46**		P		**P**	**23 16 58.9**	**+0.2**
KSAR								23 22 53.7	
KSAR	**Wonju Array Be**	**39.30**	**46**		P		**P**	**23 16 58.9**	**+0.2**
KSAR					ScP		**ScP**	**23 22 53.7**	**0.0**
ISFR	**Sfrayin**	**39.31**	**313**		*e*P		**P**	**23 17 00.8**	**+1.7**
TLY	**Talaya**	**39.32**	**10**		P		**P**	**23 17 00.6**	**+1.9**
	comp=Z,65nm,0.8s,baz=206,slow=7.7,SNR=167								
TLY	**Talaya**	**39.32**	**10**		P		**P**	**23 17 00.6**	**+1.9**
KS01	**Wonju Array Si**	**39.32**	**46**		*e*P		**P**	**23 16 58.8**	**-0.2**
KS01					*e*PcP		**PcP**	**23 19 07.6**	**+0.4**
KS01					*e*ScP		**ScP**	**23 22 53.6**	**-0.3**
KSRS	**Korea Array**	**39.33**	**46**		P		**P**	**23 16 58.9**	**-0.1**
	comp=Z,65nm,0.8s,baz=244,slow=9.0,SNR=169								
KSRS					ScP		**ScP**	**23 22 53.7**	**-0.2**
	comp=Z,8.3nm,0.7s,baz=232,slow=3.3,SNR=15								
KSRS					LR		LR	23 35 31.6	
	comp=Z,20μm,18.0s,baz=240,slow=40								
KSRS	**Korea Array**	**39.33**	**46**		P		**P**	**23 16 58.9**	**-0.1**
KSRS								23 22 53.7	
KSRS					pmax		pmax		
	comp=Z,65nm,0.8s								
KSRS					pmax		pmax		
	comp=N,8.0nm,0.7s								
KSRS					MLR		MLR		
	comp=Z,20μm,18.0s								
JNU	**Nakatsue**	**39.72**	**54**		P		**P**	**23 17 03.3**	**+0.9**
	comp=Z,55nm,0.9s,baz=235,slow=2.4,SNR=22								
JNU					ScP		**ScP**	**23 22 55.5**	**-0.1**
	comp=Z,49nm,1.1s,baz=128,slow=1.0,SNR=7.8								
JNU	**Nakatsue**	**39.72**	**54**		*e*P		**P**	**23 17 03.3**	**+0.9**
	comp=Z,135nm,1.1s								
JNU					*e*ScP		**ScP**	**23 22 55.5**	**-0.1**
	comp=Z,12μm,18.0s								
JNU					LR		LR		
ISHV	**Shirvan**	**39.74**	**314**		*e*P		**P**	**23 17 04.8**	**+2.0**
IRK	**Irkutsk**	**39.97**	**11**		*e*P		**P**	**23 17 05.4**	**+1.3**
IRK					*e*			23 18 46.8	
IRK					*e*			23 23 01.9	
IRK					*e*			23 27 07.2	
IRK					pmax		pmax		
	comp=Z,333nm,1.8s								
ZAA0	**Zalesovo Array**	**41.17**	**353**		*e*P		**P**	**23 17 14.2**	**+0.2**
ZAA0					*e*ScP		**ScP**	**23 22 59.9**	**-0.9**
ZALV	**Zalesovo Beam**	**41.17**	**353**		P		**P**	**23 17 14.4**	**+0.4**
	comp=Z,108nm,0.8s,baz=176,slow=8.5,SNR=462								
ZALV					ScP		**ScP**	**23 23 00.5**	**-0.2**
	comp=Z,6.8nm,0.8s,baz=202,slow=3.6,SNR=3.6								
ZALV					LR		LR	23 38 05.5	
	comp=Z,14μm,21.0s,baz=181,slow=42								
ZALV					PKPPKP		**P'P'df**	**23 49 25.3**	**-4.5**
	comp=Z,0.8nm,0.6s,baz=316,slow=4.1,SNR=3.6								
ZALV	**Zalesovo Beam**	**41.17**	**353**		P		**P**	**23 17 14.4**	**+0.4**
ZALV					ScP		**ScP**	**23 23 00.5**	**-0.2**
ZALV					P'P'			23 49 25.3	
CN2	**Changchun**	**41.23**	**36**		*e*P		**P**	**23 17 15.3**	**+0.7**
CN2					*e*S		S	23 23 16.8	-10
CN2					PMZ				
	comp=Z,200nm,1.0s								
CN2					LN				
	comp=Z,11μm,17.0s								
CN2					LE				
	comp=Z,12μm,17.0s								
CN2					LZ				
	comp=Z,12μm,19.0s								
MSEY	**Mahe Island**	**41.35**	**247**		*e*P		**P**	**23 17 17.7**	**+1.6**
MSEY					pmax		pmax		
	comp=Z,473nm,2.0s								
MSEY					MLR		MLR		
	comp=Z,18μm,20.0s								
MSEY	**Mahe Island**	**41.35**	**247**		*e*P		**P**	**23 17 17.7**	**+1.6**
	comp=Z,473nm,2.0s								
MSEY					LR		LR		
	comp=Z,18μm,20.0s								
IKAZ	**Kazeroun**	**41.51**	**300**		*e*P		**P**	**23 17 19.3**	**+1.7**
FAKI	**Fak Fak**	**42.04**	**110**		P		**P**	**23 17 23.0**	**+1.2**
	comp=Z,99nm,1.5s,comp=Z,2μm								
FAKI	**Fak Fak**	**42.04**	**110**		*e*P		**P**	**23 17 22.9**	**+1.2**
	comp=Z,103nm,1.1s								
CIT	**Chita**	**42.08**	**19**		*e*P		**P**	**23 17 22.3**	**+0.8**
CIT					*e*			23 17 35.3	
CIT					*e*			23 19 06.3	
CIT					*e*			23 19 16.8	
CIT					pmax		pmax		
	comp=Z,409nm,1.8s								
IGLO	**Ghaloghah**	**42.09**	**310**		*e*P		**P**	**23 17 23.8**	**+1.7**
HIA	**Hailar**	**42.13**	**26**		*e*P		**P**	**23 17 22.5**	**+0.5**
HIA					pmax		pmax		
	comp=Z,628nm,2.1s								
HIA					MLR		MLR		
	comp=Z,8μm,18.0s								
HIA	**Hailar**	**42.13**	**26**		*e*P		**P**	**23 17 22.5**	**+0.5**
	comp=Z,628nm,2.1s								
HIA					*e*ScP		**ScP**	**23 23 05.2**	**+0.4**
HIA					LR		LR		
	comp=Z,8μm,18.0s								
NVS	**Novosibirsk**	**42.26**	**352**	⇑	*i*P		**P**	**23 17 22.4**	**-0.4**
NVS					*e*			23 19 04.0	
NVS					*e*S		**S**	**23 23 37.0**	**-4.3**
NVS					pmax		pmax		
	comp=N,139nm,1.4s								
NVS					pmax		pmax		
	comp=E,84nm,1.4s								
NVS					pmax		pmax		
	comp=Z,197nm,1.4s								
NVS					smax		smax		
	comp=N,212nm,2.6s								
NVS					smax		smax		
	comp=E,123nm,2.1s								
IFIR	**Firoozkooh**	**42.58**	**309**		*e*P		**P**	**23 17 27.9**	**+1.8**
IALA	**Alasht**	**42.69**	**309**		*e*P		**P**	**23 17 29.5**	**+2.4**
KRAR	**Krasnoyarsk**	**42.72**	**360**		*c i*P		**P**	**23 17 27.9**	**+1.3**
MUKL	**Al Mukalla**	**42.74**	**277**		*e*P		**P**	**23 17 29.5**	**+2.1**
MBWA	**Marble Bar**	**43.03**	**142**		P		**P**	**23 17 29.0**	**-0.6**
	SNR=15								
MBWA	**Marble Bar**	**43.03**	**142**		*e*P		**P**	**23 17 28.4**	**-1.1**
	comp=E,158nm,1.0s								
MBWA					*e*ScP		**ScP**	**23 23 07.3**	**-1.4**
MBWA					LR		LR		
	comp=Z,8μm,21.0s								
IDMV	**Damavand**	**43.10**	**308**		*e*P		**P**	**23 17 32.4**	**+2.0**
IVRN	**Varamin**	**43.13**	**307**		*e*P		**P**	**23 17 32.6**	**+2.2**
RKPI	**Ransiki, Papua**	**43.30**	**107**		P		P	23 17 50.1	+18
IAFJ	**Afjeh**	**43.44**	**309**		*e*P		**P**	**23 17 35.1**	**+1.9**
BRVK	**Borovoye**	**43.71**	**340**		P		**P**	**23 17 35.4**	**+0.7**
	comp=Z,1μm,0.8s,SNR=97								
BRVK	**Borovoye**	**43.71**	**340**		*e*P		**P**	**23 17 34.8**	**+0.1**
BRVK					*e*			23 19 22.6	
BRVK					pmax		pmax		
	comp=Z,142nm,0.9s								
BRVK					MLR		MLR		
	comp=Z,7μm,20.0s								
BRVK	**Borovoye**	**43.71**	**340**		P		**P**	**23 17 35.2**	**+0.6**
	SNR=89								
BRVK	**Borovoye**	**43.71**	**340**		*e*P		**P**	**23 17 34.8**	**+0.1**
	comp=Z,142nm,0.9s								
BRVK					*e*PcP		**PcP**	**23 19 22.6**	**+1.2**
BRVK					LR		LR		
	comp=Z,7μm,20.0s								
MDJ	**Mudanjiang**	**44.12**	**38**		P		**P**	**23 17 38.9**	**+0.8**
MDJ					pP		**pP**	**23 17 45.0**	**-2.1**
MDJ					S		**S**	**23 24 09.6**	**+0.6**
MDJ					PMZ				
	comp=Z,44nm,1.4s								
MDJ					PMZ				
	comp=Z,1μm,7.8s								
MDJ					LN				
	comp=Z,10μm,21.8s								
MDJ					LE				
	comp=Z,6μm,25.2s								
MDJ					LZ				
	comp=Z,10μm,17.2s								
MDJ	**Mudanjiang**	**44.12**	**38**		*e*P		**P**	**23 17 38.5**	**+0.4**
	comp=Z,893nm,3.0s								
MDJ					LR		LR		
	comp=Z,8μm,20.0s								
IMHD	**Mahdasht**	**44.18**	**308**		*e*P		**P**	**23 17 40.6**	**+1.7**
IRAZ	**Razeghan**	**44.66**	**307**		*e*P		**P**	**23 17 44.9**	**+2.1**
VLA	**Vladivostok**	**44.74**	**41**	⇑	*i*P		**P**	**23 17 43.9**	**+0.8**
VLA					*e*			23 19 25.4	
VLA					*e*			23 19 28.7	
VLA					*e*S		**S**	**23 24 20.2**	**+2.1**
VLA					pmax		pmax		
	comp=Z,112nm,1.7s								
IGZV	**Ghazvin**	**44.76**	**309**		*e*P		**P**	**23 17 45.5**	**+1.8**
ABKAR	**Akbulak array**	**45.11**	**330**		*e*P		**P**	**23 17 46.8**	**+0.8**
USRK	**Ussuriysk Ar.**	**45.35**	**39**		P		**P**	**23 17 47.6**	**-0.3**
	comp=Z,28nm,0.8s,baz=245,slow=7.5,SNR=54								
USRK					ScP		**ScP**	**23 23 16.7**	**-1.2**
	comp=Z,4.0nm,0.7s,baz=196,slow=3.8,SNR=5.9								
USRK					LR		LR	23 40 47.4	
	comp=Z,13μm,18.1s,baz=222,slow=41								
RAYN	**Ar Rayn**	**46.12**	**290**		P		**P**	**23 17 55.0**	**+0.6**
	comp=Z,841nm,1.2s								
RAYN	**Ar Rayn**	**46.12**	**290**		*e*P		**P**	**23 17 55.2**	**+0.8**
	comp=Z,181nm,1.4s								
RAYN					LR		LR		
	comp=Z,12μm,18.0s								
BDHA	**Al Bayda'**	**46.13**	**277**	⇑	*e*P		**P**	**23 17 57.3**	**+2.5**
MAJO	**Matsushiro**	**46.54**	**52**		*e*P		**P**	**23 17 57.6**	**+0.2**
MAJO					*e*			23 19 31.9	
MAJO					pmax		pmax		
	comp=Z,154nm,1.1s								
MAJO					MLR		MLR		
	comp=Z,10μm,18.0s								
MAJO	**Matsushiro**	**46.54**	**52**		*e*P		**P**	**23 17 57.6**	**+0.2**
	comp=Z,154nm,1.1s								
MAJO					*e*PcP		**PcP**	**23 19 31.9**	**+0.4**
MAJO					*e*ScP		**ScP**	**23 23 21.7**	**-1.4**
MAJO					LR		LR		
	comp=Z,10μm,18.0s								
MAT	**Matsushiro**	**46.54**	**52**		P		**P**	**23 17 58.2**	**+0.8**
MAT					S		**S**	**23 24 41.4**	**-2.8**
MJAR	**Matsushiro Arr**	**46.54**	**52**		P		**P**	**23 17 58.1**	**+0.7**
	comp=Z,28nm,1.0s,baz=250,slow=6.2,SNR=40								
MJAR					PcP		**PcP**	**23 19 32.0**	**+0.5**
	comp=Z,44nm,0.7s,baz=222,slow=3.0,SNR=20								
MJAR					ScP		**ScP**	**23 23 22.5**	**-0.5**
	comp=Z,11nm,1.0s,baz=239,slow=4.3,SNR=4.6								
MJAR					LR		LR	23 39 07.9	
	comp=Z,5μm,18.2s,baz=255,slow=38								
MJAR	**Matsushiro Arr**	**46.54**	**52**		P		**P**	**23 17 58.1**	**+0.7**
MJAR					PcP		**PcP**	**23 19 32.0**	**+0.5**
MJAR					ScP		**ScP**	**23 23 22.5**	**-0.5**
DAMY	**Dhamar**	**47.22**	**278**		*e*P		**P**	**23 18 06.0**	**+2.6**
	comp=Z,1μm,1.6s								
DAMY					LR		LR		
	comp=Z,13μm,20.0s								
BOD	**Bodaibo**	**47.27**	**15**		*e*P		**P**	**23 18 03.2**	**+0.4**
BOD					pmax		pmax		
	comp=Z,168nm,1.4s								
TRBA	**At Turbah**	**47.61**	**276**	⇑	*e*P		**P**	**23 18 08.6**	**+2.3**
SMPI	**Sarmi**	**47.71**	**105**		P		P	23 18 10.8	+3.9
	comp=Z,64nm,1.6s,comp=Z,79μm								
CBIJ	**Chichi jima**	**47.84**	**65**		*e*P		**P**	**23 18 07.0**	**-0.7**
	comp=Z,143nm,0.8s								
JCJ	**Chichijima**	**47.84**	**65**		P		**P**	**23 18 05.8**	**-1.9**
	comp=Z,157nm,0.8s,baz=301,slow=5.9,SNR=8.5								
KLR	**Kul'dur**	**47.95**	**33**	⇓	*i*P		P	23 18 04.7	-3.5
KLR					*e*S		S	23 24 53.5	-10
KLR					pmax		pmax		
	comp=E,140nm,1.8s								
KLR					pmax		pmax		
	comp=Z,320nm,1.8s								
KLR					pmax		pmax		
	comp=Z,3μm,11.0s								
KLR					MLR		MLR		
	comp=Z,45μm,13.0s								
MRIV	**Mauritius Mete**	**48.30**	**227**		*e*P		**P**	**23 18 13.7**	**+2.4**
MAK	**Makhachkala**	**49.12**	**316**		*c i*P		**P**	**23 18 18.9**	**+1.6**
MAK					*e*			23 20 12.9	
MAK					*e*PPP		PPP	23 20 59.7	
MAK					*e*S		**S**	**23 25 24.8**	**+4.2**
MAK					*e*SSS		SSS	23 30 04.3	
MAK					pmax		pmax		
	comp=Z,511nm,1.5s								
MAK					MLR		MLR		
	comp=Z,9μm,21.0s								
HABR	**Khabarovsk**	**49.36**	**36**		*c e*P		**P**	**23 18 18.5**	**-0.6**
HABR					*e**PP		**pP**	**23 18 27.6**	**-0.6**
HABR					*e**SP		**sP**	**23 18 31.9**	**+0.1**
HABR					*e*			23 19 39.3	
HABR								23 20 13.4	
HABR					*e*PPP		PPP	23 21 05.1	
HABR					*e*S		**S**	**23 25 24.2**	**+0.4**
HABR					*e**SS		**sS**	**23 25 40.2**	**+1.4**
HABR					*e*			23 28 06.7	
HABR					*e*SS		**SS**	**23 28 57.1**	**+1.4**
HABR					*e*SSS		SSS	23 30 17.3	
HABR					pmax		pmax		
	comp=N,21nm,1.8s								
HABR					pmax		pmax		
	comp=Z,104nm,1.8s								
HABR					pmax		pmax		
	comp=E,42nm,1.8s								
HABR					pmax		pmax		
	comp=Z,458nm,2.1s								
HABR					smax		smax		
	comp=N,248nm,5.2s								
HABR					smax		smax		
	comp=E,313nm,5.2s								
HABR					smax		smax		
	comp=Z,158nm,5.2s								
HABR					MLR		MLR		
	comp=E,20μm,17.0s								
HABR					MLR		MLR		
	comp=N,12μm,16.0s								
HABR					MLR		MLR		
	comp=Z,18μm,16.0s								
CLNS	**Chul'man**	**49.88**	**22**		*c i*P		**P**	**23 18 24.0**	**+1.1**
CLNS					*e**PP		**pP**	**23 18 32.7**	**+0.7**
CLNS					*e*			23 19 42.9	
CLNS					*e*			23 20 13.5	
CLNS					*e*S		**S**	**23 25 29.8**	**-1.1**
CLNS					*e*			23 28 12.7	
CLNS					pmax		pmax		
	comp=Z,45nm,0.8s								
CLNS					pmax		pmax		
	comp=E,33nm,1.1s								
CLNS					pmax		pmax		
	comp=N,35nm,1.6s								
CLNS					pmax		pmax		
	comp=Z,40nm,1.6s								
CLNS					pmax		pmax		
	comp=N,30nm,1.9s								
CLNS					pmax		pmax		
	comp=E,39nm,1.5s								
CLNS					smax		smax		
	comp=E,217nm,11.6s								
CLNS					smax		smax		
	comp=N,568nm,9.2s								
CLNS					MLR		MLR		
	comp=Z,11μm,16.0s								
CLNS					MLR		MLR		
	comp=N,5μm,18.0s								
CLNS					MLR		MLR		
	comp=E,6μm,18.0s								
GNI	**Garni**	**50.06**	**312**		*c i*P		**P**	**23 18 27.2**	**+2.4**
GNI					pmax		pmax		
	comp=Z,1μm,1.7s								
GNI	**Garni**	**50.06**	**312**		P		**P**	**23 18 27.4**	**+2.6**
	SNR=331								
GNI	**Garni**	**50.06**	**312**	⇓	*i*P		**P**	**23 18 27.2**	**+2.4**
	SNR=301								
GNI	**Garni**	**50.06**	**312**		*e*P		**P**	**23 18 27.1**	**+2.3**
	comp=Z,1μm,1.2s								
GNI					LR		LR		
	comp=Z,7μm,21.0s								
SVE	**Sverdlovsk**	**50.10**	**337**		*d i*P		**P**	**23 18 25.6**	**+1.0**
SVE					*e*			23 20 23.3	
SVE					*e*			23 21 20.8	
SVE					*e*S		**S**	**23 25 34.4**	**+0.4**
SVE					*e*			23 28 10.5	
SVE					pmax		pmax		
	comp=Z,701nm,1.4s								
SVE					pm

WRA ScP **ScP** **23 23 46.0 -1.7**
comp=Z,3.6nm,0.6s,baz=319,slow=3.5,SNR=5.7
WRA S **S** **23 26 01.4 -3.6**
comp=Z,9.5nm,0.9s,baz=305,slow=14,SNR=11
WRA LR LR 23 43 45.8
comp=Z,5μm,21.0s,baz=285,slow=39
WRA PKP2bc 23 49 28.9
comp=Z,0.5nm,0.3s,baz=145,slow=1.4,SNR=5.3
WRA Warramunga Arr 52.28 128 P **P** **23 18 40.6 -0.8**
WRA PcP **PcP** **23 19 52.9 +0.3**
WRA ScP **ScP** **23 23 46.0 -1.7**
WRA S **S** **23 26 01.4 -3.6**
WRA ⇑*e* 23 49 28.9
WRAB Tennant Creek 52.28 128 P **P** **23 18 40.3 -1.2**
comp=Z,768nm,0.6s,SNR=46
WRAB Tennant Creek 52.28 128*c i*P **P** **23 18 40.9 -0.6**
WRAB Tennant Creek 52.28 128 *e*P **P** **23 18 40.1 -1.3**
comp=Z,85nm,0.8s
KBZ Khabaz 52.53 315 P **P** **23 18 44.2 +1.2**
comp=Z,50nm,0.8s,baz=84,slow=9.1,SNR=88
KBZ LR LR 23 45 04.4
comp=Z,4μm,18.4s,baz=104,slow=41
KBZ Khabaz 52.53 315 P **P** **23 18 44.2 +1.2**
KIV Kislovodsk 52.75 316 P **P** **23 18 46.9 +2.2**
comp=Z,3μm,0.8s
KIV Kislovodsk 52.75 316*c i*P **P** **23 18 46.3 +1.6**
KIV *i* 23 18 53.0
KIV *e*S **S** **23 26 09.8 -1.3**
KIV pmax pmax
comp=Z,962nm,1.7s
KIV MLR MLR
comp=Z,1μm,20.0s
KIV Kislovodsk 52.75 316 P **P** **23 18 46.4 +1.7**
SNR=168
KIV Kislovodsk 52.75 316 *i* P **P** **23 18 46.5 +1.7**
SNR=18
KIV Kislovodsk 52.75 316 *e*P **P** **23 18 46.1 +1.4**
comp=Z,449nm,0.9s
KIV LR LR
comp=Z,6μm,20.0s
AIS Amsterdam Isla 52.78 195 P P 23 18 31.0 -14
AIS S S 23 26 31.0 +20
AIS R 23 34 00.0
GOF Gofitskoye 52.88 317⇑*i*P **P** **23 18 46.9 +1.3**
GOF *e*S S 23 26 28.5 +16
GOF pmax pmax
comp=Z,345nm,1.2s
YSS Yuzh-Sakhalins 53.34 41⇑*i*P **P** **23 18 48.2 -0.7**
YSS *e* 23 18 56.6
YSS *e**SP **sP** **23 19 03.0 +1.4**
YSS *e* 23 20 59.0
YSS *e*PPP PPP 23 22 00.0
YSS *e*S **S** **23 26 17.0 -1.8**
YSS pmax pmax
comp=Z,190nm,1.0s
YSS pmax pmax
comp=Z,900nm,4.0s
YSS MLR MLR
comp=Z,8μm,14.0s
YSS MLR MLR
comp=N,5μm,15.0s
YSS MLR MLR
comp=E,11μm,14.0s
YSS Yuzh-Sakhalins 53.34 41 *e*P **P** **23 18 48.0 -0.8**
comp=E,136nm,0.7s
YSS LR LR
comp=Z,4μm,19.0s
FURI Furi 53.49 271 *e*P P 23 18 54.8 +3.9
comp=Z,1μm,1.7s
FURI LR LR
comp=Z,17μm,19.0s
ASAR Alice Springs 54.19 132 P **P** **23 18 54.9 -0.6**
comp=Z,42nm,0.6s,baz=310,slow=6.8,SNR=243
ASAR ScP **ScP** **23 23 53.8 -2.2**
comp=Z,4.9nm,0.7s,baz=313,slow=4.9,SNR=6.0
ASAR S **S** **23 26 27.1 -3.8**
comp=Z,3.9nm,0.7s,baz=299,slow=13,SNR=14
ASAR LR LR 23 45 10.9
comp=Z,3μm,19.2s,baz=295,slow=40
ASAR PKP2bc 23 49 23.4
comp=Z,3.3nm,1.0s,baz=129,slow=2.3,SNR=6.6
ASAR Alice Springs 54.19 132 P **P** **23 18 54.9 -0.6**
ASAR ScP **ScP** **23 23 53.8 -2.2**
ASAR S **S** **23 26 27.1 -3.8**
ASAR ⇑*e* 23 49 23.4
AS01 Alice Springs 54.22 132 *e*P **P** **23 18 54.5 -1.2**
AS01 *e*PcP **PcP** **23 20 01.8 +1.8**
AS01 *e*ScP **ScP** **23 23 54.3 -1.9**
MALT Malatya 54.32 308⇑*i*P **P** **23 18 57.7 +1.3**
YUK Yuzh-Kuril'sk 54.40 45*c i*P **P** **23 18 58.9 +2.2**
YUK *i* 23 20 07.3
YUK *i* S **S** **23 26 34.9 +1.6**
YUK *i* 23 28 44.0
YUK pmax pmax
comp=E,64nm,1.5s
YUK pmax pmax
comp=Z,526nm,1.5s
YUK pmax pmax
comp=N,80nm,0.8s
YUK pmax pmax
comp=Z,530nm,1.5s
YUK MLR MLR
comp=N,1μm,16.0s
YUK MLR MLR
comp=E,8μm,16.0s
YUK MLR MLR
comp=Z,9μm,16.0s
SOC Sochi 54.68 314*c i*P **P** **23 18 59.3 +0.6**
SOC *i* *PP **pP** **23 19 06.3 -1.6**
SOC *e* 23 20 59.0
SOC *e*PPP PPP 23 22 22.3
SOC *e*S **S** **23 26 37.7 +0.7**
SOC *e**SS **sS** **23 26 51.2 -0.9**
SOC *e*SS **SKiKP** **23 30 10.4 +5.0**
SOC *e*SSS SSS 23 32 10.4
SOC pmax pmax
comp=Z,615nm,1.9s
SOC pmax pmax
comp=Z,3μm,5.1s
SOC MLR MLR
comp=Z,8μm,22.0s
NKL Nikolayevsk 54.78 33 P P 23 18 54.5 -4.8
NKL *e*S S 23 26 28.0 -10
NKL *e* 23 28 40.0
NKL pmax pmax
comp=Z,170nm,1.3s
NKL pmax pmax
comp=N,34nm,0.9s
NKL pmax pmax
comp=N,500nm,10.0s
NKL pmax pmax
comp=E,800nm,10.0s
NKL smax smax
comp=N,2μm,16.0s
NKL smax smax
comp=E,1μm,16.0s
NKL MLR MLR
comp=E,13μm,14.0s
TYV Tymovskoe 54.85 36 *e*P **P** **23 19 02.0 +2.2**
TYV *e*S **S** **23 26 34.0 -5.0**
TYV pmax pmax
comp=N,72nm,1.2s
TYV pmax pmax
comp=E,48nm,1.2s
TYV smax smax
comp=E,4μm,8.0s
TYV smax smax
comp=N,2μm,15.0s
TYV MLR MLR
comp=N,4μm,15.0s
TYV MLR MLR
comp=E,9μm,15.0s
FORT Forrest 55.16 143 *e*P **P** **23 19 02.1 -0.3**
comp=E,401nm,1.1s
YAK Yakutsk 55.34 20 P **P** **23 19 03.1 -0.1**
comp=E,16nm,0.7s,baz=230,slow=19,SNR=25
YAK Yakutsk 55.34 20 *i* P **P** **23 19 02.9 -0.3**
YAK *e**PP **pP** **23 19 11.0 -1.4**
YAK *e* 23 20 05.2
YAK *e* 23 21 11.4
YAK *e*PPP PPP 23 22 21.4
YAK *e*S **S** **23 26 42.9 -2.3**
YAK *e**SS **sS** **23 26 56.0 -4.4**
YAK *e* 23 28 45.5
YAK *e*SS **SS** **23 30 27.7 -2.1**

YAK pmax pmax
comp=E,40nm,1.6s
YAK pmax pmax
comp=N,22nm,1.0s
YAK pmax pmax
comp=Z,77nm,0.8s
YAK pmax pmax
comp=E,76nm,1.7s
YAK pmax pmax
comp=Z,264nm,3.1s
YAK pmax pmax
comp=N,144nm,4.6s
YAK smax smax
comp=E,434nm,4.6s
YAK smax smax
comp=N,2μm,8.8s
YAK MLR MLR
comp=Z,7μm,16.0s
YAK MLR MLR
comp=N,3μm,16.0s
YAK MLR MLR
comp=E,6μm,17.0s
YAK Yakutsk 55.34 20 *e*P **P** **23 19 02.8 -0.3**
comp=E,147nm,0.7s
YAK *e*ScP **ScP** **23 24 00.2 0.0**
YAK LR LR
comp=Z,7μm,18.0s
ABPO Ambohimpanom 55.37 236 *e*P **P** **23 19 05.8 +1.5**
ABPO pmax pmax
comp=Z,837nm,2.1s
ABPO MLR MLR
comp=Z,12μm,19.0s
ABPO Ambohimpanom 55.37 236 *e*P **P** **23 19 05.8 +1.5**
comp=Z,837nm,2.1s
ABPO LR LR
comp=Z,12μm,19.0s
VRHR Novokhopersk 56.03 324 *e*P **P** **23 19 08.3 0.0**
VRHR pmax pmax
comp=Z,400nm,0.7s
VRHR pmax pmax
comp=N,100nm,0.8s
VRHR pmax pmax
comp=E,280nm,1.0s
VRHR pmax pmax
comp=Z,490nm,1.1s
VRHR pmax pmax
comp=N,240nm,0.9s
VRHR pmax pmax
comp=E,550nm,1.1s
KUR Kuril'sk 56.12 44 *e*P **P** **23 19 07.6 -1.5**
KUR *i* S **S** **23 26 52.3 -3.9**
KUR pmax pmax
comp=N,108nm,1.5s
KUR pmax pmax
comp=E,125nm,1.5s
KUR pmax pmax
comp=Z,125nm,1.5s
KUR MLR MLR
comp=E,10μm,19.0s
KUR MLR MLR
comp=N,4μm,19.0s
KUR MLR MLR
comp=Z,543nm,19.0s
ANN Anapa 56.59 315 *i* P **P** **23 19 09.5 -2.9**
ANN *i* *PP **pP** **23 19 19.4 -2.3**
ANN *i* 23 21 17.5
ANN *e*S **S** **23 26 59.4 -3.1**
ANN *e*SS **SS** **23 30 50.5 +0.3**
ANN pmax pmax
comp=N,47nm,1.5s
ANN pmax pmax
comp=Z,197nm,1.5s
ANN pmax pmax
comp=E,51nm,1.5s
ANN smax smax
comp=E,592nm,7.3s
KMBO Kilima Mbogo 57.15 260 *e*P **P** **23 19 19.4 +2.3**
KMBO Kilima Mbogo 57.15 260 P **P** **23 19 19.0 +1.8**
comp=E,27nm,0.9s,baz=57,slow=9.8,SNR=59
KMBO LR LR 23 41 27.9
comp=E,17μm,20.1s,baz=57,slow=34
KMBO Kilima Mbogo 57.15 260 *e*P **P** **23 19 19.0 +1.8**
KMBO pmax pmax
comp=Z,528nm,2.2s
KMBO Kilima Mbogo 57.15 260 P **P** **23 19 19.5 +2.3**
SNR=21
KMBO Kilima Mbogo 57.15 260 *e*P **P** **23 19 19.0 +1.8**
comp=Z,528nm,2.2s
VORD Divnogorie 57.34 323 *e*P **P** **23 19 17.8 +0.1**
VORD *e*S S 23 27 06.1 -6.1
VORD pmax pmax
comp=Z,160nm,0.6s
VORD pmax pmax
comp=N,10.0nm,0.2s
VORD pmax pmax
comp=E,4.0nm,0.2s
VORD pmax pmax
comp=N,140nm,0.7s
VORD pmax pmax
comp=Z,30nm,0.7s
VORD pmax pmax
comp=E,20nm,0.2s
VORD smax smax
comp=N,720nm,5.4s
VORD smax smax
comp=Z,670nm,5.4s
VORD smax smax
comp=E,460nm,2.7s
VORD MLR MLR
comp=N,3μm,14.0s
VORD MLR MLR
comp=E,5μm,14.0s
VORD MLR MLR
comp=Z,4μm,14.0s
VSR Storozhevoye 57.51 323 *e*P **P** **23 19 18.4 -0.4**
VSR *e*S **S** **23 27 12.6 -1.7**
VSR pmax pmax
comp=Z,440nm,1.5s
VSR pmax pmax
comp=N,90nm,1.4s
VSR pmax pmax
comp=E,290nm,1.3s
VSR pmax pmax
comp=N,180nm,1.9s
VSR pmax pmax
comp=Z,890nm,1.9s
VSR pmax pmax
comp=E,670nm,1.8s
VSR smax smax
comp=N,530nm,6.2s
VSR smax smax
comp=E,250nm,6.2s
VSR smax smax
comp=Z,180nm,6.2s
VSR MLR MLR
comp=N,4μm,19.0s
VSR MLR MLR
comp=E,6μm,19.0s
VSR MLR MLR
comp=Z,7μm,19.0s
VOR Voronezh 57.67 324⇑*i*P **P** **23 19 20.0 0.0**
VOR pmax pmax
comp=Z,750nm,1.2s
CSS Prodhromos 57.83 303 P **P** **23 19 21.4 -0.1**
CSS Prodhromos 57.83 303 *e*P **P** **23 19 21.2 -0.3**
comp=Z,95nm,1.4s
CSS LR LR
comp=Z,2μm,18.0s
PMG Port Moresby 58.20 110⇑*i*P **P** **23 19 25.6 +1.3**
PMG Port Moresby 58.20 110 *e*P **P** **23 19 24.1 -0.2**
comp=Z,122nm,1.1s
BRTR Keskin Array B 58.24 309 P **P** **23 19 24.2 -0.2**
comp=Z,174nm,0.7s,baz=121,slow=7.5,SNR=744
BRTR LR LR 23 47 55.9
comp=Z,6μm,19.8s,baz=100,slow=40
BRTR PKP2ab 23 49 27.6
comp=Z,1.7nm,1.1s,baz=205,slow=2.3,SNR=3.9
BRTR Keskin Array B 58.24 309 P **P** **23 19 24.2 -0.2**
BRTR P'P'ab P'P'ab 23 49 27.6 -6.1
ANTO Ankara 58.91 309 *e*P **P** **23 19 28.8 -0.2**
ANTO pmax pmax
comp=Z,626nm,1.6s
ANTO MLR MLR
comp=Z,6μm,20.0s
ANTO Ankara 58.91 309⇑*i*P **P** **23 19 29.0 0.0**
ANTO Ankara 58.91 309 P **P** **23 19 29.4 +0.4**
SNR=68

ANTO Ankara 58.91 309 *e*P **P** **23 19 28.8 -0.2**
comp=Z,626nm,1.6s
ANTO LR LR
comp=Z,6μm,20.0s
SIM Simferopol' 58.91 315*c i*P **P** **23 19 29.7 +0.9**
SIM *e* 23 21 35.0
SIM *e*PPP PPP 23 23 03.0
SIM *i* S **S** **23 27 31.4 -1.6**
SIM *i* PS **PnS** **23 27 56.0 +8.6**
SIM pmax pmax
comp=Z,307nm,0.9s
SIM pmax pmax
comp=Z,300nm,8.8s
SIM MLR MLR
comp=N,3μm,20.3s
MOS Moscow 60.04 327α*i*P **P** **23 19 36.1 -0.2**
MOS *i* 23 19 43.8
MOS *e* 23 21 46.7
MOS *e*S **S** **23 27 41.9 -5.1**
MOS *e*SS **SS** **23 31 43.9 0.0**
MOS pmax pmax
comp=Z,834nm,1.4s
MOS pmax pmax
comp=E,213nm,1.2s
MOS pmax pmax
comp=N,72nm,1.2s
MOS pmax pmax
comp=Z,2μm,1.8s
MOS pmax pmax
comp=E,600nm,2.0s
OBN Obninsk 60.37 327*c i*P **P** **23 19 38.6 0.0**
OBN *i* 23 19 45.5
OBN *i* S **S** **23 27 46.9 -4.3**
OBN pmax pmax
comp=Z,785nm,1.7s
OBN MLR MLR
comp=Z,6μm,28.0s
OBN Obninsk 60.37 327 *e*P **P** **23 19 38.6 0.0**
comp=Z,817nm,1.4s
OBN LR LR
comp=Z,8μm,20.0s
ISP Isparta 60.40 306 P **P** **23 19 38.6 -0.7**
ISP Isparta 60.40 306 *e*P **P** **23 19 38.8 -0.5**
ISP pmax pmax
comp=Z,1μm,2.0s
ISP MLR MLR
comp=Z,6μm,21.0s
ISP Isparta 60.40 306⇑*i*P **P** **23 19 39.0 -0.3**
ISP Isparta 60.40 306 *e*P **P** **23 19 38.8 -0.5**
comp=Z,1μm,2.0s
ISP LR LR
comp=Z,6μm,21.0s
BBOO Buckleboo 61.47 139 *e*P **P** **23 19 46.0 -0.4**
comp=Z,6.1nm,1.0s
BBOO LR LR
comp=Z,5μm,22.0s
CTA Charters Tower 61.89 121 P **P** **23 19 49.1 -0.4**
comp=Z,22nm,0.9s,baz=310,slow=6.8,SNR=13
CTA Charters Tower 61.89 121 P **P** **23 19 49.1 -0.4**
CTAO Charters Tower 61.89 121 *e*P **P** **23 19 48.9 -0.6**
CTAO pmax pmax
comp=Z,51nm,0.9s
CTAO MLR MLR
comp=Z,5μm,20.0s
CTAO Charters Tower 61.89 121 *e*P **P** **23 19 48.9 -0.6**
comp=Z,51nm,0.9s
CTAO LR LR
comp=Z,5μm,20.0s
TIXI Tiksi 62.26 12*c i*P **P** **23 19 51.1 0.0**
TIXI pmax pmax
comp=Z,538nm,1.7s
TIXI Tiksi 62.26 12 *e*P **P** **23 19 51.0 -0.1**
comp=Z,460nm,1.3s
TIXI LR LR
comp=Z,6μm,18.0s
MANR Mangalia 62.60 313⇑*i*P **P** **23 19 55.2 +1.3**
EFOR EFORIE 62.61 313⇑*i*P **P** **23 19 55.3 +1.4**
TLCR 62.65 314⇑*i*P **P** **23 19 55.2 +1.0**
TIRR Tirgusor 62.82 313 *e*P **P** **23 19 55.7 +0.3**
TIRR pmax pmax
comp=Z,199nm,0.9s
TIRR MLR MLR
comp=Z,3μm,21.0s
TIRR Tirgusor 62.82 313⇑*i*P **P** **23 19 55.7 +0.3**
TIRR Tirgusor 62.82 313 *e*P **P** **23 19 55.7 +0.3**
comp=Z,199nm,0.9s
TIRR LR LR
comp=Z,3μm,21.0s
SKR Severo-Kuril's 62.87 40 *e*P P 23 19 50.1 -5.4
SKR *e*S S 23 28 15.0 -8.1
SKR *e*PS **PnS** **23 28 42.0 +0.6**
SKR *e* 23 28 58.0
SKR pmax pmax
comp=N,900nm,10.0s
SKR pmax pmax
comp=E,1μm,10.0s
SKR pmax pmax
comp=Z,160nm,0.9s
SKR smax smax
comp=N,1μm,12.0s
SKR smax smax
comp=E,3μm,12.0s
SKR MLR MLR
comp=N,5μm,18.0s
SKR MLR MLR
comp=Z,8μm,18.0s
SKR MLR MLR
comp=E,3μm,20.0s
PSN Preselentsi 62.88 312⇑*i*P **P** **23 19 56.3 +0.6**
PSN Preselentsi 62.88 312 *i* P **P** **23 19 56.0 +0.3**
KIS Kishinev 62.94 316⇑*i*P **P** **23 19 56.0 -0.1**
comp=E,2μm,9.0s
KIS Kishinev 62.94 316 *i* PcP PcP 23 20 23.0 -11
KIS Kishinev 62.94 316 *e*PP PP 23 23 24.0 +69
KIS *e*S **S** **23 28 23.0 -1.2**
KIS Kishinev 62.94 316 *e*PS 23 28 37.0
KIS *e*SS SS 23 32 12.0 -18
KIS *e*SSS SSS 23 35 08.0
KIS LRM MLR 23 49 20.0
comp=E,4μm,24.0s
KIS Kishinev 62.94 316*c i*P **P** **23 19 56.0 -0.1**
KIS *e*S **S** **23 28 23.0 -1.2**
KIS *e*PS **PnS** **23 28 37.0 -5.6**
KIS *e*SSS SSS 23 35 08.0
KIS pmax pmax
comp=Z,2μm,9.0s
KIS pmax pmax
comp=E,500nm,2.0s
KIS pmax pmax
comp=Z,2μm,12.0s
KIS MLR MLR
comp=Z,4μm,24.0s
KIS MLR MLR
comp=Z,3μm,19.0s
KIS MLR MLR
comp=N,3μm,16.0s
KIS MLR MLR
comp=E,2μm,22.0s
KIS Kishinev 62.94 316⇑*i*P **P** **23 19 56.0 -0.1**
NIS1 Nisyros lsl. 62.95 304 P **P** **23 19 55.9 -0.5**
CVD Cernavoda 63.07 313⇑*i*P **P** **23 19 58.0 +1.0**
GIUM Giurgiulesti 63.12 314⇓*i*P **P** **23 19 58.4 +1.1**
CFR Carcaliu 63.12 314⇑*i*P **P** **23 19 58.0 +0.7**
MSAB Monastry St. A 63.19 313⇑*i*P **P** **23 19 58.7 +0.9**
HARR Harsova 63.19 314⇓*i*P **P** **23 19 58.8 +1.0**
LEOM Leova 63.24 316⇓*i*P **P** **23 19 58.6 +0.5**
MBAR Mbarara 63.28 263 *e*P **P** **23 19 59.8 +0.6**
MBAR Mbarara 63.28 263 P **P** **23 20 00.8 +1.7**
comp=E,150nm,1.8s,SNR=9.5
SMG Samos 63.30 306 *e*P **P** **23 19 58.2 -0.5**
TMCR Tamitsa 63.35 336 *e*P **P** **23 19 59.2 +0.7**
TMCR *e* 23 22 21.7
TMCR *e*S **S** **23 28 29.2 +0.4**
TMCR pmax pmax
comp=Z,498nm,1.5s
PRD Provadia 63.38 312 *i* P **P** **23 19 59.1 0.0**
AKASG Malin Array Be 63.38 320 P **P** **23 19 58.5 -0.4**
comp=Z,85nm,0.8s,baz=88,slow=4.8,SNR=335
AKASG PP **PP** **23 22 17.5 -1.0**
comp=Z,16nm,0.9s,baz=100,slow=6.6,SNR=5.0
AKASG PKP2bc 23 49 04.2
comp=Z,0.5nm,0.5s,baz=274,slow=2.9,SNR=4.2
AKASG LR LR 23 50 46.0
comp=Z,4μm,21.2s,baz=95,slow=39
AKASG Malin Array Be 63.38 320 P **P** **23 19 58.5 -0.4**

AKASG PP **PP** **23 22 17.5 -1.0**
AKASG ⇑*e* 23 49 04.2
KIEV Kiev 63.39 320*c* *i*P **P** **23 19 58.8 -0.2**
KIEV Kiev 63.39 320 *e*P **P** **23 19 58.6 -0.5**
comp=Z,456nm,1.6s
KIEV LR LR
comp=Z,4µm,22.0s
AK11 Malin Array Si 63.41 320 *e*P **P** **23 19 58.4 -0.8**
SORM Soroca 63.45 317⇓*i*P **P** **23 19 59.8 +0.3**
AMRR Amara 63.60 313⇑*i*P **P** **23 20 01.9 +1.4**
ZKR Zakros 63.66 303 P **P** **23 20 01.1 -0.1**
IAS Iasi 63.82 316⇑*i*P **P** **23 20 02.6 +0.7**
PETR Petresti 63.83 315⇑*i*P **P** **23 20 03.7 +1.7**
PRK Paraskevi 63.85 307 *e*P **P** **23 20 02.5 +0.3**
PGOR Pogoanele 63.89 314⇑*i*P **P** **23 20 04.3 +1.9**
JMB Yambol 63.90 311 P **P** **23 20 03.2 +0.7**
JMB Yambol 63.90 311⇑*i*P **P** **23 20 03.3 +0.7**
JMB Yambol 63.90 311 *i* P **P** **23 20 03.4 +0.9**
CHOS Chios island 63.96 306 P **P** **23 20 03.5 +0.4**
CHOS Chios island 63.96 306 *e*P **P** **23 20 03.8 +0.7**
CHOS Chios island 63.96 306 P **P** **23 20 03.5 +0.4**
GRER 63.96 314⇑*i*P **P** **23 20 05.3 +2.4**
ALN Alexandroupoli 64.15 309 P **P** **23 20 03.5 -0.7**
ALN Alexandroupoli 64.15 309 *e*P **P** **23 20 03.0 -1.2**
NPS Neapolis 64.16 303 *e*P **P** **23 20 04.8 +0.3**
SIGR SIGRI 64.17 307 P **P** **23 20 04.5 +0.1**
SIGR SIGRI 64.17 307 *e*P **P** **23 20 04.2 -0.2**
VRI Vrincioaia 64.20 315⇑*i*P **P** **23 20 05.7 +1.2**
ISR Istrita 64.23 314⇑*i*P **P** **23 20 06.6 +1.9**
PLOR Plostina 64.25 315⇑*i*P **P** **23 20 06.4 +1.5**
LAST Lasithi 64.27 303 P **P** **23 20 05.2 0.0**
APE Apeiranthos 64.30 305⇓*i*P **P** **23 20 04.4 -1.0**
SANT Santorini 64.33 304 *e*P **P** **23 20 04.5 -1.0**
comp=Z,194nm,0.8s
TESR Tescani 64.34 315⇑*i*P **P** **23 20 06.2 +0.8**
THR2 Thira island, 64.35 304 P **P** **23 20 05.0 -0.6**
PEA0 Petropavlovsk- 64.36 37 *e*P **P** **23 20 04.7 -0.6**
PETK Petropavlovsk- 64.36 37 P **P** **23 20 04.4 -1.0**
comp=Z,11nm,0.5s,baz=228,slow=4.2,SNR=24
PETK PKP2bc 23 49 02.0
comp=Z,2.3nm,0.8s,baz=160,slow=6.0,SNR=4.8
PETK LR LR 23 52 31.6
comp=Z,6µm,18.1s,baz=259,slow=40
PETK Petropavlovsk- 64.36 37 P **P** **23 20 04.4 -1.0**
PETK ⇑*e* 23 49 02.0
THR6 Thira Island, 64.38 304 P **P** **23 20 05.3 -0.5**
SULR 64.38 313⇑*i*P **P** **23 20 07.3 +1.7**
BAPR Bucharest-Chil 64.44 313⇑*i*P **P** **23 20 06.7 +0.6**
SZH Strazhica 64.45 312 *i* P **P** **23 20 05.6 -0.6**
BUC1 Bucharest 64.50 313⇑*i*P **P** **23 20 07.5 +1.1**
SMTH Samothraki Isl 64.51 309 *e*P **P** **23 20 06.4 -0.2**
RDO Rodhopi 64.55 309 *e*P **P** **23 20 06.1 -0.7**
RDO Rodhopi 64.55 309 *e*P **P** **23 20 07.1 +0.2**
comp=Z,873nm,1.6s
SECR 64.55 314⇓*i*P **P** **23 20 08.9 +2.1**
STKA Stephens Creek 64.56 135 P **P** **23 20 06.7 -0.3**
comp=Z,62nm,0.8s,baz=313,slow=6.3,SNR=40
STKA PKP2ab 23 49 09.2
comp=Z,1.2nm,0.6s,baz=202,slow=3.5,SNR=3.0
STKA LR LR 23 50 48.7
comp=Z,5µm,20.1s,baz=294,slow=38
STKA Stephens Creek 64.56 135 P **P** **23 20 06.7 -0.3**
STKA pmax pmax
comp=Z,62nm,0.8s
STKA pmax pmax
comp=Z,1.0nm,0.6s
STKA MLR MLR
comp=Z,5µm,20.1s
STKA Stephens Creek 64.56 135 *e*P **P** **23 20 06.6 -0.4**
comp=Z,17nm,0.9s
STKA P'P'ab P'P'ab 23 49 09.2 +5.7
PLAR PLOIESTI 64.57 314⇑*i*P **P** **23 20 08.4 +1.5**
SEY Seymchan 64.58 26 PKP2bc **P'P'bc** **23 49 00.0 -2.4**
comp=Z,4.0nm,1.0s,baz=110,slow=2.9,SNR=6.6
SEY Seymchan 64.58 26*c* *i*P **P** **23 20 06.4 -0.2**
DIM Dimitrovgrad 64.63 310 *i* P **P** **23 20 07.9 +0.5**
KDZ Kurdzhali 64.68 310⇑*i*P **P** **23 20 08.3 +0.6**
KDZ Kurdzhali 64.68 310 *i* P **P** **23 20 08.3 +0.6**
MLR Muntele Rosu 64.69 314⇑*i*P **P** **23 20 09.2 +1.3**
LIA Limnos Island 64.73 308 *e*P **P** **23 20 07.7 -0.3**
PRAR RASCA 64.74 316⇑*i*P **P** **23 20 08.3 +0.3**
SIVA Sivas 64.81 303 P **P** **23 20 08.3 -0.4**
PET Petropavlovsk 64.90 37 *e*P **P** **23 20 07.2 -1.7**
PET *e*S **S** **23 28 43.2 -5.1**
PET pmax pmax
comp=Z,71nm,0.9s
PET pmax pmax
comp=Z,700nm,13.1s
PET pmax pmax
comp=Z,1µm,13.5s
PET MLR MLR
comp=Z,11µm,17.0s
PET MLR MLR
comp=Z,11µm,17.0s
PET Petropavlovsk 64.90 37 *e*P **P** **23 20 09.2 +0.3**
comp=Z,63nm,1.0s
PET LR LR
comp=Z,11µm,18.0s
ZIMR 64.90 312⇓*i*P **P** **23 20 10.3 +1.2**
MICGM Minsk 65.00 324⇑*e*P **P** **23 20 08.0 -1.5**
MNK Minsk 65.03 324⇑*e*P **P** **23 20 08.0 -1.7**
MNK pmax pmax
comp=E,1µm,1.2s
MNK pmax pmax
comp=Z,780nm,1.3s
PUL Pulkovo 65.09 330*c* *i*P **P** **23 20 10.8 +0.9**
PUL pmax pmax
comp=Z,837nm,1.7s
PLD Plovdiv 65.25 310 P **P** **23 20 11.6 +0.2**
PLD Plovdiv 65.25 310 *i* P **P** **23 20 11.0 -0.4**
HUMR Humele 65.27 313⇑*i*P **P** **23 20 12.1 +0.7**
GOLR 65.31 313⇑*i*P **P** **23 20 13.3 +1.6**
VOIR 65.31 314⇑*i*P **P** **23 20 12.5 +0.7**
KAVA Kavala 65.31 309 P **P** **23 20 12.0 +0.2**
KAVA Kavala 65.31 309 *e*P **P** **23 20 11.5 -0.3**
VAM Vamos 65.32 303 *e*P **P** **23 20 11.9 -0.1**
GVD Gavdhos 65.41 302 P **P** **23 20 11.9 -0.6**
GVD Gavdhos 65.41 302 PFAKE 23 20 20.0 +7.5
GVD LR LR
comp=Z,5µm,19.0s
BURAR Bucovina Array 65.46 316⇓*i*P **P** **23 20 14.2 +1.4**
BUR04 Bucovina Ar. S 65.46 316 *e*P **P** **23 20 13.5 +0.8**
PAF Port-aux-Franc 65.47 196 P P 23 20 03.0 -9.5
PAF S S 23 28 49.0 -6.1
PAF L L 23 36 00.0
PAF R 23 40 00.0
AOS Alonnisos 65.70 307 P **P** **23 20 13.8 -0.5**
AOS Alonnisos 65.70 307 *e*P **P** **23 20 14.1 -0.2**
NACGM Naroch 65.71 325 *e*P **P** **23 20 11.0 -3.1**
ATHU Athens Univers 65.72 306 P **P** **23 20 14.5 0.0**
ATH Athens Observa 65.78 306 *e*P **P** **23 20 13.8 -1.1**
IDID Didziasalis 65.82 325 *e*P **P** **23 20 15.7 +0.9**
IDID IAmb IAmb 23 20 17.1
comp=Z,169nm,0.9s
NVR Nevrokopi 65.83 310 *e*P **P** **23 20 14.4 -0.8**
MDB Medias 65.86 315⇑*i*P **P** **23 20 17.0 +1.8**
PAIG Paliouri 65.89 308 P **P** **23 20 15.3 -0.2**
PAIG Paliouri 65.89 308 *e*P **P** **23 20 15.6 +0.1**
MRKA Markates 65.91 307 P **P** **23 20 14.7 -1.0**
MRKA Markates 65.91 307 *e*P **P** **23 20 15.0 -0.7**
MMB Musomiste 65.94 310⇑*i*P **P** **23 20 15.7 -0.2**
SIBR Sibiu 65.96 314⇑*i*P **P** **23 20 15.8 -0.1**
SRS Serrai 66.02 309 P **P** **23 20 16.4 0.0**
SRS Serrai 66.02 309 *e*P **P** **23 20 15.9 -0.5**
PLG Polygyros 66.09 308 *e*P **P** **23 20 16.3 -0.6**
CRAR CRAIOVA 66.09 313⇑*i*P **P** **23 20 18.3 +1.6**
VILL Villia 66.10 306 P **P** **23 20 15.4 -1.6**
IIGN Ignalina 66.12 325 *e*P **P** **23 20 17.5 +0.8**
IIGN IAmb IAmb 23 20 19.1
comp=Z,184nm,1.0s
DID Didima 66.14 305 P **P** **23 20 15.1 -2.2**
SOH Sokhos 66.18 309 P **P** **23 20 17.0 -0.5**
SOH Sokhos 66.18 309 *e*P **P** **23 20 16.8 -0.7**
IZAR Zarasai 66.19 325 *e*P **P** **23 20 17.8 +0.7**
IZAR IAmb IAmb 23 20 19.5
comp=Z,168nm,1.0s
SMIA Simia 66.21 307 P **P** **23 20 16.6 -1.1**
KRND KRANIDI 66.21 305 P **P** **23 20 15.9 -1.8**
KRND KRANIDI 66.21 305 *e*P **P** **23 20 15.4 -2.3**
LOT Lotru 66.21 314⇑*i*P **P** **23 20 17.7 0.0**
ISAL Salakas 66.22 325 *e*P **P** **23 20 18.1 +0.8**
ISAL IAmb IAmb 23 20 19.8
comp=Z,147nm,1.1s
LVZ Lovozero 66.23 339 P **P** **23 20 17.9 +0.6**
comp=Z,1µm,0.8s,SNR=30
LVZ Lovozero 66.23 339*c* *i*P **P** **23 20 17.5 +0.2**
LVZ pmax pmax
comp=Z,329nm,1.7s
LVZ Lovozero 66.23 339 *e*P **P** **23 20 17.1 -0.2**
comp=Z,158nm,0.9s
LVZ LR LR
comp=Z,12µm,18.0s
XOR Xorichti 66.24 307 P **P** **23 20 16.6 -1.3**
XOR Xorichti 66.24 307 *e*P **P** **23 20 16.7 -1.2**
ATAL Atalanti 66.35 307 P **P** **23 20 17.1 -1.4**
HORT Hortiatis 66.36 309 P **P** **23 20 18.0 -0.7**
HORT Hortiatis 66.36 309 *e*P **P** **23 20 18.1 -0.7**
LKR Lokris 66.36 307 *e*P **P** **23 20 17.0 -1.6**
VLI Veliai 66.37 304 *e*P **P** **23 20 17.0 -1.7**
LTK Loutraki 66.37 306 P **P** **23 20 16.8 -1.9**
LTK Loutraki 66.37 306 *e*P **P** **23 20 16.8 -1.9**
VTS Vitosha 66.39 311 P **P** **23 20 19.0 +0.1**
VTS Vitosha 66.39 311⇑*i*P **P** **23 20 19.1 +0.1**
FYTO Fytoko, Volos 66.44 307 P **P** **23 20 20.3 +1.2**
ACOR Acrocorinthos 66.44 306 P P 23 20 16.0 -3.2
CJR Cluj-Napoca 66.45 315⇑*i*P **P** **23 20 20.5 +1.4**
THE Thessaloniki 66.47 309 P **P** **23 20 18.4 -0.8**
THE Thessaloniki 66.47 309 *e*P **P** **23 20 18.1 -1.1**
LVV L'vov 66.52 319⇓*i*P **P** **23 20 19.4 0.0**
LVV *e*S **S** **23 29 03.0 -5.2**
VSU Vasula 66.52 328*c* *i*P **P** **23 20 19.4 +0.2**
APA Apatity 66.53 339⇓*i*P **P** **23 20 20.2 +1.1**
APA *i* 23 20 43.0
APA *i* 23 22 46.5
APA *i* PPP PPP 23 24 27.5
APA *i* S **S** **23 29 08.0 +0.2**
APA *i* PS **PnS** **23 29 30.0 -1.0**
APA pmax pmax
comp=Z,243nm,1.1s
APA MLR MLR
comp=Z,8µm,18.0s
KNT Kendrikon 66.54 309 P **P** **23 20 19.3 -0.5**
KNT Kendrikon 66.54 309 *e*P **P** **23 20 18.8 -1.0**
SRE Strehaia 66.54 313⇑*i*P **P** **23 20 20.8 +1.1**
BMR Baia Mare 66.62 316⇑*i*P **P** **23 20 21.3 +1.2**
AXAR Agios Charalam 66.63 307 P **P** **23 20 18.7 -1.7**
AXAR Agios Charalam 66.63 307 *e*P **P** **23 20 19.3 -1.1**
DSF Desfina 66.73 306 P **P** **23 20 18.5 -2.5**
DSF Desfina 66.73 306 *e*P **P** **23 20 19.3 -1.7**
VAY Valandovo 66.80 309 P **P** **23 20 21.5 +0.2**
VAY Valandovo 66.80 309 *i* P **P** **23 20 21.4 0.0**
VAY Valandovo 66.80 309 P **P** **23 20 21.5 +0.2**
VAY Valandovo 66.80 309 P **P** **23 20 21.5 +0.2**
LIT Litokhoron 66.81 308 P **P** **23 20 20.6 -0.9**
LIT Litokhoron 66.81 308 *e*P **P** **23 20 20.5 -0.9**
VLX Vlachokerasia 66.82 305 P **P** **23 20 20.9 -1.2**
VLX Vlachokerasia 66.82 305 *e*P **P** **23 20 20.8 -0.9**
ZAPS Zavoj 66.86 312⇑*i*P **P** **23 20 22.5 +0.8**
ZAPS *e*S **S** **23 29 12.3 -0.3**
GUR Goura 66.86 306 P **P** **23 20 20.4 -1.6**
GUR Goura 66.86 306 *e*P **P** **23 20 20.8 -1.2**
AGG Agios Georgios 66.90 307 P **P** **23 20 20.1 -2.0**
AGG Agios Georgios 66.90 307 *e*P **P** **23 20 19.7 -2.4**
AGG Agios Georgios 66.90 307 *e*P **P** **23 20 20.4 -1.7**
AGG pmax pmax
comp=Z,86nm,0.9s
AGG MLR MLR
comp=Z,3µm,22.0s
AGG Agios Georgios 66.90 307 *e*P **P** **23 20 20.4 -1.7**
comp=Z,86nm,0.9s
AGG LR LR
comp=Z,3µm,22.0s
GZR Gura Zlata 66.90 314⇓*i*P **P** **23 20 22.6 +0.6**
GRG Griva 66.91 309 P **P** **23 20 21.5 -0.6**
GRG Griva 66.91 309 *e*P **P** **23 20 21.2 -0.9**
GRG Griva 66.91 309 *e*P **P** **23 20 21.2 -0.9**
DJES Djerdap 67.03 313 *i* P **P** **23 20 22.8 0.0**
DJES *e*S **S** **23 29 13.8 -0.8**
KALE Kalithea 67.03 306 P **P** **23 20 21.1 -1.9**
KALE Kalithea 67.03 306 *e*P **P** **23 20 21.5 -1.5**
MAKR Makrakomi, Fth 67.05 307 P **P** **23 20 21.6 -1.5**
DRGR 67.07 315⇑*i*P **P** **23 20 24.0 +0.9**
THL Klokotos Trika 67.16 307 *e*P **P** **23 20 21.6 -2.1**
EFP Efpalio 67.22 306 P **P** **23 20 22.6 -1.5**
EFP Efpalio 67.22 306 *e*P **P** **23 20 22.5 -1.5**
EVR Evrytania 67.30 307 *e*P **P** **23 20 23.4 -1.3**
PYL PYLOS 67.33 305 P **P** **23 20 23.0 -1.8**
KWP Kalwaria Pacla 67.35 318 *i* P **P** **23 20 25.4 +0.7**
KWP *e*S **S** **23 29 17.9 -0.4**
KWP LMZ LR 23 54 40.9
KWP Kalwaria Pacla 67.35 318⇑*i*P **P** **23 20 25.5 +0.7**
KWP *e*S **S** **23 29 17.9 -0.4**
KWP MLR MLR
comp=Z,3µm,24.6s
AMT Artemida-Makis 67.36 305 P **P** **23 20 24.0 -1.0**
DRO Drossia 67.36 306 P **P** **23 20 24.5 -0.5**
DRO Drossia 67.36 306 *e*P **P** **23 20 25.0 0.0**
BOLS Boljevac 67.38 312⇑*i*P **P** **23 20 23.4 -1.6**
BARS Barje 67.43 311⇑*i*P **P** **23 20 24.8 -0.6**
BARS *e*S **S** **23 29 17.7 -1.8**
FINES FINESS Array B 67.55 331 P **P** **23 20 25.9 +0.2**
comp=Z,115nm,0.8s,baz=112,slow=8.8,SNR=244
FINES LR LR 23 52 45.2
comp=Z,6µm,21.9s,baz=106,slow=38
FINES FINESS Array B 67.55 331*ce*P **P** **23 20 25.8 +0.1**
FINES pmax pmax
comp=Z,115nm,0.7s
FINES FINESS Array B 67.55 331 P **P** **23 20 25.9 +0.2**
KOLS Kolonicke sedl 67.56 318 *e*P **P** **23 20 27.0 +0.9**
KOLS pmax pmax
comp=Z,84nm,1.1s
KOLS Kolonicke sedl 67.56 318 *e*P **P** **23 20 27.0 +0.9**
KOLS *e*PP **PP** **23 22 53.5 -1.6**
SUW Suwalki 67.62 323 *i* P **P** **23 20 26.1 -0.2**
SUW *e*S **S** **23 29 17.5 -3.8**
SUW LMZ LR 23 54 03.7
SUW Suwalki 67.62 323⇑*i*P **P** **23 20 26.2 -0.1**
SUW *e*S **S** **23 29 17.6 -3.8**
SUW MLR MLR
comp=Z,6µm,21.5s
SKO Skopje 67.67 310 P **P** **23 20 25.9 -1.0**
SKO Skopje 67.67 310 *i* P **P** **23 20 26.8 -0.1**
FNA Florina 67.68 309 P **P** **23 20 26.1 -0.9**
BZS Buzias 67.73 314⇑*i*P **P** **23 20 27.5 +0.3**
VTN Vitineika 67.78 306 P **P** **23 20 27.5 -0.1**
PDO Prodromos 67.78 306 P **P** **23 20 26.6 -1.1**
PDO Prodromos 67.78 306 *e*P **P** **23 20 27.2 -0.5**
DSL Palaion Diasel 67.86 307 P **P** **23 20 27.1 -1.1**
DSL Palaion Diasel 67.86 307 *e*P **P** **23 20 27.1 -1.1**
SFD Strofades 67.91 305 P **P** **23 20 27.3 -1.1**
NEST Nestorio 67.92 308 P **P** **23 20 27.2 -1.4**
NEST Nestorio 67.92 308 *e*P **P** **23 20 27.3 -1.4**
SVIS Svilajnac 67.94 313⇑*i*P **P** **23 20 28.4 -0.1**
SVIS *e*S **S** **23 29 23.5 -2.0**
SELS Selova 67.96 311⇑*i*P **P** **23 20 27.9 -0.8**
TIM Timisoara 68.02 314⇓*i*P **P** **23 20 30.5 +1.5**
BANR Banloc 68.06 314⇓*i*P **P** **23 20 30.9 +1.7**
JAN Janina 68.06 308 *e*P **P** **23 20 28.9 -0.5**
KFL Anninata 68.09 306 P **P** **23 20 28.9 -0.7**
ZKS Zakynthos 68.09 305 P **P** **23 20 28.2 -1.4**
ZKS Zakynthos 68.09 305 *e*P **P** **23 20 28.4 -1.2**
KBN Korca 68.12 309 P **P** **23 20 28.4 -1.5**
VLS Valsamata 68.25 306 *e*P **P** **23 20 29.2 -1.4**
EIDS Eidsvold 68.27 124 *e*P **P** **23 20 30.6 -0.3**
comp=Z,52nm,1.3s
STHS Stebnicka Huta 68.28 318 *e*P **P** **23 20 31.5 +0.9**
STHS pmax pmax
comp=Z,65nm,0.8s
STHS Stebnicka Huta 68.28 318 *e*P **P** **23 20 31.5 +0.9**
STHS *e*PP **PP** **23 23 04.1 +2.8**
GRUS Gruza 68.28 312⇑*i*P **P** **23 20 30.9 +0.2**
GRUS *e*S **S** **23 29 28.5 -1.1**
PHP Peshkopia 68.41 310 P **P** **23 20 30.6 -1.0**
IGT Igoumenitsa 68.46 307 P **P** **23 20 30.3 -1.6**
IGT Igoumenitsa 68.46 307 *e*P **P** **23 20 30.3 -1.6**
BEO Beograd 68.50 313 *e*S **S** **23 29 29.0 -3.1**
SGD Sagiada 68.53 308 P **P** **23 20 31.1 -1.2**
SGD Sagiada 68.53 308 *e*P **P** **23 20 31.2 -1.1**
IVAS Ivanjica 68.68 312 *i* P **P** **23 20 33.2 0.0**
SRN Sarande 68.72 308 P **P** **23 20 31.9 -1.5**
PVY Plav 68.79 311 *e*P **P** **23 20 33.0 -1.1**
BEL Belsk 68.79 321 *i* P **P** **23 20 34.2 +0.6**
BEL *e*S **S** **23 29 35.9 +0.6**
BEL LMZ LR 23 56 58.9
BEL Belsk 68.79 321⇑*i*P **P** **23 20 34.3 +0.6**
BEL *e*S **S** **23 29 36.0 +0.6**
BEL MLR MLR
comp=Z,8µm,18.2s
SJES Sjenica 68.80 311⇑*i*P **P** **23 20 34.3 +0.2**
SJES *e*S **S** **23 29 34.3 -1.7**
DIVS Divibare 68.81 312 P **P** **23 20 34.0 0.0**
DIVS Divibare 68.81 312⇑*i*P **P** **23 20 34.1 0.0**
DIVS *e*S **S** **23 29 34.5 -1.6**
DIVS Divibare 68.81 312⇑*i*P **P** **23 20 34.1 0.0**
TIR Tirane 68.83 309 P **P** **23 20 33.0 -1.2**
TIR Tirane 68.83 309 *e*P **P** **23 20 33.2 -1.0**
TIR pmax pmax
comp=Z,544nm,1.9s
TIR MLR MLR
comp=Z,5µm,21.0s
TIR Tirane 68.83 309 *e*P **P** **23 20 33.2 -1.0**
comp=Z,544nm,1.9s
TIR LR LR
comp=Z,5µm,21.0s
IVA Berane 68.84 311⇑*i*P **P** **23 20 33.6 -0.7**
KEK Kerkira 68.87 308 *e*P **P** **23 20 33.2 -1.2**
NIE Niedzica 68.88 318 *i* P **P** **23 20 35.6 +1.2**
NIE *e*S **S** **23 29 36.7 0.0**
NIE LMZ LR 23 55 51.7
NIE Niedzica 68.88 318⇑*i*P **P** **23 20 35.7 +1.3**
NIE *e*S **S** **23 29 36.7 0.0**
NIE MLR MLR
comp=Z,3µm,24.1s
FRGS Fruska Gora 68.98 313⇑*i*P **P** **23 20 34.8 -0.3**
FRGS *e*S **S** **23 29 36.4 -1.5**
PKSN Nyarlorinc 69.02 315⇑*e* **P** **23 20 36.3 +1.1**
PSZ Piszkesteto 69.06 316 *e*P **P** **23 20 35.6 0.0**
PSZ pmax pmax
comp=Z,854nm,1.9s
PSZ MLR MLR
comp=Z,1µm,20.0s
PSZ Piszkesteto 69.06 316⇑*i*P **P** **23 20 36.0 +0.5**
PSZ Piszkesteto 69.06 316 *e*P **P** **23 20 35.6 0.0**
comp=Z,854nm,1.9s
PSZ LR LR
comp=Z,1µm,20.0s
PSZ Piszkesteto 69.06 316⇑*ep*PKiKP **P** **23 20 36.1 +0.5**
VLO Vlora 69.11 308 P **P** **23 20 34.8 -1.1**
PLE Pljevlja 69.22 311⇑*i*P **P** **23 20 36.5 -0.2**
BBLS Lazići 69.23 312⇑*i*P **P** **23 20 37.1 +0.4**
BBLS *e*S **S** **23 29 39.6 -1.4**
OJC Ojcow 69.28 319 *i* P **P** **23 20 37.3 +0.5**
OJC *e*S **S** **23 29 40.7 -0.5**
OJC LMZ LR 23 53 45.2
OJC Ojcow 69.28 319⇑*i*P **P** **23 20 37.4 +0.6**
OJC *e*S **S** **23 29 40.8 -0.5**
OJC MLR MLR
comp=Z,2µm,21.9s
OJC Ojcow 69.28 319 *e*P **P** **23 20 36.8 0.0**
comp=Z,249nm,0.9s
PDG Podgorica 69.31 311 P **P** **23 20 36.0 -1.1**
TTG Podgorica 69.31 311⇑*i*P **P** **23 20 36.3 -0.8**
ULC Ulcinj 69.31 310⇑*i*P **P** **23 20 36.1 -1.1**
DRME Dracevica, Mon 69.36 310⇑*i*P **P** **23 20 36.7 -0.7**
PKS2 Kecel 69.45 315⇑*e* **P** **23 20 38.1 +0.2**
KEV Kevo 69.50 340 *e*P **P** **23 20 38.0 +0.2**
KEV pmax pmax
comp=Z,709nm,1.8s
KEV MLR MLR
comp=Z,8µm,20.0s
KEV Kevo 69.50 340 *e*P **P** **23 20 38.0 +0.2**
comp=Z,709nm,1.8s
KEV LR LR
comp=Z,8µm,20.0s
NKY Niksic 69.50 311⇑*i*P **P** **23 20 37.8 -0.7**
PKS7 Kunszentmiklos 69.51 315⇑*ep*PKiKP **P** **23 20 38.8 +0.6**
NKME Niksic 69.53 311⇑*i*P **P** **23 20 37.9 -0.7**
BUM Brajici-Budva 69.57 310⇑*i*P **P** **23 20 38.1 -0.7**
UPM Unac-Piva 69.58 311⇑*i*P **P** **23 20 38.1 -0.9**
BUD Budapest 69.62 316⇑*e* **P** **23 20 39.3 +0.4**
PKSM Moragy 69.84 315⇑*i*P **P** **23 20 40.6 +0.3**
PKSM Moragy 69.84 315⇑*ep*PKiKP **P** **23 20 40.4 +0.1**
BRY Bratogost 69.84 311⇑*i*P **P** **23 20 40.0 -0.6**
HCY Herceg Novi 69.87 311⇑*i*P **P** **23 20 39.8 -0.8**
ARA0 ARCESS Array S 69.94 340 *e*P **P** **23 20 40.9 +0.5**
ARCES ARCESS Array B 69.94 340 P **P** **23 20 40.9 +0.5**
comp=Z,98nm,0.7s,baz=96,slow=5.0,SNR=305
ARCES LR LR 23 54 30.1
comp=Z,8µm,20.1s,baz=112,slow=39
ARCES ARCESS Array B 69.94 340 P **P** **23 20 40.9 +0.5**
ARE0 ARCESS Array S 69.94 340⇑*i*P **P** **23 20 41.2 +0.7**
ARE0 IAMs_20 IAMs_20 23 56 10.7
comp=Z,12µm,17.9s
CRZF Crozet Islands 69.95 209 SKS **SKiKP** **23 30 29.0 +3.4**
CRZF R 23 41 00.0
PKSG 70.05 316⇑*ep*PKiKP **P** **23 20 42.0 +0.4**
PKS9 Tamasi 70.10 315⇑*ep*PKiKP **P** **23 20 42.2 +0.3**
CSKK Cs˙tkako 70.14 316⇑*ep*PKiKP **P** **23 20 42.3 +0.2**
LSZ Lusaka 70.16 248⇑*i*P **P** **23 20 44.7 +1.8**
LSZ Lusaka 70.16 248 *e*P **P** **23 20 44.3 +1.4**
LSZ pmax pmax
comp=Z,817nm,1.9s
LSZ MLR MLR
comp=Z,21µm,19.0s
LSZ Lusaka 70.16 248 P **P** **23 20 44.8 +1.8**
SNR=71
LSZ Lusaka 70.16 248 *e*P **P** **23 20 44.3 +1.4**
comp=Z,817nm,1.9s
LSZ LR LR
comp=Z,21µm,19.0s
RAC Raciborz 70.30 319 *e*P **P** **23 20 44.3 +1.3**
RAC *e*S **S** **23 29 56.2 +3.0**
RAC MLR MLR
comp=Z,3µm,20.5s
OKC Ostrava-Krasne 70.32 318⇑*i*P **P** **23 20 43.9 +0.7**
OKC *ep*P **pP** **23 20 51.8 -0.8**
OKC *ex* x 23 25 02.6
OKC *e*S **S** **23 29 54.3 +0.9**
OKC AMS AMS 00 00 50.0
comp=Z,2µm,16.1s
OKC Ostrava-Krasne 70.32 318⇑*i*P **P** **23 20 43.9 +0.7**
OKC *e* 23 20 51.8
OKC *e* 23 25 02.6
OKC *e*S **S** **23 29 54.3 +0.9**
OKC MLR MLR
comp=Z,2µm,16.1s
STON Ston 70.46 311 P **P** **23 20 43.1 -1.1**
MORC Moravsky Berou 70.70 318 *e*P **P** **23 20 46.5 +0.9**
MORC pmax pmax
comp=Z,851nm,0.9s
MORC MLR MLR
comp=Z,11µm,22.0s
MORC Moravsky Berou 70.70 318⇑*i*P **P** **23 20 47.6 +2.0**
MORC Moravsky Berou 70.70 318 *e*P **P** **23 20 46.5 +0.9**
comp=Z,851nm,0.9s
MORC LR LR
comp=Z,11µm,22.0s
SMOL Smolenice 70.73 317 *e*P **P** **23 20 46.5 +0.7**
SMOL Smolenice 70.73 317 *e*P **P** **23 20 46.5 +0.7**
HAMF Hammerfest 70.84 341 *e*P **P** **23 20 46.5 +0.6**
ARMA Armidale 71.06 129 *e*P **P** **23 20 49.5 +1.4**
comp=Z,102nm,1.0s
ARMA LR LR
comp=Z,3µm,20.0s
GKP Gorka Klasztor 71.07 322 *i* P **P** **23 20 47.9 +0.3**
GKP *e*S **S** **23 30 01.1 -0.9**
GKP LMZ LR 23 59 25.8
GKP Gorka Klasztor 71.07 322⇑*i*P **P** **23 20 47.9 +0.3**
GKP *e*S **S** **23 30 01.2 -0.8**
GKP MLR MLR
comp=Z,6µm,18.0s
BEHE Becsehely 71.14 315⇑*e*P **P** **23 20 49.2 +1.0**
MSNA Messina 71.17 241⇑*i*P **P** **23 20 50.4 +1.5**
MSNA AMB AMB 23 20 51.6
comp=Z,1µm,2.0s
MSNA AMS AMS 23 50 09.0
comp=Z,9µm,19.1s
TIP Timpagrande 71.23 307 P **P** **23 20 49.1 +0.1**
TIP Timpagrande 71.23 307 *e*P **P** **23 20 48.9 -0.2**
comp=Z,235nm,1.7s
TIP LR LR
comp=Z,1µm,21.0s
SOP Sopron 71.30 316⇑*e*P **P** **23 20 49.7 +0.5**
VRAC Vranov 71.31 318⇑*i*P **P** **23 20 49.9 +0.7**
DPC Dobruska-Polom 71.51 319⇑*i*P **P** **23 20 51.6 +1.1**
DPC *ep*P **pP** **23 20 59.4 -0.5**

DPC ex x 23 25 15.5
DPC eS **S** **23 30 07.9 +0.5**
DPC AMS AMS 00 00 30.0
comp=Z,3µm,15.2s
DPC Dobruska-Polom 71.51 319⇑*i*P **P** **23 20 51.6 +1.1**
DPC e 23 20 59.4
DPC e 23 25 15.5
DPC eS **S** **23 30 07.9 +0.5**
DPC MLR MLR
comp=Z,3µm,15.2s
KSP Ksiaz 71.54 319 *i* P **P** **23 20 51.4 +0.9**
KSP eS **S** **23 30 06.9 -0.7**
KSP LMZ LR 23 58 50.7
KSP Ksiaz 71.54 319⇑*i*P **P** **23 20 51.5 +0.9**
KSP eS **S** **23 30 06.9 -0.7**
KSP MLR MLR
comp=Z,4µm,18.8s
BILL Bilibino 71.57 22*c i*P **P** **23 20 50.8 +0.4**
BILL e 23 21 06.8
BILL i 23 23 36.8
BILL pmax pmax
comp=Z,180nm,2.5s
BILL Bilibino 71.57 22 *e*P **P** **23 20 50.2 -0.2**
comp=Z,52nm,0.8s
UPC Upice 71.71 319⇑*i*P **P** **23 20 52.6 +1.0**
UPC epP **pP** **23 20 58.2 -2.9**
UPC Upice 71.71 319⇑*i*P **P** **23 20 52.6 +1.0**
CONA Conrad Observa 71.77 316⇑*i*P **P** **23 20 52.5 +0.4**
comp=Z,65nm,0.9s,SNR=74
UDBI Udbina 71.85 313 P **P** **23 20 52.1 -0.6**
CUC Castrocucco 71.93 308 *e*P **P** **23 20 52.3 -0.9**
comp=Z,254nm,1.7s
CUC LR LR
comp=Z,2µm,21.0s
CEL Celeste 71.94 306 *e*P **P** **23 20 53.9 +0.5**
comp=Z,501nm,1.1s
CEL LR LR
comp=Z,2µm,22.0s
GROS Grobnik 72.02 315 *i* P **P** **23 20 53.9 +0.3**
TREC Trest 72.03 318⇑*i*P **P** **23 20 54.1 +0.5**
TREC epP **pP** **23 20 59.4 -3.7**
TREC eS **S** **23 30 14.2 +0.8**
TREC AMS AMS 00 01 50.0
comp=Z,4µm,16.1s
TREC Trest 72.03 318⇑*i*P **P** **23 20 54.1 +0.5**
TREC eS **S** **23 30 14.2 +0.8**
TREC MLR MLR
comp=Z,4µm,16.1s
HOPEN Hopen 72.18 347 *e*P **P** **23 20 54.5 +0.6**
HOPEN IAMs_20 IAMs_20 23 57 42.9
comp=Z,9µm,20.4s
BOJS Bojanci 72.20 314 *i* P **P** **23 20 54.8 +0.2**
BOJS eS **S** **23 30 12.3 -3.0**
TRO Tromso 72.20 339 *e*P **P** **23 20 52.8 -1.4**
PERS Pernice 72.28 315 *i* P **P** **23 20 55.6 +0.4**
PERS eS **S** **23 30 14.2 -2.2**
SOKA Soboth 72.34 315⇑*i*P **P** **23 20 56.2 +0.6**
comp=Z,177nm,1.2s,SNR=110
VISS Visnje 72.48 314 *i* P **P** **23 20 56.6 +0.3**
VISS *i* S **S** **23 30 16.3 -2.4**
NVLJ Novalja 72.49 313 P **P** **23 20 55.2 -1.2**
GOPC GO Pecny, Ondr 72.49 318⇑*i*P **P** **23 20 57.1 +0.8**
GOPC epP **pP** **23 21 04.9 -0.9**
GOPC eS **S** **23 30 19.8 +1.2**
GOPC AMS AMS 00 05 30.0
comp=Z,3µm,15.6s
BSD Bornholm Skovb 72.51 324⇑*i*P **P** **23 20 56.0 -0.3**
comp=Z,6µm,19.0s
BSD Bornholm Skovb 72.51 324⇑*i*P **P** **23 20 56.0 -0.3**
BSD MLR MLR
comp=Z,6µm,19.0s
PVCC Panska Ves 72.63 319⇑*i*P **P** **23 20 58.2 +1.1**
PVCC epP **pP** **23 21 05.3 -1.3**
PVCC eS **S** **23 30 22.0 +1.8**
PVCC AMS AMS 00 01 20.0
comp=Z,4µm,16.1s
PVCC Panska Ves 72.63 319⇑*i*P **P** **23 20 58.2 +1.1**
PVCC *e* 23 21 05.3
PVCC eS **S** **23 30 22.0 +1.8**
PVCC MLR MLR
comp=Z,4µm,16.1s
PRU Pruhonice 72.65 318⇑*i*P **P** **23 20 58.3 +1.1**
PRU epP **pP** **23 21 06.1 -0.6**
PRU eS **S** **23 30 21.9 +1.5**
PRU AMS AMS 00 00 40.0
PRU Pruhonice 72.65 318⇑*i*P **P** **23 20 58.3 +1.1**
PRU *e* 23 21 06.1
PRU eS **S** **23 30 21.9 +1.5**
OBKA Obir 72.67 315⇑*i*P **P** **23 20 58.2 +0.6**
comp=Z,162nm,0.9s,SNR=78
LJU Ljubljana 72.70 314 *e*P **P** **23 20 59.0 +1.4**
PRA Prague 72.72 319⇑*i*P **P** **23 20 58.6 +1.0**
PRA *ex* x 23 25 20.3
PRA eS **S** **23 30 23.0 +1.9**
PRA AMS AMS 00 00 20.0
comp=Z,4µm,18.1s
PRA Prague 72.72 319⇑*i*P **P** **23 20 58.6 +1.0**
PRA *e* 23 25 20.3
PRA eS **S** **23 30 23.0 +1.9**
PRA MLR MLR
comp=Z,4µm,18.1s
MOA Molln 72.84 316⇑*i*P **P** **23 20 58.7 +0.3**
comp=Z,109nm,0.9s,SNR=58
JAVS Javornik 73.02 314 *i* P **P** **23 20 59.4 -0.3**
JAVS eS **S** **23 30 23.2 -1.8**
BRG Berggiesshubel 73.03 319 *i* P **P** **23 21 00.5 +1.0**
comp=Z,233nm,1.0s
BRG PP **PP** **23 23 38.0 -4.1**
BRG S **S** **23 30 25.0 +0.3**
BRG *e*PKPPKP P'P'df 23 48 33.6 -9.1
comp=Z,17nm,1.8s
comp=N,3µm,20.0s
comp=E,3µm,15.2s
comp=Z,4µm,15.4s
BRG Berggiesshubel 73.03 319 *e*P **P** **23 21 00.4 +1.0**
comp=Z,234nm,1.0s
BRG Berggiesshubel 73.03 319 *i* P **P** **23 21 00.5 +1.0**
BRG 23 23 38.0
BRG S **S** **23 30 25.0 +0.3**
BRG pmax pmax
comp=Z,233nm,1.0s
BRG pmax pmax
comp=Z,17nm,1.8s
BRG MLR MLR
comp=N,3µm,20.0s
BRG MLR MLR
comp=E,3µm,15.2s
BRG MLR MLR
comp=Z,4µm,15.4s
RUE Ruedersdorf 73.14 321 *e*P **P** **23 21 01.0 +1.0**
comp=Z,500nm,0.9s
RUE Ruedersdorf 73.14 321 *e*P **P** **23 21 00.7 +0.7**
comp=Z,1µm,1.6s
RUE LR LR
comp=Z,5µm,20.0s
WDD Wield Dalam 73.19 304 *e*P **P** **23 20 59.7 -1.0**
comp=Z,644nm,1.6s
WDD LR LR
comp=Z,2µm,18.0s
GEC2 GERESS Array S 73.21 317 *e*P **P** **23 21 01.4 +0.7**
comp=Z,253nm,0.9s
GEC2 GERESS Array S 73.21 317 *e*P **P** **23 21 00.9 +0.2**
GEC2 GERESS Array S 73.21 317 *e*P **P** **23 21 00.9 +0.2**
GERES GERESS Array B 73.21 317 P **P** **23 21 01.2 +0.5**
comp=Z,124nm,0.7s,baz=84,slow=5.8,SNR=1137
GERES LR LR 23 59 16.6
comp=Z,3µm,19.5s,baz=86,slow=41
GERES GERESS Array B 73.21 317 P **P** **23 21 01.2 +0.5**
TRI Trieste 73.24 314 *e*P **P** **23 21 00.5 -0.3**
TRI pmax pmax
comp=Z,466nm,1.8s
TRI MLR MLR
comp=Z,2µm,21.0s
TRI Trieste 73.24 314 *e*P **P** **23 21 00.5 -0.3**
comp=Z,466nm,1.8s
TRI LR LR
comp=Z,2µm,21.0s
KHC Kasperske Hory 73.28 318⇑*i*P **P** **23 21 01.5 +0.4**
KHC e**P**P **pP** **23 21 07.2 -3.3**
KHC e**P**P **PP** **23 23 44.5 +0.1**
KHC eS **S** **23 30 28.5 +0.8**
KHC AMS AMS 00 02 10.0
comp=Z,3µm,15.7s
KHC Kasperske Hory 73.28 318⇑*i*P **P** **23 21 01.5 +0.4**

KHC *e* 23 23 44.5
KHC eS **S** **23 30 28.5 +0.8**
KHC MLR MLR
comp=Z,3µm,15.7s
KHC Kasperske Hory 73.28 318 *e*P **P** **23 21 01.3 +0.2**
comp=Z,38nm,0.8s
KHC LR LR
comp=Z,1µm,21.0s
STEI Steigen 73.28 337 *e*P **P** **23 21 00.6 0.0**
MYKA Terra Mystica 73.30 315⇑*i*P **P** **23 21 01.3 +0.1**
comp=Z,75nm,0.9s,SNR=34
FBE Freiberg 73.41 319 *e*P **P** **23 21 02.8 +1.1**
comp=Z,388nm,1.0s
RGN Rugen 73.42 323 *e*P **P** **23 21 02.7 +1.0**
comp=Z,586nm,1.3s
RGN Rugen 73.42 323 PFAKE 23 21 10.0 +8.3
RGN LR LR
comp=Z,6µm,19.0s
KBA Koelnbreinsper 73.49 315⇑*i*P **P** **23 21 02.3 -0.1**
comp=Z,113nm,1.4s,SNR=28
CLL Collm 73.62 320 *e*P **P** **23 21 03.3 +0.4**
comp=Z,474nm,1.8s
CLL Collm 73.62 320⇑*i*P **P** **23 21 03.1 +0.2**
comp=Z,474nm,1.8s
CLL *i* sP **sP** **23 21 11.3 -4.6**
CLL e**P**P PP 23 23 54.0 +6.9
CLL e**P**PP PPP 23 25 42.0
CLL eS **SKiKP** **23 30 30.0 -1.0**
CLL *e* 23 36 24.0
CLL eSSS SSS 23 38 48.0
CLL Lm MLR 23 58 00.0
comp=N,3µm,21.8s
CLL Lm MLR 23 58 00.0
comp=E,4µm,19.9s
CLL Lm MLR 23 58 00.0
comp=Z,5µm,20.1s
CLL Collm 73.62 320 *e*P **P** **23 21 03.1 +0.2**
CLL pmax pmax
comp=Z,580nm,1.7s
CLL MLR MLR
comp=Z,6µm,20.0s
CLL Collm 73.62 320 *e*P **P** **23 21 03.1 +0.2**
comp=Z,580nm,1.7s
CLL LR LR
comp=Z,6µm,20.0s
AQU L'Aquila 73.64 311 *e*P **P** **23 21 02.8 -0.6**
AQU pmax pmax
comp=Z,141nm,1.2s
AQU MLR MLR
comp=Z,3µm,21.0s
AQU L'Aquila 73.64 311 *e*P **P** **23 21 02.8 -0.6**
comp=Z,141nm,1.2s
AQU LR LR
comp=Z,3µm,21.0s
WET Wettzell 73.74 318 *e*P **P** **23 21 04.4 +0.6**
comp=Z,185nm,1.0s
RJOB Jochberg 73.84 316 *e*P **P** **23 21 04.4 0.0**
comp=Z,117nm,0.9s
COP Copenhagen 73.94 324⇑*i*P **P** **23 21 05.5 +0.8**
comp=Z,46nm,0.9s
COP *i* S **SKiKP** **23 30 32.1 +0.8**
COP Copenhagen 73.94 324⇑*i*P **P** **23 21 05.5 +0.8**
COP *i* S **SKiKP** **23 30 32.1 +0.8**
COP pmax pmax
comp=Z,46nm,0.9s
SLR Silverton 73.98 238⇑*i*P **P** **23 21 06.9 +1.3**
SLR AMB AMB 23 21 07.5
comp=Z,138nm,0.9s
SLR AMS AMS 23 51 57.3
comp=Z,12µm,18.0s
TANN Tannenbergstha 73.98 319 *e*P **P** **23 21 05.7 +0.5**
comp=Z,156nm,1.2s
KONS Konsvik 73.98 336 *e*P **P** **23 21 05.2 +0.5**
WERN Wernitzgruen 74.04 319 *e*P **P** **23 21 06.3 +0.8**
comp=Z,124nm,1.0s
LLD Lille Linde 74.06 324 *i* P **P** **23 21 06.2 +0.8**
LLD Lille Linde 74.06 324 *i* P **P** **23 21 06.2 +0.8**
GUNZ Gunzen 74.07 319 *e*P **P** **23 21 06.5 +0.9**
comp=Z,426nm,1.6s
ABTA Abfaltersbach 74.07 315⇑*i*P **P** **23 21 05.3 -0.5**
comp=Z,79nm,1.1s,SNR=45
WERD Werda 74.08 319 *e*P **P** **23 21 06.4 +0.7**
comp=Z,160nm,1.0s
CLTB Caltabellotta 74.10 306 *e*P **P** **23 21 05.6 -0.6**
comp=Z,178nm,1.9s
ROTZ Rotzenmuhle 74.16 318 *e*P **P** **23 21 07.5 +1.3**
comp=Z,638nm,1.7s
PLN Plauen 74.17 319 *e*P **P** **23 21 06.8 +0.6**
comp=Z,156nm,1.0s
MANZ Manzenberg 74.22 319 *e*P **P** **23 21 07.6 +1.1**
comp=Z,655nm,1.7s
NSS Namsos 74.36 334 *e*P **P** **23 21 07.2 +0.2**
NEUB Neuenburg 74.40 320 *e*P **P** **23 21 08.1 +0.6**
comp=Z,516nm,1.6s
HSPB Hornsund (broa 74.42 347 *e*P **P** **23 21 07.8 +0.7**
HSPB IAMs_20 IAMs_20 00 00 28.7
comp=Z,9µm,19.0s
SPA0 Spitsbergen Ar 74.44 348⇑*i*P **P** **23 21 07.6 +0.3**
SPA0 IAMs_20 IAMs_20 00 00 02.3
comp=Z,8µm,18.6s
NC602 NORSAR Array S 74.45 330 *e*P **P** **23 21 10.7 +3.1**
NC602 IAMs_20 IAMs_20 23 56 45.9
comp=Z,11µm,21.1s
MOX Moxa 74.51 319 *e*P **P** **23 21 08.9 +0.7**
comp=Z,162nm,1.0s
NB2 NORSAR Subarra 74.62 330 P **P** **23 21 08.6 0.0**
comp=Z,680nm,1.7s,baz=90,slow=5.9
NB2 NORSAR Subarra 74.62 330 P **P** **23 21 08.6 0.0**
baz=90,slow=5.9
NOA NORSAR Array B 74.62 330 P **P** **23 21 08.0 -0.7**
comp=Z,65nm,0.8s,baz=90,slow=5.9,SNR=121
NOA PP **PP** **23 23 55.9 +0.5**
comp=Z,4.6nm,0.8s,baz=98,slow=8.3,SNR=3.4
NOA LR LR 23 59 01.0
comp=Z,4µm,18.7s,baz=60,slow=40
NOA NORSAR Array B 74.62 330 P **P** **23 21 08.0 -0.7**
NOA PP **PP** **23 23 55.9 +0.5**
WTTA Wattenberg 74.64 316⇑*i*P **P** **23 21 08.8 -0.4**
comp=Z,139nm,0.8s,SNR=74
TAU Tasmania Unive 74.68 142 *e*P **P** **23 21 09.5 +0.3**
TAU pmax pmax
comp=Z,198nm,1.4s
TAU MLR MLR
comp=Z,5µm,19.0s
TAU Tasmania Unive 74.68 142 *e*P **P** **23 21 09.5 +0.3**
comp=Z,198nm,1.4s
TAU LR LR
comp=Z,5µm,19.0s
WATA Walderalm 74.68 316⇑*i*P **P** **23 21 08.8 -0.6**
comp=Z,51nm,0.7s,SNR=29
KLOF Kloof 74.78 238 *e*P **P** **23 21 12.1 +1.8**
KLOF AMB AMB 23 21 13.0
comp=Z,259nm,0.8s
NBO02 NORSAR Array S 74.79 330 *e*P **P** **23 21 09.3 -0.3**
GRF Grafenberg Arr 74.81 318 *e*P **P** **23 21 11.0 +1.1**
comp=Z,633nm,1.7s
GRF Grafenberg Arr 74.81 318 *e*L L 00 02 04.7
comp=Z,4µm,19.7s
GRFO Grafenberg 74.81 318 *e*P **P** **23 21 10.6 +0.7**
GRFO pmax pmax
comp=Z,691nm,1.7s
GRFO MLR MLR
comp=Z,3µm,22.0s
GRFO Grafenberg 74.81 318 *e*P **P** **23 21 10.6 +0.7**
comp=Z,691nm,1.7s
GRFO LR LR
comp=Z,3µm,22.0s
FUR Furstenfeldbru 74.84 317 *e*P **P** **23 21 10.4 +0.2**
comp=Z,180nm,1.0s
OSL Oslo 74.86 329 *e*P **P** **23 21 10.4 +0.5**
OSL IAMs_20 IAMs_20 23 57 39.6
comp=Z,7µm,18.4s
WDLM Western Deep L 74.96 238⇑*i*P **P** **23 21 13.5 +2.1**
WDLM AMB AMB 23 21 14.0
comp=Z,116nm,0.7s
MOTA Moosalm 75.00 316⇑*i*P **P** **23 21 10.7 -0.6**
comp=Z,99nm,0.8s,SNR=83
TBLU Trondheim 75.08 332 IAMs_20 IAMs_20 23 59 17.5
comp=Z,11µm,20.2s
KSR Koster 75.17 239⇑*i*P **P** **23 21 14.2 +1.6**
KSR AMB AMB 23 21 16.8
comp=Z,638nm,1.6s
BSEG Bad Segeberg 75.19 323 *e*P **P** **23 21 13.0 +1.0**
comp=Z,723nm,1.6s
PRYS Parys 75.21 237⇑*i*P **P** **23 21 13.8 +1.1**
PRYS AMB AMB 23 21 14.9
comp=Z,81nm,0.8s

PRYS AMS AMS 23 49 57.0
comp=Z,5µm,20.4s
RETA Reutte 75.22 316⇑*i*P **P** **23 21 12.4 -0.1**
comp=Z,193nm,1.0s,SNR=113
CLZ Clausthal 75.25 320 *e*P **P** **23 21 13.2 +0.7**
comp=Z,240nm,1.0s
FETA Feichten 75.28 315⇑*i*P **P** **23 21 12.8 -0.1**
comp=Z,130nm,1.0s,SNR=80
KBS Kingsbay 75.43 349 *e*P **P** **23 21 13.1 +0.2**
KBS pmax pmax
comp=Z,143nm,1.3s
KBS MLR MLR
comp=Z,8µm,20.0s
KBS Kingsbay 75.43 349 *e*P **P** **23 21 13.1 +0.2**
comp=Z,143nm,1.3s
KBS LR LR
comp=Z,8µm,20.0s
KONO Kongsberg 75.43 329 *e*P **P** **23 21 12.8 -0.4**
KONO Kongsberg 75.43 329 *e*P **P** **23 21 13.1 -0.2**
KONO pmax pmax
comp=Z,392nm,1.4s
KONO MLR MLR
comp=Z,7µm,19.0s
KONO Kongsberg 75.43 329 *e*P **P** **23 21 13.1 -0.2**
comp=Z,392nm,1.4s
KONO LR LR
comp=Z,7µm,19.0s
UBBA Unterbreizbach 75.53 319 *e*P **P** **23 21 14.5 +0.6**
comp=Z,374nm,2.0s
SEK Senekal 75.55 236⇑*i*P **P** **23 21 15.8 +1.1**
SEK AMB AMB 23 21 16.4
comp=Z,142nm,0.9s
SEK AMS AMS 23 52 08.8
comp=Z,8µm,18.5s
FUORN Ofenpass-Fuorn 75.62 315 *e*P **P** **23 21 14.8 -0.2**
comp=Z,1µm,2.5s
FUORN LR LR
comp=Z,3µm,22.0s
BFSD Buffelsfontein 75.66 238 *e*P **P** **23 21 16.4 +1.1**
BFSD AMB AMB 23 21 17.1
comp=Z,167nm,1.1s
VLC Villacollemand 75.72 313 *e*P **P** **23 21 14.5 -0.8**
comp=Z,184nm,1.3s
VLC LR LR
comp=Z,3µm,22.0s
MUD Monsted U'grnd 75.75 325⇑*i*P **P** **23 21 16.4 +1.3**
comp=Z,580nm,1.5s
MUD Monsted U'grnd 75.75 325⇑*i*P **P** **23 21 16.4 +1.3**
MUD pmax pmax
comp=Z,580nm,1.5s
DAVA Damuels 75.84 316⇑*i*P **P** **23 21 16.2 +0.1**
comp=Z,219nm,0.8s,SNR=82
LBTB Lobatse 75.94 240⇑*i*P **P** **23 21 18.5 +1.6**
LBTB AMB AMB 23 21 19.0
comp=Z,157nm,0.9s
LBTB AMS AMS 23 51 02.8
comp=Z,12µm,19.0s
LBTB Lobatse 75.94 240 *e*P **P** **23 21 18.0 +1.1**
LBTB pmax pmax
comp=Z,138nm,0.8s
LBTB Lobatse 75.94 240 *e*P **P** **23 21 18.0 +1.1**
comp=Z,138nm,0.8s
STU Stuttgart 76.19 317 *e*P **P** **23 21 18.3 +0.5**
comp=Z,432nm,1.7s
STU Stuttgart 76.19 317 *e*P **P** **23 21 17.7 -0.1**
STU pmax pmax
comp=Z,99nm,0.8s
STU MLR MLR
comp=Z,3µm,20.0s
STU Stuttgart 76.19 317 *e*P **P** **23 21 17.7 -0.1**
comp=Z,99nm,0.8s
STU LR LR
comp=Z,3µm,20.0s
TUE Stuetta 76.26 315 PFAKE 23 21 30.0 +11
TUE LR LR
comp=Z,3µm,22.0s
TNS Taunus Mts 76.56 319 *e*P **P** **23 21 20.6 +0.6**
comp=Z,129nm,1.0s
BFO Black Forest 76.80 317 P **P** **23 21 21.2 -0.1**
comp=Z,399nm,1.7s,SNR=32
BFO Black Forest 76.80 317 *e*P **P** **23 21 21.2 -0.1**
comp=Z,117nm,1.3s
BFO Black Forest 76.80 317*c e*P **P** **23 21 21.2 -0.1**
BFO Black Forest 76.80 317 *e*P **P** **23 21 20.9 -0.4**
comp=Z,212nm,1.6s
BFO LR LR
comp=Z,2µm,19.0s
IBBN Ibbenburen 76.83 321 *e*P **P** **23 21 22.2 +0.8**
comp=Z,762nm,1.6s
VSL Villasalto 76.92 308 *e*P **P** **23 21 21.6 -0.6**
comp=Z,94nm,0.9s
VSL LR LR
comp=Z,1µm,21.0s
SWZ Schweizer 76.97 238 *e*P **P** **23 21 23.4 +0.6**
SWZ AMB AMB 23 21 34.5
comp=Z,34nm,1.0s
BLS5 Blasjo 77.04 328 *e*P **P** **23 21 23.2 +0.8**
LANF Langenberg 77.08 318⇑*e*P **P** **23 21 23.5 +0.6**
BUG Bochum--Univer 77.20 320 *e*P **P** **23 21 24.2 +0.7**
comp=Z,622nm,1.7s
KEST Kesra 77.39 304 P **P** **23 21 25.4 +0.4**
comp=Z,56nm,0.9s,baz=32,slow=1.5,SNR=91
KEST LR LR 00 01 28.4
comp=Z,1µm,18.4s,baz=42,slow=40
KEST Kesra 77.39 304 *e*P **P** **23 21 25.1 +0.1**
WTSB Winterswijk 77.45 321 *e*P **P** **23 21 25.4 +0.6**
comp=Z,620nm,1.4s
AMKA Amchitka 77.46 40 *e*P **P** **23 21 23.2 -1.7**
BOSA Boshof 77.58 236⇑*i*P **P** **23 21 27.5 +1.3**
BOSA AMB AMB 23 21 28.4
comp=Z,219nm,0.7s
BOSA AMS AMS 23 55 01.7
comp=Z,7µm,16.7s
BOSA Boshof 77.58 236 P **P** **23 21 27.4 +1.2**
comp=Z,201nm,0.7s,baz=70,slow=5.2,SNR=563
BOSA PKKPbc **PKKPbc** **23 40 30.7 +0.1**
comp=Z,2.9nm,0.8s,baz=239,slow=3.6,SNR=6.1
BOSA LR LR 23 52 13.6
comp=Z,6µm,19.3s,baz=54,slow=33
BOSA Boshof 77.58 236 P **P** **23 21 27.4 +1.2**
BOSA pmax pmax
comp=Z,201nm,0.7s
BOSA pmax pmax
comp=Z,3.0nm,0.8s
BOSA MLR MLR
comp=Z,6µm,19.3s
BOSA Boshof 77.58 236 *e*P **P** **23 21 27.9 +1.7**
BOSA PKKPbc **PKKPbc** **23 40 30.7 +0.1**
ECH Echery 77.58 317⇑*e*P **P** **23 21 25.9 +0.1**
MOF Molkenrain 77.64 317⇑*e*P **P** **23 21 26.3 +0.1**
SENIN Lac Senin/Sane 77.68 315 *e*P **P** **23 21 26.5 -0.1**
SAOF Saorge 77.77 313⇑*e*P **P** **23 21 27.2 +0.3**
LOMF Lomont 77.90 316⇑*e*P **P** **23 21 27.6 0.0**
REVF Revere 77.93 312⇑*e*P **P** **23 21 27.6 -0.2**
TOUF Mont Tournerai 77.98 313⇑*e*P **P** **23 21 28.7 +0.4**
MVIF Mont Vial 78.07 313⇑*e*P **P** **23 21 29.1 +0.4**
MEM Membach 78.08 319 P **P** **23 21 28.8 +0.4**
comp=Z,83nm,1.9s
MEM Membach 78.08 319 *e*P **P** **23 21 28.9 +0.5**
MEM pmax pmax
comp=Z,186nm,1.4s
MEM MLR MLR
comp=Z,3µm,20.0s
MEM Membach 78.08 319 *e*P **P** **23 21 28.9 +0.5**
comp=Z,186nm,1.4s
MEM LR LR
comp=Z,3µm,20.0s
WLF Walferdange 78.09 318 P **P** **23 21 29.4 +1.0**
comp=Z,211nm,2.0s
WLF Walferdange 78.09 318 *e*P **P** **23 21 29.5 +1.0**
comp=Z,603nm,1.8s
WLF Walferdange 78.09 318 *e*P **P** **23 21 29.2 +0.7**
WLF pmax pmax
comp=Z,547nm,1.7s
WLF MLR MLR
comp=Z,4µm,20.0s
WLF Walferdange 78.09 318 *e*P **P** **23 21 29.2 +0.7**
comp=Z,547nm,1.7s
WLF LR LR
comp=Z,4µm,20.0s
HGN Heimansgroeve 78.11 320 *e*P **P** **23 21 28.7 +0.2**
comp=Z,364nm,1.9s
HGN e**P**P PP 23 24 30.7 +5.7
HGN eS S 23 31 09.9 -11
HVD Gariep Dam 78.16 235⇑*i*P **P** **23 21 30.9 +1.6**
HVD AMB AMB 23 21 31.9
comp=Z,192nm,0.8s

HVD AMS AMS 23 56 57.6
comp=Z,5µm,17.0s
RSL Roselend 78.23 314⇑ eP P 23 21 29.9 +0.3
SURF Saint Ours 78.24 313⇑ eP P 23 21 30.3 +0.6
BNI Bardonecchia 78.27 314 eP P 23 21 29.4 -0.4
BNI pmax pmax
comp=Z,274nm,1.3s
BNI MLR MLR
comp=Z,2µm,22.0s
BNI Bardonecchia 78.27 314 eP P 23 21 29.4 -0.4
comp=Z,274nm,1.3s
BNI LR LR
comp=Z,2µm,22.0s
BEBN Eben Emael 78.27 320 P P 23 21 29.7 +0.3
comp=Z,45nm,1.9s
CALN Calern 78.27 312⇑ eP P 23 21 30.4 +0.6
THEF They Montfort 78.36 317⇑ eP P 23 21 30.2 +0.1
GRM Grahamstown 78.45 232⇑ iP P 23 21 32.6 +1.8
GRM AMB AMB 23 21 33.0
comp=Z,99nm,0.8s
BCLA Clavier 78.55 319 P P 23 21 31.4 +0.4
comp=Z,50nm,1.7s
GDM Grand'Maison 78.64 314⇑ eP P 23 21 32.3 +0.4
CMAH Djebel Manchou 78.81 305 P P 23 21 32.7 -0.2
ABSA Djebel Ababsia 78.81 305 P P 23 21 33.0 +0.1
GRN Grenoble 78.90 314⇑ eP P 23 21 33.9 +0.7
DOU Dourbes 79.04 319 P P 23 21 34.1 +0.4
comp=Z,83nm,1.9s
UCC Uccle 79.10 320 P P 23 21 34.1 +0.1
comp=Z,162nm,2.1s
UCC Uccle 79.10 320 eP P 23 21 34.3 +0.3
UCC pmax pmax
comp=Z,364nm,2.0s
UCC MLR MLR
comp=Z,4µm,20.0s
UCC Uccle 79.10 320 eP P 23 21 34.3 +0.3
comp=Z,364nm,2.0s
UCC LR LR
comp=Z,4µm,20.0s
SNF Seneffe 79.18 319 P P 23 21 35.0 +0.5
OG26 St.-Nazaire-De 79.30 313⇑ eP P 23 21 36.2 +0.8
CKFL Kef-Lekhel 79.40 305 P P 23 21 36.3 +0.1
MIR Mirnyy 79.53 180 eP P 23 21 46.0 +10
MIR pmax pmax
comp=Z,60nm,1.0s
CASM Ain Smara 79.61 305 P P 23 21 37.4 +0.2
CTEI Djebel Teioual 79.70 305 P P 23 21 38.4 +0.6
SSB Saint Sauveur 79.73 314⇑ eP P 23 21 38.0 +0.3
NOUC Port Laguerre 79.87 116 eP P 23 21 38.9 +0.2
ADK Adak 79.89 39 eP P 23 21 37.0 -1.3
ADK pmax pmax
comp=Z,79nm,1.0s
ADK MLR MLR
comp=Z,2µm,20.0s
ADK Adak 79.89 39 eP P 23 21 37.0 -1.3
comp=Z,79nm,1.0s
ADK LR LR
comp=Z,2µm,20.0s
DZM Mont Dzumac 79.99 116 eP P 23 21 40.9 +1.4
comp=Z,182nm,1.3s
DZM eS S 23 31 38.1 -3.9
comp=Z,1µm,24.2s
DZM Mont Dzumac 79.99 116 eLR LR 23 46 41.4
comp=Z,4µm,22.9s
BUFB Buffelsbos 80.14 231 eP P 23 21 41.7 +1.8
BUFB AMB AMB 23 21 42.2
comp=Z,8.5nm,0.7s
GSTR Great Sitkin T 80.24 39 eP P 23 21 39.3 -0.9
PLDF La Plantade 80.27 315⇑ eP P 23 21 41.2 +0.6
COLF Collangettes 80.29 314⇑ eP P 23 21 41.1 +0.4
CASY Casey 80.31 173 eP P 23 21 40.5 +0.4
comp=Z,58nm,1.1s
CASY LR LR
comp=Z,6µm,18.0s
CKHR Kef el Ahmar 80.43 305 P P 23 21 41.8 +0.1
SET Setif 80.49 305 P P 23 21 43.0 +1.0
MENF Mencas 80.52 320⇑ eP P 23 21 42.1 +0.4
AGO Saint Agoulin 80.59 315⇑ eP P 23 21 42.9 +0.6
LBL Lubilhac 80.64 314⇑ eP P 23 21 43.5 +0.9
PYM Petit Puy Mans 80.73 315⇑ eP P 23 21 43.7 +0.6
UPI Upington 80.77 238⇑ iP P 23 21 45.0 +1.5
UPI AMB AMB 23 21 45.6
comp=Z,110nm,0.9s
TSUM Tsumeb 81.01 248⇑ iP P 23 21 46.6 +1.6
TSUM Tsumeb 81.01 248 eP P 23 21 46.0 +0.9
comp=Z,742nm,2.5s
TSUM LR LR
comp=Z,12µm,18.0s
JMIC Jan Mayen 81.36 341 eP P 23 21 45.7 -0.1
JMIC e 23 24 34.6
JMIC IAMs_20 IAMs_20 00 01 05.7
comp=Z,4µm,20.7s
LRDF Laroque-de-Fa 81.53 312⇑ eP P 23 21 47.8 +0.5
FILF Fillols 81.58 312⇑ eP P 23 21 48.4 +0.7
HMNX Herstmonceux 81.61 320 eP P 23 21 47.5 0.0
HMNX AMB AMB 23 21 48.9
comp=Z,293nm,1.3s
HMNX AMS AMS 00 08 14.8
comp=Z,4µm,15.6s
TNA Tin City 81.78 25 eP P 23 21 48.2 +0.1
comp=Z,135nm,1.4s
TNA LR LR
comp=Z,5µm,20.0s
CARF Carcanieres 81.89 312⇑ eP P 23 21 49.5 +0.2
LCP Cassop 81.95 324⇑ eP P 23 21 49.5 +0.3
VALF Valcebollere 82.01 312⇑ eP P 23 21 50.9 +0.9
DAG Danmarks Havn 82.08 348⇑ iP P 23 21 49.0 -0.5
comp=Z,26nm,0.8s
DAG Danmarks Havn 82.08 348 i S S 23 32 01.3 -0.5
DAG Danmarks Havn 82.08 348⇑ iP P 23 21 49.0 -0.5
DAG i S S 23 32 01.3 -0.5
DAG pmax pmax
comp=Z,20nm,0.8s
HPK Haverah Park 82.19 324⇑ eP P 23 21 50.8 +0.3
HPK AMB AMB 23 21 51.9
comp=Z,262nm,1.4s
HPK AMS AMS 00 03 54.2
comp=Z,3µm,21.5s
MLA1 Latheron 82.24 328⇑ eP P 23 21 51.0 +0.4
MME1 Meikle Cairn 82.25 327 eP P 23 21 50.8 +0.1
MCD Coleburn Disti 82.34 327⇑ eP P 23 21 51.6 +0.3
LHO Holmfirth 82.41 323⇑ eP P 23 21 52.0 +0.3
EMHD Djebel Mahouad 82.43 305 P P 23 21 53.0 +0.6
SUR Sutherland 82.53 234⇑ iP P 23 21 55.0 +2.1
SUR AMB AMB 23 21 56.6
comp=Z,141nm,0.8s
SUR AMS AMS 23 53 35.2
comp=Z,5µm,20.2s
SUR Sutherland 82.53 234 P P 23 21 54.6 +1.7
comp=Z,2µm,0.7s,SNR=89
SUR Sutherland 82.53 234 P P 23 21 55.4 +2.5
SNR=10
SUR Sutherland 82.53 234 eP P 23 21 54.6 +1.7
comp=Z,50nm,0.7s
SUR LR LR
comp=Z,9µm,20.0s
SALF Salau 82.54 312⇑ eP P 23 21 52.3 -0.4
MLS Moulis 82.57 312⇑ eP P 23 21 52.8 0.0
MVH1 Achvaich 82.75 328⇑ eP P 23 21 53.4 0.0
ESK Eskdalemuir 82.81 325 P P 23 21 54.2 +0.5
comp=Z,968nm,0.8s,SNR=18
ESK Eskdalemuir 82.81 325⇑ eP P 23 21 54.0 +0.3
ESK AMB AMB 23 21 55.0
comp=Z,178nm,1.1s
ESK AMS AMS 00 05 33.4
comp=Z,4µm,21.2s
ESK Eskdalemuir 82.81 325 eP P 23 21 53.9 +0.2
ESK pmax pmax
comp=Z,35nm,0.8s
ESK MLR MLR
comp=Z,5µm,21.0s
ESK Eskdalemuir 82.81 325 eP P 23 21 53.9 +0.2
comp=Z,35nm,0.8s
ESK LR LR
comp=Z,5µm,21.0s
MDO Dochfour 82.95 327 eP P 23 21 54.9 +0.4
STRD Stroud 82.97 321⇑ eP P 23 21 54.6 0.0
STRD AMB AMB 23 21 56.3
comp=Z,252nm,2.3s
BATH Bath 83.14 321⇑ eP P 23 21 55.3 -0.2
BATH AMB AMB 23 21 56.4
comp=Z,210nm,1.3s
RESF Ens 83.15 312⇑ eP P 23 21 56.7 +0.8
OLDB Oldbury-Upon-S 83.22 321⇑ eP P 23 21 56.0 +0.1
OLDB AMB AMB 23 21 56.9
comp=Z,274nm,1.2s
LABF Labassere 83.29 313⇑ eP P 23 21 56.5 -0.1
GCD Castle Douglas 83.32 325⇑ eP P 23 21 56.6 +0.2
MONM Monmouth 83.34 322⇑ eP P 23 21 56.2 -0.3
MONM AMB AMB 23 21 57.5
comp=Z,182nm,1.7s
VIEF Viey 83.36 312⇑ eP P 23 21 57.8 +0.8
MCH1 Michaelchurch 83.42 322 AMB AMB 23 22 03.2
comp=Z,117nm,1.3s
KAC Achnashellach 83.43 327⇑ eP P 23 21 57.2 +0.3
MAW Mawson 83.52 191 P P 23 21 58.6 +1.7
comp=Z,48nm,0.7s,baz=18,slow=5.5,SNR=143
MAW PKKPbc PKKPbc 23 40 15.4 -3.4
comp=Z,3.4nm,0.8s,baz=216,slow=5.7,SNR=7.5
MAW LR LR 23 55 29.1
comp=Z,3µm,18.1s,baz=24,slow=33
MAW Mawson 83.52 191 eP P 23 21 58.1 +1.2
MAW pmax pmax
comp=Z,124nm,1.8s
MAW Mawson 83.52 191 eP P 23 21 58.1 +1.2
comp=Z,124nm,1.8s
MAW PKKPbc PKKPbc 23 40 15.4 -3.4
JSA Saint Aubin 83.53 319⇑ eP P 23 21 57.6 0.0
JSA AMB AMB 23 21 58.5
comp=Z,178nm,1.1s
JSA AMS AMS 00 04 54.4
comp=Z,2µm,20.2s
EBNR Beni Rached 83.55 306 P P 23 21 59.0 +1.0
KSB Sheil Bridge 83.57 327⇑ eP P 23 21 58.1 +0.5
REYF Montagne du Re 83.62 313⇑ eP P 23 21 59.3 +1.0
ECHA Ech Chlef 83.70 306 P P 23 21 59.4 +0.7
GAL1 Galloway 83.75 325⇑ eP P 23 21 58.8 +0.3
GAL1 AMB AMB 23 22 00.1
comp=Z,169nm,1.0s
GAL1 AMS AMS 00 10 38.0
comp=Z,4µm,17.4s
ALE Alert 83.76 357 P P 23 21 58.7 +0.5
comp=Z,1µm,0.8s,SNR=48
ETRT Tiaret 83.91 305 P P 23 22 00.0 0.0
EANR 'Ain N'Sour 83.95 305 P P 23 22 01.0 +0.9
LARF Larrau 84.05 313⇑ eP P 23 22 01.3 +0.8
CER Ceres 84.07 234⇑ iP P 23 22 02.5 +1.9
CER AMB AMB 23 22 03.6
comp=Z,106nm,0.8s
CER AMS AMS 23 54 07.9
comp=Z,9µm,21.5s
HEX Exmoor 84.12 321⇑ eP P 23 22 00.1 -0.5
OSSF Osses 84.20 313⇑ eP P 23 22 00.9 -0.2
OKGL Djebel Kef Gue 84.30 306 P P 23 22 04.0 +2.1
DYA Yadsworthy 84.35 320⇑ eP P 23 22 02.1 +0.3
DYA AMB AMB 23 22 02.9
comp=Z,186nm,1.4s
DYA AMS AMS 00 08 34.0
comp=Z,4µm,17.6s
GMM Mts of Mourne 84.61 324⇑ eP P 23 22 03.1 +0.1
ODJA Bouhanifia 85.08 305 P P 23 22 02.0 -3.8
DSB Dublin 85.11 323 eP P 23 22 05.8 +0.3
comp=Z,53nm,0.9s
DSB LR LR
comp=Z,2µm,22.0s
UNV Unalaska Valle 85.50 36 PFAKE 23 22 20.0 +13
UNV LR LR
comp=Z,2µm,20.0s
AKUT Akutan 85.83 35 eP P 23 22 07.5 -1.6
OLHC Oulhaca 86.11 305 P P 23 22 03.0 -8.0
DRV Dumont d'Urvil 86.74 163 P P 23 21 56.0 -17
DRV Dumont d'Urvil 86.74 163 S S 23 32 10.0 -38
DRV SS SS 23 38 27.0 -3.6
DRV L L 23 44 00.0
DRV R 23 49 00.0
ESDC Sonseca Array 87.01 310 P P 23 22 15.5 +0.2
comp=Z,35nm,0.8s,baz=58,slow=4.7,SNR=126
ESDC PKKPbc PKKPbc 23 40 07.7 -0.9
comp=Z,1.4nm,0.7s,baz=280,slow=2.1,SNR=10
ESDC LR LR 00 07 32.7
comp=Z,889nm,20.1s,baz=45,slow=40
ESDC Sonseca Array 87.01 310 P P 23 22 15.5 +0.2
ESDC PKKPbc PKKPbc 23 40 07.7 -0.9
IM04 Indian Mountai 87.11 22 eP P 23 22 15.8 +0.6
PAB San Pablo 87.33 310 eP P 23 22 17.0 +0.1
PAB pmax pmax
comp=Z,58nm,1.0s
PAB MLR MLR
comp=Z,2µm,21.0s
PAB San Pablo 87.33 310 eP P 23 22 17.0 +0.1
comp=Z,58nm,1.0s
PAB LR LR
comp=Z,2µm,21.0s
VAL Valentia 87.75 323⇑ iP P 23 22 19.8 +1.3
VAL ePP PP 23 25 44.3 +0.4
VAL Valentia 87.75 323 i S S 23 32 59.8 +1.0
COLD Coldfoot 87.79 20 eP P 23 22 19.3 +0.9
comp=Z,290nm,1.9s
COLD LR LR
comp=Z,7µm,20.0s
BORG Borgarnes 88.15 337 P P 23 22 22.0 +1.9
comp=Z,562nm,1.0s,SNR=6.1
BORG Borgarnes 88.15 337 eP P 23 22 21.2 +1.1
BORG pmax pmax
comp=Z,100nm,1.0s
BORG MLR MLR
comp=Z,7µm,22.0s
BORG Borgarnes 88.15 337 eP P 23 22 21.1 +1.1
comp=Z,100nm,1.0s
BORG LR LR
comp=Z,7µm,22.0s
SDPT Sand Point 88.35 33 eP P 23 22 20.6 -0.6
comp=Z,119nm,0.9s
TOA0 Torodi Ar. Sit 88.38 283 ePKP2 P 23 22 20.3 -1.9
TOA0 Torodi Ar. Sit 88.38 283 eP P 23 22 22.1 -0.1
TOA0 ePP PP 23 25 48.9 -1.3
TORD Torodi Ar. Bea 88.38 283 P P 23 22 22.8 +0.6
comp=Z,62nm,0.9s,baz=87,slow=4.4,SNR=329
TORD PP PP 23 25 50.6 +0.5
comp=Z,16nm,1.0s,baz=76,slow=7.6,SNR=12
TORD PKKPbc PKKPbc 23 40 05.2 +0.6
comp=Z,1.1nm,0.6s,baz=285,slow=1.7,SNR=7.4
TORD LR LR 00 02 26.3
comp=Z,3µm,19.6s,baz=100,slow=36
TORD Torodi Ar. Bea 88.38 283 P P 23 22 22.8 +0.6
TORD PP PP 23 25 50.6 +0.5
TORD PKKPbc PKKPbc 23 40 05.2 +0.6
DCZ Deep Cove 88.47 137 eP P 23 22 22.2 +0.4
comp=Z,122nm,1.1s
PBRG Braganca 88.48 313 eP P 23 22 23.0 +0.7
comp=Z,144nm,1.7s
PBRG Braganca 88.48 313 eP P 23 22 23.0 +0.7
comp=Z,144nm,1.7s
SVW2 Sparrevohn 88.50 27 eP P 23 22 22.9 +1.0
MLY Manley 88.68 22 eP P 23 22 23.3 +0.6
comp=Z,94nm,0.8s
MLY LR LR
comp=Z,6µm,18.0s
SUMG Summit 88.75 347⇑ iP P 23 22 23.8 +0.5
comp=Z,62nm,0.8s
SUMG i 23 25 45.6
SUMG i 23 34 34.2
SUMG Summit 88.75 347⇑ iP P 23 22 23.8 +0.5
SUMG i 23 34 34.2
SUMG pmax pmax
comp=Z,62nm,0.8s
SUMG Summit 88.75 347 eP P 23 22 23.6 +0.3
comp=Z,117nm,1.0s
SUMG LR LR
comp=Z,4µm,19.0s
MVO Moncorvo 88.87 312 eP P 23 22 21.7 -2.4
comp=Z,218nm,1.8s
MVO Moncorvo 88.87 312 eP P 23 22 25.0 +0.9
comp=Z,218nm,1.8s
MVO Moncorvo 88.87 312 eS S 23 33 22.0 +12
MVO Moncorvo 88.87 312 i P x 23 59 17.8
MVO eP x 00 05 23.3
MVO A A 00 11 58.8
comp=Z,2µm,18.0s
MVO Moncorvo 88.87 312 eP P 23 22 21.7 -2.4
comp=Z,218nm,1.8s
MVO Moncorvo 88.87 312 eP P 23 22 25.0 +0.9
comp=Z,218nm,1.8s
MVO Moncorvo 88.87 312 eS S 23 33 22.0 +12
MVO Moncorvo 88.87 312 i P x 23 59 17.8
MVO eP x 00 05 23.3
MVO A A 00 11 58.8
comp=Z,2µm,18.0s
CHGN Chignik 89.08 32 eP P 23 22 23.5 -1.1
WHZ Wether Hill Ro 89.13 138 eP P 23 22 24.1 -0.9
comp=Z,59nm,0.9s
PPLA Purkeypile 89.14 25 eP P 23 22 25.3 +0.3
comp=Z,558nm,1.9s
PPLA LR LR
comp=Z,4µm,20.0s
MSVF Nonsavu 89.27 108 eP P 23 22 26.8 +0.4
MSVF pmax pmax
comp=Z,70nm,1.3s
MSVF Nonsavu 89.27 108 eP P 23 22 26.8 +0.4
comp=Z,70nm,1.3s
PVRL Vila Real 89.33 312 eP P 23 22 27.1 +0.8
comp=Z,223nm,1.5s
PVRL Vila Real 89.33 312 eP P 23 22 27.1 +0.8
comp=Z,223nm,1.5s
POLO Lamas de Olo 89.36 312 eP P 23 22 27.4 +0.9
comp=Z,102nm,1.7s
POLO Lamas de Olo 89.36 312 eP P 23 22 27.4 +0.9
comp=Z,102nm,1.7s
PCAB Cabril 89.43 313 eP P 23 22 27.7 +1.0
comp=Z,266nm,1.4s
PCAB Cabril 89.43 313 eP P 23 22 27.7 +1.0
comp=Z,266nm,1.4s
PGAV Gavieira, Arco 89.53 313 eP P 23 22 27.2 -0.1
comp=Z,240nm,1.6s
PGAV Gavieira, Arco 89.53 313 eP P 23 22 28.0 +0.7
comp=Z,240nm,1.6s
PGAV Gavieira, Arco 89.53 313 eS S 23 33 13.4 -2.9
PGAV Gavieira, Arco 89.53 313 eP x 00 03 55.4
PGAV A A 00 12 24.7
comp=Z,2µm,20.0s
PGAV Gavieira, Arco 89.53 313 eP P 23 22 27.2 -0.1
comp=Z,240nm,1.6s
PGAV Gavieira, Arco 89.53 313 eP P 23 22 28.0 +0.7
comp=Z,240nm,1.6s
PGAV Gavieira, Arco 89.53 313 eS S 23 33 13.4 -2.9
PGAV Gavieira, Arco 89.53 313 eP x 00 03 55.4
PGAV A A 00 12 24.7
comp=Z,2µm,20.0s
PCBR Castelo Branco 89.58 311 eP P 23 22 28.1 +0.7
comp=Z,226nm,1.5s
PCBR Castelo Branco 89.58 311 eP P 23 22 28.1 +0.7
comp=Z,226nm,1.5s
BWN Browne 89.58 23 eP P 23 22 27.4 +0.5
comp=Z,233nm,1.0s
BWN LR LR
comp=Z,6µm,19.0s
TRF Thorofare Moun 89.62 24 eP P 23 22 27.4 +0.1
comp=Z,96nm,1.0s
TRF LR LR
comp=Z,4µm,20.0s
PVIS Viseu 89.63 312 eP P 23 22 28.6 +0.9
comp=Z,246nm,1.9s
PVIS Viseu 89.63 312 eP P 23 22 28.6 +0.9
comp=Z,246nm,1.9s
PMRV Marv??o 89.63 310 eP P 23 22 25.8 -1.9
comp=Z,190nm,1.6s
PMRV Marv??o 89.63 310 eP P 23 22 28.5 +0.8
comp=Z,190nm,1.6s
PMRV Marv??o 89.63 310 eS S 23 33 29.4 +12
PMRV Marv??o 89.63 310 eP x 00 05 32.2
PMRV A A 00 14 20.3
comp=Z,1µm,20.0s
PMRV Marv??o 89.63 310 eP P 23 22 25.8 -1.9
comp=Z,190nm,1.6s
PMRV Marv??o 89.63 310 eP P 23 22 28.5 +0.8
comp=Z,190nm,1.6s
PMRV Marv??o 89.63 310 eS S 23 33 29.4 +12
PMRV Marv??o 89.63 310 eP x 00 05 32.2
PMRV A A 00 14 20.3
comp=Z,1µm,20.0s
MDM Murphy Dome 89.64 22 eP P 23 22 27.4 +0.3
comp=Z,231nm,1.0s
MDM LR LR
comp=Z,6µm,19.0s
PBAR Barrancos 89.73 309 eP P 23 22 29.2 +1.1
comp=Z,875nm,1.6s
PBAR Barrancos 89.73 309 eP P 23 22 29.2 +1.1
comp=Z,875nm,1.6s
FYU Fort Yukon 89.81 20 eP P 23 22 28.8 +0.9
comp=Z,143nm,1.1s
FYU LR LR
comp=Z,4µm,20.0s
COLA College 89.82 22 c iP P 23 22 28.6 +0.7
COLA pmax pmax
comp=Z,170nm,1.0s
COLA College 89.82 22 eP P 23 22 27.6 -0.3
comp=Z,180nm,0.3s
COLA LR LR
comp=Z,6µm,19.0s
PESTR Estremoz 89.94 310 eP P 23 22 29.8 +0.7
comp=Z,117nm,1.8s
PESTR Estremoz 89.94 310 eP P 23 22 29.8 +0.7
comp=Z,117nm,1.8s
WRH Wood River Hil 89.94 22 eP P 23 22 28.0 -0.6
comp=Z,52nm,0.9s
WRH LR LR
comp=Z,4µm,18.0s
CCB Clear Creek Bu 89.95 22 PFAKE 23 22 40.0 +11
CCB LR LR
comp=Z,4µm,20.0s
SPU Mount Spurr 90.00 26 eP P 23 22 29.7 +0.7
MCK McKinley 90.01 23 eP P 23 22 29.1 +0.2
MCK pmax pmax
comp=Z,194nm,1.0s
MCK MLR MLR
comp=Z,6µm,20.0s
MCK McKinley 90.01 23 eP P 23 22 29.1 +0.2
comp=Z,194nm,1.0s
MCK LR LR
comp=Z,6µm,20.0s
SYO Syowa Base 90.17 197⇓ iP P 23 22 29.0 -0.3
SYO Syowa Base 90.17 197⇓ iX P 23 22 35.6 +6.3
RND Reindeer 90.21 23 eP P 23 22 29.9 0.0
RND pmax pmax
comp=Z,303nm,1.6s
RND MLR MLR
comp=Z,5µm,20.0s
RND Reindeer 90.21 23 eP P 23 22 29.9 0.0
comp=Z,303nm,1.6s
RND LR LR
comp=Z,5µm,20.0s
IL1 Eielson Array 90.22 22 eP P 23 22 29.1 -0.7
ILAR Eielson Array 90.22 22 P P 23 22 29.4 -0.5
comp=Z,32nm,0.8s,baz=300,slow=4.2,SNR=192
ILAR PP PP 23 26 08.3 +5.1
comp=Z,5.1nm,0.8s,baz=297,slow=6.3,SNR=5.4
ILAR PKKPbc PKKPbc 23 39 59.7 -1.9
comp=Z,2.5nm,0.7s,baz=155,slow=2.2,SNR=15
ILAR PKPPKP P'P'df 23 48 10.0 -0.8
comp=Z,0.6nm,0.8s,baz=86,slow=1.8,SNR=5.1
ILAR LR LR 00 06 38.6
comp=Z,2µm,21.1s,baz=306,slow=38
ILAR Eielson Array 90.22 22 P P 23 22 29.4 -0.5
ILAR PP PP 23 26 08.3 +5.1
ILAR PKKPbc PKKPbc 23 39 59.7 -1.9
ILAR P'P' 23 48 10.0
PCAS Casmilo, Conde 90.27 311 eP P 23 22 31.6 +1.0
comp=Z,111nm,1.8s
PCAS Casmilo, Conde 90.27 311 eP P 23 22 31.6 +1.0
comp=Z,111nm,1.8s
PTOM Tomar 90.33 311 eP P 23 22 32.0 +1.1
comp=Z,506nm,1.4s
PTOM Tomar 90.33 311 eP P 23 22 32.0 +1.1
comp=Z,506nm,1.4s
PMTG Montargil 90.36 310 eP P 23 22 31.8 +0.8
comp=Z,169nm,1.6s
PMTG Montargil 90.36 310 eP P 23 22 31.8 +0.8
comp=Z,169nm,1.6s
HDA Harding Lake 90.39 22 eP P 23 22 29.9 -0.8
comp=Z,53nm,0.9s
HDA LR LR
comp=Z,4µm,19.0s
KULLO Kullorsuaq 90.44 352⇑ iP P 23 22 31.4 +0.7
comp=Z,364nm,0.9s
KULLO Kullorsuaq 90.44 352 eS SKSac 23 33 00.1 +0.5
PVAQ Vaqueiros 90.46 309 eP P 23 22 31.9 +0.3
comp=Z,348nm,1.6s
PVAQ Vaqueiros 90.46 309 eP P 23 22 32.7 +1.1
comp=Z,348nm,1.6s
PVAQ Vaqueiros 90.46 309 eS S 23 33 40.8 +16
PVAQ Vaqueiros 90.46 309 eP x 00 06 20.8
PVAQ A A 00 09 39.9
comp=Z,2µm,18.0s
PVAQ Vaqueiros 90.46 309 eP P 23 22 31.9 +0.3
comp=Z,348nm,1.6s
PVAQ Vaqueiros 90.46 309 eP P 23 22 32.7 +1.1
comp=Z,348nm,1.6s

PVAQ **Vaqueiros** 90.46 309 eS S 23 33 40.8 +16
PVAQ **Vaqueiros** 90.46 309 eP x 00 06 20.8
PVAQ A A 00 09 39.9
comp=Z,2µm,18.0s
RPZ **Rata Peaks** 90.52 135 PFAKE 23 22 40.0 +8.4
RPZ LR LR
comp=Z,4µm,22.0s
PCVE **Castro Verde** 90.64 309 eP P 23 22 33.4 +1.0
comp=Z,38nm,1.0s
PCVE **Castro Verde** 90.64 309 eP P 23 22 33.4 +1.0
comp=Z,38nm,1.0s
ODZ **Otahua Downs** 90.65 136 PFAKE 23 22 40.0 +7.9
ODZ LR LR
comp=Z,4µm,18.0s
PBDV **Barranco-do-Ve** 90.67 308 eP P 23 22 33.5 +0.9
comp=Z,381nm,1.6s
PBDV **Barranco-do-Ve** 90.67 308 eP P 23 22 33.5 +0.9
comp=Z,381nm,1.6s
MESJ **Messejana** 90.72 309 eP P 23 22 33.3 +0.6
MESJ ePP PP 23 26 08.3 +0.2
MESJ eS SKSac 23 33 03.1 +0.5
MESJ **Messejana** 90.72 309 eP P 23 22 33.3 +0.6
MESJ e 23 26 08.3
MESJ eS SKSac 23 33 03.1 +0.5
MESJ **Messejana** 90.72 309 eP P 23 22 33.9 +1.2
comp=Z,188nm,1.7s
MESJ **Messejana** 90.72 309 eP P 23 22 33.9 +1.2
comp=Z,188nm,1.7s
PNCL **Nicolau / Gran** 90.87 309 eP P 23 22 34.8 +1.4
comp=Z,202nm,1.6s
PNCL **Nicolau / Gran** 90.87 309 eP P 23 22 34.8 +1.4
comp=Z,202nm,1.6s
PACT **Alcochete** 90.90 310 eP P 23 22 34.3 +0.8
comp=Z,479nm,1.9s
PACT **Alcochete** 90.90 310 eP P 23 22 34.3 +0.8
comp=Z,479nm,1.9s
PMR **Palmer** 91.02 25 eP P 23 22 34.0 +0.4
PMR **Palmer** 91.02 25 eP P 23 22 34.0 +0.4
RC01 **Rabbit Creek A** 91.02 26 eP P 23 22 34.2 +0.6
comp=Z,350nm,0.9s
RC01 LR LR
comp=Z,3µm,19.0s
DDM **Donnelly Dome** 91.14 22 eP P 23 22 34.7 +0.5
comp=Z,180nm,1.0s
DDM LR LR
comp=Z,5µm,20.0s
LIS **Lisbon** 91.15 310 eP P 23 22 35.1 +0.4
LIS AMS AMS 00 12 54.5
comp=E,2µm,17.3s
LIS **Lisbon** 91.15 310 eP P 23 22 35.1 +0.4
PMST **Lisbon--Monsan** 91.17 310 eP P 23 22 35.7 +0.9
comp=E,263nm,1.6s
PMST **Lisbon--Monsan** 91.17 310 eP P 23 22 35.7 +0.9
comp=E,263nm,1.6s
PMAFR **Mafra** 91.18 310 eP P 23 22 35.8 +0.9
comp=E,399nm,1.5s
PMAFR **Mafra** 91.18 310 eP P 23 22 35.8 +0.9
comp=E,399nm,1.5s
BRLK **Bradley Lake** 91.18 27 eP P 23 22 34.6 +0.1
comp=E,439nm,0.9s
BRLK LR LR
comp=Z,3µm,19.0s
PTEO **Sao Teotonio** 91.19 309 eP P 23 22 36.4 +1.5
comp=Z,375nm,1.6s
PTEO **Sao Teotonio** 91.19 309 eP P 23 22 36.4 +1.5
comp=Z,375nm,1.6s
MORF **Marmelete** 91.20 309 eP P 23 22 35.4 +0.3
MORF ePP PP 23 26 12.1 +0.1
MORF AMS AMS 00 12 31.0
comp=Z,2µm,20.7s
MORF **Marmelete** 91.20 309 eP P 23 22 35.4 +0.3
MORF e 23 26 12.1
MORF **Marmelete** 91.20 309 eP P 23 22 36.4 +1.3
comp=Z,243nm,1.5s
MORF **Marmelete** 91.20 309 eP P 23 22 36.4 +1.3
comp=Z,243nm,1.5s
OHAK **Old Harbor** 91.26 30 eP P 23 22 35.0 +0.2
KDAK **Kodiak Island** 91.34 29 P P 23 22 35.6 +0.4
comp=Z,790nm,1.2s,SNR=25
KDAK **Kodiak Island** 91.34 29 eP P 23 22 37.0 +1.8
KDAK **Kodiak Island** 91.34 29 eP P 23 22 36.5 +1.3
comp=Z,319nm,1.4s
KDAK LR LR
comp=Z,4µm,20.0s
PFVI **Vila Bisbo** 91.39 309 eP P 23 22 36.7 +0.8
comp=Z,281nm,1.6s
PFVI **Vila Bisbo** 91.39 309 eP P 23 22 36.7 +0.8
comp=Z,281nm,1.6s
SCM **Sheep Creek Mo** 91.63 24 eP P 23 22 37.3 +0.7
SCM pmax pmax
comp=Z,351nm,1.4s
SCM MLR MLR
comp=Z,3µm,20.0s
SCM **Sheep Creek Mo** 91.63 24 eP P 23 22 37.3 +0.7
comp=Z,351nm,1.4s
SCM LR LR
comp=Z,3µm,20.0s
SEW **Seward** 91.64 26 eP P 23 22 37.1 +0.6
comp=Z,306nm,1.1s
SEW LR LR
comp=Z,4µm,19.0s
PAX **Paxson** 91.74 23 eP P 23 22 37.8 +0.7
PAX pmax pmax
comp=Z,697nm,2.3s
PAX MLR MLR
comp=Z,5µm,19.0s
PAX **Paxson** 91.74 23 eP P 23 22 37.8 +0.7
comp=Z,697nm,2.3s
PAX LR LR
comp=Z,5µm,19.0s
KHZ **Kahutara** 91.89 133 eP P 23 22 38.0 +0.1
comp=Z,103nm,1.4s
KHZ LR LR
comp=Z,4µm,20.0s
INK **Inuvik** 92.19 16 LR LR 00 11 47.9
comp=Z,2µm,18.0s,baz=308,slow=40
INK **Inuvik** 92.19 16 eP P 23 22 39.3 +0.4
INK pmax pmax
comp=Z,192nm,1.4s
INK **Inuvik** 92.19 16 eP P 23 22 39.3 +0.4
comp=Z,192nm,1.4s
EGAK **Eagle** 92.23 20 eP P 23 22 39.3 +0.2
comp=Z,65nm,1.0s
EGAK LR LR
comp=Z,4µm,20.0s
SNZO **South Karori** 92.43 132 PFAKE 23 22 50.0 +10
SNZO LR LR
comp=Z,4µm,22.0s
DIV **Divide** 92.64 25 eP P 23 22 42.3 +1.1
comp=Z,65nm,0.8s
DIV LR LR
comp=Z,2µm,20.0s
BKZ **Black Stump Fm** 93.20 129 eP P 23 22 43.5 -0.6
comp=Z,40nm,1.0s
BKZ LR LR
comp=Z,4µm,22.0s
BMRM **Bremner River** 93.20 24 eP P 23 22 44.5 +0.6
comp=Z,156nm,0.8s
BMRM LR LR
comp=Z,4µm,21.0s
DAWY **Dawson** 93.27 20 eP P 23 22 44.5 +0.5
BFZ **Birch Farm** 93.39 131 eP P 23 22 44.5 -0.4
comp=Z,65nm,0.9s
BFZ LR LR
comp=Z,4µm,19.0s
URZ **Urewera** 93.45 128 eP P 23 22 44.5 -0.8
comp=Z,108nm,1.0s
URZ LR LR
comp=Z,5µm,20.0s
RAGM **Ragged Mountai** 93.50 25 eP P 23 22 45.3 +0.1
comp=Z,107nm,1.0s
RAGM LR LR
comp=Z,4µm,18.0s
SFJD **Kangerlussuaq** 95.73 346 PFAKE 23 23 10.0 +15
SFJD LR LR
comp=Z,4µm,22.0s
HYT **Haines Junctio** 96.04 22 eP P 23 22 57.8 +0.8
KIC **Kosan Boka** 96.13 278 ePKP2 P 23 22 58.8 +0.7
comp=Z,429nm,1.8s
DBIC **Dimbokro** 96.17 278 eP P 23 22 59.2 +0.9
DBIC **Dimbokro** 96.17 278 P P 23 22 58.5 +0.2
comp=Z,12nm,0.7s,baz=85,slow=6.0,SNR=15
DBIC LR LR 00 05 33.9
comp=Z,3µm,21.4s,baz=71,slow=35
DBIC **Dimbokro** 96.17 278 P P 23 22 58.5 +0.2
DBIC pmax pmax
comp=Z,12nm,0.7s
DBIC MLR MLR
comp=Z,3µm,21.4s
DBIC **Dimbokro** 96.17 278 eP P 23 22 57.9 -0.4
comp=Z,83nm,1.4s
TIC **Toumodi** 96.33 278 ePKP2 P 23 22 58.8 -0.3
comp=Z,94nm,1.4s
VNDA **Vanda** 98.32 168 P Pdif 23 23 06.8 +0.2
comp=Z,2.3nm,0.7s,baz=320,slow=5.3,SNR=13
VNDA PKKPbc PKKPbc 23 39 38.7 -2.2
comp=Z,1.6nm,0.8s,baz=18,slow=1.5,SNR=6.2
VNDA LR LR 00 05 07.0
comp=Z,5µm,18.1s,baz=298,slow=34
VNDA **Vanda** 98.32 168 eP P 23 23 06.3 -0.3
comp=Z,10nm,1.1s
VNDA PKKPbc PKKPbc 23 39 38.7 -2.2
BESE **Bessie Mountai** 98.54 23 PFAKE 23 23 20.0 +12
BESE LR LR
comp=Z,2µm,20.0s
PMOZ **Porto Moniz, M** 99.31 307 eP Pdif 23 23 15.2 +3.0
PMOZ **Porto Moniz, M** 99.31 307 eP x 00 06 41.6
PMOZ A A 00 13 17.4
comp=Z,4µm,18.0s
PMOZ **Porto Moniz, M** 99.31 307 eP Pdif 23 23 15.2 +3.0
PMOZ **Porto Moniz, M** 99.31 307 eP x 00 06 41.6
PMOZ A A 00 13 17.4
comp=Z,4µm,18.0s
SBA **Scott Base** 99.43 168 eP Pdif 23 23 10.6 -0.9
SBA pmax pmax
comp=Z,167nm,2.5s
SBA MLR MLR
comp=Z,4µm,19.0s
SBA **Scott Base** 99.43 168 eP Pdif 23 23 10.6 -0.9
comp=Z,167nm,2.5s
SBA LR LR
comp=Z,4µm,19.0s
DLBC **Dease Lake** 100.43 21 ePdif Pdif 23 23 18.2 +1.6
DLBC ePP PP 23 27 23.7 +1.2
DLBC LR LR
comp=Z,5µm,19.0s
WRAK **Wrangell Islan** 101.02 24 PFAKE 23 23 30.0 +11
WRAK LR LR
comp=Z,5µm,19.0s
YKA **Yellowknife Ar** 101.50 13 P Pdif 23 23 21.5 +0.3
comp=Z,3.9nm,0.8s,baz=332,slow=4.0,SNR=12
YKA PP PP 23 27 27.4 -3.0
comp=Z,4.5nm,0.8s,baz=328,slow=7.7,SNR=5.2
YKA PKKPbc PKKPbc 23 39 28.4 -2.7
comp=Z,2.2nm,0.7s,baz=157,slow=2.1,SNR=8.5
YKA **Yellowknife Ar** 101.50 13 P Pdif 23 23 21.5 +0.3
YKA PP PP 23 27 27.4 -3.0
YKA PKKPbc PKKPbc 23 39 28.4 -2.7
YKB5 **Yellowknife Ar** 101.50 13 ePdif Pdif 23 23 20.8 -0.4
QSPA **South Pole Qui** 103.07 180 PFAKE 23 23 40.0 +12
QSPA LR LR
comp=Z,4µm,20.0s
SNAA **Sanae** 104.30 199 P Pdif 23 23 35.9 +2.5
SNAA **Sanae** 104.30 199 PFAKE 23 23 40.0 +6.6
SNAA LR LR
comp=Z,4µm,18.0s
VNA2 **Neumayer--Watz** 105.81 200 P PKiKP 23 27 56.9 +4.4
VNA1 **Neumayer--Stat** 106.13 200 P PKiKP 23 27 53.9 +0.9
FCC **Fort Churchill** 108.05 4 ePKiKP PKiKP 23 27 53.9 -3.2
FCC ePP PP 23 28 16.9 -1.9
FCC LR LR
comp=Z,5µm,22.0s
EDM **Edmonton** 110.06 17 PFAKE 23 28 10.0
EDM LR LR
comp=Z,3µm,19.0s
SCHQ **Schefferville** 110.13 348 Pdiff Pdif 23 24 06.1 +6.3
comp=Z,2.1nm,0.7s,baz=31,slow=5.9,SNR=2.7
SCHQ PKiKP PKiKP 23 28 01.5 +0.3
comp=Z,2.6nm,0.7s,baz=319,slow=3.2,SNR=5.0
SCHQ PKKPbc PKKPbc 23 39 02.1 -2.6
comp=Z,5.6nm,0.7s,baz=235,slow=2.0,SNR=14
SCHQ **Schefferville** 110.13 348 Pdif Pdif 23 24 06.1 +6.3
SCHQ PKiKP PKiKP 23 28 01.5 +0.3
SCHQ ePP PP 23 28 32.8 -1.3
SCHQ PKKPbc PKKPbc 23 39 02.1 -2.6
PGC **Sidney** 110.43 25 PFAKE 23 28 10.0
PGC LR LR
comp=Z,2µm,20.0s
FFC **Flin Flon** 111.14 9 ePKIKP PKiKP 23 28 02.1 -0.9
FFC e 23 28 40.2
FFC MLR MLR
comp=Z,3µm,21.0s
FFC **Flin Flon** 111.14 9 ePKiKP PKiKP 23 28 02.1 -0.9
FFC ePP PP 23 28 40.2 -1.1
FFC LR LR
comp=Z,3µm,21.0s
NLWA **Neilton Lookou** 111.24 26 PFAKE 23 28 20.0
NLWA LR LR
comp=Z,2µm,22.0s
SACV **Santiago Islan** 111.38 292 PFAKE 23 28 20.0
SACV LR LR
comp=Z,3µm,20.0s
B08A **Colville Reser** 112.29 23 ePKiKP PKiKP 23 28 04.7 -0.8
B08A ePP PP 23 28 45.2 -4.7
DRLN **Deer Lake** 112.61 340 PFAKE 23 28 20.0
DRLN LR LR
comp=Z,4µm,21.0s
LTY **Liberty** 112.67 24 PFAKE 23 28 20.0
LTY LR LR
comp=Z,3µm,22.0s
C09A **Chrisman Ranch** 113.15 22 ePKiKP PKiKP 23 28 03.5 -3.6
NEW **Newport** 113.18 21 ePKIKP PKiKP 23 28 04.1 -3.1
NEW MLR MLR
comp=Z,3µm,21.0s
NEW **Newport** 113.18 21 ePKiKP PKiKP 23 28 04.1 -3.1
NEW LR LR
comp=Z,3µm,21.0s
WALA **Waterton Lakes** 113.57 19 PFAKE 23 28 20.0
WALA LR LR
comp=Z,4µm,22.0s
COR **Corvallis** 113.67 28 PFAKE 23 28 20.0
COR LR LR
comp=Z,2µm,22.0s
HAWA **Hanford** 113.83 24 ePKiKP PKiKP 23 28 08.3 -0.1
HAWA LR LR
comp=Z,2µm,20.0s
I03D **Drain, OR** 114.34 28 P PKPdf 23 28 10.3 +0.9
baz=114
BSMT **Bassoo Peak** 114.34 20 ePKiKP PKiKP 23 28 09.2 -0.4
KEBM **Edson Butte** 114.51 29 PFAKE 23 28 20.0 +10
KEBM LR LR
comp=Z,1µm,20.0s
YBMT **Yellow Bay** 114.59 20 ePKiKP PKiKP 23 28 08.6 -1.4
YBMT ePP PP 23 29 04.8 -1.4
JTMT **Jette** 114.60 20 ePKiKP PKiKP 23 28 08.5 -1.6
JTMT ePP PP 23 29 04.2 -2.1
I04A **Tendick Farm,** 114.69 28 P PKPdf 23 28 10.6 +0.4
baz=114
I05D **Terrebonne, OR** 114.74 27 P PKPdf 23 28 11.2 +0.9
baz=114
SWMT **Swartz Lake** 114.90 20 ePKiKP PKiKP 23 28 10.0 -0.7
SWMT ePP PP 23 29 06.0 -2.4
KBO **Bosley Butte** 115.06 30 PFAKE 23 28 20.0 +9.0
KBO LR LR
comp=Z,1µm,21.0s
F10A **Beach Ranch, E** 115.07 23 ePKiKP PKiKP 23 28 09.4 -1.6
F10A ePP PP 23 29 05.6 -4.0
A19A **Klindworth Far** 115.19 16 P PKPdf 23 28 11.2 +0.1
baz=115
J04D **Umpqua Nationa** 115.26 28 P PKPdf 23 28 12.6 +1.1
baz=115
SLMT **Seeley Lake** 115.30 20 ePKiKP PKiKP 23 28 11.2 -0.2
HUMO **Hull Mountain** 115.36 29 ePKPdf PKPdf 23 28 12.3 +0.8
HUMO LR LR
comp=Z,2µm,22.0s
A20A **Cobblestone Ra** 115.45 15 P PKPdf 23 28 12.1 +0.5
baz=115
MSO **Missoula** 115.51 20 P PKPdf 23 28 11.6 -0.2
baz=115
MSO **Missoula** 115.51 20 ePKPdf PKPdf 23 28 11.4 -0.4
MSO ePP PP 23 29 10.1 -2.7
MSO LR LR
comp=Z,3µm,19.0s
B19A **Brinkman Farms** 115.58 16 P PKPdf 23 28 11.9 +0.1
baz=115
A21A **Bergtoll Ranch** 115.60 14 P PKPdf 23 28 12.2 +0.4
baz=115
J05D **Fort Rock, OR** 115.62 27 P PKPdf 23 28 13.2 +1.1
baz=115
CHMT **Chamberlain Mo** 115.67 20 ePKPdf PKPdf 23 28 11.6 -0.7
CHMT ePP PP 23 29 09.4 -4.5
EGMT **Eagleton** 115.74 17 P PKPdf 23 28 12.6 +0.4
baz=116
EGMT **Eagleton** 115.74 17 ePKPdf PKPdf 23 28 11.4 -0.8
EGMT LR LR
comp=Z,400nm,19.0s
B20A **Solberg Farm,** 115.83 15 P PKPdf 23 28 12.6 +0.3
baz=116
A22A **Carney Farms,** 115.84 14 P PKPdf 23 28 12.7 +0.4
baz=116
K04D **Chiloquin, OR** 115.91 28 P PKPdf 23 28 13.6 +0.8
baz=116
B21A **Ellsworth Farm** 116.10 15 P PKPdf 23 28 13.3 +0.5
baz=116
YBH **Yreka Blue Hor** 116.16 29 PFAKE 23 28 20.0 +6.8
YBH LR LR
comp=Z,1µm,22.0s
K05A **Summer Lake** 116.22 27 ePKPdf PKPdf 23 28 14.3 +0.9
KHMM **Horse Mountain** 116.32 30 PFAKE 23 28 30.0 +16
KHMM LR LR
comp=Z,1µm,20.0s
A24A **Westby** 116.33 12 P PKPdf 23 28 13.9 +0.7
baz=116
M02C **Callahan** 116.35 30 P PKPdf 23 28 14.8 +1.2
baz=116
B22A **Reddig Ranch S** 116.47 14 P PKPdf 23 28 14.2 +0.7
baz=116
A25A **Svangstu Ranch** 116.49 12 P PKPdf 23 28 14.2 +0.7
baz=116
C20A **Veseth Ranch,** 116.51 16 P PKPdf 23 28 14.8 +1.1
baz=116
M04C **Macdoel** 116.53 29 P PKPdf 23 28 14.6 +0.7
baz=116
B23A **Brockton** 116.54 13 P PKPdf 23 28 14.1 +0.4
baz=116
C21A **Desert Coulee** 116.64 15 P PKPdf 23 28 14.4 +0.5
baz=116
DGMT **Dagmar** 116.71 13 P PKPdf 23 28 14.6 +0.6
baz=116
DGMT **Dagmar** 116.71 13 ePKPdf PKPdf 23 28 14.1 +0.1
DGMT ePP PP 23 29 18.6 -2.3
DGMT LR LR
comp=Z,3µm,20.0s
A26A **Wade Farm, Ken** 116.74 11 P PKPdf 23 28 14.4 +0.4
baz=116
N02D **Trinity Center** 116.74 30 P PKPdf 23 28 15.2 +0.9
baz=116
KMRM **Mail Ridge** 116.82 31 PFAKE 23 28 30.0 +16
KMRM LR LR
comp=Z,2µm,21.0s
A27A **Ledoux Ranch,** 116.83 11 P PKPdf 23 28 14.8 +0.6
baz=117
LRM **Limekiln Ridge** 116.89 20 ePKPdf PKPdf 23 28 14.2 -0.5
C22A **Vida** 117.01 14 P PKPdf 23 28 15.6 +1.0
baz=117
B25A **Knox Farm, Ray** 117.12 12 P PKPdf 23 28 15.9 +1.1
baz=117
C23A **Lambert** 117.12 14 P PKPdf 23 28 15.5 +0.7
baz=117
WDC **Whiskeytown Da** 117.12 30 ePKIKP PKPdf 23 28 14.8 -0.1
WDC MLR MLR
comp=Z,1µm,20.0s
WDC **Whiskeytown Da** 117.12 30 ePKPdf PKPdf 23 28 14.8 -0.1
WDC LR LR
comp=Z,1µm,20.0s
A29A **Manning Farm,** 117.20 9 P PKPdf 23 28 14.8 -0.1
baz=117
B26A **Jensen Ranch,** 117.20 11 P PKPdf 23 28 15.2 +0.3
baz=117
DLMT **Dillon** 117.25 20 ePKPdf PKPdf 23 28 15.7 +0.4
DLMT ePP PP 23 29 20.1 -4.8
DLMT LR LR
comp=Z,3µm,21.0s
KCPM **Cahto Peak** 117.29 31 PFAKE 23 28 30.0 +15
KCPM LR LR
comp=Z,800nm,22.0s
BOZ **Bozeman (W)** 117.32 19 P PKPdf 23 28 15.9 +0.5
baz=117
A30A **Hoffart Farm,** 117.32 8 P PKPdf 23 28 14.8 -0.3
baz=117
B27A **Peters Farms,** 117.36 11 P PKPdf 23 28 15.7 +0.5
baz=117
D21A **La Casta Ranch** 117.37 15 P PKPdf 23 28 16.2 +0.9
baz=117
WVOR **Wild Horse Val** 117.44 26 ePKIKP PKPdf 23 28 15.9 +0.2
WVOR e 23 29 30.2
WVOR MLR MLR
comp=Z,2µm,20.0s
WVOR **Wild Horse Val** 117.44 26 ePKPdf PKPdf 23 28 15.8 +0.2
WVOR ePP PP 23 29 30.2 +3.8
WVOR LR LR
comp=Z,2µm,20.0s
B28A **Dugan Ranch, T** 117.47 10 P PKPdf 23 28 16.1 +0.6
baz=117
D22A **Cohagen** 117.50 15 P PKPdf 23 28 17.1 +1.5
baz=117
C24A **Savage** 117.55 13 P PKPdf 23 28 16.8 +1.2
baz=117
C25A **Freed Ranch, W** 117.63 12 P PKPdf 23 28 17.3 +1.6
baz=117
MCMT **McKenzie Canyo** 117.64 21 ePKPdf PKPdf 23 28 16.8 +0.6
MCMT ePP PP 23 29 24.7 -3.0
D23A **Lindsay** 117.71 14 P PKPdf 23 28 17.0 +1.0
baz=117
C26A **Wahner Farm, P** 117.76 12 P PKPdf 23 28 16.6 +0.6
baz=118
MFID **Camas Ranch** 117.77 23 ePKPdf PKPdf 23 28 17.0 +0.8
MFID LR LR
comp=Z,2µm,22.0s
B30A **Myrvik Farm, E** 117.79 9 P PKPdf 23 28 16.2 +0.1
baz=118
GCMT **Greycliff** 117.79 18 ePKPdf PKPdf 23 28 16.3 0.0
D24A **Glendive** 117.97 13 P PKPdf 23 28 17.3 +0.8
baz=118
C27A **Sayler Ranch,** 117.98 11 P PKPdf 23 28 17.2 +0.7
baz=118
PQI **Presque Isle** 118.03 345 ePKPdf PKPdf 23 28 15.3 -1.2
QLMT **Earthquake Lak** 118.11 20 ePKPdf PKPdf 23 28 17.6 +0.6
D25A **Fairfield** 118.15 13 P PKPdf 23 28 17.8 +1.0
baz=118
HLID **Hailey** 118.18 22 P PKPdf 23 28 18.2 +1.1
baz=118
HLID **Hailey** 118.18 22 ePKPdf PKPdf 23 28 18.1 +0.9
HLID LR LR
comp=Z,4µm,19.0s
MDND **Maddock** 118.18 10 P PKPdf 23 28 16.5 -0.3
baz=118
MDND **Maddock** 118.18 10 ePKPdf PKPdf 23 28 16.5 -0.3
MDND LR LR
comp=Z,5µm,20.0s
E22A **Miles City** 118.22 15 P PKPdf 23 28 17.7 +0.7
baz=118
F20A **Billings** 118.22 17 P PKPdf 23 28 17.4 +0.3
baz=118
AGMN **Agassiz Nation** 118.26 7 ePKPdf PKPdf 23 28 16.2 -0.7
E23A **Ismay** 118.32 14 P PKPdf 23 28 18.2 +1.0
baz=118
D26A **Manning** 118.45 12 P PKPdf 23 28 18.4 +1.0
baz=118
F21A **Absaloka Mine,** 118.48 16 P PKPdf 23 28 18.3 +0.8
baz=118
E24A **Baker** 118.49 14 P PKPdf 23 28 18.4 +0.8
baz=118
RLMT **Red Lodge** 118.52 18 P PKPdf 23 28 18.7 +0.9
baz=118
YFT **Old Faithful** 118.64 19 ePKPdf PKPdf 23 28 20.5 +2.4
YFT LR LR
comp=Z,9µm,19.0s
G20A **Bridger** 118.74 17 P PKPdf 23 28 18.4 +0.3
baz=118
F22A **Rosebud** 118.75 15 P PKPdf 23 28 18.5 +0.4
baz=118
E25A **Miller Ranch,** 118.75 13 P PKPdf 23 28 19.1 +1.1
baz=118
H17A **Grant Village** 118.77 19 ePKPdf PKPdf 23 28 19.7 +1.3
H17A LR LR
comp=Z,4µm,22.0s
MCCM **Marconi Confer** 118.81 32 PFAKE 23 28 30.0 +12
MCCM LR LR
comp=Z,1µm,20.0s
E26A **Carlson Angus** 118.98 12 P PKPdf 23 28 19.4 +1.0
baz=119
EYMN **Ely** 118.99 4 ePKPdf PKPdf 23 28 16.8 -1.5
EYMN ePP PP 23 29 33.3 -3.3
EYMN LR LR
comp=Z,4µm,21.0s
FLWY **Flagg Ranch** 119.01 19 ePKPdf PKPdf 23 28 18.0 -0.7
FLWY ePKKPbc PKKPbc 23 38 29.6 -4.7
FLWY LR LR

	comp=Z,2µm,21.0s							
G21A	Lodge Grass	119.01	16	P	PKPdf	23 28 19.0	+0.4	
	baz=119							
H19A	Powell	119.01	18	P	PKPdf	23 28 19.9	+1.3	
	baz=119							
F23A	Volborg	119.02	15	P	PKPdf	23 28 18.7	+0.2	
	baz=119							
D30A	Buchanan	119.04	9	P	PKPdf	23 28 18.4	-0.1	
	baz=119							
IMW	Indian Meadow	119.10	20	ePKPdf	PKPdf	23 28 19.9	+0.9	
IMW				ePKKPbc	PKKPbc	23 38 31.5	-2.5	
IMW				LR	LR			
	comp=Z,3µm,19.0s							
F24A	Ekalaka	119.14	14	P	PKPdf	23 28 19.3	+0.5	
	baz=119							
G22A	Birney	119.26	16	P	PKPdf	23 28 19.8	+0.7	
	baz=119							
F25A	Bowman	119.29	13	P	PKPdf	23 28 19.8	+0.7	
	baz=119							
MOOW	Moose Ponds	119.29	20	ePKPdf	PKPdf	23 28 19.9	+0.6	
FXWY	Fox Creek	119.30	20	ePKPdf	PKPdf	23 28 19.6	+0.2	
FXWY				ePKKPbc	PKKPbc	23 38 31.8	-1.4	
FXWY				LR	LR			
	comp=Z,3µm,18.0s							
TPAW	Teton Pass	119.46	20	ePKPdf	PKPdf	23 28 20.3	+0.5	
TPAW				LR	LR			
	comp=Z,3µm,19.0s							
LOHW	Long Hollow	119.46	20	ePKPdf	PKPdf	23 28 20.4	+0.7	
LOHW				LR	LR			
	comp=Z,2µm,19.0s							
H20A	Greybull	119.47	17	P	PKPdf	23 28 19.9	+0.4	
	baz=119							
G23A	Biddle	119.51	15	P	PKPdf	23 28 19.8	+0.2	
	baz=119							
F26A	Lodgepole	119.53	13	P	PKPdf	23 28 20.0	+0.5	
	baz=119							
SNOW	Snow King Moun	119.55	20	ePKPdf	PKPdf	23 28 20.4	+0.6	
SNOW				LR	LR			
	comp=Z,3µm,19.0s							
I19A	Meeteetse	119.59	18	P	PKPdf	23 28 20.7	+0.9	
	baz=119							
E30A	Jud	119.60	10	P	PKPdf	23 28 19.6	0.0	
	baz=119							
REDW	Red Top Meadow	119.60	20	ePKPdf	PKPdf	23 28 20.4	+0.4	
REDW				LR	LR			
	comp=Z,3µm,18.0s							
G24A	Alzada	119.63	14	P	PKPdf	23 28 19.8	+0.1	
	baz=119							
PPT2	Papeete2	119.66	103	ePP	PP	23 29 41.3	-2.2	
	comp=Z,213nm,24.8s							
PPT2	Papeete2	119.66	103	eSS	SS	23 46 04.1	-2.6	
	comp=Z,1µm,24.8s							
PPT2	Papeete2	119.66	103	eLR	LR	00 05 06.1		
	comp=Z,2µm,22.8s							
PKME	Peaks-Kenny Pk	119.66	346	ePKPdf	PKPdf	23 28 18.8	-0.9	
PKME				ePP	PP	23 29 38.1	-3.1	
PKME				LR	LR			
	comp=Z,2µm,20.0s							
BMN	Battle Mountai	119.69	26	ePKIKP	PKPdf	23 28 21.0	+0.9	
BMN				MLR	MLR			
	comp=Z,1µm,21.0s							
BMN	Battle Mountai	119.69	26	ePKPdf	PKPdf	23 28 21.0	+0.9	
BMN				LR	LR			
	comp=Z,1µm,21.0s							
EMMW	East Machias	119.71	344	ePKPdf	PKPdf	23 28 18.8	-1.0	
EMMW				ePP	PP	23 29 40.8	-0.8	
H22A	Clearmont	119.83	16	P	PKPdf	23 28 20.6	+0.4	
	baz=120							
F28A	McLaughlin	119.91	11	P	PKPdf	23 28 20.8	+0.7	
	baz=120							
I20A	Worland	119.92	18	P	PKPdf	23 28 20.9	+0.5	
	baz=120							
AHID	Auburn Hatcher	120.05	20	ePKPdf	PKPdf	23 28 21.2	+0.4	
AHID				LR	LR			
	comp=Z,3µm,19.0s							
G26A	Maurine	120.07	13	P	PKPdf	23 28 20.9	+0.4	
	baz=120							
G27A	Dupree	120.13	12	P	PKPdf	23 28 20.8	+0.1	
	baz=120							
TBI	Tubuai	120.14	109	ePP	PP	23 29 50.0	+3.4	
	comp=Z,202nm,24.5s							
TBI	Tubuai	120.14	109	eSS	SS	23 46 14.0	+1.5	
	comp=Z,1µm,30.0s							
TBI	Tubuai	120.14	109	eLR	LR	00 05 19.8		
	comp=Z,2µm,24.2s							
H24A	Dirks Ranch, A	120.14	14	P	PKPdf	23 28 20.7	-0.1	
	baz=120							
CMB	Columbia Colle	120.15	30	ePKIKP	PKPdf	23 28 21.4	+0.5	
CMB				MLR	MLR			
	comp=Z,2µm,21.0s							
CMB	Columbia Colle	120.15	30	ePKPdf	PKPdf	23 28 21.4	+0.5	
CMB				LR	LR			
	comp=Z,2µm,21.0s							
F30A	Leola	120.23	10	P	PKPdf	23 28 21.0	+0.2	
	baz=120							
WAKR	Walker	120.24	29	ePKPdf	PKPdf	23 28 21.6	+0.3	
WAKR				eSKPdf	SKiKP	23 31 56.8	+1.6	
ELK	Elko	120.26	25	ePKIKP	PKPdf	23 28 21.8	+0.5	
ELK	Elko	120.26	25	ePKPdf	PKPdf	23 28 21.8	+0.5	
J19A	Crowheart	120.27	19	P	PKPdf	23 28 21.5	+0.3	
	baz=120							
I21A	Big Trails, Te	120.29	17	P	PKPdf	23 28 21.0	-0.2	
	baz=120							
HVU	Hansel Valley	120.32	22	ePKIKP	PKPdf	23 28 21.8	+0.5	
HVU				MLR	MLR			
	comp=Z,3µm,19.0s							
HVU	Hansel Valley	120.32	22	ePKPdf	PKPdf	23 28 21.8	+0.5	
HVU				ePKKPbc	PKKPbc	23 38 27.6	-1.7	
HVU				LR	LR			
	comp=Z,3µm,19.0s							
WVL	Waterville	120.41	346	ePKPdf	PKPdf	23 28 20.4	-0.8	
WVL				ePP	PP	23 29 47.1	+0.7	
I22A	9 Mile Ranch,	120.44	16	P	PKPdf	23 28 21.4	0.0	
	baz=120							
J20A	Shoshoni	120.48	18	P	PKPdf	23 28 22.2	+0.6	
	baz=120							
BW06	Boulder Array	120.56	19	ePKPdf	PKPdf	23 28 21.0	-0.8	
BW06				ePKPdf	PKiKP	23 28 21.6	-0.3	
BW06				ePKKPbc	PKKPbc	23 38 25.6	-2.9	
BW06				ePKKPbc	PKKPab	23 38 26.1	-4.3	
BW06				LR	LR			
	comp=Z,2µm,19.0s							
PDAR	Pinedale Array	120.56	19	PKP	PKPdf	23 28 22.0	+0.2	
	comp=Z,12nm,0.7s,baz=35,slow=3.1,SNR=67							
PDAR				SKP		23 31 56.4		
	comp=Z,5.6nm,1.1s,baz=17,slow=4.2,SNR=5.2							
PDAR				PKKPbc	PKKPbc	23 38 26.4	-2.2	
	comp=Z,3.0nm,0.7s,baz=123,slow=5.8,SNR=9.6							
PDAR	Pinedale Array	120.56	19	PKP	PKPdf	23 28 22.0	+0.2	
PDAR				SKP		23 31 56.4		
PDAR				PKKPbc	PKKPbc	23 38 26.4	-2.2	
J21A	Lysite	120.68	17	P	PKPdf	23 28 22.0	+0.1	
	baz=120							
H27A	Howes	120.82	13	P	PKPdf	23 28 22.1	+0.1	
	baz=120							
NV01	Mina Array Sit	120.83	28	ePKPdf	PKPdf	23 28 22.7	+0.2	
NV01				ePKKPbc	PKKPbc	23 38 26.6	-0.8	
NVAR	Mina Array Bea	120.83	28	PKP	PKPdf	23 28 23.9	+1.5	
	comp=Z,21nm,0.8s,baz=297,slow=1.9,SNR=82							
NVAR				SKP		23 31 58.1		
	comp=Z,9.4nm,0.8s,baz=294,slow=1.5,SNR=12							
NVAR				PKKPbc	PKKPab	23 38 28.4	-0.7	
	comp=Z,1.2nm,0.6s,baz=128,slow=4.9,SNR=8.2							
NVAR	Mina Array Bea	120.83	28	PKP	PKPdf	23 28 23.9	+1.5	
NVAR				SKP		23 31 58.1		
NVAR				PKKPbc	PKKPab	23 38 28.4	-0.7	
RSSD	Black Hills	120.86	14	ePKIKP	PKPdf	23 28 21.5	-0.8	
RSSD				MLR	MLR			
	comp=Z,3µm,21.0s							
RSSD	Black Hills	120.86	14	ePKPdf	PKPdf	23 28 21.5	-0.8	
RSSD				LR	LR			
	comp=Z,3µm,21.0s							
J22A	Midwest	120.89	17	P	PKPdf	23 28 21.8	-0.6	
	baz=121							
G30A	Faulkton	120.90	10	P	PKPdf	23 28 22.1	0.0	
	baz=121							
HWUT	Hardware Ranch	120.91	21	ePKPdf	PKPdf	23 28 21.8	-0.7	
HWUT				ePKKPbc	PKKPbc	23 38 25.1	-2.0	
HWUT				LR	LR			
	comp=Z,3µm,20.0s							
I24A	Kuemmerle Ranc	120.96	15	P	PKPdf	23 28 22.2	-0.2	
	baz=121							
BGU	Big Grassy Mou	120.97	23	ePKPdf	PKPdf	23 28 23.2	+0.7	
BGU				ePKKPbc	PKKPbc	23 38 25.6	-1.2	
BGU				LR	LR			
	comp=Z,2µm,18.0s							
I25A	Rochford	121.03	14	P	PKPdf	23 28 22.9	+0.3	
	baz=121							
J23A	Dilts Ranch, B	121.15	16	P	PKPdf	23 28 22.7	-0.1	
	baz=121							
I26A	New Underwood	121.22	13	P	PKPdf	23 28 23.3	+0.4	
	baz=121							
I27A	Quinn	121.36	13	P	PKPdf	23 28 23.5	+0.4	
	baz=121							
LONY	Lake Ozonia	121.37	350	ePKPdf	PKPdf	23 28 22.7	-0.3	
LONY				LR	LR			
	comp=Z,4µm,20.0s							
TCUT	Toone Canyon	121.40	22	PFAKE		23 28 40.0	+16	
TCUT				LR	LR			
	comp=Z,2µm,20.0s							
J24A	Dixon Ranch, L	121.45	15	P	PKPdf	23 28 23.4	0.0	
	baz=121							
PTN	Potsdam (NY)	121.49	350	ePKIKP	PKPdf	23 28 22.8	-0.4	
PTN				MLR	MLR			
	comp=Z,8µm,20.0s							
PTN	Potsdam (NY)	121.49	350	ePKPdf	PKPdf	23 28 22.8	-0.4	
PTN				LR	LR			
	comp=Z,8µm,20.0s							
K22A	Casper	121.58	17	P	PKPdf	23 28 23.6	-0.1	
	baz=121							
K22A	Casper	121.58	17	ePKPdf	PKPdf	23 28 23.4	-0.2	
K22A				LR	LR			
	comp=Z,2µm,20.0s							
J25A	Sunshine Ranch	121.60	14	P	PKPdf	23 28 23.7	0.0	
	baz=121							
SPMN	Marine on St.	121.61	5	P	PKPdf	23 28 23.3	-0.2	
	baz=121							
SPMN	Marine on St.	121.61	5	ePKPdf	PKPdf	23 28 22.9	-0.5	
SPMN				ePKKPbc	PKKPbc	23 38 21.8	-2.6	
SPMN				LR	LR			
	comp=Z,4µm,21.0s							
I28A	Midland	121.61	12	P	PKPdf	23 28 23.8	+0.3	
	baz=121							
TPH	Tonopah	121.62	28	ePKIKP	PKPdf	23 28 25.2	+1.3	
TPH				MLR	MLR			
	comp=Z,2µm,20.0s							
TPH	Tonopah	121.62	28	ePKPdf	PKPdf	23 28 25.2	+1.3	
TPH				ePKKPbc	PKKPbc	23 38 23.5	-0.8	
TPH				LR	LR			
	comp=Z,2µm,20.0s							
CTU	Camp Tracy	121.65	22	ePKPdf	PKPdf	23 28 23.9	0.0	
CTU				LR	LR			
	comp=Z,2µm,19.0s							
DUG	Dugway, Tooele	121.68	23	ePKIKP	PKPdf	23 28 24.5	+0.6	
DUG				MLR	MLR			
	comp=Z,2µm,19.0s							
DUG	Dugway, Tooele	121.68	23	P	PKPdf	23 28 24.9	+0.9	
	baz=121							
DUG	Dugway, Tooele	121.68	23	ePKPdf	PKPdf	23 28 24.5	+0.6	
DUG				LR	LR			
	comp=Z,2µm,19.0s							
MDV	Middlebury	121.71	348	ePKPdf	PKPdf	23 28 23.8	+0.1	
K23A	Bowen Ranch, D	121.73	16	P	PKPdf	23 28 23.9	-0.1	
	baz=122							
I29A	Vivian Onida	121.76	11	P	PKPdf	23 28 24.1	+0.2	
	baz=122							
HNH	Hanover	121.81	348	ePKPdf	PKPdf	23 28 23.6	-0.3	
JLU	Jordanelle	121.84	22	PFAKE		23 28 40.0	+16	
JLU				LR	LR			
	comp=Z,3µm,21.0s							
J26A	Sides Ranch, S	121.85	14	P	PKPdf	23 28 24.3	+0.2	
	baz=122							
NCB	Newcomb	121.94	349	PFAKE		23 28 40.0	+16	
NCB				LR	LR			
	comp=Z,4µm,21.0s							
I30A	Oacoma	122.03	11	P	PKPdf	23 28 24.2	-0.2	
	baz=122							
PTRM	Twissleman Ran	122.09	32	ePKPdf	PKPdf	23 28 26.2	+1.5	
R11A	Troy Canyon, C	122.12	26	P	PKPdf	23 28 26.2	+1.3	
	baz=122							
R11A	Troy Canyon, C	122.12	26	ePKPdf	PKPdf	23 28 25.3	+0.4	
R11A				LR	LR			
	comp=Z,1µm,19.0s							
J27A	Elkhorn Farm,	122.15	13	P	PKPdf	23 28 25.0	+0.3	
	baz=122							
J28A	Allard Ranch,	122.15	12	P	PKPdf	23 28 25.1	+0.5	
	baz=122							
NLU	North Lily Min	122.17	23	ePKPdf	PKPdf	23 28 25.8	+0.8	
GLMI	Grayling	122.22	358	ePKPdf	PKPdf	23 28 25.1	+0.5	
GLMI				LR	LR			
	comp=Z,3µm,20.0s							
RWWY	Rawlins	122.26	18	ePKPdf	PKPdf	23 28 24.8	-0.4	
MPU	Maple Canyon	122.28	22	ePKPdf	PKPdf	23 28 25.3	+0.1	
MPU				LR	LR			
	comp=Z,8µm,19.0s							
K25A	Mack Ranch, Ha	122.32	15	P	PKPdf	23 28 25.4	+0.3	
	baz=122							
J29A	Okreek	122.35	12	P	PKPdf	23 28 25.4	+0.4	
	baz=122							
ACCN	Adirondack Com	122.40	349	ePKPdf	PKPdf	23 28 24.4	-0.7	
ACCN				ePP	PP	23 30 01.3	+1.3	
ACCN				LR	LR			
	comp=Z,4µm,21.0s							
K26A	Motz Farm, Whi	122.40	14	P	PKPdf	23 28 25.3	+0.1	
	baz=122							
VES	Vestal, Richgr	122.52	31	P	PKPdf	23 28 25.7	+0.2	
	baz=122							
J30A	Dallas	122.58	11	P	PKPdf	23 28 25.8	+0.4	
	baz=122							
K27A	Flueckinger Fa	122.62	13	P	PKPdf	23 28 25.5	-0.1	
	baz=122							
ECSD	EROS Data Cent	122.65	8	P	PKPdf	23 28 25.8	+0.2	
	baz=122							
ECSD	EROS Data Cent	122.65	8	ePKPdf	PKPdf	23 28 24.9	-0.6	
ECSD				LR	LR			
	comp=Z,4µm,22.0s							
HRV	Adam Dziewonsk	122.80	347	ePKIKP	PKPdf	23 28 25.6	-0.2	
HRV				MLR	MLR			
	comp=Z,3µm,20.0s							
HRV	Adam Dziewonsk	122.80	347	ePKPdf	PKPdf	23 28 25.6	-0.2	
HRV				LR	LR			
	comp=Z,3µm,20.0s							
K28A	Ten Mile Ranch	122.80	13	P	PKPdf	23 28 26.0	+0.1	
	baz=122							
DAC	Darwin (Calif)	122.90	29	ePKIKP	PKPdf	23 28 26.8	+0.4	
DAC				MLR	MLR			
	comp=Z,2µm,22.0s							
DAC	Darwin (Calif)	122.90	29	ePKPdf	PKPdf	23 28 26.8	+0.4	
DAC				LR	LR			
	comp=Z,2µm,22.0s							
ISA	Isabella, Lake	122.96	31	ePKIKP	PKPdf	23 28 24.9	-1.5	
ISA	Isabella, Lake	122.96	31	P	PKPdf	23 28 26.5	+0.1	
	baz=123							
ISA	Isabella, Lake	122.96	31	ePKPdf	PKPdf	23 28 24.9	-1.5	
K29A	Lazy Trails An	122.97	12	P	PKPdf	23 28 26.7	+0.4	
	baz=123							
TPNV	Topopah Spring	122.98	28	ePKIKP	PKPdf	23 28 26.5	0.0	
TPNV				MLR	MLR			
	comp=Z,2µm,22.0s							
TPNV	Topopah Spring	122.98	28	P	PKPdf	23 28 26.7	+0.2	
	baz=123							
TPNV	Topopah Spring	122.98	28	ePKPdf	PKPdf	23 28 26.5	0.0	
TPNV				LR	LR			
	comp=Z,2µm,22.0s							
TRY	Troy	123.03	348	ePKPdf	PKPdf	23 28 26.1	-0.1	
TRY				LR	LR			
	comp=Z,5µm,21.0s							
L26A	Underwood Farm	123.06	14	P	PKPdf	23 28 26.6	+0.1	
	baz=123							
TMUT	Trail Mountain	123.07	22	ePKPdf	PKPdf	23 28 27.5	+0.6	
MPMC	Manual Prospec	123.12	29	P	PKPdf	23 28 27.9	+1.0	
	baz=123							
PHWY	Pilot Hill	123.13	17	ePKPdf	PKPdf	23 28 26.2	-0.6	
PHWY				ePP	PP	23 30 01.3	-4.0	
PHWY				ePKKPbc	PKKPbc	23 38 17.1	-1.7	
PHWY				LR	LR			
	comp=Z,2µm,19.0s							
K30A	Basset	123.19	11	P	PKPdf	23 28 27.2	+0.5	
	baz=123							
QUA2	Belchertown	123.19	347	ePKPdf	PKPdf	23 28 25.5	-1.0	
QUA2				ePP	PP	23 30 06.6	+1.3	
HOPE	Hope Point	123.20	213	PFAKE		23 28 40.0	+14	
HOPE				LR	LR			
	comp=Z,4µm,20.0s							
ARVC	Arvin	123.21	31	P	PKPdf	23 28 27.6	+0.8	
	baz=123							
BRYW	Bryant College	123.35	346	ePKPdf	PKPdf	23 28 25.6	-1.3	
O20A	White River Ci	123.36	19	P	PKPdf	23 28 27.6	+0.4	
	baz=123							
O20A	White River Ci	123.36	19	ePKPdf	PKPdf	23 28 27.0	-0.2	
O20A				LR	LR			
	comp=Z,3µm,22.0s							
N23A	Red Feather La	123.37	17	P	PKPdf	23 28 27.3	0.0	
	baz=123							
N23A	Red Feather La	123.37	17	ePKPdf	PKPdf	23 28 27.4	+0.1	
N23A				LR	LR			
	comp=Z,2µm,21.0s							
MVU	Marysvale	123.38	24	ePKPdf	PKPdf	23 28 28.7	+1.3	
MVU				eSKPdf	SKiKP	23 32 02.7	+1.2	
MVU				LR	LR			
	comp=Z,1µm,21.0s							
MSU	Marysvale	123.39	24	ePKIKP	PKPdf	23 28 27.9	+0.5	
MSU	Marysvale	123.39	24	ePKPdf	PKPdf	23 28 27.9	+0.5	
MSU				eSKPdf	SKiKP	23 32 03.9	+2.4	
SRU	San Rafael Swe	123.49	22	ePKIKP	PKPdf	23 28 27.8	+0.3	
SRU				MLR	MLR			
	comp=Z,2µm,20.0s							
SRU	San Rafael Swe	123.49	22	ePKPdf	PKPdf	23 28 27.8	+0.3	
SRU				LR	LR			
	comp=Z,2µm,20.0s							
M26A	McRoberts Ranc	123.58	15	P	PKPdf	23 28 28.0	+0.5	
	baz=123							
L29A	Maesberg Ranch	123.61	12	P	PKPdf	23 28 27.5	0.0	
	baz=123							
OSI	Osito Audit: C	123.67	31	PFAKE		23 28 40.0	+12	
OSI				LR	LR			
	comp=Z,2µm,20.0s							
M27A	Reverse DX Ran	123.70	14	P	PKPdf	23 28 27.7	0.0	
	baz=123							
MMNY	Mt. Morris Dam	123.73	352	ePKPdf	PKPdf	23 28 26.8	-0.8	
MMNY				LR	LR			
	comp=Z,5µm,21.0s							
CCUT	Cedar City	123.73	25	ePKPdf	PKPdf	23 28 28.6	+0.6	
L31A	Butterfield Fa	123.82	11	P	PKPdf	23 28 27.7	-0.2	
	baz=124							
EDW2	Edwards Air Fo	123.82	31	P	PKPdf	23 28 29.1	+1.1	
	baz=124							
SHPR	Sheep Range	123.84	27	ePKPdf	PKPdf	23 28 29.8	+1.5	
L30A	Spencer Herefo	123.87	11	P	PKPdf	23 28 27.6	-0.3	
	baz=124							
GSC	Goldstone, Bar	124.06	29	ePKIKP	PKPdf	23 28 29.8	+1.2	
GSC				MLR	MLR			
	comp=Z,1µm,20.0s							
GSC	Goldstone, Bar	124.06	29	P	PKPdf	23 28 30.0	+1.5	
	baz=124							
GSC	Goldstone, Bar	124.06	29	ePKPdf	PKPdf	23 28 29.8	+1.2	
GSC				LR	LR			
	comp=Z,1µm,20.0s							
JFWS	Jewell Farm	124.08	3	ePKIKP	PKPdf	23 28 27.3	-1.0	
JFWS				MLR	MLR			
	comp=Z,4µm,20.0s							
JFWS	Jewell Farm	124.08	3	ePKPdf	PKPdf	23 28 27.3	-1.0	
JFWS				ePKKPbc	PKKPbc	23 38 12.2	-2.5	
JFWS				LR	LR			
	comp=Z,4µm,20.0s							
L33A	Hoskins	124.09	9	P	PKPdf	23 28 28.5	+0.2	
	baz=124							
M29A	Burnside Ranch	124.16	12	P	PKPdf	23 28 28.3	-0.3	
	baz=124							
N26A	Koester Ranch,	124.16	15	P	PKPdf	23 28 28.6	0.0	
	baz=124							
YLE	Yale	124.24	347	PFAKE		23 28 40.0	+11	
YLE				LR	LR			
	comp=Z,4µm,19.0s							
PASC	Pasadena Art C	124.29	31	PFAKE		23 28 40.0	+11	
PASC				LR	LR			
	comp=Z,2µm,20.0s							
MWC	Mount Wilson	124.31	31	ePKIKP	PKPdf	23 28 29.3	+0.1	
MWC	Mount Wilson	124.31	31	ePKPdf	PKPdf	23 28 29.2	+0.1	
OGNE	Ogallala	124.34	14	P	PKPdf	23 28 28.5	-0.4	
	baz=124							
N27A	Anderson Farm,	124.35	14	P	PKPdf	23 28 29.1	+0.1	
	baz=124							
L35A	Bielow Farm, R	124.39	8	P	PKPdf	23 28 29.0	+0.1	
	baz=124							
KNB	Kanab	124.41	25	ePKIKP	PKPdf	23 28 30.2	+0.9	
KNB				MLR	MLR			
	comp=Z,1µm,20.0s							
KNB	Kanab	124.41	25	ePKPdf	PKPdf	23 28 30.2	+0.9	
KNB				LR	LR			
	comp=Z,1µm,20.0s							
L34A	Svendsen Farm,	124.42	9	P	PKPdf	23 28 28.8	-0.2	
	baz=124							
ISCO	Idaho Springs	124.47	17	ePKIKP	PKPdf	23 28 29.5	0.0	
ISCO				MLR	MLR			
	comp=Z,5µm,20.0s							
ISCO	Idaho Springs	124.47	17	P	PKPdf	23 28 29.7	+0.2	
	baz=124							
ISCO	Idaho Springs	124.47	17	ePKPdf	PKPdf	23 28 29.5	0.0	
ISCO				eSdif	Sdif	23 38 11.6	-1.3	
ISCO				LR	LR			
	comp=Z,5µm,20.0s							
BFSC	Mount Baldy Ra	124.50	31	P	PKPdf	23 28 30.1	+0.6	
	baz=124							
PV09	Paradox Valley	124.53	21	ePKPdf	PKPdf	23 28 30.1	+0.4	
KSPA	Keystone Colle	124.55	350	ePKPdf	PKPdf	23 28 29.3	+0.1	
KSPA				LR	LR			
	comp=Z,6µm,20.0s							
M31A	Lambtecht Ranc	124.60	11	P	PKPdf	23 28 29.2	-0.1	
	baz=124							
SMCO	Snowmass	124.63	19	ePKPdf	PKPdf	23 28 30.5	+0.5	
SMCO				LR	LR			
	comp=Z,4µm,20.0s							
PV10	Paradox Valley	124.67	21	ePKPdf	PKPdf	23 28 31.0	+1.1	
HEC	Hector,Ludlow	124.67	29	P	PKPdf	23 28 31.2	+1.5	
	baz=124							
M33A	Taylor Creek F	124.68	9	P	PKPdf	23 28 29.2	-0.3	
	baz=124							
BGNE	Belgrade	124.68	10	P	PKPdf	23 28 29.4	-0.1	
	baz=124							
BGNE	Belgrade	124.68	10	ePKPdf	PKPdf	23 28 29.6	+0.1	
BGNE				LR	LR			
	comp=Z,4µm,20.0s							
O26A	Horse Wrangler	124.69	15	P	PKPdf	23 28 29.7	0.0	
	baz=124							
AAM	Ann Arbor	124.69	357	ePKIKP	PKPdf	23 28 29.3	-0.1	
AAM				MLR	MLR			
	comp=Z,4µm,22.0s							
AAM	Ann Arbor	124.69	357	ePKPdf	PKPdf	23 28 29.3	-0.1	
AAM				LR	LR			
	comp=Z,4µm,22.0s							
N28A	Pribbeno Ranch	124.70	14	P	PKPdf	23 28 29.8	+0.1	
	baz=124							
PAL	Palisades	124.74	348	ePKIKP	PKPdf	23 28 28.8	-0.7	
PAL				MLR	MLR			
	comp=Z,5µm,20.0s							
PAL	Palisades	124.74	348	ePKPdf	PKPdf	23 28 28.8	-0.7	
PAL				LR	LR			
	comp=Z,5µm,20.0s							
N29A	Votaw Ranch, W	124.77	13	P	PKPdf	23 28 29.9	+0.2	
	baz=124							
ODNJ	Ogdensburg	124.80	349	ePKPdf	PKPdf	23 28 29.5	-0.2	
ODNJ				ePP	PP	23 30 13.3	-2.8	
ODN

comp=Z,600nm,22.0s
N33A **J Bar K, Exete** 125.45 10 P PKPdf 23 28 30.7 -0.3
baz=125
BELC **Belle Mtn. Jos** 125.51 30 P PKPdf 23 28 32.9 +1.4
baz=125
N34A **Lincoln** 125.51 9 P PKPdf 23 28 30.6 -0.5
baz=125
O30A **MW Ranch, Wils** 125.51 12 P PKPdf 23 28 31.0 -0.1
baz=125
P27A **Ficken Ranch,** 125.53 15 P PKPdf 23 28 31.2 -0.1
baz=125
NEE2 **Needles Airpor** 125.53 28 P PKPdf 23 28 32.7 +1.4
baz=125
PFO **Pinyon Flats O** 125.60 30 *e*PKIKP PKPdf 23 28 32.5 +0.9
PFO MLR MLR
comp=Z,2µm,19.0s
PFO **Pinyon Flats O** 125.60 30 P PKPdf 23 28 33.1 +1.4
baz=125
PFO **Pinyon Flats O** 125.60 30 *e*PKPdf PKPdf 23 28 32.5 +0.9
PFO LR LR
comp=Z,2µm,19.0s
N35A **Tabor** 125.61 8 P PKPdf 23 28 31.3 0.0
baz=125
O31A **Woolen Ranch,** 125.68 12 P PKPdf 23 28 31.1 -0.3
baz=125
P28A **Saint Francis** 125.71 14 P PKPdf 23 28 31.6 0.0
baz=125
O32A **Brockman Farm,** 125.78 11 P PKPdf 23 28 31.1 -0.5
baz=126
IRM **Iron Mountain** 125.78 29 P PKPdf 23 28 33.4 +1.6
baz=126
SSPA **Standing Stone** 125.79 352 *e*PKPdf PKPdf 23 28 31.4 -0.1
SSPA LR LR
comp=Z,3µm,19.0s
109C **Camp Elliot, M** 125.85 31 P PKPdf 23 28 33.4 +1.5
baz=126
P29A **Atwood** 125.87 13 P PKPdf 23 28 31.6 -0.2
baz=126
Q26A **Hugo** 125.88 16 P PKPdf 23 28 32.4 +0.3
baz=126
MVCO **Mesa Verde** 125.90 21 P PKPdf 23 28 33.1 +0.8
baz=126
MVCO **Mesa Verde** 125.90 21 *e*PKPdf PKPdf 23 28 31.9 -0.3
MVCO LR LR
comp=Z,2µm,21.0s
S22A **4UR Ranch, Cre** 125.98 19 P PKPdf 23 28 32.8 +0.4
baz=126
S22A **4UR Ranch, Cre** 125.98 19 *e*PKPdf PKPdf 23 28 32.9 +0.4
S22A LR LR
comp=Z,3µm,20.0s
KSCO **Kaye Shedlock'** 126.03 15 P PKPdf 23 28 32.4 +0.1
baz=126
KSCO **Kaye Shedlock'** 126.03 15 *e*PKPdf PKPdf 23 28 31.9 -0.3
KSCO *e*PP PP 23 30 22.6 -1.9
KSCO LR LR
comp=Z,3µm,20.0s
BC3 **Big Chuckawall** 126.05 30 P PKPdf 23 28 34.0 +1.5
baz=126
O33A **Hebron** 126.08 10 P PKPdf 23 28 32.1 -0.1
baz=126
P30A **Selden** 126.08 13 P PKPdf 23 28 32.2 0.0
baz=126
O34A **Beatrice** 126.12 9 P PKPdf 23 28 31.7 -0.5
baz=126
PDMCI **Parker Dam,Lak** 126.13 28 P PKPdf 23 28 34.0 +1.6
baz=126
O35A **Humboldt** 126.16 9 P PKPdf 23 28 31.9 -0.4
baz=126
MVL **Millersville** 126.17 350 *e*PKPdf PKPdf 23 28 32.7 +0.4
Q28A **Sharon Springs** 126.18 14 P PKPdf 23 28 32.6 0.0
baz=126
MONP **Monument Peak,** 126.19 31 P PKPdf 23 28 34.6 +1.7
baz=126
BAR **Barrett** 126.24 31 *e*PKPdf PKPdf 23 28 29.7 -3.0
P31A **Stockton** 126.28 12 P PKPdf 23 28 32.7 +0.1
baz=126
WUAZ **Wupatki** 126.30 25 P PKPdf 23 28 34.4 +1.5
baz=126
WUAZ **Wupatki** 126.30 25 *e*PKPdf PKPdf 23 28 33.8 +0.8
WUAZ LR LR
comp=Z,2µm,22.0s
P32A **Huiting Farm,** 126.33 11 P PKPdf 23 28 32.8 +0.1
baz=126
SDCO **Great Sand Dun** 126.40 18 P PKPdf 23 28 33.5 +0.3
baz=126
SDCO **Great Sand Dun** 126.40 18 *e*PKPdf PKPdf 23 28 32.6 -0.7
SDCO *e*PP PP 23 30 22.0 -5.3
SDCO LR LR
comp=Z,3µm,20.0s
Y12C **Blythe** 126.41 29 P PKPdf 23 28 34.6 +1.6
baz=126
O36A **Bolckow** 126.42 8 P PKPdf 23 28 32.9 +0.1
baz=126
SWSC **Sam W. Stewart** 126.46 30 P PKPdf 23 28 34.8 +1.7
baz=126
HDIL **Hopedale** 126.47 2 *e*PKPdf PKPdf 23 28 32.8 -0.1
HDIL LR LR
comp=Z,400nm,22.0s
R26A **Arlington** 126.48 16 P PKPdf 23 28 33.4 +0.2
baz=126
Q29A **Oakley** 126.54 14 P PKPdf 23 28 33.3 +0.1
baz=126
Q30A **Quinter** 126.63 13 P PKPdf 23 28 33.4 +0.1
baz=126
R27A **Eads** 126.67 16 P PKPdf 23 28 33.7 +0.2
baz=126
P33A **Williams Farm,** 126.68 10 P PKPdf 23 28 33.4 0.0
baz=126
SFIN **Lafayette** 126.69 0 P PKPdf 23 28 33.4 +0.1
baz=126
SFIN **Lafayette** 126.69 0 *e*PKPdf PKPdf 23 28 32.9 -0.4
SFIN *e*PP PP 23 30 26.8 -1.8
SFIN LR LR
comp=Z,4µm,22.0s
ACSO **Alum Creek Sta** 126.72 356 *e*PKPdf PKPdf 23 28 32.4 -1.0
ACSO *e*PP PP 23 30 29.3 +0.5
ACSO LR LR
comp=Z,3µm,22.0s
P34A **Walnut Farm, R** 126.72 10 P PKPdf 23 28 33.4 0.0
baz=126
Q31A **Ellis** 126.78 12 P PKPdf 23 28 33.7 +0.1
baz=126
SDMD **Soldier's Deli** 126.83 350 *e*PKPdf PKPdf 23 28 33.4 -0.2
SDMD *e*PP PP 23 30 28.0 -1.6
GLA **Glamis** 126.84 29 *e*PKIKP PKPdf 23 28 35.3 +1.4
GLA **Glamis** 126.84 29 P PKPdf 23 28 35.6 +1.7
baz=127
GLA **Glamis** 126.84 29 *e*PKPdf PKPdf 23 28 35.3 +1.4
P35A **Duane Minner,** 126.86 9 P PKPdf 23 28 33.6 -0.1
baz=127
R28A **Tribune** 126.86 15 P PKPdf 23 28 34.1 +0.2
baz=127
P36A **Good Intent, A** 126.89 8 P PKPdf 23 28 33.4 -0.3
baz=127
R29A **Marienthal** 126.95 14 P PKPdf 23 28 34.0 0.0
baz=127
Q32A **Meitler Ranch,** 126.95 11 P PKPdf 23 28 33.8 -0.1
baz=127
Q33A **Connelly Farm,** 127.08 11 P PKPdf 23 28 34.4 +0.2
baz=127
KSU1 **Kansas State U** 127.19 9 P PKPdf 23 28 34.3 0.0
baz=127
KSU1 **Kansas State U** 127.19 9 *e*PKPdf PKPdf 23 28 34.5 +0.1
KSU1 LR LR
comp=Z,5µm,19.0s
R30A **Dighton** 127.28 13 P PKPdf 23 28 35.2 +0.6
baz=127
T25A **Trinidad** 127.29 18 P PKPdf 23 28 35.3 +0.4
baz=127
T25A **Trinidad** 127.29 18 *e*PKPdf PKPdf 23 28 35.2 +0.4
T25A LR LR
comp=Z,4µm,21.0s
W18A **Petrified Fore** 127.30 24 P PKPdf 23 28 36.3 +1.4
baz=127
W18A **Petrified Fore** 127.30 24 *e*PKPdf PKPdf 23 28 36.4 +1.5
W18A LR LR
comp=Z,2µm,21.0s
Q34A **Chapman** 127.31 10 P PKPdf 23 28 34.7 +0.1
baz=127
R31A **Burdett** 127.44 12 P PKPdf 23 28 35.2 +0.3
baz=127
R32A **Long Quarter,** 127.47 12 P PKPdf 23 28 35.1 +0.2
baz=127
T26A **Comanche Natio** 127.49 17 P PKPdf 23 28 35.5 +0.3
baz=127
Q36A **Arnold C. Orve** 127.50 8 P PKPdf 23 28 34.6 -0.3
baz=127

Q35A **Mercer Eighty,** 127.52 9 P PKPdf 23 28 34.9 -0.1
baz=127
S28A **Manter** 127.56 15 P PKPdf 23 28 35.2 0.0
baz=127
Q37A **Longview Farm,** 127.72 7 P PKPdf 23 28 34.5 -0.9
baz=127
S29A **Ulysses** 127.72 14 P PKPdf 23 28 35.5 0.0
baz=128
R33A **Olander Ranch,** 127.72 11 P PKPdf 23 28 35.8 +0.4
baz=128
T27A **Campo** 127.84 16 P PKPdf 23 28 36.0 +0.2
baz=128
S30A **Montezuma** 127.85 14 P PKPdf 23 28 35.9 +0.1
baz=128
R34A **Isabella, Hill** 127.86 10 P PKPdf 23 28 35.8 +0.2
baz=128
BLO **Bloomington** 127.90 360 *e*PKIKP PKPdf 23 28 35.1 -0.6
BLO *e* 23 30 33.6
BLO **Bloomington** 127.90 360 *e*PKPdf PKPdf 23 28 35.1 -0.6
BLO *e*PP PP 23 30 33.6 -3.0
T28A **Walsh** 127.94 15 P PKPdf 23 28 35.4 -0.6
baz=128
R35A **Emporia Munici** 128.02 9 P PKPdf 23 28 36.0 0.0
baz=128
CBN **Corbin Frederi** 128.09 350 PFAKE 23 28 50.0 +14
CBN LR LR
comp=Z,5µm,21.0s
S31A **Mullinville** 128.09 13 P PKPdf 23 28 36.4 +0.2
baz=128
R36A **Gordon, Harris** 128.12 9 P PKPdf 23 28 35.8 -0.4
baz=128
S32A **Newby Ranch, P** 128.13 12 P PKPdf 23 28 36.1 -0.1
baz=128
R37A **Teagarden Farm** 128.22 8 P PKPdf 23 28 35.5 -0.8
baz=128
OLIL **Olney** 128.33 1 *e*PKPdf PKPdf 23 28 36.5 +0.1
T30A **Plains** 128.40 14 P PKPdf 23 28 37.1 +0.4
baz=128
U27A **Thompson Grove** 128.41 16 P PKPdf 23 28 36.9 0.0
baz=128
S33A **Kaszmaul Farm,** 128.41 11 P PKPdf 23 28 37.2 +0.5
baz=128
S34A **Willow Spring** 128.47 10 P PKPdf 23 28 37.0 +0.2
baz=128
U28A **Mallet** 128.61 16 P PKPdf 23 28 36.8 -0.5
baz=128
T32A **Huddler Ranch,** 128.63 12 P PKPdf 23 28 37.2 0.0
baz=128
ANMO **Albuquerque** 128.65 21 *c i*PKIKP PKPdf 23 28 39.1 +1.6
ANMO pmax pmax
comp=Z,352nm,1.7s
ANMO **Albuquerque** 128.65 21 *e*PKPdf PKPdf 23 28 38.2 +0.8
ANMO LR LR
comp=Z,3µm,22.0s
S36A **Lake Cedric, C** 128.69 9 P PKPdf 23 28 37.2 0.0
baz=128
214A **Organ Pipe Nat** 128.70 28 P PKPdf 23 28 38.8 +1.4
baz=128
U29A **Oasis Ranch, S** 128.79 15 P PKPdf 23 28 37.2 -0.4
baz=128
WCI **Wyandotte Cave** 128.84 359 *e*PKIKP PKPdf 23 28 36.8 -0.7
WCI MLR MLR
comp=Z,3µm,19.0s
WCI **Wyandotte Cave** 128.84 359 *e*PKPdf PKPdf 23 28 36.8 -0.7
WCI LR LR
comp=Z,3µm,19.0s
T33A **Patterson Ranc** 128.86 12 P PKPdf 23 28 38.0 +0.4
baz=129
U30A **WK&E Inc. Balk** 128.87 14 P PKPdf 23 28 38.3 +0.6
baz=129
LAZ **Ladron** 128.91 22 *e*PKPdf PKPdf 23 28 38.8 +0.8
V27A **Dan Oppiter Fa** 129.03 17 P PKPdf 23 28 38.0 -0.1
baz=129
USIN **University of** 129.10 1 *e*PKPdf PKPdf 23 28 36.9 -1.1
T34A **McClaskey Farm** 129.12 11 P PKPdf 23 28 38.1 +0.1
baz=129
LENM **Lemitar** 129.18 22 *e*PKPdf PKPdf 23 28 39.4 +0.9
V28A **Channing** 129.21 16 P PKPdf 23 28 38.6 +0.2
baz=129
U31A **Nine Bar Ranch** 129.21 13 P PKPdf 23 28 38.6 +0.3
baz=129
RCBR **Riachuelo** 129.23 273 PFAKE 23 28 50.0 +11
RCBR LR LR
comp=Z,4µm,19.0s
T36A **Boggs Farm, Ca** 129.30 9 P PKPdf 23 28 38.7 +0.3
baz=129
TUC **Tucson** 129.31 26 *e*PKIKP PKPdf 23 28 39.3 +0.6
TUC MLR MLR
comp=Z,2µm,22.0s
TUC **Tucson** 129.31 26 *e*PKPdf PKPdf 23 28 39.3 +0.6
TUC LR LR
comp=Z,2µm,22.0s
SIUC **Southern Illin** 129.31 2 *e*PKPdf PKPdf 23 28 38.6 +0.2
BNM **Barren Site** 129.31 21 *e*PKPdf PKPdf 23 28 39.3 +0.5
T35A **Sooner Cattle** 129.34 10 P PKPdf 23 28 39.0 +0.5
baz=129
T37A **Cheneyville 18** 129.38 8 P PKPdf 23 28 38.4 -0.2
baz=129
U32A **Winter Ranch,** 129.38 13 P PKPdf 23 28 38.9 +0.2
baz=129
BLA **Blacksburg** 129.49 353 *e*PKIKP PKPdf 23 28 38.0 -0.8
BLA MLR MLR
comp=Z,3µm,22.0s
BLA **Blacksburg** 129.49 353 *e*PKPdf PKPdf 23 28 38.0 -0.8
BLA LR LR
comp=Z,3µm,22.0s
U33A **Lingo Farm, Me** 129.52 12 P PKPdf 23 28 39.0 +0.2
baz=129
U34A **Anderson Ranch** 129.62 11 P PKPdf 23 28 39.5 +0.5
baz=129
U34A **Anderson Ranch** 129.62 11 *e*PKPdf PKPdf 23 28 39.8 +0.7
U34A LR LR
comp=Z,4µm,21.0s
W28A **Vega** 129.68 16 P PKPdf 23 28 39.8 +0.5
baz=129
V31A **Spring Creek L** 129.78 14 P PKPdf 23 28 40.2 +0.8
baz=130
U35A **Pawnee** 129.83 10 P PKPdf 23 28 39.8 +0.4
baz=130
BBSR **BB Station** 129.94 335 PFAKE 23 28 50.0 +10
BBSR LR LR
comp=Z,2µm,20.0s
W29A **Amarillo** 129.95 16 P PKPdf 23 28 39.9 0.0
baz=130
V32A **Arapaho** 130.01 13 P PKPdf 23 28 41.0 +1.1
baz=130
U37A **Salina** 130.06 9 P PKPdf 23 28 40.1 +0.3
baz=130
V33A **Loseen Ranch,** 130.07 12 P PKPdf 23 28 40.3 +0.4
baz=130
U38A **Gravette** 130.13 8 P PKPdf 23 28 39.6 -0.5
baz=130
AMTX **Amarillo** 130.17 16 P PKPdf 23 28 40.5 +0.2
baz=130
AMTX **Amarillo** 130.17 16 PFAKE 23 28 50.0 +10
AMTX LR LR
comp=Z,2µm,22.0s
PBMO **Poplar Bluff** 130.18 4 PFAKE 23 28 50.0 +10
PBMO LR LR
comp=Z,4µm,20.0s
V34A **Guthrie** 130.21 11 P PKPdf 23 28 40.6 +0.4
baz=130
V34A **Guthrie** 130.21 11 *e*PKPdf PKPdf 23 28 40.3 +0.2
V34A LR LR
comp=Z,3µm,19.0s
W31A **Holland Ranch,** 130.32 14 P PKPdf 23 28 40.6 +0.2
baz=130
121A **Cookes Peak, D** 130.34 23 P PKPdf 23 28 42.1 +1.3
baz=130
X28A **Dimmitt** 130.37 17 P PKPdf 23 28 41.1 +0.4
baz=130
V35A **Meyer Ranch, C** 130.41 11 P PKPdf 23 28 40.9 +0.3
baz=130
TZTN **Tazewell** 130.42 356 *e*PKPdf PKPdf 23 28 40.7 +0.1
TZTN *e*SKPbc SKPab 23 32 01.3 -0.5
TUL1 **Leonard** 130.44 9 P PKPdf 23 28 40.8 +0.2
baz=130
TUL1 **Leonard** 130.44 9 *e*PKPdf PKPdf 23 28 39.9 -0.7
TUL1 *e*PP PP 23 30 51.0 -2.3
TUL1 *e*SKPbc SKPbc 23 32 02.2 +0.3
TUL1 LR LR
comp=Z,4µm,21.0s
V36A **Jenks** 130.54 10 P PKPdf 23 28 41.2 +0.4
baz=130
W32A **Sentinel** 130.54 13 P PKPdf 23 28 41.3 +0.4
baz=130
V37A **Hulbert** 130.57 9 P PKPdf 23 28 40.9 0.0

baz=130
X29A **Tulia** 130.58 16 P PKPdf 23 28 41.3 +0.3
baz=130
PVMO **Portageville** 130.59 3 PFAKE 23 28 50.0 +9.2
PVMO LR LR
comp=Z,4µm,21.0s
W33A **Caddo, Fort Co** 130.68 12 P PKPdf 23 28 41.6 +0.5
baz=130
MSTX **Muleshoe** 130.72 17 P PKPdf 23 28 41.8 +0.4
baz=130
MSTX **Muleshoe** 130.72 17 *e*PKPdf PKPdf 23 28 41.5 +0.2
MSTX *e*SKPbc SKPab 23 32 03.7 +0.4
MSTX LR LR
comp=Z,3µm,21.0s
W34A **Bridge Creek,** 130.74 12 P PKPdf 23 28 41.9 +0.6
baz=130
W34A **Bridge Creek,** 130.74 12 *e*PKPdf PKPdf 23 28 41.2 0.0
W34A *e*SKPbc SKPab 23 32 04.3 +1.1
W34A LR LR
comp=Z,3µm,20.0s
X30A **Coker Ranch, T** 130.79 15 P PKPdf 23 28 41.5 +0.1
baz=130
X31A **McDonald Ranch** 130.84 14 P PKPdf 23 28 41.6 +0.2
baz=131
WVT **Waverly** 130.93 1 *e*PKIKP PKPdf 23 28 40.7 -0.8
WVT MLR MLR
comp=Z,3µm,21.0s
WVT **Waverly** 130.93 1 *e*PKPdf PKPdf 23 28 40.7 -0.8
WVT *e*PP PP 23 30 51.8 -4.6
WVT *e*SKPbc SKPbc 23 32 02.5 -1.3
WVT LR LR
comp=Z,3µm,21.0s
W35A **Tecumseh** 130.99 11 P PKPdf 23 28 42.0 +0.3
baz=131
WMOK **Wichita Mounta** 131.01 13 *e*PKIKP PKPdf 23 28 41.0 -0.8
WMOK MLR MLR
comp=Z,4µm,22.0s
WMOK **Wichita Mounta** 131.01 13 *e*PKPdf PKPdf 23 28 41.0 -0.8
WMOK *e*SKPbc SKPbc 23 32 04.0 -0.1
WMOK LR LR
comp=Z,4µm,22.0s
CNNC **Cliffs of the** 131.07 350 PFAKE 23 28 50.0 +8.2
CNNC LR LR
comp=Z,4µm,20.0s
W36A **Wetumka** 131.12 10 P PKPdf 23 28 42.3 +0.4
baz=131
Y29A **Porterfield Fa** 131.14 16 P PKPdf 23 28 42.5 +0.3
baz=131
W37A **Quinton** 131.25 9 P PKPdf 23 28 42.4 +0.2
baz=131
X33A **Lawton** 131.26 13 P PKPdf 23 28 42.1 -0.1
baz=131
TKL **Tuckaleechee C** 131.32 357 *e*PKIKP PKPdf 23 28 41.8 -0.5
TKL **Tuckaleechee C** 131.32 357 *e*PKPdf PKPdf 23 28 41.8 -0.5
TKL *e*SKPbc SKPbc 23 32 04.6 -0.6
Y30A **Stafford Cattl** 131.33 16 P PKPdf 23 28 42.7 +0.2
baz=131
X34A **Smith Ranch, M** 131.34 12 P PKPdf 23 28 43.3 +0.9
baz=131
Y31A **Rekieta Farm,** 131.41 15 P PKPdf 23 28 42.7 +0.2
baz=131
W38A **Poteau** 131.46 8 P PKPdf 23 28 42.9 +0.4
baz=131
Z28A **Tucker Farm, M** 131.47 17 P PKPdf 23 28 43.3 +0.6
baz=131
CPCT **Cooper Cave** 131.56 357 *e*PKPdf PKPdf 23 28 42.1 -0.7
CPCT *e*SKPbc SKPbc 23 32 06.2 +0.1
Y32A **R-V Farms, Ver** 131.57 14 P PKPdf 23 28 43.0 +0.2
baz=131
KMSC **Kings Mountain** 131.63 354 PFAKE 23 28 50.0 +7.1
KMSC LR LR
comp=Z,3µm,21.0s
X36A **Centrahoma** 131.66 10 P PKPdf 23 28 43.4 +0.5
baz=131
Z29A **Hungry Hill Ra** 131.69 17 P PKPdf 23 28 43.7 +0.5
baz=131
X35A **Drake** 131.71 11 P PKPdf 23 28 43.0 -0.1
baz=131
Y33A **Hilltop Ranch,** 131.75 13 P PKPdf 23 28 43.6 +0.4
baz=132
X37A **Clayton** 131.80 9 P PKPdf 23 28 43.4 +0.2
baz=132
X38A **Whitesboro** 131.81 9 P PKPdf 23 28 43.9 +0.7
baz=132
Z30A **Sanderson Ranc** 131.83 16 P PKPdf 23 28 43.6 +0.2
baz=132
Y34A **Reagan Ranch,** 131.98 12 P PKPdf 23 28 43.6 +0.1
baz=132
UALR **University of** 132.01 6 *e*PKPdf PKPdf 23 28 42.5 -1.1
UALR *e*PP PP 23 31 03.2 -0.2
UALR *e*SKPbc SKPbc 23 32 06.5 -1.2
Z31A **Sharp Cattle R** 132.05 15 P PKPdf 23 28 44.0 +0.2
baz=132
128A **Castleberry Fa** 132.07 18 P PKPdf 23 28 44.4 +0.5
baz=132
MIAR **Mount Ida** 132.10 7 *e*PKHKP PKPpre 23 28 33.7
MIAR *e* 23 28 44.5
MIAR MLR MLR
comp=Z,3µm,18.0s
MIAR **Mount Ida** 132.10 7 *e*PKPpre PKPpre 23 28 33.7
MIAR *e*PKPdf PKiKP 23 28 44.5 -0.3
MIAR *e*SKPbc SKPab 23 32 09.0 +0.1
MIAR LR LR
comp=Z,3µm,18.0s
Y35A **Marietta** 132.18 11 P PKPdf 23 28 43.9 0.0
baz=132
Z32A **Haskell** 132.22 14 P PKPdf 23 28 44.7 +0.7
baz=132
129A **Stewart Farms,** 132.24 17 P PKPdf 23 28 44.6 +0.4
baz=132
Y36A **Durant** 132.32 11 P PKPdf 23 28 44.3 +0.1
baz=132
Y37A **Hugo** 132.36 10 P PKPdf 23 28 44.3 0.0
baz=132
Z33A **Whitaker Ranch** 132.41 13 P PKPdf 23 28 44.7 +0.3
baz=132
JSC **Jenkinsville** 132.48 354 *e*PKIKP PKPdf 23 28 44.1 -0.4
JSC *e* 23 31 03.2
JSC **Jenkinsville** 132.48 354 *e*PKPdf PKPdf 23 28 44.1 -0.4
JSC *e*PP PP 23 31 03.1 -3.2
OXF **Oxford** 132.49 3 PFAKE 23 29 00.0 +15
OXF LR LR
comp=Z,4µm,20.0s
228A **UT Block 9, Go** 132.50 18 P PKPdf 23 28 44.8 +0.1
baz=132
Z34A **Collier Ranch,** 132.51 13 P PKPdf 23 28 44.5 -0.1
baz=132
130A **Snyder** 132.52 16 P PKPdf 23 28 44.9 +0.2
baz=132
131A **Roby** 132.60 15 P PKPdf 23 28 45.5 +0.7
baz=132
Y39A **Lockesburg** 132.63 8 P PKPdf 23 28 45.0 +0.3
baz=132
Z35A **Perchaven, San** 132.69 12 P PKPdf 23 28 45.2 +0.3
baz=132
ABTX **Abilene, Hawle** 132.84 15 *e*PKPdf PKPdf 23 28 46.0 +0.7
ABTX *e*SKPbc SKPbc 23 32 11.1 +0.4
ABTX LR LR
comp=Z,4µm,20.0s
229A **Bryant Ranch,** 132.88 17 P PKPdf 23 28 45.6 +0.2
baz=133
Z36A **Blue Ridge** 132.91 11 P PKPdf 23 28 45.8 +0.5
baz=133
133A **Hamilton Ranch** 133.03 14 P PKPdf 23 28 46.0 +0.3
baz=133
Z37A **Pogue Cattle C** 133.12 10 P PKPdf 23 28 46.2 +0.4
baz=133
230A **Sterling City** 133.15 17 P PKPdf 23 28 46.4 +0.5
baz=133
134A **White-Moore Ra** 133.25 13 P PKPdf 23 28 46.5 +0.4
baz=133
329A **Wagon Wheel Ra** 133.28 18 P PKPdf 23 28 46.3 +0.1
baz=133
231A **Bronte** 133.32 16 P PKPdf 23 28 46.3 +0.1
baz=133
135A **Vickery Place,** 133.41 12 P PKPdf 23 28 46.8 +0.4
baz=133
RKT **Rikitea** 133.47 109 *e*SS SS 23 48 59.9 +1.1
comp=Z,1µm,30.2s
RKT **Rikitea** 133.47 109 *e*LR LR 00 11 18.4
comp=Z,2µm,23.2s
232A **Coleman** 133.54 15 P PKPdf 23 28 47.2 +0.5
baz=133
330A **Mertzon** 133.59 17 P PKPdf 23 28 47.6 +0.9
baz=133
233A **Rising Star** 133.60 14 P PKPdf 23 28 47.3 +0.5
baz=133

136A	**Ennis**	**133.66**	**11**	P	**PKPdf**	**23 28 47.2**	**+0.5**
	baz=133							
137A	**Heron Place, G**	**133.68**	**10**	P	**PKPdf**	**23 28 47.7**	**+0.9**
	baz=133							
RGRS	**Roger Stewart**	**133.70**	**352**	*e*PKPdf	**PKPdf**	**23 28 47.2**	**+0.4**
RGRS				*e*SKPbc	**SKPbc**	**23 32 13.1**	**-0.5**
138A	**Matatall Enter**	**133.73**	**10**	P	**PKPdf**	**23 28 48.0**	**+1.1**
	baz=134							
234A	**Clairette**	**133.78**	**13**	P	**PKPdf**	**23 28 47.7**	**+0.7**
	baz=134							
331A	**San Angelo**	**133.88**	**16**	P	**PKPdf**	**23 28 47.7**	**+0.4**
	baz=134							
WHTX	**Lake Whitney,**	**133.94**	**12**	P	**PKPdf**	**23 28 47.7**	**+0.3**
	baz=134							
WHTX	**Lake Whitney,**	**133.94**	**12**	*e*PKPdf	**PKPdf**	**23 28 47.2**	**-0.1**
WHTX				*e*PP	**PP**	**23 31 13.9**	**-1.9**
WHTX				*e*SKPbc	**SKPbc**	**23 32 14.7**	**+0.2**
WHTX				LR	LR			
	comp=Z,4μm,21.0s							
332A	**Millersview**	**133.99**	**15**	P	**PKPdf**	**23 28 47.8**	**+0.3**
	baz=134							
LRAL	**Lakeview Retre**	**134.03**	**0**	*e*PKPpre	PKPpre	23 28 37.0		
LRAL				*e*PP	**PP**	**23 31 12.7**	**-3.5**
LRAL				*e*SKPbc	**SKPbc**	**23 32 13.8**	**-0.9**
LRAL				LR	LR			
	comp=Z,4μm,22.0s							
429A	**Davenport Ranc**	**134.11**	**18**	P	**PKPdf**	**23 28 48.0**	**+0.2**
	baz=134							
236A	**Katherine and**	**134.12**	**11**	P	**PKPdf**	**23 28 48.1**	**+0.5**
	baz=134							
430A	**Baggett Ranch,**	**134.15**	**17**	P	**PKPdf**	**23 28 48.1**	**+0.2**
	baz=134							
333A	**Richland Sprin**	**134.24**	**14**	P	**PKPdf**	**23 28 48.3**	**+0.3**
	baz=134							
237A	**Washetta, Mont**	**134.25**	**11**	P	**PKPdf**	**23 28 48.3**	**+0.4**
	baz=134							
238A	**Jacksonville**	**134.37**	**10**	P	**PKPdf**	**23 28 49.0**	**+0.9**
	baz=134							
334A	**Lometa**	**134.41**	**14**	P	**PKPdf**	**23 28 48.4**	**+0.1**
	baz=134							
431A	**Sonora**	**134.43**	**17**	P	**PKPdf**	**23 28 48.4**	**+0.1**
	baz=134							
239A	**Gary**	**134.46**	**9**	P	**PKPdf**	**23 28 49.1**	**+0.8**
	baz=134							
432A	**Menard**	**134.46**	**16**	P	**PKPdf**	**23 28 48.6**	**+0.2**
	baz=134							
529A	**Stev Forest Ra**	**134.47**	**19**	P	**PKPdf**	**23 28 48.9**	**+0.5**
	baz=134							
335A	**Moody**	**134.64**	**13**	P	**PKPdf**	**23 28 49.2**	**+0.6**
	baz=134							
VBMS	**Vicksburg**	**134.71**	**4**	PFAKE		23 29 00.0	+11	
VBMS				LR	LR			
	comp=Z,4μm,18.0s							
530A	**J-C Ranch, Com**	**134.72**	**18**	P	**PKPdf**	**23 28 49.9**	**+1.0**
	baz=134							
TX31	**Lajitas Ar. Si**	**134.73**	**21**	*e*PKPpre	PKPpre	23 28 34.8		
TX31				*e*PKPdf	**PKPdf**	**23 28 49.7**	**+0.7**
TX31				*e*PP	PP	23 31 15.3	-5.8	
TX31				*e*SKPbc	**SKPbc**	**23 32 17.8**	**+0.6**
TXAR	**Lajitas Array**	**134.73**	**21**	PKHKP	PKPpre	23 28 36.0		
	comp=Z,1.7nm,0.7s,baz=2.4,slow=2.2,SNR=12							
TXAR				PKP	**PKPdf**	**23 28 49.6**	**+0.6**	
	comp=Z,22nm,1.0s,baz=195,slow=1.7,SNR=6.6							
TXAR				PP	**PP**	**23 31 22.7**	**+1.6**	
	comp=Z,8.1nm,1.0s,baz=348,slow=5.6,SNR=5.7							
TXAR				SKPbc	**SKPbc**	**23 32 18.3**	**+1.1**	
	comp=Z,16nm,0.8s,baz=318,slow=0.7,SNR=13							
TXAR	**Lajitas Array**	**134.73**	**21**	PKPpre	PKPpre	23 28 36.0		
TXAR				PKP	**PKPdf**	**23 28 49.6**	**+0.6**	
TXAR				PP	**PP**	**23 31 22.7**	**+1.6**	
TXAR				SKPbc	**SKPbc**	**23 32 18.3**	**+1.1**	
433A	**Art**	**134.76**	**15**	P	**PKPdf**	**23 28 48.8**	**-0.1**
	baz=134							
JCT	**Junction City**	**134.84**	**16**	*e*PKHKP	PKPpre	23 28 36.8		
JCT				*e*		23 28 49.2		
JCT				*e*		23 31 18.4		
JCT				MLR	MLR			
	comp=Z,4μm,22.0s							
JCT	**Junction City**	**134.84**	**16**	P	**PKPdf**	**23 28 50.0**	**+0.9**
	baz=135							
JCT	**Junction City**	**134.84**	**16**	*e*PKPpre	PKPpre	23 28 36.8		
JCT				*e*PKPdf	**PKPdf**	**23 28 49.2**	**+0.1**	
JCT				*e*PP	**PP**	**23 31 18.4**	**-3.3**	
JCT				*e*SKPbc	**SKPbc**	**23 32 17.3**	**-0.2**	
JCT				LR	LR			
	comp=Z,4μm,22.0s							
434A	**Burnet**	**134.90**	**14**	P	**PKPdf**	**23 28 49.2**	**0.0**	
	baz=135							
337A	**Centerville**	**134.91**	**11**	P	**PKPdf**	**23 28 50.3**	**+1.1**	
	baz=135							
531A	**Rocksprings**	**134.93**	**17**	P	**PKPdf**	**23 28 49.9**	**+0.6**	
	baz=135							
338A	**Crockett**	**134.97**	**10**	P	**PKPdf**	**23 28 50.0**	**+0.8**	
	baz=135							
435B	**Jarrell**	**135.08**	**13**	P	**PKPdf**	**23 28 50.1**	**+0.6**	
	baz=135							
340A	**Bronson**	**135.14**	**8**	P	**PKPdf**	**23 28 50.1**	**+0.6**	
	baz=135							
532A	**Rocksprings**	**135.14**	**16**	P	**PKPdf**	**23 28 49.9**	**+0.2**	
	baz=135							
436A	**Wall Ranch, Ga**	**135.26**	**12**	P	**PKPdf**	**23 28 50.3**	**+0.5**	
	baz=135							
533A	**Kerrville**	**135.42**	**15**	P	**PKPdf**	**23 28 50.2**	**0.0**	
	baz=135							
TIGA	**Tifton**	**135.50**	**356**	P	**PKPdf**	**23 28 50.8**	**+0.5**	
	baz=135							
TIGA	**Tifton**	**135.50**	**356**	*e*PKPdf	**PKPdf**	**23 28 49.5**	**-0.8**	
TIGA				LR	LR			
	comp=Z,3μm,20.0s							
438A	**Sam Houston St**	**135.53**	**11**	P	**PKPdf**	**23 28 50.8**	**+0.5**	
	baz=135							
534A	**Blanco**	**135.60**	**14**	P	**PKPdf**	**23 28 50.7**	**+0.2**	
	baz=135							
439A	**Center Grove,**	**135.61**	**10**	P	**PKPdf**	**23 28 51.2**	**+0.7**	
	baz=135							
631A	**Perdido Creek**	**135.63**	**17**	P	**PKPdf**	**23 28 50.9**	**+0.3**	
	baz=135							
632A	**Uvalde**	**135.76**	**16**	P	**PKPdf**	**23 28 51.4**	**+0.6**	
	baz=136							
535A	**Dale**	**135.81**	**13**	P	**PKPdf**	**23 28 51.4**	**+0.6**	
	baz=136							
633A	**Saathoff Ranch**	**135.97**	**15**	P	**PKPdf**	**23 28 52.0**	**+0.8**	
	baz=136							
537A	**Green Hill Far**	**136.03**	**12**	P	**PKPdf**	**23 28 52.3**	**+1.1**	
	baz=136							
BRAL	**Brewton**	**136.04**	**0**	PFAKE		23 29 00.0	+8.8	
BRAL				LR	LR			
	comp=Z,4μm,20.0s							
HKT	**Hockley**	**136.25**	**11**	*e*PKHKP	PKPpre	23 28 38.9		
HKT				MLR	MLR			
	comp=Z,3μm,21.0s							
HKT	**Hockley**	**136.25**	**11**	*e*PKPpre	PKPpre	23 28 38.9		
HKT				*e*PP	**PP**	**23 31 25.1**	**-5.1**	
HKT				*e*SKPbc	**SKPbc**	**23 32 21.8**	**+0.1**	
HKT				LR	LR			
	comp=Z,3μm,21.0s							
539A	**Cross D Ranch,**	**136.29**	**10**	P	**PKPdf**	**23 28 52.6**	**+0.9**	
	baz=136							
635A	**Leesville**	**136.38**	**14**	P	**PKPdf**	**23 28 53.2**	**+1.2**	
	baz=136							
636A	**Smothers Creek**	**136.45**	**13**	P	**PKPdf**	**23 28 53.5**	**+1.5**	
	baz=136							
733A	**Divot King Ran**	**136.64**	**16**	P	**PKPdf**	**23 28 53.4**	**+0.9**	
	baz=136							
832A	**Faith Ranch, C**	**136.87**	**17**	P	**PKPdf**	**23 28 53.6**	**+0.8**	
	baz=137							
735A	**Kenedy**	**136.89**	**14**	P	**PKPdf**	**23 28 54.2**	**+1.4**	
	baz=137							
736A	**Circle Diamond**	**136.96**	**13**	P	**PKPdf**	**23 28 54.7**	**+1.7**	
	baz=137							
SLBS	**Sierra La Lagu**	**136.97**	**32**	eSKPbc	**SKPbc**	**23 32 24.6**	**+0.3**	
833A	**Chaparral WMA,**	**136.99**	**16**	P	**PKPdf**	**23 28 54.1**	**+1.1**	
	baz=137							
933A	**Laredo**	**137.70**	**16**	P	**PKPdf**	**23 28 55.9**	**+1.5**	
	baz=138							
934A	**Benavides**	**137.91**	**15**	P	**PKPdf**	**23 28 56.3**	**+1.5**	
	baz=138							
ANWB	**Willy Bob**	**140.55**	**320**	PFAKE		23 29 10.0	+10	
ANWB				LR	LR			
	comp=Z,2μm,20.0s							
STVI	**Saint Thomas**	**141.89**	**325**	PFAKE		23 29 10.0	+7.8	
STVI				LR	LR			
	comp=Z,2μm,22.0s							
GRTK	**Grand Turk**	**142.18**	**336**	PFAKE		23 29 10.0	+7.3	
GRTK				LR	LR			
	comp=Z,2μm,20.0s							
BDFB	**Brasilia**	**142.28**	**261**	PKhKP	PKPpre	23 28 59.1		
	comp=Z,18nm,0.7s,baz=127,slow=5.0,SNR=38							
BDFB	**Brasilia**	**142.28**	**261**	*e*PKPpre	PKPpre	23 28 59.3		
BBGH	**Gun Hill**	**142.31**	**313**	PFAKE		23 29 10.0	+6.9	
BBGH				LR	LR			
	comp=Z,3μm,21.0s							
HUMP	**Col San Antoni**	**142.56**	**326**	*e*PKPdf	**PKPdf**	**23 29 00.7**	**-2.7**	
HUMP				LR	LR			
	comp=Z,2μm,21.0s							
SJG	**San Juan**	**142.75**	**326**	PFAKE		23 29 20.0	+16	
SJG				LR	LR			
	comp=Z,8μm,22.0s							
CELP	**Cerrillos**	**143.01**	**327**	*e*PKPpre	PKPpre	23 29 01.3		
OBIP	**Obispado Ponce**	**143.05**	**327**	*e*PKPpre	PKPpre	23 28 59.7		
CRPR	**Cabo Rojo, PR**	**143.34**	**327**	*e*PKPpre	PKPpre	23 29 01.9		
CRPR				LR	LR			
	comp=Z,2μm,21.0s							
GRW	**Mount Saint Ca**	**144.47**	**314**	*e*	PKPbc	23 29 06.0	+0.5	
BOT	**Bacolet**	**144.47**	**312**	*e*	**PKPdf**	**23 29 07.2**	**+0.4**	
GRGR	**Grenville**	**144.48**	**314**	*e*PKPdf	**PKPab**	**23 29 05.2**	**0.0**	
GRGR				LR	LR			
	comp=Z,2μm,20.0s							
SDDR	**Presa de Saban**	**144.50**	**334**	*e*PKPdf	PKPbc	23 29 05.4	0.0	
SDDR				*e*PP	**PP**	**23 32 19.1**	**-2.3**	
SDDR				LR	LR			
	comp=Z,3μm,22.0s							
GTBY	**Guantanamo Bay**	**145.09**	**340**	*e*PKPbc	**PKPdf**	**23 29 07.7**	**-0.1**	
GTBY				LR	LR			
	comp=Z,3μm,21.0s							
TBH	**Brigand Hill**	**145.18**	**311**	*e*	**PKPdf**	**23 29 10.5**	**+2.3**	
WSYH	**La Gonave Hosp**	**145.28**	**336**	*e*PKPbc	**PKPdf**	**23 29 08.7**	**+0.5**	
TRN	**Trinidad (W)**	**145.32**	**312**	*e*	**PKPdf**	**23 29 10.1**	**+1.7**	
LGNH	**LOogne**	**145.47**	**336**	*e*PKPdf	**PKPab**	**23 29 08.8**	**+0.1**	
TPP	**Pointe-a-Pierr**	**145.58**	**312**	*e*	**PKPab**	**23 29 11.4**	**+2.2**	
JAKH	**Jacmel**	**145.68**	**335**	*e*PKPdf	**PKPdf**	**23 29 08.0**	**-0.9**	
TEIG	**Tepich**	**146.76**	**2**	*e*PKPdf	**PKPbc**	**23 29 11.7**	**-0.7**	
TEIG				LR	LR			
	comp=Z,3μm,21.0s							
TRQA	**Tornquist**	**146.76**	**217**	*e*PKPdf	**PKPdf**	**23 29 11.0**	**+0.8**	
TRQA				LR	LR			
	comp=Z,4μm,22.0s							
BBJ	**Bamboo Saint A**	**147.21**	**343**	*e*P	**PKPab**	**23 29 14.9**	**-0.5**	
GWJ	**Greenwich**	**147.34**	**342**	*e*P	**PKPbc**	**23 29 13.3**	**-0.9**	
STH	**Stony Hill**	**147.36**	**342**	*e*P	**PKPbc**	**23 29 13.1**	**-1.0**	
HOJ	**Hope**	**147.41**	**342**	*e*P	**PKPbc**	**23 29 13.0**	**-1.2**	
CVJ	**Coleyville**	**147.43**	**343**	*e*P	**PKPab**	**23 29 15.3**	**-0.9**	
MTDJ	**Mount Denham**	**147.43**	**343**	*e*PKPdf	**PKPdf**	**23 29 12.3**	**+0.3**	
MTDJ				LR	LR			
	comp=Z,2μm,19.0s							
MCJ	**Malvern**	**147.76**	**343**	*i* P	**PKPbc**	**23 29 15.6**	**+0.4**	
CPUP	**Villa Florida**	**149.33**	**240**	*e*PKHKP	PKPpre	23 29 14.8		
CPUP	**Villa Florida**	**149.33**	**240**	*e*PKPdf	**PKPdf**	**23 29 14.8**	**+0.1**	
PTGA	**Pitinga**	**150.57**	**293**	*e*PKPdf	**PKPdf**	**23 29 16.7**	**-0.3**	
PTGA				LR	LR			
	comp=Z,3μm,18.0s							
SDV	**Santo Domingo**	**152.74**	**323**	*e*PKPdf	**PKPdf**	**23 29 19.8**	**-0.7**	
SDV				LR	LR			
	comp=Z,2μm,20.0s							
SAML	**Samuel**	**156.33**	**278**	*e*PKPdf	**PKPdf**	**23 29 24.4**	**-0.8**	
SAML				*e*PKPab	**PKPab**	**23 29 54.1**	**+0.6**	
SAML				LR	LR			
	comp=Z,3μm,21.0s							
JTS	**JuntasAbangare**	**156.58**	**355**	PFAKE		23 29 40.0	-14	
JTS				LR	LR			
	comp=Z,3μm,22.0s							
BCIP	**Isla Barro Col**	**156.69**	**342**	PFAKE		23 29 40.0	+14	
BCIP				LR	LR			
	comp=Z,2μm,18.0s							
ROSC	**El Rosal**	**158.13**	**324**	PKP	**PKPdf**	**23 29 29.3**	**+1.2**	
	comp=Z,42nm,0.9s,baz=96,slow=3.2,SNR=26							
ROSC				PKPab	**PKPab**	**23 30 02.3**	**+0.7**	
	comp=Z,64nm,0.8s,baz=124,slow=1.1,SNR=11							
ROSC	**El Rosal**	**158.13**	**324**	*e*PKPdf	**PKPdf**	**23 29 27.6**	**-0.4**	
ROSC				PKPab	**PKPab**	**23 30 02.3**	**+0.7**	
LCO	**Las Campanas**	**158.22**	**221**	*e*PKPdf	**PKPdf**	**23 29 25.9**	**-1.7**	
LCO				*e*PKPab	**PKPab**	**23 30 00.6**	**-0.9**	
LCO				LR	LR			
	comp=Z,4μm,20.0s							
LVC	**Limon Verde**	**160.49**	**239**	*e*PKPdf	**PKPdf**	**23 29 31.4**	**+1.1**	
LVC				*e*PKPab	**PKPab**	**23 30 11.2**	**-0.5**	
LVC				*e*PP	**PP**	**23 33 54.4**	**+0.4**	
LPAZ	**La Paz**	**161.57**	**258**	PKP	**PKPdf**	**23 29 32.5**	**+0.3**	
	comp=Z,19nm,0.9s,baz=47,slow=2.2,SNR=83							
LPAZ				PKPab	**PKPab**	**23 30 16.9**	**-0.1**	
	comp=Z,24nm,0.9s,baz=96,slow=3.5,SNR=8.4							
LPAZ	**La Paz**	**161.57**	**258**	*e*PKIKP	**PKPdf**	**23 29 31.9**	**-0.2**	
LPAZ				*e*		23 30 16.7		
LPAZ	**La Paz**	**161.57**	**258**	*e*PKPdf	**PKPdf**	**23 29 31.9**	**-0.2**	
LPAZ				*e*PKPab	**PKPab**	**23 30 16.7**	**-0.3**	
OTAV	**Otavalo**	**164.23**	**327**	*e*PKPdf	**PKPdf**	**23 29 35.1**	**+0.5**	
OTAV				*e*PP	**PP**	**23 34 13.3**	**+0.4**	

*IDC **18** 23:11:46.5±1.9,2°.89N×127°.31E,h0km,mb4.0/4, mb1 4.1/4,mb1mx3.8/32,mbtmp4.0/4,Error ellipse: s-maj=192.8km s-min=23.3km az=66.0*
*ISCJB **18** 23:11:54.1±1.2,3°.2N±0°.1×127°.97E±0°.09,h84km,mb3.8/4, Error ellipse: s-maj=20.0km s-min=9.8km az=30.6*
*DJA **18** 23:11:57.8±1.7,3°.1N±10°.×12°.8E±1°.1,h10km,M4.8/8, mb5.2/3,mB5.5/3,MLv4.6/8,Mw(mB)4.9/3*

ISC 18 23:11:55.1±1.1,3°.3N±0°.1×128°.0E±0°.1,h84km,n11, σ1§68/11,mb4.0/4,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.50**	**280**	P	**Pn**	**23 12 34.1**	**+0.4**
SGSI				S	**Sn**	**23 13 01.4**	**-2.0**
TNTI	**Ternate**	**2.55**	**194**	P	**Pn**	**23 12 37.4**	**+2.9**
KMSI	**Cibinong**	**4.82**	**236**	P	**Pn**	**23 13 05.8**	**+0.6**
SANI	**Sanana**	**5.64**	**201**	P	**Pn**	**23 13 15.1**	**-1.4**
	61nm,0.9s,2μm0.3nm						
MRSI	**Marisa**	**6.65**	**246**	P	**Pn**	**23 13 31.6**	**+1.4**
	260nm,0.6s,3μm1.0nm						
APSI	**Ampana**	**7.58**	**237**	P	Pn	23 13 49.5	+6.6
JAY	**Jayapura**	**13.94**	**114**	P	**P**	**23 15 13.1**	**-1.3**
WRA	**Warramunga Arr**	**23.89**	**165**	P	**P**	**23 17 00.3**	**-0.9**
	1.8nm,0.5s,baz=342,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**27.38**	**168**	P	**P**	**23 17 32.1**	**-0.6**
	0.3nm,0.5s,baz=350,slow=8.0,SNR=4.1						
STKA	**Stephens Creek**	**37.26**	**161**	P	**P**	**23 18 58.9**	**0.0**
	1.8nm,0.3s,baz=351,slow=8.9,SNR=14						
KURBB	**Kurchatov Arra**	**62.81**	**327**	P	**P**	**23 22 13.6**	**+1.8**
	1.9nm,0.6s,baz=131,slow=5.3,SNR=4.4						

*CSEM **18** 23:18:55.3,42°.63N×13°.25E,h14km,MD1.6/4*

ROM 18 23:18:55.3±0.1,42°.63N×13°.25E,h14km±1km,Md1.6/4, Ml1.3/2,Error ellipse: s-maj=1.6km s-min=0.9km az=12.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.06**	**87**	Pg	Pg	23 18 58.6	+0.4
SMA1				Sg	Sg	23 19 00.4	+0.2
	222nm,0.3s						
SMA1	**SAN MARTINO**	**0.06**	**87**	Pg	Pg	23 18 58.6	+0.4
SMA1				Sg	Sg	23 19 00.4	+0.2
	222nm,0.3s						
LNSS	**Leonessa**	**0.16**	**261**	Pg	Pg	23 18 59.7	+0.4
LNSS				Sg	Sg	23 19 02.5	+0.4
	58nm,0.2s						
LNSS	**Leonessa**	**0.16**	**261**	Pg	Pg	23 18 59.7	+0.4
LNSS				Sg	Sg	23 19 02.5	+0.4
	58nm,0.2s						
NRCA	**Norcia**	**0.23**	**334**	Pg	Pg	23 19 00.9	+0.4
NRCA				Sg	Sg	23 19 04.6	+0.6
	39nm,0.1s						
NRCA	**Norcia**	**0.23**	**334**	Pg	Pg	23 19 00.9	+0.4
NRCA				Sg	Sg	23 19 04.6	+0.6
	39nm,0.1s						
TERO	**Teramo**	**0.26**	**91**	Pg	Pg	23 19 01.3	+0.3
TERO				Sg	Sg	23 19 05.5	+0.7
TERO	**Teramo**	**0.26**	**91**	Pg	Pg	23 19 01.3	+0.3
TERO				Sg	Sg	23 19 05.5	+0.7

*ISCJB **18** 23:41:14.4±0.7,20°.6S±0°.1×178°.6W±0°.1,h587km, mb3.8/12,Error ellipse: s-maj=19.5km s-min=14.0km az=38.1*
*IDC **18** 23:41:16.2±3.4,20°.58S×178°.62W,h597km±40km, mb3.3/12,mb1 3.5/14,mb1mx3.3/29,mbtmp4.3/14,Error ellipse: s-maj=21.8km s-min=18.8km az=79.0*

ISC 18 23:41:15.1±0.7,20°.6S±0°.1×178°.6W±0°.1,h587km,n23, σ1§27/26,mb3.9/12,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.99**	**261**	P	**P**	**23 44 14.9**	**+0.6**
	0.2nm,0.3s,baz=90,slow=20,SNR=2.8						
URZ	**Urewera**	**17.99**	**191**	P	**P**	**23 44 49.8**	**-1.2**
	1.6nm,0.3s,baz=312,slow=14,SNR=9.7						
CTA	**Charters Tower**	**32.90**	**265**	P	**P**	**23 47 03.4**	**+1.0**
	1.6nm,0.3s,baz=86,slow=13,SNR=4.9						
ASAR	**Alice Springs**	**43.93**	**257**	P	**P**	**23 48 31.6**	**+0.2**
	4.2nm,0.7s,baz=96,slow=7.5,SNR=45						
ASAR				PcP	**PcP**	**23 50 04.3**	**+0.1**
	0.8nm,0.7s,baz=109,slow=4.1,SNR=4.0						
ASAR				S	**S**	**23 54 18.7**	**-2.7**
	0.9nm,1.0s,baz=85,slow=15,SNR=5.1						
WRA	**Warramunga Arr**	**44.01**	**262**	P	**P**	**23 48 32.1**	**+0.1**
	1.2nm,0.3s,baz=97,slow=7.7,SNR=6.5						
VNDA	**Vanda**	**57.77**	**185**	P	**P**	**23 50 12.2**	**+1.7**
	0.8nm,0.8s,baz=4.5,slow=6.9,SNR=3.5						
MJAR	**Matsushiro Arr**	**69.94**	**324**	P	**P**	**23 51 28.4**	**0.0**
	1.8nm,0.7s,baz=165,slow=7.3,SNR=4.1						
PETK	**Petropavlovsk-**	**76.21**	**346**	P	**P**	**23 52 03.8**	**0.0**
	3.3nm,0.7s,baz=136,slow=9.2,SNR=6.5						
USRK	**Ussuriysk Ar.**	**78.71**	**326**	P	**P**	**23 52 18.5**	**+1.1**
	1.4nm,0.7s,baz=169,slow=8.5,SNR=4.4						
NVAR	**Mina Array Bea**	**81.50**	**44**	P	**P**	**23 52 33.4**	**+1.0**
	1.1nm,0.7s,baz=226,slow=6.1,SNR=5.9						
SEY	**Seymchan**	**86.33**	**347**	P	**P**	**23 52 55.5**	**+0.3**
	0.8nm,0.2s,baz=177,slow=6.3,SNR=8.4						
ILAR	**Eielson Array**	**88.53**	**13**	P	**P**	**23 53 04.7**	**-0.8**
	1.2nm,0.7s,baz=224,slow=5.7,SNR=9.2						
PDAR	**Pinedale Array**	**89.43**	**43**	P	**P**	**23 53 11.3**	**+0.8**
	1.0nm,0.6s,baz=218,slow=1.7,SNR=5.4						
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P	**P**	**23 53 13.3**	**+1.8**
	1.5nm,0.3s,baz=128,slow=2.5,SNR=5.0						
ZALV	**Zalesovo Beam**	**110.20**	**321**	PKiKP	**PKiKP**	**23 58 39.3**	**-1.4**
	0.5nm,0.5s,baz=46,slow=4.2,SNR=2.8						
ARCES	**ARCESS Array B**	**128.90**	**349**	PKP	**PKPdf**	**23 59 15.5**	**-0.6**
	1.7nm,0.9s,baz=48,slow=1.8,SNR=9.1						
FINES	**FINESS Array B**	**135.69**	**343**	PKhKP	PKPpre	23 59 17.4	
	2.8nm,1.0s,baz=77,slow=3.0,SNR=2.3						
FINES				PKP	**PKPdf**	**23 59 26.7**	**-2.4**
	1.2nm,0.7s,baz=5.2,slow=4.2,SNR=5.0						
AKASG	**Malin Array Be**	**142.81**	**331**	PKP	**PKPdf**	**23 59 39.3**	**-3.0**
	2.8nm,0.4s,baz=43,slow=4.4,SNR=14						
BRTR	**Keskin Array B**	**146.46**	**312**	PKPbc	**PKPbc**	**23 59 51.0**	**-0.6**
	1.1nm,0.6s,baz=143,slow=4.5,SNR=6.9						
CLL	**Collm**	**148.01**	**346**	*i* PKP	**PKPbc**	**23 59 55.1**	**0.0**
	comp=Z,7.0nm,0.8s						
BRG	**Berggiesshubel**	**148.20**	**345**	*e*P	**PKPbc**	**23 59 55.6**	**+0.1**
	comp=Z,3.7nm,0.9s						
GERES	**GERESS Array B**	**150.13**	**344**	PKPbc	**PKPbc**	**00 00 00.1**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=36,slow=2.5,SNR=12						
GERES				PKPab	**PKPab**	**00 00 08.8**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=356,slow=4.0,SNR=4.7						
ESDC	**Sonseca Array**	**160.44**	**12**	PKPab	**PKPab**	**00 00 53.5**	**0.0**
	comp=Z,0.3nm,0.5s,baz=327,slow=7.3,SNR=3.4						

*JMA **19** 00:01:00.3±0.6,33°.06N×142°.43E,h16km,M3.7*
*ISCJB **19** 00:01:01.4±1.0,32°.98N±0°.08×142°.4E±0°.2,h40km, mb3.5/3,Error ellipse: s-maj=21.4km s-min=6.9km az=153.6*
*IDC **19** 00:01:02.3±4.9,32°.55N×141°.44E,h0km,mb3.5/3, mb1 3.7/5,mb1mx3.4/39,mbtmp3.6/5,ML3.7/2,Error ellipse: s-maj=184.1km s-min=19.1km az=69.0*

ISC 19 00:01:02.5±1.3,32°.96N±0°.07×142°.5E±0°.2,h40km,n14, σ1§72/20,mb3.7/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.13**	**323**	P	**Pn**	**00 01 34.4**	**-0.6**
BSO1				S	**Sn**	**00 01 59.0**	**-1.0**
JHJ2	**Mitsune**	**2.29**	**274**	P	**Pn**	**00 01 37.0**	**-0.7**
BSO4	**Boso 4**	**2.73**	**319**	P	**Pn**	**00 01 43.6**	**-0.1**
JHU	**Hanno**	**3.94**	**318**	S	**Sn**	**00 02 44.0**	**-1.5**
JHO	**Hitachi**	**3.98**	**337**	P	**Pn**	**00 01 59.8**	**-1.2**
JRY	**Ryogami san**	**4.28**	**316**	P	**Pn**	**00 02 05.1**	**0.0**
JRY				S	**Sn**	**00 02 53.7**	**-0.1**
JAG	**Ashikaga**	**4.29**	**325**	P	**Pn**	**00 02 04.9**	**-0.3**
JFT	**Otama**	**4.89**	**339**	P	**Pn**	**00 02 12.9**	**-0.6**
JFT				S	**Sn**	**00 03 04.6**	**-4.2**
MJAR	**Matsushiro Arr**	**5.04**	**316**	Pn	**Pn**	**00 02 15.8**	**+0.2**
	1.5nm,0.3s,baz=158,slow=13,SNR=11						

GKN	**Gorkha**	**21.72**	**343**	*e*P		**P**	**00 35 31.6**	**+1.5**
KOLN	**Koldanda**	**21.82**	**341**	*e*P		P	00 35 37.2	+5.9
	10nm,0.6s							
H08S3	**Diego Garcia H**	**24.03**	**233**	T		T	01 02 25.6	
	baz=57,slow=76,SNR=3.2							
H08S2	**Diego Garcia H**	**24.04**	**233**	T		T	01 02 21.9	
	baz=57,slow=76,SNR=4.5							
H08S1	**Diego Garcia H**	**24.05**	**233**	T		T	01 02 21.9	
	baz=57,slow=76,SNR=4.2							
SONM	**Songino Array**	**42.44**	**15**	P		**P**	**00 38 32.2**	**-1.1**
	1.1nm,0.6s,baz=195,slow=10,SNR=10.0							
ZALV	**Zalesovo Beam**	**46.95**	**355**	P		**P**	**00 39 08.3**	**-0.6**
	1.1nm,0.5s,baz=169,slow=8.8,SNR=6.7							
ASAR	**Alice Springs**	**51.49**	**128**	P		**P**	**00 39 45.0**	**+0.8**
	0.3nm,0.7s,baz=298,slow=7.8,SNR=5.0							
BRTR	**Keskin Array B**	**60.94**	**312**	P		**P**	**00 40 51.5**	**-0.2**
	0.4nm,0.8s,baz=60,slow=7.3,SNR=2.9							
FINES	**FINESS Array B**	**72.13**	**333**	P		**P**	**00 42 01.8**	**-0.7**
	0.9nm,0.7s,baz=162,slow=5.8,SNR=2.5							
GERES	**GERESS Array B**	**76.63**	**318**	P		**P**	**00 42 28.8**	**-0.3**
	0.3nm,0.6s,baz=69,slow=5.5,SNR=3.0							

ISCJB ***19*** *00:41:42.8±0.8,71°.28N±0°.04×8°.5W±0°.4, h19km, Error ellipse: s-maj=16.7km s-min=5.3km az=11.7*
CSEM ***19*** *00:41:44.8±0.2,71°.06N×7°.85W, h10km, ML3.5, Error ellipse: s-maj=17.6km s-min=5.6km az=152.0*
NAO ***19*** *00:41:44.4±1.9,71°.07N×7°.68W, ML3.1*
BER ***19*** *00:41:45.6±0.9,70°.89N×7°.99W, h10km, MD2.9, ML3.5, ML3.1(NAO)*

ISC 19 00:41:42.7±1.4, 71°.24N±0°.07×9°.2W±0°.1, h19km, n22, σ1ₚ58/25, 8C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNW	**Jan Mayen West**	**0.32**	**131**	⇑*i*P	**Pg**	**00 41 49.4**	**-0.2**
JNW				IAML		00 41 53.7	
	comp=Z,9μm,0.2s						
JNW	**Jan Mayen West**	**0.32**	**131**	⇑*i*P	**Pg**	**00 41 49.4**	**-0.2**
	SNR=109						
JMIC	**Jan Mayen**	**0.33**	**140**	Pg	**Pg**	**00 41 49.9**	**+0.1**
JMIC				Lg	Lg	00 41 53.6	
JMIC	**Jan Mayen**	**0.33**	**140**	⇑*i*P	**Pg**	**00 41 49.8**	**0.0**
JMIC				*e*S	**Sg**	**00 41 53.3**	**-1.4**
JMIC				IAML		00 41 54.7	
	comp=Z,7μm,0.4s						
JMIC	**Jan Mayen**	**0.33**	**140**	⇑*i*P	**Pg**	**00 41 49.8**	**0.0**
	SNR=109						
JMIC				*e*S	**Sg**	**00 41 53.3**	**-1.4**
	SNR=109						
JMI	**Jan Mayen**	**0.34**	**156**	⇑*i*P	**Pb**	**00 41 51.0**	**+0.7**
JMI				*e*S	**Sg**	**00 41 54.9**	**-0.1**
JMI				IAML		00 41 56.1	
	comp=Z,4μm,0.2s						
JMI	**Jan Mayen**	**0.34**	**156**	⇑*i*P	**Pb**	**00 41 51.0**	**+0.7**
	SNR=105						
JMI				*e*S	**Sg**	**00 41 54.9**	**-0.1**
	SNR=105						
JNE	**Jan Mayen East**	**0.38**	**131**	⇑*i*P	**Pg**	**00 41 49.9**	**-0.7**
JNE				IAML		00 41 54.4	
	comp=Z,7μm,0.2s						
JNE	**Jan Mayen East**	**0.38**	**131**	⇑*i*P	**Pg**	**00 41 49.9**	**-0.7**
	SNR=117						
DAG	**Danmarks Havn**	**6.14**	**339**	*i* P	**Pn**	**00 43 14.5**	**+2.4**
DAG				*i* S	**Sn**	**00 44 18.1**	**-3.5**
HSPB	**Hornsund (broa**	**8.81**	**38**	*e*P	**Pn**	**00 43 49.9**	**+1.1**
HSPB	**Hornsund (broa**	**8.81**	**38**	*e*P	**Pn**	**00 43 49.9**	**+1.1**
	SNR=50						
TRO	**Tromso**	**9.51**	**86**	*e*P	Pn	00 43 55.0	-3.3
TRO	**Tromso**	**9.51**	**86**	*e*P	Pn	00 43 55.0	-3.3
	SNR=50						
SPA0	**Spitsbergen Ar**	**9.57**	**32**	Pn	**Pn**	**00 44 01.6**	**+2.4**
	baz=224,slow=16						
SPA0	**Spitsbergen Ar**	**9.57**	**32**	P	**Pn**	**00 44 01.6**	**+2.4**
	baz=224,slow=16						
SPA0	**Spitsbergen Ar**	**9.57**	**32**	P	**Pn**	**00 44 01.6**	**+2.4**
	SNR=50						
HOPEN	**Hopen**	**10.70**	**45**	*e*P	**Pn**	**00 44 16.5**	**+1.9**
HOPEN	**Hopen**	**10.70**	**45**	*e*P	**Pn**	**00 44 16.5**	**+1.9**
	SNR=50						
ARA0	**ARCESS Array S**	**11.66**	**82**	Pn	**Pn**	**00 44 26.8**	**-1.0**
	baz=293,slow=12						
ARA0	**ARCESS Array S**	**11.66**	**82**	P	**Pn**	**00 44 26.8**	**-1.0**
	baz=293,slow=12						
ARA0	**ARCESS Array S**	**11.66**	**82**	P	**Pn**	**00 44 26.8**	**-1.0**
	SNR=50						

ISCJB ***19*** *00:55:54.9±0.4,22°.78S±0°.04×68°.84W±0°.05, h119km±4km, mb3.6/4, Error ellipse: s-maj=7.3km s-min=6.4km az=145.5*
GUC ***19*** *00:55:55.9±0.5,22°.82S×68°.90W, h107km±2km, ML4.6*
SJA ***19*** *00:55:55.2±0.6,22°.71S×68°.76W, h110km±11km, ML3.4, MW3.0*
IDC ***19*** *00:55:56.3±1.9,22°.65S×68°.68W, h111km±7km, mb3.5/5, mb1 3.7/6, mb1mx3.5/18, mbtmp3.8/6, Error ellipse: s-maj=55.3km s-min=21.5km az=20.0*

ISC 19 00:55:55.8±0.7, 22°.75S±0°.05×68°.83W±0°.05, h112km±5km, n24, σ0ₚ96/36, mb3.6/4, 7C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.16**	**331**	*i* P	**Pn**	**00 56 11.5**	**-0.3**
LVC				*i* S	**Sn**	**00 56 23.8**	**+0.1**
LVC	**Limon Verde**	**0.16**	**331**	*e*P	**Pn**	**00 56 11.6**	**-0.2**
LVC				*e*S	**Sn**	**00 56 23.7**	**0.0**
PB06	**IPOC Station P**	**0.69**	**274**	⇑*i*P	**Pn**	**00 56 14.3**	**-0.1**
PB06				*i* S	**Sn**	**00 56 27.9**	**-0.6**
PB04	**IPOC Station P**	**0.78**	**308**	⇑*i*P	Pn	00 56 20.5	+5.4
PB04				*i* S	Sn	00 56 39.1	+10
MACH	**Maria Elena**	**1.02**	**303**	⇑*i*P	**Pn**	**00 56 17.7**	**0.0**
MACH				*i* S	**Sn**	**00 56 34.3**	**+0.2**
PB09	**IPOC Station P**	**1.02**	**338**	⇑*i*P	**Pn**	**00 56 18.4**	**+0.7**
PB09				*i* S	**Sn**	**00 56 35.5**	**+1.4**
PB09				AML	AML	00 56 36.8	
	comp=N,16μm,0.4s						
CEN1	**Los Morros**	**1.41**	**243**	*e*P	**Pn**	**00 56 23.7**	**+1.9**
CEN1				*i* S	**Sn**	**00 56 44.3**	**+2.7**
CEN1				AML	AML	00 56 51.4	
	comp=E,7μm,0.2s						
PB07	**IPOC Station P**	**1.41**	**316**	⇑*i*P	**Pn**	**00 56 22.3**	**+0.3**
ANCH	**Antofagasta**	**1.72**	**237**	⇓*i*P	**Pn**	**00 56 24.7**	**-0.7**
ANCH				*i* S	**Sn**	**00 56 46.6**	**-1.4**
PB10	**IPOC Station P**	**1.76**	**244**	⇑*i*P	**Pn**	**00 56 25.2**	**-0.7**
PB10				*i* S	**Sn**	**00 56 47.4**	**-1.4**
PB01	**IPOC Station P**	**1.81**	**340**	⇑*i*P	**Pn**	**00 56 26.7**	**+0.1**
PB01				*i* S	**Sn**	**00 56 50.8**	**+0.7**
HJA	**Humahuaca**	**3.19**	**99**	*e*P	**Pn**	**00 56 45.3**	**+0.6**
HJA				IAML		00 56 47.6	
	comp=Z,128nm,0.4s						
SLA	**San Lorenzo**	**3.62**	**123**	*e*P	**Pn**	**00 56 50.7**	**+0.4**
MNMC	**Minimini**	**3.67**	**349**	*e*P	**Pn**	**00 56 50.2**	**-0.9**
MNMC				*i* S	**Sn**	**00 57 33.9**	**0.0**
MNMC				AML	AML	00 57 57.2	
	comp=E,540nm,0.6s						
AZAP	**Zapla**	**3.75**	**114**	*e*P	**Pn**	**00 56 52.7**	**+0.5**
AZAP				IAML		00 56 56.6	
	comp=Z,34nm,0.3s						
ASTB	**Santa Barbara**	**4.17**	**107**	*e*P	**Pn**	**00 56 57.9**	**+0.3**
ALOL	**LOMAS DE OLMED**	**4.59**	**104**	*e*P	**Pn**	**00 57 02.4**	**-0.8**
AHML	**Horco Molle**	**5.12**	**142**	*e*P	**Pn**	**00 57 10.8**	**+0.5**
LPAZ	**La Paz**	**6.46**	**6**	P	**Pn**	**00 57 28.2**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=72,slow=3.2,SNR=4.2						
BDFB	**Brasilia**	**20.88**	**74**	P	**P**	**01 00 27.8**	**-1.4**
	comp=Z,7.3nm,0.5s,baz=249,slow=10,SNR=15						
TXAR	**Lajitas Array**	**61.70**	**325**	P	**P**	**01 06 03.4**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=116,slow=6.1,SNR=2.6						
TXAR				pP	**pP**	**01 06 28.5**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=119,slow=7.3,SNR=1.9						
PDAR	**Pinedale Array**	**75.23**	**330**	P	**P**	**01 07 27.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=115,slow=8.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**77.71**	**70**	P	**P**	**01 07 40.3**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=242,slow=4.7,SNR=20						
TORD				pP	**pP**	**01 08 08.9**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=254,slow=5.4,SNR=3.5						
TORD				sP	**sP**	**01 08 21.9**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=254,slow=5.6,SNR=1.9						
YKA	**Yellowknife Ar**	**92.39**	**341**	P	**P**	**01 08 53.0**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=138,slow=4.8,SNR=4.2						

IDC 19 01:01:55.8±6.7, 4°.86S×148°.76E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.3/34, mbtmp3.4/2, MS3.7/1, Ms1 3.7/1, ms1mx2.9/14, Error ellipse: s-maj=309.4km s-min=48.6km az=112.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.55**	**222**	P	P	01 06 36.2	0.0
	0.6nm,0.3s,baz=40,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**23.56**	**216**	P	P	01 07 07.9	-0.2
	0.5nm,0.4s,baz=52,slow=7.9,SNR=9.0						
ASAR				LR	LR	01 17 28.0	
	comp=Z,172nm,20.6s,baz=226,slow=40						
TORD	**Torodi Ar. Bea**	**146.48**	**286**	PKPbc	PKPbc	01 21 39.4	-0.7
	0.4nm,1.0s,baz=101,slow=3.7,SNR=5.8						

ISCJB ***19*** *01:02:09.8±0.7,31°.79N±0°.05×141°.2E±0°.1, h35km, mb3.9/7, Error ellipse: s-maj=16.3km s-min=4.8km az=161.4*
JMA ***19*** *01:02:13.9±0.3,32°.09N×141°.11E, h24km, M3.7*
IDC ***19*** *01:02:14.2±3.9,31°.48N×140°.30E, h36km±35km, mb3.6/7, mb1 3.8/9, mb1mx3.4/47, mbtmp3.8/9, ML3.7/2, Error ellipse: s-maj=36.6km s-min=15.6km az=74.0*

ISC 19 01:02:11.7±0.9, 31°.81N±0°.06×141°.2E±0°.1, h35km, n19, σ1ₚ68/22, mb3.9/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**1.75**	**317**	P	**Pn**	**01 02 40.2**	**+0.6**
JHCJ				*e*S	**Sn**	**01 02 57.7**	**-3.0**
JHJ2	**Mitsune**	**1.77**	**318**	P	**Pn**	**01 02 39.8**	**0.0**
JHJ2				S	**Sn**	**01 02 58.7**	**-2.4**
BSO1	**Boso 1**	**2.85**	**356**	P	**Pn**	**01 02 53.8**	**-0.4**
BSO1				*e*S	**Sn**	**01 03 26.4**	**-0.6**
JYN	**Shimob**	**4.31**	**329**	P	**Pn**	**01 03 17.2**	**+2.4**
JIE	**Ise**	**4.59**	**305**	P	**Pn**	**01 03 20.1**	**+1.5**
JRY	**Ryogami san**	**4.62**	**336**	P	**Pn**	**01 03 21.2**	**+2.1**
JRY				*e*S	**Sn**	**01 04 10.3**	**-1.3**
JCJ	**Chichijima**	**4.77**	**170**	Pn	**Pn**	**01 03 22.0**	**+0.9**
	12nm,0.3s,baz=4.0,slow=20,SNR=31						
JCJ				Sn	**Sn**	**01 04 13.8**	**-1.3**
	15nm,0.3s,baz=298,slow=21,SNR=5.6						
JAG	**Ashikaga**	**4.84**	**343**	P	**Pn**	**01 03 22.4**	**+0.4**
JAG				*e*S	**Sn**	**01 04 14.6**	**-2.2**
MJAR	**Matsushiro Arr**	**5.35**	**333**	Pn	**Pn**	**01 03 31.5**	**+2.5**
	0.9nm,0.3s,baz=166,slow=14,SNR=4.5						
MJAR				Sn	**Sn**	**01 04 30.8**	**+1.4**
	0.5nm,0.3s,baz=329,slow=20,SNR=2.0						
H11S3	**WAKE ISLAND Hy**	**26.50**	**114**	T	T	01 36 53.4	
	baz=304,slow=75,SNR=3.3						
H11S1	**WAKE ISLAND Hy**	**26.50**	**114**	T	T	01 36 54.6	
	baz=304,slow=75,SNR=4.6						
H11S2	**WAKE ISLAND Hy**	**26.52**	**114**	T	T	01 36 54.6	
	baz=304,slow=75,SNR=3.1						
SONM	**Songino Array**	**30.86**	**311**	P	**P**	**01 08 25.2**	**+0.5**
	0.4nm,0.5s,baz=123,slow=11,SNR=3.1						
KURBB	**Kurchatov Arra**	**49.23**	**312**	P	**P**	**01 10 55.4**	**-1.1**
	0.8nm,0.5s,baz=84,slow=6.8,SNR=17						
WRA	**Warramunga Arr**	**51.88**	**188**	P	**P**	**01 11 15.9**	**-0.9**
	1.2nm,0.3s,baz=11,slow=8.0,SNR=5.8						
ILAR	**Eielson Array**	**54.03**	**30**	P	P	01 11 39.5	+7.3
	0.3nm,0.7s,baz=219,slow=7.0,SNR=5.1						
BVAR	**Borovoye Array**	**54.07**	**315**	P	**P**	**01 11 31.2**	**-1.5**
	0.4nm,0.3s,baz=103,slow=9.0,SNR=6.4						
ASAR	**Alice Springs**	**55.60**	**188**	P	**P**	**01 11 43.6**	**-0.4**
	0.4nm,0.4s,baz=14,slow=7.8,SNR=7.2						
FINES	**FINESS Array B**	**73.38**	**333**	P	**P**	**01 13 41.8**	**+2.1**
	2.5nm,0.9s,baz=79,slow=7.5,SNR=3.6						

IDC ***19*** *01:11:13.0±8.5,36°.03N×71°.38E, h54km±71km, mb3.6/8, mb1 3.7/11, mb1mx3.5/30, mbtmp3.9/11, ML4.2/2, Error ellipse: s-maj=49.0km s-min=25.2km az=173.0*
ISCJB ***19*** *01:11:20.9±0.4,36°.49N±0°.03×71°.40E±0°.05, h114km, mb3.9/10, Error ellipse: s-maj=5.8km s-min=4.0km az=158.1*
NEIC ***19*** *01:11:23.5±0.8,36°.54N×71°.36E, h131km±7km, mb4.2/7, Error ellipse: s-maj=13.6km s-min=7.4km az=134.0*
NNC ***19*** *01:11:28.9±1.6,36°.98N×71°.19E, h150km, mb3.4, mpv4.5, Error ellipse: s-maj=13.9km s-min=5.9km az=171.0*

ISC 19 01:11:21.6±0.6, 36°.54N±0°.05×71°.43E±0°.05, h114km, n55, σ1ₚ95/65, mb3.8/10, 10C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.79**	**225**	*e*Pn	**Pn**	**01 12 07.5**	**+2.4**
KBL				*e*Sn	**Sn**	**01 12 40.1**	**+1.6**
DZET	**Dzherino**	**3.07**	**318**	⇓P	**Pn**	**01 12 11.0**	**+2.3**
	65nm,0.2s						
DZET				⇓S	**Sn**	**01 12 45.2**	**+0.2**
	514nm,0.4s						
SFK	**Sufi-Kurgan**	**3.83**	**25**	⇑P	Pn	01 12 23.5	+4.5
	79nm,0.3s						
SFK				⇑S	**Sn**	**01 13 06.5**	**+3.1**
	66nm,0.5s						
AML	**Almayashu**	**5.86**	**17**	P	**Pn**	**01 12 48.8**	**+2.4**
	SNR=115						
DHRM	**DHARAMSHALA**	**5.87**	**135**	*e*P	**Pn**	**01 12 48.5**	**+2.1**
DHRM				*e*S	**Sn**	**01 13 51.7**	**-0.8**
DHRM				AML	AML	01 13 55.1	
	comp=N,241nm,0.4s						
DHRM				AML	AML	01 13 55.5	
	comp=E,309nm,1.2s						
UCH	**Uchtor**	**6.17**	**22**	P	**Pn**	**01 12 53.2**	**+2.6**
	SNR=62						
KZA	**Kyzart**	**6.28**	**27**	P	**Pn**	**01 12 54.1**	**+2.1**
	SNR=35						
EKS2	**Erkin-Say**	**6.38**	**16**	P	**Pn**	**01 12 55.7**	**+2.5**
	SNR=17						
EKS2	**Erkin-Say**	**6.38**	**16**	*e*Pn	**Pn**	**01 12 55.4**	**+2.2**
	comp=E,9.8nm,0.4s						
EKS2				*e*Sn	**Sn**	**01 14 05.5**	**+0.8**
AAK	**Ala-Archa**	**6.53**	**20**	P	**Pn**	**01 12 58.0**	**+2.8**
	SNR=14						
AAK	**Ala-Archa**	**6.53**	**20**	⇑P	**Pn**	**01 12 57.8**	**+2.5**
	comp=E,10nm,0.3s						
AAK				⇑S	**Sn**	**01 14 07.3**	**-1.1**
	comp=E,10.0nm,0.7s						
AAK	**Ala-Archa**	**6.53**	**20**	P	Pn	01 13 12.0	+17
	comp=E,12nm,0.3s,baz=162,slow=6.7,SNR=31						
AAK				S	Sn	01 14 23.8	+15
	comp=E,5.1nm,0.3s,baz=299,slow=22,SNR=12						
KK31	**Karatay Array**	**6.60**	**354**	P	**Pn**	**01 12 58.1**	**+2.1**
	comp=E,39nm,0.4s,baz=179,slow=13,SNR=779						
KK31				⇓S	**Sn**	**01 14 06.9**	**-2.9**
	comp=E,10nm,0.3s,baz=178,slow=25,SNR=8.8						
KKAR	**Karatay Array**	**6.60**	**354**	*e*Pn	**Pn**	**01 12 57.6**	**+1.6**
	comp=E,76nm,0.4s						
KKAR				*e*Sn	**Sn**	**01 14 07.9**	**-1.9**
KBK	**Karagaybulak**	**6.69**	**23**	P	**Pn**	**01 12 60.0**	**+2.6**
	SNR=14						
ULHL	**Ulahol**	**6.81**	**32**	P	**Pn**	**01 13 01.4**	**+2.3**
	SNR=13						
CHMS	**Chumysh**	**6.94**	**21**	P	**Pn**	**01 13 03.0**	**+2.3**
	SNR=17						
USP	**Ospenovka**	**7.12**	**18**	P	**Pn**	**01 13 05.4**	**+2.2**
	SNR=10						
TKM2	**Tokmak 2**	**7.14**	**25**	P	**Pn**	**01 13 06.0**	**+2.5**
	SNR=19						
TKM2	**Tokmak 2**	**7.14**	**25**	⇓P	**Pn**	**01 13 05.3**	**+1.8**
	comp=E,11nm,0.6s						
TKM2				⇓S	**Sn**	**01 14 24.9**	**+1.7**
	comp=E,9.5nm,1.0s						
TKM2	**Tokmak 2**	**7.14**	**25**	*e*Pn	**Pn**	**01 13 05.6**	**+2.1**
	comp=E,11nm,0.5s						
SMLA	**Simla**	**7.20**	**137**	*e*P	**Pn**	**01 13 05.5**	**+1.3**
SMLA				*e*S	**Sn**	**01 14 20.3**	**-4.1**
SMLA				AML	AML	01 14 27.1	
	comp=N,96nm,0.5s						
SMLA				AML	AML	01 14 28.8	
	comp=E,93nm,0.4s						
MK31	**Makanchi Array**	**13.06**	**35**	P	**Pn**	**01 14 24.1**	**+1.4**
	comp=E,1.2nm,0.7s,baz=220,slow=14,SNR=7.8						
MK31	**Makanchi Array**	**13.06**	**35**	*e*Pn	**Pn**	**01 14 24.1**	**+1.4**
KOLN	**Koldanda**	**13.50**	**127**	*e*P	**Pn**	**01 14 27.3**	**-1.5**
	comp=E,8.9nm,0.3s						
GKN	**Gorkha**	**14.03**	**124**	*e*P	**Pn**	**01 14 34.7**	**-0.8**
	comp=E,11nm,0.2s						
PKI	**Pulchoki**	**14.83**	**123**	*e*P	**Pn**	**01 14 45.2**	**-0.6**
GUN	**Gumba**	**14.94**	**121**	*e*P	**Pn**	**01 14 46.9**	**-0.3**
	comp=E,9.5nm,0.4s						
KURBB	**Kurchatov Arra**	**14.98**	**18**	⇓P	**P**	**01 14 50.5**	**+0.6**
	comp=E,2.8nm,0.6s						
KURBB	**Kurchatov Arra**	**14.98**	**18**	P	**Pn**	**01 14 45.8**	**-1.4**
	comp=E,0.0nm,0.3s,baz=208,slow=11,SNR=6.2						
KURK	**Kurchatov**	**15.09**	**18**	⇑P	**P**	**01 14 51.6**	**+0.5**
	comp=E,1.9nm,1.3s						
KURK	**Kurchatov**	**15.09**	**18**	*e*P	**P**	**01 14 51.4**	**+0.3**
	comp=E,2.0nm,0.8s						
AB31	**Akbulak array**	**15.22**	**330**	P	**Pn**	**01 14 50.6**	**+0.3**
	comp=E,1.0nm,0.3s,baz=151,slow=9.3,SNR=90						
AB31				⇑S	Sn	01 17 29.3	-9.2
	comp=E,1.7nm,0.5s,baz=148,slow=22,SNR=6.1						
ABKAR	**Akbulak array**	**15.22**	**330**	*e*P	**Pn**	**01 14 51.0**	**+0.7**
	comp=E,3.1nm,0.3s						
JIRN	**Jiri**	**15.30**	**121**	*e*P	**Pn**	**01 14 51.1**	**-0.8**
BVA0	**Borovoye Array**	**16.50**	**358**	⇑P	**Pn**	**01 15 06.2**	**0.0**
	comp=E,4.2nm,1.4s,baz=169,slow=12,SNR=18						
BVAR	**Borovoye Array**	**16.50**	**358**	P	**Pn**	**01 15 06.4**	**+0.2**
	comp=E,0.7nm,0.3s,baz=160,slow=10,SNR=13						
BVAR				S	**Sn**	**01 18 04.5**	**-4.9**
	comp=E,0.1nm,0.3s,baz=166,slow=20,SNR=3.6						
BRVK	**Borovoye**	**16.54**	**358**	⇑P	**Pn**	**01 15 06.7**	**+0.1**
	comp=E,5.9nm,1.0s						
BRVK	**Borovoye**	**16.54**	**358**	*e*P	**Pn**	**01 15 07.0**	**+0.4**
	comp=E,3.7nm,0.8s						
AKTO	**Aktyubinsk**	**16.93**	**329**	⇑P	**P**	**01 15 12.4**	**+1.0**
	comp=E,8.4nm,1.1s						
AKTO				⇑S	**Sn**	**01 18 13.2**	**-6.2**
	comp=E,6.7nm,0.9s						
AKTO	**Aktyubinsk**	**16.93**	**329**	P	**Pn**	**01 15 11.4**	**+0.1**
	comp=E,1.1nm,0.3s,baz=126,slow=9.8,SNR=22						
AKTO				S	Sn	01 18 08.0	-12
	comp=E,0.1nm,0.3s,baz=136,slow=20,SNR=2.1						
ZAA0	**Zalesovo Array**	**19.74**	**24**	*e*P	**P**	**01 15 42.6**	**+0.5**
ZALV	**Zalesovo Beam**	**19.74**	**24**	P	**P**	**01 15 43.0**	**+0.9**
	comp=E,2.8nm,0.3s,baz=215,slow=11,SNR=9.7						
ARU	**Arti**	**21.71**	**340**	*e*P	**P**	**01 16 03.1**	**-0.2**
	comp=E,2.6nm,0.6s						
SONM	**Songino Array**	**28.03**	**55**	P	**P**	**01 17 02.9**	**+0.9**
	comp=E,0.3nm,0.3s,baz=248,slow=7.6,SNR=3.6						
BUR08	**Bucovina Ar. S**	**35.57**	**303**	*e*P	**P**	**01 18 08.3**	**+0.4**
FINES	**FINESS Array B**	**37.65**	**326**	P	**P**	**01 18 26.2**	**+1.0**
	comp=E,0.7nm,0.5s,baz=116,slow=8.7,SNR=10						
ARCES	**ARCESS Array B**	**41.24**	**337**	P	**P**	**01 18 56.2**	**+1.2**
	comp=E,1.8nm,0.9s,baz=111,slow=6.6,SNR=8.4						
KHC	**Kasperske Hory**	**43.25**	**306**	*e*P	**P**	**01 19 11.7**	**+0.2**
	comp=E,4.2nm,0.8s						
HFS	**Hagfors**	**43.25**	**322**	P	**P**	**01 19 12.0**	**+0.7**
	comp=E,2.2nm,0.5s,baz=95,slow=10,SNR=14						
NB2	**NORSAR Subarra**	**44.56**	**323**	P	**P**	**01 19 22.0**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.56**	**323**	P	**P**	**01 19 22.2**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=101,slow=7.3,SNR=5.7						
BNI	**Bardonecchia**	**48.58**	**301**	*e*P	**P**	**01 19 52.8**	**-0.7**
	comp=Z,12nm,1.3s						
TORD	**Torodi Ar. Bea**	**66.07**	**269**	P	**P**	**01 21 54.1**	**-2.4**
	comp=Z,0.6nm,0.5s,baz=50,slow=5.9,SNR=20						
YKA	**Yellowknife Ar**	**81.19**	**3**	P	**P**	**01 23 24.0**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=353,slow=5.0,SNR=5.7						

MEX 19 01:41:02.4±1.1, 17°.17N×97°.87W, h5km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**0.77**	**300**	*i* P	Pg	01 41 18.8	-0.7
TLIG				*i* S	Sg	01 41 27.5	-0.2
PNIG	**Pinotepa**	**0.81**	**198**	*i* P	Pg	01 41 15.9	-2.2
PNIG				*i* S	Sg	01 41 26.8	-1.9
OXX	**Oaxaca**	**1.10**	**95**	*e*P	Pg	01 41 15.8	-8.0
OXX				*i* S	Sg	01 41 29.4	-8.9
TPIG	**Tehuac#an**	**1.33**	**21**	*e*P	Pn	01 41 24.9	-3.0
TPIG				*i* S	Sg	01 41 40.9	-4.8
MEIG	**Mezcala**	**1.83**	**294**	*e*P	Pn	01 41 32.0	-2.7
MEIG				*e*S	Sn	01 41 54.4	-4.0
YAIG	**Yautepec**	**2.03**	**326**	*e*P	Pn	01 41 35.0	-2.6
YAIG				*i* S	Sn	01 41 58.5	-4.9
HUIG	**Huatulco**	**2.19**	**129**	*e*P	Pn	01 41 36.5	-3.0
HUIG				*i* S	Sn	01 42 03.5	-3.5
CAIG	**El Cayaco**	**2.30**	**267**	*e*P	Pn	01 41 38.6	-2.4
CAIG				*i* S	Sn	01 42 05.3	-4.3
CMIG	**Matias Romero**	**2.85**	**91**	*e*P	Pn	01 41 46.2	-2.4
CMIG				*i* S	Sn	01 42 19.8	-3.6

ISCJB ***19*** *01:57:10.5±0.4,32°.28N±0°.02×115°.29W±0°.02, h

SHPR				*e*Pg	**Pg**	**01 58 30.7**	**-2.2**
SHPR				*e*Sn	**Sn**	**01 59 06.8**	**+1.0**
SHPR				*e*Sg	**Sg**	**01 59 23.1**	**-5.2**
ISA	**Isabella, Lake**	**4.31**	**324**	*e*Pn	**Pn**	**01 58 14.8**	**-1.4**
ISA				*e*Pg	**Pb**	**01 58 29.0**	**+2.5**
ISA				*e*Sg	**Sg**	**01 59 26.1**	**-3.2**
WUAZ	**Wupatki**	**4.66**	**44**	*e*Pn	**Pn**	**01 58 21.8**	**+0.7**
WUAZ				*e*Sg	**Sb**	**01 59 34.5**	**+5.8**
W18A	**Petrified Fore**	**5.50**	**57**	*e*Pn	**Pn**	**01 58 33.3**	**+0.7**
	comp=E,14nm,0.3s						
CCUT	**Cedar City**	**5.56**	**16**	*e*Pn	**Pn**	**01 58 34.5**	**+0.9**
	comp=E,6.3nm,0.8s						
CCUT				*e*Pg	**Pg**	**01 58 56.6**	**-0.8**
CCUT				*e*Sg	**Sg**	**02 00 06.7**	**-2.8**
121A	**Cookes Peak, D**	**6.41**	**85**	*e*Pn	**Pn**	**01 58 45.0**	**-0.1**
	comp=E,11nm,0.3s						
121A				*e*Sg	**Sg**	**02 00 30.8**	**-5.7**
MSU	**Marysvale**	**6.79**	**22**	*e*Pn	**Pn**	**01 58 50.6**	**+0.1**
	comp=E,3.9nm,0.6s						
MSU				*e*Pg	Pg	01 59 16.7	-4.2
MVCO	**Mesa Verde**	**7.52**	**47**	*e*Pn	**Pn**	**01 59 02.2**	**+1.7**
	comp=E,4.7nm,0.4s						

DJA 19 02:14:29.5±0.8, 9°S±6°×11°9E±°, *h*69km±9km, M3.7/7, MLv3.7/7, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.22**	**180**	P	Pn	02 14 42.0	+1.8
WBSI				S	Sn	02 14 50.5	+2.5
WSI	**Waingapu**	**0.93**	**106**	P	Pn	02 14 46.6	-0.5
BSSI	**Bau Bau, Buton**	**3.43**	**19**	P	Pn	02 15 21.2	+0.5
BSSI				S	Sn	02 15 59.8	-0.4
BKSI	**Bulukumba**	**4.14**	**10**	P	Pn	02 15 30.1	-0.1
DNP	**Denpasar**	**4.19**	**280**	P	Pn	02 15 30.9	-0.1

*SJA **19** 02:25:25.2±0.3, 35°.18S×73°.84W, h153km±35km, ML4.2, MW3.6*
*ISCJB **19** 02:25:28.5±1.9, 35°.14S±0°.05×73°.40W±0°.06, h30km±15km, mb3.8/8, MS3.6/3, Error ellipse: s-maj=8.6km s-min=7.3km az=32.0*
*GUC **19** 02:25:28.1±0.5, 35°.10S×73°.36W, h28km±3km, ML4.4*
*IDC **19** 02:25:30.7±0.8, 35°.32S×73°.23W, h27km±5km, mb3.5/7, mb1 3.8/10, mb1mx3.7/24, mbtmp3.8/10, ML3.7/2, MS3.7/5, Ms1 3.6/5, ms1mx3.4/20, Error ellipse: s-maj=26.5km s-min=12.4km az=96.0*

ISC 19 02:25:30.6±0.9, 35°.23S±0°.06×73°.26W±0°.07, *h*29km±5km, n32, σ1°27/42, mb3.7/8, MS3.5/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.34**	**98**	*e*P	**Pn**	**02 25 53.1**	**-0.4**
TALC				*e*S	**Sb**	**02 26 11.7**	**-0.2**
LNCH	**Linares**	**1.49**	**115**	*e*P	**Pn**	**02 25 55.7**	**+0.2**
LNCH				*e*S	**Sb**	**02 26 16.3**	**+0.1**
NICH	**Los Niches**	**1.68**	**83**	*e*P	**Pn**	**02 25 57.9**	**-0.3**
NICH				*e*S	**Sb**	**02 26 20.4**	**-1.3**
LNV	**Longovilo**	**1.99**	**51**	*e*P	**Pn**	**02 26 00.4**	**-2.0**
U73B	**San Pedro**	**2.01**	**50**	*e*P	**Pn**	**02 26 00.4**	**-2.2**
U73B				*e*S	**Sn**	**02 26 25.3**	**-1.5**
U73B				AML	AML	02 26 26.3	
	comp=E,5μm,0.5s						
CLCH	**Cerro Calan**	**2.91**	**52**	*e*P	**Pn**	**02 26 13.9**	**-1.2**
CLCH				*e*S	**Sn**	**02 26 48.5**	**-0.6**
CLCH				AML	AML	02 26 51.0	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**2.98**	**46**	*e*P	**Pn**	**02 26 14.7**	**-1.4**
PEL				*e*S	**Sn**	**02 26 50.0**	**-1.0**
PEL				AML	AML	02 26 52.6	
	comp=N,1μm,0.7s						
AAGR	**Agrelo**	**4.25**	**61**	*e*P	**Pn**	**02 26 35.3**	**+1.7**
ARCO	**CERRO ARCO**	**4.32**	**58**	*e*P	**Pn**	**02 26 35.8**	**+1.3**
ARCO				IAML		02 27 31.9	
	comp=Z,52nm,0.6s						
AUSP	**Uspallata**	**4.41**	**48**	*e*P	**Pn**	**02 26 36.8**	**+0.9**
AUSP				*e*S	**Sn**	**02 27 29.6**	**+3.2**
RTLS	**Leoncito**	**4.76**	**45**	*e*P	**Pn**	**02 26 41.4**	**+0.6**
RTCV	**Cerro Valdivia**	**5.18**	**51**	*e*P	**Pn**	**02 26 46.3**	**0.0**
CFAA	**Coronel Fontan**	**5.54**	**51**	Pn	**Pn**	**02 26 50.9**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=189,slow=5.7,SNR=109						
CFAA				Sn	**Sn**	**02 27 53.5**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=354,slow=23,SNR=2.5						
CFAA				LR	LR	02 29 22.1	
	comp=Z,36nm,18.1s,baz=228,slow=42						
CFAA	**Coronel Fontan**	**5.54**	**51**	*e*P	**Pn**	**02 26 51.0**	**-0.3**
CFAA				*e*S	**Sn**	**02 27 55.1**	**+1.0**
RTLL	**Cerro Villicun**	**5.59**	**47**	*e*P	**Pn**	**02 26 51.5**	**-0.4**
RTLL				*e*S	**Sn**	**02 27 55.6**	**+0.4**
ACAN	**Cantantal**	**5.86**	**61**	*e*P	**Pn**	**02 26 55.9**	**+0.3**
AMOG	**MOGNA**	**5.86**	**44**	*e*P	**Pn**	**02 26 55.2**	**-0.5**
VCA	**Vinchina**	**7.77**	**35**	*e*P	**Pn**	**02 27 19.5**	**-2.5**
VCA				IAML		02 27 22.8	
	comp=Z,77nm,0.2s						
LVC	**Limon Verde**	**13.14**	**18**	Pn	**Pn**	**02 28 35.0**	**-0.5**
	comp=Z,12nm,0.3s,baz=180,slow=10,SNR=3.4						
LVC				LR	LR	02 34 24.8	
	comp=Z,316nm,18.1s,baz=210,slow=40						
LPAZ	**La Paz**	**19.42**	**15**	P	**Pn**	**02 29 56.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=186,slow=8.1,SNR=10						
LPAZ				S	**Sn**	**02 33 36.0**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=162,slow=9.9,SNR=2.3						
USHA	**Ushuaia**	**19.88**	**172**	LR	LR	02 39 02.7	
	comp=Z,195nm,18.5s,baz=190,slow=41						
SIV	**San Ignacio**	**22.05**	**33**	P	**P**	**02 30 22.9**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=231,slow=13,SNR=3.8						
SIV				LR	LR	02 39 03.3	
	comp=Z,91nm,21.2s,baz=173,slow=37						
BDFB	**Brasilia**	**29.86**	**56**	LR	LR	02 45 05.8	
	comp=Z,121nm,19.7s,baz=225,slow=39						
PMSA	**Palmer Station**	**30.09**	**172**	P	**P**	**02 31 35.2**	**-2.0**
	comp=Z,14nm,0.5s,baz=345,slow=16,SNR=7.3						
SNAA	**Sanae**	**50.83**	**157**	P	**P**	**02 34 27.8**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=278,slow=6.7,SNR=9.1						
QSPA	**South Pole Qui**	**55.01**	**180**	P	**P**	**02 34 58.5**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=104,slow=4.8,SNR=7.5						
TXAR	**Lajitas Array**	**70.33**	**332**	P	**P**	**02 36 40.9**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=160,slow=9.2,SNR=6.1						
TXAR				pP	**pP**	**02 36 51.0**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=153,slow=8.5,SNR=9.7						
TSUM	**Tsumeb**	**79.84**	**106**	LR	LR	03 09 46.5	
	comp=Z,74nm,18.1s,baz=150,slow=33						
BOSA	**Boshof**	**80.39**	**118**	P	**P**	**02 37 39.9**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=265,slow=12,SNR=2.4						
PDAR	**Pinedale Array**	**84.42**	**334**	P	**P**	**02 38 03.0**	**+2.6**
	comp=Z,0.2nm,0.4s,baz=123,slow=4.4,SNR=3.2						
PDAR				pP	**pP**	**02 38 10.1**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=160,slow=4.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**85.58**	**71**	P	**P**	**02 38 08.0**	**+1.5**
	comp=Z,0.5nm,0.9s,baz=259,slow=5.0,SNR=3.3						
TORD				pP	**pP**	**02 38 16.1**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=230,slow=4.4,SNR=3.4						
ZALV	**Zalesovo Beam**	**155.81**	**33**	pPKPab	pPKPab	02 45 58.0	+0.7
	comp=Z,0.8nm,0.6s,baz=278,slow=4.3,SNR=2.4						

*NIED **19** 02:39:00, 44°.50N×149°.10E, h35km, Mw5.2 Best double couple: M0 6.64000×10^16 NP1:φs209.00000°, δ23.00000°, λ81.00000°. NP2:φs39.00000°, δ67.00000°, λ94.00000°.*
*JMA **19** 02:39:14.1±0.5, 44°.53N×149°.14E, h30km, M5.3*
JMA Felt I J1.
*ISCJB **19** 02:39:15.9±0.3, 44°.38N±0°.02×148°.91E±0°.02, h44km±2km, mb5.2/306, MS4.7/44, Error ellipse: s-maj=3.5km s-min=1.9km az=161.0*
*SKHL **19** 02:39:15.2±0.7, 44°.28N×149°.23E, h52km±5km, mb5.6/3, mbh5.5/3, Ms5.0/9, msh5.3/6*
*BJI **19** 02:39:15.5, 44°.30N×148°.90E, h45km, mb5.4/74, mB5.2/52, Ms4.8/71, MS7 4.7/69*
*MOS **19** 02:39:15.7±0.9, 44°.37N×148°.88E, h44km, mb5.6/84, MS4.8/19, Error ellipse: s-maj=5.7km s-min=4.2km az=109.0*
*IDC **19** 02:39:17.9±0.4, 44°.55N×148°.85E, h46km±3km, mb4.7/20, mb1 4.9/25, mb1mx4.9/28, mbtmp5.0/25, MS4.5/31, Ms1 4.5/31, ms1mx4.4/38, Error ellipse: s-maj=11.2km s-min=9.0km az=112.0*
*NEIC **19** 02:39:17.6±0.1, 44°.43N×148°.84E, mb5.3/186, Error ellipse: s-maj=4.1km s-min=2.2km az=155.0*
NEIC Felt at Misawa, Honshu. Recorded [1 JMA] in eastern Hokkaido.
*GCMT **19** 02:39:17.6±0.2, 44°.32N×149°.07E, h32km, MW5.2/92, Moment Tensor Solution. s53,c82; s92,c141; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.57±.20; Mθθ-2.06±.14; Mφφ-2.51±.15; Mrθ1.32±.19; Mrφ-4.13±.10; Mθφ3.43±.19; Best double couple: M0 6.69000×10^16 NP1:φs27.00000°, δ63.00000°, λ71.00000°. NP2: φs244.00000°, δ32.00000°, λ123.00000°. Principal axes: T 5.9770, Plg66.0000°, Azm262.0000°; N 1.4260, Plg17.0000°, Azm36.0000°; P -7.4030, Plg16.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **19** 02:39:19.7, 45°.32N×149°.44E, h33km, mb5.4, MS4.5, Kuril Islands, Russia*

ISC 19 02:39:17.7±0.3, 44°.45N±0°.03×148°.89E±0°.03, *h*45km±1km, h44km: pP-P, n1343, σ1s07/1515, mb5.3/331, MS4.7/45, 103C-21D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.07**	**318**	*i*PN	**Pn**	**02 39 36.2**	**0.0**
KUR				*i*S	**Sn**	**02 39 52.0**	**+2.1**
KUR				pmax	pmax		
	comp=N,2μm,0.4s						
KUR				pmax	pmax		
	comp=E,1μm,0.4s						
KUR				pmax	pmax		
	comp=Z,5μm,0.4s						
KUR				smax	smax		
	comp=N,10μm,0.6s						
KUR				smax	smax		
	comp=E,8μm,0.6s						
KUR	**Kuril'sk**	**1.07**	**318**	*i*P	**Pn**	**02 39 36.2**	**0.0**
KUR				AMB	AMB	02 39 38.0	
	comp=E,2μm,0.4s						
KUR				AMB	AMB	02 39 38.0	
	comp=E,1μm,0.4s						
KUR				AMB	AMB	02 39 38.0	
	comp=E,5μm,0.4s						
KUR				*i*S	**Sn**	**02 39 52.0**	**+2.1**
KUR				AMB	AMB	02 39 56.0	
	comp=E,19μm,1.0s						
KUR				AMB	AMB	02 39 56.0	
	comp=E,69μm,1.0s						
KUR				A	A	02 39 56.4	
	comp=E,10μm,0.6s						
KUR				A	A	02 39 56.4	
	comp=E,8μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.21**	**260**	*d*PN	**Pn**	**02 39 51.1**	**-0.8**
YUK				*i*S	**Sn**	**02 40 18.1**	**+0.1**
YUK				pmax	pmax		
	comp=N,469nm,0.3s						
YUK				pmax	pmax		
	comp=E,553nm,0.3s						
YUK				pmax	pmax		
	comp=Z,2μm,0.3s						
YUK				smax	smax		
	comp=N,15μm,3.1s						
YUK				smax	smax		
	comp=E,8μm,3.1s						
YUK				smax	smax		
	comp=N,7μm,0.6s						
YUK				smax	smax		
	comp=E,12μm,0.6s						
YUK				MLR	MLR		
	comp=Z,15μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**2.21**	**260**	*i*P	**Pn**	**02 39 51.1**	**-0.8**
YUK				AMB	AMB	02 39 54.3	
	comp=Z,470nm,0.3s						
YUK				AMB	AMB	02 39 54.3	
	comp=Z,554nm,0.3s						
YUK				AMB	AMB	02 39 54.3	
	comp=Z,2μm,0.3s						
YUK				*i*S	**Sn**	**02 40 18.1**	**+0.1**
YUK				A	A	02 40 20.8	
	comp=Z,15μm,3.0s						
YUK				A	A	02 40 20.8	
	comp=Z,8μm,3.0s						
YUK				A	A	02 40 28.2	
	comp=Z,7μm,0.6s						
YUK				A	A	02 40 28.2	
	comp=Z,12μm,0.6s						
YUK				AMS	AMS	02 40 53.2	
	comp=Z,54μm,18.0s						
NEM2	**Nemuro 2**	**2.52**	**246**	P	**Pn**	**02 39 54.6**	**-1.5**
NEM2				*e*S	**Sn**	**02 40 24.6**	**-0.9**
JRA	**Rausu**	**2.76**	**261**	P	**Pn**	**02 39 59.7**	**+0.3**
JNK	**Nakash**	**3.13**	**255**	P	**Pn**	**02 40 04.6**	**+0.1**
JAK	**Akkeshi**	**3.37**	**246**	P	**Pn**	**02 40 06.5**	**-1.2**
JTKR	**Abashiri--Toko**	**3.61**	**264**	P	**Pn**	**02 40 11.7**	**+0.6**
JAR	**Ashorobuto**	**3.88**	**254**	P	**Pn**	**02 40 14.8**	**+0.1**
JAR				*e*S	**Sn**	**02 41 02.7**	**+3.7**
JOB	**Onbets**	**3.98**	**249**	P	**Pn**	**02 40 15.8**	**-0.3**
JMP	**Maruseppu**	**4.00**	**266**	P	**Pn**	**02 40 17.4**	**+1.0**
HRK	**Horoka**	**4.27**	**259**	*e*P	**Pn**	**02 40 21.4**	**+1.2**
JCH	**Churui**	**4.42**	**247**	P	**Pn**	**02 40 21.2**	**-1.0**
JCH				*e*S	**Sn**	**02 41 12.8**	**+0.5**
JKK2	**Kamakawa 2**	**4.45**	**265**	P	**Pn**	**02 40 24.1**	**+1.4**
JSE	**Soyaes**	**4.52**	**279**	P	**Pn**	**02 40 24.9**	**+1.3**
JKA	**Kamikawa-asahi**	**4.53**	**268**	*e*P	**Pn**	**02 40 25.2**	**+1.5**
ASAJ	**Asahikawa**	**4.53**	**268**	P	**Pn**	**02 40 25.5**	**+1.8**
ASAJ	**Asahikawa**	**4.53**	**268**	P	**Pn**	**02 40 25.2**	**+1.5**
	baz=94,slow=8.9						
ASAJ				LR	LR	02 42 17.0	
	comp=Z,9μm,20.0s,baz=176,slow=40						
ASAJ	**Asahikawa**	**4.53**	**268**	*e*Pn	**Pn**	**02 40 25.4**	**+1.8**
MYR	**Moyori**	**4.62**	**244**	*e*P	**Pn**	**02 40 24.5**	**-0.4**
JFR	**Furan**	**4.73**	**256**	P	**Pn**	**02 40 27.8**	**+1.3**
JEM	**Erimo**	**4.84**	**242**	P	**Pn**	**02 40 27.3**	**-0.7**
ERM	**Erimo**	**4.84**	**242**	Pn	**Pn**	**02 40 29.1**	**+1.1**
	comp=Z,14μm,1.1s						
ERM	**Erimo**	**4.84**	**242**	*e*PN	**Pn**	**02 40 28.7**	**+0.7**
ERM	**Erimo**	**4.84**	**242**	*e*P	**Pn**	**02 40 29.3**	**+1.3**
ERM	**Erimo**	**4.84**	**242**	*e*Pn	**Pn**	**02 40 28.7**	**+0.7**
ERM				*e*Lg	Lg	02 41 42.2	
JAB	**Ashibetsu**	**4.90**	**261**	P	**Pn**	**02 40 31.4**	**+2.6**
JNBK	**Urakawa-nobuka**	**4.97**	**246**	P	**Pn**	**02 40 29.3**	**-0.5**
YSS	**Yuzh-Sakhalins**	**4.97**	**302**	*i*PN	**Pn**	**02 40 30.2**	**+0.4**
YSS				*e*S	**Sn**	**02 41 27.0**	**+1.1**
YSS				pmax	pmax		
	comp=Z,210nm,1.0s						
YSS				smax	smax		
	comp=N,740nm,1.2s						
YSS				MLR	MLR		
	comp=N,4μm,16.0s						
YSS				MLR	MLR		
	comp=E,6μm,15.0s						
YSS				MLR	MLR		
	comp=Z,8μm,15.0s						
YSS	**Yuzh-Sakhalins**	**4.97**	**302**	*e*P	**Pn**	**02 40 32.0**	**+2.2**
YSS				AMB	AMB	02 40 33.8	
	comp=Z,210nm,0.5s						
YSS				*e*S	**Sn**	**02 41 30.1**	**+4.2**
YSS				A	A	02 41 33.2	
	comp=Z,740nm,0.5s						
YSS				AMS	AMS	02 42 50.0	
	comp=Z,53μm,18.0s						
YSS				AMS	AMS	02 42 50.0	
	comp=Z,70μm,18.0s						
YSS	**Yuzh-Sakhalins**	**4.97**	**302**	*e*Pn	**Pn**	**02 40 31.0**	**+1.3**
JBT2	**Biratori 2**	**5.02**	**253**	P	**Pn**	**02 40 30.6**	**+0.1**
JBT2				*e*S	**Sn**	**02 41 31.2**	**+4.0**
JSS	**Shosan**	**5.04**	**272**	P	Pn	02 40 34.1	+3.4
JWK2	**Keihoku**	**5.04**	**282**	P	**Pn**	**02 40 33.6**	**+2.9**
JHR	**Hokuryu**	**5.21**	**265**	P	**Pn**	**02 40 35.7**	**+2.7**
NEVR	**Nevel'sk**	**5.41**	**297**	*e*P	**Pn**	**02 40 38.7**	**+2.9**
NEVR				AMB	AMB	02 40 46.2	
	comp=Z,639nm,1.1s						
NEVR				*e*S	**Sn**	**02 41 40.3**	**+3.5**
NEVR				A	A	02 41 51.9	
	comp=Z,835nm,0.5s						
NEVR				AMS	AMS	02 42 35.2	
	comp=Z,24μm,20.0s						
JNB	**Noboribetsu**	**6.04**	**254**	P	**Pn**	**02 40 45.0**	**+0.5**
JSK	**Shakotan**	**6.17**	**263**	P	**Pn**	**02 40 47.6**	**+1.3**
JKB	**Kayabe**	**6.29**	**249**	P	**Pn**	**02 40 47.1**	**-0.7**
JKB				*e*S	**Sn**	**02 41 54.4**	**-3.9**
UGL	**Uglegorsk**	**6.58**	**317**	*ce*PN	**Pn**	**02 40 54.7**	**+2.8**
UGL				*e*S	**Sn**	**02 42 09.6**	**+4.1**
UGL	**Uglegorsk**	**6.58**	**317**	*e*P	**Pn**	**02 40 55.0**	**+3.1**
UGL				AMB	AMB	02 40 57.0	
	comp=Z,205nm,0.9s						
UGL				AMS	AMS	02 43 50.0	
	comp=Z,6μm,15.0s						
UGL				AMS	AMS	02 43 50.0	
	comp=Z,3μm,15.0s						
UGL				AMS	AMS	02 43 50.0	
	comp=Z,6μm,15.0s						
JYM2	**Yakumo 2**	**6.64**	**252**	P	**Pn**	**02 40 52.5**	**-0.1**
JANG	**Nango**	**6.81**	**236**	P	Pn	02 40 51.2	-3.8
JANG				*e*S	Sn	02 42 03.2	-7.9
JTM	**Tenmabayashi**	**6.83**	**240**	P	**Pn**	**02 40 53.5**	**-1.8**
JTM				*e*S	Sn	02 42 06.1	-5.6
JSR	**Shiriuchi**	**6.86**	**248**	P	**Pn**	**02 40 54.3**	**-1.4**
JSR				*e*S	**Sn**	**02 42 07.4**	**-5.0**
JTH	**Tanohata**	**6.89**	**232**	P	Pn	02 40 52.4	-3.7
JTH				*e*S	Sn	02 42 04.1	-9.1
JOSM	**Okushiri--Mats**	**7.26**	**254**	P	**Pn**	**02 41 01.3**	**+0.1**
OFUJ	**Ofunato**	**7.61**	**228**	P	Pn	02 41 02.0	-3.9
OFUJ				*e*S	Sn	02 42 20.8	-10
TYV	**Tymovskoe**	**7.67**	**329**	*e*PN	Pn	02 41 10.0	+3.3
TYV				*e*S	Sn	02 42 40.0	+7.8
TYV				pmax	pmax		
	comp=N,61nm,0.6s						
TYV				smax	smax		
	comp=E,2μm,6.0s						
TYV				MLR	MLR		
	comp=N,5μm,16.0s						
TYV				MLR	MLR		
	comp=E,6μm,16.0s						
TYV	**Tymovskoe**	**7.67**	**329**	*e*P	Pn	02 41 10.0	+3.3
TYV				AMB	AMB	02 41 17.0	
	comp=E,61nm,0.6s						
TYV				*e*S	**Sn**	**02 42 33.8**	**+1.6**
TYV				A	A	02 42 52.0	
	comp=E,2μm,6.0s						
TYV				AMS	AMS	02 44 24.0	
	comp=E,5μm,16.0s						
TYV				AMS	AMS	02 44 24.0	
	comp=E,6μm,16.0s						
SKR	**Severo-Kuril's**	**7.92**	**36**	*e*PN	Pn	02 41 06.4	-3.8
SKR				pmax	pmax		
	comp=E,120nm,0.5s						
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				pmax	pmax		
	comp=N,330nm,0.9s						
SKR				MLR	MLR		
	comp=Z,4μm,16.0s						
SKR	**Severo-Kuril's**	**7.92**	**36**	*e*P	Pn	02 41 06.4	-3.8
SKR				AMB	AMB	02 41 13.4	
	comp=Z,330nm,0.7s						
SKR				AMB	AMB	02 41 13.4	
	comp=Z,120nm,0.7s						
SKR				AMB	AMB	02 41 13.4	
	comp=Z,150nm,0.7s						
SKR				*e*S	**Sn**	**02 42 35.0**	**-3.4**
SKR				A	A	02 42 54.0	
	comp=Z,2μm,7.0s						
SKR				A	A	02 42 54.0	
	comp=Z,1μm,7.0s						
SKR				A	A	02 42 58.9	
	comp=Z,120nm,0.8s						
SKR				A	A	02 42 58.9	
	comp=Z,250nm,0.8s						
SKR				A	A	02 42 58.9	
	comp=Z,150nm,0.8s						
SKR				AMS	AMS	02 44 26.0	
	comp=Z,4μm,16.0s						
JRG	**Rokugo**	**7.96**	**233**	P	Pn	02 41 06.8	-4.0
JRG				*e*S	Sn	02 42 33.4	-6.0
JIO	**Ouri**	**8.24**	**226**	P	Pn	02 41 10.1	-4.5
JIO				*e*S	Sn	02 42 35.6	-11
TEY	**Ternei**	**8.77**	**278**	*e*P	**Pn**	**02 41 24.3**	**+2.5**
TEY				AMB	AMB	02 41 25.1	
	comp=Z,83nm,1.0s						
TEY				AMS	AMS	02 44 34.0	
	comp=Z,3μm,19.0s						
TEY				AMS	AMS	02 44 34.0	
	comp=Z,5μm,19.0s						
TEY				AMS	AMS	02 44 34.0	
	comp=Z,6μm,19.0s						
PAU	**Pauzhetka**	**8.80**	**34**	*e*P	**Pn**	**02 41 22.7**	**+0.5**
JYA	**Atsumi**	**9.03**	**233**	P	**Pn**	**02 41 22.8**	**-2.6**
JFK	**Kawauchi**	**9.31**	**223**	*e*S	Sn	02 43 01.6	-11
JFY	**Yanaizu**	**9.88**	**228**	P	Pn	02 41 34.0	-3.1
OKH	**Okha**	**9.91**	**339**	*e*PN	Pn	02 41 43.4	+6.1
OKH				pmax	pmax		
	comp=Z,600nm,4.0s						
OKH	**Okha**	**9.91**	**339**	*e*P	**Pn**	**02 41 40.0**	**+2.7**
OKH				AMB	AMB	02 41 44.2	
	comp=Z,600nm,4.0s						
OKH				*e*S	**Sn**	**02 43 32.0**	**+4.9**
OKH				A	A	02 43 52.0	
	comp=Z,2μm,6.0s						
OKH				A	A	02 43 52.0	
	comp=Z,1μm,6.0s						
OKH				AMS	AMS	02 47 12.8	
	comp=Z,2μm,12.0s						
OKH				AMS	AMS	02 47 12.8	
	comp=Z,1μm,12.0s						
OKH				AMS	AMS	02 47 12.8	
	comp=Z,3μm,12.0s						
NKL	**Nikolayevsk**	**10.24**	**331**	*i*PN	**Pn**	**02 41 40.0**	**-2.0**
NKL				*e*S	Sn	02 43 46.0	+11
NKL				pmax	pmax		
	comp=N,130nm,1.1s						
NKL				pmax	pmax		
	comp=E,110nm,1.1s						
NKL				pmax	pmax		
	comp=Z,210nm,1.1s						
NKL				pmax	pmax		
	comp=N,350nm,4.5s						
NKL				pmax	pmax		
	comp=E,350nm,4.5s						
NKL				smax	smax		
	comp=N,600nm,9.0s						
NKL				smax	smax		
	comp=E,600nm,9.0s						
NKL				MLR	MLR		
	comp=N,2μm,13.0s						
NKL				MLR	MLR		
	comp=E,1μm,13.0s						
NKL	**Nikolayevsk**	**10.24**	**331**	*e*P	**Pn**	**02 41 41.0**	**-1.0**
NKL				AMB	AMB	02 41 41.4	
	comp=E,130nm,1.0s						
NKL				AMB	AMB	02 41 41.4	
	comp=E,110nm,1.0s						
NKL				AMB	AMB	02 41 41.4	
	comp=E,210nm,1.0s						
NKL				AMB	AMB	02 41 48.0	
	comp=E,350nm,4.5s						
NKL				*e*S	**Sn**	**02 43 37.0**	**+1.7**
NKL				A	A	02 43 59.0	
	comp=E,600nm,9.0s						
NKL				AMS	AMS	02 48 46.0	
	comp=E,2μm,13.0s						
NKL				AMS	AMS	02 48 46.0	
	comp=E,1μm,13.0s						
HABR	**Khabarovsk**	**10.36**	**298**	*ce*PN	**Pn**	**02 41 46.5**	**+3.0**
HABR				pmax	pmax		
	comp=N,11nm,0.8s						
HABR				pmax	pmax		
	comp=Z,57nm,0.8s						
HABR				pmax	pmax		
	comp=E,46nm,0.8s						
HABR				MLR	MLR		
	comp=Z,4μm,18.0s						
HABR	**Khabarovsk**	**10.36**	**298**	*e*P	**Pn**	**02 41 46.5**	**+3.0**
PEA0B	**Petropavlovsk-**	**10.43**	**31**	*e*Pn	**Pn**	**02 41 44.

comp=Z,3.4nm,0.3s,baz=29,slow=12,SNR=104
MJAR S **Sn** **02 43 58.0 -4.0**
comp=Z,0.7nm,0.3s,baz=303,slow=48,SNR=1.7
JNG Nsakai 11.48 229 P **Pn** **02 41 56.5 -2.6**
USRK Ussuriysk Ar. 12.11 275 P **Pn** **02 42 08.6 +1.1**
comp=Z,1.5nm,0.3s,baz=87,slow=13,SNR=109
USRK LR LR 02 47 00.2
comp=Z,4μm,19.2s,baz=81,slow=38
VLA Vladivostok 12.36 270 ⇑*i* PN **Pn** **02 42 11.7 +0.7**
VLA S **Sn** **02 44 31.5 +4.3**
VLA Vladivostok 12.36 270 *e*P **Pn** **02 42 11.6 +0.6**
KLR Kul'dur 12.66 298 *e*PN **Pn** **02 42 14.2 -0.8**
KLR *e* 02 44 48.5
KLR pmax pmax
comp=E,120nm,1.6s
KLR pmax pmax
comp=Z,130nm,1.6s
KLR MLR MLR
comp=Z,9μm,12.5s
KLR Kul'dur 12.66 298 *e*P **Pn** **02 42 14.2 -0.8**
KLR AMB AMB 02 42 20.2
comp=Z,120nm,1.6s
KLR AMB AMB 02 42 20.2
comp=Z,130nm,1.6s
KLR AMS AMS 02 49 15.5
comp=Z,9μm,12.0s
EKMR Ekimchan 13.57 315 *e*P **Pn** **02 42 28.5 +1.0**
EKMR AMB AMB 02 42 41.0
comp=Z,140nm,1.0s
JKY Yasaka 13.74 235 P **Pn** **02 42 27.1 -2.7**
MDJ Mudanjiang 13.77 277 P **Pn** **02 42 29.8 -0.4**
MDJ S **Sn** **02 45 03.5 +2.0**
MDJ PMZ
comp=Z,10.0nm,1.1s
MDJ PMZ
comp=Z,160nm,4.8s
MDJ LN
comp=Z,900nm,17.2s
MDJ LE
comp=Z,2μm,15.8s
MDJ LZ
comp=Z,4μm,15.8s
MDJ Mudanjiang 13.77 277 *e*Pn **Pn** **02 42 30.1 0.0**
comp=Z,74nm,1.1s
KSULL Ulleungdo 15.26 249 P **P** **02 42 54.4 +0.3**
SNR=21
KSSKC Sokcho 16.46 255 P **Pn** **02 43 02.7 -2.7**
SNR=17
KSJMJ Jumunjin 16.50 254 P **Pn** **02 43 03.5 -2.3**
SNR=11
BMKR Bomnak 16.50 316 *e*P **Pn** **02 43 07.0 +1.2**
BMKR AMB AMB 02 43 12.0
comp=Z,99nm,1.0s
KSDGY Daegwallycong 16.65 253 P **Pn** **02 43 05.5 -2.4**
SNR=32
SEHB SEOHWA 16.66 255 P **Pn** **02 43 05.6 -2.2**
SNR=54
KSTBA Taebaek 16.75 251 P **Pn** **02 43 08.9 -0.2**
SNR=30
KSTBA Taebaek 16.75 251 P **P** **02 43 10.9 +0.1**
SNR=7.7
CN2 Changchun 16.83 276 *e*P **P** **02 43 11.4 -0.2**
CN2 *es*P **sP** **02 43 26.8 -1.1**
CN2 *e*S **Sn** **02 46 15.4 -0.6**
CN2 PMZ
comp=Z,70nm,1.0s
CN2 PMZ
comp=Z,340nm,10.0s
CN2 LN
comp=Z,1μm,17.0s
CN2 LE
comp=Z,2μm,17.0s
CN2 LZ
comp=Z,3μm,17.0s
ZEA Zeya 16.89 311 *e*P **Pn** **02 43 10.0 -0.6**
ZEA AMB AMB 02 43 23.2
comp=Z,190nm,1.5s
ZEA AMB AMB 02 43 23.2
comp=Z,220nm,1.5s
ZEA AMB AMB 02 43 24.0
comp=Z,500nm,5.0s
ZEA AMB AMB 02 43 24.0
comp=Z,700nm,5.0s
ZEA AMB AMB 02 43 24.0
comp=Z,800nm,5.0s
ZEA *e*S Sn 02 46 09.2 -7.8
ZEA A A 02 46 27.0
comp=Z,400nm,8.0s
ZEA AMS AMS 02 50 19.0
comp=Z,1μm,16.0s
ZEA AMS AMS 02 50 19.0
comp=Z,2μm,16.0s
ZEA AMS AMS 02 50 19.0
comp=Z,2μm,16.0s
KSIJA INJE 16.89 255 P **Pn** **02 43 08.5 -2.3**
SNR=43
KSPHA Pohang 16.99 248 P **P** **02 43 14.3 +1.0**
SNR=7.5
KSPHA Pohang 16.99 248 P **P** **02 43 14.3 +1.0**
SNR=7.5
KSCHC Chuncheon 17.20 254 P **Pn** **02 43 12.5 -2.1**
SNR=30
KSCWO Cheorwon 17.26 256 P **Pn** **02 43 13.3 -2.0**
SNR=16
KSRS Korea Array 17.28 253 P **Pn** **02 43 13.2 -2.5**
comp=Z,0.6nm,0.3s,baz=59,slow=12,SNR=48
KSRS PcP **PcP** **02 47 57.0 +0.7**
comp=Z,0.3nm,0.3s,baz=70,slow=1.1,SNR=6.8
KSRS LR LR 02 50 23.5
comp=Z,3μm,18.7s,baz=56,slow=38
KSAR Wonju Array Be 17.32 253 P **Pn** **02 43 13.2 -2.9**
KSAR Wonju Array Be 17.32 253 P **Pn** **02 43 13.2 -2.9**
KSAR PcP **PcP** **02 47 57.0 +0.7**
KROS Kirovskiy 17.33 313 *e*P **Pn** **02 43 14.5 -1.7**
KROS AMB AMB 02 43 19.5
comp=Z,29nm,0.9s
KROS AMB AMB 02 43 19.5
comp=Z,19nm,0.9s
KSCHJ Chungju 17.55 252 P **P** **02 43 19.7 +0.1**
SNR=23
KSCHJ Chungju 17.55 252 P **P** **02 43 19.7 +0.1**
SNR=23
KSDDC Dongducheon 17.66 256 P **P** **02 43 22.0 +1.2**
SNR=7.7
KSSAJ Sangju 17.68 250 P **P** **02 43 22.4 +1.4**
SNR=7.9
YNCB YEONCHEON 17.69 256 P **P** **02 43 21.9 +0.8**
SNR=10
KSBUS Busan 17.71 246 P **P** **02 43 22.2 +0.8**
SNR=7.8
KSICN Icheon 17.71 254 P **P** **02 43 22.4 +1.0**
SNR=6.7
KSBON Boeun 17.87 251 P **P** **02 43 24.2 +1.1**
SNR=50
KSMUS Musan 17.88 256 P **P** **02 43 24.1 +1.0**
SNR=8.6
KSSEO Seoul 17.96 255 P **P** **02 43 24.5 +0.4**
SNR=7.8
JNU Nakatsue 17.99 237 P **Pn** **02 43 22.6 -1.8**
comp=Z,0.3nm,0.3s,baz=47,slow=8.6,SNR=8.0
JNU LR LR 02 51 07.9
comp=Z,1μm,20.1s,baz=38,slow=39
JNU Nakatsue 17.99 237 *e*Pn **Pn** **02 43 22.4 -2.0**
comp=Z,51nm,1.2s
KSSWO Suwon 18.04 254 P **Pn** **02 43 25.8 +0.9**
SNR=15
KSCEJ CHEONGJU 18.04 252 P **Pn** **02 43 26.0 +1.0**
SNR=8.8
KSCEA Cheonan 18.07 253 P **Pn** **02 43 25.9 +0.6**
SNR=30
CBIJ Chichi jima 18.14 200 P **Pn** **02 43 27.3 +1.1**
JCJ Chichijima 18.14 200 P **Pn** **02 43 27.3 +1.1**
comp=Z,5.9nm,0.3s,baz=62,slow=19,SNR=4.5
JCJ LR LR 02 50 09.9
comp=Z,315nm,19.4s,baz=346,slow=36
INCN Inchon 18.16 255 P **Pn** **02 43 27.4 +1.0**
SNR=13
INCN Inchon 18.16 255 *e*Pn **Pn** **02 43 27.2 +0.8**
comp=Z,123nm,0.9s
KSGAH Ganghwa 18.18 256 P **Pn** **02 43 27.6 +0.9**
SNR=16
TJN Taejon 18.23 251 *i* P **Pn** **02 43 27.5 +0.2**
KSKOJ Gongju 18.33 252 P **P** **02 43 28.5 +0.4**
SNR=6.1
KSJIN Jinju 18.47 247 P **Pn** **02 43 30.4 +0.2**
SNR=9.0
KSJEO Jeonju 18.52 250 P **Pn** **02 43 31.3 +0.5**
SNR=8.0
SEY Seymchan 18.63 5 P **P** **02 43 30.6 -0.6**
comp=Z,2.3nm,0.3s,baz=182,slow=8.2,SNR=83
SEY LR LR 02 51 13.9
comp=Z,1μm,18.7s,baz=184,slow=39
KSSES Seosan 18.63 253 P **Pn** **02 43 32.6 +0.5**
SNR=33
SNY Shenyang 18.63 271 ⇓P **P** **02 43 31.9 +0.5**
SNY S **Sn** **02 46 54.5 -5.0**
SNY PMZ
comp=Z,62nm,1.2s
SNY PMZ
comp=Z,250nm,6.3s
SNY LN
comp=Z,1μm,17.6s
SNY LE
comp=Z,2μm,18.8s
SNY LZ
comp=Z,2μm,19.0s
KSNAH Namhae 18.75 246 P **Pn** **02 43 34.2 +0.6**
SNR=10.0
KSGUS GUNSAN 18.81 251 P **Pn** **02 43 34.4 +0.1**
SNR=22
KSJEU Jeongeup 19.01 249 P **P** **02 43 36.3 +0.6**
SNR=16
KSBAR Backryungdo 19.26 259 P **P** **02 43 38.5 +0.1**
SNR=36
KSKOH Goheung 19.30 247 P **P** **02 43 39.2 +0.4**
SNR=11
CLNS Chul'man 19.50 318 *e*P **P** **02 43 38.7 -2.2**
CLNS pmax pmax
comp=Z,16nm,0.8s
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS MLR MLR
comp=N,2μm,13.0s
CLNS MLR MLR
comp=E,2μm,14.0s
CLNS MLR MLR
comp=Z,3μm,13.0s
KSWAN Wando 19.81 247 P **Pn** **02 43 46.1 -0.1**
SNR=20
KSJDO Jindo 20.02 248 P **P** **02 43 47.4 +0.7**
SNR=24
HIA Hailar 20.43 294 *e*P **P** **02 43 50.6 -0.5**
HIA pmax pmax
comp=Z,23nm,0.8s
HIA Hailar 20.43 294 *e*P **P** **02 43 50.5 -0.5**
comp=Z,23nm,0.8s
KSHUK Heuksando 20.47 250 P **P** **02 43 51.8 +0.3**
SNR=24
KSJJU Jeju 20.50 245 P **P** **02 43 53.0 +1.1**
SNR=11
YAK Yakutsk 20.88 334 P **P** **02 43 54.5 -1.2**
comp=Z,4.0nm,0.3s,baz=135,slow=20,SNR=12
YAK S **S** **02 47 39.8 -5.9**
comp=Z,2.1nm,0.3s,baz=193,slow=22,SNR=1.9
YAK LR LR 02 52 32.9
comp=Z,2μm,19.4s,baz=140,slow=38
YAK Yakutsk 20.88 334 *i* P **P** **02 43 54.5 -1.2**
YAK *e* 02 44 09.6
YAK *e*S **S** **02 47 41.4 -4.4**
YAK *e* 02 48 06.4
YAK *e*SSS SSS 02 48 14.2
YAK *e* 02 55 16.2
YAK pmax pmax
comp=E,25nm,1.0s
YAK pmax pmax
comp=N,39nm,1.2s
YAK pmax pmax
comp=Z,118nm,1.0s
YAK smax smax
comp=N,361nm,2.6s
YAK smax smax
comp=E,443nm,4.3s
YAK MLR MLR
comp=N,1μm,14.0s
YAK MLR MLR
comp=Z,1μm,13.0s
YAK MLR MLR
comp=E,564nm,11.0s
YAK Yakutsk 20.88 334 *e*P **P** **02 43 57.5 +1.8**
YAK AMB AMB 02 44 09.9
comp=E,429nm,2.0s
YAK AMB AMB 02 44 09.9
comp=E,110nm,2.0s
YAK AMB AMB 02 44 09.9
comp=E,474nm,2.0s
YAK Yakutsk 20.88 334 *e*P **P** **02 43 54.1 -1.6**
comp=E,153nm,1.1s
YAK S **S** **02 47 39.8 -5.9**
DL2 Dalian 21.05 264 P **P** **02 43 56.1 -1.6**
DL2 S **S** **02 47 47.9 -1.6**
DL2 PMZ
comp=E,220nm,0.9s
DL2 PMZ
comp=E,270nm,5.7s
DL2 LN
comp=E,440nm,16.2s
DL2 LE
comp=E,610nm,18.6s
DL2 LZ
comp=E,710nm,17.8s
JOW Kunigami 24.17 230 P **P** **02 44 29.7 -0.1**
comp=E,10nm,0.9s,baz=20,slow=9.3,SNR=12
JOW Kunigami 24.17 230 *e*P **P** **02 44 29.8 +0.1**
comp=E,78nm,1.1s
BJI Beijing 24.52 271 P **P** **02 44 32.8 0.0**
BJI pP **pP** **02 44 43.3 -1.4**
BJI sP **sP** **02 44 48.4 -1.6**
BJI S **S** **02 48 49.6 -0.5**
BJI PMZ
comp=E,180nm,0.7s
BJI PMZ
comp=E,1.0nm,2.9s
BJI LN
comp=E,930nm,16.0s
BJI LE
comp=E,2μm,18.3s
BJI LZ
comp=E,2μm,21.5s
BJT Baijiatuau 24.53 271 *e*P **P** **02 44 32.6 -0.3**
BJT pmax pmax
comp=Z,150nm,0.8s
BJT Baijiatuau 24.53 271 *e*P **P** **02 44 32.6 -0.3**
BJT Baijiatuau 24.53 271 *e*P **P** **02 44 32.6 -0.3**
comp=Z,150nm,0.8s
BOD Bodaibo 25.32 314 *e*P **P** **02 44 36.5 -3.3**
BOD pmax pmax
comp=Z,16nm,1.3s
TIA Tai'an 25.45 262 ⇑P **P** **02 44 41.3 0.0**
TIA PP **PnPn** **02 45 18.9 +0.8**
TIA S **S** **02 49 04.3 -0.8**
TIA PMZ
comp=Z,310nm,0.9s
TIA PMZ
comp=Z,460nm,10.3s
TIA LN
comp=Z,750nm,17.8s
TIA LE
comp=Z,1μm,18.7s
TIA LZ
comp=Z,1μm,20.3s
SSE Sheshan 25.49 248 P **P** **02 44 40.6 -1.1**
SSE pP **pP** **02 44 51.3 -2.2**
SSE S **S** **02 49 11.5 +5.7**
SSE PMZ
comp=Z,37nm,0.7s
SSE PMZ
comp=Z,250nm,3.9s
SSE LN
comp=Z,650nm,19.4s
SSE LE
comp=Z,710nm,19.7s
SSE LZ
comp=Z,1μm,21.7s
NJ2 Nanjing 26.48 252 *e*P **P** **02 44 51.8 +1.2**
NJ2 pP **pP** **02 45 02.0 -0.5**
NJ2 sP **sP** **02 45 08.4 +0.5**
NJ2 S **S** **02 49 24.0 +2.6**
NJ2 sS **sS** **02 49 43.0 +1.6**
NJ2 PMZ
comp=Z,40nm,0.8s
NJ2 PMZ
comp=Z,2μm,5.3s
NJ2 LN
comp=Z,4μm,17.7s
NJ2 LE
comp=Z,5μm,15.1s
NJ2 LZ
comp=Z,6μm,17.0s
HHC Hu-ho-hao-te 27.53 276 *e*P **P** **02 45 00.8 +0.7**
HHC pP **pP** **02 45 11.1 -0.9**
HHC sP **sP** **02 45 18.6 +1.2**
HHC PP **PnPn** **02 45 44.6 -1.9**
HHC S **S** **02 49 36.3 -1.8**
HHC sS sS 02 49 52.3 -5.8
HHC SS **SnSn** **02 50 54.0 +2.7**
HHC PMZ
comp=Z,68nm,0.7s
HHC PMZ
comp=Z,380nm,3.8s
HHC LN
comp=Z,740nm,10.5s
HHC LE
comp=Z,2μm,10.4s
HHC LZ
comp=Z,2μm,10.3s
TIY Taiyuan 28.12 269 *e*P **P** **02 45 06.3 +0.9**
TIY S **S** **02 49 51.8 +4.5**
TIY sS **sS** **02 50 10.1 +2.7**
TIY PMZ
comp=Z,240nm,4.8s
TIY LN
comp=Z,310nm,14.6s
TIY LE
comp=Z,1μm,24.5s
TIY LZ
comp=Z,1μm,20.8s
H11N2 WAKE ISLAND Hy 28.86 143 T T 03 16 03.8
baz=333,slow=76,SNR=1511
H11N1 WAKE ISLAND Hy 28.87 143 T T 03 16 04.2
baz=333,slow=76,SNR=1351
H11N3 WAKE ISLAND Hy 28.88 143 T T 03 16 06.6
baz=333,slow=76,SNR=1745
TIXI Tiksi 28.94 347 ⇑*i* P **P** **02 45 10.0 -2.2**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 28.94 347 *e*P P 02 45 08.8 -3.4
comp=Z,11nm,1.3s
TIXI *e*PcP **PcP** **02 48 19.6 -0.4**
SONM Songino Array 29.36 292 P **P** **02 45 16.9 +0.5**
comp=Z,15nm,0.7s,baz=80,slow=8.4,SNR=108
SONM PcP **PcP** **02 48 21.7 +0.1**
comp=Z,5.4nm,1.1s,baz=64,slow=3.4,SNR=4.0
SONM LR LR 02 58 06.5
comp=Z,2μm,19.2s,baz=84,slow=38
H11S1 WAKE ISLAND Hy 29.86 144 T T 03 17 17.5
baz=334,slow=76,SNR=1877
H11S3 WAKE ISLAND Hy 29.87 144 T T 03 17 18.3
baz=334,slow=76,SNR=1711
H11S2 WAKE ISLAND Hy 29.88 144 T T 03 17 17.1
baz=334,slow=76,SNR=1488
IRK Irkutsk 30.25 301 *e*P **P** **02 45 22.3 -1.7**
IRK *e* 02 45 36.9
IRK pmax pmax
comp=Z,20nm,1.5s
WHN Wuhan 30.47 255 P **P** **02 45 25.8 -0.4**
WHN S **S** **02 50 29.6 +5.4**
WHN PMZ
comp=Z,76nm,1.0s
WHN LN
comp=Z,2μm,18.1s
WHN LE
comp=Z,4μm,17.8s
WHN LZ
comp=Z,4μm,18.6s
GUMO Guam 30.95 188 LR LR 02 55 55.9
comp=Z,428nm,20.4s,baz=7.5,slow=32
ZAK Zakamensk 31.03 297 *e*P **P** **02 45 28.3 -2.8**
ZAK *e* 02 48 24.2
ZAK pmax pmax
comp=Z,7.0nm,1.0s
TPUB Ta-pu 31.30 237 *e*P **P** **02 45 33.9 +0.4**
comp=Z,58nm,0.8s
QZH Quanzhou 31.34 242 ⇑*i* P **P** **02 45 34.6 +0.7**
QZH S **S** **02 50 39.3 +1.4**
QZH sS **sS** **02 50 59.1 +1.1**
QZH LN
comp=Z,870nm,15.3s
QZH LE
comp=Z,1μm,20.7s
QZH LZ
comp=Z,1μm,19.1s
MOY Mondy 32.32 300 *e*P **P** **02 45 43.0 +0.6**
XAN Xi'an 32.36 265 P **P** **02 45 42.8 -0.1**
XAN pP **pP** **02 45 54.9 0.0**
XAN sP **sP** **02 46 01.0 +0.8**
XAN PMZ
comp=Z,11nm,0.9s
XAN PMZ
comp=Z,31nm,6.2s
XAN LN
comp=Z,430nm,18.5s
XAN LE
comp=Z,130nm,16.4s
XAN LZ
comp=Z,230nm,18.5s
ENH Enshi 34.02 259 *e*P **P** **02 45 56.9 -0.5**
comp=Z,35nm,0.9s
LZH Lanzhou 35.00 272 *e*P **P** **02 46 07.1 +1.2**
LZH pP **pP** **02 46 18.4 +0.4**
LZH sP **sP** **02 46 24.1 +0.8**
LZH *e*S **S** **02 51 36.0 +1.2**
LZH sS **sS** **02 51 56.6 +1.6**
LZH SS **SnSn** **02 53 54.5 +1.5**
LZH PMZ
comp=Z,68nm,1.1s
LZH PMZ
comp=Z,380nm,4.5s
LZH LN
comp=Z,2μm,14.2s
LZH LE
comp=Z,2μm,15.6s
LZH LZ
comp=Z,2μm,16.0s
SVW2 Sparrevohn 36.20 43 *e*P **P** **02 46 17.2 +1.4**
comp=Z,8.4nm,0.8s
GTA Gaotai 36.41 280 ⇑P **P** **02 46 18.9 +1.0**
GTA pP **pP** **02 46 31.3 +1.2**
GTA sP **sP** **02 46 37.0 +1.6**
GTA PcP **PcP** **02 48 42.4 +1.0**
GTA S **S** **02 51 56.8 +0.5**
GTA sS **sS** **02 52 16.6 0.0**
GTA SS **SnSn** **02 54 23.5 -3.5**
GTA PMZ
comp=Z,91nm,0.9s
GTA PMZ
comp=Z,310nm,4.9s
GTA LN
comp=Z,1μm,14.7s
GTA LE
comp=Z,1μm,16.2s
GTA LZ
comp=Z,1μm,16.6s
IM04 Indian Mountai 37.34 35 *e*P **P** **02 46 25.6 +0.2**
IM04 *e*PcP **PcP** **02 48 43.4 -0.2**
IM04 *e*ScP **ScP** **02 52 26.6 -0.3**
OHAK Old Harbor 37.53 49 *e*P **P** **02 46 26.0 -1.0**
comp=Z,92nm,1.6s
RSO Redoubt South 37.59 44 *e*P **P** **02 46 28.5 +0.7**
comp=Z,44nm,0.9s
CD2 Chengdu 37.72 265 P **P** **02 46 29.3 +0.3**
CD2 pP **pP** **02 46 41.4 +0.2**
CD2 PP **PP** **02 47 55.8 +0.2**
CD2 PcP **PcP** **02 48 46.0 +0.6**
CD2 S **S** **02 52 16.4 +0.2**
CD2 PcS **PcS** **02 52 34.8 +0.6**
CD2 PMZ
comp=Z,350nm,0.7s
CD2 PMZ
comp=Z,200nm,4.7s
CD2 LN
comp=Z,660nm,19.4s
CD2 LE
comp=Z,630nm,17.2s
CD2 LZ
comp=Z,560nm,16.3s
PPLA Purkeypile 37.84 40 *e*P **P** **02 46 31.2 +1.4**
comp=Z,49nm,1.0s
KDAK Kodiak Island 37.85 48 P **P** **02 46 28.6 -1.1**

comp=Z,153nm,0.9s,SNR=8.6
KDAK Kodiak Island 37.85 48 *ce*P **P 02 46 29.8 +0.1**
KDAK Kodiak Island 37.85 48 *e*P **P 02 46 29.8 +0.1**
KDAK Kodiak Island 37.85 48 *e*P **P 02 46 30.0 +0.3**
comp=Z,30nm,1.1s
CAST Castle Rocks 37.90 39 *e*P **P 02 46 31.2 +1.0**
comp=Z,22nm,0.9s
GYA Guiyang 38.30 256⇑ *i*P **P 02 46 33.5 -0.6**
GYA pP **pP 02 46 47.0 +0.8**
GYA sP **sP 02 46 52.4 +0.8**
GYA PP **PnPn 02 48 05.8 +1.6**
GYA S **S 02 52 24.3 -1.0**
GYA ScP **ScP 02 52 31.6 +0.3**
GYA sS **sS 02 52 46.0 +0.4**
GYA SS **SnSn 02 55 05.9 -7.2**
GYA PMZ
comp=Z,60nm,1.0s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,740nm,18.5s
GYA LE
comp=Z,1μm,15.9s
GYA LZ
comp=Z,2μm,19.4s
BPAW Bear Paw Mtn. 38.41 38 *e*P **P 02 46 35.1 +0.7**
comp=Z,14nm,1.0s
BPAW *e*PcP **PcP 02 48 46.9 0.0**
BRLK Bradley Lake 38.56 45 *e*P **P 02 46 37.2 +1.5**
comp=Z,10nm,0.8s
TRF Thorofare Moun 38.71 39 *e*P **P 02 46 37.3 +0.2**
comp=Z,14nm,0.7s
COLD Coldfoot 38.89 33 *e*P **P 02 46 39.0 +0.6**
comp=Z,18nm,1.0s
RC01 Rabbit Creek A 39.04 43 *e*P **P 02 46 39.2 -0.5**
comp=Z,35nm,1.1s
BWN Browne 39.07 38 *e*P **P 02 46 41.6 +1.6**
comp=Z,123nm,1.0s
SEW Seward 39.26 44 *e*P **P 02 46 41.1 -0.4**
comp=Z,12nm,0.7s
MCK McKinley 39.31 38 *e*P **P 02 46 41.5 -0.5**
MCK pmax pmax
comp=Z,25nm,1.0s
MCK McKinley 39.31 38 *e*P **P 02 46 41.5 -0.5**
MCK McKinley 39.31 38 *e*P **P 02 46 41.5 -0.5**
comp=Z,25nm,1.0s
COLA College 39.77 37 *c i*P **P 02 46 46.7 +1.0**
COLA pmax pmax
comp=Z,169nm,1.0s
COLA College 39.77 37 *e*P **P 02 46 46.7 +1.0**
COLA College 39.77 37 *e*P **P 02 46 46.3 +0.6**
comp=Z,44nm,1.0s
CCB Clear Creek Bu 39.79 37 *e*P **P 02 46 46.0 +0.1**
comp=Z,13nm,1.0s
DHY Denali Highway 40.04 39 *e*pP pP 02 47 01.6 +1.2
HDA Harding Lake 40.16 37 *e*P **P 02 46 48.8 -0.2**
comp=Z,96nm,2.0s
ILAR Eielson Array 40.18 37 P **P 02 46 48.9 -0.3**
comp=Z,18nm,1.0s,baz=256,slow=7.2,SNR=75
ILAR LR LR 03 06 42.3
comp=Z,252nm,18.2s,baz=273,slow=41
PAX Paxson 40.91 39 *e*P **P 02 46 55.6 +0.3**
PAX *e* 02 48 55.2
PAX pmax pmax
comp=Z,9.0nm,1.0s
PAX Paxson 40.91 39 *e*P **P 02 46 55.6 +0.3**
comp=Z,9.0nm,1.0s
PAX *e*PcP **PcP 02 48 55.2 +0.2**
DIV Divide 40.96 42 *e*P **P 02 46 56.0 +0.3**
comp=Z,46nm,1.3s
EYAK Cordova Ski Ar 41.04 43 *e*P **P 02 46 57.1 +0.9**
comp=Z,38nm,1.5s
EYAK *e*pP **pP 02 47 08.5 0.0**
HARP HAARP 41.11 40 *e*P **P 02 46 58.1 +1.2**
comp=Z,23nm,0.7s
QIZ Qiongzhong 41.20 245 P **P 02 46 56.4 -1.6**
QIZ sP **sP 02 47 14.6 -1.0**
QIZ S **S 02 53 09.8 +1.3**
QIZ LN
comp=Z,630nm,20.1s
QIZ LE
comp=Z,460nm,19.1s
QIZ LZ
comp=Z,760nm,21.0s
BMRM Bremner River 41.54 42 *e*P **P 02 47 00.4 -0.1**
comp=Z,30nm,1.0s
BMRM *e*PcP **PcP 02 48 57.1 +0.1**
ZAA0 Zalesovo Array 41.58 307 *e*P **P 02 46 59.8 -1.0**
ZAA0 *e*PcP **PcP 02 48 57.0 -0.2**
ZALV Zalesovo Beam 41.58 307 P **P 02 46 59.7 -1.1**
comp=Z,2.1nm,0.3s,baz=71,slow=8.3,SNR=11
ZALV pP **pP 02 47 13.6 +0.6**
comp=Z,5.1nm,0.7s,baz=74,slow=7.7,SNR=6.0
ZALV PcP **PcP 02 48 57.1 -0.1**
comp=Z,20nm,0.9s,baz=81,slow=2.8,SNR=19
ZALV ScP **ScP 02 52 41.5 -2.0**
comp=Z,0.9nm,0.7s,baz=32,slow=5.6,SNR=4.6
ZALV pScP 02 53 02.3
comp=Z,3.7nm,1.0s,baz=64,slow=3.4,SNR=4.9
ZALV LR LR 03 05 24.2
comp=Z,765nm,19.4s,baz=73,slow=38
KMI Kunming 41.89 258 P **P 02 47 04.3 +0.4**
KMI pP **pP 02 47 13.8 -2.4**
KMI sP **sP 02 47 18.9 -2.6**
KMI S **S 02 53 21.0 +2.0**
KMI sS **sS 02 53 38.8 -0.7**
KMI SS **SS 02 56 23.0 -3.5**
KMI PMZ
comp=Z,86nm,1.1s
KMI PMZ
comp=Z,300nm,4.1s
KMI LN
comp=Z,520nm,18.1s
KMI LE
comp=Z,530nm,17.8s
KMI LZ
comp=Z,860nm,19.9s
NVS Novosibirsk 42.26 308 *e*P **P 02 47 05.2 -1.1**
NVS *e* 02 48 59.3
NVS pmax pmax
comp=E,4.0nm,0.9s
NVS pmax pmax
comp=Z,8.0nm,0.9s
EGAK Eagle 42.63 36 *e*P **P 02 47 09.2 0.0**
comp=Z,41nm,1.2s
WMQ Urumqi 43.00 292 P **P 02 47 13.8 +1.2**
WMQ pP **pP 02 47 26.0 +1.1**
WMQ sP **sP 02 47 31.4 +1.2**
WMQ PP **PP 02 48 56.4 +3.6**
WMQ PcP **PcP 02 49 02.6 +0.4**
WMQ ScP **ScP 02 52 48.6 -0.9**
WMQ PcS **PcS 02 52 55.1 +0.5**
WMQ sS **sS 02 53 56.3 +1.0**
WMQ SS **SS 02 56 42.0 -5.6**
WMQ ScS **ScS 02 57 07.9 -1.2**
WMQ PMZ
comp=Z,96nm,1.4s
WMQ PMZ
comp=Z,160nm,4.2s
WMQ LN
comp=Z,2μm,18.6s
WMQ LE
comp=Z,1μm,19.5s
WMQ LZ
comp=Z,1μm,20.3s
DAWY Dawson 43.48 37 *e*P **P 02 47 16.9 +0.7**
HYT Haines Junctio 44.98 42 *e*P **P 02 47 29.7 +1.5**
INK Inuvik 45.16 31 *e*P **P 02 47 29.9 +0.5**
INK pmax pmax
comp=Z,28nm,0.8s
INK Inuvik 45.16 31 *e*P **P 02 47 29.9 +0.5**
INK Inuvik 45.16 31 *e*P **P 02 47 29.9 +0.5**
comp=Z,28nm,0.8s
MK31 Makanchi Array 45.37 298 *e*P **P 02 47 31.5 +0.1**
MK31 Makanchi Array 45.37 298 *e*P **P 02 47 31.5 +0.1**
KURK Kurchatov 46.18 304 P **P 02 47 37.0 -0.7**
comp=Z,187nm,0.6s,SNR=20
KURK Kurchatov 46.18 304 *e*P **P 02 47 36.9 -0.7**
KURK *e* 02 49 12.6
KURK pmax pmax
comp=Z,73nm,1.0s
KURK Kurchatov 46.18 304 *e*P **P 02 47 37.9 +0.2**
KURK Kurchatov 46.18 304 P **P 02 47 38.0 +0.4**
SNR=14
KURK Kurchatov 46.18 304 *e*P **P 02 47 36.9 -0.7**
comp=Z,73nm,1.0s
KURK *e*PcP **PcP 02 49 12.6 -0.2**
NONG Nongkai 46.32 250 P **P 02 47 39.9 +0.7**
comp=Z,93nm,0.9s,comp=Z,17μm
SKNT Sakolnakorn 46.53 249 P **P 02 47 41.3 +0.4**
comp=Z,72nm,1.2s,comp=Z,1μm
UBPT Khong Chiam 46.78 246 P **P 02 47 43.8 +1.0**
comp=Z,28nm,1.4s
LSA Lhasa 47.42 272 P **P 02 47 49.0 +0.8**
LSA PMZ
comp=Z,30nm,1.2s
LSA Lhasa 47.42 272 *e*P **P 02 47 49.3 +1.1**
LSA pmax pmax
comp=Z,29nm,0.9s
LSA Lhasa 47.42 272 *e*P **P 02 47 49.2 +1.1**
comp=Z,29nm,0.9s
KKM Kota Kinabalu 47.73 227 *e*P **P 02 47 51.0 +0.7**
comp=Z,21nm,0.9s
LOEI Loei 47.98 252 P **P 02 47 50.1 -2.1**
comp=Z,50nm,0.9s,comp=Z,722nm
UTTA Uttaradit 48.30 252 P **P 02 47 55.1 +0.5**
comp=Z,18nm,0.9s,comp=Z,122nm
PDGK Podgornoye 48.62 294 P **P 02 47 56.9 +0.1**
PDGK pmax pmax
comp=Z,37nm,0.9s
CHAI Chaiyaphum 48.63 249 P **P 02 47 57.6 +0.5**
comp=Z,28nm,0.9s,comp=Z,325nm
CMMT Chiang Mai 48.67 255 P **P 02 47 57.9 +0.4**
comp=Z,67nm,1.0s,comp=Z,824nm
CHTO Chiang Mai 48.68 255 P **P 02 47 57.9 +0.4**
comp=Z,233nm,1.0s,comp=Z,3μm
CHTO Chiang Mai 48.68 255 *e*P **P 02 47 57.4 -0.1**
CHTO pmax pmax
comp=Z,41nm,0.9s
CHTO Chiang Mai 48.68 255 P **P 02 47 58.4 +0.9**
SNR=9.4
CHTO Chiang Mai 48.68 255 *e*P **P 02 47 57.4 -0.1**
comp=Z,41nm,0.9s
PBKT Sadao Pong 48.84 251 P **P 02 47 59.3 +0.6**
comp=Z,30nm,1.4s
CMAR Chiang Mai Arr 48.92 255 P **P 02 48 00.1 +0.7**
comp=Z,13nm,0.8s,baz=40,slow=7.3,SNR=62
CMAR PcP **PcP 02 49 24.1 +0.9**
comp=Z,2.0nm,0.4s,baz=11,slow=4.4,SNR=4.4
CMAR ScP **ScP 02 53 15.2 +0.9**
comp=Z,1.0nm,0.4s,baz=15,slow=3.9,SNR=3.0
CMAR LR LR 03 10 51.3
comp=Z,952nm,18.2s,baz=52,slow=39
DLBC Dease Lake 49.31 43 *e*P **P 02 48 03.6 +1.6**
SHL Shillong 49.32 267 *e*P **P 02 48 02.3 -0.3**
SHL AMB AMB 02 48 03.7
comp=Z,68nm,1.0s
MHMT Maesarieng 49.81 255 P **P 02 48 07.1 +0.9**
comp=Z,26nm,1.0s,comp=Z,365nm
MRSI Marisa 49.89 216 P **P 02 48 07.4 +0.7**
BVA0 Borovoye Array 50.03 309 *i*P **P 02 48 07.9 +0.5**
BVA0 pmax pmax
comp=Z,2.0nm,0.3s
BRVK Borovoye 50.07 310 *d i*P **P 02 48 08.9 +1.2**
BRVK pmax pmax
comp=Z,12nm,1.2s
BRVK Borovoye 50.07 310 *e*P **P 02 48 08.9 +1.2**
BRVK Borovoye 50.07 310 *e*P **P 02 48 08.5 +0.7**
comp=Z,12nm,1.0s
BRVK *e*PcP **PcP 02 49 26.5 -0.3**
UTHA Uthaitani 50.59 251 P **P 02 48 13.4 +1.3**
comp=Z,17nm,0.9s,comp=Z,126nm
ULHL Ulaiul 51.24 295 P **P 02 48 17.9 +0.9**
SNR=17
TAPN Taplejung 51.24 272 *e*P **P 02 48 17.8 +0.6**
comp=Z,126nm,0.9s
APSI Ampana 51.27 216 P **P 02 48 18.4 +1.3**
TKM2 Tokmak 2 51.33 296 P **P 02 48 18.6 +1.0**
SNR=50
TKM2 Tokmak 2 51.33 296 *e*P **P 02 48 18.3 +0.7**
TKM2 pmax pmax
comp=Z,63nm,1.0s
TKM2 Tokmak 2 51.33 296 *e*P **P 02 48 18.3 +0.7**
comp=Z,63nm,1.0s
ODAN Odare 51.76 272 *e*P **P 02 48 21.4 +0.3**
comp=Z,80nm,0.8s
CHMS Chumysh 51.84 296 P **P 02 48 22.2 +1.0**
SNR=8.9
USP Ospenovka 51.87 297 P **P 02 48 22.3 +0.9**
SNR=48
KBK Karagaybulak 51.88 296 P **P 02 48 22.6 +0.9**
SNR=62
KZA Kyzart 51.96 295 P **P 02 48 24.2 +1.6**
SNR=98
FRU Bishkek 52.01 296 *i*P **P 02 48 23.0 +0.6**
FRU pmax pmax
comp=Z,100nm,2.0s
FRU Bishkek 52.01 296 *e*P **P 02 48 23.0 +0.6**
PCI Palu 52.04 218 P **P 02 48 23.5 +0.6**
comp=Z,76nm,1.1s
AAK Ala-Archa 52.18 296 P **P 02 48 24.6 +0.7**
SNR=19
AAK Ala-Archa 52.18 296 *i*P **P 02 48 24.4 +0.5**
AAK pmax pmax
comp=Z,44nm,0.9s
AAK Ala-Archa 52.18 296 *e*P **P 02 48 24.4 +0.5**
GUN Gumba 52.22 274 *e*P **P 02 48 25.1 +0.5**
comp=Z,308nm,0.9s
RAMN Ramite 52.27 272 *e*P **P 02 48 25.2 +0.3**
comp=Z,369nm,0.8s
UCH Uchtor 52.37 295 P **P 02 48 26.6 +1.0**
SNR=15
EKS2 Erkin-Say 52.63 296 P **P 02 48 28.0 +0.9**
SNR=41
EKS2 Erkin-Say 52.63 296 *e*P **P 02 48 27.7 +0.5**
EKS2 *e* 02 49 37.0
EKS2 pmax pmax
comp=Z,51nm,0.9s
EKS2 Erkin-Say 52.63 296 *e*P **P 02 48 27.7 +0.5**
comp=Z,51nm,0.9s
EKS2 *e*PcP **PcP 02 49 37.0 +0.3**
KKN Kakani 52.72 274 *e*P **P 02 48 28.7 +0.6**
comp=Z,171nm,0.9s
PKI Pulchoki 52.76 274 *e*P **P 02 48 28.8 +0.3**
comp=Z,147nm,1.1s
PKIN Phulchoki 52.76 274 *e*P **P 02 48 28.5 0.0**
comp=Z,75nm,0.8s
KSH Kashi 52.77 292⇑ *i*P P 02 48 32.6 +4.4
KSH pP pP 02 48 46.3 +5.4
KSH PcP **PcP 02 49 41.0 +3.7**
KSH PP **PP 02 50 32.1 +4.5**
KSH PcS **PcS 02 53 39.0 +3.0**
KSH S **S 02 55 55.8 +2.6**
KSH sS sS 02 56 19.8 +5.5
KSH ScS **ScS 02 58 11.8 -2.3**
KSH PMZ
comp=Z,57nm,1.0s
KSH PMZ
comp=Z,240nm,2.9s
KSH LN
comp=Z,1μm,19.7s
KSH LE
comp=Z,970nm,16.6s
KSH LZ
comp=Z,1μm,19.5s
AML Almayashu 52.94 296 P **P 02 48 31.0 +1.1**
SNR=28
DMN Daman 52.95 274 *e*P **P 02 48 30.5 +0.6**
comp=Z,202nm,0.8s
GKN Gorkha 53.05 275 *e*P **P 02 48 31.0 +0.5**
comp=Z,252nm,1.0s
SVE Sverdlovsk 53.49 317⇓ *i*P **P 02 48 32.9 -0.2**
SVE pmax pmax
comp=Z,29nm,0.9s
SVE MLR MLR
comp=Z,2μm,18.0s
SVE Sverdlovsk 53.49 317 *e*P **P 02 48 32.9 -0.2**
KOLN Koldanda 53.93 275 *e*P **P 02 48 37.6 +0.6**
comp=Z,166nm,0.9s
SFK Sufi-Kurgan 54.14 294 P **P 02 48 38.9 +0.4**
SFK pmax pmax
comp=Z,99nm,0.9s
KKAR Karatay Array 54.49 298 *e*P **P 02 48 40.8 +0.1**
KKAR pmax pmax
comp=Z,55nm,0.9s
KKAR Karatay Array 54.49 298 *e*P **P 02 48 40.8 +0.1**
comp=Z,55nm,0.9s
YKA Yellowknife Ar 54.52 35 P **P 02 48 40.8 +0.3**
comp=Z,8.5nm,0.8s,baz=298,slow=7.1,SNR=34
YKA PcP **PcP 02 49 43.0 -0.3**
comp=Z,1.0nm,0.4s,baz=309,slow=3.8,SNR=6.0
ARU Arti 54.69 317 P **P 02 48 41.0 -0.9**
comp=Z,188nm,0.8s,SNR=7.4
ARU Arti 54.69 317 *c i*P **P 02 48 41.4 -0.5**
ARU *PP **pP 02 48 56.9 +2.4**
ARU 02 49 43.4
ARU S **S 02 56 19.3 +0.8**
ARU SS **SS 03 00 00.1 -1.0**
ARU pmax pmax
comp=Z,22nm,0.7s
ARU MLR MLR
comp=Z,1μm,17.0s
ARU Arti 54.69 317 *e*P **P 02 48 40.5 -1.3**
comp=Z,34nm,0.8s
BOK Bokaro 54.70 270 *e*P **P 02 48 42.4 -0.1**
BOK AMB AMB 02 48 43.4
comp=Z,41nm,1.1s
KSM Kuching 54.72 230 *e*P **P 02 48 42.0 -0.6**
comp=Z,57nm,1.1s
KAPI Kappang 55.76 216 *e*P **P 02 48 49.7 -0.4**
comp=Z,22nm,1.0s
BKSI Bulukumba 55.88 215 P **P 02 48 51.0 +0.1**
comp=Z,23nm,1.1s,comp=Z,453nm
SKLT Songkhla 55.97 243 P **P 02 48 53.3 +1.7**
comp=Z,50nm,0.9s
KRAB Krabi 56.10 245 P **P 02 48 54.2 +1.7**
comp=Z,37nm,1.0s,comp=Z,5μm
DDI Dehra Dun 56.36 281 *e*P **P 02 48 54.8 +0.4**
DHRM DHARAMSHALA 56.48 284 *e*P **P 02 48 55.7 +0.3**
DHRM AMB AMB 02 48 56.9
comp=Z,119nm,1.1s
SMLA Simla 56.52 283 *i*P **P 02 48 55.7 +0.4**
DGPR DIGLIPUR 56.73 255 *e*P **P 02 48 57.2 +0.2**
DGPR AMB AMB 02 48 58.8
comp=Z,112nm,0.0s
KULM Kulim 57.39 242 *e*P **P 02 49 02.6 +0.9**
comp=Z,49nm,1.0s
KULM *e*pP **pP 02 49 14.3 -0.1**
AB31 Akbulak array 57.60 309 *i*P **P 02 49 02.6 -0.1**
AB31 pmax pmax
comp=Z,22nm,0.4s
ABKAR Akbulak array 57.60 309 *e*P **P 02 49 02.8 +0.1**
NLWA Neilton Lookou 57.62 53 *e*P **P 02 49 03.5 +0.5**
comp=Z,5.0nm,0.9s
NLWA *e*pP **pP 02 49 16.9 +1.1**
LVZ Lovozero 57.67 336⇑ *i*P **P 02 49 02.2 -0.8**
LVZ pmax pmax
comp=Z,30nm,2.5s
IPM Ipoh 57.78 241 *e*P **P 02 49 04.7 +0.2**
comp=Z,28nm,1.1s
DZET Dzherino 57.85 295 P **P 02 49 04.9 +0.1**
DZET pmax pmax
comp=Z,95nm,0.7s
NDI New Delhi 57.92 280 *e*P **P 02 49 04.5 -0.8**
PBA Port Blair 57.93 254 *e*P P 02 49 06.1 +0.6
PBA AMB AMB 02 49 14.7
comp=Z,64nm,1.0s
AKTO Aktyubinsk 58.02 311 P **P 02 49 05.1 -0.6**
AKTO pmax pmax
comp=Z,17nm,0.9s
MYKOM Kota Tinggi 58.16 236 *e*P **P 02 49 08.4 +1.3**
APA Apatity 58.25 336⇑ *i*P **P 02 49 06.0 -1.0**
APA *i* 02 49 23.5
APA pmax pmax
comp=Z,11nm,0.6s
APA MLR MLR
comp=Z,800nm,23.0s
COEN Coen 58.36 187 *e*P **P 02 49 08.0 -0.4**
DAG Danmarks Havn 58.80 357 *i*P **P 02 49 08.7 -2.0**
comp=Z,11nm,0.9s
DAG Danmarks Havn 58.80 357 *i*P **P 02 49 08.7 -2.0**
DAG pmax pmax
comp=Z,9.0nm,0.9s
D05A Enumclaw 58.81 53 *e*pP pP 02 49 23.9 -0.1
TMCR Tamitsa 58.96 331 *e*P **P 02 49 11.2 -0.8**
TMCR pmax pmax
comp=Z,27nm,1.2s
ARCES ARCESS Array B 59.02 340 P **P 02 49 09.7 -2.7**
comp=Z,3.4nm,0.8s,baz=19,slow=8.1,SNR=12
ARCES PcP **PcP 02 50 00.8 0.0**
comp=Z,4.5nm,0.8s,baz=354,slow=6.2,SNR=4.9
ARCES LR LR 03 18 32.2
comp=Z,249nm,19.7s,baz=40,slow=40
TDL Tradedollar La 59.14 54 P **P 02 49 14.4 +0.6**
LON Longmire 59.16 53 *e*pP pP 02 49 31.0 +4.5
G03D McMinnville, O 59.16 55 P **P 02 49 14.3 +0.6**
baz=59
LVP Lakeview Peak 59.19 54 P **P 02 49 14.9 +0.9**
CHLP Challavanipeta 59.39 266 *e*P **P 02 49 15.4 -0.2**
COR Corvallis 59.48 56 *e*P **P 02 49 15.8 -0.1**
COR pmax pmax
comp=Z,91nm,1.3s
COR Corvallis 59.48 56 *e*P **P 02 49 15.8 -0.1**
comp=Z,91nm,1.3s
B08A Colville Reser 59.66 51 *e*P **P 02 49 17.2 +0.1**
B08A *e*pP **pP 02 49 30.3 +0.4**
NAC Naches 59.73 53 P **P 02 49 19.0 +1.3**
VLL Laurance Lake 59.95 54 P **P 02 49 20.6 +1.3**
I03D Drain, OR 59.95 57 P **P 02 49 20.2 +1.0**
baz=60
KULLO Kullorsuaq 59.98 8 *i*P **P 02 49 17.7 -1.1**
comp=Z,26nm,1.0s
EDM Edmonton 60.04 43 *e*P **P 02 49 19.9 +0.2**
EDM Edmonton 60.04 43 *e*P **P 02 49 19.9 +0.2**
KBL Kabul 60.12 290 *e*P **P 02 49 19.9 -0.9**
KBL pmax pmax
comp=Z,104nm,0.9s
KBL Kabul 60.12 290 *e*P **P 02 49 19.9 -0.9**
comp=Z,104nm,0.9s
VFP Flag Point 60.16 54 P **P 02 49 21.7 +0.9**
G05D Wamic, OR 60.28 54 P **P 02 49 22.8 +1.4**
baz=60
PSI Prapat 60.39 242 *e*P **P 02 49 22.8 +0.1**
PSI *e*PP **pP 02 49 34.3 -1.2**
PSI Prapat 60.39 242 *e*P **P 02 49 22.8 +0.1**
PSI *e*pP **pP 02 49 34.3 -1.2**
VIS Vishakhapatnam 60.42 266 *e*P **P 02 49 20.9 -1.8**
I04A Tendick Farm, 60.46 56 P **P 02 49 24.1 +1.3**
baz=60
CMBY CAMPBELL BAY 60.48 249 *ex* **PP 02 51 34.3 -2.4**
CMBY AMB AMB 02 52 18.1
comp=Z,80nm,1.6s
CROR Criterion Ridg 60.62 55 P **P 02 49 24.8 +0.9**
D08A Wollman Farm, 60.62 52 *e*P **P 02 49 23.9 +0.2**
D08A *e*pP **pP 02 49 36.9 +0.3**
HAWA Hanford 60.66 53 *e*P **P 02 49 23.9 0.0**
comp=Z,45nm,1.4s
L02D Cave Junction, 60.67 58 P **P 02 49 25.2 +1.0**
baz=60
I05D Terrebonne, OR 60.78 55 P **P 02 49 25.9 +0.9**
baz=61
NEW Newport 60.93 50 *e*P **P 02 49 26.4 +0.6**
NEW *e*PP **pP 02 49 39.0 +0.3**
NEW pmax pmax
comp=Z,23nm,1.1s
NEW Newport 60.93 50 *e*P **P 02 49 26.4 +0.6**
NEW Newport 60.93 50 P **P 02 49 27.0 +1.1**
baz=61,SNR=8.3
NEW Newport 60.93 50 *e*P **P 02 49 26.4 +0.6**
comp=Z,23nm,1.1s
NEW *e*pP **pP 02 49 39.0 +0.3**
J04D Umpqua Nationa 60.96 57 P **P 02 49 27.1 +0.7**
baz=61
BKNI Bangkinang 61.01 238 *e*P **P 02 49 27.0 +0.3**
comp=Z,166nm,1.0s
BHPL Bhopal 61.10 275 *e*P **P 02 49 26.5 -0.9**
BHPL AMB AMB 02 49 28.8
comp=Z,75nm,2.2s
NGP Nagpur 61.26 272 *e*P **P 02 49 27.7 -0.7**
NGP AMB AMB 02 49 28.3
comp=Z,65nm,0.9s
J05D Fort Rock, OR 61.45 56 P **P 02 49 30.3 +0.7**
baz=61,SNR=8.8
YBH Yreka Blue Hor 61.46 58 *e*P **P 02 49 30.9 +1.3**
YBH pmax pmax
comp=Z,26nm,1.3s
YBH Yreka Blue Hor 61.46 58 *e*P **P 02 49 30.9 +1.3**
comp=Z,26nm,1.3s
K04D Chiloquin, OR 61.52 57 P **P 02 49 30.6 +0.6**
baz=61
M02C Callahan 61.57 59 P **P 02 49 31.3 +0.9**
baz=61
N02D Trinity Center 61.91 59 P **P 02 49 33.1 +0.5**
baz=62
PVM Polavaram 61.95 267 *e*P **P 02 49 32.6 -0.4**
PVM IAmb IAmb 02 49 34.1
comp=Z,32nm,0.9s

M04C	**Macdoel**	61.96	58	P		P	02 49 33.7	+0.6	
	baz=62								
K05A	**Summer Lake**	61.98	57	*e*P		P	02 49 34.6	+1.4	
PWJI	**Pagerwojo**	62.02	223	P		P	02 49 33.5	0.0	
	comp=Z,103nm,1.1s								
WALA	**Waterton Lakes**	62.19	48	*e*P		P	02 49 34.5	0.0	
	comp=Z,28nm,1.1s								
WDC	**Whiskeytown Da**	62.24	59	*e*P		P	02 49 35.5	+0.8	
WDC				*e**PP		pP	02 49 48.4	+0.8	
WDC	**Whiskeytown Da**	62.24	59	*e*P		P	02 49 35.5	+0.8	
WDC				*ep*P		pP	02 49 48.4	+0.8	
BSMT	**Bassoo Peak**	62.44	49	*e*P		P	02 49 36.7	+0.5	
	comp=Z,44nm,1.6s								
RPR	**Rampur**	62.57	270	*e*P		P	02 49 36.4	-0.7	
RPR				IAmb		IAmb	02 49 38.0		
	comp=Z,51nm,1.0s								
BLMT	**Blacktail Moun**	62.57	49	*e*P		P	02 49 37.8	+0.7	
JTMT	**Jette**	62.77	49	*e*P		P	02 49 38.7	+0.4	
MOD	**Modoc Plateau**	62.82	57	*e*P		P	02 49 39.5	+0.7	
	comp=Z,20nm,1.1s								
BMO	**Blue Mountains**	62.83	53	*e*P		P	02 49 38.7	0.0	
BMO				pmax		pmax			
	comp=Z,27nm,1.4s								
BMO	**Blue Mountains**	62.83	53	*e*P		P	02 49 38.7	0.0	
	comp=Z,27nm,1.4s								
YBMT	**Yellow Bay**	62.85	49	*e*P		P	02 49 39.3	+0.5	
	comp=Z,27nm,1.3s								
AKL	**Akola**	63.01	273	*e*P		P	02 49 42.1	+2.0	
AKL				AMB		AMB	02 49 43.1		
	comp=Z,46nm,0.7s								
MDSI	**Maura Dua**	63.05	232	P		P	02 49 39.8	-0.5	
	comp=Z,38nm,1.3s								
SWMT	**Swartz Lake**	63.07	49	*e*P		P	02 49 40.4	+0.1	
	comp=Z,40nm,1.2s								
LEM	**Lembang**	63.12	227	P		P	02 49 41.3	+0.3	
	comp=Z,105nm,1.2s,comp=Z,3µm								
SUMG	**Summit**	63.16	2	*i* P		P	02 49 40.5	-0.4	
	comp=Z,46nm,1.0s								
SUMG	**Summit**	63.16	2	*i* P		P	02 49 40.5	-0.4	
SUMG				pmax		pmax			
	comp=Z,46nm,1.0s								
SUMG	**Summit**	63.16	2	*e*P		P	02 49 40.0	-0.9	
	comp=Z,38nm,0.9s								
SRSP	**Sriramsagar**	63.20	271	*e*P		P	02 49 40.3	-1.1	
SRSP				IAmb		IAmb	02 49 41.8		
	comp=Z,68nm,0.9s								
WVOR	**Wild Horse Val**	63.50	56	*e*P		P	02 49 43.2	0.0	
WVOR				pmax		pmax			
	comp=Z,32nm,1.1s								
WVOR	**Wild Horse Val**	63.50	56	*e*P		P	02 49 43.2	0.0	
	comp=Z,32nm,1.1s								
SLMT	**Seeley Lake**	63.51	49	*e*P		P	02 49 43.2	0.0	
	comp=Z,66nm,1.1s								
MSO	**Missoula**	63.51	50	P		P	02 49 43.6	+0.3	
	baz=63,SNR=17								
MSO	**Missoula**	63.51	50	*e*P		P	02 49 43.4	+0.1	
	comp=Z,45nm,1.1s								
LWLI	**Liwa**	63.55	232	P		P	02 49 43.3	-0.5	
	comp=Z,89nm,0.8s								
CHMT	**Chamberlain Mo**	63.84	49	*e*P		P	02 49 45.0	-0.5	
	comp=Z,14nm,1.3s								
HYB	**Hyderabad**	64.04	269	*i* P		P	02 49 45.0	-2.0	
HYB	**Hyderabad**	64.04	269	*e*P		P	02 49 46.7	-0.3	
HYB				AMB		AMB	02 49 48.2		
	comp=Z,45nm,1.1s								
HYBB	**Hyderabad (bro**	64.04	269	*e*P		P	02 49 46.8	-0.2	
HYBB				IAmb		IAmb	02 49 47.5		
	comp=Z,50nm,0.8s								
ADKI	**Addanki**	64.07	267	*e*P		P	02 49 46.8	-0.3	
ADKI				IAmb		IAmb	02 49 48.4		
	comp=Z,64nm,0.9s								
NJS	**Nagarjunasagar**	64.07	268	*e*P		P	02 49 46.1	-1.0	
NJS				IAmb		IAmb	02 49 47.8		
	comp=Z,76nm,0.9s								
CTAO	**Charters Tower**	64.27	183	*e*P		P	02 49 47.6	-0.6	
CTAO				pmax		pmax			
	comp=Z,22nm,1.4s								
CTAO	**Charters Tower**	64.27	183	*e*P		P	02 49 47.6	-0.6	
	comp=Z,22nm,1.4s								
FFC	**Flin Flon**	64.39	37	P		P	02 49 49.3	+0.6	
	comp=Z,228nm,1.1s,SNR=18								
FFC	**Flin Flon**	64.39	37	*e*P		P	02 49 49.0	+0.3	
FFC				pmax		pmax			
	comp=Z,41nm,1.0s								
FFC	**Flin Flon**	64.39	37	*e*P		P	02 49 49.3	+0.6	
FFC	**Flin Flon**	64.39	37	*e*P		P	02 49 49.0	+0.3	
	comp=Z,41nm,1.0s								
MFID	**Camas Ranch**	64.54	53	*e*P		P	02 49 50.6	+0.5	
	comp=Z,19nm,1.3s								
MOS	**Moscow**	64.62	324	*e*P		P	02 49 48.2	-1.9	
PUL	**Pulkovo**	64.62	331	ǁ*e*P		P	02 49 49.8	-0.3	
PUL				pmax		pmax			
	comp=Z,103nm,1.3s								
PUL	**Pulkovo**	64.62	331	*e*P		P	02 49 49.8	-0.3	
SRLM	**Srisailam**	64.67	268	*e*P		P	02 49 49.8	-1.3	
SRLM				IAmb		IAmb	02 49 51.5		
	comp=Z,77nm,0.9s								
FCC	**Fort Churchill**	64.78	31	*e*P		P	02 49 50.6	-0.6	
FCC	**Fort Churchill**	64.78	31	*e*P		P	02 49 50.6	-0.6	
FIA1	**FINESS Array S**	64.81	333	*e*P		P	02 49 50.3	-1.0	
FINES	**FINESS Array B**	64.81	333	P		P	02 49 50.7	-0.6	
	comp=Z,45nm,0.9s,baz=50,slow=6.0,SNR=67								
FINES				LR		LR	03 20 11.5		
	comp=Z,453nm,21.1s,baz=36,slow=38								
FINES	**FINESS Array B**	64.81	333	*e*P		P	02 49 50.6	-0.7	
IMYA	**Miami**	64.91	297	*e*P		P	02 49 52.8	+0.2	
LRM	**Limekiln Ridge**	64.95	50	*e*P		P	02 49 52.9	0.0	
	comp=Z,336nm,1.1s								
A19A	**Klindworth Far**	64.95	45	P		P	02 49 53.3	+0.8	
	baz=65,SNR=9.2								
EGMT	**Eagleton**	65.00	47	P		P	02 49 53.5	+0.6	
	baz=65,SNR=22								
EGMT	**Eagleton**	65.00	47	*e*P		P	02 49 52.8	-0.2	
	comp=Z,35nm,0.9s								
KLRI	**Killari**	65.01	271	*e*P		P	02 49 52.0	-1.4	
KLRI				IAmb		IAmb	02 49 53.5		
	comp=Z,54nm,0.8s								
RCLA	**Racherla**	65.05	267	*e*P		P	02 49 52.8	-0.7	
RCLA				IAmb		IAmb	02 49 54.3		
	comp=Z,37nm,0.9s								
CMB	**Columbia Colle**	65.10	61	*e*P		P	02 49 54.1	+0.4	
CMB				*e**PP		pP	02 50 06.4	-0.2	
CMB				pmax		pmax			
	comp=Z,40nm,1.4s								
CMB	**Columbia Colle**	65.10	61	*e*P		P	02 49 54.1	+0.4	
	comp=Z,40nm,1.4s								
CMB				*ep*P		pP	02 50 06.4	-0.2	
B19A	**Brinkman Farms**	65.15	46	P		P	02 49 54.3	+0.5	
	baz=65,SNR=7.0								
DLMT	**Dillon**	65.16	50	*e*P		P	02 49 54.5	+0.4	
	comp=Z,50nm,1.5s								
HLID	**Hailey**	65.26	53	P		P	02 49 55.4	+0.6	
	baz=65,SNR=11								
HLID	**Hailey**	65.26	53	*e*P		P	02 49 55.2	+0.4	
	comp=Z,17nm,1.3s								
ISRO	**Mashad**	65.33	297	*e*P		P	02 49 56.4	+1.1	
MCMT	**McKenzie Canyo**	65.35	51	*e*P		P	02 49 54.9	-0.5	
A20A	**Cobblestone Ra**	65.40	45	P		P	02 49 56.2	+0.8	
	baz=65,SNR=11								
WAKR	**Walker**	65.40	60	*e*P		P	02 49 56.6	+0.8	
WAKR				*ep*P		pP	02 50 09.7	+0.9	
WRAB	**Tennant Creek**	65.43	195	P		P	02 49 54.8	-1.0	
	comp=Z,121nm,0.7s,SNR=6.1								
WRAB	**Tennant Creek**	65.43	195	⇓*i* P		P	02 49 55.1	-0.7	
WRAB				pmax		pmax			
	comp=Z,34nm,0.8s								
WRAB	**Tennant Creek**	65.43	195	*e*P		P	02 49 54.6	-1.2	
	comp=Z,20nm,0.9s								
WRA	**Warramunga Arr**	65.45	195	P		P	02 49 54.7	-1.2	
	comp=Z,14nm,0.8s,baz=15,slow=6.8,SNR=52								
WRA				pP		pP	02 50 10.2	+1.3	
	comp=Z,9.2nm,0.8s,baz=14,slow=6.8,SNR=6.5								
WRA				LR		LR	03 19 21.7		
	comp=Z,95nm,19.0s,baz=275,slow=37								
OBN	**Obninsk**	65.48	324	*c i*P		P	02 49 55.6	-0.2	
OBN				*e*			02 50 27.1		
OBN				pmax		pmax			
	comp=Z,42nm,1.2s								
OBN				MLR		MLR			
	comp=Z,808nm,15.0s								
OBN	**Obninsk**	65.48	324	*e*P		P	02 49 55.6	-0.2	
OBN	**Obninsk**	65.48	324	*e*P		P	02 49 55.5	-0.3	
BOZ	**Bozeman (W)**	65.51	49	*e*P		P	02 49 56.8	+0.5	
BOZ				pmax		pmax			
	comp=Z,51nm,1.4s								
BOZ	**Bozeman (W)**	65.51	49	*e*P		P	02 49 56.8	+0.5	
BOZ	**Bozeman (W)**	65.51	49	*e*P		P	02 49 57.0	+0.7	
	baz=65,SNR=24								
BOZ	**Bozeman (W)**	65.51	49	*e*P		P	02 49 56.8	+0.5	
	comp=Z,51nm,1.4s								
IMOG	**Moghan**	65.54	297	*e*P		P	02 49 57.9	+1.0	
IPAY	**Payeh**	65.55	298	*e*P		P	02 49 58.1	+1.2	
BMN	**Battle Mountai**	65.56	57	*e*P		P	02 49 57.4	+0.6	
BMN				pmax		pmax			
	comp=Z,21nm,1.0s								
BMN	**Battle Mountai**	65.56	57	*e*P		P	02 49 57.4	+0.6	
	comp=Z,21nm,1.0s								
IAKL	**Akhelmad**	65.61	298	*e*P		P	02 49 58.0	+0.7	
B20A	**Solberg Farm,**	65.63	45	P		P	02 49 57.8	+0.8	
	baz=65,SNR=17								
IKRD	**Kardeh**	65.65	298	*e*P		P	02 49 54.2	-3.3	
SKHT	**Srikalahasti**	65.66	265	*e*P		P	02 49 57.4	-0.1	
SKHT				IAmb		IAmb	02 49 58.9		
	comp=Z,65nm,0.9s								
ISHV	**Shirvan**	65.69	299	*e*P		P	02 50 00.4	+2.7	
ISFR	**Sfrayin**	65.80	299	*e*P		P	02 49 59.4	+0.8	
A21A	**Bergtoll Ranch**	65.83	44	P		P	02 49 58.7	+0.5	
	baz=66								
VRHR	**Novokhopersk**	65.94	319	*e*P		P	02 49 57.5	-1.3	
VRHR				pmax		pmax			
	comp=N,20nm,0.9s								
VRHR				pmax		pmax			
	comp=E,20nm,0.9s								
VRHR				pmax		pmax			
	comp=Z,80nm,0.9s								
C20A	**Veseth Ranch,**	66.11	46	P		P	02 50 00.8	+0.8	
	baz=66,SNR=18								
QLMT	**Earthquake Lak**	66.13	50	*e*P		P	02 50 00.6	+0.2	
	comp=Z,0.4nm,0.3s								
NVAR	**Mina Array Bea**	66.15	59	P		P	02 50 01.1	+0.5	
	comp=Z,7.5nm,0.8s,baz=293,slow=7.2,SNR=26								
NVAR				pP		pP	02 50 14.1	+0.5	
	comp=Z,15nm,1.0s,baz=290,slow=7.2,SNR=8.0								
B21A	**Ellsworth Farm**	66.15	45	P		P	02 50 00.9	+0.6	
	baz=66								
MLAC	**Mammoth, Mammo**	66.31	60	P		P	02 50 02.1	+0.4	
	baz=66								
A22A	**Carney Farms,**	66.33	44	P		P	02 50 01.7	+0.3	
	baz=66,SNR=21								
GCMT	**Greycliff**	66.47	48	*e*P		P	02 50 03.5	+1.0	
	comp=Z,2.9nm,0.5s								
GCMT				*ep*P		pP	02 50 16.4	+0.8	
C21A	**Desert Coulee**	66.50	45	P		P	02 50 03.1	+0.6	
	baz=66								
ELK	**Elko**	66.54	55	*e*P		P	02 50 03.1	-0.1	
ELK				pmax		pmax			
	comp=Z,6.0nm,1.0s								
ELK	**Elko**	66.54	55	*e*P		P	02 50 03.1	-0.1	
	comp=Z,5.8nm,1.0s								
URV	**Uravakonda**	66.60	268	*e*P		P	02 50 02.5	-1.1	
URV				IAmb		IAmb	02 50 04.0		
	comp=Z,30nm,0.9s								
BHJ	**Bhuj**	66.61	280	*e*P		P	02 50 04.0	+0.5	
BHJ				AMB		AMB	02 50 05.3		
	comp=Z,80nm,0.0s								
POO	**Poona**	66.68	273	⇓*i* P		P	02 50 02.0	-2.1	
	comp=Z,80nm,1.0s								
POO				*e*P		P	02 50 04.0	-0.1	
POO				AMB		AMB	02 50 04.4		
	comp=Z,69nm,0.9s								
YFT	**Old Faithful**	66.70	50	*e*P		P	02 50 05.8	+1.7	
	comp=Z,16nm,0.9s								
YFT				*ep*P		pP	02 50 16.4	-0.7	
B22A	**Reddig Ranch S**	66.75	45	P		P	02 50 04.5	+0.4	
	baz=66,SNR=5.1								
VSU	**Vasula**	66.83	331	*d i*P		P	02 50 04.8	+0.4	
VSU				pmax		pmax			
	comp=Z,128nm,1.0s								
LKWY	**Lake**	66.87	50	*e*P		P	02 50 05.7	+0.5	
LKWY				pmax		pmax			
	comp=Z,28nm,1.1s								
LKWY	**Lake**	66.87	50	*e*P		P	02 50 05.7	+0.5	
	comp=Z,28nm,1.1s								
H17A	**Grant Village**	66.88	50	P		P	02 50 05.5	+0.3	
	baz=67,SNR=12								
H17A	**Grant Village**	66.88	50	*e*P		P	02 50 07.3	+2.0	
	comp=Z,62nm,1.3s								
IMW	**Indian Meadow**	67.00	51	*e*P		P	02 50 07.4	+1.3	
	comp=Z,32nm,1.1s								
VSR	**Storozhevoye**	67.01	320	*e*P		P	02 50 05.3	-0.3	
VSR				pmax		pmax			
	comp=N,40nm,0.9s								
VSR				pmax		pmax			
	comp=E,30nm,0.9s								
VSR				pmax		pmax			
	comp=Z,80nm,0.9s								
VSR				MLR		MLR			
	comp=N,530nm,17.0s								
VSR				MLR		MLR			
	comp=E,670nm,17.0s								
VSR				MLR		MLR			
	comp=Z,1µm,17.0s								
FLWY	**Flagg Ranch**	67.01	50	*e*P		P	02 50 04.7	-1.4	
	comp=Z,3.8nm,0.7s								
FLWY				*ep*P		pP	02 50 16.0	-3.1	
TPH	**Tonopah**	67.03	59	*e*P		P	02 50 06.2	-0.1	
TPH				*e**PP		pP	02 50 19.4	+0.1	
TPH				pmax		pmax			
	comp=Z,40nm,1.3s								
TPH	**Tonopah**	67.03	59	*e*P		P	02 50 06.2	-0.1	
	comp=Z,40nm,1.3s								
TPH				*ep*P		pP	02 50 19.4	+0.1	
D21A	**La Casta Ranch**	67.05	46	P		P	02 50 06.9	+0.8	
	baz=67,SNR=11								
FXWY	**Fox Creek**	67.12	51	*e*P		P	02 50 07.7	+0.9	
RLMT	**Red Lodge**	67.12	49	P		P	02 50 07.3	+0.5	
	baz=67,SNR=6.8								
RLMT	**Red Lodge**	67.12	49	*e*P		P	02 50 07.4	+0.7	
	comp=Z,39nm,1.3s								
VORD	**Divnogorie**	67.12	320	*e*P		P	02 50 06.1	-0.2	
VORD				pmax		pmax			
	comp=N,100nm,0.9s								
VORD				pmax		pmax			
	comp=E,130nm,0.9s								
VORD				pmax		pmax			
	comp=Z,60nm,0.9s								
VORD				MLR		MLR			
	comp=N,630nm,18.0s								
VORD				MLR		MLR			
	comp=E,670nm,18.0s								
VORD				MLR		MLR			
	comp=Z,1µm,18.0s								
B23A	**Brockton**	67.14	44	P		P	02 50 07.2	+0.6	
	baz=67,SNR=14								
C22A	**Vida**	67.17	45	P		P	02 50 06.7	-0.1	
	baz=67								
MOOW	**Moose Ponds**	67.20	51	*e*P		P	02 50 08.2	+0.9	
	comp=Z,53nm,1.3s								
TPAW	**Teton Pass**	67.25	51	*e*P		P	02 50 09.0	+1.3	
	comp=Z,79nm,1.4s								
F20A	**Billings**	67.28	48	P		P	02 50 07.6	0.0	
	baz=67								
VES	**Vestal, Richgr**	67.28	62	P		P	02 50 07.4	-0.2	
	baz=67								
A24A	**Westby**	67.32	43	P		P	02 50 07.9	+0.2	
	baz=67								
HVU	**Hansel Valley**	67.32	53	*e*P		P	02 50 08.8	+0.8	
HVU				pmax		pmax			
	comp=Z,22nm,1.2s								
HVU	**Hansel Valley**	67.32	53	*e*P		P	02 50 08.8	+0.8	
	comp=Z,22nm,1.2s								
E21A	**Keefer Ranch,**	67.35	47	P		P	02 50 08.4	+0.4	
	baz=67								
LOHW	**Long Hollow**	67.37	51	*e*P		P	02 50 09.1	+0.8	
	comp=Z,46nm,1.4s								
SNOW	**Snow King Moun**	67.38	51	*e*P		P	02 50 09.6	+1.1	
	comp=Z,8.2nm,0.9s								
SNOW				*ep*P		pP	02 50 19.2	-2.3	
REDW	**Red Top Meadow**	67.39	51	*e*P		P	02 50 09.4	+0.9	
	comp=Z,75nm,1.4s								
PKM	**Mcpherson Peak**	67.41	63	P		P	02 50 09.4	+0.7	
	baz=67								
D22A	**Cohagen**	67.41	46	P		P	02 50 09.1	+0.7	
	baz=67,SNR=8.1								
C23A	**Lambert**	67.48	45	P		P	02 50 09.5	+0.7	
	baz=67,SNR=6.2								
DGMT	**Dagmar**	67.53	44	P		P	02 50 09.3	+0.2	
	baz=67,SNR=8.0								
DGMT	**Dagmar**	67.53	44	*e*P		P	02 50 09.3	+0.2	
	comp=Z,41nm,1.0s								
CWC	**Cottonwood Cre**	67.53	61	P		P	02 50 09.7	+0.3	
	baz=67								
H19A	**Powell**	67.57	49	P		P	02 50 09.7	+0.2	
	baz=67								
GRAC	**Grapevine Rang**	67.62	60	P		P	02 50 10.6	+0.8	
	baz=67,SNR=6.2								
G20A	**Bridger**	67.62	48	P		P	02 50 10.0	+0.2	
	baz=67								
A25A	**Svangstu Ranch**	67.74	43	P		P	02 50 10.8	+0.4	
	baz=68								
SBC	**Santa Barbara**	67.76	63	P		P	02 50 11.6	+0.9	
	baz=68								
ISA	**Isabella, Lake**	67.78	61	*e*P		P	02 50 10.3	-0.6	
ISA				*e**PP		pP	02 50 23.2	-0.7	
ISA				pmax		pmax			
	comp=Z,29nm,1.7s								
ISA	**Isabella, Lake**	67.78	61	P		P	02 50 11.4	+0.5	
	baz=68								
ISA	**Isabella, Lake**	67.78	61	*e*P		P	02 50 10.3	-0.6	
	comp=Z,29nm,1.7s								
ISA				*ep*P		pP	02 50 23.2	-0.7	
R11A	**Troy Canyon, C**	67.85	58	P		P	02 50 11.7	+0.2	
	baz=68,SNR=14								
R11A	**Troy Canyon, C**	67.85	58	*e*P		P	02 50 11.5	+0.1	
	comp=Z,21nm,1.0s								
SFJD	**Kangerlussuaq**	67.89	8	*i* P		P	02 50 09.8	-1.1	
	comp=Z,30nm,0.9s								
SFJD	**Kangerlussuaq**	67.89	8	*e*P		P	02 50 11.1	+0.2	
SFJD	**Kangerlussuaq**	67.89	8	*e*P		P	02 50 11.1	+0.2	
ARVC	**Arvin**	67.89	62	P		P	02 50 12.1	+0.6	
	baz=68								
D23A	**Lindsay**	67.89	45	P		P	02 50 12.4	+1.0	
	baz=68,SNR=5.4								
I19A	**Meeteetse**	67.98	50	P		P	02 50 12.8	+0.6	
	baz=68,SNR=5.8								
E22A	**Miles City**	68.00	46	P		P	02 50 12.7	+0.6	
	baz=68								
C24A	**Savage**	68.05	44	P		P	02 50 12.9	+0.6	
	baz=68,SNR=5.7								
BSC	**Santa Cruz Isl**	68.10	64	P		P	02 50 12.9	+0.1	
	baz=68								
HWUT	**Hardware Ranch**	68.13	53	*e*P		P	02 50 13.5	+0.3	
	comp=Z,18nm,1.0s								
MPMC	**Manual Prospec**	68.14	61	P		P	02 50 13.8	+0.5	
	baz=68,SNR=5.5								
G21A	**Lodge Grass**	68.15	48	P		P	02 50 13.2	0.0	
	baz=68								
B25A	**Knox Farm, Ray**	68.17	43	P		P	02 50 13.6	+0.5	
	baz=68								
H20A	**Greybull**	68.22	49	P		P	02 50 13.9	+0.3	
	baz=68								
FURC	**Furnace Creek,**	68.27	60	P		P	02 50 14.7	+0.9	
	baz=68								
MAK	**Makhachkala**	68.28	309	*e*P		P	02 50 15.4	+1.7	
MAK				*e*			02 52 44.9		
MAK				*e*S		S	02 59 14.0	+3.0	
MAK				pmax		pmax			
	comp=Z,101nm,0.8s								
OSI	**Osito Audit: C**	68.28	62	P		P	02 50 15.2	+1.1	
	baz=68								
F22A	**Rosebud**	68.28	47	P		P	02 50 14.4	+0.5	
	baz=68								
A26A	**Wade Farm, Ken**	68.29	42	P		P	02 50 14.4	+0.6	
	baz=68								
E23A	**Ismay**	68.30	46	P		P	02 50 14.7	+0.8	
	baz=68,SNR=11								
DUG	**Dugway, Tooele**	68.32	55	*e*P		P	02 50 14.7	+0.4	
DUG				pmax		pmax			
	comp=Z,29nm,1.0s								
DUG	**Dugway, Tooele**	68.32	55	*e*P		P	02 50 14.7	+0.4	
DUG	**Dugway, Tooele**	68.32	55	P		P	02 50 15.1	+0.8	
	baz=68,SNR=14								
DUG	**Dugway, Tooele**	68.32	55	*e*P		P	02 50 14.7	+0.4	
	comp=Z,29nm,1.0s								
TPNV	**Topopah Spring**	68.34	59	P		P	02 50 15.1	+0.5	
	baz=68,SNR=5.7								
D24A	**Glendive**	68.38	45	P		P	02 50 15.2	+0.8	
	baz=68,SNR=6.4								
LRMC	**Laurel Mtn Rad**	68.39	61	P		P	02 50 15.0	+0.2	
	baz=68								
BLG	**Laguna Peak, P**	68.39	63	P		P	02 50 15.4	+0.8	
	baz=68								
J19A	**Crowheart**	68.45	50	P		P	02 50 16.3	+1.1	
	baz=68,SNR=6.4								
BW06	**Boulder Array**	68.50	51	*e*P		P	02 50 15.2	-0.3	
	comp=Z,29nm,1.2s								
PDAR	**Pinedale Array**	68.50	51	P		P	02 50 15.3	-0.2	
	comp=Z,6.7nm,1.0s,baz=325,slow=2.3,SNR=37								
PDAR				pP		pP	02 50 29.2	+0.7	
	comp=Z,9.9nm,0.9s,baz=342,slow=2.3,SNR=13								
PDAR				LR		LR	03 20 49.3		
	comp=Z,120nm,19.7s,baz=332,slow=36								
I20A	**Worland**	68.50	49	P		P	02 50 16.3	+0.9	
	baz=68,SNR=8.2								
C25A	**Freed Ranch, W**	68.51	44	P		P	02 50 15.9	+0.7	
	baz=68								
TCUT	**Toone Canyon**	68.53	53	*e*P		P	02 50 15.9	+0.2	
	comp=Z,23nm,1.0s								
B26A	**Jensen Ranch,**	68.55	43	P		P	02 50 16.6	+1.1	
	baz=68								
EDW2	**Edwards Air Fo**	68.58	62	P		P	02 50 16.7	+0.8	
	baz=68								
CTU	**Camp Tracy**	68.61	54	*e*P		P	02 50 16.3	+0.2	
CTU				*ep*P		pP	02 50 29.5	+0.3	
A27A	**Ledoux Ranch,**	68.64	42	P		P	02 50 17.0	+1.0	
	baz=68,SNR=7.5								
H21A	**Big Horn, Sher**	68.64	48	P		P	02 50 17.0	+0.8	
	baz=68,SNR=5.5								
G22A	**Birney**	68.64	47	P		P	02 50 16.9	+0.7	
	baz=68								
E24A	**Baker**	68.76	45	P		P	02

baz=69,SNR=6.8
GOF Gofitskoye 69.28 313⇑ *i*P **P 02 50 20.7 +0.7**
GOF pmax pmax
comp=Z,277nm,1.3s
SHPR Sheep Range 69.30 59 *e*P **P 02 50 20.8 +0.3**
SHPR *e*pP **pP 02 50 33.7 +0.2**
C27A Sayler Ranch, 69.37 43 P **P 02 50 21.4 +0.9**
baz=69
D26A Manning 69.38 44 P **P 02 50 21.2 +0.6**
baz=69
IIGN Ignalina 69.39 329 *e*P **P 02 50 20.7 +0.2**
IIGN IAmb IAmb 02 50 22.0
comp=Z,52nm,1.0s
NB2 NORSAR Subarra 69.39 340 P **P 02 50 19.7 -0.8**
comp=Z,64nm,1.0s,baz=31,slow=6.5
NB2 NORSAR Subarra 69.39 340 P **P 02 50 19.7 -0.8**
baz=31,slow=6.5
NOA NORSAR Array B 69.39 340 P **P 02 50 20.2 -0.3**
comp=Z,30nm,0.8s,baz=33,slow=6.0,SNR=60
NOA LR LR 03 24 13.6
comp=Z,208nm,20.2s,baz=30,slow=39
PALK Pallekele 69.40 260 *e*P **P 02 50 20.9 -0.3**
PALK pmax pmax
comp=Z,29nm,1.0s
PALK Pallekele 69.40 260 *e*P **P 02 50 20.9 -0.3**
comp=Z,29nm,1.0s
I22A 9 Mile Ranch, 69.43 48 P **P 02 50 21.8 +0.7**
baz=69,SNR=6.2
SCI San Clemente I 69.44 64 P **P 02 50 22.0 +0.8**
baz=69
TUQ Turquoise Moun 69.52 60 P **P 02 50 22.3 +0.5**
baz=69
NACGM Naroch 69.52 329 *e* P 02 50 18.0 -3.3
G24A Alzada 69.54 46 P **P 02 50 21.9 +0.1**
baz=69
H23A Clabaugh Cattl 69.55 47 P **P 02 50 22.1 +0.2**
baz=69
A29A Manning Farm, 69.61 41 P **P 02 50 22.3 +0.3**
baz=69,SNR=18
F25A Bowman 69.63 45 P **P 02 50 22.6 +0.4**
baz=69
NAO01 NORSAR Array S 69.64 340 *e*P **P 02 50 21.6 -0.3**
comp=Z,42nm,1.0s
HEC Hector,Ludlow 69.66 61 P **P 02 50 22.8 +0.2**
baz=70
CCUT Cedar City 69.71 57 *e*P **P 02 50 23.1 0.0**
comp=Z,20nm,1.2s
E26A Carlson Angus 69.75 44 P **P 02 50 23.2 +0.3**
baz=70,SNR=7.1
J22A Midwest 69.75 49 P **P 02 50 23.3 +0.2**
baz=70,SNR=15
MVU Marysvale 69.77 56 *e*P **P 02 50 23.9 +0.4**
comp=Z,11nm,1.1s
D27A Center 69.78 43 P **P 02 50 24.1 +1.0**
baz=70
MSU Marysvale 69.79 56 *e*P **P 02 50 23.8 +0.3**
MSU pmax pmax
comp=Z,15nm,1.2s
MSU Marysvale 69.79 56 *e*P **P 02 50 23.8 +0.3**
comp=Z,15nm,1.2s
H24A Dirks Ranch, A 69.87 47 P **P 02 50 23.5 -0.3**
baz=70,SNR=5.3
B29A Wagenman Farm, 69.87 41 P **P 02 50 24.3 +0.7**
baz=70,SNR=6.7
MURC Murrieta 69.90 62 P **P 02 50 24.2 +0.1**
baz=70
C28A Hausauer Farms 69.91 42 P **P 02 50 23.9 0.0**
baz=70
I23A Meade Ranch, G 69.93 48 P **P 02 50 23.9 -0.3**
baz=70
A30A Hoffart Farm, 70.03 40 P **P 02 50 24.7 +0.1**
baz=70
NCK Nalchik 70.05 312⇓ *i*P **P 02 50 26.0 +1.2**
F26A Lodgepole 70.08 45 P **P 02 50 24.9 -0.1**
baz=70
GMRC Granite Mounta 70.11 61 P **P 02 50 25.6 +0.2**
baz=70
G25A Newell 70.15 46 P **P 02 50 25.1 -0.3**
baz=70
D28A Regan 70.18 43 P **P 02 50 26.0 +0.4**
baz=70
MDND Maddock 70.19 42 P **P 02 50 25.3 -0.3**
baz=70
MDND Maddock 70.19 42 *e*P **P 02 50 26.3 +0.8**
KIV Kislovodsk 70.22 313 P **P 02 50 27.7 +1.8**
comp=Z,785nm,0.9s,SNR=26
KIV Kislovodsk 70.22 313*c i*P **P 02 50 26.9 +1.0**
KIV *e* 02 50 48.3
KIV pmax pmax
comp=Z,186nm,1.3s
KIV MLR MLR
comp=Z,1μm,17.0s
KIV Kislovodsk 70.22 313 *e*P **P 02 50 27.6 +1.7**
KIV Kislovodsk 70.22 313 P **P 02 50 27.3 +1.4**
SNR=38
KIV Kislovodsk 70.22 313 *i*P **P 02 50 26.9 +1.0**
SNR=19
KIV Kislovodsk 70.22 313 *e*P **P 02 50 27.0 +1.1**
comp=Z,146nm,1.0s
E27A Carson 70.23 44 P **P 02 50 25.8 -0.1**
baz=70
K22A Casper 70.24 49 P **P 02 50 26.6 +0.4**
baz=70,SNR=5.5
K22A Casper 70.24 49 *e*P **P 02 50 24.8 -1.4**
comp=Z,128nm,1.7s
J23A Dilts Ranch, B 70.26 48 P **P 02 50 26.2 0.0**
baz=70
KBZ Khabaz 70.26 312 P **P 02 50 27.1 +1.1**
comp=Z,85nm,0.9s,baz=53,slow=3.4,SNR=108
KBZ LR LR 03 26 15.2
comp=Z,1μm,18.4s,baz=40,slow=40
B30A Myrvik Farm, E 70.36 41 P **P 02 50 26.7 +0.1**
baz=70,SNR=19
SRU San Rafael Swe 70.36 54 *e*P **P 02 50 27.4 +0.4**
SRU pmax pmax
comp=Z,56nm,1.2s
SRU San Rafael Swe 70.36 54 *e*P **P 02 50 27.4 +0.4**
comp=Z,56nm,1.2s
ZEI Tsey 70.36 311 *e*P **P 02 50 25.1 -1.9**
ZEI pmax pmax
comp=Z,59nm,0.9s
PFO Pinyon Flats O 70.37 62 P **P 02 50 27.7 +0.6**
baz=70
F27A Lemmon 70.39 44 P **P 02 50 27.5 +0.6**
baz=70
BELC Belle Mtn. Jos 70.40 61 P **P 02 50 27.4 +0.1**
baz=70
109C Camp Elliot, M 70.42 63 P **P 02 50 27.5 +0.2**
baz=70
I24A Kuemmerle Ranc 70.44 47 P **P 02 50 27.2 -0.1**
baz=70
H25A Fruitdale 70.45 46 P **P 02 50 27.1 -0.2**
baz=70
G26A Maurine 70.50 45 P **P 02 50 27.4 -0.1**
baz=70,SNR=7.4
MBWA Marble Bar 70.53 209 *e*P **P 02 50 26.7 -1.0**
comp=Z,39nm,1.3s
E28A Huff 70.56 43 P **P 02 50 27.8 -0.1**
baz=70
SEAG Tbilisi Sea 70.57 310 P **P 02 50 28.0 0.0**
RSSD Black Hills 70.57 47 *e*P **P 02 50 27.4 -0.8**
RSSD pmax pmax
comp=Z,110nm,2.0s
RSSD Black Hills 70.57 47 *e*P **P 02 50 27.4 -0.8**
comp=Z,110nm,2.0s
K23A Bowen Ranch, D 70.66 49 P **P 02 50 28.5 -0.2**
baz=70
ONI Oni 70.74 311 P **P 02 50 30.6 +1.5**
ONI Oni 70.74 311 P **P 02 50 30.6 +1.5**
D29A Pettibone, Tap 70.75 42 P **P 02 50 28.4 -0.6**
baz=70
G27A Dupree 70.78 45 P **P 02 50 28.8 -0.4**
baz=70
J24A Dixon Ranch, L 70.78 48 P **P 02 50 28.8 -0.6**
baz=71
I25A Rochford 70.80 47 P **P 02 50 29.1 -0.5**
baz=71,SNR=6.2
IRM Iron Mountain 70.83 61 P **P 02 50 29.8 +0.1**
baz=71
MONP Monument Peak, 70.86 63 P **P 02 50 30.1 -0.1**
baz=71
BORG Borgarnes 70.87 356 *e*P **P 02 50 31.1 +1.8**
BORG Borgarnes 70.87 356 *e*P **P 02 50 31.1 +1.8**
H26A Fairpoint 70.88 46 P **P 02 50 29.4 -0.5**
baz=71
BC3 Big Chuckawall 70.97 61 P **P 02 50 31.0 +0.4**
baz=71
O20A White River Ci 70.99 52 P **P 02 50 31.4 +0.6**
baz=71,SNR=8.2
O20A White River Ci 70.99 52 *e*P **P 02 50 30.9 +0.1**
comp=Z,55nm,1.5s
O20A *e*pP **pP 02 50 42.8 -1.1**
F28A McLaughlin 71.02 44 P **P 02 50 30.9 +0.2**
baz=71
E29A Napoleon 71.08 43 P **P 02 50 30.4 -0.6**
baz=71
K24A Anderson Ranch 71.12 48 P **P 02 50 30.9 -0.6**
baz=71
D30A Buchanan 71.12 42 P **P 02 50 31.2 -0.1**
baz=71
J25A Sunshine Ranch 71.19 47 P **P 02 50 31.2 -0.7**
baz=71
IBP Imperial Bould 71.22 63 P **P 02 50 32.2 0.0**
baz=71
SWSC Sam W. Stewart 71.22 62 P **P 02 50 32.2 +0.1**
baz=71
H27A Howes 71.22 45 P **P 02 50 32.2 +0.2**
baz=71
I26A New Underwood 71.24 46 P **P 02 50 32.5 +0.4**
baz=71
PDMCI Parker Dam,Lak 71.37 60 P **P 02 50 33.2 +0.3**
baz=71,SNR=6.5
E30A Jud 71.48 42 P **P 02 50 33.2 -0.2**
baz=71
Y12C Blythe 71.49 61 P **P 02 50 34.1 +0.4**
baz=71
G28A Parade 71.50 45 P **P 02 50 33.6 0.0**
baz=71
F29A Eureka 71.51 43 P **P 02 50 33.4 -0.2**
baz=71
AKH Akhalkalaki 71.53 310 P **P 02 50 35.7 +1.7**
AKH Akhalkalaki 71.53 310 P **P 02 50 35.7 +1.7**
SUW Suwalki 71.54 330 *e*P **P 02 50 33.1 -0.5**
SUW Suwalki 71.54 330 *e*P **P 02 50 33.1 -0.5**
AGMN Agassiz Nation 71.61 40 P **P 02 50 33.9 -0.3**
baz=72,SNR=11
AGMN Agassiz Nation 71.61 40 *e*P **P 02 50 33.8 -0.4**
comp=Z,59nm,1.4s
J26A Sides Ranch, S 71.63 47 P **P 02 50 34.0 -0.4**
baz=71
I27A Quinn 71.63 46 P **P 02 50 34.5 +0.1**
baz=71
GNI Garni 71.70 308*d i*P **P 02 50 37.4 +2.4**
GNI pmax pmax
comp=Z,73nm,1.2s
GNI Garni 71.70 308 P **P 02 50 37.3 +2.3**
SNR=16
GNI Garni 71.70 308⇓ *i*P **P 02 50 36.9 +1.9**
SNR=11
GNI Garni 71.70 308 *e*P **P 02 50 36.9 +1.9**
comp=Z,81nm,1.1s
K25A Mack Ranch, Ha 71.70 48 P **P 02 50 35.2 +0.2**
baz=72
H28A Mission Ridge 71.73 45 P **P 02 50 34.9 -0.1**
baz=72
PHWY Pilot Hill 71.75 50 *e*P **P 02 50 35.3 -0.2**
comp=Z,50nm,1.6s
PHWY *e*pP **pP 02 50 48.9 +0.4**
AKASG Malin Array Be 71.75 324 P **P 02 50 34.8 -0.1**
comp=Z,55nm,0.8s,baz=37,slow=6.1,SNR=128
AKASG LR LR 03 25 44.0
comp=Z,247nm,20.9s,baz=25,slow=39
AKBB Malin Array Si 71.75 324 *e*P **P 02 50 34.3 -0.6**
AKBB Malin Array Si 71.75 324 *e*P **P 02 50 34.3 -0.6**
N23A Red Feather La 71.76 50 P **P 02 50 36.3 +0.7**
baz=72,SNR=9.3
KIEV Kiev 71.76 324⇓ *i*P **P 02 50 35.1 +0.1**
KIEV Kiev 71.76 324 *e*P **P 02 50 35.1 +0.1**
KIEV Kiev 71.76 324 *e*P **P 02 50 34.6 -0.3**
comp=Z,138nm,1.1s
AK01 Malin Array Si 71.76 324 *e*P **P 02 50 34.8 -0.2**
GLA Glamis 71.76 62 *e*P **P 02 50 35.2 -0.2**
GLA pmax pmax
comp=Z,19nm,1.0s
GLA Glamis 71.76 62 P **P 02 50 35.6 +0.3**
baz=72
GLA Glamis 71.76 62 *e*P **P 02 50 35.1 -0.2**
comp=Z,19nm,1.0s
PV04 Paradox Valley 71.78 54 *e*P **P 02 50 36.2 +0.6**
AK02 Malin Array Si 71.79 324 *e*P **P 02 50 34.8 -0.3**
K26A Motz Farm, Whi 72.00 48 P **P 02 50 36.3 -0.4**
baz=72
SOC Sochi 72.03 314*c i*P **P 02 50 37.2 +0.5**
SOC *e* 02 53 17.6
SOC *e*PPP PPP 02 55 02.3
SOC *e*S **S 02 59 52.2 -2.7**
SOC *e*SS **SS 03 04 27.3 -4.2**
SOC pmax pmax
comp=Z,65nm,0.9s
I28A Midland 72.13 45 P **P 02 50 37.2 -0.2**
baz=72,SNR=5.1
PV01 Paradox Valley 72.15 54 *e*P **P 02 50 38.2 +0.3**
H29A Onida 72.17 44 P **P 02 50 38.3 +0.6**
baz=72
J27A Elkhorn Farm, 72.23 46 P **P 02 50 38.5 +0.5**
baz=72
WUAZ Wupatki 72.25 58 P **P 02 50 39.2 +0.8**
baz=72,SNR=5.7
WUAZ Wupatki 72.25 58 *e*P **P 02 50 39.2 +0.8**
WUAZ *e*pP **pP 02 50 52.3 +0.8**
ANN Anapa 72.33 316*c i*P **P 02 50 37.1 -1.4**
ANN *e**PP **pP 02 50 52.5 +0.9**
ANN pmax pmax
comp=Z,110nm,1.3s
G30A Faulkton 72.35 44 P **P 02 50 39.1 +0.4**
baz=72
SMCO Snowmass 72.36 52 *e*P **P 02 50 38.6 -0.7**
comp=Z,28nm,1.3s
SMCO *e*pP **pP 02 50 51.1 -1.3**
M25A Palm-Egli Farm 72.42 49 P **P 02 50 39.9 +0.6**
baz=72
J28A Allard Ranch, 72.51 46 P **P 02 50 40.1 +0.4**
baz=72,SNR=5.1
I29A Vivian Onida 72.56 45 P **P 02 50 40.3 +0.3**
baz=72
ISCO Idaho Springs 72.69 51 *e*P **P 02 50 41.5 +0.4**
ISCO pmax pmax
comp=Z,51nm,1.5s
ISCO Idaho Springs 72.69 51 P **P 02 50 41.6 +0.4**
baz=72,SNR=12
ISCO Idaho Springs 72.69 51 *e*P **P 02 50 41.5 +0.4**
comp=Z,51nm,1.5s
MVCO Mesa Verde 72.82 55 P **P 02 50 42.0 +0.1**
baz=73
MVCO Mesa Verde 72.82 55 *e*P **P 02 50 42.0 +0.1**
comp=Z,14nm,0.9s
M26A McRoberts Ranc 72.88 48 P **P 02 50 42.7 +0.6**
baz=73
L27A T5 Ranch, Ells 72.89 48 P **P 02 50 42.3 +0.2**
baz=73
K28A Ten Mile Ranch 72.94 47 P **P 02 50 42.4 +0.1**
baz=73
J29A Okreek 72.99 45 P **P 02 50 42.6 +0.1**
baz=73
I30A Oacoma 73.08 45 P **P 02 50 42.8 -0.2**
baz=73
M27A Reverse DX Ran 73.24 48 P **P 02 50 44.4 +0.2**
N26A Koester Ranch, 73.29 49 P **P 02 50 44.1 -0.4**
baz=73
L28A Connealy Angus 73.36 47 P **P 02 50 45.0 +0.1**
baz=73
BSD Bornholm Skovb 73.41 334⇑ *i*P **P 02 50 44.5 -0.2**
comp=Z,83nm,0.9s
BSD Bornholm Skovb 73.41 334⇑ *i*P **P 02 50 44.5 -0.2**
BSD pmax pmax
comp=Z,83nm,0.9s
S22A 4UR Ranch, Cre 73.42 53 P **P 02 50 46.0 +0.5**
baz=73,SNR=12
J30A Dallas 73.47 45 P **P 02 50 45.4 0.0**
baz=73
W18A Petrified Fore 73.51 57 P **P 02 50 45.9 -0.1**
baz=73
W18A Petrified Fore 73.51 57 *e*P **P 02 50 46.3 +0.3**
comp=Z,6.3nm,0.8s
Q24A Ivida 73.53 51 P **P 02 50 46.3 +0.2**
baz=73,SNR=5.9
O26A Horse Wrangler 73.65 49 P **P 02 50 47.2 +0.6**
baz=73
COP Copenhagen 73.67 336 *i* P **P 02 50 46.5 +0.3**
comp=Z,55nm,0.8s
COP Copenhagen 73.67 336 *i* P **P 02 50 46.5 +0.3**
COP pmax pmax
comp=Z,55nm,0.8s
N27A Anderson Farm, 73.67 49 P **P 02 50 47.0 +0.3**
baz=73,SNR=5.5
214A Organ Pipe Nat 73.76 61 P **P 02 50 47.5 +0.3**
baz=74,SNR=6.0
214A Organ Pipe Nat 73.76 61 *e*P **P 02 50 47.0 -0.3**
comp=Z,47nm,1.6s
EYMN Ely 73.82 37 *e*P **P 02 50 46.9 -0.4**
comp=Z,56nm,1.3s
SIM Simferopol' 73.84 318*c e*P **P 02 50 47.8 +0.4**
SIM *e**PP **PcP 02 51 04.0 +1.2**
SIM pmax pmax
comp=Z,88nm,0.8s
SIM pmax pmax
comp=Z,60nm,8.7s
SIM MLR MLR
comp=Z,400nm,17.0s
OGNE Ogallala 73.84 48 P **P 02 50 47.5 -0.1**
baz=74
OGNE Ogallala 73.84 48 *e*P **P 02 50 47.2 -0.5**
comp=Z,34nm,0.9s
OGNE *e*pP **pP 02 51 00.5 -0.3**
L29A Maesberg Ranch 73.87 47 P **P 02 50 48.2 +0.5**
baz=74
K30A Basset 73.88 46 P **P 02 50 48.4 +0.6**
baz=74
M28A Bar X Bar Ranc 73.88 47 P **P 02 50 48.1 +0.3**
baz=74
MUD Monsted U'grnd 73.91 338 *i* P **P 02 50 47.9 +0.3**
comp=Z,28nm,0.9s
MUD Monsted U'grnd 73.91 338 *e*P **P 02 50 47.9 +0.3**
MUD pmax pmax
comp=Z,28nm,0.9s
SORM Soroca 74.07 323⇑ *i*P **P 02 50 49.3 +0.6**
BANOM Banah 74.08 291⇓ *i*P **P 02 50 49.4 +0.3**
SNR=8.0
P26A Davis Ranch, A 74.11 50 P **P 02 50 49.8 +0.5**
baz=74
O27A Beecher Island 74.14 49 P **P 02 50 49.6 +0.1**
baz=74
BEL Belsk 74.15 329 *e*P **P 02 50 50.0 +1.0**
BEL Belsk 74.15 329 *e*P **P 02 50 50.1 +1.0**
SDCO Great Sand Dun 74.18 53 P **P 02 50 50.0 +0.1**
baz=74,SNR=6.9
SDCO Great Sand Dun 74.18 53 *e*P **P 02 50 50.0 +0.1**
comp=Z,34nm,1.6s
GKP Gorka Klasztor 74.21 332 *e*P **P 02 50 49.7 +0.3**
GKP Gorka Klasztor 74.21 332 *e*P **P 02 50 49.7 +0.3**
N28A Pribbeno Ranch 74.29 48 P **P 02 50 50.6 +0.4**
baz=74
L30A Spencer Herefo 74.34 46 P **P 02 50 50.6 +0.1**
baz=74
Q26A Hugo 74.47 51 P **P 02 50 51.6 +0.2**
baz=74,SNR=5.2
LVV L'vov 74.54 327 *e*P **P 02 50 50.8 -0.6**
LVV *e* 02 51 02.8
LVV *e*PPP PPP 02 55 24.6
LVV *e*S **SKiKP 03 00 16.6 +3.4**
LVV MLR MLR
comp=N,500nm,19.0s
LVV MLR MLR
comp=E,400nm,19.0s
LVV MLR MLR
comp=Z,500nm,19.0s
ECSD EROS Data Cent 74.61 43 P **P 02 50 51.3 -0.7**
baz=74,SNR=16
ECSD EROS Data Cent 74.61 43 *e*P **P 02 50 51.4 -0.5**
comp=Z,65nm,1.4s
ECSD *e*pP **pP 02 51 04.4 -0.7**
L31A Butterfield Fa 74.63 46 P **P 02 50 52.2 0.0**
baz=74
N29A Votaw Ranch, W 74.68 47 P **P 02 50 52.3 -0.2**
baz=74
KIS Kishinev 74.74 322⇑ *i*P **P 02 50 52.0 -0.6**
comp=Z,400nm,1.0s
KIS LRM MLR 03 26 08.0
comp=Z,1μm,19.0s
KIS Kishinev 74.74 322⇑ *i*P **P 02 50 52.0 -0.6**
KIS *e* 02 53 36.0
KIS pmax pmax
comp=Z,400nm,1.0s
KIS pmax pmax
comp=Z,500nm,1.0s
KIS MLR MLR
comp=Z,1μm,19.0s
KIS MLR MLR
comp=Z,2μm,20.0s
KIS MLR MLR
comp=E,400nm,20.0s
TUC Tucson 74.78 60 *e*P **P 02 50 53.4 +0.1**
TUC *e**PP **PcP 02 51 06.6 -0.6**
TUC pmax pmax
comp=Z,24nm,1.3s
TUC Tucson 74.78 60 *e*P **P 02 50 53.4 +0.1**
comp=Z,24nm,1.3s
TUC *e*pP **PcP 02 51 06.6 -0.6**
UOSS Wadi Hilu 74.79 290 P **P 02 50 53.5 +0.1**
comp=Z,339nm,0.9s,SNR=11
UOSS Wadi Hilu 74.79 290 *e*P **P 02 50 53.4 +0.1**
SMDO Samad 74.80 287 P **P 02 50 54.8 +1.2**
SNR=5.7
KSCO Kaye Shedlock' 74.89 50 P **P 02 50 53.8 -0.1**
baz=75
KSCO Kaye Shedlock' 74.89 50 *e*P **P 02 50 53.4 -0.4**
comp=Z,104nm,1.5s
KSCO *e*pP **pP 02 51 06.3 -0.8**
HATD Hatta, Dubai 74.92 290 P **P 02 50 55.3 +1.2**
SNR=6.5
HATD Hatta, Dubai 74.92 290⇑ *i*P **P 02 50 54.6 +0.5**
SNR=18
R26A Arlington 74.94 51 P **P 02 50 53.9 -0.2**
baz=75,SNR=8.0
HOQ Hoqain 74.96 288 P **P 02 50 54.7 +0.4**
SNR=13
P28A Saint Francis 74.97 49 P **P 02 50 53.7 -0.5**
baz=75
ASHO Ashiyiah 75.07 290 P **P 02 50 56.0 +1.0**
SNR=5.8
ASHO Ashiyiah 75.07 290⇓ *i*P **P 02 50 55.2 +0.3**
SNR=10
O29A 4D Ranch, Culb 75.09 48 P **P 02 50 55.1 +0.2**
baz=75
NAZ Nazwa, Dubai 75.13 290⇑ *i*P **P 02 50 55.7 +0.4**
SNR=10
M31A Lambtecht Ranc 75.16 46 P **P 02 50 55.0 -0.3**
baz=75
KWP Kalwaria Pacla 75.21 327 *e*P **P 02 50 56.1 +0.8**
KWP Kalwaria Pacla 75.21 327 *e*P **P 02 50 56.2 +0.9**
T25A Trinidad 75.22 52 P **P 02 50 56.0 +0.1**
baz=75,SNR=8.0
JMDO Jabal Madar 75.22 287 P **P 02 50 56.9 +1.0**
SNR=7.1
Q28A Sharon Springs 75.29 49 P **P 02 50 55.9 -0.2**
baz=75
SPMN Marine on St. 75.30 40 P **P 02 50 55.9 0.0**
baz=75
SPMN Marine on St. 75.30 40 *e*P **P 02 50 54.9 -1.0**
comp=Z,8.0nm,0.3s
R27A Eads 75.32 51 P **P 02 50 56.1 -0.1**
baz=75,SNR=6.2
FAQ Al Faqa, Dubai 75.34 290⇑ *i*P **P 02 50 56.5 +0.1**
SNR=7.4
P29A Atwood 75.39 49 P **P 02 50 56.8 +0.2**
baz=75
LEOM Leova 75.40 322⇓ *i*P **P 02 50 57.2 +0.8**
S26A Kim 75.41 51 P **P 02 50 56.7 -0.2**
baz=75
O30A MW Ranch, Wils 75.44 48 P **P 02 50 56.4 -0.5**
baz=75
LAZ Ladron 75.55 56 *e*P **P 02 50 58.1 +0.3**
comp=Z,14nm,1.4s
N31A Bailey Ranch, 75.55 47 P **P 02 50 57.2 -0.3**
baz=75
ANMO Albuquerque 75.58 55⇓ *i*P **P 02 50 58.5 +0.6**
ANMO pmax pmax
comp=Z,28nm,1.2s
ANMO Albuquerque 75.58 55 *e*P **P 02 50 58.3 +0.4**
comp=Z,22nm,1.4s
BSY Bisya 75.59 288 P **P 02 50 59.0 +1.1**
SNR=12
ASUD Al Ashush, Dub 75.60 290 P **P 02 50 59.1 +1.2**
SNR=6.8
ASUD Al Ashush, Dub 75.60 290⇑ *i*P **P 02 50 58.5 +0.6**
SNR=12
ARQ Araqi 75.66 289 P **P 02 50 59.2 +0.9**
SNR=6.6
T26A Comanche Natio 75.66 52 P **P 02 50 58.2 -0.1**
baz=75,SNR=9.6

BUR08 **Bucovina Ar. S** 75.79 325 *e*P P 02 50 59.0 +0.2
BSEG **Bad Segeberg** 75.80 336 *e*P P 02 50 59.5 +1.0
comp=Z,38nm,0.9s
P30A **Selden** 75.80 48 P P 02 50 58.7 -0.3
baz=76
BURAR **Bucovina Array** 75.80 324⇑ *i*P P 02 50 59.2 +0.3
R28A **Tribune** 75.82 50 P P 02 50 59.1 0.0
baz=76,SNR=5.8
OJC **Ojcow** 75.83 329 *e*P P 02 50 59.4 +0.6
OJC **Ojcow** 75.83 329 *e*P P 02 50 59.5 +0.6
OJC **Ojcow** 75.83 329 *e*P P 02 50 59.6 +0.7
O31A **Woolen Ranch,** 75.85 47 P P 02 50 58.8 -0.4
baz=76
Q29A **Oakley** 75.88 49 P P 02 50 59.3 -0.1
baz=76,SNR=6.3
M33A **Taylor Creek F** 75.91 45 P P 02 50 59.0 -0.5
baz=76
LPM **Los Pinos Moun** 75.92 56 *e*P P 02 50 60.0 +0.1
comp=Z,13nm,1.3s
LPM *e*pP PcP 02 51 11.4 -0.8
STHS **Stebnicka Huta** 75.95 328 *e*P P 02 51 01.0 +1.4
STHS pmax pmax
comp=Z,57nm,1.0s
STHS **Stebnicka Huta** 75.95 328 *e*P P 02 51 00.9 +1.4
RUE **Ruedersdorf** 76.01 334 *e*P P 02 51 00.6 +0.9
comp=Z,78nm,1.0s
RUE **Ruedersdorf** 76.01 334 *e*P P 02 51 00.1 +0.3
comp=Z,85nm,0.9s
L34A **Svendsen Farm,** 76.03 44 P P 02 50 59.5 -0.6
baz=76
TESR **Tescani** 76.06 323⇑ *i*P P 02 51 00.6 +0.4
R29A **Marienthal** 76.13 49 P P 02 51 00.9 0.0
baz=76
TLCR 76.14 321⇑ *i*P P 02 51 01.6 +1.0
Q30A **Quinter** 76.22 49 P P 02 51 00.8 -0.6
baz=76
T27A **Campo** 76.23 51 P P 02 51 01.5 0.0
baz=76
STKA **Stephens Creek** 76.25 186 P P 02 51 01.6 +0.4
comp=Z,7.8nm,0.8s,baz=358,slow=6.7,SNR=13
STKA pP pP 02 51 15.7 +1.3
comp=Z,8.9nm,0.9s,baz=327,slow=4.3,SNR=5.8
STKA LR LR 03 26 35.1
comp=Z,166nm,19.0s,baz=19,slow=37
P31A **Stockton** 76.28 48 P P 02 51 01.1 -0.6
baz=76
NIE **Niedzica** 76.30 328 *e*P P 02 51 02.6 +1.0
NIE **Niedzica** 76.30 328 *e*P P 02 51 02.6 +1.0
S28A **Manter** 76.31 51 P P 02 51 02.2 +0.3
baz=76,SNR=6.0
O32A **Brockman Farm,** 76.32 47 P P 02 51 02.2 +0.3
baz=76
PETR **Petresti** 76.42 322⇑ *i*P P 02 51 03.9 +1.6
CFR **Carcaliu** 76.45 321⇑ *i*P P 02 51 02.5 +0.1
121A **Cookes Peak, D** 76.47 58 P P 02 51 04.2 +1.2
baz=76,SNR=8.8
121A **Cookes Peak, D** 76.47 58 *e*P P 02 51 03.8 +0.8
comp=Z,54nm,1.4s
MALT **Malatya** 76.47 311⇑ *i*P P 02 51 04.3 +1.5
T28A **Walsh** 76.53 51 P P 02 51 02.7 -0.5
baz=76
VRI **Vrincioaia** 76.53 323⇑ *i*P P 02 51 03.9 +1.0
SCHQ **Schefferville** 76.54 20 P P 02 51 02.8 0.0
comp=Z,17nm,0.8s,baz=338,slow=5.0,SNR=17
SCHQ LR LR 03 27 45.3
comp=Z,396nm,20.4s,baz=311,slow=38
SCHQ **Schefferville** 76.54 20 *e*P P 02 51 02.8 0.0
comp=Z,16nm,0.8s
KSP **Ksiaz** 76.56 331 *e*P P 02 51 03.5 +0.6
KSP **Ksiaz** 76.56 331 *e*P P 02 51 03.6 +0.6
PLOR **Plostina** 76.58 323⇑ *i*P P 02 51 03.9 +0.7
P32A **Huiting Farm,** 76.62 47 P P 02 51 02.6 -0.9
baz=76,SNR=5.5
Q31A **Ellis** 76.65 48 P P 02 51 03.6 -0.2
baz=76
R30A **Dighton** 76.70 49 P P 02 51 03.5 -0.6
baz=76
M35A **Neola** 76.74 44 P P 02 51 04.1 0.0
baz=76
OKC **Ostrava-Krasne** 76.75 330⇑ *i*P P 02 51 04.8 +0.8
OKC **Ostrava-Krasne** 76.75 330⇑ *i*P P 02 51 04.8 +0.8
N34A **Lincoln** 76.80 45 P P 02 51 03.9 -0.6
baz=77
O33A **Hebron** 76.81 46 P P 02 51 03.4 -1.2
baz=77
TIRR **Tirgusor** 76.88 321⇑ *i*P P 02 51 05.5 +0.7
HARR **Harsova** 76.92 321⇑ *i*P P 02 51 06.2 +1.1
UPC **Upice** 76.94 331⇑ *i*P P 02 51 05.8 +0.7
UPC **Upice** 76.94 331⇑ *i*P P 02 51 05.8 +0.7
DPC **Dobruska-Polom** 76.97 331⇑ *i*P P 02 51 06.1 +0.8
DPC *e*pP pP 02 51 21.4 +2.8
DPC AMS AMS 03 28 10.0
comp=Z,400nm,16.1s
DPC **Dobruska-Polom** 76.97 331⇑ *i*P P 02 51 06.1 +0.8
DPC *e* 02 51 21.4
DPC MLR MLR
comp=Z,400nm,16.1s
U28A **Mallet** 77.00 52 P P 02 51 05.4 -0.4
baz=77
MORC **Moravsky Berou** 77.02 330 *e*P P 02 51 06.0 +0.4
MORC pmax pmax
comp=Z,375nm,1.0s
MORC **Moravsky Berou** 77.02 330⇑ *i*P P 02 51 06.3 +0.7
MORC **Moravsky Berou** 77.02 330 *e*P P 02 51 06.0 +0.4
comp=Z,375nm,1.0s
S30A **Montezuma** 77.06 50 P P 02 51 05.9 -0.3
baz=77
V27A **Dan Oppiter Fa** 77.10 52 P P 02 51 05.8 -0.6
baz=77
R31A **Burdett** 77.10 49 P P 02 51 05.2 -1.0
baz=77
Q32A **Meitler Ranch,** 77.10 48 P P 02 51 05.5 -0.7
baz=77,SNR=5.8
MLR **Muntele Rosu** 77.17 323⇑ *i*P P 02 51 07.0 +0.3
CJR **Cluj-Napoca** 77.19 325⇑ *i*P P 02 51 07.6 +0.9
O34A **Beatrice** 77.19 46 P P 02 51 05.5 -1.2
baz=77,SNR=9.0
N35A **Tabor** 77.22 45 P P 02 51 06.3 -0.6
baz=77
P33A **Williams Farm,** 77.23 47 P P 02 51 06.0 -0.9
baz=77
FORT **Forrest** 77.25 198 *e*P P 02 51 06.6 -0.3
comp=Z,47nm,0.9s
CLL **Collm** 77.26 333 *e*P P 02 51 07.4 +0.5
comp=Z,80nm,0.9s
CLL **Collm** 77.26 333⇑ *i*P P 02 51 06.9 0.0
comp=Z,104nm,0.9s
CLL *e*SS SS 03 06 18.0 +28
CLL *e*SSS SSS 03 09 36.0
CLL Lm MLR 03 25 00.0
comp=Z,300nm,21.0s
CLL **Collm** 77.26 333⇑ *i*P P 02 51 06.9 0.0
CLL pmax pmax
comp=Z,104nm,0.9s
CLL MLR MLR
comp=Z,300nm,21.0s
CLL **Collm** 77.26 333 *e*P P 02 51 06.9 0.0
BRG **Berggiesshubel** 77.33 333 *i*P P 02 51 07.4 +0.1
comp=Z,51nm,1.2s
comp=N,693nm,16.2s
comp=E,287nm,15.8s
comp=Z,815nm,16.1s
BRG **Berggiesshubel** 77.33 333 *e*P P 02 51 07.8 +0.5
comp=Z,29nm,1.0s
BRG **Berggiesshubel** 77.33 333 *i*P P 02 51 07.4 +0.1
BRG pmax pmax
comp=Z,51nm,1.2s
BRG MLR MLR
comp=N,693nm,16.2s
BRG MLR MLR
comp=E,287nm,15.8s
BRG MLR MLR
comp=Z,815nm,16.1s
BRG **Berggiesshubel** 77.33 333 *e*P P 02 51 07.4 +0.1
PVCC **Panska Ves** 77.41 332⇑ *i*P P 02 51 08.5 +0.7
PVCC **Panska Ves** 77.41 332⇑ *i*P P 02 51 08.5 +0.7
MSAB **Monastry St. A** 77.43 321⇑ *i*P P 02 51 08.7 +0.7
R32A **Long Quarter,** 77.44 48 P P 02 51 07.3 -0.8
baz=77
V28A **Channing** 77.45 52 P P 02 51 08.3 -0.1
baz=77
Q33A **Connelly Farm,** 77.48 47 P P 02 51 07.4 -1.0
baz=77,SNR=18
DRGR 77.49 325⇑ *i*P P 02 51 08.6 +0.2
O35A **Humboldt** 77.53 45 P P 02 51 08.6 0.0
baz=77

PSN **Preselentsi** 77.58 320⇑ *i*P P 02 51 09.2 +0.4
PSN **Preselentsi** 77.58 320 *i*P P 02 51 09.4 +0.6
PSN **Preselentsi** 77.58 320 *i*P P 02 51 09.4 +0.6
VOIR 77.60 323⇑ *i*P P 02 51 10.1 +1.1
CLZ **Clausthal** 77.61 335 *e*P P 02 51 10.0 +1.1
comp=Z,76nm,1.0s
SCIA **State Center** 77.63 42 *e*P P 02 51 08.8 -0.3
comp=Z,32nm,0.8s
SCIA *e*pP pP 02 51 22.2 -0.2
PSZ **Piszkesteto** 77.69 328 *e*P P 02 51 09.8 +0.4
PSZ pmax pmax
comp=Z,63nm,1.0s
PSZ **Piszkesteto** 77.69 328⇑ *i*P P 02 51 10.2 +0.8
PSZ **Piszkesteto** 77.69 328 *e*P P 02 51 09.8 +0.4
comp=Z,63nm,1.0s
PSZ **Piszkesteto** 77.69 328⇑ *e*P P 02 51 10.3 +0.8
NEUB **Neuenburg** 77.74 334 *e*P P 02 51 10.1 +0.6
comp=Z,74nm,0.9s
VRAC **Vranov** 77.75 330⇑ *i*P P 02 51 10.7 +1.0
V29A **Stinnett** 77.75 52 P P 02 51 09.4 -0.7
baz=78
U30A **WK&E Inc. Balk** 77.76 51 P P 02 51 09.4 -0.7
baz=78
W28A **Vega** 77.81 52 P P 02 51 11.1 +0.7
baz=78
ESK **Eskdalemuir** 77.83 344 *e*P P 02 51 10.0 0.0
ESK pmax pmax
comp=Z,48nm,1.0s
ESK **Eskdalemuir** 77.83 344 *e*P P 02 51 10.0 0.0
comp=Z,48nm,1.0s
PRA **Prague** 77.85 332⇑ *i*P P 02 51 11.0 +0.8
PRA AMS AMS 03 29 00.0
comp=Z,700nm,15.6s
PRA **Prague** 77.85 332⇑ *i*P P 02 51 11.0 +0.8
PRA MLR MLR
comp=Z,700nm,15.6s
GOPC **GO Pecny, Ondr** 77.86 332⇑ *i*P P 02 51 11.0 +0.7
GOPC AMS AMS 03 29 00.0
comp=Z,600nm,14.2s
PRU **Pruhonice** 77.88 332⇑ *i*P P 02 51 11.1 +0.7
PRU *ex* x 02 51 19.9
PRU AMS AMS 03 29 10.0
comp=Z,300nm,16.7s
PRU **Pruhonice** 77.88 332⇑ *i*P P 02 51 11.1 +0.7
PRU *e* 02 51 19.9
PRU MLR MLR
comp=Z,300nm,16.7s
PRU **Pruhonice** 77.88 332 *e*P P 02 51 11.1 +0.7
T31A **Randall Ranch,** 77.89 50 P P 02 51 10.5 -0.2
baz=78
R33A **Olander Ranch,** 77.91 48 P P 02 51 10.0 -0.8
baz=78
BR131 **Keskin Array S** 77.96 314 *e*P P 02 51 11.8 +0.6
comp=Z,3.5nm,0.6s
BRTR **Keskin Array B** 77.96 314 P P 02 51 11.8 +0.6
comp=Z,10.0nm,0.8s,baz=85,slow=2.7,SNR=52
BRTR LR LR 03 32 02.2
comp=Z,206nm,18.1s,baz=50,slow=41
IBBN **Ibbenburen** 77.97 337 *e*P P 02 51 11.5 +0.7
comp=Z,41nm,0.9s
Q34A **Chapman** 78.00 47 P P 02 51 10.8 -0.5
baz=78
P35A **Duane Minner,** 78.03 46 P P 02 51 10.8 -0.6
baz=78
KSU1 **Kansas State U** 78.04 46 P P 02 51 10.7 -0.8
baz=78
KSU1 **Kansas State U** 78.04 46 *e*P P 02 51 10.6 -0.9
comp=Z,18nm,0.8s
O36A **Bolckow** 78.11 45 P P 02 51 11.3 -0.5
baz=78
SMOL **Smolenice** 78.11 329 *e*P P 02 51 13.2 +1.5
SMOL **Smolenice** 78.11 329 *e*P P 02 51 13.2 +1.5
TREC **Trest** 78.15 331⇑ *i*P P 02 51 12.5 +0.6
TREC AMS AMS 03 28 50.0
comp=Z,400nm,15.4s
TREC **Trest** 78.15 331⇑ *i*P P 02 51 12.5 +0.6
TREC MLR MLR
comp=Z,400nm,15.4s
W29A **Amarillo** 78.23 52 P P 02 51 12.4 -0.3
baz=78
T32A **Huddler Ranch,** 78.23 49 P P 02 51 12.1 -0.5
baz=78
MOX **Moxa** 78.28 334 *e*P P 02 51 13.2 +0.6
comp=Z,29nm,0.9s
R34A **Isabella, Hill** 78.30 47 P P 02 51 12.7 -0.2
baz=78
U31A **Nine Bar Ranch** 78.32 50 P P 02 51 12.9 -0.2
baz=78
X28A **Dimmitt** 78.35 53 P P 02 51 12.8 -0.6
baz=78
NKC **Novy Kostel** 78.37 333⇑ *i*P P 02 51 13.5 +0.4
NKC AMS AMS 03 29 50.0
comp=Z,500nm,16.8s
NKC **Novy Kostel** 78.37 333⇑ *i*P P 02 51 13.5 +0.4
NKC MLR MLR
comp=Z,500nm,16.8s
P36A **Good Intent, A** 78.37 45 P P 02 51 12.7 -0.6
baz=78
AMTX **Amarillo** 78.38 52 P P 02 51 13.8 +0.2
baz=78
AMTX **Amarillo** 78.38 52 *e*P P 02 51 14.0 +0.5
comp=Z,21nm,0.9s
AMTX *e*pP pP 02 51 26.9 +0.1
MSTX **Muleshoe** 78.41 54 P P 02 51 13.5 -0.3
baz=78
MSTX **Muleshoe** 78.41 54 *e*P P 02 51 13.8 0.0
comp=Z,43nm,1.4s
MSTX *e*pP pP 02 51 26.9 -0.2
S33A **Kaszmaul Farm,** 78.43 48 P P 02 51 13.2 -0.4
baz=78
Q35A **Mercer Eighty,** 78.52 46 P P 02 51 14.2 +0.1
baz=78
WTSB **Winterswijk** 78.54 337 *i*P P 02 51 14.0 0.0
comp=Z,79nm,1.1s
UBBA **Unterbreizbach** 78.62 335 *e*P P 02 51 14.8 +0.5
comp=Z,7.0nm,0.9s
T33A **Patterson Ranc** 78.67 49 P P 02 51 14.8 -0.2
baz=78
X29A **Tulia** 78.69 53 P P 02 51 15.8 +0.5
baz=78
MANZ **Manzenberg** 78.69 333 *e*P P 02 51 15.6 +0.7
comp=Z,29nm,1.0s
Q36A **Arnold C. Orve** 78.74 46 P P 02 51 15.7 +0.4
baz=78
Y28A **McKinney Farm,** 78.76 53 P P 02 51 15.1 -0.6
baz=79
V31A **Spring Creek L** 78.76 51 P P 02 51 16.4 +0.9
baz=78
U32A **Winter Ranch,** 78.78 50 P P 02 51 16.0 +0.4
baz=79
W30A **Crocket Farms** 78.78 51 P P 02 51 16.0 +0.2
baz=79
S34A **Willow Spring** 78.82 48 P P 02 51 15.7 -0.1
baz=79
R35A **Emporia Munici** 78.83 47 P P 02 51 15.6 -0.3
baz=79
ROTZ **Rotzenmuhle** 78.85 333 *e*P P 02 51 16.8 +1.1
comp=Z,30nm,0.9s
BUG **Bochum--Univer** 78.88 337 *e*P P 02 51 16.3 +0.5
comp=Z,37nm,1.0s
KHC **Kasperske Hory** 78.94 332⇑ *i*P P 02 51 17.0 +0.7
KHC *e*pP pP 02 51 27.8 -1.8
KHC AMS AMS 03 30 00.0
comp=Z,800nm,16.0s
KHC **Kasperske Hory** 78.94 332 *e*P P 02 51 17.0 +0.7
KHC pmax pmax
comp=Z,31nm,0.9s
KHC **Kasperske Hory** 78.94 332 *e*P P 02 51 17.0 +0.7
KHC **Kasperske Hory** 78.94 332 *e*P P 02 51 17.0 +0.7
comp=Z,31nm,0.9s
Y29A **Porterfield Fa** 79.12 53 P P 02 51 18.2 +0.5
baz=79
Z28A **Tucker Farm, M** 79.13 54 P P 02 51 17.4 -0.3
baz=79
SOP **Sopron** 79.13 329⇑ *e*P P 02 51 18.5 +1.2
W31A **Holland Ranch,** 79.14 51 P P 02 51 18.0 +0.4
baz=79,SNR=5.3
GEC2 **GERESS Array S** 79.15 332 *e*P P 02 51 18.1 +0.6
comp=Z,20nm,0.9s
GERES **GERESS Array B** 79.15 332 P P 02 51 17.7 +0.2
comp=Z,10nm,0.4s,baz=38,slow=5.9,SNR=170
GERES LR LR 03 30 28.3
comp=Z,708nm,18.1s,baz=34,slow=39
X30A **Coker Ranch, T** 79.15 52 P P 02 51 17.4 -0.3
baz=79
WET **Wettzell** 79.17 332 *e*P P 02 51 18.7 +1.2
comp=Z,54nm,0.9s

CONA **Conrad Observa** 79.17 330⇑ *i*P P 02 51 18.7 +1.0
comp=Z,68nm,1.0s,SNR=26
R36A **Gordon, Harris** 79.19 46 P P 02 51 17.6 -0.2
baz=79,SNR=12
GLMI **Grayling** 79.21 36 *e*P P 02 51 18.1 +0.3
U33A **Lingo Farm, Me** 79.22 49 P P 02 51 18.0 -0.1
baz=79
GRF **Grafenberg Arr** 79.23 334 *e*P P 02 51 19.1 +1.3
comp=Z,76nm,0.9s
GRF *e*L L 03 27 11.9
comp=Z,220nm,20.2s
GRFO **Grafenberg** 79.23 334 *e*P P 02 51 18.5 +0.7
GRFO pmax pmax
comp=Z,97nm,1.0s
GRFO **Grafenberg** 79.23 334 *e*P P 02 51 18.5 +0.7
comp=Z,97nm,1.0s
S35A **Otter Creek Ra** 79.25 47 P P 02 51 18.0 -0.2
baz=79,SNR=6.5
T34A **McClaskey Farm** 79.28 48 P P 02 51 18.1 -0.3
baz=79,SNR=6.6
Q37A **Longview Farm,** 79.32 45 P P 02 51 18.0 -0.5
baz=79
X31A **McDonald Ranch** 79.52 51 P P 02 51 19.5 -0.2
baz=79
U34A **Anderson Ranch** 79.53 49 P P 02 51 19.8 +0.1
baz=79,SNR=5.6
U34A **Anderson Ranch** 79.53 49 *e*P P 02 51 19.8 +0.1
comp=Z,30nm,1.0s
U34A *e*pP pP 02 51 32.5 -0.5
Z29A **Hungry Hill Ra** 79.54 53 P P 02 51 20.1 +0.1
baz=79
R37A **Teagarden Farm** 79.55 46 P P 02 51 19.8 0.0
baz=79
128A **Castleberry Fa** 79.55 54 P P 02 51 20.2 +0.2
baz=79,SNR=8.7
Y30A **Stafford Cattl** 79.55 53 P P 02 51 19.6 -0.3
baz=79
W32A **Sentinel** 79.57 51 P P 02 51 20.5 +0.5
baz=79,SNR=6.3
V33A **Lossen Ranch,** 79.58 50 P P 02 51 20.0 0.0
baz=79
S36A **Lake Cedric, C** 79.60 47 P P 02 51 19.7 -0.4
baz=79,SNR=23
TNS **Taunus Mts** 79.62 335 *e*P P 02 51 20.8 +0.8
comp=Z,24nm,1.0s
T35A **Sooner Cattle** 79.72 48 P P 02 51 20.4 -0.3
baz=80,SNR=5.9
MOA **Molln** 79.81 331⇑ *i*P P 02 51 21.6 +0.5
comp=Z,16nm,1.0s
228A **UT Block 9, Go** 79.85 55 P P 02 51 21.3 -0.3
baz=80
Y31A **Rekieta Farm,** 79.85 52 P P 02 51 21.2 -0.3
baz=80
Z30A **Sanderson Ranc** 79.85 53 P P 02 51 21.5 -0.1
baz=80,SNR=7.1
HGN **Heimansgroeve** 79.86 337 *i*P P 02 51 21.2 0.0
comp=Z,76nm,1.2s
BEBN **Eben Emael** 79.90 337 P P 02 51 21.4 0.0
comp=Z,21nm,1.1s
129A **Stewart Farms,** 79.90 54 P P 02 51 21.7 -0.2
baz=80
T36A **Boggs Farm, Ca** 79.95 47 P P 02 51 21.7 -0.3
baz=80,SNR=6.2
MEM **Membach** 79.98 337 P P 02 51 22.0 +0.1
comp=Z,31nm,1.3s
W33A **Caddo, Fort Co** 79.98 50 P P 02 51 22.7 +0.5
baz=80
V34A **Guthrie** 79.99 49 P P 02 51 22.2 0.0
baz=80
V34A **Guthrie** 79.99 49 *e*P P 02 51 22.1 -0.1
comp=Z,14nm,0.9s
V34A *e*pP pP 02 51 35.3 -0.2
X32A **Elmer** 80.06 51 P P 02 51 22.5 -0.2
baz=80,SNR=6.5
WMOK **Wichita Mounta** 80.11 51 *e*P P 02 51 22.1 -0.8
WMOK *e**PP pP 02 51 35.6 -0.6
WMOK pmax pmax
comp=Z,23nm,1.2s
WMOK **Wichita Mounta** 80.11 51 *e*P P 02 51 22.1 -0.8
comp=Z,23nm,1.2s
WMOK *e*pP pP 02 51 35.5 -0.6
PGB **Panagyurishte** 80.28 322 *i*P P 02 51 23.9 +0.2
PGB **Panagyurishte** 80.28 322 *i*P P 02 51 23.9 +0.2
Y32A **R-V Farms, Ver** 80.28 52 P P 02 51 23.7 -0.2
baz=80
W34A **Bridge Creek,** 80.30 50 P P 02 51 24.0 +0.1
baz=80
W34A **Bridge Creek,** 80.30 50 *e*P P 02 51 24.0 +0.1
comp=Z,13nm,0.9s
W34A *e*pP pP 02 51 37.0 -0.1
BCLA **Clavier** 80.34 337 P P 02 51 22.8 -1.0
comp=Z,13nm,1.1s
Z31A **Sharp Cattle R** 80.39 52 P P 02 51 24.4 -0.1
baz=80,SNR=5.4
DSB **Dublin** 80.39 345 *e*P P 02 51 23.5 -0.5
comp=Z,32nm,0.8s
T37A **Cheneyville 18** 80.41 47 P P 02 51 24.2 -0.2
baz=80,SNR=7.9
RJOB **Jochberg** 80.41 332 *e*P P 02 51 25.4 +1.1
comp=Z,22nm,0.9s
229A **Bryant Ranch,** 80.42 54 P P 02 51 24.9 +0.3
baz=80
RAR **Rarotonga** 80.42 132 LR LR 03 18 38.6
comp=Z,267nm,20.9s,baz=294,slow=29
130A **Snyder** 80.45 53 P P 02 51 25.7 +0.9
baz=80
SOKA **Soboth** 80.53 330⇑ *i*P P 02 51 25.4 +0.4
comp=Z,64nm,1.1s,SNR=16
PERS **Pernice** 80.54 330 *i*P P 02 51 25.2 +0.1
SNF **Seneffe** 80.54 338 P P 02 51 25.4 +0.5
FUR **Furstenfeldbru** 80.54 333 *e*P P 02 51 26.0 +1.0
comp=Z,50nm,1.0s
HDIL **Hopedale** 80.54 41 *e*P P 02 51 24.6 -0.5
comp=Z,65nm,1.0s
329A **Wagon Wheel Ra** 80.67 55 P P 02 51 26.1 +0.1
baz=80,SNR=12
VTS **Vitosha** 80.67 323 P P 02 51 25.8 -0.1
VTS **Vitosha** 80.67 323 P P 02 51 25.8 -0.1
VTS **Vitosha** 80.67 323⇑ *i*P P 02 51 26.4 +0.5
VTS **Vitosha** 80.67 323 *i*P P 02 51 26.9 +1.0
VTS **Vitosha** 80.67 323 *i*P P 02 51 26.9 +1.0
VTS **Vitosha** 80.67 323 P P 02 51 25.8 -0.1
STU **Stuttgart** 80.68 334 *e*P P 02 51 25.9 +0.2
STU pmax pmax
comp=Z,52nm,1.1s
STU **Stuttgart** 80.68 334 *e*P P 02 51 25.9 +0.2
comp=Z,52nm,1.1s
131A **Roby** 80.72 53 P P 02 51 26.3 0.0
baz=80
X34A **Smith Ranch, M** 80.74 50 P P 02 51 26.6 +0.3
baz=80
Y33A **Hilltop Ranch,** 80.74 51 P P 02 51 25.9 -0.4
baz=80,SNR=5.4
ALN **Alexandroupoli** 80.75 320 *e*P P 02 51 24.9 -1.3
Z32A **Haskell** 80.78 52 P P 02 51 26.5 0.0
baz=81
WLF **Walferdange** 80.79 337 P P 02 51 27.8 +1.6
comp=Z,13nm,1.0s
WLF **Walferdange** 80.79 337 *e*P P 02 51 28.1 +1.9
WLF pmax pmax
comp=Z,20nm,0.9s
WLF **Walferdange** 80.79 337 *e*P P 02 51 28.1 +1.9
comp=Z,20nm,0.9s
KBA **Koelnbreinsper** 80.79 331⇑ *i*P P 02 51 27.1 +0.5
comp=Z,67nm,1.0s,SNR=14
DIVS **Divibare** 80.80 325 P P 02 51 26.1 -0.4
DIVS **Divibare** 80.80 325⇑ *i*P P 02 51 26.2 -0.3
DOU **Dourbes** 80.83 338 P P 02 51 26.6 +0.1
comp=Z,14nm,1.3s
W35A **Tecumseh** 80.85 49 P P 02 51 26.9 +0.1
baz=81
OBKA **Obir** 80.85 330⇑ *i*P P 02 51 26.8 0.0
comp=Z,13nm,0.8s
TUL1 **Leonard** 80.86 48 P P 02 51 26.7 -0.2
baz=81
TUL1 **Leonard** 80.86 48 *e*P P 02 51 26.7 -0.2
comp=Z,68nm,1.6s
V36A **Jenks** 80.87 48 P P 02 51 27.0 0.0
baz=81
230A **Sterling City** 80.88 54 P P 02 51 27.2 +0.1
baz=81,SNR=5.3
LANF **Langenberg** 80.92 335⇑ *e*P P 02 51 27.0 0.0
GCIS **Gornji Cirnik** 81.01 329 *e*P P 02 51 27.6 +0.1
MENF **Mencas** 81.05 339⇑ *e*P P 02 51 27.8 +0.2
MYKA **Terra Mystica** 81.07 331⇑ *i*P P 02 51 27.6 -0.3
comp=Z,39nm,1.6s
WATA **Walderalm** 81.17 332⇑ *i*P P 02 51 29.0 +0.5

comp=Z,24nm,0.5s,SNR=22
ABTX Abilene, Hawle 81.19 53 P P 02 51 28.6 -0.1
baz=81
ABTX Abilene, Hawle 81.19 53 *e*P P 02 51 29.2 +0.5
comp=Z,37nm,1.4s
ABTX *e*pP **pP** 02 51 41.7 -0.3
330A Mertzon 81.20 54 P P 02 51 28.5 -0.3
baz=81,SNR=7.6
W36A Wetumka 81.21 49 P P 02 51 28.3 -0.5
baz=81,SNR=5.7
WTTA Wattenberg 81.21 332⇑ *i*P P 02 51 29.5 +0.7
comp=Z,64nm,1.3s,SNR=16
TXAR Lajitas Array 81.22 57 P P 02 51 28.9 -0.1
comp=Z,13nm,0.8s,baz=298,slow=4.0,SNR=107
TXAR pP **pP** 02 51 41.5 -0.8
comp=Z,9.1nm,0.7s,baz=298,slow=3.9,SNR=14
TXAR PKKPbc **PKKPbc** 03 10 04.8 +2.6
comp=Z,0.4nm,0.8s,baz=144,slow=5.1,SNR=4.4
TXAR LR LR 03 25 57.9
comp=Z,116nm,19.6s,baz=0.0,slow=34
V37A Hulbert 81.23 48 P P 02 51 28.5 -0.3
baz=81,SNR=16
MMB Musomiste 81.25 322⇓ *i*P P 02 51 29.3 +0.4
MMB Musomiste 81.25 322 *i* P P 02 51 29.7 +0.8
MMB Musomiste 81.25 322 *i* P P 02 51 29.7 +0.8
Y34A Reagan Ranch, 81.26 51 P P 02 51 28.4 -0.6
baz=81
231A Bronte 81.31 54 P P 02 51 29.1 -0.3
baz=81
RETA Reutte 81.31 333⇑ *i*P P 02 51 29.7 +0.5
comp=Z,52nm,1.3s,SNR=13
MOTA Moosalm 81.32 332⇑ *i*P P 02 51 29.7 +0.4
comp=Z,78nm,1.1s,SNR=29
BFO Black Forest 81.33 335 P P 02 51 29.3 +0.1
comp=Z,111nm,0.9s,SNR=11
BFO Black Forest 81.33 335 *e*P P 02 51 29.7 +0.5
comp=Z,15nm,0.9s
BFO Black Forest 81.33 335 *ce*P P 02 51 29.6 +0.4
BFO Black Forest 81.33 335 *e*P P 02 51 28.8 -0.4
comp=Z,29nm,1.1s
429A Davenport Ranc 81.34 55 P P 02 51 29.4 -0.2
baz=81,SNR=6.2
X35A Drake 81.36 50 P P 02 51 29.4 -0.2
baz=81,SNR=5.1
ABTA Abfaltersbach 81.36 331⇑ *i*P P 02 51 28.9 -0.6
comp=Z,17nm,1.2s
529A Stev Forest Ra 81.51 56 P P 02 51 30.4 -0.1
baz=81,SNR=14
X36A Centrahoma 81.57 49 P P 02 51 31.0 +0.3
baz=81
Z34A Collier Ranch, 81.61 51 P P 02 51 30.8 -0.1
baz=81
430A Baggett Ranch, 81.61 55 P P 02 51 30.8 -0.2
baz=81,SNR=14
V38A Canehill 81.63 47 P P 02 51 30.6 -0.3
baz=81
W37A Quinton 81.64 48 P P 02 51 30.9 -0.1
baz=81,SNR=9.0
Y35A Marietta 81.69 50 P P 02 51 31.2 -0.1
baz=82
CSS Prodhromos 81.70 312 P P 02 51 31.4 +0.1
CSS Prodhromos 81.70 312 *e*P P 02 51 31.5 +0.1
comp=Z,7.1nm,0.9s
331A San Angelo 81.70 54 P P 02 51 31.4 -0.1
baz=82,SNR=5.5
SFIN Lafayette 81.70 40 P P 02 51 30.8 -0.4
baz=81
SFIN Lafayette 81.70 40 *e*P P 02 51 31.1 -0.1
comp=Z,33nm,1.2s
SFIN *e*pP **pP** 02 51 44.1 -0.5
232A Coleman 81.72 53 P P 02 51 31.6 0.0
baz=82
FETA Feichten 81.72 333⇑ *i*P P 02 51 32.0 +0.5
comp=Z,29nm,1.0s,SNR=8.8
DAVA Damuels 81.77 333⇑ *i*P P 02 51 32.0 +0.3
comp=Z,42nm,1.0s,SNR=11
ECH Echery 81.79 335⇑ *e*P P 02 51 31.5 -0.1
ECH Echery 81.79 335 *e*P P 02 51 31.5 -0.1
ECH pmax pmax
comp=Z,26nm,0.9s
ECH Echery 81.79 335 *e*P P 02 51 31.4 -0.1
comp=Z,26nm,0.9s
SKO Skopje 81.94 323 *i* P P 02 51 33.9 +1.4
KNT Kendrikon 81.96 322 *e*P P 02 51 33.1 +0.5
VAY Valandovo 81.98 322 *i* P P 02 51 33.3 +0.7
Z35A Perchaven, San 82.00 51 P P 02 51 32.8 -0.2
baz=82
530A J-C Ranch, Com 82.02 55 P P 02 51 33.5 +0.3
baz=82,SNR=16
332A Millersview 82.04 54 P P 02 51 33.4 +0.1
baz=82,SNR=9.5
233A Rising Star 82.06 53 P P 02 51 33.6 +0.3
baz=82
431A Sonora 82.06 55 P P 02 51 33.2 -0.2
baz=82,SNR=12
X37A Clayton 82.08 49 P P 02 51 33.4 0.0
baz=82
UDBI Udbina 82.09 328 P P 02 51 32.9 -0.4
134A White-Moore Ra 82.11 52 P P 02 51 33.6 0.0
baz=82
Y36A Durant 82.11 50 P P 02 51 33.4 -0.1
baz=82
MOF Molkenrain 82.12 335⇑ *e*P P 02 51 33.5 0.0
THEF They Montfort 82.13 336⇑ *e*P P 02 51 33.5 +0.1
W38A Poteau 82.17 48 P P 02 51 33.7 -0.1
baz=82,SNR=10
VAL Valentia 82.31 347⇓ *i*P P 02 51 34.7 +0.5
X38A Whitesboro 82.31 48 P P 02 51 34.7 +0.1
baz=82,SNR=10
HORT Hortiatis 82.33 321 *e*P P 02 51 34.2 -0.5
GRG Griva 82.35 322 *e*P P 02 51 34.7 0.0
432A Menard 82.39 54 P P 02 51 34.8 -0.3
baz=82,SNR=14
531A Rocksprings 82.47 55 P P 02 51 35.5 -0.1
baz=82,SNR=12
135A Vickery Place, 82.49 51 P P 02 51 35.7 +0.1
baz=82
234A Clairette 82.50 52 P P 02 51 35.5 -0.1
baz=82,SNR=5.3
Z36A Blue Ridge 82.50 50 P P 02 51 35.6 0.0
baz=82
333A Richland Sprin 82.52 53 P P 02 51 35.6 -0.2
baz=82,SNR=15
OLIL Olney 82.55 41 *e*P P 02 51 35.4 -0.3
comp=Z,68nm,1.4s
OLIL *e*pP **pP** 02 51 48.8 -0.2
PHP Peshkopia 82.60 324 P P 02 51 35.7 -0.3
PHP Peshkopia 82.60 324 P P 02 51 35.7 -0.3
PHP Peshkopia 82.60 324 P P 02 51 35.7 -0.3
LOMF Lomont 82.67 335⇑ *e*P P 02 51 36.5 +0.2
JCT Junction City 82.67 54 *e*P P 02 51 36.3 -0.3
JCT pmax pmax
comp=Z,51nm,1.3s
JCT Junction City 82.67 54 P P 02 51 36.5 -0.1
baz=82,SNR=5.4
JCT Junction City 82.67 54 *e*P P 02 51 36.3 -0.3
comp=Z,51nm,1.3s
CHOS Chios Island 82.74 318 *e*P P 02 51 36.8 0.0
STON Ston 82.74 326 P P 02 51 35.2 -1.4
SIUC Southern Illin 82.82 43 *e*P P 02 51 36.9 -0.2
comp=Z,65nm,1.1s
RAYN Ar Rayn 82.83 296 P P 02 51 37.3 -0.2
comp=Z,93nm,0.7s,SNR=10.0
RAYN Ar Rayn 82.83 296 *e*P P 02 51 37.5 +0.1
comp=Z,32nm,1.2s
532A Rocksprings 82.87 54 P P 02 51 37.4 -0.2
baz=83,SNR=17
433A Art 82.88 54 P P 02 51 37.3 -0.4
baz=83,SNR=8.3
WHTX Lake Whitney, 82.89 52 P P 02 51 37.5 -0.2
baz=83
WHTX Lake Whitney, 82.89 52 *e*P P 02 51 37.4 -0.2
comp=Z,32nm,1.0s
Y38A Idabel 82.93 49 P P 02 51 37.6 -0.2
baz=83
FNA Florina 82.94 323 *e*P P 02 51 37.2 -0.6
334A Lometa 82.94 53 P P 02 51 37.7 -0.2
baz=83,SNR=8.2
631A Perdido Creek 83.01 55 P P 02 51 38.3 0.0
baz=83,SNR=7.9
136A Ennis 83.05 51 P P 02 51 38.5 +0.2
baz=83
MIAR Mount Ida 83.07 48 *e*P P 02 51 38.0 -0.5
MIAR *e**PP **pP** 02 51 51.4 -0.5
MIAR pmax pmax
comp=Z,60nm,1.3s
MIAR Mount Ida 83.07 48 *e*P P 02 51 38.0 -0.5
comp=Z,60nm,1.3s
MIAR *ep*P **pP** 02 51 51.4 -0.5
TIR Tirane 83.12 324 *e*P P 02 51 38.5 -0.2
TIR pmax pmax
comp=Z,37nm,0.8s
TIR Tirane 83.12 324 *e*P P 02 51 38.5 -0.2
comp=Z,37nm,0.8s
AOS Alonnisos 83.13 320 *e*P P 02 51 37.0 -1.7
LONY Lake Ozonia 83.26 30 *e*P P 02 51 38.7 -0.6
comp=Z,5.3nm,1.0s
Y39A Lockesburg 83.26 48 P P 02 51 39.5 0.0
baz=83
Z38A Mt. Pleasant 83.31 49 P P 02 51 40.0 +0.2
baz=83
434A Burnet 83.31 53 P P 02 51 40.0 +0.1
baz=83
KBN Korca 83.32 323 P P 02 51 39.4 -0.4
KBN Korca 83.32 323 P P 02 51 39.4 -0.4
KBN Korca 83.32 323 P P 02 51 39.4 -0.4
PPT Papeete 83.33 122 LR LR 03 27 45.7
comp=Z,348nm,18.8s,baz=310,slow=35
PPT2 Papeete2 83.34 122 *e*LR LR 03 17 53.9
comp=Z,666nm,26.2s
PPT2 Papeete2 83.34 122 *e*T T 04 23 47.9
comp=Z,7.7nm,0.3s
NEST Nestorio 83.38 323 P P 02 51 39.7 -0.4
PARMO Parma 83.38 44 *e*P P 02 51 39.9 -0.1
PARMO *e*pP **pP** 02 51 53.3 -0.1
632A Uvalde 83.40 55 P P 02 51 40.6 +0.3
baz=83,SNR=9.8
236A Katherine and 83.40 51 P P 02 51 40.3 +0.1
baz=83
533A Kerrville 83.42 54 P P 02 51 40.4 -0.1
baz=83
335A Moody 83.44 52 P P 02 51 40.2 -0.2
baz=83
TIAR Tiarei 83.46 122 *e*T T 04 23 55.9
comp=Z,5.6nm,0.3s
MRKA Markates 83.64 320 P P 02 51 40.8 -0.6
SMIA Simia 83.67 320 P P 02 51 40.8 -0.7
SMIA Simia 83.67 320 *e*P P 02 51 41.1 -0.4
ALLY Alegheny Colle 83.68 35 *e*P P 02 51 40.6 -0.9
comp=Z,24nm,1.1s
ALLY *e*pP **pP** 02 51 53.0 -1.9
435B Jarrell 83.72 53 P P 02 51 41.9 0.0
baz=84
534A Blanco 83.78 54 P P 02 51 42.2 -0.1
baz=84,SNR=6.1
633A Saathoff Ranch 83.79 54 P P 02 51 42.7 +0.4
baz=84,SNR=7.8
WCI Wyandotte Cave 83.80 41 *e*P P 02 51 41.7 -0.5
WCI *e**PP **pP** 02 51 55.1 -0.5
WCI pmax pmax
comp=Z,63nm,1.4s
WCI Wyandotte Cave 83.80 41 *e*P P 02 51 41.7 -0.5
comp=Z,64nm,1.4s
WCI *e*pP **pP** 02 51 55.1 -0.5
GNAR Gosnell 83.80 44 *e*P P 02 51 41.1 -1.1
comp=Z,243nm,0.6s
237A Washetta, Mont 83.80 51 P P 02 51 42.5 +0.2
baz=84
732A Laxson Ranch, 83.87 55 P P 02 51 42.9 +0.2
baz=84
ATAL Atalanti 83.91 320 P P 02 51 41.7 -1.0
ATAL Atalanti 83.91 320 P P 02 51 41.7 -1.0
GLAT Glass 83.92 44 *e*P P 02 51 42.9 0.0
AXAR Agios Charalam 84.01 321 P P 02 51 42.1 -1.2
AXAR Agios Charalam 84.01 321 P P 02 51 42.1 -1.2
MAKR Makrakomi, Fth 84.05 321 *e*P P 02 51 42.6 -0.9
JAN Janina 84.09 322 *e*P P 02 51 43.8 +0.1
238A Jacksonville 84.18 50 P P 02 51 44.6 +0.3
baz=84
832A Faith Ranch, C 84.19 56 P P 02 51 44.5 +0.1
baz=84,SNR=10
733A Divot King Ran 84.27 55 P P 02 51 45.0 +0.3
baz=84
337A Centerville 84.28 51 P P 02 51 44.3 -0.4
baz=84
DSF Desfina 84.36 321 P P 02 51 43.1 -2.0
DSF Desfina 84.36 321 *e*P P 02 51 43.6 -1.5
DSF Desfina 84.36 321 P P 02 51 43.1 -2.0
SGD Sagiada 84.40 323 P P 02 51 44.7 -0.5
SGD Sagiada 84.40 323 *e*P P 02 51 45.0 -0.2
DSL Palaion Diasel 84.41 322 P P 02 51 44.9 -0.4
DSL Palaion Diasel 84.41 322 *e*P P 02 51 45.2 -0.1
DSL Palaion Diasel 84.41 322 *e*P P 02 51 45.2 -0.1
DSL Palaion Diasel 84.41 322 P P 02 51 44.9 -0.4
IGT Igoumenitsa 84.42 323 P P 02 51 44.7 -0.6
IGT Igoumenitsa 84.42 323 *e*P P 02 51 45.0 -0.3
IGT Igoumenitsa 84.42 323 P P 02 51 44.7 -0.6
IGT Igoumenitsa 84.42 323 P P 02 51 44.7 -0.6
PKME Peaks-Kenny Pk 84.46 26 *e*P P 02 51 45.1 -0.3
comp=Z,16nm,1.0s
LTK Loutraki 84.48 320 P P 02 51 43.8 -1.9
LTK Loutraki 84.48 320 P P 02 51 43.8 -1.9
833A Chaparral WMA, 84.51 55 P P 02 51 46.1 +0.2
baz=84
239A Gary 84.53 50 P P 02 51 46.5 +0.5
baz=84
536A Bastrop 84.55 53 P P 02 51 47.0 +0.9
baz=84
KALE Kalithea 84.55 321 P P 02 51 44.9 -1.2
KALE Kalithea 84.55 321 *e*P P 02 51 45.0 -1.2
KALE Kalithea 84.55 321 P P 02 51 44.9 -1.2
338A Crockett 84.57 51 P P 02 51 45.3 -0.8
baz=84
734A La Parita Cree 84.61 54 P P 02 51 46.9 +0.5
baz=84
NATX Nacogdoches 84.62 50 *e*P P 02 51 46.9 +0.5
comp=Z,131nm,1.4s
NATX *ep*P **pP** 02 52 00.2 +0.4
EFP Efpalio 84.63 321 P P 02 51 45.6 -0.8
EFP Efpalio 84.63 321 *e*P P 02 51 46.7 +0.3
635A Leesville 84.66 54 P P 02 51 47.2 +0.5
baz=84
ACCN Adirondack Com 84.66 30 *e*P P 02 51 45.9 -0.6
comp=Z,18nm,1.2s
ACCN *ep*P **pP** 02 51 59.2 -0.7
WVT Waverly 84.75 43 *e*P P 02 51 46.5 -0.5
WVT *e**PP **pP** 02 52 00.3 -0.1
WVT pmax pmax
comp=Z,38nm,1.4s
WVT Waverly 84.75 43 *e*P P 02 51 46.5 -0.5
comp=Z,38nm,1.4s
WVT *ep*P **pP** 02 52 00.3 -0.1
DID Didima 84.77 320 *e*P P 02 51 44.8 -2.4
BNI Bardonecchia 84.77 334 *e*P P 02 51 47.3 +0.1
BNI pmax pmax
comp=Z,15nm,0.8s
BNI Bardonecchia 84.77 334 *e*P P 02 51 47.2 +0.1
comp=Z,15nm,0.8s
PDO Prodromos 84.81 322 P P 02 51 46.9 -0.4
PDO Prodromos 84.81 322 *e*P P 02 51 47.2 -0.1
GUR Goura 84.83 320 P P 02 51 46.2 -1.4
GUR Goura 84.83 320 *e*P P 02 51 46.1 -1.5
GUR Goura 84.83 320 P P 02 51 46.2 -1.4
AQU L'Aquila 84.84 329 *e*P P 02 51 48.0 +0.5
AQU pmax pmax
comp=Z,41nm,0.8s
AQU L'Aquila 84.84 329 *e*P P 02 51 48.0 +0.5
comp=Z,41nm,0.8s
PLDF La Plantade 84.86 336⇑ *e*P P 02 51 48.2 +0.7
HNH Hanover 84.86 29 *e*P P 02 51 47.3 -0.1
comp=Z,8.3nm,0.9s
438A Sam Houston St 84.94 51 P P 02 51 49.5 +1.5
baz=85
537A Green Hill Far 84.97 52 P P 02 51 49.1 +0.9
baz=85
636A Smothers Creek 85.00 53 P P 02 51 49.5 +1.1
baz=85
339A Huntington 85.00 50 P P 02 51 49.2 +0.8
baz=85
735A Kenedy 85.04 54 P P 02 51 49.8 +1.2
baz=85
933A Laredo 85.10 56 P P 02 51 50.1 +1.1
baz=85,SNR=9.0
DRO Drossia 85.11 321 P P 02 51 48.6 -0.2
DRO Drossia 85.11 321 *e*P P 02 51 48.9 +0.1
834A Tilden 85.15 55 P P 02 51 50.3 +1.1
baz=85
SSB Saint Sauveur 85.22 336⇑ *e*P P 02 51 49.9 +0.6
SSB Saint Sauveur 85.22 336 *e*P P 02 51 49.6 +0.3
SSB pmax pmax
comp=Z,30nm,1.1s
SSB Saint Sauveur 85.22 336 *e*P P 02 51 49.6 +0.3
comp=Z,30nm,1.1s
PYM Petit Puy Mans 85.23 337⇑ *e*P P 02 51 50.2 +0.8
COLF Collangettes 85.25 336⇑ *e*P P 02 51 50.4 +1.0
OXF Oxford 85.25 45 *e*P P 02 51 49.1 -0.5
OXF *e**PP **pP** 02 52 02.6 -0.3
OXF pmax pmax
comp=Z,83nm,1.3s
OXF Oxford 85.25 45 *e*P P 02 51 49.0 -0.5
comp=Z,83nm,1.3s
OXF *ep*P **pP** 02 52 02.6 -0.3
FFD Franklin Falls 85.29 28 *e*P P 02 51 49.8 +0.3
comp=Z,6.7nm,0.3s
439A Center Grove, 85.30 51 P P 02 51 50.7 +0.8
baz=85
340A Bronson 85.30 50 P P 02 51 50.2 +0.3
baz=85
538A Harpers Horsep 85.33 52 P P 02 51 52.1 +2.1
baz=85
HKT Hockley 85.34 52 *e*P P 02 51 49.1 -0.9
HKT *e**PP **pP** 02 52 03.8 +0.4
HKT pmax pmax
comp=Z,43nm,1.8s
HKT Hockley 85.34 52 *e*P P 02 51 49.1 -0.9
comp=Z,43nm,1.8s
HKT *ep*P **pP** 02 52 03.8 +0.4
736A Circle Diamond 85.39 53 P P 02 51 52.2 +1.9
baz=85,SNR=7.7
VLS Valsamata 85.42 322 *e*P P 02 51 50.1 -0.3
SSPA Standing Stone 85.44 34 *e*P P 02 51 50.3 -0.1
comp=Z,9.9nm,0.9s
SSPA *ep*P **pP** 02 52 03.3 -0.5
637A Eagle Lake 85.45 53 P P 02 51 51.9 +1.3
baz=85
SAOF Saorge 85.45 333⇑ *e*P P 02 51 50.3 -0.1
835A Beeville 85.45 54 P P 02 51 52.4 +1.8
baz=85
AMT Artemida-Makis 85.45 321 P P 02 51 49.9 -0.7
AMT Artemida-Makis 85.45 321 *e*P P 02 51 49.7 -0.9
TOUF Mont Tournerai 85.52 333⇑ *e*P P 02 51 51.0 0.0
EMMW East Machias 85.53 25 *e*P P 02 51 50.1 -0.6
comp=Z,20nm,0.9s
934A Benavides 85.56 55 P P 02 51 52.6 +1.4
baz=85
LAST Lasithi 85.58 317 P P 02 51 51.5 +0.1
LAST Lasithi 85.58 317 *e*P P 02 51 51.4 +0.1
LAST Lasithi 85.58 317 P P 02 51 51.5 +0.1
OG26 St.-Nazaire-De 85.63 335⇑ *e*P P 02 51 52.3 +0.9
LBL Lubilhac 85.64 336⇑ *e*P P 02 51 52.4 +1.0
REVF Revere 85.73 333⇑ *e*P P 02 51 51.4 -0.5
440A Kirbyville 85.78 50 P P 02 51 53.3 +1.1
baz=86
539A Cross D Ranch, 85.84 51 P P 02 51 53.2 +0.7
baz=86
034A Hebbronville 85.86 56 P P 02 51 54.0 +1.3
baz=86,SNR=5.3
737A Port Lavaca 85.89 53 P P 02 51 54.2 +1.4
baz=86
PYL PYLOS 85.96 320 P P 02 51 51.4 -1.6
PYL PYLOS 85.96 320 *e*P P 02 51 51.4 -1.6
PYL PYLOS 85.96 320 P P 02 51 51.4 -1.6
SIVA Sivas 86.03 317 P P 02 51 53.2 -0.2
SIVA Sivas 86.03 317 P P 02 51 53.2 -0.2
HRV Adam Dziewonsk 86.17 29 *e*P P 02 51 54.0 0.0
HRV pmax pmax
comp=Z,14nm,1.1s
HRV Adam Dziewonsk 86.17 29 *e*P P 02 51 54.0 0.0
comp=Z,14nm,1.1s
540A Vidor 86.18 51 P P 02 51 55.9 +1.7
baz=86
URZ Urewera 86.19 158 LR LR 03 25 58.9
comp=Z,119nm,19.8s,baz=352,slow=32
TIP Timpagrande 86.23 325 *e*P P 02 51 54.0 -0.5
comp=Z,14nm,1.1s
738A Farr-Stevens R 86.29 53 P P 02 51 56.0 +1.2
baz=86
035A Encino 86.30 55 P P 02 51 55.9 +1.0
baz=86
GVD Gavdhos 86.52 317 *e*P P 02 51 55.7 -0.2
comp=Z,158nm,1.0s
035Z Hargill 86.67 56 P P 02 51 57.6 +0.9
baz=86
SDMD Soldier's Deli 86.91 34 *e*P P 02 51 56.3 -1.4
comp=Z,61nm,1.1s
BLA Blacksburg 87.28 37 *e*P P 02 51 59.3 -0.3
BLA *e**PP **pP** 02 52 12.4 -0.6
BLA pmax pmax
comp=Z,62nm,1.5s
BLA Blacksburg 87.28 37 *e*P P 02 51 59.2 -0.3
comp=Z,62nm,1.5s
BLA *ep*P **pP** 02 52 12.4 -0.6
LRAL Lakeview Retre 87.64 44 *e*P P 02 52 00.1 -1.2
comp=Z,13nm,1.3s
LRAL *ep*P **pP** 02 52 13.4 -1.3
TBI Tubuai 87.85 126 *e*LR LR 03 20 03.9
comp=Z,493nm,24.8s,baz=313
TBI Tubuai 87.85 126 *e*T T 04 29 27.0
comp=Z,3.8nm,0.2s
MLS Moulis 88.34 337⇑ *e*P P 02 52 05.0 +0.5
VALF Valcebollere 88.59 336⇑ *e*P P 02 52 06.6 +0.7
KMSC Kings Mountain 88.61 39 P P 02 52 06.0 +0.1
baz=88,SNR=7.2
KMSC Kings Mountain 88.61 39 *e*P P 02 52 05.1 -0.7
comp=Z,60nm,1.5s
KMSC *ep*P **pP** 02 52 18.7 -0.6
GOGA Godfrey 89.05 41 *e*P P 02 52 07.5 -0.5
GOGA pmax pmax
comp=Z,74nm,1.8s
GOGA Godfrey 89.05 41 *e*P P 02 52 07.5 -0.5
comp=Z,74nm,1.8s
DAMY Dhamar 89.95 290 *e*P P 02 52 13.9 +1.1
comp=Z,8.6nm,0.6s
RPZ Rata Peaks 89.98 164 LR LR 03 26 39.4
comp=Z,289nm,21.2s,baz=358,slow=32
TIGA Tifton 90.61 43 P P 02 52 15.7 +0.4
baz=90
KEST Kesra 92.16 328 P P 02 52 20.9 -1.6
comp=Z,3.1nm,0.8s,baz=29,slow=1.5,SNR=8.0
KEST LR LR 03 37 24.4
comp=Z,204nm,20.1s,baz=340,slow=38
KEST Kesra 92.16 328 *e*P P 02 52 21.4 -1.1
ESDC Sonseca Array 92.76 339 P P 02 52 24.3 -0.9
comp=Z,2.4nm,0.7s,baz=16,slow=4.5,SNR=14
ESDC LR LR 03 38 36.4
comp=Z,223nm,21.6s,baz=35,slow=38
TORD Torodi Ar. Bea 115.38 324 PKP PKPdf 02 57 53.8 -1.0
comp=Z,1.3nm,0.4s,baz=14,slow=2.2,SNR=41
VNDA Vanda 121.96 177 PKP PKPdf 02 58 05.0 -0.5
comp=Z,2.3nm,0.9s,baz=304,slow=4.1,SNR=11
VNDA pPKP **pPKPdf** 02 58 17.9 -1.5
comp=Z,1.9nm,1.0s,baz=293,slow=3.3,SNR=4.1
VNDA PKKPbc **PKKPbc** 03 08 04.5 +0.1
comp=Z,1.2nm,0.8s,baz=222,slow=3.2,SNR=5.0
LSZ Lusaka 122.39 281 PKP PKPdf 02 58 08.3 0.0
comp=Z,2.1nm,0.7s,baz=97,slow=8.1,SNR=3.1
LSZ pPKP **pPKPdf** 02 58 20.5 -1.7
comp=Z,1.4nm,0.6s,baz=359,slow=13,SNR=2.8
LSZ Lusaka 122.39 281 *e*PKIKP **PKPdf** 02 58 08.0 -0.3
LSZ 02 58 20.5
LSZ Lusaka 122.39 281 *e*PKPdf **PKPdf** 02 58 08.0 -0.3
LSZ pPKP **pPKPdf** 02 58 20.5 -1.7
DBIC Dimbokro 123.88 328 PKP PKPdf 02 58 09.5 -1.7
comp=Z,9.3nm,0.9s,baz=357,slow=2.7,SNR=9.6
DBIC Dimbokro 123.88 328 *e*PKIKP **PKPdf** 02 58 10.0 -1.2
DBIC Dimbokro 123.88 328 *e*PKPdf **PKPdf** 02 58 10.0 -1.2
MATP Matopo 125.58 276 PKP PKPdf 02 58 14.4 +0.1
comp=Z,2.3nm,1.1s,baz=13,slow=6.5,SNR=4.3
MATP pPKP **pPKPdf** 02 58 27.1 -1.1
comp=Z,3.9nm,0.9s,baz=79,slow=5.9,SNR=4.5
NNA Nana 129.29 65 *e*PKIKP **PKPdf** 02 58 21.5 0.0
NNA Nana 129.29 65 *e*PKPdf **PKPdf** 02 58 21.5 0.0
PTGA Pitinga 129.50 39 PKP PKPdf 02 58 21.7 -0.2
comp=Z,4.7nm,0.9s,baz=333,slow=1.7,SNR=7.4
PTGA pPKP **pPKPdf** 02 58 35.2 -0.6
comp=Z,4.4nm,0.9s,baz=12,slow=6.5,SNR=4.8
LBTB Lobatse 130.55 273 PKP PKPdf 02 58 24.8 +1.1
comp=Z,3.1nm,0.8s,baz=153,slow=4.5,SNR=3.6
LBTB pPKP **pPKPdf** 02 58 37.9 +0.3
comp=Z,3.4nm,0.8s,baz=63,slow=4.5,SNR=3.8
TSUM Tsumeb 132.45 286 *e*PKPdf **PKPdf** 02 58 27.7 +0.3
BOSA Boshof 132.94 270 PKP PKPdf 02 58 26.2 -1.9
comp=Z,3.5nm,1.1s,baz=327,slow=6.0,SNR=3.0
QSPA South Pole Qui 134.19 180 *e*PKPdf **PKPdf** 02 58 28.9 -0.2
LCO Las Campanas 145.10 77 *e*PKPbc **PKPab** 02 58 49.8 -0.2
NVL N'lazarevskaya 146.32 204 *i* PKP2 **PKPbc** 02 58 52.3 +0.2
NVL pmax pmax
comp=Z,19nm,0.9s

BDFB	**Brasilia**	**147.91**	**32**	PKPbc	**PKPdf**	**02 58 56.1**	**+0.8**	
	comp=Z,16nm,0.9s,baz=323,slow=2.3,SNR=23							
CFAA	**Coronel Fontan**	**148.34**	**79**	PKPbc	**PKPbc**	**02 58 58.3**	**-0.7**	
	comp=Z,3.3nm,0.8s,baz=294,slow=3.1,SNR=10							
SNAA	**Sanae**	**149.50**	**197**	P	**PKPbc**	**02 59 00.4**	**-0.3**	
SNAA	**Sanae**	**149.50**	**197**	*e*PKP2	**PKPbc**	**02 59 00.2**	**-0.5**	
SNAA	**Sanae**	**149.50**	**197**	*e*PKPbc	**PKPbc**	**02 59 00.1**	**-0.5**	
VNA1	**Neumayer--Stat**	**151.40**	**196**	P	**PKPbc**	**02 59 05.2**	**+0.1**	
CPUP	**Villa Florida**	**152.19**	**58**	*e*PKIKP	**PKPbc**	**02 59 07.4**	**-0.9**	
CPUP	**Villa Florida**	**152.19**	**58**	*e*PKPbc	**PKPbc**	**02 59 07.4**	**-0.9**	

DJA 19 02:45:30.2±0.5,2°S±7°×13°7E±°,h10km,M4.2/3,MLv4.2/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.57**	**308**	P	Pg	02 45 41.3	0.0
SRPI				S	Sb	02 45 49.8	-0.7
BAKI	**Biak**	**1.18**	**330**	P	Pb	02 45 50.8	-1.9
BAKI				S	Sg	02 46 08.1	-0.1
SMPI	**Sarmi**	**2.03**	**84**	P	Pn	02 46 04.3	-0.2
SMPI				S	Sn	02 46 30.7	+0.7
RKPI	**Ransiki, Papua**	**2.61**	**286**	P	Pn	02 46 12.0	-0.5
GENI	**Genyem**	**3.49**	**96**	P	Pn	02 46 24.6	-0.1
FAKI	**Fak Fak**	**4.49**	**261**	P	Pn	02 46 38.0	-0.4

*IDC **19** 02:54:28.1±0.8,16°17S×73°57W,h34km±5km,mb3.8/6, mb1 4.0/10,mb1mx3.8/30,mbtmp4.0/10,ML3.6/4,MS3.4/5, Ms1 3.4/5,ms1mx3.3/20,Error ellipse: s-maj=24.7km s-min=13.5km az=51.0*
*NEIC **19** 02:54:28.2±0.4,16°16S×73°62W,mb4.5/16,ML4.2(ARE), Error ellipse: s-maj=11.2km s-min=6.2km az=54.0*
NEIC Felt [II] at Atico and Chala.

ISC 19 02:54:29.6±0.6,16°24S±0°07×73°70W±0°07,h63km,n49, σ2s12/46,mb4.3/21,1D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**2.13**	**96**	⇓*i*P	**Pn**	**02 55 02.5**	**-0.7**
ARE				*i* S	**Sn**	**02 55 30.2**	**+1.5**
NNA	**Nana**	**5.22**	**324**	Pn	**Pn**	**02 55 43.1**	**-2.0**
	5.0nm,0.3s,baz=138,slow=17,SNR=14						
NNA				Sn	**Sn**	**02 56 44.4**	**+0.4**
	30nm,0.3s,baz=165,slow=15,SNR=2.0						
NNA				LR	LR	02 57 42.4	
	comp=Z,280nm,21.9s,baz=206,slow=37						
NNA	**Nana**	**5.22**	**324**	*e*Pn	**Pn**	**02 55 42.8**	**-2.3**
	84nm,0.3s						
NNA				*e*Sn	**Sn**	**02 56 40.4**	**-3.6**
LPAZ	**La Paz**	**5.35**	**91**	Pn	Pn	02 55 51.3	+3.8
	12nm,0.3s,baz=309,slow=7.9,SNR=133						
LPAZ				Sn	Sn	02 56 58.5	+10
	0.9nm,0.3s,baz=190,slow=24,SNR=8.1						
LPAZ				LR	LR	02 58 12.2	
	comp=Z,666nm,21.0s,baz=276,slow=43						
LPAZ	**La Paz**	**5.35**	**91**	*e*Pn	Pn	02 55 50.9	+3.5
	50nm,0.7s						
LPAZ				*e*Sn	**Sn**	**02 56 43.0**	**-5.1**
LVC	**Limon Verde**	**7.78**	**145**	Pn	**Pn**	**02 56 20.1**	**-0.3**
	246nm,0.3s,baz=335,slow=10.0,SNR=46						
LVC				Sn	**Sn**	**02 57 43.2**	**-4.0**
	335nm,0.3s,baz=86,slow=13,SNR=9.7						
LVC				Lg	Lg	02 58 33.5	
	94nm,0.3s,baz=106,slow=23,SNR=2.1						
LVC	**Limon Verde**	**7.78**	**145**	*e*Pn	**Pn**	**02 56 19.8**	**-0.6**
LVC				*e*Sn	**Sn**	**02 57 43.6**	**-3.6**
LVC				Lg	Lg	02 58 33.5	
ATAH	**Atahualpa**	**10.15**	**333**	Pn	**Pn**	**02 56 53.3**	**+0.3**
	0.3nm,0.3s,baz=143,slow=12,SNR=2.6						
ATAH				Sn	**Sn**	**02 58 44.9**	**-0.7**
	0.4nm,0.3s,baz=336,slow=20,SNR=1.1						
SIV	**San Ignacio**	**12.14**	**91**	Pn	**Pn**	**02 57 18.9**	**-0.9**
	1.2nm,0.3s,baz=284,slow=12,SNR=12						
SIV				Sn	**Sn**	**02 59 32.2**	**-1.3**
	baz=211,slow=22,SNR=1.3						
SIV				LR	LR	03 02 24.8	
	comp=Z,350nm,20.7s,baz=316,slow=40						
SAML	**Samuel**	**12.56**	**56**	*e*Pn	Pn	02 57 21.7	-3.8
	4.8nm,0.8s						
CFAA	**Coronel Fontan**	**16.08**	**163**	Pn	**P**	**02 58 14.4**	**+0.3**
	0.1nm,0.3s,baz=345,slow=16,SNR=12						
CFAA				LR	LR	03 03 45.9	
	comp=Z,7.6nm,21.9s,baz=348,slow=35						
OTAV	**Otavalo**	**17.04**	**344**	*e*Pn	**Pn**	**02 58 22.4**	**-1.8**
PTGA	**Pitinga**	**20.52**	**43**	P	**P**	**02 59 03.5**	**+0.7**
	7.3nm,0.5s,baz=208,slow=12,SNR=12						
PTGA				LR	LR	03 07 15.7	
	comp=Z,60nm,18.8s,baz=225,slow=38						
TRQA	**Tornquist**	**24.06**	**157**	*e*P	**P**	**02 59 39.2**	**+0.2**
	32nm,1.5s						
BDFB	**Brasilia**	**24.70**	**92**	LR	LR	03 10 57.3	
	comp=Z,94nm,18.6s,baz=242,slow=40						
OBIP	**Obispado Ponce**	**34.78**	**12**	*e*P	**P**	**03 01 14.3**	**+0.1**
GTBY	**Guantanamo Bay**	**35.97**	**358**	*e*P	**P**	**03 01 23.1**	**-1.4**
CMIG	**Matias Romero**	**39.16**	**327**	P	**P**	**03 01 53.8**	**+2.3**
	2.3nm,0.8s,baz=200,slow=12,SNR=2.4						
CMIG				pP	**pP**	**03 02 03.6**	**-3.6**
	4.2nm,0.8s,baz=117,slow=6.8,SNR=3.9						
GOGA	**Godfrey**	**50.25**	**349**	*e*P	**P**	**03 03 20.7**	**+1.2**
	5.4nm,1.1s						
LRAL	**Lakeview Retre**	**50.62**	**346**	*e*P	**P**	**03 03 23.0**	**+0.7**
	3.2nm,1.0s						
HKT	**Hockley**	**50.64**	**335**	*e*P	**P**	**03 03 22.9**	**+0.5**
	2.9nm,1.0s						
KMSC	**Kings Mountain**	**51.61**	**352**	*e*P	**P**	**03 03 31.4**	**+1.7**
TXAR	**Lajitas Array**	**53.76**	**327**	P	**P**	**03 03 45.6**	**-0.2**
	0.2nm,0.6s,baz=148,slow=8.6,SNR=3.4						
TXAR				pP	**pP**	**03 03 57.4**	**-4.9**
	0.9nm,0.6s,baz=153,slow=8.5,SNR=12						
MIAR	**Mount Ida**	**53.93**	**340**	*e*P	**P**	**03 03 48.0**	**+1.2**
	3.8nm,1.1s						
WCI	**Wyandotte Cave**	**55.46**	**348**	*e*P	**P**	**03 03 59.4**	**+1.6**
	5.7nm,0.8s						
TUL1	**Leonard**	**55.93**	**338**	*e*P	**P**	**03 04 03.0**	**+1.8**
	8.2nm,1.0s						
LAZ	**Ladron**	**59.57**	**328**	*e*P	**P**	**03 04 28.6**	**+1.5**
ANMO	**Albuquerque**	**59.66**	**329**	*e*P	**P**	**03 04 29.5**	**+1.8**
	1.1nm,0.8s						
SDCO	**Great Sand Dun**	**61.47**	**332**	*e*P	**P**	**03 04 41.9**	**+1.8**
	1.4nm,0.6s						
WUAZ	**Wupatki**	**62.65**	**326**	*e*P	**P**	**03 04 49.7**	**+1.8**
	3.9nm,0.8s						
DUG	**Dugway, Tooele**	**66.91**	**328**	*e*P	**P**	**03 05 17.5**	**+2.0**
	2.2nm,1.0s						
PDAR	**Pinedale Array**	**67.34**	**332**	pP	pP	03 05 32.3	-3.0
	0.2nm,0.3s,baz=101,slow=9.3,SNR=2.0						
NVAR	**Mina Array Bea**	**68.59**	**324**	pP	pP	03 05 39.5	-3.7
	0.3nm,0.4s,baz=161,slow=9.4,SNR=3.5						
SNAA	**Sanae**	**68.69**	**161**	*e*P	**P**	**03 05 27.6**	**+1.4**
	3.0nm,0.7s						
QSPA	**South Pole Qui**	**73.92**	**180**	*e*P	P	03 06 00.0	+2.2
	3.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.03**	**73**	P	**P**	**03 06 33.1**	**+0.2**
	4.3nm,0.9s,baz=266,slow=4.9,SNR=36						
TORD				pP	**PcP**	**03 06 43.9**	**+3.7**
	1.7nm,0.7s,baz=256,slow=4.8,SNR=5.3						
VNDA	**Vanda**	**81.19**	**190**	P	P	03 06 40.8	+2.7
	0.4nm,0.5s,baz=72,slow=3.2,SNR=4.0						
VNDA				pP	pP	03 06 51.4	-4.1
	0.6nm,0.8s,baz=113,slow=4.1,SNR=2.3						
YKA	**Yellowknife Ar**	**84.79**	**342**	P	**P**	**03 06 59.0**	**+2.4**
	0.7nm,0.8s,baz=141,slow=5.3,SNR=5.3						
SUR	**Sutherland**	**85.17**	**122**	*e*P	**P**	**03 06 59.2**	**-0.4**
	10nm,1.5s						
TAM	**Tamanrasset**	**86.63**	**65**	*e*P	**P**	**03 07 09.0**	**+2.0**
	4.2nm,1.3s						
BOSA	**Boshof**	**89.94**	**120**	*e*P	**P**	**03 07 22.0**	**-0.7**
	23nm,1.7s						
H11N3	**WAKE ISLAND Hyl**	**22.50**	**283**	T	T	05 27 15.7	
	baz=96,SNR=5.4						
H11N2	**WAKE ISLAND Hyl**	**22.52**	**283**	T	T	05 27 18.5	
	baz=96,slow=74,SNR=3.9						
H11N1	**WAKE ISLAND Hyl**	**22.52**	**283**	T	T	05 27 18.8	
	baz=96,slow=74,SNR=4.0						
H11S2	**WAKE ISLAND Hyl**	**22.54**	**282**	T	T	05 27 19.1	
	baz=98,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hyl**	**22.55**	**282**	T	T	05 27 17.2	
	baz=98,slow=75,SNR=6.5						
H11S3	**WAKE ISLAND Hyl**	**22.56**	**282**	T	T	05 27 20.2	
	baz=98,slow=75,SNR=9.6						
KURK	**Kurchatov**	**139.06**	**27**	*e*PKPdf	**PKPdf**	**03 13 50.4**	**+1.4**
SONM	**Songino Array**	**148.50**	**360**	PKPbc	**PKPab**	**03 14 10.8**	**-2.1**
	0.5nm,0.5s,baz=338,slow=3.2,SNR=3.6						

DJA 19 03:00:08.9±1.0,10°S±8°×11°0E±°,h10km,M3.8/5, MLv3.8/5,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**2.19**	**15**	P	Pn	03 00 45.5	+0.1
UGM				S	Sn	03 01 13.4	+0.8
PCJI	**Pacitan**	**2.20**	**34**	P	Pn	03 00 44.6	-0.9
PCJI				S	Sn	03 01 09.9	-2.9
WOJI	**Wonogiri, Jawa**	**2.39**	**24**	P	Pn	03 00 48.0	-0.1
CMJI	**Cimerak**	**2.69**	**326**	P	Pn	03 00 52.1	-0.1
PWJI	**Pagerwojo**	**2.71**	**43**	P	Pn	03 00 51.2	-1.4
PWJI				S	Sn	03 01 23.3	-2.2
KPJI	**Karang Pucung**	**2.87**	**339**	P	Pn	03 00 54.8	0.0
CISI	**Cisompet, Garu**	**3.25**	**319**	P	Pn	03 00 57.1	-2.9
BLJI	**Banyuglugur**	**4.26**	**58**	P	Pn	03 01 13.7	-0.2

*CSEM **19** 03:42:29.9±0.1,42°85N×1°03W,h10km,ML0.9,Error ellipse: s-maj=1.9km s-min=1.5km az=175.0*
*LDG **19** 03:42:30.0±0.1,42°87N×1°02W,h15km,Md1.4/2,MI1.1/1, Error ellipse: s-maj=4.1km s-min=0.7km az=22.0*

MDD 19 03:42:30.5±0.5,42°85N×1°05W,h7km±8km,mbLg0.8/9, 1C,Error ellipse: s-maj=3.1km s-min=2.5km az=43.0, PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IELO	**Elcoad**	**0.14**	**269**	⇑Pg	Pg	03 42 33.2	-0.3
	1.5nm,0.1s,SNR=18						
IELO				Lg	Lg	03 42 35.6	
	6.6nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.14**	**269**	Pg	Pg	03 42 33.2	-0.3
	1.4nm,0.1s,SNR=7.9						
IELO				Lg	Lg	03 42 35.6	
	20nm,0.2s,SNR=7.9						
YASP	**Aspurt**	**0.14**	**216**	Pg	Pg	03 42 33.1	-0.4
	1.2nm,0.1s,SNR=7.9						
YASP				Lg	Lg	03 42 35.7	
	7.3nm,0.2s,SNR=7.9						
YASP	**Aspurt**	**0.14**	**216**	Pg	Pg	03 42 33.1	-0.5
	1.2nm,0.1s,SNR=7.9						
YASP				Lg	Lg	03 42 35.7	
	7.3nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**247**	Pg	Pg	03 42 33.9	-0.2
	0.6nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	03 42 36.9	
	7.0nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.17**	**247**	Pg	Pg	03 42 33.9	-0.2
	0.6nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	03 42 36.9	
	7.0nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.23**	**260**	Pg	Pg	03 42 35.2	+0.1
	0.7nm,0.1s,SNR=7.9						
IPRE				Lg	Lg	03 42 38.0	
	2.7nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.23**	**260**	Pg	Pg	03 42 35.2	+0.1
	0.7nm,0.1s,SNR=7.9						
IPRE				Lg	Lg	03 42 38.0	
	2.7nm,0.1s,SNR=7.9						
YUND	**Undues**	**0.28**	**193**	Pg	Pg	03 42 35.3	-0.7
	0.5nm,0.0s,SNR=7.9						
YUND				Lg	Lg	03 42 40.0	
	1.7nm,0.1s,SNR=7.9						
YUND	**Undues**	**0.28**	**193**	Pg	Pg	03 42 35.3	-0.8
	0.5nm,0.0s,SNR=7.9						
YUND				Lg	Lg	03 42 40.0	
	1.7nm,0.1s,SNR=7.9						
YBER	**Berdun**	**0.28**	**160**	Pg	Pg	03 42 36.2	0.0
	1.0nm,0.1s,SNR=7.9						
YBER				Lg	Lg	03 42 39.7	
	5.4nm,0.1s,SNR=7.9						
YBER	**Berdun**	**0.28**	**160**	Pg	Pg	03 42 36.2	+0.1
	1.0nm,0.1s,SNR=7.9						
YBER				Lg	Lg	03 42 39.7	
	5.4nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.30**	**334**	*e*Pg	Pg	03 42 36.1	-0.3
SJPF				*e*Sg	Sg	03 42 40.4	0.0
	5.5nm,0.3s						
SJPF	**Ste Jean**	**0.30**	**334**	Pg	Pg	03 42 36.1	-0.3
SJPF				Lg	Lg	03 42 40.4	
	2.8nm,0.3s						
SJPF	**Ste Jean**	**0.30**	**334**	*e*Pg	Pg	03 42 36.1	-0.3
SJPF				*e*Sg	Sg	03 42 40.4	0.0
	2.8nm,0.3s						
IUNC	**Unciti**	**0.34**	**255**	Pg	Pg	03 42 37.1	-0.2
	0.2nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	03 42 41.9	
	1.3nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**0.34**	**255**	Pg	Pg	03 42 37.1	-0.2
	0.2nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	03 42 41.9	
	1.3nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**0.36**	**82**	*e*Pg	Pg	03 42 37.0	-0.8
ETSF				*e*Sg	Sg	03 42 41.7	-1.0
	0.8nm,0.2s						
ETSF	**Etsaut**	**0.36**	**82**	Pg	Pg	03 42 37.0	-0.8
ETSF				Lg	Lg	03 42 41.7	
	0.4nm,0.2s						
ETSF	**Etsaut**	**0.36**	**82**	*e*Pg	Pg	03 42 37.0	-0.8
ETSF				*e*Sg	Sg	03 42 41.7	-1.0
	0.4nm,0.2s						
IUSE	**Utxeti**	**0.38**	**286**	Lg	Lg	03 42 43.0	
	1.0nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.38**	**286**	Lg	Lg	03 42 43.0	
	1.0nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.04**	**79**	*e*Sg	Sg	03 43 02.4	-1.7
	0.4nm,0.2s						
EPF	**Esparros**	**1.04**	**79**	*e*Pg	Pn	03 42 52.5	+0.9
EPF	**Esparros**	**1.04**	**79**	Pg	Pn	03 42 52.5	+0.9
EPF				Lg	Lg	03 43 02.4	
	0.2nm,0.2s						
EPF	**Esparros**	**1.04**	**79**	*e*Sg	Sg	03 43 02.4	-1.7
	0.2nm,0.2s						
CSOR	**Sort**	**1.68**	**106**	Pn	Pn	03 42 58.1	-2.4
	SNR=7.9						

LDG 19 03:42:36.8±0.1,42°97N×1°49E,h5km,Md1.6/2,MI1.4/1, Error ellipse: s-maj=1.7km s-min=1.5km az=137.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTLF	**Montolieu**	**0.65**	**55**	*e*Pg	Pg	03 42 48.8	-0.6
MTLF	**Montolieu**	**0.65**	**55**	*e*Pn	Pb	03 42 51.4	+0.7
MTLF				*e*Sg	Sg	03 42 57.4	-0.5
MTLF				*e*Sn	Sn	03 43 02.2	-1.3
	0.7nm,0.2s						
EPF	**Esparros**	**0.84**	**275**	*e*Pn	Pb	03 42 54.2	+0.1
EPF				*e*Sg	Sg	03 43 03.6	-0.6
EPF				*e*Sn	Sb	03 43 06.6	+0.8
	0.6nm,0.2s						
ETSF	**Etsaut**	**1.50**	**268**	*e*Sg	Sn	03 43 23.8	-0.8
	0.6nm,0.3s						

*IDC **19** 03:44:42.5±18.0,51°91N×178°95E,h0km,mb3.5/3, mb1 3.9/3,mb1mx3.4/32,mbtmp3.5/3,MS3.3/1,Ms1 3.3/1, ms1mx2.5/24,Error ellipse: s-maj=330.8km s-min=73.1km az=77.0*
*NEIC **19** 03:44:56.9,51°89N×178°34E,h139km,MG2.9(AEIC), After AEIC.*

ISC 19 03:44:54.7±1.4,51°8N±0°2×178°2E±0°1,h150km,n28, σ0s73/31,mb3.3/3,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.22**	**58**	P	**Pn**	**03 45 15.1**	**+0.2**
LSNW	**Little Sitkin**	**0.23**	**54**	P	**Pn**	**03 45 15.8**	**+0.8**
LSNW				S	**Sn**	**03 45 29.2**	**-1.3**
LSSE	**Little Sitkin**	**0.24**	**66**	P	**Pn**	**03 45 14.6**	**-0.4**
AMKA	**Amchitka**	**0.82**	**123**	P	**Pn**	**03 45 18.2**	**+0.2**
AMKA				S	**Sn**	**03 45 34.9**	**-0.8**
CESW	**Semis' Southwe**	**0.84**	**85**	P	**Pn**	**03 45 17.7**	**-0.4**
CEAP	**Semis' Anvil P**	**0.86**	**78**	P	**Pn**	**03 45 18.2**	**-0.1**
CERB	**Semis' Cerberu**	**0.88**	**83**	P	**Pn**	**03 45 18.3**	**-0.2**
CERB				S	**Sn**	**03 45 35.5**	**-1.2**
CERAA	**Semis' Rag'd T**	**0.92**	**85**	P	**Pn**	**03 45 18.4**	**-0.3**
GANE	**Gareloi Northe**	**1.87**	**89**	P	**Pn**	**03 45 28.6**	**+0.3**
TASE	**Tanaga Southea**	**2.33**	**89**	P	**Pn**	**03 45 33.9**	**+0.2**
TAFP	**Tanaga Falls P**	**2.36**	**87**	P	**Pn**	**03 45 33.9**	**-0.1**
TAFP				S	**Sn**	**03 46 03.6**	**-0.8**
TAPA	**Tanaga Point A**	**2.47**	**89**	P	**Pn**	**03 45 35.4**	**+0.1**
KIKV	**Kanaga Island**	**2.86**	**87**	P	**Pn**	**03 45 40.4**	**+0.2**
ADK	**Adak**	**3.17**	**87**	P	**Pn**	**03 45 43.2**	**-0.8**
ADK				S	**Sn**	**03 46 21.5**	**-0.8**
GSTR	**Great Sitkin T**	**3.55**	**84**	P	**Pn**	**03 45 48.6**	**-0.5**
ATKA	**Atka Island**	**4.70**	**83**	P	**Pn**	**03 46 04.5**	**+0.4**
NIKH	**Nikolski High**	**8.00**	**77**	P	**Pn**	**03 46 47.8**	**0.0**
OKFG	**Magazine Ridge**	**8.59**	**74**	P	**Pn**	**03 46 56.8**	**+1.0**
MSOM	**Makushin Julie**	**9.20**	**72**	P	**Pn**	**03 47 04.7**	**+0.8**
MREP	**Makushin Rep't**	**9.32**	**72**	P	**Pn**	**03 47 06.6**	**+1.0**
UNV	**Unalaska Valle**	**9.47**	**72**	P	**Pn**	**03 47 07.9**	**+0.5**
IM04	**Indian Mountai**	**19.99**	**34**	*e*P	Pn	03 49 18.8	+0.4
ILAR	**Eielson Array**	**22.08**	**41**	P	**P**	**03 49 36.0**	**-1.3**
	0.5nm,0.4s,baz=246,slow=8.6,SNR=19						
PAX	**Paxson**	**22.18**	**46**	*e*P	**P**	**03 49 38.8**	**+0.4**
EGAK	**Eagle**	**24.45**	**42**	*e*P	**P**	**03 49 59.6**	**+0.5**
YAK	**Yakutsk**	**27.71**	**311**	LR	LR	04 01 17.1	
	comp=Z,54nm,18.4s,baz=345,slow=36						
YKA	**Yellowknife Ar**	**36.27**	**46**	P	**P**	**03 51 42.2**	**-0.7**
	0.8nm,0.7s,baz=282,slow=8.2,SNR=8.3						
NVAR	**Mina Array Bea**	**45.33**	**81**	P	**P**	**03 52 59.2**	**+1.5**
	0.5nm,0.6s,baz=299,slow=7.5,SNR=4.8						

*MOS **19** 03:59:08.7±1.0,55°00N×158°89E,h247km,mb4.0/7,Error ellipse: s-maj=17.9km s-min=7.7km az=80.8*
*ISCJB **19** 03:59:09.1±0.3,54°99N±0°04×158°9E±0°1,h245km±3km, mb3.5/16,Error ellipse: s-maj=11.7km s-min=4.3km az=27.8*
*KRSC **19** 03:59:09.4±1.1,54°81N×159°53E,h248km±9km,ML4.3*
*IDC **19** 03:59:10.2±0.7,55°11N×158°48E,h238km±8km,mb3.3/16, mb1 3.5/19,mb1mx3.4/33,mbtmp3.9/19,Error ellipse: s-maj=14.5km s-min=11.0km az=135.0*

ISC 19 03:59:10.0±0.6,54°91N±0°05×159°15E±0°06,h244km±5km, n69,σ1s35/99,mb3.5/16,1C-1D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNL	**Ganaly**	**1.41**	**211**	*e*P	**Pn**	**03 59 47.3**	**+0.1**
GNL				*e*S	**S**	**04 00 16.3**	**0.0**
GNL	**Ganaly**	**1.41**	**211**	PN	**Pn**	**03 59 47.3**	**+0.1**
GNL				S	**S**	**04 00 16.3**	**0.0**
ZLN	**Zelenaya**	**1.46**	**40**	*e*P	**Pn**	**03 59 48.1**	**+0.7**
ZLN	**Zelenaya**	**1.46**	**40**	PN	**Pn**	**03 59 48.1**	**+0.7**
CIRR	**Tsirk**	**1.52**	**36**	*e*P	**Pn**	**03 59 48.5**	**+0.6**
CIRR	**Tsirk**	**1.52**	**36**	PN	**Pn**	**03 59 48.5**	**+0.6**
MKZ	**Mys Kozlova**	**1.54**	**102**	*e*P	**Pn**	**03 59 46.5**	**-1.4**
MKZ				*e*S	**S**	**04 00 15.4**	**-2.3**
MKZ	**Mys Kozlova**	**1.54**	**102**	PN	**Pn**	**03 59 46.5**	**-1.4**
MKZ				S	**S**	**04 00 15.4**	**-2.3**
KRX	**Arik**	**1.58**	**191**	*e*P	**Pn**	**03 59 48.9**	**+0.3**
KRER	**Koryakskii**	**1.62**	**188**	*e*P	**Pn**	**03 59 49.4**	**+0.4**
SDLR	**Sedlovina**	**1.64**	**186**	*e*P	**Pn**	**03 59 49.1**	**+0.1**
SDLR				*e*S	**S**	**04 00 19.1**	**-0.5**
SDLR	**Sedlovina**	**1.64**	**186**	PN	**Pn**	**03 59 49.1**	**+0.1**
SDLR				S	**S**	**04 00 19.1**	**-0.5**
KLY	**Klyuchi**	**1.65**	**31**	*e*P	**Pn**	**03 59 49.3**	**+0.5**
KLY				*e*S	**S**	**04 00 19.2**	**-0.1**
KOK	**Koryaka**	**1.65**	**191**	*e*P	**Pn**	**03 59 49.5**	**+0.5**
KOK				*e*S	**S**	**04 00 19.7**	**+0.1**
KOK	**Koryaka**	**1.65**	**191**	PN	**Pn**	**03 59 49.5**	**+0.5**
KOK				S	**S**	**04 00 19.7**	**+0.1**
SMAR	**Somma**	**1.66**	**187**	*e*P	**Pn**	**03 59 49.7**	**+0.4**
SMAR	**Somma**	**1.66**	**187**	PN	**Pn**	**03 59 49.7**	**+0.4**
AVH	**Avacha**	**1.66**	**188**	*e*P	**Pn**	**03 59 49.6**	**+0.4**
AVH				*e*S	**S**	**04 00 19.8**	**-0.1**
AVH	**Avacha**	**1.66**	**188**	PN	**Pn**	**03 59 49.6**	**+0.4**
AVH				S	**S**	**04 00 19.8**	**-0.1**
UGLR	**Uglovaya**	**1.71**	**186**	*e*P	**Pn**	**03 59 50.0**	**+0.4**
UGLR				*e*S	**S**	**04 00 20.4**	**-0.3**
NLC	**Nalytchevo**	**1.75**	**176**	*e*P	**Pn**	**03 59 49.1**	**-0.6**
NLC				*e*S	**S**	**04 00 19.2**	**-1.6**
NLC	**Nalytchevo**	**1.75**	**176**	PN	**Pn**	**03 59 49.1**	**-0.6**
NLC				S	**S**	**04 00 19.2**	**-1.6**
SPN	**Mys Shipunski**	**1.89**	**164**	*e*P	**Pn**	**03 59 49.9**	**-1.0**
SPN				*e*S	**S**	**04 00 19.3**	**-3.8**
SPN	**Mys Shipunski**	**1.89**	**164**	PN	**Pn**	**03 59 49.9**	**-1.0**
PET	**Petropavlovsk**	**1.91**	**189**	*e*P	**Pn**	**03 59 51.2**	**+0.1**
PET				*e*S	**S**	**04 00 22.2**	**-1.2**
PET	**Petropavlovsk**	**1.91**	**189**	*e*PN	**Pn**	**03 59 51.1**	**0.0**
PET				*e*S	**S**	**04 00 22.2**	**-1.2**
PET				pmax	pmax		
	comp=Z,141nm,0.4s						
PET				smax	smax		
	comp=E,83nm,0.4s						
PET				smax	smax		
	comp=N,193nm,0.5s						
PETK	**Petropavlovsk-**	**2.00**	**206**	P	**Pn**	**03 59

comp=Z,1.0nm,0.7s,baz=24,slow=6.8,SNR=3.4
ANMO Albuquerque 64.58 65c*e*P P 04 09 28.6 +7.2
ANMO pmax pmax
comp=Z,4.0nm,1.2s
AKASG Malin Array Be 66.77 328 P **P 04 09 32.3 -2.5**
comp=Z,0.3nm,0.3s,baz=31,slow=7.0,SNR=3.9
TXAR Lajitas Array 70.44 67 P **P 04 10 00.5 +2.6**
comp=Z,0.5nm,0.5s,baz=298,slow=5.2,SNR=4.1
BRTR Keskin Array B 74.87 319 P **P 04 10 21.6 -2.3**
comp=Z,0.4nm,0.5s,baz=72,slow=4.7,SNR=2.5
WRA Warramunga Arr 77.51 204 P **P 04 10 39.3 +0.7**
comp=Z,1.3nm,0.5s,baz=19,slow=5.8,SNR=4.8
WRA Warramunga Arr 77.51 204 P **P 04 10 39.3 +0.7**
WRA pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 81.20 203 P **P 04 10 59.6 +1.3**
comp=Z,1.0nm,0.6s,baz=17,slow=7.1,SNR=8.6
ASAR Alice Springs 81.20 203 P **P 04 10 59.7 +1.3**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ESDC Sonseca Array 84.68 347 P **P 04 11 16.9 +0.6**
comp=Z,0.4nm,0.6s,baz=16,slow=4.1,SNR=3.3

*ISCJB **19** 04:31:16.6±0.4,44.12N±0.05×140.24E±0.07, h252km±4km, mb3.7/7, Error ellipse: s-maj=9.2km s-min=7.8km az=143.7*
*JMA **19** 04:31:17.3±0.2,44.17N×140.14E, h243km±2km, M3.3*
*IDC **19** 04:31:17.4±0.9,44.29N×140.19E, h235km±20km, mb3.5/7, mb1 3.5/10, mb1mx3.1/42, mbtmp4.0/10, Error ellipse: s-maj=49.5km s-min=16.6km az=158.0*
ISC 19 04:31:17.2±0.7,**44.07N**±0.06×**140.26E**±0.06,**h249**km±6km, **n31**,σ1§**18**/48,**mb3.8**/7,**Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JSK	**Shakotan**	**0.74**	**168**	P		**Pn**	**04 31 50.9**	**+0.1**
JSK				*e*S		**S**	**04 32 16.6**	**-0.6**
JHR	**Hokuryu**	**1.11**	**107**	P		**Pn**	**04 31 53.3**	**+0.6**
JHR				*e*S		**S**	**04 32 21.7**	**+1.1**
JSS	**Shosan**	**1.19**	**74**	P		**Pn**	**04 31 53.6**	**+0.4**
JSS				*e*S		**S**	**04 32 21.7**	**+0.2**
JEW	**Eniwo**	**1.51**	**144**	P		**Pn**	**04 31 56.4**	**+0.9**
JEW				*e*S		**S**	**04 32 27.3**	**+1.8**
ASAJ	**Asahikawa**	**1.69**	**88**	P		**Pn**	**04 31 57.1**	**+0.4**
	5.3nm,0.3s,baz=276,slow=8.9,SNR=36							
ASAJ				S		**S**	**04 32 26.7**	**-1.3**
	2.5nm,0.3s,baz=331,slow=29,SNR=6.3							
JWK2	**Keihoku**	**1.71**	**43**	P		**Pn**	**04 31 57.3**	**+0.4**
JWK2				*e*S		**S**	**04 32 27.6**	**-0.7**
JKK2	**Kamakawa 2**	**1.81**	**95**	P		**Pn**	**04 31 58.4**	**+0.5**
JKK2				*e*S		**S**	**04 32 29.7**	**-0.2**
JSE	**Soyaes**	**1.89**	**61**	P		**Pn**	**04 31 58.4**	**0.0**
JSE				*e*S		**S**	**04 32 30.1**	**-0.8**
JFR	**Furan**	**1.92**	**117**	P		**Pn**	**04 31 59.4**	**+0.5**
JFR				*e*S		**S**	**04 32 31.9**	**+0.2**
JOSM	**Okushiri--Mats**	**2.07**	**196**	P		**Pn**	**04 32 00.8**	**+0.6**
JKB	**Kayabe**	**2.26**	**165**	P		**Pn**	**04 32 02.4**	**+0.4**
JNBK	**Urakawa-nobuka**	**2.56**	**134**	P		**Pn**	**04 32 06.3**	**+1.4**
JNBK				*e*S		**S**	**04 32 43.7**	**+1.1**
JTKR	**Abashiri--Toko**	**2.63**	**91**	P		**Pn**	**04 32 06.4**	**+0.7**
JTKR				*e*S		**S**	**04 32 44.6**	**+0.7**
JAR	**Ashorobuto**	**2.66**	**106**	P		**Pn**	**04 32 07.0**	**+1.0**
JAR				*e*S		**S**	**04 32 46.0**	**+1.5**
JCH	**Churui**	**2.69**	**122**	P		**Pn**	**04 32 06.1**	**-0.2**
JCH				*e*S		**S**	**04 32 42.9**	**-2.2**
JOT	**Ohata**	**2.75**	**168**	P		**Pn**	**04 32 07.2**	**+0.2**
JAK	**Akkeshi**	**3.40**	**107**	*e*S		**S**	**04 32 57.0**	**-2.0**
JRA	**Rausu**	**3.51**	**91**	P		**Pn**	**04 32 16.6**	**+1.4**
JRA				*e*S		**S**	**04 33 02.6**	**+1.4**
JANG	**Nango**	**3.81**	**165**	P		**Pn**	**04 32 18.4**	**-0.4**
JANG				*e*S		**S**	**04 33 04.8**	**-2.8**
NEM2	**Nemuro 2**	**4.04**	**98**	P		**Pn**	**04 32 21.3**	**0.0**
NEM2				*e*S		**S**	**04 33 08.7**	**-3.5**
USRK	**Ussuriysk Ar.**	**5.95**	**274**	P		**Pn**	**04 32 43.8**	**-0.8**
	1.3nm,0.3s,baz=85,slow=12,SNR=23							
KSRS	**Korea Array**	**11.45**	**239**	P		**Pn**	**04 33 55.2**	**+1.4**
	0.3nm,0.3s,baz=54,slow=12,SNR=9.0							
SEY	**Seymchan**	**20.16**	**16**	P		**P**	**04 35 31.8**	**-0.8**
	0.3nm,0.3s,baz=205,slow=22,SNR=3.6							
SONM	**Songino Array**	**23.73**	**291**	P		**P**	**04 36 07.2**	**+0.2**
	0.6nm,0.4s,baz=92,slow=11,SNR=4.5							
ZALV	**Zalesovo Beam**	**36.79**	**306**	P		**P**	**04 38 01.0**	**0.0**
	3.0nm,0.5s,baz=85,slow=7.7,SNR=10							
ARCES	**ARCESS Array B**	**57.13**	**338**	P		**P**	**04 40 36.7**	**-0.7**
	0.4nm,0.5s,baz=52,slow=6.3,SNR=7.3							
FINES	**FINESS Array B**	**62.22**	**330**	P		**P**	**04 41 12.3**	**+0.2**
	3.1nm,0.6s,baz=65,slow=6.5,SNR=23							
HFS	**Hagfors**	**67.34**	**334**	P		**P**	**04 41 45.1**	**0.0**
	1.5nm,0.5s,baz=61,slow=7.0,SNR=9.5							
NB2	**NORSAR Subarra**	**67.38**	**336**	P		**P**	**04 41 45.5**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=36,slow=6.5							
NOA	**NORSAR Array B**	**67.38**	**336**	P		**P**	**04 41 45.8**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=38,slow=6.4,SNR=4.8							
NOA				pP		**pP**	**04 42 39.8**	**-2.4**
	comp=Z,1.2nm,0.8s,baz=18,slow=6.4,SNR=3.2							
EKA	**Eskdalemuir Ar**	**76.22**	**339**	P		**P**	**04 42 38.7**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=29,slow=4.3,SNR=4.6							

*JMA **19** 04:34:06.5±0.7,44.38N×149.04E, h30km, M3.6*
*SKHL **19** 04:34:06.0±0.6,44.32N×149.19E, h45km±1km, mb4.1/1*
ISC 19 04:34:02.0±3.9,**44.16N**±0.08×**149.4E**±0.2,**h42**km,**n13**, σ2§**98**/21,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**1.54**	**315**	*e*P		**Pn**	**04 34 26.6**	**-0.2**
KUR				AMB		AMB	04 34 29.1	
	74nm,0.4s							
KUR				*e*S		**Sn**	**04 34 42.6**	**-2.9**
KUR				A		A	04 34 43.2	
	104nm,0.2s							
KUR				A		A	04 34 43.2	
	219nm,0.2s							
NEM2	**Nemuro 2**	**2.77**	**255**	P		**Pn**	**04 34 45.3**	**+1.5**
NEM2				*e*S		**Sn**	**04 35 14.0**	**-2.0**
JRA	**Rausu**	**3.10**	**267**	P		**Pn**	**04 34 50.9**	**+2.6**
JRA				*e*S		**Sn**	**04 35 24.5**	**+0.5**
JNK	**Nakash**	**3.44**	**262**	P		**Pn**	**04 34 55.7**	**+2.7**
JTKR	**Abashiri--Toko**	**3.97**	**269**	P		Pn	04 35 04.3	+4.1
JAR	**Ashorobuto**	**4.18**	**260**	P		**Pn**	**04 35 06.0**	**+2.9**
JAR				*e*S		**Sn**	**04 35 52.1**	**+1.4**
JCH	**Churui**	**4.67**	**253**	P		**Pn**	**04 35 12.4**	**+2.5**
JCH				*e*S		**Sn**	**04 36 00.8**	**-2.0**
MYR	**Moyori**	**4.85**	**249**	*e*P		**Pn**	**04 35 15.3**	**+2.9**
MYR				*e*S		**Sn**	**04 36 07.1**	**-0.1**
JNBK	**Urakawa-nobuka**	**5.21**	**251**	P		**Pn**	**04 35 19.6**	**+2.2**
JNBK				*e*S		**Sn**	**04 36 15.2**	**-1.0**
YSS	**Yuzh-Sakhalins**	**5.44**	**303**	*e*P		**Pn**	**04 35 22.8**	**+2.3**
YSS				*e*S		**Sn**	**04 36 20.1**	**-1.7**
JKB	**Kayabe**	**6.54**	**253**	P		**Pn**	**04 35 37.5**	**+1.9**
JKB				*e*S		**Sn**	**04 36 44.7**	**-4.2**
JANG	**Nango**	**6.97**	**240**	*e*S		**Sn**	**04 36 53.8**	**-5.6**
JTH	**Tanohata**	**7.02**	**236**	*e*S		**Sn**	**04 36 54.9**	**-5.8**

WEL 19 04:48:57.7±0.3,**35.23S**×**178.74E**,**h291**km±2km,**ML3.5**/3, **Error ellipse: s-maj=6.7km s-min=5.5km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MWZ	**Matawai**	**3.25**	**197**	PN		Pn	04 49 55.6	+0.3
MWZ				SN		S	04 50 40.9	-0.5
CNGZ	**Carnagh Statio**	**3.28**	**187**	PN		Pn	04 49 55.6	+0.1
URZ	**Urewera**	**3.29**	**203**	PN		Pn	04 49 55.8	+0.1
URZ				SN		S	04 50 41.4	-0.7
TSZ	**Takapari Road**	**5.30**	**204**	AML		AML	04 51 27.2	
BFZ	**Birch Farm**	**5.79**	**199**	PN		Pn	04 50 24.6	+0.5
OGWZ	**Otaki Gorge**	**6.25**	**206**	PN		Pn	04 50 30.3	+0.6

*NIED **19** 04:49:00,33.00N×142.60E, h5km, Mw4.0 Best double couple: M0 1.29000×10^15 NP1:φs6.00000°, δ16.00000°, λ-80.00000°. NP2:φs176.00000°, δ75.00000°, λ-93.00000°.*
*IDC **19** 04:49:47.7±0.8,32.88N×142.72E, h0km, mb3.9/10, mb1 4.1/13, mb1mx3.9/28, mbtmp3.9/13, ML4.0/3, MS3.0/4, Ms1 3.1/4, ms1mx2.7/27, Error ellipse: s-maj=28.8km s-min=16.9km az=86.0*

*NEIC **19** 04:49:49.2±0.5,32.89N×142.61E, h10km, mb4.5/1, MW4.0(NIED), Error ellipse: s-maj=13.0km s-min=8.8km az=80.0*
*ISCJB **19** 04:49:50.5±0.5,32.95N±0.04×142.54E±0.06, h33km, mb3.9/11, MS3.0/1, Error ellipse: s-maj=8.9km s-min=4.4km az=145.7*
*JMA **19** 04:49:50.1±0.3,32.98N×142.63E, h68km, M4.1*
ISC 19 04:49:52.2±0.6,**32.95N**±0.05×**142.59E**±0.08,**h33**km,**n41**, σ1§**52**/52,**mb4.0**/11,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**2.17**	**322**	P		**Pn**	**04 50 24.5**	**-1.0**
BSO1				S		**Sn**	**04 50 50.4**	**-0.5**
JHJ2	**Mitsune**	**2.33**	**275**	P		**Pn**	**04 50 27.3**	**-0.9**
JHJ2				S		**Sn**	**04 50 56.7**	**+0.9**
JHJ2	**Mitsune**	**2.33**	**275**	*e*Pn		**Pn**	**04 50 26.9**	**-1.3**
JHCJ	**Hachijojimakas**	**2.34**	**274**	P		**Pn**	**04 50 28.3**	**-0.1**
BSO2	**Boso 2**	**2.36**	**320**	S		**Sn**	**04 50 55.7**	**-0.3**
BSO3	**Boso 3**	**2.53**	**318**	P		**Pn**	**04 50 30.2**	**-0.6**
BSO3				*e*S		**Sn**	**04 50 59.4**	**-0.9**
BSO4	**Boso 4**	**2.77**	**318**	P		**Pn**	**04 50 34.0**	**-0.1**
BSO4				*e*S		**Sn**	**04 51 06.2**	**-0.1**
JOD2	**Odawara 2**	**3.71**	**310**	P		**Pn**	**04 50 45.7**	**-1.5**
JOD2				*e*S		**Sn**	**04 51 28.4**	**-1.4**
JYN	**Shimob**	**4.21**	**308**	P		**Pn**	**04 50 53.6**	**-0.5**
JYN				*e*S		**Sn**	**04 51 42.3**	**+0.2**
JRY	**Ryogami san**	**4.32**	**316**	P		**Pn**	**04 50 54.7**	**-0.9**
JRY				S		**Sn**	**04 51 43.1**	**-1.7**
JAG	**Ashikaga**	**4.33**	**324**	P		**Pn**	**04 50 55.3**	**-0.4**
JAG				*e*S		**Sn**	**04 51 41.9**	**-3.0**
JFT	**Otama**	**4.92**	**339**	P		**Pn**	**04 51 03.0**	**-0.8**
JFT				*e*S		**Sn**	**04 51 55.3**	**-4.3**
MJAR	**Matsushiro Arr**	**5.08**	**316**	Pn		**Pn**	**04 51 06.2**	**+0.1**
	3.4nm,0.3s,baz=201,slow=9.6,SNR=20							
MJAR				Sn		**Sn**	**04 52 01.4**	**-2.3**
	4.7nm,0.3s,baz=206,slow=23,SNR=8.0							
MAJO	**Matsushiro**	**5.09**	**316**	*e*Pn		**Pn**	**04 51 06.2**	**+0.1**
	17nm,0.5s							
MAJO				*e*Sn		**Sn**	**04 52 02.4**	**-1.4**
MAT	**Matsushiro**	**5.09**	**316**	P		**Pn**	**04 51 06.5**	**+0.4**
MAT				S		**Sn**	**04 52 02.1**	**-1.6**
MAT	**Matsushiro**	**5.09**	**316**	P		**Pn**	**04 51 06.5**	**+0.4**
MAT				S		**Sn**	**04 52 02.2**	**-1.5**
JIE	**Ise**	**5.11**	**288**	P		**Pn**	**04 51 06.4**	**0.0**
JNS	**Sasagawa**	**5.55**	**332**	P		**Pn**	**04 51 12.1**	**-0.3**
CBIJ	**Chichi jima**	**5.84**	**184**	Pn		**Pn**	**04 51 15.1**	**-1.4**
CBIJ				Sn		**Sn**	**04 52 18.7**	**-3.7**
JCJ	**Chichijima**	**5.84**	**184**	Pn		**Pn**	**04 51 15.1**	**-1.4**
	8.1nm,0.3s,baz=357,slow=20,SNR=30							
JCJ				Sn		**Sn**	**04 52 18.7**	**-3.7**
	20nm,0.3s,baz=285,slow=22,SNR=6.0							
JNU	**Nakatsue**	**9.83**	**274**	LR		LR	04 55 45.4	
	comp=Z,111nm,21.1s,baz=86,slow=36							
ASAJ	**Asahikawa**	**11.15**	**0**	Pn		**Pn**	**04 52 27.3**	**-2.0**
	1.2nm,0.3s,baz=236,slow=12,SNR=8.0							
ASAJ				Sn		Sn	04 54 23.6	-9.1
ASAJ	**Asahikawa**	**11.15**	**0**	*e*Pn		**Pn**	**04 52 27.2**	**-2.0**
	2.0nm,0.4s							
ASAJ				Sn		Sn	04 54 23.6	-9.1
KSRS	**Korea Array**	**12.80**	**295**	LR		LR	04 58 53.3	
	comp=Z,51nm,18.4s,baz=72,slow=42							
USRK	**Ussuriysk Ar.**	**13.95**	**327**	LR		LR	05 00 13.9	
	comp=Z,62nm,18.2s,baz=279,slow=44							
SONM	**Songino Array**	**31.00**	**309**	P		P	04 56 09.6	+2.9
	0.7nm,0.3s,baz=114,slow=3.6,SNR=8.6							
KKM	**Kota Kinabalu**	**36.31**	**228**	*e*P		**P**	**04 56 52.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**41.59**	**261**	LR		LR	05 17 23.7	
	comp=Z,20nm,18.0s,baz=300,slow=40							
ZALV	**Zalesovo Beam**	**45.44**	**315**	P		**P**	**04 58 07.8**	**+0.1**
	0.5nm,0.6s,baz=83,slow=6.0,SNR=2.8							
ZALV				PcP		**PcP**	**04 59 46.2**	**-0.2**
	1.2nm,0.7s,baz=103,slow=3.3,SNR=4.2							
MK31	**Makanchi Array**	**47.19**	**306**	*e*P		**P**	**04 58 23.0**	**+1.3**
KURK	**Kurchatov**	**49.27**	**311**	*e*P		**P**	**04 58 38.4**	**+0.7**
	4.1nm,0.8s							
ILAR	**Eielson Array**	**52.47**	**31**	P		**P**	**04 59 01.1**	**-0.5**
	0.3nm,0.6s,baz=254,slow=6.7,SNR=5.8							
WRA	**Warramunga Arr**	**53.18**	**190**	P		**P**	**04 59 06.6**	**-0.5**
	1.2nm,0.5s,baz=6.4,slow=7.6,SNR=7.3							
ASAR	**Alice Springs**	**56.90**	**190**	P		**P**	**04 59 34.0**	**-0.1**
	0.4nm,0.8s,baz=12,slow=14,SNR=3.6							
ABKAR	**Akbulak array**	**61.35**	**312**	*e*P		**P**	**05 00 05.7**	**+1.1**
YKA	**Yellowknife Ar**	**66.87**	**29**	P		**P**	**05 00 41.2**	**+0.6**
	0.3nm,0.6s,baz=294,slow=6.3,SNR=5.4							
ARCES	**ARCESS Array B**	**68.16**	**340**	P		**P**	**05 00 50.8**	**+2.2**
	4.1nm,1.1s,baz=81,slow=8.3,SNR=3.1							
FINES	**FINESS Array B**	**72.88**	**333**	P		**P**	**05 01 18.8**	**+1.3**
	2.0nm,0.9s,baz=104,slow=5.9,SNR=3.4							
NOA	**NORSAR Array B**	**78.33**	**338**	P		**P**	**05 01 49.8**	**+1.0**
	1.3nm,0.8s,baz=37,slow=5.4,SNR=3.4							
TXAR	**Lajitas Array**	**91.83**	**53**	P		**P**	**05 02 58.9**	**+1.6**
	0.3nm,0.5s,baz=298,slow=4.0,SNR=4.0							
TORD	**Torodi Ar. Bea**	**120.88**	**314**	PKP		**PKPdf**	**05 08 43.7**	**+2.0**
	0.2nm,0.7s,baz=338,slow=1.3,SNR=4.4							

DJA 19 05:10:47.9±0.3,**2.S**±2.×**13.6E**±.,**h10**km,**M3.7**/4,**MLv3.7**/4, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.04**	**194**	P		Pg	05 10 49.6	-0.2
SRPI				S		Sg	05 10 51.9	+0.7
BAKI	**Biak**	**0.65**	**347**	P		Pg	05 10 59.4	-1.1
BAKI				S		Sb	05 11 10.0	-0.5
RKPI	**Ransiki, Papua**	**2.10**	**279**	P		Pn	05 11 23.4	+0.3
RKPI				S		Sn	05 11 50.5	+1.2
SMPI	**Sarmi**	**2.46**	**94**	P		Pn	05 11 28.7	+0.5
GENI	**Genyem**	**3.99**	**101**	P		Pn	05 11 49.1	0.0
FAKI	**Fak Fak**	**4.14**	**255**	P		Pn	05 11 51.4	+0.1

WEL 19 06:04:09.4±0.4,**38.16S**×**178.76E**,**h33**km,**ML4.0**/22, **12C-15D, Error ellipse: s-maj=4.1km s-min=1.3km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PUZ	**Puketiti**	**0.41**	**282**	↑PN		Pn	06 04 19.0	-0.1
PUZ				SN		Sn	06 04 25.9	+0.4
WMGZ	**Waiomatatini S**	**0.43**	**321**	↑PN		Pn	06 04 19.5	+0.1
WMGZ				SN		Sn	06 04 26.3	+0.2
CNGZ	**Carnagh Statio**	**0.55**	**233**	↓PN		Pn	06 04 21.9	+1.0
TWGZ	**Tauwhareparae**	**0.61**	**268**	↑PN		Pn	06 04 21.5	-0.4
TWGZ				SN		Sn	06 04 30.7	0.0
MXZ	**Matakaoa Point**	**0.69**	**329**	PN		Pn	06 04 22.7	-0.2
MXZ				SN		Sb	06 04 32.3	-0.1
TKGZ	**Te Karaka**	**0.77**	**248**	↓PN		Pn	06 04 23.8	-0.2
HAZ	**Te Kaha**	**0.87**	**297**	↑PN		Pn	06 04 24.2	-1.2
HAZ				SN		Sn	06 04 35.0	-1.9
RIGZ	**Rimuhau**	**0.96**	**235**	↓PN		Pn	06 04 26.4	-0.2
MWZ	**Matawai**	**0.99**	**259**	PN		Pn	06 04 25.9	-1.1
MWZ				AML		AML	06 04 39.1	
MWZ				AML		AML	06 04 39.1	
MWZ				AML		AML	06 04 39.1	
MWZ				AML		AML	06 04 39.1	
RAGZ	**Rawiri**	**1.11**	**252**	↓PN		Pn	06 04 28.0	-0.8
KNZ	**Kokohu**	**1.21**	**224**	↓PN		Pn	06 04 29.5	-0.6
SNGZ	**Shannon Statio**	**1.28**	**240**	↓PN		Pn	06 04 30.4	-0.6
URZ	**Urewera**	**1.30**	**265**	↓PN		Pn	06 04 30.6	-0.7
URZ				AML		AML	06 04 47.2	
URZ				AML		AML	06 04 50.6	
WHHZ	**Waihua**	**1.51**	**232**	↓PN		Pn	06 04 33.6	-0.6
RAHZ	**Arahi**	**1.52**	**239**	PN		Pn	06 04 33.6	-0.7
ARHZ	**Arapoaanui**	**1.77**	**231**	PN		Pn	06 04 37.0	-0.7
OPRZ	**Ohinepanea**	**1.77**	**279**	↑PN		Pn	06 04 35.9	-1.8
RRRZ	**Republican Roa**	**1.78**	**263**	↑PN		Pn	06 04 36.8	-1.1
TARZ	**Mount Tarawera**	**1.78**	**267**	PN		Pn	06 04 37.1	-0.9
NMHZ	**Naumai**	**1.80**	**238**	↓PN		Pn	06 04 37.6	-0.6
PRRZ	**Plateau Road**	**1.89**	**259**	↓PN		Pn	06 04 38.4	-1.0
ALRZ	**Allen Road**	**1.94**	**257**	PN		Pn	06 04 39.1	-1.1
HRRZ	**Handcock Road**	**1.96**	**262**	↓PN		Pn	06 04 39.5	-1.0
CKHZ	**Cape Kidnapper**	**2.00**	**221**	PN		Pn	06 04 39.8	-1.0
TGRZ	**Tauranga**	**2.02**	**281**	PN		Pn	06 04 39.2	-2.0
BKZ	**Black Stump Fm**	**2.04**	**240**	PN		Pn	06 04 40.8	-0.8
MCHZ	**McNeill Hill**	**2.06**	**231**	PN		Pn	06 04 41.0	-0.8
KAHZ	**Kahuranaki**	**2.20**	**221**	PN		Pn	06 04 42.5	-1.2
KWHZ	**Kaweka Forest**	**2.22**	**235**	PN		Pn	06 04 43.2	-0.9
KRHZ	**Kereru**	**2.38**	**231**	↑PN		Pn	06 04 45.0	-1.2
PXZ	**Pawanui**	**2.39**	**218**	PN		Pn	06 04 44.3	-1.9
PXZ				AML		AML	06 05 14.6	
PXZ				AML		AML	06 05 14.6	
PXZ				AML		AML	06 05 14.8	
PXZ				AML		AML	06 05 14.8	
BHHZ	**Black Hill Sta**	**2.49**	**237**	PN		Pn	06 04 46.5	-1.2
OTVZ	**Oturere**	**2.62**	**246**	PN		Pn	06 04 48.4	-1.3
OTVZ				AML		AML	06 05 18.1	
OTVZ				AML		AML	06 05 23.5	
WPHZ	**Waipukurau**	**2.63**	**223**	↓PN		Pn	06 04 47.6	-1.9
PNHZ	**Pukenui**	**2.66**	**228**	↑PN		Pn	06 04 48.2	-1.9
MOVZ	**Moawhango**	**2.66**	**241**	PN		Pn	06 04 49.2	-0.9
MOVZ				AML		AML	06 05 19.9	
MOVZ				AML		AML	06 05 20.0	
NGZ	**Ngauruhoe**	**2.67**	**247**	↓PN		Pn	06 04 49.1	-1.3
NGZ				AML		AML	06 05 21.2	
NGZ				AML		AML	06 05 36.9	
PRHZ	**Porangahau**	**2.68**	**217**	PN		Pn	06 04 47.9	-2.3
WHVZ	**Whangaehu Hut**	**2.72**	**245**	PN		Pn	06 04 49.7	-1.5
WNVZ	**Wahianoa**	**2.74**	**244**	↓PN		Pn	06 04 49.9	-1.4
FWVZ	**Far West T-bar**	**2.74**	**245**	PN		Pn	06 04 50.2	-1.2
FWVZ				AML		AML	06 05 20.0	
FWVZ				AML		AML	06 05 26.0	
TRVZ	**Turoa**	**2.76**	**245**	PN		Pn	06 04 50.2	-1.5
TRVZ				AML		AML	06 05 27.7	
TRVZ				AML		AML	06 05 27.9	
KUZ	**Kuaotunu**	**2.80**	**299**	PN		Pn	06 04 49.5	-2.3
KUZ				AML		AML	06 05 09.0	
KUZ				AML		AML	06 05 19.8	
MTVZ	**Mangateitei**	**2.85**	**243**	PN		Pn	06 04 51.9	-0.8
MTVZ				AML		AML	06 05 23.8	
MTVZ				AML		AML	06 05 46.0	
TSZ	**Takapari Road**	**2.89**	**228**	PN		Pn	06 04 50.7	-2.5
TSZ				AML		AML	06 05 24.2	
TSZ				AML		AML	06 05 27.2	
ANWZ	**Angora Road**	**2.91**	**217**	PN		Pn	06 04 50.9	-2.4
DVHZ	**Dannevirke**	**2.94**	**222**	PN		Pn	06 04 51.5	-2.4
MKAZ	**Moumakai**	**3.04**	**289**	↑PN		Pn	06 04 53.4	-1.8
HIZ	**Hauiti**	**3.09**	**262**	PN		Pn	06 04 55.3	-0.6
BFZ	**Birch Farm**	**3.19**	**217**	PN		Pn	06 04 54.2	-3.0
POWZ	**Post Office Ro**	**3.22**	**225**	PN		Pn	06 04 55.5	-2.2
PRWZ	**Pori Road**	**3.23**	**221**	PN		Pn	06 04 55.6	-2.2
VRZ	**Vera Road**	**3.28**	**252**	PN		Pn	06 04 57.7	-0.8
WAZ	**Wanganui**	**3.35**	**240**	↑PN		Pn	06 04 58.9	-0.5
WAZ				AML		AML	06 05 45.5	
WAZ				AML		AML	06 05 46.8	
CPWZ	**Castlepoint**	**3.39**	**215**	PN		Pn	06 04 57.4	-2.6
TIWZ	**Tintock**	**3.44**	**219**	PN		Pn	06 04 57.8	-2.9
TIWZ				AML		AML	06 05 39.1	
TIWZ				AML		AML	06 05 40.1	
MRZ	**Mangatainoka R**	**3.51**	**224**	↑PN		Pn	06 04 59.0	-2.8
MRZ				AML		AML	06 05 38.4	
MRZ				AML		AML	06 05 39.8	
TMWZ	**Te Maipa**	**3.69**	**216**	PN		Pn	06 05 00.8	-3.4
HOWZ	**Holdsworth Sta**	**3.71**	**221**	PN		Pn	06 05 01.3	-3.2
NEZ	**North Egmont**	**3.81**	**252**	PN		Pn	06 05 06.1	+0.1
OGWZ	**Otaki Gorge**	**3.84**	**225**	PN		Pn	06 05 03.2	-3.1
MTW	**Mount Morrison**	**3.91**	**219**	PN		Pn	06 05 03.5	-3.7
MTW				AML		AML	06 05 49.7	
MTW				AML		AML	06 05 49.7	
TRWZ	**Traveller**	**4.01**	**215**	PN		Pn	06 05 04.4	-4.2
TRWZ				AML		AML	06 05 52.0	
KIW	**Kapiti Island**	**4.02**	**227**	↑PN		Pn	06 05 05.6	-3.1
KIW				AML		AML	06 05 50.8	
KIW				AML		AML	06 05 52.3	
CAW	**Cannon Point**	**4.10**	**223**	PN		Pn	06 05 06.3	-3.5
CAW				AML		AML	06 05 53.4	
CAW				AML		AML	06 05 53.5	
PAWZ	**Paruwai Farm**	**4.12**	**218**	PN		Pn	06 05 06.3	-3.8
PAWZ				AML		A

KCSI	**Kotacane, Aceh**	**2.50**	**18**	P	Pn	07 06 17.2	+0.4
MNSI	**Mandailing Nat**	**2.59**	**97**	P	Pn	07 06 17.6	-0.3
MNSI				S	Sn	07 06 32.7	-16
TSI	**Tuntungan**	**2.83**	**33**	P	Pn	07 06 21.0	-0.2

*IDC **19** 07:20:30.1±1.5, 17.65N×119.43E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.6/29, mbtmp3.6/5, MS2.8/3, Ms1 2.9/3, ms1mx2.6/20, Error ellipse: s-maj=81.3km s-min=20.4km az=82.0*

ISC 19 07:20:34.7±1.4, 17.7N±0.2×119.5E±0.3, h32km, n8, σ1§16/7, mb3.5/5, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCPH	**Baguio City Da**	**1.61**	**141**	⇓*iP*	**Pb**	**07 21 02.9**	**-1.0**
BCPH				*i* S	**Sb**	**07 21 24.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**19.59**	**276**	LR	LR	07 31 23.1	
	comp=Z,47nm,20.1s,baz=166,slow=34						
KSRS	**Korea Array**	**21.07**	**19**	P	**P**	**07 25 15.6**	**-0.6**
	1.9nm,0.7s,baz=203,slow=12,SNR=10						
KSRS				LR	LR	07 33 15.0	
	comp=Z,23nm,19.3s,baz=215,slow=36						
MJAR	**Matsushiro Arr**	**25.03**	**38**	LR	LR	07 36 07.4	
	comp=Z,13nm,18.4s,baz=25,slow=37						
SONM	**Songino Array**	**31.98**	**343**	P	**P**	**07 26 57.5**	**-0.4**
	0.3nm,0.4s,baz=164,slow=5.8,SNR=3.6						
WRA	**Warramunga Arr**	**40.09**	**158**	P	**P**	**07 28 06.7**	**-0.7**
	0.7nm,0.8s,baz=338,slow=9.0,SNR=3.7						
ASAR	**Alice Springs**	**43.39**	**161**	P	**P**	**07 28 35.5**	**+1.0**
	0.7nm,0.8s,baz=338,slow=6.3,SNR=10						
ILAR	**Eielson Array**	**75.72**	**26**	P	**P**	**07 32 18.1**	**+1.2**
	0.2nm,0.8s,baz=272,slow=6.5,SNR=4.9						

*IDC **19** 07:32:09.7±1.1, 1.99N×101.86W, h0km, mb3.9/11, mb1 4.2/12, mb1mx3.9/34, mbtmp3.9/12, ML3.8/1, MS3.7/11, Ms1 3.7/11, ms1mx3.6/19, Error ellipse: s-maj=35.7km s-min=15.7km az=51.0*

*ISCJB **19** 07:32:11.4±0.9, 2.0N±0.1×101.7W±0.1, h10km, mb4.2/33, MS3.6/9, Error ellipse: s-maj=22.5km s-min=9.8km az=143.0*

*NEIC **19** 07:32:12.5±0.9, 1.90N×101.84W, h10km, mb4.5/23, Error ellipse: s-maj=23.0km s-min=10.6km az=51.0*

ISC 19 07:32:11.7±0.9, 1.9N±0.1×101.9W±0.2, h10km, n58, σ1§48/42, mb4.2/33, MS3.5/9, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**16.61**	**24**	LR	LR	07 41 00.5	
	comp=Z,633nm,18.6s,baz=200,slow=32						
JTS	**JuntasAbangare**	**18.79**	**63**	P	**P**	**07 36 28.8**	**-2.7**
	0.3nm,0.3s,baz=233,slow=20,SNR=3.4						
JTS				LR	LR	07 40 59.7	
	comp=Z,180nm,20.0s,baz=220,slow=28						
JTS	**JuntasAbangare**	**18.79**	**63**	*eP*	**P**	**07 36 28.8**	**-2.7**
	28nm,1.6s						
OTAV	**Otavalo**	**23.50**	**94**	*eP*	**P**	**07 37 25.4**	**+2.9**
	36nm,1.5s						
LPIG	**La Paz**	**23.54**	**340**	LR	LR	07 43 11.5	
	comp=Z,110nm,18.4s,baz=184,slow=28						
ATAH	**Atahualpa**	**25.10**	**111**	P	**P**	**07 37 37.6**	**+0.2**
	9.6nm,0.9s,baz=293,slow=4.0,SNR=5.1						
TXAR	**Lajitas Array**	**27.35**	**357**	P	**P**	**07 37 56.7**	**-0.5**
	0.7nm,0.7s,baz=178,slow=11,SNR=7.5						
TXAR				PcP	**PcP**	**07 41 15.3**	**-1.2**
	0.2nm,0.9s,baz=152,slow=4.1,SNR=2.7						
TXAR				LR	LR	07 47 53.1	
	comp=Z,338nm,18.6s,baz=0.0,slow=35						
ROSC	**El Rosal**	**27.67**	**83**	LR	LR	07 47 24.6	
	comp=Z,131nm,19.3s,baz=296,slow=33						
JCT	**Junction City**	**28.51**	**4**	*eP*	**P**	**07 38 08.7**	**+1.2**
	3.6nm,0.5s						
WMOK	**Wichita Mounta**	**32.82**	**5**	*eP*	**P**	**07 38 44.2**	**-1.2**
	4.7nm,1.4s						
MIAR	**Mount Ida**	**33.41**	**13**	*eP*	**P**	**07 38 51.5**	**+0.8**
	29nm,1.6s						
LRAL	**Lakeview Retre**	**34.00**	**23**	*eP*	**P**	**07 38 56.1**	**+0.4**
	21nm,1.7s						
TUL1	**Leonard**	**34.33**	**9**	*eP*	**P**	**07 38 58.5**	**-0.1**
	5.4nm,0.7s						
PBMO	**Poplar Bluff**	**36.30**	**16**	*eP*	**P**	**07 39 17.2**	**+1.6**
WVT	**Waverly**	**36.48**	**19**	*eP*	**P**	**07 39 17.1**	**-0.1**
	12nm,1.4s						
ISA	**Isabella, Lake**	**36.97**	**337**	*eP*	**P**	**07 39 23.2**	**+1.8**
	2.9nm,0.8s						
SIUC	**Southern Illin**	**37.52**	**17**	*eP*	**P**	**07 39 27.1**	**+1.2**
	8.8nm,0.7s						
TKL	**Tuckaleechee C**	**37.58**	**25**	P	**P**	**07 39 26.2**	**-0.3**
	4.2nm,0.9s,baz=186,slow=9.7,SNR=7.6						
LPAZ	**La Paz**	**37.92**	**120**	P	**P**	**07 39 30.9**	**+0.6**
	2.9nm,0.9s,baz=267,slow=6.5,SNR=8.0						
LPAZ				LR	LR	07 53 06.7	
	comp=Z,245nm,20.6s,baz=313,slow=33						
LPAZ	**La Paz**	**37.92**	**120**	*eP*	**P**	**07 39 31.5**	**+1.2**
	6.1nm,1.1s						
NVAR	**Mina Array Bea**	**39.36**	**340**	P	**P**	**07 39 41.9**	**+0.2**
	0.3nm,0.5s,baz=127,slow=10,SNR=3.7						
SAML	**Samuel**	**40.05**	**106**	*eP*	**P**	**07 39 47.5**	**-0.1**
	4.6nm,0.8s						
HWUT	**Hardware Ranch**	**40.49**	**349**	*eP*	**P**	**07 39 52.9**	**+1.8**
	1.4nm,0.8s						
RKT	**Rikitea**	**40.69**	**230**	*eT*	T	08 22 32.5	
	2.2nm,0.3s						
PDAR	**Pinedale Array**	**41.28**	**351**	P	**P**	**07 39 57.0**	**-0.6**
	1.2nm,0.8s,baz=140,slow=7.2,SNR=8.1						
PDAR				LR	LR	07 55 38.6	
	comp=Z,30nm,18.2s,baz=179,slow=34						
JSRW	**J. Sargeant Re**	**41.92**	**29**	*eP*	**P**	**07 40 03.5**	**+0.9**
ECSD	**EROS Data Cent**	**41.94**	**6**	*eP*	**P**	**07 40 02.4**	**-0.3**
	53nm,2.6s						
PTGA	**Pitinga**	**42.00**	**93**	P	**P**	**07 40 02.2**	**-1.4**
	1.6nm,0.6s,baz=311,slow=18,SNR=4.2						
RSSD	**Black Hills**	**42.10**	**358**	*eP*	**P**	**07 40 05.6**	**+1.3**
	3.9nm,1.1s						
JFWS	**Jewell Farm**	**42.16**	**13**	*eP*	**P**	**07 40 04.4**	**-0.1**
	10.0nm,0.6s						
MFID	**Camas Ranch**	**43.18**	**345**	*eP*	**P**	**07 40 13.9**	**+1.0**
	3.1nm,1.2s						
SPMN	**Marine on St.**	**43.90**	**9**	*eP*	**P**	**07 40 18.1**	**-0.4**
	3.9nm,0.5s						
SSPA	**Standing Stone**	**44.27**	**26**	*eP*	**P**	**07 40 22.4**	**+0.8**
	6.3nm,1.1s						
LUPA	**Lehigh Univers**	**45.40**	**29**	*eP*	**P**	**07 40 33.1**	**+2.5**
	0.8nm,0.9s						
MMNY	**Mt. Morris Dam**	**45.98**	**25**	*eP*	**P**	**07 40 38.0**	**+2.8**
	18nm,0.9s						
CFAA	**Coronel Fontan**	**46.15**	**139**	P	**P**	**07 40 36.8**	**+0.1**
	0.2nm,0.7s,baz=298,slow=8.5,SNR=4.4						
SADO	**Sadowa**	**47.20**	**22**	P	P	07 40 41.8	-2.9
	4.3nm,0.7s,baz=243,slow=9.1,SNR=4.1						
PTN	**Potsdam (NY)**	**48.71**	**26**	*eP*	**P**	**07 40 57.6**	**+1.2**
	20nm,1.0s						
PPT	**Papeete**	**50.79**	**246**	LR	LR	07 56 57.9	
	comp=Z,84nm,19.2s,baz=110,slow=29						
PPT2	**Papeete2**	**50.80**	**246**	*eLR*	LR	07 55 30.5	
	195nm,29.2s						
SCHQ	**Schefferville**	**60.00**	**23**	LR	LR	08 08 36.2	
	comp=Z,69nm,18.5s,baz=23,slow=36						
DLBC	**Dease Lake**	**60.57**	**343**	P	**P**	**07 42 21.6**	**-0.8**
	1.4nm,0.8s,baz=129,slow=3.9,SNR=4.4						
DLBC	**Dease Lake**	**60.57**	**343**	*eP*	**P**	**07 42 23.8**	**+1.4**
YKA	**Yellowknife Ar**	**61.21**	**353**	P	**P**	**07 42 24.9**	**-1.6**
	0.4nm,0.7s,baz=160,slow=7.5,SNR=3.2						
BMRM	**Bremner River**	**67.25**	**339**	*eP*	P	07 43 09.4	+3.2
	8.9nm,1.1s						
ILAR	**Eielson Array**	**70.58**	**341**	P	**P**	**07 43 24.1**	**-2.8**
	0.6nm,0.8s,baz=143,slow=2.3,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**90.50**	**290**	T	T	09 25 08.5	
	baz=85						
H11N2	**WAKE ISLAND Hy**	**90.51**	**290**	T	T	09 25 10.8	
	baz=85						
H11N1	**WAKE ISLAND Hy**	**90.52**	**290**	T	T	09 25 10.8	
	baz=85						
H11S2	**WAKE ISLAND Hy**	**90.74**	**288**	T	T	09 25 23.1	
	baz=91,slow=72,SNR=10						
H11S1	**WAKE ISLAND Hy**	**90.74**	**288**	T	T	09 25 25.6	
	baz=91,slow=72,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**90.75**	**288**	T	T	09 25 23.8	
	baz=91,slow=72,SNR=7.8						
PETK	**Petropavlovsk-**	**94.75**	**323**	LR	LR	08 20 49.9	
	comp=Z,14nm,19.1s,baz=94,slow=31						
NOA	**NORSAR Array B**	**99.35**	**27**	LR	LR	08 27 51.5	
	comp=Z,16nm,21.7s,baz=315,slow=34						
CN2	**Changchun**	**117.90**	**323**	*ePKP*	**PKPdf**	**07 50 57.1**	**-1.8**
WMQ	**Urumqi**	**133.69**	**350**	*ePKP*	**PKPdf**	**07 51 31.3**	**+2.1**
CD2	**Chengdu**	**139.26**	**325**	PKP	**PKPdf**	**07 51 40.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**151.21**	**315**	PKPbc	**PKPbc**	**07 52 05.7**	**-0.7**
	1.5nm,0.5s,baz=356,slow=0.8,SNR=7.4						

IDC 19 08:17:57.2±1.1, 3.24N×126.87E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/34, mbtmp3.8/5, MS3.5/2, Ms1 3.5/2, ms1mx2.7/29, Error ellipse: s-maj=163.6km s-min=18.9km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.18**	**163**	P	P	08 23 14.7	-0.8
	2.1nm,0.5s,baz=341,slow=11,SNR=18						
ASAR	**Alice Springs**	**27.61**	**166**	P	P	08 23 46.1	-0.4
	0.5nm,0.8s,baz=352,slow=7.9,SNR=4.9						
STKA	**Stephens Creek**	**37.63**	**159**	P	P	08 25 15.2	+1.2
	3.1nm,0.7s,baz=341,slow=9.7,SNR=7.2						
STKA				LR	LR	08 44 43.3	
	comp=Z,56nm,18.5s,baz=24,slow=43						
H11S3	**WAKE ISLAND Hy**	**41.80**	**66**	T	T	09 10 13.6	
	baz=256,slow=74,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**41.82**	**66**	T	T	09 10 14.3	
	baz=256						
H11S2	**WAKE ISLAND Hy**	**41.82**	**66**	T	T	09 10 13.9	
	baz=256,slow=74,SNR=7.7						
SONM	**Songino Array**	**47.80**	**341**	P	P	08 26 35.0	-1.6
	0.3nm,0.4s,baz=156,slow=7.9,SNR=2.4						
ZALV	**Zalesovo Beam**	**61.08**	**333**	P	P	08 28 13.9	+0.9
	0.4nm,0.4s,baz=130,slow=6.2,SNR=2.7						
NOA	**NORSAR Array B**	**99.28**	**334**	LR	LR	09 19 57.3	
	comp=Z,19nm,18.7s,baz=330,slow=38						

*ISCJB **19** 08:33:40.4±1.1, 1.94S±0.09×136.35E±0.07, h18km±13km, mb3.7/2, Error ellipse: s-maj=14.7km s-min=11.1km az=13.4*

*DJA **19** 08:33:41.4±0.3, 2.2°S±4.4°×137.6E±°, h10km, M3.9/4, MLv3.9/4*

*IDC **19** 08:34:01.2±23.0, 4.29S×137.60E, h0km, mb4.2/1, mb1 4.1/3, mb1mx3.6/21, mbtmp3.9/3, ML3.8/2, Error ellipse: s-maj=412.8km s-min=130.8km az=145.0*

ISC 19 08:33:41.0±1.2, 1.87S±0.07×136.36E±0.06, h16km±9km, n10, σ1§07/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.12**	**269**	P	**Pg**	**08 33 44.5**	**-0.2**
BAKI	**Biak**	**0.72**	**339**	P	**Pg**	**08 33 54.3**	**-0.8**
BAKI				S	**Sg**	**08 34 04.9**	**+0.3**
RKPI	**Ransiki, Papua**	**2.21**	**279**	P	**Pn**	**08 34 18.4**	**+1.3**
SMPI	**Sarmi**	**2.35**	**93**	P	**Pn**	**08 34 20.0**	**+1.0**
GENI	**Genyem**	**3.87**	**101**	P	**Pn**	**08 34 40.9**	**+0.9**
FAKI	**Fak Fak**	**4.24**	**256**	P	**Pn**	**08 34 45.6**	**+0.6**
JAY	**Jayapura**	**4.39**	**99**	P	**Pn**	**08 34 47.9**	**+0.8**
WRA	**Warramunga Arr**	**18.07**	**186**	Pn	Pn	08 37 45.9	-5.8
	0.3nm,0.3s,baz=10,slow=13,SNR=14						
ASAR	**Alice Springs**	**21.80**	**186**	P	**P**	**08 38 31.4**	**-1.3**
	0.6nm,0.3s,baz=14,slow=10,SNR=33						
STKA	**Stephens Creek**	**30.25**	**171**	P	**P**	**08 39 51.1**	**-0.2**
	1.6nm,0.5s,baz=340,slow=8.7,SNR=6.1						

IDC 19 08:35:26.8±1.4, 3.24N×126.59E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/27, mbtmp3.9/4, Error ellipse: s-maj=173.3km s-min=23.5km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.26**	**162**	P	P	08 40 45.4	-0.5
	5.8nm,0.8s,baz=341,slow=10,SNR=19						
ASAR	**Alice Springs**	**27.68**	**165**	P	P	08 41 16.4	-0.3
	0.5nm,0.8s,baz=353,slow=7.5,SNR=5.1						
STKA	**Stephens Creek**	**37.72**	**159**	P	P	08 42 45.2	+0.9
	5.1nm,0.8s,baz=324,slow=8.6,SNR=5.6						
SONM	**Songino Array**	**47.72**	**342**	P	P	08 44 05.1	-0.4
	0.5nm,0.6s,baz=156,slow=8.3,SNR=3.2						

SJA 19 08:54:32.8±0.5, 22.59S×64.15W, h14km±4km, ML3.5, MW3.3, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALOL	**LOMAS DE OLMED**	**1.23**	**172**	*eP*	Pb	08 54 56.2	+0.1
ALOL				IAML		08 54 56.8	
	comp=Z,23μm,0.3s						
ALOL				*eS*	Sg	08 55 13.2	+0.4
HJA	**Humahuaca**	**1.31**	**242**	*eP*	Pg	08 54 58.3	-0.4
ASTB	**Santa Barbara**	**1.39**	**193**	*eP*	Pb	08 54 59.3	+0.4
ASTB				*eS*	Sg	08 55 18.8	+0.6
AZAP	**Zapla**	**1.83**	**207**	*eP*	Pb	08 55 06.8	+0.2
SLA	**San Lorenzo**	**2.46**	**210**	*eP*	Pb	08 55 15.2	-1.9
SLA				IAML		08 55 54.8	
	comp=Z,8.6nm,0.5s						

IDC 19 09:05:57.7±10.0, 24.87S×179.05W, h520km±54km, mb3.2/4, mb1 3.3/6, mb1mx3.0/30, mbtmp4.2/6, Error ellipse: s-maj=168.3km s-min=40.8km az=67.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.60**	**279**	P	P	09 08 53.0	-0.2
	0.2nm,0.3s,baz=90,slow=20,SNR=3.7						
URZ	**Urewera**	**13.74**	**193**	P	P	09 08 55.1	+0.8
	0.4nm,0.3s,baz=299,slow=10,SNR=3.0						
URZ				S	S	09 11 16.5	-3.4
	0.3nm,0.3s,baz=137,slow=19,SNR=2.2						
CTA	**Charters Tower**	**32.36**	**271**	P	P	09 11 44.7	+0.5
	3.2nm,0.5s,baz=98,slow=14,SNR=8.0						
STKA	**Stephens Creek**	**35.18**	**249**	P	P	09 12 07.5	-0.4
	2.5nm,1.0s,baz=82,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**42.74**	**261**	P	P	09 13 09.1	-0.1
	0.9nm,0.5s,baz=92,slow=7.4,SNR=11						
WRA	**Warramunga Arr**	**43.22**	**267**	P	P	09 13 12.4	-0.4
	2.6nm,0.6s,baz=103,slow=8.0,SNR=12						

IDC 19 09:06:37.6±1.1, 2.75N×125.23E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/37, mbtmp3.7/5, Error ellipse: s-maj=80.7km s-min=21.2km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.26**	**159**	P	P	09 11 56.9	+0.2
	2.5nm,0.7s,baz=336,slow=11,SNR=15						
ASAR	**Alice Springs**	**27.59**	**163**	P	P	09 12 28.0	+1.2
	0.4nm,0.5s,baz=332,slow=9.6,SNR=6.3						
STKA	**Stephens Creek**	**37.79**	**157**	P	P	09 13 54.9	-0.9
	1.6nm,0.5s,baz=328,slow=8.9,SNR=7.0						
KURBB	**Kurchatov Arra**	**61.76**	**328**	P	P	09 16 58.0	-0.1
	0.7nm,0.7s,baz=136,slow=6.8,SNR=3.1						
ILAR	**Eielson Array**	**86.62**	**25**	P	P	09 19 22.4	-0.4
	0.1nm,0.5s,baz=282,slow=5.4,SNR=2.4						

*ISCJB **19** 09:20:34.9±0.4, 15.05N±0.03×120.00E±0.07, h55km, mb4.3/22, MS3.4/10, Error ellipse: s-maj=9.9km s-min=4.9km az=177.0*

*IDC **19** 09:20:34.2±3.2, 15.09N×119.87E, h33km±24km, mb4.0/16, mb1 4.2/16, mb1mx4.0/36, mbtmp4.2/16, MS3.5/11, Ms1 3.5/11, ms1mx3.2/43, Error ellipse: s-maj=31.6km s-min=12.7km az=80.0*

*NEIC **19** 09:20:39.1±0.8, 15.12N×120.10E, h80km±7km, mb4.5/6, Error ellipse: s-maj=12.3km s-min=5.8km az=79.0*

ISC 19 09:20:36.5±0.5, 15.06N±0.05×120.1E±0.1, h55km, n46, σ1§09/42, mb4.3/22, MS3.4/10, 4C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.27**	**139**	Pg	Pn	09 21 02.5	+4.4
TGY	**Tagaytay City**	**1.27**	**139**	⇑*iP*	Pn	09 21 02.7	+4.6
TGY				*i* S	**Sn**	**09 21 14.8**	**+0.6**
BCPH	**Baguio City Da**	**1.40**	**20**	⇑*iP*	**Pn**	**09 20 59.4**	**-0.6**
BCPH				*i* S	**Sn**	**09 21 15.7**	**-1.7**
LBPH	**Los Banos**	**1.40**	**130**	⇓*eP*	Sn	09 21 09.3	-8.0
LQP	**Lukban**	**1.71**	**124**	⇓*eP*	Pn	09 21 08.7	+4.6
PGP	**Puerto Galera**	**1.77**	**151**	⇑*eP*	Pn	09 21 08.3	+3.4
SZP	**Santa**	**2.50**	**8**	*ePn*	**Pn**	**09 21 15.5**	**+0.8**
SZP				*eSn*	**Sn**	**09 21 46.2**	**+2.2**
GQP	**Guinayangan**	**2.57**	**116**	⇓*eP*	Pn	09 21 20.4	+4.7
YULB	**Yu-li**	**8.37**	**8**	*ePn*	**Pn**	**09 22 38.2**	**+3.0**
	10nm,0.6s						
YULB				*eSn*	**Sn**	**09 24 11.2**	**+3.0**
KAPI	**Kappang**	**19.95**	**181**	P	**Pn**	**09 25 07.4**	**+1.1**
	0.8nm,0.3s,baz=323,slow=4.4,SNR=8.6						
KAPI				LR	LR	09 33 29.8	
	comp=Z,136nm,18.6s,baz=15,slow=39						
JNU	**Nakatsue**	**20.48**	**27**	P	**P**	**09 25 10.5**	**+0.6**
	7.2nm,0.9s,baz=240,slow=20,SNR=3.7						
CMAR	**Chiang Mai Arr**	**20.51**	**282**	P	**P**	**09 25 11.4**	**+1.1**
	1.6nm,0.4s,baz=92,slow=8.6,SNR=12						
CMAR				LR	LR	09 33 29.4	
	comp=Z,126nm,18.5s,baz=114,slow=38						
KSAR	**Wonju Array Be**	**23.34**	**16**	P	**P**	**09 25 39.2**	**-0.8**
KSRS	**Korea Array**	**23.36**	**16**	P	**P**	**09 25 39.2**	**-1.0**
	1.6nm,0.6s,baz=202,slow=11,SNR=15						
KSRS				LR	LR	09 34 52.8	
	comp=Z,61nm,21.7s,baz=193,slow=37						
JCJ	**Chichijima**	**23.81**	**56**	LR	LR	09 35 25.5	
	comp=Z,48nm,19.8s,baz=122,slow=37						
GUMO	**Guam**	**24.07**	**90**	LR	LR	09 34 41.9	
	comp=Z,61nm,20.2s,baz=3.5,slow=35						
SONM	**Songino Array**	**34.59**	**344**	P	**P**	**09 27 19.6**	**-0.6**
	0.7nm,0.7s,baz=158,slow=11,SNR=5.3						
SONM				LR	LR	09 43 13.1	
	comp=Z,106nm,18.8s,baz=120,slow=39						
ASAJ	**Asahikawa**	**34.72**	**29**	*eP*	**P**	**09 27 20.6**	**-0.6**
	3.2nm,1.1s						
COEN	**Coen**	**36.79**	**141**	*eP*	**P**	**09 27 39.2**	**-0.1**
	9.2nm,0.8s						
WRAB	**Tennant Creek**	**37.51**	**158**	*eP*	**P**	**09 27 44.8**	**-0.5**
	5.0nm,0.7s						
WRA	**Warramunga Arr**	**37.51**	**158**	P	**P**	**09 27 44.7**	**-0.6**
	5.0nm,0.6s,baz=336,slow=9.5,SNR=24						
WRA				PcP	**PcP**	**09 30 04.1**	**+1.3**
	0.7nm,0.6s,baz=344,slow=3.4,SNR=5.1						
AS31	**Alice Springs**	**40.80**	**160**	*eP*	**P**	**09 28 13.0**	**+0.2**
ASAR	**Alice Springs**	**40.80**	**160**	P	**P**	**09 28 13.1**	**+0.3**
	3.1nm,0.7s,baz=339,slow=6.9,SNR=23						
ASAR				PcP	**PcP**	**09 30 14.4**	**+1.3**
	1.0nm,0.8s,baz=340,slow=3.9,SNR=5.2						
YAK	**Yakutsk**	**47.40**	**6**	LR	LR	09 53 03.8	
	comp=Z,21nm,18.2s,baz=205,slow=41						
ZALV	**Zalesovo Beam**	**47.57**	**332**	P	**P**	**09 29 05.0**	**-1.5**
	1.0nm,0.5s,baz=128,slow=12,SNR=3.9						
ZALV				PcP	**PcP**	**09 30 35.6**	**-0.1**
	0.6nm,0.4s,baz=119,slow=5.4,SNR=2.1						
ZALV				LR	LR	09 50 01.2	
	comp=Z,65nm,18.5s,baz=70,slow=37						
AAK	**Ala-Archa**	**47.68**	**315**	LR	LR	09 50 48.5	
	comp=Z,130nm,21.0s,baz=81,slow=38						
NWAO	**Narrogin (SRO)**	**47.80**	**183**	P	**P**	**09 29 09.2**	**+0.7**
	11nm,0.6s,baz=327,slow=4.7,SNR=8.6						
PETK	**Petropavlovsk-**	**48.14**	**30**	P	**P**	**09 29 11.0**	**0.0**
	4.1nm,0.7s,baz=191,slow=6.0,SNR=4.6						
KURK	**Kurchatov**	**48.73**	**326**	*eP*	**P**	**09 29 14.8**	**-0.7**
STKA	**Stephens Creek**	**51.03**	**156**	P	**P**	**09 29 32.1**	**-1.1**
	2.6nm,0.8s,baz=306,slow=8.7,SNR=3.4						
STKA				LR	LR	09 53 36.6	
	comp=Z,34nm,18.7s,baz=16,slow=39						
TIXI	**Tiksi**	**56.81**	**3**	*eP*	**P**	**09 30 13.5**	**-1.3**
	3.4nm,0.6s						
ABKAR	**Akbulak array**	**59.31**	**319**	*eP*	**P**	**09 30 32.5**	**-0.2**
	2.0nm,0.7s						
ABKAR				*ePcP*	**PcP**	**09 31 19.7**	**-0.7**
AKTO	**Aktyubinsk**	**60.79**	**320**	LR	LR	09 58 45.9	
	comp=Z,65nm,18.2s,slow=38						
BPAW	**Bear Paw Mtn.**	**76.12**	**27**	*eP*	**P**	**09 32 18.6**	**+0.3**
	0.7nm,0.6s						
ARCES	**ARCESS Array B**	**77.60**	**339**	P	**P**	**09 32 26.1**	**-0.4**
	2.3nm,0.5s,baz=75,slow=6.7,SNR=23						
ILAR	**Eielson Array**	**77.80**	**26**	P	**P**	**09 32 28.6**	**+0.9**
	0.4nm,0.6s,baz=270,slow=4.1,SNR=11						
BRTR	**Keskin Array B**	**77.83**	**308**	P	**P**	**09 32 28.4**	**-0.2**
	0.5nm,0.5s,baz=128,slow=6.2,SNR=4.2						
FINES	**FINESS Array B**	**78.81**	**331**	P	**P**	**09 32 33.0**	**-0.3**
	1.9nm,0.5s,baz=69,slow=5.7,SNR=21						
BUR08	**Bucovina Ar. S**	**82.25**	**317**	*eP*	**P**	**09 32 51.9**	**-0.4**
NB2	**NORSAR Subarra**	**85.78**	**332**	P	**P**	**09 33 09.2**	**-0.6**
	comp=Z,5.2nm,0.7s,baz=67,slow=4.8						
NB2	**NORSAR Subarra**	**85.78**	**332**	P	**P**	**09 33 09.2**	**-0.6**
	baz=67,slow=4.8						
NOA	**NORSAR Array B**	**85.78**	**332**	P	**P**	**09 33 09.4**	**-0.4**
	comp=Z,3.4nm,0.6s,baz=66,slow=4.7,SNR=9.4						
BRG	**Berggiesshubel**	**88.29**	**322**	*eP*	P	09 33 12.7	-9.4
	comp=Z,9.2nm,1.5s						
BRG				*e*		09 33 22.4	
	comp=Z,5.2nm,1.0s						
GERES	**GERESS Array B**	**89.20**	**321**	P	**P**	**09 33 26.6**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=50,slow=4.2,SNR=10						
YKA	**Yellowknife Ar**	**91.75**	**22**	P	**P**	**09 33 38.0**	**0.0**
	comp=Z,0.

*ISCJB **19** 09:51:54.5±0.7, 39.75N±0.05, 35.11E±0.05, h9km±7km, Error ellipse: s-maj=9.4km s-min=5.8km az=23.9*

*CSEM **19** 09:51:54.3±0.3, 39.74N×35.10E±0.04, **h14**km±9km, **n14**, σ0:**67**/24,* **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YOZ	**Yozgat**	**0.20**	**120**	*e*PG		**Pg**	**09 51 58.8**	**-0.2**
YOZ				*e*SG		**Sg**	**09 52 02.4**	**+0.3**
YOZ	**Yozgat**	**0.20**	**120**	*e*Pg		**Pg**	**09 51 58.8**	**-0.2**
YOZ				*e*Sg		**Sg**	**09 52 02.4**	**+0.3**
CORM	**Corum**	**0.57**	**321**	*e*PG		**Pg**	**09 52 04.9**	**-0.7**
CORM				*e*SG		**Sb**	**09 52 13.5**	**-0.8**
CORM	**Corum**	**0.57**	**321**	*e*Pg		**Pg**	**09 52 04.9**	**-0.7**
CORM				*e*Sg		**Sb**	**09 52 13.5**	**-0.8**
CDAG	**Cicekdag**	**0.57**	**259**	*i* P		**Pb**	**09 52 05.9**	**-0.4**
CDAG				*i* S		**Sb**	**09 52 14.8**	**+0.4**
CDAG	**Cicekdag**	**0.57**	**259**	*i* P		**Pb**	**09 52 05.9**	**-0.4**
CDAG				*i* S		**Sb**	**09 52 14.8**	**+0.4**
CTKT	**Corum**	**0.92**	**345**	*i* P		**Pg**	**09 52 11.7**	**-0.5**
CTKT				*i* S		**Sb**	**09 52 24.4**	**+0.1**
CTKT	**Corum**	**0.92**	**345**	*i* P		**Pg**	**09 52 11.7**	**-0.5**
CTKT				*i* S		**Sb**	**09 52 24.4**	**+0.1**
KAMT	**Kaman**	**1.13**	**251**	*e*PN		**Pb**	**09 52 15.1**	**-0.8**
KAMT	**Kaman**	**1.13**	**251**	*e*Pn		**Pb**	**09 52 15.1**	**-0.8**
SVSK	**Karacayir**	**1.47**	**82**	*e*PN		**Pb**	**09 52 20.9**	**+0.4**
SVSK	**Karacayir**	**1.47**	**82**	*e*Pn		**Pn**	**09 52 20.9**	**+0.4**
ELDT	**Eldivan**	**1.49**	**301**	*i* P		**Pb**	**09 52 22.0**	**+0.1**
ELDT				*i* S		**Sg**	**09 52 43.7**	**+1.4**
ELDT	**Eldivan**	**1.49**	**301**	*i* P		**Pb**	**09 52 22.0**	**+0.1**
ELDT				*i* S		**Sg**	**09 52 43.7**	**+1.4**

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*IDC **19** 09:56:28.9±1.5, 5.27S×153.72E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/36, mbtmp3.9/6, MS3.2/1, Ms1 3.2/1, ms1mx2.7/22, Error ellipse: s-maj=45.3km s-min=31.0km az=83.0*

ISC 19 09:56:36.9±1.9, **5.2S**±0.3×**153.5E**±0.4, **h56**km, **n11**, σ0:**43**/8, **mb3.6**/6, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.67**	**230**	P		**P**	**10 01 43.7**	**+0.1**
	0.8nm,0.6s,baz=54,slow=9.9,SNR=12							
WRA				PcP		**PcP**	**10 05 27.4**	**+0.4**
	0.7nm,0.6s,baz=54,slow=2.5,SNR=6.3							
ASAR	**Alice Springs**	**26.29**	**224**	P		**P**	**10 02 07.3**	**-0.2**
	0.3nm,0.4s,baz=54,slow=8.8,SNR=9.5							
ASAR				PcP		**PcP**	**10 05 33.5**	**+0.7**
	0.9nm,0.8s,baz=58,slow=2.6,SNR=7.5							
H11S3	**WAKE ISLAND Hy**	**26.94**	**29**	T		T	10 30 26.0	
	baz=208,slow=73,SNR=18							
H11S2	**WAKE ISLAND Hy**	**26.95**	**29**	T		T	10 30 34.2	
	baz=208,slow=73,SNR=19							
H11S1	**WAKE ISLAND Hy**	**26.96**	**29**	T		T	10 30 34.3	
	baz=208,slow=73,SNR=14							
STKA	**Stephens Creek**	**28.74**	**201**	P		**P**	**10 02 29.4**	**+0.1**
	0.6nm,0.5s,baz=42,slow=11,SNR=3.4							
TGY	**Tagaytay City**	**37.57**	**301**	LR		LR	10 18 11.4	
	comp=Z,34nm,21.6s,baz=162,slow=34							
CMAR	**Chiang Mai Arr**	**58.67**	**295**	P		P	10 06 30.9	+1.7
	2.5nm,0.7s,baz=117,slow=4.8,SNR=8.9							
VNDA	**Vanda**	**72.37**	**178**	P		**P**	**10 07 56.5**	**-0.1**
	0.7nm,0.6s,baz=336,slow=4.0,SNR=6.7							
MAW	**Mawson**	**85.42**	**203**	P		**P**	**10 09 07.9**	**-0.2**
	2.1nm,0.6s,baz=86,slow=6.1,SNR=6.7							
TORD	**Torodi Ar. Bea**	**151.08**	**288**	PKPbc		**PKPbc**	**10 16 24.4**	**-0.5**
	0.8nm,0.4s,baz=44,slow=2.8,SNR=23							

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*CSEM **19** 09:58:07.5±0.8, 34.35N×36.65E, h10km, ML2.8, Error ellipse: s-maj=24.2km s-min=9.5km az=119.0*

GRAL 19 09:58:07.7±0.3, **34.38N**×**36.71E**, **h1**km±31km, **MD2.8, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.28**	**241**	*e*P		Pg	09 58 12.7	-0.6
FKH				*e*S		Sg	09 58 16.7	-0.4
FKH	**Fakeheh**	**0.28**	**241**	*e*P		Pg	09 58 12.7	-0.6
FKH				*e*S		Sg	09 58 16.7	-0.4
HWQ	**Hawqa**	**0.64**	**261**	*e*P		Pg	09 58 19.2	-1.0
HWQ				*e*S		Sg	09 58 27.7	-0.9
HWQ	**Hawqa**	**0.64**	**261**	*e*P		Pg	09 58 19.2	-1.0
HWQ				*e*S		Sg	09 58 27.7	-0.9
BHL	**Bhannes**	**1.00**	**242**	*e*P		Pg	09 58 25.6	-1.4
BHL	**Bhannes**	**1.00**	**242**	*e*P		Pg	09 58 25.6	-1.4
RCY	**Rachaya**	**1.15**	**220**	*e*P		Pg	09 58 28.4	-1.5
RCY				*e*S		Sg	09 58 43.4	-1.5
DQRL	**Deir Qamar**	**1.16**	**235**	*e*P		Pg	09 58 28.7	-1.5
DQRL	**Deir Qamar**	**1.16**	**235**	*e*P		Pg	09 58 28.7	-1.4
YAYL	**Yayladag**	**1.72**	**344**	*i* P		Pn	09 58 35.7	-3.3
YAYL				*i* S		Sn	09 58 59.2	-2.5
YAYL	**Yayladag**	**1.72**	**344**	*i* P		Pn	09 58 35.7	-3.3
YAYL				*i* S		Sn	09 59 00.8	-1.0
YAYL	**Yayladag**	**1.72**	**344**	*i* P		Pn	09 58 35.7	-3.3
YAYL				*i* S		Sn	09 59 00.8	-0.9
KUZU	**Kuzuini**	**2.40**	**7**	*i* P		Pn	09 58 48.1	-0.2
KUZU				*i* S		Sb	09 59 23.1	+1.0
KUZU	**Kuzuini**	**2.40**	**7**	*i* P		Pn	09 58 49.5	+1.2
KUZU				*i* S		Sg	09 59 29.9	+4.8
KUZU	**Kuzuini**	**2.40**	**7**	*i* P		Pn	09 58 49.5	+1.2

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*NIED **19** 10:00:00, 41.30N×142.70E, h32km, Mw4.8 Best double couple: M0 1.76000×10^16 NP1:φs188.00000°, δ24.00000°, λ76.00000°. NP2:φs24.00000°, δ67.00000°, λ96.00000°.*

*BJI **19** 10:00:46.3, 41.27N×142.75E, h37km, mb5.2/74, mB5.0/42, Ms4.4/58, Ms7 4.2/50*

*ISCJB **19** 10:00:47.3±0.1, 41.38N±0.02×142.48E±0.02, h27km, mb5.0/243, MS4.2/31, Error ellipse: s-maj=3.0km s-min=1.8km az=157.7*

*MOS **19** 10:00:49.8±0.8, 41.47N×142.47E, h45km, mb5.4/69, Error ellipse: s-maj=6.3km s-min=4.1km az=103.5*

*JMA **19** 10:00:49.5±0.1, 41.31N×142.67E, h33km±4km, M4.9 Broadband fault plane solution: P waves. NP1: φs8.00000°, δ50.00000°, λ86.00000°. NP2:φs195.00000°, δ40.00000°, λ95.00000°. Principal axes: T Plg84.0000°, Azm247.0000°; N Plg3.0000°, Azm11.0000°; P Plg5.0000°, Azm101.0000°;*

JMA Felt III J1.

*NEIC **19** 10:00:50.0±0.1, 41.42N×142.45E, mb5.0/140, MW4.8(NIED) Error ellipse: s-maj=4.1km s-min=2.4km az=150.0*

NEIC Felt [II] at Misawa, Honshu. Recorded [3 JMA] in Aomori and [2 JMA] in Iwate, Honshu. Also recorded [2 JMA] in southern and southwestern Hokkaido.

*GCMT **19** 10:00:50.0±0.3, 41.46N×142.79E, h45km±1km, MW5.0/66, Moment Tensor Solution. s39,c48; s66,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.84±.18; Mθθ-0.20±.12; Mφφ-2.64±.12; Mrθ0.65±.09; Mθφ-0.93±.09; Mφr1.84±.10; Best double couple: M0 3.49200×10^16 NP1:φs19.00000°, δ62.00000°, λ90.00000°. NP2: φs198.00000°, δ28.00000°, λ89.00000°. Principal axes: T 3.4350, Plg73.0000°, Azm290.0000°; N 0.1120, Plg0.0000°, Azm199.0000°; P -3.5480, Plg17.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **19** 10:00:52.4±1.9, 41.39N×142.49E, h58km±16km, mb4.7/35, mb1 4.9/40, mb1mx4.8/45, mbtmp5.0/40, MS4.1/29, Ms1 4.1/29, ms1mx4.0/38 Error ellipse: s-maj=12.6km s-min=10.5km az=108.0*

*SZGRF **19** 10:00:54.9, 42.36N×143.13E, h33km, mb5.1, Hokkaido, Japan, region*

ISC 19 10:00:49.1±0.2, **41.36N**±0.03×**142.63E**±0.03, **h27**km, **h27**km:**pP-P, n1097**, σ1:**18**/1140, **mb5.1**/258, **MS4.2**/31, **89C-31D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.77**	**31**	Pn		**Pb**	**10 01 04.4**	**+0.7**
	29μm,0.4s							
ERM	**Erimo**	**0.77**	**31**	*d* iP		**Pb**	**10 01 04.0**	**+0.2**
ERM				pmax		pmax		
	comp=Z,3μm,1.0s							
ERM	**Erimo**	**0.77**	**31**	*e*Pn		**Pb**	**10 01 04.5**	**+0.7**
ERM				*e*Sn		**Sn**	**10 01 16.4**	**+1.7**
JEM	**Erimo**	**0.77**	**31**	⇑P		**Pb**	**10 01 04.1**	**+0.3**
JEM				*e*S		**Sb**	**10 01 14.9**	**+1.1**
JNBK	**Urakawa-nobuka**	**0.92**	**6**	⇓P		**Pn**	**10 01 07.1**	**+0.8**
JNBK				S		**Sn**	**10 01 19.8**	**+1.1**
JOT	**Ohata**	**1.19**	**272**	⇓P		**Pn**	**10 01 10.6**	**+0.7**
JANG	**Nango**	**1.30**	**221**	⇓P		**Pn**	**10 01 11.3**	**-0.1**
JKB	**Kayabe**	**1.31**	**294**	⇓P		**Pn**	**10 01 12.0**	**+0.5**
JKB				*e*S		**Sn**	**10 01 29.1**	**+1.0**
JTM	**Tenmabayashi**	**1.31**	**245**	⇓P		**Pn**	**10 01 12.7**	**+1.1**
JTM				*e*S		**Sb**	**10 01 29.5**	**+0.1**
JCH	**Churui**	**1.37**	**23**	⇑P		**Pn**	**10 01 13.4**	**+1.0**
JCH				*e*S		**Sn**	**10 01 30.6**	**+1.0**
JBT2	**Biratori 2**	**1.43**	**352**	⇓P		**Pn**	**10 01 14.6**	**+1.4**
JNB	**Noboribetsu**	**1.62**	**314**	⇓P		**Pn**	**10 01 16.6**	**+0.7**
JNB				*e*S		**Sn**	**10 01 36.3**	**+0.4**
JSR	**Shiriuchi**	**1.67**	**277**	⇓P		**Pn**	**10 01 17.6**	**+1.1**
JSR				*e*S		**Sb**	**10 01 38.8**	**-0.9**
JEW	**Eniwo**	**1.72**	**330**	⇓P		**Pn**	**10 01 18.9**	**+1.7**
JEW				*e*S		**Sb**	**10 01 40.6**	**-0.6**
JOB	**Onbets**	**1.78**	**30**	⇓P		**Pn**	**10 01 19.2**	**+1.1**
JOB				*e*S		**Sn**	**10 01 41.0**	**+1.2**
JFR	**Furan**	**1.80**	**359**	P		**Pn**	**10 01 20.2**	**+1.8**
JAR	**Ashorobuto**	**2.11**	**23**	⇑P		**Pn**	**10 01 22.9**	**+0.3**
JAR				*e*S		**Sn**	**10 01 47.2**	**-0.8**
JOM	**Ohasama**	**2.14**	**209**	P		**Pn**	**10 01 24.1**	**+1.1**
JOM				*e*S		**Sn**	**10 01 50.1**	**+1.4**
ASAJ	**Asahikawa**	**2.75**	**360**	P		**Pn**	**10 01 33.3**	**+1.9**
	baz=217,slow=8.4							
ASAJ				S		**Sb**	**10 02 10.7**	**-0.2**
	baz=336,slow=19							
ASAJ	**Asahikawa**	**2.75**	**360**	P		**Pn**	**10 01 33.3**	**+1.9**
ASAJ				*e*Sn		Sn	10 02 10.3	+6.5
ASAJ				S		**Sb**	**10 02 10.7**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**3.58**	**41**	*d* iP		**Pn**	**10 01 42.9**	**+0.1**
YUK				*i* S		**Sn**	**10 02 21.9**	**-2.2**
YUK				pmax		pmax		
	comp=Z,756nm,0.5s							
YUK				pmax		pmax		
	comp=N,464nm,0.4s							
YUK				pmax		pmax		
	comp=E,394nm,0.4s							
YUK				smax		smax		
	comp=N,3μm,0.6s							
YUK				smax		smax		
	comp=E,4μm,0.6s							
YUK				smax		smax		
	comp=N,6μm,2.3s							
YUK				smax		smax		
	comp=E,5μm,2.3s							
YUK				MLR		MLR		
	comp=Z,2μm,18.0s							
KUR	**Kuril'sk**	**5.44**	**43**	*c* iP		**Pn**	**10 02 09.8**	**+1.5**
KUR				*i* S		**Sn**	**10 03 07.7**	**-2.2**
KUR				pmax		pmax		
	comp=N,23nm,0.6s							
KUR				pmax		pmax		
	comp=E,18nm,0.6s							
KUR				pmax		pmax		
	comp=Z,90nm,0.6s							
KUR				smax		smax		
	comp=N,220nm,0.7s							
KUR				smax		smax		
	comp=E,190nm,0.7s							
YSS	**Yuzh-Sakhalins**	**5.59**	**1**	⇑*e*P		**Pn**	**10 02 11.0**	**+0.6**
YSS				*e*S		Sn	10 03 08.0	-5.7
YSS				pmax		pmax		
	comp=Z,140nm,1.1s							
YSS				MLR		MLR		
	comp=Z,1μm,16.0s							
YSS				MLR		MLR		
	comp=N,2μm,15.0s							
YSS				MLR		MLR		
	comp=E,3μm,17.0s							
YSS	**Yuzh-Sakhalins**	**5.59**	**1**	*e*Pn		**Pn**	**10 02 12.1**	**+1.7**
	comp=E,276nm,0.9s							
MJAR	**Matsushiro Arr**	**5.92**	**217**	P		**Pn**	**10 02 17.4**	**+2.5**
	comp=E,18nm,0.3s,baz=33,slow=12,SNR=260							
MJAR				S		Sb	10 03 35.5	-6.3
	baz=46,slow=8.8,SNR=2.4							
MJAR				LR		LR	10 04 57.5	
	comp=E,2μm,21.1s,baz=40,slow=42							
MAJO	**Matsushiro**	**5.92**	**217**	*c* iP		**Pn**	**10 02 17.4**	**+2.5**
MAJO	**Matsushiro**	**5.92**	**217**	*e*Pn		**Pn**	**10 02 17.6**	**+2.7**
MAT	**Matsushiro**	**5.92**	**217**	P		**Pn**	**10 02 17.5**	**+2.6**
MAT				S		**Sn**	**10 03 21.8**	**0.0**
UGL	**Uglegorsk**	**7.73**	**357**	*ce*P		**Pn**	**10 02 40.5**	**+0.8**
UGL				*e*S		**Sn**	**10 04 06.4**	**+0.1**
VLA	**Vladivostok**	**8.16**	**286**	*d* iP		**Pn**	**10 02 47.6**	**+1.9**
VLA				*e*S		**Sn**	**10 04 20.3**	**+3.3**
USRK	**Ussuriysk Ar.**	**8.32**	**293**	P		**Pn**	**10 02 49.1**	**+1.2**
	comp=E,4.2nm,0.3s,baz=101,slow=15,SNR=125							
USRK				LR		LR	10 06 02.6	
	comp=E,1μm,20.1s,baz=100,slow=38							
JHJ2	**Mitsune**	**8.53**	**196**	*e*Pn		**Pn**	**10 02 51.3**	**+0.5**
JHJ2				*e*Sn		**Sn**	**10 04 20.8**	**-5.4**
HABR	**Khabarovsk**	**8.91**	**325**	*ce*P		**Pn**	**10 02 56.8**	**+0.9**
HABR				*e*S		**Sn**	**10 04 35.7**	**+0.4**
HABR				pmax		pmax		
	comp=Z,70nm,1.5s							
HABR				pmax		pmax		
	comp=N,32nm,1.5s							
HABR				pmax		pmax		
	comp=E,28nm,1.0s							
HABR				MLR		MLR		
	comp=Z,1μm,18.0s							
TYV	**Tymovskoe**	**9.51**	**0**	*e*P		**Pn**	**10 03 06.0**	**+1.9**
TYV				pmax		pmax		
	comp=N,64nm,1.2s							
TYV				pmax		pmax		
	comp=E,96nm,1.2s							
TYV				MLR		MLR		
	comp=E,4μm,20.0s							
MDJ	**Mudanjiang**	**10.09**	**293**	P		**Pn**	**10 03 09.8**	**-2.3**
MDJ				S		**Sn**	**10 05 00.9**	**-3.5**
MDJ				ScP		**ScP**	**10 12 50.8**	**-0.4**
MDJ				PcS		**PcS**	**10 12 54.5**	**+0.3**
MDJ				PMZ				
	comp=E,6.0nm,0.5s							
MDJ				PMZ				
	comp=E,31nm,4.7s							
MDJ	**Mudanjiang**	**10.09**	**293**	*e*Pn		**Pn**	**10 03 15.1**	**+2.9**
	comp=E,96nm,0.9s							
MDJ				*e*Sn		Sn	10 05 12.1	+7.8
KLR	**Kul'dur**	**10.97**	**319**	*e*P		**Pn**	**10 03 22.0**	**-2.2**
KLR				MLR		MLR		
	comp=E,600nm,11.5s							
KLR				MLR		MLR		
	comp=Z,2μm,11.5s							
KSJMJ	**Jumunjin**	**11.25**	**257**	P		Pn	10 03 33.7	+5.8
	SNR=25							
KSJMJ	**Jumunjin**	**11.25**	**257**	P		Pn	10 03 33.7	+5.8
	SNR=25							
KSSKC	**Sokcho**	**11.27**	**259**	P		Pn	10 03 34.1	+5.8
	SNR=17							
KSSKC	**Sokcho**	**11.27**	**259**	P		Pn	10 03 34.1	+5.8
	SNR=17							
KSDGY	**Daegwallycong**	**11.38**	**256**	P		Pn	10 03 36.3	+6.4
	SNR=6.2							
KSDGY	**Daegwallycong**	**11.38**	**256**	P		Pn	10 03 36.0	+6.1
	SNR=9.9							
KSTBA	**Taebaek**	**11.42**	**253**	P		Pn	10 03 37.3	+6.9
	SNR=7.8							
KSJES	**JEONGSEON**	**11.49**	**255**	P		Pn	10 03 37.9	+6.6
	SNR=27							
KSJES	**JEONGSEON**	**11.49**	**255**	P		Pn	10 03 37.9	+6.6
	SNR=27							
KSIJA	**INJE**	**11.68**	**258**	P		Pn	10 03 39.6	+5.6
	SNR=12							
KSIJA	**INJE**	**11.68**	**258**	P		Pn	10 03 40.2	+6.3
	SNR=7.4							
KSYOW	**Yeongwol**	**11.75**	**254**	P		Pn	10 03 42.1	+7.2
	SNR=9.4							
KSYOW	**Yeongwol**	**11.75**	**254**	P		Pn	10 03 42.1	+7.2
	SNR=9.4							
NKL	**Nikolayevsk**	**11.87**	**354**	*e*P		Pn	10 03 32.0	-4.4
NKL				*e*			10 05 45.0	
NKL				pmax		pmax		
	comp=N,300nm,5.0s							
NKL				pmax		pmax		
	comp=Z,34nm,0.9s							
NKL				pmax		pmax		
	comp=N,55nm,1.1s							
NKL				MLR		MLR		
	comp=N,500nm,16.0s							
KSWJU	**Wonju**	**11.95**	**255**	P		Pn	10 03 43.3	+5.7
	SNR=8.7							
KSWJU	**Wonju**	**11.95**	**255**	P		Pn	10 03 43.3	+5.7
	SNR=8.7							
KSEUS	**ULSEONG**	**11.96**	**250**	P		Pn	10 03 44.4	+6.7
	SNR=13							
KSEUS	**ULSEONG**	**11.96**	**250**	P		Pn	10 03 44.4	+6.7
	SNR=13							
KSCHC	**Chuncheon**	**11.98**	**257**	P		Pn	10 03 44.7	+6.8
	SNR=31							
KSCHC	**Chuncheon**	**11.98**	**257**	P		Pn	10 03 44.7	+6.8
	SNR=31							
KSRS	**Korea Array**	**12.02**	**256**	P		Pn	10 03 41.5	+2.9
	comp=N,4.1nm,0.3s,baz=67,slow=13,SNR=41							
KSRS				S		**Sn**	**10 05 56.9**	**+5.2**
	comp=N,1.2nm,0.3s,baz=70,slow=24,SNR=6.3							
KSRS				LR		LR	10 07 50.6	
	comp=N,1μm,19.6s,baz=76,slow=35							
KSRS	**Korea Array**	**12.02**	**256**	P		Pn	10 03 41.5	+2.9
KSRS				S		**Sn**	**10 05 56.9**	**+5.2**
KSRS				pmax		pmax		
	comp=Z,4.0nm,0.3s							
KSRS				smax		smax		
	comp=N,1.0nm,0.3s							
KSRS				MLR		MLR		
	comp=Z,1μm,19.6s							
KSAR	**Wonju Array Be**	**12.06**	**256**	P		**Pn**	**10 03 41.5**	**+2.5**
KSAR				S		**Sn**	**10 05 57.0**	**+4.4**
KSAR	**Wonju Array Be**	**12.06**	**256**	P		**Pn**	**10 03 41.5**	**+2.5**
KSAR				S		**Sn**	**10 05 57.0**	**+4.4**
KSCWO	**Cheorwon**	**12.09**	**259**	P		Pn	10 03 45.8	+6.3
	SNR=12							
KSDAG	**Daegu**	**12.11**	**247**	P		P	10 03 47.2	-5.0
	SNR=7.0							
KSCHJ	**Chungju**	**12.23**	**253**	P		P	10 03 48.2	-5.3
	SNR=12							
KSSAJ	**Sangju**	**12.31**	**251**	P		P	10 03 49.5	-4.9
	SNR=6.8							
JNU	**Nakatsue**	**12.45**	**232**	P		**Pn**	**10 03 46.0**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=99,slow=3.1,SNR=12							
JNU				LR		LR	10 08 34.4	
	comp=Z,890nm,20.9s,baz=49,slow=37							
JNU	**Nakatsue**	**12.45**	**232**	*e*Pn		**Pn**	**10 03 45.6**	**+1.1**
KSDDC	**Dongducheon**	**12.49**	**259**	P		P	10 03 51.6	-4.8
	SNR=7.8							
KSBON	**Boeun**	**12.52**	**252**	P		P	10 03 52.8	-4.1
	SNR=28							
KSCPR	**CHUPUNGNYEONG**	**12.53**	**251**	P		Pn	10 03 51.8	+6.3
	SNR=11							
YNCB	**YEONCHEON**	**12.54**	**260**	P		P	10 03 52.1	-4.9
	SNR=18							
KSSEO	**Seoul**	**12.75**	**257**	P		P	10 03 55.6	-3.7
	SNR=7.5							
KSCEA	**Cheonan**	**12.77**	**254**	P		P	10 03 56.0	-3.5
	SNR=12							
KSSWO	**Suwon**	**12.80**	**256**	P		P	10 03 55.2	-4.7
	SNR=7.1							
TJN	**Taejon**	**12.89**	**252**	*i* P		Pn	10 03 54.0	+3.6
CN2	**Changchun**	**12.90**	**287**	*e*P		**Pn**	**10 03 53.1**	**+2.6**
CN2				sP			10 04 07.3	
CN2				*e*S		**Sn**	**10 06 15.3**	**+2.3**
CN2				PMZ				
	comp=Z,20nm,1.2s							
CN2				PMZ				
	comp=Z,190nm,8.0s							
CN2				LN				
	comp=Z,670nm,18.0s							
CN2				LE				
	comp=Z,1μm,18.0s							
CN2				LZ				
	comp=Z,1μm,18.0s							
INCN	**Inchon**	**12.96**	**258**	*e*Pn		**Pn**	**10 03 51.6**	**+0.3**
KSGAH	**Ganghwa**	**13.01**	**259**	P		P	10 03 59.2	-3.0
	SNR=9.1							
SKR	**Severo-Kuril's**	**13.20**	**41**	*e*P		Pn	10 03 49.5	-5.1
KSBAR	**Backryungdo**	**14.21**	**262**	P		**P**	**10 04 15.5**	**0.0**
	SNR=7.0							
CBIJ	**Chichi jima**	**14.23**	**182**	P		Pn	10 04 05.8	-3.0
CBIJ				S		Sn	10 06 34.7	-11
JCJ	**Chichijima**	**14.23**	**182**	P		Pn	10 04 05.8	-3.1
	comp=Z,2.6nm,0.3s,baz=288,slow=20,SNR=3.8							
JCJ				S		Sn	10 06 34.7	-11
	comp=Z,8.1nm,0.3s,baz=246,slow=20,SNR=4.7							
SNY	**Shenyang**	**14.27**	**278**	⇓P		**Pn**	**10 04 11.8**	**+2.6**
SNY				PMZ				
	comp=Z,13nm,0.7s							
SNY				PMZ				
	comp=Z,160nm,4.6s							
SNY				LN				
	comp=Z,410nm,16.2s							
SNY				LE				
	comp=Z,830nm,18.1s							
SNY				LZ				
	comp=Z,980nm,20.0s							
PETK	**Petropavlovsk-**	**15.54**	**36**	P		Pn	10 04 21.7	-4.5
	comp=Z,0.3nm,0.3s,baz=220,slow=6.6,SNR=4.0							
PETK				LR		LR	10 10 45.4	
	comp=Z,349nm,18.9s,baz=222,slow=38							
PET	**Petropavlovsk**	**15.92**	**37**	*e*P		**P**	**10 04 35.3**	**+0.9**
PET				*e*S		**Sn**	**10 07 31.6**	**+5.2**
PET				MLR		MLR		
	comp=Z,500nm,17.0s							
PET				MLR		MLR		
	comp=Z,500nm,19.0s							
DL2	**Dalian**	**16.25**	**268**	P		**Pn**	**10 04 35.3**	**0.0**
DL2				PMZ				
	comp=Z,20nm,0.7s							
HIA	**Hailar**	**17.89**	**304**	*e*P		**Pn**	**10 04 53.8**	**-2.0**
HIA				pmax		pmax		
	comp=Z,30nm,0.8s							
HIA	**Hailar**	**17.89**	**304**	*e*Pn		**Pn**	**10 04 53.8**	**-2.0**
	comp=Z,30nm,0.8s							
JOW	**Kunigami**	**18.70**	**224**	*e*P		**P**	**10 05 04.9**	**-0.5**
	comp=Z,12nm,0.7s							
CLNS	**Chul'man**	**19.26**	**330**	*e*P		**P**	**10 05 10.0**	**-1.3**
CLNS				*e*S		**Sn**	**10 08 48.1**	**+0.6**
CLNS				pmax		pmax		
	comp=N,32nm,0.8s							
CLNS				pmax		pmax		
	comp=Z,75nm,0.8s							
CLNS				pmax		pmax		
	comp=E,28nm,0.8s							
CLNS				pmax		pmax		
	comp=E,34nm,0.8s							
CLNS				pmax		pmax		
	comp=Z,28nm,0.8s							
CLNS				pmax		pmax		
	comp=N,28nm,0.7s							
CLNS				smax		smax		
	comp=N,46nm,10.1s							
CLNS				smax		smax		
	comp=E,137nm,12.0s							
CLNS				MLR		MLR		
	comp=N,345nm,13.0s							
CLNS			

comp=Z,70nm,0.7s
TIA PMZ
comp=Z,240nm,5.2s
TIA LN
comp=Z,230nm,18.6s
TIA LE
comp=Z,470nm,18.2s
TIA LZ
comp=Z,570nm,19.8s
NJ2 Nanjing 21.15 252 *e*P **P** **10 05 31.5 -0.5**
NJ2 S **S** **10 09 23.5 -2.3**
NJ2 PMZ
comp=Z,80nm,0.6s
NJ2 LN
comp=Z,1µm,14.2s
NJ2 LE
comp=Z,2µm,17.9s
NJ2 LZ
comp=Z,2µm,18.2s
YAK Yakutsk 22.12 344 P P 10 05 38.1 -3.9
comp=Z,2.6nm,0.3s,baz=336,slow=19,SNR=9.2
YAK Yakutsk 22.12 344 *e*P P 10 05 37.3 -4.8
YAK *e* 10 05 54.3
YAK *e*S S 10 09 34.3 -10
YAK *e* 10 09 41.6
YAK *e*SSS SSS 10 10 10.2
YAK *e* 10 16 53.2
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=N,25nm,1.1s
YAK pmax pmax
comp=Z,64nm,1.0s
YAK pmax pmax
comp=Z,64nm,0.7s
YAK pmax pmax
comp=E,24nm,1.8s
YAK pmax pmax
comp=N,92nm,1.5s
YAK smax smax
comp=E,33nm,1.2s
YAK smax smax
comp=N,149nm,2.0s
YAK MLR MLR
comp=Z,292nm,14.0s
YAK MLR MLR
comp=N,245nm,14.0s
YAK Yakutsk 22.12 344 P P 10 05 38.1 -3.9
comp=N,5.8nm,0.8s
SEY Seymchan 22.37 12 P **P** **10 05 41.2 -3.5**
comp=N,14nm,0.7s,baz=187,slow=8.2,SNR=54
SEY Seymchan 22.37 12 *e*P P 10 05 40.5 -4.3
HHC Hu-ho-hao-te 23.36 279 *e*P **P** **10 05 52.3 -3.1**
HHC pP **pP** **10 06 04.8 +1.9**
HHC sP sP 10 06 11.5 +5.2
HHC PP **PnPn** **10 06 24.8 +3.1**
HHC S S 10 09 55.0 -12
HHC SS **SnSn** **10 10 45.6 +3.5**
HHC PMZ
comp=N,31nm,0.8s
HHC PMZ
comp=N,140nm,4.3s
HHC LN
comp=N,230nm,10.1s
HHC LE
comp=N,730nm,10.3s
HHC LZ
comp=N,730nm,10.9s
YHNB Yeheng 24.28 233 *e*P **P** **10 06 03.7 -0.5**
comp=N,23nm,0.8s
WHN Wuhan 25.20 254 ⇓P **P** **10 06 12.3 -0.1**
WHN S S 10 10 29.4 -6.7
WHN PMZ
comp=N,110nm,0.5s
WHN LN
comp=N,1µm,16.8s
WHN LE
comp=N,1µm,18.6s
WHN LZ
comp=N,2µm,17.8s
YULB Yu-li 25.30 231 *e*P **P** **10 06 13.9 +0.6**
comp=N,13nm,0.4s
TPUB Ta-pu 25.76 232 P **P** **10 06 17.8 +0.3**
comp=N,40nm,0.9s
SONM Songino Array 26.42 296 P **P** **10 06 22.3 -1.2**
comp=N,35nm,0.7s,baz=89,slow=7.7,SNR=169
SONM PcP **PcP** **10 09 47.6 -0.7**
comp=N,1.6nm,0.7s,baz=90,slow=2.9,SNR=3.1
SONM LR LR 10 17 31.1
comp=N,672nm,19.9s,baz=90,slow=38
XAN Xi'an 27.53 266 P **P** **10 06 31.3 -2.2**
XAN pP **pP** **10 06 40.4 -1.0**
XAN sP **sP** **10 06 45.0 +0.3**
XAN S **S** **10 11 07.5 -5.4**
XAN PMZ
comp=N,7.0nm,0.7s
GUMO Guam 27.74 175 LR LR 10 16 24.3
comp=N,308nm,21.9s,baz=11,slow=34
IRK Irkutsk 28.10 306 *e*P **P** **10 06 36.9 -1.5**
IRK *e* 10 06 47.9
IRK pmax pmax
comp=Z,78nm,1.2s
TLY Talaya 28.43 305 P **P** **10 06 39.4 -1.9**
comp=Z,15nm,0.7s,baz=119,slow=3.8,SNR=25
ZAK Zakamensk 28.55 302 ⇓*i*P **P** **10 06 41.1 -1.4**
ZAK pmax pmax
comp=Z,16nm,1.4s
ENH Enshi 28.90 258 *e*P **P** **10 06 43.9 -1.8**
comp=Z,33nm,0.6s
ENH *e*PcP **PcP** **10 09 54.1 -0.3**
H11N2 WAKE ISLAND Hy 29.84 129 T T 10 38 19.4
baz=323,slow=75,SNR=397
H11N1 WAKE ISLAND Hy 29.86 129 T T 10 38 22.1
baz=323,slow=75,SNR=905
H11N3 WAKE ISLAND Hy 29.86 129 T T 10 38 20.7
baz=323,slow=75,SNR=970
MOY Mondy 30.07 304 *e*P **P** **10 06 55.9 -0.1**
MOY pmax pmax
comp=Z,52nm,2.8s
LZH Lanzhou 30.53 273 *e*P **P** **10 06 58.9 -1.4**
LZH pP **pP** **10 07 08.3 +0.1**
LZH sP **sP** **10 07 13.6 +2.1**
LZH PP **PnPn** **10 08 03.0 +3.4**
LZH *e*S S 10 11 54.4 -5.9
LZH SS **ScP** **10 13 44.3 +5.0**
LZH PMZ
comp=Z,24nm,1.1s
LZH PMZ
comp=Z,83nm,4.0s
LZH LN
comp=Z,400nm,14.8s
LZH LE
comp=Z,400nm,15.6s
LZH LZ
comp=Z,500nm,16.0s
H11S1 WAKE ISLAND Hy 30.69 131 T T 10 39 25.9
baz=324,slow=76,SNR=706
H11S3 WAKE ISLAND Hy 30.70 131 T T 10 39 33.6
baz=324,slow=76,SNR=316
H11S2 WAKE ISLAND Hy 30.71 131 T T 10 39 32.3
baz=324,slow=76,SNR=345
TIXI Tiksi 31.13 352*c*eP P 10 07 01.4 -3.5
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 31.13 352 *e*P P 10 07 01.2 -3.7
comp=Z,6.6nm,0.9s
TIXI *e*pP pP 10 07 11.5 -1.4
GTA Gaotai 32.43 281 ⇑P **P** **10 07 16.0 -0.9**
GTA pP **pP** **10 07 25.9 +1.0**
GTA sP **sP** **10 07 29.9 +1.7**
GTA PP **PnPn** **10 08 20.8 -3.3**
GTA PcP **PcP** **10 10 03.6 -0.1**
GTA S **S** **10 12 27.9 -2.0**
GTA sS **sS** **10 12 43.9 +0.9**
GTA PcS **PcS** **10 13 48.9 +0.1**
GTA SS **SnSn** **10 14 26.3 +2.7**
GTA ScS **ScS** **10 17 41.8 -3.1**
GTA PMZ
comp=Z,20nm,0.9s
GTA PMZ
comp=Z,130nm,4.8s
GTA LN
comp=Z,350nm,17.6s
GTA LE
comp=Z,670nm,17.6s
GTA LZ
comp=Z,770nm,18.1s
CD2 Chengdu 32.84 264 P **P** **10 07 18.5 -1.9**
CD2 pP **pP** **10 07 28.4 0.0**
CD2 sP **sP** **10 07 33.0 +1.3**
CD2 PP **PP** **10 08 32.8 -2.0**
CD2 S **S** **10 12 33.0 -3.2**
CD2 sS **sS** **10 12 50.1 +0.8**
CD2 PMZ
comp=Z,50nm,0.5s
CD2 PMZ
comp=Z,170nm,7.3s
CD2 LN
comp=Z,330nm,15.6s
CD2 LE
comp=Z,300nm,21.6s
GYA Guiyang 33.08 255 ⇑*i*P **P** **10 07 21.4 -1.3**
GYA pP **pP** **10 07 32.8 +2.1**
GYA sP **sP** **10 07 37.0 +3.0**
GYA PP **PnPn** **10 08 32.3 -0.3**
GYA PcP **PcP** **10 10 06.3 +0.6**
GYA S **S** **10 12 37.5 -2.6**
GYA sS **sS** **10 12 54.0 +0.7**
GYA ScP **ScP** **10 13 47.8 -0.2**
GYA SS **SnSn** **10 14 38.3 -1.3**
GYA PMZ
comp=Z,40nm,0.7s
GYA PMZ
comp=Z,120nm,4.9s
GYA LN
comp=Z,780nm,16.8s
GYA LE
comp=Z,640nm,17.0s
GYA LZ
comp=Z,860nm,16.4s
KRAR Krasnoyarsk 35.14 312 *i*P **P** **10 07 39.1 -0.9**
QIZ Qiongzhong 35.70 241 P **P** **10 07 44.8 -0.5**
QIZ pP **pP** **10 07 53.9 +0.6**
QIZ sP **sP** **10 07 57.8 +1.2**
QIZ S **S** **10 13 20.0 -0.5**
QIZ PMZ
comp=Z,10.0nm,1.5s
QIZ PMZ
comp=Z,120nm,7.7s
KMI Kunming 36.72 256 P **P** **10 07 53.8 -0.5**
KMI sP **sP** **10 08 08.8 +3.2**
KMI S **S** **10 13 34.1 -2.3**
KMI SS **SnSn** **10 16 02.3 -5.8**
KMI PMZ
comp=Z,27nm,1.3s
KMI PMZ
comp=Z,110nm,4.5s
KMI LN
comp=Z,360nm,16.5s
KMI LE
comp=Z,300nm,13.6s
KMI LZ
comp=Z,410nm,19.4s
SDPT Sand Point 39.18 49 *e*P **P** **10 08 13.2 -1.1**
comp=Z,55nm,1.5s
ZAA0 Zalesovo Array 39.82 309 *e*P **P** **10 08 18.8 -0.9**
ZAA0 *e*PcP **PcP** **10 10 24.7 -0.6**
ZALV Zalesovo Beam 39.82 309 P **P** **10 08 18.9 -0.9**
comp=Z,51nm,0.6s,baz=90,slow=7.8,SNR=192
ZALV pP pP 10 08 33.7 +5.9
comp=Z,86nm,0.7s,baz=89,slow=4.8,SNR=7.0
ZALV PcP **PcP** **10 10 24.5 -0.8**
comp=Z,7.3nm,0.6s,baz=104,slow=2.9,SNR=5.4
ZALV LR LR 10 25 54.5
comp=Z,464nm,19.2s,baz=70,slow=38
WMQ Urumqi 39.89 293 P **P** **10 08 20.6 0.0**
WMQ pP **pP** **10 08 31.3 +2.7**
WMQ sP **sP** **10 08 35.1 +3.2**
WMQ PP **PnPn** **10 09 56.9 +1.2**
WMQ PcP **PcP** **10 10 27.0 +1.2**
WMQ ScP **ScP** **10 14 12.0 -0.8**
WMQ S **S** **10 14 25.3 +1.6**
WMQ sS **sS** **10 14 37.8 +0.8**
WMQ SS **SS** **10 17 11.1 -9.3**
WMQ PMZ
comp=Z,140nm,0.8s
WMQ PMZ
comp=Z,360nm,4.0s
WMQ LN
comp=Z,190nm,16.5s
WMQ LE
comp=Z,660nm,17.2s
WMQ LZ
comp=Z,350nm,19.8s
NVS Novosibirsk 40.65 310 ⇑*i*P **P** **10 08 25.9 -0.7**
NVS *e* 10 08 40.7
NVS *e* 10 10 27.0
NVS *e*S **S** **10 14 33.9 -0.7**
NVS pmax pmax
comp=Z,46nm,1.4s
NVS pmax pmax
comp=N,14nm,1.5s
NVS pmax pmax
comp=E,42nm,1.5s
NVS smax smax
comp=E,10.0nm,1.0s
SVW2 Sparrevohn 41.56 40 *e*P **P** **10 08 35.5 +1.5**
IM04 Indian Mountai 42.47 33 *e*P **P** **10 08 41.3 -0.1**
IM04 *e*PcP **PcP** **10 10 34.0 +0.2**
MK31 Makanchi Array 42.76 298 *e*P **P** **10 08 43.1 -0.9**
MK31 Makanchi Array 42.76 298 *e*P **P** **10 08 43.1 -0.9**
LSA Lhasa 42.91 271 P **P** **10 08 46.1 +0.2**
LSA PMZ
comp=E,30nm,0.9s
LSA Lhasa 42.91 271 *e*P **P** **10 08 46.8 +0.8**
LSA pmax pmax
comp=Z,25nm,0.6s
LSA Lhasa 42.91 271 *e*P **P** **10 08 46.8 +0.8**
comp=Z,26nm,0.6s
UTTA Uttaradit 42.95 250 P **P** **10 08 45.6 -0.2**
comp=Z,9.4nm,0.9s,comp=Z,86nm
RSO Redoubt South 42.97 41 *e*P **P** **10 08 46.6 +0.9**
comp=Z,76nm,0.9s
OHAK Old Harbor 43.00 46 *e*P **P** **10 08 45.4 -0.4**
comp=Z,12nm,0.6s
LAMP Lampang 43.09 251 P **P** **10 08 47.1 +0.2**
comp=Z,13nm,0.9s,comp=Z,102nm
PPLA Purkeypile 43.12 37 *e*P **P** **10 08 48.4 +1.6**
comp=Z,64nm,1.5s
PPLA *e*PcP **PcP** **10 10 36.2 0.0**
CAST Castle Rocks 43.16 37 *e*P **P** **10 08 45.9 -1.1**
KDAK Kodiak Island 43.31 45 P **P** **10 08 47.4 -0.8**
comp=Z,192nm,1.2s,SNR=9.5
KDAK Kodiak Island 43.31 45 *i*P **P** **10 08 49.2 +1.0**
KDAK Kodiak Island 43.31 45 *e*P **P** **10 08 48.8 +0.6**
comp=Z,16nm,0.7s
CHTO Chiang Mai 43.39 252 P **P** **10 08 49.1 -0.4**
comp=Z,106nm,0.7s
CHTO Chiang Mai 43.39 252 *e*P **P** **10 08 49.0 -0.4**
CHTO pmax pmax
comp=Z,17nm,0.5s
CHTO Chiang Mai 43.39 252 *e*P **P** **10 08 49.0 -0.4**
comp=Z,17nm,0.5s
CMAR Chiang Mai Arr 43.63 252 P **P** **10 08 51.0 -0.3**
comp=Z,5.6nm,0.5s,baz=44,slow=7.6,SNR=28
CMAR LR LR 10 28 07.8
comp=Z,211nm,18.3s,baz=56,slow=38
CMAR Chiang Mai Arr 43.63 252 *i*P **P** **10 08 51.2 -0.1**
CMAR pmax pmax
comp=Z,6.0nm,0.5s
BPAW Bear Paw Mtn. 43.63 36 *e*P **P** **10 08 51.7 +0.9**
comp=Z,2.8nm,0.8s
COLD Coldfoot 43.94 31 *e*P **P** **10 08 53.5 +0.3**
comp=Z,6.4nm,0.6s
TRF Thorofare Moun 43.96 37 *e*P **P** **10 08 54.4 +0.7**
BRLK Bradley Lake 43.97 42 *e*P **P** **10 08 54.1 +0.6**
KURK Kurchatov 44.12 305 P **P** **10 08 53.6 -1.3**
comp=Z,1µm,0.5s
KURK Kurchatov 44.12 305 P **P** **10 08 54.6 -0.3**
KURK pmax pmax
comp=Z,97nm,0.6s
KURK Kurchatov 44.12 305 *e*P **P** **10 08 53.9 -1.0**
comp=Z,134nm,0.8s
KURBB Kurchatov Arra 44.20 305 P **P** **10 08 54.6 -0.9**
comp=Z,97nm,0.6s,baz=78,slow=8.7,SNR=466
BWN Browne 44.29 36 *e*P **P** **10 08 58.0 +2.0**
RC01 Rabbit Creek A 44.40 40 *e*P **P** **10 08 57.1 +0.2**
comp=Z,20nm,0.9s
MHMT Maesarieng 44.53 252 P **P** **10 09 00.2 +1.7**
comp=Z,16nm,0.7s
MCK McKinley 44.55 36 *e*P **P** **10 08 58.9 +0.7**
MCK pmax pmax
comp=Z,20nm,0.8s
MCK McKinley 44.55 36 *e*P **P** **10 08 58.9 +0.7**
comp=Z,20nm,0.8s
SEW Seward 44.65 41 *e*P **P** **10 08 58.8 -0.1**
comp=Z,15nm,0.8s
COLA College 44.95 34 *e*P **P** **10 09 02.1 +0.8**
COLA pmax pmax
comp=Z,53nm,0.8s
COLA College 44.95 34 *e*P **P** **10 09 02.0 +0.8**
comp=Z,53nm,0.8s
CCB Clear Creek Bu 44.98 35 *e*P **P** **10 09 01.8 +0.3**
DHY Denali Highway 45.30 37 *e*P **P** **10 09 04.9 +0.5**
HDA Harding Lake 45.37 35 *e*P **P** **10 09 05.3 +0.6**
comp=Z,17nm,0.8s
ILAR Eielson Array 45.37 35 P **P** **10 09 04.5 -0.2**
comp=Z,27nm,0.9s,baz=263,slow=5.4,SNR=159
ILAR LR LR 10 29 15.0
comp=Z,115nm,21.7s,baz=292,slow=38
PDGK Podgornoye 45.71 295 P **P** **10 09 05.9 -1.7**
PDGK pmax pmax
comp=Z,41nm,0.8s
PAX Paxson 46.18 37 *e*P **P** **10 09 11.9 +0.7**
PAX Paxson 46.18 37 *e*P **P** **10 09 11.9 +0.7**
DIV Divide 46.30 40 *e*P **P** **10 09 12.4 +0.3**
comp=Z,19nm,0.8s
HARP HAARP 46.40 38 *e*P **P** **10 09 14.3 +1.5**
EYAK Cordova Ski Ar 46.40 40 *e*P **P** **10 09 13.7 +0.9**
TAPN Taplejung 46.71 271 *e*P **P** **10 09 16.0 -0.1**
comp=Z,56nm,0.4s
BMRM Bremner River 46.89 40 *e*P **P** **10 09 17.8 +1.1**
MENT Mentasta 46.98 37 *e*P **P** **10 09 18.0 +0.7**
ODAN Odare 47.22 270 *e*P **P** **10 09 19.3 -0.6**
comp=Z,78nm,0.6s
RAMN Ramite 47.76 271 *e*P **P** **10 09 23.7 -0.5**
comp=Z,197nm,0.6s
GUN Gumba 47.80 272 *e*P **P** **10 09 24.1 -0.4**
comp=Z,392nm,0.4s
EGAK Eagle 47.80 34 *e*P **P** **10 09 23.8 +0.1**
comp=Z,46nm,1.5s
KKN Kakani 48.31 273 *e*P **P** **10 09 27.8 -0.6**
comp=Z,172nm,0.7s
PKI Pulchoki 48.33 272 *e*P **P** **10 09 27.9 -0.7**
comp=Z,46nm,0.5s
ULHL Ulahol 48.33 294 P **P** **10 09 28.2 -0.1**
SNR=10
PKIN Phulchoki 48.33 272 *e*P **P** **10 09 28.1 -0.5**
comp=Z,94nm,0.7s
BVA0 Borovoye Array 48.45 310 *i*P **P** **10 09 27.6 -1.2**
BVA0 pmax pmax
comp=Z,16nm,0.4s
BVAR Borovoye Array 48.45 310 P **P** **10 09 28.2 -0.7**
comp=Z,9.2nm,0.4s,baz=80,slow=8.3,SNR=75
BRVK Borovoye 48.50 310 P **P** **10 09 28.8 -0.4**
comp=Z,200nm,0.5s,SNR=15
BRVK Borovoye 48.50 310*c*eP **P** **10 09 28.6 -0.6**
BRVK pmax pmax
comp=Z,25nm,0.8s
BRVK Borovoye 48.50 310 *e*P **P** **10 09 28.6 -0.6**
TKM2 Tokmak 2 48.51 295 P **P** **10 09 29.8 0.0**
SNR=50
TKM2 Tokmak 2 48.51 295 *e*P **P** **10 09 29.6 -0.2**
TKM2 pmax pmax
comp=Z,114nm,0.6s
TKM2 Tokmak 2 48.51 295 *e*P **P** **10 09 29.6 -0.2**
comp=Z,114nm,0.6s
DMN Daman 48.53 273 *e*P **P** **10 09 29.7 -0.5**
comp=Z,66nm,0.6s
GKN Gorkha 48.68 273 *e*P **P** **10 09 30.5 -0.7**
comp=Z,71nm,0.4s
KBK Karagaybulak 49.06 295 P **P** **10 09 33.6 -0.3**
SNR=70
CHMS Chumysh 49.06 296 P **P** **10 09 33.1 -0.6**
SNR=8.5
KZA Kyzart 49.08 295 P **P** **10 09 34.8 +0.4**
SNR=27
USP Ospenovka 49.12 296 P **P** **10 09 33.4 -0.8**
SNR=11
KSM Kuching 49.25 225 *e*P **P** **10 09 35.5 +0.1**
comp=Z,28nm,1.0s
AAK Ala-Archa 49.37 296 P **P** **10 09 35.7 -0.6**
SNR=18
AAK Ala-Archa 49.37 296 P **P** **10 09 49.7 +13**
comp=Z,29nm,0.4s,baz=104,slow=5.6,SNR=25
AAK Ala-Archa 49.37 296 P **P** **10 09 35.2 -1.1**
AAK pmax pmax
comp=Z,16nm,0.4s
UCH Uchtor 49.52 295 P **P** **10 09 37.4 -0.4**
SNR=9.1
KOLN Koldanda 49.58 274 *e*P **P** **10 09 37.8 -0.3**
comp=Z,55nm,0.3s
KSH Kashi 49.62 291 P P 10 09 41.3 +3.2
KSH sP sP 10 09 55.5 +5.9
KSH PcP **PcP** **10 11 02.8 +3.4**
KSH PP **PP** **10 11 37.1 +4.7**
KSH PcS **PcS** **10 14 56.1 -0.1**
KSH S **S** **10 16 46.1 +1.3**
KSH sS sS 10 17 03.9 +5.5
KSH ScS **ScS** **10 19 23.6 -4.4**
KSH PMZ
comp=Z,40nm,1.2s
KSH PMZ
comp=Z,61nm,2.7s
KSH LN
comp=Z,130nm,6.5s
KSH LE
comp=Z,140nm,7.1s
KSH LZ
comp=Z,100nm,7.0s
EKS2 Erkin-Say 49.85 296 P **P** **10 09 38.9 -0.9**
SNR=27
EKS2 Erkin-Say 49.85 296 *e*P **P** **10 09 39.0 -0.9**
EKS2 pmax pmax
comp=Z,28nm,0.6s
EKS2 Erkin-Say 49.85 296 *e*P **P** **10 09 39.0 -0.9**
comp=Z,28nm,0.6s
AML Almayashu 50.12 295 P **P** **10 09 42.2 -0.1**
SNR=11
INK Inuvik 50.13 29 P **P** **10 09 41.9 +0.5**
comp=Z,42nm,0.6s,baz=294,slow=7.3,SNR=55
INK Inuvik 50.13 29 *e*P **P** **10 09 41.9 +0.5**
INK pmax pmax
comp=Z,55nm,0.8s
INK Inuvik 50.13 29 *e*P **P** **10 09 41.9 +0.5**
comp=Z,55nm,0.8s
HYT Haines Junctio 50.30 39 *e*P **P** **10 09 44.5 +1.5**
SKLT Songkhla 50.46 239 P **P** **10 09 45.2 +0.6**
comp=Z,65nm,1.0s,comp=Z,693nm
KAPI Kappang 50.67 210 P **P** **10 09 45.6 -0.5**
comp=Z,8.3nm,0.5s,baz=334,slow=2.7,SNR=4.7
KAPI LR LR 10 30 44.0
comp=Z,142nm,20.3s,baz=60,slow=35
KULM Kulim 51.86 238 *e*P **P** **10 09 54.9 -0.3**
comp=Z,46nm,0.7s
KK31 Karatay Array 51.87 298 P **P** **10 09 53.3 -1.6**
KK31 pmax pmax
comp=Z,30nm,0.7s
KKAR Karatay Array 51.87 298 *e*P **P** **10 09 53.9 -1.0**
KKAR pmax pmax
comp=Z,29nm,0.7s
KKAR Karatay Array 51.87 298 *e*P **P** **10 09 53.9 -1.0**
comp=Z,29nm,0.7s
IPM Ipoh 52.25 237 *e*P **P** **10 09 56.6 -1.4**
comp=Z,19nm,0.8s
SVE Sverdlovsk 52.59 317 ⇓*e*P **P** **10 09 59.7 -0.3**
SVE pmax pmax
comp=Z,52nm,0.8s
SVE MLR MLR
comp=Z,585nm,17.0s
MYKOM Kota Tinggi 52.63 232 *e*P **P** **10 10 01.4 +0.6**
ARU Arti 53.80 317 P **P** **10 10 08.4 -0.6**
comp=Z,205nm,0.5s,SNR=9.5
ARU Arti 53.80 317*c i*P **P** **10 10 07.9 -1.1**
ARU *PP **pP** **10 10 21.4 +4.1**
ARU 10 11 12.5
ARU 10 12 07.2
ARU S **S** **10 17 40.2 -1.5**
ARU SS SKiKP 10 21 13.4 -7.1
ARU pmax pmax
comp=Z,35nm,1.2s
ARU MLR MLR
comp=Z,534nm,19.0s
ARU Arti 53.80 317 *e*P **P** **10 10 08.1 -0.9**
NDI New Delhi 53.88 278 *e*P **P** **10 10 08.0 -1.9**
CHLP Challavanipeta 54.54 264 *e*P **P** **10 10 13.6 -1.2**
CHLP IAmb IAmb 10 10 15.0

comp=Z,30nm,1.1s
DLBC Dease Lake 54.67 40 *e*P **P** **10 10 16.8 +1.4**
BKNI Bangkinang 55.48 234 *e*P **P** **10 10 21.4 -0.2**
comp=Z,102nm,0.9s
ALE Alert 55.74 4 P **P** **10 10 22.6 -0.1**
comp=Z,220nm,1.0s,SNR=11
AB31 Akbulak array 55.94 308 *i* P **P** **10 10 23.3 -1.2**
AB31 pmax pmax
comp=Z,15nm,0.5s
ABKAR Akbulak array 55.94 308 *e*P **P** **10 10 23.6 -0.9**
comp=Z,16nm,0.5s
HOPEN Hopen 56.09 345 *e*P **P** **10 10 24.5 -0.6**
HOPEN lAmb lAmb 10 10 25.6
comp=Z,44nm,0.7s
SPA0 Spitsbergen Ar 56.47 348 *e*P **P** **10 10 26.8 -1.2**
SPITS Spitsbergen Ar 56.47 348 P **P** **10 10 26.8 -1.2**
comp=Z,9.8nm,0.6s,baz=72,slow=11,SNR=28
SPITS PcP **PcP** **10 11 23.8 -0.7**
comp=Z,5.2nm,0.5s,baz=75,slow=7.8,SNR=5.0
SPITS LR LR 10 35 50.6
comp=Z,194nm,21.9s,baz=15,slow=37
AKTO Aktyubinsk 56.55 310 P **P** **10 10 27.8 -1.1**
comp=Z,14nm,0.7s,baz=64,slow=13,SNR=39
KBS Kingsbay 56.56 350 *e*P **P** **10 10 28.4 -0.2**
KBS pmax pmax
comp=Z,50nm,0.9s
KBS Kingsbay 56.56 350 *e*P **P** **10 10 28.4 -0.2**
comp=Z,50nm,0.9s
KBL Kabul 56.83 289 *e*P **P** **10 10 30.0 -1.4**
KBL pmax pmax
comp=Z,33nm,0.9s
KBL Kabul 56.83 289 *e*P **P** **10 10 30.0 -1.4**
comp=Z,33nm,0.9s
PVM Polavaram 57.13 264 *e*P **P** **10 10 32.7 -0.8**
PVM lAmb lAmb 10 10 33.3
comp=Z,14nm,0.9s
HSPB Hornsund (broa 57.42 348 *e*P **P** **10 10 34.3 -0.4**
HSPB lAmb lAmb 10 10 35.7
comp=Z,51nm,0.9s
RPR Rampur 57.90 267 *e*P **P** **10 10 37.6 -1.2**
RPR lAmb lAmb 10 10 42.7
comp=Z,18nm,0.9s
SRSP Sriramsagar 58.57 268 *e*P **P** **10 10 42.1 -1.4**
SRSP lAmb lAmb 10 10 43.1
comp=Z,44nm,0.6s
LVZ Lovozero 58.57 335 *ce*P **P** **10 10 42.4 -0.5**
LVZ pmax pmax
comp=Z,12nm,0.8s
LVZ Lovozero 58.57 335 *e*P **P** **10 10 41.6 -1.3**
comp=Z,16nm,0.9s
APA Apatity 59.15 335⇑ *i*P **P** **10 10 45.7 -1.2**
APA *i* 10 11 03.5
APA pmax pmax
comp=Z,25nm,1.2s
APA MLR MLR
comp=Z,500nm,13.0s
ADKI Addanki 59.24 264 *e*P **P** **10 10 46.7 -1.5**
ADKI lAmb lAmb 10 10 49.3
comp=Z,18nm,1.2s
NJS Nagarjunasagar 59.30 265 *e*P **P** **10 10 46.5 -2.1**
NJS lAmb lAmb 10 10 48.4
comp=Z,20nm,1.0s
HYB Hyderabad 59.33 267 *i* P **P** **10 10 47.0 -1.9**
HYBB Hyderabad (bro 59.33 267 *e*P **P** **10 10 47.1 -1.8**
HYBB lAmb lAmb 10 10 48.4
comp=Z,17nm,0.8s
TMCR Tamitsa 59.43 330 *e*P P 10 10 46.0 -2.8
TMCR pmax pmax
comp=Z,38nm,0.8s
YKA Yellowknife Ar 59.62 32 P **P** **10 10 49.5 -0.6**
comp=Z,4.4nm,0.8s,baz=306,slow=6.6,SNR=21
KEV Kevo 59.75 339 *e*P **P** **10 10 49.8 -1.1**
KEV pmax pmax
comp=Z,23nm,0.8s
KEV Kevo 59.75 339 *e*P **P** **10 10 49.8 -1.1**
comp=Z,23nm,0.8s
SRLM Srisailam 59.89 265 *e*P **P** **10 10 51.0 -1.7**
SRLM lAmb lAmb 10 10 52.2
comp=Z,44nm,1.3s
HAMF Hammerfest 60.06 340 *e*P **P** **10 10 51.9 -1.2**
RCLA Racherla 60.25 265 *e*P **P** **10 10 54.0 -1.2**
RCLA lAmb lAmb 10 11 02.4
comp=Z,11nm,0.8s
ARCES ARCESS Array B 60.30 339 P **P** **10 10 53.3 -1.4**
comp=Z,5.6nm,0.5s,baz=46,slow=7.7,SNR=68
ARCES LR LR 10 41 32.8
comp=Z,263nm,18.7s,baz=44,slow=40
ARE0 ARCESS Array S 60.30 339 *e*P **P** **10 10 54.0 -0.8**
KLRI Killari 60.41 269 *e*P **P** **10 10 54.4 -1.9**
KLRI lAmb lAmb 10 10 55.5
comp=Z,49nm,0.6s
SKHT Srikalahasti 60.77 263 *e*P **P** **10 10 57.8 -0.8**
SKHT lAmb lAmb 10 10 58.8
comp=Z,21nm,1.0s
KTK1 Kautokeino 61.25 339 *e*P **P** **10 11 00.2 -1.0**
WRAB Tennant Creek 61.46 189 *ce*P **P** **10 11 02.4 -0.8**
WRAB pmax pmax
comp=Z,51nm,1.7s
WRAB Tennant Creek 61.46 189 *e*P **P** **10 11 01.8 -1.4**
comp=Z,55nm,1.4s
WRA Warramunga Arr 61.47 189 P **P** **10 11 01.7 -1.6**
comp=Z,6.8nm,0.7s,baz=8.6,slow=6.9,SNR=57
DAG Danmarks Havn 61.55 355⇑ *i*P **P** **10 11 02.0 -1.1**
comp=Z,25nm,0.7s
DAG Danmarks Havn 61.55 355⇑ *i*P **P** **10 11 02.0 -1.1**
DAG pmax pmax
comp=Z,17nm,0.7s
TRO Tromso 61.94 341 *e*P **P** **10 11 03.6 -2.2**
TRO lAmb lAmb 10 11 04.3
comp=Z,38nm,0.8s
NLWA Neilton Lookou 63.14 49 *e*P **P** **10 11 15.0 +0.7**
comp=Z,14nm,0.9s
CMW Cultus Mountai 63.57 48 P **P** **10 11 17.9 +0.7**
KULLO Kullorsuaq 63.59 6 *i* P **P** **10 11 15.6 -1.1**
JCW Jim Creek 63.80 48 P **P** **10 11 19.2 +0.6**
IDAH Dahanechah 64.26 292 *e*P **P** **10 11 21.4 -0.8**
LOF Lofoten 64.37 341 *e*P **P** **10 11 20.4 -1.5**
TDL Tradedollar La 64.66 50 P **P** **10 11 25.6 +1.2**
LON Longmire 64.67 49 *e*P **P** **10 11 25.0 +0.6**
LON pmax pmax
comp=Z,8.0nm,0.9s
LON Longmire 64.67 49 *e*P **P** **10 11 24.9 +0.6**
comp=Z,7.7nm,0.9s
G03D McMinnville, O 64.69 51 P **P** **10 11 25.6 +1.2**
baz=64
WPW White Pass 64.85 49 P **P** **10 11 26.6 +0.9**
ITEG Tejag 64.95 293 *e*P **P** **10 11 26.1 -0.5**
IKOO Kooshah 65.04 292 *e*P **P** **10 11 26.5 -0.7**
VRHR Novokhopersk 65.15 317 *e*P **P** **10 11 25.2 -2.1**
VRHR pmax pmax
comp=N,8.0nm,0.5s
VRHR pmax pmax
comp=E,6.0nm,0.5s
VRHR pmax pmax
comp=Z,20nm,0.5s
AS31 Alice Springs 65.20 189 *e*P **P** **10 11 27.1 -0.8**
ASAR Alice Springs 65.20 189 P **P** **10 11 27.1 -0.8**
comp=Z,6.5nm,0.7s,baz=12,slow=5.9,SNR=74
OBN Obninsk 65.22 323 LR LR 10 42 09.6
comp=Z,227nm,18.9s,baz=91,slow=38
OBN Obninsk 65.22 323 *ci*P **P** **10 11 26.4 -1.3**
OBN *e* 10 11 56.6
OBN *e* 10 13 51.3
OBN pmax pmax
comp=Z,26nm,0.8s
OBN MLR MLR
comp=Z,224nm,19.0s
NAC Naches 65.24 49 P **P** **10 11 29.1 +1.0**
EDM Edmonton 65.40 40 *e*P **P** **10 11 28.3 -0.7**
EDM Edmonton 65.40 40 *e*P **P** **10 11 28.3 -0.7**
FIA1 FINESS Array S 65.44 332 *e*P **P** **10 11 27.8 -1.3**
FINES FINESS Array B 65.44 332 P **P** **10 11 27.8 -1.2**
comp=Z,52nm,0.8s,baz=62,slow=6.5,SNR=169
FINES LR LR 10 42 16.8
comp=Z,499nm,20.5s,baz=26,slow=38
I03D Drain, OR 65.49 53 P **P** **10 11 31.5 +1.9**
baz=65,SNR=5.7
LPSR Galich'ya Gora 65.61 319 *e*P P 10 11 36.3 +6.0
MOR8 Moi Rana 65.64 339 *e*P P 10 11 27.8 -2.5
MOR8 lAmb lAmb 10 11 28.5
comp=Z,69nm,0.7s
MBWA Marble Bar 65.73 203 *e*P **P** **10 11 30.2 -1.1**
comp=Z,14nm,0.8s
G05D Wamic, OR 65.81 50 P **P** **10 11 32.5 +0.7**
baz=66
I04A Tendick Farm, 65.99 52 P **P** **10 11 33.6 +0.6**
baz=66,SNR=10
JMIC Jan Mayen 66.06 350 LR LR 10 40 29.7
comp=Z,31nm,21.0s,baz=36,slow=36
CROR Criterion Ridg 66.15 50 P **P** **10 11 34.9 +0.9**
L02D Cave Junction, 66.21 54 P **P** **10 11 35.8 +1.5**
baz=66
I05D Terrebonne, OR 66.31 51 P **P** **10 11 35.4 +0.3**
baz=66,SNR=5.4
VSR Storozhevoye 66.32 318 *e*P **P** **10 11 33.6 -1.3**
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,30nm,0.8s
HUMO Hull Mountain 66.34 53 *e*P **P** **10 11 36.3 +1.1**
comp=Z,3.0nm,0.6s
SUMG Summit 66.36 0⇑ *i*P **P** **10 11 35.3 0.0**
comp=Z,64nm,0.8s
SUMG Summit 66.36 0⇑ *i*P **P** **10 11 35.3 0.0**
SUMG pmax pmax
comp=Z,64nm,0.8s
SUMG Summit 66.36 0 *e*P **P** **10 11 35.0 -0.3**
comp=Z,54nm,0.7s
NEW Newport 66.41 46 *e*P **P** **10 11 35.6 0.0**
NEW pmax pmax
comp=Z,7.0nm,0.8s
NEW Newport 66.41 46 P **P** **10 11 35.6 0.0**
baz=66,SNR=7.0
NEW Newport 66.41 46 *e*P **P** **10 11 35.6 0.0**
comp=Z,6.6nm,0.8s
VORD Divnogorie 66.41 318 *e*P **P** **10 11 34.1 -1.3**
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=Z,20nm,0.6s
VORD pmax pmax
comp=E,20nm,0.5s
J04D Umpqua Nationa 66.49 53 P **P** **10 11 37.1 +0.7**
baz=66,SNR=8.7
KTRM Thompson Ridge 66.49 54 P **P** **10 11 37.5 +1.2**
IANJ Anjilo 66.79 297 *e*P **P** **10 11 37.7 -0.8**
J05D Fort Rock, OR 66.98 52 P **P** **10 11 40.5 +1.0**
baz=67,SNR=7.8
K04D Chiloquin, OR 67.06 53 P **P** **10 11 40.8 +0.9**
baz=67
M02C Callahan 67.11 55 P **P** **10 11 41.3 +1.1**
baz=67,SNR=5.5
VSU Vasula 67.22 329 *i* P **P** **10 11 39.4 -1.0**
N02D Trinity Center 67.44 55 P **P** **10 11 43.8 +1.5**
baz=67
M04C Macdoel 67.50 54 P **P** **10 11 43.9 +1.2**
baz=67,SNR=14
NSS Namsos 67.58 339 *e*P **P** **10 11 42.6 0.0**
WALA Waterton Lakes 67.63 44 *e*P **P** **10 11 43.6 +0.1**
BSMT Bassoo Peak 67.91 45 *e*P **P** **10 11 45.9 +0.6**
comp=E,1.8nm,0.6s
IBAF Bafgh 67.91 293 *e*P **P** **10 11 44.1 -1.4**
GOF Gofitskoye 67.94 311 *e*P **P** **10 11 43.1 -2.2**
GOF pmax pmax
comp=Z,74nm,1.3s
JTMT Jette 68.24 45 *e*P **P** **10 11 47.7 +0.4**
comp=Z,7.0nm,0.9s
BMO Blue Mountains 68.34 49 *e*P **P** **10 11 48.2 +0.3**
comp=Z,6.0nm,1.0s
MOD Modoc Plateau 68.36 53 *e*P **P** **10 11 48.5 +0.4**
comp=Z,5.2nm,0.8s
SWMT Swartz Lake 68.54 45 *e*P **P** **10 11 49.4 +0.3**
comp=Z,12nm,0.9s
IMEH Mehriz 68.69 293 *e*P **P** **10 11 49.0 -1.5**
ZEI Tsey 68.81 309 *e*P **P** **10 11 49.0 -2.0**
ZEI pmax pmax
comp=Z,19nm,0.5s
KIV Kislovodsk 68.81 310 P **P** **10 11 51.9 +1.0**
comp=Z,386nm,1.0s,SNR=7.7
KIV Kislovodsk 68.81 310 *e*P **P** **10 11 50.6 -0.3**
KIV pmax pmax
comp=Z,57nm,0.8s
KIV Kislovodsk 68.81 310 *e*P **P** **10 11 50.6 -0.3**
comp=Z,57nm,0.8s
KBZ Khabaz 68.83 310 P **P** **10 11 50.6 -0.2**
comp=Z,21nm,0.9s,baz=44,slow=4.3,SNR=40
KBZ LR LR 10 44 48.2
comp=Z,186nm,21.6s,baz=42,slow=38
SLMT Seeley Lake 68.97 45 *e*P **P** **10 11 51.9 0.0**
comp=Z,6.4nm,0.5s
MSO Missoula 68.99 46 P **P** **10 11 51.9 -0.1**
baz=69,SNR=9.4
ONI Oni 69.19 309 P **P** **10 11 53.2 0.0**
ONI Oni 69.19 309 P **P** **10 11 53.2 0.0**
ILULI Ilulissat 69.28 5 *i* P **P** **10 11 51.9 -1.3**
CHMT Chamberlain Mo 69.31 45 *e*P **P** **10 11 53.7 -0.3**
comp=Z,3.2nm,1.1s
ISAL Salakas 69.45 327 *e*P **P** **10 11 53.6 -0.9**
IIGN Ignalina 69.56 327 *e*P **P** **10 11 54.3 -0.9**
FFC Flin Flon 69.58 34 P **P** **10 11 54.2 -1.1**
comp=Z,114nm,0.8s,SNR=8.2
FFC Flin Flon 69.58 34 *e*P **P** **10 11 54.8 -0.5**
FFC pmax pmax
comp=Z,16nm,0.8s
FFC Flin Flon 69.58 34 *e*P **P** **10 11 54.8 -0.5**
comp=Z,16nm,0.8s
FCC Fort Churchill 69.72 28 *e*P **P** **10 11 55.2 -0.9**
FCC Fort Churchill 69.72 28 *e*P **P** **10 11 55.2 -0.9**
GNI Garni 69.90 306 P **P** **10 11 58.1 +0.3**
comp=Z,8.9nm,0.4s,baz=151,slow=13,SNR=4.6
GNI LR LR 10 45 39.9
comp=Z,122nm,19.5s,baz=85,slow=38
MFID Camas Ranch 70.06 49 *e*P **P** **10 11 59.4 +0.7**
comp=Z,4.9nm,0.8s
HRY Holter Researc 70.19 45 *e*P **P** **10 11 59.9 +0.5**
A19A Klindworth Far 70.35 42 P **P** **10 12 00.4 +0.1**
baz=70,SNR=17
LRM Limekiln Ridge 70.42 46 *e*P **P** **10 12 01.3 +0.3**
comp=Z,135nm,1.0s
EGMT Eagleton 70.43 43 P **P** **10 12 00.6 -0.1**
baz=70,SNR=12
EGMT Eagleton 70.43 43 *e*P **P** **10 12 00.7 -0.1**
comp=Z,18nm,0.9s
B19A Brinkman Farms 70.56 42 P **P** **10 12 01.8 +0.3**
baz=70
NB2 NORSAR Subarra 70.57 337 P **P** **10 11 59.8 -1.5**
comp=Z,32nm,0.8s,baz=37,slow=6.2
NB2 NORSAR Subarra 70.57 337 P **P** **10 11 59.8 -1.5**
baz=37,slow=6.2
NOA NORSAR Array B 70.57 337 P **P** **10 12 00.1 -1.2**
comp=Z,26nm,0.8s,baz=38,slow=6.1,SNR=58
NOA LR LR 10 46 20.1
comp=Z,190nm,21.6s,baz=35,slow=39
CMB Columbia Colle 70.63 56 *e*P **P** **10 12 02.6 +0.4**
CMB pmax pmax
comp=Z,16nm,1.1s
CMB Columbia Colle 70.63 56 *e*P **P** **10 12 02.6 +0.4**
comp=Z,16nm,1.1s
DLMT Dillon 70.64 46 *e*P **P** **10 12 02.6 +0.4**
comp=Z,21nm,0.9s
NC602 NORSAR Array S 70.72 337 *e*P **P** **10 12 00.9 -1.3**
HLID Hailey 70.77 49 P **P** **10 12 03.7 +0.6**
baz=71,SNR=16
HLID Hailey 70.77 49 *e*P **P** **10 12 03.5 +0.4**
comp=Z,5.8nm,0.8s
A20A Cobblestone Ra 70.79 41 P **P** **10 12 03.1 +0.1**
baz=71,SNR=5.8
NAO01 NORSAR Array S 70.82 337 *e*P **P** **10 12 01.5 -1.3**
comp=Z,14nm,0.9s
MCMT McKenzie Canyo 70.84 47 *e*P **P** **10 12 03.6 0.0**
comp=Z,2.2nm,1.0s
WAKR Walker 70.94 55 *e*P **P** **10 12 04.9 +0.8**
comp=Z,9.6nm,0.7s
BOZ Bozeman (W) 70.98 46 P **P** **10 12 04.8 +0.6**
baz=71,SNR=49
BMN Battle Mountai 71.09 53 *e*P **P** **10 12 05.8 +0.8**
BMN pmax pmax
comp=Z,11nm,0.9s
BMN Battle Mountai 71.09 53 *e*P **P** **10 12 05.8 +0.8**
comp=Z,11nm,0.9s
ANN Anapa 71.23 313 *e*P P 10 12 02.6 -2.9
ANN *e*S S 10 21 14.5 -6.4
ANN pmax pmax
comp=Z,27nm,0.9s
AKASG Malin Array Be 71.47 322 P **P** **10 12 05.6 -1.2**
comp=Z,16nm,0.5s,baz=43,slow=6.2,SNR=93
AKASG LR LR 10 46 04.2
comp=Z,232nm,19.0s,baz=60,slow=38
AKBB Malin Array Si 71.47 322 *e*P **P** **10 12 05.5 -1.4**
AKBB Malin Array Si 71.47 322 *e*P **P** **10 12 05.5 -1.4**
AK01 Malin Array Si 71.48 322 *e*P **P** **10 12 05.7 -1.2**
KIEV Kiev 71.48 322 *e*P **P** **10 12 05.5 -1.4**
KIEV *e* 10 14 42.7
KIEV pmax pmax
comp=Z,37nm,0.9s
KIEV Kiev 71.48 322 *e*P **P** **10 12 05.5 -1.4**
comp=Z,37nm,0.9s
KIEV *e*PP **PP** **10 14 42.7 -2.4**
SFJD Kangerlussuaq 71.50 5 *i* P P 10 12 02.8 -4.0
comp=Z,25nm,1.0s
SFJD Kangerlussuaq 71.50 5 *i* P P 10 12 02.8 -4.0
SFJD pmax pmax
comp=Z,25nm,1.0s
AK02 Malin Array Si 71.50 322 *e*P **P** **10 12 05.8 -1.3**
C20A Veseth Ranch, 71.52 42 P **P** **10 12 07.3 -0.1**
baz=71,SNR=11
QLMT Earthquake Lak 71.61 46 *e*P **P** **10 12 08.9 +0.7**
comp=Z,0.9nm,0.6s
NVAR Mina Array Bea 71.68 55 P **P** **10 12 09.4 +0.7**
comp=Z,16nm,0.7s,baz=290,slow=6.4,SNR=136
A22A Carney Farms, 71.70 40 P **P** **10 12 08.6 +0.1**
baz=72,SNR=19
SUW Suwalki 71.76 327 *e*P **P** **10 12 07.5 -1.1**
SUW Suwalki 71.76 327 *e*P **P** **10 12 07.5 -1.1**
MLAC Mammoth, Mammo 71.85 56 P **P** **10 12 10.7 +0.9**
baz=72
C21A Desert Coulee 71.90 42 P **P** **10 12 09.6 -0.1**
baz=72,SNR=9.7
GCMT Greycliff 71.93 45 *e*P **P** **10 12 10.6 +0.6**
comp=Z,10nm,0.8s
YMR Madison River 71.97 46 *e*P **P** **10 12 10.8 +0.5**
comp=Z,7.4nm,0.8s
ELK Elko 72.07 51 *e*P **P** **10 12 11.5 +0.4**
ELK pmax pmax
comp=Z,4.0nm,0.9s
ELK Elko 72.07 51 *e*P **P** **10 12 11.4 +0.4**
comp=Z,3.6nm,0.9s
B22A Reddig Ranch S 72.13 41 P **P** **10 12 11.1 +0.1**
baz=72,SNR=5.3
YFT Old Faithful 72.18 46 *e*P **P** **10 12 13.3 +1.7**
comp=Z,20nm,0.9s
A23A Redstone 72.23 40 P **P** **10 12 11.6 0.0**
baz=72
LKWY Lake 72.34 46 *e*P **P** **10 12 14.6 +2.0**
LKWY pmax pmax
comp=Z,10.0nm,0.8s
LKWY Lake 72.34 46 *e*P **P** **10 12 14.6 +2.0**
comp=Z,9.7nm,0.8s
H17A Grant Village 72.36 46 P **P** **10 12 14.4 +1.7**
baz=72,SNR=21
H17A Grant Village 72.36 46 *e*P **P** **10 12 14.7 +2.0**
comp=Z,23nm,0.9s
D21A La Casta Ranch 72.47 42 P **P** **10 12 13.3 +0.3**
baz=72,SNR=10
IMW Indian Meadow 72.49 47 *e*P **P** **10 12 14.5 +1.0**
comp=Z,17nm,0.7s
FLWY Flagg Ranch 72.50 46 *e*P **P** **10 12 14.6 +1.1**
comp=Z,6.8nm,0.6s
B23A Brockton 72.51 40 P **P** **10 12 13.4 +0.1**
baz=72,SNR=12
SMMC Simmler 72.55 58 P **P** **10 12 15.2 +1.5**
baz=72
C22A Vida 72.56 41 P **P** **10 12 13.2 -0.4**
baz=72,SNR=9.1
TPH Tonopah 72.57 55 *e*P **P** **10 12 14.5 +0.5**
TPH pmax pmax
comp=Z,16nm,0.8s
TPH Tonopah 72.57 55 *e*P **P** **10 12 14.5 +0.5**
comp=Z,16nm,0.8s
RLMT Red Lodge 72.58 45 P **P** **10 12 14.5 +0.5**
baz=72,SNR=9.4
RLMT Red Lodge 72.58 45 *e*P **P** **10 12 14.5 +0.5**
comp=Z,6.7nm,0.6s
A24A Westby 72.67 39 P **P** **10 12 13.9 -0.3**
baz=72
MOOW Moose Ponds 72.69 47 *e*P **P** **10 12 15.4 +0.7**
comp=Z,15nm,1.0s
F20A Billings 72.72 44 P **P** **10 12 14.5 -0.1**
baz=72
TPAW Teton Pass 72.75 47 *e*P **P** **10 12 15.8 +0.8**
comp=Z,6.9nm,0.6s
VES Vestal, Richgr 72.81 57 P **P** **10 12 15.2 0.0**
baz=73
D22A Cohagen 72.82 42 P **P** **10 12 15.4 +0.3**
baz=73,SNR=10
HVU Hansel Valley 72.84 49 *e*P **P** **10 12 16.0 +0.5**
HVU pmax pmax
comp=Z,11nm,0.8s
HVU Hansel Valley 72.84 49 *e*P **P** **10 12 16.0 +0.5**
comp=Z,11nm,0.8s
LOHW Long Hollow 72.86 47 *e*P **P** **10 12 16.2 +0.5**
comp=Z,4.9nm,0.6s
C23A Lambert 72.87 41 P **P** **10 12 15.5 +0.1**
baz=73,SNR=8.0
SNOW Snow King Moun 72.87 47 *e*P **P** **10 12 16.6 +0.8**
comp=Z,13nm,0.8s
STKA Stephens Creek 72.88 181 P **P** **10 12 15.9 +0.6**
comp=Z,1.8nm,0.7s,baz=327,slow=5.7,SNR=4.1
REDW Red Top Meadow 72.89 47 *e*P **P** **10 12 16.4 +0.5**
comp=Z,9.5nm,0.8s
DGMT Dagmar 72.89 40 P **P** **10 12 15.1 -0.3**
baz=73,SNR=8.0
DGMT Dagmar 72.89 40 *e*P **P** **10 12 15.2 -0.3**
comp=Z,30nm,0.9s
SIM Simferopol' 72.92 315 *e*P **P** **10 12 15.1 -0.6**
SIM *e**PP **PcP** **10 12 34.0 +1.4**
SIM pmax pmax
comp=Z,20nm,1.2s
SIM MLR MLR
comp=Z,160nm,19.0s
PKM Mcpherson Peak 72.93 58 P **P** **10 12 17.0 +0.9**
baz=73
H19A Powell 73.03 45 P **P** **10 12 17.1 +0.6**
baz=73,SNR=5.7
G20A Bridger 73.08 44 P **P** **10 12 16.6 -0.2**
baz=73
A25A Svangstu Ranch 73.08 39 P **P** **10 12 16.8 +0.1**
baz=73,SNR=6.0
AHID Auburn Hatcher 73.14 48 *e*P **P** **10 12 17.7 +0.4**
comp=Z,12nm,0.5s
GRAC Grapevine Rang 73.15 55 P **P** **10 12 18.7 +1.4**
baz=73,SNR=10
F21A Absaloka Mine, 73.24 43 P **P** **10 12 17.8 +0.1**
baz=73
BLS5 Blasjo 73.25 338 *e*P **P** **10 12 17.4 0.0**
D23A Lindsay 73.29 41 P **P** **10 12 18.2 +0.2**
baz=73,SNR=7.4
R11A Troy Canyon, C 73.39 53 P **P** **10 12 19.6 +0.8**
baz=73,SNR=26
R11A Troy Canyon, C 73.39 53 *e*P **P** **10 12 19.2 +0.4**
comp=Z,6.5nm,0.6s
E22A Miles City 73.42 42 P **P** **10 12 18.8 +0.1**
baz=73
C24A Savage 73.43 41 P **P** **10 12 19.1 +0.4**
baz=73,SNR=5.4
I19A Meeteetse 73.45 46 P **P** **10 12 19.4 +0.3**
baz=73,SNR=8.2
BORG Borgarnes 73.48 353 P **P** **10 12 19.6 +1.0**
comp=Z,26nm,0.8s,baz=8.1,slow=4.0,SNR=8.0
BORG LR LR 10 46 22.7
comp=Z,38nm,18.3s,baz=324,slow=37
B25A Knox Farm, Ray 73.53 39 P **P** **10 12 19.4 +0.1**
baz=73
G21A Lodge Grass 73.60 44 P **P** **10 12 20.2 +0.3**
baz=73
A26A Wade Farm, Ken 73.62 38 P **P** **10 12 19.8 0.0**
baz=73,SNR=8.2
HWUT Hardware Ranch 73.64 49 *e*P **P** **10 12 20.2 0.0**
comp=Z,12nm,0.9s
SORM Soroca 73.65 320⇓ *i*P **P** **10 12 19.2 -0.7**
MPMC Manual Prospec 73.67 56 P **P** **10 12 20.9 +0.4**
baz=74,SNR=7.7
H20A Greybull 73.68 45 P **P** **10 12 20.2 -0.1**
baz=74,SNR=7.9
E23A Ismay 73.70 42 P **P** **10 12 20.5 +0.1**
baz=74,SNR=22
F22A Rosebud 73.71 43 P **P** **10 12 20.7 +0.3**
baz=74,SNR=7.6
D24A Glendive 73.76 41 P **P** **10 12 21.1 +0.4**
baz=74,SNR=8.1
FURC Furnace Creek, 73.81 56 P **P** **10 12 22.3 +1.3**
baz=74,SNR=14
DUG Dugway, Tooele 73.84 51 *e*P **P** **10 12 22.0 +0.6**
DUG pmax pmax
comp=Z,12nm,0.9s
DUG Dugway, Tooele 73.84 51 P **P** **10 12 21.8 +0.4**
baz=74,SNR=17
DUG Dugway, Tooele 73.84 51 *e*P **P** **10 12 22.0 +0.6**
comp=Z,12nm,0.9s

TPNV **Topopah Spring** 73.88 55 P P 10 12 22.2 +0.5
baz=74,SNR=20
B26A **Jensen Ranch,** 73.89 39 P P 10 12 21.5 +0.1
baz=74,SNR=6.9
J19A **Crowheart** 73.93 46 P P 10 12 22.4 +0.4
baz=74,SNR=40
A27A **Ledoux Ranch,** 73.95 38 P P 10 12 22.0 +0.3
baz=74,SNR=6.9
I20A **Worland** 73.97 45 P P 10 12 22.6 +0.5
baz=74,SNR=21
BW06 **Boulder Array** 73.99 47 eP P 10 12 22.1 -0.2
comp=Z,19nm,0.9s
PDAR **Pinedale Array** 73.99 47 P P 10 12 22.2 -0.1
comp=Z,15nm,0.6s,baz=334,slow=1.5,SNR=158
PDAR LR LR 10 43 38.1
comp=Z,54nm,21.8s,baz=337,slow=35
TCUT **Toone Canyon** 74.05 49 eP P 10 12 23.1 +0.4
comp=Z,19nm,0.7s
G22A **Birney** 74.08 43 P P 10 12 22.5 -0.2
baz=74,SNR=6.8
BSD **Bornholm Skovb** 74.08 332 i P P 10 12 21.1 -1.2
comp=Z,59nm,1.1s
BSD **Bornholm Skovb** 74.08 332 i P P 10 12 21.1 -1.2
BSD pmax pmax
comp=Z,59nm,1.1s
H21A **Big Horn, Sher** 74.09 44 P P 10 12 23.1 +0.3
baz=74,SNR=8.0
EDW2 **Edwards Air Fo** 74.11 58 P P 10 12 23.5 +0.5
baz=74
CTU **Camp Tracy** 74.13 50 eP P 10 12 23.8 +0.6
comp=Z,7.1nm,0.9s
E24A **Baker** 74.16 41 P P 10 12 23.0 0.0
baz=74,SNR=7.2
F23A **Volborg** 74.19 42 P P 10 12 23.7 +0.5
baz=74,SNR=28
D25A **Fairfield** 74.23 40 P P 10 12 23.7 +0.2
baz=74
BEL **Belsk** 74.34 327 eP P 10 12 23.8 -0.1
BEL **Belsk** 74.34 327 eP P 10 12 23.8 -0.1
JLU **Jordanelle** 74.36 49 eP P 10 12 23.6 -1.0
comp=Z,7.3nm,1.1s
J20A **Shoshoni** 74.40 46 P P 10 12 24.8 +0.2
baz=74,SNR=15
A28A **Rude Farm, Bot** 74.43 38 P P 10 12 24.8 +0.2
baz=74,SNR=6.5
NLU **North Lily Min** 74.43 50 eP P 10 12 25.4 +0.5
comp=Z,6.5nm,0.8s
LVV **L'vov** 74.45 324 eP P 10 12 23.4 -1.2
H22A **Clearmont** 74.47 44 P P 10 12 25.2 +0.2
baz=74
COP **Copenhagen** 74.49 333 i P P 10 12 23.9 -0.7
comp=Z,15nm,0.7s
COP **Copenhagen** 74.49 333 i P P 10 12 23.9 -0.7
COP pmax pmax
comp=Z,15nm,0.7s
I21A **Big Trails, Te** 74.51 45 P P 10 12 25.4 +0.2
baz=74,SNR=35
G23A **Biddle** 74.55 43 P P 10 12 25.5 +0.1
baz=74
GSC **Goldstone, Bar** 74.58 57 P P 10 12 25.9 +0.1
baz=74
F24A **Ekalaka** 74.59 42 P P 10 12 25.7 +0.1
baz=74,SNR=18
E25A **Miller Ranch,** 74.65 41 P P 10 12 26.4 +0.5
baz=74,SNR=5.8
GKP **Gorka Klasztor** 74.67 329 eP P 10 12 25.4 -0.3
GKP **Gorka Klasztor** 74.67 329 eP P 10 12 25.4 -0.3
C27A **Sayler Ranch,** 74.71 39 P P 10 12 26.7 +0.5
baz=74
BFSC **Mount Baldy Ra** 74.72 58 P P 10 12 27.1 +0.5
baz=75
J21A **Lysite** 74.75 45 P P 10 12 26.8 +0.1
baz=74,SNR=13
D26A **Manning** 74.75 40 P P 10 12 26.0 -0.4
baz=74,SNR=7.9
CIS **Catalina Islan** 74.78 59 P P 10 12 26.6 -0.2
baz=75
SHPR **Sheep Range** 74.83 55 eP P 10 12 27.6 +0.3
comp=Z,11nm,0.9s
MALT **Malatya** 74.86 308⇑ iP P 10 12 27.6 +0.3
I22A **9 Mile Ranch,** 74.88 44 P P 10 12 27.6 +0.2
baz=75,SNR=14
A29A **Manning Farm,** 74.89 37 P P 10 12 27.4 +0.2
baz=75,SNR=11
MUD **Monsted U'grnd** 74.92 335 i P P 10 12 26.7 -0.5
MUD **Monsted U'grnd** 74.92 335 i P P 10 12 26.7 -0.5
G24A **Alzada** 74.96 42 P P 10 12 27.6 -0.2
baz=75,SNR=9.8
F25A **Bowman** 75.02 41 P P 10 12 28.4 +0.4
baz=75
D27A **Center** 75.13 39 P P 10 12 28.1 -0.5
baz=75
E26A **Carlson Angus** 75.13 40 P P 10 12 28.4 -0.3
baz=75,SNR=8.8
KWP **Kalwaria Pacla** 75.17 324 eP P 10 12 28.7 0.0
KWP **Kalwaria Pacla** 75.17 324 eP P 10 12 28.8 0.0
B29A **Wagenman Farm,** 75.17 37 P P 10 12 28.9 +0.1
baz=75
HEC **Hector,Ludlow** 75.19 57 P P 10 12 29.7 +0.5
baz=75
J22A **Midwest** 75.22 45 P P 10 12 29.3 -0.1
baz=75
C28A **Hausauer Farms** 75.23 38 P P 10 12 29.6 +0.4
baz=75,SNR=5.4
CCUT **Cedar City** 75.25 53 eP P 10 12 30.1 +0.4
comp=Z,3.9nm,0.7s
H24A **Dirks Ranch, A** 75.30 43 P P 10 12 29.3 -0.4
baz=75,SNR=15
A30A **Hoffart Farm,** 75.30 37 P P 10 12 29.3 -0.3
baz=75,SNR=7.8
MVU **Marysvale** 75.30 52 eP P 10 12 30.9 +0.9
comp=Z,6.3nm,1.0s
MURC **Murrieta** 75.42 58 P P 10 12 30.8 +0.2
baz=75
F26A **Lodgepole** 75.47 41 P P 10 12 30.7 +0.1
baz=75,SNR=8.0
BUR08 **Bucovina Ar. S** 75.49 322 eP P 10 12 29.6 -1.2
MDND **Maddock** 75.50 38 P P 10 12 30.8 +0.1
baz=75
MDND **Maddock** 75.50 38 eP P 10 12 30.8 +0.1
comp=Z,43nm,1.1s
BURAR **Bucovina Array** 75.51 322⇑ iP P 10 12 30.2 -0.7
D28A **Regan** 75.53 39 P P 10 12 31.2 +0.4
baz=75
G25A **Newell** 75.56 42 P P 10 12 31.1 0.0
baz=75
E27A **Carson** 75.60 40 P P 10 12 31.4 +0.1
baz=75,SNR=14
TESR **Tescani** 75.62 320⇑ iP P 10 12 30.5 -0.9
GMRC **Granite Mounta** 75.64 56 P P 10 12 32.4 +0.5
baz=76,SNR=6.1
B30A **Myrvik Farm, E** 75.65 37 P P 10 12 31.8 +0.2
baz=75,SNR=6.2
J23A **Dilts Ranch, B** 75.71 44 P P 10 12 32.2 +0.1
baz=76
K22A **Casper** 75.72 45 P P 10 12 32.0 -0.2
baz=76,SNR=8.4
K22A **Casper** 75.72 45 eP P 10 12 31.8 -0.5
comp=Z,10nm,0.7s
CFR **Carcaliu** 75.84 318⇓ iP P 10 12 32.1 -0.5
H25A **Fruitdale** 75.87 42 P P 10 12 33.1 +0.1
baz=76
I24A **Kuemmerle Ranc** 75.88 43 P P 10 12 32.6 -0.4
baz=76
KOLS **Kolonicke sedl** 75.88 324 eP P 10 12 32.4 -0.4
KOLS pmax pmax
comp=Z,15nm,0.9s
KOLS **Kolonicke sedl** 75.88 324 eP P 10 12 32.4 -0.4
KOLS ePP PP 10 15 17.5 -5.1
SRU **San Rafael Swe** 75.89 50 eP P 10 12 33.5 +0.2
SRU pmax pmax
comp=Z,19nm,0.8s
SRU **San Rafael Swe** 75.89 50 eP P 10 12 33.5 +0.2
comp=Z,19nm,0.8s
PFO **Pinyon Flats O** 75.89 58 P P 10 12 33.7 +0.3
baz=76
G26A **Maurine** 75.90 41 P P 10 12 32.9 -0.1
baz=76,SNR=27
E28A **Huff** 75.91 39 P P 10 12 32.7 -0.4
baz=76
BELC **Belle Mtn. Jos** 75.93 57 P P 10 12 33.8 +0.2
baz=76,SNR=6.3
109C **Camp Elliot, M** 75.94 59 P P 10 12 33.6 +0.2
baz=76
STHS **Stebnicka Huta** 75.97 325 eP P 10 12 33.6 +0.3
STHS pmax pmax
comp=Z,15nm,0.8s
STHS **Stebnicka Huta** 75.97 325 eP P 10 12 33.6 +0.3
STHS ePP PP 10 15 15.0 -8.3
OJC **Ojcow** 75.98 326 eP P 10 12 33.0 -0.4
OJC **Ojcow** 75.98 326 eP P 10 12 33.0 -0.4
RSSD **Black Hills** 76.00 43 eP P 10 12 33.3 -0.6
RSSD pmax pmax
comp=Z,9.0nm,0.6s
RSSD **Black Hills** 76.00 43 eP P 10 12 33.3 -0.6
comp=Z,9.2nm,0.6s
RWWY **Rawlins** 76.00 46 eP P 10 12 42.4 +8.3
comp=Z,22nm,0.8s
VRI **Vrincioaia** 76.05 320⇑ iP P 10 12 33.7 -0.2
D29A **Pettibone, Tap** 76.08 39 P P 10 12 34.4 +0.4
baz=76
PLOR **Plostina** 76.09 320⇓ iP P 10 12 33.3 -0.9
K23A **Bowen Ranch, D** 76.12 45 P P 10 12 33.7 -0.8
baz=76
C30A **Mose, Pekin** 76.13 38 P P 10 12 34.1 -0.1
baz=76
G27A **Dupree** 76.17 41 P P 10 12 34.3 -0.3
baz=76,SNR=8.8
I25A **Rochford** 76.23 43 P P 10 12 35.0 -0.2
baz=76,SNR=11
J24A **Dixon Ranch, L** 76.23 44 P P 10 12 34.4 -0.7
baz=76
H26A **Fairpoint** 76.29 42 P P 10 12 35.3 0.0
baz=76,SNR=6.8
NEE2 **Needles Airpor** 76.30 56 P P 10 12 36.1 +0.6
baz=76
IRM **Iron Mountain** 76.36 57 P P 10 12 36.2 +0.3
baz=76
NIE **Niedzica** 76.36 325 eP P 10 12 35.7 +0.1
NIE **Niedzica** 76.36 325 eP P 10 12 35.8 +0.1
MONP **Monument Peak,** 76.38 58 P P 10 12 36.6 +0.4
baz=76
F28A **McLaughlin** 76.38 40 P P 10 12 35.7 -0.1
baz=76
D30A **Buchanan** 76.44 38 P P 10 12 35.7 -0.4
baz=76,SNR=6.6
O20A **White River Ci** 76.50 48 P P 10 12 36.8 0.0
baz=76,SNR=12
O20A **White River Ci** 76.50 48 eP P 10 12 36.6 -0.1
comp=Z,11nm,0.8s
BC3 **Big Chuckawall** 76.50 57 P P 10 12 37.3 +0.5
baz=76
K24A **Anderson Ranch** 76.57 44 P P 10 12 36.0 -1.1
baz=76
H27A **Howes** 76.63 42 P P 10 12 37.1 -0.1
baz=76,SNR=13
BSEG **Bad Segeberg** 76.63 333 eP P 10 12 36.8 -0.1
comp=Z,24nm,0.9s
J25A **Sunshine Ranch** 76.63 43 P P 10 12 36.6 -0.8
baz=76
I26A **New Underwood** 76.66 42 P P 10 12 37.7 +0.2
baz=76,SNR=5.5
ISR **Istrita** 76.67 319⇓ iP P 10 12 37.8 +0.3
BR131 **Keskin Array S** 76.69 311 eP P 10 12 37.2 -0.7
comp=Z,2.7nm,0.7s
BRTR **Keskin Array B** 76.70 311 P P 10 12 37.1 -0.7
comp=Z,4.4nm,0.8s,baz=67,slow=4.2,SNR=21
BRTR PP PP 10 15 23.5 -6.4
comp=Z,1.2nm,0.8s,baz=62,slow=10.0,SNR=4.0
BRTR LR LR 10 51 50.1
comp=Z,71nm,18.9s,baz=36,slow=40
MLR **Muntele Rosu** 76.70 320 LR LR 10 48 34.4
comp=Z,77nm,20.9s,baz=43,slow=37
MLR **Muntele Rosu** 76.70 320⇓ iP P 10 12 37.1 -0.6
SWSC **Sam W. Stewart** 76.75 58 P P 10 12 38.3 +0.3
baz=77
MSAB **Monastry St. A** 76.77 318⇑ iP P 10 12 38.1 +0.2
E30A **Jud** 76.81 39 P P 10 12 37.8 -0.4
baz=77,SNR=6.0
AGMN **Agassiz Nation** 76.86 36 P P 10 12 37.2 -1.2
baz=77,SNR=5.6
AGMN **Agassiz Nation** 76.86 36 eP P 10 12 37.2 -1.2
comp=Z,14nm,0.9s
AGMN epP pP 10 12 48.0 +1.0
F29A **Eureka** 76.86 40 P P 10 12 38.2 -0.3
baz=77
G28A **Parade** 76.89 41 P P 10 12 38.5 -0.1
baz=77
PDMCI **Parker Dam,Lak** 76.90 56 P P 10 12 40.0 +1.1
baz=77
CJR **Cluj-Napoca** 76.92 322⇓ iP P 10 12 39.3 +0.5
KSP **Ksiaz** 76.92 328 eP P 10 12 38.3 -0.4
KSP **Ksiaz** 76.92 328 eP P 10 12 38.3 -0.4
OKC **Ostrava-Krasne** 76.95 327⇑ iP P 10 12 38.4 -0.5
OKC ex x 10 12 56.5
OKC AMS AMS 10 48 40.0
comp=Z,300nm,18.0s
OKC **Ostrava-Krasne** 76.95 327⇑ iP P 10 12 38.4 -0.5
OKC e 10 12 56.5
OKC MLR MLR
comp=Z,300nm,18.0s
Y12C **Blythe** 77.02 56 P P 10 12 40.4 +0.9
baz=77
I27A **Quinn** 77.04 42 P P 10 12 39.6 0.0
baz=77,SNR=11
J26A **Sides Ranch, S** 77.06 43 P P 10 12 39.6 -0.1
baz=77,SNR=7.9
H28A **Mission Ridge** 77.12 41 P P 10 12 40.0 0.0
baz=77,SNR=6.1
K25A **Mack Ranch, Ha** 77.15 44 P P 10 12 40.5 +0.2
baz=77
VOIR 77.17 320⇓ iP P 10 12 40.7 +0.4
N23A **Red Feather La** 77.24 46 P P 10 12 41.6 +0.6
baz=77,SNR=13
MORC **Moravsky Berou** 77.25 327 eP P 10 12 40.2 -0.4
MORC pmax pmax
comp=Z,127nm,0.9s
MORC **Moravsky Berou** 77.25 327⇑ iP P 10 12 40.3 -0.4
MORC **Moravsky Berou** 77.25 327 eP P 10 12 40.2 -0.4
comp=Z,127nm,0.9s
DRGR 77.27 322⇑ iP P 10 12 40.2 -0.6
G29A **Hoven** 77.28 40 P P 10 12 40.6 -0.3
baz=77
GLA **Glamis** 77.29 57 P P 10 12 42.1 +0.9
baz=77
UPC **Upice** 77.30 328⇑ eP P 10 12 40.6 -0.2
UPC esP sP 10 12 56.3 +3.7
UPC **Upice** 77.30 328 eP P 10 12 40.6 -0.2
UPC e 10 12 56.3
DPC **Dobruska-Polom** 77.30 328⇑ iP P 10 12 40.7 -0.2
DPC epP PcP 10 12 53.2 +1.8
DPC **Dobruska-Polom** 77.30 328⇑ iP P 10 12 40.7 -0.2
DPC e 10 12 53.2
PV04 **Paradox Valley** 77.30 50 eP P 10 12 41.8 +0.5
I28A **Midland** 77.54 42 P P 10 12 42.3 0.0
baz=77,SNR=22
H29A **Onida** 77.56 41 P P 10 12 42.3 -0.1
baz=77
J27A **Elkhorn Farm,** 77.65 43 P P 10 12 43.5 +0.5
baz=77,SNR=15
PV01 **Paradox Valley** 77.67 50 eP P 10 12 43.9 +0.4
comp=Z,337nm,0.6s
PSZ **Piszkesteto** 77.69 325 eP P 10 12 42.9 -0.3
PSZ pmax pmax
comp=Z,22nm,0.9s
PSZ **Piszkesteto** 77.69 325⇓ iP P 10 12 43.2 +0.1
PSZ **Piszkesteto** 77.69 325 eP P 10 12 42.9 -0.3
comp=Z,22nm,0.9s
PSZ **Piszkesteto** 77.69 325⇑ eP P 10 12 42.9 -0.3
G30A **Faulkton** 77.70 40 P P 10 12 42.9 -0.4
baz=78,SNR=10
WUAZ **Wupatki** 77.79 53 P P 10 12 45.1 +1.1
baz=78,SNR=9.6
WUAZ **Wupatki** 77.79 53 eP P 10 12 44.7 +0.7
comp=Z,13nm,0.9s
BRG **Berggiesshubel** 77.81 330 eP P 10 12 42.7 -1.0
comp=Z,16nm,1.1s
BRG e 10 15 37.7
comp=Z,6.2nm,1.1s
BRG **Berggiesshubel** 77.81 330 eP P 10 12 43.2 -0.5
comp=Z,6.0nm,0.9s
BRG **Berggiesshubel** 77.81 330 eP P 10 12 42.7 -1.0
BRG e 10 15 37.7
BRG pmax pmax
comp=Z,16nm,1.1s
BRG pmax pmax
comp=Z,6.0nm,1.1s
CLL **Collm** 77.81 330 eP P 10 12 43.0 -0.7
comp=Z,19nm,0.9s
CLL **Collm** 77.81 330⇑ iP P 10 12 42.6 -1.1
comp=Z,30nm,1.0s
CLL epP PcP 10 12 55.0 +1.4
CLL esP sP 10 13 01.0 +5.5
CLL ePP PP 10 15 38.0 -0.7
CLL LmV 10 49 00.0
comp=Z,300nm,21.7s
CLL **Collm** 77.81 330⇑ iP P 10 12 42.6 -1.1
CLL e*PP PcP 10 12 55.0 +1.4
CLL e*SP sP 10 13 01.0 +5.5
CLL pmax pmax
comp=Z,30nm,1.0s
CLL MLR MLR
comp=Z,300nm,21.7s
PVCC **Panska Ves** 77.84 329⇑ iP P 10 12 43.7 -0.2
PVCC **Panska Ves** 77.84 329⇑ iP P 10 12 43.7 -0.2
M25A **Palm-Egli Farm** 77.88 45 P P 10 12 44.4 -0.1
baz=78,SNR=5.4
J28A **Allard Ranch,** 77.92 42 P P 10 12 44.4 -0.1
baz=78,SNR=20
K27A **Flueckinger Fa** 77.93 43 P P 10 12 44.3 -0.3
baz=78
I29A **Vivian Onida** 77.95 41 P P 10 12 44.4 -0.2
baz=78,SNR=12
L26A **Underwood Farm** 77.97 44 P P 10 12 45.5 +0.6
baz=78
VRAC **Vranov** 78.00 327⇑ iP P 10 12 44.7 -0.1
ISCO **Idaho Springs** 78.19 47 eP P 10 12 46.7 +0.3
ISCO pmax pmax
comp=Z,6.0nm,0.7s
ISCO **Idaho Springs** 78.19 47 P P 10 12 46.9 +0.5
baz=78,SNR=14
ISCO **Idaho Springs** 78.19 47 eP P 10 12 46.7 +0.3
comp=Z,6.3nm,0.7s
GOPC **GO Pecny, Ondr** 78.25 329⇑ eP P 10 12 45.6 -0.6
PRA **Prague** 78.26 329⇑ eP P 10 12 46.0 -0.2
PRA **Prague** 78.26 329 eP P 10 12 46.0 -0.2
GZR **Gura Zlata** 78.28 321⇑ iP P 10 12 46.1 -0.4
PRU **Pruhonice** 78.28 329⇑ iP P 10 12 45.9 -0.4
PRU esP sP 10 13 02.0 +3.9
PRU AMS AMS 10 51 30.0
PRU **Pruhonice** 78.28 329⇑ iP P 10 12 45.9 -0.4
PRU e 10 13 02.0
SZH **Strazhica** 78.31 318 i P P 10 12 45.6 -1.0
CLZ **Clausthal** 78.33 332 eP P 10 12 46.6 0.0
comp=Z,18nm,0.7s
L27A **T5 Ranch, Ells** 78.33 44 P P 10 12 47.5 +0.6
baz=78
M26A **McRoberts Ranc** 78.34 44 P P 10 12 47.5 +0.6
baz=78
MVCO **Mesa Verde** 78.35 50 P P 10 12 47.5 +0.3
baz=78,SNR=11
MVCO **Mesa Verde** 78.35 50 eP P 10 12 47.3 +0.1
comp=Z,6.7nm,0.6s
K28A **Ten Mile Ranch** 78.37 43 P P 10 12 47.2 +0.2
baz=78,SNR=13
J29A **Okreek** 78.39 42 P P 10 12 46.8 -0.2
baz=78,SNR=11
BUD **Budapest** 78.40 325 eP P 10 12 46.9 -0.1
I30A **Oacoma** 78.46 41 P P 10 12 47.8 +0.4
baz=78
TREC **Trest** 78.46 328⇑ iP P 10 12 44.9 -2.4
TREC **Trest** 78.46 328⇑ iP P 10 12 44.9 -2.4
PKSN **Nyarlorinc** 78.48 324⇓ eP P 10 12 47.8 +0.4
JMB **Yambol** 78.56 317⇓ iP P 10 12 48.1 +0.1
BZS **Buzias** 78.66 322⇑ iP P 10 12 47.5 -0.9
PKS7 **Kunszentmiklos** 78.67 324⇑ eP P 10 12 48.4 -0.1
M27A **Reverse DX Ran** 78.69 44 P P 10 12 48.8 0.0
baz=78
PKSG 78.74 325⇓ eP P 10 12 49.1 +0.2
N26A **Koester Ranch,** 78.75 45 P P 10 12 50.3 +1.1
baz=78
CSKK **Cs˙˙tkako** 78.82 325 eP P 10 12 48.8 -0.5
IBBN **Ibbenburen** 78.84 334 eP P 10 12 48.9 -0.4
comp=Z,25nm,0.8s
J30A **Dallas** 78.86 41 P P 10 12 49.7 0.0
baz=79,SNR=15
K29A **Lazy Trails An** 78.86 42 P P 10 12 50.3 +0.6
baz=79
MOX **Moxa** 78.86 331 eP P 10 12 49.1 -0.4
comp=Z,20nm,1.2s
NKC **Novy Kostel** 78.89 330⇑ eP P 10 12 49.1 -0.6
NKC **Novy Kostel** 78.89 330 eP P 10 12 49.1 -0.6
S22A **4UR Ranch, Cre** 78.94 49 P P 10 12 51.3 +0.8
baz=79,SNR=11
EYMN **Ely** 79.00 34 eP P 10 12 49.5 -0.9
comp=Z,20nm,0.8s
Q24A **Divide** 79.03 47 P P 10 12 51.3 +0.3
baz=79,SNR=7.1
W18A **Petrified Fore** 79.05 53 P P 10 12 52.4 +1.4
baz=79
O26A **Horse Wrangler** 79.12 45 P P 10 12 51.4 +0.1
baz=79,SNR=6.4
N27A **Anderson Farm,** 79.13 45 P P 10 12 51.3 0.0
baz=79
MANZ **Manzenberg** 79.22 330 eP P 10 12 51.2 -0.3
comp=Z,8.0nm,0.9s
K30A **Basset** 79.28 42 P P 10 12 52.0 0.0
baz=79,SNR=7.4
214A **Organ Pipe Nat** 79.29 57 P P 10 12 52.4 +0.2
baz=79
SOP **Sopron** 79.29 326⇑ eP P 10 12 51.9 0.0
OGNE **Ogallala** 79.30 44 P P 10 12 52.2 -0.1
baz=79
OGNE **Ogallala** 79.30 44 eP P 10 12 52.1 -0.1
comp=Z,24nm,0.8s
M28A **Bar X Bar Ranc** 79.32 43 P P 10 12 52.1 -0.2
baz=79
KHC **Kasperske Hory** 79.35 329⇑ iP P 10 12 51.7 -0.5
KHC epP pP 10 13 04.0 +3.1
KHC **Kasperske Hory** 79.35 329 eP P 10 12 51.7 -0.5
KHC pmax pmax
comp=Z,9.0nm,0.8s
KHC **Kasperske Hory** 79.35 329 eP P 10 12 51.7 -0.5
comp=Z,9.0nm,0.8s
ROTZ **Rotzenmuhle** 79.36 330 eP P 10 12 52.4 +0.2
comp=Z,10.0nm,0.9s
EKA **Eskdalemuir Ar** 79.37 341 P P 10 12 51.3 -0.8
comp=Z,7.3nm,0.6s,baz=26,slow=4.8,SNR=16
CONA **Conrad Observa** 79.39 327⇑ iP P 10 12 52.5 0.0
comp=Z,16nm,0.8s,SNR=12
PKS9 **Tamasi** 79.41 325 eP P 10 12 51.8 -0.8
GEC2 **GERESS Array S** 79.53 328 eP P 10 12 52.8 -0.5
comp=Z,6.0nm,0.8s
GERES **GERESS Array B** 79.53 328 P P 10 12 52.5 -0.9
comp=Z,5.3nm,0.6s,baz=30,slow=6.2,SNR=45
GERES PP PP 10 15 41.7 -12
comp=Z,0.3nm,0.3s,baz=330,slow=3.4,SNR=4.6
GERES LR LR 10 51 46.7
comp=Z,158nm,18.4s,baz=33,slow=38
PKSM **Moragy** 79.55 324⇑ iP P 10 12 51.9 -1.3
PKSM **Moragy** 79.55 324⇑ eP P 10 12 52.0 -1.3
P26A **Davis Ranch, A** 79.59 46 P P 10 12 53.7 -0.2
baz=79,SNR=6.5
O27A **Beecher Island** 79.61 45 P P 10 12 53.6 -0.3
baz=79
WET **Wettzell** 79.61 329 eP P 10 12 53.7 +0.1
comp=Z,12nm,0.9s
M29A **Burnside Ranch** 79.63 43 P P 10 12 53.1 -0.9
baz=79
SDCO **Great Sand Dun** 79.69 48 P P 10 12 54.8 +0.2
baz=80,SNR=16
SDCO **Great Sand Dun** 79.69 48 eP P 10 12 54.5 -0.1
comp=Z,4.9nm,0.9s
PGB **Panagyurishte** 79.72 319 i P P 10 12 53.9 -0.5
N28A **Pribbeno Ranch** 79.74 44 P P 10 12 54.6 0.0
baz=80
KDZ **Kurdzhali** 79.75 317⇓ iP P 10 12 54.4 -0.2
L30A **Spencer Herefo** 79.76 42 P P 10 12 53.8 -0.8
baz=80
GRF **Grafenberg Arr** 79.79 330 eP P 10 12 54.7 +0.1
comp=Z,29nm,0.8s
GRFO **Grafenberg** 79.79 330 eP P 10 12 54.2 -0.4
GRFO pmax pmax
comp=Z,35nm,0.9s
GRFO **Grafenberg** 79.79 330 eP P 10 12 54.2 -0.4
comp=Z,35nm,0.9s
RAYN **Ar Rayn** 79.89 292 P P 10 12 54.9 -0.7
comp=Z,78nm,0.7s,SNR=5.7
RAYN **Ar Rayn** 79.89 292 eP P 10 12 54.5 -1.2
comp=Z,13nm,0.6s
Q26A **Hugo** 79.95 46 P P 10 12 56.0 +0.2
baz=80,SNR=8.7
ECSD **EROS Data Cent** 79.95 39 P P 10 12 55.1 -0.5
baz=80,SNR=31
ECSD **EROS Data Cent** 79.95 39 eP P 10 12 54.7 -0.9
comp=Z,20nm,0.8s
P27A **Ficken Ranch,** 80.01 45 P P 10 12 55.6 -0.6
baz=80,SNR=6.0
L31A **Butterfield Fa** 80.03 42 P P 10 12 55.6 -0.5

baz=80,SNR=19
MOA Molln 80.10 328⇑*i*P P 10 12 55.8 -0.6
comp=Z,8.7nm,1.1s
N29A Votaw Ranch, W 80.12 43 P P 10 12 56.1 -0.5
baz=80
VTS Vitosha 80.17 319 P P 10 12 56.5 -0.4
VTS Vitosha 80.17 319 P P 10 12 56.5 -0.4
VTS Vitosha 80.17 319⇑*i*P P 10 12 56.7 -0.2
VTS Vitosha 80.17 319 *i*P P 10 12 56.1 -0.8
VTS Vitosha 80.17 319 P P 10 12 56.5 -0.4
MMAI Mount Meron Ar 80.23 305 P P 10 12 57.4 0.0
comp=Z,2.2nm,0.3s,baz=45,slow=8.4,SNR=3.6
TUC Tucson 80.32 55 *e*P P 10 12 58.4 +0.5
TUC pmax pmax
comp=Z,2.0nm,0.7s
TUC Tucson 80.32 55 *e*P P 10 12 58.4 +0.5
comp=Z,2.3nm,0.7s
TNS Taunus Mts 80.36 332 *e*P P 10 12 57.2 -0.5
comp=Z,8.0nm,0.9s
KSCO Kaye Shedlock' 80.37 46 P P 10 12 58.3 +0.2
baz=80
P28A Saint Francis 80.44 45 P P 10 12 58.1 -0.3
baz=80
R26A Arlington 80.44 47 P P 10 12 58.4 0.0
baz=80,SNR=16
O29A 4D Ranch, Culb 80.54 44 P P 10 12 58.6 -0.3
baz=80,SNR=5.2
DIVS Divibare 80.56 322 P P 10 12 58.0 -1.0
DIVS Divibare 80.56 322⇓*i*P P 10 12 57.9 -1.0
SPMN Marine on St. 80.57 36 P P 10 12 58.4 -0.4
baz=80
SPMN Marine on St. 80.57 36 *e*P P 10 12 57.8 -1.0
comp=Z,11nm,0.9s
M31A Lambtecht Ranc 80.58 42 P P 10 12 58.7 -0.4
baz=80
MMB Musomiste 80.65 318⇑*i*P P 10 12 59.2 -0.2
MMB Musomiste 80.65 318 *i*P P 10 12 58.5 -0.9
GROS Grobnik 80.70 326 *i*P P 10 12 58.8 -0.9
PERS Pernice 80.72 326 *i*P P 10 12 59.1 -0.6
SOKA Soboth 80.72 326⇑*i*P P 10 12 59.2 -0.6
comp=Z,49nm,1.0s,SNR=24
T25A Trinidad 80.73 48 P P 10 13 00.4 +0.3
baz=80,SNR=15
Q28A Sharon Springs 80.77 45 P P 10 12 59.9 -0.3
baz=80,SNR=5.2
KKB Krupnik 80.77 319 *i*P P 10 12 59.5 -0.5
RJOB Jochberg 80.78 328 *e*P P 10 13 00.1 +0.1
comp=Z,18nm,0.8s
R27A Eads 80.80 46 P P 10 13 00.2 -0.2
baz=81,SNR=10.0
P29A Atwood 80.85 44 P P 10 13 00.1 -0.5
baz=81
MEM Membach 80.87 334 P P 10 12 59.1 -1.3
comp=Z,9.7nm,1.2s
SCHQ Schefferville 80.92 17 P P 10 12 60.0 -0.7
comp=Z,9.8nm,0.7s,baz=343,slow=4.7,SNR=17
SCHQ LR LR 10 54 05.4
comp=Z,68nm,18.2s,baz=328,slow=40
SCHQ Schefferville 80.92 17 P P 10 12 60.0 -0.7
comp=Z,5.8nm,1.1s
BGNE Belgrade 80.95 42 P P 10 13 00.4 -0.6
baz=81,SNR=6.0
BGNE Belgrade 80.95 42 *e*P P 10 13 00.5 -0.5
comp=Z,49nm,0.7s
N31A Bailey Ranch, 80.98 43 P P 10 13 01.1 -0.1
baz=81
FUR Furstenfeldbru 81.02 329 *e*P P 10 13 01.3 0.0
comp=Z,32nm,0.8s
OBKA Obir 81.06 327⇑*i*P P 10 13 00.7 -0.9
comp=Z,21nm,0.7s,SNR=8.1
SRS Serrai 81.07 318 P P 10 13 00.7 -0.9
SRS Serrai 81.07 318 P P 10 13 00.7 -0.9
SRS Serrai 81.07 318 P P 10 13 00.7 -0.9
LAZ Ladron 81.08 52 *e*P P 10 13 02.8 +0.7
comp=Z,3.5nm,0.9s
KBA Koelnbreinsper 81.09 328⇑*i*P P 10 13 01.3 -0.6
comp=Z,31nm,1.1s,SNR=14
ANMO Albuquerque 81.11 51 *e*P P 10 13 02.6 +0.4
ANMO *e**PP pP 10 13 13.1 +2.3
ANMO pmax pmax
comp=Z,10.0nm,0.9s
ANMO Albuquerque 81.11 51 *e*P P 10 13 02.6 +0.4
comp=Z,9.6nm,0.9s
ANMO *e*PcP PcP 10 13 07.7 -0.8
ANMO *e*pP pP 10 13 13.1 +2.3
T26A Comanche Natio 81.16 48 P P 10 13 02.3 -0.1
baz=81,SNR=14
PDKS Podkum 81.23 326 *i*P P 10 13 01.4 -1.0
P30A Selden 81.25 44 P P 10 13 02.6 -0.1
baz=81,SNR=5.8
O31A Woolen Ranch, 81.28 43 P P 10 13 02.3 -0.5
baz=81
R28A Tribune 81.30 46 P P 10 13 02.9 -0.2
baz=81
STU Stuttgart 81.30 331 *e*P P 10 13 02.3 -0.4
comp=Z,20nm,0.8s
MYKA Terra Mystica 81.34 327⇑*i*P P 10 13 01.8 -1.2
comp=Z,12nm,0.6s,SNR=7.1
Q29A Oakley 81.35 45 P P 10 13 02.7 -0.5
baz=81,SNR=9.4
N32A Stulken Farm, 81.36 42 P P 10 13 02.3 -0.9
baz=81
KNT Kendrikon 81.39 318 P P 10 13 02.5 -0.8
KNT Kendrikon 81.39 318 P P 10 13 02.5 -0.8
KNT Kendrikon 81.39 318 P P 10 13 02.5 -0.8
L34A Svendsen Farm, 81.40 40 P P 10 13 02.5 -0.9
baz=81
PLE Pljevlja 81.43 322⇑*i*P P 10 13 02.8 -0.8
VAY Valandovo 81.43 319 *i*P P 10 13 03.3 -0.2
LJU Ljubljana 81.44 326 *i*P P 10 13 02.5 -1.0
Y22D IRIS PASSCAL I 81.44 52 P P 10 13 05.1 +1.2
baz=81
LPM Los Pinos Moun 81.45 52 *e*P P 10 13 04.9 +0.9
comp=Z,4.4nm,0.8s
SKO Skopje 81.50 320 *i*P P 10 13 04.2 +0.4
IVA Berane 81.55 321 *e*P P 10 13 03.3 -0.9
BOJS Bojanci 81.57 326 *i*P P 10 13 03.2 -0.9
WATA Walderalm 81.59 329⇑*i*P P 10 13 03.8 -0.7
comp=Z,14nm,0.7s,SNR=7.0
R29A Marienthal 81.60 45 P P 10 13 04.1 -0.5
baz=81,SNR=5.8
CADS Cadrg 81.62 327 *i*P P 10 13 02.5 -2.0
WTTA Wattenberg 81.62 329⇑*i*P P 10 13 04.1 -0.6
comp=Z,23nm,0.7s,SNR=7.1
LANF Langenberg 81.63 332⇑*e*P P 10 13 03.7 -0.7
M34A Aspy Farms, Fr 81.65 41 P P 10 13 04.2 -0.5
baz=81
Q30A Quinter 81.68 45 P P 10 13 04.5 -0.5
baz=82,SNR=12
ABTA Abfaltersbach 81.70 328⇑*i*P P 10 13 03.3 -1.6
comp=Z,12nm,0.8s,SNR=6.2
P31A Stockton 81.72 44 P P 10 13 04.7 -0.5
baz=82,SNR=8.1
T27A Campo 81.73 47 P P 10 13 05.1 -0.3
baz=82
PVY Plav 81.73 321⇑*i*P P 10 13 04.2 -1.0
UPM Unac-Piva 81.75 322⇑*i*P P 10 13 04.2 -1.2
MOTA Moosalm 81.76 329⇑*i*P P 10 13 04.7 -0.7
comp=Z,42nm,0.8s,SNR=25
RETA Reutte 81.78 329⇑*i*P P 10 13 04.8 -0.5
comp=Z,40nm,1.0s,SNR=11
GRG Griva 81.79 319 P P 10 13 04.5 -1.0
GRG Griva 81.79 319 P P 10 13 04.5 -1.0
GRG Griva 81.79 319 P P 10 13 04.5 -1.0
S28A Manter 81.80 46 P P 10 13 05.3 -0.4
baz=82,SNR=5.2
BFO Black Forest 81.98 331 P P 10 13 05.6 -0.8
comp=Z,95nm,0.7s,SNR=6.8
BFO Black Forest 81.98 331 *e*P P 10 13 05.8 -0.6
comp=Z,10.0nm,0.8s
BFO Black Forest 81.98 331 *e*P P 10 13 05.3 -1.1
BFO pmax pmax
comp=Z,10.0nm,0.8s
BFO Black Forest 81.98 331 *e*P P 10 13 05.3 -1.1
comp=Z,9.8nm,0.8s
121A Cookes Peak, D 82.00 53 P P 10 13 08.1 +1.2
baz=82,SNR=8.6
121A Cookes Peak, D 82.00 53 *e*P P 10 13 07.6 +0.7
comp=Z,11nm,0.9s
121A *e*pP pP 10 13 17.5 +1.9
NKY Niksic 82.01 322 *e*P P 10 13 05.9 -0.8
T28A Walsh 82.02 47 P P 10 13 05.6 -1.3
baz=82
P32A Huiting Farm, 82.05 43 P P 10 13 05.7 -1.1
baz=82,SNR=14
Q31A Ellis 82.10 44 P P 10 13 06.8 -0.4
baz=82
M35A Neola 82.12 40 P P 10 13 06.9 -0.3
baz=82,SNR=6.8
U27A Thompson Grove 82.13 48 P P 10 13 07.1 -0.4
baz=82,SNR=5.1
BRY Bratogost 82.16 322⇑*i*P P 10 13 06.1 -1.4
R30A Dighton 82.16 45 P P 10 13 07.0 -0.5
baz=82,SNR=6.6
FETA Feichten 82.17 329⇑*i*P P 10 13 06.9 -0.7
comp=Z,26nm,0.8s,SNR=12
TTG Podgorica 82.19 321⇑*i*P P 10 13 06.6 -0.9
PHP Peshkopia 82.20 320 P P 10 13 06.6 -1.0
PHP Peshkopia 82.20 320 P P 10 13 06.6 -1.0
PHP Peshkopia 82.20 320 P P 10 13 06.6 -1.0
N34A Lincoln 82.20 41 P P 10 13 06.3 -1.3
baz=82,SNR=6.1
O33A Hebron 82.23 42 P P 10 13 07.4 -0.4
baz=82
DAVA Damuels 82.28 330⇓*i*P P 10 13 07.4 -0.7
comp=Z,45nm,0.9s,SNR=12
DRME Dracevica, Mon 82.41 321⇑*i*P P 10 13 08.0 -0.7
BUM Brajici-Budva 82.46 322⇑*i*P P 10 13 08.0 -1.0
U28A Mallet 82.50 47 P P 10 13 09.0 -0.4
baz=82
ECH Echery 82.50 332⇑*e*P P 10 13 08.1 -1.0
ECH Echery 82.50 332 *e*P P 10 13 07.9 -1.2
ECH *e**PP pP 10 13 18.8 +1.1
ECH pmax pmax
comp=Z,17nm,1.1s
ECH Echery 82.50 332 *e*P P 10 13 07.9 -1.2
comp=Z,17nm,1.1s
ECH *e*pP pP 10 13 18.8 +1.1
HCY Herceg Novi 82.53 322⇑*i*P P 10 13 08.4 -0.9
S30A Montezuma 82.54 46 P P 10 13 08.9 -0.6
baz=82
Q32A Meitler Ranch, 82.54 44 P P 10 13 08.3 -1.1
baz=82,SNR=8.2
ULC Ulcinj 82.55 321⇑*i*P P 10 13 08.5 -0.9
R31A Burdett 82.56 45 P P 10 13 08.2 -1.4
baz=82
O34A Beatrice 82.60 42 P P 10 13 07.8 -1.9
baz=82,SNR=12
N35A Tabor 82.60 41 P P 10 13 09.3 -0.4
baz=82,SNR=9.3
V27A Dan Oppiter Fa 82.60 48 P P 10 13 09.1 -0.9
baz=82,SNR=5.8
DAVOX Davos/Dischmat 82.70 329 P P 10 13 09.8 -0.6
comp=Z,6.8nm,0.5s,baz=45,slow=1.4,SNR=16
EIL Elat 82.80 303 P P 10 13 09.3 -1.6
comp=Z,12nm,1.0s,baz=25,slow=5.3,SNR=10
MOF Molkenrain 82.82 332⇑*e*P P 10 13 09.7 -1.1
NEST Nestorio 82.87 319 P P 10 13 10.3 -0.9
R32A Long Quarter, 82.89 44 P P 10 13 10.3 -1.0
baz=83
THEF They Montfort 82.91 332⇑*e*P P 10 13 10.1 -1.0
Q33A Connelly Farm, 82.91 43 P P 10 13 10.4 -1.0
baz=83,SNR=12
O35A Humboldt 82.92 41 P P 10 13 10.2 -1.1
baz=83
SCIA State Center 82.96 38 *e*P P 10 13 11.0 -0.6
comp=Z,18nm,0.5s
P34A Walnut Farm, R 83.01 42 P P 10 13 10.8 -1.1
baz=83,SNR=11
S31A Mullinville 83.08 45 P P 10 13 11.5 -0.7
baz=83,SNR=5.2
ATAL Atalanti 83.18 317 P P 10 13 10.8 -1.9
ATAL Atalanti 83.18 317 P P 10 13 10.8 -1.9
LKR Lokris 83.22 317 P P 10 13 11.3 -1.6
LKR Lokris 83.22 317 P P 10 13 11.3 -1.6
U30A WK&E Inc. Balk 83.25 46 P P 10 13 13.0 -0.2
baz=83
V29A Stinnett 83.25 47 P P 10 13 12.9 -0.4
baz=83
S32A Newby Ranch, P 83.31 45 P P 10 13 12.8 -0.6
baz=83
W28A Vega 83.32 48 P P 10 13 13.4 -0.2
baz=83
R33A Olander Ranch, 83.35 44 P P 10 13 13.2 -0.5
baz=83
LOMF Lomont 83.36 331⇑*e*P P 10 13 12.8 -0.8
T31A Randall Ranch, 83.36 45 P P 10 13 13.4 -0.3
baz=83
MAKR Makrakomi, Fth 83.39 317 P P 10 13 12.0 -1.8
MAKR Makrakomi, Fth 83.39 317 P P 10 13 12.0 -1.8
Q34A Chapman 83.43 43 P P 10 13 13.3 -0.7
baz=83,SNR=5.1
P35A Duane Minner, 83.43 42 P P 10 13 13.2 -0.8
baz=83
KSU1 Kansas State U 83.46 42 P P 10 13 13.4 -0.8
baz=83,SNR=7.1
KSU1 Kansas State U 83.46 42 *e*P P 10 13 13.3 -0.9
comp=Z,20nm,0.6s
O36A Bolckow 83.49 41 P P 10 13 14.1 -0.3
baz=83
DSF Desfina 83.64 317 P P 10 13 12.8 -2.4
DSF Desfina 83.64 317 P P 10 13 12.8 -2.4
T32A Huddler Ranch, 83.70 45 P P 10 13 15.3 -0.2
baz=84
R34A Isabella, Hill 83.74 43 P P 10 13 15.3 -0.4
baz=84
P36A Good Intent, A 83.77 41 P P 10 13 15.1 -0.7
baz=84,SNR=5.4
U31A Nine Bar Ranch 83.80 46 P P 10 13 15.5 -0.5
baz=84
DSL Palaion Diasel 83.82 318 P P 10 13 14.7 -1.4
DSL Palaion Diasel 83.82 318 P P 10 13 14.7 -1.4
KALE Kalithea 83.86 317 P P 10 13 14.2 -2.1
KALE Kalithea 83.86 317 P P 10 13 14.2 -2.1
X28A Dimmitt 83.86 49 P P 10 13 16.5 0.0
baz=84,SNR=7.9
S33A Kaszmaul Farm, 83.88 44 P P 10 13 15.9 -0.4
baz=84
AMTX Amarillo 83.89 48 P P 10 13 16.9 +0.4
baz=84
AMTX Amarillo 83.89 48 *e*P P 10 13 16.9 +0.4
comp=Z,7.3nm,0.6s
MSTX Muleshoe 83.93 49 P P 10 13 16.8 0.0
baz=84,SNR=7.3
MSTX Muleshoe 83.93 49 *e*P P 10 13 16.7 -0.1
comp=Z,10nm,0.9s
Q35A Mercer Eighty, 83.93 42 P P 10 13 15.9 -0.7
baz=84,SNR=6.6
EFP Efpalio 83.95 317 P P 10 13 15.3 -1.4
KEK Kerkira 84.02 319 P P 10 13 15.7 -1.3
KEK Kerkira 84.02 319 P P 10 13 15.7 -1.3
GUR Goura 84.10 317 P P 10 13 15.2 -2.4
GUR Goura 84.10 317 P P 10 13 15.2 -2.4
KLV Kalavryta, Ach 84.12 317 P P 10 13 15.5 -2.1
KLV Kalavryta, Ach 84.12 317 P P 10 13 15.5 -2.1
T33A Patterson Ranc 84.13 45 P P 10 13 17.3 -0.4
baz=84
Q36A Arnold C. Orve 84.14 42 P P 10 13 17.0 -0.7
baz=84
PDO Prodromos 84.19 318 P P 10 13 16.7 -1.2
X29A Tulia 84.19 48 P P 10 13 18.5 +0.3
baz=84,SNR=5.6
V31A Spring Creek L 84.25 46 P P 10 13 18.7 +0.4
baz=84
U32A Winter Ranch, 84.25 46 P P 10 13 18.6 +0.3
baz=84
R35A Emporia Munici 84.26 43 P P 10 13 18.4 +0.2
baz=84,SNR=5.5
S34A Willow Spring 84.26 44 P P 10 13 18.7 +0.4
baz=84
Y28A McKinney Farm, 84.28 49 P P 10 13 18.7 +0.2
baz=84
W30A Crocket Farms 84.28 47 P P 10 13 18.5 -0.1
baz=84
DRO Drossia 84.41 317 P P 10 13 17.9 -1.2
R36A Gordon, Harris 84.61 42 P P 10 13 19.6 -0.5
baz=84,SNR=6.1
W31A Holland Ranch, 84.63 47 P P 10 13 20.3 +0.1
baz=84,SNR=8.9
Y29A Porterfield Fa 84.64 49 P P 10 13 20.5 +0.1
baz=84
Z28A Tucker Farm, M 84.65 50 P P 10 13 20.5 +0.1
baz=84,SNR=9.2
S35A Otter Creek Ra 84.69 43 P P 10 13 20.3 -0.1
baz=84,SNR=21
U33A Lingo Farm, Me 84.69 45 P P 10 13 20.4 -0.1
baz=84,SNR=5.3
Q37A Longview Farm, 84.71 41 P P 10 13 19.6 -0.9
baz=84
IDI Anoyia 84.72 313 P P 10 13 18.4 -2.3
comp=Z,14nm,0.4s,baz=39,slow=9.5,SNR=18
AMT Artemida-Makis 84.73 317 P P 10 13 18.8 -1.9
T34A McClaskey Farm 84.73 44 P P 10 13 20.5 -0.2
baz=84,SNR=8.4
VLS Valsamata 84.81 318 P P 10 13 19.3 -1.8
VLS Valsamata 84.81 318 P P 10 13 19.3 -1.8
VLS Valsamata 84.81 318 P P 10 13 19.3 -1.8
ITM Ithomi 84.89 316 P P 10 13 19.7 -1.8
ITM Ithomi 84.89 316 P P 10 13 19.7 -1.8
AQU L'Aquila 84.89 325 *e*P P 10 13 20.7 -0.7
AQU pmax pmax
comp=Z,23nm,0.9s
AQU L'Aquila 84.89 325 *e*P P 10 13 20.7 -0.7
comp=Z,23nm,0.9s
R37A Teagarden Farm 84.96 42 P P 10 13 20.9 -0.9
baz=85,SNR=8.4
U34A Anderson Ranch 84.99 45 P P 10 13 22.0 0.0
baz=85,SNR=11
U34A Anderson Ranch 84.99 45 *e*P P 10 13 22.1 +0.1
comp=Z,28nm,0.9s
U34A *e*PcP PcP 10 13 24.9 -0.4
X31A McDonald Ranch 85.02 47 P P 10 13 22.3 +0.1
baz=85,SNR=14
S36A Lake Cedric, C 85.03 43 P P 10 13 21.6 -0.6
baz=85,SNR=11
V33A Lossen Ranch, 85.06 45 P P 10 13 22.2 -0.1
baz=85
W32A Sentinel 85.06 47 P P 10 13 22.7 +0.3
baz=85,SNR=10
Z29A Hungry Hill Ra 85.06 49 P P 10 13 22.5 +0.1
baz=85,SNR=36
Y30A Stafford Cattl 85.06 48 P P 10 13 22.4 -0.1
baz=85
128A Castleberry Fa 85.08 50 P P 10 13 22.8 +0.2
baz=85,SNR=15
T35A Sooner Cattle 85.17 44 P P 10 13 22.7 -0.2
baz=85,SNR=7.5
PYL PYLOS 85.20 316 P P 10 13 20.8 -2.2
PYL PYLOS 85.20 316 P P 10 13 20.8 -2.2
Y31A Rekieta Farm, 85.36 48 P P 10 13 23.8 -0.1
baz=85
BNI Bardonecchia 85.36 330 *e*P P 10 13 23.1 -0.8
BNI pmax pmax
comp=Z,20nm,0.8s
BNI Bardonecchia 85.36 330 *e*P P 10 13 23.1 -0.8
comp=Z,20nm,0.8s
Z30A Sanderson Ranc 85.37 49 P P 10 13 24.0 0.0
baz=85,SNR=10.0
228A UT Block 9, Go 85.38 51 P P 10 13 24.3 +0.2
baz=85,SNR=5.7
T36A Boggs Farm, Ca 85.39 43 P P 10 13 23.7 -0.2
baz=85,SNR=12
V34A Guthrie 85.46 45 P P 10 13 24.5 +0.1
baz=85,SNR=7.4
V34A Guthrie 85.46 45 *e*P P 10 13 24.1 -0.2
comp=Z,22nm,0.9s
V34A *e*PcP PcP 10 13 27.3 0.0
V34A *e*pP pP 10 13 35.2 +2.1
W33A Caddo, Fort Co 85.46 46 P P 10 13 25.0 +0.6
baz=85,SNR=5.9
GVD Gavdhos 85.50 314 *e*P P 10 13 23.5 -1.1
comp=Z,101nm,0.9s
X32A Elmer 85.56 47 P P 10 13 24.8 -0.1
baz=85,SNR=15
WMOK Wichita Mounta 85.60 46 *e*P P 10 13 24.7 -0.4
WMOK *e**PP pP 10 13 35.3 +1.5
WMOK pmax pmax
comp=Z,9.0nm,0.9s
WMOK Wichita Mounta 85.60 46 *e*P P 10 13 24.7 -0.4
comp=Z,9.4nm,0.9s
WMOK *e*PcP PcP 10 13 27.4 -0.6
WMOK *e*pP pP 10 13 35.3 +1.5
PLDF La Plantade 85.67 333⇑*e*P P 10 13 24.7 -0.6
PPT Papeete 85.76 118 LR LR 10 44 50.2
comp=Z,203nm,21.6s,baz=317,slow=31
AGO Saint Agoulin 85.77 333 *e*P P 10 13 25.5 -0.2
W34A Bridge Creek, 85.77 46 P P 10 13 25.9 0.0
baz=86
W34A Bridge Creek, 85.77 46 *e*P P 10 13 26.1 +0.2
comp=Z,10nm,0.8s
PPT2 Papeete2 85.78 118 *e*LR LR 10 40 37.2
comp=Z,316nm,21.5s
Y32A R-V Farms, Ver 85.78 47 P P 10 13 25.8 -0.2
baz=86,SNR=7.7
T37A Cheneyville 18 85.83 43 P P 10 13 25.7 -0.5
baz=86,SNR=7.9
V35A Meyer Ranch, C 85.87 45 P P 10 13 26.1 -0.3
baz=86
X33A Lawton 85.90 46 P P 10 13 26.3 -0.3
baz=86,SNR=7.8
Z31A Sharp Cattle R 85.90 48 P P 10 13 26.4 -0.2
baz=86,SNR=7.1
TIP Timpagrande 85.91 321 *e*P P 10 13 25.8 -0.8
comp=Z,18nm,1.1s
229A Bryant Ranch, 85.94 50 P P 10 13 26.4 -0.4
baz=86
SSB Saint Sauveur 85.95 332⇑*e*P P 10 13 25.9 -0.7
SSB Saint Sauveur 85.95 332 *e*P P 10 13 25.9 -0.7
SSB pmax pmax
comp=Z,18nm,0.8s
SSB Saint Sauveur 85.95 332 *e*P P 10 13 25.9 -0.7
comp=Z,18nm,0.8s
130A Snyder 85.97 49 P P 10 13 26.8 -0.2
baz=86
COLF Collangettes 86.04 332⇑*e*P P 10 13 26.8 -0.3
PYM Petit Puy Mans 86.07 333⇑*e*P P 10 13 27.0 -0.3
329A Wagon Wheel Ra 86.19 51 P P 10 13 28.4 +0.3
baz=86,SNR=11
X34A Smith Ranch, M 86.22 46 P P 10 13 28.6 +0.4
baz=86,SNR=5.7
Y33A Hilltop Ranch, 86.23 47 P P 10 13 28.0 -0.2
baz=86,SNR=8.9
131A Roby 86.24 49 P P 10 13 28.4 +0.1
baz=86
Z32A Haskell 86.28 48 P P 10 13 28.3 -0.1
baz=86,SNR=9.5
TUL1 Leonard 86.31 44 P P 10 13 28.4 -0.1
baz=86
TUL1 Leonard 86.31 44 *e*P P 10 13 28.2 -0.3
comp=Z,5.9nm,0.8s
W35A Tecumseh 86.31 45 P P 10 13 28.4 -0.2
baz=86
V36A Jenks 86.33 44 P P 10 13 28.5 -0.1
baz=86
230A Sterling City 86.40 50 P P 10 13 29.4 +0.2
baz=86,SNR=16
LBL Lubilhac 86.44 333⇑*e*P P 10 13 28.9 -0.2
V37A Hulbert 86.67 43 P P 10 13 29.8 -0.5
baz=86,SNR=8.1
W36A Wetumka 86.67 45 P P 10 13 29.9 -0.4
baz=86
Z33A Whitaker Ranch 86.69 47 P P 10 13 30.0 -0.5
baz=86
ABTX Abilene, Hawle 86.69 48 P P 10 13 29.8 -0.7
baz=86
ABTX Abilene, Hawle 86.69 48 *e*P P 10 13 30.6 0.0
comp=Z,6.2nm,0.7s
330A Mertzon 86.72 50 P P 10 13 30.7 0.0
baz=86,SNR=8.3
Y34A Reagan Ranch, 86.74 46 P P 10 13 30.3 -0.4
baz=86
TXAR Lajitas Array 86.75 53 P P 10 13 31.1 +0.1
comp=Z,7.3nm,0.8s,baz=291,slow=3.9,SNR=91
231A Bronte 86.82 49 P P 10 13 30.9 -0.3
baz=87,SNR=6.1
X35A Drake 86.83 46 P P 10 13 30.5 -0.6
baz=87,SNR=8.9
429A Davenport Ranc 86.87 51 P P 10 13 31.1 -0.4
baz=87
SFIN Lafayette 86.96 36 P P 10 13 31.0 -0.6
baz=87
X36A Centrahoma 87.04 45 P P 10 13 32.0 -0.1
baz=87,SNR=7.6
529A Stev Forest Ra 87.05 52 P P 10 13 33.0 +0.6
baz=87,SNR=7.1
V38A Canehill 87.06 43 P P 10 13 31.6 -0.6
baz=87
W37A Quinton 87.09 44 P P 10 13 32.4 +0.1
baz=87,SNR=5.6
Z34A Collier Ranch, 87.10 47 P P 10 13 32.0 -0.4
baz=87
133A Hamilton Ranch 87.11 48 P P 10 13 32.2 -0.3
baz=87
430A Baggett Ranch, 87.14 51 P P 10 13 32.9 +0.1
baz=87,SNR=7.9
331A San Angelo 87.22 50 P P 10 13 32.8 -0.4
baz=87
232A Coleman 87.24 49 P P 10 13 33.2 -0.1
baz=87,SNR=5.3

Z35A	**Perchaven, San**	**87.49**	**46**	P		**P**	**10 13 33.7 -0.6**
	baz=87						
X37A	**Clayton**	**87.54**	**44**	P		**P**	**10 13 34.2 -0.4**
	baz=87						
530A	**J-C Ranch, Com**	**87.55**	**51**	P		**P**	**10 13 35.0 +0.2**
	baz=87,SNR=5.2						
332A	**Millersview**	**87.56**	**49**	P		**P**	**10 13 34.7 -0.1**
	baz=87,SNR=12						
233A	**Rising Star**	**87.56**	**48**	P		**P**	**10 13 34.7 -0.1**
	baz=87						
431A	**Sonora**	**87.58**	**50**	P		**P**	**10 13 35.1 +0.2**
	baz=87						
Y36A	**Durant**	**87.58**	**45**	P		**P**	**10 13 34.4 -0.3**
	baz=87						
134A	**White-Moore Ra**	**87.61**	**47**	P		**P**	**10 13 34.7 -0.2**
	baz=87						
W38A	**Poteau**	**87.62**	**44**	P		**P**	**10 13 34.7 -0.2**
	baz=87						
X38A	**Whitesboro**	**87.77**	**44**	P		**P**	**10 13 35.4 -0.2**
	baz=88,SNR=5.4						
OLIL	**Olney**	**87.85**	**37**	*e*P		**P**	**10 13 35.5 -0.5**
	comp=Z,16nm,0.8s						
Y37A	**Hugo**	**87.88**	**45**	P		**P**	**10 13 35.9 -0.3**
	baz=88						
432A	**Menard**	**87.91**	**50**	P		**P**	**10 13 36.2 -0.3**
	baz=88,SNR=7.9						
Z36A	**Blue Ridge**	**87.98**	**46**	P		**P**	**10 13 36.3 -0.3**
	baz=88						
135A	**Vickery Place,**	**87.99**	**47**	P		**P**	**10 13 36.7 -0.1**
	baz=88						
531A	**Rocksprings**	**88.00**	**51**	P		**P**	**10 13 36.2 -0.7**
	baz=88						
234A	**Clairette**	**88.00**	**48**	P		**P**	**10 13 36.7 -0.1**
	baz=88						
333A	**Richland Sprin**	**88.03**	**49**	P		**P**	**10 13 36.7 -0.3**
	baz=88,SNR=5.6						
SIUC	**Southern Illin**	**88.15**	**39**	*e*P		**P**	**10 13 37.1 -0.3**
	comp=Z,41nm,0.8s						
JCT	**Junction City**	**88.20**	**50**	*e*P		**P**	**10 13 37.5 -0.3**
JCT					pmax	pmax	
	comp=Z,6.0nm,0.7s						
JCT	**Junction City**	**88.20**	**50**	P		**P**	**10 13 37.6 -0.3**
	baz=88						
JCT	**Junction City**	**88.20**	**50**	*e*P		**P**	**10 13 37.5 -0.3**
	comp=Z,5.5nm,0.7s						
Y38A	**Idabel**	**88.39**	**44**	P		**P**	**10 13 38.2 -0.4**
	baz=88						
WHTX	**Lake Whitney,**	**88.39**	**47**	P		**P**	**10 13 38.4 -0.3**
	baz=88						
532A	**Rocksprings**	**88.40**	**50**	P		**P**	**10 13 38.3 -0.5**
	baz=88,SNR=6.1						
433A	**Art**	**88.40**	**49**	P		**P**	**10 13 37.9 -0.8**
	baz=88						
334A	**Lometa**	**88.45**	**48**	P		**P**	**10 13 38.4 -0.6**
	baz=88						
Z37A	**Pogue Cattle C**	**88.47**	**46**	P		**P**	**10 13 38.5 -0.5**
	baz=88						
MIAR	**Mount Ida**	**88.51**	**43**	*e*P		**P**	**10 13 38.8 -0.4**
MIAR					pmax	pmax	
	comp=Z,12nm,0.8s						
MIAR	**Mount Ida**	**88.51**	**43**	*e*P		**P**	**10 13 38.8 -0.4**
	comp=Z,12nm,0.8s						
136A	**Ennis**	**88.53**	**47**	P		**P**	**10 13 39.1 -0.2**
	baz=88						
631A	**Perdido Creek**	**88.54**	**51**	P		**P**	**10 13 39.2 -0.2**
	baz=88,SNR=5.4						
Y39A	**Lockesburg**	**88.72**	**44**	P		**P**	**10 13 39.9 -0.2**
	baz=88,SNR=11						
ALLY	**Alegheny Colle**	**88.75**	**31**	*e*P		**P**	**10 13 39.9 -0.3**
	comp=Z,24nm,1.0s						
Z38A	**Mt. Pleasant**	**88.78**	**45**	P		**P**	**10 13 40.0 -0.5**
	baz=88						
434A	**Burnet**	**88.82**	**49**	P		**P**	**10 13 40.2 -0.6**
	baz=89						
ACSO	**Alum Creek Sta**	**88.83**	**33**	*e*P		**P**	**10 13 40.1 -0.5**
	comp=Z,23nm,0.8s						
137A	**Heron Place, G**	**88.86**	**46**	P		**P**	**10 13 40.4 -0.5**
	baz=89						
236A	**Katherine and**	**88.90**	**47**	P		**P**	**10 13 40.4 -0.6**
	baz=89						
632A	**Uvalde**	**88.93**	**51**	P		**P**	**10 13 40.7 -0.6**
	baz=89						
336A	**Riesel**	**89.19**	**47**	P		**P**	**10 13 41.6 -0.8**
	baz=89						
435B	**Jarrell**	**89.23**	**48**	P		**P**	**10 13 41.8 -0.8**
	baz=89						
237A	**Washetta, Mont**	**89.29**	**46**	P		**P**	**10 13 42.2 -0.7**
	baz=89						
534A	**Blanco**	**89.29**	**49**	P		**P**	**10 13 42.5 -0.4**
	baz=89						
633A	**Saathoff Ranch**	**89.32**	**50**	P		**P**	**10 13 42.9 -0.2**
	baz=89						
732A	**Laxson Ranch,**	**89.40**	**51**	P		**P**	**10 13 43.6 +0.2**
	baz=89						
238A	**Jacksonville**	**89.66**	**46**	P		**P**	**10 13 44.6 0.0**
	baz=89						
436A	**Wall Ranch, Ga**	**89.68**	**48**	P		**P**	**10 13 44.6 -0.1**
	baz=90						
832A	**Faith Ranch, C**	**89.72**	**52**	P		**P**	**10 13 45.3 +0.3**
	baz=90,SNR=5.3						
733A	**Divot King Ran**	**89.80**	**51**	P		**P**	**10 13 45.0 -0.3**
	baz=90						
535A	**Dale**	**89.81**	**49**	P		**P**	**10 13 44.7 -0.6**
	baz=90						
634A	**China Grove, S**	**89.85**	**50**	P		**P**	**10 13 45.0 -0.5**
	baz=90						
TBI	**Tubuai**	**89.96**	**122**	*e*LR		LR	10 42 15.4
	comp=Z,233nm,33.0s						
TBI	**Tubuai**	**89.96**	**122**	*e*T		T	11 53 20.5
	comp=Z,8.3nm,0.3s						
239A	**Gary**	**90.00**	**45**	P		**P**	**10 13 45.5 -0.7**
	baz=90						
437A	**Phantom Ranch,**	**90.00**	**47**	P		**P**	**10 13 45.8 -0.5**
	baz=90						
833A	**Chaparral WMA,**	**90.04**	**51**	P		**P**	**10 13 46.3 -0.2**
	baz=90						
536A	**Bastrop**	**90.06**	**48**	P		**P**	**10 13 45.9 -0.6**
	baz=90						
WVT	**Waverly**	**90.09**	**39**	*e*P		**P**	**10 13 45.9 -0.6**
WVT					pmax	pmax	
	comp=Z,5.0nm,0.8s						
WVT	**Waverly**	**90.09**	**39**	*e*P		**P**	**10 13 45.9 -0.6**
	comp=Z,5.1nm,0.8s						
NATX	**Nacogdoches**	**90.10**	**46**	P		**P**	**10 13 46.1 -0.6**
	baz=90						
635A	**Leesville**	**90.18**	**49**	P		**P**	**10 13 46.6 -0.5**
	baz=90						
438A	**Sam Houston St**	**90.43**	**47**	P		**P**	**10 13 47.7 -0.5**
	baz=90						
SSPA	**Standing Stone**	**90.48**	**30**	*e*P		**P**	**10 13 48.1 -0.2**
	comp=Z,10nm,0.9s						
636A	**Smothers Creek**	**90.51**	**49**	P		**P**	**10 13 49.4 +0.7**
	baz=90						
735A	**Kenedy**	**90.56**	**50**	P		**P**	**10 13 49.8 +1.0**
	baz=90						
933A	**Laredo**	**90.64**	**52**	P		**P**	**10 13 50.1 +0.9**
	baz=90						
OXF	**Oxford**	**90.64**	**41**	*e*P		**P**	**10 13 48.3 -0.8**
OXF					pmax	pmax	
	comp=Z,29nm,1.2s						
OXF	**Oxford**	**90.64**	**41**	*e*P		**P**	**10 13 48.3 -0.8**
	comp=Z,29nm,1.2s						
834A	**Tilden**	**90.68**	**51**	P		**P**	**10 13 49.7 +0.2**
	baz=90						
736A	**Circle Diamond**	**90.91**	**49**	P		**P**	**10 13 51.9 +1.5**
	baz=91						
637A	**Eagle Lake**	**90.95**	**48**	P		**P**	**10 13 51.8 +1.1**
	baz=91						
835A	**Beeville**	**90.97**	**50**	P		**P**	**10 13 52.8 +2.0**
	baz=91						
934A	**Benavides**	**91.09**	**51**	P		**P**	**10 13 52.3 +1.0**
	baz=91						
034A	**Hebbronville**	**91.39**	**51**	P		**P**	**10 13 53.6 +0.9**
	baz=91						
KEST	**Kesra**	**92.13**	**324**	P		**P**	**10 13 54.7 -1.4**
	comp=Z,3.8nm,0.8s,baz=323,slow=4.5,SNR=8.0						
KEST					LR	LR	11 00 15.2
	comp=Z,97nm,19.9s,baz=314,slow=39						
KEST	**Kesra**	**92.13**	**324**	*e*P		**P**	**10 13 54.9 -1.2**
CPCT	**Cooper Cave**	**92.17**	**37**	*e*P		**P**	**10 13 55.3 -0.9**
LRAL	**Lakeview Retre**	**93.00**	**40**	*e*P		**P**	**10 13 58.9 -1.2**
	comp=Z,3.8nm,0.9s						
ESDC	**Sonseca Array**	**93.81**	**335**	P		**P**	**10 14 02.9 -0.9**
	comp=Z,1.5nm,0.6s,baz=26,slow=3.8,SNR=10						
ESDC					LR	LR	11 02 17.6
	comp=Z,79nm,20.1s,baz=60,slow=39						
KMBO	**Kilima Mbogo**	**102.27**	**279**	P		**Pdif**	**10 14 41.6 -0.9**
	comp=Z,0.6nm,0.3s,baz=47,slow=18,SNR=3.6						

TORD	**Torodi Ar. Bea**	**114.87**	**317**	PKP		PKPdf	10 19 25.9 -1.8
	comp=Z,1.1nm,0.8s,baz=17,slow=1.8,SNR=8.6						
TORD				PP		**PP**	**10 20 21.4 -4.1**
	comp=Z,3.3nm,1.0s,baz=22,slow=7.0,SNR=8.9						
TORD				PKKPbc		**PKKPbc**	**10 30 04.6 +1.7**
	comp=Z,0.7nm,0.9s,baz=185,slow=3.4,SNR=4.4						
VNDA	**Vanda**	**119.20**	**175**	PKP		**PKPdf**	**10 19 32.6 -1.5**
	comp=Z,0.5nm,0.7s,baz=297,slow=2.3,SNR=4.7						
DBIC	**Dimbokro**	**123.68**	**320**	PKP		**PKPdf**	**10 19 43.3 -1.3**
	comp=Z,3.5nm,0.7s,baz=296,slow=2.6,SNR=3.1						
MAW	**Mawson**	**123.83**	**207**	PKP		**PKPdf**	**10 19 43.0 -0.2**
	comp=Z,2.2nm,0.8s,baz=223,slow=0.6,SNR=6.8						
MAW	**Mawson**	**123.83**	**207**	PKIKP		**PKPdf**	**10 19 43.0 -0.2**
BOSA	**Boshof**	**128.16**	**263**	PKP		**PKPdf**	**10 19 52.8 -0.1**
	comp=Z,3.2nm,0.9s,baz=346,slow=3.4,SNR=3.7						
SYO	**Syowa Base**	**132.47**	**208**	*e*X		**Pdif**	**10 17 04.7 +10**
LPAZ	**La Paz**	**143.58**	**56**	PKP		PKPab	10 20 19.7 +0.8
	comp=Z,2.4nm,0.7s,baz=340,slow=2.2,SNR=10						
LPAZ	**La Paz**	**143.58**	**56**	*e*PKIKP		PKPab	10 20 19.5 +0.6
LPAZ	**La Paz**	**143.58**	**56**	*e*PKPdf		PKPab	10 20 19.5 +0.6
LPAZ				PKP		PKPbc	10 20 19.7 -0.1
SNAA	**Sanae**	**145.15**	**198**	P		**PKPbc**	**10 20 21.4 -1.1**
SNAA	**Sanae**	**145.15**	**198**	*e*PKP2		**PKPbc**	**10 20 20.9 -1.6**
SNAA	**Sanae**	**145.15**	**198**	*e*PKPdf		**PKPbc**	**10 20 20.9 -1.6**
VNA1	**Neumayer--Stat**	**147.13**	**197**	P		**PKPdf**	**10 20 27.4 +1.4**
LVC	**Limon Verde**	**147.62**	**64**	*e*PKPbc		**PKPbc**	**10 20 32.0 +0.5**
LVC				*e*PKPab		**PKiKP**	**10 20 34.5 +1.0**
BDFB	**Brasilia**	**152.77**	**23**	PKPbc		**PKPbc**	**10 20 43.2 -0.7**
	comp=Z,7.1nm,0.8s,baz=234,slow=3.0,SNR=8.8						
BDFB				PKPab		**PKPab**	**10 20 54.8 +0.1**
	comp=Z,7.9nm,0.7s,baz=292,slow=3.3,SNR=9.7						

GUC 19 10:15:39.2±0.6, 35°24S×72°67W, h20km±4km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.86**	**101**	*e*P	Pb	10 15 54.6	-0.9
TALC				*e*S	Sb	10 16 06.9	+0.3
LNCH	**Linares**	**1.06**	**125**	*e*P	Pb	10 15 58.0	-1.0
LNCH				*e*S	Sb	10 16 12.0	-0.4
NICH	**Los Niches**	**1.21**	**79**	*e*P	Pb	10 16 01.2	-0.1
NICH				*e*S	Sn	10 16 16.8	+0.1
CLCH	**Cerro Calan**	**2.55**	**44**	*e*P	Pn	10 16 20.8	+1.3
CLCH				*e*S	Sn	10 16 52.2	+2.1
CLCH				AML	AML	10 17 06.4	
	comp=N,475nm,0.6s						
PEL	**Peldehue**	**2.66**	**39**	*e*P	Pn	10 16 22.5	+1.5
PEL				*e*S	Sn	10 16 54.9	+2.2
PEL				AML	AML	10 17 09.9	
	comp=E,494nm,0.5s						

*IDC **19** 10:20:41.4±0.7, 3°32N×126°72E, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.1/36, mbtmp4.2/11, MS3.6/9, Ms1 3.6/9, ms1mx3.3/26, Error ellipse: s-maj=45.0km s-min=14.6km az=70.0*
*DJA **19** 10:20:43.3±0.6, 4°N±4×12°7E±°, h60km, M4.5/2, MLv4.5/2*
*ISCJB **19** 10:20:46.0±0.4, 3°49N±0°04×127°01E±0°07, h53km, mb4.2/17, MS3.5/9, Error ellipse: s-maj=9.8km s-min=5.7km az=167.2*
*NEIC **19** 10:20:45.0±3.1, 3°37N×126°71E, h24km±23km, mb4.5/7, Error ellipse: s-maj=27.4km s-min=6.7km az=73.0*

ISC 19 10:20:48.4±0.6, 3°44N±0°07×126°95E±0°08, h53km, n42, σ1s32/32, mb4.2/17, MS3.6/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.44**	**280**	P	**Pn**	**10 21 10.2**	**-2.0**
SGSI				S	**Sn**	**10 21 32.0**	**+2.0**
TNTI	**Ternate**	**2.68**	**171**	P	**Pn**	**10 21 28.2**	**-0.9**
TNTI				S	**Sn**	**10 22 02.4**	**+2.0**
TNTI	**Ternate**	**2.68**	**171**	*e*Pn	**Pn**	**10 21 29.1**	**0.0**
DAV	**Davao City (W)**	**3.86**	**339**	*e*Pn	Pn	10 21 42.1	-3.1
KMSI	**Cibinong**	**4.11**	**226**	P	**Pn**	**10 21 49.2**	**+0.5**
GTOI	**Gorontalo**	**4.83**	**235**	P	**Pn**	**10 21 59.3**	**+0.8**
SANI	**Sanana**	**5.54**	**190**	P	**Pn**	**10 22 06.7**	**-1.6**
MRSI	**Marisa**	**5.81**	**240**	P	**Pn**	**10 22 12.1**	**+0.1**
GUMO	**Guam**	**20.37**	**59**	LR	LR	10 32 24.5	
	comp=Z,57nm,20.0s,baz=228,slow=34						
TPUB	**Ta-pu**	**20.67**	**343**	*e*P	**P**	**10 25 22.0**	**-2.0**
	12nm,0.6s						
SSLB	**Suanglung**	**21.04**	**345**	*e*P	**P**	**10 25 27.9**	**-0.1**
	16nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.45**	**183**	*e*P	**P**	**10 25 29.6**	**-2.6**
	15nm,1.0s						
WRAB	**Tennant Creek**	**24.34**	**163**	*e*P	**P**	**10 26 00.8**	**-0.6**
	34nm,0.9s						
WRA	**Warramunga Arr**	**24.34**	**163**	P	**P**	**10 26 00.4**	**-1.1**
	21nm,0.8s,baz=336,slow=11,SNR=53						
JCJ	**Chichijima**	**27.67**	**30**	LR	LR	10 36 24.9	
	comp=Z,58nm,19.1s,baz=138,slow=34						
AS31	**Alice Springs**	**27.78**	**166**	*e*P	**P**	**10 26 31.6**	**-0.9**
ASAR	**Alice Springs**	**27.78**	**166**	P	**P**	**10 26 31.4**	**-1.1**
	1.3nm,0.7s,baz=343,slow=6.6,SNR=16						
CMAR	**Chiang Mai Arr**	**31.21**	**301**	P	**P**	**10 27 01.5**	**-1.5**
	1.0nm,0.4s,baz=120,slow=7.6,SNR=5.2						
CMAR				LR	LR	10 39 28.2	
	comp=Z,47nm,21.7s,baz=80,slow=36						
KSAR	**Wonju Array Be**	**33.85**	**1**	P	**P**	**10 27 26.1**	**+0.3**
KSRS	**Korea Array**	**33.86**	**1**	P	**P**	**10 27 26.1**	**+0.3**
	0.9nm,0.5s,baz=180,slow=11,SNR=6.0						
KSRS				LR	LR	10 41 06.0	
	comp=Z,74nm,21.4s,baz=207,slow=36						
STKA	**Stephens Creek**	**37.78**	**159**	P	**P**	**10 27 59.5**	**-0.1**
	12nm,0.6s,baz=336,slow=8.5,SNR=23						
STKA	**Stephens Creek**	**37.78**	**159**	P	**P**	**10 27 59.5**	**-0.1**
	28nm,0.7s						
HHC	**Hu-ho-hao-te**	**39.74**	**342**	*e*P	P	10 28 10.0	-6.0
H11S3	**WAKE ISLAND Hy**	**41.64**	**66**	T	T	11 13 40.9	
	baz=261,slow=74,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**41.66**	**66**	T	T	11 13 41.6	
	baz=261,slow=74,SNR=5.7						
H11S2	**WAKE ISLAND Hy**	**41.66**	**66**	T	T	11 13 01.8	
	baz=261,SNR=41						
H11N1	**WAKE ISLAND Hy**	**42.18**	**64**	T	T	11 14 37.2	
	baz=271,slow=74,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**42.19**	**64**	T	T	11 14 36.5	
	baz=271						
H11N3	**WAKE ISLAND Hy**	**42.20**	**64**	T	T	11 14 28.0	
	baz=271,slow=74,SNR=11						
SONM	**Songino Array**	**47.64**	**341**	P	**P**	**10 29 19.1**	**-0.3**
	1.6nm,0.6s,baz=156,slow=8.0,SNR=10						
SONM				LR	LR	10 51 44.9	
	comp=Z,107nm,18.6s,baz=157,slow=39						
ZALV	**Zalesovo Beam**	**60.95**	**333**	P	**P**	**10 30 55.2**	**-0.7**
	0.6nm,0.4s,baz=160,slow=5.5,SNR=3.5						
ZALV				LR	LR	10 59 22.3	
	comp=Z,46nm,19.2s,baz=70,slow=38						
KURK	**Kurchatov**	**62.10**	**327**	*e*P	**P**	**10 31 03.9**	**+0.2**
	5.3nm,0.6s						
KKAR	**Karatay Array**	**63.59**	**317**	*e*P	**P**	**10 31 12.6**	**-1.2**
	1.9nm,0.9s						
ABKAR	**Akbulak array**	**72.51**	**321**	*e*P	**P**	**10 32 10.7**	**+1.1**
	0.8nm,0.6s						
AKTO	**Aktyubinsk**	**74.02**	**322**	P	**P**	**10 32 19.2**	**+0.6**
	1.5nm,0.7s,baz=96,slow=11						
VNDA	**Vanda**	**83.11**	**173**	P	**P**	**10 33 07.2**	**-0.7**
	1.1nm,0.9s,baz=309,slow=4.9,SNR=5.2						
ILAR	**Eielson Array**	**85.27**	**25**	P	**P**	**10 33 20.4**	**+1.2**
	0.2nm,0.5s,baz=240,slow=5.4,SNR=5.0						
ARCES	**ARCESS Array B**	**90.80**	**340**	P	**P**	**10 33 48.0**	**+2.4**
	1.6nm,0.7s,baz=80,slow=7.4,SNR=3.8						
ARCES				LR	LR	11 19 16.8	
	comp=Z,30nm,20.2s,baz=90,slow=39						
FINES	**FINESS Array B**	**92.19**	**332**	LR	LR	11 18 09.6	
	comp=Z,49nm,18.1s,baz=346,slow=37						
NOA	**NORSAR Array B**	**99.14**	**334**	LR	LR	11 23 24.8	
	comp=Z,54nm,18.7s,baz=55,slow=38						
TXAR	**Lajitas Array**	**121.60**	**52**	PKP	**PKPdf**	**10 39 39.4**	**+2.4**
	0.3nm,0.8s,baz=251,slow=4.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**123.22**	**288**	PKP	**PKPdf**	**10 39 41.2**	**+0.8**
	0.2nm,0.5s,baz=62,slow=1.6,SNR=4.3						

JMA 19 10:53:11.0, 27°45N×128°60E, h45km, M3.7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOKE	**Okinoerabujima**	**0.09**	**196**	P	Pn	10 53 18.1	-0.1
JOKE				*e*S	Sn	10 53 23.0	-0.3
JTK	**Tokunoshima**	**0.46**	**43**	P	Pn	10 53 21.5	0.0
JTK				*e*S	Sn	10 53 28.5	-0.4
JOW	**Kunigami**	**0.68**	**205**	P	Pn	10 53 24.1	-0.2
JOW				*e*S	Sn	10 53 33.6	-0.3
JIH	**Iheya**	**0.70**	**234**	P	Pn	10 53 24.6	+0.1
JIH				*e*S	Sn	10 53 34.1	-0.2
JAMN	**Amaminishikomi**	**0.94**	**33**	P	Pn	10 53 27.7	-0.1
JAMN				*e*S	Sn	10 53 39.8	-0.3
JNTH	**Nagotoyohara**	**1.06**	**209**	P	Pn	10 53 29.5	0.0
JNTH				*e*S	Sn	10 53 43.4	+0.3
JAM	**Amami Oshima**	**1.31**	**43**	P	Pn	10 53 33.5	+0.7
JAM				*e*S	Sn	10 53 49.4	+0.3
JAGN	**Aguni-jima**	**1.48**	**235**	P	Pn	10 53 35.4	+0.2
JAGN				*e*S	Sn	10 53 53.6	+0.2
JZK	**Kikaishima**	**1.49**	**54**	P	Pn	10 53 36.4	+1.1
JJT2	**Tamagusuku 2**	**1.51**	**210**	P	Pn	10 53 35.9	+0.3
JTAJ	**Takarajima**	**1.78**	**17**	P	Pn	10 53 39.4	+0.1
JTAJ				*e*S	Sn	10 54 00.2	-0.5
JKE	**Kume jima 2**	**1.97**	**236**	P	Pn	10 53 42.1	+0.2
JKE				*e*S	Sn	10 54 05.9	+0.5

IDC 19 11:07:50.2±7.7, 2°53N×126°53E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.5/30, mbtmp4.0/3, Error ellipse: s-maj=177.9km s-min=121.1km az=74.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.62**	**161**	P	P	11 13 03.9	+0.8
	4.3nm,0.9s,baz=340,slow=10,SNR=18						
ASAR	**Alice Springs**	**27.01**	**165**	P	P	11 13 33.5	-0.7
	0.4nm,0.6s,baz=346,slow=6.7,SNR=7.6						
STKA	**Stephens Creek**	**37.09**	**158**	P	P	11 15 02.3	-0.1
	7.0nm,0.8s,baz=338,slow=8.7,SNR=10						

*IDC **19** 11:07:47.3±1.1, 1°80S×99°36E, h0km, mb4.0/10, mb1 4.2/10, mb1mx3.8/35, mbtmp4.0/10, MS4.2/1, Ms1 4.2/1, ms1mx2.9/26, Error ellipse: s-maj=42.4km s-min=19.1km az=50.0*
*ISCJB **19** 11:07:50.0±1.0, 1°8S±0°1×99°4E±0°2, h30km, mb3.9/9, MS4.2/1, Error ellipse: s-maj=31.5km s-min=14.1km az=149.4*

ISC 19 11:07:51.9±1.2, 1°8S±0°2×99°4E±0°3, h30km, n19, σ0s81/12, mb3.9/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.61**	**354**	P	**Pn**	**11 09 00.4**	**+0.7**
	0.2nm,0.3s,baz=144,slow=17,SNR=1.9						
CMAR	**Chiang Mai Arr**	**20.14**	**359**	P	Pn	11 12 24.9	-0.9
	1.9nm,0.3s,baz=190,slow=10,SNR=4.6						
H08S2	**Diego Garcia H**	**27.45**	**257**	T	T	11 42 04.3	
	baz=78,slow=75,SNR=65						
H08S3	**Diego Garcia H**	**27.46**	**257**	T	T	11 41 36.0	
	baz=78,slow=75,SNR=44						
H08S1	**Diego Garcia H**	**27.47**	**257**	T	T	11 41 37.2	
	baz=78,slow=75,SNR=42						
H01W3	**Cape Leeuwin H**	**35.65**	**159**	T	T	11 52 38.6	
	baz=335,slow=76,SNR=9.4						
H01W2	**Cape Leeuwin H**	**35.66**	**159**	T	T	11 52 36.8	
	baz=335,slow=76,SNR=11						
H01W1	**Cape Leeuwin H**	**35.66**	**159**	T	T	11 52 42.4	
	baz=335,slow=76,SNR=8.6						
WRA	**Warramunga Arr**	**38.58**	**120**	P	**P**	**11 15 12.7**	**+0.2**
	1.2nm,0.6s,baz=303,slow=9.1,SNR=8.0						
ASAR	**Alice Springs**	**39.83**	**126**	P	**P**	**11 15 23.8**	**+0.8**
	0.7nm,0.6s,baz=301,slow=7.8,SNR=7.3						
KSRS	**Korea Array**	**47.15**	**31**	P	**P**	**11 16 20.0**	**-1.6**
	0.4nm,0.5s,baz=212,slow=6.8,SNR=2.9						
SONM	**Songino Array**	**49.81**	**6**	P	**P**	**11 16 43.4**	**+1.2**
	0.4nm,0.5s,baz=188,slow=10,SNR=3.9						
SONM				PcP	**PcP**	**11 18 02.7**	**+0.1**
	0.4nm,0.6s,baz=182,slow=4.5,SNR=2.4						
KURBB	**Kurchatov Arra**	**55.21**	**344**	P	**P**	**11 17 21.6**	**-0.3**
	0.6nm,0.2s,baz=161,slow=5.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**56.88**	**350**	P	**P**	**11 17 33.4**	**-0.4**
	2.1nm,0.7s,baz=173,slow=6.0,SNR=8.1						
ASAJ	**Asahikawa**	**59.78**	**35**	LR	LR	11 41 21.9	
	comp=Z,215nm,21.9s,slow=34						
KBZ	**Khabaz**	**67.79**	**319**	P	**P**	**11 18 47.1**	**0.0**
	1.4nm,0.8s,baz=86,slow=4.7,SNR=3.9						
BRTR	**Keskin Array B**	**72.77**	**313**	P	**P**	**11 19 17.4**	**-0.5**
	0.4nm,0.6s,baz=111,slow=7.9,SNR=2.5						
FINES	**FINESS Array B**	**83.68**	**332**	P	**P**	**11 20 17.4**	**-0.1**
	4.0nm,1.0s,baz=93,slow=9.5,SNR=4.3						
TXAR	**Lajitas Array**	**144.89**	**37**	PKP	**PKPdf**	**11 27 26.8**	**-0.2**
	0.8nm,0.6s,baz=278,slow=1.1,SNR=17						

MEX 19 11:18:36.6±0.6, 15°81N×93°54W, h92km±5km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.33**	**109**	*e*P	Pn	11 18 48.8	-1.6
PCIG				*i* S	Sn	11 18 59.2	-1.6
CCIG	**Comitan**	**1.43**	**71**	*i* P	Pn	11 19 00.7	-1.1
CCIG				*i* S	Sn	11 19 19.0	-1.9

*IDC **19** 11:22:39.8±0.6, 3°26S×150°74E, h0km, mb4.3/18, mb1 4.4/19, mb1mx4.3/32, mbtmp4.3/19, ML3.5/1, MS4.4/19, Ms1 4.4/19,

	comp=Z,286nm,1.8s						
DZM	Mont Dzumac	24.19	141	*e*P	P	11 27 57.3	-2.5
	comp=Z,52nm,1.3s						
DZM				*e*S	S	11 32 12.7	-2.7
	comp=Z,437nm,25.2s						
DZM				*e*LQ	LQ	11 33 04.4	
	comp=Z,4µm,26.1s						
DZM				*e*LR	LR	11 34 03.4	
	comp=Z,3µm,23.1s						
DZM	Mont Dzumac	24.19	141	P	P	11 27 58.2	-1.6
	comp=Z,7.8nm,0.6s,baz=270,slow=24,SNR=25						
DZM				LR	LR	11 35 19.0	
	comp=Z,890nm,19.2s,baz=0.0,slow=32						
DZM	Mont Dzumac	24.19	141	*e*P	P	11 27 58.3	-1.6
	comp=Z,13nm,0.8s						
AS01	Alice Springs	25.65	217	*e*P	P	11 28 14.3	+1.2
AS31	Alice Springs	25.68	217	*e*P	P	11 28 15.0	+1.7
ASAR	Alice Springs	25.68	217	P	P	11 28 14.8	+1.5
	comp=Z,4.4nm,0.8s,baz=55,slow=8.3,SNR=33						
ASAR				LR	LR	11 38 05.4	
	comp=Z,1µm,20.7s,baz=36,slow=36						
SOEI	Soe	26.72	255	*e*P	P	11 28 23.4	+0.5
H11S3	WAKE ISLAND Hy	27.04	36	T	T	11 55 54.7	
	baz=218,slow=76,SNR=1111						
H11S2	WAKE ISLAND Hy	27.05	36	T	T	11 55 54.0	
	baz=218,slow=76,SNR=498						
H11S1	WAKE ISLAND Hy	27.06	36	T	T	11 55 56.0	
	baz=218,slow=76,SNR=389						
H11N1	WAKE ISLAND Hy	28.12	35	T	T	11 57 04.8	
	baz=218,slow=76,SNR=346						
H11N3	WAKE ISLAND Hy	28.14	35	T	T	11 57 08.7	
	baz=218,slow=76,SNR=299						
H11N2	WAKE ISLAND Hy	28.14	34	T	T	11 57 06.2	
	baz=218,slow=76,SNR=901						
STKA	Stephens Creek	29.49	195	P	P	11 28 47.6	+0.3
	comp=Z,1.6nm,0.7s,baz=32,slow=13,SNR=5.4						
STKA				LR	LR	11 41 08.1	
	comp=Z,2µm,20.0s,baz=11,slow=37						
JOW	Kunigami	36.92	326	LR	LR	11 41 57.2	
	comp=Z,73nm,21.7s,baz=120,slow=31						
KSM	Kuching	40.39	276	*e*P	P	11 30 21.8	+0.3
	comp=Z,27nm,1.2s						
JNU	Nakatsue	40.79	335	*e*P	P	11 30 24.7	+0.3
	comp=Z,24nm,0.9s						
MJAR	Matsushiro Arr	41.37	345	P	P	11 30 25.1	-4.1
	comp=Z,2.2nm,0.7s,baz=171,slow=9.7,SNR=7.5						
MJAR				LR	LR	11 46 20.3	
	comp=Z,502nm,20.0s,baz=195,slow=34						
QZH	Quanzhou	41.84	314	P	P	11 30 35.0	+1.8
QZH				S	S	11 36 50.3	+2.0
QZH				LN			
	comp=Z,1µm,14.6s						
QZH				LE			
	comp=Z,940nm,15.8s						
QZH				LZ			
	comp=Z,790nm,17.6s						
SSE	Sheshan	44.22	323	P	P	11 30 51.8	-0.5
SSE				S	S	11 37 24.9	+2.0
SSE				PMZ			
	comp=Z,38nm,0.7s						
SSE				PMZ			
	comp=Z,150nm,4.7s						
SSE				LN			
	comp=Z,460nm,16.5s						
SSE				LE			
	comp=Z,530nm,16.1s						
SSE				LZ			
	comp=Z,550nm,22.4s						
QIZ	Qiongzhong	45.74	301	P	P	11 31 04.4	-0.2
QIZ				S	S	11 37 48.4	+3.1
QIZ				LN			
	comp=Z,510nm,24.2s						
QIZ				LE			
	comp=Z,250nm,19.7s						
QIZ				LZ			
	comp=Z,550nm,19.1s						
KSRS	Korea Array	45.74	335	P	P	11 31 02.2	-2.0
	comp=Z,1.5nm,0.7s,baz=155,slow=9.4,SNR=8.9						
KSRS				LR	LR	11 50 47.3	
	comp=Z,206nm,18.0s,baz=156,slow=37						
KSRS	Korea Array	45.74	335	P	P	11 31 02.2	-2.0
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KSRS				MLR	MLR		
	comp=Z,206nm,18.0s						
KSAR	Wonju Array Be	45.74	335	P	P	11 31 02.2	-2.1
KSAR	Wonju Array Be	45.74	335	P	P	11 31 02.2	-2.1
KS01	Wonju Array Si	45.77	335	*e*P	P	11 31 07.0	+2.5
NJ2	Nanjing	46.31	322	*e*P	P	11 31 08.1	-0.7
NJ2				pP	pP	11 31 17.4	-3.4
NJ2				sP	sP	11 31 21.3	-4.5
NJ2				S	S	11 37 54.0	+0.9
NJ2				sS	sS	11 38 08.0	-5.0
NJ2				PMZ			
	comp=Z,20nm,0.6s						
NJ2				PMZ			
	comp=Z,200nm,6.8s						
NJ2				LN			
	comp=Z,890nm,25.8s						
NJ2				LE			
	comp=Z,1µm,26.7s						
NJ2				LZ			
	comp=Z,1µm,26.3s						
YUK	Yuzh-Kuril'sk	47.43	356	*e*P	P	11 31 19.4	+2.0
YUK				*e*PPP	PPP	11 33 50.5	
YUK				*i* S	S	11 38 12.9	+4.2
YUK				*i* SSS	SSS	11 42 40.5	
YUK				pmax	pmax		
	comp=Z,81nm,4.9s						
YUK				MLR	MLR		
	comp=N,384nm,19.0s						
YUK				MLR	MLR		
	comp=E,226nm,19.0s						
YUK				MLR	MLR		
	comp=Z,456nm,19.0s						
ASAJ	Asahikawa	47.85	352	*e*P	P	11 31 19.0	-1.6
	comp=Z,11nm,0.9s						
WHN	Wuhan	48.24	317	P	P	11 31 26.4	+2.5
WHN				S	S	11 38 18.9	-1.8
WHN				LN			
	comp=Z,690nm,16.2s						
WHN				LE			
	comp=Z,970nm,15.8s						
WHN				LZ			
	comp=Z,1µm,20.1s						
USRK	Ussuriysk Ar.	50.22	343	P	P	11 31 37.6	-1.2
	comp=Z,5.4nm,0.7s,baz=152,slow=8.6,SNR=11						
USRK				LR	LR	11 52 13.9	
	comp=Z,336nm,18.3s,baz=149,slow=35						
TIA	Tai'an	50.23	325	⇑P	P	11 31 40.8	+1.8
TIA				S	S	11 38 46.8	-1.6
TIA				PMZ			
	comp=Z,20nm,0.8s						
TIA				PMZ			
	comp=Z,150nm,3.9s						
TIA				LN			
	comp=Z,430nm,19.1s						
TIA				LE			
	comp=Z,440nm,20.7s						
TIA				LZ			
	comp=Z,470nm,26.0s						
YSS	Yuzh-Sakhalins	50.62	353	*e*P	P	11 31 40.0	-1.8
YSS				*e*S	S	11 38 48.0	-5.5
YSS				*e*PS	x	11 39 03.0	
YSS				MLR	MLR		
	comp=N,500nm,14.0s						
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
MDJ	Mudanjiang	51.34	341	P	P	11 31 48.5	+1.3
MDJ				pP	pP	11 31 57.6	-1.8
MDJ				sP	sP	11 32 01.5	-2.8
MDJ				S	S	11 39 06.4	+2.9
MDJ				PMZ			
	comp=Z,4.0nm,0.8s						
MDJ				PMZ			
	comp=Z,73nm,4.1s						
MDJ				LN			
	comp=Z,380nm,25.3s						
MDJ				LE			
	comp=Z,770nm,29.3s						
MDJ				LZ			
	comp=Z,750nm,30.7s						
GYA	Guiyang	51.69	308	*e*P	P	11 31 52.0	+1.7
GYA				pP	pP	11 32 01.8	-0.7
GYA				PP	PP	11 33 51.0	+2.7
GYA				S	S	11 39 08.4	-0.8
GYA				SS	SS	11 42 42.6	-3.6
GYA				PMZ			
	comp=Z,10.0nm,1.0s						
GYA				PMZ			
	comp=Z,90nm,5.0s						
GYA				LN			
	comp=Z,480nm,18.2s						
GYA				LE			
	comp=Z,340nm,19.0s						
GYA				LZ			
	comp=Z,460nm,18.8s						
BJT	Baijiatuau	53.45	327	*e*P	P	11 32 04.6	+1.6
BJT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BJT	Baijiatuau	53.45	327	*e*P	P	11 32 04.6	+1.6
	comp=Z,9.1nm,0.7s						
BJI	Beijing	53.46	327	P	P	11 32 04.8	+1.8
BJI				S	S	11 39 32.3	-0.4
BJI				SS	SS	11 43 06.8	-6.7
BJI				PMZ			
	comp=Z,11nm,0.7s						
BJI				PMZ			
	comp=Z,130nm,3.7s						
BJI				LN			
	comp=Z,500nm,19.9s						
BJI				LE			
	comp=Z,480nm,21.3s						
BJI				LZ			
	comp=Z,580nm,29.4s						
XAN	Xi'an	54.01	317	P	P	11 32 10.8	+3.5
XAN				pP	pP	11 32 20.1	+0.7
XAN				S	S	11 39 42.5	+2.0
XAN				PMZ			
	comp=Z,4.0nm,0.8s						
XAN				LN			
	comp=Z,340nm,21.5s						
XAN				LE			
	comp=Z,100nm,20.5s						
XAN				LZ			
	comp=Z,120nm,18.5s						
KMI	Kunming	54.26	304	P	P	11 32 12.6	+3.1
KMI				pP	pP	11 32 22.0	+0.3
KMI				sP	sP	11 32 26.3	-0.3
KMI				PP	PP	11 34 12.1	+0.4
KMI				S	S	11 39 43.3	-1.2
KMI				sS	sS	11 40 04.3	-0.5
KMI				SS	SS	11 43 25.3	-1.8
KMI				PMZ			
	comp=Z,8.0nm,1.2s						
KMI				PMZ			
	comp=Z,120nm,4.5s						
KMI				LN			
	comp=Z,380nm,20.5s						
KMI				LE			
	comp=Z,140nm,23.0s						
KMI				LZ			
	comp=Z,270nm,20.9s						
KLR	Kul'dur	54.90	345	*e*P	P	11 32 08.2	-5.2
CM01	Chiang Mai Arr	55.13	295	*e*P	P	11 32 16.8	+1.2
CMAR	Chiang Mai Arr	55.16	295	P	P	11 32 17.4	+1.7
	comp=Z,3.2nm,0.8s,baz=111,slow=5.3,SNR=13						
CMAR				LR	LR	11 54 47.2	
	comp=Z,135nm,21.4s,baz=101,slow=35						
CD2	Chengdu	56.06	311	P	P	11 32 21.6	-0.5
CD2				pP	pP	11 32 31.9	-2.5
CD2				PcP	PcP	11 33 19.5	-0.5
CD2				PP	PP	11 34 26.8	-0.7
CD2				PcS	PcS	11 37 19.9	-0.7
CD2				S	S	11 40 08.1	+0.1
CD2				SS	SS	11 43 55.9	+1.0
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
CD2				LN			
	comp=Z,560nm,20.1s						
CD2				LE			
	comp=Z,410nm,16.2s						
CD2				LZ			
	comp=Z,450nm,18.0s						
HHC	Hu-ho-hao-te	56.57	325	*e*P	P	11 32 27.6	+1.9
HHC				sP	sP	11 32 42.1	-0.8
HHC				PP	PP	11 34 36.8	+4.8
HHC				S	S	11 40 18.5	+3.9
HHC				ScS	ScS	11 42 12.9	+1.2
HHC				SS	SS	11 44 03.6	+0.8
HHC				PMZ			
	comp=Z,20nm,1.1s						
HHC				PMZ			
	comp=Z,120nm,7.5s						
HHC				LN			
	comp=Z,320nm,14.9s						
HHC				LE			
	comp=Z,360nm,14.7s						
HHC				LZ			
	comp=Z,610nm,14.8s						
PEA0	Petropavlovsk-	56.66	5	*e*P	P	11 32 26.9	+0.9
PETK	Petropavlovsk-	56.66	5	P	P	11 32 23.4	-2.6
	comp=Z,4.9nm,0.5s,baz=166,slow=7.2,SNR=8.0						
PETK				LR	LR	11 52 07.3	
	comp=Z,364nm,21.2s,baz=189,slow=31						
PET	Petropavlovsk	56.67	6	*e*P	P	11 32 30.4	+4.4
PET				*e*S	S	11 40 19.5	+4.3
PET				*e*SS	SS	11 44 04.6	+0.9
PET				pmax	pmax		
	comp=Z,100nm,10.5s						
LZH	Lanzhou	58.61	316	*e*P	P	11 32 40.8	+0.6
LZH				pP	pP	11 32 52.3	-0.2
LZH				sP	sP	11 32 57.0	-0.4
LZH				PP	PP	11 34 52.6	+2.3
LZH				SS	SS	11 44 34.0	-1.1
LZH				PMZ			
	comp=Z,20nm,1.0s						
LZH				PMZ			
	comp=Z,140nm,4.6s						
LZH				LN			
	comp=Z,170nm,14.4s						
LZH				LE			
	comp=Z,550nm,18.4s						
LZH				LZ			
	comp=Z,570nm,19.3s						
HIA	Hailar	58.84	337	*e*P	P	11 32 41.8	+0.5
HIA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PPT	Papeete	60.40	108	LR	LR	11 56 35.0	
	comp=Z,141nm,18.1s,baz=294,slow=34						
PPT2	Papeete2	60.40	108	*e*S	S	11 41 03.4	-1.8
	comp=Z,224nm,34.0s						
PPT2				*e*LQ	LQ	11 48 12.1	
	comp=Z,426nm,23.5s						
PPT2				*e*LR	LR	11 50 44.6	
	comp=Z,1µm,32.0s						
TBI	Tubuai	61.28	115	*e*S	S	11 41 17.4	+1.4
	comp=Z,199nm,34.1s						
TBI				*e*LQ	LQ	11 48 41.6	
	comp=Z,2µm,30.0s						
TBI				*e*LR	LR	11 51 18.2	
	comp=Z,695nm,30.5s						
GTA	Gaotai	63.05	318	*e*P	P	11 33 12.8	+2.5
GTA				pP	pP	11 33 23.5	+0.8
GTA				sP	sP	11 33 27.8	+0.2
GTA				S	S	11 41 42.6	+4.4
GTA				PMZ			
	comp=Z,6.0nm,1.5s						
GTA				PMZ			
	comp=Z,140nm,6.2s						
GTA				LN			
	comp=Z,390nm,19.0s						
GTA				LE			
	comp=Z,190nm,20.0s						
GTA				LZ			
	comp=Z,360nm,20.9s						
SONM	Songino Array	63.92	329	P	P	11 33 15.6	-0.3
	comp=Z,1.3nm,0.8s,baz=149,slow=6.7,SNR=7.8						
SONM				LR	LR	12 00 49.9	
	comp=Z,524nm,20.7s,baz=117,slow=36						
SONA1	Songino Array	63.92	329	*e*P	P	11 33 15.6	-0.3
SEY	Seymchan	66.20	1	P	P	11 33 29.6	-0.5
	comp=Z,3.1nm,0.9s,baz=108,slow=3.2,SNR=2.4						
SEY	Seymchan	66.20	1	*e*P	P	11 33 31.5	+1.3
ZAK	Zakamensk	67.11	329	*e*P	P	11 33 35.6	-0.8
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
YAK	Yakutsk	67.19	350	*e*P	P	11 33 35.7	-0.8
YAK				pmax	pmax		
	comp=Z,17nm,1.1s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.1s						
BOD	Bodaibo	67.69	340	*e*P	P	11 33 38.1	-1.6
BOD				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MOY	Mondy	69.03	330	*e*P	P	11 33 53.3	+4.9
BILL	Bilibino	72.17	6	*e*P	P	11 34 08.3	+1.2
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,490nm,28.0s						
BILL	Bilibino	72.17	6	*e*P	P	11 34 08.5	+1.4
WMQ	Urumqi	73.14	318	P	P	11 34 14.3	+0.9
WMQ				pP	pP	11 34 24.5	-1.6
WMQ				sP	sP	11 34 28.5	-2.4
WMQ				S	S	11 43 36.8	-1.5
WMQ				ScS	SKSac	11 44 15.3	-0.8
WMQ				PMZ			
	comp=Z,12nm,0.5s						
WMQ				PMZ			
	comp=Z,25nm,4.5s						
WMQ				LN			
	comp=Z,280nm,20.8s						
WMQ				LE			
	comp=Z,190nm,21.0s						
WMQ				LZ			
	comp=Z,260nm,28.0s						
VNDA	Vanda	74.28	177	P	P	11 34 19.0	-0.4
	comp=Z,1.1nm,0.8s,baz=310,slow=6.6,SNR=5.0						
VNDA				LR	LR	12 05 57.8	
	comp=Z,281nm,18.0s,baz=11,slow=35						
VNDA	Vanda	74.28	177	*e*P	P	11 34 22.4	+2.9
RKT	Rikitea	74.50	113	*e*LR	LR	11 57 25.8	
	comp=Z,581nm,28.2s						
TIXI	Tiksi	76.25	353	*ce*P	P	11 34 31.0	+0.3
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.7s						
TIXI	Tiksi	76.25	353	*e*P	P	11 34 30.7	0.0
MK01	Makanchi Array	77.73	319	*e*P	P	11 34 39.0	-0.7
MK31	Makanchi Array	77.75	319	*e*P	P	11 34 39.2	-0.6
MK31	Makanchi Array	77.75	319	*e*P	P	11 34 39.2	-0.6
MKAR	Makanchi Array	77.75	319	*e*P	P	11 34 39.6	-0.2
MKAR	Makanchi Array	77.75	319	*e*P	P	11 34 39.6	-0.2
ZAA0	Zalesovo Array	78.71	327	*e*P	P	11 34 43.7	-1.1
ZALV	Zalesovo Beam	78.71	327	P	P	11 34 42.9	-2.0
	comp=Z,2.2nm,0.8s,baz=111,slow=8.1,SNR=8.2						
ZALV				LR	LR	12 08 46.7	
	comp=Z,229nm,21.7s,baz=70,slow=35						
ZALV	Zalesovo Beam	78.71	327	*i* P	P	11 34 43.7	-1.2
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CAST	Castle Rocks	79.15	23	*e*P	P	11 34 46.8	-0.3
PMR	Palmer	79.44	25	*e*P	P	11 34 48.0	-0.7
PMR				*e**PP	pP	11 35 03.8	+2.4
PMR	Palmer	79.44	25	*e*P	P	11 34 48.0	-0.7
PMR				*e*pP	pP	11 35 03.8	+2.4
TRF	Thorofare Moun	79.86	23	*e*P	P	11 34 51.5	+0.3
IM04	Indian Mountai	79.89	20	*e*P	P	11 34 50.3	-0.8
RND	Reindeer	80.41	23	*e*P	P	11 34 51.1	-2.9
RND	Reindeer	80.41	23	*e*P	P	11 34 51.1	-2.9
MLY	Manley	80.48	22	*e*P	P	11 34 52.2	-2.1
MCK	McKinley	80.53	23	*e*P	P	11 34 50.4	-4.2
MCK				pmax	pmax		
	comp=Z,11nm,0.8s						
MCK	McKinley	80.53	23	*e*P	P	11 34 50.4	-4.2
	comp=Z,11nm,0.8s						
BWN	Browne	80.53	23	*e*P	P	11 34 58.3	+3.7
BMRM	Bremner River	81.13	27	*e*P	P	11 35 02.0	+4.1
WRH	Wood River Hil	81.20	23	*e*P	P	11 34 55.0	-3.1
KURK	Kurchatov	81.24	322	*e*P	P	11 34 57.8	-0.8
KURK	Kurchatov	81.24	322	*e*P	P	11 34 57.8	-0.8
MDM	Murphy Dome	81.38	22	*e*P	P	11 35 02.7	+3.6
MDM				*e*pP	pP	11 35 13.9	+2.0
CCB	Clear Creek Bu	81.39	23	*e*P	P	11 34 55.7	-3.4
PAX	Paxson	81.59	25	*e*P	P	11 35 00.6	+0.3
PAX	Paxson	81.59	25	*e*P	P	11 35 00.6	+0.3
COLD	Coldfoot	81.77	20	*e*P	P	11 34 59.5	-1.5
ILAR	Eielson Array	81.80	23	P	P	11 34 57.4	-3.9
	comp=Z,2.9nm,0.9s,baz=254,slow=5.0,SNR=18						
ILAR				LR	LR	12 09 55.2	
	comp=Z,238nm,18.6s,baz=256,slow=35						
FYU	Fort Yukon	83.20	21	*e*P	P	11 35 09.1	+0.6
HYT	Haines Junctio	84.33	28	*e*P	P	11 35 15.9	+1.3
KKAR	Karatay Array	84.98	314	*e*P	P	11 35 20.0	+1.9
KKAR	Karatay Array	84.98	314	*e*P	P	11 35 20.0	+1.9
MAW	Mawson	85.92	203	LR	LR	12 10 55.1	
	comp=Z,502nm,21.8s,baz=66,slow=34						
QSPA	South Pole Qui	86.52	180	*e*P	P	11 35 25.3	-0.2
	comp=Z,44nm,2.0s						
BRVK	Borovoye	86.80	323	*e*P	P	11 35 27.1	+0.2
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK	Borovoye	86.80	323	*e*P	P	11 35 28.4	+1.5
DLBC	Dease Lake	87.44	31	P	P	11 35 29.4	-0.6
	comp=Z,2.3nm,1.0s,baz=273,slow=6.4,SNR=5.3						
DLBC	Dease Lake	87.44	31	*e*P	P	11 35 31.0	+1.0
INK	Inuvik	88.04	21	P	P	11 35 30.7	-1.8
	comp=Z,2.8nm,1.1s,baz=270,slow=1.0,SNR=2.5						
ABKAR	Akbulak array	92.89	319	*e*P	P	11 35 59.1	+3.5
NVAR	Mina Array Bea	93.11	52	P	P	11 35 57.1	0.0
	comp=Z,0.2nm,0.4s,baz=280,slow=5.4,SNR=2.9						
YKA	Yellowknife Ar	95.32	28	P	P	11 36 02.5	-3.9
	comp=Z,0.4nm,0.7s,baz=269,slow=6.6,SNR=3.8						
PDAR	Pinedale Array	99.68	47	P	Pdif	11 36 25.9	-0.9
	comp=Z,0.4nm,0.8s,baz=134,slow=2.6,SNR=3.0						
PDAR				LR	LR	12 21 49.8	
	comp=Z,136nm,18.0s,baz=274,slow=36						
KIV	Kislovodsk	105.11	315	*i* P	Pdif	11 36 50.4	-0.4
KIV				pmax	pmax		
	comp=Z,2.0nm,1.3s						
OKC	Ostrava-Krasne	118.69	327	AMS	AMS	12 33 50.0	
	comp=Z,300nm,22.5s						
DPC	Dobruska-Polom	119.39	328	AMS	AMS	12 31 00.0	
	comp=Z,300nm,17.3s						
TREC	Trest	120.43	327	AMS	AMS	12 34 20.0	
	comp=Z,300nm,18.8s						
GOPC	GO Pecny, Ondr	120.44	328	AMS	AMS	12 32 30.0	
	comp=Z,300nm,21.0s						
CLL	Collm	120.51	330	*e*SS	SS	11 59 42.0	+15
CLL				LmV		12 36 00.0	
	comp=Z,200nm,20.2s						
PRU	Pruhonice	120.53	329	AMS	AMS	12 32 30.0	
	comp=Z,100nm,23.2s						
KHC	Kasperske Hory	121.54	328	AMS	AMS	12 32 50.0	
	comp=Z,500nm,15.4s						
ESK	Eskdalemuir	124.06	342	*i* PKIKP	PKPdf	11 41 46.5	+5.7
TORD	Torodi Ar. Bea	147.63	289	PKPbc	PKPbc	11 42 27.0	-1.0
	comp=Z,0.5nm,0.6s,baz=45,slow=1.3,SNR=4.2						

*IDC **19** 12:08:52.8±3.1, 6°.21S×130°.32E, h164km±27km, mb3.5/5, mb1 3.7/7, mb1mx3.4/30, mbtmp4.1/7, Error ellipse: s-maj=61.6km s-min=17.3km az=58.0*

ISC 19 12:08:51.4±1.0, **6°.6S**±0°.2×**130°.0E**±0°.3, **h150km, n14,** σ**1§80**/17, **mb3.6**/4, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.94	163	P	P	12 12 04.8	-1.1
	0.7nm,0.3s,baz=345,slow=11,SNR=29						
WRA				S	Sn	12 14 33.3	-3.9
	2.1nm,0.3s,baz=328,slow=23,SNR=10						
ASAR	Alice Springs	17.40	168	P	Pn	12 12 47.9	+2.7
	1.7nm,0.3s,baz=345,slow=9.3,SNR=162						
ASAR				S	Sn	12 15 59.6	-0.6
	0.6nm,0.3s,baz=356,slow=26,SNR=9.2						
ASAR				ScP	ScP	12 20 36.8	-2.5
	0.1nm,0.3s,baz=1.2,slow=1.7,SNR=4.8						
CTA	Charters Tower	20.74	132	P	P	12 13 20.7	+0.2
	3.2nm,0.6s,baz=302,slow=13,SNR=6.2						
STKA	Stephens Creek	27.41	158	P	P	12 14 25.6	+2.6
	1.0nm,0.3s,baz=0.0,slow=8.1,SNR=3.8						
CMAR	Chiang Mai Arr	39.44	310	P	P	12 16 07.5	+0.3
	0.8nm,0.6s,baz=134,slow=7.5,SNR=5.7						
TAPN	Taplejung	52.98	311	*e*P	P	12 17 52.9	-0.4
	7.7nm,0.3s						
RAMN	Ramite	53.60	310	*e*P	P	12 17 57.9	+0.2
	33nm,0.6s						
GUN	Gumba	54.65	311	*e*P	P	12 18 05.4	0.0
	22nm,0.6s						
PKI	Pulchoki	54.83	310	*e*P	P	12 18 05.5	-1.2
PKIN	Phulchoki	54.84	310	*e*P	P	12 18 06.0	-0.7
	4.0nm,0.6s						
GKN	Gorkha	55.64	310	*e*P	P	12 18 12.2	-0.1
KOLN	Koldanda	56.31	310	*e*P	P	12 18 16.8	-0.3

6.2nm,0.6s
ZALV Zalesovo Beam 71.20 334 P **P** **12 19 52.4 -1.5**
0.3nm,0.3s,baz=167,slow=7.0,SNR=4.1
VNDA Vanda 72.86 173 P **P** **12 20 05.3 +2.0**
0.5nm,0.5s,baz=318,slow=8.3,SNR=3.4

*JMA **19** 12:22:56.8±0.8,44°.53N×148°.81E,h30km,M3.7*
*SKHL **19** 12:22:56.1±0.4,44°.24N×149°.04E,h50km±5km,mb4.4/2*
ISC 19 12:22:52.6±3.3,**44°.00N**±0°.08×**149°.3E**±0°.2,**h42km**,**n26,**
σ2s74/36,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.61**	**321**	*e*P	Pn	12 23 16.7	-1.8
KUR				AMB	AMB	12 23 19.2	
	170nm,0.5s						
KUR				*e*S	**Sn**	**12 23 32.5**	**-5.5**
KUR				A	A	12 23 36.3	
	490nm,0.5s						
KUR				A	A	12 23 36.3	
	230nm,0.5s						
SHO	**Shikotan**	**1.79**	**267**	*e*P	**Pn**	**12 23 21.4**	**+0.4**
SHO				*e*S	**Sn**	**12 23 40.1**	**-2.5**
SHO				A	A	12 23 47.0	
	429nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.49**	**272**	*e*P	**Pn**	**12 23 31.0**	**+0.5**
YUK				AMB	AMB	12 23 33.1	
	12nm,0.4s						
YUK				AMB	AMB	12 23 33.1	
	23nm,0.4s						
YUK				AMB	AMB	12 23 33.1	
	61nm,0.4s						
YUK				*e*S	**Sn**	**12 23 58.3**	**-1.3**
YUK				A	A	12 24 03.7	
	52nm,0.6s						
YUK				A	A	12 24 03.7	
	154nm,0.6s						
NEM2	**Nemuro 2**	**2.66**	**258**	P	**Pn**	**12 23 34.6**	**+1.7**
NEM2				*e*S	**Sn**	**12 24 02.7**	**-1.2**
JRA	**Rausu**	**3.02**	**270**	P	**Pn**	**12 23 39.3**	**+1.4**
JRA				*e*S	**Sn**	**12 24 11.0**	**-1.8**
JNK	**Nakash**	**3.35**	**265**	*e*S	**Sn**	**12 24 20.0**	**-0.9**
JAK	**Akkeshi**	**3.50**	**255**	P	**Pn**	**12 23 46.2**	**+1.7**
JTKR	**Abashiri--Toko**	**3.90**	**272**	P	**Pn**	**12 23 51.6**	**+1.7**
JAR	**Ashorobuto**	**4.08**	**262**	P	**Pn**	**12 23 55.1**	**+2.7**
JAR				*e*S	**Sn**	**12 24 39.0**	**+0.1**
JOB	**Onbets**	**4.13**	**257**	P	**Pn**	**12 23 55.9**	**+2.8**
JOB				*e*S	**Sn**	**12 24 38.9**	**-1.3**
JMP	**Maruseppu**	**4.29**	**272**	P	**Pn**	**12 23 57.5**	**+2.1**
JCH	**Churui**	**4.55**	**254**	P	**Pn**	**12 24 01.5**	**+2.6**
MYR	**Moyori**	**4.72**	**251**	*e*P	**Pn**	**12 24 04.1**	**+2.8**
MYR				*e*S	**Sn**	**12 24 55.3**	**+0.5**
JEM	**Erimo**	**4.92**	**248**	P	Pn	12 24 07.7	+3.7
JEM				*e*S	**Sn**	**12 24 59.5**	**-0.2**
JNBK	**Urakawa-nobuka**	**5.09**	**253**	*e*S	**Sn**	**12 25 01.3**	**-2.6**
JBT2	**Biratori 2**	**5.21**	**259**	P	**Pn**	**12 24 10.5**	**+2.6**
JNB	**Noboribetsu**	**6.23**	**259**	P	**Pn**	**12 24 24.2**	**+2.3**
JNB				*e*S	**Sn**	**12 25 31.2**	**-0.6**
JKB	**Kayabe**	**6.43**	**254**	P	**Pn**	**12 24 26.7**	**+2.1**
JKB				*e*S	**Sn**	**12 25 33.4**	**-3.3**
JYM2	**Yakumo 2**	**6.81**	**257**	P	Pn	12 24 33.0	+3.1
JANG	**Nango**	**6.83**	**241**	P	**Pn**	**12 24 31.4**	**+1.3**
JANG				*e*S	**Sn**	**12 25 42.3**	**-4.2**
JTH	**Tanohata**	**6.87**	**236**	*e*S	**Sn**	**12 25 42.3**	**-5.3**
JTM	**Tenmabayashi**	**6.89**	**245**	P	**Pn**	**12 24 33.2**	**+2.2**
JTM				*e*S	**Sn**	**12 25 44.0**	**-4.1**
JOSM	**Okushiri--Mats**	**7.45**	**259**	P	**Pn**	**12 24 41.0**	**+2.3**
OFUJ	**Ofunato**	**7.54**	**232**	*e*S	**Sn**	**12 26 00.9**	**-3.3**
JRG	**Rokugo**	**7.95**	**238**	*e*S	**Sn**	**12 26 10.3**	**-3.8**
JIO	**Ouri**	**8.16**	**230**	*e*S	**Sn**	**12 26 14.3**	**-5.0**

*NEIC **19** 12:36:49.0,19°.56N×65°.39W,h97km,MD3.7(RSPR),*
After RSPR.
RSPR 19 12:36:49.0,19°.56N×65°.39W,h97km±9km,**MD3.7**/8,
16C-2D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**1.27**	**161**	⇑*e*P	Pn	12 37 11.7	-0.6
STVI	**Saint Thomas**	**1.27**	**161**	*e*S	Sn	12 37 29.6	-0.3
STVI	**Saint Thomas**	**1.27**	**161**	⇑*e*P	Pn	12 37 11.7	-0.6
STVI				*e*S	Sn	12 37 29.6	-0.3
STVI	**Saint Thomas**	**1.27**	**161**	*e*Pn	Pn	12 37 11.6	-0.7
STVI				*e*Sn	Sn	12 37 30.3	+0.4
TBVI	**Tortola**	**1.35**	**147**	⇑*e*P	Pn	12 37 13.2	-0.1
TBVI	**Tortola**	**1.35**	**147**	⇑*e*P	Pn	12 37 13.2	-0.1
HUMP	**Col San Antoni**	**1.48**	**197**	⇑*e*P	Pn	12 37 14.0	-0.9
HUMP	**Col San Antoni**	**1.48**	**197**	⇑*e*P	Pn	12 37 14.0	-0.9
SJG	**San Juan**	**1.61**	**207**	⇑*e*P	Pn	12 37 15.9	-0.7
SJG				*e*S	Sn	12 37 37.5	+0.1
SJG	**San Juan**	**1.61**	**207**	⇑*e*P	Pn	12 37 15.9	-0.7
SJG				*e*S	Sn	12 37 37.5	+0.1
SJG	**San Juan**	**1.61**	**207**	*e*Pn	Pn	12 37 15.3	-1.3
SJG				*e*Sn	Sn	12 37 35.1	-2.3
AOPR	**Arecibo Observ**	**1.77**	**227**	⇓*e*P	Pn	12 37 17.9	-0.7
AOPR	**Arecibo Observ**	**1.77**	**227**	⇓*e*P	Pn	12 37 17.9	-0.7
CELP	**Cerrillos**	**1.86**	**218**	⇑*e*P	Pn	12 37 19.1	-0.7
CELP	**Cerrillos**	**1.86**	**218**	⇑*e*P	Pn	12 37 19.1	-0.7
CELP	**Cerrillos**	**1.86**	**218**	*e*Pn	Pn	12 37 19.4	-0.4
CDVI	**St. Croix**	**1.89**	**162**	*e*Pn	Pn	12 37 19.3	-0.8
OBIP	**Obispado Ponce**	**1.90**	**218**	⇑*e*P	Pn	12 37 20.1	-0.2
OBIP	**Obispado Ponce**	**1.90**	**218**	*e*S	Sn	12 37 43.8	-0.2
OBIP	**Obispado Ponce**	**1.90**	**218**	⇑*e*P	Pn	12 37 20.1	-0.2
OBIP				*e*S	Sn	12 37 43.8	-0.2
OBIP	**Obispado Ponce**	**1.90**	**218**	*e*Pn	Pn	12 37 19.5	-0.8
LSP	**Las Mesas**	**2.12**	**230**	⇑*e*P	Pn	12 37 23.0	-0.1
LSP	**Las Mesas**	**2.12**	**230**	⇑*e*P	Pn	12 37 23.0	-0.1
CRPR	**Cabo Rojo, PR**	**2.25**	**227**	*e*Pn	Pn	12 37 24.1	-0.7
IDE	**Isla Desecheo**	**2.30**	**240**	⇑*e*P	Pn	12 37 25.4	0.0
IDE	**Isla Desecheo**	**2.30**	**240**	*e*S	Sn	12 37 53.1	-0.1
IDE	**Isla Desecheo**	**2.30**	**240**	⇑*e*P	Pn	12 37 25.4	0.0
IDE				*e*S	Sn	12 37 53.1	-0.1
SDDR	**Presa de Saban**	**5.61**	**265**	*e*Pn	Pn	12 38 11.6	+1.6
	21nm,0.5s						
SDDR				*e*Sn	Sn	12 39 12.2	-1.1

IDC 19 12:42:08.1±8.0,**30°.91S**×**179°.92W,h488**km±103km,
mb2.7/2,mb1 3.1/3,mb1mx2.8/22,mbtmp3.8/3,Error
ellipse: s-maj=105.5km s-min=43.6km az=7.0,
Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.73**	**198**	P	P	12 44 00.9	-0.3
	3.1nm,0.3s,baz=305,slow=2.6,SNR=19						
URZ				S	S	12 45 34.5	+0.4
	0.4nm,0.3s,baz=312,slow=18,SNR=3.3						
ASAR	**Alice Springs**	**41.43**	**268**	P	P	12 49 11.6	+0.1
	0.3nm,0.4s,baz=104,slow=6.9,SNR=14						
WRA	**Warramunga Arr**	**42.47**	**274**	P	P	12 49 19.3	-0.4
	0.7nm,0.5s,baz=110,slow=8.0,SNR=15						
FINES	**FINESS Array B**	**145.03**	**338**	PKPbc	PKPdf	13 00 48.3	-0.2
	1.2nm,0.8s,baz=82,slow=4.0,SNR=4.0						

PRE 19 12:48:02.5±1.8,**26°.89S**×**26°.69E,h2**km,**ML3.7,4C-5D,**
South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLEK	**Tau Lekoa**	**0.07**	**192**	⇑*i*P	Pg	12 48 05.5	+1.2
TLEK				*e*S	Sg	12 48 05.7	+0.3
BFSD	**Buffelsfontein**	**0.09**	**75**	⇓*i*P	Pg	12 48 05.0	+0.4
BFSD				*e*S	Sg	12 48 05.5	-0.3
BFSD				AML	AML	12 48 06.0	
	comp=Z,56μm,0.1s						
MOAB	**Moab Khotsong**	**0.14**	**135**	⇑*i*P	Pg	12 48 06.0	+0.5
MOAB				*e*S	Sg	12 48 07.0	-0.5
MOAB				AML	AML	12 48 07.7	
	comp=Z,27μm,0.2s						
PRYS	**Parys**	**0.60**	**94**	⇓*i*P	Pg	12 48 14.4	+0.1
PRYS				*e*S	Sg	12 48 20.8	-1.5
PRYS				AML	AML	12 48 25.7	
	comp=Z,848nm,0.5s						
KLOF	**Kloof**	**0.98**	**57**	*e*P	Pg	12 48 21.5	-0.1
KLOF				*e*S	Sg	12 48 35.1	+0.5
KLOF				AML	AML	12 48 38.6	
	comp=Z,7μm,0.2s						
KSR	**Koster**	**1.05**	**10**	*e*P	Pg	12 48 22.9	0.0
KSR				*e*S	Sg	12 48 36.3	-0.4
KSR				AML	AML	12 48 43.5	
	comp=Z,462nm,0.4s						
SWZ	**Schweizer**	**1.25**	**256**	⇑*i*P	Pg	12 48 26.4	-0.2
SWZ				*e*S	Sb	12 48 43.5	-0.1
SWZ				AML	AML	12 48 45.5	
	comp=Z,1μm,0.6s						
SEK	**Senekal**	**1.65**	**150**	⇓*i*P	Pb	12 48 33.5	-0.5
SEK				*e*S	Sb	12 48 55.7	+0.2
SEK				AML	AML	12 48 57.6	
	comp=Z,1μm,0.3s						
LBTB	**Lobatse**	**2.11**	**332**	*e*P	Pn	12 48 40.2	+1.2
LBTB				*e*S	Sn	12 49 06.8	+0.9
LBTB				AML	AML	12 49 10.4	
	comp=Z,743nm,0.6s						
BOSA	**Boshof**	**2.14**	**216**	⇓*i*Pn	Pn	12 48 39.9	+0.5
BOSA				⇑*i*Pg	Pb	12 48 42.8	+0.6
BOSA				*e*S	Sn	12 49 06.1	-0.5
BOSA				AML	AML	12 49 10.3	
	comp=Z,156nm,0.5s						
HVD	**Gariep Dam**	**3.85**	**195**	*e*P	Pn	12 49 03.0	0.0
HVD				*e*S	Sn	12 49 47.1	-1.9
HVD				AML	AML	12 50 16.6	
	comp=Z,110nm,0.5s						
MSNA	**Messina**	**5.45**	**35**	*e*P	Pn	12 49 25.1	+0.3
MSNA				*e*S	Sn	12 50 23.6	-4.5
MSNA				AML	AML	12 50 58.6	
	comp=Z,65nm,0.5s						
GRM	**Grahamstown**	**6.41**	**181**	*e*P	Pn	12 49 39.9	+1.9
GRM				*e*S	Sn	12 50 50.3	-1.5
GRM				AML	AML	12 51 28.6	
	comp=Z,36nm,0.5s						
BUFB	**Buffelsbos**	**7.43**	**193**	⇓*i*Pn	Pn	12 49 51.5	-0.5
BUFB				*e*S	Sn	12 51 13.0	-3.9
BUFB				AML	AML	12 51 20.4	
	comp=Z,6.3nm,0.2s						
SUR	**Sutherland**	**7.49**	**222**	*e*P	Pn	12 49 53.8	+0.7
SUR				*e*S	Sn	12 51 14.4	-4.3
SUR				AML	AML	12 52 06.3	
	comp=Z,28nm,0.5s						
CER	**Ceres**	**9.09**	**223**	*e*P	Pn	12 50 15.5	+0.8
CER				*e*S	Sn	12 51 52.8	-4.9
CER				AML	AML	12 52 56.6	
	comp=Z,26nm,0.7s						

*IDC **19** 12:58:27.5±0.6,36°.92N×71°.64E,h0km,mb4.2/23,*
mb1 4.4/27,mb1mx4.2/43,mbtmp4.3/27,ML3.9/4,MS3.6/19,
Ms1 3.6/19,ms1mx3.4/36,Error ellipse: s-maj=14.6km
s-min=12.1km az=21.0
*MOS **19** 12:58:31.1±1.0,36°.98N×71°.66E,h33km,mb4.8/23,Error*
ellipse: s-maj=7.0km s-min=4.8km az=104.5
*NNC **19** 12:58:32.2±3.1,36°.88N×71°.19E,h160km,mb4.0,mpv4.7,*
Error ellipse: s-maj=28.0km s-min=13.0km az=173.0
*ISCJB **19** 12:58:32.3±0.5,37°.06N±0°.02×71°.47E±0°.03,h36km±4km,*
mb4.4/59,MS3.6/18,Error ellipse: s-maj=4.4km
s-min=3.3km az=145.8
*BJI **19** 12:58:34.8,37°.17N×71°.75E,h44km,mb4.6/36,mB4.7/38,*
ML4.4/4,Ms4.3/31,Ms7 4.1/11
*NEIC **19** 12:58:35.1±1.0,37°.15N×71°.55E,h47km±8km,mb4.7/10,*
Error ellipse: s-maj=9.3km s-min=6.7km az=162.0
ISC 19 12:58:35.1±0.4,**37.08N**±0°.04×**71.44E**±0°.03,**h51**km±3km,
h51km:pP-P,n247,σ1s95/257,mb4.5/66,**MS3.6**/18,
30C-23D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.69**	**311**	⇑Pn	**Pn**	**12 59 15.6**	**-0.4**
	231nm,0.4s						
DZET				⇓Sn	**Sn**	**12 59 51.4**	**+4.1**
	4μm,0.7s						
DZET	**Dzherino**	**2.69**	**311**	PN	**Pn**	**12 59 15.5**	**-0.4**
DZET						12 59 51.8	
DZET				pmax	pmax		
	comp=Z,231nm,0.4s						
DZET				smax	smax		
	comp=N,4μm,0.7s						
KBL	**Kabul**	**3.20**	**218**	*e*PN	Pn	12 59 26.5	+3.4
KBL				*e*		13 00 09.9	
KBL	**Kabul**	**3.20**	**218**	*e*Pn	Pn	12 59 26.5	+3.4
KBL				*e*Sn	Sn	13 00 09.8	+10
CEP	**Cherat**	**3.28**	**173**	P	Pn	12 59 26.7	+2.7
SFK	**Sufi-Kurgan**	**3.34**	**28**	⇓Pn	**Pn**	**12 59 26.9**	**+1.9**
SFK				⇓Sn	Sn	13 00 15.1	+11
SFK	**Sufi-Kurgan**	**3.34**	**28**	PN	**Pn**	**12 59 26.9**	**+1.9**
SFK						13 00 15.1	
CHCP	**Chirah Chowk**	**3.73**	**156**	P	**Pn**	**12 59 32.2**	**+2.1**
THW	**Thamme Wali**	**4.29**	**177**	P	**Pn**	**12 59 40.1**	**+2.3**
KSH	**Kashi**	**4.31**	**54**	P	Pn	12 59 33.4	-4.8
KSH				S	Sn	13 00 19.6	-7.7
KSH				SMN			
	comp=N,2μm,1.1s						
KSH				SME			
	comp=N,2μm,1.1s						
SARP	**Sargodha**	**5.25**	**169**	P	**Pn**	**12 59 52.7**	**+1.7**
AML	**Almayashu**	**5.33**	**18**	P	**Pn**	**12 59 52.9**	**+0.4**
	SNR=26						
UCH	**Uchtor**	**5.66**	**24**	P	**Pn**	**12 59 57.3**	**+0.4**
	SNR=46						
KZA	**Kyzart**	**5.79**	**29**	P	**Pn**	**12 59 59.2**	**+0.5**
	SNR=34						
EKS2	**Erkin-Say**	**5.85**	**17**	P	**Pn**	**12 59 59.4**	**+0.1**
	SNR=18						
EKS2	**Erkin-Say**	**5.85**	**17**	*e*PN	**Pn**	**12 59 59.8**	**+0.5**
EKS2	**Erkin-Say**	**5.85**	**17**	*e*Pn	**Pn**	**12 59 59.8**	**+0.5**
DLH	**Dalhousie**	**5.86**	**139**	*e*P	**Pn**	**12 59 59.0**	**-0.6**
DLH				*ex*	x	13 01 35.0	
AAK	**Ala-Archa**	**6.02**	**22**	P	**Pn**	**13 00 02.4**	**+0.8**
	SNR=17						
AAK	**Ala-Archa**	**6.02**	**22**	⇑Pn	**Pn**	**13 00 01.7**	**+0.1**
	comp=N,53nm,1.0s						
AAK				⇑Sn	**Sn**	**13 01 11.1**	**+1.8**
	comp=N,91nm,1.2s						
AAK	**Ala-Archa**	**6.02**	**22**	Pn	Pn	13 00 16.5	+15
	comp=N,8.7nm,0.3s,baz=197,slow=11,SNR=22						
AAK				Sn	Sn	13 01 28.2	+19
	comp=N,3.4nm,0.3s,baz=299,slow=19,SNR=3.4						
AAK				LR	LR	13 02 26.5	
	comp=N,131nm,19.2s,baz=203,slow=39						
AAK	**Ala-Archa**	**6.02**	**22**	*e*PN	**Pn**	**13 00 02.4**	**+0.8**
AAK						13 01 28.2	
AAK	**Ala-Archa**	**6.02**	**22**	*e*Pn	**Pn**	**13 00 02.4**	**+0.8**
AAK				Sn	Sn	13 01 28.2	+19
KK31	**Karatay Array**	**6.05**	**354**	⇓Pn	**Pn**	**13 00 01.3**	**-0.7**
	comp=N,15nm,0.3s,baz=178,slow=13,SNR=216						
KK31				⇑Sn	**Sn**	**13 01 10.9**	**+1.0**
	comp=N,28nm,0.5s,baz=180,slow=22,SNR=4.6						
KK31	**Karatay Array**	**6.05**	**354**	*i* PN	**Pn**	**13 00 01.3**	**-0.7**
KK31				pmax	pmax		
	comp=Z,40nm,0.4s						
KKAR	**Karatay Array**	**6.05**	**354**	*e*PN	**Pn**	**13 00 01.7**	**-0.3**
KKAR	**Karatay Array**	**6.05**	**354**	*e*Pn	**Pn**	**13 00 01.7**	**-0.3**
KKAR				*e*Sn	**Sn**	**13 01 12.1**	**+2.2**
KBK	**Karagaybulak**	**6.18**	**25**	P	**Pn**	**13 00 05.4**	**+1.5**
	SNR=12						
FRU	**Bishkek**	**6.24**	**22**	*e*PN	**Pn**	**13 00 06.0**	**+1.5**
FRU				*i*		13 00 26.0	
FRU				*i* S	**Sn**	**13 01 18.0**	**+3.5**
FRU				*i*		13 01 40.0	
FRU				pmax	pmax		
	comp=Z,360nm,1.4s						
FRU				pmax	pmax		
	comp=N,840nm,1.6s						
DHRM	**DHARAMSHALA**	**6.27**	**139**	*e*P	**Pn**	**13 00 03.9**	**-1.2**
DHRM				*e*S	**Sn**	**13 01 13.0**	**-2.5**
DHRM				AML	AML	13 01 57.1	
	comp=N,380nm,0.5s						
DHRM				AML	AML	13 01 59.0	
	comp=E,623nm,0.1s						
PONG	**Pong**	**6.33**	**143**	*e*P	**Pn**	**13 00 05.0**	**-0.7**
ULHL	**Ulahol**	**6.34**	**34**	P	**Pn**	**13 00 07.4**	**+1.2**
	SNR=7.8						
CHMS	**Chumysh**	**6.43**	**22**	P	**Pn**	**13 00 07.8**	**+0.6**
	SNR=24						
USP	**Ospenovka**	**6.60**	**20**	P	**Pn**	**13 00 09.6**	**+0.1**
	SNR=20						
TKM2	**Tokmak 2**	**6.64**	**27**	P	**Pn**	**13 00 10.7**	**+0.5**
	SNR=28						
TKM2	**Tokmak 2**	**6.64**	**27**	⇑Pn	**Pn**	**13 00 09.9**	**-0.4**
	comp=E,46nm,0.8s						
TKM2				⇑Sn	**Sn**	**13 01 30.0**	**+5.3**
	comp=E,67nm,1.0s						
TKM2	**Tokmak 2**	**6.64**	**27**	*e*PN	**Pn**	**13 00 10.7**	**+0.5**
TKM2	**Tokmak 2**	**6.64**	**27**	*e*Pn	**Pn**	**13 00 10.7**	**+0.5**
BHK	**Bhakra**	**6.99**	**142**	*ex*	x	13 00 32.0	
BHK				*ex*	**Sn**	**13 01 36.2**	**+3.1**
SDNR	**Sundarnagar**	**7.21**	**139**	*e*P	**Pn**	**13 00 16.0**	**-1.8**
SDNR				*ex*	x	13 02 11.6	
SMLA	**Simla**	**7.60**	**140**	*e*P	**Pn**	**13 00 21.6**	**-1.6**
SMLA				*e*S	**Sn**	**13 01 43.6**	**-4.4**
SMLA				AML	AML	13 01 46.5	
	comp=E,1μm,0.2s						
SMLA				AML	AML	13 01 46.6	
	comp=N,997nm,0.3s						
PDGK	**Podgornoye**	**8.76**	**42**	⇓Pn	**Pn**	**13 00 38.4**	**-0.6**
	comp=N,11nm,0.6s						
PDGK	**Podgornoye**	**8.76**	**42**	P	**Pn**	**13 00 38.3**	**-0.6**
PDGK				pmax	pmax		
	comp=Z,16nm,0.7s						
IMYA	**Miami**	**9.14**	**269**	*e*P	Pn	13 00 41.0	-3.4
ISRO	**Mashad**	**9.65**	**269**	*e*P	**Pn**	**13 00 48.5**	**-2.9**
NDI	**New Delhi**	**9.68**	**148**	*e*P	**Pn**	**13 00 50.0**	**-1.7**
NDI				*e*S	**Sn**	**13 02 36.0**	**-3.0**
IMOG	**Moghan**	**9.78**	**268**	*e*P	**Pn**	**13 00 50.3**	**-3.1**
IAKL	**Akhelmad**	**10.18**	**271**	*e*P	Pn	13 00 54.2	-4.5
ISFR	**Sfrayin**	**10.74**	**274**	*e*P	Pn	13 01 03.2	-3.2
MK01	**Makanchi Array**	**12.60**	**36**	*e*Pn	**Pn**	**13 01 28.8**	**-2.7**
MK31	**Makanchi Array**	**12.61**	**36**	⇑Pn	**Pn**	**13 01 29.9**	**-1.7**
	comp=Z,25nm,1.2s,baz=200,slow=8.5,SNR=90						
MK31	**Makanchi Array**	**12.61**	**36**	*i* P	**Pn**	**13 01 29.9**	**-1.7**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MK31	**Makanchi Array**	**12.61**	**36**	*e*Pn	**Pn**	**13 01 30.4**	**-1.2**
MKAR	**Makanchi Array**	**12.61**	**36**	*e*P	**Pn**	**13 01 30.5**	**-1.2**
MKAR	**Makanchi Array**	**12.61**	**36**	*e*Pn	**Pn**	**13 01 30.4**	**-1.2**
KOLN	**Koldanda**	**13.83**	**129**	*e*P	Pn	13 01 41.9	-6.7
	comp=E,60nm,0.7s						
WMQ	**Urumqi**	**14.07**	**56**	P	**Pn**	**13 01 53.1**	**+1.5**
WMQ				pP	P	13 02 01.6	+3.6
WMQ				PP	**PnPn**	**13 02 05.1**	**+5.4**
WMQ				sP		13 02 08.3	
WMQ				S	**Sn**	**13 04 29.8**	**+3.5**
WMQ				sS	**S**	**13 04 41.1**	**-4.1**
WMQ				PMZ			
	comp=Z,9.0nm,0.5s						
WMQ				PMZ			
	comp=Z,140nm,5.1s						
WMQ				LN			
	comp=Z,640nm,13.5s						
WMQ				LE			
	comp=Z,670nm,12.1s						
GKN	**Gorkha**	**14.33**	**125**	*e*P	Pn	13 01 48.9	-6.4
	comp=Z,84nm,0.7s						
KURBB	**Kurchatov Arra**	**14.46**	**18**	⇑Pn	Pn	13 01 53.3	-3.3
KURBB	**Kurchatov Arra**	**14.46**	**18**	Pn	Pn	13 01 52.2	-4.3
	comp=Z,0.1nm,0.3s,baz=207,slow=12,SNR=19						
KURBB				Lg	Lg	13 06 06.9	
	comp=Z,0.0nm,0.3s,baz=206,slow=29,SNR=5.3						
KURK	**Kurchatov**	**14.56**	**18**	⇑Pn	Pn	13 01 53.8	-4.2
	comp=Z,10nm,0.9s						
KURK	**Kurchatov**	**14.56**	**18**	*e*P	Pn	13 01 54.1	-3.9
KURK	**Kurchatov**	**14.56**	**18**	*e*Pn	Pn	13 01 54.1	-3.9
KURK				Lg	Lg	13 06 06.9	
BHPL	**Bhopal**	**14.73**	**158**	*e*P	**Pn**	**13 02 00.9**	**+0.6**
BHPL				*ex*	x	13 04 36.0	
AB31	**Akbulak array**	**14.76**	**329**	⇑Pn	Pn	13 01 56.1	-4.4
	comp=Z,9.2nm,0.6s						
AB31				⇓Sn	**Sn**	**13 04 37.5**	**-5.1**
	comp=Z,17nm,0.7s						
AB31	**Akbulak array**	**14.76**	**329**	P	Pn	13 01 56.0	-4.4
AB31				pmax	pmax		
	comp=Z,8.0nm,0.4s						
ABKAR	**Akbulak array**	**14.76**	**329**	*e*Pn	Pn	13 01 56.1	-4.4
ABKAR				*e*Sn	Sn	13 04 29.9	-13
KKN	**Kakani**	**14.90**	**124**	*e*P	Pn	13 01 55.0	-7.7
	comp=Z,39nm,0.6s						
DMN	**Daman**	**14.90**	**125**	*e*P	Pn	13 01 55.8	-7.1
PKIN	**Phulchoki**	**15.12**	**125**	*e*P	Pn	13 01 58.7	-6.9
	comp=Z,51nm,0.7s						
PKI	**Pulchoki**	**15.13**	**125**	*e*P	Pn	13 01 59.0	-6.8
	comp=Z,43nm,0.6s						
GUN	**Gumba**	**15.22**	**123**	*e*P	Pn	13 02 00.3	-6.7
	comp=Z,151nm,1.0s						
BVA0	**Borovoye Array**	**15.96**	**358**	⇑Pn	**Pn**	**13 02 11.7**	**-4.3**
	comp=Z,25nm,1.1s,baz=166,slow=13,SNR=59						
BVA0	**Borovoye Array**	**15.96**	**358**	*i* P	**Pn**	**13 02 12.0**	**-4.0**
BVA0				pmax	pmax		
	comp=Z,25nm,1.1s						
BVAR	**Borovoye Array**	**15.96**	**358**	Pn	**Pn**	**13 02 12.5**	**-3.5**
	comp=Z,0.6nm,0.3s,baz=165,slow=12,SNR=36						
BVAR				LR	LR	13 09 10.8	
	comp=Z,63nm,20.9s,baz=206,slow=40						
BRVK	**Borovoye**	**15.99**	**357**	⇑Pn	**Pn**	**13 02 12.2**	**-4.3**
	comp=Z,91nm,1.4s						
BRVK	**Borovoye**	**15.99**	**357**	*d* P	Pn	13 02 11.7	-4.7
BRVK				pmax	pmax		
	comp=Z,91nm,1.4s						
BRVK				pmax	pmax		
	comp=Z,46nm,2.5s						
BRVK	**Borovoye**	**15.99**	**357**	*e*Pn	**Pn**	**13 02 13.3**	**-3.1**
	comp=Z,62nm,1.3s						
RAMN	**Ramite**	**16.33**	**124**	*e*P	Pn	13 02 14.7	-6.4
AKTO	**Aktyubinsk**	**16.46**	**328**	⇓Pn	**Pn**	**13 02 19.3**	**-3.0**
	comp=Z,113nm,1.0s						
AKTO			

NJS IAmb IAmb 13 03 24.6
comp=Z,18nm,1.0s
PVM Polavaram 21.71 153 *e*P **P** **13 03 22.7 +0.9**
PVM IAmb IAmb 13 03 25.8
comp=Z,19nm,0.9s
ZEI Tsey 21.82 294 *e*P **P** **13 03 26.4 +3.3**
ZEI pmax pmax
comp=Z,11nm,0.4s
SRLM Srisailam 21.92 160 *e*P **P** **13 03 23.8 -0.3**
SRLM IAmb IAmb 13 03 32.3
comp=Z,21nm,0.9s
NCK Nalchik 22.12 296 *e*P **P** **13 03 30.6 +4.4**
GTA Gaotai 22.37 75 *e*P **P** **13 03 28.8 -0.2**
GTA pP **pP** **13 03 43.4 +2.7**
GTA PP **PnPn** **13 03 56.6 +3.2**
GTA S **S** **13 07 28.4 -3.2**
GTA PMZ
comp=Z,130nm,4.9s
GTA LN
comp=Z,270nm,14.3s
GTA LE
comp=Z,260nm,15.2s
GTA LZ
comp=Z,340nm,11.9s
ADKI Addanki 22.47 158 *e*P **P** **13 03 31.2 +1.2**
ADKI IAmb IAmb 13 03 37.5
comp=Z,91nm,2.1s
RCLA Racherla 22.55 161 *e*P **P** **13 03 31.5 +0.6**
RCLA IAmb IAmb 13 03 37.5
comp=Z,21nm,1.0s
KBZ Khabaz 22.66 296 P **P** **13 03 32.4 +0.6**
comp=Z,4.0nm,0.5s,baz=149,slow=8.0,SNR=12
KBZ S **S** **13 07 37.8 +1.6**
comp=Z,1.0nm,0.5s,baz=73,slow=19,SNR=1.8
KBZ LR LR 13 14 37.0
comp=Z,145nm,19.6s,baz=90,slow=42
GOF Gofitskoye 22.76 299 *e*P **P** **13 03 32.6 -0.3**
KIV Kislovodsk 22.84 296 *e*P **P** **13 03 35.9 +2.0**
KIV *e* 13 07 25.3
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,199nm,18.0s
KIV Kislovodsk 22.84 296 *e*P **P** **13 03 34.2 +0.4**
comp=Z,17nm,0.8s
SKHT Srikalahasti 24.39 160 *e*P **P** **13 03 48.9 +0.3**
SKHT IAmb IAmb 13 03 55.0
comp=Z,12nm,0.8s
VRHR Novokhopersk 25.38 313 *e*P P 13 04 07.8 +11
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.6s
MOY Mondy 25.44 46 *e*P **P** **13 04 02.5 +4.5**
LZH Lanzhou 25.97 82 *e*P **P** **13 04 04.8 +1.7**
LZH pP **pP** **13 04 15.9 -0.1**
LZH sP **sP** **13 04 22.0 -0.1**
LZH *e*S **S** **13 08 33.4 +3.3**
LZH SS **SnSn** **13 09 33.3 +2.5**
LZH PMZ
comp=E,37nm,1.3s
LZH PMZ
comp=E,130nm,4.4s
LZH LN
comp=E,480nm,13.5s
LZH LE
comp=E,320nm,14.8s
LZH LZ
comp=E,1μm,16.1s
RAYN Ar Rayn 26.06 246 *e*P **P** **13 04 04.6 +0.8**
comp=E,8.0nm,1.0s
ZAK Zakamensk 26.34 50 *e*P **P** **13 04 06.0 -0.2**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
VORD Divnogorie 26.71 312 *e*P **P** **13 04 10.5 +1.1**
VORD pmax pmax
comp=Z,5.0nm,0.8s
VORD pmax pmax
comp=N,6.0nm,0.4s
VORD pmax pmax
comp=E,10.0nm,0.8s
VSR Storozhevoye 26.87 312 *e*P **P** **13 04 11.3 +0.5**
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=E,6.0nm,0.8s
CD2 Chengdu 27.41 93 *e*P **P** **13 04 16.3 +0.4**
CD2 pP **pP** **13 04 29.8 +0.9**
CD2 PcP **PcP** **13 07 34.3 +0.6**
CD2 S **S** **13 08 53.3 +0.7**
CD2 PMZ
comp=E,10.0nm,0.5s
CD2 PMZ
comp=E,120nm,5.0s
CD2 LN
comp=E,410nm,9.6s
CD2 LZ
comp=E,260nm,7.7s
LPSR Galich'ya Gora 27.49 315 *e*P P 13 04 08.1 -8.2
IRK Irkutsk 27.54 46 *e*P **P** **13 04 19.4 +2.6**
IRK pmax pmax
comp=Z,18nm,1.1s
SONM Songino Array 27.71 56 P **P** **13 04 18.6 +0.1**
comp=Z,1.6nm,0.8s,baz=251,slow=9.2,SNR=11
SONM LR LR 13 15 22.2
comp=Z,165nm,20.4s,baz=260,slow=37
SONA1 Songino Array 27.72 56 *e*P **P** **13 04 20.4 +1.8**
KMI Kunming 29.20 105 P **P** **13 04 32.0 -0.1**
KMI sP **sP** **13 04 50.8 -0.4**
KMI S **S** **13 09 22.8 +1.6**
KMI SS **SnSn** **13 10 53.9 +4.1**
KMI PMZ
comp=Z,10.0nm,0.6s
KMI PMZ
comp=Z,47nm,4.9s
KMI LN
comp=Z,190nm,16.8s
KMI LE
comp=Z,120nm,14.1s
BRTR Keskin Array B 29.60 287 P **P** **13 04 36.9 +1.5**
comp=Z,1.3nm,0.8s,baz=98,slow=8.3,SNR=6.0
BRTR LR LR 13 18 45.3
comp=Z,75nm,20.6s,baz=76,slow=41
MMAI Mount Meron Ar 29.67 273 LR LR 13 18 47.1
comp=Z,95nm,19.3s,baz=10.0,slow=41
OBN Obninsk 29.73 319 P **P** **13 04 37.2 +1.0**
comp=Z,23nm,0.6s,baz=96,slow=17,SNR=4.6
OBN LR LR 13 18 57.5
comp=Z,117nm,18.1s,baz=88,slow=41
OBN Obninsk 29.73 319*c i*P **P** **13 04 37.3 +1.1**
OBN *e* 13 05 30.2
OBN *e* 13 07 42.7
OBN pmax pmax
comp=Z,12nm,0.6s
OBN MLR MLR
comp=Z,137nm,18.0s
BR231 Keskin MP Arra 30.25 287 *e*P P 13 04 37.4 -3.7
CMAR Chiang Mai Arr 30.43 120 P **P** **13 04 41.6 -1.2**
comp=Z,0.6nm,0.5s,baz=308,slow=9.7,SNR=4.5
CMAR LR LR 13 19 13.4
comp=Z,70nm,19.3s,baz=290,slow=41
EIL Elat 31.21 267 LR LR 13 20 51.3
comp=Z,100nm,19.4s,baz=74,slow=43
HHC Hu-ho-hao-te 31.23 71 *e*P **P** **13 04 51.8 +2.0**
HHC pP **pP** **13 05 04.4 +1.5**
HHC S **S** **13 09 55.0 +2.4**
HHC sS **sS** **13 10 15.9 +1.1**
HHC SS **SnSn** **13 11 39.5 +0.8**
HHC PMZ
comp=Z,23nm,0.8s
HHC PMZ
comp=Z,77nm,5.3s
HHC LN
comp=Z,200nm,11.7s
HHC LE
comp=Z,170nm,11.3s
GYA Guiyang 31.60 99 *e*P **P** **13 04 56.0 +2.8**
GYA pP **pP** **13 05 10.6 +4.3**
GYA sP **sP** **13 05 15.8 +3.5**
GYA PP **PP** **13 06 01.4 -3.8**
GYA S **S** **13 10 00.6 +1.9**
GYA PMZ
comp=Z,10.0nm,0.8s
AKASG Malin Array Be 32.86 308 P **P** **13 05 04.3 +0.5**
comp=Z,1.8nm,0.5s,baz=79,slow=7.3,SNR=15
AKBB Malin Array Si 32.86 308 *e*P **P** **13 05 04.6 +0.8**
AKBB Malin Array Si 32.86 308 *e*P **P** **13 05 04.5 +0.8**
AK01 Malin Array Si 32.87 308 *e*P **P** **13 05 04.5 +0.7**
AK02 Malin Array Si 32.87 308 *e*P **P** **13 05 04.6 +0.8**
KIEV Kiev 32.87 308 *e*P **P** **13 05 04.2 +0.3**
KIEV Kiev 32.87 308 *e*P **P** **13 05 05.0 +1.2**
comp=Z,19nm,1.6s
TMCR Tamitsa 33.67 334 *e*P **P** **13 05 11.5 +0.8**
TMCR pmax pmax
comp=Z,32nm,1.2s
TESR Tescani 34.30 300⇑*i*P **P** **13 05 16.7 +0.4**
PLOR Plostina 34.30 299⇑P **P** **13 05 18.9 +2.4**
PLOR Plostina 34.30 299⇑*i*P **P** **13 05 18.9 +2.4**
BOD Bodaibo 34.67 40 *e*P **P** **13 05 18.9 -0.5**
BOD pmax pmax
comp=Z,4.0nm,1.3s
MLR Muntele Rosu 34.81 298 P **P** **13 05 23.1 +2.1**
comp=Z,0.8nm,0.6s,baz=144,slow=8.4,SNR=7.7
MLR Muntele Rosu 34.81 298⇓P **P** **13 05 24.0 +3.0**
MLR Muntele Rosu 34.81 298⇓*i*P **P** **13 05 24.0 +3.0**
BJI Beijing 34.83 71 P **P** **13 05 20.8 -0.2**
BJI pP **pP** **13 05 33.6 -0.6**
BJI sP **sP** **13 05 40.3 +0.1**
BJI S **S** **13 10 49.9 +1.8**
BJI LN
comp=Z,190nm,14.6s
BJI LE
comp=Z,220nm,15.9s
BURAR Bucovina Array 35.27 302⇓P **P** **13 05 26.2 +1.3**
BURAR Bucovina Array 35.27 302⇓*i*P **P** **13 05 26.2 +1.3**
BUR04 Bucovina Ar. S 35.27 302 *e*P **P** **13 05 26.2 +1.3**
VOIR 35.44 298⇑P **P** **13 05 28.3 +2.0**
VOIR 35.44 298⇑*i*P **P** **13 05 28.3 +2.0**
MMB Musomiste 36.81 292⇑P **P** **13 05 40.2 +2.2**
MMB Musomiste 36.81 292⇑*i*P **P** **13 05 40.2 +2.2**
DRGR 37.00 301⇓P **P** **13 05 41.5 +1.9**
DRGR 37.00 301⇓*i*P **P** **13 05 41.5 +1.9**
LVZ Lovozero 37.05 338*ce*P **P** **13 05 40.6 +0.9**
LVZ pmax pmax
comp=Z,23nm,1.7s
FINES FINESS Array B 37.20 326 P **P** **13 05 41.9 +0.9**
comp=Z,2.6nm,0.6s,baz=119,slow=9.7,SNR=12
FINES LR LR 13 22 03.6
comp=Z,115nm,21.7s,baz=173,slow=38
KOLS Kolonicke sedl 37.24 304 *e*P **P** **13 05 42.8 +1.3**
KOLS pmax pmax
comp=Z,6.0nm,1.4s
KOLS Kolonicke sedl 37.24 304 *e*P **P** **13 05 42.8 +1.3**
KOLS *e*PCP **PcP** **13 08 01.4 +1.1**
STHS Stebnicka Huta 37.91 305 *e*P **P** **13 05 47.7 +0.5**
STHS pmax pmax
comp=Z,6.0nm,1.6s
STHS Stebnicka Huta 37.91 305 *e*P **P** **13 05 47.7 +0.5**
STHS *e*PCP **PcP** **13 08 03.0 +0.7**
QIZ Qiongzhong 38.05 108 P **P** **13 05 50.1 +1.4**
QIZ pP **pP** **13 06 03.8 +1.8**
QIZ S **S** **13 11 40.3 +2.6**
QIZ PMZ
comp=Z,28nm,2.2s
NIE Niedzica 38.52 305 *e*P **P** **13 05 54.8 +2.5**
NIE Niedzica 38.52 305 *e*P **P** **13 05 54.8 +2.5**
OJC Ojcow 38.84 307 *e*P **P** **13 05 56.4 +1.4**
OJC Ojcow 38.84 307 *e*P **P** **13 05 56.4 +1.4**
NJ2 Nanjing 39.05 83 *e*P **P** **13 05 58.0 +1.1**
NJ2 PMZ
comp=Z,30nm,0.6s
DIVS Divibare 39.16 297⇓*i*P **P** **13 05 57.5 -0.3**
PKSM Moragy 39.85 300⇑P **P** **13 06 05.3 +1.9**
PKSM Moragy 39.85 300⇑*i*P **P** **13 06 05.3 +1.9**
ARCES ARCESS Array B 40.74 337 LR LR 13 24 19.8
comp=Z,239nm,19.2s,baz=126,slow=38
ARE0 ARCESS Array S 40.74 337 *e*P **P** **13 06 11.4 +0.9**
VRAC Vranov 40.95 305 P **P** **13 06 13.8 +1.3**
comp=Z,4.0nm,0.7s,baz=104,slow=11,SNR=6.2
VRAC Vranov 40.95 305⇓P **P** **13 06 14.5 +2.0**
VRAC Vranov 40.95 305⇓*i*P **P** **13 06 14.5 +2.0**
CN2 Changchun 41.02 63 *e*P **P** **13 06 14.0 +0.8**
DPC Dobruska-Polom 41.06 307 *e*P **P** **13 06 14.9 +1.4**
DPC Dobruska-Polom 41.06 307 *e*P **P** **13 06 14.9 +1.4**
UPC Upice 41.25 307 *e*P **P** **13 06 16.6 +1.6**
UPC Upice 41.25 307 *e*P **P** **13 06 16.6 +1.6**
CONA Conrad Observa 41.55 303⇓*e*P **P** **13 06 15.7 -1.9**
comp=Z,14nm,1.5s
PRU Pruhonice 42.23 306 *e*P **P** **13 06 24.7 +1.8**
PRU Pruhonice 42.23 306 *e*P **P** **13 06 24.7 +1.8**
SOKA Soboth 42.27 301⇓*e*P **P** **13 06 21.6 -1.8**
comp=Z,8.9nm,1.6s
BRG Berggiesshubel 42.54 308 *e*P **P** **13 06 27.2 +1.7**
comp=Z,4.2nm,0.6s
BRG Berggiesshubel 42.54 308 *e*P **P** **13 06 27.2 +1.7**
BRG pmax pmax
comp=Z,4.0nm,0.6s
HFS Hagfors 42.83 321 P **P** **13 06 28.5 +0.8**
comp=Z,19nm,0.5s,baz=98,slow=11,SNR=71
GERES GERESS Array B 42.89 305 P **P** **13 06 29.9 +1.4**
comp=Z,0.9nm,0.6s,baz=87,slow=7.1,SNR=8.3
GERES LR LR 13 27 42.4
comp=Z,56nm,20.1s,baz=148,slow=41
KHC Kasperske Hory 42.94 305 *e*P **P** **13 06 30.2 +1.5**
KHC Kasperske Hory 42.94 305 *e*P **P** **13 06 30.2 +1.5**
KHC Kasperske Hory 42.94 305 *e*P **P** **13 06 30.3 +1.6**
CLL Collm 43.10 308 *e*P **P** **13 06 31.0 +1.0**
CLL *ep*PP 13 08 24.0
CLL LmV 13 28 00.0
comp=Z,100nm,19.4s
CLL Collm 43.10 308 *e*P **P** **13 06 31.0 +1.0**
YAK Yakutsk 43.28 36 *e*P **P** **13 06 29.7 -1.6**
YAK pmax pmax
comp=Z,13nm,0.8s
YAK Yakutsk 43.28 36 *e*P **P** **13 06 31.1 -0.2**
comp=Z,13nm,0.7s
MDJ Mudanjiang 43.81 61 P **P** **13 06 36.3 +0.5**
MDJ PMZ
comp=Z,2.0nm,1.1s
MDJ PMZ
comp=Z,43nm,5.5s
NB2 NORSAR Subarra 44.13 323 P **P** **13 06 38.3 +0.1**
comp=Z,12nm,0.7s,baz=93,slow=7.9
NOA NORSAR Array B 44.13 323 P **P** **13 06 38.6 +0.4**
comp=Z,9.7nm,0.7s,baz=95,slow=8.0,SNR=24
NOA LR LR 13 27 02.8
comp=Z,55nm,20.1s,baz=90,slow=39
KS01 Wonju Array Si 44.33 72 *e*P **P** **13 06 41.5 +1.5**
KSAR Wonju Array Be 44.33 72 P **P** **13 06 38.5 -1.5**
KSAR Wonju Array Be 44.33 72 P **P** **13 06 38.5 -1.5**
KSRS Korea Array 44.35 72 P **P** **13 06 38.5 -1.7**
comp=Z,1.2nm,0.8s,baz=289,slow=7.7,SNR=4.4
KSRS LR LR 13 27 45.8
comp=Z,84nm,19.7s,baz=288,slow=40
KSRS Korea Array 44.35 72 P **P** **13 06 38.5 -1.7**
KSRS pmax pmax
comp=Z,1.0nm,0.9s
KSRS MLR MLR
comp=Z,84nm,19.7s
MOTA Moosalm 44.82 303⇓*e*P **P** **13 06 42.5 -1.5**
comp=Z,7.2nm,0.9s
TIXI Tiksi 45.10 22*ce*P **P** **13 06 45.0 -0.7**
TIXI pmax pmax
comp=Z,12nm,1.0s
TIXI MLR MLR
comp=Z,65nm,15.0s
TIXI Tiksi 45.10 22 *e*P **P** **13 06 45.2 -0.4**
comp=Z,8.5nm,0.6s
DAVA Damuels 45.65 303⇓*e*P **P** **13 06 49.2 -1.4**
comp=Z,8.5nm,0.7s
DAVOX Davos/Dischmat 45.74 302 P **P** **13 06 52.3 +0.9**
comp=Z,3.7nm,0.6s,baz=103,slow=9.0,SNR=9.4
BFO Black Forest 46.49 305 *i* P P 13 07 01.6 +4.6
HABR Khabarovsk 46.79 55 P **P** **13 06 57.5 -1.8**
HABR *e*PP **pP** **13 07 10.1 -2.8**
HABR 13 08 31.5
HABR *e* 13 08 46.0
HABR *e*S **S** **13 13 40.9 -4.7**
HABR *e*SS **sS** **13 14 03.7 -4.9**
HABR *e* 13 16 47.4
HABR *e*SS **SS** **13 17 08.2 -4.0**
HABR pmax pmax
comp=Z,7.0nm,1.4s
HABR MLR MLR
comp=Z,170nm,17.0s
SPITS Spitsbergen Ar 47.01 347 P **P** **13 07 02.8 +2.1**
comp=Z,5.7nm,0.6s,baz=112,slow=6.7,SNR=16
SENIN Lac Senin/Sane 47.57 302 *e*P **P** **13 07 06.7 +0.9**
KBS Kingsbay 48.12 347 *e*P **P** **13 07 10.1 +0.8**
KBS pmax pmax
comp=Z,16nm,0.7s
KBS Kingsbay 48.12 347 *e*P **P** **13 07 10.1 +0.8**
comp=Z,16nm,0.7s
KMBO Kilima Mbogo 49.49 228 P **P** **13 07 20.2 -0.6**
comp=Z,0.7nm,0.3s,baz=37,slow=20,SNR=2.3
YSS Yuzh-Sakhalins 52.20 55 *e*P **P** **13 07 41.0 +0.5**
MJAR Matsushiro Arr 52.41 69 P **P** **13 07 44.4 +2.1**
comp=Z,2.6nm,0.9s,baz=280,slow=9.8,SNR=8.8
SEY Seymchan 53.73 34*ce*P **P** **13 07 50.4 -1.2**
DAG Danmarks Havn 54.27 344⇑*i*P **P** **13 07 56.7 +1.4**
comp=Z,18nm,0.8s
DAG Danmarks Havn 54.27 344⇑*i*P **P** **13 07 56.7 +1.4**
DAG pmax pmax
comp=Z,13nm,0.8s
ESDC Sonseca Array 57.50 298 P **P** **13 08 20.1 +1.0**
comp=Z,3.2nm,0.7s,baz=57,slow=6.9,SNR=18
BILL Bilibino 57.93 26 *e*P **P** **13 08 21.7 +0.2**
BILL *e* 13 09 13.9
BILL *e* 13 10 29.9
BILL pmax pmax
comp=Z,3.0nm,0.7s
SUMG Summit 60.62 341 *i* P **P** **13 08 42.3 +1.7**
comp=Z,12nm,0.8s
SUMG Summit 60.62 341 *i* P **P** **13 08 42.3 +1.7**
SUMG pmax pmax
comp=Z,12nm,0.8s
SUMG Summit 60.62 341 *e*P **P** **13 08 42.5 +1.9**
TORD Torodi Ar. Bea 66.09 269 P **P** **13 09 16.4 -0.7**
comp=Z,3.0nm,0.6s,baz=50,slow=5.9,SNR=35
TORD LR LR 13 42 05.5
comp=Z,50nm,19.7s,baz=145,slow=40
COLD Coldfoot 71.31 16 *e*P **P** **13 09 49.1 +0.3**
comp=Z,5.7nm,0.9s
IM04 Indian Mountai 71.51 18 *e*P **P** **13 09 49.7 -0.4**
INK Inuvik 73.27 9 *e*P **P** **13 10 01.1 +0.7**
INK pmax pmax
comp=Z,4.0nm,0.6s
INK Inuvik 73.27 9 *e*P **P** **13 10 01.1 +0.7**
comp=Z,4.4nm,0.6s
BPAW Bear Paw Mtn. 73.73 18 *e*P **P** **13 10 03.3 0.0**
comp=Z,0.7nm,1.0s
COLA College 73.82 16 *e*P **P** **13 10 04.0 +0.3**
COLA pmax pmax
comp=Z,6.0nm,0.8s
COLA College 73.82 16 *e*P **P** **13 10 04.0 +0.3**
comp=Z,6.1nm,0.8s
ILAR Eielson Array 74.12 16 P **P** **13 10 04.5 -1.0**
comp=Z,1.4nm,0.7s,baz=315,slow=5.2,SNR=14
PPLA Purkeypile 74.42 19 *e*P **P** **13 10 07.2 -0.3**
comp=Z,3.4nm,0.6s
DBIC Dimbokro 75.08 267 LR LR 13 46 19.0
comp=Z,44nm,18.1s,baz=44,slow=38
EGAK Eagle 75.30 14 *e*P **P** **13 10 12.5 +0.2**
comp=Z,3.3nm,0.9s
BOSA Boshof 78.42 220 P **P** **13 10 30.8 +0.3**
comp=Z,2.1nm,0.8s,baz=24,slow=11,SNR=3.1
HYT Haines Junctio 79.60 14 *e*P **P** **13 10 36.9 +0.4**
YKA Yellowknife Ar 80.64 3 P **P** **13 10 41.9 -0.1**
comp=Z,2.5nm,0.6s,baz=350,slow=5.3,SNR=14
WRA Warramunga Arr 82.00 122 P **P** **13 10 47.8 -1.9**
comp=Z,1.2nm,0.8s,baz=322,slow=4.8,SNR=8.6
ASAR Alice Springs 84.30 125 P **P** **13 10 59.8 -1.8**
comp=Z,1.2nm,0.9s,baz=309,slow=4.9,SNR=14

NSSP 19 13:05:07.2, 38.˚35N×44.˚48E, h15km, Ms3.5, 2C-1D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ARRZ	**Ararat**	**1.51**	**6**	*e*P			Pb	13 05 35.0	-0.1
GNI	**Garni**	**1.81**	**6**	⇓*i*P			Pb	13 05 41.2	+0.9
GNI				⇑*i*S			Sg	13 06 09.2	+3.3
VADZ	**Vardenis**	**2.07**	**28**	*e*P			Pb	13 05 46.0	+1.2
VADZ				⇑S			Sg	13 06 16.0	+1.7
HNAZ	**Hnaberd**	**2.29**	**354**	*e*P			Pb	13 05 48.0	-0.8
HNAZ				*e*S			Sg	13 06 23.1	+1.4
KAMZ	**Kamo**	**2.51**	**351**	*e*P			Pb	13 05 51.9	-0.2
KAMZ				*e*S			Sg	13 06 29.2	+1.1
GMRZ	**Gyumri**	**2.51**	**349**	*e*P			Pb	13 05 50.0	-2.2

ISCJB ***19*** *13:13:23.8±0.7, 32.˚8N±0.˚1×85.˚67E±0.˚10, h10km, mb3.5/8, MS3.0/2, Error ellipse: s-maj=17.2km s-min=9.1km az=29.7*
IDC ***19*** *13:13:23.8±0.9, 32.˚61N×85.˚39E, h0km, mb3.5/8, mb1 3.7/10, mb1mx3.5/34, mbtmp3.5/10, ML3.0/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/22, Error ellipse: s-maj=31.0km s-min=18.7km az=58.0*

ISC 19 13:13:25.8±1.0, 32.˚7N±0.˚1×85.˚58E±0.˚10, h10km, n12, σ1§87/17, mb3.5/8, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**15.44**	**72**	*e*P			**P**	**13 17 07.3**	**-1.2**
LZH				pP			**pP**	**13 17 10.6**	**-0.7**
LZH				sP			**sP**	**13 17 12.1**	**-0.5**
LZH				pmax	pmax				
	comp=Z,21nm,1.0s								
LZH				pmax	pmax				
	comp=Z,89nm,4.3s								
CD2	**Chengdu**	**15.56**	**92**	*e*P			**Pn**	**13 17 03.3**	**-2.1**
CD2				pP			**pP**	**13 17 16.1**	**+3.6**
CD2				sP			**sP**	**13 17 17.5**	**+3.7**
CD2				S			**Sn**	**13 19 55.4**	**-2.5**
CD2				sS			sS	13 20 26.6	+8.6
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2				pmax	pmax				
	comp=Z,120nm,5.2s								
CD2				LR	LR				
	comp=N,410nm,10.4s								
CD2				LR	LR				
	comp=Z,260nm,6.5s								
CMAR	**Chiang Mai Arr**	**18.61**	**137**	P			**Pn**	**13 17 44.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=331,slow=12,SNR=5.0								
KURBB	**Kurchatov Arra**	**18.62**	**346**	P			**Pn**	**13 17 43.4**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=160,slow=10,SNR=3.9								
ZALV	**Zalesovo Beam**	**21.22**	**359**	P			**P**	**13 18 11.4**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=183,slow=8.7,SNR=2.2								
ZALV				LR	LR		LR	13 26 52.0	
	comp=Z,36nm,20.0s,baz=250,slow=38								
SONM	**Songino Array**	**21.80**	**40**	P			**P**	**13 18 20.4**	**+2.3**
	comp=Z,0.5nm,0.6s,baz=220,slow=13,SNR=2.5								
SONM				LR	LR		LR	13 27 36.3	
	comp=Z,87nm,19.3s,baz=262,slow=39								
FINES	**FINESS Array B**	**47.35**	**326**	P			**P**	**13 22 00.5**	**+0.9**
	comp=Z,2.9nm,0.9s,baz=106,slow=6.2,SNR=6.1								
NOA	**NORSAR Array B**	**54.50**	**325**	P			**P**	**13 22 52.4**	**-1.1**
	comp=Z,1.7nm,0.8s,baz=86,slow=7.0,SNR=3.8								
WRA	**Warramunga Arr**	**70.11**	**131**	P			**P**	**13 24 37.7**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=327,slow=6.4,SNR=7.9								
ASAR	**Alice Springs**	**72.60**	**134**	P			**P**	**13 24 53.6**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=311,slow=5.8,SNR=4.8								
ILAR	**Eielson Array**	**74.57**	**21**	P			**P**	**13 25 04.9**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=308,slow=5.2,SNR=3.5								
TORD	**Torodi Ar. Bea**	**77.93**	**278**	P			**P**	**13 25 23.4**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=58,slow=4.4,SNR=2.8								

DJA 19 13:32:16.6±0.3, 1.˚S±2.˚×12.˚1E±.˚, h10km, M3.7/10, MLv3.7/10, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.62**	**45**	P			Pg	13 32 28.2	-0.4
PCI	**Palu**	**1.44**	**288**	P			Pn	13 32 41.8	-1.0
PCI				S			Sg	13 33 04.0	+0.9
LUWI	**Luwuk**	**1.59**	**79**	P			Pn	13 32 44.2	-0.6
LUWI				S			Sb	13 33 06.0	-0.3
MRSI	**Marisa**	**1.96**	**22**	P			Pn	13 32 49.0	-0.9
MRSI				S			Sn	13 33 14.8	+0.3
MPSI	**Mapaga**	**2.13**	**322**	P			Pn	13 32 50.7	-1.5
MPSI				S			Sn	13 33 19.0	+0.2
TTSI	**Tana Toraja**	**2.18**	**220**	P			Pn	13 32 52.4	-0.6
TTSI				S			Sn	13 33 20.4	+0.3
SPSI	**Sidrap Palu**	**2.97**	**209**	P			Pn	13 33 03.0	-0.8
SPSI				S			Sn	13 33 39.9	+0.4
SGSI	**Sangihe**	**6.61**	**41**	P			Pn	13 34 01.9	+8.0

GUC 19 13:35:41.9±0.4, 32°90S×72°38W, h23km±5km, ML3.7, 3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.63**	**102**	⇓*i*P	Pb	13 35 54.5	+0.2
LNV	**Longovilo**	**1.33**	**143**	⇓*i*P	Pb	13 36 06.2	0.0
LNV				*i* S	Sb	13 36 24.5	+1.7
TACH	**Talagante**	**1.42**	**122**	⇓*i*P	Pb	13 36 07.4	-0.4
TACH				*i* S	Sb	13 36 27.1	+1.6
PEL	**Peldehue**	**1.44**	**100**	*i* P	Pb	13 36 08.3	+0.1
PEL				*i* S	Sb	13 36 28.1	+2.0
PEL				AML	AML	13 36 29.5	
	comp=E,4μm,0.4s						
SAN	**Santiago**	**1.54**	**111**	*i* P	Pb	13 36 09.6	-0.3
SAN				*i* S	Sb	13 36 30.7	+1.7
CLCH	**Cerro Calan**	**1.62**	**108**	*i* P	Pb	13 36 10.9	-0.4
CLCH				*i* S	Sb	13 36 33.4	+1.9
CLCH				AML	AML	13 36 38.4	
	comp=N,798nm,0.8s						
PCH	**Pirque**	**1.72**	**115**	*i* P	Pb	13 36 12.5	-0.5
PCH				*i* S	Sb	13 36 35.6	+1.4
CHCH	**Chadas Angostu**	**1.77**	**126**	*e*P	Pb	13 36 13.4	-0.5
CHCH				*e*S	Sb	13 36 36.6	+0.9

NNC 19 13:44:03.2±9.4, 36°76N×71°18E, h0km, mb3.5, mpv3.2, 1C-5D, Error ellipse: s-maj=78.2km s-min=31.9km az=175.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.76**	**318**	⇓Pn	Pn	13 44 49.3	+0.3
	9.1nm,0.4s						
DZET				⇓Sn	Sn	13 45 24.9	+1.7
	33nm,0.4s						
SFK	**Sufi-Kurgan**	**3.73**	**29**	⇓Pn	Pn	13 45 01.4	-1.0
	1.9nm,0.5s						
SFK				⇑Sn	Sn	13 45 49.1	+2.0
	9.4nm,0.7s						
KK31	**Karatay Array**	**6.35**	**356**	⇓Pn	Pn	13 45 35.9	-2.3
	0.4nm,0.3s,baz=182,slow=13,SNR=7.0						
KK31				⇓Sn	Sn	13 46 48.4	-3.1
	0.9nm,0.6s,baz=182,slow=24,SNR=2.7						

*IDC **19** 13:47:55.3±7.8, 31°67S×179°89E, h504km±102km, mb2.4/2, mb1 2.9/3, mb1mx2.6/27, mbtmp3.6/3, Error ellipse: s-maj=122.0km s-min=41.3km az=4.0*

ISC 19 13:47:54.9±4.3, 31°4S±0°3×179°2E±0°6, h500km, n22, σ0s62/25, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**6.40**	**186**	PN	**P**	**13 49 35.3**	**+0.3**
HAZ	**Te Kaha**	**6.41**	**190**	PN	**P**	**13 49 35.5**	**+0.4**
TWGZ	**Tauwhareparae**	**6.80**	**188**	PN	**P**	**13 49 38.4**	**-0.6**
TWGZ				SN	**S**	**13 51 04.0**	**-0.3**
MWZ	**Matawai**	**7.02**	**191**	PN	**P**	**13 49 41.3**	**+0.2**
URZ	**Urewera**	**7.02**	**194**	P	**P**	**13 49 41.5**	**+0.4**
	6.3nm,0.3s,baz=273,slow=4.9,SNR=84						
URZ				S	**S**	**13 51 07.6**	**-0.7**
	2.0nm,0.3s,baz=29,slow=23,SNR=8.5						
URZ	**Urewera**	**7.02**	**194**	*e*PN	**P**	**13 49 40.0**	**-1.1**
URZ				SN	**S**	**13 51 09.1**	**+0.8**
TKGZ	**Te Karaka**	**7.07**	**189**	PN	**P**	**13 49 40.9**	**-0.8**
TKGZ				SN	**S**	**13 51 09.3**	**0.0**
RIGZ	**Rimuhau**	**7.35**	**189**	PN	**P**	**13 49 44.7**	**+0.2**
KNZ	**Kokohu**	**7.67**	**189**	PN	**P**	**13 49 47.7**	**0.0**
WHHZ	**Waihua**	**7.79**	**191**	PN	**P**	**13 49 49.9**	**+0.9**
ARHZ	**Aropaoanui**	**8.01**	**192**	PN	**P**	**13 49 51.9**	**+0.7**
BKZ	**Black Stump Fm**	**8.03**	**195**	PN	**P**	**13 49 50.9**	**-0.6**
KWHZ	**Kaweka Forest**	**8.29**	**195**	PN	**P**	**13 49 54.1**	**-0.1**
BHHZ	**Black Hill Sta**	**8.43**	**197**	*e*PN	**P**	**13 49 55.3**	**-0.4**
KAHZ	**Kahuranaki**	**8.55**	**192**	PN	**P**	**13 49 57.3**	**+0.4**
PXZ	**Pawanui**	**8.79**	**192**	*e*PN	**P**	**13 49 58.9**	**-0.3**
PXZ				*e*SN	**S**	**13 51 40.5**	**-1.0**
PNHZ	**Pukenui**	**8.80**	**195**	PN	**P**	**13 49 59.4**	**-0.2**
BFZ	**Birch Farm**	**9.53**	**194**	PN	**P**	**13 50 07.8**	**+0.7**
MRZ	**Mangatainoka R**	**9.66**	**197**	PN	**P**	**13 50 08.5**	**-0.1**
MRZ				*e*SN	**S**	**13 51 59.4**	**+1.0**
ASAR	**Alice Springs**	**40.67**	**269**	P	P	13 54 56.2	+4.9
	0.1nm,0.4s,baz=96,slow=8.6,SNR=4.1						
WRA	**Warramunga Arr**	**41.76**	**275**	P	P	13 55 04.6	+4.5
	0.3nm,0.3s,baz=111,slow=8.0,SNR=5.4						
FINES	**FINESS Array B**	**145.24**	**338**	PKPbc	PKPbc	14 06 35.9	+0.5
	0.7nm,0.4s,baz=67,slow=3.6,SNR=8.3						

IDC 19 14:39:00.9±4.0, 7°15S×146°30E, h191km±37km, mb3.5/9, mb1 3.5/10, mb1mx3.5/26, mbtmp3.9/10, Error ellipse: s-maj=30.4km s-min=10.6km az=105.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.21**	**221**	P	P	14 42 47.6	-1.2
	0.2nm,0.3s,baz=38,slow=11,SNR=11						
ASAR	**Alice Springs**	**20.28**	**215**	P	P	14 43 21.9	-0.2
	1.0nm,0.5s,baz=49,slow=9.0,SNR=24						
ASAR				S	S	14 46 59.3	+0.2
	1.0nm,0.8s,baz=36,slow=20,SNR=3.4						
STKA	**Stephens Creek**	**24.99**	**190**	P	P	14 44 07.4	+0.2
	1.7nm,0.6s,baz=353,slow=6.7,SNR=6.3						
MJAR	**Matsushiro Arr**	**44.12**	**351**	P	P	14 46 49.6	-0.8
	0.3nm,0.4s,baz=185,slow=9.3,SNR=4.4						
KSRS	**Korea Array**	**47.58**	**340**	P	P	14 47 17.6	+0.3
	1.5nm,0.8s,baz=161,slow=8.8,SNR=12						
USRK	**Ussuriysk Ar.**	**52.72**	**347**	P	P	14 47 56.5	+0.6
	1.3nm,0.5s,baz=146,slow=8.8,SNR=3.6						
CMAR	**Chiang Mai Arr**	**53.19**	**299**	P	P	14 47 59.9	+0.1
	1.4nm,0.5s,baz=119,slow=5.8,SNR=12						
ZALV	**Zalesovo Beam**	**79.61**	**328**	P	P	14 50 46.0	-0.7
	1.0nm,0.4s,baz=121,slow=6.3,SNR=4.7						
MAW	**Mawson**	**80.92**	**203**	P	P	14 50 54.5	+1.0
	1.0nm,0.6s,baz=90,slow=7.1,SNR=4.0						
ILAR	**Eielson Array**	**86.81**	**23**	P	P	14 51 22.2	-1.1
	1.1nm,0.8s,baz=255,slow=5.2,SNR=15						
TORD	**Torodi Ar. Bea**	**144.68**	**283**	PKP	PKPbc	14 58 15.3	+0.1
	2.7nm,0.6s,baz=81,slow=2.8,SNR=18						
DBIC	**Dimbokro**	**151.36**	**271**	PKPbc	PKPbc	14 58 33.4	+0.3
	2.9nm,0.5s,baz=41,slow=1.5,SNR=5.5						

*ISCJB **19** 14:41:58.2±0.2, 36°98N±0°02×71°49E±0°04, h10km, mb4.3/38, MS3.3/14, Error ellipse: s-maj=4.4km s-min=3.3km az=149.8*

*IDC **19** 14:41:58.8±0.6, 36°92N×71°51E, h0km, mb4.1/18, mb1 4.3/22, mb1mx4.2/37, mbtmp4.1/22, ML3.7/4, MS3.2/13, Ms1 3.3/13, ms1mx3.1/31, Error ellipse: s-maj=16.3km s-min=12.2km az=17.0*

*MOS **19** 14:42:02.9±1.5, 37°18N×71°65E, h33km, mb4.8/15, Error ellipse: s-maj=8.2km s-min=5.2km az=91.3*

*NEIC **19** 14:42:05.5±1.3, 37°19N×71°52E, h50km±13km, mb4.6/10, Error ellipse: s-maj=12.1km s-min=10.6km az=159.0*

*NNC **19** 14:42:05.7±3.2, 37°09N×71°23E, h170km, mb3.8, mpv4.5, Error ellipse: s-maj=29.6km s-min=12.7km az=172.0*

*BJI **19** 14:42:08.0, 37°06N×72°05E, h49km, mb4.2/17, mB4.5/12, ML4.1/2, Ms3.9/9, Ms7 3.7/9*

ISC 19 14:41:59.5±0.3, 36°96N±0°03×71°48E±0°04, h10km, n148, σ1s88/141, mb4.3/38, MS3.3/14, 16C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.79**	**312**	⇓Pn	**Pn**	**14 42 46.8**	**+2.4**
	272nm,0.5s						
DZET				⇓Sn	**Sb**	**14 43 23.3**	**-0.6**
	2μm,0.5s						
DZET	**Dzherino**	**2.79**	**312**	PN	**Pn**	**14 42 46.7**	**+2.4**
DZET						14 43 23.2	
DZET				pmax	pmax		
	comp=Z,272nm,0.5s						
DZET				smax	smax		
	comp=N,2μm,0.5s						
KBL	**Kabul**	**3.12**	**220**	*e*PN	**Pg**	**14 42 57.3**	**-2.1**
KBL				*e*		14 43 41.2	
KBL	**Kabul**	**3.12**	**220**	*e*Pn	**Pg**	**14 42 57.3**	**-2.1**
KBL				*e*Sn	**Sg**	**14 43 41.2**	**+1.4**
CEP	**Cherat**	**3.15**	**173**	P	**Pg**	**14 42 58.4**	**-1.5**
CEP				S	**Sg**	**14 43 43.0**	**+2.3**
SFK	**Sufi-Kurgan**	**3.44**	**27**	⇓Pn	**Pb**	**14 42 59.6**	**-1.1**
SFK				⇑Sn	**Sb**	**14 43 44.0**	**+1.5**
SFK	**Sufi-Kurgan**	**3.44**	**27**	PN	**Pb**	**14 42 59.5**	**-1.1**
SFK						14 43 44.0	
CHCP	**Chirah Chowk**	**3.60**	**156**	P	**Pb**	**14 43 02.1**	**-1.2**
THW	**Thamme Wali**	**4.16**	**177**	P	**Pb**	**14 43 10.1**	**-2.8**
KSH	**Kashi**	**4.36**	**53**	P	**Pn**	**14 43 04.6**	**-1.4**
KSH				S	Sn	14 43 49.4	-7.5
AML	**Almayashu**	**5.44**	**18**	P	Pn	14 43 24.0	+3.0
	SNR=19						
DLH	**Dalhousie**	**5.75**	**139**	*e*P	Pn	14 43 31.0	+5.9
DLH				*ex*	x	14 44 37.0	
UCH	**Uchtor**	**5.76**	**23**	P	Pn	14 43 28.5	+3.0
	SNR=20						
KZA	**Kyzart**	**5.88**	**29**	P	Pn	14 43 30.2	+3.0
	SNR=32						
EKS2	**Erkin-Say**	**5.96**	**17**	P	Pn	14 43 31.0	+3.0
	SNR=18						
EKS2	**Erkin-Say**	**5.96**	**17**	*e*PN	Pn	14 43 30.9	+3.0
EKS2				pmax	pmax		
	comp=Z,28nm,0.7s						
EKS2	**Erkin-Say**	**5.96**	**17**	*e*Pn	Pn	14 43 30.9	+2.9
	comp=Z,28nm,0.7s						
AAK	**Ala-Archa**	**6.12**	**21**	P	Pn	14 43 33.6	+3.4
	SNR=13						
AAK	**Ala-Archa**	**6.12**	**21**	⇓Pn	Pn	14 43 33.5	+3.2
	comp=Z,32nm,0.8s						
AAK				⇑Sn	**Sn**	**14 44 39.8**	**-0.5**
	comp=Z,57nm,0.8s						
AAK	**Ala-Archa**	**6.12**	**21**	Pn	**Pb**	**14 43 48.0**	**+1.7**
	comp=Z,3.3nm,0.3s,baz=143,slow=9.0,SNR=12						
AAK				Sn	**Sb**	**14 45 00.8**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=334,slow=24,SNR=3.5						
AAK				Lg	Lg	14 45 30.2	
	comp=Z,1.9nm,0.3s,baz=74,slow=2.4,SNR=4.2						
AAK				LR	LR	14 46 14.3	
	comp=Z,180nm,20.2s,baz=188,slow=42						
AAK	**Ala-Archa**	**6.12**	**21**	PN	Pn	14 43 33.4	+3.2
AAK				pmax	pmax		
	comp=Z,47nm,0.9s						
DHRM	**DHARAMSHALA**	**6.15**	**138**	*e*P	Pn	14 43 35.4	+4.7
DHRM				*e*S	**Sn**	**14 44 43.1**	**+1.9**
DHRM				AML	AML	14 44 49.1	
	comp=N,580nm,0.6s						
DHRM				AML	AML	14 44 50.9	
	comp=E,787nm,0.7s						
KK31	**Karatay Array**	**6.18**	**353**	⇑Pn	**Pn**	**14 43 32.5**	**+1.7**
	comp=E,11nm,0.5s,baz=178,slow=13,SNR=162						
KK31				⇑Sn	**Sn**	**14 44 41.4**	**-0.2**
	comp=E,24nm,0.5s,baz=182,slow=21						
KK31	**Karatay Array**	**6.18**	**353**	PN	**Pn**	**14 43 33.0**	**+2.2**
KK31						14 44 41.3	
KK31				pmax	pmax		
	comp=Z,14nm,0.3s						
KK31				smax	smax		
	comp=N,31nm,0.5s						
KKAR	**Karatay Array**	**6.18**	**353**	*e*PN	**Pn**	**14 43 31.8**	**+0.9**
KKAR				*e*		14 44 42.1	
KKAR				pmax	pmax		
	comp=Z,19nm,0.3s						
KKAR	**Karatay Array**	**6.18**	**353**	*e*Pn	**Pn**	**14 43 31.8**	**+0.9**
	comp=Z,19nm,0.3s						
KKAR				*e*Sn	**Sn**	**14 44 42.1**	**+0.5**
KBK	**Karagaybulak**	**6.28**	**24**	P	Pn	14 43 35.8	+3.4
	SNR=9.3						
ULHL	**Ulahol**	**6.43**	**33**	P	Pn	14 43 37.9	+3.4
	SNR=12						
CHMS	**Chumysh**	**6.53**	**22**	P	Pn	14 43 38.8	+3.1
	SNR=18						
USP	**Ospenovka**	**6.71**	**19**	P	**Pn**	**14 43 40.7**	**+2.6**
	SNR=6.6						
TKM2	**Tokmak 2**	**6.74**	**27**	P	Pn	14 43 41.8	+3.1
	SNR=26						
TKM2	**Tokmak 2**	**6.74**	**27**	⇓Pn	**Pn**	**14 43 41.3**	**+2.6**
	comp=Z,31nm,0.7s						
TKM2				⇑Sn	**Sn**	**14 44 56.2**	**+0.5**
	comp=Z,40nm,0.9s						
TKM2	**Tokmak 2**	**6.74**	**27**	*e*PN	Pn	14 43 41.8	+3.1
TKM2				*e*		14 44 56.9	
TKM2				pmax	pmax		
	comp=Z,30nm,0.5s						
TKM2	**Tokmak 2**	**6.74**	**27**	*e*Pn	Pn	14 43 41.8	+3.1
	comp=Z,30nm,0.5s						
TKM2				*e*Sn	**Sn**	**14 44 56.9**	**+1.3**
SDNR	**Sundarnagar**	**7.09**	**139**	*e*P	Pn	14 43 50.0	+6.6
SDNR				*e*S	**Sn**	**14 45 05.0**	**+0.9**
SMLA	**Simla**	**7.49**	**139**	*i* P	Pn	14 43 53.1	+4.3
SMLA				*i* S	**Sn**	**14 45 15.1**	**+1.3**
SMLA				*i* S	**Sn**	**14 45 16.2**	**+2.4**
SMLA				AML	AML	14 45 21.1	
	comp=N,268nm,0.6s						
SMLA				AML	AML	14 45 22.0	
	comp=E,276nm,0.2s						
PDGK	**Podgornoye**	**8.83**	**41**	⇓Pn	Pn	14 44 10.1	+3.0
	comp=E,24nm,1.0s						
PDGK	**Podgornoye**	**8.83**	**41**	P	Pn	14 44 10.1	+3.0
PDGK				pmax	pmax		
	comp=Z,33nm,1.2s						
IMYA	**Miami**	**9.16**	**270**	*e*P	**Pn**	**14 44 12.6**	**+0.7**
NDI	**New Delhi**	**9.56**	**148**	*ex*	**Pn**	**14 44 19.0**	**+1.8**
NDI				*ex*	**Sn**	**14 46 06.0**	**+1.3**
KHET	**Khetri**	**9.58**	**156**	*e*P	Pn	14 44 23.3	+5.7
KHET				*e*S	**Sn**	**14 46 04.2**	**-1.1**
KHET				AML	AML	14 47 18.0	
	comp=N,134nm,0.1s						
IMOG	**Moghan**	**9.81**	**269**	*e*P	**Pn**	**14 44 20.9**	**0.0**
SONA	**Sohna**	**9.88**	**150**	*e*P	Pn	14 44 25.0	+3.4
SONA				*e*S	**Sn**	**14 46 09.2**	**-3.5**
IPAY	**Payeh**	**10.04**	**271**	*e*P	**Pn**	**14 44 24.1**	**+0.1**
IAKL	**Akhelmad**	**10.21**	**272**	*e*P	**Pn**	**14 44 25.4**	**-1.0**
ISFR	**Sfrayin**	**10.78**	**275**	*e*P	**Pn**	**14 44 34.0**	**-0.2**
AGRA	**Agra**	**11.14**	**149**	*e*P	Pn	14 44 43.4	+4.6
AGRA				*e*S	**Sn**	**14 46 38.4**	**-5.0**
AGRA				AML	AML	14 47 06.7	
	comp=N,81nm,0.8s						
AGRA				AML	AML	14 47 06.7	
	comp=E,84nm,0.7s						
MK31	**Makanchi Array**	**12.69**	**36**	Pn	**Pn**	**14 45 00.9**	**+0.9**
	comp=E,27nm,1.5s,baz=215,slow=9.6,SNR=64						
MK31	**Makanchi Array**	**12.69**	**36**	*e*P	**Pn**	**14 44 59.9**	**-0.2**
MK31	**Makanchi Array**	**12.69**	**36**	*e*Pn	**Pn**	**14 44 59.9**	**-0.2**
KOLN	**Kolnda**	**13.73**	**128**	*e*P	**Pn**	**14 45 12.7**	**-1.8**
GKN	**Gorkha**	**14.24**	**125**	*e*P	**Pn**	**14 45 19.9**	**-1.5**
	comp=E,60nm,0.6s						
KURBB	**Kurchatov Arra**	**14.57**	**18**	⇑Pn	**Pn**	**14 45 23.5**	**-2.0**
	comp=E,14nm,0.8s						
KURBB	**Kurchatov Arra**	**14.57**	**18**	Pn	**Pn**	**14 45 23.8**	**-1.7**
	comp=E,0.1nm,0.3s,baz=212,slow=12,SNR=16						
KURK	**Kurchatov**	**14.67**	**18**	⇑Pn	**Pn**	**14 45 24.1**	**-3.0**
	comp=E,6.1nm,1.1s						
KURK	**Kurchatov**	**14.67**	**18**	P	**Pn**	**14 45 24.0**	**-3.0**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KURK	**Kurchatov**	**14.67**	**18**	*e*Pn	Pn	14 45 23.4	-3.6
	comp=Z,8.4nm,0.8s						
KKN	**Kakani**	**14.80**	**124**	*e*P	**Pn**	**14 45 26.9**	**-2.3**
	comp=Z,12nm,0.2s						
DMN	**Daman**	**14.81**	**125**	*e*P	**Pn**	**14 45 27.0**	**-2.3**
	comp=Z,44nm,0.8s						
AB31	**Akbulak array**	**14.88**	**329**	Pn	**Pn**	**14 45 27.1**	**-2.7**
	comp=Z,8.5nm,0.8s,baz=138,slow=13,SNR=69						
AB31				⇑Sn	Sn	14 48 07.1	-7.4
	comp=Z,8.6nm,0.7s,baz=150,slow=22,SNR=5.1						
AB31	**Akbulak array**	**14.88**	**329**	*i* P	**Pn**	**14 45 27.1**	**-2.7**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ABKAR	**Akbulak array**	**14.88**	**329**	*e*Pn	**Pn**	**14 45 27.0**	**-2.8**
	comp=Z,8.3nm,0.7s						
ABKAR				*e*Sn	Sn	14 48 04.4	-10
PKIN	**Phulchoki**	**15.02**	**125**	*e*P	**Pn**	**14 45 29.0**	**-3.2**
	comp=Z,19nm,0.4s						
PKI	**Pulchoki**	**15.04**	**125**	*e*P	**Pn**	**14 45 29.4**	**-3.0**
	comp=Z,20nm,0.4s						
BVA0	**Borovoye Array**	**16.08**	**358**	⇓Pn	**Pn**	**14 45 43.5**	**-2.1**
	comp=Z,12nm,0.9s						
BVA0	**Borovoye Array**	**16.08**	**358**	P	**Pn**	**14 45 43.5**	**-2.1**
BVA0				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BVAR	**Borovoye Array**	**16.08**	**358**	Pn	**Pn**	**14 45 43.6**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=166,slow=13,SNR=14						
BRVK	**Borovoye**	**16.12**	**357**	⇑Pn	**Pn**	**14 45 42.7**	**-3.4**
	comp=Z,48nm,1.4s						
BRVK	**Borovoye**	**16.12**	**357**	*d* iP	**Pn**	**14 45 43.9**	**-2.2**
BRVK				pmax	pmax		
	comp=Z,17nm,1.7s						
BRVK	**Borovoye**	**16.12**	**357**	*e*Pn	**Pn**	**14 45 43.0**	**-3.1**
	comp=Z,26nm,1.1s						
RAMN	**Ramite**	**16.24**	**124**	*e*P	**Pn**	**14 45 44.6**	**-3.4**
	comp=Z,41nm,0.6s						
AKTO	**Aktyubinsk**	**16.58**	**329**	⇑Pn	**Pn**	**14 45 50.4**	**-1.6**
	comp=Z,62nm,1.1s						
AKTO				⇓Sn	Sn	14 48 46.7	-9.3
	comp=Z,46nm,2.0s						
AKTO	**Aktyubinsk**	**16.58**	**329**	Pn	**Pn**	**14 45 51.6**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=128,slow=10.0,SNR=17						
AKTO				Sn	**Sn**	**14 48 52.7**	**-3.3**
	comp=Z,0.5nm,0.3s,baz=24,slow=20,SNR=4.6						
TAPN	**Taplejung**	**16.73**	**120**	*e*P	**Pn**	**14 45 50.7**	**-3.7**
	comp=Z,36nm,0.6s						
ODAN	**Odare**	**16.83**	**122**	*e*P	**Pn**	**14 45 51.8**	**-3.7**
	comp=Z,44nm,0.8s						
IKAZ	**Kazeroun**	**17.88**	**252**	*e*P	**P**	**14 46 12.2**	**+2.9**
LSA	**Lhasa**	**17.95**	**108**	P	**Pn**	**14 46 08.3**	**-1.3**
LSA	**Lhasa**	**17.95**	**108**	*e*P	**P**	**14 46 09.2**	**-1.0**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LSA	**Lhasa**	**17.95**	**108**	*e*Pn	**P**	**14 46 09.2**	**-1.0**
	comp=Z,10nm,0.8s						
ZAA0	**Zalesovo Array**	**19.34**	**24**	*e*P	**P**	**14 46 23.9**	**-0.9**
ZALV	**Zalesovo Beam**	**19.34**	**24**	P	**P**	**14 46 24.3**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=222,slow=11,SNR=34						
ZALV				LR	LR	14 54 55.8	
	comp=Z,11nm,20.4s,baz=74,slow=40						
NVS	**Novosibirsk**	**19.62**	**21**	⇓*i*P	**P**	**14 46 26.7**	**-1.2**
NVS				*e*S	S	14 49 57.7	-11
NVS				pmax	pmax		
	comp=Z,17nm,1.3s						
NVS				pmax	pmax		
	comp=N,9.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.2s						
NVS				smax	smax		
	comp=N,14nm,1.9s						
NVS				smax	smax		
	comp=E,11nm,1.9s						
GNI	**Garni**	**21.12**	**287**	P	**P**	**14 46 46.2**	**+1.6**
	comp=E,2.1nm,0.3s,baz=37,slow=7.9,SNR=3.6						
GNI	**Garni**	**21.12**	**287**	*e*P	P	14 46 49.0	+4.4
GNI				pmax	pmax		
	comp=Z,28nm,1.7s						
GNI	**Garni**	**21.12**	**287**	P	**P**	**14 46 46.2**	**+1.6**
	comp=Z,2.8nm,1.2s						
SVE	**Sverdlovsk**	**21.16**	**343**	*e*P	**P**	**14 46 44.9**	**+0.3**
SVE				pmax	pmax		
	comp=Z,37nm,1.0s						
ARU	**Arti**	**21.33**	**340**	*d* iP	**P**	**14 46 46.3**	**-0.1**
ARU						14 47 06.7	
ARU				S	**S**	**14 50 40.3**	**-2.8**
ARU				SS	**SnSn**	**14 51 03.2**	**-2.3**
ARU				pmax	pmax		
	comp=Z,26nm,1.7s						
ARU	**Arti**	**21.33**	**340**	*e*P	**P**	**14 46 44.5**	**-1.9**
	comp=Z,14nm,0.8s						
ZEI	**Tsey**	**21.90**	**294**	*e*P	**P**	**14 46 55.4**	**+2.5**
ZEI				pmax	pmax		
	comp=Z,13nm,0.5s						
AKH	**Akhalkalaki**	**22.10**	**290**	P	P	14 47 02.8	+7.7
NCK	**Nalchik**	**22.20**	**296**	*e*P	**P**	**14 47 00.4**	**+4.4**
ONI	**Oni**	**22.21**	**293**	P	**P**	**14 46 59.8**	**+3.7**
GTA	**Gaotai**	**22.37**	**75**	*e*P	**P**	**14 46 59.8**	**+1.8**
GTA				pP	pP	14 47 09.1	+8.3
GTA				sP	sP	14 47 13.5	+11
GTA				PMZ			
	comp=Z,5.0nm,1.0s						
GTA				PMZ			
	comp=Z,50nm,4.3s						
GTA				LN			
	comp=Z,150nm,11.9s						
GTA				LE			
	comp=Z,140nm,12.8s						
GTA				LZ			
	comp=Z,220nm,14.1s						
KBZ	**Khabaz**	**22.74**	**296**	P	**P**	**14 47 03.2**	**+1.6**
	comp=Z,5.0nm,0.6s,baz=152,slow=7.1,SNR=10.0						
KBZ				LR	LR	14 58 09.0	
	comp=Z,111nm,19.3s,baz=80,slow=43						
KIV	**Kislovodsk**	**22.92**	**297**	*e*P	**P**	**14 47 07.5**	**+3.8**
KIV				*e*		14 47 35.3	
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
KIV				MLR	MLR		
	comp=Z,111nm,17.0s						
VRHR	**Novokhopersk**	**25.48**	**313**	*e*P	P	14 47 41.0	+13
VRHR				pmax	pmax		
	comp=N,30nm,0.8s						
VRHR				pmax	pmax		
	comp=E,30nm,0.8s						
VRHR				pmax	pmax		
	comp=Z,30nm,0.8s						
MOY	**Mondy**	**25.51**	**45**	*e*P	P	14 47 32.7	+4.6
RAYN	**Ar Rayn**	**26.03**	**246**	*e*P	**P**	**14 47 32.0**	**-1.0**
	comp=Z,31nm,1.1s						
ZAK	**Zakamensk**	**26.40**	**49**	*e*P	**P**	**14 47 37.2**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
VSR	**Storozhevoye**	**26.97**	**312**	*e*P	**P**	**14 47 42.2**	**+1.0**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=N,9.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
SONM	**Songino Array**	**27.76**	**56**	P	**P**	**14 47 49.8**	**+1.3**
	comp=E,3.0nm,0.9s,baz=254,slow=9.9,SNR=17						
SONM				LR	LR	15 00 32.8	
	comp=E,57nm,21.0s,baz=262,slow=40						
BR131	**Keskin Array S**	**29.66**	**287**	P	**P**	**14 48 04.7**	**-0.8**
BRTR	**Keskin Array B**	**29.66**	**

NOA	**NORSAR Array B**	**44.25**	**323**	P	**P**	**14 50 09.6**	**+0.8**
	comp=Z,7.1nm,0.8s,baz=95,slow=7.9,SNR=13						
NOA				LR	LR	15 12 03.3	
	comp=Z,46nm,19.3s,baz=315,slow=41						
KSAR	**Wonju Array Be**	**44.34**	**72**	P	**P**	**14 50 11.0**	**+1.2**
KSAR	**Wonju Array Be**	**44.34**	**72**	P	**P**	**14 50 11.0**	**+1.2**
KSRS	**Korea Array**	**44.37**	**72**	P	**P**	**14 50 11.0**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=280,slow=8.0,SNR=7.2						
KSRS				LR	LR	15 11 17.1	
	comp=Z,67nm,20.1s,baz=274,slow=40						
KSRS	**Korea Array**	**44.37**	**72**	P	**P**	**14 50 11.0**	**+1.0**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSRS				MLR	MLR		
	comp=Z,67nm,20.1s						
KLR	**Kul'dur**	**44.56**	**54**	*e*P	**P**	**14 50 10.2**	**-1.3**
TIXI	**Tiksi**	**45.20**	**22**	↑*i*P	**P**	**14 50 16.4**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,11nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,30nm,16.0s						
TIXI	**Tiksi**	**45.20**	**22**	*e*P	**P**	**14 50 16.3**	**+0.1**
	comp=Z,8.4nm,0.7s						
KBS	**Kingsbay**	**48.25**	**347**	*e*P	**P**	**14 50 38.4**	**-1.6**
KBS				pmax	pmax		
	comp=Z,16nm,0.8s						
KBS	**Kingsbay**	**48.25**	**347**	*e*P	**P**	**14 50 38.4**	**-1.6**
	comp=Z,16nm,0.8s						
KMBO	**Kilima Mbogo**	**49.42**	**228**	P	**P**	**14 50 52.2**	**+2.2**
	comp=Z,1.6nm,0.5s,baz=33,slow=14,SNR=4.1						
YSS	**Yuzh-Sakhalins**	**52.25**	**55**	*e*P	**P**	**14 51 12.8**	**+2.1**
MJAR	**Matsushiro Arr**	**52.43**	**69**	P	**P**	**14 51 14.1**	**+1.9**
	comp=Z,1.3nm,0.7s,baz=290,slow=9.4,SNR=5.1						
SEY	**Seymchan**	**53.82**	**34**	*e*P	**P**	**14 51 22.3**	**+0.2**
DAG	**Danmarks Havn**	**54.40**	**344**	↑*i*P	**P**	**14 51 27.7**	**+1.6**
	comp=Z,19nm,0.9s						
DAG	**Danmarks Havn**	**54.40**	**344**	↑*i*P	**P**	**14 51 27.7**	**+1.6**
DAG				pmax	pmax		
	comp=Z,16nm,0.9s						
ESDC	**Sonseca Array**	**57.58**	**298**	P	**P**	**14 51 50.3**	**+0.8**
	comp=Z,2.5nm,0.7s,baz=60,slow=7.1,SNR=13						
SUMG	**Summit**	**60.75**	**341**	↑*i*P	**P**	**14 52 13.5**	**+2.1**
	comp=Z,22nm,1.0s						
SUMG	**Summit**	**60.75**	**341**	↑*i*P	**P**	**14 52 13.5**	**+2.1**
SUMG				pmax	pmax		
	comp=Z,22nm,1.0s						
SUMG	**Summit**	**60.75**	**341**	*e*P	**P**	**14 52 10.4**	**-1.0**
	comp=Z,19nm,0.9s						
TORD	**Torodi Ar. Bea**	**66.11**	**269**	P	**P**	**14 52 47.3**	**+0.1**
	comp=Z,2.6nm,0.5s,baz=51,slow=6.0,SNR=42						
TORD				LR	LR	15 23 32.4	
	comp=Z,24nm,18.8s,baz=135,slow=38						
COLD	**Coldfoot**	**71.42**	**16**	*e*P	P	14 53 15.7	-3.8
	comp=Z,5.0nm,1.0s						
IM04	**Indian Mountai**	**71.62**	**18**	*e*P	**P**	**14 53 20.9**	**+0.1**
COLA	**College**	**73.93**	**16**	*e*P	**P**	**14 53 32.3**	**-2.1**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
COLA	**College**	**73.93**	**16**	*e*P	**P**	**14 53 32.3**	**-2.1**
	comp=Z,5.2nm,0.8s						
ILAR	**Eielson Array**	**74.23**	**16**	P	**P**	**14 53 36.6**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=309,slow=4.0,SNR=9.4						
YKA	**Yellowknife Ar**	**80.77**	**3**	P	**P**	**14 54 13.1**	**+0.3**
	comp=Z,4.4nm,0.9s,baz=346,slow=5.0,SNR=15						
WRA	**Warramunga Arr**	**81.91**	**122**	P	**P**	**14 54 19.3**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=323,slow=5.1,SNR=10						
ASAR	**Alice Springs**	**84.20**	**125**	P	**P**	**14 54 31.4**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=309,slow=4.8,SNR=7.9						

*IDC **19** 14:55:15.8±2.8, 14.°89N×95.°04W, h0km, mb3.7/4, mb1 4.1/7, mb1mx3.8/28, mbtmp3.8/7, ML3.9/3, MS2.7/3, Ms1 2.7/3, ms1mx2.5/22, Error ellipse: s-maj=47.4km s-min=32.4km az=146.0*

*ISCJB **19** 14:55:19.4±1.8, 15.°2N±0.°1×95.°45W±0.°04, h22km±11km, mb3.6/4, MS2.6/1, Error ellipse: s-maj=16.9km s-min=6.7km az=5.3*

*MEX **19** 14:55:22.6±0.7, 15.°14N×95.°50W, h33km±11km, MD4.2*

ISC 19 14:55:21.0±2.6, 15°28N±0.°10×95°44W±0.°04, h16km±13km, n17, σ1s67/23, mb3.8/4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.81**	**307**	*i* P	**Pb**	**14 55 36.6**	**-0.1**
HUIG				*i* S	**Sg**	**14 55 46.8**	**-0.6**
CMIG	**Matias Romero**	**1.88**	**17**	*i* Pn	**Pn**	**14 55 53.3**	**+0.8**
CMIG				*i* S	**Sn**	**14 56 15.9**	**-0.1**
CMIG	**Matias Romero**	**1.88**	**17**	Pn	**Pn**	**14 55 53.3**	**+0.8**
	26nm,0.3s,baz=172,slow=8.8,SNR=139						
CMIG				Sn	**Sg**	**14 56 21.3**	**-0.4**
	119nm,0.3s,baz=65,slow=19,SNR=25						
CMIG				LR	LR	14 56 39.0	
	comp=Z,115nm,20.3s,baz=218,slow=38						
OXX	**Oaxaca**	**2.17**	**326**	*i* P	**Pb**	**14 56 01.0**	**+0.9**
OXX				*i* S	**Sb**	**14 56 26.2**	**-0.7**
TGIG		**2.69**	**56**	*i* P	**Pn**	**14 56 02.9**	**-0.8**
TGIG				*i* S	**Sn**	**14 56 36.1**	**+0.2**
PNIG	**Pinotepa**	**2.81**	**294**	*i* P	**Pn**	**14 56 04.2**	**-1.2**
PNIG				*e*S	**Sn**	**14 56 35.8**	**-3.2**
CCIG	**Comitan**	**3.34**	**72**	*i* P	**Pn**	**14 56 12.5**	**-0.2**
CCIG				*i* S	**Sn**	**14 56 51.0**	**-1.2**
TLIG	**Tlapa**	**3.76**	**308**	*i* P	**Pn**	**14 56 17.2**	**-1.3**
TLIG				*i* S	**Sn**	**14 57 01.2**	**-1.4**
TEIG	**Tepich**	**8.42**	**53**	Pn	**Pn**	**14 57 19.7**	**-2.7**
	12nm,0.3s,baz=257,slow=1.5,SNR=27						
TEIG				Sn	**Sn**	**14 58 53.5**	**-3.6**
	4.0nm,0.3s,baz=37,slow=22,SNR=7.8						
TXAR	**Lajitas Array**	**15.91**	**333**	Pn	**P**	**14 59 08.8**	**+0.7**
	0.0nm,0.3s,baz=149,slow=15,SNR=8.8						
LPIG	**La Paz**	**16.51**	**304**	LR	LR	15 06 10.6	
	comp=Z,24nm,19.1s,baz=208,slow=38						
TKL	**Tuckaleechee C**	**22.83**	**25**	LR	LR	15 08 50.9	
	comp=Z,22nm,21.2s,baz=174,slow=35						
PDAR	**Pinedale Array**	**29.96**	**339**	P	**P**	**15 01 30.5**	**+1.7**
	0.1nm,0.3s,baz=71,slow=35,SNR=2.5						
NVAR	**Mina Array Bea**	**30.62**	**323**	P	**P**	**15 01 37.7**	**+2.9**
	1.1nm,0.8s,baz=146,slow=9.0,SNR=9.2						
YKA	**Yellowknife Ar**	**49.07**	**348**	P	**P**	**15 04 07.3**	**+0.1**
	0.8nm,0.8s,baz=30,slow=7.7,SNR=3.6						
ILAR	**Eielson Array**	**60.37**	**337**	P	**P**	**15 05 30.0**	**+0.9**
	0.8nm,0.9s,baz=133,slow=5.5,SNR=11						
CMAR	**Chiang Mai Arr**	**143.60**	**337**	PKP	PKPab	15 14 52.1	-0.4
	0.5nm,0.5s,baz=328,slow=2.7,SNR=5.3						

IDC 19 14:58:24.0±8.2, 1.°70S×136.°62E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.4/21, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=124.5km s-min=93.5km az=150.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.27**	**187**	P	Pn	15 02 39.2	0.0
	0.2nm,0.3s,baz=8.8,slow=12,SNR=9.5						
ASAR	**Alice Springs**	**22.00**	**187**	P	P	15 03 19.4	-0.7
	1.0nm,0.6s,baz=14,slow=11,SNR=8.5						
STKA	**Stephens Creek**	**30.38**	**172**	P	P	15 04 38.3	+0.4
	2.1nm,1.0s,baz=0.0,slow=9.1,SNR=2.7						

DJA 19 15:09:32.2±1.1, 2.°S±12.°×13.°6E±.°, h10km, M4.0/3, MLv4.0/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.28**	**143**	P	Pb	15 09 40.2	+0.8
SRPI				S	Sg	15 09 42.5	+0.7
RKPI	**Ransiki, Papua**	**1.90**	**274**	P	Pn	15 10 03.0	-1.7
RKPI				S	Sb	15 10 30.4	-0.3

*ISCJB **19** 15:32:00.3±0.6, 34.°94N±0.°06×24.°27E±0.°03, h19km±7km, Error ellipse: s-maj=10.7km s-min=4.2km az=6.3*

*THE **19** 15:32:00.1, 34.°99N×24.°30E, h1km±1km, ML2.9/1, Error ellipse: s-maj=2.0km s-min=0.7km az=190.0*

*ATH **19** 15:32:00.0, 35.°04N×24.°25E, h17km±1km, MD3.6/20*

*CSEM **19** 15:32:00.4±0.2, 34.°98N×24.°30E, h10km, ML2.9, Error ellipse: s-maj=6.2km s-min=3.7km az=9.0*

ISC 19 15:32:00.1±1.0, 35°04N±0.°03×24°30E±0.°02, h6km±10km, n62, σ0s70/80, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.26**	**222**	P	**Pg**	**15 32 04.6**	**-0.7**
GVD				*e*S	**Sg**	**15 32 08.6**	**-0.1**
GVD	**Gavdhos**	**0.26**	**222**	*e*PB	**Pg**	**15 32 05.1**	**-0.2**
GVD				*e*SB	**Sg**	**15 32 09.6**	**+0.9**
GVD	**Gavdhos**	**0.26**	**222**	P	**Pg**	**15 32 04.6**	**-0.7**
GVD	**Gavdhos**	**0.26**	**222**	*e*Pb	**Pg**	**15 32 05.1**	**-0.2**
GVD				S	**Sg**	**15 32 08.6**	**-0.1**
GVD				*e*Sb	**Sg**	**15 32 09.6**	**+0.9**
VAM	**Vamos**	**0.38**	**348**	*e*PB	**Pg**	**15 32 07.7**	**+0.2**
VAM	**Vamos**	**0.38**	**348**	*e*Pb	**Pg**	**15 32 07.7**	**+0.2**
SIVA	**Sivas**	**0.42**	**92**	P	**Pg**	**15 32 08.7**	**+0.4**
SIVA				S	**Sb**	**15 32 15.6**	**-1.0**
SIVA	**Sivas**	**0.42**	**92**	*e*PB	**Pb**	**15 32 09.3**	**-0.7**
SIVA				*e*SB	**Sb**	**15 32 16.4**	**-0.2**
SIVA	**Sivas**	**0.42**	**92**	P	**Pg**	**15 32 08.7**	**+0.4**
SIVA	**Sivas**	**0.42**	**92**	*e*Pb	**Pb**	**15 32 09.3**	**-0.7**
SIVA				S	**Sb**	**15 32 15.6**	**-1.0**
SIVA				*e*Sb	**Sb**	**15 32 16.4**	**-0.2**
LAST	**Lasithi**	**0.97**	**82**	P	**Pg**	**15 32 18.2**	**-0.7**
LAST				S	**Sb**	**15 32 32.7**	**0.0**
LAST	**Lasithi**	**0.97**	**82**	*e*PB	**Pg**	**15 32 18.4**	**-0.5**
LAST				*e*SN	**Sb**	**15 32 33.5**	**+0.8**
LAST	**Lasithi**	**0.97**	**82**	*e*Pb	**Pg**	**15 32 18.4**	**-0.5**
LAST				S	**Sb**	**15 32 32.7**	**0.0**
LAST				*e*Sn	**Sb**	**15 32 33.5**	**+0.8**
NPS	**Neapolis**	**1.10**	**78**	P	**Pg**	**15 32 20.9**	**-0.3**
NPS				S	**Sn**	**15 32 37.2**	**-0.5**
NPS	**Neapolis**	**1.10**	**78**	*e*PN	**Pg**	**15 32 21.0**	**-0.3**
NPS	**Neapolis**	**1.10**	**78**	P	**Pg**	**15 32 20.9**	**-0.3**
NPS				S	**Sn**	**15 32 37.2**	**-0.5**
ANKY	**Antikythira Is**	**1.16**	**316**	P	**Pg**	**15 32 21.9**	**-0.6**
ANKY				S	**Sn**	**15 32 39.5**	**+0.3**
ANKY	**Antikythira Is**	**1.16**	**316**	*e*PN	**Pg**	**15 32 21.7**	**-0.8**
ANKY	**Antikythira Is**	**1.16**	**316**	P	**Pg**	**15 32 21.9**	**-0.6**
ANKY				S	**Sn**	**15 32 39.5**	**+0.3**
ZKR	**Zakros**	**1.57**	**87**	P	**Pn**	**15 32 28.9**	**+0.2**
ZKR	**Zakros**	**1.57**	**87**	*e*PN	**Pg**	**15 32 30.3**	**0.0**
ZKR	**Zakros**	**1.57**	**87**	P	**Pn**	**15 32 28.9**	**+0.2**
ZKR	**Zakros**	**1.57**	**87**	*e*Pn	**Pg**	**15 32 30.3**	**0.0**
THR6	**Thira Island,**	**1.59**	**34**	P	**Pn**	**15 32 29.3**	**+0.4**
THR6	**Thira Island,**	**1.59**	**34**	P	**Pn**	**15 32 29.3**	**+0.4**
KYTH	**Kithira**	**1.61**	**321**	P	**Pn**	**15 32 29.6**	**+0.4**
KYTH	**Kithira**	**1.61**	**321**	*e*PN	**Pn**	**15 32 29.7**	**+0.5**
KYTH	**Kithira**	**1.61**	**321**	*e*Pn	**Pn**	**15 32 29.7**	**+0.5**
THR5	**Thira Island,**	**1.62**	**31**	P	**Pn**	**15 32 28.9**	**-0.4**
THR5	**Thira Island,**	**1.62**	**31**	P	**Pn**	**15 32 28.9**	**-0.4**
SANT	**Santorini**	**1.63**	**35**	*e*PN	**Pn**	**15 32 30.0**	**+0.5**
SANT	**Santorini**	**1.63**	**35**	*e*Pn	**Pn**	**15 32 30.0**	**+0.5**
THR3	**Thira Island,**	**1.64**	**33**	P	**Pn**	**15 32 29.4**	**-0.1**
THR3	**Thira Island,**	**1.64**	**33**	P	**Pn**	**15 32 29.4**	**-0.1**
MHLO	**Agia Marina, M**	**1.65**	**3**	P	**Pn**	**15 32 29.4**	**-0.3**
MHLO				S	**Sg**	**15 32 53.1**	**-0.2**
MHLO	**Agia Marina, M**	**1.65**	**3**	P	**Pn**	**15 32 29.4**	**-0.3**
MHLO				S	**Sg**	**15 32 53.1**	**-0.2**
VLI	**Veliai**	**2.01**	**327**	P	**Pn**	**15 32 35.2**	**+0.5**
VLI	**Veliai**	**2.01**	**327**	*e*PN	**Pn**	**15 32 35.0**	**+0.3**
VLI	**Veliai**	**2.01**	**327**	P	**Pn**	**15 32 35.2**	**+0.5**
KARP	**Karpathos**	**2.40**	**77**	*e*PB	**Pn**	**15 32 41.6**	**+1.6**
KARP	**Karpathos**	**2.40**	**77**	*e*Pb	**Pn**	**15 32 41.6**	**+1.6**
KRND	**KRANIDI**	**2.52**	**339**	*e*PN	**Pn**	**15 32 42.2**	**+0.5**
KRND	**KRANIDI**	**2.52**	**339**	*e*Pn	**Pn**	**15 32 42.2**	**+0.5**
DID	**Didima**	**2.61**	**341**	P	**Pn**	**15 32 43.2**	**+0.3**
DID	**Didima**	**2.61**	**341**	*e*PN	**Pn**	**15 32 43.3**	**+0.3**
DID	**Didima**	**2.61**	**341**	*e*Pn	**Pn**	**15 32 43.3**	**+0.3**
PYL	**PYLOS**	**2.78**	**313**	*e*PN	**Pn**	**15 32 45.6**	**+0.3**
PYL	**PYLOS**	**2.78**	**313**	*e*Pn	**Pn**	**15 32 45.6**	**+0.3**
LTK	**Loutraki**	**3.17**	**341**	*e*PN	**Pn**	**15 32 51.3**	**+0.7**
LTK	**Loutraki**	**3.17**	**341**	*e*Pn	**Pn**	**15 32 51.3**	**+0.7**
VILL	**Villia**	**3.22**	**346**	*e*Pn	**Pn**	**15 32 52.7**	**+1.3**
VIL2	**Platees**	**3.28**	**346**	*e*PN	**Pn**	**15 32 52.7**	**+0.6**
GUR	**Goura**	**3.30**	**332**	P	**Pn**	**15 32 53.2**	**+0.8**
GUR	**Goura**	**3.30**	**332**	*e*PN	**Pn**	**15 32 53.5**	**+1.1**
GUR	**Goura**	**3.30**	**332**	P	**Pn**	**15 32 53.2**	**+0.8**
GUR	**Goura**	**3.30**	**332**	*e*Pn	**Pn**	**15 32 53.5**	**+1.1**
KLV	**Kalavryta, Ach**	**3.46**	**331**	*e*PN	**Pn**	**15 32 55.9**	**+1.2**
KLV	**Kalavryta, Ach**	**3.46**	**331**	*e*Pn	**Pn**	**15 32 55.9**	**+1.2**
DSF	**Desfina**	**3.66**	**338**	*e*PN	**Pn**	**15 32 58.0**	**+0.6**
DSF	**Desfina**	**3.66**	**338**	*e*Pn	**Pn**	**15 32 58.0**	**+0.6**
AGG	**Agios Georgios**	**4.28**	**339**	*e*PN	**Pn**	**15 33 07.9**	**+2.0**
AGG	**Agios Georgios**	**4.28**	**339**	*e*Pn	**Pn**	**15 33 07.9**	**+2.0**

*IDC **19** 15:39:35.5±0.9, 3.°35N×126.°84E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/31, mbtmp3.9/7, MS2.8/1, Ms1 2.8/1, ms1mx2.1/27, Error ellipse: s-maj=57.9km s-min=16.1km az=69.0*

*ISCJB **19** 15:39:40.0±0.8, 3.°4N±0.°1×126.°8E±0.°3, h48km, mb3.9/7, MS2.7/1, Error ellipse: s-maj=45.8km s-min=13.5km az=159.6*

ISC 19 15:39:41.9±1.0, 3°3N±0.°2×126°9E±0.°3, h48km, n11, σ0s72/7, mb3.7/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.28**	**163**	P	**P**	**15 44 54.7**	**-0.2**
	5.0nm,0.5s,baz=340,slow=11,SNR=63						
ASAR	**Alice Springs**	**27.71**	**166**	P	**P**	**15 45 25.9**	**+0.1**
	1.1nm,0.6s,baz=349,slow=7.4,SNR=30						
JCJ	**Chichijima**	**27.81**	**30**	LR	LR	15 55 53.9	
	comp=Z,20nm,21.0s,baz=116,slow=35						
CMAR	**Chiang Mai Arr**	**31.17**	**301**	P	**P**	**15 45 57.0**	**+0.3**
	0.5nm,0.8s,baz=117,slow=7.3,SNR=4.0						
KSRS	**Korea Array**	**33.97**	**2**	P	**P**	**15 46 21.1**	**+0.2**
	0.6nm,0.8s,baz=181,slow=10.0,SNR=4.7						
STKA	**Stephens Creek**	**37.72**	**159**	P	**P**	**15 46 53.2**	**+0.1**
	11nm,0.8s,baz=337,slow=7.7,SNR=22						
H11S3	**WAKE ISLAND Hy**	**41.78**	**66**	T	T	16 31 53.7	
	baz=253,slow=74,SNR=17						
H11S1	**WAKE ISLAND Hy**	**41.80**	**66**	T	T	16 31 53.1	
	baz=253,slow=74,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**41.80**	**66**	T	T	16 31 54.5	
	baz=253,slow=74,SNR=11						
SONM	**Songino Array**	**47.70**	**341**	P	**P**	**15 48 14.6**	**+0.6**
	0.5nm,0.6s,baz=154,slow=7.9,SNR=5.4						
ZALV	**Zalesovo Beam**	**60.99**	**333**	P	**P**	**15 49 49.0**	**-1.2**
	0.3nm,0.3s,baz=125,slow=9.0,SNR=3.0						

*IGIL **19** 15:45:02.1, 33.°06N×10.°09W, h15km, ML2.5*

*MDD **19** 15:45:04.0±1.2, 33.°10N×10.°11W, h88km±56km, mb3.7/6, Error ellipse: s-maj=12.9km s-min=9.2km az=116.0, PRXIMO*

*INMG **19** 15:45:06.4±1.3, 33.°04N×10.°09W, h36km±17km, ML2.7, Error ellipse: s-maj=6.0km s-min=2.5km az=128.0*

*CNRM **19** 15:45:07.4, 33.°12N×9.°86W, h30km, MD3.3*

*CSEM **19** 15:45:08.5±0.6, 33.°34N×9.°65W, h80km, ML3.5/14, Error ellipse: s-maj=11.8km s-min=5.5km az=72.0*

ISC 19 15:45:04.2±2.0, 33°31N±0.°06×9°72W±0.°10, h10km, n76, σ1s57/106, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CIA	**Chichaoua**	**1.92**	**155**	P	Pn	15 45 36.0	-1.0
CIA				S	Sn	15 45 56.0	-5.3
OUK	**Oukaimeden**	**2.62**	**143**	P	Pn	15 45 45.0	-1.9
OUK				S	Sn	15 46 14.0	-4.9
TZC	**Tazercounte**	**2.96**	**112**	P	**Pn**	**15 45 52.0**	**+0.6**
TZC				S	**Sn**	**15 46 26.0**	**-1.1**
TZC	**Tazercounte**	**2.96**	**112**	*e*P	**Pn**	**15 45 52.0**	**+0.6**
TZC				*e*S	**Sn**	**15 46 26.0**	**-1.1**
KIB	**El Ksiba**	**3.18**	**102**	P	**Pn**	**15 45 55.0**	**+0.7**
KIB				S	**Sn**	**15 46 31.0**	**-1.4**
KIB	**El Ksiba**	**3.18**	**102**	*i* P	**Pn**	**15 45 55.0**	**+0.7**
KIB				*i* S	**Sn**	**15 46 31.0**	**-1.4**
PFVI	**Vila Bisbo**	**3.88**	**11**	Sn	**Sn**	**15 46 47.7**	**-1.7**
	8.9nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.88**	**11**	Sn	**Sn**	**15 46 47.9**	**-1.6**
	8.9nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.88**	**11**	*e*S	**Sn**	**15 46 47.4**	**-2.1**
PFVI	**Vila Bisbo**	**3.88**	**11**	*e*S	**Sn**	**15 46 47.4**	**-2.1**
CZD	**Col de Zad**	**3.93**	**93**	P	**Pn**	**15 46 07.0**	**+2.2**
CZD				S	**Sn**	**15 46 50.0**	**-1.2**
CZD	**Col de Zad**	**3.93**	**93**	*e*P	**Pn**	**15 46 07.0**	**+2.2**
CZD				*e*S	**Sn**	**15 46 50.0**	**-1.2**
MORF	**Marmelete**	**4.08**	**12**	*e*P	Pn	15 46 06.3	-0.3
MORF				*e*S	**Sn**	**15 46 53.4**	**-1.1**
MORF				AML	AML	15 46 55.0	
	comp=E,11nm,0.1s						
MORF	**Marmelete**	**4.08**	**12**	*e*S	**Sn**	**15 46 53.6**	**-0.8**
MORF				A	A	15 46 58.1	
	comp=E,13nm,0.1s						
MORF	**Marmelete**	**4.08**	**12**	*e*S	**Sn**	**15 46 53.6**	**-0.8**
MORF				A	A	15 46 58.1	
	comp=E,13nm,0.1s						
PBDV	**Barranco-do-Ve**	**4.18**	**20**	*e*P	**Pn**	**15 46 09.4**	**+1.3**
PBDV				S	**Sn**	**15 46 56.2**	**-0.8**
PBDV				A	A	15 47 01.3	
	comp=E,5.4nm,0.2s						
PBDV	**Barranco-do-Ve**	**4.18**	**20**	*e*P	**Pn**	**15 46 09.4**	**+1.3**
PBDV				S	**Sn**	**15 46 56.2**	**-0.8**
PBDV				A	A	15 47 01.3	
	comp=E,5.4nm,0.2s						
PTEO	**Sao Teotonio**	**4.30**	**11**	*e*P	**Pn**	**15 46 11.6**	**+2.0**
PTEO				S	**Sn**	**15 46 57.9**	**-1.9**
PTEO				A	A	15 46 58.4	
	comp=E,11nm,1.0s						
PTEO	**Sao Teotonio**	**4.30**	**11**	*e*P	**Pn**	**15 46 11.6**	**+2.0**
PTEO				S	**Sn**	**15 46 57.9**	**-1.9**
PTEO				A	A	15 46 58.4	
	comp=E,11nm,1.0s						
PVAQ	**Vaqueiros**	**4.39**	**21**	*e*P	**Pn**	**15 46 12.5**	**+1.5**
PVAQ				S	**Sn**	**15 47 01.2**	**-1.0**
PVAQ				A	A	15 47 05.1	
	comp=E,5.4nm,0.2s						
PVAQ	**Vaqueiros**	**4.39**	**21**	*e*P	**Pn**	**15 46 12.5**	**+1.5**
PVAQ				S	**Sn**	**15 47 01.2**	**-1.0**
PVAQ				A	A	15 47 05.1	
	comp=E,5.4nm,0.2s						
PCVE	**Castro Verde**	**4.52**	**17**	*e*P	**Pn**	**15 46 13.8**	**+1.1**
PCVE				S	**Sn**	**15 47 04.1**	**-1.2**
PCVE	**Castro Verde**	**4.52**	**17**	*e*P	**Pn**	**15 46 13.8**	**+1.1**
PCVE				S	**Sn**	**15 47 04.1**	**-1.2**
EGRO	**El Granado**	**4.59**	**23**	Pn	**Pn**	**15 46 14.7**	**+1.1**
	comp=E,0.9nm,0.1s,SNR=14						
EGRO				Sn	**Sn**	**15 47 06.3**	**-0.7**
	comp=E,6.0nm,0.1s,SNR=9.4						
EGRO	**El Granado**	**4.59**	**23**	Pn	**Pn**	**15 46 15.3**	**+1.7**
	comp=E,0.9nm,0.1s,SNR=14						
EGRO				Sn	**Sn**	**15 47 06.5**	**-0.5**
	comp=E,6.0nm,0.1s,SNR=9.4						
MESJ	**Messejana**	**4.68**	**15**	*e*P	Pn	15 46 15.1	+0.2
MESJ				*e*S	**Sn**	**15 47 08.1**	**-1.0**
MESJ				AML	AML	15 47 10.0	
	comp=E,6.4nm,0.1s						
MESJ	**Messejana**	**4.68**	**15**	*e*P	**Pn**	**15 46 16.6**	**+1.8**
MESJ				*e*S	**Sn**	**15 47 08.2**	**-1.0**
MESJ				A	A	15 47 15.6	
	comp=E,6.8nm,0.3s						
MESJ	**Messejana**	**4.68**	**15**	*e*P	**Pn**	**15 46 16.6**	**+1.8**
MESJ				*e*S	**Sn**	**15 47 08.2**	**-1.0**
MESJ				A	A	15 47 15.6	
	comp=E,6.8nm,0.3s						
ZFT	**Errachidia**	**4.70**	**104**	P	**Pn**	**15 46 17.0**	**+1.6**
ZFT				S	**Sn**	**15 47 08.0**	**-2.1**
ZFT	**Errachidia**	**4.70**	**104**	*e*P	**Pn**	**15 46 17.0**	**+1.6**
ZFT				*e*S	**Sn**	**15 47 08.0**	**-2.1**
ESPR	**Espera**	**4.75**	**41**	Pn	**Pn**	**15 46 17.7**	**+1.8**
	comp=E,1.3nm,0.1s,SNR=7.2						
ESPR				Sn	**Sn**	**15 47 12.4**	**+1.4**
	comp=E,5.7nm,0.3s,SNR=7.9						
ESPR	**Espera**	**4.75**	**41**	Pn	**Pn**	**15 46 17.5**	**+1.6**
	comp=E,1.3nm,0.1s,SNR=7.2						
ESPR				Sn	**Sn**	**15 47 12.1**	**+1.1**
	comp=E,5.7nm,0.3s,SNR=7.9						
PNCL	**Nicolau / Gran**	**4.88**	**11**	*e*P	**Pn**	**15 46 18.8**	**+1.1**
PNCL				S	**Sn**	**15 47 12.3**	**-1.9**
PNCL				A	A	15 47 17.1	
	comp=E,6.6nm,0.5s						
PNCL	**Nicolau / Gran**	**4.88**	**11**	*e*P	**Pn**	**15 46 18.8**	**+1.1**
PNCL				S	**Sn**	**15 47 12.3**	**-1.9**
PNCL				A	A	15 47 17.1	
	comp=E,6.6nm,0.5s						
EMIN	**Mina Concepcio**	**5.09**	**28**	Pn	**Pn**	**15 46 22.3**	**+1.8**
	comp=E,0.5nm,0.1s,SNR=8.5						
EMIN				Sn	**Sn**	**15 47 17.9**	**-1.4**
	comp=E,1.9nm,0.1s,SNR=22

EQES	**Quesada**	**7.03**	**49**	Pn	**Pn**	**15 46 49.6**	**+2.4**
	comp=E,0.7nm,0.2s,SNR=7.9							
EQES				Sn	**Sn**	**15 48 06.2**	**-1.0**
	comp=E,1.0nm,0.1s,SNR=7.9							
EQES	**Quesada**	**7.03**	**49**	Pn	**Pn**	**15 46 49.1**	**+1.9**
	comp=E,0.4nm,0.1s,SNR=7.9							
EQES				Sn	**Sn**	**15 48 06.2**	**-1.0**
	comp=E,0.8nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**7.34**	**22**	Sn	**Sn**	**15 48 12.3**	**-2.6**
	comp=E,1.1nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**7.34**	**22**	Sn	**Sn**	**15 48 12.6**	**-2.3**
	comp=E,0.8nm,0.1s,SNR=7.9							
SESP	**Santiago Espad**	**7.55**	**49**	Pn	**Pn**	**15 46 56.5**	**+2.1**
	comp=E,1.4nm,0.2s,SNR=7.9							
SESP				Sn	**Sn**	**15 48 17.9**	**-2.3**
	comp=E,3.0nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**7.55**	**49**	Pn	**Pn**	**15 46 56.0**	**+1.6**
	comp=E,0.8nm,0.1s,SNR=7.9							
SESP				Sn	**Sn**	**15 48 17.9**	**-2.3**
	comp=E,2.5nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**7.86**	**34**	Sn	**Sn**	**15 48 25.6**	**-2.0**
	comp=E,0.6nm,0.1s,baz=220,slow=24,SNR=7.9							
EVIA	**Vianos**	**7.90**	**46**	Pn	**Pn**	**15 47 00.0**	**+0.9**
	comp=E,2.0nm,0.2s,SNR=7.9							
EVIA				Sn	**Sn**	**15 48 27.3**	**-1.4**
	comp=E,2.7nm,0.1s,SNR=7.9							
EVIA	**Vianos**	**7.90**	**46**	Pn	Pn	15 46 59.5	+0.3
	comp=E,2.0nm,0.2s,SNR=7.9							
EVIA				Sn	**Sn**	**15 48 26.9**	**-1.8**
	comp=E,2.7nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**8.49**	**49**	Pn	**Pn**	**15 47 08.1**	**+0.8**
	comp=E,2.7nm,0.2s,SNR=11							
ETOB				Sn	**Sn**	**15 48 40.2**	**-3.0**
	comp=E,0.9nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**8.49**	**49**	Pn	**Pn**	**15 47 08.1**	**+0.8**
	comp=E,1.4nm,0.2s,SNR=11							
ETOB				Sn	**Sn**	**15 48 40.2**	**-3.0**
	comp=E,0.9nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**8.56**	**30**	Pn	**Pn**	**15 47 10.2**	**+1.9**
	comp=E,0.5nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**8.56**	**30**	Pn	Pn	15 47 08.0	-0.3
	comp=E,0.5nm,0.2s,SNR=7.9							
GUD				Sn	Sn	15 48 41.7	-3.3
	comp=E,0.2nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**8.64**	**8**	Sn	Sn	15 48 42.1	-4.7
	comp=E,1.7nm,0.3s,SNR=7.9							

IDC 19 15:55:00.7±11.0, 3°.35N×126°.51E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.5/28, mbtmp3.9/3, Error ellipse: s-maj=196.5km s-min=149.8km az=156.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.39**	**162**	P	P	16 00 20.0	-0.9
	1.5nm,0.7s,baz=342,slow=10,SNR=19						
ASAR	**Alice Springs**	**27.80**	**165**	P	P	16 00 51.9	+0.1
	0.3nm,0.4s,baz=343,slow=6.9,SNR=16						
STKA	**Stephens Creek**	**37.85**	**159**	P	P	16 02 19.8	+0.5
	3.5nm,0.7s,baz=333,slow=9.2,SNR=11						

SJA 19 16:02:43.3±0.4, 25°.80S×66°.75W, h10km, ML3.6, MW3.9, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSA	**Cafayete**	**0.72**	**114**	*e*S	Sb	16 03 09.6	+1.3
SLA	**San Lorenzo**	**1.56**	**46**	*e*P	Pb	16 03 12.3	-0.1
SLA				*e*S	Sg	16 03 34.6	+0.8
AHML	**Horco Molle**	**1.60**	**128**	*e*P	Pb	16 03 13.3	+0.2
AHML				*e*S	Sg	16 03 35.5	+0.5
AHML				IAML		16 03 39.1	
	comp=Z,543nm,0.6s						
AZAP	**Zapla**	**2.19**	**44**	*e*P	Pb	16 03 22.8	-0.5
AZAP				*e*S	Sb	16 03 51.7	+0.9
ASTB	**Santa Barbara**	**2.76**	**49**	*e*P	Pb	16 03 30.7	-2.3
CYA	**Choya**	**2.76**	**162**	*e*P	Pn	16 03 30.2	+2.5
CYA				*e*S	Sb	16 04 04.8	-2.0
CYA				IAML		16 04 12.8	
	comp=Z,368nm,0.6s						
HJA	**Humahuaca**	**2.85**	**26**	*e*P	Pb	16 03 32.5	-2.4
VCA	**Vinchina**	**3.20**	**204**	*e*P	Pn	16 03 36.5	+2.6
ALOL	**LOMAS DE OLMED**	**3.20**	**52**	*e*P	Pn	16 03 36.3	+2.5

NIED ***19*** *16:03:00, 38°.10N×142°.60E, h26km, Mw3.5 Best double couple: M0=1.83000×10^14 NP1:φs=153.00000°, δ=48.00000°, λ=29.00000°. NP2:φs=43.00000°, δ=69.00000°, λ=134.00000°.*

JMA 19 16:03:01.3±0.2, 38°.09N×142°.63E, h32km±3km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.07**	**290**	P	Pn	16 03 20.4	+0.3
JIO				*e*S	Sb	16 03 34.7	-0.3
OFUJ	**Ofunato**	**1.24**	**323**	P	Pn	16 03 22.9	+0.4
JMK	**Ichinoseki**	**1.40**	**308**	P	Pn	16 03 25.6	+1.0
JMM	**Marumori**	**1.47**	**262**	P	Pn	16 03 25.7	+0.2
JFK	**Kawauchi**	**1.57**	**243**	P	Pn	16 03 27.0	0.0
JOU	**Okura**	**1.57**	**281**	P	Pb	16 03 28.5	-1.3
JOM	**Ohasama**	**1.73**	**323**	P	Pn	16 03 30.4	+1.2
JOM				*e*S	Sn	16 03 51.9	+1.7
JFT	**Otama**	**1.90**	**253**	P	Pn	16 03 32.9	+1.3
JYK	**Kaneyama**	**1.96**	**296**	P	Pn	16 03 33.9	+1.5
JYS	**Shirataka**	**2.03**	**274**	P	Pn	16 03 34.9	+1.7
JYS				*e*S	Sn	16 03 59.8	+2.3
JRG	**Rokugo**	**2.03**	**311**	P	Pb	16 03 35.5	-2.1
JANG	**Nango**	**2.44**	**340**	P	Pn	16 03 40.7	+1.8

ISCJB ***19*** *16:19:07.1±0.7, 2°.01S±0°.09×136°.08E±0°.05, h33km, mb4.0/2, MS3.3/2, Error ellipse: s-maj=12.5km s-min=7.7km az=175.1*

DJA ***19*** *16:19:07.4±0.5, 2°.S±10°×13°.6E±°, h12km±3km, M4.1/5, MLv4.1/5*

IDC ***19*** *16:19:16.9±13.0, 3°.26S×136°.69E, h0km, mb4.1/2, mb1 4.2/3, mb1mx3.5/22, mbtmp4.0/3, ML3.5/1, MS3.1/4, Ms1 3.1/4, ms1mx2.7/25, Error ellipse: s-maj=201.3km s-min=91.6km az=173.0*

ISC 19 16:19:08.9±1.1, 2°.0S±0°.1×136°.01E±0°.05, h35km, n9, σ2s40/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.26**	**65**	P	Pn	16 19 12.7	-3.7
SRPI				S	**Sn**	**16 19 18.0**	**-3.4**
RKPI	**Ransiki, Papua**	**1.89**	**284**	P	**Pn**	**16 19 39.1**	**+0.4**
RKPI				S	**Sn**	**16 20 02.4**	**+1.1**
SMPI	**Sarmi**	**2.70**	**90**	P	**Pn**	**16 19 50.7**	**+0.8**
SMPI				S	**Sn**	**16 20 24.6**	**+3.2**
FAKI	**Fak Fak**	**3.87**	**256**	P	**Pn**	**16 20 06.7**	**+0.7**
KAPI	**Kappang**	**16.50**	**259**	LR	LR	16 30 48.4	
	comp=Z,45nm,18.2s,baz=58,slow=41						
GUMO	**Guam**	**17.79**	**29**	LR	LR	16 29 16.1	
	comp=Z,22nm,19.7s,baz=200,slow=32						
WRA	**Warramunga Arr**	**17.93**	**185**	Pn	**Pn**	**16 23 12.6**	**-3.1**
	0.2nm,0.3s,baz=9.5,slow=13,SNR=13						
ASAR	**Alice Springs**	**21.66**	**185**	P	**P**	**16 23 56.6**	**+0.1**
	5.6nm,0.9s,baz=12,slow=11,SNR=22						
ASAR				LR	LR	16 33 16.7	
	comp=Z,74nm,18.9s,baz=18,slow=41						
STKA	**Stephens Creek**	**30.20**	**171**	P	**P**	**16 25 17.0**	**+0.8**
	2.9nm,1.0s,baz=335,slow=9.2,SNR=4.5						
STKA				LR	LR	16 39 07.5	
	comp=Z,119nm,19.9s,baz=14,slow=41						

ISCJB ***19*** *16:25:04.6±0.8, 15°.2S±0°.1×73°.8W±0°.1, h98km, mb3.4/2, Error ellipse: s-maj=21.7km s-min=7.1km az=140.3*

IDC ***19*** *16:25:06.2±1.6, 15°.16S×73°.74W, h95km±17km, mb3.3/2, mb1 3.5/6, mb1mx3.3/22, mbtmp3.8/6, Error ellipse: s-maj=36.4km s-min=12.4km az=44.0*

ISC 19 16:25:06.3±0.9, 15°.2S±0°.1×73°.8W±0°.1, h98km, n7, σ1s05/9, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.37**	**317**	P	**Pn**	**16 26 10.9**	**+0.4**
	1.7nm,0.3s,baz=165,slow=12,SNR=3.1						
NNA				S	**Sn**	**16 26 60.0**	**-0.4**
	6.9nm,0.3s,baz=255,slow=19,SNR=7.4						
LPAZ	**La Paz**	**5.54**	**102**	P	**Pn**	**16 26 28.1**	**+1.2**
	0.4nm,0.3s,baz=286,slow=7.4,SNR=14						
LVC	**Limon Verde**	**8.69**	**149**	P	**Pn**	**16 27 10.1**	**+0.6**
	23nm,0.3s,baz=338,slow=12,SNR=8.7						
LVC				S	**Sn**	**16 28 45.3**	**-0.5**
	23nm,0.3s,baz=98,slow=19,SNR=6.5						
PTGA	**Pitinga**	**19.81**	**45**	P	**P**	**16 29 28.7**	**-0.5**
	0.4nm,0.3s,baz=232,slow=17,SNR=3.6						
TXAR	**Lajitas Array**	**52.85**	**327**	P	**P**	**16 34 12.4**	**+0.3**
	0.2nm,0.5s,baz=149,slow=8.4,SNR=5.6						
TORD	**Torodi Ar. Bea**	**79.80**	**73**	P	**P**	**16 37 02.6**	**-1.7**
	0.5nm,0.7s,baz=243,slow=5.5,SNR=3.5						
SONM	**Songino Array**	**147.46**	**360**	PKPbc	**PKPbc**	**16 44 40.0**	**+0.9**
	0.6nm,0.6s,baz=329,slow=0.8,SNR=5.8						

NIED ***19*** *16:34:00, 44°.00N×148°.20E, h47km, Mw3.8 Best double couple: M0=6.28000×10^14 NP1:φs=249.00000°, δ=46.00000°, λ=-138.00000°. NP2:φs=128.00000°, δ=61.00000°, λ=-52.00000°.*

JMA ***19*** *16:34:35.6±0.3, 44°.01N×148°.19E, h0km, M3.9*

SKHL ***19*** *16:34:35.2±0.1, 44°.53N×148°.46E, h79km±2km, mb4.5/4*

ISC 19 16:34:32.4±3.2, 44°.47N±0°.07×148°.7E±0°.2, h78km±22km, n21, σ2s27/26, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.95**	**323**	*e*P	**Pn**	**16 34 51.5**	**+0.8**
KUR				AMB	AMB	16 34 51.9	
	640nm,0.5s						
KUR				*e*S	**Sn**	**16 35 03.7**	**-0.6**
KUR				A	A	16 35 04.0	
	5μm,1.6s						
KUR				A	A	16 35 07.8	
	2μm,0.5s						
KUR				A	A	16 35 07.8	
	680nm,0.5s						
SHO	**Shikotan**	**1.46**	**246**	*e*P	**Pn**	**16 34 57.0**	**0.0**
SHO				AMB	AMB	16 34 57.3	
	148nm,0.4s						
SHO				*e*S	**Sn**	**16 35 12.3**	**-3.3**
SHO				A	A	16 35 18.6	
	402nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.07**	**259**	*e*P	**Pn**	**16 35 06.0**	**+0.9**
YUK				AMB	AMB	16 35 08.2	
	18nm,0.2s						
YUK				AMB	AMB	16 35 08.2	
	15nm,0.2s						
YUK				AMB	AMB	16 35 08.2	
	70nm,0.2s						
YUK				*e*S	**Sn**	**16 35 29.2**	**-0.8**
YUK				A	A	16 35 33.9	
	111nm,0.5s						
YUK				A	A	16 35 33.9	
	335nm,0.5s						
NEM2	**Nemuro 2**	**2.39**	**243**	P	**Pn**	**16 35 09.6**	**+0.2**
NEM2				*e*S	**Sn**	**16 35 34.3**	**-3.4**
JRA	**Rausu**	**2.61**	**259**	P	**Pn**	**16 35 14.3**	**+2.0**
JRA				*e*S	**Sn**	**16 35 42.9**	**-0.1**
JNK	**Nakash**	**2.99**	**254**	P	**Pn**	**16 35 19.2**	**+1.7**
JNK				*e*S	**Sn**	**16 35 51.7**	**-0.5**
JAK	**Akkeshi**	**3.24**	**244**	P	**Pn**	**16 35 21.6**	**+0.7**
JTKR	**Abashiri--Toko**	**3.46**	**263**	P	**Pn**	**16 35 26.2**	**+2.3**
JAR	**Ashorobuto**	**3.74**	**253**	P	**Pn**	**16 35 30.3**	**+2.7**
JCH	**Churui**	**4.29**	**246**	P	**Pn**	**16 35 37.1**	**+2.0**
JCH				*e*S	**Sn**	**16 36 24.0**	**+0.2**
JKK2	**Kamakawa 2**	**4.31**	**264**	P	Pn	16 35 40.0	+4.6
JSE	**Soyaes**	**4.37**	**279**	P	**Pn**	**16 35 38.5**	**+2.3**
JFR	**Furan**	**4.59**	**256**	P	Pn	16 35 43.5	+4.2
YSS	**Yuzh-Sakhalins**	**4.83**	**303**	*e*P	**Pn**	**16 35 42.5**	**0.0**
YSS				AMB	AMB	16 35 48.7	
	72nm,0.4s						
YSS				*e*S	**Sn**	**16 36 32.3**	**-4.8**
JNBK	**Urakawa-nobuka**	**4.84**	**245**	P	**Pn**	**16 35 44.2**	**+1.5**
JWK2	**Keihoku**	**4.89**	**282**	P	Pn	16 35 48.7	+5.4
JYG	**Yagishiri**	**5.19**	**272**	P	Pn	16 35 52.3	+4.9
JEW	**Eniwo**	**5.49**	**255**	P	Pn	16 35 56.7	+5.2
JKB	**Kayabe**	**6.16**	**248**	P	**Pn**	**16 36 02.8**	**+2.2**
JKB				*e*S	**Sn**	**16 37 08.0**	**-1.5**
JOT	**Ohata**	**6.39**	**244**	P	**Pn**	**16 36 05.5**	**+1.6**
JANG	**Nango**	**6.70**	**235**	P	**Pn**	**16 36 09.4**	**+1.4**
JANG				*e*S	**Sn**	**16 37 18.2**	**-4.6**

DJA 19 16:36:52.1±0.8, 9°S±4°×11°0E±°, h18km±10km, M3.9/15, MLv3.9/15, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.21**	**37**	P	Pn	16 37 10.9	-3.2
PCJI				S	Sb	16 37 24.2	-5.5
UGM	**Wanagama**	**1.25**	**3**	P	Pn	16 37 12.8	-2.0
UGM				S	Sb	16 37 30.2	-0.9
PWJI	**Pagerwojo**	**1.76**	**50**	P	Pn	16 37 19.8	-1.9
PWJI				S	Sn	16 37 38.8	-4.8
SMRI	**Semarang**	**2.11**	**360**	P	Pn	16 37 27.7	+1.2
SMRI				S	Sb	16 37 55.2	-0.5
KPJI	**Karang Pucung**	**2.37**	**320**	P	Pn	16 37 31.1	+1.1
CMJI	**Cimerak**	**2.41**	**305**	P	Pn	16 37 30.3	-0.4
CMJI				S	Sn	16 37 59.3	-0.5
UWJI	**Ujung Watu**	**2.78**	**10**	P	Pn	16 37 35.8	+0.1
UWJI				S	Sn	16 38 08.3	-0.5
CISI	**Cisompet, Garu**	**3.06**	**301**	P	Pn	16 37 40.3	+0.6
BLJI	**Banyuglugur**	**3.42**	**66**	P	Pn	16 37 44.5	0.0
CNJI	**Cibinong**	**3.77**	**299**	P	Pn	16 37 49.7	+0.3
ABJI	**Asem Bagus**	**3.98**	**70**	P	Pn	16 37 51.9	-0.4
SKJI	**Sukabumi**	**4.42**	**299**	P	Pn	16 37 55.6	-2.7

GUC 19 16:38:29.0±0.3, 35°.06S×73°.81W, h10km±6km, ML4.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.81**	**101**	*i* P	Pn	16 39 00.2	-0.1
TALC				*i* S	Sn	16 39 23.7	+0.4
NICH	**Los Niches**	**2.12**	**89**	*i* P	Pn	16 39 05.0	+0.5
NICH				*i* S	Sn	16 39 32.3	+1.4
LNV	**Longovilo**	**2.27**	**62**	*i* P	Pn	16 39 06.3	-0.2
LNV				*i* S	Sn	16 39 35.2	+0.7
CHCH	**Chadas Angostu**	**2.84**	**68**	*i* P	Pn	16 39 15.3	+0.8
CHCH				*i* S	Sn	16 39 51.0	+2.2
CLCH	**Cerro Calan**	**3.18**	**59**	*e*P	Pn	16 39 19.9	+0.7
CLCH				*i* S	Sn	16 39 59.1	+1.8
CLCH				AML	AML	16 40 00.9	
	comp=N,233nm,0.7s						
PEL	**Peldehue**	**3.22**	**54**	*i* P	Pn	16 39 20.6	+0.8
PEL				*i* S	Sn	16 39 60.0	+1.7
PEL				AML	AML	16 40 02.0	
	comp=N,485nm,0.2s						

ISCJB ***19*** *16:38:46.7±0.7, 6°.91N±0°.07×73°.04W±0°.07, h166km, mb2.9/1, Error ellipse: s-maj=11.5km s-min=6.3km az=135.7*

FUNV ***19*** *16:38:47.4, 6°.90N×73°.16W, h175km, MW3.7*

IDC ***19*** *16:38:48.7±6.7, 6°.76N×73°.17W, h173km±41km, mb2.7/1, mb1 3.3/2, mb1mx2.8/27, mbtmp3.5/2, Error ellipse: s-maj=108.0km s-min=37.1km az=74.0*

ISC 19 16:38:47.0±1.0, 6°.91N±0°.07×73°.04W±0°.07, h166km, n11, σ1s39/18, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.19**	**37**	*i*P	**Pn**	**16 39 16.2**	**+1.0**
CAPV				*e*S	**Sn**	**16 39 37.3**	**+0.4**
ROSC	**El Rosal**	**2.41**	**212**	P	**Pn**	**16 39 28.1**	**-0.2**
	51nm,0.3s,baz=287,slow=20,SNR=90						
ROSC				S	**Sn**	**16 39 59.3**	**-1.0**
	31nm,0.3s,baz=110,slow=19,SNR=7.3						
VIGV	**El Vigia**	**2.54**	**41**	*e*P	**Pn**	**16 39 30.7**	**+1.3**
VIGV				*e*S	**Sn**	**16 40 02.0**	**-0.3**
SOCV	**Socops**	**2.56**	**58**	*e*P	**Pn**	**16 39 31.1**	**+1.4**
SOCV				*e*S	**Sn**	**16 40 02.9**	**+0.2**
ELOV	**Elorza**	**3.53**	**88**	*e*P	**Pn**	**16 39 42.4**	**+0.7**
ELOV				*e*S	**Sn**	**16 40 24.2**	**-0.1**
VIRV	**Villa del Rosa**	**3.63**	**10**	*e*P	**Pn**	**16 39 43.0**	**0.0**
VIRV				*e*S	**Sn**	**16 40 23.7**	**-2.9**
BAUV	**El Baul**	**5.35**	**67**	*e*P	**Pn**	**16 40 04.6**	**-0.7**
BAUV				*e*S	**Sn**	**16 41 03.1**	**-3.5**
TURV	**Turiamo**	**6.23**	**55**	*e*P	**Pn**	**16 40 16.9**	**0.0**
TXAR	**Lajitas Array**	**36.47**	**312**	P	**P**	**16 45 37.3**	**+1.0**
	0.2nm,0.6s,baz=131,slow=8.8,SNR=3.7						
ASAR	**Alice Springs**	**149.23**	**234**	PKPbc	**PKPbc**	**16 58 16.6**	**-0.2**
	0.3nm,0.6s,baz=116,slow=3.7,SNR=9.1						
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc	**PKPbc**	**16 58 20.0**	**+0.1**
	0.3nm,0.4s,baz=106,slow=3.0,SNR=12						

DJA 19 17:18:32.5±0.4, 2°S±17°×13°6E±°, h10km, M3.6/5, MLv3.6/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.13**	**283**	P	Pg	17 18 35.8	+0.2
SRPI				S	Sg	17 18 39.2	+1.4
RKPI	**Ransiki, Papua**	**2.23**	**280**	P	Pn	17 19 09.3	-0.2
RKPI				S	Sn	17 19 38.2	+1.1
SMPI	**Sarmi**	**2.34**	**92**	P	Pn	17 19 11.2	+0.1
SMPI				S	Sn	17 19 40.6	+0.7
FAKI	**Fak Fak**	**4.24**	**256**	P	Pn	17 19 37.2	0.0

IDC 19 17:19:05.4±48.0, 23°.56S×178°.37W, h501km±202km, mb3.1/4, mb1 3.2/5, mb1mx2.9/35, mbtmp4.0/5, Error ellipse: s-maj=586.6km s-min=99.4km az=80.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.08**	**273**	P	P	17 22 06.2	+0.1
	0.1nm,0.3s,baz=270,slow=20,SNR=4.4						
CTA	**Charters Tower**	**32.97**	**269**	P	P	17 24 58.5	+0.1
	3.8nm,0.4s,baz=94,slow=11,SNR=9.5						
STKA	**Stephens Creek**	**36.23**	**248**	P	P	17 25 24.8	-0.8
	0.8nm,0.6s,baz=81,slow=7.1,SNR=4.6						
ASAR	**Alice Springs**	**43.56**	**260**	P	P	17 26 24.8	+0.1
	0.8nm,0.5s,baz=95,slow=7.0,SNR=13						
WRA	**Warramunga Arr**	**43.92**	**265**	P	P	17 26 27.4	-0.1
	1.8nm,0.5s,baz=102,slow=7.8,SNR=21						

ISCJB ***19*** *18:02:01.6±0.4, 12°.34N±0°.08×86°.98W±0°.07, h95km±5km, mb3.5/4, Error ellipse: s-maj=16.9km s-min=3.8km az=41.5*

CASC ***19*** *18:02:02.7±2.9, 12°.15N×87°.14W, h58km±36km, MD4.1*

IDC ***19*** *18:02:02.7±2.3, 12°.37N×86°.95W, h99km±9km, mb3.3/4, mb1 3.7/5, mb1mx3.3/33, mbtmp3.6/5, MS2.8/1, Ms1 2.8/1, ms1mx2.4/8, Error ellipse: s-maj=93.1km s-min=38.3km az=78.0*

ISC 19 18:02:02.3±0.7, 12°.32N±0°.09×87°.00W±0°.08, h92km±7km, n25, σ1s23/38, mb3.5/4, 1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.42**	**110**	||*i*P	**Pn**	**18 02 16.1**	**-0.5**
COPN				*e*S	**Sn**	**18 02 25.4**	**-2.0**
HUEN		**0.80**	**89**	*e*P	**Pn**	**18 02 20.1**	**+0.1**
HUEN				*e*S	**Sn**	**18 02 33.9**	**+0.6**
CNCH	**Conchagua**	**1.25**	**319**	*e*P	**Pn**	**18 02 24.6**	**-0.7**
BLLM	**Bellamira**	**1.65**	**313**	*e*P	**Pn**	**18 02 30.5**	**+0.4**
BLLM				*e*S	**Sn**	**18 02 50.0**	**-1.1**
VSM	**San Miguel**	**1.66**	**312**	*e*P	**Pn**	**18 02 30.5**	**0.0**
GBS2	**Las Lilas**	**2.11**	**134**	*i* P	**Pn**	**18 02 36.6**	**+0.5**
GBS3	**Finca Las Im¯¡**	**2.15**	**135**	*i* P	**Pn**	**18 02 37.2**	**+0.6**
GB1A	**Borinquen Arri**	**2.16**	**134**	*i* S	**Sn**	**18 03 00.7**	**-2.5**
LIM1	**Limonal**	**2.35**	**133**	*i* P	**Pn**	**18 02 39.5**	**+0.2**
LFRS	**El Faro**	**2.39**	**303**	*e*P	**Pn**	**18 02 40.0**	**+0.1**
LFRS				*e*S	**Sn**	**18 03 06.4**	**-2.3**
CUI	**Cuipilapa**	**2.44**	**132**	*i* P	**Pn**	**18 02 41.1**	**+0.6**
CUI				*i* S	**Sn**	**18 03 08.4**	**-1.3**
VCR	**Vista de Mar**	**2.56**	**148**	*e*P	**Pn**	**18 02 42.7**	**+0.6**
BOQS	**Boqueron**	**2.63**	**302**	*e*P	**Pn**	**18 02 44.2**	**+1.0**
BOQS				*e*S	**Sn**	**18 03 15.3**	**+0.8**
JCR	**Jicaral**	**3.07**	**143**	*e*P	**Pn**	**18 02 50.1**	**+1.2**
JCR				*e*S	**Sn**	**18 03 23.5**	**-1.4**
CGA2	**Cerro Gallo 2**	**3.38**	**132**	*e*P	**Pn**	**18 02 55.5**	**+2.3**
CGA2				*e*S	**Sn**	**18 03 31.5**	**-0.8**
IXG	**Ixpaco**	**3.84**	**299**	*e*P	**Pn**	**18 03 00.9**	**+1.6**
URSC	**Urasca**	**4.01**	**128**	*e*P	**Pn**	**18 03 03.8**	**+2.1**
BUS	**Buena Vista**	**4.20**	**131**	*e*P	**Pn**	**18 03 06.9**	**+2.3**
BUS				*e*S	**Sn**	**18 03 53.2**	**+0.4**
TEIG	**Tepich**	**7.96**	**351**	P	**Pn**	**18 03 55.5**	**+0.3**
	0.9nm,0.3s,baz=250,slow=11,SNR=5.8						
TXAR	**Lajitas Array**	**22.96**	**320**	P	**P**	**18 06 58.2**	**-0.9**
	1.3nm,0.8s,baz=144,slow=9.6,SNR=9.2						
TXAR				LR	LR	18 16 45.2	
	comp=Z,22nm,18.9s,baz=0.0,slow=38						
PDAR	**Pinedale Array**	**36.10**	**331**	P	**P**	**18 08 55.2**	**-0.3**
	0.5nm,0.6s,baz=123,slow=9.8,SNR=2.9						
PDAR				pP	**pP**	**18 09 18.2**	**+1.4**
	0.3nm,0.4s,baz=126,slow=10,SNR=1.6						
NVAR	**Mina Array Bea**	**38.09**	**319**	P	**P**	**18 09 12.5**	**0.0**
	0.4nm,0.5s,baz=130,slow=8.6,SNR=4.8						
ILAR	**Eielson Array**	**66.32**	**336**	P	**P**	**18 12 39.9**	**-0.8**
	0.6nm,1.1s,baz=107,slow=4.8,SNR=3.1						
ILAR				pP	**pP**	**18 13 04.6**	**+0.6**
	0.3nm,0.8s,baz=112,slow=7.1,SNR=2.7						
ASAR	**Alice Springs**	**139.63**	**248**	PKP	**PKPdf**	**18 21 19.8**	**-0.3**
	0.8nm,0.7s,baz=100,slow=2.3,SNR=13						
ASAR				pPKP	**pPKPdf**	**18 21 45.9**	**+0.2**
	0.4nm,0.7s,baz=97,slow=1.9,SNR=2.7						
WRA	**Warramunga Arr**	**139.66**	**254**	PKP	**PKPdf**	**18 21 20.4**	**+0.1**
	1.2nm,0.5s,baz=90,slow=2.5,SNR=26						
WRA				pPKP	**pPKPdf**	**18 21 47.4**	**+1.6**
	0.5nm,0.7s,baz=92,slow=2.3,SNR=2.2						

IDC ***19*** *18:02:20.0±1.8, 43°.40N×105°.28W, h0km, mb3.6/2, mb1 3.6/6, mb1mx3.4/26, mbtmp3.3/6, ML3.7/4, MS2.7/3,

	baz=1.5,SNR=59							
H25A				Sg	Sg	18 03 12.8	+1.2	
	baz=1.5							
G23A	**Biddle**	**1.56**	**357**	Pb	Pn	18 02 51.0	-0.2	
	baz=1.6,SNR=223							
H21A	**Big Horn, Sher**	**1.62**	**308**	Pb	Pn	18 02 51.6	-0.3	
	baz=1.6,SNR=24							
H21A				Sb	Sn	18 03 13.6	0.0	
	baz=1.6							
J21A	**Lysite**	**1.62**	**260**	P	Pn	18 02 51.2	-0.8	
	baz=1.6							
J26A	**Sides Ranch, S**	**1.62**	**101**	Pb	Pg	18 02 53.0	-0.1	
	baz=1.6							
G22A	**Birney**	**1.74**	**335**	Pb	Pn	18 02 54.0	+0.3	
	baz=1.8,SNR=107							
G22A				Sb	Sn	18 03 17.8	+1.2	
	baz=1.8							
I26A	**New Underwood**	**1.78**	**77**	Pb	Pg	18 02 55.4	-0.7	
	baz=1.7							
K26A	**Motz Farm, Whi**	**1.79**	**121**	Pb	Pg	18 02 55.9	-0.4	
	baz=1.8							
G24A	**Alzada**	**1.79**	**19**	Pb	Pn	18 02 55.1	+0.8	
	baz=1.8,SNR=33							
G24A				Sb	Sb	18 03 19.8	+1.1	
	baz=1.8							
G25A	**Newell**	**2.04**	**40**	Pb	Pb	18 02 59.1	-0.8	
	baz=2.0,SNR=42							
H26A	**Fairpoint**	**2.04**	**61**	Pb	Pb	18 02 59.2	-0.7	
	baz=2.0,SNR=5.1							
J20A	**Shoshoni**	**2.08**	**263**	Pb	Pb	18 03 00.1	-0.6	
	baz=2.1,SNR=272							
F23A	**Volborg**	**2.08**	**357**	P	Pn	18 02 58.4	+0.1	
	baz=2.1,SNR=54							
F23A				Sb	Sn	18 03 26.2	+1.3	
	baz=2.1							
I20A	**Worland**	**2.10**	**279**	Pb	Pn	18 02 59.7	+1.1	
	baz=2.1,SNR=185							
I20A				Sb	Sn	18 03 27.3	+1.8	
	baz=2.1							
G21A	**Lodge Grass**	**2.11**	**319**	Pb	Pn	18 02 59.2	+0.5	
	baz=2.1,SNR=44							
G21A				Sb	Sn	18 03 27.4	+1.7	
	baz=2.1							
H20A	**Greybull**	**2.15**	**294**	P	Pn	18 02 59.4	+0.2	
	baz=2.2,SNR=22							
H20A				Sb	Sn	18 03 29.0	+2.4	
	baz=2.2							
F22A	**Rosebud**	**2.25**	**342**	P	Pn	18 03 00.6	0.0	
	baz=2.3,SNR=29							
F22A				Sb	Sb	18 03 32.3	+0.2	
	baz=2.3							
L26A	**Underwood Farm**	**2.27**	**134**	Sb	Sg	18 03 35.7	+0.9	
	baz=2.2							
F24A	**Ekalaka**	**2.28**	**14**	P	Pn	18 03 02.3	+1.3	
	baz=2.3,SNR=5.2							
PHWY	**Pilot Hill**	**2.34**	**184**	*e*Pn	Pb	18 03 03.2	-2.1	
M25A	**Palm-Egli Farm**	**2.38**	**158**	P	Pb	18 03 04.8	-1.0	
	baz=2.4,SNR=24							
H27A	**Howes**	**2.49**	**66**	P	Pb	18 03 05.9	-1.8	
	baz=2.5,SNR=17							
G26A	**Maurine**	**2.52**	**48**	P	Pb	18 03 06.3	-1.9	
	baz=2.5,SNR=62							
F21A	**Absaloka Mine,**	**2.55**	**329**	P	Pn	18 03 04.2	-0.6	
	baz=2.6,SNR=16							
F25A	**Bowman**	**2.62**	**29**	P	Pn	18 03 07.0	+1.4	
	baz=2.6,SNR=16							
F25A				Sb	Sb	18 03 42.4	-0.1	
	baz=2.6							
G20A	**Bridger**	**2.64**	**308**	P	Pn	18 03 05.6	-0.4	
	baz=2.7,SNR=71							
I19A	**Meeteetse**	**2.73**	**280**	P	Pn	18 03 08.3	+1.0	
	baz=2.8,SNR=95							
J19A	**Crowheart**	**2.79**	**264**	P	Pn	18 03 09.5	+1.4	
	baz=2.8,SNR=220							
J19A				S	Sn	18 03 44.6	+2.1	
	baz=2.8							
N23A	**Red Feather La**	**2.79**	**191**	P	Pb	18 03 10.0	-3.0	
	baz=2.8,SNR=74							
E22A	**Miles City**	**2.84**	**350**	P	Pn	18 03 07.6	-1.0	
	baz=2.8							
E22A				S	Sn	18 03 41.4	-2.2	
	baz=2.8							
E23A	**Ismay**	**2.85**	**359**	P	Pn	18 03 09.1	+0.2	
	baz=2.9							
E23A				S	Sn	18 03 43.2	-0.8	
	baz=2.9							
H19A	**Powell**	**2.87**	**292**	P	Pn	18 03 09.9	+0.7	
	baz=2.9,SNR=46							
F26A	**Lodgepole**	**2.88**	**39**	P	Pn	18 03 10.8	+1.6	
	baz=2.9							
J28A	**Allard Ranch,**	**2.93**	**93**	Pb	Pb	18 03 15.4	+0.2	
	baz=2.9,SNR=23							
G27A	**Dupree**	**2.94**	**53**	P	Pn	18 03 11.6	+1.5	
	baz=2.9,SNR=30							
I28A	**Midland**	**2.98**	**82**	Pb	Pb	18 03 15.6	-0.4	
	baz=2.9,SNR=21							
F20A	**Billings**	**2.98**	**317**	P	Pn	18 03 10.8	+0.1	
	baz=3.0,SNR=12							
E24A	**Baker**	**3.00**	**13**	P	Pn	18 03 11.3	+0.5	
	baz=3.0,SNR=32							
E25A	**Miller Ranch,**	**3.15**	**24**	P	Pn	18 03 14.6	+1.7	
	baz=3.1,SNR=11							
RLMT	**Red Lodge**	**3.23**	**299**	P	Pn	18 03 15.1	+0.9	
	baz=3.2,SNR=46							
RLMT	**Red Lodge**	**3.23**	**299**	*e*Pn	Pn	18 03 14.3	+0.1	
BW06	**Boulder Array**	**3.26**	**256**	*e*Pn	Pn	18 03 14.9	+0.3	
PDAR	**Pinedale Array**	**3.26**	**256**	Pn	Pn	18 03 15.2	+0.6	
	7.1nm,0.3s,baz=82,slow=15,SNR=60							
PDAR				Lg	Lg	18 03 58.1		
	15nm,0.3s,baz=77,slow=32,SNR=6.2							
E26A	**Carlson Angus**	**3.45**	**34**	P	Pn	18 03 18.3	+1.2	
	baz=3.4,SNR=12							
D24A	**Glendive**	**3.53**	**10**	P	Pn	18 03 20.0	+1.8	
	baz=3.5							
D22A	**Cohagen**	**3.57**	**350**	P	Pn	18 03 18.9	+0.2	
	baz=3.6,SNR=9.0							
OGNE	**Ogallala**	**3.60**	**137**	*e*Pn	Pn	18 03 21.2	+2.0	
D21A	**La Casta Ranch**	**3.63**	**341**	P	Pn	18 03 20.4	+0.8	
	baz=3.6							
GCMT	**Greycliff**	**3.81**	**306**	*e*Pn	Pn	18 03 22.2	+0.1	
LKWY	**Lake**	**3.82**	**286**	*e*Pn	Pn	18 03 23.1	+0.8	
ISCO	**Idaho Springs**	**3.85**	**184**	P	Pn	18 03 24.7	+1.9	
	baz=3.9,SNR=7.2							
ISCO	**Idaho Springs**	**3.85**	**184**	*e*Pn	Pn	18 03 24.6	+1.8	
LOHW	**Long Hollow**	**3.88**	**271**	*e*Pn	Pn	18 03 25.2	+2.0	
H17A	**Grant Village**	**3.91**	**283**	*e*Pn	Pn	18 03 24.6	+1.0	
D26A	**Manning**	**3.93**	**29**	P	Pn	18 03 24.3	+0.7	
	baz=3.9,SNR=23							
FLWY	**Flagg Ranch**	**3.96**	**278**	*e*Pn	Pn	18 03 25.4	+1.2	
MOOW	**Moose Ponds**	**3.98**	**273**	*e*Pn	Pn	18 03 25.5	+1.0	
SNOW	**Snow King Moun**	**4.00**	**269**	*e*Pn	Pn	18 03 27.2	+2.4	
YNR	**Norris Junctio**	**4.04**	**287**	Pn	Pn	18 03 21.6	-3.8	
RETW	**Red Top Meadow**	**4.08**	**268**	*e*Pn	Pn	18 03 27.3	+1.4	
YFT	**Old Faithful**	**4.10**	**283**	*e*Pn	Pn	18 03 29.1	+2.9	
IMW	**Indian Meadow**	**4.12**	**275**	*e*Pn	Pn	18 03 27.7	+1.2	
TPAW	**Teton Pass**	**4.14**	**270**	*e*Pn	Pn	18 03 27.8	+1.0	
O20A	**White River Ci**	**4.15**	**213**	*e*Pn	Pn	18 03 26.6	-0.2	
C25A	**Freed Ranch, W**	**4.30**	**18**	P	Pn	18 03 30.4	+1.6	
	baz=4.3,SNR=11							
AHID	**Auburn Hatcher**	**4.36**	**260**	Pn	Pn	18 03 31.3	+1.6	
QLMT	**Earthquake Lak**	**4.59**	**287**	*e*Pn	Pn	18 03 33.9	+1.0	
SMCO	**Snowmass**	**4.64**	**197**	*e*Pn	Pn	18 03 34.8	+1.0	
C27A	**Sayler Ranch,**	**4.85**	**32**	P	Pn	18 03 37.1	+0.9	
	baz=4.8,SNR=8.9							
DGMT	**Dagmar**	**4.88**	**8**	*e*Pn	Pn	18 03 37.5	+0.8	
KSCO	**Kaye Shedlock'**	**5.03**	**156**	*e*Pn	Pn	18 03 39.1	+0.2	
	20nm,0.3s							
HWUT	**Hardware Ranch**	**5.08**	**249**	*e*Pn	Pn	18 03 39.7	+0.1	
	10nm,0.4s							
EGMT	**Eagleton**	**5.39**	**326**	*e*Pn	Pn	18 03 43.4	-0.3	
	18nm,0.5s							
JLU	**Jordanelle**	**5.52**	**239**	*e*Pn	Pn	18 03 43.7	-1.9	
	14nm,0.7s							
DLMT	**Dillon**	**5.52**	**291**	*e*Pn	Pn	18 03 46.0	+0.4	
	10nm,0.9s							
HRY	**Holter Researc**	**5.57**	**306**	*e*Pn	Pn	18 03 47.5	+1.2	
	11nm,0.4s							
LRM	**Limekiln Ridge**	**5.57**	**296**	*e*Pn	Pn	18 03 46.5	+0.1	
	24nm,0.4s							
MCMT	**McKenzie Canyo**	**5.58**	**285**	*e*Pn	Pn	18 03 51.0	+4.4	
	2.1nm,0.4s							
CTU	**Camp Tracy**	**5.65**	**241**	*e*Pn	Pn	18 03 47.9	+0.5	
	6.7nm,0.3s							
MDND	**Maddock**	**5.77**	**41**	*e*Pn	Pn	18 03 48.8	-0.1	
	54nm,0.6s							
HVU	**Hansel Valley**	**5.84**	**254**	*e*Pn	Pn	18 03 49.8	-0.2	
	6.3nm,0.3s							
SDCO	**Great Sand Dun**	**5.89**	**182**	*e*Pn	Pn	18 03 50.8	-0.1	
	3.2nm,0.3s							
MPU	**Maple Canyon**	**5.98**	**235**	*e*Pn	Pn	18 03 53.5	+1.5	
	40nm,0.7s							
SRU	**San Rafael Swe**	**6.01**	**223**	*e*Pn	Pn	18 03 52.4	0.0	
	18nm,0.3s							
PV01	**Paradox Valley**	**6.05**	**206**	*e*Pn	Pn	18 03 53.7	+0.8	
	1µm,0.7s							
TMUT	**Trail Mountain**	**6.23**	**228**	*e*Pn	Pn	18 03 56.5	+1.1	
	12nm,0.4s							
ECSD	**EROS Data Cent**	**6.27**	**86**	*e*Pn	Pn	18 03 55.5	-0.2	
	8.2nm,0.4s							
NLU	**North Lily Min**	**6.29**	**236**	*e*Pn	Pn	18 03 56.4	+0.2	
	3.0nm,0.4s							
BGU	**Big Grassy Mou**	**6.37**	**247**	*e*Pn	Pn	18 03 56.9	-0.3	
	4.5nm,0.7s							
CHMT	**Chamberlain Mo**	**6.52**	**303**	*e*Pn	Pn	18 03 59.4	0.0	
	2.2nm,0.5s							
DUG	**Dugway, Tooele**	**6.60**	**241**	P	Pn	18 04 00.5	+0.1	
	baz=6.6,SNR=15							
DUG	**Dugway, Tooele**	**6.60**	**241**	*e*Pn	Pn	18 04 00.7	+0.2	
	3.6nm,0.4s							
HLID	**Hailey**	**6.65**	**272**	*e*Pn	Pn	18 04 02.5	+1.4	
	5.6nm,1.0s							
T28A	**Walsh**	**6.94**	**159**	P	Pn	18 04 05.4	+0.3	
	baz=6.9,SNR=17							
MSU	**Marysvale**	**7.32**	**228**	*e*Pn	Pn	18 04 11.7	+1.3	
	0.1nm,0.4s							
MVU	**Marysvale**	**7.34**	**228**	*e*Pn	Pn	18 04 11.8	+1.1	
	2.0nm,0.4s							
YBMT	**Yellow Bay**	**7.43**	**308**	*e*Pn	Pn	18 04 12.6	+0.7	
	6.5nm,0.3s							
JTMT	**Jette**	**7.53**	**306**	Pn	Pn	18 04 13.8	+0.7	
ELK	**Elko**	**7.96**	**252**	Pn	Pn	18 04 18.8	-0.4	
	0.3nm,0.3s,baz=73,slow=11,SNR=4.3							
AGMN	**Agassiz Nation**	**8.03**	**51**	*e*Pn	Pn	18 04 19.4	-0.4	
	9.9nm,0.4s							
ANMO	**Albuquerque**	**8.73**	**187**	LR	LR	18 07 02.4		
	comp=Z,30nm,18.0s,baz=110,slow=33							
WUAZ	**Wupatki**	**9.38**	**212**	Pn	Pn	18 04 38.1	-0.5	
	5.2nm,0.6s							
NEW	**Newport**	**9.47**	**303**	Lg	Lg	18 07 19.7		
	0.1nm,0.3s,baz=36,slow=19,SNR=2.7							
NEW				LR	LR	18 09 20.6		
	comp=Z,34nm,19.4s,baz=119,slow=44							
I56US	**NEWPORT INFRAS**	**9.47**	**303**	*i*		18 55 50.0		
	baz=117,slow=310,SNR=1.8							
NVAR	**Mina Array Bea**	**11.14**	**247**	Pn	Pn	18 05 02.2	-0.5	
	0.1nm,0.3s,baz=62,slow=10,SNR=3.3							
YBH	**Yreka Blue Hor**	**12.98**	**268**	LR	LR	18 10 44.6		
	comp=Z,53nm,18.2s,baz=80,slow=39							
YKA	**Yellowknife Ar**	**19.66**	**347**	P	Pn	18 06 53.6	+0.1	
	0.2nm,0.3s,baz=154,slow=9.2,SNR=5.4							
FRB	**Frobisher Bay**	**28.98**	**33**	LR	LR	18 19 04.3		
	comp=Z,10µm,21.2s,baz=264,slow=34							
ILAR	**Eielson Array**	**31.36**	**327**	P	P	18 08 45.2	+1.3	
	0.1nm,0.4s,baz=126,slow=9.1,SNR=2.6							
ARCES	**ARCESS Array B**	**61.51**	**18**	P	P	18 12 39.1	-0.9	
	1.3nm,0.3s,baz=332,slow=7.5,SNR=2.4							
FINES	**FINESS Array B**	**68.11**	**23**	P	P	18 13 21.2	-2.0	
	1.7nm,1.0s,baz=326,slow=5.5,SNR=5.0							

NIED ***19*** *18:04:00,43˙90N×147˙50E,h38km,Mw3.4 Best double couple: M₀1.30000×10¹⁴ NP1:φ=265.00000°,δ28.00000°, λ180.00000°. NP2:φ=356.00000°,δ90.00000°,λ62.00000°.*
ISCJB ***19*** *18:04:18.0±1.1,44˙09N±0˙07×147˙7E±0˙1,h59km±9km, Error ellipse: s-maj=16.9km s-min=6.4km az=41.1*
JMA ***19*** *18:04:18.6±0.2,43˙91N×147˙54E,h16km,M4.0*
SKHL ***19*** *18:04:19.3±0.0,44˙09N×147˙62E,h67km±3km,mb5.3/4*

ISC 19 18:04:17.2±2.1, 44˙03N±0˙10×147˙8E±0˙1, h44km±21km, n19, σ1°20/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.73**	**258**	*e*P	**Pn**	**18 04 31.7**	**+0.6**
SHO				AMB	AMB	18 04 31.8	
	2µm,0.3s						
KUR	**Kuril'sk**	**1.20**	**2**	*e*P	**Pn**	**18 04 38.0**	**+0.4**
KUR				AMB	AMB	18 04 39.9	
	1µm,0.4s						
KUR				*e*S	**Sn**	**18 04 52.0**	**-0.7**
KUR				A	A	18 04 54.0	
	1µm,0.4s						
KUR				A	A	18 04 54.0	
	840nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.41**	**271**	*e*P	**Pn**	**18 04 40.5**	**+0.2**
YUK				AMB	AMB	18 04 42.1	
	160nm,0.2s						
YUK				AMB	AMB	18 04 42.1	
	37nm,0.2s						
YUK				AMB	AMB	18 04 42.1	
	561nm,0.2s						
YUK				*e*S	**Sn**	**18 04 56.4**	**-1.3**
YUK				A	A	18 04 58.8	
	580nm,0.2s						
YUK				A	A	18 04 58.8	
	300nm,0.2s						
NEM2	**Nemuro 2**	**1.64**	**247**	P	**Pn**	**18 04 43.9**	**+0.3**
NEM2				*e*S	**Sn**	**18 05 02.2**	**-1.2**
JRA	**Rausu**	**1.94**	**268**	P	**Pn**	**18 04 48.9**	**+1.2**
JRA				*e*S	**Sn**	**18 05 11.4**	**+0.5**
JNK	**Nakash**	**2.28**	**260**	P	**Pn**	**18 04 53.4**	**+1.0**
JNK				*e*S	**Sn**	**18 05 18.7**	**-0.6**
JAK	**Akkeshi**	**2.49**	**247**	P	**Pn**	**18 04 55.9**	**+0.7**
JAK				*e*S	**Sn**	**18 05 23.1**	**-1.3**
JTKR	**Abashiri--Toko**	**2.82**	**270**	P	**Pn**	**18 05 01.0**	**+1.3**
JAR	**Ashorobuto**	**3.02**	**257**	P	**Pn**	**18 05 04.5**	**+1.9**
JOB	**Onbets**	**3.11**	**250**	P	**Pn**	**18 05 05.2**	**+1.5**
JOB				*e*S	**Sn**	**18 05 39.3**	**-0.2**
JMP	**Maruseppu**	**3.21**	**271**	P	**Pn**	**18 05 06.7**	**+1.5**
JCH	**Churui**	**3.54**	**248**	P	**Pn**	**18 05 10.5**	**+0.8**
JCH				*e*S	**Sn**	**18 05 49.0**	**-1.3**
JSE	**Soyaes**	**3.85**	**286**	P	**Pn**	**18 05 15.0**	**+1.1**
ERM	**Erimo**	**3.96**	**241**	*e*P	Pn	18 05 19.3	+3.9
YSS	**Yuzh-Sakhalins**	**4.60**	**311**	*e*P	**Pn**	**18 05 25.2**	**+1.0**
YSS				AMB	AMB	18 05 25.4	
	125nm,0.3s						
MAJO	**Matsushiro**	**10.47**	**228**	*e*P	**Pn**	**18 06 46.2**	**+1.5**
HIA	**Hailar**	**19.91**	**295**	*e*P	**Pn**	**18 08 45.0**	**-1.9**
YAK	**Yakutsk**	**20.93**	**336**	*e*P	Pn	18 08 56.9	-1.9
ARU	**Arti**	**54.47**	**317**	*e*P	**P**	**18 13 40.3**	**+0.4**

DJA ***19*** *18:23:10.4±2.3,4˚N±24˚×12˚5E±˚,h306km±16km,M4.6/7, mb4.7/3,mB4.8/3,MLv4.7/7,Mw(mB)4.0/3*
ISCJB ***19*** *18:23:12.1±0.5,3˚71N±0˙06×124˚7E±0˙1,h331km, mb3.4/12,Error ellipse: s-maj=16.0km s-min=8.3km az=2.0*
IDC ***19*** *18:23:16.5±5.6,3˚70N×124˚62E,h365km±67km,mb3.3/11, mb1 3.5/11,mb1mx3.3/22,mbtmp4.0/11,Error ellipse: s-maj=27.9km s-min=10.6km az=79.0*

ISC 19 18:23:13.3±0.6, 3˚70N±0˙08×124˚7E±0˙1, h331km, n18, σ0°89/18, mb3.5/12, 1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**3.17**	**192**	P	**Pn**	**18 24 12.4**	**-0.6**
TNTI	**Ternate**	**3.97**	**137**	P	**Pn**	**18 24 19.9**	**-1.1**
MRSI	**Marisa**	**4.20**	**220**	P	**Pn**	**18 24 22.5**	**-0.9**
LUWI	**Luwuk**	**5.07**	**202**	P	**Pn**	**18 24 32.9**	**-0.1**
	120nm,1.1s,1µm0.6nm						
APSI	**Ampana**	**5.48**	**213**	P	**Pn**	**18 24 37.2**	**-0.4**
	94nm,1.0s,1µm0.3nm						
PVCP	**Virac**	**9.85**	**357**	*e*P	**P**	**18 25 32.0**	**0.0**
WRA	**Warramunga Arr**	**25.34**	**158**	P	**P**	**18 28 11.1**	**-0.2**
	5.4nm,0.3s,baz=335,slow=10,SNR=128						
ASAR	**Alice Springs**	**28.65**	**162**	P	**P**	**18 28 40.9**	**+0.3**
	1.6nm,0.4s,baz=342,slow=8.0,SNR=146						
CMAR	**Chiang Mai Arr**	**29.12**	**302**	P	**P**	**18 28 45.9**	**+1.1**
	0.3nm,0.6s,baz=103,slow=4.5,SNR=4.2						
KSRS	**Korea Array**	**33.73**	**5**	P	**P**	**18 29 24.6**	**0.0**
	0.3nm,0.3s,baz=183,slow=9.8,SNR=4.5						
MJAR	**Matsushiro Arr**	**34.99**	**19**	P	**P**	**18 29 34.8**	**-0.6**
	1.4nm,0.7s,baz=196,slow=9.8,SNR=7.5						
STKA	**Stephens Creek**	**38.87**	**157**	P	**P**	**18 30 09.3**	**+1.5**
	4.1nm,0.3s,baz=340,slow=7.3,SNR=39						
ASAJ	**Asahikawa**	**43.26**	**19**	P	**P**	**18 30 43.9**	**+0.8**
	0.4nm,0.3s,baz=269,slow=0.6,SNR=8.9						
SONM	**Songino Array**	**46.70**	**343**	P	**P**	**18 31 09.9**	**-0.2**
	1.0nm,0.7s,baz=160,slow=9.1,SNR=8.1						
PETK	**Petropavlovsk-**	**56.26**	**23**	P	**P**	**18 32 21.5**	**+1.4**
	1.4nm,0.6s,baz=192,slow=2.8,SNR=3.2						
ZALV	**Zalesovo Beam**	**59.70**	**334**	P	**P**	**18 32 42.9**	**-0.7**
	0.7nm,0.5s,baz=146,slow=6.8,SNR=3.8						
VNDA	**Vanda**	**83.66**	**172**	P	**P**	**18 35 04.0**	**-0.8**
	0.2nm,0.4s,baz=334,slow=6.1,SNR=2.1						
FINES	**FINESS Array B**	**90.88**	**332**	P	**P**	**18 35 38.3**	**-1.3**
	1.3nm,0.8s,baz=94,slow=7.2,SNR=4.2						

BJI ***19*** *18:40:00.8,3˙21S×100˙38E,h53km,mb4.7/43,mB4.8/33, Ms4.5/20,Ms7 4.4/10*
IDC ***19*** *18:40:02.3±0.5,2˙25S×100˙44E,h0km,mb4.5/20, mb1 4.6/23,mb1mx4.5/27,mbtmp4.5/23,ML4.0/3,MS3.5/17, Ms1 3.6/17,ms1mx3.4/35,Error ellipse: s-maj=18.3km s-min=11.5km az=65.0*
MOS ***19*** *18:40:05.6±1.0,2˙23S×100˙52E,h33km,mb5.0/24,Error ellipse: s-maj=11.4km s-min=6.0km az=109.9*
KLM ***19*** *18:40:05.9,2˙44S×100˙44E,h9km,mb4.8,ML4.7,MS5.8*
ISCJB ***19*** *18:40:07.7±0.5,2˙35S±0˙03×100˙40E±0˙04,h56km±4km, mb4.7/54,MS3.5/17,Error ellipse: s-maj=6.8km s-min=3.9km az=142.1*
NEIC ***19*** *18:40:08.9±0.7,2˙34S×100˙36E,h53km±6km,mb4.7/32, Error ellipse: s-maj=8.5km s-min=4.5km az=57.0*
DJA ***19*** *18:40:08.9±0.4,2˙2S±3˚×10˙0E±˚,h52km±11km,M4.7/18, mb5.0/11,mB5.0/7,MLv4.9/18,Mw(mB)4.4/7*

ISC 19 18:40:09.0±0.4, 2˙42S±0˙04×100˙33E±0˙05, h52km±2km, n293, σ1°19/296, mb4.8/64, MS3.5/17, 14C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPSI	**Pulau Pagai**	**0.47**	**223**	P	**Pn**	**18 40 20.0**	**-0.1**
SISI	**Saibi**	**1.64**	**311**	P	**Pn**	**18 40 35.4**	**-0.2**
SDSI	**Sungai Dareh**	**1.84**	**37**	P	**Pn**	**18 40 37.7**	**-0.6**
BKNI	**Bangkinang**	**2.82**	**15**	P	**Pn**	**18 40 51.6**	**0.0**
BKNI	**Bangkinang**	**2.82**	**15**	*e*Pn	**Pn**	**18 40 50.7**	**-0.9**
BKNI				*e*Sn	Sn	18 41 32.2	+7.8
PBSI	**Pulau Batu**	**3.11**	**319**	P	**Pn**	**18 40 54.9**	**-0.8**
MNAI	**Manna**	**3.26**	**126**	P	**Pn**	**18 40 58.7**	**+1.0**
MNAI	**Manna**	**3.26**	**126**	*e*Pn	**Pn**	**18 40 58.0**	**+0.3**
MNAI				*e*Sn	**Sn**	**18 41 35.4**	**+0.1**
MNSI	**Mandailing Nat**	**3.28**	**347**	P	**Pn**	**18 40 56.8**	**-1.1**
JMBI	**JAMBI**	**3.40**	**77**	P	**Pn**	**18 41 00.9**	**+1.2**
LHSI	**Lahat**	**3.48**	**114**	P	**Pn**	**18 41 03.1**	**+2.3**
LWLI	**Liwa**	**4.53**	**125**	P	**Pn**	**18 41 17.2**	**+1.9**
GSI	**Gunungsitoli**	**4.61**	**323**	*e*Pn	**Pn**	**18 41 14.3**	**-1.9**
GSI				*e*Sn	Sn	18 42 26.2	+18
KLSI		**4.94**	**117**	P	**Pn**	**18 41 22.8**	**+2.0**
KASI	**Kota Agung**	**5.18**	**127**	P	**Pn**	**18 41 24.6**	**+0.6**
	387nm,0.7s,3µm3.2nm						
PSI	**Prapat**	**5.37**	**345**	Pn	Pn	18 41 22.8	-4.0
	1.3nm,0.3s,baz=180,slow=2.0,SNR=5.0						
PSI				LR	LR	18 43 50.9	
	comp=Z,905nm,19.4s,baz=145,slow=44						
PSI	**Prapat**	**5.37**	**345**	P	Pn	18 41 22.8	-4.0
PSI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PSI				MLR	MLR		
	comp=Z,905nm,19.4s						
PSI	**Prapat**	**5.37**	**345**	*e*Pn	**Pn**	**18 41 24.2**	**-2.6**
PSI				*e*Sn	Sn	18 42 34.2	+6.8
MYKOM	**Kota Tinggi**	**5.47**	**40**	P	**Pn**	**18 41 26.4**	**-1.5**
MYKOM	**Kota Tinggi**	**5.47**	**40**	*e*Pn	**Pn**	**18 41 27.6**	**-0.4**
MYKOM				*e*Sn	**Sn**	**18 42 33.3**	**+3.7**
FRIM	**Kepong**	**5.76**	**13**	P	**Pn**	**18 41 32.2**	**+0.2**
CGJI	**Cibinong**	**6.78**	**128**	P	**Pn**	**18 41 44.4**	**-1.6**
	comp=Z,106nm,0.7s,comp=Z,2µmcomp=Z,0.5nm						
IPM	**Ipoh**	**6.89**	**6**	P	**Pn**	**18 41 48.2**	**+0.7**
IPM	**Ipoh**	**6.89**	**6**	*e*Pn	**Pn**	**18 41 48.6**	**+1.1**
TPI	**Tanjungpandan**	**7.33**	**93**	P	**Pn**	**18 41 53.7**	**+0.2**
	comp=Z,37nm,0.6s,comp=Z,0.2nm						
KULM	**Kulim**	**7.66**	**2**	*e*Pn	**Pn**	**18 41 57.6**	**-0.5**
KTGM	**Kuala Trenggan**	**8.19**	**20**	P	**Pn**	**18 42 06.2**	**+0.9**
LHMI	**Lhok Sumawe**	**8.31**	**336**	P	**Pn**	**18 42 07.4**	**+0.4**
	comp=Z,49nm,1.2s						
CNJI	**Cibinong**	**8.34**	**126**	P	**Pn**	**18 42 05.4**	**-2.0**
	comp=Z,123nm,1.1s						
LEM	**Lembang**	**8.48**	**121**	Pn	**Pn**	**18 42 08.0**	**-1.5**
	comp=Z,1.4nm,0.3s,baz=54,slow=16,SNR=3.4						
LEM				LR	LR	18 45 57.7	
	comp=Z,523nm,19.4s,ba

baz=146,slow=74,SNR=8.0
H08N3 Diego Garcia H 29.50 261 T T 19 17 15.0
baz=146,slow=74,SNR=10
ODAN Odare 31.67 338 *e*P **P 18 46 28.5 +0.6**
comp=Z,27nm,0.7s
TAPN Taplejung 32.00 338 *e*P **P 18 46 31.5 +0.7**
comp=Z,51nm,0.9s
RAMN Ramite 32.06 336 *e*P **P 18 46 32.8 +1.5**
comp=Z,17nm,0.6s
TPUB Ta-pu 32.32 37 *e*P **P 18 46 32.8 -0.6**
comp=Z,19nm,1.0s
PKI Pulchoki 33.10 335 *e*P **P 18 46 40.7 +0.2**
comp=Z,9.0nm,0.6s
PKIN Phulchoki 33.11 335 *e*P **P 18 46 41.3 +0.8**
comp=Z,10nm,0.7s
LSA Lhasa 33.12 345 P **P 18 46 40.3 -0.5**
LSA PMZ
comp=Z,20nm,1.8s
LSA Lhasa 33.12 345 *e*P **P 18 46 41.2 +0.4**
LSA pmax pmax
comp=Z,18nm,0.7s
LSA Lhasa 33.12 345 *e*P **P 18 46 41.2 +0.4**
comp=Z,18nm,0.7s
GUN Gumba 33.20 336 *e*P **P 18 46 42.0 +0.5**
comp=Z,46nm,0.6s
DMN Daman 33.26 335 *e*P **P 18 46 41.7 -0.1**
comp=Z,17nm,0.8s
CD2 Chengdu 33.30 5 *e*P **P 18 46 42.3 +0.4**
CD2 pP **pP 18 46 55.8 +0.4**
CD2 PP **PP 18 47 58.8 +0.7**
CD2 PcP **PcP 18 49 22.3 -0.9**
CD2 S **S 18 52 00.6 +1.7**
CD2 sS **sS 18 52 24.3 +2.6**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
CD2 LN
comp=Z,160nm,11.5s
CD2 LZ
comp=Z,230nm,11.8s
KKN Kakani 33.34 335 *e*P **P 18 46 42.3 -0.2**
comp=Z,23nm,0.7s
ENH Enshi 33.66 14 *e*P **P 18 46 42.9 -2.2**
comp=Z,5.8nm,0.6s
GKN Gorkha 33.80 335 *e*P **P 18 46 46.8 +0.4**
comp=Z,11nm,0.5s
KOLN Koldanda 34.06 333 *e*P **P 18 46 49.7 +1.0**
comp=Z,18nm,0.6s
NWAO Narrogin (SRO) 34.25 154 P **P 18 46 50.5 +0.4**
comp=Z,6.2nm,0.9s,baz=328,slow=7.6,SNR=5.2
H01W3 Cape Leeuwin H 34.76 160 T T 19 23 35.2
baz=337,slow=74,SNR=3.3
H01W2 Cape Leeuwin H 34.78 160 T T 19 23 34.2
baz=337,slow=74,SNR=5.2
H01W1 Cape Leeuwin H 34.78 160 T T 19 23 31.3
baz=337
XAN Xi'an 37.16 12 P **P 18 47 13.3 -1.7**
XAN pP **pP 18 47 26.8 -1.8**
XAN PMZ
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 37.50 120 P **P 18 47 17.2 -1.0**
comp=Z,39nm,0.8s,baz=301,slow=9.1,SNR=142
WRA PcP **PcP 18 49 36.1 +0.4**
comp=Z,1.9nm,0.6s,baz=309,slow=2.3,SNR=5.0
WRAB Tennant Creek 37.51 120 *e*P **P 18 47 17.2 -1.0**
WRAB pmax pmax
comp=Z,107nm,0.7s
WRAB Tennant Creek 37.51 120 *e*P **P 18 47 17.4 -0.8**
comp=Z,44nm,0.8s
FORT Forrest 38.51 140 *e*P **P 18 47 27.1 +0.6**
comp=Z,20nm,0.6s
NJ2 Nanjing 38.53 26 *e*P **P 18 47 26.4 -0.1**
NJ2 PMZ
comp=Z,40nm,0.7s
ASAR Alice Springs 38.74 126 P **P 18 47 28.4 -0.2**
comp=Z,18nm,0.6s,baz=302,slow=8.0,SNR=302
ASAR PcP **PcP 18 49 40.4 +0.8**
comp=Z,3.1nm,0.6s,baz=311,slow=2.3,SNR=8.7
ASAR S **S 18 53 23.9 +1.5**
comp=Z,0.5nm,0.8s,baz=299,slow=14,SNR=5.4
AS31 Alice Springs 38.74 126 *e*P **P 18 47 28.3 -0.3**
AS01 Alice Springs 38.78 126 *e*P **P 18 47 28.4 -0.5**
GTA Gaotai 41.63 359 *e*P **P 18 47 51.6 -0.7**
GTA pP **pP 18 48 05.4 -0.7**
GTA sP **sP 18 48 10.9 -1.3**
GTA PcP **PcP 18 49 48.8 +0.2**
GTA S **S 18 54 04.6 -0.5**
GTA PMZ
comp=Z,4.0nm,1.5s
GTA PMZ
comp=Z,37nm,6.3s
GTA LN
comp=Z,130nm,13.3s
GTA LE
comp=Z,86nm,14.2s
HHC Hu-ho-hao-te 44.27 12 *e*P **P 18 48 12.8 -0.8**
HHC sP **sP 18 48 31.3 -2.3**
HHC PP **PP 18 49 57.6 -0.1**
HHC S **S 18 54 41.8 -2.0**
HHC PMZ
comp=Z,13nm,1.0s
HHC PMZ
comp=Z,57nm,6.1s
BJI Beijing 44.68 17 P **P 18 48 16.5 -0.3**
BJI PMZ
comp=Z,18nm,0.9s
BJI PMZ
comp=Z,93nm,4.0s
BJI LN
comp=Z,140nm,19.4s
BJI LE
comp=Z,88nm,16.5s
GUMO Guam 46.95 69 LR LR 19 08 05.6
comp=Z,24nm,21.9s,baz=196,slow=36
KSAR Wonju Array Be 47.18 30 P **P 18 48 35.6 -1.0**
KSAR 18 50 07.6
KSAR Wonju Array Be 47.18 30 P **P 18 48 35.6 -1.0**
KSAR PcP **PcP 18 50 07.5 +0.1**
KSRS Korea Array 47.21 30 P **P 18 48 35.6 -1.2**
comp=Z,3.8nm,0.6s,baz=223,slow=8.1,SNR=27
KSRS PcP **PcP 18 50 07.5 0.0**
comp=Z,0.9nm,0.7s,baz=206,slow=2.7,SNR=4.8
KSRS LR LR 19 09 58.9
comp=Z,34nm,19.0s,baz=220,slow=38
KSRS Korea Array 47.21 30 P **P 18 48 35.6 -1.2**
KSRS 18 50 07.6
KSRS pmax pmax
comp=Z,4.0nm,0.6s
KSRS pmax pmax
comp=Z,1.0nm,0.7s
KSRS MLR MLR
comp=Z,34nm,19.0s
KS01 Wonju Array Si 47.22 30 *e*P **P 18 48 35.9 -0.9**
KSH Kashi 47.35 334 P **P 18 48 37.3 -0.7**
KSH pP **pP 18 48 54.8 +2.8**
KSH PP **PP 18 50 29.8 +0.1**
KSH S **S 18 55 29.3 +1.1**
KSH sS **sS 18 55 53.4 +1.6**
KSH PMZ
comp=Z,55nm,4.9s
KSH LN
comp=Z,110nm,6.2s
KSH LE
comp=Z,72nm,4.8s
WMQ Urumqi 47.41 348 P **P 18 48 39.4 +1.1**
WMQ pP **pP 18 48 51.8 -0.5**
WMQ sP **sP 18 48 57.1 -1.3**
WMQ PMZ
comp=Z,19nm,0.4s
WMQ PMZ
comp=Z,74nm,4.6s
CTA Charters Tower 48.13 115 LR LR 19 13 15.8
comp=Z,154nm,18.5s,baz=168,slow=42
CTAO Charters Tower 48.13 115 *e*P **P 18 48 42.0 -2.2**
CTAO pmax pmax
comp=Z,16nm,1.0s
CTAO Charters Tower 48.13 115 *e*P **P 18 48 42.0 -2.2**
comp=Z,16nm,1.0s
STKA Stephens Creek 48.63 132 P **P 18 48 48.5 +0.5**
comp=Z,20nm,0.8s,baz=304,slow=7.5,SNR=46
STKA LR LR 19 09 44.3
comp=Z,78nm,21.7s,baz=240,slow=37
STKA Stephens Creek 48.63 132 *e*P **P 18 48 48.0 +0.1**
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA Stephens Creek 48.63 132 *e*P **P 18 48 48.0 +0.1**
comp=Z,3.7nm,0.8s
JCJ Chichijima 49.88 51 LR LR 19 10 12.7
comp=Z,34nm,21.8s,slow=36
UCH Uchtor 50.21 335 P **P 18 49 01.6 +1.3**
SNR=6.0
SONM Songino Array 50.33 5 P **P 18 49 00.8 +0.1**
comp=Z,5.6nm,0.7s,baz=189,slow=9.3,SNR=47
SONM PcP **PcP 18 50 18.4 -0.4**
comp=Z,1.6nm,0.7s,baz=186,slow=5.2,SNR=3.7
SONA1 Songino Array 50.34 5 *e*P **P 18 49 00.5 -0.3**
TKM2 Tokmak 2 50.34 336 P **P 18 49 01.9 +0.9**
SNR=16
TKM2 Tokmak 2 50.34 336 *e*P **P 18 49 01.5 +0.5**
TKM2 *e* 18 49 15.5
TKM2 pmax pmax
comp=Z,15nm,0.8s
TKM2 Tokmak 2 50.34 336 *e*P **P 18 49 01.5 +0.5**
comp=Z,16nm,0.8s
TKM2 *e* 18 49 15.5
KBK Karagaybulak 50.38 336 P **P 18 49 02.6 +1.3**
SNR=8.9
CHMS Chumysh 50.75 336 P **P 18 49 04.4 +0.5**
SNR=6.9
EKS2 Erkin-Say 50.88 335 P **P 18 49 06.1 +1.1**
SNR=24
EKS2 Erkin-Say 50.88 335 *e*P **P 18 49 06.0 +1.1**
EKS2 pmax pmax
comp=Z,16nm,0.8s
EKS2 Erkin-Say 50.88 335 *e*P **P 18 49 06.0 +1.1**
comp=Z,16nm,0.8s
USP Ospenovka 51.08 336 P **P 18 49 07.2 +0.9**
SNR=6.6
CN2 Changchun 51.24 23 *e*P P 18 49 11.9 +4.5
MK01 Makanchi Array 51.49 344 *e*P **P 18 49 09.0 -0.4**
MK31 Makanchi Array 51.52 344 *e*P **P 18 49 09.3 -0.2**
MK31 Makanchi Array 51.52 344 *e*P **P 18 49 09.3 -0.2**
MKAR Makanchi Array 51.52 344 *e*P **P 18 49 09.2 -0.3**
MKAR Makanchi Array 51.52 344 *e*P **P 18 49 09.2 -0.3**
MAJO Matsushiro 52.39 39 *e*P **P 18 49 15.1 -1.1**
MAJO Matsushiro 52.39 39 *e*P **P 18 49 15.1 -1.1**
MJAR Matsushiro Arr 52.39 39 P **P 18 49 14.4 -1.8**
comp=Z,3.8nm,0.9s,baz=224,slow=8.2,SNR=14
MJAR LR LR 19 12 40.7
comp=Z,29nm,18.9s,baz=215,slow=38
ZAK Zakamensk 52.66 2 *e*P **P 18 49 16.8 -1.2**
ZAK *e* 18 50 23.9
ZAK pmax pmax
comp=Z,2.0nm,1.2s
KKAR Karatay Array 52.67 333 *e*P **P 18 49 17.6 -0.6**
KKAR Karatay Array 52.67 333 *e*P **P 18 49 17.6 -0.6**
MDJ Mudanjiang 53.62 26 P **P 18 49 25.1 0.0**
MDJ pP **pP 18 49 38.8 -0.5**
MDJ sP **sP 18 49 44.9 -0.4**
MDJ S **S 18 56 54.3 -0.6**
MDJ PMZ
comp=Z,7.0nm,1.0s
MDJ PMZ
comp=Z,9.0nm,3.8s
MDJ Mudanjiang 53.62 26 *e*P **P 18 49 24.4 -0.7**
comp=Z,4.0nm,0.4s
EIDS Eidsvold 53.87 120 *e*P **P 18 49 27.7 +0.4**
comp=Z,9.1nm,0.7s
HIA Hailar 54.15 16 P **P 18 49 27.1 -1.9**
HIA Hailar 54.15 16 P **P 18 49 27.1 -1.9**
USRK Ussuriysk Ar. 54.37 28 P **P 18 49 30.1 -0.5**
comp=Z,16nm,0.6s,baz=221,slow=6.1,SNR=32
USRK LR LR 19 14 45.8
comp=Z,66nm,18.4s,baz=162,slow=38
IRK Irkutsk 54.56 3 *e*P **P 18 49 31.7 -0.1**
IRK pmax pmax
comp=Z,18nm,1.3s
KURK Kurchatov 56.10 344 *e*P **P 18 49 42.6 -0.3**
KURK pmax pmax
comp=Z,22nm,1.6s
KURK Kurchatov 56.10 344 *e*P **P 18 49 42.6 -0.3**
comp=Z,22nm,1.6s
ZAA0 Zalesovo Array 57.64 349 *e*P **P 18 49 52.8 -0.9**
ZALV Zalesovo Beam 57.64 349 P **P 18 49 52.8 -0.9**
comp=Z,5.7nm,0.7s,baz=180,slow=6.3,SNR=23
KLR Kul'dur 58.18 24 *e*P P 18 49 53.8 -3.8
NVS Novosibirsk 58.79 349 *e*P **P 18 50 02.0 +0.3**
ASAJ Asahikawa 59.77 34 *e*P **P 18 50 08.2 -0.5**
comp=Z,5.9nm,1.1s
BRVK Borovoye 60.75 340 *e*P **P 18 50 14.2 -1.1**
BRVK *e* 18 50 27.5
BRVK pmax pmax
comp=Z,21nm,1.6s
BRVK Borovoye 60.75 340 *e*P **P 18 50 14.2 -1.1**
comp=Z,21nm,1.6s
BRVK *e* 18 50 27.5
BOD Bodaibo 61.04 8 *e*P **P 18 50 16.3 -0.9**
BOD pmax pmax
comp=Z,16nm,1.0s
YSS Yuzh-Sakhalins 61.66 32 *e*P **P 18 50 19.8 -1.7**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS Yuzh-Sakhalins 61.66 32 *e*P **P 18 50 21.0 -0.5**
comp=Z,12nm,0.7s
ABKAR Akbulak array 62.16 331 *e*P **P 18 50 24.1 -0.8**
SVE Sverdlovsk 67.19 338 *i*P **P 18 50 57.8 +0.3**
SVE pmax pmax
comp=Z,20nm,1.0s
ARU Arti 67.72 336 *d i*P **P 18 51 00.1 -0.7**
ARU S **S 18 59 56.8 +2.4**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 67.72 336 *e*P **P 18 51 00.1 -0.7**
comp=Z,9.2nm,1.0s
YAK Yakutsk 68.06 14 P **P 18 51 01.2 -1.6**
comp=Z,2.4nm,0.7s,baz=180,slow=20,SNR=11
YAK Yakutsk 68.06 14 *e*P **P 18 51 01.3 -1.6**
YAK pmax pmax
comp=Z,49nm,0.9s
YAK Yakutsk 68.06 14 *e*P **P 18 51 01.3 -1.6**
comp=Z,49nm,0.9s
NCK Nalchik 68.28 319 *e*P **P 18 51 05.6 +0.9**
KBZ Khabaz 68.83 319 P **P 18 51 09.1 +1.0**
comp=Z,5.7nm,0.8s,baz=118,slow=7.3,SNR=13
KIV Kislovodsk 69.07 319 *e*P **P 18 51 09.9 +0.2**
KIV *e* 18 51 23.1
KIV *e* 18 51 32.7
KIV *e* 18 53 45.2
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,21nm,14.0s
KIV Kislovodsk 69.07 319 *e*P **P 18 51 09.3 -0.4**
comp=Z,16nm,1.1s
KIV *e* 18 51 23.4
MAW Mawson 69.96 194 P **P 18 51 17.5 +3.0**
comp=Z,4.7nm,0.8s,baz=20,slow=18,SNR=14
MAW Mawson 69.96 194 *e*P **P 18 51 16.8 +2.2**
MAW pmax pmax
comp=Z,1.0nm,0.9s
MAW Mawson 69.96 194 *e*P **P 18 51 16.8 +2.2**
comp=Z,1.2nm,0.9s
VRHR Novokhopersk 72.86 326 *e*P **P 18 51 32.0 -0.3**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
PETK Petropavlovsk- 73.06 32 P **P 18 51 32.8 -0.8**
comp=Z,3.4nm,0.7s,baz=188,slow=5.5,SNR=4.4
BR131 Keskin Array S 73.84 312 *e*P **P 18 51 37.5 -1.1**
comp=Z,4.9nm,0.8s
BRTR Keskin Array B 73.84 312 P **P 18 51 38.5 -0.1**
comp=Z,2.6nm,0.8s,baz=127,slow=7.1,SNR=15
BRTR LR LR 19 27 47.3
comp=Z,19nm,18.2s,baz=122,slow=39
VORD Divnogorie 74.13 325 *e*P **P 18 51 39.3 -0.5**
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,5.0nm,0.6s
VSR Storozhevoye 74.30 325 *e*P **P 18 51 40.4 -0.4**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,2.0nm,0.4s
VSR pmax pmax
comp=E,5.0nm,0.7s
BR231 Keskin MP Arra 74.51 312 *e*P P 18 51 39.2 -3.3
BOSA Boshof 75.74 241 P **P 18 51 51.5 +1.7**
comp=E,2.2nm,0.9s,baz=132,slow=6.6,SNR=2.8
BOSA LR LR 19 21 56.2
comp=E,53nm,18.5s,baz=126,slow=33
BOSA Boshof 75.74 241 P **P 18 51 50.9 +1.0**
BOSA pmax pmax
comp=Z,3.0nm,0.9s
BOSA Boshof 75.74 241 P **P 18 51 50.9 +1.0**
comp=Z,3.1nm,0.9s
SEY Seymchan 75.89 22 *e*P **P 18 51 49.7 0.0**
TIXI Tiksi 76.22 9 *e*P **P 18 51 50.1 -1.3**
TIXI pmax pmax
comp=Z,22nm,1.7s
TIXI MLR MLR
comp=Z,77nm,21.0s
TIXI Tiksi 76.22 9 *e*P **P 18 51 49.9 -1.5**
comp=Z,37nm,1.7s
OBN Obninsk 77.32 328 *e*P **P 18 51 58.7 +0.8**
OBN pmax pmax
comp=Z,17nm,1.7s
OBN MLR MLR
comp=Z,27nm,13.0s
SUR Sutherland 79.85 238 P **P 18 52 11.8 -0.9**
comp=Z,5.7nm,1.5s
AKASG Malin Array Be 80.01 322 P **P 18 52 11.4 -1.4**
comp=Z,0.4nm,0.5s,baz=91,slow=5.5,SNR=4.0
VRI Vrincioaia 80.38 317 *i*P **P 18 52 16.1 +1.1**
VRI Vrincioaia 80.38 317 *i*P **P 18 52 16.1 +1.1**
TMCR Tamitsa 80.45 337 *e*P **P 18 52 15.5 +0.6**
TMCR pmax pmax
comp=Z,24nm,1.2s
TESR Tescani 80.58 318 *i*P **P 18 52 16.9 +0.8**
MLR Muntele Rosu 80.83 317 *i*P **P 18 52 17.4 -0.2**
MLR Muntele Rosu 80.83 317 *i*P **P 18 52 17.4 -0.2**
VNDA Vanda 81.69 169 P **P 18 52 22.8 +1.5**
comp=Z,0.7nm,0.7s,baz=308,slow=4.4,SNR=6.0
VNDA Vanda 81.69 169 *e*P **P 18 52 22.6 +1.2**
VNDA pmax pmax
comp=Z,7.0nm,1.3s
VNDA Vanda 81.69 169 *e*P **P 18 52 22.6 +1.2**
comp=Z,7.2nm,1.3s
BURAR Bucovina Array 81.79 319 *i*P **P 18 52 24.4 +1.8**
BURAR Bucovina Array 81.79 319 *i*P **P 18 52 24.4 +1.8**
BUR04 Bucovina Ar. S 81.79 319 *e*P **P 18 52 23.8 +1.2**
BUR08 Bucovina Ar. S 81.80 319 *e*P **P 18 52 23.5 +0.8**
TSUM Tsumeb 82.36 251 P **P 18 52 24.1 -2.2**
comp=Z,3.2nm,0.9s
SBA Scott Base 82.79 169 *e*P **P 18 52 29.2 +2.1**
SBA *e* 18 52 43.7
SBA pmax pmax
comp=Z,5.0nm,0.8s
SBA Scott Base 82.79 169 *e*P **P 18 52 29.1 +2.1**
comp=Z,4.8nm,0.8s
SBA *e* 18 52 43.7
BILL Bilibino 83.43 20 *e*P **P 18 52 31.4 +0.8**
BILL *e* 18 55 43.4
BILL pmax pmax
comp=Z,5.0nm,1.7s
BILL Bilibino 83.43 20 P **P 18 52 28.7 -1.9**
FINES FINESS Array B 84.63 332 P **P 18 52 37.3 +0.5**
comp=Z,1.5nm,0.6s,baz=123,slow=6.8,SNR=8.3
ARCES ARCESS Array B 86.97 340 P **P 18 52 48.8 +0.5**
comp=Z,1.6nm,0.3s,baz=95,slow=7.3,SNR=2.0
ARCES LR LR 19 36 14.3
comp=Z,21nm,19.1s,baz=227,slow=39
QSPA South Pole Qui 87.55 180 *e*P **P 18 52 52.5 +1.2**
comp=Z,2.2nm,0.8s
GERES GERESS Array B 89.58 319 P **P 18 53 02.1 +1.0**
comp=Z,0.9nm,0.7s,baz=76,slow=5.6,SNR=9.2
GERES LR LR 19 36 58.8
comp=Z,10.0nm,20.4s,baz=49,slow=38
NOA NORSAR Array B 91.67 331 LR LR 19 38 29.4
comp=Z,24nm,19.0s,baz=205,slow=38
ILAR Eielson Array 101.75 24 P **Pdif 18 53 55.6 -0.5**
comp=Z,0.2nm,0.6s,baz=295,slow=2.8,SNR=2.9
NVAR Mina Array Bea 129.71 40 PKP **PKPdf 18 59 12.8 -0.4**
comp=Z,0.6nm,0.7s,baz=250,slow=2.8,SNR=5.5
PDAR Pinedale Array 131.78 29 PKP **PKPdf 18 59 18.1 +1.0**
comp=Z,0.3nm,0.6s,baz=349,slow=2.8,SNR=2.6
PDAR SKPbc **SKPab 19 02 43.6 +4.3**
comp=Z,0.2nm,0.4s,baz=54,slow=1.6,SNR=2.6
PDAR SKP 19 02 52.1
comp=Z,0.4nm,0.5s,baz=48,slow=2.2,SNR=3.6
TPNV Topopah Spring 131.90 40 P **PKPdf 18 59 17.6 +0.3**
baz=132
EDW2 Edwards Air Fo 131.94 43 P **PKPdf 18 59 17.9 +0.6**
baz=132
C30A Mose, Pekin 132.05 17 P **PKPdf 18 59 17.7 +0.6**
baz=132
G24A Alzada 132.05 23 P **PKPdf 18 59 17.7 +0.4**
baz=132
H23A Clabaugh Cattl 132.28 25 P **PKPdf 18 59 18.2 +0.5**
baz=132
D29A Pettibone, Tap 132.28 18 P **PKPdf 18 59 17.8 +0.3**
baz=132
E28A Huff 132.35 20 P **PKPdf 18 59 18.4 +0.7**
baz=132
BELC Belle Mtn. Jos 133.79 43 P **PKPdf 18 59 20.7 -0.2**
baz=134
SMCO Snowmass 135.76 31 *e*PKPpre PKPpre 18 59 15.8
X31A McDonald Ranch 142.79 28 P **PKPdf 18 59 34.7 -2.6**
baz=143
WMOK Wichita Mounta 143.25 27 *e*PKIKP PKPab 18 59 34.2 +0.3
WMOK Wichita Mounta 143.25 27 *e*PKPpre PKPpre 18 59 34.2
Z30A Sanderson Ranc 143.30 31 P PKPbc 18 59 35.2 -0.1
baz=143
V37A Hulbert 143.75 21 P PKPbc 18 59 36.4 0.0
baz=144
Z31A Sharp Cattle R 143.77 30 P PKPbc 18 59 36.4 -0.2
baz=144
V38A Canehill 144.03 21 P **PKPab 18 59 36.8 -0.1**
baz=144
Z32A Haskell 144.11 29 P **PKPab 18 59 37.3 +0.1**
baz=144
131A Roby 144.16 31 P PKPbc 18 59 38.0 +0.1
baz=144
329A Wagon Wheel Ra 144.24 34 P PKPbc 18 59 38.4 +0.1
baz=144
W37A Quinton 144.30 22 P PKPbc 18 59 38.3 +0.1
baz=144,SNR=6.6
X35A Drake 144.33 25 P **PKPab 18 59 37.8 -0.1**
baz=144,SNR=5.1
Y34A Reagan Ranch, 144.36 26 P PKPbc 18 59 38.4 0.0
baz=144
230A Sterling City 144.40 32 P PKPbc 18 59 39.0 +0.3
baz=144,SNR=8.3
X36A Centrahoma 144.44 24 P PKPbc 18 59 38.6 0.0
baz=144,SNR=6.0
W38A Poteau 144.70 21 P **PKPab 18 59 39.2 -0.1**
baz=144,SNR=5.1
330A Mertzon 144.74 33 P **PKPab 18 59 39.7 0.0**
baz=145,SNR=11
231A Bronte 144.79 31 P PKPbc 18 59 40.1 +0.2
baz=145,SNR=5.4
X37A Clayton 144.81 23 P **PKPab 18 59 39.5 -0.3**
baz=145,SNR=9.0
TX31 Lajitas Ar. Si 144.83 38 *e*PKPdf PKPbc 18 59 40.5 +0.3
TXAR Lajitas Array 144.83 38 PKP **PKPdf 18 59 41.0 -0.1**
comp=Z,18nm,0.6s,baz=286,slow=1.1,SNR=289
TXAR Lajitas Array 144.83 38 PKIKP **PKPdf 18 59 41.0 -0.1**
429A Davenport Ranc 144.94 35 P **PKPab 18 59 40.3 -0.1**
baz=145,SNR=12
X38A Whitesboro 144.94 22 P PKPbc 18 59 40.5 +0.3
baz=145,SNR=17
133A Hamilton Ranch 144.95 29 P PKPbc 18 59 40.4 0.0
baz=145,SNR=6.3
Y36A Durant 145.04 25 P **PKPbc 18 59 40.4 -0.2**
baz=145,SNR=6.7
Z35A Perchaven, San 145.12 26 P **PKPbc 18 59 40.4 -0.4**
baz=145,SNR=5.3
529A Stev Forest Ra 145.12 36 P **PKPdf 18 59 41.6 +0.1**
baz=145,SNR=9.3
232A Coleman 145.17 31 P **PKPdf 18 59 41.4 -0.1**
baz=145,SNR=12
430A Baggett Ranch, 145.18 34 P **PKPab 18 59 41.3 -0.1**
baz=145,SNR=8.5
331A San Angelo 145.22 32 P **PKPab 18 59 41.5 0.0**
baz=145,SNR=7.4
Y37A Hugo 145.25 24 P **PKPbc 18 59 40.6 -0.7**
baz=145
134A White-Moore Ra 145.38 28 P **PKPbc 18 59 41.2 -0.5**
baz=145
233A Rising Star 145.44 30 P **PKPdf 18 59 42.0 +0.1**
baz=145,SNR=10
MIAR Mount Ida 145.51 20 *e*PKIKP **PKPdf 18 59 41.8 -0.2**
MIAR Mount Ida 145.51 20 *e*PKPdf **PKPdf 18 59 41.8 -0.2**

332A	**Millersview**	**145.52**	**31**	P	**PKPab**	**18 59 42.4**	**-0.1**
	baz=145,SNR=29							
431A	**Sonora**	**145.61**	**33**	P	**PKPab**	**18 59 42.8**	**-0.1**
	baz=146,SNR=7.7							
530A	**J-C Ranch, Com**	**145.61**	**34**	P	**PKPab**	**18 59 43.4**	**+0.5**
	baz=146,SNR=26							
WVT	**Waverly**	**145.62**	**12**	*e*PKIKP	**PKPdf**	**18 59 41.5**	**-0.6**
WVT	**Waverly**	**145.62**	**12**	*e*PKPdf	**PKPdf**	**18 59 41.5**	**-0.6**
Y38A	**Idabel**	**145.64**	**23**	P	**PKPab**	**18 59 43.6**	**+0.8**
	baz=146							
234A	**Clairette**	**145.82**	**29**	P	**PKPab**	**18 59 43.6**	**0.0**
	baz=146							
TZTN	**Tazewell**	**145.85**	**6**	*e*PKPdf	**PKPdf**	**18 59 42.6**	**+0.1**
Y39A	**Lockesburg**	**145.87**	**22**	P	**PKPab**	**18 59 43.5**	**-0.2**
	baz=146							
432A	**Menard**	**145.90**	**32**	P	**PKPbc**	**18 59 43.5**	**0.0**
	baz=146,SNR=6.9							
333A	**Richland Sprin**	**145.96**	**30**	P	**PKPbc**	**18 59 43.7**	**+0.1**
	baz=146,SNR=18							
531A	**Rocksprings**	**146.04**	**34**	P	**PKPab**	**18 59 44.5**	**-0.1**
	baz=146,SNR=23							
JCT	**Junction City**	**146.20**	**32**	*e*PKP2	**PKPbc**	**18 59 44.2**	**-0.2**
JCT	**Junction City**	**146.20**	**32**	P	**PKPbc**	**18 59 44.7**	**+0.3**
	baz=146,SNR=22							
JCT	**Junction City**	**146.20**	**32**	*e*PKPdf	**PKPbc**	**18 59 44.2**	**-0.2**
334A	**Lometa**	**146.32**	**29**	P	**PKPbc**	**18 59 44.9**	**+0.2**
	baz=146,SNR=6.5							
433A	**Art**	**146.36**	**31**	P	**PKPbc**	**18 59 44.5**	**-0.3**
	baz=146,SNR=5.5							
532A	**Rocksprings**	**146.42**	**33**	P	**PKPbc**	**18 59 45.4**	**+0.4**
	baz=146,SNR=17							
236A	**Katherine and**	**146.56**	**27**	P	**PKPab**	**18 59 46.1**	**-0.3**
	baz=146							
631A	**Perdido Creek**	**146.60**	**34**	P	**PKPbc**	**18 59 46.0**	**+0.5**
	baz=146							
138A	**Matatall Enter**	**146.61**	**24**	P	**PKPab**	**18 59 46.1**	**-0.5**
	baz=146							
434A	**Burnet**	**146.73**	**30**	P	**PKPbc**	**18 59 45.7**	**-0.2**
	baz=147,SNR=7.3							
335A	**Moody**	**146.75**	**28**	P	**PKPbc**	**18 59 46.1**	**+0.1**
	baz=147,SNR=6.9							
533A	**Kerrville**	**146.93**	**32**	P	**PKPbc**	**18 59 46.9**	**+0.4**
	baz=147							
632A	**Uvalde**	**146.97**	**33**	P	**PKPab**	**18 59 47.6**	**-0.5**
	baz=147,SNR=8.9							
435B	**Jarrell**	**147.09**	**29**	P	**PKPbc**	**18 59 47.4**	**+0.5**
	baz=147							
534A	**Blanco**	**147.26**	**31**	P	**PKPbc**	**18 59 47.4**	**-0.1**
	baz=147							
633A	**Saathoff Ranch**	**147.34**	**33**	P	**PKPab**	**18 59 48.8**	**-0.7**
	baz=147,SNR=5.3							
KMSC	**Kings Mountain**	**147.40**	**3**	P	**PKPbc**	**18 59 47.0**	**-0.6**
	baz=147							
KMSC	**Kings Mountain**	**147.40**	**3**	*e*PKPdf	**PKPdf**	**18 59 44.7**	**-0.5**
NATX	**Nacogdoches**	**147.57**	**24**	P	**PKPbc**	**18 59 48.8**	**+0.6**
	baz=147							
832A	**Faith Ranch, C**	**147.80**	**35**	P	**PKPbc**	**18 59 49.6**	**+0.7**
	baz=148							
635A	**Leesville**	**148.13**	**31**	P	**PKPbc**	**18 59 50.5**	**+0.7**
	baz=148							
734A	**La Parita Cree**	**148.15**	**33**	P	**PKPbc**	**18 59 50.4**	**+0.5**
	baz=148							
HKT	**Hockley**	**148.62**	**28**	*e*PKIKP	**PKPdf**	**18 59 47.3**	**+0.1**
HKT	**Hockley**	**148.62**	**28**	*e*PKPdf	**PKPdf**	**18 59 47.3**	**+0.1**
TIGA	**Tifton**	**150.90**	**7**	*e*PKPdf	**PKPdf**	**18 59 51.2**	**+0.3**
LPAZ	**La Paz**	**158.19**	**211**	PKP	**PKPdf**	**19 00 02.5**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=152,slow=3.4,SNR=4.2							

MAN 19 18:46:09, 17.13N×120.84E, h50km, mb4.4, ML3.2, MS3.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.53**	**347**	*e*P	Pn	18 46 23.8	+3.2
ABRA				*e*S	Sn	18 46 33.3	+4.4
APYP	**Conner**	**0.82**	**28**	*e*P	Pn	18 46 26.2	+1.8
APYP				*e*S	Sn	18 46 38.8	+3.2
BALP	**Baler**	**1.56**	**153**	*e*P	Pn	18 46 36.0	+1.8

*ISCJB **19** 18:50:54.8±1.0, 52.2°N×0.2°×31.9°W×0.2, h10km, mb3.6/7, MS2.8/1, Error ellipse: s-maj=29.8km s-min=16.3km az=15.7*

*IDC **19** 18:50:55.1±1.3, 52.24°N×31.83°W, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/30, mbtmp3.6/8, ML4.3/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/29, Error ellipse: s-maj=43.6km s-min=21.6km az=21.0*

ISC 19 18:50:56.6±1.1, 52.3N±0.2×31.8W±0.1, h10km, n10, σ0°47/9, mb3.6/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**17.13**	**68**	P	**P**	**18 54 57.8**	**+0.2**
	baz=268,slow=9.3,SNR=11						
ESDC	**Sonseca Array**	**22.92**	**112**	P	**P**	**18 56 00.8**	**+0.1**
	1.4nm,0.7s,baz=319,slow=8.9,SNR=8.4						
GERES	**GERESS Array B**	**28.74**	**78**	P	**P**	**18 56 53.2**	**-0.9**
	0.5nm,0.8s,baz=304,slow=9.5,SNR=4.0						
VRAC	**Vranov**	**30.28**	**76**	LR	LR	19 08 33.3	
	comp=Z,19nm,19.9s,baz=308,slow=35						
AKASG	**Malin Array Be**	**37.04**	**67**	P	**P**	**18 58 06.2**	**-0.1**
	1.2nm,0.7s,baz=294,slow=9.1,SNR=5.3						
BRTR	**Keskin Array B**	**45.63**	**79**	P	**P**	**18 59 17.9**	**+0.7**
	0.7nm,0.7s,baz=324,slow=6.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**47.35**	**133**	P	**P**	**18 59 30.7**	**+0.1**
	0.6nm,0.8s,baz=336,slow=8.6,SNR=3.7						
PDAR	**Pinedale Array**	**50.98**	**292**	P	**P**	**18 59 58.3**	**-0.2**
	0.6nm,0.7s,baz=61,slow=6.3,SNR=3.3						
ILAR	**Eielson Array**	**53.05**	**331**	P	**P**	**19 00 13.6**	**+0.2**
	0.4nm,0.8s,baz=42,slow=4.1,SNR=3.7						
ASAR	**Alice Springs**	**149.41**	**26**	PKPbc	**PKPbc**	**19 10 45.6**	**-0.1**
	0.3nm,0.9s,baz=348,slow=1.7,SNR=4.9						

PDA 19 19:17:25.0±1.3, 38.73N×29.01W, h4km±5km, MD4.1, ML4.0, Error ellipse: s-maj=8.1km s-min=4.7km az=59.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.26**	**112**	*i* P	Pg	19 17 29.9	-0.2
PCED				A	A	19 17 34.4	
	15µm,0.3s						
CALA	**Caldeira**	**0.28**	**121**	*e*P	Pg	19 17 30.3	-0.3
CALA				*e*S	Sg	19 17 34.2	-0.2
HOR	**Horta**	**0.36**	**124**	*e*P	Pg	19 17 31.3	-0.6
HOR				*e*S	Sg	19 17 36.4	-0.2
PCAN	**Candelaria**	**0.49**	**122**	*e*P	Pg	19 17 33.1	-1.3
PCAN				*e*S	Sg	19 17 40.2	-0.6
PCAN				A	A	19 17 41.9	
	4µm,0.3s						
PICO	**Pico**	**0.51**	**116**	*e*P	Pg	19 17 33.9	-1.0
PICO				*e*S	Sg	19 17 40.5	-1.2
ROSA	**Rosais**	**0.60**	**90**	*e*P	Pg	19 17 35.0	-1.6
ROSA				*e*S	Sg	19 17 42.4	-2.1
ROSA				A	A	19 17 50.2	
	6µm,0.6s						
PPNO	**Prainha do Nor**	**0.64**	**113**	*e*P	Pg	19 17 36.0	-1.4
PPNO				*e*S	Sg	19 17 44.4	-1.3
PPNO				A	A	19 17 45.8	
	4µm,0.3s						
PMAN	**Manadas**	**0.73**	**97**	*e*P	Pg	19 17 37.0	-2.0
PMAN				*e*S	Sg	19 17 46.4	-2.0
PMAN				A	A	19 18 02.8	
	2µm,0.5s						
PGRA	**Graciosa**	**0.86**	**69**	*e*P	Pg	19 17 38.9	-2.6
PGRA				*e*S	Sg	19 17 49.8	-2.9
PGRA				A	A	19 18 02.4	
	1µm,0.6s						
ADH	**Angra Heroismo**	**1.39**	**92**	*e*P	Pn	19 17 46.1	-5.1
ADH				*e*S	Sb	19 18 02.0	-7.6
ADH				A	A	19 18 03.8	
	360nm,0.2s						
PSET	**Sete Cidades**	**2.74**	**108**	*e*P	Pn	19 18 05.7	-4.1
PSET				*e*S	Sn	19 18 35.1	-8.3
PSET				A	A	19 18 46.6	
	136nm,0.4s						
PDA	**Ponta Delgada**	**2.81**	**109**	*e*P	Pn	19 18 06.1	-4.6
PDA				*e*S	Sn	19 18 36.6	-8.4
PDA				A	A	19 18 39.4	
	70nm,0.3s						
BART	**Pico Bartolome**	**3.17**	**106**	*e*P	Pn	19 18 11.4	-4.3
BART				*e*S	Sn	19 18 45.5	-8.6
BART				A	A	19 18 58.3	
	65nm,0.4s						
PSMA	**Santa Maria**	**3.52**	**118**	*e*P	Pn	19 18 15.6	-4.9
PSMA				*e*S	Sn	19 18 53.2	-9.4
PSMA				A	A	19 18 55.1	
	47nm,0.1s						
PSMN	**Pico do Norte,**	**3.56**	**118**	*e*P	Pn	19 18 16.2	-4.9
PSMN				*e*S	Sn	19 18 53.2	-10
PSMN				A	A	19 18 57.8	
	29nm,0.3s						

PDA 19 19:17:55.5±0.6, 38.73N×29.01W, h9km±11km, MD2.7, Error ellipse: s-maj=12.5km s-min=4.5km az=35.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.27**	**113**	*e*P	Pg	19 18 00.3	-0.6
PCED				*e*S	Sg	19 18 04.0	-0.5
CALA	**Caldeira**	**0.29**	**122**	*e*S	Sg	19 18 04.5	-0.8
HOR	**Horta**	**0.36**	**124**	*e*P	Pg	19 18 01.6	-1.1
HOR				*e*S	Sg	19 18 06.1	-1.4
PCAN	**Candelaria**	**0.49**	**123**	*e*S	Sg	19 18 10.2	-1.5
PICO	**Pico**	**0.52**	**116**	*e*P	Pg	19 18 04.4	-1.2
PICO				*e*S	Sg	19 18 11.1	-1.4
ROSA	**Rosais**	**0.60**	**91**	*e*P	Pg	19 18 05.3	-1.9
ROSA				*e*S	Sg	19 18 12.6	-2.6

KRSC 19 19:36:33.4±1.3, 49.12N×156.64E, h6km±17km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.60**	**348**	*e*P	Pn	19 37 02.0	-0.2
SKR				*e*S	Sn	19 37 23.2	0.0
PAU	**Pauzhetka**	**2.36**	**3**	*e*S	Sb	19 37 44.5	-1.1
MIPR	**Malaya Ipel'ka**	**3.17**	**1**	*e*P	Pn	19 37 25.8	+2.1
RUS	**Russkaya**	**3.53**	**19**	*e*P	Pn	19 37 31.1	+2.4
AVH	**Avacha**	**4.36**	**17**	*e*P	Pn	19 37 45.2	+5.0
KOK	**Koryaka**	**4.37**	**16**	*e*P	Pn	19 37 44.6	+4.2
KRER	**Koryakskii**	**4.40**	**17**	*e*P	Pn	19 37 45.0	+4.1
SDLR	**Sedlovina**	**4.40**	**18**	*e*P	Pn	19 37 44.7	+3.8
GNL	**Ganaly**	**4.66**	**10**	*e*P	Pn	19 37 49.0	+4.6

MAN 19 19:44:58, 13.60N×120.53E, h1km, mb4.3, ML3.1, MS2.9, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.30**	**295**	*e*P	Pg	19 45 04.7	+0.9
LUBP				*e*S	Sg	19 45 08.6	+0.9
PGP	**Puerto Galera**	**0.43**	**104**	*e*P	Pg	19 45 07.3	+1.0
SJMP	**San Jose**	**1.27**	**153**	*e*P	Pn	19 45 28.1	+0.1
SJMP				*e*S	Sb	19 45 39.6	-0.2

IDC 19 20:05:23.7±4.6, 18.02S×177.57W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=194.4km s-min=38.4km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.27**	**241**	P	P	20 12 52.8	+0.4
	5.5nm,1.2s,baz=91,slow=8.3,SNR=3.8						
WRA	**Warramunga Arr**	**45.39**	**260**	P	P	20 13 43.9	-0.5
	0.4nm,0.7s,baz=96,slow=8.1,SNR=6.1						
ASAR	**Alice Springs**	**45.53**	**254**	P	P	20 13 45.3	-0.2
	1.8nm,0.6s,baz=89,slow=8.5,SNR=42						
ILAR	**Eielson Array**	**85.82**	**13**	P	P	20 18 04.7	0.0
	0.1nm,0.5s,baz=212,slow=3.2,SNR=2.9						

DDA 19 20:13:12.6, 38.12N×38.54E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKCD	**Akcadag**	**0.51**	**290**	*i* P	Pg	20 13 23.1	+0.3
AKCD				*i* S	Sg	20 13 30.5	+0.8
ELZG	**Elazig**	**0.51**	**43**	*i* P	Pg	20 13 22.8	0.0
ELZG				*i* S	Sg	20 13 30.4	+0.6

*ISCJB **19** 20:17:24.0±0.9, 36.5S±0.2×52.6E±0.2, h10km, mb3.9/5, Error ellipse: s-maj=27.8km s-min=18.9km az=143.3*

*IDC **19** 20:17:23.5±1.6, 36.51S×52.45E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.5/32, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=96.2km s-min=26.3km az=32.0*

*NEIC **19** 20:17:25.5±0.7, 36.44S×52.62E, h10km, mb4.2/2, Error ellipse: s-maj=23.4km s-min=16.2km az=52.0*

ISC 19 20:17:25.5±1.0, 36.4S±0.2×52.6E±0.2, h10km, n7, σ0s97/7, mb4.0/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**18.43**	**343**	Pn	**Pn**	**20 21 41.7**	**+0.4**
	0.3nm,0.3s,baz=114,slow=18,SNR=2.6						
TSUM	**Tsumeb**	**35.19**	**290**	P	**P**	**20 24 20.6**	**+0.7**
	4.1nm,1.2s						
SNAA	**Sanae**	**45.12**	**202**	P	**P**	**20 25 41.7**	**0.0**
	3.2nm,1.2s						
TORD	**Torodi Ar. Bea**	**68.81**	**306**	P	**P**	**20 28 29.6**	**-0.6**
	0.7nm,0.9s,baz=126,slow=5.5,SNR=3.1						
ASAR	**Alice Springs**	**69.62**	**105**	P	**P**	**20 28 35.8**	**+0.5**
	0.6nm,0.5s,baz=230,slow=6.0,SNR=24						
WRA	**Warramunga Arr**	**71.95**	**102**	P	**P**	**20 28 50.0**	**+0.5**
	0.7nm,0.6s,baz=234,slow=5.2,SNR=12						
ILAR	**Eielson Array**	**149.32**	**16**	PKPbc	**PKPbc**	**20 37 12.1**	**-1.5**
	0.6nm,0.8s,baz=321,slow=2.7,SNR=5.8						

IDC 19 20:34:12.0±50.0, 15.97S×177.36W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/17, mbtmp3.9/3, Error ellipse: s-maj=925.7km s-min=161.4km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.46**	**239**	P	P	20 41 52.4	-0.2
	2.8nm,1.0s,baz=80,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**46.00**	**258**	P	P	20 42 37.8	+0.2
	0.6nm,0.9s,baz=91,slow=7.8,SNR=13						
ASAR	**Alice Springs**	**46.31**	**252**	P	P	20 42 39.5	-0.4
	2.3nm,0.5s,baz=88,slow=8.1,SNR=69						

*CSEM **19** 20:34:59.6±0.1, 42.57N×13.13E, h10km, ML2.8/9, Error ellipse: s-maj=2.4km s-min=2.3km az=169.0*

ROM 19 20:34:59.3±0.1, 42.58N×13.15E, h10km, Md2.3/19, MI2.2/12, Error ellipse: s-maj=1.0km s-min=0.9km az=12.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.09**	**287**	Pg	Pg	20 35 02.3	+0.4
LNSS				Sg	Sg	20 35 04.3	+0.5
	5µm,0.2s						
LNSS	**Leonessa**	**0.09**	**287**	Pg	Pg	20 35 02.3	+0.4
LNSS				Sg	Sg	20 35 04.3	+0.5
	5µm,0.2s						
SMA1	**SAN MARTINO**	**0.15**	**68**	Pg	Pb	20 35 03.6	-0.7
SMA1				Sg	Sg	20 35 05.6	+0.4
	3µm,0.4s						
SMA1	**SAN MARTINO**	**0.15**	**68**	Pg	Pb	20 35 03.6	-0.7
SMA1				Sg	Sg	20 35 05.6	+0.4
	3µm,0.4s						
CAMP	**Campotosto**	**0.19**	**102**	Pg	Pg	20 35 04.2	+0.6
CAMP				Sg	Sg	20 35 07.4	+0.8
	593nm,1.0s						
CAMP	**Campotosto**	**0.19**	**102**	Pg	Pg	20 35 04.2	+0.6
CAMP				Sg	Sg	20 35 07.4	+0.8
	593nm,1.0s						
T0104	**Madonna delle**	**0.26**	**148**	Pg	Pb	20 35 05.4	-0.7
T0104				Sg	Sb	20 35 09.5	-1.2
NRCA	**Norcia**	**0.26**	**354**	Pg	Pg	20 35 04.9	+0.2
NRCA				Sg	Sg	20 35 08.9	+0.5
	631nm,0.1s						
NRCA	**Norcia**	**0.26**	**354**	Pg	Pg	20 35 04.9	+0.2
NRCA				Sg	Sg	20 35 08.9	+0.5
	631nm,0.1s						
AQU	**L'Aquila**	**0.29**	**140**	Pg	Pb	20 35 06.2	-0.5
AQU	**L'Aquila**	**0.29**	**140**	Pg	Pb	20 35 06.2	-0.5
T0106	**Roio Piano**	**0.32**	**147**	Pg	Pb	20 35 06.6	-0.7
T0106				Sg	Sb	20 35 11.9	-0.7
	102nm,0.4s						
TERO	**Teramo**	**0.34**	**82**	Pg	Pg	20 35 06.4	+0.3
TERO				Sg	Sg	20 35 11.5	+0.8
	233nm,0.4s						
TERO	**Teramo**	**0.34**	**82**	Pg	Pg	20 35 06.4	+0.3
TERO				Sg	Sg	20 35 11.5	+0.8
	233nm,0.4s						
MNS	**Montasola**	**0.40**	**241**	Pg	Pg	20 35 07.5	+0.3
MNS				Sg	Sb	20 35 13.8	-0.9
	154nm,0.2s						
MNS	**Montasola**	**0.40**	**241**	Pg	Pg	20 35 07.5	+0.3
MNS				Sg	Sb	20 35 13.8	-0.9
	154nm,0.2s						
CESX	**Cesi**	**0.42**	**275**	Pg	Pg	20 35 07.7	0.0
CESX				Sg	Sg	20 35 14.1	+0.8
	176nm,0.2s						
CESX	**Cesi**	**0.42**	**275**	Pg	Pg	20 35 07.7	0.0
CESX				Sg	Sg	20 35 14.1	+0.8
	176nm,0.2s						
FDMO	**Fiordimonte**	**0.46**	**354**	Pg	Pg	20 35 08.5	+0.1
FDMO				Sg	Sg	20 35 15.5	+0.9
	100nm,0.2s						
FDMO	**Fiordimonte**	**0.46**	**354**	Pg	Pg	20 35 08.5	+0.1
FDMO				Sg	Sg	20 35 15.5	+0.9
	100nm,0.2s						
CESI	**CESI - Serrava**	**0.47**	**337**	Pg	Pg	20 35 08.7	+0.2
CESI				Sg	Sb	20 35 15.8	-0.9
	34nm,0.2s						
CESI	**CESI - Serrava**	**0.47**	**337**	Pg	Pg	20 35 08.7	+0.2
CESI				Sg	Sb	20 35 15.8	-0.9
	34nm,0.2s						
OFFI	**Offida**	**0.53**	**48**	Pg	Pb	20 35 10.5	-0.2
	47nm,0.3s						
OFFI	**Offida**	**0.53**	**48**	Pg	Pb	20 35 10.5	-0.2
	47nm,0.3s						
MTCE	**Montecelio**	**0.63**	**209**	Pg	Pg	20 35 10.8	-0.8
MTCE	**Montecelio**	**0.63**	**209**	Pg	Pg	20 35 10.8	-0.8
CERT	**Cerreto**	**0.64**	**191**	Pg	Pg	20 35 11.4	-0.4
CERT	**Cerreto**	**0.64**	**191**	Pg	Pg	20 35 11.4	-0.4
GUMA	**Gualdo di Mace**	**0.75**	**50**	Pg	Pg	20 35 09.7	-4.2
GUMA				Sg	Sg	20 35 17.2	-6.7
	354nm,0.4s						
CING	**Cingoli**	**0.80**	**2**	Pg	Pg	20 35 14.2	-0.6
CING				Sg	Sb	20 35 25.9	-0.4
CING	**Cingoli**	**0.80**	**2**	Pg	Pg	20 35 14.2	-0.6
CING				Sg	Sb	20 35 25.9	-0.4
MGAB	**Montegabbione**	**0.84**	**294**	Pg	Pg	20 35 15.1	-0.4
MGAB				Sg	Sb	20 35 27.4	+0.1
MGAB	**Montegabbione**	**0.84**	**294**	Pg	Pg	20 35 15.1	-0.4
MGAB				Sg	Sb	20 35 27.4	+0.1
PIEI	**Pieia**	**1.06**	**335**	Pg	Pg	20 35 19.5	-0.3
PIEI	**Pieia**	**1.06**	**335**	Pg	Pg	20 35 19.5	-0.3
FSSB	**Fossombrone**	**1.15**	**346**	Pg	Pb	20 35 21.3	0.0
	70nm,0.3s						
FSSB	**Fossombrone**	**1.15**	**346**	Pg	Pb	20 35 21.3	0.0
	70nm,0.3s						
UDBI	**Udbina**	**2.72**	**43**	*e*Pn	Pn	20 35 44.6	+1.5
UDBI				Sn	Sn	20 36 18.7	+2.6
UDBI	**Udbina**	**2.72**	**43**	*e*Pn	Pn	20 35 44.6	+1.5
UDBI				Sn	Sn	20 36 18.7	+2.6

*CSEM **19** 20:35:41.9, 42.29N×13.58E, h9km, ML1.4/1*

ROM 19 20:35:41.9±0.1, 42.29N×13.58E, h9km, MlI1.4/1, Error ellipse: s-maj=1.8km s-min=1.2km az=48.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAGN	**Fagnano**	**0.03**	**170**	Pg	Pg	20 35 43.6	-0.1
FAGN				Sg	Sg	20 35 45.5	+0.6
	152nm,0.4s						
FAGN	**Fagnano**	**0.03**	**170**	Pg	Pg	20 35 43.6	-0.1
FAGN				Sg	Sg	20 35 45.5	+0.6
	152nm,0.4s						
AQU	**L'Aquila**	**0.14**	**295**	Pg	Pg	20 35 45.7	+0.5
AQU	**L'Aquila**	**0.14**	**295**	Pg	Pg	20 35 45.7	+0.5
T0106	**Roio Piano**	**0.14**	**276**	Pg	Pg	20 35 45.7	+0.4
T0106				Sg	Sg	20 35 48.1	+0.5
	102nm,0.4s						
T0104	**Madonna delle**	**0.19**	**291**	Pg	Pg	20 35 46.7	+0.7
T0104				Sg	Sg	20 35 49.8	+1.0
CAMP	**Campotosto**	**0.27**	**333**	Pg	Pb	20 35 48.7	-0.5
CAMP	**Campotosto**	**0.27**	**333**	Pg	Pb	20 35 48.7	-0.5
PTQR	**Pietraquaria**	**0.30**	**206**	Pg	Pg	20 35 48.6	+0.6
	5.0nm,0.3s						
PTQR	**Pietraquaria**	**0.30**	**206**	Pg	Pg	20 35 48.6	+0.6
	5.0nm,0.3s						
TERO	**Teramo**	**0.33**	**3**	Pg	Pg	20 35 49.0	+0.4
TERO				Sg	Sb	20 35 54.5	-1.1
TERO	**Teramo**	**0.33**	**3**	Pg	Pg	20 35 49.0	+0.4
TERO				Sg	Sb	20 35 54.5	-1.1
VVLD	**Villa Vallelon**	**0.42**	**176**	Pg	Pg	20 35 50.9	+0.6
VVLD	**Villa Vallelon**	**0.42**	**176**	Pg	Pg	20 35 50.9	+0.6
NRCA	**Norcia**	**0.64**	**328**	Pg	Pg	20 35 54.3	-0.1
NRCA				Sg	Sb	20 36 04.2	-0.4
NRCA	**Norcia**	**0.64**	**328**	Pg	Pg	20 35 54.3	-0.1
NRCA				Sg	Sb	20 36 04.2	-0.4

SJA 19 20:50:09.8±0.5, 28.84S×69.29W, h132km±4km, ML3.5, MW3.3, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VCA	**Vinchina**	**0.96**	**84**	*e*P	Pn	20 50 33.7	+1.0
VCA				*e*S	Sn	20 50 50.7	+0.6
VCA				IAML		20 50 52.5	
	comp=Z,927nm,0.3s						
AMOG	**MOGNA**	**2.20**	**162**	*e*P	Pn	20 50 47.3	+0.8
AMOG				*e*S	Sn	20 51 15.0	+0.4
RTLL	**Cerro Villicun**	**2.58**	**164**	*e*P	Pn	20 50 52.1	+1.0
RTLL				*e*S	Sn	20 51 23.7	+0.7
CFAA	**Coronel Fontan**	**2.90**	**162**	*e*P	Pn	20 50 56.3	+1.1
RTLS	**Leoncito**	**2.95**	**180**	*e*P	Pn	20 50 57.4	+1.3
RTCV	**Cerro Valdivia**	**3.08**	**168**	*e*P	Pn	20 50 58.4	+0.9
CYA	**Choya**	**3.09**	**83**	*e*P	Pn	20 50 58.8	+1.1
CYA				IAML		20 50 59.4	
	comp=Z,72nm,0.2s						
AUSP	**Uspallata**	**3.37**	**181**	*e*P	Pn	20 51 03.0	+1.4

*IDC **19** 20:51:19.5±1.3, 30.25S×179.47W, h309km±13km, mb3.0

CNJI	**Cibinong**	**1.04**	**312**	P	Pn	20 57 06.0	+0.3
CNJI				S	Sn	20 57 17.0	-2.1
LEM	**Lembang**	**1.21**	**346**	P	Pn	20 57 08.0	-0.3
LEM				S	Sn	20 57 10.0	-14
UGM	**Wanagama**	**2.59**	**88**	P	Pn	20 57 26.6	-0.5
CGJI	**Cibinong**	**2.60**	**302**	P	Pn	20 57 27.2	+0.1
PCJI	**Pacitan**	**3.24**	**93**	P	Pn	20 57 36.1	+0.2
PWJI	**Pagerwojo**	**3.86**	**90**	P	Pn	20 57 44.9	+0.5

*ISCJB **19** 21:28:24.9±0.5, 10.97S±0.06×162.23E±0.10, h36km, mb4.3/16, MS3.4/11, Error ellipse: s-maj=13.8km s-min=8.8km az=167.3*

*IDC **19** 21:28:28.1±3.2, 10.97S×162.22E, h47km±31km, mb4.0/16, mb1 4.2/18, mb1mx4.1/24, mbtmp4.3/18, ML4.5/2, MS3.3/11, Ms1 3.4/11, ms1mx3.2/21, Error ellipse: s-maj=19.5km s-min=13.6km az=82.0*

ISC 19 21:28:26.8±0.6, **11.02S**±0.07×**162.39E**±0.10, **h36**km, **n35**, σ1**81**/28, **mb4.4**/16, **MS3.4**/11, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.88**	**303**	*i* P	**Pn**	**21 29 12.0**	**+1.8**
HNR				*i* S	**Sn**	**21 29 46.0**	**+2.4**
DZM	**Mont Dzumac**	**11.65**	**161**	P	**Pn**	**21 31 12.6**	**+1.9**
DZM	2.8nm,0.3s,baz=270,slow=24,SNR=87			S	**Sn**	**21 33 22.8**	**+3.1**
DZM	**Mont Dzumac**	**11.65**	**161**	*e*P	**Pn**	**21 31 12.0**	**+1.3**
DZM	1.2nm,0.3s,baz=90,slow=24,SNR=14			*e*S	**Sn**	**21 33 13.9**	**-5.7**
CTA	**Charters Tower**	**17.96**	**238**	P	**Pn**	**21 32 33.2**	**-0.6**
	0.9nm,0.3s,baz=74,slow=14,SNR=13						
STKA	**Stephens Creek**	**28.27**	**220**	P	**P**	**21 34 16.4**	**-0.5**
STKA	1.8nm,0.5s,baz=58,slow=8.6,SNR=11			LR	LR	21 44 49.0	
	comp=Z,229nm,20.9s,baz=24,slow=35						
WRA	**Warramunga Arr**	**28.41**	**248**	P	**P**	**21 34 17.1**	**-1.2**
WRA	2.6nm,0.6s,baz=78,slow=9.1,SNR=46			PcP	**PcP**	**21 37 29.3**	**-0.9**
ASAR	0.6nm,0.7s,baz=80,slow=1.7,SNR=4.2			PcP	**PcP**	**21 37 32.5**	**-1.4**
ASAR				LR	LR	21 45 15.4	
	comp=Z,137nm,21.3s,baz=66,slow=34						
GUMO	**Guam**	**30.00**	**324**	LR	LR	21 46 50.8	
	comp=Z,31nm,18.8s,baz=130,slow=37						
H11N1	**WAKE ISLAND Hy**	**30.86**		8 T	T	22 06 53.8	
	baz=188,slow=76,SNR=300						
H11N3	**WAKE ISLAND Hy**	**30.87**		8 T	T	22 06 53.9	
	baz=188,slow=76,SNR=534						
H11N2	**WAKE ISLAND Hy**	**30.88**		8 T	T	22 06 54.3	
	baz=188,slow=76,SNR=2394						
SIJI	**Sorong**	**32.52**	**286**	LR	LR	21 47 51.9	
	comp=Z,109nm,21.9s,baz=80,slow=36						
RPZ	**Rata Peaks**	**33.43**	**169**	P	**P**	**21 35 03.6**	**+1.5**
	4.6nm,0.6s,baz=256,slow=8.3,SNR=2.9						
RAR	**Rarotonga**	**37.64**	**110**	P	**P**	**21 35 40.4**	**+1.7**
	18nm,0.8s,baz=249,slow=14,SNR=3.3						
MJAR	**Matsushiro Arr**	**52.51**	**335**	P	**P**	**21 37 34.9**	**-1.6**
MJAR	1.2nm,0.7s,baz=171,slow=9.7,SNR=6.3			LR	LR	22 03 22.6	
	comp=Z,11nm,18.1s,baz=165,slow=40						
ASAJ	**Asahikawa**	**57.75**	**343**	P	**P**	**21 38 13.6**	**-0.5**
	2.4nm,0.7s,baz=183,slow=14,SNR=7.0						
KSRS	**Korea Array**	**58.05**	**328**	P	**P**	**21 38 15.6**	**-0.8**
	0.7nm,0.6s,baz=144,slow=7.1,SNR=4.3						
KSRS				LR	LR	22 02 18.4	
	comp=Z,21nm,18.9s,baz=142,slow=35						
USRK	**Ussuriysk Ar.**	**61.51**	**336**	P	**P**	**21 38 40.0**	**0.0**
	2.5nm,0.8s,baz=149,slow=7.1,SNR=7.8						
PETK	**Petropavlovsk-**	**64.00**	**357**	P	**P**	**21 38 56.7**	**+0.3**
	2.1nm,0.7s,baz=172,slow=5.1,SNR=4.0						
PETK				LR	LR	22 01 30.7	
	comp=Z,18nm,21.1s,baz=192,slow=31						
VNDA	**Vanda**	**66.49**	**180**	P	**P**	**21 39 13.3**	**+1.0**
	3.5nm,0.7s,baz=342,slow=6.9,SNR=22						
CMAR	**Chiang Mai Arr**	**69.10**	**295**	LR	LR	22 09 48.8	
	comp=Z,12nm,19.0s,baz=255,slow=36						
SONM	**Songino Array**	**76.73**	**325**	P	**P**	**21 40 14.1**	**-0.4**
	2.2nm,0.6s,baz=144,slow=6.1,SNR=12						
SONM				LR	LR	22 12 21.7	
	comp=Z,18nm,21.6s,baz=116,slow=34						
QSPA	**South Pole Qui**	**78.98**	**180**	P	**P**	**21 40 27.5**	**+0.7**
	5.7nm,0.9s,baz=86,slow=22,SNR=10						
MAW	**Mawson**	**83.50**	**202**	P	**P**	**21 40 50.5**	**0.0**
	2.1nm,0.7s,baz=100,slow=8.7,SNR=8.9						
H02N1	**VAN INLET T-PH**	**84.44**	**33**	T	T	23 14 03.6	
	SNR=212						
H02S1	**DAWSON INLET T**	**84.45**	**33**	T	T	23 14 06.9	
	SNR=454						
ILAR	**Eielson Array**	**84.56**	**19**	P	**P**	**21 40 54.8**	**-1.1**
	0.4nm,0.4s,baz=240,slow=4.3,SNR=6.8						
ILAR				LR	LR	22 12 07.5	
	comp=Z,34nm,21.5s,baz=248,slow=31						
NVAR	**Mina Array Bea**	**88.54**	**51**	P	**P**	**21 41 16.8**	**+0.5**
	0.6nm,0.7s,baz=226,slow=7.1,SNR=2.2						
ZALV	**Zalesovo Beam**	**91.62**	**325**	LR	LR	22 21 10.4	
	comp=Z,18nm,21.8s,baz=87,slow=35						
SCHQ	**Schefferville**	**121.73**	**31**	PKP	**PKPdf**	**21 47 15.3**	**-1.5**
	1.5nm,0.6s,baz=211,slow=10,SNR=2.9						
BOSA	**Boshof**	**122.83**	**225**	PKP	**PKPdf**	**21 47 18.4**	**-1.6**
	1.7nm,0.6s,baz=76,slow=19,SNR=5.0						
KEST	**Kesra**	**145.33**	**320**	PKPbc	**PKPbc**	**21 48 00.0**	**-1.2**
	1.0nm,0.9s,baz=358,slow=1.9,SNR=3.8						

*IDC **19** 21:29:58.6±0.5, 38.16S×73.20W, h0km, mb4.4/13, mb1 4.5/15, mb1mx4.4/25, mbtmp4.4/15, ML3.9/2, MS3.6/6, Ms1 3.5/6, ms1mx3.4/11, Error ellipse: s-maj=23.3km s-min=13.9km az=86.0*

*NEIC **19** 21:30:01.0, 38.06S×73.50W, h42km, mb4.7/29, After GUC.*

NEIC Felt [IV] at Angol; [III] at La Laja, Renaico and San Rosendo; [II] at Puerto Saavedra and Temuco. Also felt at Lebu, Los Angeles, Valdivia, Victoria and Yumbel.

*GUC **19** 21:30:01.9±0.4, 38.07S×73.50W, h42km±2km, ML5.2*

*ISCJB **19** 21:30:03.0±0.2, 38.10S±0.03×73.06W±0.06, h33km, mb4.7/43, MS3.8/5, Error ellipse: s-maj=6.5km s-min=3.2km az=19.5*

ISC 19 21:30:03.4±0.4, **38.18S**±0.04×**73.08W**±0.10, **h33**km, **n285**, σ1**905**/268, **mb4.7**/43, **MS3.7**/5, **2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**0.67**	**202**	‖ *i* P	**Pb**	**21 30 16.1**	**-0.6**
PSCH				*i* S	**Sn**	**21 30 26.8**	**+1.0**
VLCH	**Valdivia**	**1.63**	**185**	*e*P	**Pb**	**21 30 30.5**	**-2.4**
VLCH				*i* S	**Sb**	**21 30 52.4**	**-0.7**
VLCH				AML	AML	21 30 59.7	
	comp=E,41μm,0.6s						
OSCH	**Osorno**	**2.40**	**181**	AML	AML	21 31 36.1	
	comp=N,14μm,0.7s						
LNCH	**Linares**	**2.61**	**27**	*e*P	**Pn**	**21 30 43.7**	**+0.5**
LNCH				*i* S	**Sn**	**21 31 15.1**	**+1.4**
LNCH				AML	AML	21 31 34.0	
	comp=N,7μm,0.7s						
TALC	**Talca**	**3.01**	**23**	*e*P	**Pn**	**21 30 48.6**	**-0.1**
TALC				*i* S	**Sn**	**21 31 23.7**	**+0.2**
NICH	**Los Niches**	**3.50**	**26**	*e*P	**Pn**	**21 30 55.8**	**+0.3**
NICH				*i* S	**Sn**	**21 31 36.5**	**+0.8**
LNV	**Longovilo**	**4.42**	**18**	*e*P	**Pn**	**21 31 07.7**	**-0.5**
LNV				*i* S	**Sn**	**21 31 57.5**	**-1.0**
CHCH	**Chadas Angostu**	**4.67**	**26**	*e*P	**Pn**	**21 31 11.5**	**-0.1**
CHCH				*i* P	**Pn**	**21 31 11.5**	**-0.1**
CHCH				*i* S	**Sn**	**21 32 04.7**	**0.0**
TACH	**Talagante**	**4.84**	**22**	*i* P	**Pn**	**21 31 13.4**	**-0.5**
TACH				*e*S	**Sn**	**21 32 07.9**	**-0.9**
PCH	**Pirque**	**5.00**	**25**	*i* P	**Pn**	**21 31 16.0**	**-0.2**
PCH				*i* S	**Sn**	**21 32 12.7**	**-0.2**
CFAA	**Coronel Fontan**	**7.67**	**33**	Pn	**Pn**	**21 31 50.7**	**-2.0**
	comp=N,0.9nm,0.3s,baz=210,slow=9.7,SNR=31						
CFAA				Sn	**Sn**	**21 33 16.7**	**-1.8**
	comp=N,0.5nm,0.3s,baz=297,slow=18,SNR=2.5						
CFAA				LR	LR	21 35 03.7	
	comp=N,54nm,19.9s,baz=218,slow=40						
TRQA	**Tornquist**	**8.75**	**93**	*e*Pn	Pn	21 32 11.8	+4.2
LCO	**Las Campanas**	**9.35**	**13**	*e*Pn	**Pn**	**21 32 14.0**	**-2.1**
LVC	**Limon Verde**	**15.92**	**14**	Pn	Pn	21 33 37.5	-7.7
	comp=N,183nm,0.3s,baz=199,slow=18,SNR=41						
LVC				Lg	Lg	21 38 14.7	
	comp=N,16nm,0.3s,baz=151,slow=19,SNR=5.8						
LVC	**Limon Verde**	**15.92**	**14**	*e*Pn	Pn	21 33 38.2	-7.0
	comp=N,27nm,0.6s						
LVC				Lg	Lg	21 38 14.7	
USHA	**Ushuaia**	**16.96**	**171**	Pn	**P**	**21 33 59.7**	**+0.2**
	comp=N,0.9nm,0.3s,baz=334,slow=9.9,SNR=7.0						
LPAZ	**La Paz**	**22.24**	**13**	P	**P**	**21 34 59.4**	**+1.4**
	comp=N,3.1nm,0.8s,baz=172,slow=5.6,SNR=20						
LPAZ	**La Paz**	**22.24**	**13**	*e*P	**P**	**21 34 57.0**	**-1.0**
	comp=N,13nm,0.8s						
SIV	**San Ignacio**	**24.50**	**29**	P	**P**	**21 35 19.5**	**-0.2**
	comp=N,3.9nm,0.7s,baz=216,slow=8.8,SNR=12						
SAML	**Samuel**	**30.44**	**20**	*e*P	**P**	**21 36 12.2**	**-0.6**
	comp=N,7.0nm,1.3s						
ATAH	**Atahualpa**	**31.28**	**350**	P	**P**	**21 36 22.1**	**+1.3**
	comp=N,3.7nm,0.6s,baz=106,slow=19,SNR=2.3						
BDFB	**Brasilia**	**31.49**	**51**	P	P	21 36 24.3	+2.0
	comp=N,3.6nm,0.6s,baz=200,slow=8.8,SNR=7.7						
BDFB				LR	LR	21 49 52.1	
	comp=N,140nm,21.7s,baz=258,slow=38						
BDFB	**Brasilia**	**31.49**	**51**	*e*P	**P**	**21 36 22.2**	**-0.1**
OTAV	**Otavalo**	**38.55**	**351**	*e*P	**P**	**21 37 24.2**	**+0.8**
	comp=N,7.4nm,1.0s						
PTGA	**Pitinga**	**39.17**	**21**	P	P	21 37 24.1	-4.0
	comp=N,2.4nm,0.5s,baz=288,slow=21,SNR=6.1						
VNA1	**Neumayer--Stat**	**46.20**	**155**	P	P	21 38 27.3	+2.7
RCBR	**Riachuelo**	**46.62**	**56**	LR	LR	21 59 38.4	
	comp=N,450nm,18.7s,baz=211,slow=38						
SNAA	**Sanae**	**48.07**	**156**	P	**P**	**21 38 41.1**	**+1.8**
SNAA	**Sanae**	**48.07**	**156**	P	**P**	**21 38 41.2**	**+1.8**
	comp=N,5.7nm,0.9s,baz=278,slow=6.5,SNR=46						
SNAA	**Sanae**	**48.07**	**156**	*e*P	**P**	**21 38 40.8**	**+1.5**
	comp=N,22nm,1.0s						
QSPA	**South Pole Qui**	**52.07**	**180**	P	**P**	**21 39 11.5**	**+1.7**
	comp=N,14nm,0.8s,baz=148,slow=3.4,SNR=35						
SYO	**Syowa Base**	**62.31**	**158**	‖ *e*P	**P**	**21 40 20.9**	**-0.9**
MAW	**Mawson**	**69.42**	**163**	P	**P**	**21 41 08.3**	**+0.7**
	comp=N,5.2nm,0.8s,baz=204,slow=6.7,SNR=9.6						
BRAL	**Brewton**	**70.06**	**347**	*e*P	**P**	**21 41 13.3**	**+1.5**
	comp=N,49nm,0.5s						
834A	**Tilden**	**70.14**	**336**	P	P	21 41 14.2	+1.8
	baz=70						
736A	**Circle Diamond**	**70.45**	**338**	P	P	21 41 16.7	+2.4
	baz=70						
735A	**Kenedy**	**70.58**	**337**	P	P	21 41 17.5	+2.4
	baz=71						
833A	**Chaparral WMA,**	**70.59**	**336**	P	P	21 41 17.1	+1.9
	baz=71						
832A	**Faith Ranch, C**	**70.75**	**335**	P	**P**	**21 41 17.2**	**+1.1**
	baz=71						
732A	**Laxson Ranch,**	**71.16**	**335**	P	**P**	**21 41 19.6**	**+1.0**
	baz=71,SNR=8.2						
633A	**Saathoff Ranch**	**71.58**	**336**	P	**P**	**21 41 22.5**	**+1.4**
	baz=72						
632A	**Uvalde**	**71.81**	**336**	P	**P**	**21 41 24.0**	**+1.4**
	baz=72						
534A	**Blanco**	**71.88**	**337**	P	**P**	**21 41 24.1**	**+1.1**
	baz=72						
340A	**Bronson**	**71.91**	**341**	P	**P**	**21 41 24.1**	**+1.1**
	baz=72						
339A	**Huntington**	**72.00**	**341**	P	**P**	**21 41 24.8**	**+1.3**
	baz=72						
LRAL	**Lakeview Retre**	**72.03**	**348**	*e*P	**P**	**21 41 23.5**	**-0.2**
	comp=N,4.4nm,0.8s						
436A	**Wall Ranch, Ga**	**72.08**	**339**	P	**P**	**21 41 25.3**	**+1.2**
	baz=72						
533A	**Kerrville**	**72.10**	**337**	P	**P**	**21 41 25.4**	**+1.1**
	baz=72						
338A	**Crockett**	**72.22**	**340**	P	P	21 41 26.6	+1.7
	baz=72						
337A	**Centerville**	**72.34**	**340**	P	P	21 41 27.2	+1.6
	baz=72						
532A	**Rocksprings**	**72.43**	**336**	P	**P**	**21 41 27.4**	**+1.1**
	baz=72,SNR=17						
NATX	**Nacogdoches**	**72.43**	**341**	P	**P**	**21 41 27.6**	**+1.5**
	baz=73						
434A	**Burnet**	**72.55**	**337**	P	**P**	**21 41 27.8**	**+0.8**
	baz=73,SNR=9.2						
239A	**Gary**	**72.63**	**341**	P	**P**	**21 41 28.5**	**+1.1**
	baz=73						
531A	**Rocksprings**	**72.67**	**335**	P	**P**	**21 41 28.8**	**+1.1**
	baz=73,SNR=10						
336A	**Riesel**	**72.67**	**339**	P	**P**	**21 41 28.5**	**+0.9**
	baz=73						
JCT	**Junction City**	**72.72**	**336**	P	**P**	**21 41 28.9**	**+0.8**
	baz=73,SNR=6.1						
JCT	**Junction City**	**72.72**	**336**	*e*P	**P**	**21 41 28.4**	**+0.4**
	comp=N,19nm,1.0s						
335A	**Moody**	**72.74**	**338**	P	**P**	**21 41 28.9**	**+0.9**
	baz=73						
433A	**Art**	**72.75**	**337**	P	**P**	**21 41 28.5**	**+0.4**
	baz=73,SNR=6.5						
530A	**J-C Ranch, Com**	**72.92**	**335**	P	**P**	**21 41 30.3**	**+1.1**
	baz=73,SNR=12						
TX31	**Lajitas Ar. Si**	**73.00**	**332**	*e*P	**P**	**21 41 30.1**	**+0.4**
TXAR	**Lajitas Array**	**73.00**	**332**	P	**P**	**21 41 30.6**	**+0.8**
	comp=N,3.4nm,0.7s,baz=153,slow=8.6,SNR=50						
TXAR				LR	LR	22 08 43.9	
	comp=N,48nm,18.9s,baz=0.0,slow=32						
334A	**Lometa**	**73.03**	**338**	P	**P**	**21 41 30.5**	**+0.8**
	baz=73,SNR=11						
432A	**Menard**	**73.08**	**336**	P	**P**	**21 41 30.5**	**+0.3**
	baz=73,SNR=5.8						
431A	**Sonora**	**73.17**	**335**	P	**P**	**21 41 31.1**	**+0.5**
	baz=73,SNR=6.3						
529A	**Stev Forest Ra**	**73.20**	**334**	P	**P**	**21 41 31.8**	**+0.9**
	baz=73,SNR=6.7						
333A	**Richland Sprin**	**73.25**	**337**	P	**P**	**21 41 31.7**	**+0.6**
	baz=73						
KMSC	**Kings Mountain**	**73.35**	**353**	P	**P**	**21 41 32.0**	**+0.4**
	baz=74						
WHTX	**Lake Whitney,**	**73.42**	**339**	P	**P**	**21 41 32.4**	**+0.4**
	baz=74						
430A	**Baggett Ranch,**	**73.47**	**335**	P	**P**	**21 41 33.5**	**+1.1**
	baz=74,SNR=12						
137A	**Heron Place, G**	**73.51**	**340**	P	**P**	**21 41 34.1**	**+1.5**
	baz=74						
332A	**Millersview**	**73.54**	**336**	P	**P**	**21 41 33.5**	**+0.7**
	baz=74,SNR=8.3						
429A	**Davenport Ranc**	**73.55**	**334**	P	**P**	**21 41 33.9**	**+0.9**
	baz=74,SNR=9.9						
136A	**Ennis**	**73.61**	**339**	P	**P**	**21 41 34.0**	**+0.9**
	baz=74						
234A	**Clairette**	**73.62**	**338**	P	**P**	**21 41 34.2**	**+0.9**
	baz=74						
331A	**San Angelo**	**73.69**	**336**	P	**P**	**21 41 34.2**	**+0.5**
	baz=74,SNR=11						
233A	**Rising Star**	**73.87**	**337**	P	**P**	**21 41 35.4**	**+0.7**
	baz=74						
Z38A	**Mt. Pleasant**	**73.93**	**341**	P	**P**	**21 41 36.0**	**+1.0**
	baz=74						
232A	**Coleman**	**73.98**	**337**	P	**P**	**21 41 35.9**	**+0.5**
	baz=74,SNR=7.3						
330A	**Mertzon**	**74.02**	**335**	P	**P**	**21 41 36.7**	**+1.0**
	baz=74						
CPCT	**Cooper Cave**	**74.02**	**350**	*e*P	**P**	**21 41 35.2**	**-0.3**
Z37A	**Pogue Cattle C**	**74.05**	**340**	P	**P**	**21 41 36.9**	**+1.2**
	baz=74						
231A	**Bronte**	**74.23**	**336**	P	**P**	**21 41 37.4**	**+0.6**
	baz=74,SNR=6.5						
Z36A	**Blue Ridge**	**74.33**	**340**	P	**P**	**21 41 38.2**	**+0.8**
	baz=74						
329A	**Wagon Wheel Ra**	**74.36**	**335**	P	**P**	**21 41 38.5**	**+0.8**
	baz=74						
133A	**Hamilton Ranch**	**74.42**	**338**	P	**P**	**21 41 38.5**	**+0.5**
	baz=74						
230A	**Sterling City**	**74.44**	**335**	P	**P**	**21 41 38.5**	**+0.4**
	baz=74						
Y38A	**Idabel**	**74.51**	**341**	P	**P**	**21 41 39.5**	**+1.1**
	baz=75						
Z35A	**Perchaven, San**	**74.61**	**339**	P	**P**	**21 41 39.6**	**+0.6**
	baz=75						
ABTX	**Abilene, Hawle**	**74.66**	**337**	P	**P**	**21 41 39.8**	**+0.5**
	baz=75						
229A	**Bryant Ranch,**	**74.75**	**335**	P	**P**	**21 41 40.3**	**+0.4**
	baz=75						
Y37A	**Hugo**	**74.78**	**341**	P	**P**	**21 41 40.8**	**+0.8**
	baz=75						
Z34A	**Collier Ranch,**	**74.84**	**339**	P	**P**	**21 41 41.1**	**+0.8**
	baz=75						
Y36A	**Durant**	**74.89**	**340**	P	**P**	**21 41 41.1**	**+0.5**
	baz=75						
131A	**Roby**	**74.94**	**336**	P	**P**	**21 41 41.6**	**+0.7**
	baz=75						
Z33A	**Whitaker Ranch**	**75.01**	**338**	P	**P**	**21 41 42.1**	**+0.8**
	baz=75						
130A	**Snyder**	**75.05**	**336**	P	**P**	**21 41 42.2**	**+0.5**
	baz=75						
Y35A	**Marietta**	**75.09**	**340**	P	**P**	**21 41 43.0**	**+1.2**
	baz=75						
228A	**UT Block 9, Go**	**75.15**	**334**	P	**P**	**21 41 42.8**	**+0.6**
	baz=75,SNR=5.5						
WVT	**Waverly**	**75.19**	**348**	*e*P	**P**	**21 41 41.7**	**-0.6**
	comp=N,7.3nm,0.7s						
Z32A	**Haskell**	**75.24**	**337**	P	**P**	**21 41 43.4**	**+0.7**
	baz=75,SNR=5.6						
X37A	**Clayton**	**75.30**	**341**	P	**P**	**21 41 44.2**	**+1.2**
	baz=75						
Y34A	**Reagan Ranch,**	**75.34**	**339**	P	**P**	**21 41 44.1**	**+0.9**
	baz=76						
129A	**Stewart Farms,**	**75.38**	**335**	P	**P**	**21 41 43.9**	**+0.4**
	baz=76						
Z31A	**Sharp Cattle R**	**75.46**	**337**	P	**P**	**21 41 44.5**	**+0.6**
	baz=76,SNR=6.0						
X36A	**Centrahoma**	**75.54**	**340**	P	**P**	**21 41 45.2**	**+0.9**
	baz=76						
X35A	**Drake**	**75.54**	**340**	P	**P**	**21 41 45.6**	**+1.3**
	baz=76						
W38A	**Poteau**	**75.54**	**342**	P	P	21 41 46.0	+1.6
	baz=76						
128A	**Castleberry Fa**	**75.57**	**335**	P	**P**	**21 41 45.6**	**+0.9**
	baz=76,SNR=5.4						
Y33A	**Hilltop Ranch,**	**75.64**	**338**	P	**P**	**21 41 45.6**	**+0.7**
	baz=76						
Z30A	**Sanderson Ranc**	**75.74**	**336**	P	**P**	**21 41 46.4**	**+0.8**
	baz=76,SNR=7.8						
W37A	**Quinton**	**75.83**	**341**	P	**P**	**21 41 47.0**	**+1.0**
	baz=76						
Y32A	**R-V Farms, Ver**	**75.88**	**338**	P	**P**	**21 41 47.3**	**+1.0**
	baz=76						
Z29A	**Hungry Hill Ra**	**75.90**	**336**	P	**P**	**21 41 47.3**	**+0.8**
	baz=76						
X34A	**Smith Ranch, M**	**75.97**	**339**	P	**P**	**21 41 47.8**	**+1.0**
	baz=76						
Y31A	**Rekieta Farm,**	**76.09**	**337**	P	**P**	**21 41 48.3**	**+0.8**
	baz=76						
Y30A	**Stafford Cattl**	**76.21**	**336**	P	**P**	**21 41 49.2**	**+0.9**
	baz=76						
X32A	**Elmer**	**76.22**	**338**	P	**P**	**21 41 49.6**	**+1.3**
	baz=76						
W35A	**Tecumseh**	**76.23**	**340**	P	**P**	**21 41 48.5**	**+0.2**
	baz=76						
V38A	**Canehill**	**76.27**	**342**	P	**P**	**21 41 48.8**	**+0.3**
	baz=76						
PBMO	**Poplar Bluff**	**76.29**	**346**	*e*P	**P**	**21 41 48.2**	**-0.3**
	comp=N,11nm,1.0s						
Y29A	**Porterfield Fa**	**76.44**	**336**	P	**P**	**21 41 50.3**	**+0.7**
	baz=76						
V37A	**Hulbert**	**76.47**	**342**	P	**P**	**21 41 50.4**	**+0.8**
	baz=77						
W34A	**Bridge Creek,**	**76.55**	**339**	P	**P**	**21 41 51.1**	**+1.0**
	baz=77						
V36A	**Jenks**	**76.58**	**341**	P	**P**	**21 41 50.6**	**+0.4**
	baz=77,SNR=5.1						
X31A	**McDonald Ranch**	**76.62**	**337**	P	**P**	**21 41 51.3**	**+0.7**
	baz=77						
TUL1	**Leonard**	**76.66**	**341**	P	**P**	**21 41 51.2**	**+0.6**
	baz=77						
TUL1	**Leonard**	**76.66**	**341**	*e*P	**P**	**21 41 50.6**	**-0.1**
	comp=N,16nm,0.8s						
W33A	**Caddo, Fort Co**	**76.67**	**339**	P	**P**	**21 41 51.5**	**+0.8**
	baz=77						
X30A	**Coker Ranch, T**	**76.73**	**337**	P	**P**	**21 41 52.5**	**+1.4**
	baz=77						
V35A	**Meyer Ranch, C**	**76.79**	**340**	P	**P**	**21 41 52.1**	**+0.7**
	baz=77						
W32A	**Sentinel**	**76.86**	**338**	P	**P**	**21 41 52.8**	**+1.0**
	baz=77,SNR=6.5						
MSTX	**Muleshoe**	**76.90**	**335**	P	**P**	**21 41 53.1**	**+0.9**
	baz=77						
LIC	**Lamto**	**76.90**	**71**	*e*P	P	21 41 57.0	+4.4
	comp=N,72nm,1.1s						
X29A	**Tulia**	**76.99**	**336**	P	**P**	**21 41 53.3**	**+0.6**
	baz=77						
V34A	**Guthrie**	**77.04**	**340**	P	**P**	**21 41 53.5**	**+0.6**
	baz=77						
W31A	**Holland Ranch,**	**77.13**	**338**	P	**P**	**21 41 54.2**	**+0.8**
	baz=77						
TIC	**Toumodi**	**77.19**	**71**	*e*P	**P**	**21 41 56.0**	**+1.8**
KIC	**Kosan Boka**	**77.21**	**71**	*e*P	**P**	**21 41 55.5**	**+1.2**
	comp=N,25nm,0.6s						
V33A	**Lossen Ranch,**	**77.24**	**339**	P	**P**	**21 41 55.0**	**+1.1**
	baz=77						
W30A	**Crocket Farms**	**77.32**	**337**	P	**P**	**21 41 55.4**	**+1.0**
	baz=77						
DBIC	**Dimbokro**	**77.32**	**71**	P	**P**	**21 41 55.9**	**+1.0**
	comp=N,3.7nm,0.6s,baz=201,slow=6.3,SNR=9.1						
V32A	**Arapaho**	**77.36**	**339**	P	**P**	**21 41 55.7**	**+1.1**
	baz=78						
AMTX	**Amarillo**	**77.38**	**336**	P	**P**	**21 41 55.4**	**+0.5**
	baz=78						
121A	**Cookes Peak, D**	**77.42**	**330**	P	P	21 41 57.1	+1.8
	baz=78						
W29A	**Amarillo**	**77.59**	**336**	P	**P**	**21 41 57.3**	**+1.2**
	baz=78						
T37A	**Cheneyville 18**	**77.59**	**342**	P	**P**	**21 41 55.9**	**0.0**
	baz=78,SNR=5.0						
U34A	**Anderson Ranch**	**77.61**	**340**	P	P	21 41 57.6	+1.6
	baz=78						
V31A	**Spring Creek L**	**77.64**	**338**	P	P	21 41 58.1	+1.8
	baz=78						
U33A	**Lingo Farm, Me**	**77.77**	**340**	P	**P**	**21 41 57.5**	**+0.6**
	baz=78						
T36A	**Boggs Farm, Ca**	**77.77**	**342**	P	**P**	**21 41 57.3**	**+0.4**
	baz=78						
T35A	**Sooner Cattle**	**77.80**	**341**	P	**P**	**21 41 57.9**	**

T25A	**Trinidad**	**80.33 335**	*e*P	**P**	**21 42 11.5 +0.3**
	comp=N,13nm,1.1s				
R28A	**Tribune**	**80.61 337**	P	**P**	**21 42 13.8 +1.4**
	baz=81				
Q30A	**Quinter**	**80.73 339**	P	**P**	**21 42 14.5 +1.4**
	baz=81				
R27A	**Eads**	**80.86 337**	P	**P**	**21 42 14.8 +0.9**
	baz=81				
O34A	**Beatrice**	**80.93 342**	P	**P**	**21 42 14.5 +0.5**
	baz=81				
O33A	**Hebron**	**81.05 341**	P	**P**	**21 42 15.4 +0.7**
	baz=81				
R26A	**Arlington**	**81.08 336**	P	P	21 42 16.9 +1.9
	baz=81				
SDCO	**Great Sand Dun**	**81.25 335**	P	**P**	**21 42 17.7 +1.5**
	baz=81				
SDCO	**Great Sand Dun**	**81.25 335**	*e*P	**P**	**21 42 16.3 +0.2**
	comp=N,2.8nm,1.0s				
LBTB	**Lobatse**	**81.31 115**	*e*P	**P**	**21 42 17.2 +0.4**
	comp=N,8.0nm,0.7s				
WUAZ	**Wupatki**	**81.45 329**	P	**P**	**21 42 18.4 +1.3**
	baz=82				
Q26A	**Hugo**	**81.67 336**	P	**P**	**21 42 18.3 +0.1**
	baz=82				
S22A	**4UR Ranch, Cre**	**81.71 334**	P	**P**	**21 42 19.9 +1.3**
	baz=82				
109C	**Camp Elliot, M**	**81.71 324**	P	**P**	**21 42 19.3 +0.9**
	baz=82				
Q24A	**Divide**	**82.23 335**	P	**P**	**21 42 22.7 +1.3**
	baz=82				
Q24A	**Divide**	**82.23 335**	*e*P	**P**	**21 42 21.5 +0.2**
	comp=N,6.5nm,0.8s				
SMCO	**Snowmass**	**83.04 334**	*e*P	**P**	**21 42 26.2 +0.5**
	comp=N,5.8nm,0.8s				
BFSC	**Mount Baldy Ra**	**83.09 324**	P	P	21 42 27.2 +1.5
	baz=83				
ISCO	**Idaho Springs**	**83.14 335**	P	**P**	**21 42 26.8 +0.7**
	baz=83				
L31A	**Butterfield Fa**	**83.35 341**	P	**P**	**21 42 28.2 +1.5**
	baz=84				
CCUT	**Cedar City**	**84.02 329**	*e*P	**P**	**21 42 31.8 +1.3**
	comp=N,3.0nm,0.9s				
N23A	**Red Feather La**	**84.24 336**	P	**P**	**21 42 33.0 +1.4**
	baz=84				
N23A	**Red Feather La**	**84.24 336**	*e*P	**P**	**21 42 32.5 +1.0**
	comp=N,8.2nm,1.3s				
ECSD	**EROS Data Cent**	**84.28 343**	P	**P**	**21 42 32.2 +0.8**
	baz=84				
ECSD	**EROS Data Cent**	**84.28 343**	*e*P	**P**	**21 42 31.4 +0.1**
	comp=N,23nm,1.0s				
L26A	**Underwood Farm**	**84.39 338**	P	**P**	**21 42 33.4 +1.2**
	baz=84				
K28A	**Ten Mile Ranch**	**84.52 339**	P	P	21 42 34.4 +1.7
	baz=85				
MPMC	**Manual Prospec**	**84.52 325**	P	P	21 42 34.7 +1.7
	baz=84				
DAC	**Darwin (Calif)**	**84.75 325**	*e*P	**P**	**21 42 35.3 +1.1**
	comp=N,4.1nm,1.0s				
J29A	**Okreek**	**84.88 340**	P	**P**	**21 42 35.9 +1.4**
	baz=85				
SPMN	**Marine on St.**	**84.91 346**	P	**P**	**21 42 34.8 +0.3**
	baz=85				
I30A	**Oacoma**	**85.13 341**	P	**P**	**21 42 36.5 +0.8**
	baz=85				
J27A	**Elkhorn Farm,**	**85.20 339**	P	P	21 42 38.6 +2.5
	baz=85				
I29A	**Vivian Onida**	**85.45 341**	P	**P**	**21 42 38.5 +1.2**
	baz=86				
J26A	**Sides Ranch, S**	**85.56 339**	P	P	21 42 39.6 +1.7
	baz=86				
R11A	**Troy Canyon, C**	**85.61 328**	P	P	21 42 40.0 +1.6
	baz=86				
R11A	**Troy Canyon, C**	**85.61 328**	*e*P	**P**	**21 42 39.5 +1.1**
	comp=N,4.6nm,1.1s				
I28A	**Midland**	**85.66 340**	P	**P**	**21 42 39.4 +1.1**
	baz=86				
K23A	**Bowen Ranch, D**	**85.81 337**	P	**P**	**21 42 40.6 +1.2**
	baz=86				
J25A	**Sunshine Ranch**	**85.84 338**	P	**P**	**21 42 40.5 +1.2**
	baz=86				
I27A	**Quinn**	**85.97 340**	P	**P**	**21 42 41.2 +1.3**
	baz=86				
H29A	**Onida**	**85.99 341**	P	**P**	**21 42 40.9 +0.9**
	baz=86				
DUG	**Dugway, Tooele**	**86.07 331**	P	**P**	**21 42 42.1 +1.5**
	baz=86				
TPH	**Tonopah**	**86.08 327**	*e*P	**P**	**21 42 41.4 +0.6**
	comp=N,8.1nm,1.1s				
TORD	**Torodi Ar. Bea**	**86.42 70**	P	**P**	**21 42 43.1 +0.4**
	comp=N,5.4nm,0.6s,baz=219,slow=4.8,SNR=107				
TORD		LR		LR	22 21 02.4
	comp=N,12nm,18.5s,baz=145,slow=35				
G29A	**Hoven**	**86.45 341**	P	**P**	**21 42 42.9 +0.7**
	baz=87				
H27A	**Howes**	**86.49 340**	P	**P**	**21 42 43.3 +0.9**
	baz=87				
G28A	**Parade**	**86.59 341**	P	**P**	**21 42 43.9 +1.0**
	baz=87				
J22A	**Midwest**	**86.68 336**	P	P	21 42 45.3 +1.7
	baz=87				
HWUT	**Hardware Ranch**	**86.82 332**	*e*P	**P**	**21 42 44.2 -0.1**
	comp=N,8.7nm,1.1s				
NVAR	**Mina Array Bea**	**86.85 326**	P	**P**	**21 42 45.6 +1.0**
	comp=N,1.0nm,0.8s,baz=150,slow=6.6,SNR=5.7				
H25A	**Fruitdale**	**86.91 339**	P	**P**	**21 42 45.9 +1.4**
	baz=87				
J21A	**Lysite**	**86.93 336**	P	**P**	**21 42 46.2 +1.4**
	baz=87				
F29A	**Eureka**	**87.02 342**	P	**P**	**21 42 46.0 +1.0**
	baz=87				
PDAR	**Pinedale Array**	**87.12 334**	P	**P**	**21 42 45.7 -0.1**
	comp=N,1.5nm,1.0s,baz=159,slow=4.5,SNR=7.3				
G27A	**Dupree**	**87.14 340**	P	**P**	**21 42 46.4 +0.8**
	baz=87				
J20A	**Shoshoni**	**87.14 335**	P	**P**	**21 42 47.3 +1.5**
	baz=87				
F28A	**McLaughlin**	**87.28 341**	P	**P**	**21 42 47.6 +1.4**
	baz=87				
I21A	**Big Trails, Te**	**87.30 336**	P	**P**	**21 42 47.5 +0.9**
	baz=87				
G25A	**Newell**	**87.38 339**	P	**P**	**21 42 47.8 +1.0**
	baz=88				
J19A	**Crowheart**	**87.39 335**	P	**P**	**21 42 48.0 +1.0**
	baz=88				
E30A	**Jud**	**87.43 342**	P	**P**	**21 42 47.9 +1.0**
	baz=88				
ELK	**Elko**	**87.50 329**	*e*P	**P**	**21 42 48.3 +0.6**
	comp=N,4.1nm,1.1s				
F27A	**Lemmon**	**87.62 340**	P	**P**	**21 42 48.6 +0.7**
	baz=88				
F26A	**Lodgepole**	**87.78 340**	P	**P**	**21 42 49.5 +0.8**
	baz=88				
G24A	**Alzada**	**87.79 338**	P	**P**	**21 42 50.1 +1.3**
	baz=88				
D30A	**Buchanan**	**87.96 343**	P	**P**	**21 42 50.3 +0.9**
	baz=88				
F25A	**Bowman**	**88.06 339**	P	**P**	**21 42 50.1 0.0**
	baz=88				
E26A	**Carlson Angus**	**88.29 340**	P	**P**	**21 42 51.7 +0.7**
	baz=88				
F23A	**Volborg**	**88.44 338**	P	**P**	**21 42 52.8 +1.0**
	baz=89				
AGMN	**Agassiz Nation**	**88.45 345**	P	**P**	**21 42 52.3 +0.6**
	baz=89				
AGMN	**Agassiz Nation**	**88.45 345**	*e*P	**P**	**21 42 51.5 -0.2**
	comp=N,7.7nm,0.6s				
C30A	**Mose, Pekin**	**88.45 343**	P	**P**	**21 42 52.7 +1.0**
	baz=89				
D28A	**Regan**	**88.47 342**	P	**P**	**21 42 52.4 +0.5**
	baz=89				
E25A	**Miller Ranch,**	**88.58 340**	P	**P**	**21 42 53.7 +1.3**
	baz=89				
D26A	**Manning**	**88.80 340**	P	**P**	**21 42 54.6 +1.2**
	baz=89				
C28A	**Hausauer Farms**	**88.92 342**	P	**P**	**21 42 54.9 +0.9**
	baz=89				
B30A	**Myrvik Farm, E**	**89.12 343**	P	**P**	**21 42 55.8 +0.9**
	baz=89				
D25A	**Fairfield**	**89.15 340**	P	P	21 42 56.8 +1.7
	baz=89				
C27A	**Sayler Ranch,**	**89.19 341**	P	**P**	**21 42 56.6 +1.4**
	baz=89				
B29A	**Wagenman Farm,**	**89.37 343**	P	**P**	**21 42 57.0 +1.0**
	baz=90				
HLID	**Hailey**	**89.57 331**	P	P	21 42 59.3 +1.9
	baz=90				
HLID	**Hailey**	**89.57 331**	*e*P	**P**	**21 42 57.6 +0.3**
	comp=N,2.6nm,1.0s				
B28A	**Dugan Ranch, T**	**89.60 342**	P	**P**	**21 42 58.2 +1.1**
	baz=90				
D23A	**Lindsay**	**89.70 339**	P	P	21 42 59.4 +1.7
	baz=90				
A29A	**Manning Farm,**	**89.77 343**	P	**P**	**21 42 58.6 +0.7**
	baz=90				
J05D	**Fort Rock, OR**	**92.10 327**	P	P	21 43 10.6 +1.6
	baz=92				
GERES	**GERESS Array B**	**115.65 47**	PKP	**PKPdf**	**21 48 40.0 -1.7**
	comp=N,0.3nm,0.5s,baz=267,slow=3.7,SNR=4.6				
WRA	**Warramunga Arr**	**116.71 209**	PKP	**PKPdf**	**21 48 42.7 -2.0**
	comp=N,0.4nm,0.6s,baz=177,slow=1.5,SNR=4.8				
ILAR	**Eielson Array**	**117.51 332**	PKP	**PKPdf**	**21 48 42.9 -1.8**
	comp=N,0.2nm,0.3s,baz=139,slow=1.6,SNR=5.0				
STHS	**Stebnicka Huta**	**120.33 49**	*e*	**Pdif**	**21 45 16.9 +1.9**
STHS	**Stebnicka Huta**	**120.33 49**	*e*PKP	**PKPdf**	**21 48 50.0 -0.6**
KOLS	**Kolonicke sedl**	**120.74 50**	*e*PKP	**PKPdf**	**21 48 50.2 -1.2**
BR231	**Keskin MP Arra**	**123.96 63**	*e*PKPdf	**PKPdf**	**21 48 59.3 +1.3**
BRTR	**Keskin Array B**	**124.52 64**	PKP	**PKPdf**	**21 48 58.1 -1.0**
	comp=N,0.8nm,0.7s,baz=194,slow=4.5,SNR=6.5				
FINES	**FINESS Array B**	**126.88 36**	PKP	**PKPdf**	**21 49 02.8 +0.1**
	comp=N,2.9nm,0.9s,baz=224,slow=5.8,SNR=3.7				
ARCES	**ARCESS Array B**	**128.14 26**	PKP	**PKPdf**	**21 49 05.1 +0.2**
	comp=N,5.0nm,0.3s,baz=258,slow=4.2,SNR=2.9				
KSH	**Kashi**	**155.91 77**	PKP	**PKPdf**	**21 49 54.6 +0.6**
KSH			pPKP	**pPKPdf**	**21 50 04.0 -0.9**
KSH			PKS	**PKSdf**	**21 53 24.9 -3.2**
KSH			PP	**PP**	**21 54 00.0 +1.0**
ZALV	**Zalesovo Beam**	**158.14 37**	PKP	**PKPdf**	**21 49 56.0 -0.2**
	comp=N,1.1nm,0.7s,baz=225,slow=1.9,SNR=5.5				
CMAR	**Chiang Mai Arr**	**159.15 158**	PKPab	**PKPab**	**21 50 35.2 -0.1**
	comp=N,0.5nm,0.7s,baz=212,slow=3.2,SNR=5.0				
KSRS	**Korea Array**	**163.39 274**	PKP	**PKPdf**	**21 50 02.2 -0.1**
	comp=N,0.4nm,0.6s,baz=48,slow=3.8,SNR=4.4				
KSRS			PKPab	**PKPab**	**21 50 52.9 -0.7**
	comp=N,0.6nm,0.7s,baz=71,slow=4.4,SNR=3.2				
KSAR	**Wonju Array Be**	**163.42 274**	PKP	**PKPdf**	**21 50 02.2 -0.2**
KSAR			PKPab	**PKPab**	**21 50 52.9 -0.8**
WMQ	**Urumqi**	**164.44 63**	*e*PKP	**PKPdf**	**21 50 03.5 +0.2**
SONM	**Songino Array**	**170.34 2**	PKPab	**PKPab**	**21 51 23.5 -0.4**
	comp=N,1.0nm,0.7s,baz=325,slow=5.2,SNR=8.5				
CD2	**Chengdu**	**172.30 159**	PKP	**PKPdf**	**21 50 08.5 -0.4**
GTA	**Gaotai**	**174.31 75**	*e*PKP	**PKPdf**	**21 50 10.8 +1.3**
GTA			sPKP		21 50 17.8
HHC	**Hu-ho-hao-te**	**175.53 308**	*e*PKP	**PKPdf**	**21 50 09.3 -0.5**
HHC			sPKP		21 50 21.3
HHC			PKS	**PKSdf**	**21 53 37.9 -4.1**
HHC			SKS	**SKSdf**	**21 57 05.5 -4.8**
HHC			SS	**SS**	**22 17 03.5 -0.5**
HHC			PPMZ		
	comp=N,35nm,10.1s				
HHC			LN		
	comp=N,120nm,22.1s				
HHC			LE		
	comp=N,86nm,22.2s				
HHC			LZ		
	comp=N,51nm,22.6s				

CSEM ***19*** *21:34:08.3, 39.85N×17.31E, h10km, ML2.5/5*
ROM 19 21:34:08.3±0.3, 39.85N×17.31E, h10km, MI2.5/5, Error ellipse: s-maj=4.4km s-min=2.3km az=111.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIPA	**Pietrapaola**	**0.53**	**227**	Pg	Pb	21 34 19.7	0.0
PIPA				Sg	Sb	21 34 26.7	-0.7
PIPA	**Pietrapaola**	**0.53**	**227**	Pg	Pb	21 34 19.7	0.0
PIPA				Sg	Sb	21 34 26.7	-0.7
ORI	**Oriolo Calabro**	**0.70**	**288**	Pg	Pg	21 34 21.5	-0.3
	98nm,0.3s						
ORI	**Oriolo Calabro**	**0.70**	**288**	Pg	Pg	21 34 21.5	-0.3
	98nm,0.3s						
LTRZ	**Laterza**	**0.84**	**334**	Pg	Pg	21 34 23.8	-0.8
LTRZ	**Laterza**	**0.84**	**334**	Pg	Pg	21 34 23.8	-0.8
MESG	**Mesagne**	**0.85**	**29**	Pg	Pg	21 34 24.3	-0.4
MESG				Sg	Sb	21 34 36.9	+0.3
	178nm,0.5s						
MESG	**Mesagne**	**0.85**	**29**	Pg	Pg	21 34 24.3	-0.4
MESG				Sg	Sb	21 34 36.9	+0.3
	178nm,0.5s						
MATE	**Matera**	**0.93**	**330**	Pg	Pg	21 34 25.4	-0.7
MATE				Sg	Sb	21 34 39.0	+0.2
	140nm,0.4s						
MATE	**Matera**	**0.93**	**330**	Pg	Pg	21 34 25.4	-0.7
MATE				Sg	Sb	21 34 39.0	+0.2
	140nm,0.4s						
NOCI	**Noci**	**0.96**	**349**	Pg	Pg	21 34 25.7	-1.1
NOCI				Sg	Sb	21 34 39.9	0.0
	104nm,0.3s						
NOCI	**Noci**	**0.96**	**349**	Pg	Pg	21 34 25.7	-1.1
NOCI				Sg	Sb	21 34 39.9	0.0
	104nm,0.3s						
MIGL	**Miglionico**	**1.01**	**319**	Pg	Pg	21 34 26.5	-1.3
MIGL	**Miglionico**	**1.01**	**319**	Pg	Pg	21 34 26.5	-1.3

CSEM ***19*** *21:34:21.1, 39.88N×17.34E, h10km, ML2.5/6*
ROM 19 21:34:21.1±0.3, 39.88N×17.34E, h10km, MI2.5/6, Error ellipse: s-maj=4.1km s-min=2.3km az=112.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIPA	**Pietrapaola**	**0.57**	**226**	Pg	Pb	21 34 32.9	-0.3
PIPA				Sg	Sb	21 34 41.0	-0.3
PIPA	**Pietrapaola**	**0.57**	**226**	Pg	Pb	21 34 32.9	-0.3
PIPA				Sg	Sb	21 34 41.0	-0.3
ORI	**Oriolo Calabro**	**0.71**	**285**	Pg	Pg	21 34 34.9	0.0
ORI				Sg	Sg	21 34 44.2	0.0
	98nm,0.3s						
ORI	**Oriolo Calabro**	**0.71**	**285**	Pg	Pg	21 34 34.9	0.0
ORI				Sg	Sg	21 34 44.2	0.0
	98nm,0.3s						
MESG	**Mesagne**	**0.81**	**29**	Pg	Pg	21 34 36.1	-0.6
MESG				Sg	Sb	21 34 48.8	+0.6
	178nm,0.5s						
MESG	**Mesagne**	**0.81**	**29**	Pg	Pg	21 34 36.1	-0.6
MESG				Sg	Sb	21 34 48.8	+0.6
	178nm,0.5s						
LTRZ	**Laterza**	**0.83**	**331**	Pg	Pg	21 34 36.2	-0.9
LTRZ				Sg	Sg	21 34 48.3	+0.4
	163nm,0.6s						
LTRZ	**Laterza**	**0.83**	**331**	Pg	Pg	21 34 36.2	-0.9
LTRZ				Sg	Sg	21 34 48.3	+0.4
	163nm,0.6s						
LTRZ	**Laterza**	**0.83**	**331**	Sg	Pg	21 34 36.4	-0.7
	163nm,0.6s						
LTRZ	**Laterza**	**0.83**	**331**	Sg	Pg	21 34 36.4	-0.7
	163nm,0.6s						
CRAC	**Craco**	**0.85**	**305**	Pg	Pg	21 34 37.1	-0.4
	158nm,0.3s						
CRAC	**Craco**	**0.85**	**305**	Pg	Pg	21 34 37.1	-0.4
	158nm,0.3s						
MATE	**Matera**	**0.91**	**328**	Pg	Pg	21 34 37.3	-1.3
MATE				Sg	Sb	21 34 51.0	-0.1
	140nm,0.4s						
MATE	**Matera**	**0.91**	**328**	Pg	Pg	21 34 37.3	-1.3
MATE				Sg	Sb	21 34 51.0	-0.1
	140nm,0.4s						
NOCI	**Noci**	**0.93**	**347**	Pg	Pg	21 34 37.8	-1.3
NOCI				Sg	Sb	21 34 51.9	0.0
	104nm,0.3s						
NOCI	**Noci**	**0.93**	**347**	Pg	Pg	21 34 37.8	-1.3
NOCI				Sg	Sb	21 34 51.9	0.0
	104nm,0.3s						
MIGL	**Miglionico**	**1.00**	**317**	Pg	Pg	21 34 39.4	-1.0
MIGL				Sg	Sb	21 34 54.4	+0.6
MIGL	**Miglionico**	**1.00**	**317**	Pg	Pg	21 34 39.4	-1.0
MIGL				Sg	Sb	21 34 54.4	+0.6

ISCJB ***19*** *21:51:45.1±0.5, 32.27N±0.02×115.34W±0.02, h13km±3km, Error ellipse: s-maj=3.9km s-min=3.3km az=145.4*
NEIC ***19*** *21:51:46.5, 32.26N×115.34W, h8km, ML3.4(PAS), ML3.5(ECX), After ECX.*
ECX ***19*** *21:51:46.5±0.4, 32.26N×115.34W, h6km, MD3.2, ML3.4*
MEX ***19*** *21:51:47.5±0.7, 32.32N×115.28W, h18km±32km, MD3.6*
ISC 19 21:51:45.0±0.9, 32.22N±0.02×115.38W±0.02, h12km±7km, n35, σ0.91/58, 3C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.20**	**17**	*e*P	**Pg**	**21 51 49.7**	**+0.3**
CPBX				*e*S	**Sg**	**21 51 53.1**	**+0.6**
CPBX	**Cerro Prieto**	**0.20**	**17**	*e*Pn	**Pg**	**21 51 49.5**	**0.0**
CPBX				*e*S	**Sg**	**21 51 52.1**	**-0.4**
MBIG	**Mexicali**	**0.24**	**39**	*i* P	**Pg**	**21 51 50.3**	**+0.3**
MBIG				*i* S	**Sg**	**21 51 53.3**	**-0.1**
SGL	**Mount Signal**	**0.52**	**325**	⇓*i*P	**Pg**	**21 51 55.4**	**+0.2**
RDX	**Rancho Dawling**	**0.56**	**239**	⇑*e*P	**Pb**	**21 51 57.5**	**+0.6**
RDX				*e*S	**Sb**	**21 52 06.0**	**+0.9**
RDX				⇑*e*		21 52 06.7	
RDX				IAML		21 52 06.7	
	comp=N,1μm,0.2s						
ERPC	**Ernies Place**	**0.57**	**335**	*e*Pn	**Pg**	**21 51 56.5**	**+0.3**
DREC	**Desert Rsrch C**	**0.58**	**354**	*e*P	**Pg**	**21 51 56.7**	**+0.3**
EMSC	**East Mesa**	**0.61**	**33**	⇓*i*P	**Pg**	**21 51 56.7**	**-0.3**
WESC	**Westside Schoo**	**0.61**	**331**	*e*P	**Pg**	**21 51 57.3**	**+0.3**
YUH	**Yuha Desert**	**0.63**	**313**	⇓*i*P	**Pg**	**21 51 57.3**	**+0.1**
COA	**Coachella**	**0.67**	**18**	⇓*i*P	**Pg**	**21 51 57.5**	**-0.7**
RMX	**La Rumorosa**	**0.70**	**303**	⇑*e*P	**Pg**	**21 51 58.9**	**+0.2**
RMX				*e*S	**Sg**	**21 52 08.8**	**+0.7**
ECBX	**El Chinero**	**0.80**	**160**	*e*Pn	**Pg**	**21 52 00.3**	**-0.2**
ECBX				*e*S	**Sb**	**21 52 11.7**	**+0.1**
ZAX	**El Zacaton**	**1.04**	**227**	*e*P	**Pn**	**21 52 05.5**	**-0.1**
ZAX				*e*S	**Sn**	**21 52 20.4**	**+0.3**
CBX	**Cerro Bola**	**1.09**	**275**	*e*P	**Pb**	**21 52 06.0**	**0.0**
CBX				*i* S	**Sb**	**21 52 19.1**	**-1.2**
CBX	**Cerro Bola**	**1.09**	**275**	*e*P	**Pb**	**21 52 06.0**	**0.0**
CBX				*i* S	**Sb**	**21 52 19.1**	**-1.2**
CBX	**Cerro Bola**	**1.09**	**275**	*e*P	**Pb**	**21 52 06.0**	**0.0**
CBX				*e*S	**Sn**	**21 52 21.2**	**-0.2**
CBX				⇓*e*		21 52 26.8	
CBX				IAML		21 52 26.8	
	comp=N,1μm,0.7s						
SPIG	**San Pedro Mart**	**1.18**	**184**	*e*P	**Pb**	**21 52 07.4**	**-0.2**
SPIG				*i* S	**Sb**	**21 52 22.6**	**-0.2**
SPIG	**San Pedro Mart**	**1.18**	**184**	*e*P	**Pb**	**21 52 07.4**	**-0.2**
SPIG				*i* S	**Sb**	**21 52 22.6**	**-0.2**
SPX	**San Pedro Mart**	**1.18**	**184**	*e*P	**Pb**	**21 52 07.3**	**-0.2**
SPX				*i* S	**Sb**	**21 52 21.8**	**-1.0**
SPX	**San Pedro Mart**	**1.18**	**184**	*e*P	**Pb**	**21 52 07.4**	**-0.2**
SPX				*e*S	**Sn**	**21 52 24.1**	**+0.3**
SPX				IAML		21 52 27.3	
	comp=N,615nm,0.2s						
SPX				*e*		21 52 27.3	
ECNX	**Esteban Cantu**	**1.18**	**242**	*e*P	**Pg**	**21 52 07.8**	**0.0**
ECNX				*e*S	**Sn**	**21 52 24.7**	**+1.1**
BAR	**Barrett**	**1.19**	**293**	*e*Pb	**Pb**	**21 52 07.0**	**-0.6**
BAR				*e*Sg	**Sb**	**21 52 22.6**	**-0.3**
BAR	**Barrett**	**1.19**	**293**	*e*P	**Pb**	**21 52 07.0**	**-0.6**
PBX	**Punta Banda**	**1.24**	**248**	*e*P	**Pg**	**21 52 08.7**	**-0.3**
PBX				*e*S	**Sg**	**21 52 26.2**	**+1.1**
PFO	**Pinyon Flats O**	**1.65**	**327**	*e*Pn	**Pn**	**21 52 11.8**	**-2.2**
PFO				*e*Sn	**Sb**	**21 52 36.2**	**-0.2**
214A	**Organ Pipe Nat**	**2.19**	**96**	*e*Pn	**Pn**	**21 52 19.1**	**-2.3**
214A				*e*Sn	**Sn**	**21 52 49.4**	**+0.9**
TUC	**Tucson**	**3.89**	**88**	*e*Pn	**Pn**	**21 52 45.6**	**+0.8**
TUC				*e*Sn	**Sn**	**21 53 32.1**	**+1.7**
SHPR	**Sheep Range**	**4.27**	**2**	*e*Pn	**Pn**	**21 52 50.2**	**+0.1**
DAC	**Darwin (Calif)**	**4.44**	**336**	*e*Pg	**Pg**	**21 53 11.1**	**+1.0**
WUAZ	**Wupatki**	**4.68**	**44**	*e*Pn	**Pn**	**21 52 56.2**	**+0.6**
WUAZ				*e*Sn	**Sn**	**21 53 51.6**	**+1.7**
CCUT	**Cedar City**	**5.56**	**17**	*e*Pn	**Pn**	**21 53 09.0**	**+1.1**
R11A	**Troy Canyon, C**	**6.11**	**358**	*e*Pn	**Pn**	**21 53 14.1**	**-1.3**
R11A				*e*Sg	**Sg**	**21 55 01.1**	**-0.2**
MSU	**Marysvale**	**6.79**	**22**	*e*Pg	**Pg**	**21 53 56.0**	**+0.8**
MVCO	**Mesa Verde**	**7.54**	**47**	*e*Pg	**Pg**	**21 54 10.3**	**+1.0**
MVCO				*e*Sg	**Sg**	**21 55 43.5**	**-3.3**

FUNV 19 23:14:32.1, 6.82N×73.16W, h173km, MW3.7,1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.33**	**39**	⇓*i*P	Pn	23 15 01.2	-1.0
CAPV				*e*S	Sn	23 15 23.0	-2.5
VIGV	**El Vigia**	**2.68**	**41**	*e*P	Pn	23 15 15.8	-0.9
SOCV	**Socops**	**2.71**	**57**	*e*P	Pn	23 15 16.1	-0.8
SOCV				*e*S	Sn	23 15 48.3	-3.4
ELOV	**Elorza**	**3.65**	**87**	*e*P	Pn	23 15 27.7	-0.9
VIRV	**Villa del Rosa**	**3.74**	**11**	*e*P	Pn	23 15 28.1	-1.6
VIRV				*e*S	Sn	23 16 09.9	-4.8
CURV	**Curarigua**	**4.48**	**45**	*e*P	Pn	23 15 38.1	-1.3
CURV				*e*S	Sn	23 16 26.6	-5.3
TEPV	**Terepaima**	**5.01**	**51**	*e*P	Pn	23 15 45.1	-1.1
BAUV	**El Baul**	**5.49**	**67**	*e*P	Pn	23 15 49.6	-2.8
BAUV				*e*S	Sn	23 16 48.3	-7.0

NAO ***19*** *23:34:29.1±3.9, 67.41N×20.77E, ML2.0*
CSEM ***19*** *23:34:31.7±0.2, 67.81N×20.26E, h1km, ML1.2, Error ellipse: s-maj=4.0km s-min=3.2km az=133.0, Mining explosion.*
BER ***19*** *23:34:34.2±3.8, 67.43N×21.44E, h0km, ML2.0(NAO), Suspected explosion*
UPP ***19*** *23:35:03.8, 67.84N×20.22E, h0km, ML1.0, Mining explosion.*
HEL 19 23:34:32.3±0.0, 67.83N×20.20E, h0km, ML1.7, ML1.2(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**23**	*i* P	Pg	23 34 34.6	-0.3
KUA				*i* S	Sg	23 34 36.5	-0.2
KUA	**Kurravaara**	**0.14**	**23**	P	Pg	23 34 34.6	-0.3
KUA				S	Sg	23 34 36.5	-0.2
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	23 34 40.2	-0.6
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	23 34 40.2	-0.6
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	23 34 45.1	-0.9
	baz=260						
LANU				*e*S	Sg	23 34 54.8	-0.4
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	23 34 45.1	-0.9
LANU				S	Sg	23 34 54.8	-0.4
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	23 34 45.1	-1.1
DUNU	**Dundret**	**0.73**	**168**	P	Pg	23 34 45.1	-1.2
MASU	**Masugnsbyn**	**0.78**	**118**	*i* P	Pg	23 34 46.5	-0.9
MASU	**Masugnsbyn**	**0.78**	**118**	P	Pg	23 34 46.4	-

	SNR=50							
MOR8				*e*S		Sn	23 35 55.0	+2.0
	SNR=50							
KEV	**Kevo**	**3.14**	**49**	MSG			23 36 04.0	
	comp=Z,2.0nm,0.2s							
FIA0	**FINESS Array S**	**6.89**	**156**	Lg		Lg	23 37 49.0	
	baz=328,slow=18							
FIA0	**FINESS Array S**	**6.89**	**156**	Lg		Lg	23 37 49.0	
	baz=328,slow=18							
FIA0	**FINESS Array S**	**6.89**	**156**	Lg		Lg	23 37 49.0	

UPP ***19*** *23:34:31.7, 67.82N×20.20E, h0km, ML1.2, Mining explosion.*

CSEM 19 23:34:46.8±0.7, 67.63N×22.88E, h1km, ML1.0, Error ellipse: s-maj=31.4km s-min=16.5km az=19.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**1.02**	**290**	P	Pg	23 35 06.4	0.0
SGF	**Sodankyl**	**1.41**	**96**	Pb	Pb	23 35 14.8	+0.9
SGF	**Sodankyl**	**1.41**	**96**	*e*PB	Pb	23 35 14.8	+0.9
RNF	**Rovaniemi**	**1.59**	**128**	Pb	Pn	23 35 16.4	+0.3
RNF	**Rovaniemi**	**1.59**	**128**	*e*PB	Pn	23 35 16.4	+0.3
KEV	**Kevo**	**2.62**	**33**	Sb	Sb	23 36 06.2	-0.8
KEV	**Kevo**	**2.62**	**33**	*e*SB	Sb	23 36 06.3	-0.8

CASC 19 23:58:06.7±1.0, 13.03N×89.16W, h50km±18km, MD3.6, ML3.4, 2C, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.60**	**9**	↑*e*P	Pn	23 58 19.2	-0.2
LFRS				*e*S	Sn	23 58 28.6	+0.1
SNVI	**San Vicente**	**0.66**	**28**	*e*P	Pn	23 58 20.6	+0.5
SNET	**Serv Nac Est T**	**0.66**	**354**	*e*P	Pn	23 58 20.0	-0.1
SNET				AML	AML	23 58 33.2	
	comp=Z,1μm,0.2s						
BOQS	**Boqueron**	**0.71**	**350**	*e*P	Pn	23 58 21.1	+0.1
BOQS				*e*S	Sn	23 58 32.3	+1.0
LBRS	**Las Brisas**	**0.71**	**9**	*e*P	Pn	23 58 20.9	+0.2
LFU	**La Fuente**	**0.72**	**3**	↑P	Pn	23 58 21.0	+0.2
LFU				*e*S	Sn	23 58 32.2	+1.2
SBLS	**San Blas**	**0.92**	**331**	*e*P	Pn	23 58 23.9	+0.2
SBLS				*e*S	Sn	23 58 36.9	+0.6
SNJE	**San Jose**	**0.94**	**332**	*e*P	Pn	23 58 24.2	+0.2
SNJE				*e*S	Sn	23 58 37.1	+0.5
VSM	**San Miguel**	**0.94**	**65**	*e*P	Pn	23 58 23.9	-0.2
VSM				*e*S	Sn	23 58 37.5	+0.7
RTR	**El Retiro**	**0.98**	**331**	*e*P	Pn	23 58 24.8	+0.3
CAHU	**Cacacuatique**	**1.18**	**51**	*e*P	Pn	23 58 27.0	-0.1
RBDL	**Robledal**	**1.19**	**334**	*e*P	Pn	23 58 27.6	+0.3
CNCH	**Conchagua**	**1.31**	**79**	*e*P	Pn	23 58 28.5	-0.3
CNCH				*e*S	Sn	23 58 45.5	+0.2
IXG	**Ixpaco**	**1.70**	**312**	*e*P	Pn	23 58 34.1	-0.1
IXG				*e*S	Sn	23 58 55.0	+0.1
COPN	**Copaltepe**	**2.64**	**108**	*e*P	Pn	23 58 46.6	-0.3
JCR	**Jicaral**	**5.07**	**128**	*e*P	Pn	23 59 20.6	+0.3
CGA2	**Cerro Gallo 2**	**5.49**	**123**	*e*P	Pn	23 59 27.8	+1.6

IDC ***20*** *00:06:56.6±1.0, 7.51N×91.61E, h0km, mb3.9/7, mb1 4.0/10, mb1mx3.8/31, mbtmp3.9/10, ML3.8/3, MS3.0/4, Ms1 3.1/4, ms1mx2.7/27, Error ellipse: s-maj=31.9km s-min=18.2km az=44.0*

ISCJB ***20*** *00:06:59.0±0.6, 7.45N±0.08×91.68E±0.08, h33km, mb4.1/12, MS3.2/1, Error ellipse: s-maj=13.9km s-min=7.6km az=40.6*

NEIC ***20*** *00:07:01.4±0.5, 7.48N×91.67E, h35km, mb4.5/4, Error ellipse: s-maj=10.1km s-min=8.3km az=219.0*

ISC 20 00:07:00.8±0.7, 7.40N±0.10×91.51E±0.07, h35km, n21, σ1§86/19, mb4.1/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.68**	**121**	Pn	**Pn**	**00 09 03.2**	**-0.8**
	1.0nm,0.3s,baz=314,slow=13,SNR=4.7						
PSI				Sn	**Sn**	**00 10 39.6**	**-1.2**
	0.6nm,0.3s,baz=212,slow=15,SNR=3.8						
PSI				LR	LR	00 12 46.1	
	comp=Z,148nm,18.9s,baz=124,slow=40						
PALK	**Pallekele**	**10.72**	**270**	Pn	**Pn**	**00 09 34.2**	**+2.1**
	1.1nm,0.3s,baz=82,slow=14,SNR=6.4						
PALK				Sn	**Sn**	**00 11 25.2**	**-5.7**
	4.4nm,0.3s,baz=12,slow=22,SNR=13						
PALK				LR	LR	00 13 11.5	
	comp=Z,81nm,18.8s,baz=75,slow=35						
CMAR	**Chiang Mai Arr**	**13.16**	**33**	Pn	**Pn**	**00 10 03.8**	**-1.5**
	0.2nm,0.3s,baz=233,slow=14,SNR=16						
CMAR				LR	LR	00 14 02.9	
	comp=Z,31nm,19.7s,baz=275,slow=33						
CHTO	**Chiang Mai**	**13.46**	**32**	*e*Pn	**Pn**	**00 10 07.0**	**-2.3**
LSA	**Lhasa**	**22.19**	**359**	*e*P	**P**	**00 11 55.5**	**+0.9**
	11nm,0.6s						
H08S3	**Diego Garcia H**	**24.14**	**232**	T	T	00 38 51.8	
	baz=52,slow=75,SNR=5.7						
H08S2	**Diego Garcia H**	**24.14**	**232**	T	T	00 38 51.2	
	baz=52,slow=75,SNR=6.9						
H08S1	**Diego Garcia H**	**24.16**	**232**	T	T	00 38 52.4	
	baz=52,slow=75,SNR=7.5						
AAK	**Ala-Archa**	**38.17**	**340**	P	P	00 14 32.8	+16
	1.8nm,0.4s,baz=176,slow=7.5,SNR=5.1						
MK31	**Makanchi Array**	**40.05**	**350**	*e*P	**P**	**00 14 32.7**	**+0.1**
SONM	**Songino Array**	**42.24**	**15**	P	**P**	**00 14 50.5**	**-0.3**
	2.8nm,0.7s,baz=196,slow=8.7,SNR=25						
KURK	**Kurchatov**	**44.50**	**348**	*e*P	**P**	**00 15 08.9**	**+0.2**
	9.4nm,1.1s						
ZAA0	**Zalesovo Array**	**46.73**	**355**	*e*P	**P**	**00 15 26.3**	**0.0**
ZALV	**Zalesovo Beam**	**46.73**	**355**	P	**P**	**00 15 26.6**	**+0.3**
	1.8nm,0.5s,baz=169,slow=8.5,SNR=15						
ABKAR	**Akbulak array**	**49.44**	**333**	*e*P	**P**	**00 15 48.3**	**+1.0**
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**50.13**	**124**	P	**P**	**00 15 54.4**	**+1.3**
	0.4nm,0.3s,baz=301,slow=9.6,SNR=2.9						
ASAR	**Alice Springs**	**51.64**	**128**	P	**P**	**00 16 05.3**	**+0.8**
	0.2nm,0.6s,baz=304,slow=8.4,SNR=3.4						
BRTR	**Keskin Array B**	**60.78**	**312**	P	**P**	**00 17 09.9**	**+0.3**
	0.9nm,0.7s,baz=114,slow=7.6,SNR=7.6						
TIXI	**Tiksi**	**68.22**	**12**	*e*P	**P**	**00 17 56.8**	**-0.7**
	6.5nm,0.6s						
FINES	**FINESS Array B**	**71.93**	**333**	P	**P**	**00 18 20.9**	**+0.6**
	1.5nm,0.7s,baz=46,slow=8.2,SNR=5.4						
GERES	**GERESS Array B**	**76.45**	**318**	P	**P**	**00 18 48.8**	**+1.6**
	0.9nm,0.7s,baz=85,slow=5.6,SNR=11						
GERES				LR	LR	00 56 30.8	
	comp=Z,12nm,19.8s,baz=244,slow=39						

MEX 20 00:11:00.1±0.7, 15.96N×97.19W, h7km±10km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.99**	**296**	*e*P	Pg	00 11 16.3	-3.0
PNIG				*i* S	Sg	00 11 29.7	-2.5
HUIG	**Huatulco**	**1.06**	**100**	*e*P	Pg	00 11 17.2	-3.4
HUIG				*i* S	Sg	00 11 31.8	-2.5
TLIG	**Tlapa**	**2.06**	**321**	*e*P	Pn	00 11 32.5	-3.0
TLIG				*i* S	Sn	00 11 56.4	-5.2
CMIG	**Matias Romero**	**2.48**	**63**	*e*P	Pn	00 11 37.6	-3.4
CMIG				*i* S	Sn	00 12 06.7	-4.9

KRSC 20 00:16:29.9±1.4, 50.51N×157.61E, h39km±22km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.97**	**281**	*e*P	Pn	00 16 47.3	+0.4
SKR				*e*S	Sn	00 16 59.6	+0.2
PAU	**Pauzhetka**	**1.09**	**333**	*e*P	Pn	00 16 51.0	+2.4
PAU				*e*S	Sn	00 17 05.4	+3.0
MIPR	**Malaya Ipel'ka**	**1.85**	**344**	*e*P	Pn	00 17 01.6	+2.5
RUS	**Russkaya**	**2.01**	**16**	*e*P	Pn	00 17 02.6	+1.4
RUS				*e*S	Sn	00 17 26.4	+1.3
MTVR	**Mutnovka**	**2.01**	**10**	*e*P	Pn	00 17 03.8	+2.3
MTVR				*e*S	Sn	00 17 27.3	+1.8
PET	**Petropavlovsk**	**2.60**	**14**	*e*S	Sn	00 17 43.2	+3.5
UGLR	**Uglovaya**	**2.81**	**15**	*e*P	Pn	00 17 15.7	+3.3
AVH	**Avacha**	**2.85**	**14**	*e*P	Pn	00 17 16.1	+3.2
KOK	**Koryaka**	**2.86**	**12**	*e*P	Pn	00 17 16.9	+3.8
SDLR	**Sedlovina**	**2.89**	**15**	*e*P	Pn	00 17 16.9	+3.4
KRER	**Koryakskii**	**2.89**	**14**	*e*P	Pn	00 17 16.6	+3.0
KRX	**Arik**	**2.93**	**12**	*e*P	Pn	00 17 17.8	+3.7
GNL	**Ganaly**	**3.20**	**4**	*e*P	Pn	00 17 21.8	+4.0

SKHL 20 00:22:35.2±1.5, 51.40N×142.06E, h10km, mb3.8/3, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TYV	**Tymovskoe**	**0.66**	**145**	*e*Pg	Pb	00 22 48.6	-0.1
TYV				AMB	AMB	00 22 52.5	
	82nm,0.6s						
TYV				*e*Sg	Sb	00 22 58.0	+0.1
TYV				A	A	00 23 00.5	
	497nm,0.8s						
NKL	**Nikolayevsk**	**1.95**	**335**	*i* Pb	Pb	00 23 10.3	-0.4
NKL				AMB	AMB	00 23 11.0	
	20nm,0.3s						
NKL				AMB	AMB	00 23 11.0	
	38nm,0.3s						
NKL				*e*Sg	Sg	00 23 40.8	+3.1
NKL				A	A	00 23 49.0	
	120nm,0.5s						
NKL				A	A	00 23 49.0	
	130nm,0.5s						
UGL	**Uglegorsk**	**2.33**	**180**	*e*Sg	Sg	00 23 53.0	+3.2
UGL				A	A	00 24 03.0	
	154nm,0.7s						
GRNR	**Gornyy**	**3.61**	**262**	*e*Pg	Pg	00 23 46.5	+2.1
GRNR				AMB	AMB	00 23 50.0	
	10.0nm,0.3s						
GRNR				*e*Sg	Sg	00 24 35.5	+4.3
GRNR				A	A	00 24 36.5	
	70nm,0.6s						
EKMR	**Ekimchan**	**5.84**	**290**	*e*Pg	Pg	00 24 31.0	+3.9
EKMR				AMB	AMB	00 24 34.3	
	3.0nm,0.4s						
EKMR				*e*Sg	Sg	00 25 51.5	+8.7
EKMR				A	A	00 25 59.3	
	23nm,0.7s						

MEX 20 01:04:47.5±0.7, 32.15N×115.12W, h16km±10km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**1.14**	**195**	*i* P	Pn	01 05 05.4	-3.9
SPIG				*e*S	Sb	01 05 18.9	-5.2
CBX	**Cerro Bola**	**1.32**	**278**	*e*P	Pn	01 05 08.3	-3.2
CBX				*e*S	Sn	01 05 22.9	-6.0

ISCJB ***20*** *01:15:05.2±1.0, 21.3N±0.1×143.5E±0.3, h300km, mb3.5/6, Error ellipse: s-maj=38.4km s-min=13.5km az=172.0*

IDC ***20*** *01:15:09.3±2.2, 21.50N×143.20E, h324km±20km, mb3.1/5, mb1 3.3/6, mb1mx2.9/35, mbtmp3.8/6, Error ellipse: s-maj=35.7km s-min=18.1km az=96.0*

ISC 20 01:15:06.9±1.1, 21.4N±0.1×143.4E±0.3, h300km, n7, σ1§31/8, mb3.7/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.82**	**350**	P	**Pn**	**01 16 35.5**	**+1.5**
	8.7nm,0.3s,baz=118,slow=23,SNR=16						
JCJ				S	**S**	**01 17 44.6**	**+0.5**
	6.7nm,0.3s,baz=308,slow=19,SNR=4.7						
KSRS	**Korea Array**	**20.89**	**324**	P	**P**	**01 19 25.4**	**-1.2**
	1.1nm,0.6s,baz=149,slow=8.8,SNR=6.2						
WRA	**Warramunga Arr**	**41.98**	**193**	P	**P**	**01 22 30.4**	**+1.0**
	0.4nm,0.5s,baz=17,slow=9.5,SNR=2.7						
ILAR	**Eielson Array**	**62.27**	**27**	P	**P**	**01 24 56.3**	**-0.9**
	0.6nm,0.7s,baz=264,slow=6.3,SNR=2.5						
YKA	**Yellowknife Ar**	**76.68**	**28**	P	**P**	**01 26 25.2**	**+0.4**
	0.9nm,0.5s,baz=292,slow=5.9,SNR=6.4						
ARCES	**ARCESS Array B**	**79.30**	**342**	P	**P**	**01 26 38.4**	**-0.7**
	1.7nm,0.3s,baz=70,slow=8.9,SNR=2.8						
FINES	**FINESS Array B**	**83.56**	**335**	P	**P**	**01 26 59.9**	**-1.5**
	0.5nm,0.3s,baz=78,slow=5.1,SNR=9.3						

CSEM ***20*** *01:15:16.7±0.5, 40.20N×52.30E, h20km, mb3.5, Error ellipse: s-maj=11.9km s-min=6.7km az=152.0*

AZER ***20*** *01:15:18.7±0.0, 40.13N×52.12E, h50km, Error ellipse: s-maj=1.2km s-min=1.0km az=297.0*

NNC ***20*** *01:15:27.5±1.8, 40.92N×52.89E, h18km±57km, mb3.5, Error ellipse: s-maj=66.1km s-min=5.8km az=48.0*

ISC 20 01:15:17.2±2.5, 40.14N±0.06×52.22E±0.06, h23km±22km, n37, σ1§21/60, 21C-15D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDR	**Nardaran**	**1.76**	**285**	↑Pn	**Pn**	**01 15 47.5**	**+1.2**
NDR				↑Sn	**Sb**	**01 16 10.3**	**-0.2**
NDR	**Nardaran**	**1.76**	**285**	Pn	**Pn**	**01 15 47.5**	**+1.2**
NDR				Sn	**Sb**	**01 16 10.3**	**-0.2**
ALIB	**Äli-Bayra**	**2.47**	**267**	↑Pn	**Pn**	**01 15 56.3**	**+0.2**
ALIB				↓Sn	**Sn**	**01 16 26.8**	**+1.3**
ALIB	**Äli-Bayra**	**2.47**	**267**	Pn	**Pn**	**01 15 56.3**	**+0.2**
ALIB				Sn	**Sn**	**01 16 26.8**	**+1.3**
ATGJ	**Altiaghaj**	**2.60**	**287**	↓Pn	**Pn**	**01 15 59.5**	**+1.5**
	SNR=3.3						
ATGJ				↓Sn	**Sn**	**01 16 31.7**	**+2.7**
ATGJ	**Altiaghaj**	**2.60**	**287**	Pn	**Pn**	**01 15 59.5**	**+1.5**
	SNR=3.3						
ATGJ				Sn	**Sn**	**01 16 31.7**	**+2.7**
SIZA	**Siyzn**	**2.70**	**291**	↓Pn	**Pn**	**01 16 00.6**	**+1.3**
	SNR=3.8						
SIZA				↑Sn	**Sn**	**01 16 32.2**	**+1.0**
SIZA	**Siyzn**	**2.70**	**291**	Pn	**Pn**	**01 16 00.6**	**+1.3**
	SNR=3.8						
SIZA				Sn	**Sn**	**01 16 32.2**	**+1.0**
PQL	**Pirkuli**	**2.84**	**284**	↑Pn	**Pn**	**01 16 02.4**	**+1.1**
PQL				↑Sn	**Sn**	**01 16 35.5**	**+0.6**
PQL	**Pirkuli**	**2.84**	**284**	Pn	**Pn**	**01 16 02.4**	**+1.1**
PQL				Sn	**Sn**	**01 16 35.5**	**+0.6**
LKRN	**Lenkeran, Azer**	**3.02**	**243**	↓Pn	**Pn**	**01 16 05.0**	**+1.3**
	SNR=6.3						
LKRN				↓Sn	**Sn**	**01 16 38.6**	**-0.5**
LKRN	**Lenkeran, Azer**	**3.02**	**243**	Pn	**Pn**	**01 16 04.9**	**+1.3**
	SNR=6.3						
LKRN				Sn	**Sn**	**01 16 38.6**	**-0.5**
QUBA	**Quba, Azerbaij**	**3.08**	**294**	↓Pn	**Pn**	**01 16 05.6**	**+1.1**
	SNR=3.0						
QUBA				↓Sn	**Sn**	**01 16 40.6**	**0.0**
QUBA	**Quba, Azerbaij**	**3.08**	**294**	Pn	**Pn**	**01 16 05.6**	**+1.1**
	SNR=3.0						
QUBA				Sn	**Sn**	**01 16 40.6**	**0.0**
GLBA	**Clilabad**	**3.08**	**254**	↑Pn	**Pn**	**01 16 05.8**	**+1.3**
	SNR=11						
GLBA				↑Sn	**Sn**	**01 16 40.3**	**-0.3**
GLBA	**Clilabad**	**3.08**	**254**	Pn	**Pn**	**01 16 05.8**	**+1.3**
	SNR=11						
GLBA				Sn	**Sn**	**01 16 40.3**	**-0.3**
IML	**Ismayilli**	**3.15**	**283**	↑Pn	**Pn**	**01 16 06.0**	**+0.6**
	SNR=8.0						
IML				↑Sn	**Sn**	**01 16 42.0**	**-0.3**
IML	**Ismayilli**	**3.15**	**283**	Pn	**Pn**	**01 16 06.0**	**+0.6**
	SNR=8.0						
IML				Sn	**Sn**	**01 16 42.0**	**-0.3**
LRK	**Lerik**	**3.36**	**245**	↓Pn	**Pn**	**01 16 09.2**	**+0.8**
	SNR=26						
LRK				↑Sn	**Sn**	**01 16 45.8**	**-1.8**
LRK	**Lerik**	**3.36**	**245**	Pn	**Pn**	**01 16 09.2**	**+0.8**
	SNR=26						
BRDA	**Brd**	**3.86**	**273**	↓Pn	**Pn**	**01 16 16.6**	**+1.4**
	SNR=4.7						
BRDA				↑Sn	**Sn**	**01 16 59.4**	**-0.4**
BRDA	**Brd**	**3.86**	**273**	Pn	**Pn**	**01 16 16.6**	**+1.4**
	SNR=4.7						
BRDA				Sn	**Sn**	**01 16 59.4**	**-0.4**
SEKA	**Sheki**	**3.97**	**287**	↑Pn	**Pn**	**01 16 16.9**	**+0.2**
	SNR=7.7						
SEKA				↑Sn	**Sn**	**01 17 01.4**	**-1.1**
SEKA	**Sheki**	**3.97**	**287**	Pn	**Pn**	**01 16 16.9**	**+0.2**
	SNR=7.7						
SEKA				Sn	**Sn**	**01 17 01.4**	**-1.1**
ZKTA	**Zakatala**	**4.50**	**291**	↓Pn	**Pn**	**01 16 24.3**	**+0.3**
	SNR=2.8						
ZKTA				↑Sn	**Sn**	**01 17 13.8**	**-1.8**
GANJ	**Ganja**	**4.53**	**278**	↓Pn	**Pn**	**01 16 23.5**	**-0.9**
GANJ				↑Sn	Sn	01 17 11.7	-4.7
GANJ	**Ganja**	**4.53**	**278**	Pn	**Pn**	**01 16 23.5**	**-0.9**
NAX	**Nakhchivan**	**5.28**	**262**	⇑Pn	**Pn**	**01 16 36.3**	**+1.6**
NAX				⇑Sn	**Sn**	**01 17 33.1**	**-1.8**
NAX	**Nakhchivan**	**5.28**	**262**	Pn	**Pn**	**01 16 36.3**	**+1.6**
NAX				Sn	**Sn**	**01 17 33.1**	**-1.8**
QZX	**Qazax, Azerbai**	**5.29**	**282**	⇓Pn	**Pn**	**01 16 34.1**	**-0.8**
	SNR=3.8						
QZX				⇑Sn	Sn	01 17 31.2	-4.0
QZX	**Qazax, Azerbai**	**5.29**	**282**	Pn	**Pn**	**01 16 34.1**	**-0.8**
	SNR=3.8						
AB31	**Akbulak array**	**10.64**	**28**	Pn	Pn	01 17 46.0	-2.1
	0.2nm,0.3s,baz=200,slow=11,SNR=19						
AB31				⇑Sn	Sn	01 19 35.8	-11
	1.0nm,0.3s,baz=183,slow=23,SNR=8.1						
AB31	**Akbulak array**	**10.64**	**28**	Pn	Pn	01 17 46.0	-2.1
	0.2nm,0.3s,SNR=19						
AKTO	**Aktyubinsk**	**11.07**	**20**	⇓Pn	**Pn**	**01 17 52.4**	**-1.6**
	1.5nm,0.8s						
AKTO				⇓Sn	Sn	01 19 46.8	-10
	3.5nm,0.4s						
AKTO	**Aktyubinsk**	**11.07**	**20**	Pn	**Pn**	**01 17 52.4**	**-1.6**
	1.5nm,0.8s						
KK31	**Karatay Array**	**14.00**	**72**	Pn	**Pn**	**01 18 35.2**	**+1.1**
	0.7nm,0.5s,baz=268,slow=13,SNR=14						
KK31				⇑Sn	Sn	01 21 03.1	-5.6
	0.8nm,0.6s,baz=209,slow=8.8,SNR=2.9						
KK31	**Karatay Array**	**14.00**	**72**	Sn	Sn	01 21 03.1	-5.6
	0.8nm,0.6s,SNR=2.9						

ISCJB ***20*** *01:20:43.0±0.4, 61.06N±0.03×152.84W±0.06, h160km±3km, mb3.5/1, Error ellipse: s-maj=5.0km s-min=4.1km az=12.1*

NEIC ***20*** *01:20:44.2, 61.05N×152.87W, h162km, MG3.3(AEIC), After AEIC.*

IDC ***20*** *01:20:47.3±4.9, 61.40N×152.67W, h150km±53km, mb3.3/1, mb1 3.3/4, mb1mx3.0/26, mbtmp3.7/4, Error ellipse: s-maj=48.8km s-min=22.8km az=53.0*

ISC 20 01:20:43.9±0.9, 61.06N±0.03×152.82W±0.04, h161km±6km, n78, σ1§29/97, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPWE	**Spurr West**	**0.25**	**30**	P	**Pn**	**01 21 05.7**	**0.0**
CKL	**Chakachamna La**	**0.27**	**59**	P	Pn	01 21 05.8	+0.1
CKL				S	**Sn**	**01 21 23.0**	**+0.5**
BGL	**Barrier Glacie**	**0.29**	**45**	P	**Pn**	**01 21 05.9**	**+0.1**
CKN	**Chakachatna No**	**0.35**	**62**	P	**Pn**	**01 21 06.1**	**+0.2**
DFR	**Drift River**	**0.47**	**172**	P	**Pn**	**01 21 06.0**	**-0.4**
NCT	**North Crescent**	**0.50**	**186**	P	**Pn**	**01 21 06.2**	**-0.4**
NCT				S	**Sn**	**01 21 23.3**	**-0.6**
RDN	**Redoubt North**	**0.55**	**177**	P	**Pn**	**01 21 06.6**	**-0.3**
REF	**Redoubt East F**	**0.58**	**174**	P	**Pn**	**01 21 06.8**	**-0.3**
REF				S	**Sn**	**01 21 23.9**	**-0.8**
RSO	**Redoubt South**	**0.60**	**177**	P	**Pn**	**01 21 06.9**	**-0.3**
STLK	**Strandline Lak**	**0.65**	**47**	P	**Pn**	**01 21 07.2**	**-0.1**
NKA	**Nikishka**	**0.83**	**112**	P	**Pn**	**01 21 09.9**	**+1.5**
ILW	**Iliamna West**	**1.02**	**189**	P	**Pn**	**01 21 09.7**	**-0.3**
SUA	**Susitna One**	**1.08**	**67**	P	**Pn**	**01 21 10.7**	**+0.2**
SUA				S	**Sn**	**01 21 31.0**	**+0.2**
SKT	**Skwentna**	**1.11**	**33**	P	**Pn**	**01 21 10.6**	**0.0**
SKT				S	**Sn**	**01 21 30.9**	**-0.2**
VOGL	**Vogel Lake**	**1.16**	**92**	P	**Pn**	**01 21 12.1**	**+1.1**
FIB	**Fire Island**	**1.29**	**84**	P	**Pn**	**01 21 12.8**	**+0.7**
SVW2	**Sparrevohn**	**1.34**	**273**	P	**Pn**	**01 21 11.7**	**-1.0**
SVW2				S	**Sn**	**01 21 32.1**	**-2.8**
SLKM	**Skilak Lake**	**1.39**	**112**	P	**Pn**	**01 21 12.6**	**-0.6**
OPT	**Oil Point**	**1.43**	**188**	P	**Pn**	**01 21 13.6**	**0.0**
RC01	**Rabbit Creek A**	**1.50**	**88**	P	**Pn**	**01 21 13.8**	**-0.4**
RC01				S	**Sn**	**01 21 37.0**	**-0.5**
BRLK	**Bradley Lake**	**1.61**	**143**	P	**Pn**	**01 21 15.0**	**-0.5**
BRLK				S	**Sn**	**01 21 38.1**	**-1.6**
AUW	**Augustine West**	**1.73**	**191**	P	**Pn**	**01 21 16.8**	**+0.2**
TRAP	**Trapper Creek**	**1.77**	**43**	P	**Pn**	**01 21 16.9**	**-0.2**
CUT	**Chulitna**	**1.81**	**41**	P	**Pn**	**01 21 17.2**	**-0.3**
PMR	**Palmer**	**1.85**	**72**	P	**Pn**	**01 21 16.7**	**-1.2**
PMR				S	**Sn**	**01 21 42.4**	**-1.8**
PPLA	**Purkeypile**	**1.87**	**9**	P	**Pn**	**01 21 18.5**	**+0.2**
PPLA				S	**Sn**	**01 21 44.7**	**-0.2**
SEW	**Seward**	**1.92**	**119**	P	**Pn**	**01 21 18.3**	**-0.4**
SEW				S	**Sn**	**01 21 42.9**	**-2.6**
SML	**Sawmill**	**2.28**	**69**	P	**Pn**	**01 21 21.9**	**-1.0**
SML				S	**Sn**	**01 21 51.3**	**-1.8**
CAST	**Castle Rocks**	**2.39**	**8**	P	**Pn**	**01 21 23.9**	**-0.3**
TT01	**Tatalina**	**2.39**	**322**	P	**Pn**	**01 21 23.6**	**-0.5**
HUR	**Hurricane**	**2.44**	**37**	P	**Pn**	**01 21 24.6**	**-0.1**
TRF	**Thorofare Moun**	**2.67**	**25**	P	**Pn**	**01 21 27.3**	**-0.4**
TRF				S	**Sn**	**01 22 00.5**	**-1.3**
SCM	**Sheep Creek Mo**	**2.75**	**71**	P	**Pn**	**01 21 27.9**	**-0.6**
RND	**Reindeer**	**3.00**	**37**	P	**Pn**	**01 21 15.0**	**-0.6**
KAKN	**Katmai Knife C**	**3.00**	**203**	P	**Pn**	**01 21 31.4**	**-0.3**
KAKN				S	**Sn**	**01 22 06.6**	**-2.2**
JPK	**Jack Peak**	**3.02**	**87**	P	**Pn**	**01 21 31.2**	**-0.7**
VMT	**TAPS TI Valdez**	**3.13**	**87**	P	**Pn**	**01 21 32.4**	**-0.8**
KABR	**Katmai Barrier**	**3.14**	**201**	P	**Pn**	**01 21 32.9**	**-0.5**
VLZ	**Valdez**	**3.15**	**86**	P	**Pn**	**01 21 33.0**	**-0.4**
BPAW	**Bear Paw Mtn.**	**3.17**	**15**	P	**Pn**	**01 21 32.8**	**-0.9**
HIN	**Hinchinbrook I**	**3.17**	**99**	P	**Pn**

*ISCJB **20** 01:40:07.1±0.5,21˚.14S±0˚.04×68˚.94W±0˚.07,h124km±7km, mb3.7/3,Error ellipse: s-maj=11.5km s-min=6.1km az=154.8*

*IDC **20** 01:40:08.6±1.1,21˚.16S×68˚.69W,h117km±15km,mb3.6/4, mb1 3.7/6,mb1mx3.5/18,mbtmp4.1/6,Error ellipse: s-maj=26.5km s-min=16.9km az=106.0*

*GUC **20** 01:40:08.9±0.7,21˚.19S×69˚.04W,h112km±4km,ML4.1*

*SJA **20** 01:40:27.0±0.8,22˚.26S×67˚.63W,h173km±31km,ML3.0, MW2.9*

ISC 20 01:40:07.9±0.8,21˚.11S±0˚.05×68˚.90W±0˚.08, h114km±10km,n22,σ1§11/27,mb3.8/3,8C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.55**	**277**	*e*P	**Pn**	**01 40 25.9**	**+0.3**
PB01				*e*S	**Sn**	**01 40 38.9**	**0.0**
PB01				AML	AML	01 40 40.1	
	comp=E,20μm,0.6s						
PB09	**IPOC Station P**	**0.75**	**205**	*e*P	**Pn**	**01 40 27.5**	**+0.2**
PB09				*e*S	**Sn**	**01 40 41.9**	**0.0**
PB09				AML	AML	01 40 44.4	
	comp=E,18μm,0.4s						
PB07	**IPOC Station P**	**1.10**	**236**	*e*P	**Pn**	**01 40 30.6**	**0.0**
PB07				*e*S	**Sn**	**01 40 47.3**	**-0.6**
PB07				AML	AML	01 40 48.6	
	comp=E,4μm,0.4s						
PATCX	**Punta Patache**	**1.21**	**284**	*e*P	**Pn**	**01 40 32.2**	**+0.6**
PATCX				*e*S	**Sn**	**01 40 49.5**	**-0.2**
PATCX				AML	AML	01 40 51.6	
	comp=N,6μm,0.7s						
PB04	**IPOC Station P**	**1.27**	**205**	*e*P	Pn	01 40 37.2	+4.9
PB04				*e*S	Sn	01 40 58.6	+7.9
PB04				AML	AML	01 41 05.9	
	comp=N,2μm,0.5s						
LVC	**Limon Verde**	**1.49**	**180**	P	Pn	**01 40 35.9**	**+0.8**
	comp=N,1μm,0.3s,baz=6.2,slow=11,SNR=172						
LVC				S	**Sn**	**01 40 56.2**	**+0.4**
	comp=N,5μm,0.3s,baz=282,slow=16,SNR=23						
PB06	**IPOC Station P**	**1.70**	**201**	*e*P	**Pn**	**01 40 37.7**	**+0.2**
PB06				*e*S	**Sn**	**01 40 59.5**	**-0.6**
PB06				AML	AML	01 41 00.5	
	comp=E,2μm,0.5s						
PSGC	**Pisagua**	**1.90**	**323**	*e*P	**Pn**	**01 40 39.8**	**0.0**
PSGC				*e*S	**Sn**	**01 41 03.8**	**-0.4**
PSGC				AML	AML	01 41 05.4	
	comp=N,1μm,0.6s						
MNMC	**Minimini**	**2.08**	**342**	*e*P	**Pn**	**01 40 43.4**	**+1.1**
HJA	**Humahuaca**	**3.85**	**123**	*e*P	**Pn**	**01 41 07.8**	**+2.2**
AZAP	**Zapla**	**4.70**	**132**	*e*P	**Pn**	**01 41 17.4**	**+0.5**
AZAP				IAML		01 41 19.1	
	comp=Z,34nm,0.4s						
SLA	**San Lorenzo**	**4.76**	**140**	*e*P	**Pn**	**01 41 18.7**	**+1.0**
SLA				IAML		01 41 20.8	
	comp=Z,30nm,0.6s						
SLA				*e*S	Sn	01 41 55.6	-17
LPAZ	**La Paz**	**4.86**	**9**	P	**Pn**	**01 41 22.3**	**+2.9**
	comp=Z,0.8nm,0.3s,baz=200,slow=7.8,SNR=18						
ASTB	**Santa Barbara**	**4.96**	**125**	*e*P	**Pn**	**01 41 21.2**	**+0.8**
ASTB				*e*S	Sn	01 42 01.3	-16
ALOL	**LOMAS DE OLMED**	**5.29**	**121**	*e*P	**Pn**	**01 41 24.4**	**-0.3**
AHML	**Horco Molle**	**6.52**	**151**	*e*P	**Pn**	**01 41 40.9**	**-0.4**
SIV	**San Ignacio**	**9.00**	**57**	P	**Pn**	**01 42 12.7**	**-2.3**
	comp=Z,6.1nm,0.3s,baz=256,slow=11,SNR=63						
CFAA	**Coronel Fontan**	**10.47**	**177**	P	Pn	01 42 31.0	-3.7
	comp=Z,0.0nm,0.3s,baz=337,slow=13,SNR=4.1						
CFAA				S	Sn	01 44 20.3	-10
	comp=Z,0.0nm,0.3s,baz=288,slow=20,SNR=4.4						
BDFB	**Brasilia**	**20.55**	**78**	P	**P**	**01 44 36.7**	**-0.9**
	comp=Z,8.4nm,0.4s,baz=246,slow=12,SNR=18						
PTGA	**Pitinga**	**22.06**	**24**	P	**P**	**01 44 52.3**	**-1.3**
	comp=Z,2.8nm,0.3s,baz=205,slow=14,SNR=8.6						
TXAR	**Lajitas Array**	**60.32**	**325**	P	**P**	**01 50 06.2**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=150,slow=8.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**77.22**	**70**	P	**P**	**01 51 49.7**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=256,slow=7.1,SNR=17						

*IDC **20** 01:52:29.5±1.9,33˚.87S×178˚.59W,h0km,mb4.1/2, mb1 4.3/4,mb1mx3.9/17,mbtmp4.2/4,ML3.8/2,Error ellipse: s-maj=57.6km s-min=29.2km az=125.0*

*ISCJB **20** 01:52:33.5±1.6,33˚.95S±0˚.07×178˚.7W±0˚.2,h37km, mb4.0/3,Error ellipse: s-maj=29.9km s-min=8.4km az=10.2*

*NEIC **20** 01:52:35.2±0.9,33˚.90S×178˚.72W,h35km,mb4.2/1,Error ellipse: s-maj=22.5km s-min=12.4km az=112.0*

ISC 20 01:52:34.3±1.4,34˚.0S±0˚.1×178˚.5W±0˚.2,h37km,n30, σ1§40/37,mb4.1/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**4.56**	**213**	PN	**Pn**	**01 53 43.0**	**+2.3**
HAZ	**Te Kaha**	**4.81**	**218**	*e*PN	**Pn**	**01 53 46.8**	**+2.6**
PUZ	**Puketiti**	**4.84**	**212**	PN	**Pn**	**01 53 45.9**	**+1.3**
PUZ				SN	**Sn**	**01 54 40.3**	**+0.9**
TWGZ	**Tauwhareparae**	**5.05**	**214**	PN	**Pn**	**01 53 49.2**	**+1.6**
CNGZ	**Carnagh Station**	**5.21**	**210**	PN	**Pn**	**01 53 50.9**	**+1.3**
MWZ	**Matawai**	**5.39**	**216**	*e*PN	**Pn**	**01 53 53.6**	**+1.4**
MWZ				SN	**Sn**	**01 54 54.0**	**+1.0**
URZ	**Urewera**	**5.54**	**219**	Pn	**Pn**	**01 53 55.5**	**+1.3**
	1.3nm,0.3s,baz=275,slow=5.1,SNR=14						
URZ				Sn	**Sn**	**01 54 57.7**	**+1.0**
	14nm,0.3s,baz=174,slow=18,SNR=16						
URZ	**Urewera**	**5.54**	**219**	*e*PN	**Pn**	**01 53 56.3**	**+2.1**
URZ				SN	**Sn**	**01 54 57.3**	**+0.7**
RIGZ	**Rimuhau**	**5.58**	**212**	PN	**Pn**	**01 53 56.0**	**+1.2**
SNGZ	**Shannon Statio**	**5.83**	**214**	PN	**Pn**	**01 53 59.4**	**+1.1**
KNZ	**Kokohu**	**5.88**	**211**	PN	**Pn**	**01 53 58.7**	**-0.1**
WHHZ	**Waihua**	**6.12**	**213**	*e*PN	**Pn**	**01 54 03.2**	**+1.0**
ARHZ	**Aropaoanui**	**6.38**	**214**	PN	**Pn**	**01 54 06.8**	**+1.1**
BKZ	**Black Stump Fm**	**6.55**	**217**	*e*PN	**Pn**	**01 54 08.9**	**+0.8**
KWHZ	**Kaweka Forest**	**6.78**	**216**	*e*PN	**Pn**	**01 54 11.7**	**+0.5**
KAHZ	**Kahuranaki**	**6.87**	**212**	PN	**Pn**	**01 54 11.6**	**-0.9**
BFZ	**Birch Farm**	**7.87**	**211**	*e*PN	**Pn**	**01 54 23.8**	**-2.3**
MRZ	**Mangatainoka R**	**8.15**	**214**	*e*PN	**Pn**	**01 54 30.3**	**+0.3**
MRZ				SN	**Sn**	**01 55 56.5**	**-4.4**
THZ	**Tophouse**	**10.30**	**219**	*e*PN	**Pn**	**01 55 00.0**	**+0.4**
THZ				*e*SN	Sn	01 56 47.4	-6.4
MQZ	**McQueen's Vall**	**11.89**	**213**	*e*SN	Sn	01 57 19.9	-13
RPZ	**Rata Peaks**	**12.66**	**217**	Pn	**Pn**	**01 55 31.2**	**-0.5**
	1.3nm,0.3s,baz=134,slow=0.8,SNR=5.6						
COEN	**Coen**	**40.02**	**290**	*e*P	**P**	**02 00 04.5**	**-1.4**
AS31	**Alice Springs**	**42.65**	**271**	*e*P	**P**	**02 00 26.8**	**-0.6**
ASAR	**Alice Springs**	**42.65**	**271**	P	**P**	**02 00 27.2**	**-0.2**
	1.8nm,0.7s,baz=114,slow=7.4,SNR=23						
ASAR				PcP	**PcP**	**02 02 19.1**	**0.0**
	0.4nm,0.5s,baz=124,slow=3.5,SNR=4.2						
WRAB	**Tennant Creek**	**43.96**	**276**	*e*P	**P**	**02 00 37.5**	**-0.5**
	3.4nm,0.7s						
WRA	**Warramunga Arr**	**43.96**	**276**	P	**P**	**02 00 37.4**	**-0.7**
	1.8nm,0.6s,baz=120,slow=7.5,SNR=8.0						
FINES	**FINESS Array B**	**148.36**	**338**	PKPbc	**PKPbc**	**02 12 16.3**	**+0.4**
	1.7nm,0.6s,baz=38,slow=2.5,SNR=15						
BR131	**Keskin Array S**	**153.78**	**292**	*e*PKPdf	**PKPdf**	**02 12 22.6**	**+1.0**
BR131				*e*PKPbc	**PKPbc**	**02 12 29.9**	**+0.4**
BRTR	**Keskin Array B**	**153.78**	**292**	PKPbc	**PKPbc**	**02 12 29.9**	**+0.4**
	0.4nm,0.8s,baz=64,slow=3.4,SNR=3.1						
BRTR				PKPab	**PKPab**	**02 12 42.0**	**-0.6**
	0.5nm,0.8s,baz=62,slow=4.1,SNR=3.4						
AKASG	**Malin Array Be**	**153.82**	**318**	PKPbc	**PKPbc**	**02 12 29.9**	**+0.8**
	0.4nm,0.4s,baz=52,slow=1.9,SNR=2.8						

*IDC **20** 02:10:29.7±0.8,7˚.78N×91˚.84E,h0km,mb4.0/14, mb1 4.2/17,mb1mx4.0/31,mbtmp4.1/17,ML4.5/3,MS3.4/10, Ms1 3.4/10,ms1mx3.2/30,Error ellipse: s-maj=25.8km s-min=14.3km az=49.0*

*ISCJB **20** 02:10:31.4±0.4,7˚.71N±0˚.05×91˚.87E±0˚.04,h25km, mb4.3/28,MS3.4/8,Error ellipse: s-maj=8.2km s-min=4.4km az=41.8*

*NEIC **20** 02:10:31.8±2.6,7˚.79N×91˚.92E,h14km±17km,mb4.5/14, Error ellipse: s-maj=8.9km s-min=4.8km az=222.0*

*BJI **20** 02:10:31.9,7˚.58N×92˚.06E,h38km,mb4.5/26,mB4.6/13, Ms4.1/11,Ms7 3.9/11*

ISC 20 02:10:33.5±0.5,7˚.67N±0˚.06×91˚.87E±0˚.05,h25km,n84, σ1§91/87,mb4.4/30,MS3.4/8,1C-1D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMBY	**CAMPBELL BAY**	**2.14**	**108**	*e*P	**Pn**	**02 11 09.3**	**+1.6**
CMBY				*e*S	**Sb**	**02 11 35.6**	**-2.2**
CMBY				AML	AML	02 11 45.1	
	comp=E,3μm,0.3s						
CMBY				AML	AML	02 11 46.8	
	comp=N,2μm,0.4s						
PBA	**Port Blair**	**4.05**	**12**	*e*P	Pn	02 11 29.9	-4.1
PBA				*e*S	Sn	02 12 11.9	-8.7
DGPR	**DIGLIPUR**	**5.57**	**11**	*e*P	Pn	02 11 49.1	-5.8
DGPR				*e*S	Sn	02 12 48.6	-10
SURT	**Suratani**	**6.97**	**79**	P	**Pn**	**02 12 14.7**	**+0.6**
	comp=N,34nm,0.8s,comp=N,0.1nm						
KRAB	**Krabi**	**7.28**	**85**	P	**Pn**	**02 12 19.6**	**+1.3**
	comp=N,61nm,0.6s,comp=N,0.2nm						
TRTT	**Trang**	**7.75**	**88**	P	**Pn**	**02 12 25.4**	**+0.5**
	comp=N,23nm,0.7s,comp=N,820nmcomp=N,0.1nm						
PSI	**Prapat**	**8.53**	**124**	Pn	**Pn**	**02 12 36.1**	**+0.5**
	comp=N,3.3nm,0.3s,baz=298,slow=12,SNR=26						
PSI				Sn	**Sn**	**02 14 10.6**	**-0.5**
	comp=N,1.0nm,0.3s,baz=254,slow=23,SNR=3.5						
PSI				LR	LR	02 16 32.0	
	comp=N,198nm,18.1s,baz=132,slow=42						
KULM	**Kulim**	**9.04**	**105**	*e*Pn	**Pn**	**02 12 41.5**	**-1.0**
IPM	**Ipoh**	**9.64**	**109**	*e*Pn	**Pn**	**02 12 50.5**	**-0.2**
PALK	**Pallekele**	**11.08**	**269**	Pn	**Pn**	**02 13 09.3**	**-1.3**
	comp=N,5.3nm,0.3s,baz=89,slow=12,SNR=20						
PALK				Sn	Sn	02 15 01.5	-12
	comp=N,15nm,0.3s,baz=3.1,slow=23,SNR=14						
PALK				LR	LR	02 16 47.7	
	comp=N,293nm,21.0s,baz=81,slow=34						
PALK	**Pallekele**	**11.08**	**269**	*e*Pn	**Pn**	**02 13 10.0**	**-0.6**
PALK				Sn	Sn	02 15 01.5	-12
PBKT	**Sadao Pong**	**12.54**	**44**	P	**P**	**02 13 41.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**12.74**	**32**	Pn	**Pn**	**02 13 31.8**	**-1.4**
	comp=N,0.7nm,0.3s,baz=231,slow=14,SNR=13						
CMAR				LR	LR	02 18 16.2	
	comp=N,61nm,20.8s,baz=204,slow=37						
VIS	**Vishakhapatnam**	**13.00**	**321**	*e*P	**Pn**	**02 13 34.3**	**-2.5**
VIS				*i* P	P	02 13 38.3	-8.7
VIS				*e*S	Sn	02 15 45.9	-15
VIS				AML	AML	02 15 53.9	
	comp=E,44nm,0.5s						
VIS				AML	AML	02 15 55.9	
	comp=N,37nm,0.1s						
CHTO	**Chiang Mai**	**13.04**	**31**	P	P	02 13 41.2	-6.2
	comp=N,24nm,1.0s						
CHTO	**Chiang Mai**	**13.04**	**31**	*e*Pn	Pn	02 13 29.3	-8.0
CMMT	**Chiang Mai**	**13.04**	**31**	P	Pn	02 13 41.1	+3.8
	comp=N,8.1nm,0.9s,comp=N,407nm						
LOEI	**Loei**	**13.40**	**42**	P	P	02 13 55.1	+3.7
TRD	**Trivandrum**	**14.79**	**274**	*e*S	Sn	02 16 52.5	+8.1
NONG	**Nongkai**	**15.07**	**46**	P	**P**	**02 14 09.2**	**-0.9**
	comp=N,19nm,1.1s						
UBPT	**Khong Chiam**	**15.32**	**59**	P	**P**	**02 14 12.2**	**-0.6**
	comp=N,40nm,0.8s						
MNAI	**Manna**	**16.28**	**137**	*e*Pn	**Pn**	**02 14 21.6**	**+0.9**
ODAN	**Odare**	**19.55**	**348**	*e*P	**Pn**	**02 15 04.2**	**+3.0**
	comp=N,20nm,0.4s						
RAMN	**Ramite**	**19.82**	**346**	*e*P	**Pn**	**02 15 06.2**	**+1.9**
	comp=N,46nm,0.5s						
TAPN	**Taplejung**	**19.97**	**349**	*e*P	**Pn**	**02 15 05.1**	**-1.1**
	comp=N,56nm,0.9s						
KMI	**Kunming**	**20.22**	**30**	P	Pn	02 15 08.1	-1.1
KMI				pP	pP	02 15 18.1	+4.1
KMI				PP	**PnPn**	**02 15 28.1**	**+4.0**
KMI				S	**S**	**02 18 47.4**	**-5.7**
KMI				SS	**SnSn**	**02 19 15.4**	**+4.1**
KMI				PMZ			
	comp=N,13nm,1.0s						
KMI				PMZ			
	comp=N,83nm,3.1s						
KMI				LN			
	comp=N,120nm,7.7s						
KMI				LE			
	comp=N,98nm,10.2s						
KMI				LZ			
	comp=N,110nm,21.1s						
PKI	**Pulchoki**	**20.72**	**344**	*e*P	Pn	02 15 13.8	-1.3
	comp=N,32nm,0.6s						
PKIN	**Phulchoki**	**20.73**	**344**	*e*P	Pn	02 15 14.5	-0.6
	comp=N,22nm,0.5s						
DMN	**Daman**	**20.84**	**343**	*e*P	Pn	02 15 15.0	-1.4
	comp=N,44nm,0.7s						
GUN	**Gumba**	**20.91**	**345**	*e*P	**P**	**02 15 14.2**	**-0.5**
	comp=N,52nm,0.7s						
SBUM	**Sibu**	**20.92**	**103**	*e*Pn	**P**	**02 15 15.1**	**+0.6**
	comp=N,10nm,0.8s						
GKN	**Gorkha**	**21.35**	**342**	*e*P	**P**	**02 15 18.7**	**-0.5**
	comp=N,22nm,0.7s						
KOLN	**Koldanda**	**21.47**	**340**	*e*P	**P**	**02 15 20.2**	**-0.3**
	comp=N,43nm,0.8s						
LSA	**Lhasa**	**21.93**	**358**	P	**P**	**02 15 27.3**	**+1.6**
LSA				PMZ			
	comp=N,20nm,0.9s						
GYA	**Guiyang**	**23.39**	**35**	*e*P	**P**	**02 15 39.8**	**-0.9**
GYA				PMZ			
	comp=N,10.0nm,0.8s						
KKM	**Kota Kinabalu**	**24.22**	**92**	*e*P	**P**	**02 15 46.6**	**-2.1**
	comp=N,20nm,1.1s						
H08S3	**Diego Garcia H**	**24.59**	**232**	T	T	02 42 21.1	
	baz=51,slow=75,SNR=61						
H08S2	**Diego Garcia H**	**24.59**	**232**	T	T	02 42 23.3	
	baz=51,slow=75,SNR=35						
H08S1	**Diego Carcia H**	**24.61**	**232**	T	T	02 42 20.0	
	baz=51,slow=75,SNR=34						
CD2	**Chengdu**	**25.66**	**24**	*e*P	**P**	**02 16 00.1**	**-1.4**
CD2				pP	**pP**	**02 16 10.5**	**+1.6**
CD2				sP	**sP**	**02 16 15.3**	**+3.3**
CD2				PcP	**PcP**	**02 19 30.8**	**-1.1**
CD2				S	**S**	**02 20 25.5**	**-3.1**
CD2				sS	**sS**	**02 20 43.5**	**+2.7**
CD2				PMZ			
	comp=N,10.0nm,0.5s						
CD2				PMZ			
	comp=N,120nm,5.2s						
GTA	**Gaotai**	**32.40**	**12**	⇓P	**P**	**02 17 01.3**	**-0.2**
GTA				pP	**pP**	**02 17 11.8**	**+2.8**
GTA				sP	**sP**	**02 17 15.6**	**+3.5**
GTA				PMZ			
	comp=N,24nm,1.0s						
NJ2	**Nanjing**	**34.91**	**42**	*e*P	**P**	**02 17 22.8**	**-0.5**
NJ2				PMZ			
	comp=N,30nm,0.8s						
WMQ	**Urumqi**	**36.19**	**355**	P	**P**	**02 17 35.8**	**+1.5**
WMQ				pP	**pP**	**02 17 45.5**	**+3.7**
WMQ				sP	**sP**	**02 17 49.4**	**+4.5**
WMQ				pmax	pmax		
	comp=Z,21nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,43nm,5.1s						
WMQ				LR	LR		
	comp=N,22nm,12.1s						
WMQ				LR	LR		
	comp=E,21nm,11.8s						
WMQ				LR	LR		
	comp=Z,23nm,16.5s						
WMQ	**Urumqi**	**36.19**	**355**	P	**P**	**02 17 34.8**	**+0.5**
WMQ				pP	**pP**	**02 17 44.3**	**+2.5**
WMQ				sP	**sP**	**02 17 48.0**	**+3.1**
WMQ				PMZ			
	comp=Z,4.0nm,0.6s						
WMQ				PMZ			
	comp=Z,23nm,4.8s						
WMQ				LN			
	comp=Z,11nm,16.2s						
WMQ				LE			
	comp=Z,14nm,15.4s						
WMQ				LZ			
	comp=Z,21nm,18.6s						
HHC	**Hu-ho-hao-te**	**37.41**	**25**	*e*P	**P**	**02 17 41.6**	**-3.1**
HHC				pP	**pP**	**02 17 55.8**	**+3.6**
HHC				PP	**PnPn**	**02 19 10.0**	**-1.1**
HHC				S	**S**	**02 23 28.5**	**-3.2**
HHC				sS	**ScP**	**02 23 44.4**	**-4.7**
HHC				PMZ			
	comp=Z,21nm,0.9s						
HHC				PMZ			
	comp=Z,47nm,5.7s						
HHC				LN			
	comp=Z,100nm,14.1s						
HHC				LE			
	comp=Z,120nm,13.6s						
HHC				LZ			
	comp=Z,81nm,15.7s						
TKM2	**Tokmak 2**	**37.92**	**340**	*e*P	**P**	**02 17 49.2**	**0.0**
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**38.04**	**339**	P	P	02 18 03.0	+13
	comp=Z,1.4nm,0.3s,baz=168,slow=6.0,SNR=5.8						
EKS2	**Erkin-Say**	**38.33**	**338**	*e*P	**P**	**02 17 52.8**	**+0.3**
	comp=Z,3.8nm,0.7s						
BJI	**Beijing**	**38.88**	**30**	P	**P**	**02 17 56.9**	**-0.1**
BJI				PMZ			
	comp=Z,6.0nm,0.6s						
MBWA	**Marble Bar**	**39.62**	**137**	*e*P	**P**	**02 18 04.2**	**+0.9**
	comp=Z,9.4nm,1.2s						
MK31	**Makanchi Array**	**39.84**	**350**	*e*P	**P**	**02 18 03.4**	**-1.6**
MKAR	**Makanchi Array**	**39.84**	**350**	*e*P	**P**	**02 18 04.2**	**-0.7**
KKAR	**Karatay Array**	**39.97**	**335**	*e*P	**P**	**02 18 06.3**	**+0.2**
	comp=Z,4.7nm,0.8s						
SONM	**Songino Array**	**41.89**	**15**	P	**P**	**02 18 21.3**	**-0.7**
	comp=Z,5.7nm,0.7s,baz=195,slow=8.7,SNR=40						
SONM				LR	LR	02 38 25.7	
	comp=Z,56nm,19.8s,baz=101,slow=40						
KSAR	**Wonju Array Be**	**44.08**	**42**	P	**P**	**02 18 38.4**	**-1.3**
KSRS	**Korea Array**	**44.11**	**42**	P	**P**	**02 18 38.4**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=245,slow=8.7,SNR=5.2						
KSRS				LR	LR	02 37 20.6	
	comp=Z,27nm,18.3s,baz=238,slow=37						
KURBB	**Kurchatov Arra**	**44.23**	**348**	P	**P**	**02 18 40.3**	**-0.4**
	comp=Z,3.8nm,0.7s,baz=171,slow=7.2,SNR=40						
KURK	**Kurchatov**	**44.30**	**348**	P	**P**	**02 18 40.3**	**-0.9**
ZALV	**Zalesovo Beam**	**46.50**	**354**	P	**P**	**02 18 57.5**	**-1.1**
	comp=Z,1.5nm,0.4s,baz=161,slow=9.4,SNR=9.5						
ZALV				LR	LR	02 40 44.7	
	comp=Z,47nm,21.0s,baz=250,slow=39						
RAYN	**Ar Rayn**	**47.13**	**295**	*e*P	**P**	**02 19 04.9**	**+0.8**
	comp=Z,4.5nm,1.0s						
BVAR	**Borovoye Array**	**48.49**	**343**	P	**P**	**02 19 13.3**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=144,slow=10,SNR=9.4						
BRVK	**Borovoye**	**48.55**	**343**	*e*P	**P**	**02 19 13.8**	**-0.8**
	comp=Z,3.7nm,0.8s						
ABKAR	**Akbulak array**	**49.36**	**333**	*e*P	P	**02 19 20.8**	**-0.1**
WRA	**Warramunga Arr**	**49.99**	**124**	P	**P**	**02 19 26.5**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=304,slow=8.7,SNR=9.2						
WRAB	**Tennant Creek**	**50.00**	**124**	*e*P	**P**	**02 19 26.4**	**+0.3**
	comp=Z,7.0nm,0.8s						
MJAR	**Matsushiro Arr**	**50.97**	**49**	P	**P**	**02 19 33.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=230,slow=5.9,SNR=4.5						
MJAR				PcP	**PcP**	**02 20 49.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=235,slow=4.5,SNR=4.0						
AKTO	**Aktyubinsk**	**51.07**	**333**	P	**P**	**02 19 33.2**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=128,slow=6.0,SNR=9.8						
ASAR	**Alice Springs**	**51.53**	**128**	P	**P**	**02 19 38.4**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=302,slow=8.0,SNR=16						
AS31	**Alice Springs**	**51.53**	**128**	*e*P	**P**	**02 19 37.8**	**+0.1**
ARU	**Arti**	**55.22**	**338**	*e*P	**P**	**02 20 03.1**	**-1.2**
	comp=Z,8.5nm,1.1s						
CTAO	**Charters Tower**	**60.18**	**118**	*e*P	**P**	**02 20 40.1**	**+0.3**
	comp=Z,2.4nm,0.6s						
BR131	**Keskin Array S**	**60.87**	**311**	*e*P	**P**	**02 20 44.3**	**-0.1**
	comp=Z,0.8nm,0.6s						
BRTR	**Keskin Array B**	**60.87**	**311**	P	**P**	**02 20 43.0**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=104,slow=6.5,SNR=4.2						
BRTR				LR	LR	02 50 55.7	
	comp=Z,11nm,18.1s,baz=117,slow=40						
STKA	**Stephens Creek**	**61.61**	**132**	P	**P**	**02 20 50.5**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=302,slow=5.5,SNR=10						
TIXI	**Tiksi**	**67.88**	**12**	*e*P	**P**	**02 21 27.7**	**-1.7**
	comp=Z,3.6nm,0.5s						
FINES	**FINESS Array B**	**71.85**	**333**	P	**P**	**02 21 52.9**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=142,slow=9.6,SNR=4.8						
ARCES	**ARCESS Array B**	**74.70**	**340**	LR	LR	02 59 31.8	
	comp=Z,22nm,18.0s,baz=76,slow=39						
GERES	**GERESS Array B**	**76.48**	**318**	P	**P**	**02 22 21.6**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=93,slow=5.9,SNR=11						
NOA	**NORSAR Array B**	**78.81**	**331**	LR	LR	03 01 24.5	
	comp=Z,28nm,18.7s,baz=115,slow=39						
SYO	**Syowa Base**	**84.56**	**197**	⇑*e*PcP	**PcP**	**02 23 09.4**	**+1.7**
VNDA	**Vanda**	**93.19**	**168**	LR	LR	03 01 39.2	
	comp=Z,41nm,18.9s,baz=334,slow=33						
ILAR	**Eielson Array**	**95.77**	**22**	P	**P**	**02 23 55.4**	**-1.9**
	comp=Z,0.2nm,0.7s,baz=304,slow=6.4,SNR=3.0						
RES	**Resolute Bay**	**97.69**	**2**	*e*P	**P**	**02 24 05.1**	**-0.7**
	comp=Z,2.5nm,1.1s						
TXAR	**Lajitas Array**	**140.28**	**21**	PKP	**PKPdf**	**02 30 02.3**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=351,slow=3.0,SNR=3.1						

IDC 20 02:18:50.7±6.3,22˚.09S×179˚.80W,h0km,mb3.8/2, mb1 4.1/2,mb1mx3.6/18,mbtmp3.8/2,Error ellipse: s-maj=275.2km s-min=69.7km az=150.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.54**	**259**	P	P	02 26 47.8	-0.7
	0.3nm,0.3s,baz=96,slow=7.9,SNR=9.6						
WRA	**Warramunga Arr**	**42.74**	**264**	P	P	02 26 50.6	+0.4
	1.5nm,0.4s,baz=100,slow=8.2,SNR=3.8						
BRTR	**Keskin Array B**	**146.60**	**309**	PKPbc	PKPdf	02 38 33.9	+0.7
	0.4nm,0.7s,baz=88,slow=3.3,SNR=3.8						

*IDC **20** 02:37:10.7±10.0,36˚.92N×72˚.22E,h185km±90km,mb3.1/4, mb1 3.4/5,mb1mx3.0/29,m

TORD	**Torodi Ar. Bea**	**66.65**	**269**	P		**P**	**02 47 42.1**	**-0.8**
	0.2nm,0.4s,baz=52,slow=6.5,SNR=6.7							
YKA	**Yellowknife Ar**	**80.60**	**3**	P		**P**	**02 49 03.1**	**-0.1**
	0.4nm,0.6s,baz=350,slow=5.6,SNR=3.5							

DJA 20 02:44:16.3±1.0, 9°S±5°×10°9E±°, h11km±8km, M3.5/8, MLv3.5/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**1.07**	**356**	P	Pb	02 44 34.7	-2.2
CMJI				S	Sg	02 44 51.0	+0.1
CISI	**Cisompet, Garu**	**1.47**	**332**	P	Pn	02 44 41.5	-1.4
CISI				S	Sn	02 44 58.3	-3.9
CNJI	**Cibinong**	**2.07**	**318**	P	Pn	02 44 50.1	-0.9
CNJI				S	Sn	02 45 18.0	+1.3
UGM	**Wanagama**	**2.19**	**65**	P	Pn	02 44 51.8	-1.0
UGM				S	Sn	02 45 15.4	-4.6
LEM	**Lembang**	**2.21**	**336**	P	Pn	02 44 53.2	0.0
PCJI	**Pacitan**	**2.71**	**76**	P	Pn	02 44 59.7	-0.1
PWJI	**Pagerwojo**	**3.35**	**76**	P	Pn	02 45 08.7	0.0

*IDC **20** 02:47:59.1±0.8, 4°.57N×125°.76E, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.1/21, mbtmp4.2/8, MS3.1/2, Ms1 3.1/2, ms1mx2.6/30, Error ellipse: s-maj=39.5km s-min=16.0km az=77.0*
*ISCJB **20** 02:48:02.4±0.3, 4°.55N±0°.03×125°.60E±0°.06, h35km, mb4.2/18, MS3.0/2, Error ellipse: s-maj=8.0km s-min=3.9km az=173.8*
*MAN **20** 02:48:04, 4°.68N×125°.58E, h59km, mb5.0, ML3.9, MS4.0*
*NEIC **20** 02:48:05.7±0.9, 4°.57N×125°.69E, h48km±9km, mb4.4/10, Error ellipse: s-maj=10.3km s-min=6.5km az=61.0*
*DJA **20** 02:48:08.8±0.6, 4°N±3°×12°6E±°, h16km±6km, M4.7/9, mb4.9/4, mB5.0/3, MLv4.7/9, Mw(mB)4.4/3*
ISC 20 02:48:04.6±0.6, 4°.56N±0°.04×125°.59E±0°.07, h35km, n36, σ1§33/40, mb4.2/18, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.87**	**184**	P	Pn	02 48 17.8	-2.6
GSPH	**General Santos**	**1.64**	**337**	⇓*i*P	**Pn**	**02 48 30.1**	**-1.1**
GSPH				*i* S	**Sn**	**02 48 49.5**	**-1.6**
MATI	**Mati**	**2.46**	**16**	*e*P	**Pn**	**02 48 41.9**	**-0.3**
BUKP	**Musuan**	**3.34**	**351**	*e*P	**Pn**	**02 48 57.0**	**+2.7**
BUKP				*e*S	**Sn**	**02 49 31.7**	**-1.1**
PAGZ	**Pagadian**	**3.94**	**326**	*e*P	**Pn**	**02 49 02.7**	**+0.1**
TNTI	**Ternate**	**4.16**	**155**	P	**Pn**	**02 49 06.8**	**+1.2**
TNTI				S	**Sn**	**02 49 53.3**	**+0.2**
TNTI	**Ternate**	**4.16**	**155**	*e*Pn	**Pn**	**02 49 05.9**	**+0.3**
KMSI	**Cibinong**	**4.28**	**202**	S	**Sn**	**02 49 53.1**	**-2.9**
MRSI	**Marisa**	**5.46**	**222**	P	**Pn**	**02 49 22.9**	**-0.6**
	83nm,0.6s,1μm0.7nm						
MRSI				S	**Sn**	**02 50 22.1**	**-3.0**
	83nm,0.6s,1μm0.7nm						
LUWI	**Luwuk**	**6.24**	**207**	P	**Pn**	**02 49 36.8**	**+2.6**
	185nm,1.0s,2μm0.6nm						
LUWI				S	**Sn**	**02 50 45.5**	**+1.1**
	185nm,1.0s,2μm0.6nm						
LUWI	**Luwuk**	**6.24**	**207**	*e*Pn	**Pn**	**02 49 37.1**	**+2.9**
	110nm,0.8s						
APSI	**Ampana**	**6.72**	**216**	P	**Pn**	**02 49 41.1**	**+0.3**
	90nm,0.9s,966nm0.3nm						
KKM	**Kota Kinabalu**	**9.46**	**279**	*e*Pn	**Pn**	**02 50 18.9**	**+0.5**
FAKI	**Fak Fak**	**9.97**	**138**	*e*Pn	**Pn**	**02 50 26.6**	**+1.1**
KULM	**Kulim**	**24.86**	**273**	*e*P	**P**	**02 53 25.3**	**+1.1**
	3.3nm,0.6s						
WRAB	**Tennant Creek**	**25.82**	**161**	*e*P	**P**	**02 53 31.9**	**-0.9**
	23nm,1.1s						
WRA	**Warramunga Arr**	**25.83**	**161**	P	**P**	**02 53 31.5**	**-1.3**
	6.9nm,0.9s,baz=340,slow=10,SNR=16						
MBWA	**Marble Bar**	**26.20**	**192**	*e*P	**P**	**02 53 36.3**	**+0.2**
	7.4nm,0.8s						
AS31	**Alice Springs**	**29.20**	**164**	*e*P	**P**	**02 54 02.6**	**-0.5**
ASAR	**Alice Springs**	**29.21**	**164**	P	**P**	**02 54 02.3**	**-0.8**
	0.9nm,0.4s,baz=344,slow=7.3,SNR=17						
CMAR	**Chiang Mai Arr**	**29.48**	**300**	P	**P**	**02 54 07.0**	**+1.4**
	0.8nm,0.3s,baz=109,slow=7.7,SNR=7.5						
KSAR	**Wonju Array Be**	**32.79**	**3**	P	**P**	**02 54 34.6**	**+0.1**
KSRS	**Korea Array**	**32.80**	**3**	P	**P**	**02 54 34.6**	**-0.1**
	1.3nm,0.8s,baz=186,slow=10,SNR=5.1						
KSRS				LR	LR	03 08 50.5	
	comp=Z,25nm,20.2s,baz=186,slow=38						
MAJO	**Matsushiro**	**33.87**	**18**	*e*P	**P**	**02 54 43.8**	**-0.2**
	7.0nm,1.0s						
MJAR	**Matsushiro Arr**	**33.87**	**18**	P	**P**	**02 54 43.5**	**-0.5**
	2.8nm,0.9s,baz=197,slow=12,SNR=4.5						
FORT	**Forrest**	**35.22**	**176**	*e*P	**P**	**02 54 54.4**	**-1.3**
	8.9nm,0.7s						
STKA	**Stephens Creek**	**39.31**	**158**	P	**P**	**02 55 30.6**	**+0.2**
	4.2nm,0.7s,baz=331,slow=8.1,SNR=7.4						
STKA	**Stephens Creek**	**39.31**	**158**	*e*P	**P**	**02 55 30.1**	**-0.3**
	1.0nm,0.7s						
PALK	**Pallekele**	**44.72**	**276**	*e*P	**P**	**02 56 17.4**	**+2.5**
	10nm,0.9s						
SONM	**Songino Array**	**46.16**	**342**	P	**P**	**02 56 25.2**	**-0.7**
	0.2nm,0.5s,baz=160,slow=9.2,SNR=2.1						
SONM				LR	LR	03 16 14.6	
	comp=Z,22nm,18.5s,baz=116,slow=37						
KURK	**Kurchatov**	**60.43**	**328**	*e*P	**P**	**02 58 10.2**	**-0.4**
	1.5nm,0.6s						
BRVK	**Borovoye**	**66.08**	**327**	*e*P	**P**	**02 58 47.6**	**-0.4**
	2.2nm,0.8s						
MCK	**McKinley**	**83.93**	**26**	*e*P	**P**	**03 00 30.6**	**-0.2**
	3.9nm,0.7s						
VNDA	**Vanda**	**84.39**	**173**	P	**P**	**03 00 32.2**	**-0.6**
	0.6nm,0.6s,baz=331,slow=6.7,SNR=6.6						
ILAR	**Eielson Array**	**84.84**	**25**	P	**P**	**03 00 34.8**	**-0.6**
	0.7nm,0.8s,baz=259,slow=4.9,SNR=9.1						
TORD	**Torodi Ar. Bea**	**121.58**	**288**	PKP	**PKPdf**	**03 06 55.9**	**+0.2**
	0.3nm,0.7s,baz=86,slow=2.3,SNR=3.5						

*DHMR **20** 02:54:06.1±1.1, 11°.95N×44°.09E, h13km±4km, ML4.6*
*CSEM **20** 02:54:06.1, 11°.95N×44°.09E, h13km, ML4.6*
*ISCJB **20** 02:54:07.7±0.8, 11°.90N±0°.05×44°.15E±0°.06, h10km, mb3.6/4, MS3.0/5, Error ellipse: s-maj=10.4km s-min=3.7km az=44.4*
*IDC **20** 02:54:07.9±3.9, 11°.76N×44°.22E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/34, mbtmp3.7/4, MS3.1/5, Ms1 3.1/5, ms1mx2.8/33, Error ellipse: s-maj=87.4km s-min=35.8km az=152.0*
*ARO **20** 02:54:11.0, 12°N±28°×4°4E±°, h15km±99km, ML4.0*
ISC 20 02:54:08.2±1.0, 11°92N±0°.07×44°.16E±0°.06, h10km, n24, σ1§58/30, mb3.6/4, MS3.0/5, 4C-2D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATA	**Atar**	**1.04**	**244**	*e*P	**Pn**	**02 54 27.5**	**-1.4**
ADEN	**Aden**	**1.17**	**43**	*i* P	**Pb**	**02 54 27.8**	**-2.7**
ADEN				*i* S	**Sg**	**02 54 45.1**	**-0.7**
ADEN				AML	AML	02 54 56.9	
	comp=E,24μm,0.5s						
ADEN	**Aden**	**1.17**	**43**	*i* P	**Pb**	**02 54 27.8**	**-2.7**
ADEN				*i* S	**Sg**	**02 54 45.1**	**-0.7**
	comp=E,12μm,0.5s						
TDD	**Tadjoura Ara**	**1.23**	**265**	*e*P	**Pn**	**02 54 29.9**	**-1.6**
TRBA	**At Turbah**	**1.30**	**358**	⇓*i*P	**Pn**	**02 54 30.5**	**-2.1**
TRBA				*i* S	**Sb**	**02 54 47.3**	**-2.4**
TRBA				AML	AML	02 54 49.5	
	comp=E,9μm,0.6s						
ATD	**Arta Tunnel**	**1.34**	**253**	*e*P	**Pn**	**02 54 32.0**	**-1.0**
ATD				*e*S	**Sb**	**02 54 49.0**	**-1.8**
SGH	**Sud-Ghoubbet**	**1.57**	**252**	*e*P	**Pn**	**02 54 35.7**	**-0.6**
LDLD	**Lac de Lave**	**1.66**	**258**	*e*P	**Pn**	**02 54 36.9**	**-0.4**
GBR	**Grand-Bara**	**1.83**	**245**	*e*P	**Pb**	**02 54 39.8**	**-2.1**
MAOD	**Malaho**	**1.90**	**275**	*e*P	**Pn**	**02 54 39.9**	**-0.8**
LBOS		**2.21**	**29**	⇓*i*P	**Pn**	**02 54 44.4**	**-0.8**
LBOS				*i* S	**Sb**	**02 55 14.9**	**-1.0**
BDHA	**Al Bayda'**	**2.46**	**34**	⇑*i*P	**Pn**	**02 54 48.4**	**-0.2**
BDHA				*i* S	**Sb**	**02 55 22.4**	**-0.7**
BDHA				AML	AML	02 55 30.6	
	comp=E,7μm,0.7s						
BDHA	**Al Bayda'**	**2.46**	**34**	⇑*i*P	**Pn**	**02 54 48.3**	**-0.2**
BDHA				*i* S	**Sb**	**02 55 22.4**	**-0.7**
	comp=E,3μm,0.7s						
DHBB	**Dhamar BB**	**2.64**	**5**	*i* P	**Pn**	**02 54 51.2**	**0.0**
DHBB				*i* S	**Sb**	**02 55 26.5**	**-1.9**
SANA	**San'a**	**3.44**	**1**	*i* S	**Sn**	**02 55 45.5**	**+2.3**
HAJJ	**Hajjah**	**3.79**	**352**	⇑*i*P	**Pn**	**02 55 06.5**	**-0.3**
HAJJ				*i* S	**Sn**	**02 55 53.5**	**+1.8**
HAJJ	**Hajjah**	**3.79**	**352**	⇑*i*P	**Pn**	**02 55 06.6**	**-0.3**
HAJJ				*i* S	**Sn**	**02 55 53.5**	**+1.8**
BRTR	**Keskin Array B**	**29.22**	**343**	P	P	03 00 14.0	+3.7
	comp=E,1.0nm,0.8s,baz=159,slow=8.7,SNR=6.2						
BRTR				LR	LR	03 11 48.8	
	comp=E,23nm,19.0s,baz=150,slow=36						
AKTO	**Aktyubinsk**	**40.05**	**14**	LR	LR	03 21 47.1	
	comp=E,26nm,21.9s,baz=193,slow=41						
TORD	**Torodi Ar. Bea**	**41.44**	**276**	P	**P**	**03 01 57.4**	**+2.0**
	comp=E,0.6nm,0.9s,baz=80,slow=9.3,SNR=3.2						
VRAC	**Vranov**	**43.69**	**334**	LR	LR	03 21 45.2	
	comp=E,9.7nm,18.8s,baz=276,slow=38						
GERES	**GERESS Array B**	**44.65**	**332**	P	**P**	**03 02 22.4**	**+1.3**
	comp=E,0.6nm,0.7s,baz=139,slow=6.5,SNR=3.7						
ZALV	**Zalesovo Beam**	**52.81**	**29**	P	**P**	**03 03 25.6**	**+2.0**
	comp=E,1.7nm,0.7s,baz=247,slow=7.4,SNR=2.8						
ZALV				LR	LR	03 29 28.4	
	comp=E,53nm,19.0s,baz=250,slow=40						
NOA	**NORSAR Array B**	**54.62**	**341**	LR	LR	03 29 21.6	
	comp=E,13nm,18.6s,baz=245,slow=39						

*IDC **20** 02:56:34.2±1.4, 7°.79N×91°.95E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.5/45, mbtmp3.8/6, ML4.0/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/33, Error ellipse: s-maj=37.8km s-min=23.9km az=57.0*
*ISCJB **20** 02:56:35.6±0.9, 7°.8N±0°.1×91°.9E±0°.1, h25km, mb3.9/5, Error ellipse: s-maj=18.1km s-min=16.2km az=173.4*
ISC 20 02:56:38.0±1.1, 7°.8N±0°.1×91°.9E±0°.1, h25km, n10, σ1§07/9, mb3.8/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.15**	**268**	P	**Pn**	**02 59 15.6**	**-0.4**
	1.2nm,0.3s,baz=101,slow=15,SNR=6.0						
PALK				Sn	Sn	03 01 04.4	-16
	2.3nm,0.3s,baz=348,slow=23,SNR=11						
PALK				LR	LR	03 02 51.8	
	comp=Z,66nm,21.3s,baz=94,slow=34						
CMAR	**Chiang Mai Arr**	**12.63**	**32**	Pn	**Pn**	**02 59 34.7**	**-1.5**
	0.2nm,0.3s,baz=226,slow=16,SNR=3.2						
H08S3	**Diego Garcia H**	**24.70**	**232**	T	T	03 28 16.8	
	baz=51,slow=76,SNR=17						
H08S2	**Diego Garcia H**	**24.70**	**232**	T	T	03 28 13.4	
	baz=51,slow=76,SNR=13						
H08S1	**Diego Carcia H**	**24.71**	**232**	T	T	03 28 29.3	
	baz=51,slow=76,SNR=14						
GTA	**Gaotai**	**32.30**	**11**	*e*P	**P**	**03 03 06.0**	**+0.9**
GTA				pP	**pP**	**03 03 13.9**	**+1.3**
GTA				sP	**sP**	**03 03 16.9**	**+1.2**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SONM	**Songino Array**	**41.79**	**15**	P	**P**	**03 04 25.4**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=198,slow=8.6,SNR=7.5						
BVAR	**Borovoye Array**	**48.43**	**343**	P	**P**	**03 05 17.7**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=158,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**49.98**	**124**	P	**P**	**03 05 30.9**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=304,slow=8.5,SNR=3.5						
ASAR	**Alice Springs**	**51.53**	**128**	P	**P**	**03 05 41.8**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=299,slow=8.2,SNR=5.0						

MEX 20 03:01:35.5±0.5, 19°36N×104°15W, h9km±4km, MD3.5, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
R15V		**0.24**	**139**	*i* P	Pg	03 01 39.9	-0.6
R15V				*e*S	Sg	03 01 43.9	-0.1
EZ5V		**0.53**	**77**	*e*P	Pg	03 01 45.1	-1.1
EZ5V				*i* S	Sg	03 01 53.3	-0.2
MMIG	**Aquila**	**1.31**	**144**	*i* P	Pn	03 01 56.6	-3.4
MMIG				*i* S	Sb	03 02 12.0	-5.2

WEL 20 03:06:27.9±0.3, 36°.87S×177°.16E, h156km±2km, ML3.9/10, 5C-3D, Error ellipse: s-maj=3.5km s-min=3.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.02**	**151**	⇑PN	Pn	03 06 53.4	0.0
HAZ				SN	Sn	03 07 13.0	+0.1
WMGZ	**Waiomatatini S**	**1.38**	**134**	PN	Pn	03 06 56.6	-0.1
WMGZ				SN	Sn	03 07 18.4	-0.4
URZ	**Urewera**	**1.39**	**182**	⇑PN	Pn	03 06 57.0	+0.3
URZ				SN	Sn	03 07 18.9	-0.1
URZ				AML	AML	03 07 22.4	
TWGZ	**Tauwhareparae**	**1.46**	**154**	PN	Pn	03 06 57.8	+0.3
PUZ	**Puketiti**	**1.49**	**144**	⇑PN	Pn	03 06 57.5	-0.3
PUZ				AML	AML	03 07 22.2	
PUZ				AML	AML	03 07 27.8	
MWZ	**Matawai**	**1.50**	**169**	⇓PN	Pn	03 06 58.0	+0.1
MWZ				AML	AML	03 07 21.2	
MWZ				AML	AML	03 07 21.9	
MWZ				AML	AML	03 07 23.5	
MWZ				AML	AML	03 07 38.7	
RAGZ	**Rawiri**	**1.64**	**173**	*e*PN	Pn	03 06 59.6	+0.1
TKGZ	**Te Karaka**	**1.66**	**161**	PN	Pn	03 06 59.5	-0.1
ALRZ	**Allen Road**	**1.82**	**201**	*e*PN	Pn	03 07 02.8	+1.6
CNGZ	**Carnagh Statio**	**1.82**	**153**	⇑PN	Pn	03 07 01.3	0.0
RIGZ	**Rimuhau**	**1.90**	**166**	PN	Pn	03 07 01.4	-0.3
SNGZ	**Shannon Statio**	**1.92**	**176**	PN	Pn	03 07 02.3	-0.1
RAHZ	**Arahi**	**2.05**	**182**	PN	Pn	03 07 04.1	+0.1
KNZ	**Kokohu**	**2.19**	**169**	⇑PN	Pn	03 07 04.8	-0.7
WHHZ	**Waihua**	**2.21**	**179**	PN	Pn	03 07 05.5	-0.3
NMHZ	**Naumai**	**2.25**	**187**	PN	Pn	03 07 06.8	+0.5
BKZ	**Black Stump Fm**	**2.36**	**193**	*e*PN	Pn	03 07 06.9	-0.7
BKZ				AML	AML	03 07 41.2	
BKZ				AML	AML	03 07 51.4	
ARHZ	**Aropaoanui**	**2.40**	**183**	PN	Pn	03 07 07.7	-0.3
MCHZ	**McNeill Hill**	**2.60**	**188**	PN	Pn	03 07 10.1	-0.4
KWHZ	**Kaweka Forest**	**2.62**	**193**	PN	Pn	03 07 10.1	-0.7
FWVZ	**Far West T-bar**	**2.70**	**208**	PN	Pn	03 07 12.7	+0.7
WNVZ	**Wahianoa**	**2.75**	**206**	PN	Pn	03 07 12.8	+0.2
BHHZ	**Black Hill Sta**	**2.76**	**198**	PN	Pn	03 07 11.6	-0.9
MOVZ	**Moawhango**	**2.77**	**203**	PN	Pn	03 07 12.1	-0.5
CKHZ	**Cape Kidnapper**	**2.79**	**181**	PN	Pn	03 07 11.5	-1.3
KRHZ	**Kereru**	**2.84**	**192**	PN	Pn	03 07 12.4	-1.1
KAHZ	**Kahuranaki**	**2.94**	**184**	⇓PN	Pn	03 07 13.5	-1.1
PNHZ	**Pukenui**	**3.14**	**194**	PN	Pn	03 07 15.6	-1.6
PXZ	**Pawanui**	**3.17**	**184**	PN	Pn	03 07 15.9	-1.7
PXZ				AML	AML	03 07 55.6	
PXZ				AML	AML	03 07 55.6	
PXZ				AML	AML	03 07 56.7	
PXZ				AML	AML	03 07 56.7	
WPHZ	**Waipukurau**	**3.25**	**190**	PN	Pn	03 07 17.1	-1.5
TSZ	**Takapari Road**	**3.33**	**196**	PN	Pn	03 07 17.8	-1.8
TSZ				AML	AML	03 07 59.3	
PRHZ	**Porangahau**	**3.42**	**187**	PN	Pn	03 07 18.9	-1.9
DVHZ	**Dannevirke**	**3.52**	**192**	PN	Pn	03 07 19.7	-2.3
ANWZ	**Angora Road**	**3.63**	**188**	PN	Pn	03 07 21.4	-2.0
POWZ	**Post Office Ro**	**3.69**	**197**	PN	Pn	03 07 21.7	-2.5
PRWZ	**Pori Road**	**3.80**	**194**	PN	Pn	03 07 24.0	-1.7
BFZ	**Birch Farm**	**3.88**	**190**	⇓PN	Pn	03 07 24.1	-2.6
MRZ	**Mangatainoka R**	**3.99**	**198**	PN	Pn	03 07 25.2	-2.8
MRZ				AML	AML	03 08 13.0	
MRZ				AML	AML	03 08 13.2	
TIWZ	**Tintock**	**4.03**	**194**	PN	Pn	03 07 26.1	-2.6
TIWZ				AML	AML	03 08 15.1	
TIWZ				AML	AML	03 08 16.9	
CPWZ	**Castlepoint**	**4.11**	**190**	PN	Pn	03 07 27.3	-2.3
HOWZ	**Holdsworth Sta**	**4.23**	**197**	PN	Pn	03 07 27.9	-3.4
OGWZ	**Otaki Gorge**	**4.24**	**201**	PN	Pn	03 07 28.4	-3.0
TMWZ	**Te Maipa**	**4.35**	**193**	PN	Pn	03 07 30.0	-2.8
KIW	**Kapiti Island**	**4.36**	**203**	PN	Pn	03 07 29.9	-3.1
CAW	**Cannon Point**	**4.54**	**200**	PN	Pn	03 07 31.8	-3.5
TRWZ	**Traveller**	**4.67**	**194**	PN	Pn	03 07 33.8	-3.2
PAWZ	**Paruwai Farm**	**4.71**	**196**	*e*PN	Pn	03 07 34.0	-3.5
MSWZ	**Moikau Station**	**4.78**	**198**	PN	Pn	03 07 34.4	-4.1
WEL	**Wellington**	**4.79**	**202**	*e*PN	Pn	03 07 35.0	-3.6
BHW	**Baring Head**	**4.87**	**201**	*e*PN	Pn	03 07 36.2	-3.4
TCW	**Tory Channel**	**4.89**	**206**	PN	Pn	03 07 36.2	-3.6
TCW				AML	AML	03 08 33.9	
TCW				AML	AML	03 08 34.6	
PLWZ	**Palliser**	**4.93**	**197**	PN	Pn	03 07 36.1	-4.3
TUWZ	**Tuamarina**	**5.20**	**208**	PN	Pn	03 07 40.4	-3.5
TUWZ				AML	AML	03 08 40.7	
NNZ	**Nelson**	**5.25**	**213**	PN	Pn	03 07 41.5	-3.0
BSWZ	**Blackbirch Sta**	**5.47**	**207**	PN	Pn	03 07 44.2	-3.4
THZ	**Tophouse**	**5.90**	**213**	PN	Pn	03 07 49.3	-4.0
KHZ	**Kahutara**	**6.21**	**206**	PN	Pn	03 07 53.4	-3.9
LTZ	**Lake Taylor**	**7.01**	**211**	PN	Pn	03 08 03.1	-4.9
OXZ	**Oxford**	**7.55**	**210**	PN	Pn	03 08 09.6	-5.6
MQZ	**McQueen's Vall**	**7.65**	**205**	PN	Pn	03 08 10.2	-6.3
ODZ	**Otahua Downs**	**9.54**	**209**	PN	Pn	03 08 36.3	-5.3

*HEL **20** 03:07:48.5, 67°.60N×34°.12E, h0km, ML2.0, Explosion*
*HEL **20** 03:07:48.8±0.4, 67°.65N×33°.93E, h0km, ML2.0, ML1.4(UPP), Explosion*
*KOLA **20** 03:07:50.3, 67°.67N×33°.75E, h0km*
*CSEM **20** 03:07:50.8±0.7, 67°.63N×33°.46E, h2km, ML2.0, Error ellipse: s-maj=12.3km s-min=7.5km az=86.0, Mining explosion.*
*UPP **20** 03:07:51.4, 67°.92N×33°.51E, h0km, ML1.4, Suspected Mining explosion.*
*NAO **20** 03:07:51.2±1.8, 67°.62N×33°.48E, ML2.6*
ISC 20 03:07:48.5±1.8, 67°.57N±0°.04×33°.90E±0°.09, h0km, n42, σ1§45/71, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.19**	**271**	P	**Pg**	**03 07 53.3**	**+1.2**
APA				S	**Sg**	**03 07 55.5**	**+1.0**
APA0	**Apatity Array**	**0.35**	**277**	P	**Pg**	**03 07 55.6**	**+0.4**
APA0				S	**Sg**	**03 07 59.5**	**-0.2**
KU6	**Riekki**	**2.22**	**228**	*e*PB	**Pb**	**03 08 29.1**	**-0.3**
KU6				MSG		03 08 56.6	
	comp=Z,7.7nm,0.2s						
KU6				*e*SG	**Sg**	**03 08 59.9**	**+0.3**
KU6	**Riekki**	**2.22**	**228**	Pb	**Pb**	**03 08 29.1**	**-0.3**
KU6				Sg	**Sg**	**03 08 59.9**	**+0.3**
MSF	**Maaselka**	**2.55**	**231**	*e*PB	**Pb**	**03 08 34.0**	**-1.0**
MSF				*e*SG	**Sg**	**03 09 08.8**	**-1.4**
SGF	**Sodankyl**	**2.84**	**271**	*e*P	**Pn**	**03 08 35.9**	**+0.9**
SGF				*e*SG	**Sb**	**03 09 15.9**	**+0.7**
SGF	**Sodankyl**	**2.84**	**271**	P	**Pn**	**03 08 35.9**	**+0.9**
SGF				Sg	**Sb**	**03 09 15.9**	**+0.7**
RNF	**Rovaniemi**	**3.23**	**256**	*e*P	**Pn**	**03 08 41.8**	**+1.4**
RNF				*e*S	**Sn**	**03 09 20.5**	**+1.0**
RNF	**Rovaniemi**	**3.23**	**256**	P	**Pn**	**03 08 41.8**	**+1.4**
KEV	**Kevo**	**3.34**	**314**	*e*P	**Pn**	**03 08 42.6**	**+0.6**
	baz=122						
KEV				*e*S	**Sn**	**03 09 20.9**	**-1.3**
KEV	**Kevo**	**3.34**	**314**	P	**Pn**	**03 08 42.5**	**+0.6**
KEV				S	**Sn**	**03 09 20.9**	**-1.3**
ARA0	**ARCESS Array S**	**3.66**	**307**	Pn	**Pn**	**03 08 46.4**	**+0.1**
	baz=122,slow=14						
ARA0				Pg	**Pb**	**03 08 55.3**	**+1.3**
	baz=120,slow=16						
ARA0				Sn	**Sn**	**03 09 27.4**	**-2.7**
	baz=121,slow=28						
ARA0				Lg	Lg	03 09 39.4	
	baz=114,slow=37						
ARA0	**ARCESS Array S**	**3.66**	**307**	Pn	**Pn**	**03 08 46.4**	**+0.1**
	baz=122,slow=14						
ARA0				Pg	**Pb**	**03 08 55.3**	**+1.3**
	baz=120,slow=16						
ARA0				Sn	**Sn**	**03 09 27.4**	**-2.7**
	baz=121,slow=28						
ARA0				Lg	Lg	03 09 39.4	
	baz=114,slow=37						
ARA0	**ARCESS Array S**	**3.66**	**307**	Pn	**Pn**	**03 08 46.4**	**+0.1**
	SNR=194						
ARA0	**ARCESS Array S**	**3.66**	**307**	Pg	**Pb**	**03 08 55.3**	**+1.3**
	SNR=7.3						
ARA0				Sn	**Sn**	**03 09 27.5**	**-2.7**
	SNR=8.9						
ARA0				Lg	Lg	03 09 39.4	
	SNR=6.8						
HEF	**Hetta**	**3.95**	**287**	*e*P	**Pn**	**03 08 50.6**	**+0.4**
HEF				*e*S	**Sn**	**03 09 36.1**	**-1.0**
HEF	**Hetta**	**3.95**	**287**	P	**Pn**	**03 08 50.6**	**+0.4**
HEF				S	**Sn**	**03 09 36.1**	**-1.0**
OUL	**Oulu**	**4.08**	**236**	*e*P	**Pn**	**03 08 54.8**	**+2.8**
OUL	**Oulu**	**4.08**	**236**	P	**Pn**	**03 08 54.7**	**+2.8**
KTK1	**Kautokeino**	**4.22**	**295**	*e*S	**Sn**	**03 09 41.2**	**-2.6**
KTK1				IAML		03 09 59.3	
	comp=Z,7.2nm,0.2s						
KTK1	**Kautokeino**	**4.22**	**295**	*e*S	**Sn**	**03 09 41.2**	**-2.6**
	SNR=49						
LANU	**Lannavaara**	**4.54**	**282**	*e*P	**Pn**	**03 08 58.0**	**-0.4**
LANU				*e*S	**Sn**	**03 09 49.5**	**-2.4**
LANU	**Lannavaara**	**4.54**	**282**	P	**Pn**	**03 08 58.0**	**-0.4**
LANU				S	**Sn

comp=N,2µm,0.5s
BDHA Al Bayda' 2.48 35 *i* P **Pn 03 10 20.7 +0.4**
BDHA *i* S **Sb 03 10 55.3 +0.2**
comp=N,878nm,0.5s
DHBB Dhamar BB 2.64 6 *i* P **Pn 03 10 23.6 +1.0**
DHBB *i* S **Sb 03 10 58.0 -2.0**
HAJJ Hajjah 3.79 352 *i* P **Pn 03 10 38.7 +0.5**
HAJJ *i* S **Sn 03 11 25.5 +2.2**
HAJJ AML AML 03 11 46.9
comp=Z,806nm,0.7s
HAJJ Hajjah 3.79 352 *i* P **Pn 03 10 38.7 +0.5**
HAJJ *i* S **Sn 03 11 25.5 +2.2**
comp=Z,403nm,0.7s

*ISCJB **20** 03:10:20.0±0.5,31°.25N±0°.05×115°.62W±0°.03,h10km±6km, Error ellipse: s-maj=7.8km s-min=4.6km az=17.7*
*ECX **20** 03:10:21.0±0.5,31°.24N×115°.64W,h5km, MD3.0, ML3.3*
*MEX **20** 03:10:22.1±0.4,31°.17N×115°.62W,h13km±21km, MD3.5*
ISC 20 03:10:19.9±0.9,31°.25N±0°.04×115°.65W±0°.03,h16km±9km, n19,σ0s60/35,1C-1D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**0.25**	**142**	*i* P	**Pg**	**03 10 25.9**	**+0.2**
SPIG				*e*S	**Sg**	**03 10 29.0**	**-0.6**
SPIG	**San Pedro Mart**	**0.25**	**142**	*e*P	**Pg**	**03 10 25.8**	**+0.2**
SPIG				*e*S	**Sg**	**03 10 29.4**	**-0.2**
SPX	**San Pedro Mart**	**0.26**	**142**	*e*P	**Pg**	**03 10 25.8**	**+0.1**
SPX				*e*S	**Sg**	**03 10 29.5**	**-0.2**
SPX				*e*		03 10 30.1	
SPX				IAML		03 10 30.1	
	comp=E,5µm,0.1s						
ECBX	**El Chinero**	**0.56**	**66**	*e*Pn	**Pg**	**03 10 30.5**	**-0.3**
ECBX				*e*S	**Sg**	**03 10 37.8**	**-0.5**
ZAX	**El Zacaton**	**0.60**	**296**	*e*P	**Pg**	**03 10 31.5**	**-0.2**
ZAX				*e*S	**Sg**	**03 10 40.1**	**+0.4**
RDX	**Rancho Dawling**	**0.72**	**340**	*i* P	**Pg**	**03 10 34.3**	**+0.2**
RDX				*e*S	**Sb**	**03 10 44.1**	**+0.1**
RDX				*i* S	**Sg**	**03 10 44.3**	**+0.6**
RDX				IAML		03 10 48.5	
	comp=N,840nm,0.5s						
RDX				⇓*e*		03 10 48.5	
ECNX	**Esteban Cantu**	**0.91**	**297**	*e*P	**Pg**	**03 10 37.3**	**-0.3**
ECNX				*e*S	**Sg**	**03 10 49.2**	**-0.3**
PBX	**Punta Banda**	**1.04**	**298**	*e*P	**Pb**	**03 10 39.6**	**0.0**
PBX				*e*S	**Sb**	**03 10 53.6**	**+0.5**
CBX	**Cerro Bola**	**1.37**	**321**	*i* P	**Pn**	**03 10 44.6**	**+0.1**
CBX				*i* S	**Sn**	**03 11 01.1**	**-1.3**
CBX	**Cerro Bola**	**1.37**	**321**	*e*P	**Pn**	**03 10 44.5**	**+0.1**
CBX				*e*S	**Sb**	**03 11 03.2**	**+0.6**
CBX				IAML		03 11 06.5	
	comp=N,509nm,0.6s						
CBX				*e*		03 11 06.5	
RMX	**La Rumorosa**	**1.40**	**345**	*e*P	**Pn**	**03 10 45.7**	**+0.8**
RMX				*e*S	**Sb**	**03 11 03.8**	**+0.4**
IBP	**Imperial Bould**	**1.46**	**345**	P	**Pb**	**03 10 46.8**	**+0.1**
	baz=1.4,SNR=8.4						
IBP				S	**Sb**	**03 11 05.4**	**+0.4**
	baz=1.4						
BAR	**Barrett**	**1.67**	**329**	*e*P	**Pb**	**03 10 49.8**	**-0.5**
SWSC	**Sam W. Stewart**	**1.69**	**356**	Pb	**Pb**	**03 10 51.3**	**+0.6**
	baz=1.6,SNR=22						
SWSC				S	**Sg**	**03 11 13.2**	**-1.2**
	baz=1.6						
MONP	**Monument Peak,**	**1.76**	**338**	P	**Pn**	**03 10 51.4**	**+1.4**
	baz=1.7,SNR=30						
MONP				S	**Sb**	**03 11 14.8**	**+0.8**
	baz=1.7						
GLA	**Glamis**	**1.93**	**21**	P	**Pn**	**03 10 52.3**	**+0.2**
	baz=1.8,SNR=12						
109C	**Camp Elliot, M**	**2.05**	**323**	P	**Pb**	**03 10 55.9**	**-0.9**
	baz=2.0,SNR=12						
109C				S	**Sb**	**03 11 22.0**	**-0.1**
	baz=2.0						
BC3	**Big Chuckawall**	**2.41**	**4**	P	**Pn**	**03 10 59.5**	**+0.8**
	baz=2.3,SNR=6.7						
214A	**Organ Pipe Nat**	**2.52**	**73**	S	**Sn**	**03 11 30.1**	**-0.5**
	baz=2.4						

*IDC **20** 03:20:11.6±6.2, 18°.50S×175°.67W,h186km±56km, mb3.8/13,mb1 4.1/13,mb1mx3.9/19,mbtmp4.3/13,Error ellipse: s-maj=21.0km s-min=17.3km az=146.0*
*ISCJB **20** 03:20:15.6±0.5, 18°.61S±0°.09×175°.69W±0°.10,h238km, mb4.2/25,Error ellipse: s-maj=14.1km s-min=10.8km az=43.5*
*NEIC **20** 03:20:21.1±1.7, 18°.66S×175°.67W,h280km±15km, mb4.4/16,Error ellipse: s-maj=13.7km s-min=11.3km az=110.0*
ISC 20 03:20:16.8±0.6, 18°.6S±0°.1×175°.6W±0°.1,h238km,n37, σ0s91/39,mb4.3/25,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.07**	**277**	*e*Pn	Pn	03 21 51.0	+5.3
	52nm,0.7s						
DZM	**Mont Dzumac**	**17.17**	**255**	P	**Pn**	**03 24 04.9**	**+1.5**
	baz=90,slow=20						
DZM	**Mont Dzumac**	**17.17**	**255**	*e*P	**Pn**	**03 24 04.7**	**+1.3**
	14nm,0.8s						
URZ	**Urewera**	**20.61**	**196**	P	**P**	**03 24 37.0**	**-1.1**
	38nm,1.1s,baz=313,slow=3.4,SNR=12						
RPZ	**Rata Peaks**	**27.46**	**201**	P	**P**	**03 25 40.3**	**-0.6**
	3.2nm,0.4s,baz=248,slow=19,SNR=2.4						
CTAO	**Charters Tower**	**35.95**	**261**	*e*P	**P**	**03 26 55.2**	**+0.1**
	13nm,0.6s						
COEN	**Coen**	**39.75**	**270**	*e*P	**P**	**03 27 27.1**	**+0.2**
STKA	**Stephens Creek**	**40.65**	**243**	P	**P**	**03 27 33.6**	**-0.4**
	1.7nm,0.4s,baz=89,slow=11,SNR=7.4						
STKA	**Stephens Creek**	**40.65**	**243**	*e*P	**P**	**03 27 34.1**	**0.0**
	0.5nm,0.5s						
WRAB	**Tennant Creek**	**47.10**	**260**	*e*P	**P**	**03 28 24.7**	**-0.7**
	5.0nm,0.3s						
WRA	**Warramunga Arr**	**47.11**	**260**	P	**P**	**03 28 25.2**	**-0.3**
	5.4nm,0.3s,baz=97,slow=8.0,SNR=23						
WRA				PcP	**PcP**	**03 29 53.4**	**0.0**
	2.3nm,0.6s,baz=97,slow=3.4,SNR=8.0						
AS31	**Alice Springs**	**47.16**	**255**	*e*P	**P**	**03 28 25.3**	**-0.6**
AS31				*e*PcP	**PcP**	**03 29 53.1**	**-0.4**
ASAR	**Alice Springs**	**47.16**	**255**	P	**P**	**03 28 25.8**	**-0.1**
	24nm,0.7s,baz=85,slow=8.0,SNR=260						
ASAR				PcP	**PcP**	**03 29 53.7**	**+0.2**
	3.4nm,0.6s,baz=103,slow=4.0,SNR=16						
FORT	**Forrest**	**52.12**	**245**	*e*P	**P**	**03 29 02.0**	**-1.1**
	10nm,0.8s						
SOEI	**Soe**	**58.71**	**270**	*e*P	**P**	**03 29 51.3**	**+1.0**
	18nm,0.6s						
VNDA	**Vanda**	**60.02**	**186**	P	**P**	**03 29 59.2**	**+1.1**
	0.8nm,0.5s,baz=20,slow=5.6,SNR=7.7						
VNDA	**Vanda**	**60.02**	**186**	*e*P	**P**	**03 29 58.7**	**+0.6**
	2.4nm,1.0s						
MBWA	**Marble Bar**	**60.47**	**256**	*e*P	**P**	**03 30 01.2**	**-0.9**
	4.0nm,0.3s						
KAPI	**Kappang**	**64.37**	**273**	*e*P	**P**	**03 30 26.2**	**-1.8**
	20nm,1.2s						
MJAR	**Matsushiro Arr**	**70.04**	**322**	P	**P**	**03 31 01.9**	**-1.1**
	0.5nm,0.4s,baz=152,slow=7.1,SNR=3.3						
MAJO	**Matsushiro**	**70.04**	**322**	*e*P	**P**	**03 31 03.2**	**+0.1**
	5.8nm,1.0s						
KKM	**Kota Kinabalu**	**71.47**	**283**	*e*P	**P**	**03 31 12.6**	**+0.3**
	9.1nm,1.0s						
QSPA	**South Pole Qui**	**71.48**	**180**	*e*P	**P**	**03 31 11.0**	**-0.5**
	7.9nm,1.1s						
PEA0B	**Petropavlovsk-**	**75.03**	**344**	*e*P	**P**	**03 31 29.5**	**-2.5**
NVAR	**Mina Array Bea**	**78.10**	**43**	P	**P**	**03 31 50.5**	**+0.7**
	1.7nm,0.7s,baz=224,slow=8.7,SNR=7.2						
PMSA	**Palmer Station**	**82.15**	**156**	*e*P	**P**	**03 32 10.3**	**-0.4**
	32nm,1.0s						
MAW	**Mawson**	**84.11**	**199**	P	**P**	**03 32 20.7**	**0.0**
	2.8nm,0.6s,baz=123,slow=6.6,SNR=9.5						
TXAR	**Lajitas Array**	**84.14**	**57**	P	**P**	**03 32 22.8**	**+1.2**
	0.6nm,0.6s,baz=219,slow=8.1,SNR=9.9						
MCK	**McKinley**	**84.64**	**12**	*e*P	**P**	**03 32 23.1**	**-0.2**
	2.5nm,0.7s						
IPM	**Ipoh**	**85.12**	**276**	*e*P	**P**	**03 32 27.6**	**+0.7**
	8.2nm,0.7s						
COLA	**College**	**85.87**	**12**	*e*P	**P**	**03 32 29.3**	**+0.1**
	3.7nm,0.8s						
ILAR	**Eielson Array**	**85.97**	**12**	P	**P**	**03 32 29.7**	**-0.1**
	0.7nm,0.9s,baz=233,slow=6.4,SNR=10						
PDAR	**Pinedale Array**	**86.04**	**42**	P	**P**	**03 32 31.1**	**+0.2**
	0.2nm,0.4s,baz=212,slow=3.2,SNR=2.2						
CMAR	**Chiang Mai Arr**	**91.60**	**289**	P	**P**	**03 32 59.4**	**+2.1**
	0.9nm,0.4s,baz=104,slow=3.1,SNR=4.4						
BR131	**Keskin Array S**	**147.11**	**316**	*e*PKPbc	**PKPbc**	**03 39 32.4**	**+0.2**
BRTR	**Keskin Array B**	**147.11**	**316**	PKPbc	**PKPbc**	**03 39 32.5**	**+0.4**
	1.4nm,0.5s,baz=141,slow=5.4,SNR=12						
GERES	**GERESS Array B**	**148.88**	**348**	PKPbc	**PKPbc**	**03 39 36.5**	**+0.1**
	0.5nm,0.6s,baz=38,slow=2.4,SNR=7.2						

*IDC **20** 03:33:19.8±1.4, 3°.66S×145°.82E,h0km,mb3.9/5, mb1 4.3/6,mb1mx4.0/16,mbtmp4.0/6,ML4.4/1,MS3.9/8, Ms1 3.9/8,ms1mx3.5/21,Error ellipse: s-maj=49.0km s-min=22.3km az=101.0*
*ISCJB **20** 03:33:21.9±1.2, 3°.7S±0°.1×145°.7E±0°.3,h25km,mb3.9/5, MS3.8/7,Error ellipse: s-maj=40.2km s-min=17.0km az=8.3*
ISC 20 03:33:23.5±1.4, 3°.7S±0°.1×145°.8E±0°.3,h25km,n9,σ1s00/6, mb4.0/5,MS3.8/7,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.60**	**214**	P	**Pn**	**03 37 51.1**	**-0.5**
	1.3nm,0.3s,baz=34,slow=10,SNR=26						
WRA				LR	LR	03 45 50.8	
	comp=Z,596nm,21.1s,baz=25,slow=38						
ASAR	**Alice Springs**	**22.90**	**209**	P	**P**	**03 38 27.0**	**+1.3**
	2.7nm,0.6s,baz=36,slow=8.4,SNR=30						
ASAR				LR	LR	03 48 31.7	
	comp=Z,402nm,18.2s,baz=27,slow=40						
STKA	**Stephens Creek**	**28.28**	**188**	P	**P**	**03 39 14.4**	**-0.6**
	3.1nm,1.2s,baz=15,slow=12,SNR=2.1						
STKA				LR	LR	03 50 27.9	
	comp=Z,165nm,20.0s,baz=33,slow=36						
KSRS	**Korea Array**	**44.20**	**340**	LR	LR	03 57 33.0	
	comp=Z,103nm,19.0s,baz=173,slow=33						
CMAR	**Chiang Mai Arr**	**51.12**	**297**	P	**P**	**03 42 24.9**	**+0.2**
	0.7nm,0.3s,baz=114,slow=6.0,SNR=5.5						
CMAR				LR	LR	04 05 06.4	
	comp=Z,31nm,18.2s,baz=132,slow=37						
SONM	**Songino Array**	**61.83**	**331**	P	**P**	**03 43 40.0**	**-0.6**
	0.8nm,1.0s,baz=140,slow=7.6,SNR=4.5						
SONM				LR	LR	04 10 35.4	
	comp=Z,65nm,18.7s,baz=120,slow=36						
VNDA	**Vanda**	**74.24**	**176**	LR	LR	04 16 20.2	
	comp=Z,87nm,18.4s,baz=338,slow=35						
ZALV	**Zalesovo Beam**	**76.45**	**328**	LR	LR	04 17 55.3	
	comp=Z,118nm,20.2s,baz=70,slow=35						
ILAR	**Eielson Array**	**83.89**	**23**	P	**P**	**03 45 51.4**	**+0.5**
	0.9nm,0.8s,baz=242,slow=5.5,SNR=11						

PRE 20 03:45:30.5±1.1, 26°.03S×21°.32E,h5km,ML3.6,Botswana

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SWZ	**Schweizer**	**3.77**	**109**	*e*P	Pn	03 46 30.2	+0.7
SWZ				*e*S	Sn	03 47 13.0	-1.4
SWZ				AML	AML	03 47 27.5	
	comp=Z,64nm,0.5s						
LBTB	**Lobatse**	**4.00**	**76**	*e*P	Pn	03 46 33.3	+0.8
LBTB				*e*S	Sn	03 47 19.0	-0.9
LBTB				AML	AML	03 47 29.1	
	comp=Z,26nm,0.5s						
BOSA	**Boshof**	**4.34**	**127**	*e*P	Pn	03 46 37.8	+0.4
BOSA				*e*S	Sn	03 47 27.1	-1.5
BOSA				AML	AML	03 47 43.8	
	comp=Z,63nm,0.6s						
PRYS	**Parys**	**5.49**	**101**	*e*P	Pn	03 46 53.1	-0.1
PRYS				*e*S	Sn	03 47 54.4	-2.4
PRYS				AML	AML	03 48 28.6	
	comp=Z,38nm,0.6s						
SEK	**Senekal**	**6.06**	**114**	*e*P	Pn	03 47 02.4	+1.3
SEK				*e*S	Sn	03 48 09.3	-1.7
SEK				AML	AML	03 48 34.3	
	comp=Z,53nm,0.5s						

*IDC **20** 03:47:09.9±8.7, 32°.58S×179°.29W,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.6/15,mbtmp3.7/2,MS4.0/1,Ms1 4.0/1, ms1mx2.9/16,Error ellipse: s-maj=404.6km s-min=60.4km az=161.0*
ISC 20 03:47:16.3±2.3, 32°.8S±0°.1×179°.7E±0°.3,h10km,n26, σ1s75/25,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**5.13**	**191**	*e*PN	Pn	03 48 36.4	+3.3
HAZ	**Te Kaha**	**5.20**	**197**	*e*PN	Pn	03 48 37.8	+3.7
HAZ				*e*SN	**Sn**	**03 49 35.3**	**+1.3**
TWGZ	**Tauwhareparae**	**5.56**	**194**	PN	Pn	03 48 41.7	+2.7
TWGZ				SN	**Sn**	**03 49 42.4**	**-0.6**
MWZ	**Matawai**	**5.81**	**197**	PN	**Pn**	**03 48 45.0**	**+2.5**
MWZ				SN	**Sn**	**03 49 48.5**	**-0.8**
CNGZ	**Carnagh Statio**	**5.81**	**191**	PN	Pn	03 48 44.8	+2.2
URZ	**Urewera**	**5.85**	**200**	*e*PN	**Pn**	**03 48 45.8**	**+2.8**
URZ				SN	**Sn**	**03 49 49.2**	**-1.0**
SNGZ	**Shannon Statio**	**6.28**	**197**	PN	**Pn**	**03 48 51.0**	**+2.0**
KNZ	**Kokohu**	**6.43**	**194**	*e*PN	**Pn**	**03 48 51.2**	**+0.2**
WHHZ	**Waihua**	**6.58**	**197**	PN	**Pn**	**03 48 54.7**	**+1.6**
ARHZ	**Aropaoanui**	**6.82**	**198**	PN	**Pn**	**03 48 57.7**	**+1.3**
MCHZ	**McNeill Hill**	**7.07**	**199**	PN	**Pn**	**03 49 01.2**	**+1.4**
KRHZ	**Kereru**	**7.35**	**200**	*e*PN	**Pn**	**03 49 03.8**	**+0.1**
KAHZ	**Kahuranaki**	**7.36**	**197**	PN	**Pn**	**03 49 03.9**	**+0.2**
TSZ	**Takapari Road**	**7.86**	**201**	*e*PN	**Pn**	**03 49 10.3**	**-0.3**
DVHZ	**Dannevirke**	**8.02**	**200**	*e*PN	**Pn**	**03 49 12.1**	**-0.7**
BFZ	**Birch Farm**	**8.35**	**199**	PN	**Pn**	**03 49 16.3**	**-1.1**
MRZ	**Mangatainoka R**	**8.52**	**202**	*e*PN	**Pn**	**03 49 18.2**	**-1.5**
KIW	**Kapiti Island**	**8.92**	**204**	PN	**Pn**	**03 49 24.2**	**-1.0**
TCW	**Tory Channel**	**9.46**	**206**	PN	**Pn**	**03 49 30.4**	**-2.1**
TUWZ	**Tuamarina**	**9.77**	**206**	*e*PN	**Pn**	**03 49 35.0**	**-1.8**
THZ	**Tophouse**	**10.46**	**209**	PN	**Pn**	**03 49 44.8**	**-1.5**
THZ				*e*SN	Sn	03 51 36.4	-7.2
KHZ	**Kahutara**	**10.78**	**205**	*e*PN	**Pn**	**03 49 48.4**	**-2.1**
MQZ	**McQueen's Vall**	**12.22**	**205**	*e*SN	Sn	03 52 11.1	-15
ASAR	**Alice Springs**	**41.08**	**271**	P	**P**	**03 55 02.7**	**+2.3**
	0.4nm,0.4s,baz=107,slow=7.5,SNR=5.5						
ASAR				LR	LR	04 12 01.4	
	comp=Z,166nm,18.2s,baz=113,slow=36						
WRA	**Warramunga Arr**	**42.29**	**276**	P	**P**	**03 55 12.0**	**+1.8**
	0.6nm,0.4s,baz=117,slow=7.2,SNR=4.4						
FINES	**FINESS Array B**	**146.63**	**337**	PKPbc	**PKPdf**	**04 06 52.3**	**-3.5**
	4.7nm,1.1s,baz=104,slow=2.9,SNR=5.6						

*DHMR **20** 03:49:28.0±1.2, 12°.07N×44°.06E,h14km±5km, ML3.7*
*CSEM **20** 03:49:28.0, 12°.07N×44°.06E,h14km, ML3.7*
*ARO **20** 03:49:29.6, 12°N±41°×4°4E±1°.0,h15km±99km, Ml3.4*
ISC 20 03:49:27.8±1.7, 12°.07N±0°.06×44°.01E±0°.05,h11km±15km, n15,σ1s57/25,1D,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCAD	**Moucha**	**0.85**	**247**	*i* P	**Pg**	**03 49 44.5**	**+0.2**
ATA	**Atar**	**1.00**	**232**	*e*P	**Pg**	**03 49 46.7**	**-0.4**
TDD	**Tadjoura Ara**	**1.11**	**256**	*e*P	**Pb**	**03 49 49.1**	**0.0**
TRBA	**At Turbah**	**1.16**	**5**	⇓*i*P	**Pb**	**03 49 49.5**	**-0.4**
TRBA				*i* S	**Sb**	**03 50 05.4**	**+0.4**
TRBA				AML	AML	03 50 06.8	
	comp=E,1µm,0.6s						
ADEN	**Aden**	**1.18**	**53**	*i* P	**Pb**	**03 49 49.4**	**-0.7**
ADEN				*i* S	**Sn**	**03 50 05.4**	**-0.8**
	comp=E,1µm,0.6s						
ATD	**Arta Tunnel**	**1.26**	**245**	*e*P	**Pn**	**03 49 51.2**	**-0.2**
ATD				*e*S	**Sb**	**03 50 08.6**	**+0.7**
MAOD	**Malaho**	**1.75**	**271**	*e*P	**Pn**	**03 49 59.3**	**+1.2**
GBR	**Grand-Bara**	**1.77**	**239**	*e*P	**Pn**	**03 49 59.2**	**+0.8**
LBOS		**2.16**	**34**	*i* P	**Pn**	**03 50 04.8**	**+0.9**
LBOS				*i* S	**Sb**	**03 50 33.8**	**-0.1**
BDHA	**Al Bayda'**	**2.42**	**39**	*i* P	**Pn**	**03 50 09.2**	**+1.6**
BDHA				*i* S	**Sb**	**03 50 41.3**	**-0.3**
BDHA				AML	AML	03 50 48.5	
	comp=N,695nm,0.3s						
BDHA	**Al Bayda'**	**2.42**	**39**	*i* P	**Pn**	**03 50 09.2**	**+1.6**
BDHA				*i* S	**Sb**	**03 50 41.3**	**-0.3**
	comp=N,347nm,0.3s						
DHBB	**Dhamar BB**	**2.51**	**8**	*i* P	**Pn**	**03 50 11.0**	**+2.2**
DHBB				*i* S	**Sb**	**03 50 45.5**	**+1.4**
HAJJ	**Hajjah**	**3.63**	**354**	*i* P	**Pn**	**03 50 26.2**	**+2.1**
HAJJ				*i* S	**Sb**	**03 51 12.7**	**-3.5**
HAJJ				AML	AML	03 51 33.2	
	comp=Z,312nm,0.7s						
HAJJ	**Hajjah**	**3.63**	**354**	*i* P	**Pn**	**03 50 26.2**	**+2.1**
HAJJ				*i* S	**Sb**	**03 51 12.7**	**-3.5**
	comp=Z,156nm,0.7s						

DJA 20 03:54:21.9±0.8, 2°.S±6°.×113°.7E±°,h20km±10km,M4.1/4, MLv4.1/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.63**	**328**	P	Pb	03 54 34.5	+0.2
SRPI				S	Sb	03 54 43.7	+1.0
BAKI	**Biak**	**1.30**	**339**	P	Pn	03 54 43.7	-1.2
BAKI				S	Sn	03 55 01.5	-0.2
SMPI	**Sarmi**	**2.18**	**79**	P	Pn	03 54 57.3	+0.3
SMPI				S	Sn	03 55 24.7	+1.2
FAKI	**Fak Fak**	**4.35**	**263**	P	Pn	03 55 22.9	-4.0

*IDC **20** 03:54:27.0±0.7, 5°.45S×152°.25E,h0km,mb4.3/14, mb1 4.4/14,mb1mx4.3/20,mbtmp4.3/14,MS3.4/6, Ms1 3.4/6,ms1mx3.1/21,Error ellipse: s-maj=25.2km s-min=17.3km az=102.0*
*ISCJB **20** 03:54:31.0±0.4, 5°.50S±0°.05×152°.29E±0°.07,h40km, mb4.4/30,MS3.4/6,Error ellipse: s-maj=10.6km s-min=6.1km az=34.5*
*NEIC **20** 03:54:34.7±1.5, 5°.53S×152°.22E,h60km±13km,mb4.5/16, Error ellipse: s-maj=8.7km s-min=7.8km az=136.0*
*BJI **20** 03:54:37.4, 5°.03S×152°.10E,h64km,mb4.7/13,mB4.9/7, Ms4.5/4,Ms7 4.2/2*
ISC 20 03:54:32.9±0.6, 5°.56S±0°.07×152°.36E±0°.09,h40km,n54, σ1s60/60,mb4.4/30,MS3.5/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.42**	**233**	*e*Pn	**Pn**	**03 56 05.6**	**+0.6**
PMG				*e*Sn	**Sn**	**03 57 18.5**	**+1.4**
CTAO	**Charters Tower**	**15.61**	**202**	*e*Pn	**Pn**	**03 58 10.8**	**+0.5**
DZM	**Mont Dzumac**	**21.33**	**142**	P	**P**	**03 59 18.4**	**+1.6**
	8.1nm,1.0s,baz=270,slow=24,SNR=155						
WRAB	**Tennant Creek**	**22.60**	**229**	*e*P	**P**	**03 59 29.9**	**-0.5**
	19nm,0.9s						
WRA	**Warramunga Arr**	**22.62**	**229**	P	**P**	**03 59 29.6**	**-0.9**
	5.5nm,0.7s,baz=55,slow=9.8,SNR=22						
AS31	**Alice Springs**	**25.30**	**223**	*e*P	**P**	**03 59 55.9**	**0.0**
ASAR	**Alice Springs**	**25.30**	**223**	P	**P**	**03 59 56.0**	**+0.1**
	3.2nm,0.7s,baz=64,slow=8.9,SNR=35						
TNTI	**Ternate**	**25.74**	**283**	*e*P	**P**	**03 59 58.4**	**-1.6**
STKA	**Stephens Creek**	**28.05**	**200**	P	**P**	**04 00 19.4**	**-1.2**
	1.7nm,0.8s,baz=30,slow=12,SNR=3.7						
STKA				LR	LR	04 10 05.5	
	comp=Z,142nm,19.7s,baz=130,slow=33						
SOEI	**Soe**	**28.15**	**260**	*e*P	**P**	**04 00 19.7**	**-2.1**
	36nm,1.0s						
MBWA	**Marble Bar**	**35.22**	**241**	*e*P	**P**	**04 01 22.9**	**-0.8**
	9.8nm,0.9s						
MJAR	**Matsushiro Arr**	**43.93**	**344**	LR	LR	04 21 04.2	
	comp=Z,18nm,18.3s,baz=160,slow=36						
KSRS	**Korea Array**	**48.48**	**334**	P	**P**	**04 03 10.7**	**-1.0**
	1.0nm,0.8s,baz=153,slow=9.1,SNR=4.5						
QIZ	**Qiongzhong**	**48.48**	**301**	P	**P**	**04 03 11.3**	**-0.8**
QIZ				pP	**pP**	**04 03 25.0**	**+1.4**
QIZ				sP	**sP**	**04 03 30.9**	**+2.6**
QIZ				S	**S**	**04 10 09.4**	**-1.4**
QIZ				PMZ			
	9.0nm,1.3s						
KSAR	**Wonju Array Be**	**48.49**	**334**	P	**P**	**04 03 10.7**	**-1.1**
IPM	**Ipoh**	**52.23**	**280**	*e*P	P	04 03 38.0	-2.6
	3.4nm,0.5s						
KMI	**Kunming**	**57.05**	**305**	P	**P**	**04 04 18.1**	**+2.5**
KMI				PMZ			
	5.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**57.81**	**296**	P	**P**	**04 04 20.3**	**-0.5**
	1.2nm,0.3s,baz=114,slow=5.8,SNR=7.5						
PETK	**Petropavlovsk-**	**58.62**	**4**	P	**P**	**04 04 25.4**	**-0.5**
	1.9nm,0.6s,baz=162,slow=8.5,SNR=4.7						
PETK				LR	LR	04 24 49.6	
	comp=Z,13nm,19.6s,baz=196,slow=31						
CD2	**Chengdu**	**58.90**	**311**	*e*P	**P**	**04 04 28.0**	**-0.3**
HHC	**Hu-ho-hao-te**	**59.41**	**325**	*e*P	**P**	**04 04 31.8**	**+0.1**
HHC				pP	**pP**	**04 04 47.3**	**+3.9**
HHC				sP	sP	04 04 57.3	+9.2
HHC				PP	**PP**	**04 06 45.3**	**+2.0**
HHC				S	**S**	**04 12 36.4**	**-1.7**
HHC				sS	sS	04 13 03.6	+6.0
HHC				PMZ			
	30nm,1.0s						
HHC				PMZ			
	120nm,7.2s						
HHC				LN			
	89nm,15.5s						
HHC				LE			
	93nm,15.3s						
HHC				LZ			
	52nm,15.2s						
GTA	**Gaotai**	**65.92**	**318**	*e*P	P	04 05 18.9	+3.8
GTA				pP	pP	04 05 36.8	+10
GTA				PMZ			
	4.0nm,0.9s						
SONM	**Songino Array**	**66.73**	**328**	P	**P**	**04 05 19.8**	**-0.4**
	2.7nm,0.8s,baz=140,slow=5.5,SNR=16						
TLY	**Talaya**	**70.52**	**330**	LR	LR	04 39 11.8	
	comp=Z,21nm,18.9s,baz=157,slow=38						
VNDA	**Vanda**	**72.09**	**178**	*e*P	**P**	**04 05 51.6**	**-1.0**
	2.6nm,1.2s						
BILL	**Bilibino**	**74.08**	**5**	*e*P	**P**	**04 06 04.4**	**-0.1**
	8.2nm,1.s						
WMQ	**Urumqi**	**76.00**	**318**	P	**P**	**04 06 15.8**	**

BVAR	**Borovoye Array**	**89.59**	**323**	P		**P**	**04 07 24.7**	**-1.6**
	3.6nm,0.9s,baz=106,slow=5.3,SNR=17							
BRVK	**Borovoye**	**89.65**	**323**	*eP*		**P**	**04 07 24.9**	**-1.7**
NVAR	**Mina Array Bea**	**92.89**	**52**	P		**P**	**04 07 42.6**	**+0.3**
	0.8nm,0.8s,baz=273,slow=5.8,SNR=5.2							
ABKAR	**Akbulak array**	**95.75**	**319**	*eP*		**P**	**04 07 52.8**	**-2.1**
YKA	**Yellowknife Ar**	**96.30**	**28**	P		**P**	**04 07 57.9**	**+0.9**
	1.0nm,0.8s,baz=266,slow=5.1,SNR=9.6							
PDAR	**Pinedale Array**	**99.68**	**48**	LR		LR	04 51 40.5	
	comp=Z,26nm,18.4s,baz=288,slow=34							
GERES	**GERESS Array B**	**124.47**	**328**	PKP		**PKPdf**	**04 13 29.3**	**+1.2**
	0.6nm,0.6s,baz=33,slow=2.3,SNR=5.9							
TORD	**Torodi Ar. Bea**	**150.12**	**287**	PKPbc		**PKPbc**	**04 14 19.3**	**-1.2**
	2.6nm,0.8s,baz=73,slow=2.1,SNR=16							

DJA 20 04:04:18.3±1.8, 2°S±7°×13°6E±1°2, h10km, M3.3/2, MLv3.3/2, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.26**	**115**	P	Pb	04 04 25.1	+0.1
SRPI				S	Sb	04 04 28.3	-1.2
BAKI	**Biak**	**0.57**	**10**	P	Pg	04 04 28.4	-1.1
BAKI				S	Sb	04 04 38.5	-0.2

*CSEM **20** 04:17:03.3, 12°.03N×44°.13E, h12km, ML3.8*

DHMR 20 04:17:03.3±1.2, 12°.03N×44°.13E, h12km±6km, ML3.8, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADEN	**Aden**	**1.12**	**49**	*i* P	Pb	04 17 23.9	-0.6
ADEN				*i* S	Sn	04 17 39.9	-0.1
ADEN				AML	AML	04 17 46.7	
	comp=E,3μm,0.4s						
ADEN	**Aden**	**1.12**	**49**	*i* P	Pb	04 17 23.9	-0.6
ADEN				*i* S	Sn	04 17 39.9	-0.1
	comp=E,1μm,0.4s						
TRBA	**At Turbah**	**1.19**	**360**	*i* P	Pn	04 17 25.6	-0.4
TRBA				*i* S	Sb	04 17 41.9	+0.2
LBOS		**2.13**	**31**	*i* P	Pb	04 17 40.9	-1.3
LBOS				*i* S	Sb	04 18 09.6	+0.8
BDHA	**Al Bayda'**	**2.39**	**36**	*i* P	Pn	04 17 43.7	+1.2
BDHA				*i* S	Sb	04 18 16.8	+0.6
BDHA				AML	AML	04 18 28.3	
	comp=E,651nm,0.5s						
BDHA	**Al Bayda'**	**2.39**	**36**	*i* P	Pn	04 17 43.7	+1.2
BDHA				*i* S	Sb	04 18 16.8	+0.6
	comp=E,326nm,0.5s						
DHBB	**Dhamar BB**	**2.54**	**6**	*i* P	Pb	04 17 47.1	-2.0
DHBB				*i* S	Sb	04 18 21.7	+1.1

IDC 20 04:34:09.0±1.2, 13°.07N×92°.90E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/34, mbtmp3.6/5, ML4.2/1, MS3.3/1, Ms1 3.2/1, ms1mx2.4/27, Error ellipse: s-maj=49.2km s-min=23.9km az=41.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.91**	**47**	Pn	Pn	04 36 05.3	0.0
	0.8nm,0.3s,baz=239,slow=15,SNR=14						
CMAR				Sn	Sn	04 37 29.7	-5.9
	0.7nm,0.3s,baz=238,slow=29,SNR=3.5						
WRA	**Warramunga Arr**	**52.33**	**128**	P	P	04 43 23.1	+0.1
	0.6nm,0.7s,baz=311,slow=7.7,SNR=2.9						
KBZ	**Khabaz**	**52.50**	**316**	LR	LR	05 10 23.2	
	comp=Z,29nm,18.4s,baz=76,slow=41						
ASAR	**Alice Springs**	**54.22**	**132**	P	P	04 43 36.3	-0.6
	0.2nm,0.3s,baz=306,slow=6.6,SNR=4.7						
BRTR	**Keskin Array B**	**58.19**	**309**	P	P	04 44 05.2	0.0
	0.3nm,0.7s,baz=109,slow=7.8,SNR=3.7						
GERES	**GERESS Array B**	**73.19**	**317**	P	P	04 45 42.2	+0.3
	0.3nm,0.6s,baz=89,slow=6.3,SNR=4.9						

IDC 20 04:36:45.4±27.0, 24°.61S×179°.52E, h250km±259km, mb3.4/2, mb1 3.7/3, mb1mx3.2/21, mbtmp4.2/3, ML4.3/1, Error ellipse: s-maj=205.9km s-min=42.4km az=12.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**13.76**	**188**	P	Pn	04 39 49.7	-0.8
	1.5nm,0.3s,baz=45,slow=1.4,SNR=6.9						
ASAR	**Alice Springs**	**41.49**	**262**	P	P	04 44 08.2	-0.4
	0.9nm,0.4s,baz=88,slow=7.4,SNR=22						
WRA	**Warramunga Arr**	**41.93**	**267**	P	P	04 44 12.0	-0.1
	1.3nm,0.4s,baz=104,slow=7.6,SNR=7.7						
NOA	**NORSAR Array B**	**142.71**	**351**	PKhKP	PKPpre	04 55 44.2	
	0.9nm,0.8s,baz=19,slow=2.5,SNR=3.2						
AKASG	**Malin Array Be**	**145.32**	**326**	PKPbc	PKPdf	04 55 51.2	-1.9
	0.3nm,0.4s,baz=43,slow=4.0,SNR=3.9						
BRTR	**Keskin Array B**	**147.65**	**306**	PKPbc	PKPbc	04 56 01.7	+1.1
	0.4nm,0.6s,baz=63,slow=3.8,SNR=3.0						

*ISCJB **20** 05:13:18.8±0.7, 44°.78N±0°.09×146°.3E±0°.1, h204km±9km, mb3.3/3, Error ellipse: s-maj=14.6km s-min=12.1km az=170.9*

*IDC **20** 05:13:20.3±3.2, 44°.96N×146°.22E, h199km±24km, mb3.2/3, mb1 3.3/4, mb1mx3.0/28, mbtmp3.7/4, Error ellipse: s-maj=111.2km s-min=20.6km az=160.0*

*JMA **20** 05:13:21.4±0.5, 44°.76N×146°.27E, h187km±4km, M3.4*

ISC 20 05:13:19.2±0.9, 44°.77N±0°.10×146°.37E±0°.08, h200km±11km, n26, σ1s18/28, mb3.4/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JRA	**Rausu**	**1.22**	**227**	P	**Pn**	**05 13 51.1**	**+0.5**
NEM2	**Nemuro 2**	**1.48**	**198**	P	**Pn**	**05 13 53.1**	**+0.4**
NEM2				*e*S	**Sn**	**05 14 17.5**	**-1.1**
JNK	**Nakash**	**1.68**	**225**	P	**Pn**	**05 13 55.6**	**+1.1**
JTKR	**Abashiri--Toko**	**1.94**	**246**	P	**Pn**	**05 13 57.6**	**+0.6**
JTKR				*e*S	**Sn**	**05 14 26.7**	**+0.3**
JAK	**Akkeshi**	**2.15**	**215**	P	**Pn**	**05 14 00.1**	**+0.8**
JAK				*e*S	**Sn**	**05 14 29.7**	**-0.7**
JMP	**Maruseppu**	**2.29**	**251**	P	**Pn**	**05 14 01.3**	**+0.5**
JAR	**Ashorobuto**	**2.39**	**233**	P	**Pn**	**05 14 03.4**	**+1.6**
JOB	**Onbets**	**2.62**	**225**	P	**Pn**	**05 14 05.7**	**+1.3**
JOB				*e*S	**Sn**	**05 14 40.1**	**+0.5**
JSE	**Soyaes**	**2.70**	**275**	P	**Pn**	**05 14 05.4**	**+0.2**
JSE				*e*S	**Sn**	**05 14 39.9**	**-1.3**
JKK2	**Kamakawa 2**	**2.75**	**252**	P	**Pn**	**05 14 06.9**	**+1.0**
ASAJ	**Asahikawa**	**2.78**	**258**	P	**Pn**	**05 14 07.0**	**+0.8**
	baz=91,slow=10						
ASAJ				S	**Sn**	**05 14 43.2**	**+0.3**
	baz=298,slow=18						
JCH	**Churui**	**3.07**	**226**	P	**Pn**	**05 14 10.4**	**+0.8**
JCH				*e*S	**Sn**	**05 14 47.8**	**-1.2**
JFR	**Furan**	**3.16**	**241**	P	**Pn**	**05 14 12.4**	**+1.6**
JNBK	**Urakawa-nobuka**	**3.62**	**228**	P	**Pn**	**05 14 16.4**	**+0.1**
JNBK				*e*S	**Sn**	**05 14 57.9**	**-3.1**
JEW	**Eniwo**	**4.05**	**243**	P	**Pn**	**05 14 23.6**	**+2.0**
JSK	**Shakotan**	**4.48**	**254**	P	**Pn**	**05 14 27.1**	**+0.2**
PETK	**Petropavlovsk-**	**11.17**	**38**	P	**Pn**	**05 15 53.3**	**-0.1**
	0.5nm,0.3s,baz=210,slow=9.8,SNR=4.7						
SONM	**Songino Array**	**27.57**	**291**	P	**P**	**05 18 48.2**	**+0.6**
	0.5nm,0.6s,baz=78,slow=8.2,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**30.24**	**139**	T	T	05 50 50.0	
	baz=329,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**30.26**	**139**	T	T	05 50 49.9	
	baz=329,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**30.26**	**139**	T	T	05 50 51.4	
	baz=329,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**31.21**	**140**	T	T	05 51 48.3	
	baz=330,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**31.22**	**141**	T	T	05 51 50.4	
	baz=330,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**31.23**	**140**	T	T	05 51 55.5	
	baz=330,slow=76,SNR=20						
ILAR	**Eielson Array**	**41.00**	**37**	P	**P**	**05 20 42.8**	**+0.6**
	0.3nm,0.6s,baz=261,slow=6.2,SNR=5.7						
FINES	**FINESS Array B**	**63.71**	**332**	P	**P**	**05 23 27.6**	**-1.2**
	2.2nm,0.9s,baz=57,slow=5.1,SNR=4.8						

*IDC **20** 05:16:04.1±3.7, 12°.54N×86°.97W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/18, Error ellipse: s-maj=74.9km s-min=53.8km az=9.0*

*CASC **20** 05:16:11.4±3.2, 12°.28N×87°.53W, h7km±19km, MD4.1*

*ISCJB **20** 05:16:12.9±0.5, 12°.44N±0°.10×87°.33W±0°.09, h86km±7km, mb3.5/4, Error ellipse: s-maj=21.3km s-min=5.2km az=41.9*

ISC 20 05:16:13.8±1.0, 12°.5N±0°.1×87°.34W±0°.09, h75km±10km, n22, σ1s11/25, mb3.5/4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.94**	**329**	*e*P	**Pn**	**05 16 31.4**	**-0.7**
CNCH				*e*S	**Sn**	**05 16 46.0**	**+0.4**
HUEN		**1.14**	**96**	*e*P	**Pn**	**05 16 34.4**	**0.0**
CAHU	**Cacacuatique**	**1.56**	**327**	*e*P	**Pn**	**05 16 39.7**	**-0.2**
CAHU				*e*S	**Sn**	**05 17 01.4**	**+1.8**
LFRS	**El Faro**	**2.04**	**305**	*e*P	**Pn**	**05 16 45.6**	**-0.7**
LBRS	**Las Brisas**	**2.09**	**308**	*e*P	**Pn**	**05 16 46.8**	**-0.1**
LFU	**La Fuente**	**2.15**	**307**	*e*P	**Pn**	**05 16 47.7**	**0.0**
LFU				*e*S	**Sn**	**05 17 14.4**	**+0.7**
BOQS	**Boqueron**	**2.28**	**304**	*e*P	**Pn**	**05 16 49.0**	**-0.5**
BOQS				*e*S	**Sn**	**05 17 17.2**	**+0.3**
GBS2	**Las Lilas**	**2.45**	**131**	*i* P	**Pn**	**05 16 51.1**	**-0.6**
GBS2				*i* S	**Sn**	**05 17 20.4**	**-0.4**
LIM1	**Limonal**	**2.69**	**130**	*i* P	**Pn**	**05 16 53.4**	**-1.5**
RBDL	**Robledal**	**2.82**	**306**	*e*P	**Pn**	**05 16 56.9**	**+0.1**
VCR	**Vista de Mar**	**2.86**	**144**	*e*P	**Pn**	**05 16 56.3**	**-1.0**
JCR	**Jicaral**	**3.39**	**140**	*e*P	**Pn**	**05 17 04.2**	**-0.3**
JCR				*e*S	Sn	05 17 55.2	+12
CGA2	**Cerro Gallo 2**	**3.72**	**130**	*e*P	**Pn**	**05 17 10.3**	**+1.3**
CGA2				*e*S	Sn	05 18 04.5	+13
URSC	**Urasca**	**4.36**	**126**	*e*P	Pn	05 17 21.3	+3.5
URSC				*e*S	Sn	05 18 15.1	+7.7
BUS	**Buena Vista**	**4.55**	**129**	*e*P	**Pn**	**05 17 22.9**	**+2.3**
TXAR	**Lajitas Array**	**22.64**	**320**	P	**P**	**05 21 09.1**	**+0.2**
	1.1nm,0.6s,baz=133,slow=11,SNR=21						
PDAR	**Pinedale Array**	**35.82**	**332**	P	**P**	**05 23 07.1**	**+0.8**
	0.2nm,0.4s,baz=122,slow=8.6,SNR=2.5						
NEW	**Newport**	**43.45**	**331**	LR	LR	05 47 23.2	
	comp=Z,28nm,19.4s,baz=93,slow=43						
SCHQ	**Schefferville**	**45.24**	**17**	P	**P**	**05 24 22.1**	**-1.4**
	1.9nm,0.6s,baz=191,slow=10,SNR=3.1						
YKA	**Yellowknife Ar**	**53.63**	**345**	P	**P**	**05 25 25.6**	**-1.6**
	0.2nm,0.6s,baz=138,slow=7.6,SNR=4.4						
ASAR	**Alice Springs**	**139.38**	**248**	PKP	**PKPdf**	**05 35 35.0**	**+1.6**
	0.2nm,0.4s,baz=100,slow=2.7,SNR=2.8						
WRA	**Warramunga Arr**	**139.38**	**254**	PKP	**PKPdf**	**05 35 34.6**	**+1.3**
	0.6nm,0.8s,baz=91,slow=2.7,SNR=3.4						

IDC 20 05:19:40.3±1.7, 2°.92S×144°.23E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/20, mbtmp3.5/3, ML3.9/1, MS2.7/2, Ms1 2.9/2, ms1mx2.5/14, Error ellipse: s-maj=411.0km s-min=29.0km az=116.0, Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.49**	**209**	P	P	05 24 09.3	+0.3
	0.4nm,0.3s,baz=30,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**22.92**	**205**	P	P	05 24 46.0	-0.1
	0.9nm,0.8s,baz=29,slow=12,SNR=6.2						
KSRS	**Korea Array**	**42.93**	**341**	LR	LR	05 45 30.6	
	comp=Z,8.1nm,18.1s,baz=70,slow=36						
CMAR	**Chiang Mai Arr**	**49.38**	**297**	LR	LR	05 49 28.8	
	comp=Z,10.0nm,19.4s,baz=195,slow=36						
ILAR	**Eielson Array**	**83.77**	**24**	P	P	05 32 11.1	0.0
	0.4nm,0.8s,baz=250,slow=5.9,SNR=4.3						

GUC 20 06:03:07.9±0.4, 35°.02S×72°.27W, h34km±2km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U65B	**HualaæØ**	**0.40**	**82**	*e*S	Sn	06 03 24.0	+0.4
TALC	**Talca**	**0.64**	**126**	*e*P	Pn	06 03 19.6	-1.0
TALC				*e*S	Sn	06 03 29.2	-0.4
NICH	**Los Niches**	**0.85**	**89**	*e*P	Pb	06 03 24.1	-0.3
NICH				*e*S	Sb	06 03 36.8	+1.2
U73B	**San Pedro**	**1.31**	**33**	*e*P	Pb	06 03 31.3	-0.7
U73B				AML	AML	06 03 59.7	
	comp=N,1μm,0.6s						
CHCH	**Chadas Angostu**	**1.72**	**51**	*e*P	Pb	06 03 38.1	-1.0
CLCH	**Cerro Calan**	**2.17**	**42**	*e*P	Pb	06 03 44.4	-2.2
CLCH				*e*S	Sb	06 04 12.6	-0.6
CLCH				AML	AML	06 04 21.3	
	comp=N,498nm,0.6s						
PEL	**Peldehue**	**2.29**	**36**	*e*P	Pb	06 03 46.1	-2.5
PEL				*e*S	Sb	06 04 15.2	-1.4
PEL				AML	AML	06 04 24.0	
	comp=E,527nm,0.5s						

MAN 20 06:12:14, 7°.68N×123°.46E, h31km, mb4.2, ML3.0, MS2.8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**0.18**	**336**	*e*P	Pn	06 12 21.4	+0.8
PAGZ				*e*S	Sn	06 12 27.2	+2.5
IPIL	**Ipil**	**0.88**	**277**	*e*P	Pn	06 12 30.3	0.0
IPIL				*e*S	Sb	06 12 43.2	+0.8
DCPH	**Dipolog City**	**0.90**	**353**	*e*P	Pb	06 12 34.5	+3.4
CTBH	**Cotabato--PC H**	**0.91**	**120**	*e*P	Pn	06 12 26.3	-4.3
CTBH				*i* S	Sn	06 12 36.9	-5.8
BUKP	**Musuan**	**1.60**	**83**	*e*P	Pn	06 12 40.9	+0.6
BUKP				*e*S	Sn	06 13 00.1	+0.1

WEL 20 06:14:47.9±0.8, 35°.00S×178°.37E, h33km, ML4.0/3, Error ellipse: s-maj=12.7km s-min=5.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**2.79**	**190**	*e*P*	Pn	06 15 29.5	-0.7
HAZ				*e*S*	Sn	06 16 03.3	+0.6
WMGZ	**Waiomatatini S**	**2.81**	**179**	*e*PN	Pn	06 15 29.6	-1.0
WMGZ				*e*SN	Sn	06 16 01.1	-2.2
PUZ	**Puketiti**	**3.07**	**182**	PN	Pn	06 15 34.3	+0.2
PUZ				*e*SN	Sn	06 16 06.6	-3.1
PUZ				AML	AML	06 16 25.0	
MWZ	**Matawai**	**3.40**	**191**	*e*P*	Pn	06 15 38.3	-0.3
MWZ				S*	Sn	06 16 17.8	0.0
URZ	**Urewera**	**3.41**	**197**	*e*P*	Pn	06 15 38.9	+0.2
URZ				*e*S*	Sn	06 16 18.4	+0.5

*BJI **20** 07:06:46.5, 51°.68N×173°.39W, h29km, mb4.7/9, mB4.7/6, Ms4.5/6, Ms7 4.3/5*

*NEIC **20** 07:06:50.6, 51°.43N×173°.96W, h19km, mb4.2/16, ML4.0(AEIC), After AEIC.*

*ISCJB **20** 07:06:51.3±0.7, 51°.42N±0°.06×173°.94W±0°.04, h43km±5km, mb4.2/30, MS3.2/6, Error ellipse: s-maj=10.9km s-min=4.1km az=169.7*

*IDC **20** 07:06:53.9±0.9, 51°.52N×173°.95W, h50km±7km, mb3.8/20, mb1 4.0/21, mb1mx3.8/35, mbtmp4.1/21, MS3.1/8, Ms1 3.2/8, ms1mx3.0/31, Error ellipse: s-maj=20.3km s-min=11.4km az=176.0*

ISC 20 07:06:53.5±0.9, 51°.48N±0°.09×174°.03W±0°.04, h49km±7km, n98, σ1s02/105, mb4.2/30, MS3.2/6, 10C-2D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.73**	**352**	P	**Pn**	**07 07 06.2**	**-1.4**
ATKA				S	**Sn**	**07 07 17.5**	**-0.2**
GSMY	**Great Sitkin M**	**1.38**	**295**	P	**Pn**	**07 07 15.2**	**-1.1**
GSTR	**Great Sitkin T**	**1.40**	**297**	*e*Pn	**Pn**	**07 07 15.6**	**-1.0**
GSTR				*e*Sn	**Sn**	**07 07 33.4**	**-0.6**
GSCK	**Great Sitkin C**	**1.43**	**293**	P	**Pn**	**07 07 15.8**	**-1.2**
GSTD	**Great Sitkin T**	**1.44**	**295**	P	**Pn**	**07 07 16.2**	**-0.9**
GSTD				S	**Sn**	**07 07 36.6**	**+1.7**
ETKA	**Kagalaska Isla**	**1.53**	**285**	P	**Pn**	**07 07 17.4**	**-0.9**
ADAG	**Mount Adagdak**	**1.68**	**288**	P	**Pn**	**07 07 20.5**	**+0.2**
KIRH	**Kanaga Island**	**1.95**	**284**	P	**Pn**	**07 07 24.0**	**-0.2**
TAFP	**Tanaga Falls P**	**2.50**	**281**	P	**Pn**	**07 07 31.9**	**+0.3**
TASE	**Tanaga Southea**	**2.52**	**280**	P	**Pn**	**07 07 32.3**	**+0.3**
NIKH	**Nikolski High**	**3.52**	**63**	P	**Pn**	**07 07 44.5**	**-1.0**
NIKH				S	**Sn**	**07 08 24.8**	**-1.0**
CESW	**Semis' Southwe**	**4.01**	**279**	P	**Pn**	**07 07 51.8**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**4.13**	**60**	P	**Pn**	**07 07 54.5**	**+0.5**
AMKA	**Amchitka**	**4.18**	**271**	P	**Pn**	**07 07 53.5**	**-1.0**
LSPA	**Little Sitkin**	**4.63**	**279**	P	**Pn**	**07 08 01.3**	**+0.5**
MSOM	**Makushin Julie**	**4.90**	**59**	P	**Pn**	**07 08 03.8**	**-0.7**

UNV	**Unalaska Valle**	**5.16**	**60**	P		**Pn**	**07 08 07.6**	**-0.4**
SPIA	**Saint Paul Isl**	**6.12**	**20**	P		**Pn**	**07 08 23.7**	**+2.5**
KDAK	**Kodiak Island**	**13.89**	**55**	Pn		**Pn**	**07 10 06.4**	**-1.0**
SEW	**Seward**	**16.21**	**48**	Pn		**Pn**	**07 10 37.0**	**-0.5**
	9.1nm,0.5s							
PPLA	**Purkeypile**	**16.35**	**37**	*e*Pn		**Pn**	**07 10 40.0**	**+0.6**
	12nm,1.1s							
CAST	**Castle Rocks**	**16.69**	**36**	*e*Pn		**P**	**07 10 44.9**	**-0.5**
	7.8nm,0.8s							
PETK	**Petropavlovsk-**	**17.33**	**286**	P		**P**	**07 10 52.9**	**+0.5**
	0.3nm,0.3s,baz=92,slow=10,SNR=3.8							
PETK				LR		LR	07 17 13.3	
	comp=Z,17nm,18.2s,baz=108,slow=36							
TRF	**Thorofare Moun**	**17.38**	**37**	*e*P		**Pn**	**07 10 51.2**	**-1.1**
	6.6nm,0.9s							
BPAW	**Bear Paw Mtn.**	**17.49**	**35**	*e*P		**Pn**	**07 10 53.5**	**0.0**
	8.9nm,0.8s							
IM04	**Indian Mountai**	**17.79**	**28**	*e*Pn		**P**	**07 10 57.5**	**0.0**
MCK	**McKinley**	**18.04**	**38**	*e*P		**P**	**07 10 58.8**	**-1.4**
	11nm,1.0s							
CCB	**Clear Creek Bu**	**18.94**	**36**	*e*P		**P**	**07 11 08.4**	**-1.6**
	4.4nm,0.6s							
HARP	**HAARP**	**18.99**	**44**	*e*Pn		**P**	**07 11 11.0**	**+0.4**
	128nm,2.4s							
PAX	**Paxson**	**19.08**	**42**	*e*P		**P**	**07 11 11.2**	**-0.4**
	3.6nm,0.7s							
ILAR	**Eielson Array**	**19.34**	**36**	P		**P**	**07 11 11.7**	**-2.8**
	1.0nm,0.3s,baz=233,slow=8.2,SNR=61							
ILAR				LR		LR	07 19 22.7	
	comp=Z,72nm,18.5s,baz=292,slow=39							
COLD	**Coldfoot**	**19.70**	**28**	*e*Pn		**Pn**	**07 11 19.3**	**-0.8**
	5.4nm,1.0s							
SEY	**Seymchan**	**21.22**	**316**	P		**P**	**07 11 35.8**	**+1.1**
	1.7nm,0.9s,baz=103,slow=14,SNR=4.5							
SEY				LR		LR	07 20 16.3	
	comp=Z,98nm,18.0s,baz=203,slow=38							
HYT	**Haines Junctio**	**22.11**	**51**	*e*P		**P**	**07 11 45.5**	**+1.1**
INK	**Inuvik**	**25.69**	**34**	P		**P**	**07 12 17.8**	**-0.6**
	3.8nm,0.3s,baz=238,slow=8.0,SNR=5.5							
INK	**Inuvik**	**25.69**	**34**	*e*P		**P**	**07 12 18.2**	**-0.2**
DLBC	**Dease Lake**	**25.80**	**57**	P		**P**	**07 12 21.7**	**+2.0**
	3.8nm,0.8s,baz=276,slow=13,SNR=8.8							
YKA	**Yellowknife Ar**	**32.98**	**47**	P		**P**	**07 13 22.3**	**-0.9**
	0.4nm,0.5s,baz=268,slow=8.3,SNR=6.5							
YKA				PcP		**PcP**	**07 16 06.8**	**+0.9**
	0.3nm,0.5s,baz=286,slow=3.2,SNR=3.7							
H11N2	**WAKE ISLAND Hy**	**35.05**	**212**	T		T	07 51 48.0	
	baz=21,slow=75,SNR=8.2							
H11N3	**WAKE ISLAND Hy**	**35.06**	**212**	T		T	07 51 48.5	
	baz=21,slow=75,SNR=11							
H11N1	**WAKE ISLAND Hy**	**35.07**	**212**	T		T	07 51 48.5	
	baz=21,slow=75,SNR=6.9							
NEW	**Newport**	**36.03**	**72**	P		**P**	**07 13 49.9**	**+0.2**
	1.6nm,0.6s,baz=275,slow=11,SNR=2.1							
EDM	**Edmonton**	**36.13**	**63**	*e*P		**P**	**07 13 51.5**	**+0.9**
USRK	**Ussuriysk Ar.**	**36.23**	**280**	P		**P**	**07 13 51.5**	**0.0**
	6.8nm,0.5s,baz=58,slow=10,SNR=22							
H11S1	**WAKE ISLAND Hy**	**36.26**	**212**	T		T	07 53 04.0	
	baz=20,slow=76,SNR=15							
H11S2	**WAKE ISLAND Hy**	**36.27**	**212**	T		T	07 53 03.2	
	baz=20,slow=76,SNR=13							
H11S3	**WAKE ISLAND Hy**	**36.27**	**212**	T		T	07 53 01.4	
	baz=20,slow=76,SNR=6.2							
BSMT	**Bassoo Peak**	**37.61**	**72**	*e*P		**P**	**07 14 03.9**	**+0.6**
	4.1nm,0.8s							
CHMT	**Chamberlain Mo**	**38.97**	**72**	*e*P		**P**	**07 14 15.0**	**+0.2**
MCMT	**McKenzie Canyo**	**40.29**	**75**	*e*P		**P**	**07 14 26.4**	**+0.6**
NVAR	**Nina Array Bea**	**40.57**	**86**	P		**P**	**07 14 28.7**	**+0.5**
	1.0nm,0.9s,baz=283,slow=8.4,SNR=6.0							
NVAR				PcP		**PcP**	**07 16 29.9**	**+0.3**
	0.5nm,0.8s,baz=273,slow=2.5,SNR=3.9							
KSRS	**Korea Array**	**42.62**	**274**	P		**P**	**07 14 46.6**	**+2.0**
	2.6nm,0.9s,baz=58,slow=8.5,SNR=12							
KSRS				LR		LR	07 32 15.8	
	comp=Z,16nm,20.5s,baz=154,slow=36							
KSAR	**Wonju Array Be**	**42.65**	**274**	P		**P**	**07 14 46.6**	**+1.7**
PDAR	**Pinedale Array**	**43.41**	**75**	P		**P**	**07 14 51.5**	**+0.2**
	0.7nm,0.6s,baz=329,slow=5.2,SNR=5.7							
PDAR				pP		**pP**	**07 15 04.0**	**-0.5**
	3.1nm,0.7s,baz=324,slow=4.5,SNR=12							
PV01	**Paradox Valley**	**46.79**	**80**	*e*P		**P**	**07 15 17.9**	**-0.3**
	149nm,0.6s							
AGMN	**Agassiz Nation**	**48.20**	**61**	*e*P		**P**	**07 15 28.6**	**-0.1**
	4.6nm,0.8s							
SONM	**Songino Array**	**49.24**	**299**	P		**P**	**07 15 37.4**	**+0.5**
	2.1nm,0.6s,baz=48,slow=8.0,SNR=16							
SONM				pP

MLR	**Muntele Rosu**	**81.88 346**	⇑ *iP*	**P**	**07 19 09.3**	**+1.9**
VOIR		**82.07 347**	⇑ *iP*	**P**	**07 19 10.3**	**+2.0**
GZR	**Gura Zlata**	**82.42 348**	⇓ *iP*	**P**	**07 19 10.4**	**+0.3**
TIRR	**Tirgusor**	**82.49 344**	⇑ *iP*	**P**	**07 19 11.2**	**+0.8**
WRA	**Warramunga Arr**	**84.23 228**	P	**P**	**07 19 18.9**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=33,slow=5.9,SNR=2.8					
VTS	**Vitosha**	**85.12 347**	⇓ *iP*	**P**	**07 19 24.8**	**+0.7**
BRTR	**Keskin Array B**	**86.01 339**	P	**P**	**07 19 29.5**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=48,slow=1.8,SNR=5.0					
MMB	**Musomiste**	**86.03 347**	⇑ *iP*	**P**	**07 19 29.7**	**+1.2**
ASAR	**Alice Springs**	**87.65 226**	P	**P**	**07 19 36.1**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=32,slow=4.7,SNR=5.1					
ESDC	**Sonseca Array**	**88.81 8**	P	**P**	**07 19 41.3**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=349,slow=5.5,SNR=4.5					
MAW	**Mawson**	**148.39 218**	PKPbc	**PKPbc**	**07 26 33.3**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=45,slow=5.7,SNR=5.3					
BOSA	**Boshof**	**152.97 320**	PKPbc	**PKPbc**	**07 26 45.1**	**0.0**
	comp=Z,0.8nm,0.5s,baz=14,slow=2.0,SNR=5.6					
BOSA			PKPab	**PKPab**	**07 26 57.0**	**+0.5**
	comp=Z,4.4nm,0.9s,baz=7.1,slow=1.6,SNR=5.9					

DJA 20 07:15:02.6±0.8, 0°S±6°×12°3E±°, h108km±14km, M4.0/5, MLv4.0/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.14**	**206**	P	Pn	07 15 25.5	+0.3
LUWI				S	Sn	07 15 43.5	+1.2
MRSI	**Marisa**	**1.42**	**290**	P	Pn	07 15 28.5	+0.1
MRSI				S	Sn	07 15 48.7	+0.8
APSI	**Ampana**	**1.86**	**241**	P	Pn	07 15 34.2	+0.5
APSI				S	Sn	07 15 58.0	+0.5
SANI	**Sanana**	**3.38**	**127**	P	Pn	07 15 51.1	-2.6
NLAI	**Namlea**	**4.99**	**130**	P	Pn	07 16 14.2	-1.0

KRSC 20 07:36:38.2±0.7, 53°62N×160°79E, h41km±11km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.69**	**222**	*eP*	Pn	07 36 52.5	+0.9
SPN				*eS*	Sn	07 37 02.0	+0.8
NLC	**Nalytchevo**	**0.97**	**243**	*eS*	Sn	07 37 09.0	+1.0
MKZ	**Mys Kozlova**	**1.09**	**30**	*eP*	Pn	07 36 58.0	+1.0
MKZ				*eS*	Sn	07 37 11.4	+0.6
SDLR	**Sedlovina**	**1.19**	**254**	*eP*	Pn	07 37 00.0	+1.5
SDLR				*eS*	Sn	07 37 15.0	+1.4
SMAR	**Somma**	**1.24**	**254**	*eP*	Pn	07 37 00.7	+1.3
SMAR				*eS*	Sn	07 37 16.3	+1.2
UGLR	**Uglovaya**	**1.25**	**251**	*eP*	Pn	07 37 00.9	+1.6
UGLR				*i S*	Sn	07 37 16.8	+1.8
KRER	**Koryakskii**	**1.26**	**256**	*eP*	Pn	07 37 01.3	+1.7
KRER				*eS*	Sn	07 37 17.2	+1.7
AVH	**Avacha**	**1.28**	**255**	*eP*	Pn	07 37 01.5	+1.8
AVH				*eS*	Sn	07 37 17.6	+1.9
KRX	**Arik**	**1.30**	**259**	*eP*	Pn	07 37 01.6	+1.5
KRX				*eS*	Sn	07 37 17.5	+1.0
KOK	**Koryaka**	**1.33**	**257**	*eP*	Pn	07 37 02.0	+1.6
KOK				*eS*	Sn	07 37 18.1	+1.1
PET	**Petropavlovsk**	**1.41**	**246**	*eP*	Pn	07 37 02.7	+1.3
PET				*eS*	Sn	07 37 19.9	+1.1
KZV	**Kizimen**	**1.52**	**349**	*eP*	Pn	07 37 05.0	+1.8
KZV				*eS*	Sn	07 37 23.4	+1.5
GNL	**Ganaly**	**1.69**	**274**	*eP*	Pn	07 37 07.5	+2.0
TUMR	**Tumrok**	**1.71**	**348**	*i P*	Pn	07 37 08.0	+2.4
TUMR				*i S*	Sn	07 37 29.0	+2.6
RUS	**Russkaya**	**1.82**	**230**	*eP*	Pn	07 37 08.5	+1.6
RUS				*eS*	Sn	07 37 30.1	+1.4
MTVR	**Mutnovka**	**1.94**	**235**	*eP*	Pn	07 37 10.7	+1.8
MTVR				*eS*	Sn	07 37 34.0	+1.8
ASAK	**Asacha**	**2.14**	**236**	*eP*	Pn	07 37 14.5	+3.0
ASAK				*eS*	Sn	07 37 40.0	+3.1
KMNR	**Kamenistaya**	**2.17**	**352**	*eP*	Pn	07 37 15.0	+3.1
KMNR				*eS*	Sn	07 37 41.0	+3.4
APC	**Apacha**	**2.29**	**254**	*eP*	Pn	07 37 16.3	+2.9
KOZ	**Kozyrevsk**	**2.50**	**348**	*eP*	Pn	07 37 19.0	+2.6
ESO	**Esso**	**2.61**	**333**	*eP*	Pn	07 37 20.2	+2.3
SRDR	**Sredinnyy**	**2.77**	**348**	*eP*	Pn	07 37 22.5	+2.3

*ISCJB **20** 08:02:50.5±0.4, 53°04S±0°05×160°00E±0°09, h10km, mb4.6/15, MS3.8/7, Error ellipse: s-maj=9.3km s-min=6.2km az=40.6*
*NEIC **20** 08:02:52.2±0.5, 53°14S×159°83E, h10km, mb4.9/8, Error ellipse: s-maj=11.4km s-min=8.5km az=106.0*
*IDC **20** 08:02:53.1±0.8, 53°28S×159°10E, h0km, mb4.5/9, mb1 4.6/10, mb1mx4.4/23, mbtmp4.5/10, ML4.2/1, MS3.8/9, Ms1 3.8/9, ms1mx3.6/17, Error ellipse: s-maj=33.0km s-min=16.3km az=80.0*
*BJI **20** 08:02:55.9, 53°39S×159°40E, h28km, mb5.2/7, mB5.6/5, Ms5.0/3, Ms7 4.7/3*
ISC 20 08:02:52.9±0.5, 53°18S±0°07×160°41E±0°09, h10km, n69, σ2§06/61, mb4.6/15, MS3.7/7, 1C, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**1.58**	**212**	*e*Pn	Pn	08 03 14.4	-6.5
MCQ				*e*Sn	Sn	08 03 29.4	-12
APZ	**The Paps**	**8.01**	**41**	PN	**Pn**	**08 04 50.1**	**+0.8**
APZ				*e*SN	**Sn**	**08 06 16.8**	**-3.1**
SYZ	**Scrubby Hill**	**8.71**	**44**	PN	**Pn**	**08 05 00.3**	**+1.4**
WHZ	**Wether Hill Ro**	**8.78**	**37**	PN	**Pn**	**08 05 01.0**	**+1.1**
WHZ	**Wether Hill Ro**	**8.78**	**37**	*e*Pn	**Pn**	**08 05 01.1**	**+1.3**
WHZ				*e*Sn	**Sn**	**08 06 37.6**	**-1.2**
DCZ	**Deep Cove**	**8.87**	**32**	*e*Pn	Pn	08 05 05.8	+4.7
MLZ	**Mavora Lakes**	**9.33**	**36**	*e*PN	**Pn**	**08 05 08.6**	**+1.2**
MLZ				SN	**Sn**	**08 06 49.2**	**-3.2**
TUZ	**Tuapeka**	**9.38**	**43**	PN	**Pn**	**08 05 09.8**	**+1.7**
TUZ				SN	**Sn**	**08 06 52.0**	**-1.5**
EAZ	**Earnscleugh**	**9.85**	**40**	PN	**Pn**	**08 05 15.5**	**+1.0**
ODZ	**Otahua Downs**	**10.54**	**44**	PN	**Pn**	**08 05 25.4**	**+1.5**
ODZ	**Otahua Downs**	**10.54**	**44**	*e*Pn	**Pn**	**08 05 25.7**	**+1.8**
	17nm,0.5s						
RPZ	**Rata Peaks**	**11.80**	**41**	Pn	Pn	08 05 47.1	+5.9
	4.4nm,0.3s,baz=188,slow=4.5,SNR=11						
RPZ				LR	LR	08 09 18.4	
	comp=Z,452nm,19.6s,baz=196,slow=31						
RPZ	**Rata Peaks**	**11.80**	**41**	*e*Pn	**Pn**	**08 05 43.9**	**+2.7**
TAU	**Tasmania Unive**	**13.47**	**314**	*e*Pn	Pn	08 05 58.2	-5.8
SNZO	**South Karori**	**15.30**	**45**	Pn	**Pn**	**08 06 29.2**	**+0.4**
	159nm,1.3s						
BFZ	**Birch Farm**	**16.48**	**47**	*e*Pn	**Pn**	**08 06 43.2**	**-0.9**
	117nm,0.7s						
URZ	**Urewera**	**18.86**	**44**	P	Pn	08 07 21.0	+7.4
	0.6nm,0.3s,baz=214,slow=11,SNR=3.4						
URZ				LR	LR	08 14 32.4	
	comp=Z,606nm,18.9s,baz=230,slow=36						
VNDA	**Vanda**	**24.45**	**179**	P	**P**	**08 08 11.9**	**+0.5**
	2.6nm,0.7s,baz=343,slow=8.9,SNR=26						
VNDA				LR	LR	08 15 38.5	
	comp=Z,324nm,21.4s,baz=352,slow=31						
VNDA	**Vanda**	**24.45**	**179**	*e*P	**P**	**08 08 12.2**	**+0.8**
	11nm,1.2s						
SBA	**Scott Base**	**24.89**	**177**	*e*P	**P**	**08 08 17.2**	**+1.9**
	44nm,1.6s						
STKA	**Stephens Creek**	**25.25**	**320**	P	**P**	**08 08 17.3**	**-1.8**
	23nm,1.0s,baz=147,slow=10,SNR=23						
STKA				LR	LR	08 17 10.9	
	comp=Z,229nm,18.8s,baz=183,slow=34						
STKA	**Stephens Creek**	**25.25**	**320**	*e*P	**P**	**08 08 16.5**	**-2.5**
	6.5nm,1.0s						
BBOO	**Buckleboo**	**26.82**	**310**	*e*P	**P**	**08 08 30.0**	**-3.2**
	31nm,1.4s						
DZM	**Mont Dzumac**	**31.40**	**11**	*e*LR	LR	08 17 50.3	
	296nm,27.9s						
FORT	**Forrest**	**32.41**	**301**	P	P	08 09 19.3	-3.4
	5.4nm,0.6s						
AS01	**Alice Springs**	**35.63**	**315**	*e*P	**P**	**08 09 48.3**	**-2.6**
ASAR	**Alice Springs**	**35.64**	**315**	P	**P**	**08 09 48.5**	**-2.5**
	16nm,0.8s,baz=150,slow=7.9,SNR=136						
ASAR				PcP	**PcP**	**08 12 21.6**	**+2.2**
	0.8nm,0.7s,baz=143,slow=3.1,SNR=4.9						
ASAR				LR	LR	08 23 09.3	
	comp=Z,135nm,18.0s,baz=152,slow=35						
AS31	**Alice Springs**	**35.65**	**315**	*e*P	**P**	**08 09 48.3**	**-2.7**
QSPA	**South Pole Qui**	**36.94**	**180**	P	**P**	**08 10 02.6**	**+0.8**
	10nm,0.9s,baz=359,slow=1.9,SNR=50						
QSPA	**South Pole Qui**	**36.94**	**180**	*e*P	**P**	**08 10 02.1**	**+0.3**
	18nm,1.0s						
H01W1	**Cape Leeuwin H**	**37.17**	**281**	T	T	08 48 57.4	
	baz=134,slow=75,SNR=359						
H01W2	**Cape Leeuwin H**	**37.17**	**281**	T	T	08 48 58.0	
	baz=134,slow=75,SNR=428						
H01W3	**Cape Leeuwin H**	**37.18**	**281**	T	T	08 48 58.7	
	baz=134,slow=75,SNR=421						
WRA	**Warramunga Arr**	**38.79**	**319**	P	P	08 10 14.4	-3.3
	8.5nm,0.8s,baz=154,slow=7.4,SNR=28						
WRA				PcP	**PcP**	**08 12 31.3**	**+2.3**
	0.9nm,0.6s,baz=161,slow=2.8,SNR=6.6						
WRA				LR	LR	08 25 58.9	
	comp=Z,210nm,18.2s,baz=160,slow=36						
WRAB	**Tennant Creek**	**38.80**	**319**	*e*P	P	08 10 14.0	-3.7
	16nm,1.2s						
MAW	**Mawson**	**44.98**	**213**	P	**P**	**08 11 05.1**	**-2.6**
	1.2nm,0.8s,baz=106,slow=7.4,SNR=3.3						
MAW				PcP	**PP**	**08 12 51.6**	**-0.8**
	2.4nm,0.8s,baz=128,slow=1.6,SNR=4.9						
MAW				LR	LR	08 27 41.9	
	comp=Z,93nm,19.9s,baz=60,slow=34						
SYO	**Syowa Base**	**50.67**	**204**	⇑ *e*P	**P**	**08 11 49.8**	**-1.9**
PPT2	**Papeete2**	**52.50**	**67**	*e*LR	LR	08 27 00.3	
	193nm,28.2s						
PPT	**Papeete**	**52.52**	**67**	LR	LR	08 29 33.8	
	comp=Z,74nm,19.5s,baz=256,slow=30						
SNAA	**Sanae**	**54.89**	**186**	P	**P**	**08 12 22.8**	**-0.2**
SNAA	**Sanae**	**54.89**	**186**	*e*P	**P**	**08 12 22.0**	**-1.0**
	26nm,1.6s						
VNA1	**Neumayer--Stat**	**56.21**	**185**	P	**P**	**08 12 32.7**	**+0.3**
H08S2	**Diego Garcia H**	**82.69**	**267**	T	T	09 45 52.4	
	baz=142,slow=76,SNR=30						
H08S1	**Diego Garcia H**	**82.70**	**267**	T	T	09 45 50.5	
	baz=142,slow=76,SNR=27						
H08S3	**Diego Garcia H**	**82.71**	**267**	T	T	09 45 53.9	
	baz=142,slow=76,SNR=29						
TWG	**Pinlang**	**83.02**	**324**	*e*P	**P**	**08 15 16.0**	**-2.2**
	215nm,1.4s						
QIZ	**Qiongzhong**	**84.09**	**313**	P	**P**	**08 15 25.6**	**+1.8**
QIZ				S	**S**	**08 25 51.8**	**+3.5**
QIZ				PMZ			
	9.0nm,1.6s						
H08N1	**Diego Carcia H**	**84.61**	**267**	T	T	09 48 06.1	
	baz=143,slow=76,SNR=9.7						
H08N3	**Diego Garcia H**	**84.62**	**267**	T	T	09 48 06.1	
	baz=143,slow=76,SNR=10						
H08N2	**Diego Garcia H**	**84.63**	**267**	T	T	09 48 06.1	
	baz=143,slow=76,SNR=12						
CMAR	**Niang Mai Arr**	**88.76**	**303**	P	**P**	**08 15 45.5**	**-1.2**
	1.4nm,0.4s,baz=170,slow=5.0,SNR=6.7						
BOSA	**Boshof**	**89.70**	**218**	P	**P**	**08 15 49.9**	**-1.4**
	1.4nm,0.7s,baz=153,slow=6.8,SNR=2.5						
MJAR	**Matsushiro Arr**	**91.41**	**342**	P	**P**	**08 15 60.0**	**+1.4**
	0.9nm,0.8s,baz=172,slow=6.2,SNR=3.1						
GYA	**Guiyang**	**91.99**	**314**	*e*P	**P**	**08 16 03.0**	**+1.3**
GYA				PMZ			
	10.0nm,1.0s						
NJ2	**Nanjing**	**92.25**	**326**	*e*P	**P**	**08 16 05.3**	**+2.7**
KMI	**Kunming**	**92.60**	**310**	P	**P**	**08 16 05.4**	**+0.7**
KMI				PMZ			
	6.0nm,0.7s						
KSRS	**Korea Array**	**94.56**	**335**	LR	LR	08 57 55.3	
	comp=Z,24nm,18.7s,baz=172,slow=35						
CD2	**Chengdu**	**97.11**	**314**	*e*P	Pdif	08 16 25.3	+0.2
CD2				PP	**PP**	**08 20 20.8**	**-0.7**
CD2				SKS	**SKSac**	**08 27 02.1**	**+0.3**
CD2				S	**S**	**08 27 47.9**	**0.0**
CD2				SS	**SS**	**08 34 25.6**	**-0.1**
CD2				PMZ			
	120nm,5.2s						
BJI	**Beijing**	**100.40**	**327**	P	**Pdif**	**08 16 42.8**	**+3.4**
HHC	**Hu-ho-hao-te**	**102.70**	**324**	*e*P	**Pdif**	**08 16 50.3**	**+0.5**
HHC				PP	**PKiKP**	**08 21 07.5**	**-2.9**
HHC				S	**Sdif**	**08 28 29.4**	**-5.1**
HHC				SS	**SS**	**08 35 46.4**	**+2.8**
HHC				PMZ			
	86nm,7.8s						
HHC				LN			
	99nm,18.8s						
HHC				LE			
	110nm,18.7s						
WMQ	**Urumqi**	**114.93**	**310**	PKP	PKPdf	08 21 36.0	+2.8
WMQ				PP	**PP**	**08 22 37.4**	**+4.5**
KSH	**Kashi**	**117.45**	**300**	PKP	**PKPdf**	**08 21 41.0**	**+2.7**
ILAR	**Eielson Array**	**124.42**	**24**	PKP	**PKPdf**	**08 21 53.0**	**+2.3**
	0.2nm,0.5s,baz=194,slow=2.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**136.62**	**211**	PKhKP	PKPpre	08 22 07.5	
	0.5nm,0.8s,baz=222,slow=1.9,SNR=2.8						
AKASG	**Malin Array Be**	**150.26**	**285**	PKPbc	**PKPbc**	**08 22 42.8**	**-0.4**
	1.4nm,0.7s,baz=89,slow=2.2,SNR=4.8						
KOLS	**Kolonicke sedl**	**153.62**	**278**	*e*PKP	**PKPab**	**08 23 05.3**	**+1.6**
STHS	**Stebnicka Huta**	**154.44**	**278**	*e*PKP	**PKPab**	**08 23 05.7**	**-1.5**
FINES	**FINESS Array B**	**154.48**	**307**	PKPbc	**PKPbc**	**08 22 51.0**	**-1.3**
	1.5nm,0.7s,baz=141,slow=4.6,SNR=2.3						
GERES	**GERESS Array B**	**158.73**	**272**	PKPab	**PKPab**	**08 23 25.2**	**-0.5**
	0.2nm,0.4s,baz=114,slow=6.4,SNR=3.6						

*ISCJB **20** 08:12:17.4±0.5, 21°88S±0°05×68°57W±0°08, h123km±7km, mb3.7/6, Error ellipse: s-maj=13.2km s-min=8.3km az=168.0*
*IDC **20** 08:12:18.6±0.6, 22°00S×68°45W, h119km±9km, mb3.6/7, mb1 3.7/10, mb1mx3.5/20, mbtmp3.9/10, Error ellipse: s-maj=21.3km s-min=19.8km az=149.0*
*GUC **20** 08:12:19.2±0.7, 21°88S×68°80W, h123km±8km, ML4.0*
ISC 20 08:12:18.5±0.8, 21°90S±0°07×68°61W±0°09, h120km±8km, n22, σ1§13/23, mb3.8/6, 7C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.76**	**201**	P	**Pn**	**08 12 39.4**	**+0.7**
	5µm,0.3s,baz=19,slow=7.3,SNR=1296						
LVC				S	**Sn**	**08 12 54.6**	**+0.7**
	38µm,0.3s,baz=209,slow=19,SNR=306						
PB04	**IPOC Station P**	**0.89**	**246**	⇑ *e*P	Pn	08 12 46.0	+6.6
PB04				*e*S	Sn	08 13 06.0	+11
PB04				AML	AML	08 13 12.3	
	comp=N,1µm,0.5s						
PB01	**IPOC Station P**	**1.18**	**316**	⇑ *e*P	**Pn**	**08 12 42.7**	**+0.2**
PB01				*e*S	**Sn**	**08 13 00.2**	**-0.4**
PB01				AML	AML	08 13 02.6	
	comp=E,5µm,0.2s						
PB06	**IPOC Station P**	**1.20**	**228**	⇑ *e*P	**Pn**	**08 12 43.2**	**+0.5**
PB06				*e*S	**Sn**	**08 13 01.2**	**+0.1**
PB06				AML	AML	08 13 02.7	
	comp=E,5µm,0.3s						
PB07	**IPOC Station P**	**1.20**	**278**	⇑ *e*P	**Pn**	**08 12 42.9**	**+0.2**
PB07				*e*S	**Sn**	**08 13 00.7**	**-0.4**
PB07				AML	AML	08 13 03.3	
	comp=E,3µm,0.4s						
PATCX	**Punta Patache**	**1.79**	**307**	⇑ *e*P	**Pn**	**08 12 49.1**	**-0.4**
PATCX				*e*S	**Sn**	**08 13 12.0**	**-1.1**
PATCX				AML	AML	08 13 13.9	
	comp=N,2µm,0.2s						
PB10	**IPOC Station P**	**2.41**	**228**	*e*P	**Pn**	**08 12 55.9**	**-1.1**
PSGC	**Pisagua**	**2.69**	**328**	⇑ *e*P	**Pn**	**08 12 59.4**	**-1.4**
PSGC				AML	AML	08 13 33.3	
	comp=N,662nm,0.4s						
MNMC	**Minimini**	**2.91**	**341**	⇑ *e*P	**Pn**	**08 13 03.8**	**0.0**
LPAZ	**La Paz**	**5.60**	**5**	P	**Pn**	**08 13 42.4**	**+2.2**
	comp=N,1.8nm,0.3s,baz=187,slow=4.4,SNR=66						
LPAZ				S	Sn	08 14 33.5	-10
	comp=N,0.5nm,0.3s,baz=161,slow=7.5,SNR=5.2						
SIV	**San Ignacio**	**9.24**	**52**	P	**Pn**	**08 14 26.5**	**-2.3**
	comp=N,3.2nm,0.3s,baz=248,slow=12,SNR=35						
SIV				S	Sn	08 16 01.4	-10
	comp=N,0.3nm,0.3s,baz=184,slow=19,SNR=4.7						
CFAA	**Coronel Fontan**	**9.67**	**178**	P	**Pn**	**08 14 32.6**	**-1.9**
	comp=N,0.4nm,0.3s,baz=121,slow=2.5,SNR=61						
CFAA				S	Sn	08 16 11.3	-10
	comp=N,0.0nm,0.3s,baz=294,slow=20,SNR=2.9						
BDFB	**Brasilia**	**20.46**	**76**	P	**P**	**08 16 46.0**	**-0.9**
	comp=N,3.3nm,0.4s,baz=239,slow=12,SNR=9.7						
PTGA	**Pitinga**	**22.67**	**23**	P	**P**	**08 17 09.9**	**0.0**
	comp=N,1.5nm,0.3s,baz=197,slow=19,SNR=7.6						
TXAR	**Lajitas Array**	**61.11**	**325**	P	**P**	**08 22 21.2**	**+1.0**
	comp=N,0.1nm,0.4s,baz=159,slow=11,SNR=4.1						
DBIC	**Dimbokro**	**68.58**	**73**	P	**P**	**08 23 08.8**	**0.0**
	comp=N,3.2nm,0.9s,baz=229,slow=11,SNR=3.3						
PDAR	**Pinedale Array**	**74.59**	**330**	P	**P**	**08 23 45.8**	**+1.3**
	comp=N,0.3nm,0.4s,baz=127,slow=5.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**77.23**	**70**	P	**P**	**08 23 59.4**	**-0.4**
	comp=N,1.0nm,0.6s,baz=258,slow=5.3,SNR=14						
YKA	**Yellowknife Ar**	**91.66**	**340**	P	**P**	**08 25 12.0**	**+0.4**
	comp=N,0.6nm,0.7s,baz=129,slow=4.9,SNR=6.7						
H11S2	**WAKE ISLAND Hyl**	**28.20**	**277**	T	T	10 51 20.6	
	baz=102						
H11S1	**WAKE ISLAND Hyl**	**28.21**	**277**	T	T	10 51 23.0	
	baz=102						
H11S3	**WAKE ISLAND Hyl**	**28.22**	**277**	T	T	10 51 21.3	
	baz=102						

*IDC **20** 08:22:55.7±1.7, 5°96S×152°98E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.6/27, mbtmp3.6/6, Error ellipse: s-maj=63.7km s-min=24.1km az=114.0*
ISC 20 08:23:01.1±1.7, 6°0S±0°2×152°9E±0°4, h33km, n7, σ1§26/8, mb3.6/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.77**	**231**	P	**P**	**08 28 02.0**	**+1.1**
	0.4nm,0.8s,baz=57,slow=10.0,SNR=3.4						
WRA				PcP	**PcP**	**08 31 51.4**	**-0.7**
	0.6nm,1.0s,baz=48,slow=1.9,SNR=3.4						
ASAR	**Alice Springs**	**25.37**	**224**	P	**P**	**08 28 25.8**	**+0.3**
	0.9nm,0.8s,baz=60,slow=9.2,SNR=9.3						
KSRS	**Korea Array**	**49.09**	**334**	P	**P**	**08 31 45.5**	**+0.1**
	0.6nm,0.4s,baz=146,slow=8.8,SNR=4.7						
SONM	**Songino Array**	**67.36**	**328**	P	**P**	**08 33 53.8**	**+0.6**
	0.4nm,0.5s,baz=133,slow=3.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**82.18**	**326**	P	**P**	**08 35 17.6**	**-1.1**
	1.2nm,0.8s,baz=104,slow=6.3,SNR=4.2						
ILAR	**Eielson Array**	**83.20**	**22**	P	**P**	**08 35 24.9**	**+1.2**
	0.2nm,0.6s,baz=240,slow=5.3,SNR=6.0						
TORD	**Torodi Ar. Bea**	**150.75**	**286**	PKPbc	**PKPbc**	**08 42 49.3**	**-1.8**
	1.0nm,0.7s,baz=82,slow=1.5,SNR=12						

*NIED **20** 08:23:00, 38°30N×141°90E, h29km, Mw3.5 Best double couple: M0 1.84000×10^14 NP1:φ§275.00000°, δ18.00000°, λ165.00000°. NP2:φ§19.00000°, δ85.00000°, λ72.00000°.*
*ISCJB **20** 08:23:25.8±0.9, 38°30N±0°04×141°95E±0°10, h52km±7km, mb3.6/8, MS3.8/1, Error ellipse: s-maj=13.6km s-min=5.1km az=24.1*
*IDC **20** 08:23:27.3±0.9, 38°29N×141°88E, h49km±8km, mb3.4/8, mb1 3.6/11, mb1mx3.4/31, mbtmp3.6/11, MS3.0/3, Ms1 3.0/3, ms1mx2.5/23, Error ellipse: s-maj=22.6km s-min=16.2km az=89.0*
*JMA **20** 08:23:27.0±0.1, 38°31N×141°90E, h46km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φ§17.00000°, δ64.00000°, λ88.00000°. NP2:φ§202.00000°, δ26.00000°, λ94.00000°. Principal axes: T Plg71.0000°, Azm283.0000°; N Plg2.0000°, Azm18.0000°; P Plg19.0000°, Azm109.0000°;*
JMA Felt I J1.
ISC 20 08:23:27.1±0.8, 38°30N±0°05×141°93E±0°07, h45km±7km, n30, σ0§73/35, mb3.7/8, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.48**	**289**	⇓ P	**Pn**	**08 23 37.5**	**-0.3**
JIO				S	**Sn**	**08 23 44.7**	**-0.7**
OFUJ	**Ofunato**	**0.81**	**346**	⇓ P	**Pn**	**08 23 41.7**	**-0.4**
OFUJ				S	**Sn**	**08 23 52.0**	**-1.0**
JMK	**Ichinoseki**	**0.86**	**320**	⇓ P	**Pn**	**08 23 42.7**	**0.0**
JMK				S	**Sn**	**08 23 53.7**	**-0.5**
JMM	**Marumori**	**0.99**	**245**	⇓ P	**Pn**	**08 23 43.9**	**-0.7**
JMM				S	**Sn**	**08 23 57.0**	**-0.5**
JOU	**Okura**	**0.99**	**274**	⇓ P	**Pn**	**08 23 44.6**	**0.0**
JOU				S	**Sn**	**08 23 57.5**	**-0.1**
JFK	**Kawauchi**	**1.25**	**222**	⇓ P	**Pn**	**08 23 47.5**	**-0.6**
JFK				S	**Sn**	**08 24 02.3**	**-1.5**
JOM	**Ohasama**	**1.27**	**337**	⇓ P	**Pn**	**08 23 48.5**	**+0.1**
JYK	**Kaneyama**	**1.38**	**297**	⇓ P	**Pn**	**08 23 49.9**	**+0.1**
JYS	**Shirataka**	**1.47**	**268**	⇓ P	**Pn**	**08 23 51.1**	**0.0**
JYS				S	**Sn**	**08 24 09.5**	**+0.4**
JFT	**Otama**	**1.48**	**239**	⇓ P	**Pn**	**08 23 51.4**	**+0.2**
JFT				S	**Sn**	**08 24 09.1**	**-0.3**
JRG	**Rokugo**	**1.49**	**318**	P	**Pn**	**08 23 51.6**	**+0.2**
MJAR	**Matsushiro Arr**	**3.44**	**240**	P	**Pn**	**08 24 19.5**	**+1.3**
	2.0nm,0.3s,baz=64,slow=9.9,SNR=19						
MJAR				S	**Sn**	**08 24 59.7**	**+2.0**
	1.5nm,0.3s,baz=81,slow=32,SNR=4.1						
MJAR				LR	LR	08 25 51.5	
	comp=Z,55nm,18.8s,baz=100,slow=43						
ASAJ	**Asahikawa**	**5.83**	**5**	P	**Pn**	**08 24 50.9**	**-0.1**
	baz=211,slow=8.1						
ASAJ				S	**Sn**	**08 25 57.3**	**+0.7**
	baz=188,slow=15

TLY	**Talaya**	**25.65**	**304**	LR	LR	08 42 05.7		
	comp=Z,20nm,19.1s,baz=134,slow=38							
ILAR	**Eielson Array**	**46.04**	**35**	P	**P**	**08 34 31.9**	**+1.5**	
	0.2nm,0.9s,baz=282,slow=4.2,SNR=3.8							
INK	**Inuvik**	**50.51**	**29**	P	**P**	**08 35 05.5**	**+0.8**	
	1.9nm,0.3s,baz=270,slow=8.1,SNR=2.6							
WRA	**Warramunga Arr**	**62.17**	**185**	P	**P**	**08 36 28.5**	**+0.1**	
	0.6nm,0.8s,baz=4.0,slow=7.3,SNR=5.2							
ASAR	**Alice Springs**	**65.89**	**185**	P	**P**	**08 36 53.5**	**+0.7**	
	0.5nm,0.8s,baz=15,slow=4.0,SNR=4.3							
NEW	**Newport**	**67.56**	**45**	LR	LR	09 04 50.0		
	comp=Z,30nm,21.3s,baz=234,slow=34							
AKASG	**Malin Array Be**	**69.00**	**320**	P	**P**	**08 37 12.7**	**+0.5**	
	0.2nm,0.3s,baz=55,slow=6.9,SNR=4.4							
NVAR	**Mina Array Bea**	**73.22**	**53**	P	**P**	**08 37 39.9**	**+1.5**	
	0.3nm,0.6s,baz=304,slow=6.4,SNR=3.6							
PDAR	**Pinedale Array**	**75.19**	**45**	P	**P**	**08 37 50.8**	**+1.0**	
	0.3nm,0.4s,baz=0.0,slow=3.6,SNR=2.9							

NNC 20 08:37:54.1±8.2,**37.02N**×71.39E,**h0**km,**mb3.7,mpv3.5, 4C-3D,Error ellipse: s-maj=71.8km s-min=27.3km az=169.0,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.70**	**312**	⇓P	Pn	08 38 38.6	-0.4
	13nm,0.3s						
DZET				⇑S	Sn	08 39 14.6	+2.1
	154nm,0.5s						
SFK	**Sufi-Kurgan**	**3.41**	**28**	⇑P	Pn	08 38 49.8	+0.9
	5.7nm,0.3s						
SFK				⇑S	Sn	08 39 32.2	+1.9
	14nm,0.3s						
KK31	**Karatay Array**	**6.11**	**354**	⇓P	Pn	08 39 23.2	-2.5
	0.7nm,0.2s,baz=175,slow=12,SNR=45						
KK31				⇑S	Sn	08 40 33.5	-2.8
	9.0nm,0.8s,baz=184,slow=19,SNR=20						
AB31	**Akbulak array**	**14.79**	**329**	⇓P	Pn	08 41 16.0	-8.4
	0.3nm,0.6s,baz=154,slow=10,SNR=8.7						

*BJI **20** 08:38:43.1,4.˚46S×136.˚79E,h10km,mb4.7/39,mB4.9/26, Ms4.8/15,Ms7 4.3/13*
*ISCJB **20** 08:38:47.8±0.2,4.˚12S±0.˚03×136.˚30E±0.˚03,h10km, mb4.6/35,Error ellipse: s-maj=4.6km s-min=3.9km az=165.1*
*IDC **20** 08:38:47.9±0.6,3.˚91S×136.˚31E,h0km,mb4.3/12, mb1 4.5/13,mb1mx4.4/20,mbtmp4.4/13,ML4.9/2,MS3.9/5, Ms1 3.9/5,ms1mx3.3/19,Error ellipse: s-maj=26.8km s-min=13.9km az=80.0*
*NEIC **20** 08:38:49.8±0.2,3.˚93S×136.˚33E,h10km,mb4.8/10,Error ellipse: s-maj=6.5km s-min=4.9km az=71.0*
NEIC Felt [IV] at Enarotali. Also felt at Nabire.
*MOS **20** 08:38:51.2±1.0,3.˚97S×136.˚31E,h33km,mb5.1/12,Error ellipse: s-maj=14.7km s-min=7.4km az=114.0*
*DJA **20** 08:38:54.7±0.9,4.˚S±2.˚×13.˚6E±.˚,h30km±10km,M4.8/23, mb4.8/23,mB5.4/5,MLv4.8/10,Mw(mB)4.8/5*

ISC 20 08:38:51.0±0.5,**3.98S**±0.˚04×**136.˚37E**±0.˚05,**h19**km±1km, **n158,**σ1°**39**/185,**mb4.8**/47,**3C-6D,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**2.10**	**356**	P	**Pb**	**08 39 27.5**	**-1.0**
SRPI				S	**Sb**	**08 39 53.3**	**-0.9**
BAKI	**Biak**	**2.78**	**355**	P	**Pn**	**08 39 35.5**	**+0.9**
BAKI				S	**Sb**	**08 40 11.6**	**-2.3**
SMPI	**Sarmi**	**3.06**	**50**	P	**Pn**	**08 39 40.4**	**+2.0**
SMPI				S	**Sb**	**08 40 19.5**	**-2.4**
RKPI	**Ransiki, Papua**	**3.29**	**318**	P	**Pn**	**08 39 42.7**	**+1.1**
RKPI				S	**Sn**	**08 40 22.7**	**+2.5**
GENI	**Genyem**	**4.03**	**70**	P	Pn	08 39 56.0	+4.2
FAKI	**Fak Fak**	**4.25**	**284**	P	**Pn**	**08 39 55.2**	**+0.5**
FAKI				S	**Sn**	**08 40 43.9**	**+0.1**
FAKI	**Fak Fak**	**4.25**	**284**	*e*Pn	**Pn**	**08 39 55.0**	**+0.2**
FAKI				*e*Sn	**Sn**	**08 40 44.1**	**+0.3**
JAY	**Jayapura**	**4.57**	**72**	P	Pn	08 40 03.1	+3.9
AAI	**Ambon**	**8.16**	**272**	P	**Pn**	**08 40 48.9**	**+0.3**
	2μm84nm,1.0s						
AAI				S	**Pn**	**08 40 48.8**	**+0.2**
	2μm84nm,1.0s						
NLAI	**Namlea**	**9.28**	**274**	P	**Pn**	**08 41 06.8**	**+2.9**
	40nm,0.8s						
SANI	**Sanana**	**10.54**	**280**	P	**Pn**	**08 41 19.6**	**-1.6**
	62nm,1.0s						
COEN	**Coen**	**11.97**	**146**	*e*Pn	**Pn**	**08 41 40.5**	**-0.4**
COEN				*e*Sn	Sn	08 43 45.8	-8.2
PMG	**Port Moresby**	**11.99**	**117**	*ce*P	**Pn**	**08 41 42.2**	**+1.1**
PMG	**Port Moresby**	**11.99**	**117**	*e*Pn	**Pn**	**08 41 42.5**	**+1.5**
SOEI	**Soe**	**13.31**	**244**	P	**Pn**	**08 42 00.3**	**+1.1**
	111nm,1.1s,1μm						
SOEI	**Soe**	**13.31**	**244**	*e*Pn	**Pn**	**08 41 58.9**	**-0.3**
APSI	**Ampana**	**15.02**	**281**	P	**Pn**	**08 42 22.9**	**+0.5**
	116nm,1.2s						
WRAB	**Tennant Creek**	**15.98**	**187**	*ce*P	**Pn**	**08 42 31.2**	**-3.7**
WRAB				pmax	pmax		
	comp=Z,47nm,0.8s						
WRAB	**Tennant Creek**	**15.98**	**187**	*e*Pn	**Pn**	**08 42 30.9**	**-4.1**
	comp=Z,92nm,0.9s						
WRAB				*e*Sn	Sn	08 45 24.0	-7.8
WRA	**Warramunga Arr**	**15.99**	**187**	Pn	**Pn**	**08 42 30.5**	**-4.6**
	comp=Z,1.3nm,0.3s,baz=17,slow=13,SNR=60						
WRA				Sn	Sn	08 45 19.8	-12
	comp=Z,1.7nm,0.3s,baz=0.5,slow=23,SNR=5.3						
WRA				Lg	Lg	08 47 13.0	
	comp=Z,0.6nm,0.3s,baz=359,slow=28,SNR=5.4						
WRA				LR	LR	08 49 30.5	
	comp=Z,624nm,18.1s,baz=20,slow=40						
BKSI	**Bulukumba**	**16.25**	**265**	P	**P**	**08 42 42.5**	**+1.1**
	comp=Z,15nm,1.0s						
TTSI	**Tana Toraja**	**16.55**	**273**	P	**P**	**08 42 46.8**	**+2.1**
	comp=Z,24nm,1.8s						
PCI	**Palu**	**16.80**	**280**	P	**P**	**08 42 50.4**	**+2.9**
CTA	**Charters Tower**	**18.69**	**150**	P	**Pn**	**08 43 09.4**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=329,slow=12,SNR=12						
CTA				Lg	Lg	08 48 42.3	
	comp=Z,0.3nm,0.3s,baz=236,slow=18,SNR=4.2						
CTAO	**Charters Tower**	**18.69**	**150**	*e*P	**P**	**08 43 08.5**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,24nm,0.8s						
CTAO	**Charters Tower**	**18.69**	**150**	*e*P	**P**	**08 43 08.5**	**+0.2**
	comp=Z,24nm,0.8s						
GUMO	**Guam**	**19.39**	**26**	LR	LR	08 50 30.8	
	comp=Z,76nm,18.9s,baz=204,slow=36						
AS01	**Alice Springs**	**19.71**	**187**	*e*P	**Pn**	**08 43 20.6**	**-0.5**
AS31	**Alice Springs**	**19.71**	**187**	*e*P	**P**	**08 43 20.1**	**+0.5**
ASAR	**Alice Springs**	**19.72**	**187**	P	**P**	**08 43 19.8**	**+0.2**
	comp=Z,6.5nm,0.3s,baz=9.6,slow=11,SNR=464						
ASAR				S	S	08 46 51.5	-10
	comp=Z,0.4nm,0.3s,baz=6.0,slow=29,SNR=5.7						
ASAR				LR	LR	08 51 29.9	
	comp=Z,574nm,19.4s,baz=7.0,slow=38						
KKM	**Kota Kinabalu**	**22.45**	**296**	*e*P	**P**	**08 43 49.6**	**+0.2**
	comp=Z,32nm,0.9s						
MBWA	**Marble Bar**	**23.52**	**222**	*e*P	**P**	**08 44 02.0**	**+1.9**
	comp=Z,14nm,0.8s						
FORT	**Forrest**	**27.79**	**195**	*e*P	**P**	**08 44 39.1**	**+0.2**
	comp=Z,42nm,0.7s						
STKA	**Stephens Creek**	**28.18**	**171**	P	**P**	**08 44 42.0**	**-0.5**
	comp=Z,8.4nm,0.9s,baz=333,slow=9.8,SNR=15						
STKA	**Stephens Creek**	**28.18**	**171**	*e*P	**P**	**08 44 42.5**	**+0.1**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
STKA	**Stephens Creek**	**28.18**	**171**	*e*P	**P**	**08 44 42.5**	**+0.1**
	comp=Z,2.3nm,0.9s						
UBPT	**Khong Chiam**	**36.09**	**303**	P	**P**	**08 45 52.2**	**+0.2**
	comp=Z,14nm,1.5s						
PSI	**Prapat**	**38.02**	**280**	P	**P**	**08 46 07.3**	**-1.3**
	comp=Z,4.6nm,0.4s,baz=171,slow=4.4,SNR=6.0						
SKNT	**Sakolnakorn**	**38.17**	**304**	P	**P**	**08 46 09.5**	**-0.1**
	comp=Z,14nm,1.0s						
NONG	**Nongkai**	**39.41**	**305**	P	**P**	**08 46 19.7**	**-0.3**
	comp=Z,32nm,0.7s						
NJ2	**Nanjing**	**39.52**	**336**	*e*P	**P**	**08 46 21.5**	**+0.8**
NJ2				PMZ			
	comp=Z,20nm,0.5s						
WHN	**Wuhan**	**40.27**	**330**	P	**P**	**08 46 27.9**	**+0.9**
MJAR	**Matsushiro Arr**	**40.35**	**2**	P	**P**	**08 46 25.8**	**-1.7**
	comp=Z,1.9nm,0.7s,baz=188,slow=8.6,SNR=8.1						
MAJO	**Matsushiro**	**40.35**	**2**	*de*P	**P**	**08 46 27.2**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,44nm,1.0s						
LOEI	**Loei**	**40.70**	**303**	P	**P**	**08 46 28.1**	**-2.6**
	comp=Z,9.3nm,1.2s						
UTHA	**Uthaitani**	**41.38**	**299**	P	**P**	**08 46 36.6**	**+0.2**
	comp=Z,4.7nm,0.9s						
GYA	**Guiyang**	**41.73**	**318**	*e*P	**P**	**08 46 41.0**	**+1.7**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
KSAR	**Wonju Array Be**	**41.96**	**350**	P	**P**	**08 46 39.2**	**-1.6**
KSAR						08 48 34.9	
KSAR	**Wonju Array Be**	**41.96**	**350**	P	**P**	**08 46 39.1**	**-1.6**
KSAR				PcP	**PcP**	**08 48 34.9**	**-1.1**
KSRS	**Korea Array**	**41.97**	**350**	P	**P**	**08 46 39.1**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=176,slow=11,SNR=5.4						
KSRS				PcP	**PcP**	**08 48 34.9**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=191,slow=3.9,SNR=4.7						
KSRS	**Korea Array**	**41.97**	**350**	P	**P**	**08 46 39.2**	**-1.6**
KSRS						08 48 34.9	
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LAMP	**Lampang**	**42.54**	**303**	P	**P**	**08 46 46.8**	**+1.0**
	comp=Z,6.2nm,0.7s						
CM01	**Chiang Mai Arr**	**43.06**	**302**	*e*P	**P**	**08 46 49.8**	**-0.3**
CM31	**Chiang Mai Arr**	**43.09**	**302**	*e*P	**P**	**08 46 50.5**	**+0.1**
	comp=Z,9.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**43.09**	**302**	P	**P**	**08 46 50.3**	**0.0**
	comp=Z,7.7nm,0.8s,baz=130,slow=6.8,SNR=40						
CMAR				PcP	**PcP**	**08 48 40.9**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=147,slow=2.4,SNR=4.7						
CHTO	**Chiang Mai**	**43.25**	**303**	P	**P**	**08 46 51.3**	**-0.3**
	comp=Z,88nm,0.9s						
CHTO	**Chiang Mai**	**43.25**	**303**	*e*P	**P**	**08 46 51.1**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,15nm,0.8s						
CHTO	**Chiang Mai**	**43.25**	**303**	*e*P	**P**	**08 46 51.1**	**-0.5**
	comp=Z,15nm,0.8s						
KMI	**Kunming**	**43.62**	**313**	P	**P**	**08 46 56.0**	**+1.2**
KMI				pP	**pP**	**08 46 59.3**	**-1.5**
KMI				sP	**sP**	**08 47 00.6**	**-2.6**
KMI				S	**S**	**08 53 25.8**	**+1.9**
KMI				PMZ			
	comp=Z,11nm,1.2s						
KMI				PMZ			
	comp=Z,45nm,3.1s						
KMI				LN			
	comp=Z,98nm,14.6s						
KMI				LE			
	comp=Z,78nm,14.6s						
KMI				LZ			
	comp=Z,76nm,12.3s						
XAN	**Xi'an**	**45.83**	**328**	P	**P**	**08 47 11.8**	**-0.3**
XAN				pP	**pP**	**08 47 18.4**	**+0.3**
XAN				PMZ			
	comp=Z,4.0nm,1.0s						
CD2	**Chengdu**	**46.60**	**320**	*e*P	**P**	**08 47 18.3**	**+0.1**
CD2				pP	**pP**	**08 47 21.5**	**-2.7**
CD2				PcP	**PcP**	**08 48 51.8**	**-0.3**
CD2				PP	**PP**	**08 49 07.8**	**-0.2**
CD2				PcS	**PcS**	**08 52 46.6**	**-0.4**
CD2				S	**S**	**08 54 08.6**	**+2.1**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
USRK	**Ussuriysk Ar.**	**48.12**	**356**	P	**P**	**08 47 29.1**	**-0.6**
	comp=Z,3.5nm,0.8s,baz=179,slow=7.2,SNR=12						
ASAJ	**Asahikawa**	**48.20**	**6**	*e*P	**P**	**08 47 30.0**	**-0.3**
	comp=Z,7.4nm,1.0s						
LZH	**Lanzhou**	**50.14**	**325**	*e*P	**P**	**08 47 46.3**	**+0.8**
LZH				pP	**pP**	**08 47 53.5**	**+1.9**
LZH				sP	**sP**	**08 47 57.5**	**+3.5**
LZH				PMZ			
	comp=Z,47nm,1.0s						
LZH				PMZ			
	comp=Z,190nm,5.4s						
KLR	**Kul'dur**	**53.15**	**356**	*e*P	P	08 48 03.8	-3.7
LSA	**Lhasa**	**54.73**	**311**	*e*P	**P**	**08 48 20.9**	**+0.8**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LSA	**Lhasa**	**54.73**	**311**	*e*P	**P**	**08 48 20.9**	**+0.8**
	comp=Z,8.1nm,0.7s						
GTA	**Gaotai**	**54.74**	**326**	⇓P	**P**	**08 48 20.8**	**+1.2**
GTA				pP	**pP**	**08 48 25.5**	**-0.2**
GTA				sP	**sP**	**08 48 27.8**	**-0.3**
GTA				PMZ			
	comp=Z,12nm,1.3s						
TAPN	**Taplejung**	**56.32**	**307**	*e*P	**P**	**08 48 31.8**	**+0.5**
	comp=Z,20nm,0.6s						
ODAN	**Odare**	**56.36**	**306**	*e*P	**P**	**08 48 31.7**	**+0.1**
	comp=Z,41nm,0.8s						
RAMN	**Ramite**	**57.04**	**306**	*e*P	**P**	**08 48 36.9**	**+0.5**
	comp=Z,44nm,0.8s						
SONM	**Songino Array**	**57.91**	**337**	P	**P**	**08 48 41.4**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=145,slow=5.4,SNR=4.8						
SONM				PcP	**PcP**	**08 49 33.4**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=148,slow=4.1,SNR=4.4						
GUN	**Gumba**	**58.02**	**306**	*e*P	**P**	**08 48 43.9**	**+0.4**
	comp=Z,82nm,0.8s						
PKI	**Pulchoki**	**58.26**	**306**	*e*P	**P**	**08 48 45.1**	**0.0**
	comp=Z,16nm,0.8s						
PKIN	**Phulchoki**	**58.27**	**306**	*e*P	**P**	**08 48 45.1**	**0.0**
	comp=Z,20nm,0.9s						
KKN	**Kakani**	**58.45**	**306**	*e*P	**P**	**08 48 46.6**	**+0.3**
	comp=Z,50nm,0.9s						
DMN	**Daman**	**58.52**	**306**	*e*P	**P**	**08 48 47.3**	**+0.4**
	comp=Z,41nm,0.7s						
GKN	**Gorkha**	**59.06**	**306**	*e*P	**P**	**08 48 50.9**	**+0.4**
	comp=Z,79nm,0.9s						
PETK	**Petropavlovsk-**	**59.65**	**15**	P	**P**	**08 48 54.4**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=146,slow=6.4,SNR=3.5						
KOLN	**Koldanda**	**59.81**	**305**	*e*P	**P**	**08 48 56.2**	**+0.5**
	comp=Z,49nm,0.8s						
BOD	**Bodaibo**	**64.18**	**347**	*e*P	**P**	**08 49 23.5**	**-0.7**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.2s						
WMQ	**Urumqi**	**64.58**	**323**	P	**P**	**08 49 28.5**	**+1.3**
WMQ				pP	**pP**	**08 49 33.0**	**-0.5**
WMQ				sP	**sP**	**08 49 35.0**	**-0.8**
WMQ				PMZ			
	comp=Z,8.0nm,0.4s						
WMQ				PMZ			
	comp=Z,21nm,5.2s						
WMQ				LZ			
	comp=Z,32nm,20.4s						
YAK	**Yakutsk**	**66.03**	**357**	*e*P	**P**	**08 49 35.0**	**-1.1**
YAK				pmax	pmax		
	comp=Z,17nm,0.7s						
SEY	**Seymchan**	**67.83**	**8**	*de*P	**P**	**08 49 48.6**	**+1.0**
MK01	**Makanchi Array**	**69.37**	**324**	*e*P	**P**	**08 49 57.2**	**-0.4**
MK31	**Makanchi Array**	**69.39**	**324**	*i* P	**P**	**08 49 57.7**	**0.0**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MK31	**Makanchi Array**	**69.39**	**324**	*e*P	**P**	**08 49 57.9**	**+0.2**
MKAR	**Makanchi Array**	**69.39**	**324**	*e*P	**P**	**08 49 58.1**	**+0.4**
MKAR	**Makanchi Array**	**69.39**	**324**	*e*P	**P**	**08 49 58.1**	**+0.4**
KSH	**Kashi**	**70.27**	**314**	P	**P**	**08 50 04.8**	**+1.3**
KSH				pP	**pP**	**08 50 09.5**	**-0.3**
KSH				PcP	**PcP**	**08 50 27.6**	**+2.5**
KSH				PP	**PP**	**08 52 43.4**	**+4.2**
KSH				S	**S**	**08 59 15.4**	**+0.6**
KSH				SKS	**SKSac**	**09 00 02.6**	**-1.8**
KSH				PMZ			
	comp=Z,15nm,1.0s						
KSH				PMZ			
	comp=Z,40nm,4.2s						
KSH				LN			
	comp=Z,110nm,6.7s						
KSH				LE			
	comp=Z,63nm,5.6s						
ZAA0	**Zalesovo Array**	**71.88**	**331**	*e*P	**P**	**08 50 11.5**	**-1.2**
ZALV	**Zalesovo Beam**	**71.88**	**331**	P	**P**	**08 50 11.5**	**-1.2**
	comp=Z,3.5nm,0.7s,baz=121,slow=5.6,SNR=12						
NVS	**Novosibirsk**	**73.14**	**331**	*i* P	**P**	**08 50 19.3**	**-0.9**
KURK	**Kurchatov**	**73.43**	**326**	*e*P	**P**	**08 50 21.7**	**-0.3**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KURK	**Kurchatov**	**73.43**	**326**	*e*P	**P**	**08 50 21.7**	**-0.3**
	comp=Z,7.0nm,0.9s						
KBL	**Kabul**	**73.83**	**308**	*e*P	**P**	**08 50 24.8**	**-0.2**
KBL	**Kabul**	**73.83**	**308**	*e*P	**P**	**08 50 24.8**	**-0.2**
VNDA	**Vanda**	**74.74**	**174**	P	**P**	**08 50 29.1**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=312,slow=5.8,SNR=4.6						
VNDA				LR	LR	09 23 44.3	
	comp=Z,82nm,18.1s,baz=338,slow=36						
KK31	**Karatay Array**	**75.41**	**316**	*i* P	**P**	**08 50 33.5**	**-0.2**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.4s						
KKAR	**Karatay Array**	**75.41**	**316**	*e*P	**P**	**08 50 33.9**	**+0.2**
KKAR	**Karatay Array**	**75.41**	**316**	*e*P	**P**	**08 50 33.9**	**+0.2**
BVA0	**Borovoye Array**	**79.03**	**326**	*i* P	**P**	**08 50 53.3**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,19nm,0.8s						
BRVK	**Borovoye**	**79.10**	**326**	*c i*P	**P**	**08 50 53.7**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,15nm,0.7s						
BRVK	**Borovoye**	**79.10**	**326**	*e*P	**P**	**08 50 52.9**	**-1.3**
	comp=Z,16nm,0.8s						
MAW	**Mawson**	**80.08**	**202**	P	**P**	**08 50 59.7**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=83,slow=11,SNR=5.5						
MAW				LR	LR	09 24 13.6	
	comp=Z,71nm,19.6s,baz=64,slow=34						
IDAH	**Dahanechah**	**80.84**	**304**	*e*P	**P**	**08 51 04.2**	**-0.3**
IMYA	**Miami**	**81.34**	**308**	*e*P	**P**	**08 51 07.0**	**+0.1**
IMOG	**Moghan**	**81.90**	**307**	*e*P	**P**	**08 51 09.2**	**-0.8**
IAKL	**Akhelmad**	**82.46**	**308**	*e*P	**P**	**08 51 13.2**	**+0.3**
ISFR	**Sfrayin**	**83.14**	**308**	*e*P	**P**	**08 51 16.9**	**+0.5**
KDAK	**Kodiak Island**	**83.38**	**31**	*i* P	**P**	**08 51 17.7**	**+0.9**
ISHV	**Shirvan**	**83.45**	**308**	*e*P	**P**	**08 51 19.0**	**+1.0**
AB31	**Akbulak array**	**84.19**	**320**	*i* P	**P**	**08 51 20.2**	**-0.9**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ABKAR	**Akbulak array**	**84.19**	**320**	*e*P	**P**	**08 51 20.4**	**-0.7**
CAST	**Castle Rocks**	**85.38**	**25**	*e*P	**P**	**08 51 27.3**	**+0.4**
AKTO	**Aktyubinsk**	**85.65**	**321**	P	**P**	**08 51 27.7**	**-0.8**
AKTO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
RC01	**Rabbit Creek A**	**85.74**	**28**	*e*P	**P**	**08 51 31.7**	**+3.0**
QSPA	**South Pole Qui**	**85.97**	**180**	*e*P	**P**	**08 51 30.0**	**+0.1**
BPAW	**Bear Paw Mtn.**	**86.06**	**25**	*e*P	**P**	**08 51 30.6**	**+0.3**
TRF	**Thorofare Moun**	**86.16**	**26**	*e*P	**P**	**08 51 30.9**	**0.0**
IPAR	**Pars**	**86.18**	**300**	*e*P	**P**	**08 51 30.3**	**-1.7**
MLY	**Manley**	**86.44**	**24**	*e*P	**P**	**08 51 33.1**	**+1.0**
ARU	**Arti**	**86.58**	**327**	*d i*P	P	08 51 29.0	-3.9
ARU				S	**SKSac**	**09 01 54.0**	**-4.5**
ARU				SS	**SS**	**09 07 44.7**	**-4.9**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ARU	**Arti**	**86.58**	**327**	*e*P	**P**	**08 51 30.6**	**-2.3**
BWN	**Browne**	**86.72**	**25**	*e*P	**P**	**08 51 34.6**	**+1.1**
RND	**Reindeer**	**86.77**	**26**	*e*P	**P**	**08 51 33.7**	**-0.1**
RND	**Reindeer**	**86.77**	**26**	*e*P	**P**	**08 51 33.7**	**-0.1**
MCK	**McKinley**	**86.82**	**25**	*e*P	**P**	**08 51 34.2**	**+0.2**
MCK	**McKinley**	**86.82**	**25**	*e*P	**P**	**08 51 34.1**	**+0.2**
SCM	**Sheep Creek Mo**	**87.05**	**27**	*e*P	**P**	**08 51 36.1**	**+0.9**
SCM	**Sheep Creek Mo**	**87.05**	**27**	*e*P	**P**	**08 51 36.1**	**+0.9**
COLD	**Coldfoot**	**87.29**	**22**	*e*P	**P**	**08 51 37.5**	**+1.3**
WRH	**Wood River Hil**	**87.37**	**25**	*e*P	**P**	**08 51 36.6**	**0.0**
MDM	**Murphy Dome**	**87.44**	**24**	*e*P	**P**	**08 51 36.8**	**-0.2**
CCB	**Clear Creek Bu**	**87.54**	**25**	*e*P	**P**	**08 51 37.3**	**-0.1**
COLA	**College**	**87.58**	**24**	*d i*P	P	**08 51 37.2**	**-0.4**
COLA				pmax	pmax		
	comp=Z,70nm,1.7s						
COLA	**College**	**87.58**	**24**	*e*P	**P**	**08 51 38.3**	**+0.7**
IKLH	**Kolahrood**	**87.81**	**303**	*e*P	**P**	**08 51 40.0**	**+0.2**
IL1	**Eielson Array**	**87.95**	**25**	*e*P	**P**	**08 51 37.6**	**-1.8**
ILAR	**Eielson Array**	**87.95**	**25**	P	**P**	**08 51 38.5**	**-0.9**
	comp=Z,4.6nm,0.7s,baz=262,slow=4.7,SNR=57						
BMRM	**Bremner River**	**88.14**	**29**	*e*P	**P**	**08 51 41.4**	**+0.9**
IPIR	**Pirpir**	**88.32**	**303**	*e*P	**P**	**08 51 40.5**	**-1.8**
SYO	**Syowa Base**	**88.75**	**201**	⇓*e*X	**P**	**08 51 40.2**	**-2.9**
FYU	**Fort Yukon**	**89.02**	**23**	*e*P	**P**	**08 51 46.4**	**+2.0**
ARCES	**ARCESS Array B**	**100.92**	**340**	P	**Pdif**	**08 52 37.6**	**-1.2**
	comp=Z,5.0nm,0.3s,baz=82,slow=6.5,SNR=2.7						
FINES	**FINESS Array B**	**103.10**	**332**	Pdiff	**Pdif**	**08 52 46.2**	**-2.4**
	comp=Z,4.0nm,1.1s,baz=20,slow=4.4,SNR=3.1						
NVAR	**Mina Array Bea**	**104.46**	**51**	Pdiff	**Pdif**	**08 52 58.6**	**+3.2**
	comp=Z,0.7nm,0.8s,baz=308,slow=4.4,SNR=5.0						
GERES	**GERESS Array B**	**114.05**	**322**	PKiKP	PKPdf	08 57 28.6	-0.7
	comp=Z,0.3nm,0.5s,baz=98,slow=3.4,SNR=2.8						
TXAR	**Lajitas Array**	**117.95**	**59**	PKP	**PKPdf**	**08 57 37.3**	**0.0**
	comp=Z,0.1nm,0.5s,baz=210,slow=3.1,SNR=2.4						
JCT	**Junction City**	**120.95**	**57**	*e*PKiKP	**PKPdf**	**08 57 43.0**	**0.0**
JCT	**Junction City**	**120.95**	**57**	*e*PKPdf	**PKPdf**	**08 57 43.0**	**0.0**
TKL	**Tuckaleechee C**	**131.38**	**44**	PKP	**PKPdf**	**08 58 03.4**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=180,slow=6.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**134.34**	**284**	PKP	**PKPdf**	**08 58 08.7**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=92,slow=1.2,SNR=5.8						

*IDC **20** 09:03:17.9±5.8, 63°.61N×150°.40W, h112km±38km, mb3.2/4, mb1 3.5/6, mb1mx3.1/29, mbtmp3.6/6, Error ellipse: s-maj=57.1km s-min=21.4km az=60.0*
*ISCJB **20** 09:03:18.6±0.3, 63°.60N±0°.02×149°.85W±0°.06, h127km±3km, mb3.5/4, Error ellipse: s-maj=4.5km s-min=3.7km az=8.8*
*NEIC **20** 09:03:19.8, 63°.60N×149°.85W, h120km, MG3.1(AEIC), After AEIC.*

ISC 20 09:03:19.8±0.8, 63°.61N±0°.03×149°.86W±0°.04, h121km±6km, n74, σ0°.71/88, mb3.4/4, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRF	**Thorofare Moun**	**0.25**	**231**	P	**Pn**	**09 03 37.0**	**+0.1**
TRF				S	**Sn**	**09 03 49.4**	**-0.4**
MCK	**McKinley**	**0.43**	**73**	P	**Pn**	**09 03 37.7**	**+0.3**
MCK				S	**Sn**	**09 03 50.6**	**-0.2**
RND	**Reindeer**	**0.49**	**114**	P	**Pn**	**09 03 37.8**	**-0.1**
RND				S	**Sn**	**09 03 51.1**	**-0.4**
BWN	**Browne**	**0.59**	**17**	P	**Pn**	**09 03 39.0**	**+0.6**
BWN				S	**Sn**	**09 03 52.9**	**+0.3**
HUR	**Hurricane**	**0.64**	**171**	P	**Pn**	**09 03 38.6**	**-0.2**
BPAW	**Bear Paw Mtn.**	**0.70**	**315**	P	**Pn**	**09 03 39.2**	**0.0**
BPAW				S	**Sn**	**09 03 53.4**	**-0.7**
CAST	**Castle Rocks**	**1.01**	**260**	P	**Pn**	**09 03 41.8**	**-0.3**
CAST				S	**Sn**	**09 03 58.0**	**-0.9**
NEA	**Nenana**	**1.03**	**19**	P	**Pn**	**09 03 42.0**	**-0.2**
CHUM	**Lake Minchumin**	**1.13**	**285**	P	**Pn**	**09 03 43.2**	**+0.1**
CHUM				S	**Sn**	**09 04 00.5**	**-0.3**
WRH	**Wood River Hil**	**1.17**	**41**	P	**Pn**	**09 03 43.5**	**0.0**
CUT	**Chulitna**	**1.22**	**189**	P	**Pn**	**09 03 43.9**	**-0.2**
DHY	**Denali Highway**	**1.24**	**114**	P	**Pn**	**09 03 44.3**	**-0.2**
DHY				S	**Sn**	**09 04 03.4**	**+0.2**
PPLA	**Purkeypile**	**1.27**	**237**	P	**Pn**	**09 03 44.8**	**0.0**
PPLA				S	**Sn**	**09 04 03.7**	**-0.1**
TRAP	**Trapper Creek**	**1.29**	**188**	P	**Pn**	**09 03 44.5**	**-0.3**
CCB	**Clear Creek Bu**	**1.38**	**40**	P	**Pn**	**09 03 45.7**	**-0.1**
MLY	**Manley**	**1.48**	**345**	P	**Pn**	**09 03 47.0**	**0.0**
MLY				S	**Sn**	**09 04 06.8**	**-1.0**
HDA	**Harding Lake**	**1.51**	**57**	P	**Pn**	**09 03 47.0**	**-0.3**
MDM	**Murphy Dome**	**1.53**	**27**	P	**Pn**	**09 03 47.8**	**+0.2**
MDM				S	**Sn**	**09 04 08.1**	**-0.8**
COLA	**College**	**1.54**	**34**	P	**Pn**	**09 03 47.8**	**+0.1**
PS08	**TAPS Pump Stn8**	**1.63**	**54**	P	**Pn**	**09 03 48.5**	**-0.3**
ILAR	**Eielson Array**	**1.75**	**47**	P	**Pn**	**09 03 49.8**	**-0.3**
	4.4nm,0.3s,baz=229,slow=12,SNR=174						
ILAR				S	**Sn**	**09 04 14.9**	**+1.5**
	6.0nm,0.3s,baz=232,slow=20,SNR=17						
IL1	**Eielson Array**	**1.75**	**47**	P	**Pn**	**09 03 49.9**	**-0.3**
SKT	**Skwentna**	**1.81**	**206**	P	**Pn**	**09 03 50.2**	**-0.7**
SKT				S	**Sn**	**09 04 14.6**	**0.0**
PS10	**TAPS Pump St10**	**1.84**	**94**	P	**Pn**	**09 03 52.1**	**+0.8**
SML	**Sawmill**	**1.94**	**158**	P	**Pn**	**09 03 52.0**	**-0.5**
SML				S	**Sn**	**09 04 17.4**	**-0.1**
PMR	**Palmer**	**2.05**	**170**	P	**Pn**	**09 03 53.5**	**-0.3**
PAX	**Paxson**	**2.08**	**106**	P	**Pn**	**09 03 54.4**	**+0.1**
SCM	**Sheep Creek Mo**	**2.13**	**146**	P	**Pn**	**09 03 54.6**	**-0.3**
SUA	**Susitna One**	**2.19**	**191**	P	**Pn**	**09 03 56.1**	**+0.4**
PS06	**TAPS Pump Stn6**	**2.26**	**1**	P	**Pn**	**09 03 56.6**	**+0.2**
STLK	**Strandline Lak**	**2.31**	**204**	P	**Pn**	**09 03 56.7**	**-0.5**
HARP	**HAARP**	**2.46**	**117**	P	**Pn**	**09 03 59.0**	**-0.1**
RC01	**Rabbit Creek A**	**2.53**	**179**	P	**Pn**	**09 03 59.8**	**-0.2**
BGL	**Barrier Glacie**	**2.63**	**208**	P	**Pn**	**09 04 01.3**	**0.0**
VOGL	**Vogel Lake**	**2.63**	**186**	P	**Pn**	**09 04 03.2**	**+2.0**
CKL	**Chakachamna La**	**2.68**	**207**	P	**Pn**	**09 04 01.9**	**-0.1**
PTE	**Portage**	**2.78**	**172**	P	**Pn**	**09 04 02.8**	**-0.4**
KLU	**Klutina**	**2.80**	**138**	P	**Pn**	**09 04 02.7**	**-0.8**
TT01	**Tatalina**	**2.87**	**259**	P	**Pn**	**09 04 03.6**	**-0.8**
IM3	**Indian Mountai**	**2.91**	**327**	P	**Pn**	**09 04 04.7**	**-0.1**
IM04	**Indian Mountai**	**2.91**	**326**	*e*Pn	**Pn**	**09 04 04.6**	**-0.2**
JPK	**Jack Peak**	**2.98**	**148**	P	**Pn**	**09 04 04.8**	**-1.1**
VLZ	**Valdez**	**2.98**	**145**	P	**Pn**	**09 04 04.4**	**-1.3**
VMT	**TAPS TI Valdez**	**3.01**	**146**	P	**Pn**	**09 04 04.7**	**-1.4**
GLI	**Glacier Island**	**3.03**	**153**	P	**Pn**	**09 04 05.2**	**-1.2**
WASW	**Wrangell South**	**3.11**	**120**	P	**Pn**	**09 04 07.5**	**-0.2**
SLKM	**Skilak Lake**	**3.12**	**183**	P	**Pn**	**09 04 07.7**	**+0.1**
DIV	**Divide**	**3.13**	**141**	P	**Pn**	**09 04 06.5**	**-1.3**
RSO	**Redoubt South**	**3.44**	**205**	*e*Pn	**Pn**	**09 04 14.5**	**+2.5**
SEW	**Seward**	**3.52**	**177**	P	**Pn**	**09 04 12.0**	**-0.9**
GLB	**Gilahina Butte**	**3.55**	**125**	P	**Pn**	**09 04 13.1**	**-0.1**
BMRM	**Bremner River**	**3.61**	**135**	P	**Pn**	**09 04 13.1**	**-1.1**
EYAK	**Cordova Ski Ar**	**3.63**	**146**	P	**Pn**	**09 04 13.7**	**-0.5**
COLD	**Coldfoot**	**3.64**	**358**	*e*Pn	**Pn**	**09 04 14.4**	**0.0**
BCB	**Beaver Creek A**	**3.68**	**95**	P	**Pn**	**09 04 14.2**	**-0.8**
VRDI	**Verde Repeater**	**3.82**	**126**	P	**Pn**	**09 04 14.4**	**-0.6**
GOAT	**Goat Mountain**	**3.88**	**139**	P	**Pn**	**09 04 17.3**	**-0.4**
BRLK	**Bradley Lake**	**3.89**	**188**	P	**Pn**	**09 04 17.4**	**-0.4**
EGAK	**Eagle**	**3.98**	**69**	P	**Pn**	**09 04 18.6**	**-0.3**
BERG	**Berg Lake**	**4.34**	**135**	P	**Pn**	**09 04 22.6**	**-1.2**
BALM	**Baldy**	**4.35**	**123**	P	**Pn**	**09 04 23.1**	**-0.9**
NICHA	**Nichawak Mount**	**4.38**	**138**	P	**Pn**	**09 04 23.6**	**-0.8**
BM3	**Burnt Mountain**	**4.41**	**27**	P	**Pn**	**09 04 24.6**	**-0.1**
KHIT	**Khitrov Hills**	**4.45**	**133**	P	**Pn**	**09 04 24.5**	**-0.8**
DAWY	**Dawson**	**4.66**	**80**	P	**Pn**	**09 04 27.4**	**-0.7**
KULT	**Kultieth River**	**4.77**	**132**	P	**Pn**	**09 04 29.0**	**-0.6**
TABL	**Table Mountain**	**5.19**	**124**	P	**Pn**	**09 04 34.1**	**-1.3**
HYT	**Haines Junctio**	**6.41**	**110**	*e*Pn	**Pn**	**09 04 52.2**	**+0.4**
INK	**Inuvik**	**8.15**	**48**	P	**Pn**	**09 05 15.4**	**+0.4**
	0.4nm,0.3s,baz=246,slow=14,SNR=3.0						
YKA	**Yellowknife Ar**	**15.90**	**78**	P	**P**	**09 06 57.8**	**+0.2**
	0.1nm,0.3s,baz=288,slow=9.5,SNR=5.5						
RES	**Resolute Bay**	**21.47**	**36**	P	**P**	**09 07 57.4**	**-0.7**
	0.9nm,0.5s,baz=241,slow=10,SNR=4.5						
PDAR	**Pinedale Array**	**31.10**	**113**	P	**P**	**09 09 27.9**	**+1.3**
	0.5nm,0.7s,baz=322,slow=5.7,SNR=3.3						
TXAR	**Lajitas Array**	**45.08**	**117**	P	**P**	**09 11 24.4**	**+0.8**
	0.5nm,0.6s,baz=326,slow=6.2,SNR=7.7						
FINES	**FINESS Array B**	**55.23**	**2**	P	**P**	**09 12 38.2**	**-1.2**
	1.4nm,0.8s,baz=8.1,slow=6.7,SNR=4.9						

*ISCJB **20** 09:18:47.0±0.4, 21°.38N±0°.04×101°.86E±0°.03, h10km, mb3.7/5, MS3.0/1, Error ellipse: s-maj=5.2km s-min=3.4km az=162.2*
*IDC **20** 09:18:48.2±1.0, 21°.31N×101°.80E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/34, mbtmp3.6/6, ML4.1/1, MS3.0/2, Ms1 3.1/2, ms1mx2.6/43, Error ellipse: s-maj=31.0km s-min=20.0km az=85.0*
*PLV **20** 09:18:49.3±2.2, 21°.59N×101°.87E, h7km±12km, MD3.5, ML3.8*
*BJI **20** 09:18:50.5, 21°.42N×101°.71E, h7km, mb3.7/2, ML4.3/6, Ms7 3.5/1*
*BKK **20** 09:18:51.9±3.3, 21°.24°×10°.2E±°, h32km±10km, M4.3/7, MLv4.3/7*

ISC 20 09:18:49.2±0.6, 21°.34N±0°.04×101°.82E±0°.04, h10km, n26, σ1°46/45, mb3.5/5, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGV	**Tuan Giao**	**1.51**	**80**	*e*Pn	**Pn**	**09 19 15.8**	**-0.5**
TGV				*e*Pg	**Pg**	**09 19 17.6**	**-0.6**
TGV				*e*Sg	**Sg**	**09 19 37.0**	**-0.8**
TGV				AML	AML	09 19 40.1	
	comp=N,2μm,0.4s						
SPV	**Sa-pa**	**2.12**	**62**	*e*Pn	**Pn**	**09 19 23.9**	**-0.9**
SPV				*e*Sg	**Sn**	**09 19 51.6**	**+0.4**
MCVV	**Moc Chau**	**2.70**	**101**	*e*Pn	**Pn**	**09 19 32.4**	**-0.4**
MCVV				*e*Pg	**Pg**	**09 19 39.5**	**-1.5**
MCVV				*e*Sg	**Sg**	**09 20 16.4**	**+0.5**
HGVB	**Ha Giang**	**3.30**	**63**	*e*Pg	**Pg**	**09 19 50.9**	**-1.5**
HGVB				*e*Sg	**Sg**	**09 20 32.1**	**-3.1**
HGVB				AML	AML	09 20 42.6	
	comp=N,180nm,0.6s						
HBVN	**Hoa-Binh**	**3.34**	**98**	*e*Pn	**Pn**	**09 19 41.2**	**-0.3**
HBVN				*e*Sg	**Sg**	**09 20 37.2**	**+0.7**
LAMP	**Lampang**	**3.48**	**217**	Pg	**Pb**	**09 19 51.8**	**+0.8**
LAMP				Pn	**Pn**	**09 19 42.3**	**-1.2**
NONG	**Nongkai**	**3.49**	**159**	Pg	**Pg**	**09 19 54.4**	**-1.8**
NONG				Pn	**Pn**	**09 19 43.9**	**+0.3**
CMMT	**Chiang Mai**	**3.69**	**228**	P	**Pn**	**09 19 45.0**	**-1.3**
CMMT				Pn	**Pn**	**09 19 45.1**	**-1.3**
CMMT				Pg		09 19 55.9	-4.1
CHTO	**Chiang Mai**	**3.69**	**228**	P	**Pn**	**09 19 45.0**	**-1.4**
CHTO				Pn	**Pn**	**09 19 45.1**	**-1.4**
CHTO				Pg		09 19 55.9	-4.1
BCVB	**Bac Can**	**3.72**	**81**	*e*Pn	**Pn**	**09 19 46.4**	**-0.3**
BCVB				*e*Pg	**Pg**	**09 20 00.0**	**-0.4**
BCVB				*e*Sg	**Sg**	**09 20 48.5**	**-0.2**
UTTA	**Uttaradit**	**3.77**	**199**	Pn	**Pn**	**09 19 46.3**	**-1.2**
LOEI	**Loei**	**3.85**	**188**	Pn	**Pn**	**09 19 48.3**	**-0.2**
KMI	**Kunming**	**3.86**	**12**	Pg	**Pb**	**09 19 58.9**	**+1.4**
KMI				Sg	**Sg**	**09 20 52.8**	**-0.4**
KMI				SMN			
	comp=N,85nm,1.0s						
KMI				SME			
	comp=N,100nm,1.2s						
CMAR	**Chiang Mai Arr**	**3.95**	**224**	Pn	**Pn**	**09 19 48.6**	**-1.3**
	comp=N,3.1nm,0.3s,baz=36,slow=12,SNR=10						
CMAR				Pg	Pg	09 20 00.4	-4.5
	comp=N,16nm,0.3s,baz=25,slow=12,SNR=46						
CMAR				Lg	Lg	09 20 50.3	
	comp=N,17nm,0.3s,baz=48,slow=31,SNR=12						
CMAR				LR	LR	09 21 34.0	
	comp=N,139nm,18.6s,baz=354,slow=42						
BGV	**Bac-Giang**	**4.11**	**90**	*e*Pn	**Pn**	**09 19 52.0**	**-0.1**
BGV				*e*Pg	**Pg**	**09 20 07.4**	**-0.6**
BGV				*e*Sg	**Sg**	**09 21 01.9**	**+0.6**
MTZV	**Met**	**4.22**	**86**	*e*Pn	**Pn**	**09 19 53.1**	**-0.5**
MTZV				*e*Pg	**Pg**	**09 20 08.7**	**-1.3**
MTZV				*e*Sg	**Sg**	**09 21 04.6**	**-0.1**
CBVB	**Cao Bang**	**4.26**	**71**	*e*Pn	**Pn**	**09 19 53.5**	**-0.8**
CBVB				*e*Sg	**Sg**	**09 21 02.3**	**-3.9**
GYA	**Guiyang**	**6.75**	**40**	Pn	Pn	09 20 35.4	+6.9
GYA				Sn	**Sn**	**09 21 41.5**	**-4.1**
GYA				SMN			
	comp=N,100nm,0.8s						
GYA				SME			
	comp=N,70nm,0.8s						
CD2	**Chengdu**	**9.69**	**10**	*e*P	**Pn**	**09 21 07.8**	**-0.9**
GTA	**Gaotai**	**18.09**	**355**	P	**P**	**09 23 03.6**	**+2.4**
GTA				pP	**pP**	**09 23 07.3**	**+3.3**
GTA				sP	sP	09 23 10.8	+5.5
GTA				PMZ			
	comp=N,3.0nm,1.3s						
SONM	**Songino Array**	**26.69**	**7**	P	**P**	**09 24 29.0**	**+0.4**
	comp=N,0.5nm,0.6s,baz=166,slow=7.2,SNR=4.2						
TLY	**Talaya**	**30.32**	**2**	LR	LR	09 38 37.8	
	comp=N,35nm,18.8s,baz=170,slow=39						
ZALV	**Zalesovo Beam**	**35.03**	**342**	P	**P**	**09 25 43.2**	**+1.2**
	comp=N,1.3nm,0.6s,baz=144,slow=8.2,SNR=9.1						
WRA	**Warramunga Arr**	**51.91**	**140**	P	**P**	**09 27 58.9**	**+0.5**
	comp=N,0.7nm,1.0s,baz=333,slow=8.3,SNR=4.9						
ASAR	**Alice Springs**	**54.56**	**143**	P	**P**	**09 28 18.2**	**+0.4**
	comp=N,0.4nm,0.8s,baz=325,slow=7.5,SNR=6.1						
FINES	**FINESS Array B**	**64.68**	**329**	P	**P**	**09 29 27.5**	**+0.4**
	comp=N,1.5nm,0.8s,baz=99,slow=7.3,SNR=3.5						

DJA 20 09:24:40.6±0.7, 2°.S±4°×137°.E±°, h13km±4km, M4.0/7, MLv4.0/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.59**	**320**	P	Pg	09 24 52.1	0.0
SRPI				S	Sb	09 25 00.5	-0.5
BAKI	**Biak**	**1.23**	**335**	P	Pn	09 25 01.5	-2.1
BAKI				S	Sb	09 25 18.8	-0.8
SMPI	**Sarmi**	**2.11**	**81**	P	Pn	09 25 15.0	-0.7
SMPI				S	Sn	09 25 42.4	+0.6
RKPI	**Ransiki, Papua**	**2.57**	**288**	P	Pn	09 25 22.1	+0.1
RKPI				S	Sn	09 25 55.3	+2.2
GENI	**Genyem**	**3.56**	**94**	P	Pn	09 25 36.1	+0.6
GENI				S	Sn	09 26 18.7	+1.2
JAY	**Jayapura**	**4.09**	**93**	P	Pn	09 25 33.9	-9.0
FAKI	**Fak Fak**	**4.41**	**262**	P	Pn	09 25 47.8	+0.5
FAKI				S	Sn	09 26 38.6	+0.1

*NIED **20** 09:30:00, 32°.90N×142°.50E, h8km, Mw3.7 Best double couple: M₀4.54000×10¹⁴ NP1:φ₀26.00000°, δ20.00000°, λ-65.00000°. NP2:φ₀180.00000°, δ72.00000°, λ-99.00000°.*
*IDC **20** 09:30:51.1±0.8, 32°.75N×142°.57E, h0km, mb3.7/6, mb1 3.9/9, mb1mx3.7/57, mbtmp3.6/9, ML3.9/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/35, Error ellipse: s-maj=28.2km s-min=19.0km az=92.0*
*ISCJB **20** 09:30:53.8±0.7, 32°.87N±0°.07×142°.47E±0°.10, h33km, mb3.6/6, Error ellipse: s-maj=13.9km s-min=6.5km az=140.4*
*JMA **20** 09:30:54.0±0.4, 32°.91N×142°.51E, h75km, M3.7*

ISC 20 09:30:55.5±1.0, 32°.93N±0°.08×142°.57E±0°.10, h33km, n23, σ1°13/26, mb3.7/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.17**	**323**	P	**Pn**	**09 31 28.7**	**-0.1**
BSO1				S	**Sn**	**09 31 55.4**	**+1.2**
JHJ2	**Mitsune**	**2.32**	**275**	P	**Pn**	**09 31 30.1**	**-1.2**
BSO3	**Boso 3**	**2.53**	**318**	P	**Pn**	**09 31 33.4**	**-0.6**
BSO4	**Boso 4**	**2.77**	**319**	P	**Pn**	**09 31 38.1**	**+0.7**
JIM2	**Oshima 3**	**3.16**	**305**	P	**Pn**	**09 31 41.7**	**-1.2**
JOD2	**Odawara 2**	**3.71**	**310**	P	**Pn**	**09 31 49.3**	**-1.1**
JHU	**Hanno**	**3.98**	**318**	P	**Pn**	**09 31 53.7**	**-0.5**
JHU				*e*S	**Sn**	**09 32 39.7**	**-0.1**
JHO	**Hitachi**	**4.02**	**336**	P	**Pn**	**09 31 54.0**	**-0.8**
JYN	**Shimob**	**4.20**	**309**	P	**Pn**	**09 31 56.9**	**-0.4**
JYN				S	**Sn**	**09 32 44.9**	**-0.4**
JFT	**Otama**	**4.93**	**339**	P	**Pn**	**09 32 07.0**	**-0.2**
JFT				*e*S	**Sn**	**09 33 00.6**	**-2.5**
MJAR	**Matsushiro Arr**	**5.08**	**316**	Pn	**Pn**	**09 32 09.7**	**+0.3**
	3.1nm,0.3s,baz=155,slow=12,SNR=36						
MJAR				Sn	**Sn**	**09 33 06.4**	**-0.5**
	3.5nm,0.3s,baz=173,slow=22,SNR=8.3						
MAT	**Matsushiro**	**5.09**	**316**	P	**Pn**	**09 32 09.7**	**+0.3**
MAT				S	**Sn**	**09 33 07.5**	**+0.5**
JCJ	**Chichijima**	**5.82**	**183**	Pn	Pn	09 32 15.4	-4.1
	4.4nm,0.3s,baz=9.5,slow=18,SNR=12						
JCJ				Sn	Sn	09 33 14.3	-11
	9.0nm,0.3s,baz=307,slow=20,SNR=3.4						
JNU	**Nakatsue**	**9.82**	**274**	LR	LR	09 36 59.6	
	comp=Z,46nm,20.1s,baz=116,slow=38						
ASAJ	**Asahikawa**	**11.17**	**0**	Pn	**Pn**	**09 33 31.1**	**-1.7**
	baz=180,slow=20						
ASAJ				Sn	Sn	09 35 29.3	-7.1
	0.2nm,0.3s,baz=345,slow=20,SNR=3.2						
KSRS	**Korea Array**	**12.80**	**295**	Pn	**Pn**	**09 33 57.5**	**+2.4**
	baz=100,slow=14,SNR=3.1						
KSRS				LR	LR	09 39 15.1	
	comp=Z,21nm,18.3s,baz=82,slow=39						
SONM	**Songino Array**	**31.00**	**309**	P	**P**	**09 37 10.8**	**+0.9**
	0.9nm,0.6s,baz=119,slow=9.6,SNR=2.8						
ILAR	**Eielson Array**	**52.49**	**31**	P	**P**	**09 40 06.1**	**+1.2**
	0.2nm,0.6s,baz=260,slow=6.3,SNR=9.8						
WRA	**Warramunga Arr**	**53.16**	**190**	P	**P**	**09 40 09.4**	**-0.9**
	1.4nm,0.8s,baz=7.8,slow=7.6,SNR=9.5						
ASAR	**Alice Springs**	**56.88**	**189**	P	**P**	**09 40 36.4**	**-0.7**
	0.5nm,0.9s,baz=7.9,slow=8.8,SNR=3.6						
YKA	**Yellowknife Ar**	**66.89**	**29**	P	**P**	**09 41 45.2**	**+1.3**
	0.7nm,0.8s,baz=296,slow=6.0,SNR=4.4						
TXAR	**Lajitas Array**	**91.85**	**53**	P	P	09 44 02.5	+1.9
	0.2nm,0.6s,baz=324,slow=3.6,SNR=5.1						
LPAZ	**La Paz**	**147.70**	**67**	PKPbc	**PKPab**	**09 50 39.4**	**-0.9**
	0.4nm,0.4s,baz=327,slow=5.2,SNR=4.1						

*ISCJB **20** 09:36:03.9±0.4, 36°.19N±0°.04×70°.85E±0°.07, h100km, mb4.0/17, Error ellipse: s-maj=9.0km s-min=3.3km az=145.1*
*IDC **20** 09:36:06.9±5.5, 36°.08N×70°.84E, h115km±49km, mb3.8/15, mb1 3.9/17, mb1mx3.6/52, mbtmp4.2/17, MS3.3/3, Ms1 3.3/3, ms1mx2.6/42, Error ellipse: s-maj=24.5km s-min=14.0km az=32.0*
*NEIC **20** 09:36:07.9±1.1, 36°.30N×70°.85E, h117km±11km, mb4.3/6, Error ellipse: s-maj=12.5km s-min=10.2km az=69.0*
*NNC **20** 09:36:12.0±2.1, 36°.74N×70°.74E, h126km±18km, mb3.5, mpv4.6, Error ellipse: s-maj=19.6km s-min=9.2km az=175.0*

ISC 20 09:36:06.5±0.5, 36°.29N±0°.05×70°.97E±0°.06, h100km, n63, σ1°88/67, mb4.0/17, 5C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.35**	**223**	*e*Pn	**Pn**	**09 36 46.3**	**+2.5**
KBL				*e*Sn	**Sn**	**09 37 16.3**	**+3.9**
CEP	**Cherat**	**2.58**	**162**	↑P	Pn	09 36 50.2	+3.4
CEP				S	**Sn**	**09 37 22.0**	**+4.3**
DZET	**Dzherino**	**3.04**	**326**	↓P	**Pn**	**09 36 52.2**	**-0.5**
	155nm,0.3s						
DZET				↓S	**Sn**	**09 37 25.2**	**-3.2**
	550nm,0.4s						
CHCP	**Chirah Chowk**	**3.23**	**144**	↑P	Pn	09 36 58.9	+3.6
THW	**Thamme Wali**	**3.54**	**169**	P	**Pn**	**09 37 02.2**	**+2.6**
SFK	**Sufi-Kurgan**	**4.22**	**27**	↑P	**Pn**	**09 37 11.0**	**+2.3**
	33nm,0.2s						
SFK				↑S	**Sn**	**09 37 57.3**	**+0.2**
	142nm,0.3s						
DLH	**Dalhousie**	**5.57**	**131**	*e*P	**Pn**	**09 37 28.0**	**+0.9**
DLH				*e*S	**Sn**	**09 38 29.0**	**-0.9**
KK31	**Karatay Array**	**6.81**	**357**	↑P	**Pn**	**09 37 43.0**	**-0.8**
	9.8nm,0.2s,baz=172,slow=12,SNR=271						
KK31				S	Sn	09 38 53.9	-5.9
	15nm,0.3s,baz=188,slow=24,SNR=11						
KKAR	**Karatay Array**	**6.81**	**357**	*e*Pn	**Pn**	**09 37 42.9**	**-0.9**
	42nm,0.3s						
KKAR				*e*Sn	Sn	09 38 53.0	-6.8
AAK	**Ala-Archa**	**6.89**	**22**	P	Pn	09 37 59.9	+15
	8.3nm,0.3s,baz=179,slow=4.6,SNR=21						
AAK				S	Sn	09 39 12.6	+11
	7.8nm,0.3s,baz=331,slow=20,SNR=23						
AAK				LR	LR	09 40 41.9	
	comp=Z,36nm,19.1s,baz=174,slow=38						
SDNR	**Sundarnagar**	**6.91**	**132**	*ex*	**Pn**	**09 37 43.0**	**-2.1**
SDNR				*e*S	**Sn**	**09 38 59.0**	**-3.2**
SMLA	**Simla**	**7.29**	**133**	*i* P	**Pn**	**09 37 51.4**	**+1.1**
SMLA				*i* S	**Sn**	**09 39 09.1**	**-2.3**
SMLA				*i* S	**Sn**	**09 39 09.1**	**-2.3**
RTK	**Rohtak**	**8.57**	**146**	*e*S	**Sn**	**09 39 37.2**	**-5.4**
KHET	**Khetri**	**9.16**	**152**	*e*P	**Pn**	**09 38 15.0**	**-0.7**
KHET				*e*S	Sn	09 39 50.2	-6.8
NDI	**New Delhi**	**9.24**	**143**	*ex*	Pn	09 38 13.0	-3.8
NDI				*e*S	**Sn**	**09 39 56.0**	**-2.9**
KALG	**Kalgarh**	**9.41**	**134**	*e*S	**Sn**	**09 40 00.3**	**-2.7**
KALG				AML	AML	09 40 03.2	
	comp=E,50nm,0.5s						
AGRA	**Agra**	**10.80**	**145**	*e*S	Sn	09 40 29.8	-7.2
AGRA				AML	AML	09 40 47.5	
	comp=N,66nm,0.1s						
AGRA				AML	AML	09 40 53.7	
	comp=E,74nm,0.8s						
MK31	**Makanchi Array**	**13.47**	**35**	P	**Pn**	**09 39 15.4**	**+2.0**
	comp=E,2.2nm,0.9s,baz=215,slow=12,SNR=22						
MK31	**Makanchi Array**	**13.47**	**35**	*e*Pn	**Pn**	**09 39 15.7**	**+2.3**
KOLN	**Koldanda**	**13.66**	**125**	*e*P	**Pn**	**09 39 14.6**	**-1.6**
	comp=E,13nm,0.4s						
GKN	**Gorkha**	**14.21**	**122**	*e*P	**Pn**	**09 39 21.5**	**-1.8**
	comp=E,21nm,0.4s						
DMN	**Daman**	**14.78**	**122**	*e*P	**Pn**	**09 39 29.2**	**-1.5**
	comp=E,15nm,0.4s						
KKN	**Kakani**	**14.79**	**121**	*e*P	**Pn**	**09 39 29.5**	**-1.2**
	comp=E,20nm,0.5s						
PKIN	**Phulchoki**	**15.00**	**121**	*e*P	**Pn**	**09 39 32.3**	**-1.2**
	comp=E,18nm,0.4s						
PKI	**Pulchoki**	**15.01**	**121**	*e*P	**Pn**	**09 39 32.5**	**-1.2**
	comp=E,16nm,0.4s						
GUN	**Gumba**	**15.13**	**119**	*e*P	**Pn**	**09 39 33.3**	**-1.9**
	comp=E,12nm,0.3s						
AB31	**Akbulak array**	**15.26**	**332**	P	**Pn**	**09 39 34.0**	**-2.3**
	comp=E,1.9nm,0.3s,baz=141,slow=11,SNR=145						
AB31				S	Sn	09 42 16.3	-8.3
	comp=E,3.1nm,0.5s,baz=145,slow=23,SNR=16						
ABKAR	**Akbulak array**	**15.26**	**332**	*e*P	**Pn**	**09 39 33.9**	**-2.3**
	comp=E,6.0nm,0.3s						
ABKAR				*e*S	Sn	09 42 10.0	-15
KURBB	**Kurchatov Arra**	**15.33**	**18**	P	**Pn**	**09 39 38.3**	**+1.2**
KURBB	**Kurchatov Arra**	**15.33**	**18**	P	**P**	**09 39 39.8**	**+0.2**
	comp=E,0.2nm,0.3s,baz=208,slow=10,SNR=17						
KURK	**Kurchatov**	**15.44**	**19**	P	**Pn**	**09 39 38.9**	**+0.5**
KURK	**Kurchatov**	**15.44**	**19**	*e*P	**P**	**09 39 40.8**	**0.0**
	comp=E,6.9nm,0.9s						
RAMN	**Ramite**	**16.23**	**121**	*e*P	**Pn**	**09 39 47.3**	**-1.5**
	comp=E,13nm,0.3s						
BVA0	**Borovoye Array**	**16.74**	**359**	P	**P**	**09 39 55.7**	**+0.5**
	comp=E,0.9nm,0.5s,baz=164,slow=9.7,SNR=11						
BVAR	**Borovoye Array**	**16.74**	**359**

ISCJB ***20*** *10:12:56.5±1.4,20°.6S±0°.2×169°.61E±0°.08,h150km, mb3.9/5,Error ellipse: s-maj=23.2km s-min=11.1km az=179.7*

IDC ***20*** *10:12:56.4±5.4,20°.58S×169°.72E,h131km±35km, mb3.7/5, mb1 3.9/7,mb1mx3.5/32,mbtmp4.2/7,Error ellipse: s-maj=52.3km s-min=22.2km az=32.0*

ISC 20 10:12:57.5±1.4,20°.5S±0°.2×169°.6E±0°.1,h150km,n10, σ1§71/13,mb3.9/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.25 263**		*e*P		**Pn**	**10 13 33.3**	**-2.3**
LIFNC				*e*S		**Sn**	**10 14 02.7**	**-2.2**
DZM	**Mont Dzumac**	**3.34 242**		P		**Pn**	**10 13 49.5**	**+0.2**
	13nm,0.3s,baz=270,slow=24,SNR=345							
DZM				S		**Sn**	**10 14 27.9**	**-1.5**
	37nm,0.3s,baz=69,slow=20,SNR=19							
NOUC	**Port Laguerre**	**3.47 243**		*e*P		**Pn**	**10 13 50.2**	**-0.7**
NOUC				*e*S		**Sn**	**10 14 32.4**	**0.0**
URZ	**Urewera**	**18.82 161**		P		**Pn**	**10 17 06.0**	**-1.9**
	1.9nm,0.3s,baz=34,slow=7.3,SNR=10							
CTA	**Charters Tower**	**21.93 267**		P		**P**	**10 17 41.5**	**+2.3**
	2.3nm,0.5s,baz=94,slow=10,SNR=5.4							
STKA	**Stephens Creek**	**27.49 240**		P		**P**	**10 18 32.0**	**+2.1**
	2.8nm,0.6s,baz=91,slow=10,SNR=11							
WRA	**Warramunga Arr**	**33.08 265**		P		**P**	**10 19 19.9**	**+0.7**
	0.7nm,0.4s,baz=97,slow=6.0,SNR=34							
ASAR	**Alice Springs**	**33.20 258**		P		**P**	**10 19 21.6**	**+1.3**
	4.7nm,0.6s,baz=95,slow=8.9,SNR=147							
VNDA	**Vanda**	**57.16 182**		P		**P**	**10 22 28.2**	**+0.1**
	0.4nm,0.5s,baz=360,slow=7.6,SNR=4.2							
EKA	**Eskdalemuir Ar**	**144.83 353**		PKP		**PKPab**	**10 32 14.8**	**-0.8**
	0.6nm,0.5s,baz=1.4,slow=2.8,SNR=4.2							

IDC ***20*** *10:15:06.3±8.2,2°.59N×127°.55E,h0km,mb3.9/3, mb1 4.2/4,mb1mx3.6/48,mbtmp4.1/4,ML4.5/1,Error ellipse: s-maj=132.1km s-min=54.2km az=177.0*

ISCJB ***20*** *10:15:34.7±0.9,0°.79N±0°.05×127°.36E±0°.07,h142km±9km, mb3.7/3,Error ellipse: s-maj=12.6km s-min=8.6km az=163.7*

DJA ***20*** *10:15:35.9±0.7,1°.N±3°×12°.7E±°,h141km±9km,M4.0/9, mb3.5/1,mB4.5/1,MLv4.3/9,Mw(mB)3.7/1*

ISC 20 10:15:35.3±1.2,0°.83N±0°.06×127°.37E±0°.09,h141km±11km, n10,σ1§63/13,mb3.6/3,Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TNTI	**Ternate**	**0.06 184**		P		**Pn**	**10 15 55.2**	**+0.9**
SANI	**Sanana**	**3.18 206**		P		**Pn**	**10 16 24.6**	**0.0**
SANI				S		**Sn**	**10 16 59.5**	**-3.2**
SGSI	**Sangihe**	**3.38 327**		P		**Pn**	**10 16 25.5**	**-1.8**
SGSI				S		**Sn**	**10 17 07.5**	**0.0**
KMSI	**Cibinong**	**3.40 266**		P		**Pn**	**10 16 28.2**	**+0.7**
KMSI				S		**Sn**	**10 17 09.4**	**+1.6**
NLAI	**Namlea**	**4.05 184**		P		**Pn**	**10 16 37.1**	**+1.1**
NLAI				S		**Sn**	**10 17 21.3**	**-1.9**
MRSI	**Marisa**	**5.44 266**		P		Pn	10 16 57.5	+3.0
KAPI	**Kappang**	**9.57 233**		Pn		Pn	10 17 43.7	-6.1
	3.6nm,0.3s,baz=30,slow=20,SNR=7.3							
KAPI						Sn	**Sn**	**10 19 34.8**	**-1.1**
	1.8nm,0.3s,baz=229,slow=24,SNR=8.6							
WRA	**Warramunga Arr**	**21.74 162**		P		**P**	**10 20 16.0**	**+0.3**
	1.7nm,0.6s,baz=343,slow=11,SNR=21							
ASAR	**Alice Springs**	**25.16 166**		P		**P**	**10 20 48.4**	**+0.7**
	0.6nm,0.3s,baz=339,slow=7.8,SNR=17							
STKA	**Stephens Creek**	**35.21 159**		P		**P**	**10 22 16.4**	**+0.4**
	0.7nm,0.3s,baz=329,slow=12,SNR=6.0							

BJI ***20*** *10:21:26.1,6°.41S×147°.32E,h68km,mb5.2/69,mB5.1/48, Ms4.7/61,Ms7 4.5/57*

MOS ***20*** *10:21:29.0±1.0,5°.74S×146°.56E,h33km,mb5.5/40, MS4.5/4,Error ellipse: s-maj=9.2km s-min=5.6km az=94.9*

ISCJB ***20*** *10:21:32.3±0.6,5°.89S±0°.02×146°.65E±0°.02,h64km±5km, mb5.4/195,Error ellipse: s-maj=4.2km s-min=3.4km az=36.3*

IDC ***20*** *10:21:34.6±3.0,5°.87S×146°.62E,h72km±27km,mb4.9/30, mb1 5.0/33,mb1mx5.0/38,mbtmp5.2/33,MS4.6/19, Ms1 4.6/19,ms1mx4.4/26,Error ellipse: s-maj=12.8km s-min=8.2km az=87.0*

NEIC ***20*** *10:21:35.3±0.7,5°.89S×146°.65E,h80km±6km,mb5.3/113, Error ellipse: s-maj=4.6km s-min=3.5km az=52.0*

NEIC Felt at Mount Hagen.

DJA ***20*** *10:21:35.4±0.4,6°.S±3°×14°.7E±°,h88km±4km,M5.6/112, mb5.6/112,mB5.9/73,MLv6.1/3,Mw(mB)5.5/73*

GCMT ***20*** *10:21:35.3±0.1,5°.90S×146°.71E,h50km,MW5.4/114, Moment Tensor Solution. s114,c177; s92,c167; Duration: 1§2 Moment tensor: Scale 10¹⁷Nm; Mrr1.35±.02; Mθθ-1.33±.02; Mϕϕ-0.02±.02; Mrθ-0.18±.02; Mθϕ0.59±.01; Mϕr-0.12±.02; Best double couple: M§1.47100×10¹⁷ NP1:ϕ§283.00000°,δ48.00000°, λ79.00000°. NP2:ϕ§119.00000°,δ43.00000°,λ102.00000°. Principal axes: T 1.3810, Plg81.0000°, Azm127.0000°; N 0.1770, Plg8.0000°, Azm290.0000°; P -1.5610, Plg3.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 20 10:21:34.7±0.3,5°.96S±0°.03×146°.72E±0°.04,h75km±2km, h75km:pP-P,n651,σ1§33/697,mb5.4/201,13C-7D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PMG	**Port Moresby**	**3.45 173**		*d*iP		**Pn**	**10 22 25.4**	**-0.7**
PMG	**Port Moresby**	**3.45 173**		*e*Pn		**Pn**	**10 22 25.0**	**-1.1**
JAY	**Jayapura**	**6.91 299**		P		**Pn**	**10 23 13.6**	**+0.2**
	181nm,1.3s,4μm1.1nm							
GENI	**Genyem**	**7.34 297**		P		**Pn**	**10 23 20.2**	**+0.9**
	383nm,1.4s,9μm4.2nm							
COEN	**Coen**	**8.68 203**		*e*Pn		**Pn**	**10 23 37.3**	**-0.2**
COEN				*e*Sn		**Sn**	**10 25 12.2**	**-1.6**
SMPI	**Sarmi**	**8.91 296**		P		**Pn**	**10 23 42.7**	**+2.0**
	249nm,1.2s,9μm							
SRPI	**Serui, Papua**	**11.21 291**		P		**Pn**	**10 24 11.1**	**-1.1**
	395nm,1.2s							
BAKI	**Biak**	**11.60 294**		P		**Pn**	**10 24 17.1**	**-0.3**
	240nm,1.0s,2μm							
RKPI	**Ransiki, Papua**	**13.27 289**		P		**Pn**	**10 24 38.3**	**-1.8**
	204nm,1.2s,5μm							
HNR	**Honiara**	**13.55 106**		*e*P		**Pn**	**10 24 46.3**	**+2.5**
HNR	**Honiara**	**13.55 106**		*e*P		**Pn**	**10 24 46.0**	**+2.2**
HNR	**Honiara**	**13.55 106**		*e*Pn		**Pn**	**10 24 46.3**	**+2.5**
CTA	**Charters Tower**	**14.05 182**		P		**Pn**	**10 24 52.2**	**+2.0**
	6.8nm,0.3s,baz=1.7,slow=14,SNR=47							
CTA				S		**Sn**	**10 27 22.4**	**-2.3**
	1.3nm,0.3s,baz=85,slow=11,SNR=3.1							
CTA				LR		LR	10 30 02.3	
	comp=Z,6μm,21.9s,baz=3.0,slow=36							
CTAO	**Charters Tower**	**14.05 182**		*e*P		**Pn**	**10 24 51.7**	**+1.4**
CTAO				pmax		pmax		
	comp=Z,88nm,0.8s							
CTAO	**Charters Tower**	**14.05 182**		*e*Pn		**Pn**	**10 24 51.7**	**+1.4**
	comp=Z,88nm,0.8s							
FAKI	**Fak Fak**	**14.74 281**		P		**Pn**	**10 24 58.7**	**-0.6**
	comp=Z,145nm,1.3s,comp=Z,2μm							
FAKI				S		**S**	**10 27 57.4**	**+1.6**
	comp=Z,145nm,1.3s,comp=Z,2μm							
FAKI	**Fak Fak**	**14.74 281**		*e*Pn		**Pn**	**10 24 59.2**	**-0.1**
BNDI	**Bandanaira**	**16.80 274**		P		**P**	**10 25 29.3**	**+2.9**
	comp=Z,725nm,1.0s,comp=Z,10μm							
MSAI	**Masohi**	**17.92 278**		P		**Pn**	**10 25 43.4**	**+4.4**
	comp=Z,80nm,1.0s,comp=Z,738nm							
MSAI				S		**S**	**10 29 06.8**	**+7.1**
	comp=Z,80nm,1.0s,comp=Z,738nm							
WRAB	**Tennant Creek**	**18.37 220**		P		**P**	**10 25 43.3**	**-0.3**
	comp=Z,785nm,0.7s,SNR=40							
WRAB	**Tennant Creek**	**18.37 220**		*de*P		**P**	**10 25 43.0**	**-0.6**
WRAB				pmax		pmax		
	comp=Z,114nm,0.7s							
WRAB	**Tennant Creek**	**18.37 220**		*e*P		**P**	**10 25 42.8**	**-0.8**
	comp=Z,122nm,0.8s							
WRA	**Warramunga Arr**	**18.38 220**		P		**P**	**10 25 43.3**	**-0.4**
	comp=Z,3.8nm,0.3s,baz=43,slow=11,SNR=110							
WRA				S		**S**	**10 29 06.9**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=40,slow=22,SNR=6.0							
WRA				PcP		**PcP**	**10 30 13.4**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=28,slow=1.6,SNR=9.2							
WRA				LR		LR	10 33 45.6	
	comp=Z,4μm,18.8s,baz=40,slow=40							
AAI	**Ambon**	**18.59 276**		P		**Pn**	**10 25 46.8**	**-0.4**
	comp=Z,327nm,0.8s,comp=Z,7μm							
GUMO	**Guam**	**19.51 355**		P		**P**	**10 25 55.9**	**-0.2**
	comp=Z,5.9nm,0.3s,baz=178,slow=9.2,SNR=13							
GUMO				LR		LR	10 33 27.0	
	comp=Z,1μm,18.1s,baz=156,slow=37							
GUMO	**Guam**	**19.51 355**		*e*P		**Pn**	**10 25 57.2**	**-0.8**
GUMO				pmax		pmax		
	comp=Z,67nm,1.2s							
GUMO	**Guam**	**19.51 355**		*e*P		**Pn**	**10 25 57.2**	**-0.8**
	comp=Z,67nm,1.2s							
NLAI	**Namlea**	**19.74 277**		P		**Pn**	**10 26 00.0**	**-0.7**
	comp=Z,254nm,1.1s,comp=Z,3μm							
EIDS	**Eidsvold**	**19.74 168**		*e*P		**Pn**	**10 25 59.7**	**-0.9**
	comp=Z,104nm,0.9s							
TNTI	**Ternate**	**20.45 288**		P		Pn	10 26 09.7	+0.7
	comp=Z,450nm,1.7s,comp=Z,7μm							
TNTI	**Ternate**	**20.45 288**		*e*P		**P**	**10 26 05.7**	**-0.5**
	comp=Z,730nm,1.3s							
SANI	**Sanana**	**21.04 280**		P		**P**	**10 26 13.1**	**+0.5**
	comp=Z,322nm,1.3s,comp=Z,3μm							
AS31	**Alice Springs**	**21.49 214**		*e*P		**P**	**10 26 17.9**	**+0.5**
ASAR	**Alice Springs**	**21.49 214**		P		**P**	**10 26 17.9**	**+0.5**
	comp=Z,33nm,0.7s,baz=50,slow=8.9,SNR=278							
ASAR				S		**S**	**10 30 09.8**	**-2.0**
	comp=Z,8.5nm,1.0s,baz=40,slow=22,SNR=4.0							
ASAR				LR		LR	10 35 53.6	
	comp=Z,6μm,18.7s,baz=37,slow=40							
SOEI	**Soe**	**22.55 259**		P		**P**	**10 26 30.6**	**+1.6**
	comp=Z,533nm,1.1s,comp=Z,5μm							
SOEI	**Soe**	**22.55 259**		*e*P		**P**	**10 26 30.1**	**+1.1**
	comp=Z,781nm,1.5s							
SGSI	**Sangihe**	**23.23 294**		P		**P**	**10 26 34.2**	**-1.5**
	comp=Z,215nm,0.8s,comp=Z,3μm							
KMSI	**Cibinong**	**23.61 285**		P		**P**	**10 26 38.2**	**-1.0**
	comp=Z,1μm,1.1s,comp=Z,12μm							
KDI	**Keri**	**24.09 274**		P		**P**	**10 26 43.4**	**-0.1**
	comp=Z,90nm,1.1s,comp=Z,2μm							
LUWI	**Luwuk**	**24.39 281**		P		**P**	**10 26 47.0**	**+0.8**
	comp=Z,1μm,1.2s,comp=Z,12μm							
LUWI	**Luwuk**	**24.39 281**		*e*P		**P**	**10 26 47.0**	**+0.8**
	comp=Z,1μm,1.0s							
MMRI	**Maumere**	**24.42 262**		P		**P**	**10 26 47.5**	**+1.0**
	comp=Z,437nm,1.7s,comp=Z,7μm							
MMRI	**Maumere**	**24.42 262**		*e*P		**P**	**10 26 46.0**	**-0.4**
	comp=Z,3μm,2.4s							
DAV	**Davao City (W)**	**24.75 301**		*e*P		**P**	**10 26 47.9**	**-1.6**
LIFNC	**LIFOU**	**24.76 128**		*e*P		**P**	**10 26 49.3**	**-0.1**
ARMA	**Armidale**	**24.76 170**		*e*P		**P**	**10 26 50.5**	**+1.0**
	comp=Z,81nm,1.0s							
NOUC	**Port Laguerre**	**24.81 132**		*e*P		**P**	**10 26 48.2**	**-1.7**
DZM	**Mont Dzumac**	**24.90 132**		*e*P		**P**	**10 26 51.1**	**+0.3**
	comp=Z,302nm,1.1s							
DZM				*e*S		**S**	**10 31 07.8**	**-1.1**
	comp=Z,962nm,29.1s							
DZM				*e*LR		LR	10 33 15.2	
	comp=Z,6μm,29.1s							
DZM	**Mont Dzumac**	**24.90 132**		P		**P**	**10 26 51.2**	**+0.4**
	comp=Z,120nm,0.9s,baz=270,slow=24,SNR=84							
DZM	**Mont Dzumac**	**24.90 132**		*e*P		**P**	**10 26 49.4**	**-1.5**
APSI	**Ampana**	**25.52 280**		P		**P**	**10 26 56.9**	**+0.5**
	comp=Z,667nm,1.3s,comp=Z,8μm							
MRSI	**Marisa**	**25.55 284**		P		**P**	**10 26 55.6**	**-1.1**
	comp=Z,179nm,1.1s,comp=Z,2μm							
BSSI	**Bau Bau, Buton**	**26.08 268**		P		**P**	**10 27 01.8**	**+0.2**
	comp=Z,277nm,1.1s,comp=Z,5μm							
BASI	**Baing, Sumba**	**26.22 259**		P		**P**	**10 27 05.3**	**+2.5**
	comp=Z,715nm,1.1s,comp=Z,8μm							
STKA	**Stephens Creek**	**26.22 190**		P		**P**	**10 27 02.7**	**+0.1**
	comp=Z,19nm,0.7s,baz=350,slow=8.2,SNR=22							
STKA				LR		LR	10 38 11.2	
	comp=Z,4μm,19.3s,baz=8.7,slow=38							
STKA	**Stephens Creek**	**26.22 190**		*e*P		**P**	**10 27 02.7**	**+0.1**
STKA				pmax		pmax		
	comp=Z,17nm,1.1s							
STKA	**Stephens Creek**	**26.22 190**		*e*P		**P**	**10 27 02.7**	**+0.1**
	comp=Z,17nm,1.1s							
WSI	**Waingapu**	**26.43 260**		P		**P**	**10 27 04.3**	**-0.4**
	comp=Z,2μm,1.1s,comp=Z,21μm							
BKSI	**Bulukumba**	**26.47 270**		P		**P**	**10 27 04.6**	**-0.5**
	comp=Z,114nm,1.2s,comp=Z,970nm							
TOLI	**Toli-Toli**	**26.82 284**		*e*P		**P**	**10 27 07.7**	**-0.5**
	comp=Z,177nm,0.8s							
KAPI	**Kappang**	**26.86 271**		P		**P**	**10 27 09.2**	**+0.6**
	comp=Z,355nm,1.2s,SNR=6.8							
KAPI	**Kappang**	**26.86 271**		P		**P**	**10 27 08.0**	**-0.5**
	comp=Z,30nm,0.7s,baz=92,slow=3.9,SNR=8.8							
KAPI				LR		LR	10 39 28.7	
	comp=Z,886nm,21.5s,baz=84,slow=40							
KAPI	**Kappang**	**26.86 271**		*e*P		**P**	**10 27 08.8**	**+0.2**
	comp=Z,32nm,1.0s							
KAPI				*e*			10 27 24.0	
SPSI	**Sidrap Palu**	**26.92 273**		P		**P**	**10 27 09.0**	**-0.1**
	comp=Z,104nm,1.2s,comp=Z,1μm							
TTSI	**Tana Toraja**	**26.97 275**		P		**P**	**10 27 10.7**	**+1.1**
	comp=Z,105nm,1.6s,comp=Z,1μm							
JAGI	**Jajag, Banyuwa**	**32.40 264**		*e*P		**P**	**10 27 56.7**	**-1.0**
	comp=Z,40nm,0.7s							
JAGI				*e*			10 28 11.3	
KKM	**Kota Kinabalu**	**32.70 291**		*e*P		**P**	**10 27 58.7**	**-1.7**
	comp=Z,19nm,1.1s							
MSVF	**Nonsavu**	**32.76 114**		*e*P		**P**	**10 28 03.1**	**+2.3**
MSVF				pmax		pmax		
	comp=Z,367nm,2.3s							
MSVF	**Nonsavu**	**32.76 114**		*e*P		**P**	**10 28 03.1**	**+2.3**
	comp=Z,367nm,2.3s							
CBIJ	**Chichi jima**	**33.16 353**		P		**P**	**10 28 03.6**	**-0.4**
JCJ	**Chichijima**	**33.16 353**		P		**P**	**10 28 03.6**	**-0.4**
	comp=Z,48nm,0.7s,baz=292,slow=19,SNR=3.6							
PWJI	**Pagerwojo**	**34.71 265**		P		**P**	**10 28 16.1**	**-1.6**
	comp=Z,68nm,1.6s							
PBKI	**Pangkalan Bun**	**35.09 274**		P		**P**	**10 28 22.6**	**+1.6**
	comp=Z,430nm,1.2s,comp=Z,4μm							
PCJI	**Pacitan**	**35.33 264**		P		**P**	**10 28 22.5**	**-0.6**
	comp=Z,175nm,1.1s							
SBUM	**Sibu**	**35.45 283**		*e*P		**P**	**10 28 24.4**	**+0.3**
WOJI	**Wonogiri, Jawa**	**35.58 265**		P		**P**	**10 28 24.5**	**-0.7**
	comp=Z,226nm,0.9s							
STKI	**Sintang**	**35.68 278**		P		**P**	**10 28 26.7**	**+0.6**
	comp=Z,124nm,1.2s,comp=Z,10μm							
KSM	**Kuching**	**37.10 280**		*e*P		**P**	**10 28 37.9**	**-0.3**
	comp=Z,263nm,1.4s							
KSM				*e*			10 28 51.1	
JOW	**Kunigami**	**37.18 332**		P		**P**	**10 28 38.0**	**-0.7**
	comp=Z,9.7nm,0.9s,baz=157,slow=9.4,SNR=11							
JOW				LR		LR	10 40 47.5	
	comp=Z,77nm,20.5s,baz=118,slow=31							
JOW	**Kunigami**	**37.18 332**		*e*P		**P**	**10 28 38.9**	**+0.3**
	comp=Z,77nm,1.1s							
KPJI	**Karang Pucung**	**37.55 266**		P		**P**	**10 28 42.6**	**+0.6**
	comp=Z,136nm,0.8s							
CMJI	**Cimerak**	**38.03 265**		P		**P**	**10 28 44.1**	**-1.9**
	comp=Z,378nm,1.1s,comp=Z,3μm							
YOJ	**Yonaguni jima**	**38.05 324**		*e*P		**P**	**10 28 45.7**	**-0.3**
YOJ				pmax		pmax		
	comp=Z,42nm,1.0s							
YOJ	**Yonaguni jima**	**38.05 324**		*e*P		**P**	**10 28 45.7**	**-0.3**
	comp=Z,42nm,1.0s							
OUZ	**Omahuta**	**38.22 143**		*e*P		**P**	**10 28 49.0**	**+1.7**
	comp=Z,58nm,1.1s							
JCJI	**Jatiwangi**	**38.22 267**		P		**P**	**10 28 47.5**	**-0.1**
	comp=Z,262nm,1.2s							
YULB	**Yu-li**	**38.31 320**		*e*P		**P**	**10 28 48.2**	**-0.1**
	comp=Z,37nm,1.0s							
CISI	**Cisompet, Garu**	**38.66 265**		P		**P**	**10 28 50.0**	**-1.4**
	comp=Z,380nm,0.9s,comp=Z,3μm							
CISI	**Cisompet, Garu**	**38.66 265**		*e*P		**P**	**10 28 50.4**	**-1.0**
	comp=Z,300nm,0.8s							
TPUB	**Ta-pu**	**38.67 320**		*e*P		**P**	**10 28 49.3**	**-2.0**
	comp=Z,57nm,0.8s							
NACB	**Ninganchiao**	**38.70 322**		*e*P		**P**	**10 28 51.2**	**-0.3**
	comp=Z,178nm,1.2s							
SSLB	**Suanglung**	**38.81 321**		*e*P		**P**	**10 28 52.9**	**+0.3**
	comp=Z,23nm,0.6s							
LEM	**Lembang**	**38.86 267**		P		**P**	**10 28 52.7**	**-0.5**
	comp=Z,255nm,1.0s,comp=Z,2μm							
TPI	**Tanjungpandan**	**39.07 273**		P		**P**	**10 28 55.4**	**+0.6**
	comp=Z,242nm,1.2s,comp=Z,3μm							
YHNB	**Yeheng**	**39.20 322**		*e*P		**P**	**10 28 55.5**	**-0.2**
	comp=Z,138nm,1.0s							
CNJI	**Cibinong**	**39.34 266**		P		**P**	**10 28 55.8**	**-1.2**
	comp=Z,758nm,1.1s,comp=Z,7μm							
TATO	**Taipei**	**39.35 322**		*e*P		**P**	**10 28 56.6**	**-0.3**
	comp=Z,689nm,1.5s							
CBJI	**Citeko**	**39.63 267**		P		**P**	**10 28 58.5**	**-1.0**
	comp=Z,265nm,0.9s							
SKJI	**Sukabumi**	**39.91 266**		P		**P**	**10 29 01.1**	**-0.7**
	comp=Z,414nm,0.8s							
PPBI	**Pangkal Pinang**	**40.65 274**		P		**P**	**10 29 08.4**	**+0.5**
	comp=Z,144nm,1.1s,comp=Z,13μm							
CGJI	**Cibinong**	**40.78 267**		P		**P**	**10 29 07.1**	**-1.8**
	comp=Z,264nm,1.1s,comp=Z,5μm							
XMIS	**Christmas Isla**	**40.87 261**		*e*P		**P**	**10 29 10.6**	**+0.9**
	comp=Z,468nm,1.2s							
QZH	**Quanzhou**	**41.15 319**		P		**P**	**10 29 14.6**	**+2.9**
QZH				S		**S**	**10 35 17.6**	**-2.1**
QZH				LZ				
	comp=Z,1μm,28.5s							
JNU	**Nakatsue**	**41.68 340**		*e*P		**P**	**10 29 16.0**	**0.0**
	comp=Z,28nm,0.9s							
KLSI		**41.82 270**		P		**P**	**10 29 17.3**	**-0.2**
	comp=Z,76nm,0.9s,comp=Z,2μm							
KASI	**Kota Agung**	**42.01 268**		P		**P**	**10 29 16.8**	**-2.2**
	comp=Z,171nm,1.0s,comp=Z,1μm							
URZ	**Urewera**	**42.35 144**		P		**P**	**10 29 22.8**	**+1.4**
	comp=Z,44nm,0.9s,baz=286,slow=3.9,SNR=16							
URZ	**Urewera**	**42.35 144**		*e*P		**P**	**10 29 23.2**	**+1.8**
	comp=Z,72nm,0.9s							
MDSI	**Maura Dua**	**42.38 270**		P		**P**	**10 29 21.6**	**-0.5**
	comp=Z,80nm,1.5s,comp=Z,1μm							
DSRI	**Dabo**	**42.41 276**		P		**P**	**10 29 22.6**	**+0.3**
	comp=Z,429nm,1.1s							
LWLI	**Liwa**	**42.47 269**		P		**P**	**10 29 21.7**	**-1.2**
	comp=Z,143nm,0.9s,comp=Z,7μm							
THZ	**Tophouse**	**42.59 151**		PN		**P**	**10 29 24.8**	**+1.4**
BKZ	**Black Stump Fm**	**42.60 145**		*e*P		**P**	**10 29 25.4**	**+1.9**
JCZ	**Jackson Bay**	**42.60 156**		PN		**P**	**10 29 26.3**	**+2.8**
TPRI	**Tanjung Pinang**	**42.67 278**		P		**P**	**10 29 25.5**	**+1.0**
	comp=Z,318nm,1.0s,comp=Z,4μm							
MJAR	**Matsushiro Arr**	**43.03 350**		P		**P**	**10 29 26.0**	**-0.9**
	comp=Z,14nm,1.1s,baz=178,slow=8.5,SNR=24							
MAJO	**Matsushiro**	**43.03 350**		*d*iP		**P**	**10 29 25.9**	**-1.0**
MAJO				pmax		pmax		
	comp=Z,256nm,1.7s							
MAJO	**Matsushiro**	**43.03 350**		*e*P		**P**	**10 29 25.3**	**-1.6**
	comp=Z,11nm,0.7s							
MAT	**Matsushiro**	**43.03 350**		P		**P**	**10 29 25.4**	**-1.5**
MAT				S		**S**	**10 35 44.2**	**-3.0**
LTZ	**Lake Taylor**	**43.07 152**		PN		**P**	**10 29 29.1**	**+1.8**
LHSI	**Lahat**	**43.08 271**		P		**P**	**10 29 27.5**	**-0.2**
	comp=Z,107nm,1.1s,comp=Z,2μm							
SNZO	**South Karori**	**43.15 149**		*e*P		**P**	**10 29 29.1**	**+1.3**
	comp=Z,166nm,1.3s							
SNZO				*e*			10 29 40.3	
JMBI	**JAMBI**	**43.18 274**		P		**P**	**10 29 30.7**	**+2.1**
	comp=Z,529nm,1.0s							
DCZ	**Deep Cove**	**43.19 159**		*e*P		**P**	**10 29 30.6**	**+2.5**
	comp=Z,187nm,1.0s							
RPZ	**Rata Peaks**	**43.26 154**		P		**P**	**10 29 30.6**	**+1.8**
	comp=Z,160nm,0.7s,baz=312,slow=1.7,SNR=58							
RPZ	**Rata Peaks**	**43.26 154**		*e*P		**P**	**10 29 30.3**	**+1.5**
	comp=Z,141nm,0.7s							
KHZ	**Kahutara**	**43.39 151**		*e*P		**P**	**10 29 30.6**	**+0.8**
	comp=Z,178nm,1.1s							
LBZ	**Lake Benmore**	**43.44 155**		PN		**P**	**10 29 31.6**	**+1.4**
MYKOM	**Kota Tinggi**	**43.49 279**		*e*P		**P**	**10 29 31.5**	**+0.4**
BFZ	**Birch Farm**	**43.51 147**		*e*P		**P**	**10 29 32.7**	**+1.9**
GZH	**Guangzhou**	**43.56 313**		P		**P**	**10 29 32.9**	**+1.5**
GZH				PP		**PcP**	**10 31 16.3**	**-1.7**
GZH				S		**S**	**10 35 58.9**	**+3.7**
GZH				SS		**SS**	**10 39 09.6**	**-3.2**
GZH				LN				
	comp=Z,500nm,16.6s							
GZH				LE				
	comp=Z,340nm,17.2s							
KSJJU	**Jeju**	**43.60 335**		P		**P**	**10 29 31.5**	**-0.1**
	SNR=6.1							
KSJJU	**Jeju**	**43.60 335**		P		**P**	**10 29 31.5**	**-0.1**
	SNR=6.1							
WHZ	**Wether Hill Ro**	**43.83 159**		*e*P		**P**	**10 29 34.5**	**+1.2**
	comp=Z,220nm,1.1s							
QIZ	**Qiongzhong**	**44.01 305**		P		**P**	**10 29 34.9**	**-0.2**
QIZ				pP		**pP**	**10 29 52.8**	**-0.8**
QIZ				sP		**sP**	**10 30 00.9**	**-1.3**
QIZ				S		**S**	**10 36 04.3**	**+2.4**
QIZ				SS		**SS**	**10 39 23.3**	**+1.7**

NJ2 pP **pP** **10 30 07.5 -3.3**
NJ2 sP **sP** **10 30 15.3 -4.1**
NJ2 PP **PP** **10 31 43.3 +1.4**
NJ2 S **S** **10 36 32.5 -0.6**
NJ2 PMZ
comp=Z,80nm,1.0s
NJ2 PMZ
comp=Z,570nm,11.9s
NJ2 LN
comp=Z,410nm,24.5s
NJ2 LE
comp=Z,860nm,22.2s
NJ2 LZ
comp=Z,5μm,22.0s
KSCEA Cheonan 46.30 338 P **P** **10 29 53.1 +0.2**
SNR=7.5
PDSI Padang 46.43 274 P **P** **10 29 52.9 -1.5**
comp=Z,57nm,0.8s
KSSES Seosan 46.57 337 P **P** **10 29 55.0 0.0**
SNR=15
KSSES Seosan 46.57 337 P **P** **10 29 55.0 0.0**
SNR=15
KSDGY Daegwallycong 46.57 340 P **P** **10 29 55.2 +0.1**
SNR=14
KSRS Korea Array 46.62 339 P **P** **10 29 55.0 -0.3**
comp=Z,33nm,0.9s,baz=156,slow=9.1,SNR=108
KSRS LR LR 10 47 28.6
comp=Z,641nm,19.6s,baz=156,slow=33
KSAR Wonju Array Be 46.62 339 P **P** **10 29 55.1 -0.4**
KSAR Wonju Array Be 46.62 339 P **P** **10 29 55.0 -0.4**
KSICN Icheon 46.65 339 P **P** **10 29 56.1 +0.4**
SNR=6.7
KSJMJ Jumunjin 46.72 340 P **P** **10 29 56.2 0.0**
SNR=15
IPM Ipoh 46.79 282 *e*P **P** **10 29 57.1 -0.1**
comp=Z,179nm,1.0s
KSCHC Chuncheon 46.95 339 P **P** **10 29 58.2 +0.2**
SNR=15
KSIJA INJE 47.03 340 P **P** **10 29 58.7 0.0**
SNR=28
INCN Inchon 47.11 338 *e*P **P** **10 29 59.4 +0.1**
comp=Z,66nm,1.0s
KSSKC Sokcho 47.17 340 P **P** **10 30 00.1 +0.5**
SNR=5.8
SEHB SEOHWA 47.24 340 P **P** **10 30 00.6 +0.3**
SNR=22
KSCWO Cheorwon 47.33 339 P **P** **10 30 01.7 +0.7**
SNR=9.9
KULM Kulim 47.33 283 *e*P **P** **10 30 01.1 -0.3**
comp=Z,145nm,0.9s
KSGAH Ganghwa 47.38 338 P **P** **10 30 01.5 +0.2**
SNR=16
YNCB YEONCHEON 47.50 339 P **P** **10 30 02.6 +0.3**
SNR=19
MNSI Mandailing Nat 47.54 277 P **P** **10 30 02.9 -0.1**
comp=Z,118nm,1.0s,comp=Z,2μm
WHN Wuhan 47.73 321 P **P** **10 30 04.8 +0.6**
WHN LZ
comp=Z,950nm,22.4s
SISI Saibi 47.74 274 P **P** **10 30 04.3 -0.3**
comp=Z,65nm,0.8s
SKLT Songkhla 47.81 285 P **P** **10 30 05.4 +0.3**
comp=Z,124nm,1.2s,comp=Z,1μm
ERM Erimo 47.86 356 *de*P **P** **10 30 05.8 +0.9**
ERM pmax pmax
comp=Z,33nm,1.6s
ERM Erimo 47.86 356 *e*P **P** **10 30 04.7 -0.3**
comp=Z,11nm,0.8s
SKNT Sakolnakorn 48.00 299 P **P** **10 30 06.2 -0.3**
comp=Z,53nm,0.8s,comp=Z,1μm
PSI Prapat 48.52 279 P **P** **10 30 10.0 -0.7**
comp=Z,70nm,1.0s,baz=139,slow=3.7,SNR=49
TRTT Trang 48.87 286 P **P** **10 30 13.4 +0.1**
comp=Z,99nm,1.1s,comp=Z,992nm
TSI Tuntungan 49.00 280 P **P** **10 30 14.3 0.0**
comp=Z,187nm,1.1s
NONG Nongkai 49.18 300 P **P** **10 30 15.0 -0.5**
comp=Z,28nm,1.0s,comp=Z,26μm
KRAB Krabi 49.44 286 P **P** **10 30 18.3 +0.7**
comp=Z,42nm,1.0s
GSI Gunungsitoli 49.59 277 P **P** **10 30 18.0 -0.8**
comp=Z,216nm,1.0s
GSI Gunungsitoli 49.59 277 *e*P **P** **10 30 17.8 -1.0**
comp=Z,106nm,0.8s
YUK Yuzh-Kuril'sk 49.77 359 *c* *i*P **P** **10 30 17.3 -2.3**
YUK *i* *i*PP **pP** **10 30 35.9 -2.5**
YUK *i* 10 31 42.0
YUK *e* 10 32 14.7
YUK *i* PPP PPP 10 33 13.0
YUK *i* S **S** **10 37 25.0 +1.7**
YUK pmax pmax
comp=Z,160nm,5.1s
ASAJ Asahikawa 49.99 356 *e*P **P** **10 30 21.5 +0.3**
comp=Z,9.0nm,1.0s
SURT Suratani 50.02 287 P **P** **10 30 22.5 +0.5**
comp=Z,46nm,1.1s,comp=Z,523nm
PKDT Phuket 50.18 285 P **P** **10 30 23.6 +0.3**
comp=Z,189nm,1.1s,comp=Z,7μm
TIA Tai'an 50.30 329 ⇑P **P** **10 30 22.8 -1.0**
TIA PP **PP** **10 32 20.9 +0.9**
TIA sS **sS** **10 38 05.3 +2.2**
TIA PMZ
comp=Z,50nm,0.9s
TIA PMZ
comp=Z,130nm,3.2s
TIA LN
comp=Z,540nm,21.6s
TIA LE
comp=Z,550nm,18.3s
TIA LZ
comp=Z,720nm,19.2s
GYA Guiyang 50.45 312 ⇑ *i*P **P** **10 30 25.1 -0.1**
GYA pP **pP** **10 30 45.6 +1.5**
GYA sP **sP** **10 30 55.0 +2.4**
GYA PP **PP** **10 32 22.8 +1.2**
GYA S **S** **10 37 32.4 -1.2**
GYA sS **sS** **10 38 07.0 +1.3**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,580nm,18.2s
GYA LE
comp=Z,520nm,19.0s
GYA LZ
comp=Z,560nm,18.4s
PBKT Sadao Pong 50.48 297 P **P** **10 30 26.3 +0.9**
comp=Z,13nm,1.6s
LOEI Loei 50.58 298 P **P** **10 30 23.5 -2.7**
comp=Z,26nm,1.3s,comp=Z,2μm
VLA Vladivostok 50.67 346 ⇑ *i*P **P** **10 30 26.2 -0.2**
VLA *e* 10 31 43.3
VLA *e* 10 32 22.5
VLA *e*S **S** **10 37 36.4 +0.6**
VLA pmax pmax
comp=Z,24nm,1.1s
ENH Enshi 50.70 317 *e*P **P** **10 30 26.4 -0.6**
comp=Z,30nm,1.2s
KUR Kuril'sk 50.98 1 *e*P **P** **10 30 29.7 +1.1**
SNSI Sinabang, Aceh 51.00 278 P **P** **10 30 29.8 +0.3**
comp=Z,377nm,1.4s,comp=Z,6μm
UTTA Uttaradit 51.30 298 P **P** **10 30 31.7 +0.1**
comp=Z,11nm,0.9s,comp=Z,91nm
SRDT SRDT 51.34 294 P **P** **10 30 33.1 +1.2**
comp=Z,127nm,1.4s
UTHA Uthaitani 51.47 295 P **P** **10 30 33.2 +0.3**
comp=Z,16nm,1.0s,comp=Z,177nm
NANT Nan 51.59 300 P **P** **10 30 33.8 0.0**
comp=Z,15nm,1.0s,comp=Z,260nm
USRK Ussuriysk Ar. 51.67 347 P **P** **10 30 33.6 -0.3**
comp=Z,19nm,0.9s,baz=174,slow=7.8,SNR=37
USRK LR LR 10 51 12.4
comp=Z,295nm,18.6s,baz=149,slow=34
KHLT Khaolaem Dam 51.98 294 P **P** **10 30 38.6 +1.9**
comp=Z,27nm,1.1s,comp=Z,333nm
SNY Shenyang 52.05 338 ⇑P **P** **10 30 36.3 -0.4**
SNY S **S** **10 37 54.8 0.0**
SNY PMZ
comp=Z,25nm,1.1s
SNY LN
comp=Z,410nm,22.4s
SNY LE
comp=Z,410nm,21.8s
SNY LZ
comp=Z,720nm,22.4s
LAMP Lampang 52.41 299 P **P** **10 30 40.6 +0.8**
comp=Z,9.6nm,1.0s,comp=Z,96nm
MDJ Mudanjiang 52.66 345 P **P** **10 30 40.8 -0.4**
MDJ PP **PP** **10 32 41.5 +0.4**
MDJ S **S** **10 38 05.8 +2.7**
MDJ PMZ
comp=Z,19nm,1.0s
MDJ PMZ
comp=Z,69nm,6.1s
MDJ LN
comp=Z,260nm,26.5s
MDJ LE
comp=Z,220nm,24.3s
MDJ LZ
comp=Z,470nm,28.7s
MDJ Mudanjiang 52.66 345 *e*P **P** **10 30 40.6 -0.6**
comp=Z,11nm,0.9s
KMI Kunming 52.75 308 ⇑P **P** **10 30 43.3 +0.7**
KMI pP **pP** **10 31 00.8 -0.8**
KMI sP **sP** **10 31 11.8 +1.7**
KMI PP **PP** **10 32 43.9 +1.2**
KMI S **S** **10 38 05.6 +0.1**
KMI PMZ
comp=Z,28nm,0.9s
KMI PMZ
comp=Z,120nm,3.1s
KMI LN
comp=Z,160nm,28.0s
KMI LE
comp=Z,240nm,18.7s
KMI LZ
comp=Z,440nm,23.9s
YSS Yuzh-Sakhalins 52.80 357 ⇑ *e*P **P** **10 30 40.7 -1.5**
YSS *e*S **S** **10 38 02.0 -3.0**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,300nm,17.0s
YSS Yuzh-Sakhalins 52.80 357 *e*P **P** **10 30 41.8 -0.4**
comp=Z,23nm,0.8s
CM31 Chiang Mai Arr 52.99 298 *e*P **P** **10 30 45.0 +0.9**
comp=Z,9.8nm,0.3s
CMAR Chiang Mai Arr 52.99 298 P **P** **10 30 44.3 +0.2**
comp=Z,11nm,0.8s,baz=119,slow=5.5,SNR=56
CMAR LR LR 10 52 29.1
comp=Z,126nm,21.5s,baz=134,slow=35
CMAR Chiang Mai Arr 52.99 298 *ce*P **P** **10 30 44.7 +0.6**
CMAR pmax pmax
comp=Z,11nm,0.7s
CMMT Chiang Mai 53.12 299 P **P** **10 30 45.2 +0.1**
comp=Z,33nm,1.2s,comp=Z,481nm
CHTO Chiang Mai 53.12 299 P **P** **10 30 45.3 +0.1**
comp=Z,114nm,1.2s
CHTO Chiang Mai 53.12 299 *e*P **P** **10 30 45.2 +0.1**
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO Chiang Mai 53.12 299 *e*P **P** **10 30 45.1 0.0**
comp=Z,17nm,0.9s
CN2 Changchun 53.13 341 *e*P **P** **10 30 45.8 +1.1**
CN2 PMZ
comp=Z,20nm,1.0s
CN2 PMZ
comp=Z,150nm,4.0s
CN2 LN
comp=Z,400nm,20.0s
CN2 LE
comp=Z,230nm,20.0s
CN2 LZ
comp=Z,400nm,20.0s
XAN Xi'an 53.48 321 P **P** **10 30 46.4 -1.1**
XAN pP **pP** **10 31 05.6 -0.9**
XAN sP **sP** **10 31 15.3 +0.3**
XAN S **S** **10 38 13.0 -1.7**
XAN PMZ
comp=Z,23nm,1.1s
XAN PMZ
comp=Z,35nm,7.8s
XAN LN
comp=Z,210nm,32.8s
XAN LZ
comp=Z,110nm,35.9s
BJT Baijiatuan 53.72 331 *e*P **P** **10 30 48.7 -0.4**
BJT pmax pmax
comp=Z,45nm,1.0s
BJT Baijiatuan 53.72 331 *e*P **P** **10 30 48.7 -0.4**
comp=Z,45nm,1.0s
BJI Beijing 53.73 331 P **P** **10 30 48.3 -0.9**
BJI S **S** **10 38 19.5 +1.7**
BJI SS **SS** **10 42 03.3 +3.5**
BJI PMZ
comp=Z,46nm,1.2s
BJI PMZ
comp=Z,87nm,3.6s
BJI LN
comp=Z,450nm,21.3s
BJI LE
comp=Z,440nm,20.6s
BJI LZ
comp=Z,390nm,37.5s
CD2 Chengdu 55.05 314 P **P** **10 30 58.8 -0.2**
CD2 pP **pP** **10 31 15.8 -2.3**
CD2 PcP **PcP** **10 31 59.6 -0.2**
CD2 PP **PP** **10 33 02.6 -0.4**
CD2 PcS **PcS** **10 35 59.6 -0.2**
CD2 S **S** **10 38 36.9 +0.9**
CD2 SS **SS** **10 42 22.9 +1.9**
CD2 PMZ
comp=Z,50nm,0.7s
CD2 PMZ
comp=Z,150nm,5.0s
CD2 LN
comp=Z,260nm,14.7s
CD2 LZ
comp=Z,250nm,17.6s
HABR Khabarovsk 55.17 351 *de*P **P** **10 30 57.5 -1.9**
HABR *e**PP pP 10 31 13.1 -5.4
HABR *e* 10 31 58.0
HABR *e* 10 33 01.0
HABR *e*S **S** **10 38 36.4 -0.4**
HABR *e* 10 40 40.9
HABR pmax pmax
comp=Z,46nm,1.7s
HABR pmax pmax
comp=N,10.0nm,1.1s
HABR pmax pmax
comp=E,20nm,1.6s
HABR MLR MLR
comp=Z,94nm,20.0s
KLR Kul'dur 56.50 348 *e*P P 10 31 05.0 -3.9
KLR pmax pmax
comp=Z,50nm,1.8s
HHC Hu-ho-hao-te 56.66 328 *e*P **P** **10 31 10.3 -0.1**
HHC pP **pP** **10 31 27.8 -1.8**
HHC PP **PP** **10 33 15.3 -1.9**
HHC S **S** **10 39 02.5 +5.3**
HHC PMZ
comp=Z,50nm,1.1s
HHC PMZ
comp=Z,160nm,6.7s
LZH Lanzhou 58.00 319 *e*P **P** **10 31 20.6 +0.6**
LZH pP **pP** **10 31 39.8 +0.5**
LZH sP **sP** **10 31 48.5 +0.8**
LZH PcP **PcP** **10 32 10.8 -0.5**
LZH PP **PP** **10 33 28.3 -1.1**
LZH *e*S **S** **10 39 14.8 -0.3**
LZH sS **sS** **10 39 49.8 +1.9**
LZH PMZ
comp=Z,55nm,1.0s
LZH PMZ
comp=Z,210nm,4.1s
PETK Petropavlovsk- 59.58 8 P **P** **10 31 31.1 +0.7**
comp=Z,27nm,0.8s,baz=177,slow=8.2,SNR=25
PETK LR LR 10 52 51.5
comp=Z,763nm,21.9s,baz=196,slow=32
PET Petropavlovsk 59.63 8 *e*P **P** **10 31 31.2 +0.5**
PET *e* 10 33 47.6
PET *e*S **S** **10 39 37.2 +2.0**
PET *e*SS **SS** **10 43 33.3 +1.2**
PET pmax pmax
comp=Z,100nm,16.4s
HIA Hailar 59.82 340 *e*P **P** **10 31 31.5 -0.7**
HIA pmax pmax
comp=Z,91nm,1.0s
HIA Hailar 59.82 340 *e*P **P** **10 31 31.5 -0.7**
comp=Z,91nm,1.0s
DRV Dumont d'Urvil 60.78 183 S **S** **10 39 47.0 -2.6**
DRV L L 10 47 00.0
DRV R 10 51 00.0
SHL Shillong 61.76 303 *e*P **P** **10 31 43.4 -2.6**
GTA Gaotai 62.53 320 ⇑P **P** **10 31 50.8 -0.1**
GTA pP **pP** **10 32 09.3 -1.1**
GTA sP **sP** **10 32 18.1 -0.7**
GTA PcP **PcP** **10 32 27.3 -2.1**
GTA S **S** **10 40 12.8 -0.2**
GTA sS **sS** **10 40 46.5 +0.4**
GTA SS **SS** **10 44 21.8 +3.3**
GTA PMZ
comp=Z,14nm,1.0s
GTA PMZ
comp=Z,160nm,5.4s
GTA LN
comp=Z,130nm,16.6s
GTA LE
comp=Z,140nm,17.6s
GTA LZ
comp=Z,220nm,24.2s
PPT Papeete 63.17 107 LR LR 10 53 28.1
comp=Z,93nm,21.1s,baz=277,slow=30
PPT2 Papeete2 63.17 107 *e*S **S** **10 40 22.3 +0.7**
comp=Z,206nm,24.5s
PPT2 Papeete2 63.17 107 *e*LR LR 10 51 00.1
comp=Z,778nm,25.5s
TBI Tubuai 63.64 113 *e*S **S** **10 40 28.3 +1.2**
comp=Z,622nm,27.0s
TBI Tubuai 63.64 113 *e*LR LR 10 51 14.5
comp=Z,1μm,34.2s
LSA Lhasa 63.99 307 P **P** **10 32 00.8 -0.3**
LSA Lhasa 63.99 307 *e*P **P** **10 32 01.2 +0.1**
LSA pmax pmax
comp=Z,25nm,1.0s
LSA Lhasa 63.99 307 *e*P **P** **10 32 01.2 +0.1**
comp=Z,25nm,1.0s
SONM Songino Array 64.24 331 P **P** **10 32 01.6 -0.3**
comp=Z,33nm,1.1s,baz=149,slow=7.1,SNR=100
SONM LR LR 10 59 32.8
comp=Z,431nm,21.0s,baz=155,slow=36
SONM PKPPKP **P'P'df** **11 00 53.6 +2.6**
comp=Z,1.3nm,0.8s,baz=315,slow=2.6,SNR=8.8
CIT Chita 64.32 338 *e*P **P** **10 32 02.4 +0.1**
CIT *e* 10 32 13.6
CIT *e* 10 32 19.8
CIT pmax pmax
comp=Z,112nm,1.1s
CLNS Chul'man 65.09 347 *e*P **P** **10 32 07.2 +0.1**
CLNS *e**PP pP 10 32 19.8 -7.0
CLNS *e* 10 32 36.8
CLNS *e* 10 34 28.5
CLNS *e*PPP PPP 10 36 00.8
CLNS *e*S **S** **10 40 42.6 -1.2**
CLNS *e* 10 42 01.9
CLNS *e*SS **SS** **10 45 02.1 +4.6**
CLNS *e*SSS SSS 10 47 49.3
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS pmax pmax
comp=Z,32nm,0.9s
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=Z,7.0nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,0.7s
CLNS pmax pmax
comp=N,6.0nm,1.1s
CLNS smax smax
comp=E,134nm,12.7s
CLNS smax smax
comp=N,122nm,12.4s
CLNS MLR MLR
comp=N,95nm,15.0s
CLNS MLR MLR
comp=Z,142nm,17.0s
CLNS MLR MLR
comp=E,146nm,18.0s
CASY Casey 65.22 195 *e*P **P** **10 32 08.5 +0.7**
comp=E,116nm,1.1s
TAPN Taplejung 65.90 303 *e*P **P** **10 32 12.9 -0.4**
comp=E,65nm,1.0s
ODAN Odare 65.99 303 *e*P **P** **10 32 13.5 -0.4**
comp=E,63nm,0.9s
BOK Bokaro 66.26 299 *e*P **P** **10 32 15.3 0.0**
CHLP Challavanipeta 66.36 293 *e*P **P** **10 32 17.0 +0.9**
CHLP lAmb lAmb 10 32 19.2
comp=Z,69nm,1.4s
CHLP *e* 10 32 30.0
RAMN Ramite 66.68 303 *e*P **P** **10 32 17.7 -0.6**
VIS Vishakhapatnam 66.83 292 *e*P **P** **10 32 20.0 +1.0**
VIS AMB AMB 10 32 41.6
comp=Z,45nm,0.5s
PALK Pallekele 67.16 280 *i*P **P** **10 32 22.5 +1.2**
PALK Pallekele 67.16 280 *e*P **P** **10 32 21.3 -0.1**
comp=Z,77nm,1.3s
ZAK Zakamensk 67.47 332 *e*P **P** **10 32 21.7 -0.9**
ZAK pmax pmax
comp=Z,35nm,1.2s
GUN Gumba 67.61 303 *e*P **P** **10 32 23.8 -0.5**
comp=Z,72nm,0.9s
PKI Pulchoki 67.89 303 *e*P **P** **10 32 25.3 -0.7**
comp=Z,52nm,1.2s
PKIN Phulchoki 67.90 303 *e*P **P** **10 32 25.1 -0.9**
comp=Z,55nm,1.4s
KKN Kakani 68.07 303 *e*P **P** **10 32 26.2 -0.8**
comp=Z,53nm,0.9s
DMN Daman 68.16 303 *e*P **P** **10 32 27.1 -0.5**
comp=Z,83nm,1.0s
TLY Talaya 68.19 333 P **P** **10 32 26.7 -0.3**
comp=Z,100nm,1.0s,SNR=8.6
TLY Talaya 68.19 333 P **P** **10 32 26.5 -0.5**
comp=Z,8.2nm,0.7s,baz=169,slow=4.8,SNR=22
TLY PKPPKP **P'P'df** **11 00 46.6 +2.5**
comp=Z,0.7nm,0.3s,baz=313,slow=3.1,SNR=11
TLY LR LR 11 02 01.0
comp=Z,478nm,20.8s,baz=132,slow=36
TLY Talaya 68.19 333 *e*P **P** **10 32 26.5 -0.5**
TLY pmax pmax
comp=Z,24nm,1.1s
TLY Talaya 68.19 333 *e*P **P** **10 32 26.5 -0.5**
comp=Z,24nm,1.1s
TLY P'P' 11 00 46.6
IRK Irkutsk 68.29 333 *e*P **P** **10 32 25.6 -2.0**
IRK *e* 10 32 38.7
IRK pmax pmax
comp=Z,41nm,1.2s
PVM Polavaram 68.29 291 *e*P **P** **10 32 29.1 +0.8**
PVM lAmb lAmb 10 32 30.6
comp=Z,9.2nm,0.8s
PVM *e* 10 32 41.3
GKN Gorkha 68.68 303 *e*P **P** **10 32 29.9 -0.8**
comp=Z,68nm,1.1s
SEY Seymchan 68.84 3 P **P** **10 32 31.0 +0.2**
comp=Z,20nm,0.9s,baz=183,slow=5.0,SNR=67
SEY PcP **PcP** **10 32 53.0 -1.8**
comp=Z,10nm,1.0s,baz=197,slow=9.6,SNR=4.3
SEY PKPPKP **P'P'df** **11 00 42.3 +0.1**
comp=Z,2.4nm,1.1s,baz=269,slow=0.8,SNR=4.5
BOD Bodaibo 68.86 342 *e*P **P** **10 32 29.9 -1.1**
BOD pmax pmax
comp=Z,27nm,1.1s
YAK Yakutsk 69.06 351 P **P** **10 32 31.9 -0.2**
comp=Z,1.0nm,0.3s,baz=343,slow=23,SNR=4.7
YAK Yakutsk 69.06 351 *e*P **P** **10 32 31.3 -0.9**
YAK *e**PP pP 10 32 43.1 -8.9
YAK *e* 10 32 48.4
YAK *e* 10 35 03.1
YAK *e*S **S** **10 41 30.7 -0.6**
YAK *e*SS sS 10 41 55.4 -10
YAK *e* 10 42 11.4
YAK *e*SS **SS** **10 45 57.5 -1.3**
YAK pmax pmax
comp=Z,26nm,1.4s
YAK pmax pmax
comp=N,15nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.6s
YAK pmax pmax
comp=Z,16nm,1.4s
YAK pmax pmax
comp=N,23nm,1.9s
YAK pmax pmax
comp=E,15nm,1.8s
YAK smax smax
comp=E,75nm,2.8s

YAK smax smax
comp=N,181nm,5.7s
YAK Yakutsk 69.06 351 *e*P **P 10 32 32.0 -0.2**
YAK pmax pmax
comp=Z,29nm,0.9s
YAK Yakutsk 69.06 351 *e*P **P 10 32 32.0 -0.2**
comp=Z,29nm,0.9s
SKHT Srikalahasti 69.32 287 *e*P **P 10 32 35.5 +0.8**
SKHT IAmb IAmb 10 32 35.8
comp=Z,93nm,1.9s
SKHT *e* 10 32 48.0
MOY Mondy 69.41 332 *e*P **P 10 32 34.9 +0.2**
MOY pmax pmax
comp=Z,44nm,2.1s
KOLN Koldanda 69.47 302 *e*P **P 10 32 35.0 -0.7**
comp=Z,43nm,0.9s
ADKI Addanki 69.52 289 *e*P **P 10 32 36.8 +0.9**
ADKI IAmb IAmb 10 32 37.7
comp=Z,15nm,0.9s
ADKI *e* 10 32 49.0
NJS Nagarjunasagar 70.30 290 *e*P **P 10 32 40.8 +0.1**
NJS IAmb IAmb 10 32 42.5
comp=Z,23nm,1.3s
NJS *e* 10 32 52.7
RCLA Racherla 70.39 289 *e*P **P 10 32 41.4 +0.1**
RCLA IAmb IAmb 10 32 44.6
comp=Z,17nm,1.4s
RCLA *e* 10 32 51.5
SRLM Srisailam 70.58 289 *e*P **P 10 32 42.1 -0.4**
SRLM IAmb IAmb 10 32 44.2
comp=Z,25nm,1.0s
SRLM *e* 10 32 55.3
MIR Mirnyy 70.72 200 *e*P P 10 32 52.0 +10
MIR pmax pmax
comp=Z,180nm,1.0s
RPR Rampur 70.83 292 *e*P **P 10 32 44.2 +0.4**
RPR IAmb IAmb 10 32 46.0
comp=Z,12nm,0.8s
RPR *e* 10 32 54.7
HYB Hyderabad 71.19 291 *i*P **P 10 32 46.0 -0.1**
HYB Hyderabad 71.19 291 *e*P **P 10 32 47.3 +1.2**
HYBB Hyderabad (bro 71.19 291 *e*P **P 10 32 45.6 -0.6**
HYBB IAmb IAmb 10 32 47.2
comp=Z,19nm,1.1s
HYBB *e* 10 33 00.2
NGP Nagpur 71.59 294 *ex* P 10 32 43.4 -5.1
SRSP Sriramsagar 71.72 292 *e*P **P 10 32 48.3 -1.0**
SRSP IAmb IAmb 10 32 51.0
comp=Z,17nm,1.0s
SRSP *e* 10 33 01.7
VNDA Vanda 71.96 177 P **P 10 32 51.1 +1.5**
comp=Z,59nm,0.8s,baz=331,slow=6.6,SNR=309
VNDA PKPPKP **P'P'df 11 00 38.8 +0.6**
comp=Z,0.5nm,0.4s,baz=214,slow=7.3,SNR=5.3
VNDA LR LR 11 03 11.1
comp=Z,544nm,18.1s,baz=348,slow=35
VNDA Vanda 71.96 177 *e*P **P 10 32 51.0 +1.3**
VNDA pmax pmax
comp=Z,69nm,0.8s
VNDA Vanda 71.96 177 *e*P **P 10 32 51.0 +1.3**
comp=Z,69nm,0.8s
VNDA P'P' 11 00 38.8
WMQ Urumqi 72.58 319 P **P 10 32 53.9 -0.1**
WMQ PcP **PcP 10 33 11.6 +0.4**
WMQ pP **pP 10 33 13.9 -0.1**
WMQ sP **sP 10 33 23.8 +1.5**
WMQ sS **sS 10 42 44.8 -2.2**
WMQ PMZ
comp=Z,23nm,1.4s
WMQ PMZ
comp=Z,120nm,5.0s
WMQ LN
comp=Z,78nm,15.6s
WMQ LE
comp=Z,65nm,16.4s
WMQ LZ
comp=Z,180nm,26.2s
SBA Scott Base 72.61 176 *e*P **P 10 32 55.8 +2.3**
SBA pmax pmax
comp=Z,110nm,1.5s
SBA Scott Base 72.61 176 *e*P **P 10 32 55.8 +2.3**
comp=Z,110nm,1.5s
KLRI Killari 73.15 291 *e*P **P 10 32 57.0 -0.8**
KLRI IAmb IAmb 10 33 00.5
comp=Z,18nm,1.0s
KLRI *e* 10 33 11.9
AKL Akola 73.34 294 *e*P **P 10 32 57.2 -1.7**
AKL AMB AMB 10 33 16.4
comp=Z,32nm,0.7s
BHPL Bhopal 73.56 296 *e*P **P 10 33 00.8 +0.6**
DDI Dehra Dun 74.86 303 *e*P **P 10 33 05.8 -1.9**
DDI AMB AMB 10 33 36.7
comp=Z,36nm,0.8s
NDI New Delhi 75.12 302 *e*P **P 10 33 08.0 -1.1**
GOA Goa 75.25 288 *e*P **P 10 33 10.6 +0.6**
GOA AMB AMB 10 33 38.9
comp=Z,49nm,1.4s
POO Poona 75.80 291 *e*P **P 10 33 13.8 +0.5**
POO AMB AMB 10 33 40.3
comp=Z,44nm,1.1s
SMLA Simla 75.82 304 *e*P **P 10 33 12.8 -0.2**
DHRM DHARAMSHALA 76.84 305 *e*P **P 10 33 16.1 -3.0**
DHRM AML AML 10 33 17.7
comp=Z,19nm,0.8s
RKT Rikitea 76.95 112 *e*LR LR 10 57 19.0
comp=Z,956nm,35.0s
MK31 Makanchi Array 77.29 321 *e*P **P 10 33 19.7 -1.4**
MK31 Makanchi Array 77.29 321 *e*P **P 10 33 19.7 -1.4**
TIXI Tiksi 78.35 354 *c i*P **P 10 33 24.3 -2.0**
TIXI pmax pmax
comp=Z,24nm,1.0s
TIXI Tiksi 78.35 354 *e*P **P 10 33 24.4 -2.0**
comp=Z,26nm,1.0s
TNA Tin City 78.64 18 *e*P **P 10 33 28.0 -0.1**
comp=Z,9.4nm,0.8s
ZAA0 Zalesovo Array 78.83 328 *e*P **P 10 33 27.0 -2.4**
ZALV Zalesovo Beam 78.83 328 P **P 10 33 27.4 -1.9**
comp=Z,4.2nm,0.4s,baz=117,slow=5.4,SNR=20
ZALV PKKPbc **PKKPbc 10 52 23.6 -2.1**
comp=Z,1.3nm,0.5s,baz=318,slow=1.9,SNR=6.3
ZALV PKPPKP **P'P'df 11 00 30.4 +4.7**
comp=Z,1.5nm,0.3s,baz=300,slow=2.8,SNR=7.3
ZALV LR LR 11 07 20.2
comp=Z,491nm,22.0s,baz=70,slow=35
KSH Kashi 79.15 312 P **P 10 33 32.4 +0.8**
KSH pP **pP 10 33 53.6 +1.8**
KSH sP **sP 10 34 00.4 +0.4**
KSH PP PP 10 36 38.3 +6.3
KSH S **S 10 43 25.5 -0.1**
KSH sS **sS 10 44 01.3 +1.3**
KSH PMZ
comp=Z,7.0nm,0.7s
KSH PMZ
comp=Z,170nm,4.1s
KSH LN
comp=Z,140nm,4.0s
KSH LE
comp=Z,250nm,4.6s
KDAK Kodiak Island 80.00 28 *i*P **P 10 33 36.3 +0.7**
KDAK Kodiak Island 80.00 28 *e*P **P 10 33 35.6 0.0**
comp=Z,50nm,1.1s
NVS Novosibirsk 80.06 328 *i*P **P 10 33 34.1 -1.9**
NVS pmax pmax
comp=Z,23nm,1.2s
NVS pmax pmax
comp=N,10.0nm,1.3s
NVS pmax pmax
comp=E,15nm,1.3s
KURK Kurchatov 81.01 323 P **P 10 33 39.5 -1.7**
comp=E,91nm,1.2s,SNR=11
KURK Kurchatov 81.01 323 *e*P **P 10 33 39.7 -1.5**
KURK pmax pmax
comp=Z,15nm,1.0s
KURK Kurchatov 81.01 323 *e*P **P 10 33 39.7 -1.5**
comp=Z,15nm,1.0s
KURK P'P' 11 00 21.8
KURBB Kurchatov Arra 81.03 323 P **P 10 33 40.0 -1.3**
comp=Z,8.2nm,1.1s,baz=112,slow=4.7,SNR=25
KURBB PKPPKP **P'P'df 11 00 21.8 -0.3**
comp=Z,0.4nm,0.3s,baz=325,slow=3.1,SNR=3.7
FRU Bishkek 81.09 315 *i*P **P 10 33 41.0 -0.9**
FRU *i* 10 34 00.0
FRU *e* 10 36 51.0
RSO Redoubt South 81.21 26 *e*P **P 10 33 42.3 0.0**
comp=Z,34nm,0.9s

MAW Mawson 82.17 203 P **P 10 33 48.1 +1.1**
comp=Z,44nm,0.9s,baz=93,slow=5.7,SNR=68
MAW LR LR 11 09 46.4
comp=Z,374nm,19.1s,baz=64,slow=35
SEW Seward 82.51 27 *e*P **P 10 33 48.7 -0.1**
comp=Z,46nm,0.9s
PPLA Purkeypile 82.62 24 *e*P **P 10 33 49.1 -0.6**
comp=Z,33nm,1.3s
RC01 Rabbit Creek A 82.81 26 *e*P **P 10 33 49.6 -0.8**
comp=Z,43nm,0.9s
KBL Kabul 83.28 306 *e*P **P 10 33 51.6 -2.2**
KBL pmax pmax
comp=Z,9.0nm,0.8s
KBL Kabul 83.28 306 *e*P **P 10 33 51.6 -2.2**
comp=Z,9.0nm,0.8s
PMR Palmer 83.30 26 *e*P **P 10 33 52.0 -0.9**
PMR pmax pmax
comp=Z,29nm,0.9s
PMR Palmer 83.30 26 *e*P **P 10 33 52.0 -0.9**
comp=Z,29nm,0.9s
IM04 Indian Mountai 83.54 21 *e*P **P 10 33 53.8 -0.4**
TRF Thorofare Moun 83.64 24 *e*P **P 10 33 53.7 -1.2**
comp=Z,15nm,0.9s
BPAW Bear Paw Mtn. 83.67 23 *e*P **P 10 33 53.3 -1.5**
comp=Z,4.1nm,1.0s
MCK McKinley 84.31 24 *e*P **P 10 33 56.8 -1.3**
MCK pmax pmax
comp=Z,64nm,0.9s
MCK McKinley 84.31 24 *e*P **P 10 33 56.8 -1.3**
comp=Z,64nm,0.9s
DIV Divide 84.58 27 *e*P **P 10 33 59.5 -0.1**
comp=Z,58nm,1.0s
BMRM Bremner River 85.05 27 *e*P **P 10 34 01.4 -0.5**
comp=Z,35nm,1.0s
COLA College 85.22 23 *c i*P **P 10 34 01.2 -1.4**
COLA pmax pmax
comp=Z,185nm,1.0s
COLA College 85.22 23 *e*P **P 10 34 00.9 -1.6**
comp=Z,41nm,0.8s
COLD Coldfoot 85.40 20 *e*P **P 10 34 03.4 0.0**
comp=Z,22nm,0.9s
PAX Paxson 85.42 25 *e*P **P 10 34 03.3 -0.5**
PAX pmax pmax
comp=Z,8.0nm,0.9s
PAX Paxson 85.42 25 *e*P **P 10 34 03.2 -0.5**
comp=Z,7.6nm,0.9s
ILAR Eielson Array 85.56 23 P **P 10 34 02.5 -1.8**
comp=Z,36nm,0.8s,baz=254,slow=4.8,SNR=260
ILAR PKPPKP **P'P'df 11 00 11.8 -1.1**
comp=Z,0.9nm,1.1s,baz=215,slow=0.7,SNR=4.3
ILAR LR LR 11 08 41.5
comp=Z,290nm,20.6s,baz=260,slow=33
MENT Mentasta 86.15 25 *e*P **P 10 34 07.2 -0.2**
BVAR Borovoye Array 86.58 324 P **P 10 34 07.3 -2.3**
comp=Z,14nm,0.9s,baz=111,slow=6.5,SNR=31
BVAR LR LR 11 14 52.1
comp=Z,104nm,18.1s,baz=84,slow=37
BRVK Borovoye 86.65 324 *c i*P **P 10 34 08.5 -1.4**
BRVK pmax pmax
comp=Z,14nm,1.1s
BRVK Borovoye 86.65 324 *e*P **P 10 34 07.4 -2.5**
comp=Z,12nm,0.9s
EGAK Eagle 87.85 24 *e*P **P 10 34 14.7 -0.8**
comp=Z,28nm,1.0s
HYT Haines Junctio 88.30 28 *e*P **P 10 34 18.5 +0.7**
comp=Z,47nm,1.0s
DAWY Dawson 88.36 25 *e*P **P 10 34 18.1 +0.2**
comp=Z,37nm,1.1s
CRZF Crozet Islands 89.07 224 SS SS 10 50 50.0 -8.8
CRZF R 11 04 00.0
SYO Syowa Base 90.53 200 ‖ *e*P **P 10 34 27.0 -1.0**
DLBC Dease Lake 91.51 32 P **P 10 34 33.2 +0.4**
comp=Z,2.7nm,0.8s,baz=288,slow=7.1,SNR=5.3
DLBC Dease Lake 91.51 32 *e*P **P 10 34 32.5 -0.3**
comp=Z,11nm,1.3s
BBB Bella Bella 91.70 38 P **P 10 34 35.1 +1.4**
comp=Z,23nm,0.9s,baz=261,slow=6.0,SNR=8.6
INK Inuvik 91.72 21 P **P 10 34 32.2 -1.3**
comp=Z,3.5nm,0.3s,baz=239,slow=9.4,SNR=10
INK LR LR 11 10 12.7
comp=Z,294nm,21.5s,baz=275,slow=32
INK Inuvik 91.72 21 *e*P **P 10 34 33.1 -0.4**
INK pmax pmax
comp=Z,18nm,1.0s
INK Inuvik 91.72 21 *e*P **P 10 34 33.0 -0.4**
comp=Z,18nm,1.0s
ABKAR Akbulak array 92.37 319 *e*P **P 10 34 34.3 -2.6**
comp=Z,3.9nm,0.8s
KCPM Cahto Peak 93.53 51 *e*P **P 10 34 43.1 +0.4**
comp=Z,8.9nm,0.4s
L02D Cave Junction, 93.72 48 P **P 10 34 44.4 +1.0**
baz=94
AKTO Aktyubinsk 93.72 320 P **P 10 34 41.1 -2.0**
comp=Z,1.2nm,0.6s,baz=123,slow=5.4,SNR=5.3
AKTO PP **PP 10 38 29.7 +0.5**
comp=Z,1.3nm,0.9s,baz=75,slow=7.7,SNR=4.1
ARU Arti 93.90 326 P P 10 34 39.5 -4.3
ARU 10 38 23.8
ARU S **SKSac 10 45 08.0 -3.8**
ARU PS **PS 10 47 04.0 -7.6**
ARU MLR MLR
comp=Z,205nm,20.0s
ARU Arti 93.90 326 *e*P **P 10 34 41.1 -2.7**
comp=Z,4.2nm,0.9s
NLWA Neilton Lookou 93.94 43 *e*P **P 10 34 45.9 +1.6**
comp=Z,7.5nm,0.9s
M02C Callahan 94.22 49 P **P 10 34 46.8 +1.1**
baz=94
HUMO Hull Mountain 94.23 48 *e*P **P 10 34 46.3 +0.6**
comp=Z,16nm,1.0s
N02D Trinity Center 94.30 49 P **P 10 34 47.1 +1.0**
baz=94
YBH Yreka Blue Hor 94.35 49 P **P 10 34 47.2 +0.8**
comp=Z,19nm,1.0s,baz=238,slow=1.1,SNR=24
YBH Yreka Blue Hor 94.35 49 *e*P **P 10 34 47.1 +0.8**
YBH pmax pmax
comp=Z,20nm,1.0s
YBH Yreka Blue Hor 94.35 49 *e*P **P 10 34 47.1 +0.8**
comp=Z,20nm,1.0s
WDC Whiskeytown Da 94.40 50 *e*P **P 10 34 47.2 +0.7**
WDC pmax pmax
comp=Z,13nm,1.0s
WDC Whiskeytown Da 94.40 50 *e*P **P 10 34 47.2 +0.7**
comp=Z,13nm,1.0s
J04D Umpqua Nationa 94.89 47 P **P 10 34 49.0 0.0**
baz=95
M04C Macdoel 95.00 49 P **P 10 34 50.0 +0.6**
baz=95
JCW Jim Creek 95.30 42 P **P 10 34 51.6 +1.1**
I05D Terrebonne, OR 95.51 46 P **P 10 34 52.4 +0.8**
baz=96
J05D Fort Rock, OR 95.53 47 P **P 10 34 52.1 +0.3**
baz=96
G05D Wamic, OR 95.58 45 P **P 10 34 52.6 +0.8**
baz=96
CROR Criterion Ridg 95.80 45 P **P 10 34 53.0 +0.1**
CMB Columbia Colle 95.91 52 *e*P **P 10 34 52.4 -1.1**
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 95.91 52 *e*P **P 10 34 52.4 -1.1**
comp=Z,6.0nm,1.0s
NAC Naches 95.98 44 P **P 10 34 54.6 +1.0**
MOD Modoc Plateau 96.16 49 *e*P **P 10 34 53.9 -0.8**
comp=Z,10nm,1.1s
PKM Mcpherson Peak 96.21 56 P **P 10 34 55.5 +0.4**
baz=96
WTV Waterville 96.61 43 P **P 10 34 57.1 +0.7**
VES Vestal, Richgr 96.85 55 P **P 10 34 58.3 +0.6**
baz=97
HAWA Hanford 96.86 44 *e*P **P 10 34 58.5 +0.9**
comp=Z,13nm,1.0s
SAW Saint Andrews 96.98 43 P **P 10 34 58.7 +0.6**
ARVC Arvin 97.03 55 P Pdif 10 34 59.0 +0.3
baz=97
ISA Isabella, Lake 97.34 55 P Pdif 10 35 00.3 +0.1
baz=97
WVOR Wild Horse Val 97.41 48 *e*P Pdif 10 35 00.8 +0.4
WVOR pmax pmax
comp=Z,6.0nm,0.9s
WVOR Wild Horse Val 97.41 48 *e*P Pdif 10 35 00.8 +0.4
comp=Z,5.8nm,0.9s
OD2 Odessa Site #2 97.45 43 P Pdif 10 35 01.0 +0.7
NVAR Mina Array Bea 97.57 52 P Pdif 10 35 02.1 +0.8
comp=Z,8.3nm,0.9s,baz=260,slow=6.1,SNR=33
NVAR PP **PP 10 38 58.9 -0.7**
comp=Z,0.6nm,0.8s,baz=277,slow=7.2,SNR=4.1
MWC Mount Wilson 97.63 56 *e*P Pdif 10 35 02.1 +0.5

MWC pmax pmax
comp=Z,31nm,1.2s
MWC Mount Wilson 97.63 56 *e*P Pdif 10 35 02.1 +0.5
comp=Z,31nm,1.2s
EDW2 Edwards Air Fo 97.71 56 P Pdif 10 35 02.4 +0.6
baz=98
LRMC Laurel Mtn Rad 97.98 55 P Pdif 10 35 04.1 +1.1
baz=98
DAC Darwin (Calif) 98.08 54 *e*P Pdif 10 35 03.9 +0.3
DAC pmax pmax
comp=Z,12nm,1.0s
DAC Darwin (Calif) 98.08 54 *e*P Pdif 10 35 03.9 +0.3
comp=Z,12nm,1.0s
MPMC Manual Prospec 98.15 55 P Pdif 10 35 04.3 +0.4
baz=98
GRAC Grapevine Rang 98.27 54 P Pdif 10 35 05.1 +0.8
baz=98
109C Camp Elliot, M 98.39 58 P Pdif 10 35 05.3 +0.6
baz=98
BMO Blue Mountains 98.41 46 *e*P Pdif 10 35 04.9 +0.2
BMO pmax pmax
comp=Z,4.0nm,0.8s
BMO Blue Mountains 98.41 46 *e*P Pdif 10 35 04.9 +0.2
comp=Z,4.2nm,0.8s
TPH Tonopah 98.41 52 *e*P Pdif 10 35 05.1 +0.1
TPH pmax pmax
comp=Z,5.0nm,1.0s
TPH Tonopah 98.41 52 *e*P Pdif 10 35 05.1 +0.1
comp=Z,4.7nm,1.0s
BMN Battle Mountai 98.44 50 *e*P Pdif 10 35 05.6 +0.5
BMN pmax pmax
comp=Z,4.0nm,1.0s
BMN Battle Mountai 98.44 50 *e*P Pdif 10 35 05.5 +0.5
comp=Z,4.4nm,1.0s
NEW Newport 98.52 42 P Pdif 10 35 06.0 +1.0
comp=Z,16nm,1.0s,baz=227,slow=3.2,SNR=21
NEW Newport 98.52 42 *e*P Pdif 10 35 05.4 +0.3
NEW pmax pmax
comp=Z,17nm,0.9s
NEW Newport 98.52 42 P Pdif 10 35 05.5 +0.5
baz=98
NEW Newport 98.52 42 *e*P Pdif 10 35 05.4 +0.3
comp=Z,17nm,0.9s
FURC Furnace Creek, 98.67 54 P Pdif 10 35 06.7 +0.8
baz=99
GSC Goldstone, Bar 98.69 55 P Pdif 10 35 06.8 +0.5
baz=99
PFO Pinyon Flats O 98.95 57 P Pdif 10 35 07.6 +0.1
baz=99
MONP Monument Peak, 98.96 58 P Pdif 10 35 08.2 +0.6
baz=99
SHOC Shoshone, Teco 99.13 55 P **Pdif 10 35 08.6 +0.6**
baz=99
TPNV Topopah Spring 99.17 54 P **Pdif 10 35 08.4 0.0**
baz=99
YKA Yellowknife Ar 99.27 28 P **Pdif 10 35 07.0 -1.0**
comp=Z,3.0nm,0.9s,baz=272,slow=4.7,SNR=17
YKA PKKPbc **PKKPbc 10 51 31.9 -2.8**
comp=Z,1.6nm,0.8s,baz=99,slow=2.8,SNR=9.5
YKA Yellowknife Ar 99.27 28 P **Pdif 10 35 07.0 -1.0**
BELC Belle Mtn. Jos 99.34 57 P **Pdif 10 35 09.8 +0.7**
baz=99
MFID Camas Ranch 99.48 47 *e*P **Pdif 10 35 10.0 +0.4**
comp=Z,8.5nm,1.0s
R11A Troy Canyon, C 99.70 52 P **Pdif 10 35 10.9 +0.2**
baz=100
R11A Troy Canyon, C 99.70 52 *e*P **Pdif 10 35 10.6 -0.1**
comp=Z,5.0nm,1.2s
ELK Elko 99.95 50 *e*P **Pdif 10 35 11.7 -0.2**
ELK pmax pmax
comp=Z,5.0nm,1.0s
ELK Elko 99.95 50 *e*Pdif **Pdif 10 35 11.7 -0.2**
comp=Z,4.5nm,1.0s
SNAA Sanae 99.98 189 P **Pdif 10 35 11.5 +0.4**
SNAA Sanae 99.98 189 PKiKP **PP 10 39 15.5 -1.0**
SNAA Sanae 99.98 189 *e*P **Pdif 10 35 10.6 -0.5**
SNAA pmax pmax
comp=Z,7.0nm,1.1s
SNAA Sanae 99.98 189 *e*Pdif **Pdif 10 35 10.6 -0.5**
comp=Z,7.1nm,1.1s
BSMT Bassoo Peak 100.09 43 *e*Pdif **Pdif 10 35 13.0 +0.7**
comp=Z,4.6nm,0.9s
HLID Hailey 100.51 47 P **Pdif 10 35 14.8 +0.6**
baz=100
HLID Hailey 100.51 47 *e*Pdif **Pdif 10 35 14.7 +0.5**
comp=Z,6.0nm,1.1s
EDM Edmonton 100.70 37 *e*P **Pdif 10 35 16.4 +1.8**
EDM pmax pmax
comp=Z,5.0nm,0.9s
EDM Edmonton 100.70 37 *e*Pdif **Pdif 10 35 16.4 +1.8**
comp=Z,4.8nm,0.9s
CHMT Chamberlain Mo 101.18 43 *e*Pdif **Pdif 10 35 17.5 +0.3**
comp=Z,4.1nm,1.1s
MCMT McKenzie Canyo 101.58 46 *e*Pdif **Pdif 10 35 19.2 +0.2**
comp=Z,1.3nm,0.9s
VNA1 Neumayer--Stat 101.72 188 P **Pdif 10 35 19.9 +1.1**
VNA1 Neumayer--Stat 101.72 188 PKiKP **PP 10 39 29.7 +0.3**
DLMT Dillon 101.73 45 *e*Pdif **Pdif 10 35 19.7 +0.2**
comp=Z,2.4nm,0.9s
HVU Hansel Valley 101.78 49 *e*P **Pdif 10 35 20.5 +0.6**
HVU pmax pmax
comp=Z,10.0nm,1.0s
HVU Hansel Valley 101.78 49 *e*Pdif **Pdif 10 35 20.5 +0.6**
comp=Z,9.6nm,1.0s
DUG Dugway, Tooele 101.82 50 *e*P **Pdif 10 35 20.4 +0.3**
DUG pmax pmax
comp=Z,2.0nm,0.9s
DUG Dugway, Tooele 101.82 50 P **Pdif 10 35 20.6 +0.5**
baz=102
DUG Dugway, Tooele 101.82 50 *e*Pdif **Pdif 10 35 20.4 +0.3**
comp=Z,2.4nm,0.9s
214A Organ Pipe Nat 102.01 59 *e*Pdif **Pdif 10 35 22.6 +1.7**
comp=Z,4.2nm,0.9s
BOZ Bozeman (W) 102.39 45 P **Pdif 10 35 22.9 +0.4**
baz=102
HWUT Hardware Ranch 102.69 49 *e*Pdif **Pdif 10 35 23.6 -0.3**
comp=Z,4.6nm,1.0s
REDW Red Top Meadow 103.11 47 *e*Pdif **Pdif 10 35 26.1 +0.3**
comp=Z,2.7nm,1.1s
EGMT Eagleton 103.45 42 P **Pdif 10 35 27.9 +0.9**
baz=104
EGMT Eagleton 103.45 42 *e*Pdif **Pdif 10 35 27.9 +0.9**
comp=Z,7.9nm,1.1s
PDAR Pinedale Array 104.10 48 Pdiff **Pdif 10 35 30.4 +0.1**
comp=Z,4.6nm,1.0s,baz=318,slow=2.0,SNR=20
PDAR PKiKP **PP 10 39 48.2 -0.6**
comp=Z,0.6nm,0.8s,baz=287,slow=3.7,SNR=4.1
PDAR PKKP **PKKPdf 10 51 32.8 +3.5**
comp=Z,0.5nm,0.6s,baz=79,slow=4.7,SNR=3.7
PDAR PKPPKP **P'P'df 10 59 43.6 +3.6**
comp=Z,0.3nm,0.4s,baz=64,slow=3.4,SNR=4.1
APA Apatity 104.26 339 *e*P Pdif 10 35 43.0 +13
APA MLR MLR
comp=Z,500nm,22.0s
J19A Crowheart 104.42 47 P **Pdif 10 35 31.6 -0.1**
baz=104
C20A Veseth Ranch, 104.66 42 P **Pdif 10 35 33.5 +1.1**
baz=105
J22A Midwest 106.27 47 P **PKiKP 10 39 51.4 +0.4**
baz=106
OBN Obninsk 106.34 326 *i*P **Pdif 10 35 40.8 +1.3**
OBN pmax pmax
comp=Z,7.0nm,1.3s
OBN MLR MLR
comp=Z,204nm,18.0s
SMCO Snowmass 106.38 51 *e*Pdif **Pdif 10 35 41.4 +0.7**
comp=Z,5.4nm,1.0s
ANMO Albuquerque 107.18 55 PKiKP **PKiKP 10 39 53.3 +0.3**
comp=Z,1.4nm,1.0s,baz=217,slow=4.4,SNR=6.5
ANMO Albuquerque 107.18 55 *e*PKPdf **PKiKP 10 39 53.8 +0.8**
I24A Kuemmerle Ranc 107.54 46 P **PKiKP 10 39 53.8 +0.5**
baz=108
SDCO Great Sand Dun 107.68 52 P **PKiKP 10 39 54.2 +0.2**
baz=108
P26A Davis Ranch, A 109.13 50 P **PKiKP 10 39 57.1 +0.6**
baz=109
TXAR Lajitas Array 109.99 61 Pdiff **Pdif 10 36 00.6 +4.0**
comp=Z,0.1nm,0.5s,baz=264,slow=4.4,SNR=2.9
TXAR PKiKP **PKiKP 10 39 58.9 +0.5**
comp=Z,1.5nm,0.9s,baz=301,slow=1.6,SNR=11
TXAR PKKPbc **PKKPbc 10 50 58.9 -2.4**
comp=Z,0.4nm,0.7s,baz=134,slow=3.6,SNR=4.9
TXAR PKKPab **PKKPab 10 51 13.2 +1.2**
comp=Z,2.5nm,0.9s,baz=117,slow=7.2,SNR=16
B29A Wagenman Farm,110.22 40 P **PKiKP 10 39 58.2 +0.1**
baz=110
MSTX Muleshoe 110.31 56 P **PKiKP 10 39 58.6 -0.2**

	baz=110								
Q28A	**Sharon Springs**	**110.36**	**51**	P		**PKiKP**	**10 39 59.0**	**+0.3**
	baz=110								
J29A	**Okreek**	**110.70**	**46**	P		**PKiKP**	**10 39 59.2**	**0.0**
	baz=111								
529A	**Stev Forest Ra**	**111.18**	**60**	P		**PKiKP**	**10 40 00.9**	**+0.4**
	baz=111								
129A	**Stewart Farms,**	**111.21**	**57**	P		**PKiKP**	**10 40 00.7**	**+0.1**
	baz=111								
429A	**Davenport Ranc**	**111.41**	**60**	P		**PKiKP**	**10 40 00.6**	**-0.4**
	baz=111								
BRTR	**Keskin Array B**	**111.50**	**310**	PKKPbc		PKKPbc	10 50 56.5	-0.3
	comp=Z,0.9nm,0.7s,baz=214,slow=4.2,SNR=4.7								
X30A	**Coker Ranch, T**	**111.81**	**55**	P		**PKiKP**	**10 40 02.0**	**+0.4**
	baz=112								
AKASG	**Malin Array Be**	**111.82**	**323**	PP		PP	10 40 43.0	-1.5
	comp=Z,0.6nm,0.5s,baz=60,slow=6.4,SNR=11								
AKASG					PKKPbc	**PKKPbc**	**10 50 53.5**	**-2.4**
	comp=Z,0.3nm,0.4s,baz=260,slow=3.9,SNR=4.3								
530A	**J-C Ranch, Com**	**111.93**	**60**	P		**PKiKP**	**10 40 02.0**	**+0.1**
	baz=112								
330A	**Mertzon**	**111.94**	**59**	P		**PKiKP**	**10 40 02.0**	**+0.1**
	baz=112								
430A	**Baggett Ranch,**	**111.95**	**59**	P		**PKiKP**	**10 40 01.9**	**-0.1**
	baz=112								
Y31A	**Rekieta Farm,**	**112.38**	**56**	P		**PKiKP**	**10 40 02.8**	**+0.2**
	baz=112								
431A	**Sonora**	**112.50**	**59**	P		**PKiKP**	**10 40 02.6**	**-0.4**
	baz=112								
Z31A	**Sharp Cattle R**	**112.56**	**56**	P		**PKiKP**	**10 40 03.0**	**0.0**
	baz=113								
531A	**Rocksprings**	**112.61**	**60**	P		**PKiKP**	**10 40 03.6**	**+0.4**
	baz=113								
631A	**Perdido Creek**	**112.67**	**61**	P		**PKiKP**	**10 40 03.1**	**-0.1**
	baz=113								
P32A	**Huiting Farm,**	**112.73**	**50**	P		**PKiKP**	**10 40 03.5**	**+0.4**
	baz=113								
X32A	**Elmer**	**113.11**	**55**	P		**PKiKP**	**10 40 03.9**	**-0.1**
	baz=113								
Z32A	**Haskell**	**113.12**	**56**	P		**PKiKP**	**10 40 04.7**	**+0.7**
	baz=113								
332A	**Millersview**	**113.16**	**59**	P		**PKiKP**	**10 40 04.3**	**+0.1**
	baz=113								
432A	**Menard**	**113.18**	**59**	P		**PKiKP**	**10 40 03.9**	**-0.4**
	baz=113								
JCT	**Junction City**	**113.22**	**59**	*e*PKiKP		**PKiKP**	**10 40 04.6**	**+0.3**
JCT	**Junction City**	**113.22**	**59**	P		**PKiKP**	**10 40 03.8**	**-0.5**
	baz=113								
JCT	**Junction City**	**113.22**	**59**	*e*PKPdf		**PKiKP**	**10 40 04.6**	**+0.3**
ECSD	**EROS Data Cent**	**113.25**	**45**	P		**PKiKP**	**10 40 04.0**	**0.0**
	baz=113								
ECSD	**EROS Data Cent**	**113.25**	**45**	*e*PKPdf		**PKiKP**	**10 40 03.9**	**0.0**
ECSD				*e*PP		**PP**	**10 40 53.9**	**-1.1**
732A	**Laxson Ranch,**	**113.27**	**61**	P		**PKiKP**	**10 40 04.2**	**-0.2**
	baz=113								
832A	**Faith Ranch, C**	**113.31**	**62**	P		**PKiKP**	**10 40 04.6**	**+0.1**
	baz=113								
632A	**Uvalde**	**113.34**	**61**	P		**PKiKP**	**10 40 05.3**	**+0.8**
	baz=113								
SUMG	**Summit**	**113.38**	**2**	*i* P		**PKKPbc**	**10 50 49.1**	**-2.7**
	comp=Z,6.6nm,1.0s								
O33A	**Hebron**	**113.40**	**49**	P		**PKiKP**	**10 40 04.6**	**+0.3**
	baz=113								
Z33A	**Whitaker Ranch**	**113.71**	**56**	P		**PKiKP**	**10 40 05.0**	**-0.2**
	baz=114								
Y33A	**Hilltop Ranch,**	**113.71**	**56**	P		**PKiKP**	**10 40 05.2**	**0.0**
	baz=114								
X33A	**Lawton**	**113.73**	**55**	P		**PKiKP**	**10 40 04.9**	**-0.3**
	baz=114								
233A	**Rising Star**	**113.78**	**58**	P		**PKiKP**	**10 40 05.7**	**+0.3**
	baz=114								
433A	**Art**	**113.79**	**59**	P		**PKiKP**	**10 40 05.2**	**-0.3**
	baz=114								
333A	**Richland Sprin**	**113.81**	**58**	P		**PKiKP**	**10 40 05.1**	**-0.4**
	baz=114								
BOSA	**Boshof**	**114.03**	**235**	PKP		PKPdf	10 40 06.3	+0.2
	comp=Z,4.0nm,0.8s,baz=174,slow=3.9,SNR=6.9								
BOSA					PKKPab	**PKKPab**	**10 50 55.4**	**+0.3**
	comp=Z,4.1nm,0.9s,baz=241,slow=2.2,SNR=5.5								
BOSA	**Boshof**	**114.03**	**235**	PKIKP		PKPdf	10 40 06.3	+0.2
BOSA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
BOSA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
BOSA	**Boshof**	**114.03**	**235**	*e*PKPdf		PKPdf	10 40 06.8	+0.7
BOSA					PKKPab	**PKKPab**	**10 50 55.4**	**+0.3**
P34A	**Walnut Farm, R**	**114.08**	**49**	P		PKPdf	10 40 05.5	-0.2
	baz=114								
534A	**Blanco**	**114.41**	**60**	P		PKPdf	10 40 06.2	-0.5
	baz=114								
234A	**Clairette**	**114.43**	**58**	P		PKPdf	10 40 06.8	+0.2
	baz=114								
334A	**Lometa**	**114.44**	**58**	P		PKPdf	10 40 06.3	-0.3
	baz=114								
M35A	**Neola**	**114.47**	**47**	P		PKPdf	10 40 06.5	+0.1
	baz=114								
434A	**Burnet**	**114.48**	**59**	P		PKPdf	10 40 06.1	-0.6
	baz=114								
P35A	**Duane Minner,**	**114.70**	**49**	P		PKPdf	10 40 07.4	+0.5
	baz=115								
S35A	**Otter Creek Ra**	**114.88**	**51**	P		PKPdf	10 40 07.1	-0.1
	baz=115								
T35A	**Sooner Cattle**	**114.88**	**52**	P		PKPdf	10 40 07.4	+0.1
	baz=115								
W35A	**Tecumseh**	**114.94**	**54**	P		PKPdf	10 40 08.0	+0.5
	baz=115								
X35A	**Drake**	**115.00**	**55**	P		PKPdf	10 40 07.4	-0.2
	baz=115								
LBTB	**Lobatse**	**115.03**	**239**	*e*PKIKP		**PKPdf**	**10 40 09.0**	**+1.0**
LBTB	**Lobatse**	**115.03**	**239**	*e*PKPdf		**PKPdf**	**10 40 09.0**	**+1.0**
535A	**Dale**	**115.19**	**60**	P		**PKPdf**	**10 40 08.5**	**+0.4**
	baz=115								
P36A	**Good Intent, A**	**115.29**	**49**	P		**PKPdf**	**10 40 08.1**	**+0.1**
	baz=115								
T36A	**Boggs Farm, Ca**	**115.35**	**52**	P		**PKPdf**	**10 40 08.5**	**+0.3**
	baz=115								
R36A	**Gordon, Harris**	**115.36**	**50**	P		**PKPdf**	**10 40 07.9**	**-0.3**
	baz=115								
S36A	**Lake Cedric, C**	**115.43**	**51**	P		**PKPdf**	**10 40 08.4**	**0.0**
	baz=115								
SPMN	**Marine on St.**	**115.44**	**42**	P		**PKPdf**	**10 40 08.3**	**+0.2**
	baz=115								
W36A	**Wetumka**	**115.46**	**54**	P		**PKPdf**	**10 40 08.5**	**0.0**
	baz=116								
X36A	**Centrahoma**	**115.47**	**55**	P		**PKPdf**	**10 40 08.0**	**-0.4**
	baz=116								
MLR	**Muntele Rosu**	**115.55**	**318**	PKKPbc		PKKPbc	10 50 42.3	-0.9
	comp=Z,0.4nm,0.7s,baz=164,slow=7.4,SNR=4.7								
LSZ	**Lusaka**	**115.56**	**250**	*e*PKIKP		**PKPdf**	**10 40 10.2**	**+0.9**
LSZ	**Lusaka**	**115.56**	**250**	*e*PKPdf		**PKPdf**	**10 40 10.2**	**+0.9**
V36A	**Jenks**	**115.56**	**53**	P		**PKPdf**	**10 40 09.3**	**+0.7**
	baz=116								
336A	**Riesel**	**115.61**	**58**	P		**PKPdf**	**10 40 09.5**	**+0.6**
	baz=116								
Z36A	**Blue Ridge**	**115.64**	**56**	P		**PKPdf**	**10 40 09.0**	**+0.1**
	baz=116								
Y36A	**Durant**	**115.65**	**55**	P		**PKPdf**	**10 40 08.6**	**-0.2**
	baz=116								
TUL1	**Leonard**	**115.66**	**53**	P		**PKPdf**	**10 40 09.2**	**+0.4**
	baz=116								
R37A	**Teagarden Farm**	**115.88**	**50**	P		**PKPdf**	**10 40 08.9**	**-0.3**
	baz=116								
T37A	**Cheneyville 18**	**116.09**	**52**	P		**PKPdf**	**10 40 09.1**	**-0.5**
	baz=116								
U37A	**Salina**	**116.09**	**52**	P		**PKPdf**	**10 40 09.8**	**+0.2**
	baz=116								
W37A	**Quinton**	**116.11**	**54**	P		**PKPdf**	**10 40 09.6**	**-0.1**
	baz=116								
Y37A	**Hugo**	**116.18**	**55**	P		**PKPdf**	**10 40 09.8**	**0.0**
	baz=116								
V37A	**Hulbert**	**116.18**	**53**	P		**PKPdf**	**10 40 09.3**	**-0.5**
	baz=116								
X37A	**Clayton**	**116.26**	**54**	P		**PKPdf**	**10 40 10.4**	**+0.4**
	baz=116								
Z37A	**Pogue Cattle C**	**116.32**	**56**	P		**PKPdf**	**10 40 11.0**	**+0.9**
	baz=116								
KOLS	**Kolonicke sedl**	**116.65**	**323**	*e*P		**Pdif**	**10 36 24.0**	**-1.6**
KOLS	**Kolonicke sedl**	**116.65**	**323**	PDIF		**Pdif**	**10 36 24.0**	**-1.6**
U38A	**Gravette**	**116.66**	**52**	P		**PKPdf**	**10 40 10.7**	**0.0**
	baz=117								
X38A	**Whitesboro**	**116.68**	**54**	P		**PKPdf**	**10 40 10.8**	**0.0**
	baz=117								
V38A	**Canehill**	**116.77**	**53**	P		**PKPdf**	**10 40 09.9**	**-1.0**
	baz=117								
W38A	**Poteau**	**116.85**	**54**	P		**PKPdf**	**10 40 10.9**	**-0.2**
	baz=117								
138A	**Matatall Enter**	**116.86**	**56**	P		**PKPdf**	**10 40 11.7**	**+0.5**
	baz=117								
338A	**Crockett**	**116.91**	**58**	P		**PKPdf**	**10 40 11.3**	**0.0**
	baz=117								
STHS	**Stebnicka Huta**	**117.07**	**323**	*e*P		**Pdif**	**10 36 24.7**	**-2.8**
STHS	**Stebnicka Huta**	**117.07**	**323**	PDIF		**Pdif**	**10 36 24.7**	**-2.8**
Y39A	**Lockesburg**	**117.43**	**55**	P		**PKPdf**	**10 40 12.7**	**+0.5**
	baz=117								
339A	**Huntington**	**117.55**	**58**	P		**PKPdf**	**10 40 13.4**	**+0.9**
	baz=118								
MIAR	**Mount Ida**	**117.72**	**54**	*e*PKIKP		**PKPdf**	**10 40 12.9**	**+0.1**
MIAR	**Mount Ida**	**117.72**	**54**	*e*PKPdf		**PKPdf**	**10 40 12.9**	**+0.1**
JFWS	**Jewell Farm**	**117.93**	**44**	*e*PKIKP		**PKPdf**	**10 40 11.6**	**-1.4**
JFWS	**Jewell Farm**	**117.93**	**44**	*e*PKPdf		**PKPdf**	**10 40 11.6**	**-1.4**
OKC	**Ostrava-Krasne**	**118.70**	**325**	AMS		AMS	11 34 20.0	
DPC	**Dobruska-Polom**	**119.49**	**326**	AMS		AMS	11 33 30.0	
	comp=Z,300nm,20.5s								
PVCC	**Panska Ves**	**120.36**	**327**	AMS		AMS	11 33 30.0	
	comp=Z,400nm,21.5s								
TREC	**Trest**	**120.48**	**325**	AMS		AMS	11 34 10.0	
	comp=Z,200nm,12.9s								
GOPC	**GO Pecny, Ondr**	**120.56**	**326**	AMS		AMS	11 34 20.0	
	comp=Z,300nm,17.4s								
PRU	**Pruhonice**	**120.66**	**326**	AMS		AMS	11 34 00.0	
	comp=Z,200nm,17.0s								
CLL	**Collm**	**120.78**	**328**	*e*PP		PP	10 41 47.0	+0.1
CLL				*e*PS		**PS**	**10 51 30.0**	**-10**
CLL				*e*SS		SS	10 58 24.0	+12
CLL				*e*(SSS)			11 03 18.0	
CLL				Lm		MLR	11 33 00.0	
	comp=Z,400nm,21.9s								
OLIL	**Olney**	**120.83**	**48**	*e*PKPdf		**PKPdf**	**10 40 19.0**	**+0.4**
SFIN	**Lafayette**	**121.01**	**46**	P		**PKPdf**	**10 40 19.0**	**0.0**
	baz=121								
SFIN	**Lafayette**	**121.01**	**46**	*e*PKPdf		**PKPdf**	**10 40 18.4**	**-0.6**
OXF	**Oxford**	**121.06**	**53**	*e*PKIKP		**PKPdf**	**10 40 18.3**	**-0.9**
OXF	**Oxford**	**121.06**	**53**	*e*PKPdf		**PKPdf**	**10 40 18.3**	**-0.9**
KHC	**Kasperske Hory**	**121.64**	**326**	*e*PKPdf		**PKPdf**	**10 40 19.0**	**-1.0**
KHC				*ex*		x	10 40 54.6	
KHC	**Kasperske Hory**	**121.64**	**326**	*e*PKIKP		**PKPdf**	**10 40 19.0**	**-1.0**
GERES	**GERESS Array B**	**121.72**	**325**	PKP		**PKPdf**	**10 40 18.4**	**-1.8**
	comp=Z,1.0nm,0.7s,baz=0.0,slow=2.9,SNR=6.7								
GERES					PKKPbc	**PKKPab**	**10 50 20.2**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=242,slow=2.9,SNR=8.5								
BLO	**Bloomington**	**121.85**	**47**	*e*PKIKP		**PKPdf**	**10 40 20.1**	**-0.5**
BLO	**Bloomington**	**121.85**	**47**	*e*PKPdf		**PKPdf**	**10 40 20.1**	**-0.5**
WVT	**Waverly**	**121.85**	**51**	*e*PKIKP		**PKPdf**	**10 40 19.8**	**-0.9**
WVT	**Waverly**	**121.85**	**51**	*e*PKPdf		**PKPdf**	**10 40 19.8**	**-0.9**
LRAL	**Lakeview Retre**	**123.40**	**54**	*e*PKPdf		**PKPdf**	**10 40 23.1**	**-0.6**
ACSO	**Alum Creek Sta**	**123.98**	**45**	*e*PKPdf		**PKPdf**	**10 40 24.1**	**-0.6**
TSUM	**Tsumeb**	**124.02**	**242**	*e*PKPdf		**PKPdf**	**10 40 26.5**	**+1.0**
SADO	**Sadowa**	**124.46**	**38**	PKP		**PKPdf**	**10 40 24.3**	**-1.1**
	comp=Z,11nm,1.0s,baz=301,slow=5.8,SNR=6.6								
TKL	**Tuckaleechee C**	**125.11**	**50**	PKP		**PKPdf**	**10 40 27.3**	**+0.3**
	comp=Z,20nm,0.9s,baz=178,slow=3.0,SNR=25								
EKA	**Eskdalemuir Ar**	**125.19**	**339**	PKP		**PKPdf**	**10 40 26.6**	**+0.1**
	comp=Z,5.1nm,1.1s,baz=21,slow=3.0,SNR=3.8								
TIGA	**Tifton**	**126.62**	**55**	P		**PKPdf**	**10 40 29.9**	**-0.1**
	baz=127								
TIGA	**Tifton**	**126.62**	**55**	*e*PKPdf		**PKPdf**	**10 40 29.9**	**-0.1**
BLA	**Blacksburg**	**127.04**	**47**	*e*PKIKP		**PKPdf**	**10 40 30.1**	**-0.6**
BLA	**Blacksburg**	**127.04**	**47**	*e*PKPdf		**PKPdf**	**10 40 30.1**	**-0.6**
KMSC	**Kings Mountain**	**127.16**	**50**	P		**PKPdf**	**10 40 31.1**	**+0.1**
	baz=127								
MDV	**Middlebury**	**128.47**	**36**	*e*PKPdf		**PKPdf**	**10 40 32.6**	**-0.6**
SDMD	**Soldier's Deli**	**128.59**	**43**	*e*PKPdf		**PKPdf**	**10 40 32.8**	**-0.7**
TRQA	**Tornquist**	**128.71**	**151**	*e*PKPdf		**PKPdf**	**10 40 34.3**	**+0.4**
JTS	**JuntasAbangare**	**128.71**	**82**	*e*PKIKP		PKPpre	10 40 29.5	
JTS				*e*			10 40 35.7	
JTS	**JuntasAbangare**	**128.71**	**82**	*e*PKPpre		PKPpre	10 40 29.5	
JTS				*e*PKPdf		**PKiKP**	**10 40 35.7**	**+0.6**
TRY	**Troy**	**128.90**	**38**	*e*PKPdf		**PKPdf**	**10 40 33.5**	**-0.5**
LCO	**Las Campanas**	**129.95**	**136**	*e*PKPdf		**PKPdf**	**10 40 38.1**	**+1.3**
OTAV	**Otavalo**	**134.56**	**96**	*e*PKPdf		**PKPdf**	**10 40 47.4**	**+1.3**
LVC	**Limon Verde**	**135.04**	**130**	*e*PKPdf		**PKPdf**	**10 40 47.9**	**+1.3**
ESDC	**Sonseca Array**	**137.31**	**326**	PKP		**PKPdf**	**10 40 50.2**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=46,slow=4.4,SNR=6.1								
ESDC					PP	**PP**	**10 43 37.3**	**+2.4**
	comp=Z,1.6nm,0.9s,baz=25,slow=7.1,SNR=4.1								
LPAZ	**La Paz**	**139.04**	**123**	PKhKP		PKPpre	10 40 46.0	
	comp=Z,6.0nm,0.9s,baz=230,slow=2.0,SNR=16								
LPAZ					PKP	**PKiKP**	**10 40 56.7**	**0.0**
	comp=Z,16nm,0.9s,baz=319,slow=1.9,SNR=21								
LPAZ	**La Paz**	**139.04**	**123**	*e*PKHKP		PKPpre	10 40 44.8	
LPAZ				*e*			10 40 56.6	
LPAZ	**La Paz**	**139.04**	**123**	*e*PKPpre		PKPpre	10 40 44.8	
LPAZ				PKPpre		PKPpre	10 40 46.0	
LPAZ				*e*PKPdf		**PKiKP**	**10 40 56.6**	**-0.1**
ROSC	**El Rosal**	**139.13**	**89**	PKP		**PKPdf**	**10 40 53.8**	**-0.7**
	comp=Z,13nm,0.8s,baz=91,slow=10,SNR=9.1								
ROSC	**El Rosal**	**139.13**	**89**	PKP		**PKPdf**	**10 40 53.8**	**-0.7**
ROSC				*e*PKPdf		**PKiKP**	**10 40 54.2**	**-2.5**
CPUP	**Villa Florida**	**140.32**	**145**	*e*PKIKP		**PKPdf**	**10 40 56.8**	**+1.0**
CPUP	**Villa Florida**	**140.32**	**145**	*e*PKPdf		**PKPdf**	**10 40 56.8**	**+1.0**
SDV	**Santo Domingo**	**142.86**	**83**	*e*PKPdf		**PKPdf**	**10 40 58.5**	**-2.5**
TOA0	**Torodi Ar. Sit**	**144.81**	**284**	*e*PKP1		**PKPab**	**10 41 01.3**	**-1.9**
TORD	**Torodi Ar. Bea**	**144.81**	**284**	PKP		**PKPab**	**10 41 02.5**	**-0.6**
	comp=Z,49nm,0.9s,baz=68,slow=3.0,SNR=111								
LSP	**Las Mesas**	**144.86**	**67**	*e*PKPdf		**PKPab**	**10 41 02.9**	**-0.4**
CRPR	**Cabo Rojo, PR**	**144.89**	**67**	*e*PKPdf		**PKPab**	**10 41 02.4**	**-0.9**
SHEL	**Horse Pasture**	**145.11**	**231**	*e*PKIKP		**PKPdf**	**10 41 06.3**	**+1.7**
SHEL	**Horse Pasture**	**145.11**	**231**	*e*PKPdf		**PKPdf**	**10 41 06.3**	**+1.7**
OBIP	**Obispado Ponce**	**145.34**	**67**	*e*PKPdf		**PKPbc**	**10 41 04.0**	**-0.8**
CELP	**Cerrillos**	**145.35**	**67**	*e*PKPdf		**PKPbc**	**10 41 04.1**	**-0.8**
ICMP	**Isla Caja de M**	**145.45**	**67**	*e*PKPdf		**PKPdf**	**10 41 04.3**	**-0.7**
SJG	**San Juan**	**145.74**	**66**	*e*PKIKP		**PKPdf**	**10 41 05.1**	**-0.4**
SJG	**San Juan**	**145.74**	**66**	*e*PKPdf		**PKPdf**	**10 41 05.1**	**-0.4**
SAML	**Samuel**	**146.71**	**116**	*e*PKPdf		**PKPbc**	**10 41 08.6**	**-0.5**
STVI	**Saint Thomas**	**146.75**	**65**	*e*PKPdf		**PKPdf**	**10 41 07.7**	**+0.4**
CDVI	**St. Croix**	**147.10**	**66**	*e*PKPbc		**PKPbc**	**10 41 10.2**	**+0.2**
KIC	**Kosan Boka**	**151.62**	**272**	*e*PKP1		**PKPbc**	**10 41 21.3**	**-0.2**
	comp=Z,131nm,1.1s								
DBIC	**Dimbokro**	**151.74**	**273**	PKPbc		**PKPbc**	**10 41 22.1**	**+0.4**
	comp=Z,16nm,0.8s,baz=70,slow=3.9,SNR=18								
DBIC	**Dimbokro**	**151.74**	**273**	*e*PKIKP		**PKPbc**	**10 41 22.0**	**+0.2**
DBIC	**Dimbokro**	**151.74**	**273**	*e*PKPbc		**PKPbc**	**10 41 22.0**	**+0.2**
TIC	**Toumodi**	**151.90**	**273**	*e*PKP1		**PKPbc**	**10 41 22.0**	**-0.2**
LIC	**Lamto**	**151.91**	**272**	*e*PKP1		**PKPbc**	**10 41 21.4**	**-0.8**
	comp=Z,81nm,0.9s								
BDFB	**Brasilia**	**154.04**	**146**	PKP		**PKPdf**	**10 41 19.6**	**+0.7**
	comp=Z,12nm,1.0s,baz=207,slow=1.1,SNR=8.6								
BDFB					PKPbc	**PKiKP**	**10 41 27.8**	**+0.8**
	comp=Z,48nm,0.8s,baz=182,slow=2.4,SNR=46								
BDFB					PKPab	**PKPab**	**10 41 40.5**	**+0.1**
	comp=Z,36nm,0.8s,baz=194,slow=2.1,SNR=12								

*CSEM **20** 10:40:59.5, 12°.18N×44°.11E, h11km, ML3.6*
DHMR 20 10:40:59.5±1.2, 12°.18N×44°.11E, h11km±11km, ML3.6, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADEN	**Aden**	**1.04**	**55**	*i* P	Pb	10 41 18.5	-1.0
ADEN				*i* S	Sb	10 41 33.5	+0.3
ADEN				AML	AML	10 41 39.0	
	comp=N,1μm,0.5s						
ADEN	**Aden**	**1.04**	**55**	*i* P	Pb	10 41 18.5	-1.0
ADEN				*i* S	Sb	10 41 33.5	+0.3
	comp=N,720nm,0.5s						
TRBA	**At Turbah**	**1.04**	**0**	*i* P	Pb	10 41 18.4	-1.5
TRBA				*i* S	Sb	10 41 34.4	+0.6
LBOS		**2.02**	**33**	*i* P	Pn	10 41 34.9	+1.0
LBOS				*i* S	Sb	10 42 02.3	+0.4
BDHA	**Al Bayda'**	**2.28**	**38**	*i* P	Pb	10 41 40.2	-0.9
BDHA				*i* S	Sb	10 42 10.6	+1.1
BDHA				AML	AML	10 42 16.6	
	comp=E,520nm,0.7s						
BDHA	**Al Bayda'**	**2.28**	**38**	*i* P	Pb	10 41 40.2	-0.8
BDHA				*i* S	Sb	10 42 10.6	+1.1
	comp=E,260nm,0.7s						
DHBB	**Dhamar BB**	**2.39**	**7**	*i* P	Pb	10 41 41.1	-1.9
DHBB				*i* S	Sb	10 42 13.5	+0.6

*IDC **20** 10:41:20.2±4.2, 39°.75N×52°.28E, h0km, mb3.7/5, mb1 3.8/9, mb1mx3.5/50, mbtmp3.7/9, ML3.6/4, Error ellipse: s-maj=68.9km s-min=19.2km az=168.0*
*NNC **20** 10:41:31.9±9.0, 40°.45N×53°.26E, h0km, mb3.8, Error ellipse: s-maj=83.6km s-min=53.9km az=62.0*
ISC 20 10:41:25.8±1.6, 39°.9N±0°.2×52°.86E±0°.09, h49km, n12, σ1s57/13, mb3.7/4, 4C-1D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBZ	**Khabaz**	**8.36**	**300**	Pn	Pn	10 43 18.9	-5.3
	0.1nm,0.3s,baz=186,slow=9.2,SNR=2.2						
AB31	**Akbulak array**	**10.62**	**26**	Pn	**Pn**	**10 43 56.5**	**+1.4**
	1.6nm,0.7s,baz=209,slow=13,SNR=15						
AB31				⇓Sn	**Sn**	**10 45 52.8**	**+0.2**
	1.5nm,0.5s,baz=188,slow=26,SNR=7.5						
AKTO	**Aktyubinsk**	**11.13**	**17**	⇑Pn	**Pn**	**10 44 02.4**	**+0.2**
	2.6nm,0.8s						
AKTO				⇑Sn	**Sn**	**10 46 03.4**	**-1.8**
	6.1nm,0.8s						
AKTO	**Aktyubinsk**	**11.13**	**17**	Pn	**Pn**	**10 44 02.1**	**-0.1**
	0.5nm,0.3s,baz=192,slow=12,SNR=5.3						
KK31	**Karatay Array**	**13.61**	**71**	⇑P	**P**	**10 44 42.6**	**-1.1**
	0.5nm,0.5s						
KK31				⇑S	**Sn**	**10 47 04.4**	**-1.4**
	3.2nm,0.9s						
BVAR	**Borovoye Array**	**17.77**	**37**	P	**P**	**10 45 33.3**	**+3.7**
	0.4nm,0.3s,baz=215,slow=12,SNR=12						
AKASG	**Malin Array Be**	**19.73**	**311**	P	**P**	**10 45 49.6**	**-1.5**
	0.4nm,0.3s,baz=112,slow=11,SNR=5.3						
KURBB	**Kurchatov Arra**	**20.90**	**51**	P	Pn	10 46 07.2	+0.4
	0.5nm,0.5s,baz=250,slow=12,SNR=2.9						
FINES	**FINESS Array B**	**27.08**	**332**	P	**P**	**10 47 03.4**	**-0.1**
	0.9nm,0.7s,baz=145,slow=15,SNR=5.5						
HFS	**Hagfors**	**31.60**	**323**	P	**P**	**10 47 43.7**	**+0.1**
	1.8nm,0.8s,baz=72,slow=7.0,SNR=5.7						
NOA	**NORSAR Array B**	**33.07**	**324**	P	**P**	**10 47 57.1**	**+0.6**
	0.4nm,0.6s,baz=115,slow=8.3,SNR=3.6						
EKA	**Eskdalemuir Ar**	**39.64**	**312**	P	**P**	**10 48 52.3**	**-0.1**
	0.7nm,0.4s,baz=96,slow=8.8,SNR=8.8						

*IDC **20** 11:03:15.8±0.6, 39°.87N×106°.55E, h0km, mb4.0/15, mb1 4.1/18, mb1mx3.9/44, mbtmp4.0/18, ML4.1/2, MS3.2/3, Ms1 3.2/3, ms1mx2.8/37, Error ellipse: s-maj=17.2km s-min=12.5km az=57.0*
*ISCJB **20** 11:03:17.4±0.2, 39°.98N±0°.03×106°.49E±0°.04, h16km, mb4.2/30, MS3.2/1, Error ellipse: s-maj=4.5km s-min=4.2km az=154.9*
*BJI **20** 11:03:18.2, 39°.89N×106°.45E, h10km, mb4.3/11, mB4.5/9, ML4.7/26, Ms4.2/18, Ms7 3.7/11*
*MOS **20** 11:03:18.6±1.2, 39°.94N×106°.40E, h29km, mb4.5/14, Error ellipse: s-maj=10.7km s-min=7.4km az=90.8*
*NEIC **20** 11:03:20.6±1.8, 39°.89N×106°.44E, h32km±14km, mb4.4/13, Error ellipse: s-maj=6.2km s-min=5.3km az=63.0*
NEIC Felt at Dawukou.
ISC 20 11:03:19.2±0.4, 40°.02N±0°.03×106°.44E±0°.03, h16km, n89, σ1s74/103, mb4.3/33, 5C-2D, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTO	**Baotou**	**2.80**	**77**	*e*Pg	**Pn**	**11 04 03.8**	**+0.4**
BTO				Sg	**Sb**	**11 04

GYA	**Guiyang**	**13.53**	**179**	P	**Pn**	11 06 26.8	-3.8
GYA				LN			
	comp=Z,410nm,12.8s						
GYA				LE			
	comp=Z,380nm,12.0s						
GYA				LZ			
	comp=Z,340nm,11.8s						
KSAR	**Wonju Array Be**	**16.92**	**92**	P	**Pn**	**11 07 16.2**	**+0.9**
KSAR	**Wonju Array Be**	**16.92**	**92**	Pn	**Pn**	**11 07 16.2**	**+0.9**
KSAR				Lg	Lg	11 12 10.9	
KSRS	**Korea Array**	**16.95**	**92**	Pn	**Pn**	**11 07 16.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=285,slow=12,SNR=9.5						
KSRS				Lg	Lg	11 12 10.9	
	comp=Z,0.1nm,0.3s,baz=294,slow=29,SNR=2.9						
KSRS				LR	LR	11 14 38.7	
	comp=Z,112nm,19.1s,baz=286,slow=41						
BOD	**Bodaibo**	**18.47**	**13**	*e*P	**Pn**	**11 07 34.9**	**+0.7**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MK31	**Makanchi Array**	**18.77**	**299**	*e*P	**P**	**11 07 36.3**	**-1.2**
MK31	**Makanchi Array**	**18.77**	**299**	*e*P	**P**	**11 07 36.3**	**-1.2**
USRK	**Ussuriysk Ar.**	**19.38**	**69**	P	**P**	**11 07 41.6**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=264,slow=13,SNR=2.6						
USRK				Lg	Lg	11 13 28.3	
	comp=Z,0.2nm,0.3s,baz=235,slow=38,SNR=2.3						
TAPN	**Taplejung**	**20.02**	**237**	*e*P	**P**	**11 07 52.4**	**+0.8**
	comp=Z,32nm,0.9s						
ZAA0	**Zalesovo Array**	**20.18**	**321**	*e*P	**P**	**11 07 53.0**	**+0.2**
ZALV	**Zalesovo Beam**	**20.18**	**321**	P	**P**	**11 07 53.1**	**+0.3**
	comp=Z,2.7nm,0.5s,baz=128,slow=10,SNR=15						
ZALV	**Zalesovo Beam**	**20.18**	**321**	*i* P	**P**	**11 07 52.4**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ODAN	**Odare**	**20.56**	**236**	*e*P	Pn	11 07 58.6	-1.1
	comp=Z,24nm,0.7s						
GUN	**Gumba**	**20.84**	**241**	*e*P	Pn	11 08 02.9	-0.3
	comp=Z,44nm,0.7s						
RAMN	**Ramite**	**21.01**	**238**	*e*P	**P**	**11 08 03.0**	**+0.7**
KKN	**Kakani**	**21.33**	**242**	*e*P	**P**	**11 08 07.4**	**+1.7**
PKI	**Pulchoki**	**21.38**	**241**	*e*P	**P**	**11 08 08.9**	**+2.5**
	comp=Z,11nm,0.5s						
PKIN	**Phulchoki**	**21.39**	**241**	*e*P	**P**	**11 08 08.6**	**+2.2**
NVS	**Novosibirsk**	**21.45**	**321**	*e*P	P	11 08 01.6	-4.9
DMN	**Daman**	**21.56**	**241**	*e*P	**P**	**11 08 10.6**	**+2.4**
	comp=Z,42nm,1.0s						
GKN	**Gorkha**	**21.63**	**243**	*e*P	**P**	**11 08 11.0**	**+2.2**
HABR	**Khabarovsk**	**22.06**	**58**	*e*P	**P**	**11 08 11.6**	**-1.6**
HABR				*e**SP	**sP**	**11 08 15.9**	**-3.9**
HABR				*e*PPP	PPP	11 08 40.9	
HABR				*e*		11 12 10.1	
HABR				*e*S	**S**	**11 12 14.8**	**-1.0**
HABR				*e*SSS	SSS	11 12 55.3	
HABR				*e*		11 19 32.4	
HABR				pmax	pmax		
	comp=Z,11nm,1.2s						
HABR				MLR	MLR		
	comp=Z,67nm,13.0s						
CHTO	**Chiang Mai**	**22.11**	**199**	*e*P	**P**	**11 08 17.5**	**+3.7**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CHTO	**Chiang Mai**	**22.11**	**199**	*e*P	**P**	**11 08 17.5**	**+3.7**
	comp=Z,7.5nm,1.0s						
KURK	**Kurchatov**	**22.15**	**308**	*e*P	**P**	**11 08 14.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,18nm,0.8s						
KURK	**Kurchatov**	**22.15**	**308**	*e*P	**P**	**11 08 14.0**	**-0.1**
	comp=Z,18nm,0.8s						
KURBB	**Kurchatov Arra**	**22.18**	**308**	P	**P**	**11 08 14.3**	**-0.1**
	comp=Z,10nm,0.9s,baz=109,slow=13,SNR=26						
CMAR	**Chiang Mai Arr**	**22.45**	**199**	P	**P**	**11 08 16.4**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=13,slow=9.7,SNR=6.7						
CMAR	**Chiang Mai Arr**	**22.45**	**199**	*ce*P	P	11 08 22.7	+5.2
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KOLN	**Koldanda**	**22.49**	**244**	*e*P	**P**	**11 08 19.5**	**+1.4**
	comp=Z,16nm,0.7s						
FRU	**Bishkek**	**23.95**	**287**	*e*P	P	11 08 40.0	+7.3
FRU				pmax	pmax		
	comp=Z,20nm,2.0s						
MJAR	**Matsushiro Arr**	**25.11**	**88**	P	**P**	**11 08 41.6**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=284,slow=11,SNR=3.5						
YAK	**Yakutsk**	**26.16**	**25**	*e*P	**P**	**11 08 54.4**	**+2.0**
YAK				pmax	pmax		
	comp=Z,22nm,1.3s						
KKAR	**Karatay Array**	**26.93**	**288**	*e*P	**P**	**11 08 59.4**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KKAR	**Karatay Array**	**26.93**	**288**	*e*P	**P**	**11 08 59.4**	**-0.3**
	comp=Z,3.9nm,0.7s						
ASAJ	**Asahikawa**	**27.01**	**69**	P	**P**	**11 09 00.3**	**0.0**
	comp=Z,3.6nm,0.7s,baz=270,slow=13						
ASAJ	**Asahikawa**	**27.01**	**69**	P	**P**	**11 09 00.3**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ASAJ	**Asahikawa**	**27.01**	**69**	*e*P	**P**	**11 09 00.1**	**-0.1**
	comp=Z,2.0nm,0.8s						
YSS	**Yuzh-Sakhalins**	**27.06**	**63**	*e*P	**P**	**11 09 01.4**	**+0.7**
YSS				pmax	pmax		
	comp=Z,6.0nm,0.4s						
YSS	**Yuzh-Sakhalins**	**27.06**	**63**	*e*P	**P**	**11 09 01.4**	**+0.7**
	comp=Z,5.8nm,0.4s						
ERM	**Erimo**	**27.64**	**74**	*ce*P	**P**	**11 09 08.6**	**+2.6**
ERM				pmax	pmax		
	comp=Z,16nm,2.5s						
BVAR	**Borovoye Array**	**27.69**	**310**	P	**P**	**11 09 06.7**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=113,slow=11,SNR=6.0						
TIXI	**Tiksi**	**33.65**	**13**⇑	*e*P	**P**	**11 09 58.8**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIXI	**Tiksi**	**33.65**	**13**	*e*P	**P**	**11 09 58.6**	**-0.1**
	comp=Z,3.7nm,0.8s						
ABKAR	**Akbulak array**	**33.88**	**301**	*e*P	**P**	**11 10 00.1**	**-0.8**
	comp=Z,1.8nm,0.6s						
ARU	**Arti**	**35.04**	**314**	*c i*P	**P**	**11 10 10.8**	**-0.1**
ARU						11 11 22.8	
ARU				S	**S**	**11 15 42.7**	**+0.4**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARU	**Arti**	**35.04**	**314**	*e*P	**P**	**11 10 10.6**	**-0.3**
	comp=Z,4.1nm,0.6s						
AKTO	**Aktyubinsk**	**35.08**	**304**	P	**P**	**11 10 11.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=77,slow=14,SNR=2.7						
OBN	**Obninsk**	**47.46**	**313**	*e*P	P	11 11 56.4	+3.6
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FINES	**FINESS Array B**	**51.43**	**323**	P	**P**	**11 12 23.0**	**0.0**
	comp=Z,0.9nm,0.8s,baz=128,slow=11,SNR=2.5						
FINES	**FINESS Array B**	**51.43**	**323**	P	**P**	**11 12 23.0**	**0.0**
BRTR	**Keskin Array B**	**54.35**	**295**	P	**P**	**11 12 46.1**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=20,slow=4.6,SNR=3.5						
COLD	**Coldfoot**	**58.60**	**26**	*e*P	**P**	**11 13 15.9**	**+1.1**
	comp=Z,6.4nm,0.9s						
DPC	**Dobruska-Polom**	**60.61**	**313**	*e*pP	pP	11 13 35.4	+1.3
DPC	**Dobruska-Polom**	**60.61**	**313**	*e*P	pP	11 13 35.4	+1.3
COLA	**College**	**60.63**	**28**	*e*P	**P**	**11 13 28.9**	**+0.1**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
COLA	**College**	**60.63**	**28**	*e*P	**P**	**11 13 28.9**	**+0.1**
	comp=Z,4.5nm,0.8s						
ILAR	**Eielson Array**	**61.03**	**28**	P	**P**	**11 13 31.2**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=289,slow=6.5,SNR=19						
KDAK	**Kodiak Island**	**62.45**	**36**	*i* P	**P**	**11 13 41.0**	**-0.2**
DOT	**Dot Lake**	**62.69**	**28**	*e*P	**P**	**11 13 42.6**	**-0.2**
	comp=Z,10nm,0.6s						
INK	**Inuvik**	**63.14**	**21**	P	**P**	**11 13 45.7**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=329,slow=5.5,SNR=5.0						
INK	**Inuvik**	**63.14**	**21**	*e*P	**P**	**11 13 46.1**	**+0.4**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK	**Inuvik**	**63.14**	**21**	*e*P	**P**	**11 13 46.1**	**+0.4**
	comp=Z,3.0nm,0.9s						
WRAB	**Tennant Creek**	**65.08**	**151**⇓	*e*P	**P**	**11 14 00.5**	**+1.6**
WRAB				pmax	pmax		
	comp=Z,35nm,2.4s						
WRA	**Warramunga Arr**	**65.08**	**151**	P	**P**	**11 13 56.4**	**-2.6**
	comp=Z,2.0nm,0.7s,baz=342,slow=6.9,SNR=33						
AS31	**Alice Springs**	**68.34**	**153**	*e*P	**P**	**11 14 17.7**	**-2.1**
ASAR	**Alice Springs**	**68.34**	**153**	P	**P**	**11 14 17.7**	**-2.0**
	comp=Z,2.8nm,0.5s,baz=340,slow=6.6,SNR=62						
YKA	**Yellowknife Ar**	**72.64**	**19**	P	**P**	**11 14 45.7**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=324,slow=5.4,SNR=9.6						
STKA	**Stephens Creek**	**78.61**	**150**	P	**P**	**11 15 18.2**	**-1.8**
	comp=Z,1.7nm,0.7s,baz=301,slow=9.4,SNR=5.8						
STKA	**Stephens Creek**	**78.61**	**150**	*e*P	**P**	**11 15 18.2**	**-1.8**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
STKA	**Stephens Creek**	**78.61**	**150**	*e*P	**P**	**11 15 18.2**	**-1.8**
	comp=Z,0.5nm,0.8s						

MOS ***20*** *11:21:45.0±1.1,43.°18N×47.°59E,h15km,mb3.9/1,Error ellipse: s-maj=8.8km s-min=6.1km az=71.4*
MOS Felt (II-III) at Tarki, Makhachkala.
ISCJB ***20*** *11:21:46.0±0.9,43.°20N±0.°04×47.°58E±0.°05,h16km±10km, Error ellipse: s-maj=7.1km s-min=5.4km az=30.9*
CSEM ***20*** *11:21:47.3±0.3,43.°08N×47.°52E,h12km,mb3.9,Error ellipse: s-maj=6.4km s-min=5.0km az=57.0*

ISC 20 11:21:45.6±1.2, 43.°16N±0.°04×47.°55E±0.°03, h11km±8km, n52, σ1°09/72, 11C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**0.20**	**189**	*e*Pg	**Pg**	**11 21 49.4**		**-0.5**
MAK				pmax	pmax			
	comp=Z,3μm,0.2s							
MAK	**Makhachkala**	**0.20**	**189**	*e*Pg	**Pg**	**11 21 49.4**		**-0.5**
	comp=Z,3μm,0.2s							
BUJR	**Buynaksk**	**0.47**	**224**	*i* PG	**Pg**	**11 21 54.5**		**-0.2**
BUJR				*e*S	**Sg**	**11 22 01.0**		**+0.1**
BUJR	**Buynaksk**	**0.47**	**224**	*i* Pg	**Pg**	**11 21 54.5**		**-0.2**
BUJR				*e*Sg	**Sg**	**11 22 01.0**		**+0.1**
DLMR	**Dylym**	**0.68**	**263**	*e*PG	**Pn**	**11 22 01.5**		**+0.3**
DLMR				*i* S	**Sn**	**11 22 11.0**		**-0.8**
DLMR	**Dylym**	**0.68**	**263**	*e*Pg	**Pn**	**11 22 01.5**		**+0.3**
DLMR				*i* Sg	**Sn**	**11 22 11.0**		**-0.8**
ARKR	**Arakani**	**0.69**	**216**	*i* PG	**Pg**	**11 21 59.0**		**0.0**
ARKR				*e*S	**Sb**	**11 22 10.2**		**+0.9**
ARKR				pmax	pmax			
	comp=Z,119nm,0.3s							
ARKR	**Arakani**	**0.69**	**216**	*i* Pg	**Pg**	**11 21 59.0**		**0.0**
	comp=Z,119nm,0.3s							
ARKR				*e*Sg	**Sb**	**11 22 10.2**		**+0.9**
SGKR	**Sergokala**	**0.71**	**173**	*e*PG	**Pb**	**11 22 00.0**		**+0.1**
SGKR				*e*S	**Sn**	**11 22 12.0**		**-0.4**
SGKR	**Sergokala**	**0.71**	**173**	*e*Pg	**Pb**	**11 22 00.0**		**+0.1**
SGKR				*e*Sg	**Sn**	**11 22 12.0**		**-0.4**
UNCR	**Uncukul**	**0.71**	**231**	*e*PG	**Pg**	**11 21 59.8**		**+0.4**
UNCR				*i* S	**Sg**	**11 22 08.0**		**-0.7**
UNCR				pmax	pmax			
	comp=Z,101nm,0.2s							
UNCR	**Uncukul**	**0.71**	**231**	*e*Pg	**Pg**	**11 21 59.8**		**+0.4**
	comp=Z,101nm,0.2s							
UNCR				*i* Sg	**Sg**	**11 22 08.0**		**-0.7**
XNZR	**Khunzakh**	**0.88**	**225**	*i* PG	**Pb**	**11 22 03.0**		**+0.1**
XNZR				*e*S	**Sb**	**11 22 14.5**		**-0.2**
XNZR				pmax	pmax			
	comp=Z,110nm,0.2s							
XNZR	**Khunzakh**	**0.88**	**225**	*i* Pg	**Pb**	**11 22 03.0**		**+0.1**
	comp=Z,110nm,0.2s							
XNZR				*e*Sg	**Sb**	**11 22 14.5**		**-0.2**
GNBR	**Gunib**	**0.88**	**209**⇑	*i* PG	**Pb**	**11 22 03.0**		**0.0**
GNBR				*i* S	**Sg**	**11 22 14.2**		**0.0**
GNBR	**Gunib**	**0.88**	**209**	*i* Pg	**Pb**	**11 22 03.0**		**0.0**
GNBR				*i* Sg	**Sg**	**11 22 14.2**		**0.0**
URKR	**Urkarakh**	**1.00**	**176**	*i* PG	**Pb**	**11 22 05.0**		**0.0**
URKR				*e*S	**Sn**	**11 22 20.0**		**+0.2**
URKR				pmax	pmax			
	comp=Z,106nm,0.8s							
URKR	**Urkarakh**	**1.00**	**176**	*i* Pg	**Pb**	**11 22 05.0**		**0.0**
	comp=Z,106nm,0.8s							
URKR				*e*Sg	**Sn**	**11 22 20.0**		**+0.2**
KMKR	**Kumukh**	**1.08**	**198**⇓	*i* PG	**Pg**	**11 22 06.5**		**+0.1**
KMKR				*e*S	**Sb**	**11 22 20.0**		**-0.7**
KMKR				pmax	pmax			
	comp=Z,112nm,0.2s							
KMKR	**Kumukh**	**1.08**	**198**	*i* Pg	**Pg**	**11 22 06.5**		**+0.1**
	comp=Z,112nm,0.2s							
KMKR				*e*Sg	**Sb**	**11 22 20.0**		**-0.7**
BTLR	**Botlikh**	**1.09**	**243**	*e*PG	**Pg**	**11 22 07.0**		**+0.4**
BTLR				*e*S	**Sn**	**11 22 23.0**		**+0.9**
BTLR				pmax	pmax			
	comp=Z,37nm,0.2s							
BTLR	**Botlikh**	**1.09**	**243**	*e*Pg	**Pg**	**11 22 07.0**		**+0.4**
	comp=Z,37nm,0.2s							
BTLR				*e*Sg	**Sn**	**11 22 23.0**		**+0.9**
DRN	**Derbent**	**1.27**	**153**	PG	**Pg**	**11 22 10.2**		**+0.2**
DRN				*i* S	**Sg**	**11 22 28.2**		**+1.8**
DRN	**Derbent**	**1.27**	**153**	Pg	**Pg**	**11 22 10.2**		**+0.2**
DRN				*i* Sg	**Sg**	**11 22 28.2**		**+1.8**
KSMR	**Kasumkent**	**1.62**	**164**	*e*PN	**Pn**	**11 22 14.0**		**-0.1**
KSMR				*e*S	**Sg**	**11 22 37.0**		**-0.5**
KSMR	**Kasumkent**	**1.62**	**164**	*e*Pn	**Pn**	**11 22 14.0**		**-0.1**
KSMR				*e*Sg	**Sg**	**11 22 37.0**		**-0.5**
BTKR	**Batakoyurt**	**2.21**	**277**	*e*PN	**Pb**	**11 22 24.4**		**-1.1**
BTKR	**Batakoyurt**	**2.21**	**277**	*e*Pn	**Pb**	**11 22 24.4**		**-1.1**
LACR	**Lac**	**2.41**	**263**	*ce*PN	**Pb**	**11 22 27.6**		**-1.4**
LACR	**Lac**	**2.41**	**263**	*e*Pn	**Pb**	**11 22 27.6**		**-1.4**
ZEI	**Tsey**	**2.70**	**263**	*e*PN	**Pn**	**11 22 27.5**		**-1.7**
ZEI	**Tsey**	**2.70**	**263**	*e*Pn	**Pn**	**11 22 27.5**		**-1.7**
NCK	**Nalchik**	**2.90**	**278**⇑	*e*PN	**Pn**	**11 22 32.4**		**+0.6**
NCK	**Nalchik**	**2.90**	**278**	*e*Pn	**Pn**	**11 22 32.4**		**+0.6**
NEY	**Neytrino**	**3.53**	**273**⇑	*e*PN	**Pn**	**11 22 41.8**		**+1.3**
NEY	**Neytrino**	**3.53**	**273**	*e*Pn	**Pn**	**11 22 41.8**		**+1.3**
KIV	**Kislovodsk**	**3.62**	**284**⇑	*e*PN	**Pn**	**11 22 43.9**		**+2.2**
KIV	**Kislovodsk**	**3.62**	**284**	*e*Pn	**Pn**	**11 22 43.9**		**+2.2**
GNI	**Garni**	**3.67**	**216**⇑	*e*PN	**Pn**	**11 22 41.5**		**-1.0**
GNI	**Garni**	**3.67**	**216**	*e*Pn	**Pn**	**11 22 41.5**		**-1.0**
ANN	**Anapa**	**7.48**	**286**	*e*P	**Pn**	**11 23 36.6**		**+2.0**
ANN				*e*S	Sn	11 25 07.0		+7.7
ANN				pmax	pmax			
	comp=Z,11nm,0.6s							
ANN	**Anapa**	**7.48**	**286**	*e*P	**Pn**	**11 23 36.6**		**+2.0**
	comp=Z,11nm,0.6s							
ANN				*e*S	Sn	11 25 07.0		+7.7
AKTO	**Aktyubinsk**	**10.21**	**41**	⇓Pn	Pn	11 24 16.4		+4.4
	comp=Z,2.5nm,1.2s							
AKTO				⇓Sn	**Sn**	**11 26 02.3**		**-4.2**
	comp=Z,1.2nm,0.6s							
AKTO	**Aktyubinsk**	**10.21**	**41**	Pn	Pn	11 24 16.4		+4.4
	comp=Z,2.5nm,1.2s							
AB31	**Akbulak array**	**10.53**	**50**	⇓Pn	Pn	11 24 21.5		+5.2
	comp=Z,0.1nm,0.3s,baz=248,slow=12,SNR=7.2							
AB31				⇑Sn	**Sn**	**11 26 13.6**		**-0.5**
	comp=Z,0.2nm,0.3s,baz=242,slow=23,SNR=5.6							
TIRR	**Tirgusor**	**13.88**	**282**⇑	*e*P	Pn	11 24 58.2		-4.0
TIRR	**Tirgusor**	**13.88**	**282**	*e*P	Pn	11 24 58.2		-4.0
OBN	**Obninsk**	**13.93**	**333**⇑	*e*P	**Pn**	**11 25 04.9**		**+2.1**
OBN				pmax	pmax			
	comp=Z,11nm,0.9s							
OBN	**Obninsk**	**13.93**	**333**	*e*P	**Pn**	**11 25 04.9**		**+2.1**
	comp=Z,11nm,0.9s							
KIEV	**Kiev**	**14.60**	**307**⇑	*e*P	**Pn**	**11 25 13.2**		**+1.3**
ARU	**Arti**	**15.04**	**24**	*e*P	**Pn**	**11 25 16.6**		**-1.2**
ARU				pmax	pmax			
	comp=Z,7.0nm,1.7s							
KURK	**Kurchatov**	**22.40**	**59**	*e*P	P	11 26 37.4		-6.4

ISCJB ***20*** *11:27:23.3±0.6,32.°17N±0.°03×115.°19W±0.°03,h14km±5km, Error ellipse: s-maj=5.0km s-min=3.7km az=140.7*
NEIC ***20*** *11:27:23.6,32.°10N×115.°26W,h10km,ML2.9(PAS), ML3.1(ECX),After PAS.*
ECX ***20*** *11:27:25.3±0.6,32.°18N×115.°26W,h8km,MD2.9,ML3.1*
MEX ***20*** *11:27:26.2±0.6,32.°21N×115.°28W,h8km±18km,MD3.6*

ISC 20 11:27:23.2±0.9, 32.°13N±0.°02×115.°27W±0.°02, h14km±8km, n30, σ1°10/46, 11C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.29**	**353**	*i* P	**Pg**	**11 27 29.9**		**+0.5**
CPBX				*i* S	**Sg**	**11 27 33.7**		**+0.1**
CPBX	**Cerro Prieto**	**0.29**	**353**	*e*P	**Pg**	**11 27 29.9**		**+0.5**
CPBX				*e*P	**Pg**	**11 27 29.9**		**+0.5**
CPBX				*e*S	**Sg**	**11 27 33.9**		**+0.3**
CPBX				IAML		11 27 35.3		
	comp=E,12μm,0.2s							
RDX	**Rancho Dawling**	**0.61**	**251**⇑	*e*P	**Pn**	**11 27 37.0**		**-0.6**
RDX				IAML		11 27 47.1		
	comp=N,511nm,0.5s							
RDX				⇑*e*		11 27 47.1		
SGL	**Mount Signal**	**0.65**	**323**	*e*Pn	**Pg**	**11 27 36.1**		**+0.1**
EMSC	**East Mesa**	**0.66**	**21**⇑	*i* P	**Pg**	**11 27 36.0**		**-0.1**
ECBX	**El Chinero**	**0.68**	**164**	⇓*e*P	**Pg**	**11 27 34.5**		**-1.9**
ECBX				*e*S	**Sg**	**11 27 44.4**		**-0.9**
DREC	**Desert Rsrch C**	**0.69**	**347**	⇓*e*P	**Pg**	**11 27 37.0**		**+0.3**
ERPC	**Ernies Place**	**0.70**	**331**	⇑*i* P	**Pg**	**11 27 37.1**		**+0.2**
WESC	**Westside Schoo**	**0.74**	**328**	⇓*e*P	**Pb**	**11 27 38.1**		**+0.2**
YMD	**Yuma Desert**	**0.74**	**55**⇑	*i* P	**Pg**	**11 27 37.2**		**-0.5**
COA	**Coachella**	**0.75**	**9**	⇓*i* P	**Pg**	**11 27 37.2**		**-0.5**
YUH	**Yuha Desert**	**0.76**	**313**	⇓*i* P	**Pg**	**11 27 37.9**		**-0.1**
RMX	**La Rumorosa**	**0.84**	**305**⇑	*e*P	**Pb**	**11 27 39.8**		**+0.2**
RMX				*e*S	**Sb**	**11 27 50.7**		**-0.1**
GLA	**Glamis**	**0.99**	**22**	*e*Pn	**Pb**	**11 27 41.3**		**-1.0**
GLA				*e*Sg	**Sb**	**11 27 52.6**		**-2.7**
ZAX	**El Zacaton**	**1.05**	**235**⇑	*e*P	**Pn**	**11 27 44.4**		**+0.8**
SPIG	**San Pedro Mart**	**1.09**	**189**	*e*P	**Pg**	**11 27 45.0**		**+0.8**
SPIG				*i* S	**Sn**	**11 28 00.5**		**+1.1**
SPIG	**San Pedro Mart**	**1.09**	**189**	*e*P	**Pg**	**11 27 45.0**		**+0.8**
SPIG				*i* S	**Sn**	**11 28 00.5**		**+1.1**
SPIG	**San Pedro Mart**	**1.09**	**189**⇑	*e*P	**Pg**	**11 27 45.0**		**+0.8**
SPX	**San Pedro Mart**	**1.09**	**189**	*e*P	**Pg**	**11 27 45.0**		**+0.8**
SPX				*i* S	**Sn**	**11 27 59.5**		**+0.2**
SPX	**San Pedro Mart**	**1.09**	**189**⇑	*e*P	**Pg**	**11 27 45.0**		**+0.8**
SPX				IAML		11 28 02.3		
	comp=E,328nm,0.4s							
SPX				⇑*e*		11 28 02.3		
CBX	**Cerro Bola**	**1.20**	**279**	*e*P	**Pn**	**11 27 45.6**		**0.0**
CBX				*e*S	**Sb**	**11 27 59.3**		**-1.9**
CBX	**Cerro Bola**	**1.20**	**279**	*e*P	**Pn**	**11 27 45.6**		**0.0**
CBX				*e*S	**Sb**	**11 27 59.3**		**-1.9**
CBX	**Cerro Bola**	**1.20**	**279**	*e*P	**Pb**	**11 27 45.8**		**0.0**
CBX				*e*S	**Sg**	**11 28 01.9**		**-0.1**
CBX				⇓*e*		11 28 03.7		
CBX				AML	AML	11 28 03.7		
	comp=N,625nm,0.4s							
CBX				AML	AML	11 28 04.5		
	comp=E,483nm,0.2s							
CBX				⇑*e*		11 28 04.5		
BAR	**Barrett**	**1.31**	**295**	*e*Pn	**Pg**	**11 27 48.2**		**-0.3**
PFO	**Pinyon Flats O**	**1.79**	**326**	*e*Pn	**Pn**	**11 27 52.2**		**-1.5**
PFO				*e*Sn	**Sb**	**11 28 18.0**		**-0.1**
214A	**Organ Pipe Nat**	**2.09**	**94**	*e*Pn	**Pn**	**11 27 56.6**		**-1.2**
214A				*e*Sg	**Sg**	**11 28 30.7**		**+0.3**
LDFC	**Landfair**	**2.95**	**2**	*e*Pg	**Pg**	**11 28 21.2**		**+1.5**
GSC	**Goldstone, Bar**	**3.42**	**338**	*e*Pg	**Pg**	**11 28 30.6**		**+1.9**
TUC	**Tucson**	**3.80**	**86**	*e*Pn	**Pn**	**11 28 22.0**		**+0.6**
TUC				*e*Pg	**Pg**	**11 28 37.2**		**+1.1**
TUC				*e*Sg	**Sg**	**11 29 28.7**		**+3.4**
R11A	**Troy Canyon, C**	**6.21**	**358**	*e*Pg	**Pg**	**11 29 22.4**		**+0.2**

IDC 20 11:49:23.1±6.5, 5.°77S×147.°00E, h0km, mb2.8/1, mb1 3.4/2, mb1mx3.2/20, mbtmp3.1/2, ML3.3/1, Error ellipse: s-maj=278.6km s-min=47.1km az=110.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.71**	**220**	P	P		11 53 42.8	-0.5
	0.1nm,0.3s,baz=39,slow=12,SNR=7.6							
ASAR	**Alice Springs**	**21.80**	**214**	P	P		11 54 17.4	+0.3
	0.3nm,0.7s,baz=52,slow=8.9,SNR=11							
TORD	**Torodi Ar. Bea**	**145.03**	**285**	PKPbc	PKPbc		12 09 02.0	-0.9
	0.1nm,0.4s,baz=97,slow=2.0,SNR=2.3							

DJA 20 11:55:11.2±0.3, 1.°S±3.°×12.°4E±.°, h20km, M4.1/6, mb4.7/2, mB4.9/2, MLv3.8/6, Mw(mB)4.2/2, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.47**	**341**	P	Pn		11 55 36.4	-0.2
KMSI				S	Sn		11 55 55.1	-0.1
LUWI	**Luwuk**	**1.71**	**263**	P	Pn		11 55 38.8	-1.1
LUWI				S	Sn		11 56 01.8	+0.6
SANI	**Sanana**	**1.95**	**129**	P	Pn		11 55 42.7	-0.5
SANI				S	Sn		11 56 03.9	-3.2
APSI	**Ampana**	**2.82**	**268**	P	Pn		11

IDC ***20*** *12:13:12.3±2.4,5˚.82S×103˚.69E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.6/38, mbtmp3.9/6, Error ellipse: s-maj=123.5km s-min=21.4km az=53.0*

DJA ***20*** *12:13:17.9±0.6,6˚.S±3˚×10˚.4E±˚, h10km, M4.0/7, MLv4.0/7*

ISC 20 12:13:14.9±1.6,5˚.88S±0˚.06×103˚.71E±0˚.05, h20km±6km, n18, σ0°57/21, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.86**	**66**	P	**Pb**	**12 13 31.4**	**+0.2**
KASI				S	**Sb**	**12 13 41.7**	**-0.6**
LWLI	**Liwa**	**0.93**	**22**	P	**Pn**	**12 13 33.6**	**+0.6**
LWLI				S	**Sn**	**12 13 46.4**	**+0.6**
MDSI	**Maura Dua**	**1.46**	**19**	P	**Pg**	**12 13 42.6**	**-0.6**
MDSI				S	**Sg**	**12 14 02.0**	**-0.3**
KLI	**Kotabumi**	**1.53**	**48**	P	**Pg**	**12 13 44.4**	**0.0**
KLI				S	**Sg**	**12 14 04.6**	**+0.3**
KLSI		**1.56**	**41**	P	**Pb**	**12 13 43.5**	**+0.3**
MNAI	**Manna**	**1.69**	**334**	P	**Pg**	**12 13 47.3**	**-0.2**
MNAI				S	**Sg**	**12 14 10.1**	**+0.6**
LHSI	**Lahat**	**2.05**	**355**	P	**Pn**	**12 13 47.6**	**-0.8**
CGJI	**Cibinong**	**2.10**	**110**	P	**Pb**	**12 13 52.1**	**-0.3**
CGJI				S	**Sb**	**12 14 17.6**	**-0.5**
CMAR	**Chiang Mai Arr** 1.1nm,0.6s,baz=180,slow=8.7,SNR=11	**24.64**	**349**	P	**P**	**12 18 33.4**	**-1.0**
H08S2	**Diego Garcia H** baz=89,slow=76,SNR=5.9	**31.05**	**265**	T	T	12 53 17.7	
H08S3	**Diego Garcia H** baz=89,slow=76,SNR=4.8	**31.05**	**265**	T	T	12 53 11.2	
H08S1	**Diego Garcia H** baz=89,slow=76,SNR=4.8	**31.06**	**265**	T	T	12 53 15.3	
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=286,slow=9.6,SNR=2.7	**32.88**	**118**	P	**P**	**12 19 48.1**	**+0.1**
STKA	**Stephens Creek** 1.0nm,0.7s,baz=305,slow=12,SNR=3.3	**43.82**	**131**	P	**P**	**12 21 20.6**	**+0.7**
KURBB	**Kurchatov Arra** 0.6nm,0.6s,baz=161,slow=6.2	**60.33**	**342**	P	**P**	**12 23 22.9**	**+0.5**
ZALV	**Zalesovo Beam** 1.8nm,0.4s,baz=162,slow=5.6,SNR=11	**61.69**	**347**	P	**P**	**12 23 31.4**	**-0.1**
FINES	**FINESS Array B** 1.6nm,0.8s,baz=104,slow=10,SNR=3.8	**89.25**	**332**	P	**P**	**12 26 09.1**	**-0.3**
TXAR	**Lajitas Array** 0.5nm,0.6s,baz=248,slow=0.6,SNR=8.1	**145.18**	**45**	PKPbc	**PKPdf**	**12 32 52.8**	**+0.7**

IDC 20 12:45:48.8±3.3,2˚.68N×126˚.88E, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.5/29, mbtmp4.2/3, Error ellipse: s-maj=162.4km s-min=57.7km az=72.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 2.7nm,0.4s,baz=342,slow=10,SNR=93	**23.65**	**162**	P	P	12 51 01.9	-0.1
ASAR	**Alice Springs** 0.4nm,0.3s,baz=339,slow=7.6,SNR=30	**27.09**		P	P	12 51 33.2	-0.1
ASAR				PcP	PcP	12 54 54.4	-0.4
STKA	**Stephens Creek** 4.7nm,0.6s,baz=340,slow=9.1,SNR=10	**37.10**	**159**	P	P	12 53 01.2	+0.1

IDC ***20*** *12:47:03.7±0.7,22˚.92N×144˚.14E, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.9/28, mbtmp3.8/14, ML3.9/2, MS3.1/10, Ms1 3.2/10, ms1mx3.0/38, Error ellipse: s-maj=24.0km s-min=16.2km az=87.0*

ISCJB ***20*** *12:47:07.1±0.6,22˚.98N±0˚.06×144˚.1E±0˚.1, h34km, mb3.9/18, MS3.2/8, Error ellipse: s-maj=15.7km s-min=8.8km az=171.4*

NEIC ***20*** *12:47:09.3±0.5,22˚.94N×144˚.13E, h35km, mb4.1/7, Error ellipse: s-maj=14.3km s-min=9.4km az=82.0*

ISC 20 12:47:09.3±0.7, 22˚.99N±0˚.08×144˚.1E±0˚.1, h34km, n41, σ1°61/30, mb4.0/18, MS3.2/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.43**	**338**	Pn	**Pn**	**12 48 13.9**	**-0.2**
CBIJ				Sn	**Sn**	**12 49 01.5**	**-3.1**
JCJ	**Chichijima** 6.8nm,0.3s,baz=123,slow=23,SNR=8.2	**4.43**	**338**	Pn	**Pn**	**12 48 13.9**	**-0.2**
JCJ				Sn	**Sn**	**12 49 01.5**	**-3.1**
MJAR	**Matsushiro Arr** 30nm,0.3s,baz=288,slow=23,SNR=8.5	**14.43**	**341**	Pn	**Pn**	**12 50 29.4**	**-1.7**
MAJO	**Matsushiro** 0.4nm,0.3s,baz=160,slow=12,SNR=5.5	**14.43**	**341**	*e*Pn	**Pn**	**12 50 33.8**	**+2.7**
JOW	**Kunigami** comp=Z,19nm,21.6s,baz=150,slow=34	**14.83**	**288**	LR	LR	12 55 25.6	
JNU	**Nakatsue** comp=Z,45nm,21.6s,baz=102,slow=31	**15.40**	**314**	LR	LR	12 55 06.5	
KSRS	**Korea Array** 0.8nm,0.8s,baz=145,slow=12,SNR=3.6	**20.02**	**320**	P	**P**	**12 51 40.0**	**+0.9**
KSRS				LR	LR	12 58 55.9	
KSAR	**Wonju Array Be** comp=Z,59nm,20.7s,baz=150,slow=35	**20.04**	**320**	P	**P**	**12 51 40.0**	**+0.7**
ASAJ	**Asahikawa** 4.8nm,0.9s,baz=180,slow=20	**21.11**	**357**	P	**P**	**12 51 54.4**	**+3.5**
ASAJ	**Asahikawa** 3.7nm,1.1s	**21.11**	**357**	*e*P	**P**	**12 51 53.9**	**+2.9**
SSLB	**Suanglung** 13nm,0.9s	**21.23**	**277**	*e*P	**P**	**12 51 54.1**	**+1.6**
H11N1	**WAKE ISLAND Hy** baz=283,slow=74,SNR=11	**21.50**	**94**	T	T	13 14 05.6	
H11N2	**WAKE ISLAND Hy** baz=283,slow=74,SNR=13	**21.50**	**94**	T	T	13 14 07.7	
H11N3	**WAKE ISLAND Hy** baz=283,slow=74,SNR=11	**21.51**	**94**	T	T	13 14 08.7	
TPUB	**Ta-pu** 9.8nm,1.0s	**21.56**	**275**	*e*P	**P**	**12 51 57.5**	**+1.5**
H11S3	**WAKE ISLAND Hy** baz=253,slow=74,SNR=4.6	**21.61**	**98**	T	T	13 14 53.2	
H11S1	**WAKE ISLAND Hy** baz=253,slow=74,SNR=3.2	**21.62**	**98**	T	T	13 14 32.5	
H11S2	**WAKE ISLAND Hy** baz=253	**21.63**	**98**	T	T	13 15 01.2	
USRK	**Ussuriysk Ar.** comp=Z,65nm,20.1s,baz=224,slow=36	**23.38**	**338**	LR	LR	13 01 09.5	
PETK	**Petropavlovsk-** comp=Z,55nm,21.8s,baz=89,slow=34	**31.82**	**16**	LR	LR	13 05 18.5	
SONM	**Songino Array** 0.5nm,0.5s,baz=134,slow=8.8,SNR=4.6	**38.89**	**319**	P	**P**	**12 54 32.0**	**+0.3**
CM31	**Chiang Mai Arr** 2.0nm,0.5s	**42.33**	**273**	*e*P	**P**	**12 55 00.2**	**-0.1**
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,baz=57,slow=7.5,SNR=5.5	**42.33**	**273**	P	**P**	**12 55 00.3**	**0.0**
CMAR				LR	LR	13 11 18.0	
WRAB	**Tennant Creek** 5.1nm,1.0s	**43.70**	**193**	*e*P	**P**	**12 55 10.8**	**-0.5**
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=16,slow=9.1,SNR=14	**43.72**	**193**	P	**P**	**12 55 10.7**	**-0.7**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=10,slow=8.9,SNR=9.6	**47.42**	**193**	P	**P**	**12 55 39.2**	**-1.5**
ZALV	**Zalesovo Beam** 0.3nm,0.4s,baz=95,slow=6.1,SNR=2.6	**53.72**	**321**	P	**P**	**12 56 27.6**	**-0.2**
ZALV				LR	LR	13 19 41.7	
STKA	**Stephens Creek** comp=Z,24nm,20.1s,baz=72,slow=36	**54.61**	**183**	P	**P**	**12 56 32.3**	**-2.2**
STKA	**Stephens Creek** 1.1nm,0.7s,baz=5.0,slow=8.1,SNR=3.4	**54.61**	**183**	*e*P	**P**	**12 56 35.0**	**+0.4**
ILAR	**Eielson Array** 0.8nm,1.0s	**60.52**	**27**	P	**P**	**12 57 14.7**	**-1.1**
ILAR	1.1nm,0.8s,baz=259,slow=5.7,SNR=14			LR	LR	13 24 58.5	
ABKAR	**Akbulak array** comp=Z,18nm,18.5s,baz=265,slow=38	**69.20**	**316**	*e*P	**P**	**12 58 12.2**	**-0.4**
YKA	**Yellowknife Ar** 0.8nm,0.6s	**74.93**	**28**	P	**P**	**12 58 46.3**	**-0.3**
NVAR	**Mina Array Bea** 1.5nm,0.9s,baz=294,slow=5.6,SNR=4.9	**81.70**	**52**	P	**P**	**12 59 25.6**	**+0.8**
KBZ	**Khabaz** 1.8nm,1.0s,baz=268,slow=5.1,SNR=8.0	**82.07**	**314**	P	**P**	**12 59 27.1**	**+0.8**
FINES	**FINESS Array B** 1.6nm,0.8s,baz=90,slow=3.0,SNR=2.9	**82.37**	**335**	P	**P**	**12 59 26.8**	**-0.7**
PDAR	**Pinedale Array** 1.7nm,0.8s,baz=82,slow=4.8,SNR=7.9	**85.90**	**45**	LR	LR	13 33 48.7	
BRTR	**Keskin Array B** comp=Z,24nm,19.2s,baz=290,slow=33	**90.05**	**314**	P	P	13 00 10.0	+4.0
TXAR	**Lajitas Array** 0.6nm,0.7s,baz=51,slow=7.6,SNR=2.5	**96.64**	**54**	LR	LR	13 36 04.5	
LPAZ	**La Paz** comp=Z,10nm,21.3s,baz=0.0,slow=30	**148.99**	**83**	PKPbc	**PKPbc**	**13 06 56.0**	**+0.6**
LPAZ	**La Paz** 0.9nm,0.4s,baz=195,slow=4.2,SNR=5.1	**148.99**	**83**	*e*PKPbc	**PKPbc**	**13 06 56.4**	**+1.1**
SAML	**Samuel** comp=Z,10nm,0.9s	**150.39**	**66**	*e*PKPbc	**PKPbc**	**13 06 56.8**	**-1.2**

IDC 20 13:03:00.8±10.0, 5˚.66S×153˚.39E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, Error ellipse: s-maj=165.9km s-min=92.0km az=20.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=55,slow=10.0,SNR=5.4	**23.34**	**231**	P	P	13 08 09.8	-1.2
ASAR	**Alice Springs** 0.3nm,0.5s,baz=62,slow=8.8,SNR=9.1	**25.94**	**224**	P	P	13 08 36.2	+1.1
STKA	**Stephens Creek** 1.3nm,0.8s,baz=27,slow=11,SNR=2.1	**28.33**	**202**	P	P	13 08 56.1	-0.3

IDC 20 13:20:39.4±11.0, 12˚.07N×143˚.82E, h37km±66km, mb3.6/4, mb1 3.8/4, mb1mx3.3/39, mbtmp3.8/4, Error ellipse: s-maj=117.3km s-min=49.9km az=163.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 27nm,0.3s,baz=349,slow=0.8,SNR=28	**1.83**	**34**	Pn	Pn	13 21 08.4	+0.1
GUMO				Sn	Sn	13 21 30.6	+0.3
ILAR	**Eielson Array** 0.3nm,0.5s,baz=252,slow=5.8,SNR=11	**70.38**	**25**	P	P	13 31 48.9	-0.4
BVAR	**Borovoye Array** 0.7nm,0.4s,baz=104,slow=9.1,SNR=4.7	**70.49**	**322**	P	P	13 31 50.5	+0.3
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=284,slow=5.0,SNR=3.1	**84.68**	**27**	P	P	13 33 10.1	+0.9
FINES	**FINESS Array B** 1.1nm,0.8s,baz=89,slow=6.1,SNR=5.3	**92.10**	**335**	P	P	13 33 43.8	-0.8

BJI ***20*** *13:34:49.4,27˚.63N×53˚.35E, h10km, mb4.6/30, mB4.7/18, Ms4.2/13, Ms7 4.0/12*

IDC ***20*** *13:34:56.6±0.6,27˚.88N×54˚.29E, h0km, mb4.3/24, mb1 4.4/26, mb1mx4.3/42, mbtmp4.3/26, ML1.6/1, MS3.2/14, Ms1 3.2/14, ms1mx3.1/42, Error ellipse: s-maj=15.5km s-min=12.5km az=14.0*

OMAN ***20*** *13:34:56.1±1.7,28˚.07N×54˚.02E, h0km, Error ellipse: s-maj=23.5km s-min=11.5km az=120.0*

NEIC ***20*** *13:34:58.5±0.3,27˚.85N×54˚.34E, h10km, mb4.5/15, ML4.2(THR), MN4.3(TEH), Error ellipse: s-maj=5.8km s-min=5.2km az=194.0*

MOS ***20*** *13:34:59.9±1.1,27˚.88N×54˚.34E, h33km, mb4.7/19, Error ellipse: s-maj=9.1km s-min=5.3km az=112.5*

CSEM ***20*** *13:35:00.3±0.1,27˚.97N×54˚.27E, h15km, mb4.4/20, Error ellipse: s-maj=5.2km s-min=3.7km az=57.0*

THR ***20*** *13:35:00.0±1.1,27˚.90N×54˚.40E, h17km±11km, ML4.2*

DSN ***20*** *13:35:01.0±1.1,28˚.09N×54˚.53E, h15km, mb4.0/8, ML4.9/7, Error ellipse: s-maj=16.6km s-min=5.8km az=30.0*

TEH ***20*** *13:35:02.2,27˚.96N×54˚.20E, h16km, ML4.3*

ISC 20 13:34:59.5±0.4, 27˚.92N±0˚.03×54˚.26E±0˚.02, h14km±2km, h13km:pP-P, n309, σ1°48/335, mb4.3/57, MS3.1/12, 24C-13D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.19**	**288**	*e*Pg	**Pg**	**13 35 24.2**	**+1.8**
GHIR	comp=E,3μm,0.6s			AML	AML	13 35 48.5	
GHIR	comp=N,3μm,0.6s			AML	AML	13 35 58.5	
GHIR	**Ghir-Karzin** comp=N,3μm,0.6s	**1.19**	**288**	*e*Pg	**Pg**	**13 35 24.2**	**+1.8**
GHIR	**Ghir-Karzin**	**1.19**	**288**	*e*Pg	**Pg**	**13 35 24.0**	**+1.6**
BNDS	**Bandar-Abbas**	**1.77**	**107**	*e*Pg	**Pn**	**13 35 30.3**	**+0.5**
BNDS	comp=E,3μm,0.5s			AML	AML	13 36 12.7	
BNDS	comp=N,4μm,0.6s			AML	AML	13 36 15.9	
BNDS	**Bandar-Abbas**	**1.77**	**107**	*e*Pn	**Pn**	**13 35 30.0**	**+0.2**
BNDS	**Bandar-Abbas** comp=N,4μm,0.6s	**1.77**	**107**	*e*Pg	**Pn**	**13 35 30.3**	**+0.5**
BNDS				*e*Sg	**Sb**	**13 35 55.0**	**+1.1**
BNDS	**Bandar-Abbas**	**1.77**	**107**	*e*Pn	**Pn**	**13 35 30.0**	**+0.2**
BNDS				*e*Sg	**Sb**	**13 35 55.0**	**+1.1**
IBND	**Bandar-abas**	**2.07**	**102**	*e*Pn	**Pb**	**13 35 37.3**	**+0.4**
IBND	comp=Z,94μm,0.3s			*e*		13 36 26.1	
IBND	**Bandar-abas**	**2.07**	**102**	Pn	**Pb**	**13 35 37.2**	**+0.4**
IBND	**Bandar-abas**	**2.07**	**102**	Pn	**Pb**	**13 35 37.2**	**+0.4**
IPAR	**Pars**	**2.19**	**331**	*e*Pn	**Pn**	**13 35 37.7**	**+1.8**
IPAR				*e*Sg	**Sb**	**13 36 08.6**	**+2.2**
IPAR	comp=Z,9μm,0.4s			*e*		13 36 20.5	
IPAR	**Pars**	**2.19**	**331**	Pn	**Pn**	**13 35 37.6**	**+1.8**
IPAR	**Pars**	**2.19**	**331**	Pn	**Pn**	**13 35 37.6**	**+1.8**
IPAR				Sg	**Sb**	**13 36 08.5**	**+2.2**
BANOM	**Banah** SNR=20	**2.69**	**137**	P	**Pn**	**13 35 43.7**	**+1.3**
BANOM				S	**Sn**	**13 36 16.6**	**+1.8**
BANOM	**Banah** SNR=20	**2.69**	**137**	Pn	**Pn**	**13 35 43.7**	**+1.3**
BANOM	**Banah** SNR=59	**2.69**	**137**	P	**Pn**	**13 35 43.6**	**+1.3**
BANOM	SNR=20			P	**Pn**	**13 35 43.7**	**+1.3**
BANOM	SNR=118			ml		13 36 14.4	
BANOM	SNR=400			ml		13 36 30.8	
BANOM	SNR=478			ml		13 36 41.9	
BANOM	**Banah** SNR=59	**2.69**	**137**⇑	*e*P	**Pn**	**13 35 43.3**	**+0.9**
BANOM				⇓S	**Sn**	**13 36 16.6**	**+1.8**
NGRK	**Negar Kerman**	**2.77**	**51**	*e*Pn	**Pn**	**13 35 44.5**	**+0.8**
NGRK	**Negar Kerman**	**2.77**	**51**	*e*Pn	**Pn**	**13 35 44.5**	**+0.8**
AHBU	**AHRAM**	**2.78**	**291**	*e*Pn	**Pb**	**13 35 47.5**	**-1.4**
IKAZ	**Kazeroun**	**2.82**	**312**	*e*Pn	**Pn**	**13 35 45.4**	**+0.9**
IKAZ	comp=Z,17μm,0.5s			*e*		13 36 43.0	
IKAZ	**Kazeroun**	**2.82**	**312**	*e*Pn	**Pn**	**13 35 45.4**	**+0.9**
IKAZ	**Kazeroun**	**2.82**	**312**	Pn	**Pn**	**13 35 45.4**	**+0.9**
KRBR	**Kerman**	**3.00**	**46**	*e*Pn	**Pn**	**13 35 48.6**	**+1.6**
KRBR	comp=N,1μm,0.7s			AML	AML	13 36 39.0	
KRBR	comp=E,916nm,0.8s			AML	AML	13 36 50.1	
KRBR	**Kerman**	**3.00**	**46**	*e*Pn	**Pn**	**13 35 48.0**	**+1.1**
KRBR	**Kerman**	**3.00**	**46**	*e*Pn	**Pn**	**13 35 48.0**	**+1.1**
TVBK	**TV Kerman**	**3.01**	**46**	*e*Pn	**Pn**	**13 35 49.3**	**+2.3**
KHGB	**Koh Gabri**	**3.12**	**38**	*e*Pn	**Pn**	**13 35 50.8**	**+2.3**
NAZ	**Nazwa, Dubai** SNR=43	**3.17**	**156**	P	**Pn**	**13 35 52.1**	**+3.1**
NAZ	**Nazwa, Dubai** SNR=43	**3.17**	**156**	Pn	Pn	13 35 52.3	+3.3
NAZ	**Nazwa, Dubai** SNR=43	**3.17**	**156**	P	Pn	13 35 52.3	+3.3
NAZ	SNR=69			ml		13 36 52.6	
NAZ	SNR=86			ml		13 37 04.7	
NAZ	**Nazwa, Dubai** SNR=43	**3.17**	**156**	⇓*i*P	**Pn**	**13 35 52.1**	**+3.1**
FAQ	**Al Faqa, Dubai** SNR=19	**3.38**	**159**	P	**Pn**	**13 35 54.4**	**+2.6**
FAQ	**Al Faqa, Dubai** SNR=19	**3.38**	**159**	⇓*i*P	**Pn**	**13 35 54.4**	**+2.6**
ASUD	**Al Ashush, Dub** SNR=108	**3.41**	**163**	P	Pn	13 35 55.7	+3.4
ASUD	**Al Ashush, Dub** SNR=57	**3.41**	**163**	Pn	Pn	13 35 56.0	+3.7
ASUD	**Al Ashush, Dub** SNR=108	**3.41**	**163**	P	Pn	13 35 55.7	+3.4
ASUD	SNR=57			P	Pn	13 35 56.0	+3.7
ASUD	SNR=65			ml		13 36 39.3	
ASUD	SNR=111			ml		13 37 03.7	
ASUD	SNR=127			ml		13 37 15.0	
ASUD	**Al Ashush, Dub** SNR=108	**3.41**	**163**	*i*P	Pn	13 35 55.7	+3.4
CHMN	**Cheshme madani**	**3.46**	**55**	*e*Pn	**Pn**	**13 35 55.7**	**+2.4**
CHMN	**Cheshme madani**	**3.46**	**55**	*e*Pn	**Pn**	**13 35 55.7**	**+2.4**
IMEH	**Mehriz**	**3.48**	**5**	*e*Pn	**Pn**	**13 35 55.4**	**+1.9**
IMEH	comp=Z,4μm,0.4s			*e*		13 37 08.1	
IMEH	**Mehriz**	**3.48**	**5**	Pn	**Pn**	**13 35 55.3**	**+1.9**
IMEH	**Mehriz**	**3.48**	**5**	Pn	**Pn**	**13 35 55.3**	**+1.9**
HATD	**Hatta, Dubai** SNR=11	**3.50**	**151**	P	**Pn**	**13 35 56.0**	**+2.4**
HATD	**Hatta, Dubai** SNR=31	**3.50**	**151**	Pn	**Pn**	**13 35 56.0**	**+2.4**
HATD	**Hatta, Dubai** SNR=31	**3.50**	**151**	P	**Pn**	**13 35 56.0**	**+2.4**
HATD	SNR=154			ml		13 37 02.8	
HATD	**Hatta, Dubai** SNR=11	**3.50**	**151**	⇓*i*P	**Pn**	**13 35 56.0**	**+2.4**
ASHO	**Ashiyiah** SNR=55	**3.60**	**153**	P	**Pn**	**13 35 57.0**	**+2.1**
ASHO	**Ashiyiah** SNR=55	**3.60**	**153**	Pn	**Pn**	**13 35 57.0**	**+2.1**
ASHO	**Ashiyiah** SNR=55	**3.60**	**153**	P	**Pn**	**13 35 57.0**	**+2.1**
ASHO	SNR=132			ml		13 36 44.9	
ASHO	**Ashiyiah** SNR=55	**3.60**	**153**	*i* P	**Pn**	**13 35 57.0**	**+2.1**
IBAF	**Bafgh**	**3.83**	**17**	*e*Pn	**Pn**	**13 35 59.4**	**+1.2**
IBAF				*e*Sn	**Sn**	**13 36 42.2**	**-1.0**
IBAF	comp=Z,4μm,0.4s			*e*		13 37 13.6	
IBAF	**Bafgh**	**3.83**	**17**	*e*Pn	**Pn**	**13 35 59.4**	**+1.2**
IBAF				*e*Sn	**Sn**	**13 36 42.2**	**-1.0**
IBAF	**Bafgh**	**3.83**	**17**	Pn	**Pn**	**13 35 59.3**	**+1.2**
IBAF				Sn	**Sn**	**13 36 42.1**	**-1.0**
ISAD	**Sadrabad**	**4.01**	**353**	*e*Pn	**Pn**	**13 36 02.8**	**+2.0**
ISAD	comp=Z,4μm,0.3s			*e*		13 36 53.6	
ISAD	**Sadrabad**	**4.01**	**353**	*e*Pn	**Pn**	**13 36 02.8**	**+2.0**
ICHK	**Chekchek** comp=Z,3μm,0.3s	**4.32**	**2**	*e*		13 36 18.1	
ICHK				*e*Pn	**Pn**	**13 36 06.5**	**+1.6**
SLWS		**4.49**	**227**	P	**Pn**	**13 36 09.0**	**+1.9**
SLWS		**4.49**	**227**	P	**Pn**	**13 36 09.2**	**+2.1**
BOQSS		**4.82**	**246**	P	**Pn**	**13 36 14.0**	**+2.4**
BOQSS		**4.82**	**246**	P	**Pn**	**13 36 14.2**	**+2.6**
BTHS		**4.93**	**219**	P	**Pn**	**13 36 14.0**	**+0.8**
BTHS				S	**Sn**	**13 37 12.0**	**+2.0**
BTHS		**4.93**	**219**	S	**Sn**	**13 37 11.6**	**+1.6**
BTHS		**4.93**	**219**	P	**Pn**	**13 36 14.5**	**+1.3**
ARQ	**Araqi** SNR=17	**5.00**	**155**	P	**Pn**	**13 36 16.4**	**+2.3**
ARQ	**Araqi** SNR=17	**5.00**	**155**	Pn	**Pn**	**13 36 16.4**	**+2.3**
ARQ	**Araqi** SNR=17	**5.00**	**155**	P	**Pn**	**13 36 16.4**	**+2.3**
ARQ	SNR=66			ml		13 37 16.9	
IZEF	**Zefreh**	**5.24**	**342**	*e*Pn	**Pn**	**13 36 17.8**	**+0.2**
IZEF	comp=Z,862nm,0.4s			*e*		13 36 43.7	
IZEF	**Zefreh**	**5.24**	**342**	*e*Pn	**Pn**	**13 36 17.8**	**+0.2**
IZEF	**Zefreh**	**5.24**	**342**	Pn	**Pn**	**13 36 17.8**	**+0.2**
IPIR	**Pirpir**	**5.58**	**329**	*e*Pn	**Pn**	**13 36 21.7**	**-0.6**
IPIR	comp=Z,1μm,0.3s			*e*		13 37 35.8	
IPIR	**Pirpir**	**5.58**	**329**	*e*Pn	**Pn**	**13 36 21.7**	**-0.6**
KFJS		**5.59**	**274**	P	**Pn**	**13 36 25.0**	**+2.7**
KFJS		**5.59**	**274**	P	**Pn**	**13 36 24.5**	**+2.2**
BSY	**Bisya** SNR=13	**5.79**	**152**	Pn	**Pn**	**13 36 28.2**	**+3.1**
BSY	**Bisya** SNR=13	**5.79**	**152**	P	**Pn**	**13 36 28.2**	**+3.1**
BSYO	**Bisya** SNR=13	**5.82**	**152**	P	**Pn**	**13 36 28.2**	**+2.7**
IKLH	**Kolahrood** comp=Z,1μm,0.4s	**5.86**	**337**	*e*Pn	**Pn**	**13 36 27.2**	**+1.0**
IKLH				*e*		13 38 06.3	
IKLH	**Kolahrood**	**5.86**	**337**	*e*Pn	**Pn**	**13 36 27.2**	**+1.0**
SMDO	**Samad** SNR=48	**5.92**	**144**	P	**Pn**	**13 36 28.6**	**+1.7**
SMDO	**Samad** SNR=48	**5.92**	**144**	Pn	**Pn**	**13 36 28.6**	**+1.7**
SMDO	**Samad** SNR=48	**5.92**	**144**	P	**Pn**	**13 36 28.6**	**+1.7**
CHBR	**Chabahar**	**6.02**	**111**	*e*Pn	**Pn**	**13 36 28.6**	**+0.4**
CHBR	**Chabahar**	**6.02**	**111**	*e*Pn	**Pn**	**13 36 28.6**	**+0.4**
TABS	**Tabas**	**6.22**	**23**	*e*Pn	**Pn**	**13 36 32.2**	**+1.2**
TABS	**Tabas**	**6.22**	**23**	*e*Pn	**Pn**	**13 36 32.2**	**+1.2**
JMDO	**Jabal Madar** SNR=25	**6.53**	**147**	P	**Pn**	**13 36 37.5**	**+2.4**
JMDO	**Jabal Madar** SNR=25	**6.53**	**147**	Pn	**Pn**	**13 36 37.5**	**+2.4**
JMDO	**Jabal Madar** SNR=25	**6.53**	**147**	P	**Pn**	**13 36 37.5**	**+2.4**
WBK	**Wadi Bani Khal** SNR=17	**6.79**	**140**	P	**Pn**	**13 36 39.8**	**+1.1**
WBK	**Wadi Bani Khal** SNR=17	**6.79**	**140**	Pn	**Pn**	**13 36 39.9**	**+1.1**
WBK	**Wadi Bani Khal** SNR=17	**6.79**	**140**	P	**Pn**	**13 36 39.8**	**+1.1**
WBK	SNR=17			P	**Pn**	**13 36 39.9**	**+1.1**
ASAO	**Ashtian**	**7.54**	**332**	*e*Pn	**Pn**	**13 36 51.0**	**+1.8**
ASAO	**Ashtian**	**7.54**	**332**	*e*Pn	**Pn**	**13 36 51.0**	**+1.8**
RAYN	**Ar Rayn** comp=Z,26nm,0.5s	**9.03**	**243**	*e*Pn	**Pn**	**13 37 08.5**	**-1.0**
RAYN				*e*Sn	**Sn**	**13 38 46.3**	**-4.8**
RBK	**Rabkut** SNR=16	**10.36**	**180**	P	**Pn**	**13 37 28.0**	**+0.2**
RBK	**Rabkut** SNR=16	**10.36**	**180**	P	**Pn**	**13 37 28.0**	**+0.2**
ABTO	**Aybut** SNR=15	**10.55**	**185**	P	**Pn**	**13 37 30.7**	**+0.3**
ABTO	**Aybut** SNR=15	**10.55**	**185**	P	**Pn**	**13 37 30.7**	**+0.3**
KBL	**Kabul**	**14.26**	**59**	*e*P	**Pn**	**13 38 24.3**	**+3.1**
KBL	**Kabul**	**14.26**	**59**	*e*P	**Pn**	**13 38 24.3**	**+3.1**
GNI	**Garni** comp=Z,0.7nm,0.3s,baz=131,slow=19,SNR=2.5	**14.52**	**330**	Pn	**P**	**13 38 28.2**	**-3.1**
GNI				LR	LR	13 45 03.4	
GNI	**Garni** comp=Z,152nm,21.0s,baz=100,slow=42	**14.52**	**330**⇑	*e*P	**Pn**	**13 38 26.5**	**+1.8**
GNI	comp=Z,13nm,2.5s			pmax	pmax		
GNI	**Garni** comp=Z,15nm,0.8s	**14.52**	**330**	Pn	**Pn**	**13 38 26.9**	**+2.2**
GNI	**Garni** comp=Z,15nm,0.8s	**14.52**	**330**	Pn	**Pn**	**13 38 26.9**	**+2.2**
ASF	**Jabal al Asfar** comp=Z,0.5nm,0.3s,baz=27,slow=6.2,SNR=3.0	**15.62**	**290**	Pn	**Pn**	**13 38 41.4**	**+2.0**
ASF				Sn	Sn	13 41 23.7	-8.7
DAMY	**Dhamar** comp=Z,0.3nm,0.3s,baz=76,slow=19,SNR=2.1	**16.14**	**217**	*e*P	**Pn**	**13 38 41.9**	**-4.5**
EIL	**Elat** comp=Z,74nm,1.1s	**17.02**	**280**	P	**P**	**13 38 59.2**	**+0.3**
EIL	comp=Z,0.1nm,0.3s,baz=43,slow=4.1,SNR=8.0			LR	LR	13 47 19.2	
MMAI	**Mount Meron Ar** comp=Z,90nm,20.6s,baz=77,slow=44	**17.03**	**

	comp=Z,6.2nm,0.7s,baz=132,slow=12,SNR=18								
BR131	**Keskin Array S**	**20.74**	**310**	P		**P**	**13 39 38.9**	**-0.9**
	comp=Z,5.3nm,0.6s								
BR131	**Keskin Array S**	**20.74**	**310**	P		**P**	**13 39 38.9**	**-0.9**
	comp=Z,5.3nm,0.6s								
ANTO	**Ankara**	**21.38**	**309**	*e*P		**P**	**13 39 48.0**	**+1.3**
ANTO				pmax		pmax			
	comp=Z,17nm,0.8s								
ANTO	**Ankara**	**21.38**	**309**	*e*P		**P**	**13 39 48.0**	**+1.3**
	comp=Z,17nm,0.8s								
ANTO	**Ankara**	**21.38**	**309**	*e*P		**P**	**13 39 48.0**	**+1.3**
	comp=Z,17nm,0.8s								
KSH	**Kashi**	**21.39**	**52**	P		**P**	**13 39 44.4**	**-2.4**
KSH				pP		**pP**	**13 39 48.3**	**-2.5**
KSH				sP		**sP**	**13 39 50.8**	**-1.8**
KSH				PP		**PnPn**	**13 40 05.3**	**-1.5**
KSH				S		S	13 43 32.0	-12
KSH				PMZ					
	comp=Z,69nm,6.3s								
KSH				LN					
	comp=Z,230nm,10.2s								
KSH				LE					
	comp=Z,200nm,12.0s								
KSH				LZ					
	comp=Z,240nm,10.2s								
ANN	**Anapa**	**21.55**	**326**	*e*P		P	13 39 57.7	+9.4	
ANN				pmax		pmax			
	comp=Z,29nm,0.8s								
ABKAR	**Akbulak array**	**21.75**	**10**	*e*P		**P**	**13 39 50.2**	**-0.2**
	comp=Z,2.8nm,0.5s								
ABKAR	**Akbulak array**	**21.75**	**10**	*e*P		**P**	**13 39 50.2**	**-0.2**
	comp=Z,2.8nm,0.5s								
FRU	**Bishkek**	**22.21**	**43**	*e*P		**P**	**13 39 57.0**	**+1.5**
FRU				*e*			13 40 20.0		
FRU	**Bishkek**	**22.21**	**43**	*e*P		**P**	**13 39 57.0**	**+1.5**
AKTK	**Aktyubinsk**	**22.67**	**6**	P		**P**	**13 40 00.9**	**+0.6**
AKTO	**Aktyubinsk**	**22.67**	**6**	P		**P**	**13 40 00.9**	**+0.6**
	comp=Z,3.7nm,0.6s,baz=176,slow=12,SNR=12								
AKTO				LR		LR	13 49 06.7		
	comp=Z,29nm,18.1s,baz=169,slow=37								
KLRI	**Killari**	**22.74**	**111**	*e*P		**P**	**13 40 00.3**	**-1.1**
HYBB	**Hyderabad (bro**	**24.68**	**110**	*e*P		**P**	**13 40 20.3**	**+0.1**
HYB	**Hyderabad**	**24.68**	**110**	*i* P		**P**	**13 40 19.0**	**-1.2**
VRHR	**Novokhopersk**	**25.05**	**341**	*e*P		**P**	**13 40 24.9**	**+1.8**
VRHR				pmax		pmax			
	comp=N,20nm,0.7s								
VRHR				pmax		pmax			
	comp=E,6.0nm,0.7s								
VRHR				pmax		pmax			
	comp=Z,10.0nm,0.7s								
VRHR	**Novokhopersk**	**25.05**	**341**	*e*P		**P**	**13 40 24.9**	**+1.8**
SRLM	**Srisailam**	**25.63**	**112**	*e*P		**P**	**13 40 29.2**	**+0.4**
VSR	**Storozhevoye**	**25.92**	**338**	*e*P		**P**	**13 40 31.6**	**+0.6**
VSR				pmax		pmax			
	comp=N,30nm,1.1s								
VSR				pmax		pmax			
	comp=E,20nm,1.1s								
VSR				pmax		pmax			
	comp=Z,20nm,1.1s								
VSR	**Storozhevoye**	**25.92**	**338**	*e*P		**P**	**13 40 31.6**	**+0.6**
IDI	**Anoyia**	**26.01**	**294**	P		**P**	**13 40 32.0**	**-0.2**
	comp=Z,7.5nm,0.6s,baz=260,slow=20,SNR=8.1								
IDI				LR		LR	13 54 44.6		
	comp=Z,25nm,20.5s,baz=101,slow=46								
IDI	**Anoyia**	**26.01**	**294**	P		**P**	**13 40 32.0**	**-0.2**
RCLA	**Racherla**	**26.02**	**113**	*e*P		**P**	**13 40 32.9**	**+0.6**
BRVK	**Borovoye**	**27.78**	**21**	*de*P		**P**	**13 40 47.9**	**+0.1**
BRVK				pmax		pmax			
	comp=Z,7.0nm,1.6s								
BRVK	**Borovoye**	**27.78**	**21**	*e*P		**P**	**13 40 47.9**	**+0.1**
	comp=Z,7.0nm,1.6s								
BVAR	**Borovoye Array**	**27.79**	**21**	P		**P**	**13 40 47.3**	**-0.5**
	comp=Z,4.1nm,0.6s,baz=208,slow=8.4,SNR=26								
BVAR				PcP		**PcP**	**13 44 04.0**	**0.0**	
	comp=Z,1.1nm,0.5s,baz=236,slow=3.7,SNR=4.9								
BVAR	**Borovoye Array**	**27.79**	**21**	PcP		**PcP**	**13 44 04.0**	**0.0**	
VRI	**Vrincioaia**	**28.18**	**317**	⇓P		P	13 41 01.3	+10	
VRI	**Vrincioaia**	**28.18**	**317**	⇓*i*P		P	13 41 01.3	+10	
PLOR	**Plostina**	**28.22**	**317**	⇑P		P	13 40 59.8	+7.9	
PLOR	**Plostina**	**28.22**	**317**	⇑*i*P		P	13 40 59.8	+7.9	
MLR	**Muntele Rosu**	**28.48**	**316**	P		**P**	**13 40 54.4**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=186,slow=18,SNR=2.8								
MLR				LR		LR	13 52 53.7		
	comp=Z,15nm,18.6s,baz=127,slow=38								
MLR	**Muntele Rosu**	**28.48**	**316**	⇑*i*P		P	13 41 00.2	+5.9	
TESR	**Tescani**	**28.55**	**318**	⇑*i*P		**P**	**13 40 54.4**	**-0.4**
ARU	**Arti**	**28.66**	**5**	*d i*P		**P**	**13 40 55.1**	**-0.5**
ARU							13 41 44.1		
ARU				S		**S**	**13 45 46.5**	**+2.7**
ARU				SS		**SnSn**	**13 47 09.2**	**+5.1**
ARU				pmax		pmax			
	comp=Z,3.0nm,1.7s								
ARU	**Arti**	**28.66**	**5**	*i* P		**P**	**13 40 55.1**	**-0.5**
	comp=Z,3.0nm,1.7s								
MK31	**Makanchi Array**	**28.94**	**42**	*e*P		**P**	**13 40 57.2**	**-1.1**
MK31	**Makanchi Array**	**28.94**	**42**	*e*P		**P**	**13 40 57.2**	**-1.1**
MK31	**Makanchi Array**	**28.94**	**42**	*e*P		**P**	**13 40 57.2**	**-1.1**
VOIR		**29.01**	**315**	⇑P		P	13 41 03.3	+4.3	
VOIR		**29.01**	**315**	⇑*i*P		P	13 41 03.3	+4.3	
KURBB	**Kurchatov Arra**	**29.20**	**32**	P		**P**	**13 40 59.9**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=232,slow=8.8,SNR=15								
KURK	**Kurchatov**	**29.31**	**32**	P		**P**	**13 40 59.9**	**-1.5**
KURK				pmax		pmax			
	comp=Z,2.0nm,0.6s								
KURK	**Kurchatov**	**29.31**	**32**	*e*P		**P**	**13 41 01.4**	**0.0**
KURK	**Kurchatov**	**29.31**	**32**	*e*P		**P**	**13 41 01.4**	**0.0**
AK02	**Malin Array Si**	**29.61**	**327**	P		**P**	**13 41 04.8**	**+0.8**
AK02	**Malin Array Si**	**29.61**	**327**	P		**P**	**13 41 04.8**	**+0.8**
AK01	**Malin Array Si**	**29.62**	**327**	*e*P		**P**	**13 41 01.6**	**-2.6**
AKASG	**Malin Array Be**	**29.62**	**327**	P		**P**	**13 41 02.6**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=136,slow=8.0,SNR=5.0								
AKBB	**Malin Array Si**	**29.62**	**327**	*e*P		**P**	**13 41 05.1**	**+0.9**
AKBB	**Malin Array Si**	**29.62**	**327**	*e*P		**P**	**13 41 05.1**	**+0.9**
AKBB	**Malin Array Si**	**29.62**	**327**	*e*P		**P**	**13 41 05.1**	**+0.9**
KIEV	**Kiev**	**29.63**	**327**	⇑*e*P		**P**	**13 41 02.8**	**-1.4**
KIEV	**Kiev**	**29.63**	**327**	*e*P		**P**	**13 41 04.1**	**-0.1**
	comp=Z,5.0nm,0.8s								
KIEV	**Kiev**	**29.63**	**327**	*e*P		**P**	**13 41 04.1**	**-0.1**
	comp=Z,5.0nm,0.8s								
BURAR	**Bucovina Array**	**29.96**	**319**	⇑P		**P**	**13 41 09.7**	**+2.3**
BURAR	**Bucovina Array**	**29.96**	**319**	⇑*i*P		**P**	**13 41 09.7**	**+2.3**
BURAR	**Bucovina Array**	**29.96**	**319**	⇑*i*P		**P**	**13 41 09.7**	**+2.3**
BUR08	**Bucovina Ar. S**	**29.99**	**319**	*e*P		**P**	**13 41 09.4**	**+1.8**
BUR08	**Bucovina Ar. S**	**29.99**	**319**	*e*P		**P**	**13 41 09.4**	**+1.8**
OBN	**Obninsk**	**30.05**	**340**	*e*P		**P**	**13 41 07.9**	**0.0**
OBN				*e*			13 42 09.9		
OBN				pmax		pmax			
	comp=Z,14nm,1.7s								
OBN				MLR		MLR			
	comp=Z,39nm,19.0s								
OBN	**Obninsk**	**30.05**	**340**	*e*P		**P**	**13 41 07.9**	**0.0**
	comp=Z,14nm,1.7s								
BARS	**Barje**	**30.13**	**308**	*e*P		**P**	**13 41 07.0**	**-1.8**
BOLS	**Boljevac**	**30.38**	**310**	*e*P		**P**	**13 41 10.2**	**-0.8**
GZR	**Gura Zlata**	**30.43**	**313**	⇓P		P	13 41 08.4	-3.2	
GZR	**Gura Zlata**	**30.43**	**313**	⇓*i*P		P	13 41 08.4	-3.2	
SELS	**Selova**	**30.75**	**309**	*e*P		**P**	**13 41 12.9**	**-1.4**
DRGR		**31.07**	**316**	⇑P		**P**	**13 41 18.6**	**+1.4**
DRGR		**31.07**	**316**	⇑*i*P		**P**	**13 41 18.6**	**+1.4**
DRGR		**31.07**	**316**	P		**P**	**13 41 18.6**	**+1.4**
WMQ	**Urumqi**	**31.14**	**50**	P		**P**	**13 41 18.6**	**+0.8**
WMQ				pP		**pP**	**13 41 23.0**	**+0.9**
WMQ				sP		**sP**	**13 41 25.6**	**+1.8**
WMQ				PP		**PnPn**	**13 42 21.3**	**+2.0**
WMQ				S		**S**	**13 46 23.1**	**-0.1**
WMQ				PMZ					
	comp=Z,8.0nm,0.6s								
WMQ				PMZ					
	comp=Z,86nm,6.0s								
WMQ				LN					
	comp=Z,170nm,16.0s								
WMQ				LE					
	comp=Z,65nm,9.2s								
WMQ				LZ					
	comp=Z,69nm,24.0s								
BZS	**Buzias**	**31.27**	**313**	⇑P		**P**	**13 41 21.3**	**+2.5**
BZS	**Buzias**	**31.27**	**313**	⇑*i*P		**P**	**13 41 21.3**	**+2.5**
BZS	**Buzias**	**31.27**	**313**	P		**P**	**13 41 21.3**	**+2.5**
IVAS	**Ivanjica**	**31.53**	**309**	*e*P		**P**	**13 41 21.3**	**+0.1**
KOLS	**Kolonicke sedl**	**32.32**	**319**	*e*P		**P**	**13 41 28.8**	**+0.7**
KOLS				pmax		pmax			
	comp=Z,4.0nm,1.1s								
KOLS	**Kolonicke sedl**	**32.32**	**319**	*e*P		**P**	**13 41 28.8**	**+0.7**
	comp=Z,4.0nm,1.1s								
KOLS	**Kolonicke sedl**	**32.32**	**319**	*e*P		**P**	**13 41 28.8**	**+0.7**
KOLS				*es*P		**sP**	**13 41 33.8**	**-0.3**
MSEY	**Mahe Island**	**32.42**	**178**	*i* P		P	13 41 23.8	-5.4	
STHS	**Stebnicka Huta**	**33.15**	**319**	*e*P		**P**	**13 41 35.0**	**-0.3**
STHS				pmax		pmax			
	comp=Z,3.0nm,1.6s								
STHS	**Stebnicka Huta**	**33.15**	**319**	*e*P		**P**	**13 41 35.0**	**-0.3**
	comp=Z,3.0nm,1.6s								
STHS	**Stebnicka Huta**	**33.15**	**319**	*e*P		**P**	**13 41 35.0**	**-0.3**
STHS				*es*P		**sP**	**13 41 40.7**	**-0.6**
STHS				*e*			14 21 13.8		
STHS				*e*			14 23 25.2		
PKSM	**Moragy**	**33.42**	**313**	⇑P		**P**	**13 41 37.7**	**0.0**
PKSM	**Moragy**	**33.42**	**313**	⇑*i*P		**P**	**13 41 37.7**	**0.0**
PKSM	**Moragy**	**33.42**	**313**	P		**P**	**13 41 37.7**	**0.0**
ZAA0	**Zalesovo Array**	**34.30**	**32**	*e*P		**P**	**13 41 44.4**	**-0.8**
ZAA0	**Zalesovo Array**	**34.30**	**32**	*e*P		**P**	**13 41 44.4**	**-0.8**
ZALV	**Zalesovo Beam**	**34.30**	**32**	P		**P**	**13 41 43.9**	**-1.3**
	comp=Z,6.0nm,0.7s,baz=242,slow=9.6,SNR=13								
ZALV				LR		LR	13 57 26.7		
	comp=Z,72nm,20.8s,baz=250,slow=39								
VRAC	**Vranov**	**35.85**	**317**	⇓P		**P**	**13 41 58.4**	**-0.3**
VRAC	**Vranov**	**35.85**	**317**	⇓*i*P		**P**	**13 41 58.4**	**-0.3**
VRAC	**Vranov**	**35.85**	**317**	P		**P**	**13 41 58.4**	**-0.3**
VSU	**Vasula**	**36.03**	**336**	⇑*e*P		**P**	**13 42 00.2**	**+0.1**
VSU	**Vasula**	**36.03**	**336**	*e*P		**P**	**13 42 00.2**	**+0.1**
DPC	**Dobruska-Polom**	**36.42**	**318**	*e*P		**P**	**13 42 03.7**	**+0.1**
DPC				*ep*P		**pP**	**13 42 06.2**	**-1.7**
DPC				*es*P		**sP**	**13 42 08.1**	**-1.5**
DPC				*ex*		x	13 42 22.4		
DPC	**Dobruska-Polom**	**36.42**	**318**	*e*P		**P**	**13 42 03.7**	**+0.1**
DPC				*e*			13 42 22.4		
DPC	**Dobruska-Polom**	**36.42**	**318**	*e*P		**P**	**13 42 03.7**	**+0.1**
UPC	**Upice**	**36.66**	**319**	*e*P		**P**	**13 42 05.5**	**-0.1**
UPC				*ep*P		**pP**	**13 42 11.1**	**+1.2**
UPC	**Upice**	**36.66**	**319**	*e*P		**P**	**13 42 05.5**	**-0.1**
UPC				*e*			13 42 11.1		
UPC	**Upice**	**36.66**	**319**	*e*P		**P**	**13 42 05.5**	**-0.1**
GERES	**GERESS Array B**	**37.46**	**315**	P		**P**	**13 42 11.2**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=107,slow=7.0,SNR=6.0								
GERES				LR		LR	14 00 45.2		
	comp=Z,30nm,18.6s,baz=72,slow=41								
KHC	**Kasperske Hory**	**37.63**	**315**	*e*P		**P**	**13 42 11.9**	**-2.0**
KHC				*ep*P		**pP**	**13 42 17.9**	**-0.3**
KHC				*ex*		x	13 42 33.4		
KHC	**Kasperske Hory**	**37.63**	**315**	*e*P		**P**	**13 42 11.9**	**-2.0**
KHC				*e*			13 42 17.9		
KHC	**Kasperske Hory**	**37.63**	**315**	P		**P**	**13 42 13.6**	**-0.3**
	comp=Z,4.0nm,1.2s								
KHC	**Kasperske Hory**	**37.63**	**315**	P		**P**	**13 42 13.6**	**-0.3**
	comp=Z,4.0nm,1.2s								
BRG	**Berggiesshubel**	**38.02**	**318**	*e*P		**P**	**13 42 19.3**	**+2.2**
	comp=Z,2.2nm,1.1s								
BRG	**Berggiesshubel**	**38.02**	**318**	*e*P		**P**	**13 42 19.3**	**+2.2**
BRG				pmax		pmax			
	comp=Z,4.0nm,1.1s								
WATA	**Walderalm**	**38.39**	**312**	⇓*i*P		**P**	**13 42 19.2**	**-1.2**
	comp=Z,3.1nm,0.5s								
WATA	**Walderalm**	**38.39**	**312**	P		**P**	**13 42 19.2**	**-1.2**
	comp=Z,3.1nm,0.5s								
FINES	**FINESS Array B**	**38.44**	**339**	P		**P**	**13 42 19.8**	**-0.7**
	comp=Z,2.4nm,0.5s,baz=143,slow=11,SNR=11								
FINES				LR		LR	13 57 53.5		
	comp=Z,19nm,18.9s,baz=192,slow=36								
CLL	**Collm**	**38.73**	**319**	*e*P		**P**	**13 42 22.0**	**-1.0**
CLL				*ep*P		**pP**	**13 42 26.0**	**-1.4**
CLL	**Collm**	**38.73**	**319**	*e*P		**P**	**13 42 22.0**	**-1.0**
GTA	**Gaotai**	**39.23**	**61**	*e*P		**P**	**13 42 28.3**	**+0.7**
GTA				pP		**pP**	**13 42 32.9**	**+1.0**
GTA				sP		**sP**	**13 42 35.3**	**+1.6**
GTA				S		**S**	**13 48 30.4**	**+2.6**
GTA				PMZ					
	comp=Z,5.0nm,1.3s								
GTA				PMZ					
	comp=Z,66nm,5.1s								
GTA				LN					
	comp=Z,110nm,13.3s								
GTA				LE					
	comp=Z,87nm,13.3s								
GTA				LZ					
	comp=Z,100nm,13.9s								
DAVA	**Damuels**	**39.49**	**312**	⇑*i*P		**P**	**13 42 28.4**	**-1.3**
	comp=Z,7.5nm,0.5s								
DAVA	**Damuels**	**39.49**	**312**	P		**P**	**13 42 28.4**	**-1.3**
	comp=Z,7.5nm,0.5s								
MHMT	**Maesarieng**	**41.15**	**94**	P		**P**	**13 42 46.3**	**+2.7**
	comp=Z,6.1nm,1.2s								
CHTO	**Chiang Mai**	**41.81**	**93**	P		**P**	**13 42 49.6**	**+0.6**
	comp=Z,72nm,0.9s								
CHTO	**Chiang Mai**	**41.81**	**93**	*e*P		**P**	**13 42 48.5**	**-0.5**
CHTO				pmax		pmax			
	comp=Z,12nm,0.8s								
CHTO	**Chiang Mai**	**41.81**	**93**	*e*P		**P**	**13 42 48.5**	**-0.5**
	comp=Z,12nm,0.8s								
CHTO	**Chiang Mai**	**41.81**	**93**	P		**P**	**13 42 49.4**	**+0.3**
SNR=8.3									
CHTO	**Chiang Mai**	**41.81**	**93**	*e*P		**P**	**13 42 48.5**	**-0.5**
	comp=Z,12nm,0.8s								
CMMT	**Chiang Mai**	**41.82**	**93**	P		**P**	**13 42 49.6**	**+0.5**
	comp=Z,20nm,1.0s								
CMAR	**Chiang Mai Arr**	**41.94**	**93**	P		**P**	**13 42 50.1**	**0.0**
	comp=Z,3.9nm,0.7s,baz=286,slow=9.2,SNR=20								
CMAR				PcP		**PcP**	**13 44 45.1**	**-0.4**	
	comp=Z,1.5nm,0.7s,baz=284,slow=5.0,SNR=5.0								
CMAR				LR		LR	14 04 02.5		
	comp=Z,30nm,18.2s,baz=184,slow=42								
LZH	**Lanzhou**	**42.45**	**66**	*e*P		**P**	**13 42 53.3**	**-0.9**
LZH				pP		**pP**	**13 42 58.3**	**-0.3**
LZH				sP		**sP**	**13 43 01.8**	**+1.5**
LZH				PMZ					
	comp=Z,45nm,1.6s								
LZH				PMZ					
	comp=Z,170nm,4.5s								
CD2	**Chengdu**	**42.94**	**74**	*e*P		**P**	**13 42 57.0**	**-1.1**
CD2				pP		**pP**	**13 43 00.3**	**-2.2**
CD2				PP		**PP**	**13 44 36.8**	**-1.0**
CD2				PcP		**PcP**	**13 44 47.8**	**-0.9**
CD2				S		**S**	**13 49 22.6**	**-0.3**
CD2				SS		**SS**	**13 52 35.4**	**+0.8**
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.4s								
ZAK	**Zakamensk**	**43.17**	**45**	*e*P		**P**	**13 42 57.9**	**-1.9**
ZAK				pmax		pmax			
	comp=Z,2.0nm,2.3s								
KMI	**Kunming**	**43.24**	**82**	P		**P**	**13 43 00.9**	**0.0**
KMI				PMZ					
	comp=Z,6.0nm,0.9s								
NANT	**Nan**	**43.37**	**92**	P		**P**	**13 43 03.0**	**+1.3**
	comp=Z,4.0nm,0.8s								
NB2	**NORSAR Subarra**	**43.81**	**331**	P		**P**	**13 43 05.5**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=121,slow=8.6								
NB2	**NORSAR Subarra**	**43.81**	**331**	P		**P**	**13 43 05.5**	**+0.7**
	comp=Z,0.8nm,0.4s,SNR=7.9								
NOA	**NORSAR Array B**	**43.81**	**331**	P		**P**	**13 43 05.3**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=120,slow=8.2,SNR=5.7								
NOA				LR		LR	14 02 55.0		
	comp=Z,30nm,20.6s,baz=245,slow=38								
TAM	**Tamanrasset**	**44.12**	**275**	*e*P		**P**	**13 43 07.6**	**-0.2**
TAM				pmax		pmax			
	comp=Z,4.0nm,0.7s								
TAM	**Tamanrasset**	**44.12**	**275**	*e*P		**P**	**13 43 07.6**	**-0.2**
	comp=Z,3.7nm,0.7s								
TAM	**Tamanrasset**	**44.12**	**275**	*e*P		**P**	**13 43 07.6**	**-0.2**
	comp=Z,3.7nm,0.7s								
LOEI	**Loei**	**44.34**	**93**	P		**P**	**13 43 12.5**	**+3.0**
	comp=Z,9.6nm,0.9s								
PBKT	**Sadao Pong**	**44.44**	**95**	P		**P**	**13 43 11.1**	**+0.8**
SONM	**Songino Array**	**44.75**	**49**	P		**P**	**13 43 12.5**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=249,slow=7.5,SNR=8.3								
SONM				LR		LR	14 02 36.3		
	comp=Z,71nm,19.0s,baz=254,slow=37								
ARCES	**ARCESS Array B**	**44.86**	**346**	P		**P**	**13 43 12.7**	**-0.3**
	comp=Z,4.0nm,0.3s,baz=150,slow=7.3,SNR=3.4								
OPO	**Ambohidratompo**	**46.72**	**189**	P		**P**	**13 43 30.3**	**+2.0**
	comp=Z,9.6nm,0.8s,baz=358,slow=6.1,SNR=6.2								
XAN	**Xi'an**	**46.80**	**68**	P		**P**	**13 43 27.8**	**-1.0**
XAN				pP		**pP**	**13 43 33.0**	**-0.2**
XAN				sP		**sP**	**13 43 35.5**	**+0.6**
XAN				PMZ					
	comp=Z,3.0nm,0.8s								
XAN				PMZ					
	comp=Z,21nm,6.3s								
HHC	**Hu-ho-hao-te**	**48.23**	**59**	*e*P		**P**	**13 43 40.3**	**+0.3**
HHC				sP		**sP**	**13 43 46.1**	**0.0**
HHC				PP		**PP**	**13 45 32.8**	**+0.5**
HHC				S		**S**	**13 50 38.3**	**-0.9**
HHC				PMZ					
	comp=Z,13nm,1.0s								
HHC				PMZ					
	comp=Z,68nm,6.2s								
HHC				LN					
	comp=Z,120nm,15.5s								
HHC				LE					
	comp=Z,84nm,14.9s								
HHC				LZ					
	comp=Z,56nm,15.0s								
ESDC	**Sonseca Array**	**49.02**	**300**	P		**P**	**13 43 45.6**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=76,slow=7.3,SNR=11								
LSZ	**Lusaka**	**49.82**	**214**	*e*P		**P**	**13 43 52.4**	**+0.1**
LSZ				pmax		pmax			
	comp=Z,8.0nm,1.0s								
LSZ	**Lusaka**	**49.82**	**214**	*e*P		**P**	**13 43 52.3**	**0.0**
	comp=Z,8.0nm,1.0s								
LSZ	**Lusaka**	**49.82**	**214**	*e*P		**P**	**13 43 52.4**	**0.0**
	comp=Z,8.0nm,1.0s								
BOD	**Bodaibo**	**50.80**	**37**	*e*P		**P**	**13 43 58.3**	**-0.8**
BOD				pmax		pmax			
	comp=Z,3.0nm,1.8s								
TORD	**Torodi Ar. Bea**	**51.01**	**264**	P		**P**	**13 44 00.7**	**-0.6**
	comp=Z,13nm,0.7s,baz=61,slow=7.7,SNR=86								
WHN	**Wuhan**	**51.96**	**72**	P		**P**	**13 44 07.9**	**-0.3**
WHN				PMZ					
	comp=Z,34nm,0.8s								
TIA	**Tai'an**	**53.10**	**64**	⇑P		**P**	**13 44 16.6**	**-0.1**
TIA				PMZ					
	comp=Z,20nm,0.7s								
NJ2	**Nanjing**	**55.36**	**69**	*e*P		**P**	**13 44 32.1**	**-1.1**
NJ2				PMZ					
	comp=Z,30nm,0.6s								
TSUM	**Tsumeb**	**58.77**	**221**	*e*P		**P**	**13 44 57.6**	**+0.1**
	comp=Z,7.6nm,1.1s								
TSUM	**Tsumeb**	**58.77**	**221**	*e*P		**P**	**13 44 57.6**	**+0.1**
	comp=Z,7.6nm,1.1s								
TIXI	**Tiksi**	**58.92**	**21**	⇑*e*P		**P**	**13 44 57.8**	**+0.1**
TIXI				pmax		pmax			
	comp=Z,7.0nm,2.5s								
LBTB	**Lobatse**	**59.43**	**210**	*e*P		**P**	**13 45 02.7**	**+0.8**
LBTB				pmax		pmax			
	comp=Z,10.0nm,0.8s								
LBTB	**Lobatse**	**59.43**	**210**	*e*P		**P**	**13 45 02.7**	**+0.8**
	comp=Z,10nm,0.8s								
LBTB	**Lobatse**	**59.43**	**210**	*e*P		**P**	**13 45 02.7**	**+0.8**
	comp=Z,10nm,0.8s								
DBIC	**Dimbokro**	**59.68**	**261**	P		**P**	**13 45 02.0**	**-1.8**
	comp=Z,7.8nm,0.7s,baz=49,slow=6.2,SNR=6.5								
DBIC	**Dimbokro**	**59.68**	**261**	P		**P**	**13 45 02.0**	**-1.8**
DBIC				pmax		pmax			
	comp=Z,8.0nm,0.7s								
DBIC	**Dimbokro**	**59.68**	**261**	*e*P		**P**	**13 45 03.1**	**-0.7**
DBIC	**Dimbokro**	**59.68**	**261**	*e*P		**P**	**13 45 03.1**	**-0.7**
KSAR	**Wonju Array Be**	**61.28**	**61**	P		**P**	**13 45 13.2**	**-1.2**
KSAR	**Wonju Array Be**	**61.28**	**61**	P		**P**	**13 45 13.2**	**-1.2**
KSAR	**Wonju Array Be**	**61.28**	**61**	P		**P**	**13 45 13.2**	**-1.2**
KSRS	**Korea Array**	**61.30**	**61**	P		**P**	**13 45 13.2**	**-1.4**
	comp=Z,3.2nm,0.6s,baz=280,slow=7.1,SNR=19								
KSRS	**Korea Array**	**61.30**	**61**	P		**P**	**13 45 13.2**	**-1.4**
KSRS				pmax		pmax			
	comp=Z,3.0nm,0.6s								
BOSA	**Boshof**	**62.71**	**209**	P		**P**	**13 45 24.1**	**0.0**
	comp=Z,2.1nm,0.4s,baz=22,slow=4.2,SNR=7.5								
BOSA				LR		LR	14 15 08.1		
	comp=Z,42nm,20.8s,baz=143,slow=38								
SUMG	**Summit**	**64.44**	**341**	*i* P		**P**	**13 45 35.5**	**+0.1**
SUMG	**Summit**	**64.44**	**341**	*e*P		**P**	**13 45 35.5**	**+0.1**
SUMG	**Summit**	**64.44**	**341**	*e*P		**P**	**13 45 36.2**	**+0.8**
	comp=Z,17nm,1.3s								
SUMG	**Summit**	**64.44**	**341**	*e*P		**P**	**13 45 36.2**	**+0.8**

TUZ	**Tuapeka**	**1.84**	**119**	⇑PN	Pn	13 56 35.0	-0.2
SYZ	**Scrubby Hill**	**1.92**	**140**	PN	Pn	13 56 36.0	-0.3
SYZ				AML	AML	13 57 00.9	
SYZ				AML	AML	13 57 00.9	
SYZ				AML	AML	13 57 01.1	
SYZ				AML	AML	13 57 01.1	
LBZ	**Lake Benmore**	**2.15**	**72**	PN	Pn	13 56 37.6	-1.5
LBZ				AML	AML	13 57 03.4	
LBZ				AML	AML	13 57 04.0	
FOZ	**Fox Glacier**	**2.28**	**49**	PN	Pn	13 56 40.5	-0.2
ODZ	**Otahua Downs**	**2.35**	**90**	⇓PN	Pn	13 56 40.4	-1.2
HHSZ	**Highcliff Hill**	**2.43**	**110**	PN	Pn	13 56 42.0	-0.7
RPZ	**Rata Peaks**	**3.00**	**64**	PN	Pn	13 56 47.8	-2.2
RPZ				AML	AML	13 57 22.7	
RPZ				AML	AML	13 57 27.0	
WVZ	**Waitaha Valley**	**3.17**	**52**	PN	Pn	13 56 50.0	-2.2
OXZ	**Oxford**	**3.81**	**64**	*e*PN	Pn	13 56 59.6	-1.1

*ISCJB **20** 14:02:14.4±0.4, 43°.79N±0°.04×143°.34E±0°.05, h182km±3km, mb3.4/3, Error ellipse: s-maj=6.1km s-min=5.5km az=164.3*
*MOS **20** 14:02:14.2±1.4, 43°.86N×143°.34E, h180km, mb4.1/1, Error ellipse: s-maj=23.2km s-min=10.3km az=70.5*
*JMA **20** 14:02:15.3±0.1, 43°.79N×143°.32E, h182km±1km, M3.2*
*IDC **20** 14:02:15.8±1.2, 43°.82N×143°.32E, h178km±5km, mb3.1/3, mb1 3.3/7, mb1mx3.0/45, mbtmp3.6/7, Error ellipse: s-maj=32.7km s-min=17.7km az=144.0*

ISC 20 14:02:15.5±0.7, 43°.80N±0°.05×143°.35E±0°.04, h181km±6km, n39, σ1§09/55, mb3.4/3, 4C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JMP	**Maruseppu**	**0.21**	**2**	P		**Pn**	**14 02 39.5**	**0.0**
JMP				*e*S		**Sn**	**14 02 57.7**	**-0.4**
JTKR	**Abashiri--Toko**	**0.44**	**67**	P		**Pn**	**14 02 40.3**	**+0.2**
JTKR				*e*S		**Sn**	**14 02 58.9**	**-0.1**
JKK2	**Kamakawa 2**	**0.44**	**280**	P		**Pn**	**14 02 40.2**	**+0.1**
JKK2				*e*S		**Sn**	**14 02 58.9**	**-0.1**
JAR	**Ashorobuto**	**0.59**	**149**	P		**Pn**	**14 02 40.9**	**+0.1**
JAR				*e*S		**Sn**	**14 03 00.0**	**-0.2**
ASAJ	**Asahikawa**	**0.63**	**300**	P		**Pn**	**14 02 41.2**	**+0.3**
ASAJ				*e*S		**Sn**	**14 03 00.4**	**-0.1**
ASAJ	**Asahikawa** baz=87,slow=4.1	**0.63**	**300**	P		**Pn**	**14 02 41.1**	**+0.3**
ASAJ	baz=324,slow=19			S		**Sn**	**14 03 01.2**	**+0.7**
JFR	**Furan**	**0.84**	**221**	P		**Pn**	**14 02 42.3**	**+0.1**
JFR				*e*S		**Sn**	**14 03 02.9**	**+0.2**
JAB	**Ashibetsu**	**0.87**	**250**	P		**Pn**	**14 02 42.5**	**+0.2**
JAB				*e*S		**Sn**	**14 03 03.5**	**+0.5**
JHR	**Hokuryu**	**1.18**	**268**	P		**Pn**	**14 02 44.6**	**0.0**
JHR				*e*S		**Sn**	**14 03 07.4**	**+0.3**
JCH	**Churui**	**1.19**	**179**	P		**Pn**	**14 02 43.9**	**-0.8**
JCH				*e*S		**Sn**	**14 03 05.1**	**-2.1**
JAK	**Akkeshi**	**1.27**	**129**	P		**Pn**	**14 02 44.9**	**-0.5**
JAK				*e*S		**Sn**	**14 03 07.1**	**-1.3**
JSE	**Soyaes**	**1.28**	**335**	P		**Pn**	**14 02 45.2**	**-0.2**
JSE				*e*S		**Sn**	**14 03 07.7**	**-1.0**
JRA	**Rausu**	**1.29**	**83**	P		**Pn**	**14 02 46.1**	**+0.6**
JRA				*e*S		**Sn**	**14 03 09.6**	**+0.8**
JYG	**Yagishiri**	**1.52**	**295**	P		**Pn**	**14 02 46.9**	**-0.7**
JYG				*e*S		**Sn**	**14 03 10.9**	**-1.6**
JNBK	**Urakawa-nobuka**	**1.58**	**196**	P		**Pn**	**14 02 47.5**	**-0.8**
JNBK				*e*S		**Sn**	**14 03 12.0**	**-1.6**
JEW	**Eniwo**	**1.69**	**236**	P		**Pn**	**14 02 49.1**	**-0.2**
JEW				*e*S		**Sn**	**14 03 14.9**	**-0.5**
ERM	**Erimo**	**1.79**	**185**	*d i*PN		**Pn**	**14 02 50.2**	**-0.2**
NEM2	**Nemuro 2**	**1.79**	**103**	P		**Pn**	**14 02 49.5**	**-0.9**
NEM2				*e*S		**Sn**	**14 03 15.0**	**-2.4**
YUK	**Yuzh-Kuril'sk**	**1.83**	**82**	*c i*PN		**Pn**	**14 02 51.6**	**+0.9**
YUK	comp=N,21nm,0.3s			pmax	pmax			
YUK	comp=E,25nm,0.3s			pmax	pmax			
YUK	comp=Z,229nm,0.3s			pmax	pmax			
JWK2	**Keihoku**	**1.84**	**326**	P		**Pn**	**14 02 51.2**	**+0.4**
JSK	**Shakotan**	**2.13**	**259**	P		**Pn**	**14 02 53.6**	**-0.4**
JSK				*e*S		**Sn**	**14 03 22.8**	**-1.1**
YSS	**Yuzh-Sakhalins**	**3.18**	**353**	⇓*i*PN		**Pn**	**14 03 04.5**	**-1.8**
YSS				*i* S		**Sn**	**14 03 43.3**	**-2.7**
YSS	comp=Z,50nm,0.8s			pmax	pmax			
YSS	comp=N,70nm,1.0s			smax	smax			
KUR	**Kuril'sk**	**3.54**	**65**	⇑*i*PN		**Pn**	**14 03 11.3**	**+0.6**
KUR	comp=N,8.0nm,0.5s			pmax	pmax			
KUR	comp=E,6.0nm,0.5s			pmax	pmax			
KUR	comp=Z,16nm,0.5s			pmax	pmax			
USRK	**Ussuriysk Ar.** comp=Z,0.2nm,0.3s,baz=92,slow=13,SNR=4.8	**8.20**	**277**	P		**Pn**	**14 04 10.2**	**-1.2**
MJA0	**Matsu Arr-Jizo**	**8.23**	**210**	*e*PN		Pn	14 04 20.6	+8.7
MJA0	comp=Z,1.0nm,0.3s			pmax	pmax			
MAJO	**Matsushiro**	**8.25**	**210**	⇓*e*PN		**Pn**	**14 04 11.1**	**-1.0**
MAT	**Matsushiro**	**8.25**	**210**	P		**Pn**	**14 04 10.5**	**-1.6**
MJAR	**Matsushiro Arr** comp=Z,0.9nm,0.3s,baz=19,slow=15,SNR=14	**8.25**	**210**	P		**Pn**	**14 04 11.3**	**-0.8**
MJAR	**Matsushiro Arr**	**8.25**	**210**	PN		**Pn**	**14 04 11.3**	**-0.8**
MJAR	comp=Z,1.0nm,0.3s			pmax	pmax			
SKR	**Severo-Kuril's**	**11.07**	**47**	*e*PN		Pn	14 04 44.4	-4.3
PETK	**Petropavlovsk-** comp=Z,0.3nm,0.3s,baz=225,slow=10.0,SNR=2.8	**13.30**	**41**	P		**Pn**	**14 05 16.1**	**-1.1**
SEY	**Seymchan** comp=Z,0.3nm,0.3s,baz=200,slow=10,SNR=12	**19.87**	**12**	P		**P**	**14 06 30.9**	**-1.6**
SEY	**Seymchan**	**19.87**	**12**	⇑*e*P		**P**	**14 06 30.0**	**-2.5**
YAK	**Yakutsk**	**19.95**	**341**	*e*P		P	14 06 28.1	-5.3
YAK	comp=Z,4.0nm,0.6s			pmax	pmax			
SONM	**Songino Array** comp=Z,0.4nm,0.5s,baz=95,slow=8.7,SNR=3.4	**25.90**	**292**	P		**P**	**14 07 31.6**	**+0.9**
TIXI	**Tiksi**	**28.80**	**351**	⇑*e*P		**P**	**14 07 57.6**	**+1.5**
ILAR	**Eielson Array** comp=Z,0.7nm,0.9s,baz=261,slow=6.6,SNR=8.2	**43.07**	**36**	P		**P**	**14 09 57.4**	**+0.3**
YKA	**Yellowknife Ar** comp=Z,0.5nm,0.6s,baz=304,slow=7.2,SNR=4.7	**57.27**	**33**	P		**P**	**14 11 45.4**	**+1.7**
ESK	**Eskdalemuir**	**77.26**	**341**	*i* P		**P**	**14 13 50.6**	**+1.3**

*IDC **20** 14:03:15.7±0.6, 32°.41S×178°.06W, h0km, mb4.3/12, mb1 4.4/15, mb1mx4.2/34, mbtmp4.4/15, ML4.6/2, MS3.7/9, Ms1 3.7/9, ms1mx3.4/23, Error ellipse: s-maj=23.8km s-min=16.2km az=90.0*
*ISCJB **20** 14:03:17.4±0.8, 32°.72S±0°.04×178°.0W±0°.1, h33km, mb4.4/15, MS3.7/8, Error ellipse: s-maj=18.1km s-min=4.8km az=14.3*
*NEIC **20** 14:03:21.2±1.6, 32°.36S×178°.15W, h36km±12km, mb4.7/5, Error ellipse: s-maj=14.6km s-min=10.6km az=120.0*

ISC 20 14:03:20.5±0.7, 32°.46S±0°.06×178°.4W±0°.1, h33km, n68, σ1§27/64, mb4.5/15, MS3.7/8, 1C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 126nm,0.3s,baz=249,slow=16,SNR=3.7	**3.22**	**7**	Pn		**Pn**	**14 04 07.2**	**-1.6**
RAO	120nm,0.3s,baz=90,slow=20,SNR=3.3			Sn		**Sn**	**14 04 44.5**	**-1.5**
RAO	**Raoul Island**	**3.22**	**7**	Pn		**Pn**	**14 04 06.4**	**-2.4**
RAO				Sn		**Sn**	**14 04 44.5**	**-1.5**
WMGZ	**Waiomatatini S**	**5.97**	**205**	*e*PN		**Pn**	**14 04 44.9**	**-1.6**
HAZ	**Te Kaha**	**6.16**	**210**	PN		**Pn**	**14 04 47.9**	**-1.2**
HAZ				*e*SN		**Sn**	**14 05 58.6**	**+0.2**
PUZ	**Puketiti**	**6.25**	**205**	*e*PN		**Pn**	**14 04 47.7**	**-2.6**
PUZ				SN		**Sn**	**14 05 59.7**	**-1.0**
CNGZ	**Carnagh Statio**	**6.63**	**204**	*e*PN		**Pn**	**14 04 52.7**	**-3.0**
TKGZ	**Te Karaka**	**6.72**	**206**	*e*PN		**Pn**	**14 04 55.5**	**-1.4**
TKGZ				SN		**Sn**	**14 06 10.5**	**-1.8**
MWZ	**Matawai**	**6.76**	**209**	*e*PN		**Pn**	**14 04 55.5**	**-1.9**
MWZ				SN		**Sn**	**14 06 12.4**	**-0.9**
URZ	**Urewera** 6.7nm,0.3s,baz=274,slow=3.8,SNR=27	**6.87**	**211**	Pn		**Pn**	**14 04 58.3**	**-0.7**
URZ	13nm,0.3s,baz=145,slow=19,SNR=11			Sn		**Sn**	**14 06 15.0**	**-1.0**
URZ	**Urewera**	**6.87**	**211**	*e*PN		**Pn**	**14 04 57.7**	**-1.3**
URZ				*e*SN		**Sn**	**14 06 14.6**	**-1.3**
URZ	**Urewera** 58nm,0.6s	**6.87**	**211**	*e*P		**Pn**	**14 04 57.3**	**-1.6**
URZ				*e*S		**Sn**	**14 06 14.7**	**-1.3**
URZ				Sn		**Sn**	**14 06 14.9**	**-1.0**
SNGZ	**Shannon Statio**	**7.22**	**208**	*e*PN		**Pn**	**14 05 01.4**	**-2.3**
OUZ	**Omahuta** 84nm,0.8s	**7.24**	**245**	*e*P		Pn	14 05 08.8	+4.7
KNZ	**Kokohu**	**7.30**	**205**	*e*PN		Pn	14 05 00.7	-4.1
WHHZ	**Waihua**	**7.51**	**207**	*e*PN		**Pn**	**14 05 06.3**	**-1.4**
ARHZ	**Aropaoanui**	**7.77**	**208**	PN		**Pn**	**14 05 08.8**	**-2.4**
BKZ	**Black Stump Fm**	**7.89**	**211**	*e*PN		**Pn**	**14 05 11.0**	**-2.0**
KAHZ	**Kahuranaki**	**8.27**	**206**	*e*PN		Pn	14 05 14.3	-3.9
MRZ	**Mangatainoka R**	**9.53**	**209**	*e*PN		Pn	14 05 30.4	-5.0
MRZ				*e*SN		Sn	14 07 13.7	-7.6
RPZ	**Rata Peaks** 1.0nm,0.3s,baz=102,slow=14,SNR=4.6	**13.98**	**213**	Pn		Pn	14 06 32.3	-4.0
RPZ	1.0nm,0.3s,baz=338,slow=19,SNR=6.9			Sn		Sn	14 08 55.3	-15
DZM	**Mont Dzumac** 0.1nm,0.3s,baz=90,slow=20,SNR=3.4	**17.00**	**304**	Pn		**P**	**14 07 18.2**	**+0.6**
DZM	**Mont Dzumac**	**17.00**	**304**	P		**P**	**14 07 18.9**	**+1.3**
RAR	**Rarotonga** comp=Z,160nm,19.0s,baz=242,slow=36	**19.98**	**60**	LR		LR	14 15 15.9	
EIDS	**Eidsvold** 8.2nm,0.8s	**27.61**	**277**	*e*P		**P**	**14 09 05.4**	**+0.4**
PPT	**Papeete** comp=Z,156nm,19.0s,baz=302,slow=36	**29.88**	**67**	LR		LR	14 21 00.2	
STKA	**Stephens Creek** 2.6nm,0.7s,baz=102,slow=9.8,SNR=5.5	**33.77**	**260**	P		P	14 10 02.4	+3.0
STKA	comp=Z,364nm,18.1s,baz=43,slow=36			LR		LR	14 23 23.0	
STKA	**Stephens Creek** 1.0nm,1.0s	**33.77**	**260**	*e*P		**P**	**14 09 58.2**	**-1.1**
CTA	**Charters Tower** 7.7nm,0.6s,baz=121,slow=11,SNR=11	**33.89**	**282**	P		P	14 10 03.9	+3.4
CTAO	**Charters Tower** 7.5nm,0.6s	**33.89**	**282**	*e*P		P	14 10 03.2	+2.8
AS31	**Alice Springs**	**42.74**	**269**	*e*P		**P**	**14 11 15.9**	**+1.0**
ASAR	**Alice Springs** 9.6nm,0.8s,baz=105,slow=7.6,SNR=75	**42.74**	**269**	P		**P**	**14 11 16.0**	**+1.1**
WRAB	**Tennant Creek** 18nm,0.8s	**43.91**	**274**	*e*P		**P**	**14 11 25.1**	**+0.7**
WRA	**Warramunga Arr** 17nm,0.8s,baz=115,slow=7.6,SNR=42	**43.92**	**274**	P		**P**	**14 11 25.3**	**+0.9**
FORT	**Forrest** 22nm,0.6s	**45.26**	**257**	*e*P		**P**	**14 11 35.2**	**+0.2**
QSPA	**South Pole Qui** 2.8nm,1.0s,baz=40,slow=2.7,SNR=7.6	**57.66**	**180**	P		**P**	**14 13 08.3**	**+0.9**
QSPA	**South Pole Qui**	**57.66**	**180**	P		**P**	**14 13 08.5**	**+1.1**
QSPA				*e*			14 13 18.7	
MAW	**Mawson** 0.5nm,0.4s,baz=127,slow=10,SNR=1.8	**70.28**	**201**	P		**P**	**14 14 31.8**	**+1.7**
MAW	comp=Z,99nm,20.4s,baz=62,slow=34			LR		LR	14 43 40.6	
SYO	**Syowa Base**	**75.05**	**193**	⇑*e*P		P	14 15 05.8	+7.4
SNAA	**Sanae**	**76.11**	**179**	P		P	14 15 15.0	+10
SNAA	**Sanae** 0.8nm,1.0s,baz=153,slow=7.4,SNR=5.2	**76.11**	**179**	P		**P**	**14 15 04.8**	**+0.2**
VNA1	**Neumayer--Stat**	**76.94**	**177**	P		P	14 15 20.3	+11
MJAR	**Matsushiro Arr** 0.9nm,0.9s,baz=151,slow=6.3,SNR=4.2	**79.77**	**326**	P		**P**	**14 15 25.0**	**-0.2**
MJAR	comp=Z,22nm,21.1s,baz=120,slow=33			LR		LR	14 46 35.0	
JNU	**Nakatsue** comp=Z,39nm,18.6s,baz=63,slow=34	**80.90**	**319**	LR		LR	14 49 01.5	
ASAJ	**Asahikawa** 4.0nm,0.9s,baz=158,slow=3.9	**84.13**	**333**	P		**P**	**14 15 49.4**	**+1.5**
KSRS	**Korea Array** 1.5nm,0.9s,baz=149,slow=7.3,SNR=6.6	**85.72**	**320**	P		**P**	**14 15 56.6**	**+0.5**
KSRS	comp=Z,24nm,19.7s,baz=126,slow=34			LR		LR	14 51 56.9	
KSAR	**Wonju Array Be**	**85.74**	**320**	P		**P**	**14 15 56.5**	**+0.4**
PETK	**Petropavlovsk-** 3.1nm,0.8s,baz=159,slow=13,SNR=3.9	**87.73**	**346**	P		**P**	**14 16 05.5**	**+0.1**
USRK	**Ussuriysk Ar.** 2.3nm,0.9s,baz=60,slow=9.1,SNR=6.6	**88.71**	**327**	P		**P**	**14 16 11.6**	**+1.2**
USRK	comp=Z,41nm,20.4s,baz=155,slow=32			LR		LR	14 51 15.8	
CMAR	**Chiang Mai Arr** comp=Z,6.6nm,18.0s,baz=240,slow=38	**93.80**	**289**	LR		LR	15 03 37.0	
KURK	**Kurchatov**	**122.24**	**313**	*e*PKPdf		**PKPdf**	**14 22 11.5**	**0.0**
KURK				PKP		**PKiKP**	**14 22 11.6**	**-0.1**
KURBB	**Kurchatov Arra** 2.9nm,0.9s,baz=108,slow=1.9,SNR=19	**122.28**	**313**	PKP		**PKPdf**	**14 22 11.6**	**0.0**
BVAR	**Borovoye Array** 1.6nm,0.6s,baz=101,slow=3.0,SNR=8.9	**127.65**	**315**	PKP		**PKPdf**	**14 22 22.7**	**+0.8**
KBZ	**Khabaz** 6.0nm,0.8s,baz=158,slow=3.8,SNR=8.4	**145.97**	**301**	PKPbc		**PKPab**	**14 22 56.9**	**-0.2**
OBN	**Obninsk** 12nm,0.4s,baz=101,slow=5.6,SNR=9.8	**146.66**	**323**	PKPbc		**PKPab**	**14 22 58.9**	**-0.5**
FIA1	**FINESS Array S**	**146.96**	**339**	*e*PKPbc		**PKPab**	**14 22 59.1**	**-1.3**
FINES	**FINESS Array B** 14nm,0.8s,baz=64,slow=3.2,SNR=32	**146.96**	**339**	PKPbc		**PKPab**	**14 22 59.3**	**-1.1**
ASF	**Jabal al Asfar** 2.3nm,0.7s,baz=240,slow=2.3,SNR=4.2	**150.29**	**279**	PKPbc		**PKPbc**	**14 23 10.1**	**+1.5**
NOA	**NORSAR Array B** 3.0nm,1.0s,baz=14,slow=4.1,SNR=9.0	**150.73**	**350**	PKPbc		**PKPbc**	**14 23 08.8**	**+0.2**
HFS	**Hagfors** 9.1nm,1.0s,baz=90,slow=4.3,SNR=10.0	**151.19**	**347**	PKPbc		**PKPbc**	**14 23 09.7**	**0.0**
EIL	**Elat** 10nm,0.8s,baz=76,slow=1.0,SNR=8.9	**151.40**	**273**	PKPbc		**PKPbc**	**14 23 12.3**	**+1.2**
MMAI	**Mount Meron Ar** 6.4nm,0.6s,baz=90,slow=4.3,SNR=13	**151.67**	**280**	PKPbc		**PKPbc**	**14 23 13.4**	**+1.7**
AKASG	**Malin Array Be** 6.0nm,1.0s,baz=56,slow=2.6,SNR=18	**152.72**	**320**	PKPbc		**PKPbc**	**14 23 13.7**	**+0.3**
AK01	**Malin Array Si**	**152.73**	**320**	*e*PKPbc		**PKPbc**	**14 23 13.6**	**+0.2**
BRTR	**Keskin Array B** 3.5nm,0.8s,baz=124,slow=3.0,SNR=14	**153.25**	**295**	PKPbc		**PKPbc**	**14 23 15.8**	**+0.7**
CLL	**Collm** comp=Z,8.0nm,0.9s	**159.40**	**339**	⇓*i*PKPab		**PKPab**	**14 23 53.2**	**+0.3**
BRG	**Berggiesshubel** comp=Z,4.9nm,0.9s	**159.49**	**337**	*e*P		**PKPab**	**14 23 54.1**	**+0.8**
TORD	**Torodi Ar. Bea** comp=Z,1.8nm,0.7s,baz=175,slow=3.8,SNR=8.0	**160.78**	**180**	PKPab		**PKPab**	**14 24 00.3**	**+0.6**
GERES	**GERESS Array B** comp=Z,0.9nm,0.8s,baz=41,slow=5.2,SNR=6.0	**161.29**	**335**	PKPab		**PKPab**	**14 24 01.2**	**-0.2**

*ISCJB **20** 14:07:40.5±0.8, 84°.3N±0°.2×10°8E±°, h10km, mb3.6/9, MS3.3/2, Error ellipse: s-maj=23.9km s-min=13.4km az=156.8*
*IDC **20** 14:07:40.7±0.9, 84°.32N×108°.78E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.6/27, mbtmp3.8/10, MS3.4/2, Ms1 3.4/2, ms1mx2.5/38, Error ellipse: s-maj=29.5km s-min=17.6km az=155.0*

ISC 20 14:07:42.1±0.9, 84°.3N±0°.2×108°.9E±0°.1, h10km, n12, σ0§98/10, mb3.8/9, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B** 5.1nm,0.4s,baz=27,slow=10,SNR=3.0	**20.69**	**279**	P		**P**	**14 12 21.4**	**-0.4**
INK	**Inuvik** 1.2nm,0.6s,baz=353,slow=7.6,SNR=3.2	**24.97**	**51**	P		**P**	**14 13 04.9**	**-0.2**
ILAR	**Eielson Array** 0.4nm,0.9s,baz=343,slow=7.7,SNR=5.6	**27.31**	**65**	P		**P**	**14 13 28.2**	**+1.8**
FINES	**FINESS Array B** 1.9nm,0.9s,baz=17,slow=10,SNR=3.2	**28.52**	**273**	P		**P**	**14 13 37.9**	**+0.7**
BVAR	**Borovoye Array** comp=Z,88nm,18.2s,baz=70,slow=41	**32.85**	**224**	LR		LR	14 30 20.8	
AKTO	**Aktyubinsk** comp=Z,35nm,19.9s,baz=351,slow=39	**36.37**	**237**	LR		LR	14 31 13.6	
SONM	**Songino Array** 0.7nm,1.0s,baz=352,slow=8.9,SNR=6.4	**36.65**	**183**	P		**P**	**14 14 47.8**	**-0.6**
AKASG	**Malin Array Be** 0.3nm,0.4s,baz=8.2,slow=8.4,SNR=6.2	**38.80**	**267**	P		**P**	**14 15 05.7**	**-0.7**
SCHQ	**Schefferville** 2.2nm,0.6s,baz=198,slow=20,SNR=4.0	**41.05**	**356**	P		**P**	**14 15 25.0**	**-0.1**
BRTR	**Keskin Array B** 1.0nm,0.8s,baz=10,slow=7.5,SNR=5.8	**49.23**	**260**	P		**P**	**14 16 31.3**	**+0.9**
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=350,slow=4.9,SNR=3.1	**65.69**	**31**	P		**P**	**14 18 25.4**	**-1.0**
TORD	**Torodi Ar. Bea** 1.4nm,0.8s,baz=356,slow=5.6,SNR=8.2	**78.68**	**288**	P		**P**	**14 19 44.3**	**+0.2**

GUC 20 14:08:05.6±0.5, 35°.29S×72°.04W, h42km±1km, ML4.4, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.35**	**109**	⇓*e*P		Pn	14 08 14.6	+0.1
TALC				*e*S		Sn	14 08 21.1	+0.3
NICH	**Los Niches**	**0.72**	**67**	⇓*i*P		Pn	14 08 19.9	+0.6
NICH				*e*S		Sn	14 08 30.5	+1.2
LNV	**Longovilo**	**1.42**	**21**	*e*P		Pn	14 08 29.9	+0.9
CHCH	**Chadas Angostu**	**1.77**	**41**	*e*P		Pn	14 08 34.7	+0.9
TACH	**Talagante**	**1.86**	**29**	*e*P		Pn	14 08 36.0	+0.9
TACH				*e*S		Sn	14 08 58.9	+1.4
PCH	**Pirque**	**2.08**	**38**	*e*P		Pn	14 08 39.1	+0.9
SAN	**Santiago**	**2.15**	**32**	*e*P		Pn	14 08 40.1	+1.0
CLCH	**Cerro Calan**	**2.26**	**34**	‖*e*P		Pn	14 08 41.6	+1.1
CLCH				*e*S		Sn	14 09 08.7	+1.5
CLCH	comp=E,4μm,0.8s			AML	AML	14 09 26.5		
PEL	**Peldehue**	**2.41**	**28**	‖*e*P		Pn	14 08 43.8	+1.1
PEL	comp=N,2μm,0.6s			AML	AML	14 09 27.5		

*IDC **20** 14:17:01.8±8.4, 36°.33N×71°.36E, h128km±74km, mb3.6/7, mb1 3.6/11, mb1mx3.3/30, mbtmp4.0/11, Error ellipse: s-maj=39.2km s-min=22.4km az=22.0*
*ISCJB **20** 14:17:05.4±0.6, 36°.61N±0°.06×71°.05E±0°.09, h150km, mb3.8/7, Error ellipse: s-maj=11.7km s-min=5.2km az=146.3*
*NNC **20** 14:17:14.1±2.8, 37°.15N×71°.15E, h182km±22km, mb2.8, mpv3.8, Error ellipse: s-maj=28.3km s-min=12.2km az=166.0*

ISC 20 14:17:07.5±0.8, 36°.70N±0°.07×71°.29E±0°.08, h150km, n29, σ1§45/30, mb3.8/7, 6C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino** 32nm,0.5s	**2.87**	**318**	⇓P		**Pn**	**14 17 56.4**	**+3.2**
DZET	111nm,0.3s			⇑S		**Sn**	**14 18 30.4**	**+1.7**
SFK	**Sufi-Kurgan** 25nm,0.4s	**3.74**	**27**	⇑P		**Pn**	**14 18 07.6**	**+3.1**
SFK	61nm,0.3s			⇑S		**Sn**	**14 18 50.8**	**+2.1**
DLH	**Dalhousie**	**5.66**	**136**	*e*P		**Sn**	**14 19 34.0**	**-0.2**
DLH				*e*S		**Sn**	**14 19 37.0**	**+2.8**
AAK	**Ala-Archa** 2.2nm,0.3s,baz=140,slow=6.6,SNR=5.4	**6.42**	**22**	P		Pn	14 18 55.4	+16
AAK	1.2nm,0.3s,baz=344,slow=20,SNR=10			S		Sn	14 20 05.6	+13
KK31	**Karatay Array** 1.4nm,0.3s,baz=162,slow=11,SNR=89	**6.42**	**355**	P		**Pn**	**14 18 41.5**	**+1.7**
KK31	19nm,0.8s,baz=184,slow=23,SNR=20			S		**Sn**	**14 19 49.4**	**-2.7**
KOLN	**Koldanda** 4.8nm,0.3s	**13.69**	**127**	*e*P		**Pn**	**14 20 15.3**	**-0.4**
GKN	**Gorkha** 6.8nm,0.2s	**14.21**	**124**	*e*P		**Pn**	**14 20 21.5**	**-0.8**
KKN	**Kakani** 7.3nm,0.3s	**14.79**	**123**	*e*P		**Pn**	**14 20 30.3**	**+0.9**
DMN	**Daman** 6.4nm,0.3s	**14.79**	**124**	*e*P		**Pn**	**14 20 29.1**	**-0.4**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=208,slow=10,SNR=7.0	**14.86**	**18**	P		**Pn**	**14 20 28.7**	**-1.2**
PKIN	**Phulchoki** 11nm,0.5s	**15.00**	**123**	*e*P		**Pn**	**14 20 32.2**	**0.0**
PKI	**Pulchoki** 12nm,0.5s	**15.01**	**123**	*e*P		**Pn**	**14 20 32.5**	**+0.1**
AB31	**Akbulak array** 0.7nm,0.5s,baz=136,slow=10,SNR=14	**15.03**	**330**	⇑P		**P**	**14 20 34.3**	**+0.5**
AB31	0.8nm,0.5s,baz=144,slow=24,SNR=4.4			⇑S		Sn	14 23 09.8	-9.1
GUN	**Gumba** 11nm,0.4s	**15.12**	**121**	*e*P		**Pn**	**14 20 34.1**	**+0.4**
RAMN	**Ramite** 12nm,0.5s	**16.22**	**122**	*e*P		**Pn**	**14 20 46.6**	**-0.6**
BVAR	**Borovoye Array** comp=Z,1.3nm,0.5s,baz=95,slow=7.9	**16.34**	**358**	P		**Pn**	**14 20 48.2**	**+0.1**
AKTO	**Aktyubinsk** 6.2nm,0.9s	**16.73**	**329**	⇑P		**P**	**14 20 52.8**	**+0.3**
AKTO	**Aktyubinsk** 0.8nm,0.3s,baz=140,slow=12,SNR=15	**16.73**	**329**	P		**P**	**14 20 53.0**	**+0.4**
TAPN	**Taplejung**	**16.73**	**119**	*e*P		**P**	**14 20 54.0**	**+0.8**
ODAN	**Odare** 7.4nm,0.5s	**16.82**	**121**	*e*P		**P**	**14 20 54.1**	**+0.1**
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=220,slow=9.8,SNR=6.8	**19.64**	**24**	P		**P**	**14 21 23.3**	**-0.9**
FINES	**FINESS Array B** 1.1nm,0.4s,baz=141,slow=9.0,SNR=3.9	**37.45**	**326**	P		**P**	**14 24 05.4**	**-0.5**
ARCES	**ARCESS Array B** 2.6nm,0.5s,baz=113,slow=8.9,SNR=3.1	**41.05**	**337**	P		**P**	**14 24 35.3**	**-0.4**
HFS	**Hagfors** 3.8nm,0.5s,baz=98,slow=8.9,SNR=11	**43.05**	**322**	P		**P**	**14 24 51.3**	**-0.8**
NB2	**NORSAR Subarra** comp=Z,1.4nm,0.5s,baz=96,slow=7.7,SNR=6.9	**44.36**	**323**	P		**P**	**14 25 01.2**	**-1.3**
NOA	**NORSAR Array B** comp=Z,1.4nm,0.5s,baz=96,slow=7.7,SNR=6.9	**44.36**	**323**	P		**P**	**14 25 01.3**	**-1.2**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.5s,baz=49,slow=5.6,SNR=8.1	**65.96**	**269**	P		P	14 27 34.5	-3.3
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.

AMT	Artemida-Makis	0.83	9	ePN	Pb	14 18 33.2	+0.4
AMT	Artemida-Makis	0.83	9	P	Pb	14 18 33.2	+0.4
AMT				S	Sb	14 18 45.2	+1.1
VLX	Vlachokerasia	0.94	45	P	Pg	14 18 34.8	+0.4
VLX				S	Sn	14 18 48.8	-0.5
VLX	Vlachokerasia	0.94	45	ePN	Pg	14 18 34.8	+0.4
VLX				eSN	Sb	14 18 47.7	+0.3
VLX	Vlachokerasia	0.94	45	P	Pg	14 18 34.8	+0.4
VLX				eSn	Sb	14 18 47.7	+0.3
VLX				S	Sn	14 18 48.8	-0.5
VLX	Vlachokerasia	0.94	45	P	Pg	14 18 34.8	+0.4
VLI	Veliai	1.12	89	P	Pb	14 18 38.1	+0.3
VLI				S	Sn	14 18 54.7	+1.1
VLI	Veliai	1.12	89	ePN	Pg	14 18 38.2	+0.3
VLI	Veliai	1.12	89	P	Pb	14 18 38.1	+0.3
VLI				S	Sn	14 18 54.3	+0.7
VLI	Veliai	1.12	89	P	Pb	14 18 37.9	+0.1
ZKS	Zakynthos	1.15	329	P	Pn	14 18 38.8	+0.3
ZKS				S	Sn	14 18 55.7	+1.4
ZKS	Zakynthos	1.15	329	ePN	Pn	14 18 38.9	+0.4
ZKS				eSN	Sn	14 18 56.3	+2.0
ZKS	Zakynthos	1.15	329	P	Pn	14 18 38.8	+0.3
ZKS				S	Sn	14 18 55.7	+1.4
ZKS				eSn	Sn	14 18 56.3	+2.0
VTN	Vitineika	1.24	347	P	Pg	14 18 41.7	+1.7
VTN	Vitineika	1.24	347	P	Pg	14 18 41.7	+1.7
DRO	Drossia	1.25	6	P	Pg	14 18 40.5	+0.3
DRO	Drossia	1.25	6	ePN	Pn	14 18 40.0	+0.2
DRO	Drossia	1.25	6	ePn	Pn	14 18 40.0	+0.2
DRO	Drossia	1.25	6	P	Pg	14 18 40.5	+0.3
DRO				S	Sn	14 19 00.7	+4.0
KYTH	Kithira	1.28	109	P	Pb	14 18 40.8	+0.3
KYTH	Kithira	1.28	109	ePN	Pb	14 18 40.8	+0.3
KYTH	Kithira	1.28	109	ePn	Pb	14 18 40.8	+0.3
RLS	Riolos of Patr	1.35	358	P	Pg	14 18 42.1	-0.1
RLS	Riolos of Patr	1.35	358	ePN	Pb	14 18 41.9	+0.3
RLS	Riolos of Patr	1.35	358	P	Pg	14 18 42.0	-0.1
RLS				S	Sg	14 19 03.8	+4.2
GUR	Goura	1.38	27	P	Pb	14 18 42.6	+0.3
GUR				S	Sg	14 19 03.9	+3.1
GUR	Goura	1.38	27	ePN	Pn	14 18 42.1	+0.4
GUR	Goura	1.38	27	ePn	Pn	14 18 42.1	+0.4
GUR	Goura	1.38	27	P	Pb	14 18 42.6	+0.3
GUR				S	Sg	14 19 03.9	+3.1
KLV	Kalavryta, Ach	1.42	20	P	Pb	14 18 43.0	+0.1
KLV	Kalavryta, Ach	1.42	20	ePn	Pb	14 18 43.0	+0.1
KLV	Kalavryta, Ach	1.42	20	P	Pb	14 18 43.0	+0.1
KLV				S	Sg	14 19 04.5	+2.6
KRND	KRANIDI	1.46	62	P	Pg	14 18 44.5	+0.3
KRND	KRANIDI	1.46	62	ePN	Pg	14 18 44.5	+0.3
KRND	KRANIDI	1.46	62	P	Pg	14 18 44.5	+0.3
KFL	Anninata	1.52	337	P	Pb	14 18 44.8	+0.3
KFL	Anninata	1.52	337	P	Pb	14 18 44.8	+0.3
DID	Didima	1.57	59	P	Pg	14 18 46.4	-0.1
DID	Didima	1.57	59	ePN	Pg	14 18 46.6	+0.1
DID	Didima	1.57	59	P	Pg	14 18 46.4	-0.1
ACOR	Acrocorinthos	1.59	42	P	Pb	14 18 46.4	+0.7
ACOR	Acrocorinthos	1.59	42	P	Pb	14 18 46.4	+0.7
VLS	Valsamata	1.65	333	P	Pb	14 18 46.8	+0.1
VLS	Valsamata	1.65	333	ePN	Pb	14 18 46.9	+0.2
VLS	Valsamata	1.65	333	P	Pb	14 18 46.8	+0.1
ANKY	Antikythira Is	1.66	120	P	Pb	14 18 47.6	+0.8
ANKY				S	Sg	14 19 09.8	+0.3
ANKY	Antikythira Is	1.66	120	ePN	Pb	14 18 47.3	+0.5
ANKY	Antikythira Is	1.66	120	ePn	Pb	14 18 47.3	+0.5
ANKY	Antikythira Is	1.66	120	P	Pb	14 18 47.6	+0.8
ANKY				S	Sg	14 19 08.8	+0.3
LTK	Loutraki	1.74	41	P	Pb	14 18 48.9	+0.6
LTK	Loutraki	1.74	41	ePN	Pb	14 18 48.8	+0.5
LTK	Loutraki	1.74	41	ePn	Pb	14 18 48.8	+0.5
EFP	Efpalio	1.74	10	P	Pb	14 18 48.8	+0.5
EFP	Efpalio	1.74	10	ePN	Pb	14 18 48.8	+0.5
EFP	Efpalio	1.74	10	P	Pb	14 18 48.8	+0.5
KALE	Kalithea	1.75	16	P	Pb	14 18 49.2	+0.8
KALE	Kalithea	1.75	16	ePN	Pg	14 18 49.5	-0.3
KALE	Kalithea	1.75	16	P	Pb	14 18 49.2	+0.8
KALE	Kalithea	1.75	16	ePn	Pg	14 18 49.5	-0.3
DSF	Desfina	1.87	25	P	Pb	14 18 50.5	-0.1
DSF	Desfina	1.87	25	ePN	Pb	14 18 50.5	-0.1
DSF	Desfina	1.87	25	P	Pb	14 18 50.5	-0.1
NAIG	Nisos Aigina	1.88	56	ePN	Pb	14 18 50.8	+0.2
NAIG	Nisos Aigina	1.88	56	ePn	Pb	14 18 50.8	+0.2
PDO	Prodromos	1.91	352	P	Pb	14 18 51.6	+0.5
PDO	Prodromos	1.91	352	ePN	Pb	14 18 51.8	+0.7
PDO	Prodromos	1.91	352	P	Pb	14 18 51.6	+0.5
VILL	Villia	2.03	44	P	Pn	14 18 51.6	+1.1
VILL	Villia	2.03	44	P	Pn	14 18 51.6	+1.1
VIL2	Platees	2.04	42	ePB	Pn	14 18 51.8	+1.2
ATH	Athens Observa	2.15	53	ePN	Pb	14 18 55.2	0.0
ATH	Athens Observa	2.15	53	ePn	Pb	14 18 55.2	0.0
AXAR	Agios Charalam	2.24	23	P	Pb	14 18 56.0	-0.8
AXAR	Agios Charalam	2.24	23	ePB	Pn	14 18 54.0	+0.6
AXAR	Agios Charalam	2.24	23	ePb	Pn	14 18 54.0	+0.6
AXAR	Agios Charalam	2.24	23	P	Pb	14 18 56.0	-0.8
LKR	Lokris	2.26	30	ePB	Pn	14 18 55.5	+1.9
LKR	Lokris	2.26	30	ePb	Pn	14 18 55.5	+1.9
MHLO	Agia Marina, M	2.30	90	P	Pn	14 18 55.4	+1.2
MHLO	Agia Marina, M	2.30	90	ePB	Pn	14 18 55.2	+1.0
MHLO	Agia Marina, M	2.30	90	P	Pn	14 18 55.4	+1.2
AGG	Agios Georgios	2.39	15	ePB	Pb	14 18 58.5	-0.9
AGG	Agios Georgios	2.39	15	ePb	Pb	14 18 58.5	-0.9
DSL	Palaion Diasel	2.44	352	ePB	Pb	14 18 59.4	-0.9
DSL	Palaion Diasel	2.44	352	ePb	Pb	14 18 59.4	-0.9
VAM	Vamos	2.52	120	ePN	Pn	14 18 58.9	+1.7
VAM	Vamos	2.52	120	ePn	Pn	14 18 58.9	+1.7
SMIA	Simia	2.54	31	ePN	Pn	14 18 59.2	+1.7
SMIA	Simia	2.54	31	ePn	Pn	14 18 59.2	+1.7
MRKA	Markates	2.57	39	P	Pn	14 18 59.2	+1.2
MRKA	Markates	2.57	39	ePN	Pn	14 18 59.1	+1.1
MRKA	Markates	2.57	39	ePn	Pn	14 18 59.1	+1.1
GVD	Gavdhos	2.79	131	Pn	Pn	14 19 01.9	+0.9
GVD	Gavdhos	2.79	131	Pn	Pn	14 19 01.9	+0.9
THL	Klokotos Trika	2.88	7	P	Pn	14 19 04.6	+2.5
THL	Klokotos Trika	2.88	7	ePN	Pn	14 19 04.6	+2.5
THL	Klokotos Trika	2.88	7	P	Pn	14 19 04.6	+2.5
NEO	Neokhori	2.92	27	ePN	Pn	14 19 05.4	+2.7
NEO	Neokhori	2.92	27	ePn	Pn	14 19 05.4	+2.7
XOR	Xorichti	2.96	26	ePN	Pn	14 19 05.1	+1.8
XOR	Xorichti	2.96	26	ePn	Pn	14 19 05.1	+1.8
IGT	Igoumenitsa	2.97	342	ePN	Pn	14 19 05.4	+1.9
IGT	Igoumenitsa	2.97	342	ePn	Pn	14 19 05.4	+1.9
JAN	Janina	2.99	350	ePN	Pn	14 19 06.5	+2.7
JAN	Janina	2.99	350	ePn	Pn	14 19 06.5	+2.7
IDI	Anoyia	3.07	117	Pn	Pn	14 19 06.5	+1.6
	3.9nm,0.3s,baz=311,slow=18,SNR=32						
IDI				Sn	Sn	14 19 42.8	+1.2
	15nm,0.3s,baz=317,slow=20,SNR=4.5						
IDI				Lg	Lg	14 19 57.2	
	14nm,0.3s,baz=294,slow=20,SNR=4.3						
SGD	Sagiada	3.08	341	ePN	Pn	14 19 06.7	+1.8
SGD	Sagiada	3.08	341	ePn	Pn	14 19 06.7	+1.8
AOS	Alonnisos	3.08	36	ePN	Pn	14 19 05.7	+1.6
AOS	Alonnisos	3.08	36	ePN	Pn	14 19 05.7	+0.8
AOS	Alonnisos	3.08	36	ePn	Pn	14 19 05.7	+0.8
THR5	Thira Island,	3.08	94	ePN	Pn	14 19 06.6	+1.6
THR5	Thira Island,	3.08	94	ePn	Pn	14 19 06.6	+1.6
SIVA	Sivas	3.15	121	ePB	Pn	14 19 09.0	+3.1
SIVA	Sivas	3.15	121	ePb	Pn	14 19 09.0	+3.1
SANT	Santorini	3.18	95	ePN	Pn	14 19 07.5	+1.2
SANT	Santorini	3.18	95	ePn	Pn	14 19 07.5	+1.2
SANT	Santorini	3.18	95	ePn	Pn	14 19 07.2	+0.9
APE	Apeiranthos	3.22	82	ePN	Pn	14 19 06.9	-0.1
APE	Apeiranthos	3.22	82	iP	Pn	14 19 07.6	+0.7
APE	Apeiranthos	3.22	82	S	Sg	14 20 03.4	+3.7
APE	Apeiranthos	3.22	82	ePn	Pn	14 19 06.9	-0.1
APE	Apeiranthos	3.22	82	iP	Pn	14 19 07.6	+0.7
KEK	Kerkira	3.30	336	ePN	Pn	14 19 09.4	+1.5
KEK	Kerkira	3.30	336	ePn	Pn	14 19 09.4	+1.5
SRN	Sarande	3.39	340	P	Pn	14 19 11.6	+2.4
SRN	Sarande	3.39	340	P	Pn	14 19 11.6	+2.4
LIT	Litokhoron	3.47	12	ePN	Pn	14 19 12.3	+2.0
LIT	Litokhoron	3.47	12	ePn	Pn	14 19 12.3	+2.0
LAST	Lasithi	3.55	115	ePN	Pn	14 19 13.6	+2.1
LAST	Lasithi	3.55	115	ePn	Pn	14 19 13.6	+2.1
KZN	Kozani	3.60	3	ePN	Pn	14 19 14.1	+2.0
KZN	Kozani	3.60	3	ePn	Pn	14 19 14.1	+2.0
NPS	Neapolis	3.61	112	ePN	Pn	14 19 13.4	+1.2
NPS	Neapolis	3.61	112	ePn	Pn	14 19 13.4	+1.2
PAIG	Paliouri	3.63	27	ePN	Pn	14 19 13.5	+1.0
PAIG	Paliouri	3.63	27	ePn	Pn	14 19 13.5	+1.0
NEST	Nestorio	3.72	354	ePN	Pn	14 19 16.6	+2.8
NEST	Nestorio	3.72	354	ePn	Pn	14 19 16.6	+2.8
CHOS	Chios island	3.96	64	ePN	Pn	14 19 16.5	-0.6
CHOS	Chios island	3.96	64	ePN	Pn	14 19 18.3	+1.2
CHOS	Chios island	3.96	64	ePn	Pn	14 19 18.3	+1.2
FNA	Florina	4.07	358	P	Pn	14 19 21.5	+2.9
FNA	Florina	4.07	358	ePN	Pn	14 19 20.1	+1.5
FNA	Florina	4.07	358	ePn	Pn	14 19 20.1	+1.5
FNA	Florina	4.07	358	P	Pn	14 19 21.5	+2.9
HORT	Hortiatis	4.07	17	ePN	Pn	14 19 21.0	+2.4
HORT	Hortiatis	4.07	17	ePn	Pn	14 19 21.0	+2.4
OUR	Ouranopolis	4.10	27	ePN	Pn	14 19 22.7	+3.8
OUR	Ouranopolis	4.10	27	ePn	Pn	14 19 21.5	+2.6
OUR	Ouranopolis	4.10	27	ePn	Pn	14 19 21.5	+2.6
ZKR	Zakros	4.12	111	ePN	Pn	14 19 20.9	+1.7
ZKR	Zakros	4.12	111	ePn	Pn	14 19 20.9	+1.7
SIGR	SIGRI	4.23	52	ePN	Pn	14 19 20.9	+0.2
SIGR	SIGRI	4.23	52	ePn	Pn	14 19 20.9	+0.2
GRG	Griva	4.29	9	ePN	Pn	14 19 23.5	+1.8
GRG	Griva	4.29	9	ePn	Pn	14 19 23.5	+1.8
SOH	Sokhos	4.34	19	ePN	Pn	14 19 24.8	+2.4
SOH	Sokhos	4.34	19	ePn	Pn	14 19 24.8	+2.4
TIP	Timpagrande	4.51	305	eP	Pn	14 19 25.4	+0.7
TIP	Timpagrande	4.51	305	eP	Pn	14 19 25.4	+0.7
KNT	Kendrikon	4.57	13	ePN	Pn	14 19 27.2	+1.8
KNT	Kendrikon	4.57	13	ePn	Pn	14 19 27.2	+1.8
VAY	Valandovo	4.67	10	i Pn	Pn	14 19 28.9	+2.1
VAY	Valandovo	4.67	10	i Pn	Pn	14 19 28.9	+2.1
SRS	Serrai	4.68	19	ePN	Pn	14 19 28.6	+1.6
SRS	Serrai	4.68	19	ePn	Pn	14 19 28.6	+1.6
CEL	Celeste	4.75	291	ePN	Pn	14 19 28.9	+1.0
CEL	Celeste	4.75	291	ePn	Pn	14 19 28.9	+1.0
TIR	Tirane	4.81	345	eP	Pn	14 19 30.0	+1.3
TIR	Tirane	4.81	345	eP	Pn	14 19 30.0	+1.3
IZM	Izmir	4.85	68	ePN	Pn	14 19 29.4	0.0
IZM	Izmir	4.85	68	ePn	Pn	14 19 29.4	0.0
SMTH	Samothraki Isl	4.89	39	ePN	Pn	14 19 33.4	+3.6
SMTH	Samothraki Isl	4.89	39	ePn	Pn	14 19 33.4	+3.6
MMB	Musomiste	5.16	19	iP	Pn	14 19 35.1	+1.5
MMB	Musomiste	5.16	19	iP	Pn	14 19 35.1	+1.5
SKO	Skopje	5.26	359	i Pn	Pn	14 19 36.5	+1.7
SKO	Skopje	5.26	359	i Pn	Pn	14 19 36.5	+1.7
ALN	Alexandroupoli	5.47	39	ePN	Pn	14 19 39.7	+2.0
ALN	Alexandroupoli	5.47	39	ePn	Pn	14 19 39.7	+2.0
CUC	Castrocucco	5.56	308	eP	Pn	14 19 41.6	+2.5
	26nm,0.5s						
CUC	Castrocucco	5.56	308	eP	Pn	14 19 41.6	+2.5
	26nm,0.5s						
KDZ	Kurdzhali	5.78	30	iP	Pn	14 19 45.6	+3.5
KDZ	Kurdzhali	5.78	30	iP	Pn	14 19 45.6	+3.5
VTS	Vitosha	6.01	12	iP	Pn	14 19 48.3	+2.9
VTS	Vitosha	6.01	12	iP	Pn	14 19 48.3	+2.9
BARS	Barje	6.10	2	iPn	Pn	14 19 47.2	+0.7
STON	Ston	6.83	336	ePn	Pn	14 19 55.0	-1.3
STON				Sn	Sn	14 21 10.0	-4.1
STON	Ston	6.83	336	ePn	Pn	14 19 55.0	-1.3
IVAS	Ivanjica	6.94	352	ePn	Pn	14 19 58.2	+0.2
BOLS	Boljevac	7.12	2	iPn	Pn	14 19 59.0	-1.4
GRUS	Gruza	7.20	355	iPn	Pn	14 20 01.3	-0.2
BBLS	Lazići	7.33	348	ePn	Pn	14 20 03.3	-0.1
DIVS	Divibare	7.47	351	iP	Pn	14 20 04.6	-0.8
DIVS	Divibare	7.47	351	iP	Pn	14 20 04.6	-0.8
DIVS	Divibare	7.47	351	iPn	Pn	14 20 04.9	-0.5
FGSL	Fruska Gora	8.54	352	ePn	Pn	14 20 18.6	-1.3
GZR	Gura Zlata	8.73	6	iP	Pn	14 20 23.2	+0.7
GZR	Gura Zlata	8.73	6	iP	Pn	14 20 23.2	+0.7
LOT	Lotru	8.89	10	iP	Pn	14 20 26.2	+1.4
LOT	Lotru	8.89	10	iP	Pn	14 20 26.2	+1.4
UDBI	Udbina	8.96	332	ePn	Pn	14 20 26.4	+0.7
UDBI				Sn	Sn	14 22 03.5	-3.1
UDBI	Udbina	8.96	332	ePn	Pn	14 20 26.3	+0.7
VOIR		9.11	16	iP	Pn	14 20 28.6	+0.8
VOIR		9.11	16	iP	Pn	14 20 28.6	+0.8
MLR	Muntele Rosu	9.38	19	Pn	Pn	14 20 30.3	-1.3
	0.0nm,0.3s,baz=139,slow=19,SNR=1.9						
MLR	Muntele Rosu	9.38	19	iP	Pn	14 20 34.7	+3.1
MLR	Muntele Rosu	9.38	19	iP	Pn	14 20 34.7	+3.1
PKSM	Moragy	9.74	348	iP	Pn	14 20 31.9	-4.4
PLOR	Plostina	9.91	21	iP	Pn	14 20 41.3	+2.6
PLOR	Plostina	9.91	21	iP	Pn	14 20 41.3	+2.6
VRI	Vrincioaia	9.95	21	iP	Pn	14 20 42.0	+2.8
VRI	Vrincioaia	9.95	21	iP	Pn	14 20 42.0	+2.8
BOJS	Bojanci	9.98	334	i Pn	Pn	14 20 40.4	+0.8
BOJS				i Sn	Sn	14 22 28.3	-3.3
BOJS	Bojanci	9.98	334	i Pn	Pn	14 20 40.4	+0.8
BRTR	Keskin Array B	9.99	69	Pn	Pn	14 20 42.8	+2.9
	0.1nm,0.3s,baz=255,slow=8.7,SNR=2.1						
CRES	Cresnjev	10.19	335	i Pn	Pn	14 20 41.7	-0.8
CRES				i Sn	Sn	14 22 32.1	-4.7
CRES	Cresnjev	10.19	335	i Pn	Pn	14 20 41.7	-0.8
JAVS	Javornik	10.75	331	i Pn	Pn	14 20 50.6	+0.3
JAVS				i Sn	Sn	14 22 45.3	-5.5
JAVS	Javornik	10.75	331	i Pn	Pn	14 20 50.6	+0.3
PERS	Pernice	11.01	336	i Pn	Pn	14 20 53.4	-0.4
PERS				eSn	Sn	14 22 51.1	-6.0
PERS	Pernice	11.01	336	i Pn	Pn	14 20 53.4	-0.4
KOLS	Kolonicke sedl	12.23	2	ePn	Pn	14 21 12.0	+1.6
KOLS	Kolonicke sedl	12.23	2	ePN	Pn	14 21 12.0	+1.6
KOLS				e		14 23 14.5	
TREC	Trest	13.33	343	AMS	AMS	14 27 30.0	
	comp=Z,200nm,12.2s						
GERES	GERESS Array B	13.41	337	Pn	Pn	14 21 24.1	-2.5
	0.1nm,0.3s,baz=159,slow=15,SNR=5.1						
KHC	Kasperske Hory	13.70	337	eP	Pn	14 21 33.5	+2.9
KHC				ex	x	14 21 41.0	
KHC				eS	Sn	14 24 00.7	-2.1
KHC				AMS	AMS	14 27 50.0	
	comp=Z,200nm,12.1s						
KHC	Kasperske Hory	13.70	337	P	Pn	14 21 33.5	+2.9
KHC				S	Sn	14 24 00.7	-2.1
GOPC	GO Pecny, Ondr	14.07	342	AMS	AMS	14 27 50.0	
	comp=Z,200nm,10.9s						
DPC	Dobruska-Polom	14.14	346	AMS	AMS	14 28 10.0	
	comp=Z,200nm,8.6s						
PRU	Pruhonice	14.21	341	AMS	AMS	14 28 10.0	
	comp=Z,200nm,13.2s						
PVCC	Panska Ves	14.70	342	AMS	AMS	14 28 20.0	
AK02	Malin Array Si	14.99	19	P	Pn	14 21 46.1	-1.9
AK01	Malin Array Si	15.03	19	eP	P	14 21 52.6	-1.3
AK01	Malin Array Si	15.03	19	eP	P	14 21 52.6	-1.3
AKASG	Malin Array Be	15.04	19	Pn	Pn	14 21 46.4	-2.2
	0.4nm,0.3s,baz=210,slow=9.9,SNR=2.8						
CLL	Collm	15.81	340	eP	Pn	14 21 58.0	-0.9
CLL				esP	sP	14 22 04.0	-2.9
ESDC	Sonseca Array	20.24	286	P	P	14 22 52.7	+1.1
	0.5nm,0.5s,baz=92,slow=10,SNR=4.9						
HFS	Hagfors	23.98	350	P	P	14 23 29.2	-1.4
	4.1nm,0.6s,baz=156,slow=11,SNR=10						
HFS				LR	LR	14 35 05.7	
	comp=Z,44nm,20.1s,baz=99,slow=42						
FINES	FINESS Array B	24.92	5	P	P	14 23 38.2	-1.0
	2.4nm,0.6s,baz=174,slow=11,SNR=7.8						
FINES				LR	LR	14 34 33.5	
	comp=Z,33nm,18.6s,baz=354,slow=40						
NAO01	NORSAR Array S	25.09	348	eP	P	14 23 39.8	-0.9
NAO01	NORSAR Array S	25.09	348	eP	P	14 23 39.8	-0.9
EKA	Eskdalemuir Ar	25.09	326	P	P	14 23 41.4	+0.6
	2.4nm,0.6s,baz=128,slow=9.3,SNR=18						
ESK	Eskdalemuir	25.10	326	P	P	14 23 41.7	+0.8
	1.9nm,0.6s						
ESK	Eskdalemuir	25.10	326	P	P	14 23 41.7	+0.8
	1.9nm,0.6s						
NB2	NORSAR Subarra	25.22	348	P	P	14 23 41.2	-0.7
	comp=Z,2.4nm,0.6s,baz=156,slow=9.3						
NB2	NORSAR Subarra	25.22	348	P	P	14 23 41.2	-0.7
	comp=Z,2.4nm,0.6s,SNR=0.2						
NOA	NORSAR Array B	25.22	348	P	P	14 23 41.0	-0.9
	comp=Z,2.0nm,0.6s,baz=162,slow=8.8,SNR=9.6						
NOA	NORSAR Array B	25.22	348	P	P	14 23 41.0	-0.9
TORD	Torodi Ar. Bea	29.44	222	P	P	14 24 21.4	+1.2
	comp=Z,0.8nm,0.7s,baz=32,slow=9.1,SNR=4.7						
BVAR	Borovoye Array	37.47	48	P	P	14 25 29.4	-0.3
	comp=Z,0.7nm,0.5s,baz=256,slow=5.8,SNR=4.3						
KURBB	Kurchatov Arra	42.47	52	P	P	14 26 10.2	-1.1
	comp=Z,0.6nm,0.6s,baz=279,slow=9.0,SNR=5.5						
KURK	Kurchatov	42.52	52	P	P	14 26 10.1	-1.5
KURK	Kurchatov	42.52	52	P	P	14 26 10.2	-1.5
ZALV	Zalesovo Beam	46.08	47	P	P	14 26 38.9	-1.2
	comp=Z,1.4nm,0.4s,baz=267,slow=8.5,SNR=6.5						
YKA	Yellowknife Ar	75.04	341	P	P	14 29 57.9	+0.2
	comp=Z,0.3nm,0.6s,baz=29,slow=5.9,SNR=2.8						
KSAR	Wonju Array Be	79.61	51	P	P	14 30 23.9	+0.2
KSAR	Wonju Array Be	79.61	51	P	P	14 30 23.9	+0.2
KSRS	Korea Array	79.63	51	P	P	14 30 23.9	+0.1
	comp=Z,0.4nm,0.5s,baz=299,slow=5.0,SNR=2.7						

IPEC ***20*** *14:20:27.3±0.2, 49.°82N×18.°52E, h0km±3km, ML1.4/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
PRU ***20*** *14:20:28.3, 49.°89N×18.°42E, h0km*
CSEM 20 14:20:26.9±0.8, 49.°86N×18.°46E, h1km, ML2.3/8, 1D, Error ellipse: s-maj=10.8km s-min=8.4km az=79.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	Ostrava-Krasne	0.21	264	ePG	Pg	14 20 31.9	+1.0
OKC				eSG	Sg	14 20 34.5	+0.9
	comp=Z,44nm,0.3s						
OKC	Ostrava-Krasne	0.21	264	Pg	Pg	14 20 31.9	+1.0
OKC				Sg	Sg	14 20 34.5	+0.9
	44nm,0.3s						
MORC	Moravsky Berou	0.60	262	iP	Pb	14 20 40.3	0.0
MORC	Moravsky Berou	0.60	262	ePg	Pb	14 20 39.5	-0.8
MORC				eSg	Sg	14 20 47.3	+0.9
	7.8nm,0.3s						
OJC	Ojcow	0.93	67	ePg	Pb	14 20 45.5	-0.4
OJC				eSg	Sb	14 20 58.4	-0.4
VRAC	Vranov	1.34	246	ePg	Pn	14 20 52.7	0.0
VRAC				eSg	Sg	14 21 09.6	-0.3
	6.0nm,0.4s						
DPC	Dobruska-Polom	1.46	290	ePG	Pn	14 20 54.6	+0.1
DPC				eSG	Sn	14 21 14.7	+0.3
	comp=Z,2.9nm,0.3s						
DPC	Dobruska-Polom	1.46	290	Pg	Pn	14 20 54.6	+0.1
DPC				Sg	Sn	14 21 14.7	+0.3
	2.9nm,0.3s						
KRUC	Moravsky	1.57	240	ePg	Pn	14 20 56.1	+0.2
KRUC				eSg	Sn	14 21 16.9	0.0
	3.5nm,0.2s						
UPC	Upice	1.71	293	ePG	Pb	14 20 59.0	-0.1
UPC				eSG	Sg	14 21 22.2	+0.5
UPC	Upice	1.71	293	Pg	Pb	14 20 59.0	-0.1
UPC				Sg	Sg	14 21 22.2	+0.5
GOPC	GO Pecny, Ondr	2.38	273	eSG	Sg	14 21 42.1	-1.3
GOPC	GO Pecny, Ondr	2.38	273	Sg	Sg	14 21 42.1	-1.3
PRU	Pruhonice	2.54	274	eSG	Sg	14 21 47.6	-0.9
	comp=Z,1.3nm,0.3s						
PRU	Pruhonice	2.54	274	Sg	Sg	14 21 47.6	-0.9
	1.3nm,0.3s						
PVCC	Panska Ves	2.59	286	eSG	Sg	14 21 49.7	-0.5
	comp=Z,3.4nm,0.2s						
PVCC	Panska Ves	2.59	286	Sg	Sg	14 21 49.7	-0.5
	3.4nm,0.2s						
KHC	Kasperske Hory	3.27	259	eSG	Sg	14 22 11.1	-0.9
	comp=Z,2.6nm,0.6s						
KHC	Kasperske Hory	3.27	259	Sg	Sg	14 22 11.1	-0.9

MK31	Makanchi Array	67.61	323	*e*P		P		15 42 34.2	+0.7
ZALV	Zalesovo Beam	69.95	330	P		P		15 42 46.7	-1.1
	1.0nm,0.6s,baz=124,slow=5.5,SNR=5.2								
KURK	Kurchatov	71.60	325	*e*P		P		15 42 57.6	-0.3
	3.0nm,0.8s								
VNDA	Vanda	76.94	174	P		P		15 43 30.2	+1.7
	1.6nm,0.8s,baz=327,slow=6.7,SNR=9.0								
ILAR	Eielson Array	85.96	25	P		P		15 44 16.2	-0.2
	1.2nm,0.8s,baz=272,slow=4.5,SNR=14								
QSPA	South Pole Qui	88.18	180	P		P		15 44 29.0	+1.6
	6.2nm,0.9s,baz=324,slow=1.2,SNR=22								
YBH	Yreka Blue Hor	99.33	48	LR		LR		16 25 12.9	
	comp=Z,14nm,20.8s,baz=206,slow=32								
TORD	Torodi Ar. Bea	133.73	286	PKP		PKPdf		15 50 55.3	+0.9
	1.0nm,0.9s,baz=68,slow=2.0,SNR=4.3								
OTAV	Otavalo	145.17	92	*e*PKPbc		PKPdf		15 51 17.0	+1.1
LPAZ	La Paz	149.89	127	PKPbc		PKPab		15 51 30.9	-3.2
	1.5nm,0.8s,baz=242,slow=4.3,SNR=4.5								
SDV	Santo Domingo	152.23	74	*e*PKPbc		PKPbc		15 51 34.6	+1.0

IDC ***20*** *16:27:35.4±11.0, 1°.66N×126°.71E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, Error ellipse: s-maj=176.0km s-min=164.6km az=141.0*
ISCJB ***20*** *16:27:47.0±1.1, 1°.92N±0°.07×127°.36E±0°.09, h112km, mb3.3/3, Error ellipse: s-maj=14.3km s-min=7.6km az=143.3*
DJA ***20*** *16:27:51.8±0.3, 2°.N±3°×12°.7E±°, h10km, M2.9/2, MLv2.9/2*
ISC 20 16:27:47.8±1.3, 1°.88N±0°.07×127°.31E±0°.10, h112km, n10, σ1§87/12, mb3.3/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.10**	**177**	P	**Pn**	**16 28 11.9**	**+1.7**
TNTI				S	**Sn**	**16 28 28.8**	**+1.7**
SGSI	**Sangihe**	**2.53**	**315**	P	**Pn**	**16 28 27.4**	**-0.4**
SGSI				S	**Sn**	**16 28 59.2**	**+0.8**
KMSI	**Cibinong**	**3.57**	**249**	P	**Pn**	**16 28 42.5**	**+1.0**
KMSI				S	**Sn**	**16 29 22.0**	**-1.1**
SANI	**Sanana**	**4.12**	**199**	P	Pn	16 28 53.5	+4.7
SANI				S	**Sn**	**16 29 32.4**	**-3.7**
GTOI	**Gorontalo**	**4.47**	**254**	P	**Pn**	**16 28 55.7**	**+2.1**
LUWI	**Luwuk**	**5.39**	**237**	P	**Pn**	**16 29 07.8**	**+1.9**
MSAI	**Masohi**	**5.43**	**163**	P	Pn	16 29 14.6	+8.0
WRA	**Warramunga Arr**	**22.75**	**163**	P	**P**	**16 32 39.9**	**-0.9**
	0.9nm,0.6s,baz=340,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**26.19**	**166**	P	**P**	**16 33 11.8**	**-0.4**
	0.2nm,0.3s,baz=343,slow=10,SNR=8.6						
STKA	**Stephens Creek**	**36.20**	**159**	P	**P**	**16 34 39.2**	**-0.7**
	0.4nm,0.5s,baz=319,slow=10.0,SNR=6.8						

IDC 20 16:58:07.0±1.7, 11°.27S×165°.50E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/29, mbtmp3.9/5, MS3.5/1, Ms1 3.5/1, ms1mx2.5/24, Error ellipse: s-maj=68.1km s-min=28.0km az=131.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.11**	**223**	P	P	17 04 19.2	+0.7
	1.3nm,0.6s,baz=32,slow=8.1,SNR=7.7						
STKA				LR	LR	17 15 59.3	
	comp=Z,93nm,18.7s,baz=204,slow=36						
WRA	**Warramunga Arr**	**31.18**	**250**	P	P	17 04 27.1	-1.0
	1.3nm,0.5s,baz=84,slow=8.8,SNR=9.2						
WRA				PcP	PcP	17 07 24.6	+1.3
	0.3nm,0.6s,baz=72,slow=3.1,SNR=3.2						
ASAR	**Alice Springs**	**32.47**	**243**	P	P	17 04 38.2	-1.2
	1.5nm,0.8s,baz=63,slow=10,SNR=22						
ASAR				PcP	PcP	17 07 26.2	-0.6
	0.3nm,0.7s,baz=66,slow=2.3,SNR=4.1						
CMAR	**Chiang Mai Arr**	**71.98**	**294**	P	P	17 09 34.2	+1.1
	0.6nm,0.7s,baz=111,slow=4.7,SNR=6.4						
ILAR	**Eielson Array**	**83.80**	**19**	P	P	17 10 36.8	-1.1
	0.2nm,0.4s,baz=219,slow=7.0,SNR=4.0						

ISCJB ***20*** *17:22:09.6±0.6, 21°.41N±0°.04×101°.79E±0°.05, h10km, Error ellipse: s-maj=7.4km s-min=4.5km az=41.7*
BJI ***20*** *17:22:10.3, 21°.31N×101°.66E, h10km, ML3.4/5, Ms7 3.1/1*
PLV ***20*** *17:22:12.5±2.3, 21°.43N×101°.84E, h0km±20km, ML3.4*
BKK ***20*** *17:22:14.3±4.3, 21°.N±26°×10°.2E±1°.2, h26km±17km, M4.2/9, MLv4.2/9*
ISC 20 17:22:12.0±1.0, 21°.36N±0°.05×101°.80E±0°.05, h10km, n16, σ1§24/22, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGV	**Tuan Giao**	**1.52**	**81**	*e*Pg	**Pb**	**17 22 40.1**	**-0.2**
	baz=264,slow=16						
TGV				*e*Sg	**Sg**	**17 23 00.4**	**-0.7**
TGV				AML	AML	17 23 03.1	
	comp=Z,506nm,0.6s						
SPV	**Sa-pa**	**2.13**	**62**	*e*Pn	**Pn**	**17 22 48.8**	**+1.0**
MCVV	**Moc Chau**	**2.72**	**101**	*e*Pg	**Pg**	**17 23 04.6**	**+0.4**
VTVB	**Vinh Tuy**	**3.01**	**72**	*e*Pn	**Pn**	**17 22 59.3**	**-0.5**
HGVB	**Ha Giang**	**3.30**	**63**	*e*Pn	**Pn**	**17 23 06.2**	**+2.3**
HGVB				*e*Pg	**Pg**	**17 23 14.3**	**-1.1**
HGVB				*e*Sg	**Sg**	**17 23 57.8**	**-0.4**
HGVB				AML	AML	17 24 05.8	
	comp=N,82nm,0.6s						
LAMP	**Lampang**	**3.48**	**216**	Pg	**Pb**	**17 23 14.6**	**+0.8**
NONG	**Nongkai**	**3.51**	**159**	Pn	**Pn**	**17 23 07.1**	**+0.4**
CMMT	**Chiang Mai**	**3.69**	**227**	Pn	**Pn**	**17 23 08.0**	**-1.2**
CHTO	**Chiang Mai**	**3.69**	**227**	Pn	**Pn**	**17 23 08.0**	**-1.2**
UTTA	**Uttaradit**	**3.78**	**198**	Pn	**Pn**	**17 23 09.1**	**-1.3**
KMI	**Kunming**	**3.85**	**13**	Pg	**Pg**	**17 23 25.8**	**0.0**
KMI				Sg	**Sg**	**17 24 15.8**	**+0.1**
KMI				smax	smax		
	comp=N,34nm,0.9s						
KMI				smax	smax		
	comp=E,41nm,1.1s						
KMI	**Kunming**	**3.85**	**13**	Pn	**Pn**	**17 23 13.9**	**+2.4**
KMI				Pg	**Pg**	**17 23 23.0**	**-2.8**
KMI				Sg	**Sg**	**17 24 16.8**	**+1.1**
KMI				SMN			
	comp=E,34nm,0.9s						
KMI				SME			
	comp=E,41nm,1.1s						
LOEI	**Loei**	**3.86**	**188**	Pn	**Pn**	**17 23 11.2**	**-0.3**
CBVB	**Cao Bang**	**4.27**	**72**	*e*Pn	**Pn**	**17 23 17.5**	**+0.3**
PBKT	**Sadao Pong**	**4.83**	**190**	Pn	Pn	**17 23 24.6**	**-0.2**
CD2	**Chengdu**	**9.67**	**10**	*e*P	**Pn**	**17 24 31.6**	**+0.2**

IDC 20 17:24:37.3±39.0, 7°.79N×122°.83E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/23, mbtmp3.6/3, Error ellipse: s-maj=668.9km s-min=315.6km az=150.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**29.79**	**158**	P	P	17 30 45.9	-0.2
	0.5nm,0.5s,baz=337,slow=9.7,SNR=2.8						
ASAR	**Alice Springs**	**33.08**	**161**	P	P	17 31 15.1	0.0
	0.4nm,0.4s,baz=337,slow=7.0,SNR=27						
STKA	**Stephens Creek**	**43.33**	**156**	P	P	17 32 41.2	-0.1
	0.4nm,0.5s,baz=342,slow=6.4,SNR=3.0						

MOS ***20*** *17:28:04.3±1.2, 60°.85N×146°.86W, h10km, mb4.9/36, Error ellipse: s-maj=9.8km s-min=4.6km az=101.1*
BJI ***20*** *17:28:06.0, 60°.80N×146°.80W, h10km, mb4.7/28, mB4.9/18, Ms4.8/14, Ms7 4.4/14*
ISCJB ***20*** *17:28:07.5±0.3, 60°.85N±0°.02×146°.93W±0°.02, h29km±2km, mb4.5/109, MS3.7/30, Error ellipse: s-maj=2.9km s-min=1.8km az=19.6*
NEIC ***20*** *17:28:08.2, 60°.78N×146°.81W, h11km, mb4.7/77, ML4.5(AEIC), After AEIC.*
NEIC Felt [IV] at Valdez and [II] at Anchorage. Also felt at Copper Center, Cordova, Elmendorf AFB, Moose Pass, Palmer and Sutton.
IDC ***20*** *17:28:08.6±0.6, 60°.87N×146°.83W, h26km±3km, mb4.1/25, mb1 4.3/29, mb1mx4.2/33, mbtmp4.2/29, ML4.0/4, MS3.8/31, Ms1 3.8/31, ms1mx3.7/42, Error ellipse: s-maj=13.1km s-min=8.2km az=33.0*
ISC 20 17:28:08.3±0.3, 60°.81N±0°.03×146°.85W±0°.02, h24km±1km, h24km:pP-P, n705, σ1§19/726, mb4.6/109, MS3.7/30, 24C-6D, Southern Alaska

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

GLI	**Glacier Island**	**0.14**	**300**	P	**Pb**	**17 28 12.5**	**-0.7**
JPK	**Jack Peak**	**0.27**	**26**	P	**Pb**	**17 28 14.4**	**-0.5**
VMT	**TAPS TI Valdez**	**0.36**	**41**	P	**Pb**	**17 28 15.6**	**-0.6**
VMT				S	**Sb**	**17 28 21.8**	**+0.3**
VLZ	**Valdez**	**0.41**	**38**	P	**Pb**	**17 28 16.3**	**-0.6**
HIN	**Hinchinbrook I**	**0.45**	**158**	P	**Pb**	**17 28 16.7**	**-1.0**
EYAK	**Cordova Ski Ar**	**0.60**	**115**	P	**Pb**	**17 28 19.2**	**-1.0**
DIV	**Divide**	**0.61**	**58**	P	**Pb**	**17 28 19.2**	**-1.3**
DIV				S	**Sb**	**17 28 27.9**	**-0.9**
KLU	**Klutina**	**0.82**	**33**	P	**Pb**	**17 28 22.9**	**-1.0**
SGAM	**Sherman Glacie**	**0.87**	**110**	P	**Pb**	**17 28 23.7**	**-0.9**
SCM	**Sheep Creek Mo**	**1.05**	**347**	*e*P	**Pn**	**17 28 26.6**	**-1.0**
SCM	**Sheep Creek Mo**	**1.05**	**347**	*e*Pg	**Pn**	**17 28 26.6**	**-1.0**
PS12	**TAPS Pump St12**	**1.06**	**50**	P	**Pn**	**17 28 26.5**	**-1.2**
PTE	**Portage**	**1.07**	**274**	P	**Pn**	**17 28 26.7**	**-1.0**
GOAT	**Goat Mountain**	**1.07**	**102**	P	**Pn**	**17 28 26.7**	**-1.1**
GOAT				S	**Sn**	**17 28 41.8**	**-0.1**
BMRM	**Bremner River**	**1.11**	**81**	*e*Pn	**Pn**	**17 28 27.2**	**-1.1**
BMRM				*e*Sn	**Sn**	**17 28 43.6**	**+0.8**
RAGM	**Ragged Mountai**	**1.15**	**111**	*e*Pn	**Pn**	**17 28 28.1**	**-0.8**
SML	**Sawmill**	**1.23**	**325**	P	**Pn**	**17 28 29.6**	**-0.4**
SML				S	**Sb**	**17 28 46.3**	**-0.1**
SML	**Sawmill**	**1.23**	**325**	P	**Pn**	**17 28 29.6**	**-0.4**
SML				S	**Sb**	**17 28 46.3**	**-0.1**
PMR	**Palmer**	**1.35**	**306**	*e*P	**Pn**	**17 28 31.2**	**-0.4**
PMR	**Palmer**	**1.35**	**306**	*e*Pn	**Pn**	**17 28 31.2**	**-0.4**
MID	**Middleton Isla**	**1.41**	**169**	P	**Pn**	**17 28 31.7**	**-0.7**
MID	**Middleton Isla**	**1.41**	**169**	P	**Pn**	**17 28 31.7**	**-0.7**
RC01	**Rabbit Creek A**	**1.44**	**282**	*e*Pn	**Pn**	**17 28 32.8**	**0.0**
RC01				*e*Sn	**Sb**	**17 28 53.4**	**+1.2**
SEW	**Seward**	**1.47**	**242**	*e*Pn	**Pn**	**17 28 32.3**	**-0.9**
SEW				*e*Sn	**Sb**	**17 28 52.6**	**-0.4**
KAIM	**Kayak Island**	**1.50**	**125**	P	**Pn**	**17 28 32.3**	**-1.4**
NICHA	**Nichawak Mount**	**1.54**	**111**	P	**Pn**	**17 28 33.2**	**-1.0**
GLB	**Gilahina Butte**	**1.60**	**65**	P	**Pn**	**17 28 34.9**	**-0.2**
BERG	**Berg Lake**	**1.61**	**104**	P	**Pn**	**17 28 33.9**	**-1.2**
FIB	**Fire Island**	**1.66**	**284**	P	**Pn**	**17 28 36.5**	**+0.7**
FIB	**Fire Island**	**1.66**	**284**	P	**Pn**	**17 28 36.5**	**+0.7**
SLKM	**Skilak Lake**	**1.69**	**261**	P	**Pn**	**17 28 36.0**	**-0.3**
SLKM	**Skilak Lake**	**1.69**	**261**	P	**Pn**	**17 28 36.0**	**-0.3**
SUCK	**Suckling Hills**	**1.69**	**115**	P	**Pn**	**17 28 35.5**	**-0.8**
VRDI	**Verde Repeater**	**1.71**	**74**	P	**Pn**	**17 28 36.2**	**-0.5**
WASW	**Wrangell South**	**1.71**	**48**	P	**Pn**	**17 28 36.9**	**+0.2**
VOGL	**Vogel Lake**	**1.76**	**278**	P	**Pn**	**17 28 38.2**	**+1.1**
HARP	**HAARP**	**1.79**	**26**	P	**Pn**	**17 28 38.4**	**+0.7**
KHIT	**Khitrov Hills**	**1.81**	**100**	P	**Pn**	**17 28 37.0**	**-1.0**
GRIN	**Grindle Hills**	**1.82**	**105**	P	**Pn**	**17 28 37.0**	**-1.1**
MCARA	**McCarthy VSAT**	**1.94**	**71**	P	**Pn**	**17 28 39.8**	**0.0**
SUA	**Susitna One**	**2.00**	**291**	P	**Pn**	**17 28 40.8**	**+0.2**
KULT	**Kultieth River**	**2.12**	**104**	P	**Pn**	**17 28 40.9**	**-1.3**
NKA	**Nikishka**	**2.15**	**270**	P	**Pn**	**17 28 43.8**	**+1.1**
BARK	**Barkley Ridge**	**2.19**	**99**	P	**Pn**	**17 28 42.5**	**-0.7**
BALM	**Baldy**	**2.21**	**82**	P	**Pn**	**17 28 43.5**	**-0.1**
BALM	**Baldy**	**2.21**	**82**	P	**Pn**	**17 28 43.5**	**-0.1**
ISLE	**Juniper Island**	**2.23**	**93**	P	**Pn**	**17 28 42.9**	**-0.9**
PAX	**Paxson**	**2.26**	**16**	P	**Pn**	**17 28 45.2**	**+1.0**
PAX	**Paxson**	**2.26**	**16**	P	**Pn**	**17 28 45.2**	**+1.0**
BRLK	**Bradley Lake**	**2.27**	**244**	*e*Pn	**Pn**	**17 28 43.5**	**-0.7**
CUT	**Chulitna**	**2.29**	**316**	P	**Pn**	**17 28 45.8**	**+1.3**
DHY	**Denali Highway**	**2.29**	**354**	P	**Pn**	**17 28 45.8**	**+1.1**
BAGL	**Bagley Icefiel**	**2.37**	**96**	P	**Pn**	**17 28 44.9**	**-0.6**
MESA	**MESA**	**2.51**	**103**	P	**Pn**	**17 28 46.6**	**-1.0**
STLK	**Strandline Lak**	**2.51**	**288**	P	**Pn**	**17 28 47.9**	**+0.3**
SKT	**Skwentna**	**2.54**	**300**	P	**Pn**	**17 28 48.0**	**0.0**
HUR	**Hurricane**	**2.54**	**330**	P	**Pn**	**17 28 49.1**	**+1.1**
BARN	**Barnard Glacie**	**2.54**	**82**	P	**Pn**	**17 28 48.0**	**-0.1**
YAH	**Yahtse**	**2.56**	**98**	P	**Pn**	**17 28 47.8**	**-0.6**
SPU	**Mount Spurr**	**2.56**	**281**	*e*Pn	**Pn**	**17 28 47.8**	**-0.5**
MENT	**Mentasta**	**2.60**	**33**	P	**Pn**	**17 28 50.0**	**+1.2**
CKN	**Chakachatna No**	**2.63**	**281**	P	**Pn**	**17 28 49.2**	**0.0**
PS10	**TAPS Pump St10**	**2.67**	**10**	P	**Pn**	**17 28 50.8**	**+1.1**
CKL	**Chakachamna La**	**2.70**	**281**	P	**Pn**	**17 28 49.9**	**-0.4**
BGL	**Barrier Glacie**	**2.73**	**282**	P	**Pn**	**17 28 50.3**	**-0.4**
RDT	**Redoubt**	**2.74**	**267**	P	**Pn**	**17 28 50.0**	**-0.8**
RKAV	**Rock Avalanche**	**2.77**	**98**	P	**Pn**	**17 28 50.8**	**-0.4**
RND	**Reindeer**	**2.77**	**341**	*e*P	**Pn**	**17 28 52.7**	**+1.5**
RND	**Reindeer**	**2.77**	**341**	*e*Pn	**Pn**	**17 28 52.7**	**+1.5**
TABL	**Table Mountain**	**2.84**	**95**	P	**Pn**	**17 28 51.3**	**-1.0**
DFR	**Drift River**	**2.88**	**268**	P	**Pn**	**17 28 51.8**	**-0.9**
RDN	**Redoubt North**	**2.93**	**267**	P	**Pn**	**17 28 52.4**	**-0.9**
RSO	**Redoubt South**	**2.93**	**266**	P	**Pn**	**17 28 52.7**	**-0.8**
NCT	**North Crescent**	**3.00**	**268**	P	**Pn**	**17 28 53.5**	**-0.9**
MCK	**McKinley**	**3.09**	**343**	*e*P	**Pn**	**17 28 57.6**	**+2.1**
MCK				*e*		17 29 31.6	
MCK	**McKinley**	**3.09**	**343**	*e*Pn	**Pn**	**17 28 57.6**	**+2.1**
MCK				*e*Sn	**Sn**	**17 29 31.6**	**-0.1**
TRF	**Thorofare Moun**	**3.10**	**330**	P	**Pn**	**17 28 56.9**	**+1.1**
INE	**Iliamna NE**	**3.17**	**259**	P	**Pn**	**17 28 56.2**	**-0.5**
ILW	**Iliamna West**	**3.21**	**259**	P	**Pn**	**17 28 56.2**	**-1.0**
PPLA	**Purkeypile**	**3.28**	**312**	P	**Pn**	**17 28 58.5**	**+0.3**
BCA3	**Beaver Creek A**	**3.29**	**44**	P	**Pn**	**17 28 59.2**	**+0.9**
OPT	**Oil Point**	**3.39**	**253**	P	**Pn**	**17 28 58.8**	**-0.9**
BWN	**Browne**	**3.58**	**341**	*e*Pn	**Pn**	**17 29 03.5**	**+1.2**
AUH	**Augustine H**	**3.61**	**249**	P	**Pn**	**17 29 02.3**	**-0.3**
HDA	**Harding Lake**	**3.61**	**359**	*e*Pn	**Pn**	**17 29 03.2**	**+0.6**
AUI	**Augustine Isla**	**3.61**	**249**	P	**Pn**	**17 29 02.2**	**-0.5**
AUW	**Augustine West**	**3.62**	**249**	P	**Pn**	**17 29 02.4**	**-0.4**
WRH	**Wood River Hil**	**3.72**	**352**	*e*Pn	**Pn**	**17 29 04.7**	**+0.6**
PS08	**TAPS Pump Stn8**	**3.75**	**0**	P	**Pn**	**17 29 04.9**	**+0.4**
BPAW	**Bear Paw Mtn.**	**3.82**	**332**	P	**Pn**	**17 29 06.3**	**+0.8**
CCB	**Clear Creek Bu**	**3.88**	**354**	*e*Pn	**Pn**	**17 29 06.5**	**+0.3**
IL1	**Eielson Array**	**3.98**	**360**	*e*Pn	**Pn**	**17 29 07.2**	**-0.5**
ILAR	**Eielson Array**	**3.98**	**360**	Pn	**Pn**	**17 29 06.7**	**-1.0**
	5.1nm,0.3s,baz=183,slow=13,SNR=142						
ILAR				Pg	Pb	17 29 12.4	-5.2
	41nm,0.3s,baz=187,slow=13,SNR=144						
ILAR				Lg	Lg	17 30 02.8	
	39nm,0.3s,baz=178,slow=24,SNR=5.6						
ILAR				LR	LR	17 30 56.8	
	comp=Z,1μm,18.9s,baz=182,slow=43						
MCNL	**McNeil River**	**4.10**	**250**	P	**Pn**	**17 29 08.2**	**-1.1**
COLA	**College**	**4.10**	**354**	*d*P	**Pn**	**17 29 09.5**	**+0.1**
COLA	**College**	**4.10**	**354**	P	**Pn**	**17 29 09.9**	**+0.5**
MDM	**Murphy Dome**	**4.21**	**352**	*e*Pn	**Pn**	**17 29 11.3**	**+0.4**
KDAK	**Kodiak Island**	**4.23**	**227**	P	**Pn**	**17 29 10.0**	**-1.1**
KDAK	**Kodiak Island**	**4.23**	**227**	P	**Pn**	**17 29 10.0**	**-1.1**
SVW2	**Sparrevohn**	**4.27**	**278**	*e*Pn	**Pn**	**17 29 10.1**	**-1.6**
HYT	**Haines Junctio**	**4.58**	**86**	P	**Pn**	**17 29 16.0**	**0.0**
MLY	**Manley**	**4.59**	**339**	*e*Pn	**Pn**	**17 29 17.3**	**+1.1**
DAWY	**Dawson**	**4.76**	**43**	P	**Pn**	**17 29 19.4**	**+1.0**
EGAK	**Eagle**	**4.76**	**31**	P	**Pn**	**17 29 19.6**	**+1.3**
TT01	**Tatalina**	**4.82**	**300**	P	**Pn**	**17 29 18.2**	**-1.1**
KAKN	**Katmai Knife C**	**4.88**	**242**	P	**Pn**	**17 29 19.5**	**-0.6**
OHAK	**Old Harbor**	**4.90**	**226**	*e*Pn	**Pn**	**17 29 18.7**	**-1.7**
KVTA	**Katmai Vly 10**	**4.94**	**244**	P	**Pn**	**17 29 20.7**	**-0.1**
KABR	**Katmai Barrier**	**4.94**	**241**	P	**Pn**	**17 29 20.1**	**-0.9**
KBM	**Katmai Bkd Mtn**	**4.95**	**243**	P	**Pn**	**17 29 21.0**	**-0.1**
KCE	**Katmai Mt Cerb**	**4.96**	**242**	P	**Pn**	**17 29 20.7**	**-0.5**
KELA	**Mount Kelaz**	**5.10**	**246**	P	**Pn**	**17 29 22.9**	**-0.3**
FYU	**Fort Yukon**	**5.82**	**6**	*e*Pn	Pn	17 29 39.7	+6.7
WHY	**Whitehorse**	**5.87**	**86**	P	**Pn**	**17 29 33.5**	**-0.3**
SKAG	**Skagway**	**5.91**	**98**	*e*Pn	**Pn**	**17 29 34.5**	**+0.3**
IM04	**Indian Mountai**	**6.04**	**332**	*e*Pn	**Pn**	**17 29 36.0**	**-0.1**
IM3	**Indian Mountai**	**6.04**	**332**	P	**Pn**	**17 29 36.3**	**+0.3**
PS05	**TAPS Pump Stn5**	**6.25**	**346**	P	**Pn**	**17 29 40.0**	**+1.1**
COLD	**Coldfoot**	**6.61**	**349**	P	**Pn**	**17 29 44.6**	**+0.8**
BM3	**Burnt Mountain**	**6.71**	**7**	P	**Pn**	**17 29 45.2**	**+0.1**
SIT	**Sitka**	**7.05**	**117**	*e*P	**Pn**	**17 29 48.8**	**-1.0**
SIT	**Sitka**	**7.05**	**117**	*e*Pn	**Pn**	**17 29 48.8**	**-1.0**
CHGN	**Chignik**	**7.55**	**238**	*e*Pn	**Pn**	**17 29 56.2**	**-0.4**
WRAK	**Wrangell Islan**	**8.75**	**114**	Pn	**Pn**	**17 30 10.8**	**-2.3**
DLBC	**Dease Lake**	**8.85**	**98**	Pn	**Pn**	**17 30 14.1**	**-0.4**
	1.9nm,0.3s,baz=282,slow=13,SNR=27						
DLBC				Lg	Lg	17 32 41.5	
	2.6nm,0.3s,baz=210,slow=20,SNR=4.3						
DLBC				LR	LR	17 34 06.6	
	comp=Z,2μm,18.3s,baz=288,slow=40						
SDPT	**Sand Point**	**9.05**	**239**	*e*Pn	**Pn**	**17 30 17.4**	**+0.2**
INK	**Inuvik**	**9.43**	**32**	Pn	**Pn**	**17 30 22.5**	**+0.1**
	0.5nm,0.3s,baz=216,slow=12,SNR=11						
INK				Sn	Sn	17 32 00.3	-7.2
	baz=238,slow=19,SNR=1.7						
INK				Lg	Lg	17 32 59.2	
	0.8nm,0.3s,baz=181,slow=14,SNR=2.6						
INK				LR	LR	17 34 30.6	
	comp=Z,598nm,20.7s,baz=217,slow=41						
INK	**Inuvik**	**9.43**	**32**	*e*P	**Pn**	**17 30 23.5**	**+1.1**
INK						17 32 00.3	
INK	**Inuvik**	**9.43**	**32**	*e*Pn	**Pn**	**17 30 23.4**	**+1.1**
INK				Sn	Sn	17 32 00.3	-7.2

INK				Lg	Lg	17 32 59.2	
BBB	**Bella Bella**	**13.44**	**122**	LR	LR	17 36 23.3	
	comp=Z,262nm,18.8s,baz=325,slow=37						
YKA	**Yellowknife Ar**	**15.32**	**70**	Pn	**Pn**	**17 31 41.2**	**-1.4**
	0.8nm,0.3s,baz=280,slow=13,SNR=34						
YKB5	**Yellowknife Ar**	**15.32**	**70**	*e*Pn	**Pn**	**17 31 42.8**	**+0.2**
NLWA	**Neilton Lookou**	**18.89**	**125**	*e*P	**P**	**17 32 27.1**	**+0.3**
	21nm,1.1s						
EDM	**Edmonton**	**19.57**	**98**	*e*P	**P**	**17 32 34.4**	**+0.2**
EDM	**Edmonton**	**19.57**	**98**	*e*P	**P**	**17 32 34.4**	**+0.2**
D05A	**Enumclaw**	**19.82**	**122**	*e*P	**Pn**	**17 32 39.3**	**+0.8**
	100nm,1.3s						
B08A	**Colville Reser**	**20.05**	**116**	*e*P	Pn	17 32 41.1	-0.2
	37nm,1.1s						
B08A				*es*P	sP	17 32 59.2	+10
FMW	**Mount Fremont**	**20.15**	**122**	P	Pn	17 32 42.5	-0.2
F03A	**Seaside**	**20.21**	**127**	*e*P	Pn	17 32 46.9	+3.8
	179nm,1.7s						
LON	**Longmire**	**20.24**	**123**	*e*P	**P**	**17 32 42.4**	**+0.8**
LON				pmax	pmax		
	comp=Z,10.0nm,1.1s						
LON	**Longmire**	**20.24**	**123**	*e*P	**P**	**17 32 42.4**	**+0.8**
	comp=Z,10nm,1.1s						
LTY	**Liberty**	**20.32**	**120**	*e*P	Pn	17 32 43.9	-0.6
	comp=Z,205nm,2.0s						
C09A	**Chrisman Ranch**	**20.94**	**116**	*e*P	Pn	17 32 50.6	-1.1
	comp=Z,69nm,1.4s						
OD2	**Odessa Site #2**	**21.06**	**117**	P	**P**	**17 32 51.2**	**+0.9**
NEW	**Newport**	**21.11**	**113**	P	**P**	**17 32 52.2**	**+1.3**
	comp=Z,24nm,1.1s,baz=312,slow=11,SNR=18						
NEW				LR	LR	17 41 06.6	
	comp=Z,356nm,18.8s,baz=318,slow=37						
NEW	**Newport**	**21.11**	**113**	*e*P	**P**	**17 32 52.2**	**+1.3**
NEW				pmax	pmax		
	comp=Z,37nm,1.0s						
NEW	**Newport**	**21.11**	**113**	P	**P**	**17 32 52.6**	**+1.7**
	baz=21,SNR=20						
NEW	**Newport**	**21.11**	**113**	*e*P	**P**	**17 32 52.2**	**+1.3**
	comp=Z,37nm,1.0s						
D08A	**Wollman Farm,**	**21.22**	**118**	*e*P	**P**	**17 32 53.0**	**+0.9**
	comp=Z,48nm,1.0s						
RSW	**Rattlesnake Hi**	**21.45**	**120**	P	**P**	**17 32 55.8**	**+1.2**
H04A	**Detroit Lake**	**21.78**	**127**	*e*P	**P**	**17 32 59.6**	**+1.5**
	comp=Z,26nm,1.1s						
E09A	**Wood Farm, Sta**	**21.98**	**118**	*e*P	**P**	**17 33 01.3**	**+1.2**
	comp=Z,32nm,0.9s						
BPO	**Bald Peter**	**22.00**	**126**	P	**P**	**17 33 02.1**	**+1.4**
WALA	**Waterton Lakes**	**22.01**	**107**	*e*P	**P**	**17 33 00.8**	**+0.2**
	comp=Z,964nm,1.0s						
CROR	**Criterion Ridg**	**22.01**	**124**	P	**P**	**17 33 01.5**	**+0.9**
VTHM	**Trough**	**22.02**	**123**	P	**P**	**17 33 02.2**	**+1.5**
I03D	**Drain, OR**	**22.17**	**130**	P	**P**	**17 33 04.0**	**+1.9**
	baz=22						
I05D	**Terrebonne, OR**	**22.40**	**126**	P	**P**	**17 33 06.0**	**+1.2**
	baz=22,SNR=8.0						
HBO	**Huckleberry Mo**	**22.43**	**128**	P	**P**	**17 33 06.8**	**+1.5**
I04A	**Tendick Farm,**	**22.44**	**128**	P	**P**	**17 33 06.7**	**+1.5**
	baz=22,SNR=11						
BSMT	**Bassoo Peak**	**22.47**	**111**	*e*P	**P**	**17 33 06.4**	**+0.7**
KEBM	**Edson Butte**	**22.52**	**133**	*e*P	**P**	**17 33 09.2**	**+3.1

baz=27
D22A **Cohagen** 27.03 102 P P 17 33 49.5 +1.2
baz=27
E21A **Keefer Ranch,** 27.04 104 P P 17 33 49.7 +1.3
baz=27
C23A **Lambert** 27.05 100 P P 17 33 49.4 +0.9
baz=27,SNR=6.4
RLMT **Red Lodge** 27.05 108 P P 17 33 50.4 +1.7
baz=27,SNR=30
RLMT **Red Lodge** 27.05 108 eP P 17 33 49.0 +0.3
comp=Z,43nm,1.0s
IMW **Indian Meadow** 27.22 112 eP P 17 33 51.9 +1.6
comp=Z,30nm,1.0s
A25A **Svangstu Ranch** 27.27 96 P P 17 33 51.3 +0.9
baz=27
FXWY **Fox Creek** 27.38 113 eP P 17 33 52.9 +1.2
comp=Z,12nm,1.1s
MOOW **Moose Ponds** 27.43 112 eP P 17 33 53.2 +1.1
comp=Z,13nm,1.0s
G20A **Bridger** 27.47 107 P P 17 33 53.9 +1.5
baz=27,SNR=5.5
D23A **Lindsay** 27.48 101 P P 17 33 53.5 +1.2
baz=27
H19A **Powell** 27.52 109 P P 17 33 54.7 +1.9
baz=27,SNR=5.7
TPAW **Teton Pass** 27.53 113 eP P 17 33 54.0 +0.9
comp=Z,15nm,1.0s
LOHW **Long Hollow** 27.59 112 eP P 17 33 55.3 +1.7
comp=Z,6.1nm,0.9s
C24A **Savage** 27.60 99 P P 17 33 54.6 +1.1
baz=28,SNR=6.0
SNOW **Snow King Moun** 27.64 112 eP P 17 33 55.2 +1.1
E22A **Miles City** 27.65 103 P P 17 33 55.1 +1.3
baz=28
REDW **Red Top Meadow** 27.68 113 eP P 17 33 54.7 +0.4
comp=Z,18nm,1.0s
B25A **Knox Farm, Ray** 27.70 97 P P 17 33 55.2 +0.9
baz=28
SEY **Seymchan** 27.80 301 P P 17 33 56.1 +1.2
comp=Z,1.1nm,0.6s,baz=250,slow=12,SNR=6.3
SEY LR LR 17 45 27.4
comp=Z,306nm,20.8s,baz=56,slow=37
SEY **Seymchan** 27.80 301⇑ eP P 17 33 55.8 +0.8
A26A **Wade Farm, Ken** 27.83 95 P P 17 33 56.0 +0.6
baz=28
ELK **Elko** 27.89 122 P P 17 33 57.2 +1.0
comp=Z,3.2nm,0.9s,baz=311,slow=11,SNR=13
ELK LR LR 17 44 28.6
comp=Z,153nm,20.1s,baz=327,slow=35
ELK **Elko** 27.89 122 P P 17 33 57.2 +1.0
comp=Z,0.3nm,1.0s
E23A **Ismay** 27.91 102 P P 17 33 57.3 +1.1
baz=28,SNR=5.3
G21A **Lodge Grass** 27.94 106 P P 17 33 57.7 +1.2
baz=28
D24A **Glendive** 27.94 100 P P 17 33 58.0 +1.6
baz=28,SNR=7.5
F22A **Rosebud** 27.98 104 P P 17 33 57.8 +1.0
baz=28
I19A **Meeteetse** 28.00 110 P P 17 33 59.0 +1.8
baz=28
C25A **Freed Ranch, W** 28.04 98 P P 17 33 59.0 +1.7
baz=28
B26A **Jensen Ranch,** 28.08 96 P P 17 33 58.7 +1.0
baz=28
HVU **Hansel Valley** 28.09 117 eP P 17 33 59.6 +1.7
HVU **Hansel Valley** 28.09 117 eP P 17 33 59.6 +1.7
H20A **Greybull** 28.12 108 P P 17 33 59.7 +1.5
baz=28
E24A **Baker** 28.35 101 P P 17 34 01.1 +1.0
baz=28
G22A **Birney** 28.38 105 P P 17 34 01.8 +1.4
baz=28
D25A **Fairfield** 28.41 99 P P 17 34 01.8 +1.2
baz=28
F23A **Volborg** 28.43 103 P P 17 34 01.6 +0.7
baz=28,SNR=5.2
H21A **Big Horn, Sher** 28.46 106 P P 17 34 02.4 +1.2
baz=28
I20A **Worland** 28.47 109 P P 17 34 02.3 +1.1
baz=28
J19A **Crowheart** 28.57 111 P P 17 34 02.3 +0.1
baz=28
NV01 **Mina Array Sit** 28.63 128 eP P 17 34 03.9 +1.1
NV01 ePcP PcP 17 37 13.1 -0.1
NVAR **Mina Array Bea** 28.63 128 P P 17 34 04.0 +1.2
comp=Z,3.4nm,0.8s,baz=305,slow=9.2,SNR=25
NVAR PcP PcP 17 37 12.0 -1.2
comp=Z,0.9nm,0.9s,baz=300,slow=4.0,SNR=4.5
A28A **Rude Farm, Bot** 28.68 93 P P 17 34 04.2 +1.1
baz=28
BW06 **Boulder Array** 28.73 112 eP P 17 34 04.9 +1.2
BW06 esP sP 17 34 16.5 +2.5
PDAR **Pinedale Array** 28.73 112 P P 17 34 04.5 +0.8
comp=Z,2.5nm,1.0s,baz=327,slow=7.8,SNR=14
PDAR PcP PcP 17 37 11.4 -1.9
comp=Z,1.2nm,1.0s,baz=321,slow=1.9,SNR=3.5
PDAR LR LR 17 46 53.7
comp=Z,217nm,18.7s,baz=338,slow=39
F24A **Ekalaka** 28.80 102 P P 17 34 05.2 +1.1
baz=29,SNR=15
G23A **Biddle** 28.82 104 P P 17 34 05.3 +1.0
baz=29
E25A **Miller Ranch,** 28.83 100 P P 17 34 05.5 +1.2
baz=29
C27A **Sayler Ranch,** 28.89 96 P P 17 34 05.9 +1.0
baz=29
D26A **Manning** 28.92 98 P P 17 34 06.4 +1.2
baz=29
J20A **Shoshoni** 28.95 109 P P 17 34 07.4 +1.8
baz=29,SNR=5.7
I21A **Big Trails, Te** 28.97 108 P P 17 34 06.6 +0.9
baz=29,SNR=8.3
A29A **Manning Farm,** 29.18 92 P P 17 34 08.0 +0.6
baz=29
G24A **Alzada** 29.19 103 P P 17 34 08.4 +0.8
baz=29
F25A **Bowman** 29.21 101 P P 17 34 09.2 +1.4
baz=29
J21A **Lysite** 29.25 109 P P 17 34 09.9 +1.6
baz=29,SNR=10
I22A **9 Mile Ranch,** 29.28 107 P P 17 34 10.3 +1.8
baz=29,SNR=14
E26A **Carlson Angus** 29.30 99 P P 17 34 09.6 +1.0
baz=29
TPH **Tonopah** 29.36 127 eP P 17 34 10.5 +1.2
TPH pmax pmax
comp=Z,11nm,1.0s
TPH **Tonopah** 29.36 127 eP P 17 34 10.5 +1.2
comp=Z,12nm,1.0s
DUG **Dugway, Tooele** 29.37 119 P P 17 34 08.8 -0.5
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG **Dugway, Tooele** 29.37 119 P P 17 34 10.4 +1.1
baz=29
DUG **Dugway, Tooele** 29.37 119 P P 17 34 08.8 -0.5
comp=Z,3.6nm,0.9s
B29A **Wagenman Farm,** 29.43 93 P P 17 34 10.4 +0.8
baz=29
C28A **Hausauer Farms** 29.44 95 P P 17 34 11.2 +1.5
baz=29
H24A **Dirks Ranch, A** 29.55 104 P P 17 34 11.6 +0.8
baz=29,SNR=8.7
A30A **Hoffart Farm,** 29.63 91 P P 17 34 12.0 +0.7
baz=30
F26A **Lodgepole** 29.65 100 P P 17 34 12.7 +1.1
baz=30,SNR=7.9
J22A **Midwest** 29.65 107 P P 17 34 13.1 +1.3
baz=30,SNR=14
MDND **Maddock** 29.73 94 P P 17 34 13.0 +0.8
baz=30
MDND **Maddock** 29.73 94 eP P 17 34 13.1 +0.8
MDND esP sP 17 34 22.0 -0.5
E27A **Carson** 29.77 98 P P 17 34 13.8 +1.1
baz=30
G25A **Newell** 29.77 102 P P 17 34 13.6 +0.9
baz=30
R11A **Troy Canyon, C** 29.77 125 P P 17 34 14.0 +1.1
baz=30,SNR=12
R11A **Troy Canyon, C** 29.77 125 eP P 17 34 13.7 +0.8
comp=Z,12.2nm,1.2s
B30A **Myrvik Farm, E** 29.94 92 P P 17 34 14.8 +0.7
baz=30,SNR=11
F27A **Lemmon** 29.95 99 P P 17 34 15.5 +1.2
baz=30
G26A **Maurine** 30.09 101 P P 17 34 16.7 +1.2
baz=30
I24A **Kuemmerle Ranc** 30.18 105 P P 17 34 17.6 +1.1
baz=30,SNR=6.3
K22A **Casper** 30.22 108 P P 17 34 18.0 +1.2
baz=30
K22A **Casper** 30.22 108 eP P 17 34 17.4 +0.6
comp=Z,12nm,1.0s
RSSD **Black Hills** 30.27 104 eP P 17 34 17.9 +0.6
RSSD pmax pmax
comp=Z,12nm,0.9s
RSSD **Black Hills** 30.27 104 eP P 17 34 17.9 +0.6
comp=Z,12nm,0.9s
D29A **Pettibone, Tap** 30.28 95 P P 17 34 18.1 +0.9
baz=30
PETK **Petropavlovsk-** 30.35 281 P P 17 34 18.1 +0.5
comp=Z,3.6nm,1.0s,baz=71,slow=7.8,SNR=3.6
PETK LR LR 17 46 16.9
comp=Z,154nm,21.6s,baz=37,slow=36
G27A **Dupree** 30.35 100 P P 17 34 18.8 +1.0
baz=30
H26A **Fairpoint** 30.50 102 P P 17 34 20.5 +1.3
baz=30,SNR=7.1
F28A **McLaughlin** 30.55 98 P P 17 34 20.8 +1.2
baz=30,SNR=7.1
J24A **Dixon Ranch, L** 30.57 106 P P 17 34 21.0 +1.1
baz=30
VES **Vestal, Richgr** 30.62 132 P P 17 34 22.1 +1.9
baz=30
D30A **Buchanan** 30.66 94 P P 17 34 21.5 +1.0
baz=30
TPNV **Topopah Spring** 30.72 127 eP P 17 34 22.7 +1.4
TPNV pmax pmax
comp=Z,8.0nm,1.1s
TPNV **Topopah Spring** 30.72 127 P P 17 34 22.6 +1.3
baz=31
TPNV **Topopah Spring** 30.72 127 eP P 17 34 22.7 +1.4
comp=Z,7.5nm,1.1s
DAC **Darwin (Calif)** 30.79 130 eP P 17 34 23.9 +2.0
DAC pmax pmax
comp=Z,9.0nm,1.0s
DAC **Darwin (Calif)** 30.79 130 eP P 17 34 23.9 +2.0
comp=Z,8.9nm,1.0s
H27A **Howes** 30.82 101 P P 17 34 23.3 +1.3
baz=31
FURC **Furnace Creek,** 30.90 128 P P 17 34 24.6 +2.0
baz=31,SNR=5.0
J25A **Sunshine Ranch** 30.93 105 P P 17 34 24.2 +1.1
baz=31
K24A **Anderson Ranch** 30.96 106 P P 17 34 24.3 +0.9
baz=31
ISA **Isabella, Lake** 31.00 131 P P 17 34 25.3 +1.6
baz=31
MPMC **Manual Prospec** 31.02 130 P P 17 34 25.9 +2.0
baz=31,SNR=6.8
MVU **Marysvale** 31.04 120 eP P 17 34 25.0 +0.8
comp=Z,7.0nm,0.9s
F29A **Eureka** 31.04 97 P P 17 34 24.6 +0.7
baz=31
G28A **Parade** 31.06 99 P P 17 34 25.5 +1.5
baz=31
PKM **Mcpherson Peak** 31.21 134 P P 17 34 27.4 +1.8
baz=31
AGMN **Agassiz Nation** 31.25 90 P P 17 34 25.9 +0.2
baz=31,SNR=8.6
AGMN **Agassiz Nation** 31.25 90 eP P 17 34 25.3 -0.4
comp=Z,15nm,0.7s
I27A **Quinn** 31.25 102 P P 17 34 27.0 +1.2
baz=31
SRU **San Rafael Swe** 31.25 117 eP P 17 34 26.7 +0.7
SRU pmax pmax
comp=Z,18nm,1.1s
SRU **San Rafael Swe** 31.25 117 eP P 17 34 26.7 +0.7
comp=Z,18nm,1.1s
H28A **Mission Ridge** 31.30 100 P P 17 34 27.5 +1.3
baz=31
J26A **Sides Ranch, S** 31.34 104 P P 17 34 28.0 +1.4
baz=31,SNR=6.0
ARVC **Arvin** 31.35 132 P P 17 34 28.7 +2.0
baz=31
CCUT **Cedar City** 31.36 123 eP P 17 34 28.6 +1.6
comp=Z,26nm,1.9s
F30A **Leola** 31.43 96 P P 17 34 29.1 +1.8
baz=31
O20A **White River Ci** 31.43 113 P P 17 34 28.7 +1.2
baz=31
G29A **Hoven** 31.45 98 P P 17 34 28.6 +1.1
baz=31
LRMC **Laurel Mtn Rad** 31.46 130 P P 17 34 29.3 +1.5
baz=31
K25A **Mack Ranch, Ha** 31.49 106 P P 17 34 29.2 +1.2
baz=31
SHOC **Shoshone, Teco** 31.62 128 P P 17 34 31.1 +2.0
baz=32
H29A **Onida** 31.73 99 P P 17 34 31.2 +1.3
baz=32
K26A **Motz Farm, Whi** 31.75 105 P P 17 34 31.5 +1.2
baz=32
OSI **Osito Audit: C** 31.85 133 P P 17 34 32.6 +1.5
baz=32
N23A **Red Feather La** 31.87 110 P P 17 34 32.5 +1.0
baz=32
G30A **Faulkton** 31.88 98 P P 17 34 32.3 +1.0
baz=32
EDW2 **Edwards Air Fo** 31.88 131 P P 17 34 32.7 +1.3
baz=32
GSC **Goldstone, Bar** 31.95 129 eP P 17 34 33.9 +1.9
GSC pmax pmax
comp=Z,17nm,1.1s
GSC **Goldstone, Bar** 31.95 129 P P 17 34 33.8 +1.9
baz=32,SNR=7.6
GSC **Goldstone, Bar** 31.95 129 eP P 17 34 33.9 +1.9
comp=Z,17nm,1.1s
KNB **Kanab** 32.04 122 eP P 17 34 34.9 +2.0
KNB pmax pmax
comp=Z,9.0nm,1.0s
KNB **Kanab** 32.04 122 eP P 17 34 34.9 +2.0
comp=Z,9.4nm,1.0s
BSC **Santa Cruz Isl** 32.09 134 P P 17 34 34.8 +1.6
baz=32
J28A **Allard Ranch,** 32.13 102 P P 17 34 34.7 +1.2
baz=32
I29A **Vivian Onida** 32.13 100 P P 17 34 34.6 +1.1
baz=32,SNR=7.2
K27A **Flueckinger Fa** 32.20 104 P P 17 34 35.7 +1.5
baz=32
M25A **Palm-Egli Farm** 32.32 107 P P 17 34 36.2 +0.9
baz=32
HEC **Hector,Ludlow** 32.55 129 P P 17 34 37.8 +0.5
baz=32
BFSC **Mount Baldy Ra** 32.58 131 P P 17 34 39.4 +1.9
baz=32
BFSC **Mount Baldy Ra** 32.58 131 eP P 17 34 39.5 +1.9
J29A **Okreek** 32.58 101 P P 17 34 38.7 +1.2
baz=32
K28A **Ten Mile Ranch** 32.60 103 P P 17 34 39.0 +1.3
baz=32
TIXI **Tiksi** 32.63 324 eP P 17 34 36.9 -0.6
TIXI pmax pmax
comp=Z,6.0nm,2.5s
PV05 **Paradox Valley** 32.73 117 eP P 17 34 40.2 +1.2
GMRC **Granite Mounta** 32.85 128 P P 17 34 41.7 +1.8
baz=33,SNR=7.5
ISCO **Idaho Springs** 32.89 111 P P 17 34 42.1 +1.5
baz=33
J30A **Dallas** 33.04 100 P P 17 34 42.5 +1.0
baz=33
SCI **San Clemente I** 33.39 134 P P 17 34 46.6 +2.1
baz=33
BELC **Belle Mtn. Jos** 33.41 129 P P 17 34 46.6 +1.7
baz=33,SNR=5.2
K30A **Basset** 33.48 101 P P 17 34 46.9 +1.6
baz=33
N27A **Anderson Farm,** 33.52 106 P P 17 34 47.4 +1.6
baz=33
L29A **Maesberg Ranch** 33.53 103 P P 17 34 47.3 +1.6
baz=33
PFO **Pinyon Flats O** 33.58 130 P P 17 34 47.7 +1.3
baz=34
IRM **Iron Mountain** 33.59 128 P P 17 34 47.7 +1.4
baz=34,SNR=8.7
M28A **Bar X Bar Ranc** 33.62 104 P P 17 34 47.8 +1.3
baz=34
EYMN **Ely** 33.63 87 eP P 17 34 46.2 -0.3
comp=Z,16nm,0.6s
OGNE **Ogallala** 33.65 106 P P 17 34 48.4 +1.5
baz=34
MVCO **Mesa Verde** 33.72 117 P P 17 34 48.9 +1.3
baz=34
M29A **Burnside Ranch** 33.90 104 P P 17 34 50.2 +1.2
baz=34
BC3 **Big Chuckawall** 33.92 129 P P 17 34 50.4 +1.1
baz=34
WUAZ **Wupatki** 33.93 122 P P 17 34 51.0 +1.6
baz=34
S22A **4UR Ranch, Cre** 34.01 114 P P 17 34 51.8 +1.5
baz=34
S22A **4UR Ranch, Cre** 34.01 114 eP P 17 34 51.6 +1.3
comp=Z,52nm,2.2s
S22A esP sP 17 35 02.9 +2.3
O27A **Beecher Island** 34.03 107 P P 17 34 51.1 +0.9
baz=34
N28A **Pribbeno Ranch** 34.09 105 P P 17 34 51.7 +1.0
baz=34
P26A **Davis Ranch, A** 34.13 108 P P 17 34 51.2 +0.1
baz=34
ECSD **EROS Data Cent** 34.13 97 P P 17 34 51.1 +0.1
baz=34,SNR=11
ECSD **EROS Data Cent** 34.13 97 eP P 17 34 49.8 -1.1
comp=Z,11nm,1.0s
Y12C **Blythe** 34.20 128 P P 17 34 53.3 +1.8
baz=34,SNR=5.4
M30A **Dale-Ortello V** 34.22 103 P P 17 34 53.4 +1.6
baz=34
MONP **Monument Peak,** 34.24 131 P P 17 34 53.5 +1.4
baz=34
SWSC **Sam W. Stewart** 34.43 130 P P 17 34 55.1 +1.5
baz=34
SDCO **Great Sand Dun** 34.61 113 P P 17 34 56.8 +1.4
baz=34,SNR=6.3
SDCO **Great Sand Dun** 34.61 113 eP P 17 34 57.0 +1.5
comp=Z,7.2nm,1.3s
SDCO esP sP 17 35 06.3 +0.6
GLA **Glamis** 34.70 129 P P 17 34 58.0 +2.1
baz=35
P28A **Saint Francis** 34.86 107 P P 17 34 58.7 +1.3
baz=35
O29A **4D Ranch, Culb** 34.88 105 P P 17 34 58.6 +1.1
baz=35
KSCO **Kaye Shedlock'** 34.90 108 P P 17 34 59.2 +1.4
baz=35
KSCO **Kaye Shedlock'** 34.90 108 eP P 17 34 58.7 +0.9
SPMN **Marine on St.** 34.91 91 P P 17 34 58.4 +0.9
baz=35
W18A **Petrified Fore** 34.95 120 P P 17 34 59.7 +1.4
baz=35
R26A **Arlington** 35.09 110 P P 17 35 00.5 +1.1
baz=35
BGNE **Belgrade** 35.15 101 P P 17 35 00.7 +0.9
baz=35
R27A **Eads** 35.41 109 P P 17 35 03.3 +1.2
baz=35
O31A **Woolen Ranch,** 35.56 104 P P 17 35 04.1 +0.9
baz=35
T25A **Trinidad** 35.60 112 P P 17 35 04.8 +0.9
baz=36
T25A **Trinidad** 35.60 112 eP P 17 35 05.0 +1.1
comp=Z,20nm,1.7s
R28A **Tribune** 35.82 108 P P 17 35 07.0 +1.4
baz=36
S27A **Las Animas** 35.85 110 P P 17 35 07.2 +1.2
baz=36,SNR=8.1
T26A **Comanche Natio** 35.95 111 P P 17 35 07.6 +0.8
baz=36,SNR=11
N33A **J Bar K, Exete** 36.00 101 P P 17 35 07.7 +0.7
baz=36
P31A **Stockton** 36.03 104 P P 17 35 08.4 +1.0
baz=36
R29A **Marienthal** 36.07 107 P P 17 35 09.2 +1.5
baz=36
P32A **Huiting Farm,** 36.32 103 P P 17 35 10.3 +0.5
baz=36
S28A **Manter** 36.39 109 P P 17 35 11.9 +1.4
baz=36
Q31A **Ellis** 36.43 105 P P 17 35 12.3 +1.6
baz=36
T27A **Campo** 36.44 110 P P 17 35 12.3 +1.4
baz=36
O33A **Hebron** 36.45 102 P P 17 35 11.2 +0.3
baz=36
214A **Organ Pipe Nat** 36.45 127 P P 17 35 12.9 +1.9
baz=36
ANMO **Albuquerque** 36.51 117 LR LR 17 49 48.0
comp=Z,88nm,21.5s,baz=334,slow=36
ANMO **Albuquerque** 36.51 117 *c iP P 17 35 13.1 +1.4
ANMO pmax pmax
comp=Z,32nm,1.2s
ANMO **Albuquerque** 36.51 117 eP P 17 35 12.8 +1.1
comp=Z,8.6nm,1.3s
R30A **Dighton** 36.59 106 P P 17 35 13.7 +1.6
baz=36,SNR=9.6
T28A **Walsh** 36.67 110 P P 17 35 14.4 +1.5
baz=36
S29A **Ulysses** 36.73 108 P P 17 35 14.9 +1.6
baz=37
O34A **Beatrice** 36.79 101 P P 17 35 13.8 0.0
baz=37
U27A **Thompson Grove** 36.91 111 P P 17 35 16.8 +1.8
baz=37
R31A **Burdett** 36.93 106 P P 17 35 16.1 +1.0
baz=37
TUC **Tucson** 36.95 124 eP P 17 35 17.3 +2.0
TUC pmax pmax
comp=Z,8.0nm,1.1s
TUC **Tucson** 36.95 124 eP P 17 35 17.3 +2.0
comp=Z,7.9nm,1.1s
S30A **Montezuma** 37.02 107 P P 17 35 17.1 +1.3
baz=37
BNM **Barren Site** 37.11 117 eP P 17 35 18.6 +1.8
Q33A **Connelly Farm,** 37.17 103 P P 17 35 17.7 +0.6
baz=37
R32A **Long Quarter,** 37.21 105 P P 17 35 18.4 +1.0
baz=37,SNR=6.3
U28A **Mallet** 37.22 110 P P 17 35 18.5 +0.9
baz=37
P34A **Walnut Farm, R** 37.23 102 P P 17 35 18.2 +0.7
baz=37
YAK **Yakutsk** 37.35 309 eP P 17 35 18.1 -0.1
YAK pmax pmax
comp=Z,11nm,1.4s
YAK pmax pmax
comp=N,3.0nm,1.8s
YAK pmax pmax
comp=E,5.0nm,1.5s
V27A **Dan Oppiter Fa** 37.46 112 P P 17 35 20.9 +1.3
baz=37
S31A **Mullinville** 37.49 106 P P 17 35 20.9 +1.1
baz=37
P35A **Duane Minner,** 37.63 101 P P 17 35 21.3 +0.4
baz=38
R33A **Olander Ranch,** 37.65 104 P P 17 35 21.7 +0.6
baz=38
Q34A **Chapman** 37.66 102 P P 17 35 21.9 +0.7
baz=38
KSU1 **Kansas State U** 37.68 102 P P 17 35 21.7 +0.4
baz=38
T31A **Randall Ranch,** 37.82 107 P P 17 35 23.6 +1.0
baz=38
JFWS **Jewell Farm** 37.85 92 eP P 17 35 20.8 -2.0
JFWS pmax pmax
comp=Z,10.0nm,0.8s
JFWS **Jewell Farm** 37.85 92 eP P 17 35 20.8 -2.0
comp=Z,10nm,0.8s
121A **Cookes Peak, D** 38.00 120 P P 17 35 25.7 +1.4
baz=38,SNR=6.4
R34A **Isabella, Hill** 38.01 103 P P 17 35 24.7 +0.6
baz=38
Q35A **Mercer Eighty,** 38.15 102 P P 17 35 25.5 +0.2
baz=38
SUMG **Summit** 38.32 27 *i P P 17 35 26.5 -0.3
comp=Z,11nm,1.1s
SUMG **Summit** 38.32 27 *i P P 17 35 26.5 -0.3
SUMG pmax pmax
comp=Z,11nm,1.1s
SUMG **Summit** 38.32 27 eP P 17 35 26.4 -0.5
comp=Z,139nm,2.8s
Q36A **Arnold C. Orve** 38.34 101 P P 17 35 26.7 -0.2
baz=38
S34A **Willow Spring** 38.55 104 P P 17 35 29.1 +0.4
baz=38
U32A **Winter Ranch,** 38.72 107 P P 17 35 30.9 +0.7
baz=39
V31A **Spring Creek L** 38.82 108 P P 17 35 32.3 +1.3
baz=39,SNR=5.2
R36A **Gordon, Harris** 38.82 102 P P 17 35 31.2 +0.2
baz=39
DAG **Danmarks Havn** 38.89 17 *i P P 17 35 30.1 -0.9
comp=Z,12nm,1.5s
DAG **Danmarks Havn** 38.89 17 *i P P 17 35 30.1 -0.9

DAG pmax pmax
comp=Z,32nm,1.5s
S35A Otter Creek Ra 38.94 103 P **P** **17 35 32.1 +0.2**
baz=39
MSTX Muleshoe 38.97 113 P **P** **17 35 33.5 +1.1**
baz=39,SNR=17
MSTX Muleshoe 38.97 113 *e*P **P** **17 35 31.4 -1.0**
comp=Z,29nm,1.0s
T34A McClaskey Farm 39.06 104 P **P** **17 35 33.1 +0.2**
baz=39
R37A Teagarden Farm 39.16 101 P **P** **17 35 33.4 -0.3**
baz=39
S36A Lake Cedric, C 39.26 102 P **P** **17 35 34.0 -0.6**
baz=39
W31A Holland Ranch, 39.26 109 P **P** **17 35 35.7 +1.0**
baz=39
Y28A McKinney Farm, 39.26 113 P **P** **17 35 35.8 +1.0**
baz=39
U34A Anderson Ranch 39.36 105 P **P** **17 35 36.0 +0.5**
baz=39
X30A Coker Ranch, T 39.44 111 P **P** **17 35 37.1 +0.9**
baz=39
T35A Sooner Cattle 39.46 104 P **P** **17 35 36.8 +0.4**
baz=39
V33A Lossen Ranch, 39.51 107 P **P** **17 35 37.7 +0.9**
baz=39
Y29A Porterfield Fa 39.56 112 P **P** **17 35 38.5 +1.2**
baz=39
W32A Sentinel 39.63 108 P **P** **17 35 39.1 +1.3**
baz=40
T36A Boggs Farm, Ca 39.65 103 P **P** **17 35 38.0 +0.1**
baz=40
X31A McDonald Ranch 39.70 110 P **P** **17 35 39.4 +1.1**
baz=40
Z28A Tucker Farm, M 39.72 113 P **P** **17 35 39.4 +0.8**
baz=40
U35A Pawnee 39.80 105 P **P** **17 35 39.7 +0.6**
baz=40
V34A Guthrie 39.86 106 P **P** **17 35 40.4 +0.7**
baz=40
Y30A Stafford Cattl 39.90 111 P **P** **17 35 41.0 +0.9**
baz=40
Z29A Hungry Hill Ra 40.05 113 P **P** **17 35 42.1 +0.7**
baz=40,SNR=14
T37A Cheneyville 18 40.06 102 P **P** **17 35 40.8 -0.4**
baz=40,SNR=7.1
Y31A Rekieta Farm, 40.12 110 P **P** **17 35 42.9 +1.0**
baz=40
WMOK Wichita Mounta 40.16 108 *e*P **P** **17 35 41.5 -0.7**
WMOK pmax pmax
comp=Z,10.0nm,0.8s
WMOK Wichita Mounta 40.16 108 *e*P **P** **17 35 41.5 -0.7**
comp=Z,10nm,0.8s
128A Castleberry Fa 40.24 114 P **P** **17 35 43.6 +0.7**
baz=40,SNR=8.2
Z30A Sanderson Ranc 40.29 112 P **P** **17 35 44.0 +0.8**
baz=40
X33A Lawton 40.46 108 P **P** **17 35 45.6 +1.0**
baz=40
Y32A R-V Farms, Ver 40.47 110 P **P** **17 35 45.9 +1.2**
baz=40
SCHQ Schefferville 40.53 61 P **P** **17 35 44.2 -0.8**
comp=Z,10.0nm,0.8s,baz=304,slow=12,SNR=9.0
SCHQ LR LR 17 51 50.4
comp=Z,59nm,22.0s,baz=294,slow=35
SCHQ Schefferville 40.53 61 *e*P **P** **17 35 44.4 -0.6**
comp=Z,16nm,0.9s
TUL1 Leonard 40.62 104 P **P** **17 35 46.6 +0.7**
baz=40
TUL1 Leonard 40.62 104 *e*P **P** **17 35 45.3 -0.6**
228A UT Block 9, Go 40.62 115 P **P** **17 35 47.2 +1.1**
baz=40
V36A Jenks 40.65 104 P **P** **17 35 46.6 +0.5**
baz=40
Z31A Sharp Cattle R 40.71 111 P **P** **17 35 46.7 0.0**
baz=41
W35A Tecumseh 40.72 106 P **P** **17 35 47.1 +0.4**
baz=41
130A Snyder 40.94 112 P **P** **17 35 49.4 +0.7**
baz=41
V37A Hulbert 40.95 103 P **P** **17 35 48.5 -0.1**
baz=41,SNR=5.4
Z32A Haskell 41.03 110 P **P** **17 35 49.3 0.0**
baz=41,SNR=5.2
W36A Wetumka 41.04 105 P **P** **17 35 49.3 -0.1**
baz=41
131A Roby 41.14 112 P **P** **17 35 50.6 +0.3**
baz=41
Y34A Reagan Ranch, 41.29 108 P **P** **17 35 52.1 +0.7**
baz=41
X35A Drake 41.29 107 P **P** **17 35 51.4 -0.1**
baz=41
SFIN Lafayette 41.31 92 P **P** **17 35 51.5 -0.1**
baz=41
SFIN Lafayette 41.31 92 *e*P **P** **17 35 50.1 -1.5**
V38A Canehill 41.31 103 P **P** **17 35 51.4 -0.2**
baz=41,SNR=9.5
Z33A Whitaker Ranch 41.37 109 P **P** **17 35 52.1 0.0**
baz=41
W37A Quinton 41.42 104 P **P** **17 35 52.6 +0.1**
baz=41
329A Wagon Wheel Ra 41.42 114 P **P** **17 35 53.5 +0.8**
baz=41,SNR=5.4
X36A Centrahoma 41.44 106 P **P** **17 35 52.9 +0.2**
baz=41
230A Sterling City 41.47 113 P **P** **17 35 53.7 +0.6**
baz=41
ABTX Abilene, Hawle 41.52 111 P **P** **17 35 54.0 +0.6**
baz=41
Y35A Marietta 41.66 107 P **P** **17 35 55.4 +0.9**
baz=42
231A Bronte 41.79 112 P **P** **17 35 56.2 +0.5**
baz=42
330A Mertzon 41.85 114 P **P** **17 35 56.5 +0.3**
baz=42,SNR=12
133A Hamilton Ranch 41.87 110 P **P** **17 35 56.3 0.0**
baz=42
X37A Clayton 41.89 105 P **P** **17 35 56.7 +0.3**
baz=42,SNR=6.0
W38A Poteau 41.90 104 P **P** **17 35 56.6 +0.2**
baz=42
SADO Sadowa 41.91 81 LR LR 17 53 48.9
comp=Z,490nm,18.3s,baz=356,slow=37
Y36A Durant 42.02 106 P **P** **17 35 57.6 +0.1**
baz=42
Z35A Perchaven, San 42.04 108 P **P** **17 35 58.3 +0.7**
baz=42
X38A Whitesboro 42.08 104 P **P** **17 35 58.5 +0.6**
baz=42,SNR=8.2
OLIL Olney 42.09 94 *e*P **P** **17 35 57.1 -0.9**
comp=Z,21nm,0.9s
232A Coleman 42.14 112 P **P** **17 35 59.1 +0.6**
baz=42,SNR=14
429A Davenport Ranc 42.20 115 P **P** **17 35 59.7 +0.7**
baz=42,SNR=15
134A White-Moore Ra 42.28 109 P **P** **17 36 00.2 +0.6**
baz=42
430A Baggett Ranch, 42.35 114 P **P** **17 36 01.1 +0.8**
baz=42,SNR=12
233A Rising Star 42.37 111 P **P** **17 36 00.7 +0.3**
baz=42
Z36A Blue Ridge 42.47 107 P **P** **17 36 01.5 +0.4**
baz=42
529A Stev Forest Ra 42.48 116 P **P** **17 36 02.6 +1.3**
baz=42,SNR=5.5
PBMO Poplar Bluff 42.50 98 *e*P **P** **17 36 00.7 -0.6**
comp=Z,14nm,0.8s
332A Millersview 42.52 112 P **P** **17 36 02.2 +0.6**
baz=42
TX31 Lajitas Ar. Si 42.53 118 *e*P **P** **17 36 02.6 +0.9**
TXAR Lajitas Array 42.53 118 P **P** **17 36 02.7 +1.0**
comp=Z,2.8nm,0.7s,baz=332,slow=7.1,SNR=40
TXAR pP **pP** **17 36 10.9 +1.8**
comp=Z,2.3nm,0.8s,baz=326,slow=7.7,SNR=8.4
TXAR PcP **PcP** **17 37 52.6 -1.4**
comp=Z,1.3nm,0.9s,baz=328,slow=3.2,SNR=4.0
TXAR LR LR 17 55 59.4
comp=Z,109nm,20.7s,baz=0.0,slow=39
431A Sonora 42.72 113 P **P** **17 36 04.2 +0.9**
baz=43,SNR=13
234A Clairette 42.73 110 P **P** **17 36 03.6 +0.4**
baz=43
MIAR Mount Ida 42.78 103 *e*P **P** **17 36 02.4 -1.2**
MIAR pmax pmax
comp=Z,10.0nm,0.9s
MIAR Mount Ida 42.78 103 *e*P **P** **17 36 02.4 -1.2**
comp=Z,10nm,0.9s
530A J-C Ranch, Com 42.85 115 P **P** **17 36 05.1 +0.8**
baz=43,SNR=7.4
Z37A Pogue Cattle C 42.91 106 P **P** **17 36 04.7 +0.1**
baz=43
333A Richland Sprin 42.92 111 P **P** **17 36 05.3 +0.6**
baz=43,SNR=7.8
432A Menard 42.93 112 P **P** **17 36 05.1 +0.3**
baz=43
WHTX Lake Whitney, 43.06 109 P **P** **17 36 06.2 +0.3**
baz=43
Z38A Mt. Pleasant 43.17 106 P **P** **17 36 08.4 +1.6**
baz=43
531A Rocksprings 43.19 114 P **P** **17 36 07.6 +0.6**
baz=43,SNR=13
334A Lometa 43.25 110 P **P** **17 36 08.0 +0.6**
baz=43
JCT Junction City 43.26 113 *e*P **P** **17 36 07.8 +0.2**
JCT pmax pmax
comp=Z,26nm,0.9s
JCT Junction City 43.26 113 P **P** **17 36 08.4 +0.8**
baz=43,SNR=11
JCT Junction City 43.26 113 *e*P **P** **17 36 07.8 +0.2**
comp=Z,26nm,0.9s
433A Art 43.35 112 P **P** **17 36 08.0 -0.3**
baz=43
WCI Wyandotte Cave 43.37 93 *e*P **P** **17 36 06.8 -1.6**
WCI Wyandotte Cave 43.37 93 *e*P **P** **17 36 06.8 -1.6**
236A Katherine and 43.48 108 P **P** **17 36 09.8 +0.5**
baz=43
532A Rocksprings 43.51 113 P **P** **17 36 10.4 +0.7**
baz=43,SNR=22
434A Burnet 43.67 111 P **P** **17 36 11.5 +0.7**
baz=44,SNR=6.2
ALLY Alegheny Colle 43.75 85 *e*P **P** **17 36 09.2 -2.2**
ASAJ Asahikawa 43.77 281 P **P** **17 36 12.0 +0.6**
comp=Z,0.6nm,0.5s,baz=27,slow=9.0,SNR=2.2
ASAJ Asahikawa 43.77 281 P **P** **17 36 12.0 +0.6**
ASAJ pmax pmax
comp=Z,1.0nm,0.5s
631A Perdido Creek 43.82 114 P **P** **17 36 12.8 +0.7**
baz=44
336A Riesel 43.85 109 P **P** **17 36 12.6 +0.4**
baz=44
533A Kerrville 43.95 112 P **P** **17 36 14.2 +1.0**
baz=44
632A Uvalde 44.09 113 P **P** **17 36 15.4 +1.2**
baz=44,SNR=8.3
HABR Khabarovsk 44.12 291 *e*P **P** **17 36 12.0 -2.2**
HABR *e* 17 37 54.9
HABR *e* 17 37 56.9
HABR *e*S **S** **17 42 42.4 -2.8**
HABR *e**SS **sS** **17 42 59.2 +1.7**
HABR *e*SS **SS** **17 46 01.3 -1.3**
HABR *e* 17 46 08.5
HABR pmax pmax
comp=Z,8.0nm,0.9s
HABR MLR MLR
comp=Z,96nm,20.0s
534A Blanco 44.24 112 P **P** **17 36 16.1 +0.7**
baz=44
WVT Waverly 44.28 96 *e*P **P** **17 36 15.0 -0.6**
WVT pmax pmax
comp=Z,5.0nm,1.0s
WVT Waverly 44.28 96 *e*P **P** **17 36 15.0 -0.6**
comp=Z,4.6nm,1.0s
633A Saathoff Ranch 44.41 113 P **P** **17 36 17.8 +1.0**
baz=44,SNR=5.1
732A Laxson Ranch, 44.68 114 P **P** **17 36 19.9 +0.9**
baz=45,SNR=9.1
OXF Oxford 44.81 99 P **P** **17 36 17.8 -2.1**
OXF pmax pmax
comp=Z,27nm,1.0s
OXF Oxford 44.81 99 P **P** **17 36 17.8 -2.1**
comp=Z,27nm,1.0s
733A Divot King Ran 44.99 114 P **P** **17 36 22.4 +1.0**
baz=45
438A Sam Houston St 45.02 108 P **P** **17 36 21.8 +0.2**
baz=45
832A Faith Ranch, C 45.06 115 P **P** **17 36 23.1 +1.1**
baz=45,SNR=16
KLR Kul'dur 45.07 294 *e*P P 17 36 17.2 -4.6
ERM Erimo 45.07 279 *e*P **P** **17 36 20.6 -1.3**
ERM pmax pmax
comp=Z,7.0nm,1.3s
635A Leesville 45.11 111 P **P** **17 36 23.9 +1.6**
baz=45
734A La Parita Cree 45.21 113 P **P** **17 36 24.8 +1.7**
baz=45
833A Chaparral WMA, 45.28 114 P **P** **17 36 25.3 +1.6**
baz=45
636A Smothers Creek 45.36 111 P **P** **17 36 26.5 +2.2**
baz=45,SNR=6.1
HKT Hockley 45.52 109 *e*P **P** **17 36 26.2 +0.7**
HKT pmax pmax
comp=Z,17nm,1.5s
HKT Hockley 45.52 109 *e*P **P** **17 36 26.2 +0.7**
comp=Z,17nm,1.5s
735A Kenedy 45.55 112 P **P** **17 36 27.7 +2.0**
baz=45
SSPA Standing Stone 45.62 84 *e*P **P** **17 36 23.9 -2.4**
comp=Z,12nm,1.1s
834A Tilden 45.83 113 P **P** **17 36 29.5 +1.4**
baz=46
539A Cross D Ranch, 45.91 108 P **P** **17 36 29.1 +0.5**
baz=46
933A Laredo 45.95 114 P **P** **17 36 31.0 +2.0**
baz=46,SNR=9.3
KSPA Keystone Colle 45.95 81 *e*P **P** **17 36 29.3 +0.5**
comp=Z,14nm,1.0s
BOD Bodaibo 46.01 313 *e*P **P** **17 36 26.9 -2.2**
BOD pmax pmax
comp=Z,5.0nm,0.9s
TZTN Tazewell 46.04 92 *e*P **P** **17 36 29.9 +0.2**
comp=Z,18nm,0.8s
934A Benavides 46.30 114 P **P** **17 36 33.4 +1.7**
baz=46
738A Farr-Stevens R 46.55 110 P **P** **17 36 35.6 +2.0**
baz=46
TKL Tuckaleechee C 46.64 93 LR LR 17 57 04.6
comp=Z,485nm,19.1s,slow=37
TKL Tuckaleechee C 46.64 93 *e*P **P** **17 36 34.0 -0.4**
TKL Tuckaleechee C 46.64 93 *e*P **P** **17 36 34.0 -0.4**
ODNJ Ogdensburg 46.87 81 *e*P **P** **17 36 35.8 -0.3**
comp=Z,11nm,0.9s
LUPA Lehigh Univers 46.88 82 *e*P **P** **17 36 36.3 +0.1**
comp=Z,2.6nm,0.9s
BLA Blacksburg 47.05 89 *e*P **P** **17 36 37.1 -0.5**
BLA pmax pmax
comp=Z,29nm,1.5s
BLA Blacksburg 47.05 89 *e*P **P** **17 36 37.1 -0.5**
comp=Z,29nm,1.5s
035A Encino 47.05 114 P **P** **17 36 39.5 +1.8**
baz=47
LRAL Lakeview Retre 47.18 98 *e*P **P** **17 36 38.3 -0.3**
comp=Z,4.8nm,0.9s
035Z Hargill 47.48 114 P **P** **17 36 43.0 +2.1**
baz=47
KMSC Kings Mountain 48.24 91 P **P** **17 36 47.5 +0.7**
baz=48
USRK Ussuriysk Ar. 48.72 289 P **P** **17 36 49.0 -1.3**
comp=Z,1.3nm,0.8s,baz=140,slow=41,SNR=2.5
USRK LR LR 17 59 48.7
comp=Z,235nm,18.8s,baz=32,slow=39
JSC Jenkinsville 48.97 92 *e*P **P** **17 36 53.0 +0.6**
JSC Jenkinsville 48.97 92 *e*P **P** **17 36 53.0 +0.6**
JSC *e*sP **sP** **17 37 04.1 +1.2**
ARCES ARCESS Array B 49.83 4 P **P** **17 36 57.6 -1.0**
comp=Z,2.8nm,0.5s,baz=359,slow=7.2,SNR=3.7
ARCES pP **pP** **17 37 05.3 -0.8**
comp=Z,7.2nm,0.6s,baz=358,slow=7.2,SNR=4.3
ARCES LR LR 17 57 38.6
comp=Z,51nm,21.5s,baz=261,slow=36
LVZ Lovozero 51.58 359 *e*P **P** **17 37 12.1 +0.3**
LVZ pmax pmax
comp=Z,33nm,2.5s
MAJO Matsushiro 51.74 278 *e*P **P** **17 37 12.9 -0.4**
MJAR Matsushiro Arr 51.74 278 P **P** **17 37 12.7 -0.6**
comp=Z,1.1nm,0.8s,baz=12,slow=5.9,SNR=4.8
MJAR LR LR 18 01 57.5
comp=Z,56nm,18.7s,baz=80,slow=39
KS01 Wonju Array Si 55.92 287 *e*P **P** **17 37 42.9 -1.0**
KSRS Korea Array 55.93 287 P **P** **17 37 44.0 +0.1**
comp=Z,1.8nm,0.9s,baz=30,slow=6.0,SNR=7.6
KSRS LR LR 18 00 59.7
comp=Z,86nm,21.7s,baz=58,slow=35
KSRS Korea Array 55.93 287 P **P** **17 37 44.0 +0.1**
KSRS pmax pmax
comp=Z,2.0nm,0.9s
KSRS MLR MLR
comp=Z,87nm,21.7s
KSAR Wonju Array Be 55.95 287 P **P** **17 37 44.0 -0.1**
KSAR Wonju Array Be 55.95 287 P **P** **17 37 44.0 -0.1**
SONA1 Songino Array 56.70 309 *e*P **P** **17 37 49.7 +0.3**
SONA1 *es*P **sP** **17 37 57.0 -3.0**
SONM Songino Array 56.71 309 P **P** **17 37 49.8 +0.3**
comp=Z,1.9nm,0.8s,baz=40,slow=7.3,SNR=12
SONM pP **pP** **17 37 57.5 +0.4**
comp=Z,3.2nm,0.8s,baz=44,slow=7.8,SNR=10
SONM LR LR 18 03 52.0
comp=Z,238nm,18.1s,baz=30,slow=38
NB2 NORSAR Subarra 57.31 12 P **P** **17 37 52.5 -1.0**
comp=Z,3.5nm,0.8s,baz=348,slow=7.4
NOA NORSAR Array B 57.31 12 P **P** **17 37 52.7 -0.8**
comp=Z,3.8nm,1.0s,baz=348,slow=7.0,SNR=6.4
NOA pP **pP** **17 38 00.8 -0.4**
comp=Z,1.8nm,0.6s,baz=349,slow=7.0,SNR=5.5
NOA LR LR 18 04 24.6
comp=Z,24nm,19.1s,baz=345,slow=38
FINES FINESS Array B 57.95 4 P **P** **17 37 57.0 -0.9**
comp=Z,2.9nm,0.5s,baz=3.7,slow=7.8,SNR=42
FINES pP **pP** **17 38 05.2 -0.4**
comp=Z,6.2nm,0.7s,baz=4.2,slow=7.5,SNR=8.5
JNU Nakatsue 58.04 281 LR LR 18 05 17.0
comp=Z,35nm,20.1s,slow=38
NVS Novosibirsk 58.06 328 *e*P **P** **17 37 56.4 -2.3**
ZAA0 Zalesovo Array 58.44 327 *e*P **P** **17 38 00.1 -1.4**
ZALV Zalesovo Beam 58.44 327 P **P** **17 38 00.3 -1.1**
comp=Z,2.3nm,0.6s,baz=17,slow=6.2,SNR=8.6
ZALV LR LR 18 05 42.4
comp=Z,136nm,21.2s,baz=70,slow=39
ZALV Zalesovo Beam 58.44 327 *i* P **P** **17 38 00.6 -0.9**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
BJI Beijing 59.15 297 P **P** **17 38 07.4 +0.9**
BJI PMZ
comp=Z,14nm,0.5s
HHC Hu-ho-hao-te 60.45 301 *e*P **P** **17 38 16.3 +0.7**
HHC sP **sP** **17 38 24.8 -1.4**
HHC PP **PP** **17 40 31.9 +3.4**
HHC S **S** **17 46 29.8 +0.6**
HHC SS SS 17 50 34.4 +8.0
HHC PMZ
comp=Z,10.0nm,1.1s
HHC PMZ
comp=Z,58nm,4.1s
HHC LN
comp=Z,190nm,15.1s
HHC LE
comp=Z,150nm,14.6s
HHC LZ
comp=Z,300nm,15.5s
SVE Sverdlovsk 60.72 343 *e*P **P** **17 38 16.7 -0.4**
SVE pmax pmax
comp=Z,18nm,1.4s
VSU Vasula 60.96 4 *de*P **P** **17 38 17.0 -1.7**
VSU pmax pmax
comp=Z,51nm,1.2s
ARU Arti 61.40 344 *d i*P **P** **17 38 20.7 -1.0**
ARU 17 39 02.3
ARU S **S** **17 46 39.9 -0.6**
ARU 17 48 03.2
ARU SS **SS** **17 50 38.4 -1.8**
ARU pmax pmax
comp=Z,14nm,1.2s
ARU Arti 61.40 344 P **P** **17 38 19.8 -1.9**
comp=Z,11nm,0.8s
BRVK Borovoye 62.67 336 *c i*P **P** **17 38 29.7 -0.6**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
BRVK Borovoye 62.67 336 *e*P **P** **17 38 27.5 -2.8**
BVA0 Borovoye Array 62.68 336 *i* P **P** **17 38 29.0 -1.4**
BVA0 pmax pmax
comp=Z,10.0nm,1.3s
KURK Kurchatov 62.98 329 *e*P **P** **17 38 30.4 -2.0**
KURK pmax pmax
comp=Z,11nm,1.3s
KURK Kurchatov 62.98 329 *e*P **P** **17 38 30.4 -2.0**
comp=Z,11nm,1.3s
OBN Obninsk 64.39 358 *de*P **P** **17 38 40.7 -0.9**
OBN *e* 17 41 03.2
OBN pmax pmax
comp=Z,26nm,1.7s
OBN MLR MLR
comp=Z,50nm,20.0s
NJ2 Nanjing 64.59 290 *e*P **P** **17 38 45.6 +2.4**
NJ2 PMZ
comp=Z,20nm,0.6s
NJ2 LN
comp=Z,70nm,15.2s
NJ2 LE
comp=Z,300nm,15.4s
MK31 Makanchi Array 65.61 325 *e*P **P** **17 38 48.2 -1.5**
MK31 Makanchi Array 65.61 325 *e*P **P** **17 38 48.2 -1.5**
MKAR Makanchi Array 65.61 325 *e*P **P** **17 38 48.3 -1.4**
MKAR Makanchi Array 65.61 325 *e*P **P** **17 38 48.2 -1.4**
MK01 Makanchi Array 65.63 325 *e*P **P** **17 38 47.9 -2.0**
GTA Gaotai 66.38 309 *e*P **P** **17 38 54.8 -0.1**
GTA pP **pP** **17 38 59.5 -3.2**
GTA sP **sP** **17 39 01.8 -3.8**
GTA PcP **PcP** **17 39 26.3 +1.7**
GTA S **S** **17 47 42.9 -0.2**
GTA SS **SS** **17 52 00.8 +1.9**
GTA PMZ
comp=Z,4.0nm,1.3s
GTA PMZ
comp=Z,80nm,4.8s
GTA LN
comp=Z,170nm,18.5s
GTA LE
comp=Z,160nm,17.1s
GTA LZ
comp=Z,250nm,20.9s
WMQ Urumqi 66.70 320 P P 17 39 00.5 +3.7
WMQ pP pP 17 39 05.0 +0.4
WMQ sP sP 17 39 07.0 -0.5
WMQ PP PP 17 41 29.3 +6.1
WMQ PMZ
comp=Z,2.0nm,0.5s
WMQ PMZ
comp=Z,68nm,5.4s
WMQ LN
comp=Z,43nm,6.8s
WMQ LE
comp=Z,91nm,7.2s
WMQ LZ
comp=Z,36nm,9.2s
AKTO Aktyubinsk 67.31 343 P **P** **17 38 58.3 -2.2**
BRG Berggiesshubel 67.60 13 *e*(P) P 17 39 10.2 +7.9
comp=Z,6.5nm,1.4s
BRG Berggiesshubel 67.60 13 *e*P P 17 39 10.2 +7.9
BRG pmax pmax
comp=Z,7.0nm,1.4s
GUMO Guam 67.67 258 LR LR 18 05 44.5
comp=Z,28nm,21.6s,baz=70,slow=33
LZH Lanzhou 67.67 304 *e*P P 17 39 11.0 +7.8
LZH pP pP 17 39 14.8 +3.8
LZH sP sP 17 39 17.8 +3.9
LZH PMZ
comp=Z,11nm,1.1s
AB31 Akbulak array 68.17 341 *i* P **P** **17 39 04.7 -1.2**
ABKAR Akbulak array 68.17 341 *e*P **P** **17 39 05.3 -0.6**
UPC Upice 68.18 12 *e*P **P** **17 39 05.6 -0.4**
UPC *ep*P **pP** **17 39 11.9 -1.8**
UPC *es*P **sP** **17 39 13.7 -3.0**
UPC Upice 68.18 12 *e*P **P** **17 39 05.6 -0.4**
UPC *e* 17 39 11.9
DPC Dobruska-Polom 68.36 12 *e*P **P** **17 39 07.2 0.0**
DPC *ep*P **pP** **17 39 12.8 -2.2**
DPC *ex* x 17 39 20.3
DPC Dobruska-Polom 68.36 12 *e*P **P** **17 39 07.2 0.0**
DPC *e* 17 39 12.8
AKASG Malin Array Be 68.80 3 P **P** **17 39 08.4 -1.4**
comp=Z,0.7nm,0.4s,baz=356,slow=6.0,SNR=13
AKASG pP **pP** **17 39 17.0 -0.6**
comp=Z,3.4nm,0.5s,baz=359,slow=6.3,SNR=9.8
AKBB Malin Array Si 68.80 3 *e*P **P** **17 39 08.9 -0.9**
AKBB Malin Array Si 68.80 3 *e*P **P** **17 39 08.9 -0.9**
KIEV Kiev 68.80 3 *c i*P **P** **17 39 08.6 -1.2**
KIEV Kiev 68.80 3 *e*P **P** **17 39 08.4 -1.4**
comp=Z,13nm,1.2s
AK01 Malin Array Si 68.81 3 *e*P **P** **17 39 08.7 -1.1**
AK02 Malin Array Si 68.84 3 *e*P **P** **17 39 08.9 -1.2**
OKC Ostrava-Krasne 69.04 10 *e*P **P** **17 39 11.9 +0.5**

OKC					*e*pP	**pP**	17 39 19.8	**+0.7**
OKC	**Ostrava-Krasne**	**69.04**	**10**	*e*P	**P**	17 39 11.9	**+0.5**
OKC				*e*		17 39 19.8	
MORC	**Moravsky Berou**	**69.05**	**11**	⇑P	P	17 39 18.9	+7.4
MORC	**Moravsky Berou**	**69.05**	**11**	⇑*i*P	P	17 39 18.9	+7.4
KHC	**Kasperske Hory**	**69.28**	**14**	*e*P	**P**	17 39 12.6	**-0.3**
KHC				*e*pP	**pP**	17 39 21.0	**+0.3**
KHC				*ex*	x	17 39 25.6	
KHC	**Kasperske Hory**	**69.28**	**14**	*e*P	**P**	17 39 12.6	**-0.3**
KHC				*e*		17 39 21.0	
ECH	**Echery**	**69.31**	**18**	*e*P	**P**	17 39 13.4	**+0.3**
ECH	**Echery**	**69.31**	**18**	*e*P	**P**	17 39 13.3	**+0.3**
TREC	**Trest**	**69.32**	**12**	*e*P	**P**	17 39 12.8	**-0.4**
TREC	**Trest**	**69.32**	**12**	*e*P	**P**	17 39 12.8	**-0.4**
GERES	**GERESS Array B**	**69.57**	**14**	P	**P**	17 39 14.1	**-0.7**
	comp=Z,0.5nm,0.6s,baz=347,slow=5.5,SNR=5.4						
GERES				LR	LR	18 14 47.3	
	comp=Z,25nm,18.2s,baz=292,slow=40						
PSZ	**Piszkesteto**	**71.09**	**9**	⇑P	P	17 39 32.6	+8.5
PSZ	**Piszkesteto**	**71.09**	**9**	⇑*i*P	P	17 39 32.6	+8.5
BUR04	**Bucovina Ar. S**	**71.73**	**6**	*e*P	**P**	17 39 27.2	**-0.7**
BUR04				*e*PcP	**pP**	17 39 35.9	**+0.1**
BURAR	**Bucovina Array**	**71.74**	**6**	⇑P	P	17 39 34.6	+6.6
BURAR	**Bucovina Array**	**71.74**	**6**	⇑*i*P	P	17 39 34.6	+6.6
KKAR	**Karatay Array**	**72.06**	**332**	*e*P	**P**	17 39 28.8	**-1.1**
KKAR	**Karatay Array**	**72.06**	**332**	*e*P	**P**	17 39 28.8	**-1.1**
CD2	**Chengdu**	**72.20**	**302**	*e*P	**P**	17 39 30.4	**-0.6**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
DRGR		**72.42**	**8**	⇑P	**P**	17 39 31.8	**-0.2**
DRGR		**72.42**	**8**	⇑*i*P	**P**	17 39 31.8	**-0.2**
VRI	**Vrincioaia**	**73.55**	**5**	⇑P	P	17 39 31.7	-7.0
VRI	**Vrincioaia**	**73.55**	**5**	⇑*i*P	P	17 39 31.7	-7.0
MLR	**Muntele Rosu**	**73.89**	**5**	⇑P	P	17 39 33.7	-7.1
MLR	**Muntele Rosu**	**73.89**	**5**	⇑*i*P	P	17 39 33.7	-7.1
VOIR		**73.90**	**6**	⇑P	**P**	17 39 40.7	**-0.1**
VOIR		**73.90**	**6**	⇑*i*P	**P**	17 39 40.7	**-0.1**
KSH	**Kashi**	**74.08**	**327**	P	**P**	17 39 44.9	**+2.8**
KSH				pP	**pP**	17 39 51.9	**+2.0**
KSH				sP	**sP**	17 39 53.4	**+0.6**
KSH				PcP	**PcP**	17 40 00.4	**+3.3**
KSH				PP	**PP**	17 42 30.9	**+4.1**
KSH				S	**S**	17 49 17.3	**+4.1**
KSH				SKS	**SKKSac**	17 49 49.0	**+1.1**
KSH				PMZ			
	comp=Z,55nm,3.1s						
KSH				LN			
	comp=Z,100nm,4.9s						
KSH				LE			
	comp=Z,72nm,6.2s						
TIRR	**Tirgusor**	**75.02**	**4**	⇑P	P	17 39 57.3	+10
TIRR	**Tirgusor**	**75.02**	**4**	⇑*i*P	P	17 39 57.3	+10
KIV	**Kislovodsk**	**75.30**	**353**	*e*P	**P**	17 39 48.2	**-0.8**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,26nm,18.0s						
ESDC	**Sonseca Array**	**75.37**	**29**	P	**P**	17 39 49.1	**-0.3**
	comp=Z,4.5nm,0.8s,baz=336,slow=5.2,SNR=18						
ESDC				pP	**pP**	17 39 57.9	**+0.6**
	comp=Z,3.0nm,0.6s,baz=342,slow=5.4,SNR=13						
KBZ	**Khabaz**	**75.51**	**353**	P	**P**	17 39 50.5	**+0.5**
	comp=Z,4.3nm,0.9s,baz=307,slow=2.8,SNR=3.8						
PSN	**Preselentsi**	**75.78**	**4**	⇑P	P	17 40 02.7	+11
PSN	**Preselentsi**	**75.78**	**4**	⇑*i*P	P	17 40 02.7	+11
ROSC	**El Rosal**	**77.29**	**103**	LR	LR	18 15 50.9	
	comp=Z,45nm,21.9s,baz=233,slow=37						
LSA	**Lhasa**	**78.25**	**311**	*e*P	**P**	17 40 06.8	**+0.5**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LSA	**Lhasa**	**78.25**	**311**	*e*P	**P**	17 40 06.8	**+0.5**
	comp=Z,6.3nm,0.6s						
BR231	**Keskin MP Arra**	**79.70**	**0**	*e*P	**P**	17 40 13.4	**-0.2**
BRTR	**Keskin Array B**	**79.82**	**360**	P	**P**	17 40 13.6	**-0.8**
	comp=Z,3.1nm,1.1s,baz=8.5,slow=2.5,SNR=9.0						
BRTR				pP	**PcP**	17 40 22.3	**+0.3**
	comp=Z,3.0nm,0.8s,baz=356,slow=2.5,SNR=11						
BRTR				LR	LR	18 16 46.6	
	comp=Z,23nm,21.5s,baz=32,slow=37						
QIZ	**Qiongzhong**	**79.88**	**291**	P	**P**	17 40 16.3	**+1.5**
QIZ				pP	**pP**	17 40 19.6	**-3.1**
QIZ				S	**S**	17 50 19.5	**+3.0**
QIZ				PMZ			
	comp=Z,20nm,2.1s						
KEST	**Kesra**	**81.84**	**19**	LR	LR	18 22 01.2	
	comp=Z,17nm,18.0s,baz=284,slow=40						
CMAR	**Chiang Mai Arr**	**85.21**	**300**	P	**P**	17 40 42.0	**-0.6**
	comp=Z,1.5nm,0.9s,baz=2.9,slow=5.8,SNR=12						
CMAR				LR	LR	18 22 21.3	
	comp=Z,78nm,18.8s,baz=30,slow=38						
CMAR	**Chiang Mai Arr**	**85.21**	**300**	P	**P**	17 40 42.0	**-0.6**
LPAZ	**La Paz**	**98.68**	**108**	LR	LR	18 30 08.5	
	comp=Z,40nm,21.9s,baz=315,slow=38						
BOSA	**Boshof**	**147.37**	**13**	PKPbc	**PKPdf**	17 47 47.9	**+0.9**
	comp=Z,4.5nm,1.0s,baz=322,slow=1.9,SNR=4.4						

DJA 20 17:35:21.0±0.4, 2°S±11°×13°7E±°, h10km, M3.6/6, MLv3.6/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.51**	**287**	P	Pg	17 35 30.2	-0.8
SRPI				S	Sb	17 35 39.3	-0.3
BAKI	**Biak**	**1.03**	**323**	P	Pg	17 35 39.6	-1.3
SMPI	**Sarmi**	**1.98**	**89**	P	Pn	17 35 52.8	-1.8
SMPI				S	Sn	17 36 20.6	+1.1
RKPI	**Ransiki, Papua**	**2.60**	**281**	P	Pn	17 36 03.7	+0.5
RKPI				S	Sn	17 36 36.2	+1.3
GENI	**Genyem**	**3.48**	**99**	P	Pn	17 36 15.4	+0.1
GENI				S	Sn	17 36 58.8	+2.2
JAY	**Jayapura**	**4.00**	**97**	P	Pn	17 36 22.5	0.0

PRU 20 17:38:28.6, 49.81N×18.47E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.21**	**278**	*e*PG	Pg	17 38 32.8	+0.1
OKC				*e*SG	Sg	17 38 35.4	0.0
	comp=Z,4.4nm,0.4s						
DPC	**Dobruska-Polom**	**1.49**	**292**	*e*SG	Sg	17 39 15.5	-1.0
DPC	**Dobruska-Polom**	**1.49**	**292**	*e*	Sg	17 39 15.2	-1.3
DPC	**Dobruska-Polom**	**1.49**	**292**	*es*P	Sg	17 39 15.2	-1.3

*ISCJB **20** 17:46:05.6±0.6, 13°55N±0°05×91°18W±0°05, h74km±4km, mb4.2/17, Error ellipse: s-maj=11.2km s-min=3.8km az=38.2*

*NEIC **20** 17:46:05.6±1.1, 13°52N×91°23W, h62km±8km, mb4.3/10, MD4.0(MEX), Error ellipse: s-maj=17.9km s-min=9.4km az=217.0*

*CASC **20** 17:46:06.8±1.7, 13°49N×91°03W, h18km±9km, MD4.0, ML4.1*

*MEX **20** 17:46:07.7±0.7, 13°46N×91°53W, h20km±17km, MD4.0*

*IDC **20** 17:46:10.6±2.8, 13°76N×90°79W, h97km±24km, mb3.9/9, mb1 4.2/12, mb1mx3.8/24, mbtmp4.3/12, Error ellipse: s-maj=33.7km s-min=14.5km az=48.0*

ISC 20 17:46:04.4±1.0, 13°39N±0°06×91°32W±0°05, h57km±10km, n141, σ1§30/151, mb4.3/17, 5C-7D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.97**	**341**	⇑*i*P	**Pn**	17 46 23.5	**+1.4**
IXG	**Ixpaco**	**1.15**	**47**	⇑*i*P	**Pn**	17 46 22.8	**-1.7**
FUG	**Fuego 3**	**1.15**	**24**	⇑*e*P	**Pn**	17 46 24.3	**-0.3**
PCG	**Pacaya**	**1.21**	**35**	*e*P	**Pn**	17 46 25.1	**-0.4**
NBG	**Las Nubes**	**1.52**	**38**	*e*P	**Pn**	17 46 30.1	**+0.5**
NBG				*e*S	**Sn**	17 46 48.6	**+0.1**
RTR	**El Retiro**	**1.70**	**73**	⇓*i*P	**Pn**	17 46 31.3	**-0.7**
SBLS	**San Blas**	**1.71**	**75**	⇓*i*P	**Pn**	17 46 31.1	**-1.0**
SBLS				*e*S	**Sn**	17 46 50.5	**-2.6**
SNJE	**San Jose**	**1.73**	**74**	⇓*i*P	**Pn**	17 46 31.6	**-0.8**
RBDL	**Robledal**	**1.74**	**65**	⇓*i*P	**Pn**	17 46 32.0	**-0.5**
THIG		**1.77**	**329**	*e*P	**Pn**	17 46 32.6	**-0.1**
THIG				*e*S	**Sn**	17 46 51.9	**-2.2**
THIG		**1.77**	**329**	*e*P	**Pn**	17 46 32.6	**-0.1**
THIG				*e*S	**Sn**	17 46 51.9	**-2.2**
BOQS	**Boqueron**	**2.01**	**80**	⇓*i*P	**Pn**	17 46 36.0	**-0.3**
BOQS				*e*S	**Sn**	17 46 59.1	**-1.4**
SNET	**Serv Nac Est T**	**2.05**	**82**	⇓*e*P	**Pn**	17 46 36.3	**-0.4**
SNET				AML	AML	17 46 36.6	
	comp=Z,3μm,0.4s						
SNET				*e*S	**Sn**	17 46 59.1	**-2.1**
MTO2	**Montecristo 2**	**2.15**	**62**	*e*P	**Pn**	17 46 37.5	**-0.6**
LFU	**La Fuente**	**2.17**	**80**	*e*P	**Pn**	17 46 38.4	**+0.1**
LFRS	**El Faro**	**2.21**	**84**	⇓*e*P	**Pn**	17 46 38.6	**-0.2**
LBRS	**Las Brisas**	**2.24**	**81**	*e*P	**Pn**	17 46 39.2	**0.0**
MRL	**Marmol**	**2.29**	**43**	⇓*e*P	**Pn**	17 46 40.9	**+0.9**
MRL				*e*S	**Sn**	17 47 10.2	**+3.0**
SNVI	**San Vicente**	**2.42**	**84**	*e*P	**Pn**	17 46 41.9	**+0.1**
PCIG		**2.94**	**322**	*e*P	**Pn**	17 46 49.0	**+0.2**
PCIG				*e*S	**Sn**	17 47 20.2	**-2.7**
PCIG		**2.94**	**322**	*e*P	**Pn**	17 46 49.0	**+0.2**
PCIG				*e*S	**Sn**	17 47 20.2	**-2.7**
VSM	**San Miguel**	**2.96**	**89**	*e*P	**Pn**	17 46 49.8	**+0.5**
CCIG	**Comitan**	**2.98**	**345**	*e*P	**Pn**	17 46 51.0	**+1.6**
CCIG				*e*S	**Sn**	17 47 23.4	**-0.7**
CCIG	**Comitan**	**2.98**	**345**	*e*P	**Pn**	17 46 51.0	**+1.6**
CCIG				*e*S	**Sn**	17 47 23.4	**-0.7**
CAHU	**Cacacuatique**	**3.04**	**83**	*e*P	**Pn**	17 46 50.0	**-0.4**
CNCH	**Conchagua**	**3.39**	**92**	⇓*e*P	**Pn**	17 46 55.1	**0.0**
TGIG		**3.79**	**333**	*e*P	**Pn**	17 47 00.9	**+0.5**
TGIG				*e*S	**Sn**	17 47 42.8	**-1.0**
TGIG		**3.79**	**333**	*e*P	**Pn**	17 47 00.9	**+0.5**
TGIG				*e*S	**Sn**	17 47 42.8	**-1.0**
CMIG	**Matias Romero**	**5.04**	**317**	*e*P	**Pn**	17 47 18.3	**+0.9**
CMIG				*e*S	**Sn**	17 48 11.9	**-2.5**
CMIG	**Matias Romero**	**5.04**	**317**	P	**Pn**	17 47 18.7	**+1.3**
	comp=Z,2.8nm,0.3s,baz=139,slow=8.8,SNR=19						
CMIG				S	**Sn**	17 48 12.6	**-1.8**
	comp=Z,7.0nm,0.3s,baz=245,slow=16,SNR=6.7						
CMIG	**Matias Romero**	**5.04**	**317**	*e*P	**Pn**	17 47 18.3	**+0.9**
CMIG				*e*S	**Sn**	17 48 11.9	**-2.5**
HUIG	**Huatulco**	**5.20**	**298**	*e*P	**Pn**	17 47 18.2	**-1.6**
HUIG	**Huatulco**	**5.20**	**298**	*e*P	**Pn**	17 47 18.2	**-1.6**
JTS	**JuntasAbangare**	**6.95**	**116**	P	**Pn**	17 47 45.7	**+1.9**
	comp=Z,3.8nm,0.3s,baz=295,slow=23,SNR=27						
JTS				S	**Sn**	17 49 00.3	**-1.2**
	comp=Z,2.8nm,0.3s,baz=265,slow=23,SNR=7.3						
JCR	**Jicaral**	**7.03**	**119**	*e*P	**Pn**	17 47 47.2	**+2.4**
JCR				*e*S	**Sn**	17 48 59.3	**-4.1**
TEIG	**Tepich**	**7.39**	**23**	P	**Pn**	17 47 50.1	**+0.3**
	comp=Z,23nm,0.3s,baz=197,slow=2.8,SNR=126						
TEIG	**Tepich**	**7.39**	**23**	P	**Pn**	17 47 50.1	**+0.3**
	comp=Z,134nm,0.5s						
CGA2	**Cerro Gallo 2**	**7.50**	**116**	*e*P	Pn	17 47 54.5	+3.1
CGA2				*e*S	**Sn**	17 49 16.7	**+1.5**
QCR	**Quepos**	**8.04**	**119**	*e*P	Pn	17 48 01.6	+2.9
QCR				*e*S	**Sn**	17 49 27.2	**-1.1**
URSC	**Urasca**	**8.19**	**115**	*e*P	Pn	17 48 05.0	+4.2
URSC				*e*S	Sn	17 49 38.5	+6.4
BUS	**Buena Vista**	**8.33**	**116**	*e*P	Pn	17 48 06.2	+3.2
BUS				*e*S	Sn	17 49 25.2	-11
534A	**Blanco**	**17.83**	**339**	P	**P**	17 50 10.5	**+1.8**
	baz=18						
533A	**Kerrville**	**18.07**	**338**	P	**Pn**	17 50 12.9	**+1.4**
	baz=18						
532A	**Rocksprings**	**18.45**	**336**	P	**Pn**	17 50 18.9	**+2.7**
	baz=18,SNR=8.8						
434A	**Burnet**	**18.49**	**341**	P	**Pn**	17 50 16.7	**+0.1**
	baz=18						
433A	**Art**	**18.71**	**339**	P	**Pn**	17 50 20.2	**+0.9**
	baz=19,SNR=7.1						
JCT	**Junction City**	**18.72**	**337**	P	**Pn**	17 50 21.0	**+1.6**
	baz=19						
531A	**Rocksprings**	**18.75**	**334**	P	**Pn**	17 50 21.7	**+2.0**
	baz=19						
334A	**Lometa**	**18.96**	**341**	P	**Pn**	17 50 21.9	**-0.3**
	baz=19,SNR=7.0						
432A	**Menard**	**19.07**	**337**	P	**Pn**	17 50 24.6	**+1.0**
	baz=19						
530A	**J-C Ranch, Com**	**19.08**	**333**	P	**Pn**	17 50 25.8	**+2.1**
	baz=19,SNR=8.9						
333A	**Richland Sprin**	**19.19**	**340**	P	**Pn**	17 50 24.7	**-0.3**
	baz=19,SNR=15						
431A	**Sonora**	**19.22**	**335**	P	**Pn**	17 50 26.2	**+0.8**
	baz=19,SNR=12						
529A	**Stev Forest Ra**	**19.47**	**331**	P	**Pn**	17 50 29.5	**+1.2**
	baz=19						
332A	**Millersview**	**19.51**	**338**	P	**Pn**	17 50 28.6	**-0.2**
	baz=20,SNR=7.9						
TXAR	**Lajitas Array**	**19.57**	**326**	P	**Pn**	17 50 30.8	**+1.2**
	comp=Z,0.9nm,0.3s,baz=149,slow=12,SNR=70						
430A	**Baggett Ranch,**	**19.58**	**334**	P	**Pn**	17 50 30.7	**+1.1**
	baz=20,SNR=8.8						
331A	**San Angelo**	**19.70**	**336**	P	**Pn**	17 50 31.3	**+0.2**
	baz=20,SNR=16						
429A	**Davenport Ranc**	**19.73**	**332**	P	**Pn**	17 50 32.4	**+0.9**
	baz=20,SNR=7.6						
233A	**Rising Star**	**19.80**	**341**	P	**P**	17 50 30.9	**+0.6**
	baz=20,SNR=11						
232A	**Coleman**	**19.93**	**339**	P	**P**	17 50 32.5	**+0.8**
	baz=20,SNR=9.5						
330A	**Mertzon**	**20.09**	**335**	P	Pn	17 50 34.9	-0.8
	baz=20,SNR=10						
231A	**Bronte**	**20.22**	**337**	P	Pn	17 50 36.8	-0.4
	baz=20,SNR=7.5						
Z36A	**Blue Ridge**	**20.33**	**348**	P	**P**	17 50 35.2	**-0.8**
	baz=20						
133A	**Hamilton Ranch**	**20.35**	**341**	P	**P**	17 50 37.4	**+1.2**
	baz=20,SNR=11						
329A	**Wagon Wheel Ra**	**20.50**	**333**	P	Pn	17 50 40.0	-0.6
	baz=20						
ABTX	**Abilene, Hawle**	**20.60**	**340**	P	**P**	17 50 39.6	**+0.7**
	baz=21						
ABTX	**Abilene, Hawle**	**20.60**	**340**	*e*P	**P**	17 50 39.5	**+0.5**
	comp=Z,6.0nm,0.6s						
Y38A	**Idabel**	**20.68**	**352**	P	**P**	17 50 39.0	**-0.7**
	baz=21						
SDV	**Santo Domingo**	**20.78**	**100**	*e*P	**P**	17 50 39.5	**-1.7**
	comp=Z,1.7nm,0.6s						
Y37A	**Hugo**	**20.87**	**350**	P	**P**	17 50 41.5	**-0.2**
	baz=21						
MIAR	**Mount Ida**	**21.16**	**355**	*e*P	**P**	17 50 43.6	**-1.3**
	comp=Z,4.3nm,0.6s						
Z32A	**Haskell**	**21.18**	**341**	P	**P**	17 50 45.8	**+0.7**
	baz=21,SNR=8.1						
UALR	**University of**	**21.31**	**358**	*e*P	**P**	17 50 45.8	**-0.6**
	comp=Z,21nm,0.6s						
228A	**UT Block 9, Go**	**21.31**	**333**	P	**P**	17 50 47.9	**+1.3**
	baz=21						
Z31A	**Sharp Cattle R**	**21.41**	**339**	P	**P**	17 50 48.3	**+0.7**
	baz=21,SNR=11						
129A	**Stewart Farms,**	**21.44**	**335**	P	**P**	17 50 48.6	**+0.6**
	baz=21,SNR=6.9						
Y33A	**Hilltop Ranch,**	**21.57**	**343**	P	**P**	17 50 48.9	**-0.4**
	baz=22						
X36A	**Centrahoma**	**21.57**	**349**	P	**P**	17 50 48.9	**-0.4**
	baz=22						
128A	**Castleberry Fa**	**21.70**	**334**	P	**P**	17 50 51.3	**+0.6**
	baz=22,SNR=6.8						
Z30A	**Sanderson Ranc**	**21.73**	**337**	P	**P**	17 50 51.5	**+0.4**
	baz=22,SNR=6.6						
Y32A	**R-V Farms, Ver**	**21.81**	**342**	P	**P**	17 50 51.6	**-0.2**
	baz=22						
Z29A	**Hungry Hill Ra**	**21.93**	**336**	P	**P**	17 50 53.5	**+0.2**
	baz=22,SNR=5.3						
Y31A	**Rekieta Farm,**	**22.03**	**340**	P	**P**	17 50 54.8	**+0.5**
	baz=22,SNR=14						
Y30A	**Stafford Cattl**	**22.18**	**338**	P	**P**	17 50 55.3	**-0.6**
	baz=22						
Z28A	**Tucker Farm, M**	**22.23**	**335**	P	**P**	17 50 57.7	**+1.2**
	baz=22						
W35A	**Tecumseh**	**22.24**	**348**	P	**P**	17 50 54.8	**-1.7**
	baz=22						
V38A	**Canehill**	**22.55**	**353**	P	**P**	17 50 57.7	**-2.0**
	baz=22,SNR=5.8						
X31A	**McDonald Ranch**	**22.55**	**341**	P	**P**	17 51 00.1	**+0.2**
	baz=22,SNR=6.5						
V37A	**Hulbert**	**22.66**	**352**	P	**P**	17 50 59.1	**-1.8**
	baz=23,SNR=5.5						
X30A	**Coker Ranch, T**	**22.68**	**339**	P	**P**	17 51 01.7	**+0.5**
	baz=23,SNR=7.3						
Y28A	**McKinney Farm,**	**22.71**	**336**	P	**P**	17 51 03.7	**+2.0**
	baz=23						
W32A	**Sentinel**	**22.79**	**343**	P	**P**	17 51 02.0	**-0.3**
	baz=23						
V35A	**Meyer Ranch, C**	**22.82**	**348**	P	**P**	17 51 01.8	**-0.9**
	baz=23						
X29A	**Tulia**	**22.98**	**338**	P	**P**	17 51 04.3	**0.0**
	baz=23						
MSTX	**Muleshoe**	**22.98**	**335**	P	**P**	17 51 05.3	**+0.9**
	baz=23						
V34A	**Guthrie**	**23.03**	**347**	P	**P**	17 51 03.3	**-1.5**
	baz=23						
W31A	**Holland Ranch,**	**23.06**	**342**	P	**P**	17 51 04.8	**-0.2**
	baz=23						
TKL	**Tuckaleechee C**	**23.19**	**16**	P	**P**	17 51 05.4	**-1.0**
	comp=Z,5.3nm,0.6s,baz=186,slow=9.4,SNR=11						
AMTX	**Amarillo**	**23.36**	**338**	P	**P**	17 51 08.4	**+0.3**
	baz=23						
T37A	**Cheneyville 18**	**23.85**	**353**	P	**P**	17 51 11.9	**-0.6**
	baz=24,SNR=6.2						
121A	**Cookes Peak, D**	**24.29**	**324**	P	**P**	17 51 20.9	**+4.2**
	baz=24,SNR=6.8						
121A	**Cookes Peak, D**	**24.29**	**324**	*e*P	**P**	17 51 16.3	**-0.4**
	comp=Z,11nm,0.9s						
S36A	**Lake Cedric, C**	**24.53**	**352**	P	**P**	17 51 18.4	**-0.2**
	baz=24,SNR=10						
S35A	**Otter Creek Ra**	**24.60**	**350**	P	**P**	17 51 18.8	**-0.5**
	baz=25						
R37A	**Teagarden Farm**	**25.02**	**353**	P	**P**	17 51 22.5	**-0.6**
	baz=25						
R36A	**Gordon, Harris**	**25.11**	**352**	P	**P**	17 51 23.5	**-0.4**
	baz=25						
U27A	**Thompson Grove**	**25.15**	**338**	P	**P**	17 51 25.8	**+1.3**
	baz=25						
R34A	**Isabella, Hill**	**25.36**	**349**	P	**P**	17 51 25.7	**-0.5**
	baz=25						
ANMO	**Albuquerque**	**25.45**	**330**	P	**P**	17 51 29.2	**+1.9**
	comp=Z,0.7nm,0.4s,baz=140,slow=11,SNR=5.3						
Q32A	**Meitler Ranch,**	**26.29**	**347**	P	**P**	17 51 35.5	**+0.8**
	baz=26						
P35A	**Duane Minner,**	**26.36**	**352**	P	**P**	17 51 35.1	**-0.2**
	baz=26						
SPMN	**Marine on St.**	**31.75**	**358**	P	**P**	17 52 21.7	**-1.4**
	baz=32						
R11A	**Troy Canyon, C**	**32.89**	**323**	P	P	17 52 37.7	+4.3
	baz=33						
PDAR	**Pinedale Array**	**33.25**	**335**	P	**P**	17 52 36.5	**+0.1**
	comp=Z,0.4nm,0.5s,baz=113,slow=9.3,SNR=4.5						
VES	**Vestal, Richgr**	**33.51**	**317**	P	P	17 52 43.6	+5.0
	baz=34						
I20A	**Worland**	**33.69**	**338**	P	**P**	17 52 41.5	**+1.3**
	baz=34,SNR=6.0						
I19A	**Meeteetse**	**34.09**	**337**	P	**P**	17 52 45.3	**+1.6**
	baz=34						
PTGA	**Pitinga**	**34.10**	**112**	P	**P**	17 52 44.0	**+0.1**
	comp=Z,1.9nm,0.8s,baz=293,slow=11,SNR=3.6						
H20A	**Greybull**	**34.11**	**339**	P	**P**	17 52 44.3	**+0.5**
	baz=34						
F24A	**Ekalaka**	**34.20**	**344**	P	**P**	17 52 44.8	**+0.3**
	baz=34						
REDW	**Red Top Meadow**	**34.27**	**334**	*e*P	**P**	17 52 44.9	**-0.4**
	comp=Z,4.7nm,0.6s						
LOHW	**Long Hollow**	**34.38**	**335**	P	**P**	17 52 46.0	**-0.3**
	comp=Z,2.0nm,0.7s						
TPAW	**Teton Pass**	**34.42**	**334**	P	**P**	17 52 46.1	**-0.6**
	comp=Z,2.1nm,0.7s						
NVAR	**Mina Array Bea**	**34.56**	**321**	P	P	17 52 51.7	+3.8
	comp=Z,4.8nm,0.9s,baz=134,slow=7.7,SNR=25						
AGMN	**Agassiz Nation**	**35.01**	**355**	P	**P**	17 52 50.2	**-1.2**
	baz=35,SNR=5.9						
AGMN	**Agassiz Nation**	**35.01**	**355**	*e*P	**P**	17 52 49.8	**-1.6**
	comp=Z,4.7nm,0.6s						
MDND	**Maddock**	**35.04**	**350**	P	**P**	17 52 51.1	**-0.6**
	baz=35						
RLMT	**Red Lodge**	**35.12**	**338**	P	**P**	17 52 53.7	**+1.1**
	baz=35						
B30A	**Myrvik Farm, E**	**35.44**	**352**	P	**P**	17 52 54.6	**-0.5**
	baz=35						
C22A	**Vida**	**36.34**	**343**	P	**P**	17 53 03.5	**+0.7**
	baz=36						
SCHQ	**Schefferville**	**45.56**	**20**	P	**P**	17 54 16.3	**-2.2**
	comp=Z,9.5nm,0.7s,baz=223,slow=7.0,SNR=14						
YKA	**Yellowknife Ar**	**51.77**	**346**	P	**P**	17 55 05.2	**-0.7**
	comp=Z,2.0nm,0.6s,baz=152,slow=7.5,SNR=11						
ILAR	**Eielson Array**	**63.66**	**337**	P	**P**	17 56 29.7	**+0.3**
	comp=Z,1.3nm,0.7s,baz=152,slow=4.5,SNR=13						
RSO	**Redoubt South**	**64.50**	**331**	*e*P	**P**	17 56 36.5	**+1.3**
	comp=Z,16nm,0.7s						
ARCES	**ARCESS Array B**	**86.50**	**18**	P	**P**	17 58 38.8	**-2.0**
	comp=Z,1.9nm,0.4s,baz=281,slow=5.4,SNR=2.8						
KURK	**Kurchatov**	**115.56**	**7**	PKP	**PKPdf**	18 04 41.2	**+1.1**
KURBB	**Kurchatov Arra**	**115.64**	**7**	PKP	**PKPdf**	18 04 41.2	**+0.9**
	comp=Z,0.2nm,0.4s,baz=4.0,slow=1.9,SNR=6.8						
WRA	**Warramunga Arr**	**135.88**	**255**	PKP	**PKPdf**	18 05 20.5	**+0.8**
	comp=Z,0.4nm,0.8s,baz=23,slow=0.8,SNR=2.6						
ASAR

H11N2	**WAKE ISLAND Hy 40.59 224**	T	T	18 54 59.9	
	baz=26,slow=76,SNR=28				
H11N3	**WAKE ISLAND Hy 40.60 224**	T	T	18 55 00.8	
	baz=26,slow=76,SNR=31				
H11N1	**WAKE ISLAND Hy 40.61 224**	T	T	18 55 00.8	
	baz=26,slow=76,SNR=25				
H11S1	**WAKE ISLAND Hy 41.77 224**	T	T	18 56 32.0	
	baz=25,slow=76,SNR=40				
H11S2	**WAKE ISLAND Hy 41.78 224**	T	T	18 56 30.2	
	baz=25,slow=76,SNR=34				
H11S3	**WAKE ISLAND Hy 41.78 224**	T	T	18 56 30.4	
	baz=25,slow=76,SNR=33				
TXAR	**Lajitas Array 49.71 94**	P	**P**	**18 12 44.3 +1.1**	
	0.1nm,0.5s,baz=333,slow=7.1,SNR=2.9				
FINES	**FINESS Array B 64.78 355**	P	**P**	**18 14 30.6 +1.7**	
	2.1nm,1.0s,baz=358,slow=9.5,SNR=4.2				

IDC ***20*** *18:09:50.8±1.1, 6˚.18S×133˚.44E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.7/22, mbtmp3.6/7, ML3.6/2, Error ellipse: s-maj=43.5km s-min=19.6km az=80.0*

ISCJB ***20*** *18:09:53.5±0.6, 6˚.21S±0˚.05×133˚.42E±0˚.07, h33km, mb3.8/6, Error ellipse: s-maj=10.6km s-min=7.4km az=165.6*

DJA ***20*** *18:10:03.8±0.6, 6˚S±4˚×13˚3E±˚, h90km, M4.4/2, mb4.5/2, mB4.9/2, MLv4.4/2, Mw(mB)4.1/2*

ISC 20 18:09:56.0±0.8, 6˚.14S±0˚.06×133˚.37E±0˚.08, h33km, n13, σ1§82/17, mb3.6/6, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.76**	**228**	P	**Pb**	**18 10 47.0**	**+2.4**
FAKI	**Fak Fak**	**3.39**	**341**	P	**Pn**	**18 10 46.5**	**-0.1**
FAKI				S	**Sn**	**18 11 22.8**	**-2.9**
BNDI	**Bandanaira**	**3.81**	**295**	P	**Pn**	**18 10 54.0**	**+1.7**
BNDI				S	**Sn**	**18 11 36.2**	**+0.2**
RKPI	**Ransiki, Papua**	**4.67**	**10**	P	**Pn**	**18 11 07.0**	**+2.9**
RKPI				S	**Sn**	**18 11 57.1**	**-0.1**
MSAI	**Masohi**	**5.23**	**302**	P	**Pn**	**18 11 12.3**	**+0.4**
MSAI				S	**Sn**	**18 12 08.2**	**-2.8**
WRA	**Warramunga Arr 13.76 176**			Pn	**Pn**	**18 13 07.0**	**-1.8**
	0.3nm,0.3s,baz=355,slow=13,SNR=5.0						
WRA				Sn	Sn	18 15 26.9	-14
	0.3nm,0.3s,baz=1.7,slow=24,SNR=2.9						
ASAR	**Alice Springs 17.44 178**			P	**Pn**	**18 13 54.0**	**-2.8**
	0.2nm,0.3s,baz=354,slow=14,SNR=22						
ASAR				S	Sn	18 16 57.8	-12
	0.1nm,0.3s,baz=0.6,slow=26,SNR=3.6						
GUMO	**Guam 22.68 30**			P	**P**	**18 14 53.8**	**-1.0**
	37nm,0.8s,baz=173,slow=22,SNR=4.0						
STKA	**Stephens Creek 26.74 164**			P	**P**	**18 15 31.9**	**-0.6**
	1.2nm,0.8s,baz=344,slow=7.6,SNR=5.8						
CMAR	**Chiang Mai Arr 41.84 306**			P	**P**	**18 17 43.4**	**+0.2**
	0.7nm,0.7s,baz=141,slow=8.1,SNR=6.6						
KSRS	**Korea Array 43.66 354**			P	**P**	**18 17 57.7**	**+0.1**
	0.4nm,0.6s,baz=179,slow=6.7,SNR=3.7						
SONM	**Songino Array 58.77 339**			P	**P**	**18 19 51.9**	**+0.9**
	0.4nm,0.8s,baz=156,slow=7.3,SNR=3.0						
ZALV	**Zalesovo Beam 72.34 332**			P	**P**	**18 21 18.0**	**-0.4**
	1.3nm,0.6s,baz=120,slow=5.3,SNR=6.6						

IDC 20 18:35:40.6±1.6, 7˚.70N×91˚.95E, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.4/27, mbtmp3.5/5, ML3.8/2, Error ellipse: s-maj=41.2km s-min=30.0km az=47.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele 11.16 269**			Pn	Pn	18 38 21.4	-0.2
	2.4nm,0.3s,baz=88,slow=13,SNR=27						
PALK				Sn	Sn	18 40 11.7	-16
	1.6nm,0.3s,baz=45,slow=14,SNR=4.4						
CMAR	**Chiang Mai Arr 12.68 32**			Pn	Pn	18 38 41.5	-0.8
	0.1nm,0.3s,baz=230,slow=14,SNR=2.9						
H08S3	**Diego Garcia H 24.66 232**			T	T	19 07 20.4	
	baz=52,slow=75,SNR=26						
H08S2	**Diego Garcia H 24.67 232**			T	T	19 07 20.2	
	baz=52,slow=75,SNR=30						
H08S1	**Diego Garcia H 24.68 232**			T	T	19 07 21.9	
	baz=52,slow=75,SNR=43						
ZALV	**Zalesovo Beam 46.47 354**			P	P	18 44 09.4	+0.1
	0.2nm,0.3s,baz=182,slow=7.2,SNR=2.6						
WRA	**Warramunga Arr 49.95 124**			P	P	18 44 36.8	0.0
	0.6nm,1.0s,baz=301,slow=8.7,SNR=3.3						
ASAR	**Alice Springs 51.49 128**			P	P	18 44 48.2	-0.2
	0.2nm,0.9s,baz=297,slow=7.4,SNR=2.9						

IDC 20 18:35:50.2±2.0, 7˚.58N×92˚.00E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/26, mbtmp3.4/3, ML4.1/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/37, Error ellipse: s-maj=48.2km s-min=35.7km az=13.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat 8.37 124**			LR	LR	18 41 51.8	
	comp=Z,79nm,19.5s,baz=252,slow=43						
PALK	**Pallekele 11.21 269**			Pn	Pn	18 38 32.0	+0.1
	6.1nm,0.3s,baz=89,slow=15,SNR=21						
PALK				Sn	Sn	18 40 23.2	-15
	5.7nm,0.3s,baz=357,slow=9.3,SNR=7.4						
CMAR	**Chiang Mai Arr 12.75 31**			Pn	Pn	18 38 52.8	-0.2
	0.1nm,0.3s,baz=223,slow=13,SNR=3.8						
WRA	**Warramunga Arr 49.83 124**			P	P	18 44 45.1	-0.4
	0.4nm,0.7s,baz=302,slow=9.0,SNR=5.4						
ASAR	**Alice Springs 51.37 128**			P	P	18 44 57.3	+0.2
	0.5nm,0.9s,baz=298,slow=7.7,SNR=6.0						

IDC 20 18:46:33.0±13.0, 7˚.94S×130˚.38E, h151km±95km, mb3.4/1, mb1 3.4/3, mb1mx3.0/17, mbtmp3.7/3, Error ellipse: s-maj=100.1km s-min=91.4km az=92.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr 12.53 163**			P	Pn	18 49 24.9	-1.3
	0.4nm,0.3s,baz=343,slow=13,SNR=16						
WRA				S	Sn	18 51 46.1	+1.2
	0.7nm,0.3s,baz=344,slow=22,SNR=8.8						
ASAR	**Alice Springs 16.00 168**			P	P	18 50 11.6	+1.3
	0.4nm,0.3s,baz=344,slow=9.5,SNR=42						
ASAR				S	S	18 53 08.0	-0.1
	0.1nm,0.3s,baz=350,slow=25,SNR=3.6						
STKA	**Stephens Creek 26.00 158**			P	P	18 51 51.8	-0.1
	1.2nm,0.8s,baz=343,slow=8.3,SNR=7.8						

IDC 20 18:55:09.6±12.0, 7˚.61S×127˚.72E, h0km, mb3.7/1, mb1 3.9/3, mb1mx3.4/25, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=285.7km s-min=161.3km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr 13.84 153**			Pn	Pn	18 58 27.1	-1.0
	0.5nm,0.3s,baz=331,slow=13,SNR=16						
WRA				Sn	Sn	19 00 51.9	-10
	0.6nm,0.3s,baz=331,slow=22,SNR=6.3						
ASAR	**Alice Springs 17.03 160**			P	Pn	18 59 09.4	0.0
	0.3nm,0.3s,baz=340,slow=11,SNR=28						
ASAR				S	Sn	19 02 08.8	-11
	0.1nm,0.3s,baz=339,slow=28,SNR=3.4						
STKA	**Stephens Creek 27.39 154**			P	P	19 00 56.9	0.0
	1.1nm,0.9s,baz=337,slow=9.2,SNR=3.1						

IDC ***20*** *19:11:46.2±2.3, 27˚.77N×54˚.35E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.5/27, mbtmp3.7/8, Error ellipse: s-maj=52.9km s-min=23.8km az=157.0*

ISCJB ***20*** *19:11:50.1±0.5, 27˚.96N±0˚.05×54˚.14E±0˚.09, h17km, mb3.6/7, Error ellipse: s-maj=12.5km s-min=4.4km az=150.5*

TEH ***20*** *19:11:52.5, 27˚.86N×54˚.27E, h22km, ML3.6*

CSEM ***20*** *19:11:52.2±0.2, 27˚.97N×54˚.26E, h15km, ML3.6, Error ellipse: s-maj=13.8km s-min=4.4km az=63.0*

DSN ***20*** *19:11:52.7±1.5, 27˚.98N×54˚.41E, h15km, mb3.0/6, ML3.4/1, Error ellipse: s-maj=23.5km s-min=8.1km az=28.0*

ISC 20 19:11:50.6±0.7, 27˚.94N±0˚.05×54˚.24E±0˚.07, h17km, n38, σ1§80/43, mb3.6/7, 3C-4D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBND	**Bandar-abas 2.10 103**			*e*Pn	**Pn**	**19 12 26.4**	**+1.4**
IBND				*e*		19 13 08.5	
	comp=Z,4μm,0.2s						
IBND	**Bandar-abas 2.10 103**			*e*Pn	**Pn**	**19 12 26.4**	**+1.4**
IPAR	**Pars 2.16 331**			*e*Pn	**Pb**	**19 12 28.8**	**-0.7**
IPAR				*e*Sg	**Sg**	**19 13 03.2**	**+3.0**
IPAR				*e*		19 13 14.8	
	comp=Z,3μm,0.4s						
IPAR	**Pars 2.16 331**			*e*Pn	**Pb**	**19 12 28.8**	**-0.7**
IPAR				*e*Sg	**Sg**	**19 13 03.2**	**+3.0**
BANOM	**Banah 2.73 137**			P	**Pn**	**19 12 34.9**	**+1.2**
BANOM				S	**Sn**	**19 13 07.9**	**+1.5**
BANOM	**Banah 2.73 137**			⇑P	**Pn**	**19 12 34.9**	**+1.2**
BANOM				⇑S	**Sn**	**19 13 07.9**	**+1.5**
IKAZ	**Kazeroun 2.79 312**			*e*Pn	**Pn**	**19 12 36.8**	**+2.0**
IKAZ				*e*		19 13 28.5	
	comp=Z,3μm,0.3s						
IKAZ	**Kazeroun 2.79 312**			*e*Pn	**Pn**	**19 12 36.8**	**+2.0**
NAZ	**Nazwa, Dubai 3.21 156**			P	**Pn**	**19 12 42.8**	**+2.5**
NAZ	**Nazwa, Dubai 3.21 156**			⇓P	**Pn**	**19 12 42.8**	**+2.5**
FAQ	**Al Faqa, Dubai 3.41 159**			P	**Pn**	**19 12 44.9**	**+1.8**
FAQ	**Al Faqa, Dubai 3.41 159**			⇑P	**Pn**	**19 12 44.9**	**+1.8**
ASUD	**Al Ashush, Dub 3.45 163**			P	**Pn**	**19 12 46.0**	**+2.4**
ASUD	**Al Ashush, Dub 3.45 163**			⇓P	**Pn**	**19 12 46.0**	**+2.4**
IMEH	**Mehriz 3.45 5**			*e*Pn	**Pn**	**19 12 46.0**	**+2.2**
IMEH				*e*		19 13 32.2	
	comp=Z,674nm,0.3s						
IMEH	**Mehriz 3.45 5**			*e*Pn	**Pn**	**19 12 46.0**	**+2.2**
HATD	**Hatta, Dubai 3.54 151**			P	**Pn**	**19 12 47.4**	**+2.5**
HATD	**Hatta, Dubai 3.54 151**			⇓P	**Pn**	**19 12 47.4**	**+2.5**
ASHO	**Ashiyiah 3.63 153**			P	**Pn**	**19 12 47.6**	**+1.4**
ASHO	**Ashiyiah 3.63 153**			⇓P	**Pn**	**19 12 47.6**	**+1.4**
IBAF	**Bafgh 3.81 17**			*e*Pn	**Pn**	**19 12 50.1**	**+1.4**
IBAF				*e*		19 14 02.4	
	comp=Z,449nm,0.3s						
IBAF	**Bafgh 3.81 17**			*e*Pn	**Pn**	**19 12 50.1**	**+1.4**
ISAD	**Sadrabad 3.98 353**			*e*Pn	**Pn**	**19 12 53.4**	**+2.2**
ISAD				*e*		19 13 44.5	
	comp=Z,730nm,0.1s						
ISAD	**Sadrabad 3.98 353**			*e*Pn	**Pn**	**19 12 53.4**	**+2.2**
IZEF	**Zefreh 5.20 342**			*e*Pn	**Pn**	**19 13 09.3**	**+1.3**
IZEF	**Zefreh 5.20 342**			*e*Pn	**Pn**	**19 13 09.3**	**+1.3**
IPIR	**Pirpir 5.54 329**			*e*Pn	**Pn**	**19 13 12.2**	**-0.4**
IPIR				*e*Sn	**Sn**	**19 14 15.0**	**-1.1**
IPIR				*e*		19 14 19.3	
	comp=Z,408nm,0.2s						
IPIR	**Pirpir 5.54 329**			*e*Pn	**Pn**	**19 13 12.2**	**-0.4**
IKLH	**Kolahrood 5.83 338**			*e*Pn	**Pn**	**19 13 17.9**	**+1.4**
IKLH				*e*		19 14 28.7	
	comp=Z,188nm,0.3s						
IKLH	**Kolahrood 5.83 338**			*e*Pn	**Pn**	**19 13 17.9**	**+1.4**
BRTR	**Keskin Array B 20.70 310**			P	**P**	**19 16 31.4**	**+1.2**
	comp=Z,2.2nm,0.7s,baz=134,slow=13,SNR=10						
BVAR	**Borovoye Array 27.77 21**			P	**P**	**19 17 38.3**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=208,slow=5.0,SNR=5.9						
ZALV	**Zalesovo Beam 34.29 32**			P	**P**	**19 18 34.3**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=252,slow=8.9,SNR=4.2						
FINES	**FINESS Array B 38.41 339**			P	**P**	**19 19 09.7**	**-1.2**
	comp=Z,1.4nm,0.9s,baz=146,slow=10,SNR=2.6						
HFS	**Hagfors 42.26 331**			P	**P**	**19 19 42.8**	**0.0**
	comp=Z,0.9nm,0.7s,baz=105,slow=11,SNR=3.7						
SONM	**Songino Array 44.75 49**			P	**P**	**19 20 01.9**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=274,slow=6.8,SNR=3.2						
ESDC	**Sonseca Array 48.99 300**			P	**P**	**19 20 34.6**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=93,slow=8.8,SNR=3.0						
TORD	**Torodi Ar. Bea 50.99 264**			P	**P**	**19 20 50.9**	**-1.0**
	comp=Z,2.3nm,0.6s,baz=60,slow=7.3,SNR=16						

ISCJB ***20*** *19:13:28.6±0.4, 23˚.33N±0˚.02×122˚.16E±0˚.02, h20km±3km, Error ellipse: s-maj=3.0km s-min=2.1km az=142.2*

JMA ***20*** *19:13:29.6±0.1, 23˚.36N×122˚.08E, h43km, M3.0*

TAP ***20*** *19:13:30.6, 23˚.35N×122˚.11E, h37km, ML3.7, C*

ISC 20 19:13:30.0±1.2, 23˚.34N±0˚.02×122˚.12E±0˚.02, h30km±13km, n73, σ1§08/135, 19C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village 0.65 305**			*i* P	**Pn**	**19 13 43.0**	**-0.1**
TEGC	baz=304			S	**Sn**	**19 13 52.0**	**-0.4**
CHKT	**Chengkung 0.73 251**			⇑*i*P	**Pn**	**19 13 43.4**	**-0.9**
CHKT	baz=243			S	**Sn**	**19 13 52.4**	**-2.0**
EHY	**Hungye 0.75 283**			⇑*i*P	**Pn**	**19 13 43.9**	**-0.7**
EHY	baz=282			S	**Sn**	**19 13 54.4**	**-0.6**
TWF1	**Yuli 0.75 271**			⇑*i*P	**Pn**	**19 13 44.0**	**-0.7**
TWF1	baz=264			S	**Sn**	**19 13 54.1**	**-0.9**
ESF	**Shoufeng Towns 0.77 314**			*i* P	**Pn**	**19 13 44.7**	**-0.2**
ESF	baz=305			S	**Sn**	**19 13 54.7**	**-0.8**
ESL	**Shilin 0.79 307**			⇑*i*P	**Pn**	**19 13 43.9**	**-1.2**
ESL	baz=306			S	**Sn**	**19 13 53.6**	**-2.2**
HWA	**Hwalien 0.79 324**			*i* P	**Pn**	**19 13 44.3**	**-0.9**
HWA	baz=323			S	**Sn**	**19 13 54.1**	**-1.8**
TWD	**Chiawan 0.88 327**			⇓*i*P	**Pn**	**19 13 45.4**	**-0.9**
TWD	baz=327			*e*S	**Sn**	**19 13 56.3**	**-1.8**
WDT	**Danda 0.99 295**			⇑*i*P	**Pn**	**19 13 47.8**	**-0.4**
WDT	baz=294			*e*S	**Sn**	**19 13 59.8**	**-1.6**
ELDTW	**Lidau 1.02 262**			⇑*i*P	**Pn**	**19 13 47.7**	**-0.7**
ELDTW	baz=260			*e*S	**Sn**	**19 14 00.1**	**-1.7**
TTN	**Taitung 1.06 237**			P	**Pn**	**19 13 49.0**	**+0.1**
TTN	baz=235			S	**Sn**	**19 14 01.6**	**-1.1**
YUS	**Yu-Shan 1.08 278**			*i* P	**Pn**	**19 13 49.6**	**+0.1**
YUS	baz=277			*e*S	**Sn**	**19 14 01.8**	**-1.9**
TWG	**Pinlang 1.09 242**			⇑*e*P	**Pn**	**19 13 48.9**	**-0.3**
TWG	baz=234			S	**Sn**	**19 14 02.5**	**-0.9**
WHF	**Hehuan Shan 1.12 316**			⇑*e*P	**Pn**	**19 13 49.4**	**-0.7**
WHF	baz=315			*e*S	**Sn**	**19 14 02.8**	**-1.9**
ENA	**Nanau 1.14 343**			⇓*e*P	**Pn**	**19 13 49.5**	**-0.4**
ENA	baz=334			S	**Sn**	**19 14 03.5**	**-1.1**
ALS	**Alishan 1.22 278**			⇑*i*P	**Pn**	**19 13 51.9**	**+0.7**
ALS	baz=277			S	**Sn**	**19 14 06.8**	**0.0**
SMLT	**Sun Moon Lake 1.24 296**			⇑*i*P	**Pn**	**19 13 51.6**	**+0.2**
SMLT	baz=301			S	**Sn**	**19 14 07.6**	**+0.4**
TWT	**Tachien 1.25 317**			*i* P	**Pn**	**19 13 52.2**	**+0.5**
TWT	baz=315			S	**Sn**	**19 14 06.8**	**-0.9**
STYT	**Tauyuan 1.26 262**			⇑*i*P	**Pn**	**19 13 51.9**	**+0.3**
STYT	baz=256			S	**Sn**	**19 14 07.3**	**-0.3**
TYC	**Yuchr 1.29 296**			⇑*i*P	**Pn**	**19 13 52.3**	**+0.3**
TYC	baz=295			S	**Sn**	**19 14 08.2**	**+0.1**
TWC	**Suao 1.29 349**			*i* P	**Pn**	**19 13 52.3**	**+0.3**
TWC	baz=359			*e*S	**Sn**	**19 14 07.8**	**-0.5**
NNS	**Nan Shan 1.29 328**			⇑*i*P	**Pn**	**19 13 52.1**	**0.0**
NNS	baz=317			S	**Sn**	**19 14 07.4**	**-1.1**
	baz=317						
ECL	**Taimali 1.30 236**			*i* P	**Pn**	**19 13 51.5**	**-0.6**
	baz=245						
ECL				*e*S	**Sn**	**19 14 06.8**	**-1.6**
	baz=245						
JYNG	**Yonagunijimaku 1.34 34**			P	**Pn**	**19 13 53.0**	**+0.2**
JYNG				*e*S	**Sn**	**19 14 09.1**	**-0.5**
CHN5	**Tsauling 1.35 281**			*i* P	**Pn**	**19 13 54.1**	**+1.2**
	baz=280						
CHN5				S	**Sn**	**19 14 11.2**	**+1.4**
	baz=280						
WTP	**Ta-pu 1.38 267**			⇑*i*P	**Pn**	**19 13 54.5**	**+1.2**
	baz=259						
WTP				S	**Sn**	**19 14 11.9**	**+1.3**
	baz=259						
YOJ	**Yonaguni jima 1.39 36**			P	**Pn**	**19 13 53.7**	**+0.4**
YOJ				*e*S	**Sn**	**19 14 10.0**	**-0.7**
ENTT	**Nioudou 1.39 339**			*i* P	**Pn**	**19 13 53.7**	**+0.3**
	baz=329						
LAY	**Lan-yu 1.39 202**			*e*P	**Pn**	**19 13 52.5**	**-1.0**
	baz=201						
LAY				*e*S	**Sn**	**19 14 08.6**	**-2.3**
	baz=201						
WNT	**Mingjian 1.42 293**			*i* P	**Pb**	**19 13 55.4**	**-0.5**
	baz=292						
SGST	**Jiashian 1.43 260**			⇑*i*P	**Pn**	**19 13 55.3**	**+1.3**
	baz=255						
SGST				S	**Sb**	**19 14 13.6**	**-0.4**
	baz=255						
TWE	**Neicheng 1.44 344**			*i* P	**Pn**	**19 13 54.6**	**+0.6**
	baz=343						
TWE				*e*S	**Sn**	**19 14 12.8**	**+0.8**
	baz=343						
CHN1	**Nanshi 1.47 264**			⇑*i*P	**Pb**	**19 13 56.1**	**-0.6**
	baz=259						
CHN1				*e*S	**Sn**	**19 14 14.1**	**+1.4**
	baz=259						
WGK	**Gukeng 1.47 284**			*i* P	**Pb**	**19 13 56.0**	**-0.7**
	baz=283						
WGK				*e*S	**Sb**	**19 14 14.7**	**-0.3**
	baz=283						
SSD	**Sandimen 1.49 247**			*i* P	**Pn**	**19 13 55.0**	**+0.3**
	baz=242						
SSD				*e*S	**Sn**	**19 14 11.9**	**-1.3**
	baz=242						
TAW	**Tawu 1.49 229**			*e*P	**Pn**	**19 13 53.3**	**-1.4**
	baz=236						
TAW				*e*S	**Sn**	**19 14 12.2**	**-1.0**
	baz=236						
TWK	**Hsinying 1.50 268**			⇑*i*P	**Pn**	**19 13 56.4**	**+1.5**
	baz=266						
TWK				*e*S	**Sb**	**19 14 15.5**	**-0.4**
	baz=266						
NSK	**Sanguang 1.50 333**			⇑*i*P	**Pn**	**19 13 55.4**	**+0.4**
	baz=332						
NSK				*e*S	**Sn**	**19 14 12.7**	**-0.9**
	baz=332						
EAST	**Anshuo 1.51 231**			*i* P	**Pn**	**19 13 54.8**	**-0.2**
	baz=238						
EAST				*e*S	**Sn**	**19 14 09.9**	**-3.7**
	baz=238						
EGS		**1.51 354**		*i* P	**Pn**	**19 13 56.0**	**+0.9**
	baz=3.0						
EGS				S	**Sn**	**19 14 14.0**	**+0.3**
	baz=3.0						
CHN2	**Minshiung 1.52 278**			*i* P	**Pb**	**19 13 57.4**	**-0.2**
	baz=287						
CHN2				*e*S	**Sb**	**19 14 17.3**	**+0.8**
	baz=287						
TCU	**Taichung 1.55 302**			⇓*i*P	**Pb**	**19 13 57.7**	**-0.4**
	baz=300						
TCU				S	**Sb**	**19 14 16.6**	**-0.7**
	baz=300						
CHY	**Chiayi 1.56 276**			*i* P	**Pb**	**19 13 57.7**	**-0.6**
	baz=285						
CHY				*e*S	**Sn**	**19 14 16.2**	**+1.2**
	baz=285						
TWQ1	**Liyutan 1.59 310**			*i* P	**Pb**	**19 13 58.0**	**-0.8**
	baz=316						
TWQ1				*e*S	**Sn**	**19 14 17.5**	**+1.8**
	baz=316						
SGLT	**Jiouru 1.62 248**			*e*P	**Pn**	**19 13 57.6**	**+1.1**
	baz=246						
SGLT				*e*S	**Sb**	**19 14 18.9**	**-0.2**
	baz=246						
CHN3	**Shinhua 1.63 261**			*e*P	**Pb**	**19 14 00.2**	**+0.7**
	baz=260						
CHN3				*e*S	**Sb**	**19 14 21.7**	**+2.1**
	baz=260						
NSY	**Sanyi 1.64 311**			*i* P	**Pb**	**19 13 58.8**	**-0.8**
	baz=324						
NSY				*i* S	**Sb**	**19 14 19.2**	**-0.8**
	baz=324						
TWM1	**Shoushan 1.64 252**			*e*P	**Pb**	**19 13 59.7**	**+0.1**
	baz=251						
TWM1				*e*S	**Sb**	**19 14 22.6**	**+2.7**
	baz=251						
NSTT	**Nanjuang 1.64 322**			*i* P	**Pn**	**19 13 58.1**	**+1.2**
	baz=321						
NSTT				S	**Sn**	**19 14 17.7**	**+0.6**
	baz=321						
TWB1	**Santiao Chiao 1.67 356**			*e*P	**Pn**	**19 13 57.9**	**+0.6**
	baz=356						
TWB1				*e*S	**Sn**	**19 14 18.0**	**+0.4**
	baz=356						
SCZT	**Fangliau 1.68 235**			*i* P	**Pn**	**19 13 58.1**	**+0.8**
	baz=234						
SCZT				S	**Sn**	**19 14 18.7**	**+0.8**
	baz=234						
HATJ	**Hateruma jima 1.71 65**			P	**Pn**	**19 13 58.0**	**+0.3**
HATJ				S	**Sn**	**19 14 18.2**	**-0.3**
TWA	**Mucha 1.71 344**			*i* P	**Pn**	**19 13 59.2**	**+1.4**
	baz=333						
TWA				S	**Sn**	**19 14 19.3**	**+0.7**
	baz=333						
CHN8	**Yiju 1.75 271**			*e*S	**Sb**	**19 14 21.9**	**-1.1**
	baz=269						
NWF	**Wu-fen Shan 1.75 350**			*i* P	**Pn**	**19 13 59.3**	**+0.8**
	baz=350						
NWF				S	**Sn**	**19 14 20.3**	**+0.4**
	baz=350						
WSF	**Szhu 1.77 280**			*i* P	**Pn**	**19 13 60.0**	**+1.5**
	baz=279						
WSF				*e*S	**Sn**	**19 14 21.2**	**+1.3**
	baz=279						
IRIF	**Iriomote-Funau 1.78 56**			P	**Pn**	**19 13 59.1**	**+0.4**
IRIF				*e*S	**Sn**	**19 14 20.9**	**+0.5**
HSN	**Hsinchu 1.80 325**			S	**Sb**	**19 14 23.3**	**-1.1**
	baz=325						
TSEB	**Hengchuen, Pin 1.82 218**			S	**Sn**	**19 14 22.8**	**+1.5**
	baz=229						
NCU	**National Centr 1.83 333**			S	**Sn**	**19 14 23.0**	**+1.3**
	baz=332						
HEN	**Hengchun 1.84 224**			S	**Sn**	**19 14 22.6**	**+0.8**
	baz=223						
TWK1	**Hengchun 1.84 221**			*i* P	**Pn**	**19 14 00.2**	**+0.7**
	baz=227						
TWK1				S	**Sn**	**19 14 22.2**	**+0.4**
	baz=227						
TWS1	**Kuangyinshan 1.87 340**			S	**Sn**	**19 14 23.1**	**+0.6**
	baz=340						
TWP	**Hsiaoliuchiu 1.89 239**			*e*S	**Sb**	**19 14 30.7**	**+3.5**
	baz=238						
JKRS	**Kuro-shima 1.95 62**			P	**Pn**	**19 14 01.6**	**+0.5**
JKRS				*e*S	**Sn**	**19 14 24.9**	**+0.3**
TWY	**Chenhua 1.99 346**			*e*S	**Sn**	**19 14 26.7**	**+1.2**
	baz=346						
JIJ	**Ishigaki jima 2.12 61**			P	**Pn**	**19 14 03.3**	**-0.1**
JIJ				*e*S	**Sn**	**19 14 27.6**	**-1.1**
WDGT	**Dungji 2.26 269

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.37**	**36**	⇑*iP*	Pn	19 23 59.9	-0.6
CAPV				*eS*	Sn	19 24 20.5	-2.8
VIGV	**El Vigia**	**2.72**	**40**	*eP*	Pn	19 24 14.5	-0.9
SOCV	**Socops**	**2.72**	**56**	*eP*	Pn	19 24 14.9	-0.5
SOCV				*eS*	Sn	19 24 47.1	-2.8
VIRV	**Villa del Rosa**	**3.80**	**11**	*eP*	Pn	19 24 26.8	-2.1
CURV	**Curarigua**	**4.51**	**44**	*eP*	Pn	19 24 36.7	-1.6
CURV				*eS*	Sn	19 25 25.5	-5.4
DABV	**Dabajuro**	**4.82**	**31**	*eP*	Pn	19 24 41.0	-1.3
TEPV	**Terepaima**	**5.04**	**50**	*eP*	Pn	19 24 43.9	-1.2
BAUV	**El Baul**	**5.49**	**66**	*eP*	Pn	19 24 48.3	-2.7
BAUV				*eS*	Sn	19 25 46.5	-7.4

IDC 20 19:44:31.4±5.7, 3.70S×126.38E, h346km±65km, mb2.8/4, mb1 3.0/6, mb1mx2.8/22, mbtmp3.5/6, Error ellipse: s-maj=82.5km s-min=17.7km az=54.0, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**6.74**	**259**	P	Pn	19 46 09.8	-0.8
	0.8nm,0.3s,baz=171,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**17.92**	**155**	P	P	19 48 18.2	+0.4
	0.3nm,0.3s,baz=328,slow=11,SNR=12						
ASAR	**Alice Springs**	**21.14**	**161**	P	P	19 48 50.2	+0.1
	0.3nm,0.4s,baz=344,slow=9.5,SNR=18						
STKA	**Stephens Creek**	**31.47**	**155**	P	P	19 50 21.7	-0.3
	1.6nm,0.9s,baz=333,slow=9.0,SNR=3.7						
CMAR	**Chiang Mai Arr**	**34.86**	**310**	P	P	19 50 52.1	+0.8
	0.2nm,0.6s,baz=132,slow=7.4,SNR=3.0						
ILAR	**Eielson Array**	**91.92**	**25**	P	P	19 56 59.4	-1.4
	0.2nm,0.5s,baz=280,slow=5.4,SNR=3.1						

IDC 20 19:45:30.9±2.2, 7.72N×91.57E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.3/40, mbtmp3.3/5, ML3.0/1, Error ellipse: s-maj=71.8km s-min=24.5km az=65.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.86**	**33**	Pn	Pn	19 48 35.4	+0.2
	0.0nm,0.3s,baz=233,slow=14,SNR=3.0						
H08S3	**Diego Garcia H**	**24.38**	**232**	T	T	20 17 19.0	
	baz=52,slow=75,SNR=20						
H08S2	**Diego Garcia H**	**24.38**	**232**	T	T	20 17 05.4	
	baz=52,slow=75,SNR=18						
H08S1	**Diego Garcia H**	**24.40**	**232**	T	T	20 17 16.9	
	baz=52,slow=75,SNR=14						
SONM	**Songino Array**	**41.92**	**15**	P	P	19 53 23.2	-0.2
	0.2nm,0.5s,baz=194,slow=9.6,SNR=4.0						
BVAR	**Borovoye Array**	**48.35**	**343**	P	P	19 54 14.2	-0.1
	0.2nm,0.7s,baz=141,slow=7.4,SNR=2.6						
WRA	**Warramunga Arr**	**50.27**	**124**	P	P	19 54 30.4	+0.9
	0.8nm,1.1s,baz=306,slow=8.3,SNR=2.8						
ASAR	**Alice Springs**	**51.80**	**128**	P	P	19 54 39.8	-1.1
	0.3nm,0.9s,baz=300,slow=7.6,SNR=3.6						

*ISCJB **20** 19:57:39.2±0.6, 32.14N±0.02×115.09W±0.02, h11km±5km, Error ellipse: s-maj=4.1km s-min=3.3km az=171.4*
*ECX **20** 19:57:41.8±0.5, 32.14N×115.19W, h7km, MD3.6, ML3.8*
*NEIC **20** 19:57:42.0, 32.08N×115.12W, h7km, ML3.8(PAS), ML3.9(ECX), After ECX.*
NEIC Felt at Campo and San Diego, California.

ISC 20 19:57:39.8±1.1, 32.09N±0.03×115.16W±0.02, h12km±9km, n26, σ1s07/44, 5C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.35**	**340**	*eP*	**Pg**	**19 57 47.4**	**+0.5**
CPBX				*eS*	**Sg**	**19 57 52.0**	**+0.3**
CPBX				⇓*e*		19 57 53.5	
CPBX				IAML		19 57 53.5	
	comp=E,43μm,0.2s						
ECBX	**El Chinero**	**0.62**	**171**	⇓*eP*	**Pg**	**19 57 52.1**	**+0.2**
ECBX				*eS*	**Sb**	**19 58 01.8**	**+0.6**
EMSC	**East Mesa**	**0.67**	**13**	⇓*iP*	**Pg**	**19 57 52.8**	**0.0**
RDX	**Rancho Dawling**	**0.68**	**257**	⇓*eP*	**Pb**	**19 57 54.1**	**+0.2**
RDX				*eS*	**Sb**	**19 58 03.1**	**-0.2**
RDX				IAML		19 58 04.7	
	comp=N,4μm,0.5s						
RDX				⇑*e*		19 58 04.7	
YMD	**Yuma Desert**	**0.70**	**48**	⇑*iP*	**Pg**	**19 57 53.3**	**-0.1**
SGL	**Mount Signal**	**0.74**	**320**	⇓*iP*	**Pg**	**19 57 53.6**	**-0.6**
DREC	**Desert Rsrch C**	**0.76**	**341**	*eP*	**Pg**	**19 57 54.4**	**-0.1**
COA	**Coachella**	**0.78**	**2**	⇓*iP*	**Pg**	**19 57 54.1**	**-0.7**
YUH	**Yuha Desert**	**0.85**	**311**	⇓*iP*	**Pg**	**19 57 55.4**	**-0.9**
RMX	**La Rumorosa**	**0.93**	**304**	*eP*	**Pb**	**19 57 57.2**	**-0.8**
RMX				*eS*	**Sg**	**19 58 09.3**	**-0.7**
RMX				IAML		19 58 10.9	
	comp=N,3μm,0.1s						
RMX				⇑*e*		19 58 10.9	
SPX	**San Pedro Mart**	**1.07**	**194**	*eP*	**Pn**	**19 58 01.4**	**+0.4**
SPX				*eS*	**Sn**	**19 58 16.5**	**+0.6**
SPX				⇑*e*		19 58 18.6	
SPX				IAML		19 58 18.6	
	comp=N,1μm,0.6s						
ZAX	**El Zacaton**	**1.11**	**239**	*eP*	**Pn**	**19 58 01.3**	**0.0**
ZAX				*eS*	**Sn**	**19 58 16.4**	**-0.2**
CBX	**Cerro Bola**	**1.29**	**280**	*eP*	**Pn**	**19 58 03.6**	**-0.3**
CBX				*eS*	**Sb**	**19 58 20.5**	**-0.4**
CBX				IAML		19 58 24.7	
	comp=E,2μm,0.5s						
CBX				*e*		19 58 24.7	
ECNX	**Esteban Cantu**	**1.30**	**251**	*eP*	**Pn**	**19 58 04.0**	**+0.1**
ECNX				*eS*	**Sn**	**19 58 21.3**	**+0.1**
PBX	**Punta Banda**	**1.38**	**256**	*eP*	**Pn**	**19 58 05.2**	**+0.3**
PBX				*eS*	**Sg**	**19 58 23.7**	**-0.5**
BAR	**Barrett**	**1.41**	**295**	*ePn*	**Pn**	**19 58 04.4**	**-1.0**
BAR				*eSn*	**Sn**	**19 58 22.7**	**-1.3**
PFO	**Pinyon Flats O**	**1.87**	**325**	*ePn*	**Pn**	**19 58 09.9**	**-1.9**
PFO				*eSn*	**Sn**	**19 58 36.2**	**+0.7**
214A	**Organ Pipe Nat**	**2.00**	**93**	*ePn*	**Pn**	**19 58 12.1**	**-1.4**
214A				*eSn*	**Sb**	**19 58 40.3**	**-0.8**
PASC	**Pasadena Art C**	**3.28**	**310**	*ePn*	**Pn**	**19 58 33.1**	**+2.0**
TUC	**Tucson**	**3.71**	**85**	*ePn*	**Pn**	**19 58 35.2**	**-1.9**
TUC				*ePg*	**Pg**	**19 58 52.5**	**+1.5**
TUC				*eSn*	**Sn**	**19 59 18.5**	**-2.4**
TUC				*eSg*	**Sg**	**19 59 38.8**	**-0.4**
SHPR	**Sheep Range**	**4.41**	**360**	*ePn*	**Pn**	**19 58 46.5**	**-0.2**
SHPR				*ePg*	**Pg**	**19 59 05.9**	**+1.6**
SHPR				*eSg*	**Sg**	**20 00 03.4**	**+1.9**
WUAZ	**Wupatki**	**4.65**	**42**	*ePn*	**Pn**	**19 58 50.0**	**-0.1**
W18A	**Petrified Fore**	**5.44**	**55**	*ePn*	**Pn**	**19 59 00.2**	**-0.8**
	comp=E,14nm,0.6s						
W18A				*eSn*	**Sn**	**20 00 05.8**	**+2.2**
CCUT	**Cedar City**	**5.65**	**15**	*ePn*	**Pn**	**19 59 04.3**	**+0.5**
	comp=E,8.3nm,0.8s						
CCUT				*ePg*	**Pg**	**19 59 29.9**	**+1.8**
R11A	**Troy Canyon, C**	**6.26**	**357**	*ePn*	Pn	19 59 15.4	+3.2
	comp=E,4.3nm,0.5s						
121A	**Cookes Peak, D**	**6.26**	**84**	*ePn*	**Pn**	**19 59 11.4**	**-0.8**
	comp=E,12nm,0.6s						

*IDC **20** 20:04:20.7±1.2, 13.86S×166.22E, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.9/20, mbtmp3.8/8, ML3.6/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/25, Error ellipse: s-maj=36.5km s-min=22.1km az=127.0*
*ISCJB **20** 20:04:23.8±0.9, 13.98S±0.08×166.2E±0.1, h31km, mb3.7/6, MS3.5/1, Error ellipse: s-maj=20.2km s-min=10.8km az=176.1*

ISC 20 20:04:25.4±1.0, 13.90S±0.10×166.2E±0.2, h31km, n9, σ0s85/9, mb3.8/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.13**	**179**	Pn	**Pn**	**20 06 20.3**	**-1.1**
	0.7nm,0.3s,baz=90,slow=23,SNR=7.2						
DZM				Sn	**Sn**	**20 07 53.1**	**+0.8**
	baz=270,slow=20,SNR=1.7						
CTA	**Charters Tower**	**20.06**	**249**	P	**P**	**20 08 56.6**	**+0.3**
	9.5nm,1.0s,baz=84,slow=9.2,SNR=3.0						
RAO	**Raoul Island**	**21.19**	**139**	LR	LR	20 15 36.4	
	comp=Z,195nm,19.9s,baz=221,slow=32						
STKA	**Stephens Creek**	**28.78**	**227**	P	**P**	**20 10 21.7**	**+1.1**
	2.0nm,0.7s,baz=52,slow=7.4,SNR=7.0						
WRA	**Warramunga Arr**	**31.06**	**254**	P	**P**	**20 10 40.4**	**-0.6**
	1.0nm,0.6s,baz=85,slow=9.6,SNR=12						
ASAR	**Alice Springs**	**32.04**	**248**	P	**P**	**20 10 49.1**	**-0.4**
	1.1nm,0.6s,baz=75,slow=9.3,SNR=25						
SONM	**Songino Array**	**81.24**	**324**	P	**P**	**20 16 37.9**	**-0.6**
	0.4nm,0.9s,baz=126,slow=3.7,SNR=3.2						
ILAR	**Eielson Array**	**86.06**	**18**	P	**P**	**20 17 03.2**	**+0.5**
	0.4nm,0.6s,baz=237,slow=5.5,SNR=6.5						
NVAR	**Mina Array Bea**	**87.50**	**50**	P	**P**	**20 17 10.8**	**+0.2**
	0.1nm,0.3s,baz=230,slow=7.0,SNR=2.0						

*IDC **20** 20:27:58.6±1.4, 1.88S×136.46E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/33, mbtmp3.9/5, ML3.8/1, Error ellipse: s-maj=46.3km s-min=23.5km az=79.0*
*ISCJB **20** 20:28:00.8±0.6, 1.75S±0.06×136.34E±0.05, h21km±5km, mb3.7/4, Error ellipse: s-maj=9.8km s-min=7.9km az=35.7*
*DJA **20** 20:28:01.0±0.3, 2°S±3°×13°6E±°, h10km, M4.0/7, MLv4.0/7*

ISC 20 20:28:00.9±1.2, 1.71S±0.04×136.36E±0.04, h19km±3km, n12, σ1s52/16, mb3.9/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.20**	**216**	P	**Pb**	**20 28 05.0**	**-0.2**
SRPI				S	**Sg**	**20 28 09.9**	**+0.6**
BAKI	**Biak**	**0.57**	**334**	P	**Pb**	**20 28 10.8**	**-1.4**
BAKI				S	**Sb**	**20 28 20.4**	**+0.4**
RKPI	**Ransiki, Papua**	**2.19**	**275**	P	**Pb**	**20 28 38.6**	**-1.3**
RKPI				S	**Sb**	**20 29 06.2**	**-0.4**
SMPI	**Sarmi**	**2.37**	**97**	P	**Pn**	**20 28 39.4**	**+0.7**
SMPI				S	**Sb**	**20 29 10.6**	**-1.2**
GENI	**Genyem**	**3.91**	**103**	P	**Pn**	**20 29 01.1**	**+1.2**
FAKI	**Fak Fak**	**4.28**	**254**	P	**Pn**	**20 29 05.6**	**+0.6**
JAY	**Jayapura**	**4.42**	**100**	P	**Pn**	**20 29 08.4**	**+1.4**
WRA	**Warramunga Arr**	**18.23**	**186**	P	**Pn**	**20 32 09.8**	**-3.1**
	0.4nm,0.3s,baz=9.3,slow=12,SNR=19						
WRA				S	Sn	20 35 24.8	-11
	0.1nm,0.3s,baz=14,slow=22,SNR=4.5						
ASAR	**Alice Springs**	**21.95**	**186**	P	**P**	**20 32 53.6**	**0.0**
	4.4nm,0.6s,baz=18,slow=10,SNR=40						
STKA	**Stephens Creek**	**30.41**	**171**	P	**P**	**20 34 10.8**	**-1.3**
	0.8nm,0.4s,baz=351,slow=8.3,SNR=5.1						
CMAR	**Chiang Mai Arr**	**41.91**	**300**	P	**P**	**20 35 52.1**	**+1.6**
	0.7nm,0.9s,baz=115,slow=5.7,SNR=8.1						
ILAR	**Eielson Array**	**85.91**	**25**	P	**P**	**20 40 41.2**	**+1.9**
	0.7nm,1.0s,baz=254,slow=5.5,SNR=5.9						

JMA 20 20:29:14.8±0.4, 22.33N×123.79E, h65km, M3.5, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.72**	**0**	P	Pn	20 29 43.3	+0.7
HATJ				*eS*	Sn	20 30 03.8	+0.2
JKRS	**Kuro-shima**	**1.91**	**6**	P	Pn	20 29 46.0	+0.9
JKRS				*eS*	Sn	20 30 08.9	+0.7
IRIF	**Iriomote-Funau**	**2.00**	**358**	P	Pn	20 29 47.5	+1.2
IRIF				*eS*	Sn	20 30 10.4	+0.1
JJJ	**Ishigaki jima**	**2.05**	**9**	P	Pn	20 29 47.4	+0.4
JJJ				*eS*	Sn	20 30 11.1	-0.5
YOJ	**Yonaguni jima**	**2.24**	**342**	P	Pn	20 29 51.0	+1.4
YOJ				*eS*	Sn	20 30 17.0	+0.8
JYNG	**Yonagunijimaku**	**2.25**	**340**	P	Pn	20 29 51.2	+1.5
JYNG				*eS*	Sn	20 30 17.1	+0.7
JISG	**Ishigakijimahi**	**2.30**	**12**	P	Pn	20 29 50.7	+0.3
JISG				*eS*	Sn	20 30 17.4	-0.2
JTJ	**Tarama**	**2.45**	**20**	P	Pn	20 29 53.0	+0.6
JTJ				*eS*	Sn	20 30 21.4	+0.2
JIRB	**Irabujima**	**2.79**	**27**	P	Pn	20 29 57.7	+0.6
JIRB				*eS*	Sn	20 30 29.4	-0.2
JOGS	**Gusukube**	**2.84**	**31**	P	Pn	20 29 58.5	+0.8
JOGS				*eS*	Sn	20 30 31.6	+0.8
JIKM	**Ikemajima**	**2.91**	**27**	P	Pn	20 29 59.6	+0.9
JIKM				*eS*	Sn	20 30 33.0	+0.5
JKE	**Kume jima 2**	**4.83**	**34**	P	Pn	20 30 24.5	-0.4
JKE				*eS*	Sn	20 31 16.7	-2.8
JOW	**Kunigami**	**6.06**	**41**	P	Pn	20 30 41.4	-0.5

*ISCJB **20** 20:38:42.7±0.9, 37.41N±0.03×20.16E±0.03, h5km±6km, mb3.6/8, MS3.1/2, Error ellipse: s-maj=5.6km s-min=3.7km az=32.1*
*IDC **20** 20:38:43.0±0.9, 37.46N×20.43E, h0km, mb3.5/8, mb1 3.5/17, mb1mx3.5/34, mbtmp3.4/17, ML3.9/4, MS3.0/4, Ms1 3.0/4, ms1mx2.6/30, Error ellipse: s-maj=17.1km s-min=15.9km az=34.0*
*CSEM **20** 20:38:44.4±0.3, 37.40N×20.25E, h2km, ML3.9, Error ellipse: s-maj=6.2km s-min=3.1km az=43.0*
*ATH **20** 20:38:44.4, 37.40N×20.28E, h18km±1km, MD3.5/28, ML3.8*
*THE **20** 20:38:45.6, 37.45N×20.31E, h0km±2km, ML3.9/7, Error ellipse: s-maj=2.8km s-min=0.9km az=247.0*

ISC 20 20:38:45.1±1.2, 37.43N±0.03×20.28E±0.04, h14km±8km, n178, σ1s34/207, mb3.7/8, 11C-14D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKS	**Zakynthos**	**0.48**	**56**	P	**Pg**	**20 38 54.0**	**-0.7**
ZKS				S	**Sg**	**20 39 00.4**	**-0.8**
ZKS	**Zakynthos**	**0.48**	**56**	*ePN*	**Pg**	**20 38 54.2**	**-0.5**
ZKS				*eSN*	**Sg**	**20 39 01.8**	**+0.6**
ZKS	**Zakynthos**	**0.48**	**56**	*ePn*	**Pg**	**20 38 54.2**	**-0.5**
ZKS				S	**Sg**	**20 39 00.4**	**-0.8**
ZKS				*eSn*	**Sg**	**20 39 01.8**	**+0.6**
SFD	**Strofades**	**0.61**	**106**	P	**Pb**	**20 38 57.2**	**-0.4**
SFD				S	**Sg**	**20 39 05.5**	**+0.2**
SFD	**Strofades**	**0.61**	**106**	*ePN*	**Pg**	**20 38 56.7**	**-0.4**
SFD				*eSN*	**Sg**	**20 39 05.4**	**+0.2**
SFD	**Strofades**	**0.61**	**106**	*ePn*	**Pg**	**20 38 56.7**	**-0.4**
SFD	**Strofades**	**0.61**	**106**	P	**Pb**	**20 38 57.2**	**-0.4**
SFD				*eSn*	**Sg**	**20 39 05.4**	**+0.2**
VLS	**Valsamata**	**0.79**	**18**	P	**Pg**	**20 38 59.1**	**-1.3**
VLS				S	**Sg**	**20 39 10.7**	**-0.1**
VLS	**Valsamata**	**0.79**	**18**	*ePB*	**Pg**	**20 38 59.7**	**-0.7**
VLS				*eSN*	**Sb**	**20 39 11.9**	**+0.8**
VLS	**Valsamata**	**0.79**	**18**	P	**Pg**	**20 38 59.1**	**-1.3**
VLS	**Valsamata**	**0.79**	**18**	*ePb*	**Pg**	**20 38 59.7**	**-0.7**
VLS				S	**Sg**	**20 39 10.7**	**-0.1**
VLS				*eSn*	**Sb**	**20 39 11.9**	**+0.8**
KFL	**Anninata**	**0.79**	**31**	P	**Pg**	**20 38 59.4**	**-1.1**
KFL				S	**Sg**	**20 39 11.1**	**+0.2**
KFL	**Anninata**	**0.79**	**31**	P	**Pg**	**20 38 59.4**	**-1.1**
KFL				S	**Sg**	**20 39 11.1**	**+0.2**
VTN	**Vitineika**	**0.87**	**56**	P	**Pg**	**20 39 01.6**	**-0.3**
VTN	**Vitineika**	**0.87**	**56**	P	**Pg**	**20 39 01.6**	**-0.3**
RLS	**Riolos of Patr**	**1.13**	**56**	P	**Pb**	**20 39 05.7**	**-0.7**
RLS	**Riolos of Patr**	**1.13**	**56**	*ePN*	**Pb**	**20 39 05.9**	**-0.5**
RLS	**Riolos of Patr**	**1.13**	**56**	P	**Pb**	**20 39 05.7**	**-0.7**
AMT	**Artemida-Makis**	**1.14**	**84**	P	**Pb**	**20 39 06.4**	**-0.2**
AMT				S	**Sn**	**20 39 23.2**	**+1.1**
AMT	**Artemida-Makis**	**1.14**	**84**	*ePN*	**Pb**	**20 39 05.9**	**-0.7**
AMT				*eSN*	**Sg**	**20 39 22.2**	**+0.2**
AMT	**Artemida-Makis**	**1.14**	**84**	*ePn*	**Pb**	**20 39 05.9**	**-0.7**
AMT	**Artemida-Makis**	**1.14**	**84**	P	**Pb**	**20 39 06.4**	**-0.2**
AMT				*eSn*	**Sg**	**20 39 22.2**	**+0.2**
AMT				S	**Sn**	**20 39 23.2**	**+1.1**
DRO	**Drossia**	**1.25**	**65**	P	**Pb**	**20 39 08.8**	**+0.3**
DRO				S	**Sn**	**20 39 26.5**	**+1.7**
DRO	**Drossia**	**1.25**	**65**	*ePN*	**Pg**	**20 39 08.9**	**-0.3**
DRO	**Drossia**	**1.25**	**65**	P	**Pb**	**20 39 08.8**	**+0.3**
DRO				S	**Sn**	**20 39 26.5**	**+1.7**
PYL	**PYLOS**	**1.28**	**114**	P	**Pn**	**20 39 08.5**	**-0.1**
PYL				S	**Sg**	**20 39 27.7**	**+1.2**
PYL	**PYLOS**	**1.28**	**114**	*ePN*	**Pn**	**20 39 08.5**	**-0.1**
PYL				*eSN*	**Sb**	**20 39 25.6**	**+0.2**
PYL	**PYLOS**	**1.28**	**114**	P	**Pn**	**20 39 08.5**	**-0.1**
PYL				*eSn*	**Sb**	**20 39 25.6**	**+0.2**
PYL				S	**Sg**	**20 39 27.7**	**+1.2**
ITM	**Ithomi**	**1.34**	**100**	P	**Pn**	**20 39 09.4**	**+0.1**
ITM				S	**Sg**	**20 39 29.4**	**+1.2**
ITM	**Ithomi**	**1.34**	**100**	*ePN*	**Pn**	**20 39 09.3**	**0.0**
ITM	**Ithomi**	**1.34**	**100**	P	**Pn**	**20 39 09.4**	**+0.1**
ITM				S	**Sg**	**20 39 29.4**	**+1.2**
PDO	**Prodromos**	**1.37**	**31**	P	**Pb**	**20 39 10.6**	**+0.1**
PDO	**Prodromos**	**1.37**	**31**	*ePN*	**Pg**	**20 39 11.6**	**+0.2**
PDO	**Prodromos**	**1.37**	**31**	P	**Pb**	**20 39 10.6**	**+0.1**
PDO	**Prodromos**	**1.37**	**31**	*ePn*	**Pg**	**20 39 11.6**	**+0.2**
KLV	**Kalavryta, Ach**	**1.61**	**67**	P	**Pn**	**20 39 14.1**	**+1.0**
KLV				S	**Sg**	**20 39 36.7**	**-0.1**
KLV	**Kalavryta, Ach**	**1.61**	**67**	*ePN*	**Pb**	**20 39 14.2**	**-0.3**
KLV	**Kalavryta, Ach**	**1.61**	**67**	*ePn*	**Pb**	**20 39 14.2**	**-0.3**
KLV				S	**Sg**	**20 39 36.7**	**-0.1**
EFP	**Efpalio**	**1.63**	**52**	P	**Pb**	**20 39 14.7**	**-0.2**
EFP	**Efpalio**	**1.63**	**52**	*ePN*	**Pb**	**20 39 14.7**	**-0.2**
EFP	**Efpalio**	**1.63**	**52**	P	**Pb**	**20 39 14.7**	**-0.2**
VLX	**Vlachokerasia**	**1.68**	**91**	P	**Pb**	**20 39 15.4**	**-0.3**
VLX				S	**Sg**	**20 39 38.7**	**-0.3**
VLX	**Vlachokerasia**	**1.68**	**91**	*ePN*	**Pn**	**20 39 14.9**	**+0.9**
VLX	**Vlachokerasia**	**1.68**	**91**	*ePn*	**Pn**	**20 39 14.9**	**+0.9**
VLX	**Vlachokerasia**	**1.68**	**91**	P	**Pb**	**20 39 15.4**	**-0.3**
VLX				S	**Sg**	**20 39 38.7**	**-0.3**
GUR	**Goura**	**1.71**	**72**	P	**Pn**	**20 39 15.7**	**+1.1**
GUR				S	**Sg**	**20 39 39.5**	**-0.8**
GUR	**Goura**	**1.71**	**72**	*ePN*	**Pb**	**20 39 15.9**	**-0.5**
GUR	**Goura**	**1.71**	**72**	P	**Pn**	**20 39 15.7**	**+1.1**
GUR				S	**Sg**	**20 39 39.5**	**-0.8**
KALE	**Kalithea**	**1.76**	**56**	P	**Pb**	**20 39 16.9**	**-0.2**
KALE	**Kalithea**	**1.76**	**56**	*ePN*	**Pn**	**20 39 16.4**	**+1.2**
KALE	**Kalithea**	**1.76**	**56**	*ePn*	**Pn**	**20 39 16.4**	**+1.2**
KALE	**Kalithea**	**1.76**	**56**	P	**Pb**	**20 39 16.9**	**-0.2**
DSL	**Palaion Diasel**	**1.82**	**20**	*ePN*	**Pn**	**20 39 17.2**	**+1.2**
DSL	**Palaion Diasel**	**1.82**	**20**	*ePn*	**Pn**	**20 39 17.2**	**+1.2**
EVR	**Evrytania**	**1.92**	**39**	P	**Pn**	**20 39 18.6**	**+1.3**
EVR	**Evrytania**	**1.92**	**39**	*ePN*	**Pb**	**20 39 20.1**	**+0.3**
EVR	**Evrytania**	**1.92**	**39**	P	**Pn**	**20 39 18.6**	**+1.3**
EVR	**Evrytania**	**1.92**	**39**	*ePn*	**Pb**	**20 39 20.1**	**+0.3**
DSF	**Desfina**	**2.03**	**60**	P	**Pn**	**20 39 20.2**	**+1.3**
DSF	**Desfina**	**2.03**	**60**	*ePN*	**Pb**	**20 39 20.9**	**-0.9**
DSF	**Desfina**	**2.03**	**60**	P	**Pn**	**20 39 20.2**	**+1.3**
DSF	**Desfina**	**2.03**	**60**	*ePn*	**Pb**	**20 39 20.9**	**-0.9**
MAKR	**Makrakomi, Fth**	**2.15**	**42**	*ePN*	**Pn**	**20 39 22.6**	**-1.2**
MAKR	**Makrakomi, Fth**	**2.15**	**42**	*ePn*	**Pb**	**20 39 22.6**	**-1.2**
LTK	**Loutraki**	**2.21**	**74**	*ePN*	**Pn**	**20 39 22.6**	**+1.2**
LTK	**Loutraki**	**2.21**	**74**	*ePn*	**Pn**	**20 39 22.6**	**+1.2**
VLI	**Veliai**	**2.24**	**108**	*ePB*	**Pn**	**20 39 22.6**	**+0.9**
VLI	**Veliai**	**2.24**	**108**	*ePb*	**Pn**	**20 39 22.6**	**+0.9**
AGG	**Agios Georgios**	**2.27**	**45**	P	**Pn**	**20 39 23.9**	**+1.8**
AGG	**Agios Georgios**	**2.27**	**45**	*ePN*	**Pn**	**20 39 23.9**	**+1.8**
AGG	**Agios Georgios**	**2.27**	**45**	P	**Pn**	**20 39 23.9**	**+1.8**
AXAR	**Agios Charalam**	**2.31**	**54**	*ePN*	**Pn**	**20 39 24.5**	**+1.9**
AXAR	**Agios Charalam**	**2.31**	**54**	*ePn*	**Pn**	**20 39 24.5**	**+1.9**
KEK	**Kerkira**	**2.31**	**351**	*ePN*	**Pn**	**20 39 24.4**	**+1.7**
KEK	**Kerkira**	**2.31**	**351**	*ePn*	**Pn**	**20 39 24.4**	**+1.7**
DID	**Didima**	**2.36**	**87**	*ePN*	**Pn**	**20 39 24.1**	**+0.8**
DID	**Didima**	**2.36**	**87**	*ePn*	**Pn**	**20 39 24.1**	**+0.8**
LKR	**Lokris**	**2.47**	**60**	*ePN*	**Pn**	**20 39 25.8**	**+0.9**
LKR	**Lokris**	**2.47**	**60**	*ePn*	**Pn**	**20 39 25.8**	**+0.9**
KYTH	**Kithira**	**2.49**	**117**	P	**Pn**	**20 39 26.8**	**+1.6**
KYTH	**Kithira**	**2.49**	**117**	*ePB*	**Pn**	**20 39 27.0**	**+1.8**
KYTH	**Kithira**	**2.49**	**117**	P	**Pn**	**20 39 26.8**	**+1.6**
VIL2	**Platees**	**2.49**	**71**	*ePN*	**Pn**	**20 39 26.6**	**+1.0**
VIL2	**Villia**	**2.51**	**72**	*ePN*	**Pn**	**20 39 26.2**	**+0.7**
THL	**Klokotos Trika**	**2.53**	**32**	P	**Pn**	**20 39 27.5**	**+1.8**
THL	**Klokotos Trika**	**2.53**	**32**	*ePN*	**Pn**	**20 39 27.5**	**+1.8**
THL	**Klokotos Trika**	**2.53**	**32**	P	**Pn**	**20 39 27.5**	**+1.8**
SMIA	**Simia**	**2.73**	**57**	*ePN*	**Pn**	**20 39 29.2**	**+0.8**
SMIA	**Simia**	**2.73**	**57**	*ePn*	**Pn**	**20 39 29.2**	**+0.8**
ATH	**Athens Observa**	**2.78**	**78**	*ePN*	**Pn**	**20 39 30.1**	**+1.0**
ATH	**Athens Observa**	**2.78**	**78**	*ePn*	**Pn**	**20 39 30.1**	**+1.0**
MRKA	**Markates**	**2.91**	**63**	*ePN*	**Pn**	**20 39 31.7**	**+0.8**
MRKA	**Markates**	**2.91**	**63**	*ePn*	**Pn**	**20 39 31.7**	**+0.8**
NEO	**Neokhori**	**2.98**	**50**	*ePN*	**Pn**	**20 39 32.3**	**+0.4**
NEO	**Neokhori**	**2.98**	**50**	*ePn*	**Pn**	**20 39 32.3**	**+0.4**
XOR	**Xorichti**	**3.00**	**49**	*ePN*	**Pn**	**20 39 33.1**	**+0.9**
XOR

comp=Z,16nm,2.0s,baz=162,slow=9.3
NB2 NORSAR Subarra 24.32 349 P P 20 44 02.1 +0.1
comp=Z,16nm,2.0s,SNR=6.8
NOA NORSAR Array B 24.32 349 P P 20 44 00.9 -1.0
comp=Z,0.8nm,0.9s,baz=143,slow=5.0,SNR=3.2
TORD Torodi Ar. Bea 29.33 219 P P 20 44 47.9 +0.5
comp=Z,0.9nm,0.6s,baz=31,slow=9.3,SNR=14
TORD LR LR 20 57 46.2
comp=Z,36nm,18.4s,baz=240,slow=39
BVAR Borovoye Array 37.75 49 LR LR 21 03 14.8
comp=Z,34nm,19.0s,baz=254,slow=39
ZALV Zalesovo Beam 46.34 48 P P 20 47 07.7 -2.6
comp=Z,0.8nm,0.5s,baz=285,slow=8.1,SNR=3.6
SONM Songino Array 61.08 50 P P 20 48 58.2 -0.3
comp=Z,0.2nm,0.7s,baz=292,slow=7.6,SNR=2.7
CMAR Chiang Mai Arr 70.19 82 P P 20 49 58.2 +0.6
comp=Z,0.3nm,0.6s,baz=298,slow=7.9,SNR=2.7

*CSEM **20** 20:39:07.3±0.2,48.°09N×8.°03E,h19km,ML1.6/6, Error ellipse: s-maj=4.2km s-min=2.4km az=60.0*
LDG 20 20:39:08.2±0.0,48.°08N×8.°02E,h13km,Md1.9/3,Ml1.7/6, Error ellipse: s-maj=0.8km s-min=0.7km az=177.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FELD	**Feldberg im Sc**	**0.21**	**182**	Pg	Pg	20 39 13.0	0.0
FELD				Sg	Sg	20 39 16.0	-0.2
ECH	**Echery**	**0.59**	**283**	Pg	Pg	20 39 19.5	-0.3
ECH				Sg	Sg	20 39 27.2	-0.5
ECH	**Echery**	**0.59**	**283**	Pg	Pg	20 39 19.5	-0.3
ECH				Sg	Sg	20 39 27.2	-0.5
CDF	**Champ du Feu**	**0.59**	**304**	*e*Pg	Pg	20 39 20.1	+0.1
CDF	**Champ du Feu**	**0.59**	**304**	*e*Pn	Pb	20 39 20.4	-0.2
CDF				*e*Sg	Sg	20 39 27.7	-0.3
	2.6nm,0.2s						
CDF	**Champ du Feu**	**0.59**	**304**	*e*Pg	Pg	20 39 20.1	+0.1
CDF	**Champ du Feu**	**0.59**	**304**	*e*Pn	Pb	20 39 20.4	-0.2
CDF				*e*Sg	Sg	20 39 27.7	-0.3
	1.3nm,0.2s						
HINF	**Hinteralfeld**	**0.83**	**252**	*e*Pg	Pg	20 39 23.9	-0.4
HINF				*e*Sg	Sg	20 39 34.7	-0.5
	3.8nm,0.3s						
HINF	**Hinteralfeld**	**0.83**	**252**	*e*Pg	Pg	20 39 23.9	-0.4
HINF				*e*Sg	Sg	20 39 34.7	-0.5
	1.9nm,0.3s						
HAU	**Haudompre**	**1.12**	**267**	*e*Pg	Pb	20 39 29.4	-0.1
HAU				*e*Sg	Sb	20 39 44.1	0.0
	3.4nm,0.2s						
HAU	**Haudompre**	**1.12**	**267**	*e*Pg	Pb	20 39 29.4	-0.1
HAU				*e*Sg	Sb	20 39 44.1	0.0
	1.7nm,0.2s						
PAGF	**Fort de Pagny**	**1.60**	**288**	*e*Pn	Pn	20 39 34.5	-1.7
PAGF	**Fort de Pagny**	**1.60**	**288**	*e*Pg	Pb	20 39 37.8	+0.2
	baz=110						
PAGF				*e*Sg	Sb	20 39 58.7	+0.9
	0.3nm,0.3s						
PAGF	**Fort de Pagny**	**1.60**	**288**	*e*Pn	Pn	20 39 34.5	-1.7
PAGF	**Fort de Pagny**	**1.60**	**288**	*e*Pg	Pb	20 39 37.8	+0.2
	baz=110						
PAGF				*e*Sg	Sb	20 39 58.7	+0.9
	0.2nm,0.3s						
SFTF	**Sexfontaines**	**2.00**	**275**	*e*Pn	Pn	20 39 40.0	-1.7
SFTF				*e*Sg	Sg	20 40 11.0	-1.5
	0.6nm,0.2s						
SFTF	**Sexfontaines**	**2.00**	**275**	*e*Pn	Pn	20 39 40.0	-1.7
SFTF				*e*Sg	Sg	20 40 11.0	-1.5
	0.3nm,0.2s						
MEZF	**Maizieres J'vi**	**2.02**	**283**	*e*Pn	Pn	20 39 40.3	-1.7
MEZF				*e*Sg	Sg	20 40 11.7	-1.6
	1.9nm,0.4s						
MEZF	**Maizieres J'vi**	**2.02**	**283**	*e*Pn	Pn	20 39 40.3	-1.7
MEZF				*e*Sg	Sg	20 40 11.7	-1.6
	0.9nm,0.4s						

*NIED **20** 20:49:00,33.°00N×142.°60E,h5km,Mw4.3 Best double couple: M0 3.20000×10^15 NP1:φs10.00000°,δ17.00000°, λ-108.00000°. NP2:φs208.00000°,δ74.00000°, λ-85.00000°.*
*IDC **20** 20:49:31.6±0.5,33.°01N×142.°60E,h0km,mb4.1/20, mb1 4.2/25,mb1mx4.1/40,mbtmp4.0/25,ML2.9/3,MS3.1/7, Ms1 3.1/7,ms1mx2.8/36, Error ellipse: s-maj=17.8km s-min=13.0km az=77.0*
*JMA **20** 20:49:33.7±0.3,33.°01N×142.°64E,h71km,M4.1*
*ISCJB **20** 20:49:35.1±0.4,33.°05N±0.°04×142.°52E±0.°05,h33km, mb4.1/31,MS3.7/6, Error ellipse: s-maj=6.6km s-min=4.2km az=140.5*
*MOS **20** 20:49:35.3±1.5,33.°12N×142.°50E,h33km,mb4.4/12, Error ellipse: s-maj=13.3km s-min=6.3km az=111.1*
*NEIC **20** 20:49:35.7±0.4,33.°01N×142.°50E,h30km,mb4.4/5, Error ellipse: s-maj=9.9km s-min=8.4km az=81.0*
ISC 20 20:49:36.4±0.5,32.°98N±0.°05×142.°51E±0.°07,h33km,n96, σ1§58/111,mb4.3/38,MS3.5/6,8C-4D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.10**	**323**	P	**Pn**	**20 50 08.0**	**-0.7**
BSO1				S	**Sn**	**20 50 34.5**	**+1.1**
JHJ2	**Mitsune**	**2.27**	**274**	P	**Pn**	**20 50 11.5**	**0.0**
JHJ2				S	**Sn**	**20 50 38.3**	**0.0**
JHJ2	**Mitsune**	**2.27**	**274**	*e*Pn	**Pn**	**20 50 10.7**	**-0.8**
BSO3	**Boso 3**	**2.46**	**318**	P	**Pn**	**20 50 13.4**	**-0.6**
BSO3				S	**Sn**	**20 50 44.1**	**+1.3**
BSO4	**Boso 4**	**2.70**	**319**	P	**Pn**	**20 50 17.2**	**-0.1**
BSO4				S	**Sn**	**20 50 49.1**	**+0.3**
JOD2	**Odawara 2**	**3.64**	**310**	P	**Pn**	**20 50 29.5**	**-0.9**
JOD2				S	**Sn**	**20 51 11.6**	**-0.6**
JYN	**Shimob**	**4.13**	**308**	P	**Pn**	**20 50 37.4**	**+0.1**
JYN				S	**Sn**	**20 51 25.4**	**+0.9**
JRY	**Ryogami san**	**4.25**	**316**	P	**Pn**	**20 50 37.9**	**-0.9**
JRY				S	**Sn**	**20 51 26.0**	**-0.6**
JAG	**Ashikaga**	**4.26**	**325**	P	**Pn**	**20 50 38.3**	**-0.6**
JAG				S	**Sn**	**20 51 25.0**	**-2.5**
JFT	**Otama**	**4.86**	**339**	P	**Pn**	**20 50 46.4**	**-0.8**
JFT				S	**Sn**	**20 51 37.9**	**-4.5**
MJAR	**Matsushiro Arr**	**5.01**	**316**	Pn	**Pn**	**20 50 49.0**	**-0.3**
	3.1nm,0.3s,baz=155,slow=13,SNR=34						
MJAR				Sn	**Sn**	**20 51 43.1**	**-3.0**
	2.3nm,0.3s,baz=147,slow=25,SNR=7.4						
MAJO	**Matsushiro**	**5.02**	**316**	*e*P	**Pn**	**20 50 49.1**	**-0.2**
MAJO				*e*		20 51 46.4	
MAJO	**Matsushiro**	**5.02**	**316**	*e*Pn	**Pn**	**20 50 49.1**	**-0.2**
MAJO				*e*Sn	**Sn**	**20 51 46.4**	**+0.2**
MAT	**Matsushiro**	**5.02**	**316**	P	**Pn**	**20 50 48.6**	**-0.7**
MAT				S	**Sn**	**20 51 45.0**	**-1.2**
MAT	**Matsushiro**	**5.02**	**316**	P	**Pn**	**20 50 49.5**	**+0.2**
MAT				S	**Sn**	**20 51 45.1**	**-1.1**
CBIJ	**Chichi jima**	**5.87**	**183**	P	**Pn**	**20 50 59.1**	**-2.0**
CBIJ	**Chichi jima**	**5.87**	**183**	Pn	**Pn**	**20 50 58.8**	**-2.3**
CBIJ				Sn	**Sn**	**20 52 02.1**	**-5.2**
JCJ	**Chichijima**	**5.87**	**183**	Pn	**Pn**	**20 50 58.8**	**-2.3**
	13nm,0.3s,baz=39,slow=14,SNR=10						
JCJ				Sn	**Sn**	**20 52 02.1**	**-5.2**
	16nm,0.3s,baz=37,slow=20,SNR=5.7						
JMK	**Ichinoseki**	**6.05**	**350**	P	**Pn**	**20 51 01.6**	**-1.9**
ERM	**Erimo**	**9.03**	**3**	*e*P	**Pn**	**20 51 42.3**	**-2.1**
ERM				pmax	pmax		
	comp=Z,13nm,1.7s						
ERM	**Erimo**	**9.03**	**3**	*e*Pn	**Pn**	**20 51 41.6**	**-2.8**
	comp=Z,12nm,0.6s						
JNU	**Nakatsue**	**9.77**	**274**	LR	LR	20 56 08.8	
	comp=Z,93nm,18.1s,baz=78,slow=40						
ASAJ	**Asahikawa**	**11.12**	**0**	Pn	**Pn**	**20 52 10.2**	**-2.8**
	baz=204,slow=10.0						
KSRS	**Korea Array**	**12.73**	**295**	Pn	**Pn**	**20 52 33.8**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=97,slow=18,SNR=2.8						
KSRS				LR	LR	20 58 00.1	
	comp=Z,101nm,18.1s,baz=94,slow=40						
KSAR	**Wonju Array Be**	**12.76**	**294**	P	**Pn**	**20 52 33.8**	**-1.6**
KSAR	**Wonju Array Be**	**12.76**	**294**	Pn	**Pn**	**20 52 33.8**	**-1.6**
USRK	**Ussuriysk Ar.**	**13.88**	**327**	Pn	**Pn**	**20 52 48.6**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=133,slow=15,SNR=3.9						
USRK				LR	LR	20 58 12.0	
	comp=Z,79nm,19.9s,baz=158,slow=37						
UGL	**Uglegorsk**	**16.09**	**359**	*e*P	**Pn**	**20 53 17.8**	**-2.1**
HABR	**Khabarovsk**	**16.46**	**342**	*e*P	**Pn**	**20 53 23.1**	**-1.6**
HABR				*e*S	**Sn**	**20 56 24.5**	**-1.8**
HABR				pmax	pmax		
	comp=Z,17nm,1.7s						
HABR				MLR	MLR		
	comp=Z,106nm,18.0s						
GUMO	**Guam**	**19.42**	**173**	LR	LR	20 59 54.5	
	comp=Z,18nm,21.9s,baz=65,slow=32						
YULB	**Yu-li**	**20.96**	**248**	*e*P	**P**	**20 54 16.5**	**-0.2**
HIA	**Hailar**	**23.50**	**321**	*e*P	**P**	**20 54 42.8**	**-0.4**
HIA				pmax	pmax		
	comp=Z,19nm,2.5s						
H11N2	**WAKE ISLAND Hy**	**25.45**	**115**	T	T	21 21 24.6	
	baz=304,slow=75,SNR=3.8						
H11N1	**WAKE ISLAND Hy**	**25.46**	**115**	T	T	21 21 27.2	
	baz=304,slow=75,SNR=3.3						
H11N3	**WAKE ISLAND Hy**	**25.47**	**115**	T	T	21 21 26.6	
	baz=304,slow=75,SNR=3.2						
ENH	**Enshi**	**28.19**	**273**	*e*P	**P**	**20 55 23.6**	**-2.3**
	comp=Z,6.2nm,0.8s						
SEY	**Seymchan**	**30.62**	**9**	P	**P**	**20 55 46.2**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=197,slow=7.6,SNR=6.6						
SONM	**Songino Array**	**30.93**	**309**	P	**P**	**20 55 52.0**	**+1.8**
	comp=Z,2.2nm,0.9s,baz=118,slow=6.9,SNR=9.7						
SONM				LR	LR	21 09 06.9	
	comp=Z,56nm,19.3s,baz=108,slow=38						
SONM	**Songino Array**	**30.93**	**309**	P	**P**	**20 55 52.0**	**+1.8**
BOD	**Bodaibo**	**31.46**	**331**	*e*P	**P**	**20 55 54.8**	**+0.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BILL	**Bilibino**	**37.69**	**14**	*e*P	**P**	**20 56 48.1**	**-0.2**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.7s						
TIXI	**Tiksi**	**39.41**	**353**	*e*P	**P**	**20 57 03.1**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.7s						
CMAR	**Chiang Mai Arr**	**41.53**	**261**	P	**P**	**20 57 21.7**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=47,slow=6.6,SNR=4.1						
CMAR				LR	LR	21 15 01.8	
	comp=Z,18nm,19.0s,baz=70,slow=37						
ZALV	**Zalesovo Beam**	**45.37**	**315**	P	**P**	**20 57 51.5**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=107,slow=5.1,SNR=4.6						
ZALV				PcP	**PcP**	**20 59 30.5**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=87,slow=3.3,SNR=5.2						
ZALV				LR	LR	21 18 00.5	
	comp=Z,22nm,18.2s,baz=70,slow=38						
MK31	**Makanchi Array**	**47.12**	**306**	*e*P	**P**	**20 58 03.2**	**-2.1**
MK31	**Makanchi Array**	**47.12**	**306**	*e*P	**P**	**20 58 03.2**	**-2.1**
TAPN	**Taplejung**	**47.27**	**278**	*e*P	**P**	**20 58 08.1**	**+1.1**
	comp=Z,13nm,0.8s						
ODAN	**Odare**	**47.71**	**278**	*e*P	**P**	**20 58 10.6**	**+0.2**
	comp=Z,21nm,1.0s						
RAMN	**Ramite**	**48.34**	**278**	*e*P	**P**	**20 58 15.6**	**+0.4**
	comp=Z,44nm,1.2s						
GUN	**Gumba**	**48.59**	**280**	*e*P	**P**	**20 58 18.7**	**+1.4**
	comp=Z,23nm,0.9s						
KKN	**Kakani**	**49.13**	**280**	*e*P	**P**	**20 58 21.5**	**+0.2**
	comp=Z,14nm,0.9s						
KURK	**Kurchatov**	**49.20**	**311**	P	**P**	**20 58 22.3**	**+1.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURK	**Kurchatov**	**49.20**	**311**	*e*P	**P**	**20 58 20.6**	**-0.7**
	comp=Z,12nm,0.9s						
KURBB	**Kurchatov Arra**	**49.27**	**311**	P	**P**	**20 58 22.3**	**+0.5**
	comp=Z,3.2nm,0.9s,baz=86,slow=7.6,SNR=30						
DMN	**Daman**	**49.34**	**280**	*e*P	**P**	**20 58 24.3**	**+1.4**
GKN	**Gorkha**	**49.59**	**280**	*e*P	**P**	**20 58 25.3**	**+0.6**
	comp=Z,12nm,0.8s						
KOLN	**Koldanda**	**50.53**	**281**	*e*P	**P**	**20 58 32.5**	**+0.6**
	comp=Z,4.5nm,0.5s						
ILAR	**Eielson Array**	**52.47**	**31**	P	**P**	**20 58 45.8**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=263,slow=6.8,SNR=8.2						
WRA	**Warramunga Arr**	**53.20**	**190**	P	**P**	**20 58 51.2**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=6.2,slow=7.7,SNR=40						
WRA				PcP	**PcP**	**21 00 00.2**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=6.6,slow=7.8,SNR=2.9						
BVAR	**Borovoye Array**	**54.01**	**315**	P	**P**	**20 58 56.4**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=96,slow=9.0,SNR=7.4						
KKAR	**Karatay Array**	**56.00**	**303**	*e*P	**P**	**20 59 11.6**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**56.00**	**303**	*e*P	**P**	**20 59 11.6**	**-0.2**
	comp=Z,2.4nm,0.7s						
ASAR	**Alice Springs**	**56.93**	**189**	P	**P**	**20 59 18.1**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=5.6,slow=6.7,SNR=13						
ASAR				PcP	**PcP**	**21 00 14.6**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=11,slow=4.6,SNR=7.0						
ARU	**Arti**	**60.02**	**320**	*d*P	**P**	**20 59 39.9**	**+0.3**
ARU				S	**S**	**21 07 52.1**	**+2.3**
ARU				SS	**SS**	**21 11 41.3**	**-4.9**
ARU				pmax	pmax		
	comp=Z,13nm,2.5s						
ARU	**Arti**	**60.02**	**320**	*e*P	**P**	**20 59 39.0**	**-0.5**
	comp=Z,5.1nm,1.3s						
ABKAR	**Akbulak array**	**61.28**	**312**	*e*P	**P**	**20 59 48.2**	**-0.1**
	comp=Z,1.3nm,0.6s						
BBB	**Bella Bella**	**64.37**	**43**	LR	LR	21 27 32.2	
	comp=Z,237nm,18.9s,baz=12,slow=36						
STKA	**Stephens Creek**	**64.52**	**181**	P	**P**	**21 00 11.3**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=23,slow=13,SNR=3.4						
YKA	**Yellowknife Ar**	**65.87**	**29**	P	**P**	**21 00 23.7**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=291,slow=6.0,SNR=3.3						
OBN	**Obninsk**	**71.89**	**324**	*e*P	**P**	**21 00 57.2**	**+1.3**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,43nm,14.0s						
FINES	**FINESS Array B**	**72.82**	**333**	P	**P**	**21 01 01.8**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=131,slow=5.3,SNR=7.2						
FINES	**FINESS Array B**	**72.82**	**333**	*i* P	**P**	**21 01 02.2**	**+0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	**Khabaz**	**74.25**	**312**	P	**P**	**21 01 11.3**	**+1.3**
	comp=Z,3.2nm,0.9s,baz=93,slow=5.3,SNR=4.8						
KIV	**Kislovodsk**	**74.27**	**312**	*e*P	**P**	**21 01 12.5**	**+2.2**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VSU	**Vasula**	**74.41**	**331**	*e*P	**P**	**21 01 11.9**	**+1.2**
VSU				pmax	pmax		
	comp=Z,20nm,1.0s						
NVAR	**Mina Array Bea**	**76.70**	**53**	P	**P**	**21 01 25.5**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=296,slow=6.1,SNR=6.1						
AKASG	**Malin Array Be**	**78.06**	**323**	P	**P**	**21 01 30.8**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=44,slow=5.5,SNR=6.7						
AKASG	**Malin Array Be**	**78.06**	**323**	*ce*P	**P**	**21 01 32.5**	**+0.9**
NB2	**NORSAR Subarra**	**78.27**	**338**	P	**P**	**21 01 33.2**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=39,slow=5.9						
NOA	**NORSAR Array B**	**78.27**	**338**	P	**P**	**21 01 33.3**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=40,slow=5.6,SNR=7.7						
PPT	**Papeete**	**82.01**	**117**	LR	LR	21 35 25.2	
	comp=Z,384nm,18.7s,baz=120,slow=34						
BURAR	**Buryonina Array**	**82.06**	**323**	*i* P	**P**	**21 01 55.0**	**+1.6**
BRTR	**Keskin Array B**	**82.23**	**313**	P	**P**	**21 01 55.0**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=94,slow=3.7,SNR=7.0						
BRTR	**Keskin Array B**	**82.23**	**313**	*ce*P	**P**	**21 01 56.0**	**+1.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DRGR		**83.88**	**323**	*i* P	**P**	**21 02 04.0**	**+1.2**
DPC	**Dobruska-Polom**	**84.37**	**329**	*e*P	**P**	**21 02 06.8**	**+1.6**
DPC				*e*pP	**pP**	**21 02 17.1**	**+1.4**
DPC	**Dobruska-Polom**	**84.37**	**329**	*e*P	**P**	**21 02 06.8**	**+1.6**
DPC				*e*		21 02 17.1	
CLL	**Collm**	**85.06**	**331**	*i* P	**P**	**21 02 09.4**	**+0.8**
CLL	**Collm**	**85.06**	**331**	*i* P	**P**	**21 02 09.4**	**+0.8**
MMAI	**Mount Meron Ar**	**85.06**	**306**	P	**P**	**21 02 10.2**	**+1.1**
	comp=Z,3.8nm,0.9s,baz=52,slow=7.8,SNR=3.6						
MSEY	**Mahe Island**	**90.03**	**264**	*i* P	**P**	**21 02 35.3**	**+2.1**
IDI	**Anoyia**	**90.41**	**314**	P	**P**	**21 02 37.3**	**+2.6**
	comp=Z,4.2nm,0.6s,baz=117,slow=18,SNR=3.2						
TXAR	**Lajitas Array**	**91.86**	**53**	P	**P**	**21 02 42.7**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=305,slow=3.8,SNR=11						
TORD	**Torodi Ar. Bea**	**120.81**	**314**	PKP	**PKPdf**	**21 08 25.0**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=23,slow=1.9,SNR=4.8						
LPAZ	**La Paz**	**147.73**	**66**	PKPbc	**PKPbc**	**21 09 18.6**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=17,slow=8.4,SNR=7.8						
CFAA	**Coronel Fontan**	**154.01**	**95**	PKPab	**PKPab**	**21 09 45.8**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=275,slow=6.1,SNR=6.2						

*ISCJB **20** 20:54:42.6±0.9,33.°07N±0.°08×142.°5E±0.°1,h41km, mb3.5/4, Error ellipse: s-maj=17.8km s-min=6.6km az=149.2*
*JMA **20** 20:54:45.2±0.2,33.°24N×142.°53E,h88km,M3.4*
*IDC **20** 20:54:45.8±3.0,32.°32N×140.°53E,h0km,mb3.5/4, mb1 3.6/6,mb1mx3.4/25,mbtmp3.6/6,ML3.6/2, Error ellipse: s-maj=125.2km s-min=18.4km az=69.0*
ISC 20 20:54:43.2±1.2,33.°00N±0.°07×142.°7E±0.°1,h41km,n21, σ1§59/24,mb3.5/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**2.53**	**316**	P	**Pn**	**20 55 21.6**	**0.0**
BSO4	**Boso 4**	**2.77**	**317**	P	**Pn**	**20 55 25.4**	**+0.5**
BSO4				S	**Sn**	**20 55 55.0**	**-2.0**
JYT	**Yasato**	**3.81**	**329**	S	**Sn**	**20 56 20.4**	**-2.4**
JHU	**Hanno**	**3.98**	**317**	P	**Pn**	**20 55 41.9**	**+0.1**
JHO	**Hitachi**	**3.99**	**335**	P	**Pn**	**20 55 41.6**	**-0.3**
JYN	**Shimob**	**4.22**	**307**	P	**Pn**	**20 55 45.4**	**+0.3**
JYN				S	**Sn**	**20 56 32.0**	**-1.1**
JAG	**Ashikaga**	**4.32**	**323**	P	**Pn**	**20 55 46.3**	**0.0**
JRY	**Ryogami san**	**4.32**	**315**	P	**Pn**	**20 55 46.4**	**0.0**
JRY				S	**Sn**	**20 56 33.7**	**-1.9**
JFK	**Kawauchi**	**4.60**	**342**	S	Sn	20 56 37.0	-5.4
JFT	**Otama**	**4.89**	**338**	P	**Pn**	**20 55 54.1**	**-0.2**
JFT				S	**Sn**	**20 56 46.2**	**-3.4**
MJAR	**Matsushiro Arr**	**5.09**	**315**	Pn	**Pn**	**20 55 57.4**	**+0.5**
	1.8nm,0.3s,baz=156,slow=14,SNR=13						
MJAR				Sn	**Sn**	**20 56 53.5**	**-0.9**
	1.4nm,0.3s,baz=136,slow=16,SNR=7.0						
MAT	**Matsushiro**	**5.09**	**315**	P	**Pn**	**20 55 57.4**	**+0.4**
MAT				S	**Sn**	**20 56 53.1**	**-1.4**
JCJ	**Chichijima**	**5.89**	**184**	Pn	**Pn**	**20 56 08.3**	**+0.3**
	2.8nm,0.3s,baz=11,slow=19,SNR=4.8						
JCJ				Sn	**Sn**	**20 57 10.4**	**-3.9**
	6.1nm,0.3s,baz=31,slow=20,SNR=3.9						
JMK	**Ichinoseki**	**6.06**	**349**	P	**Pn**	**20 56 10.2**	**0.0**
H11N2	**WAKE ISLAND Hy**	**25.35**	**115**	T	T	21 28 43.7	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**25.36**	**115**	T	T	21 28 42.6	
	baz=316						
H11N3	**WAKE ISLAND Hy**	**25.37**	**115**	T	T	21 28 45.4	
	baz=316						
SONM	**Songino Array**	**31.01**	**309**	P	**P**	**21 00 57.9**	**+1.0**
	0.3nm,0.7s,baz=99,slow=9.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**45.44**	**315**	P	**P**	**21 02 59.8**	**+1.9**
	0.4nm,0.4s,baz=116,slow=9.8,SNR=2.4						
KURBB	**Kurchatov Arra**	**49.35**	**311**	P	**P**	**21 03 28.5**	**+0.2**
	0.3nm,0.6s,baz=83,slow=7.5,SNR=4.3						
WRA	**Warramunga Arr**	**53.24**	**190**	P	**P**	**21 03 59.4**	**+1.7**
	0.8nm,0.6s,baz=6.9,slow=7.6,SNR=7.4						

*ISCJB **20** 21:05:37.4±0.9,34.°68N±0.°06×24.°02E±0.°04,h23km±4km, mb3.6/9, Error ellipse: s-maj=9.8km s-min=5.1km az=5.7*
*ATH **20** 21:05:39.3,34.°79N×24.°13E,h26km±1km,MD3.6/12*
*IDC **20** 21:05:39.0±2.5,34.°95N×24.°13E,h24km±16km,mb3.7/8, mb1 3.6/12,mb1mx3.5/27,mbtmp3.6/12,ML3.6/4, Error ellipse: s-maj=23.9km s-min=17.0km az=156.0*
*CSEM **20** 21:05:40.6±0.5,34.°84N×24.°18E,h15km,MD3.6, Error ellipse: s-maj=11.1km s-min=5.5km az=12.0*
*THE **20** 21:05:41.0,34.°87N×24.°22E,h0km,ML3.2/2, Error ellipse: s-maj=1.4km s-min=0.6km az=184.0*
ISC 20 21:05:38.8±0.8,34.°78N±0.°05×24.°14E±0.°03,h26km±4km, n70,σ1§69/93,mb3.6/9,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.07**	**322**	P	**Pb**	**21 05 43.4**	**-0.1**
GVD				S	**Sb**	**21 05 46.4**	**-0.3**
GVD	**Gavdhos**	**0.07**	**322**	*e*PB	**Pb**	**21 05 44.0**	**+0.5**
GVD				*e*SB	**Sb**	**21 05 47.7**	**+1.0**
GVD	**Gavdhos**	**0.07**	**322**	P	**Pb**	**21 05 43.4**	**-0.1**
GVD	**Gavdhos**	**0.07**	**322**	*e*Pb	**Pb**	**21 05 44.0**	**+0.5**
GVD				S	**Sb**	**21 05 46.4**	**-0.3**
GVD				*e*Sb	Sb	21 05 47.7	+1.0
SIVA	**Sivas**	**0.60**	**66**	P	**Pb**	**21 05 50.9**	**+0.3**
SIVA				S	**Sb**	**21 05 59.1**	**+0.3**
SIVA	**Sivas**	**0.60**	**66**	*e*PB	**Pb**	**21 05 51.0**	**+0.3**
SIVA				*e*SN	**Sn**	**21 06 01.1**	**+0.7**
SIVA	**Sivas**	**0.60**	**66**	*e*Pb	**Pb**	**21 05 51.0**	**+0.3**
SIVA				S	**Sb**	**21 05 59.1**	**+0.3**
SIVA				*e*Sn	**Sn**	**21 06 01.1**	**+0.7**
VAM	**Vamos**	**0.63**	**4**	*e*PB	**Pb**	**21 05 51.0**	**-0.2**
VAM				*e*SN	**Sb**	**21 06 01.1**	**+1.4**
VAM	**Vamos**	**0.63**	**4**	*e*Pb	**Pb**	**21 05 51.0**	**-0.2**
VAM				*e*Sn	**Sb**	**21 06 01.1**	**+1.4**
IDI	**Anoyia**	**0.80**	**50**	Pg	**Pb**	**21 05 53.6**	**-0.5**
	68nm,0.3s,baz=245,slow=12,SNR=225						
IDI				Lg	Lg	21 06 01.4	
	84nm,0.3s,baz=322,slow=19,SNR=22						
LAST	**Lasithi**	**1.16**	**71**	P	**Pb**	**

comp=Z,0.4nm,0.4s,baz=37,slow=8.2,SNR=17
ZALV Zalesovo Beam 45.87 46 P **P 21 13 58.0 -0.6**
comp=Z,3.0nm,0.4s,baz=266,slow=8.9,SNR=17
SONM Songino Array 60.37 50 P **P 21 15 45.8 +0.1**
comp=Z,0.6nm,0.4s,baz=290,slow=7.3,SNR=6.5
YKA Yellowknife Ar 77.55 342 P **P 21 17 32.4 +0.5**
comp=Z,0.5nm,0.6s,baz=33,slow=5.1,SNR=3.3
KSRS Korea Array 79.17 52 P **P 21 17 41.4 0.0**
comp=Z,0.5nm,0.5s,baz=311,slow=5.3,SNR=2.7

IDC 20 21:07:17.2±1.7, 4.°18S×143.°08E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/16, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=300.3km s-min=30.6km az=115.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.83**	**208**	P		P 21 11 27.5	-0.3
	0.2nm,0.3s,baz=27,slow=12,SNR=9.5						
ASAR	**Alice Springs**	**21.30**	**204**	P		P 21 12 05.3	-0.4
	0.7nm,0.9s,baz=34,slow=10,SNR=2.9						
ILAR	**Eielson Array**	**85.38**	**24**	P		P 21 19 56.2	0.0
	0.9nm,0.7s,baz=256,slow=5.2,SNR=10						

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*IDC **20** 21:08:46.1±0.5,36.°20S×100.°57W,h0km,mb4.8/17, mb1 5.0/18,mb1mx4.9/23,mbtmp4.8/18,ML4.2/1,MS4.8/16, Ms1 4.8/16,ms1mx4.7/19,Error ellipse: s-maj=16.8km s-min=14.4km az=87.0*

*ISCJB **20** 21:08:47.7±0.3,36.°07S±0.°05×100.°14W±0.°07,h10km, mb5.2/130,MS4.9/168,Error ellipse: s-maj=9.0km s-min=6.0km az=146.2*

*MOS **20** 21:08:47.0±1.6,36.°16S×100.°43W,h10km,mb5.4/39, MS4.8/25,Error ellipse: s-maj=16.5km s-min=7.5km az=92.1*

*GCMT **20** 21:08:51.8±0.1,36.°23S×100.°56W,h17km,MW5.6/123, Moment Tensor Solution. s103,c195; s123,c294; Duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.36±.03; $M_{\theta\theta}$-0.23±.03; $M_{\phi\phi}$0.59±.03; $M_{r\theta}$-0.08±.08; $M_{\theta\phi}$-2.75±.03; $M_{\phi r}$-0.02±.08; Best double couple: M_o2.78300×10^{17} NP1:ϕ_s94.00000°,δ89.00000°, λ-178.00000°. NP2:ϕ_s4.00000°,δ88.00000°,λ-1.00000°. Principal axes: T 2.9640, Plg1.0000°, Azm229.0000°; N -0.3620, Plg88.0000°, Azm121.0000°; P -2.6020, Plg2.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **20** 21:08:51.6±3.8,36.°13S×100.°18W,h23km±26km, mb5.3/115,MS5.0/144,MW5.5 Error ellipse: s-maj=10.4km s-min=6.8km az=64.0,Moment Tensor Solution. s12 Moment tensor: Scale 10^{17}Nm; M_{rr}0.17; $M_{\theta\theta}$-0.39; $M_{\phi\phi}$0.22; $M_{r\theta}$0.79; $M_{\theta\phi}$-1.66; $M_{\phi r}$-0.24; Best double couple: M_o1.90000×10^{17} NP1:ϕ_s94.00000°, δ84.00000°,λ154.00000°. NP2:ϕ_s187.00000°,δ64.00000°, λ7.00000°. Principal axes: T 1.8900, Plg22.0000°, Azm47.0000°; N -0.0100, Plg63.0000°, Azm261.0000°; P -1.8800, Plg13.0000°, Azm142.0000°;*

ISC 20 21:08:50.0±0.8, 36.°15S±0.°06×100.°09W±0.°06, h14km±4km, h13km; pP-P, n607, σ1s66/513, mb5.3/130, MS5.0/168, 19C-12D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**11.95**	**316**	Pn		Pn 21 11 36.2	-3.8
	1.7nm,0.3s,baz=156,slow=11,SNR=7.4						
RPN				LR	LR	21 14 45.2	
	comp=Z,14μm,19.5s,baz=124,slow=31						
RPN	**Rapa Nui**	**11.95**	**316**	P		Pn 21 11 36.2	-3.8
RPN				pmax	pmax		
	comp=Z,2.0nm,0.3s						
RPN				MLR	MLR		
	comp=Z,14μm,19.5s						
RPN	**Rapa Nui**	**11.95**	**316**	*e*Pn		**Pn 21 11 39.3 -0.7**	
LCO	**Las Campanas**	**25.70**	**82**	*e*P		**P 21 14 22.3 +2.1**	
	comp=Z,309nm,1.2s						
LCO				LR	LR		
	comp=Z,4μm,20.0s						
CFAA	**Coronel Fontan**	**26.77**	**90**	P		**P 21 14 31.5 +1.9**	
	comp=Z,4.8nm,1.0s,baz=256,slow=8.6,SNR=32						
CFAA				LR	LR	21 22 40.1	
	comp=Z,248nm,21.3s,baz=258,slow=31						
USHA	**Ushuaia**	**28.64**	**141**	P		**P 21 14 45.6 -0.4**	
	comp=Z,35nm,1.0s,baz=270,slow=9.3,SNR=11						
USHA				LR	LR	21 23 47.0	
	comp=Z,7μm,18.9s,baz=271,slow=31						
LVC	**Limon Verde**	**30.19**	**72**	*e*P		**P 21 15 02.8 +2.4**	
	comp=Z,991nm,0.4s						
LVC				LR	LR		
	comp=Z,4μm,19.0s						
TRQA	**Tornquist**	**30.32**	**105**	*e*P		**P 21 15 03.2 +2.0**	
	comp=Z,41nm,1.0s						
TRQA				LR	LR		
	comp=Z,3μm,19.0s						
NNA	**Nana**	**31.91**	**47**	*e*P		**P 21 15 15.4 0.0**	
NNA				*e*		21 16 27.8	
NNA				MLR	MLR		
	comp=Z,4μm,19.0s						
NNA	**Nana**	**31.91**	**47**	*e*P		**P 21 15 15.4 0.0**	
NNA				*e*PP		**PP 21 16 27.8 +0.2**	
NNA				LR	LR		
	comp=Z,4μm,19.0s						
RKT	**Rikitea**	**32.80**	**284**	*e*LQ		LQ 21 22 40.5	
	comp=Z,15μm,22.0s						
RKT				*e*LR	LR	21 23 58.4	
	comp=Z,2μm,21.0s						
RKT	**Rikitea**	**32.80**	**284**	*e*T		T 21 48 48.7	
	comp=Z,2.1nm,0.3s						
EFI	**East Falkland**	**33.50**	**131**	*de*P		**P 21 15 30.2 +1.4**	
EFI				pmax	pmax		
	comp=Z,319nm,1.2s						
EFI	**East Falkland**	**33.50**	**131**	*e*P		**P 21 15 30.8 +2.0**	
	comp=Z,141nm,1.3s						
EFI				LR	LR		
	comp=Z,3μm,22.0s						
LPAZ	**La Paz**	**34.60**	**64**	P		**P 21 15 41.6 +2.1**	
	comp=Z,43nm,1.1s,baz=225,slow=7.2,SNR=54						
LPAZ				LR	LR	21 26 29.6	
	comp=Z,2μm,20.2s,baz=212,slow=30						
LPAZ	**La Paz**	**34.60**	**64**	*e*P		**P 21 15 41.8 +2.3**	
LPAZ				pmax	pmax		
	comp=Z,74nm,1.1s						
LPAZ	**La Paz**	**34.60**	**64**	*e*P		**P 21 15 41.8 +2.3**	
	comp=Z,74nm,1.1s						
ATAH	**Atahualpa**	**35.04**	**40**	P		**P 21 15 44.5 +1.4**	
	comp=Z,54nm,1.0s,baz=243,slow=6.6,SNR=34						
PMSA	**Palmer Station**	**35.80**	**154**	*e*P		**P 21 15 49.9 +1.3**	
	comp=Z,186nm,1.9s						
PMSA				LR	LR		
	comp=Z,4μm,22.0s						
PAYG	**Puerto Ayora**	**36.45**	**17**	*e*P		**P 21 15 54.4 -0.2**	
	comp=Z,312nm,1.4s						
CPUP	**Villa Florida**	**37.59**	**87**	*e*P		**P 21 16 05.1 +0.8**	
CPUP	**Villa Florida**	**37.59**	**87**	*e*P		**P 21 16 05.1 +0.8**	
SIV	**San Ignacio**	**40.04**	**70**	P		**P 21 16 25.5 +0.5**	
	comp=Z,12nm,0.8s,baz=248,slow=10,SNR=20						
OTAV	**Otavalo**	**41.42**	**34**	*e*P		**P 21 16 37.1 +0.3**	
	comp=Z,77nm,1.5s						
OTAV				*e*PP		**PP 21 18 12.5 -0.1**	
OTAV				LR	LR		
	comp=Z,2μm,22.0s						
SAML	**Samuel**	**43.10**	**60**	*e*P		**P 21 16 50.8 +0.8**	
	comp=Z,54nm,1.1s						
SAML				LR	LR		
	comp=Z,3μm,21.0s						
TBI	**Tubuai**	**44.29**	**273**	*e*S		**S 21 23 36.2 +3.1**	
	comp=Z,649nm,27.0s						
TBI				*e*LQ	LQ	21 27 25.0	
	comp=Z,4μm,19.8s						
TBI				*e*LR	LR	21 28 53.9	
	comp=Z,2μm,29.0s						
TBI	**Tubuai**	**44.29**	**273**	*e*T		T 22 03 14.1	
	comp=Z,7.9nm,0.3s						
HOPE	**Hope Point**	**46.63**	**134**	*e*P		**P 21 17 19.2 +1.6**	
	comp=Z,185nm,1.1s						
HOPE				LR	LR		
	comp=Z,3μm,20.0s						
TIAR	**Tiarei**	**47.15**	**280**	*e*T		T 22 06 56.8	
	comp=Z,5.2nm,0.3s						
PPT2	**Papeete2**	**47.32**	**279**	*e*S		**S 21 24 17.3 +0.3**	
	comp=Z,1μm,26.5s						
PPT2				*e*LQ	LQ	21 28 47.2	
	comp=Z,3μm,15.0s						
PPT2				*e*LR	LR	21 30 49.5	
	comp=Z,1μm,14.0s						
ROSC	**El Rosal**	**47.39**	**36**	P		**P 21 17 24.4 -0.2**	
	comp=Z,30nm,1.0s,baz=162,slow=1.6,SNR=21						
ROSC				LR	LR	21 33 46.2	
	comp=Z,2μm,21.3s,baz=202,slow=32						
ROSC	**El Rosal**	**47.39**	**36**	*e*P		**P 21 17 26.3 +1.7**	
JTS	**JuntasAbangare**	**48.35**	**20**	*c i*P		**P 21 17 30.8 -0.6**	
JTS				pmax	pmax		
	comp=Z,61nm,1.2s						
JTS	**JuntasAbangare**	**48.35**	**20**	*e*P		**P 21 17 31.4 0.0**	
	comp=Z,41nm,1.3s						
JTS				LR	LR		
	comp=Z,3μm,22.0s						
BCIP	**Isla Barro Col**	**48.94**	**27**	PFAKE		21 17 50.0 +14	
BCIP				LR	LR		
	comp=Z,3μm,20.0s						
BDFB	**Brasilia**	**50.46**	**80**	P		**P 21 17 48.7 +0.8**	
	comp=Z,26nm,1.1s,baz=235,slow=6.2,SNR=16						
BDFB				LR	LR	21 37 25.0	
	comp=Z,2μm,19.4s,baz=232,slow=34						
BDFB	**Brasilia**	**50.46**	**80**	*e*P		**P 21 17 49.1 +1.3**	
BDFB	**Brasilia**	**50.46**	**80**	*e*P		**P 21 17 49.1 +1.3**	
PTGA	**Pitinga**	**51.23**	**56**	*e*P		**P 21 17 52.8 -0.6**	
	comp=Z,62nm,1.3s						
PTGA				LR	LR		
	comp=Z,31μm,21.0s						
SDV	**Santo Domingo**	**52.68**	**38**	*e*P		**P 21 18 02.4 -2.1**	
	comp=Z,15nm,1.0s						
SDV				LR	LR		
	comp=Z,1μm,19.0s						
RAR	**Rarotonga**	**53.66**	**269**	PFAKE		21 18 20.0 +8.5	
RAR				LR	LR		
	comp=Z,3.0nm,21.0s						
QSPA	**South Pole Qui**	**54.06**	**180**	P		**P 21 18 12.8 -1.2**	
	comp=Z,13nm,0.8s,baz=157,slow=1.9,SNR=31						
QSPA	**South Pole Qui**	**54.06**	**180**	*e*P		**P 21 18 12.8 -1.2**	
QSPA				LR	LR		
	comp=Z,1μm,19.0s						
SBA	**Scott Base**	**55.63**	**195**	*e*P		**P 21 18 23.4 -1.5**	
SBA				pmax	pmax		
	comp=Z,100nm,2.3s						
SBA				MLR	MLR		
	comp=Z,1μm,22.0s						
SBA	**Scott Base**	**55.63**	**195**	*e*P		**P 21 18 23.4 -1.5**	
	comp=Z,100nm,2.3s						
SBA				LR	LR		
	comp=Z,1μm,22.0s						
VNDA	**Vanda**	**56.73**	**195**	P		**P 21 18 31.0 -1.9**	
	comp=Z,4.7nm,1.1s,baz=115,slow=8.5,SNR=5.1						
VNDA				LR	LR	21 38 16.5	
	comp=Z,1μm,18.2s,baz=98,slow=31						
VNDA	**Vanda**	**56.73**	**195**	*e*P		**P 21 18 33.8 +0.9**	
VNDA				pmax	pmax		
	comp=Z,11nm,1.0s						
VNDA	**Vanda**	**56.73**	**195**	*e*P		**P 21 18 33.8 +0.9**	
	comp=Z,10nm,1.0s						
VNA1	**Neumayer--Stat**	**56.97**	**157**	P		**P 21 18 34.2 -0.4**	
TEIG	**Tepich**	**57.17**	**13**	*e*P		**P 21 18 34.8 -1.8**	
	comp=Z,16nm,0.8s						
TEIG				LR	LR		
	comp=Z,283nm,22.0s						
MTDJ	**Mount Denham**	**58.14**	**25**	PFAKE		21 19 00.0 +16	
MTDJ				LR	LR		
	comp=Z,2μm,22.0s						
SNAA	**Sanae**	**58.35**	**158**	P		**P 21 18 43.2 -1.3**	
SNAA	**Sanae**	**58.35**	**158**	*d i*P		**P 21 18 43.1 -1.3**	
SNAA				pmax	pmax		
	comp=Z,25nm,1.2s						
SNAA	**Sanae**	**58.35**	**158**	*e*P		**P 21 18 42.6 -1.8**	
	comp=Z,48nm,1.6s						
GRGR	**Grenville**	**60.18**	**44**	PFAKE		21 19 10.0 +12	
GRGR				LR	LR		
	comp=Z,2μm,20.0s						
SLBS	**Sierra La Lagu**	**60.23**	**350**	*e*P		**P 21 18 58.5 +0.5**	
	comp=Z,315nm,2.7s						
GTBY	**Guantanamo Bay**	**60.58**	**27**	PFAKE		21 19 10.0 +10	
GTBY				LR	LR		
	comp=Z,1μm,21.0s						
SDDR	**Presa de Saban**	**61.23**	**31**	*e*P		**P 21 19 05.3 +0.5**	
	comp=Z,222nm,2.3s						
SDDR				LR	LR		
	comp=Z,960nm,22.0s						
BBGH	**Gun Hill**	**62.19**	**46**	PFAKE		21 19 20.0 +8.7	
BBGH				LR	LR		
	comp=Z,2μm,22.0s						
CRPR	**Cabo Rojo, PR**	**62.25**	**36**	*e*P		**P 21 19 10.3 -1.3**	
	comp=Z,416nm,2.3s						
FDF	**Fort de France**	**62.57**	**43**	PFAKE		21 19 30.0 +16	
FDF				LR	LR		
	comp=Z,2μm,20.0s						
035A	**Encino**	**62.78**	**2**	P		**P 21 19 14.6 -0.4**	
	baz=63						
SJG	**San Juan**	**62.80**	**37**	*e*P		**P 21 19 12.8 -2.5**	
SJG				pmax	pmax		
	comp=Z,181nm,0.4s						
SJG				MLR	MLR		
	comp=Z,1μm,22.0s						
SJG	**San Juan**	**62.80**	**37**	*e*P		**P 21 19 12.8 -2.5**	
	comp=Z,181nm,0.4s						
SJG				LR	LR		
	comp=Z,1μm,22.0s						
034A	**Hebbronville**	**62.89**	**1**	P		**P 21 19 14.6 -1.1**	
	baz=63						
NVL	**N'lazarevskaya**	**63.00**	**160**	*e*P		**P 21 19 15.4 -0.6**	
NVL				*e*S		S 21 27 37.7 -7.9	
NVL				*e*		21 28 58.7	
NVL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
933A	**Laredo**	**63.43**	**1**	P		**P 21 19 17.6 -1.6**	
	baz=64						
934A	**Benavides**	**63.43**	**2**	P		**P 21 19 18.6 -0.6**	
	baz=64						
GRTK	**Grand Turk**	**63.56**	**30**	PFAKE		21 19 30.0 +10	
GRTK				LR	LR		
	comp=Z,884nm,20.0s						
SNZO	**South Karori**	**64.07**	**237**	PFAKE		21 19 40.0 +16	
SNZO				LR	LR		
	comp=Z,3μm,20.0s						
832A	**Faith Ranch, C**	**64.09**	**0**	P		**P 21 19 22.1 -1.5**	
	baz=64						
833A	**Chaparral WMA,**	**64.13**	**1**	P		**P 21 19 22.4 -1.5**	
	baz=64						
ANWB	**Willy Bob**	**64.64**	**41**	PFAKE		21 19 40.0 +13	
ANWB				LR	LR		
	comp=Z,976nm,22.0s						
631A	**Perdido Creek**	**65.22**	**360**	P		**P 21 19 29.4 -1.5**	
	baz=66						
LTX	**Lajitas**	**65.22**	**357**	*e*P		**P 21 19 29.5 -1.6**	
LTX	**Lajitas**	**65.22**	**357**	*e*P		**P 21 19 29.5 -1.6**	
TX31	**Lajitas Ar. Si**	**65.22**	**357**	*e*P		**P 21 19 29.3 -1.8**	
TXAR	**Lajitas Array**	**65.22**	**357**	P		**P 21 19 29.5 -1.6**	
	comp=Z,2.1nm,0.8s,baz=179,slow=7.5,SNR=19						
TXAR				LR	LR	21 41 43.4	
	comp=Z,442nm,21.8s,baz=0.0,slow=30						
TXAR	**Lajitas Array**	**65.22**	**357**	P		**P 21 19 29.5 -1.6**	
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TXAR				MLR	MLR		
	comp=Z,442nm,21.8s						
633A	**Saathoff Ranch**	**65.27**	**1**	P		**P 21 19 29.5 -1.8**	
	baz=66						
632A	**Uvalde**	**65.31**	**0**	P		**P 21 19 30.0 -1.6**	
	baz=66						
RCBR	**Riachuelo**	**65.81**	**79**	PFAKE		21 19 50.0 +15	
RCBR				LR	LR		
	comp=Z,789nm,19.0s						
534A	**Blanco**	**65.84**	**2**	P		**P 21 19 33.4 -1.6**	
	baz=66						
HKT	**Hockley**	**65.87**	**4**	*e*P		**P 21 19 34.8 -0.3**	
HKT				pmax	pmax		
	comp=Z,64nm,1.7s						
HKT	**Hockley**	**65.87**	**4**	*e*P		**P 21 19 34.8 -0.3**	
	comp=Z,64nm,1.7s						
533A	**Kerrville**	**65.88**	**1**	P		**P 21 19 33.7 -1.6**	
	baz=66						
532A	**Rocksprings**	**65.93**	**0**	P		**P 21 19 34.1 -1.5**	
	baz=66						
529A	**Stev Forest Ra**	**65.95**	**358**	P		**P 21 19 35.0 -0.7**	
	baz=66						
530A	**J-C Ranch, Com**	**65.96**	**359**	P		**P 21 19 34.3 -1.5**	
	baz=66						
531A	**Rocksprings**	**65.96**	**360**	P		**P 21 19 34.2 -1.6**	
	baz=66						
JCT	**Junction City**	**66.28**	**0**	*e*P		**P 21 19 36.3 -1.5**	
JCT				pmax	pmax		
	comp=Z,35nm,0.9s						
JCT				MLR	MLR		
	comp=Z,212nm,20.0s						
JCT	**Junction City**	**66.28**	**0**	P		**P 21 19 36.2 -1.7**	
	baz=67						
JCT	**Junction City**	**66.28**	**0**	*e*P		**P 21 19 36.3 -1.5**	
	comp=Z,35nm,0.9s						
JCT				LR	LR		
	comp=Z,212nm,20.0s						
429A	**Davenport Ranc**	**66.44**	**358**	P		**P 21 19 37.1 -1.8**	
	baz=67						
431A	**Sonora**	**66.48**	**360**	P		**P 21 19 37.7 -1.4**	
	baz=67						
433A	**Art**	**66.56**	**1**	P		**P 21 19 37.6 -2.0**	
	baz=67						
430A	**Baggett Ranch,**	**66.59**	**359**	P		**P 21 19 37.9 -2.0**	
	baz=67						
434A	**Burnet**	**66.63**	**2**	P		**P 21 19 38.0 -2.0**	
	baz=67						
432A	**Menard**	**66.67**	**0**	P		**P 21 19 38.3 -2.1**	
	baz=67						
331A	**San Angelo**	**67.10**	**360**	P		**P 21 19 40.4 -2.7**	
	baz=68						
333A	**Richland Sprin**	**67.13**	**1**	P		**P 21 19 40.5 -2.7**	
	baz=68						
334A	**Lometa**	**67.15**	**2**	P		**P 21 19 41.2 -2.2**	
	baz=68						
332A	**Millersview**	**67.18**	**0**	P		**P 21 19 41.1 -2.4**	
	baz=68						
330A	**Mertzon**	**67.21**	**359**	P		**P 21 19 41.4 -2.4**	
	baz=68						
230A	**Sterling City**	**67.69**	**359**	P		**P 21 19 44.6 -2.2**	
	baz=68						
231A	**Bronte**	**67.73**	**360**	P		**P 21 19 44.3 -2.8**	
	baz=68						
DRV	**Dumont d'Urvil**	**67.79**	**202**	S	S	21 28 21.0 -23	
DRV				SS	SS	21 32 55.0 -10	
DRV				L	L	21 36 00.0	
DRV				R		21 40 00.0	
233A	**Rising Star**	**67.82**	**1**	P		**P 21 19 46.0 -1.6**	
	baz=68						
234A	**Clairette**	**67.82**	**2**	P		**P 21 19 46.1 -1.5**	
	baz=68						
BRAL	**Brewton**	**67.92**	**12**	PFAKE		21 20 00.0 +12	
BRAL				LR	LR		
	comp=Z,521nm,20.0s						
133A	**Hamilton Ranch**	**68.41**	**1**	P		**P 21 19 51.1 -0.2**	
	baz=69						
ABTX	**Abilene, Hawle**	**68.42**	**0**	*e*P		**P 21 19 50.5 -0.8**	
	comp=Z,20nm,0.8s						
128A	**Castleberry Fa**	**68.45**	**358**	P		**P 21 19 49.9 -1.7**	
	baz=69						
214A	**Organ Pipe Nat**	**68.79**	**348**	P		**P 21 19 52.1 -1.6**	
	baz=69						
TUC	**Tucson**	**68.83**	**350**	*e*P		**P 21 19 52.6 -1.4**	
TUC				pmax	pmax		
	comp=Z,25nm,1.3s						
TUC				MLR	MLR		
	comp=Z,324nm,22.0s						
TUC	**Tucson**	**68.83**	**350**	*e*P		**P 21 19 52.6 -1.4**	
	comp=Z,25nm,1.3s						
TUC				LR	LR		
	comp=Z,324nm,22.0s						
Z32A	**Haskell**	**69.10**	**1**	P		**P 21 19 54.1 -1.4**	
	baz=70						
Z31A	**Sharp Cattle R**	**69.11**	**360**	P		**P 21 19 53.9 -1.8**	
	baz=70						
Z28A	**Tucker Farm, M**	**69.11**	**358**	P		**P 21 19 53.0 -2.7**	
	baz=70						
Y30A	**Stafford Cattl**	**69.67**	**359**	P		**P 21 19 59.4 +0.3**	
	baz=70						
MSTX	**Muleshoe**	**69.80**	**358**	P		**P 21 19 58.1 -1.9**	
	baz=70						
MSTX	**Muleshoe**	**69.80**	**358**	*e*P		**P 21 19 58.0 -2.1**	
	comp=Z,26nm,0.9s						
Y38A	**Idabel**	**69.89**	**5**	P		**P 21 20 01.5 +1.1**	
	baz=70						
LRAL	**Lakeview Retre**	**69.91**	**12**	*e*P		**P 21 20 01.8 +1.3**	
	comp=Z,46nm,1.8s						
Y39A	**Lockesburg**	**69.95**	**5**	P		**P 21 20 01.0 +0.3**	
	baz=70						
BAR	**Barrett**	**70.21**	**345**	*e*P		**P 21 20 01.7 -0.8**	
	comp=Z,70nm,1.6s						
X30A	**Coker Ranch, T**	**70.24**	**359**	P		**P 21 20 02.6 +0.1**	
	baz=71						
X29A	**Tulia**	**70.25**	**359**	P		**P 21 20 01.7 -1.0**	
	baz=71						
MONP	**Monument Peak,**	**70.36**	**345**	P		**P 21 20 02.9 -0.6**	
	baz=71						
X31A	**McDonald Ranch**	**70.42**	**0**	P		**P 21 20 04.2 +0.5**	
	baz=71						
X36A	**Centrahoma**	**70.44**	**3**	P		**P 21 20 02.7 -1.1**	
	baz=71						
X37A	**Clayton**	**70.51**	**4**	P		**P 21 20 04.6 +0.4**	
	baz=71						
WMOK	**Wichita Mounta**	**70.53**	**1**	*e*P		**P 21 20 03.7 -0.7**	
WMOK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WMOK				MLR	MLR		
	comp=Z,361nm,21.0s						
WMOK	**Wichita Mounta**	**70.53**	**1**	*e*P		**P 21 20 03.7 -0.7**	
	comp=Z,8.1nm,1.0s						
WMOK				LR	LR		
	comp=Z,361nm,21.0s						
MIAR	**Mount Ida**	**70.59**	**6**	*e*P		**P 21 20 03.1 -1.6**	
MIAR				pmax	pmax		
	comp=Z,34nm,1.4s						
MIAR				MLR	MLR		
	comp=Z,384nm,22.0s						
MIAR	**Mount Ida**	**70.59**	**6**	*e*P		**P 21 20 03.1 -1.6**	
	comp=Z,34nm,1.4s						
MIAR				LR	LR		
	comp=Z,384nm,22.0s						
X38A	**Whitesboro**	**70.63**	**5**	P		**P 21 20 05.0 +0.1**	
	baz=71						
AMTX	**Amarillo**	**70.68**	**359**	P		**P 21 20 03.9 -1.4**	
	baz=71						
AMTX	**Amarillo**	**70.68**	**359**	*e*P		**P 21 20 03.8 -1.6**	
	comp=Z,44nm,0.9s						
Y12C	**Blythe**	**70.83**	**347**	P		**P 21 20 06.8 +0.6**	
	baz=71						
BC3	**Big Chuckawall**	**70.91**	**346**	P		**P 21 20 06.3 -0.5**	
	baz=71						
W32A	**Sentinel**	**70.91**	**1**	P		**P 21 20 06.9 +0.2**	
	baz=71						
GOGA	**Godfrey**	**70.92**	**15**	PFAKE		21 20 20.0 +13	
GOGA				LR	LR		
	comp=Z,569nm,20.0s						
UALR	**University of**	**70.93**	**7**	*e*P		**P 21 20 07.8 +1.1**	
W33A	**Caddo, Fort Co**	**70.95**	**1**	P		**P 21 20 06.6 -0.3**	
	baz=71						
ANMO	**Albuquerque**	**70.98**	**354↑**	*e*P		**P 21 20 05.0 -2.3**	
ANMO				pmax	pmax		
	comp=Z,70nm,2.3s						
ANMO	**Albuquerque**	**70.98**	**354**	*e*P		**P 21 20 05.8 -1.5**	
	comp=Z,24nm,1.8s						
ANMO				LR	LR		
	comp=Z,669nm,20.0s						
OXF	**Oxford**	**71.00**	**9**	*e*P		**P 21 20 09.0 +1.8**	
OXF				pmax	pmax		
	comp=Z,80nm,1.4s						
OXF	**Oxford**	**71.00**	**9**	*e*P		**P 21 20 09.0 +1.8**	
	comp=Z,80nm,1.4s						
W35A	**Tecumseh**	**71.00**	**3**	P		**P 21 20 07.3 +0.1**	
	baz=71						
SYO	**Syowa Base**	**71.01**	**166↑**	*e*X		**P 21 20 03.9 -3.0**	
W38A	**Poteau**	**71.05**	**5**	P		**P 21 20 07.6 +0.2**	
	baz=71						
W34A	**Bridge Creek,**	**71.05**	**2**	*e*P		**P 21 20 07.9 +0.4**	
	comp=Z,24nm,0.8s						
PFO	**Pinyon Flats O**	**71.06**	**346**	*e*P		**P 21 20 08.1 +0.3**	
PFO				pmax	pmax		
	comp=Z,23nm,1.4s						
PFO				MLR	MLR		
	comp=Z,442nm,22.0s						
PFO	**Pinyon Flats O**	**71.06**	**346**	*e*P		**P 21 20 08.1 +0.3**	
	comp=Z,23nm,1.4s						
PFO				LR	LR		
	comp=Z,442nm,22.0s						
MURC	**Murrieta**	**71.21**	**345**	P		**P 21 20 09.0 +0.5**	
	baz=72						
CSU	**Charleston Sou**	**71.28**	**18**	*e*P		**P 21 20 11.2 +2.3**	
IRM	**Iron Mountain**	**71.35**	**

comp=Z,1µm,19.0s
V31A Spring Creek L 71.56 0 P P 21 20 12.2 +1.6
baz=72
V28A Channing 71.56 358 P P 21 20 10.1 -0.6
baz=72
V33A Lossen Ranch, 71.62 2 P P 21 20 11.4 +0.4
baz=72
V34A Guthrie 71.66 2 P P 21 20 11.3 +0.2
baz=72
V34A Guthrie 71.66 2 eP P 21 20 09.5 -1.6
comp=Z,25nm,0.9s
V36A Jenks 71.67 4 P P 21 20 11.6 +0.3
baz=72
TUL1 Leonard 71.81 4 eP P 21 20 12.3 +0.3
comp=Z,20nm,0.9s
V38A Canehill 71.84 5 P P 21 20 12.8 +0.5
baz=72
BFSC Mount Baldy Ra 71.92 345 P P 21 20 12.7 -0.2
baz=72
GMRC Granite Mounta 72.04 347 P P 21 20 13.2 -0.5
baz=72
WUAZ Wupatki 72.07 350 P P 21 20 13.5 -0.3
baz=72
WUAZ Wupatki 72.07 350 eP P 21 20 14.1 +0.2
comp=Z,30nm,1.3s
WUAZ LR LR
comp=Z,327nm,19.0s
U32A Winter Ranch, 72.17 1 P P 21 20 14.9 +0.7
baz=72
U35A Pawnee 72.22 3 P P 21 20 15.1 +0.6
baz=73
HEC Hector,Ludlow 72.22 346 P P 21 20 14.9 +0.3
baz=73
LDFC Landfair 72.23 347 eP P 21 20 15.9 +1.1
comp=Z,88nm,1.3s
JSC Jenkinsville 72.24 16 eP P 21 20 13.8 -0.8
JSC pmax pmax
comp=Z,45nm,1.3s
JSC Jenkinsville 72.24 16 eP P 21 20 13.8 -0.8
comp=Z,45nm,1.3s
U37A Salina 72.34 4 P P 21 20 12.8 -2.3
baz=73
U38A Gravette 72.42 5 P P 21 20 14.4 -1.3
baz=73
EDW2 Edwards Air Fo 72.61 345 P P 21 20 16.1 -0.8
baz=73
CPCT Cooper Cave 72.69 13 eP P 21 20 15.8 -1.6
GSC Goldstone, Bar 72.77 346 eP P 21 20 18.3 +0.4
GSC pmax pmax
comp=Z,38nm,1.3s
GSC Goldstone, Bar 72.77 346 P P 21 20 18.0 0.0
baz=73
GSC Goldstone, Bar 72.77 346 eP P 21 20 18.3 +0.4
comp=Z,38nm,1.3s
WVT Waverly 72.81 10 eP P 21 20 14.9 -3.1
WVT pmax pmax
comp=Z,15nm,1.2s
WVT Waverly 72.81 10 eP P 21 20 14.9 -3.1
comp=Z,15nm,1.2s
T34A McClaskey Farm 72.85 2 P P 21 20 19.6 +1.4
baz=73
T36A Boggs Farm, Ca 72.95 4 P P 21 20 18.8 0.0
baz=73
T26A Comanche Natio 73.03 357 P P 21 20 18.4 -1.1
baz=73
T25A Trinidad 73.03 356 eP P 21 20 19.0 -0.6
comp=Z,9.3nm,0.8s
TKL Tuckaleechee C 73.04 14 eP P 21 20 17.3 -2.1
TKL Tuckaleechee C 73.04 14 eP P 21 20 17.3 -2.1
KMSC Kings Mountain 73.05 16 P P 21 20 18.0 -1.5
baz=73
KMSC Kings Mountain 73.05 16 eP P 21 20 18.3 -1.2
comp=Z,35nm,1.4s
T37A Cheneyville 18 73.06 4 P P 21 20 20.3 +0.8
baz=73
PBMO Poplar Bluff 73.11 8 eP P 21 20 18.6 -1.2
comp=Z,69nm,1.8s
LRMC Laurel Mtn Rad 73.12 345 P P 21 20 19.8 -0.2
baz=74
MSVF Nonsavu 73.32 260 PFAKE 21 20 30.0 +8.3
MSVF LR LR
comp=Z,915nm,22.0s
MVCO Mesa Verde 73.41 353 P P 21 20 21.0 -0.9
baz=74
MVCO Mesa Verde 73.41 353 eP P 21 20 22.5 +0.7
comp=Z,37nm,1.1s
MVCO LR LR
comp=Z,481nm,19.0s
ISA Isabella, Lake 73.47 344 eP P 21 20 23.3 +1.3
ISA pmax pmax
comp=Z,22nm,1.3s
ISA Isabella, Lake 73.47 344 P P 21 20 22.4 +0.4
baz=74
ISA Isabella, Lake 73.47 344 eP P 21 20 23.3 +1.3
comp=Z,22nm,1.3s
S35A Otter Creek Ra 73.55 3 P P 21 20 21.6 -0.7
baz=74
S36A Lake Cedric, C 73.62 4 P P 21 20 22.9 +0.2
baz=74
SHPR Sheep Range 73.63 347 eP P 21 20 22.6 -0.4
MPMC Manual Prospec 73.64 345 P P 21 20 22.7 -0.5
baz=74
SDCO Great Sand Dun 73.70 356 eP P 21 20 20.5 -3.0
comp=Z,16nm,1.3s
SDCO LR LR
comp=Z,797nm,21.0s
VES Vestal, Richgr 73.77 344 P P 21 20 23.3 -0.4
baz=74
S22A 4UR Ranch, Cre 73.79 354 eP P 21 20 25.3 +1.1
comp=Z,68nm,1.9s
FURC Furnace Creek, 73.91 346 P P 21 20 24.5 0.0
baz=74
TZTN Tazewell 73.94 14 eP P 21 20 23.2 -1.5
comp=Z,42nm,1.4s
CNNC Cliffs of the 73.97 19 PFAKE 21 20 40.0 +15
CNNC LR LR
comp=Z,870nm,20.0s
R34A Isabella, Hill 74.13 2 P P 21 20 26.2 +0.5
baz=74
R26A Arlington 74.14 357 P P 21 20 26.2 +0.2
baz=74
SIUC Southern Illin 74.18 9 eP P 21 20 25.6 -0.5
comp=Z,22nm,1.0s
R32A Long Quarter, 74.21 1 P P 21 20 28.5 +2.3
baz=75
TPNV Topopah Spring 74.26 347 P P 21 20 28.0 +1.3
baz=75
CCUT Cedar City 74.36 349 eP P 21 20 26.6 -0.8
comp=Z,33nm,1.2s
Q26A Hugo 74.77 357 P P 21 20 30.9 +1.2
baz=75
Q33A Connelly Farm, 74.81 2 P P 21 20 28.8 -0.8
baz=75
Q24A Divide 74.89 356 eP P 21 20 33.4 +2.9
comp=Z,9.9nm,0.9s
KSU1 Kansas State U 74.95 3 PFAKE 21 20 40.0 +10
KSU1 LR LR
comp=Z,310nm,20.0s
WCI Wyandotte Cave 75.10 11 eP P 21 20 28.8 -2.6
WCI pmax pmax
comp=Z,54nm,1.7s
WCI Wyandotte Cave 75.10 11 eP P 21 20 28.8 -2.6
comp=Z,54nm,1.7s
MSU Marysvale 75.13 350 eP P 21 20 31.9 +0.1
MSU Marysvale 75.13 350 eP P 21 20 31.9 +0.1
CASY Casey 75.21 192 PFAKE 21 20 40.0 +8.2
CASY LR LR
comp=Z,1µm,20.0s
BLA Blacksburg 75.24 16 eP P 21 20 28.9 -3.4
BLA pmax pmax
comp=Z,17nm,1.0s
BLA MLR MLR
comp=Z,769nm,19.0s
BLA Blacksburg 75.24 16 eP P 21 20 28.9 -3.4
comp=Z,17nm,1.0s
BLA LR LR
comp=Z,769nm,19.0s
OLIL Olney 75.33 10 eP P 21 20 30.5 -2.2
comp=Z,53nm,1.1s
P34A Walnut Farm, R 75.38 3 P P 21 20 32.4 -0.6
baz=76
P35A Duane Minner, 75.40 3 P P 21 20 32.3 -0.8
baz=76
R11A Troy Canyon, C 75.50 347 P P 21 20 34.3 +0.4
baz=76
R11A Troy Canyon, C 75.50 347 eP P 21 20 33.8 -0.2
comp=Z,39nm,1.5s
TPH Tonopah 75.54 346 eP P 21 20 34.0 -0.1
TPH pmax pmax
comp=Z,61nm,1.5s
TPH Tonopah 75.54 346 eP P 21 20 34.0 -0.1
comp=Z,61nm,1.5s
ISCO Idaho Springs 75.75 356 PFAKE 21 20 50.0 +15
ISCO LR LR
comp=Z,379nm,22.0s
MAW Mawson 75.76 173 P P 21 20 32.5 -2.4
comp=Z,12nm,1.1s,baz=173,slow=11,SNR=6.1
MAW LR LR 21 52 49.3
comp=Z,717nm,18.6s,baz=208,slow=35
TMUT Trail Mountain 75.77 351 eP P 21 20 33.7 -1.9
comp=Z,32nm,1.2s
BBSR BB Station 75.80 30 eP P 21 20 34.7 -0.8
comp=Z,189nm,2.1s
BBSR LR LR
comp=Z,432nm,21.0s
O34A Beatrice 76.02 3 P P 21 20 35.7 -0.9
baz=76
NV01 Mina Array Sit 76.09 345 eP P 21 20 35.6 -1.8
NVAR Mina Array Bea 76.09 345 P P 21 20 36.1 -1.3
comp=Z,9.0nm,1.0s,baz=178,slow=7.0,SNR=23
CMB Columbia Colle 76.17 344 eP P 21 20 38.6 +1.0
CMB pmax pmax
comp=Z,92nm,1.9s
CMB Columbia Colle 76.17 344 eP P 21 20 38.6 +1.0
comp=Z,92nm,1.9s
JSRW J. Sargeant Re 76.30 18 eP P 21 20 36.0 -2.3
POHA Pohakuloa 76.40 307 PFAKE 21 20 50.0 +10
POHA LR LR
comp=Z,1µm,22.0s
WAKR Walker 76.41 344 eP P 21 20 38.7 -0.4
N34A Lincoln 76.68 3 P P 21 20 41.5 +1.1
baz=77
OGNE Ogallala 76.74 358 P P 21 20 41.9 +1.1
baz=77
OGNE Ogallala 76.74 358 PFAKE 21 20 50.0 +9.2
OGNE LR LR
comp=Z,547nm,21.0s
N23A Red Feather La 76.86 355 P P 21 20 42.7 +1.0
baz=77
DUG Dugway, Tooele 76.87 350 eP P 21 20 42.3 +0.7
DUG pmax pmax
comp=Z,29nm,1.3s
DUG MLR MLR
comp=Z,367nm,21.0s
DUG Dugway, Tooele 76.87 350 P P 21 20 42.4 +0.7
baz=77
DUG Dugway, Tooele 76.87 350 eP P 21 20 42.3 +0.7
comp=Z,29nm,1.3s
DUG LR LR
comp=Z,367nm,21.0s
CBN Corbin Frederi 76.91 18 PFAKE 21 20 50.0 +8.3
CBN LR LR
comp=Z,1µm,20.0s
HDIL Hopedale 76.97 8 eP P 21 20 43.3 +1.3
comp=Z,5.9nm,1.4s
HDIL LR LR
comp=Z,494nm,21.0s
BGU Big Grassy Mou 77.61 350 eP P 21 20 45.1 -0.7
comp=Z,20nm,1.4s
ACSO Alum Creek Sta 77.62 13 eP P 21 20 43.8 -1.8
comp=Z,26nm,0.9s
ACSO LR LR
comp=Z,288nm,19.0s
ELK Elko 77.78 348 eP P 21 20 46.4 -0.4
ELK pmax pmax
comp=Z,28nm,1.6s
ELK Elko 77.78 348 eP P 21 20 46.4 -0.4
comp=Z,28nm,1.6s
BMN Battle Mountai 77.82 347 eP P 21 20 46.1 -0.8
BMN pmax pmax
comp=Z,67nm,1.9s
BMN Battle Mountai 77.82 347 eP P 21 20 46.1 -0.8
comp=Z,67nm,1.9s
SCIA State Center 77.94 5 PFAKE 21 21 00.0 +13
SCIA LR LR
comp=Z,329nm,20.0s
HWUT Hardware Ranch 78.09 351 PFAKE 21 21 00.0 +12
HWUT LR LR
comp=Z,246nm,19.0s
HVU Hansel Valley 78.42 350 eP P 21 20 49.6 -0.7
HVU pmax pmax
comp=Z,25nm,1.4s
HVU Hansel Valley 78.42 350 eP P 21 20 49.6 -0.7
comp=Z,25nm,1.4s
KIPM Iron Peak 78.60 342 eP P 21 20 53.1 +1.9
BW06 Boulder Array 79.01 353 eP P 21 20 51.6 -2.0
comp=Z,40nm,1.4s
BW06 LR LR
comp=Z,327nm,19.0s
PD31 Pinedale Array 79.01 353 eP P 21 20 51.5 -2.1
PDAR Pinedale Array 79.01 353 P P 21 20 51.5 -2.1
comp=Z,7.0nm,0.7s,baz=146,slow=6.6,SNR=13
PDAR LR LR 21 50 28.6
comp=Z,254nm,19.2s,baz=168,slow=32
KMRM Mail Ridge 79.04 342 eP P 21 20 52.3 -1.3
comp=Z,59nm,1.1s
SSPA Standing Stone 79.09 17 eP P 21 20 50.8 -2.9
comp=Z,52nm,1.4s
WDC Whiskeytown Da 79.09 343 eP P 21 20 54.1 +0.3
WDC pmax pmax
comp=Z,22nm,1.0s
WDC Whiskeytown Da 79.09 343 eP P 21 20 54.1 +0.3
comp=Z,22nm,1.0s
AHID Auburn Hatcher 79.18 352 PFAKE 21 21 10.0 +16
AHID LR LR
comp=Z,307nm,20.0s
J29A Okreek 79.18 360 P P 21 20 55.8 +1.5
baz=80
JFWS Jewell Farm 79.20 7 eP P 21 20 55.4 +1.1
JFWS pmax pmax
comp=Z,27nm,1.3s
JFWS MLR MLR
comp=Z,542nm,21.0s
JFWS Jewell Farm 79.20 7 eP P 21 20 55.4 +1.1
comp=Z,27nm,1.3s
JFWS LR LR
comp=Z,542nm,21.0s
J19A Crowheart 79.46 353 P P 21 20 56.1 +0.2
baz=80
J20A Shoshoni 79.46 354 P P 21 20 56.3 +0.4
baz=80
AAM Ann Arbor 79.51 12 PFAKE 21 21 10.0 +14
AAM LR LR
comp=Z,420nm,20.0s
N02D Trinity Center 79.51 343 P P 21 20 56.3 +0.2
baz=80
ECSD EROS Data Cent 79.57 3 PFAKE 21 21 10.0 +14
ECSD LR LR
comp=Z,271nm,22.0s
REDW Red Top Meadow 79.74 352 eP P 21 20 59.1 +1.6
comp=Z,37nm,1.3s
TPAW Teton Pass 79.88 352 eP P 21 20 59.0 +0.6
comp=Z,41nm,1.3s
M02C Callahan 79.94 343 P P 21 20 59.0 +0.6
baz=80
LOHW Long Hollow 79.96 352 eP P 21 20 59.6 +0.9
comp=Z,20nm,1.3s
BRNJ Basking Ridge 79.97 19 eP P 21 21 02.9 +4.3
comp=Z,9.9nm,1.0s
RSSD Black Hills 79.97 357 eP P 21 20 59.1 +0.3
RSSD pmax pmax
comp=Z,19nm,0.9s
RSSD Black Hills 79.97 357 eP P 21 20 59.1 +0.3
comp=Z,19nm,0.9s
DZM Mont Dzumac 79.98 250 eS S 21 31 04.8 +1.6
comp=Z,493nm,25.6s
DZM Mont Dzumac 79.98 250 eLQ LQ 21 42 19.4
comp=Z,2µm,31.1s
DZM eLR LR 21 45 59.8
comp=Z,2µm,26.6s
WVOR Wild Horse Val 80.02 346 eP P 21 21 00.2 +1.2
WVOR pmax pmax
comp=Z,68nm,1.9s
WVOR MLR MLR
comp=Z,319nm,20.0s
WVOR Wild Horse Val 80.02 346 eP P 21 21 00.2 +1.2
comp=Z,68nm,1.9s
WVOR LR LR
comp=Z,319nm,20.0s
FXWY Fox Creek 80.03 352 eP P 21 20 60.0 +0.9
comp=Z,16nm,1.1s
I20A Worland 80.06 354 P P 21 20 58.2 -0.9
baz=80
MOOW Moose Ponds 80.11 352 eP P 21 20 58.6 -0.9
comp=Z,8.4nm,1.1s
TAU Tasmania Unive 80.21 224 PFAKE 21 21 10.0 +10
TAU LR LR
comp=Z,2µm,19.0s
YBH Yreka Blue Hor 80.23 343 P P 21 20 58.1 -1.9
comp=Z,3.7nm,0.7s,baz=174,slow=4.3,SNR=9.7
YBH LR LR 21 48 30.2
comp=Z,436nm,19.7s,baz=174,slow=30
YBH Yreka Blue Hor 80.23 343 P P 21 20 58.1 -1.9
YBH pmax pmax
comp=Z,4.0nm,0.7s
YBH MLR MLR
comp=Z,436nm,19.7s
YBH Yreka Blue Hor 80.23 343 eP P 21 21 00.4 +0.4
comp=Z,7.7nm,0.9s
IMW Indian Meadow 80.28 352 eP P 21 21 01.1 +0.6
comp=Z,26nm,1.2s
ODNJ Ogdensburg 80.34 19 eP P 21 20 58.8 -1.7
comp=Z,93nm,1.9s
HLID Hailey 80.40 349 P P 21 21 00.1 -0.9
baz=81
HLID Hailey 80.40 349 eP P 21 20 59.8 -1.2
comp=Z,41nm,1.2s
HLID LR LR
comp=Z,327nm,19.0s
FLWY Flagg Ranch 80.44 352 eP P 21 21 00.8 -0.5
comp=Z,52nm,1.4s
MFID Camas Ranch 80.47 348 eP P 21 21 00.7 -0.7
comp=Z,8.2nm,0.9s
KSPA Keystone Colle 80.48 18 eP P 21 21 00.6 -0.7
comp=Z,67nm,1.7s
H20A Greybull 80.58 354 P P 21 21 02.5 +0.6
baz=81
H24A Dirks Ranch, A 80.62 357 P P 21 21 02.4 +0.3
baz=81
K05A Summer Lake 80.76 345 eP P 21 21 03.1 +0.1
comp=Z,42nm,1.2s
LKWY Lake 80.88 353 PFAKE 21 21 20.0 +16
LKWY LR LR
comp=Z,695nm,22.0s
YLE Yale 81.01 20 eP P 21 21 00.7 -3.4
comp=Z,40nm,0.8s
MMNY Mt. Morris Dam 81.08 16 eP P 21 21 05.3 +0.9
comp=Z,51nm,1.1s
HUMO Hull Mountain 81.11 343 eP P 21 21 06.4 +1.7
comp=Z,8.3nm,1.0s
SPMN Marine on St. 81.27 5 eP P 21 21 06.3 +0.9
comp=Z,35nm,1.3s
RLMT Red Lodge 81.32 353 P P 21 21 04.9 -1.1
baz=82
RLMT Red Lodge 81.32 353 PFAKE 21 21 20.0 +14
RLMT LR LR
comp=Z,697nm,19.0s
J05D Fort Rock, OR 81.37 345 P P 21 21 04.7 -1.5
baz=82
MCMT McKenzie Canyo 81.42 351 eP P 21 21 09.0 +2.4
F23A Volborg 81.64 356 P P 21 21 08.2 +0.8
baz=82
F27A Lemmon 81.66 359 P P 21 21 06.7 -0.8
baz=82
F22A Rosebud 81.74 356 P P 21 21 06.9 -1.1
baz=82
F25A Bowman 81.75 358 P P 21 21 07.1 -0.9
baz=82
GLMI Grayling 81.81 11 PFAKE 21 21 20.0 +12
GLMI LR LR
comp=Z,539nm,20.0s
DLMT Dillon 81.92 351 eP P 21 21 10.2 +1.2
comp=Z,12nm,1.2s
QUA2 Belchertown 82.07 20 eP P 21 21 08.2 -1.5
comp=Z,23nm,0.8s
BOZ Bozeman (W) 82.08 352 P P 21 21 08.7 -1.2
baz=82
BMO Blue Mountains 82.12 348 PFAKE 21 21 20.0 +10
BMO LR LR
comp=Z,314nm,22.0s
E26A Carlson Angus 82.27 358 P P 21 21 09.8 -1.0
baz=83
E23A Ismay 82.41 356 P P 21 21 09.7 -1.7
baz=83
ACCN Adirondack Com 82.73 19 eP P 21 21 15.1 +1.9
comp=Z,58nm,1.7s
G08A Pilot Rock 82.84 347 eP P 21 21 13.8 0.0
comp=Z,13nm,1.0s
D30A Buchanan 82.89 1 P P 21 21 12.7 -1.2
baz=83
H04A Detroit Lake 82.91 344 eP P 21 21 15.9 +1.8
comp=Z,29nm,1.4s
D21A La Casta Ranch 83.07 355 P P 21 21 14.5 -0.4
baz=83
D23A Lindsay 83.07 356 P P 21 21 14.2 -0.7
baz=84
D22A Cohagen 83.10 356 P P 21 21 13.7 -1.3
baz=84
G06A Carlson Farm, 83.11 346 eP P 21 21 16.5 +1.4
comp=Z,104nm,2.1s
NCB Newcomb 83.14 18 eP P 21 21 16.2 +1.0
comp=Z,138nm,2.2s
NCB LR LR
comp=Z,817nm,21.0s
F10A Beach Ranch, E 83.19 348 eP P 21 21 16.2 +0.6
comp=Z,18nm,1.2s
C30A Mose, Pekin 83.49 1 P P 21 21 15.9 -1.1
baz=84
PTN Potsdam (NY) 83.51 18 eP P 21 21 19.0 +1.9
PTN pmax pmax
comp=Z,65nm,1.4s
PTN Potsdam (NY) 83.51 18 eP P 21 21 19.0 +1.9
comp=Z,65nm,1.4s
CHMT Chamberlain Mo 83.53 351 eP P 21 21 18.6 +1.2
MSO Missoula 83.53 350 eP P 21 21 17.9 +0.6
comp=Z,86nm,2.3s
LONY Lake Ozonia 83.65 18 eP P 21 21 16.0 -1.9
comp=Z,36nm,1.2s
LONY LR LR
comp=Z,1µm,19.0s
C23A Lambert 83.70 357 P P 21 21 17.7 -0.3
baz=84
SLMT Seeley Lake 83.88 351 eP P 21 21 18.1 -1.0
HAWA Hanford 84.01 347 eP P 21 21 21.0 +1.3
comp=Z,99nm,2.0s
HAWA LR LR
comp=Z,622nm,21.0s
EYMN Ely 84.07 6 eP P 21 21 20.0 +0.1
comp=Z,22nm,1.1s
EYMN LR LR
comp=Z,433nm,19.0s
F04A Amboy 84.15 345 eP P 21 21 21.7 +1.4
comp=Z,55nm,1.3s
AGMN Agassiz Nation 84.16 3 P P 21 21 19.2 -1.2
baz=84
AGMN Agassiz Nation 84.16 3 eP P 21 21 21.1 +0.8
comp=Z,60nm,1.9s
AGMN LR LR
comp=Z,324nm,21.0s
SWMT Swartz Lake 84.21 351 eP P 21 21 21.9 +1.1
B30A Myrvik Farm, E 84.24 1 P P 21 21 20.0 -0.7
baz=85
EGMT Eagleton 84.24 353 eP P 21 21 22.4 +1.5
comp=Z,19nm,1.2s
EGMT LR LR
comp=Z,293nm,20.0s
DGMT Dagmar 84.32 357 eP P 21 21 24.4 +3.2
comp=Z,152nm,2.2s
DGMT LR LR
comp=Z,441nm,21.0s
JTMT Jette 84.48 350 eP P 21 21 23.8 +1.6
D08A Wollman Farm, 84.54 347 eP P 21 21 23.6 +1.3
comp=Z,86nm,2.2s
YBMT Yellow Bay 84.56 351 eP P 21 21 25.1 +2.5
BSMT Bassoo Peak 84.65 350 eP P 21 21 23.7 +0.6
A29A Manning Farm, 84.70 1 P P 21 21 21.8 -1.3
baz=85
BLMT Blacktail Moun 84.75 350 eP P 21 21 24.6 +0.9
A25A Svangstu Ranch 84.76 358 P P 21 21 22.6 -0.8
baz=85
LON Longmire 84.80 345 eP P 21 21 24.2 +0.5
LON pmax pmax
comp=Z,7.0nm,0.9s
LON Longmire 84.80 345 eP P 21 21 24.2 +0.5
comp=Z,6.5nm,0.9s
A22A Carney Farms, 84.93 356 P P 21 21 22.9 -1.4
baz=85
LTY Liberty 85.06 346 eP P 21 21 25.8 +0.7
comp=Z,48nm,2.0s
C09A Chrisman Ranch 85.14 348 eP P 21 21 26.8 +1.4
comp=Z,136nm,2.3s
D05A Enumclaw 85.26 345 eP P 21 21 26.9 +1.0

NEW Newport 85.40 349 P **P** 21 21 24.8 -1.9
comp=Z,6.8nm,0.9s,baz=149,slow=4.9,SNR=9.4
NEW LR LR 21 53 09.0
comp=Z,216nm,19.4s,baz=169,slow=31
NEW Newport 85.40 349 P **P** 21 21 24.8 -1.9
NEW pmax pmax
comp=Z,7.0nm,0.9s
NEW MLR MLR
comp=Z,216nm,19.5s
NEW Newport 85.40 349 P **P** 21 21 24.8 -1.9
baz=86
NEW Newport 85.40 349 *e*P **P** 21 21 27.2 +0.5
comp=Z,85nm,2.0s
NEW LR LR
comp=Z,260nm,21.0s
PKME Peaks-Kenny Pk 85.69 21 PFAKE 21 21 40.0 +12
PKME LR LR
comp=Z,1μm,19.0s
NLWA Neilton Lookou 85.85 344 PFAKE 21 21 40.0 +11
NLWA LR LR
comp=Z,400nm,20.0s
FFC Flin Flon 90.52 359 *e*P **P** 21 21 53.3 +2.3
FFC pmax pmax
comp=Z,70nm,2.6s
FFC MLR MLR
comp=Z,370nm,20.0s
FFC Flin Flon 90.52 359 *e*P **P** 21 21 53.3 +2.3
comp=Z,70nm,2.6s
FFC LR LR
comp=Z,370nm,20.0s
STKA Stephens Creek 91.03 229 LR LR 21 54 15.8
comp=Z,565nm,20.6s,baz=161,slow=30
SUR Sutherland 92.22 133 PFAKE 21 22 10.0 +10
SUR LR LR
comp=Z,1μm,22.0s
HNR Honiara 92.44 257 PFAKE 21 22 10.0 +9.0
HNR LR LR
comp=Z,575nm,21.0s
CRZF Crozet Islands 94.01 161 S **S** 21 33 12.0 -5.6
CRZF SS **SS** 21 39 39.0 +3.5
CRZF R 21 52 00.0
PAF Port-aux-Franc 94.44 174 S S 21 32 59.0 -22
PAF SS SS 21 39 11.0 -30
PAF L L 21 48 00.0
PAF R 21 53 00.0
SCHQ Schefferville 95.02 19 LR LR 22 00 58.1
comp=Z,1μm,20.6s,baz=240,slow=33
CTAO Charters Tower 96.01 240 PFAKE 21 22 30.0 +13
CTAO LR LR
comp=Z,1μm,22.0s
WRAK Wrangell Islan 96.19 343 PFAKE 21 22 30.0 +13
WRAK LR LR
comp=Z,380nm,19.0s
DLBC Dease Lake 97.50 345 P **P** 21 22 21.9 -1.1
comp=Z,1.1nm,0.5s,baz=237,slow=14,SNR=2.1
DLBC Dease Lake 97.50 345 *e*P **P** 21 22 21.9 -1.1
comp=Z,38nm,2.2s
BOSA Boshof 97.58 134 LR LR 21 59 51.4
comp=Z,436nm,20.1s,baz=209,slow=31
DBIC Dimbokro 98.11 88 LR LR 22 03 19.2
comp=Z,562nm,20.2s,baz=214,slow=33
YKA Yellowknife Ar 99.00 353 P **P** 21 22 28.3 -1.2
comp=Z,0.6nm,0.7s,baz=150,slow=5.0,SNR=2.6
YKA Yellowknife Ar 99.00 353 P **P** 21 22 28.3 -1.2
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKB5 Yellowknife Ar 99.00 353 *e*P **P** 21 22 28.3 -1.2
TSUM Tsumeb 99.40 122 PFAKE 21 22 40.0 +7.2
TSUM LR LR
comp=Z,429nm,20.0s
AS12 Alice Springs 101.64 229 *e*Pdif **Pdif** 21 22 37.4 -5.2
ASAR Alice Springs 101.64 229 P **Pdif** 21 22 37.4 -5.2
comp=Z,1.1nm,1.1s,baz=135,slow=5.4,SNR=3.1
ASAR Alice Springs 101.64 229 P **Pdif** 21 22 37.4 -5.2
ASAR pmax pmax
comp=Z,1.0nm,1.1s
PMG Port Moresby 102.33 249 PFAKE 21 23 00.0 +14
PMG LR LR
comp=Z,525nm,19.0s
H01W1 Cape Leeuwin H 102.45 208 T T 23 17 35.7
baz=152,slow=76,SNR=42
H01W2 Cape Leeuwin H 102.45 208 T T 23 17 36.0
baz=152,slow=76,SNR=60
H01W3 Cape Leeuwin H 102.46 208 T T 23 17 37.1
baz=152,slow=76,SNR=57
NWAO Narrogin (SRO) 102.92 212 PFAKE 21 23 00.0 +12
NWAO LR LR
comp=Z,1.0nm,20.0s
KDAK Kodiak Island 103.41 334 PFAKE 21 23 00.0 +11
KDAK LR LR
comp=Z,517nm,19.0s
WAKE Wake Island 103.66 284 PFAKE 21 23 00.0 +8.6
WAKE LR LR
comp=Z,430nm,19.0s
WRAB Tennant Creek 104.11 232 PFAKE 21 23 00.0 +6.4
WRAB LR LR
comp=Z,914nm,19.0s
EGAK Eagle 105.61 343 PFAKE 21 27 20.0
EGAK LR LR
comp=Z,329nm,20.0s
ILAR Eielson Array 107.05 341 PP PP 21 27 31.1 -1.4
PKPbc **PKKPbc** 21 38 32.5 -1.0
ILAR comp=Z,0.4nm,0.7s,baz=178,slow=4.5,SNR=3.3
comp=Z,0.3nm,0.7s,baz=315,slow=3.9,SNR=4.1
TOA0 Torodi Ar. Sit 107.09 86 *e*Pdif **Pdif** 21 23 07.0 +0.3
TOA0 *e*PP **PP** 21 27 32.4 -1.2
TORD Torodi Ar. Bea 107.09 86 Pdiff **Pdif** 21 23 07.0 +0.3
comp=Z,1.0nm,1.1s,baz=264,slow=4.0,SNR=2.8
TORD PP **PP** 21 27 32.4 -1.2
comp=Z,2.8nm,1.0s,baz=238,slow=6.2,SNR=6.5
COLA College 107.38 341 PFAKE 21 27 30.0
COLA LR LR
comp=Z,258nm,19.0s
LSZ Lusaka 109.28 127 PFAKE 21 27 30.0
LSZ LR LR
comp=Z,395nm,20.0s
SFJD Kangerlussuaq 109.47 18 PFAKE 21 27 30.0
SFJD LR LR
comp=Z,972nm,22.0s
ADK Adak 110.15 320 PFAKE 21 27 30.0
ADK LR LR
comp=Z,332nm,21.0s
MBWA Marble Bar 111.68 220 PFAKE 21 27 40.0
MBWA LR LR
comp=Z,603nm,19.0s
TAM Tamanrasset 115.30 79 PFAKE 21 27 40.0 +8.3
TAM LR LR
comp=Z,1μm,21.0s
PAB San Pablo 115.79 59 PFAKE 21 27 40.0 +7.9
PAB LR LR
comp=Z,611nm,19.0s
ESDC Sonseca Array 116.11 59 PKP **PKPdf** 21 27 31.5 -1.2
comp=Z,0.1nm,0.4s,baz=237,slow=1.9,SNR=3.1
ESDC PP **PP** 21 28 37.2 -1.0
comp=Z,1.7nm,1.0s,baz=251,slow=8.1,SNR=5.5
MBAR Mbarara 121.54 117 PFAKE 21 28 00.0 +16
MBAR LR LR
comp=Z,766nm,22.0s
SSB Saint Sauveur 124.08 56 PFAKE 21 28 00.0 +12
SSB LR LR
comp=Z,631nm,20.0s
KEST Kesra 124.10 68 PKP **PKPdf** 21 27 47.1 -1.1
comp=Z,2.2nm,0.9s,baz=232,slow=18,SNR=3.4
PET Petropavlovsk 124.30 314 *e*PKIKP PKPpre 21 27 42.2
PET *e* 21 29 34.3
PET *e*PS **PS** 21 39 29.0 -3.4
PET *e*PPS PPS 21 41 05.2
PET *e*SS SS 21 46 20.3 -5.0
PET *e*SSS SSS 21 51 02.3
PET Petropavlovsk 124.30 314 PFAKE 21 28 00.0 +12
PET LR LR
comp=Z,383nm,21.0s
KAPI Kappang 124.62 231 PFAKE 21 28 00.0 +10
KAPI LR LR
comp=Z,425nm,20.0s
PEA2 Petropavlovsk- 124.87 314 *e*PKPpre PKPpre 21 27 46.0
PETK Petropavlovsk- 124.87 314 PKP PKPpre 21 27 46.0
comp=Z,4.7nm,0.9s,baz=104,slow=6.1,SNR=4.3
PETK Petropavlovsk- 124.87 314 PKIKP PKPpre 21 27 46.0
PETK pmax pmax
comp=Z,5.0nm,1.0s
BNI Bardonecchia 125.44 56 PFAKE 21 28 00.0 +9.5
BNI LR LR
comp=Z,1μm,21.0s
KMBO Kilima Mbogo 125.71 123 PFAKE 21 28 00.0 +7.8
KMBO LR LR
comp=Z,401nm,19.0s
WLF Walferdange 126.41 51 PFAKE 21 28 00.0 +8.0
WLF LR LR
comp=Z,505nm,20.0s
ECH Echery 126.67 53 PFAKE 21 28 00.0 +7.4
ECH LR LR
comp=Z,547nm,20.0s
BFO Black Forest 127.45 53 PFAKE 21 28 10.0 +16
BFO LR LR
comp=Z,398nm,22.0s
TUE Stuetta 127.64 55 PFAKE 21 28 10.0 +15
TUE LR LR
comp=Z,957nm,19.0s
CLTB Caltabellotta 127.67 67 PFAKE 21 28 10.0 +15
CLTB LR LR
comp=Z,248nm,19.0s
VLC Villacollemand 127.70 58 PFAKE 21 28 10.0 +15
VLC LR LR
comp=Z,534nm,21.0s
WDD Wield Dalam 128.06 70 PFAKE 21 28 10.0 +14
WDD LR LR
comp=Z,422nm,21.0s
FUORN Ofenpass-Fuorn 128.28 55 *e*PKPdf **PKPdf** 21 27 57.3 +1.2
DAV Davao City (W) 129.28 247 PFAKE 21 28 10.0 +11
DAV LR LR
comp=Z,261nm,19.0s
AQU L'Aquila 129.30 61 PFAKE 21 28 10.0 +12
AQU LR LR
comp=Z,483nm,20.0s
SEY Seymchan 129.33 326 PKP **PKPdf** 21 27 54.1 -3.1
comp=Z,1.3nm,0.4s,baz=116,slow=4.4,SNR=7.4
SEY Seymchan 129.33 326 ⇑*i*PKIKP **PKPdf** 21 27 56.1 -1.1
KBS Kingsbay 129.41 13 PFAKE 21 28 10.0 +13
KBS LR LR
comp=Z,451nm,21.0s
CEL Celeste 129.89 67 PFAKE 21 28 10.0 +11
CEL LR LR
comp=Z,368nm,20.0s
KONO Kongsberg 130.12 39 PFAKE 21 28 10.0 +11
KONO LR LR
comp=Z,392nm,21.0s
CUC Castrocucco 130.36 65 PFAKE 21 28 10.0 +10
CUC LR LR
comp=Z,293nm,21.0s
TIP Timpagrande 130.82 66 PFAKE 21 28 10.0 +9.1
TIP LR LR
comp=Z,438nm,22.0s
NB200 NORSAR Array S 131.01 37 *e*PKPdf **PKPdf** 21 27 59.0 -1.5
NOA NORSAR Array B 131.01 37 PKP **PKPdf** 21 27 59.0 -1.5
comp=Z,0.7nm,0.9s,baz=272,slow=1.8,SNR=2.9
NOA NORSAR Array B 131.01 37 PKIKP **PKPdf** 21 27 59.0 -1.5
NOA pmax pmax
comp=Z,1.0nm,0.9s
KHC Kasperske Hory 131.02 53 *e*PKPdf **PKPdf** 21 28 00.9 0.0
KHC *e*pPKP **pPKPdf** 21 28 07.5 +1.9
KHC *e*x x 21 28 21.2
KHC *e*PP **PP** 21 30 16.6 -1.8
KHC *e*SKP 21 31 21.7
KHC *e*x x 21 42 04.7
KHC AMS AMS 22 22 30.0
comp=Z,400nm,16.1s
KHC Kasperske Hory 131.02 53 *e*PKIKP **PKPdf** 21 28 00.9 0.0
KHC *e* 21 28 07.5
KHC *e* 21 30 16.6
KHC *e* 21 42 04.7
KHC MLR MLR
comp=Z,400nm,16.1s
CLL Collm 131.03 50 *e*Pdif **Pdif** 21 24 53.0 +0.7
CLL *e*PKPdf **PKPdf** 21 28 01.0 +0.2
CLL *i* pPKPdf **pPKPdf** 21 28 06.7 +1.3
comp=Z,8.0nm,1.2s
CLL *e*PP **PP** 21 30 19.0 +0.6
CLL *e*SKPdf **SKPdf** 21 31 32.0 -3.6
CLL *e*SKSP 21 40 12.0
CLL *e*PPS PPS 21 42 05.0
CLL *e* 21 43 22.0
CLL *e*SS SS 21 47 40.0 -9.2
CLL *e* 21 48 48.0
CLL *e*SSS SSS 21 52 41.0
CLL LmV 22 20 00.0
comp=Z,300nm,21.2s
CLL Collm 131.03 50 *e*PKIKP **PKPdf** 21 28 01.0 +0.2
CLL *i* 21 28 06.7
CLL *e* 21 30 19.0
CLL MLR MLR
comp=Z,300nm,21.2s
GEC2 GERESS Array S 131.04 53 *e*PKIKP **PKPdf** 21 27 59.6 -1.5
GEC2 GERESS Array S 131.04 53 *e*PKPdf **PKPdf** 21 27 59.6 -1.5
GERES GERESS Array B 131.04 53 PKP **PKPdf** 21 27 59.6 -1.5
comp=Z,1.1nm,0.8s,baz=252,slow=0.9,SNR=5.8
GERES GERESS Array B 131.04 53 PKIKP **PKPdf** 21 27 59.6 -1.5
GERES pmax pmax
comp=Z,1.0nm,0.9s
ERM Erimo 131.54 297 PFAKE 21 28 10.0 +8.0
ERM LR LR
comp=Z,383nm,19.0s
BRG Berggiesshubel 131.55 51 *e*P **PKPdf** 21 28 03.8 +2.0
comp=Z,11nm,1.8s
BRG Berggiesshubel 131.55 51 *e*PKIKP **PKPdf** 21 28 03.8 +2.0
BRG pmax pmax
comp=Z,11nm,1.8s
PRU Pruhonice 131.78 52 *e*PP PP 21 30 23.1 -0.2
PRU *e*SKP 21 31 27.5
PRU *e*x x 21 42 12.8
PRU *e*SS SS 21 48 02.9 +4.4
PRU AMS AMS 22 17 00.0
comp=Z,400nm,24.5s
PVCC Panska Ves 131.89 51 *e*PKPdf **PKPdf** 21 28 02.3 -0.1
PVCC *e*SKP 21 31 28.6
PVCC Panska Ves 131.89 51 *e*PKIKP **PKPdf** 21 28 02.3 -0.1
GOPC GO Pecny, Ondr 131.93 52 *e*SKP **SKPbc** 21 31 29.7 +1.5
GOPC *e*x x 21 42 13.7
GOPC AMS AMS 22 21 10.0
comp=Z,300nm,20.8s
TREC Trest 132.28 53 *e*PKPdf **PKPdf** 21 28 01.6 -1.7
TREC *e*pPKP **pPKPdf** 21 28 09.6 +1.7
TREC *e*PP **PP** 21 30 26.4 -0.1
TREC *e*SKP 21 31 28.8
TREC *e*x x 21 42 17.5
TREC AMS AMS 22 20 50.0
comp=Z,300nm,17.4s
TREC Trest 132.28 53 *e*PKIKP **PKPdf** 21 28 01.6 -1.7
TREC *e* 21 28 09.6
TREC *e* 21 30 26.4
TREC *e* 21 42 17.5
TREC MLR MLR
comp=Z,300nm,17.4s
UPC Upice 132.80 51 *e*PP PP 21 30 27.4 -2.4
YSS Yuzh-Sakhalins 132.91 304 PFAKE 21 28 20.0 +16
YSS LR LR
comp=Z,168nm,22.0s
DPC Dobruska-Polom 132.97 52 *e*PKPdf **PKPdf** 21 28 03.4 -1.2
DPC *e*pPKP **pPKPdf** 21 28 12.8 +3.6
DPC *e*x x 21 28 22.3
DPC *e*PP **PP** 21 30 29.3 -1.7
DPC *e*SKP 21 31 30.7
DPC Dobruska-Polom 132.97 52 *e*PKIKP **PKPdf** 21 28 03.4 -1.2
DPC *e* 21 30 29.3
MSEY Mahe Island 133.39 145 PFAKE 21 28 20.0 +13
MSEY LR LR
comp=Z,452nm,20.0s
MAJO Matsushiro 133.68 289 ⇓*i*PKIKP **PKPdf** 21 28 08.0 +1.7
MAJO Matsushiro 133.68 289 PFAKE 21 28 20.0 +14
MAJO LR LR
comp=Z,206nm,21.0s
TIR Tirane 133.69 64 PFAKE 21 28 20.0 +14
TIR LR LR
comp=Z,501nm,21.0s
OKC Ostrava-Krasne 134.07 53 *e*SKP **SKPbc** 21 31 35.5 +0.1
OKC AMS AMS 22 20 50.0
comp=Z,200nm,18.3s
DIVS Divibare 134.39 61 ⇑*i*P **PKPdf** 21 28 10.3 +2.8
PSZ Piszkesteto 134.97 55 PFAKE 21 28 20.0 +12
PSZ LR LR
comp=Z,374nm,20.0s
KKM Kota Kinabalu 135.24 237 PFAKE 21 28 20.0 +10
KKM LR LR
comp=Z,233nm,20.0s
KSM Kuching 135.47 226 PFAKE 21 28 20.0 +10
KSM LR LR
comp=Z,373nm,22.0s
KEV Kevo 136.10 24 PFAKE 21 28 20.0 +10
KEV LR LR
comp=Z,293nm,21.0s
TIXI Tiksi 136.50 340 ⇓*i*PKIKP **PKPdf** 21 28 09.6 -0.9
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 136.50 340 *e*PKPdf **PKPdf** 21 28 09.3 -1.2
TIXI LR LR
comp=Z,284nm,20.0s
SANT Santorini 136.60 73 PFAKE 21 28 20.0 +8.2
SANT LR LR
comp=Z,252nm,19.0s
DRGR 136.72 57 ⇓PKIKP **PKPdf** 21 28 14.7 +3.0
DRGR 136.72 57 ⇓*i*P **PKPdf** 21 28 14.7 +3.0
FIA0 FINESS Array S 138.12 36 *e*PKIKP **PKPdf** 21 28 11.2 -2.5
FIA0 FINESS Array S 138.12 36 *e*PKPdf **PKPdf** 21 28 11.2 -2.5
FINES FINESS Array B 138.12 36 PKP **PKPdf** 21 28 11.2 -2.5
comp=Z,5.7nm,1.2s,baz=308,slow=5.1,SNR=8.1
FINES FINESS Array B 138.12 36*c i*PKIKP **PKPdf** 21 28 13.5 -0.2
FINES pmax pmax
comp=Z,6.0nm,1.2s
BUR04 Bucovina Ar. S 138.50 56 *e*PKPdf **PKPdf** 21 28 12.1 -3.0
BURAR Bucovina Array 138.50 56 ⇑PKIKP **PKPdf** 21 28 12.7 -2.3
BURAR Bucovina Array 138.50 56 ⇑*i*P **PKPdf** 21 28 12.6 -2.4
MLR Muntele Rosu 138.80 60 ⇑PKHKP PKPpre 21 28 04.9
MLR Muntele Rosu 138.80 60 ⇑*i*P PKPpre 21 28 04.9
ISR Istrita 139.17 60 ⇑PKIKP PKPdf 21 28 24.2 +7.9
ISR Istrita 139.17 60 ⇑*i*P PKPdf 21 28 24.2 +7.9
VRI Vrincioaia 139.38 59 ⇑PKIKP **PKPdf** 21 28 16.1 -0.5
VRI Vrincioaia 139.38 59 ⇑*i*P **PKPdf** 21 28 16.1 -0.5
TESR Tescani 139.39 58 ⇓*i*P **PKPdf** 21 28 19.0 +2.4
LVZ Lovozero 139.40 24 PFAKE 21 28 30.0 +14
LVZ LR LR
comp=Z,284nm,22.0s
YAK Yakutsk 139.85 326 *e*PKIKP **PKPdf** 21 28 14.0 -2.9
YAK pmax pmax
comp=Z,7.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK MLR MLR
comp=E,90nm,20.0s
YAK MLR MLR
comp=Z,193nm,19.0s
YAK Yakutsk 139.85 326 PFAKE 21 28 30.0 +13
YAK LR LR
comp=Z,355nm,22.0s
USRK Ussuriysk Ar. 139.98 298 PKP **PKPdf** 21 28 13.8 -3.9
comp=Z,0.9nm,0.6s,baz=348,slow=6.5,SNR=3.7
CFR Carcaliu 140.30 60 ⇓PKIKP **PKPdf** 21 28 17.9 -0.3
CFR Carcaliu 140.30 60 ⇓*i*P **PKPdf** 21 28 17.9 -0.3
TIRR Tirgusor 140.42 62 ⇓PKIKP **PKPdf** 21 28 19.8 +1.3
TIRR Tirgusor 140.42 62 ⇓*i*P **PKPdf** 21 28 19.8 +1.3
KLR Kul'dur 140.47 306 *e*PKIKP PKPpre 21 28 11.3
KIEV Kiev 141.19 52 *i* PKIKP **PKPdf** 21 28 19.4 -0.2
KIEV Kiev 141.19 52 PFAKE 21 28 30.0 +10
KIEV LR LR
comp=Z,241nm,22.0s
AKASG Malin Array Be 141.20 52 PKhKP PKPpre 21 28 14.8
comp=Z,0.2nm,0.2s,baz=280,slow=2.4,SNR=3.7
AKASG PKP **PKPdf** 21 28 19.6 -0.1
comp=Z,0.6nm,0.4s,baz=291,slow=1.8,SNR=5.6
AKASG Malin Array Be 141.20 52 PKIKP PKPpre 21 28 14.8
AKASG 21 28 19.6
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 141.20 52 *e*PKIKP PKPpre 21 28 14.8
AKBB *e* 21 28 19.6
AKBB Malin Array Si 141.20 52 *e*PKPpre PKPpre 21 28 14.8
AKBB *e*PKPdf **PKPdf** 21 28 19.6 -0.1
GSI Gunungsitoli 141.65 209 *e*PKPdf **PKPdf** 21 28 22.9 +1.1
MDJ Mudanjiang 141.73 298 PKP **PKPdf** 21 28 21.4 +0.6
MDJ PP PP 21 31 32.3 +6.6
MDJ SS SS 21 49 57.4 +0.1
MDJ LN
comp=Z,160nm,25.5s
MDJ LE
comp=Z,150nm,28.3s
MDJ LZ
comp=Z,120nm,21.3s
MDJ Mudanjiang 141.73 298 *e*PKPdf **PKPdf** 21 28 21.7 +0.9
MDJ LR LR
comp=Z,211nm,19.0s
KSRS Korea Array 141.86 287 PKP PKPpre 21 28 17.1
comp=Z,0.5nm,0.3s,baz=104,slow=2.7,SNR=3.0
KSRS Korea Array 141.86 287 PKIKP PKPpre 21 28 17.2
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KS15 Wonju Array Si 141.89 287 *e*PKPpre PKPpre 21 28 17.1
KS01 Wonju Array Si 141.89 287 *e*PKPdf **PKPdf** 21 28 20.0 -1.3
CSS Prodhromos 142.37 78 PFAKE 21 28 30.0 +7.7
CSS LR LR
comp=Z,40nm,20.0s
YHNB Yeheng 142.71 264 PFAKE 21 28 30.0 +6.7
YHNB LR LR
comp=Z,161nm,20.0s
TATO Taipei 142.76 264 PFAKE 21 28 30.0 +6.7
TATO LR LR
comp=Z,204nm,21.0s
INCN Inchon 142.87 286 PFAKE 21 28 30.0 +6.9
INCN LR LR
comp=Z,196nm,19.0s
BR231 Keskin MP Arra 143.01 70 *e*PKPpre PKPpre 21 28 20.4
ANTO Ankara 143.03 70 PFAKE 21 28 40.0 +17
ANTO LR LR
comp=Z,222nm,21.0s
BR101 Keskin Array S 143.65 70 *e*PKPpre PKPpre 21 28 21.4
BRTR Keskin Array B 143.65 70 PKP PKPab 21 28 21.4 +0.1
comp=Z,10nm,1.0s,baz=204,slow=2.7,SNR=18
BRTR Keskin Array B 143.65 70*ce*PKIKP PKPab 21 28 21.2 -0.1
BRTR pmax pmax
comp=Z,11nm,1.0s
KULM Kulim 143.85 217 PFAKE 21 28 40.0 +14
KULM LR LR
comp=Z,526nm,21.0s
SIM Simferopol' 144.51 61 *e*PKIKP **PKPab** 21 28 23.9 -0.3
SIM *i* 21 28 31.6
OBN Obninsk 144.97 43*c i*PKP2 **PKPab** 21 28 23.7 -1.8
OBN pmax pmax
comp=Z,146nm,1.7s
OBN Obninsk 144.97 43 *e*PKPbc **PKPab** 21 28 24.3 -1.2
OBN LR LR
comp=Z,404nm,22.0s
MOS Moscow 145.39 42 *e*PKP2 **PKPbc** 21 28 24.4 -2.4
MOS *e* 21 31 44.1
MOS pmax pmax
comp=Z,95nm,1.6s
MOS pmax pmax
comp=Z,200nm,1.9s
ANN Anapa 146.87 62 *e*PKP2 **PKPdf** 21 28 29.8 +0.1
ANN pmax pmax
comp=Z,74nm,1.4s
LPSR Galich'ya Gora 146.94 47 *e*PKHKP PKPpre 21 28 13.4
LPSR pmax pmax
comp=N,10.0nm,0.4s
LPSR pmax pmax
comp=E,10.0nm,0.4s
LPSR pmax pmax
comp=Z,30nm,0.4s
MALT Malatya 147.10 74 ⇑PKP2 **PKPbc** 21 28 32.6 -0.1
MALT Malatya 147.10 74 ⇑*i*P **PKPbc** 21 28 32.5 -0.1
VSR Storozhevoye 147.38 50 *e*PKIKP **PKPdf** 21 28 30.0 -0.4
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,20nm,1.2s
VSR pmax pmax
comp=Z,50nm,1.2s
VORD Divnogorie 147.51 50 *e*PKP2 **PKPdf** 21 28 31.2 +0.6
VORD pmax pmax
comp=Z,20nm,1.0s
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,30nm,0.8s
NJ2 Nanjing 147.64 274 *e*PKPbc **PKPbc** 21 28 33.9 -0.3
RAYN Ar Rayn 147.78 103 *e*PKPdf **PKPdf** 21 28 32.9 +0.9
RAYN LR LR
comp=Z,459nm,20.0s
HIA Hailar 148.31 307 ⇓*e*PKIKP **PKPdf** 21 28 31.2 -0.9
HIA Hailar 148.31 307 *e*PKPdf **PKPdf** 21 28 32.6 +0.5
HIA LR LR
comp=Z,271nm,22.0s
SOC Sochi 148.51 64 *i* PKP2 **PKPbc** 21 28 35.7 -0.5

SOC				*e*			21 32 03.1		
SOC				*e*SS	SS		21 51 22.5	+7.6	
SOC				pmax	pmax				
	comp=Z,74nm,1.1s								
SOC				MLR	MLR				
	comp=Z,77nm,12.0s								
QIZ	**Qiongzhong**	**148.63**	**245**	PKPbc	**PKPdf**		**21 28 34.8**	**+1.3**	
QIZ				PP	**PP**		**21 32 08.0**	**+1.1**	
QIZ				SS	SS		21 51 19.1	+2.8	
QIZ				LZ					
	comp=Z,270nm,29.5s								
QIZ	**Qiongzhong**	**148.63**	**245**	PFAKE			21 28 40.0	-0.8	
QIZ				LR	LR				
	comp=Z,244nm,19.0s								
BOD	**Bodaibo**	**148.74**	**325**	*e*PKIKP	**PKPdf**		**21 28 29.9**	**-2.5**	
BOD				pmax	pmax				
	comp=Z,14nm,1.8s								
VRHR	**Novokhopersk**	**148.92**	**49**	*e*PKP2	**PKPbc**		**21 28 35.0**	**-1.9**	
VRHR				pmax	pmax				
	comp=N,30nm,1.2s								
VRHR				pmax	pmax				
	comp=E,9.0nm,1.2s								
VRHR				pmax	pmax				
	comp=Z,80nm,1.2s								
TIA	**Tai'an**	**150.08**	**281**	⇑PKPbc	**PKPdf**		**21 28 36.3**	**+1.0**	
KIV	**Kislovodsk**	**150.66**	**63**	*e*PKIKP	**PKPdf**		**21 28 36.7**	**+0.6**	
KIV				pmax	pmax				
	comp=Z,30nm,1.1s								
KIV	**Kislovodsk**	**150.66**	**63**	*e*PKPdf	**PKPbc**		**21 28 40.5**	**-1.1**	
KIV				LR	LR				
	comp=Z,141nm,20.0s								
WHN	**Wuhan**	**150.79**	**269**	PKPbc	**PKPdf**		**21 28 38.8**	**+2.2**	
WHN				LZ					
	comp=Z,630nm,27.4s								
KBZ	**Khabaz**	**150.82**	**64**	PKPbc	**PKPbc**		**21 28 41.5**	**-0.3**	
	comp=Z,24nm,0.9s,baz=263,slow=3.3,SNR=25								
GOF	**Gofitskoye**	**150.84**	**61**	*e*PKIKP	**PKPbc**		**21 28 41.8**	**0.0**	
PALK	**Pallekele**	**151.25**	**182**	*e*PKIKP	**PKPbc**		**21 28 43.8**	**0.0**	
PALK	**Pallekele**	**151.25**	**182**	*e*PKPbc	**PKPbc**		**21 28 43.8**	**0.0**	
ONI	**Oni**	**151.25**	**66**	P	**PKPbc**		**21 28 42.7**	**-0.3**	
ONI	**Oni**	**151.25**	**66**	PKIKP	**PKPbc**		**21 28 42.7**	**-0.3**	
AKH	**Akhalkalaki**	**151.27**	**68**	P	**PKPbc**		**21 28 42.8**	**-0.4**	
AKH	**Akhalkalaki**	**151.27**	**68**	PKIKP	**PKPbc**		**21 28 42.8**	**-0.4**	
BJI	**Beijing**	**151.32**	**289**	PKPbc	**PKPdf**		**21 28 38.1**	**+1.0**	
BJI				SS	SS		21 51 48.8	+2.4	
BJI				LN					
	comp=Z,110nm,16.6s								
BJI				LE					
	comp=Z,240nm,21.3s								
BJI				LZ					
	comp=Z,150nm,20.8s								
BJT	**Baijiatuau**	**151.32**	**289**	PFAKE			21 28 50.0	-1.3	
BJT				LR	LR				
	comp=Z,320nm,21.0s								
ZEI	**Tsey**	**151.58**	**65**	*i* PKIKP	**PKPbc**		**21 28 42.3**	**-1.6**	
ZEI				pmax	pmax				
	comp=Z,40nm,0.9s								
GNI	**Garni**	**152.17**	**71**	*e*PKIKP	**PKPbc**		**21 28 46.3**	**+1.0**	
GNI				MLR	MLR				
	comp=Z,215nm,22.0s								
GNI	**Garni**	**152.17**	**71**	*e*PKPbc	**PKPbc**		**21 28 46.3**	**+1.0**	
GNI				LR	LR				
	comp=Z,215nm,22.0s								
TBLG	**Delisi**	**152.21**	**68**	P	**PKPbc**		**21 28 45.2**	**+0.1**	
TBLG	**Delisi**	**152.21**	**68**	PKIKP	**PKPbc**		**21 28 45.2**	**+0.1**	
MAK	**Makhachkala**	**154.22**	**65**	*e*PKIKP	**PKPdf**		**21 28 39.1**	**-2.1**	
MAK				*e*			21 32 39.7		
MAK				*e*SSS	SSS		21 58 08.2		
MAK				pmax	pmax				
	comp=Z,287nm,1.7s								
HHC	**Hu-ho-hao-te**	**154.86**	**290**	*e*PKPbc	**PKPdf**		**21 28 38.8**	**-3.6**	
HHC				PP	**PP**		**21 32 41.3**	**-1.4**	
HHC				SKS	**SKSdf**		**21 35 48.0**	**-0.6**	
HHC				SKKS	**SKKSac**		**21 39 33.3**	**+1.4**	
HHC				SS	**SS**		**21 52 23.0**	**-2.5**	
HHC				PPMZ					
	comp=Z,75nm,9.6s								
HHC				LN					
	comp=Z,120nm,21.8s								
HHC				LE					
	comp=Z,250nm,21.5s								
HHC				LZ					
	comp=Z,220nm,21.5s								
ARU	**Arti**	**155.11**	**29**	*i* PKIKP	**PKPdf**		**21 28 44.6**	**+2.6**	
ARU	**Arti**	**155.11**	**29**	PFAKE			21 28 50.0	+8.0	
ARU				LR	LR				
	comp=Z,282nm,21.0s								
GYA	**Guiyang**	**155.25**	**255**	PKP	**PKPdf**		**21 28 44.0**	**+0.6**	
GYA				PKPab	**PKPab**		**21 29 11.3**	**+2.9**	
GYA				PKS	**PKSdf**		**21 32 16.8**	**-0.9**	
GYA				PP	**PP**		**21 32 48.9**	**+3.9**	
GYA				PPMZ					
	comp=Z,120nm,8.2s								
SVE	**Sverdlovsk**	**155.59**	**26**	*e*PKIKP	**PKPdf**		**21 28 45.9**	**+3.2**	
SVE				pmax	pmax				
	comp=Z,13nm,1.5s								
CM01	**Chiang Mai Arr**	**155.61**	**229**	*e*PKPdif	PKPdf		21 28 53.4	+9.5	
CM31	**Chiang Mai Arr**	**155.65**	**229**	*e*PKPdf	**PKPdf**		**21 28 41.4**	**-2.6**	
CM31				*e*PKPab	**PKPab**		**21 29 07.5**	**-2.6**	
CMAR	**Chiang Mai Arr**	**155.65**	**229**	PKP	**PKPdf**		**21 28 41.3**	**-2.6**	
	comp=Z,0.6nm,0.4s,baz=69,slow=3.1,SNR=4.6								
CMAR				PKPab	**PKPab**		**21 29 07.5**	**-2.6**	
	comp=Z,5.0nm,0.9s,baz=164,slow=3.8,SNR=8.5								
CMAR	**Chiang Mai Arr**	**155.65**	**229**	PKIKP	**PKPdf**		**21 28 41.3**	**-2.6**	
CMAR							21 29 07.5		
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
CMAR				pmax	pmax				
	comp=Z,5.0nm,0.9s								
CHTO	**Chiang Mai**	**155.92**	**229**	PFAKE			21 29 00.0	-11	
CHTO				LR	LR				
	comp=Z,234nm,20.0s								
XAN	**Xi'an**	**156.20**	**273**	PKP	PKPdf		21 28 50.4	+6.1	
TLY	**Talaya**	**157.05**	**320**	PFAKE			21 29 00.0	+15	
TLY				LR	LR				
	comp=Z,243nm,21.0s								
SONA1	**Songino Array**	**157.22**	**309**	*e*PKPdf	**PKPdf**		**21 28 43.9**	**-1.4**	
SONA0	**Songino Array**	**157.23**	**309**	*e*PKPdf	PKPpre		21 28 41.1		
SONA0				*e*PKPab	**PKPab**		**21 29 12.8**	**-3.5**	
SONM	**Songino Array**	**157.23**	**309**	PKP	PKPpre		21 28 41.1		
	comp=Z,1.2nm,1.0s,baz=27,slow=1.7,SNR=5.2								
SONM				PKPab	**PKPab**		**21 29 12.8**	**-3.5**	
	comp=Z,3.1nm,0.9s,baz=93,slow=3.5,SNR=5.2								
SONM	**Songino Array**	**157.23**	**309**	PKIKP	PKPpre		21 28 41.1		
SONM				pmax	pmax				
	comp=Z,1.0nm,1.0s								
SONM				pmax	pmax				
	comp=Z,3.0nm,0.9s								
KMI	**Kunming**	**157.54**	**247**	PKP	**PKPdf**		**21 28 46.6**	**+0.1**	
KMI				PP	PP		21 33 04.8	+7.1	
KMI				SKKS			21 39 49.8		
KMI				SS	**SS**		**21 52 54.3**	**-0.1**	
KMI				PPMZ					
	comp=Z,71nm,8.6s								
KMI				LN					
	comp=Z,170nm,17.8s								
KMI				LE					
	comp=Z,170nm,20.3s								
KMI				LZ					
	comp=Z,320nm,27.6s								
ZAK	**Zakamensk**	**157.94**	**317**	*e*PKIKP	PKPdf		21 28 39.5	-6.6	
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.4s								
CD2	**Chengdu**	**159.46**	**262**	PKP	**PKPdf**		**21 28 48.4**	**0.0**	
CD2				pPKP	**pPKPdf**		**21 28 51.9**	**-1.2**	
CD2				sPKP			21 28 53.1		
CD2				PP	**PP**		**21 33 08.4**	**+0.2**	
CD2				SKS	**SKSdf**		**21 35 54.1**	**+0.5**	
CD2				SKKS	**SKKSac**		**21 39 56.8**	**+0.3**	
CD2				SS	**SS**		**21 53 16.3**	**+1.4**	
CD2				PPMZ					
	comp=Z,160nm,5.4s								
ABKAR	**Akbulak array**	**160.41**	**42**	*e*PKPdf	**PKPdf**		**21 28 49.4**	**+0.6**	
ABKAR				*e*PKPab	**PKPab**		**21 29 31.5**	**+1.7**	
LZH	**Lanzhou**	**160.67**	**277**	*e*PKP	**PKPdf**		**21 28 52.8**	**+3.0**	
LZH				PP	**PP**		**21 33 18.4**	**+3.5**	
LZH				SKKS			21 40 03.3		
LZH				SS	**SS**		**21 53 28.3**	**+0.4**	
LZH				LN					
	comp=Z,430nm,18.1s								
LZH				LE					
	comp=Z,100nm,19.2s								
LZH				LZ					
	comp=Z,350nm,20.0s								
BRVK	**Borovoye**	**161.79**	**19**	*e*PKP2	**PKPab**		**21 29 37.9**	**+2.2**	
BRVK				MLR	MLR				
	comp=Z,484nm,20.0s								
BRVK	**Borovoye**	**161.79**	**19**	*e*PKPab	**PKPab**		**21 29 37.9**	**+2.2**	
BRVK				LR	LR				
	comp=Z,484nm,20.0s								
ZAA1	**Zalesovo Array**	**161.87**	**351**	*e*PKPdf	**PKPdf**		**21 28 46.8**	**-3.5**	
ZAA1				*e*PKPab	**PKPab**		**21 29 34.8**	**-1.2**	
ZAA0	**Zalesovo Array**	**161.87**	**351**	*e*PKPdf	**PKPdf**		**21 28 46.8**	**-3.4**	
ZALV	**Zalesovo Beam**	**161.87**	**351**	PKP	**PKPdf**		**21 28 46.8**	**-3.4**	
	comp=Z,2.4nm,0.9s,baz=263,slow=1.2,SNR=7.9								
ZALV				PKPab	**PKPab**		**21 29 34.8**	**-1.2**	
	comp=Z,0.5nm,0.4s,baz=325,slow=4.2,SNR=2.3								
ZALV	**Zalesovo Beam**	**161.87**	**351**	PKIKP	**PKPdf**		**21 28 46.8**	**-3.4**	
ZALV							21 29 34.8		
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.9s								
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.4s								
GTA	**Gaotai**	**163.93**	**288**	*e*PKP	**PKPdf**		**21 28 54.6**	**+1.7**	
GTA				sPKP			21 29 01.8		
GTA				PKPab	**PKPab**		**21 29 50.5**	**+4.6**	
GTA				PP	**PP**		**21 33 37.0**	**+4.9**	
GTA				SKS	**SKSdf**		**21 35 57.3**	**+0.2**	
GTA				SKKS	**SKKSac**		**21 40 23.0**	**+3.7**	
GTA				SS	**SS**		**21 54 04.6**	**+3.1**	
GTA				PPMZ					
	comp=Z,92nm,6.1s								
GTA				LN					
	comp=Z,160nm,20.0s								
GTA				LE					
	comp=Z,210nm,16.6s								
GTA				LZ					
	comp=Z,380nm,20.0s								
KURK	**Kurchatov**	**165.41**	**3**	PFAKE			21 29 00.0	+6.4	
KURK				LR	LR				
	comp=Z,413nm,20.0s								
LSA	**Lhasa**	**168.58**	**239**	*e*PKIKP	**PKPdf**		**21 28 59.3**	**+2.0**	
LSA				MLR	MLR				
	comp=Z,404nm,22.0s								
LSA	**Lhasa**	**168.58**	**239**	*e*PKPdf	**PKPdf**		**21 28 59.3**	**+2.0**	
LSA				LR	LR				
	comp=Z,404nm,22.0s								
MK01	**Makanchi Array**	**169.24**	**351**	*e*PKPdf	**PKPdf**		**21 28 55.3**	**-1.3**	
MK01				*e*PKPab	**PKPab**		**21 30 13.1**	**+4.4**	
WMQ	**Urumqi**	**170.29**	**324**	PKP	**PKPdf**		**21 28 58.8**	**+1.4**	
WMQ				PP	**PP**		**21 34 07.4**	**+3.8**	
WMQ				PPMZ					
	comp=Z,24nm,9.5s								
WMQ				LN					
	comp=Z,220nm,22.5s								
WMQ				LE					
	comp=Z,160nm,27.6s								
WMQ				LZ					
	comp=Z,580nm,28.6s								
KSH	**Kashi**	**175.42**	**42**	PKP	PKPdf		21 29 06.3	+6.6	
KSH				PKS	**PKSdf**		**21 32 33.6**	**+1.7**	
KSH				PP	**PP**		**21 34 33.0**	**+3.9**	
KSH				SKS	**SKSdf**		**21 36 04.6**	**+2.2**	
KSH				SKKS	**SKKSac**		**21 41 20.5**	**+5.3**	
KSH				PPMZ					
	comp=Z,93nm,4.3s								
KSH				LN					
	comp=Z,78nm,4.8s								
KSH				LE					
	comp=Z,120nm,5.4s								
KSH				LZ					
	comp=Z,98nm,5.4s								

KRSC 20 21:34:57.6±1.2, 49°88N×158°15E, h15km±36km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.53**	**302**	*e*P	Pn	21 35 24.7	+0.4
SKR				*e*S	Sn	21 35 43.8	0.0
PAU	**Pauzhetka**	**1.80**	**332**	*e*P	Pb	21 35 29.5	-0.7
PAU				*e*S	Sb	21 35 52.9	+0.3
ASAK	**Asacha**	**2.51**	**357**	P	Pn	21 35 40.1	+2.2
RUS	**Russkaya**	**2.57**	**5**	*e*P	Pn	21 35 40.2	+1.7
RUS				S	Sn	21 36 11.8	+2.4
UGLR	**Uglovaya**	**3.36**	**7**	*e*P	Pb	21 35 53.3	-3.6
AVH	**Avacha**	**3.41**	**6**	*e*P	Pn	21 35 53.9	+3.7
KOK	**Koryaka**	**3.43**	**5**	*e*P	Pn	21 35 53.8	+3.2
KRX	**Arik**	**3.50**	**5**	*e*P	Pn	21 35 53.6	+2.1
GNL	**Ganaly**	**3.82**	**358**	*e*P	Pn	21 35 59.7	+3.7

*ISK **20** 21:47:27.8, 37°43N×31°07E, h102km, MD2.7*
*ISCJB **20** 21:47:28.1±0.9, 37°29N±0°05×31°11E±0°04, h103km±8km, Error ellipse: s-maj=8.6km s-min=5.4km az=178.3*
*CSEM **20** 21:47:28.5±0.2, 37°31N×31°12E, h100km, MD2.7, Error ellipse: s-maj=8.5km s-min=5.4km az=173.0*
*DDA **20** 21:47:28.5, 37°26N×31°16E, h29km, MD2.9*

ISC 20 21:47:29.5±1.4, 37°29N±0°04×31°14E±0°03, h93km±9km, n32, σ1°39/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUTC	**Sutluce-Ispart**	**0.21**	**329**	*e*PG	**Pn**	**21 47 43.1**	**0.0**
SUTC				*e*SG	**Sn**	**21 47 52.9**	**-0.3**
SUTC	**Sutluce-Ispart**	**0.21**	**329**	*e*Pg	**Pn**	**21 47 43.1**	**0.0**
SUTC				*e*Sg	**Sn**	**21 47 52.9**	**-0.3**
BCK	**Bucak**	**0.47**	**291**	*e*PG	**Pn**	**21 47 43.9**	**-0.5**
BCK				*e*SG	**Sn**	**21 47 55.0**	**-0.6**
BCK	**Bucak**	**0.47**	**291**	*e*Pg	**Pn**	**21 47 43.9**	**-0.5**
BCK				*e*Sg	**Sn**	**21 47 55.0**	**-0.6**
ANTB	**Antalya**	**0.55**	**225**	*e*PG	**Pn**	**21 47 45.4**	**+0.5**
ANTB	**Antalya**	**0.55**	**225**	*e*Pg	**Pn**	**21 47 45.4**	**+0.5**
KORT	**Korkueli**	**0.70**	**245**	*i* P	**Pn**	**21 47 45.8**	**-0.6**
KORT				*i* S	**Sn**	**21 48 00.5**	**+1.5**
KORT	**Korkueli**	**0.70**	**245**	*i* P	**Pn**	**21 47 45.8**	**-0.6**
KORT				*i* S	**Sn**	**21 48 00.5**	**+1.5**
HDMB	**Hadim**	**1.12**	**107**	*e*PN	**Pn**	**21 47 51.1**	**+0.1**
HDMB	**Hadim**	**1.12**	**107**	*e*Pn	**Pn**	**21 47 51.1**	**+0.1**
ELL	**Elmali**	**1.13**	**242**	*e*PN	**Pn**	**21 47 51.0**	**0.0**
ELL	**Elmali**	**1.13**	**242**	*e*Pn	**Pn**	**21 47 51.0**	**0.0**
KONT	**Konya--Tatoy**	**1.17**	**56**	*e*PN	**Pn**	**21 47 50.8**	**-0.5**
KONT	**Konya--Tatoy**	**1.17**	**56**	*e*Pn	**Pn**	**21 47 50.8**	**-0.5**
GOLH	**Golhisar**	**1.26**	**268**	*i* P	**Pn**	**21 47 51.9**	**-0.6**
GOLH				*i* S	**Sn**	**21 48 11.0**	**+1.1**
GOLH	**Golhisar**	**1.26**	**268**	*i* P	**Pn**	**21 47 51.9**	**-0.6**
GOLH				*i* S	**Sn**	**21 48 11.0**	**+1.1**
SHUT	**Suhut-Afyon**	**1.34**	**340**	*e*PN	**Pn**	**21 47 51.1**	**-2.5**
SHUT	**Suhut-Afyon**	**1.34**	**340**	*e*Pn	**Pn**	**21 47 51.1**	**-2.5**
GAZI	**Gazipasa**	**1.42**	**138**	*i* P	**Pn**	**21 47 53.4**	**-1.0**
GAZI				*i* S	**Sn**	**21 48 13.0**	**-0.2**
GAZI	**Gazipasa**	**1.42**	**138**	*i* P	**Pn**	**21 47 53.4**	**-1.0**
GAZI				*i* S	**Sn**	**21 48 13.0**	**-0.2**
KDHN	**Kadinhani**	**1.45**	**32**	*i* P	**Pn**	**21 47 54.6**	**-0.3**
KDHN				*i* S	**Sn**	**21 48 15.2**	**+1.1**
KDHN	**Kadinhani**	**1.45**	**32**	*i* P	**Pn**	**21 47 54.6**	**-0.3**
KDHN				*i* S	**Sn**	**21 48 15.2**	**+1.1**
ERMK	**Ermenek**	**1.56**	**114**	*i* P	**Pn**	**21 47 56.0**	**-0.3**
ERMK				*i* S	**Sn**	**21 48 18.0**	**+1.3**
ERMK	**Ermenek**	**1.56**	**114**	*i* P	**Pn**	**21 47 56.0**	**-0.3**
ERMK				*i* S	**Sn**	**21 48 18.0**	**+1.3**
AKAS	**Kas**	**1.62**	**230**	*i* P	**Pn**	**21 47 54.8**	**-2.3**
AKAS				*i* S	**Sn**	**21 48 15.6**	**-2.4**
AKAS	**Kas**	**1.62**	**230**	*i* P	**Pn**	**21 47 54.8**	**-2.3**
AKAS				*i* S	**Sn**	**21 48 15.6**	**-2.4**
DALY	**Dalyan (Mu¨la**	**2.05**	**257**	*e*PN	**Pn**	**21 48 01.0**	**-1.3**
DALY	**Dalyan (Mu¨la**	**2.05**	**257**	*e*Pn	**Pn**	**21 48 01.0**	**-1.3**
TURN	**Turunc**	**2.07**	**259**	*i* P	**Pn**	**21 48 04.2**	**+1.5**
TURN				*i* S	**Sn**	**21 48 32.0**	**+3.9**
TURN	**Turunc**	**2.07**	**259**	*i* P	**Pn**	**21 48 04.2**	**+1.5**
TURN				*i* S	**Sn**	**21 48 32.0**	**+3.9**
KIZK	**Mersin**	**2.54**	**108**	*i* P	**Pn**	**21 48 08.7**	**-0.2**
KIZK				*i* S	**Sn**	**21 48 39.5**	**+0.4**
KIZK	**Mersin**	**2.54**	**108**	*i* P	**Pn**	**21 48 08.7**	**-0.2**
KIZK				*i* S	**Sn**	**21 48 39.5**	**+0.4**

IDC 20 21:53:33.9±1.4, 9°34N×90°47E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.5/27, mbtmp3.6/6, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.5/26, Error ellipse: s-maj=35.1km s-min=26.7km az=65.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**9.88**	**259**	Pn	Pn	21 55 56.4	-1.0
	2.5nm,0.3s,baz=80,slow=15,SNR=22						
PALK				Sn	Sn	21 57 45.6	-3.6
	2.5nm,0.3s,baz=166,slow=18,SNR=7.3						
PALK				LR	LR	21 59 50.2	
	comp=Z,46nm,18.5s,baz=343,slow=38						
CMAR	**Chiang Mai Arr**	**12.23**	**41**	Pn	Pn	21 56 27.6	-2.0
	0.1nm,0.3s,baz=226,slow=14,SNR=3.6						
SONM	**Songino Array**	**40.66**	**16**	P		22 01 15.0	-1.1
	0.3nm,0.7s,baz=190,slow=7.3,SNR=2.0						
ZALV	**Zalesovo Beam**	**44.72**	**355**	P		22 01 50.2	+1.6
	0.4nm,0.5s,baz=165,slow=6.0,SNR=2.4						
WRA	**Warramunga Arr**	**52.07**	**124**	P		22 02 47.2	+1.2
	0.4nm,0.5s,baz=307,slow=6.0,SNR=6.9						
ASAR	**Alice Springs**	**53.65**	**128**	P		22 02 56.3	-1.4
	0.4nm,0.5s,baz=307,slow=5.9,SNR=5.4						

*IDC **20** 22:23:38.9±0.5, 16°25S×173°38W, h0km, mb4.4/17, mb1 4.6/18, mb1mx4.5/27, mbtmp4.4/18, MS3.7/8, Ms1 3.7/8, ms1mx3.4/31, Error ellipse: s-maj=20.8km s-min=14.7km az=129.0*
*ISCJB **20** 22:23:42.6±0.3, 16°31S±0°07×173°46W±0°07, h35km, mb4.7/46, MS3.7/6, Error ellipse: s-maj=11.9km s-min=6.8km az=43.2*
*NEIC **20** 22:23:44.0±0.3, 16°28S×173°40W, h35km, mb4.9/30, Error ellipse: s-maj=15.0km s-min=7.2km az=133.0*

ISC 20 22:23:44.4±0.4, 16°3S±0°1×173°4W±0°1, h35km, h42km:pP-P, n129, σ0°98/122, mb4.7/46, MS3.6/6, 22C-7D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.82**	**33**	*e*Pn	Pn	22 24 21.1	-5.9
AFI				*e*Sn	Sn	22 24 48.7	-11
MSVF	**Nonsavu**	**8.33**	**259**	*e*Pn	Pn	22 25 52.3	+9.5
RAR	**Rarotonga**	**13.78**	**113**	LR	LR	22 30 51.5	
	comp=Z,422nm,18.5s,baz=276,slow=31						
DZM	**Mont Dzumac**	**19.91**	**250**	*e*P	**Pn**	**22 28 18.7**	**+3.7**
	91nm,0.9s						
DZM				*e*LR	LR	22 32 54.6	
	880nm,25.4s						
DZM	**Mont Dzumac**	**19.91**	**250**	P	**P**	**22 28 13.0**	**-0.2**
DZM				LR	LR	22 34 51.7	
	comp=Z,471nm,19.5s,slow=34						
PPT	**Papeete**	**22.80**	**97**	LR	LR	22 34 58.8	
	comp=Z,188nm,21.2s,baz=206,slow=30						
PPT2	**Papeete2**	**22.80**	**97**	*e*LR	LR	22 34 06.2	
	517nm,24.5s						
PPT2	**Papeete2**	**22.80**	**97**	*e*T	T	22 52 00.8	
	9.1nm,0.4s						
URZ	**Urewera**	**23.44**	**199**	P	**P**	**22 28 48.7**	**-1.8**
	9.0nm,0.4s,baz=99,slow=2.9,SNR=9.4						
TBI	**Tubuai**	**23.55**	**111**	*e*LR	LR	22 34 20.1	
	696nm,27.5s,baz=290						
TBI	**Tubuai**	**23.55**	**111**	*e*T	T	22 52 59.3	
	14nm,0.3s						
BKZ	**Black Stump Fm**	**24.46**	**199**	*e*P	**P**	**22 28 58.8**	**-1.4**
	210nm,2.2s						
KHZ	**Kahutara**	**28.36**	**201**	*e*P	**P**	**22 29 33.4**	**-1.7**
	550nm,2.3s						
RPZ	**Rata Peaks**	**30.38**	**203**	*e*P	**P**	**22 29 53.2**	**+0.1**
	356nm,2.2s						
ARMA	**Armidale**	**34.92**	**240**	*e*P	**P**	**22 30 32.3**	**-0.7**
	13nm,0.8s						
RKT	**Rikitea**	**36.70**	**107**	*e*T	T	23 09 24.7	
	5.6nm,0.4s						
PMG	**Port Moresby**	**39.03**	**275**	*e*P	**P**	**22 31 07.8**	**-0.3**
	171nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**39.74**	**330**	T	T	23 12 51.0	
	baz=149,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**39.75**	**330**	T	T	23 12 52.0	
	baz=149,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**39.75**	**330**	T	T	23 12 51.3	
	baz=149,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**40.69**	**331**	T	T	23 13 59.1	
	baz=150,slow=76,SNR=21						
H11N1	**WAKE ISLAND Hy**	**40.70**	**331**	T	T	23 13 59.9	
	baz=150,slow=76,SNR=40						
H11N2	**WAKE ISLAND Hy**	**40.71**	**331**	T	T	23 13 57.7	
	baz=150,slow=76,SNR=21						
STKA	**Stephens Creek**	**43.62**	**241**	P	**P**	**22 31 44.6**	**-1.0**
	16nm,0.8s,baz=91,slow=9.1,SNR=43						
STKA				LR	LR	22 49 59.6	
	comp=Z,104nm,18.5s,baz=40,slow=36						
BBOO	**Buckleboo**	**48.40**	**240**	*e*P	**P**	**22 32 21.8**	**-1.4**
	226nm,2.7s						
WRA	**Warramunga Arr**	**49.67**	**257**	P	**P**	**22 32 31.6**	**-1.6**
	3.8nm,0.6s,baz=94,slow=6.9,SNR=42						
WRA				PcP	**PcP**	**22 33 54.4**	**+0.2**
	0.7nm,0.7s,baz=91,slow=3.4,SNR=2.5						
AS01	**Alice Springs**	**49.83**	**253**	*e*P	**P**	**22 32 32.6**	**-1.7**
AS12	**Alice Springs**	**49.87**	**253**	*e*P	**P**	**22 32 33.1**	**-1.6**
AS12				*e*PcP	**PcP**	**22 33 55.0**	**+0.1**
ASAR	**Alice Springs**	**49.87**	**253**	P	**P**	**22 32 33.1**	**-1.6**
	27nm,0.8s,baz=88,slow=7.9,SNR=181						
ASAR				PcP	**PcP**	**22 33 55.0**	**+0.1**
	1.2nm,0.7s,baz=106,slow=4.7,SNR=1.8						
FORT	**Forrest**	**55.05**	**244**	*e*P	**P**	**22 33 11.2**	**-1.7**
	18nm,0.7s						
VNDA	**Vanda**	**62.50**	**186**	P	**P**	**22 34 06.0**	**+2.0**
	1.0nm,0.7s,baz=358,slow=6.5,SNR=10						
MJAR	**Matsushiro Arr**	**69.63**	**320**	P

	2.7nm,1.0s								
WRH	**Wood River Hil**	**82.81**	**11**	*e*P		**P**		**22 36 04.3**	**-0.3**
	6.9nm,1.2s								
BW06	**Boulder Array**	**82.90**	**42**	*e*P		**P**		**22 36 05.2**	**-0.7**
BW06				*e*PcP		**PcP**		**22 36 08.9**	**-1.6**
PD31	**Pinedale Array**	**82.90**	**42**	*e*P		**P**		**22 36 05.0**	**-0.9**
PDAR	**Pinedale Array**	**82.90**	**42**	P		**P**		**22 36 05.0**	**-0.9**
	2.5nm,0.8s,baz=211,slow=2.3,SNR=18								
SMCO	**Snowmass**	**82.90**	**46**	*e*P		**P**		**22 36 06.1**	**-0.1**
	16nm,0.8s								
CCB	**Clear Creek Bu**	**83.02**	**11**	*e*P		**P**		**22 36 05.1**	**-0.5**
	3.7nm,0.7s								
MDM	**Murphy Dome**	**83.23**	**10**	*e*P		**P**		**22 36 05.9**	**-0.9**
	9.7nm,1.6s								
ILAR	**Eielson Array**	**83.30**	**11**	P		**P**		**22 36 06.3**	**-0.8**
	0.6nm,0.5s,baz=229,slow=6.2,SNR=14								
ILB	**Eielson Array**	**83.30**	**11**	*e*P		**P**		**22 36 06.3**	**-0.8**
MAW	**Mawson**	**86.97**	**199**	P		**P**		**22 36 26.3**	**+0.7**
	2.5nm,0.6s,baz=115,slow=7.2,SNR=6.6								
SNAA	**Sanae**	**92.02**	**177**	P		**P**		**22 36 50.2**	**+0.8**
VNA1	**Neumayer--Stat**	**92.67**	**175**	P		**P**		**22 36 53.2**	**+0.9**
CM01	**Chiang Mai Arr**	**92.89**	**288**	*e*P		**P**		**22 36 55.3**	**+1.0**
CM31	**Chiang Mai Arr**	**92.92**	**288**	*e*P		**P**		**22 36 55.8**	**+1.4**
CMAR	**Chiang Mai Arr**	**92.92**	**288**	P		**P**		**22 36 55.8**	**+1.4**
	0.9nm,0.7s,baz=110,slow=3.8,SNR=6.5								
SONA0	**Songino Array**	**95.52**	**318**	*e*P		**P**		**22 37 05.6**	**-0.2**
SONM	**Songino Array**	**95.52**	**318**	P		**P**		**22 37 05.6**	**-0.2**
	0.3nm,0.5s,baz=155,slow=4.8,SNR=3.2								
LPAZ	**La Paz**	**99.48**	**110**	LR		LR		23 12 54.7	
	comp=Z,41nm,19.2s,baz=323,slow=30								
ARCES	**ARCESS Array B**	**125.49**	**352**	PKP		**PKPdf**		**22 42 41.5**	**+0.3**
	4.5nm,0.4s,baz=354,slow=2.7,SNR=2.6								
FINES	**FINESS Array B**	**132.81**	**347**	PKP		**PKPdf**		**22 42 55.4**	**+0.1**
	0.7nm,0.5s,baz=48,slow=2.8,SNR=7.6								
MALT	**Malatya**	**144.50**	**314**	⇑*i*P		**PKPdf**		**22 43 18.1**	**+0.5**
CLL	**Collm**	**144.69**	**353**	*i* PKPdf		**PKPab**		**22 43 15.8**	**-0.2**
	comp=Z,4.0nm,0.8s								
UPC	**Upice**	**145.04**	**350**	*e*PKP		**PKPab**		**22 43 17.4**	**+0.1**
UPC				*es*PKP				22 43 33.6	
DPC	**Dobruska-Polom**	**145.13**	**349**	*e*PKP		**PKPdf**		**22 43 17.9**	**-0.3**
DPC				*ep*PKP		**PKiKP**		**22 43 25.6**	**+3.5**
DPC				*ex*		x		22 43 29.5	
DPC				*ex*		x		22 43 34.6	
KMBO	**Kilima Mbogo**	**145.17**	**243**	PKPbc		**PKPdf**		**22 43 19.5**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=77,slow=8.7,SNR=6.3								
BURAR	**Bucovina Array**	**145.20**	**338**	⇑*i*P		**PKPab**		**22 43 18.0**	**-0.2**
PVCC	**Panska Ves**	**145.25**	**351**	*es*PKP		pPKPab		22 43 33.5	+4.2
OKC	**Ostrava-Krasne**	**145.26**	**347**	*e*PKP		**PKPdf**		**22 43 18.2**	**-0.1**
OKC				*ex*		x		22 43 24.4	
OKC				*ep*PKP		**pPKPdf**		**22 43 27.9**	**-1.9**
OKC				*ex*		x		22 43 31.7	
MORC	**Moravsky Berou**	**145.44**	**348**	⇑*i*P		**PKPab**		**22 43 18.9**	**0.0**
TESR	**Tescani**	**145.56**	**335**	⇓*i*P		**PKPdf**		**22 43 18.8**	**-0.2**
TLCR		**145.68**	**332**	⇑*i*P		**PKPab**		**22 43 20.0**	**+0.1**
PRA	**Prague**	**145.72**	**351**	*e*PKP		**PKPab**		**22 43 19.6**	**-0.2**
PRA				*ep*PKP		**pPKPdf**		**22 43 28.9**	**-1.7**
PRA				*ex*		x		22 43 33.7	
PRU	**Pruhonice**	**145.78**	**351**	*e*PKP		**PKPab**		**22 43 20.0**	**-0.1**
PRU				*ex*		x		22 43 25.0	
PRU				*ep*PKP		**pPKPdf**		**22 43 28.8**	**-1.9**
PRU				*ex*		x		22 43 33.2	
GOPC	**GO Pecny, Ondr**	**145.81**	**351**	*e*PKP		**PKPbc**		**22 43 19.8**	**0.0**
GOPC				*ep*PKP		**pPKPdf**		**22 43 29.0**	**-1.8**
GOPC				*ex*		x		22 43 33.7	
CFR	**Carcaliu**	**146.00**	**332**	⇓*i*P		**PKPbc**		**22 43 20.4**	**-0.1**
VRI	**Vrincioaia**	**146.05**	**335**	⇑*i*P		**PKPbc**		**22 43 20.8**	**+0.1**
PLOR	**Plostina**	**146.10**	**335**	⇓*i*P		**PKPab**		**22 43 21.1**	**-0.4**
TREC	**Trest**	**146.30**	**350**	*e*PKP		**PKPdf**		**22 43 19.4**	**-0.8**
TREC				*ep*PKP		**pPKPdf**		**22 43 28.8**	**-2.8**
TREC				*ex*		x		22 43 33.7	
TIRR	**Tirgusor**	**146.43**	**331**	⇑*i*P		**PKPbc**		**22 43 21.9**	**+0.1**
HARR	**Harsova**	**146.47**	**332**	⇑*i*P		**PKPab**		**22 43 22.3**	**-0.6**
MLR	**Muntele Rosu**	**146.68**	**335**	⇑*i*P		**PKPbc**		**22 43 21.9**	**-0.8**
ISR	**Istrita**	**146.73**	**334**	⇓*i*P		**PKPab**		**22 43 23.4**	**-0.6**
KHC	**Kasperske Hory**	**146.75**	**352**	*e*PKP		**PKPbc**		**22 43 22.9**	**+0.2**
KHC				*ex*		x		22 43 26.9	
KHC				*ep*PKP		**pPKPdf**		**22 43 32.0**	**-0.5**
KHC				*ex*		x		22 43 36.3	
DRGR		**146.78**	**340**	⇑*i*P		**PKPbc**		**22 43 22.7**	**-0.2**
BRTR	**Keskin Array B**	**146.86**	**320**	PKPbc		**PKPbc**		**22 43 23.2**	**-0.2**
	comp=Z,7.4nm,0.8s,baz=111,slow=2.3,SNR=32								
GERES	**GERESS Array B**	**147.02**	**351**	PKPbc		**PKPbc**		**22 43 23.3**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=20,slow=3.4,SNR=23								
VOIR		**147.08**	**336**	⇑*i*P		**PKPbc**		**22 43 24.4**	**+0.6**
ANTO	**Ankara**	**147.28**	**321**	⇓*i*P		**PKPab**		**22 43 25.4**	**-1.0**
CONA	**Conrad Observa**	**147.54**	**348**	⇓*i*PKPab		**PKPbc**		**22 43 25.7**	**+0.7**
	comp=Z,6.2nm,0.6s								
MOA	**Molln**	**147.90**	**350**	⇑*i*PKiKP		**PKPbc**		**22 43 26.5**	**+0.6**
	comp=Z,4.1nm,0.6s								
GZR	**Gura Zlata**	**147.97**	**338**	⇑*i*P		**PKPbc**		**22 43 27.1**	**+0.9**
PKSM	**Moragy**	**148.52**	**344**	⇑*i*P		**PKPbc**		**22 43 26.9**	**-0.6**
RETA	**Reutte**	**148.70**	**355**	⇑*i*PKiKP		**PKPbc**		**22 43 28.4**	**+0.3**
	comp=Z,3.7nm,0.8s								
WATA	**Walderalm**	**148.77**	**354**	⇑*i*PKiKP		**PKPbc**		**22 43 28.4**	**+0.1**
	comp=Z,3.2nm,0.5s								
SQTA	**Sankt Quirin**	**148.92**	**354**	⇑*i*PKiKP		**PKPbc**		**22 43 29.2**	**+0.5**
DAVA	**Damuels**	**148.97**	**356**	⇑*i*PKiKP		**PKPbc**		**22 43 29.2**	**+0.3**
	comp=Z,5.6nm,0.8s								
MYKA	**Terra Mystica**	**149.19**	**351**	⇑*i*PKiKP		**PKPbc**		**22 43 29.0**	**-0.3**
	comp=Z,5.3nm,0.8s								
ABTA	**Abfaltersbach**	**149.24**	**352**	⇑*i*PKiKP		**PKPbc**		**22 43 29.4**	**-0.1**
	comp=Z,7.6nm,0.7s								
KDZ	**Kurdzhali**	**149.99**	**331**	⇓*i*P		**PKPbc**		**22 43 31.5**	**+0.1**
DIVS	**Divibare**	**150.05**	**341**	⇑*i*P		**PKPbc**		**22 43 32.1**	**+0.5**
VTS	**Vitosha**	**150.19**	**335**	⇑*i*P		**PKPbc**		**22 43 32.1**	**+0.1**
MMB	**Musomiste**	**150.79**	**333**	⇑*i*P		**PKPbc**		**22 43 33.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**174.30**	**123**	PKP		**PKPdf**		**22 43 51.7**	**+0.4**
	comp=Z,0.9nm,1.1s,baz=350,slow=2.3,SNR=3.5								
TORD				PKPab		**PKPab**		**22 45 22.1**	**-1.4**
	comp=Z,1.3nm,1.1s,baz=276,slow=5.2,SNR=3.6								

IDC ***20*** *22:35:26.6±0.9, 12.°06N×143.°75E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/30, mbtmp3.8/7, Error ellipse: s-maj=39.8km s-min=18.7km az=111.0*
ISCJB ***20*** *22:35:28.8±0.8, 12.°0N±0.°1×143.°7E±0.°2, h25km, mb3.8/7, Error ellipse: s-maj=29.7km s-min=10.0km az=30.7*
ISC 20 22:35:30.5±0.8, 12.°1N±0.°1×143.°8E±0.°2, h25km, n11, σ1§15/9, mb3.8/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**1.82**	**34**	Pn		**Pn**	**22 36 00.6**	**+0.3**
	138nm,0.3s,baz=268,slow=1.6,SNR=45							
GUMO				Sn		**Sb**	**22 36 24.3**	**-1.2**
	138nm,0.3s,baz=19,slow=22,SNR=23							
H11N1	**WAKE ISLAND Hy**	**23.43**	**68**	T		T	23 05 06.9	
	baz=253							
H11N2	**WAKE ISLAND Hy**	**23.44**	**68**	T		T	23 05 12.3	
	baz=253							
H11N3	**WAKE ISLAND Hy**	**23.45**	**68**	T		T	23 05 12.5	
	baz=253							
WRA	**Warramunga Arr**	**33.15**	**196**	P		**P**	**22 42 04.9**	**-0.1**
	0.5nm,0.6s,baz=20,slow=9.6,SNR=7.3							
STKA	**Stephens Creek**	**43.74**	**183**	P		**P**	**22 43 33.0**	**-0.9**
	1.8nm,1.0s,baz=343,slow=14,SNR=3.2							
SONM	**Songino Array**	**47.41**	**326**	P		**P**	**22 44 03.1**	**+0.1**
	0.4nm,0.5s,baz=156,slow=6.3,SNR=2.9							
ILAR	**Eielson Array**	**70.37**	**25**	P		**P**	**22 46 41.1**	**-0.9**
	0.4nm,0.7s,baz=248,slow=5.6,SNR=5.2							
YKA	**Yellowknife Ar**	**84.67**	**27**	P		**P**	**22 48 03.3**	**+1.4**
	0.4nm,0.5s,baz=291,slow=5.2,SNR=3.0							
NVAR	**Mina Array Bea**	**88.66**	**51**	P		**P**	**22 48 23.7**	**+1.5**
	0.4nm,0.6s,baz=261,slow=4.5,SNR=3.6							
FINES	**FINESS Array B**	**92.11**	**335**	P		**P**	**22 48 36.7**	**-0.7**
	0.9nm,0.5s,baz=58,slow=3.1,SNR=10							

DSN 20 22:50:00.7±1.6, 27.°37N×54.°83E, h20km, ML3.7/1, 2C-3D, Error ellipse: s-maj=21.8km s-min=6.4km az=22.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
BANOM	**Banah**	**1.95**	**137**	⇑*e*P		Pn	22 50 32.5	-0.3
	SNR=13							
BANOM				⇑S		Sn	22 50 57.5	+0.8
FAQ	**Al Faqa, Dubai**	**2.70**	**165**	⇓*e*P		Pn	22 50 42.9	-0.1
	SNR=8.2							
ASUD	**Al Ashush, Dub**	**2.77**	**170**	⇓*e*P		Pn	22 50 43.9	-0.1
	SNR=26							
HATD	**Hatta, Dubai**	**2.79**	**155**	⇓P		Pn	22 50 44.9	+0.6
ASHO	**Ashiyiah**	**2.89**	**157**	*e*P		Pn	22 50 45.6	-0.1
	SNR=18							

IDC ***20*** *22:54:08.9±0.8, 1.°65S×136.°59E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.0/19, mbtmp4.1/9, ML4.0/1, MS3.8/2, Ms1 3.8/2, ms1mx3.2/19, Error ellipse: s-maj=39.3km s-min=18.2km az=74.0*
ISCJB ***20*** *22:54:09.6±1.3, 1.°76S±0.°05×136.°50E±0.°06, h14km±8km, mb4.2/12, MS3.9/1, Error ellipse: s-maj=11.2km s-min=6.7km az=146.5*
DJA ***20*** *22:54:12.5±0.4, 2.°S±3.°×13.°6E±.°, h10km, M4.6/5, MLv4.6/5*
NEIC ***20*** *22:54:14.0±0.4, 1.°76S×136.°66E, h35km, mb4.5/7, Error ellipse: s-maj=14.4km s-min=6.6km az=73.0*
ISC 20 22:54:12.0±1.1, 1.°79S±0.°06×136.°38E±0.°05, h14km±7km, n38, σ1§48/39, mb4.2/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SRPI	**Serui, Papua**	**0.16**	**240**	P		**Pg**	**22 54 16.5**	**+0.6**
BAKI	**Biak**	**0.66**	**336**	P		Pg	22 54 21.3	-3.5
BAKI				S		**Sg**	**22 54 31.3**	**-2.2**
RKPI	**Ransiki, Papua**	**2.22**	**277**	P		**Pn**	**22 54 48.5**	**+0.1**
RKPI				S		**Sn**	**22 55 17.3**	**+1.7**
SMPI	**Sarmi**	**2.34**	**95**	P		**Pb**	**22 54 54.2**	**+0.2**
GENI	**Genyem**	**3.87**	**102**	P		**Pn**	**22 55 13.2**	**+2.0**
FAKI	**Fak Fak**	**4.27**	**255**	P		**Pn**	**22 55 16.5**	**-0.3**
FAKI	**Fak Fak**	**4.27**	**255**	*e*Pn		**Pn**	**22 55 16.4**	**-0.3**
FAKI				*e*Sn		**Sn**	**22 56 06.1**	**-0.3**
COEN	**Coen**	**13.83**	**151**	*e*Pn		**Pn**	**22 57 25.9**	**-1.9**
APSI	**Ampana**	**14.75**	**273**	P		P	22 57 51.8	+5.4
PCI	**Palu**	**16.56**	**273**	P		**P**	**22 58 10.6**	**+4.0**
GUMO	**Guam**	**17.45**	**29**	LR		LR	23 04 42.1	
	comp=Z,161nm,18.6s,baz=185,slow=37							
WRAB	**Tennant Creek**	**18.14**	**186**	*e*Pn		**Pn**	**22 58 22.9**	**-0.8**
	6.5nm,0.6s							
WRA	**Warramunga Arr**	**18.15**	**186**	P		**Pn**	**22 58 22.6**	**-1.2**
	0.6nm,0.3s,baz=9.2,slow=13,SNR=15							
KKM	**Kota Kinabalu**	**21.59**	**291**	*e*P		**P**	**22 59 04.1**	**+2.4**
	30nm,1.3s							
AS01	**Alice Springs**	**21.87**	**186**	*e*P		**P**	**22 59 04.2**	**-0.4**
AS31	**Alice Springs**	**21.88**	**186**	*e*P		**P**	**22 59 04.2**	**-0.5**
AS12	**Alice Springs**	**21.88**	**186**	*e*P		**P**	**22 59 04.9**	**+0.2**
AS12				*e*S		**S**	**23 03 04.9**	**-1.4**
ASAR	**Alice Springs**	**21.88**	**186**	P		**P**	**22 59 04.9**	**+0.2**
	6.0nm,0.6s,baz=11,slow=11,SNR=36							
ASAR				S		**S**	**23 03 04.9**	**-1.4**
	3.0nm,1.1s,baz=15,slow=29,SNR=3.9							
ASAR				LR		LR	23 08 22.1	
	comp=Z,453nm,18.9s,baz=7.0,slow=39							
MBWA	**Marble Bar**	**25.18**	**219**	*e*P		**P**	**22 59 39.0**	**+1.7**
	188nm,2.8s							
STKA	**Stephens Creek**	**30.33**	**171**	P		**P**	**23 00 22.9**	**-0.4**
	1.3nm,0.5s,baz=342,slow=7.5,SNR=7.5							
STKA	**Stephens Creek**	**30.33**	**171**	*e*P		**P**	**23 00 22.9**	**-0.4**
	7.7nm,2.0s							
CM01	**Chiang Mai Arr**	**41.93**	**300**	*e*P		**P**	**23 02 04.2**	**+1.5**
CM31	**Chiang Mai Arr**	**41.96**	**300**	*e*P		**P**	**23 02 02.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**41.96**	**300**	P		**P**	**23 02 02.6**	**-0.3**
	2.5nm,0.6s,baz=126,slow=6.1,SNR=18							
CHTO	**Chiang Mai**	**42.11**	**301**	*e*P		**P**	**23 02 06.0**	**+1.8**
	6.9nm,1.1s							
LSA	**Lhasa**	**53.33**	**310**	*e*P		P	23 03 34.9	+3.2
	12nm,1.6s							
MK31	**Makanchi Array**	**67.65**	**323**	*e*P		**P**	**23 05 08.7**	**0.0**
ZALV	**Zalesovo Beam**	**69.98**	**330**	P		**P**	**23 05 22.2**	**-0.9**
	0.3nm,0.4s,baz=126,slow=3.7,SNR=3.0							
ZAA1	**Zalesovo Array**	**69.99**	**330**	*e*P		**P**	**23 05 22.1**	**-0.9**
VNDA	**Vanda**	**76.90**	**174**	P		**P**	**23 06 03.7**	**+0.3**
	2.4nm,0.8s,baz=303,slow=5.4,SNR=4.2							
BVAR	**Borovoye Array**	**77.24**	**326**	P		**P**	**23 06 05.2**	**-0.5**
	1.9nm,1.0s,baz=112,slow=4.0,SNR=7.8							
ILAR	**Eielson Array**	**85.97**	**25**	P		**P**	**23 06 48.8**	**-2.9**
	0.5nm,0.9s,baz=272,slow=3.3,SNR=4.4							
ILB	**Eielson Array**	**85.97**	**25**	*e*P		**P**	**23 06 48.8**	**-2.9**
QSPA	**South Pole Qui**	**88.15**	**180**	P		**P**	**23 07 03.1**	**+0.8**
	4.5nm,0.9s,baz=296,slow=0.4,SNR=8.7							
QSPA	**South Pole Qui**	**88.15**	**180**	*e*P		**P**	**23 07 02.3**	**-0.1**
	5.3nm,1.0s							
TORD	**Torodi Ar. Bea**	**133.76**	**286**	PKP		**PKPdf**	**23 13 30.0**	**+0.3**
	0.8nm,0.9s,baz=118,slow=3.7,SNR=2.4							
ROSC	**El Rosal**	**149.20**	**84**	PKPbc		**PKPdf**	**23 13 59.4**	**+1.8**
	1.5nm,0.3s,baz=101,slow=19,SNR=2.4							
LPAZ	**La Paz**	**149.86**	**128**	PKPbc		**PKPbc**	**23 14 03.3**	**-0.4**
	0.6nm,0.8s,baz=301,slow=5.9,SNR=2.3							

WEL 20 22:55:55.8±0.2, 45.°14S×167.°31E, h86km±1km, ML3.6/11, 3C-3D, Error ellipse: s-maj=1.6km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
DCZ	**Deep Cove**	**0.36**	**198**	PN		Pn	22 56 08.8	-0.2
DCZ				SN		Sn	22 56 18.6	-0.2
DCZ				AML		AML	22 56 19.2	
DCZ				AML		AML	22 56 19.2	
DCZ				AML		AML	22 56 19.2	
MLZ	**Mavora Lakes**	**0.64**	**109**	⇑PN		Pn	22 56 11.0	-0.4
MLZ				SN		Sn	22 56 21.9	-1.1
MLZ				AML		AML	22 56 22.9	
WHZ	**Wether Hill Ro**	**0.88**	**150**	⇑PN		Pn	22 56 13.6	-0.2
WHZ				SN		Sn	22 56 26.7	-0.6
WHZ				AML		AML	22 56 32.0	
WKZ	**Wanaka**	**1.25**	**76**	⇓PN		Pn	22 56 18.3	+0.1
WKZ				SN		Sn	22 56 34.4	-0.7
WKZ				AML		AML	22 56 37.4	
WKZ				AML		AML	22 56 39.0	
WKZ				AML		AML	22 56 39.0	
EAZ	**Earnscleugh**	**1.42**	**95**	PN		Pn	22 56 20.1	-0.1
EAZ				AML		AML	22 56 37.4	
EAZ				AML		AML	22 56 37.5	
EAZ				AML		AML	22 56 37.9	
EAZ				AML		AML	22 56 38.0	
JCZ	**Jackson Bay**	**1.48**	**45**	PN		Pn	22 56 20.9	-0.3
JCZ				AML		AML	22 56 44.3	
JCZ				AML		AML	22 56 45.2	
APZ	**The Paps**	**1.76**	**165**	PN		Pn	22 56 24.6	-0.1
APZ				AML		AML	22 56 48.7	
APZ				AML		AML	22 56 49.8	
TUZ	**Tuapeka**	**1.82**	**117**	⇓PN		Pn	22 56 25.1	-0.4
SYZ	**Scrubby Hill**	**1.90**	**138**	PN		Pn	22 56 26.2	-0.2
SYZ				AML		AML	22 56 49.3	
SYZ				AML		AML	22 56 49.3	
SYZ				AML		AML	22 56 49.4	
LBZ	**Lake Benmore**	**2.18**	**71**	⇓PN		Pn	22 56 28.7	-1.5
LBZ				AML		AML	22 56 54.1	
LBZ				AML		AML	22 56 54.5	
FOZ	**Fox Glacier**	**2.32**	**48**	PN		Pn	22 56 31.6	-0.5
ODZ	**Otahua Downs**	**2.36**	**89**	⇑PN		Pn	22 56 31.4	-1.3
HHSZ	**Highcliff Hill**	**2.43**	**109**	PN		Pn	22 56 32.9	-0.6
RPZ	**Rata Peaks**	**3.04**	**63**	PN		Pn	22 56 39.4	-2.3
RPZ				AML		AML	22 57 00.4	
WVZ	**Waitaha Valley**	**3.21**	**51**	PN		Pn	22 56 41.6	-2.5
WVZ				AML		AML	22 57 59.6	
MQZ	**McQueen's Hall**	**4.08**	**71**	*e*PN		Pn	22 56 53.4	-2.4
DSZ	**Denniston Nort**	**4.71**	**46**	PN		Pn	22 57 02.1	-2.4

IDC ***20*** *22:55:58.8±0.7, 1.°72S×136.°33E, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.2/19, mbtmp4.1/11, Error ellipse: s-maj=38.8km s-min=15.7km az=73.0*
ISCJB ***20*** *22:56:02.0±0.5, 1.°76S±0.°05×136.°28E±0.°07, h33km, mb4.1/12, Error ellipse: s-maj=9.8km s-min=7.7km az=177.7*
NEIC ***20*** *22:56:04.2±1.8, 1.°75S×136.°28E, h36km±16km, mb4.4/5, Error ellipse: s-maj=15.5km s-min=5.9km az=68.0*
ISC 20 22:56:03.7±0.6, 1.°89S±0.°06×136.°35E±0.°09, h35km, n36, σ1§66/38, mb4.2/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
FAKI	**Fak Fak**	**4.22**	**256**	*e*Pn		**Pn**	**22 57 05.6**	**0.0**
FAKI				*e*Sn		**Sn**	**22 57 54.0**	**+0.2**
SAUI	**Saumlaki**	**7.87**	**220**	*e*Pn		Pn	22 57 52.0	-3.8
COEN	**Coen**	**13.76**	**151**	*e*Pn		**Pn**	**22 59 14.7**	**-1.8**
WRAB	**Tennant Creek**	**18.04**	**186**	*e*Pn		**P**	**23 00 13.0**	**+1.0**
	7.4nm,0.6s							
WRA	**Warramunga Arr**	**18.05**	**186**	P		**Pn**	**23 00 10.2**	**-1.8**
	0.7nm,0.3s,baz=7.0,slow=12,SNR=8.2							
WRA				S		**Sn**	**23 03 25.7**	**-6.7**
	0.3nm,0.3s,baz=14,slow=23,SNR=2.8							
CTA	**Charters Tower**	**20.52**	**153**	P		Pn	23 00 42.2	+0.8
	7.4nm,1.0s,baz=332,slow=15,SNR=2.3							
AS01	**Alice Springs**	**21.77**	**186**	*e*P		**P**	**23 00 55.2**	**+2.6**
AS31	**Alice Springs**	**21.78**	**186**	*e*P		**P**	**23 00 53.5**	**+0.9**
AS12	**Alice Springs**	**21.78**	**186**	*e*P		**P**	**23 00 54.2**	**+1.6**
AS12				*e*S		**S**	**23 04 53.6**	**+1.8**
ASAR	**Alice Springs**	**21.78**	**186**	P		**P**	**23 00 54.2**	**+1.6**
	22nm,0.8s,baz=14,slow=12,SNR=13							
ASAR				S		**S**	**23 04 53.6**	**+1.8**
	2.0nm,1.0s,baz=12,slow=37,SNR=3.7							
MBWA	**Marble Bar**	**25.09**	**219**	*e*P		**P**	**23 01 26.5**	**+1.3**
	13nm,0.8s							
STKA	**Stephens Creek**	**30.24**	**171**	P		**P**	**23 02 12.3**	**+1.1**
	4.8nm,0.7s,baz=351,slow=8.8,SNR=11							
STKA	**Stephens Creek**	**30.24**	**171**	*e*P		**P**	**23 02 12.5**	**+1.3**
	7.9nm,1.9s							
KS15	**Wonju Array Si**	**39.91**	**349**	*e*P		**P**	**23 03 33.6**	**-0.8**
KSAR	**Wonju Array Be**	**39.91**	**349**	P		**P**	**23 03 33.6**	**-0.8**
KSRS	**Korea Array**	**39.92**	**350**	P		**P**	**23 03 33.6**	**-0.8**
	0.5nm,0.4s,baz=165,slow=6.1,SNR=3.1							
CM31	**Chiang Mai Arr**	**41.99**	**300**	*e*P		**P**	**23 03 51.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**41.99**	**300**	P		**P**	**23 03 51.5**	**-0.4**
	4.9nm,0.9s,baz=120,slow=6.4,SNR=15							
CHTO	**Chiang Mai**	**42.14**	**301**	*e*P		**P**	**23 03 52.0**	**-1.1**
	8.9nm,1.1s							
SONA0	**Songino Array**	**55.99**	**336**	*e*P		**P**	**23 05 39.2**	**+0.3**
SONM	**Songino Array**	**55.99**	**336**	P		**P**	**23 05 39.2**	**+0.3**
	0.4nm,0.7s,baz=132,slow=6.0,SNR=2.7							
MK31	**Makanchi Array**	**67.71**	**323**	*e*P		**P**	**23 06 56.4**	**-1.2**
ZALV	**Zalesovo Beam**	**70.05**	**331**	P		**P**	**23 07 10.8**	**-1.2**
	0.3nm,0.4s,baz=104,slow=4.6,SNR=2.5							
ZAA1	**Zalesovo Array**	**70.06**	**331**	*e*P		**P**	**23 07 10.8**	**-1.2**
VNDA	**Vanda**	**76.81**	**174**	P		**P**	**23 07 52.9**	**+1.5**
	1.6nm,0.6s,baz=336,slow=6.6,SNR=9.3							
BVAR	**Borovoye Array**	**77.30**	**326**	P		**P**	**23 07 54.0**	**-0.6**
	0.8nm,0.7s,baz=116,slow=6.8,SNR=5.3							
BVAR	**Borovoye Array**	**77.30**	**326**	P		**P**	**23 07 54.0**	**-0.6**
ILAR	**Eielson Array**	**86.07**	**25**	P		**P**	**23 08 40.1**	**-0.5**
	1.3nm,0.9s,baz=264,slow=4.3,SNR=9.8							
ILB	**Eielson Array**	**86.07**	**25**	*e*P		**P**	**23 08 40.1**	**-0.5**
QSPA	**South Pole Qui**	**88.05**	**180**	P		**P**	**23 08 51.5**	**+1.2**
	8.0nm,1.0s,baz=350,slow=2.3,SNR=8.6							
QSPA	**South Pole Qui**	**88.05**	**180**	*e*P		**P**	**23 08 51.6**	**+1.2**
	11nm,1.5s							
TORD	**Torodi Ar. Bea**	**133.76**	**286**	PKP		**PKPdf**	**23 15 18.2**	**+0.3**
	0.7nm,0.7s,baz=78,slow=1.3,SNR=4.2	

TREB Trebinje 1.47 135⇓*i*Pg Pn 23 14 18.3 -0.2
TREB eSg Sb 23 14 39.6 +0.7
UPM Unac-Piva 1.54 111⇑*i*Pg Pn 23 14 19.9 +0.4
UPM eSg Sb 23 14 42.6 +1.8
UPM Unac-Piva 1.54 111 P Pn 23 14 19.9 +0.4
UPM S Sb 23 14 42.7 +1.9
UPM Unac-Piva 1.54 111⇑*i*Pg Pn 23 14 19.9 +0.4
UPM eSg Sb 23 14 42.6 +1.8
NVLJ Novalja 1.69 299 *e*Pn Pb 23 14 23.5 -0.7
NVLJ Sn Sb 23 14 46.8 +1.9
NVLJ Novalja 1.69 299⇑*i*Pn Pb 23 14 23.3 -0.9
NVLJ Sn Sb 23 14 46.9 +1.9
NVLJ Novalja 1.69 299⇑*i*Pn Pb 23 14 23.3 -0.9
NVLJ Sn Sb 23 14 46.9 +1.9
SISC Sisak 1.74 347 *i*Pn Pn 23 14 23.4 +1.2
SISC Sisak 1.74 347 *i*Pn Pn 23 14 23.4 +1.2
HCY Herceg Novi 1.75 139 P Pn 23 14 23.0 +0.7
HCY S Sb 23 14 47.2 +0.5
HCY Herceg Novi 1.75 139⇓*i*Pn Pn 23 14 23.0 +0.7
HCY S Sb 23 14 47.2 +0.5
HCY Herceg Novi 1.75 139 P Pn 23 14 23.0 +0.7
HCY S Sb 23 14 47.1 +0.5
HCY Herceg Novi 1.75 139⇓*i*Pn Pn 23 14 23.0 +0.7
HCY eSn Sb 23 14 47.5 +0.8
NKY Niksic 1.78 122 P Pn 23 14 24.2 +1.4
NKY S Sb 23 14 48.3 +0.5
NKY Niksic 1.78 122⇓*i*Pn Pn 23 14 24.0 +1.2
NKY eSn Sb 23 14 48.2 +0.5
NKY Niksic 1.78 122 P Pn 23 14 24.2 +1.4
NKY S Sb 23 14 48.3 +0.5
NKY Niksic 1.78 122⇓*i*Pn Pn 23 14 24.0 +1.2
NKY eSn Sb 23 14 48.2 +0.5
NKME Niksic 1.78 124⇓*i*Pn Pn 23 14 24.0 +1.2
NKME eSn Sb 23 14 48.4 +0.7
NKME Niksic 1.78 124⇓*i*Pn Pn 23 14 24.0 +1.2
NKME eSn Sb 23 14 48.4 +0.7
BBLS Lazići 1.78 86 *i*Pg Pn 23 14 23.1 +0.3
BBLS eSg Sb 23 14 47.8 0.0
BBLS Lazići 1.78 86 *i*Pg Pn 23 14 23.1 +0.3
BBLS eSg Sb 23 14 47.8 0.0
BBLS Lazići 1.78 86 *i*Pg Pn 23 14 23.1 +0.3
BBLS eSg Sb 23 14 47.8 0.0
PLE Pljevlja 1.83 103 P Pn 23 14 24.1 +0.6
PLE S Sb 23 14 49.7 +0.5
PLE Pljevlja 1.83 103 P Pn 23 14 24.1 +0.6
PLE eSn Sb 23 14 49.5 +0.3
PLE Pljevlja 1.83 103 P Pn 23 14 24.1 +0.6
PLE S Sb 23 14 49.7 +0.5
PLE Pljevlja 1.83 103⇑*i*Pn Pn 23 14 24.2 +0.7
PLE eSn Sb 23 14 49.5 +0.3
BOJS Bojanci 2.11 326 *i*Pn Pn 23 14 28.6 +1.4
BOJS eSn Sb 23 14 55.6 -1.5
comp=Z,2µm,0.7s
BOJS Bojanci 2.11 326 *i*Pn Pn 23 14 28.6 +1.4
BOJS eSn Sb 23 14 55.6 -1.5
comp=Z,2µm,0.7s
PDG Podgorica 2.16 128 P Pb 23 14 31.0 -1.2
PDG Podgorica 2.16 128 *e*Pn Pn 23 14 29.6 +1.7
PDG eSg Sb 23 14 59.8 +1.2
PDG Podgorica 2.16 128⇓*i*Pn Pn 23 14 29.3 +1.3
PDG Podgorica 2.16 128 P Pb 23 14 31.0 -1.2
PDG eSn Sb 23 14 57.2 -1.4
PDG eSg Sb 23 14 59.8 +1.2
TTG Podgorica 2.16 128 P Pn 23 14 29.2 +1.3
TTG S Sb 23 14 58.2 -0.4
TTG Podgorica 2.16 128 P Pn 23 14 29.2 +1.3
TTG S Sb 23 14 58.2 -0.4
TTG Podgorica 2.16 128 P Pn 23 14 29.2 +1.3
TTG S Sb 23 14 58.2 -0.4
TTG Podgorica 2.16 128⇓*i*Pn Pn 23 14 29.3 +1.3
TTG eSn Sb 23 14 57.2 -1.4
ZAG Zagreb 2.16 342⇑*i*P Pn 23 14 28.8 +0.8
ZAG Zagreb 2.16 342 *i*P Pn 23 14 28.8 +0.8
ZAG Zagreb 2.16 342⇑*i*Pn Pn 23 14 28.8 +0.8
MSAG Monte S. Angel 2.20 201 Pn Pn 23 14 27.6 -1.0
comp=Z,3µm,0.6s
MSAG Monte S. Angel 2.20 201 Pn Pn 23 14 27.6 -1.0
comp=Z,3µm,0.6s
SGRT San Giovanni R 2.21 204 Pn Pn 23 14 28.2 -0.5
comp=Z,2µm,0.6s
SGRT San Giovanni R 2.21 204 Pn Pn 23 14 28.2 -0.5
comp=Z,2µm,0.6s
DIVS Divibare 2.22 81 P Pn 23 14 28.3 -0.6
DIVS Divibare 2.22 81⇑*i*Pn Pn 23 14 28.3 -0.6
DIVS eSn Sn 23 14 54.2 -1.3
DIVS Divibare 2.22 81⇑*i*P Pn 23 14 28.5 -0.4
DIVS Divibare 2.22 81 S Sn 23 14 54.9 -0.6
DIVS Divibare 2.22 81 P Pn 23 14 28.3 -0.6
DIVS eSn Sn 23 14 54.2 -1.3
PTJ Puntijarka 2.24 342 *e*P Pn 23 14 29.5 +0.3
PTJ 23 14 59.2
PTJ Puntijarka 2.24 342 *e*P Pn 23 14 29.5 +0.3
PTJ S Sb 23 14 59.5 -1.5
PTJ Puntijarka 2.24 342 *e*Pn Pn 23 14 29.5 +0.3
PTJ Sn Sb 23 14 59.5 -1.5
SJES Sjenica 2.26 102⇑*i*Pn Pn 23 14 30.2 +0.8
SJES eSg Sb 23 15 04.0 +2.4
DRME Dracevica, Mon 2.28 133⇓*i*Pn Pn 23 14 31.2 +1.5
DRME eSn Sb 23 15 00.2 -2.0
DRME Dracevica, Mon 2.28 133⇓*i*Pn Pn 23 14 31.2 +1.5
DRME eSn Sb 23 15 00.2 -2.0
GUMA Gualdo di Mace 2.31 253 Pn Pb 23 14 36.6 +1.8
comp=Z,5µm,0.6s
BEY Berane 2.33 112⇑*i*Pn Pn 23 14 31.1 +0.7
BEY eSn Sb 23 15 01.8 -1.8
IVA Berane 2.33 112⇑*i*Pn Pn 23 14 31.1 +0.7
IVA eSn Sb 23 15 01.8 -1.8
IVAS Ivanjica 2.33 94 *i*Pn Pn 23 14 30.5 +0.1
IVAS Ivanjica 2.33 94 *i*Pn Pn 23 14 30.5 +0.1
RIY Rijeka 2.34 312⇑*i*Pn Pn 23 14 32.5 +2.0
TRTR Tortoreto Alta 2.42 247 Pn Pn 23 14 33.6 +2.1
TRTR Tortoreto Alta 2.42 247 Pn Pn 23 14 33.6 +2.1
AOI Ancona 2.44 266 Pn Pn 23 14 33.1 +1.3
comp=Z,4µm,1.1s
AOI Ancona 2.44 266 Pn Pn 23 14 33.1 +1.3
comp=Z,4µm,1.1s
CAFR Castel Frentan 2.46 232 Pn Pn 23 14 33.5 +1.5
comp=Z,8µm,1.1s
CAFR Castel Frentan 2.46 232 Pn Pn 23 14 33.5 +1.5
comp=Z,8µm,1.1s
FRES Fresagrandinar 2.46 224 Pn Pn 23 14 32.9 +0.8
comp=Z,3µm,0.8s
FRES Fresagrandinar 2.46 224 Pn Pn 23 14 32.9 +0.8
comp=Z,3µm,0.8s
MELA Melanico ??? S 2.46 214 Pn Pn 23 14 32.4 +0.3
comp=Z,3µm,0.5s
MELA Melanico ??? S 2.46 214 Pn Pn 23 14 32.4 +0.3
comp=Z,3µm,0.5s
FGSL Fruska Gora 2.47 55⇑*i*Pn Pn 23 14 31.8 -0.5
FGSL eSn Sn 23 15 01.0 -0.5
FRGS Fruska Gora 2.47 55⇑*i*Pn Pn 23 14 31.8 -0.5
FRGS eSn Sn 23 15 01.0 -0.5
ULC Ulcinj 2.48 136 P Pn 23 14 33.3 +1.0
ULC S Sb 23 15 04.9 -2.8
ULC Ulcinj 2.48 136 P Pn 23 14 33.3 +1.0
ULC Ulcinj 2.48 136⇑*i*Pn Pn 23 14 33.8 +1.5
ULC S Sb 23 15 04.9 -2.8
ULC Ulcinj 2.48 136 P Pn 23 14 33.3 +1.0
ULC S Sb 23 15 04.9 -2.8
ULC Ulcinj 2.48 136⇑*i*Pn Pn 23 14 33.8 +1.5
ULC eSn Sb 23 15 05.0 -2.8
PVY Plav 2.50 117⇓*i*Pn Pn 23 14 34.3 +1.6
PVY eSn Sb 23 15 06.0 -2.5
PVY Plav 2.50 117⇓*i*Pn Pn 23 14 34.3 +1.6
PVY eSn Sb 23 15 06.0 -2.5
VISS Visnje 2.52 324 *i*Pn Pn 23 14 34.3 +1.4
VISS Visnje 2.52 324 *i*Pn Pn 23 14 34.3 +1.4
OFFI Offida 2.52 252 Pn Pn 23 14 35.0 +2.1
comp=Z,2µm,0.6s
OFFI Offida 2.52 252 Pn Pn 23 14 35.0 +2.1
comp=Z,2µm,0.6s
CIGN Sant'Elia a Pi 2.60 216 Pn Pn 23 14 34.7 +0.7
comp=Z,2µm,1.1s
CIGN Sant'Elia a Pi 2.60 216 Pn Pn 23 14 34.7 +0.7
comp=Z,2µm,1.1s
LPEL Lama dei Pelig 2.67 231 Pn Pn 23 14 35.9 +0.9
comp=Z,1µm,0.7s
LPEL Lama dei Pelig 2.67 231 Pn Pn 23 14 35.9 +0.9
comp=Z,1µm,0.7s
BAI Bari 2.67 181 *e*Pn Pn 23 14 33.9 -1.0
PDKS Podkum 2.67 329 *i*Pn Pn 23 14 36.0 +1.0
comp=Z,3µm,0.9s
PDKS Podkum 2.67 329 *i*Pn Pn 23 14 36.0 +1.0
comp=Z,3µm,0.9s
TRIV Trivento 2.67 222 Pn Pn 23 14 35.9 +0.8
comp=Z,2µm,0.9s
TRIV Trivento 2.67 222 Pn Pn 23 14 35.9 +0.8
comp=Z,2µm,0.9s
BCI Bajram Curri 2.69 121 *i*PN Pb 23 14 38.4 -2.8
BCI *i*SN Sb 23 15 10.7 -3.0
BCI Bajram Curri 2.69 121 *i*Pn Pb 23 14 38.4 -2.8
BCI *i*Sn Sb 23 15 10.7 -3.0
SENI Senigallia 2.69 270 Pn Pn 23 14 36.8 +1.6
comp=Z,1µm,0.8s
SENI Senigallia 2.69 270 Pn Pn 23 14 36.8 +1.6
comp=Z,1µm,0.8s
BEHE Becsehely 2.70 357⇓*e*Pn Pn 23 14 36.4 +1.1
BEHE Becsehely 2.70 357⇓*e*Pn Pn 23 14 36.4 +1.1
BEHE *e*PP Sb 23 15 22.3 +8.3
TERO Teramo 2.70 246 Pn Pn 23 14 36.6 +1.1
comp=Z,1µm,0.8s
TERO Teramo 2.70 246 Pn Pn 23 14 36.6 +1.1
comp=Z,1µm,0.8s
GATE Gambatesa 2.71 214 Pn Pn 23 14 36.4 +0.8
comp=Z,2µm,1.1s
GATE Gambatesa 2.71 214 Pn Pn 23 14 36.4 +0.8
comp=Z,2µm,1.1s
PKSM Moragy 2.72 26⇓*i*Pn Pn 23 14 35.0 -0.6
PKSM Moragy 2.72 26⇓*i*P Pn 23 14 35.0 -0.6
PKSM Moragy 2.72 26 S Sn 23 15 05.8 -1.7
PKSM Moragy 2.72 26⇓*i*P Pn 23 14 35.0 -0.6
PKSM Moragy 2.72 26⇓*e*PKiKP Pn 23 14 35.0 -0.6
PKSM *e*PP Sb 23 15 17.4 +2.9
GRUS Gruza 2.73 86⇑*i*Pn Pn 23 14 35.5 -0.3
GRUS eSg Sb 23 15 18.0 +3.1
GRUS Gruza 2.73 86⇑*i*Pn Pn 23 14 35.5 -0.3
GRUS eSg Sb 23 15 18.0 +3.1
BEO Beograd 2.73 67 *e*Pn Pn 23 14 34.9 -0.9
BEO eSn Sn 23 15 05.2 -2.7
BEO Beograd 2.73 67 *e*P Pn 23 14 34.9 -0.9
BEO *e* 23 15 05.2
BEO Beograd 2.73 67 *e*Pn Pn 23 14 34.9 -0.9
BEO Beograd 2.73 67 *e*Pn Pn 23 14 34.9 -0.9
BEO eSn Sn 23 15 05.2 -2.7
CDT Castel del Mon 2.74 191 *e*Pn Pn 23 14 35.2 -0.7
SKDS Skadanscina 2.74 311 *i*Pn Pn 23 14 37.4 +1.4
SKDS *i*Sn Sb 23 15 12.9 -2.4
comp=Z,528nm,0.3s
SKDS Skadanscina 2.74 311 *i*Pn Pn 23 14 37.4 +1.4
SKDS *i*Sn Sb 23 15 12.9 -2.4
comp=Z,528nm,0.3s
MOCO Biccari - m.te 2.74 209 Pn Pn 23 14 36.0 -0.1
comp=Z,2µm,1.2s
MRVN Minervino Murg 2.77 192 Pn Pn 23 14 35.5 -0.9
comp=Z,724nm,0.9s
MRVN Minervino Murg 2.77 192 Pn Pn 23 14 35.5 -0.9
comp=Z,724nm,0.9s
PUK Puka 2.77 128 *i*PN Pn 23 14 39.0 +2.5
PUK *i*SN Sb 23 15 15.7 -0.5
PUK Puka 2.77 128 *i*Pn Pn 23 14 39.0 +2.5
BSSO Busso 2.83 219 Pn Pn 23 14 37.9 +0.7
BSSO Busso 2.83 219 Pn Pn 23 14 37.9 +0.7
CAMP Campotosto 2.87 246 Pn Pn 23 14 38.9 +1.1
comp=Z,809nm,0.5s
CAMP Campotosto 2.87 246 Pn Pn 23 14 38.9 +1.1
comp=Z,809nm,0.5s
AMUR Altamura 2.88 185 Pn Pn 23 14 36.9 -1.0
comp=Z,852nm,0.8s
AMUR Altamura 2.88 185 Pn Pn 23 14 36.9 -1.0
comp=Z,852nm,0.8s
SMA1 SAN MARTINO 2.88 248 Pn Pn 23 14 39.2 +1.3
SMA1 SAN MARTINO 2.88 248 Pn Pn 23 14 39.2 +1.3
FAGN Fagnano 2.89 240 Pn Pn 23 14 39.2 +1.1
comp=Z,2µm,0.5s
FAGN Fagnano 2.89 240 Pn Pn 23 14 39.2 +1.1
comp=Z,2µm,0.5s
FDMO Fiordimonte 2.91 257 Pn Pn 23 14 39.2 +0.9
comp=Z,1µm,0.9s
FDMO Fiordimonte 2.91 257 Pn Pn 23 14 39.2 +0.9
comp=Z,1µm,0.9s
MIDA Miranda 2.91 224 Pn Pn 23 14 38.6 +0.2
MIDA Miranda 2.91 224 Pn Pn 23 14 38.6 +0.2
ARVD Arcevia 2.92 266 Pn Pn 23 14 39.6 +1.2
comp=Z,839nm,0.7s
ARVD Arcevia 2.92 266 Pn Pn 23 14 39.6 +1.2
comp=Z,839nm,0.7s
PALZ Palazzo San Ge 2.92 195 Pn Pn 23 14 37.9 -0.6
comp=Z,3µm,1.1s
PALZ Palazzo San Ge 2.92 195 Pn Pn 23 14 37.9 -0.6
comp=Z,3µm,1.1s
SG1 Sgolgore (BA) 2.94 184 *e*Pn Pn 23 14 36.1 -2.6
SG1 Sn Sn 23 15 13.1 0.0
JAVS Javornik 2.95 317 *i*Pn Pn 23 14 40.8 +1.9
JAVS eSn Sb 23 15 18.7 -2.6
comp=Z,1µm,0.8s
JAVS Javornik 2.95 317 *i*Pn Pn 23 14 40.8 +1.9
JAVS eSn Sb 23 15 18.7 -2.6
comp=Z,1µm,0.8s
NRCA Norcia 2.95 253 Pn Pn 23 14 40.0 +1.1
NRCA Norcia 2.95 253 Pn Pn 23 14 40.0 +1.1
AQU L'Aquila 2.96 243 *e*P Pn 23 14 40.3 +1.3
AQU *e* 23 15 16.9
AQU L'Aquila 2.96 243 Pn Pn 23 14 40.6 +1.6
comp=Z,1µm,0.5s
AQU L'Aquila 2.96 243 *e*P Pn 23 14 40.3 +1.3
AQU eS Sn 23 15 16.9 +3.3
AQU L'Aquila 2.96 243 *e*Pn Pn 23 14 40.3 +1.3
AQU eSn Sn 23 15 16.9 +3.3
SNTG Esanatoglia 2.96 261 Pn Pn 23 14 40.1 +1.1
comp=Z,2µm,1.5s
SNTG Esanatoglia 2.96 261 Pn Pn 23 14 40.1 +1.1
comp=Z,2µm,1.5s
PKS9 Tamasi 2.96 18⇑*e*Pn Pn 23 14 38.9 -0.1
PKS9 Tamasi 2.96 18⇑*e*PKiKP Pn 23 14 38.9 -0.1
PKS9 *e*PP Sb 23 15 28.5 +6.8
TRI Trieste 2.98 312 *e*P Pn 23 14 40.3 +1.1
TRI *e* 23 15 15.9
TRI Trieste 2.98 312 Pn Pn 23 14 40.5 +1.3
comp=Z,2µm,1.2s
TRI Trieste 2.98 312 *e*P Pn 23 14 40.3 +1.1
TRI eS Sn 23 15 15.9 +1.9
TRI Trieste 2.98 312 *e*Pn Pn 23 14 40.3 +1.1
TRI eSn Sn 23 15 15.9 +1.9
IPES Pescosannita 2.98 212 Pn Pn 23 14 39.6 +0.3
NOCI Noci 2.99 178 Pn Pn 23 14 38.5 -0.8
comp=Z,798nm,0.3s
NOCI Noci 2.99 178 Pn Pn 23 14 38.5 -0.8
comp=Z,798nm,0.3s
T0106 Roio Piano 3.00 242 Pn Pn 23 14 41.1 +1.5
comp=Z,945nm,0.7s
T0104 Madonna delle 3.00 243 Pn Pn 23 14 41.0 +1.4
PSB1 Pescosannita 3.00 212 Pn Pn 23 14 39.6 +0.1
comp=Z,959nm,0.9s
PSB1 Pescosannita 3.00 212 Pn Pn 23 14 39.6 +0.1
comp=Z,959nm,0.9s
FSSB Fossombrone 3.02 270 Pn Pn 23 14 41.1 +1.3
comp=Z,1µm,0.5s
FSSB Fossombrone 3.02 270 Pn Pn 23 14 41.1 +1.3
comp=Z,1µm,0.5s
CAFE Carife 3.02 205 Pn Pn 23 14 39.9 0.0
comp=Z,979nm,0.8s
CAFE Carife 3.02 205 Pn Pn 23 14 39.9 0.0
comp=Z,979nm,0.8s
CESI CESI - Serrava 3.05 257 Pn Pn 23 14 41.4 +1.2
comp=Z,472nm,0.7s
CESI CESI - Serrava 3.05 257 Pn Pn 23 14 41.4 +1.2
comp=Z,472nm,0.7s
SGG Gregorio Mates 3.05 219 Pn Pn 23 14 40.7 +0.4
SGG Gregorio Mates 3.05 219 Pn Pn 23 14 40.7 +0.4
CERA Filignano 3.07 226 Pn Pn 23 14 41.4 +0.9
comp=Z,1µm,0.6s
CERA Filignano 3.07 226 Pn Pn 23 14 41.4 +0.9
comp=Z,1µm,0.6s
ACER Acerenza 3.08 194 Pn Pn 23 14 40.1 -0.5
ACER Acerenza 3.08 194 Pn Pn 23 14 40.1 -0.5
SELS Selova 3.09 99⇑*i*Pn Pn 23 14 40.7 0.0
SELS Selova 3.09 99⇑*i*Pn Pn 23 14 40.7 0.0
LNSS Leonessa 3.09 249 Pn Pn 23 14 42.3 +1.5
comp=Z,1µm,0.6s
LNSS Leonessa 3.09 249 Pn Pn 23 14 42.3 +1.5
comp=Z,1µm,0.6s
VVLD Villa Vallelon 3.10 233 Pn Pn 23 14 41.6 +0.6
comp=Z,1µm,1.0s
VVLD Villa Vallelon 3.10 233 Pn Pn 23 14 41.6 +0.6
comp=Z,1µm,1.0s
SVIS Svilajnac 3.12 79⇑*i*Pn Pn 23 14 40.5 -0.6
SVIS *e*Sn Sn 23 15 15.3 -2.1
SVIS Svilajnac 3.12 79⇑*i*Pn Pn 23 14 40.5 -0.6
SVIS *e*Sn Sn 23 15 15.3 -2.1
MATE Matera 3.13 183 Pn Pn 23 14 40.5 -0.8
comp=Z,1µm,0.7s
MATE Matera 3.13 183 Pn Pn 23 14 40.5 -0.8
comp=Z,1µm,0.7s
POFI Posta Fibreno 3.15 230 Pn Pn 23 14 42.2 +0.6
comp=Z,605nm,0.8s
POFI Posta Fibreno 3.15 230 Pn Pn 23 14 42.2 +0.6
comp=Z,605nm,0.8s
PKS2 Kecel 3.15 30⇓*e*Pn Pn 23 14 41.4 -0.2
PKS2 eSn Sn 23 15 17.3 -1.0
PKS2 Kecel 3.15 30⇓*e* Pn 23 14 41.4 -0.2
PKS2 *e* 23 15 17.3
LTRZ Laterza 3.17 182 Pn Pn 23 14 41.1 -0.8
comp=Z,2µm,1.7s
LTRZ Laterza 3.17 182 Pn Pn 23 14 41.1 -0.8
comp=Z,2µm,1.7s
SOKA Soboth 3.20 336⇑*i*Pn Pn 23 14 43.1 +0.7
comp=Z,93nm,0.4s,SNR=47
SOKA ⇓*i*Sn Sn 23 15 20.6 +1.0
comp=Z,133nm,0.4s
SOKA Soboth 3.20 336 Pn Pn 23 14 43.1 +0.7
comp=Z,93nm,0.4s,SNR=47
SOKA Sn Sn 23 15 20.6 +1.0
comp=Z,133nm,0.4s
ATFO Monte Foce - G 3.21 264 Pn Pn 23 14 43.7 +1.3
comp=Z,1µm,0.6s
ATFO Monte Foce - G 3.21 264 Pn Pn 23 14 43.7 +1.3
comp=Z,1µm,0.6s
MRLC Muro Lucano 3.21 200 Pn Pn 23 14 41.9 -0.5
comp=Z,2µm,1.5s
MRLC Muro Lucano 3.21 200 Pn Pn 23 14 41.9 -0.5
comp=Z,2µm,1.5s
PIEI Pieia 3.21 267 Pn Pn 23 14 43.6 +1.2
comp=Z,1µm,1.3s
PIEI Pieia 3.21 267 Pn Pn 23 14 43.6 +1.2
comp=Z,1µm,1.3s
OBKA Obir 3.22 329 *e*Pn Pn 23 14 44.3 +1.7
OBKA eSn Sb 23 15 25.2 -3.9
OBKA Obir 3.22 329⇑*i*Pn Pn 23 14 44.0 +1.4
comp=Z,33nm,0.2s,SNR=12
OBKA ⇓*i*Sn Sn 23 15 22.5 +2.5
comp=Z,548nm,0.5s
OBKA Obir 3.22 329 Pn Pn 23 14 44.0 +1.4
comp=Z,33nm,0.2s,SNR=12
OBKA Sn Sn 23 15 22.5 +2.5
comp=Z,548nm,0.5s
SABO M.te Sabotino 3.24 314 Pn Pn 23 14 44.4 +1.5
comp=Z,3µm,0.7s
SABO M.te Sabotino 3.24 314 Pn Pn 23 14 44.4 +1.5
comp=Z,3µm,0.7s
TIR Tirane 3.25 137 *i*PN Pn 23 14 46.6 +3.7
TIR *i*SN Sn 23 15 20.4 -0.2
TIR Tirane 3.25 137 P Pn 23 14 45.7 +2.8
TIR Tirane 3.25 137 *e*P Pn 23 14 43.6 +0.7
TIR *e* 23 15 18.6
TIR Tirane 3.25 137 *e*P Pn 23 14 43.6 +0.7
TIR eS Sn 23 15 18.6 -2.0
TIR Tirane 3.25 137 *e*Pn Pn 23 14 43.6 +0.7
TIR eSn Sn 23 15 18.6 -2.0
MURB Monte Urbino 3.26 262 Pn Pn 23 14 44.6 +1.5
comp=Z,2µm,0.9s
MURB Monte Urbino 3.26 262 Pn Pn 23 14 44.6 +1.5
comp=Z,2µm,0.9s
TAR1 Taranto 3.26 175 *e*Pn Pn 23 14 42.2 -0.8
PAOL Paolisi 3.26 214 Pn Pn 23 14 43.9 +0.8
comp=Z,564nm,0.6s
PAOL Paolisi 3.26 214 Pn Pn 23 14 43.9 +0.8
comp=Z,564nm,0.6s
ATPC Poggio Castell 3.27 266 Pn Pn 23 14 44.8 +1.5
comp=Z,2µm,0.7s
ATPC Poggio Castell 3.27 266 Pn Pn 23 14 44.8 +1.5
comp=Z,2µm,0.7s
PHP Peshkopia 3.32 128 *i*SN Sn 23 15 21.3 -1.1
PHP Peshkopia 3.32 128 P Pn 23 14 46.0 +2.1
PHP Peshkopia 3.32 128 P Pn 23 14 46.0 +2.1
PHP *i*Sn Sn 23 15 21.3 -1.1
BANR Banloc 3.40 60⇑*i*P Pn 23 14 44.3 -0.6
BANR Banloc 3.40 60⇑*i*P Pn 23 14 44.3 -0.6
BANR S Sn 23 15 22.5 -1.7
PARC Parchiule 3.42 269 Pn Pn 23 14 46.6 +1.3
comp=Z,858nm,0.7s
PARC Parchiule 3.42 269 Pn Pn 23 14 46.6 +1.3
comp=Z,858nm,0.7s
MNS Montasola 3.42 247 Pn Pn 23 14 46.8 +1.5
comp=Z,822nm,0.8s
MNS Montasola 3.42 247 Pn Pn 23 14 46.8 +1.5
comp=Z,822nm,0.8s
BADI Badiali 3.42 267 Pn Pn 23 14 47.0 +1.7
BADI Badiali 3.42 267 Pn Pn 23 14 47.0 +1.7
CRAC Craco 3.43 187 Pn Pn 23 14 44.8 -0.6
comp=Z,2µm,0.8s
CRAC Craco 3.43 187 Pn Pn 23 14 44.8 -0.6
comp=Z,2µm,0.8s
CERT Cerreto 3.44 239 Pn Pn 23 14 46.8 +1.2
comp=Z,558nm,0.6s
CERT Cerreto 3.44 239 Pn Pn 23 14 46.8 +1.2
comp=Z,558nm,0.6s
GIUL Giuliano Di Ro 3.51 232 Pn Pn 23 14 47.3 +0.7
comp=Z,269nm,0.9s
GIUL Giuliano Di Ro 3.51 232 Pn Pn 23 14 47.3 +0.7
comp=Z,269nm,0.9s
BOLS Boljevac 3.62 87⇑*i*Pn Pn 23 14 46.5 -1.6
BOLS eSn Sn 23 15 27.8 -2.1
BOLS Boljevac 3.62 87⇑*i*Pn Pn 23 14 46.5 -1.6
BOLS eSn Sn 23 15 27.8 -2.1
PKS7 Kunszentmiklos 3.62 25⇑*e*Pn Pn 23 14 47.9 -0.1
PKS7 Kunszentmiklos 3.62 25⇑*e*pn Pn 23 14 47.9 -0.1
PKS7 eSn Sb 23 15 46.9 +6.3
CRE Caprese Michel 3.63 269 Pn Pn 23 14 50.3 +2.1
comp=Z,255nm,0.6s
CRE Caprese Michel 3.63 269 Pn Pn 23 14 50.3 +2.1
comp=Z,255nm,0.6s
MGAB Montegabbione 3.63 258 Pn Pn 23 14 49.7 +1.5
comp=Z,705nm,0.5s
MGAB Montegabbione 3.63 258 Pn Pn 23 14 49.7 +1.5
comp=Z,705nm,0.5s
CAFI Castiglion Fio 3.65 265 Pn Pn 23 14 50.0 +1.6
comp=Z,773nm,1.2s
CAFI Castiglion Fio 3.65 265 Pn Pn 23 14 50.0 +1.6
comp=Z,773nm,1.2s
PTCC Patocco-Chiusa 3.66 317 Pn Pn 23 14 50.3 +1.7
comp=Z,685nm,0.8s
PTCC Patocco-Chiusa 3.66 317 Pn Pn 23 14 50.3 +1.7
comp=Z,685nm,0.8s
ACOM Acomizza, Ital 3.69 320 Pn Pn 23 14 50.7 +1.6
comp=Z,3µm,1.2s
ACOM Acomizza, Ital 3.69 320 Pn Pn 23 14 50.7 +1.6
comp=Z,3µm,1.2s
MYKA Terra Mystica 3.69 322⇓*i*Pn Pn 23 14 51.3 +2.3
comp=Z,16nm,0.2s,SNR=9.5
MYKA Terra Mystica 3.69 322 Pn Pn 23 14 51.3 +2.3
comp=Z,16nm,0.2s,SNR=9.5
CSKK Cs‡kako 3.70 14⇑*e*Pn Pn 23 14 49.3 +0.1
CSKK Cs‡kako 3.70 14⇑*e*PKiKP Pn 23 14 49.3 +0.1
CSKK eSb Sb 23 15 46.7 +3.7
PKSN Nyarlorinc 3.74 32⇑*e*Pn Pn 23 14 49.5 -0.1
PKSN eSn Sn 23 15 32.4 -0.3
PKSN Nyarlorinc 3.74 32⇑*e*PKiKP Pn 23 14 49.5 -0.1
PKSN eSn Sn 23 15 32.4 -0.3
PKSG 3.75 15⇑*e*Pn Pn 23 14 50.4 +0.5
PKSG eSn Sn 23 15 33.0 -0.1
PKSG 3.75 15⇑*e* Pn 23 14 50.4 +0.5
PKSG *e* 23 15 33.0
SKO Skopje 3.76 117 P Pn 23 14 52.3 +2.3
SKO Skopje 3.76 117 *e*Pn Pn 23 14 51.5 +1.5
SKO Skopje 3.76 117 *e*Pn Pn 23 14 51.5 +1.5
SKO Skopje 3.76 117 P Pn 23 14 52.3 +2.3
BZS Buzias 3.80 59 *e*P Pn 23 14 49.8 -0.7
BZS Buzias 3.80 59 *e*Pn Pn 23 14 50.3 -0.2
BZS Buzias 3.80 59⇑*i*P Pn 23 14 49.3 -1.2
BZS Buzias 3.80 59⇑*i*P Pn 23 14 49.3 -1.2
BZS Buzias 3.80 59 *e*Pn Pn 23 14 50.3 -0.2
BZS S Sn 23 15 33.8 -0.5
CUC Castrocucco 3.87 193 *e*Pn Pn 23 14 52.0 +0.4
CUC eSn Sn 23 15 38.4 +2.2
CUC Castrocucco 3.87 193 *e*Pn Pn 23 14 52.0 +0.4
CUC eSn Sn 23 15 38.4 +2.2
SOP Sopron 3.92 356⇓*e*Pn Pn 23 14 52.3 +0.2
SOP eSn Sn 23 15 38.9 +1.8
SOP Sopron 3.92 356⇓*e*Pn Pn 23 14 52.3 +0.2
SOP esn Sn 23 15 38.9 +1.8
BUD Budapest 3.98 21⇑*e*Pn Pn 23 14 53.0 0.0
BUD Budapest 3.98 21⇑*e* Pn 23 14 53.0 0.0

BUD *e* 23 15 58.9

DJES Djerdap 4.10 76 *e*Sn **Sn** **23 15 38.7 -3.0**
DJES Djerdap 4.10 76 *e*Sn **Sn** **23 15 38.7 -3.0**
KBA Koelnbreinsper 4.16 324 *e*Pn **Pn** **23 14 58.2 +2.5**
KBA *e*Sn **Sn** **23 15 46.6 +3.1**
KBA Koelnbreinsper 4.16 324 ⇑*i*Pn **Pn** **23 14 58.1 +2.4**
comp=Z,58nm,0.4s,SNR=36
KBA ⇑*i*Sn **Sn** **23 15 45.4 +1.9**
comp=Z,142nm,0.5s
KBA Koelnbreinsper 4.16 324 **Pn** **23 14 58.1 +2.4**
comp=Z,58nm,0.4s,SNR=36
KBA Sn **Sn** **23 15 45.4 +1.9**
comp=Z,142nm,0.5s
ZAPS Zavoj 4.17 95 ⇑*i*Pn **Pn** **23 14 56.1 +0.5**
ZAPS *e*Sn **Sn** **23 15 42.5 -0.8**
CONA Conrad Observa 4.22 350 ⇑*i*Pn **Pn** **23 14 56.9 +0.5**
comp=Z,51nm,0.4s,SNR=36
CONA ⇑*i*Sn **Sn** **23 15 44.0 -0.8**
comp=Z,141nm,0.5s
CONA Conrad Observa 4.22 350 Pn **Pn** **23 14 56.9 +0.5**
comp=Z,51nm,0.4s,SNR=36
CONA Sn **Sn** **23 15 44.0 -0.8**
comp=Z,141nm,0.5s
KBN Korca 4.25 137 P Pn 23 14 52.2 -4.6
KBN Korca 4.25 137 P Pn 23 14 52.2 -4.6
ABTA Abfaltersbach 4.32 315 ⇑*i*Pn **Pn** **23 14 59.3 +1.6**
comp=Z,129nm,0.4s,SNR=58
ABTA ⇑*i*Sn **Sn** **23 15 51.9 +4.8**
comp=Z,193nm,0.6s
ABTA Abfaltersbach 4.32 315 Pn **Pn** **23 14 59.3 +1.6**
comp=Z,129nm,0.4s,SNR=58
ABTA Sn **Sn** **23 15 51.9 +4.8**
comp=Z,193nm,0.6s
FNA Florina 4.44 131 *e*P **Pn** **23 15 00.9 +1.5**
FNA Florina 4.44 131 P **Pn** **23 15 01.1 +1.7**
FNA Florina 4.44 131 *e*P **Pn** **23 15 01.4 +2.0**
FNA Florina 4.44 131 P **Pn** **23 15 01.1 +1.7**
GZR Gura Zlata 4.47 67 ⇑*i*P **Pn** **23 14 58.1 -1.6**
GZR Gura Zlata 4.47 67 ⇑*i*P **Pn** **23 14 58.1 -1.6**
GZR S **Sn** **23 15 49.4 -1.4**
POPM Popiglio 4.48 276 P **Pn** **23 15 01.8 +1.9**
POPM S **Sn** **23 15 50.2 -0.9**
MOA Molln 4.48 336 *e*Pn **Pn** **23 15 02.0 +2.0**
MOA *e*Sn **Sn** **23 15 55.3 +4.2**
MOA Molln 4.48 336 ⇑*i*Pn **Pn** **23 15 01.9 +2.0**
comp=Z,82nm,0.3s,SNR=65
MOA ⇓*i*Sn **Sn** **23 15 52.9 +1.8**
comp=Z,98nm,0.5s
MOA Molln 4.48 336 Pn **Pn** **23 15 01.9 +2.0**
comp=Z,82nm,0.3s,SNR=65
MOA Sn **Sn** **23 15 52.9 +1.8**
comp=Z,98nm,0.5s
SRN Sarande 4.51 149 P **Pn** **23 15 00.3 0.0**
SRN Sarande 4.51 149 P **Pn** **23 15 00.3 0.0**
NEST Nestorio 4.54 136 P **Pn** **23 15 02.3 +1.6**
NEST Nestorio 4.54 136 *e*P **Pn** **23 15 02.4 +1.7**
NEST Nestorio 4.54 136 P **Pn** **23 15 02.3 +1.6**
SRE Strehaia 4.58 77 ⇓*i*P **Pn** **23 15 02.1 +0.8**
SRE Strehaia 4.58 77 ⇓*i*P **Pn** **23 15 02.1 +0.8**
TIP Timpagrande 4.60 182 P **Pn** **23 15 02.1 +0.6**
TIP Timpagrande 4.60 182 *e*Pn **Pn** **23 15 01.5 0.0**
TIP Timpagrande 4.60 182 P **Pn** **23 15 02.1 +0.6**
TIP Timpagrande 4.60 182 *e*Pn **Pn** **23 15 01.5 0.0**
PSZ Piszkesteto 4.63 25 *e*P **Pn** **23 15 01.3 -0.6**
PSZ Piszkesteto 4.63 25 ⇑*i*P **Pn** **23 15 01.3 -0.6**
PSZ Piszkesteto 4.63 25 *e*P **Pn** **23 15 01.3 -0.6**
PSZ *e*Sn **Sn** **23 15 51.9 -2.8**
PSZ Piszkesteto 4.63 25 *e*Pn **Pn** **23 15 01.2 -0.6**
PSZ Piszkesteto 4.63 25 ‖*e*PKiKP **Pn** **23 15 01.3 -0.6**
PSZ *e*Sn **Sn** **23 15 51.9 -2.8**
MAIM Mastiano 4.67 274 P **Pn** **23 15 02.8 +0.3**
MAIM S **Sn** **23 15 53.8 -1.9**
VTS Vitosha 4.73 102 P **Pn** **23 15 04.2 +0.8**
VTS Vitosha 4.73 102 *i* Pn **Pn** **23 15 04.1 +0.7**
VTS Vitosha 4.73 102 ⇓*i*P **Pn** **23 15 04.2 +0.8**
VTS Vitosha 4.73 102 P **Pn** **23 15 04.2 +0.8**
VTS Vitosha 4.73 102 *i* Pn **Pn** **23 15 04.1 +0.7**
DEV Deva 4.73 61 ⇓*i*P **Pn** **23 15 02.8 -0.5**
DEV Deva 4.73 61 ⇓*i*P **Pn** **23 15 02.8 -0.5**
SMOL Smolenice 4.75 4 *e*P **Pn** **23 15 03.8 +0.2**
SMOL *e* 23 15 54.1
SMOL Smolenice 4.75 4 *e*P **Pn** **23 15 03.8 +0.2**
SMOL *e*S **Sn** **23 15 54.1 -3.6**
SMOL Smolenice 4.75 4 *e*PN **Pn** **23 15 03.8 +0.2**
SMOL *e*SN **Sn** **23 15 54.1 -3.6**
VLC Villacollemand 4.75 277 *e*Pn **Pn** **23 15 05.1 +1.5**
VLC *e*Sn **Sn** **23 15 59.8 +2.1**
VLC Villacollemand 4.75 277 *e*Pn **Pn** **23 15 05.1 +1.5**
VLC *e*Sn **Sn** **23 15 59.8 +2.1**
VAY Valandovo 4.82 119 P **Pn** **23 15 05.6 +1.0**
VAY Valandovo 4.82 119 *e*Pn **Pn** **23 15 06.6 +2.1**
VAY Valandovo 4.82 119 *e*Pn **Pn** **23 15 05.7 +1.1**
VAY *e*Sn **Sn** **23 15 59.5 0.0**
VAY Valandovo 4.82 119 *e*P **Pn** **23 15 05.7 +1.1**
VAY *e* 23 15 59.5
VAY Valandovo 4.82 119 P **Pn** **23 15 05.6 +1.0**
VAY *e*Sn **Sn** **23 15 59.5 0.0**
VAY Valandovo 4.82 119 *e*Pn **Pn** **23 15 05.7 +1.1**
VAY *e*Sn **Sn** **23 15 59.5 0.0**
SGD Sagiada 4.83 148 P **Pn** **23 15 05.1 +0.4**
SGD Sagiada 4.83 148 *e*P **Pn** **23 15 05.4 +0.7**
SGD Sagiada 4.83 148 P **Pn** **23 15 05.1 +0.4**
VALM Valbona 4.86 279 P **Pn** **23 15 07.1 +1.9**
KKB Krupnik 4.90 111 P **Pn** **23 15 07.8 +2.2**
KKB Krupnik 4.90 111 P **Pn** **23 15 07.8 +2.2**
RJOB Jochberg 4.91 325 *e*Pn **Pn** **23 15 08.2 +2.4**
RJOB *e*Sn **Sn** **23 16 05.7 +4.0**
RJOB Jochberg 4.91 325 *e*Pn **Pn** **23 15 08.2 +2.4**
RJOB *e*Sn **Sn** **23 16 05.7 +4.0**
GRG Griva 4.93 123 *e*P **Pn** **23 15 07.1 +1.1**
GRG Griva 4.93 123 P **Pn** **23 15 07.8 +1.8**
GRG Griva 4.93 123 *e*P **Pn** **23 15 07.7 +1.8**
GRG Griva 4.93 123 P **Pn** **23 15 07.8 +1.8**
IGT Igoumenitsa 4.94 148 *e*P **Pn** **23 15 06.4 +0.2**
IGT Igoumenitsa 4.94 148 P **Pn** **23 15 06.2 0.0**
IGT Igoumenitsa 4.94 148 *e*P **Pn** **23 15 06.1 -0.1**
IGT Igoumenitsa 4.94 148 P **Pn** **23 15 06.2 0.0**
MPEP Malo Peshtene 4.95 93 P **Pn** **23 15 07.8 +1.4**
MPEP Malo Peshtene 4.95 93 P **Pn** **23 15 07.8 +1.4**
KZN Kozani 4.99 132 *e*P **Pn** **23 15 08.2 +1.2**
JAN Janina 5.05 143 *e*P **Pn** **23 15 08.5 +0.8**
DRGR 5.06 51 ⇓*i*P **Pn** **23 15 07.8 -0.1**
DRGR 5.06 51 ⇓*i*P **Pn** **23 15 07.8 -0.1**
WTTA Wattenberg 5.11 315 *e*Pn **Pn** **23 15 10.7 +2.0**
WTTA Wattenberg 5.11 315 ⇑*i*Pn **Pn** **23 15 10.6 +2.0**
comp=Z,188nm,0.3s,SNR=99
WTTA ⇑*e*Sn **Sn** **23 16 09.6 +2.9**
comp=Z,148nm,0.4s
WTTA Wattenberg 5.11 315 Pn **Pn** **23 15 10.6 +2.0**
comp=Z,188nm,0.3s,SNR=99
WTTA Sn **Sn** **23 16 09.6 +2.9**
comp=Z,148nm,0.4s
KNT Kendrikon 5.12 119 *e*P **Pn** **23 15 10.0 +1.4**
LOT Lotru 5.15 69 *e*P **Pn** **23 15 09.4 +0.3**
LOT Lotru 5.15 69 ⇓*i*P **Pn** **23 15 09.6 +0.5**
LOT Lotru 5.15 69 ⇓*i*P **Pn** **23 15 09.6 +0.5**
CODM Codolo 5.15 279 P **Pn** **23 15 11.1 +2.0**
WATA Walderalm 5.18 315 ⇓*i*Pn **Pn** **23 15 11.8 +2.1**
comp=Z,363nm,0.6s,SNR=319
WATA ⇑*i*Sn Sn 23 16 15.0 +6.4
comp=Z,151nm,0.6s
WATA Walderalm 5.18 315 Pn **Pn** **23 15 11.8 +2.1**
comp=Z,363nm,0.6s,SNR=319
WATA Sn Sn 23 16 15.0 +6.4
comp=Z,151nm,0.6s
SC2M Scurtabo 5.38 279 P **Pn** **23 15 13.9 +1.7**
PGB Panagyurishte 5.42 101 P **Pn** **23 15 14.9 +2.1**
PGB Panagyurishte 5.42 101 P **Pn** **23 15 14.9 +2.1**
MOTA Moosalm 5.44 313 ⇑*i*Pn **Pn** **23 15 15.6 +2.5**
comp=Z,422nm,0.9s,SNR=240
MOTA ⇑*i*Sn **Sn** **23 16 20.4 +5.6**
comp=Z,131nm,0.5s
MOTA Moosalm 5.44 313 Pn **Pn** **23 15 15.6 +2.5**
comp=Z,422nm,0.9s,SNR=240
FETA Feichten 5.45 309 ⇓*i*Pn **Pn** **23 15 15.1 +1.8**
comp=Z,25nm,0.3s,SNR=25
FETA ⇑*i*Sn **Sn** **23 16 17.9 +2.8**
comp=Z,52nm,0.7s
FETA Feichten 5.45 309 Pn **Pn** **23 15 15.1 +1.8**
comp=Z,25nm,0.3s,SNR=25
FETA Sn **Sn** **23 16 17.9 +2.8**
comp=Z,52nm,0.7s
MMB Musomiste 5.46 111 ⇓*i*P **Pn** **23 15 15.3 +2.0**

MMB Musomiste 5.46 111 P **Pn** **23 15 15.4 +2.1**
MMB Musomiste 5.46 111 ⇓*i*P **Pn** **23 15 15.3 +2.0**
THE Thessaloniki 5.46 123 *e*P **Pn** **23 15 14.7 +1.4**
FUORN Ofenpass-Fuorn 5.51 303 *e*Pn **Pn** **23 15 15.9 +1.6**
FUORN Ofenpass-Fuorn 5.51 303 *e*Pn **Pn** **23 15 15.9 +1.6**
LIT Litokhoron 5.53 130 P **Pn** **23 15 15.0 +0.7**
LIT Litokhoron 5.53 130 *e*P **Pn** **23 15 14.8 +0.5**
LIT Litokhoron 5.53 130 P **Pn** **23 15 15.0 +0.7**
CJR Cluj-Napoca 5.54 56 ⇓*i*P **Pn** **23 15 14.5 +0.1**
CJR Cluj-Napoca 5.54 56 ⇓*i*P **Pn** **23 15 14.5 +0.1**
VRAC Vranov 5.54 358 Pn **Pn** **23 15 14.2 -0.2**
comp=Z,4.2nm,0.3s,baz=189,slow=12,SNR=13
VRAC Sn **Sn** **23 16 16.0 -1.1**
comp=Z,16nm,0.3s,baz=266,slow=21,SNR=8.7
VRAC LR LR 23 17 46.9
comp=Z,273nm,21.7s,baz=174,slow=43
VRAC Vranov 5.54 358 ⇑*i*P **Pn** **23 15 14.6 +0.2**
GEC2 GERESS Array S 5.55 337 *e*Pn **Pn** **23 15 16.3 +1.7**
GEC2 *e*Sn **Sn** **23 16 19.5 +2.1**
GEC2 GERESS Array S 5.55 337 *e*P **Pn** **23 15 15.6 +1.0**
GEC2 *e* 23 16 15.0
GEC2 GERESS Array S 5.55 337 *e*P **Pn** **23 15 15.6 +1.0**
GEC2 *e*Sn **Sn** **23 16 19.5 +2.1**
GEC2 GERESS Array S 5.55 337 *e*Pn **Pn** **23 15 15.6 +1.0**
GEC2 *e*Sn **Sn** **23 16 15.0 -2.4**
GERES GERESS Array B 5.55 337 Pn **Pn** **23 15 15.6 +1.0**
comp=Z,5.1nm,0.3s,baz=159,slow=14,SNR=140
GERES Sn **Sn** **23 16 15.4 -2.0**
comp=Z,2.0nm,0.3s,baz=148,slow=23,SNR=2.1
GERES Lg Lg 23 16 43.7
comp=Z,6.1nm,0.3s,baz=180,slow=26,SNR=2.1
GERES LR LR 23 17 58.0
comp=Z,246nm,18.4s,baz=147,slow=45
HORT Hortiatis 5.56 123 *e*P **Pn** **23 15 14.9 +0.1**
HORT Hortiatis 5.56 123 *e*P **Pn** **23 15 16.3 +1.5**
CEL Celeste 5.57 189 *e*Pn **Pn** **23 15 13.9 -1.0**
CEL Celeste 5.57 189 *e*Pn **Pn** **23 15 13.9 -1.0**
CEL *e*Sn **Sn** **23 16 15.6 -2.4**
DSL Palaion Diasel 5.59 145 P **Pn** **23 15 16.2 +1.1**
DSL Palaion Diasel 5.59 145 P **Pn** **23 15 16.2 +1.1**
SRS Serrai 5.59 116 P **Pn** **23 15 16.5 +1.4**
SRS Serrai 5.59 116 *e*P **Pn** **23 15 16.7 +1.6**
SRS Serrai 5.59 116 P **Pn** **23 15 16.5 +1.4**
SOH Sokhos 5.59 120 P **Pn** **23 15 18.2 +3.0**
SOH Sokhos 5.59 120 *e*P **Pn** **23 15 16.7 +1.5**
TREC Trest 5.61 350 *e*PN **Pn** **23 15 16.1 +0.7**
TREC *ex* x 23 15 23.6
TREC *e*SN **Sn** **23 16 18.1 -0.8**
TREC *e*SG Sb 23 16 53.4 +16
TREC AMS AMS 23 17 30.0
comp=Z,900nm,8.9s
TREC Trest 5.61 350 *e*P **Pn** **23 15 16.1 +0.7**
TREC *e* 23 16 18.1
TREC MLR MLR
comp=Z,900nm,8.9s
TREC Trest 5.61 350 Pn **Pn** **23 15 16.1 +0.7**
TREC Sn **Sn** **23 16 18.1 -0.8**
NVR Nevrokopi 5.65 113 *e*P **Pn** **23 15 18.0 +2.0**
THL Klokotos Trika 5.67 136 *e*P **Pn** **23 15 16.5 +0.4**
RETA Reutte 5.71 313 ⇑*i*Pn **Pn** **23 15 18.7 +2.0**
comp=Z,30nm,0.3s,SNR=20
RETA ⇑*i*Sn **Sn** **23 16 25.7 +4.4**
comp=Z,89nm,0.5s
RETA Reutte 5.71 313 Pn **Pn** **23 15 18.7 +2.0**
comp=Z,30nm,0.3s,SNR=20
RETA Sn **Sn** **23 16 25.7 +4.4**
comp=Z,89nm,0.5s
DAVOX Davos/Dischmat 5.82 304 Pn **Pn** **23 15 20.4 +1.9**
comp=Z,21nm,0.3s,baz=124,slow=11,SNR=170
DAVOX Sn **Sn** **23 16 27.6 +3.3**
baz=348,slow=21,SNR=1.6
DAVOX Lg Lg 23 16 51.0
comp=Z,7.9nm,0.3s,baz=305,slow=22,SNR=4.4
DAVOX LR LR 23 18 01.6
comp=Z,288nm,19.3s,baz=85,slow=44
HUMR Humele 5.83 80 ⇓*i*P **Pn** **23 15 18.4 0.0**
HUMR Humele 5.83 80 ⇓*i*P **Pn** **23 15 18.4 0.0**
KHC Kasperske Hory 5.84 338 *e*PN **Pn** **23 15 19.4 +0.9**
KHC *e*PB **Pb** **23 15 31.8 -3.1**
KHC *e*PG 23 15 44.9
KHC *e*SN **Sn** **23 16 23.3 -1.2**
KHC *ex* x 23 16 38.1
KHC *e*SG Sb 23 16 57.8 +13
comp=Z,68nm,0.8s
KHC AMS AMS 23 17 40.0
comp=Z,1μm,8.4s
KHC Kasperske Hory 5.84 338 *e*P **Pn** **23 15 19.4 +0.9**
KHC *e* 23 16 23.3
KHC smax smax
comp=N,68nm,0.8s
KHC MLR MLR
comp=Z,1μm,8.4s
KHC Kasperske Hory 5.84 338 Pn **Pn** **23 15 19.4 +0.9**
KHC *e*Sn **Sn** **23 16 24.2 -0.4**
KHC Kasperske Hory 5.84 338 *e*Pn **Pn** **23 15 20.1 +1.6**
KHC *e*Sn **Sn** **23 16 24.2 -0.4**
FUR Furstenfeldbru 5.91 320 *e*Pn **Pn** **23 15 21.1 +1.7**
FUR Furstenfeldbru 5.91 320 *e*Pn **Pn** **23 15 21.1 +1.7**
PLG Polygyros 5.91 123 *e*P **Pn** **23 15 20.7 +1.2**
PLD Plovdiv 5.93 104 P **Pn** **23 15 21.6 +1.8**
PLD Plovdiv 5.93 104 P **Pn** **23 15 21.6 +1.8**
PGF Pioggiola 5.94 261 *e*Pn **Pn** **23 15 20.5 +0.5**
SNR=1.0
PGF *e*Sn Sb 23 16 58.0 +10
comp=Z,92nm,0.4s
PGF Pioggiola 5.94 261 *e*P **Pn** **23 15 20.5 +0.5**
PGF Pioggiola 5.94 261 *e*Pn **Pn** **23 15 20.5 +0.5**
SNR=1.0
PGF Pioggiola 5.94 261 *e*Pn **Pn** **23 15 20.5 +0.5**
PGF *e*Sn Sb 23 16 58.0 +10
MTUR Matau 5.98 73 ⇑*i*P **Pn** **23 15 21.3 +0.7**
MTUR Matau 5.98 73 ⇑*i*P **Pn** **23 15 21.3 +0.7**
TUE Stuetta 6.01 299 *e*Pn **Pn** **23 15 23.3 +2.2**
TUE *e*Sn **Sn** **23 16 31.0 +1.9**
TUE Stuetta 6.01 299 *e*Pn **Pn** **23 15 23.3 +2.2**
TUE *e*Sn **Sn** **23 16 31.0 +1.9**
MORC Moravsky Berou 6.02 4 *e*P **Pn** **23 15 21.7 +0.7**
MORC *e* 23 16 28.2
MORC Moravsky Berou 6.02 4 *e*P **Pn** **23 15 21.7 +0.7**
MORC *e*S **Sn** **23 16 28.2 -0.7**
MORC Moravsky Berou 6.02 4 *e*Pn **Pn** **23 15 21.7 +0.7**
MORC *e*Sn **Sn** **23 16 28.2 -0.7**
VOIR 6.02 71 ⇑*i*P **Pn** **23 15 22.0 +1.0**
VOIR 6.02 71 ⇑*i*P **Pn** **23 15 22.0 +1.0**
WET Wettzell 6.06 334 *e*Pn **Pn** **23 15 23.2 +1.7**
WET Wettzell 6.06 334 *e*Pn **Pn** **23 15 23.2 +1.7**
EVR Evrytania 6.08 141 *e*P **Pn** **23 15 23.0 +1.1**
DAVA Damuels 6.08 308 *e*Pn **Pn** **23 15 23.9 +2.0**
DAVA *e*Sn **Sn** **23 16 33.9 +3.3**
DAVA Damuels 6.08 308 ⇓*i*Pn **Pn** **23 15 23.9 +2.0**
comp=Z,43nm,0.5s,SNR=27
DAVA Damuels 6.08 308 Pn **Pn** **23 15 23.9 +2.0**
comp=Z,43nm,0.5s,SNR=27
DAVA *e*Sn **Sn** **23 16 33.9 +3.3**
PDO Prodromos 6.08 147 P **Pn** **23 15 21.1 -0.7**
PDO Prodromos 6.08 147 P **Pn** **23 15 21.1 -0.7**
RZN Rozhen 6.09 107 P **Pn** **23 15 23.8 +1.7**
RZN Rozhen 6.09 107 P **Pn** **23 15 23.8 +1.7**
PCP Piancastagn 6.09 280 P **Pn** **23 15 22.1 +0.1**
NIE Niedzica 6.10 21 *e*P **Pn** **23 15 23.2 +1.1**
NIE *e*S **Sn** **23 16 29.4 -1.5**
NIE Niedzica 6.10 21 *e*P **Pn** **23 15 23.2 +1.1**
NIE *e*S **Sn** **23 16 29.4 -1.5**
NIE Niedzica 6.10 21 *e*P **Pn** **23 15 23.2 +1.1**
NIE *e*S **Sn** **23 16 29.5 -1.5**
OKC Ostrava-Krasne 6.12 7 *e*PN **Pn** **23 15 22.5 +0.2**
OKC *ex* x 23 15 30.7
OKC *e*PB **Pb** **23 15 37.4 -2.2**
OKC *e*SN **Sn** **23 16 28.8 -2.5**
OKC AMS AMS 23 18 10.0
comp=Z,700nm,9.9s
OKC Ostrava-Krasne 6.12 7 *e*P **Pn** **23 15 22.5 +0.2**
OKC *e* 23 16 28.8
OKC MLR MLR
comp=Z,700nm,9.9s
OKC Ostrava-Krasne 6.12 7 Pn **Pn** **23 15 22.5 +0.2**
MAKR Makrakomi, Fth 6.15 139 P **Pn** **23 15 23.3 +0.5**
MAKR Makrakomi, Fth 6.15 139 *e*P **Pn** **23 15 23.5 +0.7**
MAKR Makrakomi, Fth 6.15 139 P **Pn** **23 15 23.3 +0.5**
AGG Agios Georgios 6.24 138 *e*P **Pn** **23 15 24.2 +0.1**
AGG Agios Georgios 6.24 138 P **Pn** **23 15 23.9 -0.1**
AGG Agios Georgios 6.24 138 *e*P **Pn** **23 15 24.1 +0.1**

AGG Agios Georgios 6.24 138 *e*P **Pn** **23 15 24.1 +0.1**
AGG *e* 23 16 35.6
AGG Agios Georgios 6.24 138 *e*P **Pn** **23 15 24.1 +0.1**
AGG *e*S **Sn** **23 16 35.6 +1.2**
AGG Agios Georgios 6.24 138 *e*Pn **Pn** **23 15 24.1 +0.1**
AGG *e*Sn **Sn** **23 16 35.6 +1.2**
ROTM Rocchetta Tana 6.26 283 P **Pn** **23 15 25.6 +1.3**
OUR Ouranopolis 6.26 121 *e*P **Pn** **23 15 24.5 +0.1**
OUR Ouranopolis 6.26 121 P **Pn** **23 15 24.9 +0.6**
OUR Ouranopolis 6.26 121 *e*P **Pn** **23 15 25.4 +1.1**
OUR Ouranopolis 6.26 121 P **Pn** **23 15 24.9 +0.6**
GOPC GO Pecny, Ondr 6.32 347 *e*PN **Pn** **23 15 25.5 +0.4**
GOPC *ex* x 23 15 34.8
GOPC *ex* x 23 15 42.2
GOPC *e*SN **Sn** **23 16 34.3 -1.9**
GOPC *ex* x 23 16 48.6
GOPC *e*SG Sb 23 17 24.8 +27
GOPC AMS AMS 23 18 00.0
comp=Z,800nm,9.2s
GOPC GO Pecny, Ondr 6.32 347 Pn **Pn** **23 15 25.5 +0.4**
PAIG Paliouri 6.33 125 P **Pn** **23 15 25.6 +0.4**
PAIG Paliouri 6.33 125 *e*P **Pn** **23 15 25.6 +0.4**
PAIG Paliouri 6.33 125 P **Pn** **23 15 25.6 +0.4**
KOLS Kolonicke sedl 6.34 34 *e*P **Pn** **23 15 25.0 -0.4**
KOLS *e* 23 16 30.7
KOLS MLR MLR
comp=Z,100nm,1.0s
KOLS Kolonicke sedl 6.34 34 *e*P **Pn** **23 15 25.0 -0.4**
KOLS Kolonicke sedl 6.34 34 *e*Pg Pb 23 15 51.0 +7.6
KOLS Kolonicke sedl 6.34 34 *e*PN **Pn** **23 15 25.0 -0.4**
KOLS *e* 23 15 51.0
KOLS Kolonicke sedl 6.34 34 *e*SN Sn 23 16 30.7 -6.1
KOLS *e* 23 17 19.1
KFL Anninata 6.36 152 P **Pn** **23 15 24.4 -1.3**
KFL Anninata 6.36 152 P **Pn** **23 15 24.4 -1.3**
STHS Stebnicka Huta 6.37 26 *e*P **Pn** **23 15 26.9 +1.1**
STHS *e* 23 16 37.3
STHS Stebnicka Huta 6.37 26 *e*P **Pn** **23 15 26.9 +1.1**
STHS Stebnicka Huta 6.37 26 *e*Pg Pb 23 15 53.2 +9.3
STHS *e*S **Sn** **23 16 37.3 -0.3**
STHS Stebnicka Huta 6.37 26 *e*PN **Pn** **23 15 26.9 +1.1**
STHS *e* 23 15 53.2
STHS Stebnicka Huta 6.37 26 *e*SN **Sn** **23 16 37.3 -0.3**
STHS *e* 23 17 23.2
RORO Rocca Rossa 6.42 276 P **Pn** **23 15 26.4 -0.1**
PRU Pruhonice 6.43 346 *e*PN **Pn** **23 15 27.7 +1.1**
PRU *ex* x 23 15 35.2
PRU *e*PB **Pb** **23 15 42.2 -2.7**
PRU *e*SN **Sn** **23 16 37.4 -1.6**
PRU *ex* x 23 16 49.9
PRU *e*SG Sb 23 17 17.1 +16
comp=Z,119nm,1.0s
PRU AMS AMS 23 18 00.0
comp=Z,1μm,8.2s
PRU Pruhonice 6.43 346 *e*P **Pn** **23 15 27.7 +1.1**
PRU *e* 23 16 37.4
PRU smax smax
comp=N,119nm,1.0s
PRU MLR MLR
comp=Z,1μm,8.2s
PRU Pruhonice 6.43 346 Pn **Pn** **23 15 27.7 +1.1**
PRU Sg Sb 23 17 17.1 +16
comp=Z,119nm,1.0s
XOR Xorichti 6.43 131 P **Pn** **23 15 26.0 -0.6**
XOR Xorichti 6.43 131 *e*P **Pn** **23 15 26.2 -0.4**
XOR Xorichti 6.43 131 P **Pn** **23 15 26.0 -0.6**
EFP Efpalio 6.52 143 P **Pn** **23 15 28.0 +0.1**
EFP Efpalio 6.52 143 P **Pn** **23 15 28.0 +0.1**
PRA Prague 6.53 346 *e*PN **Pn** **23 15 29.3 +1.4**
PRA *ex* x 23 15 40.7
PRA *e*PG **Pb** **23 15 49.1 +2.5**
PRA *ex* x 23 16 54.8
PRA *ex* x 23 17 17.0
PRA AMS AMS 23 18 00.0
comp=Z,1μm,7.8s
PRA Prague 6.53 346 *e*P **Pn** **23 15 29.3 +1.4**
PRA MLR MLR
comp=Z,1μm,7.8s
PRA Prague 6.53 346 Pn **Pn** **23 15 29.3 +1.4**
DIM Dimitrovgrad 6.54 102 P **Pn** **23 15 30.9 +2.8**
IMI Imperia 6.55 274 P **Pn** **23 15 29.0 +0.7**
SZH Strazhica 6.55 91 P **Pn** **23 15 29.2 +0.9**
SZH Strazhica 6.55 91 P **Pn** **23 15 29.2 +0.9**
KDZ Kurdzhali 6.59 106 P **Pn** **23 15 30.0 +1.2**
KDZ Kurdzhali 6.59 106 P **Pn** **23 15 30.0 +1.2**
DPC Dobruska-Polom 6.59 357 *e*PN **Pn** **23 15 29.6 +0.7**
DPC *ex* x 23 15 43.1
DPC *e*PG Pb 23 15 54.9 +7.2
DPC *e*SN **Sn** **23 16 40.8 -2.2**
DPC AMS AMS 23 18 10.0
comp=Z,400nm,8.2s
DPC Dobruska-Polom 6.59 357 *e*P **Pn** **23 15 29.6 +0.7**
DPC *e* 23 16 40.8
DPC MLR MLR
comp=Z,400nm,8.2s
DPC Dobruska-Polom 6.59 357 Pn **Pn** **23 15 29.6 +0.7**
AXAR Agios Charalam 6.60 137 P **Pn** **23 15 29.0 0.0**
AXAR Agios Charalam 6.60 137 *e*P **Pn** **23 15 29.3 +0.3**
AXAR Agios Charalam 6.60 137 P **Pn** **23 15 29.0 0.0**
MLR Muntele Rosu 6.64 72 Pn **Pn** **23 15 30.9 +1.2**
baz=309,slow=6.5
MLR Lg Lg 23 17 16.2
comp=Z,0.2nm,0.3s,baz=92,slow=5.9,SNR=3.9
MLR LR LR 23 18 10.2
comp=Z,34nm,20.2s,baz=262,slow=39
MLR Muntele Rosu 6.64 72 ⇑*i*P **Pn** **23 15 30.9 +1.2**
OJC Ojcow 6.73 16 *e*P **Pn** **23 15 31.6 +0.8**
OJC *e*S **Sn** **23 16 43.4 -3.1**
OJC Ojcow 6.73 16 *e*P **Pn** **23 15 31.7 +0.9**
OJC *e*S **Sn** **23 16 43.4 -3.1**
OJC Ojcow 6.73 16 *e*Pn **Pn** **23 15 31.3 +0.5**
OJC Ojcow 6.73 16 *e*P **Pn** **23 15 31.7 +0.9**
OJC Ojcow 6.73 16 *e*Pn **Pn** **23 15 31.3 +0.5**
OJC *e*Sn **Sn** **23 16 41.0 -5.5**
UPC Upice 6.76 355 *e*PN **Pn** **23 15 31.2 0.0**
UPC *ex* x 23 15 38.5
UPC *ex* x 23 15 42.0
UPC *e*SN **Sn** **23 16 44.8 -2.4**
UPC *ex* x 23 16 57.3
UPC Upice 6.76 355 *e*P **Pn** **23 15 31.2 0.0**
UPC *e* 23 16 44.8
UPC Upice 6.76 355 Pn **Pn** **23 15 31.2 0.0**
SATI Passo dei Sala 6.79 291 P **Pn** **23 15 30.8 -1.1**
SAOF Saorge 6.79 275 P **Pn** **23 15 31.9 +0.3**
SAOF S **Sn** **23 16 48.1 +0.1**
SAOF Saorge 6.79 275 P **Pn** **23 15 31.9 +0.3**
CLTB Caltabellotta 6.81 206 *e*Pn Pn 23 15 35.3 +3.4
CLTB Caltabellotta 6.81 206 *e*Pn Pn 23 15 35.3 +3.4
ROTZ Rotzenmuhle 6.82 333 *e*Pn **Pn** **23 15 32.9 +1.0**
ROTZ Rotzenmuhle 6.82 333 *e*Pn **Pn** **23 15 32.9 +1.0**
LKR Lokris 6.86 136 *e*P **Pn** **23 15 32.5 0.0**
RDO Rodhopi 6.87 110 *e*P **Pn** **23 15 34.3 +1.5**
RDO Rodhopi 6.87 110 *e*Pn **Pn** **23 15 34.2 +1.5**
RDO Rodhopi 6.87 110 *e*Pn **Pn** **23 15 34.2 +1.5**
SBF Sospel 6.88 274 *e*Pn **Pn** **23 15 32.5 -0.4**
SNR=1.0
SBF *e*Sn **Sn** **23 16 45.7 -4.6**
comp=Z,169nm,0.7s
SBF Sospel 6.88 274 *e*P **Pn** **23 15 32.5 -0.4**
SBF *e* 23 16 45.7
SBF Sospel 6.88 274 *e*Pn **Pn** **23 15 32.5 -0.4**
SNR=1.0
SBF Sospel 6.88 274 *e*Pn **Pn** **23 15 32.5 -0.4**
SBF *e*Sn **Sn** **23 16 45.7 -4.6**
ENR Entracque 6.89 277 P **Pn** **23 15 32.6 -0.4**
REVF Revere 6.94 273 P **Pn** **23 15 34.7 +1.1**
REVF S **Sn** **23 16 51.1 -0.5**
REVF Revere 6.94 273 P **Pn** **23 15 34.7 +1.1**
BUR04 Bucovina Ar. S 6.95 54 *e*Pn **Pn** **23 15 35.8 +2.0**
BUR04 Bucovina Ar. S 6.95 54 *e*Pn **Pn** **23 15 35.8 +2.0**
BURAR Bucovina Array 6.95 54 ⇓*i*P **Pn** **23 15 33.8 0.0**
BURAR Bucovina Array 6.95 54 ⇓*i*P **Pn** **23 15 33.8 0.0**
AOS Alonnisos 6.95 129 *e*P **Pn** **23 15 33.2 -0.5**
PVCC Panska Ves 6.95 347 *e*PN **Pn** **23 15 34.6 +0.9**
PVCC *ex* x 23 15 43.8
PVCC *e*PB **Pb** **23 15 54.5 +0.8**
PVCC *e*SN **Sn** **23 16 49.4 -2.3**
PVCC *ex* x 23 17 09.3
PVCC *e*SG Sb 23 17 33.8 +18
comp=Z,260nm,1.1s
PVCC AMS AMS 23 18 20.0

comp=Z,700nm,8.4s
PVCC Panska Ves 6.95 347 *e*P **Pn** **23 15 34.6 +0.9**
PVCC *e* 23 16 49.4
PVCC smax smax
comp=N,260nm,1.1s
PVCC MLR MLR
comp=Z,700nm,8.4s
PVCC Panska Ves 6.95 347 Pn **Pn** **23 15 34.6 +0.9**
PVCC Sg Sb 23 17 33.8 +18
comp=Z,260nm,1.1s
TOUF Mont Tournerai 7.01 275 P **Pn** **23 15 35.4 +0.6**
TOUF S **Sn** **23 16 53.2 -0.4**
TOUF Mont Tournerai 7.01 275 P **Pn** **23 15 35.4 +0.6**
MANZ Manzenberg 7.04 334 *e*Pn **Pn** **23 15 36.0 +1.0**
MANZ Manzenberg 7.04 334 *e*Pn **Pn** **23 15 36.0 +1.0**
KWP Kalwaria Pacla 7.07 32 *e*P **Pn** **23 15 38.0 +2.7**
KWP *e*S **Sn** **23 16 54.2 -0.5**
KWP Kalwaria Pacla 7.07 32 *e*P **Pn** **23 15 38.1 +2.7**
KWP *e*S **Sn** **23 16 54.2 -0.5**
KSP Ksiaz 7.08 357 *e*P **Pn** **23 15 36.6 +1.0**
KSP *e*S Sb 23 17 07.6 -12
KSP Ksiaz 7.08 357 *e*P **Pn** **23 15 36.6 +1.0**
KSP Ksiaz 7.08 357 *e*P **Pn** **23 15 36.6 +1.0**
MVIF Mont Vial 7.08 274 P **Pn** **23 15 36.0 +0.3**
MVIF S **Sn** **23 16 55.0 -0.4**
MVIF Mont Vial 7.08 274 P **Pn** **23 15 36.0 +0.3**
VSL Villasalto 7.10 236 *e*Pn **Pn** **23 15 36.8 +0.9**
VSL *e*Sn **Sn** **23 16 56.8 +1.2**
VSL Villasalto 7.10 236 *e*Pn **Pn** **23 15 36.8 +0.9**
VSL *e*Sn **Sn** **23 16 56.8 +1.2**
GRA1 Grafenberg Arr 7.10 328 *e*Pn **Pn** **23 15 37.5 +1.6**
GRF Grafenberg Arr 7.10 328 *e*Pn **Pn** **23 15 37.5 +1.6**
GRFO Grafenberg 7.10 328 *e*P **Pn** **23 15 36.4 +0.6**
GRFO Grafenberg 7.10 328 *e*P **Pn** **23 15 36.4 +0.6**
GRFO Grafenberg 7.10 328 *e*Pn **Pn** **23 15 36.4 +0.6**
JMB Yambol 7.17 97 ||*i*P **Pn** **23 15 37.9 +1.1**
JMB Yambol 7.17 97 P **Pn** **23 15 37.7 +0.9**
JMB Yambol 7.17 97 P **Pn** **23 15 37.7 +0.9**
PLOR Plostina 7.21 70 ||*i*P **Pn** **23 15 37.7 +0.4**
PLOR Plostina 7.21 70 ||*i*P **Pn** **23 15 37.7 +0.4**
WERN Wernitzgruen 7.22 336 *e*Pn **Pn** **23 15 38.8 +1.3**
WERN Wernitzgruen 7.22 336 *e*Pn **Pn** **23 15 38.8 +1.3**
VRI Vrincioaia 7.26 70 *e*P **Pn** **23 15 37.4 -0.7**
VRI Vrincioaia 7.26 70 ⇑*i*P **Pn** **23 15 37.6 -0.5**
VRI Vrincioaia 7.26 70 ⇑*i*P **Pn** **23 15 37.6 -0.5**
CALN Calern 7.28 273 P **Pn** **23 15 39.4 +0.9**
CALN S **Sn** **23 17 00.3 +0.1**
CALN Calern 7.28 273 P **Pn** **23 15 39.4 +0.9**
GUNZ Gunzen 7.30 336 *e*Pn **Pn** **23 15 39.6 +1.0**
GUNZ Gunzen 7.30 336 *e*Pn **Pn** **23 15 39.6 +1.0**
SENIN Lac Senin/Sane 7.30 294 *e*Pn **Pn** **23 15 39.8 +1.0**
SENIN *e*Sn **Sn** **23 17 02.1 +1.3**
SENIN Lac Senin/Sane 7.30 294 *e*Pn **Pn** **23 15 39.9 +1.0**
SENIN *e*Sn **Sn** **23 17 02.1 +1.3**
TANN Tannenbergstha 7.31 337 *e*Pn **Pn** **23 15 39.8 +1.1**
TANN Tannenbergstha 7.31 337 *e*Pn **Pn** **23 15 39.8 +1.1**
SURF Saint Ours 7.33 279 P **Pn** **23 15 39.7 +0.6**
SURF Saint Ours 7.33 279 P **Pn** **23 15 39.7 +0.6**
ALN Alexandroupoli 7.33 110 *e*P **Pn** **23 15 39.6 +0.7**
ALN Alexandroupoli 7.33 110 *e*P **Pn** **23 15 40.7 +1.8**
STU Stuttgart 7.33 316 *e*Pn **Pn** **23 15 39.5 +0.5**
STU *e*Sn **Sn** **23 17 01.8 +0.6**
STU Stuttgart 7.33 316 *e*P **Pn** **23 15 39.8 +0.8**
STU *e* 23 17 02.3
STU Stuttgart 7.33 316 *e*P **Pn** **23 15 39.8 +0.8**
STU *e*S **Sn** **23 17 02.3 +1.0**
STU Stuttgart 7.33 316 *e*Pn **Pn** **23 15 39.8 +0.8**
STU *e*Sn **Sn** **23 17 02.3 +1.0**
MBDF Montbardon 7.37 281 *e*Pn **Pn** **23 15 38.3 -1.4**
SNR=1.0
MBDF *e*Sn **Sn** **23 16 57.5 -4.9**
comp=Z,75nm,0.6s
MBDF Montbardon 7.37 281 *e*P **Pn** **23 15 38.3 -1.4**
MBDF *e* 23 16 57.5
MBDF Montbardon 7.37 281 *e*Pn **Pn** **23 15 38.3 -1.4**
MBDF *e*Sn **Sn** **23 16 57.5 -4.9**
BRG Berggiesshubel 7.39 345 PN **Pn** **23 15 41.1 +1.3**
BRG *i* 23 15 52.2
BRG Berggiesshubel 7.39 345 SG Sb 23 17 17.8 -11
comp=Z,36nm,0.9s
comp=N,746nm,7.8s
comp=E,192nm,9.3s
comp=Z,1µm,7.5s
BRG Berggiesshubel 7.39 345 *e*Pn **Pn** **23 15 41.0 +1.3**
BRG Berggiesshubel 7.39 345 P **Pn** **23 15 41.1 +1.3**
BRG MLR MLR
comp=N,746nm,7.8s
BRG MLR MLR
comp=E,192nm,9.3s
BRG MLR MLR
comp=Z,1µm,7.5s
BRG Berggiesshubel 7.39 345 *e*Pn **Pn** **23 15 41.0 +1.3**
EDRB Edirne 7.46 102 *e*P **Pn** **23 15 40.7 -0.1**
BNI Bardonecchia 7.46 283 *e*P **Pn** **23 15 39.9 -1.0**
BNI *e* 23 17 02.3
BNI Bardonecchia 7.46 283 *e*P **Pn** **23 15 39.9 -1.0**
BNI Bardonecchia 7.46 283 *e*Pn **Pn** **23 15 39.9 -1.0**
BNI *e*Sn **Sn** **23 17 02.3 -2.4**
PLN Plauen 7.46 336 *e*Pn **Pn** **23 15 42.2 +1.4**
PLN Plauen 7.46 336 *e*Pn **Pn** **23 15 42.2 +1.4**
FELD Feldberg im Sc 7.47 306 P **Pn** **23 15 41.5 +0.5**
FRF La Foret Royal 7.47 272 *e*Pn **Pn** **23 15 40.2 -0.7**
SNR=1.0
FRF *e*Sn **Sn** **23 16 59.8 -4.9**
comp=Z,78nm,0.7s
FRF La Foret Royal 7.47 272 *e*P **Pn** **23 15 40.2 -0.7**
FRF *e* 23 16 59.8
FRF La Foret Royal 7.47 272 *e*Pn **Pn** **23 15 40.2 -0.7**
SNR=1.0
FRF La Foret Royal 7.47 272 *e*Pn **Pn** **23 15 40.2 -0.7**
FRF *e*Sn **Sn** **23 16 59.8 -4.9**
ENEZ Enez 7.47 111 *e*P **Pn** **23 15 40.5 -0.5**
LPG La Plagne 7.47 287 *e*Pn **Pn** **23 15 40.4 -0.8**
SNR=1.0
LPG *e*Sn **Sn** **23 17 00.0 -5.1**
comp=Z,374nm,1.1s,SNR=1.0
LPG La Plagne 7.47 287 *e*P **Pn** **23 15 40.4 -0.8**
LPG *e* 23 17 00.0
LPG La Plagne 7.47 287 *e*Pn **Pn** **23 15 40.4 -0.8**
SNR=1.0
LPG La Plagne 7.47 287 *e*Pn **Pn** **23 15 40.4 -0.8**
LPG *e*Sn **Sn** **23 17 00.0 -5.1**
LPL La Plagne 7.49 287 *e*Pn **Pn** **23 15 40.8 -0.6**
SNR=1.0
LPL *e*Sn **Sn** **23 17 00.5 -5.0**
comp=Z,101nm,0.5s
LPL La Plagne 7.49 287 *e*P **Pn** **23 15 40.8 -0.6**
LPL *e* 23 17 00.5
LPL La Plagne 7.49 287 *e*Pn **Pn** **23 15 40.8 -0.6**
SNR=1.0
LPL La Plagne 7.49 287 *e*Pn **Pn** **23 15 40.8 -0.6**
LPL *e*Sn **Sn** **23 17 00.5 -5.0**
BFO Black Forest 7.53 310 *e*Pn **Pn** **23 15 42.0 +0.3**
BFO Black Forest 7.53 310 *e*P **Pn** **23 15 42.0 +0.3**
BFO *e* 23 17 03.7
BFO Black Forest 7.53 310 *e*Pn **Pn** **23 15 42.0 +0.3**
BFO Black Forest 7.53 310 *e*Pn **Pn** **23 15 42.0 +0.3**
BFO *e*Sn **Sn** **23 17 03.7 -2.3**
GADA Gvkgeada 7.57 115 *e*P **Pn** **23 15 41.9 -0.4**
LMR La Mourre 7.60 270 *e*Pn **Pn** **23 15 42.4 -0.2**
SNR=1.0
LMR *e*Sn **Sn** **23 17 02.8 -4.9**
comp=Z,32nm,0.6s,SNR=1.0
LMR La Mourre 7.60 270 *e*P **Pn** **23 15 42.4 -0.2**
LMR *e* 23 17 02.8
LMR La Mourre 7.60 270 *e*Pn **Pn** **23 15 42.4 -0.2**
SNR=1.0
LMR La Mourre 7.60 270 *e*Pn **Pn** **23 15 42.4 -0.2**
LMR *e*Sn **Sn** **23 17 02.8 -4.9**
VLX Vlachokerasia 7.62 145 P **Pn** **23 15 43.0 0.0**
VLX Vlachokerasia 7.62 145 P **Pn** **23 15 43.0 0.0**
PRD Provadia 7.62 91 P **Pn** **23 15 44.2 +1.2**
PRD Provadia 7.62 91 P **Pn** **23 15 44.2 +1.2**
LVV L'vov 7.75 36 *e*P **Pn** **23 15 47.7 +2.9**
LVV *e*S **Sn** **23 17 11.4 -0.2**
LVV MLR MLR
comp=N,200nm,4.0s
LVV MLR MLR
comp=E,100nm,4.0s
LVV MLR MLR
comp=Z,200nm,4.0s
MOX Moxa 7.77 334 *e*Pn **Pn** **23 15 46.1 +1.1**
MOX Moxa 7.77 334 *e*Pn **Pn** **23 15 46.1 +1.1**
GELI Tayfur-Gelibol 7.85 112 *e*P **Pn** **23 15 45.8 -0.3**
GDM Grand'Maison 7.88 284 P **Pn** **23 15 47.0 +0.4**
GDM Grand'Maison 7.88 284 P **Pn** **23 15 47.0 +0.4**
KRND KRANIDI 7.94 141 *e*P **Pn** **23 15 45.9 -1.4**
HARR Harsova 7.94 80 ||*i*P **Pn** **23 15 47.2 -0.1**
HARR Harsova 7.94 80 ||*i*P **Pn** **23 15 47.2 -0.1**
LOMF Lomont 7.95 300 P **Pn** **23 15 48.4 +0.9**
LOMF Lomont 7.95 300 P **Pn** **23 15 48.4 +0.9**
MOF Molkenrain 7.97 304 P **Pn** **23 15 48.8 +0.9**
MOF Molkenrain 7.97 304 P **Pn** **23 15 48.8 +0.9**
CLL Collm 7.99 342 *e*Pn **Pn** **23 15 48.9 +0.9**
CLL Collm 7.99 342 *e*Pn **Pn** **23 15 49.0 +0.9**
CLL *e* 23 17 00.0
CLL *e*Sn Sn 23 17 07.0 -10
CLL *i* 23 17 16.7
CLL *e* 23 17 38.0
CLL *e*Sb **Sb** **23 17 43.0 -3.1**
CLL *e*Sg 23 18 06.0
CLL *e*Lmax 23 18 57.0
CLL Collm 7.99 342 *e*P **Pn** **23 15 49.0 +0.9**
CLL Collm 7.99 342 *e*Pn **Pn** **23 15 48.9 +0.9**
CLL Collm 7.99 342 *e*Pn **Pn** **23 15 47.3 -0.7**
ORIF Oris-en-Rattie 8.02 282 *e*Pn **Pn** **23 15 48.7 +0.2**
SNR=1.0
ORIF *e*Sn **Sn** **23 17 12.8 -5.4**
comp=Z,69nm,0.5s
ORIF Oris-en-Rattie 8.02 282 *e*P **Pn** **23 15 48.7 +0.2**
ORIF *e* 23 17 12.8
ORIF Oris-en-Rattie 8.02 282 *e*Pn **Pn** **23 15 48.7 +0.2**
SNR=1.0
ORIF Oris-en-Rattie 8.02 282 *e*Pn **Pn** **23 15 48.7 +0.2**
ORIF *e*Sn **Sn** **23 17 12.8 -5.4**
TOD Tromm 8.08 319 P **Pn** **23 15 49.9 +0.6**
TOD S **Sn** **23 17 20.9 +1.3**
SIGR SIGRI 8.09 121 *e*P **Pn** **23 15 51.1 +1.7**
CFR Carcaliu 8.12 76 ||*i*P **Pn** **23 15 50.1 +0.3**
CFR Carcaliu 8.12 76 ||*i*P **Pn** **23 15 50.1 +0.3**
HINF Hinteralfeld 8.13 303 *e*Pn **Pn** **23 15 49.7 -0.2**
SNR=1.0
HINF *e*Sn **Sn** **23 17 14.4 -6.4**
comp=Z,84nm,0.7s
HINF Hinteralfeld 8.13 303 *e*P **Pn** **23 15 49.7 -0.2**
HINF *e* 23 17 14.4
HINF Hinteralfeld 8.13 303 *e*Pn **Pn** **23 15 49.7 -0.2**
SNR=1.0
HINF Hinteralfeld 8.13 303 *e*Pn **Pn** **23 15 49.7 -0.2**
HINF *e*Sn Sn 23 17 14.4 -6.4
ECH Echery 8.13 306 P **Pn** **23 15 50.8 +0.8**
ECH S **Sn** **23 17 20.3 -0.6**
ECH Echery 8.13 306 P **Pn** **23 15 50.8 +0.8**
GRN Grenoble 8.14 284 P **Pn** **23 15 50.3 +0.1**
GRN Grenoble 8.14 284 P **Pn** **23 15 50.3 +0.1**
CDF Champ du Feu 8.16 308 *e*Pn **Pn** **23 15 50.4 -0.1**
SNR=1.0
CDF *e*Sn **Sn** **23 17 16.3 -5.5**
CDF *e*Sg Sb 23 18 06.7 +15
comp=Z,166nm,1.4s
CDF Champ du Feu 8.16 308 *e*P **Pn** **23 15 50.4 -0.1**
CDF *e* 23 17 16.3
CDF Champ du Feu 8.16 308 *e*Pn **Pn** **23 15 50.4 -0.1**
SNR=1.0
CDF Champ du Feu 8.16 308 *e*Pn **Pn** **23 15 50.4 -0.1**
CDF *e*Sn **Sn** **23 17 16.3 -5.5**
CDF *e*Sg Sb 23 18 06.7 +15
CABF La Chapelle 8.18 294 *e*Pn **Pn** **23 15 50.3 -0.4**
SNR=1.0
CABF *e*Sn **Sn** **23 17 16.5 -5.6**
comp=Z,52nm,0.6s,SNR=1.0
CABF La Chapelle 8.18 294 *e*P **Pn** **23 15 50.3 -0.4**
CABF *e* 23 17 16.5
CABF La Chapelle 8.18 294 *e*Pn **Pn** **23 15 50.3 -0.4**
SNR=1.0
CABF La Chapelle 8.18 294 *e*Pn **Pn** **23 15 50.3 -0.4**
CABF *e*Sn **Sn** **23 17 16.5 -5.6**
LANF Langenberg 8.19 313 P **Pn** **23 15 51.0 +0.3**
LANF Langenberg 8.19 313 P **Pn** **23 15 51.0 +0.3**
SMRF Simiane la Rot 8.22 275 *e*Pn **Pn** **23 15 51.5 +0.3**
SNR=1.0
SMRF *e*Sn Sn 23 17 17.3 -5.8
comp=Z,69nm,1.0s
SMRF Simiane la Rot 8.22 275 *e*Pn **Pn** **23 15 51.5 +0.3**
SNR=1.0
SMRF Simiane la Rot 8.22 275 *e*Pn **Pn** **23 15 51.5 +0.3**
SMRF *e*Sn Sn 23 17 17.3 -5.8
TIRR Tirgusor 8.28 81 *e*P **Pn** **23 15 50.9 -1.1**
TIRR Tirgusor 8.28 81 *e*P **Pn** **23 15 50.9 -1.1**
TIRR Tirgusor 8.28 81 *e*Pn **Pn** **23 15 50.9 -1.1**
BEL Belsk 8.47 16 *e*P **Pn** 23 16 05.7 +11
BEL *e*S **Sn** **23 17 28.4 -0.6**
BEL Belsk 8.47 16 *e*P Pn 23 16 05.7 +11
BEL *e*S **Sn** **23 17 28.4 -0.6**
UBBA Unterbreizbach 8.48 329 *e*Pn **Pn** **23 15 55.3 +0.7**
UBBA Unterbreizbach 8.48 329 *e*Pn **Pn** **23 15 55.3 +0.7**
HAU Haudompre 8.52 303 *e*Pn **Pn** **23 15 55.7 +0.5**
SNR=1.0
HAU *e*Sn Sn 23 17 24.1 -6.2
comp=Z,109nm,0.7s
HAU Haudompre 8.52 303 *e*P **Pn** **23 15 55.7 +0.5**
HAU *e* 23 17 24.1
HAU Haudompre 8.52 303 *e*Pn **Pn** **23 15 55.7 +0.5**
SNR=1.0
HAU Haudompre 8.52 303 *e*Pn **Pn** **23 15 55.7 +0.5**
HAU *e*Sn Sn 23 17 24.1 -6.2
TNS Taunus Mts 8.67 321 *e*Pn **Pn** **23 15 58.0 +0.6**
TNS Taunus Mts 8.67 321 *e*Pn **Pn** **23 15 58.0 +0.6**
THEF They Montfort 8.83 304 P **Pn** **23 16 00.3 +0.8**
THEF They Montfort 8.83 304 P **Pn** **23 16 00.3 +0.8**
VIVF Saint-Julien-l 8.87 281 *e*Pn **Pn** **23 15 59.0 -1.1**
SNR=1.0
VIVF *e*Sn Sn 23 17 33.2 -5.8
comp=Z,30nm,0.7s
VIVF Saint-Julien-l 8.87 281 *e*P **Pn** **23 15 59.0 -1.1**
VIVF *e* 23 17 33.2
VIVF Saint-Julien-l 8.87 281 *e*Pn **Pn** **23 15 59.0 -1.1**
SNR=1.0
VIVF Saint-Julien-l 8.87 281 *e*Pn **Pn** **23 15 59.0 -1.1**
VIVF *e*Sn Sn 23 17 33.2 -5.8
ABH Alteburg 8.87 317 P **Pn** **23 16 00.7 +0.6**
KIS Kishinev 8.95 65 *e* 23 17 03.0
KIS LRM MLR 23 20 02.0
comp=Z,500nm,12.0s
RUP Ruppelstein 9.01 315 P **Pn** **23 16 02.4 +0.4**
PAGF Fort de Pagny 9.13 305 *e*Pn **Pn** **23 16 05.5 +1.8**
baz=118
PAGF *e*Sn Sn 23 17 39.2 -6.3
comp=Z,15nm,0.8s
PAGF Fort de Pagny 9.13 305 *e*Pn **Pn** **23 16 05.5 +1.8**
PAGF Fort de Pagny 9.13 305 *e*Pn **Pn** **23 16 05.5 +1.8**
PAGF *e*Sn Sn 23 17 39.2 -6.3
APE Apeiranthos 9.36 133 *de*P **Pn** **23 16 05.4 -1.5**
APE Apeiranthos 9.36 133 *e*P **Pn** **23 16 05.4 -1.5**
SFTF Sexfontaines 9.40 302 *e*Pn **Pn** **23 16 07.8 +0.5**
baz=124
SFTF *e*Sn Sn 23 17 45.4 -6.5
comp=Z,43nm,0.8s
SFTF Sexfontaines 9.40 302 *e*Pn **Pn** **23 16 07.8 +0.5**
SFTF Sexfontaines 9.40 302 *e*Pn **Pn** **23 16 07.8 +0.5**
SFTF *e*Sn Sn 23 17 45.4 -6.5
LASF Ste Croix 9.45 276 *e*Pn **Pn** **23 16 07.0 -1.1**
SNR=1.0
LASF Ste Croix 9.45 276 *e*Pn **Pn** **23 16 07.0 -1.1**
SNR=1.0
LASF Ste Croix 9.45 276 *e*Pn **Pn** **23 16 07.0 -1.1**
WLF Walferdange 9.46 312 P **Pn** **23 16 09.1 +0.9**
comp=Z,19nm,1.3s
WLF Walferdange 9.46 312 *e*P **Pn** **23 16 08.4 +0.2**
WLF Walferdange 9.46 312 *e*P **Pn** **23 16 08.4 +0.2**
WLF Walferdange 9.46 312 *e*Pn **Pn** **23 16 08.4 +0.2**
MEZF Maizieres J'vi 9.51 304 *e*Pn **Pn** **23 16 10.0 +1.2**
baz=120,SNR=1.0
MEZF *e*Sn Sn 23 17 47.9 -6.8
comp=Z,126nm,1.3s
MEZF Maizieres J'vi 9.51 304 *e*Pn **Pn** **23 16 10.0 +1.2**
SNR=1.0
MEZF Maizieres J'vi 9.51 304 *e*Pn **Pn** **23 16 10.0 +1.2**
MEZF *e*Sn Sn 23 17 47.9 -6.8
SMF Signal de Mont 9.69 292 *e*Pn **Pn** **23 16 10.4 -0.9**
SNR=1.0
SMF *e*Sn Sn 23 17 52.4 -6.7
comp=Z,52nm,0.6s
SMF Signal de Mont 9.69 292 *e*P **Pn** **23 16 10.4 -0.9**
SMF *e* 23 17 52.4
SMF Signal de Mont 9.69 292 *e*Pn **Pn** **23 16 10.4 -0.9**
SNR=1.0
SMF Signal de Mont 9.69 292 *e*Pn **Pn** **23 16 10.4 -0.9**
SMF *e*Sn Sn 23 17 52.4 -6.7
PLDF La Plantade 9.71 288 P **Pn** **23 16 11.3 -0.4**
PLDF La Plantade 9.71 288 P **Pn** **23 16 11.3 -0.4**
LOR Lormes 9.83 295 *e*Pn **Pn** **23 16 12.5 -0.7**
baz=117,SNR=1.0
LOR *e*Sn Sn 23 17 56.2 -6.3
comp=Z,46nm,0.6s
LOR Lormes 9.83 295 *e*P **Pn** **23 16 12.5 -0.7**
LOR *e* 23 17 56.2
LOR Lormes 9.83 295 *e*Pn **Pn** **23 16 12.5 -0.7**
SNR=1.0
LOR Lormes 9.83 295 *e*Pn **Pn** **23 16 12.5 -0.7**
LOR *e*Sn Sn 23 17 56.2 -6.3
SANT Santorini 9.86 136 *e*Pn **Pn** **23 16 15.2 +1.5**
SANT Santorini 9.86 136 *e*Pn **Pn** **23 16 15.2 +1.5**
LBL Lubilhac 9.90 283 P **Pn** **23 16 14.2 0.0**
LBL Lubilhac 9.90 283 P **Pn** **23 16 14.2 0.0**
KEST Kesra 9.94 219 Pn **Pn** **23 16 16.9 +2.1**
comp=Z,0.2nm,0.3s,baz=344,slow=10,SNR=9.5
KEST Kesra 9.94 219 *e*Pn Pn 23 16 18.0 +3.2
KEST Kesra 9.94 219 *e*Pn Pn 23 16 18.0 +3.2
SSF Saint Saulge 10.01 294 *e*Pn **Pn** **23 16 14.8 -0.8**
SNR=1.0
SSF *e*Sn Sn 23 17 59.7 -7.2
comp=Z,22nm,0.6s
SSF Saint Saulge 10.01 294 *e*P **Pn** **23 16 14.8 -0.8**
SSF *e* 23 17 59.7
SSF Saint Saulge 10.01 294 *e*Pn **Pn** **23 16 14.8 -0.8**
SNR=1.0
SSF Saint Saulge 10.01 294 *e*Pn **Pn** **23 16 14.8 -0.8**
SSF *e*Sn Sn 23 17 59.7 -7.2
AVF Avril sur Loir 10.04 292 *e*Pn **Pn** **23 16 15.3 -0.9**
SNR=1.0
AVF *e*Sn Sn 23 18 01.0 -6.8
comp=Z,45nm,0.8s
AVF Avril sur Loir 10.04 292 *e*P **Pn** **23 16 15.3 -0.9**
AVF *e* 23 18 01.0
AVF Avril sur Loir 10.04 292 *e*Pn **Pn** **23 16 15.3 -0.9**
SNR=1.0
AVF Avril sur Loir 10.04 292 *e*Pn **Pn** **23 16 15.3 -0.9**
AVF *e*Sn Sn 23 18 01.0 -6.8
AGO Saint Agoulin 10.06 288 P **Pn** **23 16 15.9 -0.5**
AGO Saint Agoulin 10.06 288 P **Pn** **23 16 15.9 -0.5**
MEM Membach 10.10 316 P **Pn** **23 16 17.1 +0.2**
comp=Z,7.8nm,0.9s
MEM Membach 10.10 316 *e*P **Pn** **23 16 18.8 +1.9**
MEM Membach 10.10 316 *e*P **Pn** **23 16 18.8 +1.9**
MEM Membach 10.10 316 *e*Pn **Pn** **23 16 18.8 +1.9**
PYM Petit Puy Mans 10.11 286 P **Pn** **23 16 16.7 -0.5**
PYM Petit Puy Mans 10.11 286 P **Pn** **23 16 16.7 -0.5**
HGN Heimansgroeve 10.23 317 *e*Pn **Pn** **23 16 19.5 +0.8**
comp=Z,5.5nm,0.6s
HGN Heimansgroeve 10.23 317 *e*Pn **Pn** **23 16 19.5 +0.8**
comp=Z,5.5nm,0.6s
BGF Bois d'Agland 10.34 291 *e*Pn **Pn** **23 16 19.5 -0.7**
SNR=1.0
BGF *e*Sn Sn 23 18 08.0 -7.1
comp=Z,49nm,0.5s
BGF Bois d'Agland 10.34 291 *e*P **Pn** **23 16 19.5 -0.7**
BGF *e* 23 18 08.0
BGF Bois d'Agland 10.34 291 *e*Pn **Pn** **23 16 19.5 -0.7**
SNR=1.0
BGF Bois d'Agland 10.34 291 *e*Pn **Pn** **23 16 19.5 -0.7**
BGF *e*Sn Sn 23 18 08.0 -7.1
BCLA Clavier 10.35 314 P **Pn** **23 16 22.2 +2.0**
BCLA Clavier 10.35 314 P **Pn** **23 16 22.2 +2.0**
BEBN Eben Emael 10.38 317 P **Pn** **23 16 23.2 +2.5**
comp=Z,5.9nm,0.9s
BEBN Eben Emael 10.38 317 P **Pn** **23 16 23.2 +2.5**
comp=Z,5.9nm,0.9s
GIVF Givet 10.42 312 *e*Pn **Pn** **23 16 23.3 +2.0**
SNR=1.0
GIVF *e*Sg Sn 23 19 17.1 +60
comp=Z,99nm,1.2s
GIVF Givet 10.42 312 *e*P **Pn** **23 16 23.3 +2.0**
GIVF Givet 10.42 312 *e*Pn **Pn** **23 16 23.3 +2.0**
SNR=1.0
GIVF Givet 10.42 312 *e*Pn **Pn** **23 16 23.3 +2.0**
GIVF *e*Sg Sn 23 19 17.1 +60
IDI Anoyia 10.46 141 Pn **Pn** **23 16 19.6 -2.3**
comp=Z,1.4nm,0.3s,baz=331,slow=14,SNR=16
IDI Sn Sn 23 18 09.6 -8.5
comp=Z,3.2nm,0.3s,baz=254,slow=23,SNR=6.3
GVD Gavdhos 10.49 146 *e*Pn **Pn** **23 16 19.6 -2.8**
GVD *e*Sn **Sn** **23 18 14.4 -4.5**
DOU Dourbes 10.54 311 P **Pn** **23 16 25.1 +2.2**
DOU Dourbes 10.54 311 P **Pn** **23 16 25.1 +2.2**
HYF Humbligny 10.63 294 *e*Pn **Pn** **23 16 24.1 -0.1**
HYF *e*Sn Sn 23 18 14.9 -7.3
HYF Humbligny 10.63 294 *e*Pn **Pn** **23 16 24.1 -0.1**
HYF Humbligny 10.63 294 *e*Pn **Pn** **23 16 24.1 -0.1**
HYF *e*Sn Sn 23 18 14.9 -7.3
WTSB Winterswijk 10.65 324 *e*Pn **Pn** **23 16 26.8 +2.4**
comp=Z,6.4nm,0.5s
WTSB Winterswijk 10.65 324 *e*Pn **Pn** **23 16 26.8 +2.4**
comp=Z,6.4nm,0.5s
MTLF Montolieu 10.70 273 *e*Pn **Pn** **23 16 25.4 +0.2**
MTLF Montolieu 10.70 273 *e*P **Pn** **23 16 25.4 +0.2**
MTLF Montolieu 10.70 273 *e*Pn **Pn** **23 16 25.4 +0.2**
MTLF Montolieu 10.70 273 *e*Pn **Pn** **23 16 25.4 +0.2**
CAF Calviac 10.72 281 *e*Pn **Pn** **23 16 24.9 -0.6**
SNR=1.0
CAF *e*Sn Sn 23 18 17.4 -7.2
comp=Z,27nm,1.0s
CAF Calviac 10.72 281 *e*P **Pn** **23 16 24.9 -0.6**
CAF *e* 23 18 17.4
CAF Calviac 10.72 281 *e*Pn **Pn** **23 16 24.9 -0.6**
SNR=1.0
CAF Calviac 10.72 281 *e*Pn **Pn** **23 16 24.9 -0.6**
CAF *e*Sn Sn 23 18 17.4 -7.2
TCF Toulx Ste Croi 10.73 289 *e*Pn **Pn** **23 16 24.3 -1.3**
SNR=1.0
TCF *e*Sn Sn 23 18 17.7 -7.0
comp=Z,46nm,1.0s
TCF Toulx Ste Croi 10.73 289 *e*P **Pn** **23 16 24.3 -1.3**
TCF *e* 23 18 17.7
TCF Toulx Ste Croi 10.73 289 *e*Pn **Pn** **23 16 24.3 -1.3**
TCF *e*Sn Sn 23 18 17.7 -7.0
BAIF Baives 10.74 310 *e*Pn **Pn** **23 16 26.8 +1.2**
SNR=1.0
BAIF *e*Sg 23 19 27.0
comp=Z,145nm,1.8s
BAIF Baives 10.74 310 *e*P **Pn** **23 16 26.8 +1.2**
BAIF Baives 10.74 310 *e*Pn **Pn** **23 16 26.8 +1.2**
SNR=1.0
BAIF Baives 10.74 310 *e*Pn **Pn** **23 16 26.8 +1.2**
BAIF *e*Sg 23 19 27.0
KIEV Kiev 10.83 46 ||*e*P **Pn** **23 16 27.1 +0.3**
KIEV Kiev 10.83 46 *e*Pn **Pn** **23 16 24.8 -2.0**
KIEV Kiev 10.83 46 *e*P **Pn** **23 16 27.1 +0.3**
KIEV Kiev 10.83 46 *e*Pn **Pn** **23 16 24.8 -2.0**
AKASG Malin Array Be 10.84 46 Pn **Pn** **23 16 26.7 -0.3**
comp=Z,0.5nm,0.3s,baz=231,slow=12,SNR=5.6
AKASG Sn Sn 23 18 20.5 -6.7
comp=Z,0.1nm,0.3s,baz=234,slow=24,SNR=2.9
SUW Suwalki 11.03 20 *e*P **Pn** **23 16 30.7 +1.2**
SUW *e*S **Sn** **23 18 30.4 -1.4**
SUW Suwalki 11.03 20 *e*P **Pn** **23 16 30.8 +1.2**
SUW *e*S **Sn** **23 18 30.5 -1.4**
SUW Suwalki 11.03 20 *e*P **Pn** **23 16 30.8 +1.2**
SUW *e*S **Sn** **23 18 30.5 -1.4**
RJF Les Rejaudoux 11.12 283 *e*Pn **Pn** **23 16 29.6 -1.3**
SNR=1.0
RJF *e*Sn Sn 23 18 26.8 -7.5
comp=Z,18nm,0.8s
RJF Les Rejaudoux 11.12 283 *e*P **Pn** **23 16 29.6 -1.3**
RJF *e* 23 18 26.8
RJF Les Rejaudoux 11.12 283 *e*Pn **Pn** **23 16 29.6 -1.3**
RJF *e*Sn Sn 23 18 26.8 -7.5
LFF La Frestale 11.66 281 *e*Pn **Pn** **23 16 37.0 -1.3**
LFF La Frestale 11.66 281 *e*P **Pn** **23 16 37.0 -1.3**
LFF La Frestale 11.66 281 *e*Pn **Pn** **23 16 37.0 -1.3**
EPF Esparros 12.11 272 *e*Pn **Pn** **23 16 44.0 -0.4**
EPF Esparros 12.11 272 *e*P **Pn** **23 16 44.0 -0.4**
EPF Esparros 12.11 272 *e*Pn **Pn** **23 16 44.0 -0.4**
EPF Esparros 12.11 272 *e*Pn **Pn** **23 16 44.0 -0.4**
MFF Saint Martin d 12.39 289 *e*Pn **Pn** **23 16 46.7 -1.5**
SNR=1.0
MFF *e*Sn Sn 23 18 57.2 -8.0
comp=Z,13nm,0.7s
MFF Saint Martin d 12.39 289 *e*P **Pn** **23 16 46.7 -1.5**

MFF				*e*				23 18 57.2	
MFF	**Saint Martin d**	**12.39**	**289**	*e*Pn		**Pn**	**23 16 46.7**	**-1.5**
MFF				*e*Sn		Sn	23 18 57.2	-8.0
LDF	**La Druitiere**	**12.77**	**298**	*e*Pn		**Pn**	**23 16 53.6**	**+0.3**
LDF				*e*Sn		Sn	23 19 06.0	-8.4
	comp=Z,44nm,1.2s								
LDF	**La Druitiere**	**12.77**	**298**	*e*P		**Pn**	**23 16 53.6**	**+0.3**
LDF	**La Druitiere**	**12.77**	**298**	*e*Pn		**Pn**	**23 16 53.6**	**+0.3**
LDF	**La Druitiere**	**12.77**	**298**	*e*Pn		**Pn**	**23 16 53.6**	**+0.3**
LDF				*e*Sn		Sn	23 19 06.0	-8.4
ETSF	**Etsaut**	**12.78**	**272**	*e*Pn		**Pn**	**23 16 53.4**	**-0.2**
ETSF	**Etsaut**	**12.78**	**272**	*e*P		**Pn**	**23 16 53.4**	**-0.2**
ETSF	**Etsaut**	**12.78**	**272**	*e*Pn		**Pn**	**23 16 53.4**	**-0.2**
ETSF	**Etsaut**	**12.78**	**272**	*e*Pn		**Pn**	**23 16 53.4**	**-0.2**
FLN	**La Foliniere**	**13.04**	**299**	*e*Pn		**Pn**	**23 16 57.3**	**+0.2**
	baz=125,SNR=1.0								
FLN	**La Foliniere**	**13.04**	**299**	*e*P		**Pn**	**23 16 57.3**	**+0.2**
FLN	**La Foliniere**	**13.04**	**299**	*e*Pn		**Pn**	**23 16 57.3**	**+0.2**
	SNR=1.0								
FLN	**La Foliniere**	**13.04**	**299**	*e*Pn		**Pn**	**23 16 57.3**	**+0.2**
BRTR	**Keskin Array B**	**13.10**	**102**	Pn		**Pn**	**23 17 00.2**	**+2.1**
	comp=Z,0.0nm,0.3s,baz=302,slow=12,SNR=3.9								
GRR	**Gorron**	**13.19**	**297**	*e*Pn		**Pn**	**23 16 57.2**	**-1.9**
	SNR=1.0								
GRR				*e*Sn		Sn	23 19 16.1	-8.6	
	comp=Z,43nm,1.3s								
GRR	**Gorron**	**13.19**	**297**	*e*P		**Pn**	**23 16 57.2**	**-1.9**	
GRR	**Gorron**	**13.19**	**297**	*e*Pn		**Pn**	**23 16 57.2**	**-1.9**	
GRR				*e*Sn		Sn	23 19 16.1	-8.6	
SJPF	**Ste Jean**	**13.23**	**273**	*e*Pn		**Pn**	**23 16 59.5**	**-0.2**	
SJPF	**Ste Jean**	**13.23**	**273**	*e*P		**Pn**	**23 16 59.5**	**-0.2**	
SJPF	**Ste Jean**	**13.23**	**273**	*e*Pn		**Pn**	**23 16 59.5**	**-0.2**	
SJPF	**Ste Jean**	**13.23**	**273**	*e*Pn		**Pn**	**23 16 59.5**	**-0.2**	
SGMF	**Saint Gilles**	**14.27**	**295**	*e*Pn		**Pn**	**23 17 12.9**	**-0.9**	
SGMF	**Saint Gilles**	**14.27**	**295**	*e*P		**Pn**	**23 17 12.9**	**-0.9**	
SGMF	**Saint Gilles**	**14.27**	**295**	*e*Pn		**Pn**	**23 17 12.9**	**-0.9**	
SGMF	**Saint Gilles**	**14.27**	**295**	*e*Pn		**Pn**	**23 17 12.9**	**-0.9**	
QUIF	**Quistinic**	**14.61**	**293**	*e*Pn		**Pn**	**23 17 16.7**	**-1.8**	
	SNR=1.0								
QUIF	**Quistinic**	**14.61**	**293**	*e*P		**Pn**	**23 17 16.7**	**-1.8**	
QUIF	**Quistinic**	**14.61**	**293**	*e*Pn		**Pn**	**23 17 16.7**	**-1.8**	
ANN	**Anapa**	**14.71**	**79**	*e*P		**Pn**	**23 17 21.2**	**+1.4**	
ANN					pmax	pmax			
	comp=Z,17nm,0.9s								
ROSF	**Rostrenen**	**14.75**	**295**	*e*Pn		**Pn**	**23 17 18.2**	**-2.2**	
ROSF				*e*Sn		Sn	23 19 53.5	-9.3	
	comp=Z,22nm,0.9s								
ROSF	**Rostrenen**	**14.75**	**295**	*e*P		**Pn**	**23 17 18.2**	**-2.2**	
ROSF				*e*			23 19 53.5		
ROSF	**Rostrenen**	**14.75**	**295**	*e*Pn		**Pn**	**23 17 18.2**	**-2.2**	
ROSF				*e*Sn		Sn	23 19 53.5	-9.3	
CSS	**Prodhromos**	**15.41**	**119**	*e*Pn		**Pn**	**23 17 30.1**	**+0.9**	
	comp=Z,4.3nm,0.9s								
CSS	**Prodhromos**	**15.41**	**119**	*e*Pn		**Pn**	**23 17 30.1**	**+0.9**	
	comp=Z,4.3nm,0.9s								
VSU	**Vasula**	**15.91**	**19**	*e*P		**Pn**	**23 17 35.6**	**+0.1**	
VSU					pmax	pmax			
	comp=Z,54nm,0.6s								
ESDC	**Sonseca Array**	**16.13**	**262**	Pn		**Pn**	**23 17 36.8**	**-1.8**	
	comp=Z,0.1nm,0.3s,baz=76,slow=13,SNR=3.0								
HFS	**Hagfors**	**16.50**	**354**	Pn		**Pn**	**23 17 43.2**	**+0.2**	
	comp=Z,0.5nm,0.3s,baz=163,slow=11,SNR=14								
VSR	**Storozhevoye**	**16.72**	**56**	*e*P		**Pn**	**23 17 46.1**	**+0.3**	
VSR					pmax	pmax			
	comp=N,2.0nm,0.8s								
VSR					pmax	pmax			
	comp=E,3.0nm,0.8s								
VSR					pmax	pmax			
	comp=Z,5.0nm,0.8s								
VSR	**Storozhevoye**	**16.72**	**56**	*e*P		**Pn**	**23 17 46.1**	**+0.3**	
OBN	**Obninsk**	**17.00**	**41**	LR		LR	23 24 33.6		
	comp=Z,80nm,19.3s,baz=267,slow=38								
OBN	**Obninsk**	**17.00**	**41**	*e*P		**P**	**23 17 50.7**	**-0.4**	
OBN					pmax	pmax			
	comp=Z,7.0nm,0.9s								
OBN					MLR	MLR			
	comp=Z,113nm,15.0s								
OBN	**Obninsk**	**17.00**	**41**	*e*P		**P**	**23 17 50.7**	**-0.4**	
	comp=Z,113nm,15.0s								
LPSR	**Galich'ya Gora**	**17.05**	**51**	*e*P		**P**	**23 17 53.2**	**+1.6**	
LPSR					pmax	pmax			
	comp=N,120nm,0.5s								
LPSR					pmax	pmax			
	comp=E,160nm,0.5s								
LPSR					pmax	pmax			
	comp=Z,20nm,0.5s								
LPSR	**Galich'ya Gora**	**17.05**	**51**	*e*P		**P**	**23 17 53.2**	**+1.6**	
EKA	**Eskdalemuir Ar**	**17.36**	**319**	P		**Pn**	**23 17 53.2**	**-0.6**	
	baz=117,slow=12,SNR=17								
NB2	**NORSAR Subarra**	**17.63**	**351**	P		**Pn**	**23 17 57.5**	**+0.3**	
	comp=Z,1.4nm,0.7s,baz=166,slow=11								
NB2	**NORSAR Subarra**	**17.63**	**351**	P		**Pn**	**23 17 57.5**	**+0.3**	
	comp=Z,1.4nm,0.7s,SNR=8.0								
NOA	**NORSAR Array B**	**17.63**	**351**	P		**Pn**	**23 17 56.9**	**-0.3**	
	comp=Z,0.3nm,0.3s,baz=171,slow=12,SNR=7.6								
NOA					LR	LR	23 25 09.5		
	comp=Z,40nm,21.3s,baz=155,slow=39								
MMAI	**Mount Meron Ar**	**17.98**	**120**	P		**P**	**23 18 02.6**	**+0.5**	
	comp=Z,1.0nm,0.3s,baz=319,slow=11,SNR=8.7								
MMAI					LR	LR	23 26 07.7		
	comp=Z,54nm,19.7s,baz=315,slow=41								
VRHR	**Novokhopersk**	**18.17**	**58**	*e*P		**Pn**	**23 18 00.3**	**-3.6**	
VRHR					pmax	pmax			
	comp=N,10.0nm,0.8s								
VRHR					pmax	pmax			
	comp=E,30nm,0.8s								
VRHR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
FINES	**FINESS Array B**	**18.51**	**14**	P		**P**	**23 18 07.4**	**-0.2**	
	comp=Z,0.6nm,0.3s,baz=180,slow=11,SNR=29								
FINES					S	Sn	23 21 24.2	-10	
	comp=Z,0.0nm,0.3s,baz=192,slow=27,SNR=2.6								
FINES					LR	LR	23 25 55.9		
	comp=Z,119nm,20.7s,baz=181,slow=39								
KIV	**Kislovodsk**	**18.54**	**80**	*e*P		**P**	**23 18 08.4**	**+0.2**	
KIV					pmax	pmax			
	comp=Z,4.0nm,1.0s								
KIV					MLR	MLR			
	comp=Z,21nm,13.0s								
KIV	**Kislovodsk**	**18.54**	**80**	*e*P		**P**	**23 18 08.4**	**+0.2**	
	comp=Z,21nm,13.0s								
KBZ	**Khabaz**	**18.73**	**81**	P		**Pn**	**23 18 10.5**	**-0.2**	
	comp=Z,0.1nm,0.3s,baz=288,slow=3.2,SNR=3.1								
ASF	**Jabal al Asfar**	**19.48**	**120**	P		**Pn**	**23 18 20.3**	**+0.4**	
	comp=Z,0.1nm,0.3s,baz=14,slow=4.2,SNR=2.8								
MDT	**Midelt**	**20.09**	**244**	P		**P**	**23 18 25.3**	**0.0**	
	comp=Z,1.5nm,0.6s,baz=75,slow=13,SNR=5.2								
EIL	**Elat**	**20.10**	**128**	P		**P**	**23 18 26.3**	**+1.0**	
	comp=Z,2.2nm,0.6s,baz=9,slow=11,SNR=4.5								
GNI	**Garni**	**20.94**	**90**	P		**P**	**23 18 35.6**	**+1.2**	
	comp=Z,2.6nm,0.5s,baz=227,slow=2.9,SNR=5.6								
GNI	**Garni**	**20.94**	**90**	*de*P		**P**	**23 18 35.7**	**+1.2**	
GNI					pmax	pmax			
	comp=Z,22nm,1.7s								
GNI	**Garni**	**20.94**	**90**	*e*P		**P**	**23 18 34.3**	**-0.2**	
	comp=Z,11nm,1.0s								
GNI	**Garni**	**20.94**	**90**	*e*P		**P**	**23 18 34.3**	**-0.2**	
	comp=Z,11nm,1.0s								
ARCES	**ARCESS Array B**	**26.20**	**7**	P		**P**	**23 19 25.4**	**-0.3**	
	comp=Z,1.8nm,0.3s,baz=187,slow=14,SNR=2.1								
ARCES					LR	LR	23 30 11.4		
	comp=Z,69nm,20.3s,baz=218,slow=38								
ARU	**Arti**	**29.06**	**49**	*c iP*		**P**	**23 19 50.3**	**-1.1**	
ARU							23 20 39.9		
ARU					S	**S**	**23 24 41.1**	**+0.1**	
ARU					pmax	pmax			
	comp=Z,8.0nm,1.0s								
ARU	**Arti**	**29.06**	**49**	*e*P		**P**	**23 19 50.5**	**-0.9**	
	comp=Z,6.2nm,0.9s								
ARU					S	**S**	**23 24 41.1**	**+0.1**	
ARU	**Arti**	**29.06**	**49**	*e*P		**P**	**23 19 50.5**	**-0.9**	
	comp=Z,6.2nm,0.9s								
BORG	**Borgarnes**	**29.92**	**328**	LR		LR	23 33 25.7		
	comp=Z,84nm,19.4s,baz=7.1,slow=39								
SVE	**Sverdlovsk**	**30.25**	**49**	*e*P		**P**	**23 20 02.0**	**0.0**	
SVE					pmax	pmax			
	comp=Z,10.0nm,1.1s								
SVE	**Sverdlovsk**	**30.25**	**49**	*e*P		**P**	**23 20 02.0**	**0.0**	
	comp=Z,10.0nm,1.1s								
TORD	**Torodi Ar. Bea**	**33.22**	**208**	P		**P**	**23 20 28.1**	**-0.3**	
	comp=Z,0.5nm,0.4s,baz=14,slow=8.9,SNR=17								
BRVK	**Borovoye**	**35.83**	**56**	*de*P		**P**	**23 20 50.3**	**-0.4**	
BRVK					pmax	pmax			
	comp=Z,5.0nm,0.6s								
BRVK	**Borovoye**	**35.83**	**56**	*e*P		**P**	**23 20 50.3**	**-0.4**	
	comp=Z,5.0nm,0.6s								
BVAR	**Borovoye Array**	**35.90**	**56**	P		**P**	**23 20 51.5**	**+0.2**	
	comp=Z,2.1nm,0.7s,baz=258,slow=7.4,SNR=11								
DBIC	**Dimbokro**	**41.62**	**214**	P		**P**	**23 21 40.1**	**+0.6**	
	comp=Z,4.7nm,1.0s,baz=0.3,slow=11,SNR=5.7								
NVS	**Novosibirsk**	**43.04**	**51**	*e*P		**P**	**23 21 50.8**	**+0.1**	
NVS	**Novosibirsk**	**43.04**	**51**	*e*P		**P**	**23 21 50.8**	**+0.1**	
KSH	**Kashi**	**43.51**	**74**	P		**P**	**23 21 55.3**	**+0.4**	
KSH					*ep*P		**pP**	**23 22 05.3**	**+2.0**
KSH					PcP		**PP**	**23 23 38.4**	**+2.3**
ZAA0	**Zalesovo Array**	**44.16**	**52**	*e*P		**P**	**23 21 59.0**	**-0.8**	
ZAA0	**Zalesovo Array**	**44.16**	**52**	*e*P		**P**	**23 21 59.0**	**-0.8**	
ZALV	**Zalesovo Beam**	**44.16**	**52**	P		**P**	**23 21 59.4**	**-0.4**	
	comp=Z,2.6nm,0.6s,baz=283,slow=8.3,SNR=10								
ZALV					LR	LR	23 41 23.8		
	comp=Z,64nm,18.4s,baz=250,slow=37								
ZALV	**Zalesovo Beam**	**44.16**	**52**	*i* P		**P**	**23 21 59.5**	**-0.3**	
ZALV					pmax	pmax			
	comp=Z,3.0nm,0.6s								
ZALV	**Zalesovo Beam**	**44.16**	**52**	*i* P		**P**	**23 21 59.5**	**-0.3**	
	comp=Z,3.0nm,0.6s								
MK01	**Makanchi Array**	**44.90**	**62**	*e*P		**P**	**23 22 04.6**	**-1.2**	
MK01	**Makanchi Array**	**44.90**	**62**	*e*P		**P**	**23 22 04.6**	**-1.2**	
WMQ	**Urumqi**	**49.57**	**64**	P		**P**	**23 22 45.1**	**+2.9**	
WMQ					pP		**pP**	**23 22 51.1**	**+0.3**
WMQ					sP		**sP**	**23 22 54.0**	**-0.1**
WMQ					PP		**PP**	**23 24 39.9**	**+3.5**
WMQ					S		**S**	**23 29 47.9**	**-0.5**
WMQ					PMZ				
	comp=Z,7.0nm,0.4s								
WMQ					PMZ				
	comp=Z,67nm,4.8s								
WMQ					LN				
	comp=Z,18nm,6.8s								
WMQ					LE				
	comp=Z,19nm,7.5s								
WMQ					LZ				
	comp=Z,23nm,20.2s								
FRB	**Frobisher Bay**	**50.00**	**325**	P		**P**	**23 22 44.6**	**-0.5**	
	comp=Z,4.8nm,0.6s,baz=74,slow=9.6,SNR=5.3								
SCHQ	**Schefferville**	**52.58**	**314**	P		**P**	**23 23 04.1**	**-0.5**	
	comp=Z,4.9nm,0.7s,baz=65,slow=6.5,SNR=6.6								
TIXI	**Tiksi**	**55.37**	**21**	*e*P		**P**	**23 23 24.4**	**-0.3**	
TIXI					pmax	pmax			
	comp=Z,4.0nm,1.7s								
TIXI	**Tiksi**	**55.37**	**21**	*e*P		**P**	**23 23 24.4**	**-0.3**	
	comp=Z,4.0nm,1.7s								
TLY	**Talaya**	**55.56**	**49**	*e*P		**P**	**23 23 25.6**	**-0.9**	
TLY					pmax	pmax			
	comp=Z,9.0nm,0.8s								
TLY	**Talaya**	**55.56**	**49**	*e*P		**P**	**23 23 25.6**	**-0.9**	
	comp=Z,9.0nm,0.8s								
TLY	**Talaya**	**55.56**	**49**	*e*P		**P**	**23 23 25.6**	**-0.9**	
	comp=Z,8.8nm,0.8s								
SONA1	**Songino Array**	**59.06**	**52**	*e*P		**P**	**23 23 50.9**	**-0.4**	
SONA1	**Songino Array**	**59.06**	**52**	*e*P		**P**	**23 23 50.9**	**-0.4**	
SONM	**Songino Array**	**59.06**	**52**	P		**P**	**23 23 51.2**	**-0.1**	
	comp=Z,1.5nm,0.8s,baz=287,slow=9.0,SNR=9.8								
SADO	**Sadowa**	**64.59**	**308**	P		**P**	**23 24 27.2**	**-1.2**	
	comp=Z,1.9nm,0.6s,baz=324,slow=4.2,SNR=3.6								
INK	**Inuvik**	**66.07**	**348**	P		**P**	**23 24 37.1**	**-0.5**	
	comp=Z,2.1nm,0.6s,baz=87,slow=3.4,SNR=7.3								
HHC	**Hu-ho-hao-te**	**66.11**	**56**	*e*P		**P**	**23 24 37.5**	**-1.0**	
HHC					S	S	23 33 18.1	-7.0	
HHC					PMZ				
	comp=Z,13nm,1.0s								
HHC					PMZ				
	comp=Z,64nm,6.6s								
YKA	**Yellowknife Ar**	**67.20**	**338**	P		**P**	**23 24 44.7**	**-0.2**	
	comp=Z,1.8nm,0.7s,baz=37,slow=5.5,SNR=9.9								
CD2	**Chengdu**	**67.23**	**69**	*e*P		**P**	**23 24 44.0**	**-1.7**	
COLD	**Coldfoot**	**68.89**	**355**	*e*P		**P**	**23 24 55.9**	**+0.5**	
	comp=Z,2.6nm,0.9s								
COLD	**Coldfoot**	**68.89**	**355**	*e*P		**P**	**23 24 55.9**	**+0.5**	
	comp=Z,2.6nm,0.9s								
FFC	**Flin Flon**	**69.00**	**327**	*e*P		**P**	**23 24 56.3**	**0.0**	
FFC					pmax	pmax			
	comp=Z,53nm,2.5s								
FFC	**Flin Flon**	**69.00**	**327**	*e*P		**P**	**23 24 56.3**	**0.0**	
	comp=Z,53nm,2.5s								
FFC	**Flin Flon**	**69.00**	**327**	*e*P		**P**	**23 24 56.3**	**0.0**	
	comp=Z,53nm,2.5s								
KMI	**Kunming**	**70.17**	**74**	P		**P**	**23 25 04.4**	**+0.1**	
KMI					PMZ				
	comp=Z,3.0nm,0.5s								
ILAR	**Eielson Array**	**71.05**	**353**	P		**P**	**23 25 09.5**	**+0.8**	
	comp=Z,0.7nm,0.6s,baz=5.4,slow=5.7,SNR=13								
MLY	**Manley**	**71.11**	**355**	*e*P		**P**	**23 25 09.9**	**+0.8**	
	comp=Z,3.3nm,0.6s								
MLY	**Manley**	**71.11**	**355**	*e*P		**P**	**23 25 09.9**	**+0.8**	
	comp=Z,3.3nm,0.6s								
CMAR	**Chiang Mai Arr**	**71.78**	**82**	P		**P**	**23 25 13.3**	**-0.6**	
	comp=Z,1.1nm,0.5s,baz=310,slow=7.7,SNR=6.1								
CMAR	**Chiang Mai Arr**	**71.78**	**82**	*ce*P		**P**	**23 25 13.5**	**-0.4**	
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.4s								
CMAR	**Chiang Mai Arr**	**71.78**	**82**	*e*P		**P**	**23 25 13.5**	**-0.4**	
	comp=Z,1.0nm,0.4s								
MCK	**McKinley**	**72.25**	**353**	*e*P		**P**	**23 25 16.4**	**+0.4**	
MCK					pmax	pmax			
	comp=Z,6.0nm,0.9s								
MCK	**McKinley**	**72.25**	**353**	*e*P		**P**	**23 25 16.4**	**+0.4**	
	comp=Z,6.0nm,0.9s								
MCK	**McKinley**	**72.25**	**353**	*e*P		**P**	**23 25 16.4**	**+0.4**	
	comp=Z,5.8nm,0.9s								
BOSA	**Boshof**	**72.44**	**172**	P		**P**	**23 25 18.0**	**+0.5**	
	comp=Z,0.9nm,0.5s,baz=348,slow=5.8,SNR=5.8								
DLBC	**Dease Lake**	**74.52**	**343**	LR		LR	00 01 02.5		
	comp=Z,45nm,18.1s,baz=224,slow=38								
NJ2	**Nanjing**	**76.28**	**59**	*e*P		**P**	**23 25 40.5**	**+0.5**	
NJ2					PMZ				
	comp=Z,30nm,1.0s								
BRLK	**Bradley Lake**	**76.33**	**354**	*e*P		**P**	**23 25 42.1**	**+2.2**	
	comp=Z,11nm,0.5s								
BRLK	**Bradley Lake**	**76.33**	**354**	*e*P		**P**	**23 25 42.1**	**+2.2**	
	comp=Z,11nm,0.5s								
EGMT	**Eagleton**	**77.27**	**327**	*e*P		**P**	**23 25 46.3**	**+0.9**	
	comp=Z,26nm,1.6s								
EGMT	**Eagleton**	**77.27**	**327**	*e*P		**P**	**23 25 46.3**	**+0.9**	
	comp=Z,26nm,1.6s								
KSAR	**Wonju Array Be**	**77.80**	**50**	P		**P**	**23 25 49.5**	**+1.1**	
KSAR	**Wonju Array Be**	**77.80**	**50**	P		**P**	**23 25 49.5**	**+1.1**	
KSAR	**Wonju Array Be**	**77.80**	**50**	P		**P**	**23 25 49.5**	**+1.1**	
KSRS	**Korea Array**	**77.81**	**49**	P		**P**	**23 25 49.5**	**+1.0**	
	comp=Z,8.9nm,0.7s,baz=330,slow=7.2,SNR=3.2								
KSRS	**Korea Array**	**77.81**	**49**	P		**P**	**23 25 49.5**	**+1.0**	
KSRS					pmax	pmax			
	comp=Z,1.0nm,0.7s								
PDAR	**Pinedale Array**	**81.42**	**323**	P		**P**	**23 26 08.6**	**+0.3**	
	comp=Z,0.9nm,0.6s,baz=52,slow=5.6,SNR=6.9								
ISCO	**Idaho Springs**	**82.00**	**319**	*e*P		**P**	**23 26 12.4**	**+0.9**	
ISCO					pmax	pmax			
	comp=Z,3.0nm,1.0s								
ISCO	**Idaho Springs**	**82.00**	**319**	*e*P		**P**	**23 26 12.4**	**+0.9**	
	comp=Z,3.0nm,1.0s								
ISCO	**Idaho Springs**	**82.00**	**319**	*e*P		**P**	**23 26 12.4**	**+0.9**	
	comp=Z,2.9nm,1.0s								
HWUT	**Hardware Ranch**	**83.23**	**324**	*e*P		**P**	**23 26 18.1**	**+0.3**	
	comp=Z,3.2nm,0.8s								
HWUT	**Hardware Ranch**	**83.23**	**324**	*e*P		**P**	**23 26 18.1**	**+0.3**	
	comp=Z,3.2nm,0.8s								
MFID	**Camas Ranch**	**83.47**	**327**	*e*P		**P**	**23 26 19.5**	**+0.6**	
	comp=Z,4.2nm,0.8s								
MFID	**Camas Ranch**	**83.47**	**327**	*e*P		**P**	**23 26 19.5**	**+0.6**	
	comp=Z,4.2nm,0.8s								
NVAR	**Mina Array Bea**	**88.70**	**326**	P		**P**	**23 26 45.4**	**+0.5**	
	comp=Z,0.3nm,0.5s,baz=35,slow=4.5,SNR=4.3								
JTS	**JuntasAbangare**	**91.41**	**286**	LR		LR	00 04 05.7		
	comp=Z,32nm,20.4s,baz=339,slow=33								
ASAR	**Alice Springs**	**125.19**	**90**	PKP		**PKPdf**	**23 32 50.9**	**-0.9**	
	comp=Z,0.3nm,0.7s,baz=339,slow=2.3,SNR=3.7								

CSEM ***20*** *23:14:16.7, 43.49N×12.73E, h10km, ML2.1/6*
ROM 20 23:14:16.7±0.1, 43.49N×12.73E, h10km, Ml2.1/6, Error ellipse: s-maj=1.2km s-min=0.9km az=166.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIEI	**Pieia**	**0.15**	**287**	Pg	Pg	23 14 20.6	+0.4
PIEI				Sg	Sg	23 14 23.5	+0.8
PIEI	**Pieia**	**0.15**	**287**	Pg	Pg	23 14 20.6	+0.4
PIEI				Sg	Sg	23 14 23.5	+0.8
ARVD	**Arcevia**	**0.15**	**88**	Pg	Pg	23 14 20.8	+0.6
ARVD				Sg	Sg	23 14 23.9	+1.3
	212nm,0.5s						
ATFO	**Monte Foce - G**	**0.17**	**223**	Pg	Pg	23 14 21.0	+0.4
ATFO				Sg	Sg	23 14 24.5	+1.2
	389nm,0.4s						
ATFO	**Monte Foce - G**	**0.17**	**223**	Pg	Pg	23 14 21.0	+0.4
ATFO				Sg	Sg	23 14 24.5	+1.2
	389nm,0.4s						
ATPC	**Poggio Castell**	**0.20**	**267**	Pg	Pg	23 14 21.7	+0.7
ATPC				Sg	Sg	23 14 25.5	+1.5
	365nm,0.5s						
ATPC	**Poggio Castell**	**0.20**	**267**	Pg	Pg	23 14 21.7	+0.7
ATPC				Sg	Sg	23 14 25.5	+1.5
	365nm,0.5s						
FSSB	**Fossombrone**	**0.20**	**9**	Pg	Pg	23 14 21.7	+0.6
FSSB				Sg	Sg	23 14 25.6	+1.6
	339nm,0.3s						
FSSB	**Fossombrone**	**0.20**	**9**	Pg	Pg	23 14 21.7	+0.6
FSSB				Sg	Sg	23 14 25.6	+1.6
	339nm,0.3s						
ATVO	**AVT- Monte Val**	**0.26**	**245**	Pg	Pg	23 14 22.5	+0.4
ATVO				Sg	Sg	23 14 26.9	+1.1
ATVO	**AVT- Monte Val**	**0.26**	**245**	Pg	Pg	23 14 22.5	+0.4
ATVO				Sg	Sg	23 14 26.9	+1.1
MURB	**Monte Urbino**	**0.28**	**214**	Pg	Pb	23 14 24.0	+0.2
MURB				Sg	Sb	23 14 27.9	-0.7
	810nm,0.3s						
MURB	**Monte Urbino**	**0.28**	**214**	Pg	Pb	23 14 24.0	+0.2
MURB				Sg	Sb	23 14 27.9	-0.7
	810nm,0.3s						
SNTG	**Esanatoglia**	**0.28**	**147**	Pg	Pg	23 14 22.7	+0.2
SNTG				Sg	Sg	23 14 27.5	+1.1
	191nm,0.4s						
SNTG	**Esanatoglia**	**0.28**	**147**	Pg	Pg	23 14 22.7	+0.2
SNTG				Sg	Sg	23 14 27.5	+1.1
	191nm,0.4s						

ISCJB ***20*** *23:16:34.9±0.6, 6.87N±0.06×73.04W±0.05, h161km, mb3.5/4, Error ellipse: s-maj=9.5km s-min=4.9km az=140.3*
FUNV ***20*** *23:16:34.5, 6.74N×73.25W, h165km, MW4.0*
IDC ***20*** *23:16:35.2±1.1, 6.65N×72.94W, h166km±13km, mb3.3/5, mb1 3.5/7, mb1mx3.1/39, mbtmp3.8/7, Error ellipse: s-maj=21.1km s-min=14.5km az=150.0*
ISC 20 23:16:35.1±0.8, 6.84N±0.07×73.06W±0.06, h161km±21km, σ1§04/31, mb3.6/4, 4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.26**	**36**	*i*P	**Pn**	**23 17 04.7**	**+1.3**
CAPV				*e*S	**Sn**	**23 17 26.1**	**+1.0**
ROSC	**El Rosal**	**2.34**	**213**	P	**Pn**	**23 17 16.3**	**+1.0**
	30nm,0.3s,baz=291,slow=1.6,SNR=61						
ROSC				S	**Sn**	**23 17 45.3**	**-1.0**
	67nm,0.3s,baz=110,slow=16,SNR=13						
VIGV	**El Vigia**	**2.60**	**40**	*i*P	**Pn**	**23 17 19.1**	**+1.1**
VIGV				*e*S	**Sn**	**23 17 51.9**	**+0.6**
SOCV	**Socops**	**2.61**	**56**	*e*P	**Pn**	**23 17 19.4**	**+1.3**
SOCV				*e*S	**Sn**	**23 17 51.7**	**+0.3**
ELOV	**Elorza**	**3.55**	**87**	*e*P	**Pn**	**23 17 30.8**	**+1.0**
VIRV	**Villa del Rosa**	**3.70**	**10**	*i*P	**Pn**	**23 17 31.5**	**-0.3**
VIRV				*e*S	**Sn**	**23 18 14.5**	**-1.5**
QARV	**Quebrada Arrib**	**4.18**	**37**	*i*P	**Pn**	**23 17 39.0**	**+1.0**
QARV				*e*S	**Sn**	**23 18 25.8**	**-1.3**
SANV	**Sanarito**	**4.37**	**53**	*e*P	**Pn**	**23 17 40.9**	**+0.2**
S

HUIG Huatulco 4.95 292 eP Pn 23 23 14.1 -0.8
HUIG eS Sn 23 24 09.6 -1.3
TEIG Tepich 6.88 25 P Pn 23 23 40.2 -1.0
comp=Z,72nm,0.3s,baz=202,slow=11,SNR=229
TEIG S Sn 23 24 56.7 -1.4
baz=208,slow=21,SNR=0.9
TEIG LR LR 23 26 46.8
comp=Z,575nm,21.4s,baz=199,slow=44
JTS JuntasAbangare 7.23 120 P Pn 23 23 48.0 +2.0
comp=Z,4.3nm,0.3s,baz=314,slow=20,SNR=17
JTS S Sn 23 25 08.3 +1.7
comp=Z,2.1nm,0.3s,baz=299,slow=19,SNR=1.9
JTS JuntasAbangare 7.23 120 ePn Pn 23 23 47.5 +1.5
JTS S Sn 23 25 08.3 +1.7
034A Hebbronville 14.74 333 P P 23 25 29.5 -1.6
baz=15
934A Benavides 15.14 335 P P 23 25 34.1 -1.4
baz=15
933A Laredo 15.47 333 P P 23 25 39.0 -0.3
baz=16,SNR=7.0
736A Circle Diamond 15.84 341 P P 23 25 43.5 +0.1
baz=16
735A Kenedy 15.99 339 P P 23 25 45.1 0.0
baz=16
833A Chaparral WMA, 16.14 334 P P 23 25 46.9 +0.2
baz=16
832A Faith Ranch, C 16.36 332 P P 23 25 49.7 +0.5
baz=16
733A Divot King Ran 16.44 335 P P 23 25 52.6 +2.5
baz=16
HKT Hockley 16.45 346 ePn Pn 23 25 47.7 -1.0
comp=Z,11nm,1.1s
634A China Grove, S 16.66 338 P P 23 25 53.4 +0.9
baz=17
537A Green Hill Far 16.69 345 P P 23 25 53.7 +0.9
baz=17
732A Laxson Ranch, 16.74 333 P P 23 25 54.8 +1.4
baz=17
633A Saathoff Ranch 17.05 336 P P 23 25 58.8 +2.0
baz=17,SNR=7.2
439A Center Grove, 17.05 350 P P 23 25 58.1 +1.4
baz=17
438A Sam Houston St 17.14 348 P P 23 25 58.9 +1.2
baz=17
534A Blanco 17.30 339 P P 23 26 01.1 +1.5
baz=17
632A Uvalde 17.34 335 P P 23 26 01.9 +2.0
baz=17,SNR=10
BRAL Brewton 17.42 12 ePn P 23 26 02.2 +1.4
comp=Z,51nm,0.8s
436A Wall Ranch, Ga 17.47 344 P P 23 26 03.0 +1.7
baz=18
340A Bronson 17.53 353 P Pn 23 26 03.4 +1.4
baz=18
631A Perdido Creek 17.60 332 P Pn 23 26 04.8 +1.9
baz=18,SNR=5.7
338A Crockett 17.70 349 P Pn 23 26 05.8 +1.7
baz=18
435B Jarrell 17.70 342 P Pn 23 26 05.5 +1.3
baz=18
337A Centerville 17.77 347 P Pn 23 26 06.2 +1.2
baz=18
532A Rocksprings 17.93 335 P Pn 23 26 09.1 +2.1
baz=18,SNR=13
434A Burnet 17.95 340 P Pn 23 26 08.9 +1.8
baz=18
NATX Nacogdoches 17.98 351 P Pn 23 26 08.4 +0.9
baz=18
336A Riesel 18.07 345 P Pn 23 26 10.2 +1.6
baz=18
335A Moody 18.13 343 P Pn 23 26 11.1 +1.8
baz=18
433A Art 18.18 338 P Pn 23 26 10.8 +0.8
baz=18
JCT Junction City 18.20 336 P Pn 23 26 11.3 +1.1
baz=18
JCT Junction City 18.20 336 eP Pn 23 26 11.3 +1.1
comp=Z,8.4nm,0.8s
239A Gary 18.20 351 P Pn 23 26 11.3 +1.2
baz=18
531A Rocksprings 18.23 334 P Pn 23 26 12.3 +1.7
baz=18
238A Jacksonville 18.29 350 P Pn 23 26 12.7 +1.4
baz=18
237A Washetta, Mont 18.42 348 P Pn 23 26 13.1 +0.3
baz=18
432A Menard 18.55 337 P Pn 23 26 15.9 +1.4
baz=19,SNR=7.2
530A J-C Ranch, Com 18.57 332 P Pn 23 26 15.2 +0.5
baz=19,SNR=9.4
333A Richland Sprin 18.66 339 P Pn 23 26 15.7 0.0
baz=19,SNR=13
431A Sonora 18.71 334 P Pn 23 26 17.1 +0.8
baz=19,SNR=13
TIGA Tifton 18.79 21 P P 23 26 16.4 +0.5
baz=19
TIGA Tifton 18.79 21 eP P 23 26 14.6 -1.3
comp=Z,33nm,0.7s
138A Matatall Enter 18.93 350 P Pn 23 26 18.7 -0.2
baz=19
529A Stev Forest Ra 18.97 330 P Pn 23 26 20.6 +1.2
baz=19,SNR=5.7
332A Millersview 18.98 337 P Pn 23 26 20.2 +0.6
baz=19,SNR=9.2
137A Heron Place, G 18.99 348 P Pn 23 26 19.6 +0.1
baz=19
234A Clairette 19.01 342 P Pn 23 26 20.4 +0.6
baz=19,SNR=6.9
136A Ennis 19.03 346 P Pn 23 26 19.6 -0.5
baz=19
ROSC El Rosal 19.05 117 P P 23 26 17.6 -1.6
comp=Z,0.5nm,0.3s,baz=90,slow=20,SNR=2.1
430A Baggett Ranch, 19.07 333 P Pn 23 26 21.4 +0.8
baz=19,SNR=8.3
TXAR Lajitas Array 19.09 325 P Pn 23 26 22.0 +1.0
comp=Z,0.5nm,0.3s,baz=152,slow=12,SNR=39
TXAR PcP PcP 23 30 42.5 +1.6
comp=Z,0.0nm,0.3s,baz=156,slow=3.2,SNR=3.6
TX31 Lajitas Ar. Si 19.09 325 eP Pn 23 26 21.7 +0.8
331A San Angelo 19.18 336 P Pn 23 26 22.0 0.0
baz=19,SNR=15
429A Davenport Ranc 19.23 331 P Pn 23 26 23.5 +1.0
baz=19,SNR=12
233A Rising Star 19.26 340 P Pn 23 26 22.5 -0.4
baz=19,SNR=9.5
LRAL Lakeview Retre 19.39 11 eP P 23 26 22.5 0.0
comp=Z,31nm,1.0s
232A Coleman 19.40 338 P Pn 23 26 24.1 -0.4
baz=20,SNR=10
Z38A Mt. Pleasant 19.49 351 P P 23 26 24.0 +0.5
baz=20
134A White-Moore Ra 19.52 343 P P 23 26 24.6 +0.7
baz=20
Z37A Pogue Cattle C 19.55 349 P P 23 26 24.6 +0.5
baz=20
330A Mertzon 19.57 334 P Pn 23 26 25.9 -0.7
baz=20,SNR=17
231A Bronte 19.69 337 P Pn 23 26 27.3 -0.6
baz=20,SNR=6.5
Z36A Blue Ridge 19.78 347 P P 23 26 27.7 +1.1
baz=20
133A Hamilton Ranch 19.81 341 P Pn 23 26 28.4 -0.9
baz=20,SNR=15
230A Sterling City 19.97 335 P Pn 23 26 30.3 -0.9
baz=20
329A Wagon Wheel Ra 19.99 333 P Pn 23 26 30.8 -0.7
baz=20,SNR=10
Z35A Perchaven, San 20.02 345 P P 23 26 30.1 +0.8
baz=20
Y39A Lockesburg 20.05 353 P P 23 26 30.1 +0.5
baz=20
ABTX Abilene, Hawle 20.07 339 P P 23 26 30.8 +1.0
baz=20,SNR=7.4
ABTX Abilene, Hawle 20.07 339 eP P 23 26 29.8 0.0
comp=Z,21nm,0.8s
Y38A Idabel 20.12 352 P P 23 26 30.3 0.0
baz=20,SNR=12
Z34A Collier Ranch, 20.23 344 P P 23 26 32.6 +1.1
baz=20
Y36A Durant 20.35 348 P P 23 26 34.1 +1.3
baz=20
131A Roby 20.38 338 P P 23 26 34.4 +1.2
baz=20
Z33A Whitaker Ranch 20.39 342 P P 23 26 34.1 +0.8
baz=20,SNR=7.2
Y35A Marietta 20.52 346 P P 23 26 35.3 +0.6
baz=21
130A Snyder 20.53 336 P P 23 26 35.8 +1.0
baz=21
OXF Oxford 20.54 5 eP Pn 23 26 37.2 -0.5
comp=Z,61nm,1.0s
MIAR Mount Ida 20.59 355 eP P 23 26 34.8 -0.6
comp=Z,14nm,1.0s
Z32A Haskell 20.64 340 P P 23 26 36.7 +0.7
baz=21,SNR=16
UALR University of 20.74 358 eP P 23 26 36.2 -0.8
comp=Z,24nm,0.6s
Y34A Reagan Ranch, 20.74 345 P P 23 26 38.1 +1.0
baz=21
228A UT Block 9, Go 20.80 332 P P 23 26 38.9 +1.1
baz=21
X38A Whitesboro 20.86 352 P P 23 26 39.4 +1.1
baz=21,SNR=7.2
X37A Clayton 20.86 351 P P 23 26 39.0 +0.7
baz=21,SNR=7.8
Z31A Sharp Cattle R 20.87 339 P P 23 26 39.1 +0.6
baz=21,SNR=15
SDV Santo Domingo 20.90 102 eP P 23 26 36.6 -2.6
comp=Z,6.4nm,0.8s
129A Stewart Farms, 20.93 334 P P 23 26 39.9 +0.8
baz=21
X35A Drake 20.98 347 P P 23 26 41.1 +1.5
baz=21,SNR=9.3
X36A Centrahoma 21.02 348 P P 23 26 41.0 +1.0
baz=21
Y33A Hilltop Ranch, 21.03 343 P P 23 26 41.0 +0.8
baz=21
Z30A Sanderson Ranc 21.20 337 P P 23 26 42.9 +0.8
baz=21
W38A Poteau 21.21 353 P P 23 26 42.2 +0.1
baz=21
Y32A R-V Farms, Ver 21.27 341 P P 23 26 43.8 +1.1
baz=21,SNR=5.3
X34A Smith Ranch, M 21.37 345 P P 23 26 44.8 +1.0
baz=21
Z29A Hungry Hill Ra 21.41 336 P P 23 26 44.8 +0.5
baz=22,SNR=5.9
W37A Quinton 21.41 351 P P 23 26 44.9 +0.7
baz=21
Y31A Rekieta Farm, 21.50 339 P P 23 26 46.3 +1.1
baz=22,SNR=18
W35A Tecumseh 21.68 348 P P 23 26 46.6 -0.6
baz=22
WMOK Wichita Mounta 21.75 343 eP P 23 26 47.6 -0.3
WMOK epP pP 23 27 05.1 +0.7
Y29A Porterfield Fa 21.92 336 P P 23 26 50.3 +0.5
baz=22
W34A Bridge Creek, 21.96 346 P P 23 26 50.6 +0.4
baz=22
W34A Bridge Creek, 21.96 346 eP P 23 26 49.4 -0.8
W34A epP pP 23 27 11.5 +4.9
V38A Canehill 21.98 353 P P 23 26 50.5 +0.2
baz=22
W33A Caddo, Fort Co 22.06 344 P P 23 26 51.8 +0.7
baz=22
V36A Jenks 22.12 350 P P 23 26 52.1 +0.3
baz=22
X30A Coker Ranch, T 22.15 339 P P 23 26 53.0 +0.8
baz=22
Y28A McKinney Farm, 22.19 335 P P 23 26 52.8 +0.1
baz=22,SNR=6.3
JSC Jenkinsville 22.20 23 eP P 23 26 52.7 +0.1
JSC epP pP 23 27 11.6 +2.5
W32A Sentinel 22.25 343 P P 23 26 53.3 +0.1
baz=22
CPCT Cooper Cave 22.26 15 eP P 23 26 52.7 -0.6
CPCT epP pP 23 27 10.6 +0.8
V35A Meyer Ranch, C 22.27 348 P P 23 26 53.2 -0.1
baz=22
WVT Waverly 22.30 7 eP P 23 26 52.5 -1.2
WVT epP pP 23 27 11.4 +1.3
X29A Tulia 22.45 337 P P 23 26 55.3 -0.1
baz=22
MSTX Muleshoe 22.46 334 P P 23 26 56.0 +0.4
baz=22
MSTX Muleshoe 22.46 334 eP P 23 26 55.6 0.0
comp=Z,8.0nm,0.7s
V34A Guthrie 22.48 347 P P 23 26 55.0 -0.6
baz=22
V33A Lossen Ranch, 22.65 345 P P 23 26 57.6 +0.2
baz=23
TKL Tuckaleechee C 22.65 16 P P 23 26 56.9 -0.6
comp=Z,11nm,0.6s,baz=181,slow=10,SNR=29
TKL LR LR 23 36 17.4
comp=Z,188nm,21.9s,baz=200,slow=38
TKL Tuckaleechee C 22.65 16 eP P 23 26 56.9 -0.6
TKL epP pP 23 27 15.1 +1.1
PBMO Poplar Bluff 22.74 2 eP P 23 26 56.5 -1.8
PBMO epP pP 23 27 15.3 +0.4
AMTX Amarillo 22.83 338 P P 23 27 00.0 +0.6
baz=23
AMTX Amarillo 22.83 338 eP P 23 26 58.9 -0.5
comp=Z,12nm,0.8s
KMSC Kings Mountain 22.94 21 P P 23 26 59.7 -0.6
baz=23,SNR=8.5
KMSC Kings Mountain 22.94 21 eP P 23 26 59.6 -0.7
KMSC epP pP 23 27 17.4 +0.3
V31A Spring Creek L 23.03 342 P P 23 27 02.0 +0.6
baz=23
W29A Amarillo 23.03 338 P P 23 27 01.8 +0.4
baz=23
T37A Cheneyville 18 23.29 353 P P 23 27 02.8 -0.9
baz=23,SNR=5.7
T35A Sooner Cattle 23.32 349 P P 23 27 04.2 +0.1
baz=23
T36A Boggs Farm, Ca 23.36 351 P P 23 27 02.8 -1.5
baz=23
TZTN Tazewell 23.55 16 eP P 23 27 04.6 -1.5
comp=Z,56nm,1.5s
SIUC Southern Illin 23.73 4 eP P 23 27 07.1 -0.6
SIUC epP pP 23 27 25.4 -0.1
121A Cookes Peak, D 23.82 324 P P 23 27 11.8 +3.0
baz=24,SNR=15
S36A Lake Cedric, C 23.97 352 P P 23 27 08.9 -1.0
baz=24,SNR=6.1
S35A Otter Creek Ra 24.04 350 P P 23 27 09.9 -0.5
baz=24
ATAH Atahualpa 24.58 148 LR LR 23 36 28.1
comp=Z,61nm,18.8s,baz=338,slow=35
WCI Wyandotte Cave 24.58 10 eP P 23 27 13.4 -2.0
WCI epP pP 23 27 33.4 -0.5
WCI esP sP 23 27 44.1 +0.5
SLM Saint Louis 24.60 2 eP P 23 27 14.7 -0.8
comp=Z,30nm,0.5s
SLM epP pP 23 27 32.8 -1.2
LENM Lemitar 24.61 328 eP P 23 27 18.0 +2.1
U27A Thompson Grove 24.62 337 P P 23 27 16.8 +0.9
baz=25
LAZ Ladron 24.88 328 eP P 23 27 19.7 +1.4
LAZ esP sP 23 27 47.0 +0.6
ANMO Albuquerque 24.96 329 P P 23 27 20.4 +1.4
comp=Z,1.7nm,0.7s,baz=137,slow=10,SNR=8.9
ANMO Albuquerque 24.96 329 eP P 23 27 20.3 +1.2
comp=Z,1.8nm,0.6s
BLA Blacksburg 25.12 21 eP P 23 27 17.8 -2.5
BLA epP pP 23 27 39.2 +0.3
Q35A Mercer Eighty, 25.15 351 P P 23 27 21.3 +0.8
baz=25
Q36A Arnold C. Orve 25.17 352 P P 23 27 21.0 +0.3
baz=25
TUC Tucson 25.48 319 eP P 23 27 25.6 +1.9
comp=Z,4.7nm,0.8s
P35A Duane Minner, 25.80 352 P P 23 27 27.3 +0.8
baz=26
T25A Trinidad 25.86 336 P P 23 27 29.2 +1.9
baz=26
T25A Trinidad 25.86 336 eP P 23 27 29.2 +1.9
T25A epP pP 23 27 48.3 +2.4
P34A Walnut Farm, R 25.94 350 P P 23 27 28.7 +1.0
baz=26
P32A Huiting Farm, 26.35 347 P P 23 27 35.5 +4.1
baz=26,SNR=6.8
214A Organ Pipe Nat 26.59 316 P P 23 27 36.4 +2.6
baz=27,SNR=7.6
W18A Petrified Fore 26.81 325 P P 23 27 39.0 +3.2
baz=27
ACSO Alum Creek Sta 27.18 14 eP P 23 27 37.0 -1.8
ACSO epP pP 23 27 58.3 +0.8
N33A J Bar K, Exete 27.21 350 P P 23 27 40.6 +1.5
baz=27
WUAZ Wupatki 28.03 324 P P 23 27 49.1 +2.4
baz=28
WUAZ Wupatki 28.03 324 eP P 23 27 48.7 +2.0
comp=Z,5.9nm,0.8s
Y12C Blythe 28.82 317 P P 23 27 56.0 +2.4
baz=29
PV04 Paradox Valley 28.89 331 eP P 23 27 56.4 +2.1
SSPA Standing Stone 29.06 21 eP P 23 27 54.5 -1.1
comp=Z,5.0nm,0.7s
N23A Red Feather La 29.71 337 eP P 23 28 02.4 +0.7
N23A esP sP 23 28 30.8 +0.9
KNB Kanab 29.91 324 eP P 23 28 06.2 +2.8
comp=Z,6.7nm,0.8s
LUPA Lehigh Univers 29.99 25 eP P 23 28 02.8 -1.0
comp=Z,2.0nm,0.8s
GMRC Granite Mounta 30.20 318 P P 23 28 08.6 +2.7
baz=30,SNR=7.1
CCUT Cedar City 30.60 324 eP P 23 28 12.5 +3.0
comp=Z,5.5nm,1.0s
MVU Marysvale 30.64 327 eP P 23 28 10.8 +0.8
comp=Z,16nm,1.4s
SHPR Sheep Range 30.96 321 eP P 23 28 14.6 +2.0
MPMC Manual Prospec 32.16 318 P P 23 28 25.8 +2.5
baz=32,SNR=6.6
DAC Darwin (Calif) 32.35 318 eP P 23 28 27.2 +2.3
comp=Z,3.3nm,0.9s
SADO Sadowa 32.41 16 P P 23 28 22.8 -2.3
comp=Z,4.5nm,0.6s,baz=222,slow=8.6,SNR=7.0
R11A Troy Canyon, C 32.42 323 P P 23 28 27.8 +2.3
baz=32
R11A Troy Canyon, C 32.42 323 eP P 23 28 27.8 +2.3
comp=Z,33nm,2.5s
HWUT Hardware Ranch 32.68 331 eP P 23 28 30.1 +2.4
comp=Z,3.7nm,1.0s
PDAR Pinedale Array 32.73 335 P P 23 28 28.4 +0.2
comp=Z,0.4nm,0.5s,baz=124,slow=13,SNR=3.6
PDAR PcP PcP 23 31 12.6 +0.5
comp=Z,0.3nm,0.6s,baz=171,slow=6.4,SNR=3.8
PDAR LR LR 23 45 27.2
comp=Z,58nm,18.8s,baz=86,slow=43
VES Vestal, Richgr 33.09 316 P P 23 28 33.4 +2.3
baz=33
PTN Potsdam (NY) 33.54 21 eP P 23 28 33.3 -1.6
comp=Z,190nm,2.6s
LONY Lake Ozonia 33.73 22 eP P 23 28 34.9 -1.6
comp=Z,130nm,2.7s
ELK Elko 33.88 326 eP P 23 28 40.3 +2.1
comp=Z,3.8nm,0.9s
NV01 Mina Array Sit 34.11 321 eP P 23 28 42.4 +2.1
NV01 ePcP PcP 23 31 17.8 +1.8
NVAR Mina Array Bea 34.11 321 P P 23 28 43.2 +3.0
comp=Z,9.3nm,0.8s,baz=135,slow=8.8,SNR=49
NVAR PcP PcP 23 31 17.9 +1.9
comp=Z,1.4nm,0.7s,baz=124,slow=4.4,SNR=5.7
PTGA Pitinga 34.33 113 P P 23 28 40.0 -2.1
comp=Z,1.6nm,0.3s,baz=302,slow=16,SNR=5.1
MDND Maddock 34.48 350 eP P 23 28 41.6 -1.4
comp=Z,25nm,1.0s
GCMT Greycliff 35.31 338 eP P 23 28 49.8 -0.6
A30A Hoffart Farm, 35.35 352 P P 23 28 51.8 +1.3
baz=35
HLID Hailey 35.52 331 P P 23 28 54.4 +2.1
baz=36,SNR=5.7
HLID Hailey 35.52 331 eP P 23 28 54.3 +2.0
comp=Z,2.5nm,0.8s
MCMT McKenzie Canyo 35.79 334 eP P 23 28 56.3 +1.7
SAML Samuel 36.03 128 eP P 23 28 55.5 -1.3
SAML epP pP 23 29 12.5 -3.4
MFID Camas Ranch 36.10 329 eP P 23 28 59.3 +2.1
comp=Z,3.6nm,0.9s
LPAZ La Paz 37.80 142 P P 23 29 13.3 +0.9
comp=Z,0.7nm,0.6s,baz=31,slow=7.1,SNR=3.6
MSO Missoula 37.84 335 P P 23 29 13.5 +1.7
baz=38
YBH Yreka Blue Hor 38.80 322 P P 23 29 20.3 +0.4
comp=Z,2.1nm,1.1s,baz=95,slow=4.3,SNR=5.3
C09A Chrisman Ranch 40.49 332 eP P 23 29 34.7 +0.9
comp=Z,6.9nm,0.6s
SIV San Ignacio 42.20 134 P P 23 29 49.3 +1.1
comp=Z,6.2nm,0.7s,baz=308,slow=8.3,SNR=15
EDM Edmonton 42.88 341 eP P 23 29 53.5 +0.2
SCHQ Schefferville 45.04 20 P P 23 30 08.7 -1.8
comp=Z,4.2nm,0.7s,baz=222,slow=7.5,SNR=7.0
SCHQ LR LR 23 49 31.9
comp=Z,115nm,21.8s,baz=258,slow=37
SCHQ Schefferville 45.04 20 eP P 23 30 09.1 -1.4
comp=Z,15nm,1.1s
YKA Yellowknife Ar 51.21 346 P P 23 30 56.7 -1.2
comp=Z,2.4nm,0.6s,baz=150,slow=7.9,SNR=15
YKA PcP PcP 23 32 11.1 -0.9
comp=Z,1.5nm,0.7s,baz=150,slow=4.0,SNR=7.0
YKB5 Yellowknife Ar 51.21 346 eP P 23 30 58.0 +0.1
YKB5 ePcP PcP 23 32 12.1 0.0
ILAR Eielson Array 63.13 337 P P 23 32 21.3 -0.6
comp=Z,0.9nm,0.7s,baz=174,slow=4.7,SNR=17
ILAR LR LR 00 01 56.3
comp=Z,36nm,20.6s,baz=126,slow=38
MLY Manley 64.73 336 eP P 23 32 32.7 +0.3
comp=Z,2.8nm,0.9s
NOA NORSAR Array B 83.87 29 P P 23 34 21.5 -2.1
comp=Z,0.7nm,0.8s,baz=288,slow=5.2,SNR=3.1
NOA LR LR 00 09 56.4
comp=Z,8.1nm,21.6s,baz=290,slow=34
DBIC Dimbokro 85.02 84 LR LR 00 06 30.1
comp=Z,36nm,21.0s,baz=88,slow=32
GERES GERESS Array B 89.22 40 LR LR 00 13 42.9
comp=Z,12nm,19.1s,baz=270,slow=35
TORD Torodi Ar. Bea 89.76 77 P P 23 34 51.0 -2.1
comp=Z,0.1nm,0.5s,baz=280,slow=3.7,SNR=3.5
FINES FINESS Array B 90.26 25 LR LR 00 15 10.5
comp=Z,14nm,20.3s,baz=280,slow=35
PETK Petropavlovsk- 91.04 326 P P 23 34 59.4 +1.1
comp=Z,2.2nm,0.8s,baz=113,slow=6.2,SNR=3.2
KSRS Korea Array 116.94 326 PKP PKPdf 23 40 38.8 +0.1
comp=Z,0.4nm,0.3s,baz=33,slow=2.0,SNR=4.3
KSAR Wonju Array Be 116.97 326 PKP PKPdf 23 40 38.8 0.0
BOSA Boshof 119.75 115 PKP PKPdf 23 40 45.5 +0.9
comp=Z,2.7nm,0.9s,baz=274,slow=4.6,SNR=3.6
WRA Warramunga Arr 136.01 256 PKP PKPdf 23 41 17.3 +1.7
comp=Z,1.7nm,0.8s,baz=73,slow=1.8,SNR=6.4
ASAR Alice Springs 136.26 250 PKP PKPdf 23 41 17.6 +1.6
comp=Z,0.8nm,0.8s,baz=79,slow=2.0,SNR=7.1
CMAR Chiang Mai Arr 146.23 342 PKPbc PKPbc 23 41 35.2 +0.2
comp=Z,7.0nm,0.7s,baz=334,slow=3.3,SNR=38

IDC ***20*** *23:39:49.8±0.8, 1°.76S×136°.23E, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.1/16, mbtmp4.2/7, MS3.5/5, Ms1 3.5/5, ms1mx3.2/22, Error ellipse: s-maj=41.5km s-min=19.2km az=75.0*

ISCJB ***20*** *23:39:52.3±0.4, 1°.84S±0°.05×136°.26E±0°.04, h33km, mb4.2/10, MS3.6/3, Error ellipse: s-maj=6.6km s-min=6.1km az=16.3*

DJA ***20*** *23:39:52.0±0.3, 2°.3S×13°.6E±°, h10km, M4.7/4, MLv4.7/4*

NEIC ***20*** *23:39:54.9±0.5, 1°.85S×136°.20E, h35km, mb4.5/5, ML4.7(DJA), Error ellipse: s-maj=15.7km s-min=8.3km az=79.0*

NEIC Felt [III] at Serui.

BJI ***20*** *23:39:54.5, 2°.32S×135°.83E, h51km, mb4.5/6, mB4.7/4, Ms4.8/2, Ms7 4.4/2*

ISC 20 23:39:55.1±0.5, 2°.06S±0°.06×136°.27E±0°.07, h35km, n39, σ1977/39, **mb4.4**/10, **MS3.5**/3, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	Serui, Papua	0.19	350	P	Pn	23 39 55.0	-6.8
BAKI	Biak	0.88	349	P	Pn	23 40 02.7	-8.3
BAKI				S	Sn	23 40 12.3	-10
RKPI	Ransiki, Papua	2.16	285	P	Pn	23 40 27.7	-0.9
SMPI	Sarmi	2.44	88	P	Pn	23 40 30.6	-1.8
GENI	Genyem	3.93	98	P	Pn	23 40 53.3	+0.4
FAKI	Fak Fak	4.11	258	P	Pn	23 40 55.9	+0.5
FAKI	Fak Fak	4.11	258	ePn	Pn	23 40 55.6	+0.2
FAKI				eSn	Sn	23 41 41.6	-0.7
JAY	Jayapura	4.45	96	P	Pn	23 40 59.2	-1.0
MSAI	Masohi	7.45	260	P	Pn	23 41 42.1	+0.8
NLAI	Namlea	9.24	263	P	Pn	23 42 06.0	+0.1
GUMO	Guam	17.73	29	LR	LR	23 51 06.1	
	comp=Z,72nm,18.9s,baz=118,slow=39						
WRAB	Tennant Creek	17.86	186	ePn	Pn	23 44 01.5	+0.5
	19nm,0.8s						
WRA	Warramunga Arr	17.87	186	P	Pn	23 43 59.7	-1.4
	1.3nm,0.3s,baz=9.3,slow=12,SNR=33						
WRA				S	Sn	23 47 14.5	-5.0
	0.6nm,0.3s,baz=9.3,slow=22,SNR=5.4						
WRA				LR	LR	23 51 51.1	
	comp=Z,185nm,21.7s,baz=175,slow=40						
AS01	Alice Springs	21.59	186	eP	P	23 44 44.4	+2.3
ASAR	Alice Springs	21.60	186	P	P	23 44 44.0	+1.9
	33nm,0.8s,baz=13,slow=11,SNR=161						

ASAR				S	S	23 48 37.4	-2.3
	0.3nm,0.7s,baz=349,slow=28,SNR=2.7						
ASAR				LR	LR	23 54 06.8	
	comp=Z,174nm,19.0s,baz=34,slow=39						
FORT	**Forrest**	**29.60**	**194**	*eP*	**P**	**23 45 58.3**	**+1.3**
	20nm,0.7s						
STKA	**Stephens Creek**	**30.08**	**171**	P	**P**	**23 46 03.2**	**+2.0**
	3.5nm,0.5s,baz=346,slow=8.0,SNR=19						
STKA	**Stephens Creek**	**30.08**	**171**	*eP*	**P**	**23 46 03.0**	**+1.8**
	15nm,2.4s						
MJAR	**Matsushiro Arr**	**38.45**	**3**	LR	LR	00 00 16.7	
	comp=Z,26nm,19.6s,baz=160,slow=32						
CM01	**Chiang Mai Arr**	**41.98**	**301**	*eP*	**P**	**23 47 42.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**42.01**	**301**	P	**P**	**23 47 42.4**	**-1.0**
	1.6nm,0.8s,baz=122,slow=6.7,SNR=9.1						
CD2	**Chengdu**	**45.09**	**319**	*eP*	**P**	**23 48 06.0**	**-2.1**
HHC	**Hu-ho-hao-te**	**48.28**	**335**	*eP*	**P**	**23 48 34.8**	**+1.8**
HHC				S	**S**	**23 55 32.6**	**+2.0**
HHC				PMZ			
	13nm,1.0s						
HHC				PMZ			
	53nm,6.2s						
RPZ	**Rata Peaks**	**51.70**	**148**	LR	LR	00 11 25.4	
	comp=Z,224nm,19.0s,baz=198,slow=36						
GTA	**Gaotai**	**53.12**	**325**	*eP*	**P**	**23 49 11.5**	**+1.9**
GTA				pP	**pP**	**23 49 21.8**	**+1.7**
GTA				sP	**sP**	**23 49 26.0**	**+1.8**
GTA				PMZ			
	4.0nm,1.3s						
SONM	**Songino Array**	**56.12**	**336**	P	**P**	**23 49 29.6**	**-1.6**
	0.4nm,0.7s,baz=161,slow=7.9,SNR=3.4						
WMQ	**Urumqi**	**63.00**	**322**	*eP*	**P**	**23 50 19.6**	**+1.0**
MK01	**Makanchi Array**	**67.78**	**323**	*eP*	**P**	**23 50 48.5**	**-0.9**
MKAR	**Makanchi Array**	**67.80**	**323**	*eP*	**P**	**23 50 47.8**	**-1.8**
ZAA0	**Zalesovo Array**	**70.17**	**331**	*eP*	**P**	**23 51 01.8**	**-2.2**
ZALV	**Zalesovo Beam**	**70.17**	**331**	P	P	23 51 00.6	-3.5
	0.9nm,0.7s,baz=104,slow=6.1,SNR=3.7						
KURK	**Kurchatov**	**71.80**	**326**	*eP*	**P**	**23 51 12.5**	**-1.5**
	3.3nm,0.7s						
VNDA	**Vanda**	**76.65**	**174**	P	**P**	**23 51 43.6**	**+1.8**
	1.0nm,0.8s,baz=322,slow=6.6,SNR=5.6						
ABKAR	**Akbulak array**	**82.66**	**320**	*eP*	**P**	**23 52 13.5**	**-1.5**
ARU	**Arti**	**84.92**	**327**	*eP*	**P**	**23 52 24.2**	**-2.2**
	4.3nm,0.8s						
ILAR	**Eielson Array**	**86.26**	**25**	P	**P**	**23 52 31.1**	**-1.8**
	2.1nm,0.9s,baz=269,slow=5.0,SNR=13						
TORD	**Torodi Ar. Bea**	**133.74**	**286**	PKP	**PKPdf**	**23 59 10.1**	**+0.8**
	0.4nm,0.6s,baz=143,slow=1.3,SNR=3.7						
ROSC	**El Rosal**	**149.33**	**84**	PKPbc	**PKPbc**	**23 59 43.0**	**+1.0**
	2.3nm,0.3s,baz=94,slow=16,SNR=4.7						
LPAZ	**La Paz**	**149.78**	**128**	PKPbc	**PKPbc**	**23 59 45.0**	**+1.9**
	1.1nm,0.7s,baz=113,slow=3.2,SNR=3.8						

*IDC **20** 23:49:07.2±1.5,52°.26N×169°.06W,h0km,mb3.6/7, mb1 3.9/8,mb1mx3.5/43,mbtmp3.6/8,ML3.3/1,MS3.4/1, Ms1 3.4/1,ms1mx2.4/39,Error ellipse: s-maj=42.6km s-min=21.8km az=175.0*

*ISCJB **20** 23:49:11.5±0.7,52°.32N±0°.08×169°.02W±0°.08,h33km, mb3.6/6,MS3.4/1,Error ellipse: s-maj=12.2km s-min=4.6km az=150.6*

*NEIC **20** 23:49:13.5,52°.49N×169°.12W,h34km,ML3.3(AEIC),After AEIC.*

ISC 20 23:49:13.1±0.9,52°.5N±0°.1×169°.07W±0°.07,h33km,n28, σ1s06/25,mb3.5/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.52**	**14**	P	**Pn**	**23 49 24.1**	**0.0**
NIKH				S	**Sn**	**23 49 32.8**	**+0.9**
OKSP	**Okmok Steeple**	**0.91**	**31**	P	**Pb**	**23 49 30.2**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**1.10**	**34**	P	**Pb**	**23 49 33.4**	**-0.3**
OKFG	**Magazine Ridge**	**1.17**	**36**	P	**Pn**	**23 49 33.8**	**+0.7**
OKFG				S	**Sb**	**23 49 48.9**	**-0.8**
MSOM	**Makushin Julie**	**1.86**	**43**	P	**Pn**	**23 49 43.4**	**+0.9**
MREP	**Makushin Rep't**	**1.94**	**45**	P	**Pn**	**23 49 44.9**	**+1.2**
MSW	**Makushin Switc**	**2.00**	**43**	P	**Pn**	**23 49 45.8**	**+1.3**
UNV	**Unalaska Valle**	**2.07**	**47**	P	**Pn**	**23 49 46.5**	**+1.0**
UNV				S	**Sn**	**23 50 11.7**	**+1.6**
ZRO	**Akutan Zero**	**2.46**	**48**	P	**Pn**	**23 49 52.8**	**+1.9**
ATKA	**Atka Island**	**3.16**	**267**	P	**Pn**	**23 50 00.4**	**0.0**
ATKA				S	**Sn**	**23 50 38.5**	**+1.7**
GSMY	**Great Sitkin M**	**4.32**	**267**	P	**Pn**	**23 50 17.0**	**+0.6**
GSTD	**Great Sitkin T**	**4.37**	**267**	P	**Pn**	**23 50 18.3**	**+1.2**
ADK	**Adak**	**4.72**	**266**	P	**Pn**	**23 50 23.0**	**+1.1**
ILAR	**Eielson Array**	**16.76**	**34**	Pn	**Pn**	**23 53 04.8**	**-0.2**
	0.1nm,0.3s,baz=226,slow=10,SNR=2.9						
PETK	**Petropavlovsk-**	**20.01**	**285**	P	**P**	**23 53 42.6**	**-0.1**
	2.2nm,0.7s,baz=94,slow=11,SNR=4.7						
YKA	**Yellowknife Ar**	**30.04**	**49**	P	**P**	**23 55 19.1**	**+0.6**
	0.3nm,0.6s,baz=274,slow=8.0,SNR=4.0						
YBH	**Yreka Blue Hor**	**32.80**	**90**	LR	LR	00 04 59.4	
	comp=Z,62nm,18.5s,baz=19,slow=29						
H11N2	**WAKE ISLAND Hy**	**37.65**	**219**	T	T	00 36 36.1	
	baz=23,slow=76,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**37.66**	**219**	T	T	00 36 36.7	
	baz=23,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**37.67**	**219**	T	T	00 36 39.6	
	baz=23,slow=76,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**38.84**	**218**	T	T	00 38 05.4	
	baz=23,slow=76,SNR=158						
H11S2	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	00 38 05.6	
	baz=23,slow=76,SNR=66						
H11S3	**WAKE ISLAND Hy**	**38.85**	**218**	T	T	00 38 06.0	
	baz=23,slow=76,SNR=48						
PDAR	**Pinedale Array**	**40.20**	**79**	P	**P**	**23 56 44.3**	**-2.1**
	0.3nm,0.4s,baz=304,slow=5.1,SNR=3.1						
TXAR	**Lajitas Array**	**52.56**	**89**	P	**P**	**23 58 23.4**	**0.0**
	0.3nm,0.7s,baz=300,slow=6.1,SNR=3.6						
FINES	**FINESS Array B**	**65.79**	**352**	P	**P**	**23 59 53.6**	**-0.7**
	1.0nm,0.8s,baz=24,slow=8.0,SNR=4.0						
CMAR	**Chiang Mai Arr**	**76.78**	**283**	P	**P**	**00 01 01.4**	**+0.2**
	0.8nm,0.5s,baz=20,slow=7.3,SNR=5.1						
ESDC	**Sonseca Array**	**87.32**	**11**	P	**P**	**00 01 56.4**	**0.0**
	0.2nm,0.5s,baz=341,slow=5.4,SNR=4.1						

*IDC **20** 23:59:13.4±1.2,42°.93N×111°.27W,h0km,mb1 3.1/5, mb1mx3.1/28,mbtmp2.8/5,ML2.7/5,Error ellipse: s-maj=20.3km s-min=5.7km az=168.0*

*NEIC **20** 23:59:15.3±0.2,42°.79N×111°.13W,h5km,ML3.3,Error ellipse: s-maj=3.2km s-min=1.8km az=102.0*

NEIC Felt at Blackfoot. Also felt at Afton and Auburn, Wyoming.

ISC 20 23:59:13.6±1.0,42°.80N±0°.02×111°.14W±0°.02,h3km±8km, n128,σ1s47/160,1C-3D,Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHID	**Auburn Hatcher**	**0.04**	**134**	*e*Pg	**Pg**	**23 59 15.1**	**+0.3**
REDW	**Red Top Meadow**	**0.60**	**21**	*i*Pg	**Pb**	**23 59 26.6**	**-0.3**
REDW				*e*Sg	**Sb**	**23 59 35.4**	**-0.6**
TPAW	**Teton Pass**	**0.71**	**11**	*e*Pg	**Pg**	**23 59 28.2**	**+1.0**
SNOW	**Snow King Moun**	**0.72**	**23**	*i*Pg	**Pb**	**23 59 29.1**	**+0.1**
SNOW				*e*Sg	**Sb**	**23 59 39.6**	**+0.1**
BEI	**Bear River Ran**	**0.83**	**215**	*e*Pg	**Pg**	**23 59 30.9**	**+0.2**
BMUT	**Black Mountain**	**0.84**	**185**	*e*Pg	**Pg**	**23 59 30.9**	**+1.2**
FXWY	**Fox Creek**	**0.85**	**6**	*e*Pg	**Pg**	**23 59 30.7**	**+0.9**
LOHW	**Long Hollow**	**0.91**	**26**	*i*Pg	**Pb**	**23 59 32.3**	**+0.2**
MOOW	**Moose Ponds**	**0.99**	**17**	*e*Pg	**Pb**	**23 59 33.7**	**+0.1**
MOOW				*e*Sg	**Sn**	**23 59 48.0**	**-1.3**
MLI	**Malad Range**	**1.06**	**224**	*e*Pg	**Pn**	**23 59 35.3**	**-0.2**
HDU	**Hyde Park**	**1.09**	**205**	*e*Pg	**Pn**	**23 59 35.8**	**-0.1**
IMW	**Indian Meadow**	**1.11**	**8**	*e*Pg	**Pn**	**23 59 36.1**	**-0.2**
BW06	**Boulder Array**	**1.17**	**91**	*e*Pg	**Pb**	**23 59 36.9**	**+0.4**
PDAR	**Pinedale Array**	**1.17**	**91**	Pg	**Pg**	**23 59 38.0**	**+2.1**
	8.4nm,0.3s,baz=278,slow=12,SNR=64						
PDAR				Lg	Lg	23 59 53.9	
	15nm,0.3s,baz=269,slow=18,SNR=8.8						
RSUT	**Red Spur Mount**	**1.18**	**190**	*e*Pg	**Pg**	**23 59 37.3**	**+1.2**
NPI	**North Pocatell**	**1.21**	**238**	*e*Pg	**Pg**	**23 59 38.0**	**+1.3**
HWUT	**Hardware Ranch**	**1.23**	**195**	*e*Pg	**Pn**	**23 59 37.1**	**-0.7**
HWUT				*e*Sg	**Sn**	**23 59 55.1**	**+0.1**
PTU	**Portage**	**1.23**	**226**	*e*Pg	**Pg**	**23 59 38.3**	**+1.1**
HONU	**Honeyville**	**1.32**	**206**	*e*Pg	**Pg**	**23 59 40.1**	**+1.3**
FLWY	**Flagg Ranch**	**1.33**	**14**	*e*Pg	**Pg**	**23 59 39.7**	**+0.7**
FLWY				*e*Sn	**Sg**	**00 00 00.6**	**+4.4**
WVUT	**Wellsville**	**1.33**	**207**	*e*Pg	**Pg**	**23 59 39.7**	**+0.6**
MCU	**Monte Cristo P**	**1.36**	**192**	*e*Pg	**Pb**	**23 59 40.0**	**+0.2**
MCID	**Moose Creek**	**1.39**	**359**	*e*Pn	**Pg**	**23 59 41.2**	**+0.9**
LTU	**Little Mountai**	**1.46**	**215**	*e*Pn	**Pb**	**23 59 41.6**	**+0.2**
MTUT	**Morton Thiokol**	**1.46**	**222**	*e*Pn	**Pb**	**23 59 41.6**	**+0.2**
YPP	**Pitchstone Pla**	**1.50**	**9**	*e*Pn	**Pg**	**23 59 42.7**	**+0.5**
GZU	**Grizzly Peak**	**1.50**	**205**	*e*Pn	**Pb**	**23 59 42.2**	**-0.1**
YMS	**Mount Sheridan**	**1.53**	**17**	*e*Pn	**Pb**	**23 59 43.3**	**+0.4**
HVU	**Hansel Valley**	**1.58**	**231**	*e*Pn	**Pb**	**23 59 43.4**	**-0.1**
HVU				*e*Sn	**Sg**	**00 00 05.1**	**+0.8**
J19A	**Crowheart**	**1.60**	**72**	Pb	**Pb**	**23 59 44.6**	**+0.7**
	baz=1.6						
J19A				Sb	**Sg**	**00 00 06.5**	**+1.4**
	baz=1.6						
H17A	**Grant Village**	**1.65**	**14**	*e*Pn	**Pb**	**23 59 45.1**	**+0.3**
YFT	**Old Faithful**	**1.67**	**8**	*e*Pn	**Pg**	**23 59 46.6**	**+1.1**
TCUT	**Toone Canyon**	**1.69**	**187**	*e*Pn	**Pb**	**23 59 46.1**	**+0.7**
TCUT				*e*Sn	**Sg**	**00 00 09.1**	**+1.2**
YLT	**Little Thumb C**	**1.69**	**14**	*e*Pn	**Pb**	**23 59 45.6**	**+0.1**
EPU	**East Promontor**	**1.69**	**214**	*e*Pn	**Pb**	**23 59 45.0**	**-0.4**
YTP	**The Promontory**	**1.71**	**21**	*e*Pn	**Pb**	**23 59 45.9**	**+0.1**
FPU	**Francis Peak**	**1.84**	**197**	*e*Pn	**Pn**	**23 59 47.2**	**+0.8**
LKWY	**Lake**	**1.85**	**17**	*e*Pn	**Pg**	**23 59 50.0**	**+0.9**
YPM	**Purple Mountai**	**1.87**	**6**	*e*Pn	**Pb**	**23 59 48.3**	**-0.3**
YMR	**Madison River**	**1.88**	**4**	*e*Pn	**Pb**	**23 59 48.5**	**-0.1**
YNR	**Norris Junctio**	**1.95**	**10**	*e*Pn	**Pb**	**23 59 49.1**	**-0.8**
NAIU	**Northern Antel**	**1.95**	**205**	*e*Pn	**Pb**	**23 59 48.9**	**-1.0**
YHB	**Horse Butte**	**1.96**	**359**	*e*Pn	**Pb**	**23 59 49.6**	**-0.4**
YMC	**Maple Creek**	**1.96**	**3**	*e*Pn	**Pb**	**23 59 49.7**	**-0.4**
I19A	**Meeteetse**	**2.00**	**51**	Pb	**Pb**	**23 59 51.7**	**+1.0**
	baz=1.9						
I19A				Sb	**Sg**	**00 00 17.8**	**0.0**
	baz=1.9						
YHH	**Holmes Hill**	**2.00**	**6**	*e*Pn	**Pb**	**23 59 50.2**	**-0.6**
QLMT	**Earthquake Lak**	**2.04**	**354**	*e*Pn	**Pb**	**23 59 50.6**	**-0.9**
QLMT				*e*Sn	**Sg**	**00 00 21.3**	**+2.0**
RBU	**Red Butte Cany**	**2.07**	**194**	*e*Pn	**Pn**	**23 59 50.6**	**+1.2**
SAIU	**Southern Antel**	**2.09**	**202**	*e*Pn	**Pb**	**23 59 50.9**	**-1.3**
HTU	**Hoyt Peak**	**2.12**	**182**	*e*Pn	**Pn**	**23 59 51.2**	**+1.1**
CTU	**Camp Tracy**	**2.15**	**192**	*e*Pn	**Pn**	**23 59 54.1**	**+0.8**
CTU				*e*Sn	**Sg**	**00 00 22.3**	**-0.4**
SNUT	**Stansbury Nort**	**2.17**	**209**	*e*Pn	**Pb**	**23 59 52.0**	**-1.5**
JLU	**Jordanelle**	**2.21**	**186**	*e*Pn	**Pb**	**23 59 52.9**	**-1.3**
JLU				*e*Sn	**Sg**	**00 00 24.2**	**-0.2**
NOQ	**North Oquirrh**	**2.26**	**199**	*e*Pn	**Pn**	**23 59 53.4**	**+1.4**
GMU	**Granite Mounta**	**2.27**	**192**	*e*Pn	**Pn**	**23 59 53.5**	**+1.4**
J20A	**Shoshoni**	**2.31**	**75**	Pb	**Pb**	**23 59 56.8**	**+0.9**
	baz=2.3						
J20A				Sb	**Sg**	**00 00 27.5**	**-0.3**
	baz=2.3						
BGU	**Big Grassy Mou**	**2.34**	**218**	*e*Pn	**Pn**	**23 59 54.0**	**+0.9**
BGU				*e*Sn	**Sb**	**00 00 26.3**	**+0.4**
MCMT	**McKenzie Canyo**	**2.38**	**329**	*e*Pn	**Pb**	**23 59 57.0**	**-0.1**
MCMT				*e*Sn	**Sg**	**00 00 32.3**	**+2.3**
H19A	**Powell**	**2.44**	**39**	Pb	**Pb**	**23 59 58.7**	**+0.6**
	baz=2.4						
I20A	**Worland**	**2.48**	**61**	Pb	**Pb**	**00 00 00.0**	**+1.1**
	baz=2.4						
I20A				Sb	**Sg**	**00 00 32.2**	**-1.1**
	baz=2.4						
HLID	**Hailey**	**2.51**	**289**	Pb	**Pb**	**23 59 59.6**	**+0.2**
	baz=2.5						
HLID				Sb	**Sg**	**00 00 33.5**	**-0.8**
	baz=2.5						
HLID	**Hailey**	**2.51**	**289**	*e*Pn	**Pb**	**23 59 58.0**	**-1.4**
HLID				*e*Sn	**Sb**	**00 00 30.0**	**-0.8**
BGMT	**Barton Gulch**	**2.52**	**345**	*e*Pn	**Pb**	**23 59 57.9**	**-1.7**
RLMT	**Red Lodge**	**2.69**	**30**	Pb	**Pb**	**00 00 02.3**	**-0.2**
	baz=2.6						
J21A	**Lysite**	**2.76**	**77**	Pb	**Pb**	**00 00 03.5**	**-0.2**
	baz=2.8						
J21A				Sb	**Sb**	**00 00 40.2**	**+2.1**
	baz=2.8						
DLMT	**Dillon**	**2.77**	**338**	*e*Pn	**Pb**	**00 00 01.5**	**-2.3**
DLMT				*e*Sn	**Sg**	**00 00 42.5**	**-0.1**
MPU	**Maple Canyon**	**2.80**	**188**	*e*Pn	**Pb**	**00 00 02.0**	**-2.4**
MPU				*e*Sn	**Sb**	**00 00 38.4**	**-0.8**
BOZ	**Bozeman (W)**	**2.87**	**353**	Pb	**Pb**	**00 00 04.2**	**-1.4**
	baz=2.8						
BOZ				Sb	**Sb**	**00 00 42.5**	**+1.4**
	baz=2.8						
BOZ	**Bozeman (W)**	**2.87**	**353**	*e*Pn	**Pb**	**00 00 02.8**	**-2.7**
DUG	**Dugway, Tooele**	**2.89**	**206**	P	**Pn**	**00 00 02.2**	**+1.6**
	baz=3.0						
DUG	**Dugway, Tooele**	**2.89**	**206**	*e*Pn	**Pn**	**00 00 02.0**	**+1.4**
DUG				*e*Sn	**Sg**	**00 00 47.6**	**+1.4**
NLU	**North Lily Min**	**2.92**	**194**	*e*Pn	**Pn**	**00 00 02.9**	**+1.8**
NLU				*e*Sn	**Sn**	**00 00 37.7**	**+0.8**
RWWY	**Rawlins**	**3.12**	**109**	*e*Pn	**Pg**	**00 00 13.6**	**+0.2**
RWWY				*e*Sn	**Sg**	**00 00 53.3**	**-0.6**
LRM	**Limekiln Ridge**	**3.17**	**343**	*e*Pn	**Pb**	**00 00 11.4**	**+0.8**
LRM				*e*Sg	**Sg**	**00 00 55.3**	**0.0**
GCMT	**Greycliff**	**3.18**	**19**	*e*Pn	**Pb**	**00 00 07.7**	**-3.0**
GCMT				*e*Sg	**Sg**	**00 00 54.5**	**-1.1**
LEVU	**Levan**	**3.33**	**189**	*e*Pn	**Pn**	**00 00 08.5**	**+1.8**
K22A	**Casper**	**3.41**	**91**	*e*Pn	**Pn**	**00 00 09.4**	**+1.7**
O20A	**White River Ci**	**3.44**	**140**	*e*Pn	**Pn**	**00 00 09.7**	**+1.5**
MFID	**Camas Ranch**	**3.49**	**282**	*e*Pn	**Pn**	**00 00 12.9**	**-3.1**
TMUT	**Trail Mountain**	**3.50**	**181**	*e*Pg	**Pb**	**00 00 15.9**	**-0.4**
FSU	**Fish Springs**	**3.51**	**210**	*e*Pn	**Pn**	**00 00 11.1**	**+2.0**
ELK	**Elko**	**3.69**	**238**	Pn	**Pn**	**00 00 13.8**	**+2.1**
	0.6nm,0.3s,baz=63,slow=11,SNR=8.1						
ELK				Pg	**Pb**	**00 00 19.4**	**0.0**
	1.5nm,0.3s,baz=51,slow=11,SNR=11						
ELK				Lg	Lg	00 01 06.3	
	1.8nm,0.3s,baz=178,slow=20,SNR=2.0						
SRU	**San Rafael Swe**	**3.71**	**173**	*e*Pg	**Pb**	**00 00 20.7**	**+0.8**
HRY	**Holter Researc**	**3.94**	**353**	*e*Pn	**Pn**	**00 00 17.3**	**+2.2**
HRY				*e*Sg	**Sg**	**00 01 16.6**	**-3.7**
N23A	**Red Feather La**	**4.32**	**114**	*e*Pn	**Pn**	**00 00 21.9**	**+1.5**
N23A				*e*Sn	**Sb**	**00 01 18.4**	**-4.6**
MSU	**Marysvale**	**4.35**	**191**	*e*Pn	**Pn**	**00 00 23.0**	**+2.2**
MVU	**Marysvale**	**4.37**	**191**	*e*Pn	**Pn**	**00 00 23.6**	**+2.6**
CHMT	**Chamberlain Mo**	**4.38**	**341**	*e*Pn	Pn	00 00 24.2	+3.0
PHWY	**Pilot Hill**	**4.49**	**108**	*e*Pn	**Pn**	**00 00 24.9**	**+2.2**
MSO	**Missoula**	**4.50**	**335**	*e*Pg	**Pb**	**00 00 34.8**	**+1.6**
PV09	**Paradox Valley**	**4.56**	**160**	*e*Pn	**Pn**	**00 00 26.2**	**+2.5**
MMU	**Miners Mountai**	**4.59**	**181**	*e*Pn	**Pn**	**00 00 26.3**	**+2.2**
PV10	**Paradox Valley**	**4.70**	**159**	*e*Pg	**Pb**	**00 00 36.9**	**+0.2**
PV04	**Paradox Valley**	**4.72**	**158**	*e*Pg	**Pb**	**00 00 38.5**	**+1.5**
PV04				*e*Sg	**Sb**	**00 01 31.8**	**-2.5**
SLMT	**Seeley Lake**	**4.75**	**340**	*e*Pn	Pn	00 00 30.1	+4.0
SMCO	**Snowmass**	**4.80**	**137**	*e*Pn	Pn	00 00 30.1	+3.0
PV15	**Paradox Valley**	**4.89**	**155**	*e*Pn	Pn	00 00 31.3	+3.1
PV05	**Paradox Valley**	**4.96**	**161**	*e*Pn	**Pn**	**00 00 29.6**	**+0.3**
PV01	**Paradox Valley**	**5.05**	**156**	*e*Pn	**Pn**	**00 00 33.0**	**+2.6**
SWMT	**Swartz Lake**	**5.13**	**338**	*e*Pg	Pn	00 00 45.5	+1.6
ISCO	**Idaho Springs**	**5.13**	**124**	*e*Pg	**Pb**	**00 00 44.3**	**+0.2**
BMN	**Battle Mountai**	**5.13**	**245**	*e*Pg	**Pb**	**00 00 44.0**	**-0.1**
EGMT	**Eagleton**	**5.32**	**10**	*e*Pg	**Pb**	**00 00 47.2**	**0.0**
RSSD	**Black Hills**	**5.34**	**73**	*e*Pn	Pn	00 00 36.0	+1.6
CCUT	**Cedar City**	**5.51**	**199**	*e*Pn	**Pn**	**00 00 38.0**	**+1.3**
WVOR	**Wild Horse Val**	**5.54**	**269**	*e*Pn	Pn	00 00 38.7	+1.7
R11A	**Troy Canyon, C**	**5.58**	**219**	*e*Pn	Pn	00 00 40.5	+2.9
BSMT	**Bassoo Peak**	**5.67**	**334**	*e*Pg	**Pb**	**00 00 54.7**	**+1.5**
BSMT				*e*Sg	**Sb**	**00 02 02.1**	**+0.5**
KNB	**Kanab**	**5.92**	**193**	*e*Pg	**Pb**	**00 00 58.5**	**+1.1**
MVCO	**Mesa Verde**	**5.94**	**159**	*e*Pn	Pn	00 00 45.0	+2.4
Q24A	**Divide**	**5.94**	**128**	*e*Pn	Pn	00 00 42.5	-0.2
S22A	**4UR Ranch, Cre**	**6.03**	**145**	*e*Pn	Pn	00 00 44.3	+0.4
S22A				*e*Sg	Sg	00 02 21.9	-5.2
G08A	**Pilot Rock**	**6.16**	**297**	*e*Pg	**Pb**	**00 01 03.5**	**+1.9**
G08A				*e*Sg	**Sg**	**00 02 09.4**	**-2.1**
WALA	**Waterton Lakes**	**6.55**	**344**	*e*Pg	**Pb**	**00 01 09.7**	**+1.5**
WALA				*e*Sg	**Sg**	**00 02 42.3**	**-1.7**
TPH	**Tonopah**	**6.61**	**227**	*e*Pn	Pn	00 00 54.1	+2.2
NEW	**Newport**	**6.89**	**325**	Lg	Lg	00 02 43.8	
	0.4nm,0.3s,baz=43,slow=20,SNR=6.6						
NEW	**Newport**	**6.89**	**325**	*e*Pn	**Pn**	**00 00 56.4**	**+0.9**
NEW				*e*Sg	Sb	00 02 41.8	+5.2
D08A	**Wollman Farm,**	**6.97**	**310**	*e*Pn	**Pn**	**00 00 57.5**	**+1.0**
D08A				*e*Sg	Sg	00 02 55.8	-1.5
NVAR	**Mina Array Bea**	**6.98**	**234**	Pn	**Pn**	**00 00 58.6**	**+1.8**
	0.1nm,0.3s,baz=47,slow=11,SNR=3.8						
NVAR				Lg	Lg	00 02 56.5	
	0.5nm,0.3s,baz=37,slow=42,SNR=3.9						
SHPR	**Sheep Range**	**7.00**	**208**	*e*Pn	**Pn**	**00 00 59.2**	**+2.0**
C09A	**Chrisman Ranch**	**7.09**	**317**	*e*Pn	**Pn**	**00 00 59.5**	**+1.3**
C09A				*e*Sg	**Sb**	**00 02 46.0**	**+3.7**
WUAZ	**Wupatki**	**7.27**	**181**	*e*Pn	**Pn**	**00 01 03.1**	**+2.2**
T25A	**Trinidad**	**7.66**	**135**	*e*Pn	**Pn**	**00 01 05.8**	**-0.3**
T25A				*e*Sg	**Sg**	**00 03 16.2**	**-3.2**
W18A	**Petrified Fore**	**7.75**	**171**	*e*Pn	**Pn**	**00 01 08.2**	**+0.8**
LTY	**Liberty**	**8.09**	**307**	*e*Pn	**Pn**	**00 01 12.2**	**+0.3**
LTY				*e*Sg	**Sg**	**00 03 33.5**	**+0.4**
ANMO	**Albuquerque**	**8.65**	**153**	Pn	**Pn**	**00 01 21.8**	**+2.1**
	0.1nm,0.3s,baz=335,slow=18,SNR=2.2						
ANMO				Lg	Lg	00 03 41.6	
	0.2nm,0.3s,baz=283,slow=18,SNR=3.3						
TXAR	**Lajitas Array**	**14.72**	**153**	Pn	**P**	**00 02 47.8**	**-1.3**
	0.0nm,0.3s,baz=332,slow=13,SNR=2.3						
YKA	**Yellowknife Ar**	**19.84**	**355**	P	**P**	**00 03 44.4**	**-0.8**
	0.0nm,0.3s,baz=176,slow=10,SNR=2.7						

*IDC **21** 00:02:27.9±1.5,15°.53S×173°.09W,h0km,mb4.0/8, mb1 4.3/8,mb1mx4.0/34,mbtmp4.0/8,Error ellipse: s-maj=93.2km s-min=19.0km az=147.0*

*ISCJB **21** 00:02:30.9±1.3,15°.3S±0°.5×173°.3W±0°.4,h29km,mb3.9/8, Error ellipse: s-maj=89.0km s-min=16.8km az=146.7*

ISC 21 00:02:32.4±1.5,15°.4S±0°.5×173°.2W±0°.4,h29km,n16, σ0s58/10,mb3.8/8,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**39.10**	**329**	T	T	00 51 57.4	
	baz=149,slow=76,SNR=9.0						
H11S3	**WAKE ISLAND Hy**	**39.11**	**329**	T	T	00 51 57.6	
	baz=149,slow=76,SNR=7.7						
H11S1	**WAKE ISLAND Hy**	**39.11**	**329**	T	T	00 51 56.4	
	baz=149,slow=76,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**40.04**	**330**	T	T	00 53 08.6	
	baz=149,slow=76,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**40.05**	**330**	T	T	00 53 11.7	
	baz=149,slow=76,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**40.06**	**330**	T	T	00 53 08.5	
	baz=149,slow=76,SNR=8.5						
STKA	**Stephens Creek**	**44.20**	**240**	P	**P**	**00 10 39.1**	**+0.1**
	3.3nm,0.6s,baz=86,slow=8.7,SNR=11						
WRA	**Warramunga Arr**	**50.03**	**257**	P	**P**	**00 11 24.5**	**-0.3**
	0.8nm,0.8s,baz=97,slow=8.0,SNR=3.6						
ASAR	**Alice Springs**	**50.29**	**252**	P	**P**	**00 11 26.6**	**-0.1**
	4.8nm,0.7s,baz=87,slow=7.7,SNR=47						
NVAR	**Mina Array Bea**	**74.22**	**42**	P	**P**	**00 14 06.9**	**-0.1**
	0.3nm,0.5s,baz=

0.2nm,0.3s,baz=275,slow=11,SNR=2.8
CFAA Coronel Fontan 18.18 160 P **Pn 00 58 48.9 +1.3**
0.0nm,0.3s,baz=326,slow=11,SNR=7.4
PTGA Pitinga 20.69 50 P **P 00 59 14.6 -0.3**
3.3nm,0.6s,baz=218,slow=9.1,SNR=5.8
PTGA LR LR 01 08 02.1
comp=Z,26nm,21.8s,baz=236,slow=39
SDV Santo Domingo 23.87 12 *eP* **P 00 59 47.3 -0.6**
5.3nm,0.6s
BDFB Brasilia 26.60 96 LR LR 01 11 03.0
comp=Z,48nm,19.0s,baz=214,slow=37
TXAR Lajitas Array 51.45 328 P **P 01 03 39.0 -0.2**
0.3nm,0.6s,baz=150,slow=8.6,SNR=6.3
TXAR pP **pP 01 03 52.6 -0.8**
0.4nm,0.7s,baz=146,slow=10,SNR=4.9
PDAR Pinedale Array 65.09 333 P **P 01 05 13.5 -0.9**
0.2nm,0.4s,baz=135,slow=7.3,SNR=2.4
NVAR Mina Array Bea 66.24 324 P **P 01 05 22.0 +0.2**
0.2nm,0.3s,baz=120,slow=6.4,SNR=3.5
TORD Torodi Ar. Bea 81.29 74 P **P 01 06 50.8 +0.5**
2.1nm,0.8s,baz=264,slow=3.6,SNR=22
TORD pP **pP 01 07 03.9 -1.5**
0.5nm,0.5s,baz=263,slow=4.4,SNR=2.9
WRA Warramunga Arr 134.78 221 PKP **PKPdf 01 13 53.4 +0.6**
0.4nm,0.3s,baz=156,slow=2.1,SNR=3.3
ZALV Zalesovo Beam 137.85 17 PKP **PKPdf 01 13 58.1 +0.8**
0.3nm,0.3s,baz=291,slow=4.0,SNR=3.3
SONM Songino Array 146.85 358 PKPbc **PKPbc 01 14 15.9 +0.3**
1.1nm,0.5s,baz=316,slow=2.2,SNR=8.5

*ISCJB **21** 01:16:02.5±0.5,32.°66N±0.°06×85.°45E±0.°05,h10km, mb4.0/17,MS3.6/17, Error ellipse: s-maj=9.0km s-min=5.7km az=179.4*
*IDC **21** 01:16:02.6±0.8,32.°63N×85.°54E,h0km,mb4.0/14, mb1 4.2/16,mb1mx4.0/29,mbtmp4.0/16,ML4.7/1,MS3.6/18, Ms1 3.6/18,ms1mx3.5/30, Error ellipse: s-maj=26.7km s-min=15.7km az=49.0*
*NEIC **21** 01:16:04.5±0.5,32.°68N×85.°46E,h10km,mb4.1/6, Error ellipse: s-maj=13.3km s-min=7.9km az=219.0*
*BJI **21** 01:16:11.0,33.°40N×86.°10E,h9km,mb4.4/8,mB4.5/6, Ms4.1/7,Ms7 3.9/6*

ISC 21 01:16:04.7±0.6, 32.°69N±0.°09×85.°44E±0.°06, h10km, n41, σ1°35/35, mb4.0/17, MS3.6/17, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**5.73**	**120**	Pn	**Pn**	**01 17 31.8**	**+1.5**
LSA	**Lhasa**	**5.73**	**120**	*e*Pn	**Pn**	**01 17 32.2**	**+1.9**
	14nm,0.7s						
SMLA	**Simla**	**7.20**	**260**	*e*P	**Pn**	**01 17 50.2**	**+0.1**
SMLA				*e*S	**Sn**	**01 19 13.6**	**+1.7**
SMLA				AML	AML	01 20 35.3	
	comp=N,7.1nm,0.1s						
SMLA				AML	AML	01 20 37.0	
	comp=E,5.9nm,0.1s						
DHRM	**DHARAMSHALA**	**7.73**	**269**	*e*P	Pn	01 17 52.7	-4.9
DHRM				*e*S	**Sn**	**01 19 26.5**	**+1.1**
DHRM				AML	AML	01 19 45.0	
	comp=N,28nm,0.5s						
DHRM				AML	AML	01 19 45.9	
	comp=E,43nm,0.2s						
KBL	**Kabul**	**13.79**	**282**	*e*Pn	**Pn**	**01 19 17.8**	**-2.6**
	comp=E,6.3nm,0.4s						
KBL				*e*S	**Sn**	**01 21 52.6**	**-1.2**
MK31	**Makanchi Array**	**14.29**	**351**	*e*Pn	**Pn**	**01 19 26.5**	**-0.6**
CD2	**Chengdu**	**15.68**	**92**	*e*P	Pn	01 19 35.0	-11
CD2				pP	pP	01 19 51.3	-1.5
CD2				sP	sP	01 19 52.8	-1.3
CD2				S	Sn	01 22 25.1	-15
CD2				sS	sS	01 23 01.8	+2.5
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=N,2μm,12.5s						
CD2				LR	LR		
	comp=E,860nm,8.4s						
CD2				LR	LR		
	comp=Z,900nm,7.0s						
KKAR	**Karatay Array**	**15.69**	**316**	*e*Pn	**Pn**	**01 19 46.1**	**+0.3**
	comp=Z,3.2nm,0.7s						
KURBB	**Kurchatov Arra**	**18.63**	**346**	P	**P**	**01 20 21.2**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=161,slow=11,SNR=15						
CMAR	**Chiang Mai Arr**	**18.66**	**136**	P	**P**	**01 20 21.3**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=317,slow=11,SNR=7.4						
CMAR				LR	LR	01 28 59.5	
	comp=Z,149nm,18.1s,baz=322,slow=42						
KURK	**Kurchatov**	**18.70**	**346**	*e*P	**P**	**01 20 22.1**	**-1.0**
	comp=Z,19nm,1.3s						
ENH	**Enshi**	**20.65**	**90**	*e*P	**P**	**01 20 42.7**	**-1.9**
	comp=Z,4.1nm,0.3s						
ZAA0	**Zalesovo Array**	**21.25**	**359**	*e*P	**P**	**01 20 50.1**	**-0.8**
ZALV	**Zalesovo Beam**	**21.25**	**359**	P	**P**	**01 20 50.6**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=178,slow=12,SNR=8.8						
ZALV				LR	LR	01 30 22.7	
	comp=Z,218nm,18.1s,baz=248,slow=40						
SONM	**Songino Array**	**21.91**	**40**	P	**P**	**01 20 58.3**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=227,slow=10,SNR=10.0						
SONM				LR	LR	01 30 05.9	
	comp=Z,305nm,20.3s,baz=228,slow=38						
HHC	**Hu-ho-hao-te**	**22.40**	**61**	*e*P	**P**	**01 21 03.0**	**-0.5**
HHC				PP	**PnPn**	**01 21 30.1**	**+3.8**
HHC				PMZ			
	comp=Z,13nm,0.7s						
HHC				PMZ			
	comp=Z,92nm,4.7s						
HHC				LN			
	comp=Z,180nm,7.1s						
HHC				LE			
	comp=Z,170nm,7.4s						
HHC				LZ			
	comp=Z,130nm,8.7s						
BVAR	**Borovoye Array**	**23.03**	**336**	P	**P**	**01 21 09.8**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=159,slow=13,SNR=7.5						
ABKAR	**Akbulak array**	**25.21**	**319**	*e*P	**P**	**01 21 32.3**	**+1.9**
	comp=Z,2.9nm,0.8s						
AKTO	**Aktyubinsk**	**26.89**	**319**	P	**P**	**01 21 47.5**	**+1.9**
	comp=Z,2.3nm,0.9s,baz=133,slow=7.0,SNR=8.5						
KSRS	**Korea Array**	**34.88**	**70**	LR	LR	01 37 51.0	
	comp=Z,67nm,20.0s,baz=295,slow=38						
RAYN	**Ar Rayn**	**36.21**	**266**	*e*P	**P**	**01 23 09.1**	**+1.1**
	comp=Z,3.2nm,1.0s						
BRTR	**Keskin Array B**	**41.90**	**295**	LR	LR	01 45 11.4	
	comp=Z,44nm,19.7s,baz=106,slow=42						
MJAR	**Matsushiro Arr**	**43.16**	**70**	LR	LR	01 42 36.1	
	comp=Z,44nm,21.6s,baz=250,slow=37						
AKASG	**Malin Array Be**	**44.52**	**311**	P	**P**	**01 24 16.9**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=78,slow=8.1,SNR=6.6						
AKASG				LR	LR	01 46 02.0	
	comp=Z,95nm,19.3s,baz=75,slow=40						
FINES	**FINESS Array B**	**47.32**	**326**	P	**P**	**01 24 38.4**	**+0.2**
	comp=Z,5.4nm,0.7s,baz=110,slow=8.7,SNR=36						
FINES				LR	LR	01 44 58.1	
	comp=Z,70nm,19.0s,baz=92,slow=37						
ARCES	**ARCESS Array B**	**49.32**	**336**	P	**P**	**01 24 54.5**	**+0.8**
	comp=Z,4.1nm,0.3s,baz=108,slow=8.7,SNR=3.0						
ARCES				LR	LR	01 47 18.7	
	comp=Z,57nm,19.1s,baz=258,slow=38						
SEY	**Seymchan**	**51.02**	**33**	LR	LR	01 48 05.2	
	comp=Z,165nm,18.1s,baz=278,slow=38						
DPC	**Dobruska-Polom**	**52.75**	**311**	*e*P	**P**	**01 25 21.2**	**+1.5**
PETK	**Petropavlovsk-**	**54.29**	**45**	LR	LR	01 50 21.6	
	comp=Z,53nm,19.2s,baz=272,slow=38						
NB2	**NORSAR Subarra**	**54.47**	**325**	P	**P**	**01 25 32.1**	**-0.1**
	comp=Z,5.3nm,0.7s,baz=86,slow=7.9						
NOA	**NORSAR Array B**	**54.47**	**325**	P	**P**	**01 25 31.8**	**-0.4**
	comp=Z,4.8nm,0.7s,baz=86,slow=7.3,SNR=25						
NOA				LR	LR	01 49 08.5	
	comp=Z,36nm,19.8s,baz=105,slow=36						
NAO01	**NORSAR Array S**	**54.64**	**325**	*e*P	**P**	**01 25 33.5**	**+0.1**
	comp=Z,7.3nm,0.8s						
GERES	**GERESS Array B**	**54.68**	**310**	P	**P**	**01 25 33.5**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=79,slow=6.9,SNR=6.7						
GERES				LR	LR	01 52 52.8	
	comp=Z,60nm,19.6s,baz=76,slow=40						
GUMO	**Guam**	**57.15**	**95**	LR	LR	01 51 21.2	
	comp=Z,46nm,20.8s,baz=116,slow=37						
WRA	**Warramunga Arr**	**70.17**	**131**	P	**P**	**01 27 16.4**	**-1.4**
	comp=Z,1.1nm,0.4s,baz=326,slow=6.5,SNR=4.5						
ASAR	**Alice Springs**	**72.66**	**134**	P	**P**	**01 27 31.9**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=316,slow=5.8,SNR=8.4						
ILAR	**Eielson Array**	**74.65**	**21**	P	**P**	**01 27 43.1**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=312,slow=5.0,SNR=11						
ILAR				LR	LR	02 04 13.8	
	comp=Z,55nm,18.6s,baz=310,slow=39						
TORD	**Torodi Ar. Bea**	**77.82**	**278**	P	**P**	**01 28 02.7**	**0.0**
	comp=Z,1.1nm,0.7s,baz=51,slow=4.1,SNR=12						
TORD				LR	LR	02 07 49.7	
	comp=Z,72nm,18.4s,baz=330,slow=40						
BOSA	**Boshof**	**83.53**	**230**	LR	LR	02 02 58.2	
	comp=Z,22nm,20.1s,baz=350,slow=34						
YKA	**Yellowknife Ar**	**83.78**	**9**	P	**P**	**01 28 33.6**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=337,slow=5.4,SNR=8.8						
DBIC	**Dimbokro**	**86.69**	**276**	LR	LR	02 14 10.9	
	comp=Z,30nm,18.4s,baz=50,slow=40						

*ISCJB **21** 01:21:31.6±0.6,21.°9S±0.°1×179.°5W±0.°1,h592km, mb3.8/10, Error ellipse: s-maj=19.7km s-min=14.0km az=140.2*
*IDC **21** 01:21:35.4±3.9,21.°82S×179.°67W,h623km±46km, mb3.3/10,mb1 3.6/11,mb1mx3.5/18,mbtmp4.3/11, Error ellipse: s-maj=23.8km s-min=17.9km az=87.0*

ISC 21 01:21:32.5±0.6, 21.°9S±0.°1×179.°5W±0.°1, h592km, n28, σ0°80/28, mb3.7/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.01**	**267**	P	**P**	**01 24 21.5**	**-0.1**
	0.8nm,0.3s,baz=270,slow=24,SNR=7.2						
URZ	**Urewera**	**16.54**	**189**	P	**P**	**01 24 52.5**	**-2.4**
	1.4nm,0.3s,baz=354,slow=15,SNR=7.6						
STKA	**Stephens Creek**	**35.89**	**246**	P	**P**	**01 27 45.2**	**+1.0**
	3.7nm,0.5s,baz=88,slow=10,SNR=16						
ASAR	**Alice Springs**	**42.81**	**258**	P	**P**	**01 28 40.1**	**+0.4**
	9.8nm,0.8s,baz=92,slow=8.1,SNR=60						
WRA	**Warramunga Arr**	**43.00**	**264**	P	**P**	**01 28 40.8**	**-0.5**
	8.8nm,0.8s,baz=96,slow=8.2,SNR=27						
VNDA	**Vanda**	**56.38**	**185**	P	**P**	**01 30 19.6**	**+1.5**
	1.8nm,0.7s,baz=358,slow=7.8,SNR=17						
MJAR	**Matsushiro Arr**	**70.52**	**325**	P	**P**	**01 31 48.3**	**-0.5**
	0.4nm,0.3s,baz=169,slow=7.3,SNR=4.6						
MAW	**Mawson**	**79.75**	**200**	P	**P**	**01 32 40.1**	**+0.6**
	2.2nm,0.7s,baz=118,slow=7.8,SNR=10						
NVAR	**Mina Array Bea**	**83.04**	**44**	P	**P**	**01 32 57.7**	**+0.6**
	1.3nm,0.7s,baz=226,slow=8.9,SNR=7.5						
TXAR	**Lajitas Array**	**89.02**	**58**	P	**P**	**01 33 26.6**	**+0.9**
	1.7nm,0.9s,baz=217,slow=6.2,SNR=17						
ILAR	**Eielson Array**	**90.01**	**13**	P	**P**	**01 33 28.7**	**-0.6**
	0.3nm,0.4s,baz=218,slow=4.9,SNR=5.3						
PDAR	**Pinedale Array**	**90.97**	**44**	P	**P**	**01 33 34.5**	**-0.1**
	0.7nm,0.8s,baz=264,slow=1.5,SNR=5.5						
ARCES	**ARCESS Array B**	**130.04**	**349**	PKP	**PKPdf**	**01 39 34.6**	**-0.5**
	1.9nm,0.3s,baz=358,slow=2.7,SNR=3.5						
FINES	**FINESS Array B**	**136.70**	**342**	PKP	**PKPdf**	**01 39 48.4**	**+0.7**
	0.7nm,0.5s,baz=176,slow=2.1,SNR=4.6						
AKASG	**Malin Array Be**	**143.52**	**329**	PKP	PKPab	01 39 58.4	-0.8
	0.6nm,0.3s,baz=42,slow=4.1,SNR=7.5						
BRTR	**Keskin Array B**	**146.68**	**310**	PKPbc	**PKPbc**	**01 40 08.8**	**-0.4**
	0.8nm,0.6s,baz=134,slow=4.3,SNR=6.3						
UPC	**Upice**	**148.96**	**341**	*e*PKP	**PKPbc**	**01 40 14.7**	**+0.4**
DPC	**Dobruska-Polom**	**149.00**	**340**	*e*PKP	**PKPbc**	**01 40 14.9**	**+0.4**
CLL	**Collm**	**149.08**	**345**	*i* PKP	**PKPbc**	**01 40 14.5**	**-0.1**
	comp=Z,6.0nm,1.0s						
BRG	**Berggiesshubel**	**149.23**	**343**	*e*P	**PKPbc**	**01 40 15.2**	**+0.2**
	comp=Z,3.9nm,0.6s						
PVCC	**Panska Ves**	**149.37**	**342**	*e*PKP	**PKPbc**	**01 40 15.9**	**+0.6**
PRA	**Prague**	**149.82**	**342**	*e*PKP	**PKPbc**	**01 40 16.5**	**+0.1**
GOPC	**GO Pecny, Ondr**	**149.86**	**341**	*e*PKP	**PKPbc**	**01 40 16.7**	**+0.2**
PRU	**Pruhonice**	**149.86**	**342**	*e*PKP	**PKPbc**	**01 40 16.5**	**0.0**
TREC	**Trest**	**150.19**	**340**	*e*PKP	**PKPbc**	**01 40 17.3**	**0.0**
KHC	**Kasperske Hory**	**150.91**	**342**	*e*PKP	**PKPbc**	**01 40 19.1**	**+0.1**
KHC				*ex*	x	01 40 20.4	
GERES	**GERESS Array B**	**151.13**	**342**	PKPbc	**PKPbc**	**01 40 19.3**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=29,slow=3.0,SNR=8.1						
TORD	**Torodi Ar. Bea**	**171.20**	**188**	PKP	**PKPdf**	**01 40 33.0**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=119,slow=0.4,SNR=5.7						
TORD				PKPab	**PKPab**	**01 41 57.5**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=177,slow=4.2,SNR=6.7						

IDC 21 01:30:54.0±1.2, 32.°52N×85.°33E, h0km, mb3.5/6, mb1 3.8/6, mb1mx3.5/25, mbtmp3.6/6, MS3.5/3, Ms1 3.5/3, ms1mx2.7/30, Error ellipse: s-maj=34.1km s-min=26.3km az=52.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**21.42**	**359**	P	P	01 35 42.7	-0.7
	0.3nm,0.4s,baz=171,slow=9.8,SNR=2.7						
ZALV				LR	LR	01 44 48.3	
	comp=Z,22nm,18.8s,baz=72,slow=39						
SONM	**Songino Array**	**22.10**	**40**	P	P	01 35 51.6	+0.6
	0.7nm,0.7s,baz=219,slow=12,SNR=4.8						
TGY	**Tagaytay City**	**37.26**	**111**	LR	LR	01 53 19.7	
	comp=Z,298nm,21.1s,baz=36						
ASAJ	**Asahikawa**	**45.56**	**58**	LR	LR	01 58 18.4	
	comp=Z,63nm,19.5s,baz=0,slow=36						
FINES	**FINESS Array B**	**47.40**	**326**	P	P	01 39 30.1	+0.3
	1.1nm,0.8s,baz=109,slow=10,SNR=4.9						
NB2	**NORSAR Subarra**	**54.55**	**325**	P	P	01 40 23.1	-0.6
	comp=Z,0.8nm,0.8s,baz=87,slow=7.4						
NOA	**NORSAR Array B**	**54.55**	**325**	P	P	01 40 23.2	-0.5
	comp=Z,1.4nm,0.8s,baz=87,slow=7.1,SNR=6.8						
WRA	**Warramunga Arr**	**70.13**	**131**	P	P	01 42 08.4	-0.2
	comp=Z,0.6nm,0.3s,baz=326,slow=6.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**77.75**	**278**	P	P	01 42 53.7	+0.3
	comp=Z,0.4nm,0.9s,baz=72,slow=3.0,SNR=2.2						

DJA 21 01:52:20.8±0.3, 3.°S±3.°×10.°2E±.°, h10km, M3.6/5, MLv3.6/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.49**	**136**	P	Pg	01 52 29.0	-1.4
MASI				S	Sb	01 52 37.9	-0.9
MNAI	**Manna**	**1.88**	**146**	P	Pn	01 52 53.2	+0.1
MNAI				S	Sn	01 53 17.9	+1.0
PPSI	**Pulau Pagai**	**1.89**	**271**	P	Pn	01 52 53.4	+0.3
SDSI	**Sungai Dareh**	**1.90**	**346**	P	Pn	01 52 52.5	-0.9
LHSI	**Lahat**	**1.92**	**122**	P	Pn	01 52 53.7	+0.1
JMBI	**JAMBI**	**2.08**	**57**	P	Pn	01 52 56.2	+0.4
JMBI				S	Sn	01 53 23.1	+1.2
MDSI	**Maura Dua**	**2.83**	**127**	P	Pn	01 53 05.7	-0.4
MDSI				S	Sb	01 53 44.1	-2.1
LWLI	**Liwa**	**3.09**	**136**	P	Pn	01 53 09.5	-0.3
SISI	**Saibi**	**3.16**	**297**	P	Pn	01 53 10.5	-0.2

IDC 21 01:54:10.1±1.4, 53.°80S×141.°23E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.8/12, mbtmp3.7/4, MS3.3/2, Ms1 3.3/2, ms1mx2.9/16, Error ellipse: s-maj=116.3km s-min=22.8km az=83.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**21.91**	**1**	P	P	01 59 06.3	+1.5
	2.5nm,0.7s,baz=179,slow=12,SNR=5.3						
VNDA	**Vanda**	**24.97**	**170**	P	P	01 59 34.6	-0.1
	0.8nm,1.0s,baz=328,slow=8.5,SNR=2.8						
H01W1	**Cape Leeuwin H**	**26.80**	**304**	T	T	02 27 31.9	
	baz=143,slow=76,SNR=12						
H01W2	**Cape Leeuwin H**	**26.80**	**304**	T	T	02 27 32.1	
	baz=143,slow=76,SNR=14						
H01W3	**Cape Leeuwin H**	**26.81**	**304**	T	T	02 27 33.3	
	baz=143,slow=76,SNR=14						
ASAR	**Alice Springs**	**30.59**	**347**	P	P	02 00 25.3	-0.3
	1.1nm,0.7s,baz=167,slow=10.0,SNR=10						
WRA	**Warramunga Arr**	**34.21**	**348**	P	P	02 00 56.1	-1.2
	1.5nm,0.8s,baz=171,slow=7.7,SNR=5.2						
MAW	**Mawson**	**37.87**	**218**	LR	LR	02 15 20.3	
	comp=Z,57nm,20.3s,baz=60,slow=34						
CMAR	**Chiang Mai Arr**	**80.61**	**320**	LR	LR	02 42 34.2	
	comp=Z,11nm,19.7s,baz=120,slow=36						
GERES	**GERESS Array B**	**147.47**	**283**	PKPbc	PKPbc	02 13 54.9	-0.3
	0.5nm,0.7s,baz=181,slow=4.9,SNR=3.2						

JMA 21 02:07:18.0±0.9, 32.°36N×142.°49E, h42km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.37**	**289**	P	Pn	02 07 55.7	+1.3
BSO1	**Boso 1**	**2.61**	**332**	P	Pn	02 07 59.0	+2.0
BSO1				*e*S	Sn	02 08 30.0	+3.0
BSO3	**Boso 3**	**2.94**	**326**	P	Pn	02 08 04.1	+2.2
BSO4	**Boso 4**	**3.18**	**326**	P	Pn	02 08 08.2	+2.9
BSO4				*e*S	Sn	02 08 44.7	+2.8
JRY	**Ryogami san**	**4.71**	**322**	P	Pn	02 08 28.8	+2.3
JRY				*e*S	Sn	02 09 20.5	+0.6
JAG	**Ashikaga**	**4.77**	**329**	P	Pn	02 08 29.2	+1.9
JFT	**Otama**	**5.44**	**342**	P	Pn	02 08 38.2	+1.6
JFT				*e*S	Sn	02 09 37.0	-0.9

*ISCJB **21** 02:49:44.3±0.5,2.°34S±0.°05×136.°61E±0.°04,h10km, mb3.9/6,MS3.3/7, Error ellipse: s-maj=7.2km s-min=4.9km az=27.8*
*IDC **21** 02:49:45.8±1.2,2.°52S×136.°94E,h0km,mb4.0/6, mb1 4.2/7,mb1mx4.0/17,mbtmp4.0/7,ML4.2/1,MS3.3/8, Ms1 3.3/8,ms1mx3.1/22, Error ellipse: s-maj=49.9km s-min=13.9km az=86.0*
*DJA **21** 02:49:46.6±0.4,2.°S±4.°×13.°7E±.°,h15km±6km,M4.7/4, MLv4.7/4*

ISC 21 02:49:45.3±0.8, 2.°25S±0.°06×136.°63E±0.°04, h10km, n20, σ1°02/16, mb4.0/6, MS3.3/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.54**	**314**	P	**Pg**	**02 49 56.5**	**+0.6**
SRPI				S	**Sb**	**02 50 05.5**	**+0.7**
BAKI	**Biak**	**1.17**	**334**	P	**Pb**	**02 50 06.4**	**-1.3**
BAKI				S	**Sb**	**02 50 21.4**	**-1.6**
SMPI	**Sarmi**	**2.10**	**83**	P	**Pn**	**02 50 19.7**	**-0.8**
SMPI				S	**Sn**	**02 50 47.2**	**+0.5**
RKPI	**Ransiki, Papua**	**2.56**	**287**	P	**Pn**	**02 50 27.2**	**+0.3**
GENI	**Genyem**	**3.55**	**96**	P	**Pn**	**02 50 40.9**	**+0.3**
JAY	**Jayapura**	**4.08**	**94**	P	**Pn**	**02 50 48.2**	**+0.3**
FAKI	**Fak Fak**	**4.42**	**261**	P	**Pn**	**02 50 53.0**	**+0.4**
FAKI				S	**Sn**	**02 51 43.7**	**-0.5**
WRA	**Warramunga Arr**	**17.73**	**187**	P	**Pn**	**02 53 52.3**	**-0.2**
	0.9nm,0.3s,baz=8.7,slow=12,SNR=7.7						
WRA				S	Sn	02 57 01.4	-8.8
	0.7nm,0.3s,baz=12,slow=22,SNR=4.6						
GUMO	**Guam**	**17.73**	**27**	LR	LR	03 00 57.4	
	comp=Z,34nm,18.9s,baz=133,slow=38						
ASAR	**Alice Springs**	**21.45**	**187**	P	**P**	**02 54 33.0**	**-1.1**
	3.1nm,0.5s,baz=12,slow=10,SNR=30						
ASAR				S	**S**	**02 58 31.0**	**-1.2**
	1.5nm,0.8s,baz=6.3,slow=26,SNR=4.8						
ASAR				LR	LR	03 04 11.7	
	comp=Z,192nm,19.6s,baz=3.0,slow=41						
JCJ	**Chichijima**	**29.66**	**10**	LR	LR	03 05 25.2	
	comp=Z,69nm,21.7s,baz=116,slow=31						
STKA	**Stephens Creek**	**29.84**	**171**	P	**P**	**02 55 53.0**	**+0.2**
	0.8nm,0.4s,baz=357,slow=9.9,SNR=8.3						
MJAR	**Matsushiro Arr**	**38.62**	**2**	LR	LR	03 10 29.3	
	comp=Z,49nm,20.7s,baz=195,slow=32						
KSRS	**Korea Array**	**40.32**	**349**	LR	LR	03 12 03.7	
	comp=Z,28nm,19.6s,baz=185,slow=33						
CMAR	**Chiang Mai Arr**	**42.41**	**301**	P	P	02 57 45.9	+5.4
	2.1nm,0.4s,baz=113,slow=6.9,SNR=6.2						
SONM	**Songino Array**	**56.44**	**336**	P	P	02 59 32.7	+5.3
	0.6nm,0.5s,baz=147,slow=6.6,SNR=4.7						
SONM				LR	LR	03 22 31.8	
	comp=Z,38nm,21.8s,baz=135,slow=35						
YAK	**Yakutsk**	**64.33**	**356**	LR	LR	03 26 19.9	
	comp=Z,41nm,19.4s,baz=222,slow=34						
SEY	**Seymchan**	**66.09**	**8**	LR	LR	03 29 07.1	
	comp=Z,11nm,19.8s,baz=201,slow=36						
ZALV	**Zalesovo Beam**	**70.50**	**330**	P	P	03 01 04.1	+3.9
	1.9nm,0.6s,baz=117,slow=6.0,SNR=8.9						
ILAR	**Eielson Array**	**86.28**	**25**	P	**P**	**03 02 29.1**	**+2.0**
	0.4nm,0.8s,baz=277,slow=4.8,SNR=3.7						

*NIED **21** 02:53:00,43.°60N×147.°30E,h50km,Mw3.8 Best double couple: M0 5.40000×10^14 NP1:ϕ1=49.00000°,δ72.00000°, λ169.00000°. NP2:ϕ2=143.00000°,δ80.00000°,λ19.00000°.*
*JMA **21** 02:53:51.0±0.2,43.°63N×147.°29E,h31km,M4.4*
JMA Felt I ,I1.
*ISCJB **21** 02:53:51.1±0.7,43.°79N±0.°06×147.°29E±0.°07,h59km±5km, mb3.7/11,MS2.5/1, Error ellipse: s-maj=11.1km s-min=5.1km az=141.9*
*SKHL **21** 02:53:52.0±0.3,43.°79N×147.°34E,h72km±2km,mb5.3/4*
*MOS **21** 02:53:53.1±1.4,44.°07N×147.°00E,h68km,mb4.3/5, Error ellipse: s-maj=12.8km s-min=9.0km az=90.9*
*IDC **21** 02:53:55.0±4.0,44.°11N×147.°13E,h67km±26km,mb3.4/9, mb1 3.6/12,mb1mx3.5/26,mbtmp3.7/12,MS2.7/1, Ms1 2.7/1,ms1mx2.2/20, Error ellipse: s-maj=60.8km s-min=19.9km az=164.0*

ISC 21 02:53:52.0±1.0, 43.°83N±0.°06×147.°27E±0.°06, h53km±9km, n60, σ1°32/67, mb3.8/11, 2C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.32**	**277**	*e*P	**Pn**	**02 54 01.2**	**-0.4**
SHO				AMB	AMB	02 54 02.3	
	700nm,0.3s						
SHO				*e*S	**Sn**	**02 54 08.0**	**-0.4**
SHO				A	A	02 54 09.1	
	2μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.04**	**282**	*d* iPN	**Pn**	**02 54 10.4**	**+0.1**
YUK				*i* S	**Sn**	**02 54 24.1**	**+0.4**
YUK				pmax	pmax		
	comp=Z,

	baz=83,slow=14							
ASAJ					S	Sn	02 55 29.1	+8.0
	baz=348,slow=18							
JFR	**Furan**	**3.46**	**261**		P	**Pn**	**02 54 45.3**	**+1.9**
ERM	**Erimo**	**3.52**	**240**	*d*	PN	**Pn**	**02 54 45.6**	**+1.4**
ERM	**Erimo**	**3.52**	**240**		*e*P	**Pn**	**02 54 45.6**	**+1.4**
JSE	**Soyaes**	**3.54**	**290**		P	**Pn**	**02 54 46.3**	**+1.9**
JNBK	**Urakawa-nobuka**	**3.65**	**246**		P	**Pn**	**02 54 45.5**	**-0.5**
JHR	**Hokuryu**	**4.01**	**271**		P	**Pn**	**02 54 54.0**	**+3.1**
YSS	**Yuzh-Sakhalins**	**4.46**	**316**		*e*PN	**Pn**	**02 54 57.9**	**+0.9**
YSS	**Yuzh-Sakhalins**	**4.46**	**316**		*e*P	**Pn**	**02 54 58.3**	**+1.3**
YSS					AMB	AMB	02 54 58.6	
	comp=N,125nm,0.1s							
YSS					*e*S	**Sn**	**02 55 48.6**	**+1.1**
YSS					A	A	02 55 49.7	
	comp=N,240nm,0.4s							
UGL	**Uglegorsk**	**6.36**	**327**		*e*PN	**Pn**	**02 55 20.9**	**-2.1**
UGL					*e*S	**Sn**	**02 56 31.2**	**-3.0**
HABR	**Khabarovsk**	**9.66**	**303**		*e*PN	**Pn**	**02 56 06.4**	**-1.9**
HABR					*e*S	**Sn**	**02 57 52.5**	**-2.7**
HABR					pmax	pmax		
	comp=E,17nm,1.1s							
HABR					pmax	pmax		
	comp=Z,13nm,1.1s							
HABR					pmax	pmax		
	comp=N,4.0nm,0.6s							
HABR					MLR	MLR		
	comp=Z,52nm,21.0s							
HABR	**Khabarovsk**	**9.66**	**303**		*e*P	**Pn**	**02 56 06.4**	**-1.9**
PETK	**Petropavlovsk-**	**11.57**	**33**		P	**Pn**	**02 56 33.6**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=205,slow=17,SNR=4.1							
PETK	**Petropavlovsk-**	**11.57**	**33**		PN	**Pn**	**02 56 33.6**	**-0.7**
PETK					pmax	pmax		
	comp=Z,1.0nm,0.3s							
PET	**Petropavlovsk**	**11.89**	**35**		*e*PN	Pn	02 56 42.1	+3.4
SEY	**Seymchan**	**19.37**	**7**		P	**P**	**02 58 12.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=183,slow=8.3,SNR=8.0							
SEY	**Seymchan**	**19.37**	**7**	⇑	*e*P	**Pn**	**02 58 14.4**	**-0.1**
SEY	**Seymchan**	**19.37**	**7**		*e*P	**Pn**	**02 58 14.4**	**-0.1**
YAK	**Yakutsk**	**20.96**	**337**		LR	LR	03 05 56.1	
	comp=Z,22nm,20.0s,baz=215,slow=35							
SONM	**Songino Array**	**28.52**	**293**		P	**P**	**02 59 43.0**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=83,slow=9.0,SNR=3.6							
SONM	**Songino Array**	**28.52**	**293**		P	**P**	**02 59 43.0**	**+0.6**
SONM					pmax	pmax		
	comp=Z,1.0nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**29.11**	**139**		T	T	03 30 27.9	
	baz=330,slow=76,SNR=160							
H11N1	**WAKE ISLAND Hy**	**29.12**	**139**		T	T	03 30 26.1	
	baz=330,slow=76,SNR=163							
H11N3	**WAKE ISLAND Hy**	**29.12**	**139**		T	T	03 30 26.4	
	baz=330,slow=76,SNR=252							
H11S1	**WAKE ISLAND Hy**	**30.07**	**141**		T	T	03 31 42.8	
	baz=331,slow=76,SNR=414							
H11S3	**WAKE ISLAND Hy**	**30.08**	**141**		T	T	03 31 36.9	
	baz=331,slow=76,SNR=341							
H11S2	**WAKE ISLAND Hy**	**30.09**	**141**		T	T	03 31 50.0	
	baz=331,slow=76,SNR=153							
ZAK	**Zakamensk**	**30.29**	**298**		*e*P	P	02 59 55.0	-3.1
ZAK					pmax	pmax		
	comp=Z,3.0nm,1.2s							
COLA	**College**	**40.96**	**36**	⇓	*i*P	**P**	**03 01 29.7**	**+0.7**
COLA					pmax	pmax		
	comp=Z,5.0nm,0.6s							
COLA	**College**	**40.96**	**36**		*e*P	**P**	**03 01 29.7**	**+0.7**
ILAR	**Eielson Array**	**41.37**	**36**		P	**P**	**03 01 32.9**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=280,slow=9.5,SNR=10.0							
ILAR	**Eielson Array**	**41.37**	**36**		*e*P	**P**	**03 01 34.9**	**+2.4**
ILAR					pmax	pmax		
	comp=Z,1.0nm,0.7s							
ILAR	**Eielson Array**	**41.37**	**36**		*e*P	**P**	**03 01 34.9**	**+2.4**
INK	**Inuvik**	**46.29**	**30**		P	**P**	**03 02 12.4**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=286,slow=3.7,SNR=13							
INK	**Inuvik**	**46.29**	**30**		P	**P**	**03 02 12.4**	**+0.6**
INK					pmax	pmax		
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**55.69**	**34**		P	**P**	**03 03 22.9**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=303,slow=7.4,SNR=4.0							
YKA	**Yellowknife Ar**	**55.69**	**34**		*e*P	**P**	**03 03 22.7**	**+0.3**
FINES	**FINESS Array B**	**64.84**	**333**		P	**P**	**03 04 24.1**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=50,slow=7.5,SNR=14							
FINES	**FINESS Array B**	**64.84**	**333**		*e*P	**P**	**03 04 24.1**	**-0.8**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.4s							
NB2	**NORSAR Subarra**	**69.56**	**339**		P	**P**	**03 04 54.1**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=32,slow=6.5							
NOA	**NORSAR Array B**	**69.56**	**339**		P	**P**	**03 04 54.1**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=45,slow=6.7,SNR=17							
AKASG	**Malin Array Be**	**71.56**	**324**		P	**P**	**03 05 06.8**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=39,slow=6.3,SNR=4.9							
GERES	**GERESS Array B**	**79.13**	**331**		P	**P**	**03 05 50.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=47,slow=5.9,SNR=4.1							
TXAR	**Lajitas Array**	**82.53**	**56**		P	**P**	**03 06 09.7**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=343,slow=2.8,SNR=3.3							

*SJA **21** 02:59:24.0±0.8, 35°.47S×73°.99W, h407km±32km, ML4.1, MW3.5*
*GUC **21** 02:59:43.2±0.3, 35°.14S×72°.78W, h2km±2km, ML4.1*
ISC 21 02:59:41.7±2.8, 35°.13S±0°.05×72°.8W±0°.1, h1km±13km, n22, σ1°57/32, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°		Phase	ID	Time	Res
					Op	ISC	h m s	ISC
TALC	**Talca**	**1.00**	**106**	⇓	*i*P	**Pg**	**03 00 01.8**	**+1.0**
TALC					*i*S	**Sn**	**03 00 16.2**	**-1.4**
LNCH	**Linares**	**1.22**	**126**		*e*P	**Pb**	**03 00 05.5**	**-0.1**
LNCH					*i*S	**Sn**	**03 00 22.1**	**-0.9**
NICH	**Los Niches**	**1.30**	**85**		*e*P	**Pn**	**03 00 06.8**	**-0.3**
NICH					*i*S	**Sg**	**03 00 24.7**	**+1.1**
LNV	**Longovilo**	**1.65**	**45**		*i*P	**Pn**	**03 00 10.8**	**-1.0**
LNV					*i*S	**Sn**	**03 00 32.8**	**-0.8**
TACH	**Talagante**	**2.14**	**47**		*i*P	**Pn**	**03 00 18.5**	**-0.1**
TACH					*i*S	**Sn**	**03 00 46.6**	**+0.8**
CHCH	**Chadas Angostu**	**2.14**	**57**		*i*P	**Pn**	**03 00 19.9**	**+1.1**
CHCH					*i*S	**Sb**	**03 00 47.9**	**-0.7**
PCH	**Pirque**	**2.42**	**52**		*i*P	**Pb**	**03 00 24.8**	**-1.4**
PCH					*i*S	**Sb**	**03 00 56.6**	**0.0**
SAN	**Santiago**	**2.44**	**47**		*i*P	**Pn**	**03 00 25.0**	**+2.2**
SAN					*i*S	**Sb**	**03 00 56.7**	**-0.4**
CLCH	**Cerro Calan**	**2.56**	**48**	⇑	*i*P	**Pn**	**03 00 24.6**	**+0.2**
CLCH					*i*S	**Sn**	**03 00 57.8**	**+1.5**
CLCH					AML	AML	03 01 11.5	
	comp=N,953nm,0.7s							
PEL	**Peldehue**	**2.65**	**42**		AML	AML	03 01 14.0	
	comp=N,1μm,0.6s							
CANA	**Caviahue**	**3.09**	**153**		*e*P	**Pn**	**03 00 31.8**	**0.0**
AAGR	**Agrelo**	**3.88**	**59**		*e*P	Pn	03 00 46.6	+3.9
ARCO	**CERRO ARCO**	**3.95**	**56**		*e*P	**Pn**	**03 00 46.4**	**+2.8**
ARCO					IAML		03 01 10.8	
	comp=Z,47nm,0.5s							
ARCO					*e*S	**Sg**	**03 01 48.5**	**-0.2**
AUSP	**Uspallata**	**4.07**	**45**		*e*P	**Pn**	**03 00 47.6**	**+2.2**
AUSP					*e*S	**Sg**	**03 01 51.1**	**-1.3**
ASAL	**Salagasta**	**4.17**	**54**		*e*P	**Pn**	**03 00 49.2**	**+2.6**
ASAL					*e*S	**Sg**	**03 01 52.5**	**-3.1**
RTLS	**Leoncito**	**4.43**	**42**		*e*P	**Pn**	**03 00 52.4**	**+1.9**
RTLS					*e*S	**Sb**	**03 01 57.6**	**+3.0**
RTCV	**Cerro Valdivia**	**4.83**	**49**		*e*P	**Pn**	**03 00 56.1**	**+0.4**
CFAA	**Coronel Fontan**	**5.20**	**49**		*e*P	**Pn**	**03 01 00.5**	**-0.1**
RTLL	**Cerro Villicun**	**5.25**	**45**		*e*P	**Pn**	**03 00 59.0**	**-2.5**
ACAN	**Cantantal**	**5.48**	**60**		*e*P	**Pn**	**03 01 04.3**	**-0.3**
AMOG	**MOGNA**	**5.53**	**42**		*e*P	**Pn**	**03 01 04.6**	**-0.7**
VCA	**Vinchina**	**7.48**	**33**		*e*P	Pn	03 01 25.7	-6.5
VCA					IAML		03 02 01.1	
	comp=Z,11nm,0.4s							

*NNC **21** 03:02:36.0±3.8, 37°.34N×70°.97E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=31.9km s-min=23.8km az=169.0*
ISC 21 03:02:36.3±2.4, 37°.7N±0°.2×71°.36E±0°.07, h10km, n6, σ2°.73/8, 5C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°		Phase	ID	Time	Res
					Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.30**	**301**	⇑	Pn	**Pn**	**03 03 15.2**	**+0.8**
	18nm,0.4s							
DZET				⇓	Lg	Lg	03 03 49.2	
	123nm,0.4s							
SFK	**Sufi-Kurgan**	**2.89**	**35**	⇓	Pn	**Pg**	**03 03 31.6**	**-0.2**
	5.4nm,0.4s							
SFK				⇑	Lg	Lg	03 04 19.4	
	25nm,0.4s							
KSH	**Kashi**	**4.07**	**61**		Pn	**Pn**	**03 03 38.5**	**-0.2**
KSH					Sn	**Sn**	**03 04 28.6**	**+2.1**
KSH					smax	smax		
	comp=N,77nm,0.6s							
KSH					smax	smax		
	comp=E,53nm,0.3s							
KK31	**Karatay Array**	**5.48**	**354**		Pn	Pn	03 04 04.2	+6.1
	comp=E,1.4nm,0.3s,baz=187,slow=14,SNR=33							
KK31				⇑	Sn	**Sb**	**03 05 16.9**	**-1.1**
	comp=E,1.5nm,0.3s,baz=185,slow=23,SNR=10							
AB31	**Akbulak array**	**14.23**	**328**	⇓	Pn	Pn	03 05 56.0	-1.9
	comp=E,0.5nm,0.5s							
AB31				⇓	Sn	**Sn**	**03 08 34.9**	**-0.8**
	comp=E,1.0nm,0.7s							
AKTO	**Aktyubinsk**	**15.94**	**328**	⇑	Pn	**Pn**	**03 06 17.9**	**-2.7**
	comp=E,0.8nm,0.6s							
AKTO				⇑	Sn	**Sn**	**03 09 22.1**	**+4.8**
	comp=E,2.5nm,1.2s							

IDC 21 03:15:56.4±5.1, 7°.58S×75°.63W, h72km±50km, mb3.1/2, mb1 3.3/4, mb1mx3.2/19, mbtmp3.5/4, ML3.4/2, MS2.4/1, Ms1 2.4/1, ms1mx2.3/4, Error ellipse: s-maj=63.1km s-min=36.0km az=30.0, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**11.34**	**140**	P	Pn	03 18 36.1	-0.3
	0.1nm,0.3s,baz=336,slow=10.0,SNR=2.5						
ROSC	**El Rosal**	**12.42**	**6**	LR	LR	03 24 44.9	
	comp=Z,19nm,19.4s,baz=9.5,slow=43						
PTGA	**Pitinga**	**17.03**	**67**	P	Pn	03 19 50.0	0.0
	0.5nm,0.3s,baz=279,slow=19,SNR=3.9						
TXAR	**Lajitas Array**	**45.56**	**325**	P	P	03 24 09.3	-0.1
	0.1nm,0.4s,baz=150,slow=13,SNR=2.7						
TORD	**Torodi Ar. Bea**	**79.49**	**75**	P	P	03 27 56.0	0.0
	0.6nm,0.5s,baz=267,slow=5.0,SNR=14						
WRA	**Warramunga Arr**	**139.78**	**227**	PKP	PKPdf	03 35 16.4	-0.7
	0.6nm,0.8s,baz=115,slow=2.2,SNR=3.6						

DJA 21 03:31:18.2±0.5, 2°.5S±5°×113°.7E±°, h10km, M3.7/3, MLv3.7/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.55**	**310**	P	Pg	03 31 28.6	-0.2
SRPI				S	Sg	03 31 36.5	+0.5
BAKI	**Biak**	**1.16**	**332**	P	Pb	03 31 38.9	-1.5
BAKI				S	Sb	03 31 55.3	-0.3
SMPI	**Sarmi**	**2.06**	**84**	P	Pn	03 31 52.7	-0.2
SMPI				S	Sn	03 32 18.9	+0.2
RKPI	**Ransiki, Papua**	**2.58**	**286**	P	Pb	03 32 03.3	-1.3
GENI	**Genyem**	**3.52**	**96**	P	Pn	03 32 13.8	+0.7
JAY	**Jayapura**	**4.05**	**94**	P	Pn	03 32 20.4	0.0
FAKI	**Fak Fak**	**4.46**	**261**	P	Pn	03 32 25.5	-0.5

DJA 21 03:33:42.4±1.1, 2°.N±8°×124°.4E±°, h13km±14km, M3.9/6, MLv3.9/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.00**	**167**	P	Pb	03 34 00.0	-1.7
MRSI	**Marisa**	**2.11**	**239**	P	Pn	03 34 16.3	-1.2
LUWI	**Luwuk**	**2.77**	**201**	P	Pn	03 34 26.2	-0.3
LUWI				S	Sn	03 35 00.6	+0.8
APSI	**Ampana**	**3.24**	**221**	P	Pn	03 34 33.3	+0.4
APSI				S	Sn	03 35 12.9	+1.5
MPSI	**Mapaga**	**4.05**	**253**	P	Pn	03 34 44.2	+0.1

*SJA **21** 04:01:12.0±0.7, 31°.69S×72°.95W, h10km±15km, ML4.9, MW4.4*
*IDC **21** 04:01:21.9±0.7, 31°.54S×71°.96W, h0km, mb4.4/10, mb1 4.4/13, mb1mx4.3/22, mbtmp4.4/13, ML4.4/3, MS3.7/9, Ms1 3.7/9, ms1mx3.5/17, Error ellipse: s-maj=25.7km s-min=17.5km az=77.0*
*GUC **21** 04:01:23.3±0.3, 31°.57S×72°.19W, h60km±7km, ML4.9*
*ISCJB **21** 04:01:24.7±1.6, 31°.56S±0°.03×72°.23W±0°.06, h32km±11km, mb4.6/23, MS3.8/6, Error ellipse: s-maj=8.1km s-min=4.2km az=169.1*
*NEIC **21** 04:01:26.3±2.4, 31°.52S×72°.02W, h29km±16km, mb4.8/13, Error ellipse: s-maj=11.5km s-min=5.1km az=75.0*
ISC 21 04:01:24.3±0.9, 31°.59S±0°.04×72°.31W±0°.05, h20km±5km, n72, σ1°38/84, mb4.7/23, MS3.8/6, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°		Phase	ID	Time	Res
					Op	ISC	h m s	ISC
LSCH	**La Serena**	**1.92**	**29**		*e*P	**Pn**	**04 01 53.8**	**-2.0**
LSCH					*e*S	**Sn**	**04 02 17.3**	**-2.1**
TLL	**Tololo Astrono**	**1.93**	**43**		*e*P	**Pn**	**04 01 54.7**	**-1.6**
TLL					*e*S	**Sn**	**04 02 18.3**	**-1.7**
TLL					AML	AML	04 02 24.8	
	comp=N,13μm,0.6s							
PEL	**Peldehue**	**2.07**	**139**	⇓	*e*P	**Pn**	**04 01 56.8**	**-1.3**
PEL					*e*S	**Sn**	**04 02 22.1**	**-1.2**
PEL					AML	AML	04 02 27.4	
	comp=E,14μm,0.5s							
SAN	**Santiago**	**2.32**	**143**		*e*P	**Pn**	**04 02 00.1**	**-1.4**
SAN					*e*S	**Sn**	**04 02 28.0**	**-1.4**
CLCH	**Cerro Calan**	**2.34**	**141**		*e*P	**Pn**	**04 02 00.5**	**-1.3**
CLCH					*e*S	**Sn**	**04 02 28.7**	**-1.3**
CLCH					AML	AML	04 02 36.1	
	comp=E,11μm,0.7s							
AUSP	**Uspallata**	**2.57**	**105**		*e*P	**Pn**	**04 02 05.9**	**+0.8**
RTLS	**Leoncito**	**2.58**	**95**		*e*P	**Pn**	**04 02 06.0**	**+0.7**
SJCH	**San Jose de Ma**	**2.63**	**141**		*e*P	**Pn**	**04 02 04.1**	**-1.6**
SJCH					*e*S	**Sn**	**04 02 35.4**	**-1.7**
LCO	**Las Campanas**	**2.93**	**29**		*e*Pn	**Pn**	**04 02 08.5**	**-1.5**
LCO					*e*S	**Sn**	**04 02 46.9**	**+2.1**
ASAL	**Salagasta**	**3.12**	**110**		*e*P	**Pn**	**04 02 13.1**	**+0.7**
ASAL					*e*S	**Sb**	**04 02 57.4**	**+0.7**
ARCO	**CERRO ARCO**	**3.12**	**114**		*e*P	**Pn**	**04 02 12.5**	**-0.2**
ARCO					*e*S	**Sb**	**04 02 57.3**	**+0.2**
ARCO					IAML		04 02 59.4	
	comp=Z,1μm,0.6s							
SJA	**San Juan**	**3.21**	**90**		*e*P	**Pn**	**04 02 14.1**	**+0.5**
SJA					IAML		04 02 20.5	
	comp=Z,1μm,0.5s							
SJA					*e*S	**Sb**	**04 03 00.7**	**+1.4**
RTCV	**Cerro Valdivia**	**3.23**	**96**		*e*P	**Pn**	**04 02 14.6**	**+0.7**
RTCV					*e*S	**Sb**	**04 03 01.1**	**+1.3**
RTLL	**Cerro Villicun**	**3.29**	**86**		*e*P	**Pn**	**04 02 15.6**	**+0.8**
VACH	**Vallenar**	**3.30**	**25**		*e*P	**Pn**	**04 02 12.9**	**-2.0**
VACH					*e*S	**Sn**	**04 02 51.1**	**-2.4**
AAGR	**Agrelo**	**3.30**	**118**		*e*P	**Pn**	**04 02 14.7**	**-0.4**
AAGR					*e*S	**Sb**	**04 03 01.3**	**-0.8**
CFAA	**Coronel Fontan**	**3.48**	**91**		Pn	**Pn**	**04 02 16.6**	**-0.8**
	comp=Z,4.0nm,0.3s,baz=262,slow=13,SNR=194							
CFAA					Lg	Lg	04 03 01.0	
	comp=Z,4.6nm,0.3s,baz=151,slow=10,SNR=4.5							
CFAA					LR	LR	04 03 29.4	
	comp=Z,163nm,18.1s,baz=186,slow=40							
CFAA	**Coronel Fontan**	**3.48**	**91**		*e*P	**Pn**	**04 02 18.4**	**+1.0**
AVIZ	**Vizcacheras**	**3.71**	**121**		*e*P	**Pn**	**04 02 20.2**	**-0.5**
AVFE	**Valle Fertil**	**4.27**	**79**		*e*P	**Pn**	**04 02 30.0**	**+1.7**
AVFE					*e*S	**Sb**	**04 03 27.4**	**-2.5**
AVFE					IAML		04 03 28.9	
	comp=Z,934nm,0.6s							
ACAN	**Cantantal**	**4.41**	**100**		*e*P	**Pn**	**04 02 30.5**	**+0.3**
VCA	**Vinchina**	**4.56**	**52**		*e*P	**Pn**	**04 02 33.3**	**+1.0**
VCA					*e*P	Pb	04 02 34.1	-10
VCA					*e*S	Sb	04 03 33.0	-5.3
VCA					*e*S	Sn	04 03 33.5	+8.6
VCA					IAML		04 03 41.6	
	comp=N,2μm,0.6s							
ACLC	**CERRO LA CRUZ**	**5.11**	**66**		*e*P	**Pn**	**04 02 41.1**	**+1.2**
LVC	**Limon Verde**	**9.45**	**20**		Pn	**Pn**	**04 03 36.9**	**-2.6**
	comp=N,19nm,0.3s,baz=202,slow=12,SNR=4.2							
LVC					Sn	Sn	04 05 38.0	+12
	comp=N,52nm,0.3s,baz=253,slow=14,SNR=3.5							
LVC					LR	LR	04 07 19.5	
	comp=N,1μm,21.4s,baz=201,slow=38							
LVC	**Limon Verde**	**9.45**	**20**		*e*Pn	**Pn**	**04 03 37.5**	**-2.1**
	comp=N,40nm,0.8s							
LVC					*e*S	Sn	04 05 39.6	+14
TRQA	**Tornquist**	**10.66**	**130**		*e*Pn	**Pn**	**04 03 55.7**	**-0.3**
	comp=N,26nm,0.8s							
TRQA					*e*S	**Sn**	**04 05 59.5**	**+4.8**
CPUP	**Villa Florida**	**14.12**	**72**		*e*Pn	**Pn**	**04 04 41.1**	**-2.2**
	comp=N,0.2nm,0.7s							
CPUP					*e*S	**Sn**	**04 07 18.7**	**-0.8**
LPAZ	**La Paz**	**15.71**	**15**		Pn	**Pn**	**04 05 03.4**	**-1.8**
	comp=N,0.3nm,0.3s,baz=197,slow=9.1,SNR=14							
LPAZ	**La Paz**	**15.71**	**15**		*e*Pn	**Pn**	**04 05 04.4**	**-0.7**
	comp=N,8.1nm,0.7s							
SIV	**San Ignacio**	**18.61**	**36**		P	**P**	**04 05 38.6**	**-2.0**
	comp=N,0.6nm,0.3s,baz=213,slow=11,SNR=15							
SIV					LR	LR	04 13 57.4	
	comp=N,218nm,18.9s,baz=186,slow=41							
EFI	**East Falkland**	**22.64**	**157**		*e*P	**P**	**04 06 24.6**	**+0.7**
	comp=N,81nm,1.5s							
USHA	**Ushuaia**	**23.39**	**174**		P	**P**	**04 06 32.7**	**+1.1**
	comp=N,5.8nm,0.9s,baz=340,slow=12,SNR=3.5							
SAML	**Samuel**	**24.08**	**23**		*e*P	**P**	**04 06 37.9**	**-0.7**
	comp=N,9.5nm,0.8s							
SAML					*e*pP	**pP**	**04 06 44.3**	**-0.3**
SAML					*e*sP	**sP**	**04 06 48.1**	**+1.0**
ATAH	**Atahualpa**	**24.99**	**346**		LR	LR	04 15 23.1	
	comp=N,81nm,19.5s,baz=185,slow=34							
BDFB	**Brasilia**	**27.25**	**60**		P	**P**	**04 07 05.2**	**-2.3**
	comp=N,10.0nm,0.9s,baz=238,slow=8.7,SNR=12							
BDFB					LR	LR	04 18 49.6	
	comp=N,290nm,20.6s,baz=229,slow=39							
ROSC	**El Rosal**	**36.30**	**357**		P	**P**	**04 08 27.9**	**+0.7**
	comp=N,2.2nm,0.6s,baz=100,slow=19,SNR=3.1							
SDV	**Santo Domingo**	**40.28**	**3**		*e*P	**P**	**04 09 00.8**	**+0.4**
	comp=N,6.7nm,0.9s							
VNA1	**Neumayer--Stat**	**51.98**	**158**		P	**P**	**04 10 32.9**	**+1.2**
TEIG	**Tepich**	**53.75**	**341**		*e*P	**P**	**04 10 46.2**	**+0.9**
	comp=N,11nm,0.6s							
TEIG					*e*		04 10 54.8	
SNAA	**Sanae**	**53.90**	**158**		P	**P**	**04 10 45.4**	**-0.6**
SNAA	**Sanae**	**53.90**	**158**		*e*P	**P**	**04 10 44.7**	**-1.2**
	comp=N,24nm,1.3s							
SNAA					*e*		04 10 54.8	
QSPA	**South Pole Qui**	**58.63**	**180**		*e*P	**P**	**04 11 21.4**	**+1.5**
	comp=N,14nm,1.0s							
QSPA					*e*		04 11 30.3	
JCT	**Junction City**	**67.02**	**334**		*e*P	**P**	**04 12 16.5**	**+0.5**
	comp=N,4.2nm,0.3s							
TXAR	**Lajitas Array**	**67.53**	**331**		P	**P**	**04 12 20.6**	**+1.3**
	comp=N,1.1nm,0.7s,baz=151,slow=8.1,SNR=17							
WVT	**Waverly**	**68.92**	**347**		*e*P	**P**	**04 12 28.0**	**+0.2**
	comp=N,73nm,2.1s							
WVT					*e*		04 12 37.3	
MSTX	**Muleshoe**	**71.25**	**334**		*e*P	**P**	**04 12 43.3**	**+1.1**
	comp=N,6.7nm,0.9s							
LIC	**Lamto**	**74.25**	**72**		*e*P	**P**	**04 12 58.7**	**-1.7**
	comp=N,128nm,1.5s							
TIC	**Toumodi**	**74.50**	**72**		*e*P	**P**	**04 13 01.0**	**-0.9**
KIC	**Kosan Boka**	**74.56**	**72**		*e*P	**P**	**04 13 01.4**	**-0.8**
	comp=N,36nm,0.8s							
DBIC	**Dimbokro**	**74.64**	**72**		P	**P**	**04 13 02.0**	**-0.6**
	comp=N,17nm,0.8s,baz=218,slow=7.1,SNR=17							
DBIC					LR	LR	04 42 55.1	
	comp=N,57nm,20.3s,baz=180,slow=34							
DBIC	**Dimbokro**	**74.64**	**72**		*e*P	**P**	**04 13 01.9**	**-0.7**
	comp=N,50nm,1.5s							
MAW	**Mawson**	**75.55**	**164**		P	**P**	**04 13 07.8**	**+0.8**
	comp=N,2.5nm,0.9s,baz=199,slow=6.2,SNR=8.6							
MAW					LR	LR	04 45 22.9	
	comp=N,91nm,21.2s,baz=240,slow=35							
SDCO	**Great Sand Dun**	**75.62**	**333**		*e*P	**P**	**04 13 09.9**	**+1.8**
	comp=N,1.0nm,0.6s							
ECSD	**EROS Data Cent**	**78.19**	**342**		*e*P	**P**	**04 13 22.8**	**+0.7**
	comp=N,4.2nm,0.9s							
BOSA	**Boshof**	**81.40**	**118**		P	**P**	**04 13 39.8**	**-0.4**
	comp=N,6.8nm,0.9s,baz=256,slow=6.1,SNR=12							
BOSA					LR	LR	04 46 22.6	
	comp=N,41nm,18.7s,baz=172,slow=33							
PDAR	**Pinedale Array**	**81.52**	**333**		P	**P**	**04 13 41.7**	**+1.3**
	comp=N,0.6nm,0.9s,baz=176,slow=5.7,SNR=4.5							
NVAR	**Mina Array Bea**	**81.78**	**325**		P	**P**	**04 13 43.5**	**+1.6**
	comp=N,1.1nm,0.8s,baz=163,slow=6.6,SNR=5.8							
TOA0	**Torodi Ar. Sit**	**83.62**	**70**		*e*P	**P**	**04 13 51.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**83.62**	**70**		P	**P**	**04 13 51.2**	**-0.6**
	comp=N,11nm,0.7s,baz=262,slow=4.7,SNR=137							
TORD					LR	LR	04 48 50.0	
	comp=N,51nm,19.8s,baz=150,slow=34							
AKASG	**Malin Array Be**	**120.72

RTLS	**Leoncito**	**3.44**	**51**	*e*P		**Pn**	**04 42 02.9**	**-1.7**
RTLS				*e*S		**Sg**	**04 42 59.6**	**-0.8**
RTCV	**Cerro Valdivia**	**3.91**	**58**	*e*P		Pn	04 42 06.6	-4.4
RTCV				*e*S		**Sb**	**04 43 06.3**	**-1.1**
CFAA	**Coronel Fontan**	**4.27**	**57**	*e*P		Pn	04 42 09.1	-6.8
RTLL	**Cerro Villicun**	**4.28**	**53**	*e*P		Pn	04 42 08.8	-7.2
AMOG	**MOGNA**	**4.52**	**49**	*e*P		Pn	04 42 10.3	-9.1
ACAN	**Cantantal**	**4.73**	**70**	*e*P		Pn	04 42 14.9	-7.3

*IDC **21** 05:04:44.2±1.0, 8°.82S×125°.73E, h0km, mb3.9/4, mb1 4.2/7, mb1mx4.0/19, mbtmp4.1/7, ML4.2/3, MS3.3/7, Ms1 3.3/7, ms1mx3.0/23, Error ellipse: s-maj=77.0km s-min=20.0km az=61.0*

*NEIC **21** 05:04:45.6±0.6, 9°.23S×125°.22E, h10km, mb4.5/1, Error ellipse: s-maj=19.0km s-min=8.8km az=53.0*

*ISCJB **21** 05:04:46.6±0.5, 9°.25S±0°.06×125°.28E±0°.06, h33km, mb4.0/7, MS3.2/5, Error ellipse: s-maj=10.7km s-min=5.8km az=41.5*

*DJA **21** 05:04:49.3±1.7, 10°S±20°×12°.5E±1°.7, h32km±26km, M5.0/3, mb5.0/3, mB5.4/1, Mw(mB)4.8/1*

ISC 21 05:04:48.1±0.7, **9°.38S**±0°.07×**125°.35E**±0°.07, **h35**km, **n31, σ2s30/25, mb4.3/7, MS3.3/5, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.13**	**250**	P	**Pn**	**05 05 05.6**	**-1.9**
SOEI	**Soe**	**1.13**	**250**	*e*Pn	**Pn**	**05 05 04.8**	**-2.7**
SOEI				*e*Sn	**Sn**	**05 05 25.6**	**+3.7**
MMRI	**Maumere**	**3.16**	**283**	P	**Pn**	**05 05 34.3**	**-1.0**
MMRI	**Maumere**	**3.16**	**283**	*e*Pn	**Pn**	**05 05 33.7**	**-1.7**
MMRI				*e*Sn	**Sn**	**05 06 10.1**	**-1.8**
BSSI	**Bau Bau, Buton** 93nm,0.7s	**5.79**	**303**	P	**Pn**	**05 06 12.3**	**+0.8**
BKSI	**Bulukumba**	**6.56**	**308**	P	**Pn**	**05 06 20.0**	**-2.1**
KAPI	**Kappang** 0.5nm,0.3s,baz=108,slow=20,SNR=2.7	**7.04**	**308**	Pn	**Pn**	**05 06 28.3**	**-0.4**
SANI	**Sanana**	**7.31**	**5**	P	Pn	05 06 36.3	+3.9
SPSI	**Sidrap Palu**	**7.72**	**314**	P	Pn	05 06 39.8	+1.8
TTSI	**Tana Toraja**	**8.35**	**319**	P	**Pn**	**05 06 47.5**	**+0.8**
LUWI	**Luwuk** 69nm,0.6s	**8.67**	**343**	Pn	**Pn**	**05 06 48.9**	**-2.2**
LUWI				*e*Sn	Sn	05 08 18.7	-8.9
APSI	**Ampana**	**9.18**	**336**	P	Pn	05 07 00.7	+2.6
SIJI	**Sorong** comp=Z,207nm,19.0s,baz=73,slow=44	**10.30**	**35**	LR	LR	05 11 44.2	
WRA	**Warramunga Arr** 2.5nm,0.3s,baz=316,slow=13,SNR=82	**13.63**	**141**	Pn	**Pn**	**05 08 00.6**	**+1.6**
WRA				Sn	**Sn**	**05 10 27.8**	**-1.6**
WRAB	**Tennant Creek** 18nm,0.7s 1.4nm,0.3s,baz=309,slow=24,SNR=7.4	**13.63**	**141**	*e*Pn	**Pn**	**05 08 01.7**	**+2.7**
AS31	**Alice Springs**	**16.40**	**151**	*e*Pn	**P**	**05 08 38.7**	**+0.5**
AS31				*e*Sn	**S**	**05 11 43.8**	**-4.3**
ASAR	**Alice Springs** 1.5nm,0.3s,baz=319,slow=11,SNR=90	**16.40**	**151**	Pn	**P**	**05 08 37.9**	**-0.2**
ASAR				Sn	**Sn**	**05 11 33.1**	**-3.5**
LEM	**Lembang** comp=Z,262nm,20.6s,baz=58,slow=37	**17.73**	**277**	LR	LR	05 15 45.3	
STKA	**Stephens Creek** 2.8nm,0.9s,baz=308,slow=11,SNR=5.7	**26.99**	**148**	P	**P**	**05 10 30.9**	**+4.2**
STKA				LR	LR	05 23 01.1	
KSRS	**Korea Array** comp=Z,132nm,21.2s,baz=21,slow=40	**46.65**	**3**	LR	LR	05 33 52.5	
MJAR	**Matsushiro Arr** comp=Z,12nm,21.6s,baz=115,slow=34	**47.25**	**14**	LR	LR	05 31 16.3	
MDJ	**Mudanjiang** comp=Z,8.0nm,1.1s	**53.88**	**4**	P pmax	P pmax	05 14 14.0	+6.3
MDJ	comp=Z,31nm,5.4s			pmax	pmax		
GTA	**Gaotai**	**54.02**	**336**	*e*P	P	05 14 19.5	+10
GTA				pP	pP	05 14 23.3	+3.7
GTA				sP	sP	05 14 26.1	+2.3
GTA	comp=Z,3.0nm,0.9s			pmax	pmax		
SONM	**Songino Array** comp=Z,0.4nm,0.7s,baz=167,slow=6.8,SNR=4.2	**59.39**	**345**	P	**P**	**05 14 46.8**	**-0.3**
SONM				LR	LR	05 41 42.4	
MK31	**Makanchi Array** comp=Z,24nm,20.3s,baz=84,slow=38	**67.80**	**330**	*e*P	**P**	**05 15 41.9**	**-0.6**
VNDA	**Vanda**	**70.70**	**172**	P	P	05 16 04.9	+5.0
ZAA0	**Zalesovo Array** comp=Z,0.4nm,0.7s,baz=315,slow=8.6,SNR=2.5	**71.77**	**336**	*e*P	**P**	**05 16 05.9**	**-0.8**
ZALV	**Zalesovo Beam** comp=Z,1.3nm,0.4s,baz=133,slow=6.1,SNR=8.2	**71.77**	**336**	P	**P**	**05 16 04.9**	**-1.8**
KURK	**Kurchatov** comp=Z,3.9nm,0.8s	**72.24**	**331**	*e*P	**P**	**05 16 09.3**	**-0.3**
BRTR	**Keskin Array B** comp=Z,12nm,21.4s,baz=133,slow=39	**97.22**	**309**	LR	LR	06 07 23.7	
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.9s,baz=83,slow=1.7,SNR=3.9	**124.70**	**279**	PKP	**PKPdf**	**05 23 48.0**	**+2.9**

*ISCJB **21** 05:06:36.5±0.6, 36°.10N±0°.02×25°.07E±0°.03, h13km±4km, Error ellipse: s-maj=3.6km s-min=3.2km az=155.5*

*CSEM **21** 05:06:36.3±0.1, 36°.05N×25°.08E, h8km, ML3.4, Error ellipse: s-maj=3.7km s-min=3.2km az=7.0*

*ATH **21** 05:06:36.1, 36°.10N×25°.09E, h28km, MD3.6/19*

*THE **21** 05:06:37.1, 36°.08N×25°.12E, h8km±1km, ML3.4/3, Error ellipse: s-maj=2.0km s-min=0.6km az=83.0*

ISC 21 05:06:36.9±1.0, **36°.08N**±0°.02×**25°.08E**±0°.02, **h13**km±9km, **n129, σ0s84/153, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR6	**Thira Island,**	**0.37**	**43**	P	**Pg**	**05 06 44.5**	**+0.2**
THR6	**Thira Island,**	**0.37**	**43**	P	**Pg**	**05 06 44.5**	**+0.2**
THR5	**Thira Island,**	**0.40**	**33**	P	**Pg**	**05 06 44.9**	**+0.1**
THR5	**Thira Island,**	**0.40**	**33**	P	**Pg**	**05 06 44.9**	**+0.1**
THR3	**Thira Island,**	**0.41**	**38**	P	**Pg**	**05 06 45.3**	**+0.2**
THR3	**Thira Island,**	**0.41**	**38**	P	**Pg**	**05 06 45.3**	**+0.2**
THR1	**Thera Island**	**0.42**	**47**	P	**Pg**	**05 06 45.2**	**0.0**
THR1	**Thera Island**	**0.42**	**47**	P	**Pg**	**05 06 45.2**	**0.0**
SANT	**Santorini**	**0.42**	**47**	P	**Pg**	**05 06 45.1**	**-0.1**
SANT				S	**Sg**	**05 06 51.2**	**+0.4**
SANT	**Santorini**	**0.42**	**47**	*e*PB	**Pg**	**05 06 45.1**	**-0.1**
SANT				*e*SB	**Sb**	**05 06 51.7**	**-0.7**
SANT	**Santorini**	**0.42**	**47**	P	**Pg**	**05 06 45.1**	**-0.1**
SANT				S	**Sg**	**05 06 51.2**	**+0.4**
THR7	**Fira-Santorini**	**0.44**	**39**	P	**Pg**	**05 06 45.5**	**0.0**
THR7	**Fira-Santorini**	**0.44**	**39**	P	**Pg**	**05 06 45.5**	**0.0**
THR2	**Thira island,**	**0.46**	**38**	P	**Pg**	**05 06 45.5**	**-0.5**
THR2	**Thira island,**	**0.46**	**38**	P	**Pg**	**05 06 45.5**	**-0.5**
MHLO	**Agia Marina, M**	**0.82**	**318**	P	**Pg**	**05 06 52.4**	**-0.3**
MHLO				S	**Sb**	**05 07 04.9**	**+1.0**
MHLO	**Agia Marina, M**	**0.82**	**318**	*e*PN	**Pg**	**05 06 52.5**	**-0.3**
MHLO				*e*SN	**Sb**	**05 07 03.8**	**-0.1**
MHLO	**Agia Marina, M**	**0.82**	**318**	P	**Pg**	**05 06 52.4**	**-0.3**
MHLO				*e*Sn	**Sb**	**05 07 03.8**	**-0.1**
MHLO				S	**Sb**	**05 07 04.9**	**+1.0**
NPS	**Neapolis**	**0.93**	**152**	P	**Pg**	**05 06 54.0**	**-0.7**
NPS				S	**Sb**	**05 07 07.8**	**+0.7**
NPS	**Neapolis**	**0.93**	**152**	*e*PN	**Pg**	**05 06 54.3**	**-0.4**
NPS				*e*SN	**Sb**	**05 07 07.3**	**+0.2**
NPS	**Neapolis**	**0.93**	**152**	P	**Pg**	**05 06 54.0**	**-0.7**
NPS	**Neapolis**	**0.93**	**152**	*e*Pn	**Pg**	**05 06 54.3**	**-0.4**
NPS				*e*Sn	**Sb**	**05 07 07.3**	**+0.2**
LAST	**Lasithi**	**0.98**	**161**	*e*PN	**Pg**	**05 06 55.3**	**-0.4**
LAST				*e*SN	**Sb**	**05 07 09.1**	**+0.5**
LAST	**Lasithi**	**0.98**	**161**	*e*Pn	**Pg**	**05 06 55.3**	**-0.4**
LAST				*e*Sn	**Sb**	**05 07 09.1**	**+0.5**
VAM	**Vamos**	**0.99**	**227**	*e*PN	**Pg**	**05 06 55.2**	**-0.7**
VAM				*e*SN	**Sb**	**05 07 09.8**	**+1.0**
VAM	**Vamos**	**0.99**	**227**	*e*Pn	**Pg**	**05 06 55.2**	**-0.7**
VAM				*e*Sn	**Sb**	**05 07 09.8**	**+1.0**
APE	**Apeiranthos**	**1.05**	**20**	*e*PG	**Pb**	**05 06 55.9**	**-1.0**
APE				*e*SG	**Sb**	**05 07 10.7**	**+0.1**
APE	**Apeiranthos**	**1.05**	**20**	P	**Pb**	**05 06 55.9**	**-1.0**
APE				S	**Sb**	**05 07 11.1**	**+0.5**
APE	**Apeiranthos**	**1.05**	**20**	*e*PN	**Pb**	**05 06 56.0**	**-0.9**
APE				*e*SN	**Sb**	**05 07 10.9**	**+0.3**
APE	**Apeiranthos**	**1.05**	**20**	P	**Pb**	**05 06 55.9**	**-1.0**
APE				*e*Sn	**Sb**	**05 07 10.9**	**+0.3**
SIVA	**Sivas**	**1.09**	**192**	P	**Pb**	**05 06 57.4**	**-0.2**
SIVA				S	**Sg**	**05 07 12.3**	**+0.3**
SIVA	**Sivas**	**1.09**	**192**	*e*PN	**Pb**	**05 06 57.6**	**0.0**
SIVA				*e*SN	**Sn**	**05 07 12.5**	**-0.3**
SIVA	**Sivas**	**1.09**	**192**	*e*Pn	**Pb**	**05 06 57.6**	**0.0**
SIVA				*e*Sn	**Sn**	**05 07 12.5**	**-0.3**
ZKR	**Zakros**	**1.34**	**136**	*e*PN	**Pn**	**05 07 00.8**	**-0.5**
ZKR	**Zakros**	**1.34**	**136**	*e*Pn	**Pn**	**05 07 00.8**	**-0.5**
ANKY	**Antikythira Is**	**1.46**	**262**	P	**Pn**	**05 07 03.0**	**0.0**
ANKY				S	**Sg**	**05 07 23.4**	**-0.6**
ANKY	**Antikythira Is**	**1.46**	**262**	*e*PN	**Pn**	**05 07 03.2**	**+0.2**
ANKY	**Antikythira Is**	**1.46**	**262**	*e*Pn	**Pn**	**05 07 03.2**	**+0.2**
ANKY				S	**Sg**	**05 07 23.4**	**-0.6**
KYTH	**Kithira**	**1.67**	**277**	P	**Pn**	**05 07 05.5**	**-0.3**
KYTH	**Kithira**	**1.67**	**277**	*e*PN	**Pn**	**05 07 05.6**	**-0.3**
KYTH	**Kithira**	**1.67**	**277**	*e*Pn	**Pn**	**05 07 05.6**	**-0.3**
NIS1	**Nisyros Isl.**	**1.77**	**72**	*e*PN	**Pb**	**05 07 09.0**	**-0.2**
NIS1	**Nisyros Isl.**	**1.77**	**72**	*e*Pn	**Pb**	**05 07 09.0**	**-0.2**
KARP	**Karpathos**	**1.77**	**107**	P	**Pn**	**05 07 06.6**	**-0.7**
KARP	**Karpathos**	**1.77**	**107**	*e*PN	**Pn**	**05 07 07.0**	**-0.3**
KARP	**Karpathos**	**1.77**	**107**	P	**Pn**	**05 07 06.6**	**-0.7**
KARP	**Karpathos**	**1.77**	**107**	*e*Pn	**Pn**	**05 07 07.0**	**-0.3**
VLI	**Veliai**	**1.84**	**291**	P	**Pn**	**05 07 07.9**	**-0.4**
VLI	**Veliai**	**1.84**	**291**	*e*PN	**Pn**	**05 07 08.1**	**-0.2**
VLI	**Veliai**	**1.84**	**291**	*e*Pn	**Pn**	**05 07 08.1**	**-0.2**
KRND	**KRANIDI**	**2.02**	**310**	P	**Pn**	**05 07 10.9**	**+0.2**
KRND	**KRANIDI**	**2.02**	**310**	*e*PB	**Pn**	**05 07 10.8**	**+0.1**
KRND	**KRANIDI**	**2.02**	**310**	P	**Pn**	**05 07 10.9**	**+0.2**
BODT	**Bodrum**	**2.04**	**61**	*e*PN	**Pn**	**05 07 09.8**	**-1.2**
BODT	**Bodrum**	**2.04**	**61**	*e*Pn	**Pn**	**05 07 09.8**	**-1.2**
NAIG	**Nisos Aigina**	**2.10**	**323**	*e*PB	**Pn**	**05 07 11.8**	**0.0**
NAIG	**Nisos Aigina**	**2.10**	**323**	*e*Pb	**Pn**	**05 07 11.8**	**0.0**
BDRM	**Kayabasi**	**2.14**	**62**	*i* P	**Pn**	**05 07 11.4**	**-0.9**
BDRM	**Kayabasi**	**2.14**	**62**	*i* P	**Pn**	**05 07 11.4**	**-0.9**
SMG	**Samos**	**2.15**	**40**	P	**Pn**	**05 07 11.2**	**-1.2**
SMG	**Samos**	**2.15**	**40**	*e*PN	**Pn**	**05 07 11.3**	**-1.2**
SMG	**Samos**	**2.15**	**40**	*e*Pn	**Pn**	**05 07 11.3**	**-1.2**
GCAM	**G?zelcaml?**	**2.36**	**46**	*i* P	**Pb**	**05 07 19.2**	**+0.1**
CHOS	**Chios island**	**2.42**	**18**	*e*PN	**Pn**	**05 07 16.6**	**+0.2**
CHOS	**Chios island**	**2.42**	**18**	P	**Pn**	**05 07 15.6**	**-0.8**
CHOS	**Chios island**	**2.42**	**18**	*e*PN	**Pn**	**05 07 15.5**	**-0.8**
CHOS	**Chios island**	**2.42**	**18**	P	**Pn**	**05 07 15.6**	**-0.8**
EREA	**Eretria**	**2.51**	**339**	P	**Pn**	**05 07 17.6**	**+0.2**
EREA	**Eretria**	**2.51**	**339**	P	**Pn**	**05 07 17.6**	**+0.2**
VILL	**Villia**	**2.51**	**326**	*e*Pn	**Pn**	**05 07 16.6**	**-0.9**
VLX	**Vlachokerasia**	**2.52**	**301**	P	**Pn**	**05 07 18.4**	**+0.7**
VLX	**Vlachokerasia**	**2.52**	**301**	*e*PN	**Pn**	**05 07 18.0**	**+0.3**
VLX	**Vlachokerasia**	**2.52**	**301**	*e*Pn	**Pn**	**05 07 18.0**	**+0.3**
VLX	**Vlachokerasia**	**2.52**	**301**	P	**Pn**	**05 07 18.4**	**+0.7**
LTK	**Loutraki**	**2.57**	**319**	P	**Pn**	**05 07 19.0**	**+0.7**
LTK	**Loutraki**	**2.57**	**319**	*e*PB	**Pn**	**05 07 19.0**	**+0.7**
LTK	**Loutraki**	**2.57**	**319**	P	**Pn**	**05 07 19.0**	**+0.7**
VIL2	**Platees**	**2.57**	**326**	*e*PN	**Pn**	**05 07 16.6**	**-1.7**
AYDN	**Tasoluk**	**2.74**	**54**	*i* P	**Pn**	**05 07 19.7**	**-0.9**
AYDN				*i* S	**Sg**	**05 08 05.0**	**+0.2**
AYDN	**Tasoluk**	**2.74**	**54**	*i* P	**Pn**	**05 07 19.7**	**-0.9**
ITM	**Ithomi**	**2.77**	**294**	*e*PN	**Pn**	**05 07 20.9**	**-0.1**
ITM	**Ithomi**	**2.77**	**294**	*e*Pn	**Pn**	**05 07 20.9**	**-0.1**
BLCB	**Balcova**	**2.78**	**34**	*e*PN	**Pn**	**05 07 23.0**	**+1.9**
BLCB	**Balcova**	**2.78**	**34**	*e*Pn	**Pn**	**05 07 23.0**	**+1.9**
YER	**Yerkesik**	**2.78**	**67**	*e*PN	**Pn**	**05 07 23.3**	**+2.1**
YER	**Yerkesik**	**2.78**	**67**	*e*Pn	**Pn**	**05 07 23.3**	**+2.1**
PYL	**PYLOS**	**2.81**	**288**	P	**Pn**	**05 07 23.2**	**+1.6**
PYL	**PYLOS**	**2.81**	**288**	*e*PN	**Pn**	**05 07 22.0**	**+0.4**
PYL	**PYLOS**	**2.81**	**288**	*e*Pn	**Pn**	**05 07 22.0**	**+0.4**
PYL	**PYLOS**	**2.81**	**288**	P	**Pn**	**05 07 23.2**	**+1.6**
GUR	**Goura**	**2.87**	**311**	P	**Pn**	**05 07 22.2**	**-0.3**
GUR	**Goura**	**2.87**	**311**	*e*PN	**Pn**	**05 07 22.6**	**+0.1**
GUR	**Goura**	**2.87**	**311**	P	**Pn**	**05 07 22.2**	**-0.3**
GUR	**Goura**	**2.87**	**311**	*e*Pn	**Pn**	**05 07 22.6**	**+0.1**
MRKA	**Markates**	**2.88**	**336**	*e*PN	**Pn**	**05 07 22.1**	**-0.4**
MRKA	**Markates**	**2.88**	**336**	*e*Pn	**Pn**	**05 07 22.1**	**-0.4**
IZM	**Izmir**	**2.89**	**36**	*e*PN	**Pn**	**05 07 24.4**	**+1.7**
IZM	**Izmir**	**2.89**	**36**	*e*Pn	**Pn**	**05 07 24.4**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**2.92**	**50**	*e*PN	**Pn**	**05 07 25.1**	**+2.0**
AYDB	**Zeytinkoy-Aydi**	**2.92**	**50**	*e*Pn	**Pn**	**05 07 25.1**	**+2.0**
TURN	**Turunc**	**2.94**	**73**	*i* P	**Pn**	**05 07 21.8**	**-1.5**
TURN	**Turunc**	**2.94**	**73**	*i* P	**Pn**	**05 07 21.8**	**-1.5**
DALY	**Dalyan (Mu˘la**	**2.97**	**75**	*e*PN	**Pn**	**05 07 26.4**	**+2.7**
DALY	**Dalyan (Mu˘la**	**2.97**	**75**	*e*Pn	**Pn**	**05 07 26.4**	**+2.7**
KLV	**Kalavryta, Ach**	**3.06**	**311**	P	**Pn**	**05 07 25.5**	**+0.6**
KLV	**Kalavryta, Ach**	**3.06**	**311**	*e*PN	**Pn**	**05 07 25.6**	**+0.6**
KLV	**Kalavryta, Ach**	**3.06**	**311**	P	**Pn**	**05 07 25.5**	**+0.6**
AMT	**Artemida-Makis**	**3.07**	**299**	*e*PN	**Pn**	**05 07 25.2**	**0.0**
DSF	**Desfina**	**3.09**	**319**	P	**Pn**	**05 07 26.1**	**+0.6**
DSF	**Desfina**	**3.09**	**319**	*e*PN	**Pn**	**05 07 25.6**	**+0.1**
DSF	**Desfina**	**3.09**	**319**	P	**Pn**	**05 07 26.1**	**+0.6**
SIGR	**SIGRI**	**3.18**	**11**	P	**Pn**	**05 07 25.6**	**-1.0**
SIGR	**SIGRI**	**3.18**	**11**	P	**Pn**	**05 07 25.6**	**-1.0**
AOS	**Alonnisos**	**3.23**	**143**	P	**Pn**	**05 07 27.4**	**+0.1**
AOS	**Alonnisos**	**3.23**	**143**	P	**Pn**	**05 07 27.4**	**+0.1**
KALE	**Kalithea**	**3.29**	**315**	*e*PN	**Pn**	**05 07 28.7**	**+0.5**
KALE	**Kalithea**	**3.29**	**315**	*e*Pn	**Pn**	**05 07 28.7**	**+0.5**
AXAR	**Agios Charalam**	**3.30**	**325**	*e*PN	**Pn**	**05 07 28.6**	**+0.3**
AXAR	**Agios Charalam**	**3.30**	**325**	*e*Pn	**Pn**	**05 07 28.6**	**+0.3**
EFP	**Efpalio**	**3.45**	**314**	*e*PN	**Pn**	**05 07 31.1**	**+0.8**
EFP	**Efpalio**	**3.45**	**314**	*e*Pn	**Pn**	**05 07 31.1**	**+0.8**
NEO	**Neokhori**	**3.54**	**336**	*e*PN	**Pn**	**05 07 31.7**	**+0.1**
NEO	**Neokhori**	**3.54**	**336**	*e*Pn	**Pn**	**05 07 31.7**	**+0.1**
AKAS	**Kas**	**3.66**	**86**	*i* P	**Pn**	**05 07 34.5**	**+1.1**
AKAS	**Kas**	**3.66**	**86**	*i* P	**Pn**	**05 07 34.5**	**+1.1**
MAKR	**Makrakomi, Fth**	**3.75**	**322**	*e*PN	**Pn**	**05 07 35.0**	**+0.5**
MAKR	**Makrakomi, Fth**	**3.75**	**322**	*e*Pn	**Pn**	**05 07 35.0**	**+0.5**
VLS	**Valsamata**	**4.16**	**302**	P	**Pn**	**05 07 41.8**	**+1.7**
VLS	**Valsamata**	**4.16**	**302**	P	**Pn**	**05 07 41.8**	**+1.7**

*ISCJB **21** 05:08:54.9±0.4, 14°.35N±0°.04×91°.59W±0°.03, h85km±3km, mb4.1/38, Error ellipse: s-maj=8.0km s-min=3.0km az=39.8*

*IDC **21** 05:08:55.4±0.8, 14°.42N×91°.44W, h79km±7km, mb3.7/12, mb1 3.9/16, mb1mx3.8/26, mbtmp4.0/16, MS3.3/8, Ms1 3.3/8, ms1mx2.9/25, Error ellipse: s-maj=17.2km s-min=9.0km az=49.0*

*MEX **21** 05:08:55.6±0.9, 14°.14N×91°.77W, h56km±19km, MD4.5*

*NEIC **21** 05:08:55.5±0.7, 14°.42N×91°.56W, h65km±7km, mb4.2/37, MD4.5(MEX), Error ellipse: s-maj=10.8km s-min=6.4km az=224.0*

*CASC **21** 05:08:56.5±2.1, 14°.03N×91°.54W, h21km±11km, MD4.1, ML4.1*

ISC 21 05:08:55.3±0.6, **14°.29N**±0°.05×**91°.68W**±0°.04, **h82**km±5km, **n209, σ1s27/236, mb4.2/38, 2C-3D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.05**	**53**	‖ *i*P	**Pn**	**05 09 05.2**	**-1.7**
FUG	**Fuego 3**	**0.83**	**79**	‖ *e*P	**Pn**	**05 09 11.4**	**-1.2**
THIG		**0.84**	**318**	*e*P	**Pn**	**05 09 11.3**	**-1.2**
THIG				*e*S	**Sn**	**05 09 23.4**	**-2.1**
THIG		**0.84**	**318**	*e*P	**Pn**	**05 09 11.3**	**-1.2**
THIG				*e*S	**Sn**	**05 09 23.4**	**-2.1**
PCG	**Pacaya**	**1.05**	**84**	‖ *e*P	**Pn**	**05 09 14.7**	**-0.5**
IXG	**Ixpaco**	**1.19**	**95**	*e*P	**Pn**	**05 09 15.6**	**-1.4**
NBG	**Las Nubes**	**1.33**	**77**	‖ *e*P	**Pn**	**05 09 19.1**	**+0.4**
NBG				*e*S	**Sn**	**05 09 39.2**	**+2.9**
RBDL	**Robledal**	**1.94**	**95**	*e*P	**Pn**	**05 09 25.8**	**-0.8**
RTR	**El Retiro**	**2.01**	**101**	*e*P	**Pn**	**05 09 26.9**	**-0.7**
CCIG	**Comitan**	**2.03**	**348**	*e*P	**Pn**	**05 09 28.4**	**+0.5**
CCIG				*e*S	**Sn**	**05 09 53.9**	**+1.2**
CCIG	**Comitan**	**2.03**	**348**	*e*P	**Pn**	**05 09 28.4**	**+0.5**
CCIG				*e*S	**Sn**	**05 09 53.9**	**+1.2**
SBLS	**San Blas**	**2.04**	**102**	*e*P	**Pn**	**05 09 27.8**	**-0.3**
PCIG		**2.05**	**314**	*e*P	**Pn**	**05 09 27.1**	**-0.7**
PCIG				*e*S	**Sn**	**05 09 50.6**	**-2.2**
PCIG		**2.05**	**314**	*e*P	**Pn**	**05 09 27.1**	**-0.7**
PCIG				*e*S	**Sn**	**05 09 50.6**	**-2.2**
SNJE	**San Jose**	**2.06**	**101**	*e*P	**Pn**	**05 09 27.4**	**-0.7**
MRL	**Marmol**	**2.08**	**68**	*e*P	**Pn**	**05 09 27.9**	**-0.5**
MRL				⇑ *e*P	**Pn**	**05 09 28.8**	**+0.4**
BOQS	**Boqueron**	**2.39**	**103**	*e*P	**Pn**	**05 09 32.2**	**-0.5**
BOQS				*e*S	**Sn**	**05 10 00.2**	**-1.2**
SNET	**Serv Nac Est T**	**2.45**	**104**	*e*P	**Pn**	**05 09 32.8**	**-0.5**
SNET				*e*S	**Sn**	**05 10 01.9**	**-0.6**
SNET	comp=Z,2µm,0.2s			AML	AML	05 10 06.9	
LFU	**La Fuente**	**2.55**	**102**	*e*P	**Pn**	**05 09 34.0**	**-0.7**
LBRS	**Las Brisas**	**2.62**	**102**	*e*P	**Pn**	**05 09 34.9**	**-0.6**
LFRS	**El Faro**	**2.63**	**104**	*e*P	**Pn**	**05 09 35.2**	**-0.5**
TGIG		**2.84**	**331**	*e*P	**Pn**	**05 09 37.8**	**-0.8**
TGIG				*e*S	**Sn**	**05 10 12.6**	**+0.7**
TGIG		**2.84**	**331**	*e*P	**Pn**	**05 09 37.8**	**-0.8**
TGIG				*e*S	**Sn**	**05 10 12.6**	**+0.7**
VSM	**San Miguel**	**3.42**	**104**	*e*P	**Pn**	**05 09 46.0**	**-0.6**

CMIG	**Matias Romero**	**4.16**	**313**	*e*P		**Pn**	**05 09 56.3**	**-0.1**
CMIG				*e*S		**Sn**	**05 10 43.0**	**-0.9**
CMIG	**Matias Romero** comp=Z,31nm,0.3s,baz=129,slow=9.1,SNR=151	**4.16**	**313**	P		**Pn**	**05 09 55.8**	**-0.6**
CMIG	comp=Z,42nm,0.3s,baz=281,slow=23,SNR=8.6			S		**Sn**	**05 10 45.7**	**+1.8**
CMIG	**Matias Romero**	**4.16**	**313**	*e*P		**Pn**	**05 09 56.3**	**-0.1**
CMIG				*e*S		**Sn**	**05 10 43.0**	**-0.9**
HUIG	**Huatulco**	**4.53**	**290**	*e*P		**Pn**	**05 10 00.1**	**-1.3**
HUIG				*i* S		**Sn**	**05 10 50.9**	**-1.9**
HUIG	**Huatulco**	**4.53**	**290**	*e*P		**Pn**	**05 10 00.1**	**-1.3**
HUIG				*i* S		**Sn**	**05 10 50.9**	**-1.9**
COPN	**Copaltepe**	**5.38**	**112**	*e*P		**Pn**	**05 10 12.8**	**-0.2**
TEIG	**Tepich** comp=Z,137nm,0.3s,baz=217,slow=14,SNR=328	**6.74**	**28**	P		Pn	05 10 28.1	-3.5
TEIG	baz=324,slow=19,SNR=1.6			S		**Sn**	**05 11 43.7**	**-3.3**
TEIG	comp=Z,408nm,21.3s,baz=108,slow=44			LR		LR	05 13 39.6	
TEIG	**Tepich**	**6.74**	**28**	*e*Pn		**Pn**	**05 10 30.7**	**-1.0**
TEIG				*e*Sn		**Sn**	**05 11 44.8**	**-2.2**
JTS	**JuntasAbangare** comp=Z,3.5nm,0.3s,baz=304,slow=17,SNR=15	**7.68**	**120**	P		**Pn**	**05 10 42.8**	**-1.7**
JTS	comp=Z,1.6nm,0.3s,baz=282,slow=19,SNR=2.9			S		**Sn**	**05 12 15.0**	**+5.0**
JTS	**JuntasAbangare**	**7.68**	**120**	*e*Pn		**Pn**	**05 10 45.8**	**+1.2**
JCR	**Jicaral**	**7.79**	**124**	*e*P		**Pn**	**05 10 47.4**	**+1.3**
BUS	**Buena Vista**	**9.06**	**120**	*e*P		**Pn**	**05 11 05.3**	**+1.5**
BUS				*e*S		**Sn**	**05 12 44.1**	**-0.4**
034A	**Hebbronville** baz=14	**14.30**	**334**	P		**Pn**	**05 12 16.0**	**+2.2**
933A	**Laredo** baz=15	**15.03**	**333**	P		**P**	**05 12 25.9**	**-0.8**
835A	**Beeville** baz=15	**15.06**	**339**	P		**P**	**05 12 26.3**	**-0.7**
834A	**Tilden** baz=15	**15.18**	**336**	P		**P**	**05 12 27.6**	**-0.8**
736A	**Circle Diamond** baz=15	**15.43**	**342**	P		**P**	**05 12 29.9**	**-1.2**
735A	**Kenedy** baz=16	**15.57**	**340**	P		**P**	**05 12 32.1**	**-0.6**
833A	**Chaparral WMA,** baz=16	**15.70**	**334**	P		**P**	**05 12 33.1**	**-1.0**
636A	**Smothers Creek** baz=16	**15.92**	**343**	P		**P**	**05 12 35.6**	**-0.9**
832A	**Faith Ranch, C** baz=16	**15.92**	**332**	P		**P**	**05 12 36.1**	**-0.5

MIAR eS S 05 17 04.3 -2.3
UALR University of 20.41 358 eP P 05 13 24.9 -0.8
comp=Z,30nm,1.3s
Z31A Sharp Cattle R 20.45 339 P P 05 13 26.5 +0.2
baz=20,SNR=12
GOGA Godfrey 20.45 20 eP P 05 13 26.5 +0.3
comp=Z,10.0nm,0.8s
129A Stewart Farms, 20.49 335 P P 05 13 27.3 +0.6
baz=20,SNR=7.4
X37A Clayton 20.49 351 P P 05 13 27.1 +0.5
baz=20
X38A Whitesboro 20.49 353 P P 05 13 27.2 +0.5
baz=20,SNR=8.1
Y33A Hilltop Ranch, 20.62 343 P P 05 13 27.3 -0.7
baz=21
X36A Centrahoma 20.63 349 P P 05 13 27.7 -0.5
baz=21
128A Castleberry Fa 20.74 333 P P 05 13 28.8 -0.6
baz=21,SNR=6.5
Z30A Sanderson Ranc 20.77 337 P P 05 13 29.6 -0.2
baz=21
Y32A R-V Farms, Ver 20.85 342 P P 05 13 30.1 -0.5
baz=21
Z29A Hungry Hill Ra 20.97 336 P P 05 13 31.9 0.0
baz=21,SNR=8.4
W37A Quinton 21.04 351 P P 05 13 31.9 -0.6
baz=21
Y31A Rekieta Farm, 21.08 340 P P 05 13 33.2 +0.2
baz=21,SNR=16
X33A Lawton 21.09 344 P P 05 13 32.7 -0.4
baz=21
Y30A Stafford Cattl 21.22 338 P P 05 13 34.6 0.0
baz=21
Z28A Tucker Farm, M 21.28 335 P P 05 13 35.2 0.0
baz=21
SDV Santo Domingo 21.30 102 eP P 05 13 36.2 +0.5
comp=Z,6.4nm,0.7s
W35A Tecumseh 21.30 348 P P 05 13 34.8 -0.5
baz=21
Y29A Porterfield Fa 21.49 337 P P 05 13 37.3 -0.2
baz=22
W34A Bridge Creek, 21.57 346 P P 05 13 37.6 -0.6
baz=22
W34A Bridge Creek, 21.57 346 eP P 05 13 37.7 -0.5
comp=Z,8.0nm,0.6s
X31A McDonald Ranch 21.60 341 P P 05 13 38.7 +0.2
baz=22,SNR=6.9
W33A Caddo, Fort Co 21.66 345 P P 05 13 39.4 +0.2
baz=22
V37A Hulbert 21.73 352 P P 05 13 39.2 -0.7
baz=22
Y28A McKinney Farm, 21.76 336 P P 05 13 40.2 -0.1
baz=22,SNR=6.2
W32A Sentinel 21.84 343 P P 05 13 41.0 -0.1
baz=22
X29A Tulia 22.02 337 P P 05 13 43.0 -0.1
baz=22
MSTX Muleshoe 22.02 335 P P 05 13 42.8 -0.4
baz=22
MSTX Muleshoe 22.02 335 eP P 05 13 43.6 +0.4
comp=Z,6.2nm,0.7s
WVT Waverly 22.02 8 eP P 05 13 43.2 +0.2
comp=Z,4.9nm,0.7s
JSC Jenkinsville 22.03 24 eP P 05 13 40.4 -2.7
comp=Z,8.2nm,1.0s
V34A Guthrie 22.09 347 P P 05 13 42.7 -1.1
baz=22
V34A Guthrie 22.09 347 eP P 05 13 42.2 -1.6
comp=Z,7.6nm,0.8s
W31A Holland Ranch, 22.10 342 P P 05 13 43.4 -0.6
baz=22
X28A Dimmitt 22.27 337 P P 05 13 45.4 -0.5
baz=22
V32A Arapaho 22.35 344 P P 05 13 45.7 -0.8
baz=22
PARMO Parma 22.35 4 eP P 05 13 46.3 -0.2
AMTX Amarillo 22.41 338 P P 05 13 46.7 -0.6
baz=22
AMTX Amarillo 22.41 338 eP P 05 13 47.0 -0.3
comp=Z,9.8nm,0.6s
PBMO Poplar Bluff 22.43 3 eP P 05 13 45.9 -1.5
TKL Tuckaleechee C 22.44 17 P P 05 13 45.2 -2.3
comp=Z,5.0nm,0.8s,baz=180,slow=9.8,SNR=9.6
TKL LR LR 05 23 28.8
comp=Z,95nm,21.0s,baz=197,slow=39
W29A Amarillo 22.61 338 P P 05 13 48.9 -0.5
baz=23,SNR=5.5
KMSC Kings Mountain 22.76 22 eP P 05 13 51.2 +0.3
comp=Z,21nm,0.9s
V30A Spur Ranch, Mi 22.87 341 P P 05 13 51.8 -0.2
baz=23
T36A Boggs Farm, Ca 22.99 351 P P 05 13 51.9 -1.2
baz=23
T34A McClaskey Farm 23.17 349 P P 05 13 53.6 -1.3
baz=23
TZTN Tazewell 23.33 17 eP P 05 13 56.3 -0.1
comp=Z,14nm,0.8s
121A Cookes Peak, D 23.36 324 P P 05 13 59.6 +2.6
baz=23,SNR=7.9
121A Cookes Peak, D 23.36 324 eP P 05 13 59.4 +2.5
comp=Z,6.3nm,0.9s
V28A Channing 23.38 338 P P 05 13 55.9 -1.1
baz=23
V27A Dan Oppiter Pa 23.61 337 P P 05 14 00.0 +1.0
baz=24
S34A Willow Spring 23.82 349 P P 05 14 01.2 +0.4
baz=24
U27A Thompson Grove 24.20 338 P P 05 14 05.1 +0.8
baz=24
WCI Wyandotte Cave 24.32 10 eP P 05 14 04.4 -0.9
comp=Z,16nm,1.0s
ANMO Albuquerque 24.51 330 P P 05 14 07.8 +0.6
comp=Z,1.0nm,0.5s,baz=150,slow=8.7,SNR=7.6
ANMO Albuquerque 24.51 330 eP P 05 14 09.0 +1.7
comp=Z,1.0nm,0.5s
OLIL Olney 24.56 7 eP P 05 14 07.1 -0.3
comp=Z,11nm,0.8s
T28A Walsh 24.57 340 P P 05 14 08.5 +0.8
baz=25
Q37A Longview Farm, 24.62 355 P P 05 14 08.6 +0.6
baz=25
S29A Ulysses 24.71 342 P P 05 14 09.9 +1.0
baz=25
SJG San Juan 24.80 78 eP P 05 14 10.1 +0.3
comp=Z,12nm,0.9s
R32A Long Quarter, 24.84 347 P P 05 14 10.7 +0.7
baz=25
TUC Tucson 25.02 319 eP P 05 14 14.4 +2.6
comp=Z,4.2nm,1.0s
P34A Walnut Farm, R 25.57 351 P P 05 14 17.9 +1.3
baz=26
R27A Eads 25.86 340 P P 05 14 21.0 +1.7
baz=26
214A Organ Pipe Nat 26.12 316 P P 05 14 24.3 +2.5
baz=26
ACSO Alum Creek Sta 26.95 15 eP P 05 14 28.2 -0.8
comp=Z,6.8nm,0.8s
MVCO Mesa Verde 27.31 330 P P 05 14 34.6 +2.0
baz=27
WUAZ Wupatki 27.57 324 P P 05 14 37.1 +2.2
baz=28
WUAZ Wupatki 27.57 324 eP P 05 14 37.6 +2.7
comp=Z,2.3nm,0.8s
PDMCI Parker Dam,Lak 28.45 318 P P 05 14 44.9 +2.4
baz=28
GMRC Granite Mounta 29.73 318 P P 05 14 55.6 +1.6
baz=30
NNA Nana 29.96 150 eP P 05 14 58.8 +2.7
comp=Z,6.5nm,0.8s
CCUT Cedar City 30.14 324 eP P 05 15 00.8 +3.1
comp=Z,2.8nm,0.9s
SPMN Marine on St. 30.85 358 P P 05 15 02.1 -1.5
baz=31
MPMC Manual Prospec 31.69 318 P P 05 15 13.3 +1.9
baz=32
R11A Troy Canyon, C 31.96 323 P P 05 15 16.0 +2.3
baz=32
SADO Sadowa 32.20 17 P P 05 15 13.3 -2.2
comp=Z,1.9nm,0.5s,baz=225,slow=8.6,SNR=3.2
HWUT Hardware Ranch 32.23 331 eP P 05 15 18.2 +2.1
comp=Z,0.8nm,0.6s
PDAR Pinedale Array 32.29 335 P P 05 15 17.3 +0.7
comp=Z,0.3nm,0.6s,baz=133,slow=10.0,SNR=3.4
PDAR PcP PcP 05 18 02.9 -0.2
comp=Z,0.6nm,0.8s,baz=104,slow=3.8,SNR=4.4
PDAR LR LR 05 31 33.0
comp=Z,36nm,18.2s,baz=150,slow=42
VES Vestal, Richgr 32.62 316 P P 05 15 22.0 +2.7
baz=33
I19A Meeteetse 33.14 337 P P 05 15 25.4 +1.5
baz=33
REDW Red Top Meadow 33.32 334 eP P 05 15 27.3 +1.7
comp=Z,4.2nm,0.9s
NVAR Mina Array Bea 33.65 321 P P 05 15 30.2 +1.8
comp=Z,5.3nm,0.8s,baz=130,slow=8.4,SNR=28
NVAR pP pP 05 15 49.2 +1.6
comp=Z,3.3nm,0.7s,baz=127,slow=8.7,SNR=7.0
NVAR PcP PcP 05 18 07.8 +0.8
comp=Z,1.0nm,0.6s,baz=134,slow=2.6,SNR=4.6
HLID Hailey 35.08 331 eP P 05 15 43.2 +2.5
comp=Z,1.8nm,0.7s
MCMT McKenzie Canyo 35.35 334 eP P 05 15 45.6 +2.4
MFID Camas Ranch 35.65 329 eP P 05 15 49.1 +3.5
comp=Z,5.1nm,1.3s
WVOR Wild Horse Val 36.43 326 eP P 05 15 54.5 +2.3
comp=Z,1.9nm,0.8s
SAML Samuel 36.50 128 eP P 05 15 51.2 -1.8
comp=Z,4.0nm,0.8s
LPAZ La Paz 38.26 142 P P 05 16 08.6 0.0
comp=Z,1.0nm,0.9s,baz=323,slow=8.1,SNR=3.8
LPAZ PcP PcP 05 18 22.0 +0.6
comp=Z,0.6nm,0.5s,baz=310,slow=4.9,SNR=4.7
LON Longmire 41.01 328 eP P 05 16 32.1 +1.7
comp=Z,3.1nm,0.8s
SIV San Ignacio 42.66 134 P P 05 16 43.8 -0.4
comp=Z,4.3nm,0.8s,baz=318,slow=8.8,SNR=11
SIV pP pP 05 17 01.9 -2.0
comp=Z,5.4nm,0.9s,baz=309,slow=8.5,SNR=7.2
SIV PcP PcP 05 18 35.4 +0.5
comp=Z,1.6nm,0.8s,baz=339,slow=3.3,SNR=3.6
SCHQ Schefferville 44.85 20 P P 05 16 59.1 -2.1
comp=Z,3.7nm,0.7s,baz=222,slow=7.8,SNR=8.1
SCHQ LR LR 05 36 33.1
comp=Z,68nm,19.7s,baz=338,slow=37
YKA Yellowknife Ar 50.82 347 P P 05 17 46.6 -0.6
comp=Z,1.2nm,0.6s,baz=150,slow=8.0,SNR=4.5
YKA pP pP 05 18 06.9 -0.5
comp=Z,0.8nm,0.6s,baz=147,slow=7.2,SNR=2.8
YKA PcP PcP 05 19 02.8 -0.1
comp=Z,0.9nm,0.6s,baz=147,slow=3.9,SNR=5.0
BDFB Brasilia 52.41 123 P P 05 17 58.7 -1.2
comp=Z,2.6nm,0.6s,baz=279,slow=9.1,SNR=6.1
ILAR Eielson Array 62.70 337 P P 05 19 11.1 -0.1
comp=Z,1.3nm,0.7s,baz=106,slow=5.7,SNR=14
ILAR PcP PcP 05 19 49.2 -0.1
comp=Z,0.5nm,0.7s,baz=144,slow=3.9,SNR=4.4
TRF Thorofare Moun 63.51 335 eP P 05 19 18.3 +1.4
comp=Z,4.9nm,0.8s
NOA NORSAR Array B 83.75 29 LR LR 05 57 20.4
comp=Z,7.1nm,18.4s,baz=260,slow=35
ARCES ARCESS Array B 85.77 18 LR LR 05 58 42.9
comp=Z,3nm,21.6s,baz=255,slow=35
GERES GERESS Array B 89.19 40 LR LR 06 02 32.1
comp=Z,8.1nm,18.6s,baz=11,slow=36
TORD Torodi Ar. Bea 90.01 77 P P 05 21 44.1 -2.4
comp=Z,0.2nm,0.8s,baz=290,slow=4.8,SNR=4.0
TORD LR LR 05 59 35.5
comp=Z,13nm,20.3s,baz=135,slow=34
BOSA Boshof 120.19 115 PKP PKPdf 05 27 37.7 +0.1
comp=Z,2.4nm,0.8s,baz=207,slow=2.3,SNR=3.6
WRA Warramunga Arr 135.76 256 PKP PKPdf 05 28 08.0 +0.7
comp=Z,0.5nm,0.6s,baz=88,slow=2.3,SNR=3.4
ASAR Alice Springs 136.05 251 PKP PKPdf 05 28 07.8 0.0
comp=Z,0.2nm,0.3s,baz=90,slow=2.8,SNR=2.9
CMAR Chiang Mai Arr 145.82 342 PKPbc PKPdf 05 28 25.7 +0.2
comp=Z,9.6nm,0.6s,baz=334,slow=3.5,SNR=32

PDA 21 05:12:12.4±1.1, 37.09N×24.49W, h5km, MD3.8, ML2.2, Error ellipse: s-maj=10.8km s-min=4.6km az=104.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.47**	**260**	*i* P	Pg	05 12 20.6	-0.9
PSMN				*e*S	Sg	05 12 27.0	-0.6
PSMN				A	A	05 12 29.4	
	33nm,0.2s						
PSMA	**Santa Maria**	**0.52**	**260**	*i* P	Pg	05 12 21.2	-1.2
PSMA				*e*S	Sg	05 12 27.9	-1.3
PSMA				A	A	05 12 28.4	
	31nm,0.1s						
BART	**Pico Bartolome**	**0.87**	**322**	*e*S	Sg	05 12 36.9	-3.9
BART				A	A	05 12 39.0	
	26nm,0.1s						
PDA	**Ponta Delgada**	**1.14**	**305**	*e*P	Pg	05 12 30.0	-4.3
PDA				*e*S	Sg	05 12 43.3	-5.8
PDA				A	A	05 12 45.9	
	15nm,0.3s						
PSET	**Sete Cidades**	**1.22**	**307**	*e*P	Pg	05 12 31.9	-4.0
PSET				*e*S	Sg	05 12 45.9	-6.0
PSET				A	A	05 12 54.0	
	30nm,0.4s						
ADH	**Angra Heroismo**	**2.68**	**307**	*e*P	Pn	05 12 52.7	-3.4

*IDC **21** 05:30:28.9±1.7, 21.01S×178.83W, h595km±19km, mb3.4/13, mb1 3.7/15, mb1mx3.6/19, mbtmp4.4/15, Error ellipse: s-maj=17.5km s-min=10.7km az=151.0*
*ISCJB **21** 05:30:29.2±0.6, 21.1S±0.1×178.8W±0.1, h619km, mb3.8/13, Error ellipse: s-maj=17.5km s-min=11.6km az=146.3*

ISC 21 05:30:30.5±0.6, 21.1S±0.1×178.8W±0.1, h619km, n33, σ0.9s97/37, mb4.0/13, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.74**	**263**	P	P	**05 33 24.9**	**-1.6**
	0.3nm,0.3s,baz=270,slow=20,SNR=3.2						
URZ	**Urenera**	**17.49**	**191**	P	P	**05 33 58.3**	**-2.1**
	3.5nm,0.3s,baz=17,slow=14,SNR=17						
STKA	**Stephens Creek**	**36.85**	**245**	P	P	**05 36 48.8**	**+0.3**
	1.4nm,0.7s,baz=82,slow=11,SNR=2.8						
STKA				PcP	PcP	05 38 54.0	+1.0
	1.0nm,0.6s,baz=127,slow=4.0,SNR=3.6						
ASAR	**Alice Springs**	**43.64**	**257**	P	P	**05 37 42.8**	**+0.2**
	6.6nm,0.8s,baz=89,slow=8.3,SNR=45						
ASAR				PcP	PcP	05 39 16.4	+0.8
	2.0nm,0.6s,baz=102,slow=3.8,SNR=12						
ASAR				S	S	05 43 30.0	+1.0
	1.6nm,0.8s,baz=91,slow=15,SNR=8.3						
WRA	**Warramunga Arr**	**43.76**	**263**	P	P	**05 37 43.6**	**+0.2**
	3.5nm,0.6s,baz=94,slow=6.1,SNR=20						
WRA				PcP	PcP	05 39 17.2	+1.2
	0.7nm,0.6s,baz=94,slow=3.8,SNR=2.8						
WRA				S	S	05 43 30.3	-0.4
	1.2nm,0.8s,baz=99,slow=12,SNR=4.3						
VNDA	**Vanda**	**57.28**	**185**	P	P	**05 39 21.7**	**+1.4**
	0.5nm,0.5s,baz=357,slow=7.2,SNR=7.1						
MJAR	**Matsushiro Arr**	**70.21**	**324**	P	P	**05 40 42.3**	**-0.6**
	2.4nm,0.6s,baz=160,slow=6.4,SNR=6.7						
PETK	**Petropavlovsk-**	**76.62**	**346**	P	P	**05 41 18.7**	**0.0**
	4.7nm,0.7s,baz=152,slow=8.0,SNR=6.4						
KSRS	**Korea Array**	**76.81**	**319**	P	P	**05 41 20.9**	**+0.9**
	0.8nm,0.4s,baz=124,slow=6.2,SNR=4.8						
USRK	**Ussuriysk Ar.**	**79.00**	**326**	P	P	**05 41 32.5**	**+0.8**
	4.4nm,0.7s,baz=103,slow=6.1,SNR=10						
NVAR	**Mina Array Bea**	**81.97**	**44**	P	P	**05 41 47.6**	**+0.1**
	1.7nm,0.5s,baz=231,slow=5.7,SNR=15						
TXAR	**Lajitas Array**	**88.01**	**58**	P	P	**05 42 17.2**	**+0.5**
	1.8nm,0.8s,baz=220,slow=6.0,SNR=22						
ILAR	**Eielson Array**	**89.04**	**13**	P	P	**05 42 19.6**	**-0.9**
	1.6nm,0.6s,baz=221,slow=5.5,SNR=24						
CMAR	**Chiang Mai Arr**	**89.58**	**290**	P	P	**05 42 24.9**	**+0.8**
	2.6nm,0.8s,baz=121,slow=3.1,SNR=13						
PDAR	**Pinedale Array**	**89.90**	**44**	P	P	**05 42 24.8**	**-0.5**
	2.0nm,0.7s,baz=210,slow=2.9,SNR=17						
ZALV	**Zalesovo Beam**	**110.45**	**321**	PKiKP	**PKiKP**	**05 47 52.2**	**-1.2**
	0.9nm,0.6s,baz=136,slow=2.1,SNR=4.2						
ARCES	**ARCESS Array B**	**129.34**	**349**	PKP	**PKPdf**	**05 48 29.1**	**-0.1**
	6.3nm,0.4s,baz=25,slow=2.4,SNR=3.0						
FINES	**FINESS Array B**	**136.09**	**343**	PKP	**PKPdf**	**05 48 41.0**	**-1.1**
	0.7nm,0.4s,baz=52,slow=3.1,SNR=7.7						
FINES				SKPbc	**SKiKP**	**05 51 19.7**	**-2.5**
	1.4nm,0.8s,baz=114,slow=4.6,SNR=4.3						
NB2	**NORSAR Subarra**	**139.45**	**353**	PKP	PKPpre	05 48 40.6	
	comp=Z,0.3nm,0.4s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**139.45**	**353**	PKhKP	PKPpre	05 48 40.5	
	comp=Z,1.1nm,0.7s,baz=15,slow=4.6,SNR=4.6						
AKASG	**Malin Array Be**	**143.13**	**330**	PKP	PKPab	05 48 53.0	-0.2
	comp=Z,4.5nm,0.5s,baz=42,slow=4.2,SNR=37						
BRTR	**Keskin Array B**	**146.64**	**311**	PKPbc	**PKPbc**	**05 49 04.5**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=133,slow=4.7,SNR=21						
OKC	**Ostrava-Krasne**	**148.29**	**339**	*e*PKP	**PKPbc**	**05 49 10.0**	**+1.8**
DPC	**Dobruska-Polom**	**148.43**	**341**	*e*PKP	**PKPbc**	**05 49 09.4**	**+0.9**
DPC				*ex*	x	05 49 15.4	
CLL	**Collm**	**148.43**	**346**	*i* PKPbc	**PKPbc**	**05 49 08.8**	**+0.4**
	comp=Z,9.0nm,0.7s						
CLL				*i* PKPab	**PKPab**	**05 49 14.3**	**0.0**
	comp=Z,4.0nm,0.6s						
BRG	**Berggiesshubel**	**148.61**	**344**	*e*PKP	**PKPbc**	**05 49 09.5**	**+0.6**
	comp=Z,5.9nm,0.8s						
GOPC	**GO Pecny, Ondr**	**149.26**	**343**	*e*PKP	**PKPbc**	**05 49 11.2**	**+0.7**
PRU	**Pruhonice**	**149.26**	**343**	*e*PKP	**PKPbc**	**05 49 11.1**	**+0.6**
PRU				*ex*	x	05 49 19.0	
TREC	**Trest**	**149.61**	**341**	*e*PKP	**PKPbc**	**05 49 11.8**	**+0.4**
KHC	**Kasperske Hory**	**150.30**	**343**	*e*PKP	**PKPbc**	**05 49 13.6**	**+0.6**
KHC				*ex*	x	05 49 16.8	
KHC				*ex*	x	05 49 22.9	
GERES	**GERESS Array B**	**150.53**	**343**	PKPbc	**PKPbc**	**05 49 14.0**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=56,slow=2.4,SNR=15						
ESDC	**Sonseca Array**	**160.94**	**12**	PKPab	**PKPab**	**05 50 08.1**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=341,slow=3.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**172.11**	**184**	PKP	**PKPdf**	**05 49 29.9**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=177,slow=1.2,SNR=4.2						

*IDC **21** 05:43:59.4±0.9, 32.43S×177.75W, h0km, mb4.3/7, mb1 4.5/10, mb1mx4.3/20, mbtmp4.4/10, ML4.5/3, Error ellipse: s-maj=28.0km s-min=18.6km az=102.0*
*ISCJB **21** 05:44:00.7±0.6, 32.59S±0.05×177.8W±0.1, h21km, mb4.4/12, Error ellipse: s-maj=15.7km s-min=5.4km az=17.3*
*NEIC **21** 05:44:04.4±0.6, 32.52S×177.71W, h35km, mb4.4/5, Error ellipse: s-maj=16.9km s-min=10.1km az=100.0*

ISC 21 05:44:02.4±0.7, 32.52S±0.06×177.7W±0.1, h21km, n47, σ1.9s38/51, mb4.5/12, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.27**	**357**	Pn	**Pn**	**05 44 51.5**	**-0.9**
	243nm,0.3s,baz=87,slow=8.4,SNR=12						
RAO				Sn	**Sn**	**05 45 28.9**	**-1.7**
	491nm,0.3s,baz=109,slow=22,SNR=9.3						
WMGZ	**Waiomatatini S**	**6.16**	**210**	PN	**Pn**	**05 45 32.7**	**+0.5**
WMGZ				SN	**Sn**	**05 46 43.2**	**+1.2**
HAZ	**Te Kaha**	**6.40**	**214**	PN	**Pn**	**05 45 36.4**	**+1.1**
HAZ				SN	**Sn**	**05 46 49.8**	**+2.1**
PUZ	**Puketiti**	**6.45**	**210**	PN	**Pn**	**05 45 35.6**	**-0.5**
PUZ				SN	**Sn**	**05 46 48.9**	**-0.1**
TWGZ	**Tauwhareparae**	**6.65**	**211**	PN	**Pn**	**05 45 39.2**	**+0.4**
MWZ	**Matawai**	**6.98**	**213**	PN	**Pn**	**05 45 43.0**	**-0.4**
URZ	**Urewera**	**7.12**	**215**	Pn	**Pn**	**05 45 44.7**	**-0.5**
	1.6nm,0.3s,baz=58,slow=14,SNR=18						
URZ				Sn	**Sn**	**05 47 03.4**	**-2.1**
	14nm,0.3s,baz=226,slow=20,SNR=14						
URZ	**Urewera**	**7.12**	**215**	PN	**Pn**	**05 45 45.1**	**-0.1**
URZ	**Urewera**	**7.12**	**215**	*e*Pn	**Pn**	**05 45 46.1**	**+0.9**
URZ				Sn	**Sn**	**05 47 03.4**	**-2.1**
RAGZ	**Rawiri**	**7.16**	**212**	PN	**Pn**	**05 45 45.6**	**-0.3**
RIGZ	**Rimuhau**	**7.19**	**210**	PN	**Pn**	**05 45 46.0**	**-0.2**
KNZ	**Kokohu**	**7.49**	**209**	PN	**Pn**	**05 45 48.5**	**-1.9**
OUZ	**Omahuta**	**7.72**	**247**	PN	Pn	05 46 00.7	+7.2
OUZ	**Omahuta**	**7.72**	**247**	*e*Pn	Pn	05 46 00.8	+7.3
NMHZ	**Naumai**	**7.93**	**213**	PN	**Pn**	**05 45 56.3**	**-0.2**
BKZ	**Black Stump Fm**	**8.13**	**214**	PN	**Pn**	**05 45 58.6**	**-0.6**
KAHZ	**Kahuranaki**	**8.47**	**210**	PN	**Pn**	**05 46 01.1**	**-2.8**
PXZ	**Pawanui**	**8.68**	**209**	*e*PN	Pn	05 46 01.4	-5.2
PXZ				SN	**Sn**	**05 47 39.0**	**-4.9**
PNHZ	**Pukenui**	**8.87**	**212**	PN	**Pn**	**05 46 07.1**	**-2.2**
TIWZ	**Tintock**	**9.71**	**210**	PN	**Pn**	**05 46 18.8**	**-2.0**
MRZ	**Mangatainoka R**	**9.75**	**212**	PN	**Pn**	**05 46 19.3**	**-2.1**
MRZ				*e*SN	Sn	05 48 02.8	-7.4
THZ	**Tophouse**	**11.87**	**216**	*e*PN	Pn	05 46 45.7	-4.7
THZ				*e*SN	Sn	05 48 53.2	-9.1
MQZ	**McQueen's Vall**	**13.49**	**211**	*e*SN	Sn	05 49 26.7	-15
RPZ	**Rata Peaks**	**14.24**	**215**	Pn	**Pn**	**05 47 20.9**	**-1.8**
	3.4nm,0.3s,baz=75,slow=2.6,SNR=12						
RPZ				Sn	Sn	05 49 47.0	-13
	1.7nm,0.3s,baz=13,slow=19,SNR=7.0						
HNR	**Honiara**	**30.90**	**313**	P	**P**	**05 50 17.6**	**0.0**
	283nm,1.0s						
STKA	**Stephens Creek**	**34.30**	**260**	P	P	**05 50 47.2**	**-0.1**
	0.5nm,0.5s,baz=112,slow=10,SNR=4.5						
CTAO	**Charters Tower**	**34.44**	**282**	*e*P	P	**05 50 51.0**	**+2.4**
	4.7nm,0.5s						
ASAR	**Alice Springs**	**43.28**	**269**	P	P	**05 52 02.8**	**0.0**
	1.0nm,0.4s,baz=112,slow=7.9,SNR=15						
ASAR				PcP	PcP	05 53 51.2	-0.4
	0.3nm,0.5s,baz=114,slow=4.1,SNR=3.0						
WRAB	**Tennant Creek**	**44.46**	**274**	*e*P	P	**05 52 12.3**	**+0.1**
	3.1nm,0.4s						
WRA	**Warramunga Arr**	**44.46**	**274**	P	P	**05 52 12.1**	**-0.1**
	4.1nm,0.3s,baz=113,slow=7.9,SNR=20						
VNDA	**Vanda**	**46.02**	**186**	*e*P	P	**05 52 24.3**	**+0.5**
	1.8nm,1.1s						
QSPA	**South Pole Qui**	**57.59**	**180**	P	P	**05 53 52.1**	**+1.7**
	5.9nm,1.1s,baz=34,slow=1.3,SNR=20						
QSPA	**South Pole Qui**	**57.59**	**180**	*e*P	P	**05 53 52.0**	**+1.5**
	1.9nm,0.5s						
MAW	**Mawson**	**70.42**	**201**	P	P	**05 55 15.5**	**+1.1**
	5.2nm,1.1s,baz=108,slow=6.4,SNR=5.5						
MAW	**Mawson**	**70.42**	**201**	*e*P	P	**05 55 15.7**	**+1.2**
SNAA	**Sanae**	**76.03**	**178**	P	P	**05 55 46.9**	**-0.9**
SNAA	**Sanae**	**76.03**	**178**	*e*P	P	**05 55 46.8**	**-0.9**
	3.6nm,0.8s						
VNA1	**Neumayer--Stat**	**76.84**	**176**	P	P	**05 55 52.3**	**+0.2**
KSRS	**Korea Array**	**86.12**	**320**	P	P	**05 56 42.2**	**+0.6**
	1.0nm,0.6s,baz=140,slow=4.6,SNR=4.8						
KSAR	**Wonju Array Be**	**86.14**	**320**	P	P	**05 56 42.2**	**+0.5**
NVAR	**Mina Array Bea**	**89.63**	**43**	P	P	**05 56 58.4**	**-0.3**
	0.9nm,0.7s,baz=224,slow=7.6,SNR=5.1						
KBZ	**Khabaz**	**146.46**	**301**	PKPbc	**PKPbc**	**06 03 41.8**	**+0.2**
	1.9nm,0.6s,baz=130,slow=3.6,SNR=4.0						
FINES	**FINESS Array B**	**147.22**	**339**	PKPbc	**PKPbc**	**06 03 42.6**	**-0.6**
	3.1nm,0.5s,baz=56,slow=3.1,SNR=27						
NB2	**NORSAR Subarra**	**150.88**	**351**	PKP	**PKPbc**	**06 03 51.9**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=19,slow=2.6						
NOA	**NORSAR Array B**	**150.88**	**351**	PKPbc	**PKPbc**	**06 03 52.0**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=20,slow=4.7,SNR=5.3						
NOA	**NORSAR Array B**	**150.88**	**351**	PKPbc	**PKPbc**	**06 03 52.0**	**-0.7**
BRTR	**Keskin Array B**	**153.77**	**295**	PKPbc	**PKPbc**	**06 04 00.4**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=144,slow=4.4,SNR=6.4						
BRTR				PKPab	**PKPab**	**06 04 12.7**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=115,slow=4.8,SNR=8.4						

*ISCJB **21** 06:05:30.8±0.9, 19.11N±0.05×145.8E±0.2, h214km, mb3.4/7, Error ellipse: s-maj=29.4km s-min=7.2km az=175.2*
*IDC **21** 06:05:34.3±2.3, 19.11N×145.73E, h235km±23km, mb3.2/7, mb1 3.5/10, mb1mx3.3/25, mbtmp4.0/10, Error ellipse: s-maj=33.0km s-min=12.5km az=87.0*

ISC 21 06:05:32.9±1.1, 19.13N±0.07×145.6E±0.2, h214km, n11, σ1.9s58/14, mb3.5/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.56**	**188**	P	**Pn**	**06 06 57.0**	**+2.1**
	6.2nm,0.3s,baz=14,slow=19,SNR=3.9						
GUMO				S	**S**	**06 07 57.3**	**-2.3**
	12nm,0.3s,baz=149,slow=23,SNR=6.5						
JCJ	**Chichijima**	**8.54**	**339**	P	**Pn**	**06 07 33.6**	**+0.5**
	1.6nm,0.3s,baz=213,slow=18,SNR=3.3						
JCJ				S	**S**	**06 09 07.0**	**-2.4**
	11nm,0.3s,baz=100,slow=22,SNR=10						
MJAR	**Matsushiro Arr**	**18.53**	**341**	P	P	**06 09 34.5**	**+1.0**
	1.4nm,0.3s,baz=158,slow=10,SNR=11						
MAT	**Matsushiro**	**18.54**	**341**	P	P	**06 09 34.8**	**+1.3**
MAT				*e*S	**Pn**	**06 09 38.0**	**+1.6**
KSRS	**Korea Array**	**23.94**	**323**	P	P	**06 10 27.8**	**+0.3**
	1.0nm,0.4s,baz=147,slow=8.5,SNR=6.1						
WRA	**Warramunga Arr**	**40.38**	**197**	P	P	**06 12 49.6**	**-0.7

*MEX **21** 06:16:57.3±0.6,14˚06N×91˚82W,h20km,MD3.6*
*CASC **21** 06:16:58.1±1.4, 13˚92N×91˚54W,h17km±9km, MD3.7*
ISC 21 06:16:54.9±2.1,**14˚0N**±0˚1×**91˚83W**±0˚08,**h59**km±18km, **n15**,σ1§**16**/22,**2C**,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.37**	**31** ⇑	*iP*	**Pn**	**06 17 07.3**	**+1.7**
THIG		**1.00**	**335**	*eP*	**Pn**	**06 17 13.1**	**+0.2**
THIG				*eS*	**Sn**	**06 17 23.3**	**-2.9**
FUG	**Fuego 3**	**1.06**	**65**	*eP*	**Pn**	**06 17 13.6**	**-0.4**
PCG	**Pacaya**	**1.25**	**72**	*eP*	**Pn**	**06 17 16.6**	**+0.1**
PCG				*eS*	**Sn**	**06 17 30.9**	**-1.8**
IXG	**Ixpaco**	**1.35**	**82** ⇑	*eP*	**Pn**	**06 17 17.6**	**-0.2**
IXG				*eS*	**Sn**	**06 17 33.9**	**-0.9**
NBG	**Las Nubes**	**1.56**	**68**	*eP*	**Pn**	**06 17 22.5**	**+1.8**
RBDL	**Robledal**	**2.09**	**87**	*eP*	**Pn**	**06 17 27.9**	**+0.2**
RTR	**El Retiro**	**2.13**	**92**	*eP*	**Pn**	**06 17 28.1**	**-0.2**
SBLS	**San Blas**	**2.15**	**94**	*eP*	**Pn**	**06 17 29.6**	**+0.9**
SBLS				*eS*	**Sn**	**06 17 54.6**	**+0.2**
PCIG		**2.16**	**322**	*eP*	**Pn**	**06 17 29.2**	**+0.7**
PCIG				*eS*	**Sn**	**06 17 53.8**	**-0.5**
CCIG	**Comitan**	**2.29**	**353**	*eP*	**Pn**	**06 17 30.8**	**+0.3**
CCIG				*eS*	**Sn**	**06 17 57.5**	**-0.2**
MRL	**Marmol**	**2.33**	**63**	*eP*	**Pn**	**06 17 32.6**	**+1.5**
SNET	**Serv Nac Est T**	**2.55**	**97**	*eS*	**Sn**	**06 18 03.5**	**-0.4**
LFU	**La Fuente**	**2.65**	**95**	*eP*	**Pn**	**06 17 35.8**	**+0.4**
TGIG		**3.03**	**336**	*eP*	**Pn**	**06 17 41.2**	**+0.7**
TGIG				*eS*	**Sn**	**06 18 16.2**	**+0.5**

*ISCJB **21** 06:26:31.6±0.3,14˚34N±0˚03×91˚55W±0˚03,h87km±3km, mb4.3/67,Error ellipse: s-maj=6.9km s-min=3.0km az=42.5*
*NEIC **21** 06:26:31.8±0.7, 14˚31N×91˚55W,h77km±6km,mb4.4/60, MD4.4(MEX),Error ellipse: s-maj=9.0km s-min=5.5km az=46.0*
NEIC Felt at San Lucas Toliman.
*IDC **21** 06:26:32.3±1.6, 14˚41N×91˚55W,h82km±14km, mb3.9/13, mb1 4.1/17,mb1mx3.9/27,mbtmp4.2/17,MS3.4/8, Ms1 3.4/8,ms1mx3.1/20,Error ellipse: s-maj=17.4km s-min=9.5km az=48.0*
*MEX **21** 06:26:32.4±0.8, 14˚10N×91˚81W,h34km±31km,MD4.4*
*CASC **21** 06:26:34.8±2.3, 14˚12N×91˚43W,h32km±12km, MD4.0, ML4.1,mb4.4(NEIC)*
ISC 21 06:26:31.6±0.6,**14˚25N**±0˚04×**91˚71W**±0˚04,**h82**km±5km, **h82**km:**pP-P,n302**,σ1§**46**/342,**mb4.4**/67,**3C-1D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.10**	**45** ⇑	*iP*	**Pn**	**06 26 41.7**	**-1.6**
THIG		**0.85**	**321**	*eP*	**Pn**	**06 26 47.7**	**-1.3**
THIG				*eS*	**Sn**	**06 26 59.0**	**-3.0**
THIG		**0.85**	**321**	*eP*	**Pn**	**06 26 47.7**	**-1.3**
THIG				*eS*	**Sn**	**06 26 59.0**	**-3.0**
FUG	**Fuego 3**	**0.86**	**77** ⇑	*eP*	**Pn**	**06 26 48.1**	**-1.2**
PCG	**Pacaya**	**1.08**	**82**	*eP*	**Pn**	**06 26 51.3**	**-0.7**
PCG				*eS*	**Sn**	**06 27 04.7**	**-2.4**
NBG	**Las Nubes**	**1.36**	**75**	*eP*	**Pn**	**06 26 55.6**	**+0.1**
NBG				*eS*	**Sn**	**06 27 16.5**	**+3.1**
RBDL	**Robledal**	**1.97**	**94**	*eP*	**Pn**	**06 27 01.9**	**-1.3**
RTR	**El Retiro**	**2.03**	**100**	*eP*	**Pn**	**06 27 03.3**	**-0.8**
PCIG		**2.06**	**315**	*eP*	**Pn**	**06 27 04.0**	**-0.3**
PCIG				*eS*	**Sn**	**06 27 27.4**	**-1.8**
PCIG		**2.06**	**315**	*eP*	**Pn**	**06 27 04.0**	**-0.3**
PCIG				*eS*	**Sn**	**06 27 27.4**	**-1.8**
CCIG	**Comitan**	**2.06**	**348**	*eP*	**Pn**	**06 27 05.4**	**+0.8**
CCIG				*eS*	**Sn**	**06 27 30.8**	**+1.1**
CCIG	**Comitan**	**2.06**	**348**	*eP*	**Pn**	**06 27 05.4**	**+0.8**
CCIG				*eS*	**Sn**	**06 27 30.8**	**+1.1**
SBLS	**San Blas**	**2.06**	**101**	*eP*	**Pn**	**06 27 03.8**	**-0.8**
SNJE	**San Jose**	**2.08**	**100**	*eP*	**Pn**	**06 27 04.0**	**-0.8**
MRL	**Marmol**	**2.12**	**67** ⇑	*eP*	**Pn**	**06 27 05.2**	**0.0**
BOQS	**Boqueron**	**2.41**	**102**	*eP*	**Pn**	**06 27 08.3**	**-1.0**
SNET	**Serv Nac Est T**	**2.47**	**103**	*eP*	**Pn**	**06 27 08.9**	**-1.0**
SNET				*eS*	**Sn**	**06 27 34.9**	**-4.3**
SNET				AML	AML	06 27 43.2	
	comp=Z,2µm,0.3s						
LFU	**La Fuente**	**2.57**	**101** ⇓	*eP*	**Pn**	**06 27 10.2**	**-0.9**
LBRS	**Las Brisas**	**2.64**	**101**	*eP*	**Pn**	**06 27 11.2**	**-1.0**
LFRS	**El Faro**	**2.64**	**103**	*eP*	**Pn**	**06 27 11.3**	**-1.0**
SNVI	**San Vicente**	**2.86**	**102**	*eP*	**Pn**	**06 27 14.5**	**-0.7**
TGIG		**2.86**	**332**	*eP*	**Pn**	**06 27 15.3**	**+0.1**
TGIG				*eS*	**Sn**	**06 27 49.4**	**+0.7**
TGIG		**2.86**	**332**	*eP*	**Pn**	**06 27 15.3**	**+0.1**
TGIG				*eS*	**Sn**	**06 27 49.4**	**+0.7**
VSM	**San Miguel**	**3.43**	**103**	*eP*	**Pn**	**06 27 22.8**	**-0.3**
CMIG	**Matias Romero**	**4.17**	**313**	*eP*	**Pn**	**06 27 32.9**	**+0.1**
CMIG				*eS*	**Sn**	**06 28 20.4**	**+0.1**
CMIG	**Matias Romero**	**4.17**	**313**	P	**Pn**	**06 27 32.4**	**-0.4**
	comp=Z,47nm,0.3s,baz=124,slow=9.7,SNR=189						
CMIG				S	**Sn**	**06 28 20.6**	**+0.3**
	comp=Z,55nm,0.3s,baz=103,slow=17,SNR=5.6						
CMIG	**Matias Romero**	**4.17**	**313**	*eP*	**Pn**	**06 27 32.9**	**+0.1**
CMIG				*eS*	**Sn**	**06 28 20.4**	**+0.1**
HUIG	**Huatulco**	**4.51**	**290**	*eP*	**Pn**	**06 27 36.3**	**-1.3**
HUIG				*eS*	**Sn**	**06 28 25.4**	**-3.4**
HUIG	**Huatulco**	**4.51**	**290**	*eP*	**Pn**	**06 27 36.3**	**-1.3**
HUIG				*eS*	**Sn**	**06 28 25.4**	**-3.4**
COPN	**Copaltepe**	**5.39**	**112**	*eP*	**Pn**	**06 27 49.6**	**+0.1**
HUEN		**5.71**	**109**	*eP*	**Pn**	**06 27 53.8**	**-0.1**
TEIG	**Tepich**	**6.79**	**28**	P	**Pn**	**06 28 07.1**	**-1.5**
	comp=Z,155nm,0.3s,baz=216,slow=14,SNR=434						
TEIG				S	**Sn**	**06 29 21.8**	**-2.6**
	baz=41,slow=19,SNR=3.8						
TEIG				LR	LR	06 31 14.2	
	comp=Z,439nm,18.2s,baz=14,slow=43						
TEIG	**Tepich**	**6.79**	**28**	*ePn*	**Pn**	**06 28 07.4**	**-1.2**
TEIG				*eSn*	**Sn**	**06 29 23.9**	**-0.5**
JTS	**JuntasAbangare**	**7.69**	**120**	P	**Pn**	**06 28 21.9**	**+1.0**
	comp=Z,3.8nm,0.3s,baz=302,slow=14,SNR=24						
JTS				S	**Sn**	**06 29 51.9**	**+5.4**
	comp=Z,1.7nm,0.3s,baz=270,slow=20,SNR=2.4						
JTS	**JuntasAbangare**	**7.69**	**120**	*ePn*	**Pn**	**06 28 22.1**	**+1.2**
JTS				*eSn*	**Sn**	**06 29 45.8**	**-0.7**
JCR	**Jicaral**	**7.79**	**123**	*eP*	**Pn**	**06 28 23.5**	**+1.1**
QCR	**Quepos**	**8.80**	**122**	*eP*	**Pn**	**06 28 37.7**	**+1.6**
URSC	**Urasca**	**8.91**	**119**	*eP*	Pn	06 28 41.7	+3.9
BUS	**Buena Vista**	**9.07**	**120**	*eP*	**Pn**	**06 28 41.9**	**+1.7**
BUS				*eS*	**Sn**	**06 30 24.5**	**+3.6**
BCIP	**Isla Barro Col**	**12.67**	**112**	*ePn*	**Pn**	**06 29 28.9**	**+0.1**
034A	**Hebbronville**	**14.32**	**334**	P	**Pn**	**06 29 52.5**	**+2.1**
	baz=14						
933A	**Laredo**	**15.05**	**333**	P	**Pn**	**06 30 01.1**	**+1.3**
	baz=15						
835A	**Beeville**	**15.08**	**339**	P	**Pn**	**06 30 00.8**	**+0.7**
	baz=15						
834A	**Tilden**	**15.21**	**336**	P	**Pn**	**06 30 02.6**	**+0.9**
	baz=15						
736A	**Circle Diamond**	**15.46**	**342**	P	**Pn**	**06 30 05.7**	**+0.8**
	baz=16						
735A	**Kenedy**	**15.60**	**340**	P	**Pn**	**06 30 07.5**	**+0.8**
	baz=16						
833A	**Chaparral WMA,**	**15.72**	**334**	P	**Pn**	**06 30 08.5**	**+0.2**
	baz=16,SNR=8.1						
832A	**Faith Ranch, C**	**15.94**	**333**	P	**P**	**06 30 12.3**	**-0.8**
	baz=16,SNR=11						
733A	**Divot King Ran**	**16.03**	**335**	P	**Pn**	**06 30 12.9**	**+0.8**
	baz=16						
537A	**Green Hill Far**	**16.32**	**346**	P	**P**	**06 30 16.8**	**-0.5**
	baz=16						
732A	**Laxson Ranch,**	**16.32**	**333**	P	**P**	**06 30 17.7**	**+0.4**
	baz=16,SNR=6.4						
440A	**Kirbyville**	**16.55**	**353**	P	**P**	**06 30 19.3**	**-0.5**
	baz=17						
535A	**Dale**	**16.61**	**342**	P	**P**	**06 30 20.5**	**0.0**
	baz=17						
633A	**Saathoff Ranch**	**16.64**	**337**	P	**P**	**06 30 21.0**	**+0.2**
	baz=17						
439A	**Center Grove,**	**16.71**	**351**	P	**Pn**	**06 30 20.7**	**+0.2**
	baz=17						
534A	**Blanco**	**16.90**	**339**	P	**P**	**06 30 24.1**	**+0.4**
	baz=17,SNR=8.2						
632A	**Uvalde**	**16.92**	**335**	P	**P**	**06 30 24.5**	**+0.6**
	baz=17						
533A	**Kerrville**	**17.14**	**338**	P	**P**	**06 30 26.4**	**0.0**
	baz=17						
631A	**Perdido Creek**	**17.18**	**333**	P	**P**	**06 30 27.7**	**+0.9**
	baz=17,SNR=11						
339A	**Huntington**	**17.21**	**352**	P	**Pn**	**06 30 26.7**	**0.0**
	baz=17						
340A	**Bronson**	**17.21**	**354**	P	**Pn**	**06 30 26.9**	**+0.3**
	baz=17						
338A	**Crockett**	**17.35**	**350**	P	**P**	**06 30 30.0**	**+1.4**
	baz=17						
532A	**Rocksprings**	**17.52**	**336**	P	**Pn**	**06 30 32.9**	**+2.3**
	baz=18,SNR=7.6						
434A	**Burnet**	**17.56**	**341**	P	**Pn**	**06 30 32.7**	**+1.7**
	baz=18,SNR=6.5						
NATX	**Nacogdoches**	**17.64**	**352**	P	**Pn**	**06 30 33.0**	**+1.0**
	baz=18						
NATX	**Nacogdoches**	**17.64**	**352**	*ePn*	**Pn**	**06 30 34.3**	**+2.3**
	comp=Z,20nm,1.0s						
336A	**Riesel**	**17.70**	**345**	P	**Pn**	**06 30 34.4**	**+1.7**
	baz=18						
335A	**Moody**	**17.75**	**344**	P	**Pn**	**06 30 35.2**	**+1.9**
	baz=18						
433A	**Art**	**17.78**	**339**	P	**Pn**	**06 30 35.6**	**+1.9**
	baz=18,SNR=14						
JCT	**Junction City**	**17.79**	**337**	P	**Pn**	**06 30 35.6**	**+1.8**
	baz=18,SNR=5.6						
JCT	**Junction City**	**17.79**	**337**	*ePn*	**Pn**	**06 30 36.5**	**+2.6**
JCT				*eSn*	**S**	**06 33 53.2**	**+0.1**
531A	**Rocksprings**	**17.82**	**334**	P	**Pn**	**06 30 35.6**	**+1.5**
	baz=18						
238A	**Jacksonville**	**17.95**	**351**	P	**Pn**	**06 30 36.3**	**+0.6**
	baz=18						
334A	**Lometa**	**18.03**	**342**	P	**Pn**	**06 30 37.6**	**+0.9**
	baz=18,SNR=10.0						
432A	**Menard**	**18.14**	**337**	P	**Pn**	**06 30 39.8**	**+1.7**
	baz=18						
530A	**J-C Ranch, Com**	**18.15**	**332**	P	**Pn**	**06 30 40.1**	**+1.9**
	baz=18,SNR=6.2						
236A	**Katherine and**	**18.21**	**347**	P	**Pn**	**06 30 39.1**	**+0.2**
	baz=18						
333A	**Richland Sprin**	**18.26**	**340**	P	**Pn**	**06 30 40.4**	**+0.9**
	baz=18,SNR=6.1						
431A	**Sonora**	**18.29**	**335**	P	**Pn**	**06 30 41.1**	**+1.1**
	baz=18						
WHTX	**Lake Whitney,**	**18.43**	**344**	P	**Pn**	**06 30 42.1**	**+0.6**
	baz=18						
WHTX	**Lake Whitney,**	**18.43**	**344**	*ePn*	**Pn**	**06 30 43.0**	**+1.5**
	comp=Z,21nm,0.9s						
WHTX				*eSn*	**S**	**06 34 01.2**	**-4.9**
529A	**Stev Forest Ra**	**18.54**	**330**	P	**Pn**	**06 30 44.7**	**+1.8**
	baz=19,SNR=6.0						
332A	**Millersview**	**18.58**	**338**	P	**Pn**	**06 30 44.7**	**+1.4**
	baz=19,SNR=10.0						
138A	**Matatall Enter**	**18.59**	**351**	P	**Pn**	**06 30 42.9**	**-0.5**
	baz=19						
234A	**Clairette**	**18.63**	**343**	P	**Pn**	**06 30 44.0**	**+0.1**
	baz=19,SNR=10						
430A	**Baggett Ranch,**	**18.65**	**334**	P	**Pn**	**06 30 45.0**	**+0.8**
	baz=19						
TXAR	**Lajitas Array**	**18.65**	**326**	P	**Pn**	**06 30 44.8**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=151,slow=13,SNR=26						
TXAR				PcP	**PcP**	**06 35 08.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=147,slow=4.0,SNR=5.4						
TIGA	**Tifton**	**18.66**	**22**	P	**P**	**06 30 43.0**	**0.0**
	baz=19						
TIGA	**Tifton**	**18.66**	**22**	*eP*	**Pn**	**06 30 43.7**	**-0.5**
	comp=Z,26nm,0.6s						
TIGA				*eS*	**S**	**06 34 09.6**	**-1.5**
331A	**San Angelo**	**18.77**	**336**	P	**Pn**	**06 30 46.5**	**+0.9**
	baz=19,SNR=7.9						
429A	**Davenport Ranc**	**18.80**	**332**	P	**Pn**	**06 30 47.2**	**+1.1**
	baz=19,SNR=6.3						
233A	**Rising Star**	**18.87**	**341**	P	**Pn**	**06 30 46.7**	**-0.2**
	baz=19,SNR=12						
135A	**Vickery Place,**	**18.95**	**345**	P	**Pn**	**06 30 47.5**	**-0.3**
	baz=19,SNR=5.9						
232A	**Coleman**	**19.00**	**339**	P	**Pn**	**06 30 48.1**	**-0.3**
	baz=19,SNR=7.9						
134A	**White-Moore Ra**	**19.15**	**343**	P	**Pn**	**06 30 49.5**	**-0.5**
	baz=19,SNR=8.5						
Z38A	**Mt. Pleasant**	**19.15**	**352**	P	**P**	**06 30 48.7**	**+0.3**
	baz=19						
330A	**Mertzon**	**19.16**	**335**	P	**Pn**	**06 30 50.0**	**-0.3**
	baz=19,SNR=8.6						
LRAL	**Lakeview Retre**	**19.19**	**12**	*eP*	**Pn**	**06 30 49.8**	**-0.7**
	comp=Z,6.6nm,0.5s						
LRAL				*eS*	**S**	**06 34 16.9**	**-5.1**
Z37A	**Pogue Cattle C**	**19.20**	**350**	P	**P**	**06 30 49.1**	**+0.3**
	baz=19						
231A	**Brte**	**19.29**	**337**	P	**Pn**	**06 30 51.1**	**-0.7**
	baz=19						
Z36A	**Blue Ridge**	**19.42**	**348**	P	**P**	**06 30 52.1**	**+0.8**
	baz=20						
133A	**Hamilton Ranch**	**19.42**	**341**	P	**Pn**	**06 30 52.8**	**-0.6**
	baz=20,SNR=16						
ROSC	**El Rosal**	**19.50**	**117**	P	**Pn**	**06 30 54.0**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=101,slow=6.5,SNR=6.5						
ROSC	**El Rosal**	**19.50**	**117**	*eP*	**P**	**06 30 52.4**	**-0.3**
230A	**Sterling City**	**19.55**	**335**	P	**Pn**	**06 30 54.1**	**-0.8**
	baz=20						
329A	**Wagon Wheel Ra**	**19.57**	**333**	P	**Pn**	**06 30 54.9**	**-0.2**
	baz=20						
Z35A	**Perchaven, San**	**19.66**	**346**	P	**P**	**06 30 54.8**	**+0.9**
	baz=20						
ABTX	**Abilene, Hawle**	**19.67**	**340**	P	**Pn**	**06 30 55.4**	**-0.8**
	baz=20						
Y39A	**Lockesburg**	**19.72**	**354**	P	**P**	**06 30 54.9**	**+0.3**
	baz=20						
Y38A	**Idabel**	**19.78**	**353**	P	**P**	**06 30 56.0**	**+0.8**
	baz=20,SNR=30						
Z34A	**Collier Ranch,**	**19.86**	**345**	P	**P**	**06 30 56.7**	**+0.6**
	baz=20						
229A	**Bryant Ranch,**	**19.91**	**334**	P	**Pn**	**06 30 58.2**	**-1.0**
	baz=20						
Y37A	**Hugo**	**19.96**	**350**	P	**P**	**06 30 57.3**	**+0.1**
	baz=20						
131A	**Roby**	**19.98**	**338**	P	**P**	**06 30 58.3**	**+0.9**
	baz=20						
Z33A	**Whitaker Ranch**	**20.01**	**342**	P	Pn	06 30 59.3	-0.9
	baz=20,SNR=10						
130A	**Snyder**	**20.12**	**337**	P	**P**	**06 31 00.1**	**+1.0**
	baz=20						
Y35A	**Marietta**	**20.16**	**347**	P	**P**	**06 30 60.0**	**+0.6**
	baz=20						
Z32A	**Haskell**	**20.25**	**341**	P	**P**	**06 31 01.7**	**+1.4**
	baz=20,SNR=14						
MIAR	**Mount Ida**	**20.28**	**356**	*eP*	**P**	**06 31 00.1**	**-0.5**
	comp=Z,22nm,1.3s						
MIAR				*eS*	**S**	**06 34 44.2**	**+0.6**
Y34A	**Reagan Ranch,**	**20.38**	**345**	P	**P**	**06 31 01.8**	**+0.1**
	baz=20						
228A	**UT Block 9, Go**	**20.38**	**333**	P	**P**	**06 31 02.5**	**+0.7**
	baz=20						
UALR	**University of**	**20.45**	**359**	*eP*	**P**	**06 31 02.7**	**+0.3**
Z31A	**Sharp Cattle R**	**20.48**	**339**	P	**P**	**06 31 03.5**	**+0.7**
	baz=20,SNR=17						
GOGA	**Godfrey**	**20.50**	**20**	*eP*	**P**	**06 31 02.0**	**-1.0**
	comp=Z,9.9nm,0.6s						
129A	**Stewart Farms,**	**20.51**	**335**	P	**P**	**06 31 04.2**	**+1.0**
	baz=21,SNR=16						
X37A	**Clayton**	**20.52**	**351**	P	**P**	**06 31 04.0**	**+0.8**
	baz=21,SNR=7.7						
X38A	**Whitesboro**	**20.53**	**353**	P	**P**	**06 31 04.3**	**+1.0**
	baz=21,SNR=14						
Y33A	**Hilltop Ranch,**	**20.65**	**344**	P	**P**	**06 31 04.7**	**0.0**
	baz=21						
X36A	**Centrahoma**	**20.66**	**349**	P	**P**	**06 31 05.0**	**+0.2**
	baz=21						
128A	**Castleberry Fa**	**20.76**	**334**	P	**P**	**06 31 07.0**	**+1.0**
	baz=21,SNR=12						
Z30A	**Sanderson Ranc**	**20.80**	**337**	P	**P**	**06 31 06.3**	**0.0**
	baz=21						
Y32A	**R-V Farms, Ver**	**20.88**	**342**	P	**P**	**06 31 07.2**	**+0.1**
	baz=21						
Z29A	**Hungry Hill Ra**	**21.00**	**336**	P	**P**	**06 31 08.5**	**0.0**
	baz=21,SNR=6.3						
W37A	**Quinton**	**21.07**	**351**	P	**P**	**06 31 10.2**	**+1.0**
	baz=21						
Y31A	**Rekieta Farm,**	**21.10**	**340**	P	**P**	**06 31 10.3**	**+0.8**
	baz=21,SNR=22						
X33A	**Lawton**	**21.12**	**344**	P	**P**	**06 31 10.0**	**+0.4**
	baz=21,SNR=5.2						
X32A	**Elmer**	**21.22**	**342**	P	**P**	**06 31 11.0**	**+0.2**
	baz=21						
Y30A	**Stafford Cattl**	**21.25**	**338**	P	**P**	**06 31 11.0**	**0.0**
	baz=21,SNR=6.7						
Z28A	**Tucker Farm, M**	**21.30**	**335**	P	**P**	**06 31 11.8**	**+0.1**
	baz=21,SNR=6.5						
SDV	**Santo Domingo**	**21.32**	**102**	*eP*	**P**	**06 31 09.9**	**-2.2**
	comp=Z,8.8nm,0.8s						
W35A	**Tecumseh**	**21.33**	**348**	P	**P**	**06 31 11.5**	**-0.4**
	baz=21						
WMOK	**Wichita Mounta**	**21.38**	**344**	*eP*	**P**	**06 31 11.6**	**-0.8**
	comp=Z,10nm,0.9s						
WMOK				*eS*	**S**	**06 35 06.0**	**+0.7**
Y29A	**Porterfield Fa**	**21.52**	**337**	P	**P**	**06 31 14.1**	**+0.1**
	baz=22						
W34A	**Bridge Creek,**	**21.60**	**346**	P	**P**	**06 31 14.6**	**-0.2**
	baz=22,SNR=6.2						
W34A	**Bridge Creek,**	**21.60**	**346**	*eP*	**P**	**06 31 13.7**	**-1.1**
	comp=Z,12nm,0.6s						
X31A	**McDonald Ranch**	**21.63**	**341**	P	**P**	**06 31 14.9**	**-0.2**
	baz=22,SNR=12						
W33A	**Caddo, Fort Co**	**21.69**	**345**	P	**P**	**06 31 15.7**	**0.0**
	baz=22,SNR=5.3						
X30A	**Coker Ranch, T**	**21.75**	**339**	P	**P**	**06 31 16.4**	**-0.1**
	baz=22,SNR=7.8						
V37A	**Hulbert**	**21.76**	**352**	P	**P**	**06 31 16.1**	**-0.4**
	baz=22						
Y28A	**McKinney Farm,**	**21.78**	**336**	P	**P**	**06 31 16.9**	**0.0**
	baz=22,SNR=12						
W32A	**Sentinel**	**21.87**	**343**	P	**P**	**06 31 17.3**	**-0.3**
	baz=22,SNR=6.3						
TUL1	**Leonard**	**21.88**	**351**	*eP*	**P**	**06 31 19.1**	**+1.3**
	comp=Z,11nm,0.8s						
X29A	**Tulia**	**22.05**	**338**	P	**P**	**06 31 19.5**	**-0.2**
	baz=22,SNR=8.7						
MSTX	**Muleshoe**	**22.05**	**335**	P	**P**	**06 31 20.0**	**+0.3**
	baz=22,SNR=8.2						
MSTX	**Muleshoe**	**22.05**	**335**	*eP*	**P**	**06 31 19.0**	**-0.7**
	comp=Z,8.6nm,0.6s						
WVT	**Waverly**	**22.07**	**8**	*eP*	**P**	**06 31 19.8**	**+0.1**
	comp=Z,7.4nm,0.5s						
JSC	**Jenkinsville**	**22.07**	**24**	*eP*	**P**	**06 31 21.7**	**+1.9**
	comp=Z,8.5nm,0.7s						
V34A	**Guthrie**	**22.12**	**347**	P	**P**	**06 31 20.1**	**-0.3**
	baz=22,SNR=5.6						
V34A	**Guthrie**	**22.12**	**347**	*eP*	**P**	**06 31 19.3**	**-1.1**
	comp=Z,9.7nm,0.7s						
V33A	**Lossen Ranch,**	**22.28**	**346**	P	**P**	**06 31 21.6**	**-0.5**
	baz=22						
X28A	**Dimmitt**	**22.30**	**337**	P	**P**	**06 31 22.8**	**+0.4**
	baz=22						
W30A	**Crocket Farms**	**22.32**	**341**	P	**P**	**06 31 23.0**	**+0.4**
	baz=22						
V32A	**Arapaho**	**22.37**	**344**	P	**P**	**06 31 22.8**	**-0.3**
	baz=22						
AMTX	**Amarillo**	**22.43**	**338**	P	**P**	**06 31 23.8**	**0.0**
	baz=22						
AMTX	**Amarillo**	**22.43**	**338**	*eP*	**P**	**06 31 23.4**	**-0.4**
	comp=Z,12nm,0.5s						
PBMO	**Poplar Bluff**	**22.47**	**3**	*eP*	**P**	**06 31 22.7**	**-1.3**
TKL	**Tuckaleechee C**	**22.48**	**17**	P	**P**	**06 31 23.4**	**-0.8**
	comp=Z,5.6nm,0.6s,baz=186,slow=10,SNR=16						
W29A	**Amarillo**	**22.63**	**338**	P	**P**	**06 31 26.1**	**+0.2**
	baz=23,SNR=8.5						
U34A	**Anderson Ranch**	**22.70**	**348**	P	**P**	**06 31 26.4**	**-0.2**
	baz=23						
U34A	**Anderson Ranch**	**22.70**	**348**	*eP*	**P**	**06 31 26.3**	**-0.2**
	comp=Z,13nm,0.8s						
KMSC	**Kings Mountain**	**22.81**	**22**	P	**P**	**06 31 27.2**	**-0.4**
	baz=23,SNR=7.2						
KMSC	**Kings Mountain**	**22.81**	**22**	*eP*	**P**	**06 31 27.2**	**-0.4**
	comp=Z,28nm,0.8s						
U33A	**Lingo Farm, Me**	**22.82**	**347**	P	**P**	**06 31 26.4**	**-1.4**
	baz=23						
V30A	**Spur Ranch, Mi**	**22.89**	**341**	P	**P**	**06 31 28.1**	**-0.5**
	baz=23						
W28A	**Vega**	**22.96**	**338**	P	**P**	**06 31 28.9**	**-0.3**
	baz=23						
T37A	**Cheneyville 18**	**22.96**	**353**	P	**P**	**06 31 27.8**	**-1.3**
	baz=23						
T36A	**Boggs Farm, Ca**	**23.02**	**351**	P	**P**	**06 31 28.4**	**-1.4**
	baz=23						
T34A	**McClaskey Farm**	**23.20**	**349**	P	**P**	**06 31 29.4**	**-2.1**
	baz=23						
TZTN	**Tazewell**	**23.37**	**17**	*eP*	**P**	**06 31 32.5**	**-0.6**
	comp=Z,19nm,0.8s						
121A	**Cookes Peak, D**	**23.38**	**324**	P	**P**	**06 31 36.0**	**+2.6**
	baz=24,SNR=13						
121A	**Cookes Peak, D**	**23.38**	**324**	*eP*	**P**	**06 31 35.9**	**+2.6**
	comp=Z,7.7nm,0.7s						
V28A	**Channing**	**23.40**	**338**	P	**P**	**06 31 33.6**	**+0.2**
	baz=24,SNR=9.2						
SIUC	**Southern Illin**	**23.48**	**5**	*eP*	**P**	**06 31 32.9**	**-1.0**
	comp=Z,19nm,0.6s						
S36A	**Lake Cedric, C**	**23.64**	**352**	P	**P**	**06 31 34.9**	**-0.5**
	baz=24						
U29A	**Oasis Ranch, S**	**23.71**	**341**	P	**P**	**06 31 37.5**	**+1.3**
	baz=24						
USIN	**University of**	**23.89**	**8**	*eP*	**P**	**06 31 37.2**	**-0.5**
	comp=Z,24nm,0.8s						
U27A	**Thompson Grove**	**24.22**	**338**	P	**P**	**06 31 42.2**	**+1.4**
	baz=24						
WCI	**Wyandotte Cave**	**24.36**	**10**	*eP*	**P**	**06 31 40.6**	**-1.4**
	comp=Z,20nm,0.

MPMC Manual Prospec 31.70 318 P **P** 06 32 49.8 +2.0
baz=32,SNR=6.7
R11A Troy Canyon, C 31.98 323 P **P** 06 32 52.5 +2.4
baz=32
R11A Troy Canyon, C 31.98 323 *e*P P 06 32 53.7 +3.6
comp=Z,24nm,2.6s
J21A Lysite 31.99 338 P **P** 06 32 52.4 +2.2
baz=32
GRAC Grapevine Rang 32.19 319 P **P** 06 32 55.0 +3.1
baz=32
SADO Sadowa 32.24 17 P **P** 06 32 50.3 -1.8
comp=Z,2.7nm,0.8s,baz=226,slow=11,SNR=4.2
HWUT Hardware Ranch 32.25 331 *e*P **P** 06 32 53.0 +0.5
comp=Z,37nm,2.6s
HWUT *e*PcP **PcP** 06 35 40.3 +1.1
PDAR Pinedale Array 32.31 335 P **P** 06 32 52.7 -0.4
comp=Z,0.4nm,0.6s,baz=134,slow=6.4,SNR=4.4
PDAR PcP **PcP** 06 35 39.9 +0.5
comp=Z,0.9nm,0.8s,baz=126,slow=4.6,SNR=6.0
PDAR LR LR 06 48 57.9
comp=Z,35nm,18.8s,baz=139,slow=42
VES Vestal, Richgr 32.63 316 P **P** 06 32 58.3 +2.7
baz=33
I20A Worland 32.76 338 P **P** 06 32 58.9 +2.1
baz=33
RCTC Rector, Farmer 33.00 317 P **P** 06 33 01.1 +2.3
baz=33
I19A Meeteetse 33.16 337 P **P** 06 33 02.0 +1.6
baz=33
REDW Red Top Meadow 33.34 334 *e*P **P** 06 33 02.8 +0.7
comp=Z,5.8nm,1.0s
SNOW Snow King Moun 33.38 334 *e*P **P** 06 33 02.9 +0.5
comp=Z,9.9nm,1.0s
TPAW Teton Pass 33.49 334 *e*P **P** 06 33 04.8 +1.4
comp=Z,3.6nm,1.0s
TPAW *e*PcP **PcP** 06 35 43.5 +0.9
EYMN Ely 33.60 0 *e*P **P** 06 33 01.7 -2.3
comp=Z,1.4nm,0.4s
FXWY Fox Creek 33.64 334 *e*P **P** 06 33 05.5 +0.9
comp=Z,21nm,2.6s
FXWY *e*PcP **PcP** 06 35 44.6 +1.5
NVAR Mina Array Bea 33.66 321 P **P** 06 33 06.6 +1.7
comp=Z,8.6nm,0.8s,baz=130,slow=8.4,SNR=50
NVAR pP **pP** 06 33 25.8 +1.8
comp=Z,4.4nm,0.7s,baz=126,slow=9.1,SNR=9.8
NVAR PcP **PcP** 06 35 44.7 +1.5
comp=Z,2.1nm,0.6s,baz=142,slow=3.1,SNR=9.6
IMW Indian Meadow 33.82 335 *e*P P 06 33 09.5 +3.2
comp=Z,32nm,2.6s
BMN Battle Mountai 34.31 324 *e*P **P** 06 33 13.3 +2.9
comp=Z,3.6nm,0.7s
HLID Hailey 35.10 331 P **P** 06 33 18.8 +1.6
baz=35,SNR=7.3
HLID Hailey 35.10 331 *e*P **P** 06 33 19.0 +1.8
comp=Z,2.8nm,0.6s
HLID *e*PcP **PcP** 06 35 49.5 +2.3
MCMT McKenzie Canyo 35.38 334 *e*P **P** 06 33 21.7 +2.1
BOZ Bozeman (W) 35.53 336 P **P** 06 33 22.3 +1.5
baz=36
MFID Camas Ranch 35.67 329 *e*P **P** 06 33 23.9 +1.9
comp=Z,3.2nm,0.6s
MFID *e*PcP **PcP** 06 35 50.6 +1.8
WVOR Wild Horse Val 36.45 326 *e*P **P** 06 33 30.6 +1.9
comp=Z,2.2nm,0.7s
WVOR *e*pP **pP** 06 33 46.8 -1.2
WVOR *e*PcP **PcP** 06 35 54.0 +2.9
SAML Samuel 36.50 128 *e*P **P** 06 33 27.7 -1.5
comp=Z,5.0nm,0.7s
SAML *e*pP **pP** 06 33 46.1 -2.5
SAML *e*PcP **PcP** 06 35 51.6 0.0
MOD Modoc Plateau 37.03 324 *e*P **P** 06 33 35.5 +1.8
comp=Z,50nm,2.8s
MSO Missoula 37.43 335 P **P** 06 33 38.5 +1.5
baz=38
M04C Macdoel 37.86 322 P **P** 06 33 42.3 +1.7
baz=38
LPAZ La Paz 38.25 142 P **P** 06 33 45.7 +1.0
comp=Z,1.8nm,1.1s,baz=324,slow=7.3,SNR=3.6
LPAZ PcP **PcP** 06 35 58.4 +0.7
comp=Z,0.7nm,0.5s,baz=326,slow=1.2,SNR=4.7
J04D Umpqua Nationa 38.91 324 P **P** 06 33 51.7 +2.1
baz=39
I05D Terrebonne, OR 39.18 326 P **P** 06 33 53.9 +2.3
baz=39
G05D Wamic, OR 39.77 327 P **P** 06 33 58.3 +1.9
baz=40
NEW Newport 39.90 333 P **P** 06 33 58.9 +1.4
baz=40
I03D Drain, OR 39.90 324 P **P** 06 33 59.6 +2.1
baz=40
G03D McMinnville, O 40.80 326 P **P** 06 34 06.6 +1.8
baz=41
LON Longmire 41.03 328 *e*P **P** 06 34 08.6 +1.8
comp=Z,4.5nm,0.9s
NLWA Neilton Lookou 42.51 328 *e*P **P** 06 34 20.9 +2.0
comp=Z,3.1nm,0.4s
SIV San Ignacio 42.65 134 P **P** 06 34 20.3 -0.1
comp=Z,5.4nm,0.7s,baz=312,slow=8.1,SNR=18
SIV pP **pP** 06 34 38.2 -1.9
comp=Z,8.2nm,0.9s,baz=313,slow=9.2,SNR=9.7
SIV PcP **PcP** 06 36 11.7 +0.6
comp=Z,2.2nm,0.7s,baz=348,slow=3.1,SNR=4.3
SCHQ Schefferville 44.89 20 P **P** 06 34 35.4 -2.5
comp=Z,6.1nm,0.7s,baz=213,slow=6.3,SNR=13
SCHQ LR LR 06 54 20.8
comp=Z,119nm,19.1s,baz=342,slow=37
SCHQ Schefferville 44.89 20 *e*P **P** 06 34 36.0 -1.9
YKA Yellowknife Ar 50.85 347 P **P** 06 35 22.9 -0.8
comp=Z,1.9nm,0.6s,baz=146,slow=7.9,SNR=6.9
YKA PcP **PcP** 06 36 38.9 -0.3
comp=Z,1.3nm,0.6s,baz=148,slow=3.0,SNR=4.9
BDFB Brasilia 52.42 123 P **P** 06 35 35.5 -0.7
comp=Z,3.0nm,0.7s,baz=298,slow=12,SNR=8.3
PAX Paxson 61.35 335 *e*P **P** 06 36 38.8 +0.1
comp=Z,3.8nm,0.8s
BRLK Bradley Lake 62.46 331 *e*P **P** 06 36 47.2 +1.2
comp=Z,11nm,0.7s
ILAR Eielson Array 62.73 337 P **P** 06 36 47.2 -0.5
comp=Z,2.0nm,0.6s,baz=110,slow=6.0,SNR=21
ILAR PcP **PcP** 06 37 26.5 +0.9
comp=Z,1.4nm,0.9s,baz=143,slow=3.9,SNR=6.0
CCB Clear Creek Bu 63.02 336 *e*P **P** 06 36 50.1 +0.4
comp=Z,17nm,1.9s
TRF Thorofare Moun 63.54 335 *e*P **P** 06 36 54.3 +1.0
comp=Z,6.3nm,0.6s
BPAW Bear Paw Mtn. 64.07 335 *e*P **P** 06 36 57.3 +0.7
comp=Z,4.8nm,0.8s
PPLA Purkeypile 64.14 334 *e*P **P** 06 36 57.5 +0.2
comp=Z,8.5nm,1.1s
CAST Castle Rocks 64.28 334 *e*P **P** 06 36 58.4 +0.5
comp=Z,3.7nm,0.7s
NB2 NORSAR Subarra 83.79 28 P **P** 06 38 50.1 -1.6
comp=Z,0.6nm,0.7s,baz=288,slow=5.3
NOA NORSAR Array B 83.79 28 P **P** 06 38 51.2 -0.6
comp=Z,0.5nm,0.6s,baz=268,slow=4.3,SNR=3.9
NOA LR LR 07 16 48.9
comp=Z,6.0nm,18.8s,baz=290,slow=36
ARCES ARCESS Array B 85.81 18 LR LR 07 16 42.2
comp=Z,24nm,21.2s,baz=288,slow=35
GERES GERESS Array B 89.23 40 LR LR 07 13 07.6
comp=Z,9.6nm,21.4s,baz=294,slow=31
TORD Tordi Ar. Bea 90.05 77 LR LR 07 19 25.1
comp=Z,22nm,18.0s,baz=165,slow=35
FINES FINESS Array B 90.16 25 LR LR 07 18 57.3
comp=Z,20nm,20.1s,baz=302,slow=35
ZALV Zalesovo Beam 112.01 2 PKiKP **PKiKP** 06 44 56.7 -0.6
comp=Z,0.7nm,0.5s,baz=280,slow=2.6,SNR=3.7
SONM Songino Array 116.12 347 PKP **PKPdf** 06 45 05.6 +0.1
comp=Z,0.3nm,0.6s,baz=270,slow=0.9,SNR=3.2
BOSA Boshof 120.20 115 PKP **PKPdf** 06 45 13.9 +0.1
comp=Z,2.1nm,0.8s,baz=279,slow=2.5,SNR=3.9
HHC Hu-ho-hao-te 121.09 340 *e*PKP **PKPdf** 06 45 13.8 -1.5
HHC PP PP 06 46 50.8 +6.1
HHC Hu-ho-hao-te 121.09 340 SS SS 07 03 06.6 -3.9
HHC AMB AMB
comp=Z,54nm,9.2s
STKA Stephens Creek 128.43 241 PKP **PKPdf** 06 45 30.6 +1.2
comp=Z,0.9nm,0.6s,baz=180,slow=3.0,SNR=3.4
WRA Warramunga Arr 135.73 256 PKP **PKPdf** 06 45 44.4 +0.9
comp=Z,1.0nm,0.8s,baz=88,slow=2.7,SNR=7.3
ASAR Alice Springs 136.01 251 PKP **PKPdf** 06 45 44.4 +0.4
comp=Z,0.5nm,0.6s,baz=115,slow=1.8,SNR=5.1
GKN Gorkha 137.85 5 *e*P **PKPdf** 06 45 47.2 -0.3
comp=Z,4.7nm,0.4s
KOLN Koldanda 137.99 6 *e*P **PKPdf** 06 45 47.9 +0.1
comp=Z,4.2nm,0.5s
GUN Gumba 138.03 3 *e*P **PKPdf** 06 45 48.1 0.0
comp=Z,7.2nm,0.4s

KKN Kakani 138.11 4 *e*P **PKPdf** 06 45 48.1 0.0
comp=Z,16nm,0.7s
DMN Daman 138.28 4 *e*P **PKPdf** 06 45 48.0 -0.4
comp=Z,5.4nm,0.3s
PKIN Phulchoki 138.33 4 *e*P **PKPdf** 06 45 48.2 -0.3
comp=Z,11nm,0.7s
PKI Pulchoki 138.34 4 *e*P **PKPdf** 06 45 48.3 -0.3
comp=Z,9.4nm,0.6s
TAPN Taplejung 138.65 1 *e*P **PKPdf** 06 45 47.8 -1.4
comp=Z,12nm,1.0s
RAMN Ramite 139.02 2 *e*P **PKPdf** 06 45 47.1 -2.7
comp=Z,15nm,0.7s
ODAN Odare 139.13 1 *e*P **PKPdf** 06 45 46.1 -3.9
comp=Z,11nm,0.5s
CHTO Chiang Mai 145.51 342 *e*PKPdf **PKPdf** 06 46 00.5 -0.7
CMAR Chiang Mai Arr 145.85 342 PKPbc **PKPbc** 06 46 02.5 +0.1
comp=Z,15nm,0.6s,baz=334,slow=3.3,SNR=51

*MOS **21** 06:39:28.7±1.9, 80.75N×4.60W, h10km, mb4.3/18, Error ellipse: s-maj=45.8km s-min=8.8km az=91.8*
*BJI **21** 06:39:29.9, 80.70N×3.70W, h10km, mb4.7/12, mB4.7/7, Ms4.4/6, Ms7 4.1/4*
*IDC **21** 06:39:29.8±0.6, 80.87N×3.43W, h0km, mb3.8/16, mb1 4.2/19, mb1mx4.0/31, mbtmp4.0/19, ML3.9/3, MS3.4/23, Ms1 3.4/23, ms1mx3.3/39, Error ellipse: s-maj=21.3km s-min=11.2km az=35.0*
*ISCJB **21** 06:39:32.0±0.2, 80.77N±0.05×3.4W±0.2, h25km, mb4.5/72, MS3.4/19, Error ellipse: s-maj=6.8km s-min=4.5km az=22.4*
*CSEM **21** 06:39:33.7±0.1, 80.84N×3.32W, h26km, mb4.5/60, Error ellipse: s-maj=6.4km s-min=3.7km az=30.0*
*NEIC **21** 06:39:34.0±0.3, 80.76N×3.27W, mb4.6/51, Error ellipse: s-maj=8.4km s-min=4.9km az=36.0*

ISC 21 06:39:33.9±0.4, 80.72N±0.05×3.53W±0.03, h26km±2km, h25km:pP-P, n197, σ1°32/239, mb4.5/72, MS3.3/19, 2C-1D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**3.28**	**116**	*e*Pn		Pn		06 40 20.1	-3.4
SPITS	**Spitsbergen Ar**	**4.44**	**115**	Pn		**Pn**		**06 40 36.6**	**-2.8**
	baz=338,slow=6.6,SNR=178								
SPITS				Sn		**Sn**		**06 41 26.7**	**-3.4**
	baz=318,slow=26,SNR=3.5								
SPITS				LR		LR		06 42 13.9	
	comp=Z,463nm,21.1s,baz=355,slow=37								
DAG	**Danmarks Havn**	**4.93**	**224**	*i* P		**Pn**		**06 40 44.3**	**-1.9**
DAG				*e*S		**Sn**		**06 41 38.3**	**-4.0**
DAG	**Danmarks Havn**	**4.93**	**224**	*i* P		**Pn**		**06 40 44.3**	**-1.9**
DAG				*e*S		**Sn**		**06 41 38.3**	**-4.0**
DAG	**Danmarks Havn**	**4.93**	**224**	*i* P		**Pn**		**06 40 44.3**	**-1.9**
DAG	**Danmarks Havn**	**4.93**	**224**	*i* P		**Pn**		**06 40 44.4**	**-1.8**
	SNR=94								
DAG				*e*S		**Sn**		**06 41 38.4**	**-3.9**
	SNR=94								
JMIC	**Jan Mayen**	**9.86**	**190**	Pn		**Pn**		**06 41 53.7**	**-0.1**
	5.1nm,0.3s,baz=343,slow=16,SNR=24								
JMIC				Sn		**Sn**		**06 43 38.0**	**-5.3**
	1.6nm,0.3s,baz=80,slow=18,SNR=4.2								
SUMG	**Summit**	**11.19**	**243**	*i* P		Pn		06 42 08.6	-3.7
SUMG				*i* S		Sn		06 44 06.4	-10
SUMG	**Summit**	**11.19**	**243**	*i* P		Pn		06 42 08.6	-3.7
SUMG				*i* S		Sn		06 44 06.4	-10
SUMG	**Summit**	**11.19**	**243**	*e*Pn		Pn		06 42 08.3	-4.0
	208nm,0.6s								
KULLO	**Kullorsuaq**	**12.45**	**270**	*i* P		Pn		06 42 23.5	-5.6
KULLO				*i* S		Sn		06 44 32.5	-14
ARCES	**ARCESS Array B**	**13.20**	**132**	Pn		**Pn**		**06 42 38.9**	**-0.4**
	0.2nm,0.3s,baz=351,slow=11,SNR=3.0								
ARCES				LR		LR		06 47 15.9	
	comp=Z,120nm,20.7s,baz=316,slow=35								
APA	**Apatity**	**16.06**	**124**	*i* P		**P**		**06 43 21.5**	**+0.7**
APA				pmax		pmax			
	comp=Z,18nm,1.2s								
APA				MLR		MLR			
	comp=Z,300nm,10.0s								
APA	**Apatity**	**16.06**	**124**	*i* P		**P**		**06 43 21.5**	**+0.7**
	comp=Z,300nm,10.0s								
BORG	**Borgarnes**	**16.74**	**207**	LR		LR		06 48 54.3	
	comp=Z,73nm,20.3s,baz=12,slow=33								
SFJD	**Kangerlussuaq**	**18.05**	**248**	*i* P		Pn		06 43 36.1	-6.4
SFJD	**Kangerlussuaq**	**18.05**	**248**	P		Pn		06 43 36.6	-5.9
	comp=Z,4.7nm,0.3s,baz=19,slow=12,SNR=9.6								
SFJD	**Kangerlussuaq**	**18.05**	**248**	*e*P		Pn		06 43 36.1	-6.4
SFJD	**Kangerlussuaq**	**18.05**	**248**	*e*Pn		Pn		06 43 36.8	-5.7
	comp=Z,21nm,0.6s								
SFJD				*e*Sn		Sn		06 46 44.5	-18
RES	**Resolute Bay**	**18.15**	**301**	P		Pn		06 43 36.5	-7.1
	comp=Z,1.5nm,0.3s,baz=27,slow=13,SNR=25								
RES				S		Sn		06 46 44.3	-21
	comp=Z,1.8nm,0.3s,baz=329,slow=18,SNR=8.5								
RES				LR		LR		06 50 48.2	
	comp=Z,202nm,19.9s,baz=3.0,slow=38								
RES	**Resolute Bay**	**18.15**	**301**	*e*Pn		Pn		06 43 35.9	-7.7
	comp=Z,12nm,0.8s								
RES				S		Sn		06 46 44.3	-21
NB2	**NORSAR Subarra**	**20.22**	**159**	P		Pn		06 44 13.1	+4.5
	comp=Z,2.7nm,1.0s,baz=353,slow=11								
NOA	**NORSAR Array B**	**20.22**	**159**	P		Pn		06 44 08.6	-0.1
	comp=Z,1.0nm,1.1s,baz=349,slow=12,SNR=2.8								
NOA				LR		LR		06 50 44.4	
	comp=Z,74nm,18.6s,baz=345,slow=33								
FINES	**FINESS Array B**	**21.07**	**139**	P		**P**		**06 44 16.4**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=356,slow=11,SNR=3.1								
FINES				LR		LR		06 51 50.6	
	comp=Z,117nm,21.6s,baz=357,slow=35								
FINES	**FINESS Array B**	**21.07**	**139**	P		**P**		**06 44 16.4**	**+0.8**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.7s								
FINES				MLR		MLR			
	comp=Z,117nm,21.6s								
HFS	**Hagfors**	**21.28**	**156**	P		**P**		**06 44 19.2**	**+1.3**
	comp=Z,3.5nm,0.8s,baz=356,slow=9.1,SNR=5.8								
HFS				LR		LR		06 51 17.9	
	comp=Z,72nm,18.7s,baz=306,slow=33								
HFS	**Hagfors**	**21.28**	**156**	P		**P**		**06 44 19.2**	**+1.3**
HFS				pmax		pmax			
	comp=Z,4.0nm,0.8s								
HFS				MLR		MLR			
	comp=Z,72nm,18.7s								
KONO	**Kongsberg**	**21.52**	**162**	*e*P		P		06 44 27.9	+7.4
KONO				pmax		pmax			
	comp=Z,149nm,2.5s								
KONO	**Kongsberg**	**21.52**	**162**	*e*P		P		06 44 30.7	+10
	comp=Z,18nm,1.2s								
FRB	**Frobisher Bay**	**23.90**	**264**	P		**P**		**06 44 44.2**	**-0.7**
	comp=Z,11nm,0.8s,baz=36,slow=8.7,SNR=4.2								
FRB				LR		LR		06 54 39.3	
	comp=Z,96nm,19.6s,baz=42,slow=38								
FRB	**Frobisher Bay**	**23.90**	**264**	P		**P**		**06 44 44.2**	**-0.7**
FRB				pmax		pmax			
	comp=Z,11nm,0.8s								
FRB				MLR		MLR			
	comp=Z,96nm,19.7s								
TIXI	**Tiksi**	**25.67**	**33**	*i* P		**P**		**06 44 59.9**	**-1.1**
TIXI				pmax		pmax			
	comp=Z,9.0nm,1.7s								
TIXI	**Tiksi**	**25.67**	**33**	*e*P		**P**		**06 45 00.3**	**-0.7**
	comp=Z,6.6nm,1.1s								
TIXI	**Tiksi**	**25.67**	**33**	*e*P		**P**		**06 45 00.3**	**-0.7**
	comp=Z,6.6nm,1.1s								
OBN	**Obninsk**	**28.48**	**129**	LR		LR		06 57 09.0	
	comp=Z,84nm,18.1s,baz=86,slow=37								
OBN	**Obninsk**	**28.48**	**129**	*i* P		P		06 45 32.9	+6.5
OBN				*i*				06 46 23.9	
OBN				pmax		pmax			
	comp=Z,7.0nm,1.0s								
OBN				MLR		MLR			
	comp=Z,77nm,20.0s								
INK	**Inuvik**	**28.69**	**324**	LR		LR		06 57 35.6	
	comp=Z,35nm,19.7s,baz=124,slow=38								
ARU	**Arti**	**30.38**	**104**	*c* *i* P		**P**		**06 45 43.9**	**+0.7**
ARU								06 46 45.0	
ARU				S		**S**		**06 50 45.8**	**+4.0**
ARU				SS		**ScP**		**06 52 23.7**	**+1.4**
ARU				pmax		pmax			
	comp=Z,4.0nm,1.2s								
ARU	**Arti**	**30.38**	**104**	*i* P		**P**		**06 45 43.9**	**+0.7**
	comp=Z,4.0nm,1.2s								
BILL	**Bilibino**	**31.33**	**7**	*i* P		**P**		**06 45 48.3**	**-3.2**
BILL				*i*				06 46 55.3	
BILL				pmax		pmax			
	comp=Z,16nm,2.5s								
BILL	**Bilibino**	**31.33**	**7**	*e*P		**P**		**06 45 49.8**	**-1.6**
	comp=Z,6.6nm,1.0s								
BILL	**Bilibino**	**31.33**	**7**	*e*P		**P**		**06 45 49.8**	**-1.6**
	comp=Z,6.6nm,1.0s								
GRFO	**Grafenberg**	**31.54**	**162**	*e*P		**P**		**06 45 53.7**	**+0.2**
	comp=Z,24nm,0.6s								
GRFO	**Grafenberg**	**31.54**	**162**	*e*P		**P**		**06 45 53.7**	**+0.2**
	comp=Z,24nm,0.6s								
AKASG	**Malin Array Be**	**31.97**	**139**	P		**P**		**06 45 58.5**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=347,slow=9.2,SNR=2.6								
AKASG				LR		LR		06 58 32.9	
	comp=Z,59nm,21.7s,baz=290,slow=36								
SCHQ	**Schefferville**	**32.11**	**256**	P		**P**		**06 45 58.2**	**-0.3**
	comp=Z,3.0nm,0.8s,baz=348,slow=9.3,SNR=2.8								
YKA	**Yellowknife Ar**	**32.13**	**305**	P		**P**		**06 45 57.9**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=11,slow=9.3,SNR=4.2								
YKA	**Yellowknife Ar**	**32.13**	**305**	P		**P**		**06 45 57.9**	**-0.6**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
VRAC	**Vranov**	**32.25**	**155**	LR		LR		06 58 27.8	
	comp=Z,70nm,19.7s,baz=305,slow=35								
STHS	**Stebnicka Huta**	**32.49**	**149**	*e*P		P		06 46 10.8	+8.9
STHS				pmax		pmax			
	comp=Z,3.0nm,1.0s								
STHS	**Stebnicka Huta**	**32.49**	**149**	*e*pP		P		06 46 10.8	+8.9
GERES	**GERESS Array B**	**32.52**	**159**	LR		LR		06 58 58.5	
	comp=Z,54nm,18.7s,baz=331,slow=36								
EGAK	**Eagle**	**32.84**	**328**	*e*P		**P**		**06 46 03.7**	**-1.1**
	comp=Z,8.3nm,1.1s								
EGAK	**Eagle**	**32.84**	**328**	*e*P		**P**		**06 46 03.6**	**-1.1**
	comp=Z,8.3nm,1.1s								
COLA	**College**	**33.28**	**333**	*e*P		**P**		**06 46 07.2**	**-1.3**
COLA				pmax		pmax			
	comp=Z,33nm,1.3s								
COLA	**College**	**33.28**	**333**	*e*P		**P**		**06 46 09.1**	**+0.5**
	comp=Z,6.3nm,1.0s								
COLA	**College**	**33.28**	**333**	*e*P		**P**		**06 46 09.1**	**+0.5**
	comp=Z,6.3nm,1.0s								
ILAR	**Eielson Array**	**33.31**	**332**	P		**P**		**06 46 08.3**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=6.0,slow=7.6,SNR=40								
ILAR				PcP		**PcP**		**06 48 49.0**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=334,slow=3.6,SNR=6.9								
ILAR	**Eielson Array**	**33.31**	**332**	P		**P**		**06 46 08.4**	**-0.5**
ILAR								06 48 49.1	
ILAR				pmax		pmax			
	comp=Z,3.0nm,0.9s								
ILAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
DAWY	**Dawson**	**33.38**	**326**	*e*P		**P**		**06 46 08.6**	**-1.0**
	comp=Z,2.9nm,0.8s								
DAWY	**Dawson**	**33.38**	**326**	*e*P		**P**		**06 46 08.6**	**-1.0**
	comp=Z,2.9nm,0.8s								
CCB	**Clear Creek Bu**	**33.50**	**333**	*e*P		**P**		**06 46 10.4**	**-0.1**
	comp=Z,6.3nm,1.0s								
CCB	**Clear Creek Bu**	**33.50**	**333**	*e*P		**P**		**06 46 10.4**	**-0.1**
	comp=Z,6.3nm,1.0s								
HDA	**Harding Lake**	**33.67**	**332**	*e*P		**P**		**06 46 11.3**	**-0.7**
	comp=Z,5.3nm,0.8s								
HDA	**Harding Lake**	**33.67**	**332**	*e*P		**P**		**06 46 11.3**	**-0.7**
	comp=Z,5.3nm,0.8s								
BPAW	**Bear Paw Mtn.**	**34.27**	**335**	*e*P		**P**		**06 46 16.7**	**-0.5**
	comp=Z,8.2nm,1.2s								
BPAW				*e*pP		**pP**		**06 46 24.9**	**0.0**
BPAW	**Bear Paw Mtn.**	**34.27**	**335**	*e*P		**P**		**06 46 16.7**	**-0.5**
	comp=Z,8.2nm,1.2s								
BPAW				*e*pP		**pP**		**06 46 24.9**	**0.0**
DAVOX	**Davos/Dischmat**	**34.38**	**164**	LR		LR		06 59 35.2	
	comp=Z,80nm,19.0s,baz=72,slow=35								
PAX	**Paxson**	**34.98**	**331**	*e*P		**P**		**06 46 23.1**	**-0.3**
	comp=Z,5.5nm,0.8s								
PAX	**Paxson**	**34.98**	**331**	*e*P		**P**		**06 46 23.1**	**-0.3**
	comp=Z,5.5nm,0.8s								
CAST	**Castle Rocks**	**35.02**	**336**	*e*P		**P**		**06 46 23.1**	**-0.6**
	comp=Z,8.3nm,1.0s								
CAST	**Castle Rocks**	**35.02**	**336**	*e*P		**P**		**06 46 23.1**	**-0.6**
	comp=Z,8.3nm,1.0s								
YAK	**Yakutsk**	**35.13**	**37**	*e*P		P		06 46 21.2	-3.4
YAK				pmax		pmax			
	comp=Z,10.0nm,0.6s								
BRVK	**Borovoye**	**35.51**	**94**	*e*P		P		06 46 31.6	+3.6
BRVK				pmax		pmax			
	comp=Z,3.0nm,1.7s								
SEY	**Seymchan**	**35.94**	**19**	*i* P		**P**		**06 46 29.8**	**-1.7**
SEY	**Seymchan**	**35.94**	**19**	*i* P		**P**		**06 46 29.8**	**-1.7**
AKTO	**Aktyubinsk**	**36.09**	**107**	LR		LR		07 03 59.8	
	comp=Z,43nm,18.9s,baz=353,slow=41								
HYT	**Haines Junctio**	**36.39**	**324**	*e*P		**P**		**06 46 35.8**	**+0.2**
HYT	**Haines Junctio**	**36.39**	**324**	*e*P		**P**		**06 46 35.8**	**+0.2**
ZALV	**Zalesovo Beam**	**37.00**	**79**	LR		LR		07 04 55.2	
	comp=Z,71nm,20.1s,baz=84,slow=41								
RC01	**Rabbit Creek A**	**37.17**	**333**	*e*P		**P**		**06 46 41.1**	**-1.0**
	comp=Z,6.6nm,0.7s								
RC01	**Rabbit Creek A**	**37.17**	**333**	*e*P		**P**		**06 46 41.1**	**-1.0**
	comp=Z,6.6nm,0.7s								
BOD	**Bodaibo**	**37.49**	**51**	*e*P		**P**		**06 46 43.1**	**-1.7**
BOD				pmax		pmax			
	comp=Z,3.0nm,1.7s								
BOD	**Bodaibo**	**37.49**	**51**	*e*P		**P**		**06 46 43.1**	**-1.7**
	comp=Z,3.0nm,1.7s								
ABKAR	**Akbulak array**	**37.54**	**106**	P		**P**		**06 46 44.8**	**-0.5**
ABKAR				*e*pP		**pP**		**06 46 55.7**	**+2.7**
ABKAR	**Akbulak array**	**37.54**	**106**	P		**P**		**06 46 44.8**	**-0.5**
ABKAR				*e*pP		**pP**		**06 46 55.7**	**+2.7**
FFC	**Flin Flon**	**37.82**	**291**	*i* P		P		06 46 51.0	+3.4
RSO	**Redoubt South**	**38.00**	**336**	*e*P		**P**		**06 46 47.7**	**-1.6**
	comp=Z,16nm,0.9s								
RSO	**Redoubt South**	**38.00**	**336**	*e*P		**P**		**06 46 47.7**	**-1.6**
	comp=Z,16nm,0.9s								
KURK	**Kurchatov**	**39.12**	**86**	*i* P		**P**		**06 47 01.2**	**+2.6**
KURK				pmax		pmax			
	comp=Z,4.0nm,1.7s								
KURK	**Kurchatov**	**39.12**	**86**	*e*P		**P**		**06 47 00.6**	**+2.0**
	comp=Z,5.5nm,1.0s								
KURK	**Kurchatov**	**39.12**	**86**	*e*P		**P**		**06 47 00.6**	**+2.0**
	comp=Z,5.5nm,1.0s								
KBZ	**Khabaz**	**40.47**	**126**	P		**P**		**06 47 10.7**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=321,slow=8.4,SNR=3.0								
KBZ	**Khabaz**	**40.47**	**126**	P		**P**		**06 47 10.7**	**+0.9**
KBZ				pmax		pmax			
	comp=Z,2.0nm,0.7s								
KDAK	**Kodiak Island**	**40.65**	**335**	*i* P		**P**		**06 47 10.3**	**-0.9**
KDAK	**Kodiak Island**	**40.65**	**335**	*e*P		**P**		**06 47 10.5**	**-0.7**
	comp=Z,13nm,0.7s								
KDAK	**Kodiak Island**	**40.65**	**335**	*e*P		**P**		**06 47 10.5**	**-0.7**
	comp=Z,13n

	comp=Z,6.5nm,1.0s								
BSMT					*e*P	**pP**	06 48 05.4	**-0.2**
BSMT	**Bassoo Peak**	**46.39**	**300**		*e*P	**P**	06 47 58.2	**+0.4**
	comp=Z,6.5nm,1.0s							
BSMT					*e*P	**pP**	06 48 05.4	**-0.2**
B08A	**Colville Reser**	**46.52**	**304**		*e*P	**P**	06 47 58.9	**+0.3**
B08A	**Colville Reser**	**46.52**	**304**		*e*P	**P**	06 47 58.9	**+0.3**
CHMT	**Chamberlain Mo**	**47.09**	**298**		*e*P	**P**	06 48 02.9	**-0.4**
	comp=Z,6.6nm,1.6s							
CHMT					*e*P	**pP**	06 48 10.7	**-0.4**
CHMT	**Chamberlain Mo**	**47.09**	**298**		*e*P	**P**	06 48 02.9	**-0.4**
	comp=Z,6.6nm,1.6s							
CHMT					*e*P	**pP**	06 48 10.7	**-0.4**
MSO	**Missoula**	**47.27**	**299**		*e*P	**P**	06 48 04.7	**+0.2**
	comp=Z,14nm,1.4s							
MSO	**Missoula**	**47.27**	**299**		*e*P	**P**	06 48 04.7	**+0.2**
	comp=Z,14nm,1.4s							
WMQ	**Urumqi**	**47.29**	**80**		P	P	06 48 08.1	+3.4
WMQ					pP	pP	06 48 12.6	+0.1
WMQ					sP	sP	06 48 15.1	-0.5
WMQ					PMZ			
	comp=Z,21nm,0.5s							
WMQ					PMZ			
	comp=Z,43nm,5.1s							
WMQ					LN			
	comp=Z,22nm,12.1s							
WMQ					LE			
	comp=Z,21nm,11.8s							
ECSD	**EROS Data Cent**	**47.67**	**282**		*e*P	**P**	06 48 08.7	**+1.2**
	comp=Z,6.8nm,0.9s							
ECSD					*e*pP	**pP**	06 48 16.3	**+0.9**
ECSD	**EROS Data Cent**	**47.67**	**282**		*e*P	**P**	06 48 08.7	**+1.2**
	comp=Z,6.8nm,0.9s							
ECSD					*e*pP	**pP**	06 48 16.3	**+0.9**
ECSD					*e*sP	**sP**	06 48 19.6	**+1.1**
RLMT	**Red Lodge**	**48.26**	**294**		*e*P	P	06 48 15.9	+3.5
	comp=Z,48nm,2.4s							
RSSD	**Black Hills**	**48.45**	**289**		*e*P	**P**	06 48 14.5	**+0.6**
	comp=Z,13nm,1.5s							
RSSD	**Black Hills**	**48.45**	**289**		*e*P	**P**	06 48 14.5	**+0.6**
	comp=Z,13nm,1.5s							
MCMT	**McKenzie Canyo**	**49.07**	**297**		*e*P	**P**	06 48 19.3	**+0.6**
MCMT					*e*pP	**pP**	06 48 26.8	**+0.3**
MCMT	**McKenzie Canyo**	**49.07**	**297**		*e*P	**P**	06 48 19.3	**+0.6**
MCMT					*e*pP	**pP**	06 48 26.8	**+0.3**
H17A	**Grant Village**	**49.17**	**295**		*e*P	**P**	06 48 21.8	**+2.4**
	comp=Z,11nm,1.4s							
H17A	**Grant Village**	**49.17**	**295**		*e*P	**P**	06 48 21.8	**+2.4**
	comp=Z,11nm,1.4s							
FLWY	**Flagg Ranch**	**49.49**	**295**		*e*P	**P**	06 48 23.8	**+2.0**
	comp=Z,60nm,2.0s							
FLWY					*e*pP	**pP**	06 48 31.3	**+1.6**
FLWY	**Flagg Ranch**	**49.49**	**295**		*e*P	**P**	06 48 23.8	**+2.0**
	comp=Z,60nm,2.0s							
FLWY					*e*pP	**pP**	06 48 31.3	**+1.6**
KSH	**Kashi**	**49.59**	**93**		*e*P	P	06 48 29.6	+7.1
KSH					*e*pP	pP	06 48 34.3	+3.9
KSH					sP	sP	06 48 38.8	+5.3
IMW	**Indian Meadow**	**49.71**	**295**		*e*P	**P**	06 48 24.8	**+1.3**
	comp=Z,5.7nm,0.9s							
IMW					*e*pP	**pP**	06 48 32.4	**+1.0**
IMW	**Indian Meadow**	**49.71**	**295**		*e*P	**P**	06 48 24.8	**+1.3**
	comp=Z,5.7nm,0.9s							
IMW					*e*pP	**pP**	06 48 32.4	**+1.0**
MOOW	**Moose Ponds**	**49.82**	**295**		*e*P	**P**	06 48 25.0	**+0.6**
	comp=Z,4.7nm,1.2s							
MOOW					*e*pP	**pP**	06 48 33.1	**+0.8**
MOOW	**Moose Ponds**	**49.82**	**295**		*e*P	**P**	06 48 25.0	**+0.6**
	comp=Z,4.7nm,1.2s							
MOOW					*e*pP	**pP**	06 48 33.1	**+0.8**
MOOW					*e*sP	**sP**	06 48 37.4	**+2.1**
FXWY	**Fox Creek**	**49.97**	**295**		*e*P	**P**	06 48 26.5	**+1.0**
	comp=Z,12nm,1.4s							
FXWY	**Fox Creek**	**49.97**	**295**		*e*P	**P**	06 48 26.5	**+1.0**
	comp=Z,12nm,1.4s							
SNOW	**Snow King Moun**	**50.10**	**295**		*e*P	**P**	06 48 27.3	**+0.8**
	comp=Z,4.6nm,1.1s							
SNOW					*e*pP	**pP**	06 48 35.3	**+0.8**
SNOW	**Snow King Moun**	**50.10**	**295**		*e*P	**P**	06 48 27.3	**+0.8**
	comp=Z,4.6nm,1.1s							
SNOW					*e*pP	**pP**	06 48 35.3	**+0.8**
TPAW	**Teton Pass**	**50.11**	**295**		*e*P	**P**	06 48 27.8	**+1.2**
	comp=Z,4.3nm,1.2s							
TPAW					*e*pP	**pP**	06 48 35.2	**+0.8**
TPAW	**Teton Pass**	**50.11**	**295**		*e*P	**P**	06 48 27.8	**+1.2**
	comp=Z,4.3nm,1.2s							
TPAW					*e*pP	**pP**	06 48 35.2	**+0.8**
REDW	**Red Top Meadow**	**50.22**	**295**		*e*P	**P**	06 48 28.0	**+0.6**
	comp=Z,5.1nm,1.0s							
REDW					*e*pP	**pP**	06 48 36.4	**+1.2**
REDW	**Red Top Meadow**	**50.22**	**295**		*e*P	**P**	06 48 28.0	**+0.6**
	comp=Z,5.1nm,1.0s							
REDW					*e*pP	**pP**	06 48 36.4	**+1.2**
K22A	**Casper**	**50.27**	**291**		*e*P	**P**	06 48 27.3	**-0.4**
	comp=Z,117nm,2.6s							
K22A					*e*pP	**pP**	06 48 34.7	**-0.9**
K22A	**Casper**	**50.27**	**291**		*e*P	**P**	06 48 27.3	**-0.4**
	comp=Z,117nm,2.6s							
K22A					*e*pP	**pP**	06 48 34.7	**-0.9**
HLID	**Hailey**	**50.54**	**298**		*e*P	**P**	06 48 29.7	**0.0**
	comp=Z,21nm,2.2s							
HLID	**Hailey**	**50.54**	**298**		*e*P	**P**	06 48 29.7	**0.0**
	comp=Z,21nm,2.2s							
PDAR	**Pinedale Array**	**50.61**	**294**		P	**P**	06 48 30.1	**-0.3**
	comp=Z,0.8nm,0.7s,baz=20,slow=4.7,SNR=8.2							
PDAR					LR	LR	07 11 04.1	
	comp=Z,51nm,19.4s,baz=14,slow=38							
MFID	**Camas Ranch**	**50.88**	**300**		*e*P	**P**	06 48 31.4	**-0.9**
	comp=Z,1.9nm,0.6s							
MFID					*e*pP	**pP**	06 48 41.1	**+0.9**
MFID	**Camas Ranch**	**50.88**	**300**		*e*P	**P**	06 48 31.4	**-0.9**
	comp=Z,1.9nm,0.6s							
MFID					*e*pP	**pP**	06 48 41.1	**+0.9**
HWUT	**Hardware Ranch**	**52.04**	**295**		*e*P	**P**	06 48 41.2	**+0.2**
	comp=Z,7.3nm,1.3s							
HWUT					*e*pP	**pP**	06 48 48.8	**-0.1**
HWUT	**Hardware Ranch**	**52.04**	**295**		*e*P	**P**	06 48 41.2	**+0.2**
	comp=Z,7.4nm,1.3s							
HWUT					*e*pP	**pP**	06 48 48.8	**-0.1**
O20A	**White River Ci**	**52.99**	**292**		*e*P	**P**	06 48 48.6	**+0.5**
	comp=Z,16nm,0.8s							
O20A					*e*pP	**pP**	06 48 56.0	**0.0**
O20A	**White River Ci**	**52.99**	**292**		*e*P	**P**	06 48 48.6	**+0.5**
	comp=Z,16nm,0.8s							
O20A					*e*pP	**pP**	06 48 56.0	**0.0**
ELK	**Elko**	**53.42**	**298**		*e*P	**P**	06 48 51.9	**+0.6**
	comp=Z,1.3nm,0.6s							
ELK	**Elko**	**53.42**	**298**		*e*P	**P**	06 48 51.9	**+0.6**
	comp=Z,1.3nm,0.6s							
GTA	**Gaotai**	**53.49**	**70**		*e*P	**P**	06 48 51.8	**+0.1**
GTA					pP	**pP**	06 48 56.3	**-3.3**
GTA					sP	**sP**	06 48 58.8	**-3.9**
GTA					PcP	**PcP**	06 49 57.9	**-0.4**
GTA					ScP	**ScP**	06 53 54.8	**+1.1**
GTA					PMZ			
	comp=Z,5.0nm,1.0s							
SMCO	**Snowmass**	**53.73**	**290**		*e*P	**P**	06 48 54.5	**+0.7**
	comp=Z,8.7nm,1.0s							
SMCO					*e*pP	**pP**	06 49 02.5	**+0.8**
SMCO	**Snowmass**	**53.73**	**290**		*e*P	**P**	06 48 54.5	**+0.7**
	comp=Z,8.7nm,1.0s							
SMCO					*e*pP	**pP**	06 49 02.5	**+0.8**
SMCO					*e*sP	**sP**	06 49 06.5	**+1.6**
HHC	**Hu-ho-hao-te**	**53.79**	**58**		*e*P	**P**	06 48 54.3	**+0.5**
HHC					S	**S**	06 56 23.8	**-2.7**
HHC					ScS	**ScS**	06 58 39.4	**-1.5**
HHC					SS	**SKiKP**	07 00 03.3	**-1.6**
HHC					PMZ			
	comp=Z,16nm,1.0s							
HHC					PMZ			
	comp=Z,73nm,6.4s							
HHC					LN			
	comp=Z,110nm,16.0s							
HHC					LE			
	comp=Z,120nm,15.9s							
HHC					LZ			
	comp=Z,70nm,15.7s							
PV04	**Paradox Valley**	**54.80**	**292**		*e*P	**P**	06 49 01.9	**+0.6**
PV04					*e*pP	**pP**	06 49 10.0	**+0.8**
PV04	**Paradox Valley**	**54.80**	**292**		*e*P	**P**	06 49 01.9	**+0.6**
PV04					*e*pP	**pP**	06 49 10.0	**+0.8**
SDCO	**Great Sand Dun**	**54.91**	**289**		*e*P	**P**	06 49 02.3	**0.0**
	comp=Z,39nm,2.2s							
SDCO	**Great Sand Dun**	**54.91**	**289**		*e*P	**P**	06 49 02.3	**0.0**
	comp=Z,39nm,2.2s							
SDCO					*e*		06 49 10.5	
PV01	**Paradox Valley**	**55.00**	**292**		*e*P	**P**	06 49 03.3	**+0.5**
	comp=Z,1μm,1.0s							
PV01					*e*pP	**pP**	06 49 11.3	**+0.6**
PV01	**Paradox Valley**	**55.00**	**292**		*e*P	**P**	06 49 03.4	**+0.5**
	comp=Z,1μm,1.0s							
PV01					*e*pP	**pP**	06 49 11.3	**+0.6**
MVU	**Marysvale**	**55.18**	**295**		*e*P	**P**	06 49 04.7	**+0.6**
	comp=Z,2.6nm,0.9s							
MVU					*e*pP	**pP**	06 49 12.6	**+0.5**
MVU	**Marysvale**	**55.18**	**295**		*e*P	**P**	06 49 04.7	**+0.6**
	comp=Z,2.6nm,0.9s							
MVU					*e*pP	**pP**	06 49 12.6	**+0.5**
BJI	**Beijing**	**55.21**	**54**		P	**P**	06 49 04.5	**+0.5**
BJI					S	**S**	06 56 41.6	**-3.7**
BJI					PMZ			
	comp=Z,9.0nm,0.6s							
BJI					LN			
	comp=Z,68nm,24.7s							
BJI					LE			
	comp=Z,120nm,20.2s							
R11A	**Troy Canyon, C**	**55.82**	**298**		*e*P	**P**	06 49 08.7	**+0.1**
	comp=Z,28nm,2.3s							
R11A					*e*pP	**pP**	06 49 16.3	**-0.3**
R11A	**Troy Canyon, C**	**55.82**	**298**		*e*P	**P**	06 49 08.7	**+0.1**
	comp=Z,28nm,2.3s							
R11A					*e*pP	**pP**	06 49 16.3	**-0.3**
MVCO	**Mesa Verde**	**55.89**	**291**		*e*P	**P**	06 49 10.3	**+1.0**
	comp=Z,13nm,1.4s							
MVCO	**Mesa Verde**	**55.89**	**291**		*e*P	**P**	06 49 10.3	**+1.0**
	comp=Z,13nm,1.4s							
NVAR	**Mina Array Bea**	**56.12**	**301**		P	**P**	06 49 10.3	**-0.6**
	comp=Z,1.6nm,0.8s,baz=24,slow=4.6,SNR=8.7							
ANMO	**Albuquerque**	**57.80**	**289**		*i* P	**P**	06 49 22.6	**-0.1**
ANMO					pmax	pmax		
	comp=Z,9.0nm,1.2s							
ANMO	**Albuquerque**	**57.80**	**289**		*e*P	**P**	06 49 23.0	**+0.3**
	comp=Z,15nm,1.9s							
ANMO					*e*pP	**pP**	06 49 30.7	**-0.1**
ANMO	**Albuquerque**	**57.80**	**289**		*e*P	**P**	06 49 23.0	**+0.3**
	comp=Z,15nm,1.9s							
ANMO					*e*pP	**pP**	06 49 30.7	**-0.1**
WUAZ					*e*pP	**pP**	06 49 32.4	**+0.4**
WUAZ	**Wupatki**	**57.98**	**294**		*e*P	**P**	06 49 24.6	**+0.6**
	comp=Z,12nm,1.1s							
WUAZ					*e*pP	**pP**	06 49 32.4	**+0.4**
WUAZ	**Wupatki**	**57.98**	**294**		*e*P	**P**	06 49 24.6	**+0.6**
	comp=Z,12nm,1.1s							
WUAZ					*e*pP	**pP**	06 49 32.4	**+0.4**
LDFC	**Landfair**	**58.96**	**297**		*e*P	**P**	06 49 30.0	**-0.7**
	comp=Z,10nm,0.4s							
LDFC	**Landfair**	**58.96**	**297**		*e*P	**P**	06 49 30.0	**-0.7**
	comp=Z,10nm,0.4s							
GSC	**Goldstone, Bar**	**58.99**	**299**		*e*P	**P**	06 49 31.7	**+0.8**
	comp=Z,47nm,2.2s							
GSC	**Goldstone, Bar**	**58.99**	**299**		*e*P	**P**	06 49 31.7	**+0.8**
	comp=Z,47nm,2.2s							
KSRS	**Korea Array**	**59.20**	**44**		LR	LR	07 15 53.9	
	comp=Z,20nm,19.0s,baz=340,slow=37							
JCT	**Junction City**	**61.14**	**282**		*e*P	**P**	06 49 46.2	**+0.6**
	comp=Z,8.9nm,0.9s							
JCT					*e*pP	**pP**	06 49 53.7	**+0.1**
JCT	**Junction City**	**61.14**	**282**		*e*P	**P**	06 49 46.2	**+0.6**
	comp=Z,8.9nm,0.9s							
JCT					*e*pP	**pP**	06 49 53.7	**+0.1**
CD2	**Chengdu**	**62.42**	**68**		*e*P	**P**	06 49 55.1	**+0.8**
CD2					pP	**pP**	06 49 58.3	**-4.0**
CD2					PcP	**PcP**	06 50 35.3	**+1.8**
CD2					PP	**PP**	06 52 11.6	**+0.3**
CD2					PcS	**PcS**	06 54 38.3	**+1.4**
CD2					S	**S**	06 58 20.6	**+1.4**
CD2					SS	**SS**	07 02 24.4	**+2.0**
CD2					PMZ			
	comp=Z,10.0nm,0.5s							
CD2					PMZ			
	comp=Z,120nm,5.2s							
TXAR	**Lajitas Array**	**62.87**	**285**		P	**P**	06 49 56.9	**-0.4**
	comp=Z,0.8nm,0.6s,baz=39,slow=4.3,SNR=16							
TXAR					LR	LR	07 15 49.3	
	comp=Z,68nm,18.5s,baz=0.0,slow=35							
NJ2	**Nanjing**	**63.43**	**53**		*e*P	**P**	06 50 02.1	**+1.3**
NJ2					PMZ			
	comp=Z,20nm,0.8s							
TORD	**Torodi Ar. Bea**	**67.64**	**174**		P	**P**	06 50 28.1	**-0.1**
	comp=Z,0.7nm,1.1s,baz=14,slow=4.2,SNR=2.7							
KMI	**Kunming**	**67.95**	**70**		P	P	06 50 34.4	+4.0
KMI					PMZ			
	comp=Z,6.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**73.90**	**75**		P	**P**	06 51 04.2	**-2.1**
	comp=Z,0.9nm,0.3s,baz=356,slow=7.9,SNR=5.8							
CMAR					LR	LR	07 27 23.8	
	comp=Z,43nm,18.8s,baz=228,slow=39							
ROSC	**El Rosal**	**82.17**	**252**		LR	LR	07 26 18.2	
	comp=Z,14nm,21.8s,baz=82,slow=34							

ISCJB ***21*** *06:45:23.2± 1.8, 38°.5N± 0°.1×73°.7E± 0°.2, h124km, Error ellipse: s-maj=21.5km s-min=16.2km az=162.9*
NNC ***21*** *06:45:31.5± 6.2, 39°.11N×72°.50E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=65.7km s-min=24.9km az=155.0*

ISC 21 06:45:21.8±2.1, 38°.5N± 0°.1×73°.86E± 0°.07, h124km, n4, σ3°.28/7, 4C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SFK	**Sufi-Kurgan**	**1.54**	**350**	⇓P		**Pn**	**06 45 52.6**	**+2.4**
	2.8nm,0.1s							
SFK				⇑S		**Sn**	**06 46 11.5**	**-0.2**
	39nm,0.3s							
KSH	**Kashi**	**1.94**	**58**	Pg		**Pn**	**06 45 56.8**	**+2.0**
KSH				Sg		**Sn**	**06 46 16.1**	**-4.0**
KSH				smax		smax		
	comp=N,120nm,0.2s							
KSH				smax		smax		
	comp=E,160nm,0.8s							
DZET	**Dzherino**	**3.95**	**276**	⇑Pn		**Pn**	**06 46 21.4**	**+0.6**
	comp=E,5.5nm,0.3s							
DZET				⇓Lg		Lg	06 47 03.7	
	comp=E,21nm,0.6s							
KK31	**Karatay Array**	**5.25**	**332**	⇑Pn		**Pn**	**06 46 40.1**	**+1.9**
	comp=E,1.0nm,0.2s,baz=144,slow=12,SNR=21							
KK31				⇑Sn		**Sn**	**06 47 34.0**	**-3.7**
	comp=E,1.0nm,0.2s,baz=157,slow=26,SNR=7.9							

MEX 21 07:05:42.3±0.4, 15°.95N×98°.31W, h5km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PNIG	**Pinotepa**	**0.47**	**22**	*i* P		Pg	07 05 50.8	-0.7
PNIG				*i* S		Sg	07 05 57.9	+0.2
TLIG	**Tlapa**	**1.62**	**351**	*e*P		Pn	07 06 07.9	-3.8
TLIG				*e*S		Sn	07 06 28.5	-4.6
HUIG	**Huatulco**	**2.13**	**95**	*i* P		Pn	07 06 14.8	-3.7
HUIG				*e*S		Sn	07 06 41.0	-4.4

DDA 21 07:22:01.7, 36°.82N×39°.34E, h7km, MD2.8, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
URFA	**Urfa**	**0.74**	**326**	*e*PG		Pg	07 22 16.2	0.0
URFA				*e*SG		Sg	07 22 26.0	+0.1
MAZI	**Mazidag**	**1.09**	**54**	*e*PG		Pg	07 22 22.9	0.0
MAZI				*e*SG		Sb	07 22 37.7	+0.1
MARD	**Mardin**	**1.25**	**67**	*i* P		Pn	07 22 22.1	-3.7
MARD				*i* S		Sn	07 22 43.2	+0.1

KRSC 21 07:33:24.6±0.4, 55°.91N×161°.78E, h68km, 7km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ZLN	**Zelenaya**	**0.56**	**282**	*e*P		Pn	07 33 39.1	+1.1
ZLN				*e*S		Sn	07 33 49.2	+1.4
BZGR	**Bezymyannyi-Gr**	**0.61**	**273**	*i* P		Pn	07 33 39.6	+1.1
BZGR				*e*S		Sn	07 33 50.0	+1.2
CIRR	**Tsirk**	**0.61**	**290**	*i* P		Pn	07 33 39.5	+0.9
CIRR				*e*S		Sn	07 33 50.0	+1.1
LGNR	**Loginova**	**0.64**	**286**	*i* P		Pn	07 33 40.1	+1.0
LGNR				*i* S		Sn	07 33 50.8	+1.2
KBTR	**Krutoberegovo**	**0.66**	**62**	*e*P		Pn	07 33 40.7	+1.8
KBTR				*e*S		Sn	07 33 52.1	+2.7
SMKR	**Semkarok**	**0.70**	**346**	*i* P		Pn	07 33 40.7	+1.2
SMKR				*e*S		Sn	07 33 52.0	+1.6
BZWR	**Bezymyannyi-We**	**0.72**	**275**	*i* P		Pn	07 33 41.2	+1.3
BZWR				*e*S		Sn	07 33 52.6	+1.5
BZMR	**Bezymyannaya**	**0.72**	**273**	*e*P		Pn	07 33 41.0	+1.1
BZMR				*e*S		Sn	07 33 52.3	+1.2
BDR	**Baidarnaya**	**0.73**	**335**	*e*P		Pn	07 33 41.1	+1.2
BDR				*e*S		Sn	07 33 52.8	+1.7
KLY	**Klyuchi**	**0.75**	**303**	*e*P		Pn	07 33 39.6	-0.3
KLY				*e*S		Sn	07 33 50.0	-1.2
KIRR	**Kirishev**	**0.81**	**274**	*i* P		Pn	07 33 41.8	+0.9
KIRR				*e*S		Sn	07 33 54.3	+1.4
SRKR	**Sorokina**	**0.82**	**336**	*i* P		Pn	07 33 42.0	+1.1
SRKR				*e*S		Sn	07 33 53.9	+1.0
KPT	**Kopyto**	**0.88**	**274**	*e*P		Pn	07 33 42.9	+1.3
KMNR	**Kamenistaya**	**0.88**	**261**	*e*P		Pn	07 33 42.8	+1.1
KMNR				*e*S		Sn	07 33 55.7	+1.4
KOZ	**Kozyrevsk**	**1.08**	**279**	*e*P		Pn	07 33 45.4	+1.3
KOZ				*e*S		Sn	07 34 00.0	+1.5
TUMR	**Tumrok**	**1.12**	**237**	*i* P		Pn	07 33 46.5	+1.8
TUMR				*e*S		Sn	07 34 01.6	+2.0
KZV	**Kizimen**	**1.16**	**227**	*e*P		Pn	07 33 46.5	+1.2
KZV				*i* S		Sn	07 34 01.8	+1.1
SRDR	**Sredinnyy**	**1.22**	**290**	*i* P		Pn	07 33 46.8	+0.8
MKZ	**Mys Kozlova**	**1.36**	**181**	*e*P		Pn	07 33 49.1	+1.5
MKZ				*e*S		Sn	07 34 06.5	+1.7
ESO	**Esso**	**1.73**	**272**	*e*P		Pn	07 33 53.2	+0.6
KII	**Karymskiy**	**2.31**	**217**	*e*P		Pn	07 34 02.8	+2.3
BKI	**Bering**	**2.49**	**105**	*i* P		Pn	07 34 04.6	+1.9
BKI				*e*S		Sn	07 34 33.2	+1.3
SPN	**Mys Shipunski**	**3.00**	**201**	*e*P		Pn	07 34 10.9	+1.2
NLC	**Nalytchevo**	**3.09**	**208**	*e*P		Pn	07 34 13.1	+2.2
NLC				*e*S		Sn	07 34 48.1	+1.5
SDLR	**Sedlovina**	**3.13**	**214**	*e*P		Pn	07 34 14.4	+2.7
KRX	**Arik**	**3.14**	**217**	*e*P		Pn	07 34 15.2	+3.4
GNL	**Ganaly**	**3.14**	**227**	*e*P		Pn	07 34 13.9	+2.1
KRER	**Koryakskii**	**3.15**	**215**	*e*P		Pn	07 34 15.4	+3.3
KRER				*e*S		Sn	07 34 51.9	+3.2
SMAR	**Somma**	**3.17**	**214**	*e*P		Pn	07 34 15.2	+2.9
AVH	**Avacha**	**3.19**	**215**	*e*P		Pn	07 34 15.7	+3.3
KOK	**Koryaka**	**3.20**	**216**	*e*P		Pn	07 34 16.1	+3.5
UGLR	**Uglovaya**	**3.21**	**214**	*e*P		Pn	07 34 15.8	+3.1
PALN	**Palana**	**3.33**	**344**	P		Pn	07 34 17.2	+2.9
PET	**Petropavlovsk**	**3.42**	**214**	*e*P		Pn	07 34 18.7	+3.3
PET				*e*S		Sn	07 34 57.5	+2.8
OSSR	**Ossora**	**3.42**	**11**	*e*P		Pn	07 34 18.7	+3.3
RUS	**Russkaya**	**3.98**	**210**	*e*P		Pn	07 34 26.0	+2.9
MTVR	**Mutnovka**	**4.03**	**213**	*e*P		Pn	07 34 27.7	+3.7

BJI ***21*** *07:45:32.6, 80°.20N×3°.80W, h10km, mb4.7/13, mB4.8/7, Ms4.4/4, Ms7 4.2/4*
IDC ***21*** *07:45:33.2± 0.7, 80°.86N×3°.16W, h0km, mb3.8/11, mb1 4.2/14, mb1mx3.9/35, mbtmp4.0/14, ML4.2/3, MS3.3/21, Ms1 3.3/21, ms1mx3.1/43, Error ellipse: s-maj=22.6km s-min=12.9km az=41.0*
ISCJB ***21*** *07:45:34.4± 1.8, 80°.48N± 0°.05×3°.6W± 0°.2, h15km± 11km, mb4.4/23, MS3.3/16, Error ellipse: s-maj=8.7km s-min=5.4km az=18.4*
BER ***21*** *07:45:35.8± 0.9, 81°.07N× 1°.65W, h10km, MD2.1, ML2.5, ML4.0(NAO)*
CSEM ***21*** *07:45:36.6± 0.1, 80°.79N×2°.58W, h26km, mb4.7/11, Error ellipse: s-maj=10.1km s-min=3.9km az=35.0*
NEIC ***21*** *07:45:37.2± 0.3, 80°.78N×2°.70W, mb4.6/13, Error ellipse: s-maj=11.2km s-min=5.4km az=37.0*

ISC 21 07:45:36.8±0.5, 80°.50N± 0°.07×3°.38W± 0°.04, h19km± 1km, h19km:pP-P, n84, σ1°.88/105, mb4.4/23, MS3.3/16, 2C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KBS	**Kingsbay**	**3.16**	**112**	*e*Pn		**Pn**	**07 46 23.4**	**-1.9**
KBS	**Kingsbay**	**3.16**	**112**	*e*Pn		**Pn**	**07 46 23.4**	**-1.9**
KBS				*e*Sn		**Sn**	**07 46 57.5**	**-5.0**
SPA0	**Spitsbergen Ar**	**4.32**	**112**	Pn		**Pn**	**07 46 39.9**	**-1.4**
	baz=319,slow=12							
SPA0				Sn		**Sn**	**07 47 26.4**	**-4.7**
	baz=320,slow=111							
SPA0	**Spitsbergen Ar**	**4.32**	**112**	Pn		**Pn**	**07 46 39.9**	**-1.4**
	baz=319,slow=12							
SPA0				*e*S		**Sn**	**07 47 27.1**	**-4.0**
SPA0				IAML			07 47 36.0	
	comp=Z,22nm,0.5s							
SPA0	**Spitsbergen Ar**	**4.32**	**112**	Pn		**Pn**	**07 46 39.9**	**-1.4**
	baz=319,slow=12,SNR=40							
SPITS	**Spitsbergen Ar**	**4.32**	**112**	Pn		**Pn**	**07 46 39.9**	**-1.4**
	baz=337,slow=8.1,SNR=536							
SPITS				Sn		**Sn**	**07 47 26.1**	**-5.0**
	baz=317,slow=14,SNR=1.6							
SPITS				LR		LR	07 48

AKASG	**Malin Array Be**	**31.78**	**139**	LR	LR	08 04 24.5		
	comp=Z,47nm,21.9s,baz=350,slow=35							
SCHQ	**Schefferville**	**32.09**	**257**	LR	LR	08 05 02.8		
	comp=Z,68nm,19.5s,baz=29,slow=36							
GERES	**GERESS Array B**	**32.30**	**159**	LR	LR	08 05 43.0		
	comp=Z,37nm,18.0s,baz=302,slow=37							
ILAR	**Eielson Array**	**33.52**	**333**	P	P	07 52 10.9	-3.5	
	comp=Z,1.6nm,0.9s,baz=9.5,slow=7.5,SNR=25							
ILAR				PcP	**PcP**	**07 54 52.5**	**-1.9**	
	comp=Z,0.5nm,0.8s,baz=340,slow=3.7,SNR=5.8							
CCB	**Clear Creek Bu**	**33.72**	**333**	*e*P	**P**	**07 52 17.8**	**+1.8**	
	comp=Z,9.9nm,1.6s							
PAX	**Paxson**	**35.19**	**331**	*e*P	**P**	**07 52 27.0**	**-2.0**	
	comp=Z,3.0nm,0.8s							
PAX	**Paxson**	**35.19**	**331**	*e*P	**P**	**07 52 27.0**	**-2.0**	
	comp=Z,3.0nm,0.8s							
ZALV	**Zalesovo Beam**	**37.02**	**79**	LR	LR	08 10 49.1		
	comp=Z,54nm,19.9s,baz=70,slow=41							
SEW	**Seward**	**38.34**	**333**	*e*P	**P**	**07 52 53.4**	**-2.2**	
	comp=Z,22nm,0.8s							
SEW	**Seward**	**38.34**	**333**	*e*P	**P**	**07 52 53.4**	**-2.2**	
	comp=Z,22nm,0.8s							
TLY	**Talaya**	**42.15**	**63**	LR	LR	08 12 11.2		
	comp=Z,79nm,20.1s,baz=352,slow=38							
BRTR	**Keskin Array B**	**43.11**	**137**	P	**P**	**07 53 36.8**	**+1.5**	
	comp=Z,0.3nm,0.4s,baz=336,slow=3.2,SNR=2.9							
BRTR				LR	LR	08 13 17.0		
	comp=Z,16nm,18.3s,baz=34,slow=38							
AGMN	**Agassiz Nation**	**43.18**	**283**	*e*P	**P**	**07 53 35.2**	**-0.5**	
	comp=Z,4.3nm,0.9s							
AGMN	**Agassiz Nation**	**43.18**	**283**	*e*P	**P**	**07 53 35.2**	**-0.5**	
	comp=Z,4.3nm,0.9s							
EKS2	**Erkin-Say**	**46.13**	**94**	*e*P	**P**	**07 54 00.0**	**+0.6**	
	comp=Z,4.8nm,0.3s							
EKS2	**Erkin-Say**	**46.13**	**94**	*e*P	**P**	**07 54 00.0**	**+0.6**	
	comp=Z,4.8nm,0.3s							
AAK	**Ala-Archa**	**46.27**	**93**	LR	LR	08 16 17.8		
	comp=Z,61nm,18.4s,baz=292,slow=40							
SONM	**Songino Array**	**46.31**	**61**	P	**P**	**07 53 58.3**	**-2.4**	
	comp=Z,0.7nm,0.7s,baz=339,slow=7.5,SNR=3.1							
SONM				LR	LR	08 14 34.2		
	comp=Z,93nm,20.6s,baz=354,slow=38							
WMQ	**Urumqi**	**47.30**	**80**	P	**P**	**07 54 10.6**	**+2.1**	
WMQ				pP	**pP**	**07 54 15.1**	**+0.6**	
WMQ				sP	**sP**	**07 54 17.6**	**+0.8**	
WMQ				PcP	**PcP**	**07 55 41.5**	**+2.3**	
WMQ				PP	**PP**	**07 56 01.3**	**+2.0**	
WMQ				PMZ				
	comp=Z,21nm,0.5s							
WMQ				PMZ				
	comp=Z,43nm,5.1s							
WMQ				LN				
	comp=Z,22nm,12.1s							
WMQ				LE				
	comp=Z,21nm,11.8s							
WMQ				LZ				
	comp=Z,23nm,16.5s							
ECSD	**EROS Data Cent**	**47.74**	**282**	*e*P	**P**	**07 54 10.7**	**-1.2**	
	comp=Z,6.9nm,1.1s							
ECSD	**EROS Data Cent**	**47.74**	**282**	*e*P	**P**	**07 54 10.7**	**-1.2**	
	comp=Z,6.9nm,1.1s							
FXWY	**Fox Creek**	**50.09**	**296**	*e*P	**P**	**07 54 30.4**	**+0.2**	
	comp=Z,5.0nm,1.2s							
FXWY	**Fox Creek**	**50.09**	**296**	*e*P	**P**	**07 54 30.4**	**+0.2**	
	comp=Z,5.0nm,1.2s							
PDAR	**Pinedale Array**	**50.73**	**294**	P	**P**	**07 54 33.8**	**-1.2**	
	comp=Z,1.1nm,1.0s,baz=28,slow=6.7,SNR=5.3							
PDAR				LR	LR	08 15 39.1		
	comp=Z,50nm,18.3s,baz=4.5,slow=36							
ASF	**Jabal al Asfar**	**50.94**	**135**	LR	LR	08 17 52.9		
	comp=Z,68nm,20.7s,baz=335,slow=38							
O20A	**White River Ci**	**53.10**	**292**	*e*P	**P**	**07 54 52.8**	**+0.2**	
	comp=Z,13nm,0.9s							
O20A				*e*pP	**pP**	**07 55 00.5**	**+1.8**	
O20A	**White River Ci**	**53.10**	**292**	*e*P	**P**	**07 54 52.8**	**+0.2**	
	comp=Z,13nm,0.9s							
O20A				*e*pP	**pP**	**07 55 00.5**	**+1.8**	
GTA	**Gaotai**	**53.55**	**70**	*e*P	**P**	**07 54 55.6**	**-0.2**	
GTA				pP	**pP**	**07 55 00.0**	**-1.9**	
GTA				sP	**sP**	**07 55 02.8**	**-1.4**	
GTA				PMZ				
	comp=Z,5.0nm,1.1s							
SMCO	**Snowmass**	**53.84**	**291**	*e*P	**P**	**07 54 58.4**	**+0.1**	
	comp=Z,18nm,1.5s							
SMCO				*e*pP	**pP**	**07 55 06.3**	**+1.9**	
SMCO	**Snowmass**	**53.84**	**291**	*e*P	**P**	**07 54 58.4**	**+0.1**	
	comp=Z,18nm,1.5s							
SMCO				*e*pP	**pP**	**07 55 06.3**	**+1.9**	
HHC	**Hu-ho-hao-te**	**53.89**	**58**	*e*P	**P**	**07 54 58.4**	**+0.1**	
HHC				sP	**sP**	**07 55 05.8**	**-0.9**	
HHC				PP	**PP**	**07 57 01.8**	**+2.7**	
HHC				S	**S**	**08 02 32.3**	**+0.1**	
HHC				SS	**SKiKP**	**08 06 11.0**	**+1.5**	
HHC				PMZ				
	comp=Z,27nm,1.0s							
HHC				PMZ				
	comp=Z,76nm,6.0s							
HHC				LN				
	comp=Z,280nm,15.8s							
HHC				LE				
	comp=Z,130nm,15.6s							
HHC				LZ				
	comp=Z,250nm,16.0s							
PV04	**Paradox Valley**	**54.91**	**292**	*e*P	**P**	**07 55 05.6**	**-0.2**	
PV04	**Paradox Valley**	**54.91**	**292**	*e*P	**P**	**07 55 05.6**	**-0.2**	
SDCO	**Great Sand Dun**	**55.01**	**289**	*e*P	**P**	**07 55 06.4**	**-0.3**	
	comp=Z,18nm,2.1s							
SDCO				*e*pP	**pP**	**07 55 14.3**	**+1.5**	
SDCO	**Great Sand Dun**	**55.01**	**289**	*e*P	**P**	**07 55 06.4**	**-0.3**	
	comp=Z,18nm,2.1s							
SDCO				*e*pP	**pP**	**07 55 14.3**	**+1.5**	
PV01	**Paradox Valley**	**55.11**	**292**	*e*P	**P**	**07 55 07.2**	**-0.1**	
	comp=Z,715nm,0.9s							
PV01				*e*pP	**pP**	**07 55 15.2**	**+1.8**	
PV01	**Paradox Valley**	**55.11**	**292**	*e*P	**P**	**07 55 07.2**	**-0.1**	
	comp=Z,715nm,0.9s							
PV01				*e*pP	**pP**	**07 55 15.2**	**+1.8**	
NVAR	**Mina Array Bea**	**56.26**	**301**	P	**P**	**07 55 13.8**	**-1.8**	
	comp=Z,0.9nm,0.8s,baz=18,slow=5.3,SNR=5.5							
WUAZ	**Wupatki**	**58.10**	**294**	*e*P	**P**	**07 55 28.4**	**-0.2**	
	comp=Z,6.1nm,1.0s							
WUAZ				*e*pP	**pP**	**07 55 36.4**	**+1.8**	
WUAZ	**Wupatki**	**58.10**	**294**	*e*P	**P**	**07 55 28.4**	**-0.2**	
	comp=Z,6.1nm,1.0s							
WUAZ				*e*pP	**pP**	**07 55 36.4**	**+1.8**	
TUC	**Tucson**	**61.16**	**293**	*e*P	**P**	**07 55 48.8**	**-0.7**	
TUC	**Tucson**	**61.16**	**293**	*e*P	**P**	**07 55 48.8**	**-0.7**	
JCT	**Junction City**	**61.21**	**282**	*e*P	**P**	**07 55 49.7**	**-0.1**	
	comp=Z,7.3nm,0.8s							
JCT				*e*pP	**pP**	**07 55 57.7**	**+1.7**	
JCT	**Junction City**	**61.21**	**282**	*e*P	**P**	**07 55 49.7**	**-0.1**	
	comp=Z,7.3nm,0.8s							
JCT				*e*pP	**pP**	**07 55 57.7**	**+1.7**	
CD2	**Chengdu**	**62.49**	**68**	*e*P	**P**	**07 55 58.0**	**-0.4**	
CD2				pP	**pP**	**07 56 01.3**	**-3.3**	
CD2				PcP	**PcP**	**07 56 37.1**	**-0.4**	
CD2				PP	**PP**	**07 58 15.3**	**-0.2**	
CD2				PcS	**PcS**	**08 00 38.3**	**-2.7**	
CD2				S	**S**	**08 04 25.9**	**+1.5**	
CD2				SS	**SS**	**08 08 31.0**	**+3.3**	
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,120nm,5.4s							
TXAR	**Lajitas Array**	**62.95**	**285**	P	**P**	**07 56 00.7**	**-0.9**	
	comp=Z,0.7nm,0.7s,baz=33,slow=5.1,SNR=10							
TXAR				LR	LR	08 23 32.7		
	comp=Z,39nm,18.6s,baz=0.0,slow=36							
NJ2	**Nanjing**	**63.54**	**53**	*e*P	**P**	**07 56 07.1**	**+1.7**	
NJ2				PMZ				
	comp=Z,30nm,0.7s							
GYA	**Guiyang**	**67.30**	**66**	*e*P	**P**	**07 56 32.0**	**+2.1**	
GYA				PMZ				
	comp=Z,10.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**67.41**	**175**	P	**P**	**07 56 31.8**	**+1.3**	
	comp=Z,0.4nm,0.6s,baz=354,slow=6.4,SNR=3.7							
KMI	**Kunming**	**68.00**	**70**	P	**P**	**07 56 35.3**	**+0.8**	
KMI				PMZ				
	comp=Z,7.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**73.94**	**75**	P	**P**	**07 57 09.4**	**-0.9**	
	comp=Z,1.2nm,0.3s,baz=348,slow=6.7,SNR=4.5							
CMAR				LR	LR	08 33 16.8		
	comp=Z,24nm,18.3s,baz=145,slow=39							

CASC 21 07:51:02.7±1.1, 12°.98N×89°.20W, h33km±3km, MD3.5,

ML3.5,1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.65**	**12**	*e*P	Pn	07 51 15.4	-0.3
LFRS				*e*S	Sn	07 51 25.1	0.0
SNET	**Serv Nac Est T**	**0.70**	**358**	*e*P	Pn	07 51 16.2	-0.2
SNET				AML	AML	07 51 16.8	
	comp=Z,1μm,0.4s						
SNET				*e*S	Sb	07 51 27.2	+0.9
BOQS	**Boqueron**	**0.75**	**354**	↑*i*P	Pn	07 51 17.3	0.0
BOQS				*e*S	Sb	07 51 28.5	+0.5
LBRS	**Las Brisas**	**0.77**	**12**	*e*P	Pn	07 51 17.2	-0.1
LFU	**La Fuente**	**0.77**	**6**	*e*P	Pn	07 51 17.2	-0.1
LFU				*e*S	Sb	07 51 29.0	+0.8
SBLS	**San Blas**	**0.95**	**334**	*e*P	Pn	07 51 20.0	0.0
SNJE	**San Jose**	**0.97**	**336**	*e*P	Pn	07 51 20.0	-0.2
VSM	**San Miguel**	**1.01**	**64**	*e*P	Pn	07 51 20.8	-0.1
RTR	**El Retiro**	**1.01**	**335**	*e*P	Pn	07 51 20.9	+0.1
BLLM	**Bellamira**	**1.04**	**64**	*e*S	Sn	07 51 35.2	+0.6
RBDL	**Robledal**	**1.22**	**337**	*e*P	Pn	07 51 24.0	+0.3
RBDL				*e*S	Sb	07 51 40.5	-0.6
CAHU	**Cacacuatique**	**1.24**	**51**	*e*P	Pn	07 51 24.4	+0.4
CAHU				*e*S	Sb	07 51 41.1	-0.7
CNCH	**Conchagua**	**1.36**	**77**	*e*P	Pn	07 51 25.3	-0.3
CNCH				*e*S	Sn	07 51 42.5	-0.2
MRL	**Marmol**	**2.13**	**347**	*e*P	Pn	07 51 36.7	+0.5
MRL				*e*P	Pn	07 51 37.2	+1.0
FUG	**Fuego 3**	**2.16**	**313**	*e*P	Pn	07 51 37.5	+0.9
FUG				*e*S	Sn	07 52 02.7	+0.3
COPN	**Copaltepe**	**2.67**	**107**	*e*P	Pn	07 51 43.9	+0.5

MEX 21 08:03:44.1±0.3, 16°.56N×100°.13W, h15km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.50**	**345**	*i*P	Pg	08 03 52.5	-1.5
CAIG				*i*S	Sg	08 03 59.1	-1.6
MEIG	**Mezcala**	**1.44**	**20**	*e*P	Pn	08 04 06.3	-3.5
MEIG				*e*S	Sn	08 04 23.1	-5.5
ARIG	**Puente Sto Nin**	**1.72**	**353**	*e*P	Pn	08 04 10.3	-3.3
ARIG				*i*S	Sn	08 04 30.8	-4.5
TLIG	**Tlapa**	**1.80**	**56**	*e*P	Pn	08 04 11.2	-3.6
TLIG				*e*S	Sn	08 04 32.8	-4.7
PLIG	**Platanillo**	**1.92**	**18**	*e*P	Pn	08 04 12.9	-3.4
PLIG				*e*S	Sn	08 04 35.8	-4.6

BJI 21 08:08:17.2, 45°.16N×90°.85E, h12km, ML3.5/8, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**2.62**	**240**	Pg	Pb	08 09 04.6	+0.3
WMQ				Sn	Sg	08 09 39.8	-1.9
WMQ				SMN			
	450nm,0.5s						
WMQ				SME			
	310nm,0.5s						

*NNC **21** 08:09:57.8±3.0, 40°.26N×77°.60E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=25.8km s-min=13.8km az=132.0*
*KRNET **21** 08:10:02.9±0.1, 40°.49N×77°.42E, mb3.3*
ISC 21 08:09:58.7±1.8, 40°.30N±0°.08×77°.52E±0°.07, h10km, n20, σ1§41/24, 11C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.42**	**237**	Pn	Pg	08 10 36.1	+10
KSH				Sn	Sg	08 11 03.6	+19
KSH				smax	smax		
	comp=N,160nm,0.5s						
KSH				smax	smax		
	comp=E,230nm,0.6s						
NRN	**Naryn**	**1.61**	**315**	↓*i*P	**Pb**	**08 10 29.8**	**+1.1**
	baz=311						
NRN				↓*i*S	**Sb**	**08 10 51.4**	**+2.1**
	baz=311						
ULHL	**Ulahol**	**2.17**	**334**	P	**Pg**	**08 10 40.2**	**0.0**
	SNR=11						
KZA	**Kyzart**	**2.46**	**317**	P	**Pb**	**08 10 45.5**	**+2.2**
	SNR=44						
ANVS	**Anan'yevo**	**2.48**	**3**	↓*i*P	**Pg**	**08 10 45.7**	**-0.6**
	baz=4.0						
ANVS				↓*i*S	**Sb**	**08 11 14.6**	**+0.4**
	baz=4.0						
KNDC	**Almaty**	**2.94**	**352**	↑Pg	**Pb**	**08 10 51.5**	**+0.2**
KNDC				↑Lg	Lg	08 11 33.6	
UCH	**Uchtor**	**2.97**	**311**	P	**Pb**	**08 10 52.4**	**+0.4**
	SNR=14						
TKM2	**Tokmak 2**	**2.99**	**332**	P	**Pb**	**08 10 53.2**	**+1.1**
	SNR=18						
TKM2	**Tokmak 2**	**2.99**	**332**	↑Pg	**Pb**	**08 10 53.0**	**+0.9**
	comp=E,5.0nm,0.3s						
TKM2				↑Lg	Lg	08 11 35.1	
	comp=E,46nm,0.5s						
SFK	**Sufi-Kurgan**	**3.09**	**266**	↑Pn	**Pn**	**08 10 48.2**	**+0.5**
	comp=E,7.0nm,0.5s						
SFK				Pg	**Pb**	**08 10 54.0**	**+0.1**
SFK				↑Lg	Lg	08 11 39.5	
	comp=E,22nm,0.3s						
SFK	**Sufi-Kurgan**	**3.09**	**266**	↓*i*P	**Pb**	**08 10 53.9**	**+0.1**
	baz=262						
SFK				↓*i*S	**Sb**	**08 11 33.8**	**+2.2**
	baz=262						
AAK	**Ala-Archa**	**3.25**	**317**	P	**Pg**	**08 10 59.9**	**-1.1**
	SNR=12						
AAK	**Ala-Archa**	**3.25**	**317**	↑Pg	**Pg**	**08 10 59.6**	**-1.4**
	comp=E,30nm,0.9s						
AAK				↓Lg	Lg	08 11 42.9	
	comp=E,89nm,0.8s						
PDGK	**Podgornoye**	**3.36**	**25**	↓Pg	**Pg**	**08 11 02.1**	**-1.0**
	comp=E,16nm,0.6s						
PDGK				↑Lg	Lg	08 11 39.5	
	comp=E,116nm,1.1s						
CHMS	**Chumysh**	**3.40**	**323**	P	**Pg**	**08 11 05.8**	**+2.0**
	SNR=6.5						
AML	**Almayashu**	**3.41**	**304**	P	**Pb**	**08 10 59.0**	**-0.5**
	SNR=6.8						
EKS	**Erkin-Say**	**3.67**	**311**	↑*i*P	**Pb**	**08 11 01.6**	**-2.0**
	baz=310						
EKS				↑*i*S	**Sg**	**08 11 54.0**	**-2.4**
	baz=310						
EKS2	**Erkin-Say**	**3.67**	**311**	P	**Pb**	**08 11 02.6**	**-1.0**
	SNR=8.5						
USP	**Ospenovka**	**3.72**	**324**	P	**Pg**	**08 11 08.5**	**-1.5**
	SNR=22						
KK31	**Karatay Array**	**5.94**	**300**	↓Pg	**Pg**	**08 11 50.9**	**-1.6**
	comp=E,0.7nm,0.5s,baz=118,slow=16,SNR=6.0						
KK31				↑Lg	Lg	08 13 06.7	
	comp=E,1.1nm,0.4s,baz=100,slow=26,SNR=4.7						

IDC 21 08:10:25.0±1.6, 16°.84S×177°.78W, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.9/32, mbtmp4.0/5, Error ellipse: s-maj=102.0km s-min=24.4km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.67**	**240**	P	P	08 17 59.1	+0.1
	5.3nm,0.7s,baz=75,slow=8.8,SNR=14						
WRA	**Warramunga Arr**	**45.42**	**258**	P	P	08 18 46.0	0.0
	2.5nm,0.7s,baz=96,slow=7.1,SNR=60						
ASAR	**Alice Springs**	**45.66**	**253**	P	P	08 18 47.4	-0.5
	8.6nm,0.7s,baz=87,slow=8.9,SNR=76						
ILAR	**Eielson Array**	**84.72**	**13**	P	P	08 23 00.1	-0.3
	0.2nm,0.7s,baz=221,slow=5.3,SNR=4.7						
TXAR	**Lajitas Array**	**84.92**	**57**	P	P	08 23 02.6	+0.2
	0.2nm,0.6s,baz=234,slow=7.5,SNR=3.0						

KRSC 21 08:32:46.4±0.6, 55°.62N×161°.78E, h83km±10km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZLN	**Zelenaya**	**0.68**	**306**	*e*P	Pn	08 33 03.6	+1.4
ZLN				*e*S	Sn	08 33 16.1	+2.1
BZGR	**Bezymyannyi-Gr**	**0.69**	**298**	*e*P	Pn	08 33 03.7	+1.4
BZGR				*e*S	Sn	08 33 15.8	+1.6
CIRR	**Tsirk**	**0.77**	**311**	*e*P	Pn	08 33 04.5	+1.3
LGNR	**Loginova**	**0.77**	**308**	*e*P	Pn	08 33 04.8	+1.4
BZMR	**Bezymyannaya**	**0.80**	**294**	*e*P	Pn	08 33 04.7	+1.2
BZMR				*e*S	Sn	08 33 18.1	+1.9
BZWR	**Bezymyannyi-We**	**0.81**	**296**	*e*P	Pn	08 33 05.0	+1.4
BZWR				*e*S	Sn	08 33 18.1	+1.7
KBTR	**Krutoberegovo**	**0.83**	**44**	*e*P	Pn	08 33 05.3	+1.6
KBTR				*e*S	Sn	08 33 18.7	+2.2
KIRR	**Kirishev**	**0.88**	**293**	*e*P	Pn	08 33 05.7	+1.3
KMNR	**Kamenistaya**	**0.89**	**280**	*e*P	Pn	08 33 05.6	+1.2
KMNR				*e*S	Sn	08 33 19.0	+1.1
KLY	**Klyuchi**	**0.94**	**318**	*e*P	Pn	08 33 05.0	+0.1
KLY				*e*S	Sn	08 33 18.0	-0.7
SMKR	**Semkarok**	**0.98**	**350**	*e*P	Pn	08 33 06.8	+1.3
KZV	**Kizimen**	**0.99**	**240**	*e*P	Pn	08 33 06.6	+0.9
KZV				*e*S	Sn	08 33 20.2	+0.1
TUMR	**Tumrok**	**0.99**	**251**	*e*P	Pn	08 33 07.3	+1.7
TUMR				*e*S	Sn	08 33 21.3	+1.3
BDR	**Baidarnaya**	**1.01**	**342**	*e*P	Pn	08 33 07.2	+1.4
BDR				*e*S	Sn	08 33 21.9	+1.6
MKZ	**Mys Kozlova**	**1.06**	**182**	*e*P	Pn	08 33 07.8	+1.5
MKZ				S	Sn	08 33 23.0	+1.8
SRKR	**Sorokina**	**1.09**	**342**	*i*P	Pn	08 33 08.2	+1.4
SRKR				*e*S	Sn	08 33 23.9	+1.8
KOZ	**Kozyrevsk**	**1.16**	**293**	*e*P	Pn	08 33 08.9	+1.3
KOZ				*e*S	Sn	08 33 24.6	+1.1
SRDR	**Sredinnyy**	**1.36**	**302**	*e*P	Pn	08 33 10.3	+0.2
SRDR				*e*S	Sn	08 33 27.0	-0.9
ESO	**Esso**	**1.77**	**281**	*e*P	Pn	08 33 15.9	+0.6
KII	**Karymskiy**	**2.08**	**221**	*e*P	Pn	08 33 21.5	+2.0
BKI	**Bering**	**2.42**	**98**	*e*P	Pn	08 33 25.9	+1.9
BKI				*e*S	Sn	08 33 53.5	+0.8
SPN	**Mys Shipunskii**	**2.73**	**203**	*e*P	Pn	08 33 29.2	+1.1
SPN				*e*S	Sn	08 34 00.1	0.0
NLC	**Nalytchevo**	**2.83**	**211**	*e*P	Pn	08 33 31.2	+1.7
NLC				*e*S	Sn	08 34 03.2	+0.6
SDLR	**Sedlovina**	**2.89**	**217**	*e*P	Pn	08 33 32.8	+2.3
KRX	**Arik**	**2.91**	**220**	*e*P	Pn	08 33 34.1	+3.4
KRER	**Koryakskii**	**2.92**	**219**	*e*P	Pn	08 33 33.8	+2.9
SMAR	**Somma**	**2.93**	**218**	*e*P	Pn	08 33 33.5	+2.4
GNL	**Ganaly**	**2.95**	**231**	*e*P	Pn	08 33 33.3	+2.1
AVH	**Avacha**	**2.95**	**218**	*e*P	Pn	08 33 34.2	+3.0
AVH				*e*S	Sn	08 34 08.7	+3.0
KOK	**Koryaka**	**2.97**	**220**	*e*P	Pn	08 33 34.1	+2.7
UGLR	**Uglovaya**	**2.97**	**217**	*e*P	Pn	08 33 34.1	+2.6
OSSR	**Ossora**	**3.71**	**10**	*e*P	Pn	08 33 43.0	+1.7
RUS	**Russkaya**	**3.73**	**212**	*e*P	Pn	08 33 44.0	+2.4
MTVR	**Mutnovka**	**3.79**	**216**	P	Pn	08 33 46.6	+3.9
ASAK	**Asacha**	**3.97**	**217**	*e*P	Pn	08 33 47.9	+2.9

*IDC **21** 08:42:17.3±2.5, 32°.70N×75°.99E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.4/41, mbtmp3.7/6, ML3.1/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/39, Error ellipse: s-maj=48.4km s-min=31.3km az=145.0*
*ISCJB **21** 08:42:18.6±1.0, 32°.75N±0°.05×75°.9E±0°.1, h19km±8km, mb3.5/4, Error ellipse: s-maj=15.6km s-min=6.9km az=161.6*
*NDI **21** 08:42:19.1±1.9, 32°.77N×75°.99E, h10km, ML3.4*
ISC 21 08:42:18.6±1.5, 32°.72N±0°.06×76°.05E±0°.08, h8km±10km, n17, σ1§90/22, mb3.6/4, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**0.19**	**201**	*e*P	**Pg**	**08 42 23.0**	**+0.4**
DLH				*e*S	Sg	08 42 43.0	+17
DHRM	**DHARAMSHALA**	**0.51**	**155**	*e*P	**Pb**	**08 42 29.9**	**0.0**
DHRM				*e*S	**Sb**	**08 42 37.7**	**0.0**
DHRM				AML	AML	08 42 40.1	
	comp=E,2μm,0.3s						
DHRM				AML	AML	08 42 40.2	
	comp=N,2μm,0.3s						
PONG	**Pong**	**0.77**	**186**	*e*P	**Pn**	**08 42 35.5**	**-0.2**
PONG				*ex*	x	08 44 55.5	
BHK	**Bhakra**	**1.34**	**166**	*e*P	Pn	08 42 47.0	+3.5
BHK				*e*S	**Sn**	**08 43 06.2**	**+4.7**
SDNR	**Sundarnagar**	**1.45**	**147**	*e*P	**Pb**	**08 42 46.0**	**+0.3**
SDNR				*ex*	**Sn**	**08 43 04.6**	**+0.4**
SMLA	**Simla**	**1.85**	**149**	*i*P	**Pg**	**08 42 53.0**	**-1.0**
SMLA				*i*S	**Sg**	**08 43 17.4**	**-0.6**
SMLA				AML	AML	08 43 20.1	
	comp=N,508nm,0.4s						
SMLA				AML	AML	08 43 20.2	
	comp=E,864nm,0.7s						
KALG	**Kalgarh**	**3.96**	**143**	*e*P	**Pn**	**08 43 20.9**	**+1.4**
KALG				*e*S	**Sn**	**08 44 06.8**	**+0.8**
KALG				AML	AML	08 44 25.1	
	comp=E,68nm,0.3s						
KALG				AML	AML	08 44 25.1	
	comp=E,68nm,0.3s						
NDI	**New Delhi**	**4.15**	**166**	*ex*	**Sn**	**08 44 06.0**	**-4.8**
SONA	**Sohna**	**4.54**	**168**	*e*P	**Pn**	**08 43 29.3**	**+1.7**
SONA				*e*S	**Sn**	**08 44 18.8**	**-1.7**
KHET	**Khetri**	**4.63**	**183**	*e*P	**Pn**	**08 43 29.0**	**+0.1**
KHET				*e*S	**Sn**	**08 44 22.9**	**0.0**
AAK	**Ala-Archa**	**9.97**	**353**	LR	LR	08 49 05.9	
	comp=E,36nm,18.6s,baz=164,slow=41						
KURBB	**Kurchatov Arra**	**17.98**	**5**	P	**Pn**	**08 46 27.1**	**-1.7**
	comp=E,0.1nm,0.3s,baz=191,slow=12,SNR=8.8						
BVAR	**Borovoye Array**	**20.70**	**350**	P	**P**	**08 46 59.5**	**+0.5**
	comp=E,2.9nm,0.6s,baz=154,slow=11,SNR=15						
ZALV	**Zalesovo Beam**	**22.12**	**14**	P	**P**	**08 47 13.2**	**-1.1**
	comp=E,1.8nm,0.6s,baz=212,slow=12,SNR=7.0						

ADAG	**Mount Adagdak**	**0.53**	**315**	P		**Pn**	**09 13 10.1**	**-0.3**
KIRH	**Kanaga Island**	**0.74**	**293**	P		**Pn**	**09 13 12.1**	**-1.0**
KIKV	**Kanaga Island**	**0.78**	**291**	P		**Pn**	**09 13 12.4**	**-1.2**
KICM	**Kanaga Island**	**0.81**	**293**	P		**Pn**	**09 13 12.9**	**-1.0**
TAPA	**Tanaga Point A**	**1.15**	**281**	P		**Pn**	**09 13 17.4**	**-1.2**
TAFP	**Tanaga Falls P**	**1.27**	**284**	P		**Pn**	**09 13 19.4**	**-0.9**
TAFP				S		**Sn**	**09 13 37.4**	**+1.3**
TASE	**Tanaga Southea**	**1.29**	**281**	P		**Pn**	**09 13 19.8**	**-0.8**
TANO	**Tanaga North**	**1.35**	**284**	P		**Pn**	**09 13 21.0**	**-0.4**
TANO				S		**Sn**	**09 13 42.3**	**+4.1**
GAEA	**Gareloi East**	**1.72**	**277**	P		**Pn**	**09 13 26.1**	**-0.3**
GANE	**Gareloi Northe**	**1.74**	**278**	P		**Pn**	**09 13 26.5**	**-0.2**
CESW	**Semis' Southwe**	**2.77**	**278**	P		**Pn**	**09 13 40.3**	**-0.5**
CEAP	**Semis' Anvil P**	**2.77**	**280**	P		**Pn**	**09 13 40.9**	**0.0**
AMKA	**Amchitka**	**2.95**	**267**	P		**Pn**	**09 13 42.0**	**-1.1**
AMKA				S		**Sn**	**09 14 19.6**	**+2.3**
LSPA	**Little Sitkin**	**3.39**	**278**	P		**Pn**	**09 13 49.1**	**-0.2**
LSNW	**Little Sitkin**	**3.43**	**278**	P		**Pn**	**09 13 50.0**	**+0.3**
OKFG	**Magazine Ridge**	**5.26**	**67**	P		**Pn**	**09 14 15.6**	**+0.7**
UNV	**Unalaska Valle**	**6.19**	**65**	P		**Pn**	**09 14 29.7**	**+2.1**
PETK	**Petropavlovsk-**	**16.11**	**286**	LR		LR	09 22 32.8	
	comp=Z,22nm,19.6s,baz=93,slow=35							
ILAR	**Eielson Array**	**19.98**	**38**	P		**P**	**09 17 26.4**	**-0.5**
	0.2nm,0.3s,baz=234,slow=10,SNR=18							
SEY	**Seymchan**	**20.27**	**316**	P		Pn	09 17 33.0	+0.6
	0.5nm,0.3s,baz=73,slow=2.3,SNR=2.1							
PDAR	**Pinedale Array**	**44.56**	**74**	P		**P**	**09 21 05.5**	**-0.7**
	0.8nm,0.6s,baz=336,slow=3.6,SNR=6.9							
TXAR	**Lajitas Array**	**56.89**	**83**	P		**P**	**09 22 38.0**	**-1.0**
	0.3nm,0.5s,baz=313,slow=5.5,SNR=6.7							
NOA	**NORSAR Array B**	**67.55**	**356**	LR		LR	09 52 22.3	
	comp=Z,6.3nm,21.5s,baz=300,slow=35							

*IDC **21** 09:32:32.2±1.3, 1.°90N×96.°61E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/36, mbtmp3.8/8, ML3.2/2, Error ellipse: s-maj=39.2km s-min=19.4km az=51.0*
*ISCJB **21** 09:32:35.3±0.8, 1.°95N±0.°10×96.°7E±0.°1, h28km, mb3.9/8, Error ellipse: s-maj=19.6km s-min=6.3km az=136.5*
*DJA **21** 09:32:36.2±0.6, 2.°N±6.°×97.°7E±1.°2, h27km±13km, M3.9/7, mb4.2/1, MLv3.8/7*

ISC 21 09:32:36.6±0.9, 1.°97N±0.°10×96.°7E±0.°1, h28km, n21, σ0s50/16, mb3.8/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SNSI	**Sinabang, Aceh**	**0.57**	**320**	P	**Pb**	**09**	**32 48.0**	**0.0**
SNSI				S	**Sb**	**09**	**32 55.2**	**-0.6**
GSI	**Gunungsitoli**	**1.10**	**127**	P	**Pn**	**09**	**32 55.4**	**-0.8**
PSI	**Prapat**	**2.38**	**70**	Pn	**Pn**	**09**	**33 13.7**	**-0.1**
	1.4nm,0.3s,baz=240,slow=18,SNR=5.6							
PBSI	**Pulau Batu**	**2.56**	**142**	P	**Pn**	**09**	**33 16.2**	**-0.1**
MNSI	**Mandailing Nat**	**3.11**	**112**	P	**Pn**	**09**	**33 23.8**	**0.0**
CMAR	**Chiang Mai Arr**	**16.53**	**8**	Pn	**P**	**09**	**36 28.2**	**-0.7**
	0.1nm,0.3s,baz=198,slow=11,SNR=9.6							
H08S2	**Diego Garcia H**	**25.96**	**248**	T	T	10	04 56.1	
	baz=71							
H08S3	**Diego Garcia H**	**25.97**	**248**	T	T	10	04 57.2	
	baz=71							
H08S1	**Diego Carcia H**	**25.98**	**248**	T	T	10	04 58.9	
	baz=71							
H01W3	**Cape Leeuwin H**	**40.15**	**158**	T	T	10	22 59.6	
	baz=334,slow=75,SNR=10							
H01W2	**Cape Leeuwin H**	**40.16**	**158**	T	T	10	23 00.6	
	baz=334,slow=75,SNR=9.5							
H01W1	**Cape Leeuwin H**	**40.16**	**158**	T	T	10	23 00.6	
	baz=334,slow=75,SNR=11							
WRA	**Warramunga Arr**	**42.87**	**122**	P	**P**	**09**	**40 32.9**	**0.0**
	0.6nm,0.5s,baz=302,slow=9.0,SNR=9.3							
ASAR	**Alice Springs**	**44.26**	**127**	P	**P**	**09**	**40 44.3**	**+0.3**
	0.2nm,0.3s,baz=298,slow=8.1,SNR=7.0							
KSRS	**Korea Array**	**45.51**	**35**	P	**P**	**09**	**40 53.3**	**-0.3**
	0.4nm,0.3s,baz=224,slow=8.5,SNR=4.2							
SONM	**Songino Array**	**46.45**	**9**	P	**P**	**09**	**41 01.8**	**+0.7**
	0.5nm,0.4s,baz=192,slow=7.4,SNR=4.8							
KURBB	**Kurchatov Arra**	**50.86**	**345**	P	**P**	**09**	**41 35.6**	**+0.8**
	0.8nm,0.6s,baz=166,slow=7.0,SNR=3.4							
ZALV	**Zalesovo Beam**	**52.72**	**351**	P	**P**	**09**	**41 48.5**	**-0.1**
	1.7nm,0.4s,baz=181,slow=7.7,SNR=10							
FINES	**FINESS Array B**	**79.08**	**333**	P	**P**	**09**	**44 38.1**	**0.0**
	0.6nm,0.6s,baz=107,slow=13,SNR=2.4							
ARCES	**ARCESS Array B**	**81.64**	**340**	P	**P**	**09**	**44 52.4**	**+0.6**
	11nm,0.5s,baz=92,slow=8.1,SNR=2.1							
TXAR	**Lajitas Array**	**143.27**	**31**	PKP	**PKPdf**	**09**	**52 08.9**	**-0.2**
	0.1nm,0.6s,baz=282,slow=1.8,SNR=2.5							

NNC 21 09:33:57.5±9.6, 37.°50N×71.°17E, h0km, mb3.7, mpv3.4, 6C, Error ellipse: s-maj=86.0km s-min=58.9km az=133.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
DZET	**Dzherino**	**2.27**	**306**	⇑Pn	Pn	09	34 36.8	+0.4
	7.4nm,0.2s							
DZET				⇑Lg	Lg	09	35 10.5	
	56nm,0.5s							
KK31	**Karatay Array**	**5.62**	**355**	⇑Pn	Pn	09	35 26.1	+3.7
	1.0nm,0.3s,baz=174,slow=12,SNR=19							
KK31				Sn	Sn	09	36 34.1	+6.3
	12nm,0.8s,baz=189,slow=23,SNR=17							
AB31	**Akbulak array**	**14.29**	**329**	⇑Pn	Pn	09	37 12.0	-9.0
	0.3nm,0.5s,baz=143,slow=11,SNR=4.0							
AB31				⇑Sn	Sn	09	39 50.4	-10
	0.1nm,0.3s							
AKTO	**Aktyubinsk**	**16.00**	**328**	⇑Pn	Pn	09	37 33.9	-10
	1.8nm,0.6s							

*IDC **21** 09:35:36.1±1.0, 2.°65N×95.°55E, h21km±4km, mb4.0/11, mb1 1.1/13, mb1mx3.8/40, mbtmp4.2/13, ML4.4/2, MS3.2/6, Ms1 3.3/6, ms1mx2.9/37, Error ellipse: s-maj=27.2km s-min=14.5km az=46.0*
*NEIC **21** 09:35:38.8±1.8, 2.°66N×95.°63E, h44km±15km, mb4.6/5, Error ellipse: s-maj=21.0km s-min=8.6km az=57.0*
*DJA **21** 09:35:42.1±1.0, 3.°N±3.°×96.°6E±1.°, h33km±4km, M4.5/13, mb4.8/6, mB5.0/1, MLv4.4/13, Mw(mB)4.3/1*

ISC 21 09:35:35.8±0.8, 2.°60N±0.°06×95.°60E±0.°08, h19km±3km, h19km:pP-P, n42, σ1s00/42, mb4.3/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SNSI	**Sinabang, Aceh**	**0.75**	**105**	P	**Pn**	**09**	**35 51.7**	**+0.2**
SNSI				S	**Sb**	**09**	**35 58.2**	**-2.0**
GSI	**Gunungsitoli**	**2.36**	**123**	P	**Pn**	**09**	**36 14.6**	**+1.0**
GSI				S	**Sn**	**09**	**36 40.1**	**-2.0**
GSI	**Gunungsitoli**	**2.36**	**123**	*e*Pn	**Pn**	**09**	**36 14.8**	**+1.2**
TSI	**Tuntungan**	**3.09**	**73**	P	**Pn**	**09**	**36 23.2**	**-0.5**
PSI	**Prapat**	**3.33**	**87**	Pn	**Pn**	**09**	**36 28.1**	**+1.0**
	17nm,0.3s,baz=269,slow=10,SNR=20							
PSI				Sn	**Sn**	**09**	**37 08.1**	**+1.9**
	8.8nm,0.3s,baz=276,slow=8.7,SNR=4.6							
PSI				LR	LR	09	37 54.9	
	comp=Z,199nm,19.9s,baz=264,slow=41							
PBSI	**Pulau Batu**	**3.76**	**135**	P	**Pn**	**09**	**36 33.5**	**+0.6**
PBSI				S	**Sn**	**09**	**37 14.4**	**-2.3**
MNSI	**Mandailing Nat**	**4.37**	**114**	P	**Pn**	**09**	**36 41.4**	**+0.2**
SISI	**Saibi**	**5.24**	**138**	P	**Pn**	**09**	**36 54.4**	**+1.2**
SISI				S	**Sn**	**09**	**37 51.3**	**-1.8**
IPM	**Ipoh**	**5.73**	**71**	*e*Pn	**Pn**	**09**	**37 00.3**	**+0.3**
	34nm,0.3s							
PPSI	**Pulau Pagai**	**6.92**	**140**	P	**Pn**	**09**	**37 17.3**	**+1.0**
	98nm,0.9s,0.4nm							
MNAI	**Manna**	**10.09**	**133**	P	**Pn**	**09**	**38 00.6**	**+0.7**
LEM	**Lembang**	**15.22**	**128**	LR	LR	09	45 33.5	
	comp=Z,196nm,20.2s,baz=220,slow=39							
PALK	**Pallekele**	**15.55**	**288**	LR	LR	09	45 07.5	
	comp=Z,128nm,18.5s,baz=110,slow=37							
CMAR	**Chiang Mai Arr**	**16.09**	**12**	Pn	**Pn**	**09**	**39 22.4**	**+1.1**
	0.9nm,0.3s,baz=200,slow=11,SNR=25							
CMAR				LR	LR	09	45 48.9	
	comp=Z,98nm,18.4s,baz=203,slow=38							
KKM	**Kota Kinabalu**	**20.84**	**80**	*e*P	**P**	**09**	**40 17.0**	**+0.2**
	25nm,0.8s							
H08S2	**Diego Garcia H**	**25.20**	**246**	T	T	10	07 10.6	
	baz=66,slow=76,SNR=73							
H08S3	**Diego Garcia H**	**25.20**	**246**	T	T	10	07 10.8	
	baz=66,slow=76,SNR=67							
H08S1	**Diego Carcia H**	**25.22**	**246**	T	T	10	07 11.8	
	baz=66,slow=76,SNR=65							
KAPI	**Kappang**	**25.29**	**107**	P	**P**	**09**	**41 02.0**	**+0.6**
	8.5nm,0.6s,baz=144,slow=8.7,SNR=2.8							
LSA	**Lhasa**	**27.28**	**352**	*e*P	**P**	**09**	**41 19.1**	**-0.7**
	15nm,0.7s							
H01W3	**Cape Leeuwin H**	**41.15**	**157**	T	T	10	27 00.9	
	baz=332,slow=76,SNR=164							
H01W2	**Cape Leeuwin H**	**41.16**	**157**	T	T	10	27 01.7	
	baz=332,slow=76,SNR=161							
H01W1	**Cape Leeuwin H**	**41.16**	**157**	T	T	10	27 02.2	
	baz=332,slow=76,SNR=138							
WRA	**Warramunga Arr**	**44.13**	**122**	P	**P**	**09**	**43 43.5**	**0.0**
	2.4nm,0.7s,baz=298,slow=9.3,SNR=14							
ASAR	**Alice Springs**	**45.51**	**127**	P	**P**	**09**	**43 55.0**	**+0.5**
	0.8nm,0.5s,baz=299,slow=8.1,SNR=14							
MK31	**Makanchi Array**	**45.52**	**347**	*e*P	**P**	**09**	**43 53.8**	**-0.4**
KSAR	**Wonju Array Be**	**45.61**	**37**	P	**P**	**09**	**43 54.0**	**-1.1**
KSRS	**Korea Array**	**45.65**	**37**	P	**P**	**09**	**43 54.0**	**-1.3**
	1.7nm,0.6s,baz=227,slow=9.0,SNR=12							
SONM	**Songino Array**	**46.02**	**10**	P	**P**	**09**	**43 57.3**	**-0.9**
	2.5nm,0.6s,baz=192,slow=9.4,SNR=16							
SONM				pP	**pP**	**09**	**44 04.0**	**-0.2**
	4.8nm,0.7s,baz=188,slow=8.7,SNR=16							
SONM				PcP	**PcP**	**09**	**45 34.9**	**+0.3**
	1.5nm,0.5s,baz=198,slow=3.9,SNR=7.1							
SONM				pPcP		09	45 41.3	
	1.1nm,0.6s,baz=182,slow=4.3,SNR=3.8							
KKAR	**Karatay Array**	**46.10**	**334**	*e*P	**P**	**09**	**43 59.5**	**+0.6**
	2.4nm,0.6s							
KURBB	**Kurchatov Arra**	**49.98**	**346**	P	**P**	**09**	**44 28.8**	**+0.1**
	2.2nm,0.6s,baz=167,slow=7.1,SNR=17							
KURBB				pP	**pP**	**09**	**44 35.5**	**+0.8**
	4.7nm,0.7s,baz=166,slow=7.0,SNR=16							
KURK	**Kurchatov**	**50.04**	**346**	*e*P	**P**	**09**	**44 28.6**	**-0.5**
	5.5nm,0.7s							
KURK				pP	**pP**	**09**	**44 35.5**	**+0.3**
MJAR	**Matsushiro Arr**	**51.77**	**44**	LR	LR	10	09 42.1	
	comp=Z,16nm,18.1s,baz=150,slow=40							
ZAA0	**Zalesovo Array**	**51.94**	**352**	*e*P	**P**	**09**	**44 42.7**	**-0.7**
ZALV	**Zalesovo Beam**	**51.94**	**352**	P	**P**	**09**	**44 42.9**	**-0.5**
	8.9nm,0.6s,baz=182,slow=7.5,SNR=36							
ZALV				pP	**pP**	**09**	**44 49.6**	**+0.2**
	5.5nm,0.6s,baz=182,slow=8.3,SNR=6.8							
USRK	**Ussuriysk Ar.**	**52.43**	**33**	P	**P**	**09**	**44 47.4**	**+0.2**
	1.8nm,0.6s,baz=238,slow=11,SNR=5.0							
STKA	**Stephens Creek**	**55.48**	**132**	P	**P**	**09**	**45 10.6**	**+0.8**
	1.0nm,0.7s,baz=334,slow=7.6,SNR=3.2							
ABKAR	**Akbulak array**	**55.54**	**332**	*e*P	**P**	**09**	**45 09.5**	**-0.4**
	4.9nm,0.9s							
GNI	**Garni**	**59.18**	**316**	LR	LR	10	13 15.2	
	comp=Z,20nm,18.1s,baz=99,slow=38							
BRTR	**Keskin Array B**	**66.99**	**312**	P	**P**	**09**	**46 26.8**	**-1.1**
	0.2nm,0.4s,baz=150,slow=8.0,SNR=2.8							
BRTR				pP	**pP**	**09**	**46 34.0**	**0.0**
	0.8nm,0.8s,baz=104,slow=5.2,SNR=3.8							
FINES	**FINESS Array B**	**78.03**	**333**	P	**P**	**09**	**47 32.7**	**-0.2**
	2.8nm,1.0s,baz=129,slow=6.2,SNR=4.0							
TXAR	**Lajitas Array**	**143.27**	**29**	PKhKP	PKPpre	09	55 06.2	
	0.2nm,0.7s,baz=270,slow=1.8,SNR=3.4							

*IDC **21** 09:41:57.6±4.0, 19.°92S×177.°91W, h547km±45km, mb3.4/12, mb1 3.6/13, mb1mx3.5/23, mbtmp4.3/13, Error ellipse: s-maj=20.5km s-min=18.9km az=131.0*
*ISCJB **21** 09:41:58.3±0.7, 20.°0S±0.°1×178.°0W±0.°1, h569km, mb3.7/12, Error ellipse: s-maj=20.9km s-min=13.6km az=140.8*

ISC 21 09:41:59.2±0.7, 20.°0S±0.°2×178.°0W±0.°1, h569km, n18, σ0s98/20, mb3.8/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
URZ	**Urewera**	**18.70**	**192**	P	**P**	**09**	**45 40.6**	**-1.8**
	4.0nm,0.3s,baz=290,slow=3.7,SNR=25							
URZ				S	S	09	48 32.1	-12
	baz=216,slow=19,SNR=2.3							
CTA	**Charters Tower**	**33.58**	**264**	P	**P**	**09**	**47 53.9**	**+0.7**
	3.8nm,0.5s,baz=76,slow=8.8,SNR=5.7							
ASAR	**Alice Springs**	**44.67**	**256**	P	**P**	**09**	**49 22.9**	**+0.5**
	4.1nm,0.7s,baz=91,slow=7.7,SNR=37							
ASAR				PcP	**PcP**	**09**	**50 52.8**	**+0.2**
	1.5nm,0.7s,baz=100,slow=4.0,SNR=7.7							
ASAR				S	**S**	**09**	**55 17.3**	**-0.8**
	0.4nm,0.8s,baz=91,slow=14,SNR=5.6							
WRA	**Warramunga Arr**	**44.71**	**262**	P	**P**	**09**	**49 22.9**	**+0.2**
	1.9nm,0.4s,baz=97,slow=7.6,SNR=97							
MJAR	**Matsushiro Arr**	**69.82**	**324**	P	**P**	**09**	**52 13.3**	**+0.1**
	2.0nm,0.6s,baz=157,slow=5.4,SNR=6.1							
PETK	**Petropavlovsk-**	**75.79**	**345**	P	**P**	**09**	**52 46.9**	**-0.2**
	1.8nm,0.6s,baz=159,slow=8.6,SNR=4.2							
KSRS	**Korea Array**	**76.53**	**318**	P	**P**	**09**	**52 51.1**	**-0.3**
	0.4nm,0.4s,baz=135,slow=5.2,SNR=3.5							
USRK	**Ussuriysk Ar.**	**78.56**	**326**	P	**P**	**09**	**53 02.8**	**+0.5**
	1.2nm,0.6s,baz=202,slow=8.2,SNR=5.4							
NVAR	**Mina Array Bea**	**80.63**	**43**	P	**P**	**09**	**53 14.2**	**+0.6**
	2.0nm,0.8s,baz=223,slow=9.9,SNR=8.3							
MAW	**Mawson**	**82.05**	**200**	P	**P**	**09**	**53 22.1**	**+2.0**
	1.1nm,0.9s,baz=190,slow=6.1,SNR=2.7							
TXAR	**Lajitas Array**	**86.75**	**57**	P	**P**	**09**	**53 44.8**	**+0.9**
	1.3nm,0.6s,baz=218,slow=6.9,SNR=30							
ILAR	**Eielson Array**	**87.81**	**13**	P	**P**	**09**	**53 46.9**	**-1.0**
	1.0nm,0.4s,baz=216,slow=5.5,SNR=30							
PDAR	**Pinedale Array**	**88.57**	**43**	P	**P**	**09**	**53 52.2**	**-0.1**
	1.2nm,0.5s,baz=190,slow=1.0,SNR=12							
ARCES	**ARCESS Array B**	**128.43**	**350**	PKP	**PKPdf**	**10**	**00 01.2**	**+0.1**
	3.7nm,0.6s,baz=32,slow=3.5,SNR=2.6							
FINES	**FINESS Array B**	**135.29**	**344**	PKhKP	PKPpre	10	00 11.7	
	1.4nm,0.7s,baz=47,slow=6.1,SNR=3.7							
FINES				PKP	**PKPdf**	**10**	**00 14.4**	**+0.3**
	0.5nm,0.3s,baz=105,slow=2.8,SNR=5.7							
BRTR	**Keskin Array B**	**146.52**	**313**	PKPbc	**PKPbc**	**10**	**00 37.2**	**-0.4**
	2.4nm,0.7s,baz=138,slow=5.4,SNR=12							
GERES	**GERESS Array B**	**149.72**	**345**	PKPbc	**PKPbc**	**10**	**00 45.1**	**-0.2**
	2.1nm,0.6s,baz=47,slow=2.5,SNR=17							
TORD	**Torodi Ar. Bea**	**173.19**	**177**	PKP	**PKPdf**	**10**	**01 02.2**	**-2.2**
	0.5nm,0.9s,baz=14,slow=1.7,SNR=3.5							

*ISCJB **21** 10:03:38.9±0.7, 31.°23S±0.°03×69.°26W±0.°04, h130km±7km, Error ellipse: s-maj=6.5km s-min=4.4km az=36.2*
*GUC **21** 10:03:38.8±0.5, 31.°35S×69.°48W, h152km±13km, ML4.3*
*SJA **21** 10:03:41.2±0.9, 31.°44S×69.°01W, h127km±3km, ML3.8, MW3.7*

ISC 21 10:03:38.9±1.4, 31.°36S±0.°04×69.°24W±0.°04, h136km±9km, n22, σ1s25/40, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
RTLS	**Leoncito**	**0.44**	**186**	*e*P	**Pn**	**10**	**03 58.3**	**-0.4**
RTLS				*e*S	**Sn**	**10**	**04 15.8**	**+2.0**
SJA	**San Juan**	**0.61**	**106**	*e*P	**Pn**	**10**	**03 59.9**	**+0.6**
SJA				*e*S	**Sn**	**10**	**04 13.7**	**-1.1**
SJA				IAML		10	04 14.5	
	comp=Z,2µm,0.2s							
RTLL	**Cerro Villicun**	**0.66**	**88**	*e*P	**Pn**	**10**	**03 59.9**	**+0.2**
RTLL				*e*S	**Sn**	**10**	**04 14.6**	**-0.8**
RTCV	**Cerro Valdivia**	**0.78**	**130**	⇓*e*P	**Pn**	**10**	**04 00.2**	**-0.4**
RTCV				*e*S	**Sn**	**10**	**04 15.9**	**-1.2**
AUSP	**Uspallata**	**0.87**	**188**	*e*P	**Pn**	**10**	**04 02.0**	**+0.4**
AUSP				*e*S	**Sn**	**10**	**04 20.5**	**+1.6**
CFAA	**Coronel Fontan**	**0.89**	**106**	*e*P	**Pn**	**10**	**04 01.8**	**+0.3**
CFAA				*e*S	**Sn**	**10**	**04 17.0**	**-1.6**
ASAL	**Salagasta**	**1.28**	**164**	*e*P	**Pn**	**10**	**04 06.2**	**+1.0**
ASAL				*e*S	**Sn**	**10**	**04 24.7**	**-0.6**
ARCO	**CERRO ARCO**	**1.50**	**170**	*e*P	**Pn**	**10**	**04 09.1**	**+1.4**
ARCO				*e*S	**Sn**	**10**	**04 29.8**	**+0.2**
ARCO				IAML		10	04 31.6	
	comp=Z,2µm,0.5s							
AVFE	**Valle Fertil**	**1.68**	**66**	*e*P	**Pn**	**10**	**04 10.6**	**+1.0**
AVFE				*e*S	**Sn**	**10**	**04 32.7**	**-0.3**
AVFE				IAML		10	04 34.0	
	comp=Z,433nm,0.3s							
AAGR	**Agrelo**	**1.76**	**169**	*e*P	**Pn**	**10**	**04 11.6**	**+1.2**
AAGR				*e*S	**Sn**	**10**	**04 34.3**	**-0.3**
ACAN	**Cantantal**	**1.97**	**118**	*e*P	**Pn**	**10**	**04 11.0**	**+1.1**
ACAN				*e*S	**Sn**	**10**	**04 36.5**	**-2.5**
PEL	**Peldehue**	**2.16**	**214**	*e*P	**Pn**	**10**	**04 15.3**	**+0.1**
PEL				*e*S	**Sn**	**10**	**04 43.1**	**-0.1**
PEL				AML	AML	10	04 45.6	
	comp=N,2µm,0.6s							
LSCH	**La Serena**	**2.25**	**309**	*e*P	**Pn**	**10**	**04 15.5**	**-0.8**
LSCH				*e*S	**Sn**	**10**	**04 43.4**	**-1.5**
CLCH	**Cerro Calan**	**2.31**	**208**	*e*P	**Pn**	**10**	**04 17.6**	**+0.6**
CLCH				*e*S	**Sn**	**10**	**04 46.2**	**-0.2**
CLCH				AML	AML	10	04 48.8	
	comp=E,2µm,0.5s							
STL	**Santa Lucia**	**2.39**	**209**	*e*P	**Pn**	**10**	**04 18.1**	**+0.1**
STL				*e*S	**Sn**	**10**	**04 47.9**	**-0.2**
SAN	**Santiago**	**2.41**	**210**	*e*S	**Sn**	**10**	**04 48.6**	**0.0**

APLL	**PUNTA DE LOS L**	**2.52**	**68**	*e*P		**Pn**	**10 04 21.0**	**+1.3**
APLL				*e*S		**Sn**	**10 04 49.6**	**-1.5**
VCA	**Vinchina**	**2.76**	**19**	*e*P		Pn	10 04 26.5	+3.6
VCA				*e*S		**Sn**	**10 04 59.4**	**+2.7**
VCA				IAML			10 05 03.8	
	comp=Z,210nm,0.4s							
VACH	**Vallenar**	**3.07**	**334**	*e*S		**Sn**	**10 05 02.9**	**-0.7**
LNV	**Longovilo**	**3.17**	**215**	*e*P		**Pn**	**10 04 27.4**	**-0.5**
TCA	**Tanti**	**3.97**	**91**	*e*P		**Pn**	**10 04 39.2**	**+0.6**
TCA				*e*S		**Sn**	**10 05 21.4**	**-3.3**
TCA				IAML			10 05 24.8	
	comp=Z,115nm,0.6s							
CYA	**Choya**	**4.17**	**47**	IAML			10 04 42.6	
	comp=Z,112nm,0.3s							
CYA				*e*P		**Pn**	**10 04 42.6**	**+1.5**
CYA				*e*S		**Sn**	**10 05 28.8**	**-0.5**

*IDC **21** 10:07:04.8±1.8, 51.°56N×178.°74E, h0km, mb3.5/7, mb1 3.8/7, mb1mx3.6/44, mbtmp3.5/7, Error ellipse: s-maj=56.0km s-min=19.7km az=9.0*
*ISCJB **21** 10:07:07.4±0.7, 51.°16N±0.°07×178.°55E±0.°07, h40km, mb3.6/8, Error ellipse: s-maj=9.6km s-min=6.1km az=5.0*
*NEIC **21** 10:07:08.6, 51.°24N×178.°65E, h19km, ML3.4(AEIC), After AEIC.*

ISC 21 10:07:09.3±1.0, 51.°27N±0.°09×178.°63E±0.°05, h40km, n29, σ0s98/27, mb3.7/8, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AMKA	**Amchitka**	**0.44**	**75**	P	**Pn**	**10**	**07 18.1**	**-1.1**
AMKA				S	**Sn**	**10**	**07 24.7**	**-1.4**
LSSA	**Little Sitkin**	**0.69**	**354**	P	**Pn**	**10**	**07 22.6**	**0.0**
LSPA	**Little Sitkin**	**0.69**	**357**	P	**Pn**	**10**	**07 22.6**	**0.0**
LSPA				S	**Sn**	**10**	**07 33.7**	**+1.5**
LSNW	**Little Sitkin**	**0.71**	**354**	P	**Pn**	**10**	**07 22.6**	**-0.2**
CESW	**Semis' Southwe**	**0.86**	**42**	P	**Pn**	**10**	**07 25.1**	**+0.1**
CERAA	**Semis' Rag'd T**	**0.92**	**45**	P	**Pn**	**10**	**07 25.8**	**0.0**
CEAP	**Semis' Anvil P**	**0.94**	**38**	P	**Pn**	**10**	**07 26.4**	**+0.3**
CEAP				S	**Sn**	**10**	**07 39.3**	**+0.9**
TANO	**Tanaga North**	**2.13**	**71**	P	**Pn**	**10**	**07 43.3**	**+1.0**
TASE	**Tanaga Southea**	**2.16**	**73**	P	**Pn**	**10**	**07 43.6**	**+0.8**
TAFP	**Tanaga Falls P**	**2.21**	**72**	P	**Pn**	**10**	**07 43.9**	**+0.4**
TAFP				S	**Sn**	**10**	**08 11.2**	**+1.8**
KICM	**Kanaga Island**	**2.69**	**74**	P	**Pn**	**10**	**07 50.8**	**+0.9**
KIKV	**Kanaga Island**	**2.69**	**75**	P	**Pn**	**10**	**07 50.9**	**+0.8**
ETKA	**Kagalaska Isla**	**3.15**	**77**	P	**Pn**	**10**	**07 57.5**	**+1.1**
SMY	**Shemya**	**3.16**	**299**	P	**Pn**	**10**	**07 57.0**	**+0.5**
GSMY	**Great Sitkin M**	**3.40**	**75**	P	**Pn**	**10**	**08 00.7**	**+0.9**
ILAR	**Eielson Array**	**22.35**	**40**	P	**P**	**10**	**12 01.2**	**-2.2**
	0.6nm,0.8s,baz=237,slow=8.1,SNR=17							
H11N2	**WAKE ISLAND Hy**	**32.80**	**201**	T	T	10	48 44.4	
	baz=20,slow=75,SNR=5.7							
H11N3	**WAKE ISLAND Hy**	**32.81**	**201**	T	T	10	48 39.7	
	baz=20,slow=75,SNR=7.5	

21nm,0.7s,baz=81,slow=8.7,SNR=51
ASAR LR LR 10 41 51.9
comp=Z,527nm,18.4s,baz=80,slow=35
BBOO Buckleboo 31.72 235 *eP* **P 10 29 41.0 0.0**
9.0nm,2.1s
RAR Rarotonga 31.75 102 LR LR 10 39 51.2
comp=Z,176nm,19.2s,baz=250,slow=31
FITZ Fitzroy Crossi 39.18 262 *eP* **P 10 30 44.6 -0.7**
12nm,0.7s
PPT Papeete 41.54 97 LR LR 10 46 47.6
comp=Z,177nm,19.2s,baz=294,slow=34
MBWA Marble Bar 44.51 257 *eP* P 10 31 33.3 +4.4
27nm,0.7s
TGY Tagaytay City 54.98 302 LR LR 10 54 36.4
comp=Z,21nm,20.2s,baz=90,slow=34
KKM Kota Kinabalu 55.10 290 *eP* **P 10 32 49.3 -0.3**
8.9nm,1.0s
MJAR Matsushiro Arr 59.98 334 P **P 10 33 22.2 -1.3**
2.2nm,1.0s,baz=145,slow=8.6,SNR=3.4
MJAR LR LR 10 59 26.1
comp=Z,20nm,19.3s,baz=170,slow=36
SBA Scott Base 60.59 180 *eP* P 10 33 31.6 +4.5
146nm,2.8s
KSRS Korea Array 65.61 327 P **P 10 34 00.7 -0.3**
1.8nm,0.9s,baz=134,slow=7.2,SNR=5.0
KSRS LR LR 11 00 29.7
comp=Z,37nm,20.6s,baz=160,slow=34
KSAR Wonju Array Be 65.62 327 P **P 10 34 00.7 -0.4**
QIZ Qiongzhong 66.62 300 P **P 10 34 09.1 +1.2**
NJ2 Nanjing 67.22 317 *eP* **P 10 34 10.8 -0.6**
NJ2 PMZ
30nm,0.8s
MDJ Mudanjiang 70.33 333 P **P 10 34 31.9 +1.3**
MDJ PMZ
4.0nm,0.6s
MDJ PMZ
24nm,5.4s
PETK Petropavlovsk- 70.55 354 P **P 10 34 31.0 -0.7**
5.8nm,1.0s,baz=155,slow=11,SNR=4.7
PETK LR LR 10 59 55.6
comp=Z,30nm,20.9s,baz=137,slow=31
CN2 Changchun 71.61 330 *eP* **P 10 34 40.4 +2.0**
QSPA South Pole Qui 72.75 180 *eP* **P 10 34 45.3 +0.2**
14nm,1.0s
GYA Guiyang 72.82 306⇑ *iP* **P 10 34 48.3 +2.1**
GYA pP **PcP 10 34 59.6 -3.7**
GYA PP **P 10 37 32.0 +3.5**
GYA S **S 10 44 10.6 -1.8**
GYA sS SKiKP 10 44 27.8 +7.7
GYA SKS **SKSac 10 44 45.4 -6.5**
GYA SS **SS 10 48 52.3 -0.6**
GYA PMZ
20nm,1.0s
GYA PMZ
120nm,5.3s
GYA LN
560nm,19.8s
GYA LE
510nm,20.4s
GYA LZ
550nm,19.7s
KMI Kunming 75.29 303 P **P 10 35 02.1 +1.3**
KMI PMZ
9.0nm,0.6s
CMAR Chiang Mai Arr 75.61 295 P **P 10 35 02.3 -0.1**
0.9nm,0.3s,baz=130,slow=3.4,SNR=6.7
CMAR LR LR 11 07 08.2
comp=Z,16nm,21.9s,baz=205,slow=35
CD2 Chengdu 77.23 308 *eP* **P 10 35 11.5 +0.1**
CD2 pP **PcP 10 35 22.3 +0.2**
CD2 sP sP 10 35 26.6 +10
CD2 PP **PP 10 38 05.3 -0.4**
CD2 S **S 10 44 58.6 -2.6**
CD2 SKS **SKSac 10 45 20.4 -4.0**
CD2 SS **SS 10 49 57.4 -2.2**
CD2 PMZ
10.0nm,0.5s
CD2 PMZ
120nm,5.2s
HHC Hu-ho-hao-te 77.25 320 *eP* **P 10 35 10.6 -0.8**
HHC pP **PcP 10 35 22.9 +0.8**
HHC sP sP 10 35 27.1 +10
HHC PP **PP 10 38 08.9 +3.1**
HHC S **S 10 44 58.9 -2.3**
HHC sS sS 10 45 15.8 +8.1
HHC SS **SS 10 50 00.6 +0.8**
HHC PMZ
31nm,1.3s
HHC PMZ
91nm,7.9s
HHC LN
100nm,17.4s
HHC LE
73nm,17.6s
HHC LZ
76nm,17.7s
MAW Mawson 79.36 202 P **P 10 35 23.8 +1.3**
1.1nm,0.7s,baz=342,slow=3.2,SNR=2.5
MAW LR LR 11 05 58.0
comp=Z,70nm,21.0s,baz=62,slow=32
RSO Redoubt South 84.04 19 *eP* **P 10 35 45.6 -1.8**
32nm,0.9s
BRLK Bradley Lake 84.09 20 *eP* **P 10 35 46.7 -0.8**
24nm,0.9s
GTA Gaotai 84.12 314 *eP* P 10 35 52.8 +4.5
GTA pP pP 10 36 03.4 +11
GTA sP sP 10 36 07.3 +14
GTA SKS **SKSac 10 46 09.9 -1.9**
GTA S **S 10 46 15.1 +1.9**
GTA sS **ScS 10 46 31.8 +6.4**
GTA PMZ
5.0nm,1.1s
GTA PMZ
85nm,4.8s
GTA LN
49nm,18.0s
GTA LE
72nm,16.6s
GTA LZ
68nm,18.0s
SONM Songino Array 84.29 324 P **P 10 35 50.0 +1.0**
1.2nm,0.9s,baz=139,slow=5.5,SNR=7.2
SONM LR LR 11 14 43.4
comp=Z,22nm,18.0s,baz=102,slow=37
BILL Bilibino 85.09 360 *eP* **P 10 35 51.4 -0.9**
SYO Syowa Base 86.14 197⇑ *eX* pP 10 36 08.0 +6.2
CAST Castle Rocks 86.56 17 *eP* **P 10 35 57.8 -2.0**
12nm,0.8s
TRF Thorofare Moun 87.10 18 *eP* **P 10 36 01.0 -1.6**
5.2nm,0.8s
ARVC Arvin 87.59 52 P **P 10 36 04.6 -0.8**
baz=88
CMB Columbia Colle 87.60 49 *eP* **P 10 36 04.8 -0.7**
6.4nm,0.8s
BWN Browne 87.88 18 *eP* **P 10 36 05.3 -0.8**
16nm,0.8s
ISA Isabella, Lake 88.07 52 P **P 10 36 06.8 -1.0**
baz=88
ISA Isabella, Lake 88.07 52 *eP* **P 10 36 07.4 -0.4**
9.7nm,0.8s
IM04 Indian Mountai 88.12 15 *eP* **P 10 36 07.8 +0.6**
EDW2 Edwards Air Fo 88.13 53 P **P 10 36 07.2 -0.9**
baz=88
MURC Murrieta 88.25 54 P **P 10 36 07.6 -1.1**
baz=88
WAKR Walker 88.47 49 *eP* **P 10 36 09.6 -0.2**
LRMC Laurel Mtn Rad 88.59 52 P **P 10 36 09.4 -1.0**
baz=89
MONP Monument Peak, 88.60 55 P **P 10 36 09.2 -1.3**
baz=89
I04A Tendick Farm, 88.62 43 P **P 10 36 09.9 -0.3**
baz=89
CWC Cottonwood Cre 88.66 51 P **P 10 36 10.1 -0.6**
baz=89
BBRC Big Bear Solar 88.72 54 P **P 10 36 09.9 -1.2**
baz=89
CCB Clear Creek Bu 88.72 18 *eP* **P 10 36 08.0 -2.1**
4.2nm,0.8s
HDA Harding Lake 88.80 18 *eP* **P 10 36 08.9 -1.6**
14nm,1.0s
COLA College 88.87 18 *eP* **P 10 36 08.8 -2.0**
11nm,0.9s
MPMC Manual Prospec 88.96 52 P **P 10 36 11.4 -0.8**
baz=89
ILAR Eielson Array 89.08 18 P **P 10 36 09.6 -2.2**
5.1nm,0.8s,baz=239,slow=5.0,SNR=68
ILAR LR LR 11 09 07.8
comp=Z,52nm,21.5s,baz=256,slow=31
K05A Summer Lake 89.17 45 *eP* **P 10 36 13.9 +0.9**
J05D Fort Rock, OR 89.17 44 P **P 10 36 13.1 +0.2**
baz=89
MOD Modoc Plateau 89.23 46 *eP* **P 10 36 12.7 -0.5**
29nm,1.9s
NVAR Mina Array Bea 89.26 49 P **P 10 36 12.7 -0.9**
3.9nm,0.8s,baz=230,slow=7.2,SNR=18
BELC Belle Mtn. Jos 89.33 54 P **P 10 36 13.1 -0.8**
baz=89
HEC Hector,Ludlow 89.38 53 P **P 10 36 13.8 -0.2**
baz=89
GRAC Grapevine Rang 89.40 51 P **P 10 36 13.7 -0.3**
baz=90
I05D Terrebonne, OR 89.55 43 P **P 10 36 14.3 -0.2**
baz=90
FURC Furnace Creek, 89.58 52 P **P 10 36 14.2 -0.5**
baz=90
BC3 Big Chuckawall 89.63 55 P **P 10 36 15.3 0.0**
baz=90
GMRC Granite Mounta 89.88 53 P **P 10 36 16.0 -0.4**
baz=90
TUQ Turquoise Moun 89.91 53 P **P 10 36 16.2 -0.3**
baz=90
TPH Tonopah 89.91 50 *eP* **P 10 36 15.7 -0.9**
12nm,1.4s
G05D Wamic, OR 89.94 42 P **P 10 36 16.1 -0.2**
baz=90
COLD Coldfoot 90.00 15 *eP* **P 10 36 15.2 -0.8**
IRM Iron Mountain 90.05 54 P **P 10 36 16.9 -0.2**
baz=90
TPNV Topopah Spring 90.22 51 P **P 10 36 17.5 -0.5**
baz=90
LON Longmire 90.27 41 *eP* **P 10 36 17.7 -0.1**
18nm,1.8s
D05A Enumclaw 90.34 40 *eP* **P 10 36 18.9 +0.8**
WVOR Wild Horse Val 90.58 46 *eP* **P 10 36 18.9 -0.6**
11nm,1.3s
BMN Battle Mountai 90.80 48 *eP* **P 10 36 20.4 -0.3**
5.8nm,1.0s
EGAK Eagle 90.86 20 *eP* **P 10 36 18.6 -1.4**
5.3nm,0.9s
SHPR Sheep Range 90.87 52 *eP* **P 10 36 20.9 -0.2**
PDMCI Parker Dam,Lak 90.88 54 P **P 10 36 20.7 -0.2**
baz=91
DAWY Dawson 90.98 21 *eP* **P 10 36 19.6 -1.1**
SNAA Sanae 90.98 183 *eP* **P 10 36 23.3 +2.4**
5.3nm,0.9s
R11A Troy Canyon, C 91.21 50 P **P 10 36 21.5 -1.1**
baz=91
R11A Troy Canyon, C 91.21 50 *eP* **P 10 36 22.0 -0.6**
MFID Camas Ranch 92.86 45 *eP* **P 10 36 29.5 -0.5**
5.7nm,1.4s
TUC Tucson 92.87 57 *eP* **P 10 36 29.8 -0.5**
WUAZ Wupatki 93.43 54 P **P 10 36 32.3 -0.6**
baz=94
HLID Hailey 93.87 46 *eP* **P 10 36 35.0 +0.2**
14nm,2.2s
WMQ Urumqi 94.20 315 P **P 10 36 37.3 +1.1**
WMQ pP pP 10 36 47.9 +7.7
WMQ sP sP 10 36 51.8 +10
WMQ PP **PP 10 40 25.8 +2.6**
WMQ S **S 10 47 41.9 -5.5**
WMQ PMZ
6.0nm,1.2s
WMQ PMZ
39nm,4.2s
WMQ LN
83nm,7.5s
WMQ LE
41nm,8.4s
PDAR Pinedale Array 96.99 48 LR LR 11 13 19.8
comp=Z,29nm,20.0s,baz=264,slow=31
TXAR Lajitas Array 97.87 62 P **P 10 36 51.3 -1.9**
0.2nm,0.5s,baz=232,slow=4.1,SNR=4.4
TXAR LR LR 11 16 27.5
comp=Z,38nm,18.0s,baz=0.0,slow=33
ZALV Zalesovo Beam 99.19 324 LR LR 11 21 37.5
comp=Z,12nm,20.1s,baz=70,slow=35
KSH Kashi 101.42 308 *eP* **Pdif 10 37 09.8 +0.9**
KSH *es*P 10 37 27.1
STHS Stebnicka Huta 137.59 327 *e*PKP **PKPdf 10 42 45.2 +4.2**

IDC 21 10:27:27.7±9.3, 17.36S×178.75W, h671km±116km, mb2.6/4, mb1 2.9/4, mb1mx2.6/26, mbtmp3.6/4, Error ellipse: s-maj=49.8km s-min=32.4km az=70.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.42**	**259**	P	P	10 34 42.5	-0.1
	0.4nm,0.7s,baz=93,slow=6.8,SNR=8.7						
WRA				PcP	PcP	10 36 10.6	-0.2
	0.8nm,1.1s,baz=90,slow=4.0,SNR=4.7						
ASAR	**Alice Springs**	**44.63**	**254**	P	P	10 34 44.2	+0.1
	0.6nm,0.5s,baz=92,slow=8.7,SNR=4.6						
VNDA	**Vanda**	**60.96**	**185**	P	P	10 36 38.2	+0.1
	0.8nm,0.4s,baz=23,slow=5.2,SNR=6.3						
ILAR	**Eielson Array**	**85.43**	**13**	P	P	10 38 56.4	+0.1
	0.1nm,0.4s,baz=222,slow=4.6,SNR=4.8						

*IGIL **21** 10:39:48.5, 37.22N×13.15W, h0km, ML2.3*
*MDD **21** 10:39:48.4±2.8, 37.10N×13.11W, h0km, mb4.1/5, Error ellipse: s-maj=28.1km s-min=19.4km az=39.0, PRXIMO*
*INMG **21** 10:39:50.0±0.9, 36.96N×13.49W, h10km, ML2.3, Error ellipse: s-maj=4.6km s-min=4.3km az=71.0*

ISC 21 10:39:46.8±3.5, 37.18N±0.10×13.2W±0.2, h10km, n48, σ1.968/89, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.47**	**90**	P	**Pn**	**10 40 41.6**	**+0.7**
	3.4nm,0.1s,SNR=9.6						
PFVI				S	**Sn**	**10 41 21.7**	**-0.3**
	4.7nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.47**	**90**	*e*Pn	**Pn**	**10 40 41.5**	**+0.7**
PFVI				*e*Sn	**Sn**	**10 41 20.5**	**-1.5**
PFVI				A	A	10 41 23.6	
	3.9nm,0.2s						
PFVI	**Vila Bisbo**	**3.47**	**90**	*e*Pn	**Pn**	**10 40 41.5**	**+0.7**
PFVI				*e*Sn	**Sn**	**10 41 20.5**	**-1.5**
PFVI				A	A	10 41 23.6	
	3.9nm,0.2s						
PMAFR	**Mafra**	**3.54**	**59**	P	**Pn**	**10 40 44.0**	**+2.2**
	2.2nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**10 41 24.7**	**+1.0**
	9.0nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**3.54**	**59**	*e*Pn	**Pn**	**10 40 43.8**	**+2.0**
PMAFR				*e*Sn	**Sn**	**10 41 24.4**	**+0.6**
PMAFR	**Mafra**	**3.54**	**59**	*e*Pn	**Pn**	**10 40 43.8**	**+2.0**
PMAFR				*e*Sn	**Sn**	**10 41 24.4**	**+0.6**
PTEO	**Sao Teotonio**	**3.56**	**83**	*e*Pn	**Pn**	**10 40 43.3**	**+1.2**
PTEO				*e*Sn	**Sn**	**10 41 23.2**	**-1.0**
PTEO				A	A	10 41 26.2	
	4.8nm,0.3s						
PTEO	**Sao Teotonio**	**3.56**	**83**	*e*Pn	**Pn**	**10 40 43.3**	**+1.2**
PTEO				*e*Sn	**Sn**	**10 41 23.2**	**-1.0**
PTEO				A	A	10 41 26.2	
	4.8nm,0.3s						
MORF	**Marmelete**	**3.61**	**87**	*e*P	**Pn**	**10 40 43.6**	**+0.8**
MORF				*e*S	**Sn**	**10 41 23.8**	**-1.7**
MORF				AML	AML	10 41 25.6	
	comp=N,7.5nm,0.1s						
MORF	**Marmelete**	**3.61**	**87**	P	**Pn**	**10 40 43.6**	**+0.8**
MORF				S	**Sn**	**10 41 23.8**	**-1.7**
	comp=N,7.5nm,0.1s						
MORF	**Marmelete**	**3.61**	**87**	*e*Pn	**Pn**	**10 40 43.6**	**+0.8**
MORF				*e*Sn	**Sn**	**10 41 24.1**	**-1.4**
MORF				A	A	10 41 25.0	
	comp=N,6.4nm,0.3s						
MORF	**Marmelete**	**3.61**	**87**	*e*Pn	**Pn**	**10 40 43.6**	**+0.8**
MORF				*e*Sn	**Sn**	**10 41 24.1**	**-1.4**
MORF				A	A	10 41 25.0	
	comp=N,6.4nm,0.3s						
PNCL	**Nicolau / Gran**	**3.80**	**74**	*e*Pn	**Pn**	**10 40 46.5**	**+1.1**
PNCL				*e*Sn	**Sn**	**10 41 29.3**	**-0.8**
PNCL				A	A	10 41 31.4	
	comp=N,2.7nm,0.2s						
PNCL	**Nicolau / Gran**	**3.80**	**74**	*e*Pn	**Pn**	**10 40 46.5**	**+1.1**
PNCL				*e*Sn	**Sn**	**10 41 29.3**	**-0.8**
PNCL				A	A	10 41 31.4	
	comp=N,2.7nm,0.2s						
MESJ	**Messejana**	**3.99**	**79**	*e*P	**Pn**	**10 40 48.5**	**+0.5**
MESJ	**Messejana**	**3.99**	**79**	P	**Pn**	**10 40 48.5**	**+0.5**
MESJ	**Messejana**	**3.99**	**79**	*e*Pn	**Pn**	**10 40 49.1**	**+1.1**
MESJ				*e*Sn	**Sn**	**10 41 33.8**	**-1.0**
MESJ				A	A	10 41 38.8	
	comp=N,3.0nm,0.1s						
MESJ	**Messejana**	**3.99**	**79**	*e*Pn	**Pn**	**10 40 49.1**	**+1.1**
MESJ				*e*Sn	**Sn**	**10 41 33.8**	**-1.0**
MESJ				A	A	10 41 38.8	
	comp=N,3.0nm,0.1s						
PCVE	**Castro Verde**	**4.11**	**82**	*e*Pn	**Pn**	**10 40 50.8**	**+1.2**
PCVE				*e*Sn	**Sn**	**10 41 36.6**	**-1.2**
PCVE				A	A	10 41 44.4	
	comp=N,0.4nm,0.8s						
PCVE	**Castro Verde**	**4.11**	**82**	*e*Pn	**Pn**	**10 40 50.8**	**+1.2**
PCVE				*e*Sn	**Sn**	**10 41 36.6**	**-1.2**
PCVE				A	A	10 41 44.4	
	comp=N,0.4nm,0.8s						
PBDV	**Barranco-do-Ve**	**4.18**	**88**	*e*Pn	**Pn**	**10 40 52.0**	**+1.3**
PBDV				*e*Sn	**Sn**	**10 41 37.6**	**-2.0**
PBDV				A	A	10 41 44.4	
	comp=N,4.1nm,0.7s						
PBDV	**Barranco-do-Ve**	**4.18**	**88**	*e*Pn	**Pn**	**10 40 52.0**	**+1.3**
PBDV				*e*Sn	**Sn**	**10 41 37.6**	**-2.0**
PBDV				A	A	10 41 44.4	
	comp=N,4.1nm,0.7s						
PMTG	**Montargil**	**4.33**	**63**	*e*Pn	**Pn**	**10 40 54.1**	**+1.4**
PMTG				*e*Sn	**Sn**	**10 41 42.6**	**-0.6**
PMTG				A	A	10 41 47.1	
	comp=N,3.9nm,0.9s						
PMTG	**Montargil**	**4.33**	**63**	*e*Pn	**Pn**	**10 40 54.1**	**+1.4**
PMTG				*e*Sn	**Sn**	**10 41 42.6**	**-0.6**
PMTG				A	A	10 41 47.1	
	comp=N,3.9nm,0.9s						
PVAQ	**Vaqueiros**	**4.35**	**85**	*e*Pn	**Pn**	**10 40 54.3**	**+1.3**
PVAQ				*e*Sn	**Sn**	**10 41 41.9**	**-1.9**
PVAQ				A	A	10 41 46.9	
	comp=N,4.0nm,0.2s						
PVAQ	**Vaqueiros**	**4.35**	**85**	*e*Pn	**Pn**	**10 40 54.3**	**+1.3**
PVAQ				*e*Sn	**Sn**	**10 41 41.9**	**-1.9**
PVAQ				A	A	10 41 46.9	
	comp=N,4.0nm,0.2s						
EGRO	**El Granado**	**4.54**	**84**	P	**Pn**	**10 40 56.6**	**+1.0**
	comp=N,0.3nm,0.1s,SNR=4.0						
EGRO				S	**Sn**	**10 41 46.3**	**-2.2**
	comp=N,3.5nm,0.1s,SNR=7.9						
PCAS	**Casmilo, Conde**	**4.64**	**50**	*e*Pn	**Pn**	**10 40 59.0**	**+2.0**
PCAS				*e*Sn	**Sn**	**10 41 51.0**	**0.0**
PCAS	**Casmilo, Conde**	**4.64**	**50**	*e*Pn	**Pn**	**10 40 59.0**	**+2.0**
PCAS				*e*Sn	**Sn**	**10 41 51.0**	**0.0**
PESTR	**Estremoz**	**4.71**	**67**	*e*Pn	**Pn**	**10 41 00.7**	**+2.7**
PESTR				*e*Sn	**Sn**	**10 41 51.9**	**-0.8**
PESTR	**Estremoz**	**4.71**	**67**	*e*Pn	**Pn**	**10 41 00.7**	**+2.7**
PESTR				*e*Sn	**Sn**	**10 41 51.9**	**-0.8**
PBAR	**Barrancos**	**4.96**	**77**	*e*Pn	**Pn**	**10 41 02.6**	**+1.2**
PBAR				*e*Sn	**Sn**	**10 41 57.2**	**-1.6**
PBAR				A	A	10 42 02.1	
	comp=N,3.2nm,0.3s						
PBAR	**Barrancos**	**4.96**	**77**	*e*Pn	**Pn**	**10 41 02.6**	**+1.2**
PBAR				*e*Sn	**Sn**	**10 41 57.2**	**-1.6**
PBAR				A	A	10 42 02.1	
	comp=N,3.2nm,0.3s						
PMRV	**Marv??o**	**5.07**	**62**	*e*Pn	**Pn**	**10 41 04.2**	**+1.4**
PMRV				*e*Sn	**Sn**	**10 41 59.6**	**-1.8**
PMRV				A	A	10 42 04.7	
	comp=N,2.6nm,0.5s						
PMRV	**Marv??o**	**5.07**	**62**	*e*Pn	**Pn**	**10 41 04.2**	**+1.4**
PMRV				*e*Sn	**Sn**	**10 41 59.6**	**-1.8**
PMRV				A	A	10 42 04.7	
	comp=N,2.6nm,0.5s						
EBAD	**Badajoz**	**5.11**	**70**	P	**Pn**	**10 41 05.4**	**+2.0**
	comp=N,0.7nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**10 42 00.4**	**-2.0**
	comp=N,1.0nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.20**	**82**	P	**Pn**	**10 41 06.1**	**+1.4**
	comp=N,0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**10 42 02.9**	**-1.7**
	comp=N,1.0nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**5.42**	**48**	*e*Sn	**Sn**	**10 42 09.4**	**-0.7**
PVIS	**Viseu**	**5.42**	**48**	*e*Sn	**Sn**	**10 42 09.4**	**-0.7**
PGAV	**Gavieira, Arco**	**6.09**	**37**	*e*Pn	**Pn**	**10 41 18.5**	**+1.5**
PGAV				*e*Sn	**Sn**	**10 42 24.2**	**-2.6**
PGAV				A	A	10 42 27.1	
	comp=N,1.8nm,0.1s						
PGAV	**Gavieira, Arco**	**6.09**	**37**	*e*Pn	**Pn**	**10 41 18.5**	**+1.5**
PGAV				*e*Sn	**Sn**	**10 42 24.2**	**-2.6**
PGAV				A	A	10 42 27.1	
	comp=N,1.8nm,0.1s						
ELOB	**Lobios**	**6.12**	**39**	P	**Pn**	**10 41 19.4**	**+2.0**
	comp=N,0.3nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**10 42 25.5**	**-1.9**
	comp=N,0.7nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.21**	**48**	P	**Pn**	**10 41 19.9**	**+1.3**
	comp=N,1.3nm,0.2s,SNR=7.9						
MVO				S	**Sn**	**10 42 29.4**	**-0.2**
	comp=N,1.0nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**6.21**	**79**	P	**Pn**	**10 41 20.1**	**+1.5**
	comp=N,0.5nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**10 42 27.7**	**-2.1**
	comp=N,0.8nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.59**	**28**	P	**Pn**	**10 41 25.5**	**+1.7**
	comp=N,2.2nm,0.1s,SNR=4.0						
EMAZ				S	**Sn**	**10 42 33.6**	**-5.4**
	comp=N,2.4nm,0.3s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.83**	**33**	S	**Sn**	**10 42 39.6**	**-5.3**
	comp=N,0.9nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.87**	**44**	P	**Pn**	**10 41 30.0**	**+2.3**
	comp=N,1.3nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**6.88**	**79**	P	**Pn**	**10 41 29.6**	**+1.8**
	comp=N,0.4nm,0.2s,SNR=7.9						

GUC 21 10:43:34.9±0.5, 36.16S×73.04W, h29km±4km, ML4.5, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNCH	**Linares**	**1.20**	**75**	*e*P	Pn	10 43 55.8	0.0
LNCH				*e*S	Sb	10 44 11.8	-0.5
TALC	**Talca**	**1.37**	**57**	*e*P	Pn	10 43 58.5	+0.4
TALC				*e*S	Sb	10 44 16.4	-0.6
NICH	**Los Niches**	**1.87**	**52**	*e*P	Pn	10 44 06.6	+1.7
NICH				*e*S	Sb	10 44 29.9	-1.5
CLCH	**Cerro Calan**	**3.44**	**37**⇑	*e*P	Pn	10 44 27.9	+1.2
CLCH				AML	AML	10 45 33.1	
	comp=N,736nm,0.4s						
PEL	**Peldehue**	**3.58**	**33**	*e*P	Pn	10 44 29.6	+1.1
PEL				*e*S	Sn	10 45 11.7	+1.8
PEL				AML	AML	10 45 33.0	
	comp=N,652nm,0.5s						

IDC 21 11:04:57.9±7.0, 18.16S×171.28W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/34, mbtmp3.6/2, Error ellipse: s-maj=352.6km s-min=65.8km az=146.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**51.25**	**254**	P	P	11 14 03.8	-0.1
	0.2nm,0.3s,baz=87,slow=8.7,SNR=5.5						
WRA	**Warramunga Arr**	**51.25**	**259**	P	P	11 14 03.6	-0.2
	0.3nm,0.3s,baz=98,slow=6.6,SNR=14						
BRTR	**Keskin Array B**	**149.57**	**320**	PKPbc	PKPbc	11 24 49.4	-0.4
	0.4nm,0.5s,baz=81,slow=3.6,SNR=3.6						

IDC 21 11:13:44.5±1.1, 56.39S×25.53W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/19, mbtmp4.2/4, Error ellipse: s-maj=45.1km s-min=28.8km az=100.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**46.27**	**182**	P	P	11 22 11.0	0.0
	0.8nm,0.3s,baz=193,slow=8.3,SNR=4.4						
LPAZ	**La Paz**	**51.33**	**304**	P	P	11 22 51.3	0.0
	1.2nm,0.5s,baz=139,slow=11,SNR=6.9						
DBIC	**Dimbokro**	**65.10**	**23**	P	P	11 24 26.9	+0.1
	5.7nm,0.9s,baz=150,slow=8.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**72.91**	**28**	P	P	11 25 15.3	+0.1
	1.0nm,0.7s,baz=199,slow=7.0,SNR=4.6						
ILAR	**Eielson Array**	**151.03**	**311**	PKPbc	PKPbc	11 33 37.1	-0.7
	0.9nm,1.0s,baz=115,slow=1.5,SNR=7.2						

*CSEM **21** 11:22:56.0±0.6, 38.68N×39.50E, h30km, MD2.6, Error ellipse: s-maj=16.3km s-min=7.7km az=113.0*
*DDA **21** 11:22:58.5, 38.76N×39.29E, h5km, MD2.6*
ISC 21 11:22:58.7±1.5, 38.73N±0.05×39.30E±0.08, h16km±11km, n6, σ1°13/12, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.18**	**24**	*eP*	**Pg**		**Pb**	**11 23 03.2**	**-0.7**
PTK				*eS*	G		**Sg**	**11 23 06.7**	**+0.3**
PTK	**Pertek**	**0.18**	**24**	*eP*	**g**		**Pb**	**11 23 03.2**	**-0.7**
PTK				*eS*	g		**Sg**	**11 23 06.7**	**+0.3**
ELZG	**Elazig**	**0.34**	**227**	*i P*			**Pb**	**11 23 05.9**	**-0.5**
ELZG				*i S*			**Sb**	**11 23 12.2**	**+0.6**
ELZG	**Elazig**	**0.34**	**227**	*i P*			**Pb**	**11 23 05.9**	**-0.5**
ELZG				*i S*			**Sb**	**11 23 12.2**	**+0.6**
KEMA	**Kemaliye**	**0.83**	**311**	*i P*			**Pb**	**11 23 13.5**	**-1.3**
KEMA				*i S*			**Sb**	**11 23 27.3**	**+1.5**
KEMA	**Kemaliye**	**0.83**	**311**	*i P*			**Pb**	**11 23 13.5**	**-1.3**
KEMA				*i S*			**Sb**	**11 23 27.3**	**+1.5**

MEX 21 11:26:35.3±0.6, 13.85N×91.56W, h51km±71km, MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**1.26**	**327**	*eP*			Pn	11 26 54.2	-2.3
THIG				*eS*			Sn	11 27 11.0	-1.4
PCIG		**2.45**	**319**	*eP*			Pn	11 27 12.4	-0.4
PCIG				*eS*			Sn	11 27 40.2	-1.3
CCIG	**Comitan**	**2.48**	**347**	*eP*			Pn	11 27 12.8	-0.8
CCIG				*eS*			Sn	11 27 39.9	-2.9
TGIG		**3.28**	**333**	*eP*			Pn	11 27 22.2	-2.1
TGIG				*eS*			Sn	11 28 02.1	0.0

*ISCJB **21** 11:46:36.9±1.4, 26.79S±0.10×178.8E±0.2, h550km, mb3.6/6, Error ellipse: s-maj=29.2km s-min=12.0km az=168.3*
*IDC **21** 11:46:38.1±3.3, 26.83S×178.76E, h551km±37km, mb3.0/6, mb1 3.2/8, mb1mx3.0/29, mbtmp4.1/8, Error ellipse: s-maj=32.0km s-min=28.6km az=34.0*
ISC 21 11:46:37.7±1.3, 26.9S±0.1×178.8E±0.2, h550km, n12, σ0°74/12, mb3.5/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**11.45**	**187**	P			**P**	**11 49 11.4**	**+1.0**
	1.3nm,0.3s,baz=269,slow=3.6,SNR=13								
URZ				S			**S**	**11 51 14.8**	**-1.2**
	0.4nm,0.3s,baz=60,slow=20,SNR=11								
DZM	**Mont Dzumac**	**12.24**	**290**	P			**P**	**11 49 19.4**	**+0.5**
	1.4nm,0.3s,baz=270,slow=23,SNR=14								
CTA	**Charters Tower**	**30.57**	**276**	P			**P**	**11 52 07.0**	**-0.2**
	6.5nm,0.9s,baz=90,slow=11,SNR=6.1								
STKA	**Stephens Creek**	**32.72**	**252**	P			**P**	**11 52 25.8**	**+0.4**
	1.1nm,0.8s,baz=113,slow=12,SNR=4.3								
ASAR	**Alice Springs**	**40.59**	**264**	P			**P**	**11 53 30.2**	**0.0**
	0.5nm,0.4s,baz=98,slow=8.5,SNR=5.8								
WRA	**Warramunga Arr**	**41.24**	**270**	P			**P**	**11 53 34.8**	**-0.6**
	1.0nm,0.3s,baz=104,slow=8.8,SNR=16								
MJAR	**Matsushiro Arr**	**73.76**	**327**	P			**P**	**11 57 15.1**	**-1.1**
	1.0nm,0.7s,baz=174,slow=3.5,SNR=3.0								
PETK	**Petropavlovsk-**	**81.74**	**347**	P			**P**	**11 57 59.2**	**+0.6**
	1.2nm,0.6s,baz=180,slow=8.6,SNR=2.3								
FINES	**FINESS Array B**	**140.88**	**340**	PKhKP			PKPpre	12 04 57.9	
	0.5nm,0.3s,baz=96,slow=3.8,SNR=6.6								
NB2	**NORSAR Subarra**	**144.81**	**350**	PKP			**PKPdf**	**12 05 11.4**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=27,slow=3.3								
NOA	**NORSAR Array B**	**144.81**	**350**	PKP			**PKPdf**	**12 05 11.8**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=16,slow=4.7,SNR=4.8								
BRTR	**Keskin Array B**	**148.40**	**303**	PKPbc			**PKPbc**	**12 05 22.6**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=158,slow=1.6,SNR=2.5								

*NIED **21** 11:49:00, 22.40N×120.80E, h17km, Mw3.9 Best double couple: M0 7.32000×10^14 NP1:φs=173.00000°, δ59.00000°, λ=-9.00000°. NP2:φs=268.00000°, δ83.00000°, λ=-148.00000°.*
*JMA **21** 11:49:56.5, 22.38N×120.78E, h35km±1km, M3.8*
*ISCJB **21** 11:49:58.3±0.4, 22.36N±0.02×121.15E±0.02, h1km±4km, Error ellipse: s-maj=3.9km s-min=3.8km az=147.2*
*TAP **21** 11:49:59.5, 22.40N×120.97E, h13km, ML4.0, B*
ISC 21 11:49:57.8±1.2, 22.26N±0.04×121.06E±0.03, h14km±8km, n68, σ15°23/89, 9C-12D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TAW	**Tawu**	**0.18**	**301**	⇓*iP*			**Pb**	**11 50 02.6**	**-0.2**
	baz=235								
TAW				*i* S			**Sb**	**11 50 04.6**	**-1.7**
	baz=235								
EAST	**Anshuo**	**0.23**	**301**	⇓*iP*			**Pb**	**11 50 03.1**	**-0.7**
	baz=260								
ECL	**Taimali**	**0.35**	**343**	⇓*iP*			**Pg**	**11 50 04.3**	**-0.6**
	baz=358								
TSEB	**Hengchuen, Pin**	**0.39**	**203**	⇓*iP*			**Pn**	**11 50 10.3**	**+1.3**
	baz=180								
TSEB				*i* S			Sn	11 50 18.8	+2.7
	baz=180								
HEN	**Hengchun**	**0.40**	**230**	⇓*iP*			**Pn**	**11 50 09.1**	**+0.1**
	baz=218								
HEN				*e*S			**Sn**	**11 50 16.5**	**+0.2**
	baz=218								
TWK1	**Hengchun**	**0.40**	**217**	⇓*iP*			**Pn**	**11 50 09.5**	**+0.5**
	baz=207								
TWK1				*e*S			Sn	11 50 17.5	+1.1
	baz=207								
SCZT	**Fangliau**	**0.42**	**285**	⇑*iP*			**Pg**	**11 50 06.5**	**+0.3**
	baz=274								
SCZT				S			**Sg**	**11 50 11.0**	**-1.0**
	baz=274								
TTN	**Taitung**	**0.49**	**9**	*eP*			**Pg**	**11 50 08.4**	**+0.8**
	baz=26								
LAY	**Lan-yu**	**0.51**	**116**	*eP*			**Pn**	**11 50 11.2**	**+0.6**
	baz=108								
TWG	**Pinlang**	**0.56**	**1**	⇓*iP*			**Pg**	**11 50 08.1**	**-0.6**
	baz=3.0								
TWG				*e*S			**Sg**	**11 50 14.7**	**-1.4**
	baz=3.0								
SSD	**Sandimen**	**0.62**	**320**	⇑*iP*			**Pb**	**11 50 08.9**	**-1.5**
	baz=321								
SSD				S			**Sb**	**11 50 14.7**	**-4.4**
	baz=321								
TWP	**Hsiaoliuchiu**	**0.65**	**277**	⇓*eP*			**Pn**	**11 50 13.6**	**+1.1**
	baz=270								
SGLT	**Jiouru**	**0.70**	**311**	*eP*			**Pb**	**11 50 11.1**	**-0.7**
	baz=315								
KAU	**Kaohsiung**	**0.76**	**294**	*eP*			**Pn**	**11 50 14.8**	**+0.7**
	baz=286								
TWM1	**Shoushan**	**0.81**	**313**	⇑*iP*			**Pb**	**11 50 14.1**	**+0.4**
	baz=318								
CHKT	**Chengkung**	**0.88**	**18**	⇓*iP*			**Pb**	**11 50 13.8**	**-0.9**
	baz=27								
CHKT				S			**Sb**	**11 50 25.1**	**-1.3**
	baz=27								
ELDTW	**Lidau**	**0.92**	**357**	⇓*iP*			**Pb**	**11 50 14.1**	**-1.5**
	baz=15								
SGST	**Jiashian**	**0.93**	**332**	⇑*iP*			**Pb**	**11 50 15.3**	**-0.3**
	baz=337								
STYT	**Tauyuan**	**0.94**	**343**	⇑*iP*			**Pb**	**11 50 15.1**	**-0.8**
	baz=352								
CHN3	**Shinhua**	**1.03**	**322**	*eP*			**Pg**	**11 50 19.2**	**+1.5**
	baz=334								
CHN3				*e*S			**Sg**	**11 50 34.5**	**+3.2**
	baz=334								
CHN1	**Nanshi**	**1.04**	**332**	⇑*iP*			**Pb**	**11 50 17.9**	**+0.3**
	baz=334								
CHN1				*e*S			**Sn**	**11 50 32.3**	**-0.1**
	baz=334								
WTP	**Ta-pu**	**1.06**	**337**	⇑*iP*			**Pb**	**11 50 18.0**	**0.0**
	baz=339								
WTP				*e*S			**Sb**	**11 50 31.9**	**+0.1**
	baz=339								
TAI1	**Yung-k'ang**	**1.09**	**315**	*eP*			**Pb**	**11 50 16.5**	**-1.9**
	baz=315								
TWF1	**Yuli**	**1.10**	**11**	*eP*			**Pb**	**11 50 16.2**	**-2.4**
	baz=31								
TWK	**Hsinying**	**1.13**	**332**	⇑*iP*			**Pn**	**11 50 19.6**	**+0.4**
	baz=334								
TWK				S			**Sb**	**11 50 34.2**	**+0.5**
	baz=334								
SCLT	**Jiali**	**1.21**	**319**	*eP*			**Pb**	**11 50 21.1**	**+0.7**
	baz=319								
SCLT				*e*S			**Sn**	**11 50 37.0**	**+0.6**
	baz=319								
YUS	**Yu-Shan**	**1.22**	**355**	⇓*eP*			**Pn**	**11 50 19.6**	**-1.2**
	baz=11								
EHY	**Hungye**	**1.26**	**11**	*eP*			**Pn**	**11 50 21.2**	**+0.2**
	baz=31								
ALS	**Alishan**	**1.26**	**349**	*eP*			**Pn**	**11 50 21.1**	**-0.2**
	baz=2.0								
ALS				*e*S			**Sn**	**11 50 38.7**	**+0.5**
	baz=2.0								
CHN8	**Yiju**	**1.33**	**324**	*eP*			**Pn**	**11 50 22.6**	**+0.7**
	baz=326								
CHN8				*e*S			**Sg**	**11 50 40.9**	**+0.1**
	baz=326								
CHY	**Chiayi**	**1.36**	**334**	*eP*			**Pn**	**11 50 22.1**	**-0.2**
	baz=336								
CHY				*e*S			**Sb**	**11 50 40.5**	**+0.2**
	baz=336								
CHN5	**Tsauling**	**1.37**	**345**	⇑*P*			**Pb**	**11 50 23.7**	**+0.4**
	baz=348								
CHN5				*e*S			**Sb**	**11 50 41.9**	**+1.2**
	baz=348								
WDT	**Danda**	**1.49**	**2**	*eP*			**Pn**	**11 50 23.3**	**-1.0**
	baz=17								
WGK	**Gukeng**	**1.49**	**342**	*eP*			**Pb**	**11 50 25.4**	**+0.2**
	baz=348								
WSF	**Szhu**	**1.57**	**331**	*eP*			**Pn**	**11 50 25.6**	**+0.4**
	baz=336								
ESL	**Shilin**	**1.58**	**12**	*eP*			**Pn**	**11 50 25.0**	**-0.4**
	baz=30								
SMLT	**Sun Moon Lake**	**1.62**	**355**	*eP*			**Pb**	**11 50 27.5**	**0.0**
	baz=6.0								
SMLT				*e*S			**Sb**	**11 50 49.3**	**+1.4**
	baz=6.0								
WDGT	**Dungji**	**1.63**	**308**	*eP*			**Pn**	**11 50 24.9**	**-1.2**
	baz=309								
TYC	**Yuchr**	**1.64**	**353**	⇓*P*			**Pb**	**11 50 28.0**	**+0.2**
	baz=360								
TYC				S			**Sb**	**11 50 49.4**	**+1.0**
	baz=360								
WNT	**Mingjian**	**1.64**	**348**	*eP*			**Pn**	**11 50 27.6**	**+1.4**
	baz=335								
WNT				*e*S			**Sb**	**11 50 49.0**	**+0.5**
	baz=335								
TWD	**Chiawan**	**1.87**	**15**	*eP*			**Pb**	**11 50 31.5**	**-0.3**
	baz=34								
WHF	**Hehuan Shan**	**1.88**	**6**	*eP*			**Pn**	**11 50 29.3**	**-0.6**
	baz=18								
PNG	**Penghu**	**1.90**	**313**	*eP*			**Pn**	**11 50 28.8**	**-1.0**
	baz=315								
PNG				*e*S			**Sn**	**11 50 50.6**	**-2.9**
	baz=315								
TCU	**Taichung**	**1.91**	**349**	*eP*			**Pn**	**11 50 31.2**	**+1.3**
	baz=339								
TWQ1	**Liyutan**	**2.09**	**353**	*eP*			**Pn**	**11 50 34.1**	**+1.7**
	baz=359								
TWQ1				*e*S			**Sb**	**11 51 01.4**	**+0.1**
	baz=359								
NSY	**Sanyi**	**2.16**	**353**	*eP*			**Pn**	**11 50 35.5**	**+2.1**
	baz=342								
NNS	**Nan Shan**	**2.19**	**7**	*eP*			**Pb**	**11 50 36.9**	**-0.3**
	baz=31								
ENA	**Nanau**	**2.24**	**16**	*eP*			**Pn**	**11 50 36.4**	**+2.0**
	baz=34								
NSTT	**Nanjuang**	**2.36**	**359**	*eP*			**Pn**	**11 50 37.8**	**+1.8**
	baz=7.0								
ENTT	**Nioudou**	**2.41**	**11**	*eP*			**Pn**	**11 50 37.7**	**+0.9**
	baz=31								
NSK	**Sanguang**	**2.42**	**6**	*eP*			**Pn**	**11 50 39.3**	**+2.4**
	baz=14								
TWC	**Suao**	**2.44**	**17**	*eP*			**Pn**	**11 50 39.4**	**+2.2**
	baz=33								
TWE	**Neicheng**	**2.51**	**13**	*eP*			**Pn**	**11 50 40.2**	**+2.1**
	baz=32								
EGS		**2.69**	**17**	*eP*			**Pb**	**11 50 44.3**	**-1.3**
	baz=33								
TWA	**Mucha**	**2.75**	**10**	*eP*			**Pb**	**11 50 47.4**	**+0.8**
	baz=1.0								
JYNG	**Yonagunijimaku**	**2.78**	**38**	P			**Pn**	**11 50 41.8**	**0.0**
YOJ	**Yonaguni jima**	**2.83**	**39**	P			**Pn**	**11 50 42.6**	**+0.1**
YOJ	**Yonaguni jima**	**2.83**	**39**	*eP*			**Pn**	**11 50 42.7**	**+0.2**
	baz=42								
TWB1	**Santiao Chiao**	**2.86**	**17**	*eP*			**Pn**	**11 50 43.8**	**+0.9**
	baz=34								
NWF	**Wu-fen Shan**	**2.87**	**13**	*eP*			**Pn**	**11 50 45.6**	**+2.4**
	baz=32								
HATJ	**Hateruma jima**	**3.09**	**54**	P			**Pn**	**11 50 46.8**	**+0.7**
IRIF	**Iriomote-Funau**	**3.20**	**49**	P			**Pn**	**11 50 48.3**	**+0.6**
KNM	**Kinmen**	**3.23**	**312**	*eP*			**Pn**	**11 50 48.4**	**+0.3**
	baz=316								
JKRS	**Kuro-shima**	**3.35**	**53**	P			**Pn**	**11 50 50.3**	**+0.7**
JIJ	**Ishigaki jima**	**3.52**	**53**	P			**Pn**	**11 50 52.5**	**+0.5**
JIJ				S			**Sn**	**11 51 32.4**	**-1.0**
JISG	**Ishigakijimahi**	**3.77**	**52**	P			**Pn**	**11 50 55.8**	**+0.3**
JTJ	**Tarama**	**4.09**	**54**	P			**Pn**	**11 51 00.6**	**+0.7**
JIRB	**Irabujima**	**4.55**	**55**	P			**Pn**	**11 51 06.7**	**+0.5**

DJA 21 12:22:36.4±0.7, 6°S±3°×10°5E±°, h34km±8km, M3.7/15, MLv3.7/15, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.86**	**351**		P		Pb	12 22 52.6	-0.4
KASI					S		Sb	12 23 04.0	-0.3
CGJI	**Cibinong**	**1.08**	**102**		P		Pn	12 22 55.5	+0.4
LWLI	**Liwa**	**1.47**	**337**		P		Pn	12 23 00.8	+0.2
LWLI					S		Sn	12 23 19.8	+1.0
SBJI	**Serang**	**1.51**	**80**		P		Pn	12 23 00.7	-0.4
SBJI					S		Sn	12 23 21.1	+1.5
KLI	**Kotabumi**	**1.52**	**9**		P		Pn	12 23 01.5	+0.2
KLI					S		Sb	12 23 22.0	-1.1
MDSI	**Maura Dua**	**1.93**	**347**		P		Pn	12 23 08.4	+1.5
MDSI					S		Sn	12 23 31.4	+1.4
SKJI	**Sukabumi**	**2.01**	**108**		P		Pn	12 23 08.7	+0.7
SKJI					S		Sn	12 23 34.2	+2.2
TNG	**Tangerang**	**2.02**	**84**		P		Pn	12 23 08.1	+0.1
TNG					S		Sn	12 23 33.9	+1.9
CBJI	**Citeko**	**2.21**	**91**		P		Pn	12 23 12.5	+1.9
CBJI					S		Sb	12 23 40.3	-2.4
MNAI	**Manna**	**2.61**	**320**		P		Pn	12 23 14.7	-1.5
MNAI					S		Sn	12 23 49.2	+2.5
CNJI	**Cibinong**	**2.65**	**111**		P		Pn	12 23 16.7	0.0
CNJI					S		Sn	12 23 49.7	+2.0
LHSI	**Lahat**	**2.77**	**336**		P		Pn	12 23 19.5	+1.2
LHSI					S		Sn	12 23 52.4	+1.8
LEM	**Lembang**	**3.00**	**99**		P		Pn	12 23 22.3	+0.5
LEM					S		Sn	12 23 58.4	+1.6
CISI	**Cisompet, Garu**	**3.37**	**110**		P		Pn	12 23 27.4	+0.6
CMJI	**Cimerak**	**4.04**	**110**		P		Pn	12 23 35.6	-0.2

*ISCJB **21** 12:39:45.0±0.6, 41.65S±0.1×16.2W±0.2, h10km, mb4.0/10, MS3.8/13, Error ellipse: s-maj=18.0km s-min=15.6km az=145.8*
*IDC **21** 12:39:45.1±1.0, 41.65S×16.23W, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/36, mbtmp4.0/7, MS3.8/13, Ms1 3.8/13, ms1mx3.7/15, Error ellipse: s-maj=30.6km s-min=23.8km az=167.0*
*NEIC **21** 12:39:46.6±0.5, 41.60S×16.22W, h10km, mb4.2/3, Error ellipse: s-maj=16.0km s-min=14.0km az=60.0*
ISC 21 12:39:46.8±0.7, 41.6S±0.1×16.2W±0.1, h10km, n34, σ0°77/15, mb4.0/10, MS3.8/13, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**30.87**	**172**		P		**P**	**12 46 02.2**	**-0.7**
	1.1nm,0.8s								
H10S2	**ASCENSION HYDR**	**32.54**	**3**		T		T	13 20 36.2	
	baz=182,slow=75,SNR=174								
H10S3	**ASCENSION HYDR**	**32.55**	**3**		T		T	13 20 36.2	
	baz=182,slow=75,SNR=216								
H10S1	**ASCENSION HYDR**	**32.56**	**3**		T		T	13 20 37.1	
	baz=182,slow=75,SNR=216								
H10N1	**ASCENSION HYDR**	**33.66**	**3**		T		T	13 22 05.4	
	baz=190,slow=78,SNR=25								
H10N3	**ASCENSION HYDR**	**33.66**	**3**		T		T	13 22 00.2	
	baz=190,slow=78,SNR=126								
H10N2	**ASCENSION HYDR**	**33.67**	**3**		T		T	13 22 01.1	
	baz=190,slow=78,SNR=53								
PMSA	**Palmer Station**	**35.56**	**213**		LR		LR	12 58 07.9	
	comp=Z,86nm,21.3s,baz=86,slow=31								
BOSA	**Boshof**	**35.99**	**82**		LR		LR	12 59 11.9	
	comp=Z,83nm,19.3s,baz=192,slow=32								
USHA	**Ushuaia**	**36.34**	**230**		LR		LR	12 58 49.2	
	comp=Z,184nm,21.5s,baz=106,slow=32								
BDFB	**Brasilia**	**37.68**	**304**		P		**P**	**12 47 02.8**	**+0.3**
	1.1nm,0.3s,baz=160,slow=7.4,SNR=4.2								
BDFB					LR		LR	12 59 25.7	
	comp=Z,103nm,18.2s,baz=138,slow=31								
CFAA	**Coronel Fontan**	**42.36**	**266**		P		**P**	**12 47 40.6**	**-0.5**
	1.1nm,1.1s,baz=134,slow=6.0,SNR=6.7								
MATP	**Matopo**	**43.18**	**75**		P		**P**	**12 47 48.0**	**0.0**
	4.0nm,0.8s,baz=239,slow=10,SNR=5.5								
QSPA	**South Pole Qui**	**48.66**	**180**	*eP*			**P**	**12 48 32.0**	**+1.4**
	8.0nm,0.7s								
DBIC	**Dimbokro**	**49.16**	**15**		LR		LR	13 04 23.0	
	comp=Z,78nm,21.1s,baz=144,slow=30								
LPAZ	**La Paz**	**51.04**	**284**		P		**P**	**12 48 50.2**	**+0.2**
	1.7nm,0.9s,baz=105,slow=5.9,SNR=4.2								
LPAZ					LR		LR	13 09 24.6	
	comp=Z,141nm,21.1s,baz=128,slow=35								
SAML	**Samuel**	**52.55**	**295**	*eP*			**P**	**12 49 00.2**	**-0.4**
	1.9nm,0.7s								
TORD	**Torodi Ar. Bea**	**56.94**	**21**	P			**P**	**12 49 32.2**	**0.0**
	1.2nm,0.9s,baz=203,slow=7.8,SNR=5.1								
TORD					LR		LR	13 08 22.6	
	comp=Z,106nm,21.9s,baz=180,slow=30								
VNDA	**Vanda**	**61.15**	**180**		P		**P**	**12 50 00.6**	**-0.1**
	2.9nm,1.1s,baz=225,slow=7.8,SNR=5.3								
VNDA					LR		LR	13 14 33.9	
	comp=Z,58nm,18.7s,baz=158,slow=34								
KMBO	**Kilima Mbogo**	**62.67**	**65**		LR		LR	13 15 03.4	
	comp=Z,156nm,18.6s,baz=170,slow=34								
ROSC	**El Rosal**	**70.17**	**296**		LR		LR	13 20 14.3	
	comp=Z,146nm,20.3s,baz=163,slow=35								
KEST	**Kesra**	**80.46**	**21**		LR		LR	13 23 31.6	
	comp=Z,39nm,20.6s,baz=203,slow=33								
ESDC	**Sonseca Array**	**81.67**	**10**		P		**P**	**12 52 05.5**	**+0.7**
	0.7nm,0.6s,baz=186,slow=4.5,SNR=6.3								
H01W2	**Cape Leeuwin H**	**91.29**	**141**		T		T	14 35 16.6	
	baz=217,slow=75,SNR=11								
H01W3	**Cape Leeuwin H**	**91.30**	**141**		T		T	14 35 17.2	
	baz=217,slow=75,SNR=12								
H01W1	**Cape Leeuwin H**	**91.30**	**141**		T		T	14 35 15.5	
	baz=217,slow=75,SNR=15								
BRTR	**Keskin Array B**	**92.77**	**36**		LR		LR	13 33 29.9	
	comp=Z,37nm,20.1s,baz=193,slow=35								
GERES	**GERESS Array B**	**93.86**	**19**		LR		LR	13 30 55.0	
	comp=Z,36nm,21.8s,baz=200,slow=33								
INK	**Inuvik**	**137.89**	**330**	PKP			**PKPdf**	**12 59 10.9**	**+0.7**
	3.0nm,1.0s,baz=136,slow=0.9,SNR=3.9								
SONM	**Songino Array**	**139.57**	**61**	PKP			**PKPdf**	**12 59 12.4**	**-1.8**
	0.2nm,0.3s,baz=169,slow=2.9,SNR=3.3								
ILAR	**Eielson Array**	**143.81**	**327**	PKP			PKPbc	12 59 18.6	-0.1
	1.1nm,1.0s,baz=325,slow=1.0,SNR=9.2								
TRF	**Thorofare Moun**	**145.62**	**325**	*e*PKPdf			**PKPab**	**12 59 25.1**	**+0.1**
BPAW	**Bear Paw Mtn.**	**145.71**	**326**	*e*PKPdf			**PKPdf**	**12 59 24.5**	**+0.1**
IM04	**Indian Mountai**	**146.11**	**330**	*e*PKPbc			**PKPbc**	**12 59 25.8**	**-0.2**

IDC 21 13:00:58.0±5.7, 7.55S×117.05E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/24, mbtmp3.3/3, Error ellipse: s-maj=278.0km s-min=26.6km az=58.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.80**	**128**	P			P	13 05 40.9	-0.2
	0.5nm,0.8s,baz=302,slow=12,SNR=6.7								
ASAR	**Alice Springs**	**22.77**	**137**	P			P	13 06 02.4	+0.1
	0.4nm,0.4s,baz=312,slow=9.5,SNR=6.0								
SONM	**Songino Array**	**55.95**	**351**	P			P	13 10 38.0	-0.1
	0.2nm,0.4s,baz=156,slow=7.3,SNR=2.4								

IDC 21 13:27:18.1±6.8, 24.41N×141.15E, h142km±116km, mb3.0/1, mb1 3.2/4, mb1mx2.9/36, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=140.6km s-min=34.5km az=65.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.83**	**19**	P			Pn	13 28 04.5	+1.4
	14nm,0.3s,baz=20,slow=8.6,SNR=24								
JCJ				S			Sn	13 28 37.8	0.0
	14nm,0.3s,baz=259,slow=22,SNR=18								
MJAR	**Matsushiro Arr**	**12.35**	**349**	P			Pn	13 30 10.4	+1.2
	0.5nm,0.3s,baz=159,slow=13,SNR=6.8								
KSRS	**Korea Array**	**17.23**	**322**	P			P	13 31 08.9	-0.5
	0.0nm,0.3s,baz=137,slow=12,SNR=5.5								
WRA	**Warramunga Arr**	**44.58**	**189**	P			P	13 35 16.0	-0.2
	0.2nm,0.3s,baz=9.0,slow=8.7,SNR=8.2								

JMA 21 13:28:58.3±0.7, 33.02N×142.55E, h66km, M3.1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.30**	**273**		P		Pn	13 29 34.6	+0.7
BSO3	**Boso 3**	**2.46**	**317**		P		Pn	13 29 36.8	+1.1
BSO4	**Boso 4**	**2.69**	**318**		P		Pn	13 29 40.8	+1.7
JRY	**Ryogami san**	**4.24**	**316**		P		Pn	13 30 01.4	+0.9
JRY					eS		Sn	13 30 46.9	-1.9
JFT	**Otama**	**4.84**	**339**		P		Pn	13 30 09.8	+1.2
JFT					eS		Sn	13 31 01.6	-1.7

**IDC 21 13:32:21.4±58.0, 23.16S×176.07W, h0km

σ1$67/19, mb4.0/12, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.85**	**356**	P	**Pn**	**13 38 12.1**	**0.0**
	9.3nm,0.3s,baz=95,slow=24,SNR=15						
JCJ				S	**S**	**13 39 10.6**	**-0.5**
	13nm,0.3s,baz=108,slow=23,SNR=12						
MJAR	**Matsushiro Arr**	**14.76**	**346**	P	**Pn**	**13 40 15.9**	**+0.6**
	0.6nm,0.3s,baz=161,slow=9.7,SNR=7.7						
JNU	**Nakatsue**	**14.99**	**319**	P	**Pn**	**13 40 19.3**	**+1.0**
	0.2nm,0.3s,baz=196,slow=15,SNR=2.5						
JNU				S	**S**	**13 42 58.7**	**-5.0**
	0.2nm,0.3s,baz=36,slow=13,SNR=6.5						
KSRS	**Korea Array**	**19.76**	**323**	P	**P**	**13 41 10.7**	**+1.2**
	0.8nm,0.3s,baz=145,slow=8.8,SNR=27						
SONM	**Songino Array**	**38.57**	**320**	P	**P**	**13 43 58.8**	**+1.7**
	2.3nm,0.6s,baz=134,slow=7.9,SNR=16						
WRA	**Warramunga Arr**	**42.69**	**191**	P	**P**	**13 44 29.9**	**-0.9**
	1.1nm,0.5s,baz=15,slow=8.9,SNR=20						
ASAR	**Alice Springs**	**46.40**	**191**	P	**P**	**13 44 58.9**	**-1.2**
	0.4nm,0.6s,baz=13,slow=6.9,SNR=14						
ZALV	**Zalesovo Beam**	**53.45**	**322**	P	**P**	**13 45 53.6**	**+1.2**
	2.5nm,0.4s,baz=103,slow=7.3,SNR=12						
KURBB	**Kurchatov Arra**	**56.76**	**317**	P	**P**	**13 46 16.7**	**+0.6**
	3.5nm,0.6s,baz=94,slow=7.6,SNR=38						
ILAR	**Eielson Array**	**61.82**	**27**	P	**P**	**13 46 49.1**	**-1.3**
	0.3nm,0.6s,baz=260,slow=4.6,SNR=5.4						
BVAR	**Borovoye Array**	**61.91**	**319**	P	**P**	**13 46 52.7**	**+1.5**
	2.9nm,0.3s,baz=94,slow=6.8,SNR=28						
ARCES	**ARCESS Array B**	**78.24**	**341**	P	**P**	**13 48 31.1**	**+1.2**
	4.8nm,0.3s,baz=72,slow=9.0,SNR=1.6						
KBZ	**Khabaz**	**81.60**	**314**	P	**P**	**13 48 49.5**	**+1.2**
	2.0nm,0.5s,baz=299,slow=1.1,SNR=5.0						
FINES	**FINESS Array B**	**82.46**	**334**	P	**P**	**13 48 52.4**	**0.0**
	4.0nm,0.3s,baz=78,slow=4.2,SNR=39						
NOA	**NORSAR Array B**	**88.25**	**339**	P	**P**	**13 49 19.6**	**-1.4**
	0.4nm,0.6s,baz=54,slow=6.1,SNR=2.7						
BRTR	**Keskin Array B**	**89.57**	**313**	P	**P**	**13 49 26.8**	**-1.0**
	0.6nm,0.6s,baz=62,slow=3.4,SNR=3.5						
LPAZ	**La Paz**	**150.44**	**84**	PKPbc	**PKPbc**	**13 56 21.2**	**-0.4**
	0.8nm,0.4s,baz=2.7,slow=4.5,SNR=5.5						

IDC 21 13:43:34.4±1.4, 32.77N×85.62E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.3/45, mbtmp3.4/6, ML3.4/2, MS3.2/6, Ms1 3.2/6, ms1mx2.8/36, Error ellipse: s-maj=51.4km s-min=22.6km az=62.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**18.59**	**346**	P	P	13 47 52.9	-0.1
	0.1nm,0.3s,baz=160,slow=9.9,SNR=5.9						
CMAR	**Chiang Mai Arr**	**18.62**	**137**	P	Pn	13 47 53.7	0.0
	0.1nm,0.3s,baz=319,slow=11,SNR=3.8						
SONM	**Songino Array**	**21.75**	**40**	P	P	13 48 27.6	0.0
	0.1nm,0.3s,baz=227,slow=5.7,SNR=2.5						
AKTO	**Aktyubinsk**	**26.92**	**319**	LR	LR	13 59 39.7	
	comp=Z,27nm,19.2s,baz=140,slow=36						
GNI	**Garni**	**33.46**	**295**	LR	LR	14 06 36.3	
	comp=Z,42nm,19.0s,baz=94,slow=41						
EIL	**Elat**	**43.11**	**280**	LR	LR	14 13 42.0	
	comp=Z,61nm,19.1s,baz=73,slow=42						
FINES	**FINESS Array B**	**47.34**	**326**	P	P	13 52 09.6	-0.1
	1.1nm,0.7s,baz=111,slow=7.6,SNR=4.7						
ARCES	**ARCESS Array B**	**49.31**	**336**	LR	LR	14 14 40.7	
	comp=Z,21nm,19.2s,baz=170,slow=38						
HFS	**Hagfors**	**53.33**	**324**	LR	LR	14 15 22.5	
	comp=Z,19nm,19.0s,baz=114,slow=36						
NOA	**NORSAR Array B**	**54.49**	**325**	LR	LR	14 16 16.2	
	comp=Z,18nm,18.4s,baz=5.0,slow=36						
WRA	**Warramunga Arr**	**70.11**	**131**	P	P	13 54 48.5	-0.2
	0.2nm,0.5s,baz=326,slow=6.5,SNR=8.4						
ASAR	**Alice Springs**	**72.61**	**134**	P	P	13 55 04.0	+0.1
	0.2nm,0.6s,baz=321,slow=5.2,SNR=4.6						

*DJA **21** 14:08:24.7±4.1, 5˚N±13˚×9˚4E±3˚5, h10km, M4.7/10, mb4.7/8, mB5.0/5, MLv4.8/10, Mw(mB)4.4/5*
*BJI **21** 14:08:33.4, 4.30N×95.00E, h65km, mb4.7/38, mB4.8/21, Ms4.1/20, Ms7 3.8/20*
*ISCJB **21** 14:08:36.8±0.6, 4.60N±0.04×95.08E±0.04, h67km±6km, mb4.5/45, Error ellipse: s-maj=7.5km s-min=5.3km az=142.5*
*IDC **21** 14:08:37.6±0.7, 4.73N×95.08E, h54km±5km, mb4.1/19, mb1 4.2/21, mb1mx4.0/36, mbtmp4.3/21, MS3.4/14, Ms1 3.4/14, ms1mx3.2/36, Error ellipse: s-maj=22.2km s-min=11.2km az=44.0*
*MOS **21** 14:08:37.8±1.0, 4.82N×95.25E, h71km, mb4.8/29, Error ellipse: s-maj=11.7km s-min=6.5km az=115.2*
*NEIC **21** 14:08:37.0±0.4, 4.59N×94.97E, mb4.7/11, Error ellipse: s-maj=10.4km s-min=5.3km az=224.0*
*KLM **21** 14:08:38.3, 4.71N×95.32E, h55km, mb4.7, MS5.6*

ISC 21 14:08:37.9±0.4, 4.60N±0.04×94.98E±0.05, h63km±2km, h63km; pP-P, n195, σ1$75/243, mb4.6/50, 11C-15D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**2.56**	**148**	P	**Pn**	**14 09 15.9**	**-1.1**
CMBY	**CAMPBELL BAY**	**2.61**	**336**	*e*P	**Pn**	**14 09 17.5**	**-0.3**
CMBY				*e*S	**Sn**	**14 09 44.9**	**-3.5**
CMBY				AML	AML	14 10 16.7	
	comp=E,912nm,0.9s						
CMBY				AML	AML	14 10 16.8	
	comp=N,809nm,0.2s						
TSI	**Tuntungan**	**3.74**	**107**	P	Pn	14 09 36.7	+3.6
GSI	**Gunungsitoli**	**4.17**	**142**	P	**Pn**	**14 09 37.9**	**-1.2**
GSI	**Gunungsitoli**	**4.17**	**142**	*e*Pn	**Pn**	**14 09 38.1**	**-1.0**
PSI	**Prapat**	**4.32**	**114**	P	**Pn**	**14 09 42.6**	**+1.4**
	comp=N,4.7nm,0.3s,baz=336,slow=12,SNR=10						
PSI				S	**Sn**	**14 10 29.5**	**-0.9**
	comp=N,7.2nm,0.3s,baz=172,slow=18,SNR=7.4						
PSI				LR	LR	14 11 43.5	
	comp=N,573nm,20.8s,baz=273,slow=43						
PSI	**Prapat**	**4.32**	**114**	P	**Pn**	**14 09 42.6**	**+1.4**
PSI				S	**Sn**	**14 10 29.5**	**-0.9**
PSI				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PSI				smax	smax		
	comp=N,7.0nm,0.3s						
PKDT	**Phuket**	**4.67**	**45**	P	**Pn**	**14 09 45.3**	**-0.6**
TRTT	**Trang**	**5.68**	**55**	P	**Pn**	**14 09 58.9**	**-0.8**
PBSI	**Pulau Batu**	**5.68**	**144**	P	**Pn**	**14 09 59.7**	**0.0**
	comp=N,87nm,1.5s,comp=N,0.4nm						
PBSI				S	Sn	14 10 57.7	-5.9
	comp=N,87nm,1.5s,comp=N,0.4nm						
KULM	**Kulim**	**5.69**	**83**	*e*Pn	**Pn**	**14 09 58.7**	**-1.1**
SURT	**Suratani**	**5.75**	**41**	P	**Pn**	**14 10 00.5**	**-0.2**
MNSI	**Mandailing Nat**	**5.95**	**129**	P	**Pn**	**14 10 03.6**	**+0.2**
	comp=N,66nm,0.5s,comp=N,3μmcomp=N,0.5nm						
IPM	**Ipoh**	**6.02**	**91**	*e*Pn	**Pn**	**14 10 03.0**	**-1.4**
SKLT	**Songkhla**	**6.16**	**65**	P	**Pn**	**14 10 06.3**	**0.0**
	comp=N,59nm,1.2s,comp=N,1μmcomp=N,0.4nm						
FRIM	**Kepong**	**6.76**	**101**	⇓P	**Pn**	**14 10 15.9**	**+1.3**
SISI	**Saibi**	**7.18**	**145**	P	**Pn**	**14 10 19.2**	**-1.0**
	comp=N,35nm,0.9s,comp=N,0.2nm						
BKNI	**Bangkinang**	**7.39**	**125**	P	**Pn**	**14 10 25.6**	**+2.4**
KTGM	**Kuala Trenggan**	**8.15**	**85**	⇓P	**Pn**	**14 10 34.5**	**+0.9**
MYKOM	**Kota Tinggi**	**9.28**	**107**	*e*Pn	**Pn**	**14 10 48.0**	**-1.0**
PBKT	**Sadao Pong**	**13.27**	**26**	P	**P**	**14 11 53.9**	**+2.8**
MHMT	**Maesarieng**	**13.80**	**12**	P	P	14 12 02.4	+5.4
CM01	**Chiang Mai Arr**	**14.27**	**15**	*e*Pn	**Pn**	**14 11 58.0**	**+1.1**
CM31	**Chiang Mai Arr**	**14.30**	**15**	*e*Pn	**Pn**	**14 11 59.0**	**+1.7**
	comp=N,28nm,0.9s						
CMAR	**Chiang Mai Arr**	**14.30**	**15**	P	**Pn**	**14 11 56.8**	**-0.5**
	comp=N,0.2nm,0.3s,baz=185,slow=7.2,SNR=5.4						
CMAR				LR	LR	14 17 23.9	
	comp=N,143nm,20.8s,baz=213,slow=37						
PALK	**Pallekele**	**14.45**	**281**	S	Sn	14 14 26.0	-12
	comp=N,2.4nm,0.3s,baz=33,slow=8.1,SNR=9.7						
PALK				LR	LR	14 16 58.8	
	comp=N,166nm,20.4s,baz=111,slow=34						
LAMP	**Lampang**	**14.56**	**18**	P	**P**	**14 12 05.9**	**+0.4**
	comp=N,6.4nm,0.8s,comp=N,66nm						
CHTO	**Chiang Mai**	**14.65**	**15**	P	**P**	**14 12 06.0**	**-0.4**
	comp=N,88nm,0.9s						
CHTO	**Chiang Mai**	**14.65**	**15**	*e*Pn	**Pn**	**14 12 02.6**	**+0.9**
CMMT	**Chiang Mai**	**14.65**	**15**	P	**P**	**14 12 06.0**	**-0.5**
	comp=N,26nm,0.9s,comp=N,522nm						
SKNT	**Sakolnakorn**	**15.13**	**35**	P	**P**	**14 12 14.2**	**+2.3**
	comp=N,23nm,0.9s,comp=N,2μm						
KSM	**Kuching**	**15.61**	**101**	⇓P	Pn	14 12 09.4	-4.8
KSM	**Kuching**	**15.61**	**101**	*e*P	**P**	**14 12 16.9**	**-0.4**
	comp=N,18nm,0.7s						
LEM	**Lembang**	**16.97**	**132**	LR	LR	14 20 01.7	
	comp=N,110nm,20.9s,baz=312,slow=40						
SBUM	**Sibu**	**17.34**	**96**	*e*Pn	**Pn**	**14 12 35.7**	**0.0**
	comp=N,5.2nm,0.9s						
BTM	**Bintulu**	**18.11**	**94**	⇓P	**P**	**14 12 42.0**	**-2.9**
QIZ	**Qiongzhong**	**20.40**	**44**	P	**P**	**14 13 09.0**	**-0.8**
QIZ				pP	**pP**	**14 13 22.8**	**-0.5**
QIZ				sP	**sP**	**14 13 30.9**	**-0.4**
QIZ				S	**S**	**14 16 56.1**	**+1.2**
QIZ				PMZ			
	comp=N,20nm,1.6s						
QIZ				LZ			
	comp=N,220nm,17.6s						
HYB	**Hyderabad**	**20.52**	**310**	*i* P	Pn	14 13 15.0	+1.0
KMI	**Kunming**	**21.72**	**19**	P	**P**	**14 13 26.5**	**+2.3**
KMI				S	**S**	**14 17 20.5**	**-0.9**
KMI				PMZ			
	comp=N,14nm,1.1s						
KMI				LN			
	comp=N,160nm,14.8s						
KMI				LE			
	comp=N,130nm,14.1s						
KMI				LZ			
	comp=N,180nm,19.7s						
ODAN	**Odare**	**23.29**	**343**	*e*P	**P**	**14 13 39.2**	**-1.4**
RAMN	**Ramite**	**23.62**	**341**	*e*P	**P**	**14 13 41.9**	**-1.8**
	comp=N,8.7nm,0.4s						
TAPN	**Taplejung**	**23.66**	**344**	*e*P	**P**	**14 13 43.3**	**-0.8**
GYA	**Guiyang**	**24.44**	**26**	*e*P	**P**	**14 13 51.8**	**+0.9**
GYA				pP	**pP**	**14 14 07.3**	**+1.0**
GYA				PP	**PnPn**	**14 14 30.0**	**+5.2**
GYA				S	**S**	**14 18 04.4**	**-2.3**
GYA				sS	**sS**	**14 18 32.6**	**-0.2**
GYA				SS	**SnSn**	**14 19 04.5**	**+7.9**
GYA				PMZ			
	comp=N,10.0nm,0.8s						
GYA				LN			
	comp=N,460nm,15.2s						
GYA				LE			
	comp=N,370nm,16.0s						
GYA				LZ			
	comp=N,450nm,15.6s						
PKI	**Pulchoki**	**24.60**	**339**	*e*P	**P**	**14 13 52.5**	**-0.1**
PKIN	**Phulchoki**	**24.61**	**339**	*e*P	**P**	**14 13 53.1**	**+0.4**
	comp=N,3.7nm,0.4s						
GUN	**Gumba**	**24.75**	**340**	*e*P	**P**	**14 13 54.3**	**+0.3**
	comp=N,18nm,0.6s						
GKN	**Gorkha**	**25.27**	**338**	*e*P	**P**	**14 13 59.5**	**+0.9**
	comp=N,10nm,0.3s						
KOLN	**Koldanda**	**25.46**	**336**	*e*P	**P**	**14 14 01.0**	**+0.6**
	comp=N,32nm,0.6s						
H08S2	**Diego Garcia H**	**25.52**	**242**	T	T	14 41 09.1	
	baz=61,slow=76,SNR=871						
H08S3	**Diego Garcia H**	**25.53**	**242**	T	T	14 41 09.0	
	baz=61,slow=76,SNR=628						
H08S1	**Diego Carcia H**	**25.54**	**242**	T	T	14 41 12.5	
	baz=61,slow=76,SNR=866						
KAPI	**Kappang**	**26.52**	**111**	LR	LR	14 26 01.1	
	comp=N,64nm,18.1s,baz=300,slow=39						
KAPI	**Kappang**	**26.52**	**111**	*e*ScP	**ScP**	**14 21 08.5**	**+0.4**
CD2	**Chengdu**	**27.44**	**17**	*e*P	**P**	**14 14 19.4**	**+1.4**
CD2				pP	**pP**	**14 14 35.0**	**+1.6**
CD2				PcP	**PcP**	**14 17 35.3**	**-0.1**
CD2				S	**S**	**14 18 56.9**	**+2.8**
CD2				sS	**sS**	**14 19 24.4**	**+3.9**
CD2				PMZ			
	comp=N,10.0nm,0.5s						
CD2				PMZ			
	comp=N,120nm,5.2s						
CD2				LE			
	comp=N,200nm,12.2s						
CD2				LZ			
	comp=N,130nm,10.8s						
WHN	**Wuhan**	**31.61**	**33**	*e*P	P	14 14 59.0	+4.2
WHN				LZ			
	comp=N,370nm,13.6s						
XAN	**Xi'an**	**32.03**	**22**	P	**P**	**14 14 57.1**	**-1.5**
XAN				pP	**pP**	**14 15 09.8**	**-4.3**
XAN				PMZ			
	comp=N,8.0nm,0.9s						
LZH	**Lanzhou**	**32.38**	**13**	*e*P	**P**	**14 15 03.5**	**+1.8**
LZH				pP	**pP**	**14 15 16.3**	**-1.0**
LZH				sP	**sP**	**14 15 23.0**	**-1.7**
LZH				PMZ			
	comp=N,12nm,1.0s						
GTA	**Gaotai**	**34.93**	**7**	*e*P	**P**	**14 15 22.8**	**-1.0**
GTA				pP	**pP**	**14 15 35.0**	**-4.4**
GTA				PcP	**PcP**	**14 17 57.4**	**+2.1**
GTA				S	**S**	**14 20 50.8**	**-0.1**
GTA				SS	**SnSn**	**14 23 07.4**	**-4.0**
GTA				PMZ			
	comp=N,10.0nm,1.1s						
GTA				PMZ			
	comp=N,70nm,4.3s						
GTA				LN			
	comp=N,67nm,16.6s						
GTA				LE			
	comp=N,65nm,15.2s						
GTA				LZ			
	comp=N,59nm,19.0s						
NJ2	**Nanjing**	**35.30**	**36**	*e*P	**P**	**14 15 27.5**	**+0.6**
NJ2				PMZ			
	comp=N,40nm,0.7s						
SIJI	**Sorong**	**36.65**	**98**	P	**P**	**14 15 37.0**	**-1.8**
	comp=N,12nm,0.9s,baz=279,slow=5.1,SNR=4.7						
TIA	**Tai'an**	**37.48**	**30**	⇓P	**P**	**14 15 45.3**	**-0.2**
TIA				PMZ			
	comp=N,10.0nm,0.7s						
KSH	**Kashi**	**38.78**	**336**	P	**P**	**14 15 56.5**	**-0.1**
KSH				pP	**pP**	**14 16 12.8**	**+0.4**
KSH				PP	**PnPn**	**14 17 32.6**	**+3.4**
KSH				*e*PcP	**PcP**	**14 18 08.8**	**+1.8**
KSH				S	**S**	**14 21 53.9**	**+4.3**
KSH				PcS	**PcS**	**14 21 58.1**	**+1.6**
KSH				sS	**sS**	**14 22 18.1**	**+1.6**
KSH				PMZ			
	comp=N,11nm,0.7s						
KSH				PMZ			
	comp=N,92nm,4.7s						
KSH				LN			
	comp=N,100nm,3.8s						
KSH				LE			
	comp=N,81nm,4.5s						
HHC	**Hu-ho-hao-te**	**39.04**	**20**	*e*P	**P**	**14 15 59.0**	**+0.3**
HHC				pP	**pP**	**14 16 17.8**	**+3.3**
HHC				sP	**sP**	**14 16 24.6**	**+2.7**
HHC				PP	**PnPn**	**14 17 37.1**	**+4.8**
HHC				S	**S**	**14 21 56.8**	**+3.3**
HHC				SS	**SS**	**14 24 44.1**	**-3.9**
HHC				PMZ			
	comp=N,17nm,1.0s						
HHC				PMZ			
	comp=N,62nm,6.2s						
HHC				LN			
	comp=N,140nm,14.4s						
HHC				LE			
	comp=N,110nm,13.7s						
HHC				LZ			
	comp=N,140nm,14.6s						
WMQ	**Urumqi**	**39.59**	**352**	P	**P**	**14 16 04.8**	**+1.7**
WMQ				pP	**pP**	**14 16 20.1**	**+1.1**
WMQ				sP	**sP**	**14 16 27.3**	**+1.0**
WMQ				PP	**PnPn**	**14 17 40.9**	**+2.3**
WMQ				S	**S**	**14 22 03.1**	**+1.7**
WMQ				SS	**SS**	**14 24 53.6**	**-5.0**
WMQ				ScS	**ScS**	**14 26 02.3**	**-2.9**
BJI	**Beijing**	**40.13**	**26**	P	**P**	**14 16 08.6**	**+1.0**
BJI				S	**S**	**14 22 11.0**	**+1.5**
BJI				PMZ			
	comp=N,39nm,0.9s						
BJI				LN			
	comp=N,86nm,14.4s						
BJI				LE			
	comp=N,75nm,17.7s						
BJI				LZ			
	comp=N,67nm,24.7s						
ULHL	**Ulahol**	**41.04**	**339**	P	**P**	**14 16 16.5**	**+1.2**
	SNR=14						
KZA	**Kyzart**	**41.26**	**338**	P	**P**	**14 16 18.4**	**+1.0**
	SNR=13						
UCH	**Uchtor**	**41.67**	**337**	P	**P**	**14 16 22.3**	**+1.5**
	SNR=16						
TKM2	**Tokmak 2**	**41.86**	**339**	P	**P**	**14 16 23.4**	**+1.3**
	SNR=7.3						
TKM2	**Tokmak 2**	**41.86**	**339**	*e*P	**P**	**14 16 23.1**	**+1.0**
	comp=N,51nm,1.8s						
KBK	**Karagaybulak**	**41.87**	**338**	P	**P**	**14 16 24.1**	**+1.9**
	SNR=22						
AML	**Almayashu**	**41.91**	**336**	P	**P**	**14 16 24.9**	**+2.1**
	SNR=11						
AAK	**Ala-Archa**	**42.02**	**337**	P	**P**	**14 16 25.7**	**+2.3**
	SNR=5.7						
AAK	**Ala-Archa**	**42.02**	**337**	pP	pP	14 16 38.3	-1.0
	comp=N,11nm,0.7s,baz=153,slow=6.8,SNR=4.9						
AAK	**Ala-Archa**	**42.02**	**337**	*e*P	**P**	**14 16 25.2**	**+1.9**
	comp=N,14nm,0.9s						
AAK				pP	**pP**	**14 16 38.3**	**-1.0**
CHMS	**Chumysh**	**42.24**	**338**	P	**P**	**14 16 26.4**	**+1.5**
	SNR=5.5						
EKS2	**Erkin-Say**	**42.33**	**337**	P	**P**	**14 16 27.6**	**+1.8**
	SNR=11						
EKS2	**Erkin-Say**	**42.33**	**337**	*e*P	**P**	**14 16 27.2**	**+1.5**
	comp=N,12nm,0.9s						
USP	**Ospenovka**	**42.56**	**338**	P	**P**	**14 16 28.9**	**+1.3**
	SNR=24						
TJN	**Taejon**	**43.41**	**39**	*e*P	**P**	**14 16 31.9**	**-2.5**
MK01	**Makanchi Array**	**43.42**	**347**	*e*P	**P**	**14 16 33.9**	**-0.5**
MK31	**Makanchi Array**	**43.44**	**347**	P	**P**	**14 16 34.1**	**-0.5**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MK31	**Makanchi Array**	**43.44**	**347**	*e*P	**P**	**14 16 33.0**	**-1.6**
MKAR	**Makanchi Array**	**43.44**	**347**	*e*P	**P**	**14 16 33.7**	**-0.9**
KK31	**Karatay Array**	**44.05**	**334**	*i* P	**P**	**14 16 40.8**	**+1.3**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KKAR	**Karatay Array**	**44.05**	**334**	*e*P	**P**	**14 16 40.5**	**+1.0**
SONM	**Songino Array**	**44.17**	**11**	P	**P**	**14 16 38.5**	**-2.1**
	comp=Z,1.0nm,0.6s,baz=189,slow=8.3,SNR=8.4						
SONM				PcP	**PcP**	**14 18 25.5**	**+1.0**
	comp=Z,2.3nm,0.8s,baz=191,slow=3.1,SNR=8.0						
SONM				LR	LR	14 35 37.0	
	comp=Z,60nm,19.0s,baz=202,slow=37						
SONM	**Songino Array**	**44.17**	**11**	P	**P**	**14 16 38.5**	**-2.1**
SONM						14 18 25.5	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,60nm,19.0s						
SONA1	**Songino Array**	**44.19**	**11**	*e*P	**P**	**14 16 39.8**	**-0.9**
KSAR	**Wonju Array Be**	**44.41**	**38**	P	**P**	**14 16 41.9**	**-0.5**
KS01	**Wonju Array Si**	**44.43**	**38**	*e*P	**P**	**14 16 41.9**	**-0.8**
KSRS	**Korea Array**	**44.44**	**38**	P	**P**	**14 16 41.9**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=221,slow=8.8,SNR=21						
KSRS				LR	LR	14 37 34.0	
	comp=Z,24nm,19.1s,baz=180,slow=39						
KSRS	**Korea Array**	**44.44**	**38**	P	**P**	**14 16 41.9**	**-0.8**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSRS				MLR	MLR		
	comp=Z,24nm,19.1s						
WRA	**Warramunga Arr**	**45.73**	**124**	P	**P**	**14 16 53.7**	**+0.5**
	comp=Z,18nm,0.8s,baz=302,slow=9.1,SNR=98						
WRA	**Warramunga Arr**	**45.73**	**124**	P	**P**	**14 16 53.7**	**+0.5**
WRA				pmax	pmax		
	comp=Z,18nm,0.9s						
WRAB	**Tennant Creek**	**45.73**	**124**	*c i*P	**P**	**14 16 53.9**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,67nm,1.2s						
WRAB	**Tennant Creek**	**45.73**	**124**	*e*P	**P**	**14 16 53.5**	**+0.3**
	comp=Z,22nm,0.7s						
AS31	**Alice Springs**	**47.21**	**128**	*e*P	**P**	**14 17 05.0**	**+0.2**
ASAR	**Alice Springs**	**47.21**	**128**	P	**P**	**14 17 05.4**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=299,slow=7.9,SNR=54						
ASAR				PcP	**PcP**	**14 18 36.8**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=296,slow=3.7,SNR=4.6						
ASAR				LR	LR	14 39 58.0	
	comp=Z,56nm,18.2s,baz=241,slow=40						
ASAR	**Alice Springs**	**47.21**	**128**	P	**P**	**14 17 05.4**	**+0.6**
ASAR						14 18 36.8	
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR				MLR	MLR		
	comp=Z,56nm,18.2s						
AS01	**Alice Springs**	**47.25**	**128**	*e*P	**P**	**14 17 05.1**	**0.0**
CN2	**Changchun**	**47.38**	**30**	*e*P	**P**	**14 17 04.8**	**-1.0**
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
KURBB	**Kurchatov Arra**	**47.90**	**346**	P	**P**	**14 17 10.2**	**+0.5**
	comp=Z,4.9nm,0.7s,baz=170,slow=6.8,SNR=45						
KURBB				PcP	**PcP**	**14 18 38.6**	**+1.4**
	comp=Z,2.0nm,0.7s,baz=157,slow=3.0,SNR=8.4						
KURK	**Kurchatov**	**47.97**	**346**	P	**P**	**14 17 10.2**	**0.0**
KURK						14 18 38.7	
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**47.97**	**346**	*e*P	**P**	**14 17 10.1**	**0.0**
	comp=Z,3.2nm,0.8s						
KURK				PcP	**PcP**	**14 18 38.6**	**+1.1**
ZAA0	**Zalesovo Array**	**49.89**	**352**	*e*P	**P**	**14 17 24.4**	**-0.4**
ZALV	**Zalesovo Beam**	**49.89**	**352**	P	**P**	**14 17 24.5**	**-0.3**
	comp=Z,3.7nm,0.6s,baz=179,slow=7.4,SNR=12						
ZALV				LR	LR	14 42 00.3	
	comp=Z,37nm,20.5s,baz=70,slow=40						
ZALV	**Zalesovo Beam**	**49.89**	**352**	P	**P**	**14 17 24.5**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZALV				MLR	MLR		
	comp=Z,37nm,20.5s						
MJAR	**Matsushiro Arr**	**50.79**	**45**	P	**P**	**14 17 31.8**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=238,slow=10.0,SNR=5.0						
MJAR				PcP	**PcP**	**14 18 48.8**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=205,slow=2.1,SNR=4.6						
MJAR				LR	LR	14 40 30.3	
	comp=Z,44nm,20.3s,baz=275,slow=38						
MJAR	**Matsushiro Arr**	**50.79**	**45**	P	**P**	**14 17 31.8**	**-0.2**
MJAR						14 18 48.8	
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						

comp=Z,55nm,17.0s
STKA Stephens Creek 57.27 133 P **P** **14 18 19.0 -0.3**
comp=Z,1.5nm,0.8s,baz=292,slow=11,SNR=3.6
STKA pP **pP** **14 18 35.7 -0.2**
comp=Z,1.2nm,0.7s,baz=331,slow=7.9,SNR=2.2
STKA Stephens Creek 57.27 133 P **P** **14 18 19.0 -0.3**
STKA *PP **pP** **14 18 35.7 -0.2**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA pmax pmax
comp=Z,1.0nm,0.7s
KMBO Kilima Mbogo 57.96 266 LR LR 14 42 42.3
comp=Z,36nm,18.1s,baz=97,slow=35
SVE Sverdlovsk 58.73 339⇓ *eP* **P** **14 18 29.6 +0.6**
SVE pmax pmax
comp=Z,23nm,1.3s
YSS Yuzh-Sakhalins 58.87 36 *eP* **P** **14 18 28.5 -1.6**
ARU Arti 59.21 337 *c iP* **P** **14 18 32.4 +0.1**
ARU 14 20 39.7
ARU S **S** **14 26 36.4 +1.1**
ARU SS **SS** **14 30 25.2 -5.4**
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 59.21 337 *eP* **P** **14 18 32.8 +0.4**
comp=Z,8.1nm,1.0s
KBZ Khabaz 60.07 319 P **P** **14 18 38.6 +0.2**
comp=Z,3.0nm,0.8s,baz=132,slow=4.3,SNR=2.9
KBZ Khabaz 60.07 319 P **P** **14 18 38.7 +0.2**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 60.30 319 *eP* **P** **14 18 40.4 +0.2**
KIV pmax pmax
comp=Z,7.0nm,0.9s
YAK Yakutsk 62.83 18 *i P* **P** **14 18 55.2 -1.5**
YAK pmax pmax
comp=Z,10.0nm,1.0s
VRHR Novokhopersk 64.09 326 *eP* **P** **14 19 05.0 -0.3**
VRHR pmax pmax
comp=N,8.0nm,0.5s
VRHR pmax pmax
comp=E,8.0nm,0.5s
VRHR pmax pmax
comp=Z,10.0nm,0.5s
ANN Anapa 64.10 318 *eP* **P** **14 19 04.4 -1.1**
ANN pmax pmax
comp=Z,19nm,0.9s
BRTR Keskin Array B 65.20 312 P **P** **14 19 12.9 -0.1**
comp=Z,3.1nm,0.7s,baz=129,slow=7.0,SNR=18
BRTR pP **pP** **14 19 28.9 -1.1**
comp=Z,2.1nm,0.7s,baz=111,slow=7.8,SNR=7.6
BRTR Keskin Array B 65.20 312 P **P** **14 19 12.9 -0.1**
BRTR *PP **pP** **14 19 28.9 -1.1**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR pmax pmax
comp=Z,2.0nm,0.7s
VORD Divnogorie 65.35 325 *eP* **P** **14 19 13.2 -0.3**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,20nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 65.53 325 *eP* **P** **14 19 14.0 -0.7**
VSR pmax pmax
comp=N,8.0nm,0.7s
VSR pmax pmax
comp=E,6.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
SKR Severo-Kuril's 68.43 37 *eP* **P** **14 19 35.0 +1.9**
OBN Obninsk 68.58 328 *eP* **P** **14 19 34.1 +0.2**
OBN *i* 14 19 59.6
OBN pmax pmax
comp=Z,6.0nm,1.0s
TIRR Tirgusor 70.16 316⇑ *iP* **P** **14 19 44.8 +0.9**
TIRR Tirgusor 70.16 316⇑ *iP* **P** **14 19 44.8 +0.9**
PETK Petropavlovsk- 70.18 35 P **P** **14 19 43.0 -0.8**
comp=Z,2.3nm,0.9s,baz=355,slow=11,SNR=5.1
PETK LR LR 14 51 09.1
comp=Z,21nm,21.1s,baz=245,slow=36
PETK Petropavlovsk- 70.18 35 P **P** **14 19 43.1 -0.8**
PETK pmax pmax
comp=Z,2.0nm,0.9s
PETK MLR MLR
comp=Z,21nm,21.1s
TIXI Tiksi 70.26 11⇑ *iP* **P** **14 19 42.6 -1.4**
TIXI pmax pmax
comp=Z,11nm,1.2s
TIXI Tiksi 70.26 11 *eP* **P** **14 19 42.0 -2.0**
comp=Z,7.4nm,0.9s
CFR Carcaliu 70.52 316⇑ *iP* **P** **14 19 46.9 +0.9**
CFR Carcaliu 70.52 316⇑ *iP* **P** **14 19 46.9 +0.9**
AKASG Malin Array Be 71.23 322 P **P** **14 19 50.0 -0.3**
comp=Z,2.9nm,0.6s,baz=94,slow=4.6,SNR=8.3
AKASG Malin Array Be 71.23 322 P **P** **14 19 50.0 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 71.24 322 *eP* **P** **14 19 50.4 +0.1**
KIEV Kiev 71.24 322 *eP* **P** **14 19 48.9 -1.4**
comp=Z,4.6nm,0.8s
SEY Seymchan 71.55 24 *i P* **P** **14 19 50.6 -1.3**
VRI Vrincioaia 71.64 317⇓ *iP* **P** **14 19 54.8 +1.9**
VRI Vrincioaia 71.64 317⇓ *iP* **P** **14 19 54.8 +1.9**
PLOR Plostina 71.69 317⇑ *iP* **P** **14 19 54.9 +1.7**
PLOR Plostina 71.69 317⇑ *iP* **P** **14 19 54.9 +1.7**
TESR Tescani 71.83 318⇑ *iP* **P** **14 19 55.3 +1.3**
MLR Muntele Rosu 72.09 316⇓ *iP* **P** **14 19 57.4 +1.6**
MLR Muntele Rosu 72.09 316⇓ *iP* **P** **14 19 57.4 +1.6**
BURAR Bucovina Array 73.03 318⇓ *iP* **P** **14 20 03.1 +1.8**
BURAR Bucovina Array 73.03 318⇓ *iP* **P** **14 20 03.0 +1.8**
BUR04 Bucovina Ar. S 73.03 318 *eP* **P** **14 20 01.9 +0.7**
BUR04 *ePcP* **PcP** **14 20 18.1 +0.2**
BUR08 Bucovina Ar. S 73.04 318 *eP* **P** **14 20 02.4 +1.0**
LVV L'vov 74.25 320 *eP* **P** 14 20 02.4 -5.8
DRGR 74.55 317⇓ *iP* **P** **14 20 11.8 +1.7**
DRGR 74.55 317⇓ *iP* **P** **14 20 11.8 +1.7**
BOSA Boshof 74.59 239 LR LR 14 52 29.5
comp=Z,18nm,18.3s,baz=156,slow=35
VSU Vasula 74.81 330 *eP* **P** **14 20 11.8 +0.5**
VSU pmax pmax
comp=Z,29nm,1.1s
KWP Kalwaria Pacla 75.06 320 *eP* **P** **14 20 14.2 +1.3**
KWP Kalwaria Pacla 75.06 320 *eP* **P** **14 20 14.3 +1.3**
SUW Suwalki 75.64 325 *eP* **P** **14 20 16.6 +0.5**
SUW Suwalki 75.64 325 *eP* **P** **14 20 16.6 +0.5**
FINES FINESS Array B 75.98 332 P **P** **14 20 18.1 +0.2**
comp=Z,2.3nm,0.3s,baz=119,slow=5.8,SNR=32
FINES pP **PcP** **14 20 32.6 +2.6**
comp=Z,3.0nm,0.9s,baz=106,slow=6.7,SNR=2.4
NIE Niedzica 76.56 320 *eP* **P** **14 20 23.8 +2.3**
NIE Niedzica 76.56 320 *eP* **P** **14 20 23.9 +2.4**
OJC Ojcow 77.01 320 *eP* **P** **14 20 25.6 +1.6**
OJC Ojcow 77.01 320 *eP* **P** **14 20 25.6 +1.6**
OJC Ojcow 77.01 320 *eP* **P** **14 20 25.0 +1.0**
comp=Z,12nm,0.9s
OKC Ostrava-Krasne 78.01 320 *eP* **P** **14 20 30.6 +1.0**
OKC Ostrava-Krasne 78.01 320 *eP* **P** **14 20 30.6 +1.0**
BILL Bilibino 78.81 21 *eP* **P** **14 20 31.9 -1.7**
BILL pmax pmax
comp=Z,2.0nm,1.0s
DPC Dobruska-Polom 79.24 320 *eP* **P** **14 20 37.5 +1.1**
DPC epP **pP** **14 20 54.9 +1.0**
DPC Dobruska-Polom 79.24 320 *eP* **P** **14 20 37.5 +1.1**
DPC *e* 14 20 54.9
GEC2 GERESS Array S 80.81 319 *eP* **P** **14 20 46.7 +1.7**
GERES GERESS Array B 80.81 319 P **P** **14 20 46.5 +1.6**
comp=Z,3.7nm,0.8s,baz=95,slow=6.7,SNR=22
GERES pP **pP** **14 21 00.8 -1.7**
comp=Z,0.6nm,0.4s,baz=100,slow=6.9,SNR=3.3
GERES GERESS Array B 80.81 319 P **P** **14 20 46.6 +1.6**
GERES *PP **pP** **14 21 00.8 -1.7**
GERES pmax pmax
comp=Z,4.0nm,0.8s
GERES pmax pmax
comp=Z,1.0nm,0.4s
KHC Kasperske Hory 80.91 319 *eP* **P** **14 20 46.2 +0.8**
KHC epP **pP** **14 21 03.9 +0.9**
KHC Kasperske Hory 80.91 319 *eP* **P** **14 20 46.2 +0.8**
KHC *e* 14 21 03.9
SYO Syowa Base 82.55 197⇓ *eP* P 14 20 57.0 +3.5
NB2 NORSAR Subarra 82.98 331 P **P** **14 20 56.2 +0.2**
comp=Z,2.2nm,0.8s,baz=94,slow=5.3
NOA NORSAR Array B 82.98 331 P **P** **14 20 56.4 +0.4**
comp=Z,1.8nm,0.9s,baz=94,slow=5.4,SNR=4.2
NOA pP **pP** **14 21 11.2 -2.4**
comp=Z,1.1nm,0.8s,baz=94,slow=5.5,SNR=3.8
NOA NORSAR Array B 82.98 331 P **P** **14 20 56.4 +0.4**
NOA *PP **pP** **14 21 11.2 -2.4**
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 97.44 22 P **P** **14 22 03.5 -0.9**
comp=Z,0.4nm,0.9s,baz=260,slow=4.4,SNR=4.0
PDAR Pinedale Array 127.87 23 PKP **PKPdf** **14 27 37.4 +0.3**
comp=Z,0.8nm,0.8s,baz=57,slow=5.5,SNR=5.2
TXAR Lajitas Array 141.80 27 PKhKP PKPpre 14 27 58.3
comp=Z,0.1nm,0.3s,baz=274,slow=1.3,SNR=4.9
TXAR PKP **PKPdf** **14 28 04.4 +1.1**
comp=Z,0.4nm,0.7s,baz=270,slow=0.4,SNR=4.8

WEL 21 14:17:38.9±0.2, 38.38S×176.38E, h98km±2km, ML3.6/7, 7C-8D, Error ellipse: s-maj=1.1km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PRRZ	**Plateau Road**	**0.12**	**174**	⇑	P	**Pn**	14 17 52.2	-0.4
PRRZ					S	Sn	14 18 03.1	+0.2
RRRZ	**Republican Roa**	**0.12**	**69**	⇑	P	**Pn**	14 17 52.4	-0.3
ALRZ	**Allen Road**	**0.18**	**188**		P	**Pn**	14 17 52.3	-0.5
WPRZ	**Whakapapataran**	**0.22**	**231**	⇑	P	**Pn**	14 17 52.7	-0.2
KUTZ	**Kauhu Road**	**0.45**	**256**	⇑	P	**Pn**	14 17 54.0	-0.1
OPRZ	**Ohinepanea**	**0.56**	**15**	⇓	P	**Pn**	14 17 54.7	-0.1
OPRZ					S	Sn	14 18 06.8	+0.1
URZ	**Urewera**	**0.59**	**78**	⇑	P	**Pn**	14 17 54.7	-0.4
URZ					S	Sn	14 18 06.6	-0.7
URZ					AML	AML	14 18 14.8	
TGRZ	**Tauranga**	**0.66**	**352**		P	**Pn**	14 17 56.0	+0.3
TLZ	**Tolley Road**	**0.66**	**274**		P	**Pn**	14 17 55.9	+0.1
RITZ	**Rihia Road**	**0.72**	**214**		P	**Pn**	14 17 56.3	-0.1
RAHZ	**Arahi**	**0.77**	**134**		P	**Pn**	14 17 57.0	+0.2
BKZ	**Black Stump Fm**	**0.79**	**173**		P	**Pn**	14 17 56.5	-0.5
BKZ					AML	AML	14 18 11.0	
BKZ					AML	AML	14 18 11.0	
NMHZ	**Naumai**	**0.79**	**155**		P	**Pn**	14 17 57.5	+0.4
RAGZ	**Rawiri**	**0.82**	**98**		P	**Pn**	14 17 57.4	0.0
SNGZ	**Shannon Statio**	**0.85**	**118**		P	**Pn**	14 17 58.1	+0.4
MWZ	**Matawai**	**0.91**	**87**		P	**Pn**	14 17 57.8	-0.4
MWZ					AML	AML	14 18 17.7	
MWZ					AML	AML	14 18 17.7	
MWZ					AML	AML	14 18 18.0	
MWZ					AML	AML	14 18 18.0	
TOZ	**Tahuroa Road**	**0.95**	**313**		P	**Pn**	14 17 58.9	+0.3
WHHZ	**Waihua**	**0.96**	**136**		P	**Pn**	14 17 59.2	+0.4
NGZ	**Ngauruhoe**	**1.00**	**217**		P	**Pn**	14 17 59.4	+0.1
ARHZ	**Aropaoanui**	**1.00**	**151**		P	**Pn**	14 17 59.4	+0.2
KWHZ	**Kaweka Forest**	**1.04**	**178**		P	**Pn**	14 17 59.7	0.0
COVZ	**Chateau Observ**	**1.04**	**218**		P	**Pn**	14 17 59.4	-0.4
WPVZ	**Whakapapa**	**1.05**	**218**		P	**Pn**	14 17 59.8	-0.1
TUVZ	**Tukino**	**1.05**	**212**	⇓	P	**Pn**	14 17 59.9	0.0
TUVZ					S	Sn	14 18 15.2	-0.5
FWVZ	**Far West T-bar**	**1.08**	**216**	⇑	P	**Pn**	14 18 00.2	-0.2
MCHZ	**McNeill Hill**	**1.09**	**167**		P	**Pn**	14 18 00.5	+0.3
WHVZ	**Whangaehu Hut**	**1.09**	**214**		P	**Pn**	14 18 00.3	-0.1
TRVZ	**Turoa**	**1.12**	**215**	⇓	P	**Pn**	14 18 00.8	-0.1
WNVZ	**Wahianoa**	**1.12**	**213**	⇓	P	**Pn**	14 18 00.6	-0.1
BHHZ	**Black Hill Sta**	**1.13**	**192**		P	**Pn**	14 18 00.3	-0.5
MOVZ	**Moawhango**	**1.13**	**205**		P	**Pn**	14 18 00.3	-0.5
RIGZ	**Rimuhau**	**1.13**	**107**		P	**Pn**	14 18 01.0	+0.3
TKGZ	**Te Karaka**	**1.16**	**93**		P	**Pn**	14 18 01.4	+0.5
KNZ	**Kokohu**	**1.20**	**123**		P	**Pn**	14 18 01.2	-0.1
PKVZ	**Pokaka**	**1.21**	**221**	⇓	P	**Pn**	14 18 01.6	-0.1
MTVZ	**Mangateitei**	**1.23**	**215**		P	**Pn**	14 18 01.8	0.0
KRHZ	**Kereru**	**1.26**	**180**		P	**Pn**	14 18 01.8	-0.3
HAZ	**Te Kaha**	**1.27**	**61**	⇓	P	**Pn**	14 18 01.7	-0.6
TWGZ	**Tauwhareparae**	**1.28**	**81**		P	**Pn**	14 18 03.0	+0.6
PRGZ	**Paritu Road**	**1.30**	**115**		P	**Pn**	14 18 02.4	-0.2
CKHZ	**Cape Kidnapper**	**1.39**	**157**		P	**Pn**	14 18 03.3	-0.4
CNGZ	**Carnagh Statio**	**1.44**	**95**		P	**Pn**	14 18 04.6	+0.3
KAHZ	**Kahuranaki**	**1.46**	**165**		P	**Pn**	14 18 04.3	-0.3
VRZ	**Vera Road**	**1.47**	**239**		P	**Pn**	14 18 04.7	+0.1
PUZ	**Puketiti**	**1.51**	**79**		P	**Pn**	14 18 05.2	0.0
PUZ					AML	AML	14 18 35.2	
PUZ					AML	AML	14 18 39.5	
PNHZ	**Pukenui**	**1.54**	**185**		P	**Pn**	14 18 04.4	-1.1
PXZ	**Pawanui**	**1.69**	**167**		P	**Pn**	14 18 06.4	-1.0
WMGZ	**Waiomatatini S**	**1.70**	**71**		P	**Pn**	14 18 07.5	-0.1
TSZ	**Takapari Road**	**1.71**	**191**		P	**Pn**	14 18 07.0	-0.7
TSZ					AML	AML	14 18 34.3	
TSZ					AML	AML	14 18 35.7	
MXZ	**Matakaoa Point**	**1.73**	**62**	⇑	P	**Pn**	14 18 08.8	+0.9
WAZ	**Wanganui**	**1.75**	**218**	⇓	P	**Pn**	14 18 08.2	0.0
DVHZ	**Dannevirke**	**1.92**	**185**		P	**Pn**	14 18 08.0	-2.4
POWZ	**Post Office Ro**	**2.06**	**193**		P	**Pn**	14 18 13.9	+1.7
ANWZ	**Angora Road**	**2.08**	**178**		P	**Pn**	14 18 10.6	-1.8
BFZ	**Birch Farm**	**2.30**	**182**		P	**Pn**	14 18 13.7	-1.5
MRZ	**Mangatainoka R**	**2.36**	**195**	⇓	P	**Pn**	14 18 14.0	-2.1
MRZ					AML	AML	14 18 48.8	
TIWZ	**Tintock**	**2.42**	**189**		P	**Pn**	14 18 14.7	-2.3
HOWZ	**Holdsworth Sta**	**2.60**	**195**		P	**Pn**	14 18 16.7	-2.6
OGWZ	**Otaki Gorge**	**2.60**	**201**		P	**Pn**	14 18 16.9	-2.4
KIW	**Kapiti Island**	**2.72**	**204**		P	**Pn**	14 18 17.2	-2.6
TMWZ	**Te Maipa**	**2.75**	**188**		P	**Pn**	14 18 18.6	-2.7
CAW	**Cannon Point**	**2.90**	**200**		P	**Pn**	14 18 20.2	-3.1
CAW					AML	AML	14 19 08.6	
CAW					AML	AML	14 19 08.7	
WEL	**Wellington**	**3.15**	**203**		P	**Pn**	14 18 23.3	-3.3
TCW	**Tory Channel**	**3.26**	**209**		P	**Pn**	14 18 24.7	-3.2
PLWZ	**Palliser**	**3.30**	**195**		P	**Pn**	14 18 24.9	-3.7
TUWZ	**Tuamarina**	**3.57**	**211**		P	**Pn**	14 18 28.6	-3.6
QRZ	**Quartz Range**	**3.84**	**229**		P	**Pn**	14 18 33.5	-2.4
THZ	**Tophouse**	**4.30**	**217**		P	**Pn**	14 18 38.9	-3.3
KHZ	**Kahutara**	**4.58**	**207**		P	**Pn**	14 18 41.5	-4.2
LTZ	**Lake Taylor**	**5.39**	**214**		P	**Pn**	14 18 52.6	-4.3

*IDC **21** 14:20:44.2±0.8, 49.90S×110.69E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/22, mbtmp4.0/7, MS3.3/3, Ms1 3.4/3, ms1mx3.1/14, Error ellipse: s-maj=32.1km s-min=18.3km az=113.0*
*ISCJB **21** 14:20:45.5±0.7, 49.9S±0.1×110.8E±0.3, h22km, mb4.1/8, MS3.3/3, Error ellipse: s-maj=28.8km s-min=13.2km az=25.5*
*NEIC **21** 14:20:45.6±0.5, 49.93S×110.72E, h10km, mb4.3/2, Error ellipse: s-maj=20.3km s-min=9.5km az=115.0*

ISC 21 14:20:47.6±0.8, 49.9S±0.1×110.7E±0.2, h22km, n18, σ0§47/14, mb4.0/8, MS3.4/3, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.23**	**11**		T	T	14 39 54.4	
	baz=188,slow=74,SNR=56							
H01W1	**Cape Leeuwin H**	**15.23**	**11**		T	T	14 39 54.7	
	baz=188,slow=74,SNR=61							
H01W3	**Cape Leeuwin H**	**15.24**	**11**		T	T	14 39 55.5	
	baz=188,slow=74,SNR=53							
MAW	**Mawson**	**29.42**	**215**		LR	LR	14 37 24.5	
	comp=Z,33nm,18.8s,baz=60,slow=34							
ASAR	**Alice Springs**	**31.86**	**43**		P	**P**	**14 27 10.7**	**-0.3**
	0.7nm,0.6s,baz=212,slow=7.7,SNR=16							
AS31	**Alice Springs**	**31.86**	**43**		*eP*	**P**	**14 27 10.8**	**-0.2**
VNDA	**Vanda**	**33.59**	**162**		P	**P**	**14 27 25.6**	**+0.1**
	1.3nm,0.8s,baz=294,slow=8.6,SNR=7.8							
VNDA					LR	LR	14 39 49.0	
	comp=Z,83nm,18.6s,baz=338,slow=34							
WRA	**Warramunga Arr**	**35.33**	**41**		P	**P**	**14 27 40.7**	**-0.5**
	1.4nm,0.8s,baz=203,slow=11,SNR=8.4							
WRAB	**Tennant Creek**	**35.35**	**41**		*eP*	**P**	**14 27 41.1**	**-0.2**
	4.2nm,0.8s							
QSPA	**South Pole Qui**	**40.20**	**180**		P	**P**	**14 28 22.2**	**+0.2**
	3.4nm,0.6s,baz=307,slow=1.4,SNR=31							
QSPA	**South Pole Qui**	**40.20**	**180**		*eP*	**P**	**14 28 22.4**	**+0.3**
SNAA	**Sanae**	**50.05**	**202**		P	**P**	**14 29 40.3**	**+0.3**
	1.2nm,1.0s,baz=163,slow=13,SNR=5.7							
SNAA	**Sanae**	**50.05**	**202**		*eP*	**P**	**14 29 38.9**	**-1.1**
	4.4nm,1.1s							
BOSA	**Boshof**	**65.89**	**254**		P	**P**	**14 31 31.5**	**-0.2**
	4.9nm,0.8s,baz=325,slow=19,SNR=9.5							
BOSA	**Boshof**	**65.89**	**254**		*eP*	**P**	**14 31 31.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**68.88**	**348**		P	**P**	**14 31 50.9**	**+0.5**
	0.7nm,0.7s,baz=195,slow=5.3,SNR=4.6							
CMAR					LR	LR	14 58 53.4	
	comp=Z,20nm,19.6s,baz=170,slow=33							
TXAR	**Lajitas Array**	**146.89**	**115**		PKPbc	**PKPbc**	**14 40 28.4**	**+0.4**
	0.8nm,0.7s,baz=195,slow=5.6,SNR=12							
PDAR	**Pinedale Array**	**151.56**	**89**		PKPbc	**PKPbc**	**14 40 39.4**	**-0.2**
	0.4nm,0.8s,baz=0.0,slow=3.1,SNR=3.9							

*ISCJB **21** 14:27:22.8±2.0, 38.7N±0.2×72.0E±0.2, h10km, Error ellipse: s-maj=29.7km s-min=10.7km az=149.5*
*NNC **21** 14:27:23.3±1.6, 38.79N×71.94E, h0km, mb4.0, mpv3.3, Error ellipse: s-maj=16.4km s-min=9.2km az=155.0*

ISC 21 14:27:23.6±1.9, 38.8N±0.1×71.79E±0.0, h10km, n11, σ1§44/13, 7C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.78**	**48**	⇑	P	**Pn**	**14 27 54.2**	**-0.5**
	1.4nm,0.1s							
SFK				⇑	Lg	Lg	14 28 20.1	
	37nm,0.3s							
DZET	**Dzherino**	**2.32**	**271**	⇑	P	**Pb**	**14 28 05.3**	**-0.2**
	2.1nm,0.2s							
DZET				⇑	Lg	Lg	14 28 39.2	
	121nm,0.4s							
AML	**Almayashu**	**3.61**	**23**		P	**Pn**	**14 28 21.3**	**+1.4**
	SNR=12							
UCH	**Uchtor**	**3.98**	**30**		P	**Pn**	**14 28 24.8**	**-0.3**
	SNR=8.3							
EKS2	**Erkin-Say**	**4.12**	**21**		P	**Pn**	**14 28 28.8**	**+2.1**
	SNR=7.0							
KZA	**Kyzart**	**4.19**	**38**		P	**Pn**	**14 28 25.9**	**-2.0**
	SNR=5.4							
AAK	**Ala-Archa**	**4.33**	**27**	⇓	P	**Pn**	**14 28 29.8**	**+0.2**
	3.5nm,0.5s							
AAK				⇑	Sn	**Sn**	**14 29 21.8**	**+1.7**
	21nm,0.6s							
KK31	**Karatay Array**	**4.39**	**348**		Pn	Pn	14 28 35.1	+4.9
	4.4nm,0.3s,baz=155,slow=11,SNR=142							
KK31				⇑	Sn	**Sb**	**14 29 31.2**	**-2.5**
	1.5nm,0.2s,baz=153,slow=25,SNR=9.4							
KBK	**Karagaybulak**	**4.52**	**31**		P	**Pn**	**14 28 32.7**	**+0.5**
	SNR=6.0							
CHMS	**Chumysh**	**4.74**	**27**		P	**Pn**	**14 28 35.2**	**+0.1**
	SNR=5.1							
AB31	**Akbulak array**	**13.45**	**325**	⇓	Pn	**Pn**	**14 30 35.2**	**+0.8**
	1.6nm,0.4s,baz=127,slow=14,SNR=48							
AB31				⇑	Sn	**Sn**	**14 33 03.2**	**-0.7**
	0.4nm,0.5s,baz=145,slow=20,SNR=2.8							

*ISCJB **21** 14:32:01.7±0.5, 8.53S±0.07×118.24E±0.04, h143km, mb3.5/5, Error ellipse: s-maj=9.5km s-min=4.9km az=3.7*
*IDC **21** 14:32:01.7±3.1, 8.47S×118.07E, h173km±24km, mb3.2/5, mb1 3.2/7, mb1mx3.1/29, mbtmp3.7/7, Error ellipse: s-maj=42.8km s-min=10.5km az=54.0*
*DJA **21** 14:32:03.1±0.5, 9°S±5°×11°8E±°, h128km±9km, M4.4/15, mb4.4/3, MLv4.4/15*

ISC 21 14:32:01.2±0.9, 8.50S±0.08×118.26E±0.05, h143km, n21, σ1§59/22, mb3.5/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.59**	**135**		P	**Pn**	**14 32 33.4**	**+2.1**
WSI	**Waingapu**	**2.32**	**120**		P	**Pn**	**14 32 40.9**	**+1.1**
DNP	**Denpasar**	**3.02**	**267**		P	**Pn**	**14 32 49.5**	**+1.0**
IGBI	**Denpasar**	**3.09**	**264**		P	**Pn**	**14 32 50.6**	**+1.1**
IGBI					S	**Sn**	**14 33 28.2**	**+1.4**
BSSI	**Bau Bau, Buton**	**3.23**	**43**		P	**Pn**	**14 32 53.2**	**+2.0**
BKSI	**Bulukumba**	**3.66**	**30**		P	**Pn**	**14 32 58.9**	**+2.0**
KAPI	**Kappang**	**3.77**	**23**		P	**Pn**	**14 33 00.1**	**+1.8**
	1.6nm,0.3s,baz=220,slow=8.9,SNR=6.3							
MMRI	**Maumere**	**3.94**	**92**		P	**Pn**	**14 33 02.4**	**+1.9**
MMRI					S	**Sn**	**14 33 46.5**	**0.0**
ABJI	**Asem Bagus**	**4.05**	**280**		P	**Pn**	**14 33 03.4**	**+1.5**
BLJI	**Banyuglugur**	**4.68**	**279**		P	**Pn**	**14 33 11.5**	**+1.3**
SPSI	**Sidrap Palu**	**4.75**	**19**		P	Pn	14 33 13.9	+2.6
SOEI	**Soe**	**6.06**	**102**		P	**Pn**	**14 33 30.5**	**+1.7**
	65nm,0.8s,0.4nm							
PWJI	**Pagerwojo**	**6.41**	**274**		P	**Pn**	**14 33 34.1**	**+0.8**
	44nm,2.0s,0.3nm							
UGM	**Wanagama**	**7.68**	**274**		P	**Pn**	**14 33 50.9**	**+0.5**
WRA	**Warramunga Arr**	**19.27**	**128**		P	**P**	**14 36 15.3**	**+0.4**
	0.4nm,0.3s,baz=302,slow=12,SNR=28							
WRA					S	**S**	**14 39 45.4**	**-0.3**
	0.2nm,0.3s,baz=318,slow=24,SNR=4.4							
ASAR	**Alice Springs**	**21.25**	**137**		P	**P**	**14 36 36.3**	**0.0**
	0.5nm,0.3s,baz=316,slow=9.0,SNR=30							
ASAR					S	**S**	**14 40 24.4**	**+0.2**
	0.6nm,0.9s,baz=324,slow=25,SNR=3.0							
KSRS	**Korea Array**	**46.60**	**11**		P	**P**	**14 40 13.5**	**-1.4**
	0.5nm,0.6s,baz=169,slow=7.4,SNR=4.4							
USRK	**Ussuriysk Ar.**	**53.91**	**12**		P	**P**	**14 41 07.5**	**-2.2**
	1.4nm,0.5s,baz=189,slow=6.7,SNR=5.5							
SONM	**Songino Array**	**57.07**	**351**		P	P	14 41 28.6	-3.8
	0.2nm,0.3s,baz=167,slow=7.1,SNR=2.4							
ZALV	**Zalesovo Beam**	**68.32**	**339**		P	P	14 42 42.1	-4.6
	0.8nm,0.5s,baz=111,slow=5.6,SNR=4.9							
TORD	**Torodi Ar. Bea**	**117.65**	**280**		PKP	**PKPdf**	**14 50 28.5**	**-2.9**
	0.8nm,1.2s,baz=55,slow=1.6,SNR=3.4							

*DDA **21** 14:35:26.0, 37.13N×27.99E, h7km, MD2.8*
*ISCJB **21** 14:35:27.5±0.8, 37.17N±0.05×27.89E±0.04, h12km, Error ellipse: s-maj=7.7km s-min=4.7km az=164.2*
*CSEM **21** 14:35:27.6±0.2, 37.17N×27.89E, h10km, MD2.8, Error ellipse: s-maj=7.1km s-min=4.3km az=164.0*

ISC 21 14:35:27.0±1.0, 37.14N±0.05×27.92E±0.04, h12km, n8, σ0§42/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
YER	**Yerkesik**	**0.29**	**91**		*e*PG	**Pb**	**14 35 33.9**	**-0.3**
YER					*e*SG	**Sb**	**14 35 39.2**	**+0.2**
YER	**Yerkesik**	**0.29**	**91**		*e*Pg	**Pb**	**14 35 33.9**	**-0.3**
YER					*e*Sg	**Sb**	**14 35 39.2**	**+0.2**
BDRM	**Kayabasi**	**0.39**	**259**		*i* P	**Pg**	**14 35 34.6**	**-0.2**
BDRM					*i* S	**Sb**	**14 35 41.4**	**-0.4**
BDRM	**Kayabasi**	**0.39**	**259**		*i* P	**Pg**	**14 35 34.6**	**-0.2**
BDRM					*i* S	**Sb**	**14 35 41.4**	**-0.4**
BODT	**Bodrum**	**0.49**	**261**		*e*PG	**Pg**

PCH				*i* S		**Sb**	**14 51 46.6**	**+0.3**
LACH	**Col Las Americ**	**1.44**	**69**	⇓*i* P		**Pn**	**14 51 27.5**	**+0.4**
LACH				*i* S		**Sb**	**14 51 48.1**	**+0.6**
LACH				AML	AML		14 51 57.6	
	comp=E,10μm,0.5s							
CLCH	**Cerro Calan**	**1.46**	**66**	*e*P		**Pn**	**14 51 27.9**	**+0.5**
CLCH				*i* S		**Sb**	**14 51 48.6**	**+0.6**
CLCH				AML	AML		14 51 57.4	
	comp=E,16μm,0.4s							
TALC	**Talca**	**1.46**	**164**	⇓*i* P		**Pn**	**14 51 26.7**	**-0.7**
TALC				*i* S		**Sn**	**14 51 46.9**	**+1.4**
YECH	**El Yeso**	**1.73**	**80**	*e*P		**Pn**	**14 51 32.8**	**+1.3**
YECH				*i* S		**Sb**	**14 51 57.0**	**+0.8**
YECH				AML	AML		14 52 04.2	
	comp=N,11μm,0.4s							
LNCH	**Linares**	**1.90**	**167**	*e*P		**Pn**	**14 51 34.5**	**+1.0**
LNCH				*i* S		**Sb**	**14 51 59.6**	**-1.1**
AUSP	**Uspallata**	**2.90**	**53**	*e*P		Pn	14 51 50.7	+3.2
AUSP				*e*S		Sb	14 52 37.4	+7.8
AAGR	**Agrelo**	**2.90**	**73**	*e*P		**Pb**	**14 51 52.0**	**-2.4**
AAGR				*e*S		Sb	14 52 40.3	+11
ARCO	**CERRO ARCO**	**2.91**	**68**	*e*P		**Pb**	**14 51 51.8**	**-2.8**
ARCO				IAML			14 52 01.0	
	comp=Z,2μm,0.8s							
ARCO				*e*S		Sb	14 52 39.4	+10
AVIZ	**Vizcacheras**	**3.06**	**81**	*e*P		**Pb**	**14 51 54.4**	**-2.6**
AVIZ				*e*S		Sb	14 52 43.5	+10
ASAL	**Salagasta**	**3.09**	**64**	*e*P		**Pb**	**14 51 54.6**	**-3.0**
ASAL				*e*S		Sb	14 52 42.5	+7.5
RTLS	**Leoncito**	**3.23**	**48**	*e*P		**Pn**	**14 51 54.9**	**+2.9**
RTCV	**Cerro Valdivia**	**3.69**	**56**	*e*P		Pn	14 52 01.6	+3.5
RTCV				*e*S		**Sb**	**14 52 56.1**	**+4.0**
CFAA	**Coronel Fontan**	**4.05**	**55**	Pn		**Pn**	**14 52 00.6**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=242,slow=22,SNR=44							
CFAA				Pg		Pb	14 52 08.4	-5.5
	comp=Z,2.6nm,0.3s,baz=226,slow=14,SNR=60							
CFAA				LR	LR		14 53 03.6	
	comp=Z,50nm,19.0s,baz=240,slow=32							
CFAA				Lg	Lg		14 53 04.3	
	comp=Z,6.8nm,0.3s,baz=337,slow=11,SNR=5.1							
CFAA	**Coronel Fontan**	**4.05**	**55**	*e*P		Pn	14 52 06.9	+3.8
CFAA				*e*S		**Sb**	**14 53 04.7**	**+2.2**
RTLL	**Cerro Villicun**	**4.07**	**50**	*e*P		**Pn**	**14 52 06.3**	**+3.0**
RTLL				*e*S		**Sb**	**14 53 05.4**	**+2.4**
AMOG	**MOGNA**	**4.33**	**46**	*e*P		**Pn**	**14 52 09.3**	**+2.4**
ACAN	**Cantantal**	**4.49**	**69**	*e*P		Pn	14 52 13.4	+4.4
LCO	**Las Campanas**	**5.11**	**14**	*e*Pn		**Pn**	**14 52 16.8**	**-1.1**
TRQA	**Tornquist**	**9.17**	**119**	*e*Pn		Pn	14 53 17.0	+3.7
LVC	**Limon Verde**	**11.68**	**15**	Pn		Pn	14 53 44.3	-3.8
	comp=Z,17nm,0.3s,baz=183,slow=11,SNR=4.2							
LVC				LR	LR		14 59 02.8	
	comp=Z,2μm,18.4s,baz=202,slow=42							
LVC	**Limon Verde**	**11.68**	**15**	*e*Pn		Pn	14 53 41.9	-6.2
	comp=Z,29nm,1.3s							
CPUP	**Villa Florida**	**14.90**	**63**	*e*Pn		**P**	**14 54 35.4**	**-1.5**
LPAZ	**La Paz**	**17.99**	**13**	P		**Pn**	**14 55 09.7**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=181,slow=8.8,SNR=14							
LPAZ	**La Paz**	**17.99**	**13**	*e*Pn		**P**	**14 55 12.5**	**+0.6**
	comp=Z,12nm,0.8s							
SIV	**San Ignacio**	**20.51**	**32**	P		**P**	**14 55 37.8**	**-1.1**
	comp=Z,7.2nm,1.1s,baz=208,slow=10,SNR=8.7							
SIV				LR	LR		15 04 59.5	
	comp=Z,701nm,18.3s,baz=237,slow=41							
USHA	**Ushuaia**	**21.00**	**174**	P		**P**	**14 55 44.5**	**+0.7**
	comp=Z,12nm,1.0s,baz=3.8,slow=9.5,SNR=2.3							
NNA	**Nana**	**22.32**	**348**	LR	LR		15 03 08.1	
	comp=Z,427nm,18.5s,baz=166,slow=33							
SAML	**Samuel**	**26.25**	**20**	*e*P		**P**	**14 56 38.1**	**+2.5**
	comp=Z,12nm,0.9s							
ATAH	**Atahualpa**	**27.34**	**346**	LR	LR		15 06 02.9	
	comp=Z,291nm,18.0s,baz=193,slow=33							
BDFB	**Brasilia**	**28.39**	**56**	P		**P**	**14 56 52.1**	**-2.8**
	comp=Z,6.0nm,0.9s,baz=225,slow=5.2,SNR=6.6							
BDFB				LR	LR		15 09 12.4	
	comp=Z,477nm,21.9s,baz=225,slow=39							
PMSA	**Palmer Station**	**31.21**	**173**	LR	LR		15 09 46.5	
	comp=Z,461nm,19.9s,baz=330,slow=36							
RPN	**Rapa Nui**	**32.63**	**272**	LR	LR		15 06 48.7	
	comp=Z,578nm,19.6s,baz=114,slow=29							
ROSC	**El Rosal**	**38.69**	**356**	LR	LR		15 14 40.8	
	comp=Z,232nm,19.8s,baz=212,slow=37							
VNA1	**Neumayer--Stat**	**49.71**	**157**	P		**P**	**14 59 53.6**	**+1.8**
SNAA	**Sanae**	**51.62**	**158**	P		**P**	**15 00 06.4**	**0.0**
SNAA	**Sanae**	**51.62**	**158**	P		**P**	**15 00 04.7**	**-1.6**
	comp=Z,2.5nm,1.0s,baz=284,slow=6.1,SNR=13							
SNAA	**Sanae**	**51.62**	**158**	*e*P		**P**	**15 00 05.9**	**-0.5**
	comp=Z,16nm,1.2s							
TEIG	**Tepich**	**56.07**	**342**	*e*P		**P**	**15 00 38.9**	**-0.4**
	comp=Z,16nm,0.7s							
QSPA	**South Pole Qui**	**56.25**	**180**	P		**P**	**15 00 40.0**	**-0.3**
	comp=Z,4.3nm,0.9s,baz=165,slow=2.1,SNR=11							
QSPA	**South Pole Qui**	**56.25**	**180**	*e*P		**P**	**15 00 40.6**	**+0.3**
	comp=Z,119nm,2.8s							
VNDA	**Vanda**	**64.10**	**191**	P		**P**	**15 01 34.7**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=143,slow=5.1,SNR=3.6							
VNDA				LR	LR		15 25 28.3	
	comp=Z,78nm,20.0s,baz=74,slow=32							
TIGA	**Tifton**	**65.97**	**349**	*e*P		**P**	**15 01 47.1**	**+0.8**
	comp=Z,78nm,0.3s							
TXAR	**Lajitas Array**	**69.69**	**331**	P		**P**	**15 02 09.5**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=156,slow=7.9,SNR=9.8							
TXAR				LR	LR		15 28 24.3	
	comp=Z,261nm,18.2s,baz=0.0,slow=32							
TX31	**Lajitas Ar. Si**	**69.69**	**331**	*e*P		**P**	**15 02 09.9**	**-0.1**
WVT	**Waverly**	**71.28**	**347**	*e*P		**P**	**15 02 19.1**	**-0.3**
	comp=Z,11nm,0.7s							
MAW	**Mawson**	**73.21**	**164**	P		**P**	**15 02 31.7**	**+1.2**
	comp=Z,2.7nm,0.7s,baz=240,slow=9.7,SNR=6.2							
MAW				LR	LR		15 33 54.4	
	comp=Z,173nm,20.7s,baz=241,slow=35							
BRNJ	**Basking Ridge**	**74.34**	**358**	*e*P		P	15 02 40.3	+3.0
	comp=Z,10nm,0.7s							
CPNY	**Central Park**	**74.43**	**359**	*e*P		**P**	**15 02 35.6**	**-2.2**
	comp=Z,53nm,0.9s							
ODNJ	**Ogdensburg**	**74.74**	**358**	*e*P		**P**	**15 02 38.5**	**-1.2**
	comp=Z,14nm,0.7s							
SUR	**Sutherland**	**74.90**	**119**	LR	LR		15 31 19.4	
	comp=Z,99nm,18.7s,baz=253,slow=32							
DBIC	**Dimbokro**	**75.25**	**71**	LR	LR		15 34 29.8	
	comp=Z,129nm,18.4s,baz=204,slow=35							
YUH	**Yuha Desert**	**78.04**	**323**	*e*P		**P**	**15 02 59.1**	**+0.5**
BOSA	**Boshof**	**80.14**	**118**	P		**P**	**15 03 10.3**	**-0.3**
	comp=Z,4.5nm,1.1s,baz=232,slow=6.0,SNR=3.8							
BOSA				LR	LR		15 36 00.9	
	comp=Z,79nm,18.1s,baz=175,slow=34							
ECSD	**EROS Data Cent**	**80.52**	**342**	*e*P		**P**	**15 03 11.8**	**-0.1**
	comp=Z,6.3nm,0.9s							
CCUT	**Cedar City**	**80.86**	**328**	*e*P		**P**	**15 03 15.9**	**+1.7**
	comp=Z,42nm,2.6s							
CLC	**China Lake**	**81.41**	**324**	*e*P		**P**	**15 03 15.8**	**-1.1**
LBTB	**Lobatse**	**82.38**	**115**	P		**P**	**15 03 21.6**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=255,slow=11,SNR=3.6							
R11A	**Troy Canyon, C**	**82.51**	**327**	*e*P		**P**	**15 03 24.0**	**+1.2**
R11A				*e*pP		**pP**	**15 03 33.9**	**+0.9**
EPU	**East Promontor**	**83.66**	**331**	*e*PcP		**PcP**	**15 03 34.2**	**+1.4**
PDAR	**Pinedale Array**	**83.72**	**333**	P		**P**	**15 03 29.6**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=156,slow=4.9,SNR=3.5							
PDAR				LR	LR		15 37 23.2	
	comp=Z,147nm,18.0s,baz=154,slow=33							
NV01	**Mina Array Sit**	**83.83**	**325**	*e*P		**P**	**15 03 30.6**	**+0.9**
NVAR	**Mina Array Bea**	**83.83**	**325**	P		**P**	**15 03 30.4**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=137,slow=6.5,SNR=4.7							
TOA0	**Torodi Ar. Sit**	**84.28**	**70**	*e*P		**P**	**15 03 32.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**84.28**	**70**	P		**P**	**15 03 31.6**	**-0.6**
	comp=Z,3.4nm,0.8s,baz=247,slow=4.6,SNR=18							
TORD				LR	LR		15 40 24.1	
	comp=Z,109nm,18.8s,baz=250,slow=35							
MCMT	**McKenzie Canyo**	**86.72**	**332**	*e*P		**P**	**15 03 45.1**	**+1.1**
	comp=Z,1.2nm,1.0s							
ASAR	**Alice Springs**	**117.54**	**207**	PKP		**PKPdf**	**15 09 45.1**	**-1.3**
	comp=Z,0.2nm,0.9s,baz=113,slow=1.8,SNR=3.1							
WRA	**Warramunga Arr**	**120.73**	**209**	PKP		**PKPdf**	**15 09 51.5**	**-1.0**
	comp=Z,0.7nm,0.9s,baz=161,slow=1.7,SNR=8.0							
H11S2	**WAKE ISLAND Hyl**	**25.69**	**269**	T		T	17 29 08.7	
	baz=118,slow=74,SNR=13							
H11S1	**WAKE ISLAND Hyl**	**25.71**	**269**	T		T	17 29 09.6	
	baz=118,slow=74,SNR=13							
H11S3	**WAKE ISLAND Hyl**	**25.71**	**269**	T		T	17 29 10.0	
	baz=118,slow=74,SNR=9.8							
H11N1	**WAKE ISLAND Hyl**	**26.12**	**271**	T		T	17 29 10.4	
	baz=279,slow=74,SNR=4.9							
H11N2	**WAKE ISLAND Hyl**	**26.12**	**271**	T		T	17 29 37.2	
	baz=115,slow=74,SNR=3.7							
KBZ	**Khabaz**	**129.65**	**59**	PKP		**PKPdf**	**15 10 10.3**	**+1.5**
	comp=Z,2.2nm,0.3s,baz=279,slow=6.7,SNR=5.5							
ABKAR	**Abkulak array**	**141.74**	**52**	*e*PKPpre		PKPpre	15 10 26.3	
BRVK	**Borovoye**	**147.25**	**43**	*e*PKPbc		**PKPab**	**15 10 44.2**	**-0.5**
KSH	**Kashi**	**153.94**	**68**	*e*PKPbc		**PKPdf**	**15 10 50.5**	**-1.0**
KSH				sPKP			15 11 08.3	
KSH				PP		**PP**	**15 14 51.8**	**+3.7**
KSH				SKS		**SKSdf**	**15 17 53.5**	**-2.6**
KSH				SKKS		**SKKSac**	**15 21 32.4**	**-3.1**
KSH				PPMZ				
	comp=Z,86nm,5.2s							
ZAA0	**Zalesovo Array**	**154.26**	**32**	*e*PKPbc		**PKPbc**	**15 10 59.2**	**-0.3**
ZALV	**Zalesovo Beam**	**154.26**	**32**	PKPbc		**PKPbc**	**15 10 59.1**	**-0.4**
	comp=Z,2.8nm,0.6s,baz=288,slow=2.8,SNR=13							
WMQ	**Urumqi**	**161.53**	**52**	*e*PKP		**PKPdf**	**15 11 01.0**	**+0.3**
SONM	**Songino Array**	**166.12**	**4**	PKPab		**PKPab**	**15 12 05.7**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=320,slow=3.8,SNR=3.4							
KMI	**Kunming**	**170.10**	**152**	PKP		**PKPdf**	**15 11 10.3**	**+1.9**
GYA	**Guiyang**	**172.42**	**172**	*e*PKP		**PKPdf**	**15 11 09.0**	**-0.4**
GYA				PKPab		**PKPab**	**15 12 36.0**	**+2.2**
GYA				PKS		**PKSdf**	**15 14 40.8**	**-1.1**
GYA				PP		**PP**	**15 16 27.4**	**+3.3**
GYA				PPMZ				
	comp=Z,110nm,8.2s							
HHC	**Hu-ho-hao-te**	**172.55**	**338**	*e*PKP		**PKPdf**	**15 11 06.5**	**-2.5**
HHC				pPKP		**pPKPdf**	**15 11 18.9**	**-0.6**
HHC				sPKP			15 11 21.4	
HHC				PP		**PP**	**15 16 27.9**	**+2.9**
HHC				SKKS			15 23 06.8	
HHC				SS		**SS**	**15 37 33.3**	**-0.7**
HHC				PPMZ				
	comp=Z,26nm,9.4s							
CD2	**Chengdu**	**175.36**	**130**	PKP		**PKPdf**	**15 11 09.6**	**-0.6**
LZH	**Lanzhou**	**176.09**	**57**	*e*PKP		**PKPdf**	**15 11 12.9**	**+2.5**

*SJA **21** 14:58:16.6±0.7, 34.°35S×73.°20W, h17km±30km, ML4.2, MW4.2*
*IDC **21** 14:58:23.4±0.8, 34.°01S×72.°41W, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.8/24, mbtmp3.7/8, ML3.8/2, Error ellipse: s-maj=34.4km s-min=20.9km az=95.0*
*GUC **21** 14:58:26.6±0.7, 34.°03S×72.°18W, h22km±6km, ML4.1*

ISC 21 14:58:24.1±2.0, 34.°01S±0.°04×72.°36W±0.°07, h5km±11km, n30,σ1°16/38, mb3.8/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.15**	**32**	*i* P			**Pn**	**14 58 46.7**	**-0.2**
TACH	**Talagante**	**1.24**	**74**	*i* P			**Pb**	**14 58 47.4**	**-0.6**
NICH	**Los Niches**	**1.36**	**137**	*e*P			**Pb**	**14 58 50.8**	**+0.7**
NICH				*i* S			**Sg**	**14 59 07.2**	**-0.6**
CHCH	**Chadas Angostu**	**1.42**	**87**	*e*P			**Pn**	**14 58 50.5**	**-0.2**
SAN	**Santiago**	**1.52**	**69**	*e*P			**Pg**	**14 58 52.7**	**-0.5**
SAN				*e*S			**Sn**	**14 59 11.2**	**-1.0**
SAN				AML	AML			14 59 16.8	
	comp=E,4μm,0.6s								
PCH	**Pirque**	**1.59**	**76**	*i* P			**Pb**	**14 58 53.2**	**-0.8**
PCH				*i* S			**Sn**	**14 59 13.4**	**-0.6**
LACH	**Col Las Americ**	**1.62**	**70**	*i* P			**Pn**	**14 58 53.6**	**+0.1**
LACH				*i* S			**Sn**	**14 59 14.2**	**-0.6**
CLCH	**Cerro Calan**	**1.64**	**69**	*e*P			**Pb**	**14 58 54.3**	**-0.6**
CLCH				*e*S			**Sn**	**14 59 14.5**	**-0.8**
CLCH				AML	AML			14 59 20.3	
	comp=E,4μm,0.6s								
LNCH	**Linares**	**1.94**	**161**	*i* P			**Pb**	**14 58 59.6**	**-0.3**
LNCH				*i* S			**Sb**	**14 59 24.5**	**+0.1**
LNCH				AML	AML			14 59 31.3	
	comp=E,6μm,0.7s								
AUSP	**Uspallata**	**3.07**	**55**	*e*P			**Pb**	**14 59 18.5**	**-0.8**
AUSP				*e*S			**Sg**	**15 00 05.4**	**+2.8**
AAGR	**Agrelo**	**3.09**	**74**	*e*P			**Pb**	**14 59 18.6**	**-1.1**
AAGR				*e*S			**Sg**	**15 00 04.3**	**+0.9**
ARCO	**CERRO ARCO**	**3.10**	**69**	*e*P			**Pb**	**14 59 18.8**	**-1.0**
ARCO				IAML				14 59 24.9	
	comp=Z,462nm,0.5s								
ARCO				*e*S			**Sg**	**15 00 04.1**	**+0.6**
AVIZ	**Vizcacheras**	**3.25**	**82**	*e*P			**Pb**	**14 59 20.4**	**-1.9**
AVIZ				*e*S			**Sg**	**15 00 08.2**	**-0.2**
ASAL	**Salagasta**	**3.27**	**65**	*e*P			**Pb**	**14 59 21.4**	**-1.4**
RTLS	**Leoncito**	**3.39**	**50**	*e*P			**Pb**	**14 59 23.3**	**-1.6**
RTLS				*e*S			**Sg**	**15 00 12.6**	**-0.4**
RTCV	**Cerro Valdivia**	**3.86**	**57**	*e*P			Pb	14 59 29.4	-3.4
RTCV				*e*S			**Sb**	**15 00 23.4**	**+3.5**
SJA	**San Juan**	**4.05**	**53**	*e*P			Pb	14 59 31.9	-4.1
SJA				IAML				15 00 36.0	
	comp=Z,139nm,0.6s								
CFAA	**Coronel Fontan**	**4.22**	**56**	Pn			**Pn**	**14 59 31.6**	**+2.4**
	comp=Z,2.2nm,0.3s,baz=207,slow=11,SNR=30								
CFAA				Lg	Lg			15 00 30.8	
	comp=Z,2.5nm,0.3s,baz=158,slow=23,SNR=6.0								
RTLL	**Cerro Villicun**	**4.23**	**52**	*e*P			Pb	14 59 35.0	-4.0
AMOG	**MOGNA**	**4.48**	**48**	*e*P			Pb	14 59 37.8	-5.6
AMOG				*e*S			**Sb**	**15 00 37.6**	**-0.1**
ACAN	**Cantantal**	**4.67**	**70**	*e*P			Pb	14 59 40.6	-6.0
LPAZ	**La Paz**	**18.05**	**13**	P			**P**	**15 02 37.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=181,slow=7.7,SNR=10								
SIV	**San Ignacio**	**20.62**	**32**	P			**P**	**15 03 03.9**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=202,slow=11,SNR=3.3								
SNAA	**Sanae**	**51.68**	**158**	P			**P**	**15 07 32.0**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=308,slow=9.4,SNR=5.1								
QSPA	**South Pole Qui**	**56.23**	**180**	P			**P**	**15 08 05.7**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=213,slow=0.8,SNR=8.1								
TXAR	**Lajitas Array**	**69.61**	**331**	P			**P**	**15 09 34.9**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=151,slow=8.6,SNR=6.5								
PDAR	**Pinedale Array**	**83.65**	**333**	P			**P**	**15 10 53.9**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=156,slow=4.6,SNR=2.5								
TORD	**Torodi Ar. Bea**	**84.47**	**70**	P			**P**	**15 10 57.5**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=258,slow=3.1,SNR=4.5								
WRA	**Warramunga Arr**	**120.62**	**209**	PKP			**PKPdf**	**15 17 16.6**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=155,slow=1.6,SNR=6.5								
ZALV	**Zalesovo Beam**	**154.38**	**32**	PKPbc			**PKPbc**	**15 18 25.2**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=316,slow=3.9,SNR=8.4								

DDA 21 15:12:14.3, 38.°15N×37.°80E, h5km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.17**	**33**	*i* P			Pg	15 12 17.9	-0.1
AKCD				*i* S			Sg	15 12 21.7	+1.2
MALT	**Malatya**	**0.52**	**72**	*e*PG			Pg	15 12 24.7	+0.2
MALT				*e*SG			Sg	15 12 32.5	+1.1
KEMA	**Kemaliye**	**1.24**	**26**	*i* P			Pn	15 12 40.1	+1.7
KEMA				*i* S			Sn	15 12 55.4	-0.3

*IDC **21** 15:18:10.2±5.5, 1.°88S×136.°35E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.4/33, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=99.9km s-min=36.3km az=44.0*
*ISCJB **21** 15:18:11.1±0.6, 1.°85S±0.°06×136.°31E±0.°04, h21km±5km, mb3.5/2, Error ellipse: s-maj=9.6km s-min=6.6km az=8.1*
*DJA **21** 15:18:11.3±0.3, 2.°3S×13.°6E±°, h15km±3km, M3.9/7, MLv3.9/7*

ISC 21 15:18:11.6±1.0, 1.°79S±0.°05×136.°32E±0.°05, h16km±6km, n10,σ0°78/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.11**	**225**	P			**Pg**	**15 18 14.7**	**-0.5**
SRPI				S			**Sg**	**15 18 18.3**	**+0.8**
BAKI	**Biak**	**0.63**	**340**	P			**Pg**	**15 18 23.3**	**-0.8**
BAKI				S			**Sg**	**15 18 33.1**	**+0.6**
RKPI	**Ransiki, Papua**	**2.16**	**277**	P			**Pn**	**15 18 47.0**	**0.0**
RKPI				S			**Sn**	**15 19 14.4**	**+0.9**
SMPI	**Sarmi**	**2.40**	**95**	P			**Pn**	**15 18 50.5**	**+0.2**
SMPI				S			**Sn**	**15 19 20.0**	**+0.7**
GENI	**Genyem**	**3.93**	**102**	P			**Pn**	**15 19 11.3**	**0.0**
FAKI	**Fak Fak**	**4.22**	**255**	P			**Pn**	**15 19 15.4**	**0.0**
FAKI				S			**Sn**	**15 20 04.2**	**-0.2**
SIJI	**Sorong**	**5.13**	**280**	Pn			**Pn**	**15 19 28.7**	**+0.7**
	0.9nm,0.3s,baz=132,slow=23,SNR=7.0								
WRA	**Warramunga Arr**	**18.14**	**186**	P			**Pn**	**15 22 21.5**	**-1.7**
	0.1nm,0.3s,baz=8.5,slow=13,SNR=8.5								
ASAR	**Alice Springs**	**21.87**	**186**	P			**P**	**15 23 04.2**	**+0.3**
	1.3nm,0.6s,baz=10,slow=11,SNR=31								
STKA	**Stephens Creek**	**30.34**	**171**	P			**P**	**15 24 23.1**	**+0.4**
	0.7nm,0.6s,baz=342,slow=9.6,SNR=3.0								

*SFS **21** 15:22:03.0, 36.°50N×6.°20W, h8km, ML3.1*
*IGIL **21** 15:22:03.4, 36.°56N×6.°16W, h0km, ML2.7*
*ISCJB **21** 15:22:03.8±0.3, 36.°78N±0.°02×6.°15W±0.°02, h9km±2km, Error ellipse: s-maj=3.1km s-min=1.9km az=28.8*
*CSEM **21** 15:22:04.1±0.2, 36.°73N×6.°19W, h7km, ML3.4/19, Error ellipse: s-maj=3.5km s-min=2.9km az=46.0*
*LDG **21** 15:22:04.2±0.2, 36.°53N×6.°24W, h8km, Ml3.6/4, Error ellipse: s-maj=3.6km s-min=2.0km az=14.0*
*MDD **21** 15:22:05.7±0.3, 36.°68N×6.°24W, h10km, mbLg3.1/32, Error ellipse: s-maj=2.8km s-min=2.4km az=45.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
*INMG **21** 15:22:05.0±1.6, 36.°62N×6.°23W, h3km±2km, MD3.1, ML3.2, Error ellipse: s-maj=2.4km s-min=2.0km az=14.0*
*CNRM **21** 15:22:10.4, 36.°33N×6.°28W, h5km, MD3.4*

ISC 21 15:22:05.0±0.9, 36.°67N±0.°02×6.°17W±0.°01, h17km±7km, n152,σ1°23/248, 2C-15D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFS	**San Fernando**	**0.20**	**188**	⇑P			**Pb**	**15 22 09.9**	**-0.3**
SFS	**San Fernando**	**0.20**	**188**	*i* P			**Pb**	**15 22 09.9**	**-0.3**
CNIL	**Conil**	**0.31**	**163**	⇓P			**Pg**	**15 22 11.1**	**-0.5**
CNIL				S			**Sb**	**15 22 18.5**	**+1.7**
CNIL	**Conil**	**0.31**	**163**	*i* P			**Pg**	**15 22 11.1**	**-0.5**
CNIL				*i* S			**Sb**	**15 22 18.5**	**+1.7**
ESPR	**Espera**	**0.32**	**51**	⇑Pg			**Pb**	**15 22 12.5**	**+0.2**
	638nm,0.2s,SNR=18								
ESPR				Lg	Lg			15 22 16.9	
	2μm,0.3s								
ESPR	**Espera**	**0.32**	**51**	Pg			**Pb**	**15 22 12.5**	**+0.2**
	638nm,0.2s,SNR=18								
ESPR				Lg	Lg			15 22 18.7	
	2μm,0.3s								
MOMI	**Momias**	**0.49**	**133**	P			**Pg**	**15 22 14.8**	**-0.1**
MOMI				S			**Sn**	**15 22 25.2**	**-0.3**
MOMI	**Momias**	**0.49**	**133**	*e*P			**Pg**	**15 22 14.8**	**-0.1**
LIJA	**Lijar**	**0.66**	**69**	⇓P			**Pn**	**15 22 19.2**	**-0.4**
LIJA				S			**Sn**	**15 22 30.1**	**+0.4**
LIJA	**Lijar**	**0.66**	**69**	*i* P			**Pn**	**15 22 19.2**	**-0.4**
REAL	**Reales**	**0.80**	**103**	P			**Pb**	**15 22 20.9**	**+0.5**
REAL				S			**Sn**	**15 22 33.3**	**+0.2**
REAL	**Reales**	**0.80**	**103**	*e*P			**Pb**	**15 22 20.9**	**+0.5**
ECEU	**Ceuta**	**1.00**	**140**	Pg			**Pg**	**15 22 24.0**	**-0.4**
	20nm,0.2s,SNR=12								
ECEU				Lg	Lg			15 22 34.0	
	154nm,0.5s,SNR=9.1								
ECEU	**Ceuta**	**1.00**	**140**	Pg			**Pb**	**15 22 21.3**	**-2.6**
	68nm,0.5s,SNR=12								
ECEU				Lg	Lg			15 22 34.0	
	121nm,1.0s,SNR=9.1								
EMIJ	**Mijas**	**1.13**	**95**	Pn			**Pb**	**15 22 25.2**	**-0.9**
	4.4nm,0.2s,SNR=7.9								
EMIJ				Pg			**Pg**	**15 22 27.3**	**+0.5**
	48nm,0.4s,SNR=28								
EMIJ				Lg	Lg			15 22 43.2	
	140nm,0.4s,SNR=6.3								
EMIJ	**Mijas**	**1.13**	**95**	Pg			**Pb**	**15 22 25.3**	**-0.8**
	48nm,0.4s,SNR=28								
EMIJ				Lg	Lg			15 22 39.5	
	140nm,0.4s,SNR=6.3				

SELV	**Sierra Elvira**	**2.04**	**73**	Pg	**Pg**	**15 22 43.4**	**-0.7**
	comp=N,5.5nm,0.6s,SNR=7.9							
SELV				Sn	**Sn**	**15 23 03.9**	**+0.3**
	comp=N,17nm,0.4s,SNR=7.9							
SELV				Lg	Lg	15 23 13.0		
	comp=N,184nm,1.5s,SNR=7.9							
MORF	**Marmelete**	**2.09**	**289**	*e*P	**Pn**	**15 22 38.2**	**-1.0**
MORF				*e*S	**Sn**	**15 23 03.9**	**-1.0**
MORF				AML	AML	15 23 06.5		
	comp=N,98nm,0.2s							
MORF	**Marmelete**	**2.09**	**289**	P	**Pn**	**15 22 38.2**	**-1.0**
MORF				S	**Sn**	**15 23 03.9**	**-1.0**
	comp=N,98nm,0.2s							
MORF	**Marmelete**	**2.09**	**289**	‖*e*Pn	**Pn**	**15 22 38.3**	**-1.0**
MORF				*e*Sn	**Sn**	**15 23 06.2**	**+1.3**
MORF				A	A	15 23 25.6		
	comp=N,43nm,0.3s							
MORF	**Marmelete**	**2.09**	**289**	‖*e*Pn	**Pn**	**15 22 38.3**	**-1.0**
MORF				*e*Sn	**Sn**	**15 23 06.2**	**+1.3**
MORF				A	A	15 23 25.6		
	comp=N,43nm,0.3s							
ECOG	**Cogollos-Vega**	**2.17**	**73**	Pg	**Pg**	**15 22 46.5**	**-0.2**
	comp=N,7.2nm,0.3s,SNR=7.9							
PFVI	**Vila Bisbo**	**2.18**	**283**	Pn	**Pn**	**15 22 39.5**	**-1.0**
	comp=N,7.6nm,0.3s,SNR=9.6							
PFVI				Pg	**Pb**	**15 22 43.7**	**-0.3**
	comp=N,0.6nm,0.3s,SNR=7.9							
PFVI				Sn	**Sn**	**15 23 07.0**	**-0.1**
	comp=N,13nm,0.1s,SNR=7.9							
PFVI				Lg	Lg	15 23 11.4		
	comp=N,36nm,0.3s,SNR=5.5							
PFVI	**Vila Bisbo**	**2.18**	**283**	Pn	**Pn**	**15 22 39.5**	**-1.0**
	comp=N,11nm,0.3s,SNR=9.6							
PFVI				Lg	Lg	15 23 11.4		
	comp=N,55nm,0.4s,SNR=5.5							
PFVI	**Vila Bisbo**	**2.18**	**283**	*e*Pn	**Pn**	**15 22 39.6**	**-0.9**
PFVI				*e*Sn	**Sn**	**15 23 06.3**	**-0.8**
PFVI				A	A	15 23 22.5		
	comp=N,51nm,0.4s							
PFVI	**Vila Bisbo**	**2.18**	**283**	*e*Pn	**Pn**	**15 22 39.6**	**-0.9**
PFVI				*e*Sn	**Sn**	**15 23 06.3**	**-0.8**
PFVI				A	A	15 23 22.5		
	comp=N,51nm,0.4s							
EBAD	**Badajoz**	**2.19**	**342**	Pn	**Pn**	**15 22 40.5**	**-0.1**
	comp=N,0.1nm,0.1s,SNR=12							
EBAD				Pg	**Pb**	**15 22 44.3**	**+0.1**
	comp=N,4.4nm,0.2s,SNR=17							
EBAD				Sn	**Sn**	**15 23 07.8**	**+0.5**
	comp=N,31nm,0.2s,SNR=4.0							
EBAD				Lg	Lg	15 23 16.3		
	comp=N,68nm,0.1s,SNR=9.2							
EBAD	**Badajoz**	**2.19**	**342**	Pn	**Pn**	**15 22 40.5**	**-0.1**
	comp=N,15nm,0.3s,SNR=12							
EBAD	**Badajoz**	**2.19**	**342**	Pg	**Pb**	**15 22 43.9**	**-0.2**
	comp=N,13nm,0.3s,SNR=17							
EBAD				Sn	**Sn**	**15 23 06.2**	**-1.1**
	comp=N,31nm,0.2s,SNR=7.9							
EBAD				Lg	Lg	15 23 14.8		
	comp=N,66nm,0.3s,SNR=9.2							
PTEO	**Sao Teotonio**	**2.22**	**294**	*e*Pn	**Pn**	**15 22 40.7**	**-0.4**
PTEO	**Sao Teotonio**	**2.22**	**294**	*e*Pg	**Pg**	**15 22 49.1**	**+1.5**
PTEO				*e*Sn	**Sn**	**15 23 06.6**	**-1.5**
PTEO				*e*Sg	**Sg**	**15 23 17.5**	**+1.0**
PTEO				A	A	15 23 23.0		
	comp=N,88nm,0.7s							
PTEO	**Sao Teotonio**	**2.22**	**294**	*e*Pn	**Pn**	**15 22 40.7**	**-0.4**
PTEO	**Sao Teotonio**	**2.22**	**294**	*e*Pg	**Pg**	**15 22 49.1**	**+1.5**
PTEO				*e*Sn	**Sn**	**15 23 06.6**	**-1.5**
PTEO				*e*Sg	**Sg**	**15 23 17.5**	**+1.0**
PTEO				A	A	15 23 23.0		
	comp=N,88nm,0.7s							
EQUE	**Quentar**	**2.25**	**75**	Pn	**Pn**	**15 22 41.6**	**0.0**
	comp=N,0.8nm,0.2s,SNR=7.3							
EQUE				Pg	**Pb**	**15 22 46.6**	**+1.3**
	comp=N,2.4nm,0.2s,SNR=4.5							
EQUE				Sn	**Sn**	**15 23 08.9**	**-0.1**
	comp=N,13nm,0.4s,SNR=7.9							
EQUE				Lg	Lg	15 23 19.7		
	comp=N,28nm,0.3s,SNR=4.4							
EQUE	**Quentar**	**2.25**	**75**	Pn	**Pn**	**15 22 41.6**	**0.0**
	comp=N,18nm,0.4s,SNR=7.3							
EQUE	**Quentar**	**2.25**	**75**	Pg	**Pg**	**15 22 47.1**	**-1.1**
	comp=N,2.4nm,0.2s,SNR=4.5							
EQUE				Sn	**Sn**	**15 23 08.9**	**-0.1**
	comp=N,13nm,0.4s,SNR=7.9							
EQUE				Lg	Lg	15 23 19.7		
	comp=N,183nm,3.0s,SNR=4.4							
EVO	**Evora**	**2.37**	**322**	*e*Pn	**Pn**	**15 22 43.6**	**+0.5**
EVO	**Evora**	**2.37**	**322**	*e*Pg	**Pg**	**15 22 50.3**	**-0.1**
EVO				*e*Sn	**Sn**	**15 23 12.5**	**+0.8**
EVO				*e*Sg	**Sg**	**15 23 22.7**	**+1.5**
	comp=N,176nm,0.4s							
PNCL	**Nicolau / Gran**	**2.37**	**308**	‖*e*Pn	**Pn**	**15 22 42.6**	**-0.5**
PNCL	**Nicolau / Gran**	**2.37**	**308**	*e*Pg	**Pg**	**15 22 50.8**	**+0.4**
PNCL				*e*Sn	**Sn**	**15 23 12.9**	**+1.2**
PNCL				*e*Sg	**Sg**	**15 23 20.5**	**-0.7**
PNCL				A	A	15 23 25.4		
	comp=N,71nm,0.8s							
PNCL	**Nicolau / Gran**	**2.37**	**308**	‖*e*Pn	**Pn**	**15 22 42.6**	**-0.5**
PNCL	**Nicolau / Gran**	**2.37**	**308**	*e*Pg	**Pg**	**15 22 50.8**	**+0.4**
PNCL				*e*Sn	**Sn**	**15 23 12.9**	**+1.2**
PNCL				*e*Sg	**Sg**	**15 23 20.5**	**-0.7**
PNCL				A	A	15 23 25.4		
	comp=N,71nm,0.8s							
EVOP	**Sao Brissos**	**2.42**	**321**	*e*Pn	**Pn**	**15 22 43.6**	**-0.2**
EVOP	**Sao Brissos**	**2.42**	**321**	*e*Pg	**Pg**	**15 22 50.3**	**-1.1**
EVOP				*e*Sn	**Sn**	**15 23 12.5**	**-0.5**
EVOP				*e*Sg	**Sg**	**15 23 22.7**	**-0.1**
	comp=N,88nm,0.4s							
PESTR	**Estremoz**	**2.47**	**333**	*e*Pn	**Pn**	**15 22 45.2**	**+0.7**
PESTR				*e*Sn	**Sn**	**15 23 14.5**	**+0.3**
PESTR				*e*Sg	**Sg**	**15 23 22.3**	**-2.0**
PESTR				A	A	15 23 33.3		
	comp=N,60nm,0.7s							
PESTR	**Estremoz**	**2.47**	**333**	*e*Pn	**Pn**	**15 22 45.2**	**+0.7**
PESTR				*e*Sn	**Sn**	**15 23 14.5**	**+0.3**
PESTR				*e*Sg	**Sg**	**15 23 22.3**	**-2.0**
PESTR				A	A	15 23 33.3		
	comp=N,60nm,0.7s							
EBER	**Berja**	**2.64**	**84**	Pn	**Pn**	**15 22 48.0**	**+0.9**
	comp=N,1.0nm,0.2s,SNR=7.9							
EBER				Pg	**Pb**	**15 22 53.0**	**+1.0**
	comp=N,4.1nm,0.4s,SNR=7.9							
EBER	**Berja**	**2.64**	**84**	Pn	**Pn**	**15 22 47.5**	**+0.5**
	comp=N,1.5nm,0.2s,SNR=7.9							
EBER	**Berja**	**2.64**	**84**	Pg	**Pb**	**15 22 53.0**	**+1.0**
	comp=N,4.1nm,0.4s,SNR=7.9							
EQES	**Quesada**	**2.72**	**64**	Pn	**Pn**	**15 22 49.2**	**+1.2**
	comp=N,0.5nm,0.1s,SNR=4.0							
EQES				Pg	**Pb**	**15 22 54.3**	**+1.0**
	comp=N,1.7nm,0.2s,SNR=13							
EQES				Sn	**Sn**	**15 23 21.7**	**+1.1**
	comp=N,8.4nm,0.4s,SNR=5.3							
EQES				Lg	Lg	15 23 33.2		
	comp=N,41nm,0.4s,SNR=10							
EQES	**Quesada**	**2.72**	**64**	Pn	**Pn**	**15 22 48.5**	**+0.5**
	comp=N,19nm,0.5s,SNR=5.0							
EQES	**Quesada**	**2.72**	**64**	Pg	**Pg**	**15 22 55.5**	**-1.6**
	comp=N,19nm,0.5s,SNR=13							
EQES				Sn	**Sn**	**15 23 21.7**	**+1.1**
	comp=N,13nm,0.5s,SNR=5.3							
EQES				Lg	Lg	15 23 33.3		
	comp=N,47nm,0.4s,SNR=10							
PMRV	**Marv??o**	**2.92**	**341**	*e*Pn	**Pn**	**15 22 52.0**	**+1.3**
PMRV	**Marv??o**	**2.92**	**341**	*e*Pg	**Pg**	**15 23 00.2**	**-0.8**
PMRV				*e*Sg	**Sg**	**15 23 37.7**	**-1.1**
PMRV				A	A	15 23 44.6		
	comp=N,75nm,0.6s							
PMRV	**Marv??o**	**2.92**	**341**	*e*Pn	**Pn**	**15 22 52.0**	**+1.3**
PMRV	**Marv??o**	**2.92**	**341**	*e*Pg	**Pg**	**15 23 00.2**	**-0.8**
PMRV				*e*Sg	**Sg**	**15 23 37.7**	**-1.1**
PMRV				A	A	15 23 44.6		
	comp=N,75nm,0.6s							
EMEL	**Melilla**	**2.94**	**117**	Pn	**Pn**	**15 22 53.4**	**+2.4**
	comp=N,98nm,0.1s,SNR=7.9							
TZK	**Tazeka**	**3.04**	**147**	P	**Pn**	**15 22 55.0**	**+2.5**
TZK				S	**Sn**	**15 23 28.0**	**-0.7**
TZK	**Tazeka**	**3.04**	**147**	*e*P	**Pn**	**15 22 55.0**	**+2.5**
TZK				*i* S	**Sn**	**15 23 28.0**	**-0.7**
SESP	**Santiago Espad**	**3.23**	**62**	Pn	**Pn**	**15 22 56.7**	**+1.7**
	comp=N,2.6nm,0.2s,SNR=4.0							
SESP				Pg	**Pg**	**15 23 06.3**	**-0.6**
	comp=N,5.8nm,0.2s,SNR=7.9							
SESP				Sn	**Sn**	**15 23 35.0**	**+1.7**
	comp=N,13nm,0.4s,SNR=7.9							
SESP				Lg	Lg	15 23 47.4		
	comp=N,32nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**3.23**	**62**	Pn	**Pn**	**15 22 55.3**	**+0.2**
	comp=N,0.8nm,0.2s,SNR=4.0							
SESP	**Santiago Espad**	**3.23**	**62**	Pg	**Pg**	**15 23 05.4**	**-1.5**
	comp=N,3.7nm,0.2s,SNR=7.9							
SESP				Sn	**Sn**	**15 23 34.0**	**+0.8**
	comp=N,60nm,0.9s,SNR=7.9							
SESP				Lg	Lg	15 23 46.5		
	comp=N,161nm,2.9s,SNR=7.9							
PCBR	**Castelo Branco**	**3.33**	**342**	*e*Pn	**Pn**	**15 22 55.8**	**-0.5**
PCBR				*e*Sg	**Sg**	**15 23 50.3**	**-1.7**
PCBR				A	A	15 23 54.5		
	comp=N,39nm,0.3s							
PCBR	**Castelo Branco**	**3.33**	**342**	*e*Pn	**Pn**	**15 22 55.8**	**-0.5**
PCBR				*e*Sg	**Sg**	**15 23 50.3**	**-1.7**
PCBR				A	A	15 23 54.5		
	comp=N,39nm,0.3s							
PMAFR	**Mafra**	**3.36**	**314**	Pn	**Pn**	**15 22 57.2**	**+0.4**
	comp=N,4.9nm,0.2s,SNR=7.9							
PMAFR				Pg	**Pb**	**15 23 05.0**	**+0.8**
	comp=N,1.4nm,0.1s,SNR=7.9							
PMAFR				Sn	**Sn**	**15 23 33.2**	**-3.1**
	comp=N,47nm,0.7s,SNR=7.9							
PMAFR				Lg	Lg	15 23 52.3		
	comp=N,92nm,0.5s,SNR=7.9							
PMAFR	**Mafra**	**3.36**	**314**	Pn	**Pn**	**15 22 56.2**	**-0.5**
	comp=N,4.9nm,0.2s,SNR=7.9							
PMAFR	**Mafra**	**3.36**	**314**	Pg	**Pb**	**15 23 05.1**	**+1.0**
	comp=N,1.4nm,0.1s,SNR=7.9							
PMAFR				Sn	**Sn**	**15 23 33.2**	**-3.1**
	comp=N,12nm,0.8s,SNR=7.9							
PMAFR				Lg	Lg	15 23 51.3		
	comp=N,364nm,4.2s,SNR=7.9							
PMAFR	**Mafra**	**3.36**	**314**	*e*Pn	**Pn**	**15 22 56.9**	**+0.2**
PMAFR				*e*Sg	**Sg**	**15 23 51.4**	**-1.5**
PMAFR				A	A	15 23 59.5		
	comp=N,67nm,0.5s							
PMAFR	**Mafra**	**3.36**	**314**	*e*Pn	**Pn**	**15 22 56.9**	**+0.2**
PMAFR				*e*Sg	**Sg**	**15 23 51.4**	**-1.5**
PMAFR				A	A	15 23 59.5		
	comp=N,67nm,0.5s							
EPLA	**Plasencia**	**3.39**	**1**	Pn	**Pn**	**15 22 57.7**	**+0.5**
	comp=N,4.8nm,0.3s,SNR=11							
EPLA				Sn	**Sn**	**15 23 36.6**	**-0.5**
	comp=N,17nm,0.5s,SNR=13							
EPLA				Lg	Lg	15 23 53.1		
	comp=N,52nm,0.4s							
EPLA	**Plasencia**	**3.39**	**1**	Pn	**Pn**	**15 22 57.7**	**+0.5**
	comp=N,4.7nm,0.3s,SNR=11							
EPLA				Sn	**Sn**	**15 23 36.6**	**-0.5**
	comp=N,20nm,0.7s,SNR=13							
EPLA				Lg	Lg	15 23 54.1		
	comp=N,32nm,0.3s							
PTOM	**Tomar**	**3.44**	**330**	*e*Sg	**Sg**	**15 23 55.5**	**+0.2**
PTOM				A	A	15 24 02.9		
	comp=N,53nm,0.5s							
PTOM	**Tomar**	**3.44**	**330**	*e*Sg	**Sg**	**15 23 55.5**	**+0.2**
PTOM				A	A	15 24 02.9		
	comp=N,53nm,0.5s							
ESDC	**Sonseca Array**	**3.47**	**29**	Pn	**Pn**	**15 22 58.9**	**+0.7**
	comp=N,1.5nm,0.2s,SNR=7.9							
ESDC				Pg	**Pg**	**15 23 09.7**	**-1.7**
	comp=N,0.6nm,0.3s,baz=208,slow=12,SNR=4.5							
ESDC				Sn	**Sn**	**15 23 39.9**	**+1.0**
	comp=N,3.7nm,0.4s,baz=213,slow=16,SNR=7.0							
ESDC				Lg	Lg	15 23 56.3		
	comp=N,3.4nm,0.4s,baz=206,slow=28,SNR=5.5							
ESDC	**Sonseca Array**	**3.47**	**29**	Pg	**Pg**	**15 23 09.7**	**-1.7**
	comp=N,0.6nm,0.3s,SNR=4.5							
ESDC				Sn	**Sn**	**15 23 39.8**	**+0.8**
	comp=N,1.6nm,0.3s,SNR=7.0							
ESDC				Lg	Lg	15 23 58.8		
	comp=N,1.7nm,0.4s,SNR=5.5							
EVIA	**Vianos**	**3.51**	**55**	Pn	**Pn**	**15 22 58.2**	**-0.7**
	comp=N,2.0nm,0.2s,SNR=7.9							
EVIA				Pg	**Pg**	**15 23 10.9**	**-1.4**
	comp=N,24nm,0.5s,SNR=5.6							
EVIA				Sn	**Sn**	**15 23 40.6**	**+0.4**
	comp=N,39nm,0.6s,SNR=5.5							
EVIA				Lg	Lg	15 23 59.6		
	comp=N,82nm,0.5s,SNR=4.0							
EVIA	**Vianos**	**3.51**	**55**	Pn	**Pn**	**15 22 58.2**	**-0.7**
	comp=N,2.0nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**3.51**	**55**	Pg	**Pg**	**15 23 10.9**	**-1.4**
	comp=N,24nm,0.5s,SNR=5.6							
EVIA				Sn	**Sn**	**15 23 39.6**	**-0.5**
	comp=N,130nm,0.8s,SNR=5.5							
EVIA				Lg	Lg	15 23 59.6		
	comp=N,82nm,0.5s,SNR=4.0							
CZD	**Col de Zad**	**3.74**	**165**	P	**Pn**	**15 23 04.0**	**+1.8**
CZD				S	**Sn**	**15 23 43.0**	**-3.0**
CZD	**Col de Zad**	**3.74**	**165**	*e*P	**Pn**	**15 23 04.0**	**+1.8**
ETOB	**Tobarra**	**4.16**	**60**	Pn	**Pn**	**15 23 07.6**	**-0.3**
	comp=N,2.1nm,0.2s,SNR=8.0							
ETOB				Sn	**Sn**	**15 23 54.6**	**-1.5**
	comp=N,3.6nm,0.2s,SNR=7.9							
ETOB				Lg	Lg	15 24 19.9		
	comp=N,13nm,0.6s,SNR=5.0							
ETOB	**Tobarra**	**4.16**	**60**	Pn	**Pn**	**15 23 06.5**	**-1.3**
	comp=N,3.6nm,0.5s,SNR=8.0							
ETOB				Sn	**Sn**	**15 23 56.1**	**-0.1**
	comp=N,1.3nm,2.1s,SNR=7.9							
ETOB				Lg	Lg	15 24 19.2		
	comp=N,13nm,0.6s,SNR=5.0							
PVIS	**Viseu**	**4.26**	**342**	*e*Sg	**Sg**	**15 24 18.8**	**-3.0**
PVIS				A	A	15 24 27.8		
	comp=N,28nm,0.5s							
PVIS	**Viseu**	**4.26**	**342**	*e*Sg	**Sg**	**15 24 18.8**	**-3.0**
PVIS				A	A	15 24 27.8		
	comp=N,28nm,0.5s							
GUD	**Guadarrama**	**4.27**	**21**	Pn	**Pn**	**15 23 10.3**	**+0.9**
	comp=N,1.3nm,0.3s,SNR=7.9							
GUD				Pg	**Pb**	**15 23 21.5**	**+1.8**
	comp=N,4.3nm,0.3s,SNR=7.9							
GUD				Sn	**Sn**	**15 23 57.6**	**-1.3**
	comp=N,5.9nm,0.3s,SNR=7.9							
GUD				Lg	Lg	15 24 23.5		
	comp=N,42nm,0.5s,SNR=7.9							
GUD	**Guadarrama**	**4.27**	**21**	Pn	**Pn**	**15 23 10.3**	**+0.9**
	comp=N,1.3nm,0.3s,SNR=7.9							
GUD				Sn	**Sn**	**15 23 57.0**	**-1.9**
	comp=N,4.8nm,1.0s,SNR=7.9							
GUD				Lg	Lg	15 24 23.2		
	comp=N,19nm,0.7s,SNR=7.9							
MVO	**Moncorvo**	**4.54**	**352**	Pn	**Pn**	**15 23 15.3**	**+2.3**
	comp=N,1.8nm,0.2s,SNR=4.0							
MVO				Sn	**Sn**	**15 24 03.7**	**-1.7**
	comp=N,12nm,0.3s,SNR=6.4							
MVO				Lg	Lg	15 24 29.2		
	comp=N,44nm,0.5s,SNR=6.7							
MVO	**Moncorvo**	**4.54**	**352**	Pn	**Pn**	**15 23 13.8**	**+0.8**
	comp=N,3.9nm,0.3s,SNR=5.6							
MVO				Sn	**Sn**	**15 24 03.7**	**-1.7**
	comp=N,47nm,0.4s,SNR=6.4							
MVO				Lg	Lg	15 24 29.2		
	comp=N,44nm,0.5s,SNR=6.7							
MVO	**Moncorvo**	**4.54**	**352**	*e*Sg	**Sg**	**15 24 29.2**	**-1.5**
MVO				A	A	15 24 40.0		
	comp=N,49nm,0.5s							
MVO	**Moncorvo**	**4.54**	**352**	*e*Sg	**Sg**	**15 24 29.2**	**-1.5**
MVO				A	A	15 24 40.0		
	comp=N,49nm,0.5s							
EBEN	**Beniarda**	**5.13**	**65**	Sn	**Sn**	**15 24 18.2**	**-1.9**
	comp=N,2.6nm,0.4s,SNR=7.9							
EBEN	**Beniarda**	**5.13**	**65**	Sn	**Sn**	**15 24 18.4**	**-1.6**
	comp=N,14nm,1.1s,SNR=7.9							
ETOR	**Torete**	**5.25**	**37**	Pn	**Pn**	**15 23 22.8**	**+0.1**
	comp=N,8.4nm,0.3s,SNR=8.6							
ETOR				Sn	**Sn**	**15 24 22.0**	**-0.8**
	comp=N,6.3nm,0.3s,SNR=7.9							
ETOR				Lg	Lg	15 24 55.0		
	comp=N,51nm,0.5s,SNR=5.0							
ETOR	**Torete**	**5.25**	**37**	Pn	**Pn**	**15 23 22.8**	**+0.1**
	comp=N,8.4nm,0.3s,SNR=8.6							
ETOR				Sn	**Sn**	**15 24 22.0**	**-0.8**
	comp=N,98nm,3.7s,SNR=7.9							
ETOR				Lg	Lg	15 24 55.0		
	comp=N,76nm,0.4s,SNR=5.0							
ECAL	**Calabor**	**5.29**	**355**	Pn	**Pn**	**15 23 26.0**	**+2.7**
	comp=N,0.6nm,0.2s,SNR=4.0							
ECAL				Sn	**Sn**	**15 24 21.2**	**-2.6**
	comp=N,16nm,1.1s,SNR=7.7							
ECAL				Lg	Lg	15 24 54.3		
	comp=N,53nm,0.5s,SNR=7.8							
ECAL	**Calabor**	**5.29**	**355**	Pn	**Pn**	**15 23 23.2**	**0.0**
	comp=N,25nm,0.4s,SNR=4.0							
ECAL				Lg	Lg	15 24 55.6		
	comp=N,25nm,0.4s,SNR=7.8							
ELOB	**Lobios**	**5.40**	**345**	Pn	Pn	15 23 29.4	+4.7
	comp=N,0.2nm,0.1s,SNR=4.0							
ELOB				Sn	**Sn**	**15 24 24.7**	**-1.8**
	comp=N,9.4nm,0.5s,SNR=5.1							
ELOB				Lg	Lg	15 24 59.5		
	comp=N,49nm,0.8s,SNR=7.0							
ELOB	**Lobios**	**5.40**	**345**	Pn	**Pn**	**15 23 24.9**	**+0.1**
	comp=N,3.4nm,0.5s,SNR=4.0							
ELOB				Sn	**Sn**	**15 24 23.9**	**-2.6**
	comp=N,9.4nm,0.5s,SNR=5.1							
ELOB				Lg	Lg	15 24 58.5		
	comp=N,18nm,0.5s,SNR=7.0							
OUK	**Oukaimeden**	**5.62**	**195**	P	**Pn**	**15 23 28.0**	**-0.1**
OUK				S	**Sn**	**15 24 27.0**	**-5.5**
OUK	**Oukaimeden**	**5.62**	**195**	*i* P	**Pn**	**15 23 28.0**	**-0.1**
EMOS	**Mosqueruela**	**5.79**	**49**	Pn	**Pn**	**15 23 30.2**	**-0.1**
	comp=N,0.3nm,0.2s,SNR=7.9							
EMOS				Sn	**Sn**	**15 24 35.4**	**-1.1**
	comp=N,0.9nm,0.3s,SNR=7.9							
EMOS				Lg	Lg	15 25 10.9		
	comp=N,2.0nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**5.79**	**49**	Pn	**Pn**	**15 23 30.0**	**-0.3**
	comp=N,0.3nm,0.2s,SNR=7.9							
EMOS				Lg	Lg	15 25 11.8		
	comp=N,7.5nm,0.5s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.30**	**347**	Pn	**Pn**	**15 23 36.5**	**-0.6**
	comp=N,0.3nm,0.3s,SNR=7.9							
EAGO				Lg	Lg	15 25 26.9		
	comp=N,7.5nm,0.4s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.30**	**347**	Pn	**Pn**	**15 23 37.1**	**-0.1**
	comp=N,0.3nm,0.3s,SNR=7.9							
EAGO				Lg	Lg	15 25 28.2		
	comp=N,50nm,2.8s,SNR=7.9							
ERTA	**Horta de San J**	**6.64**	**48**	Sn	**Sn**	**15 24 54.4**	**-2.8**
	comp=N,1.0nm,0.1s,SNR=7.9							
EARI	**Arriondas**	**6.67**	**6**	Sn	**Sn**	**15 24 52.6**	**-5.2**
	comp=N,0.9nm,0.4s,SNR=7.9							
EARI				Lg	Lg	15 25 36.6		
	comp=N,2.6nm,0.4s,SNR=4.8							
EARI	**Arriondas**	**6.67**	**6**	Lg	Lg	15 25 40.2		
	comp=N,14nm,0.9s,SNR=4.8							
ESAC	**San Caprasio**	**6.71**	**40**	Lg	Lg	15 25 41.8		
	comp=N,132nm,2.2s,SNR=7.9							
ESAC	**San Caprasio**	**6.71**	**40**	Lg	Lg	15 25 42.4		
	comp=N,132nm,2.2s,SNR=7.9							
SJPF	**Ste Jean**	**7.47**	**29**	*e*Pn	**Pn**	**15 23 54.1**	**+0.9**
SJPF				*e*Sg	**Sg**	**15 26 02.2**	**-2.5**
	comp=N,11nm,0.8s							
SJPF	**Ste Jean**	**7.47**	**29**	Pn	**Pn**	**15 23 54.1**	**+0.9**
SJPF				Lg	Lg	15 26 02.2		
	comp=N,5.7nm,0.8s							
SJPF	**Ste Jean**	**7.47**	**29**	*e*Pn	**Pn**	**15 23 54.1**	**+0.9**
SJPF				*e*Sg	**Sg**	**15 26 02.2**	**-2.5**
	comp=N,5.7nm,0.8s							
ETSF	**Etsaut**	**7.57**	**33**	*e*Pn	**Pn**	**15 23 54.6**	**0.0**
ETSF	**Etsaut**	**7.57**	**33**	*e*Pg		15 24 25.9		
ETSF				*e*Sg		15 26 05.9		
	comp=N,7.5nm,0.6s							
ETSF	**Etsaut**	**7.57**	**33**	Pn	**Pn**	**15 23 54.6**	**0.0**
ETSF				Pg		15 24 25.9		
ETSF				Lg	Lg	15 26 05.9		
	comp=N,3.8nm,0.6s							
ETSF	**Etsaut**	**7.57**	**33**	*e*Pn	**Pn**	**15 23 54.6**	**0.0**
ETSF	**Etsaut**	**7.57**	**33**	*e*Pg		15 24 25.9		
ETSF				*e*Sg		15 26 05.9		
	comp=N,3.8nm,0.6s							
EPF	**Esparros**	**8.09**	**36**	*e*Pn	**Pn**	**15 24 01.7**	**0.0**
EPF				*e*Sg		15 26 21.9		
	comp=N,2.5nm,0.3s							
EPF	**Esparros**	**8.09**	**36**	Pn	**Pn**	**15 24 01.7**	**0.0**
EPF				Lg	Lg	15 26 21.9		
	comp=N,1.2nm,0.3s							
EPF	**Esparros**	**8.09**	**36**	*e*Pn	**Pn**	**15 24 01.7**	**0.0**
EPF				*e*Sg		15 26 21.9		
	comp=N,1.2nm,0.3s							

NIED ***21*** *15:25:00.33ˈ00N×142ˈ60E, h8km, Mw3.7 Best double couple: M0=4.64000×10¹⁴ NP1:φs=34.00000°, δ31.00000°, λ-88.00000°. NP2:φs=211.00000°, δ59.00000°, λ-91.00000°.*

ISCJB ***21*** *15:25:16.9±1.1, 33ˈ12N±0ˈ08×142ˈ6E±0ˈ2, h39km, mb3.7/3, Error ellipse: s-maj=20.5km s-min=7.5km az=149.8*

JMA ***21*** *15:25:16.1±0.5, 33ˈ01N×142ˈ59E, h

ISC 21 15:33:31.2±1.6**, 37°.42N**±0°.04×**20°.36E**±0°.05**, h2**km±10km**,**
n75, σ0.64/106**, 2C, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKS	Zakynthos	0.44	51	*e*PB	Pg	15 33 40.3	+0.6
ZKS				*e*SB	Sb	15 33 48.0	-0.8
ZKS	Zakynthos	0.44	51	*e*Pb	Pg	15 33 40.3	+0.6
ZKS				*e*Sb	Sb	15 33 48.0	-0.8
SFD	Strofades	0.55	108	P	Pg	15 33 41.9	0.0
SFD				S	Sg	15 33 49.8	+0.8
SFD	Strofades	0.55	108	*e*PB	Pg	15 33 41.1	-0.8
SFD	Strofades	0.55	108	*e*Pb	Pg	15 33 41.1	-0.8
SFD	Strofades	0.55	108	P	Pg	15 33 41.9	0.0
SFD				S	Sg	15 33 49.8	+0.8
KFL	Anninata	0.77	26	P	Pg	15 33 45.7	-0.3
KFL				S	Sg	15 33 56.6	+0.7
KFL	Anninata	0.77	26	P	Pg	15 33 45.7	-0.3
KFL				S	Sg	15 33 56.6	+0.7
VLS	Valsamata	0.78	14	P	Pg	15 33 45.2	-1.0
VLS				S	Sb	15 33 57.5	-1.0
VLS	Valsamata	0.78	14	*e*PG	Pg	15 33 45.4	-0.8
VLS				*e*SB	Sb	15 33 58.2	-0.3
VLS	Valsamata	0.78	14	*e*Pg	Pg	15 33 45.4	-0.8
VLS				S	Sb	15 33 57.5	-1.0
VLS				*e*Sb	Sb	15 33 58.2	-0.3
AMT	Artemida-Makis	1.08	84	P	Pg	15 33 51.4	-0.6
AMT				S	Sb	15 34 07.0	-0.3
AMT	Artemida-Makis	1.08	84	P	Pg	15 33 51.4	-0.6
AMT				S	Sb	15 34 07.0	-0.3
RLS	Riolos of Patr	1.09	54	P	Pg	15 33 51.9	-0.2
RLS				S	Sg	15 34 06.1	-0.1
RLS	Riolos of Patr	1.09	54	*e*PB	Pb	15 33 52.9	+0.2
RLS	Riolos of Patr	1.09	54	P	Pg	15 33 51.9	-0.2
RLS	Riolos of Patr	1.09	54	*e*Pb	Pb	15 33 52.9	+0.2
RLS				S	Sg	15 34 06.1	-0.1
DRO	Drossia	1.20	63	*e*PB	Pg	15 33 54.4	+0.2
DRO				*e*SB	Sn	15 34 12.3	+0.4
DRO	Drossia	1.20	63	*e*Pb	Pg	15 33 54.4	+0.2
DRO				*e*Sb	Sn	15 34 12.3	+0.4
PYL	PYLOS	1.23	115	P	Pg	15 33 53.9	-0.8
PYL				S	Sb	15 34 11.4	0.0
PYL	PYLOS	1.23	115	*e*PB	Pg	15 33 54.2	-0.5
PYL				*e*SB	Sb	15 34 11.2	-0.2
PYL	PYLOS	1.23	115	P	Pg	15 33 53.9	-0.8
PYL	PYLOS	1.23	115	*e*Pb	Pg	15 33 54.2	-0.5
PYL				*e*Sb	Sb	15 34 11.2	-0.2
ITM	Ithomi	1.28	100	P	Pg	15 33 55.0	-0.7
ITM				S	Sb	15 34 12.8	-0.1
ITM	Ithomi	1.28	100	P	Pg	15 33 55.0	-0.7
ITM				S	Sb	15 34 12.8	-0.1
PDO	Prodromos	1.34	29	*e*PB	Pb	15 33 57.3	+0.1
PDO	Prodromos	1.34	29	*e*Pb	Pb	15 33 57.3	+0.1
KLV	Kalavryta, Ach	1.55	66	P	Pn	15 33 59.3	-0.7
KLV				S	Sn	15 34 20.3	-0.4
KLV	Kalavryta, Ach	1.55	66	*e*PG	Pn	15 34 00.3	+0.3
KLV	Kalavryta, Ach	1.55	66	P	Pn	15 33 59.3	-0.7
KLV	Kalavryta, Ach	1.55	66	*e*Pg	Pn	15 34 00.3	+0.3
KLV				S	Sn	15 34 20.3	-0.4
EFP	Efpalio	1.58	50	P	Pn	15 34 00.8	+0.5
EFP				S	Sn	15 34 21.7	+0.3
EFP	Efpalio	1.58	50	*e*PG	Pb	15 34 01.1	-0.1
EFP	Efpalio	1.58	50	P	Pn	15 34 00.8	+0.5
EFP	Efpalio	1.58	50	*e*Pg	Pb	15 34 01.1	-0.1
EFP				S	Sn	15 34 21.7	+0.3
GUR	Goura	1.66	71	P	Pn	15 34 01.8	+0.3
GUR				S	Sg	15 34 24.8	+0.3
GUR	Goura	1.66	71	*e*PN	Pb	15 34 02.2	-0.4
GUR	Goura	1.66	71	P	Pn	15 34 01.8	+0.3
GUR	Goura	1.66	71	*e*Pn	Pb	15 34 02.2	-0.4
GUR				S	Sg	15 34 24.8	+0.3
KALE	Kalithea	1.71	55	P	Pn	15 34 02.6	+0.5
KALE				S	Sn	15 34 24.1	-0.5
KALE	Kalithea	1.71	55	*e*PG	Pb	15 34 03.6	+0.1
KALE	Kalithea	1.71	55	P	Pn	15 34 02.6	+0.5
KALE	Kalithea	1.71	55	*e*Pg	Pb	15 34 03.6	+0.1
KALE				S	Sn	15 34 24.1	-0.5
DSL	Palaion Diasel	1.81	19	*e*PN	Pn	15 34 03.8	+0.4
DSL	Palaion Diasel	1.81	19	*e*Pn	Pn	15 34 03.8	+0.4
EVR	Evrytania	1.88	37	P	Pn	15 34 04.3	-0.2
EVR	Evrytania	1.88	37	⇑*i*PG	Pb	15 34 06.1	-0.3
EVR	Evrytania	1.88	37	P	Pn	15 34 04.3	-0.2
EVR	Evrytania	1.88	37	⇑*i*Pg	Pb	15 34 06.1	-0.3
DSF	Desfina	1.98	59	P	Pn	15 34 06.3	+0.4
DSF				S	Sn	15 34 32.0	+0.7
DSF	Desfina	1.98	59	*e*PN	Pn	15 34 06.4	+0.5
DSF	Desfina	1.98	59	P	Pn	15 34 06.3	+0.4
DSF				S	Sn	15 34 32.0	+0.7
IGT	Igoumenitsa	2.11	360	*e*PG	Pb	15 34 10.2	0.0
IGT	Igoumenitsa	2.11	360	*e*Pg	Pb	15 34 10.2	0.0
MAKR	Makrakomi, Fth	2.12	41	P	Pn	15 34 08.7	+1.0
MAKR	Makrakomi, Fth	2.12	41	*e*PN	Pb	15 34 09.3	-1.1
MAKR	Makrakomi, Fth	2.12	41	P	Pn	15 34 08.7	+1.0
VLI	Veliai	2.18	108	*e*PG	Pb	15 34 10.6	-0.8
SGD	Sagiada	2.19	358	*e*PN	Pn	15 34 09.0	+0.3
SGD	Sagiada	2.19	358	*e*Pn	Pn	15 34 09.0	+0.3
AGG	Agios Georgios	2.23	44	*e*PN	Pn	15 34 10.0	+0.7
AGG	Agios Georgios	2.23	44	*e*Pn	Pn	15 34 10.0	+0.7
DID	Didima	2.29	87	*e*PN	Pn	15 34 11.0	+0.9
DID	Didima	2.29	87	*e*Pn	Pn	15 34 11.0	+0.9
LKR	Lokris	2.42	59	*e*PB	Pn	15 34 12.2	+0.4
LKR	Lokris	2.42	59	*e*Pb	Pn	15 34 12.2	+0.4
KYTH	Kithira	2.43	117	*e*PN	Pn	15 34 13.1	+1.1
THL	Klokotos Trika	2.50	31	P	Pn	15 34 12.5	-0.5
THL	Klokotos Trika	2.50	31	*e*PB	Pn	15 34 13.5	+0.5
THL	Klokotos Trika	2.50	31	P	Pn	15 34 12.5	-0.5
THL	Klokotos Trika	2.50	31	*e*Pb	Pn	15 34 13.5	+0.5
BARS	Barje	5.50	11	*e*Pn	Pn	15 34 52.1	-2.1
VTS	Vitosha	5.61	22	*e*Pn	Pn	15 34 55.7	-0.1
SJES	Sjenica	5.84	357	*e*Pn	Pn	15 35 00.6	+1.7
DIVS	Divibare	6.68	358	*e*Pn	Pn	15 35 12.6	+2.2

*NEIC **21** 16:24:51.4, 41°.56S×174°.26E, h19km, ML4.0(WEL), After WEL.*
NEIC Felt in central New Zealand.
WEL 21 16:24:51.6±0.1**, 41°.56S**×**174°.29E, h16**km±1km**, ML4.0**/44**,**
9C-8D, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.20	197	⇑P*	Pg	16 24 56.5	+0.2
CMWZ				S*	Sb	16 25 00.9	+0.4
CMWZ				AML	AML	16 25 01.6	
CMWZ	Cape Campbell	0.20	197	P*	Pg	16 24 56.5	+0.2
CMWZ				S*	Sb	16 25 00.9	+0.4
TUWZ	Tuamarina	0.29	296	⇓P*	Pg	16 24 57.6	-0.2
TUWZ				S*	Sg	16 25 01.8	-0.3
TUWZ				AML	AML	16 25 02.4	
TUWZ	Tuamarina	0.29	296	P*	Pg	16 24 57.6	-0.2
TUWZ				S*	Sg	16 25 01.8	-0.3
TCW	Tory Channel	0.35	358	⇑P*	Pg	16 24 58.6	-0.1
TCW				S*	Sg	16 25 03.5	-0.1
TCW				AML	AML	16 25 04.4	
TCW	Tory Channel	0.35	358	P*	Pg	16 24 58.6	-0.1
BSWZ	Blackbirch Sta	0.35	243	⇑P*	Pg	16 24 58.6	-0.3
BSWZ				S*	Sg	16 25 03.7	-0.1
BSWZ				AML	AML	16 25 04.6	
BSWZ	Blackbirch Sta	0.35	243	P*	Pg	16 24 58.6	-0.3
BSWZ				S*	Sg	16 25 03.7	-0.1
SNZO	South Karori	0.40	51	*e*Pg	Pg	16 24 59.7	0.0
WEL	Wellington	0.45	53	⇓P*	Pg	16 25 00.6	0.0
WEL				S*	Sb	16 25 07.4	-0.2
WEL				AML	AML	16 25 09.4	
WEL				AML	AML	16 25 09.4	
WEL	Wellington	0.45	53	P*	Pg	16 25 00.7	0.0
BHW	Baring Head	0.46	71	⇑P*	Pg	16 25 01.0	+0.2
BHW				AML	AML	16 25 08.1	
BHW				AML	AML	16 25 08.2	
BHW	Baring Head	0.46	71	P*	Pg	16 25 01.0	+0.2
PLWZ	Palliser	0.72	91	⇓P*	Pb	16 25 05.9	0.0
PLWZ	Palliser	0.72	91	P*	Pb	16 25 05.9	0.0
MSWZ	Moikau Station	0.73	79	⇓P*	Pb	16 25 06.1	0.0
MSWZ				AML	AML	16 25 19.5	
MSWZ				AML	AML	16 25 19.5	
MSWZ	Moikau Station	0.73	79	P*	Pb	16 25 06.1	0.0
CAW	Cannon Point	0.74	53	⇑P*	Pg	16 25 05.6	-0.4
CAW				AML	AML	16 25 20.3	
CAW				AML	AML	16 25 20.5	
CAW	Cannon Point	0.74	53	P*	Pg	16 25 05.6	-0.4
NNZ	Nelson	0.77	296	P*	Pg	16 25 05.7	-0.8
NNZ	Nelson	0.77	296	P*	Pg	16 25 05.8	-0.7
DUWZ	D'Urville Isla	0.81	340	⇓P*	Pb	16 25 06.6	-0.7
DUWZ				AML	AML	16 25 19.0	
DUWZ				AML	AML	16 25 20.1	
DUWZ	D'Urville Isla	0.81	340	P*	Pb	16 25 06.6	-0.7
KIW	Kapiti Island	0.84	34	⇑P*	Pb	16 25 07.2	-0.6
KIW				AML	AML	16 25 23.9	
KIW				AML	AML	16 25 24.0	
KIW	Kapiti Island	0.84	34	P*	Pb	16 25 07.2	-0.6
PAWZ	Paruwai Farm	0.87	79	⇓P*	Pb	16 25 08.5	+0.1
PAWZ				AML	AML	16 25 22.9	
PAWZ				AML	AML	16 25 23.2	
PAWZ	Paruwai Farm	0.87	79	P*	Pb	16 25 08.5	+0.1
OGWZ	Otaki Gorge	0.99	42	⇑P*	Pb	16 25 10.0	-0.5
OGWZ	Otaki Gorge	0.99	42	P*	Pb	16 25 10.0	-0.5
MTW	Mount Morrison	0.99	67	P*	Pb	16 25 10.3	-0.2
MTW				AML	AML	16 25 26.0	
MTW				AML	AML	16 25 26.4	
MTW	Mount Morrison	0.99	67	P*	Pb	16 25 10.3	-0.2
KHZ	Kahutara	1.02	213	⇓P*	Pb	16 25 10.6	-0.3
KHZ				AML	AML	16 25 25.2	
KHZ				AML	AML	16 25 29.3	
KHZ	Kahutara	1.02	213	P*	Pb	16 25 10.3	-0.6
THZ	Tophouse	1.06	258	P*	Pb	16 25 10.5	-1.2
THZ				AML	AML	16 25 30.4	
THZ				AML	AML	16 25 32.9	
THZ	Tophouse	1.06	258	P*	Pb	16 25 10.5	-1.2
TRWZ	Traveller	1.06	82	P*	Pb	16 25 10.9	-0.7
TRWZ				AML	AML	16 25 31.7	
TRWZ				AML	AML	16 25 32.9	
TRWZ	Traveller	1.06	82	P*	Pb	16 25 10.9	-0.7
HOWZ	Holdsworth Sta	1.13	55	⇑P*	Pn	16 25 12.4	-0.5
HOWZ	Holdsworth Sta	1.13	55	P*	Pn	16 25 12.4	-0.5
TMWZ	Te Maipa	1.29	70	P*	Pn	16 25 14.0	-0.9
TMWZ	Te Maipa	1.29	70	P*	Pn	16 25 14.1	-0.9
MRZ	Mangatainoka R	1.32	48	⇓P*	Pn	16 25 15.1	-0.4
MRZ				AML	AML	16 25 39.2	
MRZ				AML	AML	16 25 45.6	
MRZ	Mangatainoka R	1.32	48	P*	Pn	16 25 15.1	-0.4
TIWZ	Tintock	1.44	58	P*	Pn	16 25 16.0	-1.0
TIWZ				AML	AML	16 25 46.2	
TIWZ				AML	AML	16 25 46.4	
TIWZ	Tintock	1.44	58	Pn	Pn	16 25 16.1	-0.9
QRZ	Quartz Range	1.52	298	PN	Pn	16 25 18.3	+0.2
QRZ	Quartz Range	1.52	298	Pn	Pn	16 25 18.4	+0.2
CPWZ	Castlepoint	1.58	66	PN	Pn	16 25 19.2	+0.2
POWZ	Post Office Ro	1.61	44	PN	Pn	16 25 19.0	-0.4
POWZ	Post Office Ro	1.61	44	Pn	Pn	16 25 19.1	-0.4
PRWZ	Pori Road	1.62	52	PN	Pn	16 25 18.9	-0.6
BFZ	Birch Farm	1.72	60	PN	Pn	16 25 19.3	-1.5
BFZ	Birch Farm	1.72	60	Pn	Pn	16 25 19.4	-1.5
DSZ	Denniston Nort	1.87	263	PN	Pn	16 25 23.4	+0.3
DSZ	Denniston Nort	1.87	263	Pn	Pn	16 25 23.4	+0.3
WAZ	Wanganui	1.88	17	PN	Pb	16 25 24.6	-1.0
WAZ				AML	AML	16 26 00.6	
WAZ				AML	AML	16 26 02.4	
WAZ	Wanganui	1.88	17	Pn	Pb	16 25 24.6	-1.0
DVHZ	Dannevirke	1.90	49	PN	Pn	16 25 22.1	-1.3
DVHZ	Dannevirke	1.90	49	Pn	Pn	16 25 22.1	-1.3
LTZ	Lake Taylor	1.94	230	PN	Pn	16 25 23.2	-0.8
LTZ				AML	AML	16 25 59.2	
LTZ				AML	AML	16 26 02.5	
LTZ	Lake Taylor	1.94	230	Pn	Pn	16 25 23.2	-0.8
TSZ	Takapari Road	1.96	41	⇑PN	Pn	16 25 23.6	-0.7
TSZ				AML	AML	16 26 02.3	
TSZ				AML	AML	16 26 04.5	
TSZ	Takapari Road	1.96	41	Pn	Pn	16 25 23.6	-0.7
ANWZ	Angora Road	1.98	57	PN	Pn	16 25 23.3	-1.2
LREZ	Lake Rotokare	2.10	2	PN	Pb	16 25 28.5	-0.8
NMEZ	Namu Road	2.17	351	PN	Pb	16 25 30.2	-0.3
PNHZ	Pukenui	2.19	42	PN	Pn	16 25 26.5	-1.0
PNHZ	Pukenui	2.19	42	Pn	Pn	16 25 26.5	-1.0
PRHZ	Porangahau	2.19	55	PN	Pn	16 25 25.8	-1.6
PRHZ	Porangahau	2.19	55	Pn	Pn	16 25 25.8	-1.6
WPHZ	Waipukurau	2.21	48	PN	Pn	16 25 26.6	-1.1
WPHZ	Waipukurau	2.21	48	Pn	Pn	16 25 26.6	-1.1
PREZ	Palmer Road	2.22	357	PN	Pb	16 25 29.6	-1.8
KHEZ	Kahui Hut	2.27	355	PN	Pb	16 25 31.2	-1.2
NEZ	North Egmont	2.29	356	PN	Pb	16 25 31.6	-1.1
NEZ	North Egmont	2.29	356	Pn	Pb	16 25 31.6	-1.1
MTVZ	Mangateitei	2.35	23	PN	Pb	16 25 32.5	-1.2
MTVZ				AML	AML	16 26 17.0	
MTVZ				AML	AML	16 26 22.4	
MTVZ	Mangateitei	2.35	23	Pn	Pb	16 25 32.5	-1.2
CRLZ	Canterbury Las	2.36	211	PN	Pn	16 25 27.2	-2.5
CRLZ	Canterbury Las	2.36	211	Pn	Pn	16 25 27.2	-2.5
DREZ	Durham Road	2.37	358	Pn	Pb	16 25 32.8	-1.1
PKE	Pukeiti	2.37	354	PN	Pn	16 25 31.8	+1.9
PKE				AML	AML	16 26 08.7	
PKE				AML	AML	16 26 11.6	
PKE	Pukeiti	2.37	354	Pn	Pn	16 25 31.9	+1.9
PKVZ	Pokaka	2.41	20	PN	Pn	16 25 31.9	+1.5
PKVZ				AML	AML	16 26 14.6	
PKVZ				AML	AML	16 26 17.0	
PKVZ	Pokaka	2.41	20	Pn	Pn	16 25 31.9	+1.5
MOVZ	Moawhango	2.42	28	PN	Pn	16 25 30.6	-0.1
MOVZ				AML	AML	16 26 15.9	
MOVZ				AML	AML	16 26 27.1	
MOVZ	Moawhango	2.42	28	Pn	Pn	16 25 30.9	+0.2
OXZ	Oxford	2.43	223	PN	Pn	16 25 28.5	-2.2
WNVZ	Wahianoa	2.44	25	PN	Pn	16 25 31.9	+0.8
WNVZ	Wahianoa	2.44	25	Pn	Pb	16 25 33.9	-1.5
TRVZ	Turoa	2.45	23	PN	Pn	16 25 32.2	+0.9
TRVZ				AML	AML	16 26 22.0	
TRVZ				AML	AML	16 26 22.9	
TRVZ	Turoa	2.45	23	Pn	Pn	16 25 33.0	+1.7
VRZ	Vera Road	2.46	8	PN	Pn	16 25 32.0	+1.0
VRZ				AML	AML	16 26 10.6	
VRZ				AML	AML	16 26 12.9	
VRZ	Vera Road	2.46	8	Pn	Pn	16 25 32.6	+1.6
MQZ	McQueen's Vall	2.46	209	PN	Pn	16 25 28.3	-2.8
MQZ	McQueen's Vall	2.46	209	Pn	Pn	16 25 28.3	-2.8
BHHZ	Black Hill Sta	2.47	34	PN	Pb	16 25 34.9	-0.9
BHHZ	Black Hill Sta	2.47	34	Pn	Pb	16 25 34.9	-0.9
PXZ	Pawanui	2.48	53	PN	Pn	16 25 29.4	-1.9
PXZ				AML	AML	16 25 41.3	
PXZ				AML	AML	16 25 43.7	
PXZ	Pawanui	2.48	53	Pn	Pn	16 25 29.4	-1.9
DRZ	Dome Shelter	2.48	23	PN	Pb	16 25 36.1	-0.1
DRZ				AML	AML	16 26 17.7	
DRZ				AML	AML	16 26 23.9	
DRZ	Dome Shelter	2.48	23	Pn	Pb	16 25 36.1	-0.1
MHEZ	Mangahewa	2.48	1	PN	Pb	16 25 34.4	-1.4
MHEZ	Mangahewa	2.48	1	Pn	Pb	16 25 34.4	-1.4
WHVZ	Whangaehu Hut	2.48	24	PN	Pn	16 25 32.4	+0.7
KRHZ	Kereru	2.48	40	PN	Pn	16 25 30.3	-1.2
FWVZ	Far West T-bar	2.49	23	PN	Pn	16 25 33.0	+1.2
FWVZ				AML	AML	16 26 15.5	
FWVZ				AML	AML	16 26 22.1	
FWVZ	Far West T-bar	2.49	23	Pn	Pn	16 25 33.0	+1.2
TUVZ	Tukino	2.51	25	PN	Pn	16 25 32.8	+0.8
TUVZ				AML	AML	16 26 18.7	
TUVZ				AML	AML	16 26 23.9	
TUVZ	Tukino	2.51	25	Pn	Pn	16 25 32.8	+0.8
WPVZ	Whakapapa	2.54	23	PN	Pn	16 25 33.8	+1.4
WPVZ				AML	AML	16 26 16.8	
WPVZ				AML	AML	16 26 27.1	
WPVZ	Whakapapa	2.54	23	Pn	Pn	16 25 33.8	+1.4
COVZ	Chateau Observ	2.54	22	PN	Pn	16 25 33.1	+0.7
NGZ	Ngauruhoe	2.58	23	PN	Pn	16 25 34.0	+1.0
NGZ				AML	AML	16 26 24.5	
NGZ				AML	AML	16 26 24.9	
NGZ	Ngauruhoe	2.58	23	Pn	Pb	16 25 36.0	-1.8
OTVZ	Oturere	2.61	24	AML	AML	16 26 21.6	
OTVZ				AML	AML	16 26 23.6	
OTVZ	Oturere	2.61	24	Pn	Pb	16 25 37.4	-0.9
TWVZ	Taurewa	2.63	20	PN	Pb	16 25 36.3	-2.3
TWVZ				AML	AML	16 26 25.4	
TWVZ				AML	AML	16 26 29.7	
TWVZ	Taurewa	2.63	20	Pn	Pb	16 25 36.3	-2.3
WTVZ	West Tongariro	2.63	23	PN	Pb	16 25 38.5	-0.1
WTVZ				AML	AML	16 26 23.1	
WTVZ				AML	AML	16 26 26.1	
WTVZ	West Tongariro	2.63	23	Pn	Pb	16 25 38.6	0.0
KAHZ	Kahuranaki	2.64	49	PN	Pn	16 25 31.9	-1.8
KAHZ	Kahuranaki	2.64	49	Pn	Pn	16 25 31.9	-1.8
KRVZ	Karewarewa	2.67	23	AML	AML	16 26 25.6	
KRVZ				AML	AML	16 26 26.8	
KRVZ	Karewarewa	2.67	23	Pn	Pb	16 25 38.4	-0.8
KWHZ	Kaweka Forest	2.68	38	PN	Pb	16 25 39.8	+0.4
MCHZ	McNeill Hill	2.80	42	Pn	Pn	16 25 34.4	-1.4
RITZ	Rihia Road	2.84	25	PN	Pb	16 25 40.7	-1.3
RITZ				AML	AML	16 25 52.4	
RITZ				AML	AML	16 25 52.7	
RITZ	Rihia Road	2.84	25	Pn	Pb	16 25 42.2	+0.2
BKZ	Black Stump Fm	2.92	36	PN	Pn	16 25 36.1	-1.4
BKZ				AML	AML	16 26 38.7	
BKZ				AML	AML	16 26 40.0	
BKZ	Black Stump Fm	2.92	36	Pn	Pn	16 25 36.1	-1.4
WVZ	Waitaha Valley	3.04	239	PN	Pn	16 25 38.2	-0.8
WVZ				AML	AML	16 26 43.0	
WVZ	Waitaha Valley	3.04	239	Pn	Pn	16 25 38.2	-0.8
WATZ	Wairara	3.05	22	AML	AML	16 26 48.3	
WATZ				AML	AML	16 26 48.6	
WATZ	Wairara	3.05	22	Pn	Pb	16 25 45.9	+0.3
HIZ	Hauiti	3.07	8	AML	AML	16 26 28.3	
HIZ				AML	AML	16 26 44.3	
HIZ	Hauiti	3.07	8	Pn	Pn	16 25 41.4	+1.9
RPZ	Rata Peaks	3.22	227	PN	Pn	16 25 39.9	-1.7
RPZ				AML	AML	16 26 41.6	
RPZ	Rata Peaks	3.22	227	Pn	Pn	16 25 39.9	-1.7
KUTZ	Kaahu Road	3.29	21	PN	Pb	16 25 49.5	-0.1
TLZ	Tolley Road	3.37	17	PN	Pn	16 25 44.8	+1.1
ALRZ	Allen Road	3.38	28	PN	Pb	16 25 51.1	-0.1
ALRZ	Allen Road	3.38	28	Pn	Pb	16 25 51.1	-0.1
RRRZ	Republican Roa	3.64	29	PN	Pb	16 25 56.2	+0.6
RRRZ	Republican Roa	3.64	29	Pn	Pb	16 25 56.2	+0.6
TOZ	Tahuroa Road	3.94	14	PN	Pn	16 25 52.4	+1.1
TOZ	Tahuroa Road	3.94	14	Pn	Pn	16 25 52.4	+1.1
URZ	Urewera	3.94	34	PN	Pn	16 25 49.1	-2.4
URZ	Urewera	3.94	34	Pn	Pn	16 25 49.1	-2.4
MWZ	Matawai	4.07	39	PN	Pn	16 25 50.1	-3.1
MWZ				AML	AML	16 28 20.0	
MWZ	Matawai	4.07	39	Pn	Pn	16 25 50.1	-3.1
LBZ	Lake Benmore	4.13	225	PN	Pn	16 25 52.7	-1.4
LBZ	Lake Benmore	4.13	225	Pn	Pn	16 25 52.7	-1.4
ODZ	Otahua Downs	4.38	216	PN	Pn	16 25 54.7	-2.8
ODZ	Otahua Downs	4.38	216	Pn	Pn	16 25 54.7	-2.8
MKAZ	Moumakai	4.49	9	PN	Pn	16 26 00.0	+1.0
MKAZ	Moumakai	4.49	9	Pn	Pn	16 26 00.1	+1.0
ETAZ	East Tamaki Re	4.63	6	PN	Pn	16 26 02.2	+1.3
JCZ	Jackson Bay	4.78	236	PN	Pn	16 26 04.7	+1.6
JCZ	Jackson Bay	4.78	236	Pn	Pn	16 26 04.8	+1.6
KUZ	Kuaotunu	4.93	13	PN	Pn	16 26 06.0	+0.9
KUZ	Kuaotunu	4.93	13	Pn	Pn	16 26 06.0	+0.9
EAZ	Earnscleugh	5.16	223	PN	Pn	16 26 06.1	-2.1
EAZ				AML	AML	16 27 51.7	
EAZ	Earnscleugh	5.16	223	Pn	Pn	16 26 06.1	-2.1

IDC 21 16:38:09.3±11.0**, 18°.76S**×**177°.61W, h568**km±94km**,**
mb3.4/5**, mb1 3.5**/7**, mb1mx3.0**/29**, mbtmp4.4**/7**, Error ellipse: s-maj=121.4km s-min=20.8km az=42.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.31	255	P	P	16 41 22.6	+1.0
	0.4nm,0.3s,baz=90,slow=20,SNR=4.6						
URZ	Urewera	19.97	192	P	P	16 42 02.9	-1.1
	1.7nm,0.3s,baz=271,slow=2.7,SNR=11						
CTA	Charters Tower	34.07	262	P	P	16 44 07.5	+0.1
	3.2nm,0.4s,baz=79,slow=10,SNR=7.8						
STKA	Stephens Creek	38.90	242	P	P	16 44 47.9	+0.9
	2.8nm,0.6s,baz=83,slow=8.3,SNR=16						
WRA	Warramunga Arr	45.23	260	P	P	16 45 36.0	-0.9
	3.0nm,0.4s,baz=98,slow=7.2,SNR=154						
WRA				PcP	PcP	16 47 03.7	-1.1
	0.6nm,1.0s,baz=99,slow=5.7,SNR=2.7						
ASAR	Alice Springs	45.30	255	P	P	16 45 36.8	-0.6
	7.2nm,0.8s,baz=91,slow=7.6,SNR=178						
QSPA	South Pole Qui	71.30	180	P	P	16 48 32.6	+0.8
	1.7nm,0.9s,baz=298,slow=1.0,SNR=12						

*IDC **21** 16:41:58.1±0.5, 49°.91S×110°.63E, h0km, mb4.4/15, mb1 4.5/15, mb1mx4.4/22, mbtmp4.4/15, MS4.3/17, Ms1 4.3/17, ms1mx4.1/23, Error ellipse: s-maj=23.6km s-min=13.9km az=115.0*
*ISCJB **21** 16:41:59.9±0.4, 49°.95S±0°.07×110°.8E±0°.1, h22km, mb4.5/18, MS4.3/17, Error ellipse: s-maj=14.1km s-min=9.6km az=26.3*
*NEIC **21** 16:41:59.6±0.2, 49°.94S×110°.64E, h10km, mb5.0/4, Error ellipse: s-maj=12.2km s-min=7.7km az=123.0*
*GCMT **21** 16:41:59.6±0.2, 49°.86S×110°.48E, h12km, MW5.0/82, Moment Tensor Solution. s43,c50; s82,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.87±.12; $M_{\theta\theta}$4.27±.10; $M_{\phi\phi}$0.59±.13; $M_{r\theta}$-0.63±.37; $M_{\theta\phi}$-0.42±.12; $M_{\phi r}$-0.04±.46; Best double couple: $M_0$4.63700×10^{16} NP1:ϕ_s95.00000°, δ49.00000°, λ-92.00000°. NP2: ϕ_s278.00000°, δ41.00000°, λ-88.00000°. Principal axes: T 4.3600, Plg4.0000°, Azm186.0000°; N 0.5520, Plg1.0000°, Azm96.0000°; P -4.9140, Plg86.0000°, Azm350.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 21 16:42:01.5±0.5**, 49°.9S**±0°.1×**110°.7E**±0°.1**, h22**km**, n94,**
σ0.67/93**, mb4.7**/21**, MS4.4**/17**, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	15.23	11	T	T	17 01 09.9	
	baz=188,slow=74,SNR=404						
H01W1	Cape Leeuwin H	15.24	11	T	T	17 01 09.2	
	baz=188,slow=74,SNR=505						
H01W3	Cape Leeuwin H	15.25	11	T	T	17 01 09.7	
	baz=188,slow=74,SNR=385						
STKA	Stephens Creek	29.24	64	P	P	16 48 01.8	+0.1
	2.4nm,0.8s,baz=199,slow=7.9,SNR=4.5						
STKA				PcP	PcP	16 51 08.6	+0.3
	1.1nm,0.7s,baz=116,slow=1.9,SNR=3.3						
STKA				LR	LR	16 57 27.7	
	comp=Z,576nm,21.1s,baz=210,slow=32						
MAW	Mawson	29.40	215	P	P	16 48 03.3	+0.7
	2.3nm,0.9s,baz=122,slow=23,SNR=4.4						
MAW				LR	LR	16 57 45.7	
	comp=Z,1μm,18.8s,baz=64,slow=32						
ASAR	Alice Springs	31.89	43	P	P	16 48 24.6	-0.6
	4.4nm,0.7s,baz=209,slow=7.9,SNR=47						
ASAR				PcP	PcP	16 51 14.7	-0.8
	0.6nm,0.8s,baz=277,slow=0.2,SNR=4.9						
ASAR				LR	LR	16 59 28.4	
	comp=Z,819nm,21.8s,baz=204,slow=33						
AS31	Alice Springs	31.89	43	*e*P	P	16 48 24.4	-0.8
VNDA	Vanda	33.60	162	P	P	16 48 40.0	+0.4
	5.3nm,0.7s,baz=291,slow=8.4,SNR=33						
VNDA				LR	LR	17 01 15.7	
	comp=Z,1μm,20.3s,baz=306,slow=34						
WRA	Warramunga Arr	35.36	41	P	P	16 48 55.3	-0.1
	7.5nm,0.8s,baz=206,slow=8.3,SNR=22						
WRA				LR	LR	17 01 57.9	
	comp=Z,677nm,20.6s,baz=220,slow=34						
WRAB	Tennant Creek	35.37	41	P	P	16 48 55.5	0.0
	84nm,1.2s,SNR=6.3						
WRAB	Tennant Creek	35.37	41	*e*P	P	16 48 55.7	+0.2
	37nm,1.4s						
QSPA	South Pole Qui	40.20	180	P	P	16 49 36.0	0.0
	12nm,0.6s,baz=170,slow=0.7,SNR=90						
QSPA				PcP	PcP	16 51 39.8	+0.2
	2.9nm,0.9s,baz=213,slow=2.2,SNR=4.5						
QSPA				LR	LR	17 05 32.6	
	comp=Z,1μm,19.1s,baz=322,slow=35						
RPZ	Rata Peaks	40.81	105	LR	LR	17 02 38.1	
	comp=Z,288nm,21.7s,baz=224,slow=30						
CTA	Charters Tower	41.02	56	P	P	16 49 42.9	-0.1
	6.9nm,0.9s,baz=287,slow=4.3,SNR=3.8						
CTA				LR	LR	17 06 22.1	
	comp=Z,593nm,18.9s,baz=208,slow=36						
KAPI	Kappang	45.41	13	LR	LR	17 07 44.0	
	comp=Z,451nm,20.2s,baz=260,slow=34						
URZ	Urewera	47.64	102	P	P	16 50 36.0	+0.1
	8.3nm,0.8s,baz=317,slow=23,SNR=4.0						
SNAA	Sanae	50.03	202	P	P	16 50 53.4	-0.4
SNAA	Sanae	50.03	202	P	P	16 50 54.4	+0.6
	2.7nm,0.9s,baz=139,slow=9.2,SNR=17						
SNAA	Sanae	50.03	202	*e*P	P	16 50 52.9	-0.9
	22nm,1.3s						
VNA1	Neumayer--Stat	52.03	202	P	P	16 51 10.0	+1.3
BOSA	Boshof	65.85	254	P	P	16 52 43.6	-1.8
	3.6nm,1.1s,baz=160,slow=9.6,SNR=3.7						

BOSA				LR	LR	17 16 20.8		
	comp=Z,306nm,18.2s,baz=154,slow=31							
CM31	**Chiang Mai Arr**	**68.86**	**348**	*e*P	**P**	**16 53 05.7**	**+1.4**	
	9.9nm,1.0s							
CM31				*e*		16 53 11.5		
CMAR	**Chiang Mai Arr**	**68.86**	**348**	P	**P**	**16 53 04.8**	**+0.6**	
	5.6nm,0.9s,baz=191,slow=5.6,SNR=42							
CMAR				LR	LR	17 19 18.6		
	comp=Z,247nm,21.0s,baz=182,slow=32							
GUMO	**Guam**	**70.03**	**36**	LR	LR	17 23 57.2		
	comp=Z,185nm,18.3s,baz=200,slow=36							
LSZ	**Lusaka**	**73.64**	**266**	*e*P	**P**	**16 53 33.8**	**+0.2**	
	28nm,1.7s							
PKI	**Pulchoki**	**80.35**	**337**	*e*P	**P**	**16 54 11.0**	**-0.1**	
PKIN	**Phulchoki**	**80.36**	**337**	*e*P	**P**	**16 54 10.5**	**-0.6**	
	37nm,1.7s							
DMN	**Daman**	**80.46**	**337**	*e*P	**P**	**16 54 11.4**	**-0.2**	
GUN	**Gumba**	**80.56**	**338**	*e*P	**P**	**16 54 13.2**	**+1.0**	
KKN	**Kakani**	**80.59**	**337**	*e*P	**P**	**16 54 12.2**	**-0.1**	
	15nm,1.0s							
GKN	**Gorkha**	**80.95**	**337**	*e*P	**P**	**16 54 14.8**	**+0.7**	
	25nm,1.0s							
KOLN	**Koldanda**	**81.00**	**336**	*e*P	**P**	**16 54 14.6**	**+0.2**	
	6.4nm,0.8s							
JNU	**Nakatsue**	**84.61**	**17**	LR	LR	17 32 19.7		
	comp=Z,66nm,20.5s,slow=36							
KSAR	**Wonju Array Be**	**88.32**	**14**	P	**P**	**16 54 51.0**	**+0.2**	
KSRS	**Korea Array**	**88.33**	**14**	P	**P**	**16 54 51.0**	**+0.2**	
	1.4nm,0.8s,baz=198,slow=5.2,SNR=8.5							
MJAR	**Matsushiro Arr**	**89.48**	**22**	P	**P**	**16 54 56.1**	**-0.2**	
	1.4nm,0.8s,baz=196,slow=6.5,SNR=5.0							
MJAR				LR	LR	17 32 10.2		
	comp=Z,72nm,21.9s,baz=195,slow=34							
USRK	**Ussuriysk Ar.**	**95.58**	**15**	P	**P**	**16 55 25.3**	**+1.0**	
	0.9nm,0.7s,baz=177,slow=12,SNR=5.1							
USRK				LR	LR	17 38 03.3		
	comp=Z,44nm,21.1s,baz=167,slow=35							
SONM	**Songino Array**	**97.45**	**357**	P	Pdif	16 55 34.7	+1.8	
	0.2nm,0.5s,baz=206,slow=6.3,SNR=3.1							
SONM				LR	LR	17 37 58.0		
	comp=Z,122nm,22.0s,baz=170,slow=34							
MKAR	**Makanchi Array**	**99.42**	**341**	LR	LR	17 36 42.2		
	comp=Z,55nm,20.4s,baz=159,slow=33							
GERES	**GERESS Array B**	**128.65**	**303**	PKP	**PKPdf**	**17 01 06.0**	**-0.1**	
	0.3nm,0.6s,baz=236,slow=1.0,SNR=4.5							
ILAR	**Eielson Array**	**138.52**	**39**	PKP	**PKPdf**	**17 01 23.3**	**-0.7**	
	0.5nm,0.7s,baz=247,slow=3.4,SNR=5.2							
NVAR	**Mina Array Bea**	**143.68**	**89**	PKP	**PKPdf**	**17 01 32.9**	**-1.5**	
	1.3nm,0.8s,baz=228,slow=6.4,SNR=7.7							
TPNV	**Topopah Spring**	**144.15**	**93**	P	**PKPdf**	**17 01 34.7**	**-0.5**	
	baz=144							
SHPR	**Sheep Range**	**144.58**	**95**	*e*PKPdf	**PKPdf**	**17 01 36.0**	**0.0**	
DLBC	**Dease Lake**	**144.63**	**52**	*e*PKP	**PKPdf**	**17 01 35.5**	**+0.2**	
TUC	**Tucson**	**144.71**	**104**	PKPdf	**PKPdf**	**17 01 35.5**	**-0.8**	
R11A	**Troy Canyon, C**	**145.39**	**92**	P	**PKPdf**	**17 01 38.3**	**+1.0**	
	baz=146							
R11A	**Troy Canyon, C**	**145.39**	**92**	*e*PKP	**PKPdf**	**17 01 37.5**	**+0.1**	
TXAR	**Lajitas Array**	**146.93**	**116**	PKPbc	**PKPab**	**17 01 42.5**	**-1.0**	
	4.8nm,0.8s,baz=196,slow=5.6,SNR=55							
MVU	**Marysvale**	**147.65**	**94**	*e*PKPbc	**PKPab**	**17 01 44.8**	**-1.5**	
MFID	**Camas Ranch**	**147.88**	**84**	*e*PKPbc	**PKPbc**	**17 01 44.9**	**+0.6**	
034A	**Hebbronville**	**147.97**	**125**	P	**PKPbc**	**17 01 44.9**	**0.0**	
	baz=148							
732A	**Laxson Ranch,**	**148.58**	**121**	P	**PKPbc**	**17 01 47.1**	**+0.7**	
	baz=149							
631A	**Perdido Creek**	**148.77**	**119**	P	**PKPbc**	**17 01 47.2**	**+0.3**	
	baz=149							
834A	**Tilden**	**148.89**	**124**	P	**PKPbc**	**17 01 47.4**	**+0.2**	
	baz=149							
530A	**J-C Ranch, Com**	**148.89**	**117**	P	**PKPbc**	**17 01 47.8**	**+0.6**	
	baz=149							
429A	**Davenport Ranc**	**148.92**	**116**	P	**PKPbc**	**17 01 47.5**	**+0.2**	
	baz=149							
733A	**Divot King Ran**	**148.95**	**122**	P	**PKPbc**	**17 01 47.8**	**+0.5**	
	baz=149							
SRU	**San Rafael Swe**	**149.08**	**95**	*e*PKPbc	**PKPbc**	**17 01 48.0**	**+0.3**	
ANMO	**Albuquerque**	**149.16**	**105**	*e*PKPbc	**PKPbc**	**17 01 48.2**	**+0.3**	
MVCO	**Mesa Verde**	**149.28**	**99**	P	**PKPbc**	**17 01 48.8**	**+0.6**	
	baz=149							
MVCO	**Mesa Verde**	**149.28**	**99**	*e*PKPbc	**PKPbc**	**17 01 48.2**	**0.0**	
531A	**Rocksprings**	**149.35**	**118**	P	**PKPbc**	**17 01 48.4**	**0.0**	
	baz=149							
430A	**Baggett Ranch,**	**149.42**	**117**	P	**PKPbc**	**17 01 48.3**	**-0.2**	
	baz=150							
532A	**Rocksprings**	**149.69**	**119**	P	**PKPbc**	**17 01 48.7**	**-0.6**	
	baz=150							
JCT	**Junction City**	**150.01**	**119**	P	**PKPbc**	**17 01 49.9**	**-0.1**	
	baz=150							
128A	**Castleberry Fa**	**150.01**	**113**	P	**PKPbc**	**17 01 50.5**	**+0.5**	
	baz=150							
432A	**Menard**	**150.31**	**118**	P	**PKPbc**	**17 01 51.1**	**+0.4**	
	baz=150							
736A	**Circle Diamond**	**150.34**	**125**	P	**PKPbc**	**17 01 50.2**	**-0.6**	
	baz=150							
534A	**Blanco**	**150.41**	**121**	P	**PKPbc**	**17 01 51.2**	**+0.3**	
	baz=150							
433A	**Art**	**150.62**	**119**	P	**PKPbc**	**17 01 51.0**	**-0.4**	
	baz=151							
332A	**Millersview**	**150.72**	**118**	P	**PKPbc**	**17 01 52.2**	**+0.5**	
	baz=151							
MSTX	**Muleshoe**	**150.78**	**110**	P	**PKPbc**	**17 01 52.1**	**+0.3**	
	baz=151							
MSTX	**Muleshoe**	**150.78**	**110**	*e*PKPbc	**PKPbc**	**17 01 51.8**	**0.0**	
MSTX				*e*PKPab	**PKPab**	**17 01 59.7**	**+0.7**	
Z29A	**Hungry Hill Ra**	**150.93**	**113**	P	**PKPbc**	**17 01 52.2**	**+0.1**	
	baz=151							
Y28A	**McKinney Farm,**	**151.05**	**111**	P	**PKPbc**	**17 01 51.7**	**-0.8**	
	baz=151							
TPAW	**Teton Pass**	**151.05**	**87**	*e*PKPbc	**PKPbc**	**17 01 53.6**	**+1.2**	
REDW	**Red Top Meadow**	**151.06**	**87**	*e*PKPbc	**PKPbc**	**17 01 52.2**	**-0.1**	
333A	**Richland Sprin**	**151.11**	**119**	P	**PKPbc**	**17 01 52.6**	**0.0**	
	baz=151							
232A	**Coleman**	**151.15**	**117**	P	**PKPbc**	**17 01 52.0**	**-0.6**	
	baz=151							
IMW	**Indian Meadow**	**151.25**	**86**	*e*PKPbc	**PKPbc**	**17 01 53.7**	**+0.9**	
Z30A	**Sanderson Ranc**	**151.29**	**113**	P	**PKPbc**	**17 01 52.6**	**-0.4**	
	baz=151							
MOOW	**Moose Ponds**	**151.30**	**86**	*e*PKPbc	**PKPbc**	**17 01 53.6**	**+0.7**	
MOOW				*e*PKPab	**PKPab**	**17 02 01.2**	**+0.1**	
LOHW	**Long Hollow**	**151.33**	**87**	*e*PKPbc	**PKPbc**	**17 01 53.6**	**+0.7**	
LOHW				*e*PKPab	**PKPab**	**17 02 01.1**	**-0.1**	
334A	**Lometa**	**151.53**	**120**	P	**PKPbc**	**17 01 53.5**	**0.0**	
	baz=152							
PDAR	**Pinedale Array**	**151.61**	**89**	PKPbc	**PKPbc**	**17 01 52.7**	**-0.9**	
	2.0nm,0.8s,baz=225,slow=0.8,SNR=11							
PDAR				PKPab	**PKPab**	**17 02 01.6**	**-0.9**	
	2.0nm,0.9s,baz=180,slow=0.6,SNR=7.6							
ABTX	**Abilene, Hawle**	**151.69**	**116**	*e*PKPbc	**PKPbc**	**17 01 53.6**	**-0.3**	
Z31A	**Sharp Cattle R**	**151.89**	**115**	P	**PKPbc**	**17 01 54.5**	**+0.2**	
	baz=152							
436A	**Wall Ranch, Ga**	**151.90**	**123**	P	**PKPbc**	**17 01 53.8**	**-0.6**	
	baz=152							
X30A	**Coker Ranch, T**	**152.25**	**112**	P	**PKPbc**	**17 01 56.1**	**+1.0**	
	baz=152							
Z32A	**Haskell**	**152.27**	**115**	P	**PKPbc**	**17 01 56.1**	**+0.9**	
	baz=152							
YKA	**Yellowknife Ar**	**152.51**	**46**	PKPbc	**PKPbc**	**17 01 53.1**	**-1.6**	
	1.7nm,0.8s,baz=282,slow=3.1,SNR=3.6							
YKA				PKPab	**PKPab**	**17 02 05.4**	**+0.2**	
	2.2nm,0.7s,baz=273,slow=4.0,SNR=4.2							
J20A	**Shoshoni**	**152.84**	**89**	P	**PKPbc**	**17 01 57.7**	**+1.4**	
	baz=153							
X32A	**Elmer**	**153.18**	**114**	P	**PKPbc**	**17 01 58.2**	**+1.1**	
	baz=153							

IDC 21 16:49:36.6±1.4, 49°.82S×110°.62E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/25, mbtmp3.6/4, Error ellipse: s-maj=60.5km s-min=24.5km az=104.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.13**	**11**	T	T	17 08 46.7	
	baz=188,slow=74,SNR=43						
H01W1	**Cape Leeuwin H**	**15.14**	**11**	T	T	17 08 55.5	
	baz=188,slow=74,SNR=55						
H01W3	**Cape Leeuwin H**	**15.14**	**11**	T	T	17 08 49.5	
	baz=188,slow=74,SNR=39						
ASAR	**Alice Springs**	**31.83**	**43**	P	P	16 56 02.9	-0.2
	0.5nm,0.7s,baz=208,slow=7.9,SNR=8.2						
WRA	**Warramunga Arr**	**35.29**	**41**	P	P	16 56 33.3	0.0
	0.5nm,0.6s,baz=204,slow=10,SNR=4.9						
QSPA	**South Pole Qui**	**40.31**	**180**	P	P	16 57 15.2	-0.2
	0.9nm,0.6s,baz=3.7,slow=6.2,SNR=16						
CMAR	**Chiang Mai Arr**	**68.75**	**348**	P	P	17 00 42.2	0.0
	0.9nm,1.0s,baz=197,slow=5.4,SNR=4.4						
TXAR	**Lajitas Array**	**147.00**	**115**	PKPbc	PKPbc	17 09 20.6	-0.5
	0.3nm,0.7s,baz=205,slow=4.0,SNR=3.6						

IDC 21 17:01:45.8±2.3, 49°.87S×110°.92E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/16, mbtmp3.6/3, Error ellipse: s-maj=60.1km s-min=51.4km az=114.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.15**	**10**	T	T	17 20 55.8	
	baz=188,slow=74,SNR=30						
H01W1	**Cape Leeuwin H**	**15.15**	**10**	T	T	17 20 56.4	
	baz=188,slow=74,SNR=35						
H01W3	**Cape Leeuwin H**	**15.16**	**10**	T	T	17 20 57.0	
	baz=188,slow=74,SNR=22						
ASAR	**Alice Springs**	**31.73**	**43**	P	P	17 08 11.1	-0.3
	0.6nm,0.8s,baz=206,slow=8.3,SNR=6.7						
WRA	**Warramunga Arr**	**35.20**	**40**	P	P	17 08 41.8	+0.2
	1.0nm,0.8s,baz=208,slow=9.0,SNR=4.5						
CMAR	**Chiang Mai Arr**	**68.84**	**348**	P	P	17 12 51.9	0.0
	0.4nm,0.8s,baz=193,slow=5.0,SNR=4.4						
TXAR	**Lajitas Array**	**146.80**	**115**	PKPbc	PKPbc	17 21 28.9	-0.8
	0.4nm,0.8s,baz=194,slow=3.4,SNR=4.4						

DJA 21 17:20:58.2±1.2, 10°.5S±6°×117°.6E±°, h19km±13km, M3.7/9, mb3.8/1, MLv3.6/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**1.51**	**300**	P	Pn	17 21 22.5	-1.8
IGBI				S	Sn	17 21 39.2	-4.2
DNP	**Denpasar**	**1.53**	**306**	P	Pn	17 21 24.4	-0.2
DNP				S	Sn	17 21 42.5	-1.5
ABJI	**Asem Bagus**	**2.83**	**309**	P	Pn	17 21 44.0	+1.5
WBSI	**Waikabubak, Su**	**2.88**	**91**	P	Pn	17 21 41.5	-1.7
BKSI	**Bulukumba**	**5.57**	**41**	P	Pn	17 22 20.2	+0.1

SKHL 21 17:22:16.4±0.9, 54°.24N×125°.87E, h8km±1km, mb4.5/6, Ms3.4/1, 3D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KROS	**Kirovskiy**	**0.67**	**73**	⇓*i*Pg	Pg	17 22 28.9	-0.5
KROS				AMB	AMB	17 22 30.5	
	240nm,0.5s						
KROS				*i* Sg	Sg	17 22 37.7	-0.6
ZEA	**Zeya**	**0.96**	**121**	⇓*i*Pg	Pg	17 22 34.1	-0.7
ZEA				AMB	AMB	17 22 34.7	
	240nm,0.4s						
ZEA				pPg	Pn	17 22 36.1	0.0
ZEA				sPg	sPg	17 22 39.1	
ZEA				*e*Sg	Sg	17 22 46.5	-0.8
ZEA				A	A	17 22 47.7	
	100nm,0.3s						
ZEA				A	A	17 22 47.7	
	1μm,0.3s						
ZEA				AMS	AMS	17 23 08.0	
	700nm,4.0s						
BMKR	**Bomnak**	**1.80**	**74**	⇓*i*Pn	Pn	17 22 47.5	-0.2
BMKR				*e*Pg	Pb	17 22 48.5	-1.1
BMKR				AMB	AMB	17 22 51.2	
	275nm,0.4s						
BMKR				*e*Sg	Sb	17 23 11.6	-0.7
BMKR				A	A	17 23 15.0	
	450nm,0.4s						
BMKR				A	A	17 23 15.0	
	495nm,0.4s						
TUP	**Tupik**	**3.47**	**275**	*e*Pn	Pn	17 23 10.7	0.0
TUP				*e*Pg	Pb	17 23 19.0	+0.9
TUP				AMB	AMB	17 23 23.3	
	63nm,0.3s						
TUP				*e*Sn	Sn	17 23 50.2	-1.8
TUP				*e*Sg	Sb	17 24 02.9	+2.5
TUP				A	A	17 24 09.6	
	611nm,0.5s						
EKMR	**Ekimchan**	**4.37**	**103**	*e*Pn	Pn	17 23 22.7	-0.4
EKMR				*e*Pg	Pb	17 23 34.9	+1.4
EKMR				AMB	AMB	17 23 37.5	
	26nm,0.3s						
EKMR				sPg	sPg	17 23 40.1	
EKMR				*e*Sg	Sg	17 24 33.2	-3.6
EKMR				A	A	17 24 42.0	
	88nm,0.6s						
CRS	**Chara**	**5.07**	**305**	*e*Pn	Pn	17 23 33.3	+0.6
CRS				*e*Pg	Pb	17 23 48.3	+2.9
CRS				*e*Sg	Sg	17 24 53.1	-6.1
GRNR	**Gornyy**	**7.32**	**114**	*e*Pg	Pg	17 24 30.9	-5.6
GRNR				*e*Sg	Sg	17 26 05.0	-6.2
GRNR				A	A	17 26 14.2	
	34nm,0.9s						
NKL	**Nikolayevsk**	**8.86**	**91**	*e*Sg	Sg	17 26 53.0	-7.4
NKL				A	A	17 27 10.0	
	26nm,0.8s						

IDC 21 17:25:33.7±3.4, 22°.16N×143°.87E, h107km±31km, mb3.3/5, mb1 3.3/6, mb1mx3.0/42, mbtmp3.6/6, Error ellipse: s-maj=111.1km s-min=18.3km az=78.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.15**	**343**	P	Pn	17 26 50.1	+1.6
	1.4nm,0.3s,baz=97,slow=24,SNR=5.1						
JCJ				S	Sn	17 27 46.3	-0.4
	8.9nm,0.3s,baz=312,slow=23,SNR=10						
WRA	**Warramunga Arr**	**42.87**	**193**	P	P	17 33 21.3	-0.3
	0.4nm,0.4s,baz=12,slow=8.2,SNR=20						
ASAR	**Alice Springs**	**46.57**	**193**	P	P	17 33 50.4	-0.6
	0.3nm,0.8s,baz=9.0,slow=6.7,SNR=7.1						
STKA	**Stephens Creek**	**53.77**	**182**	P	P	17 34 45.2	+0.1
	0.6nm,0.5s,baz=356,slow=13,SNR=3.7						
MKAR	**Makanchi Array**	**54.86**	**312**	P	P	17 34 53.5	+0.5
	0.2nm,0.5s,baz=89,slow=7.8,SNR=3.2						
FINES	**FINESS Array B**	**83.04**	**335**	P	P	17 37 46.5	-0.4
	1.9nm,1.0s,baz=60,slow=8.2,SNR=4.0						

WEL 21 17:29:09.2±0.4, 38°.64S×175°.67E, h166km±3km, ML3.5/5, 12C-2D, Error ellipse: s-maj=2.3km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	**Tolley Road**	**0.32**	**342**	PN	Pn	17 29 32.0	+0.2
TLZ				SN	Sn	17 29 48.3	-0.8
NGZ	**Ngauruhoe**	**0.54**	**185**	PN	Pn	17 29 32.7	-0.1
COVZ	**Chateau Observ**	**0.57**	**190**	⇑PN	Pn	17 29 32.8	-0.1
COVZ				SN	Sn	17 29 51.4	+0.2
WPVZ	**Whakapapa**	**0.58**	**189**	PN	Pn	17 29 32.9	0.0
FWVZ	**Far West T-bar**	**0.63**	**188**	PN	Pn	17 29 33.0	-0.3
TUVZ	**Tukino**	**0.63**	**181**	⇑PN	Pn	17 29 33.2	0.0
WHVZ	**Whangaehu Hut**	**0.65**	**185**	PN	Pn	17 29 33.2	-0.3
TRVZ	**Turoa**	**0.67**	**188**	⇑PN	Pn	17 29 33.6	0.0
WNVZ	**Wahianoa**	**0.69**	**184**	PN	Pn	17 29 33.5	-0.1
PKVZ	**Pokaka**	**0.70**	**201**	PN	Pn	17 29 33.0	-0.5
MTVZ	**Mangateitei**	**0.77**	**191**	PN	Pn	17 29 33.9	0.0
MOVZ	**Moawhango**	**0.78**	**175**	⇑PN	Pn	17 29 33.6	-0.4
BKZ	**Black Stump Fm**	**0.83**	**130**	⇑PN	Pn	17 29 34.0	-0.4
BKZ				AML	AML	17 29 51.0	
BKZ				AML	AML	17 29 51.0	
VRZ	**Vera Road**	**0.86**	**235**	PN	Pn	17 29 34.8	+0.3
VRZ				SN	Sn	17 29 53.6	-0.3
BHHZ	**Black Hill Sta**	**0.91**	**160**	PN	Pn	17 29 34.5	-0.4
NMHZ	**Naumai**	**1.00**	**118**	PN	Pn	17 29 36.2	+0.6
MCHZ	**McNeill Hill**	**1.14**	**136**	PN	Pn	17 29 37.3	+0.7
MCHZ				SN	Sn	17 29 56.4	-1.5
RAHZ	**Arahi**	**1.15**	**105**	PN	Pn	17 29 37.1	+0.4
KRHZ	**Kereru**	**1.15**	**152**	⇑PN	Pn	17 29 36.7	0.0
URZ	**Urewera**	**1.19**	**72**	⇓PN	Pn	17 29 36.6	-0.5
ARHZ	**Aropaoanui**	**1.21**	**122**	PN	Pn	17 29 37.7	+0.4
WAZ	**Wanganui**	**1.24**	**205**	PN	Pn	17 29 37.7	+0.2
SNGZ	**Shannon Statio**	**1.32**	**97**	PN	Pn	17 29 37.9	-0.4
PNHZ	**Pukenui**	**1.34**	**162**	⇑PN	Pn	17 29 38.3	-0.2
RAGZ	**Rawiri**	**1.38**	**85**	PN	Pn	17 29 38.8	-0.1
TSZ	**Takapari Road**	**1.44**	**171**	⇑PN	Pn	17 29 39.2	-0.2
MWZ	**Matawai**	**1.49**	**79**	⇓PN	Pn	17 29 39.7	-0.2
KAHZ	**Kahuranaki**	**1.49**	**141**	PN	Pn	17 29 40.2	+0.2
CKHZ	**Cape Kidnapper**	**1.50**	**133**	PN	Pn	17 29 40.3	+0.3
WPHZ	**Waipukurau**	**1.55**	**157**	PN	Pn	17 29 40.3	-0.1
KNZ	**Kokohu**	**1.61**	**104**	PN	Pn	17 29 41.2	+0.1
RIGZ	**Rimuhau**	**1.64**	**93**	PN	Pn	17 29 41.7	+0.2
PXZ	**Pawanui**	**1.68**	**147**	PN	Pn	17 29 41.5	-0.2
PXZ				AML	AML	17 30 05.3	
PXZ				AML	AML	17 30 06.6	
DVHZ	**Dannevirke**	**1.71**	**167**	⇑PN	Pn	17 29 41.6	-0.5
TKGZ	**Te Karaka**	**1.72**	**84**	PN	Pn	17 29 42.6	+0.4
PRGZ	**Paritu Road**	**1.76**	**100**	PN	Pn	17 29 42.7	0.0
POWZ	**Post Office Ro**	**1.76**	**177**	PN	Pn	17 29 42.1	-0.5
PRHZ	**Porangahau**	**1.79**	**156**	⇑PN	Pn	17 29 42.8	-0.2
TWGZ	**Tauwhareparae**	**1.88**	**77**	PN	Pn	17 29 44.3	+0.3
HAZ	**Te Kaha**	**1.88**	**63**	PN	Pn	17 29 43.6	-0.4
ANWZ	**Angora Road**	**1.93**	**161**	PN	Pn	17 29 44.2	-0.2
PRWZ	**Pori Road**	**1.93**	**173**	PN	Pn	17 29 44.1	-0.4
CNGZ	**Carnagh Statio**	**2.00**	**86**	PN	Pn	17 29 45.7	+0.5
MRZ	**Mangatainoka R**	**2.03**	**182**	⇑PN	Pn	17 29 44.8	-0.7
MRZ				AML	AML	17 30 12.0	
MRZ				AML	AML	17 30 12.2	
BFZ	**Birch Farm**	**2.09**	**168**	PN	Pn	17 29 45.6	-0.7
PUZ	**Puketiti**	**2.11**	**75**	PN	Pn	17 29 46.4	-0.2
TIWZ	**Tintock**	**2.15**	**176**	PN	Pn	17 29 46.2	-0.7
OGWZ	**Otaki Gorge**	**2.21**	**190**	PN	Pn	17 29 47.1	-0.6
HOWZ	**Holdsworth Sta**	**2.26**	**183**	PN	Pn	17 29 47.3	-1.1
KIW	**Kapiti Island**	**2.30**	**194**	PN	Pn	17 29 47.8	-0.9
CPWZ	**Castlepoint**	**2.31**	**170**	PN	Pn	17 29 48.5	-0.3
WMGZ	**Waiomatatini S**	**2.31**	**70**	PN	Pn	17 29 48.8	-0.1
MXZ	**Matakaoa Point**	**2.34**	**64**	PN	Pn	17 29 49.4	+0.2
TMWZ	**Te Maipa**	**2.48**	**176**	PN	Pn	17 29 49.7	-1.1
CAW	**Cannon Point**	**2.51**	**190**	PN	Pn	17 29 50.2	-1.0
CAW				AML	AML	17 30 21.7	
MTW	**Mount Morrison**	**2.52**	**183**	PN	Pn	17 29 50.0	-1.3
WEL	**Wellington**	**2.74**	**194**	PN	Pn	17 29 52.6	-1.3
PAWZ	**Paruwai Farm**	**2.75**	**184**	PN	Pn	17 29 52.7	-1.4
TRWZ	**Traveller**	**2.76**	**180**	PN	Pn	17 29 52.9	-1.3
TCW	**Tory Channel**	**2.79**	**202**	PN	Pn	17 29 53.5	-1.0
TCW				AML	AML	17 30 27.5	
TCW				AML	AML	17 30 27.6	
MSWZ	**Moikau Station**	**2.80**	**186**	PN	Pn	17 29 53.2	-1.5
PLWZ	**Palliser**	**2.95**	**186**	PN	Pn	17 29 54.8	-1.7
TUWZ	**Tuamarina**	**3.09**	**205**	PN	Pn	17 29 57.1	-1.1
NNZ	**Nelson**	**3.12**	**214**	PN	Pn	17 29 57.7	-0.9
QRZ	**Quartz Range**	**3.26**	**227**	PN	Pn	17 29 59.2	-1.2
BSWZ	**Blackbirch Sta**	**3.37**	**203**	PN	Pn	17 30 00.6	-1.1
THZ	**Tophouse**	**3.77**	**213**	PN	Pn	17 30 06.3	-0.7
KHZ	**Kahutara**	**4.11**	**203**	⇑PN	Pn	17 30 09.7	-1.5

IDC 21 17:45:05.4±8.8, 4°.96N×94°.87E, h95km±61km, mb2.9/2, mb1 3.2/4, mb1mx2.9/49, mbtmp3.3/4, ML3.6/2, Error ellipse: s-maj=117.6km s-min=30.2km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.58**	**118**	P	Pn	17 46 13.1	+0.5
	1.3nm,0.3s,baz=334,slow=12,SNR=6.4						
PSI				S	Sn	17 47 06.5	+1.8
	0.6nm,0.3s,baz=326,slow=11,SNR=2.8						
CMAR	**Chiang Mai Arr**	**13.99**	**16**	P	Pn	17 48 19.6	+0.1
	0.2nm,0.3s,baz=208,slow=11,SNR=9.6						
H08S2	**Diego Garcia H**	**25.60**	**241**	T	T	18 15 58.0	
	baz=60,slow=76,SNR=7.2						
H08S3	**Diego Garcia H**	**25.60**	**241**	T	T	18 15 55.2	
	baz=60,slow=76,SNR=7.0						
H08S1	**Diego Carcia H**	**25.62**	**241**	T	T	18 15 56.6	
	baz=60,slow=76,SNR=5.9						
WRA	**Warramunga Arr**	**46.02**	**124**	P	P	17 53 19.1	-0.6
	0.2nm,0.9s,baz=302,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**47.52**	**128**	P	P	17 53 31.7	+0.2
	0.1nm,0.6s,baz=306,slow=8.3,SNR=4.1						

IDC 21 18:03:19.8±2.2, 9°.17S×123°.89E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.3/31, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=247.5km s-min=33.0km az=56.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.72**	**138**	Pn	Pn	18 06 47.9	-1.5
	0.1nm,0.3s,baz=313,slow=15,SNR=8.2						
WRA				Sn	Sn	18 09 19.6	-14
	0.3nm,0.3s,baz=321,slow=24,SNR=7.2						
ASAR	**Alice Springs**	**17.30**	**148**	P	P	18 07 24.0	-0.5

IDC 21 18:37:44.4±1.4, 7.54N×91.69E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.6/44, mbtmp3.7/9, ML3.6/2, Error ellipse: s-maj=34.1km s-min=25.4km az=47.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.90**	**269**	Pn	Pn	18 40 22.9	+1.1
	0.5nm,0.3s,baz=83,slow=14,SNR=4.7						
PALK				Sn	Sn	18 42 12.2	-12
	0.9nm,0.3s,baz=189,slow=22,SNR=11						
CMAR	**Chiang Mai Arr**	**12.95**	**32**	Pn	Pn	18 40 51.3	+1.5
	0.1nm,0.3s,baz=232,slow=14,SNR=12						
H08S3	**Diego Garcia H**	**24.36**	**232**	T	T	19 09 32.9	
	baz=48,slow=74						
H08S2	**Diego Garcia H**	**24.37**	**232**	T	T	19 09 30.8	
	baz=48						
H08S1	**Diego Garcia H**	**24.38**	**232**	T	T	19 09 30.8	
	baz=48,slow=74						
MKAR	**Makanchi Array**	**39.94**	**350**	P	P	18 45 20.3	-0.2
	1.3nm,0.9s,baz=173,slow=9.5,SNR=10						
SONM	**Songino Array**	**42.06**	**15**	P	P	18 45 37.5	-0.5
	1.0nm,0.7s,baz=191,slow=8.7,SNR=9.8						
KURBB	**Kurchatov Arra**	**44.32**	**348**	P	P	18 45 56.2	+0.1
	0.6nm,0.3s,baz=172,slow=7.2,SNR=9.1						
ZALV	**Zalesovo Beam**	**46.61**	**354**	P	P	18 46 14.4	+0.2
	1.1nm,0.6s,baz=176,slow=5.9,SNR=6.1						
BVAR	**Borovoye Array**	**48.56**	**343**	P	P	18 46 29.0	-0.4
	1.0nm,0.8s,baz=134,slow=8.5,SNR=8.2						
WRA	**Warramunga Arr**	**50.07**	**124**	P	P	18 46 41.4	-0.1
	0.5nm,1.0s,baz=306,slow=8.3,SNR=3.2						
BRTR	**Keskin Array B**	**60.82**	**311**	P	P	18 47 58.4	-0.5
	0.4nm,0.7s,baz=144,slow=9.2,SNR=4.0						

IDC 21 18:59:28.4±1.3, 50.28S×112.41E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/19, mbtmp3.6/4, Error ellipse: s-maj=57.3km s-min=24.7km az=102.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.42**	**5**	T	T	19 18 35.3	
	baz=188,slow=74,SNR=23						
H01W1	**Cape Leeuwin H**	**15.43**	**5**	T	T	19 18 37.8	
	baz=188,slow=74,SNR=23						
H01W3	**Cape Leeuwin H**	**15.44**	**5**	T	T	19 18 38.4	
	baz=188,slow=74,SNR=15						
ASAR	**Alice Springs**	**31.40**	**40**	P	P	19 05 51.2	0.0
	0.4nm,0.8s,baz=206,slow=8.2,SNR=4.1						
WRA	**Warramunga Arr**	**34.92**	**38**	P	P	19 06 21.4	-0.5
	0.8nm,0.9s,baz=207,slow=8.5,SNR=3.2						
QSPA	**South Pole Qui**	**39.85**	**180**	P	P	19 07 03.1	-0.4
	0.9nm,0.7s,baz=320,slow=4.4,SNR=9.0						
CMAR	**Chiang Mai Arr**	**69.46**	**346**	P	P	19 10 38.6	+0.2
	0.7nm,0.8s,baz=187,slow=5.4,SNR=6.0						
TXAR	**Lajitas Array**	**145.76**	**114**	PKPbc	PKPdf	19 19 08.7	0.0
	0.6nm,0.9s,baz=190,slow=4.6,SNR=4.8						

*IDC **21** 19:01:41.9±1.5, 29.52N×129.97E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/32, mbtmp3.3/4, ML2.5/2, Error ellipse: s-maj=54.1km s-min=21.9km az=85.0*
*ISCJB **21** 19:01:43.2±0.8, 29.56N±0.04×130.11E±0.08, h21km±7km, mb3.3/3, Error ellipse: s-maj=12.1km s-min=3.8km az=24.9*
*JMA **21** 19:01:43.1±0.1, 29.57N×130.10E, h20km±2km, M3.3*
ISC 21 19:01:42.9±1.2, 29.56N±0.03×130.10E±0.06, h12km±9km, n16, σ1§02/24, mb3.3/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.35**	**325**	P	**Pg**	**19 01 50.3**	**+0.4**
JNN				*eS*	**Sb**	**19 01 55.2**	**-1.3**
JYAK	**Yakushimahirau**	**0.76**	**27**	P	**Pg**	**19 01 57.4**	**-0.4**
JYAK				*eS*	**Sg**	**19 02 07.6**	**-0.2**
JTAJ	**Takarajima**	**0.88**	**243**	P	**Pb**	**19 01 59.8**	**-0.4**
JTAJ				*eS*	**Sb**	**19 02 11.5**	**-0.5**
JKC	**Kuchinoerabu**	**0.91**	**5**	*eS*	**Sg**	**19 02 12.3**	**0.0**
JAM	**Amami Oshima**	**1.22**	**201**	P	**Pn**	**19 02 04.8**	**-1.1**
JAM				*eS*	**Sb**	**19 02 21.2**	**-0.5**
JZK	**Kikaishima**	**1.24**	**185**	P	**Pg**	**19 02 07.8**	**+0.9**
JTN	**Tanegashima 3**	**1.33**	**35**	P	**Pn**	**19 02 06.6**	**-0.8**
JAMN	**Amaminishikomi**	**1.54**	**212**	P	**Pn**	**19 02 09.2**	**-1.0**
JAMN				S	**Sn**	**19 02 29.2**	**-1.0**
JTSR	**Tashiro 2**	**1.75**	**24**	P	**Pn**	**19 02 12.9**	**-0.3**
JTSR				*eS*	**Sn**	**19 02 34.4**	**-1.1**
JTK	**Tokunoshima**	**2.04**	**210**	P	**Pn**	**19 02 16.5**	**-0.6**
JOKE	**Okinoerabujima**	**2.57**	**212**	P	**Pn**	**19 02 24.4**	**0.0**
JOW	**Kunigami**	**3.16**	**211**	P	**Pn**	**19 02 32.9**	**+0.4**
	0.5nm,0.3s,baz=18,slow=20,SNR=26						
JOW				Sn	**Sn**	**19 03 12.2**	**+2.0**
	0.7nm,0.3s,baz=156,slow=20,SNR=3.9						
JNU	**Nakatsue**	**3.61**	**10**	Pn	**Pn**	**19 02 41.0**	**+2.2**
	1.3nm,0.3s,baz=187,slow=17,SNR=9.9						
JNU				Sn	**Sn**	**19 03 23.1**	**+1.6**
	0.3nm,0.3s,baz=31,slow=19,SNR=2.3						
SONM	**Songino Array**	**25.82**	**322**	P	**P**	**19 07 14.1**	**0.0**
	0.2nm,0.5s,baz=131,slow=7.9,SNR=2.6						
WRA	**Warramunga Arr**	**49.38**	**175**	P	**P**	**19 10 32.6**	**0.0**
	0.5nm,0.6s,baz=354,slow=8.2,SNR=5.9						
ASAR	**Alice Springs**	**53.04**	**176**	P	**P**	**19 11 00.4**	**+0.4**
	0.2nm,0.5s,baz=5.3,slow=15,SNR=4.9						

*SJA **21** 19:02:26.1±0.4, 34.88S×72.48W, h275km±19km, ML3.5, MW3.3*
*GUC **21** 19:02:31.3±0.6, 34.79S×72.18W, h15km±3km, ML3.8*
ISC 21 19:02:30.6±2.5, 34.80S±0.05×72.2W±0.1, h10km±13km, n19, σ1§48/25, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.73**	**144**	↑P	**Pg**	**19 02 45.2**	**+0.3**
TALC				*i* S	**Sg**	**19 02 54.9**	**+0.5**
NICH	**Los Niches**	**0.79**	**105**	↑P	**Pg**	**19 02 46.3**	**+0.4**
NICH				*i* S	**Sg**	**19 02 57.0**	**+0.8**
LNV	**Longovilo**	**1.05**	**36**	↑P	**Pb**	**19 02 49.6**	**-1.3**
LNV				*i* S	**Sb**	**19 03 03.6**	**-1.0**
LNCH	**Linares**	**1.14**	**157**	↑P	**Pn**	**19 02 52.7**	**0.0**
LNCH				*i* S	**Sb**	**19 03 07.7**	**+0.4**
CHCH	**Chadas Angostu**	**1.52**	**56**	↓P	**Pn**	**19 02 57.8**	**-0.1**
CHCH				*i* S	**Sn**	**19 03 17.1**	**-0.6**
SAN	**Santiago**	**1.83**	**43**	*i* S	**Sn**	**19 03 25.9**	**+0.4**
CLCH	**Cerro Calan**	**1.94**	**44**	↑P	**Pn**	**19 03 04.1**	**+0.3**
CLCH				*i* S	**Sn**	**19 03 29.3**	**+1.0**
CLCH				AML	AML	19 03 33.8	
	comp=N,1μm,0.8s						
PEL	**Peldehue**	**2.06**	**37**	↑P	**Pn**	**19 03 05.8**	**+0.5**
PEL				*i* S	**Sn**	**19 03 32.2**	**+1.1**
PEL				AML	AML	19 03 34.7	
	comp=E,1μm,0.5s						
AAGR	**Agrelo**	**3.25**	**59**	*eP*	**Pb**	**19 03 26.3**	**-2.2**
AVIZ	**Vizcacheras**	**3.30**	**67**	*eP*	**Pb**	**19 03 26.8**	**-2.5**
ARCO	**CERRO ARCO**	**3.32**	**55**	*eP*	Pb	19 03 26.8	-3.0
ARCO				IAML		19 03 46.1	
	comp=Z,33nm,0.5s						
ARCO				*eS*	**Sb**	**19 04 12.1**	**+1.8**
AUSP	**Uspallata**	**3.46**	**43**	*eP*	Pn	19 03 28.9	+4.1
AUSP				*eS*	**Sb**	**19 04 15.3**	**+0.9**
ASAL	**Salagasta**	**3.54**	**52**	*eP*	Pn	19 03 29.7	+3.9
RTLS	**Leoncito**	**3.83**	**39**	*eP*	**Pn**	**19 03 33.0**	**+3.0**
RTLS				*eS*	**Sb**	**19 04 22.4**	**-2.7**
RTCV	**Cerro Valdivia**	**4.21**	**47**	*eP*	**Pn**	**19 03 36.8**	**+1.8**
CFAA	**Coronel Fontan**	**4.58**	**47**	*eP*	**Pn**	**19 03 41.3**	**+1.3**
RTLL	**Cerro Villicun**	**4.64**	**43**	*eP*	**Pn**	**19 03 42.0**	**+1.1**
AMOG	**MOGNA**	**4.93**	**40**	*eP*	**Pn**	**19 03 45.6**	**+0.7**
VCA	**Vinchina**	**6.92**	**30**	*eP*	Pn	19 04 09.1	-3.2
VCA				IAML		19 04 51.3	
	comp=Z,7.9nm,0.6s						

*GII **21** 19:17:39.1±0.0, 35.80N×37.40E, h1km±1km, MD3.0/5*
*ISK **21** 19:17:45.2, 35.54N×36.74E, h3km, ML3.3*
*DDA **21** 19:17:46.5, 35.59N×37.00E, h32km, MD3.6*
*CSEM **21** 19:17:47.5±0.1, 35.50N×36.77E, h15km, MD3.6, Error ellipse: s-maj=5.5km s-min=2.8km az=104.0*
*GRAL **21** 19:17:48.8±0.3, 35.34N×36.86E, h4km±3km, MD3.6*
ISC 21 19:17:44.7±1.6, 35.49N±0.02×36.79E±0.03, h2km±13km, n86, σ1§33/107, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YAYL	**Yayladag**	**0.78**	**314**	*i* P	**Pn**	**19 18 02.5**	**-0.3**
YAYL				*i* S	**Sn**	**19 18 16.0**	**+0.9**
YAYL	**Yayladag**	**0.78**	**314**	*i* P	**Pn**	**19 18 02.5**	**-0.3**
FKH	**Fakeheh**	**1.28**	**194**	*eP*	**Pn**	**19 18 09.4**	**-0.3**
FKH				*eS*	**Sb**	**19 18 24.5**	**-2.1**
FKH	**Fakeheh**	**1.28**	**194**	*eP*	**Pn**	**19 18 09.4**	**-0.3**
FKH				*eS*	**Sb**	**19 18 24.5**	**-2.1**
KUZU	**Kuzuini**	**1.30**	**10**	*i* P	**Pn**	**19 18 09.0**	**-0.9**
KUZU				*i* S	**Sg**	**19 18 28.0**	**+1.6**
KUZU	**Kuzuini**	**1.30**	**10**	*i* P	**Pn**	**19 18 09.0**	**-0.9**
KUZU				*i* S	**Sg**	**19 18 28.0**	**+1.6**
HWQ	**Hawqa**	**1.40**	**210**	*eP*	**Pb**	**19 18 11.7**	**+0.2**
HWQ	**Hawqa**	**1.40**	**210**	*eP*	**Pb**	**19 18 11.7**	**+0.2**
KRTS	**Karatas**	**1.57**	**314**	*ePn*	**Pb**	**19 18 13.9**	**-0.6**
KRTS				*eSN*	**Sg**	**19 18 35.2**	**-0.1**
KRTS	**Karatas**	**1.57**	**314**	*ePn*	**Pb**	**19 18 13.9**	**-0.6**
KRTS				*eSn*	**Sg**	**19 18 35.2**	**-0.1**
KAMA	**Osmaniye**	**1.69**	**357**	*i* P	**Pn**	**19 18 15.4**	**+0.1**
KAMA				*i* S	**Sb**	**19 18 37.4**	**-1.0**
CEYT	**Ceyhan**	**1.73**	**331**	*ePN*	**Pb**	**19 18 16.7**	**-0.5**
CEYT				*eSN*	**Sb**	**19 18 39.2**	**-0.2**
CEYT	**Ceyhan**	**1.73**	**331**	*ePn*	**Pb**	**19 18 16.7**	**-0.5**
CEYT				*eSn*	**Sb**	**19 18 39.2**	**-0.2**
BHL	**Bhannes**	**1.84**	**211**	*eP*	**Pb**	**19 18 18.6**	**-0.5**
BHL	**Bhannes**	**1.84**	**211**	*eP*	**Pb**	**19 18 18.6**	**-0.5**
HCB	**Kahramanmara¯**	**1.85**	**3**	*i* P	**Pn**	**19 18 17.1**	**-0.4**
HCB				*i* S	**Sn**	**19 18 40.5**	**-1.0**
GZT	**Gaziantep**	**1.96**	**18**	*i* P	**Pn**	**19 18 18.7**	**-0.4**
GZT				*i* S	**Sg**	**19 18 48.5**	**+0.8**
KMRS	**Kahramanmaras**	**2.01**	**3**	*ePN*	**Pn**	**19 18 20.5**	**+0.8**
KMRS				*eSN*	**Sb**	**19 18 46.5**	**-1.0**
KMRS	**Kahramanmaras**	**2.01**	**3**	*ePn*	**Pn**	**19 18 20.5**	**+0.8**
KMRS				*eSn*	**Sb**	**19 18 46.5**	**-1.0**
DQRL	**Deir Qamar**	**2.05**	**210**	*eP*	**Pb**	**19 18 21.4**	**-1.2**
DQRL	**Deir Qamar**	**2.05**	**210**	*eP*	**Pb**	**19 18 21.4**	**-1.2**
ANDN	**Andirin**	**2.11**	**350**	*i* P	**Pn**	**19 18 22.1**	**+0.9**
ANDN				*i* S	**Sn**	**19 18 48.2**	**+0.1**
ANDN	**Andirin**	**2.11**	**350**	*i* P	**Pn**	**19 18 22.1**	**+0.9**
ANDN				*i* S	**Sn**	**19 18 48.2**	**+0.1**
KOZT	**Kozan**	**2.13**	**339**	*ePN*	**Pn**	**19 18 22.3**	**+1.0**
KOZT	**Kozan**	**2.13**	**339**	*ePn*	**Pn**	**19 18 22.3**	**+1.0**
EREN	**Erenkoy**	**2.14**	**272**	*ePN*	**Pn**	**19 18 22.2**	**+0.9**
EREN	**Erenkoy**	**2.14**	**272**	*ePn*	**Pn**	**19 18 22.2**	**+0.9**
RCY	**Rachaya**	**2.14**	**202**	*eP*	**Pn**	**19 18 22.4**	**+0.9**
RCY				*eS*	**Sn**	**19 18 47.5**	**-1.3**
KARA	**Karaisali**	**2.25**	**322**	*ePN*	**Pn**	**19 18 23.7**	**+0.7**
KARA	**Karaisali**	**2.25**	**322**	*ePn*	**Pn**	**19 18 23.7**	**+0.7**
MERS	**Mersin**	**2.29**	**307**	*ePN*	**Pn**	**19 18 24.4**	**+0.9**
MERS	**Mersin**	**2.29**	**307**	*ePn*	**Pn**	**19 18 24.5**	**+0.9**
ATAB	**Bozova**	**2.32**	**31**	*i* P	**Pn**	**19 18 23.4**	**-0.5**
ATAB	**Bozova**	**2.32**	**31**	*i* P	**Pn**	**19 18 23.4**	**-0.5**
KSDI	**Kefar Szold**	**2.48**	**202**	Pn	**Pn**	**19 18 27.6**	**+1.6**
KSDI				Sn	**Sg**	**19 19 04.7**	**+0.4**
KSDI	**Kefar Szold**	**2.48**	**202**	Pn	**Pn**	**19 18 27.6**	**+1.6**
URFA	**Urfa**	**2.54**	**40**	*ePN*	**Pb**	**19 18 29.1**	**-2.0**
URFA	**Urfa**	**2.54**	**40**	*ePn*	**Pb**	**19 18 29.1**	**-2.0**
LFK	**Lefkose**	**2.67**	**266**	*ePN*	**Pn**	**19 18 30.1**	**+1.3**
LFK	**Lefkose**	**2.67**	**266**	*ePn*	**Pn**	**19 18 30.1**	**+1.3**
MMC7	**Mount Meron ar**	**2.72**	**206**	Pn	**Pn**	**19 18 30.8**	**+1.3**
MMC7	**Mount Meron ar**	**2.72**	**206**	Pn	**Pn**	**19 18 30.8**	**+1.3**
MMA0	**Mount Meron ar**	**2.73**	**205**	Pn	**Pn**	**19 18 30.9**	**+1.4**
MMA0	**Mount Meron ar**	**2.73**	**205**	Pn	**Pn**	**19 18 30.9**	**+1.4**
MMA0B	**Mount Meron ar**	**2.73**	**205**	Pn	**Pn**	**19 18 30.9**	**+1.4**
MMA0B				Sn	**Sg**	**19 19 11.2**	**-1.0**
MMA0B	**Mount Meron ar**	**2.73**	**205**	Pn	**Pn**	**19 18 30.9**	**+1.4**
MMC4	**Mount Meron ar**	**2.73**	**205**	Pn	**Pn**	**19 18 31.0**	**+1.5**
MMC4	**Mount Meron ar**	**2.73**	**205**	Pn	**Pn**	**19 18 31.0**	**+1.5**
HNTI	**Hanita**	**2.75**	**210**	Pn	**Pn**	**19 18 31.0**	**+1.2**
HNTI				Sn	**Sg**	**19 19 12.1**	**-1.0**
HNTI	**Hanita**	**2.75**	**210**	Pn	**Pn**	**19 18 31.0**	**+1.2**
CSS	**Prodhromos**	**2.88**	**260**	*ePN*	**Pn**	**19 18 33.0**	**+1.4**
CSS	**Prodhromos**	**2.88**	**260**	Pn	**Pb**	**19 18 34.4**	**-2.4**
CSS	**Prodhromos**	**2.88**	**260**	*ePn*	**Pn**	**19 18 33.0**	**+1.4**
BLGI	**Bet Lehem HaGe**	**3.06**	**206**	Pn	**Pn**	**19 18 35.9**	**+1.9**
BLGI	**Bet Lehem HaGe**	**3.06**	**206**	Pn	**Pn**	**19 18 35.9**	**+1.9**
MALT	**Malatya**	**3.11**	**25**	*ePN*	**Pn**	**19 18 36.2**	**+1.4**
MALT	**Malatya**	**3.11**	**25**	*ePn*	**Pn**	**19 18 36.2**	**+1.4**
DARE	**Darende-Malaty**	**3.12**	**10**	*ePN*	**Pn**	**19 18 35.9**	**+0.9**
DARE	**Darende-Malaty**	**3.12**	**10**	*ePn*	**Pn**	**19 18 35.9**	**+0.9**
NIG	**Nigde**	**3.14**	**327**	*ePN*	**Pn**	**19 18 36.4**	**+0.9**
NIG	**Nigde**	**3.14**	**327**	*ePn*	**Pn**	**19 18 36.4**	**+0.9**
LEF	**Lefka**	**3.21**	**264**	*ePN*	**Pn**	**19 18 38.6**	**+2.5**
LEF	**Lefka**	**3.21**	**264**	*ePn*	**Pn**	**19 18 38.6**	**+2.5**
OFRI	**'Ofer**	**3.23**	**208**	Pn	**Pn**	**19 18 37.8**	**+1.3**
OFRI	**'Ofer**	**3.23**	**208**	Pn	**Pn**	**19 18 37.8**	**+1.3**
MMLI	**Mount Malkishu**	**3.25**	**201**	Pn	**Pn**	**19 18 38.3**	**+1.6**
MMLI				Sn	**Sb**	**19 19 24.7**	**+1.5**
MMLI	**Mount Malkishu**	**3.25**	**201**	Pn	**Pn**	**19 18 38.3**	**+1.6**
HMDT	**Nahal Hemdat**	**3.40**	**198**	Pn	**Pn**	**19 18 40.1**	**+1.4**
HMDT				Sn	**Sb**	**19 19 27.3**	**-0.1**
HMDT	**Nahal Hemdat**	**3.40**	**198**	Pn	**Pn**	**19 18 40.1**	**+1.4**
MAZI	**Mazidag**	**3.54**	**55**	*ePN*	**Pn**	**19 18 43.2**	**+2.4**
MAZI	**Mazidag**	**3.54**	**55**	*ePn*	**Pn**	**19 18 43.2**	**+2.4**
SLTI	**Sal'it**	**3.56**	**205**	Pn	**Pn**	**19 18 42.4**	**+1.5**
SLTI				Sn	**Sb**	**19 19 32.1**	**+0.2**
SLTI	**Sal'it**	**3.56**	**205**	Pn	**Pn**	**19 18 42.4**	**+1.5**
DYBB	**Diyarbakir**	**3.64**	**47**	*ePN*	**Pn**	**19 18 44.3**	**+2.1**
DIY	**Diyarbakir**	**3.66**	**48**	*ePn*	**Pn**	**19 18 44.3**	**+1.9**
HDMB	**Hadim**	**3.78**	**294**	*ePN*	**Pn**	**19 18 45.6**	**+1.5**
HDMB	**Hadim**	**3.78**	**294**	*ePn*	**Pn**	**19 18 45.6**	**+1.5**
PTRK	**Pertek**	**3.98**	**31**	*ePN*	**Pn**	**19 18 49.2**	**+2.3**
PTK	**Pertek**	**3.98**	**31**	*ePn*	**Pn**	**19 18 49.2**	**+2.3**
DSI	**Dead Sea**	**4.08**	**197**	Pn	**Pn**	**19 18 49.8**	**+1.6**
DSI	**Dead Sea**	**4.08**	**197**	Pn	**Pn**	**19 18 49.8**	**+1.6**
SVSK	**Karacayir**	**4.42**	**2**	*ePN*	**Pn**	**19 18 54.0**	**+1.3**
SVSK	**Karacayir**	**4.42**	**2**	*ePn*	**Pn**	**19 18 54.0**	**+1.3**
SVAN	**Silvan-Diyarba**	**4.42**	**52**	*ePN*	Pn	19 18 56.0	+3.1
BINT	**Bingol**	**4.49**	**40**	*ePN*	Pn	19 18 58.8	+5.0
BNGB	**Bing¯ll**	**4.67**	**40**	*ePN*	**Pn**	**19 18 58.8**	**+2.5**

IDC 21 19:18:43.2±24.0, 16.10S×173.69W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.8/26, mbtmp4.3/4, Error ellipse: s-maj=443.3km s-min=153.2km az=71.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.22**	**258**	P	P	19 26 05.5	+0.3
	4.2nm,0.9s,baz=94,slow=7.8,SNR=2.6						
STKA	**Stephens Creek**	**43.45**	**241**	P	P	19 26 48.6	+0.4
	2.1nm,0.8s,baz=80,slow=10,SNR=5.6						
WRA	**Warramunga Arr**	**49.41**	**257**	P	P	19 27 34.7	-0.6
	1.5nm,0.5s,baz=95,slow=7.2,SNR=43						
ASAR	**Alice Springs**	**49.63**	**252**	P	P	19 27 36.6	-0.4
	7.9nm,0.6s,baz=87,slow=8.5,SNR=148						

IDC 21 19:33:31.1±3.2, 5.50S×147.20E, h226km±28km, mb3.3/5, mb1 3.5/6, mb1mx3.1/24, mbtmp3.8/6, Error ellipse: s-maj=54.2km s-min=11.4km az=111.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.04**	**220**	P	P	19 37 36.2	-0.4
	0.5nm,0.3s,baz=43,slow=11,SNR=21						
ASAR	**Alice Springs**	**22.14**	**214**	P	P	19 38 09.2	+0.5
	4.7nm,0.7s,baz=42,slow=7.5,SNR=50						
ASAR				S	S	19 41 56.8	+0.9
	0.7nm,0.9s,baz=35,slow=16,SNR=3.4						
KSRS	**Korea Array**	**46.36**	**339**	P	P	19 41 34.5	-0.3
	0.4nm,0.4s,baz=156,slow=9.3,SNR=3.9						
PETK	**Petropavlovsk-**	**59.06**	**7**	P	P	19 43 08.3	+0.9
	1.8nm,0.5s,baz=170,slow=11,SNR=2.7						
SONM	**Songino Array**	**64.07**	**331**	P	P	19 43 41.1	-0.1
	0.2nm,0.4s,baz=145,slow=5.3,SNR=2.5						
ILAR	**Eielson Array**	**84.95**	**23**	P	P	19 45 39.2	-1.4
	0.5nm,0.7s,baz=257,slow=5.0,SNR=6.4						
TORD	**Torodi Ar. Bea**	**145.15**	**285**	PKPbc	PKPdf	19 52 41.9	-0.8
	0.8nm,1.1s,baz=65,slow=3.0,SNR=3.7						

IDC 21 19:37:35.4±2.6, 5.29N×123.94E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/30, mbtmp3.5/3, Error ellipse: s-maj=309.9km s-min=26.6km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.08**	**158**	P	P	19 43 20.3	+0.3
	0.5nm,0.3s,baz=337,slow=9.8,SNR=15						
ASAR	**Alice Springs**	**30.37**	**162**	P	P	19 43 49.0	-0.4
	0.3nm,0.4s,baz=339,slow=7.5,SNR=8.3						
MKAR	**Makanchi Array**	**54.71**	**326**	P	P	19 47 06.5	-0.1
	0.1nm,0.3s,baz=121,slow=7.6,SNR=4.9						

*DJA **21** 19:58:11.9±5.4, 3.7N±30.7×12.8E±3.7, h10km, M4.2/5, mb4.3/1, MLv4.1/5*
*ISCJB **21** 19:58:12.5±1.3, 2.9N±0.1×128.32E±0.09, h33km, mb3.7/4, Error ellipse: s-maj=18.5km s-min=10.4km az=28.8*
*IDC **21** 19:58:18.6±3.1, 2.67N×128.31E, h73km±28km, mb3.6/4, mb1 3.8/6, mb1mx3.3/32, mbtmp4.0/6, Error ellipse: s-maj=39.2km s-min=19.3km az=51.0*
ISC 21 19:58:14.8±1.3, 2.8N±0.1×128.3E±0.1, h35km, n9, σ1§54/11, mb4.0/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.23**	**204**	P	**Pn**	**19 58 50.0**	**+0.7**
SIJI	**Sorong**	**4.74**	**141**	P	**Pn**	**19 59 25.9**	**+2.1**
	8.5nm,0.3s,baz=331,slow=19,SNR=64						
SIJI				S	**Sn**	**20 00 18.3**	**+0.6**
	2.3nm,0.3s,baz=101,slow=24,SNR=7.2						
KMSI	**Cibinong**	**4.83**	**242**	P	**Pn**	**19 59 25.8**	**+0.7**
SANI	**Sanana**	**5.35**	**205**	P	**Pn**	**19 59 32.9**	**+0.7**
KAPI	**Kappang**	**11.53**	**228**	P	**Pn**	**20 00 59.2**	**+2.1**
	0.7nm,0.3s,baz=56,slow=7.3,SNR=2.6						
WRA	**Warramunga Arr**	**23.40**	**165**	P	**P**	**20 03 19.8**	**-1.0**
	5.7nm,0.8s,baz=346,slow=10,SNR=29						
ASAR	**Alice Springs**	**26.90**	**169**	P	**P**	**20 03 51.5**	**-1.3**
	0.3nm,0.6s,baz=348,slow=7.4,SNR=9.6						
ASAR				PcP	**PcP**	**20 07 12.6**	**-2.0**
	0.2nm,0.7s,baz=358,slow=2.3,SNR=3.3						
STKA	**Stephens Creek**	**36.77**	**161**	P	**P**	**20 05 18.0**	**-1.1**
	1.1nm,0.3s,baz=349,slow=7.8,SNR=15						
MKAR	**Makanchi Array**	**59.17**	**325**	P	**P**	**20 08 13.0**	**+0.8**
	0.3nm,0.4s,baz=111,slow=7.9,SNR=7.9						

*IDC **21** 20:09:20.4±3.3, 12.34N×141.83E, h98km±34km, mb3.4/7, mb1 3.6/8, mb1mx3.3/30, mbtmp3.7/8, Error ellipse: s-maj=30.7km s-min=17.9km az=95.0*
ISC 21 20:09:13.8±0.8, 12.4N±0.1×141.7E±0.1, h33km, n8, σ1§06/8, mb3.7/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.33**	**68**	P	Pb	20 10 08.7	-3.5
	6.6nm,0.3s,baz=204,slow=19,SNR=3.1						
GUMO				S	**Sb**	**20 10 53.2**	**+0.8**
	1.6nm,0.3s,baz=300,slow=20,SNR=1.4						
WRA	**Warramunga Arr**	**32.91**	**193**	P	**P**	**20 15 45.0**	**-0.1**
	1.1nm,1.0s,baz=12,slow=9.5,SNR=6.0						
ASAR	**Alice Springs**	**36.61**	**192**	P	**P**	**20 16 17.5**	**+0.4**
	0.2nm,0.4s,baz=20,slow=11,SNR=4.3						
CMAR	**Chiang Mai Arr**	**41.57**	**284**	P	**P**	**20 17 00.1**	**+1.3**
	1.0nm,0.7s,baz=87,slow=6.8,SNR=10						
STKA	**Stephens Creek**	**43.99**	**180**	P	**P**	**20 17 17.8**	**-0.2**
	0.9nm,0.8s,baz=0.0,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**60.24**	**317**	P	**P**	**20 19 19.4**	**+0.5**
	0.5nm,0.8s,baz=108,slow=9.4,SNR=4.7						
ILAR	**Eielson Array**	**71.00**	**25**	P	**P**	**20 20 27.4**	**-0.6**
	0.3nm,0.7s

*ISCJB **21** 20:50:27.9±0.9, 6°.66S×0°.09×147°.5E±0°.2, h10km, mb3.7/8, MS2.3/1, Error ellipse: s-maj=29.8km s-min=11.0km az=13.3*
*IDC **21** 20:50:27.8±1.0, 6°.64S×147°.65E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.8/30, mbtmp3.8/9, ML3.9/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/17, Error ellipse: s-maj=39.3km s-min=18.7km az=92.0*
*NEIC **21** 20:50:29.8±0.8, 6°.57S×147°.49E, h10km, mb4.1/1, Error ellipse: s-maj=26.2km s-min=10.1km az=99.0*

ISC 21 20:50:30.0±0.9, 6°.6S±0°.1×147°.5E±0°.2, h10km, n16, σ1§06/15, mb3.8/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.83**	**187**	*eP*		**Pn**		**20 51 17.3**	**+2.0**
COEN	**Coen**	**8.48**	**210**	*eP*		**Pn**		**20 52 33.4**	**+0.5**
WRAB	**Tennant Creek**	**18.42**	**223**	*eP*		**P**		**20 54 43.9**	**-1.6**
	18nm,1.3s								
WRA	**Warramunga Arr**	**18.43**	**223**	P		**P**		**20 54 45.4**	**-0.4**
	0.4nm,0.3s,baz=49,slow=11,SNR=11								
WRA				S		Sn		20 57 58.4	-14
	0.1nm,0.3s,baz=38,slow=21,SNR=3.2								
GUMO	**Guam**	**20.20**	**353**	LR		LR		21 02 18.7	
	comp=Z,14nm,21.6s,baz=96,slow=35								
ASAR	**Alice Springs**	**21.43**	**216**	P		**P**		**20 55 18.2**	**-0.2**
	1.3nm,0.4s,baz=56,slow=9.0,SNR=24								
STKA	**Stephens Creek**	**25.77**	**192**	P		**P**		**20 55 59.6**	**-1.5**
	0.6nm,0.4s,baz=1.9,slow=13,SNR=2.7								
KSRS	**Korea Array**	**47.46**	**339**	P		**P**		**20 59 05.9**	**+0.9**
	0.4nm,0.3s,baz=157,slow=9.1,SNR=3.9								
KSAR	**Wonju Array Be**	**47.47**	**339**	P		**P**		**20 59 05.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**53.95**	**298**	P		**P**		**20 59 55.5**	**+1.0**
	1.1nm,0.6s,baz=122,slow=6.2,SNR=10								
VNDA	**Vanda**	**71.31**	**177**	P		**P**		**21 01 49.0**	**-0.4**
	0.8nm,0.6s,baz=342,slow=6.9,SNR=7.4								
MKAR	**Makanchi Array**	**78.25**	**320**	P		**P**		**21 02 30.3**	**+0.2**
	0.3nm,0.6s,baz=137,slow=3.2,SNR=3.2								
ZALV	**Zalesovo Beam**	**79.76**	**328**	P		**P**		**21 02 37.1**	**-1.1**
	0.8nm,0.6s,baz=121,slow=6.4,SNR=4.8								
ILAR	**Eielson Array**	**85.81**	**23**	P		**P**		**21 03 08.9**	**-0.5**
	0.4nm,0.8s,baz=240,slow=3.6,SNR=3.5								
GERES	**GERESS Array B**	**122.66**	**326**	PKP		**PKPdf**		**21 09 25.8**	**-0.5**
	0.2nm,0.5s,baz=135,slow=1.6,SNR=2.7								
TORD	**Torodi Ar. Bea**	**145.71**	**284**	PKPbc		**PKPdf**		**21 10 09.7**	**-0.1**
	0.9nm,0.5s,baz=74,slow=3.6,SNR=32								

KRSC 21 20:56:29.9±0.5, 54°.65N×160°.97E, h90km±8km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.45**	**102**	*eP*		Pn		20 56 46.4	+2.2
MKZ				*eS*		Sn		20 56 57.5	+2.7
KZV	**Kizimen**	**0.61**	**320**	*eP*		Pn		20 56 46.7	+1.0
KZV				*eS*		Sn		20 56 57.9	+0.5
TUMR	**Tumrok**	**0.79**	**324**	*eP*		Pn		20 56 48.9	+1.5
TUMR				*eS*		Sn		20 57 01.6	+1.1
KII	**Karymskiy**	**1.08**	**236**	*eP*		Pn		20 56 52.2	+1.6
KII				*eS*		Sn		20 57 07.5	+1.4
KMNR	**Kamenistaya**	**1.19**	**340**	*eP*		Pn		20 56 53.8	+2.0
KMNR				*eS*		Sn		20 57 10.1	+1.7
BZWR	**Bezymyannyi-We**	**1.34**	**349**	*eP*		Pn		20 56 55.5	+1.6
KOZ	**Kozyrevsk**	**1.54**	**337**	*eP*		Pn		20 56 57.8	+1.6
KOZ				*eS*		Sn		20 57 17.3	+1.2
SPN	**Mys Shipunski**	**1.65**	**200**	*eP*		Pn		20 56 58.9	+1.4
SPN				*eS*		Sn		20 57 19.1	+0.6
KLY	**Klyuchi**	**1.68**	**354**	*eP*		Pn		20 57 00.0	+2.2
KLY				*eS*		Sn		20 57 20.9	+1.9
SRDR	**Sredinnyy**	**1.82**	**337**	*eP*		Pn		20 57 00.9	+1.2
SRDR				*eS*		Sn		20 57 22.4	0.0
ESO	**Esso**	**1.82**	**315**	*eP*		Pn		20 57 01.1	+1.4
SDLR	**Sedlovina**	**1.85**	**223**	*eP*		Pn		20 57 02.1	+1.9
SDLR				*eS*		Sn		20 57 24.4	+1.2
KRER	**Koryakskii**	**1.88**	**225**	*eP*		Pn		20 57 02.9	+2.1
KRER				*eS*		Sn		20 57 25.8	+1.6
KBTR	**Krutoberegovo**	**1.88**	**33**	*eP*		Pn		20 57 03.0	+2.5
KBTR				*eS*		Sn		20 57 26.0	+2.2
KRX	**Arik**	**1.88**	**228**	*eP*		Pn		20 57 03.0	+2.3
SMAR	**Somma**	**1.89**	**224**	*eP*		Pn		20 57 02.8	+1.9
SMAR				*eS*		Sn		20 57 25.6	+1.1
AVH	**Avacha**	**1.91**	**224**	*eP*		Pn		20 57 03.4	+2.4
UGLR	**Uglovaya**	**1.92**	**222**	*eP*		Pn		20 57 03.2	+2.0
UGLR				*eS*		Sn		20 57 26.3	+1.3
KOK	**Koryaka**	**1.94**	**226**	*eP*		Pn		20 57 03.5	+2.2
SMKR	**Semkarok**	**1.96**	**8**	*eP*		Pn		20 57 04.0	+2.4
SRKR	**Sorokina**	**2.01**	**3**	*eP*		Pn		20 57 04.8	+2.5
SRKR				*eS*		Sn		20 57 29.2	+2.2
GNL	**Ganaly**	**2.02**	**243**	*eP*		Pn		20 57 04.2	+1.7
PET	**Petropavlovsk**	**2.13**	**221**	*eP*		Pn		20 57 06.0	+2.3
PET				*eS*		Sn		20 57 31.3	+1.7
RUS	**Russkaya**	**2.66**	**214**	*eP*		Pn		20 57 12.3	+1.5
RUS				*eS*		Sn		20 57 42.0	-0.2
MTVR	**Mutnovka**	**2.73**	**219**	*eP*		Pn		20 57 14.5	+2.5
APC	**Apacha**	**2.85**	**234**	*eP*		Pn		20 57 16.1	+2.8
ASAK	**Asacha**	**2.92**	**220**	*eP*		Pn		20 57 16.9	+2.5
BKI	**Bering**	**2.94**	**77**	*eP*		Pn		20 57 16.3	+1.8
BKI				*eS*		Sn		20 57 48.9	0.0

*ISCJB **21** 21:11:33.8±0.8, 30°.13N±0°.06×138°.7E±0°.2, h421km, mb3.2/4, Error ellipse: s-maj=18.3km s-min=8.1km az=6.2*
*JMA **21** 21:11:35.7±0.2, 30°.24N×139°.26E, h437km, M3.2*
*IDC **21** 21:11:36.2±2.5, 30°.18N×138°.64E, h436km±28km, mb2.9/4, mb1 3.0/6, mb1mx2.7/35, mbtmp3.6/6, Error ellipse: s-maj=58.1km s-min=19.4km az=78.0*

ISC 21 21:11:34.9±1.0, 30°.21N±0°.09×138°.8E±0°.2, h421km, n13, σ1§55/15, mb3.2/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.29**	**135**	P		**P**		**21 12 51.0**	**0.0**
JNY	**Yasuok**	**5.20**	**351**	P		P		21 13 03.6	+3.9
JHU	**Hanno**	**5.64**	**4**	*eS*		**S**		**21 14 17.4**	**0.0**
JRY	**Ryogami san**	**5.79**	**1**	P		**P**		**21 13 08.2**	**+2.4**
JRY				*eS*		**S**		**21 14 21.1**	**+0.8**
JAG	**Ashikaga**	**6.22**	**5**	P		**P**		**21 13 11.2**	**+0.9**
JAG				*eS*		**S**		**21 14 25.9**	**-2.7**
MJAR	**Matsushiro Arr**	**6.34**	**356**	P		**P**		**21 13 13.1**	**+1.5**
	0.4nm,0.3s,baz=174,slow=11,SNR=4.2								
JHO	**Hitachi**	**6.55**	**13**	P		**P**		**21 13 16.3**	**+2.0**
JHO				S		**S**		**21 14 33.9**	**-1.2**
JFK	**Kawauchi**	**7.34**	**13**	*eS*		**S**		**21 14 49.2**	**-1.8**
KSRS	**Korea Array**	**11.58**	**312**	P		**P**		**21 14 10.6**	**+1.2**
	0.2nm,0.3s,baz=119,slow=10.0,SNR=5.6								
MKAR	**Makanchi Array**	**46.22**	**307**	P		**P**		**21 19 19.1**	**-1.2**
	0.5nm,0.7s,baz=78,slow=8.8,SNR=4.8								
WRA	**Warramunga Arr**	**50.05**	**185**	P		**P**		**21 19 48.9**	**-0.3**
	0.4nm,0.8s,baz=8.6,slow=7.9,SNR=2.9								
ARCES	**ARCESS Array B**	**69.62**	**340**	P		**P**		**21 22 00.1**	**+0.2**
	2.6nm,0.9s,baz=42,slow=11,SNR=3.6								
FINES	**FINESS Array B**	**73.84**	**333**	P		**P**		**21 22 24.1**	**-0.8**
	0.7nm,0.8s,baz=62,slow=6.5,SNR=3.8								

IDC 21 21:22:14.0±2.1, 1°.67N×126°.62E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/39, mbtmp3.3/3, Error ellipse: s-maj=180.8km s-min=25.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.77**	**161**	P		P		21 27 17.6	-0.7
	0.3nm,0.3s,baz=340,slow=12,SNR=7.9								
ASAR	**Alice Springs**	**26.16**	**165**	P		P		21 27 51.0	+0.7
	0.2nm,0.4s,baz=344,slow=11,SNR=2.9								
MKAR	**Makanchi Array**	**59.18**	**326**	P		P		21 32 16.7	-0.2
	0.2nm,0.4s,baz=127,slow=7.6,SNR=5.5								

IDC 21 21:26:52.7±2.6, 31°.32S×178°.75W, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.7/19, mbtmp3.7/4, ML2.7/2, Error ellipse: s-maj=66.3km s-min=22.7km az=123.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.18**	**20**	Pn		Pn		21 27 31.0	+0.9
	8.6nm,0.3s,baz=165,slow=20,SNR=1.9								
RAO				Sn		Sn		21 27 56.9	-1.0
	23nm,0.3s,baz=73,slow=19,SNR=2.5								
URZ	**Urewera**	**7.72**	**205**	Pn		Pn		21 28 45.2	-1.1
	0.0nm,0.3s,baz=333,slow=14,SNR=2.3								
URZ				Sn		Sn		21 30 09.3	-5.2
	0.3nm,0.3s,baz=156,slow=20,SNR=2.6								
ASAR	**Alice Springs**	**42.42**	**268**	P		P		21 34 49.5	+0.1
	0.2nm,0.5s,baz=104,slow=7.7,SNR=4.3								
WRA	**Warramunga Arr**	**43.50**	**274**	P		P		21 34 58.0	-0.1
	1.0nm,0.4s,baz=112,slow=8.0,SNR=19								
FINES	**FINESS Array B**	**145.77**	**339**	PKPbc		PKPdf		21 46 31.9	-0.5
	0.9nm,0.8s,baz=92,slow=3.2,SNR=3.5								

*ISCJB **21** 21:46:55.5±0.2, 43°.54N±0°.02×105°.23W±0°.02, h0km, Error ellipse: s-maj=2.4km s-min=2.1km az=167.6*
*NEIC **21** 21:46:56.0±0.6, 43°.50N×105°.17W, h0km, ML3.0, Error ellipse: s-maj=7.4km s-min=5.7km az=80.0, Suspected Mining explosion.*
NEIC 85 km [50 miles] NNE of Douglas.
*IDC **21** 21:46:57.5±1.2, 44°.21N×105°.84W, h0km, mb1 3.5/4, mb1mx3.3/28, mbtmp3.2/4, ML3.7/3, Error ellipse: s-maj=25.5km s-min=9.9km az=147.0*

ISC 21 21:46:55.5±0.7, 43°.61N±0°.02×105°.25W±0°.02, h0km, n91, σ1§45/105, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
J23A	**Dilts Ranch, B**	**0.31**	**227**	P		**Pg**		**21 47 02.2**	**+0.9**
	baz=0.3,SNR=233								
I23A	**Meade Ranch, G**	**0.38**	**336**	P		**Pb**		**21 47 04.6**	**-0.6**
	baz=0.5,SNR=16								
J24A	**Dixon Ranch, L**	**0.51**	**123**	P		**Pg**		**21 47 05.5**	**+0.2**
	baz=0.4,SNR=78								
I24A	**Kuemmerle Ranc**	**0.51**	**61**	P		**Pg**		**21 47 06.2**	**+0.9**
	baz=0.5,SNR=330								
K23A	**Bowen Ranch, D**	**0.90**	**198**	P		**Pg**		**21 47 13.1**	**+0.4**
	baz=0.8								
J22A	**Midwest**	**0.92**	**258**	P		**Pg**		**21 47 13.3**	**+0.2**
	baz=1.0								
I22A	**9 Mile Ranch,**	**0.94**	**288**	P		**Pb**		**21 47 14.2**	**-0.5**
	baz=1.0								
K24A	**Anderson Ranch**	**0.94**	**160**	P		**Pg**		**21 47 13.2**	**-0.4**
	baz=0.8,SNR=59								
H23A	**Clabaugh Cattl**	**0.95**	**353**	P		**Pb**		**21 47 14.3**	**-0.7**
	baz=1.1,SNR=28								
RSSD	**Black Hills**	**1.01**	**60**	*eP*		**Pg**		**21 47 14.8**	**-0.1**
RSSD				*eS*		**Sg**		**21 47 28.9**	**+0.9**
J25A	**Sunshine Ranch**	**1.07**	**102**	P		**Pg**		**21 47 16.3**	**+0.2**
	baz=1.0,SNR=90								
I25A	**Rochford**	**1.17**	**69**	P		**Pg**		**21 47 17.5**	**-0.4**
	baz=1.2,SNR=75								
H24A	**Dirks Ranch, A**	**1.24**	**24**	P		**Pg**		**21 47 19.1**	**-0.1**
	baz=1.3								
H22A	**Clearmont**	**1.26**	**321**	P		**Pn**		**21 47 20.6**	**+0.1**
	baz=1.4,SNR=65								
H22A				S		**Sn**		**21 47 39.6**	**+1.3**
	baz=1.4								
K22A	**Casper**	**1.34**	**225**	P		**Pg**		**21 47 20.5**	**-0.7**
	baz=1.3								
K22A	**Casper**	**1.34**	**225**	*ePn*		**Pg**		**21 47 20.6**	**-0.6**
K25A	**Mack Ranch, Ha**	**1.42**	**134**	Pb		**Pn**		**21 47 22.6**	**-0.1**
	baz=1.3,SNR=384								
I21A	**Big Trails, Te**	**1.50**	**278**	P		**Pn**		**21 47 23.5**	**-0.3**
	baz=1.6								
I21A				S		**Sn**		**21 47 43.8**	**-0.3**
	baz=1.6								
H25A	**Fruitdale**	**1.56**	**49**	P		**Pn**		**21 47 24.6**	**0.0**
	baz=1.6,SNR=28								
H25A				S		**Sn**		**21 47 44.8**	**-0.7**
	baz=1.6								
G23A	**Biddle**	**1.59**	**356**	P		**Pg**		**21 47 26.0**	**+0.1**
	baz=1.7,SNR=48								
G23A				S		**Sg**		**21 47 48.6**	**+2.0**
	baz=1.7								
J26A	**Sides Ranch, S**	**1.61**	**100**	P		**Pn**		**21 47 25.1**	**-0.2**
	baz=1.5,SNR=25								
J26A				S		**Sn**		**21 47 47.1**	**+0.3**
	baz=1.5								
J21A	**Lysite**	**1.62**	**261**	P		**Pn**		**21 47 25.5**	**0.0**
	baz=1.7,SNR=27								
J21A				S		**Sg**		**21 47 48.3**	**+0.7**
	baz=1.7								
H21A	**Big Horn, Sher**	**1.64**	**309**	P		**Pg**		**21 47 26.6**	**-0.3**
	baz=1.8,SNR=45								
H21A				S		**Sg**		**21 47 50.0**	**+1.7**
	baz=1.8								
K26A	**Motz Farm, Whi**	**1.77**	**120**	Sb		**Sg**		**21 47 52.6**	**+0.3**
	baz=1.7								
G22A	**Birney**	**1.77**	**335**	P		**Pg**		**21 47 28.8**	**-0.6**
	baz=1.9,SNR=39								
G22A				Sb		**Sg**		**21 47 55.5**	**+3.1**
	baz=1.9								
I26A	**New Underwood**	**1.78**	**76**	Pb		**Pb**		**21 47 29.0**	**0.0**
	baz=1.7								
I26A				S		**Sn**		**21 47 50.5**	**-0.4**
	baz=1.7								
G24A	**Alzada**	**1.81**	**19**	P		**Pb**		**21 47 29.3**	**-0.3**
	baz=1.9,SNR=31								
G24A				Sb		**Sg**		**21 47 55.9**	**+2.1**
	baz=1.9								
H26A	**Fairpoint**	**2.04**	**60**	S		**Sn**		**21 47 58.3**	**+0.8**
	baz=2.0								
G25A	**Newell**	**2.05**	**39**	Pb		**Pb**		**21 47 33.9**	**+0.2**
	baz=2.1,SNR=78								
G25A				Sb		**Sg**		**21 48 01.8**	**+0.4**
	baz=2.1								
J20A	**Shoshoni**	**2.08**	**264**	Pb		**Pb**		**21 47 34.2**	**0.0**
	baz=2.1,SNR=98								
J20A				S		**Sb**		**21 48 01.3**	**+0.6**
	baz=2.1								
F23A	**Volborg**	**2.11**	**357**	P		**Pb**		**21 47 33.1**	**-1.6**
	baz=2.2,SNR=56								
F23A				S		**Sb**		**21 48 01.5**	**0.0**
	baz=2.2								
I20A	**Worland**	**2.11**	**280**	P		**Pn**		**21 47 33.1**	**+0.8**
	baz=2.2,SNR=55								
I20A				S		**Sb**		**21 48 01.9**	**+0.4**
	baz=2.2								
G21A	**Lodge Grass**	**2.14**	**320**	P		**Pn**		**21 47 33.4**	**+0.8**
	baz=2.3,SNR=33								
H20A	**Greybull**	**2.17**	**295**	P		**Pn**		**21 47 33.6**	**+0.7**
	baz=2.3,SNR=12								
L26A	**Underwood Farm**	**2.24**	**134**	Pb		**Pb**		**21 47 36.3**	**-0.6**
	baz=2.1								
F22A	**Rosebud**	**2.28**	**342**	P		**Pn**		**21 47 35.4**	**+1.0**
	baz=2.4,SNR=32								
PHWY	**Pilot Hill**	**2.32**	**184**	*ePn*		**Pn**		**21 47 34.3**	**-0.8**
PHWY				*eSn*		**Sn**		**21 48 01.5**	**-3.0**
M25A	**Palm-Egli Farm**	**2.35**	**158**	P		**Pn**		**21 47 36.7**	**+1.2**
	baz=2.2								
I27A	**Quinn**	**2.36**	**78**	Pb		**Pb**		**21 47 39.0**	**+0.2**
	baz=2.3								
K27A	**Flueckinger Fa**	**2.38**	**111**	Pb		**Pb**		**21 47 39.3**	**0.0**
	baz=2.3								
RWWY	**Rawlins**	**2.41**	**218**	*ePn*		Pg		21 47 46.8	+5.1
RWWY				*eSn*		**Sg**		**21 48 18.5**	**+5.6**
G26A	**Maurine**	**2.53**	**48**	Pb		**Pb**		**21 47 42.7**	**+0.8**
	baz=2.6								
F25A	**Bowman**	**2.64**	**28**	P		**Pn**		**21 47 40.7**	**+1.3**
	baz=2.7,SNR=20								
M26A	**McRoberts Ranc**	**2.65**	**143**	Pb		**Pb**		**21 47 43.3**	**-0.6**
	baz=2.5								
G20A	**Bridger**	**2.66**	**308**	P		**Pn**		**21 47 40.4**	**+0.6**
	baz=2.8,SNR=38								
I19A	**Meeteetse**	**2.75**	**280**	P		**Pn**		**21 47 42.6**	**+1.7**
	baz=2.8,SNR=21								
N23A	**Red Feather La**	**2.77**	**191**	*ePn*		**Pn**		**21 47 42.6**	**+1.3**
N23A				*eSn*		Sn		21 48 08.8	-6.7
E23A	**Ismay**			**2.88**	**359**	P		**Pn**	**21 47 44.3**	**+1.5**
	baz=3.0,SNR=7.3								
H19A	**Powell**			**2.89**	**293**	P		**Pn**	**21 47 44.6**	**+1.7**
	baz=3.0,SNR=11								
E24A	**Baker**			**3.02**	**12**	P		**Pn**	**21 47 45.9**	**+1.3**
	baz=3.1,SNR=11								
RLMT	**Red Lodge**			**3.25**	**299**	P		**Pn**	**21 47 49.3**	**+1.3**
	baz=3.4,SNR=6.9								
BW06	**Boulder Array**			**3.26**	**256**	*ePn*		**Pn**	**21 47 48.0**	**-0.1**
BW06						*eSn*		Sn	21 48 21.0	-6.8
BW06						*eSn*		Sn	21 48 21.5	-6.3
PD31	**Pinedale Array**			**3.26**	**256**	*ePn*		**Pn**	**21 47 48.9**	**+0.7**
PD31						*eSn*		**Sb**	**21 48 34.9**	**+0.1**
PDAR	**Pinedale Array**			**3.26**	**256**	Pn		**Pn**	**21 47 48.9**	**+0.7**
	2.7nm,0.3s,baz=65,slow=16,SNR=38									
PDAR						Lg		Lg	21 48 34.9	
	4.2nm,0.3s,baz=63,slow=36,SNR=6.3									
D23A	**Lindsay**			**3.56**	**0**	P		**Pn**	**21 47 53.9**	**+1.9**
	baz=3.7,SNR=17									
ISCO	**Idaho Springs**			**3.82**	**184**	*ePn*		**Pn**	**21 47 54.1**	**-1.8**
ISCO						*eSn*		Sn	21 48 27.6	-14
GCMT	**Greycliff**			**3.83**	**306**	*ePn*		**Pn**	**21 47 57.6**	**+1.8**
GCMT						*eSn*		**Sb**	**21 48 50.1**	**-0.9**
LOHW	**Long Hollow**			**3.89**	**272**	*ePn*		**Pn**	**21 47 58.4**	**+1.6**
LOHW						*eSn*		**Sn**	**21 48 40.8**	**-2.5**
H17A	**Grant Village**			**3.92**	**283**	*ePn*		**Pn**	**21 47 58.9**	**+1.7**
FLWY	**Flagg Ranch**			**3.97**	**279**	*ePn*		**Pn**	**21 47 59.6**	**+1.8**
MOOW	**Moose Ponds**			**3.99**	**274**	*ePn*		**Pn**	**21 47 59.8**	**+1.7**
SNOW	**Snow King Moun**			**4.01**	**270**	*ePn*		**Pn**	**21 48 01.0**	**+2.6**
REDW	**Red Top Meadow**			**4.09**	**268**	*ePn*		**Pn**	**21 48 01.2**	**+1.8**
IMW	**Indian Meadow**			**4.13**	**276**	*ePn*		**Pn**	**21 48 01.9**	**+1.7**
O20A	**White River Ci**			**4.13**	**214**	*ePn*		**Pn**	**21 47 59.4**	**-0.7**
TPAW	**Teton Pass**			**4.15**	**270**	*ePn*		**Pn**	**21 48 01.1**	**+0.8**
FXWY	**Fox Creek**			**4.20**	**272**	*ePn*		**Pn**	**21 48 03.6**	**+2.6**
P27A	**Ficken Ranch,**			**4.52**	**153**	P		**Pn**	**21 48 05.7**	**+0.4**
	baz=4.4,SNR=13									
Q24A	**Divide**			**4.65**	**179**	*ePn*		**Pn**	**21 48 08.2**	**+1.0**
DGMT	**Dagmar**			**4.91**	**8**	*ePn*		Pn	21 48 13.7	+3.1
DGMT						*eSn*		**Sg**	**21 49 28.1**	**-5.2**
HWUT	**Hardware Ranch**			**5.08**	**249**	*ePn*		**Pn**	**21 48 14.8**	**+1.8**
R26A	**Arlington**			**5.48**	**165**	P		**Pn**	**21 48 18.8**	**+0.3**
	baz=5.4,SNR=13									
LRM	**Limekiln Ridge**			**5.59**	**296**	*ePn*		**Pn**	**21 48 21.9**	**+1.9**
MCMT	**McKenzie Canyo**			**5.60**	**285**	*ePn*		**Pn**	**21 48 21.3**	**+1.1**
HVU	**Hansel Valley**			**5.84**	**254**	*ePn*		**Pn**	**21 48 25.1**	**+1.6**
PV09	**Paradox Valley**			**5.89**	**211**	*ePn*		**Pn**	**21 48 22.9**	**-1.5**
PV04	**Paradox Valley**			**5.90**	**209**	*ePn*		**Pn**	**21 48 22.8**	**-1.5**
PV04						*eSg*		**Sg**	**21 50 04.8**	**-0.3**
MPU	**Maple Canyon**			**5.97**	**235**	*ePn*		**Pn**	**21 48 24.8**	**-0.5**
SRU	**San Rafael Swe**			**6.00**	**223**	*ePn*		**Pn**	**21 48 24.3**	**-1.4**
PV01	**Paradox Valley**			**6.03**	**206**	*ePn*		**Pn**	**21 48 23.8**	**-2.2**
CHMT	**Chamberlain Mo**			**6.54**	**303**	*ePn*		**Pn**	**21 48 35.0**	**+1.8**
SWMT	**Swartz Lake**			**7.27**	**305**	*ePn*		**Pn**	**21 48 44.9**	**+1.8**
YBMT	**Yellow Bay**			**7.46**	**308**	*ePn*		**Pn**	**21 48 45.1**	**-0.5**
BLMT	**Blacktail Moun**			**7.74**	**308**	*ePn*		**Pn**	**21 48 46.6**	**-2.9**
I10CA	**LAC DU BONNET**			**9.12**	**41**	*i*			22 46 30.0	
	baz=226,slow=316,SNR=6.5									
ULM	**Lac du Bonnet**			**9.22**	**41**	Pn		**Pn**	**21 49 07.8**	**-1.9**
	0.4nm,0.3s,baz=226,slow=14,SNR=3.2									
ULM						Lg		Lg	21 51 41.0	
	0.3nm,0.3s,baz=343,slow=12,SNR=1.8									
LAZ	**Ladron**			**9.31**	**190**	*ePn*		Pn	21 49 01.4	-10
WUAZ	**Wupatki**			**9.37**	**212**	*ePn*		Pn	21 48 58.0	-14
I56US	**NEWPORT INFRAS**			**9.49**	**303**	*i*			22 45 00.0	
	baz=116,slow=303,SNR=3.1									
NVAR	**Mina Array Bea**			**11.14**	**247**	Pn		Pn	21 49 40.2	+4.1
	0.2nm,0.3s,baz=59,slow=14,SNR=3.3									
TXAR	**Lajitas Array**			**14.31**	**174**	Pn		P	21 50 31.7	+4.8
	0.0nm,0.3s,baz=351,slow=11,SNR=3.9									
TXAR						Pg			21 51 29.2	
	0.1nm,0.3s,baz=360,slow=18,SNR=4.8									
TXAR						Lg		Lg	21 54 32.6	
	0.1nm,0.3s,baz=4.4,slow=25,SNR=3.5									

*NEIC **21** 22:04:03.0±1.1, 4°.63S×150°.41E, h611km±13km, mb4.8/19, Error ellipse: s-maj=13.2km s-min=10.9km az=66.0*
*ISCJB **21** 22:04:04.8±0.5, 4°.86S±0°.05×149°.83E±0°.09, h600km, mb4.3/34, Error ellipse: s-maj=11.9km s-min=6.6km az=174.3*
*IDC **21** 22:04:08.2±1.6, 4°.89S×149°.73E, h622km±20km, mb3.4/20, mb1 3.5/22, mb1mx3.4/38, mbtmp4.5/22, Error ellipse: s-maj=16.4km s-min=8.6km az=77.0*

ISC 21 22:04:06.5±0.6, 4°.86S±0°.07×149°.77E±0°.10, h600km, n59, σ1§12/54, mb4.3/34, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.21**	**210**

MAW	**Mawson**	**84.35**	**203**	P	**P**	**22 15 35.6**	**-0.5**
	2.9nm,0.5s,baz=98,slow=4.6,SNR=28						
QSPA	**South Pole Qui**	**85.10**	**180**	P	**P**	**22 15 39.6**	**-0.3**
	4.6nm,0.6s,baz=250,slow=0.5,SNR=50						
QSPA	**South Pole Qui**	**85.10**	**180**	*eP*	P	22 15 37.1	-2.8
	3.4nm,0.8s						
BDM	**Black Diamond**	**91.67**	**52**	*eP*	P	22 15 59.4	-12
SHW	**Mount Saint He**	**92.08**	**44**	*eP*	P	22 15 60.0	-13
IR2C	**Iron Canyon**	**94.22**	**56**	*eP*	P	22 16 14.7	-8.1
BFSC	**Mount Baldy Ra**	**94.83**	**56**	*eP*	P	22 16 16.9	-8.9
SWSC	**Sam W. Stewart**	**96.33**	**58**	*eP*	P	22 16 24.7	-7.7
GERES	**GERESS Array B**	**122.50**	**327**	PKP	**PKPdf**	**22 21 54.0**	**-0.9**
	0.8nm,0.6s,baz=61,slow=3.2,SNR=8.1						
TORD	**Torodi Ar. Bea**	**147.45**	**287**	PKPbc	**PKPbc**	**22 22 44.2**	**-0.8**
	4.7nm,0.6s,baz=115,slow=3.5,SNR=63						
BDFB	**Brasilia**	**153.07**	**139**	PKPbc	**PKPbc**	**22 22 57.8**	**-0.4**
	2.5nm,0.4s,baz=163,slow=2.4,SNR=4.5						
DBIC	**Dimbokro**	**154.69**	**275**	PKPab	**PKPab**	**22 23 19.3**	**-0.5**
	2.7nm,0.8s,baz=68,slow=6.0,SNR=5.1						

*IDC **21** 22:05:28.7±0.8, 15.06S×173.53W, h0km, mb4.0/8, mb1 4.4/8, mb1mx4.0/41, mbtmp4.0/8, MS3.8/18, Ms1 3.8/18, ms1mx3.6/31, Error ellipse: s-maj=46.6km s-min=18.7km az=140.0*

*ISCJB **21** 22:05:31.6±0.7, 15.0S±0.2×173.7W±0.2, h30km, mb4.0/8, MS3.8/18, Error ellipse: s-maj=37.0km s-min=15.2km az=136.9*

ISC 21 22:05:33.3±0.9,**15.1S**±0.3×**173.6W**±0.3,**h30**km,**n36,** σ0**970**/12,**mb4.1/8,MS3.9**/18,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PPT	**Papeete**	**23.16**	**99**	LR		LR	LR	22 16 53.4	
	comp=Z,156nm,20.3s,baz=290,slow=30								
PAE	**Paea**	**23.16**	**100**	*eT*		T		22 33 22.0	
	4.3nm,0.3s								
TBI	**Tubuai**	**24.19**	**114**	*eLR*		LR	LR	22 16 21.9	
	382nm,26.8s								
TBI	**Tubuai**	**24.19**	**114**	*eT*		T		22 34 59.3	
	9.4nm,0.3s								
URZ	**Urewera**	**24.53**	**198**	P		**P**		**22 10 50.8**	**+0.6**
	3.8nm,0.6s,baz=27,slow=2.3,SNR=3.6								
URZ				LR		LR	LR	22 19 05.9	
	comp=Z,339nm,18.5s,baz=356,slow=33								
RPZ	**Rata Peaks**	**31.43**	**202**	LR		LR	LR	22 22 19.6	
	comp=Z,954nm,20.5s,baz=116,slow=32								
RKT	**Rikitea**	**37.26**	**108**	*eLR*		LR	LR	22 22 22.4	
	264nm,27.2s								
RKT	**Rikitea**	**37.26**	**108**	*eT*		T		22 51 09.4	
	3.2nm,0.2s								
H11S2	**WAKE ISLAND Hy**	**38.59**	**329**	T		T		22 53 59.2	
	baz=149,slow=76,SNR=10								
H11S3	**WAKE ISLAND Hy**	**38.60**	**329**	T		T		22 54 10.2	
	baz=149,slow=76,SNR=13								
H11S1	**WAKE ISLAND Hy**	**38.61**	**329**	T		T		22 54 00.6	
	baz=149,slow=76,SNR=9.8								
H11N3	**WAKE ISLAND Hy**	**39.54**	**330**	T		T		22 55 44.4	
	baz=150,slow=76,SNR=26								
H11N1	**WAKE ISLAND Hy**	**39.54**	**330**	T		T		22 55 34.7	
	baz=150,slow=76,SNR=24								
H11N2	**WAKE ISLAND Hy**	**39.55**	**330**	T		T		22 55 43.4	
	baz=150,slow=76,SNR=24								
STKA	**Stephens Creek**	**44.06**	**240**	P		**P**		**22 13 38.4**	**-0.3**
	2.5nm,0.7s,baz=40,slow=8.2,SNR=4.3								
STKA				LR		LR	LR	22 29 38.3	
	comp=Z,133nm,19.1s,baz=89,slow=33								
WRA	**Warramunga Arr**	**49.76**	**256**	P		**P**		**22 14 23.1**	**-0.3**
	1.5nm,0.7s,baz=94,slow=6.7,SNR=6.6								
GUMO	**Guam**	**50.01**	**303**	LR		LR	LR	22 33 34.9	
	comp=Z,30nm,18.5s,baz=111,slow=34								
ASAR	**Alice Springs**	**50.05**	**252**	P		**P**		**22 14 25.1**	**-0.6**
	2.0nm,0.6s,baz=87,slow=7.8,SNR=12								
ASAR				LR		LR	LR	22 34 06.5	
	comp=Z,277nm,20.3s,baz=104,slow=34								
RPN	**Rapa Nui**	**60.57**	**113**	LR		LR	LR	22 34 29.5	
	comp=Z,79nm,21.6s,baz=311,slow=29								
KAPI	**Kappang**	**66.20**	**271**	LR		LR	LR	22 42 38.5	
	comp=Z,82nm,18.8s,baz=147,slow=34								
MJAR	**Matsushiro Arr**	**68.58**	**320**	LR		LR	LR	22 40 57.6	
	comp=Z,39nm,21.7s,baz=100,slow=31								
LPIG	**La Paz**	**73.01**	**59**	LR		LR	LR	22 39 46.7	
	comp=Z,82nm,20.5s,baz=232,slow=28								
NVAR	**Mina Array Bea**	**74.19**	**42**	P		**P**		**22 17 07.5**	**-0.1**
	0.7nm,0.8s,baz=219,slow=9.3,SNR=4.0								
KSRS	**Korea Array**	**75.80**	**316**	LR		LR	LR	22 44 20.5	
	comp=Z,25nm,21.6s,baz=178,slow=31								
USRK	**Ussuriysk Ar.**	**77.02**	**323**	LR		LR	LR	22 46 02.1	
	comp=Z,29nm,20.2s,baz=121,slow=32								
ELK	**Elko**	**77.44**	**41**	LR		LR	LR	22 43 24.3	
	comp=Z,83nm,21.6s,baz=218,slow=29								
TXAR	**Lajitas Array**	**80.57**	**56**	P		**P**		**22 17 43.3**	**0.0**
	2.9nm,1.1s,baz=216,slow=4.5,SNR=16								
TXAR				LR		LR	LR	22 48 00.6	
	comp=Z,44nm,18.9s,baz=0.0,slow=32								
PDAR	**Pinedale Array**	**82.13**	**42**	P		**P**		**22 17 50.3**	**-1.2**
	2.2nm,1.1s,baz=277,slow=2.4,SNR=6.3								
PDAR				LR		LR	LR	22 49 37.9	
	comp=Z,72nm,18.6s,baz=242,slow=32								
ILAR	**Eielson Array**	**82.15**	**11**	P		**P**		**22 17 50.9**	**+0.1**
	0.7nm,0.8s,baz=221,slow=5.7,SNR=5.5								
ILAR				LR		LR	LR	22 51 45.8	
	comp=Z,25nm,18.1s,baz=173,slow=34								
CMAR	**Chiang Mai Arr**	**92.35**	**288**	LR		LR	LR	22 55 39.1	
	comp=Z,15nm,20.7s,baz=170,slow=33								
ULM	**Lac du Bonnet**	**93.78**	**39**	LR		LR	LR	22 55 57.8	
	comp=Z,86nm,19.5s,baz=252,slow=32								
DPC	**Dobruska-Polom**	**143.90**	**349**	*eP*		PKPbc		22 25 04.1	+0.6
DPC				*ex*		x		22 25 18.4	
PRU	**Pruhonice**	**144.55**	**351**	*eP*		**PKPdf**		**22 25 06.8**	**0.0**
PRU				*ex*		x		22 25 10.4	
PRU				*ex*		x		22 25 17.8	
KHC	**Kasperske Hory**	**145.52**	**352**	*eP*		**PKPab**		**22 25 09.7**	**+0.8**
KHC				*ex*		x		22 25 20.1	
KHC				*ex*		x		22 25 23.8	
KHC				*ex*		x		22 25 28.0	
GERES	**GERESS Array B**	**145.79**	**351**	PKPbc		**PKPab**		**22 25 10.1**	**+0.2**
	1.0nm,0.8s,baz=20,slow=4.3,SNR=7.3								
BRTR	**Keskin Array B**	**145.79**	**321**	PKPbc		**PKPab**		**22 25 11.6**	**+1.2**
	1.7nm,0.8s,baz=116,slow=2.9,SNR=8.8								

*KRNET **21** 22:07:54.1±0.1, 40.62N×77.10E, mb2.7*
*NNC **21** 22:07:55.5±3.3, 40.61N×77.33E, h0km, mb3.8, mpv3.2, Error ellipse: s-maj=32.3km s-min=20.7km az=139.0*

ISC 21 22:07:52.3±2.2,**40.3N**±0.1×**77.25E**±0.1,**h10**km,**n10,** σ1**989**/12,**7C-13D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
NRN	**Naryn**	**1.45**	**319**	⇓*iP*		Pn		22 08 15.9	-3.0
	baz=314								
NRN				⇓*iS*		**Sn**		**22 08 33.9**	**-4.2**
	baz=314								
ANVS	**Anan'yevo**	**2.46**	**7**	⇓*iP*		**Pn**		**22 08 34.8**	**+2.1**
	baz=11								
ANVS				⇓*iS*		**Sn**		**22 09 03.5**	**+0.6**
	baz=11								
TKM2	**Tokmak 2**	**2.86**	**335**	⇑Pn		**Pn**		**22 08 39.3**	**+1.1**
	4.7nm,0.3s								
TKM2				⇑Lg		Lg		22 09 19.1	
	35nm,0.8s								
KNDC	**Almaty**	**2.88**	**356**	⇑Pn		**Pn**		**22 08 38.0**	**-0.4**
KNDC				⇓Lg		Lg		22 09 19.1	
SFK	**Sufi-Kurgan**	**2.89**	**265**	⇑Pn		**Pb**		**22 08 44.1**	**0.0**
	0.3nm,0.2s								
SFK				⇓Lg		Lg		22 09 24.6	
	4.2nm,0.3s								
SFK	**Sufi-Kurgan**	**2.89**	**265**	⇓*iP*		**Pb**		**22 08 42.9**	**-1.2**
	baz=259								
SFK				⇓*iS*		**Sb**		**22 09 18.9**	**-0.7**
	baz=259								
AAK	**Ala-Archa**	**3.09**	**319**	⇓Pn		**Pb**		**22 08 48.1**	**+0.7**
	25nm,0.7s								
AAK				⇑Lg		Lg		22 09 26.0	
	36nm,0.8s								
PDGK	**Podgornoye**	**3.42**	**28**	⇑Pn		**Pn**		**22 08 45.1**	**-0.5**
	8.9nm,0.6s								
PDGK				⇓Lg		Lg		22 09 35.0	
	47nm,0.6s								
ARK	**Arkit**	**4.25**	**292**	⇓*iP*		**Pn**		**22 08 59.7**	**+2.4**
	baz=289								
ARK				⇓*iS*		**Sn**		**22 09 47.4**	**+0.4**
	baz=289								
KK31	**Karatay Array**	**5.75**	**301**	⇑Pg		Pb		22 09 37.8	+5.1
	2.8nm,0.9s,baz=125,slow=15,SNR=6.7								
KK31				⇓Lg		Lg		22 10 48.9	
	1.3nm,0.6s,baz=118,slow=28,SNR=8.3								

*ISCJB **21** 22:10:19.5±0.5, 29.18N±0.03×130.19E±0.07, h55km±4km, mb3.7/7, Error ellipse: s-maj=11.0km s-min=3.6km az=22.0*
*JMA **21** 22:10:19.5, 29.18N×130.19E, h50km±3km, M3.4*
*IDC **21** 22:10:23.9±4.0, 29.30N×130.56E, h91km±46km, mb3.5/7, mb1 3.5/9, mb1mx3.2/45, mbtmp3.7/9, Error ellipse: s-maj=93.9km s-min=22.3km az=66.0*

ISC 21 22:10:20.1±1.1,**29.19N**±0.04×**130.18E**±0.07,**h46**km±11km, **n26,** σ0**973**/37,**mb4.1**/12,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JNN	**Nakanoshima**	**0.70**	**338**	P		P	Pn	**22 10 33.5**	**-0.3**
JNN				S		S	**Sn**	**22 10 44.0**	**+0.3**
JTAJ	**Takarajima**	**0.85**	**268**	P		P	**Pn**	**22 10 35.5**	**-0.2**
JTAJ				*eS*		**Sn**		**22 10 46.9**	**-0.2**
JZK	**Kikaishima**	**0.89**	**192**	P		P	**Pn**	**22 10 35.8**	**-0.4**
JZK				*eS*		**Sn**		**22 10 47.7**	**-0.3**
JAM	**Amami Oshima**	**0.92**	**213**	P		P	**Pn**	**22 10 36.2**	**-0.5**
JAM				S		**Sn**		**22 10 48.7**	**-0.1**
JYAK	**Yakushimahirau**	**1.09**	**15**	P		P	**Pn**	**22 10 38.5**	**-0.5**
JYAK				*eS*		**Sn**		**22 10 53.1**	**+0.2**
JKC	**Kuchinoerabu**	**1.27**	**1**	P		P	**Pn**	**22 10 41.5**	**0.0**
JKC				*eS*		**Sn**		**22 10 57.4**	**0.0**
JAMN	**Amaminishikomi**	**1.29**	**223**	P		P	**Pn**	**22 10 41.7**	**0.0**
JAMN				S		**Sn**		**22 10 58.9**	**+1.2**
JTN	**Tanegashima 3**	**1.62**	**25**	P		P	**Pn**	**22 10 46.3**	**0.0**
JTN				*eS*		**Sn**		**22 11 07.0**	**+1.0**
JTK	**Tokunoshima**	**1.76**	**218**	P		P	**Pn**	**22 10 49.0**	**+0.8**
JTK				*eS*		**Sn**		**22 11 10.4**	**+0.9**
JTSR	**Tashiro 2**	**2.08**	**18**	P		P	**Pn**	**22 10 52.7**	**+0.2**
JOKE	**Okinoerabujima**	**2.30**	**218**	P		P	**Pn**	**22 10 56.5**	**+0.9**
JOKE				*eS*		**Sn**		**22 11 23.9**	**+1.1**
JOW	**Kunigami**	**2.88**	**216**	P		P	**Pn**	**22 11 04.0**	**+0.4**
JOW				*eS*		**Sn**		**22 11 38.2**	**+1.1**
JNU	**Nakatsue**	**3.97**	**9**	P		P	**Pn**	**22 11 19.8**	**+1.3**
	3.0nm,0.3s,baz=186,slow=16,SNR=33								
JNU				S		**Sn**		**22 12 05.4**	**+1.6**
	0.9nm,0.3s,baz=198,slow=19,SNR=2.3								
KSRS	**Korea Array**	**8.46**	**348**	P		Pn		22 12 24.5	+4.5
	0.3nm,0.3s,baz=174,slow=13,SNR=5.2								
SONM	**Songino Array**	**26.15**	**322**	P		**P**		**22 15 49.3**	**-0.9**
	0.4nm,0.3s,baz=130,slow=8.1,SNR=2.5								
ODAN	**Odare**	**37.69**	**277**	*eP*		**P**		**22 17 31.7**	**+0.1**
	4.3nm,0.5s								
GUN	**Gumba**	**38.76**	**279**	*eP*		**P**		**22 17 41.4**	**+0.7**
	8.7nm,0.4s								
PKIN	**Phulchoki**	**39.25**	**279**	*eP*		**P**		**22 17 44.9**	**+0.2**
	6.4nm,0.7s								
KKN	**Kakani**	**39.30**	**279**	*eP*		**P**		**22 17 45.4**	**+0.3**
	5.2nm,0.6s								
KOLN	**Koldanda**	**40.76**	**280**	*eP*		**P**		**22 17 56.1**	**-1.0**
	2.6nm,0.5s								
KURBB	**Kurchatov Arra**	**43.98**	**314**	P		**P**		**22 18 22.9**	**+0.2**
	1.0nm,0.6s,baz=97,slow=8.6,SNR=10								
WRA	**Warramunga Arr**	**49.01**	**175**	P		**P**		**22 19 02.0**	**-0.4**
	0.3nm,0.6s,baz=352,slow=8.0,SNR=2.8								
BVAR	**Borovoye Array**	**49.27**	**316**	P		**P**		**22 19 04.6**	**+0.4**
	2.0nm,0.6s,baz=90,slow=8.9,SNR=11								
AKTO	**Aktyubinsk**	**57.02**	**313**	P		**P**		**22 20 01.5**	**+0.3**
	1.1nm,0.8s,baz=77,slow=12,SNR=5.1								
FINES	**FINESS Array B**	**71.15**	**330**	P		**P**		**22 21 32.4**	**-1.3**
	0.9nm,0.7s,baz=84,slow=5.7,SNR=5.6								
BRTR	**Keskin Array B**	**76.58**	**308**	P		**P**		**22 22 06.5**	**+0.4**
	0.4nm,0.7s,baz=70,slow=4.7,SNR=3.1								

MEX 21 22:16:56.6±0.6,**14.68N**×**94.51W**,**h15**km±116km,**MD4.0, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PCIG		**1.61**	**50**	*eP*		Pn		22 17 21.1	-3.3
PCIG				*iS*		Sn		22 17 40.0	-5.0
TGIG		**2.48**	**32**	*eP*		Pn		22 17 33.8	-2.7
TGIG				*eS*		Sn		22 18 02.4	-4.2
CCIG	**Comitan**	**2.79**	**55**	*eP*		Pn		22 17 38.5	-2.5
CCIG				*eS*		Sn		22 18 10.6	-3.9

*ISCJB **21** 22:19:23.1±0.5, 31.31N±0.04×115.60W±0.04, h7km±7km, Error ellipse: s-maj=6.8km s-min=5.1km az=135.4*
*ECX **21** 22:19:24.4±0.5, 31.25N×115.66W, h5km, MD3.2, ML3.5*
*MEX **21** 22:19:24.4±0.8, 31.05N×115.70W, h27km±15km, MD3.6*

ISC 21 22:19:23.0±1.0,**31.34N**±0.04×**115.59W**±0.03,**h7**km±14km, **n13,** σ0**951**/23,**7C-6D,Baja California**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SPIG	**San Pedro Mart**	**0.31**	**161**	*iP*		**Pg**		**22 19 29.4**	**+0.3**
SPIG				*iS*		**Sg**		**22 19 33.0**	**-0.2**
SPIG	**San Pedro Mart**	**0.31**	**161**	⇓*eP*		**Pg**		**22 19 29.4**	**+0.3**
SPIG				*eS*		**Sg**		**22 19 33.2**	**0.0**
SPX	**San Pedro Mart**	**0.31**	**160**	⇓*eP*		**Pg**		**22 19 29.4**	**+0.2**
SPX				*eS*		**Sg**		**22 19 33.4**	**+0.1**
SPX				⇑*e*				22 19 34.1	
SPX				IAML				22 19 34.1	
	comp=E,8μm,0.2s								
ECBX	**El Chinero**	**0.48**	**73**	⇑*eP*		**Pg**		**22 19 31.1**	**-1.1**
ECBX				*eS*		**Sg**		**22 19 38.5**	**+0.1**
ZAX	**El Zacaton**	**0.68**	**287**	⇑*eP*		**Pg**		**22 19 34.7**	**-0.1**
ZAX				*eS*		**Sg**		**22 19 43.0**	**+0.1**
RDX	**Rancho Dawling**	**0.66**	**333**	⇓*eP*		**Pb**		**22 19 37.5**	**+0.5**
RDX				*eS*		**Sb**		**22 19 47.0**	**+0.5**
RDX				⇑*e*				22 19 51.5	
RDX				IAML				22 19 51.5	
	comp=N,917nm,0.5s								
ECNX	**Esteban Cantu**	**0.92**	**291**	⇓*eP*		**Pg**		**22 19 40.5**	**-0.2**
ECNX				*eS*		**Sg**		**22 19 52.5**	**-0.2**
PBX	**Punta Banda**	**1.05**	**293**	⇓*eP*		**Pg**		**22 19 42.8**	**-0.4**
PBX				*eS*		**Sg**		**22 19 56.7**	**-0.2**
CPBX	**Cerro Prieto**	**1.10**	**12**	⇑*eP*		**Pn**		**22 19 45.6**	**+0.7**
RMX	**La Rumorosa**	**1.33**	**342**	⇑*eP*		**Pg**		**22 19 49.3**	**+0.7**
CBX	**Cerro Bola**	**1.34**	**317**	*eP*		**Pn**		**22 19 47.7**	**-0.5**
CBX				*eS*		**Sb**		**22 20 04.9**	**-0.9**
CBX	**Cerro Bola**	**1.34**	**317**	⇑*eP*		**Pn**		**22 19 48.0**	**-0.2**
CBX				*eS*		**Sg**		**22 20 06.6**	**+0.5**
BAR	**Barrett**	**1.63**	**326**	⇓*eP*		**Pb**		**22 19 53.1**	**-0.3**

MEX 21 22:22:32.5±0.5,**13.80N**×**91.62W**,**h40**km,**MD3.5, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PCIG		**2.45**	**321**	*eP*		Pn		22 23 09.4	-0.5
PCIG				*eS*		Sn		22 23 37.1	-1.5
CCIG	**Comitan**	**2.52**	**349**	*eP*		Pn		22 23 10.2	-1.0
CCIG				*eS*		Sn		22 23 40.4	-0.4

*ISCJB **21** 22:30:03.9±0.6, 8.75S±0.06×118.36E±0.05, h150km, mb3.3/2, Error ellipse: s-maj=8.4km s-min=6.0km az=22.5*
*DJA **21** 22:30:06.0±0.6, 9.5S±4.1×11.8E±*, h113km±6km, M4.1/9, MLv4.1/9*
*IDC **21** 22:30:07.7±12.0, 8.43S×118.52E, h166km±111km, mb3.0/2, mb1 3.0/4, mb1mx2.9/29, mbtmp3.4/4, Error ellipse: s-maj=214.5km s-min=20.1km az=58.0*

ISC 21 22:30:04.6±0.9,**8.78S**±0.06×**118.39E**±0.05,**h150**km,**n11,** σ0**998**/15,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WBSI	**Waikabubak, Su**	**1.31**	**131**	P		**Pn**		**22 30 32.1**	**-0.1**
WBSI				S		**Sn**		**22 30 52.5**	**-0.9**
WSI	**Waingapu**	**2.08**	**115**	P		**Pn**		**22 30 41.5**	**+0.9**
WSI				S		**Sn**		**22 31 07.9**	**-0.5**
DNP	**Denpasar**	**3.15**	**272**	P		**Pn**		**22 30 54.0**	**+0.2**
IGBI	**Denpasar**	**3.21**	**269**	P		**Pn**		**22 30 54.9**	**+0.3**
IGBI				S		**Sn**		**22 31 32.5**	**-0.8**
MMRI	**Maumere**	**3.81**	**88**	P		**Pn**		**22 31 02.8**	**+0.5**
BKSI	**Bulukumba**	**3.84**	**27**	P		**Pn**		**22 31 02.0**	**-0.7**
KAPI	**Kappang**	**3.97**	**20**	P		**Pn**		**22 31 03.5**	**-1.0**
	2.4nm,0.3s,baz=192,slow=9.3,SNR=6.8								
KAPI				S		**Sn**		**22 31 52.6**	**+1.6**
	0.9nm,0.3s,baz=180,slow=20,SNR=2.2								
WRA	**Warramunga Arr**	**19.00**	**127**	P		**Pn**		**22 34 17.7**	**+0.4**
	0.2nm,0.3s,baz=302,slow=13,SNR=4.8								
WRA				S		**S**		**22 37 41.4**	**-1.5**
	0.1nm,0.3s,baz=303,slow=21,SNR=3.1								
ASAR	**Alice Springs**	**20.97**	**137**	P		Pn		22 34 39.9	-0.7
	0.7nm,0.5s,baz=311,slow=9.1,SNR=12								
MKAR	**Makanchi Array**	**63.98**	**333**	P		**P**		**22 40 21.4**	**-0.5**
	0.3nm,0.7s,baz=140,slow=6.2,SNR=3.8								
TORD	**Torodi Ar. Bea**	**117.83**	**280**	PKP		**PKPdf**		**22 48 35.6**	**+1.5**
	0.2nm,0.7s,baz=76,slow=2.1,SNR=2.9								

*DHMR **21** 22:32:11.8±0.9, 12.13N×44.04E, h11km±8km, ML3.8*
*CSEM **21** 22:32:11.8, 12.13N×44.04E, h10km, ML3.8*
*ARO **21** 22:32:12.1, 12.1N±121.4×4.4E±5.8, h15km±99km, ML3.6*

ISC 21 22:32:09.0±1.7,**12.06N**±0.07×**44.02E**±0.06,**h2**km±15km, **n13,** σ0**950**/22,**Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MCAD	**Moucha**	**0.85**	**248**	*eP*		**Pb**		**22 32 26.4**	**-0.2**
ATA	**Atar**	**1.00**	**233**	*eP*		**Pb**		**22 32 28.8**	**-0.2**
TDD	**Tadjoura Ara**	**1.12**	**257**	*eP*		**Pb**		**22 32 31.0**	**-0.1**
TRBA	**At Turbah**	**1.17**	**5**	*iP*		**Pb**		**22 32 32.0**	**-0.1**
TRBA				*iS*		**Sb**		**22 32 47.8**	**+0.1**
ADEN	**Aden**	**1.18**	**53**	*iP*		**Pg**		**22 32 31.9**	**+0.2**
ADEN				*iS*		**Sn**		**22 32 48.8**	**-0.4**
ADEN				AML		AML		22 32 58.0	
	comp=E,3μm,0.6s								
ADEN	**Aden**	**1.18**	**53**	*i* P		**Pg**		**22 32 31.9**	**+0.2**
ADEN				*i* S		**Sn**		**22 32 48.8**	**-0.4**
	comp=E,2μm,0.6s								
ATD	**Arta Tunnel**	**1.26**	**245**	*eP*		**Pg**		**22 32 33.1**	**-0.1**
ATD				*eS*		**Sb**		**22 32 50.2**	**-0.1**
GBR	**Grand-Bara**	**1.77**	**240**	*eP*		**Pn**		**22 32 41.0**	**+0.3**
LBOS		**2.16**	**34**	*iP*		**Pb**		**22 32 48.5**	**-0.6**
LBOS				*iS*		**Sb**		**22 33 17.1**	**+0.8**
BDHA	**Al Bayda'**	**2.43**	**38**	*iP*		**Pb**		**22 32 53.4**	**-0.3**
BDHA				*iS*		**Sb**		**22 33 24.3**	**+0.2**
BDHA				AML		AML		22 33 30.3	
	comp=N,589nm,0.5s								
BDHA	**Al Bayda'**	**2.43**	**38**	*iP*		**Pb**		**22 32 53.3**	**-0.3**
BDHA				*iS*		**Sb**		**22 33 24.3**	**+0.2**
	comp=N,295nm,0.5s								
DHBB	**Dhamar BB**	**2.52**	**8**	*iP*		**Pb**		**22 32 54.4**	**-0.8**
DHBB				*iS*		**Sb**		**22 33 27.6**	**+0.8**
DHBB	**Dhamar BB**	**2.52**	**8**	*iP*		**Pb**		**22 32 54.4**	**-0.8**
DHBB				*iS*		**Sb**		**22 33 27.6**	**+0.8**

*IDC **21** 22:40:06.4±1.5, 35.43N×23.00E, h0km, mb3.5/3, mb1 3.4/4, mb1mx3.2/32, mbtmp3.3/4, ML2.6/1, Error ellipse: s-maj=61.9km s-min=24.6km az=137.0*
*ISCJB **21** 22:40:16.4±1.3, 35.47N±0.08×23.44E±0.08, h24km, mb3.3/3, Error ellipse: s-maj=13.7km s-min=5.6km az=34.7*
*ATH **21** 22:40:17.9, 35.62N×23.54E, h30km±2km, MD3.2/9*
*CSEM **21** 22:40:17.9, 35.62N×23.54E, h30km, MD3.2*

ISC 21 22:40:16.2±1.4,**35.48N**±0.08×**23.44E**±0.06,**h24**km,**n25,** σ0**977**/27,**mb3.4/3,2C-1D,Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
ANKY	**Antikythira Is**	**0.40**	**344**	*e*PB		**Pn**		**22 40 25.9**	**-0.6**
ANKY				*e*SB		**Sn**		**22 40 32.2**	**-1.1**
ANKY	**Antikythira Is**	**0.40**	**344**	*e*Pb		**Pn**		**22 40 25.9**	**-0.6**
ANKY				*e*Sb		**Sn**		**22 40 32.2**	**-1.1**
VAM	**Vamos**	**0.62**	**97**	*e*PN		**Pn**		**22 40 30.8**	**+1.2**
VAM				*e*SN		**Sn**		**22 40 38.7**	**-0.1**
VAM	**Vamos**	**0.62**	**97**	*e*Pn		**Pn**		**22 40 30.8**	**+1.2**
VAM				*e*Sn		**Sn**		**22 40 38.7**	**-0.1**
KYTH	**Kithira**	**0.86**	**338**	*e*PB		**Pn**		**22 40 32.3**	**-0.6**
KYTH	**Kithira**	**0.86**	**338**	*e*Pb		**Pn**		**22 40 32.3**	**-0.6**
VLI	**Veliai**	**1.30**	**342**	*e*PB		**Pb**		**22 40 39.4**	**-0.5**
VLI				*e*SN		**Sb**		**22 40 56.4**	**+0.2**
VLI	**Veliai**	**1.30**	**342**	*e*Pb		**Pb**		**22 40 39.4**	**-0.5**
VLI				*e*Sn		**Sb**		**22 40 56.4**	**+0.2**
MHLO	**Agia Marina, M**	**1.43**	**33**	*e*PN		**Pb**		**22 40 41.7**	**-0.5**
MHLO				*e*SN	

*IDC **21** 23:27:26.6±1.1,2.9°S×129.7°E, h0km, mb3.8/4, mb1 4.1/6, mb1mx3.7/28, mbtmp3.9/6, ML3.7/2, Error ellipse: s-maj=37.7km s-min=22.3km az=75.0*

ISC 21 23:27:28.9±1.2,**2.9S**±0.1×**130.1E**±0.2, **h25**km, **n6**, σ1=**61**/7, **mb3.8**/3, **Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**2.33**	**29**	Pn	**Pb**	**23 28 09.1**	**-1.2**
	19nm,0.3s,baz=252,slow=23,SNR=72						
SIJI				Sn	**Sb**	**23 28 39.9**	**+1.2**
	16nm,0.3s,baz=33,slow=18,SNR=17						
WRA	**Warramunga Arr**	**17.41**	**167**	P	**P**	**23 31 30.5**	**-1.0**
	0.2nm,0.3s,baz=346,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**20.95**	**170**	P	Pn	23 32 11.9	-0.8
	8.1nm,0.9s,baz=347,slow=11,SNR=34						
ASAR				PcP	**PcP**	**23 36 20.1**	**+2.5**
	0.3nm,0.5s,baz=5.7,slow=1.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**37.34**	**306**	P	**P**	**23 34 39.4**	**-0.3**
	0.6nm,0.3s,baz=133,slow=8.0,SNR=4.8						
MKAR	**Makanchi Array**	**64.92**	**326**	P	**P**	**23 38 06.3**	**-0.1**
	0.5nm,0.8s,baz=112,slow=7.0,SNR=4.0						
ZALV	**Zalesovo Beam**	**68.02**	**333**	P	**P**	**23 38 26.0**	**0.0**
	0.3nm,0.4s,baz=145,slow=5.3,SNR=3.8						

*ISCJB **21** 23:33:34.2±0.6,21.51°S±0.05°×68.25°W±0.08, h121km, mb3.9/5, Error ellipse: s-maj=10.9km s-min=7.4km az=5.5*

*IDC **21** 23:33:35.5±0.8,21.64°S×68.15°W, h116km±10km, mb3.6/5, mb1 3.6/8, mb1mx3.5/27, mbtmp3.9/8, Error ellipse: s-maj=23.1km s-min=15.7km az=119.0*

*SJA **21** 23:34:00.0±0.5,22.84°S×66.64°W, h119km±9km, ML2.9, MW2.7*

ISC 21 23:33:35.7±0.7,**21.49S**±0.07°×**68.20W**±0.08, **h121**km, **n17**, σ1=**64**/19, **mb3.9**/5, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.30**	**210**	P	**Pn**	**23 34 00.0**	**-1.1**
	4µm,0.3s,baz=30,slow=8.1,SNR=986						
LVC				S	**Sn**	**23 34 17.7**	**-2.9**
	4µm,0.3s,baz=260,slow=22,SNR=64						
LVC				LR	LR	23 34 34.7	
	comp=Z,386nm,18.7s,baz=340,slow=50						
HJA	**Humahuaca**	**3.10**	**124**	*e*P	**Pn**	**23 34 25.6**	**+2.0**
HJA				IAML		23 34 27.6	
	comp=Z,252nm,0.6s						
HJA				*e*S	Sn	23 34 44.6	-16
AZAP	**Zapla**	**3.97**	**134**	*e*P	**Pn**	**23 34 34.9**	**-0.2**
AZAP				IAML		23 34 37.2	
	comp=Z,39nm,0.4s						
ASTB	**Santa Barbara**	**4.21**	**126**	*e*P	**Pn**	**23 34 38.8**	**+0.5**
ALOL	**LOMAS DE OLMED**	**4.54**	**121**	*e*P	**Pn**	**23 34 42.2**	**-0.2**
FSA	**Cafayete**	**5.00**	**157**	*e*P	**Pn**	**23 34 51.9**	**+3.1**
LPAZ	**La Paz**	**5.18**	**1**	P	Pn	23 34 55.2	+3.6
	comp=Z,1.3nm,0.3s,baz=171,slow=6.9,SNR=43						
LPAZ				S	**Sn**	**23 35 50.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=207,slow=15,SNR=3.8						
SIV	**San Ignacio**	**8.69**	**52**	P	**Pn**	**23 35 38.0**	**-0.6**
	comp=Z,4.8nm,0.3s,baz=242,slow=12,SNR=46						
SIV				S	**Sn**	**23 37 10.7**	**-4.1**
	comp=Z,0.2nm,0.3s,baz=307,slow=20,SNR=5.0						
BDFB	**Brasilia**	**19.99**	**76**	P	**P**	**23 37 58.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=234,slow=8.7,SNR=2.9						
TXAR	**Lajitas Array**	**61.00**	**325**	P	**P**	**23 43 37.1**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=147,slow=8.0,SNR=4.1						
SNAA	**Sanae**	**62.07**	**161**	P	**P**	**23 43 42.7**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=300,slow=8.1,SNR=3.6						
DBIC	**Dimbokro**	**68.10**	**73**	P	**P**	**23 44 23.2**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=233,slow=10,SNR=4.8						
TORD	**Torodi Ar. Bea**	**76.73**	**70**	P	**P**	**23 45 14.3**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=256,slow=5.6,SNR=21						
YKA	**Yellowknife Ar**	**91.40**	**340**	P	**P**	**23 46 28.0**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=134,slow=4.9,SNR=8.7						
WRA	**Warramunga Arr**	**133.29**	**210**	PKP	**PKPdf**	**23 52 38.8**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=159,slow=1.6,SNR=6.5						
ZALV	**Zalesovo Beam**	**141.66**	**26**	PKP	**PKPdf**	**23 52 53.3**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=219,slow=1.8,SNR=3.3						
MKAR	**Makanchi Array**	**145.24**	**36**	PKPbc	**PKPbc**	**23 52 59.3**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=330,slow=2.5,SNR=7.5						

*IDC **21** 23:46:36.4±6.7,28.53°N×53.91°E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.2/42, mbtmp3.5/3, MS2.8/2, Ms1 2.8/2, ms1mx2.3/33, Error ellipse: s-maj=132.3km s-min=51.3km az=114.0*

*ISCJB **21** 23:46:42.3±0.8,28.81°N±0.06°×53.46°E±0.06, h24km, mb3.7/2, MS2.7/1, Error ellipse: s-maj=8.2km s-min=6.9km az=12.4*

*CSEM **21** 23:46:45.9±0.8,28.60°N×53.53°E, h10km, mb2.9, Error ellipse: s-maj=18.4km s-min=5.9km az=178.0*

*OMAN **21** 23:46:48.2±2.0,28.77°N×53.87°E, h90km±179km, Error ellipse: s-maj=47.0km s-min=20.3km az=58.0*

*DSN **21** 23:46:52.8±1.2,28.27°N×53.99°E, h15km, mb2.9/6, Error ellipse: s-maj=19.7km s-min=7.2km az=30.0*

ISC 21 23:46:43.2±1.1,**28.84N**±0.08×**53.60E**±0.05, **h24**km, **n31**, σ1=**91**/36, **4C-5D**, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BANOM	**Banah**	**3.77**	**140**	P	**Pn**	**23 47 41.7**	**+1.8**
BANOM				S	**Sn**	**23 48 19.4**	**-4.1**
BANOM	**Banah**	**3.77**	**140**	⇑P	**Pn**	**23 47 41.7**	**+1.8**
BANOM	**Banah**	**3.77**	**140**	*i* P	**Pn**	**23 47 41.6**	**+1.8**
	SNR=18						
BANOM				⇓S	**Sn**	**23 48 19.4**	**-4.1**
NAZ	**Nazwa, Dubai**	**4.25**	**154**	P	**Pn**	**23 47 48.9**	**+2.4**
	SNR=8.2						
NAZ	**Nazwa, Dubai**	**4.25**	**154**	P	**Pn**	**23 47 48.9**	**+2.4**
	SNR=8.2						
NAZ				ml		23 49 09.0	
	SNR=4.7						
NAZ	**Nazwa, Dubai**	**4.25**	**154**	*i* P	**Pn**	**23 47 48.9**	**+2.4**
	SNR=8.2						
FAQ	**Al Faqa, Dubai**	**4.45**	**156**	P	**Pn**	**23 47 50.7**	**+1.5**
	SNR=9.0						
FAQ	**Al Faqa, Dubai**	**4.45**	**156**	⇓*i* P	**Pn**	**23 47 50.7**	**+1.5**
	SNR=9.0						
ASUD	**Al Ashush, Dub**	**4.47**	**159**	P	**Pn**	**23 47 51.8**	**+2.3**
	SNR=43						
ASUD	**Al Ashush, Dub**	**4.47**	**159**	⇑P	**Pn**	**23 47 52.0**	**+2.5**
	SNR=5.7						
ASUD				ml		23 47 53.2	
	SNR=3.8						
ASUD	**Al Ashush, Dub**	**4.47**	**159**	*i* P	**Pn**	**23 47 51.8**	**+2.3**
	SNR=43						
HATD	**Hatta, Dubai**	**4.59**	**150**	P	**Pn**	**23 47 53.1**	**+1.9**
HATD				S	**Sn**	**23 48 44.1**	**+0.3**
HATD	**Hatta, Dubai**	**4.59**	**150**	⇑P	**Pn**	**23 47 53.1**	**+1.9**
HATD				⇓S	**Sn**	**23 48 44.1**	**+0.3**
HATD	**Hatta, Dubai**	**4.59**	**150**	⇓P	**Pn**	**23 47 52.3**	**+1.2**
ASHO	**Ashiyiah**	**4.68**	**151**	P	**Pn**	**23 47 53.9**	**+1.4**
	SNR=6.8						
ASHO	**Ashiyiah**	**4.68**	**151**	⇓P	**Pn**	**23 47 53.9**	**+1.4**
	SNR=6.8						
ASHO				ml		23 48 48.8	
	SNR=8.6						
ASHO	**Ashiyiah**	**4.68**	**151**	⇑*i* P	**Pn**	**23 47 53.7**	**+1.2**
	SNR=6.8						
BOQSS		**4.78**	**233**	P	**Pn**	**23 47 55.0**	**+1.3**
BOQSS				S	**Sn**	**23 48 47.0**	**-1.3**
BOQSS		**4.78**	**233**	P	**Pn**	**23 47 55.0**	**+1.3**
SLWS		**4.81**	**214**	P	**Pn**	**23 47 56.0**	**+1.8**
SLWS				S	**Sn**	**23 48 48.0**	**-1.1**
SLWS		**4.81**	**214**	P	**Pn**	**23 47 55.6**	**+1.5**
BTHS		**5.37**	**208**	P	**Pn**	**23 48 03.0**	**+1.1**
BTHS				S	**Sn**	**23 49 02.0**	**-0.9**
BTHS		**5.37**	**208**	S	**Sn**	**23 49 02.0**	**-0.9**
BTHS		**5.37**	**208**	P	**Pn**	**23 48 02.7**	**+0.8**
SMDO	**Samad**	**7.01**	**144**	P	**Pn**	**23 48 26.2**	**+1.7**
	SNR=6.1						
SMDO	**Samad**	**7.01**	**144**	P	**Pn**	**23 48 26.2**	**+1.7**
	SNR=6.1						
GNI	**Garni**	**13.43**	**329**	LR	LR	23 55 48.0	
	comp=Z,31nm,21.9s,baz=105,slow=40						
BRTR	**Keskin Array B**	**19.70**	**309**	P	**P**	**23 51 11.9**	**+0.9**
	0.6nm,0.6s,baz=133,slow=11,SNR=5.2						
AKTO	**Aktyubinsk**	**21.83**	**8**	LR	LR	00 02 06.0	
	comp=Z,27nm,18.1s,baz=198,slow=42						
FINES	**FINESS Array B**	**37.38**	**339**	P	**P**	**23 53 53.6**	**-0.1**
	0.9nm,0.6s,baz=128,slow=9.0,SNR=6.2						
TORD	**Torodi Ar. Bea**	**50.52**	**263**	P	**P**	**23 55 38.5**	**-1.4**
	0.4nm,0.6s,baz=72,slow=6.2,SNR=4.7						

MEX 21 23:59:27.4±0.7, **18.51N**×**103.34W**, **h30**km, **MD3.6**, **Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.22**	**181**	*e*P	Pb	23 59 32.6	-1.3
MMIG				*i* S	Sb	23 59 37.5	-0.8
R15V		**0.89**	**317**	*e*P	Pn	23 59 41.2	-2.9
R15V				*i* S	Sn	23 59 53.0	-3.0
EZ5V		**0.99**	**346**	*e*P	Pn	23 59 42.6	-3.1
EZ5V				*i* S	Sn	23 59 56.1	-2.8

DJA 22 00:13:57.5±0.7, **0.7N**±6°×**12.4E**±°, **h106**km±11km, **M3.9**/2, **MLv3.9**/2, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.32**	**213**	P	Pn	00 14 23.2	+1.2
LUWI				S	Sn	00 14 42.8	+2.3
MRSI	**Marisa**	**1.61**	**285**	P	Pn	00 14 26.0	+0.6
MRSI				S	Sn	00 14 47.1	+0.4
APSI	**Ampana**	**2.09**	**242**	P	Pn	00 14 31.2	-0.3
APSI				S	Sn	00 14 56.8	-0.7
SANI	**Sanana**	**3.26**	**130**	P	Pn	00 14 46.9	0.0
SANI				S	Sn	00 15 23.9	-1.1
MPSI	**Mapaga**	**3.61**	**274**	P	Pn	00 14 50.8	-0.8
PCI	**Palu**	**3.79**	**255**	P	Pn	00 14 53.4	-0.6
NLAI	**Namlea**	**4.87**	**132**	P	Pn	00 15 10.0	+1.4

WEL 22 00:14:30.0±0.2, **45.12S**×**167.33E**, **h89**km±1km, **ML3.7**/9, **2C**, **Error ellipse: s-maj=1.5km s-min=1.0km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.38**	**199**	PN	Pn	00 14 43.5	-0.2
DCZ				SN	Sn	00 14 53.6	-0.3
DCZ				AML	AML	00 14 53.8	
DCZ				AML	AML	00 14 55.0	
DCZ				AML	AML	00 14 55.1	
MLZ	**Mavora Lakes**	**0.64**	**111**	⇑PN	Pn	00 14 45.4	-0.5
MLZ				SN	Sn	00 14 56.9	-0.8
MLZ				AML	AML	00 14 57.5	
WHZ	**Wether Hill Ro**	**0.89**	**151**	PN	Pn	00 14 48.2	-0.2
WHZ				SN	Sn	00 15 01.4	-0.8
WHZ				AML	AML	00 15 02.0	
WKZ	**Wanaka**	**1.23**	**77**	PN	Pn	00 14 52.4	0.0
WKZ				AML	AML	00 15 09.3	
WKZ				AML	AML	00 15 10.1	
WKZ				AML	AML	00 15 10.2	
WKZ				AML	AML	00 15 13.5	
EAZ	**Earnscleugh**	**1.41**	**95**	PN	Pn	00 14 54.3	-0.2
EAZ				AML	AML	00 15 12.4	
EAZ				AML	AML	00 15 12.4	
EAZ				AML	AML	00 15 13.1	
EAZ				AML	AML	00 15 13.1	
JCZ	**Jackson Bay**	**1.46**	**45**	⇑PN	Pn	00 14 54.8	-0.6
JCZ				AML	AML	00 15 13.4	
JCZ				AML	AML	00 15 13.7	
APZ	**The Paps**	**1.77**	**165**	PN	Pn	00 14 59.2	-0.1
APZ				AML	AML	00 15 22.9	
APZ				AML	AML	00 15 22.9	
TUZ	**Tuapeka**	**1.82**	**118**	PN	Pn	00 14 59.5	-0.3
SYZ	**Scrubby Hill**	**1.90**	**139**	PN	Pn	00 15 00.5	-0.3
LBZ	**Lake Benmore**	**2.16**	**71**	PN	Pn	00 15 02.8	-1.5
LBZ				AML	AML	00 15 27.9	
FOZ	**Fox Glacier**	**2.30**	**48**	PN	Pn	00 15 05.6	-0.4
HHSZ	**Highcliff Hill**	**2.42**	**110**	PN	Pn	00 15 07.2	-0.6
RPZ	**Rata Peaks**	**3.02**	**64**	PN	Pn	00 15 13.7	-2.0
RPZ				AML	AML	00 16 29.5	
WVZ	**Waitaha Valley**	**3.19**	**51**	PN	Pn	00 15 16.2	-1.9

*ISCJB **22** 00:43:19.5±0.5,6.89N±0.05°×73.04W±0.06, h166km, mb3.6/8, Error ellipse: s-maj=9.3km s-min=5.4km az=43.0*

*IDC **22** 00:43:19.7±2.3,6.78N×72.94W, h161km±22km, mb3.4/9, mb1 3.6/10, mb1mx3.4/22, mbtmp3.8/10, MS2.8/1, Ms1 2.8/1, ms1mx2.4/15, Error ellipse: s-maj=32.6km s-min=17.3km az=65.0*

*FUNV **22** 00:43:20.0, 6.76N×73.13W, h167km, MW3.6*

ISC 22 00:43:20.4±0.7, **6.84N**±0.06°×**73.00W**±0.07, **h166**km, **n27**, σ0=**89**/32, **mb3.5**/8, **1C**, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.22**	**34**	⇑*e*P	**Pn**	**00 43 49.3**	**+0.5**
CAPV				*e*S	**Sn**	**00 44 10.7**	**0.0**
ROSC	**El Rosal**	**2.38**	**214**	P	**Pn**	**00 44 01.3**	**-0.1**
	29nm,0.3s,baz=88,slow=16,SNR=72						
ROSC				S	**Sn**	**00 44 31.6**	**-1.4**
	82nm,0.3s,baz=122,slow=19,SNR=17						
SOCV	**Socops**	**2.56**	**56**	*e*P	**Pn**	**00 44 03.9**	**+0.8**
SOCV				*e*S	**Sn**	**00 44 36.2**	**0.0**
VIGV	**El Vigia**	**2.56**	**39**	*e*P	**Pn**	**00 44 03.7**	**+0.6**
VIGV				*e*S	**Sn**	**00 44 35.3**	**-0.9**
ELOV	**Elorza**	**3.49**	**87**	*e*P	**Pn**	**00 44 14.3**	**-0.3**
VIRV	**Villa del Rosa**	**3.68**	**9**	*e*P	**Pn**	**00 44 16.0**	**-1.1**
VIRV				*e*S	**Sn**	**00 44 58.6**	**-2.7**
QARV	**Quebrada Arrib**	**4.14**	**36**	*e*P	**Pn**	**00 44 23.5**	**+0.5**
SANV	**Sanarito**	**4.32**	**52**	*e*P	**Pn**	**00 44 25.1**	**-0.3**
CURV	**Curarigua**	**4.35**	**43**	*e*P	**Pn**	**00 44 26.1**	**+0.4**
DABV	**Dabajuro**	**4.67**	**30**	*e*P	**Pn**	**00 44 30.5**	**+0.6**
TEPV	**Terepaima**	**4.88**	**50**	*e*P	**Pn**	**00 44 32.1**	**-0.4**
SIQV	**Siquisique**	**4.92**	**40**	*e*P	**Pn**	**00 44 33.2**	**+0.1**
BAUV	**El Baul**	**5.33**	**67**	*e*P	**Pn**	**00 44 37.7**	**-0.8**
MAPV	**Macapo**	**5.38**	**56**	*e*P	**Pn**	**00 44 39.9**	**+0.7**
MONV	**Montecano**	**5.89**	**30**	*e*P	**Pn**	**00 44 45.0**	**-0.9**
TURV	**Turiamo**	**6.23**	**55**	*e*P	**Pn**	**00 44 50.3**	**0.0**
TEIG	**Tepich**	**19.91**	**313**	P	**P**	**00 47 40.7**	**+1.3**
	3.7nm,0.4s,baz=306,slow=3.2,SNR=6.2						
LPAZ	**La Paz**	**23.48**	**168**	P	**P**	**00 48 16.1**	**+0.1**
	0.6nm,0.4s,baz=344,slow=7.9,SNR=4.5						
CMIG	**Matias Romero**	**23.68**	**297**	LR	LR	00 58 29.1	
	comp=Z,22nm,19.0s,baz=2.0,slow=38						
TXAR	**Lajitas Array**	**36.54**	**312**	P	**P**	**00 50 10.8**	**+0.4**
	0.6nm,0.6s,baz=132,slow=8.9,SNR=11						
TXAR				PcP	**PcP**	**00 52 31.8**	**+1.4**
	0.2nm,0.6s,baz=103,slow=4.1,SNR=3.2						
ULM	**Lac du Bonnet**	**47.31**	**340**	P	**P**	**00 51 36.8**	**-0.4**
	1.5nm,0.4s,baz=158,slow=9.5,SNR=5.6						
SCHQ	**Schefferville**	**48.11**	**5**	P	**P**	**00 51 43.8**	**+0.6**
	1.1nm,0.5s,baz=219,slow=14,SNR=2.9						
PDAR	**Pinedale Array**	**48.13**	**324**	P	**P**	**00 51 44.0**	**+0.1**
	0.5nm,0.5s,baz=116,slow=10,SNR=3.5						
NVAR	**Mina Array Bea**	**51.55**	**315**	P	**P**	**00 52 10.4**	**+0.6**
	0.5nm,0.7s,baz=119,slow=5.2,SNR=2.2						
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**00 53 31.5**	**+0.3**
	1.3nm,0.6s,baz=131,slow=6.6,SNR=6.8						
TORD	**Torodi Ar. Bea**	**73.61**	**78**	P	**P**	**00 54 35.1**	**-1.1**
	1.0nm,1.2s,baz=284,slow=6.1,SNR=2.7						
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc	**PKPbc**	**01 02 52.1**	**-1.2**
	0.3nm,0.3s,baz=106,slow=3.2,SNR=3.3						

*IDC **22** 01:07:09.1±2.8,27.78N×54.33E, h0km, mb3.7/6, mb1 3.7/7, mb1mx3.4/29, mbtmp3.6/7, ML2.8/1, Error ellipse: s-maj=60.7km s-min=27.2km az=154.0*

*ISCJB **22** 01:07:11.5±0.5,27.96N±0.04×54.28E±0.05, h17km, mb3.8/5, Error ellipse: s-maj=6.6km s-min=5.5km az=153.0*

*THR **22** 01:07:12.4±0.6,27.77N×54.48E, h15km±7km, ML3.6*

*CSEM **22** 01:07:14.0±0.2,27.86N×54.34E, h15km, ML3.6, Error ellipse: s-maj=7.2km s-min=4.6km az=22.0*

*DSN **22** 01:07:18.4±1.7,27.65N×54.76E, h15km, mb2.8/6, ML3.7/3, Error ellipse: s-maj=23.9km s-min=8.6km az=25.0*

*OMAN **22** 01:07:20.9±99.0,27.53N×54.83E, h17km±999km, Error ellipse: s-maj=1998.0km s-min=35.2km az=342.0*

ISC 22 01:07:13.0±0.8, **27.84N**±0.05×**54.40E**±0.03, **h17**km, **n38**, σ1=**67**/44, **mb3.7**/5, **1C-8D**, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**1.32**	**290**	*e*Pg	**Pn**	**01 07 38.3**	**+1.5**
GHIR				*e*Sg	**Sg**	**01 07 57.9**	**+2.0**
GHIR				AML	AML	01 08 03.9	
	comp=E,1µm,0.3s						
GHIR				AML	AML	01 08 11.0	
	comp=N,1µm,0.4s						
GHIR	**Ghir-Karzin**	**1.32**	**290**	*e*Pg	**Pn**	**01 07 38.3**	**+1.5**
GHIR				*e*Sg	**Sg**	**01 07 57.9**	**+2.0**
BNDS	**Bandar-Abbas**	**1.64**	**105**	*e*Pg	**Pn**	**01 07 40.9**	**-0.3**
BNDS				AML	AML	01 08 21.6	
	comp=E,447nm,0.4s						
BNDS	**Bandar-Abbas**	**1.64**	**105**	*e*Pg	**Pn**	**01 07 40.9**	**-0.3**
BANOM	**Banah**	**2.56**	**138**	P	**Pn**	**01 07 55.0**	**+1.2**
	SNR=26						
BANOM	**Banah**	**2.56**	**138**	⇓P	**Pn**	**01 07 55.0**	**+1.2**
	SNR=26						
BANOM	**Banah**	**2.56**	**138**	⇓P	**Pn**	**01 07 54.5**	**+0.7**
BANOM				⇓S	**Sn**	**01 08 22.5**	**-2.0**
KRBR	**Kerman**	**2.97**	**44**	*e*Pn	**Pn**	**01 08 01.4**	**+1.6**
KRBR				*e*Sg	**Sb**	**01 08 45.5**	**+3.5**
KRBR				AML	AML	01 08 47.8	
	comp=N,193nm,0.6s						
KRBR				AML	AML	01 08 58.0	
	comp=E,248nm,0.6s						
KRBR	**Kerman**	**2.97**	**44**	*e*Pn	**Pn**	**01 08 01.4**	**+1.6**
NAZ	**Nazwa, Dubai**	**3.06**	**158**	P	**Pn**	**01 08 01.8**	**+1.1**
NAZ	**Nazwa, Dubai**	**3.06**	**158**	⇓P	**Pn**	**01 08 01.8**	**+1.1**
FAQ	**Al Faqa, Dubai**	**3.27**	**161**	P	**Pn**	**01 08 05.1**	**+1.6**
FAQ	**Al Faqa, Dubai**	**3.27**	**161**	⇑P	**Pn**	**01 08 05.1**	**+1.6**
ASUD	**Al Ashush, Dub**	**3.31**	**165**	P	**Pn**	**01 08 06.8**	**+2.7**
ASUD	**Al Ashush, Dub**	**3.31**	**165**	P	**Pn**	**01 08 06.9**	**+2.7**
	SNR=24						
ASUD	**Al Ashush, Dub**	**3.31**	**165**	⇓P	**Pn**	**01 08 06.8**	**+2.7**
HATD	**Hatta, Dubai**	**3.38**	**152**	P	**Pn**	**01 08 07.4**	**+2.3**
HATD	**Hatta, Dubai**	**3.38**	**152**	⇓P	**Pn**	**01 08 07.5**	**+2.4**
HATD	**Hatta, Dubai**	**3.38**	**152**	⇓P	**Pn**	**01 08 07.4**	**+2.3**
ASHO	**Ashiyiah**	**3.48**	**154**	P	**Pn**	**01 08 08.2**	**+1.7**
ASHO	**Ashiyiah**	**3.48**	**154**	P	**Pn**	**01 08 08.1**	**+1.7**
	SNR=19						
ASHO	**Ashiyiah**	**3.48**	**154**	⇓P	**Pn**	**01 08 08.2**	**+1.7**
SLWS		**4.53**	**229**	P	**Pn**	**01 08 22.0**	**+1.1**
SLWS				S	**Sn**	**01 09 14.0**	**+0.8**
SLWS		**4.53**	**229**	P	**Pn**	**01 08 22.1**	**+1.4**
BOQSS		**4.90**	**247**	P	**Pn**	**01 08 27.0**	**+1.1**
BOQSS				S	**Sn**	**01 09 22.0**	**-0.3**
BOQSS		**4.90**	**247**	S	**Sn**	**01 09 21.9**	**-0.3**
BOQSS		**4.90**	**247**	P	**Pn**	**01 08 27.2**	**+1.3**
BTHS		**4.95**	**221**	P	**Pn**	**01 08 27.0**	**+0.3**
BTHS				S	**Sn**	**01 09 24.0**	**+0.5**
BTHS		**4.95**	**221**	P	**Pn**	**01 08 26.9**	**+0.3**
KFJS		**5.72**	**275**	P	**Pn**	**01 08 37.0**	**-0.2**
KFJS		**5.72**	**275**	P	**Pn**	**01 08 36.8**	**-0.4**
MMAI	**Mount Meron Ar**	**17.17**	**292**	Pn	**Pn**	**01 11 09.3**	**-2.9**
	comp=E,0.0nm,0.3s,baz=90,slow=16,SNR=2.5						
BRTR	**Keskin Array B**	**20.88**	**310**	P	**P**	**01 11 54.1**	**-0.4**
	comp=E,0.5nm,0.6s,baz=126,slow=12,SNR=5.2						
KURBB	**Kurchatov Arra**	**29.20**	**32**	P	**P**	**01 13 13.6**	**0.0**
	comp=E,0.2nm,0.4s,baz=232,slow=9.4,SNR=3.3						
ZALV	**Zalesovo Beam**	**34.30**	**32**	P	**P**	**01 13 57.2**	**-1.1**
	comp=E,1.3nm,0.5s,baz=242,slow=11,SNR=3.5						
FINES	**FINESS Array B**	**38.55**	**339**	P	P	01 14 32.4	-2.1
	comp=E,1.2nm,0.7s,baz=152,slow=9.3,SNR=3.9						
ARCES	**ARCESS Array B**	**44.96**	**346**	P	**P**	**01 15 26.5**	**-0.4**
	comp=E,4.3nm,1.1s,baz=154,slow=9.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**51.12**	**265**	P	**P**	**01 16 13.4**	**-1.8**
	comp=E,0.5nm,0.7s,baz=68,slow=7.7,SNR=3.1						

*ISK **22** 01:17:51.3,35.72N×29.51E, h11km, ML3.4*

*IDC **22** 01:17:51.6±1.1,35.93N×29.66E, h0km, mb3.5/3, mb1 3.6/10, mb1mx3.4/51, mbtmp3.5/10, ML3.4/7, Error ellipse: s-maj=19.7km s-min=16.2km az=174.0*

*DDA **22** 01:17:53.9,35.85N×29.55E, h34km, MD3.6*

*ISCJB **22** 01:17:54.1±0.6,35.78N±0.02×29.62E±0.02, h27km±5km, mb3.4/3, Error ellipse: s-maj=3.1km s-min=2.4km az=20.0*

*HLW **22** 01:17:54.6,36.19N×29.63E, h30km±17km, Md3.6*

*THE **22** 01:17:54.3,35.88N×29.74E, h6km±2km, ML3.7/2, Error ellipse: s-maj=2.3km s-min=0.8km az=114.0*

*ATH **22** 01:17:55.0,35.99N×29.57E, h36km±1km, MD3.8/11*

*CSEM **22** 01:17:55.2±0.1,35.83N×29.62E, h20km, MD3.8, Error ellipse: s-maj=3.1km s-min=2.6km az=23.0*

*NIC **22** 01:17:59.0,35.85N×29.79E, h25km, mb4.0, ML3.6*

ISC 22 01:17:53.9±1.6, **35.83N**±0.03×**29.66E**±0.02, **h14**km±11km, **n204**, σ1=**21**/245, **mb3.4**/3, **4C-2D**, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.33**	**349**	*e*PB	**Pb**	**01 18 01.8**	**+0.3**
AKAS	**Kas**	**0.41**	**354**	*i* P	**Pb**	**01 18 03.2**	**+0.2**
AKAS				*i* S	**Sb**	**01 18 09.8**	**+0.7**
AKAS	**Kas**	**0.41**	**

KHL	Karahalli	2.49	357	ePN	Pn	01 18 34.9 +0.8
KHL	Karahalli	2.49	357	ePn	Pn	01 18 34.9 +0.8
HDMB	Hadim	2.54	63	ePn	Pn	01 18 36.8 +1.8
HDMB	Hadim	2.54	63	ePn	Pn	01 18 36.8 +1.8
AYDB	Zeytinkoy-Aydi	2.55	327	ePn	Pn	01 18 34.3 -0.6
AYDB	Zeytinkoy-Aydi	2.55	327	ePn	Pn	01 18 34.3 -0.6
GCAM	G?zelcaml?	2.70	314	*i* P	Pn	01 18 36.2 -0.7
GCAM	G?zelcaml?	2.70	314	*i* P	Pn	01 18 36.2 -0.7
LEF	Lefka	2.73	104	ePN	Pn	01 18 37.2 -0.1
LEF	Lefka	2.73	104	ePn	Pn	01 18 37.2 -0.1
AKDN	Akdeniz- K¨–br	2.75	100	ePN	Pn	01 18 37.9 +0.4
AKDN	Akdeniz- K¨–br	2.75	100	ePn	Pn	01 18 37.9 +0.4
ERMK	Ermenek	2.75	72	*i* P	Pn	01 18 39.9 +2.1
ERMK				*i* S	Sb	01 19 14.1 -2.5
ERMK	Ermenek	2.75	72	*i* P	Sb	01 18 39.9 +2.1
ERMK				*i* S	Sb	01 19 14.1 -2.5
KULA	Kula-Manisa	2.80	344	ePN	Pn	01 18 38.3 0.0
KULA	Kula-Manisa	2.80	344	P	Pn	01 18 37.2 -1.1
KULA	Kula-Manisa	2.80	344	P	Pn	01 18 37.2 -1.1
KULA	Kula-Manisa	2.80	344	ePn	Pn	01 18 38.3 0.0
SHUT	Suhut-Afyon	2.81	14	ePN	Pn	01 18 39.6 +1.1
SHUT	Suhut-Afyon	2.81	14	ePn	Pn	01 18 39.6 +1.1
SZAC	Souni-Zanaja baz=294	2.84	111	P	Pn	01 18 40.0 +1.1
SZAC				S	Sn	01 19 12.8 -0.2
SZAC	Souni-Zanaja	2.84	111	P	Pn	01 18 40.0 +1.1
SZAC				S	Sn	01 19 12.8 -0.2
ZKR	Zakros	2.90	257	P	Pn	01 18 40.8 +1.1
ZKR				S	Sn	01 19 15.8 +1.4
ZKR	Zakros	2.90	257	P	Pn	01 18 40.8 +1.1
ZKR				S	Sn	01 19 15.8 +1.4
SMG	Samos	2.94	310	ePN	Pn	01 18 39.1 -1.2
SMG				eSN	Sn	01 19 11.2 -4.2
SMG	Samos	2.94	310	eP	Pn	01 18 39.1 -1.2
MAMC	Mammari baz=284	2.98	102	⇓P	Pn	01 18 42.1 +1.4
MAMC	Mammari	2.98	102	⇓P	Pn	01 18 42.1 +1.4
KONT	Konya--Tatoy	3.02	45	ePN	Pn	01 18 43.4 +2.0
KONT	Konya--Tatoy	3.02	45	ePn	Pn	01 18 43.4 +2.0
BOLV	Bolvadin	3.06	19	*i* P	Pn	01 18 44.6 +2.6
BOLV				*i* S	Sn	01 19 19.3 +0.8
BOLV	Bolvadin	3.06	19	*i* P	Pn	01 18 44.6 +2.6
BOLV				*i* S	Sn	01 19 19.3 +0.8
CSS	Prodhromos baz=287	3.12	105	P	Pn	01 18 44.3 +1.6
CSS				S	Sn	01 19 19.5 -0.3
CSS	Prodhromos	3.12	105	P	Pn	01 18 41.6 -1.1
CSS				S	Sn	01 19 18.5 -1.3
CSS	Prodhromos	3.12	105	eP	Pn	01 18 43.3 +0.6
CSS				S	Sn	01 19 19.5 -0.3
IZM	Izmir	3.20	324	ePN	Pn	01 18 43.0 -0.9
IZM	Izmir	3.20	324	ePn	Pn	01 18 43.0 -0.9
LADK	Ladik-KONYA	3.21	42	ePN	Pn	01 18 45.4 +1.4
LADK	Ladik-KONYA	3.21	42	ePn	Pn	01 18 45.4 +1.4
ALT	Altintas	3.24	6	ePN	Pn	01 18 44.6 +0.3
ALT	Altintas	3.24	6	P	Pn	01 18 43.3 -1.1
ALT	Altintas	3.24	6	P	Pn	01 18 43.3 -1.1
ALT	Altintas	3.24	6	ePn	Pn	01 18 44.7 +0.3
BLCB	Balcova	3.30	321	ePN	Pn	01 18 44.2 -0.9
BLCB	Balcova	3.30	321	ePn	Pn	01 18 44.2 -0.9
AKS	Akhisar	3.38	335	ePN	Pn	01 18 46.3 0.0
AKS	Akhisar	3.38	335	ePn	Pn	01 18 46.3 0.0
LAST	Lasithi	3.48	260	P	Pn	01 18 48.4 +0.8
LAST				S	Sn	01 19 29.4 +0.7
LAST	Lasithi	3.48	260	ePN	Pn	01 18 48.5 +0.8
LAST				eSN	Sn	01 19 27.7 -1.0
LAST	Lasithi	3.48	260	P	Pn	01 18 48.4 +0.8
LAST				S	Sn	01 19 29.4 +0.7
KIZT	Kizilcal	3.52	29	ePN	Pn	01 18 49.9 +1.6
KIZT	Kizilcal	3.52	29	ePn	Pn	01 18 49.9 +1.6
APE	Apeiranthos	3.55	292	ePN	Pn	01 18 47.0 -1.7
APE	Apeiranthos	3.55	292	ePN	Pn	01 18 48.8 +0.1
APE	Apeiranthos	3.55	292	ePn	Pn	01 18 47.0 -1.7
APE	Apeiranthos	3.55	292	eP	Pn	01 18 48.8 +0.1
TVSB	Tavsanli	3.62	358	ePN	Pn	01 18 50.6 +1.0
TVSB	Tavsanli	3.62	358	ePn	Pn	01 18 50.6 +1.0
ESKT	Eskisehir	3.80	14	ePN	Pn	01 18 54.4 +2.2
ESKT	Eskisehir	3.80	14	ePn	Pn	01 18 54.4 +2.2
CHOS	Chios island	3.85	313	ePN	Pn	01 18 51.8 -1.0
CHOS	Chios island	3.85	313	P	Pn	01 18 52.1 -0.7
CHOS				S	Sn	01 19 38.5 +0.6
CHOS	Chios island	3.85	313	ePN	Pn	01 18 52.2 -0.6
CHOS	Chios island	3.85	313	ePn	Pn	01 18 51.8 -1.0
CHOS	Chios island	3.85	313	eP	Pn	01 18 52.2 -0.6
CHOS				S	Sn	01 19 38.5 +0.6
DST	Dursunbey	3.86	348	ePN	Pn	01 18 52.9 0.0
DST	Dursunbey	3.86	348	ePn	Pn	01 18 52.9 0.0
SULT	Sultanhani-AKS	3.89	51	ePN	Pn	01 18 54.6 +1.3
SULT	Sultanhani-AKS	3.89	51	ePn	Pn	01 18 54.6 +1.3
SVRH	Sivrihisar-ESK	3.90	22	ePN	Pn	01 18 55.6 +2.2
SVRH	Sivrihisar-ESK	3.90	22	ePn	Pn	01 18 55.7 +2.2
IDI	Anoyia 8.1nm,0.3s,baz=0.7,slow=6.7,SNR=62	3.93	263	Pn	Pn	01 18 54.1 +0.2
IDI				Sn	Sn	01 19 36.8 -3.0
	3.7nm,0.3s,baz=139,slow=19,SNR=3.4					
SIVA	Sivas	4.04	260	P	Pn	01 18 56.3 +0.9
SIVA	Sivas	4.04	260	ePN	Pn	01 18 56.2 +0.9
SIVA	Sivas	4.04	260	eP	Pn	01 18 56.2 +0.9
BALB	Balikesir	4.06	340	ePN	Pn	01 18 56.9 +1.4
BALB	Balikesir	4.06	340	ePn	Pn	01 18 56.9 +1.4
ORLT	Orhaneli	4.25	352	ePN	Pn	01 18 59.8 +1.5
ORLT	Orhaneli	4.25	352	ePn	Pn	01 18 59.8 +1.5
PRK	Paraskevi	4.35	323	ePN	Pn	01 18 58.7 -0.8
PRK	Paraskevi	4.35	323	eP	Pn	01 18 58.7 -0.8
VAM	Vamos	4.47	266	ePN	Pn	01 19 01.8 +0.6
VAM	Vamos	4.47	266	eP	Pn	01 19 01.8 +0.6
AFSR	Af˙ar-Bala (A	4.51	36	ePN	Pn	01 19 04.1 +2.2
AFSR	Af˙ar-Bala (A	4.51	36	ePn	Pn	01 19 04.1 +2.2
SIGR	SIGRI	4.53	319	ePN	Pn	01 19 02.1 0.0
SIGR	SIGRI	4.53	319	P	Pn	01 19 01.2 -0.9
SIGR	SIGRI	4.53	319	P	Pn	01 19 01.2 -0.9
SIGR	SIGRI	4.53	319	ePn	Pn	01 19 02.1 0.0
KCTX	Karacabey (Bur	4.55	347	ePN	Pn	01 19 04.1 +1.8
KCTX	Karacabey (Bur	4.55	347	ePn	Pn	01 19 04.1 +1.8
ADVT	Abdulvahap	4.60	1	ePN	Pn	01 19 04.1 +1.1
ADVT	Abdulvahap	4.60	1	ePn	Pn	01 19 04.1 +1.1
GULT	Gulveren	4.64	8	ePN	Pn	01 19 06.2 +2.5
GULT	Gulveren	4.64	8	ePn	Pn	01 19 06.2 +2.5
ANTO	Ankara	4.73	31	ePN	Pn	01 19 06.9 +2.0
ANTO	Ankara	4.73	31	ePn	Pn	01 19 06.9 +2.0
LOD	Lodumlu	4.74	30	ePN	Pn	01 19 07.2 +2.2
LOD	Lodumlu	4.74	30	ePn	Pn	01 19 07.2 +2.2
ARMT	Armutlu	4.77	353	ePN	Pn	01 19 07.5 +2.1
ARMT	Armutlu	4.77	353	ePn	Pn	01 19 07.5 +2.1
BRTR	Keskin Array B 1.2nm,0.3s,baz=226,slow=17,SNR=42	5.00	38	Pn	Pn	01 19 09.6 +0.8
BRTR				Sn	Sn	01 20 06.4 0.0
	1.4nm,0.3s,baz=211,slow=24,SNR=19					
ANKY	Antikythira Is	5.17	272	ePN	Pn	01 19 11.9 +1.1
ANKY	Antikythira Is	5.17	272	eP	Pn	01 19 11.9 +1.1
HWQ	Hawqa	5.38	105	eP	Pn	01 19 14.3 +0.4
HWQ	Hawqa	5.38	105	eP	Pn	01 19 14.3 +0.4
KYTH	Kithira	5.39	277	ePN	Pn	01 19 14.2 +0.3
KYTH	Kithira	5.39	277	eP	Pn	01 19 14.2 +0.3
VLI	Veliai	5.50	281	ePN	Pn	01 19 15.8 +0.3
VLI	Veliai	5.50	281	eP	Pn	01 19 15.8 +0.3
MMAI	Mount Meron Ar 9.0nm,0.3s,baz=310,slow=11,SNR=69	5.51	119	Pn	Pn	01 19 16.2 +0.6
MMAI				Sn	Sn	01 20 15.9 -3.0
	16nm,0.3s,baz=314,slow=24,SNR=9.1					
SLUM	baz=220	5.70	222	P	Pn	01 19 18.7 +0.6
SLUM		5.70	222	P	Pn	01 19 18.7 +0.6
RSH		5.92	144	P	Pn	01 19 22.4 +1.2
	baz=145					
RSH		5.92	144	P	Pn	01 19 22.4 +1.2
KOT	Kottamia baz=162	6.16	162	P	Pn	01 19 25.4 +0.9
KOT	Kottamia	6.16	162	P	Pn	01 19 25.4 +0.9
GUR	Goura	6.23	292	ePN	Pn	01 19 26.0 +0.5
GUR	Goura	6.23	292	eP	Pn	01 19 26.0 +0.5
AXAR	Agios Charalam	6.30	300	ePN	Pn	01 19 27.5 +1.0
AXAR	Agios Charalam	6.30	300	eP	Pn	01 19 27.5 +1.0
ITM	Ithomi	6.37	284	ePN	Pn	01 19 28.8 +1.4
ITM	Ithomi	6.37	284	eP	Pn	01 19 28.8 +1.4
KLV	Kalavryta, Ach	6.41	292	ePN	Pn	01 19 29.2 +1.3
KLV	Kalavryta, Ach	6.41	292	eP	Pn	01 19 29.2 +1.3
GLL	Jalalah baz=164	6.47	164	P	Pn	01 19 29.7 +0.9
GLL				S	Sn	01 20 37.3 -5.1
	baz=164					
GLL	Jalalah	6.47	164	P	Pn	01 19 29.7 +0.9
PYL	PYLOS	6.48	282	ePN	Pn	01 19 29.2 +0.4
PYL	PYLOS	6.48	282	eP	Pn	01 19 29.2 +0.4
SUZ	baz=156	6.54	155	P	Pn	01 19 30.4 +0.7
SUZ		6.54	155	P	Pn	01 19 30.4 +0.7
AMT	Artemida-Makis	6.61	287	ePN	Pn	01 19 31.8 +1.1
AMT	Artemida-Makis	6.61	287	eP	Pn	01 19 31.8 +1.1
AGG	Agios Georgios	6.65	301	ePN	Pn	01 19 32.5 +1.3
AGG	Agios Georgios	6.65	301	eP	Pn	01 19 32.5 +1.3
HNKL	Nakhl baz=148	6.91	147	P	Pn	01 19 35.0 +0.1
HNKL				S	Sn	01 20 46.8 -6.5
	baz=148					
HNKL	Nakhl	6.91	147	P	Pn	01 19 35.0 +0.1
RLS	Riolos of Patr	6.93	291	ePN	Pn	01 19 36.4 +1.4
RLS	Riolos of Patr	6.93	291	eP	Pn	01 19 36.4 +1.4
ZAF	baz=159	6.97	159	P	Pn	01 19 36.5 +0.9
ZAF		6.97	159	P	Pn	01 19 36.5 +0.9
ASF	Jabal al Asfar 0.4nm,0.3s,baz=260,slow=8.5,SNR=6.5	7.03	119	Pn	Pn	01 19 37.7 +1.3
ASF				Sn	Sn	01 20 57.1 +0.8
	0.5nm,0.3s,baz=83,slow=16,SNR=2.8					
NBNS	Bani Suef baz=169	7.32	169	P	Pn	01 19 41.0 +0.6
NBNS				S	Sn	01 20 57.2 -6.0
	baz=169					
NBNS	Bani Suef	7.32	169	P	Pn	01 19 41.0 +0.6
SWA2	baz=209	7.46	210	P	Pn	01 19 42.5 +0.1
SWA2				S	Sn	01 20 58.8 -8.1
	baz=209					
SWA2		7.46	210	P	Pn	01 19 42.5 +0.1
EIL	Elat 1.0nm,0.3s,baz=332,slow=2.8,SNR=23	7.59	143	Pn	Pn	01 19 44.3 +0.2
EIL				Sn	Sn	01 21 06.1 -3.8
	2.8nm,0.3s,baz=12,slow=17,SNR=10					
GRB	Gharib baz=160	7.99	160	P	Pn	01 19 49.9 +0.3
GRB	Gharib	7.99	160	P	Pn	01 19 49.9 +0.3
HKAT	Jabal Katrina baz=153	8.16	152	P	Pn	01 19 52.2 +0.1
HKAT				S	Sn	01 21 15.2 -9.1
	baz=153					
HKAT	Jabal Katrina	8.16	152	P	Pn	01 19 52.2 +0.1
MLR	Muntele Rosu 0.0nm,0.3s,baz=120,slow=20,SNR=2.1	10.05	345	Pn	Pn	01 20 17.7 -0.2
KEST	Kesra 0.1nm,0.3s,baz=305,slow=6.7,SNR=4.7	16.49	276	Pn	Pn	01 21 45.5 +0.6
ESDC	Sonseca Array 0.3nm,0.4s,baz=84,slow=9.6,SNR=5.6	26.77	288	P	P	01 23 32.6 -0.8
TORD	Torodi Ar. Bea 0.3nm,0.5s,baz=44,slow=7.1,SNR=3.6	33.81	235	P	P	01 24 35.8 +0.1
KURBB	Kurchatov Arra 0.3nm,0.4s,baz=277,slow=8.7,SNR=2.4	37.84	51	P	P	01 25 08.7 -1.2

*IDC **22** 01:21:22.3±0.9, 5.˚52N×127.˚39E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/23, mbtmp3.9/8, Error ellipse: s-maj=67.2km s-min=20.5km az=71.0*

*ISCJB **22** 01:21:28.0±0.8, 5.˚5N±0.˚2×127.˚3E±0.˚4, h53km, mb3.9/8, Error ellipse: s-maj=60.5km s-min=15.9km az=161.6*

ISC 22 01:21:29.5±0.9, 5.˚5N±0.˚2×127.˚4E±0.˚4, h53km, n9, σ1s 03/9, mb3.7/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	26.18	165	P	P	01 26 60.0	+0.7
	0.9nm,0.4s,baz=342,slow=10,SNR=4.6						
ASAR	Alice Springs	29.67	168	P	P	01 27 30.8	+0.4
	0.2nm,0.3s,baz=351,slow=7.8,SNR=4.4						
SONM	Songino Array	45.86	340	P	P	01 29 47.6	+1.0
	0.4nm,0.5s,baz=132,slow=6.0,SNR=4.4						
MKAR	Makanchi Array	56.49	324	P	P	01 31 07.7	+1.4
	3.6nm,0.5s,baz=118,slow=7.8,SNR=55						
ZALV	Zalesovo Beam	59.33	332	P	P	01 31 25.8	-0.1
	0.8nm,0.4s,baz=135,slow=7.5,SNR=3.5						
ILAR	Eielson Array	83.26	25	P	P	01 33 50.1	-0.1
	0.3nm,0.6s,baz=248,slow=5.9,SNR=5.2						
ARCES	ARCESS Array B	89.03	340	P	P	01 34 17.8	-0.7
	2.5nm,0.8s,baz=73,slow=5.4,SNR=7.3						
BRTR	Keskin Array B	89.39	310	P	P	01 34 20.0	-1.0
	0.4nm,0.8s,baz=93,slow=7.2,SNR=3.6						
TORD	Torodi Ar. Bea	122.95	289	PKP	PKPdf	01 40 19.8	-1.1
	0.4nm,0.7s,baz=75,slow=1.6,SNR=2.6						

KRSC 22 01:26:48.1±1.1, 52.˚79N×159.˚84E, h52km±13km, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLC	Nalytchevo	0.49	322	*i* P	Pn	01 27 00.7	+1.4
NLC				eS	Sn	01 27 08.4	+1.0
UGLR	Uglovaya	0.75	305	*i* P	Pn	01 27 04.1	+1.4
UGLR				eS	Sn	01 27 13.9	+0.6
SDLR	Sedlovina	0.76	311	*i* P	Pn	01 27 04.1	+1.2
SDLR				eS	Sn	01 27 14.2	+0.6
SMAR	Somma	0.79	307	eP	Pn	01 27 04.4	+1.0
SMAR				eS	Sn	01 27 14.7	+0.2
AVH	Avacha	0.82	306	*i* P	Pn	01 27 05.1	+1.5
AVH				eS	Sn	01 27 16.2	+1.3
KRER	Koryakskii	0.84	308	*i* P	Pn	01 27 05.4	+1.4
KRER				eS	Sn	01 27 16.7	+1.1
KOK	Koryaka	0.89	305	eP	Pn	01 27 06.0	+1.5
KOK				eS	Sn	01 27 17.5	+1.0
RUS	Russkaya	0.89	247	eP	Pn	01 27 05.7	+1.4
RUS				eS	Sn	01 27 17.2	+1.0
KRX	Arik	0.92	309	eP	Pn	01 27 06.3	+1.3
KRX				eS	Sn	01 27 17.8	+0.4
MTVR	Mutnovka	1.06	254	*i* P	Pn	01 27 08.5	+1.7
MTVR				eS	Sn	01 27 21.9	+1.2
GRL	Gorelyy	1.10	258	eP	Pn	01 27 08.8	+1.4
ASAK	Asacha	1.25	252	eP	Pn	01 27 11.3	+1.9
ASAK				eS	Sn	01 27 26.1	+0.8
KII	Karymskiy	1.27	349	eP	Pn	01 27 11.6	+2.0
KII				eS	Sn	01 27 27.1	+1.4
GNL	Ganaly	1.46	309	eP	Pn	01 27 14.2	+2.0
GNL				eS	Sn	01 27 31.8	+1.5
APC	Apacha	1.63	276	eP	Pn	01 27 16.8	+2.4
APC				eS	Sn	01 27 36.4	+2.1
MIPR	Malaya Ipel'ka	1.95	256	eP	Pn	01 27 21.5	+2.7
MKZ	Mys Kozlova	2.10	32	eP	Pn	01 27 22.7	+2.0
MKZ				eS	Sn	01 27 46.1	+0.5
PAU	Pauzhetka	2.29	236	eP	Pn	01 27 26.8	+3.4
PAU				eS	Sn	01 27 53.4	+3.0
KZV	Kizimen	2.34	6	eP	Pn	01 27 27.5	+3.2
KZV				eS	Sn	01 27 54.4	+2.3
TUMR	Tumrok	2.50	4	eP	Pn	01 27 30.1	+3.6
TUMR				eS	Sn	01 27 59.2	+3.3
KMNR	Kamenistaya	2.98	4	eP	Pn	01 27 38.4	+5.4
SKR	Severo-Kuril's	3.13	229	eP	Pn	01 27 38.2	+3.3
SKR				eS	Sn	01 28 13.1	+2.1
ESO	Esso	3.21	348	eP	Pn	01 27 39.0	+2.9
KBTR	Krutoberegovo	3.84	26	eP	Pn	01 27 49.3	+4.7
KBTR				eS	Sn	01 28 32.1	+3.7
SMKR	Semkarok	3.92	13	eP	Pn	01 27 50.9	+5.2
BKI	Bering	4.35	54	eP	Pn	01 27 55.1	+3.5
BKI				eS	Sn	01 28 41.3	+0.4

MAN 22 01:36:34, 9.˚68N×122.˚60E, h1km, mb4.5, ML3.4, MS3.2, 2C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	Sibulan	0.70	118	⇓*i* P	Pg	01 36 47.7	0.0
SNPH				*i* S	Sn	01 37 03.2	+0.4
GUIM	Jordan	0.94	359	eP	Pg	01 36 52.6	+0.4
GUIM				eS	Sg	01 37 05.1	+0.6
DCPH	Dipolog City	1.31	146	⇑eP	Pn	01 37 01.9	+2.4
DCPH				*i* S	Sn	01 37 21.6	+3.9
IPIL	Ipil	1.88	181	eP	Pn	01 37 07.9	+0.6
RCP	Roxas	1.88	4	⇑eP	Pb	01 37 08.8	-0.3
RCP				eS	Sb	01 37 32.8	-0.4
PAGZ	Pagadian	1.97	157	eP	Pg	01 37 12.6	+0.7

IDC 22 01:38:30.9±1.4, 3.˚40S×135.˚96E, h0km, mb3.7/3, mb1 4.2/5, mb1mx3.8/25, mbtmp4.0/5, ML4.1/2, Error ellipse: s-maj=45.1km s-min=27.0km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	Sorong	5.32	298	Pn	Pn	01 39 51.2	-0.5
	7.8nm,0.3s,baz=173,slow=23,SNR=35						
SIJI				Sn	Sn	01 40 47.2	-6.5
	4.9nm,0.3s,baz=319,slow=24,SNR=8.0						
WRA	Warramunga Arr	16.52	185	Pn	Pn	01 42 25.5	+1.4
	0.7nm,0.3s,baz=7.0,slow=12,SNR=11						
WRA				Sn	Sn	01 45 09.4	-19
	0.2nm,0.3s,baz=4.1,slow=25,SNR=3.1						
ASAR	Alice Springs	20.25	185	P	P	01 43 07.3	-0.6
	8.6nm,0.7s,baz=10.0,slow=11,SNR=59						
MKAR	Makanchi Array	68.68	324	P	P	01 49 36.6	+0.3
	0.3nm,0.6s,baz=119,slow=8.4,SNR=3.1						
ILAR	Eielson Array	87.60	25	P	P	01 51 20.5	-0.2
	0.1nm,0.4s,baz=261,slow=4.5,SNR=3.5						

GUC 22 02:25:09.6±0.6, 34.˚75S×72.˚25W, h34km±2km, ML3.8, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	Talca	0.82	142	⇑*i* P	Pb	02 25 25.3	-0.3
NICH	Los Niches	0.88	107	⇓*i* P	Pb	02 25 26.7	+0.2
NICH				*i* S	Sb	02 25 38.9	+1.0
LNV	Longovilo	1.05	42	⇑*i* P	Pb	02 25 29.1	-0.3
LNV				*i* S	Sb	02 25 43.9	+1.0
LNCH	Linares	1.22	154	⇑*i* P	Pb	02 25 33.4	+1.2
TACH	Talagante	1.54	45	eP	Pb	02 25 36.7	-0.9
TACH				*i* S	Sb	02 25 57.5	+0.6
CHCH	Chadas Angostu	1.55	59	⇓*i* P	Pb	02 25 37.7	-0.1
CHCH				*i* S	Sb	02 25 58.2	+1.0
PCH	Pirque	1.82	53	eP	Pb	02 25 42.0	-0.5
PCH				eS	Sb	02 26 05.9	+0.8
SJCH	San Jose de Ma	1.92	55	eP	Pb	02 25 42.7	-1.4
SJCH				*i* S	Sb	02 26 08.1	+0.3
CLCH	Cerro Calan	1.96	47	eP	Pb	02 25 43.7	-1.1
CLCH				*i* S	Sb	02 26 09.1	+0.2
CLCH				AML	AML	02 26 17.9	
	comp=N,1μm,0.6s						
PEL	Peldehue	2.06	40	⇑*i* P	Pb	02 25 44.7	-1.7
PEL				eS	Sb	02 26 11.0	-0.8
PEL				AML	AML	02 26 18.4	
	comp=E,1μm,0.6s						

MAN 22 02:27:05, 9.˚76N×124.˚77E, h19km, mb4.4, ML3.3, MS3.2, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	Maasin	0.38	14	eP	Pg	02 27 12.7	-0.3
MSLP				eS	Sb	02 27 20.4	+1.6
SCPH	Surigao	0.71	88	⇑eP	Pg	02 27 19.5	+0.4
BUTP	Butuan	1.15	133	eP	Pn	02 27 22.3	-3.8
CGP	Cagayan de Oro	1.30	183	eP	Pn	02 27 27.0	-1.2
CGP				*i* S	Sb	02 27 45.8	+0.5
PLP	Palo	1.41	8	⇓eP	Pn	02 27 28.6	-1.1
PLP				*i* S	Sb	02 27 48.8	+0.5
DCPH	Dipolog City	1.82	230	⇑*i* P	Pn	02 27 34.9	-0.5
DCPH				*i* S	Sn	02 27 58.0	0.0
BUKP	Musuan	1.90	171	eP	Pn	02 27 37.4	+0.9
BUKP				eS	Sn	02 27 59.0	-0.9
PAGZ	Pagadian	2.34	216	eP	Pn	02 27 43.0	+0.5
RCP	Roxas	2.67	312	eP	Pn	02 27 47.3	+0.2
IPIL	Ipil	2.93	228	eP	Pn	02 27 52.4	+1.8

IDC 22 02:30:25.1±3.3, 27.˚92S×69.˚15W, h0km, mb4.0/1, mb1 3.9/2, mb1mx3.6/17, mbtmp3.8/2, ML3.9/1, Error ellipse: s-maj=115.8km s-min=60.1km az=75.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	11.61	5	Pn	Pn	02 33 12.7	-0.4
	0.3nm,0.3s,baz=189,slow=6.9,SNR=16						
TORD	Torodi Ar. Bea	79.78	69	P	P	02 42 35.7	+0.1
	1.0nm,0.7s,baz=252,slow=4.9,SNR=8.2						
ZALV	Zalesovo Beam	147.75	29	PKPbc	PKPbc	02 50 11.5	0.0
	0.8nm,0.5s,baz=297,slow=3.4,SNR=4.2						
MKAR	Makanchi Array	150.75	42	PKPbc	PKPbc	02 50 18.2	-1.1
	0.6nm,0.7s,baz=300,slow=2.8,SNR=3.8						

SJA 22 02:32:47.4±1.1, 29.˚60S×73.˚06W, h40km, ML4.0, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	Las Campanas	2.14	75	eP	Pn	02 33 19.7	-1.2
LCO				⇓eS	Sn	02 33 41.2	-5.3
RTLS	Leoncito	3.91	125	eP	Pn	02 33 48.9	+3.6
RTLS				eS	Sn	02 34 34.3	+4.0
AUSP	Uspallata	4.10	131	eP	Pn	02 33 51.4	+3.5
RTLL	Cerro Villicun	4.31	115	eP	Pn	02 33 54.2	+3.6
VCA	Vinchina	4.33	80	eP	Pn	02 33 54.1	+3.

	comp=Z,29nm,0.3s								
MK31					pmax	pmax			
	comp=N,1µm,0.9s								
MK31	**Makanchi Array**	**4.81**	**358**	*e*Pn		**Pn**	**03 23 02.6**	**+2.2**
MK31				*e*Sn		**Sn**	**03 23 53.8**	**-2.1**
MKAR	**Makanchi Array**	**4.81**	**358**	Pn		**Pn**	**03 23 02.5**	**+2.2**
	comp=N,6.9nm,0.3s,baz=187,slow=12,SNR=82								
MKAR				Sn		**Sn**	**03 24 01.6**	**+5.6**
	comp=N,16nm,0.3s,baz=181,slow=19,SNR=5.7								
MKAR				Lg	Lg		03 24 24.1		
	comp=N,36nm,0.3s,baz=166,slow=26,SNR=10								
MKAR	**Makanchi Array**	**4.81**	**358**	PN		**Pn**	**03 23 02.6**	**+2.2**
MKAR							03 24 01.6		
MKAR				pmax	pmax				
	comp=Z,7.0nm,0.3s								
MKAR				smax	smax				
	comp=N,16nm,0.3s								
TKM2	**Tokmak 2**	**5.23**	**283**	⇑Pn		Pn	03 23 09.5	+3.2	
	comp=N,62nm,0.7s								
TKM2				⇑Lg	Lg		03 24 28.1		
	comp=N,112nm,0.6s								
TKM2	**Tokmak 2**	**5.23**	**283**	*i* PN		Pn	03 23 09.4	+3.2	
TKM2				pmax	pmax				
	comp=Z,62nm,0.7s								
TKM2	**Tokmak 2**	**5.23**	**283**	*e*Pn		**Pn**	**03 23 09.2**	**+2.9**	
KSH	**Kashi**	**5.57**	**246**	P		Pb	03 23 18.8	-6.6	
KSH				S		**Sb**	**03 24 27.9**	**-4.2**	
KSH				SMN					
	comp=Z,290nm,1.2s								
KSH				SME					
	comp=Z,180nm,1.0s								
FRU	**Bishkek**	**5.93**	**281**	⇓*e*PN		Pb	03 23 28.0	-3.5	
FRU				pmax	pmax				
	comp=Z,190nm,1.8s								
FRU				pmax	pmax				
	comp=N,990nm,2.0s								
AAK	**Ala-Archa**	**6.01**	**279**	⇑Pn		**Pn**	**03 23 19.6**	**+2.7**	
	comp=N,8.2nm,0.7s								
AAK				⇑Pg		**Pg**	**03 23 41.9**	**-1.3**	
	comp=N,29nm,0.7s								
AAK				⇑Lg	Lg		03 24 59.6		
	comp=N,180nm,0.9s								
AAK	**Ala-Archa**	**6.01**	**279**	Pn		**Pb**	**03 23 33.7**	**+0.9**	
	comp=N,1.1nm,0.3s,baz=100,slow=14,SNR=4.3								
AAK				Lg	Lg		03 25 10.7		
	comp=N,0.5nm,0.3s,baz=210,slow=20,SNR=2.4								
AAK				LR	LR		03 25 37.1		
	comp=N,60nm,19.6s,baz=76,slow=38								
AAK	**Ala-Archa**	**6.01**	**279**	*i* PN		**Pn**	**03 23 19.6**	**+2.7**	
AAK				pmax	pmax				
	comp=Z,2.0nm,0.4s								
EKS2	**Erkin-Say**	**6.54**	**279**	*e*Pn		Pn	03 23 28.1	+3.9	
EKS2				*e*S		**Sb**	**03 25 02.2**	**+2.3**	
SFK	**Sufi-Kurgan**	**7.12**	**257**	⇑Pn		Pn	03 23 36.3	+4.0	
	comp=Z,5.6nm,0.5s								
SFK	**Sufi-Kurgan**	**7.12**	**257**	P		Pn	03 23 36.3	+4.0	
SFK				pmax	pmax				
	comp=Z,9.0nm,0.6s								
SFK				pmax	pmax				
	comp=N,126nm,1.5s								
KK31	**Karatay Array**	**8.96**	**281**	⇓Pn		Pn	03 24 01.3	+4.0	
	comp=N,1.0nm,0.5s,baz=94,slow=14,SNR=5.0								
KK31				⇓Pg		Pg	03 24 35.2	-4.4	
	comp=N,7.0nm,0.7s,baz=87,slow=16,SNR=7.7								
KK31				⇑Lg	Lg		03 26 32.9		
	comp=N,41nm,0.9s,baz=90,slow=26,SNR=4.9								
KKAR	**Karatay Array**	**8.96**	**281**	*e*Pn		Pn	03 24 00.9	+3.6	
KURBB	**Kurchatov Arra**	**9.07**	**344**	⇑Pn		**Pn**	**03 23 59.6**	**+0.8**	
	comp=N,11nm,0.6s								
KURBB				⇑Lg	Lg		03 26 34.7		
	comp=N,527nm,0.9s								
KURBB	**Kurchatov Arra**	**9.07**	**344**	Pn		**Pn**	**03 23 58.3**	**-0.5**	
	comp=N,0.4nm,0.3s,baz=167,slow=12,SNR=20								
KURBB				Lg	Lg		03 26 35.7		
	comp=N,0.7nm,0.3s,baz=151,slow=29,SNR=4.6								
KURK	**Kurchatov**	**9.14**	**344**	⇓Pn		**Pn**	**03 23 59.2**	**-0.6**	
	comp=N,19nm,0.9s								
KURK				⇓Lg	Lg		03 26 35.8		
	comp=N,268nm,1.2s								
KURK	**Kurchatov**	**9.14**	**344**	P		**Pn**	**03 23 59.1**	**-0.6**	
KURK				pmax	pmax				
	comp=Z,19nm,0.9s								
KURK				pmax	pmax				
	comp=N,268nm,1.2s								
KURK	**Kurchatov**	**9.14**	**344**	*e*Pn		**Pn**	**03 23 59.2**	**-0.6**	
KURK				*e*S		Sn	03 25 51.8	+9.4	
KURK				Lg	Lg		03 26 35.7		
OTUK	**Ortayu**	**9.55**	**314**	⇓Pn		**Pn**	**03 24 05.1**	**-0.3**	
	comp=N,2.4nm,0.2s								
OTUK				⇑Lg	Lg		03 26 51.0		
	comp=N,165nm,1.3s								
OTUK	**Ortayu**	**9.55**	**314**	P		**Pn**	**03 24 05.0**	**-0.3**	
OTUK				pmax	pmax				
	comp=Z,7.0nm,0.6s								
OTUK				pmax	pmax				
	comp=N,113nm,1.0s								
DHRM	**DHARAMSHALA**	**10.92**	**209**	*e*P		**Pn**	**03 24 26.9**	**+2.5**	
DHRM				*e*S		Sn	03 26 20.1	-6.4	
DHRM				AML	AML		03 26 42.9		
	comp=E,92nm,0.7s								
DHRM				AML	AML		03 26 51.1		
	comp=N,74nm,1.1s								
CHCP	**Chirah Chowk**	**11.08**	**224**	P		**Pn**	**03 24 26.6**	**+0.1**	
SMLA	**Simla**	**11.66**	**203**	*ex*		Pn	03 24 28.8	-5.6	
SMLA				*e*S		Sn	03 26 37.1	-7.3	
CEP	**Cherat**	**11.70**	**229**	P		**Pn**	**03 24 32.9**	**-2.0**	
CEP				S		**Sn**	**03 26 41.0**	**-4.4**	
ZAA0	**Zalesovo Array**	**12.07**	**6**	*e*Pn		**Pn**	**03 24 38.7**	**-1.1**	
ZAA0				*e*S		Sn	03 26 45.3	-8.7	
ZALV	**Zalesovo Beam**	**12.07**	**6**	Pn		**Pn**	**03 24 38.6**	**-1.1**	
	comp=N,0.8nm,0.3s,baz=186,slow=13,SNR=26								
ZALV				Lg	Lg		03 28 08.8		
	comp=N,0.4nm,0.3s,baz=174,slow=28,SNR=3.7								
ZALV				LR	LR		03 29 34.9		
	comp=N,116nm,19.0s,baz=90,slow=39								
ZALV	**Zalesovo Beam**	**12.07**	**6**	*i* P		**Pn**	**03 24 39.0**	**-0.7**	
ZALV				pmax	pmax				
	comp=Z,11nm,0.7s								
THW	**Thamme Wali**	**12.56**	**227**	P		**Pn**	**03 24 45.2**	**-1.4**	
NVS	**Novosibirsk**	**12.87**	**2**	*e*P		P	03 24 57.2	-4.4	
NVS				*e*S		Sn	03 27 21.3	+7.6	
KBL	**Kabul**	**12.95**	**239**	*e*Pn		**Pn**	**03 24 50.8**	**-1.3**	
GTA	**Gaotai**	**13.35**	**95**	*e*P		**Pn**	**03 24 55.1**	**-2.4**	
GTA				S		**Sn**	**03 27 24.5**	**-1.4**	
GTA				SS		**SnSn**	**03 27 40.9**	**+3.0**	
GTA				PMZ					
	comp=Z,5.0nm,1.1s								
GTA				PMZ					
	comp=Z,65nm,5.2s								
GTA				LN					
	comp=Z,310nm,11.9s								
GTA				LE					
	comp=Z,570nm,9.7s								
GTA				LZ					
	comp=Z,550nm,11.4s								
BVA0	**Borovoye Array**	**13.74**	**328**	⇑Pn		**Pn**	**03 25 02.1**	**-0.5**	
	comp=Z,9.8nm,1.0s,baz=126,slow=12,SNR=5.4								
BVA0				⇑Lg	Lg		03 29 01.8		
	comp=Z,235nm,1.4s								
BVAR	**Borovoye Array**	**13.74**	**328**	Pn		**Pn**	**03 25 02.0**	**-0.6**	
	comp=Z,0.5nm,0.3s,baz=128,slow=12,SNR=4.3								
BVAR				Lg	Lg		03 28 59.3		
	comp=Z,0.4nm,0.3s,baz=144,slow=27,SNR=3.7								
BVAR	**Borovoye Array**	**13.74**	**328**	P		**Pn**	**03 25 02.0**	**-0.6**	
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
BRVK	**Borovoye**	**13.81**	**328**	*c i*P		**Pn**	**03 25 05.7**	**+2.1**	
BRVK				pmax	pmax				
	comp=Z,17nm,1.2s								
BRVK	**Borovoye**	**13.81**	**328**	*e*Pn		**Pn**	**03 25 05.0**	**+1.5**	
BRVK				*e*S		**S**	**03 28 01.2**	**+2.2**	
LSA	**Lhasa**	**14.09**	**148**	*e*Pn		**Pn**	**03 25 09.2**	**+1.2**	
KOLN	**Koldanda**	**14.21**	**176**	*e*P		**Pn**	**03 25 08.1**	**-1.2**	
	comp=Z,14nm,0.7s								
KKN	**Kakani**	**14.34**	**170**	*e*P		Pn	03 25 14.5	+3.4	
	comp=Z,26nm,0.6s								
DMN	**Daman**	**14.49**	**171**	*e*P		**Pn**	**03 25 15.2**	**+1.9**	
PKIN	**Phulchoki**	**14.56**	**170**	*e*P		**Pn**	**03 25 16.3**	**+2.0**	
	comp=Z,13nm,0.6s								
PKI	**Pulchoki**	**14.57**	**170**	*e*P		**Pn**	**03 25 16.5**	**+2.1**	
	comp=Z,27nm,0.7s								
MOY	**Mondy**	**15.87**	**46**	*e*P		P	03 25 40.0	+5.0	
ZAK	**Zakamensk**	**16.59**	**53**	*i*P		**Pn**	**03 25 39.4**	**-1.1**	
ZAK				pmax	pmax				
	comp=Z,14nm,1.0s								
TLY	**Talaya**	**17.33**	**49**	LR	LR		03 33 26.3		
	comp=Z,93nm,19.0s,baz=239,slow=41								
AB31	**Akbulak array**	**17.36**	**302**	⇑P		**Pn**	**03 25 47.5**	**-2.6**	
	comp=Z,7.7nm,0.9s								
ABKAR	**Akbulak array**	**17.36**	**302**	*e*Pn		**Pn**	**03 25 48.0**	**-2.1**	
LZH	**Lanzhou**	**17.55**	**103**	*e*P		**P**	**03 25 54.1**	**+0.4**	
LZH				pP		pP	03 26 03.1	+5.7	
LZH				sP		sP	03 26 09.0	+10	
LZH				*e*S		**Sn**	**03 29 04.5**	**-3.4**	
LZH				sS		**S**	**03 29 18.0**	**+2.2**	
LZH				*e*SS		**SnSn**	**03 29 28.5**	**+7.4**	
LZH				PMZ					
	comp=Z,57nm,1.3s								
LZH				PMZ					
	comp=Z,130nm,4.0s								
LZH				LN					
	comp=Z,350nm,10.5s								
LZH				LE					
	comp=Z,410nm,11.0s								
LZH				LZ					
	comp=Z,550nm,13.0s								
SONM	**Songino Array**	**17.84**	**63**	P		**Pn**	**03 25 54.7**	**-1.5**	
	comp=Z,0.4nm,0.3s,baz=255,slow=13,SNR=28								
SONM				Lg	Lg		03 31 12.1		
	comp=Z,0.2nm,0.3s,baz=242,slow=31,SNR=3.0								
SONM				LR	LR		03 32 36.4		
	comp=Z,56nm,20.2s,baz=190,slow=37								
IRK	**Irkutsk**	**17.93**	**48**	*e*P		**P**	**03 25 59.4**	**+1.7**	
IRK				pmax	pmax				
	comp=Z,14nm,2.2s								
SHL	**Shillong**	**18.10**	**152**	*e*P		**Pn**	**03 25 59.0**	**-0.6**	
SHL				*e*S		**Sn**	**03 29 23.1**	**+1.6**	
BOK	**Bokaro**	**18.35**	**170**	*e*P		**P**	**03 26 05.2**	**+2.7**	
AKTO	**Aktyubinsk**	**18.90**	**305**	⇓P		**P**	**03 26 07.5**	**-0.8**	
	comp=Z,6.4nm,0.8s								
AKTO	**Aktyubinsk**	**18.90**	**305**	P		**P**	**03 26 07.5**	**-0.8**	
	comp=Z,0.4nm,0.3s,baz=91,slow=14,SNR=7.9								
AKTO				Lg	Lg		03 31 44.8		
	comp=Z,0.1nm,0.3s,baz=124,slow=15,SNR=3.2								
AKTO				LR	LR		03 33 48.3		
	comp=Z,66nm,19.6s,baz=125,slow=38								
CD2	**Chengdu**	**20.27**	**116**	*e*P		**P**	**03 26 24.3**	**+0.7**	
CD2				pP		pP	03 26 34.5	+7.2	
CD2				sP		sP	03 26 40.3	+11	
CD2				S		**S**	**03 30 09.3**	**-1.4**	
CD2				PMZ					
	comp=Z,20nm,0.5s								
CD2				PMZ					
	comp=Z,160nm,5.0s								
CD2				LE					
	comp=Z,260nm,10.8s								
CD2				LZ					
	comp=Z,260nm,9.6s								
SVE	**Sverdlovsk**	**20.45**	**324**	*e*P		Pn	03 26 30.1	+2.7	
SVE				pmax	pmax				
	comp=Z,19nm,1.2s								
ARU	**Arti**	**21.16**	**321**	*d i*P		**P**	**03 26 33.0**	**+0.1**	
ARU							03 26 48.2		
ARU				S		**S**	**03 30 28.8**	**+1.0**	
ARU				SS		**SnSn**	**03 30 47.4**	**-2.0**	
ARU				pmax	pmax				
	comp=Z,21nm,1.7s								
ARU	**Arti**	**21.16**	**321**	*e*P		**P**	**03 26 31.3**	**-1.6**	
	comp=Z,21nm,0.9s								
HHC	**Hu-ho-hao-te**	**21.75**	**83**	*e*P		**P**	**03 26 39.3**	**-0.2**	
HHC				pP		pP	03 26 51.3	+8.1	
HHC				PP		**PnPn**	**03 27 05.8**	**+5.4**	
HHC				S		S	03 30 30.3	-10	
HHC				sS		Sn	03 30 47.8	-1.4	
HHC				SS		**SnSn**	**03 31 08.1**	**+3.9**	
HHC				PMZ					
	comp=Z,30nm,0.7s								
HHC				PMZ					
	comp=Z,110nm,3.7s								
HHC				LN					
	comp=Z,290nm,9.0s								
HHC				LE					
	comp=Z,210nm,8.4s								
HHC				LZ					
	comp=Z,160nm,7.8s								
KMI	**Kunming**	**23.70**	**129**	P		**P**	**03 27 00.8**	**+0.8**	
KMI				S		S	03 31 07.8	-7.0	
KMI				sS		sS	03 31 26.9	+5.6	
KMI				PMZ					
	comp=Z,13nm,0.7s								
KMI				PMZ					
	comp=Z,58nm,3.7s								
KMI				LN					
	comp=Z,260nm,16.9s								
KMI				LE					
	comp=Z,230nm,16.9s								
KMI				LZ					
	comp=Z,140nm,15.5s								
GYA	**Guiyang**	**25.13**	**120**	*e*P		**P**	**03 27 12.8**	**-0.3**	
GYA				pP		pP	03 27 24.6	+7.6	
GYA				PP		**PnPn**	**03 27 52.0**	**+5.2**	
GYA				S		**S**	**03 31 31.3**	**-6.4**	
GYA				sS		sS	03 31 52.0	+7.8	
GYA				SS		**SnSn**	**03 32 32.6**	**+5.3**	
GYA				PMZ					
	comp=Z,10.0nm,0.8s								
GYA				PMZ					
	comp=Z,90nm,4.8s								
GYA				LN					
	comp=Z,380nm,15.8s								
GYA				LE					
	comp=Z,270nm,16.2s								
GYA				LZ					
	comp=Z,360nm,15.9s								
BJI	**Beijing**	**25.36**	**83**	P		**P**	**03 27 10.9**	**-4.0**	
BJI				S		**S**	**03 31 41.0**	**+0.2**	
BJI				PMZ					
	comp=Z,14nm,0.5s								
BJI				LN					
	comp=Z,260nm,7.8s								
BJI				LE					
	comp=Z,140nm,5.4s								
BJI				LZ					
	comp=Z,37nm,16.1s								
BOD	**Bodaibo**	**25.40**	**41**	*e*P		**P**	**03 27 12.8**	**-2.3**	
BOD				pmax	pmax				
	comp=Z,6.0nm,1.4s								
CHTO	**Chiang Mai**	**26.99**	**144**	*e*P		**P**	**03 27 29.8**	**0.0**	
	comp=Z,6.6nm,0.8s								
CMAR	**Chiang Mai Arr**	**27.30**	**144**	P		**P**	**03 27 32.1**	**-0.5**	
	comp=Z,2.8nm,0.7s,baz=322,slow=9.6,SNR=7.2								
CMAR				LR	LR		03 39 39.5		
	comp=Z,61nm,19.2s,baz=218,slow=39								
CMAR	**Chiang Mai Arr**	**27.30**	**144**	*ce*P		**P**	**03 27 34.2**	**+1.6**	
CMAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
WHN	**Wuhan**	**27.91**	**104**	⇓P		**P**	**03 27 36.6**	**-1.4**	
GNI	**Garni**	**28.41**	**279**	*e*P		P	03 27 46.4	+3.8	
GNI				pmax	pmax				
	comp=Z,6.0nm,1.3s								
KIV	**Kislovodsk**	**29.04**	**288**	*e*P		**P**	**03 27 46.4**	**-1.7**	
KIV				*e*S		**S**	**03 32 37.3**	**-1.8**	
KIV				pmax	pmax				
	comp=Z,3.0nm,0.8s								
KIV				MLR	MLR				
	comp=Z,46nm,15.0s								
VRHR	**Novokhopersk**	**29.25**	**302**	*e*P		P	03 27 41.3	-8.4	
VRHR				pmax	pmax				
	comp=N,10.0nm,0.7s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.7s								
VRHR				pmax	pmax				
	comp=Z,8.0nm,0.7s								
NJ2	**Nanjing**	**30.44**	**97**	*e*P		**P**	**03 27 59.8**	**-0.6**	
NJ2				PMZ					
	comp=Z,30nm,0.6s								
NJ2				LN					
	comp=Z,260nm,24.9s								
NJ2				LE					
	comp=Z,830nm,16.0s								
NJ2				LZ					
	comp=Z,2µm,15.1s								
VORD	**Divnogorie**	**30.72**	**302**	*e*P		**P**	**03 28 02.7**	**0.0**	
VORD				pmax	pmax				
	comp=N,4.0nm,0.6s								
VORD				pmax	pmax				
	comp=E,10.0nm,0.6s								
VORD				pmax	pmax				
	comp=Z,3.0nm,0.6s								
VSR	**Storozhevoye**	**30.80**	**302**	*e*P		**P**	**03 28 03.2**	**-0.2**	
LPSR	**Galich'ya Gora**	**30.98**	**305**	*e*P		**P**	**03 28 06.3**	**+1.3**	
CN2	**Changchun**	**31.23**	**72**	*e*P		**P**	**03 28 07.0**	**-0.3**	
CN2				PMZ					
	comp=Z,10.0nm,0.5s								
OBN	**Obninsk**	**32.53**	**310**	*e*P		**P**	**03 28 18.3**	**-0.2**	
OBN				pmax	pmax				
	comp=Z,7.0nm,1.3s								
QIZ	**Qiongzhong**	**32.57**	**126**	P		**P**	**03 28 19.8**	**+0.6**	
QIZ				pP		pP	03 28 30.1	+6.9	
QIZ				sP		sP	03 28 35.4	+11	
QIZ				S		**S**	**03 33 32.6**	**-1.8**	
QIZ				PMZ					
	comp=Z,25nm,2.0s								
MALT	**Malatya**	**33.64**	**279**	⇓P		P	03 28 32.3	+3.6	
MALT	**Malatya**	**33.64**	**279**	⇓*i*P		P	03 28 32.3	+3.6	
MDJ	**Mudanjiang**	**33.97**	**69**	P		**P**	**03 28 29.4**	**-1.9**	
MDJ				pP		**pP**	**03 28 40.4**	**+5.1**	
MDJ				sP		sP	03 28 45.5	+8.6	
MDJ				PP		**PnPn**	**03 29 46.6**	**+2.4**	
MDJ				PcP		**PcP**	**03 31 05.0**	**-4.2**	
MDJ				S		**S**	**03 33 50.8**	**-5.0**	
MDJ				sS		sS	03 34 12.0	+10	
MDJ				PMZ					
	comp=Z,4.0nm,0.5s								
MDJ				PMZ					
	comp=Z,38nm,4.2s								
MDJ				LN					
	comp=Z,98nm,13.0s								
MDJ				LE					
	comp=Z,170nm,12.2s								
MDJ				LZ					
	comp=Z,240nm,12.0s								
KLR	**Kul'dur**	**34.65**	**61**	*e*P		P	03 28 32.8	-4.3	
BR131	**Keskin Array S**	**36.66**	**283**	*e*P		**P**	**03 28 55.7**	**+1.0**	
	comp=Z,11nm,0.9s								
BRTR	**Keskin Array B**	**36.66**	**283**	P		**P**	**03 28 55.7**	**+1.0**	
	comp=Z,5.9nm,0.8s,baz=101,slow=8.2,SNR=27								
BRTR				LR	LR		03 45 22.5		
	comp=Z,28nm,18.4s,baz=123,slow=38								
BRTR	**Keskin Array B**	**36.66**	**283**	*ce*P		P	03 28 58.9	+4.2	
BRTR				pmax	pmax				
	comp=Z,6.0nm,0.8s								
AKASG	**Malin Array Be**	**37.10**	**302**	P		**P**	**03 28 57.8**	**-0.3**	
	comp=Z,0.5nm,0.5s,baz=67,slow=9.1,SNR=5.2								
AKASG	**Malin Array Be**	**37.10**	**302**	*i* P		**P**	**03 28 58.0**	**-0.1**	
KIEV	**Kiev**	**37.12**	**302**	*e*P		**P**	**03 28 58.1**	**-0.1**	
TIXI	**Tiksi**	**37.32**	**22**	*i* P		**P**	**03 28 58.0**	**-1.7**	
TIXI				pmax	pmax				
	comp=Z,19nm,2.5s								
TIXI	**Tiksi**	**37.32**	**22**	*e*P		**P**	**03 28 59.0**	**-0.7**	
	comp=Z,3.4nm,0.5s								
FINES	**FINESS Array B**	**38.52**	**320**	P		**P**	**03 29 10.0**	**0.0**	
	comp=Z,0.7nm,0.5s,baz=107,slow=10,SNR=7.0								
FINES				LR	LR		03 43 51.7		
	comp=Z,38nm,18.6s,baz=182,slow=34								
JNU	**Nakatsue**	**38.89**	**87**	LR	LR		03 47 29.4		
	comp=Z,52nm,19.3s,slow=40								
CFR	**Carcaliu**	**38.92**	**294**	⇓P		P	03 29 17.1	+3.6	
CFR	**Carcaliu**	**38.92**	**294**	⇓*i*P		P	03 29 17.0	+3.6	
TIRR	**Tirgusor**	**38.92**	**293**	⇓P		**P**	**03 29 16.2**	**+2.7**	
TIRR	**Tirgusor**	**38.92**	**293**	⇓*i*P		**P**	**03 29 16.2**	**+2.7**	
TESR	**Tescani**	**39.59**	**296**	⇓*i*P		**P**	**03 29 21.9**	**+2.8**	
VRI	**Vrincioaia**	**39.70**	**295**	⇓P		P	03 29 23.4	+3.4	
VRI	**Vrincioaia**	**39.70**	**295**	⇓*i*P		P	03 29 23.4	+3.4	
PLOR	**Plostina**	**39.75**	**295**	⇓P		**P**	**03 29 23.4**	**+2.9**	
PLOR	**Plostina**	**39.75**	**295**	⇓*i*P		**P**	**03 29 23.4**	**+2.9**	
ARCES	**ARCESS Array B**	**39.96**	**333**	P		**P**	**03 29 22.2**	**+0.3**	
	comp=Z,3.4nm,0.4s,baz=88,slow=8.4,SNR=70								
ARCES				LR	LR		03 46 23.5		
	comp=Z,67nm,19.3s,baz=212,slow=37								
ARCES	**ARCESS Array B**	**39.96**	**333**	P		**P**	**03 29 22.2**	**+0.3**	
ARCES				pmax	pmax				
	comp=Z,3.0nm,0.4s								
ARCES				MLR	MLR				
	comp=Z,67nm,19.3s								
BURAR	**Bucovina Array**	**40.27**	**298**	⇓P		**P**	**03 29 27.9**	**+3.1**	
BURAR	**Bucovina Array**	**40.27**	**298**	⇓*i*P		**P**	**03 29 27.9**	**+3.1**	
MLR	**Muntele Rosu**	**40.33**	**295**	⇓P		**P**	**03 29 27.2**	**+1.8**	
MLR	**Muntele Rosu**	**40.33**	**295**	⇓*i*P		**P**	**03 29 27.2**	**+1.8**	
JMB	**Yambol**	**40.79**	**290**	⇓P		**P**	**03 29 31.5**	**+2.4**	
JMB	**Yambol**	**40.79**	**290**	⇓*i*P		**P**	**03 29 31.5**	**+2.4**	
VOIR		**40.95**	**295**	⇓P		**P**	**03 29 33.4**	**+2.9**	
VOIR		**40.95**	**295**	⇓*i*P		**P**	**03 29 33.3**	**+2.8**	
LOT	**Lotru**	**41.81**	**295**	⇓*i*P		**P**	**03 29 39.8**	**+2.2**	
DRGR		**42.13**	**298**	⇓P		**P**	**03 29 40.8**	**+0.7**	
DRGR		**42.13**	**298**	⇓*i*P		**P**	**03 29 40.8**	**+0.7**	
GZR	**Gura Zlata**	**42.49**	**296**	⇓*i*P		**P**	**03 29 43.7**	**+0.6**	
MAJO	**Matsushiro**	**42.80**	**78**	*e*P		**P**	**03 29 43.1**	**-2.5**	
MAJO				pmax	pmax				
	comp=Z,23nm,1.1s								
MAT	**Matsushiro**	**42.80**	**78**	P		**P**	**03 29 43.5**	**-2.1**	
MJAR	**Matsushiro Arr**	**42.80**	**78**	P		**P**	**03 29 43.3**	**-2.3**	
	comp=Z,1.2nm,0.4s,baz=295,slow=9.2,SNR=6.2								
MJAR	**Matsushiro Arr**	**42.80**	**78**	P		**P**	**03 29 43.3**	**-2.3**	
MJAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
VTS	**Vitosha**	**43.10**	**292**	⇓P		**P**	**03 29 49.5**	**+1.3**	
VTS	**Vitosha**	**43.10**	**292**	⇓*i*P		**P**	**03 29 49.5**	**+1.3**	
BZS	**Buzias**	**43.20**	**296**	⇓P		**P**	**03 29 49.5**	**+0.8**	
BZS	**Buzias**	**43.20**	**296**	⇓*i*P		**P**	**03 29 49.5**	**+0.8**	
MORC	**Moravsky Berou**	**44.63**	**303**	⇑P		**P**	**03 30 00.1**	**-0.1**	
MORC	**Moravsky Berou**	**44.63**	**303**	⇑*i*P		**P**	**03 30 00.1**	**-0.1**	
DIVS	**Divibare**	**44.79**	**295**	⇓*i*P		**P**	**03 30 02.1**	**+0.5**	
NB2	**NORSAR Subarra**	**45.71**	**320**	P		**P**	**03 30 08.1**	**-0.5**	
	comp=Z,1.2nm,0.5s,baz=81,slow=7.9								

	comp=Z,6.0nm,1.0s								
EDM	**Edmonton**	**84.18**	**10**	*e*P		**P**		**03 34 18.5**	**-0.5**
ULM	**Lac du Bonnet**	**88.14**	**359**	P		**P**		**03 34 36.5**	**-1.9**
	comp=Z,1.6nm,0.7s,baz=8.9,slow=2.9,SNR=4.2								
ULM	**Lac du Bonnet**	**88.14**	**359**	P		**P**		**03 34 36.5**	**-1.9**
ULM				pmax	pmax				
	comp=Z,2.0nm,0.7s								

GUC 22 03:46:25.1±0.7, 21°88S×70°19W, h50km±4km, ML3.6, 2C-6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB07	**IPOC Station P**	**0.32**	**62**	⇓*i*P	Pn	03 46 35.5	+0.7
PB07				*i* S	Sn	03 46 42.3	+0.7
PB07				AML	AML	03 46 42.8	
	comp=E,8μm,0.4s						
PB04	**IPOC Station P**	**0.76**	**121**	⇓*i*P	Pn	03 46 36.5	-3.2
PB04				*i* S	Sn	03 46 44.4	-5.8
PB04				AML	AML	03 46 45.4	
	comp=E,6μm,0.2s						
PB06	**IPOC Station P**	**1.01**	**145**	⇓*i*P	Pn	03 46 43.8	+0.6
PB06				*i* S	Sn	03 46 57.6	+1.1
PB06				AML	AML	03 46 58.2	
	comp=E,5μm,0.4s						
PATCX	**Punta Patache**	**1.05**	**2**	⇑*i*P	Pn	03 46 44.2	+0.5
PATCX				*i* S	Sn	03 46 58.5	+1.1
PATCX				AML	AML	03 47 00.3	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**1.06**	**39**	⇓*i*P	Pn	03 46 45.1	+1.3
PB01				*i* S	Sn	03 46 59.7	+2.1
PB01				AML	AML	03 47 00.0	
	comp=E,3μm,0.2s						
CEN1	**Los Morros**	**1.51**	**180**	⇓*i*P	Pn	03 46 53.5	+3.6
CEN1				AML	AML	03 47 20.6	
	comp=N,373nm,0.4s						
PB10	**IPOC Station P**	**1.66**	**192**	AML	AML	03 47 19.2	
	comp=E,1μm,0.3s						
ANCH	**Antofagasta**	**1.81**	**186**	⇑*i*P	Pn	03 46 53.1	-0.8
ANCH				*i* S	Sn	03 47 15.4	-0.2
PSGC	**Pisagua**	**2.27**	**2**	AML	AML	03 47 45.1	
	comp=E,509nm,0.5s						
MNMC	**Minimini**	**2.79**	**12**	⇓*i*P	Pn	03 47 08.6	+1.0
MNMC				AML	AML	03 47 59.8	
	comp=E,787nm,0.6s						

*NIED **22** 04:08:00, 44.00N×148.10E, h50km, Mw3.6 Best double couple: M0 3.08000×10^14 NP1:φs 292.00000°, δ27.00000°, λ170.00000°. NP2:φs 31.00000°, δ86.00000°, λ63.00000°.*
*JMA **22** 04:08:32.1±0.2, 44.03N×148.10E, h0km, M4.2*
*SKHL **22** 04:08:32.8±0.9, 44.39N×148.32E, h45km±6km, mb4.5/3*
ISC 22 04:08:29.4±3.4, 44°31N±0°09×148°6E±0°2, h35km, n16, σ1 §77/26, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.07**	**330**	*i* P	**Pn**	**04 08 47.8**	**0.0**
KUR				AMB	AMB	04 08 49.0	
	137nm,0.4s						
KUR				AMB	AMB	04 08 49.0	
	143nm,0.4s						
KUR				AMB	AMB	04 08 49.0	
	237nm,0.4s						
KUR				*i* S	**Sn**	**04 08 59.8**	**-1.6**
KUR				A	A	04 09 00.9	
	703nm,0.2s						
KUR				A	A	04 09 00.9	
	1μm,0.2s						
SHO	**Shikotan**	**1.36**	**252**	*e*P	**Pn**	**04 08 52.3**	**+0.4**
SHO				AMB	AMB	04 08 57.8	
	116nm,0.3s						
SHO				*e*S	**Sn**	**04 09 06.1**	**-2.6**
SHO				A	A	04 09 10.1	
	2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.00**	**263**	*i* P	**Pn**	**04 09 01.3**	**+0.6**
YUK				AMB	AMB	04 09 02.9	
	98nm,0.2s						
YUK				AMB	AMB	04 09 02.9	
	77nm,0.2s						
YUK				AMB	AMB	04 09 02.9	
	197nm,0.2s						
YUK				*i* S	**Sn**	**04 09 22.9**	**-1.6**
YUK				A	A	04 09 27.0	
	460nm,0.4s						
YUK				A	A	04 09 27.0	
	190nm,0.4s						
NEM2	**Nemuro 2**	**2.29**	**247**	P	**Pn**	**04 09 05.1**	**+0.6**
NEM2				*e*S	**Sn**	**04 09 29.1**	**-2.4**
JRA	**Rausu**	**2.55**	**263**	P	**Pn**	**04 09 09.9**	**+1.8**
JRA				*e*S	**Sn**	**04 09 37.9**	**0.0**
JNK	**Nakash**	**2.91**	**257**	P	**Pn**	**04 09 14.6**	**+1.5**
JNK				*e*S	**Sn**	**04 09 45.8**	**-1.1**
JAK	**Akkeshi**	**3.14**	**247**	P	**Pn**	**04 09 17.4**	**+1.2**
JAK				*e*S	**Sn**	**04 09 50.7**	**-1.7**
JTKR	**Abashiri--Toko**	**3.41**	**266**	P	Pn	04 09 23.0	+3.0
JTKR				*e*S	**Sn**	**04 10 00.5**	**+1.4**
JAR	**Ashorobuto**	**3.65**	**256**	P	**Pn**	**04 09 25.5**	**+2.1**
JCH	**Churui**	**4.19**	**248**	P	**Pn**	**04 09 32.3**	**+1.6**
JCH				*e*S	**Sn**	**04 10 16.5**	**-1.8**
JKK2	**Kamakawa 2**	**4.25**	**266**	P	**Pn**	**04 09 34.3**	**+2.7**
JNBK	**Urakawa-nobuka**	**4.74**	**247**	P	**Pn**	**04 09 39.9**	**+1.6**
JNBK				*e*S	**Sn**	**04 10 30.8**	**-1.2**
YSS	**Yuzh-Sakhalins**	**4.89**	**305**	*e*P	**Pn**	**04 09 41.5**	**+1.2**
JKB	**Kayabe**	**6.06**	**249**	P	**Pn**	**04 09 58.4**	**+2.0**
JKB				*e*S	**Sn**	**04 11 02.6**	**-1.9**
JOT	**Ohata**	**6.29**	**245**	P	**Pn**	**04 10 01.0**	**+1.5**
JOT				*e*S	**Sn**	**04 11 07.1**	**-3.0**
EKMR	**Ekimchan**	**13.54**	**316**	*e*rx	rx	04 11 05.8	

GUC 22 04:10:04.0±0.5, 33°65S×72°00W, h32km±3km, ML3.9, 4C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.58**	**122**	⇓*i*P	Pb	04 10 15.7	-0.1
LNV				*i* S	Sb	04 10 23.9	0.0
IHA	**Instituto Hidr**	**0.69**	**26**	⇓*i*P	Pn	04 10 16.9	-0.6
IHA				*i* S	Sb	04 10 26.6	-0.2
TACH	**Talagante**	**0.89**	**91**	⇑*i*P	Pn	04 10 19.9	-0.4
SAN	**Santiago**	**1.14**	**81**	⇓*i*P	Pn	04 10 24.0	+0.3
SAN				*i* S	Sb	04 10 39.4	-0.3
CHCH	**Chadas Angostu**	**1.16**	**105**	⇑*i*P	Pn	04 10 24.2	+0.2
CHCH				*i* S	Sb	04 10 40.1	-0.3
PEL	**Peldehue**	**1.21**	**66**	⇑*i*P	Pb	04 10 25.8	-0.7
PEL				*i* S	Sb	04 10 41.6	-0.2
PEL				AML	AML	04 10 47.7	
	comp=N,4μm,0.7s						
PCH	**Pirque**	**1.24**	**89**	⇓*i*P	Pn	04 10 25.7	+0.4
PCH				*i* S	Sb	04 10 42.6	-0.2
CLCH	**Cerro Calan**	**1.25**	**79**	⇓*i*P	Pn	04 10 25.9	+0.5
CLCH				*i* S	Sb	04 10 42.7	-0.2
NICH	**Los Niches**	**1.50**	**155**	*e*P	Pb	04 10 30.0	-1.2
NICH				*e*S	Sb	04 10 48.9	-0.9
TALC	**Talca**	**1.77**	**170**	⇑*i*P	Pn	04 10 34.0	+1.6
TALC				*i* S	Sb	04 10 56.4	-1.3

*ISCJB **22** 04:11:04.3±0.8, 22.64S±0.08×65.98W±0.09, h251km, mb4.0/1, Error ellipse: s-maj=11.3km s-min=10.3km az=24.3*
*IDC **22** 04:11:05.1±1.2, 22.57S×66.10W, h252km±19km, mb3.8/1, mb1 3.4/6, mb1mx3.1/31, mbtmp4.0/6, Error ellipse: s-maj=28.0km s-min=16.9km az=111.0*
ISC 22 04:11:05.1±1.0, 22°59S±0°09×66°1W±0°1, h251km, n7, σ1 §09/9, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.65**	**269**	P	**Pn**	**04 11 55.4**	**+1.2**
	738nm,0.3s,baz=96,slow=6.6,SNR=148						
LVC				S	**S**	**04 12 32.4**	**-0.6**
	456nm,0.3s,baz=319,slow=23,SNR=20						
LPAZ	**La Paz**	**6.57**	**342**	P	**Pn**	**04 12 41.4**	**+0.3**
	0.9nm,0.3s,baz=144,slow=6.5,SNR=32						
LPAZ				S	**S**	**04 13 56.4**	**-1.4**
	0.2nm,0.3s,baz=10.0,slow=16,SNR=7.6						
SIV	**San Ignacio**	**8.07**	**36**	P	**Pn**	**04 12 59.3**	**-0.2**
	1.5nm,0.3s,baz=237,slow=11,SNR=17						
CFAA	**Coronel Fontan**	**9.19**	**192**	P	**Pn**	**04 13 12.8**	**-0.7**
	0.1nm,0.3s,baz=331,slow=13,SNR=1.8						
CFAA				S	S	04 14 49.3	-8.0
	0.3nm,0.3s,baz=285,slow=20,SNR=9.9						
BDFB	**Brasilia**	**18.38**	**71**	P	**P**	**04 15 03.4**	**+1.3**
	0.4nm,0.3s,baz=228,slow=14,SNR=5.3						
TORD	**Torodi Ar. Bea**	**75.25**	**69**	P	**P**	**04 22 20.4**	**-0.5**
	1.4nm,0.4s,baz=255,slow=5.9,SNR=83						
MKAR	**Makanchi Array**	**144.88**	**39**	PKP	**PKPdf**	**04 30 12.9**	**+0.7**
	1.3nm,0.6s,baz=328,slow=4.3,SNR=10						

*IDC **22** 04:44:06.1±0.8, 9.84S×160.05E, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.3/31, mbtmp4.2/14, ML3.8/1, MS3.9/12, Ms1 3.9/12, ms1mx3.8/17, Error ellipse: s-maj=27.3km s-min=17.3km az=119.0*
*NEIC **22** 04:44:08.2±2.2, 9.82S×160.05E, h14km±11km, mb4.7/5, Error ellipse: s-maj=21.6km s-min=9.2km az=124.0*
*ISCJB **22** 04:44:09.5±0.5, 9.82S±0.07×159.9E±0.1, h32km, mb4.3/19, MS3.9/11, Error ellipse: s-maj=17.1km s-min=8.0km az=22.0*
ISC 22 04:44:11.3±0.8, 9°78S±0°08×160°0E±0°2, h32km, n32, σ1 §09/27, mb4.3/19, MS3.9/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.34**	**355**	*i* P	Pb	04 44 12.0	-7.5
HNR				*i* S	**Sn**	**04 44 26.0**	**+0.1**
HNR	**Honiara**	**0.34**	**355**	*e*Pg	Pb	04 44 16.2	-3.3
HNR				*e*S	**Sb**	**04 44 23.1**	**-2.0**
CTA	**Charters Tower**	**16.75**	**231**	Pn	**Pn**	**04 48 03.8**	**+0.2**
	0.2nm,0.3s,baz=42,slow=18,SNR=2.4						
CTA				LR	LR	04 53 53.3	
	comp=Z,654nm,20.2s,baz=76,slow=35						
WRAB	**Tennant Creek**	**26.71**	**245**	*e*P	**P**	**04 49 47.2**	**-0.7**
	21nm,1.2s						
WRA	**Warramunga Arr**	**26.72**	**245**	P	**P**	**04 49 48.0**	**-0.1**
	9.4nm,0.9s,baz=72,slow=10.0,SNR=24						
WRA				LR	LR	05 00 43.0	
	comp=Z,329nm,18.9s,baz=45,slow=37						
STKA	**Stephens Creek**	**27.82**	**215**	P	**P**	**04 49 56.7**	**-1.0**
	3.8nm,0.7s,baz=42,slow=12,SNR=6.4						
STKA				LR	LR	05 00 37.9	
	comp=Z,438nm,18.2s,baz=34,slow=36						
STKA	**Stephens Creek**	**27.82**	**215**	*e*P	**P**	**04 49 56.8**	**-1.0**
	0.6nm,0.7s						
RAO	**Raoul Island**	**28.35**	**136**	LR	LR	04 59 10.8	
	comp=Z,119nm,22.0s,baz=112,slow=32						
ASAR	**Alice Springs**	**28.46**	**238**	P	**P**	**04 50 02.4**	**-1.3**
	4.2nm,1.0s,baz=70,slow=9.6,SNR=22						
ASAR				LR	LR	05 00 34.5	
	comp=Z,406nm,20.4s,baz=72,slow=35						
SIJI	**Sorong**	**29.89**	**285**	LR	LR	05 03 44.6	
	comp=Z,317nm,21.4s,baz=73,slow=39						
PPT	**Papeete**	**49.51**	**105**	LR	LR	05 10 26.9	
	comp=Z,84nm,18.9s,baz=298,slow=32						
MJAR	**Matsushiro Arr**	**50.42**	**337**	P	**P**	**04 53 05.9**	**+0.1**
	1.0nm,0.5s,baz=174,slow=8.6,SNR=3.7						
KSRS	**Korea Array**	**55.76**	**329**	P	**P**	**04 53 45.9**	**+0.8**
	1.2nm,0.7s,baz=118,slow=8.5,SNR=3.1						
KSAR	**Wonju Array Be**	**55.77**	**329**	P	**P**	**04 53 45.9**	**+0.7**
CN2	**Changchun**	**61.86**	**332**	*e*P	**P**	**04 54 28.8**	**+1.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**66.42**	**295**	P	**P**	**04 54 58.8**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=120,slow=5.3,SNR=3.0						
HHC	**Hu-ho-hao-te**	**67.27**	**322**	*e*P	**P**	**04 55 03.3**	**+0.3**
VNDA	**Vanda**	**67.73**	**180**	P	**P**	**04 55 05.2**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=333,slow=5.7,SNR=6.9						
VNDA				LR	LR	05 19 16.2	
	comp=Z,127nm,21.4s,baz=305,slow=31						
SONM	**Songino Array**	**74.36**	**326**	P	**P**	**04 55 47.4**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=150,slow=3.2,SNR=3.0						
YAK	**Yakutsk**	**75.38**	**346**	LR	LR	05 26 11.7	
	comp=Z,41nm,21.8s,baz=279,slow=34						
BILL	**Bilibino**	**77.75**	**2**	*e*P	**P**	**04 56 05.2**	**+0.5**
	comp=Z,5.0nm,1.3s						
IM04	**Indian Mountai**	**82.81**	**17**	*e*P	**P**	**04 56 32.5**	**+0.5**
MCK	**McKinley**	**82.85**	**20**	*e*P	**P**	**04 56 31.6**	**-0.7**
	comp=Z,5.2nm,0.8s						
MAW	**Mawson**	**83.74**	**202**	LR	LR	05 32 13.4	
	comp=Z,112nm,18.0s,baz=66,slow=34						
COLA	**College**	**83.94**	**20**	P	**P**	**04 56 34.8**	**-3.0**
	comp=Z,2.8nm,0.8s						
ILAR	**Eielson Array**	**84.20**	**20**	P	**P**	**04 56 37.9**	**-1.3**
	comp=Z,1.7nm,0.5s,baz=249,slow=5.3,SNR=18						
ILAR				LR	LR	05 30 13.1	
	comp=Z,32nm,21.0s,baz=270,slow=33						
HYT	**Haines Junctio**	**85.65**	**26**	*e*P	**P**	**04 56 47.0**	**+0.3**
EGAK	**Eagle**	**86.22**	**22**	*e*P	**P**	**04 56 49.8**	**+0.5**
	comp=Z,7.3nm,1.2s						
MKAR	**Makanchi Array**	**88.75**	**318**	P	**P**	**04 57 01.8**	**0.0**
	comp=Z,0.7nm,0.6s,baz=108,slow=4.7,SNR=3.7						
NVAR	**Mina Array Bea**	**89.60**	**51**	P	**P**	**04 57 07.4**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=240,slow=6.8,SNR=5.9						
YKA	**Yellowknife Ar**	**96.48**	**28**	P	**P**	**04 57 35.9**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=266,slow=3.9,SNR=5.7						
PDAR	**Pinedale Array**	**96.89**	**48**	P	**P**	**04 57 40.1**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=212,slow=3.2,SNR=2.6						
PDAR				LR	LR	05 35 51.2	
	comp=Z,24nm,20.4s,baz=258,slow=32						

IDC 22 04:48:26.6±3.8, 4.45S×149.83E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/24, mbtmp3.7/2, MS3.8/1, Ms1 3.8/1, ms1mx3.1/11, Error ellipse: s-maj=140.7km s-min=48.1km az=112.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.56**	**223**	P	P	04 53 18.8	+0.9
	0.9nm,0.3s,baz=48,slow=10,SNR=16						
ASAR	**Alice Springs**	**24.52**	**217**	P	P	04 53 47.2	-0.8
	0.8nm,0.4s,baz=53,slow=7.9,SNR=8.9						
ASAJ	**Asahikawa**	**48.78**	**353**	LR	LR	05 16 08.3	
	comp=Z,105nm,18.7s,slow=34						
TORD	**Torodi Ar. Bea**	**147.38**	**287**	PKPbc	PKPbc	05 08 12.8	-0.7
	0.5nm,1.0s,baz=98,slow=3.9,SNR=3.3						

WEL 22 04:52:55.4±0.4, 38.12S×176.05E, h182km±4km, ML3.6/9, 13C-1D, Error ellipse: s-maj=2.5km s-min=2.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRRZ	**Plateau Road**	**0.47**	**144**	PN	Pn	04 53 20.4	+0.2
ALRZ	**Allen Road**	**0.50**	**152**	PN	Pn	04 53 20.6	+0.2
TOZ	**Tahuroa Road**	**0.58**	**312**	PN	Pn	04 53 21.2	+0.5
URZ	**Urewera**	**0.85**	**100**	⇑PN	Pn	04 53 21.7	-0.5
URZ				SN	Sn	04 53 41.4	-1.5
URZ				AML	AML	04 53 41.8	
BKZ	**Black Stump Fm**	**1.10**	**162**	⇑PN	Pn	04 53 23.9	-0.2
BKZ				SN	Sn	04 53 45.0	-1.4
BKZ				AML	AML	04 53 45.7	
RAGZ	**Rawiri**	**1.14**	**110**	PN	Pn	04 53 24.4	0.0
RAGZ				SN	Sn	04 53 46.2	-0.7
RAHZ	**Arahi**	**1.14**	**135**	PN	Pn	04 53 24.6	+0.3
RAHZ				SN	Sn	04 53 46.7	-0.2
NMHZ	**Naumai**	**1.15**	**149**	⇑PN	Pn	04 53 25.1	+0.7
NMHZ				SN	Sn	04 53 47.2	+0.1
MWZ	**Matawai**	**1.19**	**101**	⇓PN	Pn	04 53 24.7	-0.1
MWZ				AML	AML	04 53 46.9	
MWZ				AML	AML	04 53 48.5	
TUVZ	**Tukino**	**1.19**	**195**	⇑PN	Pn	04 53 24.8	0.0
FWVZ	**Far West T-bar**	**1.20**	**199**	PN	Pn	04 53 25.0	-0.1
SNGZ	**Shannon Statio**	**1.21**	**123**	⇑PN	Pn	04 53 25.1	+0.2
TRVZ	**Turoa**	**1.24**	**198**	PN	Pn	04 53 25.2	-0.2
WNVZ	**Wahianoa**	**1.26**	**196**	⇑PN	Pn	04 53 25.3	-0.2
PKVZ	**Pokaka**	**1.29**	**205**	⇑PN	Pn	04 53 25.5	-0.1
MOVZ	**Moawhango**	**1.31**	**190**	PN	Pn	04 53 25.2	-0.6
ARHZ	**Aropaoanui**	**1.36**	**147**	⇑PN	Pn	04 53 26.5	+0.3
ARHZ				SN	Sn	04 53 49.6	-0.5
BHHZ	**Black Hill Sta**	**1.37**	**179**	PN	Pn	04 53 25.7	-0.6
MCHZ	**McNeill Hill**	**1.42**	**159**	⇑PN	Pn	04 53 27.1	+0.4
HAZ	**Te Kaha**	**1.42**	**76**	PN	Pn	04 53 25.7	-1.0
RIGZ	**Rimuhau**	**1.47**	**114**	PN	Pn	04 53 27.3	0.0
KRHZ	**Kereru**	**1.54**	**171**	PN	Pn	04 53 27.6	-0.3
KNZ	**Kokohu**	**1.56**	**126**	PN	Pn	04 53 27.9	-0.1
PRGZ	**Paritu Road**	**1.65**	**120**	PN	Pn	04 53 28.6	-0.4
CKHZ	**Cape Kidnapper**	**1.74**	**153**	⇑PN	Pn	04 53 29.9	+0.1
PUZ	**Puketiti**	**1.75**	**89**	PN	Pn	04 53 29.4	-0.6
KAHZ	**Kahuranaki**	**1.79**	**159**	PN	Pn	04 53 30.4	0.0
PNHZ	**Pukenui**	**1.80**	**176**	PN	Pn	04 53 29.7	-0.8
MXZ	**Matakaoa Point**	**1.87**	**73**	PN	Pn	04 53 31.1	-0.1
WMGZ	**Waiomatatini S**	**1.90**	**82**	⇑PN	Pn	04 53 31.0	-0.4
TSZ	**Takapari Road**	**1.94**	**182**	⇑PN	Pn	04 53 31.1	-0.9
WPHZ	**Waipukurau**	**1.97**	**171**	PN	Pn	04 53 31.6	-0.6
PXZ	**Pawanui**	**2.01**	**162**	PN	Pn	04 53 32.1	-0.6
DVHZ	**Dannevirke**	**2.18**	**178**	⇑PN	Pn	04 53 33.3	-1.3
PRHZ	**Porangahau**	**2.19**	**168**	PN	Pn	04 53 33.8	-0.9
POWZ	**Post Office Ro**	**2.28**	**185**	PN	Pn	04 53 34.2	-1.4
ANWZ	**Angora Road**	**2.36**	**172**	PN	Pn	04 53 35.5	-1.0
BFZ	**Birch Farm**	**2.56**	**177**	PN	Pn	04 53 37.2	-1.7
MRZ	**Mangatainoka R**	**2.56**	**188**	PN	Pn	04 53 37.0	-1.8
MRZ				AML	AML	04 54 11.3	
MRZ				AML	AML	04 54 11.8	
TIWZ	**Tintock**	**2.66**	**183**	PN	Pn	04 53 38.2	-1.8
TIWZ				AML	AML	04 54 14.1	
OGWZ	**Otaki Gorge**	**2.78**	**194**	PN	Pn	04 53 39.6	-1.8
HOWZ	**Holdsworth Sta**	**2.81**	**188**	PN	Pn	04 53 39.5	-2.3
KIW	**Kapiti Island**	**2.88**	**197**	PN	Pn	04 53 40.2	-2.3
KIW				AML	AML	04 54 16.5	
TMWZ	**Te Maipa**	**2.99**	**182**	PN	Pn	04 53 41.7	-2.2
MTW	**Mount Morrison**	**3.06**	**188**	PN	Pn	04 53 42.1	-2.7
CAW	**Cannon Point**	**3.08**	**194**	PN	Pn	04 53 42.6	-2.4
CAW				AML	AML	04 54 21.8	
TRWZ	**Traveller**	**3.29**	**185**	PN	Pn	04 53 45.2	-2.4
MSWZ	**Moikau Station**	**3.35**	**190**	PN	Pn	04 53 45.4	-3.0
MSWZ				AML	AML	04 54 25.3	
MSWZ				AML	AML	04 54 27.0	
TCW	**Tory Channel**	**3.38**	**203**	AML	AML	04 54 27.5	
PLWZ	**Palliser**	**3.50**	**190**	PN	Pn	04 53 47.1	-3.1
THZ	**Tophouse**	**4.37**	**213**	PN	Pn	04 53 58.4	-2.9
KHZ	**Kahutara**	**4.70**	**203**	PN	Pn	04 54 02.2	-3.3
LTZ	**Lake Taylor**	**5.48**	**211**	PN	Pn	04 54 11.7	-3.8

*NIED **22** 05:12:00, 44.50N×148.70E, h14km, Mw3.7 Best double couple: M0 3.64000×10^14 NP1:φs 250.00000°, δ27.00000°, λ143.00000°. NP2:φs 14.00000°, δ74.00000°, λ68.00000°.*
*IDC **22** 05:12:19.8±2.3, 44.67N×148.60E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.7/28, mbtmp3.7/11, MS3.5/2, Ms1 3.5/2, ms1mx2.8/34, Error ellipse: s-maj=62.5km s-min=22.9km az=175.0*
*ISCJB **22** 05:12:21.7±0.6, 44.26N±0.05×148.80E±0.06, h35km, mb3.6/10, MS3.6/2, Error ellipse: s-maj=8.6km s-min=4.6km az=149.0*
*JMA **22** 05:12:22.9±0.7, 44.48N×148.69E, h30km, M3.8*
*SKHL **22** 05:12:23.4±0.2, 44.28N×148.92E, h54km±4km, mb4.8/4*
*MOS **22** 05:12:25.6±1.3, 44.77N×148.61E, h56km, mb4.1/5, Error ellipse: s-maj=24.7km s-min=16.2km az=72.8*
ISC 22 05:12:22.8±0.8, 44°21N±0°06×148°88E±0°07, h35km, n47, σ1 §66/44, mb3.6/10, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.25**	**325**	⇓*i*PN	**Pn**	**05 12 42.4**	**-1.4**
KUR				pmax	pmax		
	comp=E,88nm,0.1s						
KUR				pmax	pmax		
	comp=Z,247nm,0.3s						
KUR				pmax	pmax		
	comp=N,121nm,0.1s						
KUR				pmax	pmax		
	comp=Z,89μm,0.1s						
KUR				pmax	pmax		
	comp=N,608nm,0.4s						
KUR	**Kuril'sk**	**1.25**	**325**	*i* P	**Pn**	**05 12 42.4**	**-1.4**
KUR				AMB	AMB	05 12 43.0	
	comp=N,900nm,0.3s						
KUR				*i* S	**Sn**	**05 12 57.8**	**-1.6**
KUR				A	A	05 13 01.9	
	comp=N,2μm,0.3s						
KUR				A	A	05 13 01.9	
	comp=N,770nm,0.3s						
SHO	**Shikotan**	**1.52**	**258**	*e*P	**Pn**	**05 12 47.6**	**+0.1**
SHO				AMB	AMB	05 12 49.8	
	comp=N,98nm,0.3s						
SHO				*e*S	**Sn**	**05 13 05.6**	**-0.4**
SHO				A	A	05 13 15.5	
	comp=N,782nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.18**	**266**	*d* iPN	**Pn**	**05 12 58.6**	**+2.0**
YUK				*i* S	**Sn**	**05 13 25.1**	**+2.7**
YUK				pmax	pmax		
	comp=N,53nm,0.2s						
YUK				pmax	pmax		
	comp=E,47nm,0.2s						
YUK				pmax	pmax		
	comp=Z,84nm,0.2s						
YUK				smax	smax		
	comp=N,281nm,0.5s						
YUK				smax	smax		
	comp=E,274nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.18**	**266**	*i* P	**Pn**	**05 12 58.6**	**+2.0**
YUK				AMB	AMB	05 13 01.5	
	comp=E,54nm,0.2s						
YUK				AMB	AMB	05 13 01.5	
	comp=E,47nm,0.2s						
YUK				AMB	AMB	05 13 01.5	
	comp=E,85nm,0.2s						
YUK				*i* S	**Sn**	**05 13 25.1**	**+2.7**
YUK				A	A	05 13 28.2	
	comp=E,280nm,0.3s						
YUK				A	A	05 13 28.2	
	comp=E,270nm,0.3s						
NEM2	**Nemuro 2**	**2.42**	**251**	P	**Pn**	**05 12 58.9**	**-1.0**
NEM2				*e*S	**Sn**	**05 13 26.0**	**-2.4**
JRA	**Rausu**	**2.72**	**266**	P	**Pn**	**05 13 04.4**	**+0.4**
JRA				*e*S	**Sn**	**05 13 35.0**	**-0.7**
JNK	**Nakash**	**3.07**	**260**	P	**Pn**	**05 13 08.8**	**-0.1**
JAK	**Akkeshi**	**3.27**	**250**	*e*S	**Sn**	**05 13 47.4**	**-1.9**
JTKR	**Abashiri--Toko**	**3.59**	**268**	P	**Pn**	**05 13 17.7**

NB2	**NORSAR Subarra**	**69.61**	**340**	P		**P**	**05 23 27.2**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**69.61**	**340**	P		**P**	**05 23 27.1**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=28,slow=6.6,SNR=6.5							
NOA	**NORSAR Array B**	**69.61**	**340**	P		**P**	**05 23 27.2**	**-0.9**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**71.94**	**324**	LR		LR	05 56 05.0	
	comp=Z,41nm,21.3s,baz=35,slow=37							
BRTR	**Keskin Array B**	**78.12**	**315**	P		**P**	**05 24 19.8**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=15,slow=6.0,SNR=2.9							
BRTR	**Keskin Array B**	**78.12**	**315**	P		**P**	**05 24 19.8**	**+1.5**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
GERES	**GERESS Array B**	**79.35**	**332**	P		**P**	**05 24 24.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=46,slow=8.4,SNR=4.6							
TXAR	**Lajitas Array**	**81.35**	**57**	P		**P**	**05 24 37.2**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=291,slow=3.9,SNR=5.1							

*ISCJB **22** 05:18:56.4±1.1,59°.7S±0°.2×25°.8W±0°.6,h10km,mb4.0/3, Error ellipse: s-maj=50.7km s-min=15.9km az=151.7*
*IDC **22** 05:18:56.6±1.1,59°.61S×25°.68W,h0km,mb4.0/3, mb1 4.0/3,mb1mx3.8/13,mbtmp4.0/3,Error ellipse: s-maj=52.2km s-min=29.0km az=47.0*
*AWI **22** 05:19:18.9,61°.44S×26°.31W*

ISC 22 05:18:58.1±1.0,59°.6S±0°.2×25°.7W±0°.3,h10km,n9,σ1s11/8, mb4.2/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
VNA1	**Neumayer--Stat**	**13.21**	**154**	P			**Pn**	**05 22 06.0**	**+0.5**
SNAA	**Sanae**	**15.19**	**152**	P			**Pn**	**05 22 31.3**	**-1.0**
SNAA	**Sanae**	**15.19**	**152**	S			Sn	05 25 05.7	-15
MAW	**Mawson**	**36.84**	**140**	P			**P**	**05 26 06.2**	**+0.3**
	4.1nm,1.0s,baz=263,slow=9.0,SNR=6.4								
LPAZ	**La Paz**	**53.11**	**306**	P			**P**	**05 28 16.2**	**-0.2**
	0.3nm,0.5s,baz=207,slow=6.8,SNR=4.0								
TORD	**Torodi Ar. Bea**	**75.80**	**28**	P			**P**	**05 30 44.5**	**+0.5**
	1.8nm,0.7s,baz=200,slow=6.4,SNR=16								
YKA	**Yellowknife Ar**	**139.31**	**315**	PKP			**PKPdf**	**05 38 24.2**	**+0.4**
	0.9nm,0.7s,baz=252,slow=2.4,SNR=7.7								
SONM	**Songino Array**	**149.98**	**91**	PKPbc			**PKPbc**	**05 38 45.8**	**-2.0**
	0.4nm,0.3s,baz=252,slow=2.3,SNR=4.2								
ILAR	**Eielson Array**	**152.99**	**306**	PKPbc			**PKPbc**	**05 38 54.5**	**+0.5**
	0.8nm,0.9s,baz=151,slow=2.5,SNR=8.4								

*DDA **22** 06:07:52.5,36°.19N×27°.44E,h25km,MD3.4*
*ISCJB **22** 06:07:53.9±0.5,36°.22N±0°.02×27°.46E±0°.02,h8km±4km, Error ellipse: s-maj=3.5km s-min=3.4km az=23.8*
*ATH **22** 06:07:53.9,36°.27N×27°.54E,h32km±1km,MD3.1/8*
*CSEM **22** 06:07:54.5±0.2,36°.24N×27°.46E,h10km,ML3.1,Error ellipse: s-maj=3.7km s-min=3.3km az=167.0*
*THE **22** 06:07:54.5,36°.25N×27°.51E,h6km±1km,ML3.7/3,Error ellipse: s-maj=1.2km s-min=0.5km az=105.0*
*ISK **22** 06:07:54.8,36°.30N×27°.53E,h8km,ML3.1*

ISC 22 06:07:54.2±1.1,36°.23N±0°.02×27°.51E±0°.02,h12km±9km, n83,σ0s83/114,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
NIS3	**Nisyros Isl.**	**0.45**	**321**	P			**Pg**	**06 08 03.2**	**+0.2**
NIS3	**Nisyros Isl.**	**0.45**	**321**	P			**Pg**	**06 08 03.2**	**+0.2**
NIS1	**Nisyros Isl.**	**0.46**	**325**	*e*PG			**Pg**	**06 08 03.4**	**+0.1**
NIS1	**Nisyros Isl.**	**0.46**	**325**	P			**Pg**	**06 08 03.4**	**+0.1**
NIS1				S			**Sb**	**06 08 10.6**	**-0.4**
NIS1	**Nisyros Isl.**	**0.46**	**325**	*e*PB			**Pg**	**06 08 03.5**	**+0.3**
NIS1				*e*SB			**Sb**	**06 08 11.4**	**+0.4**
NIS1	**Nisyros Isl.**	**0.46**	**325**	P			**Pg**	**06 08 03.4**	**+0.1**
NIS1				S			**Sb**	**06 08 10.6**	**-0.4**
NIS1				*e*Sb			**Sb**	**06 08 11.4**	**+0.4**
NISR	**Nisiros**	**0.49**	**321**	P			**Pg**	**06 08 04.0**	**+0.2**
NISR	**Nisiros**	**0.49**	**321**	P			**Pg**	**06 08 04.0**	**+0.2**
ARG	**Arkhangelos**	**0.50**	**91**	P			**Pb**	**06 08 04.6**	**-0.3**
ARG				S			**Sb**	**06 08 11.9**	**-0.2**
ARG	**Arkhangelos**	**0.50**	**91**	*e*PB			**Pb**	**06 08 04.7**	**-0.2**
ARG				*e*SB			**Sb**	**06 08 12.3**	**+0.2**
ARG	**Arkhangelos**	**0.50**	**91**	P			**Pb**	**06 08 04.6**	**-0.3**
ARG				S			**Sb**	**06 08 11.9**	**-0.2**
ARG				*e*Sb			**Sb**	**06 08 12.3**	**+0.2**
KARP	**Karpathos**	**0.74**	**203**	P			**Pb**	**06 08 09.0**	**+0.1**
KARP				S			**Sb**	**06 08 20.0**	**+1.1**
KARP	**Karpathos**	**0.74**	**203**	*e*PN			**Pb**	**06 08 08.9**	**+0.1**
KARP				*e*SN			**Sn**	**06 08 21.1**	**-0.4**
KARP	**Karpathos**	**0.74**	**203**	P			**Pg**	**06 08 09.0**	**+0.1**
KARP				S			**Sb**	**06 08 20.0**	**+1.1**
BDRM	**Kayabasi**	**0.84**	**356**	*i* P			**Pg**	**06 08 10.0**	**-0.4**
BDRM				*i* S			**Sb**	**06 08 22.4**	**+0.5**
BDRM	**Kayabasi**	**0.84**	**356**	*i* P			**Pg**	**06 08 10.0**	**-0.4**
BDRM				*i* S			**Sb**	**06 08 22.4**	**+0.5**
BODT	**Bodrum**	**0.85**	**349**	*e*Pg			**Pg**	**06 08 10.3**	**-0.3**
BODT				*e*Sg			**Sg**	**06 08 21.5**	**-0.2**
BODT	**Bodrum**	**0.85**	**349**	*e*Pg			**Pg**	**06 08 10.3**	**-0.3**
BODT				*e*Sg			**Sg**	**06 08 21.5**	**-0.2**
TURN	**Turunc**	**1.09**	**54**	*i* P			Pg	06 08 10.0	-5.2
TURN				*i* S			Sg	06 08 21.6	-7.8
DALY	**Dalyan (Mu¨la**	**1.09**	**57**	*e*PG			**Pg**	**06 08 15.0**	**-0.3**
DALY	**Dalyan (Mu¨la**	**1.09**	**57**	*e*Pg			**Pg**	**06 08 15.0**	**-0.3**
YER	**Yerkesik**	**1.10**	**34**	*e*PG			**Pg**	**06 08 15.1**	**-0.2**
YER	**Yerkesik**	**1.10**	**34**	*e*Pg			**Pg**	**06 08 15.1**	**-0.2**
AYDN	**Tasoluk**	**1.46**	**12**	*i* P			**Pg**	**06 08 20.3**	**-0.1**
AYDN				*i* S			**Sg**	**06 08 42.0**	**+0.7**
AYDN	**Tasoluk**	**1.46**	**12**	*i* P			**Pg**	**06 08 20.3**	**-0.1**
AYDN				*i* S			**Sg**	**06 08 42.0**	**+0.7**
GCAM	**G?zelcaml?**	**1.48**	**352**	*i* P			**Pn**	**06 08 19.8**	**-0.8**
GCAM	**G?zelcaml?**	**1.48**	**352**	*i* P			**Pn**	**06 08 19.8**	**-0.8**
ZKR	**Zakros**	**1.53**	**224**	P			**Pn**	**06 08 21.7**	**+0.4**
ZKR	**Zakros**	**1.53**	**224**	P			**Pn**	**06 08 21.7**	**+0.4**
SMG	**Samos**	**1.57**	**340**	P			**Pn**	**06 08 21.1**	**-0.8**
SMG				S			**Sn**	**06 08 41.9**	**-0.2**
SMG	**Samos**	**1.57**	**340**	*e*PN			**Pn**	**06 08 20.9**	**-1.0**
SMG	**Samos**	**1.57**	**340**	P			**Pn**	**06 08 21.1**	**-0.8**
SMG				S			**Sn**	**06 08 41.9**	**-0.2**
KSL	**Kastellorizon**	**1.68**	**92**	*e*PN			**Pn**	**06 08 22.9**	**-0.4**
KSL	**Kastellorizon**	**1.68**	**92**	*e*Pn			**Pn**	**06 08 22.9**	**-0.4**
THR2	**Thira island,**	**1.69**	**278**	P			**Pn**	**06 08 22.4**	**-1.0**
THR2	**Thira island,**	**1.69**	**278**	P			**Pn**	**06 08 22.4**	**-1.0**
AKAS	**Kas**	**1.69**	**89**	*i* P			**Pn**	**06 08 24.8**	**+1.1**
AKAS				*i* S			**Sg**	**06 08 48.1**	**-0.6**
AKAS	**Kas**	**1.69**	**89**	*i* P			**Pn**	**06 08 24.8**	**+1.1**
AKAS				*i* S			**Sg**	**06 08 48.1**	**-0.6**
THR6	**Thira Island,**	**1.71**	**275**	P			**Pn**	**06 08 23.3**	**-0.4**
THR6	**Thira Island,**	**1.71**	**275**	P			**Pn**	**06 08 23.3**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.74**	**10**	*e*PN			**Pn**	**06 08 24.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.74**	**10**	*e*Pn			**Pn**	**06 08 24.5**	**+0.2**
APE	**Apeiranthos**	**1.80**	**298**	*e*PN			**Pb**	**06 08 26.5**	**-0.6**
APE	**Apeiranthos**	**1.80**	**298**	P			**Pn**	**06 08 24.5**	**-0.4**
APE				S			**Sn**	**06 08 48.1**	**+0.3**
APE	**Apeiranthos**	**1.80**	**298**	*e*PN			**Pn**	**06 08 24.6**	**-0.4**
APE	**Apeiranthos**	**1.80**	**298**	*e*Pn			**Pn**	**06 08 24.6**	**-0.4**
APE				S			**Sn**	**06 08 48.1**	**+0.3**
NPS	**Neapolis**	**1.82**	**239**	P			**Pn**	**06 08 25.3**	**0.0**
NPS	**Neapolis**	**1.82**	**239**	*e*PN			**Pn**	**06 08 25.2**	**0.0**
NPS				*e*SN			**Sn**	**06 08 47.9**	**-0.3**
NPS	**Neapolis**	**1.82**	**239**	*e*Pn			**Pn**	**06 08 25.2**	**0.0**
NPS				*e*Sn			**Sn**	**06 08 47.9**	**-0.3**
GOLH	**Golhisar**	**1.93**	**58**	*i* P			**Pg**	**06 08 30.6**	**-0.6**
GOLH				*i* S			**Sg**	**06 08 55.7**	**-0.6**
GOLH	**Golhisar**	**1.93**	**58**	*i* P			**Pg**	**06 08 30.6**	**-0.6**
GOLH				*i* S			**Sg**	**06 08 55.7**	**-0.6**
LAST	**Lasithi**	**1.96**	**238**	P			**Pn**	**06 08 27.4**	**+0.1**
LAST	**Lasithi**	**1.96**	**238**	P			**Pn**	**06 08 27.4**	**+0.1**
ELL	**Elmali**	**2.00**	**74**	*e*PN			**Pn**	**06 08 29.4**	**+1.5**
ELL	**Elmali**	**2.00**	**74**	*e*Pn			**Pn**	**06 08 29.4**	**+1.5**
IZM	**Izmir**	**2.17**	**355**	*e*PN			**Pn**	**06 08 31.1**	**+0.9**
IZM	**Izmir**	**2.17**	**355**	*e*Pn			**Pn**	**06 08 31.1**	**+0.9**
BLCB	**Balcova**	**2.19**	**350**	*e*PN			**Pn**	**06 08 31.3**	**+1.0**
BLCB	**Balcova**	**2.19**	**350**	*e*Pn			**Pn**	**06 08 31.3**	**+1.0**
CHOS	**Chios island**	**2.45**	**332**	*e*PN			**Pn**	**06 08 34.3**	**+0.3**
CHOS	**Chios island**	**2.45**	**332**	P			**Pn**	**06 08 33.3**	**-0.7**
CHOS				S			**Sn**	**06 09 03.5**	**-0.3**
CHOS	**Chios island**	**2.45**	**332**	P			**Pn**	**06 08 33.3**	**-0.7**
CHOS	**Chios island**	**2.45**	**332**	*e*Pn			**Pn**	**06 08 34.3**	**+0.3**
CHOS				S			**Sn**	**06 09 03.5**	**-0.3**
KULA	**Kula-Manisa**	**2.46**	**22**	*e*PN			**Pn**	**06 08 35.3**	**+1.1**
KULA	**Kula-Manisa**	**2.46**	**22**	*e*Pn			**Pn**	**06 08 35.3**	**+1.1**
ANTB	**Antalya**	**2.62**	**74**	*e*PN			**Pn**	**06 08 38.2**	**+2.0**
ANTB	**Antalya**	**2.62**	**74**	*e*Pn			**Pn**	**06 08 38.2**	**+2.0**
KHL	**Karahalli**	**2.64**	**37**	*e*PN			**Pn**	**06 08 38.2**	**+1.6**
KHL	**Karahalli**	**2.64**	**37**	*e*Pn			**Pn**	**06 08 38.2**	**+1.6**
AKS	**Akhisar**	**2.66**	**5**	*e*PN			**Pn**	**06 08 38.2**	**+1.4**
AKS	**Akhisar**	**2.66**	**5**	*e*Pn			**Pn**	**06 08 38.2**	**+1.4**
BCK	**Bucak**	**2.76**	**63**	*e*PN			**Pn**	**06 08 40.0**	**+1.7**
BCK	**Bucak**	**2.76**	**63**	*e*Pn			**Pn**	**06 08 40.0**	**+1.7**
VAM	**Vamos**	**2.81**	**254**	*e*PN			**Pn**	**06 08 39.2**	**+0.3**
VAM	**Vamos**	**2.81**	**254**	*e*Pn			**Pn**	**06 08 39.2**	**+0.3**
SUTC	**Sutluce-Ispart**	**3.06**	**65**	*e*PN			**Pn**	**06 08 44.4**	**+1.9**
SUTC	**Sutluce-Ispart**	**3.06**	**65**	*e*Pn			**Pn**	**06 08 44.4**	**+1.9**
SHUT	**Suhut-Afyon**	**3.35**	**45**	*e*PN			**Pn**	**06 08 48.4**	**+1.9**
SHUT	**Suhut-Afyon**	**3.35**	**45**	*e*Pn			**Pn**	**06 08 48.4**	**+1.9**
KYTH	**Kithira**	**3.62**	**272**	*e*PN			**Pn**	**06 08 51.1**	**+1.1**
KYTH	**Kithira**	**3.62**	**272**	*e*Pn			**Pn**	**06 08 51.1**	**+1.1**
GAZI	**Gazipasa**	**3.89**	**88**	*i* P			**Pn**	**06 08 53.2**	**-0.5**
GAZI				*i* S			**Sn**	**06 09 37.9**	**-1.3**
GAZI	**Gazipasa**	**3.89**	**88**	*i* P			**Pn**	**06 08 53.2**	**-0.5**
GAZI				*i* S			**Sn**	**06 09 37.9**	**-1.3**

GUC 22 06:14:08.3±0.6,33°.55S×71°.76W,h30km±4km,ML3.6, 10C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
LNV	**Longovilo**	**0.50**	**145**	⇑*i*P			**Pb**	06 14 19.0	+0.2
LNV				*i* S			Sn	06 14 26.9	-0.1
IHA	**Instituto Hidr**	**0.53**	**11**	⇑*i*P			Pb	06 14 18.8	-0.4
TACH	**Talagante**	**0.69**	**99**	⇑*i*P			Pb	06 14 22.0	0.0
TACH				*i* S			Sn	06 14 32.2	+0.3
SAN	**Santiago**	**0.92**	**85**	⇑*i*P			Pb	06 14 25.8	0.0
SAN				*i* S			Sb	06 14 38.7	+1.0
STL	**Santa Lucia**	**0.94**	**84**	⇑*i*P			Pn	06 14 25.2	-0.3
STL				*i* S			Sb	06 14 38.6	+0.3
PEL	**Peldehue**	**0.98**	**66**	⇑*i*P			Pb	06 14 27.1	+0.2
PEL				*i* S			Sb	06 14 40.8	+1.3
PEL				AML		AML		06 14 43.8	
	comp=E,5μm,0.4s								
CHCH	**Chadas Angostu**	**1.00**	**113**	⇓*i*P			Pn	06 14 26.7	+0.4
FSR	**Penalolen**	**1.03**	**87**	⇑*i*P			Pb	06 14 29.0	+1.3
FSR				*i* S			Sb	06 14 43.3	+2.3
LACH	**Col Las Americ**	**1.03**	**85**	⇑*i*P			Pb	06 14 27.3	-0.4
LACH				*i* S			Sb	06 14 41.7	+0.8
CLCH	**Cerro Calan**	**1.03**	**82**	⇓*i*P			Pb	06 14 27.8	0.0
CLCH				*i* S			Sb	06 14 42.1	+1.1
CLCH				AML		AML		06 14 51.2	
	comp=E,2μm,0.7s								
PCH	**Pirque**	**1.04**	**95**	⇓*i*P			Pb	06 14 27.8	-0.1
PCH				*i* S			Sb	06 14 42.2	+0.9
SJCH	**San Jose de Ma**	**1.18**	**95**	⇑*i*P			Pn	06 14 29.1	+0.2
SJCH				*i* S			Sb	06 14 45.3	+0.1
NICH	**Los Niches**	**1.52**	**163**	*e*P			Pb	06 14 35.1	-0.7
NICH				*i* S			Sb	06 14 55.4	+0.7
LNCH	**Linares**	**2.30**	**177**	⇑*i*P			Pb	06 14 46.8	-2.3
LNCH				*i* S			Sb	06 15 16.1	-1.1

DJA 22 06:14:21.0±0.3,0°.N±2°.×10°.0E±°,h10km,M3.7/8,MLv3.7/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
MNSI	**Mandailing Nat**	**0.49**	**327**	P			Pg	06 14 30.0	-0.6
MNSI				S			Sg	06 14 37.7	+0.5
BKNI	**Bangkinang**	**1.19**	**93**	P			Pb	06 14 42.9	-0.8
BKNI				S			Sb	06 14 57.4	-1.8
PBSI	**Pulau Batu**	**1.63**	**255**	P			Pn	06 14 48.8	-1.0
PBSI				S			Sb	06 15 11.9	+0.1
SISI	**Saibi**	**1.86**	**204**	P			Pn	06 14 51.2	-1.7
SISI				S			Sn	06 15 16.9	+0.4
SDSI	**Sungai Dareh**	**2.05**	**130**	P			Pb	06 14 57.2	-1.1
GSI	**Gunungsitoli**	**2.45**	**292**	P			Pn	06 15 01.3	+0.2
PPSI	**Pulau Pagai**	**3.13**	**177**	P			Pn	06 15 10.1	-0.3
PPSI				S			Sn	06 15 48.4	+0.6

*NIED **22** 06:19:00,39°.70N×142°.20E,h53km,Mw3.7 Best double couple: M0 3.77000×10^14 NP1:φs16.00000°,δ24.00000°, λ42.00000°. NP2:φs247.00000°,δ74.00000°,λ109.00000°.*
*ISCJB **22** 06:19:53.9±1.3,39°.75N±0°.05×142°.3E±0°.1,h35km, mb3.4/2,Error ellipse: s-maj=12.0km s-min=6.7km az=167.7*
*JMA **22** 06:19:54.8±0.1,39°.74N×142°.25E,h38km±1km,M3.5 Broadband fault plane solution: P waves. NP1: φs89.00000°,δ86.00000°,λ-112.00000°. NP2: φs348.00000°,δ22.00000°,λ-11.00000°. Principal axes: T Plg37.0000°, Azm198.0000°; N Plg22.0000°, Azm91.0000°; P Plg45.0000°, Azm337.0000°;*
JMA Felt I J1.
*IDC **22** 06:20:10.4±24.0,39°.23N×141°.08E,h153km±142km, mb2.9/2,mb1 3.2/3,mb1mx2.9/27,mbtmp3.4/3,ML3.2/1, MS2.6/1,Ms1 2.6/1,ms1mx2.3/5 Error ellipse: s-maj=335.8km s-min=29.3km az=62.0*

ISC 22 06:19:53.6±1.7,39°.73N±0°.06×142°.4E±0°.1,h35km,n13, σ0s46/16,4C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JTH	**Tanohata**	**0.42**	**299**	⇑P			**Pn**	**06 20 03.6**	**+0.4**
JTH				S			**Sn**	**06 20 09.6**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.43**	**249**	⇓P			**Pn**	**06 20 03.5**	**+0.2**
MIYJ				S			**Sn**	**06 20 09.8**	**-0.3**
JKZ	**Kuzumaki**	**0.82**	**288**	⇓P			**Pn**	**06 20 08.9**	**+0.2**
JKZ				S			**Sn**	**06 20 18.8**	**-0.9**
OFUJ	**Ofunato**	**0.84**	**219**	⇑P			**Pn**	**06 20 09.2**	**+0.3**
OFUJ				S			**Sn**	**06 20 19.5**	**-0.5**
JOM	**Ohasama**	**0.85**	**253**	⇑P			**Pn**	**06 20 09.4**	**+0.3**
JOM				S			**Sn**	**06 20 20.1**	**-0.3**
JANG	**Nango**	**0.90**	**315**	P			**Pn**	**06 20 09.9**	**+0.1**
JANG				*e*S			**Sn**	**06 20 21.4**	**-0.3**
JMK	**Ichinoseki**	**1.17**	**229**	⇑P			**Pn**	**06 20 14.0**	**+0.5**
JAH	**Hinai**	**1.39**	**290**	S			**Sn**	**06 20 34.5**	**+0.8**
MAT	**Matsushiro**	**4.56**	**227**	P			Pn	06 21 04.0	+3.9
MJAR	**Matsushiro Arr**	**4.56**	**227**	P			Pn	06 21 04.4	+4.3
	2.2nm,0.3s,baz=33,slow=13,SNR=22								
USRK	**Ussuriysk Ar.**	**8.91**	**303**	LR			LR	06 25 21.3	
	comp=Z,33nm,18.4s,baz=109,slow=37								
MKAR	**Makanchi Array**	**43.36**	**300**	P			**P**	**06 27 52.4**	**+0.1**
	0.2nm,0.5s,baz=81,slow=9.3,SNR=4.1								
WRA	**Warramunga Arr**	**59.83**	**189**	P			**P**	**06 29 55.3**	**-0.2**
	0.3nm,0.5s,baz=6.5,slow=7.0,SNR=5.5								

MEX 22 06:34:05.9±0.7,16°.63N×94°.63W,h108km±11km,MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
CMIG	**Matias Romero**	**0.52**	**332**	*i* P			Pn	06 34 21.6	-1.1
CMIG				*i* S			Sn	06 34 33.4	-1.9
TGIG		**1.45**	**84**	*e*P			Pn	06 34 31.0	-1.1
TGIG				*e*S			Sn	06 34 49.9	-2.2
PCIG		**1.64**	**124**	*e*P			Pn	06 34 33.8	-0.5
PCIG				*e*S			Sn	06 34 54.9	-1.0
HUIG	**Huatulco**	**1.66**	**239**	*e*P			Pn	06 34 32.5	-2.0
HUIG				*i* S			Sn	06 34 55.1	-1.2

*KRNET **22** 06:43:15.6±0.1,41°.01N×74°.65E,h16km,mb3.3*
*NNC **22** 06:43:16.0±0.9,40°.99N×74°.55E,h0km,mb3.6,mpv3.4, Error ellipse: s-maj=15.9km s-min=3.5km az=116.0*

ISC 22 06:43:15.9±1.2,41°.00N±0°.03×74°.68E±0°.03,h17km±10km, n31,σ1s06/50,27C-11D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
NRN	**Naryn**	**1.08**	**66**	⇑*i*P			**Pg**	**06 43 37.3**	**+0.4**
	baz=67								
NRN				⇑*i*S			**Sg**	**06 43 54.1**	**+2.9**
	baz=67								
KZA	**Kyzart**	**1.16**	**21**	P			**Pn**	**06 43 37.4**	**-0.2**
	SNR=89								
KZA	**Kyzart**	**1.16**	**21**	⇑*i*P			**Pn**	**06 43 37.4**	**-0.2**
	baz=23								
KZA				⇑*i*S			**Sn**	**06 43 53.7**	**+0.5**
	baz=23								
UCH	**Uchtor**	**1.23**	**354**	P			**Pg**	**06 43 39.4**	**-0.3**
	SNR=172								
UCH	**Uchtor**	**1.23**	**354**	*e*P			**Pb**	**06 43 39.3**	**+0.4**
	baz=355								
UCH				*i* S			**Sg**	**06 43 56.8**	**+0.9**
	baz=355								
SFK	**Sufi-Kurgan**	**1.33**	**223**	⇓P			**Pn**	**06 43 39.3**	**-0.6**
	11nm,0.2s								
SFK				⇑S			**Sn**	**06 43 57.2**	**-0.2**
	46nm,0.3s								
SFK	**Sufi-Kurgan**	**1.33**	**223**	⇓*i*P			**Pn**	**06 43 39.4**	**-0.5**
	baz=222								
SFK				⇓*i*S			**Sg**	**06 43 58.8**	**-0.3**
	baz=222								
AML	**Almayashu**	**1.35**	**327**	P			**Pg**	**06 43 41.8**	**-0.2**
	SNR=64								
AML	**Almayashu**	**1.35**	**327**	⇑*i*P			**Pg**	**06 43 41.6**	**-0.4**
	baz=327								
AML				⇑*i*S			**Sg**	**06 44 00.4**	**+0.7**
	baz=327								
AAK	**Ala-Archa**	**1.64**	**355**	P			**Pg**	**06 43 46.8**	**-0.6**
	SNR=20								
AAK	**Ala-Archa**	**1.64**	**355**	⇓P			**Pg**	**06 43 46.7**	**-0.6**
	13nm,0.3s								
AAK				⇑S			**Sg**	**06 44 07.6**	**-1.1**
	95nm,0.7s								
AAK	**Ala-Archa**	**1.64**	**355**	⇓*i*P			**Pg**	**06 43 46.6**	**-0.8**
	baz=356								
AAK				⇓*i*S			**Sg**	**06 44 09.8**	**+1.1**
	baz=356								
KBK	**Karagaybulak**	**1.67**	**7**	P			**Pg**	**06 43 47.2**	**-0.8**
	SNR=14								
KBK	**Karagaybulak**	**1.67**	**7**	⇑*i*P			**Pg**	**06 43 47.1**	**-0.8**
	baz=8.0								
KBK				⇑*i*S			**Sg**	**06 44 09.9**	**+0.3**
	baz=8.0								
ULHL	**Ulahol**	**1.71**	**43**	P			**Pb**	**06 43 47.6**	**+0.7**
	SNR=6.4								
ULHL	**Ulahol**	**1.71**	**43**	⇓*i*P			**Pb**	**06 43 46.6**	**-0.3**
	baz=44								
ULHL				⇓*i*S			**Sb**	**06 44 08.8**	**+0.7**
	baz=44								
EKS2	**Erkin-Say**	**1.79**	**338**	P			**Pg**	**06 43 49.7**	**-0.6**
	SNR=18								
EKS2	**Erkin-Say**	**1.79**	**338**	⇓*i*P			**Pg**	**06 43 49.1**	**-1.2**
	baz=339								
EKS2				⇓*i*S			**Sg**	**06 44 12.7**	**-0.9**
	baz=339								
EKS	**Erkin-Say**	**1.79**	**338**	⇑*i*P			**Pg**	**06 43 49.8**	**-0.6**
	baz=339								
EKS				⇑*i*S			**Sg**	**06 44 15.1**	**+1.4**
	baz=339								
CHMS	**Chumysh**	**2.00**	**1**	P			**Pg**	**06 43 53.0**	**-1.2**
	SNR=20								
CHMS	**Chumysh**	**2.00**	**1**	⇑*i*P			**Pg**	**06 43 52.9**	**-1.3**
	baz=2.0								
CHMS				⇑*i*S			**Sg**	**06 44 19.9**	**-0.2**
	baz=2.0								
TKM2	**Tokmak 2**	**2.04**	**19**	P			**Pb**	**06 43 53.6**	**+1.1**
	SNR=31								
TKM2	**Tokmak 2**	**2.04**	**19**	⇑Pn			**Pb**	**06 43 52.6**	**+0.1**
	7.9nm,0.4s								
TKM2				⇑Sn			**Sg**	**06 44 20.6**	**-0.8**
	34nm,0.4s								
TKM2	**Tokmak 2**	**2.04**	**19**	⇑*i*P			**Pb**	**06 43 53.3**	**+0.8**
	baz=20								
TKM2				⇑*i*S			**Sg**	**06 44 20.8**	**-0.6**
	baz=20								
**

KNZ	Kokohu	3.27	215	PN	Pn	07 09 45.8 -1.5
RAHZ	Arahi	3.49	222	PN	Pn	07 09 49.9 -0.5
WHHZ	Waihua	3.53	219	PN	Pn	07 09 50.2 -0.7
KUZ	Kuaotunu	3.55	263	PN	Pn	07 09 49.9 -1.2
NMHZ	Naumai	3.77	223	PN	Pn	07 09 53.5 -0.9
ARHZ	Aropaoanui	3.79	220	PN	Pn	07 09 53.6 -0.9
TOZ	Tahuroa Road	3.92	248	PN	Pn	07 09 55.5 -0.7
BKZ	Black Stump Fm	3.99	225	PN	Pn	07 09 55.9 -1.4
MKAZ	Moumakai	4.03	258	PN	Pn	07 09 57.3 -0.5
KAHZ	Kahuranaki	4.26	216	PN	Pn	07 09 58.7 -2.3
KRHZ	Kereru	4.40	221	PN	Pn	07 10 01.2 -1.7
BHHZ	Black Hill Sta	4.46	225	PN	Pn	07 10 02.7 -1.0
MOVZ	Moawhango	4.58	227	PN	Pn	07 10 04.5 -1.0
FWVZ	Far West T-bar	4.61	230	AML	AML	07 10 36.1
WNVZ	Wahianoa	4.63	229	PN	Pn	07 10 05.1 -1.1
TRVZ	Turoa	4.64	230	AML	AML	07 10 16.7
PNHZ	Pukenui	4.69	220	PN	Pn	07 10 04.3 -2.6
TSZ	Takapari Road	4.92	220	PN	Pn	07 10 07.0 -3.0
WAZ	Wanganui	5.26	229	AML	AML	07 10 24.5
MRZ	Mangatainoka R	5.56	218	PN	Pn	07 10 15.4 -3.4
MTW	Mount Morrison	5.98	216	PN	Pn	07 10 20.5 -4.0

IDC 22 07:18:00.1±16.0, 1°36N×129°01E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/34, mbtmp3.5/3, Error ellipse: s-maj=261.1km s-min=140.5km az=161.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.81**	**166**	P	P	07 22 53.8	-0.3
	0.2nm,0.3s,baz=346,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**25.33**	**169**	P	P	07 23 29.9	+1.0
	0.3nm,0.6s,baz=347,slow=9.9,SNR=5.3						
STKA	**Stephens Creek**	**35.15**	**161**	P	P	07 24 54.7	-1.0
	0.7nm,0.4s,baz=326,slow=7.3,SNR=4.4						

KRNET 22 07:18:10.6±0.1, 39°.23N×74°.54E, mb3.4
NNC 22 07:18:12.8±4.4, 39°.39N×74°.62E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=34.0km s-min=13.9km az=179.0
ISC 22 07:18:14.8±3.4, 39°.3N±0°.2×74°.48E±0°.07, h10km, n24, σ0.991/33, 25C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.07**	**316**	⇑P	Pn	07 18 32.5	-3.7
	16nm,0.5s						
SFK				⇓S	**Sb**	**07 18 48.3**	**-1.5**
	80nm,0.5s						
SFK	**Sufi-Kurgan**	**1.07**	**316**	⇓*i*P	Pn	07 18 32.6	-3.5
	baz=315						
SFK				⇓*i*S	**Sb**	**07 18 48.7**	**-1.1**
	baz=315						
NRN	**Naryn**	**2.48**	**28**	⇑*i*P	**Pn**	**07 18 54.4**	**-1.1**
	baz=26						
NRN				⇑*i*S	**Sn**	**07 19 26.0**	**0.0**
	baz=26						
KZA	**Kyzart**	**2.89**	**12**	P	Pn	07 19 00.1	-1.2
	SNR=14						
KZA	**Kyzart**	**2.89**	**12**	⇑*i*P	Pn	07 19 00.0	-1.2
	baz=11						
KZA				⇑*i*S	**Sn**	**07 19 38.2**	**+1.9**
	baz=11						
AML	**Almayashu**	**2.94**	**349**	P	**Pn**	**07 19 01.5**	**-0.4**
	SNR=29						
AML	**Almayashu**	**2.94**	**349**	⇑*i*P	**Pn**	**07 19 01.4**	**-0.6**
	baz=348						
AML				⇑*i*S	**Sn**	**07 19 39.0**	**+1.4**
	baz=348						
UCH	**Uchtor**	**2.98**	**1**	P	**Pn**	**07 19 01.6**	**-1.0**
	SNR=44						
UCH	**Uchtor**	**2.98**	**1**	⇑*i*P	**Pn**	**07 19 01.5**	**-1.0**
	baz=360						
UCH				⇑*i*S	**Sn**	**07 19 39.0**	**+0.5**
	baz=360						
ARK	**Arkit**	**3.19**	**324**	⇑*i*P	**Pn**	**07 19 05.8**	**+0.7**
	baz=324						
ARK				⇑*i*S	**Sn**	**07 19 44.4**	**+1.2**
	baz=324						
ULHL	**Ulahol**	**3.28**	**24**	⇑*i*P	**Pn**	**07 19 07.7**	**+1.2**
	baz=23						
ULHL				⇑*i*S	**Sn**	**07 19 47.3**	**+1.6**
	baz=23						
AAK	**Ala-Archa**	**3.38**	**0**	P	**Pn**	**07 19 08.3**	**+0.5**
	SNR=5.8						
AAK	**Ala-Archa**	**3.38**	**0**	Pg	**Pn**	**07 19 08.0**	**+0.1**
	8.1nm,0.6s						
AAK				⇑Lg	Lg	07 19 52.2	
	26nm,0.8s						
AAK	**Ala-Archa**	**3.38**	**0**	⇑*i*P	**Pn**	**07 19 07.9**	**+0.1**
	baz=359						
AAK				⇑*i*S	**Sn**	**07 19 49.3**	**+1.2**
	baz=359						
KBK	**Karagaybulak**	**3.42**	**6**	P	**Pn**	**07 19 08.8**	**+0.4**
	SNR=14						
KBK	**Karagaybulak**	**3.42**	**6**	⇓*i*P	**Pn**	**07 19 08.3**	**-0.1**
	baz=5.0						
KBK				⇓*i*S	**Sn**	**07 19 50.4**	**+1.2**
	baz=5.0						
EKS2	**Erkin-Say**	**3.45**	**351**	P	**Pn**	**07 19 09.6**	**+0.8**
	SNR=5.8						
EKS	**Erkin-Say**	**3.46**	**352**	⇑*i*P	**Pn**	**07 19 08.1**	**-0.7**
	baz=351						
EKS				⇑*i*S	**Sn**	**07 19 50.3**	**+0.4**
	baz=351						
CHMS	**Chumysh**	**3.75**	**3**	P	**Pn**	**07 19 13.0**	**+0.2**
	SNR=10						
TKM2	**Tokmak 2**	**3.77**	**13**	P	**Pn**	**07 19 13.0**	**-0.2**
	SNR=19						
TKM2	**Tokmak 2**	**3.77**	**13**	⇑Pn	**Pn**	**07 19 12.8**	**-0.4**
	5.2nm,0.3s						
TKM2				⇑Sn	**Sn**	**07 19 56.8**	**-0.8**
	26nm,0.6s						
TKM2	**Tokmak 2**	**3.77**	**13**	⇑*i*P	**Pn**	**07 19 12.8**	**-0.4**
	baz=12						
TKM2				⇑*i*S	**Sn**	**07 19 56.9**	**-0.8**
	baz=12						
KK31	**Karatay Array**	**4.88**	**323**	⇓Pn	**Pn**	**07 19 28.0**	**-0.2**
	0.4nm,0.3s,baz=128,slow=12,SNR=13						
KK31				⇑Pg	**Pb**	**07 19 40.4**	**+0.1**
	1.3nm,0.5s,baz=135,slow=16,SNR=5.1						
KK31				⇑Lg	Lg	07 20 44.2	
	3.1nm,0.6s,baz=132,slow=29						
PDGK	**Podgornoye**	**5.55**	**41**	⇑Pg	Pb	07 19 49.6	-2.2
	5.6nm,0.6s						
PDGK				⇓Lg	Lg	07 20 59.8	
	26nm,1.2s						

IDC 22 07:24:26.5±0.7, 39°.23N×74°.73E, h0km, mb4.0/17, mb1 4.2/21, mb1mx4.0/42, mbtmp4.0/21, ML3.5/4, MS3.4/10, Ms1 3.5/10, ms1mx3.2/41, Error ellipse: s-maj=18.2km s-min=12.6km az=15.0
KRNET 22 07:24:27.9±0.1, 39°.31N×74°.65E, mb4.8
ISCJB 22 07:24:28.7±1.0, 39°.30N±0°.02×74°.35E±0°.04, h7km±6km, mb4.0/22, MS3.6/13, Error ellipse: s-maj=4.8km s-min=3.9km az=173.3
BJI 22 07:24:29.0, 39°.45N×74°.52E, h20km, mb4.5/26, mB4.4/18, ML4.1/8, Ms4.0/19, Ms7 3.7/18
NNC 22 07:24:30.1±1.8, 39°.47N×74°.62E, h0km, mb4.8, mpv4.7, Error ellipse: s-maj=15.4km s-min=7.5km az=176.0
MOS 22 07:24:32.2±1.3, 39°.40N×74°.61E, h47km, mb4.4/15, Error ellipse: s-maj=9.9km s-min=6.1km az=100.1
NEIC 22 07:24:35.6±1.0, 39°.49N×74°.65E, h63km±8km, mb4.5/5, Error ellipse: s-maj=11.0km s-min=7.9km az=160.0
ISC 22 07:24:31.1±0.8, 39°.42N±0°.04×74°.41E±0°.03, h12km±4km, n152, σ1.998/155, mb4.0/22, MS3.5/13, 36C-21D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.92**	**311**	⇑P	**Pg**	**07 24 48.6**	**-0.2**
	347nm,0.5s						
SFK				⇑S	**Sn**	**07 25 04.3**	**+1.0**
	1μm,0.4s						
SFK	**Sufi-Kurgan**	**0.92**	**311**	P	**Pg**	**07 24 48.7**	**-0.1**
SFK				S	**Sn**	**07 25 04.2**	**+1.0**
SFK				pmax	pmax		
	comp=Z,251nm,0.4s						
SFK				smax	smax		
	comp=N,2μm,0.6s						
KSH	**Kashi**	**1.22**	**85**	Pg	Pb	07 24 41.6	-13
KSH				Sg	Sb	07 24 52.5	-18
KSH				SMN			
	comp=N,5μm,1.1s						
KSH				SME			
	comp=N,4μm,0.9s						
NRN	**Naryn**	**2.35**	**31**	⇑*i*P	**Pn**	**07 25 10.0**	**+0.1**
	baz=25						
NRN				⇑*i*S	**Sb**	**07 25 42.3**	**-0.5**
	baz=25						
KZA	**Kyzart**	**2.73**	**13**	P	**Pn**	**07 25 15.5**	**+0.3**
	SNR=286						
KZA	**Kyzart**	**2.73**	**13**	⇑*i*P	**Pn**	**07 25 15.3**	**+0.1**
	baz=9.0						
KZA				⇑*i*S	**Sn**	**07 25 51.6**	**+3.2**
	baz=9.0						
AML	**Almayashu**	**2.76**	**349**	P	**Pn**	**07 25 17.8**	**+2.2**
	SNR=105						
AML	**Almayashu**	**2.76**	**349**	⇓*i*P	**Pn**	**07 25 17.1**	**+1.5**
	baz=346						
AML				⇓*i*S	**Sb**	**07 25 56.2**	**+1.6**
	baz=346						
UCH	**Uchtor**	**2.81**	**2**	P	**Pn**	**07 25 17.6**	**+1.4**
	SNR=382						
UCH	**Uchtor**	**2.81**	**2**	⇑*i*P	**Pn**	**07 25 17.6**	**+1.4**
	baz=358						
UCH				⇑*i*S	**Sn**	**07 25 54.0**	**+3.7**
	baz=358						
BTK	**Batken**	**2.84**	**284**	*i* P	**Pb**	**07 25 20.4**	**-1.3**
	baz=285						
BTK				*e*S	**Sb**	**07 26 01.1**	**+4.6**
	baz=285						
ARK	**Arkit**	**3.02**	**323**	⇓*i*P	Pn	07 25 22.4	+3.6
	baz=321						
ARK				⇓*i*S	**Sb**	**07 26 02.1**	**+0.4**
	baz=321						
ULHL	**Ulahol**	**3.15**	**26**	P	**Pn**	**07 25 21.3**	**+0.5**
	SNR=22						
ULHL	**Ulahol**	**3.15**	**26**	⇑*i*P	**Pn**	**07 25 20.9**	**+0.2**
	baz=22						
ULHL				⇑*i*S	**Sn**	**07 26 01.3**	**+2.9**
	baz=22						
AAK	**Ala-Archa**	**3.21**	**1**	P	**Pn**	**07 25 23.5**	**+1.9**
	SNR=116						
AAK	**Ala-Archa**	**3.21**	**1**	⇓Pn	**Pn**	**07 25 23.0**	**+1.4**
	comp=N,297nm,0.8s						
AAK				⇑Lg	Lg	07 26 07.2	
	comp=N,908nm,1.1s						
AAK	**Ala-Archa**	**3.21**	**1**	Pn	Pg	07 25 37.6	+4.9
	comp=N,27nm,0.3s,baz=171,slow=9.8,SNR=191						
AAK				Lg	Lg	07 26 18.0	
	comp=N,25nm,0.3s,baz=299,slow=18,SNR=8.3						
AAK				LR	LR	07 26 56.5	
	comp=N,336nm,20.1s,baz=181,slow=44						
AAK	**Ala-Archa**	**3.21**	**1**	*i* PN	**Pn**	**07 25 23.4**	**+1.9**
AAK				pmax	pmax		
	comp=Z,265nm,0.7s						
AAK	**Ala-Archa**	**3.21**	**1**	*e*Pn	**Pn**	**07 25 23.5**	**+1.9**
AAK				Lg	Lg	07 26 18.0	
AAK	**Ala-Archa**	**3.21**	**1**	⇑*i*P	**Pn**	**07 25 23.3**	**+1.8**
	baz=358						
AAK				⇑*i*S	**Sn**	**07 26 04.7**	**+4.8**
	baz=358						
KBK	**Karagaybulak**	**3.26**	**7**	P	**Pn**	**07 25 23.6**	**+1.3**
	SNR=292						
KBK	**Karagaybulak**	**3.26**	**7**	⇑*i*P	**Pn**	**07 25 23.5**	**+1.3**
	baz=4.0						
KBK				⇑*i*S	**Sn**	**07 26 05.3**	**+4.2**
	baz=4.0						
EKS2	**Erkin-Say**	**3.28**	**352**	P	**Pn**	**07 25 24.5**	**+2.1**
	SNR=102						
EKS2	**Erkin-Say**	**3.28**	**352**	*e*Pn	**Pn**	**07 25 24.4**	**+2.0**
EKS2				*e*Sn	**Sb**	**07 26 10.4**	**+1.3**
EKS2	**Erkin-Say**	**3.28**	**352**	⇑*i*P	**Pn**	**07 25 24.7**	**+2.3**
	baz=349						
EKS2				⇑*i*S	**Sb**	**07 26 07.2**	**-1.9**
	baz=349						
EKS	**Erkin-Say**	**3.28**	**352**	⇓*i*P	**Pn**	**07 25 24.7**	**+2.3**
	baz=349						
EKS				⇓*i*S	**Sn**	**07 26 06.7**	**+5.3**
	baz=349						
FRU	**Bishkek**	**3.42**	**3**	⇑*e*PN	**Pn**	**07 25 26.4**	**+2.2**
FRU				*i*		07 26 13.5	
FRU				smax	smax		
	comp=E,3μm,2.1s						
FRU				pmax	pmax		
	comp=E,3μm,5.5s						
CHMS	**Chumysh**	**3.59**	**4**	P	**Pn**	**07 25 28.0**	**+1.4**
	SNR=200						
CHMS	**Chumysh**	**3.59**	**4**	⇑*i*P	**Pn**	**07 25 28.0**	**+1.4**
	baz=1.0						
CHMS				⇑*i*S	**Sn**	**07 26 13.3**	**+4.4**
	baz=1.0						
TKM2	**Tokmak 2**	**3.61**	**14**	P	**Pn**	**07 25 27.7**	**+0.7**
	SNR=302						
TKM2	**Tokmak 2**	**3.61**	**14**	⇓Pn	**Pn**	**07 25 27.9**	**+0.8**
	comp=E,92nm,0.5s						
TKM2				⇓Sn	**Sn**	**07 26 10.4**	**+0.6**
	comp=E,688nm,0.8s						
TKM2	**Tokmak 2**	**3.61**	**14**	*i* PN	**Pn**	**07 25 28.1**	**+1.0**
TKM2				pmax	pmax		
	comp=Z,128nm,0.5s						
TKM2	**Tokmak 2**	**3.61**	**14**	*e*Pn	**Pn**	**07 25 27.8**	**+0.7**
TKM2				*e*Sn	**Sn**	**07 26 14.4**	**+4.6**
TKM2	**Tokmak 2**	**3.61**	**14**	⇑*i*P	**Pn**	**07 25 27.8**	**+0.7**
	baz=11						
TKM2				⇑*i*S	**Sn**	**07 26 12.6**	**+2.8**
	baz=11						
USP	**Ospenovka**	**3.85**	**1**	P	**Pn**	**07 25 31.2**	**+1.1**
	SNR=51						
ANVS	**Anan'yevo**	**4.17**	**35**	⇑*i*P	**Pn**	**07 25 35.9**	**+1.2**
	baz=32						
ANVS				⇑*i*S	**Sn**	**07 26 25.0**	**+1.6**
	baz=32						
KNDC	**Almaty**	**4.26**	**26**	⇑Pg	**Pb**	**07 25 45.4**	**-0.5**
	comp=Z,201nm,0.8s						
KNDC				⇑Lg	Lg	07 26 39.0	
AAA	**Alma-Ata**	**4.30**	**26**	*e*PN	Pb	07 25 43.5	-3.1
AAA				pmax	pmax		
	comp=Z,162nm,0.7s						
DZET	**Dzherino**	**4.38**	**264**	⇑Pn	Pn	07 25 41.8	+4.2
	comp=Z,249nm,0.6s						
DZET				⇑Lg	Lg	07 26 59.4	
	comp=Z,1μm,0.8s						
DZET	**Dzherino**	**4.38**	**264**	PN	Pn	07 25 41.4	+3.9
DZET				pmax	pmax		
	comp=Z,244nm,0.7s						
DZET				pmax	pmax		
	comp=N,1μm,0.8s						
KK31	**Karatay Array**	**4.71**	**323**	⇓Pn	**Pn**	**07 25 44.1**	**+2.1**
	comp=N,43nm,0.6s,baz=131,slow=12,SNR=420						
KK31				⇓Sn	Sn	07 26 44.4	+7.9
	comp=N,51nm,0.5s,baz=144,slow=25,SNR=3.8						
KK31				⇑Lg	Lg	07 27 00.0	
	comp=N,76nm,0.5s						
KK31	**Karatay Array**	**4.71**	**323**	*e*PN	**Pn**	**07 25 44.0**	**+2.1**
KK31						07 26 44.1	
KK31				pmax	pmax		
	comp=Z,38nm,0.7s						
KK31				smax	smax		
	comp=N,51nm,0.5s						
KK31				pmax	pmax		
	comp=N,136nm,0.7s						
KKAR	**Karatay Array**	**4.71**	**323**	*e*Pn	**Pn**	**07 25 44.1**	**+2.1**
KKAR				*e*Sn	**Sn**	**07 26 37.9**	**+1.5**
PDGK	**Podgornoye**	**5.46**	**43**	⇑Pn	**Pn**	**07 25 51.1**	**-1.2**
	comp=N,86nm,0.7s						
PDGK				⇓Lg	Lg	07 27 15.6	
	comp=N,587nm,1.3s						
PDGK	**Podgornoye**	**5.46**	**43**	PN	**Pn**	**07 25 51.3**	**-1.0**
PDGK				pmax	pmax		
	comp=Z,87nm,0.7s						
PDGK				pmax	pmax		
	comp=N,587nm,1.3s						
CHCP	**Chirah Chowk**	**5.82**	**189**	P	Pn	07 26 01.9	+4.6
CEP	**Cherat**	**5.93**	**201**	P	Pg	07 26 33.4	+8.7
CEP				S	Sn	07 27 14.0	+7.1
KBL	**Kabul**	**6.49**	**223**	*e*Pn	Pn	07 26 11.1	+4.5
THW	**Thamme Wali**	**6.95**	**199**	P	Pn	07 26 15.9	+3.1
DLH	**Dalhousie**	**6.98**	**169**	*ex*	**Pn**	**07 26 13.0**	**-0.3**
DLH				*e*S	**Sn**	**07 27 35.0**	**+2.3**
SMLA	**Simla**	**8.57**	**164**	*i* P	Pn	07 26 37.9	+2.9
SMLA				*i* S	**Sn**	**07 28 09.8**	**-1.8**
SMLA				AML	AML	07 28 15.1	
	comp=E,395nm,0.3s						
SMLA				AML	AML	07 28 15.3	
	comp=N,312nm,0.3s						
OTUK	**Ortayu**	**8.95**	**351**	⇓Pg	Pn	07 27 12.9	+33
	comp=N,2.7nm,0.1s						
OTUK				⇑Lg	Lg	07 29 10.8	
	comp=N,93nm,0.9s						
MK01	**Makanchi Array**	**9.34**	**36**	*e*Pn	**Pn**	**07 26 47.9**	**+2.3**
MK31	**Makanchi Array**	**9.36**	**35**	⇓Pn	**Pn**	**07 26 44.9**	**-0.8**
	comp=N,1.3nm,0.7s,baz=207,slow=14,SNR=9.7						
MK31				Pg		07 27 17.6	
	comp=N,4.4nm,0.8s,baz=217,slow=13,SNR=5.2						
MK31				⇓Lg	Lg	07 29 20.0	
	comp=N,50nm,1.4s,baz=216,slow=31,SNR=3.8						
MK31	**Makanchi Array**	**9.36**	**35**	*e*P	**Pn**	**07 26 44.9**	**-0.8**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MK31				pmax	pmax		
	comp=N,22nm,1.0s						
MK31	**Makanchi Array**	**9.36**	**35**	*e*Pn	**Pn**	**07 26 45.3**	**-0.4**
MKAR	**Makanchi Array**	**9.36**	**35**	Pn	**Pn**	**07 26 44.9**	**-0.8**
	comp=N,0.2nm,0.3s,baz=215,slow=13,SNR=8.7						
MKAR				Lg	Lg	07 29 17.7	
	comp=N,0.4nm,0.3s,baz=226,slow=28,SNR=4.9						
MKAR				LR	LR	07 30 03.1	
	comp=N,85nm,18.3s,baz=221,slow=36						
WMQ	**Urumqi**	**10.88**	**62**	P	Pn	07 27 11.9	+5.3
WMQ				PP	**PnPn**	**07 27 19.5**	**+5.3**
WMQ				sP		07 27 26.6	
WMQ				S	**Sn**	**07 29 13.4**	**+5.2**
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,91nm,5.0s						
WMQ				smax	smax		
	comp=N,11nm,0.4s						
WMQ				smax	smax		
	comp=E,14nm,0.4s						
WMQ				LR	LR		
	comp=N,540nm,7.0s						
WMQ				LR	LR		
	comp=E,270nm,6.4s						
WMQ				LR	LR		
	comp=Z,170nm,22.0s						
NDI	**New Delhi**	**10.96**	**167**	*e*P	**Pn**	**07 27 10.0**	**+2.3**
NDI				*ex*	x	07 29 07.0	
KURBB	**Kurchatov Arra**	**11.58**	**13**	Pn	Pn	07 27 08.9	-7.1
	comp=Z,0.0nm,0.3s,baz=182,slow=12,SNR=3.6						
KURK	**Kurchatov**	**11.68**	**13**	P	Pn	07 27 08.9	-8.6
KURK	**Kurchatov**	**11.68**	**13**	Pn	**Pn**	**07 27 18.3**	**+0.8**
AJM	**Ajmer**	**12.90**	**179**	*e*P	**Pn**	**07 27 36.0**	**+1.6**
BVAR	**Borovoye Array**	**13.89**	**350**	Pn	**Pn**	**07 27 45.9**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=181,slow=15,SNR=9.7						
BVAR				Lg	Lg	07 31 46.3	
	comp=Z,0.5nm,0.3s,baz=248,slow=38,SNR=3.7						
KOLN	**Koldanda**	**13.90**	**144**	*e*P	Pn	07 27 43.8	-4.4
	comp=Z,12nm,0.5s						
BRVK	**Borovoye**	**13.94**	**350**	⇓*e*P	**Pn**	**07 27 48.4**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
BRVK	**Borovoye**	**13.94**	**350**	*e*Pn	**Pn**	**07 27 48.2**	**0.0**
GKN	**Gorkha**	**14.20**	**140**	*e*P	Pn	07 27 46.3	-5.9
	comp=Z,14nm,0.5s						
AB31	**Akbulak array**	**14.25**	**318**	⇑P	**Pn**	**07 27 51.0**	**-1.6**
	comp=Z,22nm,0.8s,baz=120,slow=13,SNR=197						
AB31				⇓S	**Sn**	**07 30 27.5**	**-3.0**
	comp=Z,3.0nm,0.6s,baz=128,slow=22,SNR=5.1						
ABKAR	**Akbulak array**	**14.25**	**318**	*e*Pn	**Pn**	**07 27 50.8**	**-1.9**
PKI	**Pulchoki**	**14.95**	**139**	*e*P	Pn	07 27 55.8	-6.7
AKTO	**Aktyubinsk**	**15.96**	**319**	⇓P	**Pn**	**07 28 14.7**	**-0.7**
	comp=Z,23nm,0.9s						
AKTO	**Aktyubinsk**	**15.96**	**319**	Pn	**Pn**	**07 28 14.5**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=130,slow=14,SNR=52						
AKTO				Sn	**Sn**	**07 31 11.0**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=32,slow=19,SNR=4.4						
AKTO	**Aktyubinsk**	**15.96**	**319**	P	**Pn**	**07 28 14.5**	**-0.8**
AKTO						07 31 11.0	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
RAMN	**Ramite**	**16.07**	**137**	*e*P	Pn	07 28 08.8	-8.3
	comp=Z,33nm,0.9s						
ZAA0	**Zalesovo Array**	**16.17**	**23**	*e*P	**Pn**	**07 28 19.0**	**+1.0**
ZALV	**Zalesovo Beam**	**16.17**	**23**	Pn	**Pn**	**07 28 15.9**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=213,slow=11,SNR=7.0						
ZALV				Lg	Lg	07 32 52.6	
	comp=Z,0.3nm,0.3s,baz=91,slow=31,SNR=3.1						
ZALV	**Zalesovo Beam**	**16.17**	**23**	*i* P	**Pn**	**07 28 19.6**	**+1.6**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TAPN	**Taplejung**	**16.36**	**133**	*e*P	Pn	07 28 09.0	-12
	comp=Z,22nm,0.8s						
NVS	**Novosibirsk**	**16.54**	**18**	*e*P	**P**	**07 28 25.5**	**+0.3**
GTA	**Gaotai**	**19.62**	**82**	*e*P	**P**	**07 28 56.8**	**-2.7**
GTA				pP	**pP**	**07 29 01.6**	**-1.2**
GTA				sP	**sP**	**07 29 03.9**	**-0.4**
GTA				S	**S**	**07 32 38.1**	**-2.7**
GTA				sS	**Sn**	**07 32 43.6**	**+2.6**
GTA				PMZ			
	comp=Z,10.0nm,1.0s						
GTA				PMZ			
	comp=Z,120nm,6.6s						
GTA				LN			
	comp=Z,230nm,15.2s						
GTA				LE			
	comp=Z,180nm,15.7s						
GTA				LZ			
	comp=Z,310nm,16.6s						
ARU	**Arti**	**19.98**	**334**	*c i*P	**P**	**07 29 03.0**	**0.0**
ARU				S	**S**	**07 32 45.3**	**-2.1**
ARU				pmax	pmax		
	comp=Z,18nm,0.8s						
ARU	**Arti**	**19.98**	**334**	*e*P	**P**	**07 29 02.9**	**-0.2**
	comp=Z,21nm,1.0s						
GNI	**Garni**	**22.76**	**281**	P	**P**	**07 29 35.1**	**+1.7**
	comp=Z,5.4nm,0.4s,baz=45,slow=5.7,SNR=4.0						
GNI	**Garni**	**22.76**	**281**	⇑*e*P	**P**	**07 29 36.6**	**+3.2**
GNI				pmax	pmax		
	comp=Z,13nm,1.1s						
GNI	**Garni**	**22.76**	**281**	*e*P	**P**	**07 29 37.3**	**+3.9**
	comp=Z,30nm,1.0s						
ZAK	**Zakamensk**	**23.06**	**52**	*e*P	**P**	**07 29 35.4**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
LZH	**Lanzhou**	**23.47**	**89**	*e*P	**P**	**07 29 38.0**	**-2.6**
LZH				*e*PP	**PnPn**	**07 30 10.5**	**+3.5**
LZH				*e*S	S	07 33 44.5	-10
LZH				*e*SS	**SnSn**	**07 34 33.0**	**+3.5**
LZH				PMZ			
	comp=Z,25nm,1.3s						
LZH				PMZ			
	comp=Z,100nm,5.0s						
LZH				LN			
	comp=Z,270nm,11.4s						
LZH				LE			
	comp=Z,180nm,10.6s						
LZH				LZ			
	comp=Z,330nm,14.0s						
KBZ	**Khabaz**	**23.88**	**291**	P	**P**	**07 29 45.0**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=85,slow=11,SNR=2.5						
KBZ	**Khabaz**	**23

comp=Z,130nm,15.5s
HHC Hu-ho-hao-te 28.31 75 *e*P **P 07 30 25.3 +0.6**
HHC PP **PnPn 07 31 17.6 +4.5**
HHC S S 07 35 02.8 -8.1
HHC SS **SnSn 07 36 29.1 +1.3**
HHC PMZ
comp=Z,23nm,0.8s
HHC PMZ
comp=Z,62nm,4.1s
HHC LN
comp=Z,190nm,10.9s
HHC LE
comp=Z,250nm,11.0s
HHC LZ
comp=Z,110nm,11.0s
OBN Obninsk 29.64 315⇑ *e*P **P 07 30 37.1 +1.0**
OBN pmax pmax
comp=Z,4.0nm,0.7s
CMAR Chiang Mai Arr 29.79 127 LR LR 07 43 29.2
comp=Z,47nm,19.9s,baz=190,slow=39
GYA Guiyang 29.83 106 *e*P P 07 30 41.8 +3.5
GYA S **S 07 35 34.0 -1.0**
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,90nm,4.8s
GYA LN
comp=Z,410nm,15.9s
GYA LE
comp=Z,290nm,16.0s
GYA LZ
comp=Z,380nm,15.8s
BR131 Keskin Array S 31.23 284 *e*P **P 07 30 50.9 +0.3**
comp=Z,3.5nm,0.6s
BRTR Keskin Array B 31.23 284 P **P 07 30 51.5 +0.9**
comp=Z,4.1nm,0.6s,baz=92,slow=7.9,SNR=24
BRTR Keskin Array B 31.23 284 *i* P **P 07 30 51.5 +0.9**
BRTR pmax pmax
comp=Z,4.0nm,0.6s
BJI Beijing 31.92 75 P **P 07 30 56.3 -0.1**
BJI S **S 07 36 05.3 -1.9**
BJI PMZ
comp=Z,12nm,0.4s
BJI LN
comp=Z,210nm,15.5s
BJI LE
comp=Z,99nm,16.8s
BJI LZ
comp=Z,47nm,21.4s
AKASG Malin Array Be 33.35 305 P **P 07 31 08.0 -0.8**
comp=Z,0.3nm,0.3s,baz=73,slow=6.1,SNR=4.0
KIEV Kiev 33.36 305⇓ *e*P P 07 31 09.4 +0.5
MLR Muntele Rosu 35.82 296⇑ *i*P P 07 31 37.8 +7.4
BURAR Bucovina Array 36.08 300⇓ *i*P P 07 31 28.1 -4.5
NJ2 Nanjing 36.53 88 *e*P **P 07 31 37.6 +1.2**
NJ2 PMZ
comp=Z,30nm,1.0s
FINES FINESS Array B 36.67 323 P **P 07 31 36.6 -0.7**
comp=Z,2.1nm,0.5s,baz=119,slow=9.4,SNR=13
FINES LR LR 07 47 22.7
comp=Z,96nm,22.0s,baz=86,slow=37
FINES FINESS Array B 36.67 323 *i* P **P 07 31 36.5 -0.8**
FINES pmax pmax
comp=Z,2.0nm,0.5s
QIZ Qiongzhong 36.68 113 P **P 07 31 40.5 +2.7**
QIZ S **S 07 37 22.1 +1.1**
QIZ PMZ
comp=Z,17nm,1.6s
CN2 Changchun 37.92 66 *e*P **P 07 31 49.9 +1.7**
CN2 PMZ
comp=Z,10.0nm,0.6s
ARA0 ARCESS Array S 39.55 335 *e*P **P 07 32 00.6 -0.9**
ARCES ARCESS Array B 39.55 335 P **P 07 32 00.7 -0.8**
comp=Z,4.7nm,0.7s,baz=107,slow=8.2,SNR=20
ARCES LR LR 07 50 08.4
comp=Z,41nm,20.3s,baz=245,slow=39
ARCES ARCESS Array B 39.55 335 P **P 07 32 00.7 -0.8**
ARCES pmax pmax
comp=Z,5.0nm,0.7s
ARCES MLR MLR
comp=Z,41nm,20.3s
ARE0 ARCESS Array S 39.55 335 *e*P **P 07 32 00.8 -0.7**
OKC Ostrava-Krasne 40.49 304 AMS AMS 07 52 30.0
comp=Z,200nm,14.2s
KSAR Wonju Array Be 41.43 75 P **P 07 32 14.6 -2.9**
KSRS Korea Array 41.45 75 P **P 07 32 14.6 -3.0**
comp=Z,0.8nm,0.5s,baz=282,slow=8.4,SNR=3.9
KSRS LR LR 07 51 52.3
comp=Z,50nm,19.4s,baz=255,slow=40
KSRS Korea Array 41.45 75 P **P 07 32 14.6 -3.0**
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS MLR MLR
comp=Z,50nm,19.4s
DPC Dobruska-Polom 41.59 305 *e*P **P 07 32 18.6 0.0**
DPC *ex* x 07 32 24.0
DPC Dobruska-Polom 41.59 305 *e*P **P 07 32 18.6 0.0**
UPC Upice 41.76 305 *e*P **P 07 32 20.2 +0.2**
UPC Upice 41.76 305 *e*P **P 07 32 20.2 +0.2**
TREC Trest 42.28 304 AMS AMS 07 52 10.0
comp=Z,100nm,13.0s
USRK Ussuriysk Ar. 42.44 64 LR LR 07 52 46.3
comp=Z,62nm,20.5s,baz=250,slow=40
PRU Pruhonice 42.77 305 AMS AMS 07 53 40.0
comp=Z,100nm,16.4s
GERES GERESS Array B 43.52 303 P **P 07 32 34.5 +0.1**
comp=Z,2.6nm,0.6s,baz=65,slow=7.5,SNR=17
GERES GERESS Array B 43.52 303 P **P 07 32 34.5 +0.1**
GERES pmax pmax
comp=Z,3.0nm,0.6s
CLL Collm 43.53 307 *e*P **P 07 32 34.0 -0.3**
CLL LmV 07 52 00.0
comp=Z,100nm,18.4s
CLL Collm 43.53 307 *e*P **P 07 32 34.0 -0.3**
KHC Kasperske Hory 43.54 304 *e*P **P 07 32 34.5 -0.1**
KHC *ex* x 07 32 40.6
KHC AMS AMS 07 54 40.0
comp=Z,100nm,12.4s
KHC Kasperske Hory 43.54 304 *e*P **P 07 32 34.5 -0.1**
KHC MLR MLR
comp=Z,100nm,12.4s
KHC Kasperske Hory 43.54 304 *e*P **P 07 32 34.4 -0.1**
comp=Z,1.7nm,0.7s
NB2 NORSAR Subarra 43.74 321 P **P 07 32 34.2 -1.8**
comp=Z,0.2nm,0.6s,baz=92,slow=8.6
NOA NORSAR Array B 43.74 321 P **P 07 32 34.9 -1.1**
comp=Z,1.6nm,0.5s,baz=90,slow=8.0,SNR=11
NOA LR LR 07 51 32.2
comp=Z,75nm,18.4s,baz=265,slow=37
NOA NORSAR Array B 43.74 321 P **P 07 32 34.9 -1.1**
NOA pmax pmax
comp=Z,2.0nm,0.5s
NOA MLR MLR
comp=Z,75nm,18.4s
TRI Trieste 44.17 299 *e*P **P 07 32 39.5 0.0**
comp=Z,69nm,1.6s
MJAR Matsushiro Arr 49.44 72 P P 07 33 17.0 -4.0
comp=Z,4.2nm,0.9s,baz=289,slow=9.3,SNR=8.5
MJAR Matsushiro Arr 49.44 72 P P 07 33 17.0 -4.0
MJAR pmax pmax
comp=Z,4.0nm,0.9s
SEY Seymchan 50.49 35⇓ *i*P **P 07 33 26.5 -2.0**
ESDC Sonseca Array 58.49 298 P **P 07 34 25.9 -1.2**
comp=Z,0.7nm,0.6s,baz=53,slow=6.9,SNR=4.1
TORD Torodi Ar. Bea 68.46 270 P **P 07 35 31.7 -1.6**
comp=Z,0.5nm,0.4s,baz=40,slow=5.3,SNR=9.6
INK Inuvik 70.57 11 P **P 07 35 43.2 -2.2**
comp=Z,1.0nm,0.7s,baz=319,slow=10,SNR=2.8
INK Inuvik 70.57 11 P **P 07 35 43.3 -2.2**
INK pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 71.22 17 P P 07 35 45.8 -3.8
comp=Z,0.5nm,0.8s,baz=330,slow=5.0,SNR=6.5
ILAR LR LR 08 10 11.8
comp=Z,51nm,18.1s,baz=320,slow=38
ILAR Eielson Array 71.22 17 P P 07 35 45.8 -3.8
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR MLR MLR
comp=Z,51nm,18.1s
YKA Yellowknife Ar 78.18 4 P P 07 36 26.8 -3.1
comp=Z,1.1nm,0.7s,baz=347,slow=5.6,SNR=9.2
YKA Yellowknife Ar 78.18 4 P P 07 36 26.8 -3.1
YKA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 81.33 125 P P 07 36 43.9 -3.7
comp=Z,1.1nm,0.7s,baz=323,slow=5.0,SNR=9.2
WRA Warramunga Arr 81.33 125 P P 07 36 43.9 -3.7
WRA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 83.80 127 P P 07 36 56.3 -4.1
comp=Z,0.5nm,0.8s,baz=309,slow=5.0,SNR=6.5
ASAR Alice Springs 83.80 127 P P 07 36 56.3 -4.1
ASAR pmax pmax
comp=Z,1.0nm,0.8s

*IDC **22** 07:26:06.0±1.0, 20.0°0N±0.2°×146.4°43E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/33, mbtmp3.6/6, MS3.0/2, Ms1 3.0/2, ms1mx2.6/32, Error ellipse: s-maj=43.9km s-min=22.7km az=100.0*
*ISCJB **22** 07:26:09.7±0.8, 20.0°0N±0.1°×146.5°E±0.3, h33km, mb3.6/7, MS3.0/2, Error ellipse: s-maj=33.9km s-min=18.6km az=3.8*
ISC 22 07:26:11.4±1.0, 20.0°0N±0.2°×146.4°E±0.3, h35km, n15, σ0s76/6, mb3.5/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**19.23**	**91**	T	T	T	07 50 06.4	
	baz=279,slow=75,SNR=16							
H11S1	**WAKE ISLAND Hy**	**19.24**	**91**	T	T	T	07 50 11.1	
	baz=279,slow=75,SNR=5.2							
H11S2	**WAKE ISLAND Hy**	**19.25**	**91**	T	T	T	07 50 10.2	
	baz=279,slow=75,SNR=6.7							
H11N1	**WAKE ISLAND Hy**	**19.30**	**87**	T	T	T	07 50 13.3	
	baz=274,slow=75,SNR=20							
H11N2	**WAKE ISLAND Hy**	**19.30**	**87**	T	T	T	07 50 13.8	
	baz=274,slow=75,SNR=17							
H11N3	**WAKE ISLAND Hy**	**19.31**	**87**	T	T	T	07 50 14.7	
	baz=274,slow=75,SNR=13							
KSRS	**Korea Array**	**23.65**	**321**	P	**P**	**P**	**07 31 20.2**	**+0.7**
	0.9nm,0.6s,baz=158,slow=9.3,SNR=4.3							
TGY	**Tagaytay City**	**25.01**	**260**	LR	LR	LR	07 39 10.2	
	comp=Z,13nm,21.0s,baz=90,slow=31							
WRA	**Warramunga Arr**	**41.45**	**197**	P	**P**	**P**	**07 33 55.1**	**+0.2**
	0.6nm,0.7s,baz=20,slow=8.5,SNR=7.2							
SONM	**Songino Array**	**42.51**	**320**	P	P	P	07 34 08.4	+4.9
	1.3nm,0.7s,baz=118,slow=8.3,SNR=4.2							
ASAR	**Alice Springs**	**45.12**	**196**	P	**P**	**P**	**07 34 24.4**	**-0.1**
	0.3nm,0.5s,baz=15,slow=10.0,SNR=7.1							
AAK	**Ala-Archa**	**63.53**	**308**	LR	LR	LR	08 04 43.0	
	comp=Z,32nm,18.5s,baz=176,slow=36							
YKA	**Yellowknife Ar**	**76.50**	**28**	P	**P**	**P**	**07 37 57.1**	**-0.4**
	0.2nm,0.6s,baz=274,slow=5.2,SNR=2.7							
NVAR	**Mina Array Bea**	**81.81**	**52**	P	**P**	**P**	**07 38 28.0**	**+0.7**
	0.5nm,0.6s,baz=260,slow=5.5,SNR=4.8							
FINES	**FINESS Array B**	**85.94**	**335**	P	**P**	**P**	**07 38 46.9**	**-0.7**
	1.7nm,0.9s,baz=68,slow=4.9,SNR=2.4							

*BJI **22** 07:37:33.0, 39.2°42N×74.4°46E, h8km, ML3.5/7*
*KRNET **22** 07:37:33.7±0.1, 39.2°21N×74.4°69E, mb4.0*
*NNC **22** 07:37:36.3±2.1, 39.2°28N×74.5°51E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=15.5km s-min=9.1km az=6.0*
*IDC **22** 07:37:45.1±2.8, 39.8°81N×72.2°28E, h0km, mb3.8/3, mb1 3.7/4, mb1mx3.4/28, mbtmp3.7/4, ML3.1/1, Error ellipse: s-maj=67.2km s-min=21.2km az=152.0*
ISC 22 07:37:37.4±1.0, 39.3°33N±0.1°05×74.5°55E±0.1°04, h10km, n38, σ2s32/50, mb3.6/3, 26C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.05**	**310**	⇑P		**Pg**	**07 37 56.2**	**-1.6**
	65nm,0.5s							
SFK				⇑S		**Sb**	**07 38 12.0**	**+0.1**
	326nm,0.5s							
SFK	**Sufi-Kurgan**	**1.05**	**310**	*e*P		**Pg**	**07 37 56.2**	**-1.6**
	baz=312							
SFK				*e*S		**Sb**	**07 38 12.0**	**+0.1**
	baz=312							
KSH	**Kashi**	**1.12**	**80**	Pg		Pb	07 37 49.1	-10
KSH				Sg		Sb	07 37 58.9	-15
KSH				SMN				
	1μm,0.5s							
KSH				SME				
	1μm,0.6s							
NRN	**Naryn**	**2.37**	**27**	⇑*i*P		**Pn**	**07 38 16.9**	**+0.2**
	baz=24							
NRN				⇑*i*S		**Sn**	**07 38 47.3**	**+1.2**
	baz=24							
KZA	**Kyzart**	**2.79**	**11**	P		**Pn**	**07 38 23.9**	**+1.3**
	SNR=29							
KZA	**Kyzart**	**2.79**	**11**	⇑*i*P		**Pn**	**07 38 23.6**	**+1.0**
	baz=8.0							
KZA				⇑*i*S		**Sb**	**07 39 01.6**	**-0.5**
	baz=8.0							
AML	**Almayashu**	**2.87**	**347**	P		**Pn**	**07 38 25.6**	**+1.9**
	SNR=30							
AML	**Almayashu**	**2.87**	**347**	⇑*i*P		**Pn**	**07 38 24.9**	**+1.3**
	baz=345							
AML				⇑*i*S		**Sn**	**07 39 01.5**	**+3.1**
	baz=345							
UCH	**Uchtor**	**2.89**	**359**	P		**Pn**	**07 38 25.1**	**+1.2**
	SNR=146							
UCH	**Uchtor**	**2.89**	**359**	⇓*i*P		**Pn**	**07 38 25.2**	**+1.2**
	baz=357							
UCH				⇓*i*S		**Sn**	**07 39 02.3**	**+3.2**
	baz=357							
ARK	**Arkit**	**3.15**	**322**	⇑*i*P		Pb	07 38 30.3	-3.4
	baz=322							
ARK				⇑*i*S		**Sb**	**07 39 10.5**	**-1.7**
	baz=322							
ULHL	**Ulahol**	**3.18**	**23**	P		**Pb**	**07 38 32.5**	**-1.7**
	SNR=7.8							
ULHL	**Ulahol**	**3.18**	**23**	⇑*i*P		**Pn**	**07 38 29.0**	**+1.2**
	baz=21							
ULHL				⇑*i*S		**Sb**	**07 39 11.0**	**-2.1**
	baz=21							
AAK	**Ala-Archa**	**3.30**	**359**	P		Pn	07 38 32.0	+2.7
	SNR=22							
AAK	**Ala-Archa**	**3.30**	**359**	⇑Pn		**Pn**	**07 38 31.3**	**+2.0**
	27nm,0.5s							
AAK				⇑Sn		**Sn**	**07 39 12.8**	**+4.1**
	66nm,1.1s							
AAK	**Ala-Archa**	**3.30**	**359**	⇑*i*P		**Pn**	**07 38 31.0**	**+1.7**
	baz=358							
AAK				⇑*i*S		**Sn**	**07 39 11.9**	**+3.2**
	baz=358							
KBK	**Karagaybulak**	**3.33**	**5**	P		**Pn**	**07 38 31.9**	**+2.1**
	SNR=52							
KBK	**Karagaybulak**	**3.33**	**5**	⇑*i*P		**Pn**	**07 38 31.6**	**+1.8**
	baz=3.0							
KBK				⇑*i*S		**Sn**	**07 39 13.0**	**+3.4**
	baz=3.0							
EKS2	**Erkin-Say**	**3.38**	**350**	P		**Pn**	**07 38 33.0**	**+2.6**
	SNR=18							
EKS2	**Erkin-Say**	**3.38**	**350**	⇑*i*P		**Pn**	**07 38 32.7**	**+2.3**
	baz=349							
EKS2				⇑*i*S		**Sb**	**07 39 18.4**	**-0.2**
	baz=349							
EKS	**Erkin-Say**	**3.38**	**350**	⇑*i*P		Pn	07 38 33.1	+2.7
	baz=349							
EKS				⇑*i*S		**Sb**	**07 39 15.4**	**-3.4**
	baz=349							
CHMS	**Chumysh**	**3.67**	**2**	P		Pn	07 38 36.8	+2.6
	SNR=12							
CHMS	**Chumysh**	**3.67**	**2**	*e*P		**Pn**	**07 38 36.1**	**+1.9**
	baz=1.0							
CHMS				*i* S		**Sn**	**07 39 22.4**	**+4.8**
	baz=1.0							
TKM2	**Tokmak 2**	**3.67**	**12**	P		**Pn**	**07 38 36.7**	**+2.2**
	SNR=35							
TKM2	**Tokmak 2**	**3.67**	**12**	⇓Pn		**Pn**	**07 38 36.1**	**+1.6**
	21nm,0.3s							
TKM2				⇓Sn		**Sn**	**07 39 22.4**	**+4.4**
	58nm,0.5s							
TKM2	**Tokmak 2**	**3.67**	**12**	⇓*i*P		**Pn**	**07 38 36.6**	**+2.1**
	baz=10.0							
TKM2				⇓*i*S		**Sn**	**07 39 20.4**	**+2.5**
	baz=10.0							
USP	**Ospenovka**	**3.93**	**359**	P		**Pn**	**07 38 40.2**	**+2.3**
	SNR=8.4							
ANVS	**Anan'yevo**	**4.18**	**33**	⇑*i*P		**Pn**	**07 38 40.3**	**-1.1**
	baz=31							
ANVS				⇑*i*S		**Sn**	**07 39 25.0**	**-5.4**
	baz=31							
KNDC	**Almaty**	**4.29**	**24**	⇑Pg		**Pb**	**07 38 52.6**	**-0.3**
	48nm,0.6s							
KNDC				⇑Lg		Lg	07 39 48.8	
	158nm,0.8s							
DZET	**Dzherino**	**4.48**	**265**	⇓Pn		**Pn**	**07 38 46.9**	**+1.3**
	37nm,0.5s							
KK31	**Karatay Array**	**4.84**	**322**	Pn		**Pn**	**07 38 51.7**	**+1.3**
	2.0nm,0.3s,baz=132,slow=13,SNR=33							
KK31				⇓Pg		**Pb**	**07 39 04.0**	**+1.7**
	2.0nm,0.3s,baz=130,slow=16,SNR=6.1							
KK31				⇓Lg		Lg	07 40 09.8	
	10nm,0.5s,baz=135,slow=28							
MKAR	**Makanchi Array**	**9.36**	**35**	Pn		Pn	07 40 12.1	+20
	0.1nm,0.3s,baz=227,slow=12,SNR=3.6							
MKAR				Sn		Sn	07 42 16.1	+38
	0.1nm,0.3s,baz=215,slow=22,SNR=2.7							
AB31	**Akbulak array**	**14.39**	**318**	⇓P		**Pn**	**07 40 59.1**	**-2.0**
	1.7nm,0.6s,baz=121,slow=13,SNR=28							
AKTO	**Aktyubinsk**	**16.10**	**319**	⇓P		**Pn**	**07 41 23.3**	**-0.5**
	2.5nm,0.7s							
CD2	**Chengdu**	**25.24**	**100**	*e*P		**P**	**07 43 01.3**	**-2.4**
FINES	**FINESS Array B**	**36.80**	**323**	P		**P**	**07 44 42.6**	**-2.5**
	0.6nm,0.6s,baz=125,slow=12,SNR=3.8							
ARCES	**ARCESS Array B**	**39.67**	**335**	P		**P**	**07 45 08.0**	**-1.2**
	5.5nm,1.0s,baz=106,slow=9.5,SNR=5.1							
TORD	**Torodi Ar. Bea**	**68.57**	**270**	P		**P**	**07 48 39.0**	**-1.7**
	0.5nm,1.1s,baz=40,slow=4.8,SNR=2.9							

IDC 22 07:46:18.2±4.0, 4.9°99S×153.7°6E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/34, mbtmp3.2/2, Error ellipse: s-maj=205.3km s-min=50.4km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.04**	**230**	P		P	07 51 34.9	-0.4
	0.9nm,1.1s,baz=56,slow=9.9,SNR=4.7							
ASAR	**Alice Springs**	**26.66**	**224**	P		P	07 51 59.7	+0.6
	0.1nm,0.4s,baz=57,slow=10,SNR=2.6							
TORD	**Torodi Ar. Bea**	**151.27**	**288**	PKPbc		PKPbc	08 06 14.3	-0.5
	0.2nm,0.4s,baz=59,slow=1.7,SNR=4.8							

*KRSC **22** 07:53:19.1±0.3, 55.2°13N×160.3°35E, h-0km±2km, ML4.4*
*IDC **22** 07:53:20.2±0.7, 55.2°10N×160.1°14E, h0km, mb3.7/11, mb1 3.9/12, mb1mx3.7/48, mbtmp3.7/12, ML2.5/1, MS3.3/5, Ms1 3.3/5, ms1mx2.9/33, Error ellipse: s-maj=25.4km s-min=15.6km az=146.0*
*ISCJB **22** 07:53:21.3±0.5, 55.1°18N±0.1°02×160.2°20E±0.1°07, h16km±5km, mb3.8/16, MS3.5/3, Error ellipse: s-maj=6.8km s-min=3.9km az=11.0*
*MOS **22** 07:53:22.4±1.6, 55.2°20N×160.2°25E, h32km, mb4.1/9, Error ellipse: s-maj=14.7km s-min=5.3km az=80.4*
ISC 22 07:53:20.4±0.9, 55.1°11N±0.1°02×160.2°25E±0.1°03, h6km±6km, n78, σ1s42/95, mb3.9/17, MS3.4/3, 2C-1D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.02**	**76**	*i* P		**Pg**	**07 53 19.9**	**-1.8**
TUMR	**Tumrok**	**0.19**	**341**	*i* P		**Pg**	**07 53 23.5**	**-0.6**
TUMR	**Tumrok**	**0.19**	**341**	PN		**Pg**	**07 53 23.5**	**-0.6**
KMNR	**Kamenistaya**	**0.65**	**359**	*i* P		**Pg**	**07 53 32.0**	**-0.9**
KMNR				*e*S		**Sb**	**07 53 42.5**	**-1.1**
KMNR	**Kamenistaya**	**0.65**	**359**	PN		**Pg**	**07 53 32.0**	**-0.9**
KMNR				S		**Sb**	**07 53 42.5**	**-1.1**
BZMR	**Bezymyannaya**	**0.84**	**9**	*e*P		**Pg**	**07 53 35.9**	**-0.6**
KIRR	**Kirishev**	**0.85**	**3**	*e*P		**Pg**	**07 53 35.9**	**-0.8**
BZWR	**Bezymyannyi-We**	**0.87**	**9**	*e*P		**Pb**	**07 53 36.7**	**-1.3**
BZGR	**Bezymyannyi-Gr**	**0.87**	**17**	*e*P		**Pg**	**07 53 36.5**	**-0.6**
ZLN	**Zelenaya**	**0.96**	**19**	*e*P		**Pg**	**07 53 37.7**	**-1.2**
ZLN	**Zelenaya**	**0.96**	**19**	PN		**Pg**	**07 53 37.7**	**-1.2**
KOZ	**Kozyrevsk**	**0.98**	**347**	*e*P		**Pb**	**07 53 38.3**	**-1.5**
KOZ				*e*S		**Sn**	**07 53 54.8**	**-0.1**
KOZ	**Kozyrevsk**	**0.98**	**347**	PN		**Pb**	**07 53 38.3**	**-1.5**
KOZ				S		**Sn**	**07 53 54.8**	**-0.1**
MKZ	**Mys Kozlova**	**1.02**	**122**	*i* P		**Pg**	**07 53 38.1**	**-1.8**
MKZ				*i* S		**Sg**	**07 53 53.8**	**+0.8**
MKZ	**Mys Kozlova**	**1.02**	**122**	PN		**Pg**	**07 53 38.1**	**-1.8**
MKZ				S		**Sg**	**07 53 53.8**	**+0.8**
KLY	**Klyuchi**	**1.23**	**10**	*e*P		**Pb**	**07 53 43.2**	**-0.8**
KLY				*e*S		**Sn**	**07 54 04.0**	**+3.0**
SRDR	**Sredinnyy**	**1.25**	**346**	*e*P		**Pb**	**07 53 43.3**	**-1.1**
SRDR	**Sredinnyy**	**1.25**	**346**	PN		**Pb**	**07 53 43.3**	**-1.1**
BDR	**Baidarnaya**	**1.56**	**20**	*e*P		**Pn**	**07 53 48.2**	**-0.6**
SMKR	**Semkarok**	**1.63**	**24**	*e*P		**Pn**	**07 53 49.2**	**-0.5**
SMKR				*e*S		**Sg**	**07 54 14.0**	**+1.3**
SMKR	**Semkarok**	**1.63**	**24**	PN		**Sg**	**07 53 49.2**	**-0.5**
SMKR				S		**Sg**	**07 54 14.0**	**+1.3**
SRKR	**Sorokina**	**1.63**	**18**	*e*P		**Pn**	**07 53 49.2**	**-0.6**
SRKR	**Sorokina**	**1.63**	**18**	PN		**Pn**	**07 53 49.2**	**-0.6**
KBTR	**Krutoberegovo**	**1.82**	**52**	*e*P		**Pn**	**07 53 50.9**	**-1.4**
KBTR	**Krutoberegovo**	**1.82**	**52**	PN		**Pn**	**07 53 50.9**	**-1.4**
GNL	**Ganaly**	**1.96**	**225**	*i* P		**Pn**	**07 53 54.4**	**+0.2**
GNL	**Ganaly**	**1.96**	**225**	PN		**Pn**	**07 53 54.4**	**+0.2**
KRX	**Arik**	**1.99**	**209**	*i* P		**Pb**	**07 53 56.2**	**-0.9**
SDLR	**Sedlovina**	**2.00**	**204**	*e*P		**Pb**	**07 53 56.0**	**-1.3**
SDLR	**Sedlovina**	**2.00**	**204**	PN		**Pb**	**07 53 56.0**	**-1.3**
KRER	**Koryakskii**	**2.01**	**207**	*i* P		**Pb**	**07 53 56.9**	**-0.6**
NLC	**Nalytchevo**	**2.01**	**196**	*e*P		**Pb**	**07 53 56.0**	**-1.3**
NLC				*e*S		**Sg**	**07 54 25.5**	**+0.5**
NLC	**Nalytchevo**	**2.01**	**196**	PN		**Pb**	**07 53 56.0**	**-1.3**
NLC				S		**Sg**	**07 54 25.5**	**+0.5**
SPN	**Mys Shipunski**	**2.02**	**184**	*i* P		**Pn**	**07 53 54.1**	**-0.8**
SPN				*e*S		**Sb**	**07 54 23.4**	**+0.6**
SPN	**Mys Shipunski**	**2.02**	**184**	PN		**Pn**	**07 53 54.1**	**-0.8**
SPN				S		**Sb**	**07 54 23.4**	**+0.6**
SMAR	**Somma**	**2.04**	**205**	*i* P		**Pb**	**07 53 56.8**	**-1.1**
SMAR	**Somma**	**2.04**	**205**	PN		**Pb**	**07 53 56.8**	**-1.1**
AVH	**Avacha**	**2.05**	**206**	*i* P		**Pb**	**07 53 57.3**	**-0.7**
AVH	**Avacha**	**2.05**	**206**	PN		**Pb**	**07 53 57.3**	**-0.7**
KOK	**Koryaka**	**2.05**	**208**	*e*P		**Pb**	**07 53 57.3**	**-0.8**
KOK	**Koryaka**	**2.05**	**208**	PN		**Pb**	**07 53 57.3**	**-0.8**
UGLR	**Uglovaya**	**2.08**	**204**	*e*P		**Pb**	**07 53 57.5**	**-1.1**
PET	**Petropavlovsk**	**2.29**	**205**	*e*P		**Pb**	**07 54 01.5**	**-0.6**
PET				*e*S		**Sg**	**07 54 35.2**	**+1.3**
PET	**Petropavlovsk**	**2.29**	**205**	*i*PN		**Pb**	**07 54 01.3**	**-0.8**
PET				*e*S		**Sg**	**07 54 32.6**	**-1.3**
PET				pmax	pmax			
	comp=Z,300nm,2.1s							
PET				pmax	pmax			
	comp=Z,167nm,0.5s							
PET				smax	smax			
	comp=N,326nm,0.8s							
PET				smax	smax			
	comp=E,445nm,0.9s							
PET				MLR	MLR			
	comp=Z,1μm,10.0s							
PET				MLR	MLR			
	comp=Z,2μm,10.0s							
PETK	**Petropavlovsk-**	**2.50**	**218**	Pn		**Pn**	**07 54 01.9**	**+0.3**
	comp=Z,4.8nm,0.3s,baz=65,slow=13,SNR=25							
PETK				Sn		**Sg**	**07 54 40.7**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=335,slow=6.5,SNR=2.7							
PETK				LR		LR	07 54 54.9	
	comp=Z,37nm,20.3s,baz=314,slow=38							
PETK	**Petropavlovsk-**	**2.50**	**218**	PN		**Pn**	**07 54 02.0**	**+0.3**
PETK							07 54 40.7	
PETK				pmax	pmax			
	comp=Z,5.0nm,0.3s							
PETK				smax	smax			
	comp=N,2.0nm,0.3s							
PETK				MLR	MLR			
	comp=Z,37nm,20.3s							
RUS	**Russkaya**	**2.87**	**202**	*e*P		**Pn**	**07 54 07.9**	**+1.2**
RUS				*e*S		**Sb**	**07 54 47.5**	**+0.2**
RUS	**Russkaya**	**2.87**	**202**	PN		**Pn**	**07 54 07.9**	**+1.2**
RUS				S		**Sb**	**07 54 47.5**	**+0.2**
MTVR	**Mutnovka**	**2.90**	**206**	*e*P		**Pb**	**07 54 11.5**	**-1.1**
ASAK	**Asacha**	**3.07**	**208**	*e*P		**Pb**	**07 54 14.0**	**-1.4**
SEY	**Seymchan**	**8.83**	**336**	LR		LR	07 58 40.4	
	comp=Z,75nm,20.4s,baz=121,slow=36							
UGL	**Uglegorsk**	**12.69**	**249**	*e*PN		**Pn**	**07 56 22.3**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**14.46**	**226**	P		**Pn**	**07 56 46.4**	**+1.0**
YUK				S		**Sn**	**07 59 20.7**	**-5.2**
YUK				pmax	pmax			
	comp=N,49nm,0.3s

	comp=Z,9.0nm,0.8s							
HABR				MLR	MLR			
	comp=Z,96nm,18.0s							
YAK	**Yakutsk**	**17.25**	**306**	LR	LR	08 04 30.5		
	comp=Z,80nm,21.7s,baz=350,slow=39							
USRK	**Ussuriysk Ar.**	**21.15**	**251**	P	**P**	**07 58 07.6**	**+1.6**	
	comp=Z,1.8nm,0.7s,baz=53,slow=7.4,SNR=5.8							
TIXI	**Tiksi**	**21.31**	**333**⇑	*eP*	**P**	**07 58 09.6**	**+2.2**	
TIXI				pmax	pmax			
	comp=Z,8.0nm,1.1s							
MJAR	**Matsushiro Arr**	**23.92**	**228**	P	**P**	**07 58 35.5**	**+0.6**	
	comp=Z,2.0nm,0.9s,baz=13,slow=8.6,SNR=5.6							
MJAR	**Matsushiro Arr**	**23.92**	**228**	P	**P**	**07 58 35.5**	**+0.6**	
MJAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
CN2	**Changchun**	**25.03**	**258**	*eP*	P	07 58 53.0	+8.0	
BOD	**Bodaibo**	**25.31**	**295**	*eP*	**P**	**07 58 47.6**	**+0.2**	
BOD				pmax	pmax			
	comp=Z,4.0nm,1.0s							
ILAR	**Eielson Array**	**27.36**	**48**	P	**P**	**07 59 07.5**	**+1.7**	
	comp=Z,0.4nm,0.9s,baz=254,slow=6.7,SNR=4.1							
KURK	**Kurchatov**	**46.77**	**300**	P	**P**	**08 01 50.5**	**+0.3**	
KURK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KURBB	**Kurchatov Arra**	**46.88**	**300**	P	**P**	**08 01 50.5**	**-0.5**	
	comp=Z,1.3nm,0.6s,baz=54,slow=7.9,SNR=8.3							
MKAR	**Makanchi Array**	**47.39**	**294**	P	**P**	**08 01 55.0**	**-0.1**	
	comp=Z,0.5nm,0.6s,baz=46,slow=7.4,SNR=4.1							
MKAR				LR	LR	08 24 16.9		
	comp=Z,32nm,19.6s,baz=141,slow=39							
MKAR	**Makanchi Array**	**47.39**	**294**	P	**P**	**08 01 55.0**	**-0.1**	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MKAR				MLR	MLR			
	comp=Z,32nm,19.6s							
BRVK	**Borovoye**	**49.26**	**307**	P	**P**	**08 02 09.7**	**+0.3**	
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ARU	**Arti**	**51.99**	**316***d*	*iP*	**P**	**08 02 30.4**	**+0.5**	
ARU						08 04 24.5		
ARU				S	**S**	**08 09 50.5**	**-2.8**	
ARU				SS	**SS**	**08 13 22.4**	**-7.0**	
ARU				pmax	pmax			
	comp=Z,11nm,2.5s							
NVAR	**Mina Array Bea**	**54.99**	**71**	P	**P**	**08 02 54.4**	**+1.8**	
	comp=Z,0.7nm,0.6s,baz=301,slow=7.0,SNR=6.7							
PDAR	**Pinedale Array**	**56.47**	**62**	P	**P**	**08 03 04.5**	**+1.3**	
	comp=Z,0.4nm,0.6s,baz=321,slow=3.8,SNR=3.7							
FINES	**FINESS Array B**	**58.31**	**336**	P	**P**	**08 03 16.3**	**+0.8**	
	comp=Z,1.2nm,0.8s,baz=28,slow=3.1,SNR=3.1							
FINES	**FINESS Array B**	**58.31**	**336**	P	**P**	**08 03 16.3**	**+0.8**	
FINES				pmax	pmax			
	comp=Z,1.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**58.71**	**257**	LR	LR	08 31 40.2		
	comp=Z,27nm,18.2s,baz=100,slow=39							
TXAR	**Lajitas Array**	**69.77**	**68**	P	**P**	**08 04 32.0**	**+0.5**	
	comp=Z,0.7nm,0.6s,baz=284,slow=5.0,SNR=9.8							
TXAR	**Lajitas Array**	**69.77**	**68**	P	**P**	**08 04 32.0**	**+0.5**	
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	**72.68**	**338**	LR	LR	08 41 04.6		
	comp=Z,33nm,18.2s,baz=80,slow=39							
WRA	**Warramunga Arr**	**77.95**	**205**	P	**P**	**08 05 20.1**	**+0.9**	
	comp=Z,0.3nm,0.5s,baz=20,slow=6.0,SNR=3.0							
ASAR	**Alice Springs**	**81.64**	**204**	P	**P**	**08 05 38.5**	**-0.6**	
	comp=Z,0.3nm,0.6s,baz=13,slow=5.7,SNR=4.3							

*IDC **22** 07:53:57.2±0.9, 20.°36N × 121.°00E, h0km, mb3.8/9, mb1 1.4/0, mb1mx3.7/45, mbtmp3.8/9, MS3.0/4, Ms1 3.0/4, ms1mx2.7/38, Error ellipse: s-maj=46.1km s-min=18.4km az=65.0*

*ISCJB **22** 07:53:60.0±0.7, 20.°3N±0.°1 × 120.°8E±0.°2, h29km, mb3.7/9, MS2.9/2, Error ellipse: s-maj=28.6km s-min=14.4km az=165.1*

ISC 22 07:54:01.7±1.0, 20.°3N±0.°2 × 120.°9E±0.°3, h29km, n13, σ1§01/10, mb3.8/9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**15.61**	**33**	LR	LR	08 04 14.8	
	comp=Z,52nm,18.5s,baz=220,slow=40						
KSRS	**Korea Array**	**18.19**	**18**	P	**P**	**07 58 13.0**	**+0.8**
	0.2nm,0.3s,baz=201,slow=11,SNR=4.6						
KSRS				LR	LR	08 05 38.3	
	comp=Z,32nm,18.0s,baz=200,slow=39						
CMAR	**Chiang Mai Arr**	**20.74**	**269**	LR	LR	08 05 51.8	
	comp=Z,36nm,20.4s,baz=90,slow=34						
SONM	**Songino Array**	**29.88**	**340**	P	**P**	**08 00 07.0**	**+0.1**
	0.9nm,0.9s,baz=163,slow=7.1,SNR=4.1						
MKAR	**Makanchi Array**	**41.00**	**319**	P	**P**	**08 01 42.4**	**+0.2**
	1.2nm,0.7s,baz=116,slow=9.7,SNR=12						
WRA	**Warramunga Arr**	**42.10**	**161**	P	**P**	**08 01 51.2**	**-0.2**
	0.6nm,0.5s,baz=342,slow=9.1,SNR=5.8						
PETK	**Petropavlovsk-**	**43.30**	**32**	LR	LR	08 22 42.6	
	comp=Z,20nm,18.7s,baz=305,slow=40						
ZALV	**Zalesovo Beam**	**43.39**	**330**	P	**P**	**08 02 00.2**	**-1.3**
	2.2nm,0.7s,baz=110,slow=9.5,SNR=6.1						
KURBB	**Kurchatov Arra**	**44.95**	**323**	P	**P**	**08 02 14.1**	**+0.1**
	2.9nm,0.7s,baz=124,slow=7.5,SNR=18						
ASAR	**Alice Springs**	**45.49**	**163**	P	**P**	**08 02 18.9**	**+0.2**
	0.4nm,0.6s,baz=339,slow=6.2,SNR=3.8						
ILAR	**Eielson Array**	**72.82**	**27**	P	**P**	**08 05 25.8**	**-1.7**
	0.5nm,0.9s,baz=281,slow=5.6,SNR=4.4						
GERES	**GERESS Array B**	**85.65**	**321**	P	**P**	**08 06 38.0**	**+0.1**
	0.3nm,0.3s,baz=36,slow=5.6,SNR=4.4						
YKA	**Yellowknife Ar**	**86.68**	**23**	P	**P**	**08 06 43.8**	**+1.3**
	0.6nm,1.0s,baz=314,slow=5.1,SNR=4.7						

IDC 22 07:59:14.1±1.5, 16.°56S × 178.°40W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/28, mbtmp3.9/6, Error ellipse: s-maj=103.8km s-min=20.0km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.30**	**240**	P	P	08 06 45.1	+0.1
	3.4nm,0.5s,baz=92,slow=6.8,SNR=22						
WRA	**Warramunga Arr**	**44.90**	**258**	P	P	08 07 30.9	-0.1
	2.1nm,0.4s,baz=95,slow=7.0,SNR=17						
ASAR	**Alice Springs**	**45.18**	**253**	P	P	08 07 32.8	-0.4
	20nm,0.6s,baz=88,slow=8.4,SNR=241						
NVAR	**Mina Array Bea**	**78.45**	**44**	P	P	08 11 19.2	+1.9
	0.4nm,0.7s,baz=226,slow=8.3,SNR=3.8						
ILAR	**Eielson Array**	**84.58**	**13**	P	P	08 11 48.6	-0.3
	0.1nm,0.4s,baz=232,slow=4.8,SNR=3.2						
TXAR	**Lajitas Array**	**85.27**	**58**	P	P	08 11 52.5	-0.8
	0.2nm,0.5s,baz=224,slow=5.2,SNR=4.4						
PDAR	**Pinedale Array**	**86.37**	**43**	P	P	08 11 57.6	-1.0
	0.2nm,0.5s,baz=59,slow=0.9,SNR=3.5						

*SJA **22** 08:24:11.5±0.7, 35.°10S × 72.°60W, h42km±13km, ML4.4*

*BJI **22** 08:24:19.0, 34.°30S × 71.°89W, h32km, mB5.2/2, Ms5.1/2, Ms7 4.8/2*

*ISCJB **22** 08:24:20.5±0.6, 34.°80S±0.°03 × 71.°94W±0.°08, h55km±6km, mb4.4/21, MS3.6/5, Error ellipse: s-maj=11.5km s-min=4.2km az=13.0*

*IDC **22** 08:24:21.2±0.6, 34.°81S × 71.°96W, h46km±6km, mb3.9/13, mb1 4.1/16, mb1mx4.0/21, mbtmp4.2/16, ML4.2/3, MS3.5/7, Ms1 3.5/7, ms1mx3.3/20, Error ellipse: s-maj=18.1km s-min=10.8km az=107.0*

*NEIC **22** 08:24:21.0, 34.°73S × 71.°88W, h32km, mb4.8/12, ML4.7(GUC), After GUC.*

NEIC Felt [IV] at Colchagua, Curico, Paredones, Pencahue, Pichilemu, San Fernando and Talca; [III] at Licanten, Linares, Los Quenes, Rancagua and Santa Cruz; [II] at Santiago. Also felt at Buin and San Vicente.

*GUC **22** 08:24:21.1±0.4, 34.°73S × 71.°88W, h32km±1km, ML4.7*

ISC 22 08:24:21.1±0.6, 34.°79S±0.°03 × 71.°94W±0.°07, h43km±5km, h42km:pP-P, n79, σ1§30/99, mb4.5/21, MS3.7/5, 4C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.62**	**110**⇓	*iP*	**Pn**	**08 24 32.8**	**-0.8**
NICH				*i*	S	**Sn**	**08 24 41.6**	**-1.0**
TALC	**Talca**	**0.66**	**157**⇓	*iP*	**Pn**	**08 24 34.4**	**+0.4**
TALC				*i*	S	**Sn**	**08 24 44.3**	**+1.0**
LNV	**Longovilo**	**0.94**	**28**⇓	*iP*	**Pn**	**08 24 36.8**	**-1.1**
LNCH	**Linares**	**1.09**	**165**⇓	*iP*	**Pn**	**08 24 39.6**	**-0.3**
LNCH				*i*	S	**Sn**	**08 24 54.7**	**+0.9**
CHCH	**Chadas Angostu**	**1.37**	**52**⇑	*iP*	**Pn**	**08 24 43.3**	**-0.5**
TACH	**Talagante**	**1.41**	**37**	*eP*	**Pn**	**08 24 43.9**	**-0.4**
TACH				*i*	S	**Sn**	**08 25 02.1**	**+0.4**
PCH	**Pirque**	**1.66**	**46**	*iP*	**Pn**	**08 24 47.5**	**-0.4**
PCH				*i*	S	**Sn**	**08 25 08.2**	**+0.1**
SAN	**Santiago**	**1.71**	**39**⇓	*iP*	**Pn**	**08 24 48.1**	**-0.4**
SAN				*i*	S	**Sn**	**08 25 09.4**	**+0.4**
SJCH	**San Jose de Ma**	**1.75**	**49**⇑	*iP*	**Pn**	**08 24 48.0**	**-1.0**
SJCH				*i*	S	**Sn**	**08 25 09.7**	**-0.5**
FSR	**Penalolen**	**1.76**	**42**	*eP*	**Pn**	**08 24 49.9**	**+0.7**
FSR				*i*	S	**Sn**	**08 25 11.7**	**+1.3**
LACH	**Col Las Americ**	**1.78**	**42**⇑	*iP*	**Pn**	**08 24 48.5**	**-1.0**
LACH				*i*	S	**Sn**	**08 25 10.5**	**-0.3**
LACH					AML	AML	08 25 21.0	
	comp=N,8μm,0.4s							
CLCH	**Cerro Calan**	**1.82**	**40**⇑	*iP*	**Pn**	**08 24 49.7**	**-0.3**
CLCH				*i*	S	**Sn**	**08 25 12.0**	**+0.1**
CLCH					AML	AML	08 25 17.4	
	comp=N,19μm,0.7s							
YECH	**El Yeso**	**1.91**	**54**⇓	*iP*	**Pn**	**08 24 53.3**	**+1.9**
YECH				*i*	S	**Sn**	**08 25 17.1**	**+2.8**
YECH					AML	AML	08 25 19.9	
	comp=N,17μm,0.3s							
PEL	**Peldehue**	**1.95**	**33**⇓	*iP*	**Pn**	**08 24 51.5**	**-0.3**
PEL				*e*	S	**Sn**	**08 25 15.5**	**+0.4**
PEL					AML	AML	08 25 21.1	
	comp=E,14μm,0.5s							
AAGR	**Agrelo**	**3.10**	**58**	*eP*	**Pn**	**08 25 09.1**	**+1.5**
AAGR				*eP*	**Pn**	**08 25 09.1**	**+1.5**
ARCO	**CERRO ARCO**	**3.17**	**53**	*eP*	**Pn**	**08 25 10.2**	**+1.5**
ARCO				*i*	S	Sn	08 25 53.9	+8.5
ARCO					AML	AML	08 26 01.4	
	comp=Z,555nm,0.5s							
AUSP	**Uspallata**	**3.33**	**41**	*eP*	**Pn**	**08 25 12.6**	**+1.6**
AUSP				*i*	S	Sn	08 25 57.9	+8.3
ASAL	**Salagasta**	**3.40**	**51**	*eP*	**Pn**	**08 25 13.9**	**+2.2**
ASAL				*i*	S	Sn	08 25 58.7	+7.9
RTLS	**Leoncito**	**3.72**	**37**	*eP*	**Pn**	**08 25 18.1**	**+1.8**
RTCV	**Cerro Valdivia**	**4.08**	**45**	*eP*	**Pn**	**08 25 22.2**	**+1.1**
RTCV				*i*	S	Sn	08 26 15.9	+8.3
CFAA	**Coronel Fontan**	**4.45**	**45**	P	**Pn**	**08 25 26.1**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=162,slow=2.7,SNR=43							
CFAA					S	**Sn**	**08 26 20.8**	**+4.3**
	comp=Z,4.3nm,0.3s,baz=36,slow=11,SNR=8.5							
CFAA					LR	LR	08 27 19.4	
	comp=Z,67nm,20.9s,baz=226,slow=40							
LCO	**Las Campanas**	**5.86**	**11**	*e*Pn	**Pn**	**08 25 44.7**	**-1.0**
TRQA	**Tornquist**	**8.66**	**115**	*e*Pn	**Pn**	**08 26 24.8**	**+0.9**
LVC	**Limon Verde**	**12.42**	**13**	P	**Pn**	**08 27 15.6**	**0.0**
	comp=Z,9.8nm,0.3s,baz=192,slow=9.3,SNR=3.0							
LVC					S	**Sn**	**08 29 37.0**	**+4.2**
	comp=Z,17nm,0.3s,baz=253,slow=17,SNR=2.7							
LVC					LR	LR	08 32 11.4	
	comp=Z,600nm,19.2s,baz=212,slow=38							
CPUP	**Villa Florida**	**15.14**	**60**	*e*Pn	**Pn**	**08 27 51.8**	**-0.2**
LPAZ	**La Paz**	**18.74**	**11**	P	**P**	**08 28 36.7**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=176,slow=8.2,SNR=18							
LPAZ	**La Paz**	**18.74**	**11**	*eP*	**Pn**	**08 28 37.7**	**-0.1**
PCH	comp=Z,6.3nm,0.9s							
USHA	**Ushuaia**	**20.19**	**174**	P	**P**	**08 28 51.8**	**-0.1**
	comp=Z,2.5nm,1.0s,baz=5.2,slow=11,SNR=2.1							
SIV	**San Ignacio**	**21.11**	**30**	P	**P**	**08 29 00.3**	**-1.9**
	comp=Z,14nm,0.9s,baz=208,slow=10.0,SNR=40							
SIV					LR	LR	08 37 57.9	
	comp=Z,97nm,20.4s,baz=178,slow=39							
SAML	**Samuel**	**26.95**	**19**	*eP*	**P**	**08 29 57.2**	**-1.4**
	comp=Z,3.2nm,0.8s							
BDFB	**Brasilia**	**28.72**	**54**	P	**P**	**08 30 13.1**	**-1.5**
	comp=Z,2.2nm,0.6s,baz=242,slow=8.1,SNR=3.2							
BDFB					LR	LR	08 42 52.8	
	comp=Z,187nm,19.4s,baz=157,slow=39							
PTGA	**Pitinga**	**35.69**	**21**	*eP*	**P**	**08 31 14.0**	**-1.4**
	comp=Z,12nm,0.8s							
SDV	**Santo Domingo**	**43.46**	**2**	*eP*	**P**	**08 32 19.5**	**-0.8**
	comp=Z,3.5nm,0.9s							
SNAA	**Sanae**	**50.82**	**158**	P	**P**	**08 33 17.0**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=267,slow=4.1,SNR=11							
QSPA	**South Pole Qui**	**55.45**	**180**	P	**P**	**08 33 52.4**	**+1.3**
	comp=Z,3.1nm,0.9s,baz=160,slow=6.3,SNR=8.8							
QSPA					pP	**pP**	**08 34 04.1**	**+0.8**
	comp=Z,4.6nm,0.9s,baz=131,slow=3.0,SNR=8.2							
QSPA	**South Pole Qui**	**55.45**	**180**	*eP*	**P**	**08 33 52.8**	**+1.7**
	comp=Z,6.6nm,0.9s							
QSPA					pP	**pP**	**08 34 04.1**	**+0.8**
JCT	**Junction City**	**70.03**	**335**	*eP*	**P**	**08 35 27.9**	**-0.5**
	comp=Z,4.1nm,0.8s							
TXAR	**Lajitas Array**	**70.46**	**331**	P	**P**	**08 35 31.8**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=159,slow=9.3,SNR=5.9							
TXAR					pP	**pP**	**08 35 43.5**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=150,slow=7.3,SNR=7.5							
TXAR					LR	LR	09 00 49.9	
	comp=Z,32nm,20.8s,baz=0.0,slow=31							
TX31	**Lajitas Ar. Si**	**70.46**	**331**	*eP*	**P**	**08 35 32.2**	**+1.1**
CPCT	**Cooper Cave**	**70.86**	**349**	*eP*	**P**	**08 35 33.0**	**-0.3**
TKL	**Tuckaleechee C**	**70.95**	**350**	*eP*	**P**	**08 35 32.6**	**-1.3**
WVT	**Waverly**	**72.10**	**347**	*eP*	**P**	**08 35 40.5**	**-0.2**
	comp=Z,11nm,0.8s							
JSRW	**J. Sargeant Re**	**72.33**	**355**	*eP*	**P**	**08 35 42.8**	**+0.7**
MAW	**Mawson**	**72.40**	**163**	P	**P**	**08 35 42.5**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=246,slow=5.7,SNR=5.7							
MAW					pP	**pP**	**08 35 54.5**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=20,slow=22,SNR=3.2							
UTMT	**University of**	**72.51**	**346**	*eP*	**P**	**08 35 43.9**	**+0.8**
	comp=Z,21nm,0.8s							
SLM	**Saint Louis**	**75.00**	**345**	*eP*	**P**	**08 35 57.6**	**-0.1**
	comp=Z,12nm,0.6s							
DBIC	**Dimbokro**	**75.36**	**71**	P	**P**	**08 35 59.3**	**-1.1**
	comp=Z,3.8nm,0.7s,baz=224,slow=5.1,SNR=5.1							
DBIC					LR	LR	09 06 07.2	
	comp=Z,47nm,21.3s,baz=100,slow=33							
DBIC	**Dimbokro**	**75.36**	**71**	*eP*	**P**	**08 35 59.7**	**-0.7**
	comp=Z,38nm,1.6s							
MDV	**Middlebury**	**78.43**	**359**	*eP*	**P**	**08 36 17.4**	**+0.5**
BOSA	**Boshof**	**79.63**	**118**	P	**P**	**08 36 23.5**	**-0.8**
	comp=Z,6.6nm,0.8s,baz=243,slow=4.7,SNR=10							
BOSA	**Boshof**	**79.63**	**118**	*eP*	**P**	**08 36 23.6**	**-0.7**
PV10	**Paradox Valley**	**80.52**	**331**	*eP*	**P**	**08 36 29.9**	**+1.1**
ECSD	**EROS Data Cent**	**81.33**	**342**	*eP*	**P**	**08 36 32.8**	**+0.1**
	comp=Z,4.7nm,0.8s							
LBTB	**Lobatse**	**81.90**	**115**	*eP*	**P**	**08 36 35.8**	**-0.7**
	comp=Z,70nm,2.0s							
RPZ	**Rata Peaks**	**83.09**	**221**	LR	LR	09 04 17.2	
	comp=Z,42nm,21.4s,baz=227,slow=29							
TORD	**Torodi Ar. Bea**	**84.41**	**70**	P	**P**	**08 36 48.1**	**-1.2**
	comp=Z,3.3nm,0.9s,baz=240,slow=4.5,SNR=15							
PDAR	**Pinedale Array**	**84.50**	**333**	P	**P**	**08 36 49.1**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=113,slow=3.4,SNR=4.1							
NVAR	**Mina Array Bea**	**84.58**	**325**	P	**P**	**08 36 51.2**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=159,slow=5.8,SNR=5.1							
NVAR					pP	**pP**	**08 37 03.3**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=156,slow=4.6,SNR=4.5							
ULM	**Lac du Bonnet**	**87.28**	**345**	P	**P**	**08 37 02.4**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=186,slow=9.2,SNR=3.0							
H11S2	**WAKE ISLAND Hyl**	**25.83**	**269**	T	T	11 01 53.6	
	baz=119,slow=74,SNR=5.9							
H11S1	**WAKE ISLAND Hyl**	**25.85**	**269**	T	T	11 01 52.1	
	baz=119,slow=74,SNR=12							
H11S3	**WAKE ISLAND Hyl**	**25.85**	**269**	T	T	11 01 53.2	
	baz=119,slow=74,SNR=8.2							
H11N3	**WAKE ISLAND Hyl**	**26.27**	**270**	T	T	11 02 19.4	
	baz=115,slow=78,SNR=4.0							
H11N1	**WAKE ISLAND Hyl**	**26.28**	**270**	T	T	11 02 18.2	
	baz=115,slow=78,SNR=9.3							
H11N2	**WAKE ISLAND Hyl**	**26.28**	**270**	T	T	11 02 23.4	
	baz=115,slow=78,SNR=6.2							
BRVK	**Borovoye**	**147.73**	**44**	*e*PKPbc	**PKPbc**	**08 44 00.5**	**0.0**
BVAR	**Borovoye Array**	**147.80**	**44**	PKPbc	**PKPbc**	**08 44 01.0**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=247,slow=3.0,SNR=7.0							
EKS2	**Erkin-Say**	**152.27**	**63**	*e*PKPbc	**PKPbc**	**08 44 12.1**	**0.0**
AAK	**Ala-Archa**	**152.80**	**63**	*e*PKPbc	**PKPbc**	**08 44 13.4**	**+0.1**
KURBB	**Kurchatov Arra**	**153.38**	**44**	PKPbc	**PKPbc**	**08 44 13.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=300,slow=2.9,SNR=6.3							
KURK	**Kurchatov**	**153.40**	**44**	PKPbc	**PKPbc**	**08 44 13.4**	**-0.7**
KSH	**Kashi**	**154.08**	**70**	*e*PKPbc	**PKPdf**	**08 44 07.9**	**-0.2**
KSH				pPKP	**PKPbc**	**08 44 15.9**	**-0.3**
KSH				sPKP		08 44 21.5	
KSH				PKS	**PKSdf**	**08 47 44.4**	**+2.0**
KSH				PP	**PP**	**08 48 01.5**	**-3.8**
KSH				SKS	**SKSdf**	**08 51 10.8**	**-0.7**
KSH				PPMZ			
	comp=Z,100nm,4.9s							
ZALV	**Zalesovo Beam**	**154.85**	**33**	PKPab	**PKPab**	**08 44 30.7**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=242,slow=3.1,SNR=3.8							
MKAR	**Makanchi Array**	**157.22**	**50**	PKPab	**PKPab**	**08 44 41.5**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=276,slow=3.9,SNR=5.4							
WMQ	**Urumqi**	**161.88**	**54**	*e*PKP	**PKPdf**	**08 44 18.0**	**+0.6**
QIZ	**Qiongzhong**	**164.22**	**186**	PKP	**PKPdf**	**08 44 20.5**	**+0.2**
QIZ				PP	**PP**	**08 49 01.6**	**+2.9**
QIZ				SS	SS	09 09 31.3	+5.9
NJ2	**Nanjing**	**170.57**	**256**	*e*PKP	**PKPdf**	**08 44 25.6**	**+1.1**
HHC	**Hu-ho-hao-te**	**173.35**	**336**	*e*PKP	**PKPdf**	**08 44 24.3**	**-1.3**
LZH	**Lanzhou**	**176.33**	**68**	*e*PKP	**PKPdf**	**08 44 27.0**	**+0.2**
LZH				pPKP	**pPKPdf**	**08 44 38.3**	**-2.0**
LZH				sPKP		08 44 42.5	
LZH				PKPab	**PKPab**	**08 46 11.0**	**+3.2**
	comp=Z,140nm,18.1s							
LZH				LE				
	comp=Z,150nm,18.3s							
LZH				LZ				
	comp=Z,170nm,20.2s							

GUC 22 08:39:59.7±0.5, 34.°82S × 72.°93W, h20km±7km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.21**	**119**	*eP*	Pb	08 40 21.8	-0.2
TALC				*eS*	Sg	08 40 38.5	-0.7
NICH	**Los Niches**	**1.41**	**98**	*eP*	Pb	08 40 25.2	-0.2
NICH				*eS*	Sg	08 40 44.5	-1.1
CHCH	**Chadas Angostu**	**2.08**	**66**	*eS*	Sb	08 41 02.9	+0.4
CLCH	**Cerro Calan**	**2.44**	**55**	*eP*	Pb	08 40 41.3	-1.7
CLCH				*eS*	Sb	08 41 13.1	+0.3
CLCH				AML	AML	08 41 21.3	
	comp=N,254nm,0.5s						
PEL	**Peldehue**	**2.50**	**49**	*eP*	Pb	08 40 42.1	-2.0
PEL				*eS*	Sb	08 41 14.1	-0.5
PEL				AML	AML	08 41 25.1	
	comp=E,243nm,0.5s						

*IDC **22** 08:45:02.4±0.5, 7.°56N × 91.°80E, h0km, mb4.3/17, mb1 4.4/20, mb1mx4.3/30, mbtmp4.3/20, ML4.0/3, MS3.5/5, Ms1 3.5/5, ms1mx3.2/30, Error ellipse: s-maj=24.5km s-min=13.1km az=51.0*

*ISCJB **22** 08:45:04.1±0.4, 7.°51N±0.°06 × 91.°86E±0.°06, h24km, mb4.6/33, MS3.6/4, Error ellipse: s-maj=11.0km s-min=5.9km az=136.1*

*MOS **22** 08:45:05.6±0.9, 7.°61N × 91.°91E, h33km, mb4.8/17, Error ellipse: s-maj=14.3km s-min=8.2km az=119.9*

*NEIC **22** 08:45:06.8±2.1, 7.°56N × 91.°88E, h28km±15km, mb5.0/9, Error ellipse: s-maj=9.5km s-min=6.1km az=224.0*

ISC 22 08:45:06.2±0.4, 7.°54N±0.°07 × 91.°81E±0.°06, h24km, n95, σ1§15/97, mb4.6/33, MS3.5/4, 3C-4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**5.60**	**114**	*e*Pn	**Pn**	**08 46 26.9**	**-1.2**
PSI	**Prapat**	**8.50**	**123**	Pn	**Pn**	**08 47 07.9**	**-0.2**
	0.6nm,0.3s,baz=219,slow=13,SNR=2.5						
PSI					Sn	**Sn**	**08 48 40.7**	**-2.8**
	2.3nm,0.3s,baz=218,slow=18,SNR=7.7						
PSI					LR	LR	08 50 47.9	
	comp=Z,300nm,21.7s,baz=334,slow=40						
PSI	**Prapat**	**8.50**	**123**	P	**Pn**	**08 47 07.9**	**-0.2**
PSI							08 48 40.7	
PSI				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PSI				smax	smax			
	comp=N,2.0nm,0.3s							
PSI				MLR	MLR			
	comp=Z,300nm,21.7s							
PALK	**Pallekele**	**11.02**	**269**	Pn	**Pn**	**08 47 44.9**	**+2.4**
	comp=Z,251nm,0.4s,SNR=8.1							
PALK	**Pallekele**	**11.02**	**269**	Pn	**Pn**	**08 47 44.2**	**+1.7**
	comp=Z,324nm,1.4s,SNR=8.1							
PALK	**Pallekele**	**11.02**	**269**	Pn	**Pn**	**08 47 41.5**	**-1.0**
	comp=Z,2.8nm,0.3s,baz=89,slow=17,SNR=16							
PALK					Sn	Sn	08 49 31.1	-14
	comp=Z,4.

	comp=Z,2.0nm,0.7s									
WRAB	**Tennant Creek**	**49.98**	**124**	*e*P		**P**		**08 53 58.9**	**0.0**	
	comp=Z,31nm,1.7s									
MJAR	**Matsushiro Arr**	**51.11**	**49**	PcP		**PcP**		**08 55 23.1**	**+0.3**	
	comp=Z,2.7nm,0.8s,baz=246,slow=5.1,SNR=7.3									
MJAR				LR		LR		09 18 10.3		
	comp=Z,26nm,18.1s,baz=165,slow=39									
AKTO	**Aktyubinsk**	**51.16**	**333**	P		**P**		**08 54 06.4**	**-1.0**	
	comp=Z,4.9nm,1.0s,baz=116,slow=7.3,SNR=6.5									
AKTO	**Aktyubinsk**	**51.16**	**333**	P		**P**		**08 54 06.4**	**-1.0**	
AKTO				pmax		pmax				
	comp=Z,5.0nm,1.0s									
ASAR	**Alice Springs**	**51.50**	**128**	P		**P**		**08 54 10.0**	**-0.3**	
	comp=Z,1.6nm,0.9s,baz=301,slow=7.1,SNR=11									
ASAR				PcP		**PcP**		**08 55 25.0**	**+0.5**	
	comp=Z,1.8nm,0.7s,baz=301,slow=3.7,SNR=12									
ASAR	**Alice Springs**	**51.50**	**128**	P		**P**		**08 54 10.0**	**-0.3**	
ASAR								08 55 25.0		
ASAR				pmax		pmax				
	comp=Z,2.0nm,0.9s									
ASAR				pmax		pmax				
	comp=Z,2.0nm,0.7s									
BOD	**Bodaibo**	**53.03**	**15**	*e*P		**P**		**08 54 20.8**	**-0.3**	
BOD				pmax		pmax				
	comp=Z,13nm,1.0s									
SVE	**Sverdlovsk**	**54.89**	**340**⇓	*e*P		**P**		**08 54 35.5**	**+0.8**	
SVE				pmax		pmax				
	comp=Z,36nm,1.0s									
ARU	**Arti**	**55.32**	**338**	*d i*P		**P**		**08 54 37.8**	**0.0**	
ARU								08 56 43.3		
ARU				S		**S**		**09 02 19.3**	**-1.1**	
ARU				SS		**SS**		**09 06 00.4**	**-4.6**	
ARU				pmax		pmax				
	comp=Z,15nm,1.2s									
KBZ	**Khabaz**	**55.80**	**319**	P		**P**		**08 54 41.5**	**0.0**	
	comp=Z,2.1nm,0.7s,baz=108,slow=8.1,SNR=3.9									
BRTR	**Keskin Array B**	**60.91**	**311**	P		**P**		**08 55 16.3**	**-1.2**	
	comp=Z,1.2nm,0.7s,baz=131,slow=5.7,SNR=6.4									
BRTR	**Keskin Array B**	**60.91**	**311**	*e*P		**P**		**08 55 16.3**	**-1.2**	
BRTR				pmax		pmax				
	comp=Z,1.0nm,0.7s									
STKA	**Stephens Creek**	**61.57**	**132**	P		**P**		**08 55 21.2**	**-0.7**	
	comp=Z,3.5nm,0.8s,baz=315,slow=8.1,SNR=9.1									
STKA	**Stephens Creek**	**61.57**	**132**	*e*P		**P**		**08 55 21.6**	**-0.2**	
STKA				pmax		pmax				
	comp=Z,4.0nm,0.8s									
STKA	**Stephens Creek**	**61.57**	**132**	*e*P		**P**		**08 55 22.1**	**+0.2**	
	comp=Z,0.8nm,0.8s									
OBN	**Obninsk**	**64.44**	**328**⇓	*e*P		**P**		**08 55 40.5**	**0.0**	
OBN				pmax		pmax				
	comp=Z,10.0nm,0.6s									
OBN				MLR		MLR				
	comp=Z,63nm,19.0s									
TIXI	**Tiksi**	**68.03**	**12**	*d i*P		**P**		**08 56 02.7**	**-0.5**	
TIXI				pmax		pmax				
	comp=Z,38nm,1.2s									
TIXI	**Tiksi**	**68.03**	**12**	*e*P		**P**		**08 56 02.5**	**-0.7**	
	comp=Z,19nm,0.7s									
FINES	**FINESS Array B**	**71.94**	**333**	P		**P**		**08 56 26.9**	**-0.5**	
	comp=Z,4.9nm,0.7s,baz=102,slow=6.1,SNR=7.1									
FINES	**FINESS Array B**	**71.94**	**333**	*ce*P		**P**		**08 56 26.8**	**-0.6**	
FINES				pmax		pmax				
	comp=Z,5.0nm,0.7s									
BOSA	**Boshof**	**73.45**	**237**	P		**P**		**08 56 38.1**	**+0.8**	
	comp=Z,3.3nm,0.8s,baz=129,slow=6.5,SNR=3.7									
BOSA	**Boshof**	**73.45**	**237**	P		**P**		**08 56 38.1**	**+0.8**	
BOSA				pmax		pmax				
	comp=Z,3.0nm,0.8s									
ARCES	**ARCESS Array B**	**74.80**	**341**	P		**P**		**08 56 44.0**	**-0.3**	
	comp=Z,6.2nm,0.9s,baz=94,slow=4.7,SNR=4.2									
ARCES	**ARCESS Array B**	**74.80**	**341**	*e*P		**P**		**08 56 44.7**	**+0.5**	
ARCES				pmax		pmax				
	comp=Z,6.0nm,0.9s									
DPC	**Dobruska-Polom**	**74.98**	**320**	*e*P		**P**		**08 56 45.8**	**+0.1**	
DPC				*ep*P		**pP**		**08 56 54.8**	**+1.4**	
DPC	**Dobruska-Polom**	**74.98**	**320**	*e*P		**P**		**08 56 45.8**	**+0.1**	
DPC				*e*				08 56 54.8		
PRU	**Pruhonice**	**76.08**	**320**	*e*P		**P**		**08 56 52.7**	**+0.8**	
PRU	**Pruhonice**	**76.08**	**320**	*e*P		**P**		**08 56 52.7**	**+0.8**	
BRG	**Berggiesshubel**	**76.53**	**320**	*e*P		**P**		**08 56 54.9**	**+0.4**	
	comp=Z,6.0nm,1.2s									
BRG	**Berggiesshubel**	**76.53**	**320**	*e*P		**P**		**08 56 54.9**	**+0.4**	
BRG				pmax		pmax				
	comp=Z,6.0nm,1.2s									
GERES	**GERESS Array B**	**76.54**	**318**	P		**P**		**08 56 54.7**	**0.0**	
	comp=Z,2.0nm,0.7s,baz=91,slow=5.9,SNR=8.5									
GERES	**GERESS Array B**	**76.54**	**318**	P		**P**		**08 56 54.7**	**0.0**	
GERES				pmax		pmax				
	comp=Z,2.0nm,0.7s									
KHC	**Kasperske Hory**	**76.64**	**319**	*e*P		**P**		**08 56 54.4**	**-0.8**	
KHC				*ep*P		**pP**		**08 57 04.1**	**+1.2**	
KHC	**Kasperske Hory**	**76.64**	**319**	*e*P		**P**		**08 56 54.4**	**-0.8**	
KHC				*e*				08 57 04.1		
CLL	**Collm**	**77.16**	**321**	*i* P		**P**		**08 56 58.1**	**+0.1**	
	comp=Z,6.0nm,0.9s									
CLL	**Collm**	**77.16**	**321**	*i* P		**P**		**08 56 58.1**	**+0.1**	
CLL				pmax		pmax				
	comp=Z,6.0nm,0.9s									
NOA	**NORSAR Array B**	**78.89**	**331**	P		**P**		**08 57 06.3**	**-1.1**	
	comp=Z,2.8nm,0.9s,baz=95,slow=5.4,SNR=4.2									
NOA	**NORSAR Array B**	**78.89**	**331**	*e*P		**P**		**08 57 05.9**	**-1.6**	
NOA				pmax		pmax				
	comp=Z,3.0nm,0.9s									
BNI	**Bardonecchia**	**81.28**	**314**	*e*P		P		08 57 17.1	-3.7	
	comp=Z,14nm,1.2s									
TORD	**Torodi Ar. Bea**	**88.42**	**283**	P		**P**		**08 57 56.6**	**-0.6**	
	comp=Z,0.6nm,0.9s,baz=90,slow=3.2,SNR=3.6									
TORD				LR		LR		09 36 11.7		
	comp=Z,52nm,18.1s,baz=170,slow=35									
ESDC	**Sonseca Array**	**89.66**	**310**	P		**P**		**08 58 02.1**	**-0.5**	
	comp=Z,1.0nm,0.7s,baz=82,slow=4.0,SNR=5.3									
BORG	**Borgarnes**	**92.83**	**337**	*i* P		**P**		**08 58 17.3**	**+0.6**	
PDAR	**Pinedale Array**	**126.28**	**19**	PKP		**PKPdf**		**09 04 07.0**	**-0.6**	
	comp=Z,0.7nm,0.8s,baz=41,slow=4.7,SNR=5.5									
NVAR	**Mina Array Bea**	**126.37**	**29**	PKP		**PKPdf**		**09 04 09.3**	**+1.5**	
	comp=Z,1.5nm,0.8s,baz=239,slow=2.0,SNR=10									
ANMO	**Albuquerque**	**134.36**	**21**⇑	*e*PKIKP		**PKPdf**		**09 04 24.5**	**+1.4**	
TXAR	**Lajitas Array**	**140.43**	**21**	PKP		**PKPdf**		**09 04 34.5**	**+0.2**	
	comp=Z,0.3nm,0.6s,baz=212,slow=1.2,SNR=4.3									
LPAZ	**La Paz**	**158.55**	**244**	PKPab		**PKPab**		**09 05 39.4**	**+0.8**	
	comp=Z,1.6nm,0.8s,baz=102,slow=4.2,SNR=6.2									
LPAZ	**La Paz**	**158.55**	**244**	PKP2		**PKPab**		**09 05 39.4**	**+0.8**	
LPAZ				pmax		pmax				
	comp=Z,2.0nm,0.8s									
LPAZ	**La Paz**	**158.55**	**244**	*e*PKPab		**PKPab**		**09 05 39.2**	**+0.7**	

ISCJB ***22*** *08:45:58.1±0.2,38.25N±0.03×106.31E±0.04,h10km, mb4.3/42,MS3.8/20,Error ellipse: s-maj=4.2km s-min=3.8km az=148.0*

IDC ***22*** *08:45:58.6±0.6,38.31N×106.30E,h0km,mb4.0/22, mb1 4.2/26,mb1mx4.1/33,mbtmp4.0/26,ML3.6/4,MS3.6/17, Ms1 3.6/17,ms1mx3.5/30,Error ellipse: s-maj=16.3km s-min=11.3km az=50.0*

NEIC ***22*** *08:46:01.8±0.3,38.36N×106.36E,mb4.6/21,Error ellipse: s-maj=7.1km s-min=5.8km az=63.0*

NEIC Felt [III] at Yinchuan.

BJI ***22*** *08:46:01.0,38.27N×106.20E,h6km,mb4.5/24,mB4.5/13, ML5.0/25,Ms4.4/30,Ms7 4.0/20*

MOS ***22*** *08:46:03.6±1.9,38.61N×106.53E,h33km,mb4.5/19,Error ellipse: s-maj=12.9km s-min=7.6km az=106.0*

ISC 22 08:46:00.5±0.3,38.23N±0.03×106.33E±0.03,h10km,n126, σ1.978/124,mb4.5/42,MS3.8/20,3C-5D,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**2.92**	**224**	Pn	**Pn**	**08 46 48.5**	**+1.4**
LZH				Pg	**Pb**	**08 46 53.6**	**+1.0**
LZH				Sg	**Sb**	**08 47 30.9**	**+2.5**
LZH				SMN			
	4μm,0.8s						
LZH				SME			
	7μm,0.7s						
LZH	**Lanzhou**	**2.92**	**224**	Pn	**Pn**	**08 46 48.5**	**+1.4**
LZH				Pg	**Pb**	**08 46 53.6**	**+1.0**
LZH				Sg	**Sb**	**08 47 30.9**	**+2.5**
BTO	**Baotou**	**3.72**	**49**	*e*Pg	**Pb**	**08 47 07.1**	**+0.8**
BTO				Sg	**Sb**	**08 47 53.9**	**+2.5**
BTO				SMN			
	8μm,0.3s						
BTO				SME			
	10μm,0.3s						
XAN	**Xi'an**	**4.68**	**153**	Pn	**Pn**	**08 47 12.8**	**+1.6**
XAN				Pg	**Pg**	**08 47 30.4**	**+0.3**
XAN				Sn	**Sn**	**08 48 04.6**	**-1.0**
XAN				Sg	**Sg**	**08 48 28.1**	**-2.6**
XAN				SMN			
	1μm,0.9s						
XAN				SME			
	310nm,0.8s						
XAN				LN			
	1μm,8.3s						
XAN				LE			
	300nm,9.7s						
HHC	**Hu-ho-hao-te**	**4.82**	**55**	*e*Pn	**Pn**	**08 47 13.3**	**+0.1**
HHC				Pg	**Pb**	**08 47 25.8**	**+0.7**
HHC				Sn	**Sn**	**08 48 07.4**	**-1.7**
HHC				Sg	**Sb**	**08 48 27.1**	**+3.9**
HHC				SMN			
	2μm,0.4s						
HHC				SME			
	3μm,0.4s						
TIY	**Taiyuan**	**4.85**	**94**	*e*Pn	**Pn**	**08 47 13.1**	**-0.5**
TIY				Pg	Pb	08 47 29.8	+4.2
TIY				Sg	**Sg**	**08 48 31.9**	**-4.4**
TIY				SMN			
	8μm,0.8s						
TIY				SME			
	6μm,0.8s						
GTA	**Gaotai**	**5.22**	**285**	⇑Pn	**Pn**	**08 47 17.6**	**-1.1**
GTA				Pg	**Pb**	**08 47 31.4**	**-0.5**
GTA				Sn	**Sn**	**08 48 15.0**	**-4.0**
GTA				Sg	**Sb**	**08 48 36.6**	**+1.9**
GTA				SMN			
	1μm,0.9s						
GTA				SME			
	2μm,0.8s						
GTA				LN			
	7μm,11.4s						
GTA				LE			
	3μm,12.8s						
GTA				LZ			
	910nm,9.0s						
CD2	**Chengdu**	**7.60**	**197**	Pn	**Pn**	**08 47 53.8**	**+2.5**
CD2				Sn	**Sn**	**08 49 15.8**	**-1.8**
CD2				Sg	Sg	08 50 00.3	-4.1
CD2				SMN			
	670nm,0.8s						
CD2				SME			
	500nm,0.8s						
BJI	**Beijing**	**7.87**	**74**	Pn	Pb	08 48 21.4	+4.6
BJI				P*	Pg	08 48 24.3	-6.7
BJI				Pg	Pg	08 48 28.0	-3.0
BJI				Sn	Sg	08 50 03.8	-9.0
BJI				S*	**Sg**	**08 50 11.3**	**-1.5**
BJI				Sg	**Sg**	**08 50 17.4**	**+4.6**
BJI				smax	smax		
	comp=N,1.0nm,0.8s						
BJI				LR	LR		
	comp=N,2μm,11.8s						
BJI				LR	LR		
	comp=E,1μm,10.1s						
ENH	**Enshi**	**8.36**	**161**	*e*Pn	**Pn**	**08 48 02.8**	**+1.1**
TIA	**Tai'an**	**8.85**	**100**	*e*P	Pg	08 48 46.9	-2.9
TIA				S	Sg	08 50 24.3	-20
TIA				LR	LR		
	comp=N,2μm,4.0s						
TIA				LR	LR		
	comp=E,1μm,5.0s						
TIA				LR	LR		
	comp=Z,930nm,9.0s						
SONM	**Songino Array**	**9.60**	**0**	Pn	**Pn**	**08 48 18.2**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=186,slow=15,SNR=36						
SONM				Sn	**Sn**	**08 50 04.0**	**-2.8**
	comp=Z,3.1nm,0.3s,baz=186,slow=27,SNR=3.0						
SONM				Lg	Lg	08 51 01.8	
	comp=Z,7.8nm,0.3s,baz=197,slow=24,SNR=5.2						
SONM	**Songino Array**	**9.60**	**0**	P	**Pn**	**08 48 18.2**	**-0.6**
SONM						08 50 04.0	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM				smax	smax		
	comp=N,3.0nm,0.3s						
WHN	**Wuhan**	**10.13**	**137**	P	**Pn**	**08 48 27.3**	**+1.4**
WHN				LE			
	comp=N,3μm,3.2s						
GYA	**Guiyang**	**11.74**	**179**⇓	*i*P	**Pn**	**08 48 48.3**	**+0.2**
GYA				S	**Sn**	**08 50 57.8**	**-1.5**
GYA				PMZ			
	comp=N,10.0nm,0.8s						
GYA				PMZ			
	comp=N,90nm,4.3s						
GYA				LN			
	comp=N,270nm,8.4s						
GYA				LE			
	comp=N,1μm,11.5s						
GYA				LZ			
	comp=N,1μm,8.8s						
NJ2	**Nanjing**	**11.96**	**117**	*e*P	Pn	08 48 57.3	+6.3
NJ2				S	Sn	08 51 15.0	+11
NJ2				PMZ			
	comp=N,20nm,0.7s						
NJ2				LN			
	comp=N,2μm,21.0s						
NJ2				LE			
	comp=N,1μm,17.4s						
NJ2				LZ			
	comp=N,1μm,19.2s						
ZAK	**Zakamensk**	**12.34**	**351**	*e*P	**Pn**	**08 48 54.6**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.8s						
TLY	**Talaya**	**13.58**	**353**	Pn	**Pn**	**08 49 12.6**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=180,slow=13,SNR=8.0						
TLY				Lg	Lg	08 53 06.1	
	comp=Z,0.0nm,0.3s,baz=255,slow=17,SNR=4.4						
TLY				LR	LR	08 54 59.1	
	comp=Z,282nm,18.3s,baz=160,slow=40						
SNY	**Shenyang**	**13.70**	**69**	⇓P	**Pn**	**08 49 15.1**	**+0.4**
SNY				PMZ			
	comp=Z,9.0nm,0.4s						
SNY				LN			
	comp=Z,460nm,4.5s						
SNY				LE			
	comp=Z,400nm,7.4s						
SNY				LZ			
	comp=Z,370nm,10.0s						
IRK	**Irkutsk**	**14.09**	**355**	*e*P	**Pn**	**08 49 19.4**	**-0.6**
IRK				pmax	pmax		
	comp=Z,33nm,1.6s						
LSA	**Lhasa**	**15.18**	**240**	*e*Pn	**P**	**08 49 38.9**	**-1.7**
CN2	**Changchun**	**15.46**	**63**	*e*P	**Pn**	**08 49 40.0**	**+1.5**
CN2				*es*P	**sP**	**08 49 47.0**	**-0.1**
CN2				*eS*	**Sn**	**08 52 31.1**	**+1.3**
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
CN2				PMZ			
	comp=Z,200nm,3.0s						
CN2				LN			
	comp=Z,700nm,12.0s						
CN2				LE			
	comp=Z,400nm,12.0s						
CN2				LZ			
	comp=Z,500nm,13.0s						
GZH	**Guangzhou**	**16.25**	**156**	P	**Pn**	**08 49 46.4**	**-2.4**
GZH				PP	**PnPn**	**08 50 00.0**	**+2.3**
GZH				S	**Sn**	**08 52 44.8**	**-4.2**
GZH				LR	LR		
	comp=N,2μm,8.6s						
GZH				LR	LR		
	comp=E,980nm,7.6s						
KSAR	**Wonju Array Be**	**17.05**	**86**	Pn	**Pn**	**08 49 58.7**	**-0.2**
KSRS	**Korea Array**	**17.08**	**86**	Pn	**Pn**	**08 49 58.7**	**-0.5**
	comp=E,0.3nm,0.3s,baz=276,slow=11,SNR=12						
KSRS				LR	LR	08 56 34.2	
	comp=E,96nm,21.3s,baz=276,slow=37						
YHNB	**Yeheng**	**18.61**	**132**	*e*P	**Pn**	**08 50 19.3**	**+1.0**
	comp=E,23nm,0.8s						
MK31	**Makanchi Array**	**19.62**	**304**	*e*P	**P**	**08 50 29.0**	**+0.1**
MKAR	**Makanchi Array**	**19.62**	**304**	P	**P**	**08 50 28.6**	**-0.4**
	comp=E,0.4nm,0.3s,baz=107,slow=12,SNR=21						
MKAR				Lg	Lg	08 56 27.2	
	baz=112,slow=28,SNR=5.0						
MKAR				LR	LR	08 57 21.0	
	comp=E,237nm,18.4s,baz=111,slow=35						
USRK	**Ussuriysk Ar.**	**20.16**	**65**	P	**P**	**08 50 35.7**	**+0.9**
	comp=E,3.1nm,0.7s,baz=260,slow=8.6,SNR=8.3						
BOD	**Bodaibo**	**20.24**	**12**	*e*P	**P**	**08 50 33.9**	**-1.7**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.5s						
CHTO	**Chiang Mai**	**20.39**	**200**	*e*P	Pn	08 50 41.5	+2.0
	comp=Z,17nm,1.0s						
JNU	**Nakatsue**	**20.56**	**97**	P	**P**	**08 50 40.5**	**+1.1**
	comp=Z,14nm,1.0s,baz=292,slow=5.4,SNR=5.8						
JNU				LR	LR	08 58 32.5	
	comp=Z,208nm,19.6s,baz=303,slow=37						
CM31	**Chiang Mai Arr**	**20.73**	**200**	*e*P	**P**	**08 50 42.6**	**+1.4**
CMAR	**Chiang Mai Arr**	**20.73**	**200**	P	**P**	**08 50 42.5**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=8.2,slow=9.7,SNR=13						
CMAR	**Chiang Mai Arr**	**20.73**	**200**	P	**P**	**08 50 42.5**	**+1.3**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KLR	**Kul'dur**	**21.31**	**51**	*e*P	**P**	**08 50 43.2**	**-4.0**
KLR				MLR	MLR		
	comp=N,600nm,11.0s						
KLR				MLR	MLR		
	comp=E,500nm,11.0s						
KLR				MLR	MLR		
	comp=Z,1μm,11.0s						
ZAA0	**Zalesovo Array**	**21.54**	**324**	*e*P	**P**	**08 50 47.5**	**-2.1**
ZALV	**Zalesovo Beam**	**21.54**	**324**	P	**P**	**08 50 47.9**	**-1.7**
	comp=Z,22nm,0.7s,baz=126,slow=10,SNR=83						
ZALV				Lg	Lg	08 57 21.0	
	comp=Z,2.4nm,1.0s,baz=150,slow=24,SNR=5.7						
ZALV				LR	LR	08 59 03.5	
	comp=Z,136nm,21.5s,baz=62,slow=37						
NVS	**Novosibirsk**	**22.82**	**324**	*e*P	**P**	**08 51 01.2**	**-2.1**
NVS				pmax	pmax		
	comp=Z,27nm,1.6s						
NVS				pmax	pmax		
	comp=N,7.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,1.0nm,0.4s						
KURK	**Kurchatov**	**23.23**	**311**	P	**P**	**08 51 06.2**	**-1.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KURK	**Kurchatov**	**23.23**	**311**	*e*P	**P**	**08 51 06.7**	**-0.9**
	comp=Z,35nm,0.8s						
KURK				Lg	Lg	08 58 09.9	
KURBB	**Kurchatov Arra**	**23.25**	**311**	P	**P**	**08 51 06.2**	**-1.5**
	comp=Z,1.8nm,0.5s,baz=111,slow=11,SNR=16						
KURBB				Lg	Lg	08 58 09.9	
	comp=Z,0.7nm,0.9s,baz=111,slow=29,SNR=7.2						
TKM2	**Tokmak 2**	**23.73**	**291**	P	**P**	**08 51 17.1**	**+4.1**
	SNR=5.9						
TKM2	**Tokmak 2**	**23.73**	**291**	*e*P	**P**	**08 51 14.9**	**+2.0**
	comp=Z,15nm,1.0s						
KZA	**Kyzart**	**23.99**	**289**	P	**P**	**08 51 19.3**	**+3.7**
	SNR=9.7						
KBK	**Karagaybulak**	**24.21**	**290**	P	P	08 51 23.0	+5.6
	SNR=7.8						
FRU	**Bishkek**	**24.45**	**291**	*e*P	**P**	**08 51 23.0**	**+3.5**
FRU				pmax	pmax		
	comp=Z,35nm,2.1s						
UCH	**Uchtor**	**24.54**	**289**	P	P	08 51 26.0	+5.3
	SNR=20						
USP	**Ospenovka**	**24.54**	**292**	P	P	08 51 25.6	+5.3
	SNR=12						
AAK	**Ala-Archa**	**24.54**	**290**	LR	LR	09 00 28.0	
	comp=Z,303nm,19.6s,baz=72,slow=36						
EKS2	**Erkin-Say**	**25.07**	**291**	P	P	08 51 31.0	+5.8
	SNR=11						
EKS2	**Erkin-Say**	**25.07**	**291**	*e*P	**P**	**08 51 25.5**	**+0.3**
	comp=Z,17nm,0.8s						
AML	**Almayashu**	**25.15**	**289**	P	P	08 51 31.6	+5.4
	SNR=16						
MJAR	**Matsushiro Arr**	**25.33**	**84**	P	**P**	**08 51 27.2**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=278,slow=9.3,SNR=3.3						
MJAR				LR	LR	09 00 54.1	
	comp=Z,64nm,20.4s,baz=185,slow=35						
KKAR	**Karatay Array**	**27.46**	**292**	*e*P	**P**	**08 51 50.8**	**+4.2**
	comp=Z,7.7nm,0.8s						
ASAJ	**Asahikawa**	**27.77**	**66**	P	**P**	**08 51 48.9**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=240,slow=8.1,SNR=1.9						
ASAJ	**Asahikawa**	**27.77**	**66**	P	**P**	**08 51 48.9**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ASAJ	**Asahikawa**	**27.77**	**66**	*e*P	**P**	**08 51 53.8**	**+4.4**
	comp=Z,3.7nm,1.1s						
YAK	**Yakutsk**	**27.83**	**24**	LR	LR	09 02 17.2	
	comp=Z,83nm,21.9s,baz=243,slow=35						
ERM	**Erimo**	**28.27**	**71**⇓	*i*P	**P**	**08 51 53.9**	**+0.1**
ERM				pmax	pmax		
	comp=Z,23nm,2.5s						
BVAR	**Borovoye Array**	**28.80**	**313**	P	**P**	**08 51 57.3**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=100,slow=8.4,SNR=8.2						
BVAR	**Borovoye Array**	**28.80**	**313**	P	**P**	**08 51 57.3**	**-1.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**28.87**	**313**	*e*P	**P**	**08 52 00.3**	**+1.3**
	comp=Z,4.5nm,0.8s						
ABKAR	**Akbulak array**	**34.77**	**304**	*e*P	P	08 52 54.8	+4.0
	comp=Z,2.5nm,0.1s						
TIXI	**Tiksi**	**35.42**	**12**⇑	*i*P	**P**	**08 52 55.8**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.5s						
AKTO	**Aktyubinsk**	**36.03**	**306**	P	**P**	**08 53 01.1**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=186,slow=6.2,SNR=3.8						
AKTO	**Aktyubinsk**	**36.03**	**306**	P	**P**	**08 53 01.1**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARU	**Arti**	**36.25**	**316**	*d i*P	P	08 53 06.7	+3.2
ARU						08 54 24.7	
ARU				S	**S**	**08 58 45.1**	**+1.5**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ARU	**Arti**	**36.25**	**316**	*e*P	**P**	**08 53 02.3**	**-1.1**
	comp=Z,7.6nm,0.5s						
PETK	**Petropavlovsk-**	**38.00**	**50**	LR	LR	09 09 23.9	
	comp=Z,58nm,18.2s,baz=272,slow=37						
GNI	**Garni**	**46.92**	**293**⇑	*i*P	P	08 54 36.0	+4.7
GNI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
VSR	**Storozhevoye**	**47.83**	**309**	*e*P	P	08 54 42.0	+4.0
VSR				pmax	pmax		
	comp=N,6.0nm,0.7s						
VSR				pmax	pmax		
	comp=E,5.0nm,0.7s						
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ARCES	**ARCESS Array B**	**51.61**	**334**	P	**P**	**08 55 05.0**	**-1.6**
	comp=Z,2.5nm,0.8s,baz=71,slow=8.7,SNR=6.3						
ARCES				LR	LR	09 17 27.6	
	comp=Z,55nm,21.9s,baz=159,slow=37						
ARCES	**ARCESS Array B**	**51.61**	**334**	P	**P**	**08 55 05.0**	**-1.6**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,55nm,21.9s						
FINES	**FINESS Array B**	**52.80**	**324**	P	**P**	**08 55 14.2**	**-1.4**
	comp=Z,0.9nm,0.6

DPC				*e*			08 56 38.4		
COLA	**College**	**62.25**	**28**	*e*P		**P**	**08 56 23.9**	**+1.9**	
COLA	**College**	**62.25**	**28**	*e*P		**P**	**08 56 22.1**	**+0.1**	
	comp=Z,8.5nm,0.9s								
COLA				*e*			08 56 26.8		
ILAR	**Eielson Array**	**62.66**	**28**	P		**P**	**08 56 23.6**	**-1.2**	
	comp=Z,0.9nm,0.8s,baz=284,slow=4.9,SNR=10								
ILAR	**Eielson Array**	**62.66**	**28**	P		**P**	**08 56 23.6**	**-1.2**	
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
TREC	**Trest**	**62.73**	**313**	AMS		AMS	09 22 40.0		
	comp=Z,100nm,14.7s								
GOPC	**GO Pecny, Ondr**	**62.84**	**313**	AMS		AMS	09 24 50.0		
	comp=Z,100nm,18.0s								
PRU	**Pruhonice**	**62.95**	**314**	AMS		AMS	09 24 40.0		
	comp=Z,100nm,13.9s								
CLL	**Collm**	**63.19**	**315**	*e*pP		pP	08 56 32.0	+0.2	
	comp=Z,5.0nm,0.8s								
CLL	**Collm**	**63.19**	**315**	*e*P		**pP**	**08 56 32.0**	**+0.2**	
CLL				pmax	pmax				
	comp=Z,5.0nm,0.8s								
WRAB	**Tennant Creek**	**63.56**	**150**	*e*P		**P**	**08 56 31.1**	**-0.2**	
	comp=Z,44nm,1.7s								
WRAB				*e*			08 56 36.4		
WRA	**Warramunga Arr**	**63.57**	**150**	P		**P**	**08 56 30.9**	**-0.4**	
	comp=Z,3.6nm,0.7s,baz=343,slow=5.7,SNR=22								
WRA	**Warramunga Arr**	**63.57**	**150**	P		**P**	**08 56 30.9**	**-0.4**	
WRA				pmax	pmax				
	comp=Z,4.0nm,0.7s								
KHC	**Kasperske Hory**	**63.91**	**313**	*e*pP		**pP**	**08 56 38.6**	**+2.0**	
KHC				AMS	AMS		09 24 30.0		
	comp=Z,100nm,13.8s								
KHC	**Kasperske Hory**	**63.91**	**313**	*e*P		**pP**	**08 56 38.6**	**+2.0**	
KHC				MLR	MLR				
	comp=Z,100nm,13.8s								
GERES	**GERESS Array B**	**63.97**	**313**	P		**P**	**08 56 32.1**	**-1.8**	
	comp=Z,0.3nm,0.2s,baz=54,slow=7.4,SNR=2.5								
GERES				LR	LR		09 23 24.3		
	comp=Z,50nm,18.7s,baz=70,slow=35								
INK	**Inuvik**	**64.85**	**21**	*e*P		**P**	**08 56 39.0**	**-0.1**	
	comp=Z,3.5nm,0.8s								
AS31	**Alice Springs**	**66.79**	**152**	*e*P		**P**	**08 56 51.4**	**-0.8**	
ASAR	**Alice Springs**	**66.79**	**152**	P		**P**	**08 56 51.9**	**-0.3**	
	comp=Z,4.1nm,0.6s,baz=334,slow=5.8,SNR=22								
ASAR	**Alice Springs**	**66.79**	**152**	P		**P**	**08 56 51.9**	**-0.3**	
ASAR				pmax	pmax				
	comp=Z,4.0nm,0.6s								
HYT	**Haines Junctio**	**68.47**	**28**	*e*P		**P**	**08 57 02.3**	**-0.3**	
HYT				*e*			08 57 08.0		
YKA	**Yellowknife Ar**	**74.36**	**18**	P		**P**	**08 57 37.1**	**-0.8**	
	comp=Z,3.8nm,0.8s,baz=332,slow=5.2,SNR=14								
YKA	**Yellowknife Ar**	**74.36**	**18**	P		**P**	**08 57 37.1**	**-0.8**	
YKA				pmax	pmax				
	comp=Z,4.0nm,0.8s								
STKA	**Stephens Creek**	**77.10**	**150**	P		**P**	**08 57 53.4**	**-0.5**	
	comp=Z,2.5nm,0.5s,baz=358,slow=5.3,SNR=4.7								
STKA	**Stephens Creek**	**77.10**	**150**	P		**P**	**08 57 53.4**	**-0.5**	
STKA				pmax	pmax				
	comp=Z,3.0nm,0.5s								
STKA	**Stephens Creek**	**77.10**	**150**	*e*P		P	08 57 57.4	+3.5	
	comp=Z,7.6nm,1.8s								
FFC	**Flin Flon**	**84.28**	**16**	*e*P		P	08 58 37.2	+5.0	
FFC	**Flin Flon**	**84.28**	**16**	*e*P		**P**	**08 58 32.5**	**+0.3**	
	comp=Z,25nm,2.2s								
SLMT	**Seeley Lake**	**87.77**	**26**	*e*P		P	08 58 53.1	+3.3	
	comp=Z,5.4nm,0.7s								
CHMT	**Chamberlain Mo**	**88.14**	**26**	*e*P		**P**	**08 58 51.4**	**-0.3**	
CHMT				*e*			08 58 57.0		
BMO	**Blue Mountains**	**88.41**	**29**	*e*P		**P**	**08 58 51.7**	**-1.1**	
	comp=Z,1.8nm,0.9s								
DLMT	**Dillon**	**89.71**	**26**	*e*P		P	08 59 02.5	+3.6	
	comp=Z,3.2nm,0.8s								
ULM	**Lac du Bonnet**	**89.75**	**14**	LR		LR	09 45 05.7		
	comp=Z,38nm,18.1s,baz=338,slow=40								
WVOR	**Wild Horse Val**	**89.90**	**32**	*e*P		P	08 59 04.7	+4.8	
	comp=Z,7.3nm,1.4s								
PDAR	**Pinedale Array**	**93.04**	**26**	LR		LR	09 42 58.2		
	comp=Z,48nm,19.5s,baz=348,slow=37								
TORD	**Torodi Ar. Bea**	**93.12**	**289**	P		**P**	**08 59 16.2**	**+1.1**	
	comp=Z,0.3nm,0.7s,baz=48,slow=5.0,SNR=2.4								
NVAR	**Mina Array Bea**	**93.37**	**34**	P		**P**	**08 59 17.5**	**+1.3**	
	comp=Z,0.1nm,0.3s,baz=308,slow=4.4,SNR=2.5								
BDFB	**Brasilia**	**148.11**	**308**	PKPbc		**PKPbc**	**09 05 48.0**	**+1.0**	
	comp=Z,1.1nm,0.4s,baz=117,slow=4.5,SNR=2.5								
BDFB	**Brasilia**	**148.11**	**308**	PKP2		**PKPbc**	**09 05 48.0**	**+1.0**	
BDFB				pmax	pmax				
	comp=Z,1.0nm,0.4s								
SAML	**Samuel**	**149.35**	**339**	*e*PKPbc		**PKPbc**	**09 05 50.1**	**0.0**	
SAML				*e*PKPab		**PKPab**	**09 05 56.4**	**+1.8**	

DJA 22 08:53:22.1±1.1, 2°S±4°×113°6E±°, h10km, M4.3/4, mb5.0/2, mB5.2/1, MLv4.0/4, Mw(mB)4.6/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.18**	**289**	P	Pg	08 53 25.9	-0.1
SRPI				S	Sg	08 53 30.5	+1.9
BAKI	**Biak**	**0.79**	**338**	P	Pg	08 53 36.4	-1.1
BAKI				S	Sb	08 53 48.7	-0.1

WEL 22 08:56:34.4±0.5, 38°39S×175°81E, h190km±4km, ML3.5/15, 10C, Error ellipse: s-maj=3.0km s-min=2.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPVZ	**Whakapapa**	**0.84**	**194**	⇑PN	Pn	08 57 02.2	0.0
TUVZ	**Tukino**	**0.88**	**188**	PN	Pn	08 57 02.5	0.0
FWVZ	**Far West T-bar**	**0.89**	**193**	PN	Pn	08 57 02.5	-0.1
WHVZ	**Whangaehu Hut**	**0.90**	**191**	PN	Pn	08 57 02.7	0.0
BKZ	**Black Stump Fm**	**0.94**	**146**	⇑PN	Pn	08 57 02.4	-0.3
WNVZ	**Wahianoa**	**0.95**	**190**	⇑PN	Pn	08 57 02.9	-0.1
PKVZ	**Pokaka**	**0.97**	**202**	PN	Pn	08 57 02.8	-0.1
MOVZ	**Moawhango**	**1.01**	**183**	PN	Pn	08 57 02.8	-0.5
MTVZ	**Mangateitei**	**1.03**	**195**	PN	Pn	08 57 03.4	+0.1
URZ	**Urewera**	**1.03**	**83**	*e*PN	Pn	08 57 02.4	-0.9
NMHZ	**Naumai**	**1.05**	**132**	PN	Pn	08 57 04.2	+0.6
NMHZ				SN	Sn	08 57 25.3	-0.9
BHHZ	**Black Hill Sta**	**1.11**	**170**	⇑PN	Pn	08 57 03.6	-0.4
MCHZ	**McNeill Hill**	**1.26**	**147**	PN	Pn	08 57 05.6	+0.5
SNGZ	**Shannon Statio**	**1.26**	**108**	PN	Pn	08 57 05.3	+0.1
RAGZ	**Rawiri**	**1.27**	**95**	PN	Pn	08 57 05.0	-0.2
ARHZ	**Aropaoanui**	**1.27**	**134**	PN	Pn	08 57 05.5	+0.3
ARHZ				SN	Sn	08 57 27.5	-1.6
KRHZ	**Kereru**	**1.32**	**161**	⇑PN	Pn	08 57 05.6	-0.1
MWZ	**Matawai**	**1.35**	**88**	PN	Pn	08 57 05.4	-0.6
WAZ	**Wanganui**	**1.50**	**205**	PN	Pn	08 57 07.1	-0.2
PNHZ	**Pukenui**	**1.55**	**169**	PN	Pn	08 57 07.4	-0.3
RIGZ	**Rimuhau**	**1.56**	**102**	PN	Pn	08 57 07.7	-0.1
KNZ	**Kokohu**	**1.59**	**114**	PN	Pn	08 57 08.2	+0.2
TKGZ	**Te Karaka**	**1.60**	**92**	PN	Pn	08 57 08.4	+0.3
CKHZ	**Cape Kidnapper**	**1.60**	**142**	⇑PN	Pn	08 57 08.4	+0.2
KAHZ	**Kahuranaki**	**1.63**	**150**	PN	Pn	08 57 08.6	+0.2
TSZ	**Takapari Road**	**1.67**	**176**	⇑PN	Pn	08 57 08.4	-0.4
HAZ	**Te Kaha**	**1.68**	**68**	PN	Pn	08 57 07.9	-1.0
PRGZ	**Paritu Road**	**1.71**	**109**	PN	Pn	08 57 09.1	-0.1
TWGZ	**Tauwhareparae**	**1.72**	**83**	PN	Pn	08 57 09.6	+0.2
WPHZ	**Waipukurau**	**1.74**	**164**	⇑PN	Pn	08 57 09.2	-0.3
PXZ	**Pawanui**	**1.83**	**154**	PN	Pn	08 57 10.0	-0.3
DVHZ	**Dannevirke**	**1.92**	**172**	⇑PN	Pn	08 57 10.6	-0.8
PUZ	**Puketiti**	**1.95**	**81**	PN	Pn	08 57 11.2	-0.5
PRHZ	**Porangahau**	**1.98**	**161**	PN	Pn	08 57 11.3	-0.6
ANWZ	**Angora Road**	**2.13**	**166**	PN	Pn	08 57 13.0	-0.5
MXZ	**Matakaoa Point**	**2.14**	**68**	PN	Pn	08 57 13.3	-0.3
MRZ	**Mangatainoka R**	**2.27**	**184**	⇑PN	Pn	08 57 13.9	-1.1
BFZ	**Birch Farm**	**2.31**	**172**	PN	Pn	08 57 14.4	-1.1
TIWZ	**Tintock**	**2.38**	**179**	PN	Pn	08 57 15.2	-1.1
OGWZ	**Otaki Gorge**	**2.47**	**191**	PN	Pn	08 57 16.3	-1.0
HOWZ	**Holdsworth Sta**	**2.51**	**185**	PN	Pn	08 57 16.3	-1.5
KIW	**Kapiti Island**	**2.56**	**195**	PN	Pn	08 57 17.0	-1.3
TMWZ	**Te Maipa**	**2.71**	**179**	PN	Pn	08 57 18.8	-1.3
CAW	**Cannon Point**	**2.77**	**192**	PN	Pn	08 57 19.3	-1.5
MTW	**Mount Morrison**	**2.77**	**185**	PN	Pn	08 57 19.0	-1.8
DUWZ	**D'Urville Isla**	**2.81**	**211**	PN	Pn	08 57 19.9	-1.4
MSWZ	**Moikau Station**	**3.05**	**188**	PN	Pn	08 57 22.0	-2.1
TCW	**Tory Channel**	**3.05**	**202**	PN	Pn	08 57 22.5	-1.6
TUWZ	**Tuamarina**	**3.36**	**205**	PN	Pn	08 57 26.0	-1.7
NNZ	**Nelson**	**3.39**	**213**	PN	Pn	08 57 26.2	-1.9
THZ	**Tophouse**	**4.04**	**213**	PN	Pn	08 57 34.9	-1.5
KHZ	**Kahutara**	**4.38**	**203**	PN	Pn	08 57 38.7	-1.8

IDC 22 08:56:55.2±11.0, 13°09S×167°09E, h172km±124km, mb3.2/3, mb1 3.4/4, mb1mx3.1/24, mbtmp3.7/4, Error ellipse: s-maj=199.9km s-min=81.5km az=83.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.96**	**184**	P	Pn	08 59 01.0	-0.3
	0.2nm,0.3s,baz=90,slow=24,SNR=6.9						
DZM				S	Sn	09 00 42.0	+0.7
	0.2nm,0.3s,baz=90,slow=20,SNR=2.1						
STKA	**Stephens Creek**	**29.95**	**227**	P	P	09 02 47.0	-0.2
	0.6nm,0.4s,baz=60,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**32.09**	**253**	P	P	09 03 06.4	+0.2
	0.7nm,1.0s,baz=85,slow=9.4,SNR=5.3						
ASAR	**Alice Springs**	**33.12**	**247**	P	P	09 03 15.2	-0.1
	0.7nm,0.6s,baz=72,slow=9.3,SNR=15						

IDC 22 09:15:00.4±2.6, 14°.50N×93°.68W, h0km, mb3.9/4, mb1 4.2/8, mb1mx3.9/24, mbtmp4.0/8, ML3.7/4, MS2.5/2, Ms1 2.5/2, ms1mx2.3/26, Error ellipse: s-maj=49.3km s-min=31.9km az=177.0
MEX 22 09:15:04.0±0.7, 14°.50N×94°.04W, h11km±23km, MD4.3
NEIC 22 09:15:04.0, 14°.50N×94°.04W, h11km, MD4.3(MEX), After MEX.

ISC 22 09:15:02.3±3.3, 14°6N±0°.1×93°94W±0°.06, h3km±17km, n22, σ1°58/27, mb4.0/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.32**	**32**	*e*P	Pn	09 15 25.8	-1.8
PCIG				*/* S	**Sg**	**09 15 43.8**	**-1.0**
PCIG		**1.32**	**32**	*e*P	Pn	09 15 25.8	-1.8
PCIG				*/* S	**Sg**	**09 15 43.8**	**-1.0**
TGIG		**2.33**	**20**	*e*P	**Pn**	**09 15 41.2**	**-0.4**
TGIG				*e*S	**Sn**	**09 16 09.4**	**-1.3**
TGIG		**2.33**	**20**	*e*P	**Pn**	**09 15 41.2**	**-0.4**
TGIG				*e*S	**Sn**	**09 16 09.4**	**-1.3**
HUIG	**Huatulco**	**2.41**	**300**	*e*P	**Pn**	**09 15 40.3**	**-2.3**
HUIG				*e*S	Sn	09 16 07.5	-5.2
HUIG	**Huatulco**	**2.41**	**300**	*e*P	**Pn**	**09 15 40.3**	**-2.3**
HUIG				*e*S	Sn	09 16 07.5	-5.2
CCIG	**Comitan**	**2.43**	**45**	*e*P	**Pn**	**09 15 43.0**	**0.0**
CCIG				*e*S	**Sn**	**09 16 12.8**	**-0.5**
CCIG	**Comitan**	**2.43**	**45**	*e*P	**Pn**	**09 15 43.0**	**0.0**
CCIG				*e*S	**Sn**	**09 16 12.8**	**-0.5**
CMIG	**Matias Romero**	**2.67**	**340**	Pn	**Pn**	**09 15 45.9**	**-0.2**
	3.4nm,0.3s,baz=172,slow=13,SNR=54						
CMIG				Sn	**Sn**	**09 16 18.1**	**-0.9**
	7.7nm,0.3s,baz=80,slow=16,SNR=6.2						
CMIG				LR	LR	09 16 25.7	
	comp=Z,31nm,19.7s,baz=130,slow=30						
TEIG	**Tepich**	**7.80**	**43**	Pn	Pn	09 16 53.7	-3.0
	4.2nm,0.3s,baz=261,slow=1.7,SNR=16						
TEIG				Sn	**Sn**	**09 18 22.9**	**-2.6**
	1.6nm,0.3s,baz=30,slow=20,SNR=4.5						
TEIG				Lg	Lg	09 18 57.3	
	2.3nm,0.3s,baz=50,slow=22,SNR=4.0						
TEIG	**Tepich**	**7.80**	**43**	*e*Pn	**Pn**	**09 16 55.5**	**-1.2**
TEIG				*e*Sn	**Sn**	**09 18 24.3**	**-1.2**
TEIG				Lg	Lg	09 18 57.3	
JCT	**Junction City**	**16.73**	**342**	*e*P	**P**	**09 19 01.0**	**+0.9**
	3.3nm,0.8s						
TXAR	**Lajitas Array**	**17.23**	**330**	P	**Pn**	**09 19 05.8**	**+1.8**
	0.0nm,0.3s,baz=151,slow=13,SNR=6.9						
LPIG	**La Paz**	**18.11**	**304**	P	**P**	**09 19 16.7**	**+1.3**
	1.3nm,0.3s,baz=186,slow=12,SNR=3.0						
MIAR	**Mount Ida**	**19.89**	**1**	*e*P	**Pn**	**09 19 38.5**	**+2.0**
	1.9nm,0.6s						
MSTX	**Muleshoe**	**20.90**	**339**	*e*P	**P**	**09 19 49.9**	**+3.9**
	9.6nm,1.0s						
TKL	**Tuckaleechee C**	**22.89**	**22**	LR	LR	09 30 03.0	
	comp=Z,26nm,20.6s,baz=13,slow=40						
NVAR	**Mina Array Bea**	**32.06**	**322**	P	**P**	**09 21 31.9**	**+1.2**
	1.6nm,0.9s,baz=135,slow=9.0,SNR=9.1						
YKA	**Yellowknife Ar**	**50.05**	**348**	P	**P**	**09 23 57.1**	**-0.9**
	1.3nm,0.7s,baz=150,slow=7.4,SNR=9.6						
ILAR	**Eielson Array**	**61.58**	**337**	P	**P**	**09 25 20.1**	**-0.6**
	1.3nm,1.0s,baz=142,slow=4.3,SNR=10.0						
NOA	**NORSAR Array B**	**84.53**	**28**	P	**P**	**09 27 36.0**	**-0.7**
	0.8nm,0.8s,baz=292,slow=4.8,SNR=2.9						
CMAR	**Chiang Mai Arr**	**144.81**	**338**	PKP	**PKPab**	**09 34 39.0**	**-1.5**
	0.9nm,0.3s,baz=343,slow=1.9,SNR=4.4						

IDC 22 09:49:42.7±1.0, 10°.32S×161°.71E, h0km, mb4.1/9, mb1 4.2/11, mb1mx4.1/21, mbtmp4.1/11, ML4.1/2, MS3.6/3, Ms1 3.6/3, ms1mx2.9/30, Error ellipse: s-maj=34.4km s-min=19.9km az=125.0
ISCJB 22 09:49:48.6±0.6, 10°.38S±0°.09×161°.60E±0°.09, h54km, mb4.1/12, MS3.5/3, Error ellipse: s-maj=13.6km s-min=12.2km az=162.9
NEIC 22 09:49:51.2±1.5, 10°.39S×161°.71E, h63km±14km, mb4.6/3, Error ellipse: s-maj=13.8km s-min=12.8km az=180.0

ISC 22 09:49:50.1±0.7, 10°45S±0°.08×161°78E±0°.10, h54km, n27, σ1°26/20, mb4.1/12, MS3.6/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.07**	**299**	*e*P	Pn	09 50 34.0	+12
HNR				*e*S	Sn	09 50 39.0	-8.1
HNR	**Honiara**	**2.07**	**299**	*e*Pn	**Pn**	**09 50 22.9**	**+0.4**
DZM	**Mont Dzumac**	**12.39**	**159**	Pn	**Pn**	**09 52 42.6**	**-1.3**
	0.6nm,0.3s,baz=90,slow=24,SNR=28						
DZM				Sn	**Sn**	**09 54 59.2**	**-1.4**
	0.2nm,0.3s,baz=270,slow=23,SNR=2.8						
DZM	**Mont Dzumac**	**12.39**	**159**	*e*Pn	**Pn**	**09 52 44.6**	**+0.7**
DZM				*e*Sn	Sn	09 55 10.5	+10
CTA	**Charters Tower**	**17.77**	**236**	Pn	**Pn**	**09 53 53.1**	**-0.6**
	0.6nm,0.3s,baz=60,slow=16,SNR=6.6						
CTAO	**Charters Tower**	**17.77**	**236**	*e*Pn	**P**	**09 53 56.5**	**+2.5**
AFI	**Afiamalu**	**26.07**	**100**	*e*P	**P**	**09 55 21.1**	**+2.2**
	23nm,0.7s						
WRAB	**Tennant Creek**	**28.06**	**247**	*e*P	**P**	**09 55 36.2**	**-0.5**
	4.1nm,0.7s						
WRA	**Warramunga Arr**	**28.07**	**247**	P	**P**	**09 55 36.1**	**-0.7**
	2.9nm,0.5s,baz=77,slow=8.9,SNR=45						
STKA	**Stephens Creek**	**28.34**	**218**	P	**P**	**09 55 39.5**	**+0.4**
	1.8nm,0.8s,baz=58,slow=12,SNR=5.0						
STKA				LR	LR	10 06 51.1	
	comp=Z,268nm,18.3s,baz=32,slow=36						
STKA	**Stephens Creek**	**28.34**	**218**	*e*P	**P**	**09 55 41.1**	**+2.0**
H11S2	**WAKE ISLAND Hy**	**29.16**	**10**	T	T	10 26 24.5	
	baz=189,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**29.16**	**10**	T	T	10 26 28.0	
	baz=189,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**29.18**	**10**	T	T	10 26 21.9	
	baz=189,slow=76,SNR=31						
ASAR	**Alice Springs**	**29.64**	**240**	P	**P**	**09 55 49.2**	**-1.5**
	0.6nm,0.5s,baz=64,slow=9.9,SNR=13						
ASAR				LR	LR	10 07 12.6	
	comp=Z,139nm,18.4s,baz=73,slow=35						
H11N1	**WAKE ISLAND Hy**	**30.39**	**10**	T	T	10 27 57.0	
	baz=188,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**30.40**	**10**	T	T	10 27 56.8	
	baz=188,slow=76,SNR=18						
H11N2	**WAKE ISLAND Hy**	**30.41**	**10**	T	T	10 27 58.1	
	baz=188,slow=76,SNR=16						
MBWA	**Marble Bar**	**41.72**	**250**	*e*P	**P**	**09 57 33.8**	**-0.3**
	6.0nm,0.5s						
KSRS	**Korea Array**	**57.25**	**328**	P	**P**	**09 59 31.7**	**-0.4**
	0.3nm,0.3s,baz=149,slow=7.4,SNR=4.4						
KSAR	**Wonju Array Be**	**57.26**	**328**	P	**P**	**09 59 31.7**	**-0.5**
PETK	**Petropavlovsk-**	**63.40**	**357**	LR	LR	10 22 37.5	
	comp=Z,15nm,20.5s,baz=219,slow=31						
SONM	**Songino Array**	**75.92**	**325**	P	**P**	**10 01 30.9**	**-0.3**
	1.9nm,0.7s,baz=142,slow=5.4,SNR=7.0						
ILAR	**Eielson Array**	**84.23**	**20**	P	**P**	**10 02 14.7**	**-0.8**
	0.2nm,0.5s,baz=246,slow=5.3,SNR=5.7						
NVAR	**Mina Array Bea**	**88.64**	**51**	P	**P**	**10 02 39.2**	**+1.2**
	0.5nm,0.7s,baz=229,slow=6.5,SNR=4.7						
MKAR	**Makanchi Array**	**90.44**	**318**	P	**P**	**10 02 45.2**	**-0.7**
	1.5nm,0.7s,baz=76,slow=7.3,SNR=3.1						
YKA	**Yellowknife Ar**	**96.25**	**28**	P	**P**	**10 03 11.3**	**-0.9**
	0.3nm,0.5s,baz=263,slow=4.6,SNR=6.1						

MEX 22 10:17:02.6±0.4, 14°43N×92°56W, h16km±162km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.42**	**333**	*e*P	Pn	10 17 24.0	-3.8
PCIG				*e*S	Sn	10 17 41.1	-5.0
CCIG	**Comitan**	**1.89**	**12**	*e*P	Pn	10 17 31.5	-3.0
CCIG				*e*S	Sn	10 17 53.0	-5.1
TGIG		**2.40**	**347**	*e*P	Pn	10 17 38.3	-3.1
TGIG				*e*S	Sn	10 18 06.2	-4.3

ISCJB 22 10:22:30.7±0.3, 38°.19N±0°.02×73°.34E±0°.05, h100km, mb3.8/16, Error ellipse: s-maj=6.1km s-min=2.8km az=165.4
IDC 22 10:22:30.4±3.9, 38°.23N×73°.22E, h80km±32km, mb3.7/13, mb1 3.9/18, mb1mx3.7/33, mbtmp4.1/18, MS2.2/1, Ms1 2.2/1, ms1mx2.1/39, Error ellipse: s-maj=28.5km s-min=15.5km az=172.0
MOS 22 10:22:33.2±1.0, 38°.40N×73°.13E, h115km, mb4.0/15, Error ellipse: s-maj=13.1km s-min=6.5km az=93.7
BJI 22 10:22:35.5, 38°.38N×73°.47E, h152km, mb4.2/2, mB4.4/1
NNC 22 10:22:35.7±1.9, 38°.58N×72°.91E, h126km±13km, mb3.7, mpv4.5, Error ellipse: s-maj=19.4km s-min=7.9km az=150.0

ISC 22 10:22:31.4±0.4, 38°18N±0°.03×73°33E±0°.05, h100km, n99, σ1°63/96, mb3.9/16, 10C-12D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.84**	**4**	⇑Pn	**Pn**	**10 23 03.8**	**+1.6**
	63nm,0.2s						
SFK				⇑Sn	**Sn**	**10 23 25.8**	**+0.3**
	768nm,0.3s						
SFK	**Sufi-Kurgan**	**1.84**	**4**	PN	**Pn**	**10 23 03.7**	**+1.6**
SFK						10 23 25.8	
SFK				pmax	pmax		
	comp=Z,63nm,0.2s						
SFK				pmax	pmax		
	comp=N,768nm,0.3s						
KSH	**Kashi**	**2.46**	**56**	P	**Pn**	**10 23 08.9**	**-1.2**
KSH				S	Sn	10 23 33.1	-6.7
KSH				SMN			
	comp=N,3μm,0.4s						
KSH				SME			
	comp=N,3μm,0.3s						
DZET	**Dzherino**	**3.59**	**281**	⇓Pn	**Pn**	**10 23 24.8**	**-0.4**
	comp=N,138nm,0.2s						
DZET				⇓Sn	**Sn**	**10 24 03.1**	**-3.6**
	comp=N,271nm,0.2s						
DZET	**Dzherino**	**3.59**	**281**	PN	**Pn**	**10 23 24.7**	**-0.4**
DZET				pmax	pmax		
	comp=Z,138nm,0.2s						
DZET				pmax	pmax		
	comp=N,445nm,0.3s						
AML	**Almayashu**	**3.96**	**4**	P	**Pn**	**10 23 30.9**	**+0.5**
	SNR=183						
UCH	**Uchtor**	**4.14**	**12**	P	**Pn**	**10 23 34.3**	**+1.3**
	SNR=578						
KZA	**Kyzart**	**4.16**	**20**	P	**Pn**	**10 23 34.4**	**+1.2**
	SNR=189						
EKS2	**Erkin-Say**	**4.49**	**4**	P	**Pn**	**10 23 38.4**	**+1.1**
	SNR=332						
CEP	**Cherat**	**4.50**	**195**	P	Pn	10 23 43.7	+6.3
CEP				S	**Sn**	**10 24 33.0**	**+4.3**
CHCP	**Chirah Chowk**	**4.51**	**181**	P	Pn	10 23 44.5	+6.9
AAK	**Ala-Archa**	**4.54**	**11**	P	**Pn**	**10 23 39.9**	**+1.9**
	SNR=58						
AAK	**Ala-Archa**	**4.54**	**11**	⇓Pn	**Pn**	**10 23 39.8**	**+1.7**
	comp=N,61nm,0.5s						
AAK				⇓Sn	**Sn**	**10 24 28.4**	**-1.3**
	comp=N,588nm,1.4s						
AAK	**Ala-Archa**	**4.54**	**11**	P	Pn	10 23 54.0	+16
	comp=N,36nm,0.3s,baz=168,slow=6.8,SNR=84						
AAK				S	Sn	10 24 42.1	+12
	comp=N,31nm,0.3s,baz=346,slow=18,SNR=21						
AAK				LR	LR	10 25 23.6	
	comp=N,32nm,21.9s,baz=192,slow=38						
AAK	**Ala-Archa**	**4.54**	**11**	*i* PN	**Pn**	**10 23 39.7**	**+1.7**
AAK				pmax	pmax		
	comp=Z,61nm,0.4s						
ULHL	**Ulahol**	**4.63**	**28**	P	**Pn**	**10 23 40.9**	**+1.5**
	SNR=69						
KBK	**Karagaybulak**	**4.64**	**15**	P	**Pn**	**10 23 41.3**	**+1.9**
	SNR=73						
FRU	**Bishkek**	**4.75**	**12**	⇓*i* PN	**Pn**	**10 23 42.0**	**+1.2**
FRU				pmax	pmax		
	comp=Z,80nm,1.8s						
CHMS	**Chumysh**	**4.94**	**12**	P	**Pn**	**10 23 44.9**	**+1.6**

	comp=N,57nm,0.6s								
DMN	**Daman**	**14.44**	**133**	*e*P		**Pn**	**10 25 50.5**	**-0.8**
	comp=N,31nm,0.5s								
PKIN	**Phulchoki**	**14.63**	**133**	*e*P		**Pn**	**10 25 52.9**	**-0.8**
	comp=N,18nm,0.3s								
PKI	**Pulchoki**	**14.64**	**133**	*e*P		**Pn**	**10 25 52.8**	**-1.1**
	comp=N,36nm,0.5s								
GUN	**Gumba**	**14.67**	**131**	*e*P		Pn	10 25 52.5	-1.8
	comp=N,18nm,0.3s								
AB31	**Akbulak array**	**14.68**	**323**	P		Pn	10 25 50.3	-3.6
	comp=N,10nm,0.7s,baz=126,slow=14,SNR=46								
AB31				⇓S		Sn	10 28 20.4	-15	
	comp=N,6.3nm,0.6s,baz=143,slow=21,SNR=8.6								
AB31	**Akbulak array**	**14.68**	**323**	*e*P		Pn	10 25 50.3	-3.6	
AB31				pmax		pmax			
	comp=Z,10.0nm,0.7s								
BVA0	**Borovoye Array**	**14.99**	**353**	⇓P		**P**	**10 26 01.2**	**+0.4**	
	comp=Z,15nm,0.6s								
BVAR	**Borovoye Array**	**14.99**	**353**	P		**Pn**	**10 25 55.6**	**-2.2**	
	comp=Z,0.7nm,0.3s,baz=158,slow=12,SNR=15								
BVAR	**Borovoye Array**	**14.99**	**353**	P		**Pn**	**10 25 55.6**	**-2.2**	
BVAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
BRVK	**Borovoye**	**15.03**	**353**	*c i*P		**Pn**	**10 25 58.4**	**+0.1**	
BRVK				pmax		pmax			
	comp=Z,15nm,1.0s								
RAMN	**Ramite**	**15.81**	**131**	*e*P		**Pn**	**10 26 07.0**	**-1.5**	
	comp=Z,45nm,0.7s								
TAPN	**Taplejung**	**16.19**	**128**	*e*P		**Pn**	**10 26 12.7**	**-0.7**	
	comp=Z,20nm,0.5s								
ODAN	**Odare**	**16.35**	**130**	*e*P		**Pn**	**10 26 14.3**	**-0.9**	
	comp=Z,42nm,0.7s								
AKTO	**Aktyubinsk**	**16.40**	**323**	⇑P		**Pn**	**10 26 12.7**	**-2.7**	
	comp=Z,12nm,0.6s								
AKTO				⇓S		Sn	10 29 04.8	-12	
	comp=Z,13nm,1.0s								
AKTO	**Aktyubinsk**	**16.40**	**323**	P		**Pn**	**10 26 13.1**	**-2.3**	
	comp=Z,4.5nm,0.3s,baz=127,slow=13,SNR=33								
AKTO				S		Sn	10 29 03.2	-14	
	comp=Z,1.1nm,0.3s,baz=13,slow=20,SNR=4.2								
AKTO	**Aktyubinsk**	**16.40**	**323**	P		**Pn**	**10 26 13.1**	**-2.3**	
AKTO				S		Sn	10 29 03.2	-14	
AKTO				pmax		pmax			
	comp=Z,5.0nm,0.3s								
AKTO				smax		smax			
	comp=N,1.0nm,0.3s								
ZALV	**Zalesovo Beam**	**17.64**	**23**	P		**P**	**10 26 30.1**	**0.0**	
	comp=N,5.7nm,0.3s,baz=215,slow=11,SNR=81								
ZALV	**Zalesovo Beam**	**17.64**	**23**	*e*P		**P**	**10 26 30.0**	**0.0**	
ZALV				pmax		pmax			
	comp=Z,6.0nm,0.3s								
NVS	**Novosibirsk**	**17.98**	**19**	*e*P		**P**	**10 26 33.0**	**-0.8**	
SVE	**Sverdlovsk**	**20.47**	**340**	*e*P		**P**	**10 27 01.0**	**+0.1**	
SVE				pmax		pmax			
	comp=Z,14nm,0.9s								
GTA	**Gaotai**	**20.66**	**78**	*e*P		Pn	10 27 10.4	+3.9	
GTA				pP		pP	10 27 14.1	-8.2	
GTA				sP		sP	10 27 17.0	-18	
ARU	**Arti**	**20.74**	**336**	*c i*P		**P**	**10 27 03.8**	**0.0**	
ARU							10 27 33.4		
ARU				S		**S**	**10 30 48.1**	**-1.5**	
ARU				SS		Sn	10 31 12.0	+11	
ARU				pmax		pmax			
	comp=Z,14nm,1.2s								
GNI	**Garni**	**22.22**	**284**	P		**P**	**10 27 20.3**	**+0.4**	
	comp=Z,5.8nm,0.4s,baz=218,slow=6.6,SNR=3.3								
GNI	**Garni**	**22.22**	**284**	⇑*e*P		**P**	**10 27 22.7**	**+2.8**	
GNI				pmax		pmax			
	comp=Z,40nm,1.7s								
KBZ	**Khabaz**	**23.57**	**293**	P		**P**	**10 27 32.9**	**+0.2**	
	comp=Z,1.6nm,0.7s,baz=86,slow=14,SNR=2.2								
KBZ	**Khabaz**	**23.57**	**293**	P		**P**	**10 27 32.9**	**+0.2**	
KBZ				pmax		pmax			
	comp=Z,2.0nm,0.7s								
KIV	**Kislovodsk**	**23.73**	**294**	*e*P		**P**	**10 27 34.2**	**-0.2**	
KIV				pmax		pmax			
	comp=Z,6.0nm,1.0s								
ZAK	**Zakamensk**	**24.49**	**50**	*e*P		**P**	**10 27 37.9**	**-3.3**	
ZAK				*e*			10 28 18.8		
ZAK				pmax		pmax			
	comp=Z,2.0nm,2.2s								
SONM	**Songino Array**	**25.86**	**57**	P		**P**	**10 27 56.2**	**+2.5**	
	comp=Z,1.7nm,0.8s,baz=255,slow=9.6,SNR=9.5								
SONM	**Songino Array**	**25.86**	**57**	P		**P**	**10 27 56.2**	**+2.5**	
SONM				pmax		pmax			
	comp=Z,2.0nm,0.8s								
CD2	**Chengdu**	**26.01**	**97**	*e*P		**P**	**10 27 53.1**	**-2.0**	
CD2				pP		pP	10 28 24.6	+7.4	
CD2				sP		sP	10 28 42.6	+14	
CD2				PcP		**PcP**	**10 31 17.8**	**-3.0**	
CD2				S		S	10 32 12.5	-6.1	
CD2				sS		sS	10 33 09.3	+12	
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
BRTR	**Keskin Array B**	**30.73**	**285**	P		**P**	**10 28 38.2**	**+1.1**	
	comp=Z,1.5nm,0.9s,baz=81,slow=7.6,SNR=4.5								
BRTR	**Keskin Array B**	**30.73**	**285**	*e*P		**P**	**10 28 38.7**	**+1.5**	
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
AKASG	**Malin Array Be**	**33.39**	**306**	P		**P**	**10 29 00.4**	**+0.3**	
	comp=Z,0.2nm,0.3s,baz=83,slow=7.6,SNR=5.6								
AKASG	**Malin Array Be**	**33.39**	**306**	*e*P		**P**	**10 29 00.7**	**+0.6**	
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.3s								
FINES	**FINESS Array B**	**37.17**	**324**	P		**P**	**10 29 32.4**	**+0.1**	
	comp=Z,1.3nm,0.3s,baz=123,slow=9.4,SNR=20								
FINES	**FINESS Array B**	**37.17**	**324**	*e*P		**P**	**10 29 32.4**	**+0.1**	
FINES				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ARCES	**ARCESS Array B**	**40.33**	**336**	P		**P**	**10 29 59.1**	**+0.4**	
	comp=Z,1.5nm,0.4s,baz=110,slow=8.2,SNR=25								
ARCES	**ARCESS Array B**	**40.33**	**336**	*e*P		**P**	**10 29 59.0**	**+0.4**	
ARCES				pmax		pmax			
	comp=Z,2.0nm,0.4s								
TIXI	**Tiksi**	**43.52**	**22**	⇑*i*P		**P**	**10 30 24.6**	**+0.1**	
TIXI				pmax		pmax			
	comp=Z,5.0nm,1.1s								
NB2	**NORSAR Subarra**	**44.18**	**322**	P		**P**	**10 30 29.9**	**-0.1**	
	comp=Z,0.8nm,0.4s,baz=93,slow=7.9								
NOA	**NORSAR Array B**	**44.18**	**322**	P		**P**	**10 30 29.5**	**-0.5**	
	comp=Z,0.6nm,0.3s,baz=93,slow=7.9,SNR=4.9								
NOA	**NORSAR Array B**	**44.18**	**322**	*e*P		**P**	**10 30 29.9**	**-0.1**	
NOA				pmax		pmax			
	comp=Z,1.0nm,0.3s								
TORD	**Torodi Ar. Bea**	**67.60**	**269**	P		**P**	**10 33 17.9**	**+0.2**	
	comp=Z,1.6nm,0.5s,baz=48,slow=5.5,SNR=46								
INK	**Inuvik**	**71.94**	**10**	P		**P**	**10 33 44.3**	**+0.9**	
	comp=Z,1.2nm,0.4s,baz=339,slow=4.6,SNR=13								
INK	**Inuvik**	**71.94**	**10**	P		**P**	**10 33 44.3**	**+0.9**	
INK				pmax		pmax			
	comp=Z,1.0nm,0.4s								
ILAR	**Eielson Array**	**72.65**	**17**	P		**P**	**10 33 48.9**	**+1.2**	
	comp=Z,0.8nm,0.9s,baz=319,slow=5.4,SNR=9.0								
ILAR	**Eielson Array**	**72.65**	**17**	*e*P		**P**	**10 33 48.9**	**+1.2**	
ILAR				pmax		pmax			
	comp=Z,1.0nm,0.9s								
YKA	**Yellowknife Ar**	**79.47**	**4**	P		**P**	**10 34 27.3**	**+0.9**	
	comp=Z,0.7nm,0.4s,baz=348,slow=5.6,SNR=18								
YKA	**Yellowknife Ar**	**79.47**	**4**	P		**P**	**10 34 27.3**	**+0.9**	
YKA				pmax		pmax			
	comp=Z,1.0nm,0.4s								
WRA	**Warramunga Arr**	**81.34**	**124**	P		**P**	**10 34 38.1**	**+1.1**	
	comp=Z,0.8nm,0.9s,baz=322,slow=4.5,SNR=4.2								
WRA	**Warramunga Arr**	**81.34**	**124**	P		**P**	**10 34 38.1**	**+1.1**	
WRA				pmax		pmax			
	comp=Z,1.0nm,0.9s								

*ISCJB **22** 10:27:48.9±0.6,32°.19N±0°.02×115°.24W±0°.03,h10km±4km, Error ellipse: s-maj=4.2km s-min=4.0km az=137.4*
*ECX **22** 10:27:50.4±0.4,32°.17N×115°.23W,h6km, MD2.6,ML2.9*
*NEIC **22** 10:27:50.4,32°.17N×115°.23W,h8km, ML2.9(PAS), ML2.9(ECX), After ECX.*
*MEX **22** 10:27:51.6±0.6,32°.27N×115°.14W,h15km,MD3.5*
ISC 22 10:27:48.5±1.2,32°.13N±0°.02×115°.27W±0°.02,h0km±11km, n30,σ0s97/52,8C-7D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBIG	**Mexicali**	**0.29**	**12**	*i*P		**Pg**	**10 27 54.9**	**+0.9**
MBIG				*i*S		**Sg**	**10 27 57.3**	**-0.5**
CPBX	**Cerro Prieto**	**0.29**	**355**	*e*P		**Pg**	**10 27 55.0**	**+0.9**
CPBX				*i*S		**Sg**	**10 27 58.3**	**+0.4**
CPBX	**Cerro Prieto**	**0.29**	**355**	*e*Pn		**Pg**	**10 27 55.0**	**+0.9**
CPBX				⇑*e*P		**Pb**	**10 27 55.2**	**-1.4**
CPBX				*e*S		**Sg**	**10 27 58.7**	**+0.8**
CPBX				⇑*e*			10 28 00.2	
CPBX				IAML			10 28 00.2	
	comp=N,6μm,0.3s							
RDX	**Rancho Dawling**	**0.60**	**251**	⇑*e*P		**Pb**	**10 28 02.2**	**+0.2**
RDX				*e*S		**Sb**	**10 28 11.2**	**+0.1**
SGL	**Mount Signal**	**0.65**	**324**	⇓*i*P		**Pg**	**10 28 01.6**	**+0.6**
EMSC	**East Mesa**	**0.66**	**21**	*e*Pn		**Pg**	**10 28 00.7**	**-0.4**
ECBX	**El Chinero**	**0.68**	**164**	⇑*e*P		**Pg**	**10 27 59.5**	**-2.0**
ECBX				*e*S		**Sg**	**10 28 09.4**	**-0.8**
ECBX				IAML			10 28 10.2	
	comp=E,519nm,0.3s							
ECBX				⇓*e*			10 28 10.2	
WESC	**Westside Schoo**	**0.74**	**328**	⇓*e*P		**Pg**	**10 28 03.4**	**+0.6**
YMD	**Yuma Desert**	**0.75**	**55**	*e*Pn		**Pg**	**10 28 02.1**	**-0.8**
YUH	**Yuha Desert**	**0.76**	**314**	*e*Pn		**Pg**	**10 28 03.3**	**+0.2**
RMX	**La Rumorosa**	**0.83**	**305**	⇑*e*P		**Pg**	**10 28 05.0**	**+0.5**
RMX				*e*S		**Sb**	**10 28 16.4**	**-1.4**
RMX				IAML			10 28 17.3	
	comp=N,278nm,0.1s							
RMX				⇓*e*			10 28 17.3	
GLA	**Glamis**	**1.00**	**22**	*e*Pg		**Pg**	**10 28 05.6**	**-2.1**
GLA				*e*Sg		**Sg**	**10 28 19.1**	**-1.5**
ZAX	**El Zacaton**	**1.05**	**235**	*e*P		**Pb**	**10 28 09.6**	**+0.1**
SPIG	**San Pedro Mart**	**1.09**	**189**	*e*P		**Pn**	**10 28 11.2**	**-0.1**
SPIG				*i*S		**Sb**	**10 28 26.2**	**+1.0**
SPIG	**San Pedro Mart**	**1.09**	**189**	*e*P		**Pn**	**10 28 11.2**	**-0.1**
SPIG				*i*S		**Sb**	**10 28 26.2**	**+1.0**
SPIG	**San Pedro Mart**	**1.09**	**189**	⇑*e*P		**Pg**	**10 28 10.1**	**+0.7**
SPX	**San Pedro Mart**	**1.09**	**189**	*e*P		**Pb**	**10 28 10.8**	**+0.4**
SPX				*i*S		**Sn**	**10 28 26.4**	**-0.9**
SPX	**San Pedro Mart**	**1.09**	**189**	*e*P		**Pg**	**10 28 10.1**	**+0.7**
CBX	**Cerro Bola**	**1.20**	**279**	*e*P		**Pg**	**10 28 11.1**	**-0.4**
CBX				*i*S		**Sg**	**10 28 27.3**	**+0.4**
CBX	**Cerro Bola**	**1.20**	**279**	*e*P		**Pg**	**10 28 11.1**	**-0.4**
CBX				*i*S		**Sg**	**10 28 27.3**	**+0.4**
CBX	**Cerro Bola**	**1.20**	**279**	⇓*e*P		**Pg**	**10 28 11.3**	**-0.2**
CBX				*e*S		**Sn**	**10 28 28.3**	**-1.3**
CBX				⇓*e*			10 28 29.1	
CBX				IAML			10 28 29.1	
	comp=E,266nm,0.5s							
ECNX	**Esteban Cantu**	**1.22**	**248**	⇓*e*P		**Pn**	**10 28 12.8**	**-0.1**
PBX	**Punta Banda**	**1.29**	**253**	⇓*e*P		**Pg**	**10 28 13.2**	**-0.1**
BAR	**Barrett**	**1.31**	**295**	*e*Pn		**Pg**	**10 28 12.4**	**-1.2**
BAR				*e*Sn		**Sg**	**10 28 30.3**	**-0.2**
BAR	**Barrett**	**1.31**	**295**	⇑*e*P		**Pg**	**10 28 12.3**	**-1.2**
PFO	**Pinyon Flats O**	**1.78**	**326**	*e*Pn		**Pn**	**10 28 20.4**	**-0.3**
PFO				*e*Sn		**Sb**	**10 28 44.8**	**-0.3**
214A	**Organ Pipe Nat**	**2.10**	**94**	*e*Pn		**Pn**	**10 28 25.0**	**+0.1**
214A				*e*Pg		**Pg**	**10 28 30.3**	**+1.6**
214A				*e*Sn		**Sn**	**10 28 52.6**	**+0.9**
TUC	**Tucson**	**3.81**	**86**	*e*Pn		**Pn**	**10 28 47.3**	**-1.1**
TUC				*e*Sn		**Sn**	**10 29 34.4**	**+0.4**
SHPR	**Sheep Range**	**4.37**	**1**	*e*Pn		**Pn**	**10 28 57.3**	**+1.1**
SHPR				*e*Sg		**Sg**	**10 30 11.9**	**+2.9**
ISA	**Isabella, Lake**	**4.42**	**324**	Pn		**Pn**	**10 28 56.8**	**-0.1**
ISA				*e*Sn		**Sn**	**10 29 49.8**	**+0.8**
ISA				*e*Sg		**Sg**	**10 30 11.1**	**+0.6**

*IDC **22** 10:34:43.5±0.9,7°.51N×91°.76E,h0km,mb3.7/8, mb1 3.9/10,mb1mx3.7/27,mbtmp3.8/10,ML4.3/2, MS3.2/2, Ms1 3.2/2,ms1mx2.7/35, Error ellipse: s-maj=35.1km s-min=19.1km az=55.0*
*ISCJB **22** 10:34:46.3±0.7,7°.5N±0°.1×91°.7E±0°.1,h35km,mb3.7/8, MS3.0/1,Error ellipse: s-maj=16.3km s-min=14.3km az=33.3*
ISC 22 10:34:48.7±0.8,7°.5N±0°.1×91°.7E±0°.1,h35km,n15, σ0s71/12,mb3.7/8,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PALK	**Pallekele**	**10.95**	**269**	Pn		**Pn**	**10 37 22.9**	**-0.1**
	1.0nm,0.3s,baz=93,slow=13,SNR=4.1							
PALK				Sn		Sn	10 39 14.7	-10
	0.7nm,0.3s,baz=180,slow=20,SNR=5.7							
PALK				LR		LR	10 41 13.7	
	comp=Z,165nm,18.4s,baz=124,slow=36							
CMAR	**Chiang Mai Arr**	**12.95**	**32**	Pn		**Pn**	**10 37 50.4**	**+0.1**
	0.7nm,0.3s,baz=234,slow=15,SNR=7.6							
H08S3	**Diego Garcia H**	**24.39**	**232**	T		T	11 06 38.7	
	baz=52,slow=75,SNR=16							
H08S2	**Diego Garcia H**	**24.39**	**232**	T		T	11 06 23.4	
	baz=52,slow=75,SNR=14							
H08S1	**Diego Garcia H**	**24.40**	**232**	T		T	11 06 29.8	
	baz=52,slow=75,SNR=16							
MKAR	**Makanchi Array**	**39.98**	**350**	P		**P**	**10 42 19.6**	**-0.3**
	0.8nm,0.8s,baz=177,slow=8.7,SNR=5.1							
SONM	**Songino Array**	**42.08**	**15**	P		**P**	**10 42 37.6**	**+0.3**
	0.4nm,0.5s,baz=198,slow=7.3,SNR=3.6							
ZALV	**Zalesovo Beam**	**46.65**	**354**	P		**P**	**10 43 12.7**	**-0.8**
	0.5nm,0.3s,baz=158,slow=9.3,SNR=4.0							
WRA	**Warramunga Arr**	**50.01**	**124**	P		**P**	**10 43 39.6**	**-0.5**
	0.6nm,0.7s,baz=308,slow=8.4,SNR=5.7							
ASAR	**Alice Springs**	**51.53**	**128**	P		**P**	**10 43 51.5**	**0.0**
	0.3nm,0.7s,baz=304,slow=6.6,SNR=3.4							
ASAR				PcP		**PcP**	**10 45 06.1**	**+0.7**
	0.5nm,0.8s,baz=305,slow=4.4,SNR=4.4							
JCJ	**Chichijima**	**51.56**	**61**	LR		LR	11 06 38.5	
	comp=Z,16nm,20.7s,baz=155,slow=37							
STKA	**Stephens Creek**	**61.60**	**132**	P		**P**	**10 45 02.5**	**-0.4**
	2.2nm,0.8s,baz=317,slow=12,SNR=3.5							
FINES	**FINESS Array B**	**71.93**	**333**	P		**P**	**10 46 07.6**	**-0.6**
	1.5nm,0.8s,baz=253,slow=2.0,SNR=3.2							
GERES	**GERESS Array B**	**76.52**	**318**	P		**P**	**10 46 36.0**	**+0.6**
	0.6nm,0.6s,baz=90,slow=6.3,SNR=4.4							
NVAR	**Mina Array Bea**	**126.43**	**29**	PKP		**PKPdf**	**10 53 50.1**	**+1.4**
	0.3nm,0.6s,baz=311,slow=1.4,SNR=4.0							

*ISCJB **22** 10:46:00.7±0.7,10°.26S±0°.05×116°.47E±0°.03,h63km±6km, mb4.4/19, Error ellipse: s-maj=8.1km s-min=4.6km az=12.9*
*IDC **22** 10:46:00.9±0.7,10°.19S×116°.54E,h44km±5km,mb4.1/14, mb1 4.2/17,mb1mx4.1/24,mbtmp4.4/17,ML4.1/3,MS3.4/7, Ms1 3.4/7,ms1mx3.1/36,Error ellipse: s-maj=21.6km s-min=14.2km az=72.0*
*NEIC **22** 10:46:00.9±0.3,10°.19S×116°.58E,mb4.4/8,Error ellipse: s-maj=10.7km s-min=6.9km az=59.0*
*DJA **22** 10:46:03.2±0.5,10°.S±5°.×11°.6E±°,h50km±13km,M4.8/20, mb4.7/11,mB5.3/4,ML4.8/20,Mw(mB)4.8/4*
ISC 22 10:46:00.8±0.5,10°.28S±0°.06×116°.46E±0°.04,h45km±4km, h45km:pP-P,n65,σ1s53/84,mb4.6/26,MS3.2/6,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IGBI	**Denpasar**	**1.94**	**318**	P		**Pn**	**10 46 31.4**	**0.0**
IGBI				S		**Sn**	**10 46 56.4**	**+1.8**
DNP	**Denpasar**	**2.01**	**322**	P		**Pn**	**10 46 35.0**	**+2.7**
DNP				S		**Sn**	**10 46 58.4**	**+2.1**
WBSI	**Waikabubak, Su**	**2.96**	**78**	P		**Pn**	**10 46 44.7**	**-0.6**
WBSI				S		**Sn**	**10 47 21.8**	**+2.1**
ABJI	**Asem Bagus**	**3.30**	**318**	P		**Pn**	**10 46 52.0**	**+2.0**
BLJI	**Banyuglugur**	**3.79**	**311**	P		**Pn**	**10 46 57.3**	**+0.6**
WSI	**Waingapu**	**3.83**	**81**	P		Pn	10 47 02.3	+5.0
PWJI	**Pagerwojo**	**5.11**	**296**	P		**Pn**	**10 47 14.0**	**-0.9**
	83nm,2.3s,0.6nm							
PWJI				S		**Sn**	**10 48 13.9**	**+1.2**
	83nm,2.3s,0.6nm							
GRJI	**Gresik**	**5.16**	**310**	P		**Pn**	**10 47 17.3**	**+1.7**
	91nm,1.1s,0.4nm							
BSSI	**Bau Bau, Buton**	**5.73**	**44**	P		**Pn**	**10 47 26.1**	**+2.7**
	203nm,0.6s,3μm0.7nm							
MMRI	**Maumere**	**5.93**	**75**	P		**Pn**	**10 47 28.3**	**+2.2**
	145nm,0.8s,2μm0.7nm							
MMRI				S		**Sn**	**10 48 35.9**	**+3.0**
	145nm,0.8s,2μm0.7nm							
MMRI	**Maumere**	**5.93**	**75**	*e*Pn		**Pn**	**10 47 23.2**	**-3.0**
	99nm,0.8s							
MMRI				*e*Sn		Sn	10 48 25.8	-7.0
BKSI	**Bulukumba**	**6.12**	**37**	P		**Pn**	**10 47 31.5**	**+2.8**
	152nm,0.6s,2μm0.5nm							
BKSI				S		**Sn**	**10 48 42.1**	**+4.6**
	152nm,0.6s,2μm0.5nm							
KAPI	**Kappang**	**6.17**	**32**	P		**Pn**	**10 47 28.8**	**-0.6**
	11nm,0.3s,baz=209,slow=7.5,SNR=20							
KAPI				S		**Sn**	**10 48 39.6**	**+0.9**
	baz=53,slow=20,SNR=3.6							
KAPI				LR		LR	10 50 26.5	
	comp=Z,642nm,18.2s,baz=233,slow=44							
UGM	**Wanagama**	**6.32**	**291**	P		**Pn**	**10 47 32.9**	**+1.5**
	205nm,1.8s,1.2nm							
KBKI	**Kotabaru**	**6.94**	**358**	P		**Pn**	**10 47 41.3**	**+1.3**
	40nm,1.0s,8μm0.3nm							
SOEI	**Soe**	**7.71**	**87**	P		**Pn**	**10 47 51.7**	**+1.0**
TTSI	**Tana Toraja**	**7.92**	**25**	P		**Pn**	**10 47 55.1**	**+1.6**
	36nm,1.0s,0.1nm							
KPJI	**Karang Pucung**	**7.99**	**291**	P		**Pn**	**10 47 56.6**	**+2.2**
CISI	**Cisompet, Garu**	**8.96**	**287**	P		**Pn**	**10 48 08.7**	**+1.0**
MBWA	**Marble Bar**	**11.27**	**164**	*e*Pn		Pn	10 48 32.4	-6.8
	18nm,0.6s							
KKM	**Kota Kinabalu**	**16.22**	**359**	*e*Pn		**Pn**	**10 49 43.7**	**-2.0**
	31nm,0.9s							
KKM				*e*Sn		**Sn**	**10 52 39.3**	**-5.5**
SIJI	**Sorong**	**17.44**	**59**	P		**Pn**	**10 50 00.7**	**-0.2**
	2.1nm,0.3s,baz=274,slow=5.6,SNR=13							
WRA	**Warramunga Arr**	**19.74**	**121**	P		**P**	**10 50 26.8**	**-0.2**
	0.3nm,0.3s,baz=282,slow=12,SNR=16							
WRA				S		S	10 53 53.6	-14
	0.2nm,0.3s,baz=300,slow=25,SNR=5.0							
WRAB	**Tennant Creek**	**19.74**	**121**	*e*P		**P**	**10 50 26.9**	**-0.1**
	3.1nm,0.6s							
AS31	**Alice Springs**	**21.31**	**131**	*e*P		**P**	**10 50 44.2**	**+0.3**
ASAR	**Alice Springs**	**21.31**	**131**	P		**P**	**10 50 44.2**	**+0.3**
	9.7nm,0.8s,baz=304,slow=9.6,SNR=100							
ASAR				S		**S**	**10 54 34.6**	**-3.8**
	2.3nm,0.8s,baz=307,slow=24,SNR=8.2							
ASAR				LR		LR	10 58 08.8	
	comp=Z,83nm,21.8s,baz=304,slow=34							
NWAO	**Narrogin (SRO)**	**22.55**	**178**	P		**P**	**10 50 57.5**	**+0.4**
	12nm,0.8s,baz=325,slow=6.4,SNR=5.2							
CMAR	**Chiang Mai Arr**	**33.38**	**329**	P		**P**	**10 52 35.8**	**+0.7**
	1.1nm,0.3s,baz=158,slow=7.0,SNR=8.6							
CMAR				LR		LR	11 07 37.8	
	comp=Z,63nm,19.1s,baz=176,slow=39							
ODAN	**Odare**	**46.47**	**323**	*e*P		**P**	**10 54 23.4**	**-0.5**
	18nm,0.9s							
TAPN	**Taplejung**	**46.65**	**324**	*e*P		**P**	**10 54 25.2**	**-0.1**
	26nm,0.9s							
RAMN	**Ramite**	**47.00**	**323**	*e*P		**P**	**10 54 27.3**	**-0.8**
	27nm,1.1s							
GUN	**Gumba**	**48.14**	**323**	*e*P		**P**	**10 54 36.5**	**-0.5**
	19nm,0.7s							
PKI	**Pulchoki**	**48.17**	**322**	*e*P		**P**	**10 54 36.5**	**-0.8**
PKIN	**Phulchoki**	**48.19**	**322**	*e*P		**P**	**10 54 36.3**	**-1.0**
	5.6nm,0.5s							
DMN	**Daman**	**48.39**	**322**	*e*P		**P**	**10 54 38.3**	**-0.5**
	17nm,0.7s							
KSAR	**Wonju Array Be**	**48.66**	**12**	P		**P**	**10 54 40.8**	**+0.3**
KSAR				pP		**pP**	**10 54 53.9**	**+0.8**
KSRS	**Korea Array**	**48.68**	**12**	P		**P**	**10 54 40.8**	**+0.2**
	1.9nm,0.8s,baz=194,slow=7.9,SNR=7.4							
KSRS				pP		**pP**	**10 54 53.9**	**+0.7**
	2.0nm,0.9s,baz=182,slow=7.8,SNR=4.9							
KSRS				LR		LR	11 17 57.4	
	comp=Z,20nm,18.4s,baz=222,slow=40							
GKN	**Gorkha**	**48.96**	**322**	*e*P		**P**	**10 54 42.5**	**-0.6**
	14nm,0.5s							
KOLN	**Koldanda**	**49.43**	**321**	*e*P		**P**	**10 54 46.1**	**-0.6**
	12nm,0.6s							
MJAR	**Matsushiro Arr**	**50.87**	**23**	P		**P**	**10 54 55.8**	**-1.5**
	3.1nm,0.8s,baz=200,slow=9.0,SNR=12							
MJAR				LR		LR	11 14 47.3	
	comp=Z,21nm,21.8s,baz=185,slow=34							
USRK	**Ussuriysk Ar.**	**56.02**	**13**	P		**P**	**10 55 34.4**	**-0.5**
	3.0nm,0.7s,baz=193,slow=8.0,SNR=8.0							
SONM	**Songino Array**	**58.54**	**352**	P		**P**	**10 55 51.9**	**-0.8**
	1.5nm,0.5s,baz=174,slow=8.6,SNR=8.5							
SONM				pP		**pP**	**10 56 04.1**	**-1.6**
	1.7nm,0.6s,baz=169,slow=7.5,SNR=4.6							
MK31	**Makanchi Array**	**64.49**	**335**	*e*P		**P**	**10 56 32.5**	**-0.4**
MK31

TOA0	**Torodi Ar. Sit**	**28.62**	**32**	*e*P	**P**		**11 05 53.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**28.62**	**32**	P	**P**		**11 05 54.1**	**-0.2**
	4.5nm,0.8s,baz=215,slow=9.3,SNR=21							
TORD				LR	LR		11 16 03.4	
	comp=Z,92nm,18.6s,baz=160,slow=34							
BDFB	**Brasilia**	**34.03**	**259**	P	**P**		**11 06 42.0**	**-0.2**
	1.5nm,0.4s,baz=111,slow=8.6,SNR=4.0							
BOSA	**Boshof**	**39.74**	**121**	LR	LR		11 20 16.7	
	comp=Z,152nm,19.4s,baz=302,slow=31							
BOSA	**Boshof**	**39.74**	**121**	*e*P	**P**		**11 07 30.8**	**+0.1**
	10nm,1.2s							
KEST	**Kesra**	**51.60**	**23**	LR	LR		11 29 39.3	
	comp=Z,299nm,18.7s,baz=315,slow=34							
H05S1	**Guadeloupe/Mar**	**53.75**	**297**	T	T		12 07 29.1	
	SNR=12							
H05N1	**Guadeloupe/Mar**	**54.79**	**299**	T	T		12 08 44.0	
	SNR=5.1							
ROSC	**El Rosal**	**62.91**	**282**	LR	LR		11 38 16.9	
	comp=Z,52nm,18.0s,baz=139,slow=37							
GERES	**GERESS Array B**	**64.63**	**19**	LR	LR		11 38 49.1	
	comp=Z,38nm,18.8s,baz=272,slow=36							
AKASG	**Malin Array Be**	**72.13**	**27**	P	**P**		**11 11 21.3**	**-0.7**
	0.6nm,0.4s,baz=226,slow=6.6,SNR=6.6							
AKASG				LR	LR		11 44 19.0	
	comp=Z,23nm,19.4s,baz=100,slow=37							
NOA	**NORSAR Array B**	**74.86**	**12**	LR	LR		11 46 36.1	
	comp=Z,9.3nm,18.2s,baz=230,slow=37							
FINES	**FINESS Array B**	**79.01**	**18**	P	**P**		**11 12 02.5**	**+1.2**
	0.9nm,0.6s,baz=195,slow=8.6,SNR=2.6							
ULM	**Lac du Bonnet**	**94.09**	**320**	LR	LR		11 50 27.1	
	comp=Z,63nm,19.1s,baz=78,slow=32							
TXAR	**Lajitas Array**	**95.92**	**299**	LR	LR		11 52 41.2	
	comp=Z,9.2nm,21.7s,baz=0.0,slow=33							

*NNC **22** 11:20:06.4±3.0,41°.79N×82°.84E,h0km,mb4.0,mpv3.9, Error ellipse: s-maj=25.4km s-min=13.0km az=132.0*
*ISCJB **22** 11:20:08.9±0.5,42°.05N×0°.05×82°.62E±0°.05,h13km, mb3.8/11,MS2.6/1,Error ellipse: s-maj=6.8km s-min=4.9km az=174.2*
*IDC **22** 11:20:08.6±0.8,42°.02N×82°.69E,h0km,mb3.8/10, mb1 3.9/15,mb1mx3.7/45,mbtmp3.8/15,ML3.4/5,MS2.6/1, Ms1 2.6/1,ms1mx2.1/38,Error ellipse: s-maj=21.0km s-min=15.3km az=54.0*
*BJI **22** 11:20:09.8,41°.97N×82°.58E,h7km,ML3.7/11*
*NEIC **22** 11:20:13.9±0.5,42°.02N×82°.64E,h35km,mb4.3/1,Error ellipse: s-maj=9.5km s-min=7.9km az=197.0*

ISC 22 11:20:10.5±0.7,41°.91N±0°.07×82°.68E±0°.05,h13km,n35, σ1§69/40,mb3.9/11,9C-6D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**4.15**	**61**	Pg	**Pg**	**11 21 28.3**	**-1.8**
WMQ				Sg	**Sg**	**11 22 26.9**	**+3.0**
WMQ				SMN			
	72nm,0.7s						
WMQ				SME			
	99nm,0.9s						
MK31	**Makanchi Array**	**4.89**	**357**	⇑Pg	**Pb**	**11 21 36.8**	**+0.7**
	3.8nm,0.3s,baz=186,slow=12,SNR=16						
MK31				⇑Lg	Lg	11 22 45.9	
	38nm,0.5s,baz=181,slow=29,SNR=6.2						
MK31	**Makanchi Array**	**4.89**	**357**	*e*Pn	**Pn**	**11 21 25.5**	**+1.6**
MK31				*e*Sn	**Sn**	**11 22 16.7**	**-3.6**
MKAR	**Makanchi Array**	**4.89**	**357**	Pn	**Pn**	**11 21 24.3**	**+0.5**
	4.7nm,0.3s,baz=187,slow=12,SNR=32						
MKAR				Lg	Lg	11 22 45.7	
	7.5nm,0.3s,baz=185,slow=29,SNR=5.0						
TKM2	**Tokmak 2**	**5.34**	**283**	⇓Pg	**Pb**	**11 21 46.1**	**+2.3**
	12nm,0.6s						
TKM2				⇑Lg	Lg	11 22 58.7	
	63nm,0.6s						
TKM2	**Tokmak 2**	**5.34**	**283**	*e*Pn	**Pn**	**11 21 31.2**	**+1.0**
	25nm,0.6s						
TKM2				*e*Sn	**Sn**	**11 22 30.0**	**-1.6**
AAK	**Ala-Archa**	**6.12**	**280**	⇓Pg	Pg	11 22 02.6	-5.0
	6.8nm,0.6s						
AAK				⇑Lg	Lg	11 23 23.8	
	23nm,0.7s						
EKS2	**Erkin-Say**	**6.64**	**279**	*e*Pn	**Pn**	**11 21 47.4**	**-0.6**
	10nm,0.6s						
EKS2				*e*Pg	**Pg**	**11 22 17.8**	**0.0**
KK31	**Karatay Array**	**9.07**	**282**	⇑Pg	Pn	11 22 55.3	+34
	1.6nm,0.6s,baz=82,slow=16,SNR=4.6						
KK31				⇓Lg	Lg	11 25 01.8	
	6.3nm,0.7s,baz=87,slow=28,SNR=4.9						
KURBB	**Kurchatov Arra**	**9.18**	**343**	⇑Pn	**Pn**	**11 22 22.7**	**+0.2**
	5.4nm,0.8s						
KURBB				⇓Sn	**Sn**	**11 24 08.8**	**+3.2**
	13nm,0.5s						
KURBB				⇓Lg	Lg	11 25 08.7	
	57nm,0.7s						
KURBB	**Kurchatov Arra**	**9.18**	**343**	Pn	**Pn**	**11 22 21.6**	**-0.9**
	0.2nm,0.3s,baz=166,slow=12,SNR=9.3						
KURBB				Sn	**Sn**	**11 24 09.8**	**+4.2**
	0.2nm,0.3s,baz=201,slow=19,SNR=4.2						
KURK	**Kurchatov**	**9.25**	**344**	⇑Pn	**Pn**	**11 22 23.2**	**-0.2**
	1.9nm,0.6s						
KURK				⇑Sn	**Sn**	**11 24 09.8**	**+2.5**
	14nm,0.8s						
KURK				⇑Lg	Lg	11 25 11.7	
	17nm,1.0s						
KURK	**Kurchatov**	**9.25**	**344**	*e*Pn	**Pn**	**11 22 22.0**	**-1.4**
KURK				*e*Sn	Sn	11 23 56.6	-11
ZAA0	**Zalesovo Array**	**12.13**	**6**	*e*Pn	**Pn**	**11 23 01.9**	**-1.1**
ZAA0				*e*Sn	**Sn**	**11 25 16.4**	**-1.6**
ZALV	**Zalesovo Beam**	**12.13**	**6**	Pn	**Pn**	**11 23 02.2**	**-0.8**
	0.4nm,0.3s,baz=186,slow=13,SNR=6.5						
ZALV				Lg	Lg	11 26 28.9	
	0.2nm,0.3s,baz=191,slow=23,SNR=2.8						
BVAR	**Borovoye Array**	**13.86**	**328**	Pn	**Pn**	**11 23 26.8**	**+0.2**
	0.2nm,0.3s,baz=134,slow=12,SNR=2.4						
BVAR				Lg	Lg	11 27 21.0	
	0.3nm,0.3s,baz=149,slow=25,SNR=3.2						
AB31	**Akbulak array**	**17.49**	**303**	P	**Pn**	**11 24 10.6**	**-3.4**
	0.9nm,0.7s,baz=95,slow=7.4,SNR=12						
ABKAR	**Akbulak array**	**17.49**	**303**	*e*Pn	**Pn**	**11 24 12.3**	**-1.6**
SONM	**Songino Array**	**17.79**	**62**	P	**Pn**	**11 24 17.9**	**+0.1**
	0.1nm,0.3s,baz=256,slow=13,SNR=5.8						
AKTO	**Aktyubinsk**	**19.02**	**305**	⇓P	**P**	**11 24 32.1**	**+0.1**
	1.7nm,0.8s						
AKTO	**Aktyubinsk**	**19.02**	**305**	P	**Pn**	**11 24 33.1**	**+0.4**
	0.1nm,0.3s,baz=90,slow=13,SNR=3.4						
CD2	**Chengdu**	**20.15**	**116**	*e*P	**P**	**11 24 45.3**	**+0.8**
KSAR	**Wonju Array Be**	**34.77**	**82**	P	**P**	**11 27 01.3**	**+0.8**
KSRS	**Korea Array**	**34.79**	**82**	P	**P**	**11 27 01.3**	**+0.6**
	0.7nm,0.5s,baz=290,slow=9.0,SNR=4.3						
BRTR	**Keskin Array B**	**36.78**	**283**	P	**P**	**11 27 18.8**	**+0.8**
	1.4nm,0.6s,baz=96,slow=8.8,SNR=5.6						
ARCES	**ARCESS Array B**	**40.07**	**333**	P	**P**	**11 27 45.0**	**-0.2**
	1.2nm,0.5s,baz=81,slow=7.9,SNR=11						
TGY	**Tagaytay City**	**43.13**	**119**	LR	LR	11 46 24.6	
	comp=Z,7.5nm,21.3s,baz=253,slow=36						
NOA	**NORSAR Array B**	**45.83**	**320**	P	**P**	**11 28 31.1**	**-0.8**
	0.4nm,0.5s,baz=80,slow=8.0,SNR=2.6						
INK	**Inuvik**	**66.81**	**14**	P	**P**	**11 31 01.1**	**-0.2**
	0.8nm,0.6s,baz=80,slow=2.0,SNR=4.0						
ILAR	**Eielson Array**	**66.81**	**21**	P	**P**	**11 30 59.5**	**-2.0**
	0.4nm,0.8s,baz=316,slow=4.9,SNR=7.0						
TORD	**Torodi Ar. Bea**	**74.67**	**274**	P	**P**	**11 31 48.9**	**-1.1**
	1.0nm,0.6s,baz=44,slow=4.9,SNR=6.9						
YKA	**Yellowknife Ar**	**75.02**	**8**	P	**P**	**11 31 50.8**	**-0.4**
	1.0nm,0.9s,baz=343,slow=5.7,SNR=4.6						
WRAB	**Tennant Creek**	**77.88**	**131**	*e*P	**P**	**11 32 09.3**	**+1.3**
	1.7nm,0.6s						
WRA	**Warramunga Arr**	**77.88**	**131**	P	**P**	**11 32 08.7**	**+0.7**
	0.7nm,0.6s,baz=331,slow=5.5,SNR=11						
ASAR	**Alice Springs**	**80.62**	**134**	P	**P**	**11 32 23.6**	**+0.7**
	0.5nm,0.7s,baz=322,slow=5.2,SNR=6.7						

IDC 22 11:34:37.0±1.4,26°.66N×102°.71E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.3/39,mbtmp3.6/4,ML4.4/1,MS3.2/3, Ms1 3.2/3,ms1mx2.7/30,Error ellipse: s-maj=59.1km s-min=25.8km az=62.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.87**	**204**	Pn	Pn	11 36 46.5	-0.1
	1.0nm,0.3s,baz=0.9,slow=15,SNR=42						
CMAR				Sn	Sn	11 38 14.9	-12
	0.8nm,0.3s,baz=358,slow=29,SNR=5.7						
MKAR	**Makanchi Array**	**25.78**	**327**	P	P	11 40 09.5	0.0
	0.5nm,0.5s,baz=134,slow=9.0,SNR=4.3						
MKAR				LR	LR	11 51 41.8	
	comp=Z,33nm,19.9s,baz=191,slow=40						
MJAR	**Matsushiro Arr**	**31.65**	**63**	LR	LR	11 55 38.8	
	comp=Z,176nm,20.2s,baz=190,slow=40						
WRA	**Warramunga Arr**	**55.56**	**143**	P	P	11 44 15.0	+0.5
	0.3nm,0.5s,baz=330,slow=8.0,SNR=4.8						
WRA				LR	LR	12 10 39.8	
	comp=Z,58nm,18.3s,baz=200,slow=39						
ASAR	**Alice Springs**	**58.42**	**146**	P	P	11 44 34.1	-0.6
	0.4nm,1.0s,baz=334,slow=6.2,SNR=2.9						

NNC 22 11:43:04.9±7.1,36°.84N×70°.98E,h182km±146km,mb2.7, mpv3.6,3C-3D,Error ellipse: s-maj=73.3km s-min=39.8km az=13.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.26**	**357**	⇓P	Pn	11 44 35.2	0.0
	0.9nm,0.3s,baz=182,slow=13,SNR=16						
KK31				⇓S	Sn	11 45 46.5	-0.2
	0.7nm,0.3s,baz=178,slow=22,SNR=5.4						
AAK	**Ala-Archa**	**6.38**	**24**	⇑P	Pn	11 44 37.9	+0.8
	4.4nm,0.3s						
AAK				S	Sn	11 45 51.9	+2.1
	2.9nm,0.5s						
TKM2	**Tokmak 2**	**7.03**	**29**	⇑P	Pn	11 44 44.3	-1.3
	1.0nm,0.2s						
TKM2				⇓S	Sn	11 46 04.0	-1.2
	0.9nm,0.4s						
AB31	**Akbulak array**	**14.78**	**331**	⇑P	P	11 46 25.6	-0.6
	0.6nm,0.6s,baz=145,slow=11,SNR=4.0						

*ISK **22** 11:45:44.2,34°.91N×32°.42E,h7km,MD3.4*
*ISCJB **22** 11:45:46.7±0.7,35°.04N±0°.04×32°.49E±0°.05,h19km±5km, Error ellipse: s-maj=7.2km s-min=5.8km az=36.4*
*CSEM **22** 11:45:46.8±0.4,35°.04N×32°.51E,h10km,ML3.3,Error ellipse: s-maj=9.0km s-min=6.5km az=25.0*
*NIC **22** 11:45:47.3,34°.99N×32°.56E,h10km,ML3.3,MW3.5*
*DDA **22** 11:45:48.3,35°.29N×32°.68E,h6km,MD3.1*

ISC 22 11:45:46.2±1.1,35°.05N±0°.03×32°.48E±0°.03,h13km±9km, n36,σ1§18/54,2D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKMC	**Akamas**	**0.12**	**258**	P	**Pb**	**11 45 51.9**	**+1.5**
	baz=101						
AKMC	**Akamas**	**0.12**	**258**	P	**Pb**	**11 45 51.9**	**+1.5**
ALFC	**Alevga**	**0.14**	**44**	⇓*i*P	**Pb**	**11 45 51.5**	**+0.7**
	baz=189						
ALFC				S	**Sb**	**11 45 54.7**	**+0.8**
ALFC	**Alevga**	**0.14**	**44**	⇓*i*P	**Pb**	**11 45 51.5**	**+0.7**
ALFC				S	**Sb**	**11 45 54.7**	**+0.8**
PPCY	**Paphos**	**0.20**	**213**	P	**Pb**	**11 45 52.0**	**+0.3**
	baz=60						
PPCY	**Paphos**	**0.20**	**213**	P	**Pb**	**11 45 52.0**	**+0.3**
LEF	**Lefka**	**0.34**	**79**	*e*Pg	**Pg**	**11 45 52.5**	**-0.7**
LEF				*e*SG	**Sg**	**11 45 58.3**	**+0.4**
LEF	**Lefka**	**0.34**	**79**	*e*Pg	**Pg**	**11 45 52.5**	**-0.7**
LEF				*e*Sg	**Sg**	**11 45 58.3**	**+0.4**
SZAC	**Souni-Zanaja**	**0.45**	**132**	P	**Pg**	**11 45 54.6**	**-0.4**
	baz=311						
SZAC				S	**Sg**	**11 46 00.3**	**-0.7**
SZAC	**Souni-Zanaja**	**0.45**	**132**	P	**Pg**	**11 45 54.6**	**-0.4**
SZAC				S	**Sg**	**11 46 00.3**	**-0.7**
AKDN	**Akdeniz- K¯–br**	**0.47**	**59**	*e*PG	**Pg**	**11 45 56.0**	**+0.5**
AKDN				*e*SG	**Sb**	**11 46 04.8**	**+1.6**
AKDN	**Akdeniz- K¯–br**	**0.47**	**59**	*e*Pg	**Pg**	**11 45 56.0**	**+0.5**
AKDN				*e*Sg	**Sb**	**11 46 04.8**	**+1.6**
MAMC	**Mammari**	**0.62**	**79**	P	**Pb**	**11 45 58.6**	**-0.3**
	baz=251						
MAMC	**Mammari**	**0.62**	**79**	P	**Pb**	**11 45 58.6**	**-0.3**
CSS	**Prodhromos**	**0.71**	**97**	P	**Pg**	**11 45 59.2**	**-0.7**
	baz=272						
CSS				S	**Sb**	**11 46 09.8**	**-0.2**
CSS	**Prodhromos**	**0.71**	**97**	*e*PG	**Pg**	**11 45 58.7**	**-1.2**
CSS				*e*SG	**Sb**	**11 46 10.2**	**+0.2**
CSS	**Prodhromos**	**0.71**	**97**	*e*Pg	**Pg**	**11 45 58.7**	**-1.2**
CSS	**Prodhromos**	**0.71**	**97**	P	**Pg**	**11 45 59.2**	**-0.7**
CSS				S	**Sb**	**11 46 09.8**	**-0.2**
CSS				*e*Sg	**Sb**	**11 46 10.2**	**+0.2**
LFK	**Lefkose**	**0.89**	**75**	*e*PG	**Pg**	**11 46 03.3**	**-0.2**
LFK	**Lefkose**	**0.89**	**75**	*e*Pg	**Pg**	**11 46 03.3**	**-0.2**
GAZI	**Gazipasa**	**1.19**	**354**	*i*P	Pn	**11 46 07.3**	**-1.2**
GAZI				*i*S	**Sb**	**11 46 21.9**	**-2.0**
GAZI	**Gazipasa**	**1.19**	**354**	*i*P	Pn	**11 46 07.3**	**-1.2**
GAZI				*i*S	**Sb**	**11 46 21.9**	**-2.0**
EREN	**Erenkoy**	**1.46**	**71**	*e*PN	**Pn**	**11 46 12.8**	**+0.5**
EREN	**Erenkoy**	**1.46**	**71**	*e*Pn	**Pn**	**11 46 12.8**	**+0.5**
ERMK	**Ermenek**	**1.62**	**12**	*i*P	**Pn**	**11 46 13.8**	**-0.9**
ERMK				*i*S	**Sn**	**11 46 33.0**	**-2.7**
ERMK	**Ermenek**	**1.62**	**12**	*i*P	**Pn**	**11 46 13.8**	**-0.9**
ERMK				*i*S	**Sn**	**11 46 33.0**	**-2.7**
HDMB	**Hadim**	**1.91**	**0**	*e*PN	**Pn**	**11 46 20.3**	**+1.7**
HDMB	**Hadim**	**1.91**	**0**	*e*Pn	**Pn**	**11 46 20.3**	**+1.7**
KIZK	**Mersin**	**1.97**	**43**	*i*P	**Pb**	**11 46 22.0**	**+0.1**
KIZK				*i*S	**Sn**	**11 46 44.1**	**+0.3**
KIZK	**Mersin**	**1.97**	**43**	*i*P	**Pb**	**11 46 22.0**	**+0.1**
KIZK				*i*S	**Sn**	**11 46 44.1**	**+0.3**
MERS	**Mersin**	**2.46**	**42**	*e*PN	**Pn**	**11 46 27.7**	**+1.6**
MERS	**Mersin**	**2.46**	**42**	*e*Pn	**Pn**	**11 46 27.7**	**+1.6**
SUTC	**Sutluce-Ispart**	**2.70**	**334**	*e*PN	**Pn**	**11 46 30.8**	**+1.4**
SUTC	**Sutluce-Ispart**	**2.70**	**334**	*e*Pn	**Pn**	**11 46 30.8**	**+1.4**
KARA	**Karaisali**	**3.03**	**43**	*e*PN	**Pn**	**11 46 35.9**	**+2.0**
KARA	**Karaisali**	**3.03**	**43**	*e*Pn	**Pn**	**11 46 35.9**	**+2.0**

*IDC **22** 11:57:05.8±1.1,13°.23N×50°.89E,h0km,mb3.8/13, mb1 4.0/13,mb1mx3.8/42,mbtmp3.8/13,MS3.4/8, Ms1 3.4/8,ms1mx3.1/31,Error ellipse: s-maj=27.2km s-min=22.0km az=14.0*
*ISCJB **22** 11:57:07.3±0.6,13°.33N±0°.09×50°.68E±0°.04,h21km, mb3.8/16,MS3.4/8,Error ellipse: s-maj=12.3km s-min=5.7km az=179.1*
*CSEM **22** 11:57:07.4±0.2,13°.30N×50°.71E,h10km,ML3.9,Error ellipse: s-maj=11.0km s-min=5.9km az=173.0*
*NEIC **22** 11:57:07.5±0.4,13°.25N×50°.89E,h10km,mb4.1/3,Error ellipse: s-maj=11.5km s-min=9.7km az=120.0*
*DHMR **22** 11:57:10.9±1.7,13°.41N×50°.27E,h2km±999km,ML3.9*

ISC 22 11:57:09.4±0.7,13°.4N±0°.1×50°.71E±0°.07,h21km,n39, σ1§03/36,mb3.9/16,MS3.4/8,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MUKL	**Al Mukalla**	**1.97**	**304**	*e*P	**Pn**	**11 57 39.9**	**-1.6**
MUKL				*i*S	**Sn**	**11 58 03.4**	**-2.1**
MUKL				AML	AML	11 58 06.2	
	comp=N,2μm,0.4s						
BDHA	**Al Bayda'**	**5.04**	**278**	*e*P	**Pn**	**11 58 24.6**	**+0.6**
BDHA				*i*S	**Sn**	**11 59 20.2**	**-1.5**
BDHA				AML	AML	11 59 25.7	
	comp=N,121nm,0.5s						
BDHA	**Al Bayda'**	**5.04**	**278**	*e*P	**Pn**	**11 58 24.5**	**+0.6**
BDHA				*i*S	**Sn**	**11 59 20.2**	**-1.5**
	comp=N,60nm,0.5s						
LBOS		**5.33**	**276**	*e*P	**Pn**	**11 58 28.6**	**+0.5**
LBOS				*i*S	**Sn**	**11 59 28.7**	**-0.3**
TRBA	**At Turbah**	**6.42**	**270**	*e*P	**Pn**	**11 58 41.8**	**-1.2**
TRBA	**At Turbah**	**6.42**	**270**	*e*P	**Pn**	**11 58 41.8**	**-1.2**
H08N2	**Diego Garcia H**	**28.08**	**133**	T	T	12 31 58.9	
	baz=313,slow=75,SNR=17						
H08N3	**Diego Garcia H**	**28.09**	**133**	T	T	12 32 07.7	
	baz=313,slow=75,SNR=14						
H08N1	**Diego Garcia H**	**28.11**	**133**	T	T	12 32 01.7	
	baz=313,slow=75,SNR=17						
BRTR	**Keskin Array B**	**30.26**	**333**	LR	LR	12 17 14.0	
	comp=N,31nm,18.4s,baz=130,slow=40						
KBZ	**Khabaz**	**31.00**	**349**	P	P	**12 03 25.7**	**+0.4**
KBZ	comp=N,3.1nm,0.8s,baz=180,slow=6.1,SNR=4.7			LR	LR	12 18 23.7	
	comp=N,92nm,18.4s,baz=164,slow=41						
ABKAR	**Akbulak array**	**36.59**	**10**	*e*P	**P**	**12 04 14.7**	**+0.9**
	comp=N,2.2nm,0.9s						
ABKAR	**Akbulak array**	**36.59**	**10**	*e*P	**P**	**12 04 14.7**	**+0.9**
	comp=N,2.2nm,0.9s						
AKTO	**Aktyubinsk**	**37.45**	**8**	P	**P**	**12 04 21.8**	**+0.7**
	comp=N,1.1nm,0.5s,baz=214,slow=9.8,SNR=4.3						
AKASG	**Malin Array Be**	**41.14**	**339**	P	**P**	**12 04 52.9**	**+0.9**
	comp=N,0.6nm,0.5s,baz=149,slow=7.7,SNR=4.2						
BVAR	**Borovoye Array**	**42.56**	**18**	P	**P**	**12 05 04.9**	**+1.4**
	comp=N,0.6nm,0.5s,baz=177,slow=7.2,SNR=5.0						
BVAR				PcP	**PcP**	**12 06 56.1**	**+0.3**
	comp=N,0.6nm,0.4s,baz=176,slow=3.9,SNR=5.5						
MK31	**Makanchi Array**	**42.56**	**32**	*e*P	**P**	**12 05 03.4**	**-0.3**
MK31	**Makanchi Array**	**42.56**	**32**	*e*P	**P**	**12 05 03.4**	**-0.3**
MKAR	**Makanchi Array**	**42.56**	**32**	P	**P**	**12 05 03.4**	**-0.3**
	comp=N,0.5nm,0.6s,baz=220,slow=7.8,SNR=5.0						
MKAR				LR	LR	12 24 13.9	
	comp=N,40nm,18.7s,baz=194,slow=38						
ARU	**Arti**	**43.40**	**6**	P	**P**	**12 05 11.1**	**+0.9**
	comp=N,1.3nm,0.4s						
ARU	**Arti**	**43.40**	**6**	P	**P**	**12 05 11.1**	**+0.9**
	comp=N,1.3nm,0.4s						
KURBB	**Kurchatov Arra**	**43.50**	**26**	P	**P**	**12 05 11.4**	**+0.2**
	comp=N,0.6nm,0.8s,baz=224,slow=8.0,SNR=7.4						
KURK	**Kurchatov**	**43.61**	**26**	*e*P	**P**	**12 05 12.6**	**+0.5**
KURK	**Kurchatov**	**43.61**	**26**	*e*P	**P**	**12 05 12.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**46.56**	**77**	P	**P**	**12 05 34.5**	**-1.4**
	comp=N,1.5nm,0.7s,baz=273,slow=8.8,SNR=10.0						
TORD	**Torodi Ar. Bea**	**47.65**	**276**	P	**P**	**12 05 46.2**	**+1.6**
	comp=N,0.5nm,0.6s,baz=86,slow=8.1,SNR=4.9						
BOSA	**Boshof**	**48.45**	**210**	LR	LR	12 27 38.8	
	comp=N,62nm,19.5s,baz=152,slow=38						
BOSA	**Boshof**	**48.45**	**210**	*e*P	**P**	**12 05 50.8**	**+0.1**
	comp=N,0.7nm,0.4s						
BOSA	**Boshof**	**48.45**	**210**	*e*P	**P**	**12 05 50.8**	**+0.1**
	comp=N,0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**48.58**	**26**	P	**P**	**12 05 50.0**	**-1.2**
	comp=N,0.3nm,0.3s,baz=210,slow=7.9,SNR=3.9						
ZALV	**Zalesovo Beam**	**48.58**	**26**	P	**P**	**12 05 50.0**	**-1.2**
FINES	**FINESS Array B**	**51.21**	**345**	LR	LR	12 31 36.2	
	comp=Z,32nm,18.9s,baz=164,slow=40						
ESDC	**Sonseca Array**	**54.52**	**309**	P	**P**	**12 06 36.9**	**+0.9**
	comp=N,0.3nm,0.4s,baz=88,slow=7.1,SNR=6.4						
NOA	**NORSAR Array B**	**55.52**	**338**	LR	LR	12 34 16.6	
	comp=N,22nm,18.0s,baz=260,slow=40						
SONM	**Songino Array**	**57.36**	**41**	P	**P**	**12 06 56.3**	**+0.1**
	comp=N,0.8nm,0.7s,baz=250,slow=7.6,SNR=5.1						
SONM				LR	LR	12 34 23.4	
	comp=N,43nm,20.2s,baz=260,slow=39						
ARCES	**ARCESS Array B**	**58.35**	**350**	LR	LR	12 35 10.9	
	comp=N,38nm,20.1s,baz=240,slow=39						
WRA	**Warramunga Arr**	**88.64**	**111**	P	**P**	**12 10 00.4**	**-1.2**
	comp=N,1.2nm,1.0s,baz=294,slow=4.2,SNR=5.4						
ASAR	**Alice Springs**	**89.19**	**114**	P	**P**	**12 10 02.8**	**-1.4**
	comp=N,1.0nm,1.0s,baz=294,slow=5.3,SNR=4.9						
TXAR	**Lajitas Array**	**130.87**	**330**	PKP	**PKPdf**	**12 16 20.4**	**+0.4**
	comp=N,0.1nm,0.7s,baz=5.7,slow=1.8,SNR=2.6						

*KLM **22** 12:04:58.6,3°.48N×97°.60E,h50km,mb3.8,ML4.0,MS6.1*
*ISCJB **22** 12:04:59.8±1.4,3°.68N±0°.09×97°.74E±0°.09,h35km, mb3.3/2,Error ellipse: s-maj=14.2km s-min=11.2km az=40.7*
*IDC **22** 12:04:59.8±2.8,2°.85N×97°.65E,h0km,mb3.4/2,mb1 3.8/3, mb1mx3.4/28,mbtmp3.5/3,ML4.2/1,Error ellipse: s-maj=48.0km s-min=37.1km az=12.0*
*DJA **22** 12:05:03.0±0.7,3°.N±3°.×9°.8E±°,h20km±7km,M4.1/8, MLv4.1/8*

ISC 22 12:05:01.7±1.8,3°.59N±0°.09×97°.8E±0°.1,h35km,n17, σ1§54/18,5C-3D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TSI	**Tuntungan**	**0.76**	**97**	P	**Pn**	**12 05 15.7**	**-0.3**
TSI				S	**Sn**	**12 05 26.9**	**+0.6**
PSI	**Prapat**	**1.36**	**125**	Pn	**Pn**	**12 05 26.0**	**+1.6**
	120nm,0.3s,baz=308,slow=8.6,SNR=160						
PSI				Sn	**Sn**	**12 05 43.1**	**+1.7**
	132nm,0.3s,baz=198,slow=16,SNR=17						
GSI	**Gunungsitoli**	**2.28**	**186**	P	**Pn**	**12 05 37.6**	**+0.7**
GSI	**Gunungsitoli**	**2.28**	**186**	*e*P	**Pn**	**12 05 37.9**	**+1.0**
	204nm,0.4s						
MNSI	**Mandailing Nat**	**3.29**	**147**	P	**Pn**	**12 05 51.6**	**+0.8**
KULM	**Kulim**	**3.30**	**59**	⇑P	**Pn**	**12 05 53.3**	**+2.3**
KULM	**Kulim**	**3.30**	**59**	*e*P	**Pn**	**12 05 53.3**	**+2.3**
	98nm,0.6s						
IPM	**Ipoh**	**3.33**	**75**	⇓P	**Pn**	**12 05 51.7**	**+0.3**
FRIM	**Kepong**	**3.83**	**95**	⇑P	**Pn**	**12 05 59.4**	**+1.1**

KNDC	**Almaty**	**4.33**	**290**	⇑Pn		Pn	12 59 09.0	+4.0
	200nm,0.8s							
KNDC				⇑Lg		Lg	13 00 15.6	
	1μm,1.1s							
AAA	**Alma-Ata**	**4.35**	**290**	*e*PN		**Pg**	**12 59 20.8**	**-2.1**
AAA				pmax		pmax		
	comp=Z,265nm,0.5s							
MK31	**Makanchi Array**	**4.91**	**358**	⇑Pn		**Pn**	**12 59 14.7**	**+1.7**
	comp=Z,36nm,0.5s,baz=181,slow=11,SNR=416							
MK31				⇓Lg		Lg	13 00 33.0	
	comp=Z,281nm,0.8s,baz=183,slow=28,SNR=6.4							
MK31	**Makanchi Array**	**4.91**	**358**	*e*PN		**Pn**	**12 59 14.6**	**+1.7**
MK31				pmax		pmax		
	comp=Z,16nm,0.3s							
MK31				pmax		pmax		
	comp=N,123nm,0.5s							
MK31	**Makanchi Array**	**4.91**	**358**	*e*Pn		**Pn**	**12 59 14.7**	**+1.7**
MK31				*e*Sn		**Sn**	**13 00 08.4**	**-1.1**
MKAR	**Makanchi Array**	**4.91**	**358**	Pn		**Pn**	**12 59 14.6**	**+1.7**
	comp=N,8.7nm,0.3s,baz=188,slow=12,SNR=52							
MKAR				Sn		**Sn**	**13 00 14.2**	**+4.6**
	comp=N,11nm,0.3s,baz=174,slow=18,SNR=3.6							
MKAR				Lg		Lg	13 00 34.6	
	comp=N,23nm,0.3s,baz=183,slow=28,SNR=4.5							
MKAR				LR		LR	13 01 25.0	
	comp=N,231nm,18.2s,baz=148,slow=43							
MKAR	**Makanchi Array**	**4.91**	**358**	PN		**Pn**	**12 59 14.6**	**+1.7**
MKAR							13 00 14.2	
MKAR				pmax		pmax		
	comp=Z,9.0nm,0.3s							
MKAR				smax		smax		
	comp=N,11nm,0.3s							
MKAR				MLR		MLR		
	comp=Z,231nm,18.2s							
TKM2	**Tokmak 2**	**5.24**	**284**	⇑Pn		**Pn**	**12 59 20.8**	**+3.0**
	comp=Z,81nm,0.7s							
TKM2				⇓Lg		Lg	13 00 43.7	
	comp=Z,220nm,0.6s							
TKM2	**Tokmak 2**	**5.24**	**284**	PN		Pn	12 59 21.3	+3.5
TKM2				pmax		pmax		
	comp=Z,39nm,0.5s							
TKM2				pmax		pmax		
	comp=N,220nm,0.6s							
TKM2	**Tokmak 2**	**5.24**	**284**	*e*Pn		**Pn**	**12 59 20.1**	**+2.4**
	comp=N,85nm,0.6s							
TKM2				*e*Pg		**Pg**	**12 59 37.1**	**-2.7**
TKM2				*e*Sn		**Sn**	**13 00 20.3**	**+2.2**
TKM2				*e*Sg		**Sg**	**13 00 47.4**	**-0.4**
KSH	**Kashi**	**5.53**	**247**	Pn		Pb	12 59 30.3	-5.6
KSH				Sn		**Sb**	**13 00 36.9**	**-5.2**
KSH				SMN				
	comp=N,250nm,1.1s							
KSH				SME				
	comp=N,170nm,0.9s							
FRU	**Bishkek**	**5.95**	**282**	*e*PN		Pb	12 59 36.0	-7.0
FRU				pmax		pmax		
	comp=Z,90nm,1.7s							
AAK	**Ala-Archa**	**6.02**	**280**	⇓Pg		Pg	12 59 51.0	-3.6
	comp=Z,35nm,0.6s							
AAK				⇓Lg		Lg	13 01 08.8	
	comp=Z,162nm,1.2s							
AAK	**Ala-Archa**	**6.02**	**280**	Pn		**Pb**	**12 59 44.1**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=146,slow=7.3,SNR=3.4							
AAK				Lg		Lg	13 01 26.1	
	comp=Z,7.3nm,0.3s,baz=246,slow=19,SNR=4.7							
EKS2	**Erkin-Say**	**6.55**	**280**	*e*Pn		**Pn**	**12 59 37.0**	**+1.4**
	comp=Z,44nm,0.7s							
EKS2				*e*Sn		**Sn**	**13 00 50.7**	**+0.5**
EKS2				*e*Sg		**Sg**	**13 01 31.5**	**+2.0**
KK31	**Karatay Array**	**8.97**	**282**	⇑Pg		**Pg**	**13 00 51.0**	**-0.1**
	comp=Z,4.3nm,0.6s,baz=82,slow=16,SNR=6.2							
KK31				⇓Lg		Lg	13 02 48.3	
	comp=Z,24nm,0.7s,baz=91,slow=28,SNR=4.6							
KURBB	**Kurchatov Arra**	**9.16**	**344**	⇑Pn		**Pn**	**13 00 10.3**	**-1.0**
	comp=Z,11nm,0.6s							
KURBB				⇓Sn		**Sn**	**13 01 57.9**	**+3.8**
	comp=Z,64nm,0.6s							
KURBB				⇑Lg		Lg	13 02 52.4	
	comp=Z,172nm,0.7s							
KURBB	**Kurchatov Arra**	**9.16**	**344**	Pn		**Pn**	**13 00 10.5**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=166,slow=12,SNR=32							
KURBB				Sn		**Sn**	**13 01 57.8**	**+3.6**
	comp=Z,0.5nm,0.3s,baz=201,slow=19,SNR=5.7							
KURK	**Kurchatov**	**9.23**	**344**	⇑Pn		**Pn**	**13 00 11.0**	**-1.2**
	comp=Z,4.6nm,0.4s							
KURK				⇓Sn		**Sn**	**13 01 57.7**	**+1.9**
	comp=Z,50nm,0.9s							
KURK				⇓Lg		Lg	13 02 52.9	
	comp=Z,83nm,0.8s							
KURK	**Kurchatov**	**9.23**	**344**	P		**Pn**	**13 00 11.4**	**-0.8**
KURK				pmax		pmax		
	comp=Z,5.0nm,0.4s							
KURK				pmax		pmax		
	comp=N,127nm,1.2s							
KURK	**Kurchatov**	**9.23**	**344**	Pn		**Pn**	**13 00 10.5**	**-1.8**
KURK				Sn		**Sn**	**13 01 57.8**	**+1.9**
CHCP	**Chirah Chowk**	**11.01**	**225**	P		**Pn**	**13 00 38.1**	**+1.4**
CEP	**Cherat**	**11.63**	**230**	P		**Pn**	**13 00 45.8**	**+0.5**
CEP				S		**Sn**	**13 02 52.0**	**-3.1**
ZALV	**Zalesovo Beam**	**12.16**	**6**	Pn		**Pn**	**13 00 50.9**	**-1.4**
	comp=N,0.6nm,0.3s,baz=191,slow=14,SNR=14							
ZALV				Lg		Lg	13 04 21.9	
	comp=N,0.4nm,0.3s,baz=196,slow=24,SNR=2.7							
KBL	**Kabul**	**12.89**	**240**	*e*Pn		**Pn**	**13 01 03.3**	**+0.7**
KBL				*e*Sn		**Sn**	**13 03 28.4**	**+2.4**
NVS	**Novosibirsk**	**12.97**	**2**	*e*P		Pn	13 01 07.0	+3.7
GTA	**Gaotai**	**13.35**	**95**	*e*P		**Pn**	**13 01 09.3**	**+0.5**
GTA				pP		pP	13 01 12.4	
GTA				sP		sP	13 01 15.3	
GTA				S		**Sn**	**13 03 40.4**	**+3.3**
GTA				sS		sS	13 03 46.1	
GTA				SS		**S**	**13 03 57.5**	**-3.8**
GTA				PMZ				
	comp=N,5.0nm,1.1s							
GTA				PMZ				
	comp=N,65nm,5.5s							
GTA				LN				
	comp=N,110nm,10.0s							
GTA				LE				
	comp=N,230nm,9.7s							
GTA				LZ				
	comp=N,180nm,11.4s							
BVA0	**Borovoye Array**	**13.82**	**328**	⇑Pn		**P**	**13 01 21.0**	**-2.4**
	comp=N,4.9nm,0.9s,baz=139,slow=13,SNR=17							
BVA0				⇑Lg		Lg	13 05 16.6	
	comp=N,34nm,1.1s,baz=126,slow=28,SNR=3.6							
BVA0	**Borovoye Array**	**13.82**	**328**	*i* P		**Pn**	**13 01 14.8**	**-0.1**
BVA0				pmax		pmax		
	comp=Z,5.0nm,0.9s							
BVA0				pmax		pmax		
	comp=N,34nm,1.1s							
BVAR	**Borovoye Array**	**13.82**	**328**	Pn		**Pn**	**13 01 14.3**	**-0.7**
	comp=N,0.6nm,0.3s,baz=138,slow=14,SNR=7.8							
BVAR				Lg		Lg	13 05 10.8	
	comp=N,0.5nm,0.3s,baz=144,slow=24,SNR=3.4							
BVAR				LR		LR	13 06 50.4	
	comp=N,81nm,20.8s,baz=146,slow=39							
BRVK	**Borovoye**	**13.89**	**328**	⇑Pn		**Pn**	**13 01 17.2**	**+1.4**
	comp=N,7.7nm,0.6s							
BRVK				⇑Lg		Lg	13 05 17.4	
	comp=N,69nm,1.0s							
BRVK	**Borovoye**	**13.89**	**328**	*d i* P		Pn	13 01 19.7	+3.8
BRVK				pmax		pmax		
	comp=Z,7.0nm,1.2s							
LSA	**Lhasa**	**14.02**	**147**	*e*Pn		P	13 01 22.8	-3.3
	comp=Z,9.7nm,0.8s							
AB31	**Akbulak array**	**17.41**	**303**	⇓Pn		**Pn**	**13 02 00.1**	**-1.8**
	comp=Z,3.7nm,0.8s,baz=101,slow=11,SNR=44							
ABKAR	**Akbulak array**	**17.41**	**303**	*e*Pn		**Pn**	**13 02 00.7**	**-1.3**
	comp=Z,3.7nm,0.7s							
LZH	**Lanzhou**	**17.53**	**102**	*e*P		**Pn**	**13 02 01.3**	**-2.4**
LZH				*e*PP		**PnPn**	**13 02 15.8**	**+1.9**
LZH				PMZ				
	comp=Z,21nm,1.2s							
LZH				PMZ				
	comp=Z,78nm,4.3s							
LZH				LN				
	comp=Z,200nm,10.2s							
LZH				LE				
	comp=Z,220nm,11.3s							
LZH				LZ				
	comp=Z,280nm,14.8s							
SONM	**Songino Array**	**17.89**	**63**	P		**Pn**	**13 02 07.4**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=261,slow=11,SNR=16							
SHL	**Shillong**	**18.02**	**152**	*e*P		**Pn**	**13 02 10.0**	**+0.2**
AKTO	**Aktyubinsk**	**18.95**	**305**	⇑Pn		**P**	**13 02 19.7**	**-0.4**
	comp=Z,4.7nm,0.8s							
AKTO	**Aktyubinsk**	**18.95**	**305**	P		**Pn**	**13 02 20.7**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=87,slow=12,SNR=8.2							
CD2	**Chengdu**	**20.24**	**116**	*e*P		**P**	**13 02 34.0**	**-0.4**
SVE	**Sverdlovsk**	**20.52**	**324**	*e*P		Pn	13 02 41.8	+2.3
ARU	**Arti**	**21.23**	**321**	*d i*P		**P**	**13 02 46.5**	**+1.6**
ARU							13 03 09.6	
ARU				S		**S**	**13 06 39.6**	**-0.8**
ARU				SS		**SnSn**	**13 07 04.4**	**+2.0**
ARU				pmax		pmax		
	comp=Z,11nm,1.0s							
ARU	**Arti**	**21.23**	**321**	*e*P		**P**	**13 02 44.8**	**-0.1**
	comp=Z,4.8nm,0.6s							
HHC	**Hu-ho-hao-te**	**21.77**	**83**	*e*P		**P**	**13 02 54.3**	**+3.4**
HHC				PMZ				
	comp=Z,15nm,0.7s							
HHC				PMZ				
	comp=Z,47nm,3.9s							
BOD	**Bodaibo**	**25.48**	**40**	*e*P		**P**	**13 03 26.7**	**-0.3**
CHTO	**Chiang Mai**	**26.91**	**144**	*e*P		**P**	**13 03 41.3**	**+0.9**
	comp=Z,3.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**27.23**	**144**	P		**P**	**13 03 44.5**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=321,slow=9.4,SNR=8.1							
CMAR	**Chiang Mai Arr**	**27.23**	**144**	*e*P		**P**	**13 03 47.6**	**+4.4**
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
CN2	**Changchun**	**31.26**	**72**	*e*P		**P**	**13 04 19.3**	**+0.5**
CN2				PMZ				
	comp=Z,10.0nm,0.7s							
KSAR	**Wonju Array Be**	**34.88**	**82**	P		**P**	**13 04 50.1**	**-0.3**
KSRS	**Korea Array**	**34.90**	**82**	P		**P**	**13 04 50.1**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=286,slow=9.3,SNR=7.5							
KSRS	**Korea Array**	**34.90**	**82**	P		**P**	**13 04 50.2**	**-0.4**
KSRS				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BR131	**Keskin Array S**	**36.68**	**283**	*e*P		**P**	**13 05 07.5**	**+1.4**
	comp=Z,4.9nm,0.7s							
BRTR	**Keskin Array B**	**36.68**	**283**	P		**P**	**13 05 07.7**	**+1.6**
	comp=Z,4.6nm,0.7s,baz=93,slow=8.8,SNR=18							
BRTR	**Keskin Array B**	**36.68**	**283**	*e*P		P	13 05 10.8	+4.7
BRTR				pmax		pmax		
	comp=Z,5.0nm,0.7s							
AKASG	**Malin Array Be**	**37.15**	**302**	P		**P**	**13 05 09.9**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=62,slow=10,SNR=3.1							
AKASG	**Malin Array Be**	**37.15**	**302**	P		**P**	**13 05 09.9**	**+0.1**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							
TIXI	**Tiksi**	**37.41**	**22**	⇑ *i* P		**P**	**13 05 10.0**	**-1.7**
TIXI				pmax		pmax		
	comp=Z,11nm,2.5s							
FINES	**FINESS Array B**	**38.59**	**320**	P		**P**	**13 05 21.6**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=127,slow=11,SNR=3.8							
FINES	**FINESS Array B**	**38.59**	**320**	P		**P**	**13 05 21.6**	**-0.2**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ARCES	**ARCESS Array B**	**40.04**	**333**	P		**P**	**13 05 34.2**	**+0.4**
	comp=Z,2.8nm,0.5s,baz=90,slow=8.5,SNR=31							
ARCES	**ARCESS Array B**	**40.04**	**333**	*e*P		**P**	**13 05 34.2**	**+0.4**
ARCES				pmax		pmax		
	comp=Z,3.0nm,0.5s							
MJAR	**Matsushiro Arr**	**42.82**	**78**	P		**P**	**13 05 55.7**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=274,slow=13,SNR=4.2							
MJAR	**Matsushiro Arr**	**42.82**	**78**	P		**P**	**13 05 55.7**	**-1.4**
MJAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MJA0	**Matsu Arr-Jizo**	**42.85**	**78**	*e*P		**P**	**13 05 56.0**	**-1.3**
MJA0				pmax		pmax		
	comp=Z,1.0nm,0.7s							
HFS	**Hagfors**	**44.70**	**318**	P		**P**	**13 06 11.6**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=126,slow=7.3,SNR=6.0							
HFS	**Hagfors**	**44.70**	**318**	P		**P**	**13 06 11.6**	**-0.2**
HFS				pmax		pmax		
	comp=Z,1.0nm,0.5s							
DPC	**Dobruska-Polom**	**45.28**	**304**	*e*P		**P**	**13 06 16.6**	**0.0**
DPC				*ex*		x	13 06 20.3	
DPC	**Dobruska-Polom**	**45.28**	**304**	*e*P		**P**	**13 06 16.6**	**0.0**
NOA	**NORSAR Array B**	**45.77**	**320**	P		**P**	**13 06 20.4**	**0.0**
	comp=Z,0.9nm,0.5s,baz=81,slow=8.0,SNR=5.0							
NOA				LR		LR	13 26 17.9	
	comp=Z,21nm,18.0s,baz=230,slow=37							
NOA	**NORSAR Array B**	**45.77**	**320**	P		**P**	**13 06 20.4**	**0.0**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
NOA				MLR		MLR		
	comp=Z,21nm,18.0s							
CLL	**Collm**	**47.02**	**307**	*e*P		**P**	**13 06 30.0**	**-0.3**
CLL	**Collm**	**47.02**	**307**	*e*P		**P**	**13 06 30.0**	**-0.3**
GERES	**GERESS Array B**	**47.35**	**303**	P		**P**	**13 06 34.1**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=81,slow=6.2,SNR=4.2							
GERES	**GERESS Array B**	**47.35**	**303**	P		**P**	**13 06 34.1**	**+1.1**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
ESDC	**Sonseca Array**	**62.73**	**300**	P		**P**	**13 08 24.8**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=25,slow=6.8,SNR=4.2							
ILAR	**Eielson Array**	**66.86**	**21**	P		**P**	**13 08 50.1**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=314,slow=5.4,SNR=20							
ILAR	**Eielson Array**	**66.86**	**21**	*e*P		**P**	**13 08 50.1**	**-0.6**
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
RSO	**Redoubt South**	**68.46**	**26**	*e*P		**P**	**13 08 58.7**	**-2.4**
	comp=Z,21nm,0.5s							
TORD	**Torodi Ar. Bea**	**74.57**	**274**	P		**P**	**13 09 38.3**	**-0.1**
	comp=Z,4.0nm,0.7s,baz=44,slow=5.0,SNR=23							
YKA	**Yellowknife Ar**	**75.05**	**8**	P		**P**	**13 09 39.6**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=345,slow=5.6,SNR=17							
YKA	**Yellowknife Ar**	**75.05**	**8**	P		**P**	**13 09 39.6**	**-0.8**
YKA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
WRAB	**Tennant Creek**	**77.94**	**131**	*e*P		**P**	**13 09 58.3**	**+0.9**
	comp=Z,2.4nm,0.6s							
WRA	**Warramunga Arr**	**77.95**	**131**	P		**P**	**13 09 58.0**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=330,slow=5.4,SNR=26							
WRA	**Warramunga Arr**	**77.95**	**131**	*e*P		**P**	**13 09 58.0**	**+0.7**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.6s							
ASAR	**Alice Springs**	**80.68**	**133**	P		**P**	**13 10 12.7**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=324,slow=5.2,SNR=23							
ASAR	**Alice Springs**	**80.68**	**133**	P		**P**	**13 10 12.7**	**+0.5**
ASAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
FFC	**Flin Flon**	**83.68**	**3**	*e*P		**P**	**13 10 27.0**	**-0.6**
	comp=Z,3.1nm,0.8s							

IDC ***22*** *13:05:46.0±11.0, 44.99N×144.59E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/24, mbtmp3.5/4, Error ellipse: s-maj=295.3km s-min=35.0km az=166.0*

ISCJB ***22*** *13:05:55.0±0.7, 43.58N±0.07×144.81E±0.09, h156km±4km, mb3.3/4, Error ellipse: s-maj=12.6km s-min=9.5km az=151.8*

JMA ***22*** *13:05:56.5±0.1, 43.60N×144.78E, h152km±1km, M2.4*

ISC 22 13:05:55.7±0.9, 43.57N±0.08×144.82E±0.07, h155km±6km, n22, σ0s74/26, mb3.3/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNK	**Nakash**	**0.07**	**280**	P	**Pn**	**13 06 16.9**	**+0.5**
JNK				*e*S	**Sn**	**13 06 31.9**	**-0.3**
JRA	**Rausu**	**0.43**	**31**	P	**Pn**	**13 06 17.7**	**+0.4**
JRA				*e*S	**Sn**	**13 06 33.7**	**-0.1**
JAK	**Akkeshi**	**0.58**	**189**	P	**Pn**	**13 06 18.5**	**+0.4**
JAK				*e*S	**Sn**	**13 06 35.2**	**+0.1**
NEM2	**Nemuro 2**	**0.71**	**107**	P	**Pn**	**13 06 19.1**	**+0.3**
NEM2				*e*S	**Sn**	**13 06 35.5**	**-0.9**
JTKR	**Abashiri--Toko**	**0.77**	**301**	P	**Pn**	**13 06 19.5**	**+0.3**
JTKR				*e*S	**Sn**	**13 06 36.3**	**-0.9**
JAR	**Ashorobuto**	**0.81**	**250**	P	**Pn**	**13 06 20.1**	**+0.6**
JAR				*e*S	**Sn**	**13 06 37.8**	**+0.1**
JOB	**Onbets**	**0.98**	**227**	P	**Pn**	**13 06 21.6**	**+0.8**
JOB				*e*S	**Sn**	**13 06 40.1**	**+0.1**
JMP	**Maruseppu**	**1.14**	**293**	P	**Pn**	**13 06 22.2**	**0.0**
JMP				*e*S	**Sn**	**13 06 41.3**	**-1.2**
JCH	**Churui**	**1.43**	**229**	P	**Pn**	**13 06 25.3**	**+0.3**
JCH				*e*S	**Sn**	**13 06 46.4**	**-1.0**
JKK2	**Kamakawa 2**	**1.53**	**282**	P	**Pn**	**13 06 26.3**	**+0.3**
ASAJ	**Asahikawa**	**1.69**	**289**	P	**Pn**	**13 06 28.4**	**+0.7**
JNBK	**Urakawa-nobuka**	**1.99**	**230**	P	**Pn**	**13 06 31.1**	**0.0**
JNBK				*e*S	**Sn**	**13 06 56.5**	**-1.7**
SONM	**Songino Array**	**26.98**	**293**	P	**P**	**13 11 23.9**	**+1.0**
	0.5nm,0.6s,baz=89,slow=7.9,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**30.12**	**135**	T	T	13 43 15.4	
	baz=335						
H11N1	**WAKE ISLAND Hy**	**30.14**	**135**	T	T	13 43 21.6	
	baz=335						
H11N3	**WAKE ISLAND Hy**	**30.14**	**135**	T	T	13 43 16.8	
	baz=335						
H11S1	**WAKE ISLAND Hy**	**31.05**	**137**	T	T	13 44 24.2	
	baz=325						
H11S3	**WAKE ISLAND Hy**	**31.06**	**137**	T	T	13 44 25.7	
	baz=325						
H11S2	**WAKE ISLAND Hy**	**31.07**	**137**	T	T	13 44 25.2	
	baz=325						
ILAR	**Eielson Array**	**42.63**	**36**	P	**P**	**13 13 35.2**	**-1.0**
	0.3nm,1.0s,baz=254,slow=6.0,SNR=4.5						
MKAR	**Makanchi Array**	**43.16**	**297**	P	**P**	**13 13 41.5**	**+0.7**
	0.4nm,0.5s,baz=77,slow=9.0,SNR=4.2						
FINES	**FINESS Array B**	**64.25**	**332**	P	**P**	**13 16 13.5**	**-0.2**
	1.5nm,0.9s,baz=54,slow=7.1,SNR=5.1						

GUC 22 13:10:26.5±0.5, 34.90S×72.57W, h40km±5km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**1.11**	**95**	*e*P	Pn	13 10 47.0	+1.5
NICH				*e*S	Sn	13 11 02.4	+2.9
NICH				AML	AML	13 11 08.6	
	comp=E,2μm,0.7s						
LNCH	**Linares**	**1.23**	**140**	*e*P	Pn	13 10 48.8	+1.6
LNCH				*e*S	Sn	13 11 05.9	+3.2
LNCH				AML	AML	13 11 13.8	
	comp=N,3μm,0.9s						
CHCH	**Chadas Angostu**	**1.86**	**59**	*e*P	Pn	13 10 58.1	+2.2
CHCH				*e*S	Sn	13 11 22.6	+4.3
CLCH	**Cerro Calan**	**2.26**	**49**	*e*P	Pn	13 11 04.0	+2.5
CLCH				*e*S	Sn	13 11 32.8	+4.6
CLCH				AML	AML	13 11 40.2	
	comp=N,360nm,0.7s						
PEL	**Peldehue**	**2.35**	**42**	*e*P	Pn	13 11 05.7	+2.9
PEL				*e*S	Sn	13 11 35.0	+4.5
PEL				AML	AML	13 11 45.6	
	comp=N,322nm,0.4s						

IDC 22 13:23:01.2±3.8, 5.19S×151.85E, h0km, mb3.7/2, mb1 4.1/2, mb1mx3.5/18, mbtmp3.8/2, Error ellipse: s-maj=137.7km s-min=52.4km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.48**	**228**	P	P	13 28 02.8	+0.4
	2.0nm,0.5s,baz=52,slow=10.0,SNR=23						
ASAR	**Alice Springs**	**25.23**	**222**	P	P	13 28 28.6	-0.4
	0.7nm,0.4s,baz=56,slow=9.0,SNR=32						
TORD	**Torodi Ar. Bea**	**149.52**	**287**	PKPbc	PKPbc	13 42 53.3	-0.4
	0.2nm,0.4s,baz=90,slow=2.9,SNR=2.6						

IDC 22 14:08:10.9±3.5, 5.14S×151.63E, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.6/32, mbtmp4.2/2, Error ellipse: s-maj=134.9km s-min=48.4km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.35**	**227**	P	P	14 13 10.1	-0.6
	5.4nm,0.7s,baz=52,slow=9.9,SNR=39						
ASAR	**Alice Springs**	**25.12**	**221**	P	P	14 13 38.0	+0.3
	4.1nm,0.7s,baz=55,slow=9.4,SNR=33						
TORD	**Torodi Ar. Bea**	**149.30**	**287**	PKPbc	PKPbc	14 28 02.3	-0.5
	0.3nm,0.7s,baz=89,slow=2.3,SNR=5.8						

ISCJB ***22*** *14:16:08.5±0.7, 17.75S±0.2×178.18W±0.2, h500km, mb3.7/10, Error ellipse: s-maj=25.5km s-min=13.4km az=138.0*

IDC ***22*** *14:16:08.4±4.0, 17.68S×178.80W, h486km±46km, mb3.3/11, mb1 3.6/12, mb1mx3.3/36, mbtmp4.1/12, Error ellipse: s-maj=25.0km s-min=18.8km az=155.0*

ISC 22 14:16:09.4±0.8, 17.75S±0.2×178.18W±0.2, h500km, n14, σ0s99/16, mb3.7/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.53**	**250**	P	**P**	**14 19 15.4**	**+0.6**
	0.2nm,0.3s,baz=90,slow=20,SNR=3.3						
URZ	**Urewera**	**20.81**	**189**	P	**P**	**14 20 13.7**	**-1.5**
	2.8nm,0.3s,baz=280,slow=1.8,SNR=8.2						
STKA	**Stephens Creek**	**38.40**	**241**	P	**P**	**14 22 48.6**	**+1.2**
	3.0nm,0.5s,baz=88,slow=9.3,SNR=17						
WRA	**Warramunga Arr**	**44.29**	**259**	P	**P**	**14 23 32.9**	**-1.5**
	0.4nm,0.4s,baz=93,slow=7.8,SNR=14						
WRA				PcP	**PcP**	**14 25 08.2**	**0.0**
	0.6nm,1.0s,baz=95,slow=3.0,SNR=3.1						
ASAR	**Alice Springs**	**44.48**	**254**	P	**P**	**14 23 36.5**	**+0.6**
	5.0nm,0.3s,baz=89,slow=8.1,SNR=78						
ASAR				PcP	**PcP**	**14 25 09.0**	**+0.2**
	0.3nm,0.4s,baz=101,slow=4.0,SNR=4.8						
MJAR	**Matsushiro Arr**	**67.49**	**324**	P	**P**	**14 26 15.0**	**-0.2**
	1.7nm,0.7s,baz=166,slow=6.1,SNR=5.5						
PETK	**Petropavlovsk-**	**73.36**	**345**	P	**P**	**14 26 49.9**	**+0.3**
	2.2nm,0.7s,baz=142,slow=7.5,SNR=4.7						
NVAR	**Mina Array Bea**	**79.53**	**44**	P	**P**	**14 27 24.9**	**+0.7**
	0.8nm,0.7s,baz=226,slow=9.0,SNR=7.2						
ILAR	**Eielson Array**	**85.76**	**13**	P	**P**	**14 27 53.

*IDC **22** 14:43:39.2±1.4,5.°82N×126.°73E,h0km,mb3.7/5, mb1 3.8/5,mb1mx3.5/36,mbtmp3.7/5,Error ellipse: s-maj=128.6km s-min=19.8km az=69.0*
*ISCJB **22** 14:43:46.8±1.0,5.°9N±0.°1×127.°08E±0.°09,h83km,mb3.6/5, Error ellipse: s-maj=20.3km s-min=12.0km az=22.2*
ISC 22 14:43:49.0±1.3,5.°9N±0.°2×127.°0E±0.°1,h83km,n6,σ0s31/7, mb3.4/5,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.04**	**276**	*eP*		**Pn**		**14 44 22.0**	**+0.4**
GSPH				*i*	S	**Sn**		**14 44 46.0**	**-0.4**
WRA	**Warramunga Arr**	**26.66**	**164**	P		**P**		**14 49 20.1**	**-0.2**
	0.5nm,0.6s,baz=344,slow=11,SNR=7.5								
ASAR	**Alice Springs**	**30.13**	**167**	P		**P**		**14 49 51.1**	**0.0**
	0.3nm,0.4s,baz=346,slow=7.4,SNR=4.7								
SONM	**Songino Array**	**45.36**	**341**	P		**P**		**14 51 59.1**	**-0.1**
	0.2nm,0.4s,baz=159,slow=8.6,SNR=2.4								
MKAR	**Makanchi Array**	**55.96**	**324**	P		**P**		**14 53 18.7**	**-0.1**
	0.9nm,0.6s,baz=123,slow=7.6,SNR=10								
KURBB	**Kurchatov Arra**	**60.09**	**327**	P		**P**		**14 53 47.5**	**0.0**
	1.7nm,0.6s,baz=130,slow=6.7,SNR=28								

GUC 22 14:46:20.8±0.6,33.°78S×71.°32W,h49km±5km,ML3.6, 7C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.19**	**203**	↑	*iP*		Pn	14 46 29.0	0.0
TACH	**Talagante**	**0.35**	**68**	↓	*iP*		Pn	14 46 30.7	+0.3
CHCH	**Chadas Angostu**	**0.58**	**105**	↓	*iP*		Pn	14 46 33.2	+0.2
SAN	**Santiago**	**0.64**	**59**	↓	*iP*		Pn	14 46 34.1	+0.3
SAN					*i* S		Sn	14 46 44.3	+1.1
PCH	**Pirque**	**0.69**	**77**	↓	*iP*		Pn	14 46 34.7	+0.1
PCH					*i* S		Sn	14 46 45.4	+0.9
LACH	**Col Las Americ**	**0.74**	**64**	↑	*iP*		Pn	14 46 35.0	-0.1
LACH					*i* S		Sn	14 46 46.4	+0.9
CLCH	**Cerro Calan**	**0.76**	**60**	↑	*iP*		Pn	14 46 35.8	+0.4
CLCH					*i* S		Sn	14 46 47.6	+1.6
CLCH					AML	AML		14 46 48.2	
	comp=E,3μm,0.2s								
IHA	**Instituto Hidr**	**0.80**	**341**	↑	*iP*		Pn	14 46 36.1	+0.3
IHA					*i* S		Sn	14 46 47.7	+1.0
YECH	**El Yeso**	**1.04**	**84**	↑	*iP*		Pn	14 46 40.4	+0.9
YECH					*i* S		Sn	14 46 55.2	+2.0
YECH					AML	AML		14 46 55.9	
	comp=N,3μm,0.2s								
NICH	**Los Niches**	**1.22**	**176**	↑	*iP*		Pn	14 46 41.8	+0.3
NICH					*i* S		Sn	14 46 58.0	+1.1
TALC	**Talca**	**1.63**	**189**	↑	*iP*		Pn	14 46 47.9	+0.8
TALC					*i* S		Sn	14 47 07.8	+0.9

IDC 22 15:02:48.3±3.2,22.°83N×11.°86W,h0km,mb3.7/5, mb1 3.7/6,mb1mx3.4/25,mbtmp3.6/6,Error ellipse: s-maj=105.1km s-min=38.0km az=83.0,Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.08**	**124**	Pn		Pn	Pn	15 06 35.1	-0.9
	baz=315,slow=12,SNR=3.0								
TORD						Sn	Sn	15 09 25.3	-10
	0.1nm,0.3s,baz=306,slow=24,SNR=3.8								
TORD						Lg	Lg	15 11 24.4	
	0.0nm,0.3s,baz=321,slow=30,SNR=2.8								
GERES	**GERESS Array B**	**32.92**	**32**	P		P	P	15 09 24.6	+0.2
	0.2nm,0.4s,baz=218,slow=8.7,SNR=4.0								
HFS	**Hagfors**	**41.36**	**19**	P		P	P	15 10 34.8	-1.1
	1.7nm,0.7s,baz=232,slow=7.1,SNR=3.7								
FINES	**FINESS Array B**	**46.53**	**24**	P		P	P	15 11 17.4	+0.1
	0.5nm,0.6s,baz=238,slow=8.0,SNR=3.2								
KURBB	**Kurchatov Arra**	**72.94**	**42**	P		P	P	15 14 19.7	+0.2
	0.6nm,0.8s,baz=283,slow=6.5,SNR=4.1								
MKAR	**Makanchi Array**	**76.44**	**45**	P		P	P	15 14 40.5	+0.5
	0.3nm,0.5s,baz=285,slow=7.3,SNR=3.8								
WRA	**Warramunga Arr**	**148.43**	**91**	PKPbc		PKPbc	PKPbc	15 22 36.2	-1.5
	0.4nm,0.8s,baz=295,slow=2.6,SNR=3.1								
ASAR	**Alice Springs**	**148.57**	**98**	PKPbc		PKPbc	PKPbc	15 22 38.0	0.0
	0.4nm,0.7s,baz=288,slow=2.0,SNR=5.9								

*IDC **22** 15:24:32.6±0.7,12.°30N×143.°95E,h0km,mb3.9/14, mb1 4.1/14,mb1mx4.0/27,mbtmp3.9/14,MS3.0/2, Ms1 3.0/2,ms1mx2.6/29,Error ellipse: s-maj=24.3km s-min=14.8km az=111.0*
*NEIC **22** 15:24:33.1±5.8,12.°29N×143.°91E,h4km±36km,mb4.6/2, Error ellipse: s-maj=15.9km s-min=8.4km az=101.0*
*ISCJB **22** 15:24:35.0±0.5,12.°27N±0.°07×143.°9E±0.°1,h27km, mb4.0/16,MS2.8/2,Error ellipse: s-maj=15.7km s-min=7.7km az=27.7*
ISC 22 15:24:36.5±0.7,12.°3N±0.°1×144.°0E±0.°1,h27km,n27, σ0s89/25,mb4.0/16,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.54**	**34**	Pn		**Pn**		**15 25 01.8**	**-0.4**
	166nm,0.3s,baz=206,slow=18,SNR=114								
GUMO						Sn	**Sb**	**15 25 22.6**	**-0.8**
	98nm,0.3s,baz=150,slow=22,SNR=15								
GUMO	**Guam**	**1.54**	**34**	*eP*		**Pn**		**15 25 02.5**	**+0.4**
GUMO						Sn	**Sb**	**15 25 22.6**	**-0.8**
H11S3	**WAKE ISLAND Hy**	**22.72**	**71**	T		T	T	15 53 05.0	
	baz=258,slow=74,SNR=5.2								
H11S1	**WAKE ISLAND Hy**	**22.73**	**71**	T		T	T	15 53 10.6	
	baz=258								
H11S2	**WAKE ISLAND Hy**	**22.73**	**71**	T		T	T	15 53 07.2	
	baz=258,slow=74,SNR=4.0								
H11N1	**WAKE ISLAND Hy**	**23.19**	**69**	T		T	T	15 53 49.7	
	baz=262,slow=75,SNR=3.0								
H11N2	**WAKE ISLAND Hy**	**23.20**	**69**	T		T	T	15 53 48.5	
	baz=262								
H11N3	**WAKE ISLAND Hy**	**23.21**	**69**	T		T	T	15 53 47.3	
	baz=262,slow=75,SNR=3.1								
MJAR	**Matsushiro Arr**	**24.69**	**349**	P		**P**		**15 29 54.6**	**-0.7**
	0.5nm,0.6s,baz=184,slow=16,SNR=3.2								
MJAR						LR	LR	15 38 08.6	
	comp=Z,16nm,20.0s,baz=155,slow=33								
KAPI	**Kappang**	**29.61**	**236**	LR		LR	LR	15 44 37.4	
	comp=Z,49nm,18.4s,baz=253,slow=41								
WRAB	**Tennant Creek**	**33.41**	**197**	P		**P**		**15 31 12.3**	**-0.8**
	16nm,1.4s								
WRA	**Warramunga Arr**	**33.42**	**197**	P		**P**		**15 31 13.1**	**-0.1**
	1.0nm,0.8s,baz=19,slow=9.5,SNR=7.2								
AS31	**Alice Springs**	**37.09**	**195**	*eP*		**P**		**15 31 45.4**	**+0.7**
ASAR	**Alice Springs**	**37.09**	**195**	P		**P**		**15 31 45.0**	**+0.3**
	0.5nm,0.7s,baz=22,slow=9.9,SNR=10.0								
CMAR	**Chiang Mai Arr**	**43.78**	**284**	P		**P**		**15 32 39.5**	**-0.8**
	0.7nm,0.8s,baz=96,slow=6.6,SNR=4.4								
STKA	**Stephens Creek**	**43.99**	**183**	P		**P**		**15 32 40.3**	**-1.3**
	1.3nm,0.8s,baz=348,slow=9.3,SNR=3.3								
SONM	**Songino Array**	**47.30**	**326**	P		**P**		**15 33 08.0**	**+0.1**
	0.2nm,0.3s,baz=141,slow=7.1,SNR=3.8								
SONM						PcP	**PcP**	**15 34 37.8**	**-0.8**
	0.3nm,0.5s,baz=126,slow=2.5,SNR=2.9								
MKAR	**Makanchi Array**	**61.83**	**317**	P		**P**		**15 34 54.5**	**+1.3**
	0.8nm,0.6s,baz=93,slow=8.6,SNR=9.6								
MKAR						PcP	**PcP**	**15 35 34.8**	**+0.7**
	0.4nm,0.6s,baz=116,slow=3.4,SNR=3.0								
ZALV	**Zalesovo Beam**	**62.17**	**325**	P		**P**		**15 34 55.4**	**0.0**
	0.3nm,0.3s,baz=92,slow=8.7,SNR=2.6								
ZALV						PcP	**PcP**	**15 35 35.4**	**+0.1**
	0.7nm,0.6s,baz=123,slow=5.3,SNR=2.5								
KURK	**Kurchatov**	**65.02**	**320**	*eP*		**P**		**15 35 14.1**	**-0.1**
ILAR	**Eielson Array**	**70.09**	**25**	P		**P**		**15 35 45.0**	**-1.0**
	0.6nm,0.6s,baz=262,slow=5.0,SNR=5.8								
ABKAR	**Akbulak array**	**76.92**	**318**	*eP*		**P**		**15 36 27.2**	**+0.7**
	1.9nm,0.6s								
YKA	**Yellowknife Ar**	**84.39**	**27**	P		**P**		**15 37 06.7**	**+0.5**
	1.4nm,0.8s,baz=285,slow=5.2,SNR=11								
RES	**Resolute Bay**	**85.99**	**13**	P		**P**		**15 37 14.8**	**+0.8**
	5.5nm,0.8s,baz=303,slow=8.2,SNR=10.0								
NVAR	**Mina Array Bea**	**88.39**	**51**	P		**P**		**15 37 28.6**	**+1.9**
	1.1nm,0.6s,baz=272,slow=4.6,SNR=9.6								
ELK	**Elko**	**90.06**	**48**	P		**P**		**15 37 36.0**	**+1.5**
	0.5nm,0.5s,baz=173,slow=4.3,SNR=4.5								
FINES	**FINESS Array B**	**91.96**	**335**	P		**P**		**15 37 41.8**	**-0.8**
	1.4nm,0.6s,baz=79,slow=4.1,SNR=5.8								

*CSEM **22** 15:31:44.5±0.1,38.°38N×22.°04E,h10km,MD3.2,Error ellipse: s-maj=2.3km s-min=2.1km az=111.0*
*ISCJB **22** 15:31:44.5±0.2,38.°38N±0.°01×22.°04E±0.°02,h7km±2km, mb3.6/3,Error ellipse: s-maj=2.3km s-min=2.1km az=26.5*
*IASPEI **22** 15:31:44.7±0.8,38.°38N±0.°01×22.°05E±0.°01,h8km±4km, mb3.7/3,Error ellipse: s-maj=2.0km s-min=1.9km az=128.3*
*IDC **22** 15:31:44.3±1.7,38.°30N×22.°20E,h0km,mb3.7/3, mb1 3.5/4,mb1mx3.3/25,mbtmp3.5/4,ML2.9/1,Error ellipse: s-maj=108.4km s-min=24.4km az=142.0*
*ATH **22** 15:31:45.0,38.°37N×22.°05E,h7km±3km,MD3.2/26,ML3.1*
*THE **22** 15:31:45.0,38.°38N×22.°04E,h3km±1km,ML3.5/15,Error ellipse: s-maj=1.1km s-min=0.3km az=304.0*
ISC 22 15:31:44.8±0.8,38.°38N±0.°01×22.°05E±0.°01,h8km±4km, n129,σ0s76/210,mb3.7/3,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.07**	**83**	P		**Pg**		**15 31 47.0**	**+0.1**
KALE				S		**Sg**		**15 31 48.6**	**+0.3**
KALE	**Kalithea**	**0.07**	**83**	*ePG*		**Pg**		**15 31 46.9**	**+0.1**
KALE				*eSG*		**Sg**		**15 31 48.8**	**+0.5**
KALE	**Kalithea**	**0.07**	**83**	*ePg*		**Pg**		**15 31 46.9**	**+0.1**
KALE				S		**Sg**		**15 31 48.6**	**+0.3**
EFP	**Efpalio**	**0.12**	**292**	P		**Pg**		**15 31 47.3**	**-0.2**
EFP				S		**Sg**		**15 31 49.5**	**0.0**
EFP	**Efpalio**	**0.12**	**292**	*ePG*		**Pg**		**15 31 47.3**	**-0.2**
EFP				*eSG*		**Sg**		**15 31 49.4**	**0.0**
EFP	**Efpalio**	**0.12**	**292**	P		**Pg**		**15 31 47.3**	**-0.2**
EFP				*eSg*		**Sg**		**15 31 49.4**	**0.0**
UPR	**University Cam**	**0.23**	**245**	P		**Pg**		**15 31 49.5**	**+0.1**
UPR				S		**Sg**		**15 31 52.8**	**+0.3**
UPR	**University Cam**	**0.23**	**245**	P		**Pg**		**15 31 49.5**	**+0.1**
UPR				S		**Sg**		**15 31 52.8**	**+0.3**
KLV	**Kalavryta, Ach**	**0.35**	**167**	P		**Pg**		**15 31 51.2**	**-0.4**
KLV				S		**Sg**		**15 31 56.5**	**+0.3**
KLV	**Kalavryta, Ach**	**0.35**	**167**	*ePG*		**Pg**		**15 31 51.3**	**-0.4**
KLV				*eSB*		**Sg**		**15 31 57.1**	**+0.9**
KLV	**Kalavryta, Ach**	**0.35**	**167**	P		**Pg**		**15 31 51.3**	**-0.4**
KLV				S		**Sg**		**15 31 56.5**	**+0.3**
KLV				*eSb*		**Sg**		**15 31 57.1**	**+0.9**
DSF	**Desfina**	**0.38**	**85**	P		**Pg**		**15 31 51.9**	**-0.3**
DSF				S		**Sg**		**15 31 58.2**	**+1.1**
DSF	**Desfina**	**0.38**	**85**	*ePG*		**Pg**		**15 31 51.8**	**-0.4**
DSF				*eSB*		**Sg**		**15 31 58.1**	**+0.9**
DSF	**Desfina**	**0.38**	**85**	P		**Pg**		**15 31 51.9**	**-0.3**
DSF				S		**Sg**		**15 31 58.0**	**+0.9**
PVO	**Paravola**	**0.47**	**300**	P		**Pg**		**15 31 53.7**	**-0.2**
PVO				S		**Sg**		**15 32 01.3**	**+1.1**
PVO	**Paravola**	**0.47**	**300**	P		**Pg**		**15 31 53.8**	**-0.2**
PVO				S		**Sg**		**15 32 01.3**	**+1.1**
GUR	**Goura**	**0.50**	**153**	P		**Pg**		**15 31 53.9**	**-0.5**
GUR				S		**Sg**		**15 32 01.1**	**0.0**
GUR	**Goura**	**0.50**	**153**	*ePB*		**Pg**		**15 31 54.0**	**-0.5**
GUR	**Goura**	**0.50**	**153**	*ePb*		**Pg**		**15 31 54.0**	**-0.5**
GUR				S		**Sg**		**15 32 01.1**	**0.0**
DRO	**Drossia**	**0.51**	**212**	P		**Pg**		**15 31 54.3**	**-0.3**
DRO				S		**Sg**		**15 32 01.5**	**+0.3**
DRO	**Drossia**	**0.51**	**212**	*ePB*		**Pg**		**15 31 54.3**	**-0.3**
DRO	**Drossia**	**0.51**	**212**	P		**Pg**		**15 31 54.3**	**-0.3**
DRO				S		**Sg**		**15 32 01.5**	**+0.3**
RLS	**Riolos of Patr**	**0.56**	**235**	P		**Pg**		**15 31 55.5**	**-0.2**
RLS	**Riolos of Patr**	**0.56**	**235**	*ePG*		**Pg**		**15 31 55.5**	**-0.2**
RLS				*eSB*		**Sg**		**15 32 03.7**	**+0.7**
RLS	**Riolos of Patr**	**0.56**	**235**	*ePg*		**Pg**		**15 31 55.5**	**-0.2**
RLS				S		**Sg**		**15 32 03.6**	**+0.6**
EVR	**Evrytania**	**0.57**	**341**	P		**Pg**		**15 31 55.4**	**-0.3**
EVR				S		**Sb**		**15 32 04.6**	**-0.7**
EVR	**Evrytania**	**0.57**	**341**	*ePB*		**Pg**		**15 31 55.5**	**-0.3**
EVR				*eSB*		**Sb**		**15 32 04.9**	**-0.4**
EVR	**Evrytania**	**0.57**	**341**	*ePb*		**Pg**		**15 31 55.5**	**-0.3**
EVR				S		**Sb**		**15 32 04.4**	**-0.9**
AXAR	**Agios Charalam**	**0.61**	**51**	P		**Pg**		**15 31 56.4**	**-0.2**
AXAR				S		**Sb**		**15 32 05.7**	**-0.9**
AXAR	**Agios Charalam**	**0.61**	**51**	*ePB*		**Pg**		**15 31 56.5**	**-0.2**
AXAR				*eSB*		**Sb**		**15 32 06.5**	**-0.1**
AXAR	**Agios Charalam**	**0.61**	**51**	*ePb*		**Pg**		**15 31 56.5**	**-0.2**
AXAR				S		**Sb**		**15 32 05.7**	**-0.9**
AXAR				*eSb*		**Sb**		**15 32 06.5**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.63**	**6**	P		**Pg**		**15 31 57.3**	**+0.3**
MAKR				S		**Sg**		**15 32 06.1**	**+0.8**
MAKR	**Makrakomi, Fth**	**0.63**	**6**	*ePG*		**Pg**		**15 31 57.0**	**0.0**
MAKR				*eSB*		**Sb**		**15 32 07.4**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.63**	**6**	P		**Pg**		**15 31 57.1**	**0.0**
MAKR				S		**Sg**		**15 32 06.1**	**+0.8**
MAKR				*eSb*		**Sb**		**15 32 07.4**	**+0.2**
AGG	**Agios Georgios**	**0.68**	**19**	*ePG*		**Pg**		**15 31 57.0**	**-0.9**
AGG	**Agios Georgios**	**0.68**	**19**	P		**Pg**		**15 31 57.0**	**-0.9**
AGG				S		**Sb**		**15 32 07.7**	**-0.7**
AGG	**Agios Georgios**	**0.68**	**19**	*ePB*		**Pg**		**15 31 57.0**	**-0.9**
AGG				*eSB*		**Sb**		**15 32 08.1**	**-0.3**
AGG	**Agios Georgios**	**0.68**	**19**	P		**Pg**		**15 31 57.0**	**-0.9**
AGG				S		**Sb**		**15 32 07.7**	**-0.7**
AGG				*eSb*		**Sb**		**15 32 08.1**	**-0.3**
PDO	**Prodromos**	**0.71**	**288**	P		**Pg**		**15 31 58.6**	**0.0**
PDO				S		**Sg**		**15 32 08.6**	**+0.7**
PDO	**Prodromos**	**0.71**	**288**	*ePG*		**Pg**		**15 31 58.5**	**0.0**
PDO				*eSB*		**Sb**		**15 32 10.4**	**+1.0**
PDO	**Prodromos**	**0.71**	**288**	*ePg*		**Pg**		**15 31 58.5**	**0.0**
PDO				S		**Sg**		**15 32 08.6**	**+0.7**
LKR	**Lokris**	**0.79**	**70**	P		**Pg**		**15 31 59.5**	**-0.6**
LKR				S		**Sb**		**15 32 11.4**	**-0.3**
LKR	**Lokris**	**0.79**	**70**	*ePB*		**Pg**		**15 31 59.4**	**-0.6**
LKR				*eSB*		**Sb**		**15 32 11.8**	**+0.1**
LKR	**Lokris**	**0.79**	**70**	P		**Pg**		**15 31 59.5**	**-0.6**
LKR				S		**Sb**		**15 32 11.4**	**-0.3**
LTK	**Loutraki**	**0.81**	**116**	P		**Pg**		**15 32 00.3**	**0.0**
LTK	**Loutraki**	**0.81**	**116**	*ePG*		**Pg**		**15 32 00.1**	**-0.2**
LTK	**Loutraki**	**0.81**	**116**	*ePg*		**Pg**		**15 32 00.1**	**-0.2**
ATAL	**Atalanti**	**0.82**	**68**	P		**Pg**		**15 32 00.8**	**+0.2**
ATAL				S		**Sb**		**15 32 12.4**	**-0.2**
ATAL	**Atalanti**	**0.82**	**68**	P		**Pg**		**15 32 00.8**	**+0.2**
ATAL				S		**Sb**		**15 32 12.4**	**-0.2**
AMT	**Artemida-Makis**	**0.89**	**198**	P		**Pg**		**15 32 01.4**	**-0.5**
AMT				S		**Sb**		**15 32 14.9**	**+0.4**
AMT	**Artemida-Makis**	**0.89**	**198**	*ePG*		**Pg**		**15 32 01.3**	**-0.6**
AMT				*eSB*		**Sb**		**15 32 15.0**	**+0.4**
AMT	**Artemida-Makis**	**0.89**	**198**	P		**Pg**		**15 32 01.4**	**-0.5**
AMT				S		**Sb**		**15 32 14.9**	**+0.4**
VIL2	**Platees**	**0.97**	**100**	*ePB*		**Pn**		**15 32 04.4**	**-0.4**
VIL2				*eSB*		**Sn**		**15 32 19.3**	**+0.5**
VILL	**Villia**	**1.02**	**102**	P		**Pg**		**15 32 04.5**	**+0.1**
VILL	**Villia**	**1.02**	**102**	*ePb*		**Pg**		**15 32 04.4**	**+0.1**
VILL				*eSb*		**Sn**		**15 32 19.3**	**-0.6**
SMIA	**Simia**	**1.03**	**61**	P		**Pg**		**15 32 04.5**	**-0.2**
SMIA				S		**Sn**		**15 32 20.2**	**-0.1**
SMIA	**Simia**	**1.03**	**61**	*ePG*		**Pg**		**15 32 04.4**	**-0.2**
SMIA				*eSB*		**Sb**		**15 32 19.4**	**+0.7**
SMIA	**Simia**	**1.03**	**61**	P		**Pg**		**15 32 04.5**	**-0.2**
SMIA				*eSb*		**Sb**		**15 32 19.4**	**+0.7**
SMIA				S		**Sn**		**15 32 20.2**	**-0.1**
VLX	**Vlachokerasia**	**1.04**	**165**	P		**Pg**		**15 32 03.7**	**-1.1**
VLX				S		**Sn**		**15 32 19.9**	**-0.7**
VLX	**Vlachokerasia**	**1.04**	**165**	*ePB*		**Pg**		**15 32 03.7**	**-1.1**
VLX				*eSB*		**Sb**		**15 32 19.8**	**+0.8**
VLX	**Vlachokerasia**	**1.04**	**165**	P		**Pg**		**15 32 03.7**	**-1.1**
VLX				*eSb*		**Sb**		**15 32 19.8**	**+0.8**
VLS	**Valsamata**	**1.17**	**260**	P		**Pg**		**15 32 05.5**	**-1.7**
VLS	**Valsamata**	**1.17**	**260**	*ePB*		**Pg**		**15 32 05.4**	**-1.7**
VLS				*eSB*		**Sn**		**15 32 24.2**	**+0.6**
VLS	**Valsamata**	**1.17**	**260**	P		**Pg**		**15 32 05.5**	**-1.7**
VLS				*eSb*		**Sn**		**15 32 24.2**	**+0.6**
THL	**Klokotos Trika**	**1.18**	**359**	P		**Pg**		**15 32 06.5**	**-0.9**
THL				S		**Sn**		**15 32 24.0**	**+0.1**
THL	**Klokotos Trika**	**1.18**	**359**	*ePN*		**Pg**		**15 32 06.6**	**-0.9**
THL				*eSB*		**Sn**		**15 32 25.4**	**+1.5**
THL	**Klokotos Trika**	**1.18**	**359**	*ePn*		**Pg**		**15 32 06.6**	**-0.9**
THL				S		**Sn**		**15 32 24.0**	**+0.1**
THL				*eSb*		**Sn**		**15 32 25.4**	**+1.5**
ITM	**Ithomi**	**1.20**	**185**	P		**Pb**		**15 32 06.8**	**-1.1**
ITM				S		**Sn**		**15 32 25.1**	**+0.6**
ITM	**Ithomi**	**1.20**	**185**	*ePN*		**Pb**		**15 32 06.7**	**-1.1**
ITM				*eSB*		**Sn**		**15 32 25.3**	**+0.8**
ITM	**Ithomi**	**1.20**	**185**	P		**Pb**		**15 32 06.8**	**-1.1**
ITM				S		**Sn**		**15 32 25.1**	**+0.6**
MRKA	**Markates**	**1.25**	**75**	P		**Pn**		**15 32 08.4**	**-0.2**
MRKA				S		**Sn**		**15 32 26.9**	**+1.3**
MRKA	**Markates**	**1.25**	**75**	*ePB*		**Pn**		**15 32 08.6**	**0.0**
MRKA				*eSB*		**Sn**		**15 32 25.6**	**0.0**
MRKA	**Markates**	**1.25**	**75**	*ePb*		**Pn**		**15 32 08.6**	**0.0**
MRKA				*eSb*		**Sn**		**15 32 25.6**	**0.0**
MRKA				S		**Sn**		**15 32 26.9**	**+1.3**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DID	**Didima**	**1.28**	**133**	P		**Pg**		**15 32 09.6**	**+0.2**
DID				S		**Sn**		**15 32 27.1**	**+0.7**
DID	**Didima**	**1.28**	**133**	*ePB*		**Pg**		**15 32 09.6**	**+0.2**
DID				*eSB*		**Sn**		**15 32 26.8**	**+0.4**
DID	**Didima**	**1.28**	**133**	P		**Pg**		**15 32 09.6**	**+0.2**
DID				*eSb*		**Sn**		**15 32 26.8**	**+0.4**
DID				S		**Sn**		**15 32 27.1**	**+0.7**
NEO	**Neokhori**	**1.30**	**44**	P		**Pn**		**15 32 09.0**	**-0.3**
NEO	**Neokhori**	**1.30**	**44**	*ePG*		**Pn**		**15 32 09.2**	**-0.1**
NEO				*eSB*		**Sn**		**15 32 27.7**	**+0.8**
NEO	**Neokhori**	**1.30**	**44**	P		**Pn**		**15 32 09.0**	**-0.3**
NEO				*eSb*		**Sn**		**15 32 27.7**	**+0.8**
KRND	**KRANIDI**	**1.32**	**139**	P		**Pn**		**15 32 09.4**	**-0.2**
KRND	**KRANIDI**	**1.32**	**139**	*ePG*		**Pn**		**15 32 09.4**	**-0.2**
KRND				*eSB*		**Sn**		**15 32 28.4**	**+1.0**
KRND	**KRANIDI**	**1.32**	**139**	P		**Pn**		**15 32 09.4**	**-0.2**
KRND				*eSb*		**Sn**		**15 32 28.4**	**+1.0**
XOR	**Xorichti**	**1.33**	**42**	P		**Pn**		**15 32 09.3**	**-0.4**
XOR	**Xorichti**	**1.33**	**42**	*ePN*		**Pn**		**15 32 09.2**	**-0.4**
XOR	**Xorichti**	**1.33**	**42**	P		**Pn**		**15 32 09.3**	**-0.4**
ATH	**Athens Observa**	**1.38**	**107**	*ePB*		**Pg**		**15 32 11.3**	**+0.1**
ATH	**Athens Observa**	**1.38**	**107**	*ePb*		**Pg**		**15 32 11.3**	**+0.1**
PTL	**Penteli**	**1.47**	**103**	*ePB*		**Pn**		**15 32 12.0**	**+0.4**
PTL	**Penteli**	**1.47**	**103**	*ePb*		**Pn**		**15 32 12.0**	**+0.4**
EREA	**Eretria**	**1.48**	**88**	P		**Pn**		**15 32 12.0**	**+0.3**
EREA	**Eretria**	**1.48**	**88**	P		**Pn**		**15 32 12.0**	**+0.3**
PYL	**PYLOS**	**1.50**	**189**	P		**Pn**		**15 32 12.0**	**0.0**
PYL	**PYLOS**	**1.50**	**189**	*ePN*		**Pn**		**15 32 12.0**	**0.0**
PYL	**PYLOS**	**1.50**	**189**	P		**Pn**		**15 32 12.0**	**0.0**
AOS	**Alonnisos**	**1.63**	**61**	*ePN*		**Pn**		**15 32 11.4**	**-2.4**
AOS	**Alonnisos**	**1.63**	**61**	P		**Pn**		**15 32 13.1**	**-0.7**
AOS	**Alonnisos**	**1.63**	**61**	*ePn*		**Pn**		**15 32 11.4**	**-2.4**
AOS	**Alonnisos**	**1.63**	**61**	P		**Pn**		**15 32 13.1**	**-0.7**
LIT	**Litokhoron**	**1.75**	**11**	P		**Pn**		**15 32 15.2**	**-0.3**
LIT	**Litokhoron**	**1.75**	**11**	P		**Pn**		**15 32 15.2**	**-0.3**
IGT	**Igoumenitsa**	**1.76**	**311**	*ePN*		**Pg**		**15 32 19.6**	**+1.0**
IGT	**Igoumenitsa**	**1.76**	**311**	*ePn*		**Pg**		**15 32 19.6**	**+1.0**
KYTH	**Kithira**	**2.24**	**159**	P		**Pn**		**15 32 23.1**	**+0.9**
KYTH	**Kithira**	**2.24**	**159**	P		**Pn**		**15 32 23.1**	**+0.9**
HORT	**Hortiatis**	**2.36**	**20**	*ePN*		**Pn**		**15 32 23.8**	**-0.1**
HORT	**Hortiatis**	**2.36**	**20**	*ePn*		**Pn**		**15 32 23.8**	**-0.1**
FNA	**Florina**

ML3.4

IDC ***22*** *15:54:55.3±1.5,21°.37N×101°.72E,h0km,mb3.4/3, mb1 3.4/4,mb1mx3.2/25,mbtmp3.3/4,ML3.7/1,MS2.7/2, Ms1 2.8/2,ms1mx2.4/26,Error ellipse: s-maj=26.3km s-min=19.2km az=104.0*

BJI ***22*** *15:54:57.9,21°.43N×101°.72E,h7km,ML3.7/4,Ms7 3.2/2*

ISC 22 15:54:56.3±0.8,21°.37N±0°.04×101°.77E±0°.04,h10km,n19, σ1§38/27,mb3.4/3,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPV	**Sa-pa**	**2.15**	**63**	*e*Pg	**Pn**	**15 55 32.3**	**-0.1**
SPV				*e*Sg	**Sb**	**15 56 02.2**	**-0.1**
MCVV	**Moc Chau**	**2.75**	**101**	*e*Pn	**Pn**	**15 55 40.1**	**-0.5**
MCVV				*e*Sg	**Sg**	**15 56 23.1**	**-1.7**
CMAI	**Chiengmai2**	**2.92**	**241**	P	**Pn**	**15 55 41.7**	**-1.3**
VTVB	**Vinh Tuy**	**3.04**	**73**	*e*Pn	**Pn**	**15 55 44.1**	**-0.5**
VTVB				*e*Pg	**Pg**	**15 55 52.6**	**-2.0**
VTVB				*e*Sg	**Sb**	**15 56 31.0**	**+3.2**
HGVB	**Ha Giang**	**3.33**	**63**	*e*Pn	**Pn**	**15 55 46.4**	**-2.1**
HGVB				*e*Pg	**Pb**	**15 55 56.3**	**+0.8**
HGVB				*e*Sg	**Sb**	**15 56 39.0**	**+2.9**
HBVN	**Hoa-Binh**	**3.39**	**99**	*e*Pn	**Pn**	**15 55 48.5**	**-0.9**
HBVN				*e*Sg	**Sg**	**15 56 44.4**	**-0.9**
LAMP	**Lampang**	**3.47**	**216**	P	**Pn**	**15 55 50.4**	**0.0**
CMMT	**Chiang Mai**	**3.67**	**227**	P	**Pn**	**15 55 52.7**	**-0.5**
CHTO	**Chiang Mai**	**3.67**	**227**	P	**Pn**	**15 55 52.8**	**-0.4**
CCVB	**Con Cuong**	**3.72**	**128**	*e*Pn	**Pn**	**15 55 53.8**	**-0.1**
CCVB				*e*Pg	**Pg**	**15 56 06.6**	**-1.1**
CCVB				AML	AML	15 57 01.6	
	comp=N,63nm,0.5s						
UTTA	**Uttaradit**	**3.78**	**198**	P	**Pn**	**15 55 55.1**	**+0.4**
KMI	**Kunming**	**3.84**	**13**	Pg	**Pg**	**15 56 08.0**	**-2.0**
KMI				Sg	**Sg**	**15 57 01.5**	**+1.6**
KMI				SMN			
	comp=N,39nm,1.1s						
KMI				SME			
	comp=N,41nm,1.4s						
KMI				LZ			
	comp=N,250nm,7.8s						
CMAR	**Chiang Mai Arr**	**3.93**	**223**	Pn	**Pn**	**15 55 55.8**	**-1.0**
	comp=N,1.3nm,0.3s,baz=33,slow=12,SNR=13						
CMAR				Pg	Pg	15 56 07.3	-4.4
	comp=N,6.4nm,0.3s,baz=34,slow=17,SNR=91						
CMAR				Lg	Lg	15 56 59.0	
	comp=N,1.7nm,0.3s,baz=42,slow=31,SNR=5.1						
CMAR				LR	LR	15 57 08.3	
	comp=N,64nm,20.9s,baz=155,slow=34						
MHMT	**Maesarieng**	**4.81**	**229**	P	**Pn**	**15 56 08.2**	**-0.6**
	comp=N,24nm,0.6s,comp=N,1μmcomp=N,0.4nm						
PBKT	**Sadao Pong**	**4.83**	**189**	P	**Pn**	**15 56 09.0**	**-0.2**
KSRS	**Korea Array**	**27.73**	**49**	LR	LR	16 13 17.1	
	comp=N,24nm,19.6s,baz=145,slow=40						
MKAR	**Makanchi Array**	**29.89**	**333**	P	**P**	**16 01 04.4**	**+0.2**
	comp=N,0.3nm,0.6s,baz=137,slow=10,SNR=2.4						
ZALV	**Zalesovo Beam**	**34.99**	**343**	P	**P**	**16 01 48.8**	**0.0**
	comp=N,0.2nm,0.3s,baz=161,slow=9.2,SNR=2.6						
ASAR	**Alice Springs**	**54.62**	**143**	P	**P**	**16 04 26.4**	**+1.0**
	comp=N,0.3nm,0.8s,baz=319,slow=7.1,SNR=4.5						

WEL 22 16:58:53.1±0.8,46°.84S×166°.32E,h33km,ML3.8/8,5C-3D, Error ellipse: s-maj=7.7km s-min=4.4km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**1.14**	**90**	⇓PN	Pn	16 59 12.7	-0.1
APZ				SN	Sn	16 59 27.5	+0.1
APZ				AML	AML	16 59 28.0	
WHZ	**Wether Hill Ro**	**1.47**	**51**	PN	Pn	16 59 16.7	-0.5
WHZ				SN	Sn	16 59 34.9	-0.4
WHZ				AML	AML	16 59 35.9	
DCZ	**Deep Cove**	**1.48**	**23**	PN	Pn	16 59 17.3	0.0
DCZ				AML	AML	16 59 38.2	
DCZ				AML	AML	16 59 38.2	
DCZ				AML	AML	16 59 38.5	
DCZ				AML	AML	16 59 38.5	
SYZ	**Scrubby Hill**	**1.96**	**82**	⇓PN	Pn	16 59 23.5	-0.5
SYZ				AML	AML	16 59 47.0	
SYZ				AML	AML	16 59 47.6	
MLZ	**Mavora Lakes**	**1.97**	**41**	PN	Pn	16 59 23.2	-1.0
MLZ				SN	Sn	16 59 46.3	-1.4
MLZ				AML	AML	16 59 48.2	
TUZ	**Tuapeka**	**2.45**	**70**	⇑PN	Pn	16 59 29.4	-1.4
TUZ				SN	Sn	16 59 57.2	-2.3
EAZ	**Earnscleugh**	**2.63**	**53**	⇑PN	Pn	16 59 31.6	-1.5
EAZ				SN	Sn	17 00 02.1	-1.7
EAZ				AML	AML	17 00 04.1	
WKZ	**Wanaka**	**2.75**	**44**	⇑PN	Pn	16 59 34.2	-0.8
WKZ				AML	AML	17 00 07.7	
WKZ				AML	AML	17 00 07.9	
ODZ	**Otahua Downs**	**3.51**	**61**	⇓PN	Pn	16 59 42.0	-3.2
LBZ	**Lake Benmore**	**3.65**	**49**	⇑PN	Pn	16 59 44.0	-3.3
FOZ	**Fox Glacier**	**4.04**	**37**	PN	Pn	16 59 51.3	-1.3
RPZ	**Rata Peaks**	**4.57**	**49**	⇑PN	Pn	16 59 55.5	-4.4
RPZ				AML	AML	17 00 51.7	
OXZ	**Oxford**	**5.36**	**51**	PN	Pn	17 00 05.7	-5.0
LTZ	**Lake Taylor**	**5.86**	**48**	PN	Pn	17 00 13.0	-4.6
DSZ	**Denniston Nort**	**6.43**	**40**	PN	Pn	17 00 21.7	-3.8
THZ	**Tophouse**	**6.93**	**45**	PN	Pn	17 00 27.8	-4.5
QRZ	**Quartz Range**	**7.50**	**39**	PN	Pn	17 00 36.2	-3.8

NEIC ***22*** *17:07:25.4±0.9,6°.69S×130°.40E,h52km±10km,mb4.3/10, Error ellipse: s-maj=9.4km s-min=6.1km az=68.0*

IDC ***22*** *17:07:26.6±3.1,6°.69S×130°.37E,h60km±28km,mb4.0/10, mb1 4.1/11,mb1mx3.9/20,mbtmp4.3/11,ML5.2/2,Error ellipse: s-maj=29.4km s-min=13.6km az=66.0*

ISCJB ***22*** *17:07:27.1±0.3,6°.78S±0°.03×130°.53E±0°.04,h90km, mb4.2/17,Error ellipse: s-maj=6.5km s-min=4.7km az=159.9*

DJA ***22*** *17:07:30.7±0.2,7°.S±2°×13°.1E±°,h108km±5km,M4.8/14, mb4.8/14,mB5.5/4,MLv4.7/9,MLv4.8/11,Mw(mB)4.9/4*

ISC 22 17:07:28.6±0.5,6°.72S±0°.05×130°.60E±0°.06,h90km,n61, σ1§79/58,mb4.5/25,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.44**	**151**	P	Pn	17 07 58.0	+4.4
SAUI				S	Sn	17 08 19.7	+7.2
BNDI	**Bandanaira**	**2.29**	**342**	P	**Pn**	**17 08 05.6**	**+1.0**
MSAI	**Masohi**	**3.74**	**333**	P	**Pn**	**17 08 25.9**	**+1.7**
FAKI	**Fak Fak**	**4.11**	**24**	P	**Pn**	**17 08 28.2**	**-1.1**
FAKI				S	**Sn**	**17 09 12.0**	**-4.3**
FAKI	**Fak Fak**	**4.11**	**24**	*e*Pn	**Pn**	**17 08 27.8**	**-1.5**
FAKI				*e*Sn	Sn	17 09 02.8	-13
NLAI	**Namlea**	**4.91**	**315**	P	**Pn**	**17 08 43.0**	**+3.0**
SIJI	**Sorong**	**5.84**	**7**	P	**Pn**	**17 08 50.6**	**-2.2**
	86nm,0.3s,baz=55,slow=5.5,SNR=310						
SIJI				S	Sn	17 09 49.8	-8.8
	42nm,0.3s,baz=254,slow=23,SNR=12						
SANI	**Sanana**	**6.53**	**315**	P	**Pn**	**17 09 02.6**	**+0.5**
	65nm,0.9s,0.2nm0.2nm						
SOEI	**Soe**	**6.96**	**244**	P	Pn	17 09 12.9	+4.8
	143nm,0.6s,3μm1.3nm						
SOEI	**Soe**	**6.96**	**244**	*e*Pn	**Pn**	**17 09 10.5**	**+2.4**
	98nm,0.5s						
SOEI				*e*Sn	**Sn**	**17 10 22.0**	**-3.8**
BAKI	**Biak**	**7.76**	**45**	P	**Pn**	**17 09 20.6**	**+1.6**
	67nm,0.9s,0.4nm						
TNTI	**Ternate**	**8.11**	**336**	P	**Pn**	**17 09 26.1**	**+2.4**
	39nm,0.8s						
SMPI	**Sarmi**	**9.35**	**60**	P	**Pn**	**17 09 41.7**	**+1.1**
	22nm,1.0s,3μm						
WSI	**Waingapu**	**10.61**	**253**	P	**Pn**	**17 09 58.7**	**+0.9**
	199nm,0.6s						
WRAB	**Tennant Creek**	**13.63**	**165**	*e*Pn	**Pn**	**17 10 35.4**	**-2.9**
	81nm,0.6s						
WRAB				*e*Sn	Sn	17 13 00.4	-7.9
WRA	**Warramunga Arr**	**13.64**	**165**	P	**Pn**	**17 10 35.5**	**-2.8**
	20nm,0.3s,baz=348,slow=14,SNR=229						
WRA				S	Sn	17 12 60.0	-8.5
	7.3nm,0.3s,baz=348,slow=22,SNR=6.0						
COEN	**Coen**	**14.31**	**121**	*e*Pn	**Pn**	**17 10 47.1**	**+0.1**
	35nm,0.9s						
COEN				*e*Sn	Sn	17 13 08.6	-16
PMG	**Port Moresby**	**16.61**	**100**	*e*Pn	**P**	**17 11 17.8**	**+0.7**
AS31	**Alice Springs**	**17.15**	**170**	*e*Pn	**Pn**	**17 11 21.9**	**-0.8**
AS31				*e*Sn	Sn	17 14 20.9	-13
ASAR	**Alice Springs**	**17.15**	**170**	P	**Pn**	**17 11 21.8**	**-1.0**
	7.3nm,0.3s,baz=345,slow=14,SNR=374						
ASAR				S	**Sn**	**17 14 26.6**	**-6.8**
	1.9nm,0.3s,baz=354,slow=25,SNR=7.5						
MBWA	**Marble Bar**	**17.80**	**215**	*e*Pn	**P**	**17 11 29.8**	**-0.4**
MBWA				*e*Sn	Sn	17 14 36.7	-12
KKM	**Kota Kinabalu**	**19.15**	**311**	*e*P	**P**	**17 11 42.9**	**-2.2**
	16nm,0.8s						
UGM	**Wanagama**	**19.95**	**265**	P	**P**	**17 11 54.7**	**+0.9**
CTA	**Charters Tower**	**20.19**	**133**	P	Pn	17 11 58.8	-0.2
	11nm,0.9s,baz=303,slow=10,SNR=7.3						
CTAO	**Charters Tower**	**20.19**	**133**	*e*P	Pn	17 11 59.7	+0.7
	9.4nm,0.7s						
LEM	**Lembang**	**22.82**	**268**	P	**P**	**17 12 22.8**	**-1.8**
	28nm,0.6s,baz=37,slow=20,SNR=2.5						
BBOO	**Buckleboo**	**26.46**	**170**	*e*P	**P**	**17 12 59.1**	**+1.8**
	11nm,0.6s						
BBOO				*e*		17 13 17.6	
STKA	**Stephens Creek**	**27.06**	**159**	P	**P**	**17 13 05.1**	**+2.4**
	4.4nm,0.6s,baz=332,slow=7.9,SNR=17						
STKA	**Stephens Creek**	**27.06**	**159**	*e*P	**P**	**17 13 04.8**	**+2.1**
	0.7nm,0.8s						
STKA				*e*		17 13 22.8	
KULM	**Kulim**	**32.18**	**291**	*e*P	**P**	**17 13 47.2**	**-1.1**
	13nm,1.0s						
CM31	**Chiang Mai Arr**	**40.01**	**309**	*e*P	**P**	**17 14 55.1**	**+0.1**
	2.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**40.01**	**309**	P	**P**	**17 14 54.5**	**-0.5**
	2.4nm,0.5s,baz=134,slow=7.0,SNR=19						
CHTO	**Chiang Mai**	**40.22**	**310**	*e*P	**P**	**17 14 56.5**	**-0.2**
MAJO	**Matsushiro**	**43.62**	**9**	P	**P**	**17 15 23.1**	**-1.0**
HHC	**Hu-ho-hao-te**	**50.46**	**341**	*e*P	P	17 16 25.5	+8.0
CN2	**Changchun**	**50.49**	**355**	*e*P	P	17 16 21.0	+3.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
RAMN	**Ramite**	**54.17**	**310**	*e*P	**P**	**17 16 45.5**	**+0.2**
	comp=Z,34nm,0.7s						
GUN	**Gumba**	**55.22**	**311**	*e*P	**P**	**17 16 53.6**	**+0.6**
	comp=Z,22nm,0.6s						
PKI	**Pulchoki**	**55.40**	**310**	*e*P	**P**	**17 16 54.0**	**-0.3**
	comp=Z,8.3nm,0.6s						
PKIN	**Phulchoki**	**55.41**	**310**	*e*P	**P**	**17 16 54.0**	**-0.3**
	comp=Z,5.6nm,0.4s						
KKN	**Kakani**	**55.61**	**310**	*e*P	**P**	**17 16 55.5**	**-0.2**
	comp=Z,5.3nm,0.5s						
DMN	**Daman**	**55.65**	**310**	*e*P	**P**	**17 16 56.2**	**+0.2**
	comp=Z,10nm,0.8s						
GKN	**Gorkha**	**56.20**	**310**	*e*P	**P**	**17 17 00.1**	**+0.2**
	comp=Z,13nm,0.3s						
KOLN	**Koldanda**	**56.88**	**309**	*e*P	**P**	**17 17 05.1**	**+0.4**
	comp=Z,7.5nm,0.3s						
SONM	**Songino Array**	**58.36**	**341**	P	**P**	**17 17 15.7**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=161,slow=6.9,SNR=4.5						
PETK	**Petropavlovsk-**	**63.87**	**18**	P	**P**	**17 17 52.8**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=203,slow=11,SNR=2.9						
MK31	**Makanchi Array**	**68.32**	**326**	*e*P	**P**	**17 18 20.6**	**+0.4**
MKAR	**Makanchi Array**	**68.32**	**326**	P	**P**	**17 18 21.0**	**+0.8**
	comp=Z,3.2nm,0.4s,baz=113,slow=8.9,SNR=59						
TKM2	**Tokmak 2**	**70.15**	**320**	P	**P**	**17 18 32.1**	**+0.2**
	comp=Z,4.2nm,0.9s						
EKS2	**Erkin-Say**	**71.19**	**319**	P	**P**	**17 18 36.8**	**-1.3**
ZAA0	**Zalesovo Array**	**71.59**	**333**	*e*P	**P**	**17 18 39.5**	**-0.6**
ZALV	**Zalesovo Beam**	**71.59**	**333**	P	**P**	**17 18 39.7**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=147,slow=5.7,SNR=8.6						
KURK	**Kurchatov**	**72.59**	**328**	*e*P	**P**	**17 18 46.0**	**-0.1**
	comp=Z,3.4nm,0.7s						
VNDA	**Vanda**	**72.66**	**173**	P	**P**	**17 18 47.5**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=304,slow=8.8,SNR=5.4						
BRVK	**Borovoye**	**78.21**	**328**	*e*P	**P**	**17 19 18.1**	**-0.1**
	comp=Z,2.4nm,0.7s						
ABKAR	**Akbulak array**	**82.66**	**321**	*e*P	**P**	**17 19 42.0**	**-0.2**
	comp=Z,0.5nm,0.5s						
QSPA	**South Pole Qui**	**83.26**	**180**	P	**P**	**17 19 46.2**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=265,slow=0.2,SNR=13						
ARU	**Arti**	**85.78**	**328**	*e*P	**P**	**17 19 57.4**	**-0.4**
GERES	**GERESS Array B**	**112.58**	**320**	PKiKP	**PKiKP**	**17 25 54.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=106,slow=1.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**129.34**	**281**	PKP	**PKPdf**	**17 26 28.8**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=72,slow=2.0,SNR=3.6						
LPAZ	**La Paz**	**150.57**	**141**	PKPbc	**PKPbc**	**17 27 14.2**	**+2.3**
	comp=Z,2.0nm,0.4s,baz=129,slow=15,SNR=14						

ISCJB ***22*** *17:13:13.9±1.2,16°.77S±0°.08×69°.6W±0°.1,h173km, mb3.7/3,Error ellipse: s-maj=15.4km s-min=10.4km az=28.9*

IDC ***22*** *17:13:17.0±1.4,16°.93S×69°.48W,h185km±8km,mb3.6/3, mb1 3.6/5,mb1mx3.3/20,mbtmp4.1/5,Error ellipse: s-maj=26.8km s-min=13.6km az=109.0*

ISC 22 17:13:15.6±1.2,16°.90S±0°.08×69°.6W±0°.1,h173km,n7, σ1§46/10,mb3.9/3,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.51**	**66**	P	**Pn**	**17 13 49.8**	**+1.9**
	16nm,0.3s,baz=283,slow=5.2,SNR=361						
LPAZ				S	**Sn**	**17 14 14.6**	**+2.1**
	5.0nm,0.3s,baz=33,slow=17,SNR=16						
LVC	**Limon Verde**	**5.71**	**174**	P	**Pn**	**17 14 40.4**	**+1.3**
	335nm,0.3s,baz=5.3,slow=10,SNR=49						
LVC				S	**Sn**	**17 15 45.7**	**+1.2**
	214nm,0.3s,baz=131,slow=18,SNR=20						
SIV	**San Ignacio**	**8.21**	**85**	P	**Pn**	**17 15 11.3**	**-0.4**
	0.2nm,0.3s,baz=271,slow=15,SNR=2.9						
SIV				S	**Sn**	**17 16 42.5**	**-1.1**
	0.1nm,0.3s,baz=260,slow=18,SNR=2.7						
DBIC	**Dimbokro**	**68.11**	**75**	P	**P**	**17 23 57.2**	**-0.2**
	1.1nm,0.4s,baz=270,slow=6.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**76.45**	**72**	P	**P**	**17 24 46.5**	**-0.4**
	1.8nm,0.7s,baz=256,slow=5.4,SNR=12						
YKA	**Yellowknife Ar**	**86.67**	**341**	P	**P**	**17 25 37.9**	**-1.4**
	0.3nm,0.5s,baz=132,slow=4.7,SNR=4.6						
SONM	**Songino Array**	**148.98**	**5**	PKPbc	**PKPbc**	**17 32 43.7**	**+0.4**
	0.8nm,0.5s,baz=341,slow=3.8,SNR=7.1						

ISCJB ***22*** *17:41:07.3±0.5,33°.04N±0°.06×138°.44E±0°.08,h300km, mb2.9/3,Error ellipse: s-maj=9.8km s-min=7.5km az=153.1*

IDC ***22*** *17:41:08.4±1.5,33°.04N×138°.28E,h289km±27km,mb2.8/3, mb1 2.8/6,mb1mx2.7/28,mbtmp3.4/6,Error ellipse: s-maj=66.9km s-min=16.6km az=60.0*

JMA ***22*** *17:41:08.0±0.3,33°.20N×138°.43E,h309km,M2.8*

ISC 22 17:41:08.1±0.9,33°.04N±0°.08×138°.44E±0°.08,h300km,n15, σ1§37/18,mb2.9/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**1.37**	**301**	P	**Pn**	**17 41 51.4**	**+1.4**
TTO1	**TONANKAI O.B.S**	**1.50**	**293**	P	**Pn**	**17 41 52.0**	**+1.2**
JIE	**Ise**	**1.98**	**314**	P	**Pn**	**17 41 54.4**	**-0.2**
JWY	**Kouya**	**2.65**	**297**	P	**Pn**	**17 42 00.1**	**-0.4**
BSO1	**Boso 1**	**2.66**	**52**	P	**Pn**	**17 42 00.3**	**+0.4**
BSO1				*e*S	**S**	**17 42 41.5**	**+0.2**
JRY	**Ryogami san**	**3.00**	**7**	P	**Pn**	**17 42 04.4**	**+0.6**
JRY				*e*S	**S**	**17 42 46.4**	**-1.9**
JWT	**Wachi**	**3.37**	**313**	P	**Pn**	**17 42 06.7**	**-0.8**
JAI	**Aioi**	**3.42**	**284**	P	**Pn**	**17 42 07.2**	**-0.8**
JAG	**Ashikaga**	**3.48**	**14**	P	**Pn**	**17 42 07.8**	**-0.9**
MJAR	**Matsushiro Arr**	**3.50**	**357**	P	**Pn**	**17 42 08.3**	**-0.5**
	0.3nm,0.3s,baz=171,slow=12,SNR=4.6						
JCJ	**Chichijima**	**6.75**	**150**	P	**Pn**	**17 42 47.3**	**+0.7**
	1.6nm,0.3s,baz=270,slow=20,SNR=4.1						
JCJ				S	**S**	**17 44 02.6**	**-3.5**
	5.0nm,0.3s,baz=282,slow=23,SNR=6.5						
KSRS	**Korea Array**	**9.66**	**300**	P	**Pn**	**17 43 21.1**	**-0.8**
	0.1nm,0.3s,baz=113,slow=14,SNR=5.3						
SONM	**Songino Array**	**28.27**	**311**	P	**P**	**17 46 35.9**	**+1.5**
	0.7nm,0.7s,baz=104,slow=8.8,SNR=4.2						
MKAR	**Makanchi Array**	**44.29**	**305**	P	**P**	**17 48 47.8**	**-0.9**
	0.1nm,0.3s,baz=85,slow=7.1,SNR=4.8						
WRA	**Warramunga Arr**	**52.83**	**185**	P	**P**	**17 49 54.8**	**+1.4**
	0.5nm,1.0s,baz=1.2,slow=7.9,SNR=3.8						

IDC ***22*** *18:00:52.4±3.1,43°.10N×104°.98W,h0km,mb3.6/3, mb1 3.8/6,mb1mx3.5/28,mbtmp3.7/6,ML3.4/3,MS2.5/1, Ms1 2.5/1,ms1mx2.1/40,Error ellipse: s-maj=78.3km s-min=11.7km az=151.0*

ISCJB ***22*** *18:00:55.8±0.2,43°.68N±0°.02×105°.35W±0°.02,h0km, mb4.2/2,Error ellipse: s-maj=2.2km s-min=1.8km az=2.7*

NEIC ***22*** *18:00:56.3±0.3,43°.70N×105°.25W,h0km,ML3.2,Error ellipse: s-maj=5.1km s-min=4.3km az=158.0,Suspected Mining explosion.*

NEIC 70 km [45 miles] SSE of Gillette.

ISC 22 18:00:55.3±0.6,43°.64N±0°.02×105°.29W±0°.02,h0km,n107, σ1§25/116,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J23A	**Dilts Ranch, B**	**0.30**	**219**	P	**Pb**	**18 01 03.1**	**-0.5**
	baz=0.4,SNR=1000						
J23A				S	**Sb**	**18 01 06.8**	**-2.3**
	baz=0.4						
I23A	**Meade Ranch, G**	**0.35**	**339**	P	**Pg**	**18 01 02.7**	**+0.8**
	baz=0.3,SNR=122						
I23A				S	**Sg**	**18 01 05.8**	**-0.6**
	baz=0.3						
I24A	**Kuemmerle Ranc**	**0.53**	**65**	P	**Pb**	**18 01 06.7**	**-0.8**
	baz=0.5,SNR=466						
J24A	**Dixon Ranch, L**	**0.55**	**123**	P	**Pb**	**18 01 07.8**	**-0.1**
	baz=0.6,SNR=99						
J24A				S	**Sb**	**18 01 15.8**	**-0.6**
	baz=0.6						
J22A	**Midwest**	**0.89**	**256**	P	**Pb**	**18 01 12.8**	**-0.9**
	baz=0.9,SNR=315						
J22A				S	**Sg**	**18 01 24.8**	**+0.9**
	baz=0.9						
I22A	**9 Mile Ranch,**	**0.90**	**287**	P	**Pg**	**18 01 12.8**	**+0.2**
	baz=0.9,SNR=435						
I22A				S	**Sg**	**18 01 23.8**	**-0.4**
	baz=0.9						
K23A	**Bowen Ranch, D**	**0.91**	**196**	P	**Pn**	**18 01 14.5**	**-1.0**
	baz=1.0,SNR=15						
H23A	**Clabaugh Cattl**	**0.93**	**355**	P	**Pg**	**18 01 12.8**	**-0.3**
	baz=0.9,SNR=46						
H23A				S	**Sg**	**18 01 24.8**	**-0.3**
	baz=0.9						
K24A	**Anderson Ranch**	**0.98**	**159**	P	**Pn**	**18 01 15.7**	**-0.7**
	baz=1.0,SNR=147						
RSSD	**Black Hills**	**1.03**	**61**	*e*Pg	**Pb**	**18 01 15.2**	**-0.9**
J25A	**Sunshine Ranch**	**1.11**	**102**	P	**Pn**	**18 01 17.6**	**-0.5**
	baz=1.1,SNR=313						
I25A	**Rochford**	**1.19**	**71**	P	**Pb**	**18 01 18.3**	**-0.5**
	baz=1.1,SNR=144						
H22A	**Clearmont**	**1.23**	**322**	P	**Pg**	**18 01 18.4**	**-0.4**
	baz=1.2,SNR=75						
H24A	**Dirks Ranch, A**	**1.23**	**25**	P	**Pg**	**18 01 18.2**	**-0.7**
	baz=1.2,SNR=79						
K22A	**Casper**	**1.33**	**223**	P	**Pn**	**18 01 21.3**	**0.0**
	baz=1.4,SNR=263						
K22A				S	**Sn**	**18 01 40.5**	**+0.7**
	baz=1.4						
K22A	**Casper**	**1.33**	**223**	*e*Pn	**Pn**	**18 01 20.9**	**-0.4**
K25A	**Mack Ranch, Ha**	**1.46**	**134**	P	**Pb**	**18 01 24.7**	**+1.3**
	baz=1.5,SNR=100						
K25A				S	**Sn**	**18 01 45.8**	**+2.9**
	baz=1.5						
I21A	**Big Trails, Te**	**1.46**	**278**	P	**Pn**	**18 01 22.0**	**-1.0**
	baz=1.5						
I21A				S	**Sg**	**18 01 41.9**	**-0.3**
	baz=1.5						
G23A	**Biddle**	**1.57**	**357**	P	**Pn**	**18 01 23.9**	**-0.5**
	baz=1.5						
H25A	**Fruitdale**	**1.57**	**50**	P	**Pg**	**18 01 25.0**	**-0.3**
	baz=1.5,SNR=35						
H25A				S	**Sg**	**18 01 46.6**	**+1.0**
	baz=1.5						
J21A	**Lysite**	**1.59**	**260**	P	**Pn**	**18 01 24.9**	**-0.1**
	baz=1.6,SNR=35						
J21A				S	**Sb**	**18 01 46.5**	**+0.1**
	baz=1.6						
H21A	**Big Horn, Sher**	**1.60**	**309**	P	**Pn**	**18 01 25.1**	**+0.1**
	baz=1.6,SNR=83						
H21A				S	**Sn**	**18 01 46.2**	**-0.3**
	baz=1.6						
J26A	**Sides Ranch, S**	**1.65**	**101**	P	**Pg**	**18 01 26.9**	**+0.1**
	baz=1.6,SNR=117						
J26A				Sb	**Sg**	**18 01 51.0**	**+2.9**
	baz=1.6						
G22A	**Birney**	**1.74**	**336**	P	**Pn**	**18 01 27.1**	**+0.2**
	baz=1.7,SNR=178						
I26A	**New Underwood**	**1.80**	**77**	P	**Pg**	**18 01 29.3**	**-0.5**
	baz=1.8,SNR=17						
K26A	**Motz Farm, Whi**	**1.81**	**120**	P	**Pg**	**18 01 29.9**	**0.0**
	baz=1.8,SNR=23						
J20A	**Shoshoni**	**2.05**	**263**	Pb	**Pb**	**18 01 33.7**	**+0.2**
	baz=2.1						
G25A	**Newell**	**2.06**	**40**	P	**Pb**	**18 01 32.6**	**-0.9**
	baz=2.0						
H26A	**Fairpoint**	**2.06**	**61**	P	**Pb**	**18 01 33.1**	**-0.5**
	baz=2.0						
I20A	**Worland**	**2.08**	**280**	P	**Pn**	**18 01 32.6**	**+1.1**
	baz=2.1,SNR=330						
F23A	**Volborg**	**2.09**	**358**	P	**Pn**	**18 01 31.9**	**+0.3**
	baz=2.0						
G21A	**Lodge Grass**	**2.10**	**320**	P	**Pn**	**18 01 32.1**	**+0.3**
	baz=2.1,SNR=33						
H20A	**Greybull**	**2.13**	**294**	P	**Pn**	**18 01 32.7**	**+0.5**
	baz=2.1,SNR=26						
H20A			

D21A	**La Casta Ranch** baz=3.6	**3.63**	**341**	P		**Pn**	**18 01 52.8**	**0.0**
M28A	**Bar X Bar Ranc** baz=3.7	**3.66**	**126**	P		**Pn**	**18 01 54.8**	**+1.6**
D25A	**Fairfield** baz=3.7	**3.78**	**21**	P		**Pn**	**18 01 56.1**	**+1.3**
GCMT	**Greycliff**	**3.79**	**306**	*e*Pn		**Pn**	**18 01 55.6**	**+0.6**
ISCO	**Idaho Springs**	**3.84**	**184**	*e*Pn		Pb	18 01 58.6	-5.5
LOHW	**Long Hollow**	**3.86**	**271**	*e*Pn		**Pn**	**18 01 57.8**	**+1.7**
H17A	**Grant Village**	**3.89**	**283**	*e*Pn		**Pn**	**18 01 58.5**	**+2.0**
FLWY	**Flagg Ranch**	**3.94**	**278**	*e*Pn		**Pn**	**18 01 58.0**	**+0.8**
MOOW	**Moose Ponds**	**3.96**	**274**	*e*Pn		**Pn**	**18 01 58.8**	**+1.4**
SNOW	**Snow King Moun**	**3.98**	**269**	Pn		Pn	18 01 54.2	-3.5
REDW	**Red Top Meadow**	**4.05**	**268**	*e*Pn		**Pn**	**18 02 01.2**	**+2.4**
N28A	**Pribbeno Ranch** baz=4.1	**4.06**	**135**	P		Pn	18 02 00.5	+1.9
YFT	**Old Faithful**	**4.08**	**283**	Pn		Pn	18 01 54.9	-4.2
IMW	**Indian Meadow**	**4.10**	**276**	*e*Pn		**Pn**	**18 02 01.1**	**+1.6**
TPAW	**Teton Pass**	**4.12**	**270**	*e*Pn		**Pn**	**18 02 01.4**	**+1.8**
C23A	**Lambert** baz=4.1	**4.17**	**1**	P		**Pn**	**18 02 01.2**	**+1.1**
P26A	**Davis Ranch, A** baz=4.4	**4.33**	**160**	P		Pn	18 02 05.0	+2.6
AHID	**Auburn Hatcher**	**4.33**	**260**	*e*Pn		**Pn**	**18 02 03.3**	**+0.7**
O28A	**Krutsinger Ran** baz=4.4	**4.38**	**142**	P		**Pn**	**18 02 04.8**	**+1.7**
E28A	**Huff** baz=4.3	**4.38**	**46**	P		**Pn**	**18 02 04.1**	**+0.9**
QLMT	**Earthquake Lak**	**4.57**	**287**	Pn		**Pn**	**18 02 07.5**	**+1.7**
SMCO	**Snowmass**	**4.63**	**196**	*e*Pn		**Pn**	**18 02 08.7**	**+1.9**
DGMT	**Dagmar**	**4.89**	**9**	*e*Pn		**Pn**	**18 02 12.2**	**+2.0**
KSCO	**Kaye Shedlock'** 27nm,0.3s	**5.04**	**156**	*e*Pn		**Pn**	**18 02 13.7**	**+1.6**
HWUT	**Hardware Ranch** 14nm,0.6s	**5.05**	**248**	*e*Pn		**Pn**	**18 02 13.4**	**+0.9**
TCUT	**Toone Canyon** 17nm,0.4s	**5.18**	**243**	*e*Pn		**Pn**	**18 02 15.2**	**+0.9**
EGMT	**Eagleton** 13nm,0.6s	**5.38**	**326**	*e*Pn		**Pn**	**18 02 15.8**	**-1.1**
MCMT	**McKenzie Canyo** 1.1nm,0.4s	**5.56**	**285**	*e*Pn		Pn	18 02 23.2	+3.7
MDND	**Maddock** 29nm,0.5s	**5.79**	**41**	Pn		**Pn**	**18 02 22.6**	**+0.1**
HVU	**Hansel Valley** 7.7nm,0.7s	**5.82**	**254**	*e*Pn		**Pn**	**18 02 24.3**	**+1.4**
PV04	**Paradox Valley**	**5.91**	**209**	*e*Pn		Pn	18 02 26.6	+2.4
SRU	**San Rafael Swe**	**5.99**	**223**	*e*Pn		**Pn**	**18 02 26.3**	**+0.9**
TMUT	**Trail Mountain** 8.2nm,0.6s	**6.21**	**228**	*e*Pn		**Pn**	**18 02 30.3**	**+1.9**
ECSD	**EROS Data Cent** 4.8nm,0.6s	**6.29**	**86**	*e*Pn		**Pn**	**18 02 30.1**	**+0.8**
CHMT	**Chamberlain Mo** 0.8nm,0.3s	**6.50**	**303**	*e*Pn		**Pn**	**18 02 32.6**	**+0.3**
MSU	**Marysvale** 5.3nm,0.6s	**7.30**	**228**	*e*Pn		**Pn**	**18 02 45.3**	**+2.0**
YBMT	**Yellow Bay** 2.5nm,0.3s	**7.42**	**308**	*e*Pn		**Pn**	**18 02 46.0**	**+1.1**
ELK	**Elko** 0.1nm,0.3s,baz=74,slow=18,SNR=4.6	**7.93**	**252**	Pn		**Pn**	**18 02 53.8**	**+1.8**
ELK	0.1nm,0.3s,baz=177,slow=17,SNR=2.7			Lg		Lg	18 05 02.5	
ELK	comp=Z,35nm,19.1s,baz=350,slow=37			LR		LR	18 05 50.0	
ULM	**Lac du Bonnet** 1.6nm,0.3s,baz=232,slow=12,SNR=6.3	**9.23**	**41**	Pn		**Pn**	**18 03 07.5**	**-2.0**
ULM	0.3nm,0.3s,baz=322,slow=19,SNR=3.1			Lg		Lg	18 05 41.3	
I56US	**NEWPORT INFRAS** baz=117,slow=314,SNR=0.9	**9.45**	**303**	*i*			18 58 30.0	
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=156,slow=3.1,SNR=4.1	**19.66**	**347**	P		**Pn**	**18 05 30.8**	**+4.0**
ARCES	**ARCESS Array B**	**61.52**	**18**	P		**P**	**18 11 12.7**	**-0.7**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=7.6,slow=4.4,SNR=2.7	**82.41**	**354**	P		**P**	**18 13 18.6**	**-0.3**

2.9nm,0.9s,baz=313,slow=7.3,SNR=3.6

IDC 22 18:03:59.8±4.4, 19.14S×176.01W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/33, mbtmp3.6/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/26, Error ellipse: s-maj=311.8km s-min=28.8km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera** comp=Z,103nm,19.2s,baz=270,slow=31	**19.97**	**196**	LR	LR	18 14 20.1	
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=97,slow=7.2,SNR=17	**46.66**	**260**	P	P	18 12 30.6	+0.1
ASAR	**Alice Springs** 0.7nm,0.8s,baz=91,slow=8.2,SNR=17	**46.66**	**255**	P	P	18 12 30.1	-0.4
NVAR	**Mina Array Bea** 0.3nm,0.5s,baz=220,slow=8.1,SNR=3.1	**78.76**	**43**	P	P	18 16 04.7	0.0

IDC 22 18:08:08.5±2.0, 9.60S×150.09E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/30, mbtmp3.6/7, ML2.9/1, Error ellipse: s-maj=64.0km s-min=28.8km az=123.0
ISCJB 22 18:08:11.5±2.0, 9.75S±0.2×150.1E±0.4, h33km, mb3.8/5, Error ellipse: s-maj=60.2km s-min=18.6km az=32.2

ISC 22 18:08:13.5±2.0, 9.75S±0.3×150.1E±0.4, h35km, n8, σ0s83/8, mb3.8/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.0nm,0.3s,baz=62,slow=12,SNR=3.4	**18.30**	**234**	P	**Pn**	**18 12 24.9**	**+0.1**
ASAR	**Alice Springs** 0.5nm,0.9s,baz=56,slow=10,SNR=3.6	**20.78**	**226**	P	**P**	**18 12 51.4**	**-0.4**
CMAR	**Chiang Mai Arr** 0.6nm,0.7s,baz=114,slow=5.8,SNR=6.3	**57.71**	**299**	P	**P**	**18 18 01.1**	**0.0**
SONM	**Songino Array** 0.6nm,0.6s,baz=116,slow=6.6,SNR=4.1	**69.12**	**330**	P	**P**	**18 19 17.0**	**+0.7**
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=113,slow=5.8,SNR=6.7	**82.29**	**320**	P	**P**	**18 20 31.2**	**-0.3**
ZALV	**Zalesovo Beam** 0.7nm,0.6s,baz=120,slow=5.7,SNR=4.2	**83.77**	**327**	P	**P**	**18 20 37.7**	**-1.2**
ILAR	**Eielson Array** 0.5nm,0.8s,baz=240,slow=6.1,SNR=3.4	**87.69**	**22**	P	**P**	**18 20 58.1**	**-0.1**
TORD	**Torodi Ar. Bea** 2.0nm,0.8s,baz=69,slow=2.3,SNR=10	**148.85**	**279**	PKPbc	**PKPbc**	**18 27 59.6**	**+1.1**

CASC 22 18:10:29.0±1.8, 13.65N×90.91W, h22km±11km, MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCG	**Pacaya**	**0.79**	**22**	*e*P	Pb	18 10 44.3	-0.2
FUG	**Fuego 3**	**0.79**	**5**	*e*P	Pb	18 10 42.2	-2.1
JAT	**Jato**	**0.97**	**313**	*e*P	Pb	18 10 40.4	-6.7
NBG	**Las Nubes**	**1.08**	**30**	*e*P	Pn	18 10 49.1	-0.1
NBG				*e*S	Sn	18 11 07.8	+4.0
SBLS	**San Blas**	**1.26**	**81**	*e*P	Pn	18 10 51.5	-0.3
SBLS				*e*S	Sb	18 11 09.3	+0.8
RBDL	**Robledal**	**1.27**	**69**	*e*P	Pn	18 10 51.9	+0.1
SNJE	**San Jose**	**1.28**	**80**	*e*P	Pn	18 10 51.5	-0.4
BOQS	**Boqueron**	**1.58**	**87**	*e*P	Pn	18 10 56.7	+0.6
BOQS				*e*S	Sb	18 11 17.3	-0.4
LFRS	**El Faro**	**1.80**	**91**	*e*P	Pn	18 10 59.0	+0.2
LFRS				*e*S	Sn	18 11 20.9	-0.3
MRL	**Marmol**	**1.83**	**40**	*e*P	Pn	18 11 00.3	+0.8

IDC 22 18:12:30.3±1.3, 52.52S×27.68E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/21, mbtmp3.9/5, MS2.8/1, Ms1 2.8/1, ms1mx2.6/23, Error ellipse: s-maj=38.8km s-min=33.3km az=115.0

ISC 22 18:12:31.6±1.6, 52.5S±0.3×27.6E±0.3, h10km, n10, σ0s63/7, mb3.9/5, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae** 1.1nm,0.8s,baz=77,slow=12,SNR=15	**23.44**	**204**	P	**P**	**18 17 41.3**	**+0.7**
SNAA	comp=Z,22nm,19.6s,baz=46,slow=34			LR	LR	18 25 42.2	
QSPA	**South Pole Qui** 2.4nm,0.7s,baz=241,slow=2.3,SNR=17	**37.72**	**180**	P	**P**	**18 19 46.5**	**-0.6**
VNDA	**Vanda** 0.7nm,0.7s,baz=229,slow=11,SNR=6.1	**47.19**	**168**	P	**P**	**18 21 03.5**	**-0.1**
H10S2	**ASCENSION HYDR** baz=150,slow=75,SNR=9.3	**55.28**	**306**	T	T	19 21 59.3	
H10S3	**ASCENSION HYDR** baz=150,slow=75,SNR=5.2	**55.30**	**306**	T	T	19 22 00.2	
H10S1	**ASCENSION HYDR**	**55.30**	**306**	T	T	19 22 01.6	

baz=150,slow=75,SNR=8.4

ASAR	**Alice Springs** 1.0nm,0.9s,baz=219,slow=4.8,SNR=15	**80.88**	**117**	P		**P**	**18 24 46.2**	**+0.3**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=213,slow=4.3,SNR=6.2	**84.11**	**115**	P		**P**	**18 25 02.9**	**+0.1**
ULM	**Lac du Bonnet** 2.4nm,0.5s,baz=86,slow=4.9,SNR=6.5	**145.41**	**289**	PKPbc		**PKPbc**	**18 32 08.1**	**-0.6**
NVAR	**Mina Array Bea** 0.3nm,0.6s,baz=146,slow=2.1,SNR=3.1	**152.56**	**253**	PKPbc		**PKPbc**	**18 32 28.3**	**+0.5**

IDC 22 18:12:37.2±4.3, 1.94S×99.48E, h0km, mb3.3/3, mb1 3.5/3, ms1mx3.2/33, mbtmp3.3/3, MS3.1/1, Ms1 3.3/1, ms1mx2.6/15, Error ellipse: s-maj=225.2km s-min=28.7km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr** comp=Z,48nm,18.0s,baz=196,slow=40	**20.28**	**359**	LR	LR	18 26 05.0	
H08S2	**Diego Garcia H** baz=78,slow=76,SNR=15	**27.47**	**257**	T	T	18 46 25.6	
H08S3	**Diego Garcia H** baz=78,slow=76,SNR=14	**27.48**	**257**	T	T	18 46 25.5	
H08S1	**Diego Garcia H** baz=78,slow=76,SNR=17	**27.49**	**257**	T	T	18 46 29.5	
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=296,slow=9.0,SNR=4.3	**38.47**	**120**	P	P	18 20 00.9	-0.4
ASAR	**Alice Springs** 0.2nm,0.6s,baz=301,slow=7.4,SNR=7.7	**39.71**	**126**	P	P	18 20 12.0	+0.3
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=163,slow=8.4,SNR=4.5	**50.83**	**345**	P	P	18 21 40.0	+0.3
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=322,slow=0.6,SNR=5.1	**144.97**	**37**	PKP	PKPab	18 32 15.8	-0.8

MAN 22 18:17:38, 9.30N×122.22E, h21km, mb4.5, ML3.4, MS3.3, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**1.36**	**15**	*e*P	Pn	18 18 01.7	-0.1
GUIM				*e*S	Sb	18 18 20.1	+0.2
IPIL	**Ipil**	**1.54**	**167**	*e*P	Pn	18 18 04.1	-0.2
PAGZ	**Pagadian**	**1.85**	**141**	*e*P	Pn	18 18 09.2	+0.7

IDC 22 18:50:14.0±1.1, 41.14N×112.90W, h0km, mb1 2.5/2, mb1mx2.5/27, mbtmp2.0/2, ML2.4/2, Error ellipse: s-maj=34.0km s-min=5.5km az=156.0
ISCJB 22 18:50:15.1±0.5, 41.04N±0.04×112.90W±0.06, h0km, Error ellipse: s-maj=6.6km s-min=5.5km az=138.2
NEIC 22 18:50:16.3±0.5, 41.05N×112.86W, h0km, ML1.8, Error ellipse: s-maj=6.7km s-min=5.5km az=130.0, Suspected Mining explosion.
NEIC 75 km [45 miles] NW of Tooele.

ISC 22 18:50:15.6±1.0, 41.05N±0.04×112.87W±0.04, h0km, n19, σ1s29/21, Utah

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BGU	**Big Grassy Mou**	**0.17**	**225**	*e*Pg	**Pg**	**18 50 20.6**	**+1.8**
HVU	**Hansel Valley**	**0.73**	**5**	*e*Pg	**Pg**	**18 50 28.6**	**-1.1**
DUG	**Dugway, Tooele**	**0.85**	**177**	*e*Pg	**Pb**	**18 50 32.4**	**-0.9**
CTU	**Camp Tracy**	**0.92**	**112**	*e*Pg	**Pb**	**18 50 34.8**	**+0.3**
TCUT	**Toone Canyon**	**1.10**	**86**	*e*Pg	**Pb**	**18 50 38.1**	**+0.4**
HWUT	**Hardware Ranch**	**1.13**	**60**	*e*Pg	**Pg**	**18 50 37.0**	**-0.2**
JLU	**Jordanelle**	**1.16**	**112**	*e*Pg	**Pb**	**18 50 38.7**	**0.0**
ELK	**Elko** 1.9nm,0.3s,baz=79,slow=9.8,SNR=31	**1.82**	**261**	Pg	**Pn**	**18 50 48.8**	**+0.4**
ELK	1.2nm,0.3s,baz=197,slow=19,SNR=6.6			Lg	Lg	18 51 11.2	
ELK	**Elko**	**1.82**	**261**	*e*Pn	**Pn**	**18 50 48.8**	**+0.4**
ELK				Pg	**Pn**	**18 50 48.8**	**+0.4**
ELK				Lg	Lg	18 51 11.2	
MSU	**Marysvale**	**2.59**	**168**	*e*Pn	**Pn**	**18 50 59.0**	**+0.1**
REDW	**Red Top Meadow**	**2.75**	**32**	*e*Pn	**Pn**	**18 51 01.5**	**+0.3**
HLID	**Hailey**	**2.76**	**336**	*e*Pn	**Pn**	**18 51 02.2**	**+0.9**
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=225,slow=11,SNR=2.4	**3.01**	**54**	Pn	**Pn**	**18 51 04.0**	**-0.7**
PDAR	0.6nm,0.3s,baz=240,slow=14,SNR=7.8			Pg	**Pb**	**18 51 09.0**	**-1.1**
PDAR	0.5nm,0.3s,baz=248,slow=19,SNR=3.9			Lg	Lg	18 51 48.2	
IMW	**Indian Meadow**	**3.19**	**26**	*e*Pn	**Pn**	**18 51 07.7**	**+0.6**
MFID	**Camas Ranch**	**3.23**	**318**	*e*Pn	**Pn**	**18 51 10.0**	**+2.4**
R11A	**Troy Canyon, C**	**3.42**	**219**	*e*Pg	**Pg**	**18 51 21.5**	**+0.4**
MCMT	**McKenzie Canyo**	**3.78**	**0**	*e*Pn	**Pn**	**18 51 18.2**	**+2.9**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=50,slow=16,SNR=2.2	**4.94**	**240**	Pn	**Pn**	**18 51 30.1**	**-1.1**
NVAR	0.1nm,0.3s,baz=57,slow=17,SNR=3.1			Pg	**Pb**	**18 51 40.8**	**-2.3**
NVAR	0.1nm,0.3s,baz=61,slow=35,SNR=2.4			Lg	Lg	18 52 50.6	
I56US	**NEWPORT INFRAS** baz=158,slow=319,SNR=5.5	**7.83**	**339**	*i*		19 34 10.0	

IDC 22 18:52:19.3±7.6, 20.89S×178.61W, h562km±69km, mb3.3/5, mb1 3.4/7, mb1mx3.0/36, mbtmp4.3/7, Error ellipse: s-maj=73.0km s-min=31.3km az=49.0

ISC 22 18:52:20.4±2.2, 20.99S±0.3×178.6W±0.3, h579km, n8, σ0s53/9, mb4.0/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac** 0.2nm,0.3s,baz=90,slow=20,SNR=4.1	**13.97**	**263**	P	**P**	**18 55 19.4**	**0.0**
URZ	**Urewera** 1.9nm,0.3s,baz=45,slow=1.4,SNR=9.2	**17.66**	**191**	P	**P**	**18 55 53.5**	**-0.2**
CTA	**Charters Tower** 3.4nm,0.4s,baz=98,slow=13,SNR=7.7	**32.89**	**265**	P	**P**	**18 58 08.4**	**+0.4**
STKA	**Stephens Creek** 0.8nm,0.4s,baz=76,slow=8.3,SNR=3.2	**37.10**	**245**	P	**P**	**18 58 42.9**	**+0.1**
ASAR	**Alice Springs** 2.5nm,0.5s,baz=92,slow=8.0,SNR=26	**43.88**	**257**	P	**P**	**18 59 36.5**	**-0.3**
ASAR				PcP	**PcP**	**19 01 10.9**	**+0.9**
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=99,slow=3.1,SNR=4.5	**43.99**	**263**	P	**P**	**18 59 37.0**	**-0.7**
SIJI	**Sorong** 1.0nm,0.3s,baz=96,slow=7.9,SNR=19	**52.81**	**286**	P	**P**	**19 00 43.0**	**-0.1**
AKASG	**Malin Array Be** 4.9nm,0.6s,baz=96,slow=9.2,SNR=3.7	**53.82**	**330**	PKP	**PKPdf**	**19 10 48.5**	**-0.3**
	0.7nm,0.3s,baz=36,slow=3.4,SNR=5.0						

IDC 22 18:52:35.5±3.3, 4.19S×151.43E, h0km, mb4.2/2, mb1 4.5/2, mb1mx3.5/32, mbtmp4.2/2, Error ellipse: s-maj=128.6km s-min=45.1km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 5.3nm,0.5s,baz=51,slow=10,SNR=59	**22.87**	**225**	P	P	18 57 41.4	+0.6
ASAR	**Alice Springs** 2.1nm,0.6s,baz=53,slow=9.1,SNR=52	**25.72**	**220**	P	P	18 58 07.1	-0.7
TORD	**Torodi Ar. Bea** 0.2nm,0.3s,baz=93,slow=2.8,SNR=5.3	**148.82**	**289**	PKPbc	PKPbc	19 12 25.9	-0.3

IDC 22 19:18:57.4±0.7, 2.24S×136.64E, h0km, mb3.9/14, mb1 4.0/16, mb1mx3.9/38, mbtmp3.9/16, ML3.9/2, MS3.0/3, Ms1 3.0/3, ms1mx2.8/21, Error ellipse: s-maj=29.8km s-min=14.3km az=75.0
ISCJB 22 19:19:00.2±0.3, 2.26S±0.04×136.56E±0.03, h33km, mb3.9/15, MS3.0/1, Error ellipse: s-maj=6.6km s-min=4.6km az=22.0
DJA 22 19:19:00.2±0.7, 2.2°S×13.7°E±°, h14km±7km, M4.4/7, mb4.2/3, MLv4.6/7
NEIC 22 19:19:02.4±0.5, 2.26S×136.62E, h35km, mb4.0/3, Error ellipse: s-maj=15.4km s-min=7.9km az=82.0
NEIC Felt [II] at Serui.

ISC 22 19:19:02.2±0.6, 2.24S±0.06×136.55E±0.04, h35km, n33, σ1s83/37, mb3.9/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.48**	**320**	P	**Pn**	**19 19 09.7**	**-2.9**
SRPI				S	**Sn**	**19 19 18.5**	**-1.3**
BAKI	**Biak**	**1.13**	**337**	P	**Pn**	**19 19 20.0**	**-1.6**
SMPI	**Sarmi**	**2.17**	**83**	P	**Pn**	**19 19 34.2**	**-1.8**
GENI	**Genyem**	**3.63**	**96**	P	**Pn**	**19 19 55.3**	**-0.7**
GENI				S	**Sn**	**19 20 39.3**	**+1.6**
JAY	**Jayapura**	**4.16**	**94**	P	**Pn**	**19 20 01.7**	**-1.7**
FAKI	**Fak Fak**	**4.35**	**261**	P	**Pn**	**19 20 05.9**	**0.0**
FAKI				S	**Sn**	**19 20 57.3**	**+1.9**
FAKI	**Fak Fak**	**4.35**	**261**	*e*Pn	**Pn**	**19 20 06.3**	**+0.4**
FAKI				*e*Sn	**Sn**	**19 20 51.4**	**-4.0**
SIJI	**Sorong** 3.0nm,0.3s,baz=316,slow=23,SNR=26	**5.45**	**284**	Pn	**Pn**	**19 20 22.4**	**+1.3**
SIJI	3.4nm,0.3s,baz=108,slow=23,SNR=7.2			Sn	**Sn**	**19 21 22.2**	**-0.5**
SIJI	comp=Z,293nm,21.1s,baz=81,slow=46			LR	LR	19 23 12.0	
WRAB	**Tennant Creek**	**17.71**	**187**	*e*Pn	**P**	**19 23 06.8**	**-0.1**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=9.1,slow=12,SNR=23	**17.73**	**187**	P	**Pn**	**19 23 06.0**	**-0.5**
WRA	0.1nm,0.3s,baz=356,slow=24,SNR=3.9			S	Sn	19 26 10.6	-13
GUMO	**Guam** comp=Z,22nm,18.1s,baz=74,slow=38	**17.76**	**27**	LR	LR	19 30 10.3	
CTA	**Charters Tower** 4.3nm,0.9s,baz=346,slow=12,SNR=2.1	**20.11**	**153**	P	**P**	**19 23 32.1**	**-1.1**
AS31	**Alice Springs**	**21.45**	**187**	*e*P	**P**	**19 23 47.0**	**-0.7**
ASAR	**Alice Springs** 2.6nm,0.6s,baz=20,slow=10,SNR=28	**21.45**	**187**	P	**P**	**19 23 47.0**	**-0.7**
ASAR	0.7nm,0.8s,baz=7.4,slow=22,SNR=3.6			S	**S**	**19 27 38.1**	**-5.9**
MBWA	**Marble Bar**	**24.94**	**220**	P	**P**	**19 24 25.8**	**+3.3**
STKA	**Stephens Creek** 1.3nm,0.7s,baz=336,slow=8.8,SNR=4.9	**29.86**	**171**	P	**P**	**19 25 06.6**	**+0.1**
JOW	**Kunigami** comp=Z,35nm,18.7s,baz=284,slow=38	**29.99**	**345**	LR	LR	19 37 43.4	
CMAR	**Chiang Mai Arr** 1.1nm,0.8s,baz=115,slow=6.5,SNR=8.6	**42.34**	**301**	P	**P**	**19 26 54.2**	**+0.9**
CHTO	**Chiang Mai** 1.8nm,0.8s	**42.49**	**301**	P	**P**	**19 26 54.8**	**+0.3**
SONM	**Songino Array** 0.3nm,0.5s,baz=142,slow=7.3,SNR=3.4	**56.40**	**336**	P	**P**	**19 28 41.1**	**+0.8**
PETK	**Petropavlovsk-** 2.4nm,0.8s,baz=181,slow=8.9,SNR=4.1	**57.94**	**15**	P	**P**	**19 28 51.9**	**+1.0**
SEY	**Seymchan** 0.8nm,0.5s,baz=217,slow=20,SNR=2.6	**66.09**	**8**	P	**P**	**19 29 46.7**	**+1.2**
MK31	**Makanchi Array** 1.1nm,0.6s,baz=120,slow=7.5,SNR=13	**68.11**	**323**	*e*P	**P**	**19 29 56.6**	**-2.1**
MKAR	**Makanchi Array** 1.1nm,0.6s,baz=120,slow=7.5,SNR=13	**68.11**	**323**	P	**P**	**19 30 00.0**	**+1.3**
ZAA0	**Zalesovo Array**	**70.46**	**330**	*e*P	**P**	**19 30 13.1**	**+0.1**
ZALV	**Zalesovo Beam** 0.9nm,0.6s,baz=119,slow=5.7,SNR=5.3	**70.46**	**330**	P	**P**	**19 30 12.9**	**-0.1**
KURK	**Kurchatov** 2.4nm,1.0s	**72.10**	**326**	*e*P	**P**	**19 30 20.0**	**-3.0**
KURBB	**Kurchatov Arra** 0.6nm,0.2s,baz=116,slow=6.1,SNR=5.5	**72.11**	**325**	P	**P**	**19 30 23.4**	**+0.4**
VNDA	**Vanda** 0.7nm,0.6s,baz=329,slow=7.7,SNR=5.3	**76.44**	**175**	P	**P**	**19 30 49.2**	**+1.4**
VNDA	**Vanda** 1.8nm,1.0s	**76.44**	**175**	P	**P**	**19 30 48.2**	**+0.3**
BVAR	**Borovoye Array** 0.8nm,0.6s,baz=114,slow=7.2,SNR=7.0	**77.70**	**326**	P	**P**	**19 30 56.2**	**+0.8**
AKTO	**Aktyubinsk** 0.3nm,0.4s,baz=56,slow=5.2,SNR=3.8	**84.42**	**321**	P	**P**	**19 31 31.1**	**-0.1**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=263,slow=5.4,SNR=5.3	**86.31**	**25**	P	**P**	**19 31 39.9**	**-0.5**

ISCJB 22 19:22:53.8±0.5, 41.24S±0.02×142.02E±0.06, h70km±4km, mb3.5/9, Error ellipse: s-maj=8.1km s-min=5.1km az=22.5
IDC 22 19:22:54.6±2.6, 41.39N×141.92E, h60km±25km, mb3.3/9, mb1 3.4/11, mb1mx3.2/50, mbtmp3.6/11, ML2.5/1, MS2.6/1, Ms1 2.6/1, ms1mx2.1/21, Error ellipse: s-maj=28.3km s-min=17.2km az=90.0
JMA 22 19:22:54.6±0.1, 41.48N×142.01E, h61km±2km, M3.3 Broadband fault plane solution: P waves. NP1: φs17.00000°, δ75.00000°, λ85.00000°. NP2:φs217.00000°, δ16.00000°, λ110.00000°. Principal axes: T Plg59.0000°, Azm279.0000°; N Plg5.0000°, Azm18.0000°; P Plg30.0000°, Azm111.0000°;
JMA Felt I J1.

ISC 22 19:22:54.7±1.0, 41.46N±0.04×142.01E±0.05, h62km±9km, n33, σ0s61/33, mb3.7/9, 1C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOT	**Ohata**	**0.73**	**264**	↓P	**Pn**	**19 23 09.4**	**0.0**
JOT				*e*S	**Sn**	**19 23 20.5**	**+0.3**
JKB	**Kayabe**	**0.85**	**301**	↓P	**Pn**	**19 23 10.5**	**-0.4**
JTM	**Tenmabayashi**	**0.98**	**227**	↓P	**Pn**	**19 23 13.0**	**+0.5**
JTM				*e*S	**Sn**	**19 23 26.0**	**+0.3**
JNBK	**Urakawa-nobuka**	**0.99**	**34**	P	**Pn**	**19 23 12.2**	**-0.5**
JEM	**Erimo**	**1.02**	**57**	↑P	**Pn**	**19 23 12.7**	**-0.4**
JANG	**Nango**	**1.15**	**199**	P	**Pn**	**19 23 14.9**	**+0.1**
JANG				*e*S	**Sn**	**19 23 29.5**	**-0.1**
JSR	**Shiriuchi**	**1.20**	**274**	↓P	**Pn**	**19 23 15.6**	**+0.2**
JNB	**Noboribetsu**	**1.24**	**325**	↓P	**Pn**	**19 23 15.3**	**-0.7**
JNB				*e*S	**Sn**	**19 23 31.2**	**-0.7**
JBT2	**Biratori 2**	**1.35**	**11**	P	**Pn**	**19 23 17.5**	**+0.1**
JYM2	**Yakumo 2**	**1.39**	**299**	↓P	**Pn**	**19 23 18.5**	**+0.5**
JEW	**Eniwo**	**1.44**	**343**	↓P	**Pn**	**19 23 18.7**	**0.0**
JEW				*e*S	**Sn**	**19 23 36.6**	**-0.1**
JCH	**Churui**	**1.53**	**41**	P	**Pn**	**19 23 19.9**	**0.0**
JAH	**Hinai**	**1.64**	**220**	↓P	**Pn**	**19 23 22.3**	**+1.0**
JFR	**Furan**	**1.76**	**14**	P	**Pn**	**19 23 22.9**	**-0.1**
JOSM	**Okushiri--Mats**	**2.00**	**289**	P	**Pn**	**19 23 26.0**	**-0.1**
JOSM				*e*S	**Sn**	**19 23 49.8**	**-0.3**
ASAJ	**Asahikawa** baz=217,slow=10	**2.69**	**9**	P	**Pn**	**19 23 36.1**	**+0.5**
ASAJ	baz=9.0,slow=19			S	**Sn**	**19 24 07.8**	**+0.7**
MJAR	**Mats

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**0.34**	**212**	*i*P	**Pb**	**19 36 30.2**	**+0.3**
PSCH				*i* S	**Sb**	**19 36 35.4**	**+0.3**
VLCH	**Valdivia**	**1.30**	**183**	*i*P	**Pn**	**19 36 44.3**	**-0.5**
VLCH				*i* S	**Sn**	**19 37 00.7**	**-0.6**
VLCH				AML	AML	19 37 03.8	
	comp=E,45μm,0.4s						
OSCH	**Osorno**	**2.07**	**179**	*e*P	**Pn**	**19 36 55.9**	**+0.6**
OSCH				*e*S	**Sn**	**19 37 20.6**	**+0.4**
OSCH				AML	AML	19 37 33.1	
	comp=E,13μm,0.5s						
CFAA	**Coronel Fontan**	**7.98**	**32**	Pn	**Pn**	**19 38 18.3**	**+1.6**
	comp=E,0.2nm,0.3s,baz=212,slow=16,SNR=14						
CFAA				Sn	**Sn**	**19 39 47.8**	**+1.6**
	comp=E,0.1nm,0.3s,baz=90,slow=20,SNR=3.0						
CFAA				LR	LR	19 42 04.1	
	comp=E,32nm,19.3s,baz=216,slow=43						
TRQA	**Tornquist**	**8.81**	**91**	Pn	**Pn**	**19 38 29.6**	**+1.7**
	comp=E,16nm,0.8s						
LCO	**Las Campanas**	**9.69**	**13**	*e*Pn	**Pn**	**19 38 38.7**	**-1.6**
LVC	**Limon Verde**	**16.26**	**14**	LR	LR	19 47 26.4	
	comp=E,381nm,18.6s,baz=186,slow=41						
LVC	**Limon Verde**	**16.26**	**14**	Pn	**Pn**	**19 40 07.5**	**-1.7**
USHA	**Ushuaia**	**16.64**	**170**	Pn	**Pn**	**19 40 14.2**	**+0.6**
	comp=E,0.6nm,0.3s,baz=345,slow=8.4,SNR=3.7						
EFI	**East Falkland**	**16.89**	**146**	*e*Pn	**Pn**	**19 40 17.4**	**+0.6**
	comp=E,82nm,1.0s						
CPUP	**Villa Florida**	**18.03**	**52**	Pn	**Pn**	**19 40 28.3**	**-2.7**
LPAZ	**La Paz**	**22.57**	**13**	P	**P**	**19 41 24.0**	**+2.6**
	comp=E,4.8nm,0.9s,baz=144,slow=6.4,SNR=13						
SIV	**San Ignacio**	**24.82**	**29**	P	**P**	**19 41 42.8**	**+0.3**
	comp=E,4.2nm,0.9s,baz=229,slow=8.9,SNR=6.5						
SIV				LR	LR	19 52 55.0	
	comp=E,96nm,19.8s,baz=200,slow=40						
SAML	**Samuel**	**30.77**	**20**	P	**P**	**19 42 34.3**	**-1.4**
	comp=E,3.6nm,1.2s						
BDFB	**Brasilia**	**31.75**	**51**	LR	LR	19 57 12.4	
	comp=E,106nm,19.2s,baz=219,slow=39						
ROSC	**El Rosal**	**43.16**	**358**	LR	LR	20 02 05.1	
	comp=E,49nm,18.0s,baz=196,slow=36						
SNAA	**Sanae**	**47.80**	**156**	P	**P**	**19 44 57.0**	**-0.1**
	comp=E,5.2nm,0.8s,baz=287,slow=7.1,SNR=40						
SNAA	**Sanae**	**47.80**	**156**	*e*P	**P**	**19 44 55.9**	**-1.2**
	comp=E,20nm,1.0s						
QSPA	**South Pole Qui**	**51.74**	**180**	P	**P**	**19 45 27.5**	**+0.2**
	comp=E,5.9nm,0.8s,baz=143,slow=1.8,SNR=32						
SBA	**Scott Base**	**58.49**	**192**	*e*P	P	19 46 06.0	-10
	comp=E,5.7nm,0.9s						
CMIG	**Matias Romero**	**58.94**	**336**	LR	LR	20 06 33.9	
	comp=E,26nm,18.3s,baz=147,slow=31						
VNDA	**Vanda**	**59.51**	**192**	P	**P**	**19 46 23.8**	**+1.0**
	comp=E,1.7nm,0.9s,baz=136,slow=3.7,SNR=5.3						
VNDA	**Vanda**	**59.51**	**192**	*e*P	**P**	**19 46 23.0**	**+0.2**
	comp=E,6.0nm,1.4s						
TXAR	**Lajitas Array**	**73.26**	**332**	P	**P**	**19 47 52.4**	**+1.1**
	comp=E,0.3nm,0.7s,baz=159,slow=7.7,SNR=3.6						
TXAR				pP	**pP**	**19 48 02.4**	**+3.1**
	comp=E,1.2nm,0.9s,baz=146,slow=8.1,SNR=9.1						
TXAR				LR	LR	20 15 14.6	
	comp=E,36nm,19.1s,baz=0.0,slow=32						
DBIC	**Dimbokro**	**77.50**	**71**	P	**P**	**19 48 15.8**	**-0.1**
DBIC				pP	**PcP**	**19 48 26.2**	**0.0**
	comp=E,2.6nm,0.6s,baz=196,slow=8.0,SNR=4.9						
	comp=E,3.6nm,0.8s,baz=224,slow=4.0,SNR=2.3						
BOSA	**Boshof**	**78.79**	**118**	P	**P**	**19 48 22.2**	**-0.9**
	comp=E,2.2nm,0.7s,baz=258,slow=6.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**86.59**	**70**	P	**P**	**19 49 02.9**	**-0.7**
	comp=E,1.9nm,0.9s,baz=234,slow=4.4,SNR=9.1						
TORD				pP	**pP**	**19 49 13.3**	**+1.5**
	comp=E,1.2nm,0.8s,baz=241,slow=4.5,SNR=5.5						
GERES	**GERESS Array B**	**115.92**	**47**	PKP	**PKPdf**	**19 55 01.3**	**-1.0**
	comp=E,1.0nm,0.9s,baz=231,slow=3.1,SNR=4.1						
WRA	**Warramunga Arr**	**116.39**	**209**	PKP	**PKPdf**	**19 55 02.9**	**-1.2**
	comp=E,0.6nm,1.1s,baz=160,slow=1.7,SNR=5.0						
ILAR	**Eielson Array**	**117.77**	**332**	PKP	**PKPdf**	**19 55 05.0**	**-0.2**
	comp=E,0.3nm,0.8s,baz=147,slow=2.0,SNR=4.2						
H11S2	**WAKE ISLAND Hyl**	**124.70**	**267**	T	T	22 12 15.7	
	baz=126						
H11S1	**WAKE ISLAND Hyl**	**124.71**	**267**	T	T	22 12 15.3	
	baz=126						
H11S3	**WAKE ISLAND Hyl**	**124.71**	**267**	T	T	22 12 19.6	
	baz=126						
TIXI	**Tiksi**	**144.93**	**348**	*e*PKPbc	**PKPab**	**19 55 54.3**	**-0.8**
ABKAR	**Akbulak array**	**145.05**	**57**	*e*PKPdf	**PKPbc**	**19 55 56.1**	**-0.1**
BVAR	**Borovoye Array**	**151.09**	**48**	PKP	**PKPdf**	**19 56 06.9**	**+0.4**
	comp=E,0.8nm,0.9s,baz=336,slow=3.3,SNR=4.6						
BVAR				PKPbc	**PKiKP**	**19 56 12.7**	**-0.3**
	comp=E,2.4nm,0.7s,baz=279,slow=3.8,SNR=17						
KURBB	**Kurchatov Arra**	**156.63**	**50**	PKPab	**PKPab**	**19 56 43.5**	**-0.3**
	comp=E,0.7nm,0.2s,baz=283,slow=4.3,SNR=4.6						
KURK	**Kurchatov**	**156.65**	**49**	PKPab	**PKPab**	**19 56 43.5**	**-0.3**
ZALV	**Zalesovo Beam**	**158.44**	**37**	PKPab	**PKPab**	**19 56 51.2**	**-0.2**
	comp=E,0.9nm,0.7s,baz=305,slow=5.2,SNR=4.5						
MKAR	**Makanchi Array**	**160.19**	**57**	PKPab	**PKPab**	**19 56 58.6**	**-0.8**
	comp=E,1.1nm,0.8s,baz=280,slow=3.6,SNR=8.8						

IDC ***22*** *20:23:57.9±0.5, 22.˚86S×68.˚64W, h97km±3km, mb4.3/14, mb1 4.4/14, mb1mx4.3/22, mbtmp4.6/14, MS3.7/3, Ms1 3.6/3, ms1mx3.1/21, Error ellipse: s-maj=16.7km s-min=13.9km az=26.0*

NEIC ***22*** *20:23:57.9±0.2, 22.˚89S×68.˚54W, mb4.5/53, Error ellipse: s-maj=8.2km s-min=5.0km az=55.0*

NEIC Felt [II] at Oficina Maria Elena and Tocopilla.

ISCJB ***22*** *20:23:57.2±0.4, 22.˚89S±0.˚05×68.˚68W±0.˚04, h103km±3km, mb4.5/65, Error ellipse: s-maj=9.1km s-min=5.3km az=34.3*

GUC ***22*** *20:23:58.8±0.5, 22.˚91S×68.˚90W, h92km±6km, ML4.8*

BJI ***22*** *20:24:00.5, 22.˚90S×68.˚50W, h99km, mB5.2/4*

SJA ***22*** *20:24:06.9±1.5, 23.˚22S×68.˚07W, h70km±50km, ML3.2*

ISC 22 20:23:57.9±0.3, 23.˚00S±0.˚05×68.˚73W±0.˚04, h101km±2km, h101km:pP-P, n352, σ1s04/412, mb4.5/65, 5C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.42**	**337**	P	**Pn**	**20 24 12.8**	**-0.8**
	140μm,0.3s,baz=138,slow=5.6						
LVC				S	**Sn**	**20 24 24.4**	**-0.9**
	168μm,0.3s,baz=37,slow=20,SNR=145						
LVC	**Limon Verde**	**0.42**	**337**	*e*P	**Pn**	**20 24 13.0**	**-0.6**
PB04	**IPOC Station P**	**1.01**	**316**	↑*i*P	Pn	20 24 22.7	+4.2
PB04				*e*S	Sn	20 24 41.1	+7.1
PB04				AML	AML	20 24 45.5	
	comp=N,21μm,0.4s						
PB09	**IPOC Station P**	**1.29**	**338**	↑*i*P	**Pn**	**20 24 22.1**	**+0.3**
PB09				*i* S	**Sn**	**20 24 39.2**	**-0.7**
PB09				AML	AML	20 24 41.5	
	comp=E,56μm,0.5s						
PB07	**IPOC Station P**	**1.66**	**320**	↑*i*P	**Pn**	**20 24 25.7**	**-0.7**
PB07				*i* S	**Sn**	**20 24 45.4**	**-2.5**
PB07				AML	AML	20 24 48.3	
	comp=E,12μm,0.5s						
PB10	**IPOC Station P**	**1.75**	**253**	↑*i*P	**Pn**	**20 24 25.7**	**-1.7**
PB10				*e*S	**Sn**	**20 24 46.6**	**-3.2**
PB10				AML	AML	20 25 01.5	
	comp=N,17μm,0.5s						
PB01	**IPOC Station P**	**2.07**	**340**	↓*i*P	**Pn**	**20 24 30.9**	**-0.6**
PB01				*e*S	**Sn**	**20 24 55.6**	**-1.6**
PB01				AML	AML	20 24 59.8	
	comp=E,9μm,0.3s						
PATCX	**Punta Patache**	**2.54**	**328**	↓*i*P	**Pn**	**20 24 36.1**	**-1.6**
PATCX				AML	AML	20 25 27.6	
	comp=E,4μm,0.4s						
HJA	**Humahuaca**	**3.07**	**95**	*i* P	Pn	20 24 47.8	+2.8
HJA				*e*S	**Sn**	**20 25 17.1**	**-4.0**
YJA	**Yavi**	**3.08**	**75**	*i* P	Pn	20 24 48.6	+3.4
YJA				*e*S	**Sn**	**20 25 21.9**	**+0.2**
SLA	**San Lorenzo**	**3.42**	**121**	*i* P	**Pn**	**20 24 52.2**	**+2.8**
SLA				AML	AML	20 25 31.5	
	comp=Z,88nm,0.6s						
AZAP	**Zapla**	**3.58**	**111**	*i* P	**Pn**	**20 24 54.4**	**+2.7**
ASTB	**Santa Barbara**	**4.01**	**104**	*i* P	**Pn**	**20 24 59.4**	**+2.0**
ASTB				*e*S	**Sn**	**20 25 39.0**	**-4.6**
LCO	**Las Campanas**	**6.24**	**196**	*e*Pn	Pn	20 25 23.6	-4.2
LPAZ	**La Paz**	**6.70**	**5**	P	**Pn**	**20 25 34.9**	**+0.6**
	comp=Z,2.1nm,0.3s,baz=218,slow=3.8,SNR=62						
LPAZ	**La Paz**	**6.70**	**5**	*e*Pn	**Pn**	**20 25 34.6**	**+0.3**
	comp=Z,28nm,0.6s						
CFAA	**Coronel Fontan**	**8.58**	**177**	P	Pn	20 25 56.5	-2.9
	comp=Z,0.5nm,0.3s,baz=2.0,slow=12,SNR=30						
CFAA				S	Sn	20 27 25.8	-8.7
	baz=348,slow=20,SNR=1.6						

CPUP	**Villa Florida**	**10.89**	**110**	Pn	**Pn**	**20 26 28.8**	**-1.9**
	comp=Z,1.2nm,0.9s						
SAML	**Samuel**	**14.95**	**22**	*e*Pn	Pn	20 27 20.2	-3.8
TRQA	**Tornquist**	**16.09**	**160**	*e*Pn	**Pn**	**20 27 37.5**	**-0.7**
	comp=Z,24nm,1.1s						
TRQA				*e*pP	**pP**	**20 28 00.3**	**+1.9**
TRQA				*e*sP	**sP**	**20 28 12.8**	**+1.6**
BDFB	**Brasilia**	**20.86**	**73**	P	**P**	**20 28 30.9**	**-1.1**
	comp=Z,20nm,0.6s,baz=244,slow=11,SNR=26						
BDFB				LR	LR	20 36 39.5	
	comp=Z,75nm,19.6s,baz=232,slow=37						
PTGA	**Pitinga**	**23.72**	**22**	P	**P**	**20 28 58.7**	**-2.1**
	comp=Z,11nm,0.3s,baz=202,slow=14,SNR=27						
OTAV	**Otavalo**	**24.96**	**336**	*e*P	**P**	**20 29 11.8**	**-0.8**
	comp=Z,25nm,1.6s						
SDV	**Santo Domingo**	**31.74**	**356**	P	**P**	**20 30 10.2**	**-2.5**
RCBR	**Riachuelo**	**35.95**	**67**	P	**P**	**20 30 48.6**	**-0.5**
	comp=Z,11nm,0.8s,baz=233,slow=11,SNR=6.8						
RCBR	**Riachuelo**	**35.95**	**67**	*e*P	**P**	**20 30 48.2**	**-0.9**
	comp=Z,11nm,0.8s						
FDF	**Fort de France**	**38.23**	**12**	*e*P	**P**	**20 31 10.4**	**+2.2**
	comp=Z,45nm,0.5s						
TEIG	**Tepich**	**47.00**	**335**	*e*P	**P**	**20 32 18.7**	**-0.5**
	comp=Z,9.5nm,0.5s						
034A	**Hebbronville**	**57.58**	**328**	P	**P**	**20 33 38.6**	**+1.3**
	baz=58						
738A	**Farr-Stevens R**	**57.70**	**332**	P	**P**	**20 33 39.8**	**+1.8**
	baz=58						
933A	**Laredo**	**58.33**	**328**	P	**P**	**20 33 42.9**	**+0.5**
	baz=59						
636A	**Smothers Creek**	**58.87**	**331**	P	**P**	**20 33 47.3**	**+1.1**
	baz=59						
833A	**Chaparral WMA,**	**58.97**	**328**	P	**P**	**20 33 47.8**	**+0.8**
	baz=59						
734A	**La Parita Cree**	**59.02**	**329**	P	**P**	**20 33 47.8**	**+0.6**
	baz=59						
KMSC	**Kings Mountain**	**59.05**	**348**	P	**P**	**20 33 47.9**	**+0.6**
	baz=59						
KMSC	**Kings Mountain**	**59.05**	**348**	*e*P	**P**	**20 33 47.2**	**-0.1**
	comp=Z,9.9nm,1.0s						
832A	**Faith Ranch, C**	**59.22**	**328**	P	**P**	**20 33 49.2**	**+0.5**
	baz=60						
732A	**Laxson Ranch,**	**59.59**	**328**	P	**P**	**20 33 51.3**	**+0.1**
	baz=60						
633A	**Saathoff Ranch**	**59.82**	**329**	P	**P**	**20 33 53.1**	**+0.4**
	baz=60						
534A	**Blanco**	**59.97**	**330**	P	**P**	**20 33 54.8**	**+1.0**
	baz=60						
239A	**Gary**	**59.99**	**335**	P	**P**	**20 33 55.1**	**+1.2**
	baz=60						
631A	**Perdido Creek**	**60.45**	**328**	P	**P**	**20 33 57.4**	**+0.3**
	baz=61						
OXF	**Oxford**	**60.48**	**340**	*e*P	**P**	**20 33 55.5**	**-1.6**
	comp=Z,38nm,1.1s						
532A	**Rocksprings**	**60.72**	**329**	P	**P**	**20 33 59.5**	**+0.5**
	baz=61						
SNAA	**Sanae**	**60.82**	**161**	*e*P	**P**	**20 33 58.5**	**-0.6**
	comp=Z,8.4nm,0.9s						
SNAA				*e*pP	**pP**	**20 34 23.2**	**-0.9**
JCT	**Junction City**	**60.97**	**329**	P	**P**	**20 34 00.7**	**0.0**
	baz=61						
137A	**Heron Place, G**	**61.01**	**334**	P	**P**	**20 34 01.4**	**+0.6**
	baz=61						
531A	**Rocksprings**	**61.06**	**329**	P	**P**	**20 34 01.4**	**+0.2**
	baz=61						
432A	**Mcard**	**61.30**	**330**	P	**P**	**20 34 02.6**	**-0.2**
	baz=62						
333A	**Richland Sprin**	**61.30**	**331**	P	**P**	**20 34 02.6**	**-0.2**
	baz=62						
234A	**Clairette**	**61.50**	**332**	P	**P**	**20 34 03.9**	**-0.2**
	baz=62						
431A	**Sonora**	**61.52**	**329**	P	**P**	**20 34 04.3**	**-0.1**
	baz=62						
WVT	**Waverly**	**61.52**	**342**	*e*P	**P**	**20 34 02.8**	**-1.4**
WVT				*e*pP	**pP**	**20 34 26.3**	**-2.9**
WVT				*e*sP	**sP**	**20 34 39.1**	**-1.1**
332A	**Millersview**	**61.70**	**330**	P	**P**	**20 34 05.3**	**-0.2**
	baz=62						
529A	**Stev Forest Ra**	**61.85**	**327**	P	**P**	**20 34 06.9**	**+0.3**
	baz=62						
233A	**Rising Star**	**61.85**	**331**	P	**P**	**20 34 06.1**	**-0.4**
	baz=62						
Z36A	**Blue Ridge**	**61.88**	**334**	P	**P**	**20 34 06.6**	**0.0**
	baz=62						
MIAR	**Mount Ida**	**61.90**	**337**	P	**P**	**20 34 06.6**	**-0.2**
	baz=62						
MIAR	**Mount Ida**	**61.90**	**337**	*e*P	**P**	**20 34 05.8**	**-1.0**
	comp=Z,15nm,1.2s						
MIAR				*e*pP	**pP**	**20 34 31.3**	**-0.5**
430A	**Baggett Ranch,**	**61.91**	**328**	P	**P**	**20 34 07.2**	**+0.3**
	baz=62						
TXAR	**Lajitas Array**	**61.95**	**325**	P	**P**	**20 34 07.2**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=133,slow=7.3,SNR=7.5						
331A	**San Angelo**	**61.95**	**329**	P	**P**	**20 34 07.3**	**0.0**
	baz=62						
429A	**Davenport Ranc**	**62.09**	**328**	P	**P**	**20 34 08.3**	**0.0**
	baz=62						
133A	**Hamilton Ranch**	**62.36**	**331**	P	**P**	**20 34 09.8**	**-0.1**
	baz=63						
330A	**Mertzon**	**62.39**	**329**	P	**P**	**20 34 09.9**	**-0.2**
	baz=63						
231A	**Bronte**	**62.43**	**330**	P	**P**	**20 34 10.0**	**-0.4**
	baz=63						
Z34A	**Collier Ranch,**	**62.58**	**333**	P	**P**	**20 34 11.2**	**-0.2**
	baz=63						
X37A	**Clayton**	**62.61**	**335**	P	**P**	**20 34 11.3**	**-0.2**
	baz=63						
Y35A	**Marietta**	**62.68**	**334**	P	**P**	**20 34 12.2**	**+0.2**
	baz=63						
ABTX	**Abilene, Hawle**	**62.70**	**331**	P	**P**	**20 34 12.4**	**+0.2**
	baz=63						
W38A	**Poteau**	**62.72**	**336**	P	**P**	**20 34 12.5**	**+0.3**
	baz=63						
329A	**Wagon Wheel Ra**	**62.84**	**328**	P	**P**	**20 34 13.1**	**-0.1**
	baz=63						
Z33A	**Whitaker Ranch**	**62.87**	**332**	P	**P**	**20 34 13.1**	**-0.2**
	baz=63						
PBMO	**Poplar Bluff**	**62.88**	**341**	*e*P	**P**	**20 34 12.7**	**-0.6**
Y34A	**Reagan Ranch,**	**63.02**	**333**	P	**P**	**20 34 14.2**	**0.0**
	baz=63						
131A	**Roby**	**63.08**	**330**	P	**P**	**20 34 14.5**	**-0.2**
	baz=63						
X35A	**Drake**	**63.08**	**334**	P	**P**	**20 34 13.8**	**-0.8**
	baz=63						
W37A	**Quinton**	**63.12**	**336**	P	**P**	**20 34 14.9**	**+0.1**
	baz=63						
130A	**Snyder**	**63.28**	**330**	P	**P**	**20 34 15.7**	**-0.3**
	baz=64						
W36A	**Wetumka**	**63.43**	**335**	P	**P**	**20 34 15.8**	**-1.1**
	baz=64						
Z31A	**Sharp Cattle R**	**63.51**	**331**	P	**P**	**20 34 17.2**	**-0.3**
	baz=64						
X34A	**Smith Ranch, M**	**63.60**	**333**	P	**P**	**20 34 18.0**	**-0.1**
	baz=64						
Z30A	**Sanderson Ranc**	**63.93**	**330**	P	**P**	**20 34 20.2**	**-0.1**
	baz=64						
TUL1	**Leonard**	**63.94**	**336**	P	**P**	**20 34 20.2**	**-0.1**
	baz=64						
Y31A	**Rekieta Farm,**	**64.10**	**331**	P	**P**	**20 34 21.2**	**-0.2**
	baz=64						
W33A	**Caddo, Fort Co**	**64.34**	**333**	P	**P**	**20 34 22.9**	**0.0**
	baz=65						
X31A	**McDonald Ranch**	**64.54**	**332**	P	**P**	**20 34 24.4**	**+0.2**
	baz=65						
W32A	**Sentinel**	**64.65**	**333**	P	**P**	**20 34 24.9**	**0.0**
	baz=65						
T37A	**Cheneyville 18**	**64.69**	**337**	P	**P**	**20 34 24.8**	**-0.4**
	baz=65						
U35A	**Pawnee**	**64.70**	**335**	P	**P**	**20 34 25.3**	**0.0**
	baz=65						
X30A	**Coker Ranch, T**	**64.78**	**331**	P	**P**	**20 34 25.9**	**0.0**
	baz=65						
V33A	**Lossen Ranch,**	**64.84**	**334**	P	**P**	**20 34 25.4**	**-0.7**
	baz=65						
T36A	**Boggs Farm, Ca**	**64.99**	**336**	P	**P**	**20 34 26.7**	**-0.4**
	baz=65						
U34A	**Anderson Ranch**	**65.08**	**335**	P	**P**	**20 34 27.2**	**-0.5**
	baz=65						
MSTX	**Muleshoe**	**65.26**	**329**	P	**P**	**20 34 29.0**	**0.0**
	baz=66						
T34A	**McClaskey Farm**	**65.45**	**335**	P	**P**	**20 34 29.7**	**-0.4**
	baz=66						
S36A	**Lake Cedric, C**	**65.47**	**337**	P	**P**	**20 34 29.7**	**-0.5**
	baz=66						
W29A	**Amarillo**	**65.69**	**331**	P	**P**	**20 34 31.0**	**-0.8**
	baz=66						
S35A	**Otter Creek Ra**	**65.70**	**336**	P	**P**	**20 34 31.0**	**-0.6**
	baz=66						

R36A	**Gordon, Harris**	**65.97**	**337**	P	**P**	**20 34 33.4**	**0.0**
	baz=66						
R34A	**Isabella, Hill**	**66.59**	**336**	P	P	**20 34 37.3**	**0.0**
	baz=67						
121A	**Cookes Peak, D**	**66.64**	**325**	P	**P**	**20 34 39.0**	**+1.0**
	baz=67						
U28A	**Mallet**	**67.00**	**331**	P	**P**	**20 34 40.6**	**+0.5**
	baz=67						
Q34A	**Chapman**	**67.02**	**336**	P	**P**	**20 34 39.5**	**-0.5**
	baz=67						
P36A	**Good Intent, A**	**67.03**	**338**	P	**P**	**20 34 39.3**	**-0.8**
	baz=67						
R32A	**Long Quarter,**	**67.26**	**335**	P	**P**	**20 34 41.7**	**+0.1**
	baz=68						
Q33A	**Connelly Farm,**	**67.42**	**336**	P	**P**	**20 34 42.4**	**-0.2**
	baz=68						
LONY	**Lake Ozonia**	**67.50**	**355**	*e*P	**P**	**20 34 42.8**	**-0.1**
	comp=Z,3.4nm,0.6s						
LONY				*e*pP	**pP**	**20 35 04.9**	**-3.5**
P34A	**Walnut Farm, R**	**67.53**	**337**	P	**P**	**20 34 43.1**	**-0.2**
	baz=68						
Q32A	**Meitler Ranch,**	**67.70**	**335**	P	**P**	**20 34 44.0**	**-0.3**
	baz=68						
T27A	**Campo**	**67.79**	**331**	P	**P**	**20 34 45.2**	**+0.1**
	baz=68						
ANMO	**Albuquerque**	**67.84**	**327**	*e*P	**P**	**20 34 45.7**	**+0.1**
	comp=Z,5.0nm,0.8s						
ANMO				pP	**pP**	**20 35 10.3**	**-0.6**
ANMO				*e*sP	**sP**	**20 35 22.0**	**+0.1**
S28A	**Manter**	**67.87**	**332**	P	**P**	**20 34 45.9**	**+0.4**
	baz=68						
PKME	**Peaks-Kenny Pk**	**67.93**	**360**	*e*P	**P**	**20 34 45.1**	**-0.5**
	comp=Z,6.9nm,0.6s						
TUC	**Tucson**	**68.12**	**322**	*e*P	**P**	**20 34 47.5**	**+0.3**
	comp=Z,6.6nm,1.0s						
TUC				*e*pP	**PcP**	**20 35 12.1**	**-0.4**
TUC				*e*sP	**sP**	**20 35 25.4**	**+1.8**
R29A	**Marienthal**	**68.25**	**333**	P	**P**	**20 34 48.1**	**+0.2**
	baz=68						
T26A	**Comanche Natio**	**68.27**	**331**	P	P	**20 34 48.2**	**0.0**
	baz=68						
O33A	**Hebron**	**68.28**	**337**	P	**P**	**20 34 48.0**	**+0.1**
	baz=68						
N35A	**Tabor**	**68.28**	**338**	P	**P**	**20 34 47.8**	**-0.2**
	baz=68						
Q30A	**Quinter**	**68.34**	**334**	P	**P**	**20 34 48.7**	**+0.3**
	baz=69						
P31A	**Stockton**	**68.47**	**335**	P	**P**	**20 34 49.6**	**+0.4**
	baz=69						
N34A	**Lincoln**	**68.56**	**338**	P	**P**	**20 34 49.1**	**-0.6**
	baz=69						
Q29A	**Oakley**	**68.58**	**333**	P	**P**	**20 34 50.1**	**+0.2**
	baz=69						
T25A	**Trinidad**	**68.62**	**330**	P	**P**	**20 34 50.9**	**+0.5**
	baz=69						
O32A	**Brookman Farm,**	**68.69**	**336**	P	**P**	**20 34 50.9**	**+0.4**
	baz=69						
N33A	**J Bar K, Exete**	**68.81**	**337**	P	**P**	**20 34 51.5**	**+0.3**
	baz=69						
P30A	**Selden**	**68.83**	**334**	P	**P**	**20 34 51.3**	**-0.1**
	baz=69						
R27A	**Eads**	**68.84**	**332**	P	**P**	**20 34 52.0**	**+0.5**
	baz=69						
DBIC	**Dimbokro**	**69.01**	**73**	P	**P**	**20 34 52.8**	**-0.3**
	comp=Z,5.3nm,0.7s,baz=222,slow=8.1,SNR=9.6						
DBIC				LR	LR	21 03 15.6	
	comp=Z,51nm,21.6s,baz=128,slow=34						
DBIC	**Dimbokro**	**69.01**	**73**	*e*P	**P**	**20 34 52.7**	**-0.3**
	comp=Z,7.0nm,0.8s						
DBIC				*e*PcP	**pP**	**20 35 17.9**	**-0.6**
214A	**Organ Pipe Nat**	**69.02**	**321**	P	**P**	**20 34 54.3**	**+1.5**
	baz=69						
R26A	**Arlington**	**69.14**	**331**	P	**P**	**20 34 54.0**	**+0.6**
	baz=69						
M34A	**Aspy Farms, Fr**	**69.18**	**338**	P	**P**	**20 34 53.7**	**+0.2**
	baz=69						
O30A	**MW Ranch, Wils**	**69.30**	**335**	P	**P**	**20 34 55.0**	**+0.6**
	baz=70						
KSCO	**Kaye Shedlock'**	**69.37**	**332**	P	**P**	**20 34 55.7**	**+0.8**
	baz=70						
M33A	**Taylor Creek F**	**69.45**	**338**	P	**P**	**20 34 55.5**	**+0.3**
	baz=70						
L34A	**Svendsen Farm,**	**69.52**	**338**	P	**P**	**20 34 55.5**	**-0.1**
	baz=70						
SDCO	**Great Sand Dun**	**69.62**	**330**	P	**P**	**20 34 57.2**	**+0.5**
	baz=70						
SDCO	**Great Sand Dun**	**69.62**	**330**	*e*P	**P**	**20 34 57.1**	**+0.5**
	comp=Z,57nm,2.2s						
BGNE	**Belgrade**	**69.65**	**337**	P	**P**	**20 34 56.4**	**0.0**
	baz=70						
BGNE	**Belgrade**	**69.65**	**337**	*e*P	**P**	**20 34 56.0**	**-0.4**
	comp=Z,62nm,0.9s						
S22A	**4UR Ranch, Cre**	**70.24**	**329**	P	**P**	**20 35 01.0**	**+0.5**
	baz=70						
O27A	**Beecher Island**	**70.29**	**333**	P	**P**	**20 35 01.2**	**+0.7**
	baz=71						
N28A	**Pribbeno Ranch**	**70.33**	**334**	P	**P**	**20 35 01.6**	**+0.9**
	baz=71						
**

baz=74
CCUT Cedar City 73.42 324 *e*P P **20 35 21.0 +1.6**
comp=Z,14nm,1.3s
CCUT *ep*P **pP 20 35 46.8 +1.6**
CCUT *es*P **sP 20 35 58.5 +2.5**
BFSC Mount Baldy Ra 73.50 319 P P **20 35 21.1 +1.2**
baz=74
MSU Marysvale 73.50 326 *e*P P **20 35 20.9 +1.1**
comp=Z,3.3nm,0.8s
MSU *ep*P **pP 20 35 46.7 +1.0**
MSU *es*P **sP 20 35 58.7 +2.1**
J25A Sunshine Ranch 73.51 334 P P **20 35 20.3 +0.6**
baz=74
MVU Marysvale 73.52 326 *e*P P **20 35 21.0 +1.1**
comp=Z,8.0nm,1.1s
MVU *ep*P **pP 20 35 47.3 +1.6**
EYMN Ely 73.52 344 P P **20 35 18.9 -0.5**
baz=74,SNR=5.7
EYMN Ely 73.52 344 *e*P P **20 35 17.8 -1.7**
comp=Z,5.3nm,0.6s
FMP Fort Macarthur 73.53 319 P P **20 35 21.7 +1.9**
baz=74
H28A Mission Ridge 73.53 337 P P **20 35 20.2 +0.6**
baz=74
I26A New Underwood 73.67 335 P P **20 35 21.5 +0.9**
baz=74
GSC Goldstone, Bar 73.73 321 P P **20 35 22.2 +1.1**
baz=74
GSC Goldstone, Bar 73.73 321 *e*P P **20 35 22.4 +1.3**
comp=Z,2.1nm,0.8s
GSC *ep*P **pP 20 35 48.3 +1.4**
GSC *es*P **sP 20 36 00.2 +2.5**
K23A Bowen Ranch, D 73.74 333 P P **20 35 22.0 +1.0**
baz=74
J24A Dixon Ranch, L 73.81 334 P P **20 35 22.4 +1.0**
baz=74
G28A Parade 73.83 337 P P **20 35 21.9 +0.5**
baz=74
I25A Rochford 74.01 335 P P **20 35 23.8 +1.1**
baz=74
EDW2 Edwards Air Fo 74.14 320 P P **20 35 24.7 +1.2**
baz=74
RSSD Black Hills 74.21 334 *e*P P **20 35 24.5 +0.6**
comp=Z,6.7nm,0.9s
LRMC Laurel Mtn Rad 74.37 320 P P **20 35 26.3 +1.4**
baz=75
SBA Scott Base 74.39 190 *e*P P **20 35 26.0 +1.8**
comp=Z,20nm,1.4s
TPNV Topopah Spring 74.57 322 P P **20 35 27.6 +1.5**
baz=75
J22A Midwest 74.64 332 P P **20 35 26.9 +0.6**
baz=75
I23A Meade Ranch, G 74.66 333 P P **20 35 27.1 +0.7**
baz=75
MPMC Manual Prospec 74.66 321 P P **20 35 27.7 +1.0**
baz=75
D30A Buchanan 74.86 339 P P **20 35 27.3 0.0**
baz=75
G25A Newell 74.87 335 P P **20 35 27.9 +0.4**
baz=75
F27A Lemmon 74.92 337 P P **20 35 28.3 +0.6**
baz=75,SNR=6.2
H24A Dirks Ranch, A 74.94 334 P P **20 35 28.5 +0.6**
baz=75
ISA Isabella, Lake 74.97 320 P P **20 35 29.8 +1.5**
baz=75
ISA Isabella, Lake 74.97 320 *e*P P **20 35 29.0 +0.8**
comp=Z,6.4nm,1.0s
ISA *ep*P **pP 20 35 55.6 +1.5**
ISA *es*P **sP 20 36 06.9 +1.9**
AGMN Agassiz Nation 75.02 342 P P **20 35 28.1 -0.1**
baz=75
AGMN Agassiz Nation 75.02 342 *e*P P **20 35 27.3 -0.9**
comp=Z,5.7nm,0.9s
AGMN *ep*P **pP 20 35 53.0 -1.0**
I22A 9 Mile Ranch, 75.03 333 P P **20 35 29.1 +0.6**
baz=75
E28A Huff 75.05 338 P P **20 35 29.1 +0.7**
baz=75
SYO Syowa Base 75.05 159↑ *e*P P **20 35 27.2 -0.9**
DUG Dugway, Tooele 75.09 327 P P **20 35 30.1 +1.2**
baz=75
DUG Dugway, Tooele 75.09 327 *e*P P **20 35 29.7 +0.8**
comp=Z,3.8nm,0.8s
F26A Lodgepole 75.14 336 P P **20 35 29.4 +0.5**
baz=75,SNR=9.6
R11A Troy Canyon, C 75.20 324 P P **20 35 31.4 +1.7**
baz=76,SNR=6.5
R11A Troy Canyon, C 75.20 324 *e*P P **20 35 30.9 +1.2**
comp=Z,2.6nm,0.7s
R11A *ep*P **pP 20 35 56.2 +0.7**
PKM Mcpherson Peak 75.25 319 P P **20 35 31.3 +1.3**
baz=76
J20A Shoshoni 75.29 331 P P **20 35 30.9 +0.9**
baz=76
C30A Mose, Pekin 75.29 340 P P **20 35 29.9 +0.2**
baz=76
I21A Big Trails, Te 75.31 332 P P **20 35 30.7 +0.6**
baz=76
VNDA Vanda 75.41 190 P P **20 35 31.7 +1.6**
comp=Z,1.7nm,0.8s,baz=37,slow=3.3,SNR=7.7
VNDA Vanda 75.41 190 *e*P P **20 35 31.5 +1.4**
comp=Z,2.0nm,0.9s
PDAR Pinedale Array 75.48 330 P P **20 35 31.4 +0.2**
comp=Z,1.3nm,0.5s,baz=127,slow=7.8,SNR=9.3
F25A Bowman 75.50 336 P P **20 35 31.7 +0.7**
baz=76
HWUT Hardware Ranch 75.54 328 *e*P P **20 35 31.7 +0.2**
comp=Z,9.9nm,1.1s
D28A Regan 75.54 338 P P **20 35 31.4 +0.2**
baz=76
E26A Carlson Angus 75.59 337 P P **20 35 31.8 +0.3**
baz=76
G23A Biddle 75.65 334 P P **20 35 32.9 +0.9**
baz=76
MDND Maddock 75.78 339 P P **20 35 33.3 +0.8**
baz=76
B30A Myrvik Farm, E 75.90 340 P P **20 35 33.4 +0.1**
baz=76,SNR=5.5
E25A Miller Ranch, 75.96 336 P P **20 35 34.2 +0.5**
baz=76,SNR=5.5
D26A Manning 76.05 337 P P **20 35 35.3 +1.1**
baz=76
F23A Volborg 76.08 334 P P **20 35 34.6 +0.2**
baz=76,SNR=7.4
H20A Greybull 76.15 332 P P **20 35 35.3 +0.4**
baz=76
I19A Meeteetse 76.23 331 P P **20 35 36.3 +0.9**
baz=76
B29A Wagenman Farm, 76.24 340 P P **20 35 35.7 +0.5**
baz=76
HVU Hansel Valley 76.26 328 *e*P P **20 35 36.0 +0.4**
comp=Z,77µm,0.8s
C27A Sayler Ranch, 76.31 338 P P **20 35 36.4 +0.8**
baz=77
A30A Hoffart Farm, 76.33 340 P P **20 35 36.1 +0.5**
baz=77
E24A Baker 76.35 336 P P **20 35 36.9 +1.0**
baz=77,SNR=8.6
G21A Lodge Grass 76.41 333 P P **20 35 37.2 +0.9**
baz=77
D25A Fairfield 76.48 337 P P **20 35 38.0 +1.4**
baz=77
REDW Red Top Meadow 76.55 330 *e*P P **20 35 37.6 +0.3**
comp=Z,5.9nm,0.8s
REDW *es*P **sP 20 36 16.4 +2.4**
B28A Dugan Ranch, T 76.56 339 P P **20 35 37.8 +0.9**
baz=77
A29A Manning Farm, 76.60 340 P P **20 35 37.2 0.0**
baz=77,SNR=6.5
LOHW Long Hollow 76.62 330 *e*P P **20 35 38.1 +0.4**
comp=Z,2.3nm,0.5s
LOHW *es*P **sP 20 36 15.6 +1.1**
E23A Ismay 76.68 335 P P **20 35 38.3 +0.5**
baz=77
TPAW Teton Pass 76.69 330 *e*P P **20 35 38.6 +0.5**
comp=Z,5.4nm,1.0s
TPAW *ep*P **pP 20 36 04.0 0.0**
H19A Powell 76.73 332 P P **20 35 38.6 +0.5**
baz=77
NVAR Mina Array Bea 76.77 322 P P **20 35 39.7 +1.1**
comp=Z,1.2nm,0.6s,baz=155,slow=7.3,SNR=11
NVAR pP **pP 20 36 05.0 +0.4**
comp=Z,1.9nm,0.9s,baz=149,slow=8.2,SNR=4.4
ULM Lac du Bonnet 76.79 342 P P **20 35 37.5 -0.6**
comp=Z,11nm,0.6s,baz=164,slow=5.9,SNR=16
ULM pP **pP 20 36 03.4 -0.7**
comp=Z,3.9nm,0.5s,baz=178,slow=4.4,SNR=3.5

MOOW Moose Ponds 76.79 330 *e*P P **20 35 38.8 +0.1**
comp=Z,3.0nm,0.7s
B27A Peters Farms, 76.82 338 P P **20 35 39.5 +1.1**
baz=77
D24A Glendive 76.82 336 P P **20 35 39.4 +0.9**
baz=77
G20A Bridger 76.83 333 P P **20 35 38.8 +0.1**
baz=77
FXWY Fox Creek 76.84 330 *e*P P **20 35 39.8 +0.8**
C25A Freed Ranch, W 76.93 337 P P **20 35 40.1 +1.1**
baz=77
IMW Indian Meadow 77.00 330 *e*P P **20 35 40.9 +1.0**
comp=Z,6.8nm,0.8s
FLWY Flagg Ranch 77.03 330 *e*P P **20 35 41.2 +1.2**
comp=Z,12nm,0.9s
FLWY *ep*P **pP 20 36 06.6 +0.7**
FLWY *es*P **sP 20 36 18.2 +1.4**
RLMT Red Lodge 77.21 332 P P **20 35 41.9 +1.0**
baz=78,SNR=7.3
RLMT Red Lodge 77.21 332 *e*P P **20 35 41.6 +0.6**
comp=Z,7.8nm,0.6s
RLMT *es*P **sP 20 36 20.0 +2.3**
F20A Billings 77.27 333 P P **20 35 41.5 +0.4**
baz=78
A27A Ledoux Ranch, 77.29 339 P P **20 35 41.6 +0.6**
baz=78
E21A Keefer Ranch, 77.42 334 P P **20 35 42.8 +0.9**
baz=78
SCHQ Schefferville 77.53 1 P P **20 35 41.9 -0.3**
comp=Z,5.4nm,0.7s,baz=175,slow=5.0,SNR=7.8
D22A Cohagen 77.56 335 P P **20 35 43.7 +1.0**
baz=78,SNR=8.1
SUR Sutherland 77.69 120 P P **20 35 45.2 +1.2**
TORD Torodi Ar. Bea 77.71 70 P P **20 35 43.9 -0.2**
comp=Z,8.9nm,0.7s,baz=257,slow=5.4,SNR=124
TORD pP **pP 20 36 09.6 -0.5**
comp=Z,3.7nm,0.7s,baz=252,slow=5.3,SNR=2.8
C23A Lambert 77.72 336 P P **20 35 44.3 +0.8**
baz=78
D21A La Casta Ranch 77.81 334 P P **20 35 45.0 +0.9**
baz=78,SNR=7.1
DGMT Dagmar 77.91 337 P P **20 35 45.2 +0.7**
baz=78
DGMT Dagmar 77.91 337 *e*P P **20 35 45.8 +1.3**
comp=Z,22nm,0.9s
A25A Svangstu Ranch 77.92 338 P P **20 35 45.5 +1.0**
baz=78
C22A Vida 77.94 335 P P **20 35 45.5 +0.8**
baz=78
B23A Brockton 78.19 336 P P **20 35 46.9 +0.8**
baz=78
A24A Westby 78.22 337 P P **20 35 47.2 +1.0**
baz=78
HLID Hailey 78.39 328 P P **20 35 49.0 +1.5**
baz=79,SNR=14
HLID Hailey 78.39 328 *e*P P **20 35 48.8 +1.3**
comp=Z,8.6nm,0.8s
HLID *ep*P **pP 20 36 14.6 +1.1**
HLID *es*P **sP 20 36 26.6 +2.2**
B22A Reddig Ranch S 78.44 336 P P **20 35 48.3 +0.9**
baz=79
C21A Desert Coulee 78.47 335 P P **20 35 48.0 +0.3**
baz=79,SNR=5.2
MCMT McKenzie Canyo 78.59 330 *e*P P **20 35 49.6 +1.0**
MCMT *ep*P **pP 20 36 15.5 +0.8**
MCMT *es*P **sP 20 36 27.6 +2.1**
BOZ Bozeman (W) 78.66 331 P P **20 35 49.3 +0.4**
baz=79
BOZ Bozeman (W) 78.66 331 *e*P P **20 35 49.7 +0.8**
comp=Z,9.0nm,1.5s
C20A Veseth Ranch, 78.74 334 P P **20 35 49.4 +0.2**
baz=79
DLMT Dillon 78.88 330 *e*P P **20 35 51.5 +1.4**
B21A Ellsworth Farm 78.93 335 P P **20 35 50.9 +0.8**
baz=79,SNR=5.6
A22A Carney Farms, 78.97 336 P P **20 35 51.2 +0.8**
baz=79,SNR=5.8
B20A Solberg Farm, 79.33 335 P P **20 35 52.9 +0.6**
baz=80
A21A Bergtoll Ranch 79.36 336 P P **20 35 53.0 +0.5**
baz=80
TSUM Tsumeb 79.46 106 *e*P P **20 35 54.5 +0.6**
comp=Z,5.7nm,0.9s
TSUM *ep*P **pP 20 36 18.9 -1.0**
TSUM *es*P **sP 20 36 31.7 +0.9**
A20A Cobblestone Ra 79.65 335 P P **20 35 54.9 +0.8**
baz=80
EGMT Eagleton 79.70 333 P P **20 35 54.8 +0.4**
baz=80
B19A Brinkman Farms 79.72 334 P P **20 35 55.2 +0.8**
baz=80
MOD Modoc Plateau 80.27 324 *e*P P **20 35 58.0 +0.3**
comp=Z,9.9nm,1.2s
MSO Missoula 80.60 330 P P **20 36 00.5 +1.2**
baz=81
SLMT Seeley Lake 80.71 331 *e*P P **20 36 00.6 +0.6**
comp=Z,7.8nm,1.0s
BMO Blue Mountains 80.76 327 *e*P P **20 36 00.4 +0.2**
comp=Z,11nm,1.3s
BMO *ep*P **pP 20 36 26.7 +0.4**
BMO *es*P **sP 20 36 38.4 +1.3**
M04C Macdoel 81.03 323 P P **20 36 02.6 +0.8**
baz=81
SWMT Swartz Lake 81.14 331 *e*P P **20 36 02.3 +0.1**
comp=Z,7.9nm,1.4s
K05A Summer Lake 81.15 324 *e*P P **20 36 03.1 +0.6**
K05A *ep*P **pP 20 36 30.8 +2.2**
YBMT Yellow Bay 81.41 331 *e*P P **20 36 04.2 +0.6**
comp=Z,3.8nm,0.6s
BLMT Blacktail Moun 81.68 331 *e*P P **20 36 05.1 0.0**
J05D Fort Rock, OR 81.71 324 P P **20 36 06.3 +1.0**
baz=82
BSMT Bassoo Peak 81.75 331 *e*P P **20 36 06.2 +0.8**
comp=Z,8.8nm,1.1s
BSMT *ep*P **pP 20 36 31.9 +0.3**
J04D Umpqua Nationa 82.15 324 P P **20 36 08.3 +0.6**
baz=82
I05D Terrebonne, OR 82.48 325 P P **20 36 10.5 +1.3**
baz=83
BOSA Boshof 82.60 118 P P **20 36 10.3 -0.1**
comp=Z,6.3nm,0.8s,baz=254,slow=3.8,SNR=11
I04A Tendick Farm, 82.69 324 P P **20 36 10.2 -0.1**
baz=83
MAW Mawson 82.86 163 P P **20 36 11.5 +0.7**
comp=Z,4.4nm,0.5s,baz=181,slow=8.0,SNR=7.0
RAR Rarotonga 82.87 250 LR LR 21 02 26.5
comp=Z,9nm,18.7s,baz=19,slow=28
I03D Drain, OR 83.13 323 P P **20 36 13.4 +0.9**
baz=83
FCC Fort Churchill 84.12 347 *e*P P **20 36 16.9 -0.3**
comp=Z,6.2nm,0.8s
FCC *ep*P **pP 20 36 41.8 -1.7**
LBTB Lobatse 84.25 115 *e*P P **20 36 18.4 -0.5**
comp=Z,7.6nm,0.9s
F04D Rainier, OR 84.52 325 P P **20 36 21.1 +1.6**
baz=85
TAM Tamanrasset 85.35 63 P P **20 36 24.2 -0.2**
ESDC Sonseca Array 86.78 44 P P **20 36 30.4 -0.6**
comp=Z,0.1nm,0.3s,baz=211,slow=4.0,SNR=5.2
CASY Casey 91.00 180 *e*P P **20 36 51.6 +1.2**
comp=Z,6.3nm,0.8s
CASY *ep*P **pP 20 37 17.7 +0.8**
YKA Yellowknife Ar 92.65 341 P P **20 36 57.7 -0.1**
comp=Z,4.3nm,0.8s,baz=134,slow=4.4,SNR=25
YKA pP **pP 20 37 24.1 -0.3**
comp=Z,2.3nm,0.7s,baz=139,slow=4.5,SNR=7.2
KBZ Khabaz 120.92 52 PKP **PKPdf 20 42 38.7 +0.3**
comp=Z,2.1nm,0.8s,baz=313,slow=4.3,SNR=3.4
H11S2 WAKE ISLAND Hyl 28.21 276 T T 23 03 17.3
baz=103
H11S1 WAKE ISLAND Hyl 28.22 276 T T 23 03 12.2
baz=103
H11S3 WAKE ISLAND Hyl 28.23 276 T T 23 03 15.7
baz=103
H11N3 WAKE ISLAND Hyl 28.33 278 T T 23 03 21.7
baz=101
H11N2 WAKE ISLAND Hyl 28.35 278 T T 23 03 25.0
baz=101
H11N1 WAKE ISLAND Hyl 28.35 277 T T 23 03 22.8
baz=101
ASAR Alice Springs 128.66 207 PKP **PKPdf 20 42 53.6 -0.4**
comp=Z,1.9nm,0.7s,baz=132,slow=1.9,SNR=23
ASAR pPKP **pPKPdf 20 43 20.9 -0.9**
comp=Z,1.1nm,0.8s,baz=121,slow=1.5,SNR=4.5
SEY Seymchan 131.53 336 PKP **PKPdf 20 42 59.1 +1.0**
comp=Z,4.5nm,1.1s,baz=29,slow=13,SNR=4.9
WRA Warramunga Arr 131.75 210 PKP **PKPdf 20 43 00.0 +0.1**
comp=Z,2.0nm,0.6s,baz=152,slow=1.7,SNR=32
WRA pPKP **pPKPdf 20 43 27.6 0.0**
comp=Z,0.5nm,0.5s,baz=156,slow=1.7,SNR=2.1
WRAB Tennant Creek 131.75 210 *e*PKPdf **PKPdf 20 43 00.1 +0.2**
ABKAR Akbulak array 132.13 44 *e*PKPdf **PKPdf 20 43 00.4 +0.8**
ABKAR *ep*PKPdf **pPKPdf 20 43 27.5 +0.1**
ZAA0 Zalesovo Array 143.23 26 *e*PKPdf PKPbc 20 43 17.5 +0.3
ZALV Zalesovo Beam 143.23 26 PKP PKPbc 20 43 17.3 +0.1
comp=Z,5.0nm,0.6s,baz=303,slow=4.1,SNR=14
KSH Kashi 145.89 53 PKPbc **PKPab 20 43 26.5 -0.1**
KSH PP **PP 20 46 47.8 -0.4**
KSH PKS **PKSdf 20 46 59.1 -1.6**
KSH SKS **SKSdf 20 50 26.0 +0.8**
KSH SKKS **SKKSac 20 53 32.8 +1.9**
KSH PPMZ
comp=Z,85nm,4.8s
KSH LN
comp=Z,67nm,4.7s
KSH LE
comp=Z,64nm,4.1s
MK31 Makanchi Array 146.73 37 *e*PKPbc **PKPdf 20 43 27.1 +0.9**
MK31 *ep*PKPdf **pPKPdf 20 43 54.0 -0.1**
MKAR Makanchi Array 146.73 37 PKPbc **PKPdf 20 43 26.5 +0.3**
comp=Z,7.7nm,0.8s,baz=307,slow=2.0,SNR=44
MKAR pPKPbc pPKPbc 20 43 54.3 -1.2
comp=Z,3.1nm,0.6s,baz=2.4,slow=1.8,SNR=5.9
ASAJ Asahikawa 146.76 317 *e*PKPdf **PKPdf 20 43 27.1 +0.7**
ASAJ *ep*PKPdf **pPKPdf 20 43 55.1 +1.0**
SIJI Sorong 149.31 222 PKPbc **PKPbc 20 43 36.5 +0.7**
comp=Z,6.4nm,0.8s,baz=211,slow=19,SNR=8.4
WMQ Urumqi 151.56 37 PKPbc **PKPdf 20 43 33.8 -0.3**
WMQ PP **PP 20 47 22.0 +1.5**
WMQ LN
comp=Z,130nm,11.2s
WMQ LE
comp=Z,28nm,10.0s
WMQ LZ
comp=Z,23nm,20.0s
CBIJ Chichi jima 151.73 285 *e*PKPbc **PKPab 20 43 47.5 -3.0**
CBIJ *ep*PKPdf **pPKPdf 20 44 00.3 -2.2**
USRK Ussuriysk Ar. 152.85 326 PKPbc **PKPbc 20 43 43.4 +0.2**
comp=Z,3.7nm,0.9s,baz=16,slow=2.7,SNR=7.5
USRK PKPab **PKPab 20 43 53.9 -0.6**
comp=Z,2.2nm,0.8s,baz=122,slow=9.3,SNR=4.3
MJAR Matsushiro Arr 153.11 306 PKPbc **PKPbc 20 43 44.0 0.0**
comp=Z,2.9nm,0.8s,baz=160,slow=0.5,SNR=10
MJAR PKPab **PKPab 20 43 56.3 +0.4**
comp=Z,3.4nm,0.8s,baz=93,slow=2.6,SNR=7.9
MAT Matsushiro 153.11 306 PKP **PKPbc 20 43 43.5 -0.5**
SONM Songino Array 154.91 8 PKP **PKPdf 20 43 40.0 +1.1**
comp=Z,1.2nm,0.8s,baz=289,slow=1.8,SNR=10
SONM PKPbc **PKPbc 20 43 48.0 +0.3**
comp=Z,2.2nm,1.0s,baz=316,slow=1.3,SNR=9.0
SONM PKPab **PKPab 20 44 03.7 +0.4**
comp=Z,1.2nm,0.9s,baz=329,slow=4.8,SNR=5.7
KSRS Korea Array 159.68 319 PKP **PKPdf 20 43 45.2 +0.2**
comp=Z,2.2nm,0.9s,baz=76,slow=1.1,SNR=9.3
KSRS PKPab **PKPab 20 44 24.6 +0.6**
comp=Z,2.4nm,0.9s,baz=56,slow=4.5,SNR=6.2
KSRS pPKPab **pPKPab 20 44 50.9 0.0**
comp=Z,1.2nm,0.7s,baz=53,slow=5.2,SNR=3.0
KSAR Wonju Array Be 159.71 319 PKP **PKPdf 20 43 45.2 +0.1**
KSAR PKPab **PKPab 20 44 24.6 +0.4**
KSAR pPKPab **pPKPab 20 44 50.9 -0.1**
GTA Gaotai 160.96 28 *e*PKP **PKPdf 20 43 48.0 +1.4**
GTA PKPab **PKPab 20 44 30.4 +0.7**
HHC Hu-ho-hao-te 162.20 359 *e*PKP **PKPdf 20 43 45.1 -2.7**
HHC PP PP 20 48 23.8 +5.5
HHC SS SS 21 08 34.8 +5.0
HHC PPMZ
comp=Z,41nm,10.2s
LZH Lanzhou 165.45 25 *e*PKP **PKPdf 20 43 50.5 -0.5**
LZH PKPab **PKPab 20 44 49.3 -0.3**
LZH LN
comp=Z,150nm,18.5s
LZH LE
comp=Z,160nm,18.2s
LZH LZ
comp=Z,180nm,20.3s
NJ2 Nanjing 168.75 325 *e*PKP **PKPdf 20 43 52.3 -1.0**

*ISCJB **22** 20:30:26.3±0.9, 21°.8S±0°.1×178°.8W±0°.2, h600km, mb4.0/7, Error ellipse: s-maj=22.4km s-min=13.0km az=8.4*
*IDC **22** 20:30:27.7±4.3, 21°.66S×178°.76W, h603km±48km, mb3.4/7, mb1 3.7/8, mb1mx3.2/30, mbtmp4.4/8, Error ellipse: s-maj=30.2km s-min=27.0km az=172.0*

ISC 22 20:30:27.1±0.8, 21°.8S±0°.1×178°.7W±0°.2, h600km, n25, σ0.83/27, mb4.1/7, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**16.76**	**192**	P	**P**	**20 33 51.9**	**+0.7**
	2.3nm,0.3s,baz=299,slow=3.0,SNR=14						
URZ				S	**S**	**20 36 35.1**	**-2.1**
	0.5nm,0.3s,baz=114,slow=18,SNR=3.9						
STKA	**Stephens Creek**	**36.64**	**246**	P	**P**	**20 36 45.6**	**+1.1**
	2.1nm,0.5s,baz=74,slow=8.5,SNR=24						
ASAR	**Alice Springs**	**43.60**	**258**	P	**P**	**20 37 40.0**	**+0.1**
	9.0nm,0.8s,baz=100,slow=7.3,SNR=73						
ASAR				PcP	**PcP**	**20 39 13.7**	**-0.1**
	1.1nm,0.5s,baz=93,slow=5.4,SNR=7.5						
WRA	**Warramunga Arr**	**43.79**	**264**	P	**P**	**20 37 40.8**	**-0.7**
	5.8nm,0.7s,baz=96,slow=7.8,SNR=209						
WRA				PcP	**PcP**	**20 39 14.4**	**-0.1**
	0.3nm,0.5s,baz=88,slow=3.2,SNR=2.5						
SIJI	**Sorong**	**52.98**	**286**	P	**P**	**20 38 48.7**	**-0.7**
	29nm,0.8s,baz=77,slow=6.1						
NVAR	**Mina Array Bea**	**82.44**	**44**	P	**P**	**20 41 48.8**	**+0.8**
	0.3nm,0.4s,baz=219,slow=7.0,SNR=4.9						
ILAR	**Eielson Array**	**89.76**	**13**	P	**P**	**20 42 21.2**	**-0.8**
	0.2nm,0.4s,baz=224,slow=3.8,SNR=4.2						
CMAR	**Chiang Mai Arr**	**89.96**	**290**	P	**P**	**20 42 25.3**	**+1.3**
	2.3nm,1.0s,baz=121,slow=3.3,SNR=11						
MKAR	**Makanchi Array**	**111.64**	**313**	PKiKP	**PKiKP**	**20 47 53.1**	**-1.2**
	0.2nm,0.4s,baz=97,slow=0.5,SNR=5.1						
ARCES	**ARCESS Array B**	**130.11**	**349**	PKP	**PKPdf**	**20 48 28.4**	**-0.6**
	1.0nm,0.4s,baz=31,slow=1.5,SNR=13						
FINES	**FINESS Array B**	**136.87**	**343**	PKP	**PKPdf**	**20 48 41.1**	**-0.8**
	0.6nm,0.5s,baz=50,slow=3.0,SNR=6.6						
NOA	**NORSAR Array B**	**140.22**	**352**	PKhKP	PKPpre	20 48 40.8	
	0.3nm,0.5s,baz=3.1,slow=2.5,SNR=3.9						
AKASG	**Malin Array Be**	**143.86**	**330**	PKP	PKPbc	20 48 52.6	-1.5
	1.4nm,0.3s,baz=38,slow=4.0,SNR=11						
BRTR	**Keskin Array B**	**147.24**	**310**	PKPbc	**PKPbc**	**20 49 03.9**	**-0.5**
	2.1nm,0.7s,baz=132,slow=5.2,SNR=8.5						
DPC	**Dobruska-Polom**	**149.19**	**341**	*e*PKP	**PKPbc**	**20 49 09.4**	**+0.6**
DPC				*ex*	x	20 49 16.2	
CLL	**Collm**	**149.21**	**346**	↓*i*PKP	**PKPbc**	**20 49 08.8**	**+0.1**
	comp=Z,6.0nm,0.6s						
BRG	**Berggiesshubel**	**149.38**	**344**	*e*P	**PKPbc**	**20 49 09.3**	**+0.2**
	comp=Z,8.0nm,1.4s						
PVCC	**Panska Ves**	**149.53**	**343**	*e*PKP	**PKPbc**	**20 49 10.0**	**+0.5**
PRA	**Prague**	**149.99**	**343**	*e*PKP	**PKPbc**	**20 49 11.0**	**+0.4**
GOPC	**GO Pecny, Ondr**	**150.03**	**342**	*e*PKP	**PKPbc**	**20 49 11.1**	**+0.4**
PRU	**Pruhonice**	**150.03**	**343**	*e*PKP	**PKPbc**	**20 49 10.9**	**+0.2**
TREC	**Trest**	**150.38**	**341**	*e*PKP	**PKPbc**	**20 49 11.8**	**+0.2**
KHC	**Kasperske Hory**	**151.07**	**343**	*e*PKP	**PKPbc**	**20 49 13.4**	**+0.2**
GERES	**GERESS Array B**	**151.30**	**343**	PKPbc	**PKPbc**	**20 49 13.2**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=11,slow=2.7,SNR=10						
TORD	**Torodi Ar. Bea**	**171.35**	**182**	PKP	**PKPdf**	**20 49 28.1**	**-0.3**
	comp=Z,0.6nm,1.0s,baz=202,slow=1.6,SNR=3.4						
TORD				PKPab	**PKPab**	**20 50 54.2**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=187,slow=3.6,SNR=3.8						

IDC 22 20:41:24.9±5.0, 31°.97S×138°.68E, h0km, mb1 3.2/3, mb1mx3.2/22, mbtmp3.0/3, ML2.8/3, Error ellipse: s-maj=70.5km s-min=17.3km az=24.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**2.48**	**89**	Pn	Pn	**20 42 06.8**	**+0.2**
	2.9nm,0.3s,baz=260,slow=12,SNR=69						
STKA				Pg	Pb	20 42 09.9	-0.5
	3.9nm,0.3s,baz=250,slow=13,SNR=41						
STKA				Lg	Lg	20 42 43.6	
	6.9nm,0.3s,baz=334,slow=24,SNR=13						
ASAR	**Alice Springs**	**9.28**	**332**	Pn	Pn	20 43 41.0	+0.8
	0.1nm,0.3s,baz=151,slow=13,SNR=4.2						
ASAR				Sn	Sn	20 45 24.3	-1.1
	0.1nm,0.3s,baz=156,slow=22,SNR=4.3						
WRA	**Warramunga Arr**	**12.59**	**341**	Pn	Pn	20 44 25.6	+0.2
	0.0nm,0.3s,baz=162,slow=11,SNR=3.4						
WRA				Sn	Sn	20 46 46.9	+0.4
	0.0nm,0.3s,baz=165,slow=24,SNR=2.4						

*IDC **22** 21:05:11.7±4.3, 19.7°×177.56W±6.1, h542km±46km, mb3.1/8, mb1 3.4/10, mb1mx3.2/20, mbtmp4.1/10, Error ellipse: s-maj=26.4km s-min=20.0km az=50.0*

*ISCJB **22** 21:05:12.8±0.9, 19.5S±0.1°×177.6W±0.1, h570km, mb3.5/8, Error ellipse: s-maj=18.8km s-min=14.0km az=18.7*

ISC 22 21:05:13.8±0.7, 19.4S±0.1°×177.6W±0.1, h570km, n16, σ1°53/21, mb3.5/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.15**	**257**	**P**	**P**	**21 08 24.4**	**0.0**
	0.5nm,0.3s,baz=90,slow=20,SNR=3.8						
URZ	**Urewera**	**19.38**	**193**	**P**	**P**	**21 09 02.1**	**-1.0**
	1.9nm,0.3s,baz=346,slow=6.0,SNR=7.4						
URZ				S	**S**	**21 12 04.5**	**-4.5**
	0.1nm,0.3s,baz=71,slow=18,SNR=2.0						
STKA	**Stephens Creek**	**38.61**	**243**	**P**	**P**	**21 11 50.1**	**+1.2**
	4.1nm,0.8s,baz=110,slow=4.0,SNR=6.0						
WRA	**Warramunga Arr**	**45.12**	**261**	**P**	**P**	**21 12 40.6**	**+0.2**
	0.9nm,0.4s,baz=97,slow=7.4,SNR=25						
WRA				PcP	**PcP**	**21 14 08.5**	**-0.2**
	0.8nm,0.8s,baz=98,slow=3.3,SNR=3.0						
ASAR	**Alice Springs**	**45.13**	**256**	**P**	**P**	**21 12 41.0**	**+0.6**
	1.8nm,0.4s,baz=86,slow=8.5,SNR=31						
ASAR				PcP	**PcP**	**21 14 09.3**	**+0.6**
	1.5nm,0.9s,baz=106,slow=4.1,SNR=5.9						
ASAR				S	**S**	**21 18 38.5**	**-0.7**
	1.2nm,0.8s,baz=88,slow=16,SNR=7.7						
VNDA	**Vanda**	**59.06**	**185**	**P**	**P**	**21 14 22.1**	**+2.8**
	1.4nm,0.8s,baz=8.4,slow=5.3,SNR=4.6						
MJAR	**Matsushiro Arr**	**69.51**	**323**	**P**	**P**	**21 15 25.4**	**-0.6**
	0.8nm,0.6s,baz=159,slow=7.2,SNR=4.4						
TXAR	**Lajitas Array**	**86.15**	**57**	**P**	**P**	**21 16 56.7**	**+1.2**
	0.6nm,0.7s,baz=222,slow=6.3,SNR=7.8						
ILAR	**Eielson Array**	**87.14**	**13**	**P**	**P**	**21 16 57.5**	**-1.8**
	0.1nm,0.4s,baz=217,slow=4.4,SNR=3.9						
CMAR	**Chiang Mai Arr**	**90.07**	**289**	**P**	**P**	**21 17 15.0**	**+1.0**
	0.7nm,0.9s,baz=123,slow=3.3,SNR=4.2						
MKAR	**Makanchi Array**	**110.68**	**314**	**PKiKP**	**PKiKP**	**21 22 41.3**	**-1.0**
	0.2nm,0.6s,baz=224,slow=0.9,SNR=3.7						
ARCES	**ARCESS Array B**	**127.87**	**350**	**PKP**	**PKPdf**	**21 23 14.2**	**-0.3**
	2.0nm,0.9s,baz=5.7,slow=1.8,SNR=4.0						
BRTR	**Keskin Array B**	**146.33**	**314**	**PKPbc**	**PKPbc**	**21 23 51.2**	**-0.5**
	0.9nm,0.7s,baz=156,slow=6.7,SNR=4.8						
KHC	**Kasperske Hory**	**148.97**	**346**	***e*P**	**PKPbc**	**21 23 57.5**	**-0.5**
GERES	**GERESS Array B**	**149.20**	**345**	**PKPbc**	**PKPbc**	**21 23 58.4**	**-0.2**
	1.4nm,0.8s,baz=42,slow=2.2,SNR=9.1						
TORD	**Torodi Ar. Bea**	**173.78**	**174**	**PKP**	**PKPdf**	**21 24 17.7**	**-1.5**
	0.2nm,0.7s,baz=250,slow=2.9,SNR=3.6						
TORD				PKPab	**PKPab**	**21 25 54.3**	**+1.1**
	0.3nm,0.7s,baz=199,slow=4.0,SNR=3.0						

IDC 22 21:07:28.6±1.9, 26.67N×142.60E, h0km, mb4.0/2, mb1 4.0/3, mb1mx3.4/24, mbtmp3.8/3, ML3.1/1, Error ellipse: s-maj=67.8km s-min=16.9km az=63.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.56**	**319**	Pn	Pn	21 07 44.2	+0.4
	78nm,0.3s,baz=258,slow=20,SNR=42						
JCJ				Sn	Sn	21 07 53.9	0.0
	240nm,0.3s,baz=287,slow=20,SNR=26						
MJAR	**Matsushiro Arr**	**10.53**	**340**	Pn	Pn	21 10 00.9	+0.1
	0.1nm,0.3s,baz=165,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**47.02**	**191**	P	P	21 16 01.8	-0.1
	1.5nm,0.5s,baz=12,slow=7,SNR=14						
FINES	**FINESS Array B**	**78.49**	**334**	P	P	21 19 30.8	-0.5
	0.4nm,0.3s,baz=69,slow=7.9,SNR=5.3						

*ISCJB **22** 21:41:59.9±0.8, 38.76N±0.05°×122.90W±0.09, h8km, Error ellipse: s-maj=12.1km s-min=4.9km az=147.2*

*NEIC **22** 21:42:00.3, 38.84N×122.83W, h2km, ML3.2(NCEDC), After NCEDC.*

NEIC Felt [II] at Kelseyville. Also felt at Cloverdale, Lakeport, Hidden Valley Lake and Redding.

*IDC **22** 21:42:02.0±2.9, 38.81N×122.73W, h0km, mb1 3.5/5, mb1mx3.9/29, mbtmp3.1/5, ML3.3/5, Error ellipse: s-maj=36.4km s-min=10.7km az=45.0*

ISC 22 21:42:00.3±1.0, 38.80N±0.05°×122.93W±0.07, h8km, n28, σ1°76/29, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMTM	**Middletown**	**0.38**	**89**	***e*Pg**	**Pg**	**21 42 06.6**	**-1.1**
NSHM	**Saint Helena R**	**0.38**	**138**	***e*Pg**	**Pg**	**21 42 07.8**	**0.0**
GASB	**Alder Springs**	**0.87**	**11**	***e*Pg**	**Pg**	**21 42 16.7**	**-0.3**
KCPM	**Cahto Peak**	**1.02**	**330**	***e*Pn**	**Pb**	**21 42 21.3**	**+1.0**
KIPM	**Iron Peak**	**1.09**	**337**	***e*Pg**	**Pg**	**21 42 21.3**	**0.0**
KIPM				***e*Sg**	**Sg**	**21 42 31.5**	**-4.1**
SAC	**San Andreas**	**1.28**	**162**	***e*Pn**	Pn	21 42 18.7	-5.8
SAC				***e*Sn**	**Sb**	**21 42 38.4**	**-3.0**
KMRM	**Mail Ridge**	**1.54**	**337**	***e*Pn**	**Pb**	**21 42 30.0**	**+0.8**
WDC	**Whiskeytown Da**	**1.80**	**9**	***e*Pn**	**Pn**	**21 42 32.9**	**+1.2**
CMB	**Columbia Colle**	**2.14**	**110**	***e*Pn**	**Pn**	**21 42 35.4**	**-1.0**
KHMM	**Horse Mountain**	**2.16**	**344**	***e*Pn**	**Pn**	**21 42 36.5**	**-0.2**
N02D	**Trinity Center**	**2.17**	**4**	P	**Pb**	**21 42 40.7**	**+0.7**
	baz=2.1						
M02C	**Callahan**	**2.59**	**1**	P	**Pb**	**21 42 45.5**	**-1.5**
	baz=2.6						
WAKR	**Walker**	**2.75**	**95**	***e*Pn**	**Pn**	**21 42 44.8**	**-0.1**
YBH	**Yreka Blue Hor**	**2.93**	**3**	Pn	**Pb**	**21 42 51.2**	**-1.7**
	1.3nm,0.3s,baz=183,slow=7.8,SNR=15						
YBH				Pg	**Pb**	**21 42 54.3**	**+1.4**
	2.2nm,0.3s,baz=179,slow=8.8,SNR=16						
YBH	**Yreka Blue Hor**	**2.93**	**3**	***e*Pn**	**Pn**	**21 42 46.7**	**-0.6**
YBH				Pg	**Pb**	**21 42 54.3**	**+1.4**
MLAC	**Mammoth, Mammo**	**3.43**	**109**	P	Pn	21 42 57.6	+3.4
	baz=3.4						
NV01	**Mina Array Sit**	**3.64**	**94**	***e*Pn**	**Pn**	**21 42 57.2**	**0.0**
NVAR	**Mina Array Bea**	**3.64**	**94**	Pn	**Pn**	**21 42 57.4**	**+0.2**
	0.5nm,0.3s,baz=268,slow=15,SNR=17						
NVAR				Lg	Lg	21 43 53.5	
	0.8nm,0.3s,baz=258,slow=32,SNR=2.3						
HUMO	**Hull Mountain**	**3.80**	**360**	***e*Pg**	**Pb**	**21 43 08.5**	**+0.9**
K05A	**Summer Lake**	**4.21**	**21**	***e*Pn**	Pb	21 43 11.6	-3.2
TPH	**Tonopah**	**4.54**	**97**	***e*Pn**	**Pn**	**21 43 07.4**	**-2.1**
ISA	**Isabella, Lake**	**4.74**	**130**	P	**Pn**	**21 43 13.9**	**+1.8**
	baz=4.7						
ISA	**Isabella, Lake**	**4.74**	**130**	***e*Pn**	**Pn**	**21 43 09.4**	**-2.7**
GRAC	**Grapevine Rang**	**4.75**	**111**	P	**Pn**	**21 43 14.2**	**+2.0**
	baz=4.7						
EDW2	**Edwards Air Fo**	**5.57**	**133**	P	**Pn**	**21 43 24.5**	**+0.9**
	baz=5.5						
ELK	**Elko**	**6.23**	**69**	Pn	**Pn**	**21 43 34.8**	**+1.9**
	0.1nm,0.3s,baz=256,slow=11,SNR=5.1						
ELK				Lg	Lg	21 45 19.1	
	0.1nm,0.3s,baz=307,slow=20,SNR=1.8						
PDAR	**Pinedale Array**	**10.88**	**64**	Pn	**Pn**	**21 44 38.2**	**+1.6**
	0.1nm,0.3s,baz=246,slow=11,SNR=2.2						
TXAR	**Lajitas Array**	**18.51**	**115**	Pn	**Pn**	**21 46 20.8**	**+3.5**
	0.1nm,0.3s,baz=305,slow=9.0,SNR=8.3						

*ISCJB **22** 21:49:57.7±0.5, 55.74S±0.08°×27.4W±0.1, h10km, mb4.6/13, MS3.7/2, Error ellipse: s-maj=13.1km s-min=9.2km az=32.2*

*IDC **22** 21:49:57.5±0.6, 55.72S×27.24W, h0km, mb4.3/9, mb1 4.3/10, mb1mx4.2/18, mbtmp4.2/10, ML3.4/1, MS3.7/2, Ms1 3.6/2, ms1mx3.3/18, Error ellipse: s-maj=19.9km s-min=18.7km az=78.0*

*NEIC **22** 21:50:02.3±2.8, 55.77S×27.27W, h32km±19km, mb5.0/8, Error ellipse: s-maj=9.9km s-min=6.5km az=45.0*

ISC 22 21:49:59.2±0.5, 55.7S±0.1°×27.31W±0.08, h10km, n51, σ0°82/43, mb4.8/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.47**	**281**	***e*Pn**	**Pn**	**21 51 21.5**	**+0.8**
HOPE				***e*Sn**	**Sn**	**21 52 21.5**	**-2.2**
VNA1	**Neumayer--Stat**	**17.14**	**158**	P	P	21 54 05.6	+5.5
SNAA	**Sanae**	**19.08**	**156**	P	**Pn**	**21 54 23.7**	**+1.3**
SNAA	**Sanae**	**19.08**	**156**	P	**P**	**21 54 21.0**	**-0.6**
	0.1nm,0.3s,baz=336,slow=12,SNR=19						
SNAA	**Sanae**	**19.08**	**156**	***e*P**	**P**	**21 54 21.2**	**-0.3**
	5.8nm,0.8s						
PMSA	**Palmer Station**	**20.07**	**228**	P	**P**	**21 54 31.8**	**-0.5**
	18nm,0.9s,baz=130,slow=16,SNR=2.6						
TRQA	**Tornquist**	**29.13**	**293**	***e*P**	**P**	**21 56 01.1**	**+1.0**
	146nm,2.8s						
QSPA	**South Pole Qui**	**34.54**	**180**	P	**P**	**21 56 47.8**	**+0.3**
	3.1nm,0.6s,baz=202,slow=1.7,SNR=31						
CPUP	**Villa Florida**	**36.54**	**311**	***e*P**	**P**	**21 57 05.2**	**+0.4**
CFAA	**Coronel Fontan**	**37.36**	**293**	P	**P**	**21 57 11.3**	**-0.5**
	0.9nm,0.8s,baz=148,slow=8.2,SNR=15						
BDFB	**Brasilia**	**43.03**	**330**	LR	LR	22 13 26.7	
	comp=Z,127nm,20.1s,baz=152,slow=33						
LVC	**Limon Verde**	**45.07**	**300**	***e*P**	**P**	**21 58 16.9**	**+1.4**
	22nm,1.3s						
BOSA	**Boshof**	**45.95**	**76**	P	**P**	**21 58 21.2**	**-1.1**
	2.4nm,0.9s,baz=217,slow=6.8,SNR=7.9						
BOSA				LR	LR	22 16 25.4	
	comp=Z,70nm,18.0s,baz=166,slow=35						
BOSA	**Boshof**	**45.95**	**76**	***e*P**	**P**	**21 58 21.8**	**-0.5**
VNDA	**Vanda**	**46.91**	**183**	P	**P**	**21 58 29.1**	**0.0**
	2.4nm,0.7s,baz=200,slow=7.3,SNR=20						
VNDA	**Vanda**	**46.91**	**183**	***e*P**	**P**	**21 58 29.6**	**+0.5**
	62nm,2.6s						
H10S2	**ASCENSION HYDR**	**47.69**	**17**	T	T	22 50 04.2	
	baz=190,slow=75,SNR=107						
H10S3	**ASCENSION HYDR**	**47.70**	**17**	T	T	22 50 04.4	
	baz=190,slow=75,SNR=94						
H10S1	**ASCENSION HYDR**	**47.71**	**17**	T	T	22 50 05.5	
	baz=190,slow=75,SNR=82						
H10N1	**ASCENSION HYDR**	**48.81**	**17**	T	T	22 51 28.4	
	baz=189,slow=76,SNR=21						
H10N3	**ASCENSION HYDR**	**48.81**	**17**	T	T	22 51 25.1	
	baz=189,slow=76,SNR=40						
H10N2	**ASCENSION HYDR**	**48.83**	**17**	T	T	22 51 29.5	
	baz=189,slow=76,SNR=37						
LBTB	**Lobatse**	**48.97**	**74**	P	**P**	**21 58 45.4**	**-0.4**
	3.6nm,0.7s,baz=232,slow=6.7,SNR=6.2						
LBTB	**Lobatse**	**48.97**	**74**	***e*P**	**P**	**21 58 45.4**	**-0.4**
	208nm,2.9s						
LPAZ	**La Paz**	**50.12**	**305**	P	**P**	**21 58 56.1**	**+0.9**
	6.2nm,0.7s,baz=144,slow=6.7,SNR=31						
LPAZ	**La Paz**	**50.12**	**305**	***e*P**	**P**	**21 58 56.2**	**+1.0**
	11nm,1.0s						
CASY	**Casey**	**54.25**	**160**	***e*P**	P	21 59 27.6	+3.0
	131nm,2.9s						
SAML	**Samuel**	**54.51**	**315**	***e*P**	**P**	**21 59 27.0**	**-0.1**
	8.2nm,0.8s						
TOA0	**Torodi Ar. Sit**	**72.79**	**30**	***e*P**	**P**	**22 01 28.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**72.79**	**30**	P	**P**	**22 01 28.4**	**+0.7**
	1.7nm,0.5s,baz=202,slow=7.0,SNR=11						
SDV	**Santo Domingo**	**73.72**	**315**	***e*P**	**P**	**22 01 34.3**	**+0.9**
	24nm,1.8s						
AS12	**Alice Springs**	**99.33**	**163**	***e*P**	**Pdif**	**22 03 40.7**	**-1.0**
ASAR	**Alice Springs**	**99.33**	**163**	P	**Pdif**	**22 03 40.7**	**-1.0**
	0.5nm,0.6s,baz=186,slow=4.4,SNR=6.2						
WRA	**Warramunga Arr**	**103.05**	**162**	Pdiff	**Pdif**	**22 03 58.9**	**+0.8**
	0.5nm,0.8s,baz=191,slow=3.6,SNR=2.6						
FIA0	**FINESS Array S**	**124.11**	**28**	***e*PKPdf**	**PKPdf**	**22 08 55.1**	**-1.2**
FINES	**FINESS Array B**	**124.11**	**28**	PKP	**PKPdf**	**22 08 55.1**	**-1.2**
	1.4nm,0.6s,baz=147,slow=3.9,SNR=11						
ARA0	**ARCESS Array S**	**130.65**	**22**	***e*PKPdf**	**PKPdf**	**22 09 08.2**	**-0.5**
ARCES	**ARCESS Array B**	**130.65**	**22**	PKP	**PKPdf**	**22 09 08.2**	**-0.5**
	5.4nm,1.2s,baz=186,slow=1.2,SNR=8.1						
BVAR	**Borovoye Array**	**134.65**	**57**	PKP	**PKPdf**	**22 09 16.7**	**0.0**
	0.5nm,0.5s,baz=245,slow=3.1,SNR=4.7						
YKA	**Yellowknife Ar**	**135.87**	**318**	PKP	**PKPdf**	**22 09 18.3**	**-0.3**
	0.5nm,0.6s,baz=124,slow=2.2,SNR=3.5						
YKB5	**Yellowknife Ar**	**135.87**	**318**	***e*PKPdf**	**PKPdf**	**22 09 18.3**	**-0.4**
KURBB	**Kurchatov Arra**	**137.22**	**64**	PKP	**PKPdf**	**22 09 20.4**	**-1.1**
	0.1nm,0.3s,baz=209,slow=1.0,SNR=3.5						
KURK	**Kurchatov**	**137.32**	**64**	***e*PKPdf**	**PKPdf**	**22 09 20.4**	**-1.3**
ZALV	**Zalesovo Beam**	**142.28**	**64**	PKP	**PKPdf**	**22 09 30.9**	**+0.3**
	0.5nm,0.4s,baz=224,slow=4.0,SNR=3.3						
ZAA1	**Zalesovo Array**	**142.28**	**63**	***e*PKPdf**	**PKPdf**	**22 09 30.9**	**+0.3**
IL1	**Eielson Array**	**149.84**	**312**	***e*PKPbc**	**PKPbc**	**22 09 47.1**	**-0.8**
ILAR	**Eielson Array**	**149.84**	**312**	PKPbc	**PKPbc**	**22 09 47.5**	**-0.4**
	3.3nm,0.9s,baz=125,slow=1.5,SNR=26						
ILB	**Eielson Array**	**149.84**	**312**	***e*PKPbc**	**PKPbc**	**22 09 47.5**	**-0.4**
CCB	**Clear Creek Bu**	**150.20**	**312**	***e*PKPbc**	**PKPbc**	**22 09 48.5**	**-0.2**
SONA0	**Songino Array**	**150.77**	**86**	***e*PKPbc**	**PKPbc**	**22 09 50.5**	**-0.3**
SONM	**Songino Array**	**150.77**	**86**	PKPbc	**PKPbc**	**22 09 50.5**	**-0.3**
	4.0nm,0.8s,baz=225,slow=3.0,SNR=22						

PLV 22 21:51:07.4±1.0, 21.40N×102.01E, h14km±6km, MD3.5, ML3.1, Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPV	**Sa-pa**	**1.94**	**61**	***e*Pn**	Pn	21 51 39.8	-0.3
SPV				***e*Pg**	Pg	21 51 44.5	-0.4
MCVV	**Moc Chau**	**2.54**	**103**	***e*Pn**	Pn	21 51 47.9	-0.4
MCVV				***e*Pg**	Pg	21 51 56.0	-0.2
MCVV				***e*Sg**	Sg	21 52 29.5	+0.1
VTVB	**Vinh Tuy**	**2.82**	**72**	***e*Pn**	Pn	21 51 51.8	-0.2
VTVB				***e*Pg**	Pg	21 52 01.7	+0.2
VTVB				***e*Sg**	Sg	21 52 39.0	+0.9
HGVB	**Ha Giang**	**3.12**	**62**	***e*Pn**	Pn	21 51 56.0	-0.1
HGVB				***e*Pg**	Pg	21 52 06.8	-0.4
HGVB				***e*Sg**	Sg	21 52 48.5	+0.9
HGVB				AML	AML	21 52 58.1	
	comp=N,48nm,0.6s						
CCVB	**Con Cuong**	**3.57**	**130**	***e*Pg**	Pg	21 52 16.5	+0.7
CCVB				***e*Sg**	Sg	21 53 02.4	+0.3

*NIED **22** 21:52:00, 28.80N×128.70E, h5km, Mw4.4 Best double couple: M0=4.46000×10^15 NP1:φs=224.00000°, δ=49.00000°, λ=-122.00000°. NP2:φs=87.00000°, δ=50.00000°, λ=-59.00000°.*

*IDC **22** 21:52:37.9±0.6, 28.81N×128.75E, h0km, mb4.1/17, mb1 4.2/19, mb1mx4.1/28, mbtmp4.1/19, ML2.9/2, MS3.6/14, Ms1 3.6/14, ms1mx3.3/50, Error ellipse: s-maj=21.9km s-min=13.4km az=74.0*

*JMA **22** 21:52:39.4±0.2, 28.82N×128.62E, h15km±3km, M4.1*

JMA Felt I J1.

*ISCJB **22** 21:52:40.5±0.6, 28.82N±0.03°×128.68E±0.04, h25km±5km, mb4.4/29, MS3.6/11, Error ellipse: s-maj=6.0km s-min=4.0km az=19.9*

*NEIC **22** 21:52:43.1±0.3, 28.79N×128.77E, h35km, mb4.7/11, MW4.4(NIED), Error ellipse: s-maj=8.0km s-min=5.2km az=113.0*

*BJI **22** 21:52:43.2, 28.52N×128.70E, h42km, mb4.3/20, mB4.5/15, Ms4.2/12, Ms7 4.1/11*

ISC 22 21:52:43.3±0.7, 28.74N±0.05°×128.79E±0.05, h37km±1km, n94, σ1°02/89, mb4.4/29, MS3.5/11, 2C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.55**	**41**	P	Pn	21 52 51.1	-3.6
JTAJ				***e*S**	Sn	21 52 59.0	-3.6
JAMN	**Amaminishikomi**	**0.60**	**145**	P	Pn	21 52 53.7	-1.8
JAMN				***e*S**	**Sn**	**21 53 03.8**	**-0.2**
JAM	**Amami Oshima**	**0.79**	**114**	P	**Pn**	**21 52 57.0**	**-0.9**
JAM				***e*S**	**Sn**	**21 53 09.5**	**+1.0**
JTK	**Tokunoshima**	**0.96**	**171**	P	**Pn**	**21 52 59.1**	**-1.2**
JTK				***e*S**	**Sn**	**21 53 13.1**	**+0.4**
JZK	**Kikaishima**	**1.12**	**112**	P	**Pn**	**21 53 03.7**	**+1.2**
JOKE	**Okinoerabujima**	**1.39**	**188**	P	**Pn**	**21 53 05.3**	**-0.8**
JOKE				***e*S**	**Sn**	**21 53 24.2**	**+1.0**
JIH	**Iheya**	**1.85**	**203**	P	**Pn**	**21 53 11.4**	**-1.1**
JOW	**Kunigami**	**1.96**	**194**	P	**Pn**	**21 53 13.0**	**-0.9**
JOW				***e*S**	**Sn**	**21 53 37.5**	**+0.3**
JOW	**Kunigami**	**1.96**	**194**	Pn	**Pn**	**21 53 13.3**	**-0.6**
	5.3nm,0.3s,baz=69,slow=13,SNR=43						
JOW				Sn	**Sn**	**21 53 38.2**	**+1.0**
	5.0nm,0.3s,baz=315,slow=19,SNR=6.2						
JOW				LR	LR	21 53 49.5	
	comp=Z,38nm,21.2s,baz=354,slow=36						
JOW	**Kunigami**	**1.96**	**194**	***e*Pn**	**Pn**	**21 53 13.7**	**-0.3**
JOW				***e*Sn**	**Sn**	**21 53 36.5**	**-0.8**
JYAK	**Yakushimahirau**	**2.12**	**45**	P	Pn	21 53 15.0	-1.1
JNTH	**Nagotoyohara**	**2.32**	**197**	P	**Pn**	**21 53 19.0**	**+0.1**
JAGN	**Aguni-jima**	**2.54**	**213**	P	**Pn**	**21 53 22.3**	**+0.3**
JKE	**Kume jima 2**	**2.99**	**217**	P	**Pn**	**21 53 29.3**	**+1.1**
JNU	**Nakatsue**	**4.72**	**22**	Pn	**Pn**	**21 53 54.7**	**+2.7**
	1.9nm,0.3s,baz=200,slow=9.7,SNR=17						
JNU				LR	LR	21 55 53.9	
	comp=Z,518nm,18.1s,baz=216,slow=42						
JNU	**Nakatsue**	**4.72**	**22**	***e*Pn**	Pn	21 53 56.4	+4.4
YOJ	**Yonaguni jima**	**6.70**	**232**	***e*Pn**	**Pn**	**21 54 21.7**	**+2.6**
YHNB	**Yeheng**	**7.77**	**240**	***e*Pn**	**Pn**	**21 54 34.5**	**+0.6**
NACB	**Ninganchiao**	**7.89**	**236**	***e*Pn**	**Pn**	**21 54 36.0**	**+0.6**
YULB	**Yu-li**	**8.59**	**233**	***e*Pn**	**Pn**	**21 54 43.8**	**-1.3**
SSLB	**Suanglung**	**8.59**	**237**	***e*Pn**	**Pn**	**21 54 45.5**	**+0.4**
KS15	**Wonju Array Si**	**8.71**	**355**	***e*Pn**	**Pn**	**21 54 46.2**	**-0.4**
KSAR	**Wonju Array Be**	**8.71**	**355**	Pn	**Pn**	**21 54 46.2**	**-0.4**
KSRS	**Korea Array**	**8.72**	**355**	Pn	**Pn**	**21 54 46.2**	**-0.5**
	0.2nm,0.3s,baz=179,slow=14,SNR=7.3						
KSRS				Lg	Lg	21 57 18.2	
	0.3nm,0.3s,baz=196,slow=30,SNR=3.0						
KSRS				LR	LR	21 58 13.6	
	comp=Z,312nm,20.4s,baz=175,slow=39						
TPUB	**Ta-pu**	**9.12**	**235**	***e*Pn**	**Pn**	**21 54 54.5**	**+2.2**
JHJ2	**Mitsune**	**10.42**	**63**	***e*Pn**	Pn	21 55 16.7	+6.5
MAJO	**Matsushiro**	**11.11**	**43**	***e*Pn**	Pn	21 55 27.2	+7.6
MJAR	**Matsushiro Arr**	**11.11**	**43**	Pn	Pn	21 55 27.2	+7.6
	0.3nm,0.3s,baz=234,slow=15,SNR=4.9						
CBIJ	**Chichi jima**	**11.96**	**95**	***e*Pn**	Pn	21 55 36.6	+5.3
JCJ	**Chichijima**	**11.96**	**95**	Pn	Pn	21 55 35.6	+4.4
	2.4nm,0.3s,baz=287,slow=19,SNR=5.5						
CBI	**Chichi jima**	**11.96**	**95**	***e*Pn**	Pn	21 55 35.6	+4.3
USRK	**Ussuriysk Ar.**	**15.64**	**9**	Pn	**P**	**21 56 25.0**	**+0.5**
	0.1nm,0.3s,baz=188,slow=8.7,SNR=2.5						
USRK				LR	LR	22 01 50.5	
	comp=Z,108nm,20.3s,baz=172,slow=36						
ASAJ	**Asahikawa**	**18.90**	**32**	P	**P**	**21 56 58.4**	**-2.2**
	baz=217,slow=15						
ASAJ	**Asahikawa**	**18.90**	**32**	***e*P**	**P**	**21 56 58.4**	**-2.2**
	67nm,2.1s						
GUMO	**Guam**	**21.23**	**132**	LR	LR	22 04 01.6	
	comp=Z,120nm,21.6s,baz=1.0,slow=32						
LZH	**Lanzhou**	**22.26**	**296**	***e*P**	P	21 57 43.6	+6.4
LZH				pP	pP	21 57 53.3	+6.4
LZH				sP	sP	21 57 57.5	+5.9
LZH				PMZ			
	25nm,1.3s						
LZH				PMZ			
	110nm,4.9s						
LZH				LN			
	670nm,12.0s						
LZH				LE			
	310nm,12.1s						
LZH				LZ			
	790nm,12.7s						
KMI	**Kunming**	**23.48**	**267**	P	**P**	**21 57 51.3**	**+1.3**
KMI				PMZ			
	10.0nm,1.4s						
SONA0	**Songino Array**	**25.77**	**324**	***e*P**	**P**	**21 58 10.4**	**-0.2**
SONM	**Songino Array**	**25.77**	**324**	P	**P**	**21 58 10.4**	**-0.2**
	3.6nm,0.8s,baz=126,slow=9.3,SNR=15						
SONM				LR	LR	22 09 15.3	
	comp=Z,125nm,19.1s,baz=76,slow=39						
SONA1	**Songino Array**	**25.77**	**324**	***e*P**	**P**	**21 58 11.6**	**+0.9**
GTA	**Gaotai**	**26.15**	**302**	↑P	**P**	**21 58 14.9**	**+0.7**
GTA				PP	**PnPn**	**21 58 55.3**	**+1.8**
GTA				S	**S**	**22 02 41.6**	**-1.9**
GTA				PMZ			
	13nm,1.1s						
GTA				PMZ			
	73nm,5.0s						
GTA				LN			
	640nm,14.2s						
GTA				LE			
	420nm,13.3s						
GTA				LZ			
	560nm,13.3s						
CMAR	**Chiang Mai Arr**	**29.13**	**256**	PcP	**PcP**	**22 01 50.0**	**+1.9**
	0.6nm,0.9s,baz=32,slow=2.2,SNR=3.6						
CMAR				LR	LR	22 11 20.9	
	comp=Z,126nm,19.2s,baz=100,slow=39						
YAK	**Yakutsk**	**33.30**	**1**	LR	LR	22 11 51.6	
	comp=Z,65nm,19.4s,baz=277,slow=35						
SEY	**Seymchan**	**37.48**	**18**	P	P	21 59 56.9	+3.9
	1.9nm,0.6s,baz=218,slow=10,SNR=5.6						
SEY				LR	LR	22 14 56.6	
	comp=Z,80nm,19.5s,baz=150,slow=36						
LHMI	**Lhok Sumawe**	**38.16**	**238**	***e*P**	**P**	**21 59 57.8**	**-1.5**
	157nm,1.0s						
MK01	**Makanchi Array**	**40.27**	**310**	***e*P**	**P**	**22 00 16.9**	**+0.3**
MK31	**Makanchi Array**	**40.28**	**310**	***e*P**	**P**	**22 00 16.8**	**+0.1**
MKAR	**Makanchi Array**	**

baz=90
D24A Glendive 90.61 33 P **P** **22 05 41.7 -0.1**
baz=90
PDAR Pinedale Array 90.90 39 P **P** **22 05 44.5 +1.0**
comp=Z,0.9nm,1.0s,baz=328,slow=5.3,SNR=4.8
OPO Ambohidratompo 91.70 250 LR LR 22 43 58.1
comp=Z,60nm,18.5s,slow=34
ULM Lac du Bonnet 91.96 27 P **P** **22 05 48.0 +0.1**
comp=Z,4.1nm,0.8s,baz=351,slow=13,SNR=2.6
SYO Syowa Base 116.22 204 *e*X **Pdif** **22 07 36.6 +0.7**

IDC 22 22:06:21.3±4.3, 5°55S×147°04E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.5/27, mbtmp3.8/3, ML4.4/1, Error ellipse: s-maj=130.9km s-min=28.8km az=102.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.90**	**220**	P	Pn	22 10 44.4	+0.2
	1.1nm,0.3s,baz=45,slow=12,SNR=56						
ASAR	**Alice Springs**	**22.01**	**214**	P	P	22 11 17.4	0.0
	1.1nm,0.4s,baz=44,slow=8.7,SNR=17						
SONM	**Songino Array**	**64.03**	**331**	P	P	22 16 56.7	-0.3
	0.3nm,0.4s,baz=138,slow=7.0,SNR=3.3						

*NEIC **22** 22:15:54.0±0.6, 44°37N×105°57W, h0km, ML2.8, Error ellipse: s-maj=7.6km s-min=6.8km az=199.0, Suspected Mining explosion.*
NEIC 10 km [5 miles] NNW of Gillette.
*ISCJB **22** 22:15:56.9±0.2, 44°08N±0°01×105°45W±0°02, h0km, Error ellipse: s-maj=2.2km s-min=2.0km az=150.6*
*IDC **22** 22:15:57.6±1.0, 44°41N×105°96W, h0km, mb1 3.5/3, mb1mx3.2/27, mbtmp3.1/3, ML3.2/3, Error ellipse: s-maj=24.5km s-min=8.4km az=145.0*
ISC 22 22:15:56.4±0.6, 44°13N±0°02×105°53W±0°02, h0km, n91, σ1s42/111, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I23A	**Meade Ranch, G**	**0.17**	**164**	P	**Pg**	**22 16 00.3**	**+0.7**
	baz=0.4,SNR=1000						
H23A	**Clabaugh Cattl**	**0.44**	**12**	P	**Pb**	**22 16 06.6**	**-0.6**
	baz=0.2						
I24A	**Kuemmerle Ranc**	**0.70**	**112**	P	**Pg**	**22 16 09.2**	**-0.7**
	baz=0.8,SNR=74						
J23A	**Dilts Ranch, B**	**0.72**	**181**	P	**Pg**	**22 16 10.7**	**+0.4**
	baz=1.0,SNR=45						
J23A				S	**Sg**	**22 16 18.3**	**-1.3**
	baz=1.0						
I22A	**9 Mile Ranch,**	**0.73**	**252**	P	**Pb**	**22 16 12.2**	**+0.1**
	baz=0.8,SNR=16						
I22A				S	**Sb**	**22 16 22.6**	**0.0**
	baz=0.8						
H22A	**Clearmont**	**0.75**	**309**	P	**Pn**	**22 16 13.4**	**-1.1**
	baz=0.6,SNR=7.6						
H24A	**Dirks Ranch, A**	**0.93**	**48**	P	**Pg**	**22 16 14.3**	**0.0**
	baz=0.8,SNR=89						
H24A				S	**Sg**	**22 16 27.0**	**+0.6**
	baz=0.8						
J22A	**Midwest**	**0.99**	**224**	P	**Pb**	**22 16 15.9**	**-0.7**
	baz=1.2,SNR=14						
J22A				S	**Sb**	**22 16 29.4**	**-0.9**
	baz=1.2						
J24A	**Dixon Ranch, L**	**1.01**	**141**	P	**Pg**	**22 16 15.3**	**-0.5**
	baz=1.2,SNR=216						
RSSD	**Black Hills**	**1.07**	**90**	*e*Pn	**Pg**	**22 16 16.0**	**-1.0**
RSSD				*e*Sn	**Sb**	**22 16 32.2**	**-0.4**
G23A	**Biddle**	**1.08**	**5**	P	**Pn**	**22 16 18.0**	**-0.9**
	baz=0.8,SNR=43						
H21A	**Big Horn, Sher**	**1.20**	**295**	P	**Pn**	**22 16 21.2**	**+0.7**
	baz=1.1						
G22A	**Birney**	**1.22**	**334**	P	**Pn**	**22 16 21.5**	**+0.7**
	baz=1.0						
G22A				S	**Sn**	**22 16 39.5**	**+1.4**
	baz=1.0						
I25A	**Rochford**	**1.30**	**94**	P	**Pg**	**22 16 20.2**	**-1.0**
	baz=1.4,SNR=136						
I21A	**Big Trails, Te**	**1.31**	**257**	P	**Pn**	**22 16 22.0**	**-0.1**
	baz=1.4,SNR=310						
I21A				S	**Sn**	**22 16 41.0**	**+0.6**
	baz=1.4						
K23A	**Bowen Ranch, D**	**1.37**	**183**	P	**Pg**	**22 16 22.0**	**-0.7**
	baz=1.6,SNR=24						
K23A				S	**Sg**	**22 16 41.0**	**+0.5**
	baz=1.6						
G24A	**Alzada**	**1.44**	**33**	P	**Pb**	**22 16 24.0**	**-0.2**
	baz=1.3,SNR=84						
G24A				S	**Sn**	**22 16 44.7**	**+1.3**
	baz=1.3						
J25A	**Sunshine Ranch**	**1.45**	**120**	P	**Pn**	**22 16 22.7**	**-1.3**
	baz=1.6						
J25A				S	**Sg**	**22 16 42.0**	**-1.0**
	baz=1.6						
H25A	**Fruitdale**	**1.47**	**70**	P	**Pn**	**22 16 23.6**	**-0.6**
	baz=1.4,SNR=50						
H25A				S	**Sg**	**22 16 43.4**	**-0.2**
	baz=1.4						
K24A	**Anderson Ranch**	**1.50**	**159**	P	**Pn**	**22 16 23.8**	**-0.8**
	baz=1.7,SNR=122						
K24A				S	**Sg**	**22 16 44.4**	**-0.1**
	baz=1.7						
J21A	**Lysite**	**1.59**	**241**	P	**Pb**	**22 16 26.4**	**-0.4**
	baz=1.7,SNR=39						
F23A	**Volborg**	**1.60**	**3**	P	**Pg**	**22 16 26.9**	**-0.1**
	baz=1.4,SNR=71						
F23A				S	**Sg**	**22 16 49.6**	**+2.0**
	baz=1.4						
G21A	**Lodge Grass**	**1.62**	**313**	P	**Pg**	**22 16 28.4**	**+0.9**
	baz=1.4,SNR=12						
K22A	**Casper**	**1.65**	**207**	P	**Pb**	**22 16 27.1**	**-0.6**
	baz=1.9,SNR=43						
K22A				S	**Sg**	**22 16 49.4**	**+0.2**
	baz=1.9						
K22A	**Casper**	**1.65**	**207**	*e*Pn	**Pb**	**22 16 27.2**	**-0.4**
K22A				*e*Sn	**Sb**	**22 16 48.8**	**-0.2**
H20A	**Greybull**	**1.81**	**282**	P	**Pg**	**22 16 30.8**	**-0.3**
	baz=1.7,SNR=21						
H20A				S	**Sg**	**22 16 55.5**	**+0.9**
	baz=1.7						
G25A	**Newell**	**1.84**	**54**	P	**Pb**	**22 16 30.4**	**-0.7**
	baz=1.7,SNR=33						
I20A	**Worland**	**1.88**	**265**	P	**Pg**	**22 16 31.8**	**-0.6**
	baz=1.9,SNR=124						
I20A				Sb	**Sg**	**22 16 59.5**	**+2.6**
	baz=1.9						
I26A	**New Underwood**	**1.93**	**92**	Pb	**Pb**	**22 16 31.8**	**-0.6**
	baz=2.0						
K25A	**Mack Ranch, Ha**	**1.94**	**141**	P	**Pn**	**22 16 31.1**	**+0.4**
	baz=2.1,SNR=33						
K25A				Sb	**Sb**	**22 16 57.2**	**-0.2**
	baz=2.1						
J26A	**Sides Ranch, S**	**1.96**	**114**	P	**Pn**	**22 16 31.2**	**+0.3**
	baz=2.1,SNR=34						
J20A	**Shoshoni**	**2.01**	**248**	Pb	**Pg**	**22 16 34.9**	**0.0**
	baz=2.1						
J20A				Sb	**Sg**	**22 17 02.7**	**+1.8**
	baz=2.1						
H26A	**Fairpoint**	**2.03**	**75**	Pb	**Pb**	**22 16 33.8**	**-0.4**
	baz=2.0						
F21A	**Absaloka Mine,**	**2.04**	**327**	P	**Pb**	**22 16 33.7**	**-0.7**
	baz=1.8						
G20A	**Bridger**	**2.21**	**301**	P	**Pb**	**22 16 35.8**	**-1.4**
	baz=2.1,SNR=45						
G20A				S	**Sg**	**22 17 05.7**	**-1.5**
	baz=2.1						
K26A	**Motz Farm, Whi**	**2.23**	**129**	P	**Pn**	**22 16 35.1**	**+0.4**
	baz=2.4,SNR=26						
K26A				S	**Sn**	**22 17 02.8**	**-0.2**
	baz=2.4						
F25A	**Bowman**	**2.32**	**38**	P	**Pb**	**22 16 37.6**	**-1.6**
	baz=2.2						
E22A	**Miles City**	**2.33**	**353**	P	**Pb**	**22 16 37.2**	**-2.1**
	baz=2.1,SNR=5.7						
E23A	**Ismay**	**2.38**	**4**	P	**Pb**	**22 16 37.8**	**-2.3**
	baz=2.1,SNR=14						
G26A	**Maurine**	**2.39**	**60**	P	**Pn**	**22 16 38.2**	**+1.3**
	baz=2.3						
I19A	**Meeteetse**	**2.50**	**269**	P	**Pb**	**22 16 40.5**	**-1.8**
	baz=2.5,SNR=38						
F20A	**Billings**	**2.50**	**313**	P	**Pn**	**22 16 39.7**	**+1.2**
	baz=2.3						
I27A	**Quinn**	**2.50**	**90**	Pb	**Pb**	**22 16 41.5**	**-0.8**
	baz=2.5						
H27A	**Howes**	**2.52**	**77**	P	**Pn**	**22 16 39.7**	**+1.0**
	baz=2.5						
H19A	**Powell**	**2.54**	**284**	P	**Pb**	**22 16 40.8**	**-2.1**
	baz=2.5,SNR=15						
E24A	**Baker**	**2.58**	**19**	P	**Pn**	**22 16 40.8**	**+1.3**
	baz=2.4,SNR=36						
F26A	**Lodgepole**	**2.66**	**49**	P	**Pb**	**22 16 43.1**	**-1.9**
	baz=2.5						
J19A	**Crowheart**	**2.70**	**253**	Pb	**Pg**	**22 16 46.7**	**-1.4**
	baz=2.7						
L26A	**Underwood Farm**	**2.75**	**139**	P	**Pn**	**22 16 43.8**	**+1.9**
	baz=3.0						
K27A	**Flueckinger Fa**	**2.79**	**120**	P	**Pn**	**22 16 42.5**	**+0.2**
	baz=2.9						
E25A	**Miller Ranch,**	**2.81**	**32**	P	**Pn**	**22 16 44.5**	**+1.9**
	baz=2.6						
PHWY	**Pilot Hill**	**2.82**	**179**	*e*Pn	**Pn**	**22 16 43.7**	**+0.6**
RLMT	**Red Lodge**	**2.85**	**292**	P	**Pb**	**22 16 45.6**	**-2.6**
	baz=2.7,SNR=23						
RLMT	**Red Lodge**	**2.85**	**292**	Pn	**Pn**	**22 16 41.1**	**-2.3**
G27A	**Dupree**	**2.85**	**63**	P	**Pn**	**22 16 43.8**	**+0.7**
	baz=2.8,SNR=11						
M25A	**Palm-Egli Farm**	**2.90**	**158**	P	**Pn**	**22 16 45.0**	**+1.1**
	baz=3.1						
D24A	**Glendive**	**3.10**	**15**	P	**Pn**	**22 16 48.4**	**+1.7**
	baz=2.9,SNR=7.2						
I28A	**Midland**	**3.14**	**91**	Pb	**Pb**	**22 16 52.5**	**-0.6**
	baz=3.2						
M26A	**McRoberts Ranc**	**3.19**	**146**	Pb	**Pb**	**22 16 52.7**	**-1.3**
	baz=3.4						
J28A	**Allard Ranch,**	**3.19**	**101**	Pb	**Pb**	**22 16 52.9**	**-1.0**
	baz=3.3						
E26A	**Carlson Angus**	**3.19**	**42**	P	**Pn**	**22 16 49.5**	**+1.6**
	baz=3.0,SNR=15						
BW06	**Boulder Array**	**3.23**	**247**	*e*Pn	**Pn**	**22 16 47.4**	**-1.2**
BW06				*e*Sn	**Sn**	**22 17 26.8**	**-1.2**
PDAR	**Pinedale Array**	**3.23**	**247**	Pn	**Pn**	**22 16 51.0**	**+2.4**
	2.3nm,0.3s,baz=66,slow=20,SNR=28						
PDAR				Pg	**Pb**	**22 16 56.4**	**+1.5**
	3.2nm,0.3s,baz=59,slow=21,SNR=31						
PDAR				Lg	Lg	22 17 34.5	
	5.1nm,0.3s,baz=60,slow=34,SNR=12						
H28A	**Mission Ridge**	**3.28**	**79**	P	**Pn**	**22 16 49.4**	**+0.4**
	baz=3.3						
GCMT	**Greycliff**	**3.38**	**301**	*e*Pn	Pn	22 16 47.0	-3.5
D25A	**Fairfield**	**3.40**	**26**	P	**Pn**	**22 16 52.7**	**+2.0**
	baz=3.2						
C24A	**Savage**	**3.49**	**12**	P	**Pn**	**22 16 53.9**	**+1.9**
	baz=3.3						
C22A	**Vida**	**3.63**	**356**	P	**Pn**	**22 16 56.1**	**+2.2**
	baz=3.4						
H17A	**Grant Village**	**3.64**	**276**	*e*Pn	**Pn**	**22 16 51.7**	**-2.5**
C23A	**Lambert**	**3.68**	**4**	P	**Pn**	**22 16 56.8**	**+2.2**
	baz=3.4,SNR=20						
LOHW	**Long Hollow**	**3.71**	**264**	*e*Pn	**Pn**	**22 16 52.5**	**-2.6**
FLWY	**Flagg Ranch**	**3.73**	**271**	*e*Pn	**Pn**	**22 16 52.7**	**-2.6**
MOOW	**Moose Ponds**	**3.79**	**266**	*e*Pn	**Pn**	**22 16 53.6**	**-2.6**
SNOW	**Snow King Moun**	**3.84**	**262**	*e*Pn	**Pn**	**22 16 54.2**	**-2.8**
IMW	**Indian Meadow**	**3.91**	**269**	*e*Pn	**Pn**	**22 16 55.6**	**-2.4**
IMW				*e*Pg	**Pg**	**22 17 10.1**	**-1.3**
REDW	**Red Top Meadow**	**3.93**	**261**	*e*Pn	**Pn**	**22 16 55.1**	**-3.1**
TPAW	**Teton Pass**	**3.98**	**263**	*e*Pn	**Pn**	**22 16 56.3**	**-2.6**
OGNE	**Ogallala**	**4.10**	**140**	*e*Pn	**Pn**	**22 17 00.8**	**+0.5**
ISCO	**Idaho Springs**	**4.33**	**181**	*e*Pn	**Pn**	**22 17 05.9**	**+2.2**
ISCO				*e*Sn	**Sb**	**22 18 02.1**	**-4.2**
DGMT	**Dagmar**	**4.44**	**12**	*e*Pn	Pn	22 17 00.5	-4.5
EGMT	**Eagleton**	**4.88**	**324**	*e*Pn	Pn	22 17 05.2	-6.0
HWUT	**Hardware Ranch**	**5.10**	**242**	*e*Pn	**Pn**	**22 17 12.6**	**-1.6**
	3.9nm,0.5s						
MCMT	**McKenzie Canyo**	**5.29**	**280**	*e*Pn	Pn	22 17 11.8	-5.0
	0.7nm,0.3s						
HVU	**Hansel Valley**	**5.81**	**249**	*e*Pn	**Pn**	**22 17 23.2**	**-0.8**
	2.3nm,0.6s						
R26A	**Arlington**	**6.03**	**164**	P	**Pn**	**22 17 26.9**	**0.0**
	baz=6.3,SNR=6.5						
SRU	**San Rafael Swe**	**6.25**	**218**	*e*Pn	**Pn**	**22 17 31.1**	**+1.0**
	5.7nm,0.6s						
ECSD	**EROS Data Cent**	**6.45**	**90**	*e*Pn	**Pn**	**22 17 32.1**	**-0.5**
	5.3nm,0.4s						
DUG	**Dugway, Tooele**	**6.69**	**237**	*e*Pn	**Pn**	**22 17 34.9**	**-1.1**
	5.1nm,0.6s						
AGMN	**Agassiz Nation**	**7.89**	**55**	*e*Pn	Pn	22 17 48.9	-3.5
	5.2nm,0.5s						
ULM	**Lac du Bonnet**	**8.98**	**44**	Pn	**Pn**	**22 18 07.1**	**-0.2**
	0.6nm,0.3s,baz=237,slow=11,SNR=5.5						
ULM				Pg	Pg	22 18 37.1	-11
	0.3nm,0.3s,baz=246,slow=16,SNR=2.0						
ULM				Lg	Lg	22 20 34.6	
	0.2nm,0.3s,baz=139,slow=19,SNR=2.6						
TXAR	**Lajitas Array**	**14.84**	**174**	Pn	**P**	**22 19 33.9**	**+0.3**
	0.0nm,0.3s,baz=0.0,slow=12,SNR=2.6						
TXAR				Pg		22 20 35.5	
	0.1nm,0.3s,baz=358,slow=19,SNR=3.1						

*ISCJB **22** 22:16:18.3±0.5, 19°27S±0°02×177°56W±0°02, h546km±6km, mb5.1/194, Error ellipse: s-maj=4.2km s-min=2.8km az=139.4*
*MOS **22** 22:16:19.5±1.1, 19°12S×177°55W, h555km, mb5.0/16, Error ellipse: s-maj=11.1km s-min=9.9km az=109.5*
*BJI **22** 22:16:19.3, 19°08S×177°14W, h568km, mb4.8/50, mB5.0/36*
*GCMT **22** 22:16:20.6±0.1, 19°16S×177°49W, h587km±1km, MW5.8/113, Moment Tensor Solution. s113,c212; s56,c57; Duration: 2s0 Moment tensor: Scale 10¹⁷Nm; Mrr=3.56±.06; Mθθ 0.58±.10; Mϕϕ 2.98±.10; Mrθ 3.93±.10; Mθϕ 3.52±.09; Mϕr-2.55±.10; Best double couple: M₀6.50400×10¹⁷ NP1:φs249.00000°, δ59.00000°, λ-41.00000°. NP2:φs3.00000°, δ56.00000°, λ-141.00000°. Principal axes: T 5.5060, Plg2.0000°, Azm307.0000°; N 1.9940, Plg40.0000°, Azm39.0000°; P -7.5010, Plg50.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
*NEIC **22** 22:16:20.6±0.1, 19°20S×177°55W, mb5.1/135, MW5.8 Error ellipse: s-maj=5.2km s-min=3.3km az=141.0, Moment Tensor Solution. s30 Moment tensor: Scale 10¹⁷Nm; Mrr-2.71; Mθθ 1.28; Mϕϕ 1.43; Mrθ 4.22; Mθϕ 2.83; Mϕr-2.37; Best double couple: M₀6.10000×10¹⁷ NP1: φs266.00000°, δ72.00000°, λ-52.00000°. NP2:φs18.00000°, δ41.00000°, λ-152.00000°. Principal axes: T 4.6000, Plg17.0000°, Azm328.0000°; N 2.2900, Plg35.0000°, Azm72.0000°; P -6.8900, Plg48.0000°, Azm216.0000°;*
*SZGRF **22** 22:16:21.0, 19°44S×176°39W, h574km, Fiji Islands region*
*IDC **22** 22:16:21.7±0.4, 19°18S×177°50W, h570km±3km, mb4.5/29, mb1 4.6/31, mb1mx4.6/31, mbtmp5.4/31, Error ellipse: s-maj=9.4km s-min=7.8km az=146.0*
ISC 22 22:16:21.1±0.2, 19°23S±0°03×177°44W±0°04, h572km±1km, h572km:pP-P, n1290, σ1s33/1680, mb5.1/194, 78C-72D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.53**	**289**	P	**P**	**22 17 49.4**	**+0.8**
	13μm,0.8s						
MSVF	**Nonsavu**	**4.53**	**289**	*e*P	**P**	**22 17 49.5**	**+0.9**
MSVF				*e*S	**S**	**22 19 01.4**	**+1.4**
AFI	**Afiamalu**	**7.58**	**47**	*e*P	**P**	**22 18 13.6**	**-2.0**
AFI				*e*S	**S**	**22 19 44.4**	**-5.0**
RAO	**Raoul Island**	**9.98**	**182**	P	**P**	**22 18 37.9**	**-1.1**
	478nm,0.3s,baz=56,slow=3.2,SNR=24						
RAO				S	**S**	**22 20 28.0**	**-4.4**
	565nm,0.3s,baz=99,slow=22,SNR=14						
RAO	**Raoul Island**	**9.98**	**182**	P	**P**	**22 18 37.9**	**-1.1**
RAO				S	**S**	**22 20 28.0**	**-4.4**
RAO				pmax	pmax		
	comp=Z,478nm,0.3s						
RAO				smax	smax		
	comp=N,565nm,0.3s						
RAO	**Raoul Island**	**9.98**	**182**	*e*P	**P**	**22 18 37.9**	**-1.1**
RAO				*e*S	S	22 20 21.8	-11
RAO				*e*S	S	22 20 28.0	-4.5
DZM	**Mont Dzumac**	**15.34**	**257**	*e*P	**P**	**22 19 33.2**	**-0.4**
	comp=N,304nm,1.1s						
DZM	**Mont Dzumac**	**15.34**	**257**	P	**P**	**22 19 32.6**	**-1.0**
	comp=N,7.0nm,0.3s,baz=90,slow=24,SNR=43						
DZM				S	**S**	**22 22 09.1**	**-2.1**
	comp=N,0.5nm,0.3s,baz=270,slow=20,SNR=2.1						
DZM	**Mont Dzumac**	**15.34**	**257**	*e*P	**P**	**22 19 31.1**	**-2.5**
DZM	**Mont Dzumac**	**15.34**	**257**	*e*P	**P**	**22 19 32.8**	**-0.8**
DZM				*e*S	**S**	**22 22 10.2**	**-1.0**
RAR	**Rarotonga**	**16.70**	**100**	P	**P**	**22 19 46.3**	**+0.1**
	comp=N,42nm,0.3s,baz=248,slow=7.2,SNR=47						
RAR	**Rarotonga**	**16.70**	**100**	P	**P**	**22 19 46.3**	**+0.1**
RAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
RAR	**Rarotonga**	**16.70**	**100**	*e*P	**P**	**22 19 46.6**	**+0.4**
	comp=Z,354nm,1.0s						
OUZ	**Omahuta**	**17.79**	**205**	*e*P	**P**	**22 19 58.5**	**+2.6**
	comp=Z,495nm,1.0s						
GRZ	**Great Barrier**	**18.07**	**199**	PN	**P**	**22 19 59.7**	**+1.3**
WCZ	**Waipu Caves**	**18.15**	**202**	PN	**P**	**22 20 01.6**	**+2.4**
MXZ	**Matakaoa Point**	**18.64**	**191**	PN	**P**	**22 20 01.6**	**-2.0**
MXZ				SN	**S**	**22 23 01.7**	**-2.6**
MYRZ	**Mayor Island**	**18.81**	**196**	PN	**P**	**22 20 06.8**	**+1.6**
WMGZ	**Waiomatatini S**	**18.87**	**190**	PN	**P**	**22 20 04.6**	**-1.1**
WMGZ				SN	**S**	**22 23 05.6**	**-2.5**
HAZ	**Te Kaha**	**18.92**	**192**	PN	**P**	**22 20 04.6**	**-1.5**
HAZ				*e*SN	**S**	**22 23 04.5**	**-4.4**
MKAZ	**Moumakai**	**18.95**	**198**	PN	**P**	**22 20 08.0**	**+1.6**
PUZ	**Puketiti**	**19.14**	**190**	PN	**P**	**22 20 07.4**	**-0.8**
PUZ				SN	**S**	**22 23 09.5**	**-3.0**
TGRZ	**Tauranga**	**19.23**	**195**	PN	**P**	**22 20 08.9**	**-0.1**
TWGZ	**Tauwhareparae**	**19.29**	**191**	PN	**P**	**22 20 08.7**	**-0.9**
TWGZ				SN	**S**	**22 23 12.3**	**-2.6**
MARZ	**Manawahe**	**19.38**	**194**	PN	**P**	**22 20 10.4**	**0.0**
MWZ	**Matawai**	**19.53**	**192**	PN	**P**	**22 20 09.8**	**-1.9**
MWZ				*e*SN	**S**	**22 23 13.2**	**-5.6**
URZ	**Urewera**	**19.54**	**193**	P	**P**	**22 20 09.8**	**-2.0**
	comp=Z,125nm,0.3s,baz=0.2,slow=2.4,SNR=192						
URZ				S	**S**	**22 23 11.7**	**-7.1**
	comp=Z,1.9nm,0.3s,baz=54,slow=22,SNR=6.0						
URZ				ScP	**ScP**	**22 26 48.6**	**+1.7**
	comp=Z,1.3nm,0.3s,baz=225,slow=1.4,SNR=4.5						
URZ	**Urewera**	**19.54**	**193**	PN	**P**	**22 20 09.1**	**-2.7**
URZ				*e*SN	S	22 23 10.7	-8.1
URZ	**Urewera**	**19.54**	**193**	*e*P	**P**	**22 20 09.8**	**-2.0**
	comp=Z,404nm,0.6s						
URZ				*e*S	**S**	**22 23 11.7**	**-7.1**
URZ				*e*ScP	**ScP**	**22 26 48.5**	**+1.7**
OMRZ	**Omania**	**19.57**	**195**	PN	**P**	**22 20 12.0**	**-0.1**
HLRZ	**Highlands Stat**	**19.71**	**195**	PN	**P**	**22 20 13.4**	**+0.1**
RAGZ	**Rawiri**	**19.71**	**192**	*e*PN	**P**	**22 20 11.7**	**-1.7**
RAGZ				*e*SN	**S**	**22 23 16.4**	**-5.2**
RIGZ	**Rimuhau**	**19.85**	**191**	PN	**P**	**22 20 13.1**	**-1.5**
TLZ	**Tolley Road**	**19.98**	**196**	PN	**P**	**22 20 16.4**	**+0.5**
SNGZ	**Shannon Statio**	**20.00**	**192**	PN	**P**	**22 20 14.5**	**-1.5**
KNZ	**Kokohu**	**20.17**	**191**	PN	**P**	**22 20 16.6**	**-0.9**
HIZ	**Hauiti**	**20.35**	**198**	PN	**P**	**22 20 20.6**	**+1.5**
NMHZ	**Naumai**	**20.41**	**193**	PN	**P**	**22 20 19.2**	**-0.6**
ARHZ	**Aropaoanui**	**20.53**	**192**	PN	**P**	**22 20 20.6**	**-0.2**
BKZ	**Black Stump Fm**	**20.55**	**194**	*e*PN	**P**	**22 20 18.9**	**-2.1**
BKZ	**Black Stump Fm**	**20.55**	**194**	*e*P	**P**	**22 20 19.6**	**-1.4**
	comp=Z,173nm,0.6s						
BKZ				*e*S	**S**	**22 23 33.6**	**-1.3**
TWVZ	**Taurewa**	**20.71**	**196**	PN	**P**	**22 20 20.9**	**-1.6**
OTVZ	**Oturere**	**20.74**	**195**	PN	**P**	**22 20 20.7**	**-2.2**
NGZ	**Ngauruhoe**	**20.77**	**195**	PN	**P**	**22 20 21.8**	**-1.3**
MCHZ	**McNeill Hill**	**20.77**	**193**	*e*PN	**P**	**22 20 20.4**	**-2.5**
COVZ	**Chateau Observ**	**20.80**	**195**	PN	**P**	**22 20 21.6**	**-1.7**
KWHZ	**Kaweka Forest**	**20.81**	**193**	PN	**P**	**22 20 21.4**	**-1.9**
KRHZ	**Kereru**	**21.03**	**193**	PN	**P**	**22 20 23.0**	**-2.3**
KAHZ	**Kahuranaki**	**21.07**	**192**	PN	**P**	**22 20 25.0**	**-0.7**
NEZ	**North Egmont**	**21.27**	**198**	PN	**P**	**22 20 29.3**	**+1.8**
PXZ	**Pawanui**	**21.30**	**192**	*e*PN	**P**	**22 20 26.3**	**-1.4**
PNHZ	**Pukenui**	**21.33**	**194**	PN	**P**	**22 20 26.1**	**-1.9**
WAZ	**Wanganui**	**21.47**	**196**	PN	**P**	**22 20 27.6**	**-1.6**
TSZ	**Takapari Road**	**21.52**	**194**	*e*PN	**P**	**22 20 27.6**	**-2.1**
DVHZ	**Dannevirke**	**21.70**	**193**	PN	**P**	**22 20 29.1**	**-2.2**
ANWZ	**Angora Road**	**21.79**	**193**	PN	**P**	**22 20 31.1**	**-0.9**
BFZ	**Birch Farm**	**22.05**	**193**	PN	**P**	**22 20 32.8**	**-1.6**
BFZ	**Birch Farm**	**22.05**	**193**	*e*P	**P**	**22 20 33.0**	**-1.4**
	comp=Z,321nm,0.6s						
BFZ				*e*S	**S**	**22 23 52.8**	**-5.7**
MRZ	**Mangatainoka R**	**22.18**	**194**	PN	**P**	**22 20 33.2**	**-2.4**
OGWZ	**Otaki Gorge**	**22.43**	**195**	PN	**P**	**22 20 35.6**	**-2.1**
KIW	**Kapiti Island**	**22.53**	**195**	PN	**P**	**22 20 37.7**	**-1.0**
MTW	**Mount Morrison**	**22.67**	**194**	PN	**P**	**22 20 38.2**	**-1.7**
CAW	**Cannon Point**	**22.73**	**195**	PN	**P**	**22 20 38.9**	**-1.5**
PAWZ	**Paruwai Farm**	**22.90**	**194**	PN	**P**	**22 20 40.5**	**-1.5**
MSWZ	**Moikau Station**	**22.97**	**194**	PN	**P**	**22 20 41.4**	**-1.2**
SNZO	**South Karori**	**23.00**	**195**	*e*P	**P**	**22 20 41.8**	**-1.0**
	comp=Z,474nm,0.6s						
SNZO				*e*S	**S**	**22 24 11.3**	**-2.1**
TCW	**Tory Channel**	**23.02**	**196**	PN	**P**	**22 20 41.9**	**-1.1**
PLWZ	**Palliser**	**23.12**	**194**	PN	**P**	**22 20 42.4**	**-1.6**
QRZ	**Quartz Range**	**23.17**	**200**	PN	**P**	**22 20 44.3**	**-0.1**
NNZ	**Nelson**	**23.28**	**198**	PN	**P**	**22 20 44.8**	**-0.4**
TUWZ	**Tuamarina**	**23.32**	**197**	PN	**P**	**22 20 44.2**	**-1.4**
BSWZ	**Blackbirch Sta**	**23.60**	**196**	*e*PN	**P**	**22 20 47.6**	**-0.5**
THZ	**Tophouse**	**23.92**	**198**	PN	**P**	**22 20 50.2**	**-0.9**
THZ				*e*SN	**S**	**22 24 22.9**	**-5.0**
DSZ	**Denniston Nort**	**24.24**	**200**	PN	**P**	**22 20 53.5**	**-0.3**
KHZ	**Kahutara**	**24.34**	**196**	PN	**P**	**22 20 53.6**	**-1.1**
KHZ	**Kahutara**	**24.34**	**196**	*e*P	**P**	**22 20 53.9**	**-0.8**
	comp=Z,344nm,1.0s						
KHZ				*e*S	**S**	**22 24 34.6**	**+0.1**
**

TAU ePcP PcP 22 24 54.2 +3.1
COEN Coen 38.05 272 eP P 22 22 52.6 +0.8
comp=N,142nm,0.9s
STKA Stephens Creek 38.82 243 P P 22 22 58.8 +0.9
comp=N,224nm,1.0s,baz=90,slow=9.5,SNR=267
STKA PcP PcP 22 24 55.3 +1.0
comp=N,24nm,0.6s,baz=42,slow=6.7,SNR=3.4
STKA ScP ScP 22 27 52.2 +3.6
comp=N,21nm,0.8s,baz=46,slow=4.7,SNR=5.8
STKA PKiKP PKiKP 22 32 04.0 -1.9
comp=N,1.8nm,0.5s,baz=53,slow=1.8,SNR=4.0
STKA Stephens Creek 38.82 243 P P 22 22 58.8 +0.9
STKA 22 24 55.3
STKA pmax pmax
comp=Z,224nm,1.0s
STKA pmax pmax
comp=Z,24nm,0.6s
STKA pmax pmax
comp=N,21nm,0.8s
STKA Stephens Creek 38.82 243 eP P 22 22 58.6 +0.7
comp=N,457nm,2.3s
STKA ePcP PcP 22 24 55.3 +1.0
STKA eScP ScP 22 27 52.2 +3.6
MCQ Macquarie Isla 39.55 202 eP P 22 23 05.3 +1.9
comp=N,3µm,0.8s
RKT Rikitea 39.69 103 eP P 22 23 06.1 +1.1
comp=N,148nm,0.9s
WAKE Wake Island 41.33 337 eP P 22 23 17.4 -0.6
comp=N,448nm,0.9s
H11N3 WAKE ISLAND Hy 41.64 338 P P 22 23 19.2 -1.0
baz=171,slow=9.0,SNR=6.3
H11N1 WAKE ISLAND Hy 41.64 337 P P 22 23 19.2 -1.0
baz=171,slow=9.0,SNR=5.2
H11N2 WAKE ISLAND Hy 41.66 338 P P 22 23 19.4 -0.9
baz=171,slow=9.0,SNR=3.7
BBOO Buckleboo 43.59 242 eP P 22 23 35.9 +0.3
comp=N,411nm,0.6s
JAY Jayapura 44.16 287 P P 22 23 40.7 +0.4
comp=N,205nm,0.8s
GENI Genyem 44.61 286 P P 22 23 45.1 +1.4
comp=N,171nm,1.0s
KIP Kipapa 44.66 26⇑ *i*P P 22 23 44.7 +0.9
KIP pmax pmax
comp=Z,534nm,3.7s
AS01 Alice Springs 45.29 255 eP P 22 23 47.3 -1.5
AS01 eS S 22 29 46.7 -1.7
WRAB Tennant Creek 45.30 261 P P 22 23 48.0 -0.9
comp=Z,1µm,0.8s,SNR=78
WRAB Tennant Creek 45.30 261 *d* iP P 22 23 48.1 -0.9
WRAB pmax pmax
comp=Z,476nm,1.4s
WRAB Tennant Creek 45.30 261 eP P 22 23 47.9 -0.9
comp=Z,233nm,1.1s
WRAB ePcP PcP 22 25 16.4 -0.1
WRA Warramunga Arr 45.31 261 P P 22 23 48.1 -0.9
comp=Z,44nm,0.3s,baz=97,slow=7.4,SNR=834
WRA PcP PcP 22 25 16.7 +0.2
comp=Z,24nm,0.5s,baz=93,slow=3.3,SNR=9.8
WRA ScP ScP 22 28 17.8 +2.7
comp=Z,8.0nm,0.9s,baz=94,slow=4.5,SNR=5.0
WRA S S 22 29 46.3 -2.4
comp=Z,14nm,0.7s,baz=95,slow=14,SNR=15
WRA PKiKP PKiKP 22 32 10.8 -1.3
comp=Z,1.1nm,0.5s,baz=63,slow=0.6,SNR=5.0
WRA ScS ScS 22 32 44.8 +1.7
comp=Z,3.0nm,0.7s,baz=105,slow=5.6,SNR=5.6
WRA Warramunga Arr 45.31 261 P P 22 23 48.1 -0.9
WRA 22 25 16.7
WRA S S 22 29 46.3 -2.4
WRA pmax pmax
comp=Z,44nm,0.4s
WRA pmax pmax
comp=Z,24nm,0.5s
WRA pmax pmax
comp=N,8.0nm,0.9s
WRA smax smax
comp=N,15nm,0.7s
AS31 Alice Springs 45.33 255 eP P 22 23 48.3 -0.9
AS31 ePcP PcP 22 25 16.9 +0.3
AS31 eS S 22 29 47.4 -1.6
AS12 Alice Springs 45.33 255 eP P 22 23 49.0 -0.1
AS12 ePcP PcP 22 25 16.6 +0.1
AS12 eS S 22 29 47.1 -1.8
AS12 eScS ScS 22 32 44.7 +1.5
ASAR Alice Springs 45.33 255 P P 22 23 49.0 -0.1
comp=N,122nm,0.8s,baz=85,slow=8.7,SNR=617
ASAR PcP PcP 22 25 16.6 +0.1
comp=N,38nm,0.5s,baz=100,slow=4.0,SNR=13
ASAR S S 22 29 47.1 -1.8
comp=N,57nm,0.7s,baz=91,slow=16,SNR=44
ASAR ScS ScS 22 32 44.7 +1.5
comp=N,4.2nm,0.8s,baz=96,slow=7.3,SNR=7.1
ASAR P4KPbc 23 01 29.8
comp=N,0.6nm,0.5s,baz=99,slow=4.9,SNR=8.6
ASAR Alice Springs 45.33 255 P P 22 23 49.1 -0.1
ASAR 22 25 16.7
ASAR S S 22 29 47.2 -1.8
ASAR 22 32 44.7
ASAR pmax pmax
comp=Z,122nm,0.8s
ASAR pmax pmax
comp=Z,38nm,0.5s
ASAR smax smax
comp=N,57nm,0.7s
ASAR pmax pmax
comp=N,4.0nm,0.8s
SMPI Sarmi 46.19 286 P P 22 23 55.9 +0.2
comp=N,106nm,1.2s
GUMO Guam 49.41 308 P P 22 24 19.7 0.0
comp=N,113nm,0.7s,baz=147,slow=17,SNR=4.6
GUMO Guam 49.41 308 P P 22 24 19.7 0.0
GUMO pmax pmax
comp=Z,113nm,0.7s
FORT Forrest 50.28 246 eP P 22 24 25.4 -0.5
comp=Z,462nm,0.7s
FAKI Fak Fak 51.74 282 P P 22 24 37.2 +0.5
comp=Z,59nm,1.1s,comp=Z,684nm
FAKI Fak Fak 51.74 282 eP P 22 24 36.2 -0.4
comp=Z,93nm,1.3s
SIJI Sorong 53.43 284 P P 22 24 49.0 +0.2
comp=Z,319nm,0.8s,baz=90,slow=4.8,SNR=167
SIJI S S 22 31 40.3 +1.1
comp=Z,1.7nm,0.4s,baz=241,slow=24,SNR=7.2
NLAI Namlea 56.41 279 P P 22 25 09.8 +0.3
comp=Z,104nm,0.7s,comp=Z,1µm
SOEI Soe 57.00 271 P P 22 25 14.7 +1.1
comp=Z,512nm,1.0s,comp=Z,5µm
SOEI Soe 57.00 271 eP P 22 25 14.8 +1.1
comp=Z,702nm,1.2s
TNTI Ternate 57.66 284 P P 22 25 18.0 0.0
TNTI Ternate 57.66 284 eP P 22 25 17.8 -0.3
comp=Z,287nm,0.9s
SANI Sanana 57.87 280 P P 22 25 19.3 -0.1
comp=Z,157nm,1.0s,comp=Z,2µm
MBWA Marble Bar 58.65 256 eP P 22 25 24.2 -0.4
comp=Z,430nm,1.4s
SBA Scott Base 59.16 184 eP P 22 25 30.1 +3.0
comp=Z,138nm,0.8s
VNDA Vanda 59.21 185 P P 22 25 29.5 +2.1
comp=Z,42nm,0.8s,baz=357,slow=7.5,SNR=384
VNDA Vanda 59.21 185 P P 22 25 29.5 +2.1
VNDA pmax pmax
comp=Z,42nm,0.8s
VNDA Vanda 59.21 185 eP P 22 25 29.5 +2.1
comp=Z,54nm,0.8s
MMRI Maumere 59.24 271 eP P 22 25 28.0 -0.7
comp=Z,160nm,0.5s
CBI Chichi jima 60.43 318 eP P 22 25 35.6 -0.6
CBIJ Chichi jima 60.44 318 P P 22 25 35.6 -0.7
JCJ Chichijima 60.44 318 P P 22 25 35.6 -0.7
comp=Z,18nm,0.3s,baz=102,slow=15,SNR=8.4
LUWI Luwuk 61.23 280 eP P 22 25 41.4 -0.4
comp=Z,291nm,1.2s
H01W1 Cape Leeuwin H 61.81 240 P P 22 25 46.8 +1.8
baz=109,slow=7.2,SNR=6.7
H01W3 Cape Leeuwin H 61.83 240 P P 22 25 46.9 +1.8
baz=109,slow=7.2,SNR=4.8
H01W2 Cape Leeuwin H 61.83 240 P P 22 25 46.9 +1.8
baz=109,slow=7.2,SNR=5.7
APSI Ampana 62.32 279 P P 22 25 49.3 +0.4
comp=Z,208nm,0.9s,comp=Z,3µm
KAPI Kappang 62.70 274 S S 22 33 30.2 -6.4
comp=Z,2.1nm,0.3s,baz=207,slow=1.6,SNR=6.1
KAPI Kappang 62.70 274 eP P 22 25 51.1 -0.2
comp=Z,44nm,1.0s
KAPI eS S 22 33 30.2 -6.4
SPSI Sidrap Palu 63.03 275 P P 22 25 52.6 -0.9
comp=Z,52nm,1.0s,comp=Z,1µm
CASY Casey 65.33 205 eP P 22 26 07.5 +0.5
comp=Z,150nm,0.8s
TSM Tawau 67.75 283⇑P P 22 26 24.1 +1.1
TSM Tawau 67.75 283⇑P P 22 26 24.1 +1.1
SDKM Sandakan 68.90 284⇓P P 22 26 30.7 +0.7
SDKM Sandakan 68.90 284⇓P P 22 26 30.7 +0.7
PWJI Pagerwojo 69.28 269 P P 22 26 32.0 -0.2
comp=Z,224nm,0.6s
MJAR Matsushiro Arr 69.51 323 P P 22 26 32.5 -0.6
comp=Z,8.8nm,0.4s,baz=156,slow=6.2,SNR=37
MJAR Matsushiro Arr 69.51 323 P P 22 26 32.5 -0.6
MJAR pmax pmax
comp=Z,9.0nm,0.4s
MAJO Matsushiro 69.51 323 *c* iP P 22 26 32.7 -0.4
MAJO pmax pmax
comp=Z,366nm,1.8s
MAJO Matsushiro 69.51 323 eP P 22 26 32.8 -0.4
comp=Z,67nm,1.5s
KKM Kota Kinabalu 69.95 284 eP P 22 26 36.5 +0.2
comp=Z,160nm,1.3s
UGM Wanagama 70.52 268 P P 22 26 39.4 -0.2
comp=Z,411nm,0.6s
UGM Wanagama 70.52 268 eP P 22 26 38.6 -1.0
comp=Z,259nm,0.6s
ADK Adak 70.81 0 eP P 22 26 39.7 -0.6
comp=Z,134nm,1.3s
QSPA South Pole Qui 70.83 180 S S 22 35 13.7 +3.4
comp=Z,2.4nm,0.9s,baz=301,slow=19,SNR=9.4
QSPA PKP2ab 22 54 30.2
comp=Z,0.6nm,0.7s,baz=238,slow=2.6,SNR=5.6
QSPA South Pole Qui 70.83 180 eP P 22 26 41.3 +0.7
comp=Z,256nm,0.7s
SMRI Semarang 70.86 269 eP P 22 26 40.9 -0.7
comp=Z,150nm,0.7s
ERM Erimo 70.99 330⇓ *i*P P 22 26 43.3 +1.7
ERM pmax pmax
comp=Z,33nm,1.2s
ERM Erimo 70.99 330 eP P 22 26 43.7 +2.1
comp=Z,28nm,1.1s
ATKA Atka Island 71.19 2 eP P 22 26 41.8 -0.8
comp=Z,61nm,1.0s
YUK Yuzh-Kuril'sk 71.36 333 *c* iP P 22 26 43.4 -0.4
YUK *i* 22 26 59.3
YUK *i* 22 29 31.2
YUK *i* S S 22 35 17.8 +1.3
JNU Nakatsue 71.72 316 P P 22 26 47.9 +1.6
comp=Z,3.1nm,0.4s,baz=116,slow=9.0,SNR=7.7
JNU Nakatsue 71.72 316 eP P 22 26 47.9 +1.6
comp=Z,55nm,1.5s
BTM Bintulu 71.78 280⇓P P 22 26 47.9 +0.9
BTM Bintulu 71.78 280⇓P P 22 26 47.9 +0.9
NIKH Nikolski High 72.29 5 eP P 22 26 48.2 -0.7
comp=Z,165nm,0.8s
SBUM Sibu 72.32 279⇑P P 22 26 51.4 +1.3
SBUM Sibu 72.32 279⇑P P 22 26 51.4 +1.3
SBUM Sibu 72.32 279 eP P 22 26 50.8 +0.7
comp=Z,41nm,1.0s
MIR Mirnyy 72.36 205 eP P 22 26 59.0 +10
MIR pmax pmax
comp=Z,140nm,1.5s
ASAJ Asahikawa 72.87 331 eP P 22 26 53.6 +1.1
comp=Z,103nm,1.2s
TWG Pinlang 73.15 302 eP P 22 26 53.0 -1.6
comp=Z,100nm,0.4s
CISI Cisompet, Garu 73.18 268 eP P 22 26 54.1 -1.0
comp=Z,131nm,0.6s
YULB Yu-li 73.25 303 eP P 22 26 53.4 -1.8
comp=Z,12nm,0.6s
UNV Unalaska Valle 73.39 7 eP P 22 26 54.2 -1.0
comp=Z,54nm,0.9s
NACB Ninganchiao 73.41 304 eP P 22 26 55.5 -0.6
comp=Z,39nm,0.6s
SSLB Suanglung 73.72 303 eP P 22 26 56.5 -1.4
comp=Z,22nm,0.5s
TPUB Ta-pu 73.74 302 eP P 22 26 56.2 -1.7
comp=Z,55nm,0.7s
KSM Kuching 73.76 277 eP P 22 26 58.9 +0.6
comp=Z,141nm,1.1s
YHNB Yeheng 73.83 304 eP P 22 26 57.8 -0.7
comp=Z,29nm,1.0s
PET Petropavlovsk 74.88 345⇓ eP P 22 27 02.7 -0.9
PET *e**PP **pP** 22 29 00.7 -1.9
PET *e*S S 22 35 51.7 -3.2
PET *e*SP SPn 22 36 29.2 -5.5
PET pmax pmax
comp=Z,100nm,10.5s
PET pmax pmax
comp=Z,35nm,0.7s
PET pmax pmax
comp=Z,300nm,14.4s
PET Petropavlovsk 74.88 345 eP P 22 27 02.9 -0.8
comp=Z,128nm,1.6s
YSS Yuzh-Sakhalins 75.00 333 eP P 22 27 03.5 -1.0
YSS eS S 22 35 56.0 -0.5
YSS *e* 22 36 18.0
YSS Yuzh-Sakhalins 75.00 333 eP P 22 27 04.6 +0.1
comp=Z,103nm,1.3s
PEA2 Petropavlovsk- 75.19 345 eP P 22 27 05.0 -0.4
PEA2 epP **pP** 22 29 05.3 +0.8
PEA0 Petropavlovsk- 75.19 345 eP P 22 27 04.8 -0.6
PEA0 epP **pP** 22 29 05.8 +1.3
PEA0B Petropavlovsk- 75.19 345 eP P 22 27 05.2 -0.2
PETK Petropavlovsk- 75.19 345 P P 22 27 05.0 -0.4
comp=Z,19nm,0.5s,baz=136,slow=9.4,SNR=33
PETK pP **pP** 22 29 05.3 +0.8
comp=Z,13nm,1.0s,baz=123,slow=11,SNR=5.8
PETK Petropavlovsk- 75.19 345 P P 22 27 05.0 -0.4
PETK *PP **pP** 22 29 05.3 +0.8
PETK pmax pmax
comp=Z,19nm,0.5s
PETK pmax pmax
comp=Z,13nm,1.0s
CGJI Cibinong 75.47 268 P P 22 27 07.4 -0.5
comp=Z,283nm,0.6s,comp=Z,4µm
QZH Quanzhou 76.16 303⇓ *i*P P 22 27 11.8 +0.4
QZH pP **pP** 22 29 15.4 +4.6
QZH PP **PP** 22 30 10.8 -2.5
QZH S S 22 36 05.8 -4.0
KSRS Korea Array 76.29 318 P P 22 27 12.6 +0.8
comp=Z,6.1nm,1.1s,baz=145,slow=6.7,SNR=12
KSRS pP **pP** 22 29 13.9 +2.5
comp=Z,2.7nm,0.9s,baz=126,slow=6.3,SNR=3.6
KSRS Korea Array 76.29 318 P P 22 27 12.6 +0.8
KSRS *PP **pP** 22 29 13.9 +2.5
KSRS pmax pmax
comp=Z,6.0nm,1.1s
KSRS pmax pmax
comp=Z,3.0nm,0.9s
KS15 Wonju Array Si 76.31 318 eP P 22 27 12.6 +0.7
KS15 epP **pP** 22 29 13.9 +2.4
KSAR Wonju Array Be 76.31 318 P P 22 27 12.6 +0.7
KS01 Wonju Array Si 76.33 318 eP P 22 27 12.5 +0.4
KS01 epP **pP** 22 29 12.3 +0.7
BSC Santa Cruz Isl 76.35 46 P P 22 27 13.4 +1.0
baz=77
SCI San Clemente I 76.53 48 P P 22 27 14.7 +1.4
baz=77
SBC Santa Barbara 76.55 46 P P 22 27 14.5 +1.1
baz=77
PKM Mcpherson Peak 76.74 45 P P 22 27 16.0 +1.4
baz=77
BLG Laguna Peak, P 76.81 47 P P 22 27 15.6 +0.8
baz=77
SMMC Simmler 76.85 45 P P 22 27 16.5 +1.5
baz=77
CIS Catalina Islan 76.87 47 P P 22 27 16.1 +0.9
baz=77
PTRM Twissleman Ran 76.91 45 eP P 22 27 17.2 +1.8
CHGN Chignik 76.94 11 eP P 22 27 14.0 -0.9
FMP Fort Macarthur 77.12 47 P P 22 27 17.6 +1.2
baz=77
OSI Osito Audit: C 77.32 46 P P 22 27 18.3 +0.6
baz=78
KMRM Mail Ridge 77.45 39 eP P 22 27 20.1 +1.9
comp=Z,72nm,0.9s
KMRM epP **pP** 22 29 21.8 +3.6
109C Camp Elliot, M 77.50 48 P P 22 27 19.2 +0.6
baz=78
ARVC Arvin 77.54 46 P P 22 27 19.7 +1.0
baz=78
MWC Mount Wilson 77.56 47 eP P 22 27 20.1 +1.0
comp=Z,344nm,0.8s
MWC epP **pP** 22 29 21.1 +1.9
MDSI Maura Dua 77.57 270 P P 22 27 18.3 -1.1
BAR Barrett 77.69 49 eP P 22 27 21.1 +1.4
comp=Z,19nm,1.2s
MURC Murrieta 77.82 48 P P 22 27 21.3 +1.0
baz=78,SNR=7.8
KHMM Horse Mountain 77.84 39 eP P 22 27 22.4 +2.0
BFSC Mount Baldy Ra 77.85 47 P P 22 27 21.3 +0.7
baz=78,SNR=9.8
EDW2 Edwards Air Fo 77.97 46 P P 22 27 22.1 +1.0
baz=78,SNR=32
MONP Monument Peak, 77.98 49 P P 22 27 22.6 +1.2
baz=78,SNR=27
ISA Isabella, Lake 78.08 45 P P 22 27 22.7 +1.0
baz=78,SNR=17
ISA Isabella, Lake 78.08 45 eP P 22 27 22.8 +1.0
comp=Z,29nm,0.9s
ISA epP **pP** 22 29 22.4 +0.4
IBP Imperial Bould 78.10 49 P P 22 27 23.2 +1.4
baz=78,SNR=12
CMB Columbia Colle 78.18 43 eP P 22 27 23.0 +0.8
comp=Z,27nm,0.8s
CMB epP **pP** 22 29 22.7 +0.3
USRK Ussuriysk Ar. 78.22 325 P P 22 27 23.0 +0.9
comp=Z,4.8nm,0.6s,baz=140,slow=3.7,SNR=18
USRK PP **PP** 22 30 32.8 +2.9
comp=Z,1.2nm,0.7s,baz=128,slow=3.1,SNR=4.2
PFO Pinyon Flats O 78.34 48 P P 22 27 23.8 +0.5
comp=Z,102nm,0.9s,SNR=5.3
PFO Pinyon Flats O 78.34 48 eP P 22 27 24.7 +1.4
PFO Pinyon Flats O 78.34 48 P P 22 27 24.2 +0.9
baz=79,SNR=8.0
PFO Pinyon Flats O 78.34 48 eP P 22 27 24.7 +1.4
comp=Z,24nm,1.1s
PFO epP **pP** 22 29 23.6 0.0
WDC Whiskeytown Da 78.37 40 eP P 22 27 24.1 +1.0
comp=Z,31nm,1.1s
WDC epP **pP** 22 29 23.9 +0.5
BBRC Big Bear Solar 78.37 47 P P 22 27 24.6 +1.1
baz=79
SLBS Sierra La Lagu 78.42 60 eP P 22 27 25.9 +2.1
comp=Z,92nm,1.6s
SWSC Sam W. Stewart 78.46 49 P P 22 27 24.9 +1.2
baz=79,SNR=8.3
LRMC Laurel Mtn Rad 78.51 46 P P 22 27 25.1 +1.1
baz=79,SNR=6.8
N02D Trinity Center 78.51 39 P P 22 27 25.3 +1.4
baz=79,SNR=9.4
M02C Callahan 78.68 39 P P 22 27 26.4 +1.5
baz=79,SNR=16
L02D Cave Junction, 78.72 38 P P 22 27 26.3 +1.4
baz=79
MNAI Manna 78.77 269 eP P 22 27 25.5 -0.4
comp=Z,607nm,1.5s
CWC Cottonwood Cre 78.78 45 P P 22 27 26.4 +0.9
baz=79
OHAK Old Harbor 78.80 13 eP P 22 27 24.9 0.0
BELC Belle Mtn. Jos 78.88 48 P P 22 27 27.3 +1.2
baz=79,SNR=23
MLAC Mammoth, Mammo 78.95 44 P P 22 27 27.6 +1.1
baz=79
MPMC Manual Prospec 78.96 46 P P 22 27 27.8 +1.2
baz=79,SNR=16
YBH Yreka Blue Hor 78.98 39 P P 22 27 27.6 +1.2
comp=Z,17nm,0.5s,baz=222,slow=2.7,SNR=44
YBH pP **pP** 22 29 26.7 -0.3
comp=Z,9.1nm,0.9s,baz=346,slow=2.1,SNR=5.7
YBH Yreka Blue Hor 78.98 39 P P 22 27 27.6 +1.2
YBH *PP **pP** 22 29 26.7 -0.3
YBH pmax pmax
comp=Z,17nm,0.5s
YBH pmax pmax
comp=Z,9.0nm,0.9s
YBH Yreka Blue Hor 78.98 39 eP P 22 27 26.9 +0.5
comp=Z,22nm,0.7s
YBH epP **pP** 22 29 27.7 +0.7
DAC Darwin (Calif) 79.01 45 eP P 22 27 27.7 +0.9
DAC epP **pP** 22 29 27.7 +0.3
GSC Goldstone, Bar 79.01 47 P P 22 27 27.5 +0.8
baz=79,SNR=11
GSC Goldstone, Bar 79.01 47 eP P 22 27 27.6 +0.8
GSC epP **pP** 22 29 27.3 0.0
TIN Tinemaha, Big 79.02 44 P P 22 27 28.2 +1.4
baz=79
WAKR Walker 79.06 43 eP P 22 27 28.3 +1.2
WAKR epP **pP** 22 29 28.3 +0.6
BC3 Big Chuckawall 79.08 49 P P 22 27 28.4 +1.3
baz=79,SNR=13
HEC Hector,Ludlow 79.09 47 P P 22 27 28.0 +0.9
baz=79,SNR=13
GLA Glamis 79.21 49 P P 22 27 29.5 +1.8
baz=79,SNR=13
GLA Glamis 79.21 49 eP P 22 27 29.6 +1.8
comp=Z,36nm,1.0s
LBCM Butte Creek Ri 79.24 40 P P 22 27 28.8 +0.9
HUMO Hull Mountain 79.38 38 eP P 22 27 29.7 +1.3
comp=Z,24nm,0.9s
HUMO epP **pP** 22 29 30.0 +0.9
KDAK Kodiak Island 79.47 13 P P 22 27 28.0 -0.4
comp=Z,267nm,1.2s,SNR=8.2
KDAK Kodiak Island 79.47 13 *c* eP P 22 27 28.7 +0.3
KDAK Kodiak Island 79.47 13 eP P 22 27 28.4 0.0
comp=Z,99nm,1.4s
KDAK epP **pP** 22 29 28.7 -0.5
NJ2 Nanjing 79.48 309 eP P 22 27 31.3 +2.2
NJ2 S S 22 36 48.0 +3.7
NJ2 PMZ
comp=Z,40nm,0.8s
M04C Macdoel 79.52 39 P P 22 27 30.4 +1.1
baz=80,SNR=14
GMRC Granite Mounta 79.53 48 P P 22 27 30.6 +1.1
baz=80,SNR=11
IRM Iron Mountain 79.56 48 P P 22 27 30.8 +1.3
baz=80,SNR=22
GRAC Grapevine Rang 79.56 45 P P 22 27 30.8 +1.3
baz=80
HABR Khabarovsk 79.61 330 eP P 22 27 28.7 -0.7
HABR *e* 22 27 33.9
HABR *e**PP **pP** 22 29 32.5 +2.2
HABR *e* 22 30 39.8
HABR *e*PPP PPP 22 32 34.2
HABR S S 22 36 43.3 -1.6
HABR *e* 22 36 58.5
HABR eSS SS 22 42 09.5 -1.1
HABR SSS SSS 22 45 42.8
HABR pmax pmax
comp=Z,80nm,1.5s
HABR MLR MLR
comp=Z,81nm,22.0s
FURC Furnace Creek, 79.61 46 P P 22 27 30.5 +0.8
baz=80
TUQ Turquoise Moun 79.69 47 P P 22 27 31.6 +1.2
baz=80,SNR=15
SHOC Shoshone, Teco 79.70 46 P P 22 27 31.1 +0.9
baz=80
NV01 Mina Array Sit 79.75 43 eP P 22 27 30.6 -0.1
NV01 epP **pP** 22 29 31.1 -0.5
NV01 ePKKPbc **PKKPbc** 22 46 13.8 +0.2
NVAR Mina Array Bea 79.75 43 P P 22 27 31.7 +1.0
comp=Z,14nm,0.8s,baz=224,slow=8.5,SNR=77
NVAR pP **pP** 22 29 31.0 -0.6
comp=Z,1.9nm,0.5s,baz=224,slow=7.8,SNR=5.0
NVAR PKKPbc **PKKPbc** 22 46 14.2 +0.5
comp=Z,1.5nm,0.6s,baz=62,slow=3.1,SNR=7.2
NVAR PKPPKP **P'P'df** 22 54 17.7 +2.5
comp=Z,0.6nm,0.8s,baz=79,slow=3.2,SNR=5.5
Y12C Blythe 79.79 49 P P 22 27 31.6 +1.0
baz=80,SNR=6.8
MDJ Mudanjiang 79.79 325 P P 22 27 31.5 +1.0
MDJ pP **pP** 22 29 30.3 -1.1
MDJ sP **sP** 22 30 27.8 -1.8
MDJ PP **PP** 22 30 42.5 -0.2
MDJ S S 22 36 46.9 -0.1
MDJ ScS **ScS** 22 37 05.1 +2.3
MDJ sS **sS** 22 40 21.4 -1.1
MDJ PMZ
comp=Z,21nm,1.1s
MDJ PMZ
comp=Z,48nm,6.0s
MDJ Mudanjiang 79.79 325 eP P 22 27 31.8 +1.3
comp=Z,50nm,1.4s
I03D Drain, OR 79.83 37 P P 22 27 31.7 +1.0
baz=80,SNR=7.5
MYKOM Kota Tinggi 79.93 275 eP P 22 27 32.2 +0.3
comp=Z,58nm,0.9s
LDFC Landfair 80.07 48 eP P 22 27 34.2 +1.9
comp=Z,78nm,1.0s
LDFC epP **pP** 22 29 33.9 +0.6
K04D Chiloquin, OR 80.09 38 P P 22 27 33.3 +1.1

baz=80
214A Organ Pipe Nat 80.12 51 P P 22 27 34.1 +1.6
baz=80
214A Organ Pipe Nat 80.12 51 eP P 22 27 32.7 +0.1
comp=Z,41nm,1.3s
214A epP pP 22 29 30.8 -2.8
MPOR Mary's Peak 80.23 36 P P 22 27 34.0 +1.1
NEE2 Needles Airpor 80.25 48 P P 22 27 34.4 +1.3
baz=80
TPH Tonopah 80.25 44 eP P 22 27 34.4 +1.0
TPH epP pP 22 29 34.5 +0.1
J04D Umpqua Nationa 80.26 38 P P 22 27 34.1 +0.9
baz=80
TPNV Topopah Spring 80.28 45 P P 22 27 34.3 +0.8
baz=80,SNR=15
TPNV Topopah Spring 80.28 45 eP P 22 27 34.9 +1.5
TPNV epP pP 22 29 34.8 +0.2
PDMCI Parker Dam,Lak 80.34 49 P P 22 27 34.5 +1.0
baz=81,SNR=11
I04A Tendick Farm, 80.43 37 P P 22 27 34.3 +0.5
baz=81,SNR=10.0
HBO Huckleberry Mo 80.51 37 P P 22 27 35.1 +0.7
K05A Summer Lake 80.65 39 eP P 22 27 36.7 +1.4
comp=Z,94nm,1.0s
K05A epP pP 22 29 37.1 +0.5
SHPR Sheep Range 80.79 46 eP P 22 27 37.3 +1.2
SHPR epP pP 22 29 37.2 -0.1
J05D Fort Rock, OR 80.79 38 P P 22 27 37.1 +1.2
baz=81,SNR=69
QIZ Qiongzhong 80.82 294 P P 22 27 37.0 +0.6
QIZ sP sP 22 30 33.1 -2.7
QIZ S S 22 36 59.8 +1.3
QIZ PMZ
comp=Z,21nm,2.2s
QIZ PMZ
comp=Z,180nm,12.3s
G03D McMinnville, O 80.83 35 P P 22 27 37.0 +1.1
baz=81
H04A Detroit Lake 81.10 36 eP P 22 27 38.0 +0.6
H04A epP pP 22 29 38.1 -0.7
F03A Seaside 81.13 35 eP P 22 27 38.9 +1.5
DL2 Dalian 81.17 316 eP P 22 27 34.8 -2.9
DL2 pP pP 22 29 39.4 +0.2
DL2 sP sP 22 30 35.3 -2.0
DL2 S S 22 36 59.5 -1.7
DL2 PMZ
comp=Z,17nm,1.1s
DL2 PMZ
comp=Z,57nm,3.9s
I05D Terrebonne, OR 81.37 37 P P 22 27 39.5 +0.8
baz=82,SNR=16
R11A Troy Canyon, C 81.48 45 P P 22 27 40.1 +0.4
baz=82,SNR=18
R11A Troy Canyon, C 81.48 45 eP P 22 27 37.0 -2.7
R11A epP pP 22 29 41.2 0.0
F04D Rainier, OR 81.52 35 P P 22 27 40.6 +1.2
baz=82
CN2 Changchun 81.62 322 ⇑P P 22 27 41.9 +2.0
CN2 eS S 22 37 05.0 -0.6
CN2 PMZ
comp=Z,20nm,0.8s
CN2 PMZ
comp=Z,200nm,4.0s
BRLK Bradley Lake 81.64 13 eP P 22 27 39.3 -0.4
comp=Z,49nm,0.9s
BRLK epP pP 22 29 40.3 -1.1
BMW Boistfort Moun 81.65 35 P P 22 27 41.1 +0.9
KLR Kul'dur 81.71 329 eP P 22 27 36.7 -3.6
KLR e 22 29 39.0
KLR eS S 22 37 02.5 -3.7
TUC Tucson 81.79 52 eP P 22 27 43.2 +2.0
comp=Z,37nm,1.0s
TUC epP pP 22 29 43.1 +0.2
TUC ePKKPbc PKKPbc 22 46 09.4 +1.0
WVOR Wild Horse Val 81.83 40 eP P 22 27 41.5 +0.3
comp=Z,46nm,1.0s
WVOR epP pP 22 29 43.1 +0.2
LVP Lakeview Peak 81.84 35 P P 22 27 42.0 +0.8
VLL Laurance Lake 81.87 36 P P 22 27 42.1 +0.8
RSO Redoubt South 81.89 12 eP P 22 27 40.1 -1.1
NLWA Neilton Lookou 81.90 34 eP P 22 27 42.5 +1.2
comp=Z,31nm,0.8s
G05D Wamic, OR 81.93 36 P P 22 27 42.6 +1.1
baz=82
OOW Octopus West 81.95 33 P P 22 27 43.2 +1.6
TDL Tradedollar La 82.12 35 P P 22 27 43.8 +1.2
WHN Wuhan 82.12 306 P P 22 27 43.3 +0.5
PMSA Palmer Station 82.24 157 eP P 22 27 44.3 +1.5
comp=Z,91nm,0.7s
SEW Seward 82.27 14 eP P 22 27 42.6 -0.2
comp=Z,31nm,1.0s
G06A Carlson Farm, 82.31 37 eP P 22 27 44.2 +0.7
comp=Z,40nm,1.1s
G06A epP pP 22 29 44.5 -0.9
VTHM Trough 82.32 37 P P 22 27 44.2 +0.7
CCUT Cedar City 82.56 46 eP P 22 27 46.6 +1.5
comp=Z,21nm,0.9s
CCUT epP pP 22 29 47.2 +0.1
LON Longmire 82.59 35 eP P 22 27 45.2 +0.4
comp=Z,13nm,1.1s
KNB Kanab 82.66 47 eP P 22 27 47.1 +1.5
KNB epP pP 22 29 48.5 +0.9
SPU Mount Spurr 82.69 12 eP P 22 27 43.8 -1.2
WPW White Pass 82.70 35 P P 22 27 46.1 +0.7
D05A Enumclaw 82.76 34 eP P 22 27 47.3 +1.7
comp=Z,102nm,1.3s
D05A epP pP 22 29 49.1 +1.4
TIA Tai'an 82.81 312 ⇓P P 22 27 46.5 +0.3
TIA PMZ
comp=Z,10.0nm,1.7s
PGC Sidney 82.92 33 eP P 22 27 47.1 +0.8
comp=Z,33nm,0.8s
PGC epP pP 22 29 47.9 -0.6
WUAZ Wupatki 82.92 49 P P 22 27 48.3 +1.4
baz=83
WUAZ Wupatki 82.92 49 eP P 22 27 48.4 +1.4
WUAZ epP pP 22 29 49.9 +0.8
MAW Mawson 82.93 200 P P 22 27 46.8 +0.6
comp=Z,44nm,0.6s,baz=132,slow=6.2,SNR=77
MAW Mawson 82.93 200 P P 22 27 46.8 +0.6
MAW pmax pmax
comp=Z,44nm,0.6s
MAW Mawson 82.93 200 eP P 22 27 46.8 +0.6
comp=Z,12nm,0.7s
ELK Elko 83.00 43 P P 22 27 47.3 0.0
comp=Z,18nm,1.0s,baz=246,slow=5.1,SNR=3.4
ELK Elko 83.00 43 P P 22 27 47.3 0.0
ELK pmax pmax
comp=Z,19nm,1.0s
ELK Elko 83.00 43 eP P 22 27 47.3 0.0
comp=Z,20nm,1.0s
ELK epP pP 22 29 49.5 0.0
BBB Bella Bella 83.04 28 P P 22 27 47.5 +0.6
comp=Z,13nm,0.5s,baz=272,slow=3.9,SNR=15
RC01 Rabbit Creek A 83.09 13 eP P 22 27 46.5 -0.4
comp=Z,48nm,1.0s
RC01 eS S 22 37 18.7 -0.7
SUA Susitna One 83.22 13 eP P 22 27 47.0 -0.7
comp=Z,59nm,0.6s
UBPT Khong Chiam 83.22 289 P P 22 27 49.1 +0.5
comp=Z,37nm,1.0s
G08A Pilot Rock 83.30 37 eP P 22 27 49.4 +0.9
comp=Z,29nm,0.8s
G08A epP pP 22 29 50.3 -0.5
G08A ePKKPbc PKKPbc 22 46 05.5 -0.2
IPM Ipoh 83.49 277 eP P 22 27 50.5 +0.5
comp=Z,109nm,0.6s
LTY Liberty 83.52 35 eP P 22 27 50.2 +0.7
comp=Z,21nm,1.1s
LTY epP pP 22 29 50.3 -1.6
HAWA Hanford 83.62 36 eP P 22 27 46.8 -3.2
comp=Z,45nm,1.0s
RAGM Ragged Mountai 83.66 16 eP P 22 27 50.0 +0.2
comp=Z,48nm,1.2s
MVU Marysvale 83.82 46 eP P 22 27 53.1 +1.6
comp=Z,28nm,1.4s
A05A Maple Falls 83.84 33 eP P 22 27 51.8 +0.8
B06A Marblemount 83.85 34 eP P 22 27 51.8 +0.8
MSU Marysvale 83.85 46 eP P 22 27 53.2 +1.6
MSU epP pP 22 29 55.2 +1.1
W18A Petrified Fore 83.90 50 P P 22 27 53.3 +1.5
baz=84
W18A Petrified Fore 83.90 50 eP P 22 27 53.7 +1.9
W18A epP pP 22 29 54.2 -0.2
BMO Blue Mountains 84.00 38 eP P 22 27 51.9 -0.1
comp=Z,20nm,1.1s
BMO epP pP 22 29 53.0 -1.6
DIV Divide 84.03 15 eP P 22 27 51.5 -0.2
comp=Z,51nm,0.9s
DIV epP pP 22 29 53.8 -0.5
MFID Camas Ranch 84.08 40 eP P 22 27 52.6 +0.1
comp=Z,21nm,1.0s
MFID epP pP 22 29 55.0 -0.1
KULM Kulim 84.12 278 eP P 22 27 53.9 +0.7
comp=Z,44nm,0.8s
121A Cookes Peak, D 84.13 53 P P 22 27 54.5 +1.5
baz=84
121A Cookes Peak, D 84.13 53 eP P 22 27 53.4 +0.4
comp=Z,31nm,1.1s
121A epP pP 22 29 54.6 -1.1
BMRM Bremner River 84.18 15 eP P 22 27 52.3 -0.1
comp=Z,45nm,0.6s
BMRM epP pP 22 29 54.2 -0.9
BMRM eS S 22 37 29.6 -0.5
PPLA Purkeypile 84.24 11 eP P 22 27 51.1 -1.6
comp=Z,22nm,1.3s
DUG Dugway, Tooele 84.28 44 P P 22 27 54.3 +0.8
baz=84
SCM Sheep Creek Mo 84.28 14 eP P 22 27 52.7 -0.2
comp=Z,60nm,0.6s
SCM ePP PP 22 31 17.5 -1.2
WRAK Wrangell Islan 84.35 23 eP P 22 27 54.8 +1.6
comp=Z,262nm,2.3s
D08A Wollman Farm, 84.35 36 eP P 22 27 54.5 +0.9
comp=Z,41nm,1.2s
D08A epP pP 22 29 59.5 +3.3
E09A Wood Farm, Sta 84.47 37 eP P 22 27 55.0 +0.9
E09A epP pP 22 29 59.8 +2.9
BGU Big Grassy Mou 84.52 43 eP P 22 27 54.4 -0.3
BGU epP pP 22 30 00.7 +3.2
F10A Beach Ranch, E 84.68 37 eP P 22 27 55.6 +0.3
comp=Z,50nm,1.0s
F10A epP pP 22 29 57.7 -0.5
CAST Castle Rocks 84.74 11 eP P 22 27 53.3 -1.8
comp=Z,37nm,1.0s
SKLT Songkhla 84.78 279 P P 22 27 57.8 +1.4
comp=Z,95nm,1.3s,comp=Z,2µm
TNA Tin City 84.84 4 eP P 22 27 55.7 +0.3
comp=Z,39nm,1.2s
B08A Colville Reser 84.90 35 eP P 22 27 56.4 +0.2
comp=Z,23nm,0.9s
B08A epP pP 22 29 58.5 -0.7
TMUT Trail Mountain 84.90 45 eP P 22 27 58.7 +2.0
TMUT epP pP 22 29 58.9 -0.9
PSI Prapat 84.91 275 eP P 22 27 56.4 -0.8
comp=Z,76nm,1.1s
PSI epP pP 22 30 02.9 +2.9
HLID Hailey 85.03 41 P P 22 27 58.2 +1.1
baz=85,SNR=14
HLID Hailey 85.03 41 eP P 22 27 58.2 +1.1
HLID epP pP 22 30 00.6 +0.4
TRF Thorofare Moun 85.11 12 eP P 22 27 55.9 -1.1
comp=Z,40nm,0.7s
HVU Hansel Valley 85.12 43 eP P 22 27 58.8 +1.2
HVU epP pP 22 30 01.0 +0.4
HVU ePKKPbc PKKPbc 22 45 59.1 -2.2
C09A Chrisman Ranch 85.14 36 eP P 22 27 58.3 +0.9
comp=Z,17nm,0.8s
C09A epP pP 22 30 03.5 +3.1
SKNT Sakolnakorn 85.17 290 P P 22 27 58.6 +0.4
comp=Z,63nm,1.2s,comp=Z,1µm
SEY Seymchan 85.27 347 P P 22 27 57.3 -0.2
comp=Z,16nm,0.5s,baz=158,slow=5.3,SNR=34
SEY pP pP 22 29 59.5 -1.2
comp=Z,9.9nm,1.0s,baz=100,slow=4.6,SNR=6.2
SEY Seymchan 85.27 347 ⇑iP P 22 27 57.5 0.0
SRU San Rafael Swe 85.27 46 eP P 22 27 59.5 +1.1
SRU epP pP 22 30 02.0 +0.5
SRU ePKKPbc PKKPbc 22 46 00.1 -0.7
RND Reindeer 85.35 12 eP P 22 27 57.6 -0.5
comp=Z,110nm,1.1s
RND epP pP 22 30 00.3 -0.9
BJI Beijing 85.36 315 P P 22 27 58.9 +0.3
BJI pP pP 22 30 02.1 +0.4
BJI sP sP 22 31 02.9 +3.6
BJI PP PP 22 31 24.3 -3.4
BJI SKS SKSac 22 37 25.9 -3.5
BJI S S 22 37 43.8 +1.5
BJI sS sS 22 41 21.6 -0.1
BJI SS SS 22 43 34.9 -0.2
BJI PMZ
comp=Z,18nm,1.8s
BJI PMZ
comp=Z,200nm,4.4s
JLU Jordanelle 85.39 44 eP P 22 27 58.6 -0.4
JLU epP pP 22 30 02.5 +0.4
LAZ Ladron 85.46 51 eP P 22 28 01.4 +1.9
LAZ epP pP 22 30 03.0 +0.4
Y22D IRIS PASSCAL I 85.47 52 P P 22 27 59.5 0.0
baz=86
LENM Lemitar 85.48 52 eP P 22 28 01.4 +1.9
LENM epP pP 22 30 06.2 +3.6
BPAW Bear Paw Mtn. 85.56 11 eP P 22 27 57.8 -1.2
comp=Z,1.6nm,0.9s
MCK McKinley 85.63 12 eP P 22 27 58.6 -0.7
comp=Z,64nm,1.1s
MCK epP pP 22 30 01.4 -1.2
GSI Gunungsitoli 85.69 273 eP P 22 28 00.7 0.0
comp=Z,90nm,0.9s
PAX Paxson 85.70 14 eP P 22 27 58.9 -0.8
comp=Z,15nm,1.0s
BNM Barren Site 85.73 52 eP P 22 28 01.5 +0.7
BNM epP pP 22 30 04.1 0.0
PV05 Paradox Valley 85.75 47 eP P 22 27 59.8 -1.0
PV05 epP pP 22 30 05.1 +1.1
MVCO Mesa Verde 85.77 48 P P 22 28 00.4 -0.5
baz=86
ENH Enshi 85.77 304 eP P 22 28 01.6 +0.8
comp=Z,24nm,0.9s
HWUT Hardware Ranch 85.81 43 eP P 22 28 01.9 +0.9
HWUT epP pP 22 30 04.2 0.0
TRTT Trang 85.88 280 P P 22 28 03.1 +1.5
comp=Z,164nm,1.1s,comp=Z,2µm
BWN Browne 85.92 12 eP P 22 28 00.6 -0.1
comp=Z,108nm,1.3s
PV09 Paradox Valley 85.93 47 eP P 22 28 00.3 -1.4
PV09 epP pP 22 30 07.4 +2.4
TX31 Lajitas Ar. Si 85.93 57 eP P 22 28 03.4 +1.7
TX31 epP pP 22 30 04.9 -0.2
LTX Lajitas 85.93 57 eP P 22 28 03.7 +2.0
LTX epP pP 22 30 04.7 -0.3
LTX ePKKPbc PKKPbc 22 45 59.1 +0.4
TXAR Lajitas Array 85.93 57 P P 22 28 03.7 +2.0
comp=Z,9.6nm,0.6s,baz=216,slow=6.5,SNR=141
TXAR pP pP 22 30 04.7 -0.3
comp=Z,20nm,1.3s,baz=225,slow=5.1,SNR=5.2
TXAR PKKPbc PKKPbc 22 45 59.1 +0.4
comp=Z,0.7nm,0.5s,baz=160,slow=3.5,SNR=14
TXAR Lajitas Array 85.93 57 P P 22 28 03.7 +2.0
TXAR *PP pP 22 30 04.7 -0.3
TXAR pmax pmax
comp=Z,10.0nm,0.6s
TXAR pmax pmax
comp=Z,20nm,1.3s
PV10 Paradox Valley 85.94 47 eP P 22 28 02.9 +1.2
HYT Haines Junctio 86.01 18 eP P 22 28 01.7 +0.3
HYT epP pP 22 30 09.3 +4.5
NEW Newport 86.04 36 P P 22 27 59.4 -2.3
comp=Z,4.3nm,0.5s,baz=226,slow=4.9,SNR=6.8
NEW Newport 86.04 36 P P 22 27 59.4 -2.3
NEW pmax pmax
comp=Z,4.0nm,0.5s
NEW Newport 86.04 36 P P 22 28 02.2 +0.5
baz=86
NEW Newport 86.04 36 eP P 22 28 01.8 +0.1
comp=Z,9.4nm,1.0s
PV01 Paradox Valley 86.15 47 eP P 22 28 03.7 +1.0
PV01 epP pP 22 30 07.5 +1.4
ANMO Albuquerque 86.21 51 P P 22 28 04.3 +1.3
comp=Z,11nm,1.0s,baz=213,slow=5.6,SNR=19
ANMO Albuquerque 86.21 51 ⇑iP P 22 28 04.2 +1.2
ANMO pmax pmax
comp=Z,47nm,1.1s
ANMO Albuquerque 86.21 51 eP P 22 28 03.9 +0.9
ANMO epP pP 22 30 06.9 +0.5
MLY Manley 86.46 11 eP P 22 28 01.6 -1.7
comp=Z,11nm,0.6s
MLY epP pP 22 30 05.3 -1.5
WRH Wood River Hil 86.46 12 eP P 22 28 02.4 -0.8
comp=Z,60nm,1.1s
WRH epP pP 22 30 05.5 -1.3
GYA Guiyang 86.48 299 P P 22 28 06.8 +2.4
GYA pP pP 22 30 08.0 +0.1
GYA sP sP 22 31 03.3 -2.2
GYA PP PP 22 31 39.4 +2.4
GYA SKS SKSac 22 37 36.8 -0.3
GYA S S 22 37 52.9 -0.9
GYA PMZ
comp=Z,40nm,1.0s
GYA PMZ
comp=Z,180nm,5.8s
PATY Pattaya 86.54 285 P P 22 28 07.1 +2.4
comp=Z,23nm,0.9s,comp=Z,651nm
NAYO Nakonayok 86.61 286 P P 22 28 06.9 +1.9
comp=Z,79nm,0.7s
HDA Harding Lake 86.63 13 eP P 22 28 03.4 -0.6
comp=Z,23nm,0.5s
HDA epP pP 22 30 05.8 -1.9
MCMT McKenzie Canyo 86.65 40 eP P 22 28 06.0 +1.1
MCMT epP pP 22 30 08.9 +0.4
CCB Clear Creek Bu 86.67 12 eP P 22 28 03.3 -0.9
comp=Z,42nm,0.5s
CCB epP pP 22 30 05.8 -2.0
DLBC Dease Lake 86.69 23 P P 22 28 05.1 +0.6
comp=Z,9.6nm,0.9s,baz=198,slow=6.1,SNR=13
DLBC Dease Lake 86.69 23 eP P 22 28 05.5 +1.0
comp=Z,17nm,1.0s
IM04 Indian Mountai 86.81 9 eP P 22 28 03.3 -1.5
IM04 epP pP 22 30 07.5 -1.1
COLA College 86.86 12 *c iP P 22 28 04.0 -1.1
COLA pmax pmax
comp=Z,128nm,1.0s
COLA College 86.86 12 eP P 22 28 04.7 -0.4
comp=Z,53nm,1.0s
MDM Murphy Dome 86.86 12 eP P 22 28 04.2 -1.0
comp=Z,36nm,1.0s
MDM epP pP 22 30 07.4 -1.5
IL1 Eielson Array 86.97 13 eP P 22 28 04.5 -1.1
IL1 epP pP 22 30 07.4 -2.0
ILAR Eielson Array 86.97 13 P P 22 28 04.7 -1.0
comp=Z,7.4nm,0.4s,baz=234,slow=5.1,SNR=144
ILAR pP pP 22 30 07.2 -2.2
comp=Z,10.0nm,1.0s,baz=227,slow=5.8,SNR=9.7
ILAR PP PP 22 31 42.1 +2.2
comp=Z,1.3nm,0.8s,baz=224,slow=6.5,SNR=4.3
ILAR PKiKP PKiKP 22 33 05.5 -1.0
comp=Z,0.5nm,0.5s,baz=226,slow=3.9,SNR=5.2
ILAR PKKP PKKPbc 22 45 54.5 -3.2
comp=Z,1.2nm,0.6s,baz=10,slow=2.8,SNR=11
ILAR PKPPKP P'P'df 22 54 01.4 +1.5
comp=Z,0.5nm,0.8s,baz=350,slow=2.7,SNR=5.2
ILB Eielson Array 86.97 13 eP P 22 28 04.7 -1.0
ILB epP pP 22 30 07.2 -2.2
ILB ePP PP 22 31 42.1 +2.2
ILB ePKiKP PKiKP 22 33 05.5 -1.0
ILB ePKKPdf PKKPbc 22 45 54.5 -3.2
ILB eP'P'df P'P'df 22 54 01.4 +1.5
MSO Missoula 87.05 38 P P 22 28 06.8 +0.2
baz=87
MSO Missoula 87.05 38 eP P 22 28 06.6 0.0
MSO epP pP 22 30 09.8 -0.6
DLMT Dillon 87.08 40 eP P 22 28 08.0 +1.2
comp=Z,23nm,0.8s
DLMT epP pP 22 30 10.9 +0.3
SURT Suratani 87.09 280 P P 22 28 09.6 +2.3
comp=Z,36nm,1.4s
BSMT Bassoo Peak 87.12 37 eP P 22 28 07.1 +0.2
BSMT epP pP 22 30 10.2 -0.5
REDW Red Top Meadow 87.15 42 eP P 22 28 08.5 +1.3
REDW epP pP 22 30 11.2 +0.2
TPAW Teton Pass 87.15 42 eP P 22 28 08.7 +1.4
TPAW epP pP 22 30 13.1 +1.9
FXWY Fox Creek 87.17 42 eP P 22 28 08.8 +1.4
FXWY epP pP 22 30 11.6 +0.3
FXWY ePKKPbc PKKPbc 22 45 56.4 -0.2
S22A 4UR Ranch, Cre 87.19 48 P P 22 28 08.2 +0.5
baz=87
S22A 4UR Ranch, Cre 87.19 48 eP P 22 28 08.2 +0.5
S22A epP pP 22 30 15.3 +3.8
SNOW Snow King Moun 87.26 42 eP P 22 28 09.4 +1.6
comp=Z,21nm,0.9s
SNOW epP pP 22 30 10.9 -0.8
O20A White River Ci 87.31 46 P P 22 28 08.6 +0.6
baz=88
JTMT Jette 87.35 37 eP P 22 28 07.4 -0.6
JTMT ePKKPbc PKKPbc 22 45 55.6 -0.7
IMW Indian Meadow 87.36 42 eP P 22 28 09.9 +1.6
comp=Z,22nm,1.0s
IMW epP pP 22 30 12.6 +0.4
SWMT Swartz Lake 87.38 37 eP P 22 28 08.7 +0.6
529A Stev Forest Ra 87.40 57 P P 22 28 09.4 +0.8
baz=88
LRM Limekiln Ridge 87.41 39 eP P 22 28 09.5 +1.1
LRM epP pP 22 30 12.4 0.0
MOOW Moose Ponds 87.41 42 eP P 22 28 09.8 +1.4
MOOW epP pP 22 30 12.5 +0.1
LOHW Long Hollow 87.43 42 eP P 22 28 09.8 +1.2
LOHW epP pP 22 30 12.8 +0.3
BLMT Blacktail Moun 87.44 37 ePKKPbc PKKPbc 22 45 55.5 -0.6
CHMT Chamberlain Mo 87.50 38 eP P 22 28 09.0 +0.2
CHMT epP pP 22 30 11.8 -1.0
CHMT ePP PP 22 31 42.7 -2.1
QLMT Earthquake Lak 87.52 41 eP P 22 28 10.6 +1.7
QLMT epP pP 22 30 13.8 +0.9
SLMT Seeley Lake 87.53 38 eP P 22 28 09.5 +0.7
YBMT Yellow Bay 87.56 37 eP P 22 28 09.1 +0.1
FLWY Flagg Ranch 87.60 42 eP P 22 28 11.8 +2.4
comp=Z,26nm,0.9s
FLWY epP pP 22 30 15.7 +2.4
BW06 Boulder Array 87.68 43 eP P 22 28 10.4 +0.6
BW06 epP pP 22 30 12.8 -1.0
BW06 epP pP 22 30 13.1 -0.7
PD31 Pinedale Array 87.68 43 eP P 22 28 10.4 +0.6
PD31 epP pP 22 30 14.4 +0.6
PD31 ePKKPbc PKKPbc 22 45 54.2 -1.1
PDAR Pinedale Array 87.68 43 P P 22 28 10.4 +0.6
comp=Z,7.2nm,0.8s,baz=220,slow=1.2,SNR=32
PDAR pP pP 22 30 14.4 +0.6
comp=Z,4.5nm,0.9s,baz=235,slow=3.2,SNR=4.3
PDAR PKKPbc PKKPbc 22 45 54.2 -1.1
comp=Z,1.9nm,0.6s,baz=66,slow=5.3,SNR=13
PBKT Sadao Pong 87.72 288 P P 22 28 11.6 +1.4
comp=Z,34nm,1.6s
SMCO Snowmass 87.74 47 eP P 22 28 11.1 +0.7
SMCO epP pP 22 30 17.8 +3.4
XAN Xi'an 87.79 307 P P 22 28 10.8 +0.6
XAN pP pP 22 30 12.5 -1.8
XAN sP sP 22 31 15.3 +3.6
XAN PP PP 22 31 53.6 +6.5
XAN SKS SKSac 22 37 43.8 -0.6
XAN S ScS 22 38 09.4 -0.1
XAN PMZ
comp=Z,11nm,1.1s
XAN PMZ
comp=Z,44nm,12.7s
BOZ Bozeman (W) 87.81 40 P P 22 28 10.9 +0.7
baz=88
H17A Grant Village 87.83 41 P P 22 28 12.1 +1.6
baz=88
H17A Grant Village 87.83 41 eP P 22 28 13.4 +2.9
comp=Z,15nm,0.7s
BILL Bilibino 87.84 354 ⇑eP P 22 28 10.1 +0.5
BILL 22 31 45.0
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL Bilibino 87.84 354 eP P 22 28 09.5 -0.1
429A Davenport Ranc 87.86 57 P P 22 28 11.8 +1.1
baz=88
228A UT Block 9, Go 87.92 55 P P 22 28 11.9 +1.0
baz=88
SYO Syowa Base 88.07 193 ⇑iP P 22 28 09.2 -1.6
DAWY Dawson 88.10 16 eP P 22 28 11.2 +0.3
comp=Z,21nm,0.8s
DAWY epP pP 22 30 14.2 -1.0
530A J-C Ranch, Com 88.11 57 P P 22 28 12.8 +0.9
baz=88
SDCO Great Sand Dun 88.13 49 P P 22 28 12.6 +0.5
baz=88
329A Wagon Wheel Ra 88.14 56 P P 22 28 12.6 +0.6
baz=88
128A Castleberry Fa 88.21 55 P P 22 28 13.1 +0.8
baz=88
J19A Crowheart 88.25 43 P P 22 28 12.8 +0.4
baz=88

EGAK	**Eagle**	**88.25**	**15**	*e*P	**P**	**22 28 11.5**	**-0.1**	
	comp=Z,31nm,1.0s							
EGAK				*ep*P	**pP**	**22 30 18.7**	**+2.9**	
WALA	**Waterton Lakes**	**88.26**	**36**	*e*P	**P**	**22 28 13.2**	**+1.0**	
WALA				*ep*P	**pP**	**22 30 15.7**	**-0.7**	
631A	**Perdido Creek**	**88.43**	**58**	P	**P**	**22 28 13.9**	**+0.6**	
	baz=89,SNR=13							
430A	**Baggett Ranch,**	**88.45**	**57**	P	**P**	**22 28 14.2**	**+0.8**	
	baz=89							
229A	**Bryant Ranch,**	**88.47**	**55**	P	**P**	**22 28 14.2**	**+0.7**	
	baz=89							
832A	**Faith Ranch, C**	**88.48**	**59**	P	**P**	**22 28 14.6**	**+1.1**	
	baz=89							
UTTA	**Uttaradit**	**88.50**	**289**	P	**P**	**22 28 15.0**	**+1.2**	
	comp=Z,6.9nm,1.2s,comp=Z,76nm							
MSTX	**Muleshoe**	**88.54**	**53**	P	**P**	**22 28 14.8**	**+1.0**	
	baz=89							
MSTX	**Muleshoe**	**88.54**	**53**	*e*P	**P**	**22 28 15.1**	**+1.3**	
	comp=Z,22nm,0.6s							
MSTX				*ep*P	**pP**	**22 30 19.4**	**+1.3**	
COLD	**Coldfoot**	**88.54**	**10**	*e*P	**P**	**22 28 13.2**	**+0.3**	
	comp=Z,18nm,0.8s							
COLD				*ep*P	**pP**	**22 30 17.3**	**+0.1**	
Z28A	**Tucker Farm, M**	**88.56**	**54**	P	**P**	**22 28 14.5**	**+0.6**	
	baz=89							
SRDT	**SRDT**	**88.62**	**286**	P	**P**	**22 28 16.6**	**+2.2**	
	comp=Z,128nm,1.4s							
I19A	**Meeteetse**	**88.65**	**42**	P	**P**	**22 28 15.4**	**+1.2**	
	baz=89							
T25A	**Trinidad**	**88.65**	**50**	P	**P**	**22 28 15.0**	**+0.6**	
	baz=89							
732A	**Laxson Ranch,**	**88.66**	**59**	P	**P**	**22 28 15.3**	**+0.9**	
	baz=89							
129A	**Stewart Farms,**	**88.69**	**55**	P	**P**	**22 28 15.6**	**+1.1**	
	baz=89							
330A	**Mertzon**	**88.74**	**56**	P	**P**	**22 28 15.0**	**+0.2**	
	baz=89,SNR=6.0							
NANT	**Nan**	**88.75**	**290**	P	**P**	**22 28 15.6**	**+0.6**	
	comp=Z,10nm,1.0s,comp=Z,112nm							
531A	**Rocksprings**	**88.75**	**58**	P	**P**	**22 28 15.9**	**+1.0**	
	baz=89,SNR=14							
933A	**Laredo**	**88.80**	**60**	P	**P**	**22 28 16.6**	**+1.5**	
	baz=89							
HHC	**Hu-ho-hao-te**	**88.85**	**314**	*e*P	**P**	**22 28 15.5**	**+0.4**	
HHC				sP	**sP**	**22 31 13.5**	**-3.2**	
HHC				SKS	**SKSac**	**22 37 46.3**	**-4.2**	
HHC				S	**ScS**	**22 38 20.8**	**+2.6**	
HHC				PMZ				
	comp=Z,22nm,1.2s							
HHC				PMZ				
	comp=Z,140nm,7.6s							
431A	**Sonora**	**88.90**	**57**	P	**P**	**22 28 16.6**	**+1.0**	
	baz=89							
J20A	**Shoshoni**	**88.91**	**43**	P	**P**	**22 28 16.2**	**+0.8**	
	baz=89,SNR=5.6							
Y28A	**McKinney Farm,**	**88.91**	**54**	P	**P**	**22 28 16.4**	**+0.8**	
	baz=89							
Q24A	**Divide**	**88.91**	**48**	P	**P**	**22 28 16.6**	**+0.9**	
	baz=89							
ISCO	**Idaho Springs**	**88.95**	**47**	P	**P**	**22 28 15.9**	**0.0**	
	baz=89							
H19A	**Powell**	**88.96**	**42**	P	**P**	**22 28 17.0**	**+1.4**	
	baz=89							
833A	**Chaparral WMA,**	**88.97**	**60**	P	**P**	**22 28 16.6**	**+0.8**	
	baz=89							
230A	**Sterling City**	**88.98**	**56**	P	**P**	**22 28 16.4**	**+0.6**	
	baz=89							
RLMT	**Red Lodge**	**89.00**	**41**	P	**P**	**22 28 17.0**	**+1.2**	
	baz=89							
Z29A	**Hungry Hill Ra**	**89.06**	**54**	P	**P**	**22 28 16.7**	**+0.5**	
	baz=89							
034A	**Hebbronville**	**89.08**	**61**	P	**P**	**22 28 18.4**	**+2.0**	
	baz=89,SNR=6.5							
632A	**Uvalde**	**89.11**	**58**	P	**P**	**22 28 18.1**	**+1.7**	
	baz=89,SNR=12							
I20A	**Worland**	**89.16**	**43**	P	**P**	**22 28 17.0**	**+0.5**	
	baz=89							
X28A	**Dimmitt**	**89.20**	**53**	P	**P**	**22 28 18.0**	**+1.1**	
	baz=89							
N23A	**Red Feather La**	**89.21**	**46**	P	**P**	**22 28 17.6**	**+0.6**	
	baz=89							
N23A	**Red Feather La**	**89.21**	**46**	*e*P	**P**	**22 28 14.5**	**-2.5**	
	comp=Z,20nm,0.9s							
V27A	**Dan Oppiter Fa**	**89.23**	**52**	P	**P**	**22 28 17.5**	**+0.5**	
	baz=89							
KMI	**Kunming**	**89.25**	**297**	P	**P**	**22 28 18.9**	**+1.5**	
KMI				pP	**pP**	**22 30 24.0**	**+2.1**	
KMI				sP	**sP**	**22 31 18.9**	**-0.2**	
KMI				PP	**PP**	**22 31 58.6**	**-0.3**	
KMI				SKS	**SKSac**	**22 37 53.9**	**+0.2**	
KMI				S	**S**	**22 38 18.3**	**-1.2**	
KMI				sS	**sS**	**22 42 00.0**	**-1.5**	
KMI				SS	**SS**	**22 44 34.1**	**+2.1**	
KMI				PMZ				
	comp=Z,28nm,1.1s							
KMI				PMZ				
	comp=Z,180nm,3.1s							
532A	**Rocksprings**	**89.25**	**58**	P	**P**	**22 28 18.2**	**+1.0**	
	baz=89,SNR=8.4							
SNAA	**Sanae**	**89.26**	**178**	*d i*P	**P**	**22 28 15.6**	**-0.8**	
SNAA				pmax	pmax			
	comp=Z,41nm,0.7s							
SNAA	**Sanae**	**89.26**	**178**	*e*P	**P**	**22 28 15.4**	**-1.1**	
	comp=Z,55nm,0.7s							
T26A	**Comanche Natio**	**89.26**	**50**	P	**P**	**22 28 18.7**	**+1.4**	
	baz=90							
331A	**San Angelo**	**89.29**	**57**	P	**P**	**22 28 17.8**	**+0.4**	
	baz=90							
J21A	**Lysite**	**89.32**	**43**	P	**P**	**22 28 18.4**	**+1.0**	
	baz=90							
Y29A	**Porterfield Fa**	**89.33**	**54**	P	**P**	**22 28 18.3**	**+0.8**	
	baz=90							
035Z	**Hargill**	**89.37**	**62**	P	**P**	**22 28 18.7**	**+1.0**	
	baz=90							
130A	**Snyder**	**89.37**	**55**	P	**P**	**22 28 18.3**	**+0.6**	
	baz=90							
934A	**Benavides**	**89.42**	**61**	P	**P**	**22 28 19.5**	**+1.6**	
	baz=90							
JCT	**Junction City**	**89.47**	**57**	P	**P**	**22 28 19.0**	**+0.9**	
	baz=90							
JCT	**Junction City**	**89.47**	**57**	*e*P	**P**	**22 28 19.8**	**+1.6**	
	comp=Z,6.3nm,0.8s							
H20A	**Greybull**	**89.50**	**42**	P	**P**	**22 28 19.1**	**+1.0**	
	baz=90							
U27A	**Thompson Grove**	**89.51**	**51**	P	**P**	**22 28 19.0**	**+0.7**	
	baz=90							
035A	**Encino**	**89.52**	**61**	P	**P**	**22 28 20.5**	**+2.1**	
	baz=90,SNR=7.8							
Z30A	**Sanderson Ranc**	**89.52**	**54**	P	**P**	**22 28 19.1**	**+0.7**	
	baz=90							
X29A	**Tulia**	**89.54**	**53**	P	**P**	**22 28 19.6**	**+1.1**	
	baz=90							
633A	**Saathoff Ranch**	**89.58**	**59**	P	**P**	**22 28 20.3**	**+1.7**	
	baz=90,SNR=6.8							
K22A	**Casper**	**89.61**	**44**	P	**P**	**22 28 19.2**	**+0.5**	
	baz=90							
231A	**Bronte**	**89.62**	**56**	P	**P**	**22 28 19.2**	**+0.3**	
	baz=90,SNR=30							
432A	**Menard**	**89.62**	**57**	P	**P**	**22 28 19.5**	**+0.7**	
	baz=90,SNR=8.5							
I21A	**Big Trails, Te**	**89.64**	**43**	P	**P**	**22 28 20.1**	**+1.3**	
	baz=90							
V28A	**Channing**	**89.68**	**52**	P	**P**	**22 28 19.9**	**+0.9**	
	baz=90							
G20A	**Bridger**	**89.70**	**41**	P	**P**	**22 28 19.9**	**+0.9**	
	baz=90							
AMTX	**Amarillo**	**89.73**	**53**	P	**P**	**22 28 20.1**	**+0.7**	
	baz=90							
R26A	**Arlington**	**89.84**	**49**	P	**P**	**22 28 21.2**	**+1.4**	
	baz=90							
T27A	**Campo**	**89.85**	**51**	P	**P**	**22 28 20.4**	**+0.5**	
	baz=90							
734A	**La Parita Cree**	**89.85**	**59**	P	**P**	**22 28 20.7**	**+0.8**	
	baz=90							
131A	**Roby**	**89.85**	**55**	P	**P**	**22 28 20.8**	**+1.0**	
	baz=90							
W29A	**Amarillo**	**89.86**	**53**	P	**P**	**22 28 20.8**	**+0.9**	
	baz=90							
332A	**Millersview**	**89.86**	**57**	P	**P**	**22 28 20.7**	**+0.8**	
	baz=90,SNR=21							
533A	**Kerrville**	**89.92**	**58**	P	**P**	**22 28 20.8**	**+0.5**	
	baz=90,SNR=5.3							
Y30A	**Stafford Cattl**	**89.93**	**54**	P	**P**	**22 28 21.1**	**+0.9**	
	baz=90							
J22A	**Midwest**	**89.98**	**44**	P	**P**	**22 28 21.1**	**+0.8**	
	baz=90							
NVL	**N'lazarevskaya**	**90.01**	**183**	*e*P	**P**	**22 28 19.8**	**0.0**	
NVL				*e*S	**SKSac**	**22 38 00.0**	**+4.0**	
F20A	**Billings**	**90.02**	**41**	P	**P**	**22 28 21.3**	**+0.9**	
	baz=90							
Q26A	**Hugo**	**90.05**	**49**	P	**P**	**22 28 21.5**	**+0.8**	
	baz=90							
EGMT	**Eagleton**	**90.11**	**38**	P	**P**	**22 28 21.6**	**+0.9**	
	baz=90							
EGMT	**Eagleton**	**90.11**	**38**	*e*PKKPdf	PKKPdf	22 45 50.7	+5.4	
232A	**Coleman**	**90.13**	**56**	P	**P**	**22 28 22.0**	**+0.8**	
	baz=90,SNR=9.8							
433A	**Art**	**90.14**	**57**	P	**P**	**22 28 22.0**	**+0.8**	
	baz=90,SNR=20							
CM01	**Chiang Mai Arr**	**90.16**	**289**	*e*P	**P**	**22 28 21.7**	**+0.2**	
CM01				*ep*P	pP	22 30 32.4	+6.2	
H21A	**Big Horn, Sher**	**90.17**	**42**	P	**P**	**22 28 22.0**	**+0.9**	
	baz=90							
CM31	**Chiang Mai Arr**	**90.19**	**289**	*e*P	**P**	**22 28 23.0**	**+1.3**	
CM31				*ep*P	**pP**	**22 30 28.9**	**+2.6**	
CM31				*e*PKKPdf	**PKKPbc**	**22 45 49.3**	**+1.4**	
CMAR	**Chiang Mai Arr**	**90.19**	**289**	P	**P**	**22 28 23.0**	**+1.3**	
	comp=Z,26nm,1.0s,baz=119,slow=2.9,SNR=94							
CMAR				pP	**pP**	**22 30 28.9**	**+2.6**	
	comp=Z,3.3nm,1.0s,baz=120,slow=3.6,SNR=5.0							
CMAR				PKiKP	**PKiKP**	**22 33 13.5**	**+0.3**	
	comp=Z,0.6nm,0.5s,baz=173,slow=1.6,SNR=5.4							
CMAR				PKKPbc	**PKKPbc**	**22 45 49.3**	**+1.4**	
	comp=Z,1.4nm,0.4s,baz=286,slow=4.2,SNR=9.9							
835A	**Beeville**	**90.24**	**60**	P	**P**	**22 28 22.6**	**+0.9**	
	baz=90							
K23A	**Bowser Ranch, D**	**90.25**	**44**	P	**P**	**22 28 22.5**	**+0.9**	
	baz=90							
V29A	**Stinnett**	**90.25**	**52**	P	**P**	**22 28 22.3**	**+0.6**	
	baz=90							
Z31A	**Sharp Cattle R**	**90.29**	**55**	P	**P**	**22 28 22.4**	**+0.5**	
	baz=90,SNR=6.0							
R27A	**Eads**	**90.30**	**49**	P	**P**	**22 28 21.9**	**+0.1**	
	baz=90							
CMMT	**Chiang Mai**	**90.31**	**290**	P	**P**	**22 28 22.9**	**+0.7**	
	comp=Z,51nm,1.0s,comp=Z,793nm							
CHTO	**Chiang Mai**	**90.31**	**290**	P	**P**	**22 28 23.0**	**+0.8**	
	comp=Z,176nm,1.1s,comp=Z,3um							
CHTO	**Chiang Mai**	**90.31**	**290**	*e*P	**P**	**22 28 23.2**	**+0.9**	
	comp=Z,59nm,1.3s							
534A	**Blanco**	**90.36**	**58**	P	**P**	**22 28 23.3**	**+1.0**	
	baz=91,SNR=21							
ABTX	**Abilene, Hawle**	**90.41**	**56**	P	**P**	**22 28 23.0**	**+0.6**	
	baz=91,SNR=6.7							
ABTX	**Abilene, Hawle**	**90.41**	**56**	*e*P	**P**	**22 28 23.6**	**+1.2**	
ABTX				*ep*P	**pP**	**22 30 27.4**	**+0.3**	
333A	**Richland Sprin**	**90.44**	**57**	P	**P**	**22 28 23.3**	**+0.7**	
	baz=91							
Y31A	**Rekieta Farm,**	**90.45**	**54**	P	**P**	**22 28 23.4**	**+0.8**	
	baz=91							
CD2	**Chengdu**	**90.55**	**303**	*e*P	**P**	**22 28 22.6**	**-0.5**	
CD2				pP	**pP**	**22 30 25.6**	**-2.2**	
CD2				sP	**sP**	**22 31 22.4**	**-2.5**	
CD2				PP	**PP**	**22 32 07.4**	**-1.4**	
CD2				SKS	**SKSac**	**22 37 59.6**	**-0.9**	
CD2				S	**S**	**22 38 30.1**	**-0.5**	
CD2				SS	**SS**	**22 44 49.8**	**-0.3**	
CD2				PMZ				
	comp=Z,20nm,0.5s							
CD2				PMZ				
	comp=Z,200nm,5.1s							
F21A	**Absaloka Mine,**	**90.66**	**41**	P	**P**	**22 28 24.8**	**+1.4**	
	baz=91							
KSCO	**Kaye Shedlock'**	**90.71**	**49**	P	**P**	**22 28 24.5**	**+0.7**	
	baz=91							
233A	**Rising Star**	**90.76**	**56**	P	**P**	**22 28 24.5**	**+0.4**	
	baz=91							
EDM	**Edmonton**	**90.77**	**33**	*e*P	P	22 28 18.8	-4.8	
	comp=Z,178nm,2.0s							
K24A	**Anderson Ranch**	**90.77**	**45**	P	**P**	**22 28 24.9**	**+0.9**	
	baz=91							
B19A	**Brinkman Farms**	**90.79**	**38**	P	**P**	**22 28 25.3**	**+1.4**	
	baz=91							
Z32A	**Haskell**	**90.80**	**55**	P	**P**	**22 28 24.7**	**+0.5**	
	baz=91,SNR=12							
434A	**Burnet**	**90.81**	**58**	P	**P**	**22 28 25.0**	**+0.7**	
	baz=91,SNR=7.2							
V30A	**Spur Ranch, Mi**	**90.83**	**52**	P	**P**	**22 28 25.7**	**+1.4**	
	baz=91							
X31A	**McDonald Ranch**	**90.92**	**54**	P	**P**	**22 28 25.2**	**+0.4**	
	baz=91							
133A	**Hamilton Ranch**	**90.97**	**56**	P	**P**	**22 28 26.1**	**+1.1**	
	baz=91,SNR=6.1							
MHMT	**Maesarieng**	**91.00**	**289**	P	**P**	**22 28 27.2**	**+1.8**	
	comp=Z,13nm,1.6s,comp=Z,251nm							
C20A	**Veseth Ranch,**	**91.00**	**39**	P	**P**	**22 28 26.0**	**+1.2**	
	baz=91							
E21A	**Keefer Ranch,**	**91.02**	**41**	P	**P**	**22 28 26.0**	**+1.1**	
	baz=91							
R28A	**Tribune**	**91.03**	**50**	P	**P**	**22 28 25.8**	**+0.5**	
	baz=91,SNR=7.3							
334A	**Lometa**	**91.03**	**57**	P	**P**	**22 28 26.1**	**+0.8**	
	baz=91,SNR=14							
N26A	**Koester Ranch,**	**91.05**	**47**	P	**P**	**22 28 26.4**	**+1.1**	
	baz=91							
535A	**Dale**	**91.09**	**59**	P	**P**	**22 28 26.5**	**+0.9**	
	baz=91							
Y32A	**R-V Farms, Ver**	**91.09**	**54**	P	**P**	**22 28 26.2**	**+0.6**	
	baz=91,SNR=9.9							
736A	**Circle Diamond**	**91.10**	**60**	P	**P**	**22 28 27.7**	**+2.0**	
	baz=91							
A19A	**Klindworth Far**	**91.13**	**38**	P	**P**	**22 28 26.5**	**+1.0**	
	baz=91							
W31A	**Holland Ranch,**	**91.16**	**53**	P	**P**	**22 28 26.5**	**+0.6**	
	baz=91,SNR=5.3							
O27A	**Beecher Island**	**91.30**	**48**	P	**P**	**22 28 27.7**	**+1.2**	
	baz=92							
Q28A	**Sharon Springs**	**91.30**	**49**	P	**P**	**22 28 26.8**	**+0.3**	
	baz=92							
636A	**Smothers Creek**	**91.30**	**59**	P	**P**	**22 28 27.6**	**+1.0**	
	baz=92							
D21A	**La Casta Ranch**	**91.31**	**40**	P	**P**	**22 28 27.9**	**+1.6**	
	baz=92							
Z33A	**Whitaker Ranch**	**91.35**	**55**	P	**P**	**22 28 27.7**	**+1.0**	
	baz=92							
435B	**Jarrell**	**91.35**	**58**	P	**P**	**22 28 28.3**	**+1.5**	
	baz=92							
234A	**Clairette**	**91.36**	**57**	P	**P**	**22 28 27.8**	**+1.0**	
	baz=92							
M26A	**McRoberts Ranc**	**91.37**	**46**	P	**P**	**22 28 27.2**	**+0.5**	
	baz=92							
X32A	**Elmer**	**91.37**	**54**	P	**P**	**22 28 27.7**	**+0.9**	
	baz=92,SNR=6.8							
T30A	**Plains**	**91.45**	**51**	P	**P**	**22 28 27.8**	**+0.7**	
	baz=92							
V31A	**Spring Creek L**	**91.47**	**53**	P	**P**	**22 28 28.6**	**+1.4**	
	baz=92							
536A	**Bastrop**	**91.51**	**59**	P	**P**	**22 28 28.8**	**+1.3**	
	baz=92							
A20A	**Cobblestone Ra**	**91.59**	**38**	P	**P**	**22 28 28.3**	**+0.8**	
	baz=92							
C21A	**Desert Coulee**	**91.59**	**39**	P	**P**	**22 28 28.7**	**+1.1**	
	baz=92							
W32A	**Sentinel**	**91.67**	**53**	P	**P**	**22 28 29.3**	**+1.1**	
	baz=92							
F23A	**Volborg**	**91.69**	**42**	P	**P**	**22 28 29.1**	**+1.0**	
	baz=92							
H24A	**Dirks Ranch, A**	**91.81**	**43**	P	**P**	**22 28 28.8**	**+0.1**	
	baz=92							
D22A	**Cohagen**	**91.84**	**40**	P	**P**	**22 28 29.7**	**+1.0**	
	baz=92							
Q29A	**Oakley**	**91.84**	**49**	P	**P**	**22 28 29.9**	**+0.9**	
	baz=92							
K26A	**Motz Farm, Whi**	**91.86**	**45**	P	**P**	**22 28 30.3**	**+1.4**	
	baz=92							
WHTX	**Lake Whitney,**	**91.89**	**57**	P	**P**	**22 28 29.9**	**+0.7**	
	baz=92							
B21A	**Ellsworth Farm**	**91.91**	**39**	P	**P**	**22 28 30.4**	**+1.4**	
	baz=92							
E23A	**Ismay**	**92.09**	**41**	P	**P**	**22 28 30.4**	**+0.6**	
	baz=92							
T31A	**Randall Ranch,**	**92.10**	**51**	P	**P**	**22 28 31.0**	**+0.9**	
	baz=92							
R30A	**Dighton**	**92.11**	**50**	P	**P**	**22 28 31.2**	**+1.1**	
	baz=92							
P29A	**Atwood**	**92.16**	**49**	P	**P**	**22 28 31.8**	**+1.4**	
	baz=92							
N28A	**Pribbeno Ranch**	**92.16**	**48**	P	**P**	**22 28 31.6**	**+1.2**	
	baz=92							
J26A	**Sides Ranch, S**	**92.18**	**45**	P	**P**	**22 28 31.8**	**+1.4**	
	baz=92							
L27A	**T5 Ranch, Ells**	**92.18**	**46**	P	**P**	**22 28 32.0**	**+1.5**	
	baz=92							
A21A	**Bergtoll Ranch**	**92.22**	**38**	P	**P**	**22 28 31.7**	**+1.3**	
	baz=92							
C22A	**Vida**	**92.29**	**40**	P	**P**	**22 28 31.3**	**+0.6**	
	baz=92							
U32A	**Winter Ranch,**	**92.33**	**52**	P	**P**	**22 28 32.2**	**+1.0**	
	baz=92							
Y34A	**Reagan Ranch,**	**92.38**	**55**	P	**P**	**22 28 32.4**	**+1.0**	
	baz=93							
H25A	**Fruitdale**	**92.38**	**43**	P	**P**	**22 28 32.6**	**+1.3**	
	baz=93							
LZH	**Lanzhou**	**92.42**	**307**	⇑P	**P**	**22 28 32.8**	**+1.0**	
LZH				pP	**pP**	**22 30 36.8**	**+0.2**	
LZH				sP	**sP**	**22 31 35.0**	**+1.3**	
LZH				PP	PP	22 32 30.0	+6.7	
LZH				SKS	**SKSac**	**22 38 09.0**	**-1.9**	
LZH				S	**ScS**	**22 38 48.0**	**-0.2**	
LZH				sS	**sS**	**22 42 30.5**	**-0.7**	
LZH				SS	**SS**	**22 45 18.5**	**+1.8**	
LZH				PMZ				
	comp=Z,76nm,1.4s							
LZH				PMZ				
	comp=Z,260nm,7.5s							
Q30A	**Quinter**	**92.42**	**50**	P	**P**	**22 28 32.6**	**+1.1**	
	baz=93,SNR=5.6							
S31A	**Mullinville**	**92.44**	**51**	P	**P**	**22 28 32.3**	**+0.7**	
	baz=93							
HKT	**Hockley**	**92.46**	**59**	*e*P	**P**	**22 28 32.0**	**+0.2**	
HKT				pmax	pmax			
	comp=Z,5.0nm,1.4s							
HKT	**Hockley**	**92.46**	**59**	*ep*P	pP	22 30 37.7	+1.0	
B22A	**Reddig Ranch S**	**92.47**	**39**	P	**P**	**22 28 32.9**	**+1.3**	
	baz=93							
K27A	**Flueckinger Fa**	**92.49**	**46**	P	**P**	**22 28 32.7**	**+0.9**	
	baz=93							
Z35A	**Perchaven, San**	**92.54**	**56**	P	**P**	**22 28 32.1**	**0.0**	
	baz=93							
P30A	**Selden**	**92.62**	**49**	P	**P**	**22 28 33.2**	**+0.7**	
	baz=93,SNR=6.8							
T32A	**Huddler Ranch,**	**92.68**	**52**	P	**P**	**22 28 33.8**	**+1.0**	
	baz=93							
C23A	**Lambert**	**92.74**	**40**	P	**P**	**22 28 33.9**	**+1.1**	
	baz=93							
E24A	**Baker**	**92.74**	**41**	P	**P**	**22 28 33.6**	**+0.8**	
	baz=93							
A22A	**Carney Farms,**	**92.82**	**39**	P	**P**	**22 28 34.3**	**+1.1**	
	baz=93							
J27A	**Elkhorn Farm,**	**92.86**	**45**	P	**P**	**22 28 34.4**	**+0.9**	
	baz=93							
S32A	**Newby Ranch, P**	**92.87**	**51**	P	**P**	**22 28 34.2**	**+0.5**	
	baz=93							
INK	**Inuvik**	**92.92**	**15**	*e*P	**P**	**22 28 32.5**	**-0.5**	
	comp=Z,13nm,0.8s							
D24A	**Glendive**	**92.97**	**41**	P	**P**	**22 28 35.0**	**+1.2**	
	baz=93							
Q31A	**Ellis**	**93.03**	**50**	P	**P**	**22 28 35.1**	**+0.8**	
	baz=93							
438A	**Sam Houston St**	**93.03**	**59**	P	**P**	**22 28 36.2**	**+1.8**	
	baz=93							
M29A	**Burnside Ranch**	**93.05**	**47**	P	**P**	**22 28 35.4**	**+1.0**	
	baz=93							
K28A	**Ten Mile Ranch**	**93.08**	**46**	P	**P**	**22 28 35.0**	**+0.5**	
	baz=93							
C24A	**Savage**	**93.08**	**40**	P	**P**	**22 28 35.6**	**+1.2**	
	baz=93							
B23A	**Brockton**	**93.14**	**39**	P	**P**	**22 28 36.1**	**+1.5**	
	baz=93							
X35A	**Drake**	**93.14**	**55**	P	**P**	**22 28 36.1**	**+1.2**	
	baz=93							
I27A	**Quinn**	**93.16**	**44**	P	**P**	**22 28 35.8**	**+0.9**	
	baz=93							
P31A	**Stockton**	**93.23**	**49**	P	**P**	**22 28 36.7**	**+1.4**	
	baz=93							
R32A	**Long Quarter,**	**93.30**	**50**	P	**P**	**22 28 36.8**	**+1.2**	
	baz=94							
L29A	**Maesberg Ranch**	**93.43**	**47**	P	**P**	**22 28 37.1**	**+1.0**	
	baz=94							
Y36A	**Durant**	**93.50**	**55**	P	**P**	**22 28 37.2**	**+0.7**	
	baz=94							
O31A	**Woolen Ranch,**	**93.51**	**49**	P	**P**	**22 28 37.8**	**+1.3**	
	baz=94							
DGMT	**Dagmar**	**93.62**	**40**	P	**P**	**22 28 38.1**	**+1.3**	
	baz=94							
DGMT	**Dagmar**	**93.62**	**40**	*e*P	**P**	**22 28 38.1**	**+1.3**	
	comp=Z,37nm,1.0s							
Q32A	**Meitler Ranch,**	**93.62**	**50**	P	**P**	**22 28 38.1**	**+1.1**	
	baz=94							
X36A	**Centrahoma**	**93.68**	**55**	P	**P**	**22 28 37.8**	**+0.5**	
	baz=94							
I28A	**Midland**	**93.72**	**45**	P	**P**	**22 28 38.7**	**+1.3**	
	baz=94							
G27A	**Dupree**	**93.77**	**43**	P	**P**	**22 28 37.9**	**+0.3**	
	baz=94							
R33A	**Olander Ranch,**	**93.79**	**51**	P	**P**	**22 28 39.1**	**+1.3**	
	baz=94							
K29A	**Lazy Trails An**	**93.81**	**46**	P	**P**	**22 28 38.8**	**+1.0**	
	baz=94							
P32A	**Huiting Farm,**	**93.83**	**49**	P	**P**	**22 28 39.0**	**+1.1**	
	baz=94							
E26A	**Carlson Angus**	**93.87**	**42**	P	**P**	**22 28 39.3**	**+1.3**	
	baz=94							
A24A	**Westby**	**93.93**	**39**	P	**P**	**22 28 39.8**	**+1.6**	
	baz=94							
J29A	**Okreek**	**94.05**	**45**	P	**P**	**22 28 40.2**	**+1.3**	
	baz=94							
D26A	**Manning**	**94.11**	**41**	P	**P**	**22 28 40.4**	**+1.4**	
	baz=94							
Q33A	**Connelly Farm,**	**94.15**	**50**	P	**P**	**22 28 40.4**	**+0.9**	
	baz=94							
M31A	**Lambtecht Ranc**	**94.20**	**48**	P	**P**	**22 28 41.1**	**+1.4**	
	baz=94							
S34A	**Willow Spring**	**94.22**	**52**	P	**P**	**22 28 41.4**	**+1.6**	
	baz=94							
K30A	**Basset**	**94.26**	**46**	P	**P**	**22 28 40.6**	**+0.7**	
	baz=94							
239A	**Gary**	**94.28**	**58**	P	**P**	**22 28 40.9**	**+0.7**	
	baz=94							
O32A	**Brockman Farm,**	**94.30**	**49**	P	**P**	**22 28 41.1**	**+1.0**	
	baz=94							
R34A	**Isabella, Hill**	**94.33**	**51**	P	**P**	**22 28 41.0**	**+0.8**	
	baz=94							
X37A	**Clayton**	**94.45**	**55**	P	**P**	**22 28 41.5**	**+0.7**

YKA pP **pP** **22 30 46.0 -2.4**
comp=Z,0.6nm,0.8s,baz=246,slow=4.5,SNR=1.9
YKA PP **PP** **22 32 44.3 +1.0**
comp=Z,0.9nm,0.9s,baz=243,slow=7.5,SNR=3.8
YKA PKiKP **PKiKP** **22 33 19.8 -0.7**
comp=Z,0.3nm,0.5s,baz=246,slow=1.7,SNR=4.7
YKA PKKPbc **PKKPdf** **22 45 33.5 -3.0**
comp=Z,2.0nm,0.5s,baz=41,slow=2.2,SNR=20
YKA Yellowknife Ar 95.15 25 P **P** **22 28 42.9 -0.4**
YKA *PP **pP** **22 30 46.0 -2.4**
YKA 22 32 44.3
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKB5 Yellowknife Ar 95.15 25 *e*P **P** **22 28 42.7 -0.6**
YKB5 *e*pP **pP** **22 30 46.0 -2.5**
YKB5 *e*pwP **pwP** **22 30 52.1 +3.7**
YKB5 *e*PP **PP** **22 32 44.4 +1.0**
YKB5 *e*PKiKP **PKiKP** **22 33 19.8 -0.7**
YKB5 *e*PKKPdf **PKKPdf** **22 45 31.8 -4.7**
O34A Beatrice 95.40 49 P **P** **22 28 46.4 +1.4**
baz=96
M33A Taylor Creek F 95.53 48 P **P** **22 28 47.6 +2.0**
baz=96
T37A Cheneyville 18 95.66 53 P **P** **22 28 47.3 +1.0**
baz=96
P35A Duane Minner, 95.66 50 P **P** **22 28 47.2 +1.0**
baz=96
N34A Lincoln 95.77 49 P **P** **22 28 47.8 +1.1**
baz=96
Q36A Arnold C. Orve 95.87 51 P **P** **22 28 48.3 +1.1**
baz=96
B28A Dugan Ranch, T 95.95 41 P **P** **22 28 48.3 +1.0**
baz=96
GTA Gaotai 96.58 309 *e*P **P** **22 28 51.1 +0.6**
GTA PP **PP** **22 32 57.6 +2.6**
GTA SKS **SKSac** **22 38 33.0 +0.4**
GTA S **ScS** **22 39 23.4 +0.7**
GTA SS **SS** **22 46 20.0 +5.2**
GTA PMZ
comp=Z,4.0nm,1.1s
GTA PMZ
comp=Z,92nm,6.2s
ECSD EROS Data Cent 96.69 46 Pdiff **P** **22 28 51.4 +0.7**
baz=97
ECSD EROS Data Cent 96.69 46 *e*P **P** **22 28 51.6 +0.8**
ECSD *e*pP **pP** **22 30 56.2 +0.2**
ECSD *e*PKKPbc **PKKPbc** **22 45 31.1 -0.9**
A29A Manning Farm, 96.82 41 Pdiff **P** **22 28 51.4 +0.2**
baz=97
TIXI Tiksi 97.66 345⇑ *e*P **P** **22 28 54.9 +0.5**
TIXI pmax pmax
comp=Z,2.0nm,1.4s
TIXI Tiksi 97.66 345 *e*PP PP 22 32 57.6 -4.6
AGMN Agassiz Nation 98.71 42 *e*PP PP 22 33 07.9 -2.7
ULM Lac du Bonnet 99.33 40 PKKPbc PKKPbc 22 45 22.5 -2.5
comp=Z,1.9nm,0.6s,baz=131,slow=2.3,SNR=4.3
WVT Waverly 100.78 55 *e*PKKPbc PKKPbc 22 45 19.9 -0.5
EYMN Ely 101.39 43 *e*PKKPbc PKKPbc 22 45 16.9 -2.2
LPAZ La Paz 102.06 112 P **Pdif** **22 29 17.8 +1.8**
comp=Z,1.7nm,0.7s,baz=229,slow=5.4,SNR=9.5
LPAZ PKKPbc **PKKPbc** **22 45 16.9 -0.2**
comp=Z,1.2nm,0.6s,baz=45,slow=1.4,SNR=7.9
LPAZ La Paz 102.06 112 *e*Pdif **Pdif** **22 29 20.4 +4.4**
LPAZ *e*PKKPbc **PKKPbc** **22 45 16.9 -0.2**
ODAN Odare 102.89 294 *e*P **PKKPbc** **22 45 14.8 +0.5**
comp=Z,5.3nm,0.5s
RAMN Ramite 103.60 294 *e*P **PKKPbc** **22 45 13.6 +1.3**
comp=Z,5.4nm,0.6s
GUN Gumba 104.46 295 *e*P **PKiKP** **22 33 37.4 -1.4**
PKI Pulchoki 104.78 294 *e*P **PKiKP** **22 33 38.3 -1.0**
comp=Z,11nm,0.6s
PKI Pulchoki 104.78 294 *e*P **PKKPbc** **22 45 09.9 +1.0**
PKIN Phulchoki 104.79 294 *e*P **PKiKP** **22 33 38.3 -1.0**
comp=Z,11nm,0.6s
PKIN Phulchoki 104.79 294 *e*P **PKKPbc** **22 45 09.8 +1.0**
KKN Kakani 104.94 295 *e*P **PKiKP** **22 33 38.5 -1.0**
comp=Z,12nm,0.7s
DMN Daman 105.05 294 *e*P **PKiKP** **22 33 39.0 -0.7**
comp=Z,11nm,0.6s
GKN Gorkha 105.55 295 *e*P **PKiKP** **22 33 39.2 -1.3**
comp=Z,5.2nm,0.5s
GKN Gorkha 105.55 295 *e*P **PKKPbc** **22 45 06.6 +0.2**
comp=Z,5.8nm,0.7s
KOLN Koldanda 106.39 294 *e*P **PKiKP** **22 33 40.9 -1.2**
comp=Z,13nm,0.5s
WMQ Urumqi 106.49 311 Pdif **Pdif** **22 29 33.9 -0.5**
WMQ PP **PP** **22 34 07.6 -0.5**
WMQ S **Sdif** **22 40 45.0 -0.1**
WMQ SS **SS** **22 48 26.1 -3.7**
WMQ PPMZ
comp=Z,11nm,9.4s
ZAA0 Zalesovo Array 109.83 321 *e*PKiKP **PKiKP** **22 33 46.0 -1.5**
ZAA0 *e*PP **PP** **22 34 34.3 +2.7**
ZAA0 *e*PKKPbc **PKKPbc** **22 44 51.5 -2.1**
ZAA1 Zalesovo Array 109.83 321 *e*PKiKP **PKiKP** **22 33 46.2 -1.3**
ZAA1 *e*PKKPbc **PKKPbc** **22 44 52.2 -1.5**
ZALV Zalesovo Beam 109.83 321 PKiKP **PKiKP** **22 33 46.2 -1.3**
comp=Z,5.4nm,0.5s,baz=120,slow=0.6,SNR=27
ZALV PKKPbc **PKKPbc** **22 44 52.2 -1.5**
comp=Z,2.4nm,0.6s,baz=252,slow=4.3,SNR=11
MK01 Makanchi Array 110.70 314 *e*PKiKP **PKiKP** **22 33 48.1 -1.4**
MK01 *e*PKKPbc **PKKPbc** **22 44 50.1 -0.7**
MK32 Makanchi Array 110.71 314 *e*Pdif **Pdif** **22 29 54.6 +1.6**
MK32 *e*PKiKP **PKiKP** **22 33 48.3 -1.2**
MK32 *e*PKKPbc **PKKPbc** **22 44 50.3 -0.4**
MKAR Makanchi Array 110.71 314 Pdiff **Pdif** **22 29 54.6 +1.6**
comp=Z,0.2nm,0.4s,baz=77,slow=6.8,SNR=4.1
MKAR PKiKP **PKiKP** **22 33 48.3 -1.2**
comp=Z,6.2nm,0.5s,baz=206,slow=0.6,SNR=153
MKAR SKP 22 36 31.8
comp=Z,1.5nm,0.7s,baz=68,slow=3.9,SNR=4.8
MKAR PKKPbc **PKKPbc** **22 44 50.3 -0.4**
comp=Z,2.7nm,0.6s,baz=281,slow=2.7,SNR=20
KURK Kurchatov 113.42 318 *e*PKiKP **PKiKP** **22 33 52.7 -1.7**
KURK *e*PKKPbc **PKKPbc** **22 44 40.7 -1.2**
KURBB Kurchatov Arra 113.47 318 PKKPbc PKKPbc 22 44 40.7 -1.0
comp=Z,3.0nm,0.7s,baz=270,slow=4.2,SNR=14
KSH Kashi 114.59 305 PKP PKPdf 22 33 57.9 +0.7
KSH PP **PP** **22 35 08.3 +2.7**
KSH SKKS 22 41 07.3
KSH SS SS 22 50 24.3 +7.5
TKM2 Tokmak 2 115.13 309 P **PKPdf** **22 33 57.4 -0.9**
SNR=15
TKM2 Tokmak 2 115.13 309 *e*PKPdf **PKPdf** **22 33 57.3 -0.9**
KZA Kyzart 115.33 308 P **PKPdf** **22 33 58.8 -0.2**
SNR=5.8
PTGA Pitinga 115.58 100 *e*PKPdf **PKPdf** **22 33 59.0 -0.7**
KBK Karagaybulak 115.59 309 P **PKPdf** **22 33 58.6 -0.6**
SNR=8.0
CHMS Chumysh 115.75 309 P **PKPdf** **22 33 58.5 -0.8**
SNR=6.5
UCH Uchtor 115.89 308 P **PKPdf** **22 33 59.9 -0.2**
SNR=8.5
AAK Ala-Archa 115.92 309 PKKP **PKKPdf** **22 44 54.7 -2.6**
comp=Z,2.1nm,0.3s,baz=275,slow=4.2,SNR=4.2
USP Ospenovka 115.95 309 P **PKPdf** **22 33 58.9 -0.8**
SNR=12
KULLO Kullorsuaq 116.28 15 *i* P **PKPdf** **22 33 58.4 -0.9**
comp=Z,8.9nm,0.6s
EKS2 Erkin-Say 116.45 309 P **PKPdf** **22 34 00.3 -0.5**
SNR=7.0
EKS2 Erkin-Say 116.45 309 *e*PKPdf **PKPdf** **22 34 00.2 -0.5**
AML Almayashu 116.49 308 P **PKPdf** **22 34 00.8 -0.3**
SNR=6.8
PQI Presque Isle 116.99 47 *e*PKPdf **PKPdf** **22 34 00.4 -1.0**
SCHQ Schefferville 117.36 38 PKP **PKPdf** **22 34 01.0 -0.9**
comp=Z,1.5nm,0.5s,baz=263,slow=4.9,SNR=8.6
SCHQ PKKPbc **PKKPbc** **22 44 27.2 -1.5**
comp=Z,2.3nm,0.6s,baz=53,slow=3.5,SNR=11
BVAR Borovoye Array 118.44 320 PKKPbc PKKPbc 22 44 23.6 -1.1
comp=Z,1.4nm,0.6s,baz=281,slow=4.0,SNR=7.6
BRVK Borovoye 118.50 321 *d* *i* PKiKP **PKPdf** **22 34 03.4 -0.8**
BRVK pmax pmax
comp=Z,28nm,1.7s
BRVK Borovoye 118.50 321 *e*PKPdf **PKPdf** **22 34 03.3 -0.9**
KKAR Karatay Array 118.86 309 *e*PKPdf **PKPdf** **22 34 04.0 -1.2**
BBSR BB Station 118.92 63 *e*PP PP 22 35 44.8 +9.5
BDFB Brasilia 119.37 121 PKP **PKPdf** **22 34 06.5 -0.6**
comp=Z,4.7nm,0.5s,baz=277,slow=1.8,SNR=8.7
BDFB Brasilia 119.37 121 PKiKP **PKPdf** **22 34 06.5 -0.6**
BDFB pmax pmax
comp=Z,5.0nm,0.5s
KBL Kabul 119.73 299 *e*PKPdf **PKPdf** **22 34 07.2 -0.2**
ILULI Ilulissat 120.38 19⇓ *i*P **PKPdf** **22 34 06.4 -0.9**
comp=Z,20nm,0.5s
SPA0 Spitsbergen Ar 120.64 357 *e*P **PKPdf** **22 34 07.0 -0.6**
SPA0 Spitsbergen Ar 120.64 357 *e*PKKPbc PKKPbc 22 44 15.4 -2.0
SPITS Spitsbergen Ar 120.64 357 SKP **SKiKP** **22 36 51.3 +1.6**
comp=Z,4.5nm,0.6s,baz=40,slow=4.4,SNR=6.0
SPITS PKKPbc **PKKPab** **22 44 15.4 -1.6**
comp=Z,3.5nm,0.8s,baz=155,slow=4.4,SNR=4.6
DAG Danmarks Havn 121.43 6⇓ *i*P **PKPdf** **22 34 07.6 -1.5**
comp=Z,7.2nm,0.6s
DAG Danmarks Havn 121.43 6⇓ *i*PKiKP **PKPdf** **22 34 07.6 -1.5**
DAG pmax pmax
comp=Z,5.0nm,0.6s
SFJD Kangerlussuaq 121.58 22 *i* P **PKPdf** **22 34 08.8 -0.8**
comp=Z,16nm,0.5s
SFJD Kangerlussuaq 121.58 22 *i* PKiKP **PKPdf** **22 34 08.8 -0.8**
SFJD pmax pmax
comp=Z,16nm,0.5s
SUMG Summit 121.81 13 *i* P **PKPdf** **22 34 10.3 -0.2**
comp=Z,6.9nm,0.6s
SUMG Summit 121.81 13 *i* PKiKP **PKPdf** **22 34 10.3 -0.2**
SUMG pmax pmax
comp=Z,7.0nm,0.6s
SUMG Summit 121.81 13 *e*PKPdf **PKPdf** **22 34 09.6 -0.9**
SUMG *e*PKKPbc **PKKPab** **22 44 12.1 -0.3**
OPO Ambohidratompo 122.29 232 PKP **PKPdf** **22 34 13.2 +0.5**
comp=Z,17nm,0.6s,baz=129,slow=1.4,SNR=32
OPO SKP 22 36 56.9
comp=Z,2.2nm,0.7s,baz=153,slow=2.3,SNR=3.4
SVE Sverdlovsk 123.24 326 *e*PKiKP **PKPdf** **22 34 12.7 -0.4**
SVE pmax pmax
comp=Z,20nm,0.6s
ARU Arti 124.45 326 *i* PKiKP **PKPdf** **22 34 14.8 -0.7**
ARU 22 36 10.4
ARU SP SP 22 45 09.9 -3.9
ARU Arti 124.45 326 *e*PKPdf **PKPdf** **22 34 14.8 -0.7**
ARU *e*PP **PP** **22 36 07.6 -3.8**
ARU *e*PKKPbc **PKKPbc** **22 44 01.9 -0.6**
ABKAR Akbulak array 125.52 317 *e*PKPdf **PKPdf** **22 34 17.2 -0.5**
ABKAR *e*PKKPbc **PKKPbc** **22 43 57.5 -0.7**
SUR Sutherland 125.78 199 PKP **PKPdf** **22 34 19.5 +0.4**
comp=Z,38nm,0.6s,baz=129,slow=1.3,SNR=52
SUR Sutherland 125.78 199 *e*PKPdf **PKPdf** **22 34 19.2 +0.1**
AKTO Aktyubinsk 126.47 319 PKKPbc PKKPbc 22 43 54.0 -0.4
comp=Z,1.4nm,0.5s,baz=230,slow=3.4,SNR=6.4
BOSA Boshof 127.62 205 PKP **PKPdf** **22 34 23.4 +0.7**
comp=Z,17nm,0.7s,baz=154,slow=1.9,SNR=38
BOSA Boshof 127.62 205 PKiKP **PKPdf** **22 34 23.4 +0.7**
BOSA pmax pmax
comp=Z,17nm,0.7s
BOSA Boshof 127.62 205 *e*PKPdf **PKPdf** **22 34 22.6 -0.1**
BOSA *e*PKPdf **PKPdf** **22 34 23.4 +0.7**
ARA0 ARCESS Array S 127.77 350 *e*PKPdf **PKPdf** **22 34 20.8 -0.7**
ARA0 *e*PKPdf **PKiKP** **22 34 21.1 -1.1**
ARCES ARCESS Array B 127.77 350 PKP **PKPdf** **22 34 21.1 -0.4**
comp=Z,15nm,0.5s,baz=13,slow=1.5,SNR=127
ARCES SKPbc SKPbc 22 36 48.8
comp=Z,12nm,0.9s,baz=45,slow=3.6,SNR=9.3
ARCES SKP **SKiKP** **22 37 04.6 +0.3**
comp=Z,2.4nm,0.5s,baz=94,slow=0.7,SNR=4.9
ARCES PKKPbc PKKPbc 22 43 48.5
comp=Z,2.3nm,0.7s,baz=218,slow=2.8,SNR=9.1
ARCES PKKP **PKKPdf** **22 44 32.5 -2.4**
comp=Z,1.9nm,0.7s,baz=194,slow=2.7,SNR=5.9
ARE0 ARCESS Array S 127.77 350 *e*P **PKPdf** **22 34 20.9 -0.6**
TRO Tromso 128.62 353 *e*P **PKPdf** **22 34 21.0 -2.1**
BANOM Banah 130.21 288⇓ *i*PKiKP **PKPdf** **22 34 27.6 +0.1**
SNR=10.0
HATD Hatta, Dubai 130.28 287 *i* PKiKP **PKPdf** **22 34 28.0 +0.4**
SNR=9.3
ASHO Ashiyiah 130.33 286 *i* PKiKP **PKPdf** **22 34 27.9 +0.2**
SNR=7.0
LBTB Lobatse 130.63 208 PKhKP PKPpre 22 34 16.0
comp=Z,1.7nm,0.6s,baz=117,slow=1.6,SNR=4.6
LBTB PKP **PKPdf** **22 34 28.5 0.0**
comp=Z,9.7nm,0.5s,baz=147,slow=3.0,SNR=5.1
LBTB SKPbc **SKPab** **22 37 00.8 +0.8**
comp=Z,32nm,0.7s,baz=156,slow=4.7,SNR=26
STEI Steigen 130.66 354 *e*P **PKPdf** **22 34 26.8 -0.1**
NAZ Nazwa, Dubai 130.72 287⇑ *i*PKiKP **PKPdf** **22 34 28.7 +0.3**
SNR=6.4
ASUD Al Ashush, Dub 130.99 286 *i* PKiKP **PKiKP** **22 34 29.5 -0.4**
SNR=13
BORG Borgarnes 131.79 13 SKPbc **SKPab** **22 37 03.7 +0.1**
comp=Z,14nm,0.8s,baz=246,slow=12,SNR=3.4
KONS Konsvik 132.26 354 *e*P **PKPdf** **22 34 29.9 -0.1**
FLOS Flostrand 132.39 354 *e*P **PKPdf** **22 34 31.0 +0.7**
STOK Stokkvaagen 132.43 354 *e*P **PKPdf** **22 34 30.1 -0.3**
MATP Matopo 133.10 214 PKhKP PKPpre 22 34 16.0
comp=Z,3.3nm,0.5s,baz=142,slow=3.5,SNR=12
MATP PKP **PKPdf** **22 34 33.1 -0.1**
comp=Z,20nm,0.5s,baz=133,slow=1.4,SNR=29
MATP SKPbc **SKPbc** **22 37 09.1 +0.9**
comp=Z,17nm,0.7s,baz=140,slow=3.8,SNR=3.8
NSS Namsos 134.29 354 *e*P **PKPdf** **22 34 21.1**
RCBR Riachuelo 134.68 120 SKPbc **SKPbc** **22 37 13.8 +0.4**
baz=243,slow=6.8
FIA0 FINESS Array S 134.71 344 *e*PKPpre PKPpre 22 34 21.1
FIA0 *e*PKPdf **PKPdf** **22 34 35.5 +0.7**
FIA0 *e*SKPbc **SKPbc** **22 37 12.6 +0.8**
FINES FINESS Array B 134.71 344 PKhKP PKPpre 22 34 21.1
comp=Z,0.9nm,0.5s,baz=57,slow=2.9,SNR=13
FINES PKP **PKPdf** **22 34 35.5 +0.7**
comp=Z,6.8nm,0.5s,baz=60,slow=3.4,SNR=22
FINES SKPbc **SKPbc** **22 37 12.6 +0.8**
comp=Z,10nm,0.6s,baz=42,slow=3.1,SNR=14
FINES SKKPbc **SKKPbc** **22 46 26.3 +3.0**
comp=Z,0.8nm,0.5s,baz=211,slow=1.6,SNR=3.6
VRHR Novokhopersk 135.78 325 *e*PKiKP **PKPdf** **22 34 36.7 -0.4**
VRHR pmax pmax
comp=N,9.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s
OBN Obninsk 135.89 333 SKP **SKPbc** **22 37 16.5 +0.9**
comp=Z,11nm,0.4s,baz=89,slow=2.9,SNR=14
OBN Obninsk 135.89 333 PKiKP **PKPdf** **22 34 37.0 -0.1**
OBN pmax pmax
comp=Z,8.0nm,0.9s
LPSR Galich'ya Gora 136.34 328 *e*PKHKP PKPpre 22 34 20.5
LPSR pmax pmax
comp=N,40nm,0.6s
LPSR pmax pmax
comp=E,40nm,0.6s
LPSR pmax pmax
comp=Z,60nm,0.6s
AKN Aaknes 136.98 357 *e*P PKPpre 22 34 30.8
VSR Storozhevoye 137.02 327 *e*PKiKP **PKPdf** **22 34 36.8 -2.5**
VSR pmax pmax
comp=Z,30nm,1.5s
VSR pmax pmax
comp=N,6.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
VORD Divnogorie 137.09 326 *e*PKiKP **PKPdf** **22 34 38.5 -1.0**
VORD pmax pmax
comp=Z,30nm,1.8s
VORD pmax pmax
comp=N,10.0nm,1.4s
VORD pmax pmax
comp=E,20nm,1.4s
LSZ Lusaka 137.43 218 PKhKP PKPpre 22 34 29.6
comp=E,6.1nm,0.5s,baz=165,slow=3.7,SNR=15
LSZ PKP **PKiKP** **22 34 43.3 -0.1**
comp=E,29nm,0.7s,baz=44,slow=4.0,SNR=26
LSZ SKP 22 37 23.7
comp=E,8.4nm,0.8s,baz=73,slow=3.7,SNR=7.3
LSZ Lusaka 137.43 218 *e*PKPpre PKPpre 22 34 32.8
LSZ *e*PKPdf **PKiKP** **22 34 43.3 -0.1**
NB2 NORSAR Subarra 137.79 354 PKP PKPpre 22 34 29.7
comp=Z,3.4nm,0.5s,baz=17,slow=2.6
NB200 NORSAR Array S 137.79 354 *e*PKPpre PKPpre 22 34 29.3
NB200 *e*PKPdf **PKPdf** **22 34 40.4 -0.1**
NOA NORSAR Array B 137.79 354 PKhKP PKPpre 22 34 29.3
comp=Z,0.9nm,0.5s,baz=14,slow=4.6,SNR=11
NOA PKP **PKPdf** **22 34 40.4 -0.1**
comp=Z,4.4nm,0.5s,baz=14,slow=4.0,SNR=21
NOA SKP 22 37 22.0
comp=Z,3.2nm,0.6s,baz=14,slow=4.4,SNR=8.7
NBO02 NORSAR Array S 137.81 354 *e*PKPpre PKPpre 22 34 33.0
NBO02 *e*SKPbc **SKPbc** **22 37 22.2 +1.0**
TBLG Delisi 137.83 312 P PKPpre 22 34 23.6
TBLG Delisi 137.83 312 PKHKP PKPpre 22 34 23.6
SUE Sulen 138.19 358 *e*P PKPpre 22 34 30.6
GNI Garni 138.33 309 PKP **PKPdf** **22 34 42.8 +0.4**
comp=Z,3.9nm,0.6s,baz=153,slow=2.3,SNR=3.8
GNI SKP 22 37 25.0
comp=Z,1.4nm,0.3s,baz=164,slow=18,SNR=3.7
GNI Garni 138.33 309⇓ *i*PKiKP **PKPdf** **22 34 42.6 +0.2**
GNI Garni 138.33 309 *e*PKPdf **PKPdf** **22 34 42.8 +0.4**
GNI *e*PKPdf **PKiKP** **22 34 43.0 -1.6**
GNI *e*SKPbc **SKiKP** **22 37 26.0 -0.9**
HFS Hagfors 138.37 352 PKhKP PKPpre 22 34 30.8
comp=Z,4.3nm,0.5s,baz=46,slow=4.2,SNR=16
HFS SKP 22 37 23.8
comp=Z,6.3nm,0.9s,baz=66,slow=5.2,SNR=5.1
KBZ Khabaz 138.39 315 PKP **PKPdf** **22 34 43.8 +1.7**
comp=Z,2.1nm,0.6s,baz=225,slow=4.3,SNR=4.5
KBZ SKP 22 37 24.6
comp=Z,4.2nm,0.9s,baz=101,slow=7.2,SNR=6.4
KBZ Khabaz 138.39 315 PKiKP **PKPdf** **22 34 43.8 +1.7**
KBZ pmax pmax
comp=Z,2.0nm,0.6s
KBZ pmax pmax
comp=N,4.0nm,0.9s
KIV Kislovodsk 138.44 315 *e*P **PKPdf** **22 34 42.1 -0.2**
KIV Kislovodsk 138.44 315 *i* PKiKP **PKPdf** **22 34 41.9 -0.4**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 138.44 315⇑ *i*PKPdf **PKPdf** **22 34 41.5 -0.8**
SNR=6.4
KIV Kislovodsk 138.44 315 *e*PKPdf **PKPdf** **22 34 41.6 -0.8**
KIV *e*SKPbc **SKPbc** **22 37 24.8 +1.2**
ONI Oni 138.44 313 P **PKPdf** **22 34 42.8 +0.5**
ONI Oni 138.44 313 PKiKP **PKPdf** **22 34 42.8 +0.5**
NEY Neytrino 138.69 314⇑ *e*PKiKP **PKPdf** **22 34 42.7 -0.2**
ASK Askoy 138.75 358 *e*P PKPpre 22 34 33.5
RUND Rundenannen 138.82 358 *e*P PKPpre 22 34 33.0
AKH Akhalkalaki 138.82 312 P **PKPdf** **22 34 40.3 -2.9**
AKH Akhalkalaki 138.82 312 PKiKP **PKPdf** **22 34 40.3 -2.9**
TSUM Tsumeb 139.06 202 PKhKP PKPpre 22 34 36.5
comp=Z,5.7nm,0.6s,baz=144,slow=7.5,SNR=16
TSUM PKP **PKiKP** **22 34 45.8 -0.9**
comp=Z,14nm,0.7s,baz=88,slow=1.6,SNR=19
TSUM SKPab **SKPab** **22 37 39.8 +2.8**
comp=Z,4.6nm,0.7s,baz=128,slow=7.0,SNR=3.3
TSUM Tsumeb 139.06 202 *e*PKPpre PKPpre 22 34 36.5
TSUM *e*PKPpre PKPpre 22 34 38.3
TSUM *e*PKPdf **PKiKP** **22 34 45.8 -0.9**
TSUM *e*SKPab **SKPab** **22 37 39.8 +2.8**
TSUM *e*PP **PP** **22 37 42.9 -0.2**
KONO Kongsberg 139.31 355 *e*P PKPpre 22 34 35.6
BLS5 Blasjo 139.76 357 *e*P PKPpre 22 34 36.4
HAKT HAKKARI 139.83 306 *i* P PKPdf 22 34 38.9 -6.4
RAYN Ar Rayn 139.89 284 *e*PKPpre PKPpre 22 34 39.2
TUTA Tutak 139.97 309 *i* P PKPdf 22 34 52.0 +6.5
ARTV Artvin 140.00 312 *i* P **PKPdf** **22 34 46.7 +1.3**
KMY Karmoy 140.02 358 *e*P **PKPdf** **22 34 42.8 -1.8**
EATA Eleskirt 140.06 310 *i* P PKPdf 22 34 40.1 -5.6
GEVA Gevas 140.12 307 *i* P PKPdf 22 34 38.9 -6.8
HOMI Horasan 140.42 310 *i* P **PKPdf** **22 34 50.5 +4.3**
SOC Sochi 140.55 316 *i* PKiKP **PKPdf** **22 34 44.4 -1.6**
SOC *e* 22 37 46.6
SOC *e*SS SS 22 55 37.6 +4.2
EKAR Karacoban 140.57 309 *i* P **PKPdf** **22 34 42.5 -4.0**
SNART Snartemo 140.80 356 *e*P PKPdf 22 34 40.4 -5.6
SIRN S¨¨rnak 140.84 306 *i* P PKPdf 22 34 41.3 -5.6
ERZM Erzurum 140.86 310 *i* P **PKPdf** **22 34 43.0 -4.1**
BNGL BINGOL 141.34 309 *i* P **PKPdf** **22 34 44.5 -3.4**
ANN Anapa 141.43 319 *i* PKHKP PKPpre 22 34 35.6
ANN pmax pmax
comp=Z,29nm,1.2s
BAYT Ayd¨¨ntepe-Bay 141.56 311 *e*P **PKPdf** **22 34 44.8 -3.4**
SUW Suwalki 141.84 340 *e*PKP PKPpre 22 34 43.6
SUW *e* 22 37 33.2
SUW Suwalki 141.84 340 *e*PKHKP PKPpre 22 34 43.7
GUMT Gumushane 142.00 312 *e*P **PKPdf** **22 34 46.1 -2.8**
MARD Mardin 142.14 307 *i* P **PKPdf** **22 34 45.7 -3.5**
AKASG Malin Array Be 142.15 332 PKhKP PKPpre 22 34 44.1
comp=Z,12nm,0.5s,baz=42,slow=4.2,SNR=88
AKASG SKPbc **SKiKP** **22 37 34.1 -0.1**
comp=Z,4.6nm,0.7s,baz=35,slow=2.9,SNR=10
AKASG SKKPab **SKKPab** **22 45 51.7 -1.9**
comp=Z,1.2nm,0.6s,baz=230,slow=3.6,SNR=8.8
AKBB Malin Array Si 142.15 332 *e*PKPpre PKPpre 22 34 44.1
AKBB *e*SKPbc **SKiKP** **22 37 34.1 -0.1**
KIEV Kiev 142.16 332 *e*PKPpre PKPpre 22 34 43.6
KIEV *e*SKPbc **SKiKP** **22 37 33.9 -0.3**
AK11 Malin Array Si 142.19 332 *e*PKPpre PKPpre 22 34 44.5
AK11 *e*SKPbc **SKiKP** **22 37 34.2 -0.1**
KELT Kelkit 142.28 312 *i* P **PKPdf** **22 34 47.2 -2.3**
MAZI Mazidag 142.34 307 *e*P PKPpre 22 34 45.6
MUD Monsted U'grnd 142.50 354 *i* P PKPpre 22 34 45.7
comp=Z,14nm,0.6s
MUD Monsted U'grnd 142.50 354 *i* PKHKP PKPpre 22 34 45.7
MUD pmax pmax
comp=Z,14nm,0.6s
PTK Pertek 142.65 310 *e*P **PKPdf** **22 34 48.2 -2.0**
COP Copenhagen 142.85 351 *i* P **PKPdf** **22 34 49.6 -0.1**
comp=Z,42nm,1.5s
COP Copenhagen 142.85 351 *e*PKiKP **PKPdf** **22 34 49.6 -0.1**
COP pmax pmax
comp=Z,42nm,1.5s
BSD Bornholm Skovb 142.97 348⇓ *i*P **PKPdf** **22 34 47.0 -2.9**
comp=Z,31nm,0.9s
SUSE Susehri 143.00 312 *i* P **PKPdf** **22 34 48.5 -2.3**
ELZG Elazig 143.09 309 *i* P **PKPdf** **22 34 50.2 -0.7**
KEMA Kemaliye 143.16 311 *i* P PKPbc 22 34 49.7 +0.4
LLD Lille Linde 143.22 351 *i* P PKPab 22 34 48.5 +0.1
LLD Lille Linde 143.22 351 *i* PKiKP PKPab 22 34 48.5 +0.1
SIM Simferopol' 143.35 321 *c* *i* PKiKP PKPbc 22 34 49.7 +0.1
SIM pmax pmax
comp=Z,58nm,0.6s
SIM MLR MLR
comp=Z,80nm,20.0s
RSDY Resadiye-TOKAT 143.53 313 *e*P PKPab 22 34 50.0 -0.2
MALT Malatya 143.56 309 *e*P **PKPdf** **22 34 51.9 +0.2**
MALT Malatya 143.56 309⇑ PKiKP **PKPdf** **22 34 51.6 -0.1**
MALT Malatya 143.56 309⇑ *i*P **PKPdf** **22 34 51.6 -0.1**
FURI Furi 143.56 259 *e*PKPbc **PKPdf** **22 34 53.6 +0.9**
URFA Urfa 143.57 308 *e*P PKPab 22 34 50.4 -0.2
EKA Eskdalemuir Ar 143.70 6 PKP PKPbc 22 34 49.9 -0.4
comp=Z,16nm,0.5s,baz=324,slow=3.0,SNR=181
EKA SKPbc **SKiKP** **22 37 37.7 +0.5**
comp=Z,3.6nm,0.8s,baz=341,slow=2.0,SNR=7.7
EKA SKKPbc **SKKPbc** **22 45 47.8 -0.4**
comp=Z,1.7nm,0.8s,baz=162,slow=5.0,SNR=5.7
ESK Eskdalemuir 143.71 6 *e*PKPbc PKPbc 22 34 50.0 -0.3
SCER sogukcermik 143.89 312 *i* P **PKPdf** **22 34 53.9 +1.6**
AKCD Akcadag 143.94 309 *i* P **PKPdf** **22 34 52.3 -0.1**
ATAB Bozova 143.96 308 *i* P **PKPdf** **22 34 52.5 +0.1**
SVSK Karacayir 143.96 312 *e*P PKPab 22 34 52.0 +0.2
SHEL Horse Pasture 144.09 166 *i* PKiKP **PKPdf** **22 34 54.5 +1.3**
SHEL Horse Pasture 144.09 166 *e*PKPbc **PKPdf** **22 34 54.0 +0.8**
KVT Kavak 144.10 315 *e*P **PKPdf** **22 34 52.9 +0.4**
TOKA Tokat 144.15 313 *i* P **PKPab** **22 34 52.9 +0.3**
DARE Darende-Malaty 144.15 310 *e*P **PKPab** **22 34 52.8 0.0**
GKP Gorka Klasztor 144.17 345 *e*PKPdf PKPbc 22 34 51.7 -0.1
GKP *e* 22 37 39.3
GKP Gorka Klasztor 144.17 345⇓ *e*PKiKP PKPbc 22 34 51.8 0.0
HAVZ Havza 144.32 315 *i* P **PKPab** **22 34 53.3 0.0**
DIKM Dikmen 144.36 316 *e*P **PKPab** **22 34 53.9 +0.7**
SORM Soroca 144.39 330⇑ PKiKP **PKPdf** **22 34 52.0 -0.6**
SORM Soroca 144.39 330⇑ *i*P **PKPdf** **22 34 52.0 -0.6**
BEL Belsk 144.45 340 *e*PKPdf **PKPab** **22 34 53.0 -0.3**
BEL *e* 22 37 40.4
BEL Belsk 144.45 340⇓ *e*PKiKP **PKPab** **22 34 53.0 -0.3**
HLG Helgoland 144.87 355 *e*PKPab **PKPab** **22 34 54.4 -0.4**
PINB Pinarbasi 144.89 311 *i* P PKPbc 22 34 55.0 +0.2
KIS Kishinev 144.96 328⇓ *i*PKiKP **PKPdf** **22 34 53.0 -0.7**
KIS M M 22 34 53.5
comp=Z,300nm,1.5s
KIS Kishinev 144.96 328⇓ *i*PKiKP **PKPdf** **22 34 53.0 -0.7**
KIS *e* 22 41 48.0
KIS pmax pmax
comp=Z,300nm,1.5s
KIS Kishinev 144.96 328⇓ *i*P PKPbc 22 34 54.1 -0.3
KMRS Kahramanmaras 144.98 309 *e*P **PKPdf** **22 34 54.3 +0.2**
LVV L'vov 144.99 336 *e*PKiKP **PKPdf** **22 34 53.5 -0.1**
KUZU Kuzuini 145.11 307 *i* P **PKPbc** **22 34 55.8 +0.5**
CTKT Corum 145.16 315 *i* P **PKPab** **22 34 56.3 -0.3**
KAMA Osmaniye 145.27 308 *i* P **PKPbc** **22 34 55.7 -0.2**
DSB Dublin 145.35 9 *e*PKPdf **PKPbc** **22 34 55.1 -0.2**
IAS Iasi 145.43 329⇑ PKiKP **PKPbc** **22 34 55.8 0.0**
IAS Iasi 145.43 329⇑ *i*P **PKPbc** **22 34 55.8 0.0**

CORM Corum 145.47 314 eP PKPdf 22 34 55.4 +0.4
LEOM Leova 145.60 328 ⇑PKIKP PKPdf 22 34 55.5 +0.7
LEOM Leova 145.60 328 ⇑iP PKPdf 22 34 55.5 +0.7
KWP Kalwaria Pacla 145.64 337 ePKPdf PKPbc 22 34 56.2 -0.2
KWP e 22 37 43.0
KWP Kalwaria Pacla 145.64 337 ⇓ePKIKP PKPbc 22 34 56.2 -0.2
ILGA Ilgaz 145.66 316 iP PKPbc 22 34 57.7 +0.7
RUE Ruedersdorf 145.68 348 ePKPbc PKPbc 22 34 56.4 +0.1
RUE Ruedersdorf 145.68 348 ePKPdf PKPbc 22 34 56.5 +0.1
KOZT Kozan 145.78 309 eP PKPbc 22 34 56.7 -0.5
CDAG Cicekdag 145.91 313 iP PKPbc 22 34 56.9 -0.6
PRAR RASCA 145.94 331 ⇓iP PKPbc 22 34 57.2 -0.1
AVNT Avonos 145.94 312 iP PKPbc 22 34 57.4 -0.4
CANT Cankiri 145.95 315 eP PKPbc 22 34 57.1 -0.5
MBAR Mbarara 146.04 238 ePKPdf PKPdf 22 34 56.4 -0.4
YAYL Yayladag 146.10 307 iP PKPdf 22 34 56.1 0.0
ELDT Eldivan 146.13 315 iP PKPbc 22 34 58.4 +0.1
OJC Ojcow 146.16 340 ePKPdf PKPbc 22 34 57.7 -0.1
OJC Ojcow 146.16 340 ⇓ePKP2 PKPbc 22 34 57.7 -0.1
OJC Ojcow 146.16 340 ePKPdf PKPdf 22 34 55.6 0.0
OJC epPKPdf pPKPdf 22 37 11.8 +2.9
OJC eSKPbc SKiKP 22 37 44.5 +2.0
YURE YUREGIR 146.17 308 iP PKPbc 22 34 59.3 +1.0
TLCR 146.18 326 ⇑PKP2 PKPbc 22 34 58.2 +0.2
TLCR 146.18 326 ⇑iP PKPbc 22 34 58.2 +0.2
BUR04 Bucovina Ar. S 146.21 332 ePKPdf PKPdf 22 34 55.9 0.0
BURAR Bucovina Array 146.21 332 ⇓PKP2 PKPbc 22 34 58.0 -0.1
BURAR Bucovina Array 146.21 332 ⇓iP PKPbc 22 34 58.0 -0.1
SAFT Safranbolu 146.24 317 eP PKPdf 22 34 56.2 +0.1
STHS Stebnicka Huta 146.36 338 ePKP2 PKPbc 22 34 58.8 +0.4
STHS Stebnicka Huta 146.36 338 ePKP PKPbc 22 34 58.8 +0.4
STHS e 22 37 10.1
BR101 Keskin Array S 146.36 314 ePKPdf PKPbc 22 34 58.4 -0.5
BR101 epPKPdf pPKPdf 22 37 10.8 +1.0
BR131 Keskin Array S 146.36 314 ePKPdf PKPdf 22 34 55.2 -1.3
BR131 ePKPbc PKPbc 22 34 58.7 -0.1
BRTR Keskin Array B 146.36 314 ePKPbc PKPbc 22 34 58.4 -0.5
comp=Z,18nm,0.6s,baz=135,slow=1.1,SNR=111
BRTR pPKPbc pPKPbc 22 37 10.8 +1.2
comp=Z,7.5nm,0.9s,baz=106,slow=2.7,SNR=8.3
BRTR SKKPab SKKPab 22 45 36.7 +1.5
comp=Z,1.6nm,1.0s,baz=250,slow=2.5,SNR=4.8
TESR Tescani 146.36 329 ⇑iP PKPbc 22 34 58.6 +0.1
KOLS Kolonicke sedl 146.38 336 ePKIKP PKPdf 22 34 56.7 +0.7
KOLS e 22 34 58.7
KOLS Kolonicke sedl 146.38 336 ePKP PKPdf 22 34 56.7 +0.7
KOLS e 22 34 58.7
KOLS e 22 37 10.0
KARA Karaisali 146.43 309 eP PKPdf 22 34 56.6 +0.1
KAMT Kaman 146.47 313 eP PKPdf 22 34 55.5 -1.1
CFR Carcaliu 146.54 326 ⇑PKP2 PKPbc 22 34 59.2 +0.3
CFR Carcaliu 146.54 326 ⇑iP PKPbc 22 34 59.2 +0.3
UZH Uzhgorod 146.62 336 ePKIKP PKPdf 22 34 56.2 -0.2
KSP Ksiaz 146.63 344 iPKP2 PKPbc 22 34 59.5 +0.5
KSP e 22 37 08.1
KSP Ksiaz 146.63 344 ⇓iPKP2 PKPbc 22 34 59.5 +0.5
ASF Jabal al Asfar 146.63 300 PKPbc PKPbc 22 35 00.1 +0.3
comp=Z,18nm,0.6s,baz=79,slow=4.3,SNR=14
ASF Jabal al Asfar 146.63 300 PKP2 PKPbc 22 35 00.1 +0.3
ASF pmax pmax
comp=Z,19nm,0.6s
NIE Niedzica 146.68 339 ePKPdf PKPbc 22 34 59.7 +0.4
NIE e 22 37 08.6
NIE Niedzica 146.68 339 ⇓ePKP2 PKPbc 22 34 59.7 +0.4
VRI Vrincioaia 146.78 329 ⇑PKP2 PKPbc 22 34 59.8 +0.2
VRI Vrincioaia 146.78 329 ⇑iP PKPbc 22 34 59.8 +0.2
BBAL Bala 146.79 314 iP PKPbc 22 35 00.3 +0.2
HWQ Hawqa 146.81 304 eP PKPbc 22 35 00.1 -0.1
PLOR Plostina 146.83 329 ⇑PKP2 PKPbc 22 34 59.7 -0.1
PLOR Plostina 146.83 329 ⇑iP PKPbc 22 34 59.7 -0.1
BCAM Yenicaga 146.86 317 iP PKPbc 22 34 59.5 -0.7
ANTO Ankara 146.86 315 eP PKPdf 22 34 58.0 +0.8
ANTO Ankara 146.86 315 ⇓PKP2 PKPbc 22 35 00.7 +0.6
ANTO Ankara 146.86 315 ⇓iP PKPbc 22 35 00.7 +0.6
ANTO Ankara 146.86 315 ePKPdf PKPdf 22 34 56.6 -0.7
ANTO epPKPdf pPKPdf 22 37 10.6 0.0
LOD Lodumlu 146.87 315 eP PKPbc 22 35 00.5 +0.3
TIRR Tirgusor 146.87 325 epPKPdf 22 37 11.4 +1.1
TIRR Tirgusor 146.87 325 ⇑PKIKP PKPdf 22 34 58.4 +1.4
TIRR Tirgusor 146.87 325 ⇑iP PKPdf 22 34 58.4 +1.4
AFSR Af˙ar-Bala (A 146.88 314 eP PKPdf 22 34 58.3 +1.0
CLZ Clausthal 146.88 351 ePKPdf PKPdf 22 34 57.4 +0.6
CLZ epPKPbc pPKPbc 22 37 11.3 +0.6
BR231 Keskin MP Arra 146.88 315 ePKPdf PKPdf 22 34 56.5 -0.8
BR231 epPKPdf pPKPdf 22 37 11.0 +0.3
CLL Collm 146.95 348 ePKPdf PKPdf 22 34 57.0 +0.1
CLL ⇓iPKPbc PKPbc 22 35 00.1 +0.2
comp=Z,61nm,0.6s
CLL ePKPab PKPab 22 35 03.0 -0.1
comp=Z,21nm,0.6s
CLL iPKiKP pPKiKP 22 37 10.4 -4.1
CLL iSKPbc SKiKP 22 37 45.5 +1.5
comp=Z,20nm,0.9s
CLL esPKiKP sPKiKP 22 38 10.0 +0.3
CLL ePKSdf PKSdf 22 38 33.0 +1.1
CLL epPP 22 40 28.0
CLL ePPP PPP 22 41 54.0
CLL iSKKSac SKKSac 22 44 25.4 +0.8
CLL esSKSdf sSKSdf 22 45 18.0 +2.6
CLL epPPPP 22 45 48.0
CLL eSKSP 22 47 44.0
CLL eSKKSdf SKKSdf 22 50 16.0 -0.6
CLL ePPS PPS 22 51 26.0
CLL e(SS) 22 57 12.0
CLL esSS 23 00 17.0
CLL e(sPSPS) 23 01 10.0
CLL eSSS SSS 23 02 36.0
CLL e 23 05 12.0
CLL esSSS 23 05 54.0
CLL ePSSrev 23 10 06.0
CLL e 23 16 00.0
CLL Collm 146.95 348 ⇓ePKIKP PKPdf 22 34 57.0 +0.1
CLL i 22 35 00.1
CLL pmax pmax
comp=Z,61nm,0.6s
CLL Collm 146.95 348 ePKPdf PKPdf 22 34 56.8 0.0
CLL epPKPdf pPKPdf 22 37 14.4 +4.2
CLL eSKPbc SKiKP 22 37 46.2 +2.1
HARR Harsova 146.97 326 ⇑PKP2 PKPbc 22 35 00.5 +0.4
HARR Harsova 146.97 326 ⇑iP PKPbc 22 35 00.5 +0.4
MERS Mersin 146.98 309 eP PKPdf 22 34 58.5 +1.0
UPC Upice 147.01 344 ePKPDF PKPdf 22 34 57.4 +0.4
UPC ⇑ePKP PKPbc 22 35 00.5 +0.4
UPC ePKPAB PKPab 22 35 04.1 +0.7
UPC epPKP pPKPdf 22 37 10.2 -0.2
UPC Upice 147.01 344 ePKIKP PKPdf 22 34 57.4 +0.4
UPC e 22 35 04.1
OKC Ostrava-Krasne 147.01 341 ePKPDF PKPdf 22 34 57.3 +0.3
OKC ⇑ePKP PKPbc 22 35 00.3 +0.2
OKC ePKPAB PKPab 22 35 04.2 +0.7
OKC epPKP pPKPdf 22 37 10.5 +0.1
OKC Ostrava-Krasne 147.01 341 ePKIKP PKPdf 22 34 57.3 +0.3
OKC e 22 35 04.2
DPC Dobruska-Polom 147.07 344 ePKPDF PKPdf 22 34 57.3 +0.1
DPC ⇑iPKP PKPbc 22 35 00.8 +0.5
DPC ePKPAB PKPab 22 35 04.5 +0.8
DPC epPKP pPKPdf 22 37 08.7 -1.9
DPC ex x 22 37 11.9
DPC eSKKS 22 44 27.6
DPC Dobruska-Polom 147.07 344 ePKIKP PKPdf 22 34 57.3 +0.1
DPC e 22 35 04.5
RCY Rachaya 147.13 302 eP PKPbc 22 35 01.4 +0.3
BHL Bhannes 147.16 303 eP PKPbc 22 35 01.2 +0.1
BRG Berggiesshubel 147.16 347 ePKP PKPdf 22 34 57.2 -0.1
comp=Z,43nm,1.8s
BRG pPKP pPKPdf 22 37 10.0 -0.6
BRG Berggiesshubel 147.16 347 ePKPdf PKPdf 22 34 57.6 +0.3
BRG ePKPbc PKPbc 22 35 00.7 +0.3
BRG Berggiesshubel 147.16 347 ePKIKP PKPdf 22 34 57.2 -0.1
BRG i 22 35 00.9
BRG pmax pmax
comp=Z,43nm,1.8s
WTSB Winterswijk 147.16 355 ePKPdf PKPdf 22 34 56.8 -0.4
WTSB ePKPbc PKPbc 22 35 00.2 -0.2
comp=Z,34nm,0.6s
WTSB epPKPbc pPKPbc 22 37 10.6 -0.9
MANR Mangalia 147.19 324 ⇑iP PKPbc 22 35 01.4 +0.7
KRLC Kraliky 147.20 343 ePKPDF PKPdf 22 34 56.7 -0.7
KRLC ⇑iPKP PKPbc 22 35 00.9 +0.3
KRLC ePKPAB PKPab 22 35 04.9 +0.6
KRLC epPKP pPKPdf 22 37 10.8 0.0
KRLC Kraliky 147.20 343 ePKIKP PKPdf 22 34 56.7 -0.7
KRLC e 22 35 04.9
MORC Moravsky Berou 147.25 342 ⇑PKIKP PKPdf 22 34 57.9 +0.3
MORC Moravsky Berou 147.25 342 ⇑iP PKPdf 22 34 57.8 +0.3
MORC Moravsky Berou 147.25 342 ePKPdf PKPdf 22 34 57.8 +0.3
MORC epPKPdf pPKPdf 22 37 12.6 +1.7
NEUB Neuenburg 147.27 349 ePKPdf PKPdf 22 34 58.0 +0.6
NEUB ePKPbc PKPbc 22 35 01.0 +0.3
DQRL Deir Qamar 147.28 303 eP PKPbc 22 35 01.9 +0.5
PVCC Panska Ves 147.34 346 ePKPDF PKPdf 22 34 57.7 +0.1
PVCC ⇑ePKP PKPbc 22 35 01.5 +0.6
PVCC ePKPAB PKPab 22 35 04.7 -0.1
PVCC ex x 22 35 07.4
PVCC epPKP pPKPdf 22 37 09.4 -1.6
PVCC ex x 22 37 16.1
PVCC eSKKS 22 44 26.2
PVCC Panska Ves 147.34 346 ePKIKP PKPdf 22 34 57.7 +0.1
PVCC e 22 35 04.7
ISR Istrita 147.40 328 ⇑PKIKP PKPbc 22 34 59.9 -1.4
ISR Istrita 147.40 328 ⇑iP PKPbc 22 34 59.9 -1.4
KIZK Mersin 147.41 308 iP PKPdf 22 34 49.7 -8.4
KECS Kecovo 147.41 338 ePKIKP PKPdf 22 34 58.5 +0.7
KECS Kecovo 147.41 338 ePKP PKPdf 22 34 58.5 +0.7
KECS e 22 35 01.4
KECS e 22 37 14.4
MSAB Monastry St. A 147.43 325 ⇑iP PKPbc 22 35 01.8 +0.5
MLR Muntele Rosu 147.43 329 PKPbc PKPbc 22 35 01.0 -0.5
comp=Z,2.4nm,0.4s,baz=26,slow=3.4,SNR=11
MLR pPKPbc pPKPbc 22 37 13.4 +0.6
comp=Z,1.9nm,1.0s,baz=336,slow=3.6,SNR=3.6
MLR Muntele Rosu 147.43 329 ⇑PKP2 PKPbc 22 35 01.4 -0.1
MLR Muntele Rosu 147.43 329 ⇑iP PKPbc 22 35 01.4 -0.1
PSN Preselentsi 147.50 324 ⇓PKIKP PKPdf 22 34 59.2 +1.2
PSN Preselentsi 147.50 324 ⇓iP PKPdf 22 34 59.2 +1.2
PSN Preselentsi 147.50 324 iP PKPbc 22 35 02.0 +0.4
CJR Cluj-Napoca 147.61 333 ⇑PKP2 PKPbc 22 35 01.5 -0.3
CJR Cluj-Napoca 147.61 333 ⇑iP PKPbc 22 35 01.5 -0.3
MMAI Mount Meron Ar 147.62 302 PKPbc PKPbc 22 35 02.8 +0.4
comp=Z,39nm,0.4s,baz=67,slow=6.4,SNR=209
BUG Bochum--Univer 147.65 354 ePKPbc PKPbc 22 35 01.7 +0.1
BTAS Taskesti 147.67 317 iP PKPbc 22 35 02.0 -0.1
AUMIH MIHALICIK 147.73 316 iP PKPbc 22 35 02.2 -0.3
PRA Prague 147.80 346 ePKPDF PKPdf 22 34 58.6 +0.3
PRA ⇑ePKP PKPbc 22 35 02.1 0.0
PRA epPKP pPKPdf 22 37 11.4 -0.3
PRA ex x 22 37 17.8
PRA eSKKS 22 44 27.6
PRA Prague 147.80 346 ePKIKP PKPdf 22 34 58.6 +0.3
MOX Moxa 147.84 349 ePKPdf PKPdf 22 34 58.6 +0.2
MOX ePKPbc PKPbc 22 35 02.4 +0.2
MOX epPKPbc pPKPbc 22 37 13.0 -0.6
PRU Pruhonice 147.85 345 ePKPDF PKPdf 22 34 58.6 +0.2
PRU ⇑iPKP PKPbc 22 35 02.5 +0.2
PRU ePKPAB PKPab 22 35 06.5 -0.4
PRU epPKP pPKPdf 22 37 11.2 -0.6
PRU ex x 22 37 17.7
PRU eSKKS 22 44 27.1
PRU eSS SS 22 56 49.3 -4.9
GOPC GO Pecny, Ondr 147.86 345 ePKPDF PKPdf 22 34 58.3 -0.2
GOPC ⇑iPKP PKPbc 22 35 02.7 +0.4
GOPC ePKPAB PKPab 22 35 07.0 +0.7
GOPC epPKP pPKPdf 22 37 11.1 -0.8
GOPC ex x 22 37 17.8
GOPC eSKKS 22 44 27.8
TANN Tannenbergstha 147.90 348 ePKPdf PKPdf 22 34 58.9 +0.3
TANN ePKPbc PKPbc 22 35 02.8 +0.3
TANN ePKPab PKPab 22 35 07.7 +0.6
TANN epPKPbc pPKPbc 22 37 13.8 -0.1
VOIR 147.91 330 ⇑PKP2 PKPbc 22 35 02.9 +0.2
VOIR 147.91 330 ⇑iP PKPbc 22 35 02.9 +0.2
AUSIV SIVRIHISAR 147.91 315 iP PKPbc 22 35 02.4 -0.5
SVRH Sivrihisar-ESK 147.92 315 eP PKPbc 22 35 02.3 -0.6
DRGR 147.93 334 ⇑iP PKPdf 22 34 58.5 -0.3
UBBA Unterbreizbach 147.93 351 ePKPbc PKPbc 22 35 02.2 -0.1
VRAC Vranov 147.94 343 PKPbc PKPbc 22 35 02.8 +0.3
comp=Z,5.7nm,0.5s,baz=7.2,slow=2.3,SNR=6.0
VRAC pPKPbc pPKPbc 22 37 14.7 +0.7
comp=Z,19nm,1.2s,baz=22,slow=3.4,SNR=7.6
VRAC Vranov 147.94 343 ⇑iP PKPbc 22 35 03.2 +0.7
LADK Ladik-KONYA 147.95 312 eP PKPbc 22 35 02.5 -0.6
KIZT Kizilcal 147.96 314 eP PKPbc 22 35 03.1 0.0
KDHN Kadinhani 147.97 313 iP PKPbc 22 35 02.7 -0.4
GULT Gulveren 148.06 317 eP PKPbc 22 35 03.3 +0.1
GULT Gulveren 148.06 317 eP PKPbc 22 35 03.3 +0.1
PSZ Piszkesteto 148.10 338 ⇓PKP2 PKPbc 22 35 03.4 +0.3
PSZ Piszkesteto 148.10 338 ⇓iP PKPbc 22 35 03.4 +0.3
PSZ Piszkesteto 148.10 338 ePKPdf PKPdf 22 34 59.6 +0.6
PSZ epPKPdf pPKPdf 22 37 16.8 +4.3
PSZ Piszkesteto 148.10 338 ⇓e PKPbc 22 35 03.1 0.0
SILT Sile 148.20 319 eP PKPbc 22 35 03.7 +0.3
ERMK Ermenek 148.25 309 iP PKPbc 22 35 04.0 0.0
PRD Provadia 148.25 324 iP PKPbc 22 35 03.1 -0.3
TREC Trest 148.26 344 ePKPDF PKPdf 22 34 58.7 -0.4
TREC ⇑iPKP PKPbc 22 35 03.5 +0.2
TREC ePKPAB PKPab 22 35 08.9 +0.3
TREC epPKP pPKPdf 22 37 12.8 +0.2
TREC ex x 22 37 16.8
TREC eSKKS 22 44 31.6
TREC Trest 148.26 344 ePKIKP PKPdf 22 34 58.7 -0.4
TREC e 22 35 08.9
H10N3 ASCENSION HYDR 148.28 146 PKPbc PKPbc 22 35 05.1 +1.0
baz=204,slow=3.3,SNR=5.5
H10N1 ASCENSION HYDR 148.28 146 PKPbc PKPbc 22 35 05.0 +0.9
baz=204,slow=3.3,SNR=7.9
H10N2 ASCENSION HYDR 148.29 146 PKPbc PKPbc 22 35 05.1 +1.1
baz=204,slow=3.3,SNR=5.8
SEYT Eskypehyr 148.33 316 iP PKPbc 22 35 04.0 0.0
SEYT Eskypehyr 148.33 316 iP PKPbc 22 35 04.0 0.0
LFK Lefkose 148.33 307 eP PKPbc 22 35 03.8 -0.2
HRT Hereke 148.38 319 eP PKPbc 22 35 03.7 -0.2
MANZ Manzenberg 148.38 348 ePKPdf PKPdf 22 34 59.7 +0.4
MANZ ePKPbc PKPbc 22 35 04.0 +0.4
BORA Eskisehir 148.40 317 iP PKPbc 22 35 04.4 +0.4
BORA Eskisehir 148.40 317 iP PKPbc 22 35 04.4 +0.4
SMOL Smolenice 148.41 341 ePKP2 PKPbc 22 35 04.5 +0.8
SMOL Smolenice 148.41 341 ePKP PKPbc 22 35 04.5 +0.8
BEBN Eben Emael 148.41 356 PKPbc PKPbc 22 35 04.5 +0.9
BEBN APKP pPKPdf 22 37 15.6 +2.9
HDMB Hadim 148.42 310 eP PKPbc 22 35 03.4 -1.0
HGN Heimansgroeve 148.42 356 ePKPdf PKPdf 22 34 58.5 -0.8
HGN ePKPbc PKPbc 22 35 03.6 -0.1
comp=Z,207nm,2.1s
HGN ePKPab PKPab 22 35 09.5 +0.3
HGN epPKPbc pPKPbc 22 37 13.7 -1.5
UCC Uccle 148.47 358 PKPbc PKPbc 22 35 03.8 +0.1
UCC APKP pPKPdf 22 37 15.6 +2.8
UCC Uccle 148.47 358 ePKPbc PKPbc 22 35 04.1 +0.4
LOT Lotru 148.50 331 ⇓iP PKPdf 22 34 58.8 -1.0
ADVT Abdulvahap 148.55 318 eP PKPbc 22 35 04.2 -0.1
ROTZ Rotzenmuhle 148.57 348 ePKPbc PKPbc 22 35 04.5 +0.4
ROTZ ePKPab PKPab 22 35 10.9 +1.1
ROTZ epPKPbc pPKPbc 22 37 16.3 +0.6
MEM Membach 148.57 356 PKPbc PKPbc 22 35 04.0 0.0
MEM APKP pPKPdf 22 37 15.5 +2.5
MEM Membach 148.57 356 ePKPbc PKPbc 22 35 04.2 +0.2
MEM epPKPdf pPKPdf 22 37 16.3 +3.3
CSS Prodhromos 148.60 306 eP PKPbc 22 35 04.4 -0.3
CSS Prodhromos 148.60 306 ePKPbc PKPbc 22 35 04.3 -0.3
ISK Istanbul-Kandi 148.61 320 eP PKPbc 22 35 03.0 -1.4
AUBOZ BOZOYUK 148.65 317 iP PKPbc 22 35 04.6 -0.1
BOLV Bolvadin 148.67 314 iP PKPbc 22 35 04.8 -0.1
BOLV Bolvadin 148.67 314 iP PKPbc 22 35 04.8 -0.1
TNS Taunus Mts 148.72 353 ePKPbc PKPbc 22 35 04.8 +0.3
TNS ePKPab PKPab 22 35 10.9 +0.4
MENF Mencas 148.74 0 PKP PKPbc 22 35 04.4 0.0
SNF Seneffe 148.76 358 PKPbc PKPbc 22 35 04.5 +0.1
SNF APKP pPKPdf 22 37 15.5 +2.2
BUD Budapest 148.78 338 ⇓e PKPbc 22 35 04.9 +0.3
BCLA Clavier 148.81 357 PKPbc PKPbc 22 35 04.7 +0.1
BCLA PKPab PKPab 22 35 10.5 -0.2
BCLA APKP pPKPdf 22 37 16.1 +2.7
GRF Grafenberg Arr 148.83 349 ePKPbc PKPbc 22 35 04.2 -0.5
GRFO Grafenberg 148.83 349 ePKPbc PKPbc 22 35 04.2 -0.5
GRFO epPKPdf pPKPdf 22 37 17.6 +4.2
EIL Elat 148.83 296 eP PKPbc 22 35 05.5 +0.1
EIL Elat 148.83 296 PKP PKPdf 22 35 01.9 +1.3
comp=Z,35nm,0.8s,baz=157,slow=2.0,SNR=5.0
EIL PKPbc PKPbc 22 35 05.4 +0.1
comp=Z,35nm,0.8s,baz=38,slow=5.5,SNR=10
CTKS Kestanelik-??a 148.84 320 eP PKPbc 22 35 03.4 -1.5
GAZI Gazipasa 148.86 309 iP PKPbc 22 35 04.1 -1.1
LEF Lefka 148.88 307 eP PKPbc 22 35 05.2 0.0
KHC Kasperske Hory 148.88 346 ePKPDF PKPdf 22 35 00.0 -0.2
KHC ⇑iPKP PKPbc 22 35 05.3 +0.4
KHC ePKPAB PKPab 22 35 11.3 +0.1
KHC epPKP pPKPdf 22 37 12.2 -1.4
KHC ex x 22 37 17.6
KHC ex x 22 37 20.3
KHC eSKKS 22 44 37.4
KHC eSS SS 22 56 59.9 -5.7
KHC Kasperske Hory 148.88 346 ePKIKP PKPdf 22 35 00.0 -0.2
KHC e 22 35 11.3
KHC Kasperske Hory 148.88 346 ePKPdf PKPdf 22 34 59.5 -0.6
KHC epPKPdf pPKPdf 22 37 17.6 +3.9
PKSN Nyarlorinc 148.97 337 ⇓e PKPbc 22 35 05.2 +0.1
SZH Strazhica 149.00 326 iP PKPbc 22 35 05.0 -0.3
WET Wettzell 149.02 347 ePKPbc PKPbc 22 35 05.3 +0.1
WET ePKPab PKPab 22 35 12.8 +1.1
WET epPKPbc pPKPbc 22 37 17.1 +0.1
ARMT Armutlu 149.03 319 eP PKPbc 22 35 04.2 -1.3
ALT Altintas 149.06 316 eP PKPbc 22 35 05.7 -0.1
PKSG 149.08 339 ⇓e PKPbc 22 35 05.1 -0.2
ULDT Uludag 149.10 318 iP PKPbc 22 35 06.0 +0.1
PKS7 Kunszentmiklos 149.10 338 ⇓e PKPbc 22 35 05.2 -0.2
GEC2 GERESS Array S 149.12 346 ePKPbc PKPbc 22 35 05.7 +0.1
GEC2 ePKPab PKPab 22 35 13.4 +1.2
GEC2 ePKPdf PKPdf 22 35 00.7 0.0
GEC2 epPKPab pPKPab 22 37 19.0 -0.5
GERES GERESS Array B 149.12 346 PKPbc PKPbc 22 35 05.6 +0.1
comp=Z,18nm,0.6s,baz=64,slow=3.1,SNR=72
GERES pPKPbc pPKPbc 22 37 18.2 +0.8
comp=Z,4.7nm,0.9s,baz=29,slow=3.0,SNR=6.4
CSKK Cs˙‡kako 149.15 339 ⇓e PKPbc 22 35 04.8 -0.7
DOU Dourbes 149.16 357 PKPbc PKPbc 22 35 05.7 +0.2
DOU PKPab PKPab 22 35 11.8 -0.4
DOU APKP pPKPdf 22 37 17.0 +3.0
JMB Yambol 149.18 324 ⇑iP PKPbc 22 35 05.3 -0.5
JMB Yambol 149.18 324 iP PKPbc 22 35 05.9 +0.1
SUTC Sutluce-Ispart 149.24 312 eP PKPbc 22 35 05.2 -1.1
SUTC Sutluce-Ispart 149.24 312 eP PKPbc 22 35 05.2 -1.1
TVSB Tavsanli 149.27 317 eP PKPbc 22 35 05.8 -0.4
PKST T˙˙s 149.31 339 ⇓e PKPbc 22 35 05.4 -0.6
BZS Buzias 149.32 333 ⇑PKIKP PKPdf 22 35 00.7 -0.2
BZS Buzias 149.32 333 ⇑iP PKPdf 22 35 00.7 -0.2
CONA Conrad Observa 149.40 342 ⇓iPKPdf PKPdf 22 35 00.5 -0.6
comp=Z,11nm,1.3s,SNR=50
CONA ⇓iPKiKP PKPbc 22 35 06.6 +0.4
comp=Z,30nm,0.6s
ISP Isparta 149.41 313 eP PKPbc 22 35 05.7 -0.9
ISP Isparta 149.41 313 ⇑iP PKPbc 22 35 05.6 -1.0
SOP Sopron 149.41 341 ⇓e PKPbc 22 35 06.4 +0.3
GDZ Gediz 149.46 316 iP PKPbc 22 35 06.5 -0.2
WLF Walferdange 149.50 355 PKPbc PKPbc 22 35 07.0 +0.7
WLF PKPab PKPab 22 35 14.1 +0.4
WLF APKP pPKPdf 22 37 17.9 +3.3
WLF Walferdange 149.50 355 ePKPbc PKPbc 22 35 07.1 +0.8
WLF ePKPab PKPab 22 35 14.6 +0.9
WLF epPKPbc pPKPbc 22 37 18.1 -0.1
WLF Walferdange 149.50 355 ePKPbc PKPbc 22 35 06.8 +0.5
WLF epPKPdf pPKPbc 22 37 18.0 -0.1
KCTX Karacabey (Bur 149.51 319 eP PKPbc 22 35 06.4 -0.2
BCK Bucak 149.54 312 eP PKPdf 22 34 53.9 -7.7
PKS2 Kecel 149.56 337 ⇓e PKPbc 22 35 06.6 +0.1
ANTB Antalya 149.76 311 eP PKPbc 22 35 05.0 -2.3
ANTB Antalya 149.76 311 eP PKPbc 22 35 05.0 -2.3
EDC Edincik 149.77 320 eP PKPbc 22 35 06.2 -1.0
MRMT Marmara Adasi 149.78 320 eP PKPbc 22 35 05.8 -1.5
DURS Dursunbey 149.82 318 iP PKPbc 22 35 07.3 -0.2
KHAL Karahalli 149.83 315 iP PKPab 22 35 29.9 +14
MOA Molln 149.91 344 ⇓iPKPdf PKPdf 22 35 01.1 -0.7
comp=Z,12nm,1.6s,SNR=24
MOA ⇓iPKPbc PKPbc 22 35 06.7 -0.6
comp=Z,20nm,0.5s
MOA Molln 149.91 344 ⇓ePKPbc pPKPbc 22 37 19.9 +0.5
comp=Z,26nm,1.2s
KORT Korkueli 149.93 312 iP PKPbc 22 35 07.6 -0.3
DEMI Demirci 149.98 317 iP PKPbc 22 35 07.2 -0.7
PKSM Moragy 150.00 337 ⇓PKIKP PKPdf 22 35 01.5 -0.4
PKSM Moragy 150.00 337 ⇓iP PKPdf 22 35 01.5 -0.4
PKSM Moragy 150.00 337 ⇓e PKPbc 22 35 07.2 -0.4
LANF Langenberg 150.02 353 PKP PKPbc 22 35 07.9 +0.3
DIM Dimitrovgrad 150.04 324 iP PKPbc 22 35 07.2 -0.6
STU Stuttgart 150.05 351 ePKPbc PKPbc 22 35 07.9 +0.3
STU ePKPab PKPab 22 35 16.1 +0.1
STU Stuttgart 150.05 351 ePKPbc PKPbc 22 35 07.2 -0.5
BALY Balya 150.28 319 iP PKPbc 22 35 08.1 -0.4
FUR Furstenfeldbru 150.28 348 ePKPbc PKPbc 22 35 08.5 +0.3
KULA Kula-Manisa 150.31 316 eP PKPbc 22 35 08.6 -0.1
ELL Elmali 150.36 312 eP PKPbc 22 35 07.8 -1.1
GOLH Golhisar 150.36 313 iP PKPbc 22 35 08.8 -0.1
RJOB Jochberg 150.37 346 ePKPbc PKPbc 22 35 08.5 0.0
KDZ Kurdzhali 150.38 324 ⇑PKIKP PKPbc 22 35 08.1 -0.5
KDZ Kurdzhali 150.38 324 ⇑iP PKPbc 22 35 08.1 -0.5
LPK Lapseki 150.42 321 eP PKPbc 22 35 08.6 -0.1
BEHE Becsehely 150.42 340 ⇓e PKPbc 22 35 08.8 +0.2
ALN Alexandroupoli 150.51 322 eP PKPbc 22 35 09.6 +0.6
ENEZ Enez 150.55 322 eP PKPbc 22 35 07.8 -1.2
GELI Tayfur-Gelibol 150.58 321 eP PKPbc 22 35 08.6 -0.5
BFO Black Forest 150.60 352 ePKPbc PKPbc 22 35 09.0 0.0
BFO epPKPbc pPKPbc 22 37 21.4 +0.3
BFO Black Forest 150.60 352 ePKPdf PKPdf 22 35 03.5 +0.6
BFO epPKPdf pPKPbc 22 37 21.3 +0.3
AKS Akhisar 150.66 317 eP PKPbc 22 35 08.6 -0.8
RZN Rozhen 150.74 325 iP PKPbc 22 35 08.8 -0.9
SOKA Soboth 150.77 342 ⇓ePKPdf PKPdf 22 35 02.3 -0.9
comp=Z,11nm,1.5s,SNR=20
SOKA ⇓ePKPbc PKPbc 22 35 08.9 -0.6
comp=Z,24nm,0.6s
PERS Pernice 150.78 342 iPKPdf PKPdf 22 35 02.7 -0.5
PERS iPKPbc PKPbc 22 35 08.8 -0.7
PERS iPKPbc pPKPbc 22 37 19.3 -2.3
AKAS Kas 150.82 311 iP PKPbc 22 35 09.3 -0.7
ECH Echery 150.85 354 PKP PKPbc 22 35 09.3 -0.2
KBA Koelnbreinsper 150.85 345 ⇓ePKPdf PKPdf 22 35 02.3 -1.2
comp=Z,9.3nm,1.4s
KBA ⇓iPKPbc PKPbc 22 35 08.9 -0.9
comp=Z,37nm,0.4s,SNR=21
VTS Vitosha 150.89 328 ⇑PKIKP PKPbc 22 35 10.2 +0.2
VTS Vitosha 150.89 328 ⇑iP PKPbc 22 35 10.2 +0.2
VTS Vitosha 150.89 328 iP PKPbc 22 35 09.6 -0.4
THEF They Montfort 150.94 355 PKP PKPbc 22 35 10.0 +0.3
WATA Walderalm 151.01 347 ⇓iPKPbc PKPbc 22 35 09.7 -0.4
comp=Z,53nm,0.4s,SNR=44
EZN Ezine 151.02 320 eP PKPbc 22 35 09.8 -0.3
RETA Reutte 151.03 348 ⇓iPKPbc PKPbc 22 35 09.8 -0.2
comp=Z,16nm,0.5s,SNR=9.0
OBKA Obir 151.06 343 ⇓ePKPdf PKPdf 22 35 02.6 -1.1
comp=Z,5.9nm,1.4s
OBKA ⇓ePKPbc PKPbc 22 35 09.2 -0.9
comp=Z,15nm,0.5s,SNR=9.2
WTTA Wattenberg 151.07 347 ⇓iPKPdf PKPdf 22 35 03.2 -0.6
comp=Z,17nm,1.6s,SNR=51
WTTA ⇓iPKPbc PKPbc 22 35 10.1 -0.1
comp=Z,95nm,0.5s
MOTA Moosalm 151.10 348 ⇑iPKPbc PKPbc 22 35 09.9 -0.4
comp=Z,30nm,0.8s,SNR=13
AYVA Ayvalik 151.11 319 iP PKPbc 22 35 09.7 -0.6
AYDB Zeytinkoy-Aydi 151.12 316 eP PKPbc 22 35 10.8 +0.1
MYKA Terra Mystica 151.20 344 ⇓ePKPbc PKPbc 22 35 09.4 -1.0
comp=Z,41nm,0.5s,SNR=17
DALY Dalyan (Mu˙la 151.20 313 eP PKPbc 22 35 10.6 0.0
TURN Turunc 151.21 313 iP PKPbc 22 35 11.5 +0.8
MOF Molkenrain 151.21 354 PKP PKPbc 22 35 10.2 -0.2
DIVS Divibare 151.23 333 ⇑iP PKPdf 22 35 03.4 -0.6
AYDN Tasoluk 151.29 315 iP PKPbc 22 35 11.2 +0.3
YER Yerkesik 151.29 314 eP PKPbc 22 35 09.5 -1.4
MMB Musomiste 151.34 326 ⇑PKIKP PKPdf 22 35 03.4 -0.8
MMB Musomiste 151.34 326 ⇑iP PKPdf 22 35 03.3 -0.9
ABTA Abfaltersbach 151.37 346 ⇓iPKPdf PKPdf 22 35 03.1 -1.1
comp=Z,8.9nm,0.8s,SNR=7.3
ABTA ⇓iPKPbc PKPbc 22 35 10.0 -0.8
comp=Z,82nm,0.5s
DAVA Damuels 151.38 350 ⇓iPKPbc PKPbc 22 35 10.8 -0.1
comp=Z,26nm,0.5s,SNR=11
BLCB Balcova 151.43 317 eP PKPdf 22 35 05.0 +0.6
FETA Feichten 151.49 348 ⇓iPKPdf PKPdf 22 35 04.0 -0.4
comp=Z,8.3nm,0.8s,SNR=7.7
FETA ⇓iPKiKP PKPbc 22 35 11.2 0.0
comp=Z,27nm,0.6s
LJU Ljubljana 151.49 342 iPKPdf PKPdf 22

LJU				*i* pPKPdf	**pPKPdf**	22 37 17.9	0.0
LJU				*i* pPKPbc	**pPKPbc**	22 37 23.0	-0.3
LJU				*i* SKPdf	**SKPdf**	22 37 45.8	+1.8
VISS	**Visnje**	**151.62**	**342**	*i* PKPdf	**PKPdf**	22 35 04.2	-0.3
VISS				*e*PKPbc	**PKPbc**	22 35 11.0	-0.3
VISS				*i* pPKPbc	**pPKPbc**	22 37 24.5	+0.9
GCAM	**G?zelcaml?**	**151.69**	**316**	*i* P	**PKPbc**	22 35 11.5	-0.2
LOMF	**Lomont**	**151.74**	**354**	PKP	**PKPbc**	22 35 11.7	+0.1
JAVS	**Javornik**	**151.76**	**343**	*i* PKPdf	**PKPdf**	22 35 04.4	-0.3
JAVS				*i* PKPbc	**PKPbc**	22 35 11.1	-0.6
JAVS				*i* PKPab	**PKPab**	22 35 22.3	-1.1
JAVS				*i* pPKPdf	**pPKPdf**	22 37 19.5	+1.1
JAVS				*i* pPKPbc	**pPKPbc**	22 37 24.8	+0.7
BOJS	**Bojanci**	**151.77**	**341**	*i* PKPdf	**PKPdf**	22 35 04.5	-0.2
BOJS				*i* PKPbc	**PKiKP**	22 35 11.8	-0.1
BOJS				*i* pPKPdf	**pPKPdf**	22 37 19.4	+1.1
BOJS				*i* pPKPbc	**pPKPbc**	22 37 24.8	+0.8
ZEY	**˙zmir**	**151.86**	**317**	*i* P	**PKPbc**	22 35 11.6	-0.4
DAVOX	**Davos/Dischmat**	**151.87**	**349**	PKP	**PKPdf**	22 35 05.7	+0.6
	comp=Z,2.4nm,0.5s,baz=30,slow=0.9,SNR=11						
DAVOX				PKPbc	**PKiKP**	22 35 12.3	0.0
DAVOX				pPKPbc	**pPKPbc**	22 37 24.9	+0.5
	comp=Z,16nm,1.0s,baz=280,slow=1.9,SNR=6.9						
BDRM	**Kayabasi**	**151.90**	**314**	*i* P	**PKPbc**	22 35 11.8	-0.4
FUORN	**Ofenpass-Fuorn**	**151.96**	**349**	*e*PKPdf	**PKPdf**	22 35 05.3	+0.1
BODT	**Bodrum**	**151.99**	**315**	*e*P	**PKPbc**	22 35 10.2	-2.3
TRI	**Trieste**	**152.01**	**343**	*e*PKPdf	**PKPdf**	22 35 02.1	-2.9
TRI				*e*PKPbc	**PKPbc**	22 35 11.3	-0.8
VAY	**Valandovo**	**152.14**	**327**	*e*PKP	**PKPbc**	22 35 11.8	-0.7
SKO	**Skopje**	**152.23**	**329**	*e*PKP	**PKPbc**	22 35 12.3	-0.5
TUE	**Stuetta**	**152.26**	**350**	*e*PKPdf	**PKPdf**	22 35 05.8	+0.1
NIS1	**Nisyros Isl.**	**152.33**	**314**	*e*P	**PKPbc**	22 35 10.3	-2.9
SENIN	**Lac Senin/Sane**	**152.66**	**353**	*e*PKPdf	**PKPdf**	22 35 06.8	+0.6
SENIN				*e*PKPbc	**PKPbc**	22 35 11.8	-2.0
FNA	**Florina**	**153.15**	**327**	*e*P	**PKPbc**	22 35 13.2	-1.7
AGO	**Saint Agoulin**	**153.25**	**359**	PKP	**PKPbc**	22 35 15.1	+0.2
PLDF	**La Plantade**	**153.32**	**358**	PKP	**PKPbc**	22 35 15.4	+0.3
PYM	**Petit Puy Mans**	**153.55**	**359**	PKP	**PKPbc**	22 35 15.9	+0.3
BNI	**Bardonecchia**	**154.03**	**353**	*e*PKPdf	**PKPdf**	22 35 08.2	+0.1
BNI				*e*PKPbc	**PKPbc**	22 35 16.1	-0.6
LBL	**Lubilhac**	**154.07**	**359**	PKP	**PKPbc**	22 35 17.2	+0.5
IDI	**Anoyia**	**154.60**	**314**	PKPbc	**PKPbc**	22 35 17.2	-1.0
	comp=Z,11nm,0.7s,baz=38,slow=17,SNR=9.4						
PGAV	**Gavieira, Arco**	**155.54**	**20**	*e*PKPdf	**PKPdf**	22 35 12.5	+2.3
PGAV	**Gavieira, Arco**	**155.54**	**20**	*e*PKPdf	**PKPdf**	22 35 12.5	+2.3
PBRG	**Braganca**	**156.15**	**17**	*e*PKPdf	**PKPdf**	22 35 10.9	0.0
PBRG	**Braganca**	**156.15**	**17**	*e*PKPdf	**PKPdf**	22 35 10.9	0.0
MVO	**Moncorvo**	**156.66**	**18**	*e*PKPdf	**PKPdf**	22 35 11.8	+0.2
MVO	**Moncorvo**	**156.66**	**18**	*e*PKPdf	**PKPdf**	22 35 11.8	+0.2
PCAS	**Casmilo, Conde**	**157.17**	**22**	*e*PKPdf	**PKPdf**	22 35 12.4	+0.2
PCAS	**Casmilo, Conde**	**157.17**	**22**	*e*PKPdf	**PKPdf**	22 35 12.4	+0.2
PMOZ	**Porto Moniz, M**	**157.73**	**49**	*e*PKPdf	**PKPdf**	22 35 12.7	-0.6
PMOZ	**Porto Moniz, M**	**157.73**	**49**	*e*PKPdf	**PKPdf**	22 35 12.7	-0.6
PMAFR	**Mafra**	**157.83**	**25**	*e*PKPdf	**PKPdf**	22 35 13.7	+0.6
PMAFR	**Mafra**	**157.83**	**25**	*e*PKPdf	**PKPdf**	22 35 13.7	+0.6
PMST	**Lisbon--Monsan**	**158.06**	**25**	*e*PKPdf	**PKPdf**	22 35 12.0	-1.3
PMST	**Lisbon--Monsan**	**158.06**	**25**	*e*PKPdf	**PKPdf**	22 35 12.0	-1.3
PMRV	**Marv??o**	**158.12**	**21**	*e*PKPdf	**PKPdf**	22 35 13.4	0.0
PMRV	**Marv??o**	**158.12**	**21**	*e*PKPdf	**PKPdf**	22 35 13.4	0.0
PESTR	**Estremoz**	**158.55**	**22**	*e*PKPdf	**PKPdf**	22 35 14.0	+0.1
PESTR	**Estremoz**	**158.55**	**22**	*e*PKPdf	**PKPdf**	22 35 14.0	+0.1
EVO	**Evora**	**158.69**	**23**	*e*PKPdf	**PKPdf**	22 35 13.5	-0.6
EVO	**Evora**	**158.69**	**23**	*e*PKPdf	**PKPdf**	22 35 13.5	-0.6
PNCL	**Nicolau / Gran**	**158.86**	**25**	*e*PKPdf	**PKPdf**	22 35 14.3	0.0
PNCL	**Nicolau / Gran**	**158.86**	**25**	*e*PKPdf	**PKPdf**	22 35 14.3	0.0
ESDC	**Sonseca Array**	**158.87**	**14**	PKP	**PKPdf**	22 35 14.4	0.0
	comp=Z,0.9nm,0.6s,baz=343,slow=2.3,SNR=9.1						
ESDC				PKPab	**PKPab**	22 35 54.3	+0.2
	comp=Z,0.8nm,0.4s,baz=349,slow=4.8,SNR=8.2						
ESDC				SKP		22 37 56.3	
	comp=Z,0.3nm,0.5s,baz=316,slow=5.4,SNR=3.9						
MESJ	**Messejana**	**159.21**	**25**	*e*P	**PKPdf**	22 35 12.0	-2.7
MESJ	**Messejana**	**159.21**	**25**	*e*PKPdf	**PKPdf**	22 35 14.3	-0.4
MESJ	**Messejana**	**159.21**	**25**	*e*PKPdf	**PKPdf**	22 35 14.3	-0.4
PBAR	**Barrancos**	**159.36**	**22**	*e*PKPdf	**PKPdf**	22 35 15.1	+0.2
PBAR	**Barrancos**	**159.36**	**22**	*e*PKPdf	**PKPdf**	22 35 15.1	+0.2
PCVE	**Castro Verde**	**159.46**	**25**	*e*PKPdf	**PKPdf**	22 35 15.4	+0.4
PCVE	**Castro Verde**	**159.46**	**25**	*e*PKPdf	**PKPdf**	22 35 15.4	+0.4
MORF	**Marmelete**	**159.50**	**26**	*e*P	**PKPdf**	22 35 12.2	-2.9
MORF	**Marmelete**	**159.50**	**26**	*e*PKPdf	**PKPdf**	22 35 14.7	-0.4
MORF	**Marmelete**	**159.50**	**26**	*e*PKPdf	**PKPdf**	22 35 14.7	-0.4
PFVI	**Vila Bisbo**	**159.57**	**27**	*e*PKPdf	**PKPdf**	22 35 15.9	+0.8
PFVI	**Vila Bisbo**	**159.57**	**27**	*e*PKPdf	**PKPdf**	22 35 15.9	+0.8
PVAQ	**Vaqueiros**	**159.79**	**24**	*e*PKPdf	**PKPdf**	22 35 15.9	+0.5
PVAQ	**Vaqueiros**	**159.79**	**24**	*e*PKPdf	**PKPdf**	22 35 15.9	+0.5
PBDV	**Barranco-do-Ve**	**159.84**	**25**	*e*PKPdf	**PKPdf**	22 35 15.4	-0.1
PBDV	**Barranco-do-Ve**	**159.84**	**25**	*e*PKPdf	**PKPdf**	22 35 15.4	-0.1
KEST	**Kesra**	**162.50**	**341**	PKPab	**PKPab**	22 36 10.7	+0.5
	comp=Z,1.9nm,0.5s,baz=315,slow=4.3,SNR=8.5						
LIC	**Lamto**	**165.11**	**149**	*e*PKIKP	**PKPdf**	22 35 19.6	-1.6
	comp=Z,131nm,1.4s						
KIC	**Kosan Boka**	**165.37**	**150**	*e*PKIKP	**PKPdf**	22 35 19.9	-1.6
	comp=Z,125nm,1.2s						
TIC	**Toumodi**	**165.48**	**149**	*e*PKIKP	**PKPdf**	22 35 20.5	-1.1
DBIC	**Dimbokro**	**165.58**	**149**	PKP	**PKPdf**	22 35 20.9	-0.6
	comp=Z,11nm,0.5s,baz=160,slow=1.3,SNR=31						
DBIC				PKPab	**PKPab**	22 36 24.9	+0.8
	comp=Z,9.7nm,0.7s,baz=185,slow=5.5,SNR=8.2						
DBIC	**Dimbokro**	**165.58**	**149**	PKIKP	**PKPdf**	22 35 21.0	-0.6
DBIC						22 36 24.9	
DBIC				pmax	pmax		
	comp=Z,11nm,0.5s						
DBIC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TOA0	**Torodi Ar. Sit**	**173.89**	**172**	*e*PKPdf	**PKPdf**	22 35 24.3	-2.1
TOA0				*e*PKPdf	PKPdf	22 35 25.1	-1.2
TOA0				*e*PP	**PP**	22 40 52.0	0.0
TOA0				*e*PP	PP	22 40 52.7	+0.6
TORD	**Torodi Ar. Bea**	**173.89**	**172**	PKP	**PKPdf**	22 35 25.1	-1.2
	comp=Z,10.0nm,0.9s,baz=341,slow=0.6,SNR=47						
TORD				PKPab	**PKPab**	22 37 01.3	+0.5
	comp=Z,8.2nm,0.6s,baz=181,slow=3.2,SNR=16						
TORD				PP	**PP**	22 40 52.7	+0.6
	comp=Z,3.4nm,0.7s,baz=198,slow=2.8,SNR=8.3						
TOB5	**Torodi Ar. Sit**	**173.90**	**172**	*e*PKIKP	**PKPdf**	22 35 24.4	-1.9
TAM	**Tamanrasset**	**175.50**	**322**	*e*PKPdf	**PKPdf**	22 35 26.6	-0.2

WEL 22 22:21:49.4±0.3, 45°.14S×167°.37E, h86km±2km, ML3.8/8, 3C-2D, Error ellipse: s-maj=2.0km s-min=2.0km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.38**	**204**	PN	Pn	22 22 02.3	-0.4
DCZ				SN	Sn	22 22 12.4	-0.1
DCZ				AML	AML	22 22 12.9	
DCZ				AML	AML	22 22 13.5	
DCZ				AML	AML	22 22 13.5	
MLZ	**Mavora Lakes**	**0.61**	**111**	⇑PN	Pn	22 22 04.2	-0.4
MLZ				SN	Sn	22 22 15.6	-0.4
MLZ				AML	AML	22 22 16.3	
WHZ	**Wether Hill Ro**	**0.86**	**152**	⇑PN	Pn	22 22 07.0	-0.2
WHZ				SN	Sn	22 22 20.2	-0.3
WHZ				AML	AML	22 22 20.6	
WKZ	**Wanaka**	**1.21**	**76**	⇑PN	Pn	22 22 11.4	+0.1
WKZ				SN	Sn	22 22 27.3	-0.5
WKZ				AML	AML	22 22 29.0	
WKZ				AML	AML	22 22 31.9	
WKZ				AML	AML	22 22 31.9	
EAZ	**Earnscleugh**	**1.38**	**95**	⇓PN	Pn	22 22 13.3	0.0
EAZ				SN	Sn	22 22 30.3	-1.1
EAZ				AML	AML	22 22 30.6	
EAZ				AML	AML	22 22 31.9	
EAZ				AML	AML	22 22 31.9	
APZ	**The Paps**	**1.75**	**166**	PN	Pn	22 22 18.2	0.0
APZ				AML	AML	22 22 40.5	
APZ				AML	AML	22 22 41.7	
TUZ	**Tuapeka**	**1.79**	**118**	⇓PN	Pn	22 22 18.3	-0.3
SYZ	**Scrubby Hill**	**1.87**	**139**	PN	Pn	22 22 19.4	-0.3
SYZ				AML	AML	22 22 43.0	
SYZ				AML	AML	22 22 43.0	
SYZ				AML	AML	22 22 43.1	
SYZ				AML	AML	22 22 50.8	
LBZ	**Lake Benmore**	**2.14**	**71**	PN	Pn	22 22 21.7	-1.6
HHSZ	**Highcliff Hill**	**2.39**	**109**	PN	Pn	22 22 26.0	-0.6
RPZ	**Rata Peaks**	**3.00**	**63**	PN	Pn	22 22 32.0	-2.7
RPZ				AML	AML	22 23 06.7	
RPZ				AML	AML	22 23 07.3	

*ISK **22** 22:32:06.8, 40°.80N×27°.85E, h11km, MD2.6*
*CSEM **22** 22:32:07.4±0.2, 40°.83N×27°.83E, h8km, MD2.6, Error ellipse: s-maj=5.5km s-min=4.3km az=152.0*
*DDA **22** 22:32:08.0, 40°.83N×27°.80E, h7km, MD2.8*
ISC 22 22:32:07.3±1.1, 40°.84N±0°.03×27°.82E±0°.02, h8km±10km, n36, σ0°60/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKR	**Tekirdag**	**0.26**	**305**	*e*PG	**Pb**	22 32 13.9	-0.3
TKR				*e*SG	**Sb**	22 32 18.3	-0.5
TKR	**Tekirdag**	**0.26**	**305**	*e*Pg	**Pb**	22 32 13.9	-0.3
TKR				*e*Sg	**Sb**	22 32 18.3	-0.5
MRMT	**Marmara Adasi**	**0.29**	**215**	*e*PG	**Pg**	22 32 12.9	-0.1
MRMT	**Marmara Adasi**	**0.29**	**215**	*e*Pg	**Pg**	22 32 12.9	-0.1
SLVT	**Silivri**	**0.49**	**37**	*e*PG	**Pg**	22 32 16.9	+0.1
SLVT	**Silivri**	**0.49**	**37**	*e*Pg	**Pg**	22 32 16.9	+0.1
EDC	**Edincik**	**0.49**	**176**	*e*PG	**Pg**	22 32 16.6	-0.2
EDC	**Edincik**	**0.49**	**176**	*e*Pg	**Pg**	22 32 16.6	-0.2
SART	**Tekirdag**	**0.51**	**253**	*i* P	**Pg**	22 32 17.3	+0.2
SART				*i* S	**Sg**	22 32 24.0	+0.3
SART	**Tekirdag**	**0.51**	**253**	*i* P	**Pg**	22 32 17.3	+0.2
SART				*i* S	**Sg**	22 32 24.0	+0.3
CTKS	**Kestanelik-??a**	**0.66**	**53**	*e*PG	**Pg**	22 32 20.3	+0.4
CTKS	**Kestanelik-??a**	**0.66**	**53**	*e*Pg	**Pg**	22 32 20.3	+0.4
KCTX	**Karacabey (Bur**	**0.71**	**144**	*e*PG	**Pg**	22 32 20.1	-0.8
KCTX	**Karacabey (Bur**	**0.71**	**144**	*e*Pg	**Pg**	22 32 20.1	-0.8
BGKT	**Bogazkoy**	**0.80**	**65**	*e*PG	**Pg**	22 32 22.3	-0.4
BGKT	**Bogazkoy**	**0.80**	**65**	*e*Pg	**Pg**	22 32 22.3	-0.4
ARMT	**Armutlu**	**0.84**	**109**	*e*PG	**Pg**	22 32 23.0	-0.5
ARMT	**Armutlu**	**0.84**	**109**	*e*Pg	**Pg**	22 32 23.0	-0.5
LPK	**Lapseki**	**0.93**	**240**	*e*PG	**Pg**	22 32 24.9	-0.2
LPK	**Lapseki**	**0.93**	**240**	*e*Pg	**Pg**	22 32 24.9	-0.2
ISK	**Istanbul-Kandi**	**0.97**	**76**	*e*PG	**Pg**	22 32 25.5	-0.4
ISK	**Istanbul-Kandi**	**0.97**	**76**	*e*Pg	**Pg**	22 32 25.5	-0.4
KLYT	**Kilyos**	**1.02**	**66**	*e*PG	**Pg**	22 32 26.5	-0.3
KLYT	**Kilyos**	**1.02**	**66**	*e*Pg	**Pg**	22 32 26.5	-0.3
BALY	**Balya**	**1.11**	**188**	*i* P	**Pb**	22 32 28.7	0.0
BALY				*i* S	**Sn**	22 32 44.0	-0.6
BALY	**Balya**	**1.11**	**188**	*i* P	**Pb**	22 32 28.7	0.0
BALY				*i* S	**Sn**	22 32 44.0	-0.6
GELI	**Tayfur-Gelibol**	**1.11**	**247**	*e*PN	**Pg**	22 32 28.4	-0.2
GELI	**Tayfur-Gelibol**	**1.11**	**247**	*e*Pn	**Pg**	22 32 28.4	-0.2
BALB	**Balikesir**	**1.20**	**178**	*e*PN	**Pb**	22 32 28.8	-1.4
BALB	**Balikesir**	**1.20**	**178**	*e*Pn	**Pb**	22 32 28.8	-1.4
DURS	**Dursunbey**	**1.34**	**158**	*i* P	**Pg**	22 32 33.8	+0.9
DURS				*i* S	**Sn**	22 32 51.6	+1.3
DURS	**Dursunbey**	**1.34**	**158**	*i* P	**Pg**	22 32 33.8	+0.9
DURS				*i* S	**Sn**	22 32 51.6	+1.3
ALN	**Alexandroupoli**	**1.34**	**273**	*e*PN	**Pn**	22 32 32.5	+0.2
ALN	**Alexandroupoli**	**1.34**	**273**	*e*Pn	**Pn**	22 32 32.5	+0.2
DEMI	**Demirci**	**1.92**	**159**	*i* P	**Pb**	22 32 42.7	+0.1
DEMI				*i* S	**Sg**	22 33 09.8	+0.7
DEMI	**Demirci**	**1.92**	**159**	*i* P	**Pb**	22 32 42.7	+0.1
DEMI				*i* S	**Sg**	22 33 09.8	+0.7

*ATH **22** 22:33:12.5, 37°.85N×21°.14E, h28km±1km, MD3.0/14*
*THE **22** 22:33:13.3, 37°.86N×21°.16E, h14km, ML2.4/4, Error ellipse: s-maj=0.9km s-min=0.5km az=240.0*
CSEM 22 22:33:12.8±0.2, 37°.84N×21°.17E, h15km, ML2.4, Error ellipse: s-maj=4.4km s-min=3.2km az=15.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTN	**Vitineika**	**0.08**	**9**	P	Pg	22 33 16.1	+0.3
VTN				S	Sg	22 33 18.6	+0.8
VTN	**Vitineika**	**0.08**	**9**	P	Pg	22 33 16.1	+0.3
VTN				S	Sg	22 33 18.6	+0.8
RLS	**Riolos of Patr**	**0.32**	**47**	P	Pg	22 33 19.5	+0.1
RLS				S	Sg	22 33 23.9	-0.1
RLS	**Riolos of Patr**	**0.32**	**47**	*e*PB	Pg	22 33 19.5	+0.1
RLS				*e*SB	Sb	22 33 25.1	-0.1
RLS	**Riolos of Patr**	**0.32**	**47**	P	Pg	22 33 19.5	+0.1
RLS				S	Sg	22 33 23.9	-0.1
RLS				*e*Sb	Sb	22 33 25.1	-0.1
ZKS	**Zakynthos**	**0.34**	**245**	P	Pg	22 33 20.0	+0.2
ZKS				S	Sb	22 33 25.4	-0.4
ZKS	**Zakynthos**	**0.34**	**245**	*e*PB	Pg	22 33 19.9	+0.1
ZKS				*e*SB	Sb	22 33 26.1	+0.3
ZKS	**Zakynthos**	**0.34**	**245**	P	Pg	22 33 20.0	+0.2
ZKS				S	Sb	22 33 25.4	-0.4
ZKS				*e*Sb	Sg	22 33 26.1	+1.5
KFL	**Anninata**	**0.40**	**312**	P	Pg	22 33 21.3	+0.3
KFL				S	Sg	22 33 26.8	+0.2
KFL	**Anninata**	**0.40**	**312**	P	Pg	22 33 21.3	+0.3
KFL				S	Sg	22 33 26.8	+0.2
DRO	**Drossia**	**0.44**	**75**	P	Pg	22 33 21.6	-0.1
DRO				S	Sb	22 33 28.9	+0.1
DRO	**Drossia**	**0.44**	**75**	*e*PB	Pg	22 33 21.6	-0.1
DRO				*e*SB	Sb	22 33 29.0	+0.2
DRO	**Drossia**	**0.44**	**75**	P	Pg	22 33 21.6	-0.1
DRO				S	Sb	22 33 28.9	+0.1
AMT	**Artemida-Makis**	**0.53**	**126**	P	Pb	22 33 23.9	+0.1
AMT	**Artemida-Makis**	**0.53**	**126**	*e*PN	Pb	22 33 23.9	+0.1
AMT				*e*SN	Sb	22 33 32.5	+1.2
AMT	**Artemida-Makis**	**0.53**	**126**	P	Pb	22 33 23.9	+0.1
AMT				*e*Sn	Sb	22 33 32.5	+1.2
VLS	**Valsamata**	**0.57**	**306**	P	Pg	22 33 23.5	-0.6
VLS				S	Sb	22 33 32.2	-0.3
VLS	**Valsamata**	**0.57**	**306**	*e*PN	Pg	22 33 24.1	0.0
VLS				*e*SN	Sb	22 33 32.5	0.0
VLS	**Valsamata**	**0.57**	**306**	P	Pg	22 33 23.5	-0.6
VLS	**Valsamata**	**0.57**	**306**	*e*Pn	Pg	22 33 24.1	0.0
VLS				S	Sb	22 33 32.2	-0.3
PDO	**Prodromos**	**0.76**	**1**	P	Pg	22 33 27.4	-0.2
PDO				S	Sb	22 33 38.4	+0.6
PDO	**Prodromos**	**0.76**	**1**	*e*PN	Pg	22 33 27.1	-0.5
PDO				*e*SN	Sb	22 33 38.8	+1.0
PDO	**Prodromos**	**0.76**	**1**	P	Pg	22 33 27.4	-0.2
PDO				S	Sb	22 33 38.4	+0.6
KLV	**Kalavryta, Ach**	**0.80**	**75**	*e*PB	Pg	22 33 27.8	-0.7
KLV				*e*SN	Sn	22 33 40.6	-0.8
KLV	**Kalavryta, Ach**	**0.80**	**75**	*e*Pb	Pg	22 33 27.8	-0.7
KLV				*e*Sn	Sn	22 33 40.6	-0.8
EFP	**Efpalio**	**0.82**	**45**	*e*PN	Pb	22 33 28.5	-0.3
EFP				*e*SN	Sn	22 33 41.0	-0.8
EFP	**Efpalio**	**0.82**	**45**	*e*Pn	Pb	22 33 28.5	-0.3
EFP				*e*Sn	Sn	22 33 41.0	-0.8
PVO	**Paravola**	**0.82**	**20**	P	Pb	22 33 29.1	+0.3
PVO				S	Sb	22 33 40.4	+0.7
PVO	**Paravola**	**0.82**	**20**	P	Pb	22 33 29.1	+0.3
PVO				S	Sb	22 33 40.4	+0.7
ITM	**Ithomi**	**0.89**	**137**	*e*PN	Pb	22 33 30.1	0.0
ITM				*e*SN	Sn	22 33 43.5	-0.1
ITM	**Ithomi**	**0.89**	**137**	*e*Pn	Pb	22 33 30.1	0.0
ITM				*e*Sn	Sn	22 33 43.5	-0.1
GUR	**Goura**	**0.93**	**84**	P	Pb	22 33 30.6	-0.2
GUR				S	Sn	22 33 44.8	+0.1
GUR	**Goura**	**0.93**	**84**	*e*PN	Pb	22 33 30.4	-0.4
GUR				*e*SN	Sn	22 33 45.5	+0.8
GUR	**Goura**	**0.93**	**84**	P	Pb	22 33 30.6	-0.2
GUR				S	Sn	22 33 44.8	+0.1
GUR				*e*Sn	Sg	22 33 45.5	+2.1
KALE	**Kalithea**	**0.94**	**54**	*e*PB	Pb	22 33 30.2	-0.7
KALE				*e*SN	Sn	22 33 44.7	-0.2
KALE	**Kalithea**	**0.94**	**54**	*e*Pb	Pb	22 33 30.2	-0.7
KALE				*e*Sn	Sn	22 33 44.7	-0.2
EVR	**Evrytania**	**1.19**	**25**	*e*PN	Pn	22 33 34.9	-0.1
EVR				*e*SN	Sg	22 33 52.1	+0.7
EVR	**Evrytania**	**1.19**	**25**	*e*Pn	Pn	22 33 34.9	-0.1
EVR				*e*Sn	Sg	22 33 52.1	+0.7
MAKR	**Makrakomi, Fth**	**1.39**	**33**	*e*PN	Pb	22 33 38.4	-0.2
MAKR				*e*SN	Sb	22 33 56.5	+0.3
MAKR	**Makrakomi, Fth**	**1.39**	**33**	*e*Pn	Pb	22 33 38.4	-0.2
MAKR				*e*Sn	Sb	22 33 56.5	+0.3
AGG	**Agios Georgios**	**1.49**	**37**	*e*PN	Pb	22 33 40.1	-0.2
AGG	**Agios Georgios**	**1.49**	**37**	*e*Pn	Pb	22 33 40.1	-0.2

MEX 22 22:33:27.4±0.4, 17°.81N×101°.26W, h60km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.28**	**225**	*i* P	Pn	22 33 35.9	-1.5
ZIIG				*i* S	Sn	22 33 43.0	-1.6
ARIG	**Puente Sto Nin**	**0.98**	**61**	*e*P	Pn	22 33 43.8	-1.5
ARIG				*i* S	Sn	22 33 56.5	-2.1
CAIG	**El Cayaco**	**1.21**	**129**	*e*P	Pn	22 33 47.0	-1.2
CAIG				*e*S	Sn	22 34 01.6	-2.1
PLIG	**Platanillo**	**1.77**	**71**	*e*P	Pn	22 33 55.0	-0.9
PLIG				*e*S	Sn	22 34 16.1	-1.3
TLIG	**Tlapa**	**2.58**	**95**	*e*P	Pn	22 34 05.8	-1.1
TLIG				*e*S	Sn	22 34 35.7	-1.5

IDC 22 22:46:41.2±4.1, 20°.08S×175°.85W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/18, mbtmp4.3/3, MS3.8/1, Ms1 3.8/1, ms1mx2.8/25, Error ellipse: s-maj=187.3km s-min=49.8km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.79**	**244**	P	P	22 54 15.9	-0.2
	1.6nm,0.7s,baz=87,slow=9.8,SNR=4.9						
ASAR	**Alice Springs**	**46.58**	**256**	P	P	22 55 11.6	+0.3
	4.6nm,0.5s,baz=97,slow=7.6,SNR=49						
WRA	**Warramunga Arr**	**46.66**	**261**	P	P	22 55 11.4	-0.5
	2.5nm,0.6s,baz=97,slow=7.9,SNR=16						
SIJI	**Sorong**	**55.10**	**284**	LR	LR	23 18 08.7	
	comp=Z,78nm,18.1s,slow=34						
AKASG	**Malin Array Be**	**143.60**	**333**	PKP	PKPbc	23 06 15.6	+0.4
	0.2nm,0.4s,baz=30,slow=3.7,SNR=4.2						
BRTR	**Keskin Array B**	**148.03**	**314**	PKPbc	PKPbc	23 06 28.9	-0.3
	0.3nm,0.7s,baz=52,slow=2.6,SNR=2.3						

IDC 22 22:49:08.2±2.8, 0°.29N×120°.19E, h566km±44km, mb2.8/8, mb1 2.9/9, mb1mx2.7/39, mbtmp3.8/9, Error ellipse: s-maj=87.2km s-min=13.2km az=56.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.28**	**185**	P	P	22 50 41.4	0.0
	1.7nm,0.3s,baz=8.6,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**24.42**	**146**	P	P	22 53 42.6	-0.4
	1.1nm,0.7s,baz=331,slow=9.7,SNR=6.6						
ASAR	**Alice Springs**	**27.28**	**152**	P	P	22 54 07.9	-0.4
	0.4nm,0.6s,baz=345,slow=6.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**27.60**	**312**	P	P	22 54 11.1	0.0
	0.8nm,0.6s,baz=139,slow=7.0,SNR=5.7						
STKA	**Stephens Creek**	**37.86**	**150**	P	P	22 55 38.3	+0.8
	1.3nm,0.6s,baz=340,slow=8.5,SNR=3.8						
SONM	**Songino Array**	**48.85**	**348**	P	P	22 57 03.0	+0.3
	0.7nm,0.5s,baz=

	baz=220								
SMLT	**Sun Moon Lake**	**1.75**	**239**	*e*P		**Pn**	**23 11 00.8**	**+0.7**	
	baz=237								
SMLT				*e*S		**Sn**	**23 11 24.7**	**+1.6**	
	baz=237								
TYC	**Yuchr**	**1.77**	**240**	*e*P		**Pn**	**23 11 00.7**	**+0.4**	
	baz=238								
TYC				*e*S		**Sn**	**23 11 24.4**	**+1.0**	
	baz=238								
TCU	**Taichung**	**1.81**	**249**	*e*P		**Pn**	**23 11 00.7**	**-0.1**	
	baz=247								
TCU				*e*S		**Sn**	**23 11 23.4**	**-0.9**	
	baz=247								
TWF1	**Yuli**	**1.84**	**218**	*e*P		**Pn**	**23 11 00.5**	**-0.7**	
	baz=217								
TWF1				*e*S		**Sn**	**23 11 23.7**	**-1.2**	
	baz=217								
YUS	**Yu-Shan**	**1.95**	**228**	P		**Pn**	**23 11 03.6**	**+0.6**	
	baz=227								
YUS				S		**Sn**	**23 11 28.6**	**+0.5**	
	baz=227								
JTJ	**Tarama**	**1.98**	**94**	P		**Pn**	**23 11 02.6**	**-0.2**	
JTJ				*e*S		**Sn**	**23 11 27.3**	**-0.6**	
CHKT	**Chengkung**	**2.01**	**212**	*e*P		**Pn**	**23 11 01.9**	**-1.3**	
	baz=211								
CHKT				*e*S		**Sn**	**23 11 27.0**	**-1.6**	
	baz=211								
ALS	**Alishan**	**2.04**	**231**	*e*P		**Pn**	**23 11 04.7**	**+0.8**	
	baz=230								
ALS				*e*S		**Sn**	**23 11 31.1**	**+1.4**	
	baz=230								
CHN5	**Tsauling**	**2.08**	**235**	P		**Pn**	**23 11 04.6**	**+0.4**	
	baz=234								
CHN5				S		**Sn**	**23 11 31.2**	**+0.8**	
	baz=234								
ELDTW	**Lidau**	**2.13**	**221**	*e*P		**Pn**	**23 11 04.5**	**-0.3**	
	baz=220								
ELDTW				*e*S		**Sn**	**23 11 30.5**	**-1.0**	
	baz=220								
CHN4	**Tsaushan**	**2.29**	**231**	P		**Pn**	**23 11 07.2**	**+0.4**	
	baz=230								
CHN4				*e*S		**Sn**	**23 11 36.5**	**+1.4**	
	baz=230								
STYT	**Tauyuan**	**2.31**	**225**	*e*P		**Pn**	**23 11 07.8**	**+0.7**	
	baz=224								
STYT				*e*S		**Sn**	**23 11 35.0**	**-0.5**	
	baz=224								
WTP	**Ta-pu**	**2.34**	**229**	*e*P		**Pn**	**23 11 07.4**	**-0.1**	
	baz=227								
WTP				*e*S		**Sn**	**23 11 37.2**	**+0.8**	
	baz=227								
TWG	**Pinlang**	**2.39**	**214**	*e*P		**Pn**	**23 11 07.3**	**-0.8**	
	baz=213								
TWG				*e*S		**Sn**	**23 11 36.4**	**-0.9**	
	baz=213								
JIRB	**Irabujima**	**2.40**	**89**	P		**Pn**	**23 11 08.4**	**+0.2**	
JIRB				*e*S		**Sn**	**23 11 37.0**	**-0.5**	
TWK	**Hsinying**	**2.42**	**231**	*e*P		**Pn**	**23 11 08.6**	**+0.1**	
	baz=229								
TWK				*e*S		**Sn**	**23 11 38.0**	**0.0**	
	baz=229								
CHN1	**Nanshi**	**2.44**	**229**	*e*P		**Pn**	**23 11 08.8**	**0.0**	
	baz=228								
CHN1				*e*S		**Sn**	**23 11 38.9**	**+0.3**	
	baz=228								
JIKM	**Ikemajima**	**2.47**	**87**	P		**Pn**	**23 11 09.5**	**+0.4**	
JIKM				*e*S		**Sn**	**23 11 38.8**	**-0.3**	
SGST	**Jiashian**	**2.48**	**226**	*e*P		**Pn**	**23 11 09.5**	**+0.2**	
	baz=225								
SGST				*e*S		**Sn**	**23 11 39.6**	**+0.2**	
	baz=225								
JMJ	**Miyako jima 2**	**2.51**	**89**	*e*S		**Sn**	**23 11 40.3**	**+0.3**	
SSD	**Sandimen**	**2.69**	**221**	*e*P		**Pn**	**23 11 12.6**	**+0.6**	
	baz=219								
SSD				*e*S		**Sn**	**23 11 45.1**	**+0.7**	
	baz=219								
EAST	**Anshuo**	**2.87**	**213**	*e*P		**Pn**	**23 11 13.7**	**-0.7**	
	baz=212								
EAST				*e*S		**Sn**	**23 11 48.4**	**-0.1**	
	baz=212								
SCZT	**Fangliau**	**2.99**	**216**	*e*P		**Pn**	**23 11 17.5**	**+1.5**	
	baz=215								
SCZT				*e*S		**Sn**	**23 11 51.7**	**+0.3**	
	baz=215								

IDC 22 *23:13:20.5*±1.4,**2°91**N×**126°17E**,**h0**km,**mb4.0**/4, **mb1 4.1**/5,**mb1mx3.6**/38,**mbtmp4.0**/5,**ML3.8**/1,**Error ellipse: s-maj=82.7km s-min=22.3km az=61.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.33**	**126**	Pn	Pn	23 14 53.9	-1.3
	2.2nm,0.3s,baz=330,slow=20,SNR=4.3						
SIJI				Sn	Sn	23 16 03.0	-5.3
	0.1nm,0.3s,baz=119,slow=23,SNR=1.2						
WRA	**Warramunga Arr**	**24.09**	**161**	P	P	23 18 38.0	0.0
	3.8nm,0.5s,baz=338,slow=11,SNR=19						
ASAR	**Alice Springs**	**27.47**	**164**	P	P	23 19 09.1	+0.5
	0.6nm,0.5s,baz=350,slow=7.6,SNR=8.5						
STKA	**Stephens Creek**	**37.58**	**158**	P	P	23 20 37.1	+0.3
	5.6nm,0.8s,baz=340,slow=8.5,SNR=9.5						
MKAR	**Makanchi Array**	**57.91**	**326**	P	P	23 23 14.0	-0.5
	0.5nm,0.5s,baz=121,slow=8.0,SNR=3.6						

IDC **22** *23:14:07.7*±*0.4,29°81N*×*80°44E,h0*km*,mb4.8/33, mb1 4.9/34,mb1mx4.8/42,mbtmp4.8/34,ML4.5/1,MS4.1/20, Ms1 4.1/20,ms1mx3.7/45,Error ellipse: s-maj=11.2km s-min=8.3km az=64.0*

ISCJB **22** *23:14:07.0*±*0.7,29°82N*±*0°01*×*80°43E*±*0°02,h4km*±*4km, mb5.0/183,MS4.0/25,Error ellipse: s-maj=2.7km s-min=2.0km az=43.1*

DMN **22** *23:14:08.1*±*0.3,30°14N*×*80°14E,h10km,Ml5.2/8,Error ellipse: s-maj=16.9km s-min=5.0km az=27.0*

NEIC **22** *23:14:10.8*±*1.6,29°87N*×*80°43E,h16km*±*10km,mb5.2/87, ML5.2(DMN),Error ellipse: s-maj=4.8km s-min=2.9km az=219.0*

NEIC One building destroyed at Tauli, India. Felt strongly at Almora, Dharchula and Pithoragarh. Also felt at Thal.

MOS **22** *23:14:10.1*±*0.9,29°86N*×*80°46E,h25km,mb5.2/57, MS4.0/5,Error ellipse: s-maj=6.6km s-min=3.9km az=120.2*

NDI **22** *23:14:10.2*±*2.7,29°74N*×*80°53E,h10km,ML4.8, mb5.2(NEIC)*

SZGRF **22** *23:14:13.4,30°37N*×*80°66E,h33km,mb5.0,Western Xizang-India border region*

BJI **22** *23:14:15.1,30°44N*×*80°75E,h30km,mb4.7/58,mB4.7/33, Ms4.4/51,Ms7 4.3/45*

ISC 22 23:14:11.6±0.2,**29°91**N±0°03×**80°46E**±0°03,**h20**km±2km, **h20**km:**pP-P,n555,**σ1º**37**/640,**mb5.1**/183,**MS4.1**/26, **29C-40D,Nepal-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.42**	**211**	*e*P	Pb	23 14 11.8	-6.5
PTH				*e*S	Sb	23 14 16.9	-9.3
LGTI	**Lohaghat**	**0.49**	**202**	*e*P	**Pb**	**23 14 21.4**	**-0.1**
LGTI				*ex*	x	23 14 37.6	
DDI	**Dehra Dun**	**2.12**	**282**	*e*P	**Pn**	**23 14 47.5**	**+1.6**
DDI				*e*P	**Pb**	**23 14 47.6**	**-1.8**
DDI				*e*S	**Sb**	**23 15 14.4**	**-0.9**
DDI				*e*S	**Sn**	**23 15 17.0**	**+5.2**
DDI				AML	AML	23 15 23.0	
	comp=N,6μm,0.5s						
DDI				AML	AML	23 15 23.5	
	comp=E,5μm,0.7s						
SMLA	**Simla**	**3.09**	**294**	*e*P	**Pn**	**23 15 00.2**	**+1.0**
SMLA				*e*S	**Sn**	**23 15 39.0**	**+3.5**
SMLA				AML	AML	23 15 50.2	
	comp=N,14μm,0.3s						
SMLA				AML	AML	23 15 50.2	
	comp=E,9μm,0.2s						
SDNR	**Sundarnagar**	**3.40**	**299**	*e*P	**Pn**	**23 15 05.6**	**+2.1**
SDNR				*ex*	x	23 16 05.0	
KOLN	**Koldanda**	**3.48**	**127**	*e*P	**Pn**	**23 15 05.6**	**+0.8**
KOLN				*e*Sn	**Sn**	**23 15 48.6**	**+3.1**
	comp=E,831nm,0.4s						
KOLN	**Koldanda**	**3.48**	**127**	*e*Pn	**Pn**	**23 15 05.6**	**+0.8**
KOLN				*e*Sn	**Sn**	**23 15 48.6**	**+3.1**
BHK	**Bhakra**	**3.79**	**294**	*ex*	**Pb**	**23 15 17.0**	**-0.9**
BHK				*ex*	Sg	23 16 17.8	
GKN	**Gorkha**	**4.12**	**116**	*e*Pn	**Pn**	**23 15 14.4**	**+0.8**
GKN				*e*Sn	**Sn**	**23 16 03.1**	**+1.8**
GKN	**Gorkha**	**4.12**	**116**	*e*Pn	**Pn**	**23 15 14.4**	**+0.8**
GKN				*e*Sn	**Sn**	**23 16 03.1**	**+1.8**
DHRM	**DHARAMSHALA**	**4.26**	**304**	*e*P	**Pn**	**23 15 16.8**	**+1.3**
DHRM				*e*S	**Sn**	**23 16 08.0**	**+3.2**
DLH	**Dalhousie**	**4.66**	**305**	*e*P	**Pn**	**23 15 21.0**	**+0.1**
DLH				*ex*	x	23 16 39.0	
DMN	**Daman**	**4.68**	**118**	*e*Pn	**Pn**	**23 15 21.3**	**0.0**
DMN	**Daman**	**4.68**	**118**	*e*Pn	**Pn**	**23 15 21.3**	**0.0**
KKN	**Kakani**	**4.73**	**115**	*e*Pn	**Pn**	**23 15 22.5**	**+0.6**
KKN				*e*Sn	**Sn**	**23 16 17.9**	**+1.7**
	comp=E,2μm,0.8s						
KKN	**Kakani**	**4.73**	**115**	*e*P	**Pn**	**23 15 22.5**	**+0.6**
KKN				*e*		23 16 17.9	
KKN	**Kakani**	**4.73**	**115**	*e*Pn	**Pn**	**23 15 22.5**	**+0.6**
KKN				*e*Sn	**Sn**	**23 16 17.9**	**+1.7**
JHNI	**Jhansi**	**4.74**	**201**	*ex*	x	23 15 11.7	
JHNI				*ex*	**Sb**	**23 16 28.0**	**-2.7**
PKIN	**Phulchoki**	**4.92**	**117**	*e*Pn	**Pn**	**23 15 24.7**	**+0.1**
PKIN				*e*Sn	**Sn**	**23 16 21.4**	**+0.4**
	comp=E,525nm,0.3s						
PKI	**Pulchoki**	**4.93**	**117**	*e*Pn	**Pn**	**23 15 25.1**	**+0.3**
PKI				*e*Sn	**Sn**	**23 16 22.1**	**+0.7**
	comp=E,640nm,0.4s						
PKI	**Pulchoki**	**4.93**	**117**	*e*P	**Pn**	**23 15 25.1**	**+0.3**
PKI				*e*		23 16 22.1	
PKI	**Pulchoki**	**4.93**	**117**	*e*Pn	**Pn**	**23 15 25.1**	**+0.3**
PKI				*e*Sn	**Sn**	**23 16 22.1**	**+0.7**
GUN	**Gumba**	**5.15**	**111**	*e*Pn	**Pn**	**23 15 28.3**	**+0.4**
GUN				*e*Sn	**Sn**	**23 16 27.8**	**+0.9**
	comp=E,486nm,0.3s						
RAMN	**Ramite**	**6.16**	**117**	*e*Pn	**Pn**	**23 15 41.5**	**-0.1**
RAMN				*e*Sn	**Sn**	**23 16 51.4**	**-0.2**
	comp=E,494nm,0.2s						
AJM	**Ajmer**	**6.17**	**238**	*e*P	**Pn**	**23 15 41.0**	**-0.5**
AJM				*ex*	x	23 16 50.0	
ODAN	**Odare**	**6.82**	**115**	*e*Pn	**Pn**	**23 15 50.7**	**0.0**
ODAN				*e*Sn	**Sn**	**23 17 07.5**	**-0.3**
	comp=E,430nm,0.3s						
TAPN	**Taplejung**	**6.86**	**110**	*e*Pn	**Pn**	**23 15 51.5**	**+0.2**
TAPN				*e*Sn	**Sn**	**23 17 08.6**	**-0.4**
	comp=E,743nm,0.7s						
SARP	**Sargodha**	**6.99**	**289**	P	**Pn**	**23 15 53.4**	**+0.7**
CHCP	**Chirah Chowk**	**7.17**	**303**	P	**Pn**	**23 15 55.4**	**0.0**
BHPL	**Bhopal**	**7.18**	**203**	*e*P	**Pn**	**23 15 52.8**	**-2.6**
BHPL				*ex*	x	23 17 09.4	
BOK	**Bokaro**	**7.78**	**140**	*e*P	**Pn**	**23 16 01.5**	**-2.2**
BOK				*ex*	x	23 17 27.9	
THW	**Thamme Wali**	**7.99**	**293**	P	**Pn**	**23 16 06.2**	**-0.3**
CEP	**Cherat**	**8.25**	**300**	P	**Pn**	**23 16 10.5**	**+0.3**
NGP	**Nagpur**	**8.81**	**189**	*ex*	Sn	23 17 48.6	-8.1
LSA	**Lhasa**	**9.29**	**89**	P	**Pn**	**23 16 26.4**	**+1.6**
LSA				S	**Sn**	**23 16 35.3**	**-3.6**
LSA	**Lhasa**	**9.29**	**89**	*e*P	**Pn**	**23 16 26.3**	**+1.5**
LSA				*e*		23 18 09.2	
LSA	**Lhasa**	**9.29**	**89**	*e*Pn	**Pn**	**23 16 26.3**	**+1.5**
LSA				*e*Sn	**Sn**	**23 18 09.2**	**+0.3**
KSH	**Kashi**	**10.27**	**340**	Pn	**Pn**	**23 16 36.6**	**-1.2**
KSH				Sn	Sn	23 18 18.8	-14
KSH	**Kashi**	**10.27**	**340**	P	**Pn**	**23 16 34.9**	**-2.9**
KSH				pP		23 16 42.3	
KSH				sP		23 16 47.1	
KSH				S	Sn	23 18 24.8	-7.6
KSH				sS		23 18 35.9	
KSH				PMZ			
	comp=E,19nm,0.9s						
KBL	**Kabul**	**10.71**	**298**	*e*P	**Pn**	**23 16 43.3**	**-0.8**
KBL	**Kabul**	**10.71**	**298**	*e*Pn	**Pn**	**23 16 43.3**	**-0.8**
KBL				*e*Sn	Sn	23 18 35.7	-7.7
SHL	**Shillong**	**11.00**	**110**	*e*P	**Pn**	**23 16 45.4**	**-2.6**
SHL				*ex*	x	23 17 41.0	
RPR	**Rampur**	**11.05**	**186**	*e*Pn	Pn	23 16 44.6	-4.0
RPR				IAmb	IAmb	23 16 46.3	
	comp=Z,61nm,0.8s						
RPR				*e*		23 18 40.9	
RPR				Sn	**Sn**	**23 18 51.6**	**0.0**
RPR				IVMs_BB	IVMs_BB	23 21 19.4	
	comp=Z,3μm,9.7s						
SRSP	**Sriramsagar**	**11.10**	**190**	*e*Pn	Pn	23 16 44.1	-5.1
SRSP				IAmb	IAmb	23 16 57.4	
	comp=Z,67nm,0.9s						
SRSP				*e*		23 18 43.1	
SRSP				Sn	**Sn**	**23 18 51.1**	**-1.7**
SRSP				IVMs_BB	IVMs_BB	23 21 14.0	
	comp=Z,4μm,10.2s						
CHLP	**Challavanipeta**	**11.82**	**163**	*e*Pn	Pn	23 16 54.6	-4.3
CHLP				IAmb	IAmb	23 17 00.8	
	comp=Z,48nm,1.0s						
CHLP				*e*		23 18 58.9	
CHLP				Sn	**Sn**	**23 19 09.8**	**-0.5**
CHLP				IVMsBB		23 21 39.0	
	comp=Z,886nm,10.2s						
KLRI	**Killari**	**12.30**	**198**	*e*Pn	Pn	23 17 00.1	-5.6
KLRI				IAmb	IAmb	23 17 15.4	
	comp=Z,52nm,0.7s						
KLRI				*e*		23 19 10.4	
KLRI				Sn	**Sn**	**23 19 22.1**	**-0.2**
KLRI				IVMs_BB	IVMs_BB	23 21 51.3	
	comp=Z,4μm,9.6s						
VIS	**Vishakhapatnam**	**12.41**	**167**	*e*P	Pn	23 17 03.2	-3.9
VIS				*i* x	x	23 19 12.1	
HYBB	**Hyderabad (bro**	**12.56**	**188**	*e*Pn	Pn	23 17 03.9	-5.2
HYBB				IAmb	IAmb	23 17 05.7	
	comp=Z,72nm,0.8s						
HYBB				*e*		23 19 14.8	
HYBB				Sn	**Sn**	**23 19 29.3**	**+0.8**
HYBB				IVMs_BB	IVMs_BB	23 22 08.1	
	comp=Z,3μm,9.7s						
HYB	**Hyderabad**	**12.56**	**188**	*i* P	Pn	23 17 03.0	-6.2
HYB				*e*S	**Sn**	**23 19 28.0**	**-0.5**
HYB				LR	LR	23 22 08.0	
	comp=Z,9.8nm,10.0s						
HYB	**Hyderabad**	**12.56**	**188**	*e*P	Pn	23 17 04.6	-4.6
HYB	**Hyderabad**	**12.56**	**188**	*e*P	Pn	23 17 03.0	-6.2
HYB	**Hyderabad**	**12.56**	**188**	*e*P	Pn	23 17 03.0	-6.2
HYB				*e*S	Sn	23 19 14.5	-14
PVM	**Polavaram**	**12.65**	**175**	*e*Pn	**Pn**	**23 17 07.5**	**-2.9**
PVM				IAmb	IAmb	23 17 16.2	
	comp=Z,17nm,0.8s						
PVM				*e*		23 19 16.0	
PVM				Sn	**Sn**	**23 19 30.5**	**-0.1**
PVM				IVMsBB		23 23 00.7	
	comp=Z,2μm,6.8s						
POO	**Poona**	**12.83**	**209**	*e*P	Pn	23 17 09.0	-3.9
NJS	**Nagarjunasagar**	**13.34**	**185**	*e*Pn	Pn	23 17 15.1	-4.7
NJS				IAmb	IAmb	23 17 26.3	
	comp=Z,94nm,1.1s						
NJS				*e*		23 19 32.9	
NJS				Sn	**Sn**	**23 19 47.0**	**-0.4**
NJS				IVMs_BB	IVMs_BB	23 23 33.8	
	comp=Z,3μm,6.5s						
TKM2	**Tokmak 2**	**13.56**	**345**	*e*P	**Pn**	**23 17 22.7**	**-0.2**
TKM2	**Tokmak 2**	**13.56**	**345**	*e*Pn	**Pn**	**23 17 22.7**	**-0.2**
AAK	**Ala-Archa**	**13.57**	**341**	Pn	P	23 17 36.0	+4.1
	comp=Z,1.0nm,0.3s,baz=232,slow=8.1,SNR=11						
AAK				Sn	Sn	23 20 03.9	+10
	comp=Z,0.6nm,0.3s,baz=45,slow=9.3,SNR=1.1						
AAK				LR	LR	23 23 41.7	
	comp=Z,967nm,18.0s,baz=142,slow=42						
AAK	**Ala-Archa**	**13.57**	**341**	*e*P	**Pn**	**23 17 23.9**	**+0.8**
AAK				*e*		23 19 54.4	
AAK	**Ala-Archa**	**13.57**	**341**	*e*Pn	**Pn**	**23 17 23.9**	**+0.8**
AAK				*e*Sn	**Sn**	**23 19 54.2**	**+0.9**
AAK				*e*Sn	**Sn**	**23 19 54.4**	**+1.1**
AAK				*e*Sn	S	23 20 03.9	-13
FRU	**Bishkek**	**13.72**	**342**	*e*P	P	23 17 42.0	+8.5
FRU				pmax	pmax		
	comp=Z,60nm,2.2s						
EKS2	**Erkin-Say**	**13.81**	**339**	*e*P	**Pn**	**23 17 26.8**	**+0.5**
EKS2				*e*		23 20 01.2	
EKS2	**Erkin-Say**	**13.81**	**339**	*e*Pn	**Pn**	**23 17 26.8**	**+0.5**
EKS2				*e*Sn	**Sn**	**23 20 01.2**	**+2.1**
SRLM	**Srisailam**	**13.82**	**186**	*e*Pn	Pn	23 17 20.2	-6.3
SRLM				IAmb	IAmb	23 17 22.2	
	comp=Z,107nm,0.8s						
SRLM				*e*		23 19 43.8	
SRLM				Sn	**Sn**	**23 19 58.9**	**-0.5**
SRLM				IVMs_BB	IVMs_BB	23 22 54.7	
	comp=Z,3μm,9.5s						
ADKI	**Addanki**	**14.01**	**182**	*e*Pn	Pn	23 17 23.9	-5.0
ADKI				IAmb	IAmb	23 17 27.3	
	comp=Z,34nm,0.8s						
ADKI				*e*		23 19 50.0	
ADKI				*e*Sn	**Sn**	**23 20 04.3**	**+0.5**
ADKI				IVMs_BB	IVMs_BB	23 23 02.3	
	comp=Z,2μm,9.7s						
RCLA	**Racherla**	**14.45**	**186**	*e*Pn	Pn	23 17 28.1	-6.9
RCLA				IAmb	IAmb	23 17 44.3	
	comp=Z,27nm,0.8s						
RCLA				*e*		23 19 59.8	
RCLA				Sn	**Sn**	**23 20 14.8**	**0.0**
RCLA				IVMs_BB	IVMs_BB	23 23 15.2	
	comp=Z,4μm,9.8s						
WMQ	**Urumqi**	**15.03**	**21**	P	**Pn**	**23 17 43.9**	**+1.1**
WMQ				pP	**pP**	**23 17 51.4**	**-2.4**
WMQ				PcP	**PcP**	**23 22 52.3**	**+1.8**
WMQ				PMZ			
	comp=Z,7.0nm,0.4s						
WMQ				PMZ			
	comp=Z,95nm,4.0s						
WMQ				LN			
	comp=Z,2μm,13.2s						
WMQ				LE			
	comp=Z,490nm,10.5s						
WMQ				LZ			
	comp=Z,960nm,19.2s						
URV	**Uravakonda**	**15.18**	**192**	*e*Pn	Pn	23 17 38.4	-6.5
URV				IAmb	IAmb	23 17 40.2	
	comp=Z,42nm,1.0s						
URV				*e*		23 20 17.2	
URV				Sn	**Sn**	**23 20 31.5**	**-1.1**
URV				IVMs_BB	IVMs_BB	23 23 36.6	
	comp=Z,3μm,10.4s						
KKAR	**Karatay Array**	**15.39**	**332**	*e*P	**Pn**	**23 17 44.8**	**-2.7**
KKAR	**Karatay Array**	**15.39**	**332**	*e*Pn	**Pn**	**23 17 44.8**	**-2.7**
KKAR				*e*Sn	Sn	23 20 27.5	-10
SKHT	**Srikalahasti**	**16.11**	**183**	*e*Pn	Pn	23 17 51.8	-5.0
SKHT				IAmb	IAmb	23 17 58.5	
	comp=Z,21nm,1.0s						
SKHT				*e*		23 20 39.7	
SKHT				Sn	**Sn**	**23 20 54.9**	**0.0**
SKHT				IVMs_BB	IVMs_BB	23 25 03.2	
	comp=Z,2μm,6.3s						
MK01	**Makanchi Array**	**16.89**	**4**	*e*Pn	**Pn**	**23 18 05.5**	**-1.2**
MK31	**Makanchi Array**	**16.92**	**4**	*e*P	**Pn**	**23 18 06.5**	**-0.5**
MK31	**Makanchi Array**	**16.92**	**4**	*e*Pn	**Pn**	**23 18 06.5**	**-0.5**
MK32	**Makanchi Array**	**16.92**	**4**	*e*Pn	**Pn**	**23 18 04.1**	**-3.0**
MK32				*e*Sn	**Sn**	**23 21 09.1**	**-5.3**
MK32				*e*ScP	**ScP**	**23 26 28.1**	**+1.2**
MKAR	**Makanchi Array**	**16.92**	**4**	Pn	**Pn**	**23 18 04.1**	**-3.0**
	comp=Z,1.7nm,0.3s,baz=179,slow=12,SNR=87						
MKAR				Sn	**Sn**	**23 21 09.1**	**-5.3**
	comp=Z,0.1nm,0.3s,baz=196,slow=20,SNR=4.6						
MKAR				LR	LR	23 25 31.7	
	comp=Z,682nm,19.1s,baz=189,slow=40						
MKAR				ScP	**ScP**	**23 26 28.1**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=120,slow=2.0,SNR=3.7						
MKAR	**Makanchi Array**	**16.92**	**4**	*i* P	**Pn**	**23 18 06.1**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,58nm,0.9s						
MKAR	**Makanchi Array**	**16.92**	**4**	*e*Pn	**Pn**	**23 18 05.3**	**-1.7**
IDAH	**Dahanechah**	**17.82**	**284**	*e*P	**P**	**23 18 20.5**	**+1.3**
IMYA	**Miami**	**18.20**	**296**	*e*P	**Pn**	**23 18 20.4**	**-2.8**
GTA	**Gaotai**	**18.50**	**54**	⇑P	**P**	**23 18 25.0**	**-1.5**
GTA				pP	**Pn**	**23 18 28.5**	**+1.8**
GTA				sP	**sP**	**23 18 31.4**	**-3.6**
GTA				S	**Sn**	**23 21 49.8**	**-3.1**
GTA				sS	**S**	**23 21 55.5**	**-1.3**
GTA				PMZ			
	comp=Z,8.0nm,1.3s						
GTA				PMZ			
	comp=Z,120nm,5.0s						
GTA				LN			
	comp=Z,840nm,13.3s						
GTA				LE			
	comp=Z,710nm,13.3s						
GTA				LZ			
	comp=Z,730nm,18.1s						
ISRO	**Mashad**	**18.69**	**295**	*e*P	**P**	**23 18 26.7**	**-1.9**
IMOG	**Moghan**	**18.75**	**295**	*e*P	**P**	**23 18 28.6**	**-0.9**
ITEG	**Tejag**	**18.77**	**285**	*e*P	**Pn**	**23 18 30.4**	**+0.3**
IKRD	**Kardeh**	**19.55**	**296**	*e*P	P	23 18 28.9	-9.3
MHMT	**Maesarieng**	**19.74**	**122**	P	**Pn**	**23 18 41.5**	**-0.2**
	comp=Z,36nm,0.8s,comp=Z,330nm						
CHTO	**Chiang Mai**	**20.11**	**119**	P	**P**	**23 18 43.6**	**-0.6**
	comp=Z,263nm,1.2s,comp=Z,3μm						
CHTO	**Chiang Mai**	**20.11**	**119**	*e*P	**P**	**23 18 43.6**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,60nm,1.0s						
CHTO	**Chiang Mai**	**20.11**	**119**	*e*P	**P**	**23 18 43.6**	**-0.6**
	comp=Z,60nm,1.0s						
CMMT	**Chiang Mai**	**20.11**	**119**	P	**P**	**23 18 43.5**	**-0.7**
	comp=Z,74nm,1.2s,comp=Z,749nm						
CD2	**Chengdu**	**20.12**	**81**	⇓P	**P**	**23 18 43.9**	**-0.3**
CD2				pP	**pP**	**23 18 52.0**	**+2.0**
CD2				sP	**sP**	**23 18 56.1**	**+3.4**
CD2				S	**S**	**23 22 28.8**	**-0.6**
CD2				PcP	**PcP**	**23 22 58.3**	**-0.7**
CD2				PMZ			
	comp=Z,60nm,1.0s						
CD2				PMZ			
	comp=Z,190nm,4.7s						
CD2				LN			
	comp=Z,1μm,13.5s						
CD2				LZ			
	comp=Z,350nm,10.2s						
KMI	**Kunming**	**20.32**	**98**	P	**P**	**23 18 46.3**	**-0.3**
KMI				pP	**pP**	**23 18 54.9**	**+2.5**
KMI				sP	**sP**	**23 18 59.3**	**+4.2**
KMI				PP	**PnPn**	**23 19 09.3**	**+5.7**
KMI				S	**S**	**23 22 34.4**	**+0.7**
KMI				PMZ			
	comp=Z,47nm,0.9s						
KMI				PMZ			
	comp=Z,110nm,3.1s						
KMI				LN			
	comp=Z,180nm,19.2s						
KMI				LE			
	comp=Z,120nm,20.4s						
KMI				LZ			
	comp=Z,190nm,11.7s						
CM31	**Chiang Mai Arr**	**20.32**	**120**	*e*P	**P**	**23 18 45.8**	**-0.6**
CM31				*e*PcP	**PcP**	**23 23 00.7**	**+1.2**
CMAR	**Chiang Mai Arr**	**20.32**	**120**	P	**P**	**23 18 45.9**	**-0.6**
	comp=Z,76nm,1.1s,baz=

KURK eS S 23 22 39.9 -3.1
KURK ePcP PcP 23 23 00.5 +0.6
NANT Nan 21.47 116 P P 23 18 58.1 -0.7
comp=Z,23nm,1.0s,comp=Z,183nm
UTTA Uttaradit 21.97 119 P P 23 19 03.6 -0.6
comp=Z,43nm,1.2s,comp=Z,335nm
ICHK Chekchek 22.42 283 eP P 23 19 08.9 -0.3
KHLT Khaolaem Dam 22.48 128 P P 23 19 13.0 +3.3
comp=Z,22nm,1.0s
PALK Pallekele 22.52 179 P P 23 19 10.0 -0.2
comp=Z,24nm,1.0s,baz=330,slow=7.7,SNR=3.4
PALK S S 23 23 17.0 +0.7
comp=Z,13nm,0.7s,baz=234,slow=7.4,SNR=5.1
PALK LR LR 23 28 18.1
comp=Z,636nm,19.4s,baz=0.7,slow=38
PALK Pallekele 22.52 179 eP P 23 19 10.0 -0.2
PALK eS S 23 23 17.0 +0.7
PALK pmax pmax
comp=Z,225nm,2.0s
PALK Pallekele 22.52 179 eP P 23 19 10.0 -0.2
comp=Z,225nm,2.0s
PALK eS S 23 23 17.0 +0.7
PBKT Sadao Pong 23.00 121 P P 23 19 14.9 -0.3
comp=Z,117nm,1.0s,comp=Z,1µm
SRDT SRDT 23.15 128 P P 23 19 17.8 +1.0
comp=Z,409nm,1.2s
GYA Guiyang 23.33 92 P P 23 19 18.8 +0.1
GYA pP pP 23 19 27.3 +2.7
GYA PP PnPn 23 19 50.0 +5.2
GYA S S 23 23 24.6 -5.9
GYA sS sS 23 23 40.0 -0.8
GYA SS SnSn 23 24 11.8 +6.3
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.8s
GYA LN
comp=Z,680nm,16.4s
GYA LE
comp=Z,570nm,16.8s
GYA LZ
comp=Z,620nm,17.6s
HVS Khovu-Aksy 23.40 21⇓ eP P 23 19 18.0 -1.1
HVS pmax pmax
comp=Z,545nm,1.0s
IZEF Zefreh 24.17 284 eP P 23 19 27.0 +0.2
ZAA0 Zalesovo Array 24.23 6 eP P 23 19 25.9 -0.9
ZALV Zalesovo Beam 24.23 6 P P 23 19 26.4 -0.4
comp=Z,24nm,0.6s,baz=193,slow=9.9,SNR=157
ZALV S S 23 23 45.9 +1.8
comp=Z,0.3nm,0.3s,baz=38,slow=24,SNR=2.1
ZALV ScP ScP 23 26 44.3 +0.1
comp=Z,0.7nm,0.8s,baz=225,slow=5.5,SNR=3.1
ZALV LR LR 23 30 14.5
comp=Z,615nm,19.5s,baz=246,slow=40
ZALV Zalesovo Beam 24.23 6 *i* P P 23 19 26.6 -0.2
ZALV pmax pmax
comp=Z,24nm,0.6s
ZAA1 Zalesovo Array 24.23 6 eP P 23 19 26.4 -0.4
ZAA1 eS S 23 23 45.9 +1.8
BVAR Borovoye Array 24.25 345 P P 23 19 26.8 -0.2
comp=Z,5.6nm,0.7s,baz=155,slow=11,SNR=38
BVAR PcP PcP 23 23 07.5 +0.7
comp=Z,1.7nm,0.9s,baz=159,slow=4.3,SNR=3.3
BVAR S S 23 23 50.4 +5.9
comp=Z,0.3nm,0.5s,baz=252,slow=41,SNR=1.4
BVAR ScP ScP 23 26 45.1 +0.9
comp=Z,1.1nm,0.7s,baz=158,slow=4.3,SNR=4.4
BVAR LR LR 23 29 13.9
comp=Z,387nm,18.6s,baz=163,slow=37
BRVK Borovoye 24.30 345 P P 23 19 27.3 -0.2
comp=Z,120nm,1.3s,SNR=7.9
BRVK Borovoye 24.30 345 *d* P P 23 19 28.1 +0.6
BRVK pmax pmax
comp=Z,34nm,1.2s
BRVK Borovoye 24.30 345 eP P 23 19 27.5 0.0
comp=Z,54nm,1.5s
XAN Xi'an 24.46 73 P P 23 19 28.8 -0.4
XAN pP pP 23 19 37.6 +2.2
XAN PMZ
comp=Z,7.0nm,1.2s
XAN PMZ
comp=Z,20nm,7.2s
IDMV Damavand 24.52 291 eP P 23 19 30.4 +0.4
IKLH Kolahrood 24.80 285 eP P 23 19 33.8 +1.3
IKAZ Kazeroun 24.80 277 eP P 23 19 32.9 +0.2
ABKAR Akbulak array 24.82 327 eP P 23 19 32.8 +0.5
NVS Novosibirsk 25.00 4⇑ *i* P P 23 19 32.7 -1.0
NVS eS S 23 24 03.1 +6.7
NVS pmax pmax
comp=N,23nm,1.1s
NVS pmax pmax
comp=Z,40nm,1.1s
NVS smax smax
comp=N,30nm,1.7s
SKNT Sakolnakorn 25.07 116 P P 23 19 34.2 -0.6
comp=N,64nm,1.1s,comp=N,2µm
ENH Enshi 25.09 82 eP P 23 19 35.1 +0.1
comp=N,14nm,0.8s
IR3 Iran Long-Peri 25.34 290 eP P 23 19 37.6 +0.4
PATY Pattaya 25.36 127 P P 23 19 39.9 +2.6
comp=N,44nm,1.1s,comp=N,677nm
IPIR Pirpir 25.38 284 eP P 23 19 37.1 -0.7
AKTO Aktyubinsk 25.54 327 P P 23 19 48.2 +0.4
comp=N,5.8nm,0.8s,baz=119,slow=11,SNR=17
MOY Mondy 26.55 29 eP P 23 19 49.6 +1.6
MOY pmax pmax
comp=Z,16nm,1.2s
ZAK Zakamensk 26.69 34⇑ *i* P P 23 19 50.5 +1.2
ZAK pmax pmax
comp=Z,24nm,1.1s
SONA0 Songino Array 26.79 41 eP P 23 19 51.9 +1.7
SONA0 ePcP PcP 23 23 12.7 -0.1
SONM Songino Array 26.79 41 P P 23 19 51.9 +1.7
comp=Z,21nm,0.9s,baz=230,slow=9.5,SNR=74
SONM PcP PcP 23 23 12.7 -0.1
comp=Z,1.9nm,0.8s,baz=219,slow=3.5,SNR=3.9
SONM LR LR 23 31 30.4
comp=Z,539nm,21.2s,baz=255,slow=39
SONA1 Songino Array 26.80 41 eP P 23 19 52.0 +1.6
SONA1 ePcP PcP 23 23 13.2 +0.3
UBPT Khong Chiam 27.21 117 P P 23 19 54.4 +0.2
comp=Z,34nm,1.2s
HHC Hu-ho-hao-te 27.48 58 eP P 23 19 57.3 +0.8
HHC PP PnPn 23 20 41.6 +0.3
HHC S S 23 24 36.9 +0.7
HHC sS sS 23 24 49.3 +2.8
HHC PMZ
comp=Z,21nm,0.6s
HHC PMZ
comp=Z,110nm,4.1s
HHC LN
comp=Z,560nm,10.3s
HHC LE
comp=Z,580nm,10.5s
HHC LZ
comp=Z,700nm,10.9s
TLY Talaya 27.73 32 P P 23 19 59.9 +1.4
comp=Z,5.7nm,0.7s,baz=236,slow=8.4,SNR=10
IKOM Komasi 28.18 287 eP P 23 20 02.5 -0.4
TRTT Trang 28.42 137 P P 23 20 05.5 +0.5
comp=Z,67nm,1.0s
QIZ Qiongzhong 28.77 105 P P 23 20 07.8 -0.3
QIZ sP sP 23 20 20.0 +3.1
QIZ S S 23 24 57.8 +1.0
QIZ PMZ
comp=Z,77nm,6.9s
QIZ Qiongzhong 28.77 105 eP P 23 20 07.8 -0.3
comp=Z,52nm,1.5s
WHN Wuhan 29.23 80 ⇓P P 23 20 13.4 +1.4
SVE Sverdlovsk 30.29 338 eP P 23 20 21.9 +0.7
SVE pmax pmax
comp=Z,23nm,1.5s
SVE MLR MLR
comp=Z,307nm,13.0s
ARU Arti 30.68 336 P P 23 20 24.9 +0.4
comp=Z,43nm,0.8s,SNR=6.2
ARU Arti 30.68 336 *d* P P 23 20 25.0 +0.4
ARU S S 23 25 29.0 +3.1
ARU SS ScP 23 27 00.8 -2.9
ARU pmax pmax
comp=Z,13nm,1.2s
ARU Arti 30.68 336 eP P 23 20 25.1 +0.5
comp=Z,20nm,1.5s
BJT Baijiatuau 30.77 61 eP P 23 20 27.4 +1.8
BJT pmax pmax
comp=Z,39nm,1.1s
BJT Baijiatuau 30.77 61 eP P 23 20 27.4 +1.8
comp=Z,38nm,1.1s
BJI Beijing 30.78 61 P P 23 20 26.9 +1.2
BJI PMZ
comp=Z,34nm,1.2s
BJI LN
comp=Z,560nm,16.4s
BJI LE
comp=Z,94nm,15.2s
BJI LZ
comp=Z,300nm,19.6s
GNI Garni 30.80 299 *d* P P 23 20 28.0 +1.9
GNI pmax pmax
comp=Z,36nm,1.3s
GNI Garni 30.80 299 eP P 23 20 28.8 +2.7
comp=Z,50nm,1.3s
KULM Kulim 31.03 138 eP P 23 20 28.3 +0.2
comp=Z,46nm,1.2s
TBLG Delisi 31.06 302 P P 23 20 28.2 0.0
TBLG Delisi 31.06 302 P P 23 20 28.2 0.0
TIA Tai'an 31.23 69 ⇓P P 23 20 30.5 +0.8
TIA PMZ
comp=Z,10.0nm,1.0s
RAYN Ar Rayn 31.78 267 P P 23 20 35.5 +0.7
comp=Z,53nm,1.2s,SNR=9.5
RAYN Ar Rayn 31.78 267 eP P 23 20 34.9 +0.2
comp=Z,14nm,1.1s
IPM Ipoh 31.90 138 eP P 23 20 35.4 -0.4
comp=Z,40nm,1.0s
AKH Akhalkalaki 31.93 301 P P 23 20 38.3 +2.3
AKH Akhalkalaki 31.93 301 P P 23 20 38.3 +2.3
PSI Prapat 32.15 144 P P 23 20 37.1 -1.0
comp=Z,5.7nm,0.4s,baz=244,slow=6.0,SNR=5.2
ONI Oni 32.16 303 P P 23 20 41.5 +3.6
ONI Oni 32.16 303 P P 23 20 41.5 +3.6
GSI Gunungsitoli 32.77 147 P P 23 20 44.8 +1.4
comp=Z,153nm,1.1s
GSI Gunungsitoli 32.77 147 eP P 23 20 43.6 +0.2
comp=Z,143nm,1.0s
KBZ Khabaz 32.79 305 P P 23 20 43.4 +0.2
comp=Z,7.8nm,0.9s,baz=152,slow=7.1,SNR=9.9
NEY Neytrino 32.82 304⇓ eP P 23 20 46.6 +2.8
NJ2 Nanjing 32.87 76 eP P 23 20 43.4 -0.8
NJ2 PMZ
comp=Z,20nm,0.9s
KIV Kislovodsk 32.99 306 eP P 23 20 45.3 +0.1
KIV pmax pmax
comp=Z,13nm,0.9s
KIV MLR MLR
comp=Z,86nm,16.0s
KIV Kislovodsk 32.99 306 eP P 23 20 45.5 +0.4
comp=Z,14nm,0.9s
MNSI Mandailing Nat 34.20 144 P P 23 20 55.1 -0.7
comp=Z,40nm,1.0s,comp=Z,1µm
DL2 Dalian 34.89 64 P P 23 21 02.3 +0.7
DL2 S S 23 26 34.1 +2.4
DL2 PMZ
comp=Z,33nm,0.9s
DL2 PMZ
comp=Z,74nm,6.4s
DL2 LE
comp=Z,350nm,13.9s
DL2 LZ
comp=Z,410nm,12.7s
BKNI Bangkinang 35.35 143 P P 23 21 05.4 -0.4
comp=Z,204nm,1.0s
BKNI Bangkinang 35.35 143 eP P 23 21 05.8 +0.1
comp=Z,163nm,0.9s
MALT Maatya 35.55 295⇑ *i* P P 23 21 08.8 +1.3
MYKOM Kota Tinggi 35.72 137 eP P 23 21 09.6 +0.7
comp=Z,58nm,1.3s
VRHR Novokhopersk 35.76 317 eP P 23 21 08.6 -0.3
VRHR pmax pmax
comp=N,60nm,1.3s
VRHR pmax pmax
comp=E,100nm,1.3s
VRHR pmax pmax
comp=Z,50nm,1.3s
BOD Bodaibo 36.26 30 eP P 23 21 13.2 +0.1
BOD pmax pmax
comp=Z,9.0nm,1.1s
TPUB Ta-pu 36.38 91 eP P 23 21 15.8 +1.1
comp=Z,29nm,1.0s
SSLB Suanglung 36.50 90 eP P 23 21 17.4 +1.7
comp=Z,32nm,1.3s
TWG Pinlang 36.92 91 eP P 23 21 22.1 +2.8
comp=Z,266nm,1.1s
YULB Yu-li 36.93 90 eP P 23 21 21.2 +1.9
comp=Z,65nm,1.0s
NACB Ninganchiao 36.94 89 eP P 23 21 19.7 +0.4
comp=Z,53nm,1.0s
VORD Divnogorie 37.09 316 eP P 23 21 20.8 +0.5
VORD pmax pmax
comp=N,80nm,0.8s
VORD pmax pmax
comp=E,60nm,0.8s
VORD pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 37.25 317 eP P 23 21 21.6 -0.1
VSR pmax pmax
comp=N,10.0nm,1.5s
VSR pmax pmax
comp=E,70nm,1.5s
VSR pmax pmax
comp=Z,50nm,1.5s
INCN Inchon 38.84 66 eP P 23 21 33.8 -1.5
comp=Z,66nm,1.2s
MASI Maura Aman, Be 38.91 144 P P 23 21 40.4 +4.3
SIM Simferopol' 39.20 306 eP P 23 21 37.9 -0.3
SIM pmax pmax
comp=Z,26nm,1.4s
BR101 Keskin Array S 39.28 297 eP P 23 21 38.7 -0.4
BRTR Keskin Array B 39.28 297 P P 23 21 38.7 -0.4
comp=Z,5.8nm,1.0s,baz=112,slow=7.8,SNR=23
TJN Taejon 39.49 68⇑ *i* P P 23 21 39.7 -1.0
KS15 Wonju Array Si 39.83 66 eP P 23 21 43.1 -0.4
KS15 ePcP PcP 23 23 49.5 +0.1
KSAR Wonju Array Be 39.83 66 P P 23 21 43.1 -0.4
KSAR Wonju Array Be 39.83 66 P P 23 21 43.1 -0.4
KS01 Wonju Array Si 39.84 66 eP P 23 21 42.7 -0.9
KS01 ePcP PcP 23 23 49.3 -0.1
KSRS Korea Array 39.86 66 P P 23 21 43.1 -0.7
comp=Z,13nm,1.0s,baz=270,slow=8.2,SNR=32
KSRS PcP PcP 23 23 49.5 +0.1
comp=Z,0.9nm,0.5s,baz=242,slow=2.4,SNR=5.7
KSRS LR LR 23 39 42.6
comp=Z,304nm,19.3s,baz=280,slow=38
KSRS Korea Array 39.86 66 P P 23 21 43.1 -0.7
KSRS 23 23 49.5
KSRS pmax pmax
comp=Z,13nm,1.0s
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS MLR MLR
comp=Z,305nm,19.3s
ANTO Ankara 39.93 298 eP P 23 21 45.6 +1.1
ANTO pmax pmax
comp=Z,20nm,1.2s
ANTO Ankara 39.93 298 eP P 23 21 45.6 +1.1
comp=Z,20nm,1.2s
BR231 Keskin MP Arra 39.95 298 eP P 23 21 40.1 -4.5
OBN Obninsk 40.04 322⇓ *i* P P 23 21 45.5 +0.5
OBN 23 23 17.0
OBN 23 23 50.0
OBN pmax pmax
comp=Z,72nm,1.2s
OBN MLR MLR
comp=Z,88nm,13.0s
OBN Obninsk 40.04 322 eP P 23 21 44.9 -0.1
comp=Z,95nm,1.3s
PMBI Palembang 40.09 140 P P 23 21 44.8 -1.0
comp=Z,386nm,0.7s,comp=Z,11µm
SBUM Sibu 40.66 126 eP P 23 21 50.1 -0.5
comp=Z,19nm,0.9s
MDSI Maura Dua 41.06 142 P P 23 21 52.3 -1.6
comp=Z,15nm,1.2s
STKI Sintang 41.87 129 P P 23 22 01.6 +1.1
comp=Z,38nm,0.8s,comp=Z,24µm
JOW Kunigami 41.95 82 LR LR 23 41 50.3
comp=Z,11nm,19.0s,baz=176,slow=40
JNU Nakatsue 42.77 72 P P 23 22 08.4 +0.6
comp=Z,13nm,1.0s,baz=304,slow=5.7,SNR=5.2
JNU LR LR 23 43 07.3
comp=Z,223nm,18.3s,slow=41
JNU Nakatsue 42.77 72 eP P 23 22 08.4 +0.6
comp=Z,22nm,1.1s
USRK Ussuriysk Ar. 42.84 56 P P 23 22 08.3 +0.1
comp=Z,17nm,1.1s,baz=266,slow=5.6,SNR=8.3
USRK LR LR 23 40 27.9
comp=Z,133nm,21.6s,baz=261,slow=37
TLCR 42.96 306⇑ *i* P P 23 22 10.1 +1.0
KLR Kul'dur 43.06 49 eP P 23 22 06.0 -3.9
KLR MLR MLR
comp=E,700nm,13.0s
KLR MLR MLR
comp=Z,2µm,13.0s
KIS Kishinev 43.07 308 eP P 23 22 10.0 0.0
KIS Kishinev 43.07 308 eP P 23 22 10.0 0.0
AKASG Malin Array Be 43.23 314 P P 23 22 10.6 -0.6
comp=Z,11nm,1.0s,baz=83,slow=6.4,SNR=47
AKASG Malin Array Be 43.23 314 *i* P P 23 22 11.1 -0.1
AKASG pmax pmax
comp=Z,16nm,0.9s
AKBB Malin Array Si 43.23 314 eP P 23 22 10.6 -0.6
AKBB Malin Array Si 43.23 314 eP P 23 22 10.6 -0.6
KIEV Kiev 43.24 314⇓ *i* P P 23 22 11.7 +0.4
KIEV Kiev 43.24 314 eP P 23 22 11.1 -0.2
comp=Z,47nm,1.6s
AK11 Malin Array Si 43.26 314 eP P 23 22 11.0 -0.5
PSN Preselentsi 43.38 303⇑ *i* P P 23 22 13.1 +0.6
TMCR Tamitsa 43.38 335 eP P 23 22 12.9 +0.7
TMCR pmax pmax
comp=Z,80nm,1.4s
CFR Carcaliu 43.44 306⇓ *i* P P 23 22 13.5 +0.5
MSAB Monastry St. A 43.64 304⇑ *i* P P 23 22 14.9 +0.3
FURI Furi 44.28 251 eP P 23 22 19.2 -1.3
comp=Z,60nm,2.0s
VRI Vrincioaia 44.45 306⇓ *i* P P 23 22 22.6 +1.4
PLOR Plostina 44.51 306⇑ *i* P P 23 22 23.3 +1.7
TESR Tescani 44.53 307⇓ *i* P P 23 22 22.4 +0.6
JMB Yambol 44.56 302⇓ *i* P P 23 22 23.0 +0.9
MLR Muntele Rosu 45.00 306⇑ *i* P P 23 22 27.1 +1.5
HABR Khabarovsk 45.16 50 eP P 23 22 24.6 -2.1
HABR e*PP pP 23 22 30.7 -2.4
HABR e*SP sP 23 22 33.4 -2.2
HABR e 23 24 05.0
HABR e 23 24 10.2
HABR PPP PPP 23 24 48.7
HABR eS S 23 29 03.7 -1.5
HABR e*SS sS 23 29 13.8 -1.9
HABR e 23 32 20.3
HABR eSSS SSS 23 33 12.3
HABR pmax pmax
comp=Z,20nm,1.2s
HABR MLR MLR
comp=Z,352nm,21.0s
YAK Yakutsk 45.18 30 eP P 23 22 26.5 -0.2
YAK pmax pmax
comp=Z,31nm,0.9s
YAK Yakutsk 45.18 30 eP P 23 22 26.5 -0.2
comp=Z,31nm,0.9s
NACGM Naroch 45.41 319 *e* P 23 22 25.0 -3.6
BURAR Bucovina Array 45.55 309⇑ *i* P P 23 22 30.9 +0.9
BUR04 Bucovina Ar. S 45.56 309 eP P 23 22 29.9 -0.1
BUR08 Bucovina Ar. S 45.57 309 eP P 23 22 29.9 -0.2
VOIR 45.62 306⇑ *i* P P 23 22 31.2 +0.6
VSU Vasula 46.21 324⇓ *i* P P 23 22 35.0 +0.2
VSU pmax pmax
comp=Z,119nm,1.5s
LVV L'vov 46.45 312 eP P 23 22 36.3 -0.6
LVZ Lovozero 46.51 338⇑ *i* P P 23 22 37.3 +0.2
LVZ pmax pmax
comp=Z,46nm,1.4s
LVZ Lovozero 46.51 338 eP P 23 22 37.0 -0.1
comp=Z,77nm,1.4s
LOT Lotru 46.53 306⇑ *i* P P 23 22 38.3 +0.6
CJR Cluj-Napoca 46.64 308⇑ *i* P P 23 22 39.7 +1.2
VTS Vitosha 47.05 302⇓ *i* P P 23 22 42.7 +0.8
DRGR 47.25 308⇑ *i* P P 23 22 44.4 +1.1
KWP Kalwaria Pacla 47.30 312 eP P 23 22 44.0 +0.5
KWP Kalwaria Pacla 47.30 312 eP P 23 22 44.1 +0.5
FIA0 FINESS Array S 47.31 328 eP P 23 22 43.6 +0.2
FIA0 FINESS Array S 47.31 328 eP P 23 22 43.6 +0.2
FINES FINESS Array B 47.31 328 P P 23 22 43.6 +0.2
comp=Z,14nm,0.8s,baz=119,slow=9.1,SNR=60
FINES LR LR 23 44 00.9
comp=Z,181nm,18.5s,baz=96,slow=38
FINES FINESS Array B 47.31 328 *i* P P 23 22 43.7 +0.2
FINES pmax pmax
comp=Z,14nm,0.8s
SUW Suwalki 47.35 318 eP P 23 22 43.3 -0.5
SUW Suwalki 47.35 318 eP P 23 22 43.4 -0.4
UZH Uzhgorod 47.54 310⇑ *i* P P 23 22 45.9 +0.5
UZH e 23 22 53.6
UZH e 23 22 59.8
KOLS Kolonicke sedl 47.56 311 eP P 23 22 44.0 -1.6
KOLS pmax pmax
comp=Z,8.0nm,1.4s
KOLS Kolonicke sedl 47.56 311 eP P 23 22 44.0 -1.6
KOLS ePCP PcP 23 24 14.6 -0.7
KOLS ePP PP 23 24 38.3 +1.3
BZS Buzias 48.03 306⇓ *i* P P 23 22 50.2 +0.9
AGG Agios Georgios 48.07 297 eP P 23 22 49.4 -0.3
AGG pmax pmax
comp=Z,29nm,1.0s
AGG Agios Georgios 48.07 297 eP P 23 22 49.4 -0.3
comp=Z,29nm,1.0s
MAJO Matsushiro 48.14 66⇓ eP P 23 22 48.5 -1.8
MAJO pmax pmax
comp=Z,42nm,1.1s
MAJO Matsushiro 48.14 66 eP P 23 22 50.0 -0.4
comp=Z,12nm,1.1s
MAJO ePcP PcP 23 24 17.1 -0.5
MAT Matsushiro 48.14 66 P P 23 22 49.4 -0.9
MJAR Matsushiro Arr 48.15 66 P P 23 22 49.9 -0.5
comp=Z,6.8nm,1.1s,baz=293,slow=9.2,SNR=11
MJAR PcP PcP 23 24 17.1 -0.5
comp=Z,0.5nm,0.3s,baz=252,slow=6.7,SNR=4.7
MJAR LR LR 23 44 37.7
comp=Z,181nm,20.8s,baz=295,slow=38
STHS Stebnicka Huta 48.25 311 eP P 23 22 50.7 -0.2
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 48.25 311 eP P 23 22 50.7 -0.2
STHS ePCP PcP 23 24 17.7 -0.1
KECS Kecovo 48.74 310 eP P 23 22 53.7 -1.0
KECS pmax pmax
comp=Z,1.0nm,1.0s
KECS Kecovo 48.74 310 eP P 23 22 53.7 -1.0
NIE Niedzica 48.85 311 eP P 23 22 56.1 +0.5
NIE Niedzica 48.85 311 eP P 23 22 56.2 +0.6
MRSI Marisa 49.11 119 P P 23 22 57.9 0.0
comp=Z,45nm,1.0s,comp=Z,726nm
PSZ Piszkesteto 49.15 309 eP P 23 22 57.9 0.0
PSZ pmax pmax
comp=Z,11nm,1.1s
PSZ Piszkesteto 49.15 309⇑ *i* P P 23 22 58.7 +0.8
PSZ Piszkesteto 49.15 309 eP P 23 22 57.9 0.0
comp=Z,11nm,1.1s
OJC Ojcow 49.19 312 eP P 23 22 58.2 +0.1
OJC Ojcow 49.19 312 eP P 23 22 58.3 +0.1
OJC Ojcow 49.19 312 eP P 23 22 59.9 +1.7
comp=Z,31nm,1.7s
TIXI Tiksi 49.22 18⇑ *i* P P 23 22 58.8 +0.8
TIXI pmax pmax
comp=Z,21nm,1.2s
TIXI Tiksi 49.22 18 eP P 23 22 56.9 -1.1
comp=Z,25nm,1.3s
DIVS Divibare 49.28 304⇑ *i* P P 23 22 58.7 -0.3
KEV Kevo 49.83 339 eP P 23 23 03.8 +1.1
KEV pmax pmax
comp=Z,81nm,1.4s
KEV Kevo 49.83 339 eP P 23 23 03.8 +1.1
comp=Z,81nm,1.4s
TTSI Tana Toraja 49.89 124 P P 23 23 03.9 0.0
comp=Z,30nm,1.1s,comp=Z,2µm
PKSM Moragy 50.08 307⇓ *i* P P 23 23 05.5 +0.6
ARA0 ARCESS Array S 50.23 338 eP P 23 23 06.0 +0.3
ARCES ARCESS Array B 50.23 338 P P 23 23 06.4 +0.7
comp=Z,36nm,0.9s,baz=108,slow=7.8,SNR=45
ARCES LR LR 23 46 01.6
comp=Z,60nm,21.3s,baz=92,slow=38
OKC Ostrava-Krasne 50.26 312 eP P 23 23 06.9 +0.6
OKC *ex* x 23 23 17.8
OKC *ex* x 23 23 22.2
OKC Ostrava-Krasne 50.26 312 eP P 23 23 06.9 +0.6
OKC *e* 23 23 17.8
ASAJ Asahikawa 50.47 56 LR LR 23 46 14.1
comp=Z,225nm,18.3s,slow=38

MORC **Moravsky Berou** 50.65 312 *e*P **P** 23 23 09.9 +0.6
MORC pmax pmax
comp=Z,75nm,1.4s
MORC **Moravsky Berou** 50.65 312⇑ *i*P **P** 23 23 10.3 +1.0
MORC **Moravsky Berou** 50.65 312 *e*P **P** 23 23 09.9 +0.6
comp=Z,75nm,1.4s
GKP **Gorka Klasztor** 50.83 316 *e*P **P** 23 23 09.8 -0.7
GKP **Gorka Klasztor** 50.83 316 *e*P **P** 23 23 09.9 -0.6
ERM **Erimo** 51.12 58 *e*P **P** 23 23 12.7 -0.2
ERM pmax pmax
comp=Z,57nm,1.7s
ERM **Erimo** 51.12 58 *e*P **P** 23 23 12.7 -0.2
comp=Z,57nm,1.7s
KRLC **Kraliky** 51.14 312 *e*P **P** 23 23 12.8 -0.1
KRLC *ex* x 23 23 24.2
KRLC **Kraliky** 51.14 312 *e*P **P** 23 23 12.8 -0.1
KRLC *e* 23 23 24.2
KAPI **Kappang** 51.22 126 P **P** 23 23 11.9 -1.9
comp=Z,28nm,1.0s,baz=299,slow=12,SNR=5.4
KAPI **Kappang** 51.22 126 *e*P **P** 23 23 12.9 -1.0
comp=Z,42nm,1.1s
VRAC **Vranov** 51.29 311⇓ *i*P **P** 23 23 15.0 +0.9
DPC **Dobruska-Polom** 51.42 312 *e*P **P** 23 23 16.0 +0.9
DPC *ex* x 23 23 24.8
DPC *ex* x 23 23 29.0
DPC **Dobruska-Polom** 51.42 312 *e*P **P** 23 23 16.0 +0.9
DPC *e* 23 23 24.8
DPC *e* 23 23 29.0
UPC **Upice** 51.62 313 *e*P **P** 23 23 17.2 +0.7
UPC **Upice** 51.62 313 *e*P **P** 23 23 17.2 +0.7
CONA **Conrad Observa** 51.86 309⇑ *e*P **P** 23 23 18.5 0.0
comp=Z,19nm,1.0s,SNR=14
TREC **Trest** 52.01 311 *e*P **P** 23 23 19.7 +0.2
TREC *ex* x 23 23 35.4
TREC **Trest** 52.01 311 *e*P **P** 23 23 19.7 +0.2
GOPC **GO Pecny, Ondr** 52.43 312 *e*P **P** 23 23 22.1 -0.5
GOPC *ex* x 23 23 37.6
PERS **Pernice** 52.47 308 *i*P **P** 23 23 23.5 +0.5
BOJS **Bojanci** 52.50 306 *i*P **P** 23 23 23.3 +0.2
SOKA **Soboth** 52.53 308⇑ *e*P **P** 23 23 23.7 +0.3
comp=Z,25nm,1.3s,SNR=11
PVCC **Panska Ves** 52.53 313 *e*P **P** 23 23 24.4 +1.1
PVCC **Panska Ves** 52.53 313 *e*P **P** 23 23 24.4 +1.1
PRU **Pruhonice** 52.58 312 *e*P **P** 23 23 24.1 +0.4
PRU *ex* x 23 23 33.5
PRU *ex* x 23 23 37.1
PRU **Pruhonice** 52.58 312 *e*P **P** 23 23 24.1 +0.4
PRU *e* 23 23 33.5
PRA **Prague** 52.65 312 *e*P **P** 23 23 24.6 +0.5
PRA **Prague** 52.65 312 *e*P **P** 23 23 24.6 +0.5
YUK **Yuzh-Kuril'sk** 52.82 55 *d*P P 23 23 19.1 -6.4
YUK *i* 23 24 32.5
YUK *i* 23 25 21.7
YUK *i* PPP PPP 23 26 26.8
YUK *i* S **S** 23 30 50.4 -2.5
YUK *i* SS **SS** 23 34 31.2 -0.3
YUK *i* SSS SSS 23 36 17.2
YUK MLR MLR
comp=Z,186nm,21.0s
YUK MLR MLR
comp=N,352nm,21.0s
YUK MLR MLR
comp=E,447nm,21.0s
BRG **Berggiesshubel** 52.91 313 *e*P **P** 23 23 26.3 +0.2
comp=E,19nm,1.2s
BRG **Berggiesshubel** 52.91 313 *e*P **P** 23 23 26.6 +0.5
comp=Z,19nm,1.2s
BRG **Berggiesshubel** 52.91 313 *e*P **P** 23 23 26.3 +0.2
BRG pmax pmax
comp=Z,19nm,1.2s
MOA **Molln** 52.93 309⇑ *e*P **P** 23 23 25.8 -0.6
comp=Z,19nm,1.2s,SNR=10
RUE **Ruedersdorf** 52.94 315 *e*P **P** 23 23 26.4 +0.2
comp=Z,24nm,1.0s
LJU **Ljubljana** 52.94 307 *i*P **P** 23 23 27.3 +0.9
GEC2 **GERESS Array S** 53.22 311 *e*P **P** 23 23 28.7 +0.2
comp=Z,5.0nm,1.1s
GEC2 **GERESS Array S** 53.22 311 *e*P **P** 23 23 28.3 -0.2
GEC2 *e* 23 24 36.7
GEC2 **GERESS Array S** 53.22 311 *e*P **P** 23 23 28.3 -0.2
GEC2 *e*PcP **PcP** 23 24 36.7 +0.4
GERES **GERESS Array B** 53.22 311 P **P** 23 23 28.3 -0.2
comp=Z,1.9nm,0.8s,baz=93,slow=6.7,SNR=15
GERES PcP **PcP** 23 24 36.7 +0.4
comp=Z,0.5nm,0.7s,baz=132,slow=3.8,SNR=4.3
KHC **Kasperske Hory** 53.27 311 *e*P **P** 23 23 29.2 +0.4
KHC *ex* x 23 23 39.9
KHC *ex* x 23 23 43.7
KHC *ex* x 23 23 47.6
KHC **Kasperske Hory** 53.27 311 *e*P **P** 23 23 29.2 +0.4
KHC *e* 23 23 39.9
KHC **Kasperske Hory** 53.27 311 *e*P **P** 23 23 28.6 -0.3
comp=Z,1.4nm,0.9s
FBE **Freiberg** 53.28 313 *e*P **P** 23 23 29.6 +0.8
comp=Z,32nm,1.3s
JAVS **Javornik** 53.28 307 *i*P **P** 23 23 29.1 +0.1
CLL **Collm** 53.48 314 *e*P **P** 23 23 30.2 0.0
comp=Z,19nm,1.4s
CLL **Collm** 53.48 314⇓ *i*P **P** 23 23 30.2 0.0
comp=Z,19nm,1.4s
CLL *e*PP **PP** 23 25 29.0 -1.6
CLL Lm MLR 23 48 00.0
comp=Z,100nm,19.2s
CLL **Collm** 53.48 314⇓ *i*P **P** 23 23 30.2 0.0
CLL *e* 23 23 39.0
CLL pmax pmax
comp=Z,19nm,1.4s
CLL **Collm** 53.48 314 *e*P **P** 23 23 30.3 0.0
comp=Z,12nm,1.1s
WET **Wettzell** 53.73 311 *e*P **P** 23 23 32.5 +0.3
comp=Z,10.0nm,1.3s
TANN **Tannenbergstha** 53.88 313 *e*P **P** 23 23 33.8 +0.5
comp=Z,8.0nm,1.1s
RJOB **Jochberg** 53.93 309 *e*P **P** 23 23 33.7 0.0
comp=Z,10.0nm,0.9s
WERN **Wernitzgruen** 53.95 313 *e*P **P** 23 23 34.2 +0.4
comp=Z,22nm,1.6s
GUNZ **Gunzen** 53.97 313 *e*P **P** 23 23 34.4 +0.5
comp=Z,18nm,1.3s
WERD **Werda** 53.98 313 *e*P **P** 23 23 34.4 +0.4
comp=Z,13nm,1.2s
PLN **Plauen** 54.07 313 *e*P **P** 23 23 35.0 +0.4
comp=Z,9.0nm,1.1s
ROTZ **Rotzenmuhle** 54.11 312 *e*P **P** 23 23 36.0 +1.1
comp=Z,28nm,1.4s
MANZ **Manzenberg** 54.15 312 *e*P **P** 23 23 36.0 +0.8
comp=Z,30nm,1.5s
NEUB **Neuenburg** 54.25 314 *e*P **P** 23 23 36.2 +0.3
comp=Z,29nm,1.1s
NB2 **NORSAR Subarra** 54.33 326 P **P** 23 23 35.6 -0.8
comp=Z,23nm,1.0s,baz=92,slow=7.4
NB2 **NORSAR Subarra** 54.33 326 P **P** 23 23 35.6 -0.8
baz=92,slow=7.4
NB200 **NORSAR Array S** 54.33 326 *e*P **P** 23 23 35.4 -1.0
NOA **NORSAR Array B** 54.33 326 P **P** 23 23 35.4 -1.0
comp=Z,12nm,0.9s,baz=92,slow=7.3,SNR=29
MOX **Moxa** 54.40 313 *e*P **P** 23 23 37.3 +0.3
comp=Z,25nm,1.6s
NBO02 **NORSAR Array S** 54.50 326 *e*P **P** 23 23 37.4 -0.2
GRF **Grafenberg Arr** 54.75 312 *e*P **P** 23 23 40.6 +1.0
comp=Z,54nm,1.6s
GRFO **Grafenberg** 54.75 312 *e*P **P** 23 23 40.7 +1.1
GRFO pmax pmax
comp=Z,30nm,1.3s
GRFO **Grafenberg** 54.75 312 *e*P **P** 23 23 40.7 +1.1
comp=Z,30nm,1.3s
WTTA **Wattenberg** 54.77 309⇑ *i*P **P** 23 23 38.9 -1.0
comp=Z,20nm,1.2s,SNR=7.7
FUR **Furstenfeldbru** 54.89 310 *e*P **P** 23 23 41.1 +0.4
comp=Z,27nm,1.2s
BSEG **Bad Segeberg** 54.94 317 *e*P **P** 23 23 41.4 +0.6
comp=Z,27nm,1.0s
CLZ **Clausthal** 55.07 315 *e*P **P** 23 23 42.3 +0.4
comp=Z,52nm,1.3s
KONO **Kongsberg** 55.11 324 *e*P **P** 23 23 44.9 +2.9
KONO pmax pmax
comp=Z,38nm,1.4s
KONO **Kongsberg** 55.11 324 *e*P **P** 23 23 44.9 +2.9
comp=Z,38nm,1.4s
MOTA **Moosalm** 55.12 309⇓ *i*P **P** 23 23 41.5 -0.9
comp=Z,20nm,1.0s,SNR=13
RETA **Reutte** 55.33 309⇑ *i*P **P** 23 23 43.0 -0.8
comp=Z,16nm,1.1s,SNR=8.1
UBBA **Unterbreizbach** 55.41 313 *e*P **P** 23 23 44.4 +0.3
comp=Z,11nm,1.3s

FETA **Feichten** 55.42 309⇓ *i*P **P** 23 23 44.0 -0.6
comp=Z,18nm,1.0s,SNR=11
SEY **Seymchan** 55.64 32⇓ *i*P **P** 23 23 46.0 +0.3
FUORN **Ofenpass-Fuorn** 55.79 308 *e*P **P** 23 23 47.4 0.0
comp=Z,54nm,2.1s
DAVA **Damuels** 55.95 309⇑ *i*P **P** 23 23 47.7 -0.8
comp=Z,30nm,0.9s,SNR=15
VLC **Villacollemand** 56.12 305 *e*P **P** 23 23 50.0 +0.5
comp=Z,40nm,1.2s
TNS **Taunus Mts** 56.46 313 *e*P **P** 23 23 52.2 +0.3
comp=Z,17nm,1.3s
IBBN **Ibbenburen** 56.63 315 *e*P **P** 23 23 53.1 +0.1
comp=Z,52nm,1.4s
BFO **Black Forest** 56.82 311 *ce*P **P** 23 23 54.9 +0.4
BFO **Black Forest** 56.82 311 *e*P **P** 23 23 54.0 -0.5
comp=Z,7.1nm,1.2s
BUG **Bochum--Univer** 57.04 314 *e*P **P** 23 23 56.1 +0.2
comp=Z,27nm,1.1s
LANF **Langenberg** 57.06 311⇓ *e*P **P** 23 23 56.6 +0.5
ECH **Echery** 57.61 311⇓ *e*P **P** 23 23 59.6 -0.5
MOF **Molkenrain** 57.69 310⇓ *e*P **P** 23 24 00.7 0.0
SENIN **Lac Senin/Sane** 57.85 308 *e*P **P** 23 24 01.7 -0.3
MEM **Membach** 57.95 314 P **P** 23 24 03.1 +0.7
comp=Z,6.9nm,1.2s
MEM **Membach** 57.95 314 *e*P **P** 23 24 02.4 0.0
MEM pmax pmax
comp=Z,13nm,1.1s
MEM **Membach** 57.95 314 *e*P **P** 23 24 02.4 0.0
comp=Z,13nm,1.1s
LOMF **Lomont** 57.98 310⇓ *e*P **P** 23 24 03.5 +0.7
WLF **Walferdange** 58.01 312 P **P** 23 24 04.0 +1.1
comp=Z,12nm,1.5s
WLF **Walferdange** 58.01 312 *e*P **P** 23 24 03.5 +0.7
comp=Z,33nm,1.6s
WLF **Walferdange** 58.01 312 *e*P **P** 23 24 03.9 +1.1
WLF pmax pmax
comp=Z,27nm,1.4s
WLF **Walferdange** 58.01 312 *e*P **P** 23 24 03.9 +1.1
comp=Z,27nm,1.4s
SAOF **Saorge** 58.16 306⇓ *e*P **P** 23 24 04.3 +0.3
TOUF **Mont Tournerai** 58.37 306⇓ *e*P **P** 23 24 05.9 +0.3
MVIF **Mont Vial** 58.46 306⇓ *e*P **P** 23 24 06.5 +0.3
BNI **Bardonecchia** 58.54 307 *e*P **P** 23 24 05.8 -1.0
BNI pmax pmax
comp=Z,19nm,1.1s
BNI **Bardonecchia** 58.54 307 *e*P **P** 23 24 05.8 -1.0
comp=Z,19nm,1.1s
KEST **Kesra** 58.86 296 P **P** 23 24 08.5 -0.6
comp=Z,8.8nm,1.0s,baz=354,slow=2.5,SNR=11
KEST **Kesra** 58.86 296 *e*P **P** 23 24 09.5 +0.4
DOU **Dourbes** 58.93 313 P **P** 23 24 09.6 +0.4
comp=Z,7.9nm,1.4s
UCC **Uccle** 58.95 314 P **P** 23 24 10.1 +0.8
SNF **Seneffe** 59.05 314 P **P** 23 24 10.1 +0.1
PETK **Petropavlovsk-** 59.24 43 P **P** 23 24 10.6 -0.8
comp=Z,2.7nm,0.8s,baz=253,slow=4.4,SNR=2.5
PETK LR LR 23 51 45.5
comp=Z,162nm,19.8s,baz=271,slow=38
PEA2 **Petropavlovsk-** 59.24 43 *e*P **P** 23 24 10.6 -0.8
PLDF **La Plantade** 60.44 309⇓ *e*P **P** 23 24 19.7 0.0
AGO **Saint Agoulin** 60.75 309⇓ *e*P **P** 23 24 22.0 +0.2
LBL **Lubilhac** 60.87 308⇓ *e*P **P** 23 24 23.0 +0.3
PYM **Petit Puy Mans** 60.90 309⇓ *e*P **P** 23 24 22.9 0.0
ESK **Eskdalemuir** 62.49 320 *i*P **P** 23 24 34.1 +0.7
ESK **Eskdalmuir** 62.49 320 *e*P **P** 23 24 33.6 +0.2
comp=Z,24nm,1.3s
MLS **Moulis** 62.97 306⇓ *e*P **P** 23 24 36.3 -0.5
DAG **Danmarks Havn** 63.19 345 *i*P **P** 23 24 37.0 -0.6
comp=Z,8.0nm,1.2s
DAG **Danmarks Havn** 63.19 345 *e*P **P** 23 24 37.0 -0.6
DAG pmax pmax
comp=Z,12nm,1.2s
EMHD **Djebel Mahouad** 63.66 298 P **P** 23 24 42.0 +0.3
DYA **Yadsworthy** 64.17 315 *e*P **P** 23 24 45.6 +1.0
EBNR **Beni Rached** 64.72 299 P **P** 23 24 46.0 -2.5
ECHA **Ech Chlef** 64.89 299 P **P** 23 24 48.2 -1.3
EANR **'Ain N'Sour** 65.16 299 P **P** 23 24 52.0 +0.6
ETRT **Tiaret** 65.20 298 P **P** 23 24 53.8 +2.1
LSZ **Lusaka** 67.49 236 *e*P **P** 23 25 05.7 -0.8
LSZ pmax pmax
comp=Z,8.0nm,1.2s
LSZ **Lusaka** 67.49 236 *e*P **P** 23 25 05.7 -0.8
comp=Z,8.4nm,1.2s
ESDC **Sonseca Array** 67.63 304 P **P** 23 25 06.8 -0.4
comp=Z,4.6nm,0.9s,baz=60,slow=6.9,SNR=25
PAB **San Pablo** 67.95 304 *e*P **P** 23 25 09.2 0.0
PAB pmax pmax
comp=Z,31nm,1.4s
PAB **San Pablo** 67.95 304 *e*P **P** 23 25 09.2 0.0
comp=Z,31nm,1.4s
MVO **Moncorvo** 69.27 306 *e*P **P** 23 25 17.5 +0.1
comp=Z,22nm,1.3s
MVO **Moncorvo** 69.27 306 *e*P **P** 23 25 17.5 +0.1
comp=Z,22nm,1.3s
POLO **Lamas de Olo** 69.72 307 *e*P **P** 23 25 21.6 +1.4
POLO **Lamas de Olo** 69.72 307 *e*P **P** 23 25 21.6 +1.4
SUMG **Summit** 69.72 344 *i*P **P** 23 25 19.7 -0.3
comp=Z,14nm,1.3s
SUMG **Summit** 69.72 344 *i*P **P** 23 25 19.7 -0.3
SUMG pmax pmax
comp=Z,14nm,1.3s
SUMG **Summit** 69.72 344 *e*P **P** 23 25 20.3 +0.3
comp=Z,14nm,1.3s
PVIS **Viseu** 70.04 306 *e*P **P** 23 25 21.6 -0.5
comp=Z,23nm,1.6s
PVIS **Viseu** 70.04 306 *e*P **P** 23 25 21.6 -0.5
comp=Z,23nm,1.6s
PBAR **Barrancos** 70.41 303 *e*P **P** 23 25 24.7 +0.3
comp=Z,65nm,1.3s
PBAR **Barrancos** 70.41 303 *e*P **P** 23 25 24.7 +0.3
comp=Z,65nm,1.3s
PTOM **Tomar** 70.83 305 *e*P **P** 23 25 27.3 +0.4
comp=Z,36nm,1.2s
PTOM **Tomar** 70.83 305 *e*P **P** 23 25 27.3 +0.4
comp=Z,36nm,1.2s
EVO **Evora** 70.98 304 *e*P **P** 23 25 28.3 +0.5
comp=Z,28nm,1.9s
EVO **Evora** 70.98 304 *e*P **P** 23 25 28.3 +0.5
comp=Z,28nm,1.9s
MESJ **Messejana** 71.40 303 *e*P **P** 23 25 30.7 +0.3
MESJ **Messejana** 71.40 303 *e*P **P** 23 25 30.7 +0.3
WRA **Warramunga Arr** 71.74 127 P **P** 23 25 31.1 -1.4
comp=Z,27nm,0.9s,baz=320,slow=6.1,SNR=78
WRA **Warramunga Arr** 71.74 127 *i*P **P** 23 25 31.7 -0.9
WRA pmax pmax
comp=Z,27nm,0.9s
WRAB **Tennant Creek** 71.74 127 P **P** 23 25 31.0 -1.6
comp=Z,248nm,0.9s,SNR=8.4
WRAB **Tennant Creek** 71.74 127⇓ *i*P **P** 23 25 32.1 -0.5
WRAB pmax pmax
comp=Z,101nm,1.0s
WRAB **Tennant Creek** 71.74 127 *e*P **P** 23 25 31.3 -1.2
comp=Z,37nm,0.9s
TOA0 **Torodi Ar. Sit** 73.92 276 *e*P **P** 23 25 44.7 -1.0
TORD **Torodi Ar. Bea** 73.92 276 P **P** 23 25 44.7 -1.0
comp=Z,10nm,1.0s,baz=60,slow=4.8,SNR=43
TORD LR LR 00 03 14.1
comp=Z,120nm,18.7s,baz=75,slow=40
TOB4 **Torodi Ar. Sit** 73.94 276 *e*P **P** 23 25 44.4 -1.4
AS12 **Alice Springs** 73.97 130 *e*P **P** 23 25 44.2 -1.6
ASAR **Alice Springs** 73.97 130 P **P** 23 25 44.2 -1.6
comp=Z,12nm,0.9s,baz=319,slow=6.2,SNR=69
AS01 **Alice Springs** 74.00 130 *e*P **P** 23 25 44.4 -1.6
PMG **Port Moresby** 75.03 110 *e*P **P** 23 25 52.9 +0.8
PMG **Port Moresby** 75.03 110 *e*P **P** 23 25 52.9 +0.8
comp=Z,245nm,1.0s
IM04 **Indian Mountai** 75.82 20 *e*P **P** 23 25 55.8 -0.1
LBTB **Lobatse** 75.83 230 *e*P **P** 23 25 55.8 -0.8
LBTB pmax pmax
comp=Z,17nm,1.0s
LBTB **Lobatse** 75.83 230 *e*P **P** 23 25 55.8 -0.8
comp=Z,17nm,1.0s
COLD **Coldfoot** 75.95 18 *e*P **P** 23 25 57.2 +0.6
comp=Z,27nm,1.0s
COLD *e*PP **PP** 23 28 46.7 +0.2
MLY **Manley** 77.39 20 *e*P **P** 23 26 05.5 +0.7
comp=Z,43nm,1.2s
TSUM **Tsumeb** 77.77 239 *e*P **P** 23 26 08.3 +0.7
comp=Z,108nm,2.9s
BPAW **Bear Paw Mtn.** 77.99 21 *e*P **P** 23 26 08.1 0.0
comp=Z,4.1nm,1.0s
BPAW *e*PP **PP** 23 29 02.8 -0.8
CAST **Castle Rocks** 78.14 21 *e*P **P** 23 26 09.9 +0.9
comp=Z,51nm,1.0s
MDM **Murphy Dome** 78.17 19 *e*P **P** 23 26 07.9 -1.2
comp=Z,44nm,1.2s

COLA **College** 78.34 19 *d*P **P** 23 26 10.3 +0.3
COLA **College** 78.34 19 *e*P **P** 23 26 10.5 +0.5
comp=Z,82nm,1.3s
BWN **Browne** 78.40 20 *e*P **P** 23 26 12.0 +1.6
comp=Z,56nm,1.1s
PPLA **Purkeypile** 78.48 22 *e*P **P** 23 26 11.5 +0.5
comp=Z,29nm,1.4s
BOSA **Boshof** 78.51 227 P **P** 23 26 10.6 -0.9
comp=Z,8.2nm,1.0s,baz=71,slow=5.5,SNR=8.4
BOSA LR LR 23 59 39.3
comp=Z,103nm,18.0s,baz=8.5,slow=35
CCB **Clear Creek Bu** 78.53 19 *e*P **P** 23 26 10.7 -0.3
comp=Z,11nm,1.0s
WRH **Wood River Hil** 78.58 19 *e*P **P** 23 26 11.0 -0.3
comp=Z,12nm,1.0s
SVW2 **Sparrevohn** 78.58 24 *e*P **P** 23 26 13.1 +1.7
TRF **Thorofare Moun** 78.68 21 *e*P **P** 23 26 12.2 +0.1
comp=Z,12nm,1.1s
TRF *e*PP **PP** 23 29 10.0 +0.4
IL1 **Eielson Array** 78.69 19 *e*P **P** 23 26 10.5 -1.5
IL1 *e*PP **PP** 23 29 05.3 -4.1
ILAR **Eielson Array** 78.69 19 P **P** 23 26 11.2 -0.7
comp=Z,19nm,1.0s,baz=309,slow=4.3,SNR=102
ILAR PP **PP** 23 29 05.7 -3.7
comp=Z,3.4nm,1.0s,baz=311,slow=7.7,SNR=7.7
ILAR LR LR 00 04 27.4
comp=Z,101nm,20.8s,baz=338,slow=38
ILB **Eielson Array** 78.69 19 *e*P **P** 23 26 11.2 -0.7
ILB *e*PP **PP** 23 29 05.7 -3.7
INK **Inuvik** 78.88 12 LR LR 00 04 34.4
comp=Z,107nm,20.9s,baz=6.5,slow=38
INK **Inuvik** 78.88 12 *e*P **P** 23 26 13.1 +0.2
INK pmax pmax
comp=Z,25nm,1.1s
INK **Inuvik** 78.88 12 *e*P **P** 23 26 13.1 +0.2
comp=Z,25nm,1.1s
MCK **McKinley** 78.88 20 *e*P **P** 23 26 13.7 +0.7
MCK pmax pmax
comp=Z,11nm,1.0s
MCK **McKinley** 78.88 20 *e*P **P** 23 26 13.7 +0.7
comp=Z,12nm,1.0s
HDA **Harding Lake** 78.95 19 *e*P **P** 23 26 12.5 -0.9
comp=Z,24nm,1.2s
RND **Reindeer** 79.15 20 *e*P **P** 23 26 14.5 -0.1
RND pmax pmax
comp=Z,18nm,1.1s
RND **Reindeer** 79.15 20 *e*P **P** 23 26 14.5 -0.1
comp=Z,18nm,1.1s
SPU **Mount Spurr** 79.75 23 *e*P **P** 23 26 18.2 +0.4
SUA **Susitna One** 79.98 22 *e*P **P** 23 26 19.5 +0.3
comp=Z,35nm,1.0s
RSO **Redoubt South** 80.02 24 *e*P **P** 23 26 20.5 +1.0
EGAK **Eagle** 80.20 17 *e*P **P** 23 26 20.4 +0.2
comp=Z,23nm,1.1s
PMR **Palmer** 80.41 22 *e*P **P** 23 26 21.6 +0.3
PMR **Palmer** 80.41 22 *e*P **P** 23 26 21.6 +0.3
PAX **Paxson** 80.48 19 *e*P **P** 23 26 21.9 +0.1
PAX pmax pmax
comp=Z,24nm,1.2s
PAX **Paxson** 80.48 19 *e*P **P** 23 26 21.9 +0.1
comp=Z,24nm,1.2s
CTA **Charters Tower** 80.49 120 P **P** 23 26 22.5 +0.1
comp=Z,28nm,1.0s,baz=285,slow=7.9,SNR=7.3
CTAO **Charters Tower** 80.49 120 *e*P **P** 23 26 22.6 +0.2
CTAO pmax pmax
comp=Z,49nm,1.1s
CTAO **Charters Tower** 80.49 120 *e*P **P** 23 26 22.6 +0.2
comp=Z,49nm,1.1s
RC01 **Rabbit Creek A** 80.59 22 *e*P **P** 23 26 22.6 +0.3
comp=Z,52nm,1.2s
SCM **Sheep Creek Mo** 80.80 21 *e*P **P** 23 26 23.9 +0.4
SCM pmax pmax
comp=Z,33nm,1.0s
SCM **Sheep Creek Mo** 80.80 21 *e*P **P** 23 26 23.9 +0.4
comp=Z,33nm,1.0s
DAWY **Dawson** 81.23 17 *e*P **P** 23 26 25.9 +0.2
comp=Z,35nm,1.1s
SEW **Seward** 81.42 23 *e*P **P** 23 26 27.4 +0.7
comp=Z,33nm,1.0s
DIV **Divide** 81.82 21 *e*P **P** 23 26 29.7 +0.8
comp=Z,28nm,1.0s
KDAK **Kodiak Island** 81.99 26 P **P** 23 26 30.8 +1.0
comp=Z,306nm,1.0s,SNR=8.3
KDAK **Kodiak Island** 81.99 26 *e*P **P** 23 26 30.5 +0.7
KDAK **Kodiak Island** 81.99 26 *e*P **P** 23 26 30.5 +0.7
OHAK **Old Harbor** 82.12 26 *e*P **P** 23 26 31.1 +0.6
comp=Z,73nm,1.2s
BMRM **Bremner River** 82.30 20 *e*P **P** 23 26 32.3 +0.8
comp=Z,42nm,1.0s
DBIC **Dimbokro** 82.67 273 P **P** 23 26 33.9 -0.2
comp=Z,20nm,1.1s,baz=35,slow=5.6,SNR=8.0
DBIC **Dimbokro** 82.67 273 *e*P **P** 23 26 34.4 +0.3
DBIC pmax pmax
comp=Z,35nm,1.1s
DBIC **Dimbokro** 82.67 273 *e*P **P** 23 26 34.4 +0.3
comp=Z,35nm,1.1s
KIC **Kosan Boka** 82.72 273 *e*P **P** 23 26 34.0 -0.4
comp=Z,71nm,1.1s
RAGM **Ragged Mountai** 82.74 21 *e*P **P** 23 26 35.0 +1.2
comp=Z,66nm,1.1s
TIC **Tumodi** 82.82 274 *e*P **P** 23 26 35.4 +0.5
LIC **Lamto** 83.03 273 *e*P **P** 23 26 35.3 -0.7
comp=Z,67nm,1.2s
HYT **Haines Junctio** 84.43 18 *e*P **P** 23 26 43.4 +0.9
STKA **Stephens Creek** 84.50 132 P **P** 23 26 40.9 -2.2
comp=Z,4.4nm,0.9s,baz=339,slow=8.6,SNR=4.1
STKA **Stephens Creek** 84.50 132 *e*P **P** 23 26 40.9 -2.2
STKA pmax pmax
comp=Z,7.0nm,1.7s
STKA **Stephens Creek** 84.50 132 *e*P **P** 23 26 40.9 -2.2
comp=Z,6.6nm,1.7s
SKAG **Skagway** 86.17 17 *e*P **P** 23 26 52.7 +1.7
YKA **Yellowknife Ar** 87.13 7 P **P** 23 26 54.4 -1.3
comp=Z,3.9nm,0.8s,baz=341,slow=4.6,SNR=25
YKA **Yellowknife Ar** 87.13 7 P **P** 23 26 54.4 -1.3
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKB5 **Yellowknife Ar** 87.13 7 *e*P **P** 23 26 53.9 -1.8
YKB5 *e*S **S** 23 37 31.5 -2.1
DLBC **Dease Lake** 88.37 15 *e*P **P** 23 27 02.8 +1.0
comp=Z,29nm,1.0s
FCC **Fort Churchill** 91.55 357 *e*P **P** 23 27 17.3 +0.8
FCC pmax pmax
comp=Z,9.0nm,1.3s
FCC **Fort Churchill** 91.55 357 *e*P **P** 23 27 17.3 +0.8
comp=Z,9.3nm,1.3s
BBB **Bella Bella** 94.50 17 LR LR 00 13 47.4
comp=Z,43nm,21.9s,baz=342,slow=38
FFC **Flin Flon** 95.69 1 *e*P **P** 23 27 36.1 +0.4
FFC pmax pmax
comp=Z,8.0nm,1.3s
FFC **Flin Flon** 95.69 1 *e*P **P** 23 27 36.1 +0.4
comp=Z,8.4nm,1.3s
MAW **Mawson** 98.11 187 LR LR 00 06 56.6
comp=Z,168nm,18.1s,baz=52,slow=32
PDAR **Pinedale Array** 107.10 8 PKiKP **PKiKP** 23 32 37.1 +0.6
comp=Z,0.5nm,0.5s,baz=28,slow=4.1,SNR=3.9
NVAR **Mina Array Bea** 109.79 16 PKiKP **PKiKP** 23 32 39.9 -1.7
comp=Z,0.4nm,0.7s,baz=98,slow=1.4,SNR=3.1
NVAR PP **PP** 23 33 09.5 -2.8
comp=Z,0.1nm,0.5s,baz=6.5,slow=3.2,SNR=3.6
330A **Mertzon** 119.00 2 P **PKPdf** 23 32 59.1 -0.1
baz=119
332A **Millersview** 119.04 0 P **PKPdf** 23 32 58.9 -0.4
baz=119
334A **Lometa** 119.08 359 P **PKPdf** 23 32 58.8 -0.5
baz=119
434A **Burnet** 119.60 359 P **PKPdf** 23 33 00.0 -0.3
baz=119
433A **Art** 119.67 360 P **PKPdf** 23 33 00.3 -0.2
baz=119
429A **Davenport Ranc** 119.76 2 P **PKPdf** 23 33 00.6 -0.1
baz=120
JCT **Junction City** 119.94 0 P **PKPdf** 23 33 01.2 +0.2
baz=120
529A **Stev Forest Ra** 120.24 3 P **PKPdf** 23 33 01.7 0.0
baz=120
530A **J-C Ranch, Com** 120.25 2 P **PKPdf** 23 33 01.3 -0.4
baz=120
531A **Rocksprings** 120.25 1 P **PKPdf** 23 33 01.3 -0.4
baz=120
532A **Rocksprings** 120.29 0 P **PKPdf** 23 33 01.2 -0.5
baz=120
632A **Uvalde** 120.91 0 P **PKPdf** 23 33 03.1 +0.2
baz=121
LTX **Lajitas** 120.95 4 *e*PKIKP **PKPdf** 23 33 03.4 +0.3
LTX **Lajitas** 120.95 4 *e*PKPdf **PKPdf** 23 33 03.4 +0.3

TX31	**Lajitas Ar. Si**	**120.95**	**4**	*e*PKPdf	**PKPdf**	**23 33 03.2**	**+0.1**
TXAR	**Lajitas Array**	**120.95**	**4**	PKP	**PKPdf**	**23 33 03.4**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=354,slow=1.3,SNR=6.8						
633A	**Saathoff Ranch**	**120.96**	**360**	P	**PKPdf**	**23 33 03.2**	**+0.2**
	baz=121						
737A	**Port Lavaca**	**121.58**	**357**	P	**PKPdf**	**23 33 04.7**	**+0.5**
	baz=121						
833A	**Chaparral WMA,**	**122.09**	**360**	P	**PKPdf**	**23 33 05.5**	**+0.4**
	baz=122						
832A	**Faith Ranch, C**	**122.13**	**0**	P	**PKPdf**	**23 33 04.8**	**-0.5**
	baz=122						
035A	**Encino**	**123.46**	**358**	P	**PKPdf**	**23 33 06.1**	**-1.6**
	baz=123						
SAML	**Samuel**	**140.13**	**294**	*e*PKPdf	**PKPdf**	**23 33 40.3**	**+0.9**
OTAV	**Otavalo**	**143.91**	**322**	*e*PKPdf	**PKPdf**	**23 33 46.2**	**-0.6**
TRQA	**Tornquist**	**147.98**	**245**	*e*PKPbc	**PKPbc**	**23 33 56.0**	**+0.5**
LPAZ	**La Paz**	**148.21**	**288**	PKPbc	**PKPdf**	**23 33 54.6**	**+0.4**
	comp=Z,9.1nm,1.0s,baz=18,slow=6.0,SNR=16						

*IDC **22** 23:41:21.7±1.7, 44.°67N×81.°27E, h0km, mb3.6/2, mb1 3.4/6, mb1mx3.2/30, mbtmp3.3/6, ML2.7/4, Error ellipse: s-maj=18.7km s-min=15.3km az=114.0*
*BJI **22** 23:41:23.7, 44.°56N×81.°57E, h14km, ML3.0/7*
*NNC **22** 23:41:25.0±2.0, 44.°77N×81.°27E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=28.1km s-min=7.0km az=132.0*

ISC 22 23:41:25.2±1.2, 44°85N±0.°07×81°29E±0.°08, h10km, n15, σ1§61/17, 6C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**2.07**	**19**	⇑Pn	**Pb**	**23 42 02.6**	**-0.3**
	17nm,0.3s,baz=201,slow=14,SNR=865						
MK31				⇑Sn	**Sb**	**23 42 30.4**	**+1.8**
	8.4nm,0.2s,baz=196,slow=27,SNR=7.1						
MKAR	**Makanchi Array**	**2.07**	**19**	Pn	**Pb**	**23 42 02.5**	**-0.3**
	4.3nm,0.3s,baz=196,slow=13,SNR=92						
MKAR				Sn	**Sb**	**23 42 30.6**	**+2.0**
	23nm,0.3s,baz=198,slow=27,SNR=9.7						
KNDC	**Almaty**	**3.52**	**244**	⇓Pg	**Pb**	**23 42 28.8**	**+1.3**
	12nm,0.4s						
KNDC				⇓Lg	Lg	23 43 16.8	
	138nm,0.8s						
TKM2	**Tokmak 2**	**4.54**	**247**	⇑Pg	**Pb**	**23 42 44.5**	**-0.5**
	4.4nm,0.5s						
TKM2				⇓Lg	Lg	23 43 45.7	
	11nm,0.3s						
AAK	**Ala-Archa**	**5.39**	**248**	⇑Pg	**Pg**	**23 43 06.8**	**-1.6**
	6.9nm,0.7s						
AAK				⇑Lg	Lg	23 44 11.3	
	11nm,0.6s						
AAK	**Ala-Archa**	**5.39**	**248**	Pn	Pg	23 43 16.1	+7.6
	0.7nm,0.3s,baz=111,slow=11,SNR=3.6						
AAK				Sn	**Sg**	**23 44 20.8**	**+2.5**
	0.5nm,0.3s,baz=179,slow=24,SNR=1.6						
KURBB	**Kurchatov Arra**	**6.07**	**343**	⇓Pn	**Pn**	**23 42 55.1**	**+0.2**
	3.8nm,0.5s						
KURBB				⇓Lg	Lg	23 44 42.0	
	37nm,0.7s						
KURBB	**Kurchatov Arra**	**6.07**	**343**	Pn	**Pn**	**23 42 56.5**	**+1.6**
	0.1nm,0.3s,baz=168,slow=12,SNR=4.0						
KURBB				Sn	**Sn**	**23 44 05.4**	**+1.0**
	0.4nm,0.3s,baz=158,slow=23,SNR=6.8						
KURBB				Lg	Lg	23 44 39.0	
	0.5nm,0.3s,baz=161,slow=31,SNR=9.4						
KK31	**Karatay Array**	**7.96**	**261**	⇓Lg	Lg	23 45 31.8	
	2.2nm,0.5s,baz=66,slow=31,SNR=4.5						
ZALV	**Zalesovo Beam**	**9.39**	**13**	Pn	**Pn**	**23 43 41.5**	**+1.0**
	0.2nm,0.3s,baz=200,slow=13,SNR=4.5						
ZALV				Sn	**Sn**	**23 45 24.6**	**-1.5**
	0.5nm,0.3s,baz=195,slow=23,SNR=2.9						
ZALV				Lg	Lg	23 46 24.3	
	baz=199,slow=21,SNR=2.3						
BVA0	**Borovoye Array**	**10.87**	**323**	⇓Sn	Sn	23 46 10.2	+8.0
	0.9nm,0.7s,baz=137,slow=21,SNR=3.6						
BVA0				⇑Lg	Lg	23 47 10.0	
	5.4nm,1.1s,baz=130,slow=26,SNR=3.5						
BVAR	**Borovoye Array**	**10.87**	**323**	Pn	**Pn**	**23 44 01.2**	**+0.5**
	0.1nm,0.3s,baz=130,slow=12,SNR=3.2						
BVAR				Sn	**Sn**	**23 45 59.1**	**-3.2**
	0.2nm,0.3s,baz=133,slow=21,SNR=4.6						
BVAR				Lg	Lg	23 47 12.0	
	0.3nm,0.3s,baz=139,slow=27,SNR=4.3						
CD2	**Chengdu**	**22.45**	**121**	*e*P	**P**	**23 46 23.9**	**-0.4**
NOA	**NORSAR Array B**	**42.95**	**318**	P	**P**	**23 49 22.9**	**-1.0**
	0.6nm,0.9s,baz=83,slow=7.9,SNR=2.2						
TORD	**Torodi Ar. Bea**	**73.50**	**272**	P	P	23 52 55.2	-3.0
	0.3nm,0.4s,baz=38,slow=5.3,SNR=7.1						

*JMA **22** 23:42:20.3±0.2, 26.°67N×142.°98E, h6km*
*IDC **22** 23:42:21.0±1.0, 26.°64N×142.°51E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.8/26, mbtmp3.9/9, ML3.6/1, Error ellipse: s-maj=39.3km s-min=13.5km az=70.0*
*NEIC **22** 23:42:25.0±2.0, 26.°62N×142.°48E, h26km±12km, mb4.3/4, Error ellipse: s-maj=28.6km s-min=11.9km az=81.0*

ISC 22 23:42:25.4±1.0, 26°69N±0.°07×142°6E±0.°1, h31km, n20, σ1§27/25, mb4.1/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**0.42**	**262**	P	**Pb**	**23 42 34.2**	**-0.4**
JHHJ				S	**Sn**	**23 42 43.7**	**+1.8**
CBIJ	**Chichi jima**	**0.58**	**315**	P	**Pb**	**23 42 36.4**	**-0.7**
CBIJ				S	**Sn**	**23 42 47.4**	**+1.5**
CBIJ	**Chichi jima**	**0.58**	**315**	*e*P	**Pb**	**23 42 36.0**	**-1.1**
CBIJ				Pn	**Pn**	**23 42 36.2**	**-1.2**
CBIJ				*e*S	**Sn**	**23 42 49.2**	**+3.3**
JCJ	**Chichijima**	**0.58**	**315**	Pn	**Pb**	**23 42 36.2**	**-0.9**
	236nm,0.3s,baz=251,slow=2.8,SNR=198						
JCJ				Sn	**Sn**	**23 42 46.8**	**+0.9**
	491nm,0.3s,baz=102,slow=23,SNR=20						
BSO3	**Boso 3**	**8.29**	**348**	P	**Pn**	**23 44 23.1**	**-0.2**
JRY	**Ryogami san**	**9.83**	**342**	P	**Pn**	**23 44 43.8**	**-0.9**
MJAR	**Matsushiro Arr**	**10.53**	**340**	Pn	**Pn**	**23 44 54.0**	**-0.1**
	0.4nm,0.3s,baz=169,slow=12,SNR=3.4						
CMAR	**Chiang Mai Arr**	**41.01**	**268**	P	**P**	**23 50 06.1**	**+0.2**
	0.9nm,0.5s,baz=82,slow=5.4,SNR=5.6						
WRAB	**Tennant Creek**	**47.03**	**191**	*e*P	**P**	**23 50 53.6**	**-0.5**
	6.1nm,0.5s						
WRA	**Warramunga Arr**	**47.05**	**191**	P	**P**	**23 50 54.0**	**-0.2**
	6.2nm,0.6s,baz=12,slow=8.6,SNR=23						
ASAR	**Alice Springs**	**50.76**	**190**	P	**P**	**23 51 22.0**	**-0.7**
	0.3nm,0.5s,baz=1.8,slow=5.0,SNR=4.6						
KURK	**Kurchatov**	**53.56**	**315**	*e*P	**P**	**23 51 43.2**	**0.0**
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**53.62**	**315**	P	**P**	**23 51 42.2**	**-1.4**
	0.6nm,0.5s,baz=91,slow=8.2,SNR=7.7						
BVAR	**Borovoye Array**	**58.62**	**318**	P	**P**	**23 52 18.8**	**-0.6**
	1.2nm,0.5s,baz=90,slow=6.2,SNR=12						
KBL	**Kabul**	**62.57**	**297**	P	**P**	**23 52 46.1**	**-0.7**
	2.0nm,0.6s						
ABKAR	**Akbulak array**	**65.67**	**315**	*e*P	**P**	**23 53 05.3**	**-1.4**
	0.5nm,0.6s						
ARCES	**ARCESS Array B**	**74.06**	**341**	P	**P**	**23 53 59.6**	**+1.6**
	1.7nm,0.6s,baz=51,slow=7.1,SNR=4.1						
FINES	**FINESS Array B**	**78.49**	**334**	P	**P**	**23 54 23.0**	**-0.1**
	0.8nm,0.5s,baz=78,slow=4.8,SNR=12						
NOA	**NORSAR Array B**	**84.14**	**338**	P	**P**	**23 54 55.4**	**+2.2**
	0.4nm,0.7s,baz=46,slow=4.6,SNR=3.4						
LPAZ	**La Paz**	**149.63**	**76**	PKPbc	**PKPbc**	**00 02 13.9**	**+0.6**
	0.6nm,0.6s,baz=33,slow=5.2,SNR=4.0						

DJA 22 23:59:39.3±0.5, 0°S±3°×12°3E±°, h66km±7km, M4.1/8, mb4.4/1, mB4.9/1, MLv4.0/8, Mw(mB)4.2/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.79**	**187**	P	Pn	23 59 56.3	+1.3
LUWI				S	Sn	00 00 08.2	+1.6
MRSI	**Marisa**	**1.18**	**308**	P	Pn	23 59 59.7	-0.2
MRSI				S	Sn	00 00 15.3	0.0
KMSI	**Cibinong**	**1.38**	**54**	P	Pn	00 00 02.6	0.0
KMSI				S	Sn	00 00 20.7	+0.7
APSI	**Ampana**	**1.39**	**242**	P	Pn	00 00 03.8	+1.2
APSI				S	Sn	00 00 22.8	+2.6
MPSI	**Mapaga**	**3.03**	**281**	P	Pn	00 00 25.3	+0.4
MPSI				S	Sn	00 01 01.6	+1.6
TTSI	**Tana Toraja**	**4.12**	**228**	P	Pn	00 00 41.0	+1.1
TTSI				S	Sn	00 01 27.1	+0.2
SPSI	**Sidrap Palu**	**4.82**	**220**	P	Pn	00 00 50.1	+0.7
SPSI				S	Sn	00 01 44.1	+0.2
BBSI	**Bau Bau**	**5.21**	**183**	P	Pn	00 00 55.3	+0.5

*CSEM **23** 00:03:07.0±1.5, 53.°68N×19.°82E, h2km, ML1.3, Error ellipse: s-maj=33.8km s-min=15.4km az=144.0, Suspected Mining explosion.*
*UPP **23** 00:03:11.2, 53.°92N×19.°46E, h0km, ML1.3, Suspected Mining explosion.*
*IDC **23** 00:03:20.8±5.3, 54.°64N×19.°02E, h0km, mb1 3.3/3, mb1mx3.0/34, mbtmp3.2/3, ML2.8/3, Error ellipse: s-maj=60.0km s-min=23.1km az=161.0*

ISC 23 00:03:08.2±3.1, 54°0N±0.°2×19°9E±0.°1, h0km, n15, σ1§47/17, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSD	**Bornholm Skovb**	**3.12**	**293**	*i* P	**Pn**	**00 03 59.4**	**+0.9**
BSD				*i* S	**Sn**	**00 04 36.9**	**+0.5**
BSD	**Bornholm Skovb**	**3.12**	**293**	*e*P	**Pn**	**00 03 59.5**	**+0.9**
	SNR=49						
BSD	**Bornholm Skovb**	**3.12**	**293**	*i* Pg	**Pb**	**00 04 03.6**	**-0.8**
	SNR=90						
BSD				*i* S	**Sn**	**00 04 36.9**	**+0.5**
BLEU	**Blekinge**	**3.29**	**316**	P	**Pn**	**00 04 02.0**	**+1.2**
GOTU	**Gotland**	**3.75**	**349**	P	Pn	00 04 11.3	+4.1
GOTU				S	**Sb**	**00 05 00.2**	**-0.9**
OSKU	**Oskarshamn**	**3.85**	**327**	P	**Pn**	**00 04 10.5**	**+1.9**
ASPU	**Aespoe**	**3.89**	**332**	P	**Pn**	**00 04 11.0**	**+1.9**
VXJU	**Vaexsjoe**	**4.06**	**318**	P	**Pn**	**00 04 12.6**	**+1.1**
VSTU	**Vaestervik**	**4.12**	**334**	P	**Pn**	**00 04 14.1**	**+1.9**
DEL	**Delary**	**4.25**	**308**	P	**Pn**	**00 04 15.4**	**+1.4**
BJUU	**Bjuv**	**4.47**	**300**	P	**Pn**	**00 04 17.6**	**+0.5**
VIKU	**Vikbolandet**	**4.84**	**339**	P	**Pn**	**00 04 25.0**	**+2.9**
FINES	**FINESS Array B**	**8.13**	**21**	Pn	Pn	00 05 13.3	+6.0
	0.2nm,0.3s,baz=212,slow=13,SNR=17						
FINES				Sn	**Sn**	**00 06 39.2**	**-0.5**
	0.1nm,0.3s,baz=216,slow=21,SNR=4.2						
NOA	**NORSAR Array B**	**8.45**	**330**	Pn	**Pn**	**00 05 10.4**	**-1.3**
	0.1nm,0.3s,baz=145,slow=13,SNR=3.5						
ARCES	**ARCESS Array B**	**15.78**	**7**	Pn	**Pn**	**00 06 50.5**	**-0.9**
	0.1nm,0.3s,baz=192,slow=13,SNR=4.8						

*BJI **23** 00:11:42.3, 5.°87S×146.°78E, h70km, mb4.9/25, mB4.9/19, Ms4.7/10, Ms7 4.1/8*
*ISCJB **23** 00:11:44.7±1.0, 5.°66S±0.°04×146.°47E±0.°05, h65km±9km, mb4.7/49, Error ellipse: s-maj=8.9km s-min=5.9km az=153.2*
*DJA **23** 00:11:45.3±1.6, 6°S±9°×14°7E±1°6, h54km±7km, M5.4/19, mb5.2/19, mB5.7/12, MLv5.8/3, Mw(mB)5.2/12*
*IDC **23** 00:11:48.7±2.9, 5.°59S×146.°43E, h85km±24km, mb4.1/19, mb1 4.2/23, mb1mx4.1/33, mbtmp4.4/23, MS3.6/18, Ms1 3.6/18, ms1mx3.5/24, Error ellipse: s-maj=19.8km s-min=10.0km az=100.0*
*NEIC **23** 00:11:48.3±1.0, 5.°68S×146.°40E, h86km±9km, mb5.0/27, Error ellipse: s-maj=8.5km s-min=5.6km az=76.0*

ISC 23 00:11:47.3±0.4, 5°68S±0.°05×146°50E±0.°07, h75km±2km, n120, σ1§37/129, mb4.7/48, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.76**	**170**	*e*Pn	**Pn**	**00 12 42.8**	**0.0**
JAY	**Jayapura**	**6.58**	**298**	P	Pn	00 13 26.9	+5.4
JAY	**Jayapura**	**6.58**	**298**	P	**Pn**	**00 13 22.4**	**+0.9**
	2.6nm,0.3s,baz=172,slow=6.8,SNR=13						
JAY				S	Sn	00 14 52.7	+17
	1.2nm,0.3s,baz=11,slow=13,SNR=3.6						
JAY				LR	LR	00 16 20.8	
	comp=Z,642nm,21.7s,baz=9.5,slow=42						
GENI	**Genyem**	**7.02**	**296**	P	**Pn**	**00 13 26.5**	**-1.0**
	117nm,1.1s,2μm1.0nm						
SMPI	**Sarmi**	**8.60**	**295**	P	**Pn**	**00 13 48.3**	**-0.7**
	67nm,1.0s,5μm						
COEN	**Coen**	**8.85**	**201**	*e*Pn	**Pn**	**00 13 51.5**	**-1.0**
RKPI	**Ransiki, Papua**	**12.98**	**288**	P	**Pn**	**00 14 49.0**	**+0.2**
	110nm,1.2s,14μm						
CTA	**Charters Tower**	**14.32**	**181**	P	**P**	**00 15 09.2**	**-2.2**
	1.8nm,0.3s,baz=4.0,slow=15,SNR=8.1						
CTAO	**Charters Tower**	**14.32**	**181**	*e*Pn	**Pn**	**00 15 07.1**	**+0.7**
FAKI	**Fak Fak**	**14.48**	**280**	P	**Pn**	**00 15 06.9**	**-1.6**
	53nm,0.8s						
FAKI	**Fak Fak**	**14.48**	**280**	*e*Pn	**Pn**	**00 15 06.8**	**-1.6**
SIJI	**Sorong**	**15.94**	**287**	P	**Pn**	**00 15 25.5**	**-1.7**
	1.2nm,0.3s,baz=90,slow=9.5,SNR=26						
SIJI				LR	LR	00 23 10.3	
	comp=Z,176nm,21.5s,baz=130,slow=43						
SWI	**Sorong**	**15.95**	**287**	P	**Pn**	**00 15 25.2**	**-2.1**
	242nm,0.9s,2μm						
WRAB	**Tennant Creek**	**18.45**	**219**	*e*P	**P**	**00 15 54.5**	**-2.5**
	49nm,1.3s						
WRA	**Warramunga Arr**	**18.46**	**219**	P	**P**	**00 15 56.3**	**-0.9**
	0.8nm,0.3s,baz=40,slow=12,SNR=14						
WRA				LR	LR	00 23 40.9	
	comp=Z,432nm,19.0s,baz=25,slow=38						
GUMO	**Guam**	**19.21**	**355**	LR	LR	00 22 39.8	
	comp=Z,116nm,19.1s,baz=154,slow=34						
NLAI	**Namlea**	**19.50**	**276**	P	**Pn**	**00 16 09.8**	**-0.7**
	93nm,1.3s,1μm						
LBMI	**Labuha**	**19.62**	**284**	P	**Pn**	**00 16 10.6**	**-1.3**
	106nm,1.4s,2μm						
EIDS	**Eidsvold**	**20.06**	**168**	*e*P	Pn	00 16 16.3	-0.7
	64nm,1.6s						
AS01	**Alice Springs**	**21.58**	**213**	*e*P	**P**	**00 16 31.6**	**+0.6**
AS31	**Alice Springs**	**21.61**	**213**	*e*Pn	**P**	**00 16 31.2**	**-0.1**
AS12	**Alice Springs**	**21.61**	**213**	*e*P	**P**	**00 16 31.2**	**-0.1**
AS12				*e*S	**S**	**00 20 30.3**	**+3.5**
ASAR	**Alice Springs**	**21.61**	**213**	P	**P**	**00 16 31.2**	**-0.1**
	4.1nm,0.6s,baz=45,slow=7.2,SNR=44						
ASAR				S	**S**	**00 20 30.3**	**+3.5**
	2.3nm,0.8s,baz=28,slow=24,SNR=5.1						
ASAR				LR	LR	00 25 52.9	
	comp=Z,599nm,20.5s,baz=27,slow=39						
SOEI	**Soe**	**22.40**	**258**	P	**P**	**00 16 42.5**	**+2.5**
	112nm,1.2s						
SOEI	**Soe**	**22.40**	**258**	*e*P	**P**	**00 16 41.0**	**+1.1**
	137nm,1.2s						
KMSI	**Cibinong**	**23.33**	**285**	P	**P**	**00 16 50.9**	**+1.6**
	385nm,0.7s						
LUWI	**Luwuk**	**24.13**	**280**	P	**P**	**00 16 58.0**	**+1.6**
	172nm,1.3s,5μm						
LUWI	**Luwuk**	**24.13**	**280**	*e*P	**P**	**00 16 56.4**	**0.0**
	111nm,0.9s						
MMRI	**Maumere**	**24.25**	**262**	P	**P**	**00 16 56.6**	**-0.9**
	121nm,1.0s						
MMRI	**Maumere**	**24.25**	**262**	*e*P	**P**	**00 16 56.9**	**-0.6**
	229nm,1.4s						
ARMA	**Armidale**	**25.07**	**170**	*e*P	**P**	**00 17 03.6**	**-1.4**
	164nm,2.5s						
APSI	**Ampana**	**25.25**	**280**	P	**P**	**00 17 08.6**	**+1.9**
	118nm,1.1s,933nm						
MRSI	**Marisa**	**25.28**	**283**	P	P	00 17 20.3	+13
BKSI	**Bulukumba**	**26.26**	**269**	P	**P**	**00 17 18.4**	**+2.6**
	31nm,1.2s						
STKA	**Stephens Creek**	**26.46**	**189**	P	**P**	**00 17 18.9**	**+1.5**
	3.1nm,0.6s,baz=348,slow=9.5,SNR=9.2						
STKA				LR	LR	00 28 55.2	
	comp=Z,381nm,18.3s,baz=7.7,slow=39						
STKA	**Stephens Creek**	**26.46**	**189**	*e*P	**P**	**00 17 17.2**	**-0.2**
STKA				*e*pP	pP	00 17 22.9	-12
KAPI	**Kappang**	**26.64**	**270**	P	**P**	**00 17 18.6**	**-0.6**
	11nm,0.6s,baz=137,slow=3.7,SNR=11						
KAPI				LR	LR	00 31 24.6	
	comp=Z,118nm,19.1s,baz=80,slow=44						
TTSI	**Tana Toraja**	**26.73**	**274**	P	P	00 17 28.3	+8.2
BBOO	**Buckleboo**	**28.69**	**199**	*e*P	**P**	**00 17 37.0**	**-0.3**
	245nm,2.6s						
MBWA	**Marble Bar**	**30.16**	**237**	*e*P	**P**	**00 17 49.8**	**-0.8**
	46nm,1.6s						
FORT	**Forrest**	**30.39**	**213**	*e*P	**P**	**00 17 50.8**	**-1.6**
	32nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**31.20**	**39**	T	T	00 51 07.1	
	baz=220,slow=74,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**31.21**	**39**	T	T	00 51 05.3	
	baz=220,slow=74,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**31.22**	**39**	T	T	00 51 06.4	
	baz=220,slow=74,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**32.24**	**38**	T	T	00 52 22.4	
	baz=219,slow=76,SNR=8.7						
H11N3	**WAKE ISLAND Hy**	**32.25**	**38**	T	T	00 52 23.5	
	baz=219,slow=76,SNR=10.0						
H11N2	**WAKE ISLAND Hy**	**32.26**	**38**	T	T	00 52 23.7	
	baz=219,slow=76,SNR=14						
JCJ	**Chichijima**	**32.85**	**353**	LR	LR	00 29 29.4	
	comp=Z,42nm,21.7s,baz=124,slow=32						
TWG	**Pinlang**	**37.70**	**320**	*e*P	**P**	**00 18 54.3**	**-1.4**
	90nm,0.3s						
YHNB	**Yeheng**	**38.84**	**322**	*e*P	**P**	**00 19 04.9**	**-0.5**
	32nm,1.1s						
URZ	**Urewera**	**42.70**	**144**	LR	LR	00 39 11.9	
	comp=Z,85nm,18.0s,baz=325,slow=38						
MJAR	**Matsushiro Arr**	**42.72**	**350**	P	**P**	**00 19 36.4**	**-0.6**
	3.8nm,0.9s,baz=182,slow=8.7,SNR=6.3						
MJAR				LR	LR	00 35 43.9	
	comp=Z,30nm,20.0s,baz=120,slow=34						
MAJO	**Matsushiro**	**42.72**	**350**	*e*P	**P**	**00 19 36.4**	**-0.6**
	14nm,1.3s						
BKZ	**Black Stump Fm**	**42.95**	**145**	*e*P	**P**	**00 19 40.0**	**+1.0**
	85nm,1.8s						
RPZ	**Rata Peaks**	**43.61**	**154**	LR	LR	00 35 59.8	
	comp=Z,152nm,22.0s,baz=336,slow=33						
RPZ	**Rata Peaks**	**43.61**	**154**	*e*P	**P**	**00 19 45.0**	**+0.8**
	355nm,2.2s						
QIZ	**Qiongzhong**	**43.67**	**305**	P	**P**	**00 19 45.4**	**+0.4**
QIZ				pP	**pP**	**00 20 01.3**	**-2.1**
QIZ				sP	**sP**	**00 20 08.3**	**-3.6**
QIZ				S	**S**	**00 26 11.9**	**+2.2**
QIZ				PMZ			
	13nm,1.6s						
BFZ	**Birch Farm**	**43.87**	**147**	*e*P	**P**	**00 19 46.2**	**-0.1**
	68nm,1.3s						
NJ2	**Nanjing**	**45.84**	**327**	*e*P	**P**	**00 20 03.4**	**+1.3**
NJ2				PMZ			
	30nm,0.7s						
KSRS	**Korea Array**	**46.28**	**339**	P	**P**	**00 20 04.5**	**-0.9**
	7.6nm,0.9s,baz=158,slow=9.5,SNR=30						
KSRS				LR	LR	00 37 46.1	
	comp=Z,65nm,20.1s,baz=180,slow=34						
KS15	**Wonju Array Si**	**46.28**	**339**	*e*P	**P**	**00 20 04.5**	**-1.0**
KSAR	**Wonju Array Be**	**46.28**	**339**	P	**P**	**00 20 04.5**	**-1.0**
KS01	**Wonju Array Si**	**46.31**	**339**	*e*P	**P**	**00 20 05.4**	**-0.3**
COCO	**West Island**	**49.43**	**259**	*e*P	**P**	**00 20 29.7**	**-0.4**
	267nm,0.7s						
USRK	**Ussuriysk Ar.**	**51.35**	**347**	P	**P**	**00 20 44.7**	**+0.6**
	2.2nm,0.6s,baz=186,slow=6.5,SNR=7.2						
KMI	**Kunming**	**52.41**	**308**	P	**P**	**00 20 53.8**	**+1.1**
KMI				PMZ			
	12nm,0.9s						
CM31	**Chiang Mai Arr**	**52.66**	**298**	*e*P	**P**	**00 20 55.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**52.66**	**298**	P	**P**	**00 20 55.1**	**+0.7**
	1.8nm,0.4s,baz=120,slow=5.8,SNR=12						
CMAR				LR	LR	00 45 27.4	
	comp=Z,10nm,18.3s,baz=175,slow=38						
CD2	**Chengdu**	**54.70**	**314**	*e*P	**P**	**00 21 09.0**	**-0.1**
CD2				pP	**pP**	**00 21 26.8**	**-1.3**
CD2				PcP	**PcP**	**00 22 10.6**	**-0.5**
CD2				PP	**PP**	**00 23 12.3**	**-0.2**
CD2				PcS	**PcS**	**00 26 10.4**	**-0.6**
CD2				S	**S**	**00 28 45.0**	**+1.0**
CD2				sS	**sS**	**00 29 15.8**	**-0.5**
CD2				SS	**SS**	**00 32 30.4**	**+2.2**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.2s						
HHC	**Hu-ho-hao-te**	**56.30**	**329**	*e*P	**P**	**00 21 19.5**	**-1.0**
HHC				pP	**pP**	**00 21 39.1**	**-0.5**
HHC				sP	**sP**	**00 21 46.8**	**-1.2**
HHC				S	**S**	**00 29 02.8**	**-2.4**
HHC				PMZ			
	17nm,1.0s						
HHC				PMZ			
	66nm,7.3s						
HHC				LN			
	200nm,15.9s						
HHC				LE			
	190nm,15.5s						
HHC				LZ			
	140nm,15.7s						
LZH	**Lanzhou**	**57.65**	**319**	*e*P	P	00 21 26.3	-3.9
LZH				pP	pP	00 21 44.5	-4.8
LZH				sP	sP	00 21 53.0	-4.7
LZH				*e*PP	**PP**	**00 23 36.5**	**-2.4**
LZH				PMZ			
	21nm,1.3s						
LZH				PMZ			
	92nm,6.8s						
LZH				LN			
	410nm,14.7s						
LZH				LE			
	390nm,15.0s						
LZH				LZ			
	510nm,19.0s						
PETK	**Petropavlovsk-**	**59.33**	**8**	P	**P**	**00 21 42.6**	**+1.2**
	1.8nm,0.4s,baz=158,slow=12,SNR=4.0						
PETK				LR	LR	00 43 03.0	
	comp=Z,82nm,22.0s,baz=208,slow=32						
PEA2	**Petropavlovsk-**	**59.33**	**8**	*e*P	**P**	**00 21 42.6**	**+1.2**
GTA	**Gaotai**	**62.18**	**320**	*e*P	**P**	**00 22 01.9**	**+0.7**
GTA				pP	**pP**	**00 22 20.8**	**+0.3**
GTA				sP	**sP**	**00 22 29.8**	**+0.9**
GTA				S	**S**	**00 30 21.3**	**+0.1**
GTA				sS	**sS**	**00 30 54.6**	**+0.4**
GTA				SS	**SS**	**00 34 28.1**	**+2.4**
GTA				PMZ			
	5.0nm,0.9s			

WRH	**Wood River Hil**	**84.79**	**23**	*e*P	**P**	**00 24 12.8**	**-0.3**
	8.1nm,1.0s							
CCB	**Clear Creek Bu**	**84.97**	**23**	*e*P	**P**	**00 24 13.6**	**-0.4**
	6.3nm,0.8s							
COLD	**Coldfoot**	**85.21**	**20**	*e*P	**P**	**00 24 16.6**	**+1.4**
	3.8nm,0.9s							
IL1	**Eielson Array**	**85.39**	**23**	*e*P	**P**	**00 24 14.5**	**-1.6**
ILAR	**Eielson Array**	**85.39**	**23**	P	**P**	**00 24 15.2**	**-1.0**
	5.3nm,0.7s,baz=256,slow=5.0,SNR=64							
ILAR				LR	LR	00 57 10.0		
	comp=Z,34nm,20.8s,baz=294,slow=32							
ILB	**Eielson Array**	**85.39**	**23**	*e*P	**P**	**00 24 15.2**	**-1.0**
BVAR	**Borovoye Array**	**86.22**	**324**	P	**P**	**00 24 19.1**	**-1.4**
	2.3nm,0.8s,baz=104,slow=6.3,SNR=14							
BRVK	**Borovoye**	**86.29**	**324**	*e*P	**P**	**00 24 17.9**	**-3.0**
	2.0nm,0.9s							
EGAK	**Eagle**	**87.68**	**24**	*e*P	**P**	**00 24 27.9**	**+0.6**
	86nm,2.8s							
DAWY	**Dawson**	**88.19**	**25**	*e*P	**P**	**00 24 31.4**	**+1.5**
	6.7nm,0.9s							
SYO	**Syowa Base**	**90.72**	**200**	‖*e*P	**P**	**00 24 41.4**	**-0.1**
YBH	**Yreka Blue Hor**	**94.33**	**49**	P	**P**	**00 24 59.4**	**+0.5**
	1.5nm,0.8s,baz=8.6,slow=3.3,SNR=3.8							
BEVT	**Boeing Everett**	**95.00**	**42**	*e*P	**P**	**00 24 59.6**	**-2.0**
NV01	**Mina Array Sit**	**97.56**	**52**	*e*P	Pdif	00 25 15.0	+1.1
NVAR	**Mina Array Bea**	**97.56**	**52**	P	Pdif	00 25 15.1	+1.1
	0.7nm,0.7s,baz=255,slow=6.6,SNR=8.8							
TOA0	**Torodi Ar. Sit**	**144.53**	**285**	*e*PKPdf	**PKPab**	**00 31 14.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**144.53**	**285**	PKP	**PKPab**	**00 31 14.3**	**-0.5**
	3.9nm,0.9s,baz=80,slow=2.7,SNR=23							
SAML	**Samuel**	**147.03**	**116**	*e*PKPbc	**PKPbc**	**00 31 23.1**	**+0.4**
DBIC	**Dimbokro**	**151.51**	**273**	PKPbc	**PKPbc**	**00 31 31.5**	**-2.4**
	5.5nm,1.0s,baz=230,slow=8.3,SNR=3.9							
BDFB	**Brasilia**	**154.40**	**146**	PKPbc	**PKPbc**	**00 31 39.4**	**-0.9**
	2.1nm,0.5s,baz=188,slow=3.6,SNR=7.0							

IDC ***23*** *00:16:58.5±1.3, 32.°61N×85.°45E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.4/41, mbtmp3.5/8, ML3.1/2, MS3.3/2, Ms1 3.3/2, ms1mx2.6/27, Error ellipse: s-maj=46.4km s-min=20.4km az=62.0*

ISCJB ***23*** *00:17:01.6±1.1, 32.°7N±0.°1×85.°4E±0.°3, h33km, mb3.5/6, MS3.3/2, Error ellipse: s-maj=34.6km s-min=15.4km az=153.9*

ISC 23 00:17:03.9±1.5,**32.°7N**±0.°2×**85.°5E**±0.°3,**h35**km,**n10,** σ**1s05/8,mb3.6**/6,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.27**	**351**	Pn	**Pn**	**00 20 22.8**	**-0.5**
	0.2nm,0.3s,baz=190,slow=16,SNR=4.4						
KURBB	**Kurchatov Arra**	**18.61**	**346**	P	**P**	**00 21 17.4**	**-0.6**
	0.0nm,0.3s,baz=159,slow=10,SNR=4.7						
ZALV	**Zalesovo Beam**	**21.23**	**359**	P	**P**	**00 21 45.3**	**-1.2**
	0.6nm,0.5s,baz=178,slow=9.8,SNR=3.0						
SONM	**Songino Array**	**21.88**	**40**	P	**P**	**00 21 55.0**	**+1.3**
	0.7nm,0.7s,baz=224,slow=10,SNR=4.8						
USRK	**Ussuriysk Ar.**	**37.74**	**59**	LR	LR	00 41 03.7	
	comp=Z,55nm,18.6s,baz=102,slow=38						
FINES	**FINESS Array B**	**47.31**	**326**	P	**P**	**00 25 34.4**	**+0.8**
	0.7nm,0.7s,baz=96,slow=9.6,SNR=4.3						
NOA	**NORSAR Array B**	**54.46**	**325**	P	**P**	**00 26 28.4**	**+0.9**
	0.4nm,0.6s,baz=86,slow=7.4,SNR=3.8						
KEST	**Kesra**	**61.48**	**296**	LR	LR	01 00 24.3	
	comp=Z,16nm,19.0s,baz=302,slow=42						
WRA	**Warramunga Arr**	**70.17**	**131**	P	**P**	**00 28 12.6**	**-0.6**
	0.4nm,0.5s,baz=326,slow=6.4,SNR=3.1						
ASAR	**Alice Springs**	**72.66**	**134**	P	**P**	**00 28 27.9**	**-0.3**
	0.5nm,0.7s,baz=318,slow=5.5,SNR=4.3						

IDC 23 00:22:05.3±2.1,**12.°75S**×**167.°07E,h0**km,**mb3.9**/4, **mb1 4.1**/4,**mb1mx3.7**/34,**mbtmp3.9**/4,**MS3.2**/1,**Ms1 3.2**/1, **ms1mx2.7**/28,**Error ellipse: s-maj=123.4km s-min=26.7km az=137.0,Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.17**	**227**	P	P	00 28 17.7	+0.4
	3.2nm,0.7s,baz=54,slow=8.4,SNR=7.1						
WRA	**Warramunga Arr**	**32.17**	**253**	P	P	00 28 35.0	-0.1
	0.3nm,0.4s,baz=80,slow=8.6,SNR=3.1						
ASAR	**Alice Springs**	**33.24**	**246**	P	P	00 28 44.5	0.0
	0.8nm,0.6s,baz=76,slow=9.1,SNR=14						
JOW	**Kunigami**	**54.47**	**317**	LR	LR	00 53 13.9	
	comp=Z,25nm,21.1s,baz=137,slow=34						
ILAR	**Eielson Array**	**84.71**	**18**	P	P	00 34 41.8	+0.9
	0.5nm,0.6s,baz=232,slow=5.6,SNR=6.6						
ARCES	**ARCESS Array B**	**118.29**	**346**	PKP	PKPdf	00 40 52.2	-1.9
	1.8nm,0.8s,baz=81,slow=2.8,SNR=4.3						
FINES	**FINESS Array B**	**123.82**	**339**	PKP	PKPdf	00 41 04.6	-0.3
	1.9nm,1.1s,baz=116,slow=3.2,SNR=2.9						

ISCJB ***23*** *00:33:33.6±1.0, 51.°53N±0.°05×16.°00E±0.°05, h0km, Error ellipse: s-maj=6.9km s-min=3.7km az=22.6*

CSEM ***23*** *00:33:34.5±0.6, 51.°55N×16.°02E, h2km, ML2.6/7, Error ellipse: s-maj=8.5km s-min=4.3km az=4.0*

PRU ***23*** *00:33:35.9, 51.°53N×15.°98E, h0km*

ISC 23 00:33:35.5±1.6,**51.°53N**±0.°07×**16.°00E**±0.°04,**h0**km,**n23,** σ**0s34/46,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**165**	*e*Pg	**Pg**	**00 33 49.7**	**+0.6**
KSP				*e*Sg	**Sg**	**00 33 59.2**	**+0.9**
UPC	**Upice**	**1.02**	**179**	*e*PG	**Pg**	**00 33 55.0**	**0.0**
UPC				*e*SG	**Sg**	**00 34 08.4**	**+0.2**
	comp=Z,3.8nm,0.2s						
UPC	**Upice**	**1.02**	**179**	Pg	**Pg**	**00 33 55.0**	**0.0**
UPC				Sg	**Sg**	**00 34 08.4**	**+0.2**
	3.8nm,0.2s						
DPC	**Dobruska-Polom**	**1.20**	**170**	*e*PG	**Pg**	**00 33 58.0**	**-0.4**
DPC				*e*SG	**Sg**	**00 34 13.9**	**0.0**
	comp=Z,4.1nm,0.3s						
DPC	**Dobruska-Polom**	**1.20**	**170**	Pg	**Pg**	**00 33 58.0**	**-0.4**
DPC				Sg	**Sg**	**00 34 13.9**	**0.0**
	4.1nm,0.3s						
PVCC	**Panska Ves**	**1.35**	**223**	*e*PG	**Pg**	**00 34 01.2**	**0.0**
PVCC				*e*SG	**Sb**	**00 34 19.7**	**+0.4**
	comp=Z,15nm,0.2s						
PVCC	**Panska Ves**	**1.35**	**223**	Pg	**Pg**	**00 34 01.2**	**0.0**
PVCC				Sg	**Sb**	**00 34 19.7**	**+0.4**
	15nm,0.2s						
BRG	**Berggiesshubel**	**1.45**	**244**	PG	**Pb**	**00 34 03.3**	**0.0**
BRG				SG	**Sn**	**00 34 22.8**	**+0.2**
	16nm,0.4s						
KRLC	**Kraliky**	**1.54**	**161**	*e*PG	**Pn**	**00 34 04.3**	**+0.1**
KRLC				*e*SG	**Sn**	**00 34 24.7**	**-0.2**
KRLC	**Kraliky**	**1.54**	**161**	Pg	**Pn**	**00 34 04.3**	**+0.1**
KRLC				Sg	**Sn**	**00 34 24.7**	**-0.2**
GOPC	**GO Pecny, Ondr**	**1.79**	**206**	*e*PG	**Pb**	**00 34 08.9**	**-0.2**
GOPC				*e*SG	**Sg**	**00 34 33.0**	**+0.1**
	comp=Z,2.5nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.79**	**206**	Pg	**Pb**	**00 34 08.9**	**-0.2**
GOPC				Sg	**Sg**	**00 34 33.0**	**+0.1**
	2.5nm,0.2s						
PRU	**Pruhonice**	**1.80**	**212**	*e*PN	**Pn**	**00 34 07.4**	**-0.3**
PRU				*e*PG	**Pb**	**00 34 09.1**	**-0.1**
PRU				*e*SG	**Sg**	**00 34 32.9**	**-0.2**
	comp=Z,3.1nm,0.3s						
PRU	**Pruhonice**	**1.80**	**212**	Pn	**Pn**	**00 34 07.4**	**-0.3**
PRU	**Pruhonice**	**1.80**	**212**	Pg	**Pb**	**00 34 09.1**	**-0.1**
PRU				Sg	**Sg**	**00 34 32.9**	**-0.2**
	3.1nm,0.3s						
CLL	**Collm**	**1.89**	**264**	*e*Pg	**Pn**	**00 34 09.0**	**+0.1**
CLL				*e*Sg	**Sg**	**00 34 36.0**	**-0.1**
	comp=Z,5.0nm,0.5s						
MORC	**Moravsky Berou**	**2.01**	**150**	*e*Sg	**Sg**	**00 34 39.5**	**-0.5**
OKC	**Ostrava-Krasne**	**2.18**	**140**	*e*PG	**Pb**	**00 34 15.8**	**+0.1**
OKC				*e*SG	**Sg**	**00 34 44.8**	**-0.5**
OKC	**Ostrava-Krasne**	**2.18**	**140**	Pg	**Pb**	**00 34 15.8**	**+0.1**
OKC				Sg	**Sg**	**00 34 44.8**	**-0.5**
TREC	**Trest**	**2.26**	**188**	*e*PN	**Pn**	**00 34 14.2**	**+0.1**
TREC				*e*PG	**Pb**	**00 34 17.1**	**0.0**
TREC				*e*SG	**Sg**	**00 34 47.8**	**-0.2**
	comp=Z,2.1nm,0.2s						
TREC	**Trest**	**2.26**	**188**	Pn	**Pn**	**00 34 14.2**	**+0.1**
KHC	**Kasperske Hory**	**2.86**	**214**	*e*PN	**Pn**	**00 34 22.3**	**0.0**
KHC				*e*PG	**Pb**	**00 34 28.1**	**+0.8**
KHC				*e*SN	**Sn**	**00 34 56.5**	**-0.9**
KHC				*e*SG	**Sg**	**00 35 06.9**	**-0.3**
	comp=Z,1.4nm,0.3s						
KHC	**Kasperske Hory**	**2.86**	**214**	Pn	**Pn**	**00 34 22.3**	**0.0**

IPEC ***23*** *00:34:50.4±0.2, 50.°12N×19.°16E, h1km, ML1.5/3, Error ellipse: s-maj=2.8km s-min=1.1km az=164.0*

PRU ***23*** *00:34:50.4, 50.°17N×19.°08E, h0km*

CSEM 23 00:34:49.1±0.3,**50.°20N**×**19.°10E,h2**km,**ML2.4**/11,**Error ellipse: s-maj=7.7km s-min=3.3km az=10.0,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.45**	**87**	*e*Pg	Pg	00 34 58.4	+0.7
OJC				*e*Sg	Sg	00 35 04.3	+0.7
OJC	**Ojcow**	**0.45**	**87**	*e*Pg	Pg	00 34 58.4	+0.7
OJC	**Ojcow**	**0.45**	**87**	*e*Sg	Sg	00 35 04.3	+0.7
OKC	**Ostrava-Krasne**	**0.71**	**240**	*e*PG	Pb	00 35 03.9	-0.3
OKC				*e*SG	Sg	00 35 12.5	+0.5
	comp=Z,8.5nm,0.4s						
OKC	**Ostrava-Krasne**	**0.71**	**240**	Pg	Pb	00 35 03.9	-0.3
OKC				Sg	Sg	00 35 12.5	+0.5
	8.5nm,0.4s						
LANS	**Liptovska Anna**	**1.07**	**167**	*e*Sg	Sg	00 35 23.3	-0.4
MORC	**Moravsky Berou**	**1.09**	**248**	*e*Pg	Pn	00 35 11.6	+0.1
	baz=71						
MORC				*e*Sg	Sg	00 35 24.7	+0.4
	8.4nm,0.3s,baz=71						
NIE	**Niedzica**	**1.10**	**134**	*e*Pg	Pg	00 35 09.8	-0.5
NIE				*e*Sg	Sb	00 35 25.4	-0.5
NIE	**Niedzica**	**1.10**	**134**	*e*Pg	Pg	00 35 09.8	-0.5
NIE	**Niedzica**	**1.10**	**134**	*e*Sg	Sb	00 35 25.4	-0.5
KRLC	**Kraliky**	**1.50**	**266**	*e*PG	Pb	00 35 17.6	-0.1
KRLC				*e*SG	Sg	00 35 38.5	+1.1
KRLC	**Kraliky**	**1.50**	**266**	Pg	Pb	00 35 17.6	-0.1
KRLC				Sg	Sg	00 35 38.5	+1.1
STHS	**Stebnicka Huta**	**1.59**	**118**	*e*PN	Pg	00 35 19.6	-0.1
STHS				*e*SN	Sg	00 35 42.2	+1.9
DPC	**Dobruska-Polom**	**1.79**	**276**	*e*PG	Pb	00 35 23.0	+0.3
DPC				*e*SG	Sg	00 35 47.4	+0.6
	comp=Z,5.0nm,0.3s						
DPC	**Dobruska-Polom**	**1.79**	**276**	Pg	Pb	00 35 23.0	+0.3
DPC				Sg	Sg	00 35 47.4	+0.6
	5.0nm,0.3s						
VRAC	**Vranov**	**1.85**	**242**	*e*Pn	Pb	00 35 23.0	-0.7
	baz=63						
VRAC				*e*Sg	Sg	00 35 48.4	-0.3
	3.6nm,0.3s,baz=63						
KECS	**Kecovo**	**1.94**	**152**	*e*Pn	Pn	00 35 22.4	-0.7
KECS				*e*Sn	Sn	00 35 48.0	0.0
KECS	**Kecovo**	**1.94**	**152**	*e*PN	Pn	00 35 22.4	-0.7
KECS				*e*SN	Sn	00 35 48.0	0.0
UPC	**Upice**	**2.00**	**280**	*e*PG	Pg	00 35 27.0	-0.6
UPC				*e*SG	Sg	00 35 54.9	+1.3
	comp=Z,1.3nm,0.3s						
UPC	**Upice**	**2.00**	**280**	Pg	Pg	00 35 27.0	-0.6
UPC				Sg	Sg	00 35 54.9	+1.3
	1.3nm,0.3s						
KRUC	**Moravsky**	**2.09**	**238**	*e*Pn	Pn	00 35 26.5	+1.3
	baz=58						
KRUC				*e*Sg	Sg	00 35 55.7	-0.7
	1.7nm,0.3s,baz=58						
KOLS	**Kolonicke sedl**	**2.42**	**120**	*e*Sg	Sg	00 36 06.6	-0.3
KOLS	**Kolonicke sedl**	**2.42**	**120**	*e*SG	Sg	00 36 06.6	-0.3
TREC	**Trest**	**2.51**	**250**	*e*PG	Pg	00 35 36.7	-0.6
TREC				*e*SG	Sg	00 36 09.2	-0.7
	comp=Z,2.3nm,0.3s						
TREC	**Trest**	**2.51**	**250**	Pg	Pg	00 35 36.7	-0.6
TREC				Sg	Sg	00 36 09.2	-0.7
	2.3nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.79**	**266**	*e*SG	Sg	00 36 19.0	0.0
	comp=Z,2.7nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.79**	**266**	Sg	Sg	00 36 19.0	0.0
	2.7nm,0.4s						
PVCC	**Panska Ves**	**2.92**	**278**	*e*SG	Sg	00 36 23.7	+0.7
	comp=Z,5.1nm,0.3s						
PVCC	**Panska Ves**	**2.92**	**278**	Sg	Sg	00 36 23.7	+0.7
	5.1nm,0.3s						
PRU	**Pruhonice**	**2.94**	**268**	*e*PG	Pg	00 35 44.8	-0.7
PRU				*e*SG	Sg	00 36 23.2	-0.5
	comp=Z,2.7nm,0.6s						
PRU	**Pruhonice**	**2.94**	**268**	Pg	Pg	00 35 44.8	-0.7
PRU				Sg	Sg	00 36 23.2	-0.5
	2.7nm,0.6s						
BRG	**Berggiesshubel**	**3.36**	**284**	SG	Sg	00 36 39.9	+2.8
	2.1nm,0.6s						
KHC	**Kasperske Hory**	**3.74**	**256**	*e*PG	Pg	00 35 58.9	-2.0
KHC				*e*SG	Sg	00 36 49.0	-0.5
	comp=Z,2.0nm,0.5s						
KHC	**Kasperske Hory**	**3.74**	**256**	Pg	Pg	00 35 58.9	-2.0
KHC				Sg	Sg	00 36 49.0	-0.5
	2.0nm,0.5s						

IDC ***23*** *00:48:42.4±1.2, 7.°42S×13.°57W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/21, mbtmp3.7/3, Error ellipse: s-maj=49.9km s-min=13.2km az=135.0*

ISC 23 00:48:43.4±1.1,**7.°5S**±0.°1×**13.°56W**±0.°10,**h10**km,**n9,** σ**0s73/12,mb3.7**/3,**Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N1	**ASCENSION HYDR**	**0.97**	**250**	Pn	**Pn**	**00 49 03.4**	**+0.6**
H10N1				Sn	**Sb**	**00 49 14.7**	**-0.1**
H10N1				T	T	00 50 17.1	
	baz=35,slow=75						
H10N2	**ASCENSION HYDR**	**0.97**	**251**	Pn	**Pn**	**00 49 03.4**	**+0.6**
H10N2				Sn	**Sg**	**00 49 14.7**	**+0.1**
H10N2				T	T	00 50 15.6	
	baz=35,slow=75						
H10N3	**ASCENSION HYDR**	**0.99**	**251**	Pn	**Pn**	**00 49 03.7**	**+0.6**
H10N3				Sn	**Sg**	**00 49 15.2**	**0.0**
H10N3				T	T	00 50 18.0	
	baz=35,slow=75						
H10S1	**ASCENSION HYDR**	**1.78**	**217**	Pn	**Pb**	**00 49 15.3**	**-0.7**
H10S1				T	T	00 51 22.2	
	baz=44,slow=74,SNR=39						
H10S2	**ASCENSION HYDR**	**1.79**	**217**	Pn	**Pn**	**00 49 15.2**	**+1.0**
H10S2				T	T	00 51 32.1	
	baz=44,slow=74,SNR=34						
H10S3	**ASCENSION HYDR**	**1.79**	**217**	Pn	**Pb**	**00 49 15.4**	**-0.8**
H10S3				T	T	00 51 29.4	
	baz=44,slow=74,SNR=33						
TORD	**Torodi Ar. Bea**	**25.52**	**37**	P	**P**	**00 54 12.3**	**0.0**
	0.9nm,0.5s,baz=218,slow=10,SNR=10						
GERES	**GERESS Array B**	**61.01**	**20**	P	**P**	**00 58 56.2**	**-0.9**
	0.2nm,0.4s,baz=210,slow=7.6,SNR=4.3						
FINES	**FINESS Array B**	**75.35**	**18**	P	**P**	**01 00 27.5**	**+0.8**
	0.6nm,0.6s,baz=176,slow=5.3,SNR=4.7						

WEL 23 00:49:39.6±0.4,**45.°43S**×**166.°75E,h12**km,**ML3.9**/14, **2C-1D,Error ellipse: s-maj=3.5km s-min=2.2km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.29**	**100**	P*	Pg	00 49 45.7	+0.2
DCZ				S*	Sg	00 49 50.0	+0.5
DCZ				AML	AML	00 49 50.9	
DCZ				AML	AML	00 49 51.0	
DCZ				AML	AML	00 49 51.3	
WHZ	**Wether Hill Ro**	**0.96**	**119**	‖P*	Pg	00 49 57.1	-1.0
WHZ				AML	AML	00 50 14.2	
WHZ				AML	AML	00 50 14.3	
MLZ	**Mavora Lakes**	**1.00**	**86**	P*	Pb	00 49 56.4	-2.6
MLZ				S*	Sg	00 50 10.4	-1.8
MLZ				AML	AML	00 50 12.1	
APZ	**The Paps**	**1.65**	**149**	PN	Pn	00 50 09.0	+0.6
APZ				AML	AML	00 50 34.3	
APZ				AML	AML	00 50 35.7	
WKZ	**Wanaka**	**1.71**	**70**	PN	Pn	00 50 08.4	-0.9
WKZ				AML	AML	00 50 37.6	
WKZ				AML	AML	00 50 37.6	
WKZ				AML	AML	00 50 39.6	
EAZ	**Earnscleugh**	**1.81**	**85**	⇑PN	Pn	00 50 10.2	-0.5
EAZ				AML	AML	00 50 39.4	
EAZ				AML	AML	00 50 40.4	
JCZ	**Jackson Bay**	**1.97**	**47**	PN	Pn	00 50 13.2	+0.2
JCZ				AML	AML	00 50 44.0	
JCZ				AML	AML	00 50 45.5	
SYZ	**Scrubby Hill**	**2.00**	**125**	⇑PN	Pn	00 50 13.1	-0.1
SYZ				AML	AML	00 50 41.9	
SYZ				AML	AML	00 50 45.4	
SYZ				AML	AML	00 50 57.1	
SYZ				AML	AML	00 50 57.2	
TUZ	**Tuapeka**	**2.09**	**106**	PN	Pn	00 50 13.8	-0.6
LBZ	**Lake Benmore**	**2.65**	**68**	PN	Pn	00 50 20.3	-1.9
LBZ				AML	AML	00 50 58.0	
LBZ				AML	AML	00 50 58.5	
LBZ				AML	AML	00 50 58.5	
HHSZ	**Highcliff Hill**	**2.73**	**101**	PN	Pn	00 50 23.0	-0.3
ODZ	**Otahua Downs**	**2.78**	**83**	PN	Pn	00 50 22.0	-1.9
FOZ	**Fox Glacier**	**2.81**	**49**	PN	Pn	00 50 22.3	-2.0
FOZ				AML	AML	00 51 12.1	
FOZ				AML	AML	00 51 12.3	
RPZ	**Rata Peaks**	**3.52**	**62**	PN	Pn	00 50 32.5	-1.6
RPZ				AML	AML	00 51 20.0	
RPZ				AML	AML	00 51 21.6	
WVZ	**Waitaha Valley**	**3.70**	**52**	PN	Pn	00 50 33.1	-3.5
WVZ				AML	AML	00 51 42.2	
OXZ	**Oxford**	**4.33**	**63**	PN	Pn	00 50 43.0	-2.3
MQZ	**McQueen's Vall**	**4.55**	**70**	PN	Pn	00 50 46.1	-2.2
LTZ	**Lake Taylor**	**4.77**	**58**	PN	Pn	00 50 49.6	-1.8
LTZ				AML	AML	00 51 46.8	
DSZ	**Denniston Nort**	**5.20**	**47**	PN	Pn	00 50 55.0	-2.2
THZ	**Tophouse**	**5.78**	**53**	PN	Pn	00 51 03.6	-1.6
THZ				AML	AML	00 52 18.0	
QRZ	**Quartz Range**	**6.25**	**45**	PN	Pn	00 51 07.8	-3.8

CSEM ***23*** *01:00:42.9±0.4, 50.°24N×19.°13E, h1km, Error ellipse: s-maj=17.4km s-min=5.2km az=175.0*

PRU 23 01:00:43.4, 50.°13N×19.°15E, h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.43**	**78**	*e*Pg	Pg	01 00 51.4	-0.2
OJC				*e*Sg	Sg	01 00 57.2	0.0
OJC	**Ojcow**	**0.43**	**78**	*e*Pg	Pg	01 00 51.4	-0.2
OJC				*e*Sg	Sg	01 00 57.2	0.0
OKC	**Ostrava-Krasne**	**0.71**	**246**	*e*PG	Pg	01 00 56.5	-0.5
OKC				*e*SG	Sg	01 01 06.4	+0.1
	comp=Z,3.6nm,0.4s						
OKC	**Ostrava-Krasne**	**0.71**	**246**	Pg	Pg	01 00 56.5	-0.5
OKC				Sg	Sg	01 01 06.4	+0.1
	3.6nm,0.4s						
MORC	**Moravsky Berou**	**1.10**	**252**	*e*Pg	Pb	01 01 05.4	+0.1
MORC				*e*Sg	Sb	01 01 19.8	-0.5
KRLC	**Kraliky**	**1.53**	**269**	*e*SG	Sb	01 01 32.2	-0.4
KRLC	**Kraliky**	**1.53**	**269**	Sg	Sb	01 01 32.2	-0.4
DPC	**Dobruska-Polom**	**1.83**	**278**	*e*PG	Pn	01 01 16.4	+0.2
DPC				*e*SG	Sg	01 01 42.0	-0.3
	comp=Z,2.6nm,0.3s						
DPC	**Dobruska-Polom**	**1.83**	**278**	Pg	Pn	01 01 16.4	+0.2
DPC				Sg	Sg	01 01 42.0	-0.3
	2.6nm,0.3s						
UPC	**Upice**	**2.05**	**282**	*e*SG	Sg	01 01 48.8	-0.4
UPC	**Upice**	**2.05**	**282**	Sg	Sg	01 01 48.8	-0.4
GOPC	**GO Pecny, Ondr**	**2.82**	**267**	*e*SG	Sg	01 02 13.2	-1.0
PRU	**Pruhonice**	**2.97**	**269**	*e*SG	Sg	01 02 17.8	-1.1
KHC	**Kasperske Hory**	**3.76**	**257**	*e*SG	Sg	01 02 43.0	-1.2

SJA 23 01:14:51.2±0.5,**28.°82S**×**67.°10W,h145**km±**4**km,**MD3.5, ML2.0,La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**1.20**	**72**	*i* P	Pn	01 15 18.2	+0.8
CYA				*i* S	Sn	01 15 37.7	+0.3
CYA				AML	AML	01 15 38.5	
	comp=Z,15nm,0.3s						
AMOG	**MOGNA**	**2.43**	**210**	*i* P	Pn	01 15 32.0	+0.6
AMOG				*i* S	Sn	01 16 02.5	+0.2
RTLL	**Cerro Villicun**	**2.77**	**205**	*i* P	Pn	01 15 36.4	+0.9
RTLL				*i* P	Pn	01 15 36.4	+0.9
RTLL				*i* S	Sn	01 16 10.1	+0.4
RTCV	**Cerro Valdivia**	**3.27**	**202**	*i* P	Pn	01 15 42.7	+0.8

ISCJB ***23*** *01:33:35.4±0.3, 17.°27N±0.°03×95.°49W±0.°03, h108km±2km, mb4.3/54, Error ellipse: s-maj=4.7km s-min=3.7km az=41.6*

IDC ***23*** *01:33:36.8±0.6, 17.°31N×95.°25W, h110km±4km, mb3.8/17, mb1 4.0/21, mb1mx3.9/37, mbtmp4.3/21, MS2.9/1, Ms1 2.9/1, ms1mx2.3/24, Error ellipse: s-maj=17.6km s-min=11.0km az=52.0*

NEIC ***23*** *01:33:36.6±0.4, 17.°28N×95.°42W, h106km±4km, mb4.4/53, MD4.2(MEX), Error ellipse: s-maj=6.3km s-min=4.4km az=50.0*

MEX ***23*** *01:33:37.1±1.0, 17.°23N×95.°61W, h108km±8km, MD4.2*

ISC 23 01:33:36.1±0.6,**17.°23N**±0.°04×**95.°57W**±0.°03,**h106**km±5km, **n354,**σ**0s99/373,mb4.3**/54,**Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.67**	**102**	*i* P	**Pn**	**01 33 54.3**	**+0.5**
CMIG				*i* S	**Sn**	**01 34 07.0**	**-0.1**
CMIG	**Matias Romero**	**0.67**	**102**	P	**Pn**	**01 33 54.0**	**+0.2**
	686nm,0.3s,baz=244,slow=9.0,SNR=6925						
CMIG				S	**Sn**	**01 34 07.0**	**-0.1**
	2µm,0.3s,baz=119,slow=19,SNR=338						
**O

	baz=13							
534A	**Blanco**	13.02	349	P	Pn	01 36 38.0	+0.9	
	baz=13,SNR=16							
533A	**Kerrville**	13.17	347	P	Pn	01 36 39.1	0.0	
	baz=13							
532A	**Rocksprings**	13.44	344	P	Pn	01 36 42.8	+0.2	
	baz=14							
436A	**Wall Ranch, Ga**	13.53	355	P	Pn	01 36 43.2	-0.5	
	baz=14							
531A	**Rocksprings**	13.66	341	P	Pn	01 36 45.1	-0.3	
	baz=14,SNR=14							
JCT	**Junction City**	13.74	344	P	Pn	01 36 46.9	+0.4	
	baz=14							
JCT	**Junction City**	13.74	344	*e*Pn	Pn	01 36 47.2	+0.7	
434A	**Burnet**	13.75	350	P	Pn	01 36 45.6	-0.9	
	baz=14,SNR=9.2							
433A	**Art**	13.84	347	P	Pn	01 36 46.8	-1.0	
	baz=14,SNR=9.1							
530A	**J-C Ranch, Com**	13.90	339	P	Pn	01 36 49.1	+0.6	
	baz=14							
338A	**Crockett**	14.07	1	P	Pn	01 36 50.1	-0.6	
	baz=14							
339A	**Huntington**	14.07	4	P	Pn	01 36 50.1	-0.6	
	baz=14							
335A	**Moody**	14.09	353	P	Pn	01 36 50.9	-0.1	
	baz=14							
432A	**Menard**	14.12	345	P	Pn	01 36 51.1	-0.3	
	baz=14,SNR=15							
336A	**Riesel**	14.14	356	P	Pn	01 36 50.9	-0.8	
	baz=14							
TXAR	**Lajitas Array**	14.15	330	P	Pn	01 36 53.2	+1.3	
	0.2nm,0.3s,baz=152,slow=13,SNR=19							
431A	**Sonora**	14.16	342	P	Pn	01 36 51.7	-0.3	
	baz=14,SNR=6.7							
529A	**Stev Forest Ra**	14.20	336	P	Pn	01 36 52.8	+0.3	
	baz=14							
334A	**Lometa**	14.25	351	P	Pn	01 36 52.6	-0.4	
	baz=14,SNR=12							
333A	**Richland Sprin**	14.37	348	P	Pn	01 36 54.6	0.0	
	baz=14,SNR=7.1							
430A	**Baggett Ranch,**	14.45	340	P	Pn	01 36 56.7	+1.1	
	baz=14,SNR=12							
NATX	**Nacogdoches**	14.49	3	P	Pn	01 36 55.6	-0.5	
	baz=14							
NATX	**Nacogdoches**	14.49	3	*e*Pn	Pn	01 36 56.6	+0.5	
429A	**Davenport Ranc**	14.53	338	P	Pn	01 36 57.5	+0.8	
	baz=15							
332A	**Millersview**	14.59	346	P	Pn	01 36 57.5	+0.1	
	baz=15,SNR=11							
331A	**San Angelo**	14.70	343	P	Pn	01 36 59.8	+1.0	
	baz=15,SNR=9.6							
238A	**Jacksonville**	14.72	2	P	Pn	01 36 58.5	-0.4	
	baz=15							
WHTX	**Lake Whitney,**	14.80	354	P	Pn	01 37 00.2	+0.2	
	baz=15							
WHTX	**Lake Whitney,**	14.80	354	*e*Pn	Pn	01 36 59.8	-0.2	
	29nm,1.1s							
234A	**Clairette**	14.89	351	P	Pn	01 37 01.3	0.0	
	baz=15,SNR=13							
330A	**Mertzon**	15.01	341	P	Pn	01 37 03.5	+0.8	
	baz=15,SNR=22							
233A	**Rising Star**	15.03	349	P	Pn	01 37 03.5	+0.5	
	baz=15,SNR=18							
232A	**Coleman**	15.06	347	P	Pn	01 37 03.7	+0.4	
	baz=15,SNR=9.3							
136A	**Ennis**	15.21	357	P	Pn	01 37 05.0	-0.1	
	baz=15							
231A	**Bronte**	15.26	344	P	P	01 37 07.3	-1.1	
	baz=15,SNR=16							
137A	**Heron Place, G**	15.30	359	P	Pn	01 37 06.2	-0.2	
	baz=15							
329A	**Wagon Wheel Ra**	15.34	339	P	Pn	01 37 07.7	+0.7	
	baz=15							
135A	**Vickery Place,**	15.35	354	P	Pn	01 37 07.0	0.0	
	baz=15							
138A	**Matatall Enter**	15.37	2	P	Pn	01 37 07.2	-0.1	
	baz=15							
LPIG	**La Paz**	15.39	299	P	P	01 37 11.0	+1.2	
	6.7nm,0.3s,baz=162,slow=7.2,SNR=3.0							
230A	**Sterling City**	15.44	342	P	Pn	01 37 08.3	+0.1	
	baz=16							
134A	**White-Moore Ra**	15.45	352	P	Pn	01 37 08.4	+0.2	
	baz=16							
133A	**Hamilton Ranch**	15.61	349	P	Pn	01 37 10.9	+0.6	
	baz=16,SNR=12							
229A	**Bryant Ranch,**	15.73	340	P	Pn	01 37 12.1	+0.4	
	baz=16							
ABTX	**Abilene, Hawle**	15.77	347	P	Pn	01 37 11.9	-0.3	
	baz=16,SNR=16							
ABTX	**Abilene, Hawle**	15.77	347	*e*Pn	Pn	01 37 12.4	+0.2	
Z38A	**Mt. Pleasant**	15.96	2	P	Pn	01 37 13.9	-0.7	
	baz=16							
131A	**Roby**	15.98	345	P	Pn	01 37 15.3	+0.3	
	baz=16							
130A	**Snyder**	16.06	343	P	Pn	01 37 15.8	-0.1	
	baz=16							
Z35A	**Perchaven, San**	16.11	355	P	Pn	01 37 16.3	0.0	
	baz=16							
228A	**UT Block 9, Go**	16.13	338	P	Pn	01 37 17.0	+0.2	
	baz=16							
Z34A	**Collier Ranch,**	16.21	353	P	Pn	01 37 17.5	-0.2	
	baz=16							
Z33A	**Whitaker Ranch**	16.25	350	P	Pn	01 37 17.6	-0.5	
	baz=16							
129A	**Stewart Farms,**	16.36	341	P	Pn	01 37 19.9	+0.3	
	baz=16							
Z32A	**Haskell**	16.39	348	P	Pn	01 37 20.1	+0.1	
	baz=16,SNR=32							
Z31A	**Sharp Cattle R**	16.54	346	P	Pn	01 37 21.9	+0.1	
	baz=17,SNR=15							
128A	**Castleberry Fa**	16.55	339	P	Pn	01 37 21.8	-0.1	
	baz=17,SNR=5.4							
Y36A	**Durant**	16.61	358	P	P	01 37 23.2	-0.1	
	baz=17,SNR=5.3							
Y35A	**Marietta**	16.66	356	P	Pn	01 37 23.5	+0.3	
	baz=17,SNR=7.6							
Z30A	**Sanderson Ranc**	16.75	344	P	Pn	01 37 24.1	-0.4	
	baz=17,SNR=7.6							
Y34A	**Reagan Ranch,**	16.77	354	P	Pn	01 37 23.9	-0.7	
	baz=17,SNR=9.7							
Z29A	**Hungry Hill Ra**	16.89	342	P	Pn	01 37 25.6	-0.5	
	baz=17							
Y33A	**Hilltop Ranch,**	16.93	351	P	Pn	01 37 26.1	-0.5	
	baz=17,SNR=6.9							
Y32A	**R-V Farms, Ver**	17.06	349	P	Pn	01 37 28.1	-0.1	
	baz=17,SNR=19							
Z28A	**Tucker Farm, M**	17.13	340	P	P	01 37 29.5	+0.4	
	baz=17,SNR=8.6							
X35A	**Drake**	17.15	356	P	P	01 37 29.5	+0.3	
	baz=17,SNR=9.1							
Y31A	**Rekieta Farm,**	17.19	347	P	P	01 37 29.6	0.0	
	baz=17,SNR=11							
Y30A	**Stafford Cattl**	17.25	345	P	Pn	01 37 30.6	+0.1	
	baz=17							
X36A	**Centrahoma**	17.29	358	P	P	01 37 30.2	-0.5	
	baz=17,SNR=14							
X37A	**Clayton**	17.29	1	P	Pn	01 37 31.5	+0.6	
	baz=17,SNR=23							
MIAR	**Mount Ida**	17.34	6	P	P	01 37 30.8	-0.4	
	baz=17,SNR=19							
MIAR	**Mount Ida**	17.34	6	*e*Pn	P	01 37 30.3	-1.0	
	19nm,0.8s							
X38A	**Whitesboro**	17.38	2	P	Pn	01 37 32.0	0.0	
	baz=17,SNR=34							
X34A	**Smith Ranch, M**	17.42	354	P	Pn	01 37 32.6	+0.1	
	baz=18,SNR=7.1							
X33A	**Lawton**	17.44	352	P	P	01 37 32.5	+0.1	
	baz=18,SNR=5.6							
X32A	**Elmer**	17.44	350	P	Pn	01 37 33.2	+0.4	
	baz=18,SNR=12							
Y29A	**Porterfield Fa**	17.45	343	P	Pn	01 37 32.9	+0.1	
	baz=18							
LRAL	**Lakeview Retre**	17.53	25	*e*Pn	P	01 37 32.0	-1.4	
	4.8nm,0.4s							
Y28A	**McKinney Farm,**	17.66	341	P	Pn	01 37 35.5	0.0	
	baz=18,SNR=8.1							
WMOK	**Wichita Mounta**	17.67	351	*e*Pn	P	01 37 34.6	-0.4	
	0.6nm,0.6s							
UALR	**University of**	17.71	9	*e*Pn	Pn	01 37 36.8	+0.8	
X31A	**McDonald Ranch**	17.77	348	P	Pn	01 37 36.8	0.0	
	baz=18,SNR=8.3							
X30A	**Coker Ranch, T**	17.79	346	P	Pn	01 37 37.5	+0.5	
	baz=18,SNR=6.3							
W38A	**Poteau**	17.79	3	P	Pn	01 37 37.0	0.0	
	baz=18,SNR=9.8							
W37A	**Quinton**	17.84	0	P	Pn	01 37 37.5	0.0	
	baz=18,SNR=15							
W36A	**Wetumka**	17.85	358	P	Pn	01 37 37.6	0.0	
	baz=18,SNR=16							
MSTX	**Muleshoe**	17.88	340	P	Pn	01 37 38.5	+0.3	
	baz=18							
MSTX	**Muleshoe**	17.88	340	*e*P	Pn	01 37 38.2	0.0	
	25nm,0.8s							
W35A	**Tecumseh**	17.89	357	P	Pn	01 37 38.5	+0.4	
	baz=18,SNR=19							
X29A	**Tulia**	18.00	343	P	Pn	01 37 39.7	+0.1	
	baz=18							
W33A	**Caddo, Fort Co**	18.04	352	P	Pn	01 37 40.1	+0.2	
	baz=18							
W34A	**Bridge Creek,**	18.04	354	P	Pn	01 37 39.7	-0.3	
	baz=18							
W32A	**Sentinel**	18.12	350	P	Pn	01 37 41.1	+0.2	
	baz=18,SNR=6.3							
X28A	**Dimmitt**	18.21	342	P	Pn	01 37 42.0	-0.1	
	baz=18							
W31A	**Holland Ranch,**	18.31	349	P	Pn	01 37 43.0	-0.2	
	baz=18,SNR=11							
AMTX	**Amarillo**	18.41	344	P	P	01 37 43.6	+0.5	
	baz=18							
AMTX	**Amarillo**	18.41	344	*e*P	P	01 37 43.6	+0.5	
	13nm,0.8s							
V36A	**Jenks**	18.49	359	P	P	01 37 44.0	+0.2	
	baz=18,SNR=21							
V35A	**Meyer Ranch, C**	18.50	357	P	P	01 37 44.5	+0.6	
	baz=18,SNR=18							
V37A	**Hulbert**	18.58	1	P	P	01 37 44.7	-0.2	
	baz=19,SNR=20							
TUL1	**Leonard**	18.61	359	P	P	01 37 45.5	+0.3	
	baz=19,SNR=11							
TUL1	**Leonard**	18.61	359	*e*P	P	01 37 45.2	0.0	
	23nm,0.7s							
V34A	**Guthrie**	18.61	355	P	P	01 37 45.5	+0.2	
	baz=19,SNR=7.4							
V34A	**Guthrie**	18.61	355	*e*P	P	01 37 45.4	+0.2	
	14nm,0.6s							
V32A	**Arapaho**	18.68	351	P	P	01 37 46.6	+0.7	
	baz=19							
V33A	**Lossen Ranch,**	18.68	353	P	Pn	01 37 46.8	-0.7	
	baz=19,SNR=12							
121A	**Cookes Peak, D**	18.82	326	P	Pn	01 37 49.8	+0.4	
	baz=19,SNR=9.5							
121A	**Cookes Peak, D**	18.82	326	*e*P	Pn	01 37 49.5	+0.1	
	7.7nm,0.6s							
V31A	**Spring Creek L**	18.86	349	P	P	01 37 48.6	+0.6	
	baz=19,SNR=6.0							
V30A	**Spur Ranch, Mi**	19.01	347	P	P	01 37 49.5	-0.2	
	baz=19							
U35A	**Pawnee**	19.09	357	P	P	01 37 50.0	-0.5	
	baz=19,SNR=7.0							
U34A	**Anderson Ranch**	19.21	355	P	P	01 37 51.7	-0.1	
	baz=19							
U34A	**Anderson Ranch**	19.21	355	*e*P	P	01 37 52.8	+1.0	
	26nm,0.8s							
U33A	**Lingo Farm, Me**	19.26	354	P	P	01 37 52.4	+0.1	
	baz=19,SNR=6.7							
V29A	**Stinnett**	19.31	345	P	P	01 37 53.6	+0.7	
	baz=19							
U32A	**Winter Ranch,**	19.32	352	P	P	01 37 53.5	+0.6	
	baz=19,SNR=9.2							
GOGA	**Godfrey**	19.45	32	*e*P	P	01 37 53.4	-0.9	
	12nm,0.6s							
T36A	**Boggs Farm, Ca**	19.76	359	P	P	01 37 57.5	-0.2	
	baz=20,SNR=20							
T34A	**McClaskey Farm**	19.77	356	P	P	01 37 57.5	-0.3	
	baz=20,SNR=15							
T37A	**Cheneyville 18**	19.83	2	P	P	01 37 58.1	-0.3	
	baz=20,SNR=12							
PBMO	**Poplar Bluff**	20.00	12	*e*P	P	01 37 59.9	-0.3	
WVT	**Waverly**	20.04	19	*e*P	P	01 37 59.6	-1.1	
	9.6nm,0.5s							
T32A	**Haddock Ranch,**	20.09	352	P	P	01 38 01.5	+0.2	
	baz=20,SNR=7.4							
T31A	**Randall Ranch,**	20.12	350	P	P	01 38 02.0	+0.4	
	baz=20							
ANMO	**Albuquerque**	20.15	333	P	P	01 38 02.7	+0.5	
	4.0nm,0.7s,baz=135,slow=12,SNR=17							
ANMO	**Albuquerque**	20.15	333	*e*P	P	01 38 02.5	+0.3	
	3.6nm,0.7s							
U27A	**Thompson Grove**	20.17	343	P	P	01 38 02.8	+0.5	
	baz=20							
T30A	**Plains**	20.23	348	P	P	01 38 03.7	+0.9	
	baz=20							
TUC	**Tucson**	20.37	320	*e*P	Pn	01 38 06.2	-1.2	
	4.3nm,0.8s							
S35A	**Otter Creek Ra**	20.39	358	P	P	01 38 03.8	-0.7	
	baz=20,SNR=19							
S36A	**Lake Cedric, C**	20.42	360	P	P	01 38 04.3	-0.5	
	baz=20,SNR=13							
S34A	**Wow Spring**	20.44	356	P	P	01 38 04.1	-0.9	
	baz=20							
S32A	**Newby Ranch, P**	20.61	352	P	P	01 38 07.0	+0.1	
	baz=21							
T28A	**Walsh**	20.64	345	P	P	01 38 07.4	0.0	
	baz=21,SNR=7.0							
T27A	**Campo**	20.74	344	P	P	01 38 08.5	+0.1	
	baz=21,SNR=6.4							
S30A	**Montezuma**	20.79	349	P	P	01 38 09.5	+0.6	
	baz=21							
S29A	**Ulysses**	20.89	348	P	P	01 38 10.8	+0.8	
	baz=21							
R37A	**Teagarden Farm**	21.02	2	P	P	01 38 10.6	-0.7	
	baz=21							
R36A	**Gordon, Harris**	21.02	0	P	P	01 38 11.0	-0.2	
	baz=21							
R35A	**Emporia Munici**	21.02	359	P	P	01 38 10.4	-0.9	
	baz=21							
NHSC	**New Hope**	21.03	38	*e*P	P	01 38 13.2	+1.8	
S28A	**Manter**	21.04	346	P	P	01 38 11.7	+0.1	
	baz=21							
R34A	**Isabella, Hill**	21.05	356	P	P	01 38 10.9	-0.7	
	baz=21							
T26A	**Comanche Natio**	21.09	342	P	P	01 38 12.9	+0.6	
	baz=21,SNR=10							
R33A	**Olander Ranch,**	21.11	355	P	P	01 38 12.6	+0.4	
	baz=21							
TKL	**Tuckaleechee C**	21.14	27	P	P	01 38 10.2	-2.4	
	4.1nm,0.6s,baz=200,slow=9.8,SNR=9.8							
SIUC	**Southern Illin**	21.16	14	*e*P	P	01 38 10.0	-2.7	
	30nm,0.6s							
R31A	**Burdett**	21.27	351	P	P	01 38 14.1	+0.2	
	baz=21							
JSC	**Jenkinsville**	21.28	34	*e*P	P	01 38 12.5	-1.5	
T25A	**Trinidad**	21.31	340	P	P	01 38 15.8	+1.1	
	baz=21,SNR=15							
R30A	**Dighton**	21.38	350	P	P	01 38 16.0	+0.8	
	baz=21							
214A	**Organ Pipe Nat**	21.42	316	P	P	01 38 17.8	+2.1	
	baz=22							
S26A	**Kim**	21.47	343	P	P	01 38 17.4	+1.1	
	baz=22							
Q35A	**Mercer Eighty,**	21.55	359	P	P	01 38 17.4	+0.4	
	baz=22							
Q34A	**Chapman**	21.65	357	P	P	01 38 17.1	-0.8	
	baz=22							
R29A	**Marienthal**	21.67	348	P	P	01 38 18.2	-0.1	
	baz=22							
R28A	**Tribune**	21.73	347	P	P	01 38 19.7	+0.7	
	baz=22							
Q33A	**Connelly Farm,**	21.78	355	P	P	01 38 19.3	-0.1	
	baz=22							
USIN	**University of**	21.79	17	*e*P	P	01 38 20.2	+0.7	
	40nm,0.7s							
KSU1	**Kansas State U**	21.81	358	P	P	01 38 18.8	-0.9	
	baz=22							
KSU1	**Kansas State U**	21.81	358	*e*P	P	01 38 18.5	-1.2	
	14nm,0.6s							
Q32A	**Meitler Ranch,**	21.84	354	P	P	01 38 19.3	-0.7	
	baz=22							
KMSC	**Kings Mountain**	21.90	33	P	P	01 38 18.7	-1.9	
	baz=22,SNR=6.8							
R27A	**Eads**	21.92	345	P	P	01 38 20.7	-0.2	
	baz=22,SNR=6.8							
Q31A	**Ellis**	21.95	352	P	P	01 38 21.0	-0.2	
	baz=22							
TZTN	**Tazewell**	21.99	27	*e*P	P	01 38 21.3	-0.3	
Q29A	**Oakley**	22.09	349	P	P	01 38 23.3	+0.5	
	baz=22,SNR=8.1							
R26A	**Arlington**	22.10	343	P	P	01 38 24.7	+1.8	
	baz=22,SNR=12							
P35A	**Duane Minner,**	22.22	359	P	P	01 38 23.6	-0.4	
	baz=22							
SDCO	**Great Sand Dun**	22.23	339	P	P	01 38 26.4	+2.0	
	baz=22,SNR=5.7							
SDCO	**Great Sand Dun**	22.23	339	*e*P	P	01 38 26.4	+2.0	
	12nm,1.1s							
P34A	**Walnut Farm, R**	22.27	357	P	P	01 38 23.7	-0.8	
	baz=22,SNR=6.6							
P36A	**Good Intent, A**	22.31	1	P	P	01 38 23.8	-1.2	
	baz=22,SNR=5.2							
OLIL	**Olney**	22.40	15	*e*P	P	01 38 24.5	-1.3	
	56nm,0.9s							
WCI	**Wyandotte Cave**	22.45	19	*e*P	P	01 38 24.8	-1.6	
	29nm,0.8s							
P31A	**Stockton**	22.46	352	P	P	01 38 26.6	+0.1	
	baz=22							
P32A	**Huiting Farm,**	22.47	354	P	P	01 38 26.5	-0.1	
	baz=22							
KSCO	**Kaye Shedlock'**	22.56	346	P	P	01 38 27.5	-0.2	
	baz=23							
P30A	**Selden**	22.61	351	P	P	01 38 27.9	-0.1	
	baz=23							
Q26A	**Hugo**	22.70	344	P	P	01 38 30.1	+1.0	
	baz=23							
S22A	**4UR Ranch, Cre**	22.71	336	P	P	01 38 30.5	+1.1	
	baz=23							
P29A	**Atwood**	22.78	349	P	P	01 38 29.9	+0.2	
	baz=23							
O33A	**Hebron**	22.83	356	P	P	01 38 30.1	-0.2	
	baz=23,SNR=6.0							
O34A	**Beatrice**	22.89	358	P	P	01 38 29.5	-1.3	
	baz=23,SNR=7.2							
P28A	**Saint Francis**	22.91	348	P	P	01 38 31.7	+0.7	
	baz=23							
MVCO	**Mesa Verde**	22.94	333	P	P	01 38 32.3	+0.8	
	baz=23							
MVCO	**Mesa Verde**	22.94	333	*e*P	P	01 38 32.9	+1.4	
	3.6nm,0.5s							
WUAZ	**Wupatki**	23.01	325	P	P	01 38 33.5	+1.3	
	baz=23,SNR=6.1							
WUAZ	**Wupatki**	23.01	325	*e*P	P	01 38 34.2	+2.0	
	5.7nm,0.8s							
P27A	**Ficken Ranch,**	23.07	346	P	P	01 38 33.2	+0.6	
	baz=23							
O31A	**Woolen Ranch,**	23.07	353	P	P	01 38 32.6	+0.1	
	baz=23							
O30A	**MW Ranch, Wils**	23.20	351	P	P	01 38 33.6	-0.2	
	baz=23,SNR=6.6							
BLO	**Bloomington**	23.24	18	*e*P	P	01 38 33.2	-0.9	
O29A	**4D Ranch, Culb**	23.26	350	P	P	01 38 34.9	+0.5	
	baz=23							
O28A	**Krutsinger Ran**	23.44	348	P	P	01 38 36.6	+0.5	
	baz=24							
N33A	**J Bar K, Exete**	23.48	356	P	P	01 38 36.2	-0.1	
	baz=24							
N34A	**Lincoln**	23.54	358	P	P	01 38 36.8	0.0	
	baz=24							
N35A	**Tabor**	23.55	360	P	P	01 38 36.8	-0.1	
	baz=24							
O27A	**Beecher Island**	23.65	347	P	P	01 38 38.7	+0.7	
	baz=24,SNR=5.4							
PV01	**Paradox Valley**	23.75	334	*e*P	P	01 38 35.7	-3.2	
PDMCI	**Parker Dam,Lak**	23.78	319	P	P	01 38 41.1	+2.1	
	baz=24							
OTAV	**Otavalo**	23.86	133	*e*P	P	01 38 41.1	+0.7	
	3.3nm,0.8s							
HDIL	**Hopedale**	23.87	12	P	P	01 38 39.1	-0.7	
	baz=24							
HDIL	**Hopedale**	23.87	12	*e*P	P	01 38 39.0	-0.8	
O26A	**Horse Wrangler**	23.89	345	P	P	01 38 41.4	+1.3	
	baz=24							
N29A	**Votaw Ranch, W**	23.91	350	P	P	01 38 41.5	+1.3	
	baz=24,SNR=5.9							
BLA	**Blacksburg**	23.97	31	*e*P	P	01 38 39.6	-1.2	
	25nm,0.9s							
SWSC	**Sam W. Stewart**	24.02	314	P	P	01 38 43.7	+2.5	
	baz=24							
SMCO	**Snowmass**	24.02	338	*e*P	P	01 38 42.5	+0.8	
	18nm,1.2s							
PV04	**Paradox Valley**	24.11	334	*e*P	P	01 38 42.3	+0.2	
ISCO	**Idaho Springs**	24.12	341	P	P	01 38 43.4	+1.0	
	baz=24,SNR=14							
ISCO	**Idaho Springs**	24.12	341	*e*P	P	01 38 43.6	+1.1	
	8.5nm,0.9s							
M35A	**Neola**	24.16	360	P	P	01 38 42.7	+0.4	
	baz=24							
M34A	**Aspy Farms, Fr**	24.21	358	P	P	01 38 43.6	+0.8	
	baz=24							
SFIN	**Lafayette**	24.21	16	P	P	01 38 42.0	-0.8	
	baz=24,SNR=21							
SFIN	**Lafayette**	24.21	16	*e*P	P	01 38 41.5	-1.3	
	39nm,0.7s							
M31A	**Lambtecht Ranc**	24.21	354	P	P	01 38 44.0	+1.1	
	baz=24							
BC3	**Big Chuckawall**	24.22	316	P	P	01 38 44.7	+1.6	
	baz=24							
N27A	**Anderson Farm,**	24.25	347	P	P	01 38 44.0	+0.7	
	baz=24							
OGNE	**Ogallala**	24.28	348	P	P	01 38 44.9	+1.3	
	baz=24,SNR=6.9							
OGNE	**Ogallala**	24.28	348	*e*P	P	01 38 44.9	+1.3	
	45nm,0.8s							
M33A	**Taylor Creek F**	24.30	357	P	P	01 38 43.5	-0.1	
	baz=24							
IRM	**Iron Mountain**	24.33	318	P	P	01 38 46.0	+1.9	
	baz=24							
MONP	**Monument Peak,**	24.42	314	P	P	01 38 47.4	+2.3	
	baz=24							
N26A	**Koester Ranch,**	24.43	346	P	P	01 38 46.2	+1.2	
	baz=24							
M28A	**Bar X Bar Ranc**	24.60	349	P	P	01 38 48.2	+1.7	
	baz=25							
L34A	**Svendsen Farm,**	24.66	359	P	P	01 38 47.5	+0.6	
	baz=25							
BELC	**Belle Mtn. Jos**	24.79	316	P	P	01 38 50.5	+2.1	
	baz=25							
M27A	**Reverse DX Ran**	24.92	348	P	P	01 38 50.5	+1.1	
	baz=25							
L31A	**Butterfield Fa**	25.02	354	P	P	01 38 51.2	+0.9	
	baz=25							
L29A	**Maesberg Ranch**	25.11	351	P	P	01 38 52.5	+1.4	
	baz=25							
M25A	**Palm-Egli Farm**	25.20	345	P	P	01 38 53.6	+1.5	
	baz=25							
N23A	**Red Feather La**	25.23	341	P	P	01 38 53.5	+1.0	
	baz=25							
O20A	**White River Ci**	25.33	337	P	P	01 38 54.3	+1.0	
	baz=25,SNR=5.6							
O20A	**White River Ci**	25.33	337	*e*P	P	01 38 54.3	+1.0	
	4.7nm,0.8s							
MURC	**Murrieta**	25.36	314	P	P	01 38 55.6	+2.1	
	baz=25							
ACSO	**Alum Creek Sta**	25.38	23	*e*P	P	01 38 52.2	-1.3	
	20nm,0.6s							
K30A	**Basset**	25.60	353	P	P	01 38 56.9	+

	5.8nm,0.8s						
ELK	**Elko**	**28.94**	**328**	P	**P**	**01 39 27.3**	**+1.7**
	1.6nm,0.8s,baz=144,slow=6.1,SNR=8.8						
NVAR	**Mina Array Bea**	**29.02**	**321**	P	**P**	**01 39 28.6**	**+2.3**
	4.3nm,0.8s,baz=136,slow=9.3,SNR=28						
NVAR				pP	**pP**	**01 39 51.5**	**+1.7**
	2.2nm,0.8s,baz=135,slow=10,SNR=5.6						
REDW	**Red Top Meadow**	**29.10**	**337**	*e*P	**P**	**01 39 27.7**	**+0.7**
	17nm,1.2s						
H20A	**Greybull**	**29.12**	**342**	P	**P**	**01 39 27.9**	**+0.8**
	baz=29						
SNOW	**Snow King Moun**	**29.15**	**337**	*e*P	**P**	**01 39 28.7**	**+1.2**
	14nm,1.0s						
LOHW	**Long Hollow**	**29.22**	**337**	*e*P	**P**	**01 39 29.0**	**+0.9**
	12nm,1.3s						
TPAW	**Teton Pass**	**29.25**	**337**	*e*P	**P**	**01 39 29.4**	**+1.0**
	6.2nm,0.9s						
MOOW	**Moose Ponds**	**29.39**	**337**	*e*P	**P**	**01 39 30.2**	**+0.7**
	4.1nm,0.8s						
ATAH	**Atahualpa**	**29.57**	**144**	P	**P**	**01 39 29.0**	**-2.6**
	3.8nm,0.3s,baz=26,slow=7.6,SNR=36						
G21A	**Lodge Grass**	**29.57**	**343**	P	**P**	**01 39 31.1**	**+0.2**
	baz=30						
F23A	**Volborg**	**29.57**	**346**	P	**P**	**01 39 31.3**	**+0.4**
	baz=30						
H19A	**Powell**	**29.59**	**340**	P	**P**	**01 39 31.7**	**+0.5**
	baz=30						
E26A	**Carlson Angus**	**29.71**	**350**	P	**P**	**01 39 32.3**	**+0.1**
	baz=30						
D30A	**Buchanan**	**29.91**	**356**	P	**P**	**01 39 33.5**	**-0.4**
	baz=30						
RLMT	**Red Lodge**	**30.09**	**340**	P	**P**	**01 39 36.3**	**+0.6**
	baz=30						
D28A	**Regan**	**30.16**	**353**	P	**P**	**01 39 36.4**	**+0.3**
	baz=30						
D26A	**Manning**	**30.26**	**351**	P	**P**	**01 39 37.2**	**+0.2**
	baz=30						
C30A	**Mose, Pekin**	**30.48**	**356**	P	**P**	**01 39 38.5**	**-0.5**
	baz=30						
HLID	**Hailey**	**30.73**	**333**	P	**P**	**01 39 42.5**	**+1.1**
	baz=31,SNR=11						
HLID	**Hailey**	**30.73**	**333**	*e*P	**P**	**01 39 42.2**	**+0.9**
	5.2nm,0.9s						
SADO	**Sadowa**	**30.73**	**23**	P	**P**	**01 39 39.2**	**-1.9**
	3.3nm,0.6s,baz=231,slow=10,SNR=4.4						
EYMN	**Ely**	**30.82**	**5**	P	**P**	**01 39 40.4**	**-1.5**
	baz=31						
AGMN	**Agassiz Nation**	**30.99**	**360**	P	**P**	**01 39 42.7**	**-0.6**
	baz=31						
AGMN	**Agassiz Nation**	**30.99**	**360**	*e*P	**P**	**01 39 42.0**	**-1.3**
	7.2nm,0.6s						
MCMT	**McKenzie Canyo**	**31.11**	**336**	*e*P	**P**	**01 39 46.4**	**+1.6**
	3.7nm,0.8s						
B30A	**Myrvik Farm, E**	**31.22**	**356**	P	**P**	**01 39 45.3**	**-0.1**
	baz=31						
B29A	**Wagenman Farm,**	**31.31**	**355**	P	**P**	**01 39 46.3**	**+0.2**
	baz=31						
BOZ	**Bozeman (W)**	**31.35**	**338**	P	**P**	**01 39 47.5**	**+0.8**
	baz=31						
A30A	**Hoffart Farm,**	**31.71**	**357**	P	**P**	**01 39 49.5**	**-0.1**
	baz=32,SNR=8.0						
A29A	**Manning Farm,**	**31.75**	**355**	P	**P**	**01 39 49.9**	**-0.2**
	baz=32,SNR=5.4						
LRM	**Limekiln Ridge**	**31.80**	**337**	*e*P	**P**	**01 39 51.6**	**+0.9**
	55nm,1.0s						
A28A	**Rude Farm, Bot**	**31.83**	**354**	P	**P**	**01 39 50.6**	**-0.2**
	baz=32						
C21A	**Desert Coulee**	**31.95**	**345**	P	**P**	**01 39 53.0**	**+1.1**
	baz=32						
A26A	**Wade Farm, Ken**	**32.02**	**352**	P	**P**	**01 39 52.7**	**+0.3**
	baz=32						
B23A	**Brockton**	**32.09**	**348**	P	**P**	**01 39 54.1**	**+1.0**
	baz=32						
A25A	**Svangstu Ranch**	**32.22**	**351**	P	**P**	**01 39 55.2**	**+1.1**
	baz=32						
EGMT	**Eagleton**	**32.84**	**342**	P	**P**	**01 40 00.7**	**+1.0**
	baz=33						
ULM	**Lac du Bonnet**	**32.94**	**360**	P	**P**	**01 39 59.1**	**-1.3**
	3.1nm,0.6s,baz=167,slow=9.2,SNR=4.5						
MSO	**Missoula**	**33.20**	**337**	P	**P**	**01 40 03.3**	**+0.4**
	baz=33						
J04D	**Umpqua Nationa**	**34.34**	**325**	P	**P**	**01 40 14.6**	**+1.7**
	baz=34						
I03D	**Drain, OR**	**35.32**	**324**	P	**P**	**01 40 22.0**	**+1.0**
	baz=35						
NEW	**Newport**	**35.62**	**335**	P	**P**	**01 40 24.4**	**+0.8**
	baz=36						
FFC	**Flin Flon**	**37.75**	**354**	*e*P	**P**	**01 40 41.1**	**-0.4**
	3.9nm,0.6s						
SAML	**Samuel**	**41.25**	**127**	*e*P	**P**	**01 41 09.8**	**-1.3**
	4.1nm,0.9s						
FCC	**Fort Churchill**	**41.48**	**1**	*e*P	**P**	**01 41 11.4**	**-1.0**
LPAZ	**La Paz**	**42.90**	**139**	P	**P**	**01 41 24.9**	**-0.3**
	1.0nm,0.7s,baz=315,slow=8.0,SNR=6.3						
LPAZ	**La Paz**	**42.90**	**139**	*e*P	**P**	**01 41 25.6**	**+0.4**
	1.8nm,0.8s						
SCHQ	**Schefferville**	**43.54**	**24**	P	**P**	**01 41 27.7**	**-1.4**
	5.4nm,0.8s,baz=230,slow=7.9,SNR=12						
SCHQ	**Schefferville**	**43.54**	**24**	*e*P	**P**	**01 41 27.3**	**-1.9**
	8.7nm,1.1s						
YKA	**Yellowknife Ar**	**47.14**	**348**	P	**P**	**01 41 57.1**	**-0.3**
	1.3nm,0.5s,baz=153,slow=7.3,SNR=9.7						
YKW3	**Yellowknife Ar**	**47.21**	**348**	*e*P	**P**	**01 41 56.9**	**-1.1**
SIV	**San Ignacio**	**47.39**	**132**	P	**P**	**01 41 59.1**	**-1.0**
	1.9nm,0.7s,baz=321,slow=3.4,SNR=2.6						
LCO	**Las Campanas**	**51.87**	**152**	*e*P	**P**	**01 42 35.4**	**+1.3**
	18nm,1.1s						
ILAR	**Eielson Array**	**58.54**	**337**	P	**P**	**01 43 21.7**	**+0.5**
	1.0nm,0.8s,baz=121,slow=5.7,SNR=12						
TRF	**Thorofare Moun**	**59.27**	**335**	*e*P	**P**	**01 43 26.9**	**+0.4**
	6.9nm,1.1s						
BILL	**Bilibino**	**77.19**	**338**	*e*P	**P**	**01 45 18.2**	**+0.2**
	3.4nm,0.9s						
ESDC	**Sonseca Array**	**80.41**	**51**	P	**P**	**01 45 35.9**	**-0.4**
	0.2nm,0.5s,baz=295,slow=6.7,SNR=3.5						
NB2	**NORSAR Subarra**	**82.94**	**28**	P	**P**	**01 45 50.0**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=286,slow=5.1						
NOA	**NORSAR Array B**	**82.94**	**28**	P	**P**	**01 45 49.5**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=285,slow=4.8,SNR=4.2						
ARCES	**ARCESS Array B**	**84.14**	**18**	P	**P**	**01 45 54.7**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=297,slow=4.0,SNR=12						
PETK	**Petropavlovsk-**	**86.05**	**325**	P	**P**	**01 46 05.8**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=121,slow=7.0,SNR=3.0						

*IDC **23** 01:33:53.1±0.8, 15˚.44S×173˚.81W, h0km, mb4.2/10, mb1 4.5/10, mb1mx4.1/32, mbtmp4.2/10, Error ellipse: s-maj=39.4km s-min=17.8km az=144.0*
*ISCJB **23** 01:34:03.2±0.6, 15˚.5S±0˚.1×173˚.9W±0˚.1, h94km, mb4.1/12, Error ellipse: s-maj=23.4km s-min=10.8km az=145.4*
*NEIC **23** 01:34:03.2±1.2, 15˚.48S×173˚.91W, h78km±11km, mb4.4/3, Error ellipse: s-maj=17.0km s-min=8.2km az=142.0*
ISC 23 01:34:04.5±0.6, 15˚.4S±0˚.2×173˚.8W±0˚.1, h94km, n26, σ1§29/23, mb4.2/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.45**	**53**	*e*Pn	**Pn**	**01 34 43.1**	**+0.3**
AFI				*e*Sn	**Sn**	**01 35 08.2**	**-4.0**
DZM	**Mont Dzumac**	**19.85**	**248**	*e*P	P	01 38 20.9	-7.3
	32nm,1.2s						
URZ	**Urewera**	**24.13**	**198**	P	**P**	**01 39 10.9**	**-0.7**
	2.9nm,0.3s,baz=64,slow=4.8,SNR=6.9						
H11S2	**WAKE ISLAND Hy**	**38.79**	**330**	T	T	02 22 30.4	
	baz=146,slow=75						
H11S3	**WAKE ISLAND Hy**	**38.80**	**330**	T	T	02 22 34.6	
	baz=146,slow=75						
H11S1	**WAKE ISLAND Hy**	**38.81**	**330**	T	T	02 23 34.1	
	baz=146,slow=75						
STKA	**Stephens Creek**	**43.71**	**240**	P	**P**	**01 41 59.6**	**-0.8**
	4.4nm,0.8s,baz=89,slow=8.6,SNR=6.8						
JAY	**Jayapura**	**46.63**	**281**	P	**P**	**01 42 23.5**	**-0.3**
	6.8nm,0.8s,baz=358,slow=18,SNR=3.1						
WRAB	**Tennant Creek**	**49.48**	**257**	*e*P	**P**	**01 42 45.5**	**-0.2**
	3.5nm,0.6s						
WRA	**Warramunga Arr**	**49.48**	**257**	P	**P**	**01 42 45.2**	**-0.6**
	1.4nm,0.4s,baz=95,slow=6.7,SNR=30						
AS31	**Alice Springs**	**49.76**	**252**	*e*P	**P**	**01 42 47.1**	**-0.7**
ASAR	**Alice Springs**	**49.76**	**252**	P	**P**	**01 42 47.4**	**-0.4**
	12nm,0.7s,baz=87,slow=8.2,SNR=131						
SOEI	**Soe**	**60.56**	**267**	*e*P	**P**	**01 44 03.6**	**-2.1**
VNDA	**Vanda**	**63.32**	**186**	*e*P	**P**	**01 44 23.5**	**+0.5**
	1.1nm,0.8s						
NVAR	**Mina Array Bea**	**74.59**	**42**	P	**P**	**01 45 34.4**	**+0.7**
	0.6nm,0.7s,baz=230,slow=8.2,SNR=5.6						
TXAR	**Lajitas Array**	**80.92**	**56**	P	**P**	**01 46 10.2**	**+1.3**
	1.0nm,1.0s,baz=227,slow=7.5,SNR=6.3						
PDAR	**Pinedale Array**	**82.52**	**42**	P	**P**	**01 46 17.5**	**+0.3**
	0.5nm,0.8s,baz=204,slow=4.0,SNR=3.0						
ILAR	**Eielson Array**	**82.53**	**11**	P	**P**	**01 46 18.5**	**+2.1**
	0.3nm,0.5s,baz=231,slow=6.5,SNR=4.9						
CMAR	**Chiang Mai Arr**	**92.27**	**288**	P	**P**	**01 47 04.7**	**+0.1**
	1.4nm,0.3s,baz=72,slow=2.9,SNR=4.7						
NAO01	**NORSAR Array S**	**134.51**	**357**	*e*PKPdf	**PKPdf**	**01 53 12.3**	**+0.9**
MORC	**Moravsky Berou**	**144.51**	**347**	*e*PKPdf	**PKPdf**	**01 53 29.9**	**-0.1**
KMBO	**Kilima Mbogo**	**145.20**	**245**	*e*PKPbc	**PKPdf**	**01 53 32.6**	**+0.1**
PSZ	**Piszkesteto**	**145.68**	**344**	*e*PKPbc	**PKPab**	**01 53 34.5**	**+1.6**
BR131	**Keskin Array S**	**145.94**	**321**	*e*PKPbc	**PKPab**	**01 53 34.5**	**+0.2**
BRTR	**Keskin Array B**	**145.94**	**321**	PKPbc	**PKPab**	**01 53 34.7**	**+0.4**
	2.2nm,0.7s,baz=95,slow=2.6,SNR=14						
GERES	**GERESS Array B**	**146.10**	**351**	PKPbc	**PKPab**	**01 53 34.6**	**0.0**
	0.2nm,0.4s,baz=8.4,slow=3.4,SNR=3.4						

*IDC **23** 01:40:55.0±1.3, 14˚.64N×146˚.98E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/28, mbtmp3.6/7, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/31, Error ellipse: s-maj=35.4km s-min=20.7km az=115.0*
ISC 23 01:41:00.4±1.2, 14˚.6N±0˚.2×146˚.8E±0˚.2, h33km, n8, σ1§08/8, mb3.6/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.15**	**242**	P	**Pn**	**01 41 34.9**	**+0.9**
	23nm,0.3s,baz=106,slow=5.7,SNR=8.3						
GUMO				Sn	**Sb**	**01 42 04.0**	**-1.1**
	36nm,0.3s,baz=16,slow=19,SNR=5.8						
JOW	**Kunigami**	**21.16**	**308**	LR	LR	01 52 59.1	
	comp=Z,110nm,20.7s,slow=34						
WRA	**Warramunga Arr**	**36.46**	**200**	P	**P**	**01 48 03.8**	**+1.3**
	0.3nm,0.7s,baz=24,slow=9.2,SNR=2.8						
ASAR	**Alice Springs**	**40.08**	**199**	P	**P**	**01 48 31.6**	**-1.3**
	0.2nm,0.4s,baz=29,slow=6.8,SNR=3.4						
MKAR	**Makanchi Array**	**62.10**	**315**	P	**P**	**01 51 18.6**	**+0.5**
	0.7nm,0.6s,baz=92,slow=8.0,SNR=7.5						
KURBB	**Kurchatov Arra**	**65.09**	**319**	P	**P**	**01 51 37.6**	**-0.2**
	1.7nm,0.6s,baz=98,slow=6.7,SNR=28						
ILAR	**Eielson Array**	**66.84**	**25**	P	**P**	**01 51 48.2**	**-0.6**
	0.1nm,0.4s,baz=251,slow=5.6,SNR=3.3						
BVAR	**Borovoye Array**	**70.32**	**321**	P	**P**	**01 52 10.6**	**-0.1**
	0.5nm,0.4s,baz=101,slow=7.5,SNR=4.3						

*IDC **23** 01:51:50.0±0.8, 9˚.84N×108˚.26E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.8/44, mbtmp3.8/12, ML4.0/2, MS3.6/17, Ms1 3.7/17, ms1mx3.5/29, Error ellipse: s-maj=38.7km s-min=16.3km az=58.0*
*ISCJB **23** 01:51:53.0±0.4, 9˚.78N±0˚.06×108˚.22E±0˚.06, h33km, mb4.0/15, MS3.6/14, Error ellipse: s-maj=10.0km s-min=7.2km az=144.4*
*NEIC **23** 01:51:55.5±1.1, 9˚.78N×108˚.24E, h42km±11km, mb4.4/6, Error ellipse: s-maj=11.3km s-min=5.5km az=48.0*
ISC 23 01:51:54.8±0.6, 9˚.81N±0˚.1×108˚.3E±0˚.1, h35km, n39, σ0§83/27, mb3.8/15, MS3.6/14, South China Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**8.79**	**240**	*e*Pn	**Pn**	**01 53 59.5**	**0.0**
IPM	**Ipoh**	**8.93**	**234**	*e*Pn	**Pn**	**01 54 01.0**	**-0.5**
	49nm,0.8s						
PSI	**Prapat**	**11.61**	**234**	Pn	**Pn**	**01 54 39.9**	**+1.6**
	0.3nm,0.3s,baz=358,slow=7.7,SNR=4.7						
PSI				Lg	Lg	01 58 06.3	
	0.4nm,0.3s,baz=267,slow=16,SNR=2.9						
PSI				LR	LR	01 59 36.7	
	comp=Z,561nm,18.2s,baz=48,slow=40						
CMAR	**Chiang Mai Arr**	**12.48**	**315**	Pn	**Pn**	**01 54 50.6**	**+0.6**
	0.7nm,0.3s,baz=125,slow=11,SNR=4.0						
CMAR				Lg	Lg	01 58 13.9	
	0.6nm,0.3s,baz=140,slow=30,SNR=6.2						
CMAR				LR	LR	01 59 44.3	
	comp=Z,252nm,21.2s,baz=138,slow=38						
MNAI	**Manna**	**15.04**	**201**	*e*Pn	**Pn**	**01 55 23.8**	**-1.2**
LUWI	**Luwuk**	**18.01**	**126**	*e*P	**Pn**	**01 56 02.0**	**-0.6**
	72nm,1.2s						
KAPI	**Kappang**	**18.64**	**142**	LR	LR	02 06 09.9	
	comp=Z,159nm,19.0s,baz=293,slow=46						
KAPI	**Kappang**	**18.64**	**142**	*e*P	**P**	**01 56 09.4**	**-0.3**
FAKI	**Fak Fak**	**27.02**	**117**	*e*P	**P**	**01 57 35.2**	**+1.3**
	8.4nm,0.9s						
PALK	**Pallekele**	**27.38**	**267**	LR	LR	02 10 00.6	
	comp=Z,86nm,18.3s,baz=86,slow=40						
PALK	**Pallekele**	**27.38**	**267**	*e*P	**P**	**01 57 37.1**	**-0.2**
KSRS	**Korea Array**	**32.74**	**30**	LR	LR	02 11 56.5	
	comp=Z,89nm,18.5s,baz=188,slow=37						
GUMO	**Guam**	**36.01**	**80**	LR		02 10 43.4	
	comp=Z,41nm,21.6s,baz=320,slow=32						
JCJ	**Chichijima**	**36.30**	**57**	LR	LR	02 10 58.8	
	comp=Z,68nm,21.5s,baz=253,slow=32						
SONM	**Songino Array**	**37.93**	**358**	P	**P**	**01 59 09.1**	**0.0**
	0.4nm,0.3s,baz=185,slow=8.7,SNR=2.9						
MJAR	**Matsushiro Arr**	**37.98**	**41**	LR	LR	02 15 56.8	
	comp=Z,53nm,19.0s,baz=105,slow=38						
WRA	**Warramunga Arr**	**39.15**	**139**	P	**P**	**01 59 20.2**	**+0.8**
	3.0nm,0.8s,baz=322,slow=9.2,SNR=17						
WRAB	**Tennant Creek**	**39.15**	**139**	*e*P	**P**	**01 59 19.5**	**+0.1**
	6.9nm,1.0s						
USRK	**Ussuriysk Ar.**	**39.95**	**27**	LR	LR	02 16 25.4	
	comp=Z,174nm,18.2s,baz=211,slow=37						
AS31	**Alice Springs**	**41.65**	**143**	*e*P	**P**	**01 59 41.1**	**+0.9**
ASAR	**Alice Springs**	**41.65**	**143**	P	**P**	**01 59 41.0**	**+0.9**
	1.7nm,1.0s,baz=334,slow=8.3,SNR=8.1						
ASAR				LR	LR	02 18 31.4	
	comp=Z,65nm,18.3s,baz=288,slow=38						
MKAR	**Makanchi Array**	**42.98**	**334**	P	**P**	**01 59 51.5**	**+0.9**
	0.6nm,0.6s,baz=132,slow=8.4,SNR=5.1						
MKAR				LR	LR	02 19 09.7	
	comp=Z,120nm,20.6s,baz=170,slow=38						
KBL	**Kabul**	**43.47**	**311**	*e*P	**P**	**01 59 54.9**	**-0.2**
	4.9nm,0.5s						
AAK	**Ala-Archa**	**44.05**	**324**	LR	LR	02 20 54.3	
	comp=Z,68nm,18.7s,baz=110,slow=40						
KURBB	**Kurchatov Arra**	**47.51**	**335**	P	**P**	**02 00 27.4**	**+0.9**
	0.9nm,0.8s,baz=134,slow=8.8,SNR=9.9						
KURK	**Kurchatov**	**47.54**	**335**	*e*P	**P**	**02 00 27.0**	**+0.2**
	4.2nm,0.9s						
ZALV	**Zalesovo Beam**	**47.86**	**341**	P	**P**	**02 00 29.6**	**+0.4**
	2.8nm,0.9s,baz=144,slow=7.0,SNR=6.9						
BVAR	**Borovoye Array**	**52.79**	**332**	P	**P**	**02 01 06.9**	**+0.4**
	0.4nm,0.4s,baz=80,slow=16,SNR=3.7						
ABKAR	**Akbulak array**	**56.14**	**324**	*e*P	**P**	**02 01 29.8**	**-1.1**
PETK	**Petropavlovsk-**	**58.56**	**32**	LR	LR	02 28 42.6	
	comp=Z,51nm,18.2s,baz=231,slow=38						
BRTR	**Keskin Array B**	**72.00**	**309**	P	**P**	**02 03 14.7**	**-0.8**
	0.4nm,0.7s,baz=90,slow=8.6,SNR=2.9						
AKASG	**Malin Array Be**	**75.55**	**320**	P	**P**	**02 03 35.1**	**-0.7**
	0.2nm,0.3s,baz=80,slow=4.9,SNR=3.3						
AKASG				LR	LR	02 40 57.1	
	comp=Z,53nm,18.8s,baz=150,slow=39						
BUR08	**Bucovina Ar. S**	**78.17**	**317**	*e*P	**P**	**02 03 51.4**	**+0.5**
PSZ	**Piszkesteto**	**81.72**	**317**	*e*P	**P**	**02 04 09.7**	**-0.3**
	2.9nm,0.9s						
GERES	**GERESS Array B**	**85.69**	**319**	P	**P**	**02 04 30.7**	**+0.3**
	0.2nm,0.3s,baz=67,slow=5.5,SNR=3.8						
GERES				LR	LR	02 48 43.0	
	comp=Z,53nm,18.6s,baz=73,slow=40						
ILAR	**Eielson Array**	**87.44**	**25**	LR	LR	02 46 00.1	
	comp=Z,26nm,18.4s,baz=277,slow=37						
BOSA	**Boshof**	**88.59**	**241**	LR	LR	02 38 12.3	
	comp=Z,57nm,18.5s,baz=156,slow=31						
FFC	**Flin Flon**	**110.86**	**18**	*e*PKP		02 10 24.0	
TXAR	**Lajitas Array**	**130.37**	**37**	PKP	**PKPdf**	**02 11 00.8**	**-1.7**
	0.4nm,0.7s,baz=292,slow=2.8,SNR=2.2						

WEL 23 01:56:11.8±0.3, 37˚.89S×176˚.29E, h164km±3km, ML3.7/9, 13C-5D, Error ellipse: s-maj=2.5km s-min=2.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RRRZ	**Republican Roa**	**0.48**	**158**	PN	Pn	01 56 35.2	+0.5
URZ	**Urewera**	**0.74**	**120**	⇑PN	Pn	01 56 36.0	-0.1
URZ				SN	Sn	01 56 53.7	-1.1
URZ				AML	AML	01 56 54.3	
RATZ	**Rangitukua**	**1.05**	**203**	PN	Pn	01 56 38.8	+0.4
MWZ	**Matawai**	**1.07**	**115**	PN	Pn	01 56 38.5	0.0
MWZ				SN	Sn	01 56 57.8	-1.3
MWZ				AML	AML	01 56 59.0	
MWZ				AML	AML	01 57 19.1	
MWZ				AML	AML	01 57 19.1	
RAGZ	**Rawiri**	**1.07**	**124**	PN	Pn	01 56 38.8	+0.2
RAGZ				SN	Sn	01 56 58.5	-0.8
HAZ	**Te Kaha**	**1.19**	**84**	PN	Pn	01 56 38.9	-0.6
HAZ				SN	Sn	01 56 59.2	-1.6
RAHZ	**Arahi**	**1.20**	**149**	PN	Pn	01 56 40.0	+0.4
RAHZ				SN	Sn	01 57 00.8	-0.3
SNGZ	**Shannon Statio**	**1.21**	**137**	PN	Pn	01 56 40.0	+0.2
SNGZ				SN	Sn	01 57 00.4	-0.9
NMHZ	**Naumai**	**1.27**	**161**	PN	Pn	01 56 40.9	+0.6
BKZ	**Black Stump Fm**	**1.28**	**173**	⇑PN	Pn	01 56 40.1	-0.3
KRVZ	**Karewarewa**	**1.30**	**203**	PN	Pn	01 56 40.8	+0.2
TKGZ	**Te Karaka**	**1.34**	**114**	PN	Pn	01 56 41.1	+0.2
TWVZ	**Taurewa**	**1.35**	**209**	PN	Pn	01 56 41.4	+0.3
OTVZ	**Oturere**	**1.36**	**201**	⇑PN	Pn	01 56 41.7	+0.4
TWGZ	**Tauwhareparae**	**1.36**	**102**	PN	Pn	01 56 41.5	+0.3
TWGZ				SN	Sn	01 57 03.2	-0.6
NGZ	**Ngauruhoe**	**1.39**	**203**	⇑PN	Pn	01 56 42.0	+0.4
RIGZ	**Rimuhau**	**1.41**	**125**	PN	Pn	01 56 41.8	+0.2
WPVZ	**Whakapapa**	**1.43**	**204**	PN	Pn	01 56 42.0	+0.1
TUVZ	**Tukino**	**1.46**	**200**	⇑PN	Pn	01 56 42.3	+0.1
ARHZ	**Aropaoanui**	**1.48**	**158**	PN	Pn	01 56 42.3	+0.2
FWVZ	**Far West T-bar**	**1.48**	**203**	PN	Pn	01 56 42.4	-0.1
WHVZ	**Whangaehu Hut**	**1.49**	**201**	⇑PN	Pn	01 56 42.6	0.0
KWHZ	**Kaweka Forest**	**1.53**	**176**	PN	Pn	01 56 42.7	-0.1
WNVZ	**Wahianoa**	**1.53**	**200**	⇑PN	Pn	01 56 42.8	-0.1
KNZ	**Kokohu**	**1.56**	**136**	PN	Pn	01 56 42.9	-0.1
PUZ	**Puketiti**	**1.57**	**97**	PN	Pn	01 56 42.6	-0.5
MOVZ	**Moawhango**	**1.57**	**195**	⇑PN	Pn	01 56 42.6	-0.6
MCHZ	**McNeill Hill**	**1.58**	**168**	PN	Pn	01 56 43.5	+0.2
BHHZ	**Black Hill Sta**	**1.60**	**186**	⇑PN	Pn	01 56 43.0	-0.5
PRGZ	**Paritu Road**	**1.62**	**130**	PN	Pn	01 56 43.6	-0.1
MTVZ	**Mangateitei**	**1.62**	**203**	PN	Pn	01 56 43.6	-0.1
MXZ	**Matakaoa Point**	**1.63**	**79**	PN	Pn	01 56 43.9	+0.2
WMGZ	**Waiomatatini S**	**1.69**	**88**	⇓PN	Pn	01 56 44.2	-0.1
VRZ	**Vera Road**	**1.72**	**224**	PN	Pn	01 56 45.4	+0.7
KRHZ	**Kereru**	**1.75**	**178**	PN	Pn	01 56 44.5	-0.6
CKHZ	**Cape Kidnapper**	**1.87**	**161**	PN	Pn	01 56 46.1	-0.1
KAHZ	**Kahuranaki**	**1.95**	**167**	PN	Pn	01 56 46.9	-0.3
PNHZ	**Pukenui**	**2.02**	**182**	PN	Pn	01 56 47.0	-1.0
WAZ	**Wanganui**	**2.12**	**208**	PN	Pn	01 56 48.6	-0.5
WPHZ	**Waipukurau**	**2.17**	**177**	PN	Pn	01 56 48.6	-1.1
TSZ	**Takapari Road**	**2.18**	**187**	PN	Pn	01 56 48.6	-1.2
PXZ	**Pawanui**	**2.18**	**168**	⇑PN	Pn	01 56 48.9	-0.9
PXZ				AML	AML	01 57 19.8	
PXZ				AML	AML	01 57 19.8	
PRHZ	**Porangahau**	**2.39**	**174**	⇑PN	Pn	01 56 50.9	-1.3
DVHZ	**Dannevirke**	**2.41**	**182**	⇑PN	Pn	01 56 50.8	-1.6
POWZ	**Post Office Ro**	**2.53**	**189**	PN	Pn	01 56 52.3	-1.6
ANWZ	**Angora Road**	**2.57**	**177**	⇓PN	Pn	01 56 53.2	-1.1
PRWZ	**Pori Road**	**2.67**	**185**	PN	Pn	01 56 54.1	-1.5
BFZ	**Birch Farm**	**2.78**	**181**	PN	Pn	01 56 55.0	-2.0
MRZ	**Mangatainoka R**	**2.82**	**191**	PN	Pn	01 56 55.3	-2.1
MRZ				AML	AML	01 57 30.8	
MRZ				AML	AML	01 57 30.8	
TIWZ	**Tintock**	**2.90**	**186**	⇓PN	Pn	01 56 56.4	-2.0
TIWZ				AML	AML	01 57 32.2	
TIWZ				AML	AML	01 57 34.9	
CPWZ	**Castlepoint**	**3.01**	**181**	⇓PN	Pn	01 56 58.3	-1.5
OGWZ	**Otaki Gorge**	**3.05**	**196**	⇑PN	Pn	01 56 58.0	-2.2
HOWZ	**Holdsworth Sta**	**3.06**	**191**	PN	Pn	01 56 57.8	-2.6
KIW	**Kapiti Island**	**3.15**	**199**	PN	Pn	01 56 59.0	-2.6
KIW				AML	AML	01 57 37.6	
KIW				AML	AML	01 57 37.8	
TMWZ	**Te Maipa**	**3.22**	**185**	PN	Pn	01 56 59.8

JMK				S	Sn	02 00 56.8	-8.9
JOW	**Kunigami**	**10.89**	**258**	LR	LR	02 03 22.7	
	comp=N,19nm,18.9s,baz=84,slow=34						
TJN	**Taejon**	**12.76**	**306**⇓*e*	P	**Pn**	**02 00 05.3**	**-0.2**
KSRS	**Korea Array**	**12.94**	**311**	P	**Pn**	**02 00 10.1**	**+2.4**
	comp=N,0.4nm,0.3s,baz=126,slow=13,SNR=17						
KSAR	**Wonju Array Be**	**12.96**	**311**	P	**Pn**	**02 00 10.1**	**+2.1**
USRK	**Ussuriysk Ar.**	**16.02**	**338**	P	**P**	**02 00 47.0**	**+0.1**
	comp=N,0.5nm,0.3s,baz=145,slow=12,SNR=10						
YHNB	**Yeheng**	**17.47**	**258**	*e*Pn	**Pn**	**02 01 05.6**	**+1.5**
	comp=N,43nm,0.7s						
YSS	**Yuzh-Sakhalins**	**17.49**	**6**	*e*P	**Pn**	**02 01 05.0**	**+1.0**
YULB	**Yu-li**	**18.02**	**255**	*e*P	**Pn**	**02 01 11.4**	**+0.8**
	comp=N,27nm,0.6s						
SSLB	**Suanglung**	**18.15**	**256**	*e*P	**Pn**	**02 01 12.5**	**+0.3**
	comp=N,60nm,1.0s						
TWG	**Pinlang**	**18.44**	**253**	*e*P	**Pn**	**02 01 16.5**	**+0.9**
	comp=N,109nm,0.6s						
CN2	**Changchun**	**18.47**	**324**	*e*P	**P**	**02 01 14.0**	**+0.2**
CN2				sP	**sP**	**02 01 59.8**	**+1.6**
CN2				S	S	02 04 28.4	-8.4
NJ2	**Nanjing**	**18.53**	**283**	*e*P	**P**	**02 01 13.3**	**-1.2**
NJ2				S	**S**	**02 04 38.0**	**-0.2**
TPUB	**Ta-pu**	**18.62**	**255**	*e*P	**Pn**	**02 01 18.8**	**+1.2**
	comp=N,34nm,0.8s						
HABR	**Khabarovsk**	**19.31**	**350**	*e*P	**P**	**02 01 21.7**	**-1.1**
HABR				*e*S	**S**	**02 04 52.0**	**-1.3**
HABR				pmax	pmax		
	comp=Z,28nm,0.7s						
UGL	**Uglegorsk**	**19.55**	**4**	*e*P	**P**	**02 01 24.0**	**-1.4**
UGL				*e*S	**S**	**02 04 56.9**	**-1.1**
KLR	**Kul'dur**	**20.69**	**344**	*e*P	**P**	**02 01 33.4**	**-4.3**
BJI	**Beijing**	**22.29**	**304**	P	**P**	**02 01 57.1**	**+2.6**
XAN	**Xi'an**	**26.93**	**288**	P	**P**	**02 02 38.8**	**+1.9**
QIZ	**Qiongzhong**	**29.53**	**256**	P	**P**	**02 02 59.1**	**-1.0**
QIZ				pP	**pP**	**02 03 28.8**	**-2.5**
QIZ				S	**S**	**02 07 42.8**	**-1.3**
GYA	**Guiyang**	**29.74**	**272**	*e*P	**P**	**02 03 02.0**	**0.0**
GYA				pP	**pP**	**02 03 32.6**	**-0.7**
GYA				sP	**sP**	**02 03 50.0**	**-0.3**
GYA				PP	**PnPn**	**02 04 03.3**	**-1.4**
GYA				S	**S**	**02 07 43.3**	**-4.2**
GYA				sS	sS	02 08 38.9	-3.6
KMI	**Kunming**	**33.50**	**272**	P	**P**	**02 03 37.9**	**+2.8**
BOD	**Bodaibo**	**33.61**	**335**	*e*P	**P**	**02 03 34.8**	**-0.6**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA	**Gaotai**	**34.49**	**298**	*e*P	**P**	**02 03 43.6**	**+0.2**
GTA				pP	**pP**	**02 04 13.8**	**-1.3**
GTA				sP	**sP**	**02 04 30.6**	**-1.4**
CHTO	**Chiang Mai**	**38.97**	**264**	*e*P	**P**	**02 04 22.0**	**+0.6**
	comp=Z,15nm,0.9s						
CMAR	**Chiang Mai Arr**	**39.12**	**263**	P	**P**	**02 04 23.5**	**+0.9**
	comp=Z,4.9nm,0.4s,baz=54,slow=7.9,SNR=12						
CMAR	**Chiang Mai Arr**	**39.12**	**263**	P	**P**	**02 04 23.5**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
KAPI	**Kappang**	**39.59**	**213**	P	**P**	**02 04 26.3**	**-0.2**
	comp=Z,9.7nm,1.0s,baz=196,slow=18,SNR=2.3						
TIXI	**Tiksi**	**42.61**	**355***d*	*i*P	**P**	**02 04 50.7**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TIXI	**Tiksi**	**42.61**	**355**	*e*P	**P**	**02 04 50.7**	**+0.3**
	comp=Z,7.8nm,0.5s						
COEN	**Coen**	**43.35**	**176**	*e*P	**P**	**02 04 57.3**	**+0.3**
KULM	**Kulim**	**44.47**	**245**	*e*P	**P**	**02 05 07.0**	**+1.0**
	comp=Z,21nm,0.8s						
TAPN	**Taplejung**	**45.91**	**281**	*e*P	**P**	**02 05 19.1**	**+1.4**
	comp=Z,12nm,0.4s						
ODAN	**Odare**	**46.31**	**280**	*e*P	**P**	**02 05 22.2**	**+1.4**
	comp=Z,16nm,0.2s						
ZAA0	**Zalesovo Array**	**46.51**	**318**	*e*P	**P**	**02 05 20.4**	**-1.2**
ZALV	**Zalesovo Beam**	**46.51**	**318**	P	**P**	**02 05 21.1**	**-0.6**
	comp=Z,2.1nm,0.5s,baz=103,slow=7.4,SNR=6.8						
ZALV				PcP	**PcP**	**02 06 53.2**	**-0.3**
	comp=Z,3.4nm,0.7s,baz=97,slow=3.9,SNR=14						
RAMN	**Ramite**	**46.97**	**280**	*e*P	**P**	**02 05 26.3**	**+0.4**
	comp=Z,28nm,0.9s						
GUN	**Gumba**	**47.32**	**282**	*e*P	**P**	**02 05 29.4**	**+0.7**
	comp=Z,20nm,0.5s						
PSI	**Prapat**	**47.34**	**244**	P	**P**	**02 05 29.6**	**+0.8**
	comp=Z,23nm,0.7s,baz=27,slow=5.2,SNR=14						
PSI	**Prapat**	**47.34**	**244**	P	**P**	**02 05 29.6**	**+0.8**
PSI				pmax	pmax		
	comp=Z,23nm,0.7s						
PSI	**Prapat**	**47.34**	**244**	*e*P	**P**	**02 05 29.6**	**+0.8**
	comp=Z,22nm,0.6s						
MKAR	**Makanchi Array**	**47.60**	**308**	P	**P**	**02 05 29.4**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=89,slow=11,SNR=5.9						
MKAR				ScP	**ScP**	**02 10 34.5**	**-3.5**
	comp=Z,0.7nm,0.6s,baz=87,slow=6.6,SNR=5.5						
MKAR	**Makanchi Array**	**47.60**	**308***ce*	P	**P**	**02 05 29.3**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PKI	**Pulchoki**	**47.81**	**282**	*e*P	**P**	**02 05 32.1**	**-0.4**
	comp=Z,8.8nm,0.5s						
PKIN	**Phulchoki**	**47.82**	**282**	*e*P	**P**	**02 05 32.2**	**-0.3**
	comp=Z,8.4nm,0.5s						
KKN	**Kakani**	**47.86**	**282**	*e*P	**P**	**02 05 33.2**	**+0.4**
	comp=Z,9.4nm,0.5s						
LEM	**Lembang**	**47.87**	**226**	P	**P**	**02 05 33.3**	**+0.5**
	comp=Z,36nm,0.4s,baz=76,slow=20,SNR=6.4						
LEM	**Lembang**	**47.87**	**226**	P	**P**	**02 05 33.3**	**+0.5**
LEM				pmax	pmax		
	comp=Z,36nm,0.4s						
DMN	**Daman**	**48.06**	**282**	*e*P	**P**	**02 05 34.2**	**-0.1**
	comp=Z,9.8nm,0.4s						
GKN	**Gorkha**	**48.35**	**283**	*e*P	**P**	**02 05 36.7**	**+0.2**
	comp=Z,10.0nm,0.5s						
KOLN	**Koldanda**	**49.30**	**283**	*e*P	**P**	**02 05 43.1**	**-0.6**
	comp=Z,15nm,0.6s						
GSI	**Gunungsitoli**	**49.33**	**243**	*e*P	**P**	**02 05 44.9**	**+1.1**
	comp=Z,85nm,0.7s						
WRAB	**Tennant Creek**	**49.52**	**187**	*e*P	**P**	**02 05 44.8**	**-0.3**
	comp=Z,9.2nm,0.9s						
WRA	**Warramunga Arr**	**49.53**	**187**	P	**P**	**02 05 45.2**	**0.0**
	comp=Z,2.5nm,0.3s,baz=5.3,slow=7.7,SNR=46						
WRA				ScP	**ScP**	**02 10 42.8**	**-3.6**
	comp=Z,1.9nm,0.9s,baz=2.5,slow=4.3,SNR=7.2						
WRA	**Warramunga Arr**	**49.53**	**187**	P	**P**	**02 05 45.2**	**0.0**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
WRA				pmax	pmax		
	comp=N,2.0nm,0.9s						
KURK	**Kurchatov**	**50.05**	**313**	P	**P**	**02 05 48.3**	**-0.5**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**50.05**	**313**	P	**P**	**02 05 48.3**	**-0.5**
KURBB	**Kurchatov Arra**	**50.10**	**313**	P	**P**	**02 05 48.3**	**-0.9**
	comp=Z,3.1nm,0.7s,baz=90,slow=7.6,SNR=34						
TKM2	**Tokmak 2**	**52.62**	**303**	*e*P	**P**	**02 06 07.8**	**-0.5**
	comp=Z,1.6nm,0.4s						
KSH	**Kashi**	**52.86**	**299**	*e*P	P	02 06 14.8	+4.7
KSH				*e*pP	pP	02 06 47.3	+3.2
KSH				*e*sP	sP	02 07 02.1	+1.7
KSH				*e*PcP	**PcP**	**02 07 20.8**	**+3.5**
AS31	**Alice Springs**	**53.26**	**187**	*e*P	**P**	**02 06 12.9**	**+0.1**
ASAR	**Alice Springs**	**53.26**	**187**	P	**P**	**02 06 12.7**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=354,slow=5.5,SNR=37						
ASAR	**Alice Springs**	**53.26**	**187**	P	**P**	**02 06 12.7**	**-0.2**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PPLA	**Purkeypile**	**53.96**	**32**	*e*P	**P**	**02 06 19.6**	**+2.0**
	comp=Z,22nm,1.8s						
BVAR	**Borovoye Array**	**55.08**	**316**	P	**P**	**02 06 25.4**	**-0.4**
	comp=Z,8.0nm,0.6s,baz=97,slow=7.8,SNR=37						
BVAR				PcP	**PcP**	**02 07 23.7**	**-1.7**
	comp=Z,4.9nm,0.7s,baz=87,slow=3.1,SNR=10.0						
BVAR	**Borovoye Array**	**55.08**	**316**	P	**P**	**02 06 25.4**	**-0.4**
BVAR						02 07 23.7	
BVAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRVK	**Borovoye**	**55.14**	**316***c*	*i*P	**P**	**02 06 25.9**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BRVK	**Borovoye**	**55.14**	**316**	*e*P	**P**	**02 06 25.7**	**-0.5**
	comp=Z,9.3nm,0.8s						
KKAR	**Karatay Array**	**56.27**	**304**	*e*P	**P**	**02 06 33.5**	**-0.9**
	comp=Z,4.1nm,0.6s						
ILAR	**Eielson Array**	**56.41**	**29**	P	**P**	**02 06 35.5**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=266,slow=6.6,SNR=8.4						
ILAR	**Eielson Array**	**56.41**	**29**	P	**P**	**02 06 35.6**	**+0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BMRM	**Bremner River**	**57.51**	**34**	*e*P	**P**	**02 06 45.4**	**+2.5**
	comp=Z,11nm,0.7s						
ARU	**Arti**	**61.44**	**321***d*	*i*P	**P**	**02 07 09.0**	**-0.8**
ARU						02 07 49.6	
ARU				S	**S**	**02 15 18.4**	**-0.6**
ARU				SS	**SS**	**02 19 26.3**	**+4.5**
ARU				pmax	pmax		
	comp=Z,20nm,1.0s						
ARU	**Arti**	**61.44**	**321**	*e*P	**P**	**02 07 08.8**	**-1.0**
	comp=Z,18nm,0.7s						
INK	**Inuvik**	**61.53**	**25**	P	**P**	**02 07 10.9**	**+0.7**
	comp=Z,1.6nm,0.4s,baz=281,slow=5.2,SNR=8.2						
INK	**Inuvik**	**61.53**	**25**	P	**P**	**02 07 10.9**	**+0.7**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ABKAR	**Akbulak array**	**62.16**	**313**	*e*P	**P**	**02 07 14.1**	**-0.7**
AKTO	**Aktyubinsk**	**63.08**	**315**	P	**P**	**02 07 20.1**	**-0.8**
	comp=Z,6.2nm,0.7s,baz=91,slow=8.0,SNR=23						
AKTO	**Aktyubinsk**	**63.08**	**315**	P	**P**	**02 07 20.1**	**-0.8**
AKTO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ARCES	**ARCESS Array B**	**70.66**	**340**	P	**P**	**02 08 09.2**	**+0.7**
	comp=Z,6.8nm,0.5s,baz=69,slow=9.1,SNR=39						
ARCES	**ARCESS Array B**	**70.66**	**340**	P	**P**	**02 08 09.2**	**+0.7**
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.5s						
ARE0	**ARCESS Array S**	**70.66**	**340**	*e*P	**P**	**02 08 08.7**	**+0.2**
YKA	**Yellowknife Ar**	**70.81**	**28**	P	**P**	**02 08 10.1**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=296,slow=5.8,SNR=4.6						
YKA	**Yellowknife Ar**	**70.81**	**28**	P	**P**	**02 08 10.1**	**+0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VRHR	**Novokhopersk**	**72.62**	**319**	*e*P	**P**	**02 08 19.0**	**-1.5**
VRHR				pmax	pmax		
	comp=N,4.0nm,0.5s						
VRHR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
LPSR	**Galich'ya Gora**	**73.46**	**321**	*e*P	**P**	**02 08 25.1**	**-0.3**
LPSR				pmax	pmax		
	comp=Z,30nm,0.5s						
OBN	**Obninsk**	**73.54**	**324**⇑	*i*P	**P**	**02 08 25.8**	**0.0**
OBN				*e*		02 12 58.7	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR	**Storozhevoye**	**73.96**	**320**	*e*P	**P**	**02 08 27.9**	**-0.5**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR				pmax	pmax		
	comp=N,7.0nm,0.5s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.2s						
VORD	**Divnogorie**	**74.00**	**320**	*e*P	**P**	**02 08 27.7**	**-0.9**
VORD				pmax	pmax		
	comp=Z,10.0nm,1.5s						
VORD				pmax	pmax		
	comp=N,5.0nm,0.9s						
VORD				pmax	pmax		
	comp=E,10.0nm,1.0s						
LON	**Longmire**	**74.14**	**45**	*e*P	P	02 08 23.5	-6.1
	comp=E,16nm,1.5s						
FINES	**FINESS Array B**	**74.99**	**333**	P	**P**	**02 08 34.0**	**-0.1**
	comp=E,4.1nm,0.6s,baz=96,slow=4.7,SNR=38						
FINES	**FINESS Array B**	**74.99**	**333***ce*	P	**P**	**02 08 34.0**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KBZ	**Khabaz**	**75.09**	**312**	P	**P**	**02 08 34.9**	**-0.1**
	comp=Z,7.6nm,0.8s,baz=84,slow=4.2,SNR=15						
KBZ	**Khabaz**	**75.09**	**312**	P	**P**	**02 08 34.9**	**-0.1**
KBZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KIV	**Kislovodsk**	**75.12**	**312**	*e*P	**P**	**02 08 35.2**	**-0.1**
	comp=Z,8.1nm,0.7s						
GNI	**Garni**	**75.45**	**308**	*e*P	**P**	**02 08 37.4**	**0.0**
	comp=Z,3.5nm,0.5s						
ANN	**Anapa**	**78.04**	**315**	*e*P	**P**	**02 08 49.2**	**-2.4**
ANN				pmax	pmax		
	comp=Z,37nm,1.1s						
SUMG	**Summit**	**78.14**	**360**	*e*P	**P**	**02 08 53.4**	**+1.3**
	comp=Z,16nm,1.3s						
SLMT	**Seeley Lake**	**78.89**	**42**	*e*P	**P**	**02 08 57.5**	**+1.1**
	comp=Z,4.1nm,0.6s						
CMB	**Columbia Colle**	**79.11**	**53**	*e*P	**P**	**02 08 59.6**	**+2.0**
MFID	**Camas Ranch**	**79.45**	**46**	*e*P	**P**	**02 09 01.6**	**+2.0**
	comp=Z,2.9nm,0.6s						
AKASG	**Malin Array Be**	**79.63**	**323**	P	**P**	**02 08 59.5**	**-0.6**
	comp=Z,2.6nm,0.4s,baz=51,slow=5.6,SNR=13						
AKASG	**Malin Array Be**	**79.63**	**323**	P	**P**	**02 08 59.5**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AK01	**Malin Array Si**	**79.64**	**323**	*e*P	**P**	**02 08 59.3**	**-0.9**
KIEV	**Kiev**	**79.64**	**323**⇓	*e*P	**P**	**02 08 59.5**	**-0.7**
KIEV	**Kiev**	**79.64**	**323**	*e*P	**P**	**02 08 59.5**	**-0.7**
LRM	**Limekiln Ridge**	**80.25**	**43**	*e*P	**P**	**02 09 05.6**	**+1.7**
	comp=Z,24nm,0.8s						
NVAR	**Mina Array Bea**	**80.35**	**51**	P	**P**	**02 09 06.2**	**+1.7**
	comp=Z,3.1nm,0.5s,baz=286,slow=6.0,SNR=42						
FFC	**Flin Flon**	**80.56**	**31**	*e*P	**P**	**02 09 05.6**	**+0.6**
MALT	**Malatya**	**80.63**	**309**⇓	P	**P**	**02 09 06.0**	**+0.1**
MALT	**Malatya**	**80.63**	**309**⇓	*i*P	**P**	**02 09 06.0**	**+0.1**
SUW	**Suwalki**	**80.66**	**328**	*e*P	**P**	**02 09 05.7**	**+0.1**
SUW	**Suwalki**	**80.66**	**328**	*e*P	**P**	**02 09 05.7**	**+0.1**
NOA	**NORSAR Array B**	**80.69**	**337**	P	**P**	**02 09 05.3**	**-0.4**
	comp=Z,4.1nm,0.7s,baz=45,slow=5.0,SNR=24						
NOA	**NORSAR Array B**	**80.69**	**337**	P	**P**	**02 09 05.4**	**-0.4**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BOZ	**Bozeman (W)**	**80.83**	**42**	*e*P	**P**	**02 09 08.9**	**+2.0**
	comp=Z,2.0nm,0.6s						
NAO01	**NORSAR Array S**	**80.95**	**337**	*e*P	**P**	**02 09 06.4**	**-0.6**
	comp=Z,5.8nm,0.8s						
FCC	**Fort Churchill**	**81.14**	**25**	*e*P	**P**	**02 09 08.6**	**+0.6**
R11A	**Troy Canyon, C**	**82.22**	**50**	*e*P	**P**	**02 09 15.7**	**+1.3**
	comp=Z,1.1nm,0.7s						
HVU	**Hansel Valley**	**82.23**	**46**	*e*P	**P**	**02 09 15.9**	**+1.6**
	comp=Z,2.4nm,0.5s						
RAYN	**Ar Rayn**	**82.60**	**293**	*e*P	**P**	**02 09 15.7**	**-0.7**
	comp=Z,4.7nm,0.4s						
DUG	**Dugway, Tooele**	**83.06**	**48**	*e*P	**P**	**02 09 20.1**	**+1.5**
BR131	**Keskin Array S**	**83.08**	**312**	*e*P	**P**	**02 09 18.5**	**-0.3**
	comp=Z,5.6nm,0.7s						
BRTR	**Keskin Array B**	**83.08**	**312**	P	**P**	**02 09 18.8**	**0.0**
	comp=Z,7.9nm,0.8s,baz=91,slow=4.2,SNR=35						
BRTR	**Keskin Array B**	**83.08**	**312***ce*	P	**P**	**02 09 18.7**	**0.0**
BRTR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CFR	**Carcaliu**	**83.39**	**319**	⇓P	**P**	**02 09 19.6**	**-0.4**
CFR	**Carcaliu**	**83.39**	**319**⇓	*i*P	**P**	**02 09 19.6**	**-0.4**
TESR	**Tescani**	**83.45**	**320**⇓	*i*P	**P**	**02 09 20.0**	**-0.3**
ANTO	**Ankara**	**83.55**	**312**⇑	P	**P**	**02 09 21.3**	**+0.2**
ANTO	**Ankara**	**83.55**	**312**⇑	*i*P	**P**	**02 09 21.3**	**+0.2**
BUR08	**Bucovina Ar. S**	**83.56**	**322**	*e*P	**P**	**02 09 20.8**	**-0.2**
BURAR	**Bucovina Array**	**83.57**	**322**	⇓P	**P**	**02 09 21.2**	**+0.2**
BURAR	**Bucovina Array**	**83.57**	**322**	⇓*i*P	**P**	**02 09 21.2**	**+0.2**
KWP	**Kalwaria Pacla**	**83.63**	**325**	*e*P	**P**	**02 09 21.6**	**+0.4**
KWP	**Kalwaria Pacla**	**83.63**	**325**	*e*P	**P**	**02 09 21.7**	**+0.5**
PDAR	**Pinedale Array**	**83.67**	**44**	P	**P**	**02 09 22.3**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=42,slow=2.2,SNR=5.5						
VRI	**Vrincioaia**	**83.79**	**320**	⇓P	**P**	**02 09 23.1**	**+1.0**
VRI	**Vrincioaia**	**83.79**	**320**⇓	*i*P	**P**	**02 09 23.1**	**+1.0**
PLOR	**Plostina**	**83.84**	**320**⇑	P	**P**	**02 09 21.2**	**-1.2**
PLOR	**Plostina**	**83.84**	**320**⇑	*i*P	**P**	**02 09 21.2**	**-1.2**
MSAB	**Monastry St. A**	**84.21**	**318**⇑	*i*P	**P**	**02 09 24.8**	**+0.6**
MLR	**Muntele Rosu**	**84.45**	**320**⇑	P	**P**	**02 09 26.0**	**+0.4**
MLR	**Muntele Rosu**	**84.45**	**320**⇑	*i*P	**P**	**02 09 26.0**	**+0.4**
ASF	**Jabal al Asfar**	**84.86**	**304**	P	**P**	**02 09 27.6**	**-0.2**
	comp=Z,4.0nm,0.8s,baz=84,slow=5.1,SNR=4.6						
ASF	**Jabal al Asfar**	**84.86**	**304**	P	**P**	**02 09 27.6**	**-0.2**
ASF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SRU	**San Rafael Swe**	**85.13**	**47**	*e*P	**P**	**02 09 29.8**	**+0.5**
	comp=Z,7.5nm,0.8s						
GOLR		**85.40**	**320**⇑	*i*P	**P**	**02 09 32.2**	**+2.0**
DRGR		**85.42**	**322**⇑	P	**P**	**02 09 30.6**	**+0.3**
DRGR		**85.42**	**322**⇑	*i*P	**P**	**02 09 30.6**	**+0.3**
CSS	**Prodhromos**	**85.88**	**308**	*e*P	**P**	**02 09 32.1**	**-0.6**
	comp=Z,2.8nm,0.8s						
JMB	**Yambol**	**85.90**	**317**	⇓P	**P**	**02 09 32.4**	**-0.3**
JMB	**Yambol**	**85.90**	**317**⇓	*i*P	**P**	**02 09 32.4**	**-0.3**
DPC	**Dobruska-Polom**	**86.25**	**328**	*e*P	**P**	**02 09 34.5**	**+0.2**
DPC				*e*PCP	**PcP**	**02 09 37.3**	**+0.6**
DPC				*ex*	x	02 10 04.2	
DPC	**Dobruska-Polom**	**86.25**	**328**	*e*P	**P**	**02 09 34.5**	**+0.2**
UPC	**Upice**	**86.29**	**328**	*e*P	**P**	**02 09 33.8**	**-0.6**
UPC	**Upice**	**86.29**	**328**	*e*P	**P**	**02 09 33.8**	**-0.6**
VRAC	**Vranov**	**86.84**	**327**	⇓P	**P**	**02 09 37.1**	**-0.1**
VRAC	**Vranov**	**86.84**	**327**⇓	*i*P	**P**	**02 09 37.1**	**-0.1**
PVCC	**Panska Ves**	**86.93**	**329**	*e*P	**P**	**02 09 37.3**	**-0.3**
PVCC	**Panska Ves**	**86.93**	**329**	*e*P	**P**	**02 09 37.3**	**-0.3**
CLL	**Collm**	**87.07**	**330**	*i*P	**P**	**02 09 37.2**	**-1.0**
	comp=Z,4.0nm,1.3s						
CLL				Lm	MLR	02 48 00.0	
	comp=Z,100nm,18.8s						
CLL	**Collm**	**87.07**	**330**	*i*P	**P**	**02 09 37.2**	**-1.0**
CLL				pmax	pmax		
	comp=Z,4.0nm,1.3s						
GOPC	**GO Pecny, Ondr**	**87.27**	**328**	*e*P	**P**	**02 09 37.7**	**-1.5**
TREC	**Trest**	**87.37**	**327**	*e*P	**P**	**02 09 39.1**	**-0.6**
TREC	**Trest**	**87.37**	**327**	*e*P	**P**	**02 09 39.1**	**-0.6**
VTS	**Vitosha**	**87.79**	**319**⇑	P	**P**	**02 09 41.8**	**-0.2**
VTS	**Vitosha**	**87.79**	**319**⇑	*i*P	**P**	**02 09 41.8**	**-0.2**
PKSM	**Moragy**	**87.93**	**324**⇓	P	**P**	**02 09 41.4**	**-1.0**
PKSM	**Moragy**	**87.93**	**324**⇓	*i*P	**P**	**02 09 41.3**	**-1.1**
KHC	**Kasperske Hory**	**88.38**	**328**	*e*P	**P**	**02 09 43.8**	**-0.7**
KHC				*e*PCP	**PcP**	**02 09 46.0**	**-0.1**
KHC	**Kasperske Hory**	**88.38**	**328**	*e*P	**P**	**02 09 43.8**	**-0.7**
GERES	**GERESS Array B**	**88.52**	**328**	P	**P**	**02 09 44.4**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=39,slow=5.1,SNR=8.5						
GERES	**GERESS Array B**	**88.52**	**328**	P	**P**	**02 09 44.4**	**-0.9**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ESK	**Eskdalemuir**	**89.85**	**340**	*e*P	**P**	**02 09 50.7**	**-0.5**
	comp=Z,19nm,1.4s						
BFO	**Black Forest**	**91.31**	**330***ce*	P	**P**	**02 09 58.2**	**0.0**
TXAR	**Lajitas Array**	**95.48**	**52**	P	**P**	**02 10 19.0**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=308,slow=3.1,SNR=16						
TXAR	**Lajitas Array**	**95.48**	**52**	P	**P**	**02 10 19.0**	**+1.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TOA0	**Torodi Ar. Sit**	**121.68**	**311**	*e*PKPdf	**PKPdf**	**02 15 45.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**121.68**	**311**	PKP	**PKPdf**	**02 15 45.9**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=62,slow=1.0,SNR=42						
BCIP	**Isla Barro Col**	**125.50**	**51**	*e*PKPdf	**PKPdf**	**02 15 54.6**	**+0.9**
DBIC	**Dimbokro**	**130.78**	**311**	PKP	**PKPdf**	**02 16 03.7**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=115,slow=2.6,SNR=5.1						
DBIC	**Dimbokro**	**130.78**	**311**	PKIKP	**PKPdf**	**02 16 03.7**	**-0.1**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SAML	**Samuel**	**149.97**	**52**	*e*PKPbc	**PKPbc**	**02 16 43.3**	**+0.3**
LPAZ	**La Paz**	**150.82**	**69**	PKPbc	**PKPbc**	**02 16 43.6**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=217,slow=2.4,SNR=10						
LPAZ	**La Paz**	**150.82**	**69**	PKIKP	**PKPbc**	**02 16 43.6**	**-2.2**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LPAZ	**La Paz**	**150.82**	**69**	*e*PKPbc	**PKPbc**	**02 16 47.1**	**+1.3**

IDC ***23*** *01:57:22.2±0.7,25.62N×95.10E,h0km, mb3.9/18, mb1 4.0/18, mb1mx3.9/48, mbtmp3.9/18, Error ellipse: s-maj=27.4km s-min=14.4km az=54.0*
ISCJB ***23*** *01:57:30.7±0.5, 25.54N±0.08×94.92E±0.05, h85km, mb3.8/22, Error ellipse: s-maj=11.8km s-min=6.7km az=4.8*
NEIC ***23*** *01:57:33.2±4.6, 25.67N×95.12E, h88km±42km, mb4.0/5, Error ellipse: s-maj=17.4km s-min=8.3km az=45.0*

ISC 23 01:57:32.9±0.8, 25.6N±0.1×94.93E±0.09, h85km, n38, σ0.995/38, mb3.9/22, Myanmar-India border region

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

JOD2				S		Sn	02 15 22.6	-0.7
JYN	**Shimob**	**1.24**	**238**	P		**Pn**	**02 15 08.1**	**+0.3**
JYN				S		**Sn**	**02 15 26.6**	**+0.2**
JFY	**Yanaizu**	**1.25**	**355**	P		**Pn**	**02 15 08.3**	**+0.3**
JFY				S		**Sn**	**02 15 27.1**	**+0.4**
MJAR	**Matsushiro Arr**	**1.37**	**287**	P		**Pn**	**02 15 09.0**	**-0.2**
	47nm,0.3s,baz=116,slow=9.0,SNR=277							
MJAR				S		**Sn**	**02 15 28.6**	**-0.4**
	22nm,0.3s,baz=138,slow=10,SNR=15							
MAT	**Matsushiro**	**1.37**	**287**	P		**Pn**	**02 15 09.4**	**+0.1**
MAT				S		**Sn**	**02 15 28.3**	**-0.7**
MAT	**Matsushiro**	**1.37**	**287**	P		**Pn**	**02 15 09.4**	**+0.1**
MAT				S		**Sn**	**02 15 28.3**	**-0.7**
JNU	**Nakatsue**	**7.98**	**250**	P		**Pn**	**02 16 37.0**	**+0.5**
	0.5nm,0.3s,baz=54,slow=9.5,SNR=3.9							
KSRS	**Korea Array**	**9.64**	**281**	P		**Pn**	**02 17 01.2**	**+2.3**
	0.3nm,0.3s,baz=90,slow=12,SNR=4.4							
USRK	**Ussuriysk Ar.**	**10.03**	**326**	P		**Pn**	**02 17 04.2**	**+0.2**
	0.3nm,0.3s,baz=134,slow=12,SNR=7.6							
SONM	**Songino Array**	**27.25**	**306**	P		**P**	**02 20 16.3**	**+0.1**
	1.2nm,0.5s,baz=114,slow=10.0,SNR=3.3							
ZALV	**Zalesovo Beam**	**41.58**	**313**	P		**P**	**02 22 18.8**	**-0.2**
	1.6nm,0.5s,baz=97,slow=6.6,SNR=6.3							
MKAR	**Makanchi Array**	**43.52**	**303**	P		**P**	**02 22 34.9**	**0.0**
	1.7nm,0.7s,baz=87,slow=10,SNR=12							
WRA	**Warramunga Arr**	**56.03**	**186**	P		**P**	**02 24 10.0**	**+0.2**
	1.0nm,1.1s,baz=0.7,slow=7.5,SNR=3.6							
FINES	**FINESS Array B**	**69.00**	**332**	P		**P**	**02 25 34.9**	**-0.5**
	0.8nm,0.6s,baz=61,slow=6.5,SNR=3.5							
NOA	**NORSAR Array B**	**74.50**	**337**	P		**P**	**02 26 07.5**	**-0.9**
	0.5nm,0.6s,baz=39,slow=5.8,SNR=3.9							

*ISCJB **23** 02:33:20.8±0.6, 17°.30S±0°.05×69°.4W±0°.1, h152km, mb4.0/6, Error ellipse: s-maj=15.3km s-min=7.7km az=177.9*

*IDC **23** 02:33:23.2±1.4, 17°.39S×69°.35W, h161km±8km, mb3.8/5, mb1 3.7/8, mb1mx3.4/20, mbtmp4.2/8, Error ellipse: s-maj=26.2km s-min=10.8km az=103.0*

*NEIC **23** 02:33:23.7±0.7, 17°.31S×69°.34W, h166km±7km, mb4.2/3, Error ellipse: s-maj=11.5km s-min=7.6km az=92.0*

ISC 23 02:33:22.3±0.7, 17°.36S±0°.06×69°.5W±0°.1, h152km, n17, σ1§13/20, mb4.1/6, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.66**	**50**	P	**Pn**	**02 33 56.5**	**+2.1**
	70nm,0.3s,baz=268,slow=3.1,SNR=2806						
LPAZ				S	**Sn**	**02 34 19.9**	**+0.9**
	12nm,0.3s,baz=174,slow=6.1,SNR=11						
LPAZ	**La Paz**	**1.66**	**50**	*e*Pn	**Pn**	**02 33 56.3**	**+1.8**
LPAZ				*e*Sn	**Sn**	**02 34 19.8**	**+0.8**
LVC	**Limon Verde**	**5.25**	**174**	P	**Pn**	**02 34 41.6**	**+2.2**
	190nm,0.3s,baz=17,slow=9.0,SNR=63						
LVC				S	**Sn**	**02 35 38.7**	**-0.8**
	292nm,0.3s,baz=90,slow=22,SNR=18						
SAML	**Samuel**	**10.36**	**37**	*e*Pn	**Pn**	**02 35 46.0**	**-1.1**
CFAA	**Coronel Fontan**	**14.23**	**176**	P	**Pn**	**02 36 37.8**	**+0.7**
	0.1nm,0.3s,baz=352,slow=11,SNR=11						
PTGA	**Pitinga**	**18.98**	**30**	P	**P**	**02 37 31.3**	**-1.0**
	0.6nm,0.3s,baz=44,slow=23,SNR=6.2						
OTAV	**Otavalo**	**19.60**	**332**	*e*P	**P**	**02 37 38.9**	**-0.5**
BDFB	**Brasilia**	**20.64**	**88**	P	**P**	**02 37 49.5**	**-0.8**
	2.6nm,0.6s,baz=259,slow=15,SNR=6.8						
GTBY	**Guantanamo Bay**	**37.46**	**351**	*e*P	**P**	**02 40 21.6**	**+0.4**
WMOK	**Wichita Mounta**	**58.83**	**332**	*e*P	**P**	**02 43 05.2**	**+0.3**
	2.3nm,0.6s						
WUAZ	**Wupatki**	**65.90**	**323**	*e*P	**P**	**02 43 52.6**	**+0.5**
	1.4nm,0.7s						
DBIC	**Dimbokro**	**68.13**	**75**	P	**P**	**02 44 05.9**	**-0.6**
	3.0nm,0.5s,baz=225,slow=5.9,SNR=10						
DBIC	**Dimbokro**	**68.13**	**75**	*e*P	**P**	**02 44 05.3**	**-1.1**
	4.1nm,0.6s						
ULM	**Lac du Bonnet**	**71.23**	**342**	P	**P**	**02 44 24.4**	**-0.3**
	2.4nm,0.5s,baz=137,slow=4.6,SNR=5.5						
TOA0	**Torodi Ar. Sit**	**76.50**	**71**	*e*P	**P**	**02 44 55.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**76.50**	**71**	P	**P**	**02 44 55.5**	**-0.6**
	2.0nm,0.7s,baz=257,slow=4.9,SNR=24						
YKA	**Yellowknife Ar**	**87.12**	**341**	P	**P**	**02 45 50.8**	**+0.3**
	0.5nm,0.5s,baz=134,slow=5.1,SNR=5.8						

*IDC **23** 02:44:28.3±1.4, 35°.74N×140°.44E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/26, mbtmp3.6/3, MS4.0/1, Ms1 4.0/1, ms1mx2.6/23, Error ellipse: s-maj=72.0km s-min=30.6km az=97.0*

*ISCJB **23** 02:45:32.7±0.7, 43°.0N±0°.1×140°.1E±0°.1, h200km, mb3.1/2, Error ellipse: s-maj=15.9km s-min=10.3km az=155.1*

*JMA **23** 02:45:33.9±0.2, 43°.19N×139°.96E, h181km±2km, M2.7*

ISC 23 02:45:33.3±1.1, 43°.0N±0°.1×140°.09E±0°.09, h200km, n14, σ1§21/16, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSH	**Shimam**	**0.33**	**185**	P	**Pn**	**02 45 59.1**	**-0.7**
JSH				*e*S	**Sn**	**02 46 17.7**	**-2.6**
JNB	**Noboribetsu**	**0.86**	**125**	P	**Pn**	**02 46 02.1**	**0.0**
JYM2	**Yakumo 2**	**0.87**	**166**	P	**Pn**	**02 46 02.5**	**+0.3**
JOSM	**Okushiri--Mats**	**0.99**	**207**	P	**Pn**	**02 46 03.1**	**+0.1**
JEW	**Eniwo**	**1.01**	**97**	P	**Pn**	**02 46 03.4**	**+0.3**
JKB	**Kayabe**	**1.29**	**147**	P	**Pn**	**02 46 06.1**	**+1.0**
JHR	**Hokuryu**	**1.43**	**56**	P	**Pn**	**02 46 05.5**	**-0.7**
JFR	**Furan**	**1.85**	**83**	P	**Pn**	**02 46 10.4**	**+0.2**
JNBK	**Urakawa-nobuka**	**2.08**	**108**	P	**Pn**	**02 46 13.1**	**+0.5**
JKK2	**Kamakawa 2**	**2.14**	**64**	P	**Pn**	**02 46 13.2**	**0.0**
JKK2				*e*S	**Sn**	**02 46 43.6**	**-0.7**
JCH	**Churui**	**2.44**	**97**	P	**Pn**	**02 46 15.9**	**-0.5**
JCH				*e*S	**Sn**	**02 46 47.9**	**-2.1**
ILAR	**Eielson Array**	**45.14**	**35**	P	**P**	**02 53 31.4**	**+2.1**
	0.2nm,0.6s,baz=276,slow=9.0,SNR=4.3						
FINES	**FINESS Array B**	**63.12**	**331**	P	**P**	**02 55 38.9**	**-0.2**
	0.9nm,0.7s,baz=53,slow=5.4,SNR=4.7						
ASAR	**Alice Springs**	**66.54**	**186**	LR	LR	03 19 56.2	
	comp=Z,119nm,19.2s,baz=324,slow=36						

*IDC **23** 03:04:00.4±2.4, 6°.84N×72°.73W, h158km±22km, mb3.3/10, mb1 3.6/11, mb1mx3.4/26, mbtmp3.8/11, Error ellipse: s-maj=28.5km s-min=15.9km az=65.0*

*ISCJB **23** 03:04:01.4±0.6, 6°.93N±0°.06×73°.01W±0°.05, h166km, mb3.4/9, Error ellipse: s-maj=9.4km s-min=5.6km az=139.8*

*FUNV **23** 03:04:01.6, 6°.76N×73°.11W, h170km, MW4.0*

ISC 23 03:04:01.5±0.7, 6°.81N±0°.06×72°.96W±0°.06, h166km, n26, σ1§51/36, mb3.4/9, 3C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.23**	**31**	⇑*i*P	**Pn**	**03 04 30.7**	**+0.7**
CAPV				*e*S	**Sn**	**03 04 52.3**	**+0.3**
ROSC	**El Rosal**	**2.37**	**215**	P	**Pn**	**03 04 42.6**	**+0.4**
	70nm,0.3s,baz=271,slow=20,SNR=188						
ROSC				S	**Sn**	**03 05 09.8**	**-4.0**
	59nm,0.3s,baz=102,slow=15,SNR=15						
SOCV	**Socops**	**2.55**	**55**	*e*P	**Pn**	**03 04 45.5**	**+1.5**
SOCV				*e*S	**Sn**	**03 05 17.6**	**+0.6**
VIGV	**El Vigia**	**2.56**	**38**	⇑*i*P	**Pn**	**03 04 45.2**	**+0.9**
ELOV	**Elorza**	**3.46**	**87**	*e*P	**Pn**	**03 04 56.8**	**+1.6**
VIRV	**Villa del Rosa**	**3.71**	**8**	*e*P	**Pn**	**03 04 57.5**	**-1.0**
VIRV				*e*S	**Sn**	**03 05 41.0**	**-2.0**
QARV	**Quebrada Arrib**	**4.15**	**35**	⇑*i*P	**Pn**	**03 05 05.0**	**+0.9**
QARV				*e*S	**Sn**	**03 05 51.1**	**-2.0**
SANV	**Sanarito**	**4.32**	**51**	*e*P	**Pn**	**03 05 07.1**	**+0.7**
CURV	**Curarigua**	**4.35**	**43**	*e*P	**Pn**	**03 05 07.4**	**+0.6**
CURV				*e*S	**Sn**	**03 05 55.6**	**-2.3**
DABV	**Dabajuro**	**4.69**	**29**	*e*P	**Pn**	**03 05 11.6**	**+0.5**
DABV				*e*S	**Sn**	**03 06 02.2**	**-3.4**
TEPV	**Terepaima**	**4.87**	**50**	*e*P	**Pn**	**03 05 14.1**	**+0.5**
SIQV	**Siquisique**	**4.93**	**39**	*e*P	**Pn**	**03 05 14.4**	**+0.2**
SIQV				*e*S	**Sn**	**03 06 09.1**	**-2.1**
BAUV	**El Baul**	**5.31**	**66**	*e*P	**Pn**	**03 05 19.0**	**-0.3**
BAUV				*e*S	**Sn**	**03 06 17.5**	**-2.7**
JTS	**JuntasAbangare**	**12.36**	**287**	P	**P**	**03 06 58.5**	**+1.2**
	0.8nm,0.3s,baz=290,slow=22,SNR=6.9						
TEIG	**Tepich**	**19.97**	**313**	P	**P**	**03 08 22.2**	**+1.2**
	5.2nm,0.5s,baz=52,slow=2.8,SNR=7.0						
LPAZ	**La Paz**	**23.44**	**168**	P	**P**	**03 08 57.0**	**+0.4**
	0.6nm,0.6s,baz=355,slow=8.6,SNR=4.6						
TXAR	**Lajitas Array**	**36.59**	**312**	P	**P**	**03 10 52.3**	**+0.5**
	0.7nm,0.6s,baz=130,slow=9.5,SNR=11						
TXAR				PcP	**PcP**	**03 13 13.3**	**+1.8**
	0.4nm,0.7s,baz=132,slow=5.0,SNR=4.4						
ULM	**Lac du Bonnet**	**47.35**	**340**	P	**P**	**03 12 18.4**	**-0.2**
	1.9nm,0.5s,baz=138,slow=4.9,SNR=5.8						
SCHQ	**Schefferville**	**48.14**	**5**	P	**P**	**03 12 24.2**	**-0.4**
	0.9nm,0.8s,baz=205,slow=4.9,SNR=4.2						
PDAR	**Pinedale Array**	**48.19**	**324**	P	**P**	**03 12 25.9**	**+0.5**
	0.6nm,0.6s,baz=119,slow=9.3,SNR=4.9						
NVAR	**Mina Array Bea**	**51.61**	**315**	P	**P**	**03 12 51.9**	**+0.6**
	0.3nm,0.5s,baz=100,slow=7.4,SNR=4.1						
YKA	**Yellowknife Ar**	**63.33**	**340**	P	**P**	**03 14 12.8**	**+0.3**
	1.4nm,0.6s,baz=132,slow=6.5,SNR=17						
TORD	**Torodi Ar. Bea**	**73.58**	**78**	P	**P**	**03 15 15.1**	**-2.0**
	0.1nm,0.5s,baz=285,slow=6.1,SNR=6.1						
ILAR	**Eielson Array**	**77.05**	**335**	P	**P**	**03 15 36.2**	**+0.3**
	0.2nm,0.6s,baz=89,slow=4.1,SNR=3.9						
ASAR	**Alice Springs**	**149.23**	**234**	PKPbc	**PKPbc**	**03 23 30.8**	**-0.6**
	0.5nm,0.5s,baz=122,slow=3.5,SNR=9.3						
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	**PKPbc**	**03 23 33.9**	**-0.5**
	0.6nm,0.4s,baz=107,slow=2.7,SNR=9.5						

MAN 23 03:48:40.8°.60N×125°.91E, h7km, mb4.2, ML3.1, MS2.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.46**	**322**	*e*P	Pb	03 48 49.8	-0.8
BUTP				*e*S	Sb	03 48 59.7	+2.1
BUKP	**Musuan**	**1.10**	**229**	*e*P	Pg	03 49 00.5	-0.8
BUKP				*e*S	Sn	03 49 17.2	-0.2
CGP	**Cagayan de Oro**	**1.21**	**263**	*e*P	Pg	03 49 02.4	-0.8
CGP				*i* S	Sn	03 49 21.0	+1.0
SCPH	**Surigao**	**1.25**	**341**	⇑*e*P	Pg	03 49 04.0	0.0
SCPH				*i* S	Sn	03 49 20.6	-0.3
PAGZ	**Pagadian**	**2.61**	**254**	*e*P	Pb	03 49 24.9	-2.2

*ISCJB **23** 04:51:49.0±0.3, 37°.53N±0°.03×72°.19E±0°.05, h200km, mb3.5/8, Error ellipse: s-maj=6.0km s-min=3.7km az=164.0*

*NEIC **23** 04:51:49.7±0.8, 37°.44N×72°.36E, h206km±7km, mb4.4/5, Error ellipse: s-maj=12.3km s-min=7.8km az=129.0*

*IDC **23** 04:51:50.4±5.8, 37°.34N×72°.36E, h220km±54km, mb3.3/8, mb1 3.5/12, mb1mx3.3/29, mbtmp4.0/12, MS4.0/1, Ms1 4.0/1, ms1mx2.6/23, Error ellipse: s-maj=29.8km s-min=20.4km az=179.0*

*NNC **23** 04:51:55.5±3.2, 37°.99N×72°.26E, h226km±28km, mb3.0, mpv4.2, Error ellipse: s-maj=30.9km s-min=18.4km az=16.0*

ISC 23 04:51:49.2±0.6, 37°.53N±0°.05×72°.29E±0°.07, h200km, n57, σ1§22/57, mb3.6/8, 7C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**3.98**	**222**	*e*Pn	**Pn**	**04 52 52.0**	**+1.0**
KBL				*e*S	**Sn**	**04 53 38.0**	**-1.4**
AML	**Almayashu**	**4.72**	**13**	P	**Pn**	**04 53 01.6**	**+1.3**
	SNR=252						
UCH	**Uchtor**	**4.99**	**19**	P	**Pn**	**04 53 04.9**	**+1.1**
	SNR=89						
KZA	**Kyzart**	**5.08**	**26**	P	**Pn**	**04 53 05.5**	**+0.6**
	SNR=66						
EKS2	**Erkin-Say**	**5.25**	**12**	P	**Pn**	**04 53 08.1**	**+1.2**
	SNR=29						
EKS2	**Erkin-Say**	**5.25**	**12**	*e*Pn	**Pn**	**04 53 08.0**	**+1.2**
	32nm,0.6s						
EKS2				*e*S	**Sn**	**04 54 08.0**	**-0.2**
AAK	**Ala-Archa**	**5.37**	**18**	P	**Pn**	**04 53 10.1**	**+1.7**
	SNR=7.5						
AAK	**Ala-Archa**	**5.37**	**18**	⇓P	**Pn**	**04 53 09.8**	**+1.4**
	23nm,0.5s						
AAK				⇑S	**Sn**	**04 54 10.5**	**-0.5**
	12nm,0.4s						
AAK	**Ala-Archa**	**5.37**	**18**	P	Pn	04 53 24.0	+16
	8.8nm,0.3s,baz=177,slow=9.8,SNR=35						
AAK				S	Sn	04 54 25.5	+14
	9.8nm,0.3s,baz=91,slow=19,SNR=17						
KBK	**Karagaybulak**	**5.51**	**21**	P	**Pn**	**04 53 12.2**	**+2.0**
	SNR=12						
ULHL	**Ulahol**	**5.60**	**32**	P	**Pn**	**04 53 12.3**	**+0.8**
	SNR=13						
KK31	**Karatay Array**	**5.73**	**347**	⇓P	**Pn**	**04 53 13.8**	**+1.0**
	18nm,0.5s,baz=160,slow=11,SNR=133						
KK31				S	**Sn**	**04 54 17.1**	**-2.1**
	14nm,0.3s,baz=158,slow=25,SNR=17						
KKAR	**Karatay Array**	**5.73**	**347**	*e*Pn	**Pn**	**04 53 13.9**	**+1.1**
	28nm,0.4s						
KKAR				*e*S	**Sn**	**04 54 18.0**	**-1.1**
CHMS	**Chumysh**	**5.78**	**18**	P	**Pn**	**04 53 14.7**	**+1.2**
	SNR=10						
TKM2	**Tokmak 2**	**5.95**	**24**	P	**Pn**	**04 53 17.1**	**+1.2**
	SNR=27						
TKM2	**Tokmak 2**	**5.95**	**24**	⇑P	**Pn**	**04 53 16.6**	**+0.7**
	15nm,0.6s						
TKM2				⇑S	**Sn**	**04 54 22.0**	**-2.6**
	5.9nm,0.6s						
TKM2	**Tokmak 2**	**5.95**	**24**	*e*Pn	**Pn**	**04 53 16.9**	**+1.0**
	19nm,0.6s						
TKM2				*e*S	Sn	04 54 16.6	-7.9
USP	**Ospenovka**	**5.97**	**16**	P	**Pn**	**04 53 17.0**	**+1.0**
	SNR=6.3						
SMLA	**Simla**	**7.55**	**146**	*i* P	**Pn**	**04 53 35.5**	**-1.2**
SMLA				*i* S	Sn	04 54 53.1	-9.0
SMLA				AML	AML	04 54 58.1	
	comp=E,2μm,0.4s						
SMLA				AML	AML	04 54 58.6	
	comp=N,2μm,0.4s						
JOSI	**Joshimath**	**9.21**	**137**	*e*P	Pn	04 54 12.5	+14
JOSI				*e*S	Sn	04 55 48.0	+6.3
JOSI				AML	AML	04 55 59.6	
	comp=N,70nm,0.3s						
JOSI				AML	AML	04 55 59.9	
	comp=E,54nm,0.4s						
KALG	**Kalgarh**	**9.65**	**144**	*e*S	Sn	04 55 41.0	-11
NDI	**New Delhi**	**9.74**	**154**	*ex*	Sn	04 55 45.0	-9.1
AYAN	**Aya Nagar**	**9.89**	**154**	*e*S	Sn	04 55 46.1	-12
SONA	**Sohna**	**10.09**	**155**	*e*P	**Pn**	**04 54 10.7**	**+1.0**
SONA				*e*S	Sn	04 55 48.8	-14
SONA				AML	AML	04 55 55.0	
	comp=E,30nm,0.3s						
SONA				AML	AML	04 55 55.9	
	comp=N,17nm,0.4s						
AGRA	**Agra**	**11.33**	**153**	*e*S	Sn	04 56 20.4	-11
AGRA				AML	AML	04 56 38.1	
	comp=E,65nm,0.4s						
AGRA				AML	AML	04 56 39.4	
	comp=N,76nm,0.5s						
MK31	**Makanchi Array**	**11.85**	**36**	⇑P	**Pn**	**04 54 32.8**	**+0.7**
	comp=N,1.0nm,0.8s,baz=210,slow=12,SNR=4.8						
MK31	**Makanchi Array**	**11.85**	**36**	*e*Pn	**Pn**	**04 54 33.2**	**+1.1**
KOLN	**Koldanda**	**13.61**	**132**	*e*P	**P**	**04 54 58.3**	**+1.4**
	comp=N,15nm,0.4s						
KURBB	**Kurchatov Arra**	**13.83**	**17**	⇑P	**P**	**04 54 59.4**	**+0.5**
	comp=N,4.4nm,0.7s						
KURBB	**Kurchatov Arra**	**13.83**	**17**	P	**P**	**04 55 00.0**	**+1.1**
	comp=N,0.1nm,0.3s,baz=202,slow=11,SNR=20						
KURK	**Kurchatov**	**13.93**	**17**	*e*Pn	**P**	**04 55 00.6**	**+0.6**
	comp=N,2.4nm,0.8s						
GKN	**Gorkha**	**14.07**	**129**	*e*P	**P**	**04 55 01.7**	**-0.2**
	comp=N,48nm,0.4s						
KKN	**Kakani**	**14.62**	**128**	*e*P	**P**	**04 55 08.7**	**+0.6**
	comp=N,11nm,0.3s						
DMN	**Daman**	**14.64**	**129**	*e*P	**P**	**04 55 09.4**	**+1.0**
	comp=N,28nm,0.4s						
AB31	**Akbulak array**	**14.74**	**327**	⇑P	**P**	**04 55 08.2**	**-0.8**
	comp=N,1.2nm,0.4s,baz=127,slow=11,SNR=30						
AB31				⇑S	S	04 57 43.0	-8.6
	comp=N,3.9nm,0.8s,baz=129,slow=24,SNR=4.7						
ABKAR	**Akbulak array**	**14.74**	**327**	*e*Pn	**P**	**04 55 08.3**	**-0.7**
	comp=N,2.0nm,0.4s						
ABKAR				*e*S	S	04 57 43.1	-8.4
PKIN	**Phulchoki**	**14.84**	**128**	*e*P	**P**	**04 55 11.3**	**+0.7**
	comp=N,11nm,0.3s						
PKI	**Pulchoki**	**14.85**	**128**	*e*P	**P**	**04 55 11.5**	**+0.7**
	comp=N,19nm,0.5s						
GUN	**Gumba**	**14.91**	**126**	*e*P	**P**	**04 55 12.2**	**+0.7**
	comp=N,8.7nm,0.3s						
BVA0	**Borovoye Array**	**15.55**	**356**	⇓P	**P**	**04 55 18.3**	**+0.4**
	comp=N,1.5nm,0.5s,baz=250,slow=40,SNR=4.6						
BVAR	**Borovoye Array**	**15.55**	**356**	P	**P**	**04 55 19.5**	**+1.5**
	comp=N,0.6nm,0.3s,baz=159,slow=11,SNR=6.6						
RAMN	**Ramite**	**16.04**	**127**	*e*P	**Pn**	**04 55 24.8**	**+0.5**
	comp=N,18nm,0.4s						
AKTO	**Aktyubinsk**	**16.45**	**326**	⇓P	**Pn**	**04 55 29.6**	**+0.9**
	comp=N,6.3nm,0.5s						
AKTO				⇓S	**S**	**04 58 26.5**	**-3.2**
	comp=N,3.3nm,1.4s						
AKTO	**Aktyubinsk**	**16.45**	**326**	P	**Pn**	**04 55 29.9**	**+1.2**
	comp=N,1.7nm,0.3s,baz=130,slow=14,SNR=26						
TAPN	**Taplejung**	**16.49**	**124**	*e*P	**Pn**	**04 55 28.7**	**-1.0**
	comp=N,8.8nm,0.4s						
ZAA0	**Zalesovo Array**	**18.55**	**24**	*e*P	**Pn**	**04 55 51.5**	**-1.9**
ZALV	**Zalesovo Beam**	**18.55**	**24**	P	**Pn**	**04 55 51.7**	**-1.7**
	comp=N,2.0nm,0.3s,baz=222,slow=10,SNR=55						
BRTR	**Keskin Array B**	**30.12**	**286**	P	**P**	**04 57 41.4**	**+1.1**
	comp=N,0.6nm,0.4s,baz=112,slow=5.5,SNR=3.7						
AKASG	**Malin Array Be**	**33.12**	**307**	P	**P**	**04 58 07.6**	**+1.4**
	comp=N,0.4nm,0.4s,baz=110,slow=9.0,SNR=3.4						
FINES	**FINESS Array B**	**37.22**	**325**	P	**P**	**04 58 42.0**	**+1.0**
	comp=N,1.0nm,0.3s,baz=126,slow=9.0,SNR=12						
ARCES	**ARCESS Array B**	**40.59**	**337**	P	**P**	**04 59 10.1**	**+1.2**
	comp=N,1.8nm,0.5s,baz=109,slow=8.0,SNR=14						
NB2	**NORSAR Subarra**	**44.19**	**322**	P	**P**	**04 59 38.2**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**44.19**	**322**	P	**P**	**04 59 38.3**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=93,slow=7.7,SNR=12						
ASAJ	**Asahikawa**	**52.14**	**59**	LR	LR	05 25 17.9	
	comp=Z,134nm,18.1s,baz=5.5,slow=38						
TORD	**Torodi Ar. Bea**	**66.77**	**269**	P	**P**	**05 02 18.4**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=49,slow=5.8,SNR=18						
YKA	**Yellowknife Ar**	**80.16**	**3**	P	**P**	**05 03 36.8**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=348,slow=5.5,SNR=8.1						
WRA	**Warramunga Arr**	**81.67**	**123**	P	**P**	**05 03 43.9**	**-1.4**
	comp=Z,0.4nm,0.9s,baz=328,slow=5.0,SNR=4.7						

IDC 23 04:59:55.9±1.5, 0°.53S×147°.40E, h0km, mb4.1/4, mb1 4.4/4, mb1mx3.8/29, mbtmp4.1/4, MS3.1/2, Ms1 3.1/2, ms1mx2.6/21, Error ellipse: s-maj=110.9km s-min=28.1km az=117.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**14.25**	**350**	LR	LR	05 09 23.5	
	comp=Z,24nm,18.3s,baz=143,slow=40						
WRA	**Warramunga Arr**	**23.15**	**213**	P	P	05 05 03.7	-0.5
	14nm,0.8s,baz=36,slow=9.6,SNR=48						
ASAR	**Alice Springs**	**26.47**	**209**	P	P	05 05 35.4	+0.4
	4.0nm,0.8s,baz=41,slow=7.2,SNR=27						
H11S3	**WAKE ISLAND Hy**	**26.77**	**44**	T	T	05 34 11.5	
	baz=228,slow=75,SNR=6.9						
H11S2	**WAKE ISLAND Hy**	**26.78**	**44**	T	T	05 34 04.9	
	baz=228,slow=75,SNR=5.3						
H11S1	**WAKE ISLAND Hy**	**26.79**	**44**	T	T	05 34 09.2	
	baz=228,slow=75,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**27.74**	**42**	T	T	05 35 08.2	
	baz=223,slow=74,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**27.76**	**42**	T	T	05 35 20.9	
	baz=171,slow=74,SNR=7.7						
USRK	**Ussuriysk Ar.**	**46.60**	**345**	LR	LR	05 26 00.4	
	comp=Z,58nm,19.7s,baz=198,slow=34						
VNDA	**Vanda**	**77.32**	**177**	P	P	05 11 52.0	0.0
	1.1nm,0.9s,baz=7.7,slow=7.3,SNR=4.7						
ILAR	**Eielson Array**	**80.33**	**23**	P	P	05 12 08.8	0.0
	0.6nm,0.9s,baz=243,slow=5.7,SNR=4.6						

*IDC **23** 05:17:58.5±2.1, 22°.50N×142°.97E, h138km±18km, mb3.8/14, mb1 4.0/17, mb1mx3.8/31, mbtmp4.2/17, Error ellipse: s-maj=19.4km s-min=11.7km az=94.0*

*ISCJB **23** 05:17:59.1±0.4, 22°.54N±0°.05×142°.81E±0°.08, h150km, mb4.1/29, Error ellipse: s-maj=10.8km s-min=7.1km az=162.9*

*NEIC **23** 05:18:00.1±1.4, 22°.50N×142°.94E, h149km±12km, mb4.4/16, Error ellipse: s-maj=10.3km s-min=8.8km az=152.0*

ISC 23 05:17:59.9±0.6, 22°.55N±0°.08×142°.9E±0°.1, h150km, n46, σ0§98/50, mb4.2/28, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.57**	**352**	P	**Pn**	**05 19 08.4**	**+0.8**
	122nm,0.3s,baz=122,slow=24,SNR=98						
JCJ				S	**Sn**	**05 19 58.6**	**-1.8**
	123nm,0.3s,baz=288,slow=20,SNR=12						
CBIJ	**Chichi jima**	**4.57**	**352**	P	**Pn**	**05 19 08.4**	**+0.8**
CBIJ

*KRSC **23** 05:24:52.2±2.1, 49.°35N×158.°97E, h40km±19km, ML4.3*
*MOS **23** 05:24:52.2±2.8, 49.°35N×158.°97E, h41km, mb4.4/1, Error ellipse: s-maj=31.5km s-min=7.4km az=90.1*

ISC 23 05:24:52.5±3.3, 49.°1N±0.°2×158.°84E±0.°07, h35km, n34, σ1§59/51, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.35**	**313**	*eP*		**Pn**	**05 25 27.6**	**-1.0**
SKR				*eS*		**Sn**	**05 25 53.6**	**-2.5**
SKR	**Severo-Kuril's**	**2.35**	**313**	*ePN*		Pn	05 25 21.8	-6.8
SKR	comp=N,50nm,0.4s			pmax	pmax			
SKR	comp=E,40nm,0.4s			pmax	pmax			
SKR	comp=Z,60nm,0.4s			pmax	pmax			
PAU	**Pauzhetka**	**2.68**	**332**	*eP*		**Pn**	**05 25 34.3**	**+1.2**
PAU				*eS*		**Sn**	**05 26 04.3**	**0.0**
PAU	**Pauzhetka**	**2.68**	**332**	*P*	PN	**Pn**	**05 25 34.3**	**+1.2**
PAU				*S*		**Sn**	**05 26 04.3**	**0.0**
ASAK	**Asacha**	**3.31**	**350**	*eP*		**Pn**	**05 25 43.4**	**+1.5**
RUS	**Russkaya**	**3.32**	**357**	*eP*		**Pn**	**05 25 42.4**	**+0.6**
RUS				*eS*		**Sn**	**05 26 18.3**	**-1.7**
RUS	**Russkaya**	**3.32**	**357**	*P*	PN	**Pn**	**05 25 42.4**	**+0.6**
RUS				*S*		**Sn**	**05 26 18.3**	**-1.7**
MTVR	**Mutnovka**	**3.39**	**353**	*eP*		**Pn**	**05 25 43.3**	**+0.3**
MTVR				*eS*		**Sn**	**05 26 20.1**	**-1.8**
MIPR	**Malaya Ipel'ka**	**3.42**	**338**	*eP*		**Pn**	**05 25 44.8**	**+1.5**
MIPR				*eS*		**Sn**	**05 26 22.5**	**-0.1**
PET	**Petropavlovsk**	**3.90**	**358**	*eS*		**Sn**	**05 26 34.3**	**-0.2**
SPN	**Mys Shipunski**	**4.05**	**10**	*eP*		**Pn**	**05 25 52.9**	**+1.0**
SPN				*eS*		**Sn**	**05 26 37.3**	**-0.7**
SPN	**Mys Shipunski**	**4.05**	**10**	*P*	PN	**Pn**	**05 25 52.9**	**+1.0**
SPN				*S*		**Sn**	**05 26 37.3**	**-0.7**
NLC	**Nalytchevo**	**4.06**	**4**	*eS*		**Sn**	**05 26 37.8**	**-0.5**
UGLR	**Uglovaya**	**4.09**	**360**	*eP*		**Pn**	**05 25 54.4**	**+1.8**
SMAR	**Somma**	**4.14**	**360**	*eP*		**Pn**	**05 25 53.9**	**+0.5**
SMAR	**Somma**	**4.14**	**360**	*P*	PN	**Pn**	**05 25 53.9**	**+0.5**
AVH	**Avacha**	**4.14**	**359**	*eP*		**Pn**	**05 25 54.7**	**+1.4**
AVH				*eS*		**Sn**	**05 26 40.6**	**+0.1**
AVH	**Avacha**	**4.14**	**359**	*P*	PN	**Pn**	**05 25 54.7**	**+1.4**
AVH				*S*		**Sn**	**05 26 40.6**	**+0.1**
SDLR	**Sedlovina**	**4.16**	**0**	*eP*		**Pn**	**05 25 53.5**	**0.0**
SDLR				*eS*		**Sn**	**05 26 37.7**	**-3.2**
SDLR	**Sedlovina**	**4.16**	**0**	*P*	PN	**Pn**	**05 25 53.5**	**0.0**
SDLR				*S*		**Sn**	**05 26 37.7**	**-3.2**
KOK	**Koryaka**	**4.17**	**358**	*eP*		**Pn**	**05 25 55.4**	**+1.7**
KOK				*eS*		**Sn**	**05 26 41.4**	**+0.1**
KOK	**Koryaka**	**4.17**	**358**	*P*	PN	**Pn**	**05 25 55.4**	**+1.7**
KOK				*S*		**Sn**	**05 26 41.4**	**+0.1**
KRER	**Koryakskii**	**4.18**	**359**	*eP*		**Pn**	**05 25 55.5**	**+1.5**
KRX	**Arik**	**4.24**	**358**	*eP*		**Pn**	**05 25 55.9**	**+1.2**
KRX				*eS*		**Sn**	**05 26 41.7**	**-1.3**
GNL	**Ganaly**	**4.61**	**353**	*eP*		**Pn**	**05 26 02.0**	**+2.3**
GNL	**Ganaly**	**4.61**	**353**	*P*	PN	**Pn**	**05 26 02.0**	**+2.3**
MKZ	**Mys Kozlova**	**5.72**	**17**	*eP*		**Pn**	**05 26 15.4**	**+0.5**
MKZ				*eS*		**Sn**	**05 27 16.0**	**-3.3**
MKZ	**Mys Kozlova**	**5.72**	**17**	*P*	PN	**Pn**	**05 26 15.4**	**+0.5**
MKZ				*S*		**Sn**	**05 27 16.0**	**-3.3**
TUMR	**Tumrok**	**6.22**	**7**	*eP*		**Pn**	**05 26 24.4**	**+2.6**
TUMR	**Tumrok**	**6.22**	**7**	*P*	PN	**Pn**	**05 26 24.4**	**+2.6**
KBTR	**Krutoberegovo**	**7.49**	**17**	*eP*		**Pn**	**05 26 40.9**	**+1.7**
KBTR	**Krutoberegovo**	**7.49**	**17**	*P*	PN	**Pn**	**05 26 40.9**	**+1.7**
BKI	**Bering**	**7.50**	**33**	*eP*		**Pn**	**05 26 40.1**	**+0.9**
BKI	**Bering**	**7.50**	**33**	*P*	PN	**Pn**	**05 26 40.1**	**+0.9**

MEX 23 05:39:28.3±0.9, 17.°20N×94.°72W, h145km±8km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.19**	**234**	*i P*		Pn	05 39 47.1	-0.9
CMIG				*i S*		Sn	05 40 00.7	-2.2
TUIG	**Tuzandepetl**	**0.87**	**19**	*eP*		Pn	05 39 50.1	-1.5
TUIG				*eS*		Sn	05 40 06.6	-2.8
TGIG		**1.59**	**105**	*eP*		Pn	05 39 58.0	-0.5
TGIG				*i S*		Sn	05 40 19.3	-2.3
HUIG	**Huatulco**	**1.95**	**223**	*eP*		Pn	05 40 00.7	-1.9
HUIG				*eS*		Sn	05 40 27.6	-1.3
PCIG		**2.07**	**136**	*eP*		Pn	05 40 03.3	-0.7
PCIG				*eS*		Sn	05 40 29.7	-1.7
PNIG	**Pinotepa**	**3.36**	**257**	*eP*		Pn	05 40 18.3	-1.9
PNIG				*eS*		Sn	05 40 58.4	-1.9

*IDC **23** 05:47:43.7±3.0, 6.°96N×79.°67W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.6/23, mbtmp3.7/7, ML3.4/1, MS3.1/10, Ms1 3.1/10, ms1mx3.0/26, Error ellipse: s-maj=66.0km s-min=50.6km az=4.0*
*ISCJB **23** 05:47:47.0±1.8, 7.°14N±0.°06×79.°87W±0.°06, h15km±10km, mb3.7/6, MS3.1/5, Error ellipse: s-maj=12.0km s-min=8.9km az=141.0*
*UPA **23** 05:47:48.7, 7.°30N×79.°96W, h0km, MW4.5*
*CASC **23** 05:47:49.6±2.6, 7.°32N×79.°94W, h4km±14km*

ISC 23 05:47:48.2±2.4, 7.°28N±0.°09×79.°84W±0.°06, h12km±12km, n28, σ1§40/27, mb3.8/6, MS3.0/5, 2C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AZU	**Azuero**	**0.67**	**319**	*i P*		**Pg**	**05 48 00.6**	**-0.7**
AZU				*eS*		**Sb**	**05 48 10.4**	**-0.7**
PNME	**Penonome**	**1.29**	**338**	*i P*		**Pn**	**05 48 11.3**	**-0.9**
PNME				*eS*		**Sb**	**05 48 29.4**	**+0.3**
ZANG	**Zanguenga, Cho**	**1.66**	**359**	*eP*		**Pn**	**05 48 18.8**	**-0.1**
ZANG				*eS*		**Sg**	**05 48 41.8**	**+0.1**
UPIG		**1.72**	**10**	*i P*		**Pn**	**05 48 19.1**	**+1.0**
UPIG				*eS*		**Sb**	**05 48 42.0**	**+0.5**
BCIP	**Isla Barro Col**	**1.87**	**360**	*eP*		**Pn**	**05 48 21.4**	**+1.2**
BCIP				*eS*		**Sb**	**05 48 47.4**	**+1.6**
UPD2	**Meteti**	**2.20**	**55**	*i P*		**Pn**	**05 48 26.3**	**+1.6**
BRU	**Baru**	**3.10**	**299**	*eP*		**Pn**	**05 48 39.7**	**+2.3**
BRU2	**Volcan**	**3.20**	**298**	*eP*		**Pn**	**05 48 39.8**	**+1.2**
BRU2				*eS*		**Sn**	**05 49 16.7**	**-0.1**
CTCR	**Cotoan**	**3.31**	**299**	*eP*		**Pn**	**05 48 39.5**	**-0.6**
BUS	**Buena Vista**	**4.49**	**300**	*eP*		**Pn**	**05 48 57.7**	**+1.1**
URSC	**Urasca**	**4.65**	**303**	*eP*		**Pn**	**05 49 00.7**	**+2.2**
JTS	**JuntasAbangare**	**5.88**	**301**	*P*	Pn	**Pn**	**05 49 18.0**	**+2.8**
JTS	0.9nm,0.3s,baz=135,slow=5.7,SNR=8.9					**Sb**	**05 50 42.5**	**+1.4**
JTS	0.3nm,0.3s,baz=287,slow=20,SNR=2.5				LR	LR	05 51 38.9	
JTS	comp=Z,195nm,19.3s,baz=124,slow=38 **JuntasAbangare**	**5.88**	**301**	*eP*		**Pn**	**05 49 17.9**	**+2.6**
ROSC	**El Rosal**	**5.98**	**113**	LR		LR	05 51 44.2	
ATAH	comp=Z,61nm,21.3s,baz=22,slow=42 **Atahualpa**	**14.39**	**174**	LR		LR	05 56 18.1	
TEIG	comp=Z,82nm,21.2s,baz=17,slow=37 **Tepich**	**15.25**	**328**	LR		LR	05 58 34.5	
NNA	comp=Z,94nm,18.9s,baz=120,slow=42 **Nana**	**19.37**	**171**	LR		LR	06 00 20.1	
PTGA	comp=Z,41nm,18.1s,baz=338,slow=40 **Pitinga**	**21.36**	**111**	LR		LR	06 00 18.0	
LPAZ	comp=Z,43nm,20.1s,baz=220,slow=36 **La Paz**	**26.13**	**154**	LR		LR	06 04 17.9	
TKL	comp=Z,51nm,20.2s,baz=7.0,slow=39 **Tuckaleechee C**	**28.47**	**353**	LR		LR	06 04 04.6	
TXAR	comp=Z,38nm,21.0s,baz=136,slow=34 **Lajitas Array**	**31.38**	**317**	LR		LR	06 09 47.3	
PDAR	comp=Z,50nm,19.2s,baz=0.0,slow=42 **Pinedale Array**	**43.98**	**328**	*P*		**P**	**05 55 55.6**	**-0.2**
PDAR	0.6nm,0.8s,baz=129,slow=8.6,SNR=6.0				LR	LR	06 16 21.3	
ULM	comp=Z,34nm,20.7s,baz=124,slow=39 **Lac du Bonnet**	**44.88**	**345**	*P*		**P**	**05 56 02.2**	**-0.3**
NVAR	1.9nm,0.7s,baz=168,slow=8.2,SNR=4.6 **Mina Array Bea**	**46.53**	**318**	*P*		**P**	**05 56 15.4**	**-0.7**
SCHQ	0.2nm,0.5s,baz=113,slow=8.2,SNR=3.3 **Schefferville**	**48.55**	**10**	*P*		**P**	**05 56 31.7**	**+0.4**
YKA	1.7nm,0.7s,baz=245,slow=7.1,SNR=4.0 **Yellowknife Ar**	**60.67**	**342**	*P*		**P**	**05 57 57.6**	**-1.5**
ILAR	0.8nm,0.7s,baz=136,slow=7.0,SNR=10 **Eielson Array**	**73.77**	**336**	*P*		**P**	**05 59 22.8**	**+0.6**
WRA	0.4nm,0.7s,baz=128,slow=2.5,SNR=3.5 **Warramunga Arr**	**144.57**	**246**	PKP		**PKPab**	**06 07 22.6**	**-1.6**
	0.9nm,1.0s,baz=102,slow=3.2,SNR=2.3							

*IDC **23** 06:49:02.0±1.8, 30.°06S×177.°39W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/21, mbtmp3.9/3, Error ellipse: s-maj=38.6km s-min=23.5km az=83.0*

ISC 23 06:49:06.5±1.9, 30.°0S±0.°2×177.°3W±0.°3, h35km, n6, σ0§41/7, mb4.0/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.94**	**327**		Pn	**Pn**	**06 49 23.0**	**-0.1**
RAO	283nm,0.3s,baz=104,slow=6.4,SNR=18				Sn	**Sn**	**06 49 35.4**	**+0.1**
STKA	**Stephens Creek**	**35.12**	**256**	*P*		**P**	**06 55 56.4**	**-0.3**
ASAR	1.6nm,0.9s,baz=103,slow=13,SNR=4.1 **Alice Springs**	**43.71**	**266**	*P*		**P**	**06 57 09.1**	**+0.6**
WRA	0.7nm,0.7s,baz=105,slow=7.7,SNR=8.0 **Warramunga Arr**	**44.66**	**271**	*P*		**P**	**06 57 15.9**	**-0.2**
FINES	0.8nm,0.4s,baz=110,slow=7.9,SNR=14 **FINESS Array B**	**145.00**	**341**	PKPbc		**PKPdf**	**07 08 39.0**	**-0.2**
NOA	3.1nm,0.6s,baz=42,slow=2.3,SNR=13 **NORSAR Array B**	**148.48**	**352**	PKPbc		**PKPbc**	**07 08 49.1**	**+0.3**
	0.7nm,0.8s,baz=15,slow=4.3,SNR=3.1							

GUC 23 07:34:08.2±0.5, 35.°57S×73.°04W, h16km±6km, ML3.5, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.59**	**160**	*i P*		Pb	07 34 20.3	+0.1
COCH				*i S*		Sb	07 34 29.9	+1.4
TALC	**Talca**	**1.16**	**82**	*i P*		Pn	07 34 29.8	-0.1
TALC				*i S*		Sg	07 34 46.0	+0.2
LNCH	**Linares**	**1.20**	**104**	*i P*		Pn	07 34 30.4	0.0
LNCH				*i S*		Sg	07 34 47.4	+0.2
NICH	**Los Niches**	**1.59**	**69**	*i P*		Pb	07 34 37.1	-0.2
NICH				*i S*		Sb	07 34 58.2	+1.1
LNV	**Longovilo**	**2.10**	**40**	*eP*		Pb	07 34 44.8	-1.2
CLCH	**Cerro Calan**	**3.00**	**44**	*eP*		Pb	07 34 59.5	-1.9
CLCH				*eS*		Sb	07 35 37.4	-0.6
CLCH					AML	AML	07 35 52.3	
	comp=N,180nm,0.5s							

IDC 23 07:43:47.3±62.0, 21.°33S×177.°45W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/24, mbtmp4.1/3, Error ellipse: s-maj=1136.0km s-min=156.5km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.90**	**245**	*P*		P	07 51 06.6	+0.2
ASAR	1.2nm,0.4s,baz=78,slow=9.3,SNR=7.4 **Alice Springs**	**44.83**	**257**	*P*		P	07 52 03.2	-0.4
WRA	1.5nm,0.6s,baz=91,slow=6.7,SNR=19 **Warramunga Arr**	**45.00**	**263**	*P*		P	07 52 04.7	-0.2
	1.6nm,0.6s,baz=101,slow=8.5,SNR=67							

DJA 23 08:07:14.8±2.3, 4.°S±4.°×133.°6E±.°, h37km±27km, M4.3/8, mb4.3/2, MLv4.3/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.78**	**21**	*P*		Pn	08 07 41.9	-1.2
SRPI				*S*		Sn	08 08 05.3	+0.8
FKPI	**Ransiki, Papua**	**2.48**	**325**	*P*		Pn	08 07 52.5	-0.2
FAKI	**Fak Fak**	**3.41**	**280**	*P*		Pn	08 08 05.1	-0.4
FAKI				*S*		Sn	08 08 45.2	+0.4
SMPI	**Sarmi**	**3.46**	**63**	*P*		Pn	08 08 02.2	-4.0
SMPI				*S*		Sn	08 08 47.0	+1.1
GENI	**Genyem**	**4.65**	**78**	*P*		Pn	08 08 23.0	+0.5
SWI	**Sorong**	**5.10**	**301**	*P*		Pn	08 08 27.2	-1.5
	45nm,0.5s,0.3nm							

IDC 23 08:29:17.7±16.0, 0.°45N×126.°27E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/27, mbtmp4.0/3, Error ellipse: s-maj=251.0km s-min=159.1km az=160.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.76**	**159**	*P*		P	08 34 11.0	-0.1
ASAR	3.4nm,0.6s,baz=338,slow=11,SNR=33 **Alice Springs**	**25.10**	**163**	*P*		P	08 34 44.9	+0.6
STKA	1.0nm,0.4s,baz=336,slow=8.1,SNR=28 **Stephens Creek**	**35.28**	**157**	*P*		P	08 36 13.6	-0.8
	3.3nm,1.1s,baz=346,slow=8.3,SNR=4.0							

*ISCJB **23** 08:39:04.3±0.4, 32.°73N±0.°03×115.°91W±0.°03, h10km±4km, Error ellipse: s-maj=5.0km s-min=3.7km az=26.6*
*NEIC **23** 08:39:05.3, 32.°71N×115.°93W, h5km, ML3.2(ECX), ML3.2(PAS), After PAS.*
NEIC Felt at La Jolla, La Mesa, National City and Valley Center.
*ECX **23** 08:39:05.6±0.7, 32.°71N×115.°93W, h5km, MD3.0, ML3.2*
*MEX **23** 08:39:07.8±0.6, 32.°80N×116.°12W, h10km, MD3.5*

ISC 23 08:39:04.5±0.9, 32.°72N±0.°03×115.°93W±0.°02, h9km±7km, n29, σ1§14/42, 7C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.07**	**178**	*i P*		**Pg**	**08 39 06.7**	**+0.1**
WESC	**Westside Schoo**	**0.17**	**77**	*i P*		**Pg**	**08 39 08.8**	**+0.8**
CRR	**Carrizo Plain**	**0.17**	**348**	*i P*		**Pg**	**08 39 08.8**	**+0.7**
SGL	**Mount Signal**	**0.18**	**113**	*i P*		**Pg**	**08 39 08.7**	**+0.3**
COK	**Cook Ranch**	**0.21**	**53**	*i P*		**Pg**	**08 39 09.8**	**+0.9**
SWSC	**Sam W. Stewart**	**0.24**	**27**	*i P*		**Pg**	**08 39 10.2**	**+0.7**
CBKC	**Canebrake**	**0.33**	**303**	*i P*		**Pg**	**08 39 11.9**	**+0.9**
DREC	**Desert Rsrch C**	**0.41**	**78**	*i P*		**Pg**	**08 39 13.7**	**-0.2**
CPBX	**Cerro Prieto**	**0.61**	**120**	*ePn*		**Pg**	**08 39 16.7**	**+0.5**
CPBX				*eS*		**Sb**	**08 39 25.4**	**-0.5**
CPBX					IAML		08 39 27.7	
	comp=E,7μm,0.3s							
CPBX				*⇓e*			08 39 27.7	
BAR	**Barrett**	**0.63**	**266**	*ePg*		**Pg**	**08 39 16.9**	**+0.2**
BAR				*eSg*		**Sg**	**08 39 24.2**	**-0.8**
BAR	**Barrett**	**0.63**	**266**	*i P*		**Pg**	**08 39 16.9**	**+0.2**
BAR				*eS*		**Sg**	**08 39 25.0**	**0.0**
CBX	**Cerro Bola**	**0.74**	**237**	*i P*		**Pg**	**08 39 18.8**	**0.0**
CBX				*i S*		**Sg**	**08 39 28.5**	**-0.1**
CBX	**Cerro Bola**	**0.74**	**237**	*i P*		**Pg**	**08 39 18.8**	**0.0**
CBX				*i S*		**Sg**	**08 39 28.5**	**-0.1**
CBX	**Cerro Bola**	**0.74**	**237**	*⇑eP*		**Pg**	**08 39 18.9**	**0.0**
CBX				*eS*		**Sg**	**08 39 28.8**	**+0.2**
CBX					IAML		08 39 32.2	
	comp=E,1μm,0.8s							
CBX				*⇓e*			08 39 32.2	
GLA	**Glamis**	**0.98**	**70**	*ePg*		**Pg**	**08 39 22.4**	**-1.0**
GLA				*eSg*		**Sg**	**08 39 34.6**	**-1.5**
PFO	**Pinyon Flats O**	**0.99**	**334**	*ePg*		**Pg**	**08 39 22.9**	**-0.7**
PFO				*eSg*		**Sg**	**08 39 36.0**	**-0.4**
ECBX	**El Chinero**	**1.45**	**149**	*ePn*		Pn	08 39 28.0	-2.9
ECBX				*eS*		**Sb**	**08 39 47.6**	**-2.5**
SPIG	**San Pedro Mart**	**1.72**	**167**	*i P*		**Pn**	**08 39 36.4**	**+1.6**
SPIG				*i S*		**Sn**	**08 39 58.1**	**+1.0**
SPIG	**San Pedro Mart**	**1.72**	**167**	*i P*		**Pn**	**08 39 36.4**	**+1.6**
SPIG				*i S*		**Sn**	**08 39 58.1**	**+1.0**
SPX	**San Pedro Mart**	**1.72**	**167**	*i P*		**Pn**	**08 39 36.1**	**+1.3**
SPX				*i S*		**Sn**	**08 39 57.8**	**+0.7**
SPX	**San Pedro Mart**	**1.72**	**167**	*ePn*		**Pn**	**08 39 36.0**	**+1.1**
SPX				*eS*		**Sn**	**08 39 58.2**	**+1.1**
SPX					IAML		08 40 05.4	
	comp=E,118nm,0.5s							
SPX				*⇑e*			08 40 05.4	
PASC	**Pasadena Art C**	**2.38**	**308**	*ePn*		**Pb**	**08 39 46.5**	**-1.0**
PASC				*eSn*		**Sn**	**08 40 15.6**	**+2.6**
LDFC	**Landfair**	**2.45**	**16**	*ePn*		**Pb**	**08 39 49.6**	**+0.9**
GSC	**Goldstone, Bar**	**2.68**	**344**	*ePn*		**Pn**	**08 39 47.3**	**-0.5**
214A	**Organ Pipe Nat**	**2.75**	**105**	*ePn*		**Pn**	**08 39 46.8**	**-1.9**
ISA	**Isabella, Lake**	**3.62**	**325**	Pn		**Pb**	**08 40 06.2**	**-2.4**
SHPR	**Sheep Range**	**3.83**	**9**	*ePn*		**Pn**	**08 40 04.4**	**+0.7**
TUC	**Tucson**	**4.36**	**94**	*ePn*		**Pn**	**08 40 12.0**	**+1.0**
WUAZ	**Wupatki**	**4.69**	**52**	Pn		**Pn**	**08 40 17.4**	**+1.8**

IDC 23 09:14:22.7±21.0, 13.°24S×166.°87E, h287km±206km, mb3.0/3, mb1 3.1/3, mb1mx2.9/18, mbtmp3.6/3, Error ellipse: s-maj=149.8km s-min=67.8km az=128.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.69**	**227**	*P*		P	09 20 02.6	0.0
	0.7nm,0.6s,baz=41,slow=11,SNR=2.3							
ASAR	**Alice Springs**	**32.87**	**247**	*P*		P	09 20 30.4	-0.2
	0.3nm,0.5s,baz=76,slow=8.5,SNR=6.3							
ILAR	**Eielson Array**	**85.23**	**18**	*P*		P	09 26 26.8	-0.1
	0.2nm,0.4s,baz=244,slow=5.1,SNR=5.9							
ARCES	**ARCESS Array B**	**118.72**	**346**	PKP		PKPdf	09 32 36.1	-0.1
	1.4nm,0.8s,baz=46,slow=3.5,SNR=4.0							

MEX 23 09:44:31.1±0.5, 14.°12N×93.°33W, h16km±104km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCIG		**1.58**	**4**	*eP*		Pn	09 44 54.8	-3.7
PCIG				*eS*		Sn	09 45 13.7	-4.8
CCIG	**Comitan**	**2.44**	**28**	*eP*		Pn	09 45 08.2	-2.3
CCIG				*i S*		Sn	09 45 36.5	-3.7
TGIG		**2.65**	**4**	*eP*		Pn	09 45 11.0	-2.3
TGIG				*eS*		Sn	09 45 41.4	-3.8

*DDA **23** 09:49:02.6, 37.°65N×34.°69E, h7km, MD2.7*
*ISK **23** 09:49:02.5, 37.°66N×34.°74E, h22km, MD2.6*
*ISCJB **23** 09:49:03.4±0.8, 37.°65N±0.°03×34.°74E±0.°07, h11km, Error ellipse: s-maj=7.7km s-min=4.8km az=173.3*
*CSEM **23** 09:49:03.2±0.3, 37.°68N×34.°75E, h10km, MD2.6, Error ellipse: s-maj=8.4km s-min=4.6km az=79.0*

ISC 23 09:49:03.0±1.1, 37.°68N±0.°03×34.°78E±0.°07, h11km, n10, σ0§53/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIG	**Nigde**	**0.46**	**342**	*ePG*		**Pb**	**09 49 12.4**	**-0.8**
NIG	**Nigde**	**0.46**	**342**	*ePg*		**Pb**	**09 49 12.4**	**-0.8**
KARA	**Karaisali**	**0.47**	**152**	*ePG*		**Pg**	**09 49 12.4**	**+0.3**
KARA				*eSG*		**Sb**	**09 49 20.2**	**+0.1**
KARA	**Karaisali**	**0.47**	**152**	*ePg*		**Pg**	**09 49 12.4**	**+0.3**
KARA				*eSg*		**Sb**	**09 49 20.3**	**+0.1**
MERS	**Mersin**	**0.83**	**195**	*ePG*		**Pb**	**09 49 19.4**	**-0.1**
MERS				*eSG*		**Sb**	**09 49 30.4**	**-0.3**
MERS	**Mersin**	**0.83**	**195**	*ePg*		**Pb**	**09 49 19.4**	**-0.1**
MERS				*eSg*		**Sb**	**09 49 30.4**	**-0.3**
KOZT	**Kozan**	**0.85**	**103**	*ePG*		**Pg**	**09 49 19.7**	**+0.3**
KOZT				*eSG*		**Sn**	**09 49 32.9**	**-0.5**
KOZT	**Kozan**	**0.85**	**103**	*ePg*		**Pg**	**09 49 19.7**	**+0.3**
KOZT				*eSg*		**Sn**	**09 49 32.9**	**-0.5**
AVNT	**Avonos**	**1.10**	**3**	*i P*		**Pb**	**09 49 24.0**	**-0.2**
AVNT				*i S*		**Sn**	**09 49 40.8**	**+0.9**
AVNT	**Avonos**	**1.10**	**3**	*i P*		**Pb**	**09 49 24.0**	**-0.2**
AVNT				*i S*		**Sn**	**09 49 40.8**	**+0.9**

IDC 23 09:54:32.1±47.0, 14.°63S×176.°15W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/34, mbtmp4.1/3, Error ellipse: s-maj=885.1km s-min=166.7km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.14**	**238**	*P*		P	10 02 27.3	+0.8
WRA	1.4nm,0.6s,baz=65,slow=8.7,SNR=6.0 **Warramunga Arr**	**47.44**	**256**	*P*		P	10 03 08.2	-0.8
ASAR	0.3nm,0.4s,baz=97,slow=6.7,SNR=8.8 **Alice Springs**	**47.83**	**251**	*P*		P	10 03 11.7	-0.3
	4.8nm,0.5s,baz=83,slow=8.8,SNR=107							

*IDC **23** 10:01:45.7±5.3, 36.°88N×71.°74E, h72km±46km, mb3.6/14, mb1 3.8/18, mb1mx3.7/39, mbtmp4.0/18, ML3.9/4, MS3.0/2, Ms1 3.0/2, ms1mx2.6/41, Error ellipse: s-maj=25.7km s-min=17.3km az=179.0*
*BJI **23** 10:01:45.7, 37.°17N×71.°12E, h90km, mb4.4/10, mB4.8/5, Ms3.9/3, Ms7 3.6/3*
*MOS **23** 10:01:50.7±1.5, 37.°10N×71.°73E, h118km, mb4.0/14, Error ellipse: s-maj=12.6km s-min=6.3km az=91.1*
*ISCJB **23** 10:01:51.2±0.3, 37.°03N±0.°02×71.°89E±0.°05, h142km, mb3.8/24, Error ellipse: s-maj=5.5km s-min=3.2km az=163.3*
*NEIC **23** 10:01:52.0±0.6, 37.°12N×71.°66E, mb4.7/6, Error ellipse: s-maj=11.4km s-min=7.5km az=131.0*
*NNC **23** 10:02:00.4±3.0, 37.°83N×71.°61E, h198km±25km, mb3.6, mpv4.8, Error ellipse: s-maj=25.8km s-min=17.2km az=13.0*

ISC 23 10:01:52.5±0.5, 37.°06N±0.°04×71.°98E±0.°06, h142km, n102, σ1§82/106, mb3.8/24, 16C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.23**	**181**	*⇓P*		**Pn**	**10 02 42.5**	**-0.2**
CEP				*S*		**Sn**	**10 03 20.0**	**-1.4**
KBL	**Kabul**	**3.47**	**224**	*ePn*		Pn	10 02 42.4	-3.4
KBL				*eSn*		Sn	10 03 20.8	-6.3
CHCP	**Chirah Chowk**	**3.55**	**163**	*⇓P*		**Pn**	**10 02 48.6**	**+1.9**
KSH	**Kashi**	**3.98**	**51**	*P*		**Pn**	**10 02 50.4**	**-2.0**
KSH				*S*		**Sn**	**10 03 33.3**	**-5.6**
KSH					SMN			
	4μm,0.8s							
KSH					SME			
	3μm,0.8s							
SARP	**Sargodha**	**5.16**	**173**	*P*

SDNR	**Sundarnagar**	**6.91**	**142**	*e*P		**Pn**	**10 03 32.0**	**+0.6**
SDNR				*e*S		**Sn**	**10 04 47.0**	**-1.8**
SMLA	**Simla**	**7.31**	**143**	*i* P		**Pn**	**10 03 37.8**	**+1.1**
SMLA				*i* S		**Sn**	**10 04 55.4**	**-2.9**
SMLA				AML	AML		10 05 00.5	
	comp=N,264nm,0.2s							
SMLA				AML	AML		10 05 00.5	
	comp=E,732nm,0.3s							
NDI	**New Delhi**	**9.44**	**151**	*e*P		**Pn**	**10 04 05.0**	**-0.2**
NDI				*e*S		**Sn**	**10 05 45.5**	**-4.2**
AJM	**Ajmer**	**10.79**	**167**	*e*P		**Pn**	**10 04 22.0**	**-1.2**
AJM				*e*S		Sn	10 06 16.0	-6.4
MK31	**Makanchi Array**	**12.38**	**35**	⇓P		**Pn**	**10 04 43.9**	**+0.1**
	comp=E,3.6nm,0.5s,baz=214,slow=13,SNR=66							
MK31	**Makanchi Array**	**12.38**	**35**	*i* P		**Pn**	**10 04 44.7**	**+0.9**
MK31				pmax	pmax			
	comp=Z,6.0nm,0.5s							
MK31	**Makanchi Array**	**12.38**	**35**	*e*Pn		**Pn**	**10 04 44.3**	**+0.5**
KOLN	**Koldanda**	**13.48**	**130**	*e*P		**Pn**	**10 04 57.9**	**-0.5**
	comp=Z,33nm,0.4s							
GKN	**Gorkha**	**13.97**	**127**	*e*P		**Pn**	**10 05 04.2**	**-0.3**
	comp=Z,76nm,0.5s							
KURBB	**Kurchatov Arra**	**14.35**	**17**	⇑P		**Pn**	**10 05 07.1**	**-1.7**
	comp=Z,29nm,0.7s							
KURBB	**Kurchatov Arra**	**14.35**	**17**	P		**Pn**	**10 05 06.4**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=211,slow=12,SNR=22							
KURK	**Kurchatov**	**14.45**	**17**	⇑P		**Pn**	**10 05 08.1**	**-2.1**
	comp=Z,10nm,0.7s							
KURK	**Kurchatov**	**14.45**	**17**	P		**P**	**10 05 13.8**	**+0.8**
KURK				pmax	pmax			
	comp=Z,10.0nm,0.7s							
KURK	**Kurchatov**	**14.45**	**17**	*e*Pn		**Pn**	**10 05 07.1**	**-3.1**
KKN	**Kakani**	**14.53**	**126**	*e*P		**Pn**	**10 05 10.9**	**-0.7**
	comp=Z,36nm,0.6s							
DMN	**Daman**	**14.54**	**127**	*e*P		**Pn**	**10 05 12.1**	**+0.3**
	comp=Z,25nm,0.3s							
PKIN	**Phulchoki**	**14.75**	**126**	*e*P		**Pn**	**10 05 13.9**	**-0.5**
	comp=Z,22nm,0.3s							
PKI	**Pulchoki**	**14.76**	**126**	*e*P		**Pn**	**10 05 14.1**	**-0.6**
	comp=Z,22nm,0.4s							
GUN	**Gumba**	**14.84**	**124**	*e*P		**Pn**	**10 05 14.7**	**-1.0**
	comp=Z,50nm,0.5s							
AB31	**Akbulak array**	**15.00**	**328**	⇓P		Pn	10 05 12.4	-4.6
	comp=Z,2.6nm,0.4s,baz=135,slow=12,SNR=50							
AB31				S		Sn	10 07 46.0	-17
	comp=Z,6.9nm,0.6s,baz=151,slow=22,SNR=12							
AB31	**Akbulak array**	**15.00**	**328**	*e*P		Pn	10 05 12.4	-4.6
AB31				pmax	pmax			
	comp=Z,3.0nm,0.3s							
ABKAR	**Akbulak array**	**15.00**	**328**	*e*Pn		Pn	10 05 12.3	-4.8
	comp=Z,8.6nm,0.6s							
ABKAR				*e*Sn		Sn	10 07 35.7	-28
RAMN	**Ramite**	**15.96**	**125**	*e*P		**Pn**	**10 05 29.6**	**+0.2**
	comp=Z,39nm,0.4s							
BVA0	**Borovoye Array**	**16.00**	**357**	⇑P		**Pn**	**10 05 26.3**	**-3.1**
	comp=Z,7.5nm,0.9s,baz=161,slow=9.8,SNR=6.5							
BVA0				⇓S		Sn	10 08 14.8	-13
	comp=Z,13nm,1.3s,baz=172,slow=21,SNR=6.7							
BVA0	**Borovoye Array**	**16.00**	**357**	*i* P		**Pn**	**10 05 27.1**	**-2.3**
BVA0				pmax	pmax			
	comp=Z,8.0nm,1.0s							
BVAR	**Borovoye Array**	**16.00**	**357**	P		**Pn**	**10 05 27.5**	**-1.9**
	comp=Z,1.0nm,0.3s,baz=163,slow=14,SNR=13							
BVAR	**Borovoye Array**	**16.00**	**357**	P		**Pn**	**10 05 27.5**	**-1.9**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BRVK	**Borovoye**	**16.04**	**356**	⇑P		**Pn**	**10 05 27.8**	**-2.1**
	comp=Z,12nm,0.6s							
BRVK				⇑S		Sn	10 08 14.9	-13
	comp=Z,12nm,1.4s							
BRVK	**Borovoye**	**16.04**	**356**	*e*P		**P**	**10 05 31.2**	**+0.7**
BRVK				pmax	pmax			
	comp=Z,26nm,2.5s							
TAPN	**Taplejung**	**16.44**	**122**	*e*P		**P**	**10 05 36.4**	**+0.9**
	comp=Z,38nm,0.4s							
ODAN	**Odare**	**16.54**	**124**	*e*P		**P**	**10 05 37.6**	**+1.0**
	comp=Z,17nm,0.4s							
AKTO	**Aktyubinsk**	**16.71**	**328**	⇑P		**P**	**10 05 35.2**	**-2.8**
	comp=Z,12nm,1.0s							
AKTO				⇑S		S	10 08 28.8	-15
	comp=Z,15nm,1.1s							
AKTO	**Aktyubinsk**	**16.71**	**328**	P		**P**	**10 05 35.5**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=141,slow=15,SNR=16							
AKTO				S		S	10 08 26.8	-18
	comp=Z,0.2nm,0.3s,baz=178,slow=2.5,SNR=4.8							
AKTO	**Aktyubinsk**	**16.71**	**328**	P		**P**	**10 05 35.5**	**-2.4**
AKTO				S		S	10 08 26.8	-17
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZAA0	**Zalesovo Array**	**19.08**	**24**	*e*P		**Pn**	**10 06 05.7**	**-0.4**
ZALV	**Zalesovo Beam**	**19.08**	**24**	P		**Pn**	**10 06 05.5**	**-0.7**
	comp=Z,7.0nm,0.3s,baz=221,slow=11,SNR=71							
ZALV	**Zalesovo Beam**	**19.08**	**24**	*i* P		**Pn**	**10 06 06.0**	**-0.2**
ZALV				pmax	pmax			
	comp=Z,21nm,0.4s							
NVS	**Novosibirsk**	**19.38**	**20**	*e*P		**Pn**	**10 06 08.3**	**-1.3**
NVS				pmax	pmax			
	comp=N,18nm,0.7s							
NVS				pmax	pmax			
	comp=E,3.0nm,0.7s							
NVS				pmax	pmax			
	comp=Z,21nm,0.7s							
ARU	**Arti**	**21.37**	**339***d*	*i* P		**P**	**10 06 30.8**	**+2.4**
ARU							10 06 57.7	
ARU				S	S		10 10 25.1	+8.1
ARU				SS		**SnSn**	**10 10 58.6**	**+3.9**
ARU				pmax	pmax			
	comp=Z,10.0nm,1.7s							
GNI	**Garni**	**21.48**	**287**	P		**P**	**10 06 27.0**	**-2.9**
	comp=Z,4.3nm,0.4s,baz=200,slow=20,SNR=3.9							
GNI	**Garni**	**21.48**	**287***d*	*i* P		**P**	**10 06 30.3**	**+0.3**
GNI				pmax	pmax			
	comp=Z,13nm,1.0s							
GTA	**Gaotai**	**21.95**	**75**	*e*P		P	10 06 41.3	+6.4
GTA				PMZ				
	comp=Z,24nm,1.0s							
KBZ	**Khabaz**	**23.06**	**296**	P		**P**	**10 06 44.3**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=90,slow=20,SNR=2.0							
KBZ	**Khabaz**	**23.06**	**296**	P		**P**	**10 06 44.3**	**-1.0**
KBZ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
NEY	**Neytrino**	**23.13**	**295**	*e*P		**P**	**10 06 45.8**	**-0.4**
NEY				pmax	pmax			
	comp=Z,2.0nm,1.3s							
KIV	**Kislovodsk**	**23.24**	**296**	*e*P		**P**	**10 06 49.0**	**+1.9**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.1s							
ZAK	**Zakamensk**	**26.03**	**49**	*e*P		**P**	**10 07 16.7**	**+4.4**
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.1s							
RAYN	**Ar Rayn**	**26.45**	**247**	*e*P		**P**	**10 07 16.3**	**0.0**
	comp=Z,5.3nm,0.7s							
RAYN				*e*pP		**pP**	**10 07 42.0**	**-4.1**
SONM	**Songino Array**	**27.37**	**56**	P		**P**	**10 07 23.4**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=251,slow=9.0,SNR=3.6							
SONM	**Songino Array**	**27.37**	**56**	P		**P**	**10 07 23.4**	**-1.0**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BRTR	**Keskin Array B**	**30.02**	**287**	P		**P**	**10 07 47.9**	**0.0**
	comp=Z,0.7nm,0.5s,baz=98,slow=9.2,SNR=4.5							
BRTR	**Keskin Array B**	**30.02**	**287***ce*	P		**P**	**10 07 48.0**	**0.0**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
OBN	**Obninsk**	**30.04**	**318**	*e*P		**P**	**10 07 49.7**	**+2.0**
OBN				*e*			10 08 48.7	
OBN				*e*			10 10 49.5	
OBN				pmax	pmax			
	comp=Z,3.0nm,0.8s							
AKASG	**Malin Array Be**	**33.22**	**308**	P		**P**	**10 08 15.0**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=80,slow=7.4,SNR=5.0							
AKASG	**Malin Array Be**	**33.22**	**308***ce*	P		**P**	**10 08 18.0**	**+2.4**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**37.46**	**325**	P		**P**	**10 08 52.1**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=122,slow=9.7,SNR=7.0							
FINES	**FINESS Array B**	**37.46**	**325**	*i* P		**P**	**10 08 51.5**	**-0.3**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ARCES	**ARCESS Array B**	**40.93**	**337**	P		**P**	**10 09 22.1**	**+1.6**
	comp=Z,3.5nm,0.9s,baz=117,slow=8.7,SNR=9.4							
ARCES				LR		LR	10 27 36.8	
	comp=Z,52nm,19.8s,baz=278,slow=38							
ARCES	**ARCESS Array B**	**40.93**	**337**	*e*P		**P**	**10 09 21.9**	**+1.4**
YAK	**Yakutsk**	**43.05**	**36**	*e*P		P	10 09 40.9	+3.2
YAK				pmax	pmax			
	comp=Z,17nm,0.9s							

NB2	**NORSAR Subarra**	**44.41**	**323**	P		**P**	**10 09 49.5**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=94,slow=7.9								
NOA	**NORSAR Array B**	**44.41**	**323**	P		**P**	**10 09 48.9**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=96,slow=7.7,SNR=7.6								
NOA	**NORSAR Array B**	**44.41**	**323**	P		**P**	**10 09 48.9**	**+0.2**
NOA				pmax	pmax				
	comp=Z,1.0nm,0.5s								
TIXI	**Tiksi**	**44.96**	**22***ce*	P		**P**	**10 09 55.4**	**+2.6**
TIXI				pmax	pmax				
	comp=Z,7.0nm,0.8s								
TIXI	**Tiksi**	**44.96**	**22**	*e*P		**P**	**10 09 54.9**	**+2.1**
	comp=Z,7.0nm,0.8s								
TIXI				*e*pP		**pP**	**10 10 24.7**	**0.0**
KEST	**Kesra**	**49.61**	**288**	P		**P**	**10 10 28.1**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=352,slow=3.6,SNR=4.2								
BILL	**Bilibino**	**57.76**	**26**	*e*P		P	10 11 31.9	+3.8	
BILL				pmax	pmax				
	comp=Z,2.0nm,0.8s								
ESDC	**Sonseca Array**	**57.89**	**298**	P		**P**	**10 11 29.8**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=62,slow=7.0,SNR=5.1								
TORD	**Torodi Ar. Bea**	**66.52**	**269**	P		**P**	**10 12 26.4**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=49,slow=5.8,SNR=42								
ILAR	**Eielson Array**	**74.02**	**16**	P		**P**	**10 13 13.9**	**+1.8**
	comp=Z,0.7nm,0.9s,baz=313,slow=4.0,SNR=8.2								
ILAR	**Eielson Array**	**74.02**	**16**	P		**P**	**10 13 14.0**	**+1.8**
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
YKA	**Yellowknife Ar**	**80.64**	**3**	P		**P**	**10 13 51.3**	**+2.3**
	comp=Z,0.8nm,0.5s,baz=352,slow=5.6,SNR=8.7								
YKA	**Yellowknife Ar**	**80.64**	**3**	P		**P**	**10 13 51.3**	**+2.3**
YKA				pmax	pmax				
	comp=Z,1.0nm,0.5s								
WRA	**Warramunga Arr**	**81.62**	**123**	P		**P**	**10 13 56.8**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=325,slow=5.0,SNR=12								
ASAR	**Alice Springs**	**83.93**	**126**	P		**P**	**10 14 08.3**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=310,slow=4.9,SNR=8.3								

TAP 23 10:05:00.9, 24.44N×121.81E, h10km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.07**	**256**	P		Pg		10 05 03.5	+0.4
	baz=252								
ENA				*e*S		Sg		10 05 05.2	+0.6
	baz=252								
TWC	**Suao**	**0.17**	**12**	*e*P		Pb		10 05 05.5	-0.6
	baz=15								
TWC				S		Sg		10 05 08.5	+1.4
	baz=15								
ENTT	**Nioudou**	**0.30**	**311**	P		Pb		10 05 08.3	0.0
	baz=311								
ENTT				*e*S		Sb		10 05 12.6	-0.8
	baz=311								
NNS	**Nan Shan**	**0.40**	**270**	*e*P		Pg		10 05 09.5	+0.5
	baz=269								
NSK	**Sanguang**	**0.47**	**299**	*e*P		Pb		10 05 11.2	-0.2
	baz=299								
WHF	**Hehuan Shan**	**0.58**	**239**	*e*P		Pg		10 05 12.7	0.0
	baz=238								
WHF				*e*S		Sb		10 05 21.6	-0.7
	baz=238								

TAP 23 10:05:06.7, 24.40N×121.86E, h11km, ML2.0, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.11**	**285**	*e*P		Pb		10 05 10.6	-0.3
	baz=285								
ENA				*e*S		Sg		10 05 12.4	+0.7
	baz=285								
TWC	**Suao**	**0.21**	**358**	*e*P		Pb		10 05 12.1	-0.4
TWC				S		Sg		10 05 15.7	+1.4
ENTT	**Nioudou**	**0.36**	**312**	*e*P		Pb		10 05 14.7	-0.4
	baz=312								
ENTT				*e*S		Sb		10 05 20.4	-0.4
	baz=312								
NNS	**Nan Shan**	**0.44**	**275**	*e*P		Pb		10 05 16.2	-0.5
	baz=275								
NNS				*e*S		Sb		10 05 23.0	-0.5
	baz=275								
NSK	**Sanguang**	**0.53**	**301**	*e*P		Pb		10 05 17.9	-0.2
	baz=301								
NSK				*e*S		Sb		10 05 25.9	0.0
	baz=301								
WHF	**Hehuan Shan**	**0.60**	**245**	*e*P		Pg		10 05 18.5	-0.4
	baz=244								

IDC ***23*** *10:29:34.2±3.0, 31.14S×178.65W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.6/23, mbtmp3.8/3, ML3.2/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/30, Error ellipse: s-maj=66.8km s-min=45.4km az=115.0*

ISC 23 10:29:46.5±3.6, 31.5S±0.1×179.7W±0.4, h35km, n12,
σ1§79/12, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.26**	**195**	*e*PN		**Pn**		**10 31 17.0**	**+0.6**
PUZ	**Puketiti**	**6.76**	**194**	PN		**Pn**		**10 31 23.1**	**-0.1**
PUZ				*e*SN		**Sn**		**10 32 38.9**	**-0.1**
TWGZ	**Tauwhareparae**	**6.92**	**195**	*e*PN		**Pn**		**10 31 25.2**	**-0.3**
CNGZ	**Carnagh Station**	**7.17**	**193**	PN		**Pn**		**10 31 28.2**	**-0.6**
URZ	**Urewera**	**7.22**	**200**	Pn		**Pn**		**10 31 30.1**	**+0.5**
	0.3nm,0.3s,baz=9.5,slow=12,SNR=3.6								
URZ						Sn		**10 32 54.0**	**+3.6**
	2.1nm,0.3s,baz=92,slow=23,SNR=13								
URZ	**Urewera**	**7.22**	**200**	PN		**Pn**		**10 31 29.9**	**+0.3**
RIGZ	**Rimuhau**	**7.47**	**195**	Pn		**Pn**		**10 31 33.6**	**+0.5**
MRZ	**Mangatainoka R**	**9.90**	**201**	*e*SN		**Sn**		**10 33 52.2**	**-3.8**
ASAR	**Alice Springs**	**41.60**	**269**	P		**P**		**10 37 31.4**	**+0.1**
	0.5nm,0.5s,baz=105,slow=7.3,SNR=13								
WRA	**Warramunga Arr**	**42.70**	**274**	P		**P**		**10 37 40.1**	**-0.2**
	0.6nm,0.3s,baz=111,slow=8.1,SNR=36								
SIJI	**Sorong**	**55.40**	**293**	LR		LR		11 01 45.3	
	comp=Z,72nm,20.6s,slow=34								
FINES	**FINESS Array B**	**145.66**	**338**	PKPbc		PKPdf		10 49 13.2	-7.1
	0.9nm,0.4s,baz=72,slow=4.5,SNR=6.8								

NIED ***23*** *10:39:00, 46.90N×153.20E, h5km, Mw4.0 Best double couple: M₀1.14000×10¹⁵ NP1:φs218.00000°, δ30.00000°, λ-179.00000°. NP2:φs127.00000°, δ89.00000°, λ-60.00000°.*

IDC ***23*** *10:39:01.4±1.0, 46.44N×153.73E, h0km, mb3.6/7, mb1 3.9/10, mb1mx3.6/45, mbtmp3.6/10, ML3.2/3, MS2.9/4, Ms1 3.0/4, ms1mx2.7/29, Error ellipse: s-maj=30.0km s-min=20.3km az=136.0*

ISCJB ***23*** *10:39:03.9±0.6, 46.5N±0.1×153.3E±0.1, h40km, mb3.6/7, MS3.4/1, Error ellipse: s-maj=17.7km s-min=5.1km az=146.6*

SKHL ***23*** *10:39:04.5±0.5, 46.87N×153.25E, h45km±1km, mb5.0/4*

JMA ***23*** *10:39:04.2±0.8, 46.92N×153.18E, h30km, M4.6*

MOS ***23*** *10:39:04.7±1.3, 46.91N×153.09E, h43km, mb4.2/1, Error ellipse: s-maj=27.6km s-min=11.2km az=49.8*

ISC 23 10:39:05.8±0.8, 46.6N±0.1×153.26E±0.10, h40km, n56,
σ1§82/46, mb3.5/7, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.99**	**253**	*e*PN		**Pn**		**10 40 05.4**	**+1.2**
KUR				*i*				10 40 54.8	
KUR				pmax	pmax				
	comp=N,32nm,0.2s								
KUR				pmax	pmax				
	comp=E,12nm,0.2s								
KUR				pmax	pmax				
	comp=Z,65nm,0.2s								
KUR				pmax	pmax				
	comp=Z,23μm,0.1s								
KUR				pmax	pmax				
	comp=E,138nm,0.9s								
KUR	**Kuril'sk**	**3.99**	**253**	*e*P		**Pn**		**10 40 05.5**	**+1.2**
KUR				AMB	AMB			10 40 08.4	
	comp=E,32nm,0.2s								
KUR				AMB	AMB			10 40 08.4	
	comp=E,12nm,0.2s								
KUR				AMB	AMB			10 40 08.4	
	comp=E,65nm,0.2s								
KUR				*e*S		**Sn**		**10 40 51.0**	**+1.3**
KUR				A	A			10 41 06.6	
	comp=E,170nm,0.4s								
KUR				A	A			10 41 06.6	
	comp=E,400nm,0.4s								

SKR	**Severo-Kuril's**	**4.55**	**24**	*e*PN		**Pn**		10 40 06.6	-5.4
SKR				pmax	pmax				
	comp=Z,120nm,0.5s								
SKR				pmax	pmax				
	comp=E,110nm,1.0s								
SKR	**Severo-Kuril's**	**4.55**	**24**	*e*P		Pn		10 40 06.6	-5.4
SKR				AMB	AMB			10 40 08.5	
	comp=E,110nm,0.5s								
SKR				AMB	AMB			10 40 08.5	
	comp=E,120nm,0.5s								
SKR				*e*S		Sn		10 40 53.0	-11
SKR				A	A			10 41 23.4	
	comp=E,120nm,0.5s								
SKR				A	A			10 41 23.4	
	comp=E,90nm,0.5s								
SKR				A	A			10 41 23.4	
	comp=E,110nm,0.5s								
SHO	**Shikotan**	**5.27**	**242**	*e*P		**Pn**		**10 40 22.4**	**+0.5**
SHO				AMB	AMB			10 40 41.4	
	comp=E,256nm,1.0s								
SHO				*e*S		**Sn**		**10 41 21.2**	**-0.2**
SHO				A	A			10 41 48.0	
	comp=E,310nm,1.0s								
YUK	**Yuzh-Kuril'sk**	**5.79**	**247**	*d* iPN		Pn		10 40 33.7	+4.7
YUK				*i* S		Sn		10 41 41.8	+7.7
YUK				pmax	pmax				
	comp=N,37nm,0.6s								
YUK				pmax	pmax				
	comp=E,29nm,0.6s								
YUK				pmax	pmax				
	comp=Z,41nm,0.6s								
YUK				smax	smax				
	comp=N,11nm,0.8s								
YUK				smax	smax				
	comp=E,159nm,0.8s								
YUK				MLR	MLR				
	comp=Z,161nm,7.0s								
YUK	**Yuzh-Kuril'sk**	**5.79**	**247**	*i* P		Pn		10 40 33.7	+4.7
YUK				AMB	AMB			10 40 35.5	
	comp=Z,38nm,0.3s								
YUK				AMB	AMB			10 40 35.5	
	comp=Z,29nm,0.3s								
YUK				AMB	AMB			10 40 35.5	
	comp=Z,42nm,0.3s								
YUK				*e*S		Sn		10 41 41.8	+7.7
YUK				A	A			10 41 57.8	
	comp=Z,110nm,0.4s								
YUK				A	A			10 41 57.8	
	comp=Z,160nm,0.4s								
YUK				AMS	AMS			10 42 35.2	
	comp=Z,161nm,7.0s								
NEM2	**Nemuro 2**	**6.21**	**242**	P		**Pn**		**10 40 34.7**	**-0.1**
NEM2				*e*S		**Sn**		**10 41 41.7**	**-2.7**
JRA	**Rausu**	**6.31**	**248**	P		**Pn**		**10 40 38.6**	**+2.5**
JAK	**Akkeshi**	**7.05**	**243**	P		**Pn**		**10 40 46.3**	**0.0**
JAK				*e*S		**Sn**		**10 42 01.7**	**-3.4**
JTKR	**Abashiri--Toko**	**7.08**	**252**	P		**Pn**		**10 40 49.2**	**+2.4**
PETK	**Petropavlovsk-**	**7.17**	**22**	Pn		**Pn**		**10 40 47.0**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=182,slow=15,SNR=6.4								
PETK				LR		LR		10 44 28.6	
	comp=Z,32nm,18.0s,baz=222,slow=46								
PETK	**Petropavlovsk-**	**7.17**	**22**	PN		**Pn**		**10 40 47.0**	**-1.0**
PETK				pmax	pmax				
	comp=Z,1.0nm,0.3s								
PETK				MLR	MLR				
	comp=Z,32nm,18.0s								
YSS	**Yuzh-Sakhalins**	**7.23**	**277**	*e*PN		**Pn**		**10 40 46.8**	**-1.9**
JMP	**Maruseppu**	**7.43**	**254**	P		**Pn**		**10 40 54.4**	**+2.8**
JAR	**Ashorobuto**	**7.47**	**248**	P		**Pn**		**10 40 54.0**	**+1.8**
JOB	**Onbets**	**7.63**	**245**	P		**Pn**		**10 40 55.6**	**+1.3**
JOB				*e*S		**Sn**		**10 42 17.7**	**-1.8**
HRK	**Horoka**	**7.81**	**250**	*e*P		**Pn**		**10 40 59.0**	**+2.2**
JKK2	**Kamakawa 2**	**7.89**	**254**	P		**Pn**		**10 41 00.5**	**+2.6**
JKA	**Kamikawa-asahi**	**7.89**	**256**	*e*P		**Pn**		**10 41 00.8**	**+2.9**
ASAJ	**Asahikawa**	**7.89**	**256**	P		**Pn**		**10 41 01.1**	**+3.2**
ASAJ	**Asahikawa**	**7.89**	**256**	Pn		**Pn**		**10 41 00.8**	**+2.8**
	baz=0.0,slow=0.0								
JCH	**Churui**	**8.08**	**244**	P		**Pn**		**10 41 00.8**	**+0.3**
JCH				*e*S		**Sn**		**10 42 26.6**	**-3.9**
JFR	**Furan**	**8.29**	**250**	P		**Pn**		**10 41 05.1**	**+1.6**
MYR	**Moyori**	**8.31**	**243**	*e*P		**Pn**		**10 41 03.9**	**+0.3**
ERM	**Erimo**	**8.54**	**242**	*e*PN		**Pn**		**10 41 08.2**	**+1.4**
JBT2	**Biratori 2**	**8.63**	**248**	P		**Pn**		**10 41 09.3**	**+1.3**
JNBK	**Urakawa-nobuka**	**8.64**	**244**	P		**Pn**		**10 41 07.9**	**-0.3**
JNB	**Noboribetsu**	**9.63**	**249**	P		**Pn**		**10 41 22.1**	**+0.4**
JKB	**Kayabe**	**9.93**	**246**	P		**Pn**		**10 41 24.9**	**-0.9**
JYM2	**Yakumo 2**	**10.24**	**249**	P		**Pn**		**10 41 30.1**	**+0.1**
JANG	**Nango**	**10.53**	**238**	P		Pn		10 41 31.7	-2.3
JTM	**Tenmabayashi**	**10.54**	**241**	P		**Pn**		**10 41 32.1**	**-2.0**
JOSM	**Okushiri--Mats**	**10.83**	**251**	P		**Pn**		**10 41 38.1**	**-0.1**
OFUJ	**Ofunato**	**11.31**	**233**	P		**Pn**		**10 41 42.9**	**-1.8**
JRG	**Rokugo**	**11.68**	**237**	P		**Pn**		**10 41 48.7**	**-1.0**
EKMR	**Ekimchan**	**14.62**	**304**	*e*rx		rx		10 42 55.3	
MJA0	**Matsu Arr-Jizo**	**15.02**	**234**	*e*P		**P**		**10 42 42.5**	**+2.6**
MJAR	**Matsushiro Arr**	**15.04**	**234**	Pn		**Pn**		**10 42 36.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=32,slow=9.0,SNR=3.4								
MJAR				LR		LR		10 50 02.0	
	comp=Z,24nm,19.8s,baz=145,slow=43								
USRK

5.3nm,0.4s,baz=264,slow=11,SNR=8.4
TEIG Tepich 40.38 333 P **P** **10 58 37.8 +0.9**
7.4nm,1.0s,baz=205,slow=1.8,SNR=3.7
TXAR Lajitas Array 55.76 324 P **P** **11 00 35.2 +0.8**
0.3nm,0.5s,baz=142,slow=7.5,SNR=8.1
TXAR PcP **PcP** **11 01 31.9 +0.9**
0.2nm,0.4s,baz=153,slow=7.2,SNR=4.8
DBIC Dimbokro 68.02 76 P **P** **11 01 56.2 -0.2**
3.6nm,0.4s,baz=210,slow=3.5,SNR=11
PDAR Pinedale Array 69.02 330 P **P** **11 02 03.2 +0.9**
0.4nm,0.4s,baz=117,slow=9.0,SNR=6.2
ULM Lac du Bonnet 69.90 342 P **P** **11 02 06.3 -0.8**
3.0nm,0.3s,baz=155,slow=7.3,SNR=9.7
NVAR Mina Array Bea 70.75 321 P **P** **11 02 14.1 +1.2**
0.4nm,0.6s,baz=122,slow=6.9,SNR=4.8
QSPA South Pole Qui 74.14 180 P **P** **11 02 32.6 +0.3**
1.6nm,0.7s,baz=139,slow=1.3,SNR=13
TORD Torodi Ar. Bea 76.31 72 P **P** **11 02 44.4 -1.0**
2.8nm,0.5s,baz=265,slow=4.9,SNR=41
VNDA Vanda 82.08 190 P **P** **11 03 15.9 +0.3**
0.5nm,0.6s,baz=126,slow=8.7,SNR=3.7
YKA Yellowknife Ar 85.80 341 P **P** **11 03 35.2 +0.9**
0.6nm,0.6s,baz=136,slow=4.6,SNR=7.5
STKA Stephens Creek 123.70 212 PKP **PKPdf** **11 09 52.5 +0.2**
1.3nm,0.7s,baz=150,slow=9.1,SNR=3.6
ASAR Alice Springs 134.30 211 PKP **PKPdf** **11 10 12.8 0.0**
0.9nm,0.6s,baz=129,slow=1.9,SNR=13
WRA Warramunga Arr 137.15 214 PKP **PKPdf** **11 10 18.6 +0.5**
1.0nm,0.3s,baz=139,slow=1.8,SNR=45
WRA SKPbc **SKPbc** **11 13 31.1 -0.1**
0.6nm,0.8s,baz=137,slow=2.8,SNR=5.3
ZALV Zalesovo Beam 137.26 22 PKP **PKPdf** **11 10 17.9 +0.7**
2.1nm,0.5s,baz=299,slow=3.2,SNR=11
USRK Ussuriysk Ar. 146.44 331 PKPbc **PKPab** **11 10 36.9 0.0**
2.7nm,0.5s,baz=19,slow=2.4,SNR=8.2
MJAR Matsushiro Arr 147.88 315 PKPbc **PKPbc** **11 10 41.2 +1.4**
1.8nm,0.8s,baz=91,slow=0.9,SNR=4.2
SONM Songino Array 148.12 5 PKPbc **PKPbc** **11 10 41.2 +1.0**
3.3nm,0.5s,baz=309,slow=1.9,SNR=7.5
KSRS Korea Array 153.57 327 PKPbc **PKPbc** **11 10 54.1 +1.0**
1.2nm,0.9s,baz=43,slow=2.0,SNR=5.8

*IDC **23** 10:51:56.6±1.1,25.96N×128.29E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/24, mbtmp3.7/7, ML3.7/1, MS2.9/4, Ms1 2.9/4, ms1mx2.7/33, Error ellipse: s-maj=51.7km s-min=15.4km az=86.0*
*ISCJB **23** 10:51:59.5±0.6,25.98N±0.04×128.63E±0.04, h42km±8km, mb3.7/6, MS3.5/1, Error ellipse: s-maj=7.9km s-min=3.7km az=44.9*
*JMA **23** 10:52:01.7±0.2,26.06N×128.59E, h46km±4km, M3.4*
ISC 23 10:51:59.3±1.5,**25.95N**±0.04×**128.68E**±0.04,**h26**km±11km, **n33,**σ1**23/48, mb3.8/6, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.82**	**314**	P	**Pb**	**10 52 14.9**	**0.0**
JNTH				*e*S	**Sb**	**10 52 24.4**	**-1.1**
JJT2	**Tamagusuku 2**	**0.86**	**283**	P	**Pb**	**10 52 16.2**	**+0.6**
JJT2				*e*S	**Sb**	**10 52 27.2**	**+0.5**
JOW	**Kunigami**	**0.95**	**337**	P	**Pn**	**10 52 17.1**	**+0.1**
JOW				*e*S	**Sb**	**10 52 27.8**	**-1.5**
JOW	**Kunigami** baz=126,slow=17	**0.95**	**337**	Pn	**Pn**	**10 52 17.1**	**+0.1**
JOW				Sn	**Sb**	**10 52 29.2**	**-0.1**
	28nm,0.3s,baz=124,slow=18,SNR=45						
JIH	**Iheya**	**1.25**	**329**	P	**Pn**	**10 52 21.8**	**+0.7**
JIH				*e*S	**Sn**	**10 52 35.4**	**-1.7**
JOKE	**Okinoerabujima**	**1.41**	**356**	P	**Pn**	**10 52 23.8**	**+0.6**
JOKE				*e*S	**Sn**	**10 52 39.6**	**-1.3**
JAGN	**Aguni-jima**	**1.44**	**296**	P	**Pn**	**10 52 24.5**	**+0.8**
JAGN				*e*S	**Sn**	**10 52 40.1**	**-1.6**
JKE	**Kume jima 2**	**1.74**	**283**	P	**Pn**	**10 52 28.2**	**+0.3**
JKE				*e*S	**Sn**	**10 52 48.4**	**-0.9**
JTK	**Tokunoshima**	**1.84**	**7**	P	**Pn**	**10 52 29.7**	**+0.5**
JTK				*e*S	**Sn**	**10 52 49.5**	**-2.2**
JMZ	**Minamidaito 2**	**2.29**	**93**	P	**Pn**	**10 52 35.0**	**-0.4**
JMZ				*e*S	**Sn**	**10 52 59.9**	**-2.9**
JAMN	**Amaminishikomi**	**2.32**	**11**	P	**Pn**	**10 52 36.4**	**+0.6**
JAMN				*e*S	**Sn**	**10 53 02.4**	**-1.1**
JAM	**Amami Oshima**	**2.58**	**18**	P	**Pn**	**10 52 39.6**	**+0.2**
JAM				*e*S	**Sn**	**10 53 08.2**	**-1.7**
JZK	**Kikaishima**	**2.62**	**26**	P	**Pn**	**10 52 40.7**	**+0.8**
JZK				*e*S	**Sn**	**10 53 11.6**	**+0.8**
JOGS	**Gusukube**	**3.19**	**249**	P	**Pn**	**10 52 48.8**	**+1.0**
JOGS				*e*S	**Sn**	**10 53 23.8**	**-1.3**
JTAJ	**Takarajima**	**3.22**	**8**	P	**Pn**	**10 52 48.9**	**+0.7**
JTAJ				*e*S	**Sn**	**10 53 24.3**	**-1.4**
JMJ	**Miyako jima 2**	**3.27**	**250**	*e*S	**Sn**	**10 53 25.4**	**-1.5**
JIKM	**Ikemajima**	**3.27**	**252**	P	**Pn**	**10 52 49.4**	**+0.5**
JIKM				*e*S	**Sn**	**10 53 25.1**	**-1.8**
JIRB	**Irabujima**	**3.37**	**251**	P	**Pn**	**10 52 50.9**	**+0.7**
JIRB				*e*S	**Sn**	**10 53 27.6**	**-1.7**
JTJ	**Tarama**	**3.83**	**251**	P	**Pn**	**10 52 56.8**	**+0.2**
JTJ				*e*S	**Sn**	**10 53 37.9**	**-2.9**
JNN	**Nakanoshima**	**4.01**	**15**	P	**Pn**	**10 53 00.1**	**+1.0**
JISG	**Ishigakijimahi**	**4.18**	**252**	P	**Pn**	**10 53 01.6**	**+0.1**
JIJ	**Ishigaki jima**	**4.41**	**250**	P	**Pn**	**10 53 04.2**	**-0.3**
JIJ				*e*S	Sn	10 53 50.7	-4.3
JKRS	**Kuro-shima**	**4.57**	**249**	P	**Pn**	**10 53 07.8**	**+1.1**
JNU	**Nakatsue** 1.1nm,0.3s,baz=197,slow=6.3,SNR=12	**7.39**	**14**	Pn	**Pn**	**10 53 46.8**	**+1.2**
JNU				LR	LR	10 57 02.0	
	comp=Z,75nm,18.1s,baz=257,slow=41						
KSRS	**Korea Array**	**11.48**	**357**	LR	LR	10 59 14.3	
	comp=Z,53nm,18.4s,baz=184,slow=38						
JCJ	**Chichijima**	**12.14**	**82**	LR	LR	10 58 50.7	
	comp=Z,22nm,21.3s,baz=143,slow=33						
KAPI	**Kappang**	**31.98**	**197**	LR	LR	11 10 36.5	
	comp=Z,97nm,21.3s,baz=278,slow=35						
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=354,slow=8.3,SNR=7.9	**45.95**	**173**	P	**P**	**11 00 21.6**	**+1.4**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=6.7,slow=14,SNR=4.7	**49.59**	**174**	P	**P**	**11 00 50.3**	**+1.9**
BVAR	**Borovoye Array** 0.3nm,0.4s,baz=82,slow=9.0,SNR=3.6	**50.75**	**318**	P	**P**	**11 00 57.9**	**+0.9**
FINES	**FINESS Array B** 1.3nm,0.8s,baz=132,slow=2.1,SNR=3.2	**73.30**	**331**	P	**P**	**11 03 28.1**	**-0.1**
AKASG	**Malin Array Be** 0.5nm,0.5s,baz=57,slow=6.5,SNR=3.7	**76.00**	**320**	P	**P**	**11 03 44.1**	**0.0**
BRTR	**Keskin Array B** 1.4nm,1.0s,baz=62,slow=3.4,SNR=1.9	**77.52**	**308**	P	**P**	**11 03 52.1**	**-1.0**

IDC 23 11:00:28.1±0.8,**21.43S**×**176.08W**,**h0**km,**mb3.8**/9, **mb1 4.1**/9,**mb1mx3.9**/31,**mbtmp3.8**/9,**MS3.6**/10, **Ms1 3.6**/10,**ms1mx3.5**/18,**Error ellipse: s-maj=38.6km s-min=19.8km az=151.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga** comp=Z,56nm,18.3s,baz=284,slow=41	**15.20**	**92**	LR	LR	11 10 49.5	
DZM	**Mont Dzumac** 645nm,25.0s	**16.25**	**265**	*e*LR	LR	11 08 04.7	
DZM	**Mont Dzumac** comp=Z,575nm,18.4s,baz=180,slow=33	**16.25**	**265**	LR	LR	11 09 25.7	
URZ	**Urewera** comp=Z,525nm,18.4s,baz=15,slow=29	**17.78**	**198**	LR	LR	11 10 35.1	
TBI	**Tubuai** 544nm,28.8s	**24.68**	**99**	*e*LR	LR	11 11 51.4	
PAE	**Paea** 3.2nm,0.3s	**25.24**	**86**	*e*T	T	11 31 04.4	
PPT2	**Papeete2** 188nm,26.0s	**25.26**	**86**	*e*LQ	LQ	11 10 52.9	
PPT2	602nm,27.5s,baz=257			*e*LR	LR	11 12 02.8	
PPT2	**Papeete2** 2.4nm,0.3s	**25.26**	**86**	*e*T	T	11 31 06.7	
PPT	**Papeete** comp=Z,122nm,21.7s,baz=255,slow=30	**25.26**	**86**	LR	LR	11 13 11.1	
CTA	**Charters Tower** 3.2nm,0.8s,baz=115,slow=19,SNR=3.2	**35.19**	**265**	P	P	11 07 25.2	+0.9
RKT	**Rikitea** 401nm,30.2s	**37.99**	**100**	*e*LR	LR	11 17 46.7	
RKT	**Rikitea** 2.0nm,0.3s	**37.99**	**100**	*e*T	T	11 46 55.0	
STKA	**Stephens Creek** 1.3nm,0.6s,baz=118,slow=13,SNR=3.2	**39.02**	**245**	P	P	11 07 57.7	+1.1
ASAR	**Alice Springs** 2.0nm,1.1s,baz=90,slow=7.4,SNR=5.8	**46.06**	**257**	P	P	11 08 53.7	-0.4
ASAR	comp=Z,106nm,18.1s,baz=258,slow=36			LR	LR	11 28 18.4	
WRA	**Warramunga Arr** 0.9nm,0.9s,baz=99,slow=8.4,SNR=3.5	**46.26**	**262**	P	P	11 08 54.6	-1.1
VNDA	**Vanda** comp=Z,32nm,19.1s,baz=286,slow=34	**57.16**	**186**	LR	LR	11 32 25.5	
QSPA	**South Pole Qui** 0.9nm,1.0s,baz=72,slow=4.7,SNR=1.8	**68.65**	**180**	P	P	11 11 32.8	-0.3
PETK	**Petropavlovsk-** comp=Z,32nm,19.5s,baz=169,slow=34	**77.63**	**344**	LR	LR	11 44 01.4	
NVAR	**Mina Array Bea** 0.8nm,0.8s,baz=227,slow=8.8,SNR=5.5	**80.48**	**42**	P	P	11 12 42.1	-0.2
TXAR	**Lajitas Array** 0.4nm,0.8s,baz=216,slow=7.4,SNR=5.9	**86.06**	**57**	P	P	11 13 12.4	+1.2
TXAR	comp=Z,23nm,19.4s,baz=0.0,slow=31			LR	LR	11 45 23.0	
PDAR	**Pinedale Array** 0.3nm,0.8s,baz=251,slow=2.8,SNR=2.7	**88.42**	**43**	P	P	11 13 22.8	+0.3
PDAR	comp=Z,25nm,18.5s,baz=312,slow=33			LR	LR	11 49 07.6	
ILAR	**Eielson Array** 0.8nm,1.1s,baz=233,slow=3.9,SNR=4.1	**88.83**	**12**	P	P	11 13 23.0	-0.6
ILAR	comp=Z,26nm,19.3s,baz=230,slow=32			LR	LR	11 48 04.3	
AKASG	**Malin Array Be** 0.5nm,0.5s,baz=40,slow=4.1,SNR=6.7	**144.68**	**332**	PKP	PKPab	11 20 03.8	-1.5
BRTR	**Keskin Array B** 0.4nm,0.6s,baz=111,slow=3.2,SNR=2.2	**148.79**	**312**	PKPbc	PKPbc	11 20 17.6	-0.5

*ISCJB **23** 11:17:39.3±1.2,26.42S±0.04×27.46E±0.07, h10km±7km, mb3.6/2, Error ellipse: s-maj=10.2km s-min=5.8km az=164.1*
*PRE **23** 11:17:40.0±0.9,26.42S×27.38E, h2km, ML2.8*
*IDC **23** 11:17:42.9±1.6,26.29S×26.87E, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.5/28, mbtmp3.7/5, ML3.0/3, Error ellipse: s-maj=33.9km s-min=16.3km az=102.0*
ISC 23 11:17:40.5±1.3,**26.43S**±0.04×**27.32E**±0.06,**h9**km±9km, **n14,**σ1**57/22, 1D, South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.50**	**176**	*e*P	**Pg**	**11 17 49.4**	**-0.7**
PRYS				*e*S	**Sg**	**11 17 56.9**	**+0.2**
PRYS				AML	AML	11 17 59.2	
	comp=Z,293nm,0.5s						
BFSD	**Buffelsfontein**	**0.65**	**228**	*i* P	**Pg**	**11 17 53.1**	**0.0**
BFSD				*e*S	**Sb**	**11 18 03.4**	**+0.1**
BFSD				AML	AML	11 18 11.1	
	comp=Z,242nm,0.3s						
KSR	**Koster**	**0.69**	**326**	*e*P	**Pb**	**11 17 54.3**	**-0.4**
KSR				*e*S	**Sg**	**11 18 03.4**	**+0.6**
KSR				AML	AML	11 18 10.3	
	comp=Z,80nm,0.3s						
SWZ	**Schweizer**	**1.93**	**247**	*e*P	**Pb**	**11 18 15.6**	**-0.3**
SWZ				*e*S	**Sb**	**11 18 41.0**	**+0.8**
SWZ				AML	AML	11 18 43.9	
	comp=Z,153nm,0.4s						
LBTB	**Lobatse**	**2.10**	**312**	⇓*i* P	**Pn**	**11 18 16.8**	**+0.9**
LBTB				*e*S	**Sb**	**11 18 43.9**	**-1.1**
LBTB				AML	AML	11 18 48.9	
	comp=Z,181nm,0.3s						
BOSA	**Boshof**	**2.85**	**220**	*e*P	**Pn**	**11 18 27.0**	**+0.8**
BOSA				*e*S	**Sn**	**11 19 02.5**	**+1.8**
BOSA				AML	AML	11 19 22.4	
	comp=Z,31nm,0.6s						
BOSA	**Boshof**	**2.85**	**220**	Pn	**Pn**	**11 18 27.4**	**+1.2**
	comp=Z,5.2nm,0.3s,baz=38,slow=13,SNR=136						
BOSA				Lg	Lg	11 19 08.8	
	comp=Z,11nm,0.3s,baz=314,slow=21,SNR=14						
KSD	**Kokstad**	**4.49**	**156**	*e*P	**Pn**	**11 18 49.6**	**+0.7**
KSD				*e*S	**Sn**	**11 19 40.6**	**-0.8**
KSD				AML	AML	11 20 03.7	
	comp=Z,14nm,0.4s						
SUR	**Sutherland**	**8.21**	**222**	*e*P	**Pn**	**11 19 41.6**	**+1.6**
SUR				*e*S	**Sn**	**11 21 10.3**	**-2.7**
SUR				AML	AML	11 21 27.2	
	comp=Z,4.7nm,0.4s						
SUR	**Sutherland**	**8.21**	**222**	Pn	**Pn**	**11 19 41.2**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=57,slow=14,SNR=6.2						
SUR				Sn	**Sn**	**11 21 08.7**	**-4.3**
	comp=Z,0.6nm,0.3s,baz=96,slow=15,SNR=2.6						
SUR				Lg	Lg	11 21 58.8	
	comp=Z,1.8nm,0.3s,baz=329,slow=22,SNR=5.0						
TSUM	**Tsumeb**	**11.50**	**307**	Pn	**Pn**	**11 20 24.2**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=127,slow=9.6,SNR=13						
TSUM				Lg	Lg	11 23 36.8	
	comp=Z,0.2nm,0.3s,baz=72,slow=20,SNR=2.5						
TORD	**Torodi Ar. Bea**	**46.57**	**325**	P	**P**	**11 26 09.2**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=144,slow=6.7,SNR=7.3						
SNAA	**Sanae**	**48.30**	**192**	P	P	11 26 27.0	+5.2
	comp=Z,0.4nm,0.7s,baz=33,slow=18,SNR=3.8						
NVAR	**Mina Array Bea**	**148.79**	**301**	PKPbc	**PKPbc**	**11 37 30.7**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=76,slow=4.7,SNR=2.7						

IDC 23 11:22:50.1±7.7,**6.56S**×**133.34E**,**h0**km,**mb3.9**/1, **mb1 3.5**/3,**mb1mx3.4**/17,**mbtmp3.4**/3,**ML2.8**/2,**Error ellipse: s-maj=148.9km s-min=85.6km az=105.0,Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=356,slow=13,SNR=7.7	**13.33**	**176**	Pn	Pn	11 25 58.9	-1.9
WRA				Sn	Sn	11 28 31.6	+1.6
	0.1nm,0.3s,baz=356,slow=25,SNR=5.9						
ASAR	**Alice Springs** 0.0nm,0.3s,baz=1.1,slow=8.4,SNR=3.0	**17.01**	**178**	P	P	11 26 51.4	-0.3
STKA	**Stephens Creek** 2.6nm,1.1s,baz=331,slow=13,SNR=2.7	**26.34**	**164**	P	P	11 28 27.8	-0.1

*BJI **23** 11:47:49.3,25.32N×63.20E, h10km, mb4.5/24, mB4.6/16, Ms4.6/14, Ms7 4.3/13*
*IDC **23** 11:47:52.2±0.7,25.72N×63.39E, h0km, mb4.1/24, mb1 4.2/24, mb1mx4.1/35, mbtmp4.1/24, MS4.1/22, Ms1 4.1/22, ms1mx4.0/33, Error ellipse: s-maj=17.0km s-min=13.2km az=11.0*
*NEIC **23** 11:47:53.1±0.5,25.60N×63.30E, h10km, mb4.6/12, Error ellipse: s-maj=10.3km s-min=7.4km az=167.0*
*CSEM **23** 11:47:53.8±0.2,25.63N×63.42E, h10km, mb4.4/27, Ms4.5, Error ellipse: s-maj=10.8km s-min=5.8km az=147.0*
*ISCJB **23** 11:47:55.0±0.2,25.60N±0.03×63.41E±0.02, h33km, mb4.2/48, MS4.0/32, Error ellipse: s-maj=4.5km s-min=3.2km az=1.7*
*DSN **23** 11:47:55.9±5.6,25.90N×63.22E, h10km, mb4.6/11, Ms4.5/11, Error ellipse: s-maj=5.4km s-min=1.2km az=323.0*
*MOS **23** 11:47:56.1±1.1,25.69N×63.53E, h33km, mb4.4/31, MS4.0/9, Error ellipse: s-maj=11.0km s-min=6.3km az=101.5*
*OMAN **23** 11:48:03.0±0.0,25.41N×62.96E, h40km±6km, Error ellipse: s-maj=7.7km s-min=3.0km az=310.0*
ISC 23 11:47:56.8±0.3,**25.56N**±0.05×**63.33E**±0.04,**h35**km,**n241,** σ1**57**/226,**mb4.2**/50,**MS4.1**/32,**11C-11D, Southwestern Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBK	**Wadi Bani Khal** SNR=11	**4.95**	**234**	P	**Pn**	**11 49 09.0**	**+0.3**
WBK	**Wadi Bani Khal** SNR=11	**4.95**	**234**	⇓Pn	**Pn**	**11 49 09.0**	**+0.3**
WBK	**Wadi Bani Khal** SNR=11	**4.95**	**234**	⇓P	**Pn**	**11 49 09.0**	**+0.3**
WBK				⇑S	**Sn**	**11 50 02.6**	**-2.1**
SMDO	**Samad** SNR=16	**5.42**	**244**	P	**Pn**	**11 49 16.2**	**+1.0**
SMDO	**Samad** SNR=16	**5.42**	**244**	Pn	**Pn**	**11 49 16.2**	**+1.0**
SMDO	**Samad** SNR=16	**5.42**	**244**	P	**Pn**	**11 49 16.2**	**+1.0**
JMDO	**Jabal Madar** SNR=12	**5.74**	**237**	P	**Pn**	**11 49 20.9**	**+1.4**
JMDO	**Jabal Madar** SNR=12	**5.74**	**237**	⇑P	**Pn**	**11 49 20.9**	**+1.4**
HOQ	**Hoqain** SNR=42	**5.82**	**251**	P	**Pn**	**11 49 20.3**	**-0.3**
HOQ	**Hoqain** SNR=42	**5.82**	**251**	⇑P	**Pn**	**11 49 20.3**	**-0.3**
HOQ				⇑S	**Sn**	**11 50 23.7**	**-2.5**
BSYO	**Bisya** SNR=139	**6.23**	**244**	P	**Pn**	**11 49 28.4**	**+2.1**
BSY	**Bisya** SNR=139	**6.26**	**245**	P	**Pn**	**11 49 28.4**	**+1.7**
BANOM	**Banah** SNR=28	**6.35**	**275**	P	**Pn**	**11 49 27.0**	**-0.9**
BANOM	**Banah** SNR=28	**6.35**	**275**	⇑*i*P	**Pn**	**11 49 26.8**	**-1.1**
BANOM	**Banah** SNR=28	**6.35**	**275**	⇑*i*P	**Pn**	**11 49 27.0**	**-0.9**
UOSS	**Wadi Hilu**	**6.48**	**266**	*e*Pn	**Pn**	**11 49 28.1**	**-1.6**
UOSS	**Wadi Hilu**	**6.48**	**266**	*e*Pn	**Pn**	**11 49 28.1**	**-1.6**
HATD	**Hatta, Dubai** SNR=20	**6.56**	**265**	P	**Pn**	**11 49 30.2**	**-0.6**
HATD	**Hatta, Dubai** SNR=20	**6.56**	**265**	P	**Pn**	**11 49 30.2**	**-0.6**
HATD	**Hatta, Dubai** SNR=20	**6.56**	**265**	⇓*i*P	**Pn**	**11 49 30.0**	**-0.8**
ARQ	**Araqi** SNR=53	**6.59**	**252**	P	**Pn**	**11 49 33.8**	**+2.6**
ARQ	**Araqi** SNR=53	**6.59**	**252**	⇓P	**Pn**	**11 49 33.8**	**+2.6**
ASHO	**Ashiyiah** SNR=91	**6.65**	**264**	P	**Pn**	**11 49 33.2**	**+1.2**
ASHO	**Ashiyiah** SNR=91	**6.65**	**264**	⇓P	**Pn**	**11 49 31.9**	**-0.1**
ASHO	**Ashiyiah** SNR=91	**6.65**	**264**	⇓*i*P	**Pn**	**11 49 33.2**	**+1.2**
NAZ	**Nazwa, Dubai** SNR=30	**6.96**	**267**	P	**Pn**	**11 49 37.6**	**+1.3**
NAZ	**Nazwa, Dubai** SNR=30	**6.96**	**267**	⇑*e*P	**Pn**	**11 49 37.6**	**+1.3**
FAQ	**Al Faqa, Dubai** SNR=15	**7.06**	**265**	P	**Pn**	**11 49 39.0**	**+1.4**
FAQ	**Al Faqa, Dubai** SNR=15	**7.06**	**265**	⇑*i*P	**Pn**	**11 49 39.0**	**+1.4**
ASUD	**Al Ashush, Dub** SNR=9.1	**7.31**	**264**	P	**Pn**	**11 49 42.7**	**+1.6**
ASUD	**Al Ashush, Dub** SNR=9.1	**7.31**	**264**	⇑P	**Pn**	**11 49 43.1**	**+2.0**
ASUD	**Al Ashush, Dub** SNR=9.1	**7.31**	**264**	⇓*e*P	**Pn**	**11 49 42.7**	**+1.6**
KBL	**Kabul** 23nm,0.8s	**10.22**	**28**	*e*Pn	**Pn**	**11 50 19.8**	**-1.4**
KBL				*e*Sn	Sn	11 52 06.1	-8.6
KBL	**Kabul** 23nm,0.8s	**10.22**	**28**	*e*Pn	**Pn**	**11 50 19.8**	**-1.4**
KBL				*e*Sn	Sn	11 52 06.0	-8.6
SARP	**Sargodha**	**10.36**	**50**	P	Pn	11 50 16.5	-6.3
CEP	**Cherat**	**11.10**	**40**	P	**Pn**	**11 50 30.5**	**-2.7**
CEP				S	Sn	11 52 24.0	-12
BHPL	**Bhopal**	**13.05**	**97**	*e*P	**Pn**	**11 50 58.1**	**-1.7**
BHPL				*e*S	Sn	11 53 16.5	-7.3
BHPL	comp=N,14nm,0.1s			AML	AML	11 55 36.5	
BHPL	comp=E,14nm,0.1s			AML	AML	11 55 36.6	
DHRM	**DHARAMSHALA**	**13.17**	**57**	*e*P	Pn	11 50 56.9	-4.6
DHRM				*e*S	Sn	11 53 14.9	-12
DHRM	comp=N,283nm,1.1s			AML	AML	11 53 22.4	
DHRM	comp=E,463nm,0.6s			AML	AML	11 53 23.4	
SMLA	**Simla**	**13.38**	**62**	*e*P	Pn	11 51 00.4	-3.8
SMLA				*e*S	Sn	11 53 20.6	-11
SMLA	comp=N,154nm,0.4s			AML	AML	11 53 27.1	
SMLA	comp=E,212nm,0.5s			AML	AML	11 53 28.8	
DDI	**Dehra Dun**	**13.85**	**67**	*e*P	**Pn**	**11 51 08.4**	**-2.3**
DDI				*ex*	x	11 53 29.6	
DDI	comp=N,131nm,0.2s			AML	AML	11 53 37.1	
DDI	comp=E,183nm,0.7s			AML	AML	11 53 39.6	
KLRI	**Killari**	**14.40**	**119**	*e*Pn	**Pn**	**11 51 18.2**	**+0.1**
SRSP	**Sriramsagar**	**15.38**	**112**	*e*Pn	**Pn**	**11 51 29.8**	**-1.5**
RPR	**Rampur**	**16.21**	**111**	*e*Pn	**Pn**	**11 51 42.3**	**+0.3**
HYBB	**Hyderabad (bro**	**16.31**	**117**	*e*Pn	**Pn**	**11 51 43.8**	**+0.5**
HYB	**Hyderabad**	**16.31**	**117**	*i* P	**P**	**11 51 44.0**	**-1.9**
RAYN	**Ar Rayn**	**16.35**	**267**	*e*Pn	**Pn**	**11 51 39.5**	**-4.2**
RAYN				*e*Sn	Sn	11 54 25.0	-19
RAYN	**Ar Rayn**	**16.35**	**267**	*e*Pn	**Pn**	**11 51 39.5**	**-4.2**
RAYN				*e*Sn	Sn	11 54 25.0	-19
URV	**Uravakonda**	**16.79**	**126**	*e*Pn	**Pn**	**11 51 48.5**	**-0.9**
SRLM	**Srisailam**	**17.31**	**120**	*e*Pn	**P**	**11 51 56.2**	**-0.8**
NJS	**Nagarjunasagar**	**17.39**	**118**	*e*Pn	**P**	**11 51 57.0**	**-0.8**
RCLA	**Racherla**	**17.74**	**122**	*e*Pn	**P**	**11 52 01.1**	**-0.6**
KOLN	**Koldanda** comp=E,103nm,1.0s	**18.25**	**79**	*e*P	**P**	**11 52 04.8**	**-2.7**
ADKI	**Addanki**	**18.31**	**119**	*e*Pn	**Pn**	**11 52 08.2**	**+0.2**
KKAR	**Karatay Array** comp=E,12nm,0.8s	**18.46**	**17**	*e*P	**P**	**11 52 08.3**	**-1.1**
KKAR	**Karatay Array** comp=E,12nm,0.8s	**18.46**	**17**	*e*P	**P**	**11 52 08.3**	**-1.1**
AML	**Almayashu** SNR=9.2	**18.61**	**25**	P	**Pn**	**11 52 13.6**	**+1.6**
AML	**Almayashu** SNR=9.8	**18.61**	**25**	P	**P**	**11 52 10.6**	**-0.9**
PVM	**Polavaram**	**18.92**	**112**	*e*P	**Pn**	**11 52 14.8**	**-0.7**
UCH	**Uchtor** SNR=36	**19.01**	**26**	P	**P**	**11 52 13.4**	**-2.6**
EKS2	**Erkin-Say** SNR=6.1	**19.10**	**24**	P	**P**	**11 52 15.4**	**-1.1**
EKS2	**Erkin-Say** comp=E,18nm,1.0s	**19.10**	**24**	*e*P	**P**	**11 52 15.7**	**-0.9**
EKS2	**Erkin-Say** comp=E,18nm,1.0s	**19.10**	**24**	*e*P	**P**	**11 52 15.7**	**-0.9**
GKN	**Gorkha** comp=E,65nm,0.8s	**19.18**	**78**	*e*P	**P**	**11 52 17.0**	**-0.6**
KZA	**Kyzart** SNR=44	**19.19**	**28**	P	**Pn**	**11 52 20.9**	**+1.9**
AAK	**Ala-Archa** comp=E,0.6nm,0.3s,baz=215,slow=12,SNR=4.3	**19.34**	**26**	*ce*P	**P**	**11 52 19.1**	**-0.2**
AAK	comp=E,0.7nm,0.3s,baz=198,slow=9.6,SNR=3.1			S	**Sn**	**11 56 00.1**	**+3.6**
AAK	**Ala-Archa**	**19.34**	**26**	*ce*P	**P**	**11 52 19.1**	**-0.2**
AAK	comp=Z,22nm,1.0s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,22nm,1.0s	**19.34**	**26**	*e*P	**P**	**11 52 19.1**	**-0.2**
AAK				S	**Sn**	**11 56 00.1**	**+3.6**
SKHT	**Srikalahasti**	**19.38**	**124**	*e*Pn	**Pn**	**11 52 21.6**	**+0.6**
KBK	**Karagaybulak** SNR=6.0	**19.54**	**26**	P	**P**	**11 52 21.2**	**-0.3**
FRU	**Bishkek**	**19.56**	**25**	*e*P	**P**	**11 52 22.0**	**+0.5**
FRU				*e*		11 56 00.0	
FRU	comp=Z,40nm,1.8s			pmax	pmax		
FRU	**Bishkek** comp=Z,40nm,1.8s	**19.56**	**25**	*e*P	**P**	**11 52 22.0**	**+0.5**
FRU				*e*S	**S**	**

GNI					LR	LR	12 00 56.4		
	comp=E,379nm,18.6s,baz=90,slow=37								
GNI	**Garni**	**21.28**	**318**	*d*	iP	**P**	**11 52 41.3**	**+1.0**	
GNI					pmax	pmax			
	comp=Z,55nm,1.7s								
GNI	**Garni**	**21.28**	**318**	*i*	P	**P**	**11 52 41.3**	**+1.0**	
	comp=Z,55nm,1.7s								
GNI	**Garni**	**21.28**	**318**		P	**P**	**11 52 44.9**	**+4.6**	
	SNR=7.8								
GNI	**Garni**	**21.28**	**318**	⇓	iP	**P**	**11 52 40.1**	**-0.2**	
	SNR=6.6								
GNI	**Garni**	**21.28**	**318**	*e*	P	**P**	**11 52 39.2**	**-1.1**	
	comp=Z,54nm,1.3s								
ODAN	**Odare**	**21.62**	**81**	*e*	P	**P**	**11 52 45.5**	**+1.3**	
	comp=Z,130nm,0.8s								
MAK	**Makhachkala**	**21.67**	**327**	*e*	P	**P**	**11 52 45.4**	**+1.2**	
MAK					MLR	MLR			
	comp=Z,508nm,14.0s								
MAK	**Makhachkala**	**21.67**	**327**	*e*	P	**P**	**11 52 45.4**	**+1.2**	
	comp=Z,508nm,14.0s								
TAPN	**Taplejung**	**21.90**	**80**	*e*	P	**P**	**11 52 48.1**	**+0.9**	
	comp=Z,70nm,0.8s								
AB31	**Akbulak array**	**23.80**	**354**	*i*	P	**P**	**11 53 04.3**	**-1.8**	
AB31					pmax	pmax			
	comp=Z,8.0nm,0.7s								
AB31	**Akbulak array**	**23.80**	**354**	*i*	P	**P**	**11 53 04.3**	**-1.8**	
	comp=Z,8.0nm,0.7s								
ABKAR	**Akbulak array**	**23.80**	**354**	*e*	P	**P**	**11 53 04.8**	**-1.4**	
	comp=Z,3.3nm,0.5s								
ABKAR	**Akbulak array**	**23.80**	**354**	*e*	P	**P**	**11 53 04.8**	**-1.4**	
	comp=Z,3.3nm,0.5s								
ASF	**Jabal al Asfar**	**24.03**	**292**		P	**P**	**11 53 09.1**	**+0.5**	
	comp=Z,4.1nm,0.8s,baz=63,slow=9.0,SNR=3.9								
ASF	**Jabal al Asfar**	**24.03**	**292**		P	**P**	**11 53 09.1**	**+0.5**	
ASF					pmax	pmax			
	comp=Z,4.0nm,0.8s								
NCK	**Nalchik**	**24.07**	**323**	*e*	P	**P**	**11 53 11.2**	**+2.4**	
NCK	**Nalchik**	**24.07**	**323**	*e*	P	**P**	**11 53 11.2**	**+2.4**	
NEY	**Neytrino**	**24.39**	**321**	*e*	P	**P**	**11 53 13.7**	**+1.8**	
NEY					pmax	pmax			
	comp=Z,1.0nm,0.8s								
NEY	**Neytrino**	**24.39**	**321**	*e*	P	**P**	**11 53 13.7**	**+1.8**	
	comp=Z,1.0nm,0.8s								
KBZ	**Khabaz**	**24.60**	**323**		P	**P**	**11 53 14.6**	**+1.0**	
	comp=Z,5.5nm,0.8s,baz=90,slow=8.4,SNR=12								
KBZ	**Khabaz**	**24.60**	**323**		P	**P**	**11 53 14.6**	**+1.0**	
KBZ					pmax	pmax			
	comp=Z,6.0nm,0.8s								
PALK	**Pallekele**	**24.61**	**135**	*e*	P	**P**	**11 53 11.6**	**-2.4**	
	comp=Z,22nm,1.1s								
PALK	**Pallekele**	**24.61**	**135**	*e*	P	**P**	**11 53 11.6**	**-2.4**	
	comp=Z,22nm,1.1s								
KIV	**Kislovodsk**	**24.87**	**323**	*e*	P	**P**	**11 53 18.2**	**+2.1**	
KIV				*e*	S	**S**	**11 57 39.2**	**+2.3**	
KIV					pmax	pmax			
	comp=Z,69nm,1.1s								
KIV					MLR	MLR			
	comp=Z,114nm,15.0s								
KIV	**Kislovodsk**	**24.87**	**323**		P	**P**	**11 53 16.3**	**+0.2**	
	SNR=12								
KIV	**Kislovodsk**	**24.87**	**323**		P	P	11 53 21.1	+5.0	
	SNR=18								
KIV	**Kislovodsk**	**24.87**	**323**	⇓	P	**P**	**11 53 16.3**	**+0.2**	
	SNR=12								
KIV	**Kislovodsk**	**24.87**	**323**		P	**P**	**11 53 18.6**	**+2.4**	
	comp=Z,130nm,1.4s								
LSA	**Lhasa**	**24.96**	**74**	*e*	P	**P**	**11 53 19.3**	**+1.7**	
	comp=Z,30nm,1.0s								
LSA	**Lhasa**	**24.96**	**74**	*e*	P	**P**	**11 53 19.3**	**+1.7**	
	comp=Z,30nm,1.0s								
AKTK	**Aktyubinsk**	**25.17**	**352**		P	**P**	**11 53 18.1**	**-0.6**	
	comp=Z,213nm,19.6s								
AKTO	**Aktyubinsk**	**25.17**	**352**		P	**P**	**11 53 18.1**	**-0.6**	
	comp=Z,6.4nm,0.7s,baz=162,slow=11,SNR=15								
AKTO					LR	LR	12 03 44.7		
	comp=Z,213nm,19.6s,baz=160,slow=38								
AKTO	**Aktyubinsk**	**25.17**	**352**		P	**P**	**11 53 18.1**	**-0.6**	
AKTO					pmax	pmax			
	comp=Z,6.0nm,0.7s								
AKTO					MLR	MLR			
	comp=Z,213nm,19.6s								
MMAI	**Mount Meron Ar**	**25.41**	**294**		P	**P**	**11 53 21.8**	**+0.6**	
	comp=Z,0.9nm,0.3s,baz=111,slow=16,SNR=3.0								
MMAI					LR	LR	12 05 44.1		
	comp=Z,540nm,18.1s,baz=95,slow=42								
EIL	**Elat**	**25.45**	**286**		P	**P**	**11 53 23.6**	**+2.1**	
	comp=Z,2.8nm,0.5s,baz=59,slow=8.1,SNR=4.9								
EIL					LR	LR	12 06 11.3		
	comp=Z,610nm,21.9s,baz=78,slow=43								
MK31	**Makanchi Array**	**26.01**	**31**	*i*	P	**P**	**11 53 26.0**	**-0.4**	
MK31					pmax	pmax			
	comp=Z,8.0nm,0.6s								
MK31	**Makanchi Array**	**26.01**	**31**	*e*	P	**P**	**11 53 26.2**	**-0.2**	
MK31	**Makanchi Array**	**26.01**	**31**	*e*	P	**P**	**11 53 26.2**	**-0.2**	
MKAR	**Makanchi Array**	**26.01**	**31**	*e*	P	**P**	**11 53 26.4**	**0.0**	
MKAR	**Makanchi Array**	**26.01**	**31**	*e*	P	**P**	**11 53 26.4**	**0.0**	
WMQ	**Urumqi**	**26.92**	**41**		P	**P**	**11 53 33.5**	**-1.2**	
WMQ					pP	pP	11 53 39.3	-5.4	
WMQ					sP	sP	11 53 40.5	-8.5	
WMQ					PP	**PnPn**	**11 54 19.4**	**+1.9**	
WMQ					S	**S**	**11 58 08.8**	**-0.5**	
WMQ					SS	SnSn	11 59 25.8	+10	
WMQ					ScS	**ScS**	**12 04 23.3**	**-1.3**	
WMQ					LN				
	comp=Z,1μm,16.5s								
WMQ					LE				
	comp=Z,940nm,17.8s								
WMQ					LZ				
	comp=Z,870nm,18.8s								
CSS	**Prodhromos**	**27.46**	**297**	*e*	P	**P**	**11 53 37.6**	**-2.0**	
	comp=Z,1.2nm,0.5s								
CSS	**Prodhromos**	**27.46**	**297**	*e*	P	**P**	**11 53 37.6**	**-2.0**	
	comp=Z,1.2nm,0.5s								
KURBB	**Kurchatov Arra**	**27.62**	**21**		P	**P**	**11 53 39.8**	**-1.0**	
	comp=Z,2.9nm,0.9s,baz=216,slow=8.7,SNR=15								
KURK	**Kurchatov**	**27.73**	**21**		P	**P**	**11 53 41.5**	**-0.3**	
KURK					pmax	pmax			
	comp=Z,5.0nm,1.1s								
KURK	**Kurchatov**	**27.73**	**21**		P	**P**	**11 53 41.5**	**-0.3**	
	comp=Z,5.0nm,1.1s								
KURK	**Kurchatov**	**27.73**	**21**	*e*	P	**P**	**11 53 41.5**	**-0.3**	
BVA0	**Borovoye Array**	**27.94**	**9**	*i*	P	**P**	**11 53 46.1**	**+2.5**	
BVA0					pmax	pmax			
	comp=Z,18nm,1.1s								
BVA0	**Borovoye Array**	**27.94**	**9**	*i*	P	**P**	**11 53 46.1**	**+2.5**	
	comp=Z,18nm,1.1s								
BVAR	**Borovoye Array**	**27.94**	**9**		P	**P**	**11 53 43.3**	**-0.3**	
	comp=Z,2.4nm,0.6s,baz=182,slow=10,SNR=14								
BVAR					LR	LR	12 06 21.4		
	comp=Z,725nm,18.5s,baz=211,slow=40								
BVAR	**Borovoye Array**	**27.94**	**9**		P	**P**	**11 53 43.3**	**-0.3**	
BVAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
BVAR					MLR	MLR			
	comp=Z,725nm,18.5s								
BRVK	**Borovoye**	**27.95**	**9**	*ce*	P	**P**	**11 53 45.0**	**+1.3**	
BRVK					pmax	pmax			
	comp=Z,11nm,1.7s								
BRVK	**Borovoye**	**27.95**	**9**		P	**P**	**11 53 43.7**	**0.0**	
	comp=Z,19nm,1.0s								
BRVK	**Borovoye**	**27.95**	**9**		P	**P**	**11 53 43.7**	**0.0**	
	comp=Z,19nm,1.0s								
BRTR	**Keskin Array B**	**28.56**	**307**		LR	LR	12 06 15.8		
	comp=Z,510nm,18.6s,baz=106,slow=39								
ARU	**Arti**	**31.03**	**355**	*d*	iP	**P**	**11 54 11.8**	**+0.8**	
ARU							11 55 10.6		
ARU					S	**S**	**11 59 14.4**	**+0.9**	
ARU					pmax	pmax			
	comp=Z,6.0nm,1.7s								
ARU	**Arti**	**31.03**	**355**	*i*	P	**P**	**11 54 11.8**	**+0.8**	
	comp=Z,6.0nm,1.7s								
ZAA0	**Zalesovo Array**	**32.55**	**24**	*e*	P	**P**	**11 54 23.9**	**-0.4**	
ZAA0	**Zalesovo Array**	**32.55**	**24**	*e*	P	**P**	**11 54 23.9**	**-0.4**	
ZALV	**Zalesovo Beam**	**32.55**	**24**		P	**P**	**11 54 24.1**	**-0.2**	
	comp=Z,3.5nm,0.6s,baz=225,slow=9.6,SNR=14								
ZALV					LR	LR	12 09 26.7		
	comp=Z,208nm,20.9s,baz=250,slow=40								
ZALV	**Zalesovo Beam**	**32.55**	**24**	*e*	P	**P**	**11 54 24.7**	**+0.4**	
ZALV					pmax	pmax			
	comp=Z,4.0nm,0.6s								
H08N2	**Diego Garcia H**	**32.56**	**166**		T	T	12 27 60.0		
	baz=348,slow=75,SNR=75								
H08N3	**Diego Garcia H**	**32.58**	**166**		T	T	12 28 00.3		
	baz=348,slow=75,SNR=72								
H08N1	**Diego Garcia H**	**32.58**	**166**		T	T	12 28 01.5		
	baz=348,slow=75,SNR=73								

GTA	**Gaotai**	**33.49**	**57**	*e*	P	**P**	**11 54 33.8**	**+0.8**	
GTA					pP	pP	11 54 37.9	-5.2	
GTA					sP	sP	11 54 40.8	-6.5	
GTA					PMZ				
	comp=Z,5.0nm,0.9s								
CMAR	**Chiang Mai Arr**	**33.69**	**95**		P	**P**	**11 54 35.4**	**+0.6**	
	comp=Z,0.9nm,0.6s,baz=295,slow=11,SNR=4.2								
CMAR					LR	LR	12 09 32.7		
	comp=Z,268nm,21.8s,baz=230,slow=39								
CMAR	**Chiang Mai Arr**	**33.69**	**95**		P	**P**	**11 54 35.4**	**+0.6**	
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
CMAR					MLR	MLR			
	comp=Z,268nm,21.8s								
OBN	**Obninsk**	**35.45**	**334**	*e*	P	**P**	**11 54 51.8**	**+2.3**	
OBN					pmax	pmax			
	comp=Z,7.0nm,1.2s								
OBN					MLR	MLR			
	comp=Z,188nm,16.0s								
OBN	**Obninsk**	**35.45**	**334**	*e*	P	**P**	**11 54 51.8**	**+2.3**	
	comp=Z,188nm,16.0s								
CD2	**Chengdu**	**35.88**	**72**		P	**P**	**11 54 51.8**	**-1.8**	
CD2					pP	pP	11 54 54.9	-8.8	
CD2					PP	**PnPn**	**11 56 13.4**	**-1.0**	
CD2					PcP	**PcP**	**11 57 18.8**	**-1.6**	
CD2					S	**S**	**12 00 30.6**	**+1.3**	
CD2					PcS	**PcS**	**12 01 06.3**	**-1.6**	
CD2					PMZ				
	comp=Z,10.0nm,0.5s								
CD2					PMZ				
	comp=Z,120nm,5.2s								
AKASG	**Malin Array Be**	**36.22**	**323**		P	**P**	**11 54 55.2**	**-0.9**	
	comp=Z,1.0nm,0.4s,baz=121,slow=7.7,SNR=8.9								
AKASG	**Malin Array Be**	**36.22**	**323**	*e*	P	**P**	**11 54 56.1**	**0.0**	
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**36.22**	**323**	*e*	P	**P**	**11 54 56.1**	**0.0**	
	comp=Z,1.0nm,0.4s								
KIEV	**Kiev**	**36.22**	**323**	*e*	P	**P**	**11 54 56.1**	**0.0**	
KIEV	**Kiev**	**36.22**	**323**	*e*	P	**P**	**11 54 56.3**	**+0.2**	
	comp=Z,8.6nm,0.9s								
KIEV	**Kiev**	**36.22**	**323**	*e*	P	**P**	**11 54 56.3**	**+0.2**	
	comp=Z,8.6nm,0.9s								
GYA	**Guiyang**	**38.82**	**79**	*e*	P	**P**	**11 55 18.0**	**-0.7**	
GYA					PMZ				
	comp=Z,10.0nm,0.8s								
ZAK	**Zakamensk**	**39.38**	**40**	*e*	P	P	11 55 15.8	-7.2	
ZAK					pmax	pmax			
	comp=Z,2.0nm,1.5s								
KOLS	**Kolonicke sedl**	**39.49**	**317**	*e*	P	**P**	**11 55 26.9**	**+3.1**	
KOLS					pmax	pmax			
	comp=Z,10.0nm,1.1s								
KOLS	**Kolonicke sedl**	**39.49**	**317**	*e*	P	**P**	**11 55 26.9**	**+3.1**	
	comp=Z,10.0nm,1.1s								
KOLS	**Kolonicke sedl**	**39.49**	**317**	*e*	pP	**P**	**11 55 26.9**	**+3.1**	
STHS	**Stebnicka Huta**	**40.29**	**317**	*e*	P	**P**	**11 55 33.1**	**+2.6**	
STHS					pmax	pmax			
	comp=Z,2.0nm,0.4s								
STHS	**Stebnicka Huta**	**40.29**	**317**	*e*	P	**P**	**11 55 33.1**	**+2.6**	
	comp=Z,2.0nm,0.4s								
STHS	**Stebnicka Huta**	**40.29**	**317**	*e*	pP	**P**	**11 55 33.1**	**+2.6**	
SONM	**Songino Array**	**40.38**	**45**		P	**P**	**11 55 30.2**	**-1.2**	
	comp=Z,2.5nm,1.0s,baz=260,slow=8.9,SNR=4.7								
SONM	**Songino Array**	**40.38**	**45**		P	**P**	**11 55 30.2**	**-1.2**	
SONM					pmax	pmax			
	comp=Z,3.0nm,1.0s								
KECS	**Kecovo**	**40.45**	**316**	*e*	P	**P**	**11 55 33.4**	**+1.6**	
KECS					pmax	pmax			
	comp=Z,2.0nm,0.7s								
KECS	**Kecovo**	**40.45**	**316**	*e*	P	**P**	**11 55 33.4**	**+1.6**	
	comp=Z,2.0nm,0.7s								
KECS	**Kecovo**	**40.45**	**316**	*e*	P	**P**	**11 55 33.4**	**+1.6**	
OKC	**Ostrava-Krasne**	**42.33**	**317**		AMS	AMS	12 18 10.0		
	comp=Z,200nm,15.3s								
HHC	**Hu-ho-hao-te**	**42.61**	**57**	*e*	P	**P**	**11 55 52.0**	**+2.3**	
QIZ	**Qiongzhong**	**43.36**	**89**		P	**P**	**11 55 56.4**	**+0.5**	
QIZ					S	**S**	**12 02 24.3**	**+2.7**	
QIZ					PMZ				
	comp=Z,9.0nm,2.4s								
DPC	**Dobruska-Polom**	**43.60**	**317**	*e*	P	P	11 56 02.4	+4.8	
DPC				*ex*		x	11 56 13.7		
DPC					AMS	AMS	12 21 40.0		
	comp=Z,100nm,14.6s								
DPC	**Dobruska-Polom**	**43.60**	**317**	*e*	P	P	11 56 02.4	+4.8	
DPC				*e*			11 56 13.7		
DPC					MLR	MLR			
	comp=Z,100nm,14.6s								
FINES	**FINESS Array B**	**43.79**	**335**		P	**P**	**11 55 56.6**	**-2.2**	
	comp=Z,0.8nm,0.7s,baz=134,slow=9.8,SNR=2.9								
FINES	**FINESS Array B**	**43.79**	**335**	*e*	P	P	11 56 04.0	+5.2	
FINES					pmax	pmax			
	comp=Z,2.0nm,0.5s								
TREC	**Trest**	**43.84**	**316**		AMS	AMS	12 18 40.0		
	comp=Z,200nm,14.1s								
UPC	**Upice**	**43.84**	**317**	*e*	P	P	11 56 02.6	+3.2	
UPC	**Upice**	**43.84**	**317**	*e*	P	P	11 56 02.6	+3.2	
UPC	**Upice**	**43.84**	**317**	*e*	P	P	11 56 02.6	+3.2	
GOPC	**GO Pecny, Ondr**	**44.44**	**316**	*e*	SS	SS	12 06 08.0	+12	
GOPC					AMS	AMS	12 16 00.0		
	comp=Z,200nm,15.5s								
PRU	**Pruhonice**	**44.61**	**316**	*e*	SS	SS	12 06 12.6	+13	
PRU					AMS	AMS	12 17 00.0		
	comp=Z,200nm,15.5s								
GEC2	**GERESS Array S**	**44.87**	**314**	*e*	P	**P**	**11 56 10.5**	**+2.7**	
GEC2	**GERESS Array S**	**44.87**	**314**	*e*	P	**P**	**11 56 10.5**	**+2.7**	
GERES	**GERESS Array B**	**44.87**	**314**		P	**P**	**11 56 07.7**	**-0.1**	
	comp=Z,1.3nm,0.7s,baz=99,slow=8.2,SNR=7.2								
GERES					LR	LR	12 18 57.4		
	comp=Z,140nm,18.4s,baz=98,slow=42								
KHC	**Kasperske Hory**	**45.01**	**315**	*e*	P	**P**	**11 56 09.1**	**+0.3**	
KHC					AMS	AMS	12 19 40.0		
	comp=Z,200nm,13.0s								
KHC	**Kasperske Hory**	**45.01**	**315**	*e*	P	**P**	**11 56 09.1**	**+0.3**	
KHC					MLR	MLR			
	comp=Z,200nm,13.0s								
KHC	**Kasperske Hory**	**45.01**	**315**	*e*	P	**P**	**11 56 09.1**	**+0.3**	
	comp=Z,200nm,13.0s								
CLL	**Collm**	**45.89**	**318**	*e*	(P)	P	11 56 19.0	+3.3	
	comp=Z,13nm,1.5s								
CLL					*i*		11 56 41.5		
CLL					*i*		11 56 52.0		
CLL					*e*	**S**	**12 02 54.0**	**-3.6**	
CLL					*e*	SS	12 06 32.0	+10	
CLL					LmV		12 19 00.0		
	comp=Z,200nm,21.7s								
CLL	**Collm**	**45.89**	**318**	*e*	P	P	11 56 19.0	+3.3	
CLL				*e*	S	**S**	**12 02 54.0**	**-3.6**	
CLL					pmax	pmax			
	comp=Z,13nm,1.5s								
CLL					MLR	MLR			
	comp=Z,200nm,21.7s								
OPO	**Ambohidratompo**	**46.59**	**201**		LR	LR	12 12 05.0		
	comp=Z,145nm,22.0s,baz=356,slow=31								
KEST	**Kesra**	**47.03**	**296**		LR	LR	12 19 48.2		
	comp=Z,40nm,20.5s,baz=340,slow=41								
BOD	**Bodaibo**	**48.02**	**34**	*e*	P	**P**	**11 56 31.8**	**-0.4**	
BOD					pmax	pmax			
	comp=Z,4.0nm,1.2s								
BNI	**Bardonecchia**	**49.10**	**308**	*e*	P	**P**	**11 56 41.8**	**+0.9**	
BNI	**Bardonecchia**	**49.10**	**308**	*e*	P	**P**	**11 56 41.9**	**+0.9**	
ARCES	**ARCESS Array B**	**49.26**	**343**		P	**P**	**11 56 40.4**	**-1.1**	
	comp=Z,6.5nm,1.1s,baz=146,slow=8.8,SNR=11								
ARCES					LR	LR	12 20 55.0		
	comp=Z,346nm,18.6s,baz=108,slow=40								
ARCES	**ARCESS Array B**	**49.26**	**343**	*e*	P	**P**	**11 56 42.2**	**+0.6**	
ARCES					pmax	pmax			
	comp=Z,7.0nm,1.1s								
NB2	**NORSAR Subarra**	**49.84**	**330**		P	**P**	**11 56 45.8**	**-0.4**	
	comp=Z,3.8nm,0.9s,baz=110,slow=7.9								
NOA	**NORSAR Array B**	**49.84**	**330**		P	**P**	**11 56 45.9**	**-0.3**	
	comp=Z,0.6nm,0.7s,baz=116,slow=7.4,SNR=3.4								
NOA	**NORSAR Array B**	**49.84**	**330**		P	**P**	**11 56 45.9**	**-0.3**	
NOA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
KSAR	**Wonju Array Be**	**55.34**	**61**		P	**P**	**11 57 27.1**	**-0.1**	
KSAR	**Wonju Array Be**	**55.34**	**61**		P	**P**	**11 57 27.1**	**-0.1**	
KSRS	**Korea Array**	**55.37**	**61**		P	**P**	**11 57 27.1**	**-0.3**	
	comp=Z,2.4nm,0.8s,baz=274,slow=7.8,SNR=12								
KSRS					LR	LR	12 25 24.3		
	comp=Z,155nm,18.5s,baz=268,slow=41								
KSRS	**Korea Array**	**55.37**	**61**	*e*	P	**P**	**11 57 27.4**	**0.0**	
KSRS					pmax	pmax			
	comp=Z,2.0nm,0.8s								
KLR	**Kul'dur**	**57.19**	**46**	*e*	P	P	11 57 36.6	-3.6	
USRK	**Ussuriysk Ar.**	**57.69**	**52**		LR	LR	12 26 02.3		
	comp=Z,235nm,18.3s,baz=264,slow=40								
TIXI	**Tiksi**	**58.30**	**20**	*e*	P	**P**	**11 57 50.4**	**+2.8**	
TIXI					pmax	pmax			
	comp=Z,3.0nm,1.2s								
TORD	**Torodi Ar. Bea**	**59.00**	**270**		P	**P**	**11 57 53.9**	**+0.5**	
	comp=Z,2.4nm,0.7s,baz=64,slow=6.9,SNR=23								
TORD					LR	LR	12 28 08.3		
	comp=Z,170nm,18.5s,baz=140,slow=41								
DAG	**Danmarks Havn**	**63.47**	**345**	*i*	P	**P**	**11 58 24.3**	**+1.6**	
	comp=Z,4.0nm,0.8s								
DAG	**Danmarks Havn**	**63.47**	**345**	*i*	P	**P**	**11 58 24.3**	**+1.6**	
DAG					pmax	pmax			
	comp=Z,3.0nm,0.8s								
MJAR	**Matsushiro Arr**	**63.63**	**60**		LR	LR	12 29 07.5		
	comp=Z,67nm,20.9s,baz=280,slow=39								
BOSA	**Boshof**	**65.12**	**217**		P	**P**	**11 58 37.0**	**+2.7**	
	comp=Z,3.5nm,0.8s,baz=26,slow=6.5,SNR=2.3								
BOSA					LR	LR	12 28 19.3		
	comp=Z,71nm,18.2s,baz=14,slow=37								
BOSA	**Boshof**	**65.12**	**217**		P	**P**	**11 58 37.0**	**+2.7**	
BOSA					pmax	pmax			
	comp=Z,4.0nm,0.8s								
BOSA					MLR	MLR			
	comp=Z,71nm,18.2s								
BOSA	**Boshof**	**65.12**	**217**		P	**P**	**11 58 37.0**	**+2.7**	
SEY	**Seymchan**	**67.14**	**30**	*e*	P	**P**	**11 58 45.3**	**-1.4**	
DBIC	**Dimbokro**	**67.48**	**267**		LR	LR	12 31 59.0		
	comp=Z,145nm,18.9s,baz=54,slow=39								
SUMG	**Summit**	**69.29**	**342**	*i*	P	**P**	**11 59 02.2**	**+1.7**	
	comp=Z,4.1nm,0.7s								
SUMG	**Summit**	**69.29**	**342**	*i*	P	**P**	**11 59 02.2**	**+1.7**	
SUMG					pmax	pmax			
	comp=Z,4.0nm,0.7s								
SUMG	**Summit**	**69.29**	**342**	*e*	P	**P**	**11 59 01.0**	**+0.5**	
	comp=Z,3.1nm,0.6s								
SUMG	**Summit**	**69.29**	**342**	*e*	P	**P**	**11 59 01.0**	**+0.5**	
	comp=Z,3.1nm,0.6s								
BILL	**Bilibino**	**71.24**	**23**	*e*	P	P	11 59 15.5	+3.5	
BILL					pmax	pmax			
	comp=Z,3.0nm,1.2s								
PETK	**Petropavlovsk-**	**72.49**	**39**		P	**P**	**11 59 21.0**	**+1.2**	
	comp=Z,1.3nm,0.7s,baz=253,slow=1.5,SNR=3.2								
PETK					LR	LR	12 35 32.5		
	comp=Z,356nm,18.2s,baz=288,slow=40								
PETK	**Petropavlovsk-**	**72.49**	**39**		P	**P**	**11 59 21.0**	**+1.2**	
PETK					pmax	pmax			
	comp=Z,1.0nm,0.7s								
PETK					MLR	MLR			
	comp=Z,356nm,18.2s								
PETK	**Petropavlovsk-**	**72.49**	**39**		P	**P**	**11 59 21.0**	**+1.2**	
WRA	**Warramunga Arr**	**82.47**	**116**		P	**P**	**12 00 16.7**	**+0.6**	
	comp=Z,1.5nm,0.9s,baz=318,slow=4.6,SNR=11								
WRA	**Warramunga Arr**	**82.47**	**116**	*e*	P	**P**	**12 00 16.9**	**+0.8**	
WRA					pmax	pmax			
	comp=Z,2.0nm,0.9s								
ASAR	**Alice Springs**	**84.03**	**120**		P	**P**	**12 00 24.7**	**+0.7**	
	comp=Z,1.5nm,0.9s,baz=299,slow=5.1,SNR=7.6								
ASAR					LR	LR	12 40 51.0		
	comp=Z,92nm,19.5s,baz=299,slow=38								
ASAR	**Alice Springs**	**84.03**	**120**		P	**P**	**12 00 24.7**	**+0.7**	
ASAR					pmax	pmax			
	comp=Z,2.0nm,0.9s								
ASAR					MLR	MLR			
	comp=Z,92nm,19.5s								
ILAR	**Eielson Array**	**86.95**	**12**		P	**P**	**12 00 36.8**	**-1.1**	
	comp=Z,0.4nm,0.6s,baz=317,slow=4.2,SNR=3.7								
ILAR					LR	LR	12 44 53.4		
	comp=Z,147nm,19.7s,baz=322,slow=39								
SCHQ	**Schefferville**	**89.25**	**334**		LR	LR	12 42 36.7		
	comp=Z,78nm,18.5s,baz=52,slow=37								
YKA	**Yellowknife Ar**	**92.23**	**359**		P	**P**	**12 01 03.4**	**+0.7**	
	comp=Z,0.5nm,0.7s,baz=353,slow=4.4,SNR=2.7								
YKA	**Yellowknife Ar**	**92.23**	**359**		P	**P**	**12 01 03.4**	**+0.7**	
YKA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
TXAR	**Lajitas Array**	**124.01**	**346**		PKP	**PKPdf**	**12 06 51.2**	**-0.8**	
	comp=Z,0.1nm,0.5s,baz=48,slow=1.3,SNR=4.0								

WEL 23 11:51:20.6±0.2, 36.73S×177.01E, h2km, ML3.5/5, Error ellipse: s-maj=2.9km s-min=2.0km az=0.0, Off east coast of North Island

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

BANOM					S	Sn	12 01 36.5	-13	
BANOM	**Banah**	**6.37**	**275**	⇑P	**Pn**	**12 00 35.9**	**-0.3**		
BANOM	**Banah**	**6.37**	**275**	*i* P	**Pn**	**12 00 35.9**	**-0.3**		
	SNR=18								
BANOM				⇑S	Sn	12 01 36.5	-12		
HATD	**Hatta, Dubai**	**6.58**	**265**	P	**Pn**	**12 00 39.6**	**+0.5**		
	SNR=9.8								
HATD	**Hatta, Dubai**	**6.58**	**265**	⇓ *i* P	**Pn**	**12 00 39.6**	**+0.5**		
	SNR=9.8								
ARQ	**Aragi**	**6.61**	**252**	⇑P	Pn	12 00 42.9	+3.4		
ASHO	**Ashiyiah**	**6.67**	**264**	P	**Pn**	**12 00 42.2**	**+1.9**		
	SNR=29								
ASHO	**Ashiyiah**	**6.67**	**264**	⇑P	Pn	12 00 43.5	+3.2		
ASHO				⇑P	Pn	12 00 43.5	+3.2		
ASHO	**Ashiyiah**	**6.67**	**264**	⇑ *e*P	**Pn**	**12 00 42.2**	**+1.9**		
	SNR=29								
FAQ	**Al Faqa, Dubai**	**7.08**	**265**	P	**Pn**	**12 00 48.5**	**+2.6**		
	SNR=20								
FAQ	**Al Faqa, Dubai**	**7.08**	**265**	⇓ *e*P	**Pn**	**12 00 48.5**	**+2.6**		
	SNR=20								
ASUD	**Al Ashush, Dub**	**7.33**	**264**	P	**Pn**	**12 00 51.7**	**+2.3**		
ASUD	**Al Ashush, Dub**	**7.33**	**264**	⇑ *e*P	**Pn**	**12 00 51.7**	**+2.3**		
THW	**Thamme Wali**	**10.26**	**44**	P	**Pn**	**12 01 28.1**	**-1.5**		
CEP	**Cherat**	**11.07**	**40**	P	**Pn**	**12 01 39.7**	**-1.1**		
CEP				S	Sn	12 03 35.0	-10		
NDI	**New Delhi**	**12.73**	**73**	*e*P	**Pn**	**12 02 01.5**	**-1.8**		
NDI				*e*S	Sn	12 04 15.0	-10		
BHPL	**Bhopal**	**13.03**	**97**	*e*P	**Pn**	**12 02 07.1**	**-0.5**		
BHPL				*ex*	x	12 04 31.1			
BHPL				AML	AML	12 05 05.5			
	comp=N,11nm,0.1s								
BHPL				AML	AML	12 05 05.9			
	comp=E,12nm,0.1s								
DHRM	**DHARAMSHALA**	**13.14**	**57**	*e*P	Pn	12 02 05.7	-3.4		
DHRM				*e*S	Sn	12 04 23.8	-12		
DHRM				AML	AML	12 04 32.4			
	comp=E,142nm,0.9s								
DHRM				AML	AML	12 04 33.3			
	comp=N,87nm,0.1s								
SMLA	**Simla**	**13.36**	**62**	*i* P	**Pn**	**12 02 10.2**	**-1.6**		
SMLA				*i* S	Sn	12 04 29.6	-11		
SMLA				*i* S	Sn	12 04 30.1	-10		
SMLA				AML	AML	12 04 33.5			
	comp=N,56nm,0.0s								
SMLA				AML	AML	12 04 35.0			
	comp=E,76nm,0.5s								
KOLN	**Koldanda**	**18.23**	**79**	*e*P	**Pn**	**12 03 13.8**	**-1.8**		
	comp=E,20nm,0.6s								
GKN	**Gorkha**	**19.15**	**78**	*e*P	**P**	**12 03 25.6**	**-0.4**		
	comp=E,12nm,0.7s								
AAK	**Ala-Archa**	**19.31**	**26**	P	Pn	12 03 45.0	+16		
	comp=E,0.4nm,0.3s,baz=222,slow=12,SNR=5.8								
DMN	**Daman**	**19.56**	**79**	*e*P	**P**	**12 03 29.6**	**-0.9**		
	comp=E,36nm,0.8s								
KKN	**Kakani**	**19.71**	**79**	*e*P	**Pn**	**12 03 33.0**	**-0.6**		
PKIN	**Phulchoki**	**19.82**	**79**	*e*P	**P**	**12 03 33.8**	**+0.5**		
	comp=E,14nm,0.5s								
PKI	**Pulchoki**	**19.83**	**79**	*e*P	**P**	**12 03 33.8**	**+0.3**		
	comp=E,17nm,0.7s								
GUN	**Gumba**	**20.25**	**78**	*e*P	Pn	12 03 39.4	-0.8		
	comp=E,74nm,0.8s								
RAMN	**Ramite**	**20.89**	**81**	*e*P	Pn	12 03 46.8	-0.8		
	comp=E,28nm,0.6s								
ODAN	**Odare**	**21.60**	**81**	*e*P	**P**	**12 03 54.8**	**+2.2**		
	comp=E,30nm,0.7s								
TAPN	**Taplejung**	**21.87**	**80**	*e*P	**P**	**12 03 57.0**	**+1.4**		
	comp=E,24nm,0.8s								
KBZ	**Khabaz**	**24.60**	**323**	P	**P**	**12 04 19.7**	**-2.8**		
	comp=E,2.1nm,0.7s,baz=126,slow=11,SNR=2.7								
AKTO	**Aktyubinsk**	**25.15**	**352**	P	**P**	**12 04 27.2**	**-0.2**		
	comp=E,2.7nm,0.7s,baz=158,slow=9.3,SNR=9.5								
KURBB	**Kurchatov Arra**	**27.59**	**21**	P	**P**	**12 04 49.8**	**+0.3**		
	comp=E,0.6nm,0.6s,baz=218,slow=8.7,SNR=4.5								
BVAR	**Borovoye Array**	**27.91**	**9**	P	**P**	**12 04 54.9**	**+2.5**		
	comp=E,1.2nm,0.6s,baz=180,slow=8.9,SNR=6.9								
BRTR	**Keskin Array B**	**28.56**	**307**	P	**P**	**12 05 00.1**	**+1.7**		
	comp=E,0.3nm,0.4s,baz=132,slow=8.6,SNR=2.2								
ZALV	**Zalesovo Beam**	**32.52**	**24**	P	**P**	**12 05 35.1**	**+2.1**		
	comp=E,1.1nm,0.6s,baz=233,slow=11,SNR=5.1								
H08N2	**Diego Garcia H**	**32.58**	**166**	T	T	12 39 11.0			
	baz=348,slow=75,SNR=11								
H08N3	**Diego Garcia H**	**32.60**	**166**	T	T	12 39 11.3			
	baz=348,slow=75,SNR=6.6								
H08N1	**Diego Garcia H**	**32.60**	**166**	T	T	12 39 08.2			
	baz=348,slow=75,SNR=6.6								
AKASG	**Malin Array Be**	**36.21**	**323**	P	**P**	**12 06 04.2**	**-0.9**		
	comp=E,0.6nm,0.4s,baz=125,slow=8.1,SNR=3.0								
FINES	**FINESS Array B**	**43.78**	**335**	P	**P**	**12 07 09.0**	**+1.2**		
	comp=E,0.6nm,0.6s,baz=124,slow=12,SNR=1.5								
GERES	**GERESS Array B**	**44.87**	**314**	P	**P**	**12 07 16.5**	**-0.3**		
	comp=E,0.8nm,0.8s,baz=128,slow=8.6,SNR=3.8								
ARCES	**ARCESS Array B**	**49.24**	**343**	P	**P**	**12 07 50.8**	**+0.2**		
	comp=E,2.8nm,1.0s,baz=122,slow=8.6,SNR=3.1								
NOA	**NORSAR Array B**	**49.84**	**330**	P	**P**	**12 07 55.1**	**-0.1**		
	comp=E,0.2nm,0.3s,baz=119,slow=7.3,SNR=2.2								
KSRS	**Korea Array**	**55.34**	**61**	P	**P**	**12 08 35.6**	**-0.7**		
	comp=E,0.4nm,0.3s,baz=302,slow=6.0,SNR=3.6								
TORD	**Torodi Ar. Bea**	**59.02**	**270**	P	**P**	**12 09 02.5**	**-0.2**		
	comp=E,0.9nm,0.5s,baz=62,slow=7.0,SNR=8.9								
WRA	**Warramunga Arr**	**82.47**	**116**	P	**P**	**12 11 25.4**	**+0.1**		
	comp=E,0.5nm,0.9s,baz=321,slow=4.5,SNR=5.1								
ASAR	**Alice Springs**	**84.02**	**120**	P	**P**	**12 11 33.2**	**-0.1**		
	comp=E,0.5nm,1.0s,baz=309,slow=5.9,SNR=3.4								
ILAR	**Eielson Array**	**86.92**	**12**	P	**P**	**12 11 48.5**	**+1.4**		
	comp=E,0.2nm,0.6s,baz=317,slow=6.2,SNR=3.8								

ISK ***23*** *12:05:17.7, 35.˝11N×25.˝81E, h21km, ML2.9*
DDA ***23*** *12:05:21.1, 35.˝42N×26.˝42E, h5km, MD3.5*
ATH ***23*** *12:05:23.5, 35.˝48N×26.˝34E, h31km±1km, MD3.4/9*
THE ***23*** *12:05:23.3, 35.˝55N×26.˝34E, h0km, ML2.9/2, Error ellipse: s-maj=0.7km s-min=0.3km az=345.0*
ISCJB ***23*** *12:05:23.7±0.8, 35.˝54N±0.˝03×26.˝30E±0.˝03, h11km±6km, Error ellipse: s-maj=5.6km s-min=3.7km az=161.5*
CSEM ***23*** *12:05:23.6±0.2, 35.˝59N×26.˝29E, h2km, MD3.4, Error ellipse: s-maj=5.7km s-min=4.1km az=159.0*

ISC 23 12:05:22.6±1.2, 35.˝57N±0.˝02×26.˝34E±0.˝02, h10km±10km, n63, σ1§37/84, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.46**	**192**	*e*PB	**Pb**	**12 05 32.1**	**-0.8**
ZKR				*e*SB	**Sb**	**12 05 38.7**	**-1.1**
ZKR	**Zakros**	**0.46**	**192**	*e*Pb	**Pb**	**12 05 32.1**	**-0.8**
ZKR				*e*Sb	**Sb**	**12 05 38.7**	**-1.1**
NPS	**Neapolis**	**0.67**	**243**	P	**Pb**	**12 05 36.5**	**+0.2**
NPS				S	**Sn**	**12 05 47.1**	**-1.5**
NPS	**Neapolis**	**0.67**	**243**	*e*PN	**Pb**	**12 05 36.6**	**+0.2**
NPS	**Neapolis**	**0.67**	**243**	P	**Pb**	**12 05 36.5**	**+0.2**
NPS				S	**Sn**	**12 05 47.1**	**-1.5**
KARP	**Karpathos**	**0.67**	**92**	P	**Pb**	**12 05 36.8**	**+0.3**
KARP				S	**Sb**	**12 05 47.1**	**+1.2**
KARP	**Karpathos**	**0.67**	**92**	*e*PN	**Pn**	**12 05 37.7**	**-0.5**
KARP				*e*SN	**Sb**	**12 05 47.1**	**+1.2**
KARP	**Karpathos**	**0.67**	**92**	P	**Pb**	**12 05 36.8**	**+0.3**
KARP	**Karpathos**	**0.67**	**92**	*e*Pn	**Pn**	**12 05 37.7**	**-0.5**
KARP				S	**Sb**	**12 05 47.1**	**+1.2**
LAST	**Lasithi**	**0.81**	**240**	*e*PN	**Pb**	**12 05 39.1**	**+0.3**
THR1	**Thera Island**	**1.07**	**319**	*e*PN	**Pb**	**12 05 41.4**	**-1.9**
THR1				*e*SN	**Sb**	**12 05 58.3**	**+1.0**
THR1	**Thera Island**	**1.07**	**319**	*e*Pn	**Pb**	**12 05 41.4**	**-1.9**
THR1				*e*Sn	**Sb**	**12 05 58.3**	**+1.0**
THR6	**Thira Island,**	**1.09**	**316**	P	**Pn**	**12 05 44.0**	**0.0**
THR6	**Thira Island,**	**1.09**	**316**	P	**Pn**	**12 05 44.0**	**0.0**
THR3	**Thira Island,**	**1.13**	**318**	P	**Pn**	**12 05 45.1**	**+0.6**
THR3	**Thira Island,**	**1.13**	**318**	P	**Pn**	**12 05 45.1**	**+0.6**
THR5	**Thira Island,**	**1.17**	**317**	*e*PN	Pb	12 05 41.4	-3.5
NIS3	**Nisyros Isl.**	**1.20**	**33**	P	**Pg**	**12 05 45.9**	**+0.1**
NIS3	**Nisyros Isl.**	**1.20**	**33**	P	**Pg**	**12 05 45.9**	**+0.1**
SIVA	**Sivas**	**1.36**	**247**	P	**Pg**	**12 05 48.3**	**-0.5**
SIVA				S	**Sg**	**12 06 07.5**	**+1.0**
SIVA	**Sivas**	**1.36**	**247**	*e*PN	**Pb**	**12 05 47.9**	**-0.3**
SIVA	**Sivas**	**1.36**	**247**	*e*Pn	**Pb**	**12 05 47.9**	**-0.3**
SIVA	**Sivas**	**1.36**	**247**	P	**Pg**	**12 05 48.3**	**-0.5**
SIVA				S	**Sg**	**12 06 07.5**	**+1.0**
ARG	**Arkhangelos**	**1.59**	**66**	P	**Pn**	**12 05 51.1**	**+0.3**
ARG				S	**Sb**	**12 06 13.1**	**+0.9**
ARG	**Arkhangelos**	**1.59**	**66**	*e*PN	**Pb**	**12 05 52.6**	**+0.5**
ARG				*e*SN	**Sb**	**12 06 13.1**	**+0.9**
ARG	**Arkhangelos**	**1.59**	**66**	P	**Pn**	**12 05 51.1**	**+0.3**
ARG	**Arkhangelos**	**1.59**	**66**	*e*Pn	**Pb**	**12 05 52.6**	**+0.5**
ARG				S	**Sb**	**12 06 13.1**	**+0.9**
APE	**Apeiranthos**	**1.63**	**337**	*e*PN	**Pn**	**12 05 51.8**	**+0.4**
APE	**Apeiranthos**	**1.63**	**337**	P	**Pb**	**12 05 52.5**	**-0.3**
APE				S	**Sg**	**12 06 15.0**	**-0.2**
APE	**Apeiranthos**	**1.63**	**337**	*e*PB	**Pb**	**12 05 52.9**	**+0.1**
APE	**Apeiranthos**	**1.63**	**337**	*e*Pn	**Pn**	**12 05 51.8**	**+0.4**
APE	**Apeiranthos**	**1.63**	**337**	P	**Pb**	**12 05 52.5**	**-0.3**
APE	**Apeiranthos**	**1.63**	**337**	*e*Pb	**Pb**	**12 05 52.9**	**+0.1**
APE				S	**Sg**	**12 06 15.0**	**-0.2**
BODT	**Bodrum**	**1.69**	**28**	*e*PN	**Pg**	**12 05 54.9**	**-0.1**
BODT	**Bodrum**	**1.69**	**28**	*e*Pn	**Pg**	**12 05 54.9**	**-0.1**
VAM	**Vamos**	**1.75**	**265**	*e*PN	**Pb**	**12 05 54.6**	**-0.2**
VAM	**Vamos**	**1.75**	**265**	*e*Pn	**Pb**	**12 05 54.6**	**-0.2**
SMG	**Samos**	**2.17**	**11**	P	**Pn**	**12 05 59.8**	**+0.9**
SMG	**Samos**	**2.17**	**11**	*e*PN	**Pb**	**12 06 00.7**	**-1.4**
SMG	**Samos**	**2.17**	**11**	P	**Pn**	**12 05 59.8**	**+0.9**
SMG	**Samos**	**2.17**	**11**	*e*Pn	**Pb**	**12 06 00.7**	**-1.4**
YER	**Yerkesik**	**2.22**	**45**	*e*PN	**Pb**	**12 06 03.4**	**+0.6**
YER	**Yerkesik**	**2.22**	**45**	*e*Pn	**Pb**	**12 06 03.4**	**+0.6**
TURN	**Turunc**	**2.25**	**54**	*i* P	**Pn**	**12 05 56.9**	**-2.9**
TURN				*i* S	**Sn**	**12 06 22.0**	**-5.6**
TURN	**Turunc**	**2.25**	**54**	*i* P	**Pn**	**12 05 56.9**	**-2.9**
DALY	**Dalyan (Mu¨la**	**2.25**	**56**	*e*PN	**Pb**	**12 06 03.8**	**+0.5**
DALY	**Dalyan (Mu¨la**	**2.25**	**56**	*e*Pn	**Pb**	**12 06 03.8**	**+0.5**
AYDN	**Tasoluk**	**2.43**	**30**	*i* P	**Pb**	**12 06 05.5**	**-0.9**
AYDN				*i* S	**Sg**	**12 06 39.5**	**-1.2**
AYDN	**Tasoluk**	**2.43**	**30**	*i* P	**Pb**	**12 06 05.5**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**2.68**	**27**	*e*PN	**Pb**	**12 06 10.3**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**2.68**	**27**	*e*Pn	**Pb**	**12 06 10.3**	**-0.5**
AKAS	**Kas**	**2.74**	**75**	*i* P	**Pb**	**12 06 09.8**	**-1.9**
AKAS				*i* S	**Sn**	**12 06 42.8**	**+2.9**
AKAS	**Kas**	**2.74**	**75**	*i* P	**Pb**	**12 06 09.8**	**-1.9**
AKAS				*i* S	**Sn**	**12 06 42.8**	**+2.9**
KYTH	**Kithira**	**2.77**	**286**	*e*PN	**Pn**	**12 06 08.9**	**+1.8**
KYTH	**Kithira**	**2.77**	**286**	*e*Pn	**Pn**	**12 06 08.9**	**+1.8**
CHOS	**Chios island**	**2.82**	**356**	*e*PN	**Pn**	**12 06 09.3**	**+1.5**
CHOS	**Chios island**	**2.82**	**356**	*e*Pn	**Pn**	**12 06 09.3**	**+1.5**
VLI	**Veliai**	**2.98**	**294**	*e*PN	**Pn**	**12 06 11.5**	**+1.6**
VLI	**Veliai**	**2.98**	**294**	*e*Pn	**Pn**	**12 06 11.5**	**+1.6**
GOLH	**Golhisar**	**3.09**	**56**	*i* P	**Pn**	**12 06 14.5**	**+3.0**
GOLH				*i* S	**Sb**	**12 06 54.4**	**-1.1**
GOLH	**Golhisar**	**3.09**	**56**	*i* P	**Pn**	**12 06 14.5**	**+3.0**
GOLH				*i* S	**Sb**	**12 06 54.4**	**-1.1**
MANT	**Manisa**	**3.42**	**31**	*i* P	**Pn**	**12 06 17.0**	**+0.9**
MANT	**Manisa**	**3.42**	**31**	*i* P	**Pn**	**12 06 17.0**	**+0.9**

WEL 23 12:28:01.4±0.6, 36.˝55S×179.˝36E, h33km, ML4.1/7, 3D, Error ellipse: s-maj=6.1km s-min=4.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.32**	**220**	*e*PN	Pn	12 28 21.8	-1.7
MXZ				AML	AML	12 28 38.3	
MXZ				AML	AML	12 28 38.4	
MXZ				AML	AML	12 28 41.4	
MXZ				AML	AML	12 28 41.4	
WMGZ	**Waiomatatini S**	**1.48**	**211**	PN	Pn	12 28 25.8	+0.1
WMGZ				SN	Sn	12 28 43.9	0.0
HAZ	**Te Kaha**	**1.75**	**226**	*e*Pn	Pn	12 28 29.6	+0.2
HAZ				SN	Sn	12 28 50.0	+0.1
PUZ	**Puketiti**	**1.76**	**210**	PN	Pn	12 28 28.8	-0.8
PUZ				SN	Sn	12 28 50.6	-0.3
PUZ				AML	AML	12 28 57.5	
TWGZ	**Tauwhareparae**	**1.96**	**214**	PN	Pn	12 28 31.8	-0.7
TWGZ				SN	Sn	12 28 54.4	-1.7
CNGZ	**Carnagh Statio**	**2.14**	**205**	⇓PN	Pn	12 28 34.5	-0.3
TKGZ	**Te Karaka**	**2.24**	**212**	*e*PN	Pn	12 28 35.1	-1.0
MWZ	**Matawai**	**2.31**	**219**	PN	Pn	12 28 36.4	-0.7
MWZ				SN	Sn	12 29 01.8	-2.6
MWZ				AML	AML	12 29 12.0	
MWZ				AML	AML	12 29 18.1	
MWZ				AML	AML	12 29 21.3	
URZ	**Urewera**	**2.48**	**226**	⇓PN	Pn	12 28 38.6	-0.9
URZ				SN	Sn	12 29 06.7	-1.8
URZ				AML	AML	12 29 15.8	
RAGZ	**Rawiri**	**2.48**	**218**	PN	Pn	12 28 38.8	-0.9
RIGZ	**Rimuhau**	**2.50**	**210**	PN	Pn	12 28 38.4	-1.4
OPRZ	**Ohinepanea**	**2.59**	**239**	PN	Pn	12 29 40.3	-0.7
PRGZ	**Paritu Road**	**2.65**	**206**	PN	Pn	12 28 40.2	-1.6
SNGZ	**Shannon Statio**	**2.75**	**215**	⇓PN	Pn	12 28 42.0	-1.2
KNZ	**Kokohu**	**2.81**	**208**	PN	Pn	12 28 42.0	-1.9
RRRZ	**Republican Roa**	**2.89**	**231**	PN	Pn	12 28 43.9	-1.2
KUZ	**Kuaotunu**	**2.94**	**265**	PN	Pn	12 28 43.2	-2.5
RAHZ	**Arahi**	**2.98**	**217**	PN	Pn	12 28 45.7	-0.6
ALRZ	**Allen Road**	**3.13**	**229**	*e*PN	Pn	12 28 47.6	-0.9
GRZ	**Great Barrier**	**3.17**	**274**	*e*PN	Pn	12 28 49.4	+0.5
NMHZ	**Naumai**	**3.25**	**218**	PN	Pn	12 28 49.0	-1.2
ARHZ	**Aropaoanui**	**3.29**	**214**	PN	Pn	12 28 49.2	-1.5
TOZ	**Tahuroa Road**	**3.30**	**248**	*e*PN	Pn	12 28 50.1	-0.7
MKAZ	**Moumakai**	**3.41**	**259**	PN	Pn	12 28 50.5	-1.8
BKZ	**Black Stump Fm**	**3.46**	**220**	PN	Pn	12 28 51.3	-1.8
MCHZ	**McNeill Hill**	**3.58**	**215**	PN	Pn	12 28 53.1	-1.5
KWHZ	**Kaweka Forest**	**3.69**	**218**	PN	Pn	12 28 54.5	-1.8
KAHZ	**Kahuranaki**	**3.79**	**210**	PN	Pn	12 28 54.7	-2.9
KRHZ	**Kereru**	**3.89**	**216**	PN	Pn	12 29 56.8	-2.1
KRVZ	**Karewarewa**	**3.89**	**228**	PN	Pn	12 28 58.0	-1.0
BHHZ	**Black Hill Sta**	**3.92**	**221**	*e*PN	Pn	12 28 57.4	-2.0
PXZ	**Pawanui**	**4.00**	**209**	*e*PN	Pn	12 28 57.5	-2.8
TUVZ	**Tukino**	**4.00**	**226**	*e*PN	Pn	12 28 59.1	-1.5
MOVZ	**Moawhango**	**4.04**	**224**	*e*PN	Pn	12 28 58.9	-2.1
WHVZ	**Whangaehu Hut**	**4.04**	**226**	PN	Pn	12 29 00.0	-1.3
FWVZ	**Far West T-bar**	**4.05**	**227**	*e*PN	Pn	12 29 00.1	-1.3
HIZ	**Hauiti**	**4.08**	**240**	*e*PN	Pn	12 29 01.2	-0.4
PRHZ	**Porangahau**	**4.29**	**209**	*e*PN	Pn	12 29 01.0	-3.3
WAZ	**Wanganui**	**4.71**	**226**	PN	Pn	12 29 08.2	-1.9
WAZ				AML	AML	12 30 04.4	
WAZ				AML	AML	12 30 33.0	
MRZ	**Mangatainoka R**	**5.06**	**215**	PN	Pn	12 29 11.1	-3.9
MRZ				AML	AML	12 30 11.6	
MRZ				AML	AML	12 30 18.1	
KIW	**Kapiti Island**	**5.54**	**218**	*e*PN	Pn	12 29 18.0	-3.6
THZ	**Tophouse**	**7.23**	**222**	AML	AML	12 29 40.3	
THZ				AML	AML	12 31 00.4	

NNC 23 12:39:39.4±4.3, 54.˝30N×86.˝11E, h0km, mb3.7, mpv3.5, 8C-4D, Error ellipse: s-maj=31.6km s-min=24.1km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.81**	**235**	⇓Pn	Pn	12 41 06.6	-0.2
	1.4nm,0.7s						
KURK				⇓Sn	Sn	12 42 16.7	+2.6
	0.6nm,0.6s						
KURK				⇑Lg	Lg	12 42 44.9	
	2.7nm,0.6s						
KURBB	**Kurchatov Arra**	**5.92**	**235**	⇑Pn	Pn	12 41 08.5	+0.2
	5.2nm,0.6s,baz=53,slow=14						
KURBB				⇑Sn	Sn	12 42 19.8	+3.0
	4.7nm,0.6s						
KURBB				⇑Lg	Lg	12 42 49.4	
	13nm,0.6s,baz=52,slow=30						
MK31	**Makanchi Array**	**7.90**	**199**	Pn	Pn	12 41 35.5	0.0
	1.3nm,0.5s,baz=25,slow=12,SNR=36						
MK31				⇑Sn	Sn	12 43 04.1	-1.6
	1.8nm,0.7s,baz=24,slow=26,SNR=7.5						
MK31				⇓Lg	Lg	12 43 48.1	
	2.6nm,0.7s,baz=27,slow=28,SNR=4.0						
BVA0	**Borovoye Array**	**9.42**	**269**	⇓Pn	Pn	12 41 58.5	+2.1
	0.1nm,0.3s,baz=75,slow=14,SNR=6.0						
BVA0				⇑Sn	Sn	12 43 39.6	-3.3
	2.6nm,1.1s,baz=72,slow=21,SNR=6.0						
BRVK	**Borovoye**	**9.48**	**269**	⇑Pn	Pn	12 41 58.5	+1.4
	2.0nm,0.5s						
BRVK				⇑Sn	Sn	12 43 40.4	-3.8
	1.5nm,0.6s						

MDD ***23*** *12:46:40.7±3.2, 42.˝98N×14.˝25W, h0km, mb4.1/4, Error ellipse: s-maj=27.2km s-min=20.7km az=86.0, PRXIMO*
INMG ***23*** *12:46:42.5±1.3, 43.˝04N×14.˝71W, h10km, ML2.6, Error ellipse: s-maj=11.1km s-min=5.0km az=92.0*

ISC 23 12:46:42.7±3.6, 42.˝81N±0.˝09×14.˝0W±0.˝2, h10km, n47, σ1§27/62, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**3.72**	**86**	P	**Pn**	**12 47 40.2**	**0.0**
	1.1nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**12 48 22.5**	**-1.5**
	1.0nm,0.1s,SNR=7.9						
STS	**Santiago**	**4.03**	**87**	S	**Sn**	**12 48 32.0**	**+0.3**
	2.8nm,0.2s,SNR=7.9						
PGAV	**Gavieira, Arco**	**4.35**	**99**	*e*Pn	**Pn**	**12 47 50.1**	**+1.1**
PGAV				*e*Sn	**Sn**	**12 48 40.4**	**+0.6**
PGAV				A	A	12 48 42.0	
	4.3nm,0.5s						
PGAV	**Gavieira, Arco**	**4.35**	**99**	*e*Pn	**Pn**	**12 47 50.1**	**+1.1**
PGAV				*e*Sn	**Sn**	**12 48 40.4**	**+0.6**
PGAV				A	A	12 48 42.0	
	4.3nm,0.5s						
EAGO	**Agolada(Pontev**	**4.37**	**88**	P	**Pn**	**12 47 49.0**	**-0.1**
	3.8nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**12 48 39.8**	**-0.4**
	1.1nm,0.0s,SNR=7.9						
ELOB	**Lobios**	**4.53**	**100**	P	**Pn**	**12 47 52.5**	**+1.2**
	2.2nm,0.2s,SNR=7.9						
ELOB				S	**Sn**	**12 48 44.5**	**+0.5**
	1.1nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**4.59**	**102**	*e*Pn	**Pn**	**12 47 53.6**	**+1.4**
PCAB				*e*Sn	**Sn**	**12 48 46.3**	**+0.7**
PCAB				A	A	12 48 52.8	
	2.7nm,0.3s						
PCAB	**Cabril**	**4.59**	**102**	*e*Pn	**Pn**	**12 47 53.6**	**+1.4**
PCAB				*e*Sn	**Sn**	**12 48 46.3**	**+0.7**
PCAB				A	A	12 48 52.8	
	2.7nm,0.3s						
EPON	**Pontenova**	**5.07**	**82**	P	**Pn**	**12 47 58.1**	**-0.6**
	0.5nm,0.1s,SNR=6.1						
EPON				S	**Sn**	**12 48 56.8**	**-0.6**
	1.1nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**5.27**	**135**	S	**Sn**	**12 49 03.3**	**+1.0**
	18nm,0.2s,SNR=5.9						
PMAFR	**Mafra**	**5.27**	**135**	*e*Sn	**Sn**	**12 49 02.2**	**-0.1**
PMAFR				A	A	12 49 06.1	
	20nm,0.6s						
PMAFR	**Mafra**	**5.27**	**135**	*e*Sn	**Sn**	**12 49 02.2**	**-0.1**
PMAFR				A	A	12 49 06.1	
	20nm,0.6s						
MVO	**Moncorvo**	**5.47**	**105**	S	**Sn**	**12 49 07.3**	**0.0**
	1.5nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.47**	**105**	*e*Sn	**Sn**	**12 49 07.4**	**0.0**
MVO				A	A	12 49 13.3	
	2.9nm,0.6s						
MVO	**Moncorvo**	**5.47**	**105**	*e*Sn	**Sn**	**12 49 07.4**	**0.0**
MVO				A	A	12 49 13.3	
	2.9nm,0.6s						
ECAL	**Calabor**	**5.47**	**97**	P	**Pn**	**12 48 05.5**	**+1.2**
	0.6nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**12 49 06.4**	**-1.0**
	0.7nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**6.05**	**122**	*e*Sn	**Sn**	**12 49 20.3**	**-1.1**
PMRV				A	A	12 49 25.6	
	2.4nm,0.7s						
PMRV	**Marv??o**	**6.05**	**122**	*e*Sn	**Sn**	**12 49 20.3**	**-1.1**
PMRV				A	A	12 49 25.6	
	2.4nm,0.7s						
PESTR	**Estremoz**	**6.27**	**127**	*e*Sn	**Sn**	**12 49 26.1**	**-0.9**
PESTR				A	A	12 49 31.2	
	2.9nm,0.5s				

SDSI	**Sungai Dareh**	**2.65**	**30**	P		**Pn**	**12 48 29.2**	**-0.1**
SDSI				S		**Sn**	**12 49 00.3**	**-0.3**
MNAI	**Manna**	**3.06**	**111**	P		**Pn**	**12 48 34.7**	**-0.2**
MNAI				S		**Sn**	**12 49 10.2**	**-0.4**
LHSI	**Lahat**	**3.47**	**100**	P		**Pn**	**12 48 41.0**	**+0.5**
LHSI				S		**Sn**	**12 49 20.3**	**-0.4**
PBSI	**Pulau Batu**	**3.65**	**330**	P		**Pn**	**12 48 42.5**	**-0.6**
PBSI				S		**Sn**	**12 49 23.0**	**-2.4**
BKNI	**Bangkinang**	**3.67**	**15**	P		**Pn**	**12 48 43.4**	**+0.1**
MNSI	**Mandailing Nat**	**4.05**	**353**	P		**Pn**	**12 48 47.9**	**-0.6**
MNSI				S		**Sn**	**12 49 35.5**	**+0.4**
MDSI	**Maura Dua**	**4.25**	**107**	P		**Pn**	**12 48 51.8**	**+0.5**
MDSI				S		**Sn**	**12 49 40.2**	**+0.1**
LWLI	**Liwa**	**4.32**	**114**	P		**Pn**	**12 48 51.8**	**-0.6**
LWLI				S		**Sn**	**12 49 40.7**	**-1.4**
KASI	**Kota Agung**	**4.93**	**117**	P		**Pn**	**12 49 00.1**	**-0.6**
CGJI	**Cibinong**	**6.50**	**121**	P		**Pn**	**12 49 20.6**	**-1.6**
LEM	**Lembang**	**8.29**	**116**	Pn		**Pn**	**12 49 46.1**	**-0.8**
	2.4nm,0.3s,baz=324,slow=19,SNR=2.4							
CMAR	**Chiang Mai Arr**	**21.60**	**357**	P		**P**	**12 52 34.2**	**-2.0**
	2.2nm,0.7s,baz=188,slow=9.5,SNR=12							
CMAR				LR		LR	13 01 18.7	
	comp=Z,88nm,19.3s,baz=15,slow=38							
H08S2	**Diego Garcia H**	**27.82**	**260**	T		T	13 22 40.7	
	baz=82,slow=75,SNR=984							
H08S3	**Diego Garcia H**	**27.83**	**260**	T		T	13 22 46.0	
	baz=82,slow=75,SNR=629							
H08S1	**Diego Carcia H**	**27.84**	**260**	T		T	13 22 46.9	
	baz=82,slow=75,SNR=600							
H08N1	**Diego Carcia H**	**29.14**	**263**	T		T	13 24 55.6	
	baz=156,slow=76,SNR=7.6							
H08N2	**Diego Garcia H**	**29.15**	**263**	T		T	13 25 00.4	
	baz=156,slow=76,SNR=12							
H08N3	**Diego Garcia H**	**29.16**	**263**	T		T	13 25 07.1	
	baz=156,slow=76,SNR=12							
H01W3	**Cape Leeuwin H**	**34.07**	**159**	T		T	13 30 27.1	
	baz=336,slow=76,SNR=57							
H01W2	**Cape Leeuwin H**	**34.09**	**159**	T		T	13 30 28.1	
	baz=336,slow=76,SNR=62							
H01W1	**Cape Leeuwin H**	**34.09**	**159**	T		T	13 30 28.2	
	baz=336,slow=76,SNR=45							
WRA	**Warramunga Arr**	**37.29**	**119**	P		**P**	**12 54 58.1**	**-0.3**
	0.9nm,0.4s,baz=300,slow=8.8,SNR=18							
ASAR	**Alice Springs**	**38.45**	**125**	P		**P**	**12 55 08.1**	**-0.2**
	1.0nm,0.3s,baz=299,slow=8.1,SNR=18							
KSRS	**Korea Array**	**48.04**	**30**	P		**P**	**12 56 24.6**	**-0.8**
	0.5nm,0.6s,baz=232,slow=9.4,SNR=5.2							
STKA	**Stephens Creek**	**48.26**	**131**	P		**P**	**12 56 28.1**	**+0.9**
	1.7nm,0.8s,baz=328,slow=13,SNR=2.8							
SONM	**Songino Array**	**51.17**	**5**	P		**P**	**12 56 50.0**	**+0.8**
	2.5nm,0.6s,baz=188,slow=9.4,SNR=11							
USRK	**Ussuriysk Ar.**	**55.20**	**28**	P		**P**	**12 57 18.8**	**0.0**
	2.8nm,0.9s,baz=182,slow=4.0,SNR=5.2							
ZALV	**Zalesovo Beam**	**58.40**	**349**	P		**P**	**12 57 41.4**	**+0.1**
	3.8nm,0.8s,baz=164,slow=6.0,SNR=14							
BRTR	**Keskin Array B**	**74.23**	**313**	P		**P**	**12 59 23.6**	**+0.4**
	0.4nm,0.4s,baz=119,slow=5.1,SNR=2.7							
FINES	**FINESS Array B**	**85.25**	**332**	P		**P**	**13 00 23.0**	**+0.7**
	0.3nm,0.4s,baz=116,slow=4.4,SNR=4.6							
TXAR	**Lajitas Array**	**145.62**	**39**	PKPbc		**PKPab**	**13 07 26.4**	**+0.9**
	2.3nm,0.7s,baz=308,slow=1.3,SNR=28							

*MDD **23** 12:59:53.3±2.5,35°.09N×11°.77W,h0km,mb4.2/7,Error ellipse: s-maj=27.5km s-min=21.5km az=121.0,PRXIMO*
*INMG **23** 12:59:54.9±1.1,34°.84N×12°.08W,h10km,ML2.6, Error ellipse: s-maj=6.9km s-min=2.5km az=136.0*
*CSEM **23** 12:59:54.2±0.7,34°.97N×11°.46W,h10km,mb4.2, Error ellipse: s-maj=16.6km s-min=8.4km az=84.0*
*IGIL **23** 12:59:54.0,35°.10N×11°.79W,h0km,ML2.4*
*CNRM **23** 12:59:54.2,34°.87N×11°.80W,h30km,MD3.5*

ISC 23 12:59:51.2±2.9,35°.05N±0°.10×11°.8W±0°.1,h10km,n74, σ1s82/120,1C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.17**	**48**	⇑P		**Pn**	**13 00 42.8**	**+1.7**
	7.5nm,0.1s,SNR=18							
PFVI				S		**Sn**	**13 01 18.5**	**-0.5**
	4.1nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**3.17**	**48**	P		**Pn**	**13 00 42.8**	**+1.7**
	6.5nm,0.1s,SNR=18							
PFVI				S		**Sn**	**13 01 18.2**	**-0.8**
	4.1nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**3.17**	**48**	*e*Pn		**Pn**	**13 00 42.8**	**+1.7**
PFVI				*e*Sn		**Sn**	**13 01 19.9**	**+0.9**
PFVI				A		A	13 01 24.2	
	11nm,0.9s							
PFVI	**Vila Bisbo**	**3.17**	**48**	*e*Pn		**Pn**	**13 00 42.8**	**+1.7**
PFVI				*e*Sn		**Sn**	**13 01 19.9**	**+0.9**
PFVI				A		A	13 01 24.2	
	11nm,0.9s							
MORF	**Marmelete**	**3.39**	**48**	*e*P		**Pn**	**13 00 45.8**	**+1.6**
MORF				*e*S		**Sn**	**13 01 24.1**	**-0.4**
MORF				AML		AML	13 01 24.9	
	comp=N,15nm,0.3s							
MORF	**Marmelete**	**3.39**	**48**	P		**Pn**	**13 00 45.8**	**+1.6**
MORF				S		**Sn**	**13 01 24.1**	**-0.4**
	comp=N,15nm,0.3s							
MORF	**Marmelete**	**3.39**	**48**	*e*Pn		**Pn**	**13 00 45.9**	**+1.7**
MORF				*e*Sn		**Sn**	**13 01 24.9**	**+0.4**
MORF				A		A	13 01 27.5	
	comp=N,7.8nm,0.1s							
MORF	**Marmelete**	**3.39**	**48**	*e*Pn		**Pn**	**13 00 45.9**	**+1.7**
MORF				*e*Sn		**Sn**	**13 01 24.9**	**+0.4**
MORF				A		A	13 01 27.5	
	comp=N,7.8nm,0.1s							
PTEO	**Sao Teotonio**	**3.51**	**44**	*e*Sn		**Sn**	**13 01 27.9**	**+0.6**
PTEO				A		A	13 01 43.6	
	comp=N,10nm,0.5s							
PTEO	**Sao Teotonio**	**3.51**	**44**	*e*Sn		**Sn**	**13 01 27.9**	**+0.6**
PTEO				A		A	13 01 43.6	
	comp=N,10nm,0.5s							
PBDV	**Barranco-do-Ve**	**3.81**	**54**	*e*Pn		**Pn**	**13 00 52.1**	**+2.1**
PBDV				*e*Sn		**Sn**	**13 01 35.1**	**+0.3**
PBDV				A		A	13 01 38.6	
	comp=N,4.5nm,0.5s							
PBDV	**Barranco-do-Ve**	**3.81**	**54**	*e*Pn		**Pn**	**13 00 52.1**	**+2.1**
PBDV				*e*Sn		**Sn**	**13 01 35.1**	**+0.3**
PBDV				A		A	13 01 38.6	
	comp=N,4.5nm,0.5s							
PCVE	**Castro Verde**	**3.97**	**49**	*e*Pn		**Pn**	**13 00 54.4**	**+2.2**
PCVE				*e*Sn		**Sn**	**13 01 39.1**	**+0.3**
PCVE				A		A	13 01 40.9	
	comp=N,0.7nm,0.5s							
PCVE	**Castro Verde**	**3.97**	**49**	*e*Pn		**Pn**	**13 00 54.4**	**+2.2**
PCVE				*e*Sn		**Sn**	**13 01 39.1**	**+0.3**
PCVE				A		A	13 01 40.9	
	comp=N,0.7nm,0.5s							
MESJ	**Messejana**	**4.00**	**45**	*e*P		**Pn**	**13 00 54.3**	**+1.7**
MESJ				*e*S		**Sn**	**13 01 38.3**	**-1.1**
MESJ				AML		AML	13 01 40.9	
	comp=N,6.1nm,0.5s							
MESJ	**Messejana**	**4.00**	**45**	P		**Pn**	**13 00 54.3**	**+1.7**
MESJ				S		**Sn**	**13 01 38.3**	**-1.1**
	comp=N,6.1nm,0.5s							
MESJ	**Messejana**	**4.00**	**45**	*e*Pn		**Pn**	**13 00 54.4**	**+1.9**
MESJ				*e*Sn		**Sn**	**13 01 39.7**	**+0.2**
MESJ				A		A	13 01 42.7	
	comp=N,3.9nm,0.4s							
MESJ	**Messejana**	**4.00**	**45**	*e*Pn		**Pn**	**13 00 54.4**	**+1.9**
MESJ				*e*Sn		**Sn**	**13 01 39.7**	**+0.2**
MESJ				A		A	13 01 42.7	
	comp=N,3.9nm,0.4s							
PNCL	**Nicolau / Gran**	**4.02**	**40**	*e*Pn		**Pn**	**13 00 54.5**	**+1.6**
PNCL				*e*Sn		**Sn**	**13 01 39.3**	**-0.7**
PNCL				A		A	13 01 41.7	
	comp=N,6.1nm,0.6s							
PNCL	**Nicolau / Gran**	**4.02**	**40**	*e*Pn		**Pn**	**13 00 54.5**	**+1.6**
PNCL				*e*Sn		**Sn**	**13 01 39.3**	**-0.7**
PNCL				A		A	13 01 41.7	
	comp=N,6.1nm,0.6s							
PVAQ	**Vaqueiros**	**4.04**	**53**	*e*Pn		**Pn**	**13 00 54.9**	**+1.8**
PVAQ				*e*Sn		**Sn**	**13 01 39.9**	**-0.5**
PVAQ				A		A	13 01 45.6	
	comp=N,6.0nm,0.2s							
PVAQ	**Vaqueiros**	**4.04**	**53**	*e*Pn		**Pn**	**13 00 54.9**	**+1.8**
PVAQ				*e*Sn		**Sn**	**13 01 39.9**	**-0.5**
PVAQ				A		A	13 01 45.6	
	comp=N,6.0nm,0.2s							
PMPST	**Porto Santo, M**	**4.26**	**244**	*e*Pn		Pn	13 00 50.5	-5.7
PMPST				*e*Sn		Sn	13 01 30.1	-16
PMPST				A		A	13 01 35.5	
	comp=N,14nm,0.1s							
EGRO	**El Granado**	**4.26**	**53**	P		**Pn**	**13 00 58.1**	**+1.9**
	comp=N,2.0nm,0.1s,SNR=18							
EGRO				S		**Sn**	**13 01 46.1**	**+0.1**
	comp=N,1.4nm,0.2s							
EGRO	**El Granado**	**4.26**	**53**	P		**Pn**	**13 00 58.1**	**+1.9**
	comp=N,2.0nm,0.1s,SNR=18							
EGRO				S		**Sn**	**13 01 45.7**	**-0.3**
	comp=N,3.9nm,0.1s							
PMPS	**Porto Santo**	**4.27**	**243**	*e*Pn		Pn	13 00 51.4	-4.9
PMPS				*e*Sn		Sn	13 01 30.7	-15
PMPS	**Porto Santo**	**4.27**	**243**	*e*Pn		Pn	13 00 51.4	-4.9
PMPS				*e*Sn		Sn	13 01 30.7	-15
PMAFR	**Mafra**	**4.38**	**26**	P		**Pn**	**13 00 59.1**	**+1.3**
	comp=N,1.6nm,0.1s,SNR=7.9							
PMAFR				S		**Sn**	**13 01 47.4**	**-1.4**
	comp=N,37nm,0.2s,SNR=15							
PMAFR	**Mafra**	**4.38**	**26**	P		**Pn**	**13 00 59.1**	**+1.3**
	comp=N,1.6nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**4.38**	**26**	*e*Pn		**Pn**	**13 00 59.3**	**+1.5**
PMAFR				*e*Sn		**Sn**	**13 01 48.1**	**-0.8**
PMAFR				A		A	13 01 49.1	
	comp=N,33nm,0.2s							
PACT	**Alcochete**	**4.40**	**32**	*e*Pn		**Pn**	**13 01 00.1**	**+2.1**
PACT				*e*Sn		**Sn**	**13 01 50.1**	**+0.8**
PACT				A		A	13 01 53.0	
	comp=N,28nm,0.6s							
PACT	**Alcochete**	**4.40**	**32**	*e*Pn		**Pn**	**13 01 00.1**	**+2.1**
PACT				*e*Sn		**Sn**	**13 01 50.1**	**+0.8**
PACT				A		A	13 01 53.0	
	comp=N,28nm,0.6s							
PBAR	**Barrancos**	**4.93**	**49**	*e*Pn		**Pn**	**13 01 07.3**	**+2.0**
PBAR				*e*Sn		**Sn**	**13 02 02.1**	**-0.2**
PBAR				A		A	13 02 14.2	
	comp=N,6.5nm,0.5s							
PBAR	**Barrancos**	**4.93**	**49**	*e*Pn		**Pn**	**13 01 07.3**	**+2.0**
PBAR				*e*Sn		**Sn**	**13 02 02.1**	**-0.2**
PBAR				A		A	13 02 14.2	
	comp=N,6.5nm,0.5s							
EMIN	**Mina Concepcio**	**4.93**	**55**	P		**Pn**	**13 01 07.1**	**+1.7**
	comp=N,0.5nm,0.1s,SNR=9.3							
EMIN				S		**Sn**	**13 02 02.7**	**+0.2**
	comp=N,0.8nm,0.1s							
EMIN	**Mina Concepcio**	**4.93**	**55**	P		**Pn**	**13 01 07.1**	**+1.7**
	comp=N,0.5nm,0.1s,SNR=9.3							
EMIN				S		**Sn**	**13 02 01.6**	**-0.9**
	comp=N,0.8nm,0.1s							
OUK	**Oukaimeden**	**5.05**	**138**	*i* P		**Pn**	**13 01 06.0**	**-1.3**
OUK				*i* S		Sn	13 01 58.0	-7.9
PESTR	**Estremoz**	**5.08**	**40**	*e*Pn		**Pn**	**13 01 09.8**	**+2.4**
PESTR				*e*Sn		**Sn**	**13 02 05.0**	**-1.1**
PESTR				A		A	13 02 06.8	
	comp=N,2.8nm,0.6s							
PESTR	**Estremoz**	**5.08**	**40**	*e*Pn		**Pn**	**13 01 09.8**	**+2.4**
PESTR				*e*Sn		**Sn**	**13 02 05.0**	**-1.1**
PESTR				A		A	13 02 06.8	
	comp=N,2.8nm,0.6s							
ESPR	**Espera**	**5.14**	**68**	P		**Pn**	**13 01 09.6**	**+1.4**
	comp=N,2.7nm,0.1s,SNR=5.0							
ESPR	**Espera**	**5.14**	**68**	P		**Pn**	**13 01 09.6**	**+1.4**
	comp=N,3.5nm,0.2s,SNR=5.0							
PTOM	**Tomar**	**5.29**	**30**	*e*Sn		**Sn**	**13 02 09.8**	**-1.5**
PTOM				A		A	13 02 15.1	
	comp=N,11nm,0.4s							
PTOM	**Tomar**	**5.29**	**30**	*e*Sn		**Sn**	**13 02 09.8**	**-1.5**
PTOM				A		A	13 02 15.1	
	comp=N,11nm,0.4s							
EBAD	**Badajoz**	**5.32**	**45**	P		**Pn**	**13 01 12.6**	**+1.9**
	comp=N,0.7nm,0.1s,SNR=7.5							
EBAD				S		**Sn**	**13 02 10.5**	**-1.4**
	comp=N,1.2nm,0.1s							
EBAD	**Badajoz**	**5.32**	**45**	P		**Pn**	**13 01 12.6**	**+1.9**
	comp=N,0.7nm,0.1s,SNR=7.5							
EBAD				S		**Sn**	**13 02 10.5**	**-1.4**
	comp=N,1.2nm,0.1s							
KIB	**El Ksiba**	**5.38**	**116**	*i* P		**Pn**	**13 01 12.0**	**+0.3**
KIB				*i* S		**Sn**	**13 02 09.0**	**-4.8**
PMRV	**Marv??o**	**5.60**	**37**	*e*Pn		**Pn**	**13 01 16.1**	**+1.5**
PMRV				*e*Sn		**Sn**	**13 02 16.7**	**-2.2**
PMRV				A		A	13 02 20.4	
	comp=N,4.8nm,0.4s							
PMRV	**Marv??o**	**5.60**	**37**	*e*Pn		**Pn**	**13 01 16.1**	**+1.5**
PMRV				*e*Sn		**Sn**	**13 02 16.7**	**-2.2**
PMRV				A		A	13 02 20.4	
	comp=N,4.8nm,0.4s							
PCAS	**Casmilo, Conde**	**5.63**	**27**	*e*Pn		**Pn**	**13 01 16.8**	**+1.8**
PCAS				*e*Sn		**Sn**	**13 02 18.4**	**-1.3**
PCAS				A		A	13 02 19.4	
	comp=N,7.1nm,0.3s							
PCAS	**Casmilo, Conde**	**5.63**	**27**	*e*Pn		**Pn**	**13 01 16.8**	**+1.8**
PCAS				*e*Sn		**Sn**	**13 02 18.4**	**-1.3**
PCAS				A		A	13 02 19.4	
	comp=N,7.1nm,0.3s							
PCBR	**Castelo Branco**	**5.88**	**34**	*e*Pn		**Pn**	**13 01 20.4**	**+2.0**
PCBR				*e*Sn		**Sn**	**13 02 23.4**	**-2.4**
PCBR	**Castelo Branco**	**5.88**	**34**	*e*Pn		**Pn**	**13 01 20.4**	**+2.0**
PCBR				*e*Sn		**Sn**	**13 02 23.4**	**-2.4**
EMIJ	**Mijas**	**5.89**	**73**	P		**Pn**	**13 01 19.3**	**+0.7**
	comp=N,1.0nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**5.89**	**73**	P		**Pn**	**13 01 18.4**	**-0.2**
	comp=N,1.0nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**5.94**	**58**	P		**Pn**	**13 01 20.7**	**+1.4**
	comp=N,0.6nm,0.1s,SNR=15							
ECAB				S		**Sn**	**13 02 24.4**	**-3.1**
	comp=N,0.5nm,0.1s							
ECAB	**El Cabril**	**5.94**	**58**	P		**Pn**	**13 01 20.7**	**+1.4**
	comp=N,0.6nm,0.1s,SNR=15							
ECAB				S		**Sn**	**13 02 24.4**	**-3.1**
	comp=N,0.4nm,0.1s							
CZD	**Col de Zad**	**5.95**	**108**	*e*P		**Pn**	**13 01 18.0**	**-1.6**
CZD				*i* S		Sn	13 02 22.0	-5.9
EADA	**Adamuz**	**6.58**	**60**	P		**Pn**	**13 01 29.5**	**+1.5**
	comp=N,1.9nm,0.2s,SNR=12							
EADA				S		**Sn**	**13 02 40.9**	**-2.1**
	comp=N,1.0nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**6.58**	**60**	P		**Pn**	**13 01 29.5**	**+1.5**
	comp=N,1.9nm,0.2s,SNR=12							
EADA				S		**Sn**	**13 02 40.2**	**-2.9**
	comp=N,1.0nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**6.75**	**40**	P		**Pn**	**13 01 33.0**	**+2.7**
	comp=N,0.5nm,0.2s,SNR=7.9							
EPLA				S		**Sn**	**13 02 45.8**	**-1.4**
	comp=N,1.4nm,0.2s,SNR=7.9							
EPLA	**Plasencia**	**6.75**	**40**	S		**Sn**	**13 02 45.3**	**-2.0**
	comp=N,0.7nm,0.1s,SNR=7.9							
POLO	**Lamas de Olo**	**7.05**	**25**	*e*Sn		**Sn**	**13 02 51.2**	**-3.5**
POLO				A		A	13 02 53.0	
	comp=N,1.4nm,0.3s							
POLO	**Lamas de Olo**	**7.05**	**25**	*e*Sn		**Sn**	**13 02 51.2**	**-3.5**
POLO				A		A	13 02 53.0	
	comp=N,1.4nm,0.3s							
MVO	**Moncorvo**	**7.16**	**30**	A		A	13 02 55.4	
	comp=N,3.4nm,0.4s							
MVO				*e*Sn		**Sn**	**13 02 55.5**	**-1.9**
MVO	**Moncorvo**	**7.16**	**30**	A		A	13 02 55.4	
	comp=N,3.4nm,0.4s							
MVO				*e*Sn		**Sn**	**13 02 55.5**	**-1.9**
ELOB	**Lobios**	**7.40**	**22**	P		**Pn**	**13 01 40.9**	**+1.5**
	comp=N,0.2nm,0.1s,SNR=7.9							
ELOB				S		**Sn**	**13 02 58.4**	**-5.0**
	comp=N,0.7nm,0.1s,SNR=8.2							
ELOB	**Lobios**	**7.40**	**22**	P		**Pn**	**13 01 40.4**	**+1.0**
	comp=N,0.2nm,0.1s,SNR=7.9							
PGAV	**Gavieira, Arco**	**7.43**	**21**	*e*Pn		**Pn**	**13 01 41.0**	**+1.2**
PGAV				*e*Sn		**Sn**	**13 03 00.7**	**-3.4**
PGAV				A		A	13 03 07.5	
	comp=N,3.3nm,0.5s							
PGAV	**Gavieira, Arco**	**7.43**	**21**	*e*Pn		**Pn**	**13 01 41.0**	**+1.2**
PGAV				*e*Sn		**Sn**	**13 03 00.7**	**-3.4**
PGAV				A		A	13 03 07.5	
	comp=N,3.3nm,0.5s							
ESDC	**Sonseca Array**	**7.75**	**51**	P		**Pn**	**13 01 45.3**	**+1.3**
	comp=N,1.1nm,0.1s,baz=236,slow=13,SNR=4.5							
ESDC	**Sonseca Array**	**7.75**	**51**	P		**Pn**	**13 01 45.4**	**+1.3**
	comp=N,1.1nm,0.1s,baz=236,slow=13,SNR=4.5							
ECAL	**Calabor**	**7.93**	**28**	S		**Sn**	**13 03 12.2**	**-4.2**
	comp=N,5.4nm,0.3s,SNR=7.9							

*ISK **23** 13:05:06.8,38°.45N×44°.48E,h5km,ML3.6*
*NSSP **23** 13:05:07.2,38°.35N×44°.48E,h15km,ML3.6*
*TEH **23** 13:05:07.9,38°.50N×44°.32E,h15km,ML3.6*
*AZER **23** 13:05:09.8±48.0,38°.39N×44°.75E,h2km,Error ellipse: s-maj=15.8km s-min=5.7km az=245.0*
*DDA **23** 13:05:09.1,38°.41N×44°.40E,h16km,MD3.5*
*CSEM **23** 13:05:09.2±0.2,38°.33N×44°.45E,h2km,MD3.5,Error ellipse: s-maj=7.0km s-min=4.7km az=168.0*

ISC 23 13:05:08.8±1.1,38°.39N±0°.02×44°.45E±0°.02,h5km±10km, n75,σ1s19/99,4C-6D,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TVAN	**Van**	**0.83**	**280**	*i* P		**Pg**	**13 05 23.5**	**-1.3**
TVAN				*i* S		**Sg**	**13 05 36.2**	**+0.5**
VANB	**Van**	**0.86**	**284**	*e*PG		**Pg**	**13 05 24.0**	**-1.4**
VANB	**Van**	**0.86**	**284**	*e*Pg		**Pg**	**13 05 24.0**	**-1.4**
CLDR	**Caldiran**	**0.86**	**331**	*e*PG		**Pg**	**13 05 23.3**	**-2.1**
CLDR	**Caldiran**	**0.86**	**331**	*e*Pg		**Pg**	**13 05 23.3**	**-2.1**
HKR	**Hakkari**	**0.99**	**215**	*e*PG		**Pg**	**13 05 27.9**	**+0.1**
HKR	**Hakkari**	**0.99**	**215**	*e*Pg		**Pg**	**13 05 27.9**	**+0.1**
HAKT	**HAKKARI**	**1.02**	**216**	*i* P		**Pg**	**13 05 27.8**	**-0.6**
HAKT				*i* S		**Sn**	**13 05 43.6**	**-1.3**
HAKT	**HAKKARI**	**1.02**	**216**	*i* P		**Pg**	**13 05 27.8**	**-0.6**
IMRD	**Marand**	**1.03**	**71**	*e*Pg		**Pg**	**13 05 27.3**	**-1.3**
IMRD				*e*Sg		**Sb**	**13 05 42.7**	**-0.5**
IMRD				*e*			13 05 46.7	
	comp=Z,64μm,0.2s							
IMRD	**Marand**	**1.03**	**71**	*e*Pg		**Pg**	**13 05 27.3**	**-1.3**
IMRD				*e*Sg		**Sb**	**13 05 42.7**	**-0.5**
GEVA	**Gevas**	**1.10**	**266**	*i* P		**Pb**	**13 05 28.0**	**-2.4**
GEVA				*i* S		**Sb**	**13 05 45.0**	**-0.2**
GEVA	**Gevas**	**1.10**	**266**	*i* S		**Sb**	**13 05 45.0**	**-0.2**
NAX	**Nakhchivan**	**1.13**	**46**	⇓P		**Pb**	**13 05 29.4**	**-1.5**
NAX				⇑S		**Sg**	**13 05 45.5**	**+0.3**
NAX	**Nakhchivan**	**1.13**	**46**	P		**Pb**	**13 05 29.4**	**-1.5**
NAX				S		**Sg**	**13 05 45.5**	**+0.3**
CUKT	**Cukurca**	**1.32**	**211**	*e*PN		**Pg**	**13 05 34.0**	**-0.2**
CUKT				*e*SN		**Sg**	**13 05 54.3**	**+3.0**
CUKT	**Cukurca**	**1.32**	**211**	*e*Pn		**Pg**	**13 05 34.0**	**-0.2**
CUKT				*e*Sn		**Sg**	**13 05 54.3**	**+3.0**
ITBZ	**Tabriz**	**1.34**	**96**	*e*Pn		**Pn**	**13 05 33.4**	**-1.0**
ITBZ				*e*Sg		**Sg**	**13 05 53.5**	**+1.6**
ITBZ				*e*			13 05 59.8	
	comp=Z,5μm,0.2s							
ITBZ	**Tabriz**	**1.34**	**96**	*e*Pn		**Pn**	**13 05 33.4**	**-1.0**
ITBZ				*e*Sg		**Sg**	**13 05 53.5**	**+1.6**
IAZR	**Azarshahr**	**1.40**	**120**	*e*Pn		**Pn**	**13 05 34.8**	**-0.5**
IAZR				*e*			13 06 00.8	
	comp=Z,16μm,0.3s							
IAZR	**Azarshahr**	**1.40**	**120**	*e*Pn		**Pn**	**13 05 34.8**	**-0.5**
AGRB	**Hanur-Agry**	**1.64**	**317**	*e*PN		**Pn**	**13 05 38.0**	**-0.6**
AGRB	**Hanur-Agry**	**1.64**	**317**	*e*Pn		**Pn**	**13 05 38.0**	**-0.6**
TATV	**Tatvan**	**1.72**	**275**	*i* P		**Pb**	**13 05 40.2**	**-0.9**
TATV	**Tatvan**	**1.72**	**275**	*i* P		**Pb**	**13 05 40.2**	**-0.9**
GNI	**Garni**	**1.77**	**7**	⇓P		**Pb**	**13 05 41.2**	**-0.7**
GNI				S		**Sg**	**13 06 09.2**	**+3.4**
SIRT	**Sirnak**	**1.82**	**242**	*e*PN		**Pb**	**13 05 41.4**	**-1.3**
SIRT	**Sirnak**	**1.82**	**242**	*e*Pn		**Pb**	**13 05 41.4**	**-1.3**
SIRN	**S¨–rnak**	**1.84**	**242**	*i* P		**Pb**	**13 05 43.3**	**+0.2**
SIRN				*i* S		**Sg**	**13 06 07.7**	**-0.3**
SIRN	**S¨–rnak**	**1.84**	**242**	*i* P		**Pb**	**13 05 43.3**	**+0.2**
SIRN				*i* S		**Sg**	**13 06 07.7**	**-0.3**
IHRS	**Heris**	**2.04**	**91**	*e*Pn		**Pb**	**13 05 45.1**	**-1.4**
IHRS				*e*Sg		**Sg**	**13 06 15.2**	**+0.9**
IHRS				*e*			13 06 21.6	
	comp=Z,3μm,0.3s							
IHRS	**Heris**	**2.04**	**91**	*e*Pn		**Pb**	**13 05 45.1**	**-1.4**
IHRS				*e*Sg		**Sg**	**13 06 15.2**	**+0.9**
VADZ	**Vardenis**	**2.04**	**29**	P		**Pb**	**13 05 46.0**	**-0.6**
VADZ				S		**Sg**	**13 06 16.0**	**+1.5**
IBST	**Bostanabad**	**2.04**	**109**	*e*Pn		**Pn**	**13 05 44.3**	**+0.2**
IBST				*e*Sn		**Sn**	**13 06 09.5**	**-0.6**
IBST				*e*			13 06

couple: $M_0$1.97000×10^14 NP1:ϕ_s0.00000°, δ39.00000°, λ-92.00000°. NP2:ϕ_s183.00000°, δ51.00000°, λ-88.00000°.

JMA 23 13:17:30.1, 35°32′N×136°99′E, h43km, M3.6, 5C-2D Broadband fault plane solution: P waves. NP1: ϕ_s7.00000°, δ50.00000°, λ-65.00000°. **NP2:** ϕ_s151.00000°, δ46.00000°, λ-117.00000°. **Principal axes:** T Plg2.0000°, Azm80.0000°; N Plg19.0000°, Azm171.0000°; P Plg71.0000°, Azm344.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
JAO	**Obara**	**0.23**	**104**	⇓P		Pn	13 17 37.8	-0.2
JAO				S		Sn	13 17 43.5	0.0
TSUJ	**Tsu 2**	**0.77**	**218**	⇑P		Pn	13 17 44.7	+0.2
TSUJ				S		Sn	13 17 55.4	+0.5
JIE	**Ise**	**0.95**	**194**	⇑P		Pn	13 17 47.4	+0.3
SHZ3	**Shizuoka 3**	**1.03**	**104**	⇑P		Pn	13 17 47.7	-0.5
JKG	**Kaga**	**1.09**	**331**	⇓P		Pn	13 17 49.7	+0.7
JKG				S		Sn	13 18 04.2	+1.3
JKN2	**Miekihoku**	**1.23**	**209**	⇑P		Pn	13 17 50.7	-0.1
JKN2				S		Sn	13 18 06.2	0.0
JHE	**Heguri**	**1.26**	**239**	P		Pn	13 17 51.3	0.0
JHE				S		Sn	13 18 07.6	+0.5
JYN	**Shimob**	**1.28**	**82**	P		Pn	13 17 51.9	+0.2
JWT	**Wachi**	**1.30**	**269**	⇑P		Pn	13 17 51.9	+0.1
MAT	**Matsushiro**	**1.57**	**39**	P		Pn	13 17 56.1	+0.6
MAT				S		Sn	13 18 17.1	+2.4

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*NIED **23** 13:22:00, 44°.50N×149°.10E, h23km, Mw4.6 Best double couple: $M_0$9.06000×10^15 NP1:ϕ_s219.00000°, δ27.00000°, λ110.00000°. NP2:ϕ_s17.00000°, δ65.00000°, λ80.00000°.*

*IDC **23** 13:22:55.3±0.4, 44°.42N×148°.91E, h0km, mb4.7/37, mb1 4.8/42, mb1mx4.7/55, mbtmp4.7/42, ML3.8/5, MS3.8/23, Ms1 3.8/23, ms1mx3.7/37, Error ellipse: s-maj=13.4km s-min=10.2km az=136.0*

*BJI **23** 13:22:58.1, 44°.34N×149°.24E, h43km, mb5.0/60, mB4.8/42, Ms4.3/51, Ms7 4.1/48*

*JMA **23** 13:22:58.5±0.6, 44°.52N×149°.14E, h30km, M4.8*

*MOS **23** 13:22:59.7±0.8, 44°.45N×148°.95E, h39km, mb5.1/40, MS4.0/19, Error ellipse: s-maj=8.7km s-min=4.9km az=112.8*

*ISCJB **23** 13:23:00.4±0.4, 44°.38N±0°.03×148°.95E±0°.02, h47km±3km, mb4.8/177, MS4.0/29, Error ellipse: s-maj=4.8km s-min=2.5km az=160.9*

*SKHL **23** 13:23:01.1±0.2, 44°.31N×149°.08E, h56km±1km, mb5.1/14*

*NEIC **23** 13:23:01.7±0.2, 44°.42N×148°.90E, mb4.8/82, Error ellipse: s-maj=6.2km s-min=3.0km az=156.0*

*SZGRF **23** 13:23:20.8, 47°.25N×145°.31E, h33km, mb5.1, Sea of Okhotsk*

ISC 23 13:23:01.9±0.3, 44°.44N±0°.04×148°.94E±0°.04, h46km±2km, h46km:pP-P, n686, σ1§06/751, mb4.9/187, MS4.0/30, 44C-33D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
KUR	**Kuril'sk**	**1.10**	**317**	*d* iPN		**Pn**	**13 23 20.5**	**-0.4**
KUR				*i* S		**Sn**	**13 23 35.2**	**+0.3**
KUR					pmax	pmax		
	comp=N,538nm,0.4s							
KUR					pmax	pmax		
	comp=E,346nm,0.4s							
KUR					pmax	pmax		
	comp=Z,1μm,0.4s							
KUR					pmax	pmax		
	comp=Z,4μm,0.4s							
KUR					smax	smax		
	comp=N,3μm,0.5s							
KUR					smax	smax		
	comp=E,1μm,0.2s							
KUR	**Kuril'sk**	**1.10**	**317**	*e*P		**Pn**	**13 23 20.5**	**-0.4**
KUR					AMB	AMB	13 23 21.1	
	comp=E,5μm,0.5s							
KUR				*e*S		**Sn**	**13 23 35.2**	**+0.3**
KUR					A	A	13 23 37.4	
	comp=E,5μm,0.5s							
KUR					A	A	13 23 37.4	
	comp=E,8μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.25**	**261**	*c i*PN		**Pn**	**13 23 36.0**	**-0.5**
YUK				*i* S		**Sn**	**13 24 02.0**	**-1.0**
YUK					pmax	pmax		
	comp=N,243nm,0.4s							
YUK					pmax	pmax		
	comp=Z,658nm,0.4s							
YUK					pmax	pmax		
	comp=E,198nm,0.2s							
YUK					smax	smax		
	comp=N,2μm,0.4s							
YUK					smax	smax		
	comp=E,1μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.25**	**261**	*i* P		**Pn**	**13 23 36.0**	**-0.5**
YUK					AMB	AMB	13 23 39.8	
	comp=E,240nm,0.4s							
YUK					AMB	AMB	13 23 39.8	
	comp=E,120nm,0.4s							
YUK					AMB	AMB	13 23 39.8	
	comp=E,660nm,0.4s							
YUK				*i* S		**Sn**	**13 24 02.0**	**-1.0**
YUK					A	A	13 24 13.4	
	comp=E,2μm,0.4s							
YUK					A	A	13 24 13.4	
	comp=E,1μm,0.4s							
NEM2	**Nemuro 2**	**2.54**	**246**	P		**Pn**	**13 23 38.9**	**-1.7**
NEM2				*e*S		**Sn**	**13 24 09.5**	**-0.9**
JRA	**Rausu**	**2.79**	**261**	P		**Pn**	**13 23 44.2**	**+0.2**
JRA				*e*S		**Sn**	**13 24 17.6**	**+1.2**
JNK	**Nakash**	**3.16**	**256**	P		**Pn**	**13 23 48.0**	**-1.1**
JAK	**Akkeshi**	**3.40**	**246**	P		**Pn**	**13 23 50.9**	**-1.4**
JAK				*e*S		**Sn**	**13 24 31.8**	**+0.5**
JTKR	**Abashiri--Toko**	**3.65**	**264**	P		**Pn**	**13 23 56.2**	**+0.5**
JAR	**Ashorobuto**	**3.91**	**255**	P		**Pn**	**13 23 59.4**	**+0.1**
JOB	**Onbets**	**4.01**	**249**	P		**Pn**	**13 24 00.3**	**-0.4**
JMP	**Maruseppu**	**4.03**	**266**	P		**Pn**	**13 24 02.1**	**+1.0**
HRK	**Horoka**	**4.30**	**259**	*e*P		**Pn**	**13 24 05.9**	**+1.1**
JCH	**Churui**	**4.44**	**248**	P		**Pn**	**13 24 06.1**	**-0.6**
JKK2	**Kamakawa 2**	**4.49**	**265**	P		**Pn**	**13 24 08.6**	**+1.3**
JKK2				*e*S		Sn	13 25 05.8	+7.5
JSE	**Soyaes**	**4.56**	**279**	P		**Pn**	**13 24 09.8**	**+1.5**
ASAJ	**Asahikawa**	**4.56**	**268**	P		**Pn**	**13 24 10.1**	**+1.7**
ASAJ	**Asahikawa**	**4.56**	**268**	LR		LR	13 26 10.7	
	comp=E,3μm,20.9s,baz=130,slow=43							
ASAJ	**Asahikawa**	**4.56**	**268**	*e*Pn		**Pn**	**13 24 10.1**	**+1.7**
MYR	**Moyori**	**4.65**	**244**	*e*P		**Pn**	**13 24 09.3**	**-0.2**
JFR	**Furan**	**4.76**	**257**	P		**Pn**	**13 24 12.3**	**+1.2**
JEM	**Erimo**	**4.87**	**242**	P		**Pn**	**13 24 12.9**	**+0.4**
ERM	**Erimo**	**4.87**	**242**	*c i*PN		**Pn**	**13 24 13.1**	**+0.6**
ERM					pmax	pmax		
	comp=Z,627nm,1.2s							
ERM	**Erimo**	**4.87**	**242**	*e*P		**Pn**	**13 24 13.1**	**+0.6**
ERM	**Erimo**	**4.87**	**242**	*e*Pn		**Pn**	**13 24 13.0**	**+0.5**
JAB	**Ashibetsu**	**4.94**	**261**	P		**Pn**	**13 24 15.5**	**+2.1**
JNBK	**Urakawa-nobuka**	**5.00**	**247**	P		**Pn**	**13 24 13.2**	**-1.1**
YSS	**Yuzh-Sakhalins**	**5.01**	**302**	⇓*e*PN		**Pn**	**13 24 14.0**	**-0.4**
YSS				*e*S		**Sn**	**13 25 12.0**	**+1.1**
YSS					pmax	pmax		
	comp=Z,70nm,1.0s							
YSS					smax	smax		
	comp=N,100nm,0.8s							
YSS					smax	smax		
	comp=E,100nm,0.8s							
YSS					MLR	MLR		
	comp=N,600nm,15.0s							
YSS					MLR	MLR		
	comp=Z,2μm,15.0s							
YSS					MLR	MLR		
	comp=E,2μm,16.0s							
YSS	**Yuzh-Sakhalins**	**5.01**	**302**	*e*P		**Pn**	**13 24 15.8**	**+1.4**
YSS					AMB	AMB	13 24 25.8	
	comp=E,150nm,0.7s							
YSS				*e*S		**Sn**	**13 25 12.1**	**+1.1**
YSS					A	A	13 25 17.1	
	comp=E,140nm,0.5s							
YSS					A	A	13 25 17.1	
	comp=E,110nm,0.5s							
YSS	**Yuzh-Sakhalins**	**5.01**	**302**	*e*Pn		**Pn**	**13 24 14.7**	**+0.3**
JBT2	**Biratori 2**	**5.05**	**253**	P		**Pn**	**13 24 15.0**	**-0.1**
JBT2				*e*S		**Sn**	**13 25 16.0**	**+3.9**
JSS	**Shosan**	**5.08**	**272**	P		Pn	13 24 18.9	+3.6
JWK2	**Keihoku**	**5.08**	**282**	P		Pn	13 24 19.0	+3.6
JHR	**Hokuryu**	**5.24**	**265**	P		**Pn**	**13 24 20.2**	**+2.6**
NEVR	**Nevel'sk**	**5.45**	**297**	*e*P		**Pn**	**13 24 23.4**	**+2.9**
NEVR					AMB	AMB	13 24 27.8	
	comp=E,226nm,0.8s							
NEVR				*e*S		**Sn**	**13 25 24.7**	**+2.8**
NEVR					A	A	13 25 32.2	
	comp=E,123nm,0.7s							
JEW	**Eniwo**	**5.66**	**256**	P		**Pn**	**13 24 25.0**	**+1.6**
JEW				*e*S		Sn	13 25 37.6	+10
JNB	**Noboribetsu**	**6.08**	**254**	P		**Pn**	**13 24 29.1**	**0.0**
JNB				*e*S		**Sn**	**13 25 37.4**	**+0.1**
JKB	**Kayabe**	**6.32**	**249**	P		**Pn**	**13 24 31.4**	**-1.0**
JKB				*e*S		**Sn**	**13 25 39.6**	**-3.6**
UGL	**Uglegorsk**	**6.62**	**317**	*e*PN		**Pn**	**13 24 36.0**	**-0.5**
UGL	**Uglegorsk**	**6.62**	**317**	*e*P		Pn	13 24 40.0	+3.5
UGL					AMB	AMB	13 24 41.5	
	comp=E,83nm,0.7s							
JYM2	**Yakumo 2**	**6.67**	**253**	P		**Pn**	**13 24 36.8**	**-0.4**
JSH	**Shimam**	**6.71**	**258**	P		**Pn**	**13 24 38.4**	**+0.7**
JANG	**Nango**	**6.83**	**236**	P		Pn	13 24 35.9	-3.5
JANG				*e*S		Sn	13 25 48.0	-7.8
JTM	**Tenmabayashi**	**6.86**	**241**	P		**Pn**	**13 24 38.1**	**-1.7**
JTM				*e*S		Sn	13 25 49.1	-7.3
JTH	**Tanohata**	**6.91**	**232**	P		Pn	13 24 36.8	-3.8
JTH				*e*S		Sn	13 25 48.4	-9.5
JOSM	**Okushiri--Mats**	**7.30**	**254**	P		**Pn**	**13 24 45.7**	**-0.1**
OFUJ	**Ofunato**	**7.62**	**228**	P		Pn	13 24 46.4	-3.9
OFUJ				*e*S		Sn	13 26 04.9	-10
TYV	**Tymovskoe**	**7.70**	**329**	*e*PN		Pn	13 24 56.2	+4.9
TYV					pmax	pmax		
	comp=N,24nm,0.8s							
TYV					MLR	MLR		
	comp=Z,2μm,20.0s							
TYV					MLR	MLR		
	comp=N,1μm,15.0s							
TYV	**Tymovskoe**	**7.70**	**329**	*e*P		Pn	13 24 55.0	+3.7
TYV					AMB	AMB	13 24 58.2	
	comp=N,40nm,0.8s							
SKR	**Severo-Kuril's**	**7.91**	**35**	*e*PN		Pn	13 24 49.0	-5.2
SKR					pmax	pmax		
	comp=N,50nm,0.5s							
SKR					pmax	pmax		
	comp=E,40nm,0.5s							
SKR					pmax	pmax		
	comp=Z,80nm,0.5s							
SKR					MLR	MLR		
	comp=N,1μm,16.0s							
SKR					MLR	MLR		
	comp=E,1μm,16.0s							
SKR					MLR	MLR		
	comp=Z,2μm,16.0s							
SKR	**Severo-Kuril's**	**7.91**	**35**	*e*P		Pn	13 24 49.0	-5.2
SKR					AMB	AMB	13 24 52.9	
	comp=E,50nm,0.5s							
SKR					AMB	AMB	13 24 52.9	
	comp=Z,40nm,0.5s							
SKR					AMB	AMB	13 24 52.9	
	comp=Z,80nm,0.5s							
SKR				*e*S		**Sn**	**13 26 21.0**	**-1.2**
SKR					A	A	13 26 44.6	
	comp=E,85nm,0.6s							
SKR					A	A	13 26 44.6	
	comp=Z,30nm,0.6s							
SKR					A	A	13 26 44.6	
	comp=Z,40nm,0.6s							
JRG	**Rokugo**	**7.98**	**234**	P		**Pn**	**13 24 52.5**	**-2.7**
JRG				*e*S		Sn	13 26 17.3	-6.8
JIO	**Ouri**	**8.26**	**226**	P		Pn	13 24 54.8	-4.2
JIO				*e*S		Sn	13 26 19.7	-11
TEY	**Ternei**	**8.80**	**278**	*e*P		**Pn**	**13 25 09.0**	**+2.6**
TEY					AMB	AMB	13 25 16.5	
	comp=Z,90nm,1.0s							
JFK	**Kawauchi**	**9.33**	**224**	*e*S		Sn	13 26 45.3	-12
JFY	**Yanaizu**	**9.90**	**228**	P		**Pn**	**13 25 18.4**	**-3.1**
NKL	**Nikolayevsk**	**10.27**	**331**	*e*PN		**Pn**	**13 25 24.4**	**-2.1**
NKL					pmax	pmax		
	comp=N,43nm,1.0s							
NKL					pmax	pmax		
	comp=E,30nm,1.0s							
NKL					pmax	pmax		
	comp=Z,90nm,1.0s							
NKL					MLR	MLR		
	comp=N,500nm,14.0s							
NKL					MLR	MLR		
	comp=E,350nm,14.0s							
NKL	**Nikolayevsk**	**10.27**	**331**	*e*P		**Pn**	**13 25 24.4**	**-2.1**
NKL					AMB	AMB	13 25 25.8	
	comp=E,43nm,1.0s							
NKL					AMB	AMB	13 25 25.8	
	comp=E,30nm,1.0s							
NKL					AMB	AMB	13 25 25.8	
	comp=E,90nm,1.0s							
HABR	**Khabarovsk**	**10.40**	**298**	PN		**Pn**	**13 25 28.9**	**+0.7**
HABR					pmax	pmax		
	comp=E,7.0nm,0.7s							
HABR					pmax	pmax		
	comp=Z,7.0nm,1.0s							
HABR					pmax	pmax		
	comp=N,6.0nm,0.7s							
HABR					MLR	MLR		
	comp=Z,832nm,17.0s							
PEA0B	**Petropavlovsk-**	**10.42**	**31**	*e*P		**Pn**	**13 25 26.6**	**-1.9**
PETK	**Petropavlovsk-**	**10.42**	**31**	Pn		**Pn**	**13 25 28.3**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=201,slow=14,SNR=8.5							
PETK	**Petropavlovsk-**	**10.42**	**31**	PN		**Pn**	**13 25 28.3**	**-0.2**
PETK					pmax	pmax		
	comp=Z,1.0nm,0.3s							
GRNR	**Gornyy**	**10.55**	**311**	*e*P		**Pn**	**13 25 32.0**	**+1.6**
GRNR					AMB	AMB	13 25 34.2	
	comp=Z,36nm,1.0s							
PET	**Petropavlovsk**	**10.71**	**33**	*e*PN		**Pn**	**13 25 35.1**	**+2.6**
PET					MLR	MLR		
	comp=Z,900nm,14.0s							
PET					MLR	MLR		
	comp=Z,800nm,16.0s							
MAJO	**Matsushiro**	**11.35**	**230**	*d i*PN		**Pn**	**13 25 38.4**	**-2.9**
MAJO	**Matsushiro**	**11.35**	**230**	*e*P		**Pn**	**13 25 38.4**	**-2.9**
	comp=Z,18nm,0.7s							
MAT	**Matsushiro**	**11.35**	**230**	P		**Pn**	**13 25 38.4**	**-2.9**
MAT				S		**Sn**	**13 27 47.7**	**+1.1**
MJAR	**Matsushiro Arr**	**11.35**	**230**	Pn		Pn	13 25 37.9	-3.4
	comp=Z,0.9nm,0.3s,baz=27,slow=13,SNR=24							
MJAR	**Matsushiro Arr**	**11.35**	**230**	PN		Pn	13 25 37.9	-3.4
MJAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
USRK	**Ussuriysk Ar.**	**12.15**	**275**	Pn		**Pn**	**13 25 53.3**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=84,slow=13,SNR=20							
USRK					LR	LR	13 30 35.2	
	comp=Z,774nm,20.1s,baz=89,slow=38							
KLR	**Kul'dur**	**12.70**	**298**	*e*PN		**Pn**	**13 26 01.8**	**+2.1**
KLR				*e*			13 28 32.5	
KLR					MLR	MLR		
	comp=E,500nm,14.0s							
KLR					MLR	MLR		
	comp=Z,900nm,14.0s							
KLR	**Kul'dur**	**12.70**	**298**	*e*rx		rx	13 26 01.8	
EKMR	**Ekimchan**	**13.61**	**315**	*e*P		**Pn**	**13 26 13.0**	**+0.9**
EKMR					AMB	AMB	13 26 18.2	
	comp=Z,36nm,1.0s							
MDJ	**Mudanjiang**	**13.81**	**278**	P		**Pn**	**13 26 16.9**	**+2.1**
MDJ				S		**Sn**	**13 28 45.3**	**-1.2**
MDJ				PcS		**PcS**	**13 35 10.3**	**+0.5**
MDJ					PMZ			
	comp=Z,13nm,0.7s							
MDJ					PMZ			
	comp=Z,71nm,6.5s							
MDJ					LN			
	comp=Z,240nm,14.8s							
MDJ					LE			
	comp=Z,360nm,18.7s							
MDJ					LZ			
	comp=Z,660nm,17.8s							
MDJ	**Mudanjiang**	**13.81**	**278**	*e*P		**Pn**	**13 26 16.5**	**+1.7**
	comp=Z,12nm,0.8s							
BMKR	**Bomnak**	**16.54**	**316**	*e*P		**Pn**	**13 26 51.5**	**+1.2**
BMKR					AMB	AMB	13 26 55.7	
	comp=Z,12nm,0.6s							
KSTBA	**Taebaek** SNR=9.4	**16.78**	**251**	P		**P**	**13 26 55.6**	**+0.3**
KSTBA	**Taebaek** SNR=9.4	**16.78**	**251**	P		**P**	**13 26 55.6**	**+0.3**
CN2	**Changchun**	**16.87**	**276**	*e*P		**Pn**	**13 26 55.3**	**+0.7**
CN2				*es*P		**sP**	**13 27 10.8**	**-1.9**
CN2				*e*S		**Sn**	**13 29 59.3**	**-1.7**
CN2					PMZ			
	comp=Z,10.0nm,1.0s							
CN2					PMZ			
	comp=Z,200nm,4.0s							
CN2					LN			
	comp=Z,200nm,15.0s							
CN2					LE			
	comp=Z,400nm,15.0s							
CN2					LZ			
	comp=Z,500nm,19.0s							
ZEA	**Zeya**	**16.92**	**311**	*e*rx		rx	13 27 06.1	
KSIJA	**INJE** SNR=6.0	**16.92**	**255**	P		**P**	**13 26 57.2**	**+0.5**
KSIJA	**INJE** SNR=6.0	**16.92**	**255**	P		**P**	**13 26 57.2**	**+0.5**
KSCHC	**Chuncheon** SNR=7.9	**17.23**	**255**	P		**P**	**13 27 00.7**	**+0.6**
KSCHC	**Chuncheon** SNR=7.9	**17.23**	**255**	P		**P**	**13 27 00.7**	**+0.6**
KSRS	**Korea Array**	**17.32**	**254**	P		**Pn**	**13 26 57.2**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=62,slow=11,SNR=13							
KSRS					PcP	**PcP**	**13 31 40.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=166,slow=0.5,SNR=6.7							
KSAR	**Wonju Array Be**	**17.35**	**254**	P		**Pn**	**13 26 57.2**	**-3.3**
KSAR					PcP	**PcP**	**13 31 40.5**	**+0.1**
KROS	**Kirovskiy**	**17.37**	**313**	*e*P		**P**	**13 27 02.5**	**+1.0**
KROS					AMB	AMB	13 27 04.5	
	comp=Z,7.0nm,0.8s							
YNCB	**YEONCHEON** SNR=22	**17.72**	**256**	P		**P**	**13 27 06.2**	**+0.7**
YNCB	**YEONCHEON** SNR=22	**17.72**	**256**	P		**P**	**13 27 06.2**	**+0.7**
KSBON	**Boeun** SNR=13	**17.90**	**251**	P		**P**	**13 27 08.6**	**+1.1**
KSBON	**Boeun** SNR=13	**17.90**	**251**	P		**P**	**13 27 08.6**	**+1.1**
KSMUS	**Musan** SNR=11	**17.91**	**256**	P		**P**	**13 27 08.2**	**+0.6**
KSMUS	**Musan** SNR=11	**17.91**	**256**	P		**P**	**13 27 08.2**	**+0.6**
JNU	**Nakatsue**	**18.01**	**237**	P		**Pn**	**13 27 07.7**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=34,slow=6.3,SNR=5.3							
JNU	**Nakatsue**	**18.01**	**237**	*e*P		**Pn**	**13 27 07.5**	**-1.2**
	comp=Z,13nm,1.2s							
KSSWO	**Suwon** SNR=6.6	**18.07**	**254**	P		**Pn**	**13 27 09.6**	**+0.2**
KSSWO	**Suwon** SNR=5.6	**18.07**	**254**	P		**Pn**	**13 27 09.9**	**+0.6**
KSCEA	**Cheonan** SNR=14	**18.10**	**253**	P		**Pn**	**13 27 10.1**	**+0.4**
KSCEA	**Cheonan** SNR=14	**18.10**	**253**	P		**Pn**	**13 27 10.1**	**+0.4**
JCJ	**Chichijima**	**18.14**	**200**	LR		LR	13 34 23.7	
	comp=Z,50nm,19.1s,baz=134,slow=38							
INCN	**Inchon**	**18.19**	**255**	*e*P		**Pn**	**13 27 11.0**	**+0.1**
	comp=Z,25nm,0.8s							
KSGAH	**Ganghwa** SNR=10	**18.21**	**256**	P		**Pn**	**13 27 11.6**	**+0.5**
KSGAH	**Ganghwa** SNR=10	**18.21**	**256**	P		**Pn**	**13 27 11.6**	**+0.5**
TJN	**Taejon**	**18.26**	**251**	*c i*P		**Pn**	**13 27 12.0**	**+0.3**
SEY	**Seymchan**	**18.64**	**5**	P		**P**	**13 27 14.2**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=182,slow=8.9,SNR=59							
SEY					LR	LR	13 34 58.3	
	comp=Z,362nm,18.6s,baz=168,slow=39							
SEY	**Seymchan**	**18.64**	**5**	*c i*P		**P**	**13 27 15.4**	**0.0**
SEY	**Seymchan**	**18.64**	**5**	*e*P		**P**	**13 27 15.4**	**0.0**
KSSES	**Seosan** SNR=16	**18.66**	**254**	P		**Pn**	**13 27 16.8**	**+0.2**
KSSES	**Seosan** SNR=16	**18.66**	**254**	P		**Pn**	**13 27 16.8**	**+0.2**
SNY	**Shenyang**	**18.67**	**271**	⇓P		**Pn**	**13 27 16.8**	**+0.2**
SNY					PMZ			
	comp=Z,12nm,0.6s							
SNY					PMZ			
	comp=Z,120nm,4.9s							
SNY					LN			
	comp=Z,240nm,16.5s							
SNY					LE			
	comp=Z,330nm,19.0s							
SNY					LZ			
	comp=Z,430nm,19.0s							
KSGUS	**GUNSAN** SNR=5.7	**18.84**	**251**	P		**Pn**	**13 27 18.8**	**+0.1**
KSJEU	**Jeongeup** SNR=8.5	**19.04**	**250**	P		**Pn**	**13 27 21.5**	**+0.3**
KSJEU	**Jeongeup** SNR=8.5	**19.04**	**250**	P		**Pn**	**13 27 21.5**	**+0.3**
KSBAR	**Backryungdo** SNR=9.8	**19.30**	**259**	P		**Pn**	**13 27 23.6**	**-0.5**
KSBAR	**Backryungdo** SNR=9.8	**19.30**	**259**	P		**Pn**	**13 27 23.6**	**-0.5**
CLNS	**Chul'man**	**19.53**	**318**	*e*P		**P**	**13 27 25.1**	**-0.2**
CLNS					pmax	pmax		
	comp=E,6.0nm,0.9s							
CLNS					pmax	pmax		
	comp=Z,10.0nm,0.9s							
CLNS					pmax	pmax		
	comp=N,4.0nm,1.0s							
CLNS					MLR	MLR		
	comp=N,437nm,14.0s							
CLNS					MLR	MLR		
	comp=E,408nm,14.0s							
CLNS					MLR	MLR		
	comp=Z,708nm,14.0s							
HIA	**Hailar**	**20.47**	**294**	*e*P		**P**	**13 27 35.2**	**-0.4**
HIA	**Hailar**	**20.47**	**294**	*e*P		**P**	**13 27 35.2**	**-0.4**
YAK	**Yakutsk**	**20.91**	**334**	P		**P**	**13 27 38.7**	**-1.3**
	comp=Z,1.9nm,0.3s,baz=318,slow=22,SNR=6.3							
YAK					LR	LR	13 36 17.5	
	comp=Z,411nm,18.9s,baz=99,slow=38							
YAK	**Yakutsk**	**20.91**	**334**	*e*P		**P**	**13 27 37.6**	**-2.5**
YAK				*e*			13 27 53.9	
YAK				*e*S		S	13 31 22.8	-7.5
YAK				*e*			13 31 49.2	
YAK				*e*SSS		SSS	13 31 56.6	
YAK				*e*			13 38 59.7	
YAK					pmax	pmax		
	comp=E,7.0nm,1.0s							
YAK					pmax	pmax		
	comp=Z,37nm,1.0s							
YAK					pmax	pmax		
	comp=N,9.0nm,0.9s							
YAK					smax	smax		
	comp=N,148nm,4.6s							
YAK					smax	smax		
	comp=E,82nm,3.6s							
YAK					MLR	MLR		
	comp=N,250nm,14.0s							
YAK					MLR	MLR		
	comp=Z,283nm,14.0s							
YAK					MLR	MLR		
	comp=E,162nm,14.0s							
YAK	**Yakutsk**	**20.91**	**334**	*e*P		**P**	**13 27 39.4**	**-0.7**
YAK	**Yakutsk**	**20.91**	**334**	*e*P		**P**	**13 27 38.4**	**-1.7**
	comp=E,44nm,0.7s							
DL2	**Dalian**	**21.08**	**264**	P		**P**	**13 27 41.5**	**-0.7**
DL2				*e*S		**S**	**13 31 31.1**	**-3.1**
DL2					PMZ			
	comp=E,64nm,0.8s							
DL2					LE			
	comp=E,120nm,15.2s							
DL2					LZ			
	comp=E,170nm,17.2s							
JOW	**Kunigami**	**24.19**	**230**	P		**P**	**13 28 13.8**	**-0.2**
	comp=E,2.3nm,0.9s,baz=58,slow=12							
JOW	**Kunigami**	**24.19**	**230**	*e*P		**P**	**13 28 13.1**	**-0.8**
	comp=E,13nm,1.0s							
BJI	**Beijing**	**24.55**	**271**	P		**P**	**13 28 16.8**	**-0.3**
BJI				S		**S**	**13 32 32.9**	**-1.8**
BJI					PMZ			
	comp=E,61nm,0.8s							
BJI					LN			
	comp=E,150nm,16.1s							
BJI			

NJ2 PMZ
comp=Z,430nm,5.4s
NJ2 LN
comp=Z,820nm,14.0s
NJ2 LE
comp=Z,920nm,13.3s
NJ2 LZ
comp=Z,1μm,16.0s
HHC Hu-ho-hao-te 27.57 276 *e*P **P 13 28 45.4 +0.9**
HHC sP **sP 13 29 04.3 +2.2**
HHC PP **PnPn 13 29 34.0 +2.9**
HHC S **S 13 33 21.3 -1.3**
HHC sS **sS 13 33 41.3 -1.7**
HHC SS **SnSn 13 34 41.3 +4.9**
HHC PMZ
comp=Z,22nm,0.6s
HHC PMZ
comp=Z,100nm,4.3s
HHC LN
comp=Z,190nm,10.9s
HHC LE
comp=Z,380nm,10.7s
HHC LZ
comp=Z,420nm,10.9s
H11N2 WAKE ISLAND Hy 28.82 143 T T 13 59 36.3
baz=333,slow=76,SNR=687
H11N1 WAKE ISLAND Hy 28.84 143 T T 13 59 48.3
baz=333,slow=76,SNR=520
H11N3 WAKE ISLAND Hy 28.84 143 T T 13 59 48.6
baz=333,slow=76,SNR=429
TIXI Tiksi 28.96 347⇑ *i*P **P 13 28 53.9 -2.6**
TIXI pmax pmax
comp=Z,2.0nm,0.6s
TIXI MLR MLR
comp=Z,136nm,14.0s
TIXI Tiksi 28.96 347 *e*P **P 13 28 53.5 -3.0**
comp=Z,2.7nm,0.8s
SONM Songino Array 29.40 292 P P **13 29 01.1 +0.3**
comp=Z,5.9nm,0.7s,baz=82,slow=8.0,SNR=27
SONM PcP **PcP 13 32 05.0 -0.7**
comp=Z,1.2nm,0.7s,baz=107,slow=1.5,SNR=3.8
SONM LR LR 13 41 59.9
comp=Z,506nm,18.1s,baz=82,slow=39
SONM Songino Array 29.40 292 P **P 13 29 01.1 +0.3**
SONM 13 32 05.0
SONM pmax pmax
comp=Z,6.0nm,0.7s
SONM MLR MLR
comp=Z,506nm,18.1s
H11S1 WAKE ISLAND Hy 29.83 144 T T 14 01 02.0
baz=334,slow=76,SNR=983
H11S3 WAKE ISLAND Hy 29.83 144 T T 14 01 02.5
baz=334,slow=76,SNR=634
H11S2 WAKE ISLAND Hy 29.85 144 T T 14 01 03.4
baz=334,slow=76,SNR=637
TPUB Ta-pu 31.32 237 *e*P **P 13 29 16.3 -1.4**
comp=Z,22nm,1.0s
ENH Enshi 34.05 259 *e*P **P 13 29 40.8 -0.9**
comp=Z,7.9nm,0.8s
LZH Lanzhou 35.04 272⇑ P **P 13 29 51.1 +0.8**
LZH pP **pP 13 30 03.3 +0.8**
LZH sP **sP 13 30 08.8 +0.8**
LZH PP **PP 13 31 10.3 +0.1**
LZH *e*S **S 13 35 18.0 -1.4**
LZH sS **sS 13 35 37.5 -2.4**
LZH PMZ
comp=Z,33nm,1.3s
LZH PMZ
comp=Z,110nm,5.2s
LZH LN
comp=Z,360nm,14.0s
LZH LE
comp=Z,380nm,13.1s
LZH LZ
comp=Z,560nm,16.5s
GTA Gaotai 36.45 280 *e*P **P 13 30 03.1 +0.8**
GTA pP **pP 13 30 15.3 +0.7**
GTA sP **sP 13 30 20.6 +0.5**
GTA PcP **PcP 13 32 26.9 +1.4**
GTA S **S 13 35 40.6 -0.3**
GTA sS **sS 13 36 01.8 +0.3**
GTA SS **SnSn 13 38 07.4 -4.7**
GTA ScS **ScS 13 40 16.3 +1.7**
GTA PMZ
comp=Z,29nm,0.9s
GTA PMZ
comp=Z,130nm,6.2s
GTA LN
comp=Z,180nm,16.2s
GTA LE
comp=Z,210nm,15.7s
GTA LZ
comp=Z,260nm,15.7s
IM04 Indian Mountai 37.34 35 *e*P **P 13 30 09.5 +0.1**
CD2 Chengdu 37.75 265 P **P 13 30 12.0 -1.4**
CD2 pP **pP 13 30 24.3 -1.4**
CD2 PP **PP 13 31 38.6 -1.5**
CD2 PcP **PcP 13 32 28.5 -1.0**
CD2 S **S 13 35 59.3 -1.4**
CD2 sS **sS 13 36 20.4 -1.0**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
CD2 LN
comp=Z,260nm,14.7s
CD2 LZ
comp=Z,200nm,15.2s
PPLA Purkeypile 37.83 40 *e*P **P 13 30 14.8 +1.0**
comp=Z,24nm,1.2s
KDAK Kodiak Island 37.83 48 *i*P **P 13 30 13.6 0.0**
KDAK Kodiak Island 37.83 48 *e*P **P 13 30 13.6 0.0**
KDAK Kodiak Island 37.83 48 *e*P **P 13 30 12.6 -1.0**
comp=Z,7.6nm,0.6s
GYA Guiyang 38.34 256 *e*P **P 13 30 19.3 +0.9**
GYA pP **pP 13 30 31.6 +0.8**
GYA sP **sP 13 30 36.4 +0.2**
GYA PP **PnPn 13 31 50.0 +1.3**
GYA S **S 13 36 09.8 +0.1**
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,110nm,4.8s
BPAW Bear Paw Mtn. 38.39 38 *e*P **P 13 30 18.9 +0.6**
comp=Z,1.1nm,0.7s
TRF Thorofare Moun 38.70 39 *e*P **P 13 30 21.1 0.0**
comp=Z,7.2nm,0.8s
COLD Coldfoot 38.88 33 *e*P **P 13 30 22.8 +0.5**
comp=Z,7.2nm,0.8s
RC01 Rabbit Creek A 39.03 43 P **P 13 30 22.1 -1.5**
comp=Z,9.0nm,0.6s
SEW Seward 39.24 44 *e*P **P 13 30 25.7 +0.3**
comp=Z,11nm,0.8s
MCK McKinley 39.30 38 *e*P **P 13 30 26.2 +0.3**
comp=Z,8.6nm,0.8s
COLA College 39.76 37 *c i*P **P 13 30 30.1 +0.5**
COLA College 39.76 37 *e*P **P 13 30 30.1 +0.5**
COLA College 39.76 37 *e*P **P 13 30 29.9 +0.3**
comp=Z,16nm,0.9s
ILAR Eielson Array 40.17 37 P **P 13 30 32.6 -0.4**
comp=Z,8.1nm,1.0s,baz=254,slow=7.9,SNR=42
ILAR LR LR 13 47 58.3
comp=Z,56nm,20.4s,baz=274,slow=37
ILAR Eielson Array 40.17 37 P **P 13 30 32.7 -0.4**
ILAR pmax pmax
comp=Z,8.0nm,1.0s
ILAR MLR MLR
comp=Z,56nm,20.4s
PAX Paxson 40.90 39 *e*P **P 13 30 40.1 +0.9**
comp=Z,3.1nm,0.8s
QIZ Qiongzhong 41.23 245 P **P 13 30 42.6 +0.3**
QIZ sP **sP 13 30 59.0 -1.2**
QIZ S **S 13 36 53.4 +0.5**
QIZ PMZ
comp=Z,6.0nm,1.9s
BMRM Bremner River 41.53 42 *e*P **P 13 30 45.0 +0.7**
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 41.62 307 P **P 13 30 43.8 -1.3**
comp=Z,1.8nm,0.5s,baz=64,slow=8.2,SNR=7.8
ZALV PcP **PcP 13 32 41.4 0.0**
comp=Z,5.9nm,0.6s,baz=79,slow=2.6,SNR=16
MENT Mentasta 41.70 39 *e*P **P 13 30 45.4 -0.3**
KMI Kunming 41.92 258 P **P 13 30 48.0 -0.2**
KMI pP **pP 13 30 58.8 -1.9**
KMI sP **sP 13 31 04.6 -1.5**
KMI S **S 13 37 02.0 -1.5**
KMI PMZ
comp=Z,31nm,0.7s
KMI PMZ
comp=Z,57nm,4.4s
KMI LN
comp=Z,190nm,18.1s
KMI LE
comp=Z,83nm,21.5s
KMI LZ
comp=Z,180nm,20.4s
EGAK Eagle 42.62 36 *e*P **P 13 30 52.8 -0.4**
comp=Z,11nm,1.0s
WMQ Urumqi 43.04 292 P **P 13 30 57.8 +0.9**
WMQ pP **pP 13 31 10.0 +0.5**
WMQ sP **sP 13 31 15.4 +0.5**
WMQ PP **PP 13 32 40.4 +3.1**
WMQ PMZ
comp=Z,23nm,0.9s
WMQ PMZ
comp=Z,75nm,4.5s
WMQ LN
comp=Z,330nm,17.1s
WMQ LE
comp=Z,250nm,15.2s
WMQ LZ
comp=Z,310nm,19.0s
DAWY Dawson 43.47 37 *e*P **P 13 30 60.0 -0.2**
HYT Haines Junctio 44.96 42 *e*P **P 13 31 13.5 +1.4**
INK Inuvik 45.16 31 P **P 13 31 14.0 +0.6**
comp=Z,5.7nm,0.5s,baz=293,slow=6.9,SNR=11
INK Inuvik 45.16 31 P **P 13 31 14.0 +0.6**
INK pmax pmax
comp=Z,6.0nm,0.5s
INK Inuvik 45.16 31 *e*P **P 13 31 14.0 +0.6**
MK31 Makanchi Array 45.41 298 *i*P **P 13 31 15.6 -0.2**
MK31 pmax pmax
comp=Z,4.0nm,0.5s
MK31 Makanchi Array 45.41 298 *e*P **P 13 31 15.5 -0.2**
KURK Kurchatov 46.21 304 P **P 13 31 21.5 -0.5**
KURK 13 32 57.4
KURK pmax pmax
comp=Z,7.0nm,0.6s
KURK Kurchatov 46.21 304 *e*P **P 13 31 21.2 -0.8**
KURK Kurchatov 46.21 304 *e*P **P 13 31 20.5 -1.5**
comp=Z,10nm,0.6s
KURK PcP **PcP 13 32 57.4 +0.4**
KURBB Kurchatov Arra 46.30 304 P **P 13 31 21.5 -1.2**
comp=Z,7.2nm,0.6s,baz=73,slow=8.7,SNR=38
KURBB PcP **PcP 13 32 57.4 +0.1**
comp=Z,4.7nm,0.7s,baz=73,slow=3.4,SNR=12
NONG Nongkai 46.35 250 P **P 13 31 24.4 +0.9**
comp=Z,66nm,1.1s
SKNT Sakolnakorn 46.56 249 P **P 13 31 26.0 +0.9**
comp=Z,18nm,1.7s
CRAI Chiangrai 46.76 255 P **P 13 31 23.6 -3.1**
comp=Z,35nm,1.1s,comp=Z,4μm
JAY Jayapura 47.32 191 LR LR 13 47 56.6
comp=Z,33nm,21.4s,baz=70,slow=32
LSA Lhasa 47.45 272 *e*P **P 13 31 33.5 +0.9**
comp=Z,5.1nm,0.6s
LOEI Loei 48.02 252 P **P 13 31 34.7 -1.7**
comp=Z,17nm,1.5s,comp=Z,541nm
UTTA Uttaradit 48.34 253 P **P 13 31 39.9 +1.0**
comp=Z,4.8nm,0.9s
LAMP Lampang 48.43 254 P **P 13 31 40.8 +1.1**
comp=Z,9.4nm,0.7s,comp=Z,137nm
CHAI Chaiyaphum 48.66 249 P **P 13 31 42.1 +0.7**
comp=Z,6.9nm,0.9s
CHTO Chiang Mai 48.71 255 P **P 13 31 42.5 +0.7**
comp=Z,64nm,0.8s
CHTO Chiang Mai 48.71 255 *e*P **P 13 31 42.1 +0.3**
comp=Z,11nm,0.8s
CM31 Chiang Mai Arr 48.95 255 P **P 13 31 44.4 +0.7**
comp=Z,5.7nm,0.4s
CMAR Chiang Mai Arr 48.95 255 P **P 13 31 44.1 +0.4**
comp=Z,4.5nm,0.7s,baz=43,slow=7.5,SNR=26
CMAR LR LR 13 55 40.2
comp=Z,132nm,18.3s,baz=174,slow=40
CMAR Chiang Mai Arr 48.95 255 *i*P **P 13 31 44.5 +0.8**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CMAR Chiang Mai Arr 48.95 255 *e*P **P 13 31 44.5 +0.8**
DLBC Dease Lake 49.30 43 P **P 13 31 47.2 +1.3**
comp=Z,2.7nm,0.8s,baz=277,slow=13,SNR=4.9
SHL Shillong 49.36 267 *e*P **P 13 31 48.0 +1.1**
BVAR Borovoye Array 50.06 309 P **P 13 31 52.7 +1.0**
comp=Z,1.7nm,0.6s,baz=44,slow=8.7,SNR=7.8
BVAR PcP **PcP 13 33 10.6 -0.2**
comp=Z,3.8nm,0.8s,baz=140,slow=1.2,SNR=6.7
BVAR Borovoye Array 50.06 309 P **P 13 31 52.7 +1.0**
BVAR 13 33 10.6
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 50.11 310 *e*P **P 13 31 53.1 +1.1**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 50.11 310 *e*P **P 13 31 53.1 +1.1**
UTHA Uthaitani 50.62 251 P **P 13 31 58.4 +2.1**
comp=Z,5.6nm,0.9s
TAPN Taplejung 51.28 272 *e*P **P 13 32 02.1 +0.5**
comp=Z,31nm,0.7s
TKM2 Tokmak 2 51.37 296 P **P 13 32 02.6 +0.6**
SNR=15
TKM2 Tokmak 2 51.37 296 *i*P **P 13 32 01.0 -1.0**
TKM2 pmax pmax
comp=Z,23nm,1.2s
TKM2 Tokmak 2 51.37 296 *e*P **P 13 32 02.2 +0.2**
comp=Z,22nm,1.0s
ODAN Odare 51.80 272 *e*P **P 13 32 05.5 +0.1**
comp=Z,16nm,0.6s
USP Ospenovka 51.91 297 P **P 13 32 06.3 +0.6**
SNR=14
KBK Karagaybulak 51.92 296 P **P 13 32 06.7 +0.7**
SNR=20
KZA Kyzart 52.00 295 P **P 13 32 08.4 +1.5**
SNR=29
AAK Ala-Archa 52.22 296 P P 13 32 22.6 +14
comp=Z,10nm,0.8s,baz=78,slow=6.1,SNR=13
AAK Ala-Archa 52.22 296 *i*P **P 13 32 08.0 -0.2**
AAK pmax pmax
comp=Z,15nm,1.1s
AAK Ala-Archa 52.22 296 *e*P **P 13 32 08.0 -0.2**
GUN Gumba 52.26 274 *e*P **P 13 32 09.2 +0.3**
comp=Z,92nm,0.8s
RAMN Ramite 52.31 272 *e*P **P 13 32 09.2 0.0**
comp=Z,106nm,0.8s
UCH Uchtor 52.41 295 P **P 13 32 12.8 +2.8**
SNR=6.8
EKS2 Erkin-Say 52.67 296 P **P 13 32 12.1 +0.6**
SNR=13
EKS2 Erkin-Say 52.67 296 *e*P **P 13 32 11.9 +0.4**
comp=Z,17nm,0.8s
KKN Kakani 52.76 274 *e*P **P 13 32 12.9 +0.5**
comp=Z,65nm,0.9s
PKI Pulchoki 52.79 274 *e*P **P 13 32 12.9 0.0**
comp=Z,21nm,0.6s
PKIN Phulchoki 52.80 274 *e*P **P 13 32 12.4 -0.4**
comp=Z,33nm,0.8s
KSH Kashi 52.80 292 P P 13 32 16.6 +4.0
KSH pP pP 13 32 29.9 +4.5
KSH sP sP 13 32 34.1 +3.4
KSH PcP **PcP 13 33 24.4 +2.9**
KSH PP **PP 13 34 17.0 +5.0**
KSH PcS **PcS 13 37 23.9 +3.7**
KSH S **S 13 39 41.5 +3.8**
KSH sS sS 13 40 02.5 +3.3
KSH PMZ
comp=Z,17nm,0.8s
KSH PMZ
comp=Z,100nm,5.0s
KSH LN
comp=Z,77nm,5.4s
KSH LE
comp=Z,75nm,6.4s
AML Almayashu 52.98 296 P **P 13 32 15.0 +0.8**
SNR=6.6
DMN Daman 52.99 274 *e*P **P 13 32 14.7 +0.5**
comp=Z,68nm,0.8s
GKN Gorkha 53.09 275 *e*P **P 13 32 15.2 +0.4**
comp=Z,71nm,0.9s
SVE Sverdlovsk 53.52 317⇓ *i*P **P 13 32 18.1 +0.7**
SVE pmax pmax
comp=Z,12nm,0.6s
SVE MLR MLR
comp=Z,505nm,22.0s
SVE Sverdlovsk 53.52 317 *e*P **P 13 32 18.1 +0.7**
RES Resolute Bay 53.94 17 P **P 13 32 20.1 -0.1**
comp=Z,28nm,0.8s,baz=322,slow=7.4,SNR=29
RES Resolute Bay 53.94 17 P **P 13 32 20.1 -0.1**
RES pmax pmax
comp=Z,29nm,0.8s
RES Resolute Bay 53.94 17 *e*P **P 13 32 19.8 -0.3**
comp=Z,31nm,0.8s
KOLN Koldanda 53.97 275 *e*P **P 13 32 21.9 +0.6**
comp=Z,42nm,0.8s
YKW3 Yellowknife Ar 54.47 34 *e*P **P 13 32 24.0 -0.2**
comp=Z,0.1nm,0.8s
YKA Yellowknife Ar 54.51 35 P **P 13 32 24.6 +0.1**
comp=Z,5.6nm,0.7s,baz=298,slow=6.8,SNR=18
YKA Yellowknife Ar 54.51 35 P **P 13 32 24.6 +0.1**
YKA pmax pmax
comp=Z,6.0nm,0.7s
KK31 Karatay Array 54.53 298 *i*P **P 13 32 25.1 +0.1**
KK31 pmax pmax
comp=Z,3.0nm,0.3s
KKAR Karatay Array 54.53 298 *e*P **P 13 32 25.2 +0.2**
comp=Z,13nm,0.6s
ARU Arti 54.72 317 *c i*P **P 13 32 24.4 -1.7**
ARU *PP **pP 13 32 36.3 -2.7**
ARU 13 34 25.7
ARU S **S 13 40 02.0 -0.9**
ARU SS **SS 13 43 38.8 -6.9**
ARU pmax pmax
comp=Z,9.0nm,0.6s
ARU MLR MLR
comp=Z,262nm,16.0s
ARU Arti 54.72 317 *e*P **P 13 32 24.2 -1.9**
ARU Arti 54.72 317 P P 13 32 22.4 -3.8
comp=Z,11nm,0.7s
AB31 Akbulak array 57.63 309 *i*P **P 13 32 46.9 -0.1**
AB31 pmax pmax
comp=Z,15nm,0.5s
ABKAR Akbulak array 57.63 309 *e*P **P 13 32 46.6 -0.4**
comp=Z,18nm,0.5s
NDI New Delhi 57.96 280 *e*P **P 13 32 50.0 +0.4**
AKTO Aktyubinsk 58.06 311 P **P 13 32 49.9 -0.1**
comp=Z,7.9nm,0.6s,baz=68,slow=8.2,SNR=23
AKTO Aktyubinsk 58.06 311 P **P 13 32 49.9 -0.1**
AKTO pmax pmax
comp=Z,8.0nm,0.6s
DAG Danmarks Havn 58.81 357 *i*P **P 13 32 52.7 -2.1**
comp=Z,5.1nm,0.8s
DAG Danmarks Havn 58.81 357 *i*P **P 13 32 52.7 -2.1**
DAG pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 59.05 340 P **P 13 32 57.4 +0.8**
comp=Z,4.5nm,1.1s,baz=41,slow=11,SNR=3.5
ARCES LR LR 14 03 15.3
comp=Z,46nm,18.4s,baz=74,slow=41
ARCES ARCESS Array B 59.05 340 P **P 13 32 57.4 +0.8**
ARCES pmax pmax
comp=Z,5.0nm,1.1s
ARCES MLR MLR
comp=Z,46nm,18.4s
EDM Edmonton 60.02 43 *e*P **P 13 33 03.6 0.0**
KBL Kabul 60.16 290 *e*P **P 13 33 03.6 -1.4**
comp=Z,31nm,0.8s
G05D Wamic, OR 60.26 54 P **P 13 33 06.2 +0.8**
baz=60
I04A Tendick Farm, 60.44 56 P **P 13 33 07.4 +0.8**
baz=60
NEW Newport 60.91 50 P **P 13 33 10.2 +0.5**
comp=Z,3.6nm,0.9s,baz=276,slow=5.3,SNR=4.1
NEW Newport 60.91 50 P **P 13 33 10.2 +0.5**
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 60.91 50 P **P 13 33 10.9 +1.2**
baz=61
J04D Umpqua Nationa 60.93 57 P **P 13 33 11.7 +1.5**
baz=61
M04C Macdoel 61.94 58 P **P 13 33 17.8 +0.9**
baz=62
PVM Polavaram 61.99 267 *e*P **P 13 33 17.0 -0.3**
PVM IAmb IAmb 13 33 20.8
comp=Z,7.1nm,1.0s
WALA Waterton Lakes 62.17 48 *e*P **P 13 33 18.6 +0.3**
comp=Z,4.1nm,0.9s
RPR Rampur 62.60 270 *e*P **P 13 33 21.0 -0.4**
RPR IAmb IAmb 13 33 22.0
comp=Z,13nm,0.8s
BMO Blue Mountains 62.80 53 *e*P **P 13 33 23.0 +0.4**
comp=Z,0.9nm,0.6s
SWMT Swartz Lake 63.05 49 *e*P **P 13 33 24.4 +0.2**
comp=Z,12nm,1.1s
SUMG Summit 63.17 2 *i*P **P 13 33 24.5 -0.5**
comp=Z,20nm,1.1s
SUMG Summit 63.17 2 *i*P **P 13 33 24.5 -0.5**
SUMG pmax pmax
comp=Z,20nm,1.1s
SUMG Summit 63.17 2 *e*P **P 13 33 24.1 -0.9**
comp=Z,16nm,0.9s
SRSP Sriramsagar 63.24 271 *e*P **P 13 33 24.8 -0.9**
SRSP IAmb IAmb 13 33 25.9
comp=Z,19nm,0.8s
WVOR Wild Horse Val 63.47 56 *e*P **P 13 33 27.6 +0.4**
comp=Z,6.9nm,1.0s
SLMT Seeley Lake 63.49 49 *e*P **P 13 33 27.4 +0.2**
comp=Z,17nm,1.0s
MSO Missoula 63.49 50 P **P 13 33 27.6 +0.5**
baz=63
CHMT Chamberlain Mo 63.82 49 *e*P **P 13 33 28.1 -1.3**
comp=Z,4.0nm,1.1s
HYBB Hyderabad (bro 64.08 269 *e*P **P 13 33 30.9 -0.4**
HYBB IAmb IAmb 13 33 31.9
comp=Z,14nm,0.9s
HYB Hyderabad 64.08 269 *i*P **P 13 33 30.0 -1.3**
NJS Nagarjunasagar 64.11 268 *e*P **P 13 33 30.8 -0.7**
NJS IAmb IAmb 13 33 31.8
comp=Z,20nm,0.8s
FFC Flin Flon 64.38 37 *e*P **P 13 33 33.3 +0.6**
FFC Flin Flon 64.38 37 *e*P **P 13 33 32.9 +0.3**
comp=Z,13nm,0.8s
SRLM Srisailam 64.70 268 *e*P **P 13 33 34.2 -1.1**
SRLM IAmb IAmb 13 33 35.6
comp=Z,18nm,0.8s
FCC Fort Churchill 64.78 31 *e*P **P 13 33 34.7 -0.4**
comp=Z,11nm,1.1s
FIA1 FINESS Array S 64.84 334 *e*P **P 13 33 35.1 -0.4**
FIA1 *e* 13 33 46.4
FINES FINESS Array B 64.84 334 P **P 13 33 34.9 -0.7**
comp=Z,14nm,0.7s,baz=55,slow=7.2,SNR=39
FINES LR LR 14 04 05.9
comp=Z,94nm,19.8s,baz=48,slow=38
FINES FINESS Array B 64.84 334 *i*P **P 13 33 35.5 0.0**
FINES pmax pmax
comp=Z,15nm,0.7s
FINES FINESS Array B 64.84 334 *e*P **P 13 33 35.5 0.0**
LRM Limekiln Ridge 64.93 50 *e*P **P 13 33 36.9 +0.2**
comp=Z,95nm,1.0s
A19A Klindworth Far 64.93 45 P **P 13 33 37.2 +0.7**
baz=65,SNR=6.4
IMYA Miami 64.95 297 *e*P **P 13 33 36.0 -0.9**
EGMT Eagleton 64.99 47 P **P 13 33 37.1 +0.2**
baz=65,SNR=8.5
EGMT Eagleton 64.99 47 *e*P **P 13 33 36.9 0.0**
comp=Z,16nm,0.9s
KLRI Killari 65.05 271 *e*P **P 13 33 36.5 -1.1**
KLRI IAmb IAmb 13 33 37.5
comp=Z,21nm,0.8s
RCLA Racherla 65.09 267 *e*P **P 13 33 37.0 -0.9**
RCLA IAmb IAmb 13 33 38.3
comp=Z,13nm,0.9s
B19A Brinkman Farms 65.13 46 P **P 13 33 38.2 +0.4**
baz=65,SNR=7.0
HLID Hailey 65.24 53 P **P 13 33 39.3 +0.6**
baz=65
HLID Hailey 65.24 53 *e*P **P 13 33 39.0 +0.3**
comp=Z,1.9nm,0.9s
HLID *e* 13 33 51.4
WAKR Walker 65.38 60 P **P 13 33 39.9 +0.2**
A20A Cobblestone Ra 65.38 45 P **P 13 33 40.2 +0.8**
baz=65
WRAB Tennant Creek 65.43 195 *e*P **P 13 33 41.3 +1.5**
WRAB pmax pmax
comp=Z,27nm,1.7s
WRA Warramunga Arr 65.44 195 P **P 13 33 39.1 -0.7**
comp=Z,2.3nm,0.7s,baz=13,slow=6.8,SNR=14
WRA Warramunga Arr 65.44 195 P **P 13 33 39.2 -0.7**
WRA pmax pmax
comp=Z,2.0nm,0.7s
BOZ Bozeman (W) 65.49 50 P **P 13 33 40.8 +0.6**

baz=65,SNR=9.5
OBN Obninsk 65.52 324 *e*P **P 13 33 39.8 -0.2**
OBN *e* 13 34 09.9
OBN *e* 13 36 01.7
OBN pmax pmax
comp=Z,8.0nm,0.6s
OBN MLR MLR
comp=Z,207nm,13.0s
OBN Obninsk 65.52 324 *e*P **P 13 33 39.8 -0.2**
BMN Battle Mountai 65.54 57 *e*P **P 13 33 40.9 +0.3**
comp=Z,2.2nm,0.8s
IMOG Moghan 65.58 297 *e*P **P 13 33 40.7 -0.4**
B20A Solberg Farm, 65.61 45 P **P 13 33 41.1 +0.3**
baz=65,SNR=6.9
IAKL Akhelmad 65.64 298 *e*P **P 13 33 41.6 +0.1**
SKHT Srikalahasti 65.70 266 *e*P **P 13 33 41.8 0.0**
SKHT IAmb IAmb 13 33 43.7
comp=Z,22nm,0.9s
ILULI Ilulissat 65.70 8 *i*P **P 13 33 40.9 -0.1**
comp=Z,14nm,0.9s
A21A Bergtoll Ranch 65.81 44 P **P 13 33 42.4 +0.3**
baz=66,SNR=6.8
ISFR Sfrayin 65.84 299 *e*P **P 13 33 43.5 +0.7**
VRHR Novokhopersk 65.98 319 *e*P **P 13 33 41.6 -1.5**
VRHR pmax pmax
comp=Z,30nm,0.9s
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.7s
C20A Veseth Ranch, 66.09 46 P **P 13 33 44.5 +0.6**
baz=66,SNR=13
NVAR Mina Array Bea 66.12 59 P **P 13 33 45.2 +0.7**
comp=E,2.4nm,0.8s,baz=290,slow=7.1,SNR=17
B21A Ellsworth Farm 66.13 45 P **P 13 33 44.9 +0.8**
baz=66
LPSR Galich'ya Gora 66.21 321 *e*P **P 13 33 46.4 +1.9**
A22A Carney Farms, 66.32 44 P **P 13 33 45.5 +0.1**
baz=66,SNR=9.1
GCMT Greycliff 66.46 48 *e*P **P 13 33 47.2 +0.8**
comp=E,2.1nm,0.9s
C21A Desert Coulee 66.48 45 P **P 13 33 46.6 +0.2**
baz=66
URV Uravakonda 66.64 268 *e*P **P 13 33 46.6 -1.3**
URV IAmb IAmb 13 33 54.4
comp=Z,19nm,1.0s
YFT Old Faithful 66.68 50 P **P 13 33 49.9 +1.8**
B22A Reddig Ranch S 66.73 45 P **P 13 33 48.4 +0.3**
baz=66
A23A Redstone 66.85 44 P **P 13 33 48.7 -0.1**
baz=67
H17A Grant Village 66.86 50 *e*P **P 13 33 51.2 +2.0**
comp=Z,3.3nm,0.8s
IMW Indian Meadow 66.98 51 *e*P **P 13 33 50.8 +0.8**
comp=Z,6.3nm,0.9s
TPH Tonopah 67.01 59 *e*P **P 13 33 50.5 +0.4**
comp=Z,26nm,1.5s
D21A La Casta Ranch 67.03 46 P **P 13 33 50.6 +0.6**
baz=67,SNR=6.5
VSR Storozhevoye 67.04 320 *e*P **P 13 33 49.6 -0.3**
VSR pmax pmax
comp=Z,20nm,0.6s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.8s
RLMT Red Lodge 67.10 49 P **P 13 33 50.9 +0.2**
baz=67
B23A Brockton 67.12 44 P **P 13 33 51.0 +0.5**
baz=67,SNR=8.8
C22A Vida 67.15 45 P **P 13 33 49.9 -0.8**
baz=67
VORD Divnogorie 67.16 320 *e*P **P 13 33 50.5 -0.1**
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD pmax pmax
comp=N,30nm,1.0s
VORD pmax pmax
comp=E,20nm,1.4s
MOOW Moose Ponds 67.18 51 *e*P **P 13 33 51.5 +0.3**
comp=E,17nm,1.4s
TPAW Teton Pass 67.23 51 *e*P **P 13 33 52.8 +1.2**
comp=E,14nm,1.0s
HVU Hansel Valley 67.30 53 *e*P **P 13 33 51.5 -0.5**
comp=E,3.2nm,1.0s
IDAH Dahanechah 67.33 294 *e*P **P 13 33 51.9 -0.5**
LOHW Long Hollow 67.35 51 *e*P **P 13 33 53.2 +0.9**
comp=E,1.1nm,0.6s
LOHW *e*pP **pP 13 34 06.2 +0.7**
REDW Red Top Meadow 67.37 51 *e*P **P 13 33 53.1 +0.7**
comp=E,17nm,1.3s
D22A Cohagen 67.40 46 P **P 13 33 52.3 0.0**
baz=67
DGMT Dagmar 67.52 44 P **P 13 33 53.2 +0.2**
baz=67
DGMT Dagmar 67.52 44 *e*P **P 13 33 52.9 -0.1**
comp=E,12nm,0.8s
A25A Svangstu Ranch 67.73 43 P **P 13 33 54.9 +0.6**
baz=68
R11A Troy Canyon, C 67.83 58 P **P 13 33 55.5 +0.1**
baz=68,SNR=5.9
R11A Troy Canyon, C 67.83 58 *e*P **P 13 33 55.2 -0.1**
comp=E,5.6nm,0.9s
I19A Meeteetse 67.96 50 P **P 13 33 56.2 +0.2**
baz=68
E22A Miles City 67.99 46 P **P 13 33 56.9 +0.9**
baz=68
DZM Mont Dzumac 68.09 162 *e*LR LR 13 54 36.0
comp=E,528nm,26.6s
HWUT Hardware Ranch 68.11 53 *e*P **P 13 33 57.4 +0.4**
comp=E,2.1nm,0.8s
HWUT *e*pP **pP 13 34 10.6 +0.4**
MPMC Manual Prospec 68.12 61 P **P 13 33 57.8 +0.7**
baz=68
FURC Furnace Creek, 68.25 60 P **P 13 33 58.1 +0.4**
baz=68,SNR=5.2
A26A Wade Farm, Ken 68.28 42 P **P 13 33 58.7 +1.0**
baz=68
E23A Ismay 68.28 46 P **P 13 33 58.6 +0.7**
baz=68
DUG Dugway, Tooele 68.30 55 P **P 13 33 58.3 +0.1**
baz=68,SNR=5.2
DUG Dugway, Tooele 68.30 55 *e*P **P 13 33 58.1 -0.1**
comp=E,4.1nm,0.9s
DUG *e*pP **pP 13 34 12.0 +0.6**
TPNV Topopah Spring 68.32 59 P **P 13 33 58.7 +0.3**
baz=68,SNR=6.6
D24A Glendive 68.36 45 P **P 13 33 58.6 +0.3**
baz=68,SNR=5.9
J19A Crowheart 68.43 50 P **P 13 33 59.5 +0.5**
baz=68
BW06 Boulder Array 68.48 51 *e*P **P 13 33 59.2 -0.2**
comp=E,6.0nm,1.0s
PDAR Pinedale Array 68.48 51 P **P 13 33 59.4 0.0**
comp=E,2.7nm,1.0s,baz=305,slow=2.2,SNR=15
PDAR LR LR 14 02 22.7
comp=E,21nm,21.5s,baz=329,slow=35
I20A Worland 68.49 49 P **P 13 34 00.0 +0.7**
baz=68
A27A Ledoux Ranch, 68.62 42 P **P 13 34 00.6 +0.7**
baz=68,SNR=5.1
H21A Big Horn, Sher 68.62 48 P **P 13 34 00.7 +0.6**
baz=68
F23A Volborg 68.75 46 P **P 13 34 01.3 +0.5**
baz=68
J20A Shoshoni 68.91 50 P **P 13 34 02.3 +0.4**
baz=69
SHOC Shoshone, Teco 68.97 60 P **P 13 34 03.2 +0.9**
baz=69
I21A Big Trails, Te 69.03 49 P **P 13 34 03.5 +0.8**
baz=69
MPU Maple Canyon 69.10 54 P **P 13 34 03.5 +0.2**
comp=E,36nm,1.2s
MPU *e*pP **pP 13 34 17.2 +0.7**
G23A Biddle 69.11 47 P **P 13 34 03.6 +0.6**
baz=69
ASAR Alice Springs 69.15 195 P **P 13 34 03.5 +0.2**
comp=E,1.9nm,0.7s,baz=9.2,slow=5.3,SNR=16
ASAR Alice Springs 69.15 195 P **P 13 34 03.6 +0.2**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
E25A Miller Ranch, 69.25 45 P **P 13 34 04.9 +1.1**
baz=69
J21A Lysite 69.26 49 P **P 13 34 04.6 +0.5**
baz=69
SHPR Sheep Range 69.27 59 *e*P **P 13 34 05.1 +0.8**
comp=Z,2.6nm,0.8s
D26A Manning 69.36 44 P **P 13 34 05.7 +1.1**
baz=69
B28A Dugan Ranch, T 69.39 42 P **P 13 34 05.3 +0.7**
baz=69
I22A 9 Mile Ranch, 69.41 48 P **P 13 34 05.6 +0.5**
baz=69
NB2 NORSAR Subarra 69.42 340 P **P 13 34 03.6 -1.1**
comp=Z,15nm,0.8s,baz=31,slow=6.5
NB2 NORSAR Subarra 69.42 340 P **P 13 34 03.6 -1.1**
baz=31,slow=6.5
NOA NORSAR Array B 69.42 340 P **P 13 34 03.6 -1.1**
comp=Z,13nm,0.8s,baz=32,slow=6.1,SNR=46
NOA LR LR 14 07 47.7
comp=Z,52nm,20.4s,baz=25,slow=39
NOA NORSAR Array B 69.42 340 P **P 13 34 03.6 -1.1**
NOA pmax pmax
comp=Z,13nm,0.8s
NOA MLR MLR
comp=Z,52nm,20.4s
TUQ Turquoise Moun 69.49 60 P **P 13 34 05.8 +0.1**
baz=69
HFS Hagfors 69.55 338 P **P 13 34 04.8 -0.6**
comp=Z,13nm,0.7s,baz=54,slow=6.0,SNR=26
HFS Hagfors 69.55 338 P **P 13 34 04.8 -0.6**
HFS pmax pmax
comp=Z,13nm,0.7s
NACGM Naroch 69.55 329 *e* P 13 34 02.0 -3.5
A29A Manning Farm, 69.59 41 P **P 13 34 05.8 -0.1**
baz=69
F25A Bowman 69.61 45 P **P 13 34 06.9 +0.8**
baz=69
HEC Hector,Ludlow 69.63 61 P **P 13 34 07.0 +0.6**
baz=70
NAO01 NORSAR Array S 69.67 340 *e*P **P 13 34 05.7 -0.4**
comp=Z,11nm,0.8s
J22A Midwest 69.74 49 P **P 13 34 06.9 -0.2**
baz=70
E26A Carlson Angus 69.74 44 P **P 13 34 07.5 +0.6**
baz=70
MSU Marysvale 69.77 56 *e*P **P 13 34 07.5 +0.1**
comp=Z,8.4nm,1.3s
MSU *e*pP **pP 13 34 21.1 +0.4**
H24A Dirks Ranch, A 69.85 47 P **P 13 34 07.8 +0.1**
baz=70
B29A Wagenman Farm, 69.86 41 P **P 13 34 08.2 +0.7**
baz=70
C28A Hausauer Farms 69.89 42 P **P 13 34 07.2 -0.6**
baz=70
A30A Hoffart Farm, 70.01 40 P **P 13 34 09.5 +1.0**
baz=70
F26A Lodgepole 70.06 45 P **P 13 34 09.3 +0.4**
baz=70
GMRC Granite Mounta 70.08 61 P **P 13 34 09.6 +0.3**
baz=70
ULM Lac du Bonnet 70.17 38 P **P 13 34 09.2 -0.2**
comp=Z,4.7nm,0.6s,baz=319,slow=6.2,SNR=9.8
ULM LR LR 14 08 22.8
comp=Z,59nm,18.2s,baz=270,slow=39
ULM Lac du Bonnet 70.17 38 P **P 13 34 09.2 -0.2**
ULM pmax pmax
comp=Z,5.0nm,0.6s
ULM MLR MLR
comp=Z,59nm,18.2s
ULM Lac du Bonnet 70.17 38 *e*P **P 13 34 08.8 -0.6**
comp=Z,4.4nm,0.7s
MDND Maddock 70.17 42 P **P 13 34 10.2 +0.7**
K22A Casper 70.22 49 P **P 13 34 10.8 +0.7**
baz=70
K22A Casper 70.22 49 *e*P **P 13 34 10.2 +0.1**
comp=Z,32nm,1.6s
LDFC Landfair 70.23 60 *e*P **P 13 34 10.4 +0.3**
comp=Z,14nm,0.9s
KIV Kislovodsk 70.26 313 *e*P **P 13 34 11.2 +1.0**
KIV pmax pmax
comp=Z,47nm,0.9s
KIV MLR MLR
comp=Z,224nm,17.0s
KIV Kislovodsk 70.26 313 *e*P **P 13 34 09.9 -0.2**
comp=Z,46nm,1.0s
KBZ Khabaz 70.30 312 P **P 13 34 10.8 +0.5**
comp=Z,25nm,0.8s,baz=40,slow=5.1,SNR=39
KBZ LR LR 14 09 41.2
comp=Z,320nm,18.9s,baz=46,slow=40
KBZ Khabaz 70.30 312 P **P 13 34 10.8 +0.5**
KBZ pmax pmax
comp=Z,25nm,0.9s
KBZ MLR MLR
comp=Z,320nm,18.9s
SRU San Rafael Swe 70.34 54 *e*P **P 13 34 10.9 +0.1**
comp=Z,8.5nm,0.9s
B30A Myrvik Farm, E 70.35 41 P **P 13 34 10.6 +0.1**
baz=70
G26A Maurine 70.48 45 P **P 13 34 11.8 +0.3**
baz=70
E28A Huff 70.54 43 P **P 13 34 12.4 +0.6**
baz=70
RSSD Black Hills 70.55 47 *e*P **P 13 34 11.9 -0.2**
comp=Z,1.8nm,0.8s
RSSD *e*pP **pP 13 34 24.8 -0.6**
K23A Bowen Ranch, D 70.64 49 P **P 13 34 12.8 +0.2**
baz=70
NEY Neytrino 70.72 312 *e*P **P 13 34 15.6 +2.5**
NEY pmax pmax
comp=Z,3.0nm,1.0s
G27A Dupree 70.76 45 P **P 13 34 13.6 +0.5**
baz=70
I25A Rochford 70.78 47 P **P 13 34 14.0 +0.6**
baz=70
IRM Iron Mountain 70.81 61 P **P 13 34 14.4 +0.8**
baz=71
C30A Mose, Pekin 70.81 41 P **P 13 34 14.5 +1.1**
baz=71
BC3 Big Chuckawall 70.94 61 P **P 13 34 14.9 +0.3**
baz=71
PDMCI Parker Dam,Lak 71.34 60 P **P 13 34 17.2 +0.5**
baz=71
Y12C Blythe 71.47 61 P **P 13 34 18.6 +1.1**
baz=71
SUW Suwalki 71.57 330 *e*P **P 13 34 17.3 -0.5**
SUW Suwalki 71.57 330 *e*P **P 13 34 17.3 -0.5**
AGMN Agassiz Nation 71.60 40 P **P 13 34 17.9 -0.2**
baz=71
AGMN Agassiz Nation 71.60 40 *e*P **P 13 34 17.5 -0.6**
comp=Z,6.9nm,0.3s
J26A Sioux Ranch, S 71.61 47 P **P 13 34 19.1 +0.7**
baz=71
IMEH Mehriz 71.61 296 *e*P **P 13 34 17.1 -1.7**
GNI Garni 71.73 309 P **P 13 34 19.1 -0.2**
comp=Z,8.5nm,0.6s,baz=319,slow=20,SNR=3.3
GNI Garni 71.73 309 *c i*P **P 13 34 20.9 +1.6**
GNI pmax pmax
comp=Z,22nm,1.2s
N23A Red Feather La 71.74 50 P **P 13 34 20.4 +1.0**
baz=72
PV04 Paradox Valley 71.76 54 P **P 13 34 19.2 -0.3**
PV04 *e*pP **pP 13 34 32.3 -0.5**
AKASG Malin Array Be 71.78 324 P **P 13 34 18.6 -0.5**
comp=Z,21nm,0.7s,baz=37,slow=6.1,SNR=62
AKASG LR LR 14 09 37.7
comp=Z,59nm,19.3s,baz=45,slow=39
AKASG Malin Array Be 71.78 324 *i* P **P 13 34 18.8 -0.3**
AKASG pmax pmax
comp=Z,21nm,0.7s
AKBB Malin Array Si 71.78 324 *e*P **P 13 34 18.6 -0.5**
KIEV Kiev 71.79 324 *e i*P **P 13 34 18.8 -0.4**
KIEV Kiev 71.79 324 *e*P **P 13 34 18.8 -0.4**
AK01 Malin Array Si 71.79 324 *e*P **P 13 34 18.8 -0.4**
AK02 Malin Array Si 71.82 324 *e*P **P 13 34 18.8 -0.6**
I28A Midland 72.12 45 P **P 13 34 22.1 +0.7**
baz=72
PV01 Paradox Valley 72.13 54 P **P 13 34 21.9 +0.1**
comp=Z,334nm,1.0s
WUAZ Wupatki 72.23 58 P **P 13 34 23.0 +0.7**
baz=72
WUAZ Wupatki 72.23 58 *e*P **P 13 34 23.6 +1.3**
comp=Z,5.5nm,1.0s
WUAZ *e*pP **pP 13 34 36.1 +0.4**
SMCO Snowmass 72.33 52 *e*P **P 13 34 23.4 +0.2**
comp=Z,2.3nm,0.7s
SMCO *e*pP **pP 13 34 35.4 -1.1**
ANN Anapa 72.36 316 *e*P **P 13 34 20.2 -2.5**
ANN *e*S **S 13 43 41.7 -0.8**
ANN pmax pmax
comp=Z,21nm,0.6s
J28A Allard Ranch, 72.49 46 P **P 13 34 23.5 -0.1**
baz=72
ISCO Idaho Springs 72.67 51 P **P 13 34 25.5 +0.4**
baz=72
ISCO Idaho Springs 72.67 51 *e*P **P 13 34 25.2 +0.1**
comp=Z,2.0nm,0.9s
ISCO *e*pP **pP 13 34 37.9 -0.6**
S22A 4UR Ranch, Cre 73.40 53 P **P 13 34 29.2 -0.2**
baz=73
BSD Bornholm Skovb 73.44 334⇑ *i*P **P 13 34 28.4 -0.5**
comp=Z,29nm,0.8s
BSD Bornholm Skovb 73.44 334⇑ *i*P **P 13 34 28.4 -0.5**
BSD pmax pmax
comp=Z,29nm,0.8s
N27A Anderson Farm, 73.66 49 P **P 13 34 30.8 +0.1**
baz=73
214A Organ Pipe Nat 73.73 61 P **P 13 34 31.9 +0.8**
baz=74
EYMN Ely 73.81 38 P **P 13 34 31.3 0.0**
baz=74
EYMN Ely 73.81 38 *e*P **P 13 34 30.3 -1.0**
comp=Z,8.3nm,1.0s
OGNE Ogallala 73.83 48 P **P 13 34 32.0 +0.4**
baz=74
SIM Simferopol' 73.88 318 *e*P **P 13 34 32.3 +0.6**
SIM pmax pmax
comp=Z,30nm,0.8s
SIM MLR MLR
comp=N,80nm,17.8s
LLD Lille Linde 74.06 336 *i*P **P 13 34 32.7 +0.2**
LLD Lille Linde 74.06 336 *i*P **P 13 34 32.7 +0.2**
GKP Gorka Klasztor 74.24 332 *e*P **P 13 34 33.8 +0.2**
GKP Gorka Klasztor 74.24 332 *e*P **P 13 34 33.8 +0.2**
LVV L'vov 74.57 327 *e*P **P 13 34 35.3 -0.3**
ECSD EROS Data Cent 74.59 43 P **P 13 34 35.5 -0.4**
baz=74
ECSD EROS Data Cent 74.59 43 *e*P **P 13 34 34.9 -1.0**
comp=N,14nm,1.2s
ECSD *e*pP **pP 13 34 48.9 -0.4**
R26A Arlington 74.92 51 P **P 13 34 37.8 -0.2**
baz=75
T25A Trinidad 75.20 52 P **P 13 34 39.4 -0.4**
baz=75
KWP Kalwaria Pacla 75.24 327 *e*P **P 13 34 40.0 +0.5**
KWP Kalwaria Pacla 75.24 327 *e*P **P 13 34 40.0 +0.5**
S26A Kim 75.39 51 P **P 13 34 40.6 -0.2**
baz=75
BGNE Belgrade 75.53 46 P **P 13 34 41.5 +0.2**
ANMO Albuquerque 75.56 55 *e*P **P 13 34 41.7 -0.1**
ANMO pmax pmax
comp=Z,6.0nm,1.2s
ANMO Albuquerque 75.56 55 *e*P **P 13 34 42.2 +0.3**
comp=Z,3.6nm,0.9s
ANMO *e*pP **pP 13 34 55.4 +0.2**
T26A Comanche Natio 75.64 52 P **P 13 34 42.0 -0.3**
baz=75
BUR08 Bucovina Ar. S 75.82 325 *e*P **P 13 34 43.3 +0.3**
BSEG Bad Segeberg 75.83 336 *e*P **P 13 34 43.1 +0.4**
comp=Z,17nm,0.8s
BURAR Bucovina Array 75.84 325⇓ P **P 13 34 43.7 +0.6**
BURAR Bucovina Array 75.84 325⇓ *i*P **P 13 34 43.7 +0.6**
Q29A Oakley 75.86 49 P **P 13 34 43.3 -0.1**
baz=76
OJC Ojcow 75.86 329 *e*P **P 13 34 43.5 +0.4**
OJC Ojcow 75.86 329 *e*P **P 13 34 43.5 +0.4**
OJC Ojcow 75.86 329 *e*P **P 13 34 43.5 +0.4**
KOLS Kolonicke sedl 75.97 327 *e*P **P 13 34 44.3 +0.6**
KOLS pmax pmax
comp=Z,15nm,0.9s
KOLS Kolonicke sedl 75.97 327 *e*P **P 13 34 44.3 +0.6**
KOLS *e*PCP **PcP 13 34 53.7 -2.2**
STHS Stebnicka Huta 75.98 328 *e*P **P 13 34 44.9 +1.2**
STHS pmax pmax
comp=Z,17nm,0.9s
STHS Stebnicka Huta 75.98 328 *e*P **P 13 34 44.8 +1.1**
STHS *e*PCP **PcP 13 34 54.3 -1.7**
TESR Tescani 76.10 323⇓ *i*P **P 13 34 45.1 +0.6**
R29A Marienthal 76.11 50 P **P 13 34 44.8 0.0**
baz=76
TLCR 76.17 321⇑ P **P 13 34 44.8 0.0**
TLCR 76.17 321⇑ *i*P **P 13 34 44.8 0.0**
Q30A Quinter 76.21 49 P **P 13 34 44.8 -0.5**
baz=76
UZH Uzhgorod 76.21 327 *e*P **P 13 34 45.2 +0.2**
UZH *e* 13 34 52.4
STKA Stephens Creek 76.24 186 P **P 13 34 45.9 +0.7**
comp=Z,1.7nm,0.9s,baz=326,slow=8.4,SNR=3.0
STKA Stephens Creek 76.24 186 P **P 13 34 45.9 +0.7**
STKA pmax pmax
comp=Z,2.0nm,0.9s
NIE Niedzica 76.33 328 *e*P **P 13 34 46.5 +0.7**
NIE Niedzica 76.33 328 *e*P **P 13 34 46.5 +0.7**
121A Cookes Peak, D 76.44 58 P **P 13 34 47.2 +0.4**
baz=76
121A Cookes Peak, D 76.44 58 P **P 13 34 47.1 +0.2**
comp=Z,14nm,1.3s
121A *e*pP **pP 13 35 00.7 +0.4**
PETR Petresti 76.46 322⇑ *i*P **P 13 34 47.8 +1.3**
CFR Carcaliu 76.48 321⇑ P **P 13 34 47.0 +0.4**
CFR Carcaliu 76.48 321⇑ *i*P **P 13 34 47.0 +0.4**
MALT Malatya 76.51 311⇓ P P 13 34 43.9 -3.2
MALT Malatya 76.51 311⇓ *i*P P 13 34 43.9 -3.2
SCHQ Schefferville 76.54 20 P **P 13 34 47.1 +0.3**
comp=Z,5.7nm,0.7s,baz=343,slow=5.8,SNR=9.4
SCHQ LR LR 14 11 39.3
comp=Z,100nm,19.6s,baz=298,slow=38
SCHQ Schefferville 76.54 20 *e*P **P 13 34 46.8 -0.1**
comp=Z,9.3nm,1.0s
VRI Vrincioaia 76.57 323⇓ P **P 13 34 48.4 +1.2**
VRI Vrincioaia 76.57 323⇓ *i*P **P 13 34 48.4 +1.2**
KSP Ksiaz 76.59 331 *e*P **P 13 34 47.6 +0.4**
KSP Ksiaz 76.59 331 *e*P **P 13 34 47.7 +0.5**
P32A Huiting Farm, 76.60 47 P **P 13 34 47.5 0.0**
baz=76
PLOR Plostina 76.61 323⇑ P **P 13 34 48.1 +0.7**
PLOR Plostina 76.61 323⇑ *i*P **P 13 34 48.1 +0.7**
OKC Ostrava-Krasne 76.78 330⇑ *e*P **P 13 34 48.8 +0.6**
OKC *e*pP **PcP 13 35 00.4 +1.0**
OKC AMS AMS 14 11 10.0
comp=Z,100nm,14.3s
OKC Ostrava-Krasne 76.78 330 *e*P **P 13 34 48.8 +0.6**
OKC *e* 13 35 00.4
OKC MLR MLR
comp=Z,100nm,14.3s
UPC Upice 76.97 331⇑ *e*P **P 13 34 49.7 +0.4**
UPC *ex* x 13 34 57.0
UPC Upice 76.97 331 *e*P **P 13 34 49.7 +0.4**
UPC *e* 13 34 57.0
DPC Dobruska-Polom 77.00 331 *e*P **P 13 34 50.4 +0.9**
DPC *ex* x 13 34 57.0
DPC *e*pP **pP 13 35 04.2 +1.2**
DPC Dobruska-Polom 77.00 331 *e*P **P 13 34 50.4 +0.9**
DPC *e* 13 34 57.0
DPC *e* 13 35 04.2
KECS Kecovo 77.03 328 *e*P **P 13 34 50.3 +0.6**
KECS pmax pmax
comp=Z,8.0nm,1.0s
KECS Kecovo 77.03 328 *e*P **P 13 34 50.3 +0.6**
KECS *e*PCP **PcP 13 34 58.2 -2.3**
MORC Moravsky Berou 77.05 330⇓ P **P 13 34 50.7 +0.9**
MORC Moravsky Berou 77.05 330⇓ *i*P **P 13 34 50.7 +0.9**
MORC Moravsky Berou 77.05 330 *e*P **P 13 34 50.0 +0.2**
comp=Z,110nm,0.8s
KRLC Kraliky 77.07 331⇑ *e*P **P 13 34 50.6 +0.7**
KRLC *ex* x 13 34 55.1
KRLC *e*pP **pP 13 35 04.3 +0.9**
KRLC Kraliky 77.07 331 *e*P **P 13 34 50.6 +0.7**
KRLC *e* 13 35 04.3
V27A Dan Oppiter Fa 77.08 52 P **P 13 34 49.9 -0.4**
baz=77
MLR Muntele Rosu 77.20 323 P **P 13 34 51.7 +0.9**
comp=Z,3.0nm,0.8s,baz=165,slow=8.0,SNR=12
MLR Muntele Rosu 77.20 323⇑ P **P 13 34 52.6 +1.7**
MLR Muntele Rosu 77.20 323⇑ *i*P **P 13 34 52.6 +1.7**
ISR Istrita 77.23 322⇓ P **P 13 34 52.1 +1.1**
ISR Istrita 77.23 322⇓ *i*P **P 13 34 52.1 +1.1**
CLL Collm 77.29 333 *e*P **P 13 34 51.1 0.0**
comp=Z,41nm,0.9s
CLL Collm 77.29 333⇑ *i*P **P 13 34 51.0 0.0**
comp=Z,41nm,0.9s
CLL Collm 77.29 333⇑ *i*P **P 13 34 51.0 0.0**
CLL pmax pmax
comp=Z,41nm,0.9s
CLL Collm 77.29 333 *e*P **P 13 34 51.0 0.0**
BRG Berggiesshubel 77.36 333 *e*P **P 13 34 51.5 +0.1**
comp=Z,14nm,1.0s
BRG Berggiesshubel 77.36 333 *e*P **P 13 34 51.6 +0.1**

	comp=Z,14nm,1.0s								
BRG	**Berggiesshubel**	**77.36**	**333**		*e*P		**P**	**13 34 51.5**	**+0.1**
BRG					pmax		pmax		
	comp=Z,14nm,1.0s								
PVCC	**Panska Ves**	**77.44**	**332**⇑		*e*P		**P**	**13 34 52.6**	**+0.6**
PVCC					*e*PCP		**PcP**	**13 35 01.2**	**-1.0**
PVCC	**Panska Ves**	**77.44**	**332**		*e*P		**P**	**13 34 52.6**	**+0.6**
PVCC					*e*			13 35 01.2	
Q33A	**Connelly Farm,**	**77.46**	**47**	P			**P**	**13 34 51.8**	**-0.5**
	baz=77								
MSAB	**Monastry St. A**	**77.46**	**321**⇓		*i*P		**P**	**13 34 53.5**	**+1.3**
FBE	**Freiberg**	**77.51**	**333**		*e*P		**P**	**13 34 52.7**	**+0.4**
	comp=Z,18nm,0.8s								
DRGR		**77.52**	**325**⇓		P		**P**	**13 34 53.3**	**+0.7**
DRGR		**77.52**	**325**⇓		*i*P		**P**	**13 34 53.3**	**+0.7**
P34A	**Walnut Farm, R**	**77.58**	**46**	P			**P**	**13 34 52.1**	**-0.9**
	baz=77								
VOIR		**77.63**	**323**⇓		P		**P**	**13 34 54.3**	**+1.1**
VOIR		**77.63**	**323**⇓		*i*P		**P**	**13 34 54.3**	**+1.1**
CLZ	**Clausthal**	**77.64**	**335**		*e*P		**P**	**13 34 53.8**	**+0.7**
	comp=Z,30nm,1.0s								
PSZ	**Piszkesteto**	**77.72**	**328**		⇓P		**P**	**13 34 54.7**	**+1.1**
PSZ	**Piszkesteto**	**77.72**	**328**		⇓*i*P		**P**	**13 34 54.7**	**+1.1**
PSZ	**Piszkesteto**	**77.72**	**328**		*e*P		**P**	**13 34 54.1**	**+0.4**
	comp=Z,18nm,0.8s								
NEUB	**Neuenburg**	**77.76**	**334**		*e*P		**P**	**13 34 53.9**	**+0.2**
	comp=Z,40nm,1.1s								
VRAC	**Vranov**	**77.78**	**330**	P			**P**	**13 34 54.8**	**+0.9**
	comp=Z,21nm,0.9s,baz=37,slow=5.4,SNR=23								
VRAC	**Vranov**	**77.78**	**330**⇑		*i*P		**P**	**13 34 54.8**	**+0.9**
ESK	**Eskdalemuir**	**77.85**	**344**		*i* P		**P**	**13 34 55.4**	**+1.3**
PRA	**Prague**	**77.88**	**332**⇑		*e*P		**P**	**13 34 55.3**	**+0.9**
PRA	**Prague**	**77.88**	**332**		*e*P		**P**	**13 34 55.3**	**+0.9**
GOPC	**GO Pecny, Ondr**	**77.89**	**332**		*e*P		**P**	**13 34 55.1**	**+0.6**
GOPC					*e*pP		**PcP**	**13 35 05.9**	**+1.7**
GOPC					AMS		AMS	14 12 50.0	
	comp=Z,200nm,16.5s								
PRU	**Pruhonice**	**77.91**	**332**⇑		*e*P		**P**	**13 34 55.0**	**+0.4**
PRU					*e*PCP		**PcP**	**13 35 04.4**	**+0.1**
PRU					*e*pP		**pP**	**13 35 08.6**	**+0.5**
PRU					AMS		AMS	14 13 00.0	
	comp=Z,200nm,19.5s								
PRU	**Pruhonice**	**77.91**	**332**		*e*P		**P**	**13 34 55.0**	**+0.4**
PRU					*e*			13 35 04.4	
PRU					*e*			13 35 08.6	
PRU					MLR		MLR		
	comp=Z,200nm,19.5s								
PRU	**Pruhonice**	**77.91**	**332**		*e*P		**P**	**13 34 55.0**	**+0.4**
BR131	**Keskin Array S**	**77.99**	**315**		*e*P		**P**	**13 34 53.1**	**-2.3**
BRTR	**Keskin Array B**	**77.99**	**315**		LR		LR	14 12 34.3	
	comp=Z,35nm,21.8s,baz=77,slow=38								
SMOL	**Smolenice**	**78.14**	**329**		*e*P		**P**	**13 34 57.2**	**+1.3**
SMOL	**Smolenice**	**78.14**	**329**		*e*P		**P**	**13 34 57.2**	**+1.3**
TREC	**Trest**	**78.18**	**331**⇑		*e*P		**P**	**13 34 56.5**	**+0.4**
TREC					AMS		AMS	14 12 40.0	
	comp=Z,100nm,18.9s								
TREC	**Trest**	**78.18**	**331**		*e*P		**P**	**13 34 56.5**	**+0.4**
TREC					MLR		MLR		
	comp=Z,100nm,18.9s								
TANN	**Tannenbergstha**	**78.23**	**333**		*e*P		**P**	**13 34 56.6**	**+0.2**
	comp=Z,8.0nm,0.9s								
WERD	**Werda**	**78.25**	**333**		*e*P		**P**	**13 34 56.8**	**+0.3**
	comp=Z,12nm,1.0s								
PLN	**Plauen**	**78.27**	**333**		*e*P		**P**	**13 34 56.9**	**+0.3**
	comp=Z,13nm,1.0s								
MOX	**Moxa**	**78.30**	**334**		*e*P		**P**	**13 34 57.0**	**+0.2**
	comp=Z,15nm,1.1s								
GUNZ	**Gunzen**	**78.32**	**333**		*e*P		**P**	**13 34 57.1**	**+0.2**
	comp=Z,15nm,0.8s								
WERN	**Wernitzgruen**	**78.37**	**333**		*e*P		**P**	**13 34 57.6**	**+0.4**
	comp=Z,17nm,0.8s								
MSTX	**Muleshoe**	**78.39**	**54**	P			**P**	**13 34 57.1**	**-0.5**
	baz=78								
GZR	**Gura Zlata**	**78.62**	**325**⇓		P		**P**	**13 34 59.0**	**+0.3**
GZR	**Gura Zlata**	**78.62**	**325**⇓		*i*P		**P**	**13 34 59.0**	**+0.3**
MANZ	**Manzenberg**	**78.72**	**333**		*e*P		**P**	**13 34 59.5**	**+0.4**
	comp=Z,12nm,0.9s								
S34A	**Willow Spring**	**78.80**	**48**	P			**P**	**13 34 59.9**	**+0.2**
	baz=79								
R35A	**Emporia Munici**	**78.82**	**47**	P			**P**	**13 34 59.6**	**-0.2**
	baz=79								
ROTZ	**Rotzenmuhle**	**78.88**	**333**		*e*P		**P**	**13 35 00.4**	**+0.5**
	comp=Z,16nm,1.0s								
BZS	**Buzias**	**78.92**	**325**⇓		P		**P**	**13 35 00.8**	**+0.6**
BZS	**Buzias**	**78.92**	**325**⇓		*i*P		**P**	**13 35 00.8**	**+0.6**
KHC	**Kasperske Hory**	**78.97**	**332**⇑		*i*P		**P**	**13 35 01.2**	**+0.7**
KHC					*ex*		x	13 35 05.4	
KHC					*e*pP		**pP**	**13 35 14.7**	**+0.7**
KHC					AMS		AMS	14 13 50.0	
	comp=Z,200nm,15.0s								
KHC	**Kasperske Hory**	**78.97**	**332**⇑		*i*P		**P**	**13 35 01.2**	**+0.7**
KHC					*e*			13 35 05.4	
KHC					*e*			13 35 14.7	
KHC					MLR		MLR		
	comp=Z,200nm,15.0s								
KHC	**Kasperske Hory**	**78.97**	**332**		*e*P		**P**	**13 35 01.2**	**+0.7**
KHC	**Kasperske Hory**	**78.97**	**332**		*e*P		**P**	**13 35 01.1**	**+0.7**
	comp=Z,9.8nm,0.9s								
GEC2	**GERESS Array S**	**79.18**	**332**		*e*P		**P**	**13 35 01.8**	**+0.1**
	comp=Z,12nm,1.1s								
GERES	**GERESS Array B**	**79.18**	**332**		P		**P**	**13 35 01.6**	**-0.1**
	comp=Z,4.0nm,0.4s,baz=32,slow=5.2,SNR=37								
GERES					LR		LR	14 14 13.1	
	comp=Z,138nm,18.6s,baz=60,slow=39								
GERES	**GERESS Array B**	**79.18**	**332**		P		**P**	**13 35 01.6**	**-0.1**
GERES					pmax		pmax		
	comp=Z,4.0nm,0.4s								
GERES					MLR		MLR		
	comp=Z,139nm,18.6s								
R36A	**Gordon, Harris**	**79.18**	**46**	P			**P**	**13 35 01.5**	**-0.3**
	baz=79								
WET	**Wettzell**	**79.19**	**332**		*e*P		**P**	**13 35 02.5**	**+0.8**
	comp=Z,26nm,1.0s								
CONA	**Conrad Observa**	**79.20**	**330**		*i* P		**P**	**13 35 03.0**	**+1.1**
	comp=Z,16nm,0.8s,SNR=8.6								
GRF	**Grafenberg Arr**	**79.26**	**334**		*e*P		**P**	**13 35 02.5**	**+0.5**
	comp=Z,34nm,0.8s								
T34A	**McClaskey Farm**	**79.27**	**48**	P			**P**	**13 35 02.0**	**-0.2**
	baz=79								
U34A	**Anderson Ranch**	**79.51**	**49**		*e*P		**P**	**13 35 03.4**	**-0.3**
	comp=Z,9.4nm,0.5s								
U34A					*e*pP		**pP**	**13 35 16.8**	**-0.4**
Z29A	**Hungry Hill Ra**	**79.52**	**54**	P			**P**	**13 35 03.3**	**-0.6**
	baz=79								
128A	**Castleberry Fa**	**79.53**	**54**	P			**P**	**13 35 03.2**	**-0.7**
	baz=79								
R37A	**Teagarden Farm**	**79.53**	**46**	P			**P**	**13 35 03.5**	**-0.2**
	baz=79								
W32A	**Sentinel**	**79.55**	**51**	P			**P**	**13 35 03.7**	**-0.2**
	baz=79								
S36A	**Lake Cedric, C**	**79.58**	**47**	P			**P**	**13 35 03.7**	**-0.3**
	baz=79								
PKSM	**Moragy**	**79.61**	**327**⇓		P		**P**	**13 35 03.8**	**-0.2**
PKSM	**Moragy**	**79.61**	**327**⇓		*i*P		**P**	**13 35 03.8**	**-0.2**
Z30A	**Sanderson Ranc**	**79.83**	**53**	P			**P**	**13 35 05.3**	**-0.2**
	baz=80								
MOA	**Molln**	**79.83**	**331**⇑		*i*P		**P**	**13 35 05.7**	**+0.5**
	comp=Z,5.6nm,0.8s								
T36A	**Boggs Farm, Ca**	**79.93**	**47**	P			**P**	**13 35 05.4**	**-0.4**
	baz=80								
MEM	**Membach**	**80.00**	**337**		P		**P**	**13 35 05.7**	**-0.4**
	comp=Z,52nm,1.0s								
WMOK	**Wichita Mounta**	**80.09**	**51**		*e*P		**P**	**13 35 06.4**	**-0.4**
	comp=Z,6.9nm,1.2s								
WMOK					*e*pP		**pP**	**13 35 19.1**	**-1.2**
Z31A	**Sharp Cattle R**	**80.37**	**52**	P			**P**	**13 35 08.5**	**+0.1**
	baz=80								
BCLA	**Clavier**	**80.37**	**337**		P		**P**	**13 35 09.4**	**+1.4**
T37A	**Cheneyville 18**	**80.39**	**47**	P			**P**	**13 35 08.2**	**-0.1**
	baz=80								
229A	**Bryant Ranch,**	**80.39**	**54**	P			**P**	**13 35 08.7**	**+0.2**
	baz=80								
RJOB	**Jochberg**	**80.44**	**332**		*e*P		**P**	**13 35 09.3**	**+0.8**
	comp=Z,12nm,0.9s								
SOKA	**Soboth**	**80.56**	**330**		*i* P		**P**	**13 35 09.7**	**+0.5**
	comp=Z,22nm,1.2s,SNR=12								
PERS	**Pernice**	**80.57**	**330**		*i* P		**P**	**13 35 09.6**	**+0.3**
VTS	**Vitosha**	**80.70**	**323**⇓		P		**P**	**13 35 09.1**	**-1.0**
VTS	**Vitosha**	**80.70**	**323**⇓		*i*P		**P**	**13 35 09.1**	**-1.0**
Y33A	**Hilltop Ranch,**	**80.72**	**51**	P			**P**	**13 35 09.9**	**-0.3**
	baz=80								
KBA	**Koelnbreinsper**	**80.82**	**331**⇑		*i*P		**P**	**13 35 11.5**	**+0.8**
	comp=Z,22nm,0.9s,SNR=8.1								
DIVS	**Divibare**	**80.83**	**325**⇑		*i*P		**P**	**13 35 10.6**	**-0.1**
230A	**Sterling City**	**80.86**	**54**	P			**P**	**13 35 10.8**	**-0.2**
	baz=81								

MYKA	**Terra Mystica**	**81.10**	**331**⇑		*e*P		**P**	**13 35 12.6**	**+0.5**
	comp=Z,6.1nm,0.9s								
CRES	**Cresnjev**	**81.14**	**329**		*i* P		**P**	**13 35 12.0**	**-0.2**
TXAR	**Lajitas Array**	**81.20**	**57**	P			**P**	**13 35 12.9**	**0.0**
	comp=Z,4.0nm,0.8s,baz=296,slow=4.1,SNR=48								
TXAR					LR		LR	14 06 47.9	
	comp=Z,37nm,21.9s,baz=0.0,slow=32								
WATA	**Walderalm**	**81.20**	**332**⇑		*i*P		**P**	**13 35 13.2**	**+0.5**
	comp=Z,11nm,0.5s								
V37A	**Hulbert**	**81.21**	**48**	P			**P**	**13 35 12.5**	**-0.3**
	baz=81								
WTTA	**Wattenberg**	**81.24**	**332**⇑		*i*P		**P**	**13 35 13.7**	**+0.7**
	comp=Z,18nm,0.8s,SNR=7.7								
MMB	**Musomiste**	**81.28**	**322**⇓		P		**P**	**13 35 12.3**	**-0.8**
MMB	**Musomiste**	**81.28**	**322**⇓		*i*P		**P**	**13 35 12.3**	**-0.8**
429A	**Davenport Ranc**	**81.32**	**55**	P			**P**	**13 35 13.2**	**-0.3**
	baz=81								
RETA	**Reutte**	**81.33**	**333**⇑		*i*P		**P**	**13 35 13.8**	**+0.5**
	comp=Z,12nm,1.0s								
X35A	**Drake**	**81.34**	**50**	P			**P**	**13 35 13.1**	**-0.4**
	baz=81								
MOTA	**Moosalm**	**81.35**	**332**⇑		*i*P		**P**	**13 35 13.8**	**+0.4**
	comp=Z,15nm,0.8s,SNR=7.8								
BFO	**Black Forest**	**81.36**	**335**		*i* P		**P**	**13 35 14.2**	**+0.8**
VISS	**Visnje**	**81.38**	**329**		*i* P		**P**	**13 35 13.1**	**-0.4**
529A	**Stev Forest Ra**	**81.49**	**56**	P			**P**	**13 35 14.7**	**+0.3**
	baz=81								
X36A	**Centrahoma**	**81.55**	**49**	P			**P**	**13 35 14.5**	**0.0**
	baz=81								
430A	**Baggett Ranch,**	**81.59**	**55**	P			**P**	**13 35 14.8**	**-0.1**
	baz=81								
W37A	**Quinton**	**81.62**	**48**	P			**P**	**13 35 15.1**	**+0.2**
	baz=81								
232A	**Coleman**	**81.70**	**53**	P			**P**	**13 35 15.3**	**-0.2**
	baz=82								
FETA	**Feichten**	**81.75**	**333**⇑		*i*P		**P**	**13 35 16.2**	**+0.5**
	comp=Z,9.2nm,1.0s								
DAVA	**Damuels**	**81.80**	**333**⇑		*i*P		**P**	**13 35 16.2**	**+0.3**
	comp=Z,15nm,0.8s,SNR=5.7								
ASF	**Jabal al Asfar**	**81.85**	**307**		P		**P**	**13 35 17.5**	**+1.2**
	comp=Z,5.2nm,0.7s,baz=12,slow=3.6,SNR=6.9								
ASF	**Jabal al Asfar**	**81.85**	**307**		P		**P**	**13 35 17.5**	**+1.2**
ASF					pmax		pmax		
	comp=Z,5.0nm,0.7s								
530A	**J-C Ranch, Com**	**82.00**	**55**	P			**P**	**13 35 17.0**	**-0.1**
	baz=82								
332A	**Millersview**	**82.02**	**54**	P			**P**	**13 35 17.2**	**0.0**
	baz=82								
431A	**Sonora**	**82.03**	**55**	P			**P**	**13 35 16.8**	**-0.5**
	baz=82								
X37A	**Clayton**	**82.06**	**49**	P			**P**	**13 35 17.4**	**+0.2**
	baz=82								
MMAI	**Mount Meron Ar**	**82.07**	**309**		P		**P**	**13 35 18.5**	**+1.1**
	comp=Z,12nm,0.7s,baz=48,slow=6.8,SNR=13								
W38A	**Poteau**	**82.16**	**48**	P			**P**	**13 35 17.7**	**-0.1**
	baz=82								
NWAO	**Narrogin (SRO)**	**82.23**	**206**		P		**P**	**13 35 18.2**	**+0.4**
	comp=Z,14nm,1.0s,baz=328,slow=9.5,SNR=2.6								
NWAO	**Narrogin (SRO)**	**82.23**	**206**		P		**P**	**13 35 18.3**	**+0.4**
NWAO					pmax		pmax		
	comp=Z,14nm,1.0s								
DAVOX	**Davos/Dischmat**	**82.24**	**333**		P		**P**	**13 35 18.3**	**+0.1**
	comp=Z,7.0nm,0.6s,baz=332,slow=1.4,SNR=9.9								
DAVOX	**Davos/Dischmat**	**82.24**	**333**		P		**P**	**13 35 18.3**	**+0.1**
DAVOX					pmax		pmax		
	comp=Z,7.0nm,0.6s								
X38A	**Whitesboro**	**82.29**	**48**	P			**P**	**13 35 18.1**	**-0.4**
	baz=82								
VAL	**Valentia**	**82.33**	**347**⇑		*i*P		**P**	**13 35 19.4**	**+1.1**
PMOR	**Pomariorio Ree**	**82.36**	**120**		*e*T		T	15 06 19.8	
	comp=Z,11nm,0.2s								
432A	**Menard**	**82.36**	**54**	P			**P**	**13 35 18.6**	**-0.4**
	baz=82								
531A	**Rocksprings**	**82.45**	**55**	P			**P**	**13 35 19.5**	**0.0**
	baz=82								
333A	**Richland Sprin**	**82.50**	**53**	P			**P**	**13 35 19.6**	**-0.1**
	baz=82								
JCT	**Junction City**	**82.65**	**54**	P			**P**	**13 35 20.4**	**-0.1**
	baz=82								
JCT	**Junction City**	**82.65**	**54**	P			**P**	**13 35 19.9**	**-0.6**
JCT					*e*pP		**pP**	**13 35 33.4**	**-0.6**
532A	**Rocksprings**	**82.85**	**55**	P			**P**	**13 35 21.5**	**0.0**
	baz=83								
433A	**Art**	**82.86**	**54**	P			**P**	**13 35 21.6**	**0.0**
	baz=83								
RAYN	**Ar Rayn**	**82.87**	**296**		*e*P		**P**	**13 35 21.8**	**+0.1**
	comp=Z,3.0nm,0.5s								
WHTX	**Lake Whitney,**	**82.87**	**52**	P			**P**	**13 35 21.6**	**+0.1**
	baz=83								
334A	**Lometa**	**82.92**	**53**	P			**P**	**13 35 22.1**	**+0.3**
	baz=83								
631A	**Perdido Creek**	**82.98**	**55**	P			**P**	**13 35 22.7**	**+0.5**
	baz=83								
MIAR	**Mount Ida**	**83.06**	**48**	P			**P**	**13 35 23.0**	**+0.5**
	baz=83								
MIAR	**Mount Ida**	**83.06**	**48**		*e*P		**P**	**13 35 22.4**	**0.0**
	comp=Z,8.9nm,0.9s								
PPT	**Papeete**	**83.29**	**122**		LR		LR	14 11 38.2	
	comp=Z,69nm,18.8s,baz=330,slow=35								
PPT2	**Papeete2**	**83.30**	**122**		*e*LR		LR	14 01 47.3	
	comp=Z,162nm,25.5s								
632A	**Uvalde**	**83.38**	**55**	P			**P**	**13 35 23.6**	**-0.6**
	baz=83								
832A	**Faith Ranch, C**	**84.17**	**56**	P			**P**	**13 35 28.2**	**-0.1**
	baz=84								
BNI	**Bardonecchia**	**84.80**	**334**		*e*P		**P**	**13 35 31.6**	**+0.3**
	comp=Z,4.7nm,0.6s								
BNI					*e*pP		**pP**	**13 35 44.7**	**-0.3**
EIL	**Elat**	**84.83**	**307**		P		**P**	**13 35 31.9**	**+0.4**
	comp=Z,10nm,0.7s,baz=7.5,slow=22,SNR=8.4								
636A	**Smothers Creek**	**84.98**	**53**	P			**P**	**13 35 33.1**	**+0.8**
	baz=85								
933A	**Laredo**	**85.08**	**56**	P			**P**	**13 35 33.4**	**+0.6**
	baz=85								
SSB	**Saint Sauveur**	**85.25**	**336**		*e*P		**P**	**13 35 34.3**	**+0.9**
	comp=Z,6.1nm,0.8s								
IDI	**Anoyia**	**85.81**	**317**		P		**P**	**13 35 35.3**	**-1.2**
	comp=Z,18nm,1.0s,baz=34,slow=11,SNR=4.6								
034A	**Hebbronville**	**85.84**	**56**	P			**P**	**13 35 36.6**	**0.0**
	baz=86								
KEST	**Kesra**	**92.19**	**328**		LR		LR	14 21 39.5	
	comp=Z,54nm,19.4s,baz=326,slow=38								
ESDC	**Sonseca Array**	**92.78**	**339**		P		**P**	**13 36 08.7**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=16,slow=4.8,SNR=4.5								
ESDC					LR		LR	14 22 53.4	
	comp=Z,48nm,20.7s,baz=160,slow=39								
TORD	**Torodi Ar. Bea**	**115.42**	**324**		PKP		**PKPdf**	**13 41 38.1**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=15,slow=2.0,SNR=7.0								
VNDA	**Vanda**	**121.95**	**177**		PKP		**PKPdf**	**13 41 47.8**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=299,slow=3.5,SNR=2.4								
BDFB	**Brasilia**	**147.90**	**32**		PKPbc		**PKPbc**	**13 42 42.5**	**+0.2**
	comp=Z,5.4nm,0.7s,baz=260,slow=1.9,SNR=7.1								
BDFB	**Brasilia**	**147.90**	**32**		PKP2		**PKPbc**	**13 42 42.5**	**+0.2**
BDFB					pmax		pmax		
	comp=Z,5.0nm,0.7s								
SNAA	**Sanae**	**149.49**	**197**		P		**PKPbc**	**13 42 43.5**	**-1.2**
SNAA	**Sanae**	**149.49**	**197**		*e*PKPbc		**PKPbc**	**13 42 43.3**	**-1.4**
VNA1	**Neumayer--Stat**	**151.40**	**196**		P		**PKPbc**	**13 42 49.8**	**+0.7**

*ISCJB **23** 13:27:01.1±0.4,32.°70N±0.°03×115.°96W±0.°03,h11km±4km, Error ellipse: s-maj=5.5km s-min=4.3km az=31.0*
*ECX **23** 13:27:01.9±0.5,32.°68N×115.°95W,h2km,MD2.5,ML2.7*
*NEIC **23** 13:27:01.9,32.°68N×115.°95W,h16km,ML2.7(PAS), ML2.9(ECX), After ECX.*
*MEX **23** 13:27:02.0±0.7,32.°97N×116.°03W,h16km±33km,MD3.6*
ISC 23 13:27:01.0±0.9,32.°67N±0.°03×115.°95W±0.°02,h11km±6km, n25,σ0°80/37,8C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YUH	**Yuha Desert**	**0.03**	**134**	⇓	*i*P	**Pg**	**13 27 02.7**	**-0.4**
SGL	**Mount Signal**	**0.19**	**96**	⇑	*i*P	**Pg**	**13 27 05.4**	**+0.3**
WESC	**Westside Schoo**	**0.20**	**64**	⇑	*i*P	**Pg**	**13 27 05.7**	**+0.3**
WESC					*e*S	**Sg**	**13 27 09.2**	**+0.8**
CRR	**Carrizo Plain**	**0.22**	**355**	⇓	*i*P	**Pg**	**13 27 05.6**	**0.0**
ERPC	**Ernies Place**	**0.25**	**73**	⇑	*i*[		13 27 06.9	
COK	**Cook Ranch**	**0.26**	**46**	⇑	*i*P	**Pg**	**13 27 06.8**	**+0.4**
SWSC	**Sam W. Stewart**	**0.30**	**25**	⇑	*i*P	**Pg**	**13 27 07.2**	**0.0**
CBKC	**Canebrake**	**0.34**	**312**	⇓	*i*P	**Pg**	**13 27 08.5**	**+0.5**
CPBX	**Cerro Prieto**	**0.60**	**115**		*e*Pn	**Pb**	**13 27 13.8**	**+0.3**
CPBX					*e*S	**Sb**	**13 27 22.5**	**+0.6**
CPBX					*e*		13 27 24.5	
CPBX					IAML		13 27 24.5	
	comp=N,2μm,0.3s							

BAR	**Barrett**	**0.61**	**271**		*e*Pg		**Pg**	**13 27 13.1**	**+0.2**
BAR	**Barrett**	**0.61**	**271**⇑		*i*P		**Pg**	**13 27 13.1**	**+0.2**
MBIG	**Mexicali**	**0.69**	**112**		*e*P		**Pg**	**13 27 14.4**	**+0.1**
MBIG					*e*S		**Sn**	**13 27 26.4**	**-0.8**
CBX	**Cerro Bola**	**0.70**	**240**		*e*P		**Pg**	**13 27 14.4**	**-0.2**
CBX					*e*S		**Sb**	**13 27 25.9**	**+1.0**
CBX	**Cerro Bola**	**0.70**	**240**		*e*P		**Pg**	**13 27 14.4**	**-0.2**
CBX					*e*S		**Sb**	**13 27 25.9**	**+1.0**
CBX	**Cerro Bola**	**0.70**	**240**⇑		*e*P		**Pg**	**13 27 15.0**	**+0.4**
CBX					*e*S		**Sg**	**13 27 24.6**	**+0.7**
CBX					*e*S		**Sg**	**13 27 24.6**	**+0.7**
CBX					IAML			13 27 25.6	
	comp=E,328nm,0.2s								
COA	**Coachella**	**0.72**	**74**⇑		*i*P		**Pg**	**13 27 15.1**	**+0.1**
PFO	**Pinyon Flats O**	**1.03**	**336**		*e*Pg		**Pb**	**13 27 19.9**	**-1.1**
PFO					*e*S		**Sb**	**13 27 33.4**	**-1.1**
ECBX	**El Chinero**	**1.42**	**147**		*e*Pn		**Pn**	**13 27 24.5**	**-2.1**
ECBX					*e*S		**Sn**	**13 27 44.1**	**-1.1**
SPIG	**San Pedro Mart**	**1.67**	**166**		*e*P		**Pb**	**13 27 32.1**	**+0.2**
SPIG					*e*S		**Sg**	**13 27 54.6**	**-0.1**
SPIG	**San Pedro Mart**	**1.67**	**166**		*e*P		**Pb**	**13 27 32.1**	**+0.2**
SPIG					*e*S		**Sg**	**13 27 54.6**	**-0.1**
SPX	**San Pedro Mart**	**1.67**	**166**		*e*P		**Pb**	**13 27 32.2**	**+0.2**
SPX					*e*S		**Sb**	**13 27 54.2**	**+1.1**
SPX	**San Pedro Mart**	**1.67**	**166**		*e*P		**Pn**	**13 27 31.1**	**+0.6**
SPX					*e*S		**Sb**	**13 27 54.0**	**+0.9**
SPX					*e*			13 27 56.2	
SPX					IAML			13 27 56.2	
	comp=E,41nm,0.3s								
MWC	**Mount Wilson**	**2.35**	**312**		*e*Pg		**Pb**	**13 27 43.4**	**0.0**
LDFC	**Landfair**	**2.50**	**16**		Pg		**Pg**	**13 27 51.2**	**+2.2**
214A	**Organ Pipe Nat**	**2.75**	**104**		*e*Pg		**Pg**	**13 27 53.8**	**0.0**

*DDA **23** 13:27:34.7,39.°92N×39.°24E,h9km,ML3.5*
*IDC **23** 13:27:35.7±1.3,39.°94N×39.°19E,h0km,mb3.7/7, mb1 3.7/11,mb1mx3.5/42,mbtmp3.7/11,ML3.4/4,MS2.9/4, Ms1 2.9/4,ms1mx2.5/37,Error ellipse: s-maj=26.7km s-min=10.2km az=154.0*
*ISK **23** 13:27:35.0,39.°96N×39.°27E,h5km,ML3.7*
*CSEM **23** 13:27:35.4±0.2,39.°93N×39.°24E,h2km,ML3.7,Error ellipse: s-maj=4.5km s-min=3.7km az=123.0*
ISC 23 13:27:34.9±1.1,39.°94N±0.°02×39.°22E±0.°02,h1km±8km, n86,σ1°27/108,mb3.6/7,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KELT	**Kelkit**	**0.21**	**8**		*i* P	**Pg**	**13 27 39.9**	**+0.9**
KELT					*i* S	**Sg**	**13 27 42.9**	**+1.1**
KELT	**Kelkit**	**0.21**	**8**		*i* P	**Pg**	**13 27 39.9**	**+0.9**
KELT					*i* S	**Sg**	**13 27 42.9**	**+1.1**
EUZM	**Uzumlu**	**0.44**	**122**		*i* P	**Pg**	**13 27 43.2**	**-0.1**
EUZM					*i* S	**Sg**	**13 27 49.2**	**+0.2**
EUZM	**Uzumlu**	**0.44**	**122**		*i* P	**Pg**	**13 27 43.2**	**-0.1**
EUZM					*i* S	**Sg**	**13 27 49.2**	**+0.2**
ERZN	**Erzincan**	**0.53**	**132**		*e*PG	**Pg**	**13 27

comp=Z,38nm,20.2s,baz=78,slow=39
AKASG **Malin Array Be 12.84 330** Pn **Pn 13 30 36.8 -1.7**
1.5nm,0.3s,baz=136,slow=13,SNR=7.4
OBN **Obninsk 15.29 354** LR LR 13 37 40.6
comp=Z,43nm,18.3s,baz=94,slow=40
AKTO **Aktyubinsk 16.86 45** Pn **P 13 31 33.0 -1.2**
0.1nm,0.3s,baz=248,slow=11,SNR=8.1
AKTO LR LR 13 39 58.6
comp=Z,40nm,18.3s,baz=159,slow=44
FINES **FINESS Array B 22.99 344** P **P 13 32 41.4 +0.6**
0.4nm,0.4s,baz=151,slow=12,SNR=2.7
KEST **Kesra 23.91 269** P **P 13 32 51.9 +1.6**
1.2nm,0.7s,baz=90,slow=5.8,SNR=3.5
HFS **Hagfors 25.73 330** P **P 13 33 08.8 +2.2**
1.0nm,0.6s,baz=171,slow=10,SNR=2.6
KURBB **Kurchatov Arra 29.33 55** P **P 13 33 40.0 +1.1**
0.5nm,0.2s,baz=275,slow=8.9,SNR=3.3
ESDC **Sonseca Array 32.93 284** P **P 13 34 11.2 +0.2**
0.2nm,0.3s,baz=39,slow=8.3,SNR=3.6
TORD **Torodi Ar. Bea 42.39 242** P **P 13 35 31.5 +0.3**
1.3nm,1.0s,baz=55,slow=6.0,SNR=3.6
SEY **Seymchan 64.52 28** P **P 13 38 13.8 +0.8**
3.0nm,0.7s,baz=288,slow=4.5,SNR=8.5

MOS ***23*** *13:36:22.6±1.5, 48.°87N×154.°03E, h227km, mb4.3/1, Error ellipse: s-maj=93.4km s-min=8.2km az=65.7*
IDC ***23*** *13:36:26.2±2.8, 49.°78N×152.°80E, h252km±30km, mb2.8/2, mb1 3.1/4, mb1mx2.7/45, mbtmp3.5/4, Error ellipse: s-maj=166.7km s-min=27.1km az=133.0*
KRSC ***23*** *13:36:26.6±2.2, 49.°33N×154.°73E, h317km±35km, ML4.2*
ISC 23 13:36:23.1±2.1, 48.°7N±0.°2×154.°6E±0.°3, h200km, n35, σ2§12/38, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.21**	**26**	*e*PN		**Pn**	**Pn**	**13 37 03.6**	**-0.1**
SKR				*e*S		**Sn**	**Sn**	**13 37 37.9**	**+2.4**
SKR	comp=E,30nm,0.5s			pmax	pmax				
SKR	comp=Z,50nm,0.5s			pmax	pmax				
SKR	comp=N,70nm,0.2s			smax	smax				
SKR	comp=E,120nm,0.2s			smax	smax				
MIPR	**Malaya Ipel'ka**	**3.82**	**20**	*e*P		**Pn**	**Pn**	**13 37 24.5**	**+1.9**
ASAK	**Asacha**	**4.24**	**29**	*e*P		**Pn**	Pn	13 37 31.7	+3.9
MTVR	**Mutnovka**	**4.41**	**30**	*e*P		**Pn**	Pn	13 37 34.4	+4.3
RUS	**Russkaya**	**4.49**	**32**	*e*P		**Pn**	**Pn**	**13 37 33.8**	**+3.0**
RUS				*e*S		**Sn**	**Sn**	**13 38 25.6**	**+1.4**
RUS	**Russkaya**	**4.49**	**32**	PN		**Pn**	**Pn**	**13 37 33.8**	**+3.0**
RUS				S		**Sn**	**Sn**	**13 38 25.6**	**+1.4**
PETK	**Petropavlovsk-**	**4.82**	**23**	P		**Pn**	**Pn**	**13 37 36.2**	**+1.1**
PETK	comp=E,0.8nm,0.3s,baz=217,slow=12,SNR=7.7 **Petropavlovsk-**	**4.82**	**23**	PN		**Pn**	**Pn**	**13 37 36.2**	**+1.1**
PETK	comp=Z,1.0nm,0.3s			pmax	pmax				
PET	**Petropavlovsk**	**5.02**	**29**	*e*P		**Pn**	**Pn**	**13 37 40.1**	**+2.4**
PET	**Petropavlovsk**	**5.02**	**29**	PN		**Pn**	**Pn**	**13 37 40.1**	**+2.4**
UGLR	**Uglovaya**	**5.24**	**29**	*e*P		**Pn**	**Pn**	**13 37 43.7**	**+3.2**
KOK	**Koryaka**	**5.25**	**28**	*e*P		**Pn**	**Pn**	**13 37 43.2**	**+2.6**
KOK	**Koryaka**	**5.25**	**28**	PN		**Pn**	**Pn**	**13 37 43.2**	**+2.6**
AVH	**Avacha**	**5.25**	**28**	*e*P		**Pn**	**Pn**	**13 37 43.7**	**+3.0**
AVH	**Avacha**	**5.25**	**28**	PN		**Pn**	**Pn**	**13 37 43.7**	**+3.0**
SMAR	**Somma**	**5.27**	**29**	*e*P		**Pn**	**Pn**	**13 37 44.1**	**+3.0**
SMAR	**Somma**	**5.27**	**29**	PN		**Pn**	**Pn**	**13 37 44.1**	**+3.0**
KRER	**Koryakskii**	**5.29**	**28**	*e*P		**Pn**	**Pn**	**13 37 44.2**	**+2.9**
KRER				*e*S		**Sn**	**Sn**	**13 38 43.0**	**-0.1**
SDLR	**Sedlovina**	**5.31**	**29**	*e*P		**Pn**	**Pn**	**13 37 43.9**	**+2.4**
SDLR				*e*S		**Sn**	**Sn**	**13 38 43.2**	**-0.2**
SDLR	**Sedlovina**	**5.31**	**29**	PN		**Pn**	**Pn**	**13 37 43.9**	**+2.4**
SDLR				S		**Sn**	**Sn**	**13 38 43.2**	**-0.2**
NLC	**Nalytchevo**	**5.38**	**32**	*e*S		**Sn**	**Sn**	**13 38 42.6**	**-2.2**
GNL	**Ganaly**	**5.41**	**22**	*e*P		**Pn**	**Pn**	**13 37 42.8**	**0.0**
GNL	**Ganaly**	**5.41**	**22**	PN		**Pn**	**Pn**	**13 37 42.8**	**0.0**
SPN	**Mys Shipunski**	**5.57**	**36**	*e*P		**Pn**	**Pn**	**13 37 46.8**	**+2.1**
SPN				*e*S		**Sn**	**Sn**	**13 38 46.0**	**-3.3**
SPN	**Mys Shipunski**	**5.57**	**36**	PN		**Pn**	**Pn**	**13 37 46.8**	**+2.1**
MKZ	**Mys Kozlova**	**7.34**	**35**	*e*P		**Pn**	**Pn**	**13 38 07.4**	**-0.2**
MKZ				*e*S		Sn	Sn	13 39 23.2	-7.5
MKZ	**Mys Kozlova**	**7.34**	**35**	PN		**Pn**	**Pn**	**13 38 07.4**	**-0.2**
KBTR	**Krutoberegovo**	**9.03**	**31**	*e*P		**Pn**	**Pn**	**13 38 28.6**	**-0.9**
KBTR	**Krutoberegovo**	**9.03**	**31**	PN		**Pn**	**Pn**	**13 38 28.6**	**-0.9**
MJAR	**Matsushiro Arr**	**17.08**	**231**	P		P	P	13 40 07.2	-1.7
MJAR	comp=Z,0.5nm,0.3s,baz=16,slow=12,SNR=7.4 **Matsushiro Arr**	**17.08**	**231**	P		P	P	13 40 07.2	-1.7
MJAR	comp=Z,1.0nm,0.3s			pmax	pmax				
ILAR	**Eielson Array**	**34.40**	**40**	P		**P**	**P**	**13 42 49.0**	**-1.9**
ILAR	comp=Z,0.2nm,0.6s,baz=266,slow=8.6,SNR=5.5 **Eielson Array**	**34.40**	**40**	P		**P**	**P**	**13 42 49.0**	**-1.9**
TXAR	**Lajitas Array**	**75.68**	**62**	P		**P**	**P**	**13 47 47.0**	**+0.5**
TXAR	comp=Z,0.3nm,0.5s,baz=308,slow=4.4,SNR=5.3 **Lajitas Array**	**75.68**	**62**	*e*P		**P**	**P**	**13 47 47.0**	**+0.5**

IDC 23 13:50:33.1±2.1, 15.°95S×177.°15W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/25, mbtmp3.7/4, Error ellipse: s-maj=126.6km s-min=27.9km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.20**	**258**	P		P	P	13 58 59.7	-0.5
ASAR	0.2nm,0.3s,baz=96,slow=7.8,SNR=14 **Alice Springs**	**46.51**	**252**	P		P	P	13 59 03.0	+0.4
ILAR	2.1nm,0.5s,baz=89,slow=7.8,SNR=92 **Eielson Array**	**83.72**	**13**	P		P	P	14 03 02.7	-0.8
TXAR	0.2nm,0.5s,baz=228,slow=5.0,SNR=4.5 **Lajitas Array**	**83.93**	**57**	P		P	P	14 03 06.2	+0.6
	0.5nm,0.9s,baz=213,slow=6.5,SNR=4.8								

MEX 23 14:17:37.5±0.5, 18.°06N×101.°95W, h11km±7km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.65**	**134**	*e*P		Pg	Sg	14 17 48.6	-1.4
ZIIG				*i* S		Sg	Sg	14 17 57.1	-1.5
MMIG	**Aquila**	**1.34**	**280**	*e*P		Pn	Sg	14 17 58.6	-3.6
MMIG				*e*S		Sb	Sg	14 18 15.1	-4.9
ARIG	**Puente Sto Nin**	**1.54**	**82**	*e*P		Pn	Sg	14 18 01.0	-4.0
ARIG				*e*S		Sn	Sg	14 18 20.5	-4.6
CAIG	**El Cayaco**	**1.90**	**122**	*e*P		Pn	Sg	14 18 07.3	-2.5
CAIG				*i* S		Sn	Sg	14 18 29.2	-4.6
PLIG	**Platanillo**	**2.35**	**82**	*e*P		Pn	Sg	14 18 13.6	-2.6
PLIG				*i* S		Sn	Sg	14 18 40.1	-5.2

ISCJB ***23*** *14:27:00.3±1.1, 5.°41S±0.°09×147.°6E±0.°1, h170km, mb3.7/5, Error ellipse: s-maj=18.0km s-min=12.5km az=174.9*
IDC ***23*** *14:27:04.5±2.2, 5.°50S×147.°36E, h194km±20km, mb3.5/5, mb1 3.8/9, mb1mx3.5/27, mbtmp4.2/9, Error ellipse: s-maj=21.2km s-min=13.8km az=111.0*
ISC 23 14:27:01.8±1.1, 5.°5S±0.°1×147.°5E±0.°2, h170km, n10, σ1§27/12, mb3.7/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**7.39**	**294**	P		**Pn**	**Pn**	**14 28 48.1**	**+0.8**
CTA	2.5nm,0.3s,baz=174,slow=4.6,SNR=18 **Charters Tower**	**14.53**	**185**	P		**P**	**P**	**14 30 22.2**	**+0.7**
SIJI	1.0nm,0.3s,baz=1.4,slow=12,SNR=17 **Sorong**	**16.84**	**285**	P		**P**	**P**	**14 30 47.2**	**+0.1**
WRA	0.3nm,0.3s,baz=84,slow=10,SNR=5.2 **Warramunga Arr**	**19.21**	**221**	P		**P**	**P**	**14 31 14.2**	**+1.2**
WRA	2.3nm,0.3s,baz=48,slow=12,SNR=150			S		**S**	**S**	**14 34 39.0**	**-2.7**
ASAR	0.2nm,0.3s,baz=42,slow=21,SNR=4.6 **Alice Springs**	**22.29**	**215**	P		**P**	**P**	**14 31 46.4**	**+1.0**
ASAR	9.0nm,0.8s,baz=50,slow=9.0,SNR=63			S		**S**	**S**	**14 35 38.1**	**0.0**
STKA	4.4nm,0.9s,baz=31,slow=22,SNR=14 **Stephens Creek**	**26.80**	**191**	P		**P**	**P**	**14 32 25.8**	**-0.4**
CMAR	2.3nm,0.5s,baz=350,slow=8.9,SNR=10.0 **Chiang Mai Arr**	**53.45**	**298**	P		**P**	**P**	**14 36 04.3**	**-0.5**
VNDA	0.3nm,0.4s,baz=128,slow=6.9,SNR=5.0 **Vanda**	**72.36**	**177**	P		**P**	**P**	**14 38 08.9**	**+0.3**
ILAR	0.8nm,0.5s,baz=337,slow=6.9,SNR=13 **Eielson Array**	**84.85**	**23**	P		**P**	**P**	**14 39 16.9**	**-0.1**
	0.2nm,0.8s,baz=264,slow=5.9,SNR=4.3								
TORD	**Torodi Ar. Bea**	**145.44**	**285**	PKPbc		**PKPdf**		**14 46 18.9**	**-1.8**
	0.7nm,0.6s,baz=83,slow=3.1,SNR=5.3								

IDC ***23*** *15:02:19.5±1.3, 5.°80S×152.°66E, h0km, mb4.1/8, mb1 4.3/8, mb1mx3.9/34, mbtmp4.1/8, MS3.8/1, Ms1 3.7/1, ms1mx2.7/26, Error ellipse: s-maj=47.3km s-min=19.4km az=112.0*
ISCJB ***23*** *15:02:23.5±1.1, 5.°8S±0.°1×152.°6E±0.°2, h38km, mb4.1/10, MS3.6/1, Error ellipse: s-maj=36.1km s-min=12.3km az=26.0*
NEIC ***23*** *15:02:28.2±3.2, 5.°72S×152.°44E, h59km±26km, mb4.0/3, Error ellipse: s-maj=35.1km s-min=17.2km az=103.0*
ISC 23 15:02:25.1±1.2, 5.°8S±0.°1×152.°7E±0.°2, h38km, n15, σ0§60/15, mb4.2/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.53**	**236**	*e*Pn		**Pn**	**Pn**	**15 03 58.9**	**+0.1**
CTA	61nm,0.7s **Charters Tower**	**15.51**	**203**	Pn		**P**	**P**	**15 06 05.4**	**+0.2**
WRAB	0.2nm,0.3s,baz=12,slow=16,SNR=4.6 **Tennant Creek**	**22.68**	**230**	*e*P		**P**	**P**	**15 07 23.8**	**+0.2**
WRA	18nm,1.0s **Warramunga Arr**	**22.70**	**230**	P		**P**	**P**	**15 07 22.7**	**-1.0**
AS31	6.0nm,0.6s,baz=54,slow=10.0,SNR=74 **Alice Springs**	**25.33**	**224**	*e*P		**P**	**P**	**15 07 49.6**	**+1.0**
ASAR	**Alice Springs**	**25.33**	**224**	P		**P**	**P**	**15 07 48.1**	**-0.6**
STKA	3.1nm,0.6s,baz=60,slow=8.9,SNR=76 **Stephens Creek**	**27.94**	**200**	P		**P**	**P**	**15 08 11.8**	**-0.2**
STKA	2.5nm,0.9s,baz=5.7,slow=10,SNR=2.8			LR		LR	LR	15 19 48.9	
STKA	comp=Z,164nm,18.7s,baz=313,slow=38 **Stephens Creek**	**27.94**	**200**	*e*P		**P**	**P**	**15 08 11.5**	**-0.5**
CMAR	0.5nm,0.7s **Chiang Mai Arr**	**58.18**	**296**	P		**P**	**P**	**15 12 16.5**	**+0.7**
PETK	1.1nm,1.0s,baz=123,slow=6.6,SNR=4.3 **Petropavlovsk-**	**58.84**		P		**P**	**P**	**15 12 19.4**	**-0.3**
SONM	1.4nm,0.6s,baz=110,slow=4.8,SNR=4.1 **Songino Array**	**67.09**	**328**	P		**P**	**P**	**15 13 14.6**	**-0.3**
ILAR	1.1nm,0.7s,baz=146,slow=3.9,SNR=5.8 **Eielson Array**	**83.13**	**22**	P		**P**	**P**	**15 14 47.4**	**+0.6**
KURK	1.4nm,0.6s,baz=245,slow=5.4,SNR=18 **Kurchatov**	**84.47**	**322**	*e*P		**P**	**P**	**15 14 53.4**	**-0.5**
KURBB	4.5nm,1.2s **Kurchatov Arra**	**84.50**	**322**	P		**P**	**P**	**15 14 53.6**	**-0.4**
TORD	0.8nm,0.8s,baz=113,slow=3.8,SNR=4.4 **Torodi Ar. Bea**	**150.47**	**286**	PKPbc		**PKPbc**		**15 22 13.8**	**0.0**
	1.2nm,0.8s,baz=89,slow=2.6,SNR=5.8								

ISCJB ***23*** *15:05:40.7±0.6, 4.°26N±0.°06×95.°51E±0.°06, h63km, mb4.0/11, Error ellipse: s-maj=9.1km s-min=7.4km az=38.3*
IDC ***23*** *15:05:41.7±8.3, 4.°43N×95.°71E, h54km±72km, mb3.7/11, mb1 3.8/12, mb1mx3.6/38, mbtmp4.0/12, ML4.1/1, MS3.4/1, Ms1 3.6/1, ms1mx2.8/40, Error ellipse: s-maj=43.0km s-min=17.0km az=55.0*
DJA ***23*** *15:05:46.7±1.0, 4.°N±4.°×9.°6E±1.°1, h67km±15km, M4.4/9, mb4.5/6, MLv4.3/9*
ISC 23 15:05:42.2±0.7, 4.°29N±0.°06×95.°59E±0.°10, h63km, n38, σ1§20/35, mb3.9/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.64**	**56**	P		**P**	**Pn**	**15 06 09.9**	**+0.9**
LHMI				S		**S**	**Sn**	**15 06 29.8**	**+0.7**
TSI	**Tuntungan**	**3.07**	**105**	P		**P**	**Pn**	**15 06 28.7**	**+0.3**
GSI	**Gunungsitoli**	**3.57**	**146**	P		**P**	**Pn**	**15 06 37.4**	**+2.1**
MNSI	**Mandailing Nat**	**5.29**	**131**	P		**P**	**Pn**	**15 06 59.4**	**+0.6**
KRAB	41nm,0.7s,0.4nm **Krabi**	**5.30**	**42**	P		**P**	**Pn**	**15 07 00.8**	**+1.9**
TRTT	68nm,0.6s,3μm0.9nm **Trang**	**5.39**	**49**	P		**P**	**Pn**	**15 07 00.7**	**+0.6**
SURT	60nm,0.4s,2μm0.4nm **Suratani**	**5.62**	**34**	P		**P**	**Pn**	**15 07 05.6**	**+2.3**
SRIT	37nm,0.8s,0.2nm **Nakonsritamara**	**5.85**	**43**	P		**P**	**Pn**	**15 07 08.7**	**+2.3**
PBKT	47nm,1.1s,5μm0.3nm **Sadao Pong**	**13.30**	**23**	P		P	P	15 08 52.5	-3.3
LOEI	17nm,0.6s **Loei**	**14.26**	**23**	P		**P**	**P**	**15 09 09.0**	**+2.4**
CMAR	23nm,0.9s **Chiang Mai Arr**	**14.46**	**13**	P		**P**	**Pn**	**15 09 02.0**	**-1.6**
CMAR	0.3nm,0.3s,baz=200,slow=21,SNR=4.9			LR		LR	LR	15 14 42.9	
LAMP	comp=Z,143nm,18.2s,baz=200,slow=38 **Lampang**	**14.69**	**15**	P		**P**		**15 09 12.9**	**+1.6**
CHTO	3.0nm,0.8s **Chiang Mai**	**14.80**	**13**	P		**P**		**15 09 12.3**	**-0.3**
CMMT	74nm,0.9s **Chiang Mai**	**14.80**	**13**	P		**P**		**15 09 12.3**	**-0.3**
CMAI	21nm,0.9s **Chiengmai2**	**15.91**	**12**	P		**P**		**15 09 26.3**	**+1.3**
CRAI	**Chiangrai**	**16.51**	**16**	P		**Pn**		**15 09 29.6**	**-0.3**
ODAN	**Odare**	**23.77**	**342**	*e*P		**P**		**15 10 50.0**	**+0.6**
TAPN	**Taplejung**	**24.13**	**343**	*e*P		**P**		**15 10 52.4**	**-0.3**
PKI	17nm,0.8s **Pulchoki**	**25.10**	**338**	*e*P		**P**		**15 11 01.2**	**-0.4**
GUN	6.2nm,0.5s **Gumba**	**25.24**	**340**	*e*P		**P**		**15 11 02.7**	**-0.2**
KKN	19nm,0.6s **Kakani**	**25.35**	**338**	*e*P		**P**		**15 11 03.7**	**0.0**
GKN	11nm,0.7s **Gorkha**	**25.78**	**337**	*e*P		**P**		**15 11 07.8**	**+0.2**
H08S2	12nm,0.3s **Diego Garcia H**	**25.91**	**243**	T		T		15 37 28.4	
H08S3	baz=64,slow=74,SNR=35 **Diego Garcia H**	**25.92**	**243**	T		T		15 38 17.7	
H08S1	baz=64,SNR=34 **Diego Carcia H**	**25.93**	**243**	T		T		15 37 15.7	
KOLN	baz=64,slow=74,SNR=27 **Koldanda**	**25.99**	**335**	*e*P		**P**		**15 11 10.0**	**+0.4**
JOW	30nm,0.9s **Kunigami**	**38.43**	**51**	P		**P**		**15 12 56.2**	**-1.8**
KSRS	0.7nm,0.8s,baz=238,slow=6.7,SNR=5.4 **Korea Array**	**44.31**	**38**	P		**P**		**15 13 45.6**	**-0.4**
SONM	1.5nm,0.6s,baz=221,slow=8.7,SNR=11 **Songino Array**	**44.36**	**10**	P		**P**		**15 13 44.7**	**-1.8**
WRA	1.2nm,0.5s,baz=174,slow=4.3,SNR=6.1 **Warramunga Arr**	**45.05**	**124**	P		**P**		**15 13 52.2**	**-0.1**
ASAR	0.8nm,0.7s,baz=302,slow=9.2,SNR=12 **Alice Springs**	**46.55**	**128**	P		**P**		**15 14 04.2**	**+0.1**
KURBB	0.7nm,0.4s,baz=301,slow=7.6,SNR=17 **Kurchatov Arra**	**48.35**	**346**	P		**P**		**15 14 17.0**	**-0.5**
ZALV	1.2nm,0.6s,baz=165,slow=7.1,SNR=16 **Zalesovo Beam**	**50.28**	**352**	P		**P**		**15 14 31.4**	**-0.8**
FINES	3.4nm,0.4s,baz=180,slow=6.5,SNR=20 **FINESS Array B**	**76.53**	**332**	P		**P**		**15 17 25.5**	**+0.1**
ARCES	0.8nm,0.4s,baz=121,slow=6.9,SNR=9.1 **ARCESS Array B**	**79.10**	**340**	P		**P**		**15 17 39.5**	**-0.1**
GERES	2.7nm,0.9s,baz=90,slow=6.1,SNR=5.5 **GERESS Array B**	**81.44**	**319**	P		**P**		**15 17 54.5**	**+1.7**
NOA	0.5nm,0.5s,baz=108,slow=4.3,SNR=8.5 **NORSAR Array B**	**83.54**	**331**	P		**P**		**15 18 02.6**	**-0.7**
NVAR	0.3nm,0.8s,baz=94,slow=5.4,SNR=3.2 **Mina Array Bea**	**127.17**	**33**	PKP		**PKPdf**		**15 24 40.7**	**+0.4**
	0.3nm,0.7s,baz=347,slow=2.0,SNR=3.6								

ISCJB ***23*** *15:20:22.7±0.3, 28.°05N±0.°04×59.°11E±0.°04, h10km, mb4.0/17, MS3.3/6, Error ellipse: s-maj=6.1km s-min=3.9km az=140.8*
IDC ***23*** *15:20:22.5±0.8, 28.°06N×59.°03E, h0km, mb4.0/16, mb1 4.1/17, mb1mx3.9/50, mbtmp4.0/17, ML3.8/1, MS3.4/8, Ms1 3.4/8, ms1mx3.0/46, Error ellipse: s-maj=18.9km s-min=15.6km az=169.0*
NEIC ***23*** *15:20:24.3±0.5, 28.°05N×59.°12E, h10km, mb4.0/2, MN4.2(TEH), Error ellipse: s-maj=10.6km s-min=7.3km az=156.0*
CSEM ***23*** *15:20:24.2±0.2, 28.°01N×59.°17E, h10km, ML4.2, Error ellipse: s-maj=9.1km s-min=5.2km az=139.0*
THR ***23*** *15:20:24.3±1.5, 28.°02N×59.°07E, h15km, ML3.8*
DSN ***23*** *15:20:29.5±1.2, 27.°64N×59.°01E, h15km, mb3.4/6, ML4.2/5, Error ellipse: s-maj=30.0km s-min=11.7km az=139.0*
TEH ***23*** *15:20:29.0, 28.°25N×58.°93E, h13km, ML4.2*
ISC 23 15:20:24.3±0.5, 28.°09N±0.°04×58.°99E±0.°03, h10km, n80, σ1§40/85, mb4.0/17, MS3.3/6, 2C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHMN	**Cheshme madani**	**2.18**	**325**	*e*Pn		**Pb**	**Pb**	**15 21 03.0**	**-0.9**
CHMN	**Cheshme madani**	**2.18**	**325**	*e*Pn		**Pb**	**Pb**	**15 21 03.1**	**-0.9**
ZHSF	**Zahedan**	**2.18**	**45**	*e*Pg		**Pb**	**Pb**	**15 21 03.9**	**-0.1**
ZHSF				*e*Sg		**Sg**	**Sg**	**15 21 33.5**	**-1.0**
ZHSF	**Zahedan**	**2.18**	**45**	*e*Pg		**Pb**	**Pb**	**15 21 03.9**	**-0.1**
ZHSF				*e*Sg		**Sg**	**Sg**	**15 21 33.5**	**-1.0**
IBND	**Bandar-abas**	**2.26**	**254**	*e*Sg		**Sg**	**Sg**	**15 21 39.4**	**+2.5**
IBND				*e*Pn		**Pb**	**Pb**	**15 21 05.8**	**+0.6**
IBND	comp=Z,19μm,0.3s			*e*				15 21 58.6	
NGRK	**Negar Kerman**	**2.52**	**309**	*e*Pn		**Pb**	**Pb**	**15 21 10.2**	**+0.4**
NGRK	**Negar Kerman**	**2.52**	**309**	*e*Pn		**Pb**	**Pb**	**15 21 10.2**	**+0.4**
BNDS	**Bandar-Abbas**	**2.59**	**255**	*e*Pn		**Pb**	**Pb**	**15 21 09.4**	**-1.5**
BNDS				AML		AML	AML	15 21 53.3	
BNDS	comp=E,298nm,0.3s			AML		AML	AML	15 21 54.9	
BNDS	comp=N,528nm,0.4s **Bandar-Abbas**	**2.59**	**255**	*e*Pn		**Pb**	**Pb**	**15 21 09.4**	**-1.5**
KRBR	comp=N,274nm,0.8s **Kerman**	**2.72**	**315**	*e*Pn		**Pb**	**Pb**	**15 21 11.4**	**-1.7**
KRBR				*e*Sg		**Sg**	**Sg**	**15 21 52.2**	**+0.5**
KRBR				AML		AML	AML	15 21 53.6	
KRBR	comp=N,308nm,0.7s			AML		AML	AML	15 22 05.8	
KRBR	comp=E,339nm,0.7s			AML		AML	AML	15 22 09.0	
KRBR	**Kerman**	**2.72**	**315**	*e*Pn		**Pb**	**Pb**	**15 21 11.4**	**-1.7**
TVBK	**TV Kerman**	**2.72**	**315**	*e*Pn		**Pb**	**Pb**	**15 21 14.3**	**+1.1**
CHBR	**Chabahar**	**2.82**	**151**	*e*PN5		**Pn**	**Pn**	**15 21 08.6**	**-0.8**
CHBR				Sn		**Sn**	**Sn**	**15 21 42.6**	**-0.7**
CHBR				AML		AML	AML	15 22 07.1	
CHBR	comp=E,309nm,0.7s			AML		AML	AML	15 22 14.9	
KHGB	comp=N,274nm,0.8s **Koh Gabri**	**3.17**	**317**	*e*Pn		**Pb**	**Pb**	**15 21 18.1**	**-2.7**
BANOM	**Banah**	**3.22**	**229**	P		**Pn**	**Pn**	**15 21 15.4**	**+0.4**
BANOM	**Banah**	**3.22**	**229**	↑P		**Pn**	**Pn**	**15 21 15.4**	**+0.4**
HATD	**Hatta, Dubai**	**4.13**	**219**	P		**Pn**	**Pn**	**15 21 26.8**	**-0.7**
HATD	**Hatta, Dubai**	**4.13**	**219**	↓P		**Pn**	**Pn**	**15 21 26.8**	**-0.7**
ASHO	**Ashiyiah**	**4.29**	**218**	P		**Pn**	**Pn**	**15 21 30.0**	**+0.3**
ASHO	**Ashiyiah**	**4.29**	**218**	↓P		**Pn**	**Pn**	**15 21 30.0**	**+0.3**
IKOO	**Kooshah**	**4.33**	**0**	*e*Pn		**Pn**	**Pn**	**15 21 31.6**	**+1.2**
IKOO	comp=Z,2μm,0.2s			*e*				15 22 54.1	
IKOO	**Kooshah**	**4.33**	**0**	*e*Pn		**Pn**	**Pn**	**15 21 31.6**	**+1.2**
IKOO	**Kooshah**	**4.33**	**0**	Pn		**Pn**	**Pn**	**15 21 31.5**	**+1.2**
FAQ	**Al Faqa, Dubai**	**4.51**	**223**	P		**Pn**	**Pn**	**15 21 33.9**	**+1.2**
FAQ	**Al Faqa, Dubai**	**4.51**	**223**	↑P		**Pn**	**Pn**	**15 21 33.9**	**+1.2**
IDAH	**Dahanechah**	**4.70**	**9**	*e*Pn		**Pn**	**Pn**	**15 21 37.1**	**+1.5**
IDAH	comp=Z,1μm,0.5s			*e*				15 23 00.0	
IDAH	**Dahanechah**	**4.70**	**9**	Pn		**Pn**	**Pn**	**15 21 37.0**	**+1.5**
IDAH	**Dahanechah**	**4.70**	**9**	Pn		**Pn**	**Pn**	**15 21 37.0**	**+1.5**
ITEG	**Tejag**	**4.80**	**358**	*e*Pn		**Pn**	**Pn**	**15 21 38.0**	**+1.2**
ITEG	comp=Z,4μm,0.3s			*e*				15 23 10.0	
ITEG	**Tejag**	**4.80**	**358**	*e*Pn		**Pn**	**Pn**	**15 21 38.0**	**+1.2**
ITEG	**Tejag**	**4.80**	**358**	Pn		**Pn**	**Pn**	**15 21 38.0**	**+1.2**
GHIR	**Ghir-Karzin**	**5.30**	**274**	*e*Pn		**Pn**	**Pn**	**15 21 46.5**	**+2.8**
GHIR	**Ghir-Karzin**	**5.30**	**274**	*e*Pn		**Pn**	**Pn**	**15 21 46.5**	**+2.8**
ISRV	**Sarvestan**	**5.32**	**285**	*e*Pn		**Pn**	**Pn**	**15 21 47.0**	**+2.9**
ISRV				*e*Sn		**Sn**	**Sn**	**15 22 42.8**	**-2.9**
ISRV	comp=Z,1μm,0.8s			*e*				15 23 39.3	
ISRV	**Sarvestan**	**5.32**	**285**	Pn		**Pn**	**Pn**	**15 21 46.9**	**+2.9**
ISRV	**Sarvestan**	**5.32**	**285**	Pn		**Pn**	**Pn**	**15 21 46.9**	**+2.9**
ISRV				Sn		**Sn**	**Sn**	**15 22 42.7**	**-2.9**
SHRT	**Shahrakht**	**5.66**	**11**	*e*Pn		**Pn**	**Pn**	**15 21 49.9**	**+1.4**
SHRT	**Shahrakht**	**5.66**	**11**	*e*Pn		**Pn**	**Pn**	**15 21 49.9**	**+1.4**
IKAZ	**Kazeroun**	**6.49**	**287**	*e*Pn		**Pn**	**Pn**	**15 22 02.2**	**+2.1**
IKAZ	comp=Z,717nm,0.2s			*e*				15 23 23.8	
IKAZ	**Kazeroun**	**6.49**	**287**	*e*Pn		**Pn**	**Pn**	**15 22 02.2**	**+2.1**
IKAZ	**Kazeroun**	**6.49**	**287**	Pn		**Pn**	**Pn**	**15 22 02.2**	**+2.1**
RAYN	**Ar Rayn**	**12.97**	**253**	Pn		**Pn**	**Pn**	**15 23 26.1**	**-2.6**
GNI	**Garni**	**16.83**	**319**	LR		LR	LR	15 31 30.6	
EKS2	comp=Z,133nm,19.2s,baz=112,slow=40 **Erkin-Say**	**18.85**	**36**	*e*P		**Pn**	**Pn**	**15 24 45.2**	**+0.1**
EKS2	comp=Z,6.2nm,0.8s **Erkin-Say**	**18.85**	**36**	*e*P		**Pn**	**Pn**	**15 24 45.2**	**+0.1**
AAK	comp=Z,6.2nm,0.8s **Ala-Archa**	**19.20**	**37**	LR		LR	LR	15 33 15.8	
ASF	comp=Z,111nm,18.9s,baz=190,slow=40 **Jabal al Asfar**	**19.53**	**287**	P		**Pn**		**15 24 53.8**	**+0.5**
KBZ	comp=Z,0.3nm,0.3s,baz=0.0,slow=1.0,SNR=3.6 **Khabaz**	**20.28**	**325**	P		Pn		15 25 01.7	-0.2
EI

HNR	**Honiara**	**2.62**	**109**	*eP*	**Pn**	**15 27 48.0**	**-0.2**
WRA	**Warramunga Arr**	**25.04**	**241**	P	**P**	**15 32 29.8**	**-0.4**
	1.8nm,0.9s,baz=67,slow=9.6,SNR=10						
GUMO	**Guam**	**25.32**	**330**	LR	LR	15 40 47.4	
	comp=Z,22nm,21.3s,baz=220,slow=33						
ASAR	**Alice Springs**	**27.07**	**234**	P	**P**	**15 32 48.0**	**-0.6**
	0.5nm,0.9s,baz=58,slow=10,SNR=3.4						
STKA	**Stephens Creek**	**27.46**	**210**	P	**P**	**15 32 52.7**	**+0.7**
	2.7nm,0.8s,baz=52,slow=12,SNR=3.7						
NVAR	**Mina Array Bea**	**90.80**	**51**	P	**P**	**15 40 09.8**	**+0.2**
	0.4nm,0.8s,baz=238,slow=5.2,SNR=2.2						
LPIG	**La Paz**	**95.49**	**67**	LR	LR	16 14 31.0	
	comp=Z,239nm,20.2s,slow=30						

DDA ***23*** *15:43:09.6,35°.14N×40°.27E,h7km,MD3.7*
ISK ***23*** *15:43:12.1,35°.26N×40°.16E,h5km,ML3.9*
CSEM ***23*** *15:43:14.0±0.7,35°.24N×40°.19E,h2km,ML3.9, Error ellipse: s-maj=16.0km s-min=6.3km az=171.0*

ISC 23 15:43:15.0±1.5, 35°.35N±0°.07×40°.11E±0°.04, h10km, n52, σ1§37/66, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARD	**Mardin**	**2.04**	**15**	*iP*	**Pn**	**15 43 49.3**	**-0.2**
MARD				*i*S	**Sg**	**15 44 20.5**	**-0.1**
MAZI	**Mazidag**	**2.13**	**7**	*e*PN	**Pn**	**15 43 50.5**	**-0.3**
MAZI				*e*SN	**Sb**	**15 44 20.0**	**-0.3**
MAZI	**Mazidag**	**2.13**	**7**	*e*Pn	**Pn**	**15 43 50.5**	**-0.3**
MAZI				*e*Sn	**Sb**	**15 44 20.0**	**-0.3**
URFA	**Urfa**	**2.33**	**334**	*e*PN	**Pn**	**15 43 54.8**	**+1.2**
URFA				*e*SN	**Sb**	**15 44 25.5**	**-0.6**
URFA	**Urfa**	**2.33**	**334**	*e*Pn	**Pn**	**15 43 54.8**	**+1.2**
URFA				*e*Sn	**Sb**	**15 44 25.5**	**-0.6**
DIY	**Diyarbakir**	**2.55**	**2**	*e*Pn	**Pn**	**15 43 58.2**	**+1.7**
DIYA	**Diyarbakir**	**2.57**	**0**	*i* P	**Pn**	**15 43 57.0**	**+0.2**
DIYA				*i* S	**Sg**	**15 44 35.7**	**-2.0**
DIYA	**Diyarbakir**	**2.57**	**0**	*i* P	**Pn**	**15 43 57.0**	**+0.2**
DIYA				*i* S	**Sg**	**15 44 35.7**	**-2.0**
ATAB	**Bozova**	**2.57**	**326**	*i* P	**Pb**	**15 44 01.3**	**0.0**
ATAB				*i* S	**Sb**	**15 44 33.4**	**+0.4**
ATAB	**Bozova**	**2.57**	**326**	*i* P	**Pb**	**15 44 01.3**	**0.0**
ATAB				*i* S	**Sb**	**15 44 33.4**	**+0.4**
DYBB	**Diyarbakir**	**2.60**	**1**	*e*PN	**Pn**	**15 43 58.2**	**+0.9**
BEST	**Besiri**	**2.71**	**20**	*i* P	**Pn**	**15 43 58.9**	**+0.2**
KUZU	**Kuzuini**	**2.84**	**301**	*i* P	**Pb**	**15 44 03.1**	**-2.8**
KUZU				*i* S	**Sb**	**15 44 39.0**	**-1.6**
KUZU	**Kuzuini**	**2.84**	**301**	*i* P	**Pb**	**15 44 03.1**	**-2.8**
KUZU				*i* S	**Sb**	**15 44 39.0**	**-1.6**
SIRN	**S¨–rnak**	**2.84**	**40**	*i* P	**Pb**	**15 44 05.0**	**-0.9**
SIRN				*i* S	**Sn**	**15 44 36.5**	**+1.7**
SIRN	**S¨–rnak**	**2.84**	**40**	*i* P	**Pb**	**15 44 05.0**	**-0.9**
SIRN				*i* S	**Sn**	**15 44 36.5**	**+1.7**
SIRT	**Sirnak**	**2.86**	**41**	*e*PN	**Pn**	**15 44 01.2**	**+0.5**
SIRT	**Sirnak**	**2.86**	**41**	*e*Pn	**Pn**	**15 44 01.3**	**+0.5**
GZT	**Gaziantep**	**2.87**	**315**	*i* P	**Pb**	**15 44 04.1**	**-2.3**
GZT				*i* S	**Sb**	**15 44 40.7**	**-0.9**
SVAN	**Silvan-Diyarba**	**2.93**	**17**	*e*PN	**Pn**	**15 44 02.6**	**+0.9**
BTMT	**Batman**	**3.05**	**21**	*e*PN	**Pn**	**15 44 04.2**	**+0.9**
BTMT	**Batman**	**3.05**	**21**	*e*Pn	**Pn**	**15 44 04.3**	**+0.9**
MALT	**Malatya**	**3.25**	**336**	*e*PN	**Pn**	**15 44 07.0**	**+0.8**
MALT	**Malatya**	**3.25**	**336**	*e*Pn	**Pn**	**15 44 07.0**	**+0.8**
ELZG	**Elazig**	**3.27**	**344**	*i* P	**Pn**	**15 44 06.6**	**+0.1**
ELZG	**Elazig**	**3.27**	**344**	*i* P	**Pn**	**15 44 06.6**	**+0.1**
YAYL	**Yayladag**	**3.33**	**283**	*i* P	**Pn**	**15 44 06.9**	**-0.4**
YAYL				*i* S	**Sn**	**15 44 50.3**	**+3.4**
YAYL	**Yayladag**	**3.33**	**283**	*i* P	**Pn**	**15 44 06.9**	**-0.4**
YAYL				*i* S	**Sn**	**15 44 50.3**	**+3.4**
KAMA	**Osmaniye**	**3.33**	**304**	*i* P	Pn	15 44 02.9	-4.3
KAMA				*i* S	**Sb**	**15 44 53.2**	**-1.7**
TAHT	**Tahtakopru-Hat**	**3.35**	**289**	*e*PN	**Pn**	**15 44 08.5**	**+1.1**
TAHT	**Tahtakopru-Hat**	**3.35**	**289**	*e*Pn	**Pn**	**15 44 08.5**	**+1.1**
KMRS	**Kahramanmaras**	**3.37**	**311**	*e*PN	**Pn**	**15 44 09.3**	**+1.6**
KMRS	**Kahramanmaras**	**3.37**	**311**	*e*Pn	**Pn**	**15 44 09.3**	**+1.6**
CUKT	**Cukurca**	**3.41**	**55**	*e*PN	**Pn**	**15 44 08.5**	**+0.1**
CUKT	**Cukurca**	**3.41**	**55**	*e*Pn	**Pn**	**15 44 08.5**	**+0.1**
BINT	**Bingol**	**3.54**	**5**	*e*Pn	Pn	15 44 13.5	+3.4
HAKT	**HAKKARI**	**3.65**	**52**	*i* P	**Pn**	**15 44 12.4**	**+0.6**
HAKT	**HAKKARI**	**3.65**	**52**	*i* P	**Pn**	**15 44 12.4**	**+0.6**
BNGB	**Bing¨l**	**3.67**	**7**	*e*PN	**Pn**	**15 44 13.5**	**+1.6**
HKR	**Hakkari**	**3.68**	**52**	*e*PN	**Pn**	**15 44 12.7**	**+0.5**
HKR	**Hakkari**	**3.68**	**52**	*e*Pn	**Pn**	**15 44 12.7**	**+0.5**
ANDN	**Andirin**	**3.76**	**307**	*i* P	Pn	15 44 08.9	-4.3
DARE	**Darende-Malaty**	**3.84**	**328**	*e*PN	**Pn**	**15 44 16.0**	**+1.7**
DARE	**Darende-Malaty**	**3.84**	**328**	*e*Pn	**Pn**	**15 44 16.0**	**+1.7**
CEYT	**Ceyhan**	**3.90**	**296**	*e*PN	**Pn**	**15 44 16.9**	**+2.0**
CEYT	**Ceyhan**	**3.90**	**296**	*e*Pn	**Pn**	**15 44 16.9**	**+2.0**
VRTB	**Varto-Mus**	**3.96**	**15**	*e*PN	**Pn**	**15 44 17.3**	**+1.4**
VRTB	**Varto-Mus**	**3.96**	**15**	*e*Pn	**Pn**	**15 44 17.3**	**+1.4**
KOZT	**Kozan**	**4.05**	**303**	*e*PN	**Pn**	**15 44 18.8**	**+1.7**
KOZT	**Kozan**	**4.05**	**303**	*e*Pn	**Pn**	**15 44 18.8**	**+1.7**
AGRB	**Hanur-Agry**	**4.80**	**28**	*e*PN	**Pn**	**15 44 29.2**	**+1.5**
AGRB	**Hanur-Agry**	**4.80**	**28**	*e*Pn	**Pn**	**15 44 29.2**	**+1.5**

CSEM ***23*** *15:43:13.0±0.5, 33°.93N×35°.42E,h24km±3km, ML2.5, Error ellipse: s-maj=19.3km s-min=7.5km az=88.0*

GRAL 23 15:43:15.1±0.3, 33°.91N×35°.49E, h23km±2km, MD2.5, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHL	**Bhannes**	**0.14**	**92**	*e*P	Pb	15 43 19.5	-0.5
BHL				*e*S	Sb	15 43 22.8	-0.5
BHL	**Bhannes**	**0.14**	**92**	*e*P	Pb	15 43 19.5	-0.5
BHL				*e*S	Sb	15 43 22.8	-0.5
DQRL	**Deir Qamar**	**0.21**	**161**	*e*P	Pb	15 43 20.4	-0.5
DQRL	**Deir Qamar**	**0.21**	**161**	*e*P	Pb	15 43 20.4	-0.5
RCY	**Rachaya**	**0.50**	**145**	*e*P	Pb	15 43 24.5	-1.0
RCY				*e*S	Sb	15 43 31.5	-1.1
RCY	**Rachaya**	**0.50**	**145**	*e*P	Pb	15 43 24.5	-1.0
RCY				*e*S	Sb	15 43 31.5	-1.1
HWQ	**Hawqa**	**0.53**	**46**	*e*P	Pb	15 43 24.9	-1.0
HWQ	**Hawqa**	**0.53**	**46**	*e*P	Pb	15 43 24.9	-1.1

IDC ***23*** *15:56:01.2±4.0,25°.96N×124°.70E,h137km±57km,mb3.1/3, mb1 3.4/6,mb1mx3.1/31,mbtmp3.7/6,MS3.2/1,Ms1 3.2/1, ms1mx2.1/15,Error ellipse: s-maj=49.4km s-min=26.9km az=40.0*
ISCJB ***23*** *15:56:02.2±0.5,26°.13N±0°.07×124°.92E±0°.06, h178km±6km,mb3.3/3,Error ellipse: s-maj=13.0km s-min=4.2km az=144.2*
JMA ***23*** *15:56:03.3±0.3,26°.30N×124°.73E,h154km,M3.7*

ISC 23 15:56:02.9±1.0, 26°.17N±0°.08×124°.92E±0°.06, h179km±9km, n31, σ1§52/49, mb3.4/3, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**1.27**	**167**	P	**Pn**	**15 56 33.3**	**+0.5**
JIKM				*e*S	**Sn**	**15 56 55.4**	**-0.5**
JIRB	**Irabujima**	**1.35**	**170**	P	**Pn**	**15 56 33.7**	**+0.2**
JIRB				*e*S	**Sn**	**15 56 56.7**	**-0.4**
JMJ	**Miyako jima 2**	**1.39**	**166**	P	**Pn**	**15 56 34.4**	**+0.6**
JMJ				*e*S	**Sn**	**15 56 56.9**	**-0.8**
JOGS	**Gusukube**	**1.47**	**163**	P	**Pn**	**15 56 35.5**	**+0.9**
JOGS				*e*S	**Sn**	**15 56 58.9**	**-0.1**
JTJ	**Tarama**	**1.54**	**187**	P	**Pn**	**15 56 35.3**	**+0.1**
JTJ				*e*S	**Sn**	**15 56 58.2**	**-1.9**
JISG	**Ishigakijimahi**	**1.67**	**199**	P	**Pn**	**15 56 36.1**	**-0.4**
JISG				*e*S	**Sn**	**15 57 01.2**	**-1.3**
JKE	**Kume jima 2**	**1.68**	**84**	P	**Pn**	**15 56 37.1**	**+0.5**
JIJ	**Ishigaki jima**	**1.93**	**202**	P	**Pn**	**15 56 38.4**	**-0.8**
JIJ				*e*S	**Sn**	**15 57 04.5**	**-2.9**
JKRS	**Kuro-shima**	**2.09**	**203**	P	**Pn**	**15 56 40.3**	**-0.7**
JKRS				*e*S	**Sn**	**15 57 08.3**	**-2.2**
IRIF	**Iriomote-Funau**	**2.12**	**211**	P	**Pn**	**15 56 40.4**	**-0.9**
IRIF				*e*S	**Sn**	**15 57 09.4**	**-1.6**
JAGN	**Aguni-jima**	**2.12**	**78**	P	**Pn**	**15 56 41.6**	**+0.4**
HATJ	**Hateruma jima**	**2.33**	**206**	P	**Pn**	**15 56 43.0**	**-0.7**
HATJ				*e*S	**Sn**	**15 57 12.8**	**-2.5**
YOJ	**Yonaguni jima**	**2.42**	**226**	P	**Pn**	**15 56 44.4**	**-0.3**
YOJ				*e*S	**Sn**	**15 57 15.8**	**-1.4**
JYNG	**Yonagunijimaku**	**2.48**	**227**	P	**Pn**	**15 56 44.9**	**-0.4**
JYNG				S	**Sn**	**15 57 17.3**	**-0.9**
JJT2	**Tamagusuku 2**	**2.54**	**90**	P	**Pn**	**15 56 47.1**	**+1.1**
JJT2				*e*S	**Sn**	**15 57 20.0**	**+0.5**
JNTH	**Nagotoyohara**	**2.80**	**82**	P	**Pn**	**15 56 49.6**	**+0.5**
JNTH				*e*S	**Sn**	**15 57 24.0**	**-1.1**
JIH	**Iheya**	**2.86**	**72**	P	**Pn**	**15 56 49.9**	**+0.1**
JOW	**Kunigami**	**3.08**	**77**	P	**Pn**	**15 56 52.3**	**-0.1**
JOW				*e*S	**Sn**	**15 57 28.8**	**-2.3**
JOW	**Kunigami**	**3.08**	**77**	P	**Pn**	**15 56 52.5**	**0.0**
	9.9nm,0.3s,baz=167,slow=12,SNR=863						
JOW				S	**Sn**	**15 57 28.0**	**-3.1**
	4.1nm,0.3s,baz=323,slow=28,SNR=28						
JOKE	**Okinoerabujima**	**3.47**	**69**	P	**Pn**	**15 56 56.8**	**-0.5**
JOKE				*e*S	**Sn**	**15 57 39.8**	**0.0**
JTK	**Tokunoshima**	**3.94**	**65**	P	**Pn**	**15 57 02.3**	**-0.9**
JTK				*e*S	**Sn**	**15 57 47.1**	**-3.3**
JAMN	**Amaminishikomi**	**4.31**	**60**	P	**Pn**	**15 57 06.8**	**-1.2**
JAM	**Amami Oshima**	**4.73**	**61**	P	**Pn**	**15 57 12.0**	**-1.3**
JTAJ	**Takarajima**	**4.82**	**51**	P	**Pn**	**15 57 14.2**	**-0.3**
JMZ	**Minamidaito 2**	**5.68**	**92**	P	**Pn**	**15 57 25.3**	**-0.4**
JMZ				*e*S	**Sn**	**15 58 26.1**	**-4.7**
JNU	**Nakatsue**	**8.65**	**35**	P	**Pn**	**15 58 07.0**	**+2.3**
	0.7nm,0.3s,baz=215,slow=3.9,SNR=7.5						
KSRS	**Korea Array**	**11.54**	**12**	P	**Pn**	**15 58 44.5**	**+2.2**
	baz=188,slow=13,SNR=7.7						
CMAR	**Chiang Mai Arr**	**25.20**	**258**	P	**P**	**16 01 12.1**	**-0.1**
	0.5nm,0.5s,baz=63,slow=7.9,SNR=4.7						
ZALV	**Zalesovo Beam**	**40.53**	**324**	LR	LR	16 21 41.0	
	comp=Z,31nm,20.6s,baz=250,slow=38						
WRA	**Warramunga Arr**	**46.74**	**168**	P	**P**	**16 04 15.0**	**+0.8**
	0.5nm,0.4s,baz=349,slow=8.6,SNR=9.5						
ASAR	**Alice Springs**	**50.30**	**169**	P	**P**	**16 04 42.7**	**+1.3**
	0.3nm,0.5s,baz=353,slow=7.8,SNR=19						

IDC ***23*** *16:16:51.6±6.9, 16°.06N×97°.95W,h0km,mb3.5/4, mb1 3.9/5,mb1mx3.5/44,mbtmp3.5/5,MS2.1/1,Ms1 2.1/1, ms1mx2.0/17,Error ellipse: s-maj=182.5km s-min=108.3km az=76.0*
ISCJB ***23*** *16:16:52.7±1.7, 15°.97N±0°.08×98°.72W±0°.06, h27km±11km, mb3.3/3,Error ellipse: s-maj=14.4km s-min=7.4km az=27.2*
NEIC ***23*** *16:16:54.6, 15°.90N×98°.74W, h20km, MD4.1(MEX), After MEX.*
MEX ***23*** *16:16:54.6±0.7, 15°.90N×98°.74W, h20km±3km, MD4.1*

ISC 23 16:16:51.8±2.2, 15°.91N±0°.09×98°.75W±0°.06, h24km±17km, n16, σ0§63/20, mb3.4/3, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.77**	**51**	*e*P	**Pb**	**16 17 06.9**	**+0.4**
PNIG				*e*S	**Sb**	**16 17 15.9**	**-0.7**
PNIG	**Pinotepa**	**0.77**	**51**	*e*P	**Pb**	**16 17 06.9**	**+0.4**
PNIG				*e*S	**Sb**	**16 17 15.9**	**-0.7**
TLIG	**Tlapa**	**1.66**	**6**	*e*P	**Pn**	**16 17 19.9**	**+0.4**
TLIG				*e*S	**Sn**	**16 17 39.5**	**-0.6**
CAIG	**El Cayaco**	**1.85**	**308**	*e*P	**Pn**	**16 17 21.8**	**-0.2**
CAIG				*i* S	**Sn**	**16 17 44.7**	**0.0**
CAIG	**El Cayaco**	**1.85**	**308**	*e*P	**Pn**	**16 17 21.8**	**-0.2**
CAIG				*i* S	**Sn**	**16 17 44.7**	**0.0**
HUIG	**Huatulco**	**2.54**	**93**	*e*P	**Pn**	**16 17 31.6**	**0.0**
HUIG				*e*S	**Sn**	**16 18 01.9**	**0.0**
HUIG	**Huatulco**	**2.54**	**93**	*e*P	**Pn**	**16 17 31.6**	**0.0**
HUIG				*e*S	**Sn**	**16 18 01.9**	**0.0**
PLIG	**Platanillo**	**2.57**	**344**	*e*P	**Pn**	**16 17 33.4**	**+1.3**
PLIG				*i* S	**Sn**	**16 18 01.9**	**-0.8**
PLIG	**Platanillo**	**2.57**	**344**	*e*P	**Pn**	**16 17 33.4**	**+1.3**
PLIG				*i* S	**Sn**	**16 18 01.9**	**-0.8**
ARIG	**Puente Sto Nin**	**2.81**	**327**	*e*P	**Pn**	**16 17 35.0**	**-0.3**
ARIG				*i* S	**Sn**	**16 18 08.7**	**+0.2**
CMIG	**Matias Romero**	**3.89**	**72**	LR	LR	16 19 05.1	
	comp=Z,30nm,18.5s,baz=293,slow=43						
TXAR	**Lajitas Array**	**14.11**	**342**	Pn	P	16 20 15.0	-2.8
	baz=147,slow=14,SNR=2.3						
ANMO	**Albuquerque**	**20.18**	**341**	P	Pn	16 21 29.6	+2.6
	1.8nm,0.8s,baz=154,slow=12,SNR=4.0						
NVAR	**Mina Array Bea**	**28.27**	**326**	P	P	16 22 49.7	+6.1
	0.2nm,0.4s,baz=147,slow=8.6,SNR=2.6						
PDAR	**Pinedale Array**	**28.33**	**343**	P	P	16 22 49.1	+5.0
	0.5nm,0.7s,baz=141,slow=9.6,SNR=4.1						
ILAR	**Eielson Array**	**58.58**	**338**	P	P	16 26 50.4	+4.0
	0.5nm,0.9s,baz=145,slow=5.7,SNR=4.6						

IDC ***23*** *16:22:15.3±2.4, 4°.88N×76°.21W, h134km±20km, mb3.5/6, mb1 3.6/7,mb1mx3.4/22,mbtmp3.9/7,MS2.9/1,Ms1 2.9/1, ms1mx2.4/22,Error ellipse: s-maj=27.7km s-min=20.7km az=55.0*

ISC 23 16:22:11.8±0.8, 4°.8N±0°.2×76°.4W±0°.1, h103km, n13, σ1§24/13, mb3.7/6, Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.09**	**89**	P	**Pn**	**16 22 48.1**	**+2.0**
	12nm,0.3s,baz=274,slow=17,SNR=7.6						
ROSC				LR	LR	16 23 47.2	
	comp=Z,90nm,18.4s,baz=211,slow=49						
JTS	**JuntasAbangare**	**10.05**	**303**	LR	LR	16 28 24.4	
	comp=Z,62nm,20.0s,baz=136,slow=36						
PTGA	**Pitinga**	**17.34**	**108**	P	**Pn**	**16 26 07.5**	**-0.2**
	0.5nm,0.3s,baz=303,slow=12,SNR=5.6						
LPAZ	**La Paz**	**22.52**	**159**	P	**P**	**16 27 05.0**	**+1.1**
	0.6nm,0.4s,baz=333,slow=11,SNR=4.2						
SIV	**San Ignacio**	**25.66**	**144**	P	**P**	**16 27 31.8**	**-0.5**
	2.6nm,0.5s,baz=342,slow=7.7,SNR=9.7						
TXAR	**Lajitas Array**	**35.48**	**316**	PcP	**PcP**	**16 31 26.8**	**+0.5**
	0.3nm,0.7s,baz=145,slow=4.6,SNR=4.4						
NVAR	**Mina Array Bea**	**50.62**	**317**	P	**P**	**16 31 02.3**	**+1.5**
	0.5nm,0.8s,baz=121,slow=7.8,SNR=3.6						
NVAR				PcP	**PcP**	**16 32 17.0**	**0.0**
	0.5nm,0.6s,baz=137,slow=5.2,SNR=4.3						
DBIC	**Dimbokro**	**71.19**	**85**	P	**P**	**16 33 18.7**	**-1.6**
	8.8nm,1.1s,baz=224,slow=5.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**77.37**	**78**	P	**P**	**16 33 54.8**	**-1.4**
	0.9nm,0.5s,baz=279,slow=6.5,SNR=16						
SNAA	**Sanae**	**89.43**	**162**	P	**P**	**16 34 56.9**	**+0.1**
	0.2nm,0.5s,baz=277,slow=7.2,SNR=19						
ASAR	**Alice Springs**	**145.27**	**234**	PKPbc	**PKPbc**	**16 41 37.2**	**-1.1**
	0.7nm,0.4s,baz=121,slow=3.9,SNR=16						
WRA	**Warramunga Arr**	**146.49**	**241**	PKPbc	**PKPdf**	**16 41 41.3**	**+0.7**
	0.5nm,0.5s,baz=110,slow=3.0,SNR=8.3						
CMAR	**Chiang Mai Arr**	**156.43**	**11**	PKPab	**PKPab**	**16 42 22.9**	**-1.3**
	0.4nm,0.7s,baz=327,slow=6.0,SNR=4.1						

IDC ***23*** *16:29:43.7±0.6, 34°.71S×72°.75W, h0km, mb4.1/11, mb1 4.2/13,mb1mx4.1/25,mbtmp4.0/13,ML3.7/3,MS3.6/2, Ms1 3.6/2,ms1mx3.1/20,Error ellipse: s-maj=21.9km s-min=13.2km az=96.0*
GUC ***23*** *16:29:46.0±0.7, 34°.58S×72°.87W, h52km±7km, ML3.4*
ISCJB ***23*** *16:29:47.3±0.5, 34°.60S±0°.04×72°.85W±0°.07, h33km, mb4.1/13, MS3.5/1, Error ellipse: s-maj=8.4km s-min=5.5km az=6.5*
NEIC ***23*** *16:29:47.5±4.6, 34°.68S×72°.92W, h26km±32km, mb4.4/4, Error ellipse: s-maj=23.2km s-min=9.8km az=89.0*

ISC 23 16:29:48.8±0.6, 34°.64S±0°.05×72°.86W±0°.09, h35km, n34, σ1§28/34, mb4.1/13, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**1.38**	**61**	*i*P	**Pn**	**16 30 09.8**	**-1.8**
COCH	**Cobquecura**	**1.49**	**178**	*i*P	**Pn**	**16 30 12.8**	**-0.3**
COCH				*i* S	**Sn**	**16 30 32.8**	**+1.5**
LNCH	**Linares**	**1.58**	**140**	*i*P	**Pn**	**16 30 13.0**	**-1.4**
LNCH				*i* S	**Sn**	**16 30 34.2**	**+0.6**
TACH	**Talagante**	**1.87**	**59**	*i*P	**Pn**	**16 30 16.8**	**-1.6**
SAN	**Santiago**	**2.17**	**58**	*i*P	Pn	16 30 27.0	+4.4
SAN				*i* S	Sn	16 30 58.1	+10
CLCH	**Cerro Calan**	**2.29**	**58**	*i*P	Pn	16 30 27.5	+3.3
CLCH				*i* S	Sn	16 31 00.9	+10
PEL	**Peldehue**	**2.34**	**51**	*i*P	**Pn**	**16 30 24.1**	**-0.8**
CFAA	**Coronel Fontan**	**4.92**	**53**	Pn	**Pn**	**16 31 00.2**	**0.0**
	0.4nm,0.3s,baz=225,slow=12,SNR=13						
CFAA				Sn	**Sn**	**16 31 57.1**	**+1.2**
	0.9nm,0.3s,baz=223,slow=13,SNR=3.3						
CFAA				Lg	Lg	16 32 16.9	
	2.0nm,0.3s,baz=140,slow=7.7,SNR=8.5						
PLCA	**Paso Flores**	**6.35**	**164**	Pn	**Pn**	**16 31 17.2**	**-2.8**
	0.7nm,0.3s,baz=335,slow=11,SNR=6.7						
PLCA				Lg	Lg	16 33 00.2	
	0.8nm,0.3s,baz=31,slow=17,SNR=4.0						
PLCA	**Paso Flores**	**6.35**	**164**	*e*Pn	**Pn**	**16 31 18.3**	**-1.7**
PLCA				Lg	Lg	16 33 00.2	
TRQA	**Tornquist**	**9.41**	**114**	*e*Pn	**Pn**	**16 32 04.5**	**+2.5**
	10nm,0.7s						
LVC	**Limon Verde**	**12.47**	**17**	LR	LR	16 37 36.1	
	comp=Z,363nm,20.2s,baz=236,slow=38						
LPAZ	**La Paz**	**18.76**	**14**	P	**P**	**16 34 05.7**	**+0.1**
	0.2nm,0.3s,baz=192,slow=6.8,SNR=11						
LPAZ	**La Paz**	**18.76**	**14**	*e*P	**P**	**16 34 05.0**	**-0.5**
	7.5nm,1.2s						
SIV	**San Ignacio**	**21.37**	**33**	P	**P**	**16 34 32.9**	**-0.4**
	6.9nm,0.8s,baz=220,slow=12,SNR=14						
SDV	**Santo Domingo**	**43.34**	**3**	P	**P**	**16 37 47.2**	**-0.7**
SNAA	**Sanae**	**51.25**	**158**	P	**P**	**16 38 47.5**	**-1.2**
SNAA	**Sanae**	**51.25**	**158**	P	**P**	**16 38 47.9**	**-0.8**
	0.7nm,0.8s,baz=266,slow=7.6,SNR=10						
SNAA	**Sanae**	**51.25**	**158**	*e*P	**P**	**16 38 45.6**	**-3.1**
	7.7nm,1.2s						
QSPA	**South Pole Qui**	**55.60**	**180**	P	**P**	**16 39 20.6**	**-0.2**
	3.9nm,1.1s,baz=151,slow=4.9,SNR=6.6						
VNDA	**Vanda**	**63.34**	**191**	P	**P**	**16 40 14.4**	**+0.6**
	0.8nm,0.8s,baz=133,slow=4.3,SNR=4.4						
TXAR	**Lajitas Array**	**69.97**	**332**	P	**P**	**16 40 57.1**	**+0.3**
	0.9nm,0.8s,baz=155,slow=6.7,SNR=8.6						
TXAR				LR	LR	17 06 34.5	
	comp=Z,28nm,18.2s,baz=0.0,slow=32						
MAW	**Mawson**	**72.76**	**164**	P	**P**	**16 41 12.8**	**-0.3**
	4.1nm,0.8s,baz=243,slow=9.0,SNR=3.1						
BOSA	**Boshof**	**80.37**	**118**	P	**P**	**16 41 57.0**	**0.0**
	1.8nm,0.8s,baz=238,slow=9.5,SNR=3.4						
ECSD	**EROS Data Cent**	**80.95**	**343**	*e*P	**P**	**16 41 59.6**	**+0.2**
	9.7nm,1.2s						
NVAR	**Mina Array Bea**	**84.03**	**326**	P	**P**	**16 42 17.1**	**+1.4**
	0.7nm,0.6s,baz=159,slow=5.5,SNR=4.9						
PDAR	**Pinedale Array**	**84.03**	**334**	P	**P**	**16 42 16.5**	**+0.8**
	0.5nm,0.6s,baz=162,slow=0.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**85.06**	**70**	P	**P**	**16 42 21.4**	**+0.1**
	1.4nm,0.6s,baz=246,slow=3.5,SNR=10.0						
ULM	**Lac du Bonnet**	**86.94**	**345**	P	**P**	**16 42 29.4**	**-0.3**
	1.4nm,0.5s,baz=158,slow=5.4,SNR=3.0						
MCMT	**McKenzie Canyo**	**87.02**	**333**	*e*P	**P**	**16 42 31.3**	**+0.8**
	1.8nm,1.1s						
WRA	**Warramunga Arr**	**119.88**	**210**	PKP	**PKPdf**	**16 48 34.9**	**-1.1**
	0.7nm,0.8s,baz=157,slow=1.6,SNR=6.3						
BRVK	**Borovoye**	**148.14**	**43**	*e*PKPbc	**PKPbc**	**16 49 30.8**	**+0.4**
ZALV	**Zalesovo Beam**	**155.12**	**32**	PKPbc	PKPbc	16 49 46.8	
	1.5nm,0.8s,baz=297,slow=1.3,SNR=6.4						
ZALV				PKPab	**PKPab**	**16 50 03.2**	**+0.9**
	2.1nm,0.7s,baz=297,slow=4.0,SNR=7.1						
SONM	**Songino Array**	**166.80**	**2**	PKPab	**PKPab**	**16 50 55.1**	**+1.6**
	0.3nm,0.5s,baz=336,slow=3.2,SNR=3.3						

IDC 23 16:36:22.1±3.0, 22°.65N×11°.59W, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.4/25, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=105.7km s-min=31.6km az=84.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**15.78**	**125**	Pn	Pn	16 40 05.1	-0.7
	0.0nm,0.3s,baz=312,slow=13,SNR=3.3						
DBIC	**Dimbokro**	**17.17**

Indiana, Kentucky, Maine, Maryland, Missouri, Virginia, West Virginia and Wisconsin.
SZGRF ***23*** *17:41:45.6, 46°.11N×74°.88W, h24km, mb5.1, Southern Quebec, Canada*

ISC 23 17:41:41.3±0.2, 45°.88N±0°.01×75°.59W±0°.01, h19km, h19km:pP-P, n1374, σ1°64/1383, mb5.4/312, MS4.7/69, 107C-29D, Southern Ontario

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GAC	**Glen Almond**	**0.19**	**156**	↑Pg		**Pg**	**17 41 46.8**	**+0.6**
GAC				Sg		**Sg**	**17 41 50.0**	**+0.5**
GAC	**Glen Almond**	**0.19**	**156**	↑PG		**Pg**	**17 41 46.8**	**+0.6**
GAC				SG		**Sg**	**17 41 50.0**	**+0.5**
LSQ1	**Lac Sinclair,**	**0.40**	**258**	↓PG		**Pn**	**17 41 51.3**	**-0.8**
LSQ1				PG		**Pn**	**17 41 51.3**	**-0.8**
LSQ1				SG		**Sn**	**17 41 58.1**	**-1.1**
LSQ1				SG		**Sn**	**17 41 58.1**	**-1.1**
LSQ1				Trac			17 41 59.0	
	comp=Z,266μm,0.3s							
ORHO	**Orleans, Herit**	**0.42**	**175**	↑PG		**Pb**	**17 41 50.5**	**+0.3**
ORHO				SG		**Sg**	**17 41 55.1**	**-0.8**
ORHO				SG		**Sb**	**17 41 56.7**	**+0.5**
ORHO				Trac			17 41 57.0	
	comp=Z,156μm,0.1s							
ORIO	**Orleans, Innes**	**0.43**	**173**	↑PG		**Pb**	**17 41 50.5**	**+0.2**
ORIO				SG		**Sg**	**17 41 54.7**	**-1.3**
ORIO				SG		**Sb**	**17 41 56.3**	**0.0**
ORIO				Trac			17 41 56.7	
	comp=Z,59μm,0.2s							
OTT	**Ottawa**	**0.49**	**191**	↓Pg		**Pb**	**17 41 51.9**	**+0.6**
OTT				Sg		**Sb**	**17 41 59.1**	**+1.1**
OTT	**Ottawa**	**0.49**	**191**	↓PG		**Pb**	**17 41 51.9**	**+0.6**
OTT				SG		**Sb**	**17 41 59.1**	**+1.1**
OTT				Trac			17 41 59.4	
	comp=Z,262μm,0.2s							
ALFO	**Alfred**	**0.55**	**116**	↓PG		**Pb**	**17 41 51.4**	**-0.8**
ALFO				SG		**Sb**	**17 41 58.1**	**-1.6**
ALFO				Trac			17 41 58.8	
	comp=Z,96μm,0.2s							
GRQ	**Grand Remous**	**0.76**	**346**	Pg		**Pn**	**17 41 56.4**	**-0.5**
GRQ				Sg		**Sn**	**17 42 06.6**	**-1.2**
GRQ	**Grand Remous**	**0.76**	**346**	PG		**Pn**	**17 41 56.4**	**-0.5**
GRQ				SG		**Sn**	**17 42 06.6**	**-1.2**
TRQ	**Mont Tremblant**	**0.80**	**64**	↓Pg		**Pb**	**17 41 55.3**	**-1.3**
TRQ				Sg		**Sb**	**17 42 05.7**	**-1.3**
TRQ	**Mont Tremblant**	**0.80**	**64**	↓PG		**Pb**	**17 41 55.3**	**-1.3**
TRQ				SG		**Sb**	**17 42 05.7**	**-1.3**
TRQ				Trac			17 42 09.4	
	comp=Z,26μm,0.1s							
WBO	**Williamsburg**	**0.90**	**166**	↑Pg		**Pb**	**17 41 58.1**	**-0.2**
WBO				Sg		**Sb**	**17 42 09.4**	**-0.5**
WBO	**Williamsburg**	**0.90**	**166**	↑PG		**Pb**	**17 41 58.1**	**-0.2**
WBO				SG		**Sb**	**17 42 09.4**	**-0.5**
WBO				Trac			17 42 09.9	
	comp=Z,18μm,0.2s							
PEMO	**Pembroke**	**1.18**	**261**	↓Pg		**Pg**	**17 42 04.3**	**+0.2**
PEMO	**Pembroke**	**1.18**	**261**	↓PG		**Pg**	**17 42 04.3**	**+0.2**
PEMO				SG		**Sg**	**17 42 20.6**	**+1.1**
CRLO	**Chalk River**	**1.26**	**278**	↓Pg		**Pg**	**17 42 05.3**	**-0.4**
CRLO	**Chalk River**	**1.26**	**278**	↓PG		**Pg**	**17 42 05.3**	**-0.4**
CRLO				SG		**Sg**	**17 42 23.1**	**+0.9**
CRLO				Trac			17 42 23.8	
	comp=Z,40μm,0.2s							
PLVO	**Plevna**	**1.34**	**232**	↓PG		**Pb**	**17 42 06.4**	**+0.6**
PLVO				SG		**Sg**	**17 42 25.4**	**+0.7**
PTN	**Potsdam (NY)**	**1.37**	**162**	*e*Pn		**Pn**	**17 42 05.8**	**+0.4**
PTN				*e*Sn		**Sn**	**17 42 22.6**	**-0.4**
PTN	**Potsdam (NY)**	**1.37**	**162**	↑PG		**Pn**	**17 42 05.8**	**+0.4**
PTN				SG		**Sn**	**17 42 23.3**	**+0.2**
LONY	**Lake Ozonia**	**1.44**	**150**	*e*Pn		**Pn**	**17 42 06.3**	**-0.1**
LONY				*e*Sn		**Sn**	**17 42 24.8**	**0.0**
ALGO	**Algonquin Park**	**1.72**	**274**	PN		**Pb**	**17 42 11.6**	**-0.7**
ALGO				SG		**Sg**	**17 42 36.6**	**-0.2**
KGNO	**Kingston**	**1.77**	**202**	PN		**Pn**	**17 42 12.2**	**+1.3**
KGNO				SG		**Sb**	**17 42 36.3**	**+1.5**
KGNO				Trac			17 42 39.8	
	comp=Z,30μm,0.3s							
BANO	**Bancroft**	**1.86**	**243**	PN		**Pb**	**17 42 13.4**	**-1.2**
BANO				LG		Lg	17 42 40.1	
BANO				Trac			17 42 41.3	
	comp=Z,42μm,0.2s							
DPQ	**Saint Jean**	**2.11**	**67**	PN		**Pn**	**17 42 15.4**	**-0.1**
DPQ				LG		Lg	17 42 43.5	
DPQ				Trac			17 42 50.2	
	comp=Z,20μm,0.2s							
NCB	**Newcomb**	**2.14**	**153**	↑*e*Pn		**Pn**	**17 42 16.1**	**+0.1**
NCB				*e*Sn		**Sn**	**17 42 41.5**	**-0.5**
PECO	**Prince Edward**	**2.18**	**208**	PN		**Pn**	**17 42 18.2**	**+1.6**
PECO				LG		Lg	17 42 48.4	
PECO				Trac			17 42 52.1	
	comp=Z,21μm,0.2s							
MOQ	**Mont Orford**	**2.41**	**102**	PN		**Pn**	**17 42 19.6**	**-0.1**
MOQ				Trac			17 42 57.6	
	comp=Z,6μm,0.3s							
LATQ	**La Tuque**	**2.45**	**51**	PN		**Pn**	**17 42 22.1**	**+1.9**
LATQ				SN		**Sn**	**17 42 49.5**	**-0.1**
LATQ				Trac			17 42 56.8	
	comp=Z,4μm,0.1s							
EEO	**Eldee**	**2.54**	**289**	PN		**Pn**	**17 42 22.9**	**+1.4**
EEO				Trac			17 43 06.4	
	comp=Z,44μm,0.4s							
MDV	**Middlebury**	**2.54**	**137**	*e*Pn		**Pn**	**17 42 21.1**	**-0.4**
VLDQ	**Val d'Or**	**2.58**	**331**	PN		**Pb**	**17 42 25.2**	**-1.6**
VLDQ				LG		Lg	17 43 08.4	
VLDQ				Trac			17 43 18.3	
	comp=Z,28μm,0.6s							
BELQ	**Belleterre**	**2.62**	**307**	PN		**Pn**	**17 42 23.6**	**+1.0**
BELQ				LG		Lg	17 43 05.0	
BUKO	**Buck Lake**	**2.71**	**262**	PN		**Pn**	**17 42 24.5**	**+0.7**
BUKO				SN		**Sn**	**17 42 56.5**	**+0.5**
BUKO				LG		Lg	17 43 05.2	
BUKO				Trac			17 43 12.7	
	comp=Z,82μm,0.6s							
SADO	**Sadowa**	**2.74**	**247**	Pn		**Pn**	**17 42 24.8**	**+0.6**
	baz=79,slow=16							
SADO				Pg		**Pb**	**17 42 29.4**	**-0.2**
	baz=81,slow=17							
SADO				Sn		**Sn**	**17 42 59.5**	**+2.7**
	2μm,0.3s,baz=119,slow=10,SNR=11							
SADO				Lg		Lg	17 43 06.8	
	9μm,0.3s,baz=146,slow=19,SNR=11							
SADO				LR		LR	17 43 48.6	
	comp=Z,11μm,20.9s,baz=9.5,slow=46							
SADO	**Sadowa**	**2.74**	**247**	PN		**Pn**	**17 42 24.9**	**+0.6**
SADO				LG		Lg	17 43 06.3	
SADO				Trac			17 43 10.3	
	comp=Z,17μm,0.2s							
WLVO	**Wesleyville**	**2.79**	**227**	PN		**Pn**	**17 42 25.8**	**+0.9**
WLVO				Trac			17 43 13.4	
	comp=Z,24μm,0.3s							
ACCN	**Adirondack Com**	**2.84**	**151**	*e*Pn		**Pn**	**17 42 25.9**	**+0.2**
ACCN				*e*Pb		**Pb**	**17 42 30.6**	**-0.8**
ACCN				*e*Pg		**Pg**	**17 42 34.8**	**-1.0**
ACCN				*e*Sn		**Sn**	**17 42 58.8**	**-0.5**
DREO	**Darlington Eas**	**2.99**	**229**	PN		**Pn**	**17 42 28.6**	**+1.0**
DREO				LG		Lg	17 43 16.7	
DREO				Trac			17 43 17.7	
	comp=Z,48μm,0.2s							
DRWO	**Darlington Wes**	**3.00**	**229**	PN		**Pn**	**17 42 28.7**	**+0.9**
DRWO				LG		Lg	17 43 16.1	
DRWO				Trac			17 43 19.7	
	comp=Z,39μm,0.2s							
QCQ	**Quebec**	**3.12**	**72**	PN		**Pn**	**17 42 29.3**	**-0.1**
QCQ				LG		Lg	17 43 16.1	
QCQ				Trac			17 43 20.2	
	comp=Z,23μm,0.4s							
PKRO	**Pickering**	**3.13**	**234**	PN		**Pn**	**17 42 30.2**	**+0.6**
PKRO				LG		Lg	17 43 20.2	
PKRO				Trac			17 43 26.4	
	comp=Z,54μm,0.3s							
HNH	**Hanover**	**3.20**	**132**	*e*Pn		**Pn**	**17 42 30.3**	**-0.2**
HNH				*e*Sn		**Sn**	**17 43 10.5**	**+2.4**
BCLQ	**Boischatel**	**3.23**	**69**	PN		**Pn**	**17 42 30.2**	**-0.7**
BCLQ				Trac			17 43 19.9	
	comp=Z,9μm,0.3s							
KLBO	**Killbear Provi**	**3.29**	**263**	PN		**Pn**	**17 42 32.1**	**+0.4**
KLBO				SN		**Sn**	**17 43 10.7**	**+0.4**
KLBO				LG		Lg	17 43 25.1	
KLBO				Trac			17 43 26.7	
	comp=Z,33μm,0.3s							
LSQQ	**Lebel-sur-Quev**	**3.32**	**344**	PN		**Pn**	**17 42 32.7**	**+0.5**
LSQQ				PN		**Pn**	**17 42 32.7**	**+0.5**
LSQQ				LG		Lg	17 43 25.7	
MEDO	**Medina**	**3.40**	**218**	PN		**Pn**	**17 42 33.8**	**+0.6**
MEDO				Trac			17 43 29.2	
	comp=Z,57μm,0.5s							
TRY	**Troy**	**3.43**	**156**	*e*Pn		**Pn**	**17 42 34.3**	**+0.6**
TRY				*e*Sn		**Sn**	**17 43 15.0**	**+1.1**
MMNY	**Mt. Morris Dam**	**3.56**	**209**	*e*Pn		**Pn**	**17 42 36.2**	**+0.8**
MMNY				*e*Sn		**Sb**	**17 43 28.4**	**+2.1**
CLWO	**Collingwood**	**3.63**	**249**	PN		**Pn**	**17 42 36.6**	**+0.2**
CLWO				LG		Lg	17 43 36.0	
CLWO				Trac			17 43 41.2	
	comp=Z,43μm,0.3s							
DAQ	**Lac Daran**	**3.64**	**53**	PN		**Pn**	**17 42 35.4**	**-1.2**
DAQ				SN		**Sn**	**17 43 17.6**	**-1.4**
DAQ				LG		Lg	17 43 32.2	
DAQ				Trac			17 43 36.5	
	comp=Z,13μm,0.4s							
FFD	**Franklin Falls**	**3.70**	**129**	*e*Pn		**Pn**	**17 42 37.4**	**+0.1**
BSPQ	**Baie-St-Paul**	**3.83**	**64**	PN		**Pn**	**17 42 41.0**	**+1.8**
BSPQ				LG		Lg	17 43 38.4	
BSPQ				Trac			17 43 57.8	
	comp=Z,123μm,0.7s							
KILO	**Kirkland Lake**	**3.85**	**314**	PN		**Pn**	**17 42 40.1**	**+0.6**
KILO				Trac			17 43 46.2	
	comp=Z,21μm,0.5s							
A54	**Misere**	**3.90**	**64**	PN		**Pn**	**17 42 38.8**	**-1.4**
A54				LG		Lg	17 43 38.2	
A54				Trac			17 43 42.1	
	comp=Z,19μm,0.5s							
DMCQ	**Dolbeau-Mistas**	**3.91**	**36**	PN		**Pn**	**17 42 39.6**	**-0.6**
DMCQ				Trac			17 43 43.9	
	comp=Z,8μm,0.3s							
ACTO	**Acton**	**3.91**	**236**	Trac			17 43 50.7	
	comp=Z,68μm,0.5s							
LMQ	**La Malbaie**	**3.99**	**63**	PN		**Pn**	**17 42 39.9**	**-1.5**
LMQ				SN		**Sn**	**17 43 25.7**	**-1.8**
LMQ				LG		Lg	17 43 40.8	
LMQ				Trac			17 43 49.7	
	comp=Z,15μm,0.3s							
SUNO	**Sudbury Onapin**	**4.07**	**283**	PN		**Pn**	**17 42 43.5**	**+1.0**
SUNO				Trac			17 43 51.7	
	comp=Z,69μm,0.9s							
CHGQ	**Chibougamau**	**4.12**	**11**	PN		**Pn**	**17 42 43.4**	**+0.2**
CHGQ				LG		Lg	17 43 47.9	
CHGQ				Trac			17 43 59.2	
	comp=Z,17μm,0.6s							
BMRO	**Meriville Lake**	**4.18**	**254**	PN		**Pn**	**17 42 44.2**	**+0.3**
BMRO				SN		**Sn**	**17 43 32.3**	**+0.1**
BMRO				LG		Lg	17 43 54.5	
BMRO				Trac			17 43 57.3	
	comp=Z,58μm,0.6s							
TOBO	**Tobermory, Bru**	**4.22**	**263**	PN		**Pn**	**17 42 45.4**	**+0.9**
TOBO				Trac			17 43 59.3	
	comp=Z,53μm,0.5s							
QUA2	**Belchertown**	**4.29**	**146**	↑*e*Pn		**Pn**	**17 42 45.3**	**-0.2**
QUA2				*e*Sn		**Sb**	**17 43 42.0**	**-5.3**
BWLO	**Walkerton**	**4.31**	**248**	PN		**Pn**	**17 42 46.1**	**+0.3**
BWLO				Trac			17 44 00.6	
	comp=Z,54μm,0.7s							
KSPA	**Keystone Colle**	**4.32**	**182**	*e*Pn		**Pn**	**17 42 47.3**	**+1.4**
KSPA				*e*Sn		**Sn**	**17 43 37.7**	**+2.0**
A64	**Saint Simeon**	**4.37**	**61**	PN		**Pn**	**17 42 45.3**	**-1.3**
A64				LG		Lg	17 43 52.6	
A64				Trac			17 43 56.9	
	comp=Z,11μm,0.5s							
WVL	**Waterville**	**4.39**	**105**	*e*Pn		**Pn**	**17 42 45.6**	**-1.3**
WVL				*e*Sn		**Sb**	**17 43 46.8**	**-3.5**
WVL	**Waterville**	**4.39**	**105**	PN		**Pn**	**17 42 46.0**	**-0.9**
WVL				LG		Lg	17 43 55.6	
HRV	**Adam Dziewonsk**	**4.44**	**138**	*e*Pn		**Pn**	**17 42 46.6**	**-1.0**
HRV				*e*Sn		**Sb**	**17 43 53.5**	**+1.7**
BRCO	**Bruce Peninsul**	**4.46**	**251**	PN		**Pn**	**17 42 48.5**	**+0.7**
BRCO				SN		**Sn**	**17 43 41.5**	**+2.3**
BRCO				LG		Lg	17 44 01.2	
BRCO				Trac			17 44 13.3	
	comp=Z,23μm,0.2s							
PKME	**Peaks-Kenny Pk**	**4.46**	**96**	*e*Pn		**Pn**	**17 42 46.9**	**-1.0**
TIMO	**Timmins Ontari**	**4.68**	**306**	PN		**Pn**	**17 42 51.5**	**+0.6**
TIMO				SN		**Sn**	**17 43 45.6**	**+1.0**
TIMO				LG		Lg	17 44 07.4	
TIMO				Trac			17 44 08.9	
	comp=Z,48μm,0.6s							
BASO	**Ashfield**	**4.70**	**249**	PN		**Pn**	**17 42 51.8**	**+0.6**
BASO				LG		Lg	17 44 09.7	
BASO				Trac			17 44 11.0	
	comp=Z,35μm,0.3s							
ODNJ	**Ogdensburg**	**4.84**	**171**	*e*Pn		**Pn**	**17 42 53.6**	**+0.5**
ODNJ				*e*Sn		**Sn**	**17 43 47.8**	**-0.8**
ELFO	**Elginfield**	**4.89**	**239**	PN		**Pn**	**17 42 53.3**	**-0.5**
ELFO				SN		**Sn**	**17 43 49.3**	**-0.6**
ELFO				LG		Lg	17 44 15.5	
ELFO				Trac			17 44 27.1	
	comp=Z,49μm,0.5s							
BRYW	**Bryant College**	**4.92**	**142**	*e*Pn		**Pn**	**17 42 53.5**	**-0.7**
BRYW				*e*Sn		**Sn**	**17 43 50.1**	**-0.5**
YLE	**Yale**	**4.95**	**156**	*e*Pn		**Pn**	**17 42 54.6**	**0.0**
MALO	**McAlpine Lake**	**5.01**	**327**	PN		**Pn**	**17 42 55.7**	**+0.3**
MALO				LG		Lg	17 44 16.7	
MALO				Trac			17 44 21.6	
	comp=Z,8μm,0.6s							
PAL	**Palisades**	**5.02**	**165**	*e*Pn		**Pn**	**17 42 55.9**	**+0.3**
CPNY	**Central Park**	**5.22**	**166**	*e*Pn		**Pn**	**17 42 58.0**	**-0.2**
CPNY				*e*Sn		**Sn**	**17 44 00.9**	**+3.0**
BRNJ	**Basking Ridge**	**5.24**	**171**	*e*Pn		**Pn**	**17 42 58.7**	**+0.1**
LUPA	**Lehigh Univers**	**5.28**	**178**	*e*Pn		**Pn**	**17 42 59.6**	**+0.6**
PQI	**Presque Isle**	**5.31**	**79**	*e*Pn		**Pn**	**17 42 58.0**	**-1.5**
PQI				*e*Sn		Sn	17 44 07.0	+6.9
PQI	**Presque Isle**	**5.31**	**79**	PN		**Pn**	**17 42 58.6**	**-0.9**
SSPA	**Standing Stone**	**5.50**	**199**	*e*Pn		**Pn**	**17 43 01.9**	**-0.2**
EMMW	**East Machias**	**5.85**	**99**	*e*Pn		**Pn**	**17 43 04.5**	**-2.5**
EMMW	**East Machias**	**5.85**	**99**	PN		**Pn**	**17 43 05.2**	**-1.7**
EMMW				LG		Lg	17 44 40.3	
KAPO	**Kapuskasing**	**5.88**	**310**	PN		**Pn**	**17 43 07.6**	**+0.2**
KAPO				SN		**Sn**	**17 44 13.6**	**-0.6**
KAPO				LG		Lg	17 44 42.3	
KAPO				Trac			17 44 46.8	
	comp=Z,21μm,0.8s							
MVL	**Millersville**	**5.90**	**186**	*e*Pn		**Pn**	**17 43 06.4**	**-1.3**
CNQ	**Baie Comeau**	**6.13**	**53**	PN		**Pn**	**17 43 08.3**	**-2.4**
CNQ				Trac			17 44 51.6	
	comp=Z,6μm,0.4s							
GGN	**Saint George**	**6.19**	**94**	PN		**Pn**	**17 43 10.2**	**-1.4**
GGN				Trac			17 45 03.8	
	comp=Z,4μm,0.7s							
GLMI	**Grayling**	**6.45**	**264**	*e*Pn		**Pn**	**17 43 14.9**	**-0.3**
MNQ	**Manicouagan**	**6.51**	**42**	SN		**Sn**	**17 44 26.4**	**-3.4**
MNQ				LG		Lg	17 45 03.5	
SDMD	**Soldier's Deli**	**6.53**	**189**	*e*Pn		**Pn**	**17 43 16.8**	**+0.6**
PLIO	**Pelee Island,**	**6.55**	**233**	PN		**Pn**	**17 43 14.8**	**-1.7**
PLIO				PG		**Pb**	**17 43 37.0**	**+2.4**
PLIO				SN		**Sn**	**17 44 27.4**	**-3.3**
PLIO				LG		Lg	17 45 02.5	
PLIO				Trac			17 45 12.7	
	comp=Z,40μm,0.9s							
ICQ	**Pointe Anglais**	**6.69**	**54**	PN		**Pn**	**17 43 15.5**	**-3.0**
ICQ				SN		Sn	17 44 26.8	-7.3
ICQ				LG		Lg	17 45 03.0	
ICQ				Trac			17 45 06.0	
	comp=Z,10μm,0.8s							
BATG	**Bathurst New B**	**6.71**	**75**	PN		**Pn**	**17 43 16.7**	**-2.1**
BATG				SN		Sn	17 44 27.4	-7.3
BATG				LG		Lg	17 45 06.2	
BATG				Trac			17 45 19.0	
	comp=Z,5μm,0.7s							
AAM	**Ann Arbor**	**6.82**	**241**	*e*Pn		**Pn**	**17 43 19.6**	**-0.6**
YOSQ	**Ashton Mining**	**7.34**	**16**	PN		**Pn**	**17 43 25.1**	**-2.3**
YOSQ				Trac			17 45 33.7	
	comp=Z,6μm,0.6s							
SMQ	**Clarke City**	**7.37**	**51**	PN		**Pn**	**17 43 25.3**	**-2.5**
SMQ				SN		**Sn**	**17 44 46.7**	**-4.2**
SMQ				LG		Lg	17 45 26.4	
SMQ				Trac			17 45 37.8	
	comp=Z,5μm,0.6s							
PNPO	**Pukaskwa Natio**	**7.77**	**294**	PN		**Pn**	**17 43 32.9**	**-0.5**
PNPO				SN		Sn	17 44 53.8	-6.9
PNPO				LG		Lg	17 45 37.2	
PNPO				Trac			17 45 43.0	
	comp=Z,13μm,0.7s							
CBN	**Corbin Frederi**	**7.78**	**190**	*e*Pn		**Pn**	**17 43 32.6**	**-0.8**
ACSO	**Alum Creek Sta**	**7.82**	**226**	*e*Pn		**Pn**	**17 43 31.9**	**-2.1**
LG4Q	**La Grande 4**	**7.82**	**7**	PN		**Pn**	**17 43 31.8**	**-2.1**
LG4Q				SN		Sn	17 44 54.8	-7.0
LG4Q				LG		Lg	17 45 42.1	
LG4Q				Trac			17 45 58.1	
	comp=Z,2μm,0.4s							
JSRW	**J. Sargeant Re**	**8.35**	**193**	*e*Pn		**Pn**	**17 43 40.7**	**-0.5**
URVA	**University of**	**8.43**	**191**	*e*Pn		**Pn**	**17 43 41.8**	**-0.5**
HAL	**Halifax**	**8.55**	**94**	PN		**Pn**	**17 43 42.5**	**-1.5**
HAL				LG		Lg	17 46 06.6	
HAL				Trac			17 46 17.4	
	comp=Z,10μm,1.9s							
GTO	**Geraldton**	**8.58**	**301**	PN		**Pn**	**17 43 43.1**	**-1.2**
GTO				SN		**Sn**	**17 45 19.2**	**-1.3**
GTO				LG		Lg	17 46 02.9	
GTO				Trac			17 46 12.9	
	comp=Z,6μm,0.4s							
VIMO	**Victor Mine**	**8.75**	**326**	PN		**Pn**	**17 43 45.3**	**-1.4**
VIMO				SN		**Sn**	**17 45 19.1**	**-5.6**
VIMO				LG		Lg	17 46 10.5	
VIMO				Trac			17 46 17.6	
	comp=Z,3μm,0.4s							
VWCC	**Virginia Weste**	**9.23**	**202**	*e*Pn		**Pn**	**17 43 53.1**	**-0.2**
BLA	**Blacksburg**	**9.38**	**204**	*e*Pn		**Pn**	**17 43 55.3**	**-0.2**
NATG	**Natashquan Que**	**9.62**	**58**	PN		**Pn**	**17 43 55.9**	**-2.7**
NATG				Trac			17 46 49.1	
	comp=Z,4μm,1.0s							
TBO	**Thunder Bay**	**9.80**	**291**	PN		**Pn**	**17 43 59.2**	**-1.9**
TBO				Trac			17 46 54.9	
	comp=Z,5μm,0.6s							
GBN	**Guysborough**	**9.87**	**88**	PN		**Pn**	**17 44 00.8**	**-1.3**
GBN				Trac			17 46 55.1	
	comp=Z,3μm,1.2s							
SFIN	**Lafayette**	**10.04**	**241**	P		**Pn**	**17 44 01.8**	**-2.6**
	baz=10							
SFIN				S		Sn	17 45 48.7	-7.8
	baz=10							
SFIN	**Lafayette**	**10.04**	**241**	*e*Pn		**Pn**	**17 44 02.0**	**-2.4**
SILO	**Sutton Inlier**	**10.48**	**329**	PN		**Pn**	**17 44 07.5**	**-2.8**
SILO				SN		Sn	17 45 59.8	-7.2
SILO				LG		Lg	17 47 01.3	
SILO				Trac			17 47 09.2	
	comp=Z,5μm,1.2s							
BLO	**Bloomington**	**10.48**	**234**	*e*Pn		**Pn**	**17 44 08.2**	**-2.3**
SCHQ	**Schefferville**	**10.56**	**29**	Pn		**Pn**	**17 44 08.7**	**-2.7**
	58nm,0.3s,baz=216,slow=9.8,SNR=249							
SCHQ				Sn		Sn	17 46 00.7	-8.4
	118nm,0.3s,baz=22,slow=12,SNR=6.1							
SCHQ				Lg		Lg	17 47 01.5	
	140nm,0.3s,baz=302,slow=15,SNR=7.3							
SCHQ				LR		LR	17 48 18.0	
	comp=Z,7μm,19.2s,baz=222,slow=38							
SCHQ	**Schefferville**	**10.56**	**29**	↑*e*Pn		Pn	17 44 07.9	-3.5
SCHQ				Sn		Sn	17 46 00.7	-8.4
SCHQ				Lg		Lg	17 47 01.5	
SCHQ	**Schefferville**	**10.56**	**29**	PN		**Pn**	**17 44 08.8**	**-2.7**
SCHQ				Trac			17 47 16.7	
	comp=Z,4μm,0.8s							
CNNC	**Cliffs of the**	**10.77**	**190**	*e*Pn		**Pn**	**17 44 14.6**	**+0.2**
	337nm,0.4s							
JFWS	**Jewell Farm**	**10.90**	**259**	*e*Pn		**Pn**	**17 44 13.8**	**-2.4**
WCI	**Wyandotte Cave**	**11.03**	**230**	*e*Pn		Pn	17 44 14.4	-3.6
TZTN	**Tazewell**	**11.08**	**215**	*e*Pn		**Pn**	**17 44 17.5**	**-1.1**
EYMN	**Ely**	**11.08**	**286**	P		**Pn**	**17 44 16.1**	**-2.5**
	baz=11							
EYMN	**Ely**	**11.08**	**286**	*e*Pn		Pn	17 44 14.8	-3.8
HDIL	**Hopedale**	**11.32**	**247**	P		Pn	17 44 18.9	-3.0
	baz=11							
HDIL	**Hopedale**	**11.32**	**247**	*e*Pn		**Pn**	**17 44 19.2**	**-2.7**
KMSC	**Kings Mountain**	**11.57**	**204**	*e*Pn		**Pn**	**17 44 24.7**	**-0.7**
	69nm,0.6s							
OLIL	**Olney**	**11.69**	**237**	*e*Pn		Pn	17 44 23.9	-3.0
TKL	**Tuckaleechee C**	**11.94**	**214**	Pn		**Pn**	**17 44 28.3**	**-2.1**
	8.1nm,0.3s,baz=46,slow=12,SNR=63							
TKL				Sn		Sn	17 46 37.6	-5.4
	41nm,0.3s,baz=313,slow=22,SNR=6.6							
TKL				Lg		Lg	17 47 47.9	
	139nm,0.3s,baz=131,slow=8.4,SNR=11							
TKL				LR		LR	17 49 15.1	
	comp=Z,6μm,19.6s,baz=27,slow=38							
USIN	**University of**	**11.96**	**233**	*e*Pn		Pn	17 44 27.2	-3.5
SPMN	**Marine on St.**	**12.09**	**273**	P		Pn	17 44 29.2	-3.3
	baz=12							
SPMN	**Marine on St.**	**12.09**	**273**	*e*Pn		**Pn**	**17 44 30.4**	**-2.1**
JSC	**Jenkinsville**	**12.36**	**202**	*e*Pn		**Pn**	**17 44 36.3**	**+0.1**
CPCT	**Cooper Cave**	**12.42**	**216**	*e*Pn		**Pn**	**17 44 35.1**	**-1.9**
DRLN	**Deer Lake**	**12.67**	**68**	*e*Pn		**Pn**	**17 44 37.5**	**-2.8**
DRLN	**Deer Lake**	**12.67**	**68**	PN		Pn	17 44 37.1	-3.2
DRLN				Trac			17 48 25.4	
	comp=Z,4μm,2.2s					

baz=16
N34A Lincoln 16.01 259 P Pn 17 45 20.9 -4.4
baz=16
R37A Teagarden Farm 16.14 249 P Pn 17 45 21.8 -5.1
baz=16
E30A Jud 16.16 281 P Pn 17 45 21.9 -5.3
baz=16
M33A Taylor Creek F 16.19 262 P Pn 17 45 23.1 -4.5
baz=16
Q36A Arnold C. Orve 16.20 252 P Pn 17 45 23.2 -4.5
baz=16
A29A Manning Farm, 16.28 289 P Pn 17 45 24.0 -4.7
baz=16
P35A Duane Minner, 16.28 254 P Pn 17 45 24.6 -4.3
baz=16
F30A Leola 16.32 278 P Pn 17 45 23.7 -5.6
baz=16
B29A Wagenman Farm, 16.35 288 P Pn 17 45 24.8 -4.8
baz=16
O34A Beatrice 16.43 257 P Pn 17 45 25.5 -5.2
baz=16
G30A Faulkton 16.52 276 P Pn 17 45 26.4 -5.5
baz=16
MDND Maddock 16.53 286 P Pn 17 45 27.5 -4.4
baz=16
MDND Maddock 16.53 286 eP Pn 17 45 27.7 -4.2
comp=Z,2µm,0.8s
R36A Gordon, Harris 16.57 250 P Pn 17 45 27.9 -4.6
baz=17
D29A Pettibone, Tap 16.57 283 P Pn 17 45 27.4 -5.1
baz=17
Q35A Mercer Eighty, 16.64 252 P Pn 17 45 28.7 -4.7
baz=17
E29A Napoleon 16.65 281 P Pn 17 45 28.8 -4.7
baz=17
N33A J Bar K, Exete 16.70 260 P Pn 17 45 29.6 -4.6
baz=17
P34A Walnut Farm, R 16.82 255 P Pn 17 45 31.2 -4.4
baz=17
F29A Eureka 16.88 279 P Pn 17 45 31.5 -4.8
baz=17
UALR University of 16.88 235 eP Pn 17 45 32.7 -3.7
comp=Z,483nm,0.7s
T37A Cheneyville 18 16.88 246 P Pn 17 45 31.7 -4.7
baz=17
KSU1 Kansas State U 16.89 254 P Pn 17 45 31.5 -5.0
baz=17
KSU1 Kansas State U 16.89 254 eP Pn 17 45 32.9 -3.7
comp=Z,473nm,0.7s
BGNE Belgrade 16.91 263 P Pn 17 45 32.3 -4.5
baz=17
BGNE Belgrade 16.91 263 eP Pn 17 45 33.5 -3.3
comp=Z,881nm,0.6s
A28A Rude Farm, Bot 16.96 289 P Pn 17 45 32.5 -4.9
baz=17
S36A Lake Cedric, C 16.96 248 P Pn 17 45 31.9 -5.5
baz=17
I30A Oacoma 16.99 272 P Pn 17 45 33.0 -4.8
baz=17
B28A Dugan Ranch, T 17.02 288 P Pn 17 45 33.9 -4.2
baz=17
R35A Emporia Munici 17.03 251 P Pn 17 45 33.2 -5.0
baz=17
G29A Hoven 17.05 276 P Pn 17 45 33.6 -5.0
baz=17
C28A Hausauer Farms 17.06 285 P Pn 17 45 33.9 -4.8
baz=17
FCC Fort Churchill 17.08 326 eP Pn 17 45 32.8 -5.9
comp=Z,4µm,0.6s
O33A Hebron 17.09 258 P Pn 17 45 34.2 -4.8
baz=17
L31A Butterfield Fa 17.11 266 P Pn 17 45 33.9 -5.4
baz=17
J30A Dallas 17.20 270 P Pn 17 45 35.7 -4.7
baz=17
Q34A Chapman 17.21 254 P Pn 17 45 36.6 -3.9
baz=17
D28A Regan 17.22 283 P Pn 17 45 36.7 -4.0
baz=17
N32A Stulken Farm, 17.27 261 P Pn 17 45 37.1 -4.2
baz=17
BRAL Brewton 17.32 215 eP Pn 17 45 39.4 -2.5
comp=Z,596nm,1.0s
E28A Huff 17.37 281 P Pn 17 45 38.5 -4.0
baz=17
H29A Onida 17.37 275 P Pn 17 45 38.5 -4.0
baz=17
P33A Williams Farm, 17.46 256 P Pn 17 45 40.5 -3.2
baz=18
S35A Otter Creek Ra 17.46 249 P Pn 17 45 39.6 -4.0
baz=18
O32A Brockman Farm, 17.48 259 P Pn 17 45 40.5 -3.4
baz=18
K30A Basset 17.48 268 P Pn 17 45 40.5 -3.4
baz=18
M31A Lambtecht Ranc 17.51 263 P Pn 17 45 40.2 -4.1
baz=18
T36A Boggs Farm, Ca 17.54 247 P Pn 17 45 40.4 -4.1
baz=18
F28A McLaughlin 17.55 279 P Pn 17 45 41.5 -3.2
baz=18
I29A Vivian Onida 17.58 273 P Pn 17 45 41.6 -3.5
baz=18
A27A Ledoux Ranch, 17.61 289 P Pn 17 45 41.3 -4.1
baz=18
B27A Peters Farms, 17.62 288 P Pn 17 45 41.8 -3.8
baz=18
N31A Bailey Ranch, 17.70 262 P Pn 17 45 42.8 -3.9
baz=18
R34A Isabella, Hill 17.73 252 P Pn 17 45 42.7 -4.4
baz=18
MIAR Mount Ida 17.75 237 P Pn 17 45 43.6 -3.7
baz=18
MIAR Mount Ida 17.75 237 eP Pn 17 45 43.5 -3.7
comp=Z,636nm,0.9s
J29A Okreek 17.76 271 P Pn 17 45 43.7 -3.7
baz=18
G28A Parade 17.77 277 P Pn 17 45 43.6 -3.8
baz=18
Q33A Connelly Farm, 17.77 255 P Pn 17 45 43.6 -3.8
baz=18
V37A Hulbert 17.80 243 P Pn 17 45 45.4 -2.4
baz=18
L30A Spencer Herefo 17.80 266 P Pn 17 45 44.7 -3.2
baz=18
C27A Sayler Ranch, 17.82 285 P Pn 17 45 43.8 -4.2
baz=18
VBMS Vicksburg 17.86 225 P Pn 17 45 46.0 -2.6
baz=18
VBMS Vicksburg 17.86 225 eP P 17 45 49.8 +0.6
comp=Z,442nm,0.6s
D27A Center 17.88 283 P Pn 17 45 45.9 -3.0
baz=18
H28A Mission Ridge 17.92 275 P Pn 17 45 44.9 -4.5
baz=18
K29A Lazy Trails An 17.95 269 P Pn 17 45 45.9 -3.8
baz=18
W38A Poteau 17.95 240 P Pn 17 45 46.5 -3.2
baz=18
S34A Willow Spring 17.97 251 P Pn 17 45 45.7 -4.3
baz=18
E27A Carson 17.99 281 P Pn 17 45 45.5 -4.6
baz=18
P32A Huiting Farm, 17.99 258 P Pn 17 45 46.0 -4.2
baz=18
M30A Dale-Ortello V 18.06 265 P Pn 17 45 48.0 -3.1
baz=18
A26A Wade Farm, Ken 18.13 289 P Pn 17 45 48.9 -3.0
baz=18
TUL1 Leonard 18.19 244 P Pn 17 45 48.7 -3.9
baz=18
TUL1 Leonard 18.19 244 eP Pn 17 45 48.5 -4.1
comp=Z,644nm,0.9s
I28A Midland 18.19 273 P Pn 17 45 49.2 -3.5
baz=18
C26A Wahner Farm, P 18.21 286 P Pn 17 45 49.3 -3.5
baz=18
R33A Olander Ranch, 18.22 253 P Pn 17 45 49.7 -3.3
baz=18
O31A Woolen Ranch, 18.25 260 P Pn 17 45 50.2 -3.2
baz=18
Q32A Meitler Ranch, 18.27 256 P Pn 17 45 50.3 -3.2
baz=18
B26A Jensen Ranch, 18.27 288 P Pn 17 45 51.0 -2.7
baz=18
L29A Maesberg Ranch 18.29 267 P Pn 17 45 50.5 -3.5
baz=18
FRB Frobisher Bay 18.34 10 Pn Pn 17 45 48.6 -5.7
comp=Z,5.0nm,0.3s,baz=192,slow=13,SNR=33

FRB Sn Sn 17 49 01.0 -17
comp=Z,14nm,0.3s,baz=307,slow=22,SNR=3.9
FRB Lg Lg 17 50 57.3
FRB LR LR 17 52 52.2
comp=Z,3µm,20.2s,baz=197,slow=37
V36A Jenks 18.36 244 P P 17 45 50.7 -4.0
baz=18
F27A Lemmon 18.38 280 P P 17 45 50.5 -4.4
baz=18
J28A Allard Ranch, 18.39 272 P P 17 45 51.9 -3.1
baz=18
T34A McClaskey Farm 18.41 249 P P 17 45 52.0 -3.2
baz=18
G27A Dupree 18.41 278 P P 17 45 51.8 -3.5
baz=18
X38A Whitesboro 18.41 239 P P 17 45 52.2 -3.0
baz=18
W37A Quinton 18.46 241 P P 17 45 52.6 -3.2
baz=18
Y39A Lockesburg 18.49 236 P P 17 45 52.6 -3.5
baz=18
U35A Pawnee 18.50 247 P P 17 45 53.2 -3.1
baz=18
D26A Manning 18.51 283 P P 17 45 54.2 -2.1
baz=18
N30A Huefle Ranch, 18.51 263 P P 17 45 53.5 -2.8
baz=18
P31A Stockton 18.57 258 P P 17 45 54.5 -2.6
baz=19
E26A Carlson Angus 18.59 282 P P 17 45 54.2 -3.0
baz=19
S33A Kaszmaul Farm, 18.62 252 P P 17 45 54.6 -3.0
baz=19
R32A Long Quarter, 18.65 255 P P 17 45 55.3 -2.7
baz=19
M29A Burnside Ranch 18.66 265 P P 17 45 54.9 -3.2
baz=19
H27A Howes 18.67 276 P P 17 45 55.8 -2.3
baz=19
K28A Ten Mile Ranch 18.70 270 P P 17 45 55.9 -2.5
baz=19
O30A MW Ranch, Wils 18.74 261 P P 17 45 56.7 -2.2
baz=19
I27A Quinn 18.79 274 P P 17 45 57.6 -1.8
baz=19
X37A Clayton 18.79 240 P P 17 45 57.9 -1.5
baz=19
Q31A Ellis 18.82 257 P P 17 45 57.8 -2.1
baz=19
F26A Lodgepole 18.83 280 P P 17 45 58.1 -1.8
baz=19
A25A Svangstu Ranch 18.84 289 P P 17 45 58.1 -1.8
baz=18
N29A Votaw Ranch, W 18.86 263 P P 17 45 58.7 -1.6
baz=19
Y38A Idabel 18.87 237 P P 17 45 58.9 -1.4
baz=19
G26A Maurine 18.89 278 P P 17 45 59.1 -1.4
baz=19
B25A Knox Farm, Ray 18.90 287 P P 17 45 58.8 -1.8
baz=19
V35A Meyer Ranch, C 18.94 245 P P 17 45 58.6 -2.4
baz=19
FFC Flin Flon 18.95 307 P Pn 17 46 01.6 -0.1
comp=Z,2µm,0.7s,SNR=19
FFC Flin Flon 18.95 307 eP P 17 45 58.0 -3.0
FFC Flin Flon 18.95 307 eP P 17 45 57.5 -3.5
comp=Z,291nm,1.1s
W36A Wetumka 18.95 243 P P 17 45 58.5 -2.7
baz=19
U34A Anderson Ranch 18.98 248 P P 17 45 59.0 -2.5
baz=19
U34A Anderson Ranch 18.98 248 eP P 17 45 58.7 -2.8
comp=Z,596nm,0.9s
J27A Elkhorn Farm, 18.98 272 P P 17 45 59.6 -1.9
baz=19
C25A Freed Ranch, W 19.00 286 P P 17 46 00.2 -1.4
baz=19
L28A Connealy Angus 19.04 268 P P 17 46 00.1 -2.2
baz=19
Z39A Irene McRaven, 19.04 235 P P 17 46 01.7 -0.5
baz=19
T33A Patterson Ranc 19.07 251 P P 17 46 00.3 -2.1
baz=19
D25A Fairfield 19.09 284 P P 17 46 02.1 -0.7
baz=19
P30A Selden 19.15 260 P P 17 46 01.9 -1.6
baz=19
H26A Fairpoint 19.16 276 P P 17 46 01.9 -1.6
baz=19
M28A Bar X Bar Ranc 19.16 266 P P 17 46 02.4 -1.2
baz=19
S32A Newby Ranch, P 19.18 253 P P 17 46 02.1 -1.7
baz=19
E25A Miller Ranch, 19.23 282 P P 17 46 02.3 -1.9
baz=19
R31A Burdett 19.27 255 P P 17 46 03.2 -1.6
baz=19
O29A 4D Ranch, Culb 19.27 262 P P 17 46 03.3 -1.5
baz=19
K27A Flueckinger Fa 19.31 270 P P 17 46 04.0 -1.2
baz=19
V34A Guthrie 19.33 246 P P 17 46 03.3 -2.1
baz=19
V34A Guthrie 19.33 246 eP P 17 46 02.4 -2.9
comp=Z,311nm,0.8s
W35A Tecumseh 19.35 244 P P 17 46 03.2 -2.3
baz=19
U33A Lingo Farm, Me 19.35 249 P P 17 46 03.9 -1.7
baz=19
I26A New Underwood 19.36 274 P P 17 46 04.6 -1.1
baz=19
Y37A Hugo 19.36 239 P P 17 46 04.4 -1.3
baz=19
F25A Bowman 19.36 280 P P 17 46 04.5 -1.2
baz=19
Q30A Quinter 19.40 258 P P 17 46 04.5 -1.7
baz=19
X36A Centrahoma 19.41 242 P P 17 46 04.2 -1.9
baz=19
A24A Westby 19.43 289 P P 17 46 04.3 -2.1
baz=19
T32A Huddler Ranch, 19.46 252 P P 17 46 04.8 -2.0
baz=20
G25A Newell 19.47 278 P P 17 46 05.4 -1.6
baz=20
Z38A Mt. Pleasant 19.50 236 P P 17 46 05.7 -1.5
baz=20
N28A Pribbeno Ranch 19.55 264 P P 17 46 06.4 -1.4
baz=20
L27A T5 Ranch, Ells 19.57 268 P P 17 46 06.9 -1.1
baz=20
139A Bunkhouse Ranc 19.57 234 P P 17 46 06.7 -1.2
baz=20
DGMT Dagmar 19.57 288 P P 17 46 06.5 -1.4
baz=20
DGMT Dagmar 19.57 288 eP P 17 46 07.8 -0.2
comp=Z,342nm,0.8s
S31A Mullinville 19.59 254 P P 17 46 06.7 -1.6
baz=20
P29A Atwood 19.60 260 P P 17 46 07.5 -0.9
baz=20
J26A Sides Ranch, S 19.71 272 P P 17 46 08.8 -0.7
baz=20
H25A Fruitdale 19.73 276 P P 17 46 09.1 -0.6
baz=20
D24A Glendive 19.78 284 P P 17 46 09.2 -1.1
baz=20
R30A Dighton 19.78 256 P P 17 46 09.4 -1.0
baz=20
OGNE Ogallala 19.79 265 P P 17 46 10.2 -0.3
baz=20
OGNE Ogallala 19.79 265 eP Pn 17 46 11.3 -0.7
comp=Z,4µm,0.9s
C24A Savage 19.80 285 P P 17 46 09.3 -1.2
baz=20
M27A Reverse DX Ran 19.82 267 P P 17 46 10.5 -0.2
baz=20
Y36A Durant 19.82 240 P P 17 46 10.5 -0.2
baz=20
V33A Lossen Ranch, 19.83 248 P P 17 46 10.1 -0.7
baz=20
E24A Baker 19.84 282 P P 17 46 10.6 -0.4
baz=20
W34A Bridge Creek, 19.86 245 P P 17 46 11.1 -0.1
baz=20
W34A Bridge Creek, 19.86 245 eP P 17 46 09.8 -1.4
comp=Z,518nm,0.8s
X35A Drake 19.90 242 P P 17 46 12.1 +0.5
baz=20
Z37A Pogue Cattle C 19.91 238 P Pn 17 46 12.9 -0.5
baz=20
O28A Krutsinger Ran 19.95 263 P P 17 46 12.2 +0.1
baz=20
Q29A Oakley 19.96 259 P P 17 46 12.3 0.0
baz=20
K26A Motz Farm, Whi 19.96 271 P P 17 46 12.2 -0.1
baz=20
U32A Winter Ranch, 19.97 250 P P 17 46 11.9 -0.4
baz=20
I25A Rochford 19.97 275 P P 17 46 12.4 -0.1
baz=20
138A Matatall Enter 19.98 235 P P 17 46 13.1 +0.6
baz=20
A23A Redstone 20.00 289 P P 17 46 12.3 -0.3
baz=20
B23A Brockton 20.10 288 P P 17 46 14.0 +0.2
baz=20
239A Gary 20.11 233 P Pn 17 46 15.2 -0.5
baz=20
L26A Underwood Farm 20.12 269 P P 17 46 14.7 +0.6
baz=20
G24A Alzada 20.14 279 P Pn 17 46 15.5 -0.6
baz=20
RSSD Black Hills 20.15 275↑ eP Pn 17 46 15.5 -1.0
comp=Z,119nm,0.7s
P28A Saint Francis 20.18 261 P P 17 46 14.9 +0.2
baz=20
J25A Sunshine Ranch 20.19 273 P Pn 17 46 15.8 -1.0
baz=20
N27A Anderson Farm, 20.20 265 P Pn 17 46 15.9 -1.0
baz=20
S30A Montezuma 20.24 255 P P 17 46 16.2 +0.9
baz=20
340A Bronson 20.25 231 P Pn 17 46 16.5 -0.9
baz=20
Y35A Marietta 20.27 241 P Pn 17 46 16.7 -0.9
baz=20
C23A Lambert 20.29 286 P Pn 17 46 16.7 -1.0
baz=20
R29A Marienthal 20.30 258 P P 17 46 16.4 +0.5
baz=20
X34A Smith Ranch, M 20.31 244 P P 17 46 16.4 +0.4
baz=20
H24A Dirks Ranch, A 20.36 277 P Pn 17 46 18.0 -0.8
baz=20
W33A Caddo, Fort Co 20.36 246 P P 17 46 17.1 +0.5
baz=20
M26A McRoberts Ranc 20.37 267 P Pn 17 46 17.9 -1.0
baz=20
V32A Arapaho 20.38 248 P P 17 46 17.1 +0.2
baz=20
NATX Nacogdoches 20.41 233 P Pn 17 46 19.0 -0.3
baz=20
NATX Nacogdoches 20.41 233 eP Pn 17 46 19.2 0.0
comp=Z,41nm,0.3s
O27A Beecher Island 20.41 263 P P 17 46 18.0 +0.8
baz=20
137A Heron Place, G 20.42 237 P Pn 17 46 19.1 -0.2
baz=20
Q28A Sharon Springs 20.47 260 P P 17 46 18.9 +1.1
baz=20
K25A Mack Ranch, Ha 20.48 271 P Pn 17 46 20.3 +0.1
baz=20
238A Jacksonville 20.49 234 P Pn 17 46 19.5 -0.6
baz=20
U31A Nine Bar Ranch 20.53 251 P Pn 17 46 19.6 -1.1
baz=21
E23A Ismay 20.54 282 P P 17 46 19.2 +0.8
baz=20
T30A Plains 20.60 254 P P 17 46 19.9 +0.6
baz=21
I24A Kuemmerle Ranc 20.63 275 P P 17 46 20.5 +0.8
baz=21
N26A Koester Ranch, 20.67 266 P Pn 17 46 21.2 -1.2
baz=21
339A Huntington 20.68 232 P Pn 17 46 21.6 -0.8
baz=21
Y34A Reagan Ranch, 20.68 243 P P 17 46 21.1 +1.0
baz=21
A22A Carney Farms, 20.68 290 P Pn 17 46 21.3 -1.2
baz=21
S29A Ulysses 20.69 256 P P 17 46 21.4 +1.1
baz=21
F23A Volborg 20.74 280 P Pn 17 46 22.0 -1.1
baz=21
P27A Ficken Ranch, 20.76 262 P Pn 17 46 22.4 -1.1
baz=21
C22A Vida 20.76 286 P Pn 17 46 23.0 -0.4
baz=21
X33A Lawton 20.77 245 P P 17 46 21.6 +0.6
baz=21
B22A Reddig Ranch S 20.78 288 P P 17 46 22.2 +1.1
baz=21
Z35A Perchaven, San 20.79 241 P P 17 46 22.4 +1.2
baz=21
R28A Tribune 20.80 258 P P 17 46 22.5 +1.1
baz=21
440A Kirbyville 20.81 230 P Pn 17 46 23.8 -0.1
baz=21
J24A Dixon Ranch, L 20.81 273 P P 17 46 22.3 +0.8
baz=21
WMOK Wichita Mounta 20.82 246 eP P 17 46 21.8 +0.2
comp=Z,478nm,1.4s
G23A Biddle 20.84 279 P P 17 46 22.9 +1.1
baz=21
V31A Spring Creek L 20.87 250 P Pn 17 46 23.7 -1.0
baz=21
W32A Sentinel 20.88 247 P P 17 46 23.2 +1.0
baz=21
237A Washetta, Mont 20.88 235 P Pn 17 46 24.3 -0.5
baz=21
136A Ennis 20.96 238 P Pn 17 46 24.9 -0.7
baz=21
O26A Horse Wrangler 20.97 264 P Pn 17 46 25.0 -0.9
baz=21
U30A WK&E Inc. Balk 20.97 252 P P 17 46 24.3 +1.0
baz=21
E22A Miles City 20.98 283 P Pn 17 46 24.8 -1.2
baz=21
H23A Clabaugh Cattl 20.99 277 P P 17 46 24.2 +0.7
baz=21
M25A Palm-Egli Farm 21.02 268 P P 17 46 25.4 +1.5
baz=21
D22A Cohagen 21.03 285 P P 17 46 25.1 +1.3
baz=21
KSCO Kaye Shedlock' 21.04 261 P P 17 46 25.7 +1.6
baz=21
KSCO Kaye Shedlock' 21.04 261 eP P 17 46 25.3 +1.3
comp=Z,526nm,0.8s
T29A Hugoton 21.06 255 P P 17 46 25.6 +1.4
baz=21
338A Crockett 21.08 233 P P 17 46 26.4 +2.1
baz=21
K24A Anderson Ranch 21.10 272 P P 17 46 26.4 +1.7
baz=21
Z34A Collier Ranch, 21.17 242 P P 17 46 27.0 +1.7
baz=21
I23A Meade Ranch, G 21.19 276 P P 17 46 27.8 +2.2
baz=21
Y33A Hilltop Ranch, 21.19 244 P P 17 46 26.9 +1.4
baz=21
439A Center Grove, 21.20 231 P P 17 46 27.8 +2.1
baz=21
S28A Manter 21.24 256 P P 17 46 27.8 +1.7
baz=21
540A Vidor 21.24 229 P P 17 46 29.1 +3.0
baz=21
P26A Davis Ranch, A 21.29 263 P P 17 46 28.4 +1.7
baz=21
W31A Holland Ranch, 21.29 248 P P 17 46 27.9 +1.2
baz=21
236A Katherine and 21.30 237 P P 17 46 28.6 +1.8
baz=21
F22A Rosebud 21.31 281 P P 17 46 28.1 +1.2
baz=21
X32A Elmer 21.34 246 P P 17 46 28.9 +1.7
baz=21
A21A Bergtoll Ranch 21.35 290 P P 17 46 28.8 +1.6
baz=21
J23A Dilts Ranch, B 21.41 274 P P 17 46 29.9 +1.9
baz=21
135A Vickery Place, 21.43 239 P P 17 46 30.0 +1.9
baz=22
U29A Oasis Ranch, S 21.43 253 P P 17 46 29.5 +1.4
baz=21

337A Centerville 21.43 234 P P 17 46 30.1 +2.0
baz=22
V30A Spur Ranch, Mi 21.44 251 P P 17 46 29.8 +1.5
baz=22
B21A Ellsworth Farm 21.45 288 P P 17 46 30.1 +1.8
baz=21
G22A Birney 21.45 279 P P 17 46 29.8 +1.4
baz=21
R27A Eads 21.50 259 P P 17 46 30.5 +1.5
baz=22
C21A Desert Coulee 21.56 287 P P 17 46 30.9 +1.3
baz=22
D21A La Casta Ranch 21.59 285 P P 17 46 30.7 +0.8
baz=22
438A Sam Houston St 21.63 233 P P 17 46 32.8 +2.5
baz=22
T28A Walsh 21.63 256 P P 17 46 31.9 +1.5
baz=22
H22A Clearmont 21.64 278 P P 17 46 31.5 +1.0
baz=22
X31A McDonald Ranch 21.66 247 P P 17 46 32.4 +1.8
baz=22
K23A Bowen Ranch, D 21.66 273 P P 17 46 32.3 +1.6
baz=22
Q26A Hugo 21.69 261 P P 17 46 32.8 +1.7
baz=22
W30A Crocket Farms 21.71 249 P P 17 46 33.2 +2.0
baz=22
Y32A R-V Farms, Ver 21.71 245 P P 17 46 32.9 +1.7
baz=22
539A Cross D Ranch, 21.71 230 P P 17 46 33.2 +2.0
baz=22
E21A Keefer Ranch, 21.73 283 P P 17 46 33.2 +1.8
baz=22
Z33A Whitaker Ranch 21.75 243 P P 17 46 33.5 +1.9
baz=22
134A White-Moore Ra 21.82 240 P P 17 46 34.3 +2.0
baz=22
WHTX Lake Whitney, 21.85 238 P P 17 46 34.9 +2.2
baz=22
WHTX Lake Whitney, 21.85 238 eP P 17 46 35.4 +2.7
comp=Z,304nm,0.8s
S27A Las Animas 21.87 258 P P 17 46 34.6 +1.6
baz=22
F21A Absaloka Mine, 21.90 281 P P 17 46 34.7 +1.6
baz=22
I22A 9 Mile Ranch, 21.92 276 P P 17 46 35.2 +1.8
baz=22
V29A Stinnett 21.92 252 P P 17 46 35.2 +1.7
baz=22
336A Riesel 21.93 236 P P 17 46 35.2 +1.7
baz=22
437A Phantom Ranch, 21.94 234 P P 17 46 36.0 +2.4
baz=22
R26A Arlington 21.94 260 P P 17 46 35.6 +1.9
baz=22
A20A Cobblestone Ra 22.01 290 P P 17 46 35.8 +1.4
baz=22
538A Harpers Horsep 22.04 232 P P 17 46 36.3 +1.6
baz=22
PHWY Pilot Hill 22.05 269 eP P 17 46 36.0 +1.0
comp=Z,264nm,0.8s
J22A Midwest 22.05 275 P P 17 46 36.3 +1.4
baz=22
G21A Lodge Grass 22.08 280 P P 17 46 36.4 +1.2
baz=22
U28A Mallet 22.11 254 P P 17 46 37.0 +1.5
baz=22
H21A Big Horn, Sher 22.11 278 P P 17 46 36.5 +1.0
baz=22
B20A Solberg Farm, 22.11 288 P P 17 46 37.1 +1.7
baz=22
C20A Veseth Ranch, 22.19 287 P P 17 46 37.4 +1.2
baz=22
Z32A Haskell 22.19 244 P P 17 46 37.6 +1.4
baz=22
234A Clairette 22.25 239 P P 17 46 38.6 +1.6
baz=22
Y31A Rekieta Farm, 22.26 246 P P 17 46 38.8 +1.8
baz=22
S26A Kim 22.29 258 P P 17 46 39.3 +1.7
baz=22
133A Hamilton Ranch 22.30 242 P P 17 46 39.6 +2.1
baz=22
K22A Casper 22.32 273 P P 17 46 39.1 +1.3
baz=22
K22A Casper 22.32 273 eP P 17 46 38.6 +0.8
comp=Z,784nm,1.0s
335A Moody 22.35 237 P P 17 46 39.8 +1.8
baz=22
X30A Coker Ranch, T 22.35 248 P P 17 46 39.8 +1.8
baz=22
436A Wall Ranch, Ga 22.36 235 P P 17 46 39.9 +1.8
baz=22
HKT Hockley 22.44 232 eP P 17 46 41.0 +2.1
HKT pmax pmax
comp=Z,43nm,1.4s
HKT Hockley 22.44 232 eP P 17 46 40.5 +1.6
comp=Z,322nm,1.0s
W29A Amarillo 22.45 251 P P 17 46 40.6 +1.4
baz=22
V28A Channing 22.46 253 P P 17 46 40.8 +1.5
baz=22
U27A Thompson Grove 22.49 255 P P 17 46 41.4 +1.8
baz=22
I21A Big Trails, Te 22.50 276 P P 17 46 41.0 +1.3
baz=22
N23A Red Feather La 22.54 268 P P 17 46 41.1 +0.8
baz=22
N23A Red Feather La 22.54 268 eP P 17 46 42.3 +2.0
comp=Z,157nm,0.9s
A19A Klindworth Far 22.55 290 P P 17 46 41.8 +1.7
baz=22
Z31A Sharp Cattle R 22.60 245 P P 17 46 42.3 +1.6
baz=23
F20A Billings 22.61 282 P P 17 46 42.2 +1.5
baz=23
537A Green Hill Far 22.61 233 P P 17 46 42.6 +1.8
baz=23
T26A Comanche Natio 22.61 257 P P 17 46 41.8 +0.9
baz=23
AMTX Amarillo 22.61 250 P P 17 46 42.3 +1.4
baz=23
AMTX Amarillo 22.61 250 eP P 17 46 42.2 +1.3
comp=Z,443nm,1.0s
233A Rising Star 22.70 241 P P 17 46 43.1 +1.3
baz=23
Y30A Stafford Cattl 22.72 247 P P 17 46 43.8 +1.8
baz=23
B19A Brinkman Farms 22.73 289 P P 17 46 43.3 +1.4
baz=23
W28A Vega 22.73 252 P P 17 46 43.7 +1.5
baz=23
J21A Lysite 22.74 275 P P 17 46 43.7 +1.4
baz=23
ABTX Abilene, Hawle 22.74 243 P P 17 46 43.6 +1.4
baz=23
ABTX Abilene, Hawle 22.74 243 eP P 17 46 43.0 +0.8
comp=Z,864nm,1.4s
ISCO Idaho Springs 22.76 265 P P 17 46 44.7 +2.1
baz=23
ISCO Idaho Springs 22.76 265 eP P 17 46 44.1 +1.4
comp=Z,180nm,1.0s
G20A Bridger 22.78 280 P P 17 46 43.4 +0.7
baz=23
334A Lometa 22.79 238 P P 17 46 44.3 +1.6
baz=23
Q24A Divide 22.80 263 P P 17 46 44.1 +1.0
baz=23
Q24A Divide 22.80 263 eP P 17 46 40.8 -2.3
comp=Z,199nm,0.9s
435B Jarrell 22.80 236 P P 17 46 44.6 +1.8
baz=23
H20A Greybull 22.81 278 P P 17 46 43.9 +1.0
baz=23
V27A Dan Oppiter Fa 22.87 253 P P 17 46 45.4 +1.8
baz=23
X29A Tulia 22.89 249 P P 17 46 45.3 +1.5
baz=23
536A Bastrop 23.03 234 P P 17 46 46.4 +1.2
baz=23
I20A Worland 23.04 277 P P 17 46 46.7 +1.3
baz=23
637A Eagle Lake 23.11 232 P P 17 46 47.9 +1.9
baz=23
RWWY Rawlins 23.13 271 eP P 17 46 55.8 +9.4
comp=Z,368nm,0.8s
X28A Dimmitt 23.17 250 P P 17 46 48.1 +1.4
baz=23
131A Roby 23.18 244 P P 17 46 48.3 +1.5
baz=23
434A Burnet 23.18 237 P P 17 46 48.1 +1.4
baz=23
T25A Trinidad 23.18 258 P P 17 46 48.9 +1.9
baz=23
T25A Trinidad 23.18 258 eP P 17 46 49.1 +2.2
comp=Z,126nm,0.8s
J20A Shoshoni 23.18 275 P P 17 46 48.3 +1.4
baz=23
738A Farr-Stevens R 23.21 230 P P 17 46 49.2 +2.2
baz=23
Y29A Porterfield Fa 23.23 248 P P 17 46 49.0 +1.7
baz=23
333A Richland Sprin 23.24 239 P P 17 46 48.6 +1.2
baz=23
Z30A Sanderson Ranc 23.24 246 P P 17 46 48.9 +1.5
baz=23
232A Coleman 23.25 241 P P 17 46 48.5 +1.0
baz=23
EGMT Eagleton 23.31 288 P P 17 46 49.3 +1.2
baz=23
EGMT Eagleton 23.31 288 eP P 17 46 49.1 +1.0
comp=Z,154nm,0.9s
535A Dale 23.36 235 P P 17 46 49.7 +1.3
baz=23
H19A Powell 23.44 279 P P 17 46 51.3 +1.9
baz=23
636A Smothers Creek 23.48 233 P P 17 46 51.7 +2.1
baz=24
RLMT Red Lodge 23.52 280 P P 17 46 51.6 +1.3
baz=24
RLMT Red Lodge 23.52 280 eP P 17 46 51.2 +0.9
comp=Z,768nm,0.8s
Y28A McKinney Farm, 23.57 249 P P 17 46 51.7 +1.0
baz=24
130A Snyder 23.59 245 P P 17 46 51.6 +0.7
baz=24
I19A Meeteetse 23.62 278 P P 17 46 51.9 +0.7
baz=24
SDCO Great Sand Dun 23.63 261 P P 17 46 52.1 +0.7
baz=24
SDCO Great Sand Dun 23.63 261⇑ eP P 17 46 53.3 +1.9
comp=Z,298nm,1.2s
231A Bronte 23.63 243 P P 17 46 52.3 +1.1
baz=24
Z29A Hungry Hill Ra 23.63 247 P P 17 46 52.5 +1.2
baz=24
GCMT Greycliff 23.64 282 eP P 17 46 53.8 +2.4
332A Millersview 23.66 241 P P 17 46 52.6 +1.1
baz=24
737A Port Lavaca 23.69 231 P P 17 46 53.2 +1.5
baz=24
433A Art 23.71 239 P P 17 46 53.1 +1.1
baz=24
SOR Soroa 23.81 197 eP P 17 46 53.9 +1.0
534A Blanco 23.88 236 P P 17 46 55.0 +1.4
baz=24
MSTX Muleshoe 23.88 250 P P 17 46 54.8 +1.1
baz=24
MSTX Muleshoe 23.88 250 eP P 17 46 54.9 +1.1
comp=Z,288nm,0.9s
J19A Crowheart 23.89 276 P P 17 46 54.3 +0.6
baz=24
736A Circle Diamond 23.89 232 P P 17 46 55.8 +2.1
baz=24
635A Leesville 23.95 234 P P 17 46 55.6 +1.3
baz=24
SMCO Snowmass 23.98 265 eP P 17 46 56.3 +1.5
comp=Z,173nm,0.9s
MGV Manicaragua 23.98 190 eP P 17 46 47.5 -7.0
MGV eS S 17 51 11.9 +1.7
432A Menard 24.05 240 P P 17 46 57.0 +1.9
baz=24
Z28A Tucker Farm, M 24.05 248 P P 17 46 57.0 +1.7
baz=24
331A San Angelo 24.13 242 P P 17 46 57.4 +1.4
baz=24
129A Stewart Farms, 24.14 246 P P 17 46 58.0 +1.9
baz=24
230A Sterling City 24.16 244 P P 17 46 58.5 +2.3
baz=24
533A Kerrville 24.17 237 P P 17 46 58.1 +1.7
baz=24
634A China Grove, S 24.29 235 P P 17 46 58.6 +1.3
baz=24
JCT Junction City 24.33 239 P P 17 46 59.5 +1.7
baz=24
JCT Junction City 24.33 239 eP P 17 46 59.0 +1.2
comp=Z,324nm,1.2s
735A Kenedy 24.38 233 P P 17 47 01.1 +2.9
baz=24
BW06 Boulder Array 24.39 275 eP P 17 46 58.7 +0.2
PDAR Pinedale Array 24.39 275 P P 17 47 00.0 +1.5
comp=Z,20nm,0.7s,baz=64,slow=10,SNR=90
PDAR LR LR 17 56 45.4
comp=Z,4μm,20.4s,baz=78,slow=37
LKWY Lake 24.45 280 eP P 17 46 59.9 +0.8
comp=Z,74nm,0.9s
O20A White River Ci 24.45 268 P P 17 47 00.5 +1.5
baz=24
O20A White River Ci 24.45 268 eP P 17 46 57.3 -1.7
comp=Z,147nm,0.8s
330A Mertzon 24.52 243 P P 17 47 01.8 +2.2
baz=25
S22A 4UR Ranch, Cre 24.54 262 P P 17 47 01.4 +1.4
baz=24
S22A 4UR Ranch, Cre 24.54 262 eP P 17 47 02.3 +2.3
comp=Z,623nm,1.8s
128A Castleberry Fa 24.54 247 P P 17 47 01.5 +1.7
baz=25
229A Bryant Ranch, 24.54 245 P P 17 47 02.1 +2.4
baz=25
YNR Norris Junctio 24.60 280 eP P 17 47 01.7 +1.3
comp=Z,72nm,0.7s
H17A Grant Village 24.61 279 P P 17 47 02.1 +1.6
baz=25
H17A Grant Village 24.61 279 eP P 17 47 03.2 +2.7
comp=Z,107nm,0.9s
532A Rocksprings 24.65 239 P P 17 47 02.3 +1.5
baz=25
431A Sonora 24.68 241 P P 17 47 02.6 +1.7
baz=25
CCCC Cccc 24.68 185 eP P 17 47 02.0 +1.1
CCCC eS S 17 52 12.4 +51
633A Saathoff Ranch 24.71 237 P P 17 47 03.3 +2.1
baz=25
YFT Old Faithful 24.78 279 eP P 17 47 05.1 +3.1
comp=Z,274nm,0.9s
FLWY Flag Ranch 24.78 279 eP P 17 47 03.3 +1.2
comp=Z,384nm,1.2s
YMR Madison River 24.81 280⇑ eP P 17 47 04.4 +2.2
comp=Z,507nm,0.4s
734A La Parita Cree 24.81 235 P P 17 47 03.9 +1.8
baz=25
835A Beeville 24.83 233 P P 17 47 04.6 +2.3
baz=25
LOHW Long Hollow 24.86 277 eP P 17 47 03.7 +1.0
comp=Z,111nm,0.8s
MOOW Moose Ponds 24.91 278 eP P 17 47 05.0 +1.8
comp=Z,69nm,0.9s
HRY Holter Researc 24.92 285 eP P 17 47 04.8 +1.6
SFJD Kangerlussuaq 24.93 23 P P 17 47 05.5 +2.7
comp=Z,18nm,0.9s,baz=204,slow=9.5,SNR=4.0
SFJD Kangerlussuaq 24.93 23 P P 17 47 05.5 +2.7
SFJD pmax pmax
comp=Z,18nm,1.0s
SFJD Kangerlussuaq 24.93 23 eP P 17 47 02.7 -0.1
comp=Z,91nm,0.9s
228A UT Block 9, Go 24.94 246 P P 17 47 04.6 +1.2
baz=25
329A Wagon Wheel Ra 24.97 244 P P 17 47 05.6 +1.9
baz=25
430A Baggett Ranch, 24.99 242 P P 17 47 06.1 +2.3
baz=25
IMW Indian Meadow 25.00 278 eP P 17 47 05.7 +1.5
comp=Z,215nm,0.7s
SNOW Snow King Moun 25.01 277 eP P 17 47 06.1 +2.0
comp=Z,236nm,0.8s
531A Rocksprings 25.01 240 P P 17 47 06.4 +2.4
baz=25
BOZ Bozeman (W) 25.02 283 P P 17 47 05.8 +1.7
baz=25
BOZ Bozeman (W) 25.02 283 eP P 17 47 06.3 +2.2
632A Uvalde 25.03 238 P P 17 47 06.5 +2.4
baz=25
QLMT Earthquake Lak 25.08 281 eP P 17 47 07.5 +2.8
MCID Moose Creek 25.09 279 eP P 17 47 07.3 +2.5
REDW Red Top Meadow 25.10 277⇑ eP P 17 47 06.2 +1.3
comp=Z,407nm,1.3s
TPAW Teton Pass 25.13 277⇑ eP P 17 47 07.0 +1.8
comp=Z,233nm,0.8s
FXWY Fox Creek 25.14 278 eP P 17 47 07.1 +1.8
comp=Z,105nm,1.0s
MOAC Moa 25.16 179 iP P 17 47 11.7 +6.4
CPRX Cap Rock 25.18 249 eP P 17 47 08.4 +2.2
comp=Z,545nm,0.7s
733A Divot King Ran 25.33 236 P P 17 47 09.4 +2.7
baz=25
EDM Edmonton 25.34 301⇑ iP P 17 47 07.8 +1.0
834A Tilden 25.36 234 P P 17 47 09.6 +2.6
baz=25
BGMT Barton Gulch 25.40 282 eP P 17 47 08.3 +0.7
AHID Auburn Hatcher 25.47 276 eP P 17 47 09.2 +1.0
comp=Z,243nm,1.1s
429A Davenport Ranc 25.51 243 P P 17 47 10.5 +2.0
baz=26
LRM Limekiln Ridge 25.54 283 eP P 17 47 10.8 +1.9
PV01 Paradox Valley 25.56 264 eP P 17 47 11.1 +2.0
631A Perdido Creek 25.57 239 P P 17 47 10.6 +1.6
baz=26
PV04 Paradox Valley 25.68 265 eP P 17 47 11.5 +1.4
833A Chaparral WMA, 25.68 235 P P 17 47 12.8 +2.8
baz=26
732A Laxson Ranch, 25.71 237 P P 17 47 12.6 +2.3
baz=26
934A Benavides 25.74 233 P P 17 47 12.9 +2.3
baz=26
DLMT Dillon 25.75 282⇑ iP P 17 47 12.7 +2.1
comp=Z,149nm,1.0s
ANMO Albuquerque 25.76 256 P P 17 47 14.2 +3.3
comp=Z,14nm,0.8s,baz=80,slow=11,SNR=18
ANMO LR LR 17 57 39.7
comp=Z,3μm,18.7s,baz=15,slow=37
ANMO Albuquerque 25.76 256 iP P 17 47 13.5 +2.5
ANMO pmax pmax
comp=Z,145nm,1.7s
ANMO Albuquerque 25.76 256⇑ eP P 17 47 13.3 +2.4
comp=Z,117nm,0.8s
PV10 Paradox Valley 25.78 265 eP P 17 47 13.3 +2.2
PV09 Paradox Valley 25.79 265 eP P 17 47 13.4 +2.2
BMUT Black Mountain 25.84 274 eP P 17 47 12.7 +1.1
CHMT Chamberlain Mo 25.84 286 eP P 17 47 13.1 +1.5
GTBY Guantanamo Bay 25.88 179 eP P 17 47 13.5 +1.6
comp=Z,122nm,1.0s
WALA Waterton Lakes 25.92 291⇑ eP P 17 47 13.5 +1.3
comp=Z,5μm,1.0s
SLMT Seeley Lake 25.94 287 eP P 17 47 13.8 +1.4
PV05 Paradox Valley 25.96 265 eP P 17 47 13.5 +0.7
MVCO Mesa Verde 25.96 262 P P 17 47 14.5 +1.8
baz=26
MVCO Mesa Verde 25.96 262⇑ eP P 17 47 15.0 +2.2
comp=Z,99nm,1.1s
035A Encino 26.03 231 P P 17 47 15.4 +2.2
baz=26
MCMT McKenzie Canyo 26.06 281 eP P 17 47 15.1 +1.4
529A Stev Forest Ra 26.06 242 P P 17 47 15.2 +1.7
baz=26
RSUT Red Spur Mount 26.08 274 eP P 17 47 15.4 +1.5
933A Laredo 26.16 234 P P 17 47 16.5 +2.2
baz=26
YBMT Yellow Bay 26.17 288 eP P 17 47 15.6 +1.2
HWUT Hardware Ranch 26.20 274⇑ iP P 17 47 15.9 +1.1
comp=Z,86nm,0.9s
MCU Monte Cristo P 26.21 273 eP P 17 47 16.6 +1.6
SWMT Swartz Lake 26.22 288 eP P 17 47 16.6 +1.7
034A Hebbronville 26.25 232 P P 17 47 17.8 +2.6
baz=26
TCUT Toone Canyon 26.27 273 eP P 17 47 16.2 +0.6
comp=Z,35nm,0.8s
MSO Missoula 26.32 286 P P 17 47 17.4 +1.6
baz=26
MSO Missoula 26.32 286 eP P 17 47 18.1 +2.3
comp=Z,118nm,0.9s
JTMT Jette 26.37 288 eP P 17 47 17.7 +1.4
BLMT Blacktail Moun 26.37 289 eP P 17 47 17.7 +1.3
035Z Hargill 26.39 230 P P 17 47 18.5 +2.1
baz=26
ILULI Ilulissat 26.45 19 iP P 17 47 17.7 +1.1
ILULI eS S 17 52 01.9 +13
comp=Z,2μm,17.0s
SRU San Rafael Swe 26.48 268 eP P 17 47 18.9 +1.5
comp=Z,60nm,0.9s
JLU Jordanelle 26.50 271 eP P 17 47 18.7 +1.0
comp=Z,57nm,1.0s
LAZ Ladron 26.54 256 eP P 17 47 21.3 +3.3
LENM Lemitar 26.56 255 eP P 17 47 21.4 +3.3
Y22D IRIS PASSCAL I 26.58 255 P P 17 47 20.8 +2.5
baz=27
NPI North Pocatell 26.66 275 eP P 17 47 20.6 +1.6
CTU Camp Tracy 26.68 272 eP P 17 47 23.1 +4.0
comp=Z,93nm,1.2s
BSMT Bassoo Peak 26.68 289 eP P 17 47 20.4 +1.2
MPU Maple Canyon 26.87 270 eP P 17 47 22.1 +1.2
comp=Z,304nm,1.0s
TMUT Trail Mountain 26.88 269 eP P 17 47 23.8 +2.6
comp=Z,68nm,0.8s
HVU Hansel Valley 26.98 275 eP P 17 47 23.5 +1.7
comp=Z,47nm,0.8s
SDDR Presa de Saban 27.05 171 eP P 17 47 23.6 +1.1
comp=Z,48nm,0.7s
NLU North Lily Min 27.20 271 eP P 17 47 25.5 +1.6
comp=Z,37nm,1.1s
BGU Big Grassy Mou 27.48 273 eP P 17 47 28.6 +2.2
comp=Z,107nm,1.0s
HLID Hailey 27.50 279 P P 17 47 28.5 +1.9
baz=28
HLID Hailey 27.50 279 eP P 17 47 28.4 +1.9
comp=Z,44nm,1.1s
TX31 Lajitas Ar. Si 27.51 243 eP P 17 47 28.0 +1.4
TXAR Lajitas Array 27.51 243 P P 17 47 28.4 +1.8
comp=Z,7.0nm,0.9s,baz=55,slow=11,SNR=19
TXAR LR LR 17 58 46.7
comp=Z,3μm,20.8s,baz=0.0,slow=37
TXAR Lajitas Array 27.51 243 P P 17 47 28.4 +1.8
TXAR pmax pmax
comp=Z,7.0nm,0.9s
TXAR MLR MLR
comp=Z,3μm,20.8s
DUG Dugway, Tooele 27.62 272 P P 17 47 28.8 +1.3
baz=28
DUG Dugway, Tooele 27.62 272 eP P 17 47 29.9 +2.3
comp=Z,44nm,0.8s
TEIG Tepich 27.63 206 P P 17 47 29.7 +2.1
comp=Z,14nm,1.0s,baz=48,slow=12,SNR=4.1
TEIG LR LR 17 58 47.8
comp=Z,2μm,18.6s,baz=26,slow=37
TEIG Tepich 27.63 206 eP P 17 47 30.1 +2.5
comp=Z,64nm,0.9s
YKA Yellowknife Ar 27.66 321 P P 17 47 28.1 +0.6
comp=Z,12nm,0.4s,baz=105,slow=8.8,SNR=65
YKA Yellowknife Ar 27.66 321 P P 17 47 28.1 +0.6
YKA pmax pmax
comp=Z,12nm,0.4s
YKB5 Yellowknife Ar 27.66 321 eP P 17 47 27.7 +0.2
YKW3 Yellowknife Ar 27.69 321⇑ eP P 17 47 27.4 -0.3
comp=Z,1.7nm,0.9s
MSU Marysvale 27.90 268 eP P 17 47 31.7 +1.5
comp=Z,1.4nm,0.4s
W18A Petrified Fore 27.91 259 P P 17 47 31.7 +1.4
baz=28
W18A Petrified Fore 27.91 259 esP sP 17 47 39.6 +1.1
MVU Marysvale 27.93 268 eP P 17 47 32.5 +2.0
121A Cookes Peak, D 28.08 253 P P 17 47 34.4 +2.6
baz=28
121A Cookes Peak, D 28.08 253 eP P 17 47 34.0 +2.3
comp=Z,118nm,1.7s
NEW Newport 28.15 290 P P 17 47 33.3 +1.2
comp=Z,5.4nm,0.6s,baz=75,slow=9.1,SNR=14
NEW Newport 28.15 290 P P 17 47 33.3 +1.2
NEW pmax pmax
comp=Z,5.0nm,0.6s
NEW Newport 28.15 290 P P 17 47 33.7 +1.6
baz=28
NEW Newport 28.15 290 eP P 17 47 33.4 +1.2
comp=Z,29nm,0.7s
AOPR Arecibo Observ 28.41 162 eP P 17 47 38.0 +3.4
comp=Z,61nm,1.0s
MFID Camas Ranch 28.53 280 eP P 17 47 37.3 +1.7
comp=Z,36nm,0.8s
CRPR Cabo Rojo, PR 28.67 163 P P 17 47 35.1 -1.7
F10A Beach Ranch, E 28.73 285 eP P 17 47 38.5 +1.1
comp=Z,41nm,0.9s

SJG	**San Juan**	**28.77**	**161**	*e*P		P		17 47 44.6 +6.8
	comp=Z,106nm,0.8s							
WUAZ	**Wupatki**	**28.82**	**262**	P		**P**		**17 47 40.7 +2.4**
	baz=29							
WUAZ	**Wupatki**	**28.82**	**262**	*e*P		**P**		**17 47 41.0 +2.6**
	comp=Z,92nm,0.8s							
STVI	**Saint Thomas**	**28.83**	**159**	P		**P**		**17 47 38.0 -0.2**
C09A	**Chrisman Ranch**	**29.00**	**289**	*e*P		**P**		**17 47 40.4 +0.8**
	comp=Z,55nm,0.8s							
KNB	**Kanab**	**29.06**	**266**	*e*P		**P**		**17 47 42.2 +1.8**
KNB				*e*pP		**pP**		**17 47 46.8 +0.4**
ELK	**Elko**	**29.09**	**274**	P		**P**		**17 47 41.6 +0.8**
	comp=Z,6.0nm,0.6s,baz=57,slow=7.5,SNR=27							
ELK	**Elko**	**29.09**	**274**	P		**P**		**17 47 41.6 +0.8**
ELK				pmax		pmax		
	comp=Z,6.0nm,0.6s							
ELK	**Elko**	**29.09**	**274**	*e*P		**P**		**17 47 42.9 +2.1**
	comp=Z,29nm,1.0s							
BMO	**Blue Mountains**	**29.09**	**283**	*e*P		**P**		**17 47 40.8 +0.2**
	comp=Z,81nm,1.2s							
CCUT	**Cedar City**	**29.18**	**267**	*e*P		**P**		**17 47 44.1 +2.5**
	comp=Z,25nm,1.0s							
E09A	**Wood Farm, Sta**	**29.21**	**287**	*e*P		**P**		**17 47 42.8 +1.3**
	comp=Z,76nm,0.8s							
B08A	**Colville Reser**	**29.57**	**291**	P		**P**		**17 47 45.4 +0.7**
D08A	**Wollman Farm,**	**29.59**	**288**	*e*P		**P**		**17 47 46.0 +1.2**
	comp=Z,46nm,0.9s							
KULLO	**Kullorsuaq**	**29.91**	**10**	*i* P		**P**		**17 47 46.3 -1.1**
KULLO				*e*S		S		17 52 54.9 +12
	comp=Z,1µm,20.0s							
G08A	**Pilot Rock**	**30.09**	**285**	P		**P**		**17 47 50.3 +0.9**
RES	**Resolute Bay**	**30.12**	**350**	P		**P**		**17 47 49.1 -0.1**
	comp=Z,4.5nm,0.7s,baz=172,slow=8.3,SNR=11							
RES					LR	LR		18 00 08.2
	comp=Z,2µm,20.1s,baz=154,slow=37							
RES	**Resolute Bay**	**30.12**	**350**	P		**P**		**17 47 49.1 -0.1**
RES					pmax	pmax		
	comp=Z,5.0nm,0.7s							
RES					MLR	MLR		
	comp=Z,2µm,20.1s							
RES	**Resolute Bay**	**30.12**	**350**	*e*P		**P**		**17 47 49.9 +0.7**
	comp=Z,25nm,0.8s							
HAWA	**Hanford**	**30.17**	**287**	*e*P		**P**		**17 47 51.4 +1.4**
	comp=Z,53nm,0.9s							
TUC	**Tucson**	**30.23**	**256**	*e*P		**P**		**17 47 53.7 +2.9**
	comp=Z,19nm,1.0s							
R11A	**Troy Canyon, C**	**30.36**	**270**	P		**P**		**17 47 53.8 +1.8**
	baz=30							
R11A	**Troy Canyon, C**	**30.36**	**270**	*e*P		**P**		**17 47 53.5 +1.5**
	comp=Z,38nm,0.9s							
BMN	**Battle Mountai**	**30.59**	**275**	*e*P		**P**		**17 47 56.0 +1.9**
	comp=Z,69nm,1.0s							
LTY	**Liberty**	**30.70**	**289**	*e*P		**P**		**17 47 55.9 +1.1**
	comp=Z,17nm,0.7s							
WVOR	**Wild Horse Val**	**30.80**	**279**	*e*P		**P**		**17 47 57.6 +1.8**
	comp=Z,22nm,1.1s							
TRW	**Toppenish Ridg**	**30.87**	**287**	P		**P**		**17 47 57.9 +1.7**
SHPR	**Sheep Range**	**30.94**	**267**	*e*P		**P**		**17 47 59.1 +1.9**
G06A	**Carlson Farm,**	**31.23**	**285**	*e*P		**P**		**17 48 01.4 +1.9**
	comp=Z,29nm,1.0s							
PDMCI	**Parker Dam,Lak**	**31.39**	**262**	P		**P**		**17 48 03.3 +2.5**
	baz=31							
WPW	**White Pass**	**31.43**	**288**	P		**P**		**17 48 02.8 +1.5**
FMW	**Mount Fremont**	**31.45**	**289**	P		**P**		**17 48 02.4 +0.9**
NEE2	**Needles Airpor**	**31.47**	**263**	P		**P**		**17 48 03.6 +2.1**
	baz=32							
TPNV	**Topopah Spring**	**31.48**	**268**	P		**P**		**17 48 03.8 +1.9**
	baz=32							
TPNV	**Topopah Spring**	**31.48**	**268**	*e*P		**P**		**17 48 04.0 +2.1**
	comp=Z,65nm,0.9s							
CROR	**Criterion Ridg**	**31.55**	**285**	P		**P**		**17 48 04.6 +2.3**
LON	**Longmire**	**31.59**	**289**	*e*P		**P**		**17 48 03.5 +0.9**
	comp=Z,46nm,1.0s							
D05A	**Enumclaw**	**31.59**	**289**	*e*P		P		17 48 09.5 +7.0
	comp=Z,32nm,0.9s							
TPH	**Tonopah**	**31.63**	**271⇑**	*e*P		**P**		**17 48 04.4 +1.2**
	comp=Z,42nm,1.0s							
G05D	**Wamic, OR**	**31.69**	**286**	P		**P**		**17 48 05.1 +1.7**
	baz=32							
SUMG	**Summit**	**31.78**	**20**	*i* P		**P**		**17 48 03.7 -0.7**
SUMG				*e*S		**S**		**17 53 17.1 +3.6**
	comp=Z,2µm,14.0s							
SUMG	**Summit**	**31.78**	**20**	*e*P		**P**		**17 48 03.7 -0.7**
SUMG				*e*S		**S**		**17 53 17.1 +3.6**
SUMG					MLR	MLR		
	comp=Z,2µm,14.0s							
SUMG	**Summit**	**31.78**	**20**	*e*P		**P**		**17 48 04.2 -0.2**
	comp=Z,43nm,1.0s							
214A	**Organ Pipe Nat**	**31.82**	**257**	P		**P**		**17 48 06.8 +2.1**
	baz=32							
214A	**Organ Pipe Nat**	**31.82**	**257**	*e*P		**P**		**17 48 07.0 +2.2**
	comp=Z,45nm,1.1s							
Y12C	**Blythe**	**31.96**	**262**	P		**P**		**17 48 07.8 +2.0**
	baz=32							
I05D	**Terrebonne, OR**	**31.99**	**284**	P		**P**		**17 48 07.4 +1.3**
	baz=32							
TUQ	**Turquoise Moun**	**32.02**	**265**	P		**P**		**17 48 08.2 +1.6**
	baz=32							
SHOC	**Shoshone, Teco**	**32.03**	**266**	P		**P**		**17 48 08.1 +1.6**
	baz=32							
FURC	**Furnace Creek,**	**32.15**	**268**	P		**P**		**17 48 09.2 +1.7**
	baz=32							
MOD	**Modoc Plateau**	**32.15**	**279**	*e*P		**P**		**17 48 08.2 +0.6**
	comp=Z,26nm,0.5s							
IRM	**Iron Mountain**	**32.17**	**263**	P		**P**		**17 48 09.5 +1.7**
	baz=32							
PGC	**Sidney**	**32.18**	**293**	*e*P		**P**		**17 48 06.8 -0.8**
	comp=Z,328nm,0.9s							
GMRC	**Granite Mounta**	**32.18**	**264**	P		**P**		**17 48 09.5 +1.5**
	baz=32							
NV01	**Mina Array Sit**	**32.22**	**272**	*e*P		**P**		**17 48 09.7 +1.3**
NVAR	**Mina Array Bea**	**32.22**	**272**	P		**P**		**17 48 09.8 +1.4**
	comp=Z,6.4nm,0.6s,baz=66,slow=7.2,SNR=51							
GRAC	**Grapevine Rang**	**32.24**	**269**	P		**P**		**17 48 09.9 +1.5**
	baz=32							
K05A	**Summer Lake**	**32.25**	**281**	*e*P		**P**		**17 48 10.4 +1.8**
	comp=Z,111nm,1.4s							
J05D	**Fort Rock, OR**	**32.28**	**282**	P		**P**		**17 48 10.7 +1.9**
	baz=32							
H04A	**Detroit Lake**	**32.45**	**285**	*e*P		**P**		**17 48 11.5 +1.3**
	comp=Z,54nm,0.8s							
GLA	**Glamis**	**32.56**	**261**	P		**P**		**17 48 13.1 +1.9**
	baz=33							
GLA	**Glamis**	**32.56**	**261**	*e*P		**P**		**17 48 13.7 +2.4**
	comp=Z,40nm,0.9s							
HEC	**Hector,Ludlow**	**32.62**	**265**	P		**P**		**17 48 13.5 +1.7**
	baz=33							
BC3	**Big Chuckawall**	**32.66**	**262**	P		**P**		**17 48 13.4 +1.3**
	baz=33							
GSC	**Goldstone, Bar**	**32.71**	**266**	P		**P**		**17 48 13.6 +1.0**
	baz=33							
GSC	**Goldstone, Bar**	**32.71**	**266**	*e*P		**P**		**17 48 13.8 +1.3**
DAC	**Darwin (Calif)**	**32.76**	**268**	*e*P		**P**		**17 48 14.5 +1.4**
	comp=Z,43nm,0.9s							
NLWA	**Neilton Lookou**	**32.77**	**290**	*e*P		**P**		**17 48 12.3 -0.6**
	comp=Z,64nm,0.9s							
MPMC	**Manual Prospec**	**32.79**	**268**	P		**P**		**17 48 15.3 +1.8**
	baz=33							
TIN	**Tinemaha, Big**	**32.81**	**270**	P		**P**		**17 48 14.6 +1.1**
	baz=33							
BELC	**Belle Mtn. Jos**	**32.84**	**263**	P		**P**		**17 48 15.8 +2.0**
	baz=33							
K04D	**Chiloquin, OR**	**32.87**	**281**	P		**P**		**17 48 15.1 +1.1**
	baz=33							
J04D	**Umpqua Nationa**	**32.89**	**282**	P		**P**		**17 48 16.0 +1.8**
	baz=33							
CMIG	**Matias Romero**	**32.90**	**216**	P		**P**		**17 48 13.9 -0.3**
	comp=Z,9.7nm,0.8s,baz=9.6,slow=7.6,SNR=43							
I04A	**Tendick Farm,**	**32.90**	**284**	P		**P**		**17 48 15.7 +1.5**
	baz=33							
MTUM	**Tungsten Hills**	**32.91**	**271**	*e*P		**P**		**17 48 16.2 +1.8**
MTUM				*e*pP		**pP**		**17 48 21.8 +1.5**
MLAC	**Mammoth, Mammo**	**32.96**	**271**	P		**P**		**17 48 15.8 +0.9**
	baz=33							
WAKR	**Walker**	**32.98**	**273**	*e*P		**P**		**17 48 15.9 +0.9**
F03A	**Seaside**	**32.98**	**288**	*e*P		**P**		**17 48 15.0 +0.3**
	comp=Z,109nm,1.4s							
G03D	**McMinnville, O**	**33.01**	**286**	P		**P**		**17 48 16.6 +1.7**
	baz=33							
CWC	**Cottonwood Cre**	**33.01**	**269**	P		**P**		**17 48 17.2 +1.9**
	baz=33							
LRMC	**Laurel Mtn Rad**	**33.23**	**267**	P		**P**		**17 48 19.0 +1.8**
	baz=33							
M04C	**Macdoel**	**33.25**	**280**	P		**P**		**17 48 18.6 +1.3**
	baz=33							
SWSC	**Sam W. Stewart**	**33.29**	**261**	P		**P**		**17 48 19.9 +2.3**
	baz=33							

PFO	**Pinyon Flats O**	**33.37**	**263**	P		**P**		**17 48 20.6 +2.2**
	baz=33							
PFO	**Pinyon Flats O**	**33.37**	**263**	*e*P		**P**		**17 48 18.2 -0.3**
I03D	**Drain, OR**	**33.57**	**284**	P		**P**		**17 48 21.3 +1.4**
	baz=34							
IBP	**Imperial Bould**	**33.66**	**261**	P		**P**		**17 48 23.4 +2.6**
	baz=34							
ISA	**Isabella, Lake**	**33.68**	**268**	P		**P**		**17 48 22.8 +1.8**
	baz=34							
HUMO	**Hull Mountain**	**33.70**	**282**	*e*P		**P**		**17 48 20.1 -1.0**
	comp=Z,6.1nm,0.8s							
EDW2	**Edwards Air Fo**	**33.75**	**266**	P		**P**		**17 48 23.4 +1.8**
	baz=34							
MONP	**Monument Peak,**	**33.75**	**262**	P		**P**		**17 48 23.6 +1.8**
	baz=34							
RNO	**Roman Nose**	**33.76**	**284**	P		**P**		**17 48 23.0 +1.3**
CMB	**Columbia Colle**	**33.85**	**273**	*e*P		**P**		**17 48 23.5 +1.0**
	comp=Z,44nm,1.2s							
BFSC	**Mount Baldy Ra**	**33.87**	**265**	P		**P**		**17 48 23.9 +1.2**
	baz=34							
YBH	**Yreka Blue Hor**	**33.87**	**280**	P		**P**		**17 48 23.1 +0.4**
	comp=Z,17nm,1.1s,baz=68,slow=5.4,SNR=16							
YBH					LR	LR		18 03 02.1
	comp=Z,2µm,18.3s,baz=59,slow=38							
YBH	**Yreka Blue Hor**	**33.87**	**280**	P		**P**		**17 48 23.1 +0.4**
YBH					pmax	pmax		
	comp=Z,17nm,1.2s							
YBH					MLR	MLR		
	comp=Z,2µm,18.3s							
YBH	**Yreka Blue Hor**	**33.87**	**280**	*e*P		**P**		**17 48 22.8 +0.2**
	comp=Z,24nm,0.9s							
MURC	**Murrieta**	**33.90**	**264**	P		**P**		**17 48 24.2 +1.3**
	baz=34							
OHCM	**Honcut**	**34.03**	**276**	*e*PcP		**PcP**		**17 51 02.1 +0.7**
BAR	**Barrett**	**34.05**	**262**	*e*P		**P**		**17 48 27.3 +3.1**
	comp=Z,15nm,0.8s							
M02C	**Callahan**	**34.11**	**280**	P		**P**		**17 48 24.9 +0.2**
	baz=34							
N02D	**Trinity Center**	**34.17**	**279**	P		**P**		**17 48 25.6 +0.3**
	baz=34							
ARVC	**Arvin**	**34.21**	**267**	P		**P**		**17 48 26.2 +0.7**
	baz=34							
WDC	**Whiskeytown Da**	**34.23**	**278**	*e*P		**P**		**17 48 26.1 +0.5**
	comp=Z,50nm,1.1s							
L02D	**Cave Junction,**	**34.32**	**281**	P		**P**		**17 48 27.2 +0.8**
	baz=34							
BBB	**Bella Bella**	**34.36**	**300**	P		**P**		**17 48 27.7 +1.1**
	comp=Z,9.4nm,0.5s,baz=98,slow=8.8,SNR=9.3							
BBB					LR	LR		18 03 15.5
	comp=Z,1µm,21.0s,baz=76,slow=38							
OSI	**Osito Audit: C**	**34.41**	**266**	P		**P**		**17 48 28.2 +0.9**
	baz=34							
KEBM	**Edson Butte**	**34.54**	**283**	*e*P		**P**		**17 48 29.1 +0.7**
	comp=Z,40nm,1.0s							
DLBC	**Dease Lake**	**34.69**	**311**	P		**P**		**17 48 31.8 +2.3**
	comp=Z,12nm,0.5s,baz=85,slow=6.2,SNR=26							
DLBC					LR	LR		18 02 59.3
	comp=Z,2µm,18.8s,baz=86,slow=37							
DLBC	**Dease Lake**	**34.69**	**311**	*e*P		**P**		**17 48 32.1 +2.5**
BORG	**Borgarnes**	**34.78**	**38**	P		**P**		**17 48 31.7 +1.6**
	comp=Z,14nm,0.9s,baz=273,slow=7.7,SNR=3.2							
BORG	**Borgarnes**	**34.78**	**38**	P		**P**		**17 48 31.7 +1.6**
BORG					pmax	pmax		
	comp=Z,14nm,0.9s							
BORG	**Borgarnes**	**34.78**	**38**	P		**P**		**17 48 31.7 +1.6**
BORG				*e*P		**pP**		**17 48 32.8 -3.2**
CIS	**Catalina Islan**	**34.84**	**264**	P		**P**		**17 48 32.3 +1.3**
	baz=35							
PTRM	**Twissleman Ran**	**34.90**	**269**	*e*P		**P**		**17 48 32.7 +1.1**
KHMM	**Horse Mountain**	**34.92**	**279**	*e*P		P		17 48 27.9 -3.9
	comp=Z,49nm,0.9s							
SMMC	**Simmler**	**34.93**	**268**	P		**P**		**17 48 32.2 +0.4**
	baz=35							
PKM	**Mcpherson Peak**	**35.02**	**268**	P		**P**		**17 48 34.4 +1.7**
	baz=35							
PCED	**Cedros**	**35.03**	**85**	*e*P		P		17 48 40.4 +7.8
	comp=Z,228nm,1.4s							
LRV	**Little Rabbit**	**35.07**	**271**	*e*ScP		**ScP**		**17 54 51.8 +2.9**
SCI	**San Clemente I**	**35.18**	**264**	P		**P**		**17 48 36.6 +2.7**
	baz=35							
KMRM	**Mail Ridge**	**35.18**	**278**	*e*P		**P**		**17 48 36.7 +2.7**
SBC	**Santa Barbara**	**35.19**	**267**	P		**P**		**17 48 33.8 -0.2**
	baz=35							
KIPM	**Iron Peak**	**35.21**	**278**	*e*P		P		17 48 40.7 +6.4
ROSA	**Rosais**	**35.31**	**84**	*e*P		P		17 48 42.3 +7.3
	comp=Z,221nm,1.0s							
KCPM	**Cahto Peak**	**35.33**	**277**	*e*P		**P**		**17 48 38.3 +3.0**
	comp=Z,19nm,0.8s							
PGRA	**Graciosa**	**35.35**	**84**	*e*P		P		17 48 43.8 +8.4
	comp=Z,240nm,1.8s							
LPIG	**La Paz**	**35.38**	**244**	P		P		17 48 39.0 +3.3
	comp=Z,21nm,0.4s,baz=323,slow=5.1,SNR=1.5							
LPIG					LR	LR		18 04 35.5
	comp=Z,386nm,18.9s,baz=54,slow=39							
SLBS	**Sierra La Lagu**	**35.46**	**243**	*e*P		P		17 48 43.8 +7.3
	comp=Z,34nm,1.1s							
WRAK	**Wrangell Islan**	**36.13**	**308**	P		**P**		**17 48 41.5 -0.3**
	comp=Z,52nm,0.8s							
JTS	**JuntasAbangare**	**36.35**	**196**	P		**P**		**17 48 44.9 +0.8**
	comp=Z,5.8nm,0.9s,baz=12,slow=10.0,SNR=2.9							
JTS					LR	LR		18 03 43.1
	comp=Z,313nm,19.3s,baz=4.5,slow=36							
JTS	**JuntasAbangare**	**36.35**	**196**	*e*P		**P**		**17 48 45.9 +1.8**
JTS					pmax	pmax		
	comp=Z,24nm,1.2s							
JTS	**JuntasAbangare**	**36.35**	**196**	*e*P		**P**		**17 48 47.0 +2.9**
	comp=Z,103nm,1.8s							
INK	**Inuvik**	**36.67**	**328**	P		**P**		**17 48 47.5 +1.3**
	comp=Z,25nm,0.5s,baz=87,slow=11,SNR=4.0							
INK					PcP	**PcP**		**17 51 08.7 +0.1**
	comp=Z,15nm,0.6s,baz=105,slow=5.5,SNR=2.7							
INK					ScP	**ScP**		**17 55 00.2 +6.1**
	comp=Z,13nm,0.8s,baz=149,slow=6.6,SNR=3.0							
INK					LR	LR		18 04 02.5
	comp=Z,2µm,18.1s,baz=94,slow=37							
INK	**Inuvik**	**36.67**	**328**	P		**P**		**17 48 47.5 +1.3**
INK								17 51 08.7
INK					pmax	pmax		
	comp=Z,25nm,0.5s							
INK					pmax	pmax		
	comp=Z,15nm,0.6s							
INK					pmax	pmax		
	comp=N,13nm,0.8s							
INK					MLR	MLR		
	comp=Z,2µm,18.1s							
INK	**Inuvik**	**36.67**	**328**	*e*P		**P**		**17 48 47.6 +1.3**
	comp=Z,131nm,0.8s							
INK					PcP	**PcP**		**17 51 08.7 +0.1**
INK					ScP	**ScP**		**17 55 00.2 +6.1**
BCIP	**Isla Barro Col**	**36.76**	**187**	*e*P		**P**		**17 48 50.3 +2.8**
	comp=Z,57nm,0.9s							
PCRV	**Puerto La Cruz**	**36.79**	**162**	P		P		**17 48 49.8 +1.9**
	comp=Z,5.3nm,0.4s,baz=46,slow=3.4,SNR=6.4							
ALE	**Alert**	**37.00**	**3**	P		**P**		**17 48 49.7 +0.7**
	comp=Z,550nm,1.0s,SNR=15							
SDV	**Santo Domingo**	**37.10**	**172**	*e*P		**P**		**17 48 52.8 +2.1**
	comp=Z,34nm,1.0s							
PSET	**Sete Cidades**	**37.48**	**84**	*e*P		**P**		**17 48 50.9 -2.7**
	comp=Z,48nm,0.5s							
HYT	**Haines Junctio**	**38.29**	**316**	*e*P		**P**		**17 49 02.5 +2.2**
HYT				*e*PcP		PcP		17 51 21.9 +8.0
PSMA	**Santa Maria**	**38.30**	**85**	*e*P		P		17 49 08.7 +8.3
	comp=Z,254nm,1.4s							
PSMN	**Pico do Norte,**	**38.34**	**85**	*e*P		P		17 49 06.8 +6.0
	comp=Z,220nm,1.4s							
DAG	**Danmarks Havn**	**38.37**	**18**	*i* P		**P**		**17 49 00.9 +0.3**
	comp=Z,16nm,0.7s							
DAG				*i*				17 49 09.0
	comp=Z,2µm,14.0s							
DAG	**Danmarks Havn**	**38.37**	**18**	*e*P		**P**		**17 49 00.9 +0.3**
DAG				*i*				17 49 09.0
DAG					pmax	pmax		
	comp=Z,11nm,0.7s							
DAG					MLR	MLR		
	comp=Z,2µm,14.0s							
DAWY	**Dawson**	**38.90**	**321**	*e*P		**P**		**17 49 07.2 +1.9**
EGAK	**Eagle**	**39.62**	**322**	*e*P		**P**		**17 49 12.8 +1.6**
	comp=Z,53nm,0.9s							
JMIC	**Jan Mayen**	**40.08**	**28**	LR		LR		18 05 18.9
	comp=Z,1µm,18.2s,baz=269,slow=36							
ROSC	**El Rosal**	**40.87**	**178**	P		**P**		**17 49 23.9 +1.5**
	comp=Z,22nm,0.8s,baz=78,slow=21,SNR=10							
ROSC					LR	LR		18 06 37.7
	comp=Z,255nm,20.4s,baz=20,slow=37							
ROSC	**El Rosal**	**40.87**	**178**	*e*P		P		17 49 26.3 +3.8
BMRM	**Bremner River**	**41.70**	**317**	*e*P		**P**		**17 49 30.3 +1.9**
	comp=Z,40nm,0.6s							

PAX	**Paxson**	**41.73**	**320⇑**	*e*P		**P**		**17 49 30.0 +1.2**
	comp=Z,52nm,0.8s							
RAGM	**Ragged Mountai**	**41.85**	**316**	*e*P		**P**		**17 49 32.3 +2.5**
	comp=Z,116nm,1.5s							
IL1	**Eielson Array**	**42.06**	**323**	*e*P		**P**		**17 49 31.2 -0.1**
ILAR	**Eielson Array**	**42.06**	**323**	P		**P**		**17 49 32.5 +1.2**
	comp=Z,8.3nm,0.6s,baz=83,slow=5.6,SNR=84							
ILAR					PcP	**PcP**		**17 51 26.1 +0.4**
	comp=Z,3.9nm,0.6s,baz=74,slow=1.7,SNR=4.5							
ILAR					LR	LR		18 08 05.1
	comp=Z,630nm,18.7s,baz=85,slow=38							
ILAR	**Eielson Array**	**42.06**	**323**	P		**P**		**17 49 32.5 +1.2**
ILAR								17 51 26.2
ILAR					pmax	pmax		
	comp=Z,8.0nm,0.6s							
ILAR					pmax	pmax		
	comp=Z,4.0nm,0.6s							
ILAR					MLR	MLR		
	comp=Z,630nm,18.7s							
HDA	**Harding Lake**	**42.15**	**322**	*e*P		**P**		**17 49 33.6 +1.5**
	comp=Z,85nm,0.9s							
DIV	**Divide**	**42.23**	**317**	*e*P		**P**		**17 49 35.4 +2.7**
	comp=Z,29nm,1.0s							
DIV				*e*PcP		PcP		17 51 33.8 +7.3
COLA	**College**	**42.45**	**323**	*c i*P		**P**		**17 49 35.6 +1.2**
COLA	**College**	**42.45**	**323**	*e*P		**P**		**17 49 36.4 +2.0**
	comp=Z,107nm,0.8s							
CCB	**Clear Creek Bu**	**42.47**	**323**	*e*P		**P**		**17 49 35.8 +1.2**
	comp=Z,151nm,0.7s							
MDM	**Murphy Dome**	**42.59**	**323**	*e*P		**P**		**17 49 37.0 +1.3**
	comp=Z,79nm,1.0s							
WRH	**Wood River Hil**	**42.62**	**322**	*e*P		**P**		**17 49 37.2 +1.3**
	comp=Z,115nm,0.6s							
SCM	**Sheep Creek Mo**	**42.80**	**318**	*e*P		**P**		**17 49 39.2 +1.7**
	comp=Z,99nm,0.6s							
COLD	**Coldfoot**	**43.01**	**327**	*e*P		**P**		**17 49 41.5 +2.5**
	comp=Z,157nm,1.4s							
MCK	**McKinley**	**43.13**	**321**	*e*P		**P**		**17 49 41.2 +1.2**
	comp=Z,59nm,0.7s							
RND	**Reindeer**	**43.16**	**321**	*e*P		**P**		**17 49 41.9 +1.6**
	comp=Z,33nm,0.8s							
BWN	**Browne**	**43.27**	**322**	*e*P		**P**		**17 49 42.6 +1.5**
	comp=Z,61nm,0.8s							
MLY	**Manley**	**43.63**	**324**	*e*P		**P**		**17 49 45.6 +1.5**
	comp=Z,96nm,0.7s							
PMR	**Palmer**	**43.70**	**318**	*e*P		**P**		**17 49 46.5 +2.0**
TRF	**Thorofare Moun**	**43.78**	**321**	*e*P		**P**		**17 49 46.7 +1.3**
	comp=Z,100nm,0.7s							
DSB	**Dublin**	**43.87**	**54**	*e*sP		sP		17 49 53.8 -0.6
BPAW	**Bear Paw Mtn.**	**43.93**	**322**	*e*P		**P**		**17 49 47.4 +0.9**
	comp=Z,17nm,0.9s							
RC01	**Rabbit Creek A**	**44.11**	**318**	*e*P		**P**		**17 49 49.8 +1.9**
	comp=Z,126nm,0.6s							
SEW	**Seward**	**44.23**	**316**	*e*P		**P**		**17 49 50.6 +1.8**
	comp=Z,44nm,1.2s							
CAST	**Castle Rocks**	**44.57**	**321**	*e*P		**P**		**17 49 52.5 +0.9**
	comp=Z,40nm,0.7s							
IM04	**Indian Mountai**	**44.66**	**325**	*e*P		**P**		**17 49 53.9 +1.6**
PPLA	**Purkeypile**	**44.75**	**321**	*e*P		**P**		**17 49 54.5 +1.3**
	comp=Z,142nm,0.8s							
KBS	**Kingsbay**	**44.94**	**16**	*e*P		**P**		**17 49 55.9 +1.6**
	comp=Z,149nm,1.9s							
BRLK	**Bradley Lake**	**45.02**	**316**	*e*P		**P**		**17 49 57.1 +1.8**
	comp=Z,41nm,0.7s							
SPU	**Mount Spurr**	**45.16**	**318**	*e*P		**P**		**17 49 57.9 +1.5**
OTAV	**Otavalo**	**45.52**	**184**	*e*P		**P**		**17 50 01.9 +1.8**
	comp=Z,115nm,1.7s							
RSO	**Redoubt South**	**45.70**	**318**	*e*P		**P**		**17 50 02.1 +1.3**
SPITS	**Spitsbergen Ar**	**45.96**	**17**	P		**P**		**17 50 03.0 +0.6**
	comp=Z,9.0nm,0.6s,baz=195,slow=2.6,SNR=8.6							
SPITS					LR	LR		18 09 59.5
	comp=Z,901nm,19.0s,baz=265,slow=37							
SPITS	**Spitsbergen Ar**	**45.96**	**17**	P		**P**		**17 50 03.0 +0.6**
SPITS					pmax	pmax		
	comp=Z,9.0nm,0.6s							
SPITS					MLR	MLR		
	comp=Z,901nm,19.0s							
PMOZ	**Porto Moniz, M**	**46.03**	**85**	*e*P		P		17 50 11.3 +7.7
	comp=Z,187nm,1.4s							
PMOZ	**Porto Moniz, M**	**46.03**	**85**	*e*LR		LR		18 03 48.5
	comp=Z,315nm,24.0s							
PMOZ	**Porto Moniz, M**	**46.03**	**85**	*e*P		P		17 50 11.3 +7.7
	comp=Z,187nm,1.4s							
PMOZ	**Porto Moniz, M**	**46.03**	**85**	*e*LR		LR		18 03 48.5
	comp=Z,315nm,24.0s							
PMAR	**Madeira**	**46.28**	**85**	*e*P		P		17 50 10.7 +5.0
	comp=Z,261nm,1.1s							
PMAR	**Madeira**	**46.28**	**85**	*e*P		P		17 50 10.7 +5.0
	comp=Z,261nm,1.1s							
PMPST	**Porto Santo, M**	**46.49**	**84**	*e*P		P		17 50 12.0 +4.9
	comp=Z,216nm,1.2s							
PMPST	**Porto Santo, M**	**46.49**	**84**	*e*P		P		17 50 12.0 +4.9
	comp=Z,216nm,1.2s							
KDAK	**Kodiak Island**	**46.50**	**314**	P		**P**		**17 50 08.9 +2.1**
	com

PMRV eSS SS 18 01 13.3 +10
PMRV eLR LR 18 05 15.0
comp=Z,947nm,18.0s
EVO Evora 49.24 73 eP **P 17 50 29.1 +0.7**
comp=Z,80nm,1.4s
EVO Evora 49.24 73 eP **P 17 50 29.1 +0.7**
comp=Z,80nm,1.4s
PESTR Estremoz 49.35 73 eP **P 17 50 29.5 +0.3**
comp=Z,90nm,1.4s
PESTR Estremoz 49.35 73 eP **P 17 50 29.5 +0.3**
comp=Z,90nm,1.4s
PFVI Vila Bisbo 49.43 75 eP **P 17 50 30.2 +0.3**
comp=Z,131nm,1.6s
PFVI Vila Bisbo 49.43 75 eP **P 17 50 30.2 +0.3**
comp=Z,131nm,1.6s
MORF Marmelete 49.46 75 eP **P 17 50 30.8 +0.7**
MORF AMS AMS 18 09 27.4
comp=Z,1µm,18.1s
MORF Marmelete 49.46 75 eP **P 17 50 30.8 +0.7**
MORF Marmelete 49.46 75 eP **P 17 50 31.2 +1.1**
comp=Z,146nm,1.5s
MORF Marmelete 49.46 75 eP **P 17 50 31.2 +1.1**
comp=Z,146nm,1.5s
MESJ Messejana 49.46 74 eP **P 17 50 30.8 +0.7**
MESJ AMS AMS 18 09 19.6
comp=Z,848nm,24.6s
MESJ Messejana 49.46 74 eP **P 17 50 30.8 +0.7**
NBO02 NORSAR Array S 49.75 40 eP **P 17 50 31.6 -0.4**
KONO Kongsberg 49.75 42 P **P 17 50 29.2 -2.7**
NAO01 NORSAR Array S 49.84 40 eP **P 17 50 32.3 -0.4**
comp=Z,22nm,0.8s
NB2 NORSAR Subarra 49.91 39 P **P 17 50 32.9 -0.3**
comp=Z,18nm,0.8s,baz=296,slow=7.4
NB2 NORSAR Subarra 49.91 39 P **P 17 50 32.9 -0.3**
baz=296,slow=7.4
NOA NORSAR Array B 49.91 39 P **P 17 50 33.4 +0.2**
comp=Z,5.5nm,0.8s,baz=297,slow=7.1,SNR=25
NOA PcP **PcP 17 51 52.7 -0.6**
comp=Z,1.7nm,0.8s,baz=294,slow=3.4,SNR=2.0
NOA LR LR 18 10 02.9
comp=Z,175nm,18.2s,baz=295,slow=34
NOA NORSAR Array B 49.91 39 P **P 17 50 33.4 +0.2**
NOA 17 51 52.7
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,175nm,18.2s
PBDV Barranco-do-Ve 49.98 75 eP **P 17 50 35.1 +1.1**
comp=Z,154nm,1.4s
PBDV Barranco-do-Ve 49.98 75 eP **P 17 50 35.1 +1.1**
comp=Z,154nm,1.4s
PVAQ Vaqueiros 50.03 74 eP **P 17 50 35.5 +1.1**
comp=Z,52nm,1.3s
PVAQ eS **S 17 57 47.7 +3.4**
PVAQ eSS SS 18 00 49.1 -28
PVAQ eLR LR 18 05 33.6
comp=Z,855nm,22.0s
PVAQ Vaqueiros 50.03 74 eP **P 17 50 35.5 +1.1**
comp=Z,52nm,1.3s
PVAQ eS **S 17 57 47.7 +3.4**
PVAQ eSS SS 18 00 49.1 -28
PVAQ eLR LR 18 05 33.6
comp=Z,855nm,22.0s
PBAR Barrancos 50.08 73 eP **P 17 50 35.7 +0.9**
comp=Z,150nm,1.7s
PBAR Barrancos 50.08 73 eP **P 17 50 35.7 +0.9**
comp=Z,150nm,1.7s
TNA Tin City 50.30 327 eP **P 17 50 38.6 +2.6**
comp=Z,42nm,1.2s
MUD Monsted U'grnd 50.91 45 *i* P P 17 50 46.5 +5.7
comp=Z,580nm,22.0s
SNF Seneffe 51.02 54 E 17 50 46.4
PAB San Pablo 51.14 70 eP **P 17 50 43.6 +0.7**
comp=Z,52nm,1.3s
OSSF Osses 51.21 64⇑ eP **P 17 50 43.8 +0.5**
HLG Helgoland 51.28 48 eP **P 17 50 43.8 +0.3**
comp=Z,60nm,0.9s
ESDC Sonseca Array 51.32 70 P **P 17 50 44.5 +0.3**
comp=Z,2.7nm,0.8s,baz=304,slow=8.4,SNR=14
DOU Dourbes 51.39 54 P **P 17 50 44.3 -0.2**
comp=Z,25nm,1.2s
SDPT Sand Point 51.48 313 eP **P 17 50 45.8 +0.8**
SDPT epP **pP 17 50 49.6 -1.6**
SDPT epPcP **PcP 17 51 59.9 +0.8**
LARF Larrau 51.49 65⇑ eP **P 17 50 46.3 +0.9**
ARA0 ARCESS Array S 51.50 26 eP **P 17 50 45.0 -0.1**
ARCES ARCESS Array B 51.50 26 P **P 17 50 45.0 -0.1**
comp=Z,26nm,0.7s,baz=294,slow=6.6,SNR=77
ARCES LR LR 18 10 51.9
comp=Z,1µm,20.7s,baz=296,slow=34
ARCES ARCESS Array B 51.50 26 eP **P 17 50 44.7 -0.4**
ARE0 ARCESS Array S 51.50 26 eP **P 17 50 44.6 -0.5**
BCLA Clavier 51.63 54 E pP 17 50 54.3 +1.9
KEV Kevo 51.85 26 epP pP 17 50 54.2 +0.5
REYF Montagne du Re 51.85 64 eP **P 17 50 48.0 -0.2**
MEM Membach 51.94 53 P **P 17 50 48.4 -0.2**
comp=Z,16nm,1.4s
MEM Membach 51.94 53 eP **P 17 50 48.9 +0.3**
comp=Z,48nm,1.4s
IBBN Ibbenburen 52.09 51 eP **P 17 50 49.8 +0.2**
comp=Z,14nm,0.8s
VIEF Viey 52.21 64⇑ eP **P 17 50 51.6 +0.8**
BUG Bochum--Univer 52.24 52 eP **P 17 50 50.7 -0.1**
comp=Z,12nm,1.0s
RESF Ens 52.45 64 eP **P 17 50 50.4 -2.3**
WLF Walferdange 52.48 54 P **P 17 50 52.8 +0.2**
comp=Z,36nm,1.4s
WLF Walferdange 52.48 54 eP **P 17 50 52.8 +0.2**
comp=Z,14nm,0.8s
WLF Walferdange 52.48 54 eP **P 17 50 53.0 +0.4**
comp=Z,48nm,1.0s
AGO Saint Agoulin 52.51 59⇑ eP **P 17 50 51.5 -1.4**
GAMB Gambell 52.56 326 eP **P 17 50 54.0 +1.0**
comp=Z,15nm,0.8s
PYM Petit Puy Mans 52.59 60⇑ eP **P 17 50 52.8 -0.8**
BSEG Bad Segeberg 52.66 48 eP **P 17 50 54.1 +0.2**
comp=Z,22nm,0.9s
BSEG epP **pP 17 51 00.6 +0.6**
MLS Moulis 52.84 64⇑ eP **P 17 50 55.7 +0.2**
PLDF La Plantade 52.84 59⇑ eP **P 17 50 54.9 -0.6**
COP Copenhagen 52.89 45 *i* P P 17 50 58.9 +3.4
comp=Z,270nm,20.0s
COP Copenhagen 52.89 45 eP P 17 50 58.9 +3.4
COP MLR MLR
comp=Z,280nm,20.0s
LBL Lubilhac 53.00 60 eP **P 17 50 57.6 +1.0**
SALF Salau 53.01 64⇑ eP **P 17 50 57.7 +1.0**
THEF They Montfort 53.10 56⇑ eP **P 17 50 57.3 +0.1**
FALS False Pass 53.20 314 eP **P 17 50 58.4 +0.6**
comp=Z,33nm,0.7s
TNS Taunus Mts 53.49 53 eP **P 17 51 00.3 +0.2**
comp=Z,27nm,0.8s
VALF Valcebollere 53.72 64⇑ eP **P 17 51 02.3 +0.3**
CLZ Clausthal 53.72 50 eP **P 17 51 02.3 +0.5**
comp=Z,20nm,1.0s
SSB Saint Sauveur 53.75 60⇑ eP **P 17 51 03.6 +1.5**
SSB Saint Sauveur 53.75 60 eP **P 17 51 02.8 +0.6**
comp=Z,22nm,1.2s
LANF Langenberg 53.76 54⇑ eP **P 17 51 02.2 +0.1**
LRDF Laroque-de-Fa 53.76 63⇑ eP **P 17 51 02.3 +0.1**
ECH Echery 53.78 55⇑ eP **P 17 51 01.2 -1.0**
ECH Echery 53.78 55 eP **P 17 51 01.9 -0.3**
comp=Z,22nm,1.0s
RGN Rugen 53.90 46 eP **P 17 51 03.6 +0.7**
comp=Z,34nm,0.9s
MOF Molkenrain 53.95 56⇑ eP **P 17 51 03.5 -0.1**
LOMF Lomont 54.03 56 eP **P 17 51 03.6 -0.6**
BFO Black Forest 54.39 55 P **P 17 51 06.6 -0.1**
comp=Z,343nm,1.0s,SNR=11
BFO Black Forest 54.39 55 eP **P 17 51 06.7 0.0**
comp=Z,23nm,1.0s
BFO Black Forest 54.39 55*ce*P **P 17 51 07.0 +0.3**
BFO Black Forest 54.39 55 eP **P 17 51 06.8 0.0**
comp=Z,78nm,1.1s
BSD Bornholm Skovb 54.40 45 *i* P **P 17 51 07.9 +1.3**
comp=Z,80nm,1.4s
comp=Z,330nm,17.0s
comp=Z,340nm,16.0s
comp=Z,430nm,14.0s
BSD Bornholm Skovb 54.40 45 eP **P 17 51 07.9 +1.3**
BSD pmax pmax
comp=Z,80nm,1.4s
BSD MLR MLR
comp=Z,340nm,17.0s

STU Stuttgart 54.65 54 eP **P 17 51 08.5 -0.1**
comp=Z,18nm,0.7s
STU Stuttgart 54.65 54 P **P 17 51 09.4 +0.9**
RSL Roselend 54.78 58⇑ eP **P 17 51 09.9 +0.1**
NEUB Neuenburg 54.80 50 eP **P 17 51 09.7 +0.1**
comp=Z,24nm,0.8s
NEUB epP **pP 17 51 16.3 +0.6**
SENIN Lac Senin/Sane 54.83 57 eP **P 17 51 10.9 +0.8**
APA Apatity 55.01 26⇓ *i*P P 17 51 17.8 +7.0
APA *i* 17 52 11.0
APA *e* 17 53 17.0
APA eS S 17 59 00.0 +8.4
APA pmax pmax
comp=Z,26nm,1.0s
APA MLR MLR
comp=Z,400nm,13.0s
MOX Moxa 55.01 51 eP **P 17 51 11.2 +0.1**
comp=Z,16nm,1.1s
MOX epP **pP 17 51 17.8 +0.5**
BNI Bardonecchia 55.16 59 eP **P 17 51 13.2 +0.8**
comp=Z,23nm,1.1s
LVZ Lovozero 55.19 26 P **P 17 51 12.2 0.0**
comp=Z,391nm,0.7s,SNR=5.3
LVZ Lovozero 55.19 26 eP **P 17 51 12.4 +0.1**
LVZ pmax pmax
comp=Z,36nm,0.7s
LVZ Lovozero 55.19 26 eP **P 17 51 12.3 +0.1**
comp=Z,49nm,0.8s
RUE Ruedersdorf 55.20 48 epP pP 17 51 19.1 +0.6
RUE Ruedersdorf 55.20 48 P **P 17 51 12.8 +0.4**
UNV Unalaska Valle 55.27 314 eP **P 17 51 13.9 +1.0**
comp=Z,63nm,0.8s
GRF Grafenberg Arr 55.30 52 eP **P 17 51 13.7 +0.5**
comp=Z,25nm,0.9s
GRFO Grafenberg 55.30 52 eP **P 17 51 14.2 +1.0**
comp=Z,53nm,0.9s
PLN Plauen 55.39 51 eP **P 17 51 14.0 +0.1**
comp=Z,15nm,0.9s
CLL Collm 55.41 50 eP **P 17 51 13.8 -0.1**
comp=Z,8.0nm,1.1s
CLL Collm 55.41 50 eP **P 17 51 13.0 -0.9**
CLL epP **pP 17 51 20.0 -0.1**
CLL *i* sP **sP 17 51 22.0 -0.4**
comp=Z,23nm,0.9s
CLL eS **S 17 59 00.0 +2.7**
CLL e(SSS) 18 04 54.0
CLL Lm MLR 18 13 00.0
comp=N,700nm,18.5s
CLL Lm MLR 18 13 00.0
comp=E,800nm,18.5s
CLL Lm MLR 18 13 00.0
comp=Z,1µm,18.4s
CLL Collm 55.41 50 eP **P 17 51 13.0 -0.9**
CLL e*PP **pP 17 51 20.0 -0.1**
CLL eS **S 17 59 00.0 +2.7**
CLL MLR MLR
comp=Z,1µm,18.4s
CLL Collm 55.41 50 eP **P 17 51 14.3 +0.4**
comp=Z,20nm,0.8s
WERD Werda 55.49 51 eP **P 17 51 14.7 +0.1**
comp=Z,9.0nm,1.0s
WERD epP **pP 17 51 21.2 +0.4**
GUNZ Gunzen 55.55 51 eP **P 17 51 15.1 +0.1**
comp=Z,16nm,1.0s
TANN Tannenbergstha 55.59 51 eP **P 17 51 15.4 0.0**
comp=Z,29nm,1.8s
TANN epP **pP 17 51 21.9 +0.4**
WERN Wernitzgruen 55.61 51 eP **P 17 51 15.7 +0.2**
comp=Z,20nm,1.2s
WERN epP **pP 17 51 22.3 +0.6**
MANZ Manzenberg 55.63 51 eP **P 17 51 15.6 0.0**
comp=Z,26nm,1.9s
MANZ epP **pP 17 51 22.1 +0.3**
SAML Samuel 55.70 165 eP **P 17 51 16.1 -0.3**
comp=Z,64nm,1.2s
ROTZ Rotzenmuhle 55.80 52 eP **P 17 51 17.2 +0.4**
comp=Z,199nm,4.1s
FBE Freiberg 55.80 50 eP **P 17 51 17.2 +0.4**
comp=Z,111nm,2.2s
DAVA Damuels 55.83 55 *i* pP **P 17 51 19.0 +1.7**
comp=Z,9.9nm,1.0s,SNR=5.4
FINES FINESS Array B 55.97 35 P **P 17 51 18.0 +0.1**
comp=Z,37nm,0.7s,baz=292,slow=6.4,SNR=128
FINES LR LR 18 12 50.4
comp=Z,813nm,21.9s,baz=304,slow=34
FINES FINESS Array B 55.97 35 P **P 17 51 18.0 +0.1**
FINES pmax pmax
comp=Z,37nm,0.7s
FINES MLR MLR
comp=Z,813nm,21.9s
FIA1 FINESS Array S 55.97 35⇑ *i*P **P 17 51 17.5 -0.3**
CALN Calern 55.99 60⇑ eP **P 17 51 19.4 +0.9**
TOUF Mont Tournerai 56.06 60⇑ eP **P 17 51 19.0 0.0**
BRG Berggiesshubel 56.14 50 eP **P 17 51 19.4 +0.2**
comp=Z,26nm,1.4s
BRG *i* 17 51 27.7
comp=Z,34nm,1.1s
BRG PP PP 17 53 30.0 +6.0
BRG S **S 17 59 09.0 +1.9**
comp=N,790nm,17.9s
comp=E,729nm,16.0s
comp=Z,1µm,16.1s
BRG Berggiesshubel 56.14 50 eP **P 17 51 19.4 +0.2**
comp=Z,26nm,1.4s
BRG Berggiesshubel 56.14 50 eP **P 17 51 19.4 +0.2**
BRG *i* 17 51 27.7
BRG 17 53 30.0
BRG S **S 17 59 09.0 +1.9**
BRG pmax pmax
comp=Z,26nm,1.4s
BRG MLR MLR
comp=N,790nm,17.9s
BRG MLR MLR
comp=E,729nm,16.0s
comp=Z,1µm,16.1s
BRG MLR MLR
comp=Z,1µm,16.1s
FUR Furstenfeldbru 56.15 54 eP **P 17 51 19.7 +0.3**
RETA Reutte 56.22 55⇑ *i*P **P 17 51 20.3 +0.3**
comp=Z,9.2nm,1.2s,SNR=6.9
SAOF Saorge 56.26 60⇑ eP **P 17 51 20.3 0.0**
FUORN Ofenpass-Fuorn 56.41 56 eP **P 17 51 23.1 +1.6**
comp=Z,19nm,0.8s
FETA Feichten 56.46 55⇑ *i*pP **P 17 51 22.7 +0.9**
comp=Z,14nm,0.9s,SNR=8.0
MOTA Moosalm 56.50 55⇑ *i*pP **P 17 51 22.9 +0.9**
comp=Z,10.0nm,0.8s,SNR=7.3
WET Wettzell 56.50 52 eP **P 17 51 22.2 +0.3**
comp=Z,14nm,1.1s
WET epP **pP 17 51 28.6 +0.5**
GKP Gorka Klasztor 56.54 46 eP **P 17 51 23.7 +1.7**
GKP LMZ LR 18 15 15.3
GKP Gorka Klasztor 56.54 46 eP **P 17 51 23.8 +1.7**
GKP MLR MLR
comp=Z,800nm,17.9s
PVCC Panska Ves 56.66 50 eP **P 17 51 23.3 +0.3**
PVCC epP **pP 17 51 29.6 +0.5**
PVCC ex x 17 51 31.9
PVCC ex x 17 51 35.7
PVCC AMS AMS 18 14 50.0
comp=Z,1µm,15.7s
PVCC Panska Ves 56.66 50 eP **P 17 51 23.3 +0.3**
PVCC e*PP **pP 17 51 29.6 +0.5**
PVCC MLR MLR
comp=Z,1µm,15.7s
EANR 'Ain N'Sour 56.72 71 P P 17 51 30.3 +6.6
EBNR Beni Rached 56.81 70 P P 17 51 31.0 +6.7
PRA Prague 56.84 50 eP **P 17 51 25.1 +0.9**
PRA epP **pP 17 51 31.1 +0.7**
PRA ex x 17 51 33.4
PRA AMS AMS 18 14 30.0
PRA Prague 56.84 50 eP **P 17 51 25.1 +0.9**
PRA e*PP **pP 17 51 31.1 +0.7**
WTTA Wattenberg 56.84 54⇑ *i*pP **P 17 51 26.2 +1.7**
comp=Z,15nm,1.0s,SNR=7.6
KHC Kasperske Hory 56.90 52 eP **P 17 51 25.1 +0.4**
KHC epP **pP 17 51 30.9 0.0**
KHC eSP **sP 17 51 33.5 +0.3**
KHC ex x 17 51 39.3
KHC eS **S 17 59 17.3 0.0**
KHC AMS AMS 18 14 10.0
comp=Z,1µm,17.0s
KHC Kasperske Hory 56.90 52 eP **P 17 51 25.1 +0.4**
KHC e*PP **pP 17 51 30.9 0.0**
KHC eS **S 17 59 17.3 0.0**
KHC MLR MLR
comp=Z,1µm,17.0s
KHC Kasperske Hory 56.90 52 eP **P 17 51 25.6 +1.0**
comp=Z,6.0nm,0.8s
PRU Pruhonice 56.94 50 eP **P 17 51 25.5 +0.5**
PRU epP **pP 17 51 31.8 +0.7**
PRU eSP **sP 17 51 33.7 +0.2**
PRU ex x 17 51 39.5
PRU eS **S 17 59 16.2 -1.6**
PRU AMS AMS 18 14 40.0
comp=Z,1µm,17.3s
PRU Pruhonice 56.94 50 eP **P 17 51 25.5 +0.5**
PRU e*PP **pP 17 51 31.8 +0.7**
PRU eS **S 17 59 16.2 -1.6**
PRU MLR MLR
comp=Z,1µm,17.3s
GOPC GO Pecny, Ondr 57.12 50 eP **P 17 51 25.7 -0.5**
GOPC epP **pP 17 51 32.9 +0.5**
GOPC eSP **sP 17 51 35.2 +0.5**
GOPC eS S 17 59 13.6 -6.5
GOPC AMS AMS 18 14 30.0
comp=Z,1µm,18.4s
GEC2 GERESS Array S 57.12 52 eP **P 17 51 26.7 +0.3**
GEC2 epP **pP 17 51 33.1 +0.6**
GEC2 GERESS Array S 57.12 52 eP **P 17 51 27.1 +0.8**
GERES GERESS Array B 57.12 52 P **P 17 51 26.7 +0.3**
comp=Z,3.3nm,0.8s,baz=324,slow=6.6,SNR=26
GERES LR LR 18 14 40.5
comp=Z,868nm,18.4s,baz=292,slow=35
GERES GERESS Array B 57.12 52 P **P 17 51 26.7 +0.3**
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES MLR MLR
comp=Z,868nm,18.4s
ETRT Tiaret 57.18 71 P **P 17 51 27.9 +0.9**
RJOB Jochberg 57.23 53 eP **P 17 51 27.6 +0.5**
comp=Z,21nm,1.2s
BILL Bilibino 57.38 337*c i*P **P 17 51 27.9 +0.1**
BILL *e* 17 52 20.0
BILL pmax pmax
comp=Z,49nm,1.7s
BILL MLR MLR
comp=Z,362nm,21.0s
BILL Bilibino 57.38 337 eP **P 17 51 27.7 -0.1**
KSP Ksiaz 57.40 49 eP **P 17 51 28.7 +0.5**
KSP epP **pP 17 51 34.5 +0.2**
KSP eSP **sP 17 51 37.0 +0.3**
KSP LMZ LR 18 15 19.2
KSP Ksiaz 57.40 49 eP **P 17 51 28.7 +0.5**
KSP e*PP **pP 17 51 34.5 +0.2**
KSP MLR MLR
comp=Z,900nm,18.6s
UPC Upice 57.44 49 eP **P 17 51 29.0 +0.5**
UPC epP **pP 17 51 35.2 +0.6**
UPC eSP **sP 17 51 37.4 +0.4**
UPC Upice 57.44 49 eP **P 17 51 29.0 +0.5**
UPC e*PP **pP 17 51 35.2 +0.6**
NNA Nana 57.60 181 eP **P 17 51 31.4 +1.4**
comp=Z,46nm,1.0s
ABTA Abfaltersbach 57.63 54 *i* pP **P 17 51 32.0 +2.0**
comp=Z,1.1nm,1.0s,SNR=7.1
DPC Dobruska-Polom 57.69 49 eP **P 17 51 30.8 +0.5**
DPC epP **pP 17 51 37.0 +0.5**
DPC eSP **sP 17 51 39.2 +0.4**
DPC eS **S 17 59 27.0 -0.7**
DPC AMS AMS 18 15 30.0
comp=Z,1µm,16.8s
DPC Dobruska-Polom 57.69 49 eP **P 17 51 30.8 +0.5**
DPC e*PP **pP 17 51 37.0 +0.5**
DPC eS **S 17 59 27.0 -0.7**
DPC MLR MLR
comp=Z,1µm,16.8s
EMHD Djebel Mahouad 57.79 70 P **P 17 51 31.7 +0.4**
TREC Trest 57.84 51 eP **P 17 51 31.7 +0.3**
TREC epP **pP 17 51 37.9 +0.4**
TREC eSP **sP 17 51 40.1 +0.2**
TREC AMS AMS 18 14 40.0
comp=Z,1µm,19.5s
TREC Trest 57.84 51 eP **P 17 51 31.7 +0.3**
TREC e*PP **pP 17 51 37.9 +0.4**
TREC MLR MLR
comp=Z,1µm,19.5s
KBA Koelnbreinsper 57.91 54 *i* P **P 17 51 32.7 +0.6**
comp=Z,25nm,1.2s,SNR=11
VSU Vasula 57.97 37 eP **P 17 51 32.1 +0.1**
MOA Molln 57.99 53 *i* P **P 17 51 33.2 +0.8**
comp=Z,15nm,1.6s,SNR=9.0
KRLC Kraliky 58.09 49 eP **P 17 51 33.6 +0.5**
KRLC epP **pP 17 51 40.2 +0.9**
KRLC eSP **sP 17 51 42.2 +0.6**
KRLC Kraliky 58.09 49 eP **P 17 51 33.6 +0.5**
KRLC e*PP **pP 17 51 40.2 +0.9**
MYKA Terra Mystica 58.34 54 *i* P **P 17 51 35.4 +0.5**
comp=Z,10nm,0.8s,SNR=6.7
VRAC Vranov 58.43 50⇑ P **P 17 51 35.5 0.0**
VRAC Vranov 58.43 50⇑ *i*P **P 17 51 35.5 0.0**
CADS Cadrg 58.62 54 eP **P 17 51 36.5 -0.4**
CADS *e* 17 51 44.9
TMCR Tamitsa 58.63 28 eP **P 17 51 36.6 0.0**
TMCR pmax pmax
comp=Z,21nm,0.3s
PUL Pulkovo 58.65 35 eP **P 17 51 36.8 0.0**
MORC Moravsky Berou 58.66 49⇓ P **P 17 51 37.7 +0.6**
MORC Moravsky Berou 58.66 49⇓ *i*P **P 17 51 37.7 +0.6**
MORC Moravsky Berou 58.66 49 eP **P 17 51 37.7 +0.6**
comp=Z,118nm,0.8s
VOJS Vojsko 58.82 55 eP **P 17 51 38.2 -0.1**
CONA Conrad Observa 58.83 52⇑ *i*P **P 17 51 38.9 +0.5**
comp=Z,27nm,1.5s,SNR=7.0
OBKA Obir 58.92 54 *i* P **P 17 51 38.7 -0.3**
comp=Z,20nm,0.9s,SNR=6.7
OKC Ostrava-Krasne 58.95 49 eP **P 17 51 38.3 -0.7**
OKC epP **pP 17 51 45.6 +0.4**
OKC eSP **sP 17 51 47.7 +0.2**
OKC ex x 17 51 53.7
OKC AMS AMS 18 17 20.0
comp=Z,1µm,15.9s
OKC Ostrava-Krasne 58.95 49 eP **P 17 51 38.3 -0.7**
OKC e*PP **pP 17 51 45.6 +0.4**
OKC MLR MLR
comp=Z,1µm,15.9s
SUW Suwalki 59.02 43 eP **P 17 51 39.4 0.0**
SUW epP **pP 17 51 45.3 -0.3**
SUW eSP **sP 17 51 47.7 -0.2**
SUW LMZ LR 18 13 39.1
SUW Suwalki 59.02 43 eP **P 17 51 39.4 0.0**
SUW e*PP **pP 17 51 45.4 -0.2**
SUW MLR MLR
comp=Z,400nm,24.9s
SOKA Soboth 59.09 53⇑ eP **P 17 51 40.0 -0.2**
comp=Z,14nm,1.2s,SNR=8.7
BEL Belsk 59.14 46 eP **P 17 51 41.2 +1.0**
BEL epP **pP 17 51 47.6 +1.1**
BEL eSP **sP 17 51 49.4 +0.6**
BEL LMZ LR 18 17 18.2
BEL Belsk 59.14 46 eP **P 17 51 41.3 +1.0**
BEL e*PP **pP 17 51 47.7 +1.2**
BEL MLR MLR
comp=Z,700nm,17.8s
PERS Pernice 59.16 53 *i* P **P 17 51 40.1 -0.5**
LJU Ljubljana 59.17 54 eP **P 17 51 40.7 0.0**
LJU *e* 17 51 47.2
LJU *e* 17 51 48.9
SMOL Smolenice 59.34 51 eP **P 17 51 44.2 +2.4**
SMOL Smolenice 59.34 51 eP **P 17 51 44.2 +2.4**
SOP Sopron 59.35 52 eP **P 17 51 42.5 +0.7**
SET Setif 59.39 68 P **P 17 51 45.0 +2.6**
DFRA Djebel Bou Aff 59.49 68 P **P 17 51 44.0 +0.9**
CKHR Kef el Ahmar 59.57 68 P **P 17 51 45.0 +1.3**
OJC Ojcow 59.59 48 eP **P 17 51 43.7 +0.2**
OJC epP **pP 17 51 49.8 +0.2**
OJC eSP **sP 17 51 52.0 0.0**
OJC LMZ LR 18 15 20.0
OJC Ojcow 59.59 48 eP **P 17 51 43.7 +0.2**
OJC e*PP **pP 17 51 49.8 +0.2**
OJC MLR MLR
comp=Z,400nm,21.6s
OJC Ojcow 59.59 48 eP **P 17 51 43.8 +0.4**
comp=Z,90nm,1.7s
VSL Villasalto 59.95 63 eSP sP 17 51 54.5 -0.2
CAEH 'Ain El Ouahch 59.98 67 P **P 17 51 49.0 +2.7**
CASM Ain Smara 60.06 67 P **P 17 51 47.0 +0.1**
CKFL Kef-Lekhel 60.12 67 P **P 17 51 48.0 +0.5**
CTEI Djebel Teioual 60.12 68 P P 17 51 53.0 +5.5

NACGM	**Naroch**	**60.15**	**41**	*eP*	P	17 51 43.0	-4.2
BEHE	**Becsehely**	**60.19**	**53**	*eP*	**P**	**17 51 47.8**	**+0.2**
NIE	**Niedzica**	**60.33**	**48**	*eP*	**P**	**17 51 49.7**	**+1.1**
NIE				*ep*P	**pP**	**17 51 55.5**	**+0.7**
NIE				*es*P	**sP**	**17 51 57.7**	**+0.5**
NIE				LMZ	LR	18 17 29.9	
NIE	**Niedzica**	**60.33**	**48**	*eP*	**P**	**17 51 49.7**	**+1.1**
NIE				*e**PP	**pP**	**17 51 55.6**	**+0.7**
NIE				*e**SP	**sP**	**17 51 57.7**	**+0.5**
NIE				MLR	MLR		
	comp=Z,500nm,17.0s						
PKST	**T˙'s**	**60.41**	**51**⇓	*eP*	**P**	**17 51 50.3**	**+1.1**
CMAH	**Djebel Manchou**	**60.43**	**67**	*eP*	P	17 51 56.0	+6.4
CSKK	**Cs˙ťkako**	**60.47**	**51**	*eP*	**P**	**17 51 51.2**	**+1.6**
PKSG		**60.52**	**51**⇑	*eP*	**P**	**17 51 50.7**	**+0.8**
ABSA	**Djebel Ababsia**	**60.68**	**67**	P	P	**17 51 50.0**	**-1.3**
AQU	**L'Aquila**	**60.70**	**58**	⇓P	**P**	**17 51 51.8**	**+0.5**
AQU	**L'Aquila**	**60.70**	**58**⇓	*i*P	**P**	**17 51 51.8**	**+0.5**
AQU	**L'Aquila**	**60.70**	**58**	*es*P	sP	17 51 59.9	+0.2
BUD	**Budapest**	**60.81**	**51**	*eP*	**P**	**17 51 53.3**	**+1.4**
STHS	**Stebnicka Huta**	**60.82**	**48**	*eP*	**P**	**17 51 52.6**	**+0.7**
STHS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STHS	**Stebnicka Huta**	**60.82**	**48**	*eP*	**P**	**17 51 52.6**	**+0.7**
STHS				*e*PCP	**PcP**	**17 52 35.8**	**+0.2**
PKS9	**Tamasi**	**60.95**	**52**⇑	*eP*	**P**	**17 51 53.4**	**+0.6**
KECS	**Kecovo**	**60.99**	**49**	*eP*	**P**	**17 51 54.0**	**+0.9**
KECS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KECS	**Kecovo**	**60.99**	**49**	*eP*	**P**	**17 51 54.0**	**+0.9**
KECS				*e*PCP	**PcP**	**17 52 36.9**	**+0.7**
PSZ	**Piszkesteto**	**61.02**	**50**	⇑P	**P**	**17 51 53.6**	**+0.2**
PSZ	**Piszkesteto**	**61.02**	**50**⇑	*i*P	**P**	**17 51 53.5**	**+0.2**
PSZ	**Piszkesteto**	**61.02**	**50**	*eP*	**P**	**17 51 54.0**	**+0.7**
	comp=Z,50nm,1.7s						
PSZ	**Piszkesteto**	**61.02**	**50**	*eP*	**P**	**17 51 54.5**	**+1.1**
PKS7	**Kunszentmiklos**	**61.15**	**51**	*eP*	**P**	**17 51 55.0**	**+0.8**
PKSM	**Moragy**	**61.38**	**52**	⇑P	**P**	**17 51 55.6**	**-0.1**
PKSM	**Moragy**	**61.38**	**52**⇑	*i*P	**P**	**17 51 55.6**	**-0.1**
PKSM	**Moragy**	**61.38**	**52**	*eP*	**P**	**17 51 55.8**	**+0.1**
KWP	**Kalwaria Pacla**	**61.44**	**47**	*eP*	**P**	**17 51 57.3**	**+1.2**
KWP				*ep*P	**pP**	**17 52 03.3**	**+1.0**
KWP				*es*P	**sP**	**17 52 05.4**	**+0.7**
KWP				LMZ	LR	18 18 16.4	
KWP	**Kalwaria Pacla**	**61.44**	**47**	*eP*	**P**	**17 51 57.3**	**+1.2**
KWP				*e**PP	**pP**	**17 52 03.3**	**+1.0**
KWP				pmax	pmax		
	comp=Z,200nm,2.0s						
KWP				MLR	MLR		
	comp=Z,400nm,18.6s						
TIXI	**Tiksi**	**61.50**	**351**	*eP*	**P**	**17 51 56.4**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,23nm,1.7s						
TIXI				MLR	MLR		
	comp=Z,599nm,18.0s						
TIXI	**Tiksi**	**61.50**	**351**	*eP*	**P**	**17 51 55.8**	**-0.3**
	comp=Z,18nm,0.8s						
PKSN	**Nyarlorinc**	**61.63**	**51**⇑	*eP*	**P**	**17 51 59.0**	**+1.6**
KOLS	**Kolonicke sedl**	**61.65**	**48**	*eP*	**P**	**17 51 58.6**	**+1.1**
KOLS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KOLS	**Kolonicke sedl**	**61.65**	**48**	*eP*	**P**	**17 51 58.6**	**+1.1**
LVV	**L'vov**	**62.00**	**46**⇓	*i*P	**P**	**17 51 59.8**	**-0.1**
LVV				MLR	MLR		
	comp=N,100nm,17.0s						
LVV				MLR	MLR		
	comp=E,300nm,17.0s						
LVV				MLR	MLR		
	comp=Z,500nm,17.0s						
KEST	**Kesra**	**62.21**	**66**	P	**P**	**17 52 01.2**	**-0.4**
	comp=Z,3.8nm,0.8s,baz=169,slow=1.0,SNR=15						
KEST				LR	LR	18 17 52.8	
	comp=Z,213nm,18.1s,baz=284,slow=35						
KEST	**Kesra**	**62.21**	**66**	*eP*	**P**	**17 52 02.5**	**+0.9**
LPAZ	**La Paz**	**62.24**	**172**	P	**P**	**17 52 02.5**	**+0.1**
	comp=Z,19nm,0.8s,baz=347,slow=4.4,SNR=54						
LPAZ				LR	LR	18 22 44.0	
	comp=Z,189nm,18.1s,baz=353,slow=40						
LPAZ	**La Paz**	**62.24**	**172**	P	**P**	**17 52 02.5**	**+0.1**
LPAZ				pmax	pmax		
	comp=Z,19nm,0.8s						
LPAZ				MLR	MLR		
	comp=Z,189nm,18.2s						
LPAZ	**La Paz**	**62.24**	**172**	*eP*	**P**	**17 52 02.5**	**+0.1**
	comp=Z,108nm,0.7s						
RCBR	**Riachuelo**	**62.44**	**134**	*eP*	**P**	**17 52 04.0**	**+0.8**
	comp=Z,93nm,0.9s						
BMR	**Baia Mare**	**63.08**	**48**	⇓P	**P**	**17 52 08.5**	**+1.4**
BMR	**Baia Mare**	**63.08**	**48**	⇓*i*P	**P**	**17 52 08.5**	**+1.4**
DRGR		**63.22**	**50**	⇑P	**P**	**17 52 08.9**	**+0.7**
DRGR		**63.22**	**50**⇑	*i*P	**P**	**17 52 08.9**	**+0.7**
BZS	**Buzias**	**63.37**	**51**	⇑P	**P**	**17 52 09.7**	**+0.6**
BZS	**Buzias**	**63.37**	**51**⇑	*i*P	**P**	**17 52 09.7**	**+0.6**
DIVS	**Divibare**	**63.43**	**53**⇑	*i*P	**P**	**17 52 09.4**	**-0.2**
AK11	**Malin Array Si**	**63.97**	**43**	*eP*	**P**	**17 52 12.4**	**-0.5**
BUR08	**Bucovina Ar. S**	**63.98**	**48**⇑	*i*P	**P**	**17 52 14.0**	**+0.8**
KIEV	**Kiev**	**63.98**	**43***c*	*i*P	**P**	**17 52 12.8**	**-0.2**
KIEV	**Kiev**	**63.98**	**43**	*eP*	**P**	**17 52 12.9**	**-0.1**
	comp=Z,104nm,0.9s						
AKASG	**Malin Array Be**	**63.98**	**43**	P	**P**	**17 52 12.9**	**-0.1**
	comp=Z,22nm,0.7s,baz=307,slow=6.1,SNR=77						
AKASG				LR	LR	18 19 43.9	
	comp=Z,456nm,19.3s,baz=295,slow=36						
AKASG	**Malin Array Be**	**63.98**	**43**	P	**P**	**17 52 12.9**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,22nm,0.7s						
AKASG				MLR	MLR		
	comp=Z,456nm,19.3s						
AKBB	**Malin Array Si**	**63.98**	**43**⇑	*i*P	**P**	**17 52 12.7**	**-0.3**
AK01	**Malin Array Si**	**63.99**	**43**	*eP*	**P**	**17 52 12.4**	**-0.7**
BUR04	**Bucovina Ar. S**	**64.00**	**48**	*eP*	**P**	**17 52 14.6**	**+1.2**
AK02	**Malin Array Si**	**64.00**	**43**⇑	*eP*	**P**	**17 52 12.8**	**-0.4**
BURAR	**Bucovina Array**	**64.01**	**48**	⇑P	**P**	**17 52 14.5**	**+1.1**
BURAR	**Bucovina Array**	**64.01**	**48**⇑	*i*P	**P**	**17 52 14.5**	**+1.1**
GZR	**Gura Zlata**	**64.14**	**51**	⇑P	**P**	**17 52 14.9**	**+0.6**
GZR	**Gura Zlata**	**64.14**	**51**⇑	*i*P	**P**	**17 52 14.9**	**+0.6**
MOS	**Moscow**	**64.26**	**35**	*eP*	**P**	**17 52 13.9**	**-0.8**
MOS				*e*		17 52 22.8	
OBN	**Obninsk**	**64.26**	**36***c*	*i*P	**P**	**17 52 14.3**	**-0.4**
OBN				*i*		17 52 20.6	
OBN				*e*		17 52 51.3	
OBN				pmax	pmax		
	comp=Z,34nm,1.3s						
OBN	**Obninsk**	**64.26**	**36**	P	**P**	**17 52 15.1**	**+0.4**
	comp=Z,485nm,1.0s,SNR=6.4						
OBN	**Obninsk**	**64.26**	**36**	*eP*	**P**	**17 52 14.6**	**-0.1**
	comp=Z,110nm,1.1s						
TIP	**Timpagrande**	**64.66**	**59**	*eP*	**P**	**17 52 17.6**	**-0.2**
	comp=Z,16nm,1.1s						
PRAR	**RASCA**	**64.69**	**47**⇓	*i*P	**P**	**17 52 19.0**	**+1.2**
SEY	**Seymchan**	**65.02**	**338**	P	**P**	**17 52 20.0**	**+0.4**
	comp=Z,12nm,0.6s,baz=50,slow=3.9,SNR=71						
VOIR		**65.34**	**50**	⇑P	**P**	**17 52 22.6**	**+0.5**
VOIR		**65.34**	**50**⇑	*i*P	**P**	**17 52 22.6**	**+0.5**
TESR	**Tescani**	**65.47**	**48**⇑	*i*P	**P**	**17 52 22.4**	**-0.4**
MLR	**Muntele Rosu**	**65.78**	**49**	⇑P	**P**	**17 52 27.2**	**+2.2**
MLR	**Muntele Rosu**	**65.78**	**49**⇑	*i*P	**P**	**17 52 27.2**	**+2.2**
PLOR	**Plostina**	**65.91**	**48**	⇑P	**P**	**17 52 26.2**	**+0.5**
PLOR	**Plostina**	**65.91**	**48**⇑	*i*P	**P**	**17 52 26.2**	**+0.5**
VRI	**Vrincioaia**	**65.94**	**48**	⇓P	**P**	**17 52 27.5**	**+1.7**
VRI	**Vrincioaia**	**65.94**	**48**⇓	*i*P	**P**	**17 52 27.5**	**+1.7**
MPEP	**Malo Peshtene**	**65.99**	**52**	*eP*	**P**	**17 52 26.0**	**-0.2**
BDFB	**Brasilia**	**66.11**	**151**	P	**P**	**17 52 28.1**	**+0.8**
	comp=Z,9.9nm,0.8s,baz=317,slow=4.8,SNR=9.7						
BDFB				LR	LR	18 19 25.6	
	comp=Z,219nm,21.3s,baz=331,slow=34						
BDFB	**Brasilia**	**66.11**	**151**	P	**P**	**17 52 28.1**	**+0.8**
BDFB				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BDFB				MLR	MLR		
	comp=Z,219nm,21.3s						
BDFB	**Brasilia**	**66.11**	**151**	*eP*	**P**	**17 52 28.4**	**+1.1**
SECR		**66.14**	**49**⇓	*i*P	**P**	**17 52 28.6**	**+1.4**
VTS	**Vitosha**	**66.20**	**53**	⇑P	**P**	**17 52 28.2**	**+0.5**
VTS	**Vitosha**	**66.20**	**53**⇑	*i*P	**P**	**17 52 28.2**	**+0.5**
VTS	**Vitosha**	**66.20**	**53**	*eP*	**P**	**17 52 27.6**	**-0.1**
KIS	**Kishinev**	**66.26**	**46**	*eP*	**P**	**17 52 28.0**	**+0.2**
KIS				LRM	MLR	18 21 40.0	
	comp=Z,600nm,20.0s						
KIS	**Kishinev**	**66.26**	**46**	*eP*	**P**	**17 52 28.0**	**+0.2**
KIS				*e*		17 52 34.0	
KIS				*e*		18 01 14.0	
KIS				MLR	MLR		
	comp=Z,600nm,20.0s						
KIS				MLR	MLR		
	comp=Z,600nm,17.0s						
SULR		**66.48**	**50**⇑	*i*P	**P**	**17 52 29.2**	**-0.1**
KKB	**Krupnik**	**66.61**	**54**	*eP*	**P**	**17 52 30.9**	**+0.7**
CFR	**Carcaliu**	**67.13**	**48**	⇑P	**P**	**17 52 32.2**	**-1.2**
CFR	**Carcaliu**	**67.13**	**48**⇑	*i*P	**P**	**17 52 32.2**	**-1.2**
MMB	**Musomiste**	**67.15**	**53**	⇑P	**P**	**17 52 35.3**	**+1.6**
MMB	**Musomiste**	**67.15**	**53**⇑	*i*P	**P**	**17 52 35.3**	**+1.6**
MMB	**Musomiste**	**67.15**	**53**	*eP*	**P**	**17 52 34.8**	**+1.1**
TLCR		**67.48**	**48**	⇑P	**P**	**17 52 36.2**	**+0.6**
TLCR		**67.48**	**48**⇑	*i*P	**P**	**17 52 36.2**	**+0.6**
MSAB	**Monastry St. A**	**67.71**	**49**⇑	*i*P	**P**	**17 52 37.3**	**+0.2**
TIRR	**Tirgusor**	**67.77**	**49**	⇓P	**P**	**17 52 36.4**	**-1.1**
TIRR	**Tirgusor**	**67.77**	**49**⇓	*i*P	**P**	**17 52 36.4**	**-1.1**
TAM	**Tamanrasset**	**67.96**	**80**	*eP*	**P**	**17 52 40.3**	**+1.1**
	comp=Z,37nm,0.9s						
KDZ	**Kurdzhali**	**68.05**	**52**	⇓P	**P**	**17 52 40.4**	**+1.0**
KDZ	**Kurdzhali**	**68.05**	**52**⇓	*i*P	**P**	**17 52 40.4**	**+1.0**
KDZ	**Kurdzhali**	**68.05**	**52**	*eP*	**P**	**17 52 39.5**	**+0.1**
AGG	**Agios Georgios**	**68.06**	**56**	*eP*	**P**	**17 52 40.9**	**+1.4**
	comp=Z,66nm,1.0s						
JMB	**Yambol**	**68.14**	**51**	⇑P	**P**	**17 52 40.4**	**+0.5**
JMB	**Yambol**	**68.14**	**51**⇑	*i*P	**P**	**17 52 40.4**	**+0.5**
VSR	**Storozhevoye**	**68.14**	**38**	*eP*	**P**	**17 52 39.4**	**-0.3**
VSR				*e**PP	**pP**	**17 52 45.9**	**-0.1**
VSR				pmax	pmax		
	comp=Z,30nm,1.0s						
VSR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,7.0nm,0.5s						
LVC	**Limon Verde**	**68.43**	**173**	*eP*	**P**	**17 52 43.7**	**+1.6**
	comp=E,56nm,0.8s						
VRHR	**Novokhopersk**	**69.28**	**37**	*eP*	**P**	**17 52 46.4**	**-0.4**
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
VRHR				pmax	pmax		
	comp=Z,50nm,0.7s						
VRHR				pmax	pmax		
	comp=N,30nm,1.0s						
SIM	**Simferopol'**	**70.33**	**45**	*eP*	**P**	**17 52 54.0**	**+0.6**
SIM				*eS*	**S**	**18 02 04.0**	**-0.5**
SIM				pmax	pmax		
	comp=Z,50nm,9.8s						
SIM				MLR	MLR		
	comp=Z,290nm,13.3s						
YAK	**Yakutsk**	**70.54**	**348***c*	*i*P	**P**	**17 52 53.8**	**-0.5**
YAK				*e*		17 52 59.9	
YAK				pmax	pmax		
	comp=N,11nm,1.5s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,23nm,1.3s						
YAK				MLR	MLR		
	comp=Z,488nm,21.0s						
YAK				MLR	MLR		
	comp=N,406nm,20.0s						
YAK	**Yakutsk**	**70.54**	**348**	*eP*	**P**	**17 52 54.0**	**-0.4**
	comp=N,65nm,0.8s						
ARU	**Arti**	**71.06**	**25**	P	**P**	**17 52 58.7**	**+1.1**
	comp=N,208nm,0.7s,SNR=12						
ARU	**Arti**	**71.06**	**25***c*	*i*P	**P**	**17 52 58.2**	**+0.6**
ARU				*PP	**pP**	**17 53 04.4**	**+0.5**
ARU						17 53 17.8	
ARU						17 55 37.5	
ARU				S	**S**	**18 02 12.6**	**0.0**
ARU				SS	**SS**	**18 06 47.6**	**+2.9**
ARU				pmax	pmax		
	comp=Z,59nm,1.7s						
ARU	**Arti**	**71.06**	**25**	*eP*	**P**	**17 52 58.3**	**+0.7**
	comp=Z,32nm,0.9s						
PET	**Petropavlovsk**	**71.12**	**329**	*eP*	**P**	**17 52 57.5**	**-0.5**
PET				*eS*	**S**	**18 02 11.9**	**-1.4**
PET				pmax	pmax		
	comp=Z,30nm,0.8s						
PET				MLR	MLR		
	comp=Z,300nm,13.0s						
PET	**Petropavlovsk**	**71.12**	**329**	*eP*	**P**	**17 52 57.5**	**-0.5**
	comp=Z,22nm,0.9s						
SVE	**Sverdlovsk**	**71.31**	**24**⇑	*i*P	**P**	**17 53 00.2**	**+1.0**
SVE				*eS*	**S**	**18 02 11.0**	**-4.5**
SVE				pmax	pmax		
	comp=Z,34nm,1.2s						
PEA0	**Petropavlovsk-**	**71.39**	**329**	*eP*	**P**	**17 52 59.5**	**-0.3**
PETK	**Petropavlovsk-**	**71.39**	**329**	P	**P**	**17 52 59.5**	**-0.2**
	comp=Z,12nm,0.6s,baz=78,slow=7.5,SNR=23						
PETK				LR	LR	18 26 50.5	
	comp=Z,108nm,19.2s,baz=53,slow=38						
PETK	**Petropavlovsk-**	**71.39**	**329**	P	**P**	**17 52 59.6**	**-0.2**
PETK				pmax	pmax		
	comp=Z,12nm,0.6s						
PETK				MLR	MLR		
	comp=Z,109nm,19.2s						
TIC	**Toumodi**	**71.75**	**99**	*eP*	**P**	**17 53 02.5**	**+0.1**
DBIC	**Dimbokro**	**71.85**	**99**	P	**P**	**17 53 02.8**	**-0.2**
	comp=Z,11nm,0.6s,baz=308,slow=8.2,SNR=15						
DBIC				LR	LR	18 23 52.1	
	comp=Z,260nm,18.1s,baz=306,slow=35						
DBIC	**Dimbokro**	**71.85**	**99**	P	**P**	**17 53 02.8**	**-0.2**
DBIC				pmax	pmax		
	comp=Z,11nm,0.6s						
DBIC				MLR	MLR		
	comp=Z,260nm,18.1s						
DBIC	**Dimbokro**	**71.85**	**99**	*eP*	**P**	**17 53 03.7**	**+0.7**
	comp=Z,36nm,0.9s						
TOB4	**Torodi Ar. Sit**	**71.85**	**90**	*eP*	**P**	**17 53 02.3**	**-0.7**
TORD	**Torodi Ar. Bea**	**71.85**	**90**	P	**P**	**17 53 02.6**	**-0.4**
	comp=Z,9.9nm,1.0s,baz=303,slow=6.8,SNR=26						
TORD				LR	LR	18 23 41.6	
	comp=Z,588nm,18.1s,baz=310,slow=35						
LIC	**Lamto**	**72.05**	**100**	*eP*	**P**	**17 53 05.0**	**+0.8**
	comp=Z,100nm,1.2s						
ANN	**Anapa**	**72.06**	**44**	P	**P**	**17 53 01.2**	**-2.7**
ANN				pmax	pmax		
	comp=Z,101nm,1.8s						
ANN				MLR	MLR		
	comp=Z,593nm,14.0s						
KIC	**Kosan Boka**	**72.15**	**99**	*eP*	**P**	**17 53 05.1**	**+0.3**
	comp=Z,167nm,0.9s						
ANTO	**Ankara**	**73.30**	**50**	⇑P	**P**	**17 53 12.6**	**+1.1**
ANTO	**Ankara**	**73.30**	**50**⇑	*i*P	**P**	**17 53 12.6**	**+1.1**
ANTO	**Ankara**	**73.30**	**50**	*eP*	**P**	**17 53 13.1**	**+1.6**
	comp=Z,68nm,1.7s						
BR231	**Keskin MP Arra**	**73.31**	**50**	*eP*	**P**	**17 53 13.5**	**+1.9**
CPUP	**Villa Florida**	**73.75**	**163**	*eP*	**P**	**17 53 14.1**	**+0.2**
BR131	**Keskin Array S**	**73.86**	**49**	*eP*	**P**	**17 53 15.3**	**+0.6**
	comp=Z,12nm,0.9s						
BRTR	**Keskin Array B**	**73.86**	**49**	P	**P**	**17 53 15.4**	**+0.6**
	comp=Z,4.8nm,0.8s,baz=322,slow=4.6,SNR=20						
BRTR				LR	LR	18 26 59.2	
	comp=Z,231nm,18.4s,baz=298,slow=37						
BRTR	**Keskin Array B**	**73.86**	**49**	P	**P**	**17 53 15.4**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRTR				MLR	MLR		
	comp=Z,231nm,18.4s						
SKR	**Severo-Kuril's**	**73.94**	**329**	*eP*	P	17 53 08.3	-6.6
SKR				*e*		17 53 14.9	
SKR				pmax	pmax		
	comp=E,20nm,0.5s						
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SOC	**Sochi**	**74.07**	**43**	*eP*	P	17 53 11.6	-4.1
SOC				*e*		17 56 00.2	
SOC				*eS*	**SKiKP**	**18 02 39.2**	**-3.3**
SOC				MLR	MLR		
	comp=Z,362nm,15.0s						
LCO	**Las Campanas**	**74.66**	**176**	*eP*	**P**	**17 53 20.0**	**+0.5**
	comp=Z,67nm,0.8s						
KIV	**Kislovodsk**	**75.17**	**41**	P	**P**	**17 53 23.5**	**+1.2**
	comp=Z,312nm,1.1s,SNR=8.3						
KIV	**Kislovodsk**	**75.17**	**41**	*eP*	**P**	**17 53 23.5**	**+1.2**
KIV				*eS*	**S**	**18 03 00.5**	**+0.6**
KIV				pmax	pmax		
	comp=Z,66nm,1.1s						
KIV				pmax	pmax		
	comp=Z,39nm,5.6s						
KIV	**Kislovodsk**	**75.17**	**41**	*eP*	**P**	**17 53 23.7**	**+1.4**
	comp=Z,71nm,1.1s						
KBZ	**Khabaz**	**75.45**	**41**	P	**P**	**17 53 25.3**	**+1.6**
	comp=Z,12nm,0.9s,baz=294,slow=6.1,SNR=16						
KBZ				LR	LR	18 26 13.0	
	comp=Z,334nm,20.3s,baz=324,slow=36						
KBZ	**Khabaz**	**75.45**	**41**	P	**P**	**17 53 25.3**	**+1.6**
KBZ				pmax	pmax		
	comp=Z,12nm,0.9s						
KBZ				MLR	MLR		
	comp=Z,334nm,20.3s						
NEY	**Neytrino**	**75.73**	**42**	*eP*	P	17 53 28.9	+3.2
NCK	**Nalchik**	**75.95**	**41**	*eP*	**P**	**17 53 29.2**	**+2.5**
AKTO	**Aktyubinsk**	**76.00**	**29**	P	**P**	**17 53 27.6**	**+0.8**
AKTO				pmax	pmax		
	comp=Z,39nm,1.0s						
BOD	**Bodaibo**	**76.36**	**355**	*eP*	**P**	**17 53 27.9**	**-0.8**
BOD				pmax	pmax		
	comp=Z,35nm,0.9s						
NKL	**Nikolayevsk**	**76.59**	**339**	*eP*	P	17 53 24.9	-5.2
NKL				*e*		17 53 30.2	
NKL				pmax	pmax		
	comp=Z,60nm,1.4s						
CSS	**Prodhromos**	**77.17**	**53**	*eP*	**P**	**17 53 34.2**	**+0.5**
	comp=Z,23nm,1.3s						
BRVK	**Borovoye**	**77.21**	**20**	P	**P**	**17 53 34.8**	**+1.2**
	comp=Z,366nm,0.9s,SNR=18						
BRVK	**Borovoye**	**77.21**	**20***c*	*i*P	**P**	**17 53 34.4**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,49nm,1.7s						
BRVK	**Borovoye**	**77.21**	**20**	*eP*	**P**	**17 53 34.6**	**+1.0**
	comp=Z,68nm,1.0s						
BVA0	**Borovoye Array**	**77.26**	**20**	*i* P	**P**	**17 53 34.4**	**+0.5**
BVA0				pmax	pmax		
	comp=Z,53nm,0.9s						
MALT	**Malatya**	**77.40**	**47**⇑	P	**P**	**17 53 36.6**	**+1.5**
MALT	**Malatya**	**77.40**	**47**⇑	*i*P	**P**	**17 53 36.5**	**+1.5**
AB31	**Akbulak array**	**77.65**	**28**	*i* P	**P**	**17 53 37.3**	**+1.2**
AB31				pmax	pmax		
	comp=Z,50nm,0.9s						
ABKAR	**Akbulak array**	**77.65**	**28**	*eP*	**P**	**17 53 37.5**	**+1.3**
NVS	**Novosibirsk**	**78.06**	**12**⇑	*i*P	**P**	**17 53 37.9**	**-0.4**
NVS				pmax	pmax		
	comp=Z,52nm,1.0s						
NVS				pmax	pmax		
	comp=N,16nm,1.3s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.7s						
TYV	**Tymovskoe**	**78.13**	**336**	*eP*	**P**	**17 53 41.0**	**+2.3**
TYV				pmax	pmax		
	comp=N,4.0nm,0.6s						
TYV				pmax	pmax		
	comp=E,5.0nm,0.6s						
TYV				MLR	MLR		
	comp=E,1μm,18.0s						
TYV				MLR	MLR		
	comp=Z,500nm,18.0s						
GNI	**Garni**	**79.10**	**42***c*	*i*P	**P**	**17 53 46.1**	**+1.6**
GNI				pmax	pmax		
	comp=Z,41nm,1.2s						
GNI	**Garni**	**79.10**	**42**	*eP*	P	17 53 47.6	+3.1
	comp=Z,62nm,1.1s						
ZAA0	**Zalesovo Array**	**79.16**	**12**	*eP*	**P**	**17 53 44.2**	**-0.1**
ZALV	**Zalesovo Beam**	**79.16**	**12**	P	**P**	**17 53 44.3**	**0.0**
	comp=Z,5.8nm,0.6s,baz=342,slow=5.9,SNR=20						
ZALV				LR	LR	18 33 34.3	
	comp=Z,413nm,18.3s,baz=70,slow=39						
ZALV	**Zalesovo Beam**	**79.16**	**12**	P	**P**	**17 53 44.3**	**0.0**
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ZALV				MLR	MLR		
	comp=Z,413nm,18.3s						
KURK	**Kurchatov**	**81.23**	**16**	P	**P**	**17 53 55.2**	**-0.4**
	comp=Z,282nm,1.0s,SNR=11						
KURK	**Kurchatov**	**81.23**	**16**	P	**P**	**17 53 56.3**	**+0.7**
KURK				pmax	pmax		
	comp=Z,12nm,0.6s						
KURK	**Kurchatov**	**81.23**	**16**	*eP*	**P**	**17 53 55.8**	**+0.2**
	comp=Z,53nm,1.0s						
KURK				PKKPbc	PKKPbc	18 12 35.5	+6.1
KURBB	**Kurchatov Arra**	**81.30**	**16**	P	**P**	**17 53 56.2**	**+0.3**
	comp=Z,12nm,0.6s,baz=339,slow=5.1,SNR=88						
KURBB				PKKPbc	PKKPbc	18 12 35.5	+6.2
	comp=Z,0.2nm,0.3s,baz=182,slow=2.1,SNR=5.7						
YSS	**Yuzh-Sakhalins**	**81.61**	**335**	*eP*	**P**	**17 53 56.2**	**-1.4**
YSS				*e**SP	**sP**	**17 54 02.9**	**-3.4**
YSS				*eS*	**S**	**18 04 12.0**	**+3.4**
YSS	**Yuzh-Sakhalins**	**81.61**	**335**	*eP*	**P**	**17 53 57.0**	**-0.6**
	comp=Z,49nm,0.7s						
HABR	**Khabarovsk**	**82.30**	**340***c*	*eP*	**P**	**17 54 00.7**	**-0.5**
HABR				*e*		17 54 05.8	
HABR				*e**PP	**pP**	**17 54 07.2**	**-0.4**
HABR				*e*		17 57 08.8	
HABR				*e*PPP	PPP	17 58 59.4	
HABR				*eS*	**S**	**18 04 15.5**	**-0.1**
HABR				*e*		18 04 23.9	
HABR				*e*SS	**SS**	**18 09 36.5**	**+2.1**
HABR				*e*SSS	SSS	18 13 04.2	
HABR				pmax	pmax		
	comp=E,38nm,2.4s						
HABR				pmax	pmax		
	comp=Z,41nm,2.4s						
HABR				pmax	pmax		
	comp=N,9.0nm,1.1s						
HABR				MLR	MLR		
	comp=Z,275nm,20.0s						
KLR	**Kul'dur**	**82.33**	**342**	*eP

TKM2				pmax	pmax			
	comp=Z,28nm,0.8s							
TKM2	**Tokmak 2**	**87.95**	**21**	*e*P	**P**	**17 54 30.8**	**+0.9**	
	comp=Z,28nm,0.8s							
KBK	**Karagaybulak**	**88.03**	**21**	P	**P**	**17 54 31.4**	**+1.1**	
	SNR=7.1							
VLA	**Vladivostok**	**88.08**	**340**⇓	*e*P	**P**	**17 54 29.8**	**-0.5**	
VLA				*e*		17 54 30.9		
VLA				*e**PP	**pP**	**17 54 36.3**	**-0.4**	
VLA				*i*		17 57 55.8		
VLA				*e*S	**SKSac**	**18 04 56.7**	**-1.0**	
VLA				pmax	pmax			
	comp=Z,15nm,1.5s							
AML	**Almayashu**	**88.20**	**22**	P	**P**	**17 54 33.0**	**+1.6**	
	SNR=8.8							
UCH	**Uchtor**	**88.32**	**22**	P	**P**	**17 54 33.6**	**+1.6**	
	SNR=12							
KZA	**Kyzart**	**88.65**	**21**	P	**P**	**17 54 34.9**	**+1.4**	
	SNR=9.2							
CN2	**Changchun**	**88.78**	**345**	*e*P	**P**	**17 54 33.0**	**-0.6**	
CN2				PMZ				
	comp=Z,10.0nm,1.0s							
CN2				PMZ				
	comp=Z,200nm,4.0s							
CN2				LN				
	comp=Z,300nm,15.0s							
CN2				LE				
	comp=Z,200nm,15.0s							
CN2				LZ				
	comp=Z,400nm,19.0s							
WMQ	**Urumqi**	**89.46**	**12**	P	**P**	**17 54 38.8**	**+1.9**	
WMQ				pP	**pP**	**17 54 45.1**	**+1.8**	
WMQ				sP	**sP**	**17 54 47.8**	**+2.2**	
WMQ				PMZ				
	comp=Z,6.0nm,0.3s							
WMQ				PMZ				
	comp=Z,110nm,4.2s							
WMQ				LN				
	comp=Z,400nm,18.9s							
WMQ				LE				
	comp=Z,130nm,18.6s							
WMQ				LZ				
	comp=Z,280nm,20.8s							
KSH	**Kashi**	**91.25**	**22**	P	P	17 54 48.9	+3.5	
KSH				sP	sP	17 54 53.5	-0.6	
KSH				S	**S**	**18 05 41.1**	**-1.8**	
KSH				PMZ				
	comp=Z,100nm,5.1s							
KSH				LN				
	comp=Z,59nm,7.6s							
KSH				LE				
	comp=Z,99nm,7.2s							
KSH				LZ				
	comp=Z,100nm,5.9s							
PPT	**Papeete**	**91.77**	**247**	LR	LR	18 31 46.6		
	comp=Z,340nm,19.3s,baz=2.5,slow=33							
PPT2	**Papeete2**	**91.78**	**247**	*e*SS	SS	18 12 00.1	+3.8	
	comp=Z,256nm,32.0s							
PPT2	**Papeete2**	**91.78**	**247**	*e*LR	LR	18 24 17.8		
	comp=Z,386nm,22.0s							
MAJO	**Matsushiro**	**92.49**	**333**	*e*P	**P**	**17 54 51.5**	**+0.5**	
	comp=Z,18nm,0.8s							
MJAR	**Matsushiro Arr**	**92.49**	**333**	P	**P**	**17 54 51.2**	**+0.2**	
	comp=Z,2.2nm,0.7s,baz=345,slow=4.8,SNR=6.6							
MJAR				LR	LR	18 39 27.6		
	comp=Z,201nm,21.0s,baz=340,slow=38							
MJAR	**Matsushiro Arr**	**92.49**	**333**	P	**P**	**17 54 51.2**	**+0.2**	
MJAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MJAR				MLR	MLR			
	comp=Z,201nm,21.0s							
RAYN	**Ar Rayn**	**92.70**	**52**	*e*P	**P**	**17 54 52.4**	**+0.2**	
	comp=Z,4.9nm,0.9s							
HHC	**Hu-ho-hao-te**	**93.42**	**355**	*e*P	**P**	**17 54 55.4**	**0.0**	
HHC				SKS	**SKSac**	**18 05 23.3**	**-5.5**	
HHC				PMZ				
	comp=Z,39nm,1.3s							
HHC				PMZ				
	comp=Z,190nm,8.1s							
HHC				LN				
	comp=Z,190nm,18.5s							
HHC				LE				
	comp=Z,260nm,18.2s							
HHC				LZ				
	comp=Z,170nm,18.5s							
BJI	**Beijing**	**93.82**	**351**	P	P	17 55 02.9	+5.9	
BJI				pmax	pmax			
	comp=Z,9.0nm,1.2s							
BJI				LR	LR			
	comp=N,440nm,18.1s							
BJI				LR	LR			
	comp=E,200nm,17.1s							
BJI				LR	LR			
	comp=Z,350nm,24.1s							
KS01	**Wonju Array Si**	**94.38**	**341**	*e*P	**P**	**17 54 59.0**	**-0.6**	
KSRS	**Korea Array**	**94.39**	**341**	P	**P**	**17 54 59.8**	**+0.1**	
	comp=Z,0.9nm,0.6s,baz=6.9,slow=5.0,SNR=6.5							
KSRS				LR	LR	18 38 49.9		
	comp=Z,241nm,21.8s,baz=10,slow=36							
KSRS	**Korea Array**	**94.39**	**341**	P	**P**	**17 54 59.8**	**+0.1**	
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KSRS				MLR	MLR			
	comp=Z,241nm,21.8s							
KSAR	**Wonju Array Be**	**94.41**	**341**	P	**P**	**17 54 59.8**	**0.0**	
GTA	**Gaotai**	**95.00**	**4**	*e*P	**P**	**17 55 02.9**	**+0.3**	
GTA				pP	**pP**	**17 55 07.0**	**-2.1**	
GTA				sP	**sP**	**17 55 09.5**	**-1.9**	
GTA				SKS	**SKSac**	**18 05 36.8**	**-0.6**	
GTA				S	**S**	**18 06 12.4**	**-3.7**	
GTA				sS	**ScS**	**18 06 20.8**	**+3.6**	
GTA				PMZ				
	comp=Z,5.0nm,1.0s							
GTA				PMZ				
	comp=Z,100nm,5.9s							
GTA				LN				
	comp=Z,230nm,19.0s							
GTA				LE				
	comp=Z,220nm,19.5s							
GTA				LZ				
	comp=Z,260nm,18.5s							
TBI	**Tubuai**	**95.95**	**243**	*e*SS	SS	18 12 57.0	+1.5	
	comp=Z,368nm,34.8s							
TBI	**Tubuai**	**95.95**	**243**	*e*LR	LR	18 26 18.7		
	comp=Z,497nm,24.5s,baz=46							
LZH	**Lanzhou**	**98.41**	**0**	*e*P	Pdif	17 55 20.3	+2.1	
LZH				pP	pP	17 55 25.3	+0.6	
LZH				sP	sP	17 55 27.5	+0.6	
LZH				PMZ				
	comp=Z,18nm,1.6s							
LZH				PMZ				
	comp=Z,97nm,9.2s							
LZH				LN				
	comp=Z,360nm,18.0s							
LZH				LE				
	comp=Z,360nm,18.0s							
LZH				LZ				
	comp=Z,430nm,19.2s							
NJ2	**Nanjing**	**101.34**	**348**	*e*P	**Pdif**	**17 55 33.4**	**+2.3**	
NJ2				PMZ				
	comp=Z,20nm,0.6s							
CD2	**Chengdu**	**103.57**	**1**	P	**Pdif**	**17 55 40.5**	**-0.6**	
CD2				PP	**PP**	**17 59 54.9**	**-1.2**	
CD2				S	**Sdif**	**18 07 25.6**	**-3.2**	
GYA	**Guiyang**	**107.98**	**358**	*e*Pdif	**Pdif**	**17 56 01.0**	**+0.1**	
KMI	**Kunming**	**109.33**	**2**	PKP		18 00 13.3		
KMI				LR	LR			
	comp=N,260nm,19.6s							
KMI				LR	LR			
	comp=E,160nm,20.1s							
KMI				LR	LR			
	comp=Z,250nm,17.5s							
CMAR	**Chiang Mai Arr**	**115.78**	**6**	PKP	**PKPdf**	**18 00 22.2**	**-0.5**	
	comp=Z,0.6nm,0.6s,baz=323,slow=3.3,SNR=5.7							
CMAR				PP	PP	18 01 34.2	+10	
	comp=Z,1.7nm,0.9s,baz=349,slow=8.3,SNR=4.7							
CMAR	**Chiang Mai Arr**	**115.78**	**6**	PKIKP	**PKPdf**	**18 00 22.2**	**-0.5**	
CMAR						18 01 34.2		
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
CM01	**Chiang Mai Arr**	**115.82**	**6**	*e*PKPdf	**PKPdf**	**18 00 21.9**	**-0.8**	
BOSA	**Boshof**	**117.16**	**104**	PKP	**PKPdf**	**18 00 24.6**	**-0.5**	
	comp=Z,1.4nm,0.7s,baz=355,slow=3.9,SNR=4.5							
BOSA				PKKPab	PKKPab	18 11 01.3	+9.3	
	comp=Z,1.7nm,0.7s,baz=135,slow=5.7,SNR=4.6							
DZM	**Mont Dzumac**	**124.84**	**274**	*e*LR	LR	18 39 41.1		
	comp=Z,389nm,23.2s							
VNA1	**Neumayer--Stat**	**125.79**	**158**	P	PKPdf	18 00 46.6	+6.4	
ABPO	**Ambohimpanom**	**126.15**	**80**	*e*pPKPdf	pPKPdf	18 00 50.3	+1.0	
URZ	**Urewera**	**127.21**	**251**	*e*PKPdf	**PKPdf**	**18 00 43.6**	**-0.3**	
SNAA	**Sanae**	**127.82**	**158**	P	**PKPdf**	**18 00 43.0**	**-1.1**	
SNAA	**Sanae**	**127.82**	**158**	*e*PKPpre	PKPpre	18 00 41.9		
BKZ	**Black Stump Fm**	**128.11**	**250**	*e*PKPdf	PKPdf	18 00 52.2	+6.5	
PSI	**Prapat**	**131.29**	**7**	*e*PKPdf	PKPdf	18 00 58.4	+5.7	
SBA	**Scott Base**	**140.17**	**197**	*e*PKPdf	**PKPdf**	**18 01 08.2**	**+1.1**	
SOEI	**Soe**	**140.19**	**328**	*e*pPKPdf	pPKPdf	18 01 17.2	+1.5	
VNDA	**Vanda**	**141.27**	**197**	PKhKP	PKPpre	18 01 06.8		
	comp=Z,1.4nm,0.8s,baz=333,slow=2.3,SNR=11							
VNDA	**Vanda**	**141.27**	**197**	*e*PKPpre	PKPpre	18 01 07.5		
WRAB	**Tennant Creek**	**144.30**	**306**	*e*PKPdf	PKPbc	18 01 14.4	-0.1	
WRA	**Warramunga Arr**	**144.31**	**306**	PKP	PKPbc	18 01 14.3	-0.1	
	comp=Z,14nm,0.7s,baz=39,slow=3.6,SNR=362							
WRA	**Warramunga Arr**	**144.31**	**306**	PKIKP	PKPbc	18 01 14.3	-0.2	
WRA				pmax	pmax			
	comp=Z,14nm,0.7s							
AS01	**Alice Springs**	**147.44**	**303**	*e*PKPdf	**PKPdf**	**18 01 20.8**	**-0.6**	
AS31	**Alice Springs**	**147.47**	**303**	*e*PKPdf	**PKPdf**	**18 01 21.2**	**-0.3**	
AS31				*e*PKPbc	**PKPbc**	**18 01 23.5**	**-0.6**	
ASAR	**Alice Springs**	**147.47**	**303**	PKPbc	**PKPbc**	**18 01 23.8**	**-0.3**	
	comp=Z,14nm,0.5s,baz=32,slow=2.6,SNR=157							
ASAR	**Alice Springs**	**147.47**	**303**	PKP2	**PKPbc**	**18 01 23.8**	**-0.3**	
ASAR				pmax	pmax			
	comp=Z,14nm,0.5s							
STKA	**Stephens Creek**	**148.16**	**283**	PKPbc	**PKPbc**	**18 01 25.2**	**-0.3**	
	comp=Z,17nm,0.6s,baz=47,slow=2.9,SNR=62							
STKA	**Stephens Creek**	**148.16**	**283**	PKP2	**PKPbc**	**18 01 25.3**	**-0.3**	
STKA				pmax	pmax			
	comp=Z,17nm,0.6s							
STKA	**Stephens Creek**	**148.16**	**283**	*e*PKPdf	**PKPbc**	**18 01 24.6**	**-1.0**	
MAW	**Mawson**	**149.46**	**150**	PKPbc	**PKPbc**	**18 01 29.2**	**+1.5**	
	comp=Z,14nm,0.9s,baz=190,slow=1.1,SNR=11							
MAW	**Mawson**	**149.46**	**150**	PKP2	**PKPbc**	**18 01 29.2**	**+1.5**	
MAW				pmax	pmax			
	comp=Z,14nm,0.9s							
MAW	**Mawson**	**149.46**	**150**	*e*PKPbc	**PKPbc**	**18 01 28.3**	**+0.6**	
PKAC	**Parkes**	**149.47**	**260**	*e*PKPbc	**PKPbc**	**18 01 29.7**	**+1.1**	
TAU				*e*PKPab	**PKPab**	**18 01 35.0**	**+1.5**	
MBWA	**Marble Bar**	**152.34**	**328**	*e*pPKPdf	pPKPdf	18 01 35.5	-0.2	
BBOO	**Buckleboo**	**152.46**	**287**	*e*pPKPdf	**PKPbc**	**18 01 35.7**	**-0.2**	
CASY	**Casey**	**159.28**	**187**	*e*PKPdf	**PKPdf**	**18 01 40.9**	**+4.0**	

OTT 23 18:06:42.8±0.9, 45°.87N×75°.47W, h18km, MN2.2/2, 11km southeast from Val-des-Bois, Qc. Aftershock Western Quebec Seismic Zone., Southern Ontario

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAC	**Glen Almond**	**0.17**	**182**	PG	Pb	18 06 46.9	+0.1
GAC				SG	Sg	18 06 49.9	-0.4
GAC				Trac		18 06 50.1	
	comp=Z,22nm,0.0s						
TRQ	**Mont Tremblant**	**0.73**	**61**	PG	Pb	18 06 55.9	-1.2
TRQ				SG	Sb	18 07 05.6	-1.1
TRQ				Trac		18 07 07.7	
	comp=Z,6.0nm,0.0s						
WBO	**Williamsburg**	**0.88**	**171**	PG	Pn	18 07 00.5	+0.3
WBO				SG	Sb	18 07 09.6	-1.3
WBO				Trac		18 07 14.4	
	comp=Z,6.0nm,0.1s						

*NEIC **23** 18:07:03.4, 45°.90N×75°.48W, h18km, MN2.9(OTT), After OTT.*

OTT 23 18:07:03.8±0.1, 45°.89N×75°.49W, h18km±1km, MN2.9/7, 1C, 9km east from Val-des-Bois, Qc. Aftershock Western Quebec Seismic Zone., Southern Ontario

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAC	**Glen Almond**	**0.19**	**178**	Pg	Pg	18 07 08.4	-0.1
GAC				Sg	Sg	18 07 11.4	-0.2
GAC	**Glen Almond**	**0.19**	**178**	PG	Pg	18 07 08.4	-0.1
GAC				SG	Sg	18 07 11.5	-0.1
GAC				Trac		18 07 11.8	
	comp=Z,230nm,0.0s						
ORHO	**Orleans, Herit**	**0.43**	**185**	PG	Pg	18 07 12.7	0.0
ORHO				SG	Sg	18 07 18.4	-0.2
ORHO				Trac		18 07 18.9	
	comp=Z,505nm,0.1s						
ORIO	**Orleans, Innes**	**0.44**	**182**	PG	Pg	18 07 12.2	-0.6
ORIO				SG	Sg	18 07 18.1	-0.6
ORIO				Trac		18 07 18.6	
	comp=Z,249nm,0.1s						
LSQ1	**Lac Sinclair,**	**0.48**	**258**	⇑PG	Pg	18 07 12.8	-0.7
LSQ1				SG	Sg	18 07 19.5	-0.5
LSQ1				Trac		18 07 20.0	
	comp=Z,137nm,0.1s						
ALFO	**Alfred**	**0.50**	**122**	PG	Pg	18 07 13.4	-0.4
ALFO				SG	Sg	18 07 20.0	-0.5
ALFO				Trac		18 07 20.3	
	comp=Z,54nm,0.0s						
OTT	**Ottawa**	**0.52**	**198**	Pg	Pg	18 07 13.6	-0.7
OTT				Sg	Sg	18 07 20.8	-0.4
OTT	**Ottawa**	**0.52**	**198**	PG	Pg	18 07 13.6	-0.7
OTT				PG	Pb	18 07 13.6	-0.9
OTT				SG	Sg	18 07 20.8	-0.4
OTT				SG	Sb	18 07 20.9	-0.8
OTT				Trac		18 07 21.7	
	comp=Z,94nm,0.1s						
OTT				Trac		18 07 22.1	
	comp=Z,126nm,0.1s						
TRQ	**Mont Tremblant**	**0.73**	**63**	Pg	Pb	18 07 16.9	-1.3
TRQ	**Mont Tremblant**	**0.73**	**63**	PG	Pb	18 07 17.3	-0.9
TRQ				Trac		18 07 30.4	
	comp=Z,48nm,0.1s						
WBO	**Williamsburg**	**0.90**	**170**	Pg	Pb	18 07 20.0	-1.0
WBO				Sg	Sb	18 07 31.5	-1.2
WBO	**Williamsburg**	**0.90**	**170**	PG	Pb	18 07 20.1	-0.9
WBO				SG	Sb	18 07 31.5	-1.2
WBO				Trac		18 07 36.5	
	comp=Z,32nm,0.1s						
CRLO	**Chalk River**	**1.33**	**277**	Pg	Pn	18 07 27.4	-0.1
CRLO				Sg	Sn	18 07 44.2	-0.6
CRLO	**Chalk River**	**1.33**	**277**	PG	Pn	18 07 27.4	-0.1
CRLO				SG	Sn	18 07 44.6	-0.2
PTN	**Potsdam (NY)**	**1.37**	**165**	Pg	Pn	18 07 24.6	-3.4
PTN				Sg	Sn	18 07 45.7	-0.1
PTN	**Potsdam (NY)**	**1.37**	**165**	SG	Sn	18 07 45.7	-0.1
PTN				SG	Sb	18 07 46.0	-0.1
LONY	**Lake Ozonia**	**1.42**	**153**	*e*Pn	Pn	18 07 25.0	-3.9
LONY				*e*Sn	Sn	18 07 43.2	-4.0
LONY	**Lake Ozonia**	**1.42**	**153**	PG	Pn	18 07 26.3	-2.6
LONY				SG	Sn	18 07 46.9	-0.2
LONY				Trac		18 07 58.3	
	comp=Z,18nm,0.1s						
NCB	**Newcomb**	**2.12**	**154**	*e*Pn	Pn	18 07 37.7	-0.8

*NEIC **23** 18:07:13.9, 45°.89N×75°.51W, h18km, MN3.0(OTT), After OTT.*

OTT 23 18:07:14.2±0.1, 45°.87N×75°.48W, h19km, MN3.0/7, 11km southeast from Val-des-Bois, Qc. Aftershock Western Quebec Seismic Zone., Southern Ontario

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAC	**Glen Almond**	**0.16**	**181**	Pg	Pg	18 07 18.5	-0.2
GAC				Sg	Sg	18 07 21.6	-0.3
GAC	**Glen Almond**	**0.16**	**181**	PG	Pg	18 07 18.6	-0.2
GAC				SG	Sg	18 07 21.6	-0.2
GAC				Trac		18 07 21.8	
	comp=Z,187nm,0.0s						
ORHO	**Orleans, Herit**	**0.41**	**186**	SG	Sg	18 07 28.2	-0.3
ORHO				SG	Sb	18 07 28.3	-0.5
ORHO				Trac		18 07 32.1	
	comp=E,1μm,0.1s						
ORIO	**Orleans, Innes**	**0.42**	**184**	PG	Pg	18 07 22.5	-0.4
ORIO				SG	Sg	18 07 28.1	-0.5
ORIO				Trac		18 07 28.3	
	comp=Z,95nm,0.0s						
ALFO	**Alfred**	**0.48**	**120**	PG	Pg	18 07 23.5	-0.4
ALFO				SG	Sg	18 07 30.0	-0.5
ALFO				Trac		18 07 31.9	
	comp=Z,87nm,0.1s						
LSQ1	**Lac Sinclair,**	**0.48**	**261**	PG	Pg	18 07 23.7	-0.3
LSQ1				SG	Sg	18 07 30.1	-0.5
LSQ1				Trac		18 07 30.4	
	comp=Z,222nm,0.1s						
OTT	**Ottawa**	**0.50**	**200**	Pg	Pb	18 07 23.5	-0.8
OTT				Sg	Sg	18 07 30.7	-0.5
OTT	**Ottawa**	**0.50**	**200**	PG	Pb	18 07 23.5	-0.8
OTT				SG	Sg	18 07 30.8	-0.4
OTT				SG	Sg	18 07 30.8	-0.4
OTT				SG	Sb	18 07 30.9	-0.4
OTT				Trac		18 07 31.6	
	comp=Z,91nm,0.1s						
OTT				Trac		18 07 32.0	
	comp=Z,85nm,0.1s						
TRQ	**Mont Tremblant**	**0.73**	**61**	Pg	Pb	18 07 27.0	-1.4
TRQ				Sg	Sb	18 07 37.7	-0.4
TRQ	**Mont Tremblant**	**0.73**	**61**	PG	Pb	18 07 27.0	-1.4
TRQ				SG	Sb	18 07 37.7	-0.4
TRQ				Trac		18 07 42.3	
	comp=Z,39nm,0.0s						
TRQ	**Mont Tremblant**	**0.73**	**61**	Sg	Pb	18 07 26.5	-1.9
TRQ	**Mont Tremblant**	**0.73**	**61**	SG	Pb	18 07 26.9	-1.5
WBO	**Williamsburg**	**0.88**	**171**	Pg	Pb	18 07 30.4	-0.4
WBO				Sg	Sb	18 07 42.4	+0.3
WBO	**Williamsburg**	**0.88**	**171**	PG	Pb	18 07 30.2	-0.5
WBO				SG	Sb	18 07 42.0	-0.1
WBO				Trac		18 07 45.3	
	comp=Z,36nm,0.1s						
CRLO	**Chalk River**	**1.34**	**278**	Sg	Sn	18 07 54.6	-0.5
CRLO	**Chalk River**	**1.34**	**278**	PG	Pn	18 07 37.7	-0.1
CRLO				SG	Sn	18 07 55.2	+0.1
CRLO				Trac		18 07 56.9	
	comp=Z,52nm,0.1s						
LONY	**Lake Ozonia**	**1.40**	**153**	Pn	Pn	18 07 32.7	-5.9

*NIED **23** 18:08:00, 33°.00N×142°.50E, h5km, Mw3.8 Best double couple: M0=6.45000×10^14 NP1:φs=342.00000°, δ=31.00000°, λ=96.00000°. NP2:φs=154.00000°, δ=59.00000°, λ=86.00000°.*
*IDC **23** 18:08:41.1±0.8, 32°.91N×142°.47E, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.8/29, mbtmp3.8/11, ML4.0/2, MS1.9/1, Ms1 1.9/1, ms1mx1.8/28, Error ellipse: s-maj=27.3km s-min=17.5km az=77.0*
*JMA **23** 18:08:44.3±0.2, 33°.04N×142°.49E, h68km, M4.2*

ISC 23 18:08:45.4±0.7, 32°.92N±0°.05×142°.33E±0°.07, h33km, n30, σ1=52/40, mb3.6/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.06**	**327**	P	**Pn**	**18 09 17.2**	**0.0**
BSO1				S	**Sn**	**18 09 41.6**	**+0.1**
JHJ2	**Mitsune**	**2.12**	**276**	P	**Pb**	**18 09 20.2**	**-2.9**
JHJ2				S	**Sb**	**18 09 47.2**	**-1.8**
BSO3	**Boso 3**	**2.41**	**322**	P	**Pn**	**18 09 22.7**	**+0.4**
BSO3				*e*S	**Sn**	**18 09 51.2**	**+0.7**
KTR	**Katsuura**	**2.78**	**324**	P	**Pn**	**18 09 27.4**	**-0.2**
KTR				S	**Sn**	**18 10 00.0**	**0.0**
JOD2	**Odawara 2**	**3.56**	**312**	P	**Pn**	**18 09 38.2**	**-0.2**
JHU	**Hanno**	**3.86**	**320**	P	**Pn**	**18 09 42.9**	**+0.5**
JHU				S	**Sn**	**18 10 27.0**	**+0.4**
JHO	**Hitachi**	**3.96**	**339**	P	**Pn**	**18 09 42.0**	**-1.8**
JHO				S	**Sn**	**18 10 25.5**	**-3.5**
JYN	**Shimob**	**4.05**	**310**	P	**Pn**	**18 09 45.9**	**+0.7**
JYN				S	Sn	18 10 24.3	-7.2
JRY	**Ryogami san**	**4.19**	**318**	P	**Pn**	**18 09 47.3**	**+0.3**
JRY				*e*S	**Sn**	**18 10 35.8**	**+1.0**
JAG	**Ashikaga**	**4.22**	**327**	P	**Pn**	**18 09 47.3**	**-0.1**
JAG				S	**Sn**	**18 10 33.0**	**-2.6**
JFK	**Kawauchi**	**4.59**	**345**	P	**Pn**	**18 09 50.2**	**-2.4**
JFK				S	Sn	18 10 39.1	-5.7
JFT	**Otama**	**4.87**	**341**	P	**Pn**	**18 09 55.3**	**-1.0**
JFT				S	**Sn**	**18 10 47.3**	**-4.2**
MJAR	**Matsushiro Arr**	**4.96**	**318**	Pn	**Pn**	**18 09 58.5**	**+1.0**
	3.2nm,0.3s,baz=158,slow=12,SNR=41						
MJAR				Sn	**Sn**	**18 10 54.9**	**+1.2**
	3.3nm,0.3s,baz=40,slow=24,SNR=9.7						
MAT	**Matsushiro**	**4.96**	**318**	P	**Pn**	**18 09 58.5**	**+1.0**
MAT				S	**Sn**	**18 10 54.5**	**+0.8**
MAT	**Matsushiro**	**4.96**	**318**	P	**Pn**	**18 09 58.5**	**+1.0**
MAT				S	**Sn**	**18 10 54.5**	**+0.8**
CBIJ	**Chichi jima**	**5.80**	**181**	P	Pn	18 10 05.9	-3.3
CBIJ				*e*S	**Sn**	**18 11 12.8**	**-1.8**
JCJ	**Chichijima**	**5.80**	**181**	Pn	**Pn**	**18 10 08.5**	**-0.7**
	8.9nm,0.3s,baz=6.6,slow=20,SNR=31						
JCJ				Sn	**Sn**	**18 11 12.6**	**-2.1**
	11nm,0.3s,baz=345,slow=20,SNR=4.2						
JMK	**Ichinoseki**	**6.09**	**352**	P	Pn	18 10 10.1	-2.9
JMK				S	Sn	18 11 15.9	-5.6
ASAJ	**Asahikawa**	**11.18**	**1**	P	Pn	18 11 20.0	-2.8
	baz=229,slow=12						
JOW	**Kunigami**	**13.61**	**247**	LR	LR	18 17 16.9	
	comp=Z,4.9nm,20.0s,baz=235,slow=38						
SONM	**Songino Array**	**30.85**	**310**	P	**P**	**18 15 00.6**	**+2.1**
	0.4nm,0.4s,baz=115,slow=9.4,SNR=2.6						
KURBB	**Kurchatov Arra**	**49.19**	**311**	P	**P**	**18 17 31.6**	**+1.4**
	0.9nm,0.3s,baz=84,slow=7.8,SNR=10						
ILAR	**Eielson Array**	**52.60**	**31**	P	**P**	**18 17 55.9**	**+0.3**
	0.2nm,0.6s,baz=269,slow=7.0,SNR=3.0						
WRA	**Warramunga Arr**	**53.12**	**189**	P	**P**	**18 18 00.3**	**+0.5**
	1.0nm,0.5s,baz=5.5,slow=7.6,SNR=28						
ASAR	**Alice Springs**	**56.84**	**189**	P	**P**	**18 18 27.6**	**+0.8**
	0.3nm,0.5s,baz=4.6,slow=7.0,SNR=5.1						
FINES	**FINESS Array B**	**72.81**	**333**	P	**P**	**18 20 11.2**	**+0.9**
	1.3nm,0.7s,baz=64,slow=4.4,SNR=5.9						
NVAR	**Mina Array Bea**	**76.86**	**53**	P	**P**	**18 20 35.4**	**+0.9**
	0.3nm,0.5s,baz=268,slow=5.5,SNR=3.6						
NOA	**NORSAR Array B**	**78.27**	**338**	P	**P**	**18 20 42.3**	**+0.6**
	0.4nm,0.5s,baz=40,slow=8.1,SNR=3.5						
TXAR	**Lajitas Array**	**92.02**	**53**	P	**P**	**18 21 51.9**	**+0.5**
	0.1nm,0.6s,baz=202,slow=0.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**120.74**	**314**	PKP	**PKPdf**	**18 27 35.2**	**+0.5**
	0.1nm,0.3s,baz=16,slow=3.4,SNR=3.0						

MAN 23 18:12:56, 11°.18N×125°.60E, h14km, mb4.4, ML3.3, MS3.1, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.61**	**269**⇓	*i*P	Pg	18 13 07.3	-0.6
PLP				*i* S	Sb	18 13 17.6	+0.8
OCLP	**Ormoc**	**0.98**	**263**	*e*P	Pb	18 13 14.5	-0.2
MSLP	**Maasin**	**1.27**	**215**	*e*P	Pn	18 13 18.4	-0.9
MSLP

Error ellipse: s-maj=15.4km s-min=8.7km az=139.0
*ISCJB **23** 18:59:25.0±0.5, 15°.4S×0°.1×174°.86W±0°.10, h262km, mb4.1/17, Error ellipse: s-maj=16.9km s-min=10.5km az=143.3*

ISC 23 18:59:26.4±0.6, 15°.3S±0°.1×174°.8W±0°.1, h262km, n60, σ0s83/53, mb4.1/17, 5C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.21**	**65**	*e*Pn	**Pn**	**19 00 20.7**	**-1.3**
MSVF	**Nonsavu**	**7.30**	**249**	*e*Pn	**Pn**	**19 01 13.2**	**+2.1**
	124nm,1.3s						
URZ	**Urewera**	**23.99**	**196**	P	**P**	**19 04 15.4**	**-2.0**
	14nm,0.6s,baz=360,slow=3.5,SNR=10						
PPT	**Papeete**	**24.27**	**99**	LR	LR	19 11 29.5	
	comp=Z,18nm,21.2s,baz=6.0,slow=30						
RPZ	**Rata Peaks**	**30.82**	**200**	P	**P**	**19 05 17.3**	**-0.7**
	7.3nm,0.7s,baz=30,slow=13,SNR=4.1						
CTA	**Charters Tower**	**37.39**	**257**	P	**P**	**19 06 14.1**	**-0.6**
	3.3nm,0.3s,baz=74,slow=9.8,SNR=9.4						
CTAO	**Charters Tower**	**37.38**	**257**	*e*P	**P**	**19 06 13.9**	**-0.7**
	10nm,0.7s						
STKA	**Stephens Creek**	**42.95**	**239**	P	**P**	**19 06 59.3**	**-0.8**
	8.6nm,0.8s,baz=92,slow=7.5,SNR=22						
STKA	**Stephens Creek**	**42.95**	**239**	*e*P	**P**	**19 06 59.1**	**-1.0**
JAY	**Jayapura**	**45.66**	**282**	P	**P**	**19 07 21.6**	**-0.1**
	5.6nm,0.6s,baz=142,slow=6.2,SNR=8.4						
WRAB	**Tennant Creek**	**48.57**	**257**	*e*P	**P**	**19 07 42.7**	**-1.3**
	12nm,0.8s						
WRA	**Warramunga Arr**	**48.58**	**257**	P	**P**	**19 07 42.7**	**-1.4**
	10nm,0.8s,baz=88,slow=7.7,SNR=89						
AS31	**Alice Springs**	**48.89**	**252**	*e*P	**P**	**19 07 45.6**	**-0.8**
ASAR	**Alice Springs**	**48.89**	**252**	P	**P**	**19 07 45.8**	**-0.6**
	73nm,0.6s,baz=90,slow=7.6,SNR=1443						
SIJI	**Sorong**	**55.13**	**280**	P	**P**	**19 08 32.0**	**-0.4**
	31nm,0.8s,baz=72,slow=6.1,SNR=21						
VNDA	**Vanda**	**63.36**	**186**	P	**P**	**19 09 29.5**	**+2.0**
	2.6nm,0.9s,baz=14,slow=6.2,SNR=9.1						
PETK	**Petropavlovsk-**	**72.12**	**343**	P	**P**	**19 10 21.6**	**-0.6**
	4.4nm,0.7s,baz=120,slow=7.2,SNR=6.3						
NVAR	**Mina Array Bea**	**75.13**	**43**	P	**P**	**19 10 41.1**	**+0.8**
	0.8nm,0.8s,baz=236,slow=9.7,SNR=3.3						
KSRS	**Korea Array**	**75.15**	**316**	P	**P**	**19 10 41.0**	**+0.9**
	1.8nm,1.0s,baz=140,slow=6.9,SNR=7.5						
KSAR	**Wonju Array Be**	**75.17**	**316**	P	**P**	**19 10 41.0**	**+0.7**
TXAR	**Lajitas Array**	**81.65**	**57**	P	**P**	**19 11 18.0**	**+2.1**
	0.7nm,0.9s,baz=224,slow=7.0,SNR=6.6						
ILAR	**Eielson Array**	**82.59**	**12**	P	**P**	**19 11 19.4**	**-0.4**
	0.9nm,0.4s,baz=212,slow=5.1,SNR=18						
PDAR	**Pinedale Array**	**83.06**	**42**	P	**P**	**19 11 23.8**	**+0.7**
	1.3nm,0.7s,baz=247,slow=1.4,SNR=9.0						
CMAR	**Chiang Mai Arr**	**91.32**	**289**	P	**P**	**19 12 04.2**	**+1.2**
	1.7nm,0.9s,baz=96,slow=2.1,SNR=11						
KURK	**Kurchatov**	**112.18**	**319**	P	**PKiKP**	**19 17 30.1**	**-0.5**
BRVK	**Borovoye**	**117.03**	**322**	P	**PKPdf**	**19 17 39.3**	**-0.6**
ARCES	**ARCESS Array B**	**124.30**	**352**	PKP	**PKPdf**	**19 17 53.2**	**-0.3**
	1.2nm,0.7s,baz=31,slow=3.3,SNR=4.7						
FINES	**FINESS Array B**	**131.53**	**347**	PKP	**PKPdf**	**19 18 07.3**	**-0.1**
	1.0nm,0.8s,baz=15,slow=2.2,SNR=4.6						
TSUM	**Tsumeb**	**143.64**	**200**	PKP	**PKPdf**	**19 18 30.8**	**-0.3**
	1.2nm,0.7s,baz=225,slow=1.4,SNR=4.0						
BRG	**Berggiesshubel**	**143.81**	**351**	*e*(P)	PKPdf	19 18 37.7	+7.4
	1.6nm,0.9s						
DPC	**Dobruska-Polom**	**143.88**	**348**	*e*PKP	PKPbc	19 18 28.7	-0.3
DPC				*ex*	x	19 18 31.6	
KRLC	**Kraliky**	**144.05**	**347**	*e*PKP	PKPbc	19 18 29.3	-0.2
MOX	**Moxa**	**144.35**	**353**	*e*PKPbc	PKPbc	19 18 30.4	+0.1
TANN	**Tannenbergstha**	**144.47**	**352**	*e*PKPbc	PKPbc	19 18 30.7	0.0
GUNZ	**Gunzen**	**144.53**	**352**	*e*PKPbc	PKPbc	19 18 31.0	+0.1
PRU	**Pruhonice**	**144.56**	**350**	*e*PKP	**PKPab**	**19 18 30.3**	**-0.6**
GOPC	**GO Pecny, Ondr**	**144.59**	**349**	*e*PKP	**PKPdf**	**19 18 31.6**	**-0.1**
WERN	**Wernitzgrun**	**144.60**	**352**	*e*PKPbc	**PKPdf**	**19 18 31.5**	**-0.2**
TNS	**Taunus Mts**	**145.05**	**356**	*e*PKPbc	**PKPab**	**19 18 33.0**	**+0.2**
TREC	**Trest**	**145.05**	**348**	*e*PKP	**PKPbc**	**19 18 32.2**	**-0.3**
ROTZ	**Rotzenmuhle**	**145.14**	**352**	*e*PKPbc	**PKPab**	**19 18 33.4**	**+0.3**
BRTR	**Keskin Array B**	**145.22**	**320**	PKPbc	**PKPbc**	**19 18 33.5**	**-0.1**
	2.7nm,0.8s,baz=125,slow=2.0,SNR=12						
GRF	**Grafenberg Arr**	**145.33**	**353**	*e*PKPbc	**PKPab**	**19 18 33.7**	**-0.1**
KHC	**Kasperske Hory**	**145.55**	**350**	*e*PKP	**PKPbc**	**19 18 34.0**	**-0.1**
WET	**Wettzell**	**145.65**	**351**	*e*PKPbc	**PKPab**	**19 18 35.0**	**-0.1**
WLF	**Walferdange**	**145.70**	**359**	*e*PKPbc	**PKPbc**	**19 18 34.6**	**+0.2**
GEC2	**GERESS Array S**	**145.81**	**350**	*e*PKPbc	**PKPbc**	**19 18 34.7**	**-0.2**
GERES	**GERESS Array B**	**145.81**	**350**	PKPbc	**PKPbc**	**19 18 34.9**	**-0.1**
	0.6nm,0.5s,baz=36,slow=2.5,SNR=12						
CONA	**Conrad Observa**	**146.28**	**347**	⇑*i*PKPab	**PKPab**	**19 18 37.2**	**-0.4**
	8.9nm,1.3s						
MOA	**Molln**	**146.67**	**349**	⇑*i*PKPab	**PKPbc**	**19 18 38.0**	**+0.6**
	9.1nm,1.3s						
FUR	**Furstenfeldbru**	**146.83**	**353**	*e*PKPbc	**PKPab**	**19 18 38.7**	**-1.0**
BFO	**Black Forest**	**146.94**	**356**	*e*PKPbc	**PKPbc**	**19 18 38.4**	**+0.3**
RJOB	**Jochberg**	**147.03**	**351**	*e*PKPbc	**PKPbc**	**19 18 38.6**	**+0.2**
RETA	**Reutte**	**147.56**	**353**	⇓*e*PKPbc	**PKPbc**	**19 18 40.1**	**+0.2**
	1.9nm,0.5s						
KBA	**Koelnbreinsper**	**147.58**	**350**	⇓*i*PKPbc	**PKPbc**	**19 18 40.0**	**-0.1**
	2.9nm,0.5s						
SOKA	**Soboth**	**147.64**	**347**	⇑*i*PKPbc	**PKPbc**	**19 18 39.9**	**-0.2**
	5.3nm,1.2s						
MOTA	**Moosalm**	**147.66**	**353**	⇓*i*PKPbc	**PKPbc**	**19 18 40.0**	**-0.2**
	4.4nm,1.0s						
DAVA	**Damuels**	**147.85**	**354**	⇓*e*PKPbc	**PKPbc**	**19 18 40.0**	**-0.8**
	9.2nm,1.4s						
MYKA	**Terra Mystica**	**147.96**	**349**	⇑*i*PKPbc	**PKPbc**	**19 18 40.6**	**-0.4**
	2.8nm,0.4s						
ABTA	**Abfaltersbach**	**148.04**	**351**	⇑*i*PKPbc	**PKPbc**	**19 18 41.0**	**-0.2**
	6.4nm,1.1s						

*ISCJB **23** 19:03:41.6±1.5, 35°.24S±0°.04×72°.5W±0°.1, h43km±14km, mb3.7/4, Error ellipse: s-maj=17.1km s-min=7.5km az=2.7*
*IDC **23** 19:03:41.8±1.0, 35°.26S×72°.37W, h29km±6km, mb3.5/4, mb1 3.7/5, mb1mx3.5/24, mbtmp3.7/5, ML3.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/12, Error ellipse: s-maj=41.0km s-min=22.3km az=77.0*
*GUC **23** 19:03:41.0±0.3, 35°.26S×72°.44W, h39km±2km, ML4.4*

ISC 23 19:03:41.8±0.9, 35°.22S±0°.06×72°.44W±0°.08, h29km±5km, n18, σ0s70/24, mb3.8/4, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.68**	**106**	*i* P	**Pb**	**19 03 54.1**	**-1.1**
TALC				*i* S	**Sb**	**19 04 03.9**	**-0.3**
LNCH	**Linares**	**0.93**	**133**	⇓*i*P	**Pb**	**19 03 59.8**	**+0.5**
LNCH				*i* S	**Sb**	**19 04 12.4**	**+1.2**
NICH	**Los Niches**	**1.01**	**78**	*e*P	**Pn**	**19 03 59.6**	**-0.5**
NICH				*i* S	**Sb**	**19 04 13.6**	**-0.1**
LNV	**Longovilo**	**1.52**	**34**	*e*P	**Pn**	**19 04 07.1**	**+0.1**
LNV				*i* S	**Sb**	**19 04 27.4**	**-0.7**
CHCH	**Chadas Angostu**	**1.95**	**49**	*i* P	**Pn**	**19 04 13.3**	**+0.2**
CHCH				*i* S	**Sn**	**19 04 37.8**	**+1.2**
TACH	**Talagante**	**1.99**	**39**	*i* P	**Pn**	**19 04 13.8**	**+0.2**
PCH	**Pirque**	**2.25**	**45**	*e*P	**Pn**	**19 04 17.6**	**+0.4**
SJCH	**San Jose de Ma**	**2.33**	**48**	*i* P	**Pn**	**19 04 18.6**	**+0.3**
SJCH				*i* S	**Sn**	**19 04 47.2**	**+1.1**
CLCH	**Cerro Calan**	**2.40**	**41**	*i* P	**Pn**	**19 04 19.8**	**+0.5**
CLCH				*i* S	**Sn**	**19 04 48.8**	**+1.0**
CLCH				AML	AML	19 05 03.3	
	comp=E,2μm,0.8s						
PLCA	**Paso Flores**	**5.70**	**165**	LR	LR	19 07 30.4	
	comp=E,429nm,21.5s,baz=350,slow=40						
LPAZ	**La Paz**	**19.24**	**13**	P	**Pn**	**19 08 06.3**	**+0.7**
	comp=E,0.1nm,0.3s,baz=188,slow=8.3,SNR=6.8						
SNAA	**Sanae**	**50.59**	**157**	P	**P**	**19 12 37.0**	**-0.6**
	comp=E,0.3nm,0.7s,baz=246,slow=7.9,SNR=5.3						
QSPA	**South Pole Qui**	**55.02**	**180**	P	**P**	**19 13 10.4**	**-0.1**
	comp=E,2.6nm,0.9s,baz=160,slow=11,SNR=11						
TXAR	**Lajitas Array**	**70.64**	**331**	P	**P**	**19 14 54.5**	**-0.2**
	comp=E,0.5nm,0.6s,baz=152,slow=8.3,SNR=6.3						
TXAR				pP	**pP**	**19 15 04.2**	**+0.5**
	comp=E,0.3nm,0.5s,baz=156,slow=9.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**84.93**	**70**	P	**P**	**19 16 13.8**	**-0.7**
	comp=E,0.4nm,0.7s,baz=251,slow=7.5,SNR=2.7						
TORD				pP	**pP**	**19 16 23.3**	**-0.4**
	comp=E,0.5nm,0.8s,baz=271,slow=7.7,SNR=1.5						
TORD				sP	**sP**	**19 16 27.2**	**+0.1**
	comp=E,0.5nm,0.7s,baz=252,slow=4.9,SNR=1.5						
H11S2	**WAKE ISLAND Hyl**	**25.42**	**268**	T	T	21 40 39.2	
	baz=114						
H11S1	**WAKE ISLAND Hyl**	**25.43**	**269**	T	T	21 40 35.9	
	baz=114						
H11S3	**WAKE ISLAND Hyl**	**25.44**	**268**	T	T	21 40 34.4	
	baz=114						

*IDC **23** 19:08:25.4±1.0, 2°.16S×136°.46E, h0km, mb3.6/4,*

mb1 3.8/7, mb1mx3.6/26, mbtmp3.6/7, ML3.4/3, Error ellipse: s-maj=22.1km s-min=15.6km az=81.0
*ISCJB **23** 19:08:28.3±0.5, 2°.09S±0°.09×136°.48E±0°.04, h33km, mb3.5/4, Error ellipse: s-maj=12.9km s-min=4.9km az=8.0*
*DJA **23** 19:08:29.1±0.3, 2°.5×77°.1×13°.7E±°, h10km, M4.1/8, MLv4.1/8*

ISC 23 19:08:30.5±0.8, 2°.25S±0°.08×136°.51E±0°.04, h35km, n13, σ2s44/19, mb3.5/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.47**	**325**	P	Pn	19 09 34.4	-6.3
SRPI				S	Sn	19 08 39.8	-7.9
SMPI	**Sarmi**	**2.22**	**83**	P	**Pn**	**19 09 03.9**	**-0.9**
SMPI				S	**Sn**	**19 09 35.0**	**+4.0**
RKPI	**Ransiki, Papua**	**2.44**	**288**	P	**Pn**	**19 09 08.2**	**+0.3**
RKPI				S	**Sn**	**19 09 39.6**	**+3.0**
GENI	**Genyem**	**3.67**	**95**	P	**Pn**	**19 09 25.8**	**+0.9**
JAY	**Jayapura**	**4.20**	**94**	P	**Pn**	**19 09 32.3**	**+0.1**
JAY	**Jayapura**	**4.20**	**94**	Pn	**Pn**	**19 09 32.3**	**+0.1**
	2.1nm,0.3s,baz=237,slow=9.8,SNR=19						
JAY				Sn	**Sn**	**19 10 20.3**	**+0.2**
	0.6nm,0.3s,baz=29,slow=19,SNR=1.2						
FAKI	**Fak Fak**	**4.31**	**261**	P	**Pn**	**19 09 36.0**	**+2.4**
FAKI				S	**Sn**	**19 10 22.6**	**0.0**
SIJI	**Sorong**	**5.42**	**285**	Pn	**Pn**	**19 09 48.5**	**-0.4**
	3.1nm,0.3s,baz=111,slow=22,SNR=13						
SIJI				Sn	**Sn**	**19 10 48.3**	**-1.8**
	0.8nm,0.3s,baz=98,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**17.71**	**187**	P	**Pn**	**19 12 32.7**	**-1.8**
	0.1nm,0.3s,baz=3.5,slow=13,SNR=4.2						
WRA				S	**Sn**	**19 15 45.9**	**-5.1**
	0.1nm,0.3s,baz=4.4,slow=23,SNR=5.0						
ASAR	**Alice Springs**	**21.44**	**187**	P	**P**	**19 13 17.2**	**+1.4**
	1.6nm,0.6s,baz=9.2,slow=11,SNR=29						
ASAR				S	**S**	**19 17 17.1**	**+5.2**
	0.5nm,0.8s,baz=6.4,slow=26,SNR=2.8						
CMAR	**Chiang Mai Arr**	**42.31**	**301**	P	**P**	**19 16 20.2**	**-1.0**
	0.6nm,0.7s,baz=115,slow=6.1,SNR=5.5						
ZALV	**Zalesovo Beam**	**70.45**	**331**	P	**P**	**19 19 40.5**	**-0.7**
	0.4nm,0.7s,baz=124,slow=7.2,SNR=2.9						
ILAR	**Eielson Array**	**86.33**	**25**	P	**P**	**19 21 09.0**	**+0.3**
	0.2nm,0.6s,baz=270,slow=3.6,SNR=3.2						

PDA 23 19:15:06.2±0.8, 38°.15N×26°.46W, h2km±3km, MD3.6, ML3.0, Error ellipse: s-maj=4.9km s-min=1.1km az=34.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSET	**Sete Cidades**	**0.67**	**119**	*e*P	Pg	19 15 17.5	-1.6
PSET				*e*S	Sg	19 15 26.6	-1.2
PSET				A	A	19 15 27.4	
	253nm,0.3s						
PDA	**Ponta Delgada**	**0.75**	**122**	*e*P	Pg	19 15 18.9	-1.6
PDA				A	A	19 15 29.6	
	292nm,0.2s						
ADH	**Angra Heroismo**	**0.79**	**310**	*e*P	Pg	19 15 19.1	-2.3
ADH				*e*S	Sg	19 15 29.2	-2.5
ADH				A	A	19 15 32.1	
	613nm,0.3s						
GRON	**Grota Negra**	**0.82**	**117**	*e*S	Sg	19 15 32.5	-0.4
GRON				A	A	19 15 35.7	
	80nm,0.1s						
BART	**Pico Bartolome**	**1.09**	**110**	*e*P	Pg	19 15 23.2	-4.0
BART				*e*S	Sg	19 15 36.6	-4.7
BART				A	A	19 15 45.3	
	93nm,0.7s						
PMAN	**Manadas**	**1.37**	**291**	*e*P	Pn	19 15 27.7	-4.6
PMAN				*e*S	Sg	19 15 43.4	-6.8
PMAN				A	A	19 15 43.6	
	50nm,0.2s						
PPNO	**Prainha do Nor**	**1.46**	**283**	*e*P	Pn	19 15 28.6	-5.0
PPNO				*e*S	Sb	19 15 45.2	-7.9
PPNO				A	A	19 15 46.4	
	90nm,0.2s						
PGRA	**Graciosa**	**1.48**	**307**	*e*P	Pn	19 15 29.0	-4.9
PGRA				*e*S	Sb	19 15 46.1	-7.7
PGRA				A	A	19 15 57.9	
	58nm,0.5s						
ROSA	**Rosais**	**1.51**	**293**	*e*P	Pn	19 15 29.1	-5.2
ROSA				*e*S	Sn	19 15 46.9	-7.7
ROSA				A	A	19 15 50.6	
	73nm,0.1s						
PSMA	**Santa Maria**	**1.56**	**137**	*e*P	Pn	19 15 30.3	-4.7
PSMA				*e*S	Sn	19 15 48.1	-7.7
PSMA				A	A	19 15 50.5	
	66nm,0.2s						
PICO	**Pico**	**1.59**	**283**	*e*P	Pn	19 15 30.4	-5.0
PICO				*e*S	Sn	19 15 48.6	-7.9
PSMN	**Pico do Norte,**	**1.59**	**135**	*e*P	Pn	19 15 30.6	-4.8
PSMN				*e*S	Sn	19 15 48.5	-8.0
PSMN				A	A	19 15 50.5	
	31nm,0.2s						
PCAN	**Candelaria**	**1.62**	**282**	*e*P	Pn	19 15 31.1	-4.8
PCAN				*e*S	Sn	19 15 49.6	-7.8
PCAN				A	A	19 15 51.5	
	52nm,0.2s						
CALA	**Caldeira**	**1.81**	**284**	*e*P	Pn	19 15 33.8	-4.8
CALA				*e*S	Sn	19 15 54.3	-7.9
PCED	**Cedros**	**1.83**	**286**	*e*P	Pn	19 15 33.7	-4.9
PCED				*e*S	Sn	19 15 54.2	-8.1
PCED				A	A	19 15 55.2	
	30nm,0.2s						

*ISCJB **23** 19:24:54.3±0.2, 51°.54N±0°.01×16°.11E±0°.02, h0km, Error ellipse: s-maj=1.9km s-min=1.7km az=28.0*
*LDG **23** 19:24:55.5±0.2, 51°.55N×16°.32E, h1km, Ml3.9/21, Error ellipse: s-maj=5.1km s-min=2.3km az=4.0, Suspected Mining induced.*
*CSEM **23** 19:24:56.3±0.1, 51°.53N×16°.12E, h0km, ML4.0/14, Error ellipse: s-maj=2.4km s-min=2.0km az=29.0*
*BNS **23** 19:24:57.8±0.7, 51°.32N×16°.39E, h10km, ML3.3*
*IDC **23** 19:24:57.4±0.6, 51°.54N×15°.96E, h0km, mb1 3.4/8, mb1mx3.3/37, mbtmp3.4/8, ML3.3/8, Error ellipse: s-maj=9.8km s-min=5.8km az=97.0*
*BGR **23** 19:24:58.4±0.4, 51°.48N×16°.11E, h1km, ML3.6/15, Error ellipse: s-maj=4.4km s-min=2.2km az=16.0*
*VIE **23** 19:25:00.7±0.9, 51°.29N×16°.01E, h0km, mb3.0/9, ML3.1/9, Error ellipse: s-maj=6.7km s-min=5.9km az=139.0 73 km WNW of Wroclaw Suspected Mining induced.*
*UPP **23** 19:25:02.9, 51°.93N×15°.50E, h0km, ML2.4, Suspected Mining explosion.*

ISC 23 19:24:55.0±0.6, 51°.54N±0°.02×16°.12E±0°.02, h0km, n190, σ1s58/287, 21C-15D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**171**	*e*Pg	**Pb**	**19 25 10.8**	**+0.6**
KSP				*e*Sg	**Sg**	**19 25 18.3**	**+0.6**
KSP	**Ksiaz**	**0.71**	**171**	*i* Pg	**Pb**	**19 25 10.8**	**+0.6**
KSP				*e*Sg	**Sb**	**19 25 20.2**	**-0.3**
KSP				*e*		19 25 25.0	
KSP	**Ksiaz**	**0.71**	**171**	Pg	**Pb**	**19 25 10.8**	**+0.6**
KSP				Sg	**Sg**	**19 25 18.3**	**+0.6**
UPC	**Upice**	**1.04**	**184**	⇓*e*PG	**Pb**	**19 25 16.6**	**+0.7**
UPC				*e*SG	**Sg**	**19 25 29.5**	**+1.2**
	comp=Z,187nm,0.3s						
UPC	**Upice**	**1.04**	**184**	Pg	**Pb**	**19 25 16.6**	**+0.7**
UPC				Sg	**Sg**	**19 25 29.5**	**+1.2**
	187nm,0.3s						
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*Pg	**Pn**	**19 25 19.6**	**+0.5**
DPC				*e*Sg	**Sg**	**19 25 35.0**	**+1.4**
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*PG	**Pb**	**19 25 19.4**	**+0.7**
DPC				*e*SG	**Sg**	**19 25 34.6**	**+1.0**
	comp=Z,193nm,0.3s						
DPC				AMS	AMS	19 25 50.0	
	comp=Z,300nm,3.2s						
DPC	**Dobruska-Polom**	**1.20**	**174**	Pg	**Pn**	**19 25 19.6**	**+0.5**
DPC				Sg	**Sg**	**19 25 35.0**	**+1.4**
PVCC	**Panska Ves**	**1.41**	**225**	⇓*e*PG	**Pb**	**19 25 23.5**	**+1.3**
PVCC				*e*SG	**Sn**	**19 25 42.2**	**+1.0**
	comp=Z,840nm,0.3s						
PVCC	**Panska Ves**	**1.41**	**225**	Pg	**Pb**	**19 25 23.5**	**+1.3**
PVCC				Sg	**Sn**	**19 25 42.2**	**+1.0**
	840nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**245**	PN	**Pb**	**19 25 24.4**	**+0.3**
BRG				PG	**Pg**	**19 25 26.1**	**+1.9**
BRG				SG	**Sn**	**19 25 46.2**	**+2.2**
	529nm,0.5s						
KRLC	**Kraliky**	**1.53**	**164**	⇓*i*PG	**Pb**	**19 25 24.9**	**+0.7**
KRLC				*e*SG	**Sn**	**19 25 44.7**	**+0.5**
KRLC	**Kraliky**	**1.53**	**164**	Pg	**Pb**	**19 25 24.9**	**+0.7**
KRLC				Sg	**Sn**	**19 25 44.7**	**+0.5**
PRA	**Prague**	**1.82**	**217**	⇓*e*PN	**Pb**	**19 25 29.1**	**-0.1**
PRA				*e*PG	**Pg**	**19 25 30.8**	**+0.9**
PRA				*e*SG	**Sg**	**19 25 54.0**	**+0.5**
	comp=Z,142nm,0.4s						
PRA	**Prague**	**1.82**	**217**	Pn	**Pb**	**19 25 29.1**	**-0.1**
PRA	**Prague**	**1.82**	**217**	Pg	**Pg**	**19 25 30.8**	**+0.9**
PRA				Sg	**Sg**	**19 25 54.0**	**+0.5**
	142nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.84**	**208**	*e*PN	**Pn**	**19 25 29.1**	**+1.3**
GOPC				*e*PG	**Pg**	**19 25 30.8**	**+0.6**
GOPC				*e*SG	**Sg**	**19 25 54.8**	**+0.8**
	comp=Z,73nm,0.2s						
GOPC				AMS	AMS	19 26 10.0	
	comp=Z,200nm,3.6s						
GOPC	**GO Pecny, Ondr**	**1.84**	**208**	Pn	**Pn**	**19 25 29.1**	**+1.3**
GOPC	**GO Pecny, Ondr**	**1.84**	**208**	Pg	**Pg**	**19 25 30.8**	**+0.6**
GOPC				Sg	**Sg**	**19 25 54.8**	**+0.8**
	73nm,0.2s						
FBE	**Freiberg**	**1.84**	**251**	*e*Pg	**Pg**	**19 25 31.9**	**+1.5**
FBE				*e*Sg	**Sg**	**19 25 56.3**	**+2.0**
FBE	**Freiberg**	**1.84**	**251**	Pg	**Pg**	**19 25 31.9**	**+1.5**
FBE				Sg	**Sg**	**19 25 56.3**	**+2.0**
PRU	**Pruhonice**	**1.85**	**213**	⇓*e*PN	**Pn**	**19 25 29.3**	**+1.3**
PRU				*e*PG	**Pg**	**19 25 31.3**	**+0.8**
PRU				*e*SG	**Sg**	**19 25 55.3**	**+0.9**
	comp=Z,223nm,0.3s						
PRU				AMS	AMS	19 26 20.0	
	comp=Z,400nm,3.9s						
PRU	**Pruhonice**	**1.85**	**213**	Pn	**Pn**	**19 25 29.3**	**+1.3**
GKP	**Gorka Klasztor**	**1.86**	**21**	*e*Pg	Pg	19 25 37.4	+6.7
GKP				*e*Sg	**Sg**	**19 26 00.1**	**+5.3**
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**19 25 30.8**	**+1.2**
CLL				*e*Sg	**Sg**	**19 25 59.7**	**+1.6**
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pb**	**19 25 31.0**	**-0.6**
CLL				*e*Pg	**Pg**	**19 25 34.0**	**+1.4**
CLL				*e*		19 25 36.0	
CLL				*e*Sg	**Sg**	**19 25 59.0**	**+0.9**
	comp=Z,288nm,0.8s						
CLL	**Collm**	**1.96**	**264**	Pn	**Pn**	**19 25 30.8**	**+1.2**
CLL				Sg	**Sg**	**19 25 59.7**	**+1.6**
RAC	**Raciborz**	**1.97**	**137**	*e*Pg	**Pg**	**19 25 34.1**	**+1.4**
RAC				*e*Sg	**Sg**	**19 26 00.3**	**+2.1**
MORC	**Moravsky Berou**	**1.99**	**152**	*e*Pn	**Pn**	**19 25 31.1**	**+1.2**
MORC				*e*Sg	**Sg**	**19 25 60.0**	**+1.2**
MORC	**Moravsky Berou**	**1.99**	**152**	⇓*i*P	**Pn**	**19 25 31.2**	**+1.2**
MORC	**Moravsky Berou**	**1.99**	**152**	S	**Sn**	**19 25 55.8**	**+0.3**
MORC	**Moravsky Berou**	**1.99**	**152**	Pn	**Pn**	**19 25 31.1**	**+1.2**
MORC				Sg	**Sg**	**19 26 00.0**	**+1.2**
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*Pn	**Pn**	**19 25 32.7**	**+0.7**
OKC				*e*Pg	**Pg**	**19 25 37.0**	**+1.0**
OKC				*e*Sg	**Sg**	**19 26 04.7**	**+1.0**
OKC	**Ostrava-Krasne**	**2.14**	**142**	⇓*e*PN	**Pn**	**19 25 32.5**	**+0.5**
OKC				*e*PG	**Pg**	**19 25 36.5**	**+0.5**
OKC				*e*SG	**Sg**	**19 26 04.2**	**+0.5**
	comp=Z,92nm,0.4s						
OKC				AMS	AMS	19 26 30.0	
	comp=Z,200nm,4.1s						
OKC	**Ostrava-Krasne**	**2.14**	**142**	Pn	**Pn**	**19 25 32.7**	**+0.7**
OKC	**Ostrava-Krasne**	**2.14**	**142**	Pg	**Pg**	**19 25 37.0**	**+1.0**
OKC				Sg	**Sg**	**19 26 04.7**	**+1.0**
VRAC	**Vranov**	**2.26**	**172**	Pn	**Pn**	**19 25 35.3**	**+1.7**
	comp=Z,13nm,0.3s,baz=345,slow=14,SNR=18						
VRAC				Sn	**Sb**	**19 26 06.6**	**+1.5**
	comp=Z,24nm,0.3s,baz=86,slow=21,SNR=10						
VRAC				Lg	Lg	19 26 10.6	
	comp=Z,23nm,0.3s,baz=76,slow=23,SNR=6.2						
VRAC	**Vranov**	**2.26**	**172**	⇑*i*P	**Pn**	**19 25 35.5**	**+1.8**
VRAC	**V

STHS	**Stebnicka Huta**	**3.91**	**121**	*e*PN		**Pn**	**19 25 58.2**	**+1.9**
STHS				*e*PG		**Pg**	**19 26 11.1**	**+1.3**
STHS				*e*SN		Sn	19 26 32.2	-11
STHS				*e*SG		**Sg**	**19 27 03.4**	**+3.0**
KECS	**Kecovo**	**4.16**	**136**	*e*Pn		**Pn**	**19 26 00.8**	**+1.0**
KECS	**Kecovo**	**4.16**	**136**	*e*PN		**Pn**	**19 26 00.8**	**+1.0**
KECS				*e*PG		**Pg**	**19 26 15.9**	**+1.2**
KECS				*e*SN		Sn	19 26 36.6	-12
KECS				*e*SG		**Sg**	**19 27 09.5**	**+0.9**
PSZ	**Piszkesteto**	**4.38**	**145**	⇑*i*P		**Pn**	**19 26 04.3**	**+1.5**
PSZ	**Piszkesteto**	**4.38**	**145**	⇑*i*P		**Pn**	**19 26 04.3**	**+1.5**
LUNU	**Lund**	**4.39**	**340**	P		**Pn**	**19 26 03.6**	**+0.7**
LUNU	**Lund**	**4.39**	**340**	P		**Pn**	**19 26 03.6**	**+0.7**
LLD	**Lille Linde**	**4.46**	**330**	*i*P		Pn	19 26 07.0	+3.2
LLD				*i*S		**Sn**	**19 26 54.7**	**-1.6**
LLD	**Lille Linde**	**4.46**	**330**	*i*P		Pn	19 26 07.0	+3.2
LLD				*i*S		**Sn**	**19 26 54.7**	**-1.6**
KWP	**Kalwaria Pacla**	**4.61**	**112**	*e*Pn		**Pn**	**19 26 07.8**	**+1.8**
KWP				*e*Pb		**Pg**	**19 26 21.8**	**-1.6**
KWP				*e*Sg		Sg	19 27 31.2	+8.0
KWP	**Kalwaria Pacla**	**4.61**	**112**	*e*Pn		**Pn**	**19 26 07.9**	**+1.9**
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*Pn		**Pn**	**19 26 08.9**	**+1.2**
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*PN		**Pn**	**19 26 08.9**	**+1.2**
KOLS				*e*PG		**Pg**	**19 26 27.0**	**+1.3**
KOLS				*e*SG		**Sg**	**19 27 26.0**	**-1.1**
BLEU	**Blekinge**	**4.78**	**358**	P		**Pn**	**19 26 09.5**	**+1.4**
BLEU				S		**Sn**	**19 27 01.4**	**-2.7**
BLEU	**Blekinge**	**4.78**	**358**	P		**Pn**	**19 26 09.5**	**+1.4**
BLEU				S		**Sn**	**19 27 01.4**	**-2.7**
KBA	**Koelnbreinsper**	**4.82**	**203**	⇓*i*Pn		**Pn**	**19 26 11.3**	**+2.3**
	comp=Z,5.9nm,0.4s							
KBA				⇑Sg		**Sg**	**19 27 30.1**	**+0.3**
	comp=Z,41nm,0.6s							
KBA	**Koelnbreinsper**	**4.82**	**203**	Pn		**Pn**	**19 26 11.3**	**+2.3**
	comp=Z,5.9nm,0.4s							
KBA				Sg		**Sg**	**19 27 30.1**	**+0.3**
	comp=Z,41nm,0.6s							
BJUU	**Bjuv**	**4.90**	**339**	P		**Pn**	**19 26 10.1**	**+0.3**
BJUU	**Bjuv**	**4.90**	**339**	P		**Pn**	**19 26 10.1**	**+0.3**
SOKA	**Soboth**	**4.92**	**189**	⇑*i*Pn		**Pn**	**19 26 13.1**	**+2.8**
	comp=Z,2.2nm,0.5s							
SOKA	**Soboth**	**4.92**	**189**	Pn		**Pn**	**19 26 13.1**	**+2.8**
	comp=Z,2.2nm,0.5s							
DEL	**Delary**	**5.11**	**346**	P		**Pn**	**19 26 13.5**	**+0.7**
DEL	**Delary**	**5.11**	**346**	P		**Pn**	**19 26 13.5**	**+0.7**
WTTA	**Wattenberg**	**5.18**	**216**	⇑*i*Pn		**Pn**	**19 26 16.8**	**+2.8**
	comp=Z,2.7nm,0.2s							
WTTA	**Wattenberg**	**5.18**	**216**	Pn		**Pn**	**19 26 16.8**	**+2.8**
	comp=Z,2.7nm,0.2s							
ABTA	**Abfaltersbach**	**5.35**	**208**	⇓*i*Pn		**Pn**	**19 26 19.3**	**+3.1**
	comp=Z,2.6nm,0.5s							
ABTA				⇑*i*Sg		**Sg**	**19 27 46.5**	**-0.3**
	comp=Z,27nm,0.6s							
ABTA	**Abfaltersbach**	**5.35**	**208**	Pn		**Pn**	**19 26 19.3**	**+3.1**
	comp=Z,2.6nm,0.5s							
ABTA				Sg		**Sg**	**19 27 46.5**	**-0.3**
	comp=Z,27nm,0.6s							
KOE	**Koeppel**	**5.41**	**261**	*e*Pn		**Pn**	**19 26 18.9**	**+1.9**
KOE	**Koeppel**	**5.41**	**261**	Pn		**Pn**	**19 26 18.9**	**+1.9**
VXJU	**Vaexsjoe**	**5.43**	**353**	P		**Pn**	**19 26 18.6**	**+1.4**
VXJU	**Vaexsjoe**	**5.43**	**353**	P		**Pn**	**19 26 18.6**	**+1.4**
PDKS	**Podkum**	**5.54**	**188**	*i*Pn		**Pn**	**19 26 21.3**	**+2.6**
PDKS	**Podkum**	**5.54**	**188**	Pn		**Pn**	**19 26 21.3**	**+2.6**
HOBG	**Hohbusch**	**5.54**	**268**	*e*Pn		**Pn**	**19 26 21.7**	**+3.0**
HOBG	**Hohbusch**	**5.54**	**268**	Pn		**Pn**	**19 26 21.7**	**+3.0**
PKSM	**Moragy**	**5.59**	**162**	⇑*i*P		**Pn**	**19 26 20.8**	**+1.5**
PKSM	**Moragy**	**5.59**	**162**	⇑*i*P		**Pn**	**19 26 20.8**	**+1.5**
OSKU	**Oskarshamn**	**5.66**	**360**	P		**Pn**	**19 26 21.9**	**+1.5**
OSKU	**Oskarshamn**	**5.66**	**360**	P		**Pn**	**19 26 21.9**	**+1.5**
BGG	**Burgeitz**	**5.72**	**260**	*e*Pn		**Pn**	**19 26 23.9**	**+2.8**
BGG				*e*Sn		**Sn**	**19 27 28.5**	**+1.1**
	comp=Z,7.4nm,0.6s							
BGG	**Burgeitz**	**5.72**	**260**	Pn		**Pn**	**19 26 23.9**	**+2.8**
BGG				Sn		**Sn**	**19 27 28.5**	**+1.1**
	comp=Z,7.4nm,0.6s							
FETA	**Feichten**	**5.74**	**220**	⇑*i*Pn		**Pn**	**19 26 24.1**	**+2.6**
	comp=Z,1.1nm,0.3s							
FETA	**Feichten**	**5.74**	**220**	Pn		**Pn**	**19 26 24.1**	**+2.6**
	comp=Z,1.1nm,0.3s							
FABU	**Falkenberg**	**5.82**	**341**	P		**Pn**	**19 26 23.0**	**+0.5**
FABU	**Falkenberg**	**5.82**	**341**	P		**Pn**	**19 26 23.0**	**+0.5**
ASPU	**Aespoe**	**5.90**	**3**	P		**Pn**	**19 26 25.4**	**+1.9**
ASPU	**Aespoe**	**5.90**	**3**	P		**Pn**	**19 26 25.4**	**+1.9**
GNOU	**Gnosjoe**	**5.92**	**347**	P		**Pn**	**19 26 24.8**	**+0.9**
GNOU	**Gnosjoe**	**5.92**	**347**	P		**Pn**	**19 26 24.8**	**+0.9**
STB	**Steinbach**	**5.92**	**264**	*e*Pn		**Pn**	**19 26 26.3**	**+2.3**
STB	**Steinbach**	**5.92**	**264**	Pn		**Pn**	**19 26 26.3**	**+2.3**
EKSU	**Eksjoe**	**6.06**	**356**	P		**Pn**	**19 26 27.4**	**+1.6**
EKSU	**Eksjoe**	**6.06**	**356**	P		**Pn**	**19 26 27.4**	**+1.6**
BOJS	**Bojanci**	**6.07**	**186**	*i*Pn		**Pn**	**19 26 28.5**	**+2.5**
BOJS	**Bojanci**	**6.07**	**186**	*i*Pn		**Pn**	**19 26 28.5**	**+2.5**
VSTU	**Vaestervik**	**6.14**	**2**	P		**Pn**	**19 26 28.5**	**+1.7**
VSTU	**Vaestervik**	**6.14**	**2**	P		**Pn**	**19 26 28.6**	**+1.7**
BMR	**Baia Mare**	**6.16**	**126**	⇑*i*P		**Pn**	**19 26 28.7**	**+1.5**
BMR	**Baia Mare**	**6.16**	**126**	⇑*i*P		**Pn**	**19 26 28.7**	**+1.5**
KLL	**Kalltalsperre**	**6.24**	**266**	*e*Pn		**Pn**	**19 26 30.6**	**+2.2**
KLL	**Kalltalsperre**	**6.24**	**266**	Pn		**Pn**	**19 26 30.6**	**+2.2**
DAVOX	**Davos/Dischmat**	**6.28**	**223**	Pn		**Pn**	**19 26 31.5**	**+2.5**
	comp=Z,1.0nm,0.3s,baz=92,slow=9.7,SNR=7.3							
DAVOX				Sn		**Sn**	**19 27 43.5**	**+1.9**
	comp=Z,1.0nm,0.3s,baz=312,slow=20,SNR=2.0							
DAVOX				Lg	Lg		19 28 11.9	
	comp=Z,0.8nm,0.3s,baz=10,0,slow=19,SNR=3.9							
DREG	**Dreilaegerbach**	**6.29**	**266**	*e*Pn		**Pn**	**19 26 32.0**	**+3.0**
DREG	**Dreilaegerbach**	**6.29**	**266**	Pn		**Pn**	**19 26 32.0**	**+3.0**
DRGR		**6.42**	**135**	⇓*i*P		**Pn**	**19 26 32.1**	**+1.2**
DRGR		**6.42**	**135**	⇓*i*P		**Pn**	**19 26 32.1**	**+1.2**
CDF	**Champ du Feu**	**6.50**	**245**	*e*Pn		**Pn**	**19 26 33.0**	**+1.0**
CDF				*e*Sg		**Sg**	**19 28 22.7**	**-1.2**
	comp=Z,62nm,1.0s							
CDF	**Champ du Feu**	**6.50**	**245**	*e*Pn		**Pn**	**19 26 33.0**	**+1.0**
BZS	**Buzias**	**6.96**	**146**	⇑*i*P		**Pn**	**19 26 39.5**	**+1.3**
BZS	**Buzias**	**6.96**	**146**	⇑*i*P		**Pn**	**19 26 39.5**	**+1.3**
HINF	**Hinteralfeld**	**7.07**	**242**	*e*Pn		**Pn**	**19 26 39.9**	**+0.1**
HINF				*e*Sg		**Sg**	**19 28 40.2**	**-1.8**
	comp=Z,36nm,0.8s							
HINF	**Hinteralfeld**	**7.07**	**242**	*e*Pn		**Pn**	**19 26 39.9**	**+0.1**
BURAR	**Bucovina Array**	**7.10**	**120**	⇑*i*P		**Pn**	**19 26 41.3**	**+1.1**
BURAR	**Bucovina Array**	**7.10**	**120**	⇑*i*P		**Pn**	**19 26 41.3**	**+1.1**
HAU	**Haudompre**	**7.25**	**245**	*e*Pn		**Pn**	**19 26 42.4**	**+0.2**
HAU				*e*Sg		**Sg**	**19 28 45.7**	**-1.9**
	comp=Z,26nm,0.7s							
HAU	**Haudompre**	**7.25**	**245**	*e*Pn		**Pn**	**19 26 42.4**	**+0.2**
GIVF	**Givet**	**7.30**	**263**	*e*Pn		**Pn**	**19 26 43.4**	**+0.6**
GIVF				*e*Sg		**Sg**	**19 28 48.4**	**-0.9**
	comp=Z,24nm,0.7s							
GIVF	**Givet**	**7.30**	**263**	*e*Pn		**Pn**	**19 26 43.4**	**+0.6**
GIVF				*e*Sg		**Sg**	**19 28 48.4**	**-0.9**
	comp=Z,12nm,0.7s							
PAGF	**Fort de Pagny**	**7.33**	**250**	*e*Pn		**Pn**	**19 26 44.0**	**+0.8**
	baz=67							
PAGF				*e*Sg		**Sg**	**19 28 48.4**	**-1.8**
	comp=Z,9.6nm,0.8s							
PAGF	**Fort de Pagny**	**7.33**	**250**	*e*Pn		**Pn**	**19 26 44.0**	**+0.8**
	baz=67							
GZR	**Gura Zlata**	**7.58**	**142**	⇑*i*P		**Pn**	**19 26 48.2**	**+1.5**
GZR	**Gura Zlata**	**7.58**	**142**	⇑*i*P		**Pn**	**19 26 48.2**	**+1.5**
BAIF	**Baives**	**7.69**	**264**	*e*Pn		**Pn**	**19 26 48.8**	**+0.6**
BAIF				*e*Sg		**Sg**	**19 29 00.6**	**-1.3**
	comp=Z,20nm,0.8s							
BAIF	**Baives**	**7.69**	**264**	*e*Pn		**Pn**	**19 26 48.8**	**+0.6**
MEZF	**Maizieres J'vi**	**7.75**	**251**	*e*Pn		**Pn**	**19 26 48.9**	**-0.1**
MEZF				*e*Sg		**Sg**	**19 29 01.7**	**-2.0**
	comp=Z,52nm,1.2s							
MEZF	**Maizieres J'vi**	**7.75**	**251**	*e*Pn		**Pn**	**19 26 48.9**	**-0.1**
SFTF	**Sexfontaines**	**7.90**	**249**	*e*Pn		**Pn**	**19 26 51.0**	**-0.1**
SFTF				*e*Sg		**Sg**	**19 29 05.9**	**-2.6**
	comp=Z,22nm,0.7s							
SFTF	**Sexfontaines**	**7.90**	**249**	*e*Pn		**Pn**	**19 26 51.0**	**-0.1**
CABF	**La Chapelle**	**8.22**	**237**	*e*Sg		**Sg**	**19 29 15.7**	**-3.3**
	comp=Z,30nm,0.8s							
AKASG	**Malin Array Be**	**8.29**	**91**	Pn		**Pn**	**19 26 56.3**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=279,slow=12,SNR=6.5							
AKASG				Sn		**Sn**	**19 28 26.2**	**-4.5**
	comp=Z,2.1nm,0.3s,baz=278,slow=23,SNR=4.6							
AKASG				Lg	Lg		19 29 23.6	
	comp=Z,0.4nm,0.3s,baz=277,slow=30,SNR=3.1							
TESR	**Tescani**	**8.55**	**122**	⇑*i*P		**Pn**	**19 27 01.3**	**+1.2**
TESR	**Tescani**	**8.55**	**122**	⇑*i*P		**Pn**	**19 27 01.3**	**+1.2**
LPL	**La Plagne**	**8.66**	**230**	*e*Pn		**Pn**	**19 27 01.4**	**-0.4**
LPL				*e*Sg		**Sg**	**19 29 29.4**	**-3.7**
	comp=Z,8.3nm,0.8s							
LPL	**La Plagne**	**8.66**	**230**	*e*Pn		**Pn**	**19 27 01.4**	**-0.4**
LPG	**La Plagne**	**8.67**	**229**	*e*Pn		**Pn**	**19 27 01.2**	**-0.7**
LPG				*e*Sg		**Sg**	**19 29 29.5**	**-3.7**
	comp=Z,26nm,1.2s							
LPG	**La Plagne**	**8.67**	**229**	*e*Pn		**Pn**	**19 27 01.2**	**-0.7**
HFS	**Hagfors**	**8.72**	**352**	Pn		**Pn**	**19 27 03.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=177,slow=15,SNR=6.6							
HFS				Sn		Sn	19 28 34.3	-6.8
	comp=Z,0.0nm,0.3s,baz=167,slow=19,SNR=1.9							
LOR	**Lormes**	**9.06**	**247**	*e*Pn		**Pn**	**19 27 07.6**	**+0.6**
	baz=65							
LOR				*e*Sg		Sn	19 29 42.6	+53
	comp=Z,10nm,0.7s							
LOR	**Lormes**	**9.06**	**247**	*e*Pn		**Pn**	**19 27 07.6**	**+0.6**
	baz=65							
LOR				*e*Sg		Sn	19 29 42.6	+53
	comp=Z,5.2nm,0.7s							
SSF	**Saint Saulge**	**9.38**	**246**	*e*Pn		**Pn**	**19 27 11.4**	**+0.1**
SSF				*e*Sg		Sn	19 29 52.4	+55
	comp=Z,9.6nm,0.7s							
SSF	**Saint Saulge**	**9.38**	**246**	*e*Pn		**Pn**	**19 27 11.4**	**+0.1**
SMF	**Signal de Mont**	**9.42**	**243**	*e*Sg		Sn	19 29 53.5	+55
	comp=Z,13nm,0.7s							
AVF	**Avril sur Loir**	**9.62**	**245**	*e*Sg		Sn	19 29 59.3	+56
	comp=Z,14nm,1.0s							
SBF	**Sospel**	**9.65**	**221**	*e*Pn		**Pn**	**19 27 14.7**	**-0.5**
SBF	**Sospel**	**9.65**	**221**	*e*Pn		**Pn**	**19 27 14.7**	**-0.5**
NOA	**NORSAR Array B**	**9.90**	**346**	Pn		**Pn**	**19 27 18.7**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=151,slow=11,SNR=4.7							
NOA				Sn		Sn	19 29 03.0	-7.2
	comp=Z,0.2nm,0.3s,baz=215,slow=22,SNR=1.8							
BGF	**Bois d'Agland**	**10.03**	**245**	*e*Sg		Sn	19 30 12.7	+59
	comp=Z,20nm,0.9s							
FRF	**La Foret Royal**	**10.23**	**222**	*e*P		**Pn**	**19 27 24.1**	**+1.1**
FRF	**La Foret Royal**	**10.23**	**222**	*e*P		**Pn**	**19 27 24.1**	**+1.1**
TCF	**Toulx Ste Croi**	**10.55**	**246**	*e*Pn		**Pn**	**19 27 27.0**	**-0.4**
TCF				*e*Sg			19 30 28.7	
	comp=Z,9.1nm,0.9s							
TCF	**Toulx Ste Croi**	**10.55**	**246**	*e*Pn		**Pn**	**19 27 27.0**	**-0.4**
FINES	**FINESS Array B**	**11.33**	**25**	Pn		**Pn**	**19 27 37.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=208,slow=12,SNR=12							
FINES				Sn		Sn	19 29 38.5	-6.7
	comp=Z,0.5nm,0.3s,baz=210,slow=23,SNR=6.1							
EKA	**Eskdalemuir Ar**	**12.10**	**296**	Pn		**Pn**	**19 27 46.4**	**-2.1**
	baz=100,slow=13,SNR=5.9							
EKA				Sn		Sn	19 29 55.5	-8.5
	baz=103,slow=27,SNR=3.5							
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn		**P**	**19 29 11.5**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=192,slow=13,SNR=10.0							

*IDC **23** 19:53:40.1±0.8, 30°.34S×177°.86W, h0km, mb4.6/6, mb1 4.7/8, mb1mx4.3/22, mbtmp4.5/8, ML3.9/2, MS3.7/5, Ms1 3.7/5, ms1mx3.1/40, Error ellipse: s-maj=27.6km s-min=10.9km az=98.0*

*NEIC **23** 19:53:42.8±1.8, 30°.27S×177°.92W, h14km±10km, mb4.9/4, Error ellipse: s-maj=18.6km s-min=9.9km az=108.0*

*ISCJB **23** 19:53:43.9±0.8, 30°.50S±0°.05×177°.9W±0°.2, h33km, mb4.7/12, MS3.6/4, Error ellipse: s-maj=20.7km s-min=5.7km az=10.0*

ISC 23 19:53:45.2±0.8, 30°.43S±0°.08×177°.7W±0°.2, h33km, n63, σ1s14/47, mb4.7/12, MS3.7/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.18**	**352**			Pg	Pn	19 54 02.4	-3.0
	538nm,0.3s,baz=58,slow=23,SNR=31								
RAO						Lg	Lg	19 54 14.5	
	4µm,0.3s,baz=348,slow=23,SNR=18								
HAZ	**Te Kaha**	**8.20**	**206**	PN		**Pn**		**19 55 42.1**	**+0.3**
PUZ	**Puketiti**	**8.32**	**202**	*e*PN		**Pn**		**19 55 44.4**	**+0.9**
PUZ				SN		**Sn**		**19 57 16.3**	**+0.1**
TWGZ	**Tauwhareparae**	**8.50**	**203**	*e*PN		**Pn**		**19 55 45.0**	**-1.0**
CNGZ	**Carnagh Statio**	**8.71**	**202**	*e*PN		**Pn**		**19 55 49.0**	**+0.2**
OUZ	**Omahuta**	**8.72**	**234**	*e*P		Pn		19 55 57.8	+8.9
	14nm,0.5s								
MWZ	**Matawai**	**8.81**	**205**	*e*PN		**Pn**		**19 55 50.4**	**+0.2**
MWZ				*e*SN		**Sn**		**19 57 28.5**	**+0.3**
URZ	**Urewera**	**8.90**	**207**	Pn		**Pn**		**19 55 51.5**	**+0.1**
	0.8nm,0.3s,baz=262,slow=3.5,SNR=11								
URZ				SN		**Sn**		**19 57 30.9**	**+0.4**
	6.0nm,0.3s,baz=185,slow=22,SNR=19								
URZ	**Urewera**	**8.90**	**207**	PN		**Pn**		**19 55 51.4**	**0.0**
URZ				SN		**Sn**		**19 57 31.6**	**+1.1**
RAGZ	**Rawiri**	**8.99**	**205**	*e*PN		**Pn**		**19 55 53.1**	**+0.3**
KNZ	**Kokohu**	**9.37**	**203**	*e*PN		**Pn**		**19 55 57.9**	**+0.1**
BFZ	**Birch Farm**	**11.34**	**204**	PN		**Pn**		**19 56 22.7**	**-2.1**
MRZ	**Mangatainoka R**	**11.57**	**206**	*e*PN		Pn		19 56 23.5	-4.5
CTZ	**Chatham Island**	**13.31**	**176**	*e*SN		Sn		19 59 09.2	-9.4
THZ	**Tophouse**	**13.60**	**211**	*e*PN		Pn		19 56 52.5	-3.3
THZ				*e*SN		Sn		19 59 17.6	-8.1
KHZ	**Kahutara**	**13.87**	**208**	*e*P		**P**		**19 57 05.0**	**-2.1**
MQZ	**McQueen's Vall**	**15.30**	**207**	*e*SN		Sn		19 59 53.5	-13
RPZ	**Rata Peaks**	**15.98**	**211**	Pn		**Pn**		**19 57 26.9**	**-0.6**
	0.6nm,0.3s,baz=23,slow=7.7,SNR=3.0								
RPZ				Sn		Sn		20 00 12.0	-12
	0.9nm,0.3s,baz=219,slow=19,SNR=1.4								
RPZ	**Rata Peaks**	**15.98**	**211**	*e*PN		**P**		**19 57 31.4**	**+0.8**
DZM	**Mont Dzumac**	**16.44**	**297**	*e*LR		LR		20 01 05.0	
	566nm,25.7s								
DZM	**Mont Dzumac**	**16.44**	**297**	LR		LR		20 02 17.1	
	comp=Z,326nm,21.2s,baz=266,slow=32								
TBI	**Tubuai**	**26.14**	**81**	*e*LR		LR		20 05 41.3	
	170nm,30.8s								
TBI	**Tubuai**	**26.14**	**81**	*e*T		T		20 26 33.1	
	26nm,0.3s								
PAE	**Paea**	**28.59**	**70**	*e*T		T		20 29 38.4	
	9.4nm,0.3s								
PPT2	**Papeete2**	**28.63**	**70**	*e*LR		LR		20 07 01.1	
	185nm,25.2s								
PPT	**Papeete**	**28.64**	**70**	LR		LR		20 07 28.1	
	comp=Z,82nm,20.1s,baz=186,slow=29								
VAH	**Vaihoa**	**31.47**	**68**	*e*T		T		20 33 14.3	
	46nm,0.2s								
CTAO	**Charters Tower**	**34.03**	**279**	*e*P		**P**		**20 00 27.2**	**+0.9**
	28nm,0.5s								
STKA	**Stephens Creek**	**34.70**	**257**	P		**P**		**20 00 34.1**	**+2.1**
	9.4nm,0.4s,baz=100,slow=10,SNR=58								
STKA				LR		LR		20 12 15.5	
	comp=Z,129nm,20.0s,baz=34,slow=32								
STKA	**Stephens Creek**	**34.70**	**257**	*e*P		**P**		**20 00 33.9**	**+1.9**
	1.8nm,0.5s								
AS31	**Alice Springs**	**43.34**	**267**	*e*P		**P**		**20 01 44.2**	**-0.2**
ASAR	**Alice Springs**	**43.34**	**267**	P		**P**		**20 01 44.0**	**-0.4**
	6.7nm,0.4s,baz=104,slow=7.4,SNR=138								
ASAR				PcP		**PcP**		**20 03 32.3**	**-0.5**
	0.6nm,0.6s,baz=107,slow=5.0,SNR=3.5								
ASAR				ScP		**ScP**		**20 07 22.6**	**+0.8**
	0.3nm,0.8s,baz=104,slow=3.9,SNR=2.6								
ASAR				LR		LR		20 19 21.7	
	comp=Z,103nm,18.2s,baz=7.0,slow=36								
WRAB	**Tennant Creek**	**44.32**	**272**	*e*P		**P**		**20 01 51.7**	**-0.6**
	14nm,0.4s								
WRA	**Warramunga Arr**	**44.33**	**272**	P		**P**		**20 01 51.6**	**-0.8**
	12nm,0.3s,baz=110,slow=8.1,SNR=597								
WRA				ScP		**ScP**		**20 07 27.9**	**+2.1**
	0.6nm,0.9s,baz=107,slow=3.5,SNR=3.7								
VNDA	**Vanda**	**48.09**	**186**	P		P		20 02 26.9	+5.8
	0.9nm,0.5s,baz=4.7,slow=8.3,SNR=12								
JAY	**Jayapura**	**48.11**	**297**	P		**P**		**20 02 21.1**	**-1.1**
	7.0nm,0.3s,baz=128,slow=18,SNR=20								
MBWA	**Marble Bar**	**56.45**	**264**	*e*P		**P**		**20 03 23.3**	**-0.7**
	7.3nm,0.9s								
QSPA	**South Pole Qui**	**59.68**	**180**	P		P		20 03 50.3	+4.2
	2.6nm,0.7s,baz=323,slow=0.8,SNR=12								
KSRS	**Korea Array**	**84.52**	**319**	P		**P**		**20 06 15.4**	**+0.7**
	0.4nm,0.5s,baz=134,slow=6.3,SNR=3.1								
KSAR	**Wonju Array Be**	**84.53**	**319**	P		**P**		**20 06 15.4**	**+0.6**
PETK	**Petropavlovsk-**	**85.89**	**345**	P		**P**		**20 06 21.8**	**+0.5**
	2.1nm,0.4s,baz=134,slow=8.3,SNR=8.2								
YBH	**Yreka Blue Hor**	**87.91**	**38**	LR		LR		20 35 54.7	
	comp=Z,38nm,19.9s,baz=218,slow=29								
NVAR	**Mina Array Bea**	**88.10**	**43**	P		**P**		**20 06 34.0**	**+1.4**
	0.7nm,0.7s,baz=218,slow=5.7,SNR=3.2								
KURK	**Kurchatov**	**121.23**	**314**	PKP		**PKPdf**		**20 12 33.0**	**-1.2**
KURK				*e*PKPdf		**PKiKP**		**20 12 33.5**	**-0.9**
KURBB	**Kurchatov Arra**	**121.27**	**314**	PKP		**PKPdf**		**20 12 33.0**	**-1.3**
	1.0nm,0.5s,baz=106,slow=2.0,SNR=15								
KKAR	**Karatay Array**	**125.28**	**304**	*e*PKPdf		**PKPdf**		**20 12 42.1**	**-0.3**
H10S2	**ASCENSION HYDR**	**137.60**	**155**	T		T		22 47 33.1	
	baz=204,slow=75,SNR=60								
H10S3	**ASCENSION HYDR**	**137.60**	**155**	T		T		22 47 43.3	
	baz=204,slow=75,SNR=68								
H10S1	**ASCENSION HYDR**	**137.62**	**155**	T		T		22 47 44.6	
	baz=204,slow=75,SNR=61								
ARCES	**ARCESS Array B**	**138.66**	**348**	PKhKP		PKPpre		20 13 02.6	
	1.6nm,0.7s,baz=31,slow=2.4,SNR=7.8								
H10N3	**ASCENSION HYDR**	**138.69**	**154**	T		T		22 49 04.7	
	baz=203,slow=75,SNR=34								
H10N1	**ASCENSION HYDR**	**138.69**	**154**	T		T		22 49 01.8	
	baz=203,slow=75,SNR=59								
H10N2	**ASCENSION HYDR**	**138.71**	**154**	T		T		22 49 06.1	
	baz=203,slow=75,SNR=52								
FIA1	**FINESS Array S**	**145.25**	**340**	*e*PKPdf		**PKPbc**		**20 13 16.6**	**-1.8**
FINES	**FINESS Array B**	**145.25**	**340**	PKPbc		**PKPbc**		**20 13 16.8**	**-1.6**
	9.7nm,0.5s,baz=85,slow=3.3,SNR=146								
NB2	**NORSAR Subarra**	**148.81**	**352**	PKP		**PKPbc**		**20 13 28.3**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=7.8,slow=3.7								
NOA	**NORSAR Array B**	**148.81**	**352**	PKPbc		**PKPdf**		**20 13 27.7**	**+3.0**
	comp=Z,1.8nm,0.5s,baz=13,slow=4.3,SNR=9.7								
AKASG	**Malin Array Be**	**151.46**	**323**	PKPbc		**PKPbc**		**20 13 34.1**	**-1.2**
	comp=Z,3.0nm,0.4s,baz=46,slow=3.1,SNR=17								
AK01	**Malin Array Si**	**151.47**	**323**	*e*PKPbc		**PKPbc**		**20 13 34.7**	**-0.6**
BRTR	**Keskin Array B**	**152.81**	**299**	PKPbc		**PKPbc**		**20 13 38.0**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=140,slow=5.5,SNR=9.5								
CLL	**Collm**	**157.66**	**342**	*e*PKPab		**PKPab**		**20 14 09.0**	**-1.0**
GERES	**GERESS Array B**	**159.65**	**338**	PKPab		**PKPab**		**20 14 18.6**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=39,slow=6.3,SNR=5.0								
TORD	**Torodi Ar. Bea**	**162.80**	**178**	PKPab		**PKPab**		**20 14 34.4**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=193,

comp=Z,34nm,21.7s,baz=78,slow=36
JOW Kunigami 17.39 18 LR LR 20 23 29.7
comp=Z,5.0nm,19.3s,baz=338,slow=38
WRA Warramunga Arr 32.38 158 P **P 20 18 26.0 -1.6**
0.4nm,0.3s,baz=332,slow=10,SNR=3.0
ASAR Alice Springs 35.68 161 P **P 20 18 56.5 +0.2**
0.6nm,0.6s,baz=342,slow=7.4,SNR=6.3
ASAR pP **PcP 20 21 24.5 0.0**
0.6nm,0.9s,baz=339,slow=2.5,SNR=2.9
SONM Songino Array 39.68 343 P **P 20 19 31.2 +1.1**
1.0nm,0.7s,baz=153,slow=8.2,SNR=6.0
YAK Yakutsk 51.90 4 LR LR 20 46 00.2
comp=Z,70nm,18.8s,baz=163,slow=39
AAK Ala-Archa 52.48 317 LR LR 20 46 46.8
comp=Z,56nm,18.4s,baz=139,slow=40
KURBB Kurchatov Arra 53.79 327 P **P 20 21 19.9 -0.3**
0.6nm,0.6s,baz=123,slow=5.1,SNR=5.1
FINES FINESS Array B 83.92 331 P **P 20 24 27.2 -0.3**
1.2nm,1.0s,baz=42,slow=4.5,SNR=4.3

NEIC 23 20:14:47.6, 52.13N×175.48E, h40km, ML3.5(AEIC), After AEIC., Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**1.04**	**306**	P	Pn	20 15 06.0	+0.4
SMY				S	Sn	20 15 20.3	+1.4
LSNW	**Little Sitkin**	**1.88**	**94**	P	Pn	20 15 18.4	+1.2
LSPA	**Little Sitkin**	**1.92**	**94**	P	Pn	20 15 18.3	+0.6
LSPA				S	Sn	20 15 44.2	+3.6
CETU	**Semis' Tuman**	**2.48**	**92**	P	Pn	20 15 26.4	+0.9
AMKA	**Amchitka**	**2.49**	**106**	P	Pn	20 15 26.1	+0.5
AMKA				S	Sn	20 15 57.2	+2.5
CESW	**Semis' Southwe**	**2.53**	**94**	P	Pn	20 15 26.7	+0.6
GANE	**Gareloi Northe**	**3.56**	**93**	P	Pn	20 15 41.8	+1.5
TAFL	**Tanaga Flats**	**4.12**	**93**	P	Pn	20 15 50.4	+2.5
KIKV	**Kanaga Island**	**4.55**	**90**	P	Pn	20 15 56.3	+2.5
ADK	**Adak**	**4.85**	**90**	P	Pn	20 15 59.0	+1.1

IDC 23 20:15:16.8±5.5, 18.04S×167.50W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/34, mbtmp4.1/3, Error ellipse: s-maj=294.8km s-min=58.9km az=148.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**43.66**	**260**	P	P	20 23 22.3	-1.4
3.1nm,0.3s,baz=105,slow=11,SNR=7.0							
ASAR	**Alice Springs**	**54.74**	**253**	P	P	20 24 47.9	-0.7
0.6nm,0.6s,baz=94,slow=7.0,SNR=9.6							
WRA	**Warramunga Arr**	**54.80**	**258**	P	P	20 24 50.5	+1.5
0.9nm,0.3s,baz=97,slow=8.3,SNR=48							
BRTR	**Keskin Array B**	**151.68**	**324**	PKPbc	PKPbc	20 35 13.2	-0.6
0.5nm,0.8s,baz=327,slow=2.4,SNR=3.7							

ISCJB 23 20:26:57.8±0.8, 37.7S±0.2×77.9E±0.2, h13km, mb4.1/6, MS4.1/10, Error ellipse: s-maj=27.9km s-min=21.1km az=174.0
IDC 23 20:26:57.4±1.0, 37.65S×77.88E, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.8/21, mbtmp4.1/6, MS4.1/10, Ms1 4.1/10, ms1mx3.6/28, Error ellipse: s-maj=36.3km s-min=26.3km az=177.0
ISC 23 20:26:59.4±1.0, 37.7S±0.2×77.9E±0.2, h13km, n23, σ0§14/6, mb4.1/6, MS4.1/10, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**29.24**	**96**	T	T	21 03 29.8	
baz=254,slow=75,SNR=899							
H01W3	**Cape Leeuwin H**	**29.25**	**96**	T	T	21 03 30.3	
baz=254,slow=75,SNR=948							
H01W1	**Cape Leeuwin H**	**29.26**	**96**	T	T	21 03 31.1	
baz=254,slow=75,SNR=758							
H08S2	**Diego Garcia H**	**30.28**	**349**	T	T	21 04 44.7	
baz=172,slow=76,SNR=280							
H08S1	**Diego Garcia H**	**30.28**	**349**	T	T	21 04 44.7	
baz=172,slow=76,SNR=335							
H08S3	**Diego Garcia H**	**30.30**	**349**	T	T	21 04 45.7	
baz=172,slow=76,SNR=266							
MAW	**Mawson**	**31.16**	**191**	LR	LR	20 43 11.6	
comp=Z,204nm,19.6s,baz=42,slow=31							
H08N1	**Diego Garcia H**	**31.80**	**347**	T	T	21 06 42.1	
baz=164,slow=74,SNR=4.2							
H08N3	**Diego Garcia H**	**31.80**	**347**	T	T	21 06 43.0	
baz=164							
H08N2	**Diego Garcia H**	**31.82**	**347**	T	T	21 06 44.1	
baz=164,slow=74,SNR=6.9							
LEM	**Lembang**	**40.88**	**49**	LR	LR	20 50 03.2	
comp=Z,305nm,19.0s,baz=208,slow=34							
BOSA	**Boshof**	**44.49**	**266**	P	**P**	**20 35 10.7**	**0.0**
3.9nm,1.0s,baz=125,slow=4.3,SNR=4.8							
BOSA				LR	LR	20 49 06.8	
comp=Z,135nm,20.7s,baz=176,slow=30							
PSI	**Prapat**	**44.74**	**31**	LR	LR	20 51 33.8	
comp=Z,309nm,18.4s,baz=198,slow=33							
ASAR	**Alice Springs**	**49.49**	**90**	P	**P**	**20 35 49.8**	**+0.1**
2.9nm,1.0s,baz=232,slow=7.0,SNR=13							
ASAR				LR	LR	20 53 10.1	
comp=Z,123nm,20.9s,baz=286,slow=32							
WRA	**Warramunga Arr**	**51.77**	**87**	P	**P**	**20 36 06.9**	**0.0**
3.5nm,0.8s,baz=237,slow=7.4,SNR=11							
STKA	**Stephens Creek**	**51.77**	**104**	LR	LR	20 54 04.6	
comp=Z,140nm,19.9s,baz=220,slow=31							
VNDA	**Vanda**	**52.27**	**164**	LR	LR	20 56 41.9	
comp=Z,178nm,18.3s,baz=240,slow=34							
QSPA	**South Pole Qui**	**52.49**	**180**	P	**P**	**20 36 11.8**	**0.0**
1.3nm,0.8s,baz=300,slow=6.3,SNR=3.9							
CTA	**Charters Tower**	**61.14**	**94**	LR	LR	21 00 40.1	
comp=Z,448nm,22.0s,baz=207,slow=33							
TORD	**Torodi Ar. Bea**	**87.30**	**289**	LR	LR	21 16 29.2	
comp=Z,150nm,19.9s,baz=110,slow=34							
KURBB	**Kurchatov Arra**	**87.91**	**0**	P	**P**	**20 39 48.3**	**+0.1**
0.5nm,0.7s,baz=180,slow=5.1,SNR=5.0							
DBIC	**Dimbokro**	**88.31**	**280**	LR	LR	21 14 15.6	
comp=Z,68nm,21.7s,baz=126,slow=32							
ZALV	**Zalesovo Beam**	**91.44**	**4**	P	**P**	**20 40 04.4**	**-0.2**
0.5nm,0.6s,baz=165,slow=6.0,SNR=2.5							

ISCJB 23 20:34:03.2±0.5, 12.74N±0.08×143.36E±0.07, h100km, mb4.0/14, Error ellipse: s-maj=11.5km s-min=9.6km az=142.3
IDC 23 20:34:03.0±0.7, 12.76N×143.30E, h82km±6km, mb3.7/13, mb1 3.9/13, mb1mx3.7/37, mbtmp4.1/13, MS2.7/2, Ms1 2.7/2, ms1mx2.5/28, Error ellipse: s-maj=12.0km s-min=7.6km az=144.0
ISC 23 20:34:04.2±0.6, 12.74N±0.09×143.34E±0.09, h100km, n24, σ1§76/23, mb4.0/14, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.72**	**60**	P	**Pn**	**20 34 32.3**	**-0.8**
188nm,0.3s,baz=234,slow=2.4,SNR=110							
GUMO				S	**Sn**	**20 34 53.4**	**-1.7**
472nm,0.3s,baz=217,slow=24,SNR=16							
GUMO				LR	LR	20 35 10.6	
comp=Z,222nm,20.2s,baz=247,slow=39							
JOW	**Kunigami**	**19.91**	**317**	P	**Pn**	**20 38 29.6**	**-1.0**
0.2nm,0.3s,baz=125,slow=15,SNR=5.9							
H11S3	**WAKE ISLAND Hy**	**23.19**	**73**	T	T	21 02 58.7	
baz=256,SNR=6.0							
H11S1	**WAKE ISLAND Hy**	**23.21**	**73**	T	T	21 03 01.8	
baz=256							
H11S2	**WAKE ISLAND Hy**	**23.21**	**73**	T	T	21 03 00.3	
baz=256,SNR=4.1							
JNU	**Nakatsue**	**23.27**	**333**	P	**P**	**20 39 04.5**	**+1.4**
5.1nm,0.9s,baz=136,slow=12,SNR=3.5							
H11N1	**WAKE ISLAND Hy**	**23.64**	**70**	T	T	21 04 09.3	
baz=252,slow=75,SNR=2.7							
H11N2	**WAKE ISLAND Hy**	**23.65**	**70**	T	T	21 04 10.1	
baz=252							
H11N3	**WAKE ISLAND Hy**	**23.66**	**70**	T	T	21 04 13.2	
baz=252,slow=75,SNR=3.0							
MJAR	**Matsushiro Arr**	**24.15**	**350**	P	**P**	**20 39 11.5**	**+0.5**
0.9nm,0.6s,baz=163,slow=8.7,SNR=3.0							
MJAR				LR	LR	20 48 32.2	
comp=Z,255nm,19.7s,baz=255,slow=36							
KSRS	**Korea Array**	**28.21**	**333**	LR	LR	20 49 40.0	
comp=Z,11nm,18.8s,baz=220,slow=33							
WRA	**Warramunga Arr**	**33.66**	**195**	P	**P**	**20 40 36.2**	**+0.5**
2.1nm,0.6s,baz=18,slow=9.5,SNR=30							
WRA				pP	**pP**	**20 40 53.6**	**-4.7**
1.3nm,0.8s,baz=19,slow=9.5,SNR=3.0							

ASAR Alice Springs 37.34 194 P **P 20 41 07.4 +0.3**
0.6nm,0.4s,baz=11,slow=11,SNR=23
ASAR pP **pP 20 41 27.2 -2.8**
0.5nm,0.6s,baz=19,slow=12,SNR=2.5
DZM Mont Dzumac 41.35 147 P **P 20 41 43.0 +2.3**
16nm,0.4s,baz=269,slow=24,SNR=27
CMAR Chiang Mai Arr 43.05 283 P **P 20 41 55.7 +1.2**
1.3nm,0.6s,baz=75,slow=7.2,SNR=8.5
CMAR pP **pP 20 42 14.7 -3.1**
1.5nm,1.0s,baz=81,slow=5.6,SNR=2.9
CMAR PcP **PcP 20 43 44.0 +1.0**
0.5nm,0.5s,baz=98,slow=1.9,SNR=6.7
STKA Stephens Creek 44.39 182 P **P 20 42 05.0 +0.1**
3.0nm,0.8s,baz=34,slow=7.3,SNR=3.8
SONM Songino Array 46.59 326 P **P 20 42 23.3 +1.1**
1.0nm,0.6s,baz=150,slow=7.4,SNR=7.0
ZALV Zalesovo Beam 61.45 325 P **P 20 44 09.9 -0.1**
1.6nm,0.4s,baz=121,slow=7.3,SNR=7.9
KURBB Kurchatov Arra 64.32 320 P **P 20 44 29.3 +0.3**
4.5nm,0.7s,baz=105,slow=6.9,SNR=26
KURBB sP sP 20 44 56.0 -9.0
2.2nm,0.7s,baz=106,slow=7.1,SNR=3.1
ILAR Eielson Array 69.97 25 P **P 20 45 03.8 -0.8**
1.0nm,0.5s,baz=249,slow=6.0,SNR=12
ILAR pP **PcP 20 45 26.6 +0.3**
0.4nm,0.7s,baz=245,slow=5.0,SNR=2.3
YKA Yellowknife Ar 84.30 27 P **P 20 46 25.5 +0.7**
0.3nm,0.4s,baz=283,slow=5.1,SNR=2.3
NVAR Mina Array Bea 88.61 51 P **P 20 46 48.0 +1.3**
1.1nm,0.7s,baz=268,slow=5.8,SNR=6.6
FINES FINESS Array B 91.30 335 P **P 20 46 57.1 -1.2**
0.6nm,0.7s,baz=48,slow=2.8,SNR=4.8
LPAZ La Paz 149.35 100 PKPbc **PKPbc 20 53 44.6 +1.4**
0.5nm,0.4s,baz=0.0,slow=0.0,SNR=3.4

MAN 23 20:35:30, 18.09N×118.93E, h11km, mb5.5, ML4.5, MS4.8
ISCJB 23 20:35:38.3±0.6, 17.81N±0.06×119.38E±0.06, h31km, mb3.7/6, Error ellipse: s-maj=8.7km s-min=7.9km az=4.0
IDC 23 20:35:39.2±0.8, 17.73N×119.56E, h25km±5km, mb3.6/7, mb1 3.7/8, mb1mx3.5/39, mbtmp3.7/8, ML3.3/1, Error ellipse: s-maj=32.8km s-min=13.6km az=69.0
ISC 23 20:35:39.6±0.7, 17.79N±0.05×119.39E±0.06, h31km, n17, σ1§46/25, mb3.6/6, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**1.03**	**82**	*e*P	**Pn**	**20 35 56.0**	**-1.9**
ABRA	**Dolores**	**1.27**	**96**	*e*P	**Pn**	**20 36 00.4**	**-0.8**
PIP	**Pasuquin**	**1.29**	**65**	*i*P	**Pn**	**20 35 60.0**	**-1.5**
PIP				*e*S	**Sn**	**20 36 16.7**	**-1.0**
BOLP	**Bolinao**	**1.48**	**160**	*e*P	**Pn**	**20 36 03.1**	**-1.1**
APYP	**Conner**	**1.77**	**87**	*e*P	**Pn**	**20 36 07.3**	**-0.7**
APYP				*e*S	**Sb**	**20 36 35.5**	**+2.4**
BCPH	**Baguio City Da**	**1.80**	**141**	*i*P	**Sn**	**20 36 29.0**	**-1.7**
SCZP	**Santa Cruz**	**2.06**	**166**	*e*P	**Pn**	**20 36 12.0**	**-0.2**
CAUP	**Cauayan**	**2.47**	**109**	*e*P	**Pn**	**20 36 20.2**	**+2.4**
BALP	**Baler**	**2.92**	**134**	*e*P	**Pn**	**20 36 25.4**	**+1.5**
BALP				*e*S	**Sb**	**20 37 07.7**	**+1.4**
CMAR	**Chiang Mai Arr**	**19.45**	**275**	P	**Pn**	**20 40 05.2**	**+0.1**
0.0nm,0.3s,baz=89,slow=9.1,SNR=6.2							
KSRS	**Korea Array**	**20.98**	**19**	P	**P**	**20 40 20.0**	**-0.3**
1.7nm,0.9s,baz=198,slow=9.8,SNR=8.5							
SONM	**Songino Array**	**31.80**	**343**	P	**P**	**20 42 02.6**	**+1.1**
0.7nm,0.7s,baz=158,slow=9.3,SNR=3.5							
SONM				pP	**pP**	**20 42 10.2**	**-0.3**
0.3nm,0.3s,baz=163,slow=12,SNR=2.7							
WRA	**Warramunga Arr**	**40.26**	**158**	P	**P**	**20 43 12.7**	**-1.2**
1.4nm,1.0s,baz=338,slow=8.5,SNR=4.7							
WRA				pP	**pP**	**20 43 20.2**	**-2.9**
0.4nm,0.4s,baz=328,slow=10,SNR=3.3							
WRA				PcP	**PcP**	**20 45 18.0**	**+0.6**
0.4nm,0.8s,baz=340,slow=3.5,SNR=3.2							
ASAR	**Alice Springs**	**43.57**	**161**	P	**P**	**20 43 40.8**	**-0.2**
1.0nm,0.6s,baz=340,slow=6.9,SNR=13							
ASAR				pP	**pP**	**20 43 48.2**	**-2.0**
1.2nm,0.5s,baz=338,slow=6.7,SNR=6.4							
ZALV	**Zalesovo Beam**	**44.88**	**332**	P	**P**	**20 43 52.1**	**+1.1**
0.5nm,0.6s,baz=101,slow=4.6,SNR=2.8							
KURBB	**Kurchatov Arra**	**46.13**	**325**	P	**P**	**20 44 02.5**	**+1.6**
4.6nm,0.8s,baz=122,slow=8.2,SNR=44							
KURBB				pP	**pP**	**20 44 10.4**	**+0.1**
0.9nm,0.7s,baz=122,slow=8.0,SNR=3.2							
ILAR	**Eielson Array**	**75.65**	**26**	P	**P**	**20 47 21.7**	**+0.2**
0.2nm,0.7s,baz=298,slow=4.0,SNR=3.2							

ISCJB 23 20:36:13.4±0.5, 17.74N±0.09×119.45E±0.1, h32km, mb3.7/12, MS3.3/2, Error ellipse: s-maj=19.4km s-min=8.3km az=144.2
IDC 23 20:36:14.3±0.8, 17.70N×119.45E, h26km±4km, mb3.7/12, mb1 3.8/13, mb1mx3.7/38, mbtmp3.8/13, ML3.5/1, MS3.3/3, Ms1 3.4/3, ms1mx2.8/33, Error ellipse: s-maj=26.9km s-min=13.9km az=69.0
ISC 23 20:36:14.5±0.6, 17.7N±0.1×119.5E±0.1, h32km, n16, σ0§90/21, mb3.7/12, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCPH	**Baguio City Da**	**1.68**	**140**	*i* S	**Sb**	**20 37 05.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**19.52**	**275**	P	**Pn**	**20 40 40.5**	**-0.2**
0.1nm,0.3s,baz=92,slow=8.8,SNR=6.1							
CMAR				LR	LR	20 47 48.7	
comp=Z,42nm,18.5s,baz=195,slow=36							
KSRS	**Korea Array**	**21.07**	**19**	P	**P**	**20 40 55.7**	**-0.2**
1.1nm,0.5s,baz=202,slow=10,SNR=2.8							
KSRS				pP	**pP**	**20 41 03.8**	**-0.7**
3.2nm,1.0s,baz=202,slow=11,SNR=2.8							
GUMO	**Guam**	**24.80**	**96**	LR	LR	20 50 22.1	
comp=Z,41nm,18.2s,baz=230,slow=34							
SONM	**Songino Array**	**31.93**	**343**	P	**P**	**20 42 37.6**	**+0.3**
0.5nm,0.5s,baz=161,slow=10,SNR=2.5							
ASAJ	**Asahikawa**	**32.78**	**32**	LR	LR	20 57 44.3	
comp=Z,142nm,18.5s,baz=160,slow=39							
WRA	**Warramunga Arr**	**40.14**	**158**	P	**P**	**20 43 47.4**	**-0.2**
1.3nm,0.9s,baz=339,slow=8.8,SNR=5.4							
WRA				PcP	**PcP**	**20 45 53.1**	**+1.3**
1.6nm,1.2s,baz=345,slow=3.3,SNR=3.9							
WRA				pPcP		20 46 00.9	
0.5nm,0.8s,baz=345,slow=3.4,SNR=3.0							
ASAR	**Alice Springs**	**43.44**	**161**	P	**P**	**20 44 15.2**	**+0.6**
1.4nm,0.6s,baz=339,slow=6.6,SNR=6.9							
ASAR				pP	**pP**	**20 44 23.5**	**-0.7**
1.5nm,0.7s,baz=340,slow=6.8,SNR=4.5							
ASAR				PcP	**PcP**	**20 46 04.1**	**+1.5**
0.2nm,0.6s,baz=345,slow=3.3,SNR=3.4							
ZALV	**Zalesovo Beam**	**45.00**	**332**	P	**P**	**20 44 26.9**	**+0.2**
0.5nm,0.6s,baz=152,slow=6.7,SNR=3.5							
ZALV				pP	**pP**	**20 44 35.7**	**-0.7**
0.7nm,0.5s,baz=136,slow=9.3,SNR=1.9							
KURBB	**Kurchatov Arra**	**46.25**	**325**	P	**P**	**20 44 37.8**	**+1.0**
6.5nm,0.8s,baz=121,slow=8.2,SNR=15							
KURBB				pP	**pP**	**20 44 45.5**	**-0.8**
3.1nm,0.9s,baz=122,slow=7.8,SNR=3.5							
ILAR	**Eielson Array**	**75.73**	**26**	P	**P**	**20 47 57.2**	**+0.6**
0.2nm,0.6s,baz=262,slow=4.8,SNR=3.4							
BRTR	**Keskin Array B**	**75.77**	**307**	P	**P**	**20 47 57.2**	**-0.4**
0.7nm,0.9s,baz=38,slow=7.3,SNR=3.0							
FINES	**FINESS Array B**	**76.25**	**330**	P	**P**	**20 47 59.5**	**-0.2**
0.6nm,0.6s,baz=72,slow=4.5,SNR=2.8							
NOA	**NORSAR Array B**	**83.20**	**332**	P	**P**	**20 48 38.3**	**+0.8**
0.8nm,0.9s,baz=65,slow=4.8,SNR=2.9							
GERES	**GERESS Array B**	**86.82**	**320**	P	**P**	**20 48 56.1**	**+0.2**
0.3nm,0.6s,baz=359,slow=4.9,SNR=4.0							
GERES				pP	**pP**	**20 49 03.8**	**-2.3**
0.5nm,0.8s,baz=39,slow=6.3,SNR=1.9							
YKA	**Yellowknife Ar**	**89.58**	**22**	P	**P**	**20 49 08.9**	**+0.2**
0.9nm,0.7s,baz=322,slow=4.9,SNR=3.1							

IDC 23 20:48:54.5±4.2, 1.18S×126.96E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.6/30, mbtmp3.9/5, ML3.9/2, Error ellipse: s-maj=69.8km s-min=28.0km az=162.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.31**	**86**	Pn	Pn	20 50 01.6	+0.1
3.2nm,0.3s,baz=296,slow=13,SNR=11							
SIJI				Sn	Sn	20 50 54.0	+1.5
0.8nm,0.3s,baz=169,slow=22,SNR=2.0							
KAPI	**Kappang**	**8.15**	**242**	Pn	Pn	20 50 54.3	+0.2
4.0nm,0.3s,baz=34,slow=5.6,SNR=23							
KAPI				Sn	Sn	20 52 22.0	-5.0
1.4nm,0.3s,baz=169,slow=18,SNR=1.5							
WRA	**Warramunga Arr**	**20.00**	**159**	P	Pn	20 53 29.8	-0.7
1.0nm,0.5s,baz=338,slow=11,SNR=15							
ASAR	**Alice Springs**	**23.35**	**164**	P	P	20 54 05.1	+0.4
0.9nm,0.5s,baz=343,slow=12,SNR=12							
STKA	**Stephens Creek**	**33.52**	**157**	P	P	20 55 34.8	-1.1
0.9nm,0.3s,baz=328,slow=6.0,SNR=8.3							

MAN 23 20:55:06, 18.13N×118.42E, h15km, mb5.5, ML4.5, MS4.8
ISCJB 23 20:55:19.5±0.5, 17.75N±0.06×119.36E±0.06, h32km, mb3.7/9, MS2.6/1, Error ellipse: s-maj=9.3km s-min=6.6km az=40.4
IDC 23 20:55:24.4±6.4, 17.75N×119.53E, h65km±61km, mb3.4/8, mb1 3.6/9, mb1mx3.4/37, mbtmp3.7/9, ML3.3/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/18, Error ellipse: s-maj=31.8km s-min=16.9km az=73.0
ISC 23 20:55:20.9±0.7, 17.70N±0.07×119.38E±0.08, h32km, n18, σ1§17/19, mb3.8/9, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**1.05**	**78**	*e*P	**Pn**	**20 55 39.0**	**-0.3**
SIPP				*i* S	**Sn**	**20 55 51.1**	**-1.8**
ABRA	**Dolores**	**1.27**	**92**	*e*P	**Pn**	**20 55 41.8**	**-0.5**
BOLP	**Bolinao**	**1.41**	**159**	*e*P	**Pn**	**20 55 43.9**	**-0.3**
BOLP				*e*S	Sb	20 56 11.6	+7.5
BCPH	**Baguio City Da**	**1.74**	**139**	*i*P	**Pn**	**20 55 48.0**	**-1.1**
BCPH				*i* S	**Sn**	**20 56 11.6**	**+1.3**
APYP	**Conner**	**1.78**	**85**	*e*P	**Pn**	**20 55 49.8**	**+0.4**
APYP				*e*S	Sb	20 56 23.2	+8.4
SCZP	**Santa Cruz**	**1.98**	**165**	*e*P	**Pn**	**20 55 49.8**	**-2.3**
BALP	**Baler**	**2.87**	**133**	*e*P	**Pn**	**20 56 06.7**	**+2.4**
CMAR	**Chiang Mai Arr**	**19.45**	**275**	P	**Pn**	**20 59 47.5**	**+1.2**
0.0nm,0.3s,baz=75,slow=10,SNR=2.9							
KSRS	**Korea Array**	**21.06**	**19**	P	**P**	**21 00 01.6**	**-0.7**
3.3nm,0.8s,baz=199,slow=12,SNR=16							
GUMO	**Guam**	**24.87**	**96**	LR	LR	21 09 27.6	
comp=Z,21nm,20.3s,baz=265,slow=34							
SONM	**Songino Array**	**31.88**	**343**	P	**P**	**21 01 43.6**	**+0.4**
1.1nm,0.7s,baz=160,slow=8.0,SNR=5.3							
WRA	**Warramunga Arr**	**40.19**	**158**	P	**P**	**21 02 53.9**	**-0.6**
1.0nm,0.9s,baz=342,slow=8.9,SNR=5.3							
ASAR	**Alice Springs**	**43.49**	**160**	P	**P**	**21 03 21.8**	**+0.4**
0.9nm,0.5s,baz=337,slow=7.0,SNR=26							
ZALV	**Zalesovo Beam**	**44.95**	**332**	P	**P**	**21 03 33.0**	**+0.3**
0.2nm,0.4s,baz=144,slow=5.5,SNR=3.8							
ILAR	**Eielson Array**	**75.73**	**26**	P	**P**	**21 07 02.6**	**-0.5**
0.2nm,0.5s,baz=274,slow=4.3,SNR=3.6							
FINES	**FINESS Array B**	**76.20**	**330**	P	**P**	**21 07 05.6**	**-0.2**
0.6nm,0.6s,baz=79,slow=4.1,SNR=4.6							
NOA	**NORSAR Array B**	**83.15**	**332**	P	**P**	**21 07 42.8**	**-0.8**
0.6nm,0.7s,baz=66,slow=5.2,SNR=3.1							
BRG	**Berggiesshubel**	**85.81**	**322**	*e*P	**P**	**21 07 57.9**	**+0.7**
3.8nm,1.0s							

ISCJB 23 21:03:36.6±0.6, 43.30N±0.04×46.04E±0.04, h3km±6km, mb3.4/1, Error ellipse: s-maj=7.8km s-min=3.5km az=25.5
MOS 23 21:03:36.8±0.7, 43.28N×46.07E, h9km, mb3.9/1, Error ellipse: s-maj=10.8km s-min=7.7km az=29.2
CSEM 23 21:03:36.1, 43.28N×46.07E, h9km, mb3.9
ISC 23 21:03:37.4±1.3, 43.17N±0.05×45.99E±0.03, h2km±10km, n33, σ0§94/56, 3C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.53**	**162**	*e*PG	**Pb**	**21 03 49.0**	**-0.5**
BTLR				*e*S	**Sb**	**21 03 58.0**	**+0.4**
BTLR				pmax	pmax		
comp=Z,53nm,0.2s							
BTLR	**Botlikh**	**0.53**	**162**	*e*Pg	**Pb**	**21 03 49.0**	**-0.5**
comp=Z,53nm,0.2s							
BTLR				*e*Sg	**Sb**	**21 03 58.0**	**+0.4**
UNCR	**Uncukul**	**0.74**	**127**	PG	**Pg**	**21 03 51.5**	**-0.2**
UNCR				*e*S	**Sn**	**21 04 08.0**	**+1.2**
UNCR	**Uncukul**	**0.74**	**127**	Pg	**Pg**	**21 03 51.5**	**-0.2**
UNCR				*e*Sg	**Sn**	**21 04 08.0**	**+1.2**
KRNR	**Karanay**	**0.75**	**117**	*e*PG	**Pb**	**21 03 53.0**	**-0.3**
KRNR				*e*S	**Sb**	**21 04 04.2**	**+0.2**
KRNR	**Karanay**	**0.75**	**117**	*e*Pg	**Pb**	**21 03 53.0**	**-0.3**
KRNR				*e*Sg	**Sb**	**21 04 04.2**	**+0.2**
XNZR	**Khunzakh**	**0.82**	**140**	*e*PG	**Pn**	**21 03 55.0**	**-1.1**
XNZR				*i* S	**Sn**	**21 04 09.0**	**+0.2**
XNZR	**Khunzakh**	**0.82**	**140**	*e*Pg	**Pn**	**21 03 55.0**	**-1.1**
XNZR				*i* Sg	**Sn**	**21 04 09.0**	**+0.2**
VLKR	**Vladikavkaz**	**0.97**	**263**	*e*PG	**Pg**	**21 03 56.2**	**+0.2**
VLKR				*e*S	**Sb**	**21 04 10.4**	**+0.1**
VLKR	**Vladikavkaz**	**0.97**	**263**	*e*Pg	**Pg**	**21 03 56.2**	**+0.2**
VLKR				*e*Sg	**Sb**	**21 04 10.4**	**+0.1**
TRKR	**Terskaya**	**1.07**	**302**	*i*PG	**Pb**	**21 03 58.4**	**-0.3**
TRKR				*e*S	**Sn**	**21 04 14.3**	**-0.6**
TRKR	**Terskaya**	**1.07**	**302**	*i* Pg	**Pb**	**21 03 58.4**	**-0.3**
TRKR				*e*Sg	**Sn**	**21 04 14.3**	**-0.6**
BTKR	**Batakoyurt**	**1.08**	**281**	*i*PG	**Pg**	**21 03 57.8**	**-0.3**
BTKR				*e*S	**Sb**	**21 04 13.6**	**+0.2**
BTKR	**Batakoyurt**	**1.08**	**281**	*i* Pg	**Pg**	**21 03 57.8**	**-0.3**
BTKR				*e

IXG	**Ixpaco**	**0.69**	**51**	*i*	P		**Pn**	**21 35 33.9**	**-0.6**
IXG					eS		**Sn**	**21 35 47.6**	**+2.4**
FUG	**Fuego 3**	**0.72**	**13⇑**	*i*	P		**Pn**	**21 35 35.2**	**+0.3**
PCG	**Pacaya**	**0.75**	**31⇓**	*e*	P		**Pn**	**21 35 36.0**	**+0.6**
PCG					eS		**Sn**	**21 35 48.4**	**+1.7**
JAT	**Jato**	**0.84**	**313**	*i*	P		**Pn**	**21 35 36.1**	**+0.1**
NBG	**Las Nubes**	**1.06**	**37⇑**	*e*	P		**Pn**	**21 35 41.0**	**+1.9**
NBG					eS		**Sn**	**21 35 56.2**	**+2.8**
RTR	**El Retiro**	**1.33**	**83**	*e*	P		**Pn**	**21 35 43.3**	**+0.7**
RBDL	**Robledal**	**1.33**	**74**	*i*	P		**Pn**	**21 35 43.6**	**+1.0**
SBLS	**San Blas**	**1.35**	**86**	*e*	P		**Pn**	**21 35 43.3**	**+0.4**
SNJE	**San Jose**	**1.37**	**85**	*e*	P		**Pn**	**21 35 43.7**	**+0.6**
BOQS	**Boqueron**	**1.68**	**90**	*e*	P		**Pn**	**21 35 47.9**	**+0.7**
BOQS					eS		**Sn**	**21 36 08.8**	**+0.9**
SNET	**Serv Nac Est T**	**1.73**	**92**	*e*	P		**Pn**	**21 35 48.2**	**+0.5**
SNET					eS		**Sn**	**21 36 10.0**	**+1.0**
SNET					AML		AML	21 36 12.3	
	comp=Z,7μm,0.3s								
SNET	**Serv Nac Est T**	**1.73**	**92**	*e*	Pn		**Pn**	**21 35 48.4**	**+0.7**
SNET					eSn		**Sn**	**21 36 08.8**	**-0.1**
MRL	**Marmol**	**1.83**	**44⇓**	*e*	P		**Pn**	**21 35 51.4**	**+2.2**
MRL					eS		Sn	21 36 18.6	+7.0
LFU	**La Fuente**	**1.84**	**90**	*e*	P		**Pn**	**21 35 50.3**	**+1.0**
LFRS	**El Faro**	**1.90**	**93**	*e*	P		**Pn**	**21 35 50.9**	**+0.8**
LBRS	**Las Brisas**	**1.91**	**90**	*e*	P		**Pn**	**21 35 51.3**	**+1.1**
SNVI	**San Vicente**	**2.11**	**93**	*e*	P		**Pn**	**21 35 54.4**	**+1.4**
SNVI					eS		**Sn**	**21 36 20.6**	**+2.2**
CAHU	**Cacacuatique**	**2.72**	**89**	*e*	P		**Pn**	**21 36 02.0**	**+0.8**
CNCH	**Conchagua**	**3.12**	**98**	*e*	P		**Pn**	**21 36 07.4**	**+0.7**
COPN	**Copaltepe**	**4.58**	**109**	*e*	P		**Pn**	**21 36 27.3**	**+0.8**
HUEN		**4.92**	**106**	*e*	P		**Pn**	**21 36 31.3**	**+0.2**
CMIG	**Matias Romero**	**5.00**	**312**		P		**Pn**	**21 36 32.6**	**+0.2**
	comp=Z,8.7nm,0.3s,baz=131,slow=12,SNR=41								
CMIG					S		**Sn**	**21 37 27.4**	**-1.5**
	comp=Z,30nm,0.3s,baz=334,slow=14,SNR=4.5								
VCR	**Vista de Mar**	**6.37**	**124⇑**	*e*	P		**Pn**	**21 36 52.6**	**+1.3**
JTS	**JuntasAbangare**	**6.84**	**119**		P		**Pn**	**21 36 59.4**	**+1.7**
	comp=Z,6.5nm,0.3s,baz=270,slow=7.8,SNR=17								
JTS					S		**Sn**	**21 38 08.3**	**-5.9**
	comp=Z,0.5nm,0.3s,baz=306,slow=17,SNR=1.7								
JTS	**JuntasAbangare**	**6.84**	**119**	*e*	Pn		**Pn**	**21 36 59.4**	**+1.7**
JTS					eSn		Sn	21 38 07.6	-6.6
JCR	**Jicaral**	**6.95**	**123⇑**	*e*	P		**Pn**	**21 37 00.9**	**+1.9**
TEIG	**Tepich**	**6.96**	**22**		P		**Pn**	**21 37 00.5**	**+1.4**
	comp=Z,12nm,0.3s,baz=142,slow=0.2,SNR=51								
TEIG					S		**Sn**	**21 38 13.5**	**-3.3**
	baz=41,slow=20,SNR=1.9								
QCR	**Quepos**	**7.96**	**122**	*e*	P		**Pn**	**21 37 13.6**	**+0.7**
URSC	**Urasca**	**8.07**	**118⇓**	*e*	P		**Pn**	**21 37 16.7**	**+2.1**
URSC					eS		**Sn**	**21 38 50.1**	**+5.6**
BUS	**Buena Vista**	**8.23**	**120⇓**	*e*	P		**Pn**	**21 37 19.6**	**+2.7**
BUS					eS		**Sn**	**21 38 45.5**	**-3.3**
MTDJ	**Mount Denham**	**13.70**	**69**	*e*	Pn		**P**	**21 38 38.0**	**+0.3**
834A	**Tilden**	**15.94**	**335**		P		**P**	**21 39 02.2**	**-0.3**
	baz=16								
735A	**Kenedy**	**16.31**	**338**		P		**P**	**21 39 06.2**	**-0.3**
	baz=16								
632A	**Uvalde**	**17.67**	**334**		P		**P**	**21 39 22.8**	**+1.2**
	baz=18								
631A	**Perdido Creek**	**17.94**	**332**		P		**Pn**	**21 39 25.4**	**+0.6**
	baz=18								
532A	**Rocksprings**	**18.26**	**335**		P		**Pn**	**21 39 29.5**	**+0.7**
	baz=18,SNR=8.0								
336A	**Riesel**	**18.36**	**344**		P		**P**	**21 39 29.3**	**+0.1**
	baz=18								
433A	**Art**	**18.50**	**338**		P		**Pn**	**21 39 31.6**	**+0.1**
	baz=19,SNR=7.4								
JCT	**Junction City**	**18.53**	**335**		P		**Pn**	**21 39 32.5**	**+0.6**
	baz=19								
JCT	**Junction City**	**18.53**	**335**	*e*	P		**Pn**	**21 39 32.2**	**+0.3**
	comp=Z,8.3nm,0.9s								
531A	**Rocksprings**	**18.57**	**333**		P		**Pn**	**21 39 32.1**	**-0.3**
	baz=19,SNR=8.0								
ROSC	**El Rosal**	**18.66**	**117**		P		**Pn**	**21 39 36.2**	**+2.2**
	comp=Z,1.7nm,0.3s,baz=303,slow=6.8,SNR=8.7								
ROSC	**El Rosal**	**18.66**	**117**	*e*	P		**Pn**	**21 39 37.8**	**+3.8**
334A	**Lometa**	**18.73**	**340**		P		**Pn**	**21 39 34.6**	**+0.4**
	baz=19								
432A	**Menard**	**18.87**	**336**		P		**P**	**21 39 35.4**	**+0.5**
	baz=19								
333A	**Richland Sprin**	**18.97**	**339**		P		**P**	**21 39 36.4**	**+0.5**
	baz=19,SNR=12								
431A	**Sonora**	**19.04**	**334**		P		**Pn**	**21 39 37.7**	**-0.4**
	baz=19,SNR=12								
WHTX	**Lake Whitney,**	**19.10**	**343**		P		**Pn**	**21 39 38.2**	**-0.5**
	baz=19								
332A	**Millersview**	**19.30**	**337**		P		**Pn**	**21 39 41.1**	**-0.1**
	baz=19								
529A	**Stev Forest Ra**	**19.31**	**329**		P		**Pn**	**21 39 41.1**	**-0.2**
	baz=19								
234A	**Clairette**	**19.32**	**341**		P		**Pn**	**21 39 41.5**	**+0.2**
	baz=19								
430A	**Baggett Ranch,**	**19.40**	**333**		P		**Pn**	**21 39 42.0**	**-0.4**
	baz=20,SNR=9.4								
LTX	**Lajitas**	**19.45**	**325**	*e*	P		**Pn**	**21 39 43.2**	**+0.2**
TXAR	**Lajitas Array**	**19.45**	**325**		P		**Pn**	**21 39 43.2**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=148,slow=12,SNR=81								
TX31	**Lajitas Ar. Si**	**19.45**	**325**	*e*	P		**Pn**	**21 39 42.8**	**-0.2**
331A	**San Angelo**	**19.51**	**335**		P		**P**	**21 39 42.5**	**+0.7**
	baz=20,SNR=9.5								
LRAL	**Lakeview Retre**	**19.55**	**10**	*e*	P		**Pn**	**21 39 47.3**	**+3.3**
	comp=Z,9.6nm,0.9s								
429A	**Davenport Ranc**	**19.57**	**331**		P		**Pn**	**21 39 44.0**	**-0.4**
	baz=20,SNR=13								
233A	**Rising Star**	**19.57**	**340**		P		**Pn**	**21 39 43.7**	**-0.7**
	baz=20								
232A	**Coleman**	**19.72**	**338**		P		**P**	**21 39 43.9**	**-0.2**
	baz=20,SNR=6.5								
330A	**Mertzon**	**19.91**	**334**		P		**P**	**21 39 46.2**	**0.0**
	baz=20,SNR=7.6								
231A	**Bronte**	**20.02**	**336**		P		**P**	**21 39 48.2**	**+0.9**
	baz=20								
133A	**Hamilton Ranch**	**20.12**	**340**		P		**P**	**21 39 48.6**	**+0.2**
	baz=20								
230A	**Sterling City**	**20.30**	**335**		P		**P**	**21 39 50.8**	**+0.5**
	baz=20								
329A	**Wagon Wheel Ra**	**20.33**	**332**		P		Pn	21 39 52.1	-1.3
	baz=20								
ABTX	**Abilene, Hawle**	**20.38**	**339**		P		**P**	**21 39 51.3**	**0.0**
	baz=20								
ABTX	**Abilene, Hawle**	**20.38**	**339**	*e*	P		**P**	**21 39 50.8**	**-0.4**
	comp=Z,18nm,1.0s								
SDV	**Santo Domingo**	**20.55**	**101**	*e*	P		**P**	**21 39 51.6**	**-1.8**
	comp=Z,7.6nm,0.7s								
229A	**Bryant Ranch,**	**20.66**	**333**		P		Pn	21 39 56.0	-1.3
	baz=21								
Z33A	**Whitaker Ranch**	**20.70**	**341**		P		**P**	**21 39 55.2**	**+0.6**
	baz=21								
GOGA	**Godfrey**	**20.75**	**18**	*e*	P		**P**	**21 39 56.6**	**+1.4**
	comp=Z,13nm,1.1s								
MIAR	**Mount Ida**	**20.84**	**354**		P		**P**	**21 39 55.2**	**-1.0**
	baz=21								
MIAR	**Mount Ida**	**20.84**	**354**	*e*	P		**P**	**21 39 56.1**	**0.0**
	comp=Z,9.5nm,0.8s								
LPIG	**La Paz**	**20.94**	**302**		LR		LR	21 49 05.9	
	comp=Z,71nm,20.4s,baz=72,slow=39								
Z32A	**Haskell**	**20.95**	**340**		P		**P**	**21 39 56.8**	**-0.5**
	baz=21,SNR=7.3								
UALR	**University of**	**20.98**	**357**	*e*	P		**P**	**21 39 58.9**	**+1.4**
	comp=Z,20nm,0.6s								
228A	**UT Block 9, Go**	**21.14**	**332**		P		**P**	**21 39 59.9**	**+0.4**
	baz=21								
Z31A	**Sharp Cattle R**	**21.19**	**338**		P		**P**	**21 39 58.9**	**-1.0**
	baz=21,SNR=9.9								
129A	**Stewart Farms,**	**21.26**	**334**		P		**P**	**21 40 00.9**	**+0.2**
	baz=21								
128A	**Castleberry Fa**	**21.52**	**333**		P		**P**	**21 40 03.8**	**+0.3**
	baz=22,SNR=6.0								
Z30A	**Sanderson Ranc**	**21.53**	**336**		P		**P**	**21 40 03.2**	**-0.4**
	baz=22								
Y32A	**R-V Farms, Ver**	**21.57**	**341**		P		**P**	**21 40 04.3**	**+0.2**
	baz=22								
W37A	**Quinton**	**21.67**	**350**		P		**P**	**21 40 03.3**	**-1.8**
	baz=22								
Z29A	**Hungry Hill Ra**	**21.73**	**335**		P		**P**	**21 40 05.1**	**-0.7**
	baz=22								
Y31A	**Rekieta Farm,**	**21.81**	**339**		P		**P**	**21 40 06.2**	**-0.4**
	baz=22								
W36A	**Wetumka**	**21.82**	**348**		P		**P**	**21 40 05.2**	**-1.4**
	baz=22								
X32A	**Elmer**	**21.91**	**341**		P		**P**	**21 40 07.7**	**+0.1**
	baz=22								
W35A	**Tecumseh**	**21.96**	**347**		P		**P**	**21 40 06.8**	**-1.4**
	baz=22								
Y30A	**Stafford Cattl**	**21.96**	**338**		P		**P**	**21 40 08.5**	**+0.2**
	baz=22								
WMOK	**Wichita Mounta**	**22.05**	**343**	*e*	P		**P**	**21 40 09.6**	**+0.4**
	comp=Z,4.5nm,1.0s								
GDL2	**Guadalupe Moun**	**22.07**	**329**	*e*	P		**P**	**21 40 10.4**	**+1.0**
V37A	**Hulbert**	**22.36**	**351**		P		**P**	**21 40 11.3**	**-1.1**
	baz=22								
WVT	**Waverly**	**22.47**	**7**	*e*	P		P	21 40 18.6	+5.0
	comp=Z,7.4nm,0.9s								
Y28A	**McKinney Farm,**	**22.52**	**335**		P		**P**	**21 40 13.9**	**-0.4**
	baz=23								
MSTX	**Muleshoe**	**22.79**	**334**		P		**P**	**21 40 16.9**	**-0.3**
	baz=23								
MSTX	**Muleshoe**	**22.79**	**334**	*e*	P		**P**	**21 40 17.0**	**-0.1**
	comp=Z,7.5nm,0.9s								
PBMO	**Poplar Bluff**	**22.95**	**1**	*e*	P		**P**	**21 40 17.1**	**-1.5**
	comp=Z,12nm,0.8s								
AMTX	**Amarillo**	**23.15**	**337**	*e*	P		**P**	**21 40 18.8**	**-1.9**
	comp=Z,10nm,0.6s								
T37A	**Cheneyville 18**	**23.54**	**352**		P		**P**	**21 40 22.1**	**-2.2**
	baz=24,SNR=5.4								
121A	**Cookes Peak, D**	**24.18**	**323**		P		**P**	**21 40 32.0**	**+1.7**
	baz=24,SNR=15								
ATAH	**Atahualpa**	**24.23**	**148**		P		**P**	**21 40 29.9**	**-1.2**
	comp=Z,7.1nm,0.7s,baz=65,slow=14,SNR=2.2								
S36A	**Lake Cedric, C**	**24.23**	**351**		P		**P**	**21 40 28.5**	**-1.9**
	baz=24,SNR=12								
S35A	**Otter Creek Ra**	**24.31**	**350**		P		**P**	**21 40 29.4**	**-1.7**
	baz=24								
R37A	**Teagarden Farm**	**24.71**	**353**		P		**P**	**21 40 33.3**	**-1.5**
	baz=25								
BNM	**Barren Site**	**24.77**	**328**	*e*	P		**P**	**21 40 35.6**	**-0.1**
LENM	**Lemitar**	**24.96**	**327**	*e*	P		**P**	**21 40 38.9**	**+1.5**
R34A	**Isabella, Hill**	**25.08**	**348**		P		**P**	**21 40 37.1**	**-1.1**
	baz=25								
LAZ	**Ladron**	**25.23**	**327**	*e*	P		**P**	**21 40 39.4**	**-0.4**
ANMO	**Albuquerque**	**25.31**	**329**		P		**P**	**21 40 41.0**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=158,slow=12,SNR=8.4								
ANMO	**Albuquerque**	**25.31**	**329**	*e*	P		**P**	**21 40 41.8**	**+1.3**
	comp=Z,3.6nm,0.8s								
TUC	**Tucson**	**25.86**	**319**	*e*	P		**P**	**21 40 47.2**	**+1.8**
	comp=Z,7.4nm,0.9s								
P35A	**Duane Minner,**	**26.06**	**351**		P		**P**	**21 40 46.8**	**-0.3**
	baz=26								
214A	**Organ Pipe Nat**	**26.97**	**316**		P		**P**	**21 40 56.8**	**+1.4**
	baz=27								
W18A	**Petrified Fore**	**27.17**	**325**		P		**P**	**21 40 59.3**	**+1.9**
	baz=27								
S22A	**4UR Ranch, Cre**	**27.74**	**332**		P		**P**	**21 41 03.5**	**+0.9**
	baz=28								
MVCO	**Mesa Verde**	**28.11**	**329**		P		**P**	**21 41 07.2**	**+1.4**
	baz=28								
MVCO	**Mesa Verde**	**28.11**	**329**	*e*	P		**P**	**21 41 07.7**	**+1.9**
	comp=Z,5.5nm,0.8s								
WUAZ	**Wupatki**	**28.39**	**323**		P		**P**	**21 41 09.5**	**+1.2**
	baz=28,SNR=6.2								
WUAZ	**Wupatki**	**28.39**	**323**	*e*	P		**P**	**21 41 10.6**	**+2.3**
	comp=Z,8.3nm,0.8s								
PV05	**Paradise Valley**	**29.08**	**330**	*e*	P		**P**	**21 41 13.9**	**-0.4**
PDMCI	**Parker Dam,Lak**	**29.29**	**318**		P		**P**	**21 41 17.6**	**+1.6**
	baz=29								
SWSC	**Sam W. Stewart**	**29.59**	**314**		P		**P**	**21 41 20.5**	**+1.8**
	baz=30								
BC3	**Big Chuckawall**	**29.76**	**316**		P		**P**	**21 41 22.8**	**+2.5**
	baz=30								
IRM	**Iron Mountain**	**29.86**	**317**		P		**P**	**21 41 23.2**	**+2.1**
	baz=30								
KNB	**Kanab**	**30.28**	**324**	*e*	P		**P**	**21 41 25.1**	**+0.2**
	comp=Z,12nm,0.8s								
GMRC	**Granite Mounta**	**30.57**	**318**		P		**P**	**21 41 28.9**	**+1.5**
	baz=31								
CCUT	**Cedar City**	**30.96**	**324**	*e*	P		**P**	**21 41 33.5**	**+2.5**
	comp=Z,12nm,1.1s								
MSU	**Marysvale**	**30.99**	**327**	*e*	P		**P**	**21 41 33.1**	**+1.9**
MVU	**Marysvale**	**31.00**	**327**	*e*	P		**P**	**21 41 33.1**	**+1.8**
	comp=Z,5.4nm,0.8s								
SHPR	**Sheep Range**	**31.33**	**321**	*e*	P		**P**	**21 41 36.4**	**+2.2**
SPMN	**Marine on St.**	**31.41**	**358**		P		**P**	**21 41 32.8**	**-1.9**
	baz=31								
EDW2	**Edwards Air Fo**	**32.19**	**316**		P		**P**	**21 41 43.2**	**+1.6**
	baz=32								
TPNV	**Topopah Spring**	**32.28**	**320**		P		**P**	**21 41 45.0**	**+2.4**
	baz=32								
TPNV	**Topopah Spring**	**32.28**	**320**	*e*	P		**P**	**21 41 45.1**	**+2.6**
	comp=Z,3.2nm,0.9s								
MPMC	**Manual Prospec**	**32.53**	**318**		P		**P**	**21 41 46.2**	**+1.4**
	baz=33,SNR=6.3								
SADO	**Sadowa**	**32.53**	**16**		P		**P**	**21 41 42.1**	**-2.3**
	comp=Z,1.8nm,0.4s,baz=233,slow=9.5,SNR=4.3								
DUG	**Dugway, Tooele**	**32.56**	**328**	*e*	P		**P**	**21 41 46.7**	**+1.8**
	comp=Z,28nm,2.3s								
DAC	**Darwin (Calif)**	**32.73**	**318**	*e*	P		**P**	**21 41 48.8**	**+2.3**
	comp=Z,3.4nm,0.9s								
R11A	**Troy Canyon, C**	**32.79**	**323**		P		**P**	**21 41 48.4**	**+1.4**
	baz=33,SNR=7.7								
R11A	**Troy Canyon, C**	**32.79**	**323**	*e*	P		**P**	**21 41 47.7**	**+0.7**
	comp=Z,5.2nm,1.1s								
HWUT	**Hardware Ranch**	**33.02**	**331**	*e*	P		**P**	**21 41 50.6**	**+1.6**
PD31	**Pinedale Array**	**33.06**	**335**	*e*	P		**P**	**21 41 49.2**	**-0.1**
PDAR	**Pinedale Array**	**33.06**	**335**		P		**P**	**21 41 49.2**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=108,slow=8.6,SNR=3.2								
PDAR					LR		LR	21 57 52.1	
	comp=Z,46nm,18.1s,baz=126,slow=41								
BGU	**Big Grassy Mou**	**33.21**	**329**	*e*	P		**P**	**21 41 52.1**	**+1.5**
	comp=Z,4.8nm,0.8s								
I20A	**Morland**	**33.49**	**337**		P		**P**	**21 41 53.0**	**+0.1**
	baz=34								
HVU	**Hansel Valley**	**33.73**	**330**	*e*	P		**P**	**21 41 57.0**	**+1.9**
	comp=Z,9.0nm,1.2s								
PTGA	**Pitinga**	**33.95**	**113**		P		**P**	**21 41 55.9**	**-1.3**
	baz=308,slow=11								
PTGA					pP		**pP**	**21 42 12.4**	**-0.9**
	baz=304,slow=12								
PTGA	**Pitinga**	**33.95**	**113**	*e*	P		**P**	**21 41 57.3**	**+0.1**
	comp=Z,16nm,1.1s								
PTGA					pP		**pP**	**21 42 12.4**	**-0.9**
REDW	**Red Top Meadow**	**34.09**	**334**	*e*	P		**P**	**21 41 59.9**	**+1.6**
	comp=Z,9.0nm,1.1s								
EYMN	**Ely**	**34.10**	**359**		P		**P**	**21 41 55.7**	**-2.4**
	baz=34								
EYMN	**Ely**	**34.10**	**359**	*e*	P		**P**	**21 41 56.1**	**-2.0**
	comp=Z,56nm,2.8s								
LOHW	**Long Hollow**	**34.19**	**334**	*e*	P		**P**	**21 42 01.0**	**+1.8**
	comp=Z,2.0nm,0.8s								
ELK	**Elko**	**34.23**	**326**		P		**P**	**21 42 01.3**	**+1.7**
	comp=Z,4.7nm,0.7s,baz=131,slow=7.1,SNR=28								
ELK	**Elko**	**34.23**	**326**	*e*	P		**P**	**21 42 01.5**	**+1.9**
	comp=Z,52nm,2.3s								
C30A	**Mose, Pekin**	**34.42**	**351**		P		**P**	**21 41 59.8**	**-1.1**
	baz=34								
NV01	**Mina Array Sit**	**34.48**	**320**	*e*	P		**P**	**21 42 03.5**	**+1.8**
NV01				*e*	PcP		**PcP**	**21 44 36.6**	**+0.9**
NVAR	**Mina Array Bea**	**34.48**	**320**		P		**P**	**21 42 03.9**	**+2.1**
	comp=Z,8.4nm,0.9s,baz=134,slow=8.6,SNR=43								
NVAR					pP		**pP**	**21 42 19.6**	**+1.8**
	comp=Z,7.8nm,0.8s,baz=132,slow=8.4,SNR=14								
NVAR					PcP		**PcP**	**21 44 36.6**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=126,slow=3.8,SNR=4.8								
AGMN	**Agassiz Nation**	**34.69**	**354**		P		**P**	**21 42 01.8**	**-1.3**
	baz=35								
SAML	**Samuel**	**35.65**	**128**	*e*	P		**P**	**21 42 10.9**	**-0.8**
	comp=Z,3.7nm,0.8s								
HLID	**Hailey**	**35.87**	**330**		P		**P**	**21 42 14.2**	**+0.6**
	baz=36								
HLID	**Hailey**	**35.87**	**330**	*e*	P		**P**	**21 42 14.2**	**+0.6**
MCMT	**McKenzie Canyo**	**36.13**	**333**	*e*	P		**P**	**21 42 17.9**	**+2.1**
ULM	**Lac du Bonnet**	**36.62**	**355**		P		**P**	**21 42 17.1**	**-2.6**
	comp=Z,3.3nm,0.6s,baz=169,slow=8.1,SNR=5.4								
WVOR	**Wild Horse Val**	**37.24**	**325**	*e*	P		**P**	**21 42 27.0**	**+1.8**
	comp=Z,6.6nm,0.9s								
LPAZ	**La Paz**	**37.44**	**142**		P		**P**	**21 42 26.2**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=337,slow=11,SNR=4.4								
LPAZ					LR		LR	21 58 01.2	
	comp=Z,54nm,19.8s,baz=22,slow=36								
EGMT	**Eagleton**	**37.56**	**339**		P		**P**	**21 42 27.6**	**-0.2**
	baz=38								
M04C	**Macdoel**	**38.67**	**322**		P		**P**	**21 42 37.9**	**+0.7**
	baz=39								
JTMT	**Jette**	**39.05**	**335**	*e*	P		**P**	**21 42 40.4**	**0.0**
M02C	**Callahan**	**39.05**	**321**		P		**P**	**21 42 40.8**	**+0.4**
	baz=39								
YBH	**Yreka Blue Hor**	**39.16**	**321**		P		**P**	**21 42 40.8**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=78,slow=4.5,SNR=4.3								
YBH	**Yreka Blue Hor**	**39.16**	**321**	*e*	P		**P**	**21 42 40.8**	**-0.5**
	comp=Z,52nm,2.8s								
J05D	**Fort Rock, OR**	**39.25**	**324**		P		**P**	**21 42 43.0**	**+0.9**
	baz=39								
J04D	**Umpqua Nationa**	**39.72**	**324**		P		**P**	**21 42 47.2**	**+1.2**
	baz=40								
I04A	**Tendick Farm,**	**40.23**	**324**		P		**P**	**21 42 50.2**	**+0.1**
	baz=40								
G05D	**Wamic, OR**	**40.56**	**327**		P		**P**	**21 42 53.8**	**+1.0**
	baz=41								
I03D	**Drain, OR**	**40.71**	**323**		P		**P**	**21 42 55.2**	**+1.2**
	baz=41,SNR=5.1								
G03D	**McMinnville, O**	**41.59**	**325**		P		**P**	**21 43 02.5**	**+1.3**
	baz=42								
SIV	**San Ignacio**	**41.82**	**134**		P		**P**	**21 43 03.3**	**-0.1**
	comp=Z,7.6nm,0.9s,baz=318,slow=9.2,SNR=14								
SIV					pP		**pP**	**21 43 21.5**	**+1.6**
	comp=Z,2.8nm,0.8s,baz=330,slow=8.6,SNR=3.1								
NLWA	**Neilton Lookou**	**43.30**	**327**	*e*	P		**P**	**21 43 16.2**	**+1.2**
	comp=Z,18nm,1.3s								
SCHQ	**Schefferville**	**45.13**	**20**		P		**P**	**21 43 27.6**	**-2.1**
	comp=Z,5.0nm,0.7s,baz=210,slow=5.4,SNR=6.5								
SCHQ					pP		**pP**	**21 43 44.9**	**-1.3**
	comp=Z,3.7nm,0.5s,baz=220,slow=5.8,SNR=4.5								
SCHQ	**Schefferville**	**45.13**	**20**	*e*	P		**P**	**21 43 27.5**	**-2.1**
	comp=Z,5.5nm,0.8s								
SCHQ					pP		**pP**	**21 43 44.9**	**-1.3**
YKA	**Yellowknife Ar**	**51.50**	**346**		P		**P**	**21 44 17.9**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=216,slow=1.6,SNR=4.1								
YKB5	**Yellowknife Ar**	**51.50**	**346**	*e*	P		**P**	**21 44 17.9**	**-0.5**
BDFB	**Brasilia**	**51.57**	**123**		LR		LR	22 08 37.0	
	comp=Z,54nm,19.4s,baz=228,slow=39								
DLBC	**Dease Lake**	**53.28**	**336**		P		**P**	**21 44 32.2**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=153,slow=7.3,SNR=4.1								
DLBC					pP		**pP**	**21 44 47.6**	**-1.3**
	comp=Z,2.1nm,0.6s,baz=244,slow=2.3,SNR=2.6								
DLBC	**Dease Lake**	**53.28**	**336**	*e*	P		**P**	**21 44 32.2**	**+0.4**
	comp=Z,14nm,1.4s								
DLBC					pP		**pP**	**21 44 47.6**	**-1.3**
ILAR	**Eielson Array**	**63.45**	**337**		P		**P**	**21 45 41.5**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=171,slow=5.9,SNR=9.0								
ILAR					pP		**pP**	**21 45 58.6**	**-1.3**
	comp=Z,1.1nm,0.9s,baz=130,slow=4.9,SNR=6.0								
ILAR					LR		LR	22 15 46.5	
	comp=Z,42nm,19.9s,baz=172,slow=38								
ILB	**Eielson Array**	**63.45**	**337**	*e*	P		**P**	**21 45 41.5**	**-1.0**
TRF	**Thorofare Moun**	**64.28**	**335**	*e*	P		**P**	**21 45 48.5**	**+0.4**
	comp=Z,9.8nm,1.2s								
YAK	**Yakutsk**	**98.00**	**342**		LR		LR	22 42 32.0	
	comp=Z,40nm,18.4s,baz=164,slow=41								
WRA	**Warramunga Arr**	**136.26**	**255**		PKP		**PKPdf**	**21 54 35.1**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=86,slow=2.3,SNR=7.6								
ASAR	**Alice Springs**	**136.49**	**250**		PKP		**PKPdf**	**21 54 35.3**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=96,slow=1.9,SNR=3.7								
CMAR	**Chiang Mai Arr**	**146.53**	**343**		PKPbc		**PKPbc**	**21 54 54.2**	**-0.4**
	comp=Z,4.6nm,0.5s,baz=342,slow=3.0,SNR=31	

Ml2.9/22, Error ellipse: s-maj=2.4km s-min=1.4km az=173.0
*CSEM **23** 21:46:34.1±0.1, 45°.80N×12°.04E, h10^{km}, ML3.4/46, Error ellipse: s-maj=2.0km s-min=1.3km az=162.0*
*LDG **23** 21:46:34.4±0.0, 45°.75N×12°.15E, h5^{km}, Ml3.0/30, Error ellipse: s-maj=1.5km s-min=0.7km az=170.0*
*PRU **23** 21:46:36.6, 45°.82N×12°.14E, h10^{km}*
*BGR **23** 21:46:38.3±0.4, 45°.87N×12°.26E, h10^{km}, ML3.0/8, Error ellipse: s-maj=6.7km s-min=4.4km az=17.0*

ISC 23 21:46:34.1±0.7, 45°.80N±0'.01×12°.07E±0'.01, h14^{km}±5^{km}, n291, σ1°26/462, 50C-21D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
VARN	**Col Varnada, M**	**0.19**	**6**	⇓*e*Pg		**Pg**	**21 46 38.1**	**-0.5**
VARN					*e*Sg	**Sg**	**21 46 41.4**	**-0.3**
VARN	**Col Varnada, M**	**0.19**	**6**	⇓*e*Pg		**Pg**	**21 46 38.1**	**-0.5**
VARN					*e*Sg	**Sg**	**21 46 41.4**	**-0.3**
CGRP	**Cima Grappa**	**0.21**	**293**	⇓*e*Pg		**Pg**	**21 46 38.4**	**-0.5**
CGRP					*e*Sg	**Sg**	**21 46 42.0**	**-0.1**
CGRP	**Cima Grappa**	**0.21**	**293**	Pg		**Pg**	**21 46 38.4**	**-0.5**
CGRP					Sg	**Sg**	**21 46 41.2**	**-0.9**
	3µm,0.5s							
CGRP	**Cima Grappa**	**0.21**	**293**	Pg		**Pg**	**21 46 38.4**	**-0.5**
CGRP					Sg	**Sg**	**21 46 41.2**	**-0.9**
	3µm,0.5s							
CAE	**Caneva**	**0.33**	**51**	⇑*e*Pg		**Pg**	**21 46 40.7**	**-0.1**
CAE					*e*Sg	**Sb**	**21 46 46.0**	**-0.8**
CAE	**Caneva**	**0.33**	**51**	⇑*e*Pg		**Pg**	**21 46 40.7**	**-0.1**
CAE					*e*Sg	**Sb**	**21 46 46.0**	**-0.8**
POLC	**Polcenigo**	**0.37**	**53**	Pg		**Pb**	**21 46 41.7**	**-0.8**
POLC					Sg	**Sb**	**21 46 48.6**	**+0.5**
	2µm,0.2s							
POLC	**Polcenigo**	**0.37**	**53**	Pg		**Pb**	**21 46 41.7**	**-0.8**
POLC					Sg	**Sb**	**21 46 48.6**	**+0.5**
	2µm,0.2s							
IESO	**Jesolo**	**0.44**	**130**	*e*Pg		**Pb**	**21 46 43.2**	**-0.3**
IESO	**Jesolo**	**0.44**	**130**	*e*Pg		**Pb**	**21 46 43.2**	**-0.3**
AGOR	**Agordo**	**0.48**	**358**	⇑*e*Pg		**Pg**	**21 46 43.0**	**-0.7**
AGOR					*e*Sg	**Sg**	**21 46 50.4**	**+0.3**
AGOR	**Agordo**	**0.48**	**358**	Pg		**Pg**	**21 46 42.9**	**-0.7**
	388nm,0.3s							
MLNI	**Malnisio**	**0.51**	**47**	⇑*e*Pg		**Pg**	**21 46 44.1**	**-0.1**
MLNI	**Malnisio**	**0.51**	**47**	⇑*e*Pg		**Pg**	**21 46 44.1**	**-0.1**
TEOL	**Teolo**	**0.52**	**213**	⇓*e*Pg		**Pg**	**21 46 44.1**	**-0.2**
TEOL	**Teolo**	**0.52**	**213**	Pg		**Pg**	**21 46 44.2**	**-0.2**
	2µm,0.8s							
TEOL	**Teolo**	**0.52**	**213**	⇓*e*Pg		**Pg**	**21 46 44.1**	**-0.2**
CIMO	**Cimolais**	**0.57**	**26**	⇑*e*Pg		**Pg**	**21 46 44.1**	**-1.2**
CIMO					*e*Sg	**Sg**	**21 46 52.5**	**-0.4**
CIMO	**Cimolais**	**0.57**	**26**	⇑*e*Pg		**Pg**	**21 46 44.1**	**-1.2**
CIMO					*e*Sg	**Sg**	**21 46 52.5**	**-0.4**
PANI	**Panarotta**	**0.59**	**295**	⇑*e*Pg		**Pg**	**21 46 45.1**	**-0.5**
PANI					*e*Sg	**Sg**	**21 46 53.0**	**-0.6**
PANI	**Panarotta**	**0.59**	**295**	⇑*e*Pg		**Pg**	**21 46 45.2**	**-0.5**
PANI					*e*Sg	**Sg**	**21 46 53.0**	**-0.6**
DDS	**Dosso del Somm**	**0.62**	**278**	⇑*e*Pg		**Pg**	**21 46 46.0**	**-0.3**
DDS					*e*Sg	**Sg**	**21 46 54.9**	**+0.3**
DDS	**Dosso del Somm**	**0.62**	**278**	⇑*e*Pg		**Pg**	**21 46 46.0**	**-0.3**
DDS					*e*Sg	**Sg**	**21 46 54.9**	**+0.3**
MARN	**Marana (Italy)**	**0.63**	**255**	⇑*e*Pg		**Pg**	**21 46 46.1**	**-0.2**
MARN	**Marana (Italy)**	**0.63**	**255**	⇑*e*Pg		**Pg**	**21 46 46.1**	**-0.2**
STAL	**STALIGIAL**	**0.64**	**44**	Pg		**Pg**	**21 46 45.8**	**-0.8**
STAL					Sg	**Sb**	**21 46 56.3**	**+0.5**
	423nm,0.2s							
STAL	**STALIGIAL**	**0.64**	**44**	Pg		**Pg**	**21 46 45.8**	**-0.8**
STAL					Sg	**Sb**	**21 46 56.3**	**+0.5**
	423nm,0.2s							
ROVR	**Rover˜¤ Verone**	**0.72**	**258**	Pg		**Pg**	**21 46 47.8**	**-0.3**
	352nm,0.3s							
ROVR	**Rover˜¤ Verone**	**0.72**	**258**	Pg		**Pg**	**21 46 47.8**	**-0.3**
	352nm,0.3s							
TLI	**Talmassons**	**0.73**	**80**	⇑*e*Pg		**Pb**	**21 46 48.0**	**-0.5**
TLI	**Talmassons**	**0.73**	**80**	⇑*e*Pg		**Pb**	**21 46 48.0**	**-0.5**
ADRI	**Adria, Italy**	**0.76**	**183**	*e*Pg		**Pb**	**21 46 50.1**	**+1.0**
ADRI	**Adria, Italy**	**0.76**	**183**	*e*Pg		**Pb**	**21 46 50.1**	**+1.0**
MPRI	**Monte Prat**	**0.78**	**55**	⇑*e*Pg		**Pb**	**21 46 49.1**	**-0.2**
MPRI					*e*Sg	**Sn**	**21 47 01.8**	**-0.3**
MPRI	**Monte Prat**	**0.78**	**55**	⇑*e*Pg		**Pb**	**21 46 49.2**	**-0.2**
MPRI					*e*Sg	**Sn**	**21 47 01.8**	**-0.3**
CSMI	**Casera Mimoias**	**0.82**	**29**	*e*Pg		**Pg**	**21 46 49.5**	**-0.4**
CSMI	**Casera Mimoias**	**0.82**	**29**	*e*Pg		**Pg**	**21 46 49.5**	**-0.4**
KOSI	**Kohlern**	**0.82**	**324**	Pg		**Pg**	**21 46 49.7**	**-0.3**
KOSI					Sg	**Sg**	**21 47 01.2**	**+0.4**
	261nm,0.6s							
KOSI	**Kohlern**	**0.82**	**324**	⇑*e*Pg		**Pg**	**21 46 50.0**	**0.0**
KOSI					Sg	**Sg**	**21 47 01.2**	**+0.4**
	261nm,0.6s							
BUA	**Buia**	**0.84**	**60**	⇓*e*Pg		**Pb**	**21 46 50.6**	**+0.1**
BUA					*e*Sg	**Sn**	**21 47 04.0**	**+0.3**
BUA	**Buia**	**0.84**	**60**	⇓*e*Pg		**Pb**	**21 46 50.6**	**+0.1**
BUA					*e*Sg	**Sn**	**21 47 04.0**	**+0.3**
BOO	**Bordano**	**0.88**	**54**	*e*Pg		**Pb**	**21 46 51.2**	**0.0**
BOO	**Bordano**	**0.88**	**54**	*e*Pg		**Pb**	**21 46 51.2**	**0.0**
BALD	**Monte Baldo**	**0.89**	**263**	⇑*e*Pg		**Pg**	**21 46 50.9**	**-0.4**
BALD	**Monte Baldo**	**0.89**	**263**	⇑*e*Pg		**Pg**	**21 46 50.9**	**-0.4**
FUSE	**Fusea**	**0.89**	**46**	*e*Pg		**Pn**	**21 46 52.3**	**+0.1**
FUSE	**Fusea**	**0.89**	**46**	*e*Pg		**Pn**	**21 46 52.3**	**+0.1**
APPI	**Appiano**	**0.90**	**319**	Pg		**Pg**	**21 46 51.3**	**-0.2**
APPI					Sg	**Sg**	**21 47 03.3**	**+0.1**
	373nm,0.5s							
APPI	**Appiano**	**0.90**	**319**	Pg		**Pg**	**21 46 51.3**	**-0.2**
APPI					Sg	**Sg**	**21 47 03.3**	**+0.1**
	373nm,0.5s							
BAD	**Bernadia**	**0.92**	**61**	⇓*e*Pg		**Pg**	**21 46 51.1**	**-0.8**
BAD	**Bernadia**	**0.92**	**61**	⇓*e*Pg		**Pg**	**21 46 51.1**	**-0.8**
FVI	**Forni Avoltri**	**0.94**	**31**	Pg		**Pn**	**21 46 52.8**	**-0.1**
FVI					Sg	**Sn**	**21 47 06.5**	**+0.4**
	150nm,0.3s							
FVI	**Forni Avoltri**	**0.94**	**31**	Pg		**Pn**	**21 46 52.8**	**-0.1**
FVI					Sg	**Sn**	**21 47 06.5**	**+0.4**
	150nm,0.3s							
VINO	**Villanova**	**0.96**	**61**	*e*Pg		**Pg**	**21 46 51.6**	**-1.0**
VINO					*e*Sg	**Sn**	**21 47 07.3**	**+0.8**
VINO	**Villanova**	**0.96**	**61**	Pg		**Pg**	**21 46 51.6**	**-1.0**
VINO					Sg	**Sn**	**21 47 07.4**	**+0.8**
VINO	**Villanova**	**0.96**	**61**	Pg		**Pg**	**21 46 51.6**	**-1.0**
VINO					*e*Sg	**Sn**	**21 47 07.3**	**+0.8**
COLI	**Coloredo**	**0.97**	**69**	*e*Pg		**Pg**	**21 46 52.0**	**-0.8**
COLI					*e*Sg	**Sn**	**21 47 07.8**	**+1.0**
COLI	**Coloredo**	**0.97**	**69**	*e*Pg		**Pg**	**21 46 52.0**	**-0.8**
COLI					*e*Sg	**Sn**	**21 47 07.8**	**+1.0**
ZOU	**Zoufplan**	**0.98**	**39**	*e*Pg		**Pb**	**21 46 53.1**	**+0.1**
ABTA	**Abfaltersbach**	**0.99**	**18**	⇑Pg		**Pb**	**21 46 53.3**	**+0.2**
	18nm,0.2s,SNR=41							
ABTA					⇑*i*Sg	**Sn**	**21 47 08.2**	**+0.7**
	57nm,0.3s							
ABTA	**Abfaltersbach**	**0.99**	**18**	Pg		**Pb**	**21 46 53.3**	**+0.2**
	18nm,0.2s,SNR=41							
ABTA					Sg	**Sn**	**21 47 08.2**	**+0.7**
	57nm,0.3s							
MAGA	**Magasa**	**1.01**	**269**	Pg		**Pg**	**21 46 53.0**	**-0.6**
MAGA					Sg	**Sg**	**21 47 07.6**	**+0.8**
	574nm,0.4s							
MAGA	**Magasa**	**1.01**	**269**	Pg		**Pg**	**21 46 53.0**	**-0.6**
MAGA					Sg	**Sg**	**21 47 07.6**	**+0.8**
	574nm,0.4s							
RNI	**Roncone**	**1.01**	**281**	⇑*e*Pg		**Pg**	**21 46 53.5**	**-0.1**
RNI	**Roncone**	**1.01**	**281**	⇑*e*Pg		**Pg**	**21 46 53.5**	**-0.1**
PLRO	**Paularo**	**1.06**	**45**	*e*Pg		**Pn**	**21 46 54.7**	**+0.1**
PLRO	**Paularo**	**1.06**	**45**	*e*Pg		**Pn**	**21 46 54.7**	**+0.1**
ABSI	**Aberstueckl**	**1.06**	**331**	Pg		**Pg**	**21 46 54.1**	**-0.5**
	423nm,0.5s							
ABSI	**Aberstueckl**	**1.06**	**331**	Pg		**Pg**	**21 46 54.1**	**-0.5**
	423nm,0.5s							
SABO	**M.te Sabotino**	**1.08**	**80**	⇓*e*Pg		**Pn**	**21 46 55.7**	**+0.9**
SABO					*e*Sg	**Sn**	**21 47 11.2**	**+1.5**
SABO	**M.te Sabotino**	**1.08**	**80**	Pg		**Pn**	**21 46 55.6**	**+0.8**
SABO					Sg	**Sn**	**21 47 11.1**	**+1.5**
	452nm,0.3s							
SABO	**M.te Sabotino**	**1.08**	**80**	⇓*e*Pg		**Pn**	**21 46 55.7**	**+0.9**
SABO					Sg	**Sn**	**21 47 11.1**	**+1.5**
	452nm,0.3s							
ROBS	**Robic**	**1.09**	**66**	*i* Pg		**Pn**	**21 46 55.2**	**+0.3**
ROBS					*i* Sg	**Sn**	**21 47 11.4**	**+1.5**
	comp=Z,40nm,0.1s							
ROBS	**Robic**	**1.09**	**66**	Pg		**Pn**	**21 46 55.2**	**+0.3**
ROBS					*i* Sg	**Sn**	**21 47 11.4**	**+1.5**
	comp=Z,40nm,0.1s							
SALO	**Salr**	**1.10**	**261**	Pg		**Pb**	**21 46 55.3**	**+0.4**
	comp=Z,241nm,0.6s							
SALO	**Salr**	**1.10**	**261**	Pg		**Pb**	**21 46 55.3**	**+0.4**
	comp=Z,241nm,0.6s							
MABI	**Malga Bissina**	**1.12**	**284**	Pg		**Pb**	**21 46 55.2**	**-0.1**
	comp=Z,89nm,0.3s							
MABI	**Malga Bissina**	**1.12**	**284**	Pg		**Pb**	**21 46 55.2**	**-0.1**
	comp=Z,89nm,0.3s							
DRE	**Drenchia**	**1.16**	**71**	⇑*e*Pg		**Pn**	**21 46 56.9**	**+1.0**
DRE	**Drenchia**	**1.16**	**71**	⇑*e*Pg		**Pn**	**21 46 56.9**	**+1.0**
TRI	**Trieste**	**1.19**	**94**	⇑*e*Pg		**Pn**	**21 46 56.6**	**+0.4**
TRI					*e*Sg	**Sn**	**21 47 13.3**	**+1.2**
TRI	**Trieste**	**1.19**	**94**	Pg		**Pn**	**21 46 56.5**	**+0.4**
TRI					Sg	**Sn**	**21 47 13.3**	**+1.2**
	comp=Z,282nm,0.3s							
TRI	**Trieste**	**1.19**	**94**	⇑*e*Pg		**Pn**	**21 46 56.6**	**+0.4**
TRI					*e*Sg	**Sn**	**21 47 13.3**	**+1.2**
	comp=Z,282nm,0.3s							
LSR	**Lussari**	**1.22**	**56**	⇑*e*Pg		**Pg**	**21 46 57.5**	**0.0**
LSR	**Lussari**	**1.22**	**56**	⇑*e*Pg		**Pg**	**21 46 57.5**	**0.0**
FIU	**Minerbio Fiu**	**1.23**	**200**	Pg		**Pg**	**21 46 58.7**	**+0.9**
FIU	**Minerbio Fiu**	**1.23**	**200**	Pg		**Pg**	**21 46 58.7**	**+0.9**
CADS	**Cadrg**	**1.23**	**69**	*i* Pg		**Pg**	**21 46 58.0**	**+0.2**
CADS					*i* Sg	**Sn**	**21 47 15.4**	**+2.0**
	comp=Z,188nm,0.2s							
CADS	**Cadrg**	**1.23**	**69**	*i* Pg		**Pg**	**21 46 58.0**	**+0.2**
CADS					*i* Sg	**Sn**	**21 47 15.4**	**+2.0**
	comp=Z,188nm,0.2s							
CMPO	**Campotto Po**	**1.23**	**189**	Pg		**Pb**	**21 46 58.3**	**+1.2**
	comp=Z,462nm,0.9s							
CMPO	**Campotto Po**	**1.23**	**189**	Pg		**Pb**	**21 46 58.3**	**+1.2**
	comp=Z,462nm,0.9s							
ACOM	**Acomizza, Ital**	**1.25**	**53**	*e*Pg		**Pg**	**21 46 58.6**	**+0.5**
ACOM					*e*Sg	**Sn**	**21 47 17.2**	**+3.3**
ACOM	**Acomizza, Ital**	**1.25**	**53**	Pg		**Pg**	**21 46 58.1**	**0.0**
	comp=Z,383nm,0.5s							
ACOM	**Acomizza, Ital**	**1.25**	**53**	*e*Pg		**Pg**	**21 46 58.6**	**+0.5**
ACOM					*e*Sg	**Sn**	**21 47 17.2**	**+3.3**
VOJS	**Vojsko**	**1.28**	**79**	⇑*i*Pg		**Pg**	**21 46 58.3**	**-0.5**
VOJS					*i* Sg	**Sn**	**21 47 16.6**	**+1.9**
	comp=Z,70nm,0.1s							
VOJS	**Vojsko**	**1.28**	**79**	⇑*i*Pg		**Pg**	**21 46 58.3**	**-0.5**
VOJS					*i* Sg	**Sn**	**21 47 16.6**	**+1.9**
	comp=Z,70nm,0.1s							
MOSI	**Grossmontoni**	**1.34**	**308**	Pg		**Pn**	**21 46 59.5**	**+1.0**
	comp=Z,484nm,0.5s							
MOSI	**Grossmontoni**	**1.34**	**308**	Pg		**Pn**	**21 46 59.5**	**+1.0**
	comp=Z,484nm,0.5s							
MOSI					*e*Sg	**Sg**	**21 47 18.6**	**+1.4**
BRMO	**Bormio**	**1.36**	**300**	Pg		**Pn**	**21 46 59.8**	**+1.0**
	comp=Z,131nm,0.6s							
BRMO	**Bormio**	**1.36**	**300**	Pg		**Pn**	**21 46 59.8**	**+1.0**
	comp=Z,131nm,0.6s							
MYKA	**Terra Mystica**	**1.37**	**52**	⇑*e*Pn		**Pg**	**21 47 00.4**	**0.0**
	comp=Z,30nm,0.2s,SNR=47							
MYKA					⇓*i*Sn	**Sg**	**21 47 20.3**	**+2.1**
	comp=Z,56nm,0.2s							
MYKA	**Terra Mystica**	**1.37**	**52**	Pn		**Pg**	**21 47 00.4**	**0.0**
	comp=Z,30nm,0.2s,SNR=47							
MYKA					Sn	**Sg**	**21 47 20.3**	**+2.1**
	comp=Z,56nm,0.2s							
SKDS	**Skadanscina**	**1.38**	**100**	⇑*i*Pg		**Pb**	**21 46 59.6**	**-0.1**
SKDS					*i* Sg	**Sg**	**21 47 18.1**	**-0.6**
	comp=Z,132nm,0.2s							
SKDS	**Skadanscina**	**1.38**	**100**	⇑*i*Pg		**Pb**	**21 46 59.6**	**-0.1**
SKDS					*i* Sg	**Sg**	**21 47 18.1**	**-0.6**
	comp=Z,132nm,0.2s							
JAVS	**Javornik**	**1.39**	**85**	⇑*i*Pg		**Pb**	**21 46 60.0**	**+0.1**
JAVS					*e*Sg	**Sg**	**21 47 19.4**	**+0.4**
	comp=Z,65nm,0.2s							
JAVS	**Javornik**	**1.39**	**85**	⇑*i*Pg		**Pb**	**21 47 00.0**	**+0.1**
JAVS					*e*Sg	**Sg**	**21 47 19.4**	**+0.4**
	comp=Z,65nm,0.2s							
GORS	**Gorjuse**	**1.43**	**68**	*i* Pg		**Pb**	**21 47 00.6**	**0.0**
GORS					*e*Sg	**Sg**	**21 47 20.5**	**+0.2**
	comp=Z,62nm,0.2s							
GORS	**Gorjuse**	**1.43**	**68**	*i* Pg		**Pb**	**21 47 00.6**	**0.0**
GORS					*e*Sg	**Sg**	**21 47 20.5**	**+0.2**
	comp=Z,62nm,0.2s							
WTTA	**Wattenberg**	**1.49**	**348**	*e*Pn		**Pg**	**21 47 03.3**	**+0.5**
WTTA					*e*Sg	**Sg**	**21 47 25.1**	**+2.8**
WTTA	**Wattenberg**	**1.49**	**348**	⇓*e*Pg		**Pg**	**21 47 03.3**	**+0.5**
	comp=Z,6.0nm,0.3s,SNR=109							
WTTA					⇓*e*Sg	**Sg**	**21 47 25.0**	**+2.7**
	comp=Z,222nm,0.6s							
WTTA	**Wattenberg**	**1.49**	**348**	Pg		**Pg**	**21 47 03.3**	**+0.5**
	comp=Z,374nm,0.9s							
WTTA	**Wattenberg**	**1.49**	**348**	Pg		**Pg**	**21 47 03.3**	**+0.5**
	comp=Z,374nm,0.9s							
WTTA					Sg	**Sg**	**21 47 25.0**	**+2.7**
	comp=Z,222nm,0.6s							
FUORN	**Ofenpass-Fuorn**	**1.50**	**304**	Pg		**Pn**	**21 47 01.9**	**+1.1**
FUORN	**Ofenpass-Fuorn**	**1.50**	**304**	Pg		**Pn**	**21 47 01.9**	**+1.1**
FETA	**Feichten**	**1.54**	**323**	⇓*e*Pn		**Pb**	**21 47 03.0**	**+0.6**
	comp=Z,20nm,0.4s,SNR=58							
FETA					⇑*i*Sn	**Sn**	**21 47 22.9**	**+1.9**
	comp=Z,25nm,0.3s							
FETA	**Feichten**	**1.54**	**323**	Pn		**Pb**	**21 47 03.0**	**+0.6**
	comp=Z,20nm,0.4s,SNR=58							
FETA					Sn	**Sn**	**21 47 22.9**	**+1.9**
	comp=Z,25nm,0.3s							
KBA	**Koelnbreinsper**	**1.55**	**34**	*e*Pn		**Pg**	**21 47 03.9**	**0.0**
KBA					*e*Sg	**Sg**	**21 47 26.0**	**+1.9**
KBA	**Koelnbreinsper**	**1.55**	**34**	⇑*e*Pg		**Pg**	**21 47 03.8**	**0.0**
	comp=Z,28nm,0.2s,SNR=57							
KBA					⇑*i*Sg	**Sg**	**21 47 26.0**	**+1.9**
	comp=Z,78nm,0.3s							
KBA	**Koelnbreinsper**	**1.55**	**34**	Pg		**Pg**	**21 47 03.8**	**0.0**
	comp=Z,28nm,0.2s,SNR=57							
KBA					Sn	**Sg**	**21 47 26.0**	**+1.9**
	comp=Z,78nm,0.3s							
CRNS	**Crni Vrh**	**1.55**	**79**	*i* Pn		**Pb**	**21 47 02.2**	**-0.4**
CRNS					*i* Sn	**Sg**	**21 47 24.6**	**+0.5**
	comp=Z,82nm,0.1s							
BERNI	**Berninapass**	**1.55**	**294**	Pg		**Pn**	**21 47 03.2**	**+1.7**
BERNI	**Berninapass**	**1.55**	**294**	Pg		**Pn**	**21 47 03.2**	**+1.7**
WATA	**Walderalm**	**1.57**	**348**	⇑*e*Pg		**Pg**	**21 47 04.7**	**+0.4**
	comp=Z,2.9nm,0.2s,SNR=48							
WATA					⇑*i*Sg	**Sg**	**21 47 27.9**	**+3.1**
	comp=Z,40nm,0.2s							
WATA	**Walderalm**	**1.57**	**348**	Pg		**Pg**	**21 47 04.7**	**+0.4**
	comp=Z,2.9nm,0.2s,SNR=48							
WATA					Sg	**Sg**	**21 47 27.9**	**+3.1**
	comp=Z,40nm,0.2s							
KNDS	**Knezji Dol**	**1.64**	**99**	*e*Sn		**Sg**	**21 47 26.0**	**-0.9**
	comp=Z,105nm,0.3s							
KNDS	**Knezji Dol**	**1.64**	**99**	*e*Sn		**Sg**	**21 47 26.0**	**-0.9**
	comp=Z,105nm,0.3s							
ZCCA	**Zocca**	**1.65**	**209**	Pg		**Pg**	**21 47 06.2**	**+0.5**
	comp=Z,50nm,0.8s							
ZCCA	**Zocca**	**1.65**	**209**	Pg		**Pg**	**21 47 06.2**	**+0.5**
	comp=Z,50nm,0.8s							
CEY	**Cerknica**	**1.65**	**91**	*i* Pn		**Pn**	**21 47 03.4**	**+0.8**
CEY					*e*Sn	**Sg**	**21 47 25.6**	**-1.5**
	comp=Z,50nm,0.2s							
CEY	**Cerknica**	**1.65**	**91**	*i* Pn		**Pn**	**21 47 03.4**	**+0.8**
CEY					*e*Sn	**Sg**	**21 47 25.6**	**-1.5**
	comp=Z,50nm,0.2s							
MOTA	**Moosalm**	**1.68**	**337**	⇓*e*Pn		**Pb**	**21 47 05.8**	**+0.9**
	comp=Z,16nm,0.3s,SNR=60							
MOTA					⇑Sn	**Sg**	**21 47 28.9**	**+0.6**
	comp=Z,182nm,0.4s							
MOTA	**Moosalm**	**1.68**	**337**	Pn		**Pb**	**21 47 05.8**	**+0.9**
	comp=Z,16nm,0.3s,SNR=60							
MOTA					Sn	**Sg**	**21 47 28.9**	**+0.6**
	comp=Z,182nm,0.4s							
MOZS	**Mozjanca**	**1.72**	**73**	*i* Pn		**Pb**	**21 47 04.9**	**-0.6**
	comp=Z,61nm,0.2s							
MOZS	**Mozjanca**	**1.72**	**73**	*i* Pn		**Pb**	**21 47 04.9**	**-0.6**
	comp=Z,61nm,0.2s							
LJU	**Ljubljana**	**1.73**	**81**	*e*Pn		**Pg**	**21 47 06.5**	**-0.8**
LJU					*e*Sg	**Sg**	**21 47 30.0**	**+0.3**
DAVOX	**Davos/Dischmat**	**1.81**	**304**	Pg		**Pb**	**21 47 07.9**	**+0.8**
DAVOX	**Davos/Dischmat**	**1.81**	**304**	Pg		**Pb**	**21 47 07.9**	**+0.8**
VNDS	**Vrh nad Dolski**	**1.86**	**80**	⇑*i*Pn		**Pb**	**21 47 06.8**	**-0.9**
OBKA	**Obir**	**1.86**	**67**	*e*Pn		**Pb**	**21 47 07.3**	**-0.6**
OBKA					*e*Sg	**Sg**	**21 47 32.2**	**-1.7**
OBKA	**Obir**	**1.86**	**67**	*e*Pn		**Pb**	**21 47 07.4**	**-0.6**
	comp=Z,14nm,0.3s,SNR=28							
OBKA					⇓*e*Sn	**Sb**	**21 47 31.5**	**+0.5**
	comp=Z,80nm,0.4s							
OBKA	**Obir**	**1.86**	**67**	Pn		**Pb**	**21 47 07.3**	**-0.6**
OBKA					Sn	**Sb**	**21 47 31.5**	**+0.5**
	comp=Z,80nm,0.4s							
OBKA					Sg	**Sg**	**21 47 32.2**	**-1.7**
VMG	**Vicchio**	**1.88**	**192**	Pg		**Pn**	**21 47 07.0**	**+1.3**
	comp=Z,18nm,0.3s							
RETA	**Reutte**	**1.91**	**332**	⇓*e*Pn		**Pb**	**21 47 09.9**	**+1.1**
	comp=Z,3.8nm,0.2s,SNR=35							
RETA					⇓*i*Sn	**Sg**	**21 47 36.7**	**+1.1**
	comp=Z,80nm,0.5s							
RETA	**Reutte**	**1.91**	**332**	Pn		**Pb**	**21 47 09.9**	**+1.1**
	comp=Z,3.8nm,0.2s,SNR=35							
VISS	**Visnje**	**1.93**	**89**	*i* Pn		**Pn**	**21 47 07.8**	**+1.3**
VISS					*i* Sn	**Sb**	**21 47 32.8**	**-0.2**
	comp=Z,71nm,0.3s							
VISS	**Visnje**	**1.93**	**89**	*i* Pn		**Pn**	**21 47 07.8**	**+1.3**
VISS					*i* Sn	**Sb**	**21 47 32.8**	**-0.2**
	comp=Z,71nm,0.3s							
GBRS	**Gornja Briga**	**1.94**	**97**	*i* Pn		**Pn**	**21 47 07.8**	**+1.2**
RJOB	**Jochberg**	**2.00**	**14**	*e*Pn		**Pb**	**21 47 11.2**	**+1.0**
RJOB					*e*Sg	**Sg**	**21 47 38.2**	**-0.2**
RJOB	**Jochberg**	**2.00**	**14**	Pn		**Pb**	**21 47 11.2**	**+1.0**
RJOB					Sg	**Sg**	**21 47 38.2**	**-0.2**
DAVA	**Damuels**	**2.12**	**315**	⇑*e*Pn		**Pb**	**21 47 13.3**	**+1.0**
	comp=Z,10.0nm,0.3s							
DAVA					⇑*i*Sn	**Sg**	**21 47 42.1**	**-0.1**
	comp=Z,52nm,0.3s							
DAVA	**Damuels**	**2.12**	**315**	Pn		**Pb**	**21 47 13.3**	**+1.0**
	comp=Z,10.0nm,0.3s							
MUGIO	**Muggio**	**2.12**	**274**	Pg		**Pn**	**21 47 10.0**	**+0.9**
MAIM	**Mastiano**	**2.20**	**211**	P		**Pn**	**21 47 13.1**	**+3.0**
MAIM					S	**Sn**	**21 47 39.3**	**+2.3**
SOKA	**Soboth**	**2.23**	**66**	⇑*e*Pn		**Pn**	**21 47 12.1**	**+1.4**
	comp=Z,2.0nm,0.3s,SNR=7.4							
SOKA					⇑*i*Sn	**Sb**	**21 47 41.0**	**-0.7**
	comp=Z,12nm,0.3s							
SOKA	**Soboth**	**2.23**	**66**	Pn		**Pn**	**21 47 12.1**	**+1.4**
	comp=Z,2.0nm,0.3s,SNR=7.4							
SOKA					Sn	**Sb**	**21 47 41.0**	**-0.7**
	comp=Z,12nm,0.3s							
BOJS	**Bojanci**	**2.25**	**96**	*i* Pn		**Pn**	**21 47 12.1**	**+1.3**
BOJS	**Bojanci**	**2.25**	**96**	*i* Pn		**Pn**	**21 47 12.1**	**+1.3**
LEGS	**Legarje**	**2.27**	**85**	*i* Pn		**Pn**	**21 47 12.3**	**+1.2**
LEGS	**Legarje**	**2.27**	**85**	*i* Pn		**Pn**	**21 47 12.3**	**+1.2**
PERS	**Pernice**	**2.27**	**67**	*i* Pn		**Pn**

GOPC	**GO Pecny, Ondr**	**4.50**	**23**	Pg	**Pg**	**21 47 58.2**	**-2.0**
GOPC				Sn	**Sn**	**21 48 35.0**	**+1.1**
PRU	**Pruhonice**	**4.51**	**21**	*e*PN	**Pn**	**21 47 43.2**	**+1.4**
PRU				*e*PG	**Pg**	**21 47 58.2**	**-2.1**
PRU				*ex*	x	21 48 01.8	
PRU				*e*SN	**Sn**	**21 48 35.9**	**+1.9**
PRU				*e*SG	**Sg**	**21 48 58.6**	**-0.1**
	comp=Z,14nm,0.6s						
PRU	**Pruhonice**	**4.51**	**21**	Pn	**Pn**	**21 47 43.2**	**+1.4**
PRU	**Pruhonice**	**4.51**	**21**	Pg	**Pg**	**21 47 58.2**	**-2.1**
PRU				Sn	**Sn**	**21 48 35.9**	**+1.9**
PRU				Sg	**Sg**	**21 48 58.6**	**-0.1**
	comp=Z,14nm,0.6s						
PRA	**Prague**	**4.56**	**20**	*e*SN	**Sn**	**21 48 36.0**	**+0.8**
PRA				*e*SG	**Sg**	**21 49 00.6**	**+0.3**
	comp=Z,14nm,0.6s						
PRA	**Prague**	**4.56**	**20**	Sn	**Sn**	**21 48 36.0**	**+0.8**
PRA				Sg	**Sg**	**21 49 00.6**	**+0.3**
	comp=Z,14nm,0.6s						
GUNZ	**Gunzen**	**4.57**	**2**	*e*Pn	**Pn**	**21 47 44.1**	**+1.4**
GUNZ	**Gunzen**	**4.57**	**2**	Pn	**Pn**	**21 47 44.1**	**+1.4**
TANN	**Tannenbergstha**	**4.62**	**3**	*e*Pn	**Pn**	**21 47 45.5**	**+2.0**
TANN	**Tannenbergstha**	**4.62**	**3**	Pn	**Pn**	**21 47 45.5**	**+2.0**
WERD	**Werda**	**4.65**	**2**	*e*Pn	**Pn**	**21 47 45.5**	**+1.6**
WERD	**Werda**	**4.65**	**2**	Pn	**Pn**	**21 47 45.5**	**+1.6**
VRAC	**Vranov**	**4.66**	**39**	*e*Pn	**Pn**	**21 47 44.6**	**+0.7**
LMR	**La Mourre**	**4.68**	**240**	*e*Pn	**Pn**	**21 47 43.8**	**-0.4**
LMR				*e*Sn	**Sn**	**21 48 35.8**	**-2.4**
	comp=Z,3.5nm,0.4s						
LMR	**La Mourre**	**4.68**	**240**	*e*Pn	**Pn**	**21 47 43.8**	**-0.4**
LMR				*e*Sn	**Sn**	**21 48 35.8**	**-2.4**
	comp=Z,1.8nm,0.4s						
PLN	**Plauen**	**4.69**	**1**	*e*Pn	**Pn**	**21 47 46.1**	**+1.7**
PLN	**Plauen**	**4.69**	**1**	Pn	**Pn**	**21 47 46.1**	**+1.7**
MOX	**Moxa**	**4.86**	**357**	*e*Pn	**Pn**	**21 47 48.8**	**+2.1**
MOX				*e*Sn	**Sn**	**21 48 43.5**	**+0.8**
MOX	**Moxa**	**4.86**	**357**	Pn	**Pn**	**21 47 48.8**	**+2.1**
MOX				Sn	**Sn**	**21 48 43.5**	**+0.8**
SMRF	**Simiane la Rot**	**4.96**	**251**	*e*Pn	**Pn**	**21 47 48.0**	**-0.2**
SMRF				*e*Sn	**Sn**	**21 48 43.0**	**-2.4**
	comp=Z,2.9nm,0.4s						
SMRF	**Simiane la Rot**	**4.96**	**251**	*e*Pn	**Pn**	**21 47 48.0**	**-0.2**
SMRF				*e*Sn	**Sn**	**21 48 43.0**	**-2.4**
	comp=Z,1.5nm,0.4s						
STON	**Ston**	**4.99**	**124**	*e*Pn	**Pn**	**21 47 49.2**	**+0.8**
STON				Sn	**Sn**	**21 48 44.7**	**-1.1**
STON	**Ston**	**4.99**	**124**	*e*Pn	**Pn**	**21 47 49.2**	**+0.8**
STON				Sn	**Sn**	**21 48 44.6**	**-1.1**
PVCC	**Panska Ves**	**5.02**	**19**	*e*PG	**Pg**	**21 48 07.5**	**-2.6**
PVCC				*ex*	x	21 48 13.2	
PVCC				*e*SN	**Sn**	**21 48 47.5**	**+1.0**
PVCC				*e*SG	**Sg**	**21 49 14.5**	**-0.5**
	comp=Z,20nm,0.6s						
PVCC	**Panska Ves**	**5.02**	**19**	Pg	**Pg**	**21 48 07.5**	**-2.6**
PVCC				Sn	**Sn**	**21 48 47.5**	**+1.0**
PVCC				Sg	**Sg**	**21 49 14.5**	**-0.5**
	comp=Z,20nm,0.6s						
TNS	**Taunus Mts**	**5.05**	**333**	*e*Pn	**Pn**	**21 47 52.1**	**+2.8**
TNS				*e*Sn	**Sn**	**21 48 49.7**	**+2.3**
TNS	**Taunus Mts**	**5.05**	**333**	Pn	**Pn**	**21 47 52.1**	**+2.8**
TNS				Sn	**Sn**	**21 48 49.7**	**+2.3**
PAGF	**Fort de Pagny**	**5.13**	**305**	*e*Pn	**Pn**	**21 47 50.6**	**+0.2**
PAGF	**Fort de Pagny**	**5.13**	**305**	*e*Pn	**Pn**	**21 47 50.6**	**+0.2**
UBBA	**Unterbreizbach**	**5.21**	**345**	*e*Sg	**Sg**	**21 49 21.0**	**-0.1**
UBBA	**Unterbreizbach**	**5.21**	**345**	Sg	**Sg**	**21 49 21.0**	**-0.1**
BRG	**Berggiesshubel**	**5.23**	**13**	PG	**Pg**	**21 48 13.7**	**-3.0**
BRG				*e*		21 48 52.8	
BRG	**Berggiesshubel**	**5.23**	**13**	SG	**Sg**	**21 49 20.3**	**-1.5**
	comp=Z,8.9nm,0.9s						
BRG	**Berggiesshubel**	**5.23**	**13**	*e*Sg	**Sg**	**21 49 20.2**	**-1.5**
BRG	**Berggiesshubel**	**5.23**	**13**	Sg	**Sg**	**21 49 20.2**	**-1.5**
VIVF	**Saint-Julien-l**	**5.30**	**262**	*e*Pn	**Pn**	**21 47 52.8**	**0.0**
VIVF				*e*Sn	**Sn**	**21 48 51.2**	**-2.5**
	comp=Z,4.0nm,0.6s						
VIVF	**Saint-Julien-l**	**5.30**	**262**	*e*Pn	**Pn**	**21 47 52.8**	**0.0**
VIVF	**Saint-Julien-l**	**5.30**	**262**	*e*Sn	**Sn**	**21 48 51.2**	**-2.5**
	comp=Z,2.0nm,0.6s						
KRLC	**Kraliky**	**5.32**	**35**	*e*SN	**Sn**	**21 48 54.1**	**0.0**
KRLC				*e*SG	**Sg**	**21 49 24.7**	**0.0**
KRLC	**Kraliky**	**5.32**	**35**	Sn	**Sn**	**21 48 54.1**	**0.0**
KRLC				Sg	**Sg**	**21 49 24.7**	**0.0**
DPC	**Dobruska-Polom**	**5.37**	**30**	*e*PN	**Pn**	**21 47 55.3**	**+1.6**
DPC				*e*PG	**Pg**	**21 48 13.7**	**-3.1**
DPC				*ex*	x	21 48 19.0	
DPC				*e*SN	**Sn**	**21 48 55.6**	**+0.3**
DPC				*e*SG	**Sg**	**21 49 25.4**	**-0.9**
	comp=Z,10nm,0.8s						
DPC	**Dobruska-Polom**	**5.37**	**30**	Pn	**Pn**	**21 47 55.3**	**+1.6**
DPC				Sn	**Sn**	**21 48 55.6**	**+0.3**
DPC				Sg	**Sg**	**21 49 25.4**	**-0.9**
	comp=Z,10nm,0.8s						
SFTF	**Sexfontaines**	**5.38**	**299**	*e*Pn	**Pn**	**21 47 54.0**	**+0.2**
SFTF				*e*Sn	**Sn**	**21 48 53.7**	**-1.8**
	comp=Z,4.1nm,0.6s						
SFTF	**Sexfontaines**	**5.38**	**299**	*e*Pn	**Pn**	**21 47 54.0**	**+0.2**
SFTF				*e*Sn	**Sn**	**21 48 53.7**	**-1.8**
	comp=Z,2.0nm,0.6s						
UPC	**Upice**	**5.40**	**28**	*e*PG	**Pg**	**21 48 14.2**	**-3.1**
UPC				*ex*	x	21 48 19.7	
UPC				*e*SG	**Sg**	**21 49 25.4**	**-1.8**
	comp=Z,6.7nm,0.6s						
CLL	**Collm**	**5.55**	**6**	*e*Pn	**Pn**	**21 47 57.7**	**+1.6**
CLL				*e*Sg	**Sg**	**21 49 30.5**	**-1.4**
CLL	**Collm**	**5.55**	**6**	*i* Pn	**Pn**	**21 47 58.1**	**+2.0**
CLL				*e*Pg	Pg	21 48 26.1	+5.8
CLL				*e*Sb	**Sb**	**21 49 14.0**	**-2.9**
CLL				*i* Sg	**Sg**	**21 49 34.5**	**+2.6**
	comp=Z,28nm,1.4s						
CLL	**Collm**	**5.55**	**6**	Pn	**Pn**	**21 47 57.7**	**+1.6**
CLL				Sg	**Sg**	**21 49 30.5**	**-1.4**
SMF	**Signal de Mont**	**5.78**	**281**	*e*Pn	**Pn**	**21 47 59.3**	**0.0**
SMF				*e*Sn	**Sn**	**21 49 02.8**	**-2.5**
	comp=Z,8.0nm,0.4s						
SMF	**Signal de Mont**	**5.78**	**281**	*e*Pn	**Pn**	**21 47 59.3**	**0.0**
SMF				*e*Sn	**Sn**	**21 49 02.8**	**-2.5**
	comp=Z,4.0nm,0.4s						
LOR	**Lormes**	**5.86**	**287**	*e*Pn	**Pn**	**21 48 00.5**	**+0.1**
	baz=109						
LOR				*e*Sn	**Sn**	**21 49 05.0**	**-2.3**
	comp=Z,2.4nm,0.3s						
LOR	**Lormes**	**5.86**	**287**	*e*Pn	**Pn**	**21 48 00.5**	**+0.1**
LOR				*e*Sn	**Sn**	**21 49 05.0**	**-2.3**
	comp=Z,1.2nm,0.3s						
SSF	**Saint Saulge**	**6.05**	**285**	*e*Pn	**Pn**	**21 48 03.0**	**-0.1**
SSF				*e*Sn	**Sn**	**21 49 09.6**	**-2.6**
	comp=Z,1.7nm,0.4s						
SSF	**Saint Saulge**	**6.05**	**285**	*e*Pn	**Pn**	**21 48 03.0**	**-0.1**
SSF				*e*Sn	**Sn**	**21 49 09.6**	**-2.6**
	comp=Z,0.9nm,0.4s						
LASF	**Ste Croix**	**6.08**	**256**	*e*Pn	**Pn**	**21 48 03.2**	**-0.3**
LASF				*e*Sn	**Sn**	**21 49 09.7**	**-3.2**
	comp=Z,14nm,0.6s						
LASF	**Ste Croix**	**6.08**	**256**	*e*Pn	**Pn**	**21 48 03.2**	**-0.3**
AVF	**Avril sur Loir**	**6.12**	**282**	*e*Pn	**Pn**	**21 48 04.1**	**+0.1**
AVF				*e*Sn	**Sn**	**21 49 11.1**	**-2.7**
	comp=Z,2.2nm,0.5s						
AVF	**Avril sur Loir**	**6.12**	**282**	*e*Pn	**Pn**	**21 48 04.1**	**+0.1**
CLZ	**Clausthal**	**6.15**	**350**	*e*Sg	**Sg**	**21 49 51.8**	**+0.5**
BGF	**Bois d'Agland**	**6.45**	**280**	*e*Pn	**Pn**	**21 48 08.5**	**-0.1**
BGF				*e*Sn	**Sn**	**21 49 18.9**	**-3.1**
	comp=Z,6.7nm,0.6s						
BGF	**Bois d'Agland**	**6.45**	**280**	*e*Pn	**Pn**	**21 48 08.5**	**-0.1**
GIVF	**Givet**	**6.50**	**314**	*e*Pn	**Pn**	**21 48 09.4**	**+0.2**
GIVF				*e*Sn	**Sn**	**21 49 20.4**	**-2.6**
	comp=Z,3.6nm,0.3s						
GIVF	**Givet**	**6.50**	**314**	*e*Pn	**Pn**	**21 48 09.4**	**+0.2**
BAIF	**Baives**	**6.79**	**312**	*e*Pn	**Pn**	**21 48 13.2**	**+0.1**
BAIF				*e*Sn	**Sn**	**21 49 27.2**	**-2.9**
	comp=Z,2.5nm,0.5s						
BAIF	**Baives**	**6.79**	**312**	*e*Pn	**Pn**	**21 48 13.2**	**+0.1**
TCF	**Toulx Ste Croi**	**6.88**	**278**	*e*Pn	**Pn**	**21 48 14.2**	**-0.3**
TCF				*e*Sn	**Sn**	**21 49 29.4**	**-3.2**
	comp=Z,0.8nm,0.2s						
TCF	**Toulx Ste Croi**	**6.88**	**278**	*e*Pn	**Pn**	**21 48 14.2**	**-0.3**
TCF	**Toulx Ste Croi**	**6.88**	**278**	*e*Sn	**Sn**	**21 49 29.4**	**-3.2**
	comp=Z,0.4nm,0.2s						
MTLF	**Montolieu**	**7.46**	**254**	*e*Pn	**Pn**	**21 48 21.9**	**-0.4**
MTLF				*e*Sn	Sn	21 49 42.2	-4.5
	comp=Z,0.7nm,0.4s						
MTLF	**Montolieu**	**7.46**	**254**	*e*Pn	**Pn**	**21 48 21.9**	**-0.4**

*IDC **23** 21:53:50.9±0.7,20°.27S×67°.82E, h0km, mb3.9/10,*

mb1 4.0/10,mb1mx3.8/40,mbtmp3.9/10,MS3.6/2,
Ms1 3.6/2,ms1mx3.0/32,Error ellipse: s-maj=24.3km
s-min=17.3km az=162.0
*ISCJB **23** 21:53:51.5±0.6,20°.26S±0°.08×67°.9E±0°.1, h15km,*
mb3.9/10,MS3.6/2,Error ellipse: s-maj=17.0km
s-min=9.6km az=31.5

ISC 23 21:53:53.3±0.8,20°.3S±0°.1×67°.8E±0°.1, h15km, n20,
σ0s.86/15, mb3.9/10, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**13.35**	**20**	Pn	**Pn**		**21 57 00.9**	**-1.2**
	baz=16,slow=76,SNR=8.4							
H08S1				T	T		22 10 34.6	
	baz=200,slow=76,SNR=109							
H08S2	**Diego Garcia H**	**13.36**	**20**	Pn	**Pn**		**21 57 01.0**	**-1.1**
	baz=16,slow=76,SNR=5.7							
H08S2				T	T		22 10 38.3	
	baz=200,slow=76,SNR=209							
H08S3	**Diego Garcia H**	**13.37**	**20**	Pn	**Pn**		**21 57 02.2**	**-0.2**
	baz=16,slow=76,SNR=5.4							
H08S3				T	T		22 10 36.0	
	baz=200,slow=76,SNR=100							
H08N3	**Diego Garcia H**	**14.20**	**13**	Pn	**Pn**		**21 57 15.0**	**+1.4**
	baz=267,slow=5.6,SNR=5.8							
H08N3				T	T		22 11 35.5	
	baz=318,slow=13,SNR=14							
H08N1	**Diego Garcia H**	**14.21**	**13**	Pn	**Pn**		**21 57 14.9**	**+1.1**
	baz=267,slow=5.6,SNR=6.9							
H08N1				T	T		22 11 31.6	
	baz=318,slow=13,SNR=12							
H08N2	**Diego Garcia H**	**14.22**	**13**	Pn	Pn		21 57 15.6	+1.7
	baz=267,slow=5.6,SNR=4.9							
H08N2				T	T		22 11 35.3	
	baz=318,slow=13,SNR=12							
PALK	**Pallekele**	**30.17**	**26**	LR	LR		22 09 50.6	
	comp=Z,58nm,20.9s,baz=91,slow=32							
MATP	**Matopo**	**36.82**	**263**	P	**P**		**22 01 01.1**	**0.0**
	1.8nm,0.7s,baz=88,slow=8.5,SNR=6.1							
LSZ	**Lusaka**	**38.02**	**271**	P	**P**		**22 01 11.4**	**+0.1**
	0.8nm,0.7s,baz=48,slow=12,SNR=3.6							
BOSA	**Boshof**	**39.47**	**249**	P	**P**		**22 01 23.6**	**+0.2**
	0.5nm,0.4s,baz=18,slow=9.6,SNR=3.2							
H01W2	**Cape Leeuwin H**	**43.16**	**120**	T	T		22 47 39.6	
	baz=276,slow=74,SNR=7.3							
H01W3	**Cape Leeuwin H**	**43.16**	**120**	T	T		22 47 37.8	
	baz=276,slow=74,SNR=7.8							
H01W1	**Cape Leeuwin H**	**43.18**	**120**	T	T		22 47 37.1	
	baz=276							
CMAR	**Chiang Mai Arr**	**49.13**	**40**	P	**P**		**22 02 40.9**	**+0.2**
	2.5nm,0.8s,baz=234,slow=8.6,SNR=17							
ASAR	**Alice Springs**	**60.87**	**106**	P	**P**		**22 04 06.7**	**+0.9**
	0.9nm,0.8s,baz=263,slow=6.5,SNR=5.8							
ASAR				LR	LR		22 29 15.1	
	comp=Z,84nm,18.0s,baz=317,slow=35							
WRA	**Warramunga Arr**	**62.03**	**102**	P	**P**		**22 04 13.2**	**-0.4**
	0.9nm,1.0s,baz=260,slow=6.6,SNR=3.7							
QSPA	**South Pole Qui**	**69.82**	**180**	P	**P**		**22 05 03.0**	**0.0**
	0.7nm,0.9s,baz=263,slow=8.1,SNR=2.5							
TORD	**Torodi Ar. Bea**	**73.03**	**291**	P	**P**		**22 05 22.6**	**-0.5**
	0.8nm,1.0s,baz=106,slow=5.4,SNR=4.1							
ZALV	**Zalesovo Beam**	**75.37**	**10**	P	**P**		**22 05 34.9**	**-1.0**
	3.0nm,0.8s,baz=201,slow=5.7,SNR=12							
SONM	**Songino Array**	**76.13**	**26**	P	**P**		**22 05 41.2**	**+0.7**
	1.1nm,0.8s,baz=220,slow=6.5,SNR=5.2							

*MOS **23** 21:59:25.9±1.7,49°.15N×153°.88E, h150km, mb4.5/1, Error*
ellipse: s-maj=30.3km s-min=7.2km az=64.9
*KRSC **23** 21:59:26.6±2.2,48°.71N×155°.42E, h166km±25km, ML4.4*
*IDC **23** 21:59:28.8±2.3,49°.33N×153°.56E, h157km±21km, mb3.2/7,*
mb1 3.4/9,mb1mx3.2/36,mbtmp3.6/9, Error ellipse:
s-maj=37.6km s-min=16.7km az=150.0

ISC 23 21:59:26.5±1.0,49°.0N±0°.1×154°.1E±0°.1, h150km, n47,
σ2s.07/52, mb3.4/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.08**	**37**	*e*P	**Pn**		**22 00 03.5**	**+1.0**
SKR				*e*S	**Sn**		**22 00 32.3**	**+2.1**
SKR	**Severo-Kuril's**	**2.08**	**37**	*e*PN	Pn		21 59 59.0	-3.5
SKR				*e*S	**Sn**		**22 00 25.5**	**-4.7**
SKR				pmax	pmax			
	comp=Z,50nm,0.5s							
SKR				smax	smax			
	comp=N,150nm,0.3s							
SKR				smax	smax			
	comp=E,160nm,0.3s							
PAU	**Pauzhetka**	**2.97**	**34**	*e*P	**Pn**		**22 00 14.5**	**+1.1**
PAU				*e*S	**Sn**		**22 00 51.8**	**+2.1**
PAU	**Pauzhetka**	**2.97**	**34**	PN	**Pn**		**22 00 14.5**	**+1.1**
PAU				S	**Sn**		**22 00 51.8**	**+2.1**
MIPR	**Malaya Ipel'ka**	**3.64**	**26**	*e*P	**Pn**		**22 00 23.0**	**+1.0**
MIPR				*e*S	**Sn**		**22 01 06.5**	**+1.4**
ASAK	**Asacha**	**4.11**	**34**	*e*P	**Pn**		**22 00 28.8**	**+0.6**
MTVR	**Mutnovka**	**4.29**	**35**	*e*S	**Sn**		**22 01 20.8**	**+0.2**
RUS	**Russkaya**	**4.38**	**38**	*e*P	**Pn**		**22 00 31.2**	**-0.5**
RUS				*e*S	**Sn**		**22 01 20.2**	**-2.2**
RUS	**Russkaya**	**4.38**	**38**	PN	**Pn**		**22 00 31.2**	**-0.5**
RUS				S	**Sn**		**22 01 20.2**	**-2.2**
PETK	**Petropavlovsk-**	**4.65**	**27**	P	**Pn**		**22 00 36.8**	**+1.6**
	comp=E,1.5nm,0.3s,baz=202,slow=14,SNR=25							
PETK				S	Sn		22 01 38.9	+10
	comp=E,0.2nm,0.3s,baz=182,slow=30,SNR=2.6							
UGLR	**Uglovaya**	**5.11**	**33**	*e*P	**Pn**		**22 00 43.6**	**+2.3**
KOK	**Koryaka**	**5.11**	**32**	*e*P	**Pn**		**22 00 43.3**	**+2.0**
KOK	**Koryaka**	**5.11**	**32**	PN	**Pn**		**22 00 43.3**	**+2.0**
AVH	**Avacha**	**5.12**	**33**	*e*P	**Pn**		**22 00 43.8**	**+2.3**
AVH				*e*S	**Sn**		**22 01 39.2**	**-0.8**
AVH	**Avacha**	**5.12**	**33**	PN	**Pn**		**22 00 43.8**	**+2.3**
AVH				S	**Sn**		**22 01 39.2**	**-0.8**
SMAR	**Somma**	**5.14**	**33**	*e*P	**Pn**		**22 00 43.2**	**+1.3**
SMAR	**Somma**	**5.14**	**33**	PN	**Pn**		**22 00 43.2**	**+1.3**
KRER	**Koryakskii**	**5.16**	**32**	*e*P	**Pn**		**22 00 44.1**	**+2.0**
KRX	**Arik**	**5.17**	**32**	*e*P	**Pn**		**22 00 43.9**	**+1.7**
SDLR	**Sedlovina**	**5.18**	**33**	*e*P	**Pn**		**22 00 43.4**	**+1.0**
SDLR				*e*S	**Sn**		**22 01 41.0**	**-0.6**
SDLR	**Sedlovina**	**5.18**	**33**	PN	**Pn**		**22 00 43.4**	**+1.0**
SDLR				S	**Sn**		**22 01 41.0**	**-0.6**
GNL	**Ganaly**	**5.23**	**26**	*e*P	**Pn**		**22 00 44.6**	**+1.6**
GNL	**Ganaly**	**5.23**	**26**	PN	**Pn**		**22 00 44.6**	**+1.6**
NLC	**Nalytchevo**	**5.27**	**36**	*e*S	**Sn**		**22 01 38.4**	**-5.1**
SPN	**Mys Shipunski**	**5.50**	**40**	*e*P	**Pn**		**22 00 45.1**	**-1.3**
SPN				*e*S	**Sn**		**22 01 43.9**	**-4.9**
SPN	**Mys Shipunski**	**5.50**	**40**	PN	**Pn**		**22 00 45.1**	**-1.3**
SPN				S	**Sn**		**22 01 43.9**	**-4.9**
MKZ	**Mys Kozlova**	**7.25**	**38**	*e*P	**Pn**		**22 01 09.1**	**-0.6**
MKZ	**Mys Kozlova**	**7.25**	**38**	PN	**Pn**		**22 01 09.1**	**-0.6**
KBTR	**Krutoberegovo**	**8.90**	**33**	*e*P	**Pn**		**22 01 30.3**	**-1.4**
KBTR	**Krutoberegovo**	**8.90**	**33**	PN	**Pn**		**22 01 30.3**	**-1.4**
ASAJ	**Asahikawa**	**9.35**	**243**	P	**Pn**		**22 01 37.3**	**-0.5**
	comp=E,0.3nm,0.3s,baz=93,slow=18,SNR=2.2							
BILL	**Bilibino**	**20.00**	**13**	*e*P	Pn		22 03 49.8	-0.5
BILL				pmax	pmax			
	comp=Z,2.0nm,1.7s							
KSRS	**Korea Array**	**22.22**	**248**	P	**P**		**22 04 10.5**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=46,slow=10,SNR=5.9							
H11N2	**WAKE ISLAND Hy**	**30.99**	**156**	T	T		22 37 29.3	
	baz=276,slow=18,SNR=4.7							
H11N1	**WAKE ISLAND Hy**	**31.00**	**156**	T	T		22 37 46.3	
	baz=276,slow=18,SNR=7.2							
H11N3	**WAKE ISLAND Hy**	**31.01**	**156**	T	T		22 37 30.3	
	baz=276,slow=18,SNR=3.8							
H11S1	**WAKE ISLAND Hy**	**32.11**	**157**	T	T		22 39 16.5	
	baz=344,slow=76,SNR=46							
H11S3	**WAKE ISLAND Hy**	**32.12**	**157**	T	T		22 39 09.3	
	baz=344,slow=76,SNR=47							
H11S2	**WAKE ISLAND Hy**	**32.13**	**157**	T	T		22 39 09.9	
	baz=344,slow=76,SNR=37							
ILAR	**Eielson Array**	**34.34**	**41**	P	**P**		**22 06 00.1**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=269,slow=8.0,SNR=12							
KURK	**Kurchatov**	**46.70**	**302**	*e*P	**P**		**22 07 37.6**	**-2.3**
FINES	**FINESS Array B**	**62.26**	**335**	P	**P**		**22 09 29.9**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=32,slow=7.4,SNR=5.4							
FINES	**FINESS Array B**	**62.26**	**335**	*e*P	**P**		**22 09 30.9**	**-1.0**
PDAR	**Pinedale Array**	**62.85**	**55**	P	**P**		**22 09 39.3**	**+2.8**
	comp=Z,0.8nm,0.8s,baz=21,slow=2.0,SNR=7.7							
NOA	**NORSAR Array B**	**66.28**	**341**	P	**P**		**22 09 58.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=27,slow=6.5,SNR=5.9							
TXAR	**Lajitas Array**	**75.78**	**62**	P	**P**		**22 10 58.3**	**+2.4**
	comp=Z,0.4nm,0.6s,baz=305,slow=5.4,SNR=4.7							
ESDC	**Sonseca Array**	**89.56**	**343**	P	**P**		**22 12 05.4**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=46,slow=5.5,SNR=3.1							

WEL 23 22:16:20.1±0.6,35°.89S×178°.14E, h205km±7km, ML3.9/5,
Error ellipse: s-maj=10.8km s-min=10.1km az=90.0, Off
east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.89**	**189**	PN	Pn		22 16 57.7	-0.1
HAZ				SN	S		22 17 26.5	-0.4
WMGZ	**Waiomatatini S**	**1.94**	**174**	PN	Pn		22 16 58.3	0.0
WMGZ				SN	S		22 17 27.5	-0.4
PUZ	**Puketiti**	**2.18**	**178**	PN	Pn		22 17 00.9	0.0
PUZ				AML	AML		22 17 31.5	
PUZ				AML	AML		22 17 33.7	
MWZ	**Matawai**	**2.49**	**191**	PN	Pn		22 17 04.7	+0.4
MWZ				SN	S		22 17 38.6	+0.2
URZ	**Urewera**	**2.51**	**199**	PN	Pn		22 17 04.7	+0.3
URZ				SN	S		22 17 39.4	+0.9
CNGZ	**Carnagh Statio**	**2.59**	**179**	PN	Pn		22 17 05.7	+0.4
KNZ	**Kokohu**	**3.15**	**187**	PN	Pn		22 17 11.5	-0.1
NMHZ	**Naumai**	**3.38**	**198**	PN	Pn		22 17 15.4	+0.9
ARHZ	**Aropaoanui**	**3.49**	**195**	PN	Pn		22 17 16.1	+0.3
KRHZ	**Kereru**	**4.00**	**200**	PN	Pn		22 17 21.9	-0.2
PXZ	**Pawanui**	**4.26**	**193**	PN	Pn		22 17 24.4	-0.8
PXZ				AML	AML		22 18 34.9	
PRHZ	**Porangahau**	**4.53**	**195**	PN	Pn		22 17 28.3	-0.4
BFZ	**Birch Farm**	**5.01**	**197**	PN	Pn		22 17 34.2	-0.5
MRZ	**Mangatainoka R**	**5.18**	**202**	*e*PN	Pn		22 17 36.6	-0.2

*IDC **23** 22:30:16.2±3.4,13°.28N×91°.16W, h0km, mb3.8/1,*
mb1 4.2/4,mb1mx3.6/32,mbtmp3.9/4,ML4.0/3,MS2.6/1,
Ms1 2.6/1,ms1mx2.2/30,Error ellipse: s-maj=63.4km
s-min=52.0km az=11.0
*ISCJB **23** 22:30:25.1±1.0,13°.80N±0°.09×91°.47W±0°.05, h29km,*
mb3.9/1,MS4.7/1,Error ellipse: s-maj=13.6km
s-min=5.5km az=16.5
*CASC **23** 22:30:28.7±1.4,13°.83N×91°.21W, h21km±7km, MD3.7*

ISC 23 22:30:23.9±1.2,13°.62N±0°.09×91°.34W±0°.05, h29km, n16,
σ0s.97/20, 4C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.75**	**337**	↑*e*P	**Pn**		**22 30 40.5**	**+1.9**
FUG	**Fuego 3**	**0.95**	**30**	*e*P	**Pb**		**22 30 42.3**	**+0.4**
PCG	**Pacaya**	**1.05**	**42**	↑*e*P	**Pb**		**22 30 44.6**	**+1.0**
PCG				↑*e*S	**Sn**		**22 30 56.3**	**-0.4**
NBG	**Las Nubes**	**1.36**	**45**	↑*e*P	**Pb**		**22 30 49.4**	**+0.5**
NBG				*e*S	**Sb**		**22 31 05.8**	**-0.2**
RTR	**El Retiro**	**1.67**	**80**	*e*P	**Pb**		**22 30 55.2**	**+1.1**
RBDL	**Robledal**	**1.68**	**73**	*e*P	**Pb**		**22 30 54.1**	**-0.1**
SBLS	**San Blas**	**1.68**	**82**	*e*P	**Pb**		**22 30 55.2**	**+0.9**
SBLS				*e*S	**Sb**		**22 31 15.2**	**0.0**
SNJE	**San Jose**	**1.70**	**81**	*e*P	**Pb**		**22 30 55.8**	**+1.2**
MRL	**Marmol**	**2.15**	**48**	↓*i*P	**Pn**		**22 30 59.2**	**+1.2**
LFRS	**El Faro**	**2.21**	**90**	*e*P	**Pb**		**22 31 03.2**	**0.0**
LF

TX31	Lajitas Ar. Si	72.74	333	*e*P	P	22 56 07.8	+0.8
TXAR	Lajitas Array	72.74	333	P	P	22 56 08.1	+1.2
	comp=E,1.6nm,1.0s,baz=150,slow=8.6,SNR=7.8						
CPCT	Cooper Cave	73.95	351	*e*P	P	22 56 14.3	+0.5
TKL	Tuckaleechee C	74.07	352	*e*P	P	22 56 14.0	-0.5
WVT	Waverly	75.09	348	*e*P	P	22 56 20.7	+0.3
	comp=E,6.5nm,1.2s						
CASY	Casey	75.79	182	*e*P	P	22 56 18.2	-5.9
	comp=E,112nm,2.9s						
DBIC	Dimbokro	77.92	72	P	P	22 56 37.7	+0.8
	comp=E,6.8nm,1.0s,baz=180,slow=5.1,SNR=3.4						
DBIC	Dimbokro	77.92	72	*e*P	P	22 56 37.7	+0.8
	comp=E,72nm,1.8s						
ANMO	Albuquerque	78.81	333	*e*P	P	22 56 43.7	+2.1
	comp=E,3.8nm,1.1s						
BOSA	Boshof	79.42	118	P	P	22 56 45.6	+0.3
	comp=E,7.3nm,0.9s,baz=232,slow=4.2,SNR=11						
BOSA				LR	LR	23 28 43.8	
	comp=E,94nm,20.0s,baz=188,slow=33						
TSUM	Tsumeb	79.48	106	*e*P	P	22 56 44.8	-1.0
	comp=E,22nm,1.8s						
SMCO	Snowmass	82.80	335	*e*P	P	22 57 05.5	+2.4
	comp=E,14nm,2.0s						
ECSD	EROS Data Cent	84.13	344	*e*P	P	22 57 10.1	+0.7
	comp=E,6.6nm,1.0s						
HWUT	Hardware Ranch	86.56	333	*e*P	P	22 57 23.4	+1.7
	comp=E,3.1nm,0.9s						
PD31	Pinedale Array	86.88	335	*e*P	P	22 57 23.4	+0.1
PDAR	Pinedale Array	86.88	335	P	P	22 57 23.4	+0.1
	comp=E,0.7nm,0.9s,baz=101,slow=8.0,SNR=4.8						
TOA0	Torodi Ar. Sit	87.01	71	*e*P	P	22 57 24.5	+0.1
TORD	Torodi Ar. Bea	87.01	71	P	P	22 57 24.5	+0.1
	comp=E,1.5nm,0.7s,baz=223,slow=4.3,SNR=14						
GERES	GERESS Array B	116.12	47	PKP	PKPdf	23 03 21.9	+0.5
	comp=E,0.3nm,0.6s,baz=158,slow=1.4,SNR=3.8						
BRTR	Keskin Array B	125.09	64	PKP	PKPdf	23 03 38.6	-0.4
	comp=E,0.6nm,0.8s,baz=193,slow=5.1,SNR=4.7						
BVAR	Borovoye Array	151.29	47	PKPbc	PKPbc	23 04 32.3	+0.7
	comp=E,2.2nm,0.7s,baz=270,slow=3.0,SNR=13						
ZALV	Zalesovo Beam	158.53	36	PKPab	PKPab	23 05 09.9	-0.6
	comp=E,1.9nm,0.8s,baz=289,slow=4.4,SNR=7.5						

IDC 23 23:06:33.3±1.1, 16°74S×173°54W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/23, mbtmp3.8/5, Error ellipse: s-maj=49.0km s-min=24.4km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	22.96	199	P	P	23 11 38.9	-0.4
	7.3nm,0.8s,baz=333,slow=18,SNR=2.5						
WRA	Warramunga Arr	49.42	258	P	P	23 15 23.7	-1.7
	1.0nm,1.1s,baz=92,slow=9.4,SNR=5.7						
ASAR	Alice Springs	49.58	253	P	P	23 15 27.4	+0.8
	1.8nm,0.7s,baz=86,slow=8.0,SNR=17						
TXAR	Lajitas Array	81.46	56	P	P	23 18 53.0	+0.1
	0.3nm,0.7s,baz=201,slow=6.7,SNR=3.2						
ILAR	Eielson Array	83.78	11	P	P	23 19 02.1	-1.9
	0.3nm,0.7s,baz=226,slow=7.5,SNR=4.3						
BRTR	Keskin Array B	147.10	320	PKPbc	PKPab	23 26 19.5	-0.8
	2.1nm,1.1s,baz=5.7,slow=2.9,SNR=3.9						
GERES	GERESS Array B	147.44	351	PKPbc	PKPbc	23 26 19.2	-0.1
	0.3nm,0.6s,baz=70,slow=1.1,SNR=2.5						

JMA 23 23:48:19.8±0.7, 33°17N×142°26E, h0km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	1.82	325	P	Pb	23 48 53.2	-0.2
JHJ2	Mitsune	2.05	269	P	Pn	23 48 56.6	+1.1
JHJ2				S	Sn	23 49 22.9	+1.1
BSO4	Boso 4	2.42	319	P	Pb	23 49 02.6	-1.4
JIM2	Oshima 3	2.81	304	P	Pn	23 49 06.4	+0.3
JIM2				S	Sn	23 49 41.9	+1.2
JHU	Hanno	3.63	318	S	Sn	23 50 02.7	+1.8
JAG	Ashikaga	3.98	325	P	Pn	23 49 23.0	+0.8
MAT	Matsushiro	4.74	316	P	Pn	23 49 33.7	+1.2
MAT				S	Sn	23 50 31.1	+2.9

WEL 23 23:50:41.4±0.4, 39°25S×174°87E, h194km±3km, ML3.5/8, 5C-1D, Error ellipse: s-maj=2.0km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRZ	Vera Road	0.15	325	↑P	Pn	23 51 06.0	-0.8
VRZ				S	Sn	23 51 25.1	-1.4
LREZ	Lake Rotokare	0.42	239	P	Pn	23 51 07.5	+0.1
WAZ	Wanganui	0.52	170	↑P	Pn	23 51 08.1	+0.3
WAZ				S	Sn	23 51 27.9	-0.5
TRVZ	Turoa	0.53	96	P	Pn	23 51 07.8	-0.3
TRVZ				S	Sn	23 51 27.3	-1.5
FWVZ	Far West T-bar	0.53	91	P	Pn	23 51 07.8	-0.4
WHVZ	Whangaehu Hut	0.56	94	↑P	Pn	23 51 08.0	-0.3
NEZ	North Egmont	0.60	268	P	Pn	23 51 08.1	-0.1
TUVZ	Tukino	0.61	92	P	Pn	23 51 08.3	-0.1
TUVZ				*e*S	Sn	23 51 27.9	-1.3
KHEZ	Kahui Hut	0.66	266	P	Pn	23 51 08.4	-0.2
PKE	Pukeiti	0.69	274	P	Pn	23 51 08.1	-0.5
MOVZ	Moawhango	0.70	103	↑P	Pn	23 51 08.2	-0.5
BHHZ	Black Hill Sta	0.96	105	P	Pn	23 51 09.7	-0.5
TSZ	Takapari Road	1.17	134	P	Pn	23 51 11.9	+0.2
TSZ				AML	AML	23 51 34.7	
KWHZ	Kaweka Forest	1.22	99	P	Pn	23 51 12.3	+0.1
PNHZ	Pukenui	1.23	123	P	Pn	23 51 12.2	0.0
KRHZ	Kereru	1.23	109	P	Pn	23 51 12.1	-0.1
BKZ	Black Stump Fm	1.27	87	P	Pn	23 51 11.7	-0.8
BKZ				AML	AML	23 51 34.0	
BKZ				AML	AML	23 51 35.7	
MCHZ	McNeill Hill	1.43	98	P	Pn	23 51 14.3	+0.4
DVHZ	Dannevirke	1.45	137	P	Pn	23 51 14.0	0.0
WPHZ	Waipukurau	1.46	124	P	Pn	23 51 13.7	-0.5
MRZ	Mangatainoka R	1.51	159	↑P	Pn	23 51 14.4	-0.2
MRZ				S	Sn	23 51 39.1	-1.5
PRWZ	Pori Road	1.56	147	P	Pn	23 51 15.2	+0.2
PRWZ				S	Sn	23 51 40.0	-1.3
OGWZ	Otaki Gorge	1.58	172	P	Pn	23 51 15.4	+0.1
KIW	Kapiti Island	1.61	179	P	Pn	23 51 15.3	-0.2
ARHZ	Aropaoanui	1.65	91	P	Pn	23 51 15.9	0.0
PRHZ	Porangahau	1.70	127	P	Pn	23 51 16.6	+0.2
DUWZ	D'Urville Isla	1.71	205	P	Pn	23 51 16.2	-0.3
HOWZ	Holdsworth Sta	1.72	163	P	Pn	23 51 16.2	-0.3
PXZ	Pawanui	1.73	118	P	Pn	23 51 16.8	+0.2
PXZ				AML	AML	23 51 43.5	
BFZ	Birch Farm	1.78	144	P	Pn	23 51 16.9	-0.3
CAW	Cannon Point	1.86	175	P	Pn	23 51 17.7	-0.2
CAW				AML	AML	23 51 46.7	
CAW				AML	AML	23 51 48.2	
MTW	Mount Morrison	1.97	166	P	Pn	23 51 18.5	-0.5
URZ	Urewera	2.01	61	P	Pn	23 51 17.5	-2.0
TCW	Tory Channel	2.01	193	P	Pn	23 51 19.4	0.0
TCW				AML	AML	23 51 51.1	
TCW				AML	AML	23 51 51.2	
PAWZ	Paruwai Farm	2.17	169	P	Pn	23 51 20.6	-0.6
MSWZ	Moikau Station	2.18	172	P	Pn	23 51 20.7	-0.6
MSWZ				AML	AML	23 51 52.5	
MWZ	Matawai	2.27	67	P	Pn	23 51 20.7	-1.6
NNZ	Nelson	2.27	210	P	Pn	23 51 21.5	-0.8
TUWZ	Tuamarina	2.29	198	P	Pn	23 51 22.1	-0.4
TUWZ				AML	AML	23 51 53.2	
TUWZ				AML	AML	23 51 54.7	
PLWZ	Palliser	2.34	173	P	Pn	23 51 22.2	-0.9
BSWZ	Blackbirch Sta	2.58	197	P	Pn	23 51 25.6	0.0
HAZ	Te Kaha	2.73	58	↓P	Pn	23 51 24.8	-2.6
THZ	Tophouse	2.92	210	*e*P	Pn	23 51 28.8	-1.0
KHZ	Kahutara	3.32	197	P	Pn	23 51 34.2	-0.3
OXZ	Oxford	4.60	207	P	Pn	23 51 48.2	-2.2
MQZ	McQueen's Vall	4.76	200	*e*P	Pn	23 51 49.9	-2.5
WVZ	Waitaha Valley	4.93	218	*e*P	Pn	23 51 52.8	-1.8
JCZ	Jackson Bay	6.64	222	*e*P	Pn	23 52 13.8	-3.1

IDC 23 23:53:23.2±1.0, 7°.50N×91°.69E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/30, mbtmp3.8/9, ML4.6/1, Error ellipse: s-maj=38.0km s-min=20.1km az=44.0

ISC 23 23:53:25.6±1.1, 7°2N±0°.2×91°3E±0°.1, h20km, n20, σ0°87/16, mb3.9/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	10.52	271	Pn	Pn	23 56 02.6	+7.1
	4.5nm,0.3s,baz=83,slow=14,SNR=17						
PALK				Sn	Sn	23 57 52.0	-0.8
	4.2nm,0.3s,baz=356,slow=19,SNR=9.3						
ODAN	Odare	19.92	350	*e*P	P	23 57 56.1	-0.4
	8.4nm,0.5s						
RAMN	Ramite	20.16	348	*e*P	P	23 57 58.9	-0.2
TAPN	Taplejung	20.34	351	*e*P	P	23 58 00.9	-0.3
	20nm,0.9s						
PKI	Pulchoki	21.03	345	*e*P	P	23 58 08.4	-0.2
	22nm,0.9s						
GUN	Gumba	21.25	347	*e*P	P	23 58 10.8	-0.1
	24nm,0.6s						
KKN	Kakani	21.27	345	*e*P	P	23 58 10.7	-0.4
	6.1nm,0.6s						
GKN	Gorkha	21.65	344	*e*P	P	23 58 15.8	+0.7
	25nm,0.8s						
KOLN	Koldanda	21.74	341	*e*P	P	23 58 16.6	+0.5
	23nm,0.7s						
H08S3	Diego Garcia H	23.85	232	T	T	00 25 12.7	
	baz=52,slow=75,SNR=8.0						
H08S2	Diego Garcia H	23.86	232	T	T	00 25 15.0	
	baz=52,slow=75,SNR=4.1						
H08S1	Diego Garcia H	23.87	232	T	T	00 25 13.9	
	baz=52,slow=75,SNR=6.3						
SONM	Songino Array	42.50	15	P	P	00 01 17.8	-1.9
	0.7nm,0.6s,baz=188,slow=8.7,SNR=3.2						
ZALV	Zalesovo Beam	46.92	355	P	P	00 01 53.9	-0.8
	1.3nm,0.5s,baz=168,slow=8.8,SNR=6.7						
WRA	Warramunga Arr	50.19	123	P	P	00 02 19.4	-1.0
	0.4nm,0.6s,baz=307,slow=8.5,SNR=3.9						
ASAR	Alice Springs	51.67	128	P	P	00 02 32.2	+0.6
	0.4nm,0.6s,baz=306,slow=7.9,SNR=3.6						
BRTR	Keskin Array B	60.77	312	P	P	00 03 37.5	+1.0
	0.7nm,0.8s,baz=120,slow=7.3,SNR=5.1						
FINES	FINESS Array B	72.02	333	P	P	00 04 47.4	-0.5
	0.9nm,0.7s,baz=91,slow=7.6,SNR=5.6						
GERES	GERESS Array B	76.47	318	P	P	00 05 16.0	+1.7
	0.6nm,0.6s,baz=96,slow=5.4,SNR=6.7						
NOA	NORSAR Array B	78.95	331	P	P	00 05 26.6	-1.2
	0.4nm,0.8s,baz=93,slow=5.8,SNR=3.3						

BJI 24 00:04:47.7, 11°.20N×125°.10E, h143km, mb4.6/14, mbB4.7/7
ISCJB 24 00:04:53.2±0.2, 10°.93N±0°.03×124°.94E±0°.04, h200km, mb4.3/48, Error ellipse: s-maj=5.7km s-min=3.5km az=160.8
NEIC 24 00:04:56.0±1.0, 10°.96N×124°.93E, h212km±10km, mb4.4/19, Error ellipse: s-maj=8.3km s-min=5.2km az=68.0
IDC 24 00:04:58.4±2.5, 10°.94N×124°.95E, h236km±25km, mb3.9/24, mb1 4.0/26, mb1mx3.9/30, mbtmp4.4/26, Error ellipse: s-maj=16.9km s-min=8.6km az=76.0
DJA 24 00:05:18.9±0.9, 9°N±6°×12°6E±°, h279km±12km, M5.0/20, mb4.7/20, mB5.2/11, MLv6.0/1, Mw(mB)4.6/11

ISC 24 00:04:54.5±0.3, 10°.95N±0°.04×124°.98E±0°.07, h200km, n137, σ1°39/135, mb4.3/48, 3C-3D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	Palo	0.22	1	↓*i*P	Pn	00 05 16.7	-4.2
PLP				*i*S	Sn	00 05 33.4	-8.1
OCLP	Ormoc	0.38	286	*e*P	Pn	00 05 17.8	-3.4
MSLP	Maasin	0.81	188	*e*P	Pn	00 05 20.5	-2.7
MSLP				*e*S	Sn	00 05 40.9	-4.5
SCPH	Surigao	1.26	156	↓*e*P	Pn	00 05 24.8	-1.4
SCPH				*e*S	Sn	00 05 48.2	-2.7
CNP	Catarman	1.58	349	*e*P	Pn	00 05 25.4	-3.6
TBP	Tagbilaran	1.66	221	*e*P	Pn	00 05 27.1	-2.6
TBP				*e*S	Sn	00 05 50.3	-6.8
BUTP	Butuan	2.06	162	*e*P	Pn	00 05 30.2	-3.6
RCP	Roxas	2.27	286	↑*i*P	Pn	00 05 33.9	-2.1
GUIM	Jordan	2.37	263	*e*P	Pn	00 05 34.7	-2.3
CGP	Cagayan de Oro	2.49	186	↑*i*P	Pn	00 05 36.1	-2.2
CGP				*i*S	Sn	00 06 08.7	-3.9
PVCP	Virac	2.75	343	↓*i*P	Pn	00 05 38.6	-2.7
PVCP				*i*S	Sn	00 06 10.5	-7.5
DCPH	Dipolog City	2.84	214	↑*i*P	Pn	00 05 40.1	-2.2
BUKP	Musuan	3.05	178	*e*P	Pn	00 05 44.4	-0.5
OTRP	Odiongan	3.22	296	*e*P	Pn	00 05 44.8	-1.9
AUQP	San Andres	3.26	317	*e*P	Pn	00 05 46.4	-0.9
PAGZ	Pagadian	3.46	207	*e*P	Pn	00 05 48.4	-1.3
SJMP	San Jose	4.07	292	*e*P	Pn	00 05 56.0	-1.1
MATI	Mati	4.17	162	*e*P	Pn	00 05 56.6	-1.9
LQP	Lukban	4.60	314	*e*P	Pn	00 06 03.0	-1.1
LUBP	Lubang	5.39	301	*e*P	Pn	00 06 12.5	-1.4
SZP	Santa	7.89	327	*e*Pn	Pn	00 06 45.0	-1.3
TNTI	Ternate	10.38	167	P	Pn	00 07 17.2	-1.6
	143nm,1.0s						
TNTI	Ternate	10.38	167	*e*Pn	Pn	00 07 19.2	+0.4
MRSI	Marisa	10.83	196	P	Pn	00 07 26.2	+1.7
MPSI	Mapaga	11.69	206	P	P	00 07 42.8	+2.1
	17nm,0.9s						
LUWI	Luwuk	12.11	191	P	P	00 07 45.5	+0.1
	146nm,0.5s,5μm						
LUWI				S	Sn	00 09 42.7	-13
	146nm,0.5s,5μm						
LUWI	Luwuk	12.11	191	*e*Pn	P	00 07 47.2	+1.8
APSI	Ampana	12.23	196	P	P	00 07 48.6	+1.8
	119nm,0.6s,1μm						
APSI				S	Sn	00 09 44.8	-14
	119nm,0.6s,1μm						
PCI	Palu	12.84	204	P	P	00 07 59.5	+6.0
SANI	Sanana	12.95	175	P	Pn	00 07 47.6	-3.9
	142nm,1.0s,1μm						
SANI				S	S	00 09 47.0	-29
	142nm,1.0s,1μm						
SIJI	Sorong	13.30	152	P	P	00 07 58.8	+0.1
	1.6nm,0.3s,baz=41,slow=6.7,SNR=8.2						
NLAI	Namlea	14.25	171	P	Pn	00 08 05.9	-1.7
	78nm,0.7s						
NLAI				S	S	00 10 23.0	-23
	78nm,0.7s						
MSAI	Masohi	14.73	164	P	P	00 08 15.5	+0.9
	139nm,0.9s,1μm						
TTSI	Tana Toraja	14.82	201	P	P	00 08 17.4	+1.9
	255nm,0.9s,2μm						
FAKI	Fak Fak	15.56	152	P	P	00 08 24.0	+0.3
	26nm,0.8s						
FAKI	Fak Fak	15.56	152	*e*P	P	00 08 24.4	+0.7
	19nm,0.6s						
SPSI	Sidrap Palu	15.69	200	P	Pn	00 08 28.7	+3.4
	56nm,0.9s,1μm						
JOW	Kunigami	16.11	11	P	Pn	00 08 31.9	+1.8
	0.1nm,0.3s,baz=178,slow=26,SNR=5.9						
JOW	Kunigami	16.11	11	*e*P	Pn	00 08 31.9	+1.8
	64nm,1.7s						
KAPI	Kappang	16.69	198	P	Pn	00 08 38.6	+1.4
	1.6nm,0.3s,baz=25,slow=4.7,SNR=12						
KAPI	Kappang	16.69	198	*e*P	Pn	00 08 38.9	+1.7
BKSI	Bulukumba	16.87	197	P	Pn	00 08 41.7	+2.4
	34nm,0.9s						
SMPI	Sarmi	18.76	132	P	P	00 09 00.4	+1.7
	65nm,1.2s,5μm						
GENI	Genyem	20.23	131	P	Pn	00 09 18.3	-1.1
	73nm,0.8s,4μm						
SOEI	Soe	20.58	182	P	P	00 09 19.3	+1.0
JAY	Jayapura	20.58	130	P	P	00 09 19.8	+1.4
	6.8nm,0.7s,baz=308,slow=12,SNR=3.8						
SKNT	Sakolnakorn	21.23	289	P	P	00 09 26.2	+1.1
	16nm,1.3s						
NONG	Nongkai	22.27	291	P	P	00 09 35.8	+0.3
	22nm,0.8s						
CHAI	Chaiyaphum	22.89	285	P	P	00 09 40.6	-0.5
	14nm,1.1s						
LOEI	Loei	23.88	289	P	P	00 09 47.9	-2.1
	70nm,1.5s						
PBKT	Sadao Pong	23.97	286	P	P	00 09 51.6	+0.8
	34nm,0.8s						
IPM	Ipoh	24.58	257	*e*P	P	00 09 57.8	+1.3
	20nm,0.7s						
UTTA	Uttaradit	24.59	289	P	P	00 09 59.8	+3.3
	2.4nm,0.9s						
NANT	Nan	24.71	291	P	P	00 09 57.4	-0.2
	5.5nm,0.6s						
UTHA	Uthaitani	25.26	283	P	P	00 10 04.9	+2.3
CRAI	Chiangrai	25.40	294	P	P	00 10 01.7	-2.1
	16nm,0.7s						
CM01	Chiang Mai Arr	26.22	290	*e*P	P	00 10 11.7	+0.5
CM31	Chiang Mai Arr	26.24	290	*e*P	P	00 10 12.4	+1.0
CM31				*e*PcP	PcP	00 13 33.5	+0.7
CMAR	Chiang Mai Arr	26.24	290	P	P	00 10 12.4	+1.0
	6.5nm,0.8s,baz=102,slow=7.4,SNR=25						
CMAR				PcP	PcP	00 13 33.5	+0.7
	0.9nm,0.4s,baz=69,slow=1.8,SNR=5.6						

CHTO	Chiang Mai	26.32	290	*e*P	P	00 10 13.1	+1.0
	9.9nm,1.2s						
KS15	Wonju Array Si	26.51	5	*e*P	P	00 10 14.4	+0.9
KSAR	Wonju Array Be	26.51	5	P	P	00 10 14.4	+0.9
KSRS	Korea Array	26.53	5	P	P	00 10 14.4	+0.8
	4.7nm,0.3s,baz=181,slow=11,SNR=6.9						
WRA	Warramunga Arr	32.05	163	P	P	00 11 02.0	-0.7
	2.7nm,0.5s,baz=341,slow=8.8,SNR=53						
WRA				PcP	PcP	00 13 47.4	-0.1
	0.7nm,0.5s,baz=305,slow=5.2,SNR=5.0						
HHC	Hu-ho-hao-te	32.05	341	*e*P	P	00 11 04.1	+1.5
HHC				S	S	00 15 55.6	-4.0
HHC				PMZ			
	34nm,0.8s						
HHC				PMZ			
	65nm,4.9s						
USRK	Ussuriysk Ar.	33.68	9	P	P	00 11 16.9	+0.4
	5.6nm,0.9s,baz=132,slow=2.8,SNR=8.1						
AS12	Alice Springs	35.49	166	*e*P	P	00 11 33.0	+0.7
AS12				*e*PcP	PcP	00 13 57.3	+0.1
AS31	Alice Springs	35.49	166	*e*P	P	00 11 32.7	+0.4
ASAR	Alice Springs	35.49	166	P	P	00 11 33.0	+0.7
	5.0nm,0.4s,baz=351,slow=7.8,SNR=107						
ASAR				PcP	PcP	00 13 57.3	+0.1
	1.0nm,0.6s,baz=341,slow=2.6,SNR=4.2						
AS01	Alice Springs	35.50	166	*e*P	P	00 11 32.7	+0.4
GTA	Gaotai	36.11	326	*e*P	P	00 11 38.4	+0.9
GTA				PMZ			
	12nm,0.9s						
LSA	Lhasa	36.60	306	*e*P	P	00 11 43.6	+1.3
	29nm,0.1s						
TAPN	Taplejung	38.61	300	*e*P	P	00 11 59.2	+0.2
	12nm,0.4s						
ODAN	Odare	38.74	299	*e*P	P	00 12 00.1	+0.2
	47nm,0.6s						
RAMN	Ramite	39.44	299	*e*P	P	00 12 06.2	+0.4
	24nm,0.6s						
SONA0	Songino Array	39.95	340	*e*P	P	00 12 10.2	+0.6
SONM	Songino Array	39.95	340	P	P	00 12 10.2	+0.6
	3.3nm,0.6s,baz=155,slow=9.7,SNR=14						
SONA1	Songino Array	39.96	340	*e*P	P	00 12 10.0	+0.4
GUN	Gumba	40.33	300	*e*P	P	00 12 13.3	+0.1
	44nm,0.7s						
PKI	Pulchoki	40.63	300	*e*P	P	00 12 15.2	-0.5
	15nm,0.6s						
DMN	Daman	40.90	300	*e*P	P	00 12 17.5	-0.3
GKN	Gorkha	41.41	300	*e*P	P	00 12 21.2	-0.6
KOLN	Koldanda	42.23	299	*e*P	P	00 12 28.4	-0.1
	19nm,0.7s						
TLY	Talaya	44.18	341	P	P	00 12 43.9	+0.4
	8.0nm,0.8s,baz=175,slow=7.7,SNR=12						
STKA	Stephens Creek	45.46	160	P	P	00 12 54.3	+0.6
	3.3nm,0.5s,baz=349,slow=10,SNR=5.0						
STKA	Stephens Creek	45.46	160	*e*P	P	00 12 54.3	+0.6
	24nm,2.9s						
PETK	Petropavlovsk-	49.56	25	P	P	00 13 26.1	+1.0
	1.5nm,0.5s,baz=235,slow=4.6,SNR=3.5						
PEA2	Petropavlovsk-	49.56	25	*e*P	P	00 13 26.1	+1.0
MKAR	Makanchi Array	50.72	323	*e*P	P	00 13 34.5	+0.5
YAK	Yakutsk	51.11	3	*e*P	P	00 13 35.8	-0.7
	6.0nm,1.0s						
TKM2	Tokmak 2	53.30	316	*e*P	P	00 13 53.9	+0.7
	3.8nm,0.8s						
ZAA0	Zalesovo Array	53.43	332	*e*P	P	00 13 53.0	-0.6
ZALV	Zalesovo Beam	53.43	332	P	P	00 13 53.2	-0.5
	3.3nm,0.7s,baz=127,slow=6.4,SNR=14						
ZAA1	Zalesovo Array	53.43	332	*e*P	P	00 13 53.2	-0.5
EKS2	Erkin-Say	54.46	315	*e*P	P	00 14 01.9	+0.4
	5.7nm,0.8s						
KURK	Kurchatov	54.80	326	*e*P	P	00 14 03.0	-0.6
	9.0nm,0.8s						
SEY	Seymchan	55.49	15	P	P	00 14 09.8	+1.5
	1.9nm,0.2s,baz=295,slow=3.6,SNR=4.9						
KKAR	Karatay Array	56.87	315	*e*P	P	00 14 18.8	+0.2
BRVK	Borovoye	60.46	326	*e*P	P	00 14 43.1	+0.1
	9.4nm,0.8s						
TIXI	Tiksi	60.71	1	*e*P	P	00 14 44.2	-0.1
	4.1nm,0.6s						
ABKAR	Akbulak array	65.54	319	*e*P	P	00 15 15.9	-0.6
ARU	Arti	67.97	327	*e*P	P	00 15 31.0	-0.7
	6.1nm,0.9s						
RAYN	Ar Rayn	76.14	292	*e*P	P	00 16 21.2	+0.2
	7.0nm,0.8s						
IM04	Indian Mountai	76.51	25	*e*P	P	00 16 23.4	+1.2
BPAW	Bear Paw Mtn.	77.63	27	*e*P	P	00 16 29.6	+1.2
TRF	Thorofare Moun	77.94	27	*e*P	P	00 16 31.2	+0.9
	6.3nm,0.9s						
COLD	Coldfoot	77.98	23	*e*P	P	00 16 32.0	+1.7
	7.5nm,0.7s						
MCK	McKinley	78.54	27	*e*P	P	00 16 34.2	+0.7
	13nm,0.8s						
RND	Reindeer	78.58	27	*e*P	P	00 16 34.1	+0.3
	7.7nm,1.1s						
WRH	Wood River Hil	78.89	26	*e*P	P	00 16 35.8	+0.5
	6.3nm,1.2s						
ILAR	Eielson Array	79.39	26	P	P	00 16 36.5	-1.6
	1.2nm,0.7s,baz=248,slow=5.4,SNR=15					

σ1§97/9, mb3.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.85**	**260**	P	**P**	**01 14 13.4**	**+0.5**
	0.6nm,0.4s,baz=96,slow=7.8,SNR=10						
WRA				PcP	**PcP**	**01 15 40.8**	**-2.6**
	0.3nm,0.4s,baz=100,slow=4.0,SNR=6.8						
ASAR	**Alice Springs**	**44.93**	**255**	P	**P**	**01 14 14.3**	**+0.8**
	0.6nm,0.4s,baz=84,slow=8.0,SNR=8.3						
ASAR				PcP	**PcP**	**01 15 41.8**	**-1.9**
	0.2nm,0.3s,baz=88,slow=6.0,SNR=2.7						
TXAR	**Lajitas Array**	**86.14**	**57**	P	**P**	**01 18 31.2**	**+0.2**
	0.1nm,0.4s,baz=225,slow=3.7,SNR=2.7						
ILAR	**Eielson Array**	**86.64**	**13**	P	**P**	**01 18 31.9**	**-0.5**
	0.3nm,0.6s,baz=231,slow=5.7,SNR=3.6						
ARCES	**ARCESS Array B**	**127.23**	**350**	PKP	**PKPdf**	**01 24 47.7**	**-1.5**
	2.1nm,0.7s,baz=79,slow=1.9,SNR=4.6						
BRTR	**Keskin Array B**	**145.65**	**314**	PKPbc	**PKPdf**	**01 25 25.4**	**+1.3**
	0.6nm,0.5s,baz=155,slow=4.8,SNR=4.3						
GERES	**GERESS Array B**	**148.54**	**345**	PKPbc	**PKPdf**	**01 25 31.3**	**+2.8**
	0.7nm,0.5s,baz=343,slow=1.4,SNR=7.1						

BJI 24 01:10:56.1, 34.73N×108.98E, h5km, mb3.7/1, ML3.9/21, Ms3.5/5, Ms7 3.2/3, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**4.41**	**289**	Pn	Pn	01 12 01.8	-2.1
LZH				Pg	Pb	01 12 14.8	+0.5
LZH				Sg	Sb	01 13 12.0	+4.1
LZH				SMN			
	270nm,1.1s						
LZH				SME			
	440nm,1.0s						
LZH				LN			
	630nm,6.0s						
LZH				LE			
	530nm,5.5s						
LZH				LZ			
	550nm,7.5s						
CD2	**Chengdu**	**5.82**	**231**	Pn	Pn	01 12 22.3	-0.8
CD2				Pg	Pb	01 12 42.8	+4.7
CD2				Sn	Sn	01 13 26.0	-4.3
CD2				Sg	Sg	01 13 57.5	-5.6
CD2				SMN			
	130nm,0.9s						
CD2				SME			
	120nm,1.0s						
BTO	**Baotou**	**5.92**	**8**	*e*Pg	Pb	01 12 36.1	-3.9
WHN	**Wuhan**	**6.16**	**131**	Pg	Pb	01 12 46.3	+2.4
WHN				Sg	Sg	01 14 11.0	-2.9
WHN				SMN			
	210nm,0.8s						
WHN				SME			
	130nm,0.8s						
HHC	**Hu-ho-hao-te**	**6.44**	**18**	*e*Pg	Pg	01 12 54.5	-5.2
HHC				Sg	Sb	01 14 01.5	-4.8
HHC				smax	smax		
	comp=N,77nm,0.5s						
HHC				smax	smax		
	comp=E,72nm,0.4s						
TIA	**Tai'an**	**6.81**	**75**	Pn	Pn	01 12 43.3	+6.6
TIA				Pg	Pg	01 13 02.4	-4.1
TIA				Sg	Sb	01 14 24.9	+8.3
TIA				smax	smax		
	comp=N,50nm,1.2s						
TIA				smax	smax		
	comp=E,30nm,0.6s						
GTA	**Gaotai**	**8.69**	**305**	*e*P	Pn	01 13 02.3	-0.3
GTA				pP	pP	01 13 05.4	
GTA				sP	sP	01 13 08.3	
GTA				S	Sn	01 14 40.8	-0.3
GTA				PMZ			
	comp=E,4.0nm,1.0s						
GTA				LN			
	comp=E,140nm,10.9s						
GTA				LE			
	comp=E,140nm,9.5s						
GTA				LZ			
	comp=E,150nm,11.9s						

JMA 24 01:28:40.9±0.5, 33.05N×142.56E, h66km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.07**	**321**	P	Pn	01 29 14.0	+1.3
BSO1				S	Sn	01 29 39.5	+2.5
BSO3	**Boso 3**	**2.44**	**316**	P	Pn	01 29 19.4	+1.3
BSO3				S	Sn	01 29 50.1	+3.5
BSO4	**Boso 4**	**2.67**	**317**	P	Pn	01 29 23.3	+1.8
BSO4				S	Sn	01 29 56.5	+3.9
JHU	**Hanno**	**3.89**	**317**	S	Sn	01 30 23.8	+1.1

*NNC **24** 01:38:25.6±3.6, 37.31N×70.45E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=30.2km s-min=27.0km az=76.0*

ISC 24 01:38:23.5±3.7, 37.1N±0.3×69.8E±0.1, h40km, n13, σ1§77/15, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.80**	**30**	P	**Pn**	**01 39 49.0**	**+1.6**
	SNR=34						
KK31	**Karatay Array**	**5.97**	**5**	⇓Pn	Pn	01 39 56.0	+6.6
	1.2nm,0.3s,baz=185,slow=13,SNR=53						
KK31				⇓Sn	Sn	01 41 05.8	+9.3
	4.0nm,0.4s,baz=190,slow=25,SNR=9.9						
UCH	**Uchtor**	**6.22**	**34**	P	**Pn**	**01 39 53.6**	**+0.3**
	SNR=17						
EKS2	**Erkin-Say**	**6.29**	**28**	P	**Pn**	**01 39 55.7**	**+1.9**
	SNR=13						
KZA	**Kyzart**	**6.46**	**39**	P	**Pn**	**01 39 54.6**	**-1.8**
	SNR=6.0						
AAK	**Ala-Archa**	**6.54**	**32**	P	**Pn**	**01 39 58.2**	**+0.8**
	SNR=6.5						
AAK	**Ala-Archa**	**6.54**	**32**	⇑Pn	**Pn**	**01 39 58.1**	**+0.7**
	4.7nm,0.4s						
AAK				⇑Sn	**Sn**	**01 41 11.1**	**+0.2**
	198nm,0.1s						
KBK	**Karagaybulak**	**6.76**	**34**	P	**Pn**	**01 40 01.2**	**+0.8**
	SNR=7.5						
USP	**Ospenovka**	**7.08**	**29**	P	**Pn**	**01 40 05.2**	**+0.6**
	SNR=9.7						
TKM2	**Tokmak 2**	**7.26**	**36**	P	**Pn**	**01 40 06.3**	**-1.0**
	SNR=29						
TKM2	**Tokmak 2**	**7.26**	**36**	⇓Pn	**Pn**	**01 40 06.3**	**-1.0**
	18nm,0.6s						
AB31	**Akbulak array**	**14.08**	**332**	⇑Pn	**P**	**01 41 46.5**	**-0.7**
	0.9nm,0.7s,baz=147,slow=12,SNR=10						
AB31				⇑Sn	**S**	**01 44 30.8**	**-4.1**
	0.2nm,0.4s,baz=151,slow=22,SNR=4.2						
AKTO	**Aktyubinsk**	**15.77**	**331**	⇑Pn	**Pn**	**01 42 05.0**	**+2.4**
	0.8nm,0.7s						
AKTO				⇑Sn	**S**	**01 45 10.1**	**+0.7**
	1.3nm,0.8s						

*NNC **24** 02:05:13.2±7.1, 38.65N×73.34E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=55.2km s-min=39.6km az=169.0*

ISC 24 02:05:12.7±4.8, 38.4N±0.3×73.8E±0.1, h10km, n9, σ1§28/10, 5C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.73**	**359**	P	**Pn**	**02 06 11.7**	**+1.0**
	SNR=19						
KZA	**Kyzart**	**3.84**	**16**	P	**Pn**	**02 06 12.1**	**-0.1**
	SNR=17						
UCH	**Uchtor**	**3.86**	**8**	P	**Pn**	**02 06 13.2**	**+0.5**
	SNR=8.9						
AAK	**Ala-Archa**	**4.26**	**7**	⇑Pn	Pn	02 06 14.2	-3.7
	1.8nm,0.5s						
AAK				⇑Sn	**Sn**	**02 07 09.8**	**+2.0**
	12nm,0.9s						
KBK	**Karagaybulak**	**4.34**	**11**	P	**Pn**	**02 06 19.4**	**+0.5**
	SNR=7.9						
TKM2	**Tokmak 2**	**4.72**	**16**	P	**Pn**	**02 06 23.8**	**-0.4**
	SNR=9.6						
TKM2	**Tokmak 2**	**4.72**	**16**	⇓Pn	**Pn**	**02 06 23.6**	**-0.5**
	3.5nm,0.5s						
TKM2				⇑Sn	**Sn**	**02 07 17.6**	**-1.5**
	4.8nm,0.6s						
KK31	**Karatay Array**	**5.32**	**333**	Pn	**Pn**	**02 06 32.7**	**+0.4**
	0.9nm,0.3s,baz=140,slow=12,SNR=32						
KK31				⇑Sn	**Sn**	**02 07 32.0**	**-1.7**
	2.5nm,0.4s,baz=138,slow=22,SNR=13						
AB31	**Akbulak array**	**14.73**	**322**	⇑Pn	Pn	02 08 37.6	-3.5
	0.6nm,0.6s,baz=126,slow=11,SNR=6.3						

NNC 24 02:09:40.0±3.2, 37.36N×70.25E, h0km, mb3.9, mpv3.3, 4C-3D, Error ellipse: s-maj=27.0km s-min=23.9km az=110.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.74**	**2**	Pn	Pn	02 11 09.8	+3.3
	1.0nm,0.3s,baz=177,slow=12,SNR=36						
KK31				⇑Sn	Sn	02 12 19.3	+6.3
	6.1nm,0.4s,baz=187,slow=24,SNR=25						
AAK	**Ala-Archa**	**6.19**	**30**	⇑Pn	Pn	02 11 12.3	-0.5
	1.7nm,0.5s						
AAK				⇑Sn	Sn	02 12 25.2	+0.8
	6.3nm,0.5s						
AB31	**Akbulak array**	**14.04**	**331**	⇓Pn	Pn	02 12 57.5	-2.5
	1.4nm,0.7s,baz=138,slow=11,SNR=12						
AB31				⇑Sn	Sn	02 15 37.3	+0.8
	0.5nm,0.5s,baz=148,slow=23,SNR=3.7						
AKTO	**Aktyubinsk**	**15.73**	**330**	⇓Pn	Pn	02 13 19.3	-3.5
	5.8nm,1.1s						
AKTO				⇓Sn	Sn	02 16 23.1	+5.2
	1.5nm,0.9s						

IDC 24 02:14:15.0±2.6, 28.63S×178.06W, h0km, mb3.4/1, mb1 3.5/1, mb1mx3.4/17, mbtmp3.4/1, Error ellipse: s-maj=72.7km s-min=20.2km az=63.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.64**	**169**	Pn	Pn	02 14 32.0	+0.7
	238nm,0.3s,baz=114,slow=10,SNR=14						
RAO				Sn	Sn	02 14 41.4	-0.8
	458nm,0.3s,baz=270,slow=20,SNR=16						
ASAR	**Alice Springs**	**43.18**	**265**	P	P	02 22 17.8	-0.1
	0.3nm,0.5s,baz=100,slow=7.5,SNR=4.8						
FINES	**FINESS Array B**	**143.46**	**341**	PKP	PKPdf	02 33 49.6	-1.3
	1.4nm,0.5s,baz=68,slow=4.9,SNR=14						
TORD	**Torodi Ar. Bea**	**164.60**	**179**	PKPab	PKPab	02 35 15.6	-0.7
	0.4nm,1.0s,baz=179,slow=3.2,SNR=3.0						

MEX 24 02:17:00.3±0.6, 15.33N×96.38W, h5km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.51**	**31**	*e*P	Pg	02 17 09.7	-0.5
HUIG				*e*S	Sg	02 17 17.1	+0.2
HUIG	**Huatulco**	**0.51**	**31**	*e*P	Pg	02 17 09.6	-0.6
HUIG				*e*S	Sg	02 17 17.1	+0.2
PNIG	**Pinotepa**	**1.99**	**302**	*e*P	Pn	02 17 30.7	-4.0
PNIG				*e*S	Sn	02 17 55.9	-4.2
PNIG	**Pinotepa**	**1.99**	**302**	*e*P	Pn	02 17 30.7	-4.0
PNIG				*e*S	Sn	02 17 55.9	-4.2
CMIG	**Matias Romero**	**2.27**	**39**	*e*P	Pn	02 17 35.7	-2.8
CMIG				*i* S	Sn	02 18 03.0	-3.9
CMIG	**Matias Romero**	**2.27**	**39**	*e*P	Pn	02 17 35.7	-2.8
CMIG				*i* S	Sn	02 18 03.1	-3.7

IDC 24 02:17:10.4±1.0, 16.18S×174.28W, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.0/20, mbtmp4.0/7, Error ellipse: s-maj=39.7km s-min=22.3km az=125.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**23.27**	**197**	P	P	02 22 19.9	+0.3
	3.8nm,0.5s,baz=38,slow=18,SNR=3.1						
STKA	**Stephens Creek**	**42.92**	**240**	P	P	02 25 10.9	-0.2
	1.4nm,0.4s,baz=70,slow=6.7,SNR=4.9						
WRA	**Warramunga Arr**	**48.85**	**257**	P	P	02 25 57.9	-0.3
	0.6nm,0.4s,baz=95,slow=7.1,SNR=6.1						
ASAR	**Alice Springs**	**49.07**	**253**	P	P	02 25 59.7	-0.1
	3.9nm,0.5s,baz=88,slow=8.4,SNR=48						
VNDA	**Vanda**	**62.52**	**186**	P	P	02 27 35.2	-0.2
	0.8nm,0.8s,baz=12,slow=8.5,SNR=4.7						
ILAR	**Eielson Array**	**83.37**	**11**	P	P	02 29 39.0	+0.1
	0.3nm,0.5s,baz=223,slow=6.0,SNR=7.5						
PDAR	**Pinedale Array**	**83.41**	**42**	P	P	02 29 40.0	-0.1
	0.6nm,0.7s,baz=215,slow=1.8,SNR=5.2						
BRTR	**Keskin Array B**	**146.21**	**320**	PKPbc	PKPdf	02 36 52.5	+0.3
	0.8nm,0.8s,baz=95,slow=1.4,SNR=4.4						
GERES	**GERESS Array B**	**146.78**	**350**	PKPbc	PKPbc	02 36 53.8	-0.8
	0.2nm,0.5s,baz=18,slow=4.1,SNR=2.7						

*NIED **24** 02:52:00, 33.10N×142.60E, h8km, Mw3.9 Best double couple: M0 7.19000×10^14 NP1:ϕs 39.00000°, δ 31.00000°, λ -70.00000°. NP2:ϕs 196.00000°, δ 61.00000°, λ -101.00000°.*

*IDC **24** 02:52:48.7±0.8, 32.96N×142.55E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.7/25, mbtmp3.7/9, ML3.7/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/33, Error ellipse: s-maj=33.7km s-min=17.6km az=90.0*

*ISCJB **24** 02:52:51.4±0.6, 32.98N±0.04×142.55E±0.07, h33km, mb3.6/7, MS3.9/1, Error ellipse: s-maj=9.4km s-min=4.6km az=149.8*

*JMA **24** 02:52:52.2±0.4, 33.05N×142.56E, h69km, M3.7*

ISC 24 02:52:53.4±0.8, 33.03N±0.06×142.56E±0.09, h33km, n24, σ1§05/32, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.09**	**321**	P	**Pn**	**02 53 25.4**	**-0.2**
BSO1				S	**Sn**	**02 53 50.6**	**+0.4**
JHJ2	**Mitsune**	**2.30**	**273**	P	**Pn**	**02 53 28.9**	**-0.1**
JHJ2				S	**Sn**	**02 53 56.2**	**-0.1**
BSO3	**Boso 3**	**2.46**	**317**	P	**Pn**	**02 53 30.6**	**-0.3**
BSO3				S	**Sn**	**02 54 00.6**	**+1.0**
BSO4	**Boso 4**	**2.69**	**317**	P	**Pn**	**02 53 34.8**	**+0.5**
BSO4				S	**Sn**	**02 54 06.0**	**+0.4**
JOD2	**Odawara 2**	**3.64**	**309**	P	**Pn**	**02 53 46.3**	**-1.2**
JYN	**Shimob**	**4.14**	**308**	P	**Pn**	**02 53 55.0**	**+0.7**
JYN				S	**Sn**	**02 54 42.0**	**+0.4**
JRY	**Ryogami san**	**4.24**	**316**	P	**Pn**	**02 53 55.5**	**-0.3**
JRY				S	**Sn**	**02 54 44.3**	**+0.1**
JAG	**Ashikaga**	**4.25**	**324**	P	**Pn**	**02 53 55.9**	**+0.1**
JFT	**Otama**	**4.83**	**339**	P	**Pn**	**02 54 03.5**	**-0.4**
JFT				S	**Sn**	**02 54 55.1**	**-3.6**
MJAR	**Matsushiro Arr**	**5.01**	**316**	Pn	**Pn**	**02 54 06.9**	**+0.6**
	1.7nm,0.3s,baz=156,slow=12,SNR=14						
MJAR				Sn	**Sn**	**02 55 03.8**	**+0.8**
	1.2nm,0.3s,baz=272,slow=28,SNR=7.1						
MAT	**Matsushiro**	**5.01**	**316**	P	**Pn**	**02 54 06.6**	**+0.3**
MAT				S	**Sn**	**02 55 01.4**	**-1.7**
MAT	**Matsushiro**	**5.01**	**316**	P	**Pn**	**02 54 07.2**	**+0.9**
MAT				S	**Sn**	**02 55 02.2**	**-0.9**
JCJ	**Chichijima**	**5.92**	**183**	Pn	**Pn**	**02 54 17.6**	**-1.3**
	3.8nm,0.3s,baz=1.6,slow=20,SNR=8.2						
JCJ				Sn	**Sn**	**02 55 25.1**	**-0.4**
	2.7nm,0.3s,baz=312,slow=20,SNR=2.8						
JNU	**Nakatsue**	**9.80**	**274**	LR	LR	02 58 31.8	
	comp=Z,64nm,20.6s,baz=93,slow=35						
KSRS	**Korea Array**	**12.75**	**294**	LR	LR	03 01 07.5	
	comp=Z,75nm,19.1s,baz=204,slow=39						
ILAR	**Eielson Array**	**52.41**	**31**	P	**P**	**03 02 03.0**	**+0.8**
	0.3nm,0.6s,baz=268,slow=7.0,SNR=5.5						
WRA	**Warramunga Arr**	**53.25**	**190**	P	**P**	**03 02 08.9**	**0.0**
	1.3nm,0.8s,baz=6.2,slow=7.7,SNR=14						
ASAR	**Alice Springs**	**56.98**	**189**	P	**P**	**03 02 34.0**	**-1.8**
	0.5nm,0.8s,baz=12,slow=13,SNR=3.0						
YKA	**Yellowknife Ar**	**66.81**	**30**	P	**P**	**03 03 40.6**	**-0.8**
	1.4nm,0.8s,baz=288,slow=6.4,SNR=3.0						
RAO	**Raoul Island**	**72.39**	**144**	LR	LR	03 32 24.1	
	comp=Z,58nm,19.1s,baz=189,slow=33						
FINES	**FINESS Array B**	**72.80**	**333**	P	**P**	**03 04 18.8**	**+0.6**
	0.8nm,0.7s,baz=28,slow=13,SNR=3.8						
NOA	**NORSAR Array B**	**78.24**	**338**	P	**P**	**03 04 50.4**	**+0.9**
	0.3nm,0.6s,baz=41,slow=5.3,SNR=3.2						
PDAR	**Pinedale Array**	**79.80**	**45**	P	**P**	**03 05 00.1**	**+1.4**
	0.2nm,0.6s,baz=2.9,slow=5.4,SNR=2.4						
LPAZ	**La Paz**	**147.67**	**66**	PKPbc	**PKPab**	**03 12 37.6**	**-0.6**
	0.8nm,0.7s,baz=294,slow=4.2,SNR=4.9						

*ECX **24** 02:53:42.7±0.5, 31.24N×115.64W, h5km, MD3.2, ML3.5*

ISC 24 02:53:41.9±1.0, 31.26N±0.04×115.65W±0.03, h13km±9km, n27, σ1§61/39, 4C-5D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPX	**San Pedro Mart**	**0.27**	**144**	⇓*i*P	**Pg**	**02 53 47.7**	**0.0**
SPX				*e*S	**Sg**	**02 53 51.4**	**-0.2**
SPX				IAML		02 53 52.2	
	comp=E,4μm,0.1s						
ECBX	**El Chinero**	**0.55**	**68**	⇑*i*P	**Pg**	**02 53 52.5**	**-0.2**
ECBX				*e*S	**Sg**	**02 53 60.0**	**-0.1**
ECBX				AML	AML	02 54 02.9	
	comp=N,3μm,0.1s						
ECBX				⇓*e*		02 54 02.9	
ZAX	**El Zacaton**	**0.59**	**295**	⇓*e*P	**Pg**	**02 53 53.1**	**-0.4**
ZAX				⇑*e*		02 54 02.9	
ZAX				IAML		02 54 02.9	
	comp=N,3μm,0.5s						
RDX	**Rancho Dawling**	**0.71**	**339**	⇓*i*P	**Pg**	**02 53 55.8**	**+0.1**
ECNX	**Esteban Cantu**	**0.90**	**296**	*e*P	**Pg**	**02 53 59.0**	**-0.4**
PBX	**Punta Banda**	**1.04**	**298**	⇓*e*P	**Pg**	**02 54 01.1**	**-0.9**
CPBX	**Cerro Prieto**	**1.19**	**14**	*e*Pn	**Pg**	**02 54 04.7**	**-0.1**
CBX	**Cerro Bola**	**1.36**	**321**	*e*P	**Pn**	**02 54 06.3**	**-0.4**
CBX				*e*S	**Sb**	**02 54 25.1**	**+0.4**
RMX	**La Rumorosa**	**1.39**	**345**	⇑*e*P	**Pn**	**02 54 07.6**	**+0.5**
RMX				⇓*e*		02 54 26.6	
RMX				IAML		02 54 26.6	
	comp=N,537nm,0.1s						
IBP	**Imperial Bould**	**1.45**	**345**	P	**Pn**	**02 54 08.5**	**+0.7**
	baz=1.6,SNR=44						
IBP				S	**Sg**	**02 54 28.5**	**0.0**
	baz=1.6						
SWSC	**Sam W. Stewart**	**1.68**	**356**	P	**Pn**	**02 54 12.0**	**+1.1**
	baz=1.8,SNR=49						
SWSC				S	**Sb**	**02 54 34.6**	**+0.9**
	baz=1.8						
MONP	**Monument Peak,**	**1.75**	**338**	P	**Pn**	**02 54 13.0**	**+0.9**
	baz=1.9,SNR=78						
MONP				S	**Sb**	**02 54 36.2**	**+0.2**
	baz=1.9						
GLA	**Glamis**	**1.92**	**21**	P	**Pn**	**02 54 14.0**	**-0.3**
	baz=2.0,SNR=7.2						
GLA				Sb	**Sg**	**02 54 43.6**	**0.0**
	baz=2.0						
109C	**Camp Elliot, M**	**2.04**	**323**	P	**Pn**	**02 54 16.5**	**+0.5**
	baz=2.2,SNR=9.3						
109C				S	**Sb**	**02 54 43.5**	**-0.6**
	baz=2.2						
BC3	**Big Chuckawall**	**2.39**	**4**	P	**Pn**	**02 54 21.2**	**+0.3**
	baz=2.5						
PFO	**Pinyon Flats O**	**2.44**	**344**	P	**Pn**	**02 54 21.7**	**+0.1**
	baz=2.6						
PFO				Sb	**Sg**	**02 55 00.1**	**-0.2**
	baz=2.6						
214A	**Organ Pipe Nat**	**2.52**	**73**	P	**Pn**	**02 54 20.4**	**-2.2**
	baz=2.5						
214A				S	**Sn**	**02 54 50.4**	**-2.7**
	baz=2.5						
Y12C	**Blythe**	**2.66**	**21**	P	**Pn**	**02 54 24.4**	**0.0**
	baz=2.7						
MURC	**Murrieta**	**2.67**	**331**	P	**Pn**	**02 54 24.7**	**-0.1**
	baz=2.8,SNR=22						
MURC				S	**Sb**	**02 55 02.2**	**-0.2**
	baz=2.8						
BELC	**Belle Mtn. Jos**	**2.75**	**354**	P	**Pn**	**02 54 26.4**	**+0.6**
	baz=2.9						
IRM	**Iron Mountain**	**2.92**	**8**	P	**Pn**	**02 54 28.9**	**+0.9**
	baz=3.0						
SCI	**San Clemente I**	**3.00**	**306**	S	**Sn**	**02 55 06.4**	**+1.5**
	baz=3.1						
BBRC	**Big Bear Solar**	**3.18**	**341**	Sb	**Sg**	**02 55 23.1**	**-0.9**
	baz=3.3						
HEC	**Hector,Ludlow**	**3.60**	**351**	Pb	**Pb**	**02 54 48.2**	**+2.7**
	baz=3.7						
GSC	**Goldstone, Bar**	**4.14**	**347**	Pb	**Pb**	**02 54 57.0**	**+2.3**
	baz=4.3						
GSC				Sb	**Sg**	**02 55 52.1**	**-2.9**
	baz=4.3						
LRMC	**Laurel Mtn Rad**	**4.54**	**338**	Sb	**Sg**	**02 56 03.5**	**-4.1**
	baz=4.7						
ISA	**Isabella, Lake**	**4.98**	**332**	Sb	**Sg**	**02 56 16.3**	**-5.6**
	baz=5.1						

PDA 24 02:55:17.5±0.8, 40.14N×29.33W, h10km, MD3.7, ML2.3, Error ellipse: s-maj=10.0km s-min=4.7km az=76.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGRA	**Graciosa**	**1.52**	**136**	*e*P	Pn	02 55 40.0	-4.8
PGRA				*e*S	Sn	02 55 57.1	-7.5
PGRA				A	A	02 55 59.1	
	11nm,0.3s						
PCED	**Cedros**	**1.58**	**162**	*e*P	Pn	02 55 41.0	-4.6
PCED				*e*S	Sn	02 55 57.8	-8.4
PCED				A	A	02 56 00.0	
	16nm,0.3s						
CALA	**Caldeira**	**1.63**	**162**	*e*S	Sn	02 55 59.4	-8.1
ROSA	**Rosais**	**1.65**	**149**	*e*P	Pn	02 55 41.6	-4.9
ROSA				*e*S	Sn	02 56 00.0	-7.8
ROSA				A	A	02 56 01.2	
	14nm,0.3s						
HOR	**Horta**	**1.70**	**161**	*e*S	Sn	02 56 01.2	-7.8
PICO	**Pico**	**1.78**	**156**	*e*P	Pn	02 55 44.1	-4.3
PICO				*e*S	Sn	02 56 03.6	-7.6
PMAN	**Manadas**	**1.79**	**147**	*e*P	Pn	02 55 43.5	-4.9
PMAN				*e*S	Sn	02 56 03.7	-7.4
PMAN				A	A	02 56 04.0	
	10nm,0.2s						
PCAN	**Candelaria**	**1.80**	**158**	*e*P	Pn	02 55 44.1	-4.5
PCAN				*e*S	Sn	02 56 04.0	-7.5
PCAN				A	A	02 56 05.1	
	24nm,0.3s						

*NEIC **24** 03:30:36.5, 46.11S×165.52E, h14km, ML4.5(WEL), After WEL.*

WEL 24 03:30:36.6±0.6, 46.32S×165.53E, h12km, ML4.5/13, Error ellipse: s-maj=5.3km s-min=4.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.81**	**80**	P*	Pg	03 30 51.8	-0.5
PYZ				S*	Sg	03 31 02.9	0.0
PYZ	**Puysegur Point**	**0.81**	**80**	P*	Pg	03 30 51.8	-0.5
PYZ				S*	Sg	03 31 02.9	0.0
DCZ	**Deep Cove**	**1.41**	**54**	PN	Pn	03 30 58.9	-3.1
DCZ				SN	Sn	03 31 15.1	-5.4
DCZ				AML	AML	03 31 24.3	
DCZ				AML	AML	03 31 24.3	
DCZ				AML	AML	03 31 36.9	
DCZ	**Deep Cove**	**1.41**	**54**	Pn	Pn	03 30 58.9	-3.1
WHZ	**Wether Hill Ro**	**1.73**	**77**	PN	Pn	03 31 05.6	-0.9
WHZ				AML	AML	03 31 32.0	
WHZ				AML	AML	03 31 38.8	
WHZ	**Wether Hill Ro**	**1.73**	**77**	*e*Pn	Pn	03 31 05.6	-0.9

WKZ	**Wanaka**	**2.87**	**60**	Pn	Pn	03 31 22.5	+0.4	
TUZ	**Tuapeka**	**2.88**	**84**	PN	Pn	03 31 22.0	-0.1	
TUZ				SN	Sn	03 31 55.5	-1.1	
TUZ	**Tuapeka**	**2.88**	**84**	Pn	Pn	03 31 22.0	-0.1	
JCZ	**Jackson Bay**	**3.20**	**47**	PN	Pn	03 31 25.5	-1.3	
JCZ				AML	AML	03 32 24.4		
JCZ				AML	AML	03 32 28.5		
JCZ	**Jackson Bay**	**3.20**	**47**	Pn	Pn	03 31 25.5	-1.3	
LBZ	**Lake Benmore**	**3.81**	**61**	PN	Pn	03 31 33.8	-1.2	
LBZ				AML	AML	03 32 42.8		
LBZ				AML	AML	03 32 47.8		
LBZ	**Lake Benmore**	**3.81**	**61**	Pn	Pn	03 31 34.3	-0.7	
FOZ	**Fox Glacier**	**4.04**	**48**	PN	Pn	03 31 38.1	-0.1	
FOZ				AML	AML	03 33 05.1		
FOZ				AML	AML	03 33 09.4		
FOZ	**Fox Glacier**	**4.04**	**48**	Pn	Pn	03 31 38.1	-0.1	
RPZ	**Rata Peaks**	**4.70**	**58**	PN	Pn	03 31 45.1	-2.3	
RPZ				AML	AML	03 32 51.2		
RPZ				AML	AML	03 33 16.6		
RPZ	**Rata Peaks**	**4.70**	**58**	*e*Pn	Pn	03 31 45.1	-2.2	
WVZ	**Waitaha Valley**	**4.93**	**51**	PN	Pn	03 31 48.7	-1.7	
WVZ				AML	AML	03 33 27.4		
WVZ	**Waitaha Valley**	**4.93**	**51**	Pn	Pn	03 31 48.7	-1.7	
OXZ	**Oxford**	**5.51**	**59**	PN	Pn	03 31 56.1	-2.4	
LTZ	**Lake Taylor**	**5.97**	**56**	Pn	Pn	03 32 05.8	+1.0	
DSZ	**Denniston Nort**	**6.43**	**47**	PN	Pn	03 32 09.4	-1.6	
DSZ	**Denniston Nort**	**6.43**	**47**	Pn	Pn	03 32 09.4	-1.6	
THZ	**Tophouse**	**7.00**	**52**	PN	Pn	03 32 19.1	+0.2	
THZ				AML	AML	03 34 13.2		
THZ				AML	AML	03 34 41.0		
THZ	**Tophouse**	**7.00**	**52**	Pn	Pn	03 32 19.1	+0.2	
QRZ	**Quartz Range**	**7.48**	**45**	PN	Pn	03 32 23.3	-2.1	
QRZ	**Quartz Range**	**7.48**	**45**	Pn	Pn	03 32 23.3	-2.1	

IDC 24 03:36:03.7±24.0, 18°72S×177°54W, h575km±215km, mb3.4/5, mb1 3.5/5, mb1mx3.0/34, mbtmp4.4/5, Error ellipse: s-maj=189.6km s-min=53.6km az=92.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.13**	**262**	P	P	03 42 01.8	-0.2
	1.6nm,0.3s,baz=87,slow=17,SNR=2.5						
STKA	**Stephens Creek**	**36.97**	**242**	P	P	03 42 41.6	+0.1
	1.5nm,0.5s,baz=93,slow=7.9,SNR=3.9						
JAY	**Jayapura**	**43.92**	**286**	P	P	03 43 20.8	0.0
	4.8nm,0.6s,baz=120,slow=16,SNR=4.9						
WRA	**Warramunga Arr**	**45.30**	**260**	P	P	03 43 30.9	-0.4
	2.5nm,0.4s,baz=97,slow=7.5,SNR=127						
WRA				PcP	PcP	03 44 58.2	-0.5
	0.2nm,0.4s,baz=93,slow=3.8,SNR=4.3						
ASAR	**Alice Springs**	**45.37**	**255**	P	P	03 43 31.8	0.0
	5.1nm,0.7s,baz=88,slow=8.0,SNR=56						
ASAR				PcP	PcP	03 44 58.6	-0.3
	0.5nm,0.4s,baz=100,slow=4.1,SNR=5.3						
BRTR	**Keskin Array B**	**145.93**	**315**	PKPbc	PKPbc	03 54 39.2	-0.8
	0.4nm,0.6s,baz=25,slow=3.5,SNR=2.9						

JMA 24 03:49:18.9±0.6, 33°02N×142°59E, h39km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.11**	**321**	P	Pn	03 49 52.8	+1.8
BSO2	**Boso 2**	**2.31**	**319**	S	Sn	03 50 23.2	+2.4
JHJ2	**Mitsune**	**2.33**	**273**	P	Pn	03 49 56.1	+1.4
BSO3	**Boso 3**	**2.48**	**316**	P	Pn	03 49 58.0	+1.6
BSO4	**Boso 4**	**2.71**	**317**	P	Pn	03 50 02.1	+2.3
JOD2	**Odawara 2**	**3.67**	**309**	P	Pn	03 50 14.1	+1.0
JYN	**Shimob**	**4.16**	**308**	P	Pn	03 50 22.4	+2.4
JAA	**Ashikaga**	**4.27**	**324**	P	Pn	03 50 23.3	+2.0
JRY	**Ryogami san**	**4.27**	**315**	P	Pn	03 50 23.0	+1.6
JRY				*e*S	Sn	03 51 12.7	+2.8
JFT	**Otama**	**4.85**	**338**	P	Pn	03 50 30.9	+1.5
JFT				S	Sn	03 51 22.0	-2.3

WEL 24 03:51:19.7±0.4, 37°66S×175°99E, h236km±5km, ML3.8/8, 2C, Error ellipse: s-maj=10.4km s-min=6.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.07**	**124**	PN	Pn	03 51 53.9	+0.4
URZ				SN	S	03 52 20.3	+0.2
HAZ	**Te Kaha**	**1.43**	**95**	PN	Pn	03 51 55.9	-0.2
HAZ				SN	S	03 52 24.1	-0.4
BKZ	**Black Stump Fm**	**1.56**	**165**	⇑PN	Pn	03 51 57.3	+0.2
BKZ				SN	S	03 52 25.5	-1.1
BKZ				AML	AML	03 52 26.1	
RIGZ	**Rimuhau**	**1.75**	**127**	PN	Pn	03 51 58.8	+0.1
MOVZ	**Moawhango**	**1.76**	**186**	PN	Pn	03 51 58.6	-0.2
ARHZ	**Aropaoanui**	**1.79**	**154**	PN	Pn	03 51 59.1	+0.2
ARHZ				SN	S	03 52 29.4	-0.5
KRHZ	**Kereru**	**2.01**	**171**	PN	Pn	03 52 00.5	-0.5
PNHZ	**Pukenui**	**2.26**	**176**	PN	Pn	03 52 02.5	-0.9
ANWZ	**Angora Road**	**2.83**	**172**	PN	Pn	03 52 07.7	-1.5
MRZ	**Mangatainoka R**	**3.02**	**186**	⇑PN	Pn	03 52 09.2	-2.2
MRZ				SN	AML	03 52 50.4	
OGWZ	**Otaki Gorge**	**3.22**	**191**	PN	Pn	03 52 11.6	-2.2
HOWZ	**Holdsworth Sta**	**3.26**	**186**	PN	Pn	03 52 11.6	-2.5
KIW	**Kapiti Island**	**3.31**	**194**	PN	Pn	03 52 12.4	-2.3
CAW	**Cannon Point**	**3.52**	**191**	PN	Pn	03 52 14.5	-2.6
TCW	**Tory Channel**	**3.79**	**200**	PN	Pn	03 52 17.8	-2.4
TUWZ	**Tuamarina**	**4.09**	**202**	PN	Pn	03 52 20.9	-2.9
QRZ	**Quartz Range**	**4.15**	**219**	PN	Pn	03 52 21.3	-3.2
THZ	**Tophouse**	**4.74**	**209**	PN	Pn	03 52 29.1	-2.7
KHZ	**Kahutara**	**5.11**	**201**	PN	Pn	03 52 33.0	-3.3
LTZ	**Lake Taylor**	**5.86**	**208**	PN	Pn	03 52 41.6	-4.1
OXZ	**Oxford**	**6.41**	**207**	PN	Pn	03 52 47.4	-5.2

*ISCJB **24** 04:07:21.8±0.5, 35°59S±0°08×17°62W±0°09, h10km, mb4.3/18, MS4.3/5, Error ellipse: s-maj=11.5km s-min=10.4km az=24.8*

*IDC **24** 04:07:21.9±0.7, 35°59S×17°71W, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.1/27, mbtmp4.1/13, MS4.4/5, Ms1 4.3/5, ms1mx3.8/17, Error ellipse: s-maj=20.2km s-min=16.4km az=2.0*

*GCMT **24** 04:07:23.7±0.3, 35°58S×17°38W, h22km±1km, MW5.1/86, Moment Tensor Solution. s29,c33; s86,c121; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.03±.24; $M_{\theta\theta}$-1.93±.23; $M_{\phi\phi}$1.90±.21; $M_{r\theta}$-0.42±.37; $M_{\theta\phi}$5.50±.18; $M_{\phi r}$1.06±.34; Best double couple: $M_0$5.9330×10^{16} NP1:ϕ_s171.00000°,δ88.00000°,λ-169.00000°. NP2: ϕ_s80.00000°,δ79.00000°,λ-2.00000°. Principal axes: T 5.8760, Plg6.0000°, Azm305.0000°; N 0.1180, Plg79.0000°, Azm181.0000°; P -5.9910, Plg9.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **24** 04:07:23.7±0.5, 35°60S×17°62W, h10km, mb4.7/6 Error ellipse: s-maj=14.2km s-min=10.8km az=195.0*

ISC 24 04:07:23.7±0.6, 35°6S±0°1×17°6W±0°1, h10km, n39, σ1$\hat{9}$08/26, mb4.5/18, MS4.4/5, 1C, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H09W1	**TRISTAN DA CUN**	**4.49**	**111**	T	T	04 13 01.7	
	SNR=20						
H09N1	**TRISTAN DA CUN**	**4.50**	**110**	T	T	04 13 00.4	
	SNR=22						
TRIS	**Tristan da Cun**	**4.50**	**110**	*e*Pn	**Pn**	**04 08 29.5**	**-2.3**
H10S2	**ASCENSION HYDR**	**26.66**	**6**	T	T	04 40 57.5	
	baz=185,slow=74,SNR=233						
H10S3	**ASCENSION HYDR**	**26.66**	**6**	T	T	04 40 58.1	
	baz=185,slow=74,SNR=148						
H10S1	**ASCENSION HYDR**	**26.68**	**6**	T	T	04 40 56.9	
	baz=185,slow=74,SNR=151						
H10N1	**ASCENSION HYDR**	**27.78**	**7**	T	T	04 42 17.1	
	baz=181,slow=73,SNR=50						
H10N3	**ASCENSION HYDR**	**27.78**	**7**	T	T	04 42 18.8	
	baz=181,slow=73,SNR=166						
H10N2	**ASCENSION HYDR**	**27.79**	**7**	T	T	04 42 18.1	
	baz=181,slow=73,SNR=76						
SUR	**Sutherland**	**31.87**	**95**	P	**P**	**04 13 50.1**	**+0.9**
	5.8nm,0.9s,baz=209,slow=16,SNR=3.0						
SUR	**Sutherland**	**31.87**	**95**	P	**P**	**04 13 50.7**	**+1.5**
BDFB	**Brasilia**	**33.67**	**298**	LR	LR	04 25 14.6	
	comp=Z,927nm,21.3s,baz=116,slow=32						
BOSA	**Boshof**	**36.73**	**91**	P	**P**	**04 14 30.6**	**-0.7**
	2.1nm,0.9s,baz=254,slow=9.1,SNR=4.4						
SNAA	**Sanae**	**36.95**	**172**	P	**P**	**04 14 32.5**	**-0.1**
	0.7nm,1.2s,baz=323,slow=10,SNR=2.2						
LBTB	**Lobatse**	**38.48**	**86**	P	**P**	**04 14 46.4**	**+0.3**
	4.9nm,0.8s,baz=257,slow=8.1,SNR=6.5						
LBTB	**Lobatse**	**38.48**	**86**	*e*P	**P**	**04 14 46.4**	**+0.3**
	18nm,1.3s						
CFAA	**Coronel Fontan**	**42.00**	**260**	P	**P**	**04 15 14.1**	**-1.1**
	0.3nm,0.7s,baz=73,slow=5.0,SNR=4.4						
MATP	**Matopo**	**43.02**	**82**	P	**P**	**04 15 24.8**	**+1.2**
	7.8nm,0.9s,baz=240,slow=11,SNR=8.7						
SIV	**San Ignacio**	**43.33**	**285**	P	**P**	**04 15 25.2**	**-0.9**
	7.5nm,1.0s,baz=131,slow=9.0,SNR=11						
KIC	**Kosan Boka**	**43.46**	**19**	*e*P	**P**	**04 15 27.4**	**+0.4**
	42nm,0.8s						
TIC	**Toumodi**	**43.66**	**18**	*e*P	**P**	**04 15 28.9**	**+0.2**
DBIC	**Dimbokro**	**43.73**	**18**	P	**P**	**04 15 29.0**	**-0.1**
	8.9nm,0.7s,baz=163,slow=7.4,SNR=9.9						
DBIC					LR	04 29 42.9	
	comp=Z,150nm,18.2s,baz=179,slow=31						
DBIC	**Dimbokro**	**43.73**	**18**	*e*P	**P**	**04 15 29.6**	**+0.5**
	14nm,0.9s						
SYO	**Syowa Base**	**45.59**	**155⇑**	*e*P	**P**	**04 15 43.1**	**-0.3**
LPAZ	**La Paz**	**48.78**	**280**	P	**P**	**04 16 08.1**	**-1.7**
	1.2nm,0.8s,baz=91,slow=3.8,SNR=5.3						
LPAZ					LR	04 36 29.2	
	comp=Z,360nm,19.7s,baz=114,slow=36						
SAML	**Samuel**	**49.24**	**291**	*e*P	**P**	**04 16 13.6**	**+1.0**
	10nm,1.0s						
TOB4	**Torodi Ar. Sit**	**51.80**	**24**	*e*P	**P**	**04 16 31.3**	**-0.5**
TOA0	**Torodi Ar. Sit**	**51.81**	**24**	*e*P	**P**	**04 16 31.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**51.81**	**24**	P	**P**	**04 16 31.6**	**-0.3**
	4.7nm,0.7s,baz=201,slow=6.0,SNR=32						
TORD					LR	04 34 01.2	
	comp=Z,248nm,20.4s,baz=100,slow=31						
MAW	**Mawson**	**54.05**	**152**	P	**P**	**04 16 48.5**	**+0.7**
	7.7nm,1.1s,baz=277,slow=4.1,SNR=4.1						
QSPA	**South Pole Qui**	**54.65**	**180**	P	**P**	**04 16 55.1**	**+2.7**
	8.8nm,1.0s						
TAM	**Tamanrasset**	**62.07**	**24**	*e*P	**P**	**04 17 45.3**	**+0.6**
	3.7nm,1.0s						
ROSC	**El Rosal**	**66.64**	**295**	LR	LR	04 45 59.2	
	comp=Z,498nm,18.9s,baz=190,slow=35						
SDV	**Santo Domingo**	**66.72**	**301**	*e*P	**P**	**04 18 14.7**	**-0.7**
	6.8nm,1.0s						
KEST	**Kesra**	**75.28**	**22**	P	**P**	**04 19 06.6**	**-0.2**
	1.3nm,1.0s,baz=205,slow=1.8,SNR=2.8						
ESDC	**Sonseca Array**	**75.96**	**11**	P	**P**	**04 19 11.5**	**+0.9**
	0.4nm,0.5s,baz=186,slow=6.4,SNR=4.2						
H01W2	**Cape Leeuwin H**	**96.64**	**142**	T	T	06 09 14.2	
	baz=220,slow=75,SNR=30						
H01W3	**Cape Leeuwin H**	**96.66**	**142**	T	T	06 09 14.3	
	baz=220,slow=75,SNR=58						
H01W1	**Cape Leeuwin H**	**96.66**	**142**	T	T	06 09 13.4	
	baz=220,slow=75,SNR=52						

*IDC **24** 04:08:31.6±0.4, 7°70N×91°82E, h0km, mb4.8/31, mb1 4.8/33, mb1mx4.8/34, mbtmp4.8/33, ML5.1/3, MS4.8/31, Ms1 4.8/31, ms1mx4.8/36, Error ellipse: s-maj=13.1km s-min=11.5km az=47.0*

*ISCJB **24** 04:08:32.4±0.6, 7°69N±0°02×91°90E±0°02, h14km±3km, mb5.2/174, MS5.1/278, Error ellipse: s-maj=3.8km s-min=2.4km az=15.9*

*MOS **24** 04:08:34.9±0.9, 7°71N×91°93E, h33km, mb5.4/51, MS4.9/41, Error ellipse: s-maj=8.8km s-min=4.9km az=111.4*

*BJI **24** 04:08:35.1, 7°67N×91°91E, h37km, mb5.2/80, mB5.3/46, Ms5.2/88, MS7 5.0/79*

*GCMT **24** 04:08:35.1±0.1, 7°69N×91°85E, h15km, MW5.5/114, Moment Tensor Solution. s85,c149; s114,c226; Duration: 1$\hat{3}$ Moment tensor: Scale 10^{17}Nm; M_{rr}-0.23±.03; $M_{\theta\theta}$-1.33±.03; $M_{\phi\phi}$1.56±.03; $M_{r\theta}$-0.15±.05; $M_{\theta\phi}$-1.42±.03; $M_{\phi r}$-0.29±.05; Best double couple: $M_0$2.05400×10^{17} NP1:ϕ_s23.00000°,δ88.00000°, λ-10.00000°. NP2:ϕ_s113.00000°,δ80.00000°, λ-178.00000°. Principal axes: T 2.1610, Plg5.0000°, Azm68.0000°; N -0.2090, Plg80.0000°, Azm190.0000°; P -1.9470, Plg8.0000°, Azm337.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **24** 04:08:35.1±2.5, 7°70N×91°96E, h20km±3km, mb5.4/74, MS5.1/237, MW5.5 Error ellipse: s-maj=13.0km s-min=11.1km az=216.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M_{rr}0.37; $M_{\theta\theta}$-1.23; $M_{\phi\phi}$0.85; $M_{r\theta}$-0.01; $M_{\theta\phi}$-1.74; $M_{\phi r}$-0.35; Best double couple: $M_0$2.10000×10^{17} NP1:ϕ_s105.00000°,δ79.00000°, λ175.00000°. NP2:ϕ_s196.00000°,δ85.00000°,λ11.00000°. Principal axes: T 1.9000, Plg11.0000°, Azm60.0000°; N 0.3300, Plg78.0000°, Azm220.0000°; P -2.2300, Plg4.0000°, Azm330.0000°;*

*DJA **24** 04:08:37.1±1.5, 8°N±3°×9°2E±°, h35km±16km, M5.4/19, mb5.4/19, mB5.7/14, MLv5.9/1, Mw(mB)5.2/14, Mwp5.5/1*

*KLM **24** 04:08:37.4, 7°87N×92°07E, h16km, mb5.3, MS6.5*

*SZGRF **24** 04:08:44.4, 7°71N×92°53E, h34km, mb5.2, MS4.9, Nicobar Islands, India, region*

ISC 24 04:08:36.6±0.3, 7°68N±0°03×91°93E±0°03, h32km±1km, h32km:pP-P, n904, σ1$\hat{9}$60/941, mb5.2/176, MS5.1/285, 54C-38D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMBY	**CAMPBELL BAY**	**2.09**	**109**	*e*P	**Pn**	**04 09 10.4**	**+1.1**
CMBY				*e*S	**Sn**	**04 09 35.4**	**+1.1**
PBA	**Port Blair**	**4.03**	**11**	*e*P	Pn	04 09 35.6	-0.5
PBA				*e*S	Sn	04 10 16.3	-5.9
LHMI	**Lhok Sumawe**	**5.55**	**116**	P	**Pn**	**04 09 57.3**	**+0.3**
	1μm,1.0s,21μm9.9nm						
LHMI				S	**Sn**	**04 10 59.4**	**-0.3**
	1μm,1.0s,21μm9.9nm						
LHMI	**Lhok Sumawe**	**5.55**	**116**	*e*Pn	**Pn**	**04 09 57.0**	**0.0**
LHMI				*e*Sn	**Sn**	**04 10 57.4**	**-2.2**
DGPR	**DIGLIPUR**	**5.55**	**10**	*e*P	**Pn**	**04 09 55.4**	**-1.6**
DGPR				*e*S	**Sn**	**04 10 54.1**	**-5.6**
SURT	**Suratani**	**6.91**	**79**	P	**Pn**	**04 10 16.8**	**+1.1**
	229nm,1.0s,3μm0.8nm						
KRAB	**Krabi**	**7.21**	**85**	P	**Pn**	**04 10 21.3**	**+1.4**
	578nm,1.0s,7μm2.3nm						
TRTT	**Trang**	**7.69**	**88**	P	**Pn**	**04 10 27.2**	**+0.8**
	223nm,1.2s,3μm1.3nm						
GSI	**Gunungsitoli**	**8.47**	**138**	P	**Pn**	**04 10 34.8**	**-2.4**
	207nm,1.2s,5μm						
GSI				S	**Sn**	**04 12 08.7**	**-3.1**
	207nm,1.2s,5μm						
GSI	**Gunungsitoli**	**8.47**	**138**	*e*Pn	**Pn**	**04 10 34.1**	**-3.1**
GSI				*e*Sn	Sn	04 12 05.5	-6.3
PSI	**Prapat**	**8.48**	**125**	Pn	**Pn**	**04 10 37.1**	**-0.3**
	11nm,0.3s,baz=332,slow=12,SNR=49						
PSI					Sn	**04 12 14.6**	**+2.4**
	21nm,0.3s,baz=204,slow=14,SNR=11						
PSI					LR	04 13 24.1	
	comp=Z,4μm,19.8s,baz=279,slow=34						
PSI	**Prapat**	**8.48**	**125**	P	**Pn**	**04 10 37.1**	**-0.3**
PSI						04 12 14.6	
PSI				pmax	pmax		
	comp=Z,11nm,0.3s						
PSI				smax	smax		
	comp=N,21nm,0.3s						
PSI				MLR	MLR		
	comp=Z,4μm,19.8s						
PSI	**Prapat**	**8.48**	**125**	*e*Pn	**Pn**	**04 10 36.4**	**-1.1**
PSI				*e*Sn	**Sn**	**04 12 12.9**	**+0.7**
SKLT	**Songkhla**	**8.63**	**93**	P	**Pn**	**04 10 41.6**	**+2.3**
	comp=Z,148nm,1.0s,comp=Z,2μmcomp=Z,0.8nm						
KULM	**Kulim**	**8.98**	**105**	‖P	**Pn**	**04 10 44.6**	**+0.4**
KULM	**Kulim**	**8.98**	**105**	*e*Pn	**Pn**	**04 10 43.9**	**-0.3**
IPM	**Ipoh**	**9.58**	**109**	‖P	**Pn**	**04 10 52.5**	**0.0**
IPM	**Ipoh**	**9.58**	**109**	*e*Pn	**Pn**	**04 10 51.1**	**-1.3**
IPM				*e*Sn	**Sn**	**04 12 35.5**	**-3.7**
KHLT	**Khaolaem Dam**	**9.62**	**42**	P	Pn	04 10 57.1	+4.2
	comp=Z,63nm,1.8s,comp=Z,1μm						
PATY	**Pattaya**	**10.21**	**59**	P	**Pn**	**04 11 03.3**	**+2.2**
	comp=Z,54nm,0.8s						
UTHA	**Uthaitani**	**10.74**	**43**	P	**Pn**	**04 11 10.6**	**+2.3**
	comp=Z,54nm,0.8s,comp=Z,384nm						
PALK	**Pallekele**	**11.14**	**269**	Pn	**Pn**	**04 11 11.0**	**-2.9**
	comp=Z,2μm,0.9s,SNR=66						
PALK	**Pallekele**	**11.14**	**269**	Pn	Pn	04 11 10.6	-3.2
	comp=Z,39nm,0.3s,baz=94,slow=13,SNR=59						
PALK				Sn	Sn	04 13 01.2	-16
	comp=Z,31nm,0.3s,baz=180,slow=20,SNR=14						
PALK				LR	LR	04 15 13.6	
	comp=Z,4μm,19.2s,baz=81,slow=36						
PALK	**Pallekele**	**11.14**	**269**	Pn	**Pn**	**04 11 11.6**	**-2.3**
	comp=Z,2μm,0.9s,SNR=66						
PALK	**Pallekele**	**11.14**	**269**	P	**Pn**	**04 11 13.2**	**-0.7**
	SNR=9.2						
PALK	**Pallekele**	**11.14**	**269**	*e*Pn	**Pn**	**04 11 11.2**	**-2.7**
PALK				*e*Sn	Sn	04 13 02.6	-15
KTGM	**Kuala Trenggan**	**11.37**	**101**	⇑P	**Pn**	**04 11 18.6**	**+1.7**
BKNI	**Bangkinang**	**11.65**	**128**	P	**Pn**	**04 11 18.5**	**-2.3**
	comp=Z,184nm,1.3s,comp=Z,13μm						
BKNI				S	**Sn**	**04 13 25.7**	**-4.2**
	comp=Z,184nm,1.3s,comp=Z,13μm						
MHMT	**Maesarieng**	**11.95**	**29**	P	**Pn**	**04 11 26.0**	**+1.1**
	comp=Z,149nm,1.1s,comp=Z,1μm						
PBKT	**Sadao Pong**	**12.49**	**44**	P	**Pn**	**04 11 32.9**	**+0.7**
	comp=Z,102nm,1.2s,comp=Z,2μm						
CM01	**Chiang Mai Arr**	**12.67**	**32**	*e*Pn	**Pn**	**04 11 34.8**	**+0.1**
MDRS	**Chennai**	**12.68**	**296**	*e*P	**Pn**	**04 11 33.5**	**-1.3**
MDRS				AMB	AMB	04 11 39.7	
	comp=Z,207nm,1.9s						
CM31	**Chiang Mai Arr**	**12.70**	**32**	*e*Pn	**Pn**	**04 11 34.7**	**-0.4**
CM31				*e*Sn	Sn	04 14 06.8	+11
CMAR	**Chiang Mai Arr**	**12.70**	**32**	Pn	**Pn**	**04 11 34.7**	**-0.3**
	comp=Z,2.8nm,0.3s,baz=222,slow=14,SNR=59						
CMAR				Sn	Sn	04 14 06.9	+11
	comp=Z,0.7nm,0.3s,baz=219,slow=13,SNR=3.1						
CMAR				LR	LR	04 16 44.2	
	comp=Z,3μm,20.8s,baz=214,slow=39						
CMAR	**Chiang Mai Arr**	**12.70**	**32**	*i* P	**Pn**	**04 11 35.2**	**+0.1**
CMAR				pmax	pmax		
	comp=Z,58nm,0.9s						
CHTO	**Chiang Mai**	**12.99**	**31**	P	**Pn**	**04 11 39.5**	**+0.4**
	comp=Z,535nm,1.1s,comp=Z,6μm						
CHTO	**Chiang Mai**	**12.99**	**31**	P	**Pn**	**04 11 39.5**	**+0.4**
	SNR=22						
CHTO	**Chiang Mai**	**12.99**	**31**	*e*Pn	**Pn**	**04 11 38.6**	**-0.6**
CHTO				*e*Sn	**Sn**	**04 14 07.7**	**+5.0**
CMMT	**Chiang Mai**	**12.99**	**31**	P	**Pn**	**04 11 39.5**	**+0.3**
	comp=Z,160nm,1.1s,comp=Z,2μm						
VIS	**Vishakhapatnam**	**13.03**	**321**	*i* P	**Pn**	**04 11 37.1**	**-2.5**
VIS				AMB	AMB	04 11 41.3	
	comp=Z,185nm,1.9s						
UTTA	**Uttaradit**	**13.06**	**39**	P	Pn	04 11 43.0	+3.0
	comp=Z,40nm,1.4s,comp=Z,310nm						
LAMP	**Lampang**	**13.12**	**34**	P	**Pn**	**04 11 42.0**	**+1.1**
	comp=Z,57nm,1.0s,comp=Z,442nm						
CHLP	**Challavanipeta**	**13.21**	**325**	*e*P	Pn	04 11 38.7	-3.3
CHLP				IAmb	IAmb	04 11 41.3	
	comp=Z,503nm,1.0s						
CHLP				*e*		04 13 53.5	
CHLP				Sn	**Sn**	**04 14 08.3**	**+0.5**
CHLP				IVMs_BB	IVMs_BB	04 17 45.0	
	comp=Z,3μm,16.4s						
LOEI	**Loei**	**13.35**	**42**	P	P	04 11 49.0	-4.1
	comp=Z,87nm,1.6s,comp=Z,983nm						
SKHT	**Srikalahasti**	**13.43**	**298**	*e*P	**Pn**	**04 11 43.2**	**-1.9**
SKHT				IAmb	IAmb	04 11 54.1	
	comp=Z,169nm,0.8s						
SKHT				*e*		04 13 57.7	
SKHT				Sn	**Sn**	**04 14 14.6**	**+1.2**
SKHT				IVMs_BB	IVMs_BB	04 21 42.9	
	comp=Z,3μm,13.9s						
PVM	**Polavaram**	**13.84**	**314**	*e*P	**Pn**	**04 11 48.1**	**-2.6**
PVM				*e*		04 14 04.6	
PVM				Sn	**Sn**	**04 14 22.2**	**-1.1**
CMAI	**Chiengmai2**	**13.99**	**29**	P	**Pn**	**04 11 52.8**	**-0.1**
	comp=Z,177nm,1.1s,comp=Z,2μm						
ADKI	**Addanki**	**14.24**	**306**	*e*P	Pn	04 11 53.0	-3.2
ADKI				IAmb	IAmb	04 12 05.0	
	comp=Z,153nm,1.1s						
ADKI				*e*		04 14 14.6	
ADKI				Sn	**Sn**	**04 14 32.4**	**-0.7**
TRD	**Trivandrum**	**14.85**	**274**	*e*P	**Pn**	**04 12 02.3**	**-2.1**
TRD				AMB	AMB	04 12 04.1	
	comp=Z,164nm,1.0s						
RCLA	**Racherla**	**14.87**	**302**	*e*P	Pn	04 12 01.4	-3.3
RCLA				IAmb	IAmb	04 12 17.1	
	comp=Z,82nm,0.7s						
RCLA				Sn	**Sn**	**04 14 48.1**	**-0.4**
RCLA				IVMs_BB	IVMs_BB	04 19 08.0	
	comp=Z,3μm,22.1s						
SKNT	**Sakolnakorn**	**14.95**	**51**	P	**Pn**	**04 12 07.1**	**+1.3**
	comp=Z,216nm,1.1s,comp=Z,2μm						
NJS	**Nagarjunasagar**	**15.16**	**307**	*e*P	**Pn**	**04 12 06.3**	**-2.3**
NJS				IAmb	IAmb	04 12 11.6	
	comp=Z,28nm,0.6s						
NJS				*e*		04 14 38.3	
NJS				Sn	**Sn**	**04 14 56.3**	**+0.7**
NJS				IVMs_BB	IVMs_BB	04 19 31.1	
	comp=Z,3μm,18.9s						
SRLM	**Srisailam**	**15.25**	**304**

NGP eS **Sn** **04 16 09.7 -1.6**
KSM Kuching 19.32 108 ⇓P **Pn** **04 13 01.2 +0.7**
KSM Kuching 19.32 108 *e*P **Pn** **04 13 00.2 -0.4**
comp=Z,77nm,1.0s
GOA Goa 19.35 295 *e*P **P** **04 12 58.2 -1.4**
GOA AMB AMB 04 13 11.4
comp=Z,89nm,1.2s
AKL Akola 19.38 313 *ex* P 04 12 52.9 -7.1
AKL AMB AMB 04 13 04.5
comp=Z,136nm,3.2s
ODAN Odare 19.55 348 *e*P **Pn** **04 13 03.0 -0.5**
comp=Z,228nm,0.9s
ODAN Odare 19.55 348 *e*P **Pn** **04 13 02.9 -0.5**
comp=Z,394nm,1.0s
RAMN Ramite 19.82 346 *e*P **Pn** **04 13 06.0 -0.6**
comp=Z,507nm,1.3s
RAMN Ramite 19.82 346 *e*P **Pn** **04 13 06.0 -0.6**
comp=Z,507nm,1.3s
TAPN Taplejung 19.97 349 *e*P **Pn** **04 13 07.7 -0.7**
comp=Z,700nm,1.0s
TAPN Taplejung 19.97 349 *e*P **Pn** **04 13 07.7 -0.7**
comp=Z,700nm,1.0s
KMI Kunming 20.18 30 ⇓P Pn 04 13 11.1 +0.1
KMI pP pP 04 13 21.3 +3.9
KMI sP sP 04 13 26.8 +5.3
KMI S **S** **04 16 53.9 -0.1**
KMI PMZ
comp=Z,220nm,1.3s
KMI PMZ
comp=Z,740nm,3.1s
KMI LN
comp=Z,4μm,20.5s
KMI LE
comp=Z,3μm,17.8s
KMI LZ
comp=Z,4μm,22.8s
POO Poona 20.63 303 *e*P **P** **04 13 14.3 +0.7**
POO *i* PP **PnPn** **04 13 30.5 -1.4**
POO AMB AMB 04 13 35.5
comp=Z,88nm,0.3s
PKI Pulchoki 20.73 343 *e*P **P** **04 13 14.9 +0.1**
comp=Z,553nm,1.0s
PKI Pulchoki 20.73 343 *e*P **P** **04 13 14.8 -0.1**
comp=Z,553nm,1.0s
QIZ Qiongzhong 20.73 55 P Pn 04 13 15.8 -1.4
QIZ pP pP 04 13 23.3 +0.1
QIZ sP sP 04 13 27.3 0.0
QIZ S Sn 04 17 07.3 -3.1
QIZ sS sS 04 17 19.4 +1.1
QIZ PMZ
comp=Z,1μm,11.8s
QIZ LN
comp=Z,6μm,15.4s
QIZ LE
comp=Z,2μm,17.3s
QIZ LZ
comp=Z,4μm,23.4s
QIZ Qiongzhong 20.73 55 *e*P Pn 04 13 15.9 -1.2
comp=Z,358nm,1.0s
QIZ LR LR
comp=Z,4μm,22.0s
PKIN Phulchoki 20.73 343 *e*P Pn 04 13 16.0 -1.5
comp=Z,242nm,0.9s
PKIN Phulchoki 20.73 343 *e*P Pn 04 13 16.2 -1.3
comp=Z,284nm,0.9s
BHPL Bhopal 20.82 320 *e*P **P** **04 13 15.2 -0.4**
BHPL AMB AMB 04 13 31.6
comp=Z,122nm,1.4s
DMN Daman 20.85 343 *e*P **P** **04 13 16.4 +0.3**
comp=Z,192nm,1.0s
DMN Daman 20.85 343 *e*P **P** **04 13 16.6 +0.5**
comp=Z,279nm,1.2s
SBUM Sibu 20.86 103 ⇑P Pn 04 13 17.8 -0.9
SBUM Sibu 20.86 103 *e*P **P** **04 13 16.7 +0.6**
comp=Z,113nm,0.9s
SBUM LR LR
comp=Z,6μm,18.0s
GUN Gumba 20.92 345 *e*P **P** **04 13 17.4 +0.5**
comp=Z,713nm,0.9s
GUN Gumba 20.92 345 *e*P **P** **04 13 17.5 +0.5**
comp=Z,713nm,0.9s
KKN Kakani 20.97 343 *e*P **P** **04 13 17.6 +0.2**
comp=Z,272nm,1.0s
KKN Kakani 20.97 343 *e*P **P** **04 13 17.6 +0.2**
comp=Z,272nm,1.0s
LEM Lembang 21.27 132 P **P** **04 13 22.5 +1.9**
comp=Z,50nm,0.9s,baz=330,slow=13,SNR=2.9
LEM S **S** **04 17 15.1 -0.5**
comp=Z,30nm,0.6s,baz=342,slow=20,SNR=3.2
LEM LR LR 04 21 52.9
comp=Z,5μm,21.1s,baz=293,slow=38
LEM Lembang 21.27 132 P **P** **04 13 22.5 +1.9**
LEM S **S** **04 17 15.1 -0.5**
LEM pmax pmax
comp=Z,50nm,0.9s
LEM smax smax
comp=N,31nm,0.6s
LEM MLR MLR
comp=Z,5μm,21.1s
GKN Gorkha 21.36 342 *e*P **P** **04 13 21.8 +0.3**
comp=Z,685nm,1.0s
GKN Gorkha 21.36 342 *e*P **P** **04 13 21.8 +0.3**
comp=Z,685nm,1.0s
KOLN Koldanda 21.48 339 *e*P **P** **04 13 23.3 +0.4**
comp=Z,689nm,1.0s
KOLN Koldanda 21.48 339 *e*P **P** **04 13 23.3 +0.4**
comp=Z,689nm,1.0s
BTM Bintulu 21.52 101 ⇓P **P** **04 13 24.8 +1.6**
CISI Cisompet, Garu 21.91 133 *e*P **P** **04 13 27.1 -0.2**
comp=Z,71nm,0.8s
CISI LR LR
comp=Z,4μm,20.0s
LSA Lhasa 21.91 358 P **P** **04 13 27.3 -0.5**
LSA PMZ
comp=Z,40nm,1.0s
LSA Lhasa 21.91 358 *e*P **P** **04 13 28.8 +1.0**
comp=Z,589nm,1.4s
LSA eS Sn 04 17 33.9 -5.8
XMIS Christmas Isla 22.63 143 *e*P **P** **04 13 34.3 -0.8**
comp=Z,183nm,0.9s
GYA Guiyang 23.34 35 ⇑*i*P **P** **04 13 42.5 +0.1**
GYA pP **pP** **04 13 52.3 +1.0**
GYA PP **PnPn** **04 14 15.0 +5.9**
GYA PcP **PcP** **04 17 31.8 +2.8**
GYA S **S** **04 17 50.6 -2.6**
GYA SS **SnSn** **04 18 38.3 +8.7**
GYA PMZ
comp=Z,30nm,0.8s
GYA PMZ
comp=Z,140nm,4.8s
GYA LN
comp=Z,780nm,16.0s
GYA LE
comp=Z,670nm,16.4s
GYA LZ
comp=Z,820nm,17.2s
SMRI Semarang 23.55 128 P **P** **04 13 44.2 -0.3**
comp=Z,261nm,1.2s
SMRI Semarang 23.55 128 *e*P **P** **04 13 44.7 +0.2**
comp=Z,305nm,1.1s
SMRI eSn S 04 18 05.0 +8.3
KKM Kota Kinabalu 24.16 92 *e*P **P** **04 13 51.2 +0.9**
comp=Z,578nm,1.7s
KKM LR LR
comp=Z,4μm,20.0s
DGAR Diego Garcia 24.54 233 PFAKE 04 14 00.0 +6.4
DGAR LR LR
comp=Z,6μm,20.0s
H08S3 Diego Garcia H 24.64 232 T T 04 40 09.7
baz=52,slow=75,SNR=1530
H08S2 Diego Garcia H 24.65 232 T T 04 40 13.0
baz=52,slow=75,SNR=1674
H08S1 Diego Carcia H 24.66 232 T T 04 40 09.8
baz=52,slow=75,SNR=1370
NDI New Delhi 25.08 328 *e*P **P** **04 13 59.0 +0.6**
NDI *ex* x 04 18 28.0
CD2 Chengdu 25.62 24 ⇓P **P** **04 14 03.8 +0.5**
CD2 pP **pP** **04 14 13.6 +1.0**
CD2 sP **sP** **04 14 18.1 +1.6**
CD2 PcP **PcP** **04 17 32.9 -0.9**
CD2 S **S** **04 18 31.3 +1.8**
CD2 sS **sS** **04 18 48.1 +3.2**
CD2 PMZ
comp=Z,270nm,0.7s
CD2 PMZ
comp=Z,810nm,4.1s
CD2 LN
comp=Z,3μm,16.6s
CD2 LE
comp=Z,4μm,15.6s
CD2 LZ
comp=Z,3μm,14.7s
GZH Guangzhou 25.64 51 P P 04 14 09.6 +6.1
GZH pP pP 04 14 20.6 +7.8
GZH PP PnPn 04 14 57.5 +17
GZH S S 04 18 41.6 +12
GZH sS sS 04 18 53.5 +8.2
GZH SS SnSn 04 19 43.3 +18
GZH LR LR
comp=N,5μm,15.4s
GZH LR LR
comp=E,3μm,15.1s
GZH LR LR
comp=Z,6μm,14.1s
HKC Hong Kong Obse 25.88 53 *e*P **P** **04 14 06.0 +0.3**
DDI Dehra Dun 26.01 332 *e*P **P** **04 14 07.8 +0.9**
DDI AMB AMB 04 14 11.1
comp=Z,288nm,2.6s
SMLA Simla 27.10 331 *e*P **P** **04 14 16.4 -0.2**
SMLA AMB AMB 04 14 28.6
comp=Z,116nm,0.6s
ENH Enshi 27.85 34 *e*P **P** **04 14 21.5 -1.9**
comp=Z,52nm,0.9s
ENH LR LR
comp=Z,2μm,20.0s
DHRM DHARAMSHALA 28.44 331 *e*P **P** **04 14 28.4 -0.5**
DHRM AMB AMB 04 15 00.4
comp=Z,103nm,3.6s
SZP Santa 29.47 68 *e*P **P** **04 14 38.3 +0.4**
comp=Z,120nm,0.9s
SZP LR LR
comp=Z,4μm,20.0s
TOLI Toli-Toli 29.49 101 PFAKE 04 14 50.0 +12
TOLI LR LR
comp=Z,3μm,19.0s
LZH Lanzhou 30.30 19 ⇑P **P** **04 14 45.6 +0.4**
LZH pP **pP** **04 14 55.9 +1.4**
LZH PP **PnPn** **04 15 46.5 +2.6**
LZH PcP **PcP** **04 17 44.5 -0.7**
LZH S **S** **04 19 41.3 -2.0**
LZH sS **sS** **04 19 59.3 +0.6**
LZH SS **ScP** **04 21 23.5 -1.9**
LZH PMZ
comp=Z,170nm,1.4s
LZH PMZ
comp=Z,330nm,4.0s
LZH LN
comp=Z,3μm,15.6s
LZH LE
comp=Z,3μm,15.0s
LZH LZ
comp=Z,5μm,17.3s
KAPI Kappang 30.48 114 PFAKE 04 15 00.0 +13
KAPI LR LR
comp=Z,3μm,19.0s
XAN Xi'an 30.56 29 P **P** **04 14 46.3 -1.1**
XAN PP **PP** **04 15 52.3 -4.5**
XAN S **S** **04 19 41.8 -5.5**
XAN PMZ
comp=Z,7.0nm,1.0s
XAN LN
comp=Z,3μm,16.3s
XAN LE
comp=Z,1μm,15.8s
XAN LZ
comp=Z,1μm,15.1s
RCP Roxas 30.61 80 ⇑*e*P **P** **04 14 50.7 +2.7**
QZH Quanzhou 30.70 53 P **P** **04 14 49.9 +1.2**
QZH S **S** **04 19 52.3 +2.7**
QZH PMZ
comp=Z,320nm,0.9s
QZH LN
comp=Z,3μm,13.2s
QZH LE
comp=Z,4μm,13.5s
QZH LZ
comp=Z,6μm,16.3s
WHN Wuhan 30.95 40 ⇓P **P** **04 14 51.3 +0.5**
WHN S **S** **04 19 48.9 -4.4**
WHN PMZ
comp=Z,78nm,1.0s
WHN LN
comp=Z,5μm,14.3s
WHN LE
comp=Z,2μm,11.2s
WHN LZ
comp=Z,5μm,19.6s
TPUB Ta-pu 31.62 57 *e*P **P** **04 14 56.9 0.0**
comp=Z,68nm,1.2s
TPUB LR LR
comp=Z,3μm,22.0s
TWG Pinlang 31.79 59 *e*P **P** **04 14 57.8 -0.6**
comp=Z,423nm,1.0s
TWG LR LR
comp=Z,8μm,21.0s
LUWI Luwuk 31.95 104 PFAKE 04 15 10.0 +10
LUWI LR LR
comp=Z,3μm,20.0s
SSLB Suanglung 32.09 57 *e*P **P** **04 15 01.7 +0.6**
comp=Z,68nm,0.9s
SSLB LR LR
comp=Z,3μm,22.0s
YULB Yu-li 32.21 58 *e*P **P** **04 15 01.6 -0.5**
comp=Z,129nm,1.0s
YULB LR LR
comp=Z,4μm,22.0s
GTA Gaotai 32.37 11 ⇑P **P** **04 15 04.0 +0.6**
GTA pP **pP** **04 15 13.4 +0.6**
GTA sP **sP** **04 15 17.8 +1.1**
GTA PcP **PcP** **04 17 51.6 +0.9**
GTA S **S** **04 20 14.5 -1.2**
GTA sS **sS** **04 20 31.1 0.0**
GTA ScP **ScP** **04 21 34.0 +1.7**
GTA SS **SnSn** **04 22 11.3 +1.6**
GTA PMZ
comp=Z,180nm,1.4s
GTA PMZ
comp=Z,550nm,5.8s
GTA LN
comp=Z,1μm,17.6s
GTA LE
comp=Z,2μm,15.2s
GTA LZ
comp=Z,1μm,22.8s
NACB Ninganchiao 32.78 57 *e*P **P** **04 15 06.1 -0.9**
comp=Z,43nm,0.9s
NACB LR LR
comp=Z,4μm,22.0s
YHNB Yeheng 32.82 56 *e*P **P** **04 15 06.2 -1.2**
comp=Z,56nm,1.0s
YHNB LR LR
comp=Z,3μm,20.0s
TATO Taipei 33.04 55 PFAKE 04 15 20.0 +11
TATO LR LR
comp=Z,3μm,20.0s
DAV Davao City (W) 33.37 89 PFAKE 04 15 20.0 +7.7
DAV LR LR
comp=Z,2μm,18.0s
KBL Kabul 34.03 325 *e*P **P** **04 15 18.1 0.0**
comp=Z,28nm,0.9s
KBL LR LR
comp=Z,3μm,20.0s
YOJ Yonaguni jima 34.08 57 PFAKE 04 15 30.0 +12
YOJ LR LR
comp=Z,3μm,20.0s
MMRI Maumere 34.28 118 PFAKE 04 15 30.0 +10
MMRI LR LR
comp=Z,2μm,19.0s
KSH Kashi 34.78 338 P **P** **04 15 22.8 -1.6**
KSH pP **pP** **04 15 31.8 -2.0**
KSH sP **sP** **04 15 40.1 +2.4**
KSH PP **PnPn** **04 16 39.3 -1.9**
KSH S **S** **04 20 50.9 -2.2**
KSH SS **SnSn** **04 23 00.5 -7.7**
KSH PMZ
comp=Z,53nm,1.0s
KSH LN
comp=Z,690nm,10.8s
KSH LE
comp=Z,1μm,12.2s
KSH LZ
comp=Z,4μm,24.3s
NJ2 Nanjing 34.86 42 *e*P P 04 15 27.8 +2.8
NJ2 pP pP 04 15 34.0 -0.4
NJ2 sP sP 04 15 39.0 +0.7
NJ2 S **S** **04 20 54.5 +0.4**
NJ2 sS sS 04 21 11.0 +1.4
NJ2 PMZ
comp=Z,180nm,0.9s
NJ2 PMZ
comp=Z,1μm,4.3s
NJ2 LN
comp=Z,3μm,16.2s
NJ2 LE
comp=Z,4μm,19.2s
NJ2 LZ
comp=Z,4μm,19.2s
TIY Taiyuan 35.20 29 *e*P **P** **04 15 28.3 +0.3**
TIY S **S** **04 20 55.3 -4.1**
TIY PMZ
comp=Z,220nm,4.5s
TIY LN
comp=Z,3μm,16.2s
TIY LE
comp=Z,3μm,17.8s
TIY LZ
comp=Z,2μm,20.3s
SSE Sheshan 35.90 46 P **P** **04 15 34.8 +0.9**
SSE sP **sP** **04 15 46.9 -0.4**
SSE PP **PP** **04 17 00.3 +4.4**
SSE S **S** **04 21 11.8 +1.7**
SSE sS **sS** **04 21 24.3 -1.3**
SSE PMZ
comp=Z,81nm,0.9s
SSE PMZ
comp=Z,150nm,3.7s
SSE LN
comp=Z,2μm,15.7s
SSE LE
comp=Z,970nm,15.7s
SSE LZ
comp=Z,2μm,13.1s
TNTI Ternate 35.97 99 PFAKE 04 15 50.0 +15
TNTI LR LR
comp=Z,801nm,22.0s
WMQ Urumqi 36.19 355 P **P** **04 15 37.9 +1.6**
WMQ pP **pP** **04 15 47.9 +2.1**
WMQ sP **sP** **04 15 51.8 +2.1**
WMQ PP **PP** **04 17 01.0 +2.0**
WMQ PcP **PcP** **04 18 03.3 +1.9**
WMQ S **S** **04 21 14.3 -0.1**
WMQ sS **sS** **04 21 31.1 +1.2**
WMQ PcS **PcS** **04 21 49.8 +0.8**
WMQ SS **SnSn** **04 23 42.6 +0.7**
WMQ ScS **ScS** **04 25 48.9 -2.5**
WMQ PMZ
comp=Z,31nm,1.2s
WMQ PMZ
comp=Z,300nm,5.4s
WMQ LN
comp=Z,2μm,20.0s
WMQ LE
comp=Z,3μm,21.2s
WMQ LZ
comp=Z,2μm,27.6s
TIA Tai'an 36.54 35 ⇑P **P** **04 15 39.9 +0.5**
TIA PP **PP** **04 17 04.3 +1.4**
TIA S **S** **04 21 20.1 +0.3**
TIA PMZ
comp=Z,40nm,1.5s
TIA LN
comp=Z,2μm,22.0s
TIA LE
comp=Z,2μm,20.8s
TIA LZ
comp=Z,950nm,31.5s
BTO Baotou 36.54 23 *e*P **P** **04 15 38.5 -1.0**
SOEI Soe 36.57 118 *e*P **P** **04 15 39.7 -0.3**
comp=Z,65nm,0.8s
SOEI LR LR
comp=Z,7μm,21.0s
ULHL Ulahol 37.11 341 P **P** **04 15 45.4 +1.0**
SNR=20
KZA Kyzart 37.30 339 P **P** **04 15 47.2 +1.0**
SNR=54
HHC Hu-ho-hao-te 37.37 25 *e*P **P** **04 15 47.0 +0.5**
HHC sP **sP** **04 15 59.8 -0.1**
HHC PP **PnPn** **04 17 19.0 +6.1**
HHC S **S** **04 21 32.8 +0.2**
HHC sS **sS** **04 21 46.9 -1.2**
HHC PMZ
comp=Z,49nm,1.0s
HHC PMZ
comp=Z,270nm,5.1s
HHC LN
comp=Z,2μm,14.5s
HHC LE
comp=Z,2μm,14.9s
HHC LZ
comp=Z,2μm,14.7s
UCH Uchtor 37.69 339 P **P** **04 15 50.5 +0.8**
SNR=104
AML Almayashu 37.91 338 P **P** **04 15 52.6 +1.2**
SNR=118
KBK Karagaybulak 37.91 339 P **P** **04 15 52.7 +1.5**
SNR=83
TKM2 Tokmak 2 37.93 340 P **P** **04 15 51.8 +0.5**
SNR=59
TKM2 Tokmak 2 37.93 340 *i* P **P** **04 15 51.6 +0.3**
TKM2 pmax pmax
comp=Z,102nm,1.3s
TKM2 Tokmak 2 37.93 340 *e*P **P** **04 15 51.7 +0.3**
comp=Z,254nm,1.8s
TKM2 LR LR
comp=Z,2μm,22.0s
AAK Ala-Archa 38.05 339 P **P** **04 15 53.7 +1.4**
SNR=43
AAK Ala-Archa 38.05 339 *i* P **P** **04 15 53.6 +1.3**
AAK pmax pmax
comp=Z,127nm,1.0s
AAK Ala-Archa 38.05 339 P P 04 16 03.6 +11
SNR=67
AAK Ala-Archa 38.05 339 *e*P **P** **04 15 53.5 +1.1**
comp=Z,116nm,1.0s
AAK LR LR
comp=Z,2μm,20.0s
CHMS Chumysh 38.28 340 P **P** **04 15 55.1 +1.0**
SNR=28
EKS2 Erkin-Say 38.34 338 P **P** **04 15 55.7 +1.1**
SNR=66
EKS2 Erkin-Say 38.34 338 *e*P **P** **04 15 55.6 +0.9**
comp=Z,76nm,0.8s
EKS2 LR LR
comp=Z,3μm,21.0s
MSEY Mahe Island 38.39 253 PFAKE 04 16 10.0 +15
MSEY LR LR
comp=Z,2μm,22.0s
USP Ospenovka 38.61 339 P **P** **04 15 57.2 +0.4**
SNR=86
BJT Baijiatuau 38.82 30 *e*P **P** **04 15 59.0 +0.4**
comp=Z,34nm,1.0s
BJT LR LR
comp=Z,2μm,22.0s
BJI Beijing 38.84 30 P **P** **04 15 59.5 +0.8**
BJI PP **PnPn** **04 17 29.8 -0.7**
BJI S **S** **04 21 55.5 +1.0**
BJI PMZ
comp=Z,25nm,1.5s
BJI PMZ
comp=Z,320nm,4.4s
BJI LN
comp=Z,2μm,20.6s
BJI LE
comp=Z,3μm,21.7s
BJI LZ
comp=Z,2μm,27.6s
MBWA Marble Bar 39.58 137 *e*P **P** **04 16 05.5 +0.3**
comp=Z,22nm,0.8s
MBWA LR LR
comp=Z,2μm,22.0s
ITEG Tejag 39.68 314 *e*P **P** **04 16 08.3 +2.2**
MK31 Makanchi Array 39.84 350 P **P** **04 16 06.5 -0.5**
MK31 pmax pmax
comp=Z,21nm,0.7s
MKAR Makanchi Array 39.84 350 *e*P **P** **04 16 06.9 -0.1**
KK31 Karatay Array 39.99 335 P **P** **04 16 08.2 -0.1**
KK31 pmax pmax
comp=Z,83nm,1.0s

KKAR Karatay Array 39.99 335 eP P 04 16 08.4 +0.1
SIJI Sorong 40.13 101 LR LR 04 36 05.3
comp=Z,451nm,19.5s,baz=218,slow=41
KSHUK Heuksando 40.87 44 P P 04 16 16.2 +0.4
SNR=9.0
KSHUK Heuksando 40.87 44 P P 04 16 16.2 +0.4
SNR=9.0
DL2 Dalian 40.99 36 P P 04 16 17.8 +1.2
DL2 S S 04 22 29.3 +2.5
DL2 PMZ
comp=Z,62nm,1.1s
DL2 PMZ
comp=Z,220nm,4.1s
DL2 LN
comp=Z,830nm,13.2s
DL2 LE
comp=Z,890nm,15.2s
DL2 LZ
comp=Z,750nm,18.2s
KSJDO Jindo 41.36 45 P P 04 16 20.2 +0.4
SNR=14
KSJDO Jindo 41.36 45 P P 04 16 20.2 +0.4
SNR=14
IBAF Bafgh 41.38 310 eP P 04 16 21.2 +1.0
FAKI Fak Fak 41.58 103 PFAKE 04 16 30.0 +8.1
FAKI LR LR
comp=Z,600nm,20.0s
IAKL Akhelmad 41.72 319 eP P 04 16 23.6 +0.6
SONA0 Songino Array 41.86 15 eP P 04 16 23.9 +0.1
SONA0 S S 04 22 39.0 -0.8
SONM Songino Array 41.86 15 P P 04 16 23.9 +0.1
comp=Z,31nm,0.7s,baz=196,slow=8.6,SNR=100
SONM S S 04 22 39.0 -0.8
comp=Z,0.5nm,0.3s,baz=201,slow=18,SNR=2.1
SONM LR LR 04 36 21.7
comp=Z,3μm,21.1s,baz=196,slow=40
SONM Songino Array 41.86 15 P P 04 16 23.9 +0.1
SONM S S 04 22 39.0 -0.8
SONM pmax pmax
comp=Z,31nm,0.7s
SONM smax smax
comp=N,1.0nm,0.3s
SONM MLR MLR
comp=Z,3μm,21.1s
SONA1 Songino Array 41.88 15 eP P 04 16 23.9 0.0
IMEH Mehriz 42.02 309 eP P 04 16 26.3 +0.8
ULN Ulaanbaatar 42.06 15 PFAKE 04 16 40.0 +15
ULN LR LR
comp=Z,3μm,21.0s
KSKWJ Gwangju 42.19 44 P P 04 16 27.4 +0.8
SNR=11
KSKWJ Gwangju 42.19 44 P P 04 16 27.4 +0.8
SNR=11
KSBAR Backryungdo 42.28 39 P P 04 16 28.1 +0.9
SNR=6.9
KSBAR Backryungdo 42.28 39 P P 04 16 28.1 +0.9
SNR=6.9
KSJEU Jeongeup 42.33 44 P P 04 16 28.3 +0.6
SNR=7.3
KSJEU Jeongeup 42.33 44 P P 04 16 28.3 +0.6
SNR=7.3
ISFR Sfrayin 42.48 319 eP P 04 16 30.8 +1.6
KSGUS GUNSAN 42.52 43 P P 04 16 30.1 +0.9
SNR=9.5
KSGUS GUNSAN 42.52 43 P P 04 16 30.1 +0.9
SNR=9.5
ICHK Chekchek 42.56 310 eP P 04 16 30.6 +0.7
IPAR Pars 42.60 306 eP P 04 16 31.8 +1.4
KSSES Seosan 42.71 42 P P 04 16 30.6 -0.1
SNR=14
KSSES Seosan 42.71 42 P P 04 16 32.1 +1.3
SNR=5.3
ISHV Shirvan 42.95 319 eP P 04 16 34.7 +1.8
ISAD Sadrabad 42.96 309 eP P 04 16 34.0 +0.8
KSKOJ Gongju 43.00 43 P P 04 16 33.9 +0.8
SNR=8.4
TJN Taejon 43.10 43 c iP P 04 16 34.4 +0.5
INCN Inchon 43.22 41 P P 04 16 35.5 +0.5
SNR=8.6
INCN Inchon 43.22 41 PFAKE 04 16 50.0 +15
INCN LR LR
comp=Z,2μm,19.0s
KSCEA Cheonan 43.27 43 P P 04 16 36.5 +1.2
SNR=8.3
KSSEO Seoul 43.41 42 P P 04 16 37.3 +0.9
SNR=6.9
KSMUS Musan 43.53 41 P P 04 16 37.7 +0.3
SNR=10.0
ZAK Zakamensk 43.60 11 eP P 04 16 37.8 -0.1
ZAK e 04 18 22.8
ZAK pmax pmax
comp=Z,32nm,1.6s
YNCB YEONCHEON 43.73 41 P P 04 16 38.9 -0.1
SNR=12
KSDAG Daegu 43.84 45 P P 04 16 40.9 +1.0
SNR=8.8
KSDAG Daegu 43.84 45 P P 04 16 40.9 +1.0
SNR=8.8
JNU Nakatsue 44.02 49 P P 04 16 42.0 +0.6
comp=Z,25nm,0.9s,baz=255,slow=7.3,SNR=18
JNU Nakatsue 44.02 49 eP P 04 16 41.5 +0.1
comp=Z,59nm,1.2s
JNU LR LR
comp=Z,2μm,18.0s
KS15 Wonju Array Si 44.03 42 eP P 04 16 41.9 +0.5
SNY Shenyang 44.04 34 ⇑P P 04 16 41.8 +0.4
SNY PP PcP 04 18 26.6 +0.1
SNY S S 04 23 11.1 -0.5
SNY PMZ
comp=Z,26nm,1.7s
SNY PMZ
comp=Z,390nm,10.6s
SNY LN
comp=Z,860nm,18.8s
SNY LE
comp=Z,1μm,17.6s
SNY LZ
comp=Z,1μm,16.5s
KS01 Wonju Array Si 44.05 42 eP P 04 16 41.6 0.0
KSRS Korea Array 44.06 42 P P 04 16 41.9 +0.3
comp=Z,6.3nm,0.9s,baz=249,slow=8.5,SNR=31
KSRS LR LR 04 36 22.0
comp=Z,1μm,19.4s,baz=243,slow=38
KSRS Korea Array 44.06 42 P P 04 16 41.9 +0.3
KSRS pmax pmax
comp=Z,6.0nm,0.9s
KSRS MLR MLR
comp=Z,1μm,19.4s
KSCWO Cheorwon 44.14 41 P P 04 16 43.0 +0.7
SNR=7.3
KSCHC Chuncheon 44.16 42 P P 04 16 43.3 +0.8
SNR=7.8
KSCHC Chuncheon 44.16 42 P P 04 16 43.3 +0.8
SNR=7.8
KURK Kurchatov 44.30 348 P P 04 16 43.0 -0.3
comp=Z,639nm,1.2s,SNR=56
KURK Kurchatov 44.30 348 P P 04 16 42.5 -0.8
KURK pmax pmax
comp=Z,83nm,1.3s
KURK Kurchatov 44.30 348 P P 04 16 43.9 +0.6
SNR=94
KURK Kurchatov 44.30 348 eP P 04 16 43.7 +0.3
comp=Z,87nm,1.2s
KURK LR LR
comp=Z,900nm,21.0s
IZEF Zefreh 44.42 310 eP P 04 16 44.4 -0.5
KSIJA INJE 44.48 42 P P 04 16 45.8 +0.8
SNR=8.6
KSIJA INJE 44.48 42 P P 04 16 45.8 +0.8
SNR=8.6
MOY Mondy 44.48 8 eP P 04 16 46.6 +1.7
MOY pmax pmax
comp=Z,43nm,1.8s
KSTBA Taebaek 44.57 43 P P 04 16 46.7 +0.9
SNR=7.0
KSDGY Daegwallycong 44.69 42 P P 04 16 47.5 +0.7
SNR=6.1
TLY Talaya 44.91 10 P P 04 16 48.4 +0.1
comp=Z,11nm,0.8s,baz=214,slow=6.3,SNR=17
TLY Talaya 44.91 10 P P 04 16 48.4 +0.1
TLY pmax pmax
comp=Z,11nm,0.8s
IKLH Kolahrood 45.17 310 eP P 04 16 51.5 +0.7
IFIR Firoozkooh 45.34 314 eP P 04 16 53.1 +0.8
IPIR Pirpir 45.43 309 eP P 04 16 52.5 -0.5
IRK Irkutsk 45.56 11 eP P 04 16 52.9 -0.5
IRK pmax pmax
comp=Z,131nm,1.7s
IDMV Damavand 45.83 313 eP P 04 16 56.6 +0.5
CN2 Changchun 46.38 34 eP P 04 17 00.6 +0.7
CN2 epP pP 04 17 10.5 +1.0
CN2 PP PP 04 18 47.4 -1.8
CN2 eS S 04 23 45.4 0.0
CN2 SS SS 04 27 04.6 -6.7
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,1μm,16.0s
CN2 LE
comp=Z,1μm,16.0s
CN2 LZ
comp=Z,1μm,17.0s
ZAA0 Zalesovo Array 46.49 354 eP P 04 17 00.4 -0.2
ZALV Zalesovo Beam 46.49 354 P P 04 17 00.3 -0.4
comp=Z,7.9nm,0.3s,baz=169,slow=8.5,SNR=54
ZALV LR LR 04 40 34.4
comp=Z,1μm,20.6s,baz=246,slow=41
ZALV Zalesovo Beam 46.49 354 i P P 04 17 00.7 +0.1
ZALV pmax pmax
comp=Z,8.0nm,0.3s
ZAA1 Zalesovo Array 46.49 354 eP P 04 17 00.3 -0.4
NWAO Narrogin (SRO) 47.02 151 LR LR 04 33 59.5
comp=Z,5.2nm,20.5s,baz=328,slow=32
DAMY Dhamar 47.08 283 PFAKE 04 17 20.0 +14
DAMY LR LR
comp=Z,1μm,21.0s
RAYN Ar Rayn 47.18 295 P P 04 17 07.2 +0.6
comp=Z,234nm,1.0s,SNR=15
RAYN Ar Rayn 47.18 295 eP P 04 17 06.7 +0.1
comp=Z,35nm,0.9s
RAYN LR LR
comp=Z,2μm,20.0s
H01W3 Cape Leeuwin H 47.25 155 T T 05 07 53.2
baz=331,slow=76,SNR=3.6
H01W2 Cape Leeuwin H 47.26 155 T T 05 07 52.3
baz=331,slow=76,SNR=4.4
H01W1 Cape Leeuwin H 47.27 155 T T 05 07 50.5
baz=331,slow=76,SNR=4.5
IGZV Ghazvin 47.51 313 eP P 04 17 10.2 +0.9
NVS Novosibirsk 47.54 353 ⇑iP P 04 17 08.0 -0.8
NVS eS S 04 24 00.2 -1.4
NVS pmax pmax
comp=N,165nm,2.2s
NVS pmax pmax
comp=E,58nm,2.2s
NVS pmax pmax
comp=Z,196nm,2.2s
NVS smax smax
comp=N,83nm,2.3s
NVS smax smax
comp=E,103nm,2.3s
HIA Hailar 47.58 24 eP P 04 17 09.4 +0.2
comp=E,94nm,1.3s
HIA LR LR
comp=Z,2μm,19.0s
CIT Chita 47.64 18 eP P 04 17 10.1 +0.4
CIT e 04 17 20.2
CIT pmax pmax
comp=Z,151nm,1.5s
BVA0 Borovoye Array 48.49 343 i P P 04 17 15.7 -0.5
BVA0 pmax pmax
comp=Z,100nm,1.6s
BVAR Borovoye Array 48.49 343 P P 04 17 15.8 -0.4
comp=Z,33nm,0.8s,baz=142,slow=7.5,SNR=100
BVAR Borovoye Array 48.49 343 P P 04 17 15.8 -0.4
BVAR pmax pmax
comp=Z,33nm,0.8s
BRVK Borovoye 48.55 343 P P 04 17 16.5 -0.2
comp=Z,307nm,0.8s,SNR=18
BRVK Borovoye 48.55 343 c iP P 04 17 16.2 -0.5
BRVK pmax pmax
comp=Z,69nm,0.8s
BRVK Borovoye 48.55 343 P P 04 17 16.8 +0.1
SNR=24
BRVK Borovoye 48.55 343 eP P 04 17 16.4 -0.3
comp=Z,43nm,0.8s
BRVK LR LR
comp=Z,2μm,18.0s
MDJ Mudanjiang 49.21 35 P P 04 17 22.9 +1.0
MDJ pP pP 04 17 31.8 +0.3
MDJ sP sP 04 17 35.8 +0.4
MDJ S S 04 24 27.3 +1.8
MDJ PMZ
comp=Z,30nm,1.7s
MDJ PMZ
comp=Z,120nm,3.3s
MDJ LN
comp=Z,760nm,30.8s
MDJ LE
comp=Z,870nm,29.6s
MDJ LZ
comp=Z,670nm,32.5s
MDJ Mudanjiang 49.21 35 eP P 04 17 22.6 +0.8
comp=Z,177nm,2.0s
MDJ LR LR
comp=Z,1μm,22.0s
AB31 Akbulak array 49.38 333 P P 04 17 22.8 -0.3
AB31 pmax pmax
comp=Z,14nm,0.5s
ABKAR Akbulak array 49.38 333 eP P 04 17 23.2 +0.2
IDHR Dehrash 49.67 310 eP P 04 17 24.5 -1.3
VLA Vladivostok 49.70 38 ⇑eP P 04 17 26.4 +0.8
VLA e*PP pP 04 17 36.4 +1.1
VLA e 04 19 21.3
VLA i S S 04 24 33.2 +0.8
VLA pmax pmax
comp=Z,104nm,1.8s
WRA Warramunga Arr 49.95 124 P P 04 17 27.9 0.0
comp=Z,12nm,0.9s,baz=306,slow=8.5,SNR=194
WRA LR LR 04 41 51.0
comp=Z,1μm,19.2s,baz=290,slow=40
WRA Warramunga Arr 49.95 124 P P 04 17 27.9 0.0
WRA pmax pmax
comp=Z,12nm,0.9s
WRA MLR MLR
comp=Z,1μm,19.2s
WRAB Tennant Creek 49.95 124 P P 04 17 27.0 -0.9
comp=Z,171nm,1.0s,SNR=24
WRAB Tennant Creek 49.95 124 eP P 04 17 28.3 +0.4
WRAB pmax pmax
comp=Z,159nm,2.5s
WRAB Tennant Creek 49.95 124 eP P 04 17 27.9 0.0
comp=Z,35nm,0.9s
WRAB LR LR
comp=Z,2μm,21.0s
USRK Ussuriysk Ar. 50.36 37 P P 04 17 30.9 +0.2
comp=Z,5.1nm,0.8s,baz=240,slow=6.4,SNR=16
USRK LR LR 04 41 07.7
comp=Z,1μm,18.2s,baz=225,slow=39
MAJO Matsushiro 50.92 49 c iP P 04 17 35.2 +0.2
MAJO Matsushiro 50.92 49 eP P 04 17 35.0 0.0
comp=Z,167nm,1.9s
MAJO ePcP PcP 04 18 51.1 -0.1
MAJO LR LR
comp=Z,1μm,22.0s
MAT Matsushiro 50.92 49 P P 04 17 34.9 -0.1
MAT S S 04 24 48.0 -1.7
MJAR Matsushiro Arr 50.92 49 P P 04 17 35.6 +0.6
comp=Z,5.7nm,0.7s,baz=241,slow=7.5,SNR=17
MJAR PcP PcP 04 18 51.1 -0.1
comp=Z,4.4nm,0.9s,baz=250,slow=2.5,SNR=4.4
MJAR LR LR 04 40 54.1
comp=Z,959nm,19.9s,baz=245,slow=38
MJAR Matsushiro Arr 50.92 49 P P 04 17 35.6 +0.6
MJAR 04 18 51.2
MJAR pmax pmax
comp=Z,6.0nm,0.7s
MJAR pmax pmax
comp=Z,4.0nm,1.0s
MJAR MLR MLR
comp=Z,959nm,19.9s
JCJ Chichijima 51.31 61 P P 04 17 37.2 -0.9
comp=Z,76nm,1.0s,baz=81,slow=7.6,SNR=3.6
CBI Chichi jima 51.31 61 eP P 04 17 37.2 -0.9
ABPO Ambohimpanom 51.43 238 eP P 04 17 40.1 +0.8
comp=Z,16nm,0.8s
AS12 Alice Springs 51.49 128 ePKKPdf PKKPdf 04 40 05.9 +7.3
ASAR Alice Springs 51.49 128 P P 04 17 39.5 0.0
comp=Z,8.8nm,0.9s,baz=300,slow=6.6,SNR=33
ASAR LR LR 04 40 05.9
comp=Z,1μm,21.2s,baz=298,slow=37
ASAR Alice Springs 51.49 128 P P 04 17 39.5 0.0
ASAR pmax pmax
comp=Z,9.0nm,0.9s
ASAR MLR MLR
comp=Z,1μm,21.2s
AS01 Alice Springs 51.53 128 eP P 04 17 39.7 -0.1
FORT Forrest 51.58 140 eP P 04 17 41.4 +1.4
comp=Z,110nm,1.0s
FORT LR LR
comp=Z,2μm,21.0s
IMRD Marand 51.75 314 eP P 04 17 41.6 +0.2
GUMO Guam 52.27 79 LR LR 04 39 48.1
comp=Z,797nm,20.3s,baz=253,slow=36
GUMO Guam 52.27 79 PFAKE 04 18 00.0 +15
GUMO LR LR
comp=Z,1μm,19.0s
FURI Furi 52.68 275 PFAKE 04 18 00.0 +11
FURI LR LR
comp=Z,2μm,19.0s
BOD Bodaibo 52.86 15 eP P 04 17 49.1 0.0
BOD i 04 25 14.9
BOD pmax pmax
comp=Z,104nm,1.5s
GNI Garni 53.02 315 d iP P 04 17 51.3 +0.5
GNI pmax pmax
comp=Z,22nm,1.0s
GNI Garni 53.02 315 P P 04 17 52.3 +1.5
SNR=5.8
GNI Garni 53.02 315 PFAKE 04 18 00.0 +9.2
GNI LR LR
comp=Z,1μm,20.0s
DGRG David-gareji 53.14 317 P P 04 17 51.9 +0.4
DGRG David-gareji 53.14 317 P P 04 17 51.9 +0.4
KLR Kul'dur 53.18 32 eP P 04 17 47.6 -4.0
KLR e 04 19 50.5
KLR eS S 04 25 17.5 -2.7
KLR pmax pmax
comp=E,56nm,1.8s
KLR pmax pmax
comp=Z,70nm,1.8s
TBLG Delisi 53.69 317 P P 04 17 55.8 +0.2
TBLG Delisi 53.69 317 P P 04 17 55.7 +0.2
HABR Khabarovsk 54.51 34 eP P 04 17 59.7 -1.6
HABR e*PP pP 04 18 08.8 -2.3
HABR e*SP sP 04 18 13.0 -1.9
HABR 04 19 02.1
HABR e 04 20 01.3
HABR ePPP PPP 04 21 11.1
HABR eS S 04 25 36.7 -1.5
HABR e*SS sS 04 25 52.9 -1.4
HABR eSS SS 04 29 20.4 -0.7
HABR eSSS SSS 04 31 22.4
HABR pmax pmax
comp=N,10.0nm,1.0s
HABR pmax pmax
comp=Z,36nm,1.0s
HABR pmax pmax
comp=E,22nm,1.0s
HABR MLR MLR
comp=Z,1μm,18.0s
SVE Sverdlovsk 54.79 340 deP P 04 18 03.4 +0.2
SVE eS S 04 25 50.8 +9.0
SVE pmax pmax
comp=Z,257nm,1.2s
SVE MLR MLR
comp=Z,2μm,20.0s
ONI Oni 54.92 317 P P 04 18 08.5 +4.0
ONI Oni 54.92 317 P P 04 18 08.5 +4.0
ARU Arti 55.23 338 P P 04 18 06.8 +0.4
comp=Z,368nm,1.3s,SNR=10
ARU Arti 55.23 338 c iP P 04 18 06.2 -0.2
ARU 04 20 07.1
ARU S S 04 25 48.8 +1.1
ARU pmax pmax
comp=Z,80nm,1.2s
ARU MLR MLR
comp=Z,2μm,20.0s
ARU Arti 55.23 338 P P 04 18 06.8 +0.4
comp=Z,368nm,1.3s,SNR=10
ARU Arti 55.23 338 eP P 04 18 06.4 0.0
comp=Z,266nm,1.7s
ARU LR LR
comp=Z,2μm,20.0s
CLNS Chul'man 55.39 21 eP P 04 18 07.3 -0.3
CLNS pmax pmax
comp=Z,25nm,0.6s
CLNS pmax pmax
comp=E,17nm,0.8s
CLNS pmax pmax
comp=N,21nm,0.9s
NEY Neytrino 55.68 318 eP P 04 18 10.6 +0.5
NEY pmax pmax
comp=Z,3.0nm,1.2s
KBZ Khabaz 55.77 319 P P 04 18 10.3 -0.1
comp=Z,10nm,0.9s,baz=134,slow=6.7,SNR=11
KBZ LR LR 04 46 48.7
comp=Z,522nm,18.5s,baz=113,slow=41
KBZ Khabaz 55.77 319 P P 04 18 10.4 -0.1
KBZ pmax pmax
comp=Z,10.0nm,0.9s
KBZ MLR MLR
comp=Z,522nm,18.5s
KIV Kislovodsk 56.00 319 eP P 04 18 12.7 +0.4
KIV e 04 20 14.5
KIV eS S 04 25 59.0 +0.3
KIV eSS SS 04 29 46.7 +1.6
KIV pmax pmax
comp=Z,38nm,1.0s
KIV MLR MLR
comp=Z,733nm,16.0s
KIV Kislovodsk 56.00 319 eP P 04 18 12.2 -0.1
comp=Z,31nm,0.9s
KIV LR LR
comp=Z,900nm,19.0s
ERM Erimo 56.55 44 PFAKE 04 18 30.0 +14
ERM LR LR
comp=Z,1μm,19.0s
MALT Malatya 56.93 311 ⇑iP P 04 18 19.5 +0.5
ASAJ Asahikawa 57.00 42 LR LR 04 43 00.5
comp=Z,654nm,21.7s,baz=215,slow=36
ASAJ Asahikawa 57.00 42 eP P 04 18 19.2 -0.1
comp=Z,127nm,1.5s
ASAJ LR LR
comp=Z,800nm,18.0s
SOC Sochi 57.83 317 eP P 04 18 20.8 -4.3
SOC e 04 20 31.9
SOC ePPP PPP 04 21 53.8
SOC eS S 04 26 16.0 -6.5
SOC eSS SS 04 30 19.4 +5.9
SOC MLR MLR
comp=Z,642nm,19.0s
BBOO Buckleboo 58.16 136 PFAKE 04 18 40.0 +12
BBOO LR LR
comp=Z,2μm,18.0s
YSS Yuzh-Sakhalins 58.29 39 ⇑iP P 04 18 28.0 -0.3
YSS e 04 18 38.6
YSS eS S 04 26 26.0 -2.4
YSS pmax pmax
comp=Z,130nm,1.3s
YSS Yuzh-Sakhalins 58.29 39 eP P 04 18 28.5 +0.2
comp=Z,85nm,1.1s
YSS LR LR
comp=Z,200nm,20.0s
YUK Yuzh-Kuril'sk 59.14 43 P P 04 18 33.9 -0.4
YUK e 04 20 40.1
YUK eS S 04 26 41.9 +2.3
YUK eSS SS 04 30 35.6 +1.4
ANN Anapa 59.80 318 eP P 04 18 41.0 +2.2
ANN eS S 04 26 54.0 +5.9
ANN pmax pmax
comp=Z,92nm,1.3s
ANN MLR MLR
comp=Z,696nm,19.0s
ANN MLR MLR
comp=N,1μm,19.0s
VRHR Novokhopersk 59.85 326 eP P 04 18 38.0 -1.0
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,40nm,1.2s
PAF Port-aux-Franc 59.89 196 S S 04 26 31.0 -18
PAF L L 04 33 00.0

PAF R 04 35 00.0
TYV Tymovskoe 59.98 35 *e*P **P** **04 18 41.5 +1.6**
TYV *e*S **S** **04 26 52.0 +1.9**
TYV smax smax
comp=E,1µm,20.0s
TYV MLR MLR
comp=N,1µm,16.0s
TYV MLR MLR
comp=Z,2µm,16.0s
TYV MLR MLR
comp=E,2µm,20.0s
CSS Prodhromos 60.01 306 PFAKE 04 18 50.0 +10
CSS LR LR
comp=Z,400nm,22.0s
NKL Nikolayevsk 60.02 32 *i* P P 04 18 35.0 -5.1
NKL *e* 04 26 47.0
NKL pmax pmax
comp=E,13nm,1.0s
NKL pmax pmax
comp=Z,80nm,1.0s
NKL pmax pmax
comp=N,90nm,1.5s
NKL MLR MLR
comp=N,1µm,15.0s
CTAO Charters Tower 60.13 118 PFAKE 04 18 50.0 +8.5
CTAO LR LR
comp=Z,1µm,19.0s
YAK Yakutsk 60.88 19 P **P** **04 18 45.7 -0.2**
comp=Z,2.6nm,0.4s,baz=342,slow=20,SNR=15
YAK LR LR 04 47 55.8
comp=Z,1µm,19.2s,baz=246,slow=39
YAK Yakutsk 60.88 19 *e*P **P** **04 18 43.4 -2.5**
YAK *e**PP **pP** **04 18 55.2 -0.6**
YAK *e* 04 21 00.4
YAK *e*PPP PPP 04 22 31.5
YAK *e*S **S** **04 27 00.2 -1.1**
YAK *e**SS **sS** **04 27 14.9 -2.7**
YAK pmax pmax
comp=Z,123nm,1.8s
YAK pmax pmax
comp=N,44nm,1.5s
YAK pmax pmax
comp=E,56nm,1.5s
YAK pmax pmax
comp=Z,19nm,1.0s
YAK pmax pmax
comp=E,42nm,1.8s
YAK pmax pmax
comp=N,53nm,1.8s
YAK smax smax
comp=E,181nm,2.6s
YAK smax smax
comp=N,363nm,3.2s
YAK MLR MLR
comp=Z,2µm,21.0s
YAK MLR MLR
comp=E,960nm,15.0s
YAK MLR MLR
comp=N,1µm,21.0s
YAK Yakutsk 60.88 19 *e*P **P** **04 18 45.7 -0.2**
comp=N,106nm,1.0s
YAK LR LR
comp=Z,1µm,21.0s
BR101 Keskin Array S 60.90 311 *e*P **P** **04 18 45.5 -1.2**
BRTR Keskin Array B 60.90 311 P **P** **04 18 45.5 -1.2**
comp=Z,7.7nm,0.9s,baz=123,slow=7.1,SNR=32
BRTR LR LR 04 46 11.0
comp=Z,706nm,21.6s,baz=108,slow=37
BRTR Keskin Array B 60.90 311 P **P** **04 18 45.5 -1.2**
BRTR pmax pmax
comp=Z,8.0nm,0.9s
BRTR MLR MLR
comp=Z,706nm,21.6s
VORD Divnogorie 61.11 325 *e*P **P** **04 18 45.4 -2.2**
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,30nm,1.8s
VORD MLR MLR
comp=Z,1µm,21.0s
VORD MLR MLR
comp=N,1µm,17.0s
VORD MLR MLR
comp=E,830nm,25.0s
VSR Storozhevoye 61.29 325 *e*P **P** **04 18 47.8 -1.0**
VSR pmax pmax
comp=Z,20nm,1.2s
VSR pmax pmax
comp=N,7.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR MLR MLR
comp=Z,850nm,23.0s
VSR MLR MLR
comp=N,1µm,22.0s
VSR MLR MLR
comp=E,1µm,24.0s
MBAR Mbarara 61.57 265 *e*P **P** **04 18 53.0 +1.3**
MBAR Mbarara 61.57 265 *e*P P 04 18 55.3 +3.7
comp=E,52nm,1.4s
ANTO Ankara 61.57 311⇑ *i*P **P** **04 18 51.2 +0.1**
STKA Stephens Creek 61.57 132 P **P** **04 18 52.0 +0.9**
comp=E,20nm,0.8s,baz=309,slow=5.4,SNR=21
STKA LR LR 04 46 41.9
comp=E,828nm,21.2s,baz=302,slow=37
STKA Stephens Creek 61.57 132 P **P** **04 18 52.0 +0.9**
STKA pmax pmax
comp=Z,20nm,0.8s
STKA MLR MLR
comp=Z,828nm,21.2s
STKA Stephens Creek 61.57 132 *e*P **P** **04 18 51.5 +0.4**
comp=Z,5.4nm,1.0s
LPSR Galich'ya Gora 62.03 327 *e*P **P** **04 18 55.9 +2.1**
LPSR pmax pmax
comp=Z,70nm,0.5s
LPSR MLR MLR
comp=E,1µm,20.0s
LPSR MLR MLR
comp=Z,610nm,20.0s
LPSR MLR MLR
comp=N,730nm,17.0s
SIM Simferopol' 62.07 317 *e*P P 04 18 58.1 +3.8
SIM *e*PPP PPP 04 22 41.0
SIM *e*S S 04 27 24.0 +6.9
SIM pmax pmax
comp=Z,27nm,1.4s
ISP Isparta 62.83 309 PFAKE 04 19 10.0 +10
ISP LR LR
comp=Z,1µm,21.0s
MOS Moscow 64.11 329 *e*P **P** **04 19 06.3 -1.3**
MOS *e* 04 19 13.4
MOS *e*S **S** **04 27 44.5 +2.3**
MOS pmax pmax
comp=Z,100nm,1.5s
MOS pmax pmax
comp=Z,92nm,1.3s
MOS MLR MLR
comp=N,2µm,20.0s
MOS MLR MLR
comp=Z,2µm,20.0s
MOS MLR MLR
comp=E,1µm,19.0s
OBN Obninsk 64.38 328 *e*P **P** **04 19 09.2 -0.1**
OBN *e* 04 19 47.8
OBN pmax pmax
comp=Z,75nm,1.4s
OBN MLR MLR
comp=Z,1µm,17.0s
OBN Obninsk 64.38 328 PFAKE 04 19 20.0 +11
OBN LR LR
comp=Z,2µm,20.0s
TIRR Tirgusor 65.85 315⇑ *i*P **P** **04 19 19.1 0.0**
TIRR Tirgusor 65.85 315 PFAKE 04 19 30.0 +11
TIRR LR LR
comp=Z,700nm,18.0s
MSAB Monastry St. A 66.17 315⇓ *i*P **P** **04 19 20.3 -0.9**
KIS Kishinev 66.20 318 *e*P P 04 19 28.0 +6.7
KIS Kishinev 66.20 318 *e*PP PP 04 22 18.0 +31
KIS *e*S **S** **04 28 12.0 +3.9**
KIS LRM MLR 04 53 46.0
comp=Z,1µm,20.0s
KIS Kishinev 66.20 318 *e*P P 04 19 28.0 +6.7
KIS *e*S **S** **04 28 12.0 +3.9**
KIS MLR MLR
comp=Z,1µm,20.0s
CFR Carcaliu 66.21 316⇑ *i*P **P** **04 19 20.7 -0.7**
HARR Harsova 66.24 316⇑ *i*P P 04 19 25.4 +3.8
LEOM Leova 66.44 317⇓ *i*P **P** **04 19 22.8 -0.1**
JMB Yambol 66.72 313⇑ *i*P **P** **04 19 23.8 -0.9**
AKASG Malin Array Be 66.95 322 P **P** **04 19 24.5 -1.5**
comp=Z,4.3nm,0.8s,baz=91,slow=4.5,SNR=15
AKASG Malin Array Be 66.95 322 P **P** **04 19 24.5 -1.5**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 66.95 322 *e*P **P** **04 19 24.5 -1.5**
KIEV Kiev 66.96 322 *d i*P **P** **04 19 25.4 -0.7**
KIEV Kiev 66.96 322 PFAKE 04 19 40.0 +14
KIEV LR LR
comp=Z,1µm,20.0s
LSZ Lusaka 67.15 250 *e*P **P** **04 19 30.7 +2.7**
LSZ Lusaka 67.15 250 *e*P **P** **04 19 28.9 +0.9**
comp=Z,16nm,1.1s
LSZ LR LR
comp=Z,1µm,20.0s
VRI Vrincioaia 67.33 317⇓ *i*P **P** **04 19 28.8 +0.2**
PLOR Plostina 67.38 317⇓ *i*P **P** **04 19 29.0 +0.1**
KDZ Kurdzhali 67.42 312⇑ *i*P **P** **04 19 29.4 +0.1**
KDZ Kurdzhali 67.42 312 *e*P **P** **04 19 29.1 -0.2**
TESR Tescani 67.53 317⇓ *i*P **P** **04 19 29.9 +0.1**
MSNA Messina 67.55 242 *e*P **P** **04 19 31.6 +1.2**
MSNA AMB AMB 04 19 42.2
comp=Z,42nm,1.4s
MSNA AMS AMS 04 41 36.5
comp=Z,2µm,27.3s
MLR Muntele Rosu 67.78 316⇓ *i*P **P** **04 19 32.0 +0.4**
TIXI Tiksi 67.86 12 *c i*P **P** **04 19 30.7 -0.7**
TIXI pmax pmax
comp=Z,236nm,1.7s
TIXI Tiksi 67.86 12 *e*P **P** **04 19 31.0 -0.4**
comp=Z,174nm,1.2s
TIXI LR LR
comp=Z,1µm,20.0s
TMCR Tamitsa 67.96 338 *e*P **P** **04 19 31.7 -0.4**
TMCR *e* 04 22 04.2
TMCR pmax pmax
comp=Z,54nm,1.4s
MATP Matopo 68.31 245 P **P** **04 19 35.1 -0.2**
comp=Z,3.0nm,1.0s,baz=71,slow=5.5,SNR=3.6
VOIR 68.39 316⇑ *i*P **P** **04 19 35.4 +0.1**
ARMA Armidale 68.58 127 *e*P **P** **04 19 37.3 +0.5**
comp=Z,22nm,0.8s
ARMA LR LR
comp=Z,1µm,21.0s
MMB Musomiste 68.66 312⇑ *i*P **P** **04 19 36.5 -0.6**
BURAR Bucovina Array 68.72 318⇑ *i*P **P** **04 19 37.1 -0.3**
BUR04 Bucovina Ar. S 68.73 318 *e*P **P** **04 19 36.9 -0.5**
MPEP Malo Peshtene 68.94 313 *e*P **P** **04 19 38.6 -0.1**
KKB Krupnik 69.18 312 *e*P **P** **04 19 39.0 -1.3**
VTS Vitosha 69.20 313⇑ *i*P **P** **04 19 40.5 0.0**
VTS Vitosha 69.20 313 *e*P **P** **04 19 39.5 -1.0**
AGG Agios Georgios 69.37 309 PFAKE 04 19 50.0 +8.5
AGG LR LR
comp=Z,800nm,19.0s
PETK Petropavlovsk- 69.44 36 P **P** **04 19 43.0 +1.4**
comp=Z,1.6nm,0.6s,baz=232,slow=3.5,SNR=3.6
PETK LR LR 04 52 12.3
comp=Z,415nm,19.1s,baz=258,slow=38
PETK Petropavlovsk- 69.44 36 P **P** **04 19 43.0 +1.4**
PETK pmax pmax
comp=Z,2.0nm,0.6s
PETK MLR MLR
comp=Z,415nm,19.1s
PEA2 Petropavlovsk- 69.44 36 *e*P **P** **04 19 43.0 +1.4**
NACGM Naroch 69.58 326 *e* P 04 19 35.0 -7.4
GZR Gura Zlata 69.96 315⇓ *i*P **P** **04 19 44.1 -0.9**
LVV L'vov 69.96 320 *e*P **P** **04 19 45.0 +0.1**
LVV *e*S **S** **04 28 54.0 +1.0**
LVV MLR MLR
comp=Z,400nm,19.0s
PET Petropavlovsk 69.97 36 *c e*P **P** **04 19 43.8 -1.0**
PET *e*S **S** **04 28 47.8 -5.1**
PET pmax pmax
comp=Z,100nm,16.7s
PET MLR MLR
comp=Z,1µm,17.0s
PET MLR MLR
comp=Z,1µm,18.0s
PET Petropavlovsk 69.97 36 PFAKE 04 20 00.0 +15
PET LR LR
comp=Z,800nm,22.0s
SEY Seymchan 70.02 25 P **P** **04 19 45.0 +0.1**
comp=Z,43nm,1.4s,baz=255,slow=8.9,SNR=14
SEY LR LR 04 53 28.7
comp=Z,875nm,19.8s,baz=242,slow=38
SEY Seymchan 70.02 25 *e*P **P** **04 19 45.6 +0.6**
SLR Silverton 70.16 239 *e*P **P** **04 19 47.1 +0.4**
SLR AMB AMB 04 20 00.2
comp=Z,20nm,1.0s
SLR AMS AMS 04 42 31.6
comp=Z,2µm,25.1s
DRGR 70.24 317⇓ *i*P **P** **04 19 46.6 -0.2**
BARS Barje 70.25 313 *e*P **P** **04 19 45.0 -1.8**
VSU Vasula 70.64 330 *d i*P **P** **04 19 48.9 +0.1**
KWP Kalwaria Pacla 70.76 320 *e*P **P** **04 19 50.0 +0.2**
KWP Kalwaria Pacla 70.76 320 *e*P **P** **04 19 50.1 +0.2**
BZS Buzias 70.80 316⇓ *i*P **P** **04 19 49.7 -0.4**
UZH Uzhgorod 70.84 319 *e*P **P** **04 19 50.4 +0.1**
UZH *e* 04 19 59.2
UZH *e* 04 22 25.4
UZH *e*S **S** **04 29 01.0 -2.3**
KOLS Kolonicke sedl 70.91 319 *e*P **P** **04 19 51.1 +0.4**
KOLS pmax pmax
comp=Z,11nm,1.1s
KOLS Kolonicke sedl 70.91 319 *e*P **P** **04 19 51.1 +0.4**
KOLS *e*pP **pP** **04 19 59.1 -1.7**
KOLS *e*PCP **PcP** **04 20 11.9 +0.8**
KOLS *e*PP **PP** **04 22 26.4 -1.7**
LVZ Lovozero 70.99 340 *e*P **P** **04 19 50.7 -0.2**
LVZ pmax pmax
comp=Z,31nm,1.2s
LVZ Lovozero 70.99 340 PFAKE 04 20 00.0 +9.1
LVZ LR LR
comp=Z,2µm,21.0s
APA Apatity 71.26 340⇓ *i*P **P** **04 19 52.0 -0.5**
APA *i* 04 22 32.0
APA *i* PPP PPP 04 24 10.0
APA *e*S S 04 29 00.0 -7.5
APA *i* 04 29 32.0
APA MLR MLR
comp=Z,2µm,20.0s
PRYS Parys 71.33 238 *e*P **P** **04 19 53.2 -0.6**
PRYS AMB AMB 04 20 05.5
comp=Z,21nm,1.3s
PRYS AMS AMS 04 45 12.2
comp=Z,1µm,20.9s
SUW Suwalki 71.39 325 *e*P **P** **04 19 52.3 -1.1**
SUW Suwalki 71.39 325 *e*P **P** **04 19 52.3 -1.1**
STHS Stebnicka Huta 71.66 320 *e*P **P** **04 19 56.4 +1.1**
STHS pmax pmax
comp=Z,6.0nm,0.9s
STHS Stebnicka Huta 71.66 320 *e*P **P** **04 19 56.4 +1.1**
STHS *e*pP **pP** **04 20 02.4 -2.9**
STHS *e* 04 20 09.2
DIVS Divibare 71.73 314⇓ *i*P **P** **04 19 55.0 -0.9**
FIA0 FINESS Array S 71.86 333 *e*P **P** **04 19 55.1 -1.0**
FINES FINESS Array B 71.86 333 P **P** **04 19 55.1 -1.0**
comp=Z,17nm,0.8s,baz=107,slow=6.6,SNR=46
FINES LR LR 04 56 14.6
comp=Z,884nm,18.1s,baz=116,slow=40
FINES FINESS Array B 71.86 333 *i* P **P** **04 19 55.4 -0.8**
FINES pmax pmax
comp=Z,17nm,0.8s
KECS Kecovo 72.00 318 *e*P **P** **04 19 57.1 -0.2**
KECS pmax pmax
comp=Z,4.0nm,1.1s
KECS Kecovo 72.00 318 *e*P **P** **04 19 57.1 -0.2**
KECS *e*pP **pP** **04 20 04.8 -2.6**
KECS *e*PCP **PcP** **04 20 15.6 -0.2**
KECS *e*PP **PP** **04 22 34.9 -2.5**
PKSN Nyarlorinc 72.19 317 *e*P P 04 20 06.9 +8.5
PKSN Nyarlorinc 72.19 317 *e*P P 04 20 06.9 +8.5
LBTB Lobatse 72.24 241 *e*P **P** **04 19 59.9 +0.6**
LBTB AMB AMB 04 20 17.5
comp=Z,27nm,1.2s
LBTB AMS AMS 04 44 46.4
comp=Z,2µm,28.6s
LBTB Lobatse 72.24 241 *e*P **P** **04 19 59.6 +0.4**
comp=Z,70nm,1.8s
NIE Niedzica 72.26 319 *e*P **P** **04 19 58.9 0.0**
NIE Niedzica 72.26 319 *e*P **P** **04 19 58.9 0.0**
PSZ Piszkesteto 72.31 318⇑ *i*P **P** **04 19 58.7 -0.6**
PSZ Piszkesteto 72.31 318 *e*P **P** **04 19 59.1 -0.2**
comp=Z,51nm,1.5s
PSZ LR LR
comp=Z,800nm,20.0s
PSZ Piszkesteto 72.31 318 *e*P **P** **04 19 59.5 +0.2**
BEL Belsk 72.37 322 *e*P **P** **04 19 59.5 +0.2**
BEL Belsk 72.37 322 *e*P **P** **04 19 59.6 +0.2**
PKS2 Kecel 72.58 316 *e*P **P** **04 20 01.5 +0.8**
PKS2 Kecel 72.58 316 *e*P **P** **04 20 01.5 +0.8**
OJC Ojcow 72.72 320 *e*P **P** **04 20 00.8 -0.7**
OJC Ojcow 72.72 320 *e*P **P** **04 20 00.8 -0.7**
OJC Ojcow 72.72 320 *e*P **P** **04 20 01.0 -0.5**
comp=Z,34nm,1.2s
BUD Budapest 72.83 317 *e*P P 04 20 11.9 +10
BUD Budapest 72.83 317 *e*P P 04 20 11.9 +10
PKSM Moragy 72.94 316⇑ *i*P **P** **04 20 02.0 -0.9**
PKSM Moragy 72.94 316 *e*P pP 04 20 11.8 -1.2
PKSG 73.25 317 *e*P **P** **04 20 05.1 +0.4**
CSKK Cs^‡kako 73.33 317 *e*P **P** **04 20 04.5 -0.7**
PKST T^'s 73.47 317 *e*P **P** **04 20 06.2 +0.1**
PKST T^'s 73.47 317 *e*P **P** **04 20 06.2 +0.1**
BOSA Boshof 73.64 237 *e*P **P** **04 20 07.6 +0.1**
BOSA AMB AMB 04 20 20.6
comp=Z,632nm,3.6s
BOSA AMS AMS 04 45 14.7
comp=Z,1µm,24.7s
BOSA Boshof 73.64 237 P **P** **04 20 07.1 -0.4**
comp=Z,8.8nm,0.9s,baz=69,slow=7.1,SNR=11
BOSA LR LR 04 47 07.9
comp=Z,804nm,21.5s,baz=72,slow=32
TIP Timpagrande 73.70 308 *e*P **P** **04 20 07.2 -0.5**
comp=Z,15nm,0.9s
TIP LR LR
comp=Z,200nm,18.0s
OKC Ostrava-Krasne 73.72 320 *e*P **P** **04 20 07.3 -0.1**
OKC *e*pP **pP** **04 20 14.8 -2.7**
OKC *e*x x 04 20 16.6
OKC AMS AMS 04 57 00.0
comp=Z,400nm,15.8s
OKC Ostrava-Krasne 73.72 320 *e*P **P** **04 20 07.3 -0.1**
OKC *e* 04 20 14.8
OKC *e* 04 20 16.6
OKC MLR MLR
comp=Z,400nm,15.8s
MORC Moravsky Berou 74.10 320⇓ *i*P **P** **04 20 09.6 -0.1**
MORC Moravsky Berou 74.10 320 *e*P **P** **04 20 09.3 -0.4**
comp=Z,158nm,1.3s
MORC LR LR
comp=Z,2µm,20.0s
BEHE Becsehely 74.25 316 *e*P **P** **04 20 10.8 +0.2**
KEV Kevo 74.29 341 PFAKE 04 20 20.0 +10
KEV LR LR
comp=Z,2µm,19.0s
CEL Celeste 74.33 307 *e*P **P** **04 20 12.3 +1.0**
comp=Z,58nm,1.0s
CUC Castrocucco 74.47 309 PFAKE 04 20 20.0 +7.9
CUC LR LR
comp=Z,600nm,21.0s
SOP Sopron 74.51 317 *e*P P 04 20 08.1 -4.0
KRLC Kraliky 74.62 320 *e*P **P** **04 20 12.8 0.0**
KRLC *e*pP **pP** **04 20 22.5 -0.4**
KRLC *e*PCP **PcP** **04 20 26.0 -1.0**
KRLC Kraliky 74.62 320 *e*P **P** **04 20 12.8 0.0**
KRLC *e* 04 20 22.5
KRLC *e* 04 20 26.0
VRAC Vranov 74.66 319⇑ *i*P **P** **04 20 13.0 0.0**
ARA0 ARCESS Array S 74.71 340 *e*P **P** **04 20 12.3 -0.5**
ARCES ARCESS Array B 74.71 340 P **P** **04 20 12.8 -0.1**
comp=Z,9.9nm,0.9s,baz=87,slow=6.6,SNR=21
ARCES LR LR 04 57 20.9
comp=Z,1µm,19.6s,baz=115,slow=39
ARCES ARCESS Array B 74.71 340 P **P** **04 20 12.8 -0.1**
ARCES pmax pmax
comp=Z,10.0nm,0.9s
ARCES MLR MLR
comp=Z,1µm,19.6s
ARE0 ARCESS Array S 74.71 340 *e*P **P** **04 20 13.6 +0.7**
ARE0 IAMs_20 IAMs_20 04 54 50.4
comp=Z,2µm,20.0s
DPC Dobruska-Polom 74.94 320 *e*P **P** **04 20 15.3 +0.7**
DPC *e*pP **pP** **04 20 22.8 -2.0**
DPC *e*sP **sP** **04 20 24.6 -3.9**
DPC *e*PCP **PcP** **04 20 28.1 -0.3**
DPC *e*S **S** **04 29 50.2 +0.1**
DPC *e*SS **SS** **04 34 44.3 +5.6**
DPC AMS AMS 04 56 00.0
comp=Z,600nm,19.0s
DPC Dobruska-Polom 74.94 320 *e*P **P** **04 20 15.3 +0.7**
DPC *e* 04 20 24.6
DPC *e* 04 20 28.1
DPC *e*S **S** **04 29 50.2 +0.1**
DPC *e*SS **SS** **04 34 44.3 +5.6**
DPC MLR MLR
comp=Z,600nm,19.0s
CONA Conrad Observa 75.00 317⇓ *i*P **P** **04 20 15.0 -0.1**
comp=Z,17nm,1.7s
CASY Casey 75.02 172 *e*P **P** **04 20 15.3 +0.8**
comp=Z,24nm,0.9s
CASY LR LR
comp=Z,1µm,21.0s
KSP Ksiaz 75.02 321 *e*P **P** **04 20 14.9 0.0**
KSP Ksiaz 75.02 321 *e*P **P** **04 20 15.0 0.0**
UPC Upice 75.16 320 *e*P **P** **04 20 16.1 +0.3**
UPC *e*pP **pP** **04 20 25.6 -0.3**
UPC Upice 75.16 320 *e*P **P** **04 20 16.1 +0.3**
UPC *e* 04 20 25.6
ARSA Arzberg 75.17 317⇓ *i*P **P** **04 20 16.5 +0.5**
comp=Z,19nm,1.1s,SNR=9.1
BOJS Bojanci 75.23 315 *i* P **P** **04 20 16.3 0.0**
BOJS Bojanci 75.23 315 *i* P **P** **04 20 16.3 0.0**
KTK1 Kautokeino 75.31 340 *e*P **P** **04 20 16.5 +0.2**
WDD Wield Dalam 75.35 305 PFAKE 04 20 30.0 +13
WDD LR LR
comp=Z,600nm,18.0s
TREC Trest 75.38 319 *e*P **P** **04 20 17.2 +0.1**
TREC *e*pP **pP** **04 20 26.5 -0.8**
TREC AMS AMS 05 01 30.0
comp=Z,700nm,16.2s
TREC Trest 75.38 319 *e*P **P** **04 20 17.2 +0.1**
TREC *e* 04 20 26.5
TREC MLR MLR
comp=Z,700nm,16.2s
PERS Pernice 75.40 316 *i* P **P** **04 20 17.9 +0.5**
PERS Pernice 75.40 316 *i* P **P** **04 20 17.9 +0.5**
SOKA Soboth 75.47 316 *i* P **P** **04 20 17.9 +0.1**
comp=Z,19nm,1.3s,SNR=8.1
VISS Visnje 75.54 315 *i* P **P** **04 20 18.4 +0.2**
VISS Visnje 75.54 315 *i* P **P** **04 20 18.4 +0.3**
HAMF Hammerfest 75.66 341 *e*P **P** **04 20 18.9 +0.6**
HAMF *e*pP **pP** **04 20 28.6 +0.2**
HAMF IAMs_20 IAMs_20 04 55 20.0
comp=Z,2µm,20.6s
OBKA Obir 75.78 316⇓ *i*P **P** **04 20 19.7 +0.1**
comp=Z,16nm,1.1s
GOPC GO Pecny, Ondr 75.89 319 *e*P **P** **04 20 19.7 -0.3**
GOPC *e*pP **pP** **04 20 27.9 -2.3**
GOPC *e*sP **sP** **04 20 29.6 -4.3**
GOPC *e*PCP **PcP** **04 20 33.3 +0.9**
GOPC *e*S **S** **04 30 04.0 +3.5**
GOPC *e*x x 04 34 43.8
GOPC AMS AMS 05 02 30.0
comp=Z,500nm,15.9s
PRU Pruhonice 76.05 320 *e*P **P** **04 20 21.3 +0.4**
PRU *e*pP **pP** **04 20 28.8 -2.2**
PRU *e*sP **sP** **04 20 30.5 -4.3**
PRU *e*PCP **PcP** **04 20 34.2 +1.1**
PRU *e*S **S** **04 30 01.1 -1.1**
PRU *e*SS **SS** **04 34 50.8 -4.6**
PRU AMS AMS 04 59 20.0
comp=Z,600nm,19.0s
PRU Pruhonice 76.05 320 *e*P **P** **04 20 21.3 +0.4**
PRU *e* 04 20 30.5
PRU *e* 04 20 34.2
PRU *e*S **S** **04 30 01.1 -1.1**
PRU *e*SS **SS** **04 34 50.8 -4.6**
PRU MLR MLR
comp=Z,600nm,19.0s
MOA Molln 76.07 317⇓ *i*P **P** **04 20 20.9 -0.2**
comp=Z,11nm,1.1s
PVCC Panska Ves 76.08 320 *e*P **P** **04 20 21.7 +0.6**

PVCC ePP **pP** **04 20 30.9 -0.3**
PVCC ePCP **PcP** **04 20 34.4 +1.2**
PVCC eSS SS 04 34 52.9 -2.9
PVCC AMS AMS 04 59 40.0
comp=Z,700nm,21.1s
PVCC Panska Ves 76.08 320 eP **P** **04 20 21.7 +0.6**
PVCC e 04 20 30.9
PVCC e 04 20 34.4
PVCC eSS SS 04 34 52.9 -2.9
PVCC MLR MLR
comp=Z,700nm,21.1s
JAVS Javornik 76.08 315 *i* P P 04 20 25.6 +4.3
JAVS Javornik 76.08 315 *i* P P 04 20 25.6 +4.3
PRA Prague 76.13 320 eP **P** **04 20 22.0 +0.7**
PRA ex x 04 20 31.6
PRA Prague 76.13 320 eP **P** **04 20 22.0 +0.7**
PRA e 04 20 31.6
BSD Bornholm Skovb 76.31 325 *i* P **P** **04 20 21.0 -1.3**
comp=Z,22nm,0.9s
comp=Z,1µm,19.0s
BSD Bornholm Skovb 76.31 325 *i* P **P** **04 20 21.0 -1.3**
BSD pmax pmax
comp=Z,22nm,0.9s
BSD MLR MLR
comp=Z,1µm,19.0s
AQU L'Aquila 76.39 312 PFAKE 04 20 40.0 +17
AQU LR LR
comp=Z,500nm,22.0s
MYKA Terra Mystica 76.42 316⇓ *i*P **P** **04 20 23.1 -0.1**
comp=Z,13nm,1.1s
BRG Berggiesshubel 76.50 320 *i* P **P** **04 20 23.4 -0.1**
comp=Z,21nm,1.1s
BRG *i* 04 20 34.8
comp=Z,64nm,1.6s
BRG PP **PP** **04 23 17.0 +1.5**
BRG S **S** **04 30 10.0 +2.9**
BRG SS **SS** **04 35 04.0 +1.8**
comp=N,558nm,19.0s
comp=E,762nm,17.5s
comp=Z,792nm,18.7s
BRG Berggiesshubel 76.50 320 eP **P** **04 20 24.3 +0.8**
comp=Z,58nm,1.8s
BRG epP **pP** **04 20 34.1 +0.5**
BRG Berggiesshubel 76.50 320 *i* P **P** **04 20 23.4 -0.1**
BRG *i* 04 20 34.8
BRG 04 23 17.0
BRG S **S** **04 30 10.0 +2.9**
BRG SS **SS** **04 35 04.0 +1.8**
BRG pmax pmax
comp=Z,21nm,1.1s
BRG MLR MLR
comp=N,558nm,19.0s
BRG MLR MLR
comp=E,762nm,17.5s
BRG MLR MLR
comp=Z,792nm,18.7s
GEC2 GERESS Array S 76.51 318 eP **P** **04 20 24.5 +0.8**
comp=Z,21nm,1.0s
GEC2 epP **pP** **04 20 34.2 +0.4**
GEC2 GERESS Array S 76.51 318 eP **P** **04 20 23.6 -0.1**
GERES GERESS Array B 76.51 318 P **P** **04 20 23.6 -0.1**
comp=Z,11nm,0.9s,baz=89,slow=5.5,SNR=64
GERES GERESS Array B 76.51 318 P **P** **04 20 23.6 -0.1**
GERES pmax pmax
comp=Z,11nm,0.9s
KHC Kasperske Hory 76.61 319 eP **P** **04 20 23.8 -0.4**
KHC ex x 04 20 28.2
KHC epP **pP** **04 20 33.5 -0.8**
KHC esP **sP** **04 20 36.3 -1.8**
KHC eS **S** **04 30 03.5 -5.0**
KHC eSS **SS** **04 34 58.8 -5.2**
KHC AMS AMS 05 02 20.0
comp=Z,600nm,18.5s
KHC Kasperske Hory 76.61 319 eP **P** **04 20 23.8 -0.4**
KHC *e* 04 20 33.5
KHC *e* 04 20 36.3
KHC eS **S** **04 30 03.5 -5.0**
KHC eSS **SS** **04 34 58.8 -5.2**
KHC MLR MLR
comp=Z,600nm,18.5s
KHC Kasperske Hory 76.61 319 eP **P** **04 20 24.1 -0.1**
comp=Z,3.8nm,0.8s
KHC LR LR
comp=Z,200nm,22.0s
KBA Koelnbreinsper 76.65 316⇓ *i*P **P** **04 20 25.0 +0.4**
comp=Z,17nm,1.4s
KBA ⇓ *i*sP **sP** **04 20 34.4 -4.1**
RUE Ruedersdorf 76.73 322 eP **P** **04 20 25.3 +0.6**
comp=Z,50nm,0.8s
RUE epP **pP** **04 20 35.0 +0.2**
RUE Ruedersdorf 76.73 322 PFAKE 04 20 40.0 +15
RUE LR LR
comp=Z,700nm,20.0s
FBE Freiberg 76.88 320 eP **P** **04 20 26.7 +1.1**
comp=Z,44nm,1.0s
FBE epP **PcP** **04 20 36.3 -0.3**
TRO Tromso 76.95 340 eP **P** **04 20 25.3 -0.3**
RJOB Jochberg 77.05 317 eP **P** **04 20 26.8 +0.1**
comp=Z,15nm,1.1s
RJOB epP **pP** **04 20 36.4 -0.5**
WET Wettzell 77.07 319 eP **P** **04 20 27.6 +0.8**
comp=Z,22nm,1.2s
WET epP **PcP** **04 20 37.4 -0.2**
BILL Bilibino 77.07 22*d* *i*P **P** **04 20 26.7 +0.3**
BILL *e* 04 20 39.2
BILL pmax pmax
comp=Z,24nm,1.2s
BILL MLR MLR
comp=Z,1µm,22.0s
CLL Collm 77.12 321 eP **P** **04 20 27.3 +0.3**
comp=Z,25nm,1.3s
CLL epP **pP** **04 20 37.0 -0.1**
CLL Collm 77.12 321 *i* P **P** **04 20 26.9 -0.1**
comp=Z,24nm,1.3s
CLL *i* sP sP 04 20 35.8 -5.0
CLL ePP **PP** **04 23 24.0 +3.2**
CLL ePPP PPP 04 25 12.0
CLL eS **S** **04 30 13.0 -0.9**
CLL ePS **PnS** **04 30 57.0 +1.3**
CLL *e* 04 33 29.0
CLL eSS **SS** **04 35 18.0 +6.5**
CLL eSSS SSS 04 38 48.0
CLL eSSSS 04 41 12.0
CLL Lm MLR 04 59 00.0
comp=N,700nm,20.4s
CLL Lm MLR 04 59 00.0
comp=E,500nm,20.8s
CLL Lm MLR 04 59 00.0
comp=Z,700nm,20.9s
CLL Collm 77.12 321 *i* P **P** **04 20 26.9 -0.1**
CLL *i* 04 20 35.8
CLL eS **S** **04 30 13.0 -0.9**
CLL pmax pmax
comp=Z,24nm,1.3s
CLL MLR MLR
comp=Z,700nm,20.9s
CLL Collm 77.12 321 eP **P** **04 20 26.9 -0.1**
comp=Z,31nm,1.2s
CLL LR LR
comp=Z,800nm,20.0s
RGN Rugen 77.18 324 PFAKE 04 20 40.0 +13
RGN LR LR
comp=Z,900nm,19.0s
ABTA Abfaltersbach 77.20 316⇑ *i*P **P** **04 20 28.4 +0.8**
comp=Z,12nm,1.0s
TANN Tannenbergstha 77.41 320 eP **P** **04 20 29.4 +0.7**
comp=Z,17nm,1.2s
TANN epP **PcP** **04 20 39.2 +0.1**
WERN Wernitzgruen 77.46 320 eP **P** **04 20 29.8 +0.9**
comp=Z,12nm,1.1s
WERN epP **pP** **04 20 39.7 +0.6**
GUNZ Gunzen 77.49 320 eP **P** **04 20 29.9 +0.8**
comp=Z,22nm,1.1s
GUNZ epP **pP** **04 20 39.7 +0.4**
WERD Werda 77.51 320 eP **P** **04 20 29.9 +0.7**
comp=Z,18nm,1.1s
WERD epP **pP** **04 20 39.6 +0.2**
ROTZ Rotzenmuhle 77.54 319 eP **P** **04 20 30.6 +1.2**
comp=Z,28nm,1.1s
ROTZ epP **pP** **04 20 40.4 +0.9**
PLN Plauen 77.61 320 eP **P** **04 20 30.5 +0.8**
comp=Z,26nm,1.5s
PLN epP **pP** **04 20 40.3 +0.4**
MANZ Manzenberg 77.62 319 eP **P** **04 20 31.1 +1.3**
comp=Z,43nm,1.1s
MANZ epP **pP** **04 20 40.9 +0.9**
WTTA Wattenberg 77.82 317⇓ *i*P **P** **04 20 30.5 -0.7**
comp=Z,16nm,1.0s
WTTA ⇑ *i*PcP **pP** **04 20 41.2 -0.2**
comp=Z,36nm,1.3s
WATA Walderalm 77.86 317⇓ *i*P **P** **04 20 30.4 -1.0**
comp=Z,6.1nm,0.6s
WATA ⇑ *i*PcP **PcP** **04 20 41.1 -0.1**
comp=Z,22nm,1.0s
LLD Lille Linde 77.87 325 *i* P **P** **04 20 30.9 -0.1**
LLD *i* 04 20 41.1
LLD Lille Linde 77.87 325 eP **P** **04 20 30.9 -0.1**
LLD *i* 04 20 41.1
NEUB Neuenburg 77.89 321 eP **P** **04 20 31.8 +0.6**
comp=Z,29nm,1.0s
NEUB epP **pP** **04 20 41.3 -0.1**
MAW Mawson 77.92 191 P **P** **04 20 30.9 0.0**
comp=Z,8.5nm,0.9s,baz=18,slow=11,SNR=6.9
MAW LR LR 04 49 10.4
comp=Z,283nm,18.4s,baz=40,slow=31
TSUM Tsumeb 77.92 249 PFAKE 04 20 40.0 +7.8
TSUM LR LR
comp=Z,900nm,19.0s
MOX Moxa 77.96 320 eP **P** **04 20 32.5 +0.8**
comp=Z,30nm,1.4s
MOX epP **pP** **04 20 42.2 +0.3**
MOX eL L 04 59 45.4
comp=Z,573nm,20.3s
GRF Grafenberg Arr 78.18 319 eP **P** **04 20 34.0 +1.1**
comp=Z,43nm,1.1s
GRF epP **pP** **04 20 44.0 +0.9**
GRF eL L 05 01 59.5
comp=Z,674nm,18.6s
GRFO Grafenberg 78.18 319 eP **P** **04 20 31.3 -1.6**
comp=Z,78nm,1.4s
GRFO LR LR
comp=Z,600nm,18.0s
MOTA Moosalm 78.18 317⇓ *i*P **P** **04 20 32.3 -0.9**
comp=Z,21nm,0.9s,SNR=8.9
RETA Reutte 78.42 317 *i* P **P** **04 20 34.0 -0.4**
comp=Z,25nm,1.0s,SNR=12
FETA Feichten 78.43 316⇓ *i*P **P** **04 20 34.1 -0.4**
comp=Z,23nm,1.1s,SNR=8.8
STOK Stokkvaagen 78.56 336 eP **P** **04 20 34.4 -0.2**
LOF Lofoten 78.59 338 eP **P** **04 20 35.1 +0.3**
VLC Villacollemand 78.64 313 PFAKE 04 20 50.0 +14
VLC LR LR
comp=Z,600nm,22.0s
NC602 NORSAR Array S 78.64 330 eP **P** **04 20 34.6 -0.6**
NC602 IAMs_20 IAMs_20 04 58 03.9
comp=Z,2µm,18.8s
DZM Mont Dzumac 78.70 114 eLR LR 04 45 02.7
comp=Z,1µm,26.2s
FUORN Ofenpass-Fuorn 78.74 316 eP **P** **04 20 36.3 -0.1**
comp=Z,108nm,1.8s
FUORN LR LR
comp=Z,600nm,20.0s
NSS Namsos 78.79 334 eP **P** **04 20 35.1 -0.9**
CLZ Clausthal 78.79 321 eP **P** **04 20 36.9 +0.6**
comp=Z,25nm,0.9s
CLZ epP **pP** **04 20 46.7 +0.3**
NB2 NORSAR Subarra 78.82 331 P **P** **04 20 34.9 -1.4**
comp=Z,28nm,1.4s,baz=97,slow=5.3
NB2 NORSAR Subarra 78.82 331 P **P** **04 20 34.9 -1.4**
baz=97,slow=5.3
NB200 NORSAR Array S 78.82 331 eP **P** **04 20 35.1 -1.2**
NOA NORSAR Array B 78.82 331 P **P** **04 20 35.1 -1.2**
comp=Z,7.3nm,0.9s,baz=94,slow=5.7,SNR=22
NOA LR LR 04 59 00.2
comp=Z,1µm,20.5s,baz=110,slow=38
NOA NORSAR Array B 78.82 331 P **P** **04 20 35.1 -1.2**
NOA pmax pmax
comp=Z,7.0nm,0.9s
NOA MLR MLR
comp=Z,1µm,20.5s
BSEG Bad Segeberg 78.90 323 eP **P** **04 20 37.6 +0.9**
comp=Z,42nm,1.1s
BSEG epP **pP** **04 20 47.2 +0.3**
OSL Oslo 78.99 330 eP **P** **04 20 35.8 -1.3**
NBO02 NORSAR Array S 79.00 331 eP **P** **04 20 36.8 -0.5**
DAVA Damuels 79.01 317 *i* P **P** **04 20 37.9 +0.1**
comp=Z,40nm,1.1s,SNR=11
DAVA ⇑ *i*sP **sP** **04 20 48.6 -3.1**
comp=Z,53nm,1.1s
STU Stuttgart 79.49 318 PFAKE 04 20 50.0 +10
STU LR LR
comp=Z,400nm,19.0s
HSPB Hornsund (broa 79.51 347 eP **P** **04 20 40.6 +0.9**
KONO Kongsberg 79.54 329 eP **P** **04 20 39.7 -0.5**
KONO IAMs_20 IAMs_20 04 59 03.8
comp=Z,1µm,21.1s
KONO Kongsberg 79.54 329 eP **P** **04 20 39.2 -1.0**
comp=Z,54nm,1.5s
KONO LR LR
comp=Z,1µm,20.0s
KEST Kesra 79.56 305 P **P** **04 20 40.7 -0.2**
comp=Z,3.4nm,1.0s,baz=51,slow=5.3,SNR=5.7
KEST Kesra 79.56 305 eP **P** **04 20 40.3 -0.6**
MUD Monsted U'grnd 79.64 326 *i* P **P** **04 20 41.6 +0.9**
MUD *i* 04 20 51.2
comp=Z,1µm,20.0s
MUD Monsted U'grnd 79.64 326 *i* P **P** **04 20 41.6 +0.9**
MUD *i* 04 20 51.2
MUD MLR MLR
comp=Z,1µm,20.0s
TNS Taunus Mts 79.98 320 eP **P** **04 20 43.5 +0.7**
comp=Z,21nm,1.1s
TNS epP **pP** **04 20 53.3 +0.3**
BFO Black Forest 80.06 318 P **P** **04 20 43.3 0.0**
comp=Z,76nm,1.1s,SNR=5.3
BFO Black Forest 80.06 318 eP **P** **04 20 43.6 +0.3**
comp=Z,21nm,1.2s
BFO epP **pP** **04 20 53.5 0.0**
BFO Black Forest 80.06 318 *i* P **P** **04 20 43.7 +0.4**
BFO Black Forest 80.06 318 eP **P** **04 20 42.5 -0.8**
comp=Z,23nm,1.1s
BFO LR LR
comp=Z,300nm,20.0s
LANF Langenberg 80.40 318⇑ eP **P** **04 20 44.9 -0.2**
IBBN Ibbenburen 80.41 322 eP **P** **04 20 45.7 +0.7**
comp=Z,74nm,1.6s
IBBN epP **pP** **04 20 55.5 +0.3**
KBS Kingsbay 80.58 349 eP **P** **04 20 44.9 -0.5**
KBS Kingsbay 80.58 349 eP **P** **04 20 44.7 -0.7**
comp=Z,195nm,1.5s
KBS LR LR
comp=Z,7µm,22.0s
SAOF Saorge 80.68 313⇑ eP **P** **04 20 47.0 +0.3**
BUG Bochum--Univer 80.72 321 eP **P** **04 20 47.3 +0.6**
comp=Z,31nm,1.2s
BUG epP **pP** **04 20 57.1 +0.3**
SENIN Lac Senin/Sane 80.79 316 eP **P** **04 20 47.8 +0.3**
ECH Echery 80.84 318⇑ eP **P** **04 20 47.6 +0.1**
MOF Molkenrain 80.87 317⇑ eP **P** **04 20 48.0 +0.3**
TOUF Mont Tournerai 80.90 313⇑ eP **P** **04 20 47.6 -0.5**
MVIF Mont Vial 80.97 313⇑ eP **P** **04 20 48.9 +0.5**
LOMF Lomont 81.09 317⇑ eP **P** **04 20 49.0 +0.1**
BLS5 Blasjo 81.14 329 eP **P** **04 20 49.3 +0.5**
BLS5 IAMs_20 IAMs_20 05 00 29.9
comp=Z,1µm,18.6s
CALN Calern 81.17 313⇑ eP **P** **04 20 50.0 +0.6**
OG01 Vacheresse 81.22 316⇑ eP **P** **04 20 50.3 +0.7**
BNI Bardonecchia 81.27 314 eP **P** **04 20 49.3 -0.7**
comp=Z,28nm,1.0s
BNI LR LR
comp=Z,500nm,19.0s
RSL Roselend 81.28 315⇑ eP **P** **04 20 50.5 +0.5**
WLF Walferdange 81.47 319 P **P** **04 20 51.7 +1.0**
comp=Z,21nm,1.7s
WLF AP **pP** **04 21 01.7 +0.8**
WLF Walferdange 81.47 319 eP **P** **04 20 51.8 +1.0**
comp=Z,23nm,1.1s
WLF epP **pP** **04 21 01.7 +0.8**
WLF Walferdange 81.47 319 eP **P** **04 20 50.8 +0.1**
comp=Z,23nm,1.0s
WLF LR LR
comp=Z,700nm,19.0s
MEM Membach 81.53 320 P **P** **04 20 51.9 +0.9**
comp=Z,9.4nm,1.3s
MEM AP **pP** **04 21 01.3 +0.1**
MEM Membach 81.53 320 eP **P** **04 20 51.3 +0.3**
comp=Z,15nm,1.0s
MEM LR LR
comp=Z,400nm,18.0s
THEF They Montfort 81.63 318⇑ eP **P** **04 20 50.8 -0.8**
BCLA Clavier 81.99 320 P **P** **04 20 54.6 +1.2**
comp=Z,6.0nm,1.3s
DOU Dourbes 82.46 320 P **P** **04 20 56.5 +0.6**
DOU AP **pP** **04 21 06.2 +0.1**
UCC Uccle 82.57 320 P **P** **04 20 57.6 +1.2**
UCC Uccle 82.57 320 PFAKE 04 21 10.0 +14
UCC LR LR
comp=Z,400nm,19.0s
SNF Seneffe 82.64 320 P **P** **04 20 57.2 +0.4**
SSB Saint Sauveur 82.77 315⇑ eP **P** **04 20 58.3 +0.6**
COLF Collangettes 83.35 315⇑ eP **P** **04 21 00.7 0.0**
PLDF La Plantade 83.37 315⇑ eP **P** **04 21 01.4 +0.6**
LBL Lubilhac 83.68 315 eP **P** **04 21 02.6 +0.1**
AGO Saint Agoulin 83.70 316⇑ eP **P** **04 21 02.4 -0.1**
PYM Petit Puy Mans 83.81 315⇑ eP **P** **04 21 03.7 +0.6**
LRDF Laroque-de-Fa 84.39 312⇑ eP **P** **04 21 06.7 +0.7**
FILF Fillols 84.40 312⇑ eP **P** **04 21 07.4 +1.2**
SYO Syowa Base 84.59 197⇓ eP **P** **04 21 07.0 +0.7**
VALF Valcebollere 84.82 312⇑ eP **P** **04 21 09.5 +1.1**
EDI Edinburgh 86.56 326 PFAKE 04 21 30.0 +13
EDI LR LR
comp=Z,800nm,20.0s
ESK Eskdalemuir 86.66 325 *i* P **P** **04 21 18.3 +1.3**
ESK Eskdalemuir 86.66 325 eP **P** **04 21 17.1 +0.1**
comp=Z,159nm,2.3s
ESK LR LR
comp=Z,1µm,20.0s
DAG Danmarks Havn 87.19 348 *i* P **P** **04 21 18.2 -1.0**
comp=Z,11nm,0.9s
comp=Z,660nm,20.0s
DAG Danmarks Havn 87.19 348 *i* P **P** **04 21 18.2 -1.0**
DAG pmax pmax
comp=Z,9.0nm,0.9s
DAG MLR MLR
comp=Z,710nm,20.0s
RPZ Rata Peaks 87.47 135 eP **P** **04 21 22.2 +1.0**
comp=Z,54nm,1.1s
DYA Yadsworthy 87.86 320 eP **P** **04 21 23.4 +0.4**
comp=Z,38nm,1.2s
DYA LR LR
comp=Z,800nm,19.0s
TOA0 Torodi Ar. Sit 88.51 283 eP **P** **04 21 27.2 +0.5**
TORD Torodi Ar. Bea 88.51 283 P **P** **04 21 27.0 +0.3**
comp=Z,2.2nm,0.9s,baz=99,slow=5.2,SNR=9.9
TORD LR LR 04 59 06.7
comp=Z,441nm,19.9s,baz=110,slow=34
MSVF Nonsavu 88.64 108 eP **P** **04 21 25.0 -2.4**
comp=Z,32nm,1.1s
ALE Alert 89.18 357 P **P** **04 21 28.0 -0.6**
comp=Z,90nm,1.5s,SNR=8.2
ALE Alert 89.18 357 P **P** **04 21 28.6 0.0**
comp=Z,90nm,1.5s,SNR=8.2
ESDC Sonseca Array 89.66 310 P **P** **04 21 31.8 0.0**
comp=Z,2.3nm,0.7s,baz=60,slow=4.5,SNR=18
ESDC LR LR 05 07 35.1
comp=Z,297nm,18.6s,baz=90,slow=40
PAB San Pablo 89.98 310 eP **P** **04 21 33.0 -0.3**
comp=Z,18nm,1.3s
BFZ Birch Farm 90.66 131 PFAKE 04 21 50.0 +14
BFZ LR LR
comp=Z,2µm,19.0s
URZ Urewera 90.93 128 LR LR 05 02 27.2
comp=Z,624nm,21.6s,baz=354,slow=36
PBRG Braganca 91.35 312 eP **P** **04 21 41.2 +1.6**
comp=Z,23nm,1.6s
PBRG Braganca 91.35 312 eP **P** **04 21 41.2 +1.6**
comp=Z,23nm,1.6s
MVO Moncorvo 91.69 312 eP **P** **04 21 42.5 +1.3**
comp=Z,21nm,1.9s
MVO Moncorvo 91.69 312 eLQ LQ 04 46 16.8
MVO eLR LR 04 54 04.8
comp=Z,410nm,20.0s
MVO Moncorvo 91.69 312 eP **P** **04 21 42.5 +1.3**
comp=Z,21nm,1.9s
MVO Moncorvo 91.69 312 eLQ LQ 04 46 16.8
MVO eLR LR 04 54 04.8
comp=Z,410nm,20.0s
POLO Lamas de Olo 92.21 312 eP **P** **04 21 45.8 +2.2**
comp=Z,11nm,2.5s
POLO Lamas de Olo 92.21 312 eP **P** **04 21 45.8 +2.2**
comp=Z,11nm,2.5s
PCBR Castelo Branco 92.29 311 eP **P** **04 21 45.3 +1.4**
comp=Z,23nm,1.5s
PCBR Castelo Branco 92.29 311 eP **P** **04 21 45.3 +1.4**
comp=Z,23nm,1.5s
PBAR Barrancos 92.30 309 eP **P** **04 21 44.9 +0.9**
comp=Z,79nm,1.7s
PBAR Barrancos 92.30 309 eP **P** **04 21 44.9 +0.9**
comp=Z,79nm,1.7s
PMRV Marv??o 92.31 310 eS S 04 32 59.6 +14
PMRV Marv??o 92.31 310 eLQ LQ 04 46 29.0
PMRV eLR LR 04 54 53.5
comp=Z,284nm,20.0s
PMRV Marv??o 92.31 310 eS S 04 32 59.6 +14
PMRV Marv??o 92.31 310 eLQ LQ 04 46 29.0
PMRV eLR LR 04 54 53.5
comp=Z,284nm,20.0s
PGAV Gavieira, Arco 92.43 313 eLR LR 04 54 56.2
comp=Z,324nm,20.0s
PGAV Gavieira, Arco 92.43 313 eLR LR 04 54 56.2
comp=Z,324nm,20.0s
IM04 Indian Mountai 92.62 22 eP **P** **04 21 45.1 +0.2**
PVAQ Vaqueiros 92.98 308 eP **P** **04 21 48.6 +1.5**
comp=Z,38nm,1.7s
PVAQ Vaqueiros 92.98 308 eS S 04 33 01.0 +10
PVAQ Vaqueiros 92.98 308 eLR LR 04 55 01.5
comp=Z,374nm,18.0s
PVAQ Vaqueiros 92.98 308 eP **P** **04 21 48.6 +1.5**
comp=Z,38nm,1.7s
PVAQ Vaqueiros 92.98 308 eS S 04 33 01.0 +10
PVAQ Vaqueiros 92.98 308 eLR LR 04 55 01.5
comp=Z,374nm,18.0s
VNDA Vanda 93.19 168 P **P** **04 21 47.2 0.0**
comp=Z,1.5nm,0.7s,baz=283,slow=7.0,SNR=7.6
VNDA LR LR 04 59 02.2
comp=Z,646nm,19.6s,baz=309,slow=32
VNDA Vanda 93.19 168 eP **P** **04 21 48.1 +1.0**
comp=Z,8.8nm,1.3s
COLD Coldfoot 93.33 20 PFAKE 04 22 00.0 +12
COLD LR LR
comp=Z,1µm,19.0s
SUMG Summit 93.83 347⇓ *i*P **P** **04 21 52.2 +1.4**
comp=Z,23nm,1.2s
comp=Z,790nm,26.0s
SUMG Summit 93.83 347⇓ *i*P **P** **04 21 52.2 +1.4**
SUMG pmax pmax
comp=Z,23nm,1.2s
SUMG MLR MLR
comp=Z,790nm,26.0s
SUMG Summit 93.83 347 eP **P** **04 21 51.2 +0.4**
comp=Z,37nm,1.4s
SUMG LR LR
comp=Z,400nm,20.0s
MLY Manley 94.18 22 PFAKE 04 22 00.0 +7.9
MLY LR LR
comp=Z,600nm,18.0s
SBA Scott Base 94.29 168 eP **P** **04 21 54.0 +1.8**
comp=Z,111nm,2.4s
CAST Castle Rocks 94.40 24 PFAKE 04 22 00.0 +6.8
CAST LR LR
comp=Z,900nm,19.0s
PPLA Purkeypile 94.59 24 PFAKE 04 22 10.0 +16
PPLA LR LR
comp=Z,800nm,18.0s
BWN Browne 95.08 23 PFAKE 04 22 10.0 +14
BWN LR LR
comp=Z,500nm,21.0s
TRF Thorofare Moun 95.10 24 PFAKE 04 22 10.0 +13
TRF LR LR
comp=Z,800nm,19.0s
COLA College 95.33 22 PFAKE 04 22 10.0 +13
COLA LR LR
comp=Z,700nm,21.0s
FYU Fort Yukon 95.35 20 PFAKE 04 22 10.0 +13
FYU LR LR
comp=Z,1µm,20.0s
WRH Wood River Hil 95.44 22 eP **P** **04 21 56.9 -1.0**
comp=Z,19nm,1.8s
WRH LR LR
comp=Z,500nm,21.0s
CCB Clear Creek Bu 95.46 22 PFAKE 04 22 10.0 +12
CCB LR LR
comp=Z,600nm,21.0s
MCK McKinley 95.50 23 PFAKE 04 22 10.0 +12
MCK LR LR
comp=Z,600nm,22.0s
RND Reindeer 95.69 23 PFAKE 04 22 10.0 +11

RND LR LR
comp=Z,700nm,19.0s
IL1 Eielson Array 95.73 22 *e*P **P 04 21 56.3 -2.9**
ILAR Eielson Array 95.73 22 P **P 04 21 59.8 +0.6**
comp=Z,1.4nm,0.9s,baz=292,slow=4.8,SNR=4.6
ILAR PP **PP 04 25 49.7 -0.9**
comp=Z,1.2nm,0.8s,baz=292,slow=6.3,SNR=4.2
ILAR LR LR 05 10 30.3
comp=Z,493nm,20.0s,baz=310,slow=39
ILAR Eielson Array 95.73 22 P **P 04 21 59.8 +0.6**
ILAR 04 25 49.7
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILB Eielson Array 95.73 22 *e*P **P 04 21 59.8 +0.6**
ILB *e*PP **PP 04 25 49.7 -0.9**
DBIC Dimbokro 95.80 278 LR LR 05 04 21.7
comp=Z,721nm,18.8s,baz=62,slow=35
HDA Harding Lake 95.90 22 *e*P **P 04 21 59.6 -0.4**
comp=Z,6.8nm,0.9s
HDA LR LR
comp=Z,600nm,19.0s
RC01 Rabbit Creek A 96.46 25 PFAKE 04 22 10.0 +7.5
RC01 LR LR
comp=Z,500nm,20.0s
KDAK Kodiak Island 96.68 29 PFAKE 04 22 10.0 +6.4
KDAK LR LR
comp=Z,900nm,21.0s
SEW Seward 97.06 26 PFAKE 04 22 20.0 +15
SEW LR LR
comp=Z,800nm,18.0s
SCM Sheep Creek Mo 97.09 24 PFAKE 04 22 20.0 +14
SCM LR LR
comp=Z,600nm,22.0s
PAX Paxson 97.23 23 PFAKE 04 22 20.0 +14
PAX LR LR
comp=Z,600nm,20.0s
QSPA South Pole Qui 97.59 180 PFAKE 04 22 20.0 +12
QSPA LR LR
comp=Z,800nm,18.0s
EGAK Eagle 97.76 20 PFAKE 04 22 20.0 +12
EGAK LR LR
comp=Z,1μm,19.0s
INK Inuvik 97.77 16 PFAKE 04 22 20.0 +12
INK LR LR
comp=Z,800nm,22.0s
BMRM Bremner River 98.66 24 PFAKE 04 22 20.0 +7.4
BMRM LR LR
comp=Z,600nm,20.0s
DAWY Dawson 98.81 20 PFAKE 04 22 20.0 +6.9
DAWY LR LR
comp=Z,900nm,21.0s
RAGM Ragged Mountai 98.95 25 PFAKE 04 22 30.0 +16
RAGM LR LR
comp=Z,1μm,20.0s
SFJD Kangerlussuaq 100.79 346 PFAKE 04 22 30.0 +8.2
SFJD LR LR
comp=Z,600nm,19.0s
BESE Bessie Mountai 104.03 23 PFAKE 04 22 50.0 +14
BESE LR LR
comp=Z,300nm,20.0s
WRAK Wrangell Islan 106.49 24 PFAKE 04 27 10.0
WRAK LR LR
comp=Z,1μm,21.0s
YKA Yellowknife Ar 107.10 13 PP PP 04 27 14.6 -1.4
comp=Z,3.1nm,1.0s,baz=332,slow=7.3,SNR=5.2
FCC Fort Churchill 113.60 3 PFAKE 04 27 20.0
FCC LR LR
comp=Z,700nm,21.0s
EDM Edmonton 115.64 17 PFAKE 04 27 30.0 +14
EDM LR LR
comp=Z,600nm,21.0s
PGC Sidney 115.88 25 PFAKE 04 27 30.0 +14
PGC LR LR
comp=Z,600nm,21.0s
FFC Flin Flon 116.74 9 PFAKE 04 27 30.0 +12
FFC LR LR
comp=Z,500nm,20.0s
DRLN Deer Lake 117.31 338 PFAKE 04 27 30.0 +11
DRLN LR LR
comp=Z,500nm,22.0s
C09A Chrisman Ranch 118.64 23 *e*PKPdf **PKPdf 04 27 23.6 +2.1**
C09A *e*PP **PP 04 28 40.5 +2.0**
NEW Newport 118.69 22 PFAKE 04 27 30.0 +8.3
NEW LR LR
comp=Z,600nm,20.0s
WALA Waterton Lakes 119.12 19 PFAKE 04 27 30.0 +7.4
WALA LR LR
comp=Z,900nm,21.0s
TBI Tubuai 119.24 112 *e*LQ LQ 04 58 53.1
comp=Z,808nm,44.5s
TBI *e*LR LR 05 03 57.2
comp=Z,552nm,29.0s
HAWA Hanford 119.29 24 PFAKE 04 27 30.0 +7.1
HAWA LR LR
comp=Z,500nm,22.0s
PPT2 Papeete2 119.40 106 *e*LR LR 05 04 01.0
comp=Z,578nm,26.5s
BSMT Bassoo Peak 119.88 20 *e*PKPdf **PKPdf 04 27 24.8 +0.6**
BSMT *e*PP **PP 04 28 46.5 -0.6**
I04A Tendick Farm, 120.07 28 P **PKPdf 04 27 26.4 +1.9**
baz=120
HUMO Hull Mountain 120.70 29 *e*PKPdf **PKPdf 04 27 26.5 +0.7**
SLMT Seeley Lake 120.84 20 *e*PKPdf **PKPdf 04 27 25.9 -0.1**
SLMT *e*PP **PP 04 28 48.8 -4.8**
J05D Fort Rock, OR 121.00 28 P **PKPdf 04 27 27.4 +0.9**
baz=121
A20A Cobblestone Ra 121.04 15 P **PKPdf 04 27 28.1 +1.8**
baz=121
MSO Missoula 121.05 20 P **PKPdf 04 27 28.2 +1.8**
baz=121
MSO Missoula 121.05 20 *e*PKPdf **PKPdf 04 27 26.9 +0.5**
MSO LR LR
comp=Z,600nm,19.0s
CHMT Chamberlain Mo 121.21 20 *e*PKPdf **PKPdf 04 27 27.8 +1.0**
CHMT *e*PP **PP 04 28 54.1 -2.2**
EGMT Eagleton 121.32 17 P **PKPdf 04 27 28.5 +1.7**
baz=121
EGMT Eagleton 121.32 17 *e*PKPdf **PKPdf 04 27 27.8 +1.0**
EGMT LR LR
comp=Z,700nm,22.0s
K05A Summer Lake 121.60 28 *e*PKPdf **PKPdf 04 27 27.4 -0.3**
K05A *e*PP **PP 04 28 59.1 0.0**
M02C Callahan 121.67 30 P **PKPdf 04 27 27.4 -0.3**
baz=122
ULM Lac du Bonnet 121.91 6 PKP **PKPdf 04 27 28.1 +0.3**
comp=Z,0.7nm,0.4s,baz=290,slow=4.9,SNR=2.7
ULM Lac du Bonnet 121.91 6 *e*PKPdf **PKPdf 04 27 28.6 +0.8**
ULM *e*PP **PP 04 28 59.4 -1.1**
C20A Veseth Ranch, 122.09 16 P **PKPdf 04 27 29.5 +1.2**
baz=122
DGMT Dagmar 122.31 13 PFAKE 04 27 40.0 +11
DGMT LR LR
comp=Z,900nm,21.0s
C22A Vida 122.60 14 P **PKPdf 04 27 28.8 -0.4**
baz=122
DLMT Dillon 122.79 20 *e*PKPdf **PKPdf 04 27 26.2 -3.7**
DLMT *e*PP PP 04 28 58.6 -8.2
DLMT LR LR
comp=Z,500nm,21.0s
WVOR Wild Horse Val 122.85 27 *e*PKPdf **PKPdf 04 27 26.6 -3.4**
WVOR *e*PP PP 04 29 02.1 -5.4
WVOR LR LR
comp=Z,500nm,22.0s
BOZ Bozeman (W) 122.86 20 P **PKPdf 04 27 32.5 +2.5**
baz=123
D22A Cohagen 123.09 15 P **PKPdf 04 27 32.1 +1.9**
baz=123
MCMT McKenzie Canyo 123.16 21 *e*PKPpre PKPpre 04 27 25.1
MCMT *e*PP PP 04 29 03.0 -6.6
MFID Camas Ranch 123.24 24 *e*PKPdf **PKPdf 04 27 32.3 +1.6**
MFID *e*PP **PP 04 29 13.8 +3.8**
MFID LR LR
comp=Z,300nm,20.0s
D24A Glendive 123.56 13 P **PKPdf 04 27 33.5 +2.4**
baz=123
HLID Hailey 123.67 23 P **PKPdf 04 27 34.7 +3.1**
baz=123
HLID Hailey 123.67 23 *e*PKPdf **PKPdf 04 27 30.3 -1.3**
HLID *e*PP **PP 04 29 11.0 -2.0**
HLID LR LR
comp=Z,400nm,21.0s
MDND Maddock 123.78 9 PFAKE 04 27 40.0 +8.5
MDND LR LR
comp=Z,600nm,19.0s
YHB Horse Butte 123.80 20 *e*PKPpre PKPpre 04 27 23.3
F20A Billings 123.80 17 P **PKPdf 04 27 34.6 +2.9**
baz=124
AGMN Agassiz Nation 123.84 6 PFAKE 04 27 40.0 +8.5
AGMN LR LR
comp=Z,1μm,22.0s
E23A Ismay 123.91 14 P **PKPdf 04 27 34.9 +3.1**
baz=124
LKWY Lake 124.22 19 PFAKE 04 27 40.0 +7.2
LKWY LR LR
comp=Z,1μm,22.0s
D28A Regan 124.25 10 P **PKPdf 04 27 34.1 +1.7**
baz=124
G20A Bridger 124.31 17 P **PKPdf 04 27 35.2 +2.5**
baz=124
H17A Grant Village 124.32 19 PFAKE 04 27 40.0 +7.1
H17A LR LR
comp=Z,600nm,21.0s
F22A Rosebud 124.34 15 P **PKPdf 04 27 35.7 +3.0**
baz=124
EYMN Ely 124.53 3 P **PKPdf 04 27 33.8 +0.9**
baz=124
EYMN Ely 124.53 3 *e*PKPdf **PKPdf 04 27 33.1 +0.2**
EYMN *e*PP **PP 04 29 21.5 +3.3**
EYMN LR LR
comp=Z,600nm,20.0s
FLWY Flagg Ranch 124.56 20 *e*PKPdf **PKPdf 04 27 31.4 -2.0**
FLWY *e*PP **PP 04 29 20.3 +1.4**
FLWY LR LR
comp=Z,400nm,19.0s
H19A Powell 124.58 18 P **PKPdf 04 27 35.9 +2.7**
baz=124
F23A Volborg 124.61 15 P **PKPdf 04 27 35.5 +2.3**
baz=124
IMW Indian Meadow 124.64 20 *e*PKPdf **PKPdf 04 27 34.3 +0.7**
IMW *e*PP **PP 04 29 18.3 -1.2**
IMW LR LR
comp=Z,600nm,20.0s
MOOW Moose Ponds 124.84 20 *e*PKPdf **PKPdf 04 27 35.2 +1.4**
MOOW *e*PP **PP 04 29 16.6 -4.2**
FXWY Fox Creek 124.84 20 *e*PKPdf **PKPdf 04 27 34.6 +0.7**
FXWY *e*PP **PP 04 29 21.8 +1.0**
FXWY LR LR
comp=Z,500nm,20.0s
TPAW Teton Pass 124.99 20 *e*PKPdf **PKPdf 04 27 36.5 +2.2**
TPAW *e*PP **PP 04 29 22.0 +0.2**
TPAW LR LR
comp=Z,500nm,20.0s
LOHW Long Hollow 125.00 20 *e*PKPdf **PKPdf 04 27 35.9 +1.7**
LOHW *e*PP **PP 04 29 20.2 -1.6**
LOHW LR LR
comp=Z,300nm,20.0s
SNOW Snow King Moun 125.08 20 *e*PKPdf **PKPdf 04 27 36.3 +1.9**
SNOW *e*PP **PP 04 29 18.9 -3.6**
SNOW LR LR
comp=Z,500nm,20.0s
BMN Battle Mountai 125.09 27 PFAKE 04 27 50.0 +16
BMN LR LR
comp=Z,400nm,20.0s
G23A Biddle 125.10 15 P **PKPdf 04 27 35.6 +1.4**
baz=125
F26A Lodgepole 125.13 12 P **PKPdf 04 27 34.9 +0.7**
baz=125
REDW Red Top Meadow 125.14 20 *e*PKPdf **PKPdf 04 27 35.5 +1.0**
REDW *e*PP **PP 04 29 23.2 +0.4**
CMB Columbia Colle 125.44 31 *e*PKPdf **PKPdf 04 27 37.3 +2.3**
CMB LR LR
comp=Z,300nm,20.0s
I20A Worland 125.49 18 P **PKPdf 04 27 36.7 +1.7**
baz=125
AHID Auburn Hatcher 125.58 21 PFAKE 04 27 50.0 +15
AHID LR LR
comp=Z,700nm,20.0s
G26A Maurine 125.67 13 P **PKPdf 04 27 37.0 +1.7**
baz=125
ELK Elko 125.70 25 *e*PKPdf **PKPdf 04 27 36.9 +1.2**
ELK *e*PP **PP 04 29 26.4 -0.3**
G27A Dupree 125.73 12 P **PKPdf 04 27 36.0 +0.6**
baz=126
H24A Dirks Ranch, A 125.74 14 P **PKPdf 04 27 36.0 +0.6**
baz=126
HVU Hansel Valley 125.82 23 *e*PKPdf **PKPdf 04 27 36.5 +0.8**
HVU *e*PP **PP 04 29 26.1 -1.3**
HVU LR LR
comp=Z,400nm,22.0s
I21A Big Trails, Te 125.86 17 P **PKPdf 04 27 37.1 +1.3**
baz=126
BW06 Boulder Array 126.11 20 *e*PKPdf **PKPdf 04 27 37.8 +1.4**
BW06 *e*PP **PP 04 29 28.5 -0.7**
BW06 LR LR
comp=Z,600nm,22.0s
PD31 Pinedale Array 126.11 20 *e*PKPdf **PKPdf 04 27 36.6 +0.2**
PD31 *e*PP **PP 04 29 27.9 -1.3**
PDAR Pinedale Array 126.11 20 PKP **PKPdf 04 27 36.2 -0.1**
comp=Z,2.0nm,0.9s,baz=29,slow=3.4,SNR=12
PDAR PP **PP 04 29 27.9 -1.3**
comp=Z,4.2nm,1.2s,baz=1.9,slow=4.5,SNR=4.5
NV01 Mina Array Sit 126.18 29 *e*PKPdf **PKPdf 04 27 37.6 +1.0**
NVAR Mina Array Bea 126.18 29 PKP **PKPdf 04 27 37.8 +1.2**
comp=Z,2.8nm,0.8s,baz=260,slow=2.6,SNR=12
G28A Parade 126.23 11 P **PKPdf 04 27 38.8 +2.5**
baz=126
H26A Fairpoint 126.28 13 P **PKPdf 04 27 38.8 +2.4**
baz=126
G29A Hoven 126.30 10 P **PKPdf 04 27 38.5 +2.1**
baz=126
H27A Howes 126.41 12 P **PKPdf 04 27 37.8 +1.2**
baz=126
HWUT Hardware Ranch 126.43 22 *e*PKPdf **PKPdf 04 27 37.2 +0.2**
HWUT *e*PP **PP 04 29 26.4 -5.0**
HWUT LR LR
comp=Z,300nm,20.0s
RSSD Black Hills 126.45 14 PFAKE 04 27 50.0 +13
RSSD LR LR
comp=Z,500nm,22.0s
BGU Big Grassy Mou 126.45 23 *e*PKPdf **PKPdf 04 27 38.6 +1.6**
BGU *e*PP **PP 04 29 29.2 -2.4**
BGU LR LR
comp=Z,400nm,21.0s
J22A Midwest 126.47 17 P **PKPdf 04 27 37.9 +1.0**
baz=126
LONY Lake Ozonia 126.54 348 PFAKE 04 27 50.0 +13
LONY LR LR
comp=Z,700nm,22.0s
PTN Potsdam (NY) 126.67 348 PFAKE 04 27 50.0 +13
PTN LR LR
comp=Z,800nm,19.0s
TCUT Toone Canyon 126.91 22 PFAKE 04 27 50.0 +12
TCUT LR LR
comp=Z,600nm,22.0s
TPH Tonopah 126.98 29 *e*PKPdf **PKPdf 04 27 40.0 +1.9**
NCB Newcomb 127.08 347 PFAKE 04 27 50.0 +12
NCB LR LR
comp=Z,500nm,22.0s
K22A Casper 127.15 17 *e*PKPdf **PKPdf 04 27 38.8 +0.5**
K22A LR LR
comp=Z,600nm,21.0s
DUG Dugway, Tooele 127.16 24 P **PKPdf 04 27 40.4 +2.1**
baz=127
DUG Dugway, Tooele 127.16 24 *e*PKPdf **PKPdf 04 27 40.5 +2.1**
SPMN Marine on St. 127.16 4 PFAKE 04 27 50.0 +12
SPMN LR LR
comp=Z,600nm,22.0s
J25A Sunshine Ranch 127.20 14 P **PKPdf 04 27 40.1 +1.8**
baz=127
I28A Midland 127.21 12 P **PKPdf 04 27 40.2 +2.0**
baz=127
K23A Bowen Ranch, D 127.31 16 P **PKPdf 04 27 40.6 +2.0**
baz=127
JLU Jordanelle 127.34 22 PFAKE 04 27 50.0 +11
JLU LR LR
comp=Z,600nm,22.0s
I29A Vivian Onida 127.36 11 P **PKPdf 04 27 41.1 +2.6**
baz=127
J26A Sides Ranch, S 127.44 14 P **PKPdf 04 27 39.0 +0.3**
baz=127
ACCN Adirondack Com 127.52 347 PFAKE 04 27 50.0 +11
ACCN LR LR
comp=Z,600nm,20.0s
R11A Troy Canyon, C 127.52 27 P **PKPdf 04 27 41.2 +2.0**
baz=127
R11A Troy Canyon, C 127.52 27 *e*PKPdf **PKPdf 04 27 40.0 +0.9**
R11A LR LR
comp=Z,300nm,22.0s
GLMI Grayling 127.64 357 PFAKE 04 27 50.0 +11
GLMI LR LR
comp=Z,600nm,21.0s
J27A Elkhorn Farm, 127.75 13 P **PKPdf 04 27 41.7 +2.4**
baz=128
HRV Adam Dziewonsk 127.83 345 PFAKE 04 27 50.0 +11
HRV LR LR
comp=Z,600nm,22.0s
J30A Dallas 128.18 11 P **PKPdf 04 27 41.5 +1.5**
baz=128
DAC Darwin (Calif) 128.22 30 *e*PKPdf **PKPdf 04 27 41.5 +0.9**
ECSD EROS Data Cent 128.24 8 P **PKPdf 04 27 40.4 +0.3**
baz=128
ECSD EROS Data Cent 128.24 8 *e*PKPdf **PKPdf 04 27 40.7 +0.6**
ECSD *e*PP **PP 04 29 39.9 -2.9**
ECSD LR LR
comp=Z,800nm,21.0s
ISA Isabella, Lake 128.24 32 P **PKPdf 04 27 44.4 +3.9**
baz=128
ISA Isabella, Lake 128.24 32 PFAKE 04 27 50.0 +10
ISA LR LR
comp=Z,300nm,20.0s
TPNV Topopah Spring 128.34 29 P **PKPdf 04 27 42.9 +2.1**
baz=128
TPNV Topopah Spring 128.34 29 PFAKE 04 27 50.0 +9.3
TPNV LR LR
comp=Z,300nm,21.0s
MPMC Manual Prospec 128.44 31 P **PKPdf 04 27 42.3 +1.3**
baz=128
MVU Marysvale 128.85 24 *e*PKPdf **PKPdf 04 27 44.9 +3.2**
MVU *e*PP **PP 04 29 47.8 +0.3**
MVU LR LR
comp=Z,400nm,21.0s
MSU Marysvale 128.86 24 *e*PKPdf **PKPdf 04 27 44.7 +2.9**
MSU *e*PP **PP 04 29 44.7 -2.8**
O20A White River Ci 128.90 20 *e*PKPdf **PKPdf 04 27 43.8 +2.1**
O20A LR LR
comp=Z,800nm,20.0s
N23A Red Feather La 128.94 17 P **PKPdf 04 27 44.5 +2.6**
baz=129
N23A Red Feather La 128.94 17 *e*PKPdf **PKPdf 04 27 44.0 +2.1**
N23A LR LR
comp=Z,400nm,21.0s
M25A Palm-Egli Farm 128.97 15 P **PKPdf 04 27 44.2 +2.5**
baz=129
SRU San Rafael Swe 128.99 22 *e*PKPdf **PKPdf 04 27 42.1 +0.1**
EDW2 Edwards Air Fo 129.10 32 P **PKPdf 04 27 44.8 +2.8**
baz=129
CCUT Cedar City 129.17 26 *e*PKPdf **PKPdf 04 27 44.7 +2.3**
SHPR Sheep Range 129.22 28 *e*PKPdf **PKPdf 04 27 44.9 +2.5**
YLE Yale 129.30 345 PFAKE 04 27 50.0 +7.9
YLE LR LR
comp=Z,200nm,18.0s
GSC Goldstone, Bar 129.38 31 *e*PKPdf **PKPdf 04 27 45.1 +2.5**
JFWS Jewell Farm 129.61 2 PFAKE 04 27 50.0 +7.3
JFWS LR LR
comp=Z,500nm,20.0s
KSPA Keystone Colle 129.72 348 PFAKE 04 27 50.0 +7.0
KSPA LR LR
comp=Z,600nm,21.0s
PAL Palisades 129.83 346 PFAKE 04 27 50.0 +6.8
PAL LR LR
comp=Z,600nm,22.0s
KNB Kanab 129.85 26 *e*PKPdf **PKPdf 04 27 46.3 +2.7**
KNB *e*PP **PP 04 29 49.1 -4.9**
ODNJ Ogdensburg 129.92 347 PFAKE 04 28 00.0 +17
ODNJ LR LR
comp=Z,500nm,20.0s
ISCO Idaho Springs 130.04 18 PFAKE 04 28 00.0 +16
ISCO LR LR
comp=Z,400nm,21.0s
AAM Ann Arbor 130.09 356 PFAKE 04 28 00.0 +16
AAM LR LR
comp=Z,500nm,19.0s
SMCO Snowmass 130.18 19 *e*PKPdf **PKPdf 04 27 43.1 -1.4**
SMCO *e*PP PP 04 29 50.3 -5.9
SMCO LR LR
comp=Z,300nm,20.0s
PV04 Paradox Valley 130.22 21 *e*PKPdf **PKPdf 04 27 45.3 +1.0**
PV04 *e*PP **PP 04 29 54.9 -1.3**
BGNE Belgrade 130.28 10 PFAKE 04 28 00.0 +16
BGNE LR LR
comp=Z,800nm,22.0s
SCIA State Center 130.43 5 PFAKE 04 28 00.0 +16
SCIA LR LR
comp=Z,900nm,22.0s
LUPA Lehigh Univers 130.55 347 PFAKE 04 28 00.0 +15
LUPA LR LR
comp=Z,100nm,21.0s
PFO Pinyon Flats O 130.88 32 *e*PKPdf **PKPdf 04 27 47.2 +1.6**
Q24A Divide 130.95 18 PFAKE 04 28 00.0 +14
Q24A LR LR
comp=Z,700nm,22.0s
SSPA Standing Stone 131.01 350 PFAKE 04 28 00.0 +15
SSPA LR LR
comp=Z,900nm,21.0s
MVCO Mesa Verde 131.42 22 PFAKE 04 28 00.0 +13
MVCO LR LR
comp=Z,700nm,21.0s
Q26A Hugo 131.46 16 P **PKPdf 04 27 49.0 +2.5**
baz=131
S22A 4UR Ranch, Cre 131.53 20 *e*PKPdf **PKPdf 04 27 43.5 -3.4**
KSCO Kaye Shedlock' 131.62 15 PFAKE 04 28 00.0 +13
KSCO LR LR
comp=Z,600nm,20.0s
WUAZ Wupatki 131.74 26 *e*PKPdf **PKPdf 04 27 47.6 +0.4**
WUAZ *e*PP **PP 04 30 06.3 +0.1**
SDCO Great Sand Dun 131.96 19 PFAKE 04 28 00.0 +12
SDCO LR LR
comp=Z,800nm,22.0s
ACSO Alum Creek Sta 132.09 355 PFAKE 04 28 00.0 +12
ACSO LR LR
comp=Z,400nm,21.0s
SFIN Lafayette 132.17 359 PFAKE 04 28 00.0 +12
SFIN LR LR
comp=Z,600nm,20.0s
RKT Rikitea 132.47 114 *e*LR LR 05 09 57.2
comp=Z,540nm,26.5s
W18A Petrified Fore 132.77 24 PFAKE 04 28 00.0 +11
W18A LR LR
comp=Z,500nm,22.0s
KSU1 Kansas State U 132.78 9 PFAKE 04 28 00.0 +11
KSU1 LR LR
comp=Z,600nm,21.0s
T25A Trinidad 132.86 18 PFAKE 04 28 00.0 +11
T25A LR LR
comp=Z,600nm,22.0s
CBN Corbin Frederi 133.27 348 PFAKE 04 28 00.0 +10
CBN LR LR
comp=Z,500nm,20.0s
ANMO Albuquerque 134.18 21 *e*PKPdf **PKPdf 04 27 51.9 0.0**
ANMO *e*PP **PP 04 30 19.4 -2.3**
ANMO LR LR
comp=Z,600nm,21.0s
WCI Wyandotte Cave 134.30 358 PFAKE 04 28 00.0 +8.2
WCI LR LR
comp=Z,500nm,21.0s
USIN University of 134.59 360 PFAKE 04 28 00.0 +7.7
USIN LR LR
comp=Z,700nm,22.0s
TUC Tucson 134.71 27 *e*PKPdf **PKPdf 04 27 52.2 -0.5**
TUC *e*PP **PP 04 30 21.3 -3.8**
TUC LR LR
comp=Z,400nm,20.0s
BLA Blacksburg 134.77 351 PFAKE 04 28 00.0 +7.3
BLA LR LR
comp=Z,900nm,22.0s
U34A Anderson Ranch 135.22 11 PFAKE 04 28 10.0 +16
U34A LR LR
comp=Z,600nm,20.0s
PBMO Poplar Bluff 135.72 3 PFAKE 04 28 10.0 +16
PBMO LR LR
comp=Z,500nm,21.0s
V34A Guthrie 135.81 11 PFAKE 04 28 10.0 +15
V34A LR LR
comp=Z,700nm,21.0s
TUL1 Leonard 136.03 9 PFAKE 04 28 10.0 +15
TUL1 LR LR
comp=Z,800nm,22.0s
PVMO Portageville 136.11 2 PFAKE 04 28 10.0 +15
PVMO LR LR
comp=Z,700nm,21.0s
MSTX Muleshoe 136.29 18 *e*PKPdf **PKPdf 04 27 55.2 -0.5**
MSTX *e*PP PP 04 30 28.5 -6.3
MSTX LR LR
comp=Z,600nm,21.0s

W34A	**Bridge Creek,**	**136.34**	**12**	PFAKE			04 28 10.0	+14
W34A				LR	LR			
	comp=Z,600nm,20.0s							
WVT	**Waverly**	**136.42**	**360**	PFAKE			04 28 10.0	+14
WVT				LR	LR			
	comp=Z,600nm,20.0s							
WMOK	**Wichita Mounta**	**136.61**	**13**	*e*PKPdf	**PKPdf**		**04 27 56.7**	**+0.5**
WMOK				LR	LR			
	comp=Z,700nm,22.0s							
KMSC	**Kings Mountain**	**136.94**	**352**	PFAKE			04 28 10.0	+13
KMSC				LR	LR			
	comp=Z,700nm,22.0s							
Z29A	**Hungry Hill Ra**	**137.27**	**17**	P	**PKPdf**		**04 27 58.6**	**+1.1**
	baz=137							
MET	**Memphis--Engin**	**137.39**	**2**	PFAKE			04 28 10.0	+12
MET				LR	LR			
	comp=Z,700nm,22.0s							
128A	**Castleberry Fa**	**137.63**	**18**	P	**PKPdf**		**04 27 58.2**	**0.0**
	baz=137							
MIAR	**Mount Ida**	**137.68**	**7**	*e*PKPdf	**PKPdf**		**04 27 59.0**	**+0.9**
MIAR				LR	LR			
	comp=Z,900nm,21.0s							
OXF	**Oxford**	**138.02**	**2**	PFAKE			04 28 10.0	+11
OXF				LR	LR			
	comp=Z,800nm,22.0s							
ABTX	**Abilene, Hawle**	**138.43**	**15**	*e*PKPdf	**PKPdf**		**04 27 57.3**	**-2.3**
ABTX				*e*PP	**PP**		**04 30 43.1**	**-4.8**
ABTX				LR	LR			
	comp=Z,500nm,19.0s							
GOGA	**Godfrey**	**138.90**	**354**	PFAKE			04 28 10.0	+10
GOGA				LR	LR			
	comp=Z,700nm,21.0s							
LRAL	**Lakeview Retre**	**139.50**	**359**	PFAKE			04 28 10.0	+8.5
LRAL				LR	LR			
	comp=Z,400nm,19.0s							
WHTX	**Lake Whitney,**	**139.54**	**12**	PFAKE			04 28 10.0	+8.4
WHTX				LR	LR			
	comp=Z,700nm,21.0s							
TX31	**Lajitas Ar. Si**	**140.25**	**22**	*e*PKPpre	PKPpre		04 27 57.9	
TX31				*e*PP	**PP**		**04 30 54.7**	**-4.8**
LTX	**Lajitas**	**140.25**	**22**	*e*PKPdf	**PKPdf**		**04 28 03.9**	**+0.8**
LTX				*e*PP	**PP**		**04 30 58.3**	**-1.2**
TXAR	**Lajitas Array**	**140.25**	**22**	PKP	**PKPdf**		**04 28 03.9**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=286,slow=0.7,SNR=6.3							
TXAR				PP	**PP**		**04 30 58.3**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=342,slow=2.1,SNR=3.0							
TXAR	**Lajitas Array**	**140.25**	**22**	PKIKP	**PKPdf**		**04 28 03.9**	**+0.8**
TXAR							04 30 58.3	
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
VBMS	**Vicksburg**	**140.25**	**3**	PFAKE			04 28 10.0	+7.1
VBMS				LR	LR			
	comp=Z,700nm,22.0s							
JCT	**Junction City**	**140.42**	**16**	P	PKPpre		04 27 57.9	
	baz=140							
JCT	**Junction City**	**140.42**	**16**	*e*PKPdf	**PKPdf**		**04 28 02.2**	**-1.2**
JCT				*e*PP	PP		04 30 53.5	-6.8
JCT				LR	LR			
	comp=Z,500nm,22.0s							
531A	**Rocksprings**	**140.51**	**17**	P	**PKPdf**		**04 27 59.6**	**-3.9**
	baz=140							
TIGA	**Tifton**	**140.87**	**354**	PFAKE			04 28 20.0	+16
TIGA				LR	LR			
	comp=Z,600nm,21.0s							
632A	**Uvalde**	**141.34**	**16**	P	**PKPdf**		**04 28 00.8**	**-4.2**
	baz=141							
BRAL	**Brewton**	**141.51**	**359**	PFAKE			04 28 20.0	+15
BRAL				LR	LR			
	comp=Z,700nm,21.0s							
HKT	**Hockley**	**141.85**	**11**	*e*PKPdf	**PKPdf**		**04 28 04.4**	**-1.3**
HKT				LR	LR			
	comp=Z,800nm,21.0s							
CPUP	**Villa Florida**	**145.40**	**234**	*e*PKPbc	**PKPbc**		**04 28 11.8**	**-0.2**
HUMP	**Col San Antoni**	**146.24**	**320**	*e*PKPdf	**PKPdf**		**04 28 13.9**	**+0.2**
CELP	**Cerrillos**	**146.76**	**321**	*e*PKPbc	**PKPab**		**04 28 16.9**	**-0.6**
OBIP	**Obispado Ponce**	**146.80**	**321**	*e*PKPdf	**PKPbc**		**04 28 16.4**	**-0.1**
SDDR	**Presa de Saban**	**148.76**	**328**	*e*PKPbc	**PKPbc**		**04 28 22.7**	**+0.8**
PTGA	**Pitinga**	**151.16**	**283**	*e*PKPbc	**PKPbc**		**04 28 26.7**	**-1.1**
PTGA				LR	LR			
	comp=Z,500nm,22.0s							
TEIG	**Tepich**	**152.26**	**0**	PKPbc	**PKPbc**		**04 28 30.4**	**+0.3**
	comp=Z,8.9nm,0.9s,baz=292,slow=4.0,SNR=2.6							
TEIG	**Tepich**	**152.26**	**0**	*e*PKPbc	**PKPbc**		**04 28 28.4**	**-1.6**
TEIG				LR	LR			
	comp=Z,600nm,22.0s							
SAML	**Samuel**	**155.35**	**265**	*e*PKPdf	**PKPdf**		**04 28 23.2**	**-4.7**
SAML				LR	LR			
	comp=Z,300nm,20.0s							
SDV	**Santo Domingo**	**156.07**	**313**	*e*PKPdf	**PKPdf**		**04 28 27.8**	**-1.4**
SDV				*e*PKPab	**PKPab**		**04 28 57.9**	**+1.4**
SDV				LR	LR			
	comp=Z,500nm,20.0s							
LPAZ	**La Paz**	**158.72**	**244**	*e*PKPdf	**PKPdf**		**04 28 33.1**	**+0.2**
SSN	**San Juan del S**	**161.01**	**353**	PFAKE			04 22 10.0	
SSN				LR	LR			
	comp=Z,600nm,22.0s							
OTAV	**Otavalo**	**167.60**	**309**	*e*PKPdf	**PKPdf**		**04 28 37.0**	**-4.3**
OTAV				*e*PKPab	**PKPab**		**04 29 48.2**	**+1.0**

IDC ***24*** *04:15:34.7±0.6,52.˚13N×171.˚85W,h0km,mb4.4/27, mb1 4.6/29,mb1mx4.5/45,mbtmp4.4/29,ML3.9/2,MS3.5/1, Ms1 3.5/1,ms1mx2.8/37,Error ellipse: s-maj=20.2km s-min=10.8km az=168.0*

MOS ***24*** *04:15:37.8±1.0,52.˚02N×171.˚69W,h33km,mb4.7/32, Error ellipse: s-maj=12.7km s-min=7.5km az=99.3*

BJI ***24*** *04:15:38.6,52.˚76N×171.˚85W,h24km,mb4.9/13,mB4.8/2, Ms5.0/4,Ms7 4.7/5*

ISCJB ***24*** *04:15:41.2±0.3,52.˚02N±0.˚04×171.˚84W±0.˚02,h61km±3km, mb4.5/80,Error ellipse: s-maj=6.1km s-min=2.3km az=172.2*

NEIC ***24*** *04:15:42.8±0.3,52.˚05N×171.˚87W,h60km±3km,mb4.3/48, ML4.6(AEIC),Error ellipse: s-maj=6.9km s-min=2.4km az=167.0*

ISC 24 04:15:40.5±0.8,51.˚88N±0.˚09×171.˚75W±0.˚04,h43km±5km, n450,σ1°16/455,mb4.5/88,9C-8D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**2.08**	**57**	P	**Pn**	**04 16 12.7**	**-0.2**
NIKH				S	**Sn**	**04 16 38.9**	**+1.4**
OKSP	**Okmok Steeple**	**2.52**	**56**	P	**Pn**	**04 16 20.4**	**+1.5**
OKSP				S	**Sn**	**04 16 50.6**	**+2.3**
GSMY	**Great Sitkin M**	**2.67**	**275**	P	**Pn**	**04 16 22.3**	**+1.3**
GSTR	**Great Sitkin T**	**2.68**	**276**	*e*Pn	**Pn**	**04 16 22.4**	**+1.3**
OKTU	**Okmok Mt. Tuli**	**2.71**	**55**	P	**Pn**	**04 16 23.6**	**+2.0**
GSTD	**Great Sitkin T**	**2.73**	**275**	P	**Pn**	**04 16 22.9**	**+1.1**
GSTD				S	**Sn**	**04 16 55.6**	**+2.0**
GSCK	**Great Sitkin C**	**2.74**	**275**	P	**Pn**	**04 16 22.4**	**+0.6**
OKFG	**Magazine Ridge**	**2.79**	**55**	P	**Pn**	**04 16 23.8**	**+1.2**
OKFG				S	**Sn**	**04 16 57.9**	**+2.8**
ETKA	**Kagalaska Isla**	**2.89**	**271**	P	**Pn**	**04 16 24.4**	**+0.5**
ADAG	**Mount Adagdak**	**3.01**	**274**	P	**Pn**	**04 16 27.2**	**+1.6**
ADK	**Adak**	**3.06**	**272**	*e*Pn	**Pn**	**04 16 26.9**	**+0.6**
ADK				*e*S	**Sn**	**04 17 02.3**	**+0.7**
KIKV	**Kanaga Island**	**3.36**	**272**	P	**Pn**	**04 16 31.8**	**+1.3**
KICM	**Kanaga Island**	**3.38**	**273**	P	**Pn**	**04 16 32.4**	**+1.8**
MCIR	**Makushin Cirqu**	**3.60**	**53**	P	**Pn**	**04 16 35.2**	**+1.5**
MSW	**Makushin Switc**	**3.63**	**54**	P	**Pn**	**04 16 35.5**	**+1.4**
UNV	**Unalaska Valle**	**3.74**	**56**	P	**Pn**	**04 16 37.1**	**+1.5**
UNV				S	**Sn**	**04 17 22.2**	**+3.9**
TAFP	**Tanaga Falls P**	**3.86**	**273**	P	**Pn**	**04 16 38.7**	**+1.3**
TASE	**Tanaga Southea**	**3.90**	**272**	P	**Pn**	**04 16 39.8**	**+1.9**
AKRB	**Akutan Reef Bi**	**4.10**	**54**	P	**Pn**	**04 16 42.4**	**+1.7**
ZRO	**Akutan Zero**	**4.13**	**55**	P	**Pn**	**04 16 42.7**	**+1.7**
LVA	**Lava Point**	**4.14**	**54**	P	**Pn**	**04 16 42.8**	**+1.7**
AKGG	**Akutan Green G**	**4.18**	**54**	P	**Pn**	**04 16 43.7**	**+2.1**
AKUT	**Akutan**	**4.26**	**56**	*e*Pn	Pn	04 16 46.2	+3.5
AKUT				*e*S	**Sn**	**04 17 27.9**	**-3.2**
GANE	**Gareloi Northe**	**4.36**	**272**	P	**Pn**	**04 16 46.0**	**+1.8**
WECS	**Westdahl Cape**	**4.96**	**55**	P	**Pn**	**04 16 54.3**	**+1.9**
WESP	**Westdahl Peak**	**4.97**	**55**	P	**Pn**	**04 16 54.0**	**+1.5**
CERAA	**Semis' Rag'd T**	**5.31**	**274**	P	**Pn**	**04 16 58.2**	**+1.0**
SPIA	**Saint Paul Isl**	**5.38**	**9**	P	**Pn**	**04 17 00.7**	**+2.6**
CESW	**Semis' Southwe**	**5.38**	**274**	P	**Pn**	**04 16 58.9**	**+0.8**
SSLN	**Shishaldin Nor**	**5.49**	**55**	P	**Pn**	**04 17 01.1**	**+1.4**
AMKA	**Amchitka**	**5.60**	**268**	P	**Pn**	**04 17 01.4**	**+0.3**
FALS	**False Pass**	**5.81**	**56**	*e*Pn	Pn	04 17 08.7	+4.7
LSPA	**Little Sitkin**	**5.99**	**275**	P	**Pn**	**04 17 08.1**	**+1.5**
DT1	**Dutton Round H**	**6.51**	**56**	P	**Pn**	**04 17 14.4**	**+0.9**
SDPT	**Sand Point**	**7.55**	**58**	*e*Pn	**Pn**	**04 17 27.9**	**+0.1**
SDPT				*e*S	**Sn**	**04 18 50.2**	**-1.8**
SMY	**Shemya**	**8.72**	**281**	*e*Pn	**Pn**	**04 17 45.7**	**+1.8**
CHGN	**Chignik**	**9.00**	**55**	*e*Pn	**Pn**	**04 17 47.4**	**-0.2**
GAMB	**Gambell**	**11.93**	**0**	*e*Pn	**Pn**	**04 18 28.7**	**+1.0**
OHAK	**Old Harbor**	**11.96**	**56**	*e*Pn	**Pn**	**04 18 25.1**	**-3.0**
OHAK				*e*S	Sn	04 20 22.1	-18
KDAK	**Kodiak Island**	**12.51**	**54**	*ce*P	**Pn**	**04 18 33.4**	**-2.2**
KDAK	**Kodiak Island**	**12.51**	**54**	*e*Pn	**Pn**	**04 18 33.8**	**-1.8**
	12nm,0.6s						
KDAK				*e*S	Sn	04 20 28.4	-25
RSO	**Redoubt South**	**13.59**	**43**	*e*Pn	**Pn**	**04 18 52.3**	**+1.8**
BRLK	**Bradley Lake**	**14.09**	**48**	*e*P	**P**	**04 19 04.1**	**+0.1**
SPU	**Mount Spurr**	**14.25**	**42**	*e*Pn	Pn	04 18 54.6	-4.9
SEW	**Seward**	**14.88**	**48**	*e*Pn	**Pn**	**04 19 06.0**	**-1.7**
SEW				*e*S	**Sn**	**04 21 51.8**	**+0.6**
RC01	**Rabbit Creek A**	**15.18**	**44**	*e*Pn	**Pn**	**04 19 12.1**	**+0.4**
	30nm,1.2s						
RC01				*e*S	**Sn**	**04 22 04.5**	**+6.0**
PPLA	**Purkeypile**	**15.19**	**36**	*e*Pn	**Pn**	**04 19 12.6**	**+0.8**
	12nm,0.6s						
PPLA				*e*S	**Sn**	**04 21 58.1**	**-0.7**
CAST	**Castle Rocks**	**15.55**	**34**	*e*Pn	**P**	**04 19 21.2**	**+1.1**
	17nm,1.0s						
PMR	**Palmer**	**15.68**	**43**	*e*Pn	**Pn**	**04 19 17.7**	**-0.4**
	13nm,1.0s						
TRF	**Thorofare Moun**	**16.21**	**36**	*e*Pn	**Pn**	**04 19 24.9**	**-0.2**
	10nm,0.8s						
BPAW	**Bear Paw Mtn.**	**16.36**	**34**	*e*Pn	**P**	**04 19 29.6**	**+0.5**
	22nm,0.9s						
SCM	**Sheep Creek Mo**	**16.55**	**44**	*e*Pn	**Pn**	**04 19 28.7**	**-0.6**
	26nm,1.1s						
IM04	**Indian Mountai**	**16.80**	**26**	*e*Pn	**P**	**04 19 34.3**	**+0.3**
MCK	**McKinley**	**16.87**	**36**	*e*Pn	**P**	**04 19 34.2**	**-0.6**
	13nm,1.0s						
BWN	**Browne**	**16.93**	**35**	*e*Pn	P	04 19 40.9	+5.5
	29nm,1.0s						
DIV	**Divide**	**16.95**	**47**	*e*Pn	**Pn**	**04 19 34.0**	**-0.3**
BMRM	**Bremner River**	**17.43**	**48**	*e*Pn	**Pn**	**04 19 40.0**	**-0.3**
	12nm,0.7s						
HARP	**HAARP**	**17.72**	**43**	*e*P	**P**	**04 19 46.5**	**+2.3**
	67nm,1.7s						
COLA	**College**	**17.91**	**34**	*e*P	**P**	**04 19 47.8**	**+1.6**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HDA	**Harding Lake**	**17.97**	**36**	*e*Pn	**P**	**04 19 48.0**	**+1.1**
	comp=Z,9.1nm,0.8s						
ILAR	**Eielson Array**	**18.19**	**35**	P	**P**	**04 19 46.6**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=235,slow=9.4,SNR=23						
PETK	**Petropavlovsk-**	**18.58**	**286**	P	**P**	**04 19 51.5**	**-2.2**
	comp=Z,1.1nm,0.3s,baz=89,slow=14,SNR=6.6						
PETK	**Petropavlovsk-**	**18.58**	**286**	P	**P**	**04 19 51.5**	**-2.2**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
COLD	**Coldfoot**	**18.69**	**26**	*e*Pn	**P**	**04 19 54.8**	**-0.1**
	comp=Z,14nm,1.5s						
BILL	**Bilibino**	**19.39**	**335**	*c i*P	**Pn**	**04 20 03.5**	**-0.3**
BILL				pmax	pmax		
	comp=Z,44nm,1.0s						
BILL				MLR	MLR		
	comp=Z,113nm,18.0s						
EGAK	**Eagle**	**20.34**	**39**	*e*P	**P**	**04 20 12.4**	**-0.4**
	comp=Z,7.7nm,0.6s						
HYT	**Haines Junctio**	**20.75**	**51**	*e*Pn	Pn	04 20 18.8	-1.4
DAWY	**Dawson**	**20.77**	**42**	*e*P	**P**	**04 20 17.0**	**-0.4**
SKAG	**Skagway**	**21.66**	**55**	*e*Pn	**P**	**04 20 28.7**	**+1.7**
SEY	**Seymchan**	**21.94**	**314**	P	**P**	**04 20 29.4**	**-0.6**
	comp=Z,12nm,0.7s,baz=117,slow=12,SNR=8.4						
SEY				LR	LR	04 30 03.9	
	comp=Z,129nm,19.3s,baz=138,slow=40						
SEY	**Seymchan**	**21.94**	**314**	P	**P**	**04 20 29.4**	**-0.6**
SEY				pmax	pmax		
	comp=Z,12nm,0.7s						
SEY				MLR	MLR		
	comp=Z,129nm,19.3s						
DLBC	**Dease Lake**	**24.39**	**58**	P	**P**	**04 20 55.2**	**+0.8**
	comp=Z,16nm,0.6s,baz=276,slow=7.7,SNR=48						
DLBC	**Dease Lake**	**24.39**	**58**	*e*P	**P**	**04 20 57.1**	**+2.7**
INK	**Inuvik**	**24.57**	**34**	P	**P**	**04 20 54.1**	**-1.7**
	comp=Z,4.2nm,0.4s,baz=248,slow=11,SNR=2.5						
INK	**Inuvik**	**24.57**	**34**	P	**P**	**04 20 54.1**	**-1.7**
INK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ASAJ	**Asahikawa**	**31.08**	**274**	P	**P**	**04 21 54.2**	**-0.1**
	comp=Z,7.6nm,0.5s,baz=61,slow=13						
ASAJ	**Asahikawa**	**31.08**	**274**	P	**P**	**04 21 54.3**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.5s						
YKA	**Yellowknife Ar**	**31.66**	**48**	P	**P**	**04 21 57.8**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=275,slow=9.2,SNR=13						
YKA	**Yellowknife Ar**	**31.66**	**48**	P	**P**	**04 21 57.8**	**-1.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**31.86**	**270**	*e*P	**P**	**04 22 02.5**	**+1.3**
ERM				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TIXI	**Tiksi**	**32.41**	**329**	*e*P	**P**	**04 22 07.7**	**+2.0**
TIXI				pmax	pmax		
	comp=Z,11nm,1.2s						
B08A	**Colville Reser**	**33.19**	**75**	*e*P	**P**	**04 22 14.7**	**+1.9**
I04A	**Tendick Farm,**	**33.52**	**84**	P	**P**	**04 22 17.5**	**+1.7**
	baz=34						
I05D	**Terrebonne, OR**	**33.90**	**82**	P	**P**	**04 22 21.3**	**+2.2**
	baz=34						
J05D	**Fort Rock, OR**	**34.52**	**84**	P	**P**	**04 22 27.3**	**+2.7**
	baz=34						
NEW	**Newport**	**34.55**	**74**	P	**P**	**04 22 25.8**	**+1.2**
	baz=34,SNR=7.0						
NEW	**Newport**	**34.55**	**74**	*e*P	**P**	**04 22 25.3**	**+0.6**
	comp=Z,8.2nm,0.9s						
EDM	**Edmonton**	**34.68**	**64**	*e*P	**P**	**04 22 25.6**	**-0.2**
N02D	**Trinity Center**	**34.89**	**88**	P	**P**	**04 22 29.6**	**+1.9**
	baz=35						
M04C	**Macdoel**	**34.97**	**87**	P	**P**	**04 22 30.8**	**+2.3**
	baz=35						
K05A	**Summer Lake**	**35.03**	**85**	*e*P	**P**	**04 22 32.1**	**+3.1**
MOD	**Modoc Plateau**	**35.85**	**85**	*e*P	**P**	**04 22 38.0**	**+1.9**
	comp=Z,3.8nm,0.8s						
WALA	**Waterton Lakes**	**36.09**	**71**	*e*P	**P**	**04 22 39.3**	**+1.3**
BSMT	**Bassoo Peak**	**36.13**	**73**	*e*P	**P**	**04 22 39.6**	**+1.1**
	comp=Z,4.5nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**36.18**	**216**	T	T	05 01 00.8	
	baz=21,slow=76,SNR=618						
H11N3	**WAKE ISLAND Hy**	**36.19**	**216**	T	T	05 01 01.4	
	baz=21,slow=76,SNR=518						
H11N1	**WAKE ISLAND Hy**	**36.20**	**216**	T	T	05 00 58.7	
	baz=21,slow=76,SNR=129						
BLMT	**Blacktail Moun**	**36.31**	**73**	*e*P	**P**	**04 22 41.6**	**+1.6**
MSO	**Missoula**	**37.13**	**74**	P	**P**	**04 22 47.7**	**+0.9**
	baz=37						
MSO	**Missoula**	**37.13**	**74**	*e*P	**P**	**04 22 48.0**	**+1.2**
	comp=Z,5.0nm,1.1s						
SLMT	**Seeley Lake**	**37.19**	**73**	*e*P	**P**	**04 22 48.5**	**+1.0**
	comp=Z,1.8nm,0.5s						
H11S1	**WAKE ISLAND Hy**	**37.38**	**215**	T	T	05 02 34.4	
	baz=21,slow=76,SNR=67						
H11S2	**WAKE ISLAND Hy**	**37.39**	**215**	T	T	05 02 40.0	
	baz=21,slow=76,SNR=85						
H11S3	**WAKE ISLAND Hy**	**37.39**	**215**	T	T	05 02 46.8	
	baz=21,slow=76,SNR=45						
RES	**Resolute Bay**	**37.44**	**25**	P	**P**	**04 22 47.9**	**-1.1**
	comp=Z,5.7nm,0.9s,baz=267,slow=10.0,SNR=8.9						
RES	**Resolute Bay**	**37.44**	**25**	P	**P**	**04 22 47.9**	**-1.1**
RES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHMT	**Chamberlain Mo**	**37.50**	**74**	*e*P	**P**	**04 22 50.9**	**+0.8**
	comp=Z,1.5nm,0.5s						
USRK	**Ussuriysk Ar.**	**37.55**	**281**	P	**P**	**04 22 49.9**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=68,slow=9.4,SNR=4.4						
MAJO	**Matsushiro**	**38.21**	**266**	*e*P	**P**	**04 22 57.8**	**+1.9**
MAT	**Matsushiro**	**38.21**	**266**	P	**P**	**04 22 57.8**	**+1.9**
MJAR	**Matsushiro Arr**	**38.21**	**266**	P	**P**	**04 22 56.3**	**+0.4**
	comp=Z,3.7nm,0.6s,baz=49,slow=6.5,SNR=11						
MJAR	**Matsushiro Arr**	**38.21**	**266**	P	**P**	**04 22 56.3**	**+0.4**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HLID	**Hailey**	**38.55**	**79**	P	**P**	**04 22 59.7**	**+0.8**
	baz=38						
MCMT	**McKenzie Canyo**	**38.81**	**76**	*e*P	**P**	**04 23 02.3**	**+1.1**
EGMT	**Eagleton**	**39.01**	**70**	P	**P**	**04 23 03.5**	**+0.8**
	baz=39,SNR=12						
EGMT	**Eagleton**	**39.01**	**70**	*e*P	**P**	**04 23 03.6**	**+1.0**
	comp=Z,8.9nm,0.6s						
BOZ	**Bozeman (W)**	**39.11**	**75**	P	**P**	**04 23 04.5**	**+0.9**
	baz=39						
BOZ	**Bozeman (W)**	**39.11**	**75**	*e*P	**P**	**04 23 05.1**	**+1.5**
	comp=Z,19nm,1.7s						
NVAR	**Mina Array Bea**	**39.13**	**88**	P	**P**	**04 23 04.7**	**+0.8**
	comp=Z,3.1nm,0.8s,baz=294,slow=8.6,SNR=18						
A19A	**Klindworth Far**	**39.16**	**69**	P	**P**	**04 23 04.2**	**+0.4**
	baz=39						
B19A	**Brinkman Farms**	**39.27**	**69**	P	**P**	**04 23 05.7**	**+1.0**
	baz=39,SNR=18						
A20A	**Cobblestone Ra**	**39.65**	**68**	P	**P**	**04 23 09.1**	**+1.2**
	baz=40,SNR=5.3						
B20A	**Solberg Farm,**	**39.81**	**69**	P	**P**	**04 23 09.6**	**+0.3**
	baz=40						
C20A	**Veseth Ranch,**	**40.19**	**70**	P	**P**	**04 23 13.3**	**+1.0**
	baz=40,SNR=12						
GCMT	**Greycliff**	**40.21**	**73**	*e*P	**P**	**04 23 14.2**	**+1.5**
	comp=Z,2.0nm,0.7s						
FFC	**Flin Flon**	**40.22**	**57**	*e*P	**P**	**04 23 13.0**	**+0.5**
	comp=Z,2.5nm,0.5s						
B21A	**Ellsworth Farm**	**40.40**	**68**	P	**P**	**04 23 14.5**	**+0.4**
	baz=40						
HVU	**Hansel Valley**	**40.55**	**80**	*e*P	**P**	**04 23 16.9**	**+1.4**
	comp=Z,40μm,0.7s						
GRAC	**Grapevine Rang**	**40.60**	**90**	P	**P**	**04 23 17.6**	**+1.7**
	baz=41						
C21A	**Desert Coulee**	**40.66**	**69**	P	**P**	**04 23 17.1**	**+0.8**
	baz=40,SNR=7.8						
A22A	**Carney Farms,**	**40.75**	**67**	P	**P**	**04 23 18.0**	**+1.0**
	baz=41						
ISA	**Isabella, Lake**	**40.77**	**92**	P	**P**	**04 23 18.6**	**+1.3**
	baz=41						
RLMT	**Red Lodge**	**40.80**	**74**	P	**P**	**04 23 18.9**	**+1.2**
	baz=41,SNR=7.8						
RLMT	**Red Lodge**	**40.80**	**74**	*e*P	**P**	**04 23 18.8**	**+1.1**
	comp=Z,7.6nm,0.9s						
R11A	**Troy Canyon, C**	**40.86**	**87**	P	**P**	**04 23 19.5**	**+1.3**
	baz=41,SNR=5.5						
R11A	**Troy Canyon, C**	**40.86**	**87**	*e*P	**P**	**04 23 19.4**	**+1.1**
	comp=Z,3.1nm,0.9s						
F20A	**Billings**	**41.10**	**72**	P	**P**	**04 23 20.8**	**+0.8**
	baz=41						
D21A	**La Casta Ranch**	**41.11**	**70**	P	**P**	**04 23 20.9**	**+0.9**
	baz=41						
MPMC	**Manual Prospec**	**41.12**	**91**	P	**P**	**04 23 22.4**	**+1.9**
	baz=41						
H19A	**Powell**	**41.22**	**74**	P	**P**	**04 23 22.7**	**+1.7**
	baz=41						
FURC	**Furnace Creek,**	**41.25**	**90**	P	**P**	**04 23 23.1**	**+1.9**
	baz=41,SNR=5.2						
TPNV	**Topopah Spring**	**41.33**	**89**	P	**P**	**04 23 23.5**	**+1.5**
	baz=41,SNR=7.2						
G20A	**Bridger**	**41.38**	**73**	P	**P**	**04 23 23.1**	**+0.8**
	baz=41,SNR=5.2						
C22A	**Vida**	**41.40**	**69**	P	**P**	**04 23 22.9**	**+0.5**
	baz=41						
BLG	**Laguna Peak, P**	**41.43**	**94**	P	**P**	**04 23 24.1**	**+1.4**
	baz=41						
DUG	**Dugway, Tooele**	**41.45**	**82**	P	**P**	**04 23 24.3**	**+1.3**
	baz=41,SNR=5.3						
DUG	**Dugway, Tooele**	**41.45**	**82**	*e*P	**P**	**04 23 24.0**	**+1.0**
	comp=Z,3.4nm,0.8s						
D22A	**Cohagen**	**41.54**	**70**	P	**P**	**04 23 24.8**	**+1.3**
	baz=41,SNR=6.9						
B23A	**Brockton**	**41.54**	**67**	P	**P**	**04 23 23.9**	**+0.4**
	baz=41						
EDW2	**Edwards Air Fo**	**41.58**	**92**	P	**P**	**04 23 25.9**	**+1.9**
	baz=42						
F21A	**Absaloka Mine,**	**41.69**	**72**	P	**P**	**04 23 25.7**	**+0.8**
	baz=42						
CN2	**Changchun**	**41.73**	**285**	*e*P	**P**	**04 23 23.1**	**-1.9**
CN2				PMZ			
	comp=Z,10.0nm,0.5s						
C23A	**Lambert**	**41.77**	**68**	P	**P**	**04 23 26.3**	**+0.9**
	baz=42						
A24A	**Westby**	**41.87**	**66**	P	**P**	**04 23 27.2**	**+1.1**
	baz=42						
H20A	**Greybull**	**41.91**	**74**	P	**P**	**04 23 27.4**	**+0.7**
	baz=42						
BW06	**Boulder Array**	**41.94**	**77**	*e*P	**P**	**04 23 27.8**	**+0.7**
	comp=Z,3.6nm,0.6s						
PDAR	**Pinedale Array**	**41.94**	**77**	P	**P**	**04 23 27.8**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=332,slow=4.2,SNR=31						
J19A	**Crowheart**	**41.96**	**76**	P	**P**	**04 23 28.3**	**+1.1**
	baz=42						
GSC	**Goldstone, Bar**

O20A **White River Ci** 44.29 79 P P 04 23 47.1 +1.0
baz=44
O20A **White River Ci** 44.29 79 *e*P P 04 23 46.6 +0.5
comp=Z,6.9nm,0.6s
K23A **Bowen Ranch, D** 44.31 75 P P 04 23 46.4 +0.3
baz=44
PDMCI **Parker Dam,Lak** 44.35 90 P P 04 23 47.9 +1.6
baz=44
H25A **Fruitdale** 44.43 71 P P 04 23 47.1 +0.2
baz=44
RSSD **Black Hills** 44.46 72 *e*P P 04 23 47.7 +0.4
comp=Z,2.6nm,0.6s
Y12C **Blythe** 44.48 91 P P 04 23 48.9 +1.5
baz=44
J24A **Dixon Ranch, L** 44.55 73 P P 04 23 48.7 +0.8
baz=44
A29A **Manning Farm,** 44.55 64 P P 04 23 48.4 +0.6
baz=44
E27A **Carson** 44.60 68 P P 04 23 48.7 +0.4
baz=44
G26A **Maurine** 44.63 70 P P 04 23 49.3 +0.7
baz=44,SNR=13
F27A **Lemmon** 44.65 69 P P 04 23 49.1 +0.5
baz=44
I25A **Rochford** 44.70 72 P P 04 23 49.5 +0.3
baz=44
D28A **Regan** 44.74 66 P P 04 23 50.2 +0.9
baz=45
H26A **Fairpoint** 44.92 71 P P 04 23 51.0 +0.1
baz=45
PV04 **Paradox Valley** 44.95 82 *e*P P 04 23 52.0 +0.7
G27A **Dupree** 44.98 69 P P 04 23 51.7 +0.5
baz=45
TJN **Taejon** 45.03 275 *d i*P P 04 23 52.3 +0.6
I26A **New Underwood** 45.21 71 P P 04 23 53.6 +0.5
baz=45
N23A **Red Feather La** 45.22 77 P P 04 23 54.4 +0.9
baz=45
WUAZ **Wupatki** 45.27 87 P P 04 23 55.3 +1.5
baz=45
WUAZ **Wupatki** 45.27 87 *e*P P 04 23 54.6 +0.8
comp=Z,3.7nm,0.7s
B30A **Myrvik Farm, E** 45.31 64 P P 04 23 54.5 +0.7
baz=45
H27A **Howes** 45.32 70 P P 04 23 54.2 +0.3
baz=45
PV01 **Paradox Valley** 45.32 82 *e*P P 04 23 55.3 +1.0
comp=Z,579nm,0.6s
F28A **McLaughlin** 45.36 68 P P 04 23 54.9 +0.6
baz=45
J26A **Sides Ranch, S** 45.50 72 P P 04 23 55.7 +0.3
baz=45
ULM **Lac du Bonnet** 45.67 60 P P 04 23 56.5 -0.1
comp=Z,2.0nm,0.4s,baz=298,slow=11,SNR=5.0
ULM **Lac du Bonnet** 45.67 60 P P 04 23 56.5 -0.1
ULM pmax pmax
comp=Z,2.0nm,0.4s
G28A **Parade** 45.74 69 P P 04 23 58.0 +0.7
baz=46
D30A **Buchanan** 45.81 66 P P 04 23 58.0 +0.1
baz=46
F29A **Eureka** 45.93 68 P P 04 23 59.3 +0.6
baz=46
MVCO **Mesa Verde** 45.95 83 P P 04 24 00.3 +1.0
baz=46
J27A **Elkhorn Farm,** 46.16 72 P P 04 24 01.5 +0.7
baz=46
I28A **Midland** 46.22 71 P P 04 24 01.4 +0.4
baz=46,SNR=5.3
F30A **Leola** 46.39 67 P P 04 24 02.4 0.0
baz=46
J28A **Allard Ranch,** 46.52 71 P P 04 24 03.8 +0.4
baz=46,SNR=5.1
S22A **4UR Ranch, Cre** 46.63 81 P P 04 24 06.1 +1.3
baz=46
I29A **Vivian Onida** 46.71 70 P P 04 24 05.0 +0.1
baz=46,SNR=5.4
214A **Organ Pipe Nat** 46.75 91 P P 04 24 06.8 +1.5
baz=47
AGMN **Agassiz Nation** 46.76 63 P P 04 24 05.3 +0.1
baz=47
AGMN **Agassiz Nation** 46.76 63 *e*P P 04 24 04.8 -0.5
comp=Z,2.9nm,0.6s
K28A **Ten Mile Ranch** 46.86 72 P P 04 24 06.8 +0.6
baz=47
J29A **Okreek** 47.06 71 P P 04 24 08.1 +0.4
baz=47,SNR=6.0
I30A **Oacoma** 47.28 70 P P 04 24 09.7 +0.4
baz=47
N27A **Anderson Farm,** 47.32 75 P P 04 24 11.0 +1.2
baz=47
SDCO **Great Sand Dun** 47.45 80 *e*P P 04 24 06.5 -4.5
comp=Z,2.4nm,0.9s
J30A **Dallas** 47.59 70 P P 04 24 12.4 +0.6
baz=47
P26A **Davis Ranch, A** 47.61 77 P P 04 24 13.3 +1.2
baz=48
TUC **Tucson** 47.76 89 *e*P P 04 24 14.8 +1.5
comp=Z,3.0nm,0.8s
K30A **Basset** 47.92 71 P P 04 24 15.5 +1.1
baz=48
O28A **Krutsinger Ran** 48.20 75 P P 04 24 17.4 +0.7
baz=48
T25A **Trinidad** 48.50 80 P P 04 24 19.5 +0.4
baz=48
ANMO **Albuquerque** 48.67 84 *e*P P 04 24 20.5 0.0
ANMO pmax pmax
comp=Z,4.0nm,1.2s
S26A **Kim** 48.76 79 P P 04 24 21.5 +0.4
baz=49
O29A **4D Ranch, Culb** 48.79 74 P P 04 24 22.0 +0.9
baz=49
Q28A **Sharon Springs** 48.84 76 P P 04 24 22.3 +0.8
baz=49
ECSD **EROS Data Cent** 49.02 68 P P 04 24 22.1 -0.7
baz=49,SNR=9.0
ECSD **EROS Data Cent** 49.02 68 *e*P P 04 24 22.3 -0.5
comp=Z,4.2nm,0.6s
P29A **Atwood** 49.03 75 P P 04 24 23.9 +0.9
baz=49
O30A **MW Ranch, Wils** 49.20 74 P P 04 24 24.9 +0.7
baz=49
EYMN **Ely** 49.35 61 P P 04 24 25.4 +0.2
baz=49
121A **Cookes Peak, D** 49.47 87 P P 04 24 27.8 +1.2
baz=49
P30A **Selden** 49.48 75 P P 04 24 27.3 +0.9
baz=49
O31A **Woolen Ranch,** 49.65 73 P P 04 24 28.4 +0.7
baz=50
S28A **Manter** 49.74 78 P P 04 24 29.2 +0.8
baz=50
N32A **Stulken Farm,** 49.87 72 P P 04 24 29.6 +0.3
baz=50
T28A **Walsh** 49.91 78 P P 04 24 30.7 +1.0
baz=50
M33A **Taylor Creek F** 50.01 71 P P 04 24 30.9 +0.5
baz=50
P31A **Stockton** 50.02 74 P P 04 24 31.1 +0.6
baz=50
L34A **Svendsen Farm,** 50.24 70 P P 04 24 32.3 +0.3
baz=50
R30A **Dighton** 50.27 76 P P 04 24 33.2 +0.8
baz=50
SONM **Songino Array** 50.28 300 P P 04 24 31.0 -1.5
comp=Z,1.8nm,0.6s,baz=50,slow=8.5,SNR=4.9
SONM PcP PcP 04 25 50.6 -0.2
comp=Z,1.8nm,0.7s,baz=34,slow=2.6,SNR=3.6
SONM **Songino Array** 50.28 300 P P 04 24 31.0 -1.5
SONM 04 25 50.6
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM pmax pmax
comp=Z,2.0nm,0.7s
Q31A **Ellis** 50.34 75 P P 04 24 33.6 +0.8
baz=50
ZAK **Zakamensk** 50.39 304 *e*P P 04 24 32.3 -0.9
ZAK pmax pmax
comp=Z,3.0nm,1.4s
P32A **Huiting Farm,** 50.41 74 P P 04 24 33.3 -0.1
baz=50
Q32A **Meitler Ranch,** 50.84 74 P P 04 24 36.9 +0.3
baz=51,SNR=5.7
U29A **Oasis Ranch, S** 50.86 78 P P 04 24 37.4 +0.5
baz=51
O34A **Beatrice** 51.18 72 P P 04 24 39.8 +0.6
baz=51
Q33A **Connelly Farm,** 51.27 74 P P 04 24 40.4 +0.5
baz=51
SUMG **Summit** 51.67 16 *i* P P 04 24 42.0 -0.9
comp=Z,2.6nm,0.4s
SUMG **Summit** 51.67 16 *i* P P 04 24 42.0 -0.9
SUMG pmax pmax
comp=Z,3.0nm,0.4s
SUMG **Summit** 51.67 16 *e*P P 04 24 42.3 -0.6
comp=Z,7.3nm,0.8s
HHC **Hu-ho-hao-te** 51.72 290 *e*P P 04 24 46.3 +3.0
HHC S S 04 32 06.5 +4.7
HHC PMZ
comp=Z,17nm,1.1s
Q34A **Chapman** 51.85 73 P P 04 24 44.9 +0.8
baz=52
R34A **Isabella, Hill** 52.07 74 P P 04 24 46.0 +0.2
baz=52
Y29A **Porterfield Fa** 52.34 81 P P 04 24 48.7 +0.7
baz=52
P36A **Good Intent, A** 52.42 71 P P 04 24 48.1 -0.3
baz=52
128A **Castleberry Fa** 52.68 83 P P 04 24 51.0 +0.4
baz=53
Z29A **Hungry Hill Ra** 52.73 82 P P 04 24 51.5 +0.6
baz=53
S35A **Otter Creek Ra** 53.03 74 P P 04 24 53.2 +0.3
baz=53
R36A **Gordon, Harris** 53.09 73 P P 04 24 54.1 +0.7
baz=53
S36A **Lake Cedric, C** 53.44 73 P P 04 24 56.1 +0.2
baz=53
Z31A **Sharp Cattle R** 53.64 81 P P 04 24 58.4 +0.9
baz=54
329A **Wagon Wheel Ra** 53.77 84 P P 04 24 59.0 +0.5
baz=54
131A **Roby** 53.93 81 P P 04 25 00.3 +0.7
baz=54
230A **Sterling City** 54.03 83 P P 04 25 01.0 +0.6
baz=54
Z32A **Haskell** 54.06 80 P P 04 25 01.1 +0.5
baz=54
Y33A **Hilltop Ranch,** 54.10 79 P P 04 25 00.9 +0.1
baz=54
X34A **Smith Ranch, M** 54.18 78 P P 04 25 02.3 +0.9
baz=54
TXAR **Lajitas Array** 54.23 87 P P 04 25 02.6 +0.6
comp=Z,2.2nm,0.7s,baz=297,slow=5.2,SNR=30
TXAR **Lajitas Array** 54.23 87 P P 04 25 02.6 +0.6
TXAR pmax pmax
comp=Z,2.0nm,0.7s
T37A **Cheneyville 18** 54.23 74 P P 04 25 01.4 -0.3
baz=54
330A **Mertzon** 54.32 83 P P 04 25 02.9 +0.4
baz=54
429A **Davenport Ranc** 54.42 84 P P 04 25 03.7 +0.4
baz=54
Z33A **Whitaker Ranch** 54.51 80 P P 04 25 04.2 +0.4
baz=54
V36A **Jenks** 54.52 75 P P 04 25 04.0 +0.1
baz=54
TUL1 **Leonard** 54.52 75 P P 04 25 03.5 -0.4
baz=54
529A **Stev Forest Ra** 54.57 85 P P 04 25 04.8 +0.4
baz=54
Y34A **Reagan Ranch,** 54.66 78 P P 04 25 05.9 +1.0
baz=54
430A **Baggett Ranch,** 54.72 84 P P 04 25 05.8 +0.4
baz=55
X35A **Drake** 54.84 77 P P 04 25 06.6 +0.4
baz=55
331A **San Angelo** 54.85 83 P P 04 25 06.5 +0.1
baz=55
133A **Hamilton Ranch** 54.88 80 P P 04 25 07.2 +0.7
baz=55
232A **Coleman** 54.93 82 P P 04 25 07.7 +0.8
baz=55
V37A **Hulbert** 54.93 75 P P 04 25 07.1 +0.2
baz=55
530A **J-C Ranch, Com** 55.10 84 P P 04 25 08.6 +0.4
baz=55,SNR=6.5
Y35A **Marietta** 55.13 78 P P 04 25 09.3 +1.0
baz=55
431A **Sonora** 55.17 83 P P 04 25 08.6 -0.1
baz=55,SNR=6.4
332A **Millersview** 55.22 82 P P 04 25 09.1 +0.1
baz=55
HDIL **Hopedale** 55.23 67 P P 04 25 08.6 -0.3
baz=55
W37A **Quinton** 55.27 76 P P 04 25 09.4 +0.1
baz=55
233A **Rising Star** 55.30 81 P P 04 25 09.6 +0.1
baz=55
531A **Rocksprings** 55.58 84 P P 04 25 12.1 +0.5
baz=56
X37A **Clayton** 55.67 76 P P 04 25 12.7 +0.5
baz=56
333A **Richland Sprin** 55.73 82 P P 04 25 12.8 +0.2
baz=56
W38A **Poteau** 55.86 75 P P 04 25 13.9 +0.4
baz=56
X38A **Whitesboro** 55.95 76 P P 04 25 14.4 +0.3
baz=56
433A **Art** 56.06 82 P P 04 25 15.6 +0.6
baz=56
631A **Perdido Creek** 56.09 84 P P 04 25 15.2 0.0
baz=56
334A **Lometa** 56.18 81 P P 04 25 16.2 +0.3
baz=56
632A **Uvalde** 56.51 84 P P 04 25 18.3 +0.1
baz=56
434A **Burnet** 56.52 81 P P 04 25 18.0 -0.3
baz=56,SNR=5.1
SFIN **Lafayette** 56.60 66 P P 04 25 18.3 -0.4
baz=56
MIAR **Mount Ida** 56.78 75 P P 04 25 20.3 +0.2
baz=57
MIAR **Mount Ida** 56.78 75 *e*P P 04 25 20.2 +0.1
comp=Z,23nm,1.8s
ZALV **Zalesovo Beam** 56.78 317 P P 04 25 18.5 -1.3
comp=Z,2.3nm,0.6s,baz=54,slow=4.7,SNR=5.9
ZALV PcP PcP 04 26 14.0 -1.2
comp=Z,3.1nm,0.7s,baz=46,slow=4.3,SNR=5.8
ZALV **Zalesovo Beam** 56.78 317 *i* P P 04 25 22.0 +2.2
ZALV pmax pmax
comp=Z,2.0nm,0.6s
SCHQ **Schefferville** 56.79 42 P P 04 25 19.4 -0.5
comp=Z,6.6nm,0.8s,baz=339,slow=4.8,SNR=8.7
436A **Wall Ranch, Ga** 57.45 80 P P 04 25 25.7 +0.9
baz=57
833A **Chaparral WMA,** 57.59 84 P P 04 25 26.7 +0.9
baz=58
ARCES **ARCESS Array B** 58.24 353 P P 04 25 28.1 -1.7
comp=Z,2.9nm,0.6s,baz=9.3,slow=7.5,SNR=24
ARCES PcP PcP 04 26 19.7 -1.0
comp=Z,1.3nm,0.4s,baz=25,slow=4.7,SNR=6.2
ARCES **ARCESS Array B** 58.24 353 P P 04 25 28.1 -1.7
ARCES 04 26 19.7
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES pmax pmax
comp=Z,1.0nm,0.4s
ARE0 **ARCESS Array S** 58.24 353 *e*P P 04 25 28.1 -1.7
TRO **Tromso** 58.55 356 *e*P P 04 25 30.0 -1.9
934A **Benavides** 58.64 84 P P 04 25 34.7 +1.5
baz=59
KTK1 **Kautokeino** 58.92 354 *e*P P 04 25 33.4 -1.2
GTA **Gaotai** 59.39 296 *e*P P 04 25 37.9 -0.5
GTA pP pP 04 25 42.3 -8.4
GTA PMZ
comp=Z,9.0nm,0.8s
LZH **Lanzhou** 59.40 291 *e*P P 04 25 39.1 +0.5
LZH pP pP 04 25 49.8 -1.1
LZH sP sP 04 25 54.5 -1.3
LZH *e*PP PP 04 27 52.3 +2.6
LZH PMZ
comp=Z,23nm,1.2s
LZH PMZ
comp=Z,65nm,7.5s
LZH LN
comp=Z,280nm,15.2s
LZH LE
comp=Z,260nm,15.0s
LZH LZ
comp=Z,370nm,18.4s
ENH **Enshi** 60.13 282 *e*P P 04 25 42.7 -0.8
comp=Z,7.4nm,0.5s
STEI **Steigen** 60.40 357 *e*P P 04 25 43.6 -1.0
KURK **Kurchatov** 61.75 317 P P 04 25 53.6 -0.6
KURK pmax pmax
comp=Z,8.0nm,0.7s
KURK **Kurchatov** 61.75 317 *e*P P 04 25 53.6 -0.6
WMQ **Urumqi** 62.66 307 *e*P P 04 26 06.6 +6.1
MK31 **Makanchi Array** 63.06 312 P P 04 26 01.9 -1.1
MK31 pmax pmax
comp=Z,1.0nm,0.3s
CD2 **Chengdu** 63.12 286 *e*P P 04 26 05.3 +1.7
CD2 PMZ
comp=Z,10.0nm,0.5s
BVA0 **Borovoye Array** 63.23 323 *i* P P 04 26 03.6 -0.4
BVA0 pmax pmax
comp=Z,19nm,0.5s
BVAR **Borovoye Array** 63.23 323 P P 04 26 03.8 -0.2
comp=Z,20nm,0.5s,baz=52,slow=6.2,SNR=66
BVAR PcP PcP 04 26 41.4 +0.3
comp=Z,7.6nm,0.5s,baz=46,slow=2.6,SNR=8.8
BVAR **Borovoye Array** 63.23 323 P P 04 26 03.8 -0.2
BVAR 04 26 41.4
BVAR pmax pmax
comp=Z,20nm,0.5s
BVAR pmax pmax
comp=Z,8.0nm,0.5s
BRVK **Borovoye** 63.25 323 *c i*P P 04 26 03.8 -0.3
BRVK pmax pmax
comp=Z,20nm,0.7s
BRVK **Borovoye** 63.25 323 *e*P P 04 26 04.2 +0.1
KMSC **Kings Mountain** 63.51 66 P P 04 26 06.2 +0.1
baz=63
NSS **Namsos** 63.89 358 *e*P P 04 26 06.3 -1.9
ARU **Arti** 64.37 332 *d i*P P 04 26 10.5 -0.9
ARU 04 28 31.6
ARU S S 04 34 48.0 +1.7
ARU pmax pmax
comp=Z,10.0nm,0.3s
ARU **Arti** 64.37 332 *e*P P 04 26 11.0 -0.4
FINES **FINESS Array B** 66.13 351 P P 04 26 21.1 -1.6
comp=Z,1.4nm,0.3s,baz=12,slow=6.7,SNR=14
FINES PcP PcP 04 26 52.0 -0.8
comp=Z,0.7nm,0.3s,baz=66,slow=4.7,SNR=4.2
NB2 **NORSAR Subarra** 67.41 358 P P 04 26 29.6 -1.4
comp=Z,2.1nm,0.5s,baz=2.6,slow=6.5
NB2 **NORSAR Subarra** 67.41 358 P P 04 26 29.6 -1.4
baz=2.6,slow=6.5
NOA **NORSAR Array B** 67.41 358 P P 04 26 29.5 -1.5
comp=Z,2.6nm,0.6s,baz=2.2,slow=6.3,SNR=21
NOA **NORSAR Array B** 67.41 358 P P 04 26 29.5 -1.4
NOA pmax pmax
comp=Z,3.0nm,0.6s
KMI **Kunming** 67.96 283 P P 04 26 35.9 +0.7
KMI PMZ
comp=Z,20nm,0.5s
TKM2 **Tokmak 2** 69.08 313 P P 04 26 42.2 +0.3
SNR=6.8
TKM2 **Tokmak 2** 69.08 313 *i* P P 04 26 40.8 -1.2
TKM2 pmax pmax
comp=Z,8.0nm,0.9s
USP **Ospenovka** 69.30 314 P P 04 26 43.2 +0.1
SNR=10
KBK **Karagaybulak** 69.58 314 P P 04 26 45.0 0.0
SNR=8.5
AKTO **Aktyubinsk** 69.68 329 P P 04 26 45.1 -0.2
comp=Z,36nm,0.5s,baz=49,slow=6.7,SNR=46
AKTO **Aktyubinsk** 69.68 329 P P 04 26 45.1 -0.2
AKTO pmax pmax
comp=Z,36nm,0.5s
AAK **Ala-Archa** 69.80 314 P P 04 26 46.5 +0.1
SNR=6.4
AAK **Ala-Archa** 69.80 314 P P 04 27 00.1 +14
comp=Z,16nm,0.7s,baz=108,slow=2.7,SNR=16
AAK **Ala-Archa** 69.80 314 P P 04 26 45.9 -0.5
AAK pmax pmax
comp=Z,16nm,0.8s
KZA **Kyzart** 69.91 313 P P 04 26 47.5 +0.2
SNR=5.5
AB31 **Akbulak array** 70.06 327 *e*P P 04 26 47.3 -0.3
AB31 pmax pmax
comp=Z,8.0nm,0.4s
ABKAR **Akbulak array** 70.06 327 *e*P P 04 26 47.1 -0.5
comp=Z,13nm,0.5s
EKS2 **Erkin-Say** 70.10 314 P P 04 26 48.5 +0.4
SNR=14
EKS2 **Erkin-Say** 70.10 314 *e*P P 04 26 48.1 0.0
comp=Z,19nm,0.9s
AML **Almayashu** 70.56 314 P P 04 26 52.0 +0.7
SNR=7.8
OBN **Obninsk** 70.81 343 *e*P P 04 26 51.6 -0.4
OBN *e* 04 29 28.0
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,409nm,17.0s
KK31 **Karatay Array** 71.16 317 *i* P P 04 26 53.5 -0.9
KK31 pmax pmax
comp=Z,8.0nm,0.6s
KKAR **Karatay Array** 71.16 317 *e*P P 04 26 54.1 -0.3
comp=Z,4.9nm,0.7s
TAPN **Taplejung** 75.07 295 *e*P P 04 27 18.3 +0.2
comp=Z,50nm,0.7s
CMAR **Chiang Mai Arr** 75.28 281 P P 04 27 19.4 +0.3
comp=Z,2.5nm,0.4s,baz=32,slow=6.4,SNR=11
CMAR **Chiang Mai Arr** 75.28 281 *i* P P 04 27 20.0 +0.9
CMAR pmax pmax
comp=Z,3.0nm,0.4s
ODAN **Odare** 75.62 295 *e*P P 04 27 20.7 -0.5
comp=Z,23nm,0.7s
GUN **Gumba** 75.65 297 *e*P P 04 27 21.8 +0.3
comp=Z,64nm,0.5s
RAMN **Ramite** 76.00 296 *e*P P 04 27 23.4 0.0
comp=Z,93nm,0.7s
KKN **Kakani** 76.08 297 *e*P P 04 27 24.0 +0.2
comp=Z,32nm,0.5s
PKI **Pulchoki** 76.18 297 *e*P P 04 27 24.3 -0.2
PKIN **Phulchoki** 76.18 297 *e*P P 04 27 24.7 +0.3
AKASG **Malin Array Be** 76.26 346 P P 04 27 21.9 -2.2
comp=Z,1.3nm,0.3s,baz=13,slow=5.7,SNR=6.1
AKASG **Malin Array Be** 76.26 346 P P 04 27 21.9 -2.2
AKASG pmax pmax
comp=Z,1.0nm,0.3s
GKN **Gorkha** 76.26 298 *e*P P 04 27 24.6 -0.2
comp=Z,50nm,0.6s
DMN **Daman** 76.31 297 *e*P P 04 27 25.3 +0.1
comp=Z,16nm,0.5s
KOLN **Koldanda** 77.01 298 *e*P P 04 27 28.7 -0.4
comp=Z,23nm,0.5s
CLL **Collm** 77.11 357 *e*P P 04 27 29.0 +0.1
comp=Z,4.0nm,0.5s
CLL **Collm** 77.11 357 *e*P P 04 27 29.0 +0.1
CLL pmax pmax
comp=Z,4.0nm,0.5s
BRG **Berggiesshubel** 77.51 356 *e*P P 04 27 27.1 -4.1
comp=Z,2.1nm,0.8s
BRG **Berggiesshubel** 77.51 356 *e*P P 04 27 27.1 -4.1
BRG pmax pmax
comp=Z,2.0nm,0.8s
UPC **Upice** 77.78 355 *e*P P 04 27 32.1 -0.6
UPC **Upice** 77.78 355 *e*P P 04 27 32.1 -0.6
DPC **Dobruska-Polom** 77.92 355 *e*P P 04 27 33.3 -0.2
DPC *ex* x 04 27 35.2
DPC **Dobruska-Polom** 77.92 355 *e*P P 04 27 33.3 -0.2
PRU **Pruhonice** 78.37 356 *e*P P 04 27 35.9 -0.1
PRU **Pruhonice** 78.37 356 *e*P P 04 27 35.9 -0.1
GOPC **GO Pecny, Ondr** 78.43 356 *e*P P 04 27 36.2 -0.1
KBL **Kabul** 78.86 313 *e*P P 04 27 38.3 -0.9
comp=Z,5.7nm,0.6s
KHC **Kasperske Hory** 79.27 356 *e*P P 04 27 40.7 -0.3
KHC *e*PCP PcP 04 27 50.0 +0.9
KHC **Kasperske Hory** 79.27 356 *e*P P 04 27 40.7 -0.3
KHC *e* 04 27 50.0
GERES **GERESS Array B** 79.55 356 P P 04 27 41.7 -0.8
comp=Z,1.3nm,0.6s,baz=20,slow=6.3,SNR=10
GERES **GERESS Array B** 79.55 356 P P 04 27 41.7 -0.8
GERES pmax pmax
comp=Z,1.0nm,0.6s
BURAR **Bucovina Array** 79.83 348 ⇓*e*P P 04 27 43.2 -0.9
BURAR **Bucovina Array** 79.83 348 ⇓*i*P P 04 27 43.2 -0.9
KIV **Kislovodsk** 80.01 336 *e*P P 04 27 45.8 +0.6
KIV pmax pmax
comp=Z,12nm,0.9s
KBZ **Khabaz** 80.17 335 P P 04 27 45.3 -0.5
comp=Z,2.7nm,0.5s,baz=88,slow=3.4,SNR=4.9
KBZ **Khabaz** 80.17 335 P P 04 27 45.3 -0.5
KBZ pmax pmax
comp=Z,3.0nm,0.5s
DRGR 80.93 350 ⇓P P 04 27 49.2 -0.8
DRGR 80.93 350 ⇓*i*P P 04 27 49.2 -0.8

CFR	**Carcaliu**	**81.81 346**	⇑P		**P**	**04 27 54.7**	**+0.1**
CFR	**Carcaliu**	**81.81 346**	⇑*i*P		**P**	**04 27 54.7**	**+0.1**
MLR	**Muntele Rosu**	**81.82 348**	⇓P		**P**	**04 27 55.2**	**+0.4**
MLR	**Muntele Rosu**	**81.82 348**	⇓*i*P		**P**	**04 27 55.2**	**+0.4**
TIRR	**Tirgusor**	**82.47 346**	⇑P		**P**	**04 27 57.6**	**-0.5**
TIRR	**Tirgusor**	**82.47 346**	⇑*i*P		**P**	**04 27 57.6**	**-0.5**
WRA	**Warramunga Arr**	**85.56 230**	P		**P**	**04 28 13.9**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=35,slow=5.7,SNR=7.0						
WRA	**Warramunga Arr**	**85.56 230**	*i* P		**P**	**04 28 13.6**	**-0.4**
MMB	**Musomiste**	**85.94 348**	⇑P		**P**	**04 28 15.8**	**0.0**
MMB	**Musomiste**	**85.94 348**	⇑*i*P		**P**	**04 28 15.8**	**0.0**
BR131	**Keskin Array S**	**86.12 341**	*e*P		**P**	**04 28 15.8**	**-1.1**
	comp=Z,0.9nm,0.5s						
BRTR	**Keskin Array B**	**86.12 341**	P		**P**	**04 28 15.8**	**-1.1**
	comp=Z,2.3nm,0.6s,baz=35,slow=3.4,SNR=11						
BRTR	**Keskin Array B**	**86.12 341**	P		**P**	**04 28 15.8**	**-1.1**
BRTR			pmax	pmax			
	comp=Z,2.0nm,0.6s						
ESDC	**Sonseca Array**	**88.20 9**	P		**P**	**04 28 25.1**	**-1.7**
	comp=Z,1.7nm,0.6s,baz=348,slow=4.8,SNR=11						
ASAR	**Alice Springs**	**88.97 228**	P		**P**	**04 28 31.1**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=27,slow=4.9,SNR=12						
ASAR	**Alice Springs**	**88.97 228**	P		**P**	**04 28 31.1**	**+0.7**
ASAR			pmax	pmax			
	comp=Z,1.0nm,0.6s						
PALK	**Pallekele**	**94.98 288**	*i* P		**P**	**04 28 56.8**	**-1.8**
TORD	**Torodi Ar. Bea**	**115.00 7**	PKP	PKPdf		04 34 15.9	-0.9
	comp=Z,0.5nm,0.6s,baz=350,slow=2.5,SNR=7.8						
TSUM	**Tsumeb**	**146.58 344**	PKPbc	**PKPab**		**04 35 17.7**	**-0.6**
LBTB	**Lobatse**	**150.09 327**	*e*PKPbc	**PKPbc**		**04 35 27.2**	**+0.8**
BOSA	**Boshof**	**153.51 325**	PKPbc	**PKPbc**		**04 35 34.3**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=357,slow=1.9,SNR=14						
BOSA	**Boshof**	**153.51 325**	PKIKP	**PKPbc**		**04 35 34.3**	**+0.2**
BOSA			pmax	pmax			
	comp=Z,2.0nm,0.3s						

*CSEM **24** 04:19:02.7±0.3, 43.°04N×18.°00E, h2km, ML2.0, Error ellipse: s-maj=7.6km s-min=6.6km az=5.0*

BEO 24 04:19:01.5±0.6, 43.°08N×17.°83E, h14km±5km, ML2.0/4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.23**	**205**	*i* Pg	Pb	04 19 07.2	-0.3
STON				Sg	Sb	04 19 11.6	+0.2
STON	**Ston**	**0.23**	**205**	*e*Pg	Pb	04 19 07.2	-0.2
STON				*i* Sg	Sb	04 19 11.7	+0.3
STON	**Ston**	**0.23**	**205**	*e*Pg	Pb	04 19 07.2	-0.2
STON				*i* Sg	Sb	04 19 11.7	+0.3
TREB	**Trebinje**	**0.53**	**133**	*i* Pg	Pg	04 19 10.9	-1.0
TREB				*e*Sg	Sg	04 19 18.4	-0.6
TREB	**Trebinje**	**0.53**	**133**	*i* Pg	Pg	04 19 10.9	-1.0
TREB				*e*Sg	Sg	04 19 18.4	-0.6
PDG	**Podgorica**	**1.23**	**121**	*e*Pg	Pn	04 19 24.4	+0.1
PDG				*e*Sg	Sg	04 19 42.9	+1.6
PDG	**Podgorica**	**1.23**	**121**	*e*Pg	Pn	04 19 24.4	+0.1
BBLS	**Lazići**	**1.39**	**55**	*e*Pg	Pn	04 19 26.8	+0.2
BBLS				*e*Sg	Sg	04 19 46.1	-0.4
BBLS	**Lazići**	**1.39**	**55**	*e*Pg	Pn	04 19 26.8	+0.2
BBLS				*e*Sg	Sg	04 19 46.1	-0.4
SJES	**Sjenica**	**1.58**	**83**	*e*Pg	Pb	04 19 30.3	-0.4
SJES				*e*Sg	Sg	04 19 52.0	-0.7
IVAS	**Ivanjica**	**1.77**	**73**	*e*Pg	Pb	04 19 33.6	-0.2
IVAS				*e*Sg	Sb	04 19 55.9	0.0
IVAS	**Ivanjica**	**1.77**	**73**	*e*Pg	Pb	04 19 33.6	-0.2
IVAS				*e*Sg	Sb	04 19 55.9	0.0
UDBI	**Udbina**	**2.08**	**315**	*i* Pn	Pg	04 19 40.8	-0.7
UDBI				Sn	Sg	04 20 08.6	0.0
UDBI	**Udbina**	**2.08**	**315**	*i* Pn	Pg	04 19 40.8	-0.7
UDBI				Sn	Sg	04 20 08.6	0.0
NVLJ	**Novalja**	**2.60**	**306**	*e*Pn	Pb	04 19 46.6	-1.4
NVLJ				Sn	Sg	04 20 22.6	-2.6
NVLJ	**Novalja**	**2.60**	**306**	*e*Pn	Pb	04 19 46.5	-1.4
NVLJ				Sn	Sg	04 20 22.6	-2.6

*CSEM **24** 04:25:02.3, 43.°71N×12.°23E, h8km, ML1.0/5*

ROM 24 04:25:02.3±0.1, 43.°71N×12.°23E, h8km, Ml1.0/5, Error ellipse: s-maj=1.5km s-min=0.6km az=17.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PARC	**Parchiule**	**0.06**	**177**	Pg	Pg	04 25 04.6	+0.4
PARC				Sg	Sg	04 25 05.8	+0.3
PARC	**Parchiule**	**0.06**	**177**	Pg	Pg	04 25 04.6	+0.4
PARC				Sg	Sg	04 25 05.8	+0.3
BADI	**Badiali**	**0.20**	**178**	Pg	Pg	04 25 07.2	+0.8
BADI				Sg	Sg	04 25 10.4	+1.2
BADI	**Badiali**	**0.20**	**178**	Pg	Pg	04 25 07.2	+0.8
BADI				Sg	Sg	04 25 10.4	+1.2
CRE	**Caprese Michel**	**0.22**	**247**	Pg	Pg	04 25 07.7	+0.7
CRE				Sg	Sg	04 25 11.4	+1.2
	8.0nm,0.5s						
CRE	**Caprese Michel**	**0.22**	**247**	Pg	Pg	04 25 07.7	+0.7
CRE				Sg	Sg	04 25 11.4	+1.2
	8.0nm,0.5s						
PIEI	**Pieia**	**0.28**	**128**	Pg	Pg	04 25 08.6	+0.7
PIEI				Sg	Sb	04 25 13.4	-1.1
	14nm,0.1s						
PIEI	**Pieia**	**0.28**	**128**	Pg	Pg	04 25 08.6	+0.7
PIEI				Sg	Sb	04 25 13.4	-1.1
	14nm,0.1s						
ATPC	**Poggio Castell**	**0.28**	**144**	Pg	Pb	04 25 08.8	-0.8
ATPC				Sg	Sb	04 25 13.8	-0.7
	23nm,0.4s						
ATPC	**Poggio Castell**	**0.28**	**144**	Pg	Pb	04 25 08.8	-0.8
ATPC				Sg	Sb	04 25 13.8	-0.7
	23nm,0.4s						
ATPI	**Pietralunga -**	**0.28**	**155**	Pg	Pg	04 25 08.8	+0.8
ATPI				Sg	Sb	04 25 13.7	-1.0
	17nm,0.4s						
ATPI	**Pietralunga -**	**0.28**	**155**	Pg	Pg	04 25 08.8	+0.8
ATPI				Sg	Sb	04 25 13.7	-1.0
	17nm,0.4s						
ATVO	**AVT- Monte Val**	**0.35**	**159**	Pg	Pg	04 25 10.0	+0.8
ATVO				Sg	Sb	04 25 15.8	-0.8
	17nm,0.4s						
ATVO	**AVT- Monte Val**	**0.35**	**159**	Pg	Pg	04 25 10.0	+0.8
ATVO				Sg	Sb	04 25 15.8	-0.8
	17nm,0.4s						

*DDA **24** 04:33:33.0, 38.°56N×40.°57E, h23km, MD3.3*
*ISK **24** 04:33:32.8, 38.°57N×40.°62E, h3km, ML3.5*
*CSEM **24** 04:33:33.6±0.1, 38.°54N×40.°61E, h2km, ML3.5, Error ellipse: s-maj=4.2km s-min=3.5km az=174.0*

ISC 24 04:33:34.1±1.0, 38.°53N±0.°02×40.°58E±0.°02, h8km±9km, n101, σ1°23/135, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BINT	**Bingol**	**0.35**	**348**	*i* Pg	**Pb**	**04 33 41.6**	**-1.1**
BNGB	**Bing¶ll**	**0.47**	**10**	PG	**Pg**	**04 33 41.6**	**-1.6**
BNGL	**BINGOL**	**0.61**	**47**	*i* P	**Pg**	**04 33 44.3**	**-1.7**
BNGL				*i* S	**Sg**	**04 33 54.0**	**0.0**
SVAN	**Silvan-Diyarba**	**0.62**	**128**	*e*PG	**Pg**	**04 33 45.6**	**-0.5**
SVAN				*e*SG	**Sg**	**04 33 54.8**	**+0.6**
DYBB	**Diyarbakir**	**0.67**	**211**	*e*Pg	**Pg**	**04 33 47.0**	**-0.1**
DIY	**Diyarbakir**	**0.69**	**204**	*e*Pg	**Pg**	**04 33 47.0**	**-0.5**
DIYA	**Diyarbakir**	**0.71**	**211**	*i* P	**Pg**	**04 33 47.7**	**0.0**
DIYA				*i* S	**Sb**	**04 33 58.4**	**-0.2**
DIYA	**Diyarbakir**	**0.71**	**211**	*i* P	**Pg**	**04 33 47.7**	**0.0**
BTMT	**Batman**	**0.79**	**115**	*e*PG	**Pg**	**04 33 49.0**	**-0.3**
BTMT	**Batman**	**0.79**	**115**	*e*Pg	**Pg**	**04 33 49.0**	**-0.3**
BEST	**Besiri**	**0.84**	**139**	*i* P	**Pg**	**04 33 50.1**	**-0.1**
BEST				*i* S	**Sb**	**04 34 02.6**	**+0.1**
VRTB	**Varto-Mus**	**0.93**	**47**	*e*PG	**Pg**	**04 33 50.4**	**-1.6**
VRTB	**Varto-Mus**	**0.93**	**47**	*e*Pg	**Pg**	**04 33 50.4**	**-1.6**
MAZI	**Mazidag**	**1.08**	**186**	*e*PN	**Pb**	**04 33 54.8**	**-0.2**
MAZI	**Mazidag**	**1.08**	**186**	*e*Pn	**Pb**	**04 33 54.8**	**-0.2**
MARD	**Mardin**	**1.23**	**173**	*i* P	**Pn**	**04 33 56.6**	**-1.1**
MARD				*i* S	**Sg**	**04 34 13.6**	**+0.1**
ELZG	**Elazig**	**1.25**	**269**	*i* P	**Pn**	**04 33 55.9**	**-2.2**
ELZG				*i* S	**Sn**	**04 34 14.9**	**-0.3**
ELZG	**Elazig**	**1.25**	**269**	*i* P	**Pn**	**04 33 55.9**	**-2.2**
ELZG				*i* S	**Sn**	**04 34 14.9**	**-0.3**
TATV	**Tatvan**	**1.32**	**91**	*i* P	**Pn**	**04 33 57.9**	**-1.2**
TATV				*i* S	**Sn**	**04 34 16.8**	**-0.2**
TATV	**Tatvan**	**1.32**	**91**	*i* P	**Pn**	**04 33 57.9**	**-1.2**
TATV				*i* S	**Sn**	**04 34 16.8**	**-0.2**

EUZM	**Uzumlu**	**1.36**	**330**	*i* P	**Pn**	**04 33 58.2**	**-1.3**
EUZM				*i* S	**Sn**	**04 34 17.0**	**-0.8**
EUZM	**Uzumlu**	**1.36**	**330**	*i* Pn	**Pn**	**04 33 58.2**	**-1.3**
EUZM				*i* S	**Sn**	**04 34 17.0**	**-0.8**
EKAR	**Karacoban**	**1.37**	**58**	*i* P	**Pn**	**04 33 59.0**	**-0.7**
EKAR				*i* S	**Sg**	**04 34 23.5**	**+5.4**
EKAR	**Karacoban**	**1.37**	**58**	*i* P	**Pn**	**04 33 59.0**	**-0.7**
KOPT	**Kop Dagi**	**1.48**	**358**	*i* P	**Pn**	**04 34 00.5**	**-0.9**
KOPT				*i* S	**Sg**	**04 34 22.9**	**+1.0**
KOPT	**Kop Dagi**	**1.48**	**358**	*i* P	**Pn**	**04 34 00.5**	**-0.9**
KOPT				*i* S	**Sg**	**04 34 22.9**	**+1.0**
EZM	**Erzurum**	**1.50**	**24**	*e*PN	**Pn**	**04 34 00.7**	**-0.9**
ERZM	**Erzurum**	**1.50**	**24**	*i* P	**Pn**	**04 33 59.9**	**-1.7**
ERZM	**Erzurum**	**1.50**	**24**	*i* Pn	**Pn**	**04 33 59.9**	**-1.7**
MALT	**Malatya**	**1.70**	**263**	*e*PN	**Pb**	**04 34 04.9**	**-0.9**
MALT	**Malatya**	**1.70**	**263**	*e*Pn	**Pb**	**04 34 04.9**	**-0.9**
SIRN	**S¨¨rnak**	**1.78**	**125**	*i* P	**Pn**	**04 34 03.6**	**-1.7**
SIRN				*i* S	**Sb**	**04 34 29.9**	**+0.4**
SIRN	**S¨¨rnak**	**1.78**	**125**	*i* P	**Pn**	**04 34 03.6**	**-1.7**
KEMA	**Kemaliye**	**1.79**	**295**	*i* P	**Pn**	**04 34 04.1**	**-1.3**
KEMA				*i* S	**Sg**	**04 34 35.3**	**+3.8**
KEMA	**Kemaliye**	**1.79**	**295**	*i* P	**Pn**	**04 34 04.1**	**-1.3**
SIRT	**Sirnak**	**1.79**	**124**	*e*PN	**Pn**	**04 34 05.7**	**+0.2**
SIRT	**Sirnak**	**1.79**	**124**	*e*Pn	**Pn**	**04 34 05.7**	**+0.2**
HOMI	**Horasan**	**1.83**	**34**	*i* P	**Pb**	**04 34 06.7**	**-1.3**
HOMI				*i* S	**Sg**	**04 34 35.9**	**+3.0**
KELT	**Kelkit**	**1.91**	**328**	*i* P	**Pn**	**04 34 06.8**	**-0.4**
KELT				*i* S	**Sg**	**04 34 34.9**	**-0.7**
KELT	**Kelkit**	**1.91**	**328**	*i* P	**Pn**	**04 34 06.8**	**-0.4**
KELT				*i* S	**Sg**	**04 34 34.9**	**-0.7**
TUTA	**Tutak**	**1.95**	**63**	*i* P	Pg	04 34 19.4	+7.9
TUTA				*i* S	**Sg**	04 34 49.6	+12
GEVA	**Gevas**	**1.96**	**96**	*i* P	**Pn**	**04 34 08.0**	**+0.2**
GEVA				*i* S	**Sg**	**04 34 36.5**	**-0.6**
GEVA	**Gevas**	**1.96**	**96**	*i* P	**Pn**	**04 34 08.0**	**+0.2**
GEVA				*i* S	**Sg**	**04 34 36.5**	**-0.6**
EATA	**Eleskirt**	**1.99**	**48**	*i* P	**Pb**	**04 34 09.4**	**-1.4**
EATA				*i* S	**Sg**	**04 34 38.0**	**-0.2**
EATA	**Eleskirt**	**1.99**	**48**	*i* P	**Pb**	**04 34 09.4**	**-1.4**
EATA				*i* S	**Sg**	**04 34 38.0**	**-0.2**
ATAB	**Bozova**	**2.09**	**240**	*i* P	**Pn**	**04 34 09.9**	**+0.4**
ATAB				*i* S	**Sn**	**04 34 34.9**	**-0.9**
ATAB	**Bozova**	**2.09**	**240**	*i* P	**Pn**	**04 34 09.9**	**+0.4**
ATAB				*i* S	**Sn**	**04 34 34.9**	**-0.9**
AKCD	**Akcadag**	**2.10**	**264**	*i* P	**Pn**	**04 34 09.3**	**-0.4**
AKCD				*i* S	**Sg**	**04 34 40.8**	**-0.8**
AKCD	**Akcadag**	**2.10**	**264**	*i* P	**Pn**	**04 34 09.3**	**-0.4**
AKCD				*i* S	**Sg**	**04 34 40.8**	**-0.8**
AGRB	**Hanur-Agry**	**2.15**	**60**	*e*PN	**Pn**	**04 34 10.0**	**-0.4**
AGRB	**Hanur-Agry**	**2.15**	**60**	*e*Pn	**Pn**	**04 34 10.0**	**-0.4**
VANB	**Van**	**2.20**	**87**	*e*PN	**Pn**	**04 34 10.9**	**-0.2**
VANB	**Van**	**2.20**	**87**	*e*Pn	**Pn**	**04 34 10.9**	**-0.2**
TVAN	**Van**	**2.22**	**89**	*i* P	**Pb**	**04 34 13.7**	**-0.9**
TVAN				*i* S	**Sg**	**04 34 47.1**	**+1.7**
TVAN	**Van**	**2.22**	**89**	*i* P	**Pb**	**04 34 13.7**	**-0.9**
DARE	**Darende-Malaty**	**2.43**	**272**	*e*PN	**Pn**	**04 34 15.1**	**+0.9**
DARE	**Darende-Malaty**	**2.43**	**272**	*e*Pn	**Pn**	**04 34 15.1**	**+0.9**
SUSE	**Susehri**	**2.49**	**313**	*i* P	**Pb**	**04 34 19.3**	**+0.1**
SUSE	**Susehri**	**2.49**	**313**	*i* P	**Pb**	**04 34 19.3**	**+0.1**
DDEM	**Demirkent**	**2.52**	**21**	*i* P	**Pn**	**04 34 15.6**	**+0.1**
DDEM				*i* S	**Pg**	**04 34 24.7**	**+2.2**
DDEM	**Demirkent**	**2.52**	**21**	*i* P	**Pn**	**04 34 15.6**	**+0.1**
KTUT	**Trabzon**	**2.53**	**346**	*e*PN	**Pn**	**04 34 15.8**	**+0.3**
KTUT	**Trabzon**	**2.53**	**346**	*e*Pn	**Pn**	**04 34 15.8**	**+0.3**
DBAD	**Bademkaya**	**2.63**	**19**	*i* P	**Pn**	**04 34 17.6**	**+0.6**
DBAD				*i* S	**Pg**	**04 34 26.5**	**+2.0**
DBAD	**Bademkaya**	**2.63**	**19**	*i* P	**Pn**	**04 34 17.6**	**+0.6**
HAKT	**HAKKARI**	**2.65**	**111**	*i* P	**Pn**	**04 34 16.7**	**-0.7**
HAKT				*i* S	**Sg**	**04 35 03.1**	**+3.7**
HAKT	**HAKKARI**	**2.65**	**111**	*i* P	**Pn**	**04 34 16.7**	**-0.7**
HKR	**Hakkari**	**2.67**	**110**	*e*PN	**Pn**	**04 34 18.1**	**+0.5**
HKR	**Hakkari**	**2.67**	**110**	*e*Pn	**Pn**	**04 34 18.1**	**+0.5**
CLDR	**Caldiran**	**2.68**	**76**	*e*PN	**Pn**	**04 34 17.6**	**-0.1**
CLDR	**Caldiran**	**2.68**	**76**	*e*Pn	**Pn**	**04 34 17.6**	**-0.1**
CUKT	**Cukurca**	**2.72**	**117**	*e*PN	**Pn**	**04 34 18.8**	**+0.6**
CUKT	**Cukurca**	**2.72**	**117**	*e*Pn	**Pn**	**04 34 18.8**	**+0.6**
DAGI	**Agillar**	**2.74**	**22**	*i* P	**Pn**	**04 34 18.5**	**0.0**
ESPY	**Espiye-Giresun**	**2.78**	**330**	*e*PN	**Pn**	**04 34 19.6**	**+0.7**
ESPY	**Espiye-Giresun**	**2.78**	**330**	*e*Pn	**Pn**	**04 34 19.6**	**+0.7**
ARTV	**Artvin**	**2.85**	**21**	*i* P	**Pn**	**04 34 20.5**	**+0.4**
ARTV	**Artvin**	**2.85**	**21**	*i* P	**Pn**	**04 34 20.5**	**+0.4**
KARS	**Kars**	**2.85**	**42**	*e*PN	**Pn**	**04 34 20.1**	**+0.1**
KARS	**Kars**	**2.85**	**42**	*e*Pn	**Pn**	**04 34 20.1**	**+0.1**
DBOC	**Borcka**	**2.93**	**16**	*i* P	**Pn**	**04 34 20.9**	**-0.1**
DBOC	**Borcka**	**2.93**	**16**	*i* P	**Pn**	**04 34 20.9**	**-0.1**
GRSN	**GIRESUNGRSN**	**2.98**	**324**	*i* P	**Pb**	**04 34 27.8**	**+0.3**
BCA	**Borcka**	**3.02**	**15**	*e*PN	**Pn**	**04 34 21.9**	**-0.3**
BCA	**Borcka**	**3.02**	**15**	*e*Pn	**Pn**	**04 34 21.9**	**-0.3**
KMRS	**Kahramanmaras**	**3.08**	**252**	*e*PN	**Pn**	**04 34 24.6**	**+1.5**
KMRS	**Kahramanmaras**	**3.08**	**252**	*e*Pn	**Pn**	**04 34 24.6**	**+1.5**
SVSK	**Karacayir**	**3.11**	**298**	*e*PN	**Pn**	**04 34 25.0**	**+1.6**
SVSK	**Karacayir**	**3.11**	**298**	*e*Pn	**Pn**	**04 34 25.0**	**+1.6**
RSDY	**Resadiye-TOKAT**	**3.13**	**308**	*e*PN	**Pn**	**04 34 24.8**	**+1.0**
RSDY	**Resadiye-TOKAT**	**3.13**	**308**	*e*Pn	**Pn**	**04 34 24.8**	**+1.0**
HCB	**Kahramanmara¯**	**3.13**	**249**	*i* P	**Pn**	**04 34 22.8**	**-1.1**
HCB				*i* S	**Sg**	**04 35 12.9**	**-1.9**
KUZU	**Kuzuini**	**3.29**	**239**	*i* P	**Pb**	**04 34 33.2**	**+0.4**
KUZU				*i* S	**Sg**	**04 35 18.7**	**-1.1**
KAMA	**Osmaniye**	**3.37**	**248**	*i* P	**Pn**	**04 34 25.5**	**-1.6**
KAMA				*i* S	**Sg**	**04 35 21.2**	**-1.3**
ANDN	**Andirin**	**3.47**	**255**	*i* P	**Pb**	**04 34 37.5**	**+1.6**
ANDN				*i* S	**Sg**	**04 35 25.7**	**0.0**
TOKT	**Tokat**	**3.60**	**301**	*e*PN	**Pn**	**04 34 31.5**	**+1.2**
TOKT	**Tokat**	**3.60**	**301**	*e*Pn	**Pn**	**04 34 31.5**	**+1.2**
KOZT	**Kozan**	**3.90**	**256**	*e*PN	**Pn**	**04 34 36.4**	**+2.1**
KOZT	**Kozan**	**3.90**	**256**	*e*Pn	**Pn**	**04 34 36.4**	**+2.1**
CEYT	**Ceyhan**	**4.12**	**250**	*e*PN	**Pn**	**04 34 39.5**	**+2.2**
CEYT	**Ceyhan**	**4.12**	**250**	*e*Pn	**Pn**	**04 34 39.5**	**+2.2**

IDC 24 04:45:18.5±3.3, 24.°03S×67.°15W, h196km±35km, mb3.0/1, mb1 3.3/5, mb1mx3.1/26, mbtmpg3.7/5, Error ellipse: s-maj=60.6km s-min=34.5km az=162.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.15**	**311**	P	Pn	04 45 59.3	+0.7
	133nm,0.3s,baz=132,slow=8.0,SNR=111						
LVC				S	Sn	04 46 29.9	+0.1
	724nm,0.3s,baz=138,slow=5.2,SNR=48						
LPAZ	**La Paz**	**7.76**	**353**	P	Pn	04 47 09.7	+0.2
	0.5nm,0.3s,baz=183,slow=13,SNR=22						
SIV	**San Ignacio**	**9.83**	**37**	P	Pn	04 47 36.0	+0.3
	0.5nm,0.3s,baz=238,slow=13,SNR=5.6						
BDFB	**Brasilia**	**19.83**	**69**	P	P	04 49 34.2	-0.4
	0.6nm,0.3s,baz=238,slow=11,SNR=12						
TORD	**Torodi Ar. Bea**	**76.71**	**69**	P	P	04 56 48.5	+0.1
	0.2nm,0.3s,baz=256,slow=5.1,SNR=9.4						

*ISCJB **24** 05:06:05.8±0.5, 32.°15S±0.°05×69.°14W±0.°06, h124km±4km, mb3.8/3, Error ellipse: s-maj=10.1km s-min=4.4km az=135.0*
*IDC **24** 05:06:06.2±2.9, 32.°23S×69.°13W, h115km±17km, mb3.5/3, mb1 3.6/3, mb1mx3.3/25, mbtmpg3.9/3, Error ellipse: s-maj=52.4km s-min=30.9km az=34.0*
*GUC **24** 05:06:06.1±0.4, 32.°02S×69.°90W, h170km±5km, ML4.0*
*SJA **24** 05:06:07.2±1.0, 32.°16S×69.°11W, h107km±6km, ML3.8*

ISC 24 05:06:06.6±0.8, 32.°14S±0.°05×69.°17W±0.°05, h119km±6km, n26, σ0°81/45, mb3.5/3, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUSP	**Uspallata**	**0.20**	**245**	*e*P	Pn	**05 06 23.2**	**-0.2**
AUSP				*e*S	**Sn**	**05 06 36.1**	**0.0**
RTLS	**Leoncito**	**0.36**	**342**	*e*P	**Pn**	**05 06 23.9**	**-0.1**
RTLS				*e*S	**Sn**	**05 06 37.5**	**+0.6**
ASAL	**Salagasta**	**0.53**	**148**	*e*P	**Pn**	**05 06 25.0**	**+0.3**
ASAL				*e*S	**Sn**	**05 06 37.1**	**-1.3**
RTCV	**Cerro Valdivia**	**0.60**	**63**	*e*P	**Pn**	**05 06 25.2**	**+0.1**
RTCV				*e*P	**Pn**	**05 06 25.2**	**+0.1**
ARCO	**CERRO ARCO**	**0.73**	**164**	*e*P	**Pn**	**05 06 26.6**	**+0.3**
ARCO				*e*S	**Sn**	**05 06 40.9**	**-0.2**
ARCO				AML	AML	05 06 41.8	
	comp=Z,3µm,0.2s						
SJA	**San Juan**	**0.80**	**41**	*e*P	**Pn**	**05 06 26.8**	**0.0**
SJA				*e*S	**Sn**	**05 06 41.3**	**-0.6**
SJA				AML	AML	05 06 50.9	
	comp=Z,905nm,0.2s						

CFAA	**Coronel Fontan**	**0.96**	**56**	P	**Pn**	**05 06 28.0**	**-0.1**
	comp=Z,6.3nm,0.3s,baz=230,slow=11,SNR=110						
CFAA				S	**Sn**	**05 06 44.3**	**-0.1**
	comp=Z,45nm,0.3s,baz=311,slow=20,SNR=152						
CFAA	**Coronel Fontan**	**0.96**	**56**	*e*P	**Pn**	**05 06 28.3**	**+0.2**
CFAA				*e*S	**Sn**	**05 06 43.8**	**-0.5**
AAGR	**Agrelo**	**0.99**	**163**	*e*P	**Pn**	**05 06 29.0**	**+0.5**
AAGR				*e*S	**Sn**	**05 06 44.1**	**-1.0**
RTLL	**Cerro Villicun**	**1.00**	**36**	*e*P	**Pn**	**05 06 28.8**	**+0.2**
RTLL				*e*S	**Sn**	**05 06 45.0**	**-0.2**
PEL	**Peldehue**	**1.62**	**232**	*e*P	**Pn**	**05 06 35.4**	**0.0**
PEL				*e*S	**Sn**	**05 06 57.5**	**+0.1**
PEL				AML	AML	05 06 58.5	
	comp=N,3µm,0.4s						
ACAN	**Cantantal**	**1.69**	**95**	*e*P	**Pn**	**05 06 36.8**	**+0.6**
ACAN				*e*S	**Sn**	**05 06 57.6**	**-1.0**
CLCH	**Cerro Calan**	**1.70**	**222**	*e*P	**Pn**	**05 06 36.9**	**+0.5**
CLCH				*e*S	**Sn**	**05 07 00.2**	**+1.1**
CLCH				AML	AML	05 07 01.6	
	comp=E,1µm,0.5s						
LACH	**Col Las Americ**	**1.74**	**221**	*e*P	**Pn**	**05 06 36.8**	**0.0**
LACH				*e*S	**Sn**	**05 07 00.9**	**+1.0**
STL	**Santa Lucia**	**1.79**	**223**	*e*P	**Pn**	**05 06 37.0**	**-0.4**
STL				*e*S	**Sn**	**05 07 00.9**	**-0.1**
SAN	**Santiago**	**1.81**	**223**	*e*P	**Pn**	**05 06 37.6**	**-0.1**
SAN				*e*S	**Sn**	**05 07 02.0**	**+0.5**
PCH	**Pirque**	**1.86**	**217**	*e*S	**Sn**	**05 07 04.3**	**+1.8**
TACH	**Talagante**	**2.12**	**224**	*e*P	**Pn**	**05 06 41.0**	**-0.5**
TACH				*e*S	**Sn**	**05 07 07.3**	**-0.9**
CHCH	**Chadas Angostu**	**2.18**	**214**	*e*P	**Pn**	**05 06 42.7**	**+0.5**
CHCH				*e*S	**Sn**	**05 07 10.7**	**+1.1**
LNV	**Longovilo**	**2.61**	**225**	*e*P	**Pn**	**05 06 46.2**	**-1.5**
LNV				*e*S	**Sn**	**05 07 16.4**	**-3.0**
TEIG	**Tepich**	**55.19**	**338**	P	**P**	**05 15 27.5**	**+0.4**
	comp=E,3.2nm,0.4s,baz=167,slow=2.2,SNR=8.8						
TXAR	**Lajitas Array**	**69.36**	**328**	P	**P**	**05 17 02.1**	**+0.5**
	comp=E,0.2nm,0.7s,baz=150,slow=9.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**81.30**	**69**	P	**P**	**05 18 09.9**	**-0.2**
	comp=E,0.6nm,0.7s,baz=220,slow=5.6,SNR=8.1						
WRA	**Warramunga Arr**	**123.53**	**207**	PKP	**PKPdf**	**05 24 49.7**	**-0.9**
	comp=E,1.1nm,1.1s,baz=162,slow=1.8,SNR=6.2						
KURBB	**Kurchatov Arra**	**149.87**	**43**	PKPbc	**PKPbc**	**05 25 42.5**	**+0.1**
	comp=E,0.3nm,0.4s,baz=284,slow=2.7,SNR=6.3						
ZALV

KLV				S		Sg	05 24 25.4	+0.2
KLV	**Kalavryta, Ach**	**0.42**	**238**	*e*PG		**Pg**	05 24 19.9	+0.2
KLV				*e*SG		**Sg**	05 24 25.0	-0.2
KLV	**Kalavryta, Ach**	**0.42**	**238**	P		**Pg**	05 24 19.5	-0.2
KLV	**Kalavryta, Ach**	**0.42**	**238**	*e*Pg		**Pg**	05 24 19.9	+0.2
KLV				*e*Sg		**Sg**	05 24 25.0	-0.2
LKR	**Lokris**	**0.49**	**39**	P		**Pg**	05 24 20.3	-0.8
LKR				S		**Sg**	05 24 28.2	+0.6
LKR	**Lokris**	**0.49**	**39**	*e*PG		**Pg**	05 24 20.6	-0.5
LKR				*e*SG		**Sg**	05 24 28.4	+0.8
LKR	**Lokris**	**0.49**	**39**	P		**Pg**	05 24 20.3	-0.8
LKR	**Lokris**	**0.49**	**39**	*e*Pg		**Pg**	05 24 20.6	-0.5
LKR				S		**Sg**	05 24 28.2	+0.6
AXAR	**Agios Charalam**	**0.50**	**5**	*e*PG		**Pg**	05 24 21.0	-0.2
AXAR				*e*SG		**Sg**	05 24 27.9	+0.1
AXAR	**Agios Charalam**	**0.50**	**5**	*e*Pg		**Pg**	05 24 21.0	-0.2
AXAR				*e*Sg		**Sg**	05 24 27.9	+0.1
VIL2	**Platees**	**0.53**	**96**	*e*PG		**Pb**	05 24 22.6	-0.4
VIL2				*e*SG		**Sg**	05 24 29.5	+0.7
EFP	**Efpalio**	**0.57**	**286**	P		**Pg**	05 24 22.5	0.0
EFP	**Efpalio**	**0.57**	**286**	*e*PG		**Pg**	05 24 22.6	0.0
EFP	**Efpalio**	**0.57**	**286**	P		**Pg**	05 24 22.5	0.0
VILL	**Villia**	**0.57**	**100**	*e*Pg		**Pg**	05 24 22.6	0.0
VILL				*e*Sg		**Sg**	05 24 29.5	-0.6
DRO	**Drossia**	**0.77**	**246**	P		**Pg**	05 24 26.2	-0.1
DRO	**Drossia**	**0.77**	**246**	*e*PB		**Pg**	05 24 26.4	+0.1
DRO	**Drossia**	**0.77**	**246**	*e*Pb		**Pg**	05 24 26.4	+0.1
AGG	**Agios Georgios**	**0.78**	**344**	P		**Pg**	05 24 25.9	-0.7
AGG				S		**Sg**	05 24 37.1	+0.3
AGG	**Agios Georgios**	**0.78**	**344**	P		**Pg**	05 24 25.9	-0.7
AGG				S		**Sg**	05 24 37.1	+0.3
EVR	**Evrytania**	**0.90**	**317**	*e*PG		**Pb**	05 24 29.2	-0.1
EVR				*e*SG		**Sb**	05 24 41.6	+0.2
EVR	**Evrytania**	**0.90**	**317**	*e*Pg		**Pb**	05 24 29.2	-0.1
EVR				*e*Sg		**Sb**	05 24 41.6	+0.2
DID	**Didima**	**0.91**	**146**	P		**Pg**	05 24 29.0	-0.1
DID				S		**Sb**	05 24 42.4	+0.6
DID	**Didima**	**0.91**	**146**	P		**Pg**	05 24 29.0	-0.1
DID				S		**Sb**	05 24 42.4	+0.6
VLX	**Vlachokerasia**	**0.91**	**191**	P		**Pg**	05 24 28.4	-0.7
VLX	**Vlachokerasia**	**0.91**	**191**	P		**Pg**	05 24 28.4	-0.7

*TAP **24** 05:28:10.4, 24.′99N×122.′37E, h7km±1km, ML3.7, D*
*JMA **24** 05:28:11.0±0.1, 25.′00N×122.′40E, h43km±2km, M2.6*
ISC 24 05:28:10.0±1.1,**25.′03N**±0.′04×**122.′42E**±0.′03,**h16**km±8km,
n37,σ0**s52**/61,**3C-1D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.39**	**267**	⇓*i*	P	**Pg**	**05 28 17.8**	**-0.2**
	baz=273							
TWB1				*e*	S	**Sg**	**05 28 23.0**	**-0.5**
	baz=273							
EGS		**0.48**	**247**	P		**Pg**	**05 28 19.9**	**+0.2**
	baz=249							
EGS				*e*	S	**Sg**	**05 28 26.3**	**+0.1**
	baz=249							
NWF	**Wu-fen Shan**	**0.58**	**274**	*e*P		**Pb**	**05 28 22.0**	**+0.1**
	baz=279							
NWF				*e*	S	**Sb**	**05 28 30.7**	**+0.8**
	baz=279							
TWC	**Suao**	**0.67**	**231**	P		**Pg**	**05 28 23.2**	**+0.1**
	baz=230							
TWC				*e*	S	**Sg**	**05 28 31.0**	**-1.0**
	baz=230							
PCYT	**Pengchaiyu**	**0.67**	**332**	⇑*i*	P	**Pn**	**05 28 24.6**	**-0.3**
	baz=337							
PCYT				*i*	S	**Sn**	**05 28 35.2**	**+0.1**
	baz=337							
JYNG	**Yonagunijimaku**	**0.75**	**140**	P		**Pg**	**05 28 25.0**	**+0.3**
JYNG				*e*	S	**Sg**	**05 28 34.9**	**+0.3**
TWE	**Neicheng**	**0.75**	**246**	P		**Pb**	**05 28 24.6**	**-0.1**
	baz=246							
TWE				S		**Sg**	**05 28 35.0**	**+0.4**
	baz=246							
TWA	**Mucha**	**0.76**	**266**	P		**Pg**	**05 28 25.3**	**+0.4**
	baz=269							
TWA				S		**Sg**	**05 28 35.5**	**+0.5**
	baz=269							
YOJ	**Yonaguni jima**	**0.78**	**137**	P		**Pb**	**05 28 25.4**	**+0.2**
YOJ				*e*	S	**Sb**	**05 28 35.6**	**+0.1**
TWY	**Chenhua**	**0.78**	**288**	⇑*i*	P	**Pg**	**05 28 25.7**	**+0.4**
	baz=292							
TWY				S		**Sn**	**05 28 37.3**	**-0.5**
	baz=292							
TAP1	**Taipei**	**0.81**	**271**	*e*P		**Pg**	**05 28 26.4**	**+0.5**
	baz=273							
TAP1				*e*	S	**Sn**	**05 28 37.9**	**-0.6**
	baz=273							
ENA	**Nanau**	**0.86**	**226**	⇑*i*	P	**Pb**	**05 28 26.5**	**-0.1**
	baz=225							
ENA				*e*	S	**Sb**	**05 28 37.2**	**-0.7**
	baz=225							
ENTT	**Nioudou**	**0.87**	**244**	P		**Pb**	**05 28 26.8**	**+0.1**
	baz=244							
ENTT				S		**Sg**	**05 28 38.7**	**+0.3**
	baz=244							
TWS1	**Kuangyinshan**	**0.91**	**275**	*e*P		**Pg**	**05 28 28.0**	**+0.2**
	baz=277							
TWS1				*e*	S	**Sn**	**05 28 40.5**	**-0.4**
	baz=277							
NSK	**Sanguang**	**1.03**	**250**	*e*P		**Pb**	**05 28 29.5**	**0.0**
	baz=251							
NSK				*e*	S	**Sb**	**05 28 42.8**	**0.0**
	baz=251							
NNS	**Nan Shan**	**1.12**	**238**	*e*P		**Pn**	**05 28 31.1**	**-0.1**
	baz=238							
NNS				*e*	S	**Sb**	**05 28 45.2**	**-0.3**
	baz=238							
TWD	**Chiawan**	**1.21**	**219**	*e*P		**Pn**	**05 28 32.5**	**+0.2**
	baz=217							
TWD				*e*	S	**Sb**	**05 28 48.1**	**+0.2**
	baz=217							
NSTT	**Nanjuang**	**1.35**	**253**	*e*P		**Pn**	**05 28 34.3**	**+0.1**
	baz=253							
TWT	**Tachien**	**1.37**	**236**	*e*P		**Pb**	**05 28 35.6**	**+0.2**
	baz=236							
TWT				*e*	S	**Sn**	**05 28 52.5**	**-0.1**
	baz=236							
WHF	**Hehuan Shan**	**1.37**	**230**	*e*P		**Pb**	**05 28 35.9**	**+0.3**
	baz=229							
WHF				*e*	S	**Sb**	**05 28 53.4**	**+0.3**
	baz=229							
IRIF	**Iriomote-Funau**	**1.38**	**120**	P		**Pn**	**05 28 34.0**	**-0.6**
ESL	**Shilin**	**1.51**	**217**	*e*P		**Pb**	**05 28 37.5**	**-0.1**
	baz=215							
ESL				*e*	S	**Sb**	**05 28 57.5**	**+0.9**
	baz=215							
HATJ	**Hateruma jima**	**1.59**	**127**	P		**Pn**	**05 28 37.2**	**-0.3**
TWQ1	**Liyutan**	**1.65**	**246**	*e*P		**Pg**	**05 28 41.6**	**-0.1**
	baz=246							
JIJ	**Ishigaki jima**	**1.70**	**113**	P		**Pn**	**05 28 38.9**	**-0.1**
WDT	**Danda**	**1.73**	**223**	*e*P		**Pb**	**05 28 41.4**	**-0.2**
	baz=222							
WDT				*e*	S	**Sb**	**05 29 03.1**	**-0.2**
	baz=222							
SMLT	**Sun Moon Lake**	**1.80**	**231**	*e*P		**Pb**	**05 28 43.6**	**+0.9**
	baz=230							
TYC	**Yuchr**	**1.81**	**232**	*e*P		**Pb**	**05 28 42.9**	**0.0**
	baz=231							
TYC				*e*	S	**Sg**	**05 29 07.1**	**-1.4**
	baz=231							
EHY	**Hungye**	**1.82**	**214**	*e*P		**Pb**	**05 28 43.5**	**+0.5**
	baz=212							
TWF1	**Yuli**	**1.96**	**212**	*e*P		**Pn**	**05 28 43.5**	**+0.8**
	baz=210							
YUS	**Yu-Shan**	**2.04**	**221**	*e*P		**Pb**	**05 28 46.5**	**-0.5**
	baz=220							
ALS	**Alishan**	**2.11**	**225**	*e*P		**Pb**	**05 28 48.1**	**-0.1**
	baz=223							
ALS				*e*	S	**Sb**	**05 29 15.5**	**+1.2**
	baz=223							
CHN5	**Tsauling**	**2.14**	**228**	*e*P		**Pb**	**05 28 48.6**	**+0.2**
	baz=228							
CHN4	**Tsaushan**	**2.36**	**225**	*e*P		**Pb**	**05 28 51.9**	**-0.3**
	baz=224							
CHN4				*e*	S	**Sb**	**05 29 22.2**	**+1.1**
	baz=224							
WTP	**Ta-pu**	**2.43**	**223**	*e*P		**Pb**	**05 28 52.9**	**-0.4**
	baz=222							
TWK	**Hsinying**	**2.49**	**226**	*e*P		**Pb**	**05 28 53.3**	**-1.1**
	baz=224							
CHN1	**Nanshi**	**2.52**	**224**	*e*P		**Pb**	**05 28 54.0**	**-1.0**
	baz=223							

*IDC **24** 05:28:23.2±2.3, 0.′73N×97.′31E, h0km, mb3.9/5, mb1 3.9/7, mb1mx3.7/24, mbtmp3.8/7, ML3.8/2, MS3.1/1, Ms1 3.1/1, ms1mx2.8/38, Error ellipse: s-maj=58.5km s-min=23.5km az=71.0*
*DJA **24** 05:28:31.5±0.5, 1.′N±3.′×9.′8E±.′, h19km±5km, M4.1/9, mb4.3/1, MLv4.0/9*
ISC 24 05:28:29.0±1.1,**0.′92N**±0.′07×**97.′6E**±0.′1,**h27**km,**n21**,
σ1**s23**/16,**mb4.0**/5,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.38**	**355**	P		**Pn**	**05 28 39.5**	**+0.7**
GSI				S		**Sn**	**05 28 46.9**	**+1.7**
PBSI	**Pulau Batu**	**1.18**	**145**	P		**Pb**	**05 28 51.2**	**+0.4**
PBSI				S		**Sb**	**05 29 05.9**	**+0.2**
MNSI	**Mandailing Nat**	**1.98**	**94**	P		**Pn**	**05 29 02.8**	**+2.1**
MNSI				S		**Sb**	**05 29 28.3**	**-0.2**
PSI	**Prapat**	**2.28**	**35**	Pn		**Pn**	**05 29 06.5**	**+1.5**
	3.8nm,0.3s,baz=181,slow=23,SNR=9.8							
PSI				LR		LR	05 30 09.2	
	comp=Z,314nm,18.4s,baz=275,slow=42							
KCSI	**Kotacane, Aceh**	**2.59**	**4**	P		**Pn**	**05 29 09.8**	**+0.7**
SISI	**Saibi**	**2.68**	**146**	P		**Pb**	**05 29 16.4**	**0.0**
TSI	**Tuntungan**	**2.73**	**20**	P		Pb	05 29 28.6	+11
PDSI	**Padang**	**3.39**	**123**	P		**Pb**	**05 29 26.1**	**-2.3**
BKNI	**Bangkinang**	**3.48**	**100**	P		Pb	05 29 39.2	+9.2
CMAR	**Chiang Mai Arr**	**17.47**	**4**	P		**Pn**	**05 32 29.6**	**-1.3**
	0.3nm,0.3s,baz=193,slow=12,SNR=4.9							
H08S2	**Diego Garcia H**	**26.45**	**251**	T		T	06 01 04.6	
	baz=72,slow=75,SNR=474							
H08S3	**Diego Garcia H**	**26.46**	**251**	T		T	06 01 07.3	
	baz=72,slow=75,SNR=446							
H08S1	**Diego Garcia H**	**26.47**	**251**	T		T	06 01 06.8	
	baz=72,slow=75,SNR=574							
H01W3	**Cape Leeuwin H**	**38.84**	**158**	T		T	06 17 05.9	
	baz=334,slow=76,SNR=30							
H01W2	**Cape Leeuwin H**	**38.85**	**158**	T		T	06 17 05.9	
	baz=334,slow=76,SNR=26							
H01W1	**Cape Leeuwin H**	**38.85**	**158**	T		T	06 17 04.7	
	baz=334,slow=76,SNR=21							
WRA	**Warramunga Arr**	**41.54**	**122**	P		**P**	**05 36 13.9**	**-0.8**
	0.5nm,0.4s,baz=307,slow=8.6,SNR=9.3							
ASAR	**Alice Springs**	**42.91**	**127**	P		**P**	**05 36 24.8**	**-0.9**
	0.3nm,0.4s,baz=303,slow=8.1,SNR=4.6							
KSRS	**Korea Array**	**45.84**	**34**	P		**P**	**05 36 48.8**	**-0.1**
	1.0nm,0.5s,baz=224,slow=10,SNR=3.0							
USRK	**Ussuriysk Ar.**	**52.80**	**31**	P		**P**	**05 37 42.7**	**+0.8**
	2.7nm,0.9s,baz=202,slow=5.9,SNR=4.1							
ZALV	**Zalesovo Beam**	**53.89**	**351**	P		**P**	**05 37 49.5**	**-0.3**
	1.4nm,0.5s,baz=186,slow=6.5,SNR=6.6							

IDC 24 05:31:09.4±15.0,**21.′28S×173.′74W**,**h0km**,**mb3.9**/4,
mb1 4.4/5,**mb1mx4.0**/40,**mbtmp4.1**/5,**ML3.7**/1,**Error ellipse: s-maj=470.2km s-min=58.9km az=23.0**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.03**	**92**	Pn		Pn	05 34 14.9	-0.9
	3.7nm,0.3s,baz=258,slow=14,SNR=6.8							
NVAR	**Mina Array Bea**	**78.92**	**41**	P		P	05 43 15.3	+0.2
	0.7nm,0.8s,baz=226,slow=9.9,SNR=4.1							
TXAR	**Lajitas Array**	**84.16**	**56**	P		P	05 43 43.5	+0.5
	1.0nm,1.1s,baz=232,slow=6.2,SNR=5.2							
PDAR	**Pinedale Array**	**86.85**	**42**	P		P	05 43 56.2	0.0
	0.2nm,0.3s,baz=191,slow=4.1,SNR=2.2							
ILAR	**Eielson Array**	**88.25**	**11**	P		P	05 44 01.6	-0.5
	2.8nm,1.2s,baz=217,slow=5.0,SNR=8.9							

*NEIC **24** 05:31:30.3, 51.′57N×173.′46W, h37km, ML3.1(AEIC), After AEIC.*
*IDC **24** 05:32:06.2±24.0, 52.′25N×165.′81W, h0km, mb3.2/2, mb1 3.8/3, mb1mx3.4/57, mbtmp3.3/3, ML4.2/1, Error ellipse: s-maj=450.7km s-min=42.4km az=83.0*
ISC 24 05:31:32.0±1.3,**51.′6N**±0.′1×**173.′49W**±0.′05,**h37**km,**n15**,
σ0**s76**/18,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.74**	**324**	P		**Pn**	**05 31 45.2**	**-0.7**
ATKA				S		**Sn**	**05 31 56.8**	**+0.9**
GSMY	**Great Sitkin M**	**1.65**	**286**	P		**Pn**	**05 31 58.1**	**-0.3**
GSTR	**Great Sitkin T**	**1.67**	**288**	P		**Pn**	**05 31 58.7**	**0.0**
GSTD	**Great Sitkin T**	**1.71**	**286**	P		**Pn**	**05 31 58.5**	**-0.8**
GSTD				S		**Sn**	**05 32 21.7**	**+1.8**
ETKA	**Kagalaska Isla**	**1.83**	**279**	P		**Pn**	**05 32 00.2**	**-0.7**
ADK	**Adak**	**2.00**	**279**	P		**Pn**	**05 32 02.6**	**-0.7**
ADK				S		**Sn**	**05 32 27.6**	**+0.6**
KIKV	**Kanaga Island**	**2.30**	**278**	P		**Pn**	**05 32 07.4**	**0.0**
TAPA	**Tanaga Point A**	**2.70**	**276**	P		**Pn**	**05 32 12.7**	**-0.1**
TAFP	**Tanaga Falls P**	**2.81**	**278**	P		**Pn**	**05 32 14.5**	**+0.1**
NIKH	**Nikolski High**	**3.16**	**63**	P		**Pn**	**05 32 19.4**	**+0.2**
NIKH				S		**Sn**	**05 32 56.5**	**+0.9**
ILAR	**Eielson Array**	**19.04**	**36**	Pn		**P**	**05 35 49.9**	**-0.8**
	0.3nm,0.3s,baz=225,slow=9.2,SNR=30							
ILAR	**Eielson Array**	**19.04**	**36**	Pn		**P**	**05 35 49.9**	**-0.8**
PDAR	**Pinedale Array**	**43.06**	**76**	P		**P**	**05 39 28.1**	**-0.1**
	0.2nm,0.5s,baz=342,slow=3.5,SNR=4.5							
PDAR	**Pinedale Array**	**43.06**	**76**	P		**P**	**05 39 28.1**	**-0.1**
TXAR	**Lajitas Array**	**55.33**	**85**	P		P	05 41 06.3	+4.2
	0.2nm,0.8s,baz=324,slow=4.5,SNR=2.8							

MEX 24 05:31:35.1±0.8,**16.′73N×99.′71W**,**h16**km±41km,**MD3.6**,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.20**	**313**	*e*P		Pg	05 31 35.9	-3.9
ACX				*e*S		Sg	05 31 39.1	-4.0
CAIG	**El Cayaco**	**0.62**	**300**	*e*P		Pg	05 31 45.3	-2.0
CAIG				*e*S		Sg	05 31 52.6	-2.9
MEIG	**Mezcala**	**1.19**	**4**	*e*P		Pn	05 31 53.3	-3.9
MEIG				*i* S		Sb	05 32 07.0	-5.6
ARIG	**Puente Sto Nin**	**1.65**	**338**	*e*P		Pn	05 32 00.1	-3.4
ARIG				*i* S		Sn	05 32 20.1	-4.5
PLIG	**Platanillo**	**1.66**	**7**	*e*P		Pn	05 32 00.7	-3.0
PLIG				*e*S		Sn	05 32 20.4	-4.4
ZIIG	**Zihuatanejo**	**1.89**	**298**	*e*P		Pn	05 32 05.1	-1.7
YAIG	**Yautepec**	**2.20**	**16**	*e*P		Pn	05 32 08.2	-3.0
PPM	**Popocatepetl**	**2.54**	**24**	*e*P		Pn	05 32 16.3	-0.1
IIO	**Organos**	**2.99**	**18**	*e*P		Pn	05 32 18.0	-4.4

*BJI **24** 05:32:19.9, 5.′96S×152.′03E, h40km, mb5.6/82, mB5.9/57, Ms5.8/93, Ms7 5.8/81*
*SZGRF **24** 05:32:25.5, 5.′23S×152.′23E, h33km, mb5.9, New Britain, Papua New Guinea, region*
*GCMT **24** 05:32:27.4±0.1, 5.′86S×151.′18E, h52km, MW6.2/132, Moment Tensor Solution. s132, c299; s126, c447; Duration: 2s9 Moment tensor: Scale 10¹⁸Nm; Mrr 1.83±.01; Mθθ -1.99±.01; Mϕϕ 0.16±.01; Mrθ 0.41±.01; Mrϕ -0.67±.01; Mθϕ -0.25±.01; Best double couple: M☉2.07000×10¹⁸ NP1:ϕs86.00000°, δ51.00000°, λ106.00000°. NP2:ϕs241.00000°, δ42.00000°, λ71.00000°. Principal axes: T 1.9320, Plg77.0000°, Azm55.0000°; N 0.2780, Plg12.0000°, Azm256.0000°; P -2.2080, Plg5.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **24** 05:32:27.4±0.1, 5.′51S×151.′16E, h40km, mb5.8/155, ME5.7, MS5.8/158, MW6.1, MW6.2, MW6.1 Error ellipse: s-maj=3.7km s-min=3.2km az=140.0, Moment Tensor Solution. s38 Moment tensor: Scale 10¹⁸Nm; Mrr 1.93; Mθθ -2.05; Mϕϕ 0.12; Mrθ 0.44; Mϕϕ 0.11; Mrr 0.01; Best double couple: M☉2.00000×10¹⁸ NP1:ϕs274.00000°, δ39.00000°, λ92.00000°. NP2:ϕs92.00000°, δ51.00000°, λ89.00000°. Principal axes: T 1.9800, Plg83.0000°, Azm352.0000°; N 0.1300, Plg1.0000°, Azm92.0000°; P -2.1000, Plg6.0000°, Azm182.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt at Kimbe.
*NEIC **24** 05:32:28.0±0.0, 5.′53S×151.′16E, h42km, Moment Tensor Solution. s40 Moment tensor: Scale 10¹⁸Nm; Mrr 1.61; Mθθ -1.46; Mϕϕ -0.15; Mrθ 1.36; Mθϕ -0.82; Mϕr 0.12; Best double couple: M☉2.20000×10¹⁸ NP1:ϕs77.00000°, δ64.00000°, λ103.00000°. NP2:ϕs229.00000°, δ28.00000°, λ64.00000°. Principal axes: T 2.1400, Plg67.0000°, Azm12.0000°; N 0.1400, Plg11.0000°, Azm252.0000°; P -2.2800, Plg18.0000°, Azm158.0000°;*
*IDC **24** 05:32:29.7±1.1, 5.′58S×151.′25E, h63km±9km, mb5.1/35, mb1 5.1/37, mb1mx5.1/39, mbtmp5.4/37, MS5.6/22, Ms1 5.6/22, ms1mx5.5/28 Error ellipse: s-maj=11.1km s-min=7.2km az=73.0*
*MOS **24** 05:32:29.2±1.1, 5.′43S×151.′05E, h64km, mb5.9/51, MS5.8/29, Error ellipse: s-maj=9.3km s-min=5.8km az=98.9*
*ISCJB **24** 05:32:29.1±0.6, 5.′58S±0.′02×151.′13E±0.′02, h64km±5km, mb5.6/234, Error ellipse: s-maj=4.1km s-min=3.0km az=19.7*
*DJA **24** 05:32:39.4±0.6, 6.′S±3.′×151.′1E±.′, h107km±6km, M6.0/32, mb5.6/32, mB6.1/28, MLv7.2/1, Mw(mB)5.8/28, Mwp6.0/12*
*NEIC **24** 05:32:45.5±0.0, 5.′71S×151.′50E, h43km, Moment Tensor Solution. s82 Moment tensor: Scale 10¹⁸Nm; Mrr 1.98; Mθθ -1.70; Mϕϕ -0.28; Mrθ 0.18; Mθϕ -0.71; Mϕr -0.10; Best double couple: M☉2.00000×10¹⁸ NP1:ϕs243.00000°, δ43.00000°, λ83.00000°. NP2:ϕs72.00000°, δ47.00000°, λ96.00000°. Principal axes: T 2.0000, Plg85.0000°, Azm45.0000°; N 0.0000, Plg4.0000°, Azm247.0000°; P -2.0000, Plg1.0000°, Azm157.0000°;*
ISC 24 05:32:28.4±0.2,**5.′55S**±0.′03×**151.′19E**±0.′03,**h51**km±1km,
h51km:**pP-P**,**n1486**,σ1**s48**/1615,**mb5.7**/202,**MS5.8**/209,
54C-41D,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.54**	**226**	*d*	iP	**Pn**	**05 33 50.0**	**+1.7**
PMG	**Port Moresby**	**5.54**	**226**	*e*	Pn	**Pn**	**05 33 50.2**	**+1.8**
HNR	**Honiara**	**9.49**	**114**	*e*	P	Pn	05 34 47.0	+4.4
HNR	**Honiara**	**9.49**	**114**	*e*	Pn	Pn	05 34 47.4	+4.8
HNR				*e*	Sn	**Sn**	**05 36 33.0**	**+5.0**
JAY	**Jayapura**	**10.89**	**286**	P		Pn	05 35 06.1	+4.4
JAY	**Jayapura**	**10.89**	**286**	P		**Pn**	**05 35 04.5**	**+2.7**
	3.4nm,0.3s,baz=116,slow=13,SNR=20							
JAY				S		**Sn**	**05 37 07.5**	**+5.2**
	1.1nm,0.3s,baz=170,slow=18,SNR=1.8							
JAY				LR		LR	05 38 54.4	
	comp=Z,34μm,19.8s,baz=99,slow=35							
JAY	**Jayapura**	**10.89**	**286**	P		**Pn**	**05 35 04.5**	**+2.7**
JAY				S		**Sn**	**05 37 07.5**	**+5.2**
JAY				pmax		pmax		
	comp=Z,3.0nm,0.3s							
JAY				smax		smax		
	comp=N,1.0nm,0.3s							
JAY				MLR		MLR		
	comp=Z,34μm,19.8s							
GENI	**Genyem**	**11.38**	**285**	P		Pn	05 35 12.7	+4.2
	comp=Z,1μm,1.5s,comp=Z,28μmcomp=Z,73μm							
COEN	**Coen**	**11.49**	**223**	*e*	Pn	**Pn**	**05 35 08.9**	**-1.1**
SMPI	**Sarmi**	**11.95**	**285**	P		P	05 35 35.0	-4.0
	comp=Z,585nm,1.9s,comp=Z,16μm							
CTA	**Charters Tower**	**15.23**	**198**	P		**Pn**	**05 36 01.4**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=23,slow=14,SNR=13							
CTA				S		**Sn**	**05 38 54.8**	**+6.8**
	comp=Z,0.7nm,0.3s,baz=114,slow=20,SNR=2.0							
CTA				LR		LR	05 41 19.2	
	comp=Z,34μm,21.1s,baz=26,slow=35							
CTA	**Charters Tower**	**15.23**	**198**	P		**Pn**	**05 36 01.4**	**+1.1**
CTA				S		**Sn**	**05 38 54.8**	**+6.8**
CTA				pmax		pmax		
	comp=Z,2.0nm,0.3s							
CTA				smax		smax		
	comp=N,1.0nm,0.3s							
CTA				MLR		MLR		
	comp=Z,34μm,21.1s							
CTAO	**Charters Tower**	**15.23**	**198**	*e*	Pn	**Pn**	**05 36 00.9**	**+0.6**
	comp=Z,424nm,1.4s							
CTAO				*e*	Sn	**Sn**	**05 38 52.8**	**+4.8**
CTAO				*e*	PcP	**PcP**	**05 41 05.6**	**+1.6**
SRPI	**Serui, Papua**	**15.36**	**283**	P		pP	05 36 20.6	+3.2
RKPI	**Ransiki, Papua**	**17.45**	**283**	P		**P**	**05 36 32.5**	**+3.5**
	comp=Z,681nm,1.3s,comp=Z,13μm							
FAKI	**Fak Fak**	**19.07**	**277**	P		**Pn**	**05 36 50.5**	**+2.4**
	comp=Z,280nm,1.2s,comp=Z,6μmcomp=Z,42μm							
FAKI	**Fak Fak**	**19.07**	**277**	*e*	P	**P**	**05 36 46.9**	**0.0**
FAKI				*e*	S	**S**	**05 40 17.0**	**-3.8**
FAKI				*e*	PcP	**PcP**	**05 41 11.3**	**+1.0**
EIDS	**Eidsvold**	**19.70**	**180**	*e*	P	**Pn**	**05 36 55.0**	**-0.5**
	comp=Z,409nm,1.1s							
EIDS				*e*	S	**S**	**05 40 32.8**	**-0.4**
GUMO	**Guam**	**20.03**	**342**	P		Pn	05 36 59.1	-0.2
	comp=Z,842nm,0.8s,baz=163,slow=5.0,SNR=38							
GUMO				S		Sn	05 40 46.5	+2.4
	comp=Z,41nm,0.7s,baz=195,slow=20,SNR=2.4							
GUMO				LR		LR	05 45 43.2	
	comp=Z,8μm,18.3s,baz=177,slow=40							
GUMO	**Guam**	**20.03**	**342**	*e*	P	Pn	05 36 60.0	+0.6
GUMO				*e*	S	Sn	05 40 43.9	-0.2
GUMO				S		**S**	**05 40 46.5**	**+6.7**
SIJI	**Sorong**	**20.43**	**282**	P		Pn	05 37 03.9	-0.3
	comp=Z,23nm,0.5s,baz=120,slow=13,SNR=9.2							
SWI	**Sorong**	**20.44**	**282**	P		**Pn**	05 37 06.8	+2.5
BNDI	**Bandanaira**	**21.23**	**272**	P		**P**	**05 37 14.0**	**+3.7**
	comp=Z,853nm,1.4s,comp=Z,17μmcomp=Z,41μm							
WRAB	**Tennant Creek**	**21.74**	**227**	P		**P**	**05 37 15.0**	**-0.8**
	comp=Z,6μm,0.9s							
WRAB	**Tennant Creek**	**21.74**	**227**	*c*	iP	**P**	**05 37 15.7**	**-0.

comp=Z,10.0nm,0.9s,baz=54,slow=13,SNR=2.5
ASAR ScP **ScP** **05 44 53.7 -2.0**
comp=Z,11nm,0.7s,baz=52,slow=2.6,SNR=5.6
ASAR LR LR 05 47 27.0
comp=Z,16μm,20.2s,baz=60,slow=37
ASAR P3KPbc 06 10 45.0
comp=Z,0.2nm,0.6s,baz=191,slow=4.3,SNR=2.9
ASAR Alice Springs 24.53 221 P **P** **05 37 43.9 +0.5**
ASAR 05 41 20.8
ASAR S **S** **05 41 58.5 -2.2**
ASAR pmax pmax
comp=Z,85nm,0.6s
ASAR pmax pmax
comp=Z,18nm,0.7s
ASAR smax smax
comp=N,10.0nm,0.9s
ASAR MLR MLR
comp=Z,16μm,20.2s
TNTI Ternate 24.61 284 P **P** **05 37 47.2 +3.0**
comp=Z,254nm,1.5s,comp=Z,7μm
TNTI Ternate 24.61 284 *e*P **P** **05 37 45.8 +1.6**
comp=Z,562nm,1.4s
ARMA Armidale 24.74 179 *e*P **P** **05 37 46.4 +1.1**
SANI Sanana 25.39 277 P **P** **05 37 52.7 +1.4**
comp=Z,100nm,1.5s,comp=Z,4μmcomp=Z,17μm
SOEI Soe 27.00 259 P **P** **05 38 07.5 +1.5**
comp=Z,322nm,1.3s,comp=Z,7μmcomp=Z,27μm
SOEI Soe 27.00 259 *e*P **P** **05 38 07.1 +1.1**
STKA Stephens Creek 27.69 198 P **P** **05 38 11.8 0.0**
comp=Z,42nm,0.8s,baz=27,slow=10,SNR=28
STKA S **S** **05 42 46.7 -3.9**
comp=Z,16nm,1.0s,baz=233,slow=20,SNR=1.4
STKA LR LR 05 49 21.2
comp=Z,18μm,19.7s,baz=14,slow=36
STKA Stephens Creek 27.69 198 P **P** **05 38 11.8 0.0**
STKA S **S** **05 42 46.7 -3.9**
STKA pmax pmax
comp=Z,43nm,0.8s
STKA smax smax
comp=N,16nm,1.0s
STKA MLR MLR
comp=Z,18μm,19.7s
KMSI Cibinong 27.85 282 P **P** **05 38 16.9 +3.4**
comp=Z,408nm,1.2s
DAV Davao City (W) 28.47 296 PFAKE 05 38 30.0 +11
DAV LR LR
comp=Z,12μm,22.0s
MMRI Maumere 28.89 262 P **P** **05 38 24.1 +1.3**
comp=Z,324nm,1.1s,comp=Z,6μm
MMRI Maumere 28.89 262 *e*P **P** **05 38 22.6 -0.2**
comp=Z,414nm,1.0s
MSVF Nonsavu 28.90 117 *e*P **P** **05 38 25.2 +2.3**
MSVF LR LR
comp=Z,13μm,19.0s
WAKE Wake Island 29.00 31 PFAKE 05 38 40.0 +16
WAKE LR LR
comp=Z,16μm,21.0s
MRSI Marisa 29.82 281 P **P** **05 38 32.2 +1.2**
comp=Z,32nm,0.8s,comp=Z,2μm
APSI Ampana 29.85 278 P **P** **05 38 33.2 +2.0**
comp=Z,101nm,1.2s,comp=Z,3μm
BBOO Buckleboo 30.57 206 *e*P **P** **05 38 37.2 -0.2**
comp=Z,123nm,1.0s
BASI Baing, Sumba 30.67 259 P **P** **05 38 39.7 +1.2**
WSI Waingapu 30.89 260 P **P** **05 38 42.1 +1.7**
TOLI Toli-Toli 31.07 281 *e*P **P** **05 38 41.8 -0.3**
KAPI Kappang 31.31 269 P **P** **05 38 45.2 +1.0**
comp=Z,10.0nm,0.7s,baz=118,slow=9.1,SNR=4.0
KAPI LR LR 05 52 57.3
comp=Z,3μm,18.4s,baz=101,slow=39
KAPI Kappang 31.31 269 P **P** **05 38 45.2 +1.0**
KAPI *e*PcP **PcP** **05 41 39.0 +1.5**
KAPI *e*S S 05 43 56.6 +8.7
TTSI Tana Toraja 31.38 273 P P 05 38 51.0 +6.2
PCI Palu 31.64 277 P **P** **05 38 49.9 +2.8**
comp=Z,134nm,1.0s,comp=Z,3μm
WBSI Waikabubak, Su 31.77 261 P **P** **05 38 47.7 -0.6**
MPSI Mapaga 31.79 280 P **P** **05 38 48.0 -0.4**
RCP Roxas 33.02 301⇑ *e*P **P** **05 39 01.3 +2.2**
FORT Forrest 33.20 218 *e*P **P** **05 39 00.6 0.0**
comp=Z,380nm,0.9s
FORT *e*PP **PP** **05 40 16.2 -0.2**
CBIJ Chichi jima 33.61 345 P **P** **05 39 01.6 -2.5**
comp=Z,7.1nm,0.8s
CBIJ *e*PP **PnPn** **05 40 16.6 -0.5**
JCJ Chichijima 33.61 345 P **P** **05 39 01.6 -2.5**
comp=Z,52nm,0.5s,baz=275,slow=11,SNR=9.2
JCJ LR LR 05 54 14.8
comp=Z,3μm,18.1s,baz=157,slow=39
CUYO Cuyo Island 34.18 298 *e*P **P** **05 39 10.9 +1.7**
MBWA Marble Bar 34.21 240 P **P** **05 39 09.7 +0.2**
SNR=9.7
MBWA Marble Bar 34.21 240 *e*P **P** **05 39 08.9 -0.5**
comp=Z,105nm,0.7s
MBWA LR LR
comp=Z,11μm,19.0s
SJMP San Jose 34.84 301 *e*P **P** **05 39 17.2 +2.3**
ENPP El Nido 35.73 298 *e*P **P** **05 39 24.8 +2.2**
OUZ Omahuta 36.04 148 *e*P **P** **05 39 27.6 +2.7**
comp=Z,265nm,1.3s
OUZ *e*PcP **PcP** **05 41 53.1 +2.6**
BALP Baler 36.16 306 *e*P **P** **05 39 28.0 +1.7**
LUBP Lubang 36.21 302 *e*P **P** **05 39 26.7 +0.1**
KKM Kota Kinabalu 36.77 288 PFAKE 05 39 40.0 +8.3
KKM LR LR
comp=Z,4μm,21.0s
JAGI Jajag, Banyuwa 36.87 263 P **P** **05 39 31.4 -1.0**
JAGI Jajag, Banyuwa 36.87 263 *e*P **P** **05 39 30.6 -1.8**
comp=Z,272nm,0.9s
JAGI *e*PcP **PcP** **05 41 53.0 -0.5**
JAGI *e*S **S** **05 45 13.4 -0.4**
BCPH Baguio City Da 37.31 306⇓ *i*P **P** **05 39 37.5 +1.3**
TAU Tasmania Unive 37.36 185 *e*P **P** **05 39 36.9 +0.8**
comp=Z,317nm,1.0s
TAU *e*PcP **PcP** **05 41 55.9 +1.6**
TAU LR LR
comp=Z,29μm,22.0s
AFI Afiamalu 37.38 106 *e*P **P** **05 39 36.6 -0.2**
comp=Z,138nm,0.5s
AFI LR LR
comp=Z,7μm,20.0s
RAO Raoul Island 37.52 133 PFAKE 05 39 50.0 +12
RAO LR LR
comp=Z,16μm,19.0s
SZP Santa 38.06 308 *e*P **P** **05 39 43.4 +1.1**
comp=Z,205nm,0.9s
BTM Bintulu 39.05 282⇓ P **P** **05 39 52.4 +1.6**
JOW Kunigami 39.10 327 *e*P **P** **05 39 53.1 +2.1**
comp=Z,166nm,1.0s
SBUM Sibu 39.73 281⇓ P **P** **05 39 58.4 +1.9**
QRZ Quartz Range 39.99 155 PN **P** **05 39 59.8 +1.6**
OTVZ Oturere 40.12 150 PN **P** **05 40 02.5 +3.0**
URZ Urewera 40.18 148 P **P** **05 39 59.4 -0.4**
comp=Z,41nm,1.0s,baz=260,slow=3.8,SNR=10
URZ PcP **PcP** **05 42 02.0 -1.3**
comp=Z,41nm,0.8s,baz=306,slow=3.2,SNR=4.1
URZ S **S** **05 46 03.2 +0.2**
comp=Z,19nm,1.0s,baz=255,slow=20,SNR=2.8
URZ LR LR 05 55 30.5
comp=Z,13μm,19.0s,baz=333,slow=34
URZ Urewera 40.18 148 *e*P **P** **05 40 00.5 +0.7**
URZ PcP **PcP** **05 42 01.9 -1.3**
URZ *e*PcP **PcP** **05 42 02.9 -0.4**
URZ S **S** **05 46 03.2 +0.2**
SMRI Semarang 40.53 266 *e*P **P** **05 40 01.9 -1.1**
comp=Z,366nm,1.3s
YOJ Yonaguni jima 40.54 319 *e*P **P** **05 40 05.5 +2.5**
comp=Z,188nm,1.1s
THZ Tophouse 40.92 155 PN **P** **05 40 06.7 +0.8**
YULB Yu-li 40.99 316 *e*P **P** **05 40 07.3 +0.6**
comp=Z,101nm,0.8s
NACB Ninganchiao 41.30 317 *e*P **P** **05 40 10.5 +1.3**
comp=Z,525nm,1.2s
SNZO South Karori 41.34 153 PFAKE 05 40 20.0 +11
SNZO LR LR
comp=Z,25μm,20.0s
TPUB Ta-pu 41.39 315 *e*P **P** **05 40 10.3 +0.2**
comp=Z,130nm,0.8s
KSM Kuching 41.43 279⇓ P **P** **05 40 12.2 +1.8**
KSM Kuching 41.43 279 *e*P **P** **05 40 11.4 +1.0**
comp=Z,21nm,0.8s
KSM LR LR
comp=Z,3μm,20.0s
SSLB Suanglung 41.48 316 *e*P **P** **05 40 11.6 +0.8**
comp=Z,132nm,0.8s
LTZ Lake Taylor 41.51 156 PN **P** **05 40 11.6 +0.9**

NWAO Narrogin (SRO) 41.73 225 P **P** **05 40 12.1 -0.6**
comp=Z,25nm,0.6s,baz=156,slow=0.7,SNR=14
NWAO LR LR 05 58 05.1
comp=Z,86nm,18.2s,slow=37
KHZ Kahutara 41.73 155 *e*P **P** **05 40 12.5 0.0**
comp=Z,400nm,1.4s
YHNB Yeheng 41.77 317 *e*P **P** **05 40 14.7 +1.5**
comp=Z,368nm,0.8s
YHNB LR LR
comp=Z,5μm,21.0s
RPZ Rata Peaks 41.84 158 P **P** **05 40 13.3 -0.1**
comp=Z,50nm,0.8s,baz=27,slow=7.7,SNR=12
TATO Taipei 41.90 318 P **P** **05 40 17.2 +3.1**
SNR=7.6
TATO Taipei 41.90 318 *e*P **P** **05 40 15.8 +1.7**
comp=Z,855nm,1.5s
TATO LR LR
comp=Z,8μm,22.0s
WHZ Wether Hill Ro 42.74 163 *e*P **P** **05 40 20.9 +0.2**
comp=Z,70nm,0.9s
JNU Nakatsue 43.02 335 P **P** **05 40 23.8 +0.6**
comp=Z,227nm,0.7s,baz=118,slow=4.0,SNR=166
JNU LR LR 05 56 45.9
comp=Z,6μm,21.4s,baz=174,slow=34
CISI Cisompet, Garu 43.13 265 *e*P **P** **05 40 23.7 -0.7**
comp=Z,220nm,0.6s
LEM Lembang 43.33 266 LR LR 06 02 03.8
comp=Z,3μm,20.9s,baz=96,slow=41
MJAR Matsushiro Arr 43.60 345 P **P** **05 40 27.6 -0.2**
comp=Z,23nm,0.9s,baz=164,slow=9.0,SNR=49
MJAR PcP **PcP** **05 42 13.9 -0.7**
comp=Z,14nm,0.8s,baz=170,slow=4.6,SNR=5.6
MJAR ScP **ScP** **05 45 59.9 -2.2**
comp=Z,7.4nm,1.0s,baz=170,slow=4.8,SNR=6.7
MJAR LR LR 05 58 36.3
comp=Z,5μm,18.5s,baz=165,slow=36
MJAR Matsushiro Arr 43.60 345 P **P** **05 40 27.6 -0.2**
MJAR 05 42 13.9
MJAR pmax pmax
comp=Z,23nm,0.9s
MJAR pmax pmax
comp=Z,14nm,0.8s
MJAR MLR MLR
comp=Z,5μm,18.5s
MAJO Matsushiro 43.61 345 *c i*P **P** **05 40 26.5 -1.3**
MAJO pmax pmax
comp=Z,765nm,2.5s
MAJO MLR MLR
comp=Z,45μm,19.0s
MAJO Matsushiro 43.61 345 *e*P **P** **05 40 26.3 -1.5**
comp=Z,44nm,0.8s
MAJO *e*ScP **ScP** **05 46 03.1 +1.0**
MAJO LR LR
comp=Z,8μm,20.0s
MAT Matsushiro 43.61 345 P **P** **05 40 26.1 -1.7**
MAT S **S** **05 46 52.8 -0.9**
QZH Quanzhou 43.87 315⇑ *i*P **P** **05 40 32.3 +2.2**
QZH sP **sP** **05 40 45.4 -4.1**
QZH S **S** **05 46 59.0 +1.1**
QZH PMZ
comp=Z,1μm,1.1s
QZH PMZ
comp=Z,4μm,3.0s
QZH LN
comp=Z,11μm,21.6s
QZH LE
comp=Z,14μm,23.4s
QZH LZ
comp=Z,19μm,22.7s
H01W1 Cape Leeuwin H 44.94 225 P **P** **05 40 39.4 +1.1**
baz=98,slow=5.0,SNR=5.1
H01W3 Cape Leeuwin H 44.95 225 P **P** **05 40 38.6 +0.3**
baz=98,slow=5.0,SNR=2.9
H01W2 Cape Leeuwin H 44.96 225 P **P** **05 40 39.1 +0.7**
baz=98,slow=5.0,SNR=2.3
MIDW Midway 45.23 40 PFAKE 05 40 50.0 +9.2
MIDW LR LR
comp=Z,6μm,22.0s
KSJJU Jeju 45.27 331 P **P** **05 40 43.5 +2.4**
SNR=6.9
KSJJU Jeju 45.27 331 P **P** **05 40 43.5 +2.4**
SNR=6.9
XMIS Christmas Isla 45.33 261 *e*P **P** **05 40 42.3 +0.4**
comp=Z,346nm,1.1s
KSBUS Busan 45.60 334 P **P** **05 40 46.5 +2.9**
SNR=12
KSBUS Busan 45.60 334 P **P** **05 40 45.6 +1.9**
SNR=9.6
KSNAH Namhae 45.76 333 P **P** **05 40 46.6 +1.7**
SNR=10
KSNAH Namhae 45.76 333 P **P** **05 40 46.6 +1.7**
SNR=10
KSWAN Wando 45.97 332 P **P** **05 40 49.1 +2.5**
SNR=7.3
KSWAN Wando 45.97 332 P **P** **05 40 49.1 +2.5**
SNR=7.3
KSJIN Jinju 46.00 333 P P 05 40 50.3 +3.5
SNR=7.9
KSJIN Jinju 46.00 333 P **P** **05 40 49.1 +2.3**
SNR=8.9
KSDAG Daegu 46.13 335 P **P** **05 40 49.9 +2.0**
SNR=29
KSDAG Daegu 46.13 335 P **P** **05 40 49.9 +2.0**
SNR=29
KSJDO Jindo 46.22 331 P **P** **05 40 50.0 +1.3**
SNR=16
KSJDO Jindo 46.22 331 P **P** **05 40 50.5 +1.8**
SNR=11
KSYOC YEONGCHEON 46.28 335 P **P** **05 40 51.4 +2.3**
SNR=5.7
SSE Sheshan 46.37 324 P **P** **05 40 50.6 +0.8**
SSE sP **sP** **05 41 05.5 -3.8**
SSE S **S** **05 47 36.3 +2.5**
SSE PMZ
comp=Z,99nm,1.6s
SSE PMZ
comp=Z,630nm,5.1s
SSE LN
comp=Z,6μm,23.8s
SSE LE
comp=Z,6μm,24.3s
SSE LZ
comp=Z,10μm,25.2s
KSKWJ Gwangju 46.47 332 P **P** **05 40 52.5 +2.0**
SNR=25
KSKWJ Gwangju 46.47 332 P **P** **05 40 52.5 +2.0**
SNR=5.5
KSGWJ Gwangju-acc 46.52 332 P **P** **05 40 52.8 +1.8**
SNR=5.8
GZH Guangzhou 46.66 309 P **P** **05 40 54.8 +2.6**
GZH PP **PP** **05 42 43.0 +0.3**
GZH S **S** **05 47 42.8 +4.5**
GZH LN
comp=Z,7μm,20.1s
GZH LE
comp=Z,18μm,21.0s
GZH LZ
comp=Z,30μm,23.0s
KSEUS ULSEONG 46.72 335 P P 05 40 55.9 +3.5
SNR=6.4
KSULJ Uljin 46.72 336 P **P** **05 40 54.5 +2.1**
SNR=16
KSULJ Uljin 46.72 336 P **P** **05 40 54.0 +1.6**
SNR=13
KSJEU Jeongeup 46.77 333 P **P** **05 40 55.8 +2.9**
SNR=11
KSJEU Jeongeup 46.77 333 P **P** **05 40 54.6 +1.7**
SNR=8.0
KSULL Ulleungdo 46.80 338 P **P** **05 40 55.4 +2.3**
SNR=8.8
KSHUK Heuksando 46.81 331 P **P** **05 40 56.0 +2.8**
SNR=24
KSHUK Heuksando 46.81 331 P **P** **05 40 56.0 +2.8**
SNR=24
KSCPR CHUPUNGNYEONG 46.91 334 P **P** **05 40 55.7 +1.7**
SNR=38
KSCPR CHUPUNGNYEONG 46.91 334 P **P** **05 40 55.7 +1.7**
SNR=38
KSSAJ Sangju 46.99 334 P **P** **05 40 56.6 +2.1**
SNR=12
KSBON Boeun 47.22 334 P **P** **05 40 58.4 +2.0**
SNR=82
KSTBA Taebaek 47.26 336 P **P** **05 40 58.9 +2.1**
SNR=11
KSGUS GUNSAN 47.29 333 P **P** **05 40 59.0 +2.1**
SNR=11
KSTEJ Daejeon 47.30 334 P **P** **05 40 59.2 +2.2**
SNR=17

TJN Taejon 47.31 334 *c i*P **P** **05 40 57.8 +0.7**
KSCHJ Chungju 47.46 335 P **P** **05 40 59.9 +1.7**
SNR=10
KSKOJ Gongju 47.48 334 P **P** **05 41 00.6 +2.2**
SNR=15
QIZ Qiongzhong 47.49 302 P **P** **05 41 00.6 +1.8**
QIZ pP **pP** **05 41 10.5 -2.0**
QIZ sP **sP** **05 41 15.6 -2.8**
QIZ S **S** **05 47 51.8 +1.6**
QIZ sS **sS** **05 48 12.0 -1.2**
QIZ LN
comp=Z,5μm,26.8s
QIZ LE
comp=Z,4μm,26.0s
QIZ LZ
comp=Z,19μm,27.1s
QIZ Qiongzhong 47.49 302 *e*P **P** **05 41 00.2 +1.5**
comp=Z,110nm,1.2s
QIZ LR LR
comp=Z,15μm,22.0s
KSJES JEONGSEON 47.65 336 P **P** **05 41 02.0 +2.4**
SNR=7.2
KSCEA Cheonan 47.73 334 P **P** **05 41 01.9 +1.6**
SNR=47
KSDGY Daegwallycong 47.86 336 P **P** **05 41 02.6 +1.2**
SNR=18
KSWJU Wonju 47.88 335 P **P** **05 41 03.7 +2.2**
SNR=6.6
ERM Erimo 47.91 352 *d i*P **P** **05 41 02.0 +0.4**
ERM pmax pmax
comp=Z,67nm,2.5s
ERM Erimo 47.91 352 *e*P **P** **05 41 01.1 -0.5**
comp=Z,460nm,2.0s
ERM LR LR
comp=Z,8μm,21.0s
KSRS Korea Array 47.97 335 P **P** **05 41 03.1 +0.9**
comp=Z,51nm,0.9s,baz=155,slow=7.7,SNR=96
KSRS PcP **PcP** **05 42 28.8 -1.0**
comp=Z,4.8nm,0.5s,baz=159,slow=3.9,SNR=4.7
KSRS ScP **ScP** **05 46 18.7 -1.4**
comp=Z,1.3nm,0.7s,baz=146,slow=5.5,SNR=2.7
KSRS S **S** **05 47 58.1 +1.6**
comp=Z,0.4nm,0.3s,baz=168,slow=7.0,SNR=2.3
KSRS LR LR 05 59 46.2
comp=Z,6μm,21.8s,baz=162,slow=34
KSAR Wonju Array Be 47.98 335 P **P** **05 41 03.1 +0.8**
KSAR PcP **PcP** **05 42 28.8 -1.0**
KSAR ScP **ScP** **05 46 18.7 -1.5**
KSAR S **S** **05 47 58.1 +1.5**
KSJMJ Jumunjin 47.99 336 P **P** **05 41 04.4 +2.1**
SNR=19
KSICN Icheon 48.05 334 P **P** **05 41 04.8 +2.0**
SNR=13
KSSES Seosan 48.06 333 P **P** **05 41 04.4 +1.5**
SNR=7.8
KSSWO Suwon 48.23 334 P **P** **05 41 06.2 +2.1**
SNR=23
KSCHC Chuncheon 48.29 335 P **P** **05 41 06.2 +1.5**
SNR=7.8
KSIJA INJE 48.35 336 P **P** **05 41 06.9 +1.8**
SNR=29
KGM Kluang 48.40 278⇓ P **P** **05 41 06.2 +0.2**
KSSEO Seoul 48.43 334 P **P** **05 41 07.8 +2.1**
SNR=10
KSSKC Sokcho 48.44 336 P **P** **05 41 07.3 +1.6**
SNR=13
NJ2 Nanjing 48.44 323 *e*P P 05 41 09.9 +4.0
NJ2 pP pP 05 41 15.3 -4.3
NJ2 sP sP 05 41 22.6 -2.9
NJ2 S **S** **05 48 05.0 +1.7**
NJ2 PMZ
comp=Z,430nm,1.1s
NJ2 PMZ
comp=Z,3μm,6.6s
NJ2 LN
comp=Z,14μm,25.2s
NJ2 LE
comp=Z,21μm,24.8s
NJ2 LZ
comp=Z,20μm,24.7s
SEHB SEOHWA 48.53 336 P **P** **05 41 09.0 +2.4**
SNR=15
INCN Inchon 48.55 334 P **P** **05 41 08.4 +1.7**
SNR=38
INCN Inchon 48.55 334 *e*P **P** **05 41 08.0 +1.3**
comp=Z,354nm,1.2s
INCN LR LR
comp=Z,7μm,22.0s
KSCWO Cheorwon 48.68 335 P **P** **05 41 09.4 +1.7**
SNR=18
KSDDC Dongducheon 48.72 335 P **P** **05 41 10.3 +2.4**
SNR=12
KSGAH Ganghwa 48.82 334 P **P** **05 41 10.4 +1.7**
SNR=23
KSMUS Musan 48.84 334 P **P** **05 41 10.4 +1.6**
SNR=23
YNCB YEONCHEON 48.89 334 P **P** **05 41 10.7 +1.5**
SNR=45
YUK Yuzh-Kuril'sk 49.59 355 *c i*P P 05 41 09.1 -5.4
YUK *i* *SP sP 05 41 37.6 +3.5
YUK 05 43 09.8
YUK *e*PPP PPP 05 44 02.4
YUK *i* S **S** **05 48 18.3 -0.7**
YUK *e*SS **SS** **05 51 50.0 -2.0**
YUK pmax pmax
comp=Z,430nm,10.6s
YUK pmax pmax
comp=N,80nm,1.6s
YUK pmax pmax
comp=E,151nm,1.6s
YUK pmax pmax
comp=Z,169nm,1.6s
YUK MLR MLR
comp=N,3μm,19.0s
YUK MLR MLR
comp=E,1μm,19.0s
YUK MLR MLR
comp=Z,3μm,19.0s
UBPT Khong Chiam 49.80 295 P P 05 41 20.5 +3.9
comp=Z,22nm,2.4s,comp=Z,1μm
KSBAR Backryungdo 49.82 333 P **P** **05 41 18.0 +1.7**
SNR=8.9
RAR Rarotonga 49.95 113 P **P** **05 41 16.8 -0.8**
comp=Z,37nm,0.8s,baz=219,slow=5.4,SNR=4.4
RAR LR LR 06 01 07.3
comp=Z,1μm,18.6s,baz=278,slow=34
ASAJ Asahikawa 50.05 352 P **P** **05 41 17.9 0.0**
comp=Z,35nm,0.7s,baz=206,slow=6.7,SNR=22
ASAJ Asahikawa 50.05 352 P **P** **05 41 17.9 0.0**
ASAJ pmax pmax
comp=Z,35nm,0.7s
WHN Wuhan 50.31 318⇑ P **P** **05 41 22.0 +1.8**
WHN pP **pP** **05 41 35.9 +1.9**
WHN S **S** **05 48 30.5 +1.0**
WHN PMZ
comp=Z,280nm,0.8s
WHN LN
comp=Z,6μm,20.4s
WHN LE
comp=Z,6μm,15.3s
WHN LZ
comp=Z,21μm,25.6s
IPM Ipoh 51.08 280⇓ P **P** **05 41 26.2 -0.2**
IPM Ipoh 51.08 280 *e*P **P** **05 41 25.8 -0.5**
comp=Z,32nm,0.9s
IPM *e*PcP **PcP** **05 42 41.9 +0.1**
VLA Vladivostok 51.51 342 *k e*P **P** **05 41 28.3 -0.7**
VLA *i* *PP **pP** **05 41 46.2 +3.4**
VLA *e* 05 42 42.0
VLA *e* 05 43 25.9
VLA S **S** **05 48 42.7 -3.0**
VLA pmax pmax
comp=Z,107nm,1.3s
KULM Kulim 51.60 281 *e*P **P** **05 41 29.5 -0.8**
comp=Z,37nm,0.9s
KULM LR LR
comp=Z,2μm,20.0s
SKNT Sakolnakorn 51.75 297 P **P** **05 41 32.2 +1.0**
comp=Z,112nm,1.2s
XMAS Kiritimati 51.85 83 *e*P **P** **05 41 33.9 +1.8**
comp=Z,713nm,1.0s
XMAS LR LR
comp=Z,12μm,21.0s
SKLT Songkhla 52.02 283 P **P** **05 41 35.0 +1.6**
comp=Z,33nm,1.4s,comp=Z,1μm
TIA Tai'an 52.39 325⇑ P **P** **05 41 35.8 +0.1**

TIA pP **pP** **05 41 50.6 +1.0**
TIA S **S** **05 48 58.8 +0.7**
TIA SS **SS** **05 52 43.3 +6.6**
TIA PMZ
comp=Z,100nm,0.8s
TIA PMZ
comp=Z,1μm,4.0s
TIA LN
comp=Z,4μm,22.0s
TIA LE
comp=Z,5μm,20.2s
TIA LZ
comp=Z,9μm,24.4s
USRK **Ussuriysk Ar.** **52.46 343** P **P** **05 41 36.4 +0.4**
comp=Z,33nm,0.8s,baz=149,slow=7.5,SNR=44
USRK S S 05 48 52.5 -6.2
comp=Z,0.4nm,0.3s,baz=189,slow=26,SNR=2.0
USRK LR LR 06 02 22.4
comp=Z,5μm,21.7s,baz=152,slow=34
YSS **Yuzh-Sakhalins** **52.81 353** *ce*P **P** **05 41 37.0 -1.6**
YSS *e**PP **pP** **05 41 55.0 +2.6**
YSS *e* 05 42 46.0
YSS *e*S **S** **05 49 00.0 -3.3**
YSS *e*PS SPn 05 49 10.0 -1.0
YSS *e*SSS SSS 05 54 20.0
YSS pmax pmax
comp=Z,50nm,0.9s
YSS **Yuzh-Sakhalins** **52.81 353** *e*P **P** **05 41 38.3 -0.3**
comp=Z,48nm,0.8s
YSS *e*PcP **PcP** **05 42 47.5 +0.2**
YSS LR LR
comp=Z,2μm,21.0s
TRTT **Trang** **53.07 284** P P 05 41 44.5 +3.4
comp=Z,50nm,1.2s
CHAI **Chaiyaphum** **53.16 294** P **P** **05 41 41.9 +0.2**
comp=Z,14nm,0.8s
SNY **Shenyang** **53.47 334** ⇑P **P** **05 41 43.8 +0.3**
SNY PP **PP** **05 43 44.0 -0.5**
SNY PMZ
comp=Z,54nm,2.5s
SNY PMZ
comp=Z,1μm,11.6s
SNY LN
comp=Z,3μm,28.4s
SNY LE
comp=Z,4μm,24.7s
SNY LZ
comp=Z,7μm,27.0s
ENH **Enshi** **53.51 314** *e*P **P** **05 41 44.8 +0.6**
comp=Z,141nm,1.1s
ENH PcP **PcP** **05 42 47.4 -3.1**
MDJ **Mudanjiang** **53.58 341** P **P** **05 41 44.5 +0.2**
MDJ pP **pP** **05 41 55.3 -2.9**
MDJ sP **sP** **05 42 01.0 -3.0**
MDJ S **S** **05 49 14.8 +0.8**
MDJ SS **SKiKP** **05 52 57.6 +2.3**
MDJ PMZ
comp=Z,41nm,1.2s
MDJ PMZ
comp=Z,1μm,11.2s
MDJ LN
comp=Z,5μm,33.8s
MDJ LE
comp=Z,4μm,26.0s
MDJ LZ
comp=Z,6μm,34.9s
MDJ **Mudanjiang** **53.58 341** *e*P **P** **05 41 44.2 -0.1**
comp=Z,22nm,0.8s
MDJ *e*S **S** **05 49 17.8 +3.8**
MDJ LR LR
comp=Z,4μm,22.0s
GYA **Guiyang** **53.59 309** ⇑*i*P **P** **05 41 47.0 +2.1**
GYA pP **pP** **05 41 58.9 +0.1**
GYA sP **sP** **05 42 04.0 -0.6**
GYA PP **PP** **05 43 49.6 +3.5**
GYA ScP **ScP** **05 46 45.4 +0.6**
GYA S **S** **05 49 16.3 +1.3**
GYA sS **sS** **05 49 37.8 -0.5**
GYA PMZ
comp=Z,40nm,1.0s
GYA PMZ
comp=Z,2μm,5.9s
GYA LN
comp=Z,3μm,20.6s
GYA LE
comp=Z,3μm,21.0s
GYA LZ
comp=Z,4μm,20.2s
GSI **Gunungsitoli** **53.98 276** *e*P **P** **05 41 46.1 -1.7**
comp=Z,90nm,0.8s
COCO **West Island** **54.04 259** PFAKE 05 42 00.0 +12
COCO LR LR
comp=Z,6μm,21.0s
PBKT **Sadao Pong** **54.31 295** P **P** **05 41 52.8 +2.7**
comp=Z,28nm,1.3s,comp=Z,3μm
CN2 **Changchun** **54.35 337** SS SKiKP 05 53 07.3 +11
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,4μm,22.0s
CN2 LR LR
comp=E,3μm,22.0s
CN2 LR LR
comp=Z,4μm,23.0s
LOEI **Loei** **54.36 296** P **P** **05 41 49.1 -1.4**
comp=Z,36nm,0.8s,comp=Z,672nm
UTTA **Uttaradit** **55.08 296** P **P** **05 41 57.2 +1.6**
comp=Z,10nm,0.8s,comp=Z,142nm
SRDT **SRDT** **55.30 292** P P 05 42 00.9 +3.6
comp=Z,124nm,1.7s
NANT **Nan** **55.32 297** P **P** **05 41 58.8 +1.4**
comp=Z,18nm,0.9s,comp=Z,209nm
UTHA **Uthaitani** **55.37 293** P **P** **05 41 59.2 +1.4**
comp=Z,14nm,0.8s,comp=Z,126nm
HABR **Khabarovsk** **55.63 347** *ce*P **P** **05 41 57.9 -1.2**
HABR *e**PP **pP** **05 42 15.8 +2.8**
HABR *e**SP sP 05 42 24.2 +5.4
HABR *e* 05 42 57.1
HABR *e* 05 44 02.6
HABR *e*S **S** **05 49 38.7 -2.6**
HABR *e* 05 51 40.4
HABR *e*SS **SS** **05 53 25.1 -2.3**
HABR pmax pmax
comp=Z,289nm,1.9s
HABR pmax pmax
comp=Z,535nm,2.6s
BJT **Baijiatuau** **55.64 328** *e*P **P** **05 41 59.1 -0.2**
comp=Z,77nm,0.8s
BJT *e*S S 05 49 30.2 -12
BJT LR LR
comp=Z,8μm,22.0s
BJI **Beijing** **55.65 328** P **P** **05 42 00.0 +0.6**
BJI S **S** **05 49 37.4 -4.5**
BJI SS **SS** **05 53 33.5 +5.5**
BJI PMZ
comp=Z,49nm,1.6s
BJI PMZ
comp=Z,1μm,3.9s
BJI LN
comp=Z,5μm,24.5s
BJI LE
comp=Z,3μm,25.3s
BJI LZ
comp=Z,8μm,29.3s
XAN **Xi'an** **56.08 318** P **P** **05 42 03.1 +0.4**
XAN pP **pP** **05 42 15.3 -1.3**
XAN S **S** **05 49 46.1 -1.9**
XAN PMZ
comp=Z,52nm,0.7s
XAN LN
comp=Z,3μm,20.9s
XAN LE
comp=Z,940nm,19.9s
XAN LZ
comp=Z,2μm,20.9s
KMI **Kunming** **56.09 305** ⇑P **P** **05 42 05.3 +2.2**
KMI pP **pP** **05 42 16.8 -0.3**
KMI sP **sP** **05 42 22.8 -0.1**
KMI S **S** **05 49 45.0 -3.8**
KMI SS **SS** **05 53 40.8 +4.8**
KMI PMZ
comp=Z,100nm,1.0s
KMI PMZ
comp=Z,510nm,6.8s
KMI LN
comp=Z,4μm,23.4s
KMI LE
comp=Z,3μm,28.6s
KMI LZ
comp=Z,11μm,30.0s
CRAI **Chiangrai** **56.12 299** P **P** **05 42 00.8 -2.3**
comp=Z,40nm,1.2s,comp=Z,1μm
TIY **Taiyuan** **56.15 323** *e*P **P** **05 42 04.3 +1.2**
TIY PP PP 05 44 15.3 +6.5
TIY S **S** **05 49 47.3 -1.6**
TIY PMZ
comp=Z,660nm,5.4s
TIY LN
comp=Z,5μm,20.7s
TIY LE
comp=Z,1μm,14.7s
TIY LZ
comp=Z,9μm,21.2s
LAMP **Lampang** **56.17 297** P **P** **05 42 05.2 +1.7**
comp=Z,19nm,0.8s,comp=Z,142nm
SKR **Severo-Kuril's** **56.17 4** *e*P P 05 41 52.0 -11
SKR *e*PPP PPP 05 45 34.0
SKR *e*S S 05 49 56.0 +7.6
SKR pmax pmax
comp=Z,110nm,1.0s
SKR pmax pmax
comp=Z,1μm,16.0s
SKR smax smax
comp=N,5μm,22.0s
SKR smax smax
comp=E,3μm,22.0s
SKR MLR MLR
comp=N,3μm,18.0s
SKR MLR MLR
comp=E,2μm,18.0s
SKR MLR MLR
comp=Z,5μm,18.0s
KIP **Kipapa** **56.54 60** *d*P **P** **05 42 08.6 +2.6**
KIP pmax pmax
comp=Z,435nm,1.2s
KIP **Kipapa** **56.54 60** *e*P **P** **05 42 08.7 +2.6**
comp=Z,218nm,0.9s
KIP LR LR
comp=Z,7μm,22.0s
TYV **Tymovskoe** **56.67 354** *e*P **P** **05 42 07.0 +0.6**
TYV *e*S S 05 50 10.0 +15
TYV pmax pmax
comp=E,35nm,0.8s
TYV pmax pmax
comp=Z,1μm,15.0s
TYV smax smax
comp=N,4μm,11.0s
CM31 **Chiang Mai Arr** **56.76 296** *e*P **P** **05 42 09.1 +1.4**
comp=N,18nm,0.8s
CMAR **Chiang Mai Arr** **56.76 296** P **P** **05 42 08.4 +0.6**
comp=N,20nm,1.0s,baz=121,slow=5.2,SNR=38
CMAR LR LR 06 03 10.4
comp=N,3μm,21.9s,baz=118,slow=32
CMAR PKPPKP P'P'df 06 11 54.1 -7.7
comp=N,3.1nm,1.0s,baz=316,slow=3.8,SNR=6.2
CMAR PKP2bc 06 12 13.3
comp=N,6.6nm,0.9s,baz=292,slow=4.2,SNR=5.5
CMAR PKP2ab 06 12 30.2
comp=N,11nm,1.1s,baz=299,slow=4.3,SNR=6.8
CHTO **Chiang Mai** **56.88 297** P **P** **05 42 10.5 +1.9**
comp=N,128nm,1.1s,comp=N,4μm
CHTO **Chiang Mai** **56.88 297** P **P** **05 42 11.5 +2.9**
SNR=6.6
CHTO **Chiang Mai** **56.88 297** *e*P **P** **05 42 07.7 -0.8**
comp=N,26nm,0.9s
CHTO LR LR
comp=Z,2μm,20.0s
KLR **Kul'dur** **57.13 345** *e*P P 05 42 06.1 -3.7
KLR *e* 05 42 24.0
KLR *e*S S 05 50 10.0 +8.8
KLR pmax pmax
comp=E,90nm,2.0s
KLR pmax pmax
comp=Z,200nm,2.0s
KLR pmax pmax
comp=Z,1μm,11.0s
CMAI **Chiengmai2** **57.18 298** P **P** **05 42 12.9 +2.1**
comp=Z,23nm,1.2s,comp=Z,861nm
MHMT **Maesarieng** **57.57 295** P P 05 42 21.6 +8.1
comp=Z,17nm,0.9s
CD2 **Chengdu** **58.03 312** ⇑*i*P **P** **05 42 17.0 +0.5**
CD2 PcP **PcP** **05 43 08.5 +0.5**
CD2 PP **PP** **05 44 26.9 +1.3**
CD2 PcS **PcS** **05 47 10.1 +0.5**
CD2 S **S** **05 50 14.3 +0.6**
CD2 PMZ
comp=Z,210nm,0.6s
CD2 PMZ
comp=Z,2μm,4.5s
CD2 LN
comp=Z,7μm,21.6s
CD2 LE
comp=Z,8μm,22.5s
CD2 LZ
comp=Z,11μm,21.6s
POHA **Pohakuloa** **58.11 63** *e*P **P** **05 42 19.0 +1.6**
comp=Z,756nm,1.0s
POHA LR LR
comp=Z,8μm,21.0s
PET **Petropavlovsk** **58.70 5** *c i*P **P** **05 42 20.0 -0.6**
PET *e*S **S** **05 50 18.4 -3.1**
PET pmax pmax
comp=Z,900nm,12.7s
PET pmax pmax
comp=Z,85nm,0.7s
PET pmax pmax
comp=Z,1μm,19.0s
PET MLR MLR
comp=Z,4μm,21.0s
PET MLR MLR
comp=Z,3μm,17.0s
PET **Petropavlovsk** **58.70 5** *e*P **P** **05 42 22.0 +1.4**
comp=Z,45nm,0.6s
PET LR LR
comp=Z,5μm,21.0s
PEA0B **Petropavlovsk-** **58.70 5** *e*P **P** **05 42 19.8 -0.8**
PETK **Petropavlovsk-** **58.70 5** P **P** **05 42 20.5 -0.2**
comp=Z,108nm,0.7s,baz=174,slow=7.9,SNR=45
PETK LR LR 06 03 54.0
comp=Z,5μm,21.6s,baz=188,slow=32
HHC **Hu-ho-hao-te** **58.74 326** *e*P **P** **05 42 22.1 +0.7**
HHC pP **pP** **05 42 34.4 -1.0**
HHC sP **sP** **05 42 41.5 +0.3**
HHC PP **PP** **05 44 35.8 +4.0**
HHC S **S** **05 50 18.8 -4.0**
HHC SS **SS** **05 54 20.8 +3.9**
HHC PMZ
comp=Z,50nm,1.0s
HHC PMZ
comp=Z,610nm,5.3s
HHC LN
comp=Z,3μm,15.6s
HHC LE
comp=Z,4μm,15.2s
HHC LZ
comp=Z,7μm,15.9s
PPT **Papeete** **59.03 107** P **P** **05 42 23.4 -0.3**
comp=Z,44nm,0.8s,baz=285,slow=1.0,SNR=8.4
PPT **Papeete** **59.03 107** P **P** **05 42 23.4 -0.3**
PPT pmax pmax
comp=Z,44nm,0.8s
PPT2 **Papeete2** **59.03 107** *e*P P 05 42 27.1 +3.3
comp=Z,121nm,1.3s
PPT2 **Papeete2** **59.03 107** *e*PP PP 05 44 31.8 -2.9
comp=Z,1μm,26.0s
PPT2 *e*S **S** **05 50 31.7 +4.4**
comp=Z,6μm,25.2s
PPT2 *e*SS SS 05 54 30.6 +8.6
comp=Z,3μm,30.2s
PPT2 *e*LQ LQ 05 57 22.9
comp=Z,16μm,33.8s
PPT2 *e*LR LR 06 00 03.6
comp=Z,5μm,25.5s,baz=276
PAE **Paea** **59.03 107** *e*P **P** **05 42 26.5 +2.8**
NKL **Nikolayevsk** **59.16 353** *e*P P 05 42 18.0 -5.8
NKL *e* 05 50 41.0
NKL *e* 05 56 53.0
NKL pmax pmax
comp=N,20nm,0.9s
NKL pmax pmax
comp=E,13nm,0.9s
NKL pmax pmax
comp=Z,70nm,0.9s
TIAR **Tiarei** **59.25 107** *e*P P 05 42 28.6 +3.4
comp=Z,62nm,1.0s
BTO **Baotou** **59.46 324** *e*P **P** **05 42 27.3 +1.0**
TBI **Tubuai** **59.71 114** *e*P **P** **05 42 31.2 +2.9**
comp=Z,383nm,1.3s
TBI **Tubuai** **59.71 114** *e*PP PP 05 44 42.0 +1.4
comp=Z,833nm,27.5s
TBI *e*S **S** **05 50 39.7 +3.9**
comp=Z,6μm,28.1s
TBI *e*SS SS 05 54 40.7 +8.3
comp=Z,3μm,29.5s
TBI *e*LQ LQ 05 57 49.0
comp=Z,24μm,34.2s
TBI *e*LR LR 06 00 19.7
comp=Z,12μm,35.8s
MEH **Mehetia** **60.48 107** *e*P **P** **05 42 36.5 +2.8**
comp=Z,65nm,1.0s
PMOR **Pomariorio Ree** **60.51 104** *e*P P 05 42 37.1 +3.3
comp=Z,485nm,1.2s
PMOR *e*pP pP 05 42 48.3 +0.4
comp=Z,1μm,1.4s
LZH **Lanzhou** **60.67 317** ⇑P **P** **05 42 36.4 +1.6**
LZH pP **pP** **05 42 48.5 -0.4**
LZH sP **sP** **05 42 54.0 -0.7**
LZH S **S** **05 50 48.6 +0.7**
LZH sS **sS** **05 51 09.5 -2.1**
LZH SS **SS** **05 54 50.0 +2.6**
LZH PMZ
comp=Z,310nm,1.5s
LZH PMZ
comp=Z,1μm,9.3s
LZH LN
comp=Z,3μm,15.0s
LZH LE
comp=Z,3μm,15.8s
LZH LZ
comp=Z,8μm,17.0s
VAH **Vaihoa** **60.77 104** *e*P **P** **05 42 38.7 +3.1**
comp=Z,112nm,1.0s
VAH *e*pP **pP** **05 42 50.0 +0.3**
comp=Z,301nm,1.5s
HIA **Hailar** **61.08 337** *c i*P **P** **05 42 37.5 +0.4**
HIA pmax pmax
comp=Z,143nm,0.7s
HIA MLR MLR
comp=Z,2μm,18.0s
HIA **Hailar** **61.08 337** *e*P **P** **05 42 37.6 +0.5**
comp=Z,132nm,0.8s
HIA LR LR
comp=Z,4μm,20.0s
DRV **Dumont d'Urvil** **61.50 185** P P 05 42 20.0 -20
DRV PP **PP** **05 44 54.0 -1.5**
DRV S S 05 50 28.0 -29
DRV SS **SS** **05 54 59.0 +0.2**
DRV L L 05 57 00.0
DRV R 06 01 00.0
IMP **Imphal** **63.30 301** *e*P **P** **05 42 54.0 +1.4**
IMP *ex* x 05 43 28.0
ADK **Adak** **63.44 22** PFAKE 05 43 10.0 +17
ADK LR LR
comp=Z,9μm,22.0s
GTA **Gaotai** **65.13 318** ⇑P **P** **05 43 05.3 +0.9**
GTA PcP **PcP** **05 43 35.9 -0.8**
GTA PP **PP** **05 45 28.0 -0.3**
GTA S **S** **05 51 42.8 -0.9**
GTA ScS **SKSac** **05 52 54.4 -1.0**
GTA SS **SS** **05 55 59.8 +2.8**
GTA PMZ
comp=Z,40nm,1.5s
GTA PMZ
comp=Z,1μm,5.3s
GTA LN
comp=Z,2μm,19.5s
GTA LE
comp=Z,3μm,20.0s
GTA LZ
comp=Z,4μm,20.9s
SHL **Shillong** **65.32 301** *e*P **P** **05 43 06.0 +0.1**
CIT **Chita** **65.70 336** *e*P **P** **05 43 08.5 +0.8**
CIT *e* 05 43 27.1
CIT *e* 05 43 38.5
CIT pmax pmax
comp=Z,251nm,1.2s
CLNS **Chul'man** **65.79 345** *e*P **P** **05 43 08.4 +0.3**
CLNS *e* 05 43 38.6
CLNS *e* 05 45 34.4
CLNS *e*PPP PPP 05 47 09.3
CLNS *e*S S 05 51 57.1 +6.3
CLNS *e*SSS SSS 05 59 03.5
CLNS pmax pmax
comp=Z,82nm,0.8s
CLNS pmax pmax
comp=N,35nm,0.8s
CLNS pmax pmax
comp=E,19nm,0.8s
CLNS pmax pmax
comp=Z,10.0nm,1.1s
CLNS pmax pmax
comp=N,16nm,1.2s
CLNS pmax pmax
comp=E,12nm,1.1s
CLNS smax smax
comp=N,1μm,13.3s
CLNS smax smax
comp=E,398nm,11.2s
ULN **Ulaanbaatar** **65.80 329** PFAKE 05 43 20.0 +11
ULN LR LR
comp=Z,5μm,22.0s
SONM **Songino Array** **66.12 329** P **P** **05 43 11.4 +0.9**
comp=Z,91nm,1.0s,baz=141,slow=4.8,SNR=114
SONM LR LR 06 11 26.4
comp=Z,9μm,21.3s,baz=130,slow=35
SONM PKPPKP P'P'df 06 11 39.3 -5.2
comp=Z,2.4nm,1.0s,baz=288,slow=0.9,SNR=8.5
SONM PKP2bc 06 11 48.1
comp=Z,3.5nm,0.8s,baz=302,slow=2.7,SNR=6.3
CASY **Casey** **66.83 197** *e*P **P** **05 43 14.8 +0.2**
comp=Z,144nm,1.3s
CASY LR LR
comp=Z,5μm,22.0s
LSA **Lhasa** **67.35 305** P **P** **05 43 19.9 +0.7**
LSA S **S** **05 52 14.6 +2.9**
LSA PMZ
comp=Z,60nm,1.0s
LSA LN
comp=Z,2μm,30.0s
LSA LE
comp=Z,3μm,30.0s
LSA LZ
comp=Z,4μm,30.0s
LSA **Lhasa** **67.35 305** *e*P **P** **05 43 19.7 +0.5**
comp=Z,77nm,0.8s
LSA LR LR
comp=Z,4μm,22.0s
TAOE **Nuku Hiva Isla** **68.12 97** *e*S **S** **05 52 25.3 +4.7**
comp=Z,5μm,26.1s
TAOE **Nuku Hiva Isla** **68.12 97** *e*LR LR 06 04 19.9
comp=Z,5μm,22.9s,baz=270
SEY **Seymchan** **68.30 1** P **P** **05 43 23.4 -0.4**
comp=Z,16nm,0.6s,baz=179,slow=5.7,SNR=20
SEY **Seymchan** **68.30 1** *c i*P **P** **05 43 23.5 -0.4**
SEY *i**PP **pP** **05 43 36.9 -1.3**
UNV **Unalaska Valle** **68.98 25** *e*P **P** **05 43 28.5 +0.3**
comp=Z,40nm,0.7s
ZAK **Zakamensk** **69.31 329** ⇓*i*P **P** **05 43 30.7 +0.1**
ZAK *e* 05 43 48.0
ZAK pmax pmax
comp=Z,94nm,1.1s
YAK **Yakutsk** **69.40 349** P **P** **05 43 30.8 +0.1**
comp=Z,9.5nm,0.7s,baz=180,slow=20,SNR=15
YAK **Yakutsk** **69.40 349** *c i*P **P** **05 43 30.0 -0.7**
YAK *e* 05 43 53.4
YAK *e**PP **PcP** **05 43 55.5 +1.7**
YAK *e* 05 46 04.9
YAK *e*PPP PPP 05 47 44.4
YAK *e*S **S** **05 52 28.9 -4.9**
YAK *e**SS **SKiKP** **05 53 15.3 -0.3**
YAK pmax pmax
comp=Z,139nm,1.0s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=N,56nm,1.2s
YAK pmax pmax

comp=Z,144nm,2.5s
YAK pmax pmax
comp=N,157nm,2.8s
YAK pmax pmax
comp=E,82nm,2.5s
YAK smax smax
comp=N,1µm,10.4s
YAK smax smax
comp=E,431nm,6.7s
YAK Yakutsk 69.40 349 P **P** **05 43 30.8 +0.1**
YAK LR LR
comp=Z,4µm,22.0s
TAPN Taplejung 69.43 302 *e*P **P** **05 43 32.3 +0.3**
comp=Z,261nm,1.2s
ODAN Odare 69.55 301 *e*P **P** **05 43 33.3 +0.6**
BOD Bodaibo 69.93 340 *e*P **P** **05 43 33.5 -0.6**
BOD pmax pmax
comp=Z,65nm,1.3s
TLY Talaya 69.94 331 P **P** **05 43 34.4 +0.1**
comp=Z,28nm,0.8s,baz=177,slow=5.2,SNR=25
TLY Talaya 69.94 331 P **P** **05 43 34.4 +0.1**
TLY pmax pmax
comp=Z,28nm,0.8s
BOK Bokaro 69.98 298 *e*P **P** **05 43 36.0 +0.9**
IRK Irkutsk 69.99 331 *e*P **P** **05 43 32.9 -1.7**
IRK pmax pmax
comp=Z,133nm,1.2s
RAMN Ramite 70.25 301 *e*P **P** **05 43 36.9 -0.1**
VIS Vishakhapatnam 70.83 291 *e*P **P** **05 43 40.6 +0.2**
GUN Gumba 71.15 302 *e*P **P** **05 43 42.6 0.0**
comp=Z,192nm,0.9s
MOY Mondy 71.24 330 *e*P **P** **05 43 43.2 +0.8**
MOY pmax pmax
comp=Z,146nm,1.6s
PKI Pulchoki 71.45 301 *e*P **P** **05 43 44.1 -0.3**
comp=Z,206nm,1.2s
PKIN Phulchoki 71.46 301 *e*P **P** **05 43 44.5 +0.1**
PALK Pallekele 71.48 280 P **P** **05 43 44.5 0.0**
comp=Z,20nm,0.8s,baz=138,slow=5.2,SNR=4.9
PALK Pallekele 71.48 280 P **P** **05 43 44.5 0.0**
PALK pmax pmax
comp=Z,21nm,0.8s
KKN Kakani 71.62 302 *e*P **P** **05 43 45.1 -0.2**
comp=Z,173nm,1.1s
DMN Daman 71.72 301 *e*P **P** **05 43 46.1 +0.2**
comp=Z,295nm,1.0s
VNDA Vanda 72.14 178 P **P** **05 43 47.1 -0.1**
comp=Z,17nm,0.8s,baz=326,slow=6.4,SNR=60
VNDA S **S** **05 53 03.0 -2.4**
comp=Z,0.4nm,0.7s,baz=282,slow=14,SNR=1.8
VNDA Vanda 72.14 178 P **P** **05 43 47.2 -0.1**
VNDA S **S** **05 53 03.0 -2.4**
VNDA pmax pmax
comp=Z,17nm,0.8s
VNDA Vanda 72.14 178 *e*P **P** **05 43 48.0 +0.8**
VNDA S **S** **05 53 03.0 -2.4**
GKN Gorkha 72.23 302 *e*P **P** **05 43 48.6 -0.2**
comp=Z,303nm,1.1s
MIR Mirnyy 72.66 201 *e*P P 05 43 59.0 +8.6
MIR pmax pmax
comp=Z,360nm,1.5s
SBA Scott Base 72.72 177 *e*P **P** **05 43 52.4 +1.7**
comp=Z,292nm,1.8s
SBA LR LR
comp=Z,3µm,20.0s
RKT Rikitea 72.98 112 *e*P **P** **05 43 55.5 +2.3**
RKT comp=Z,198nm,1.2s *e*pP **pP** **05 44 07.7 0.0**
comp=Z,311nm,1.3s
RKT Rikitea 72.98 112 *e*PP PP 05 46 34.9 -1.4
RKT comp=Z,650nm,29.0s *e*S **SKiKP** **05 53 19.7 -2.4**
comp=Z,3µm,26.0s
RKT *e*SS **SS** **05 58 05.0 +6.7**
comp=Z,3µm,34.0s
RKT *e*LQ LQ 06 03 24.3
comp=Z,9µm,39.5s
RKT *e*LR LR 06 06 28.8
comp=Z,11µm,30.5s
KOLN Koldanda 73.04 301 *e*P **P** **05 43 53.6 -0.2**
comp=Z,102nm,0.7s
AIS Amsterdam Isla 73.68 232 P P 05 43 42.0 -15
AIS PP PP 05 46 27.0 -15
AIS S SKiKP 05 53 11.0 -12
AIS R 06 06 00.0
BILL Bilibino 74.19 6*c e*P **P** **05 43 59.2 -0.2**
BILL *e* 05 44 13.2
BILL *e* 05 46 42.9
BILL *e*S **S** **05 53 28.9 +0.2**
BILL pmax pmax
comp=Z,64nm,0.8s
BILL Bilibino 74.19 6 PFAKE 05 44 10.0 +11
BILL LR LR
comp=Z,1µm,19.0s
GAMB Gambell 74.54 16 *e*P **P** **05 44 01.3 -0.1**
comp=Z,37nm,1.3s
HVS Khovu-Aksy 74.79 327*c i*P **P** **05 44 03.7 +0.4**
HVS pmax pmax
comp=Z,696nm,1.3s
WMQ Urumqi 75.22 318 P **P** **05 44 06.1 +0.2**
WMQ pP **PcP** **05 44 19.3 +0.1**
WMQ sP **sP** **05 44 24.5 -1.7**
WMQ PP **PP** **05 46 55.1 +0.1**
WMQ S **S** **05 53 40.3 -1.0**
WMQ sS **sS** **05 54 06.6 +1.0**
WMQ ScS **SKKSac** **05 54 11.6 0.0**
WMQ PMZ
comp=Z,47nm,1.7s
WMQ PMZ
comp=Z,550nm,5.0s
WMQ LN
comp=Z,2µm,19.0s
WMQ LE
comp=Z,1µm,28.3s
WMQ LZ
comp=Z,3µm,29.6s
HYB Hyderabad 75.23 290 *e*P **P** **05 44 05.2 -1.3**
TRD Trivandrum 75.32 280 *e*P **P** **05 44 05.3 -1.7**
TRD AMB AMB 05 44 23.6
comp=Z,66nm,0.6s
NGP Nagpur 75.50 293 *e*P **P** **05 44 07.3 -0.7**
AKL Akola 77.28 293 *e*P **P** **05 44 18.0 0.0**
AKL AMB AMB 05 44 22.2
comp=Z,109nm,0.7s
BHPL Bhopal 77.40 295 *e*P **P** **05 44 17.3 -1.4**
PTCN Pitcairn Islan 77.45 114 PFAKE 05 44 30.0 +11
PTCN LR LR
comp=Z,3µm,19.0s
KDAK Kodiak Island 77.57 27 P **P** **05 44 19.0 +0.2**
comp=Z,313nm,1.2s,SNR=9.0
KDAK Kodiak Island 77.57 27*c e*P **P** **05 44 21.1 +2.3**
KDAK Kodiak Island 77.57 27 *e*P **P** **05 44 18.9 +0.2**
comp=Z,65nm,1.1s
KDAK LR LR
comp=Z,3µm,22.0s
KRAR Krasnoyarsk 77.64 331 *e*P **P** **05 44 18.7 -0.6**
DGAR Diego Garcia 78.17 264 PFAKE 05 44 30.0 +6.9
DGAR LR LR
comp=Z,2µm,20.0s
DDI Dehra Dun 78.38 302 *e*P **P** **05 44 23.6 -0.5**
DDI AMB AMB 05 44 25.9
comp=Z,146nm,0.6s
TIXI Tiksi 78.44 353*c i*P **P** **05 44 21.9 -1.5**
TIXI pmax pmax
comp=Z,33nm,1.2s
TIXI MLR MLR
comp=Z,2µm,19.0s
TIXI Tiksi 78.44 353 *e*P **P** **05 44 21.8 -1.5**
comp=Z,31nm,1.0s
TIXI LR LR
comp=Z,2µm,21.0s
NDI New Delhi 78.73 301 *e*P **P** **05 44 25.0 -0.9**
RSO Redoubt South 78.93 25 *e*P **P** **05 44 25.9 -0.7**
comp=Z,69nm,0.8s
SMLA Simla 79.31 303 *e*P **P** **05 44 28.5 -0.5**
SMLA AMB AMB 05 44 30.2
comp=Z,140nm,1.8s
GOA Goa 79.38 287 *ex* **PcP** **05 44 35.4 -2.3**
POO Poona 79.83 290 *e*P **P** **05 44 32.0 -0.2**
MK31 Makanchi Array 79.84 319 *i*P **P** **05 44 31.3 -0.4**
MK31 pmax pmax
comp=Z,61nm,1.1s
MK31 Makanchi Array 79.84 319 *e*P **P** **05 44 31.3 -0.4**
MK31 *e*PP **PP** **05 47 31.5 -2.2**
PAF Port-aux-Franc 79.94 221 S S 05 54 17.0 -15
PAF SS **SS** **05 59 41.0 -1.2**
PAF L L 06 05 00.0
PAF R 06 10 00.0
SEW Seward 80.16 26 *e*P **P** **05 44 32.6 -0.3**
comp=Z,52nm,0.8s
DHRM DHARAMSHALA 80.28 304 *e*P **P** **05 44 33.8 -0.8**
DHRM AMB AMB 05 44 35.7
comp=Z,201nm,1.0s
PPLA Purkeypile 80.48 23 *e*P **P** **05 44 34.3 -0.5**
comp=Z,177nm,1.8s
RC01 Rabbit Creek A 80.53 25 *e*P **P** **05 44 34.1 -0.9**
comp=Z,56nm,0.7s
ZAA0 Zalesovo Array 80.89 327 *e*P **P** **05 44 35.7 -1.4**
ZALV Zalesovo Beam 80.89 327 P **P** **05 44 36.0 -1.0**
comp=Z,62nm,0.9s,baz=113,slow=5.2,SNR=82
ZALV PKKPbc **PKKPbc** **06 03 16.9 -0.7**
comp=Z,2.1nm,0.8s,baz=290,slow=1.6,SNR=5.6
ZALV PKPPKP P'P'df 06 11 03.2 -15
comp=Z,0.7nm,0.5s,baz=318,slow=1.9,SNR=3.3
ZALV LR LR 06 19 42.2
comp=Z,3µm,21.6s,baz=70,slow=35
TRF Thorofare Moun 81.51 23 *e*P **P** **05 44 38.8 -1.5**
comp=Z,26nm,0.7s
BPAW Bear Paw Mtn. 81.58 22 *e*P **P** **05 44 39.2 -1.3**
comp=Z,3.9nm,0.8s
IM04 Indian Mountai 81.61 20 *e*P **P** **05 44 40.2 -0.4**
NVS Novosibirsk 82.09 327 *e*P **P** **05 44 42.2 -1.1**
NVS *e*S **S** **05 54 51.6 -2.4**
NVS pmax pmax
comp=N,26nm,1.3s
NVS pmax pmax
comp=E,34nm,1.3s
NVS pmax pmax
comp=Z,52nm,1.3s
NVS smax smax
comp=N,45nm,2.6s
NVS smax smax
comp=E,69nm,2.6s
MCK McKinley 82.17 23 *e*P **P** **05 44 42.4 -1.2**
comp=E,116nm,0.8s
KSH Kashi 82.21 311 P **P** **05 44 46.0 +1.4**
KSH pP **pP** **05 44 58.8 -0.5**
KSH sP **sP** **05 45 04.8 -0.1**
KSH PP PP 05 48 00.8 +7.2
KSH S **S** **05 54 58.6 +2.3**
KSH sS **sS** **05 55 20.5 -0.5**
KSH SS **SS** **06 00 23.8 +6.5**
KSH PMZ
comp=E,110nm,1.4s
KSH PMZ
comp=E,800nm,5.4s
KSH LN
comp=E,640nm,12.1s
KSH LE
comp=E,650nm,14.4s
KSH LZ
comp=E,4µm,23.7s
DIV Divide 82.24 26 *e*P **P** **05 44 44.0 -0.2**
comp=E,45nm,0.7s
ULHL Ulahol 82.67 314 P **P** **05 44 48.4 +1.4**
SNR=19
BMRM Bremner River 82.68 26 *e*P **P** **05 44 46.0 -0.4**
comp=E,101nm,1.3s
COLA College 83.14 22*c i*P **P** **05 44 47.2 -1.4**
COLA pmax pmax
comp=Z,166nm,0.8s
COLA MLR MLR
comp=Z,8µm,19.0s
COLA College 83.14 22 *e*P **P** **05 44 47.4 -1.2**
comp=Z,68nm,0.8s
COLA LR LR
comp=Z,4µm,22.0s
TKM2 Tokmak 2 83.30 314 P **P** **05 44 50.4 +0.1**
SNR=42
TKM2 Tokmak 2 83.30 314 *i*P **P** **05 44 50.2 -0.1**
TKM2 pmax pmax
comp=Z,111nm,1.7s
TKM2 Tokmak 2 83.30 314 *e*P **P** **05 44 50.2 -0.1**
comp=Z,35nm,0.8s
TKM2 *e*PcP **PcP** **05 44 54.3 -0.3**
TKM2 LR LR
comp=Z,3µm,21.0s
KZA Kyzart 83.35 313 P **P** **05 44 51.7 +0.9**
SNR=61
KURK Kurchatov 83.38 322 P **P** **05 44 49.2 -1.0**
comp=Z,580nm,1.1s,SNR=47
KURK Kurchatov 83.38 322 P **P** **05 44 49.6 -0.5**
KURK pmax pmax
comp=Z,44nm,0.9s
KURK Kurchatov 83.38 322 P **P** **05 44 49.7 -0.4**
SNR=60
KURK Kurchatov 83.38 322 P **P** **05 44 49.6 -0.5**
comp=Z,4.6nm,0.9s
KURK PKiKP **PKiKP** **05 50 06.4 -1.2**
KURK *e*S **S** **05 55 02.6 -4.8**
KURK LR LR
comp=Z,5µm,21.0s
KURBB Kurchatov Arra 83.41 322 P **P** **05 44 49.6 -0.7**
comp=Z,44nm,0.9s,baz=110,slow=4.0,SNR=90
KURBB PKiKP **PKiKP** **05 50 06.4 -1.2**
comp=Z,2.2nm,0.7s,baz=107,slow=1.5,SNR=6.8
ILAR Eielson Array 83.46 22 P **P** **05 44 48.5 -1.8**
comp=Z,44nm,0.7s,baz=248,slow=5.3,SNR=158
ILAR PKiKP **PKiKP** **05 50 06.3 -1.0**
comp=Z,1.4nm,0.7s,baz=243,slow=1.4,SNR=5.6
ILAR PKKPbc **PKKPbc** **06 03 08.6 -3.6**
comp=Z,1.7nm,0.7s,baz=342,slow=1.3,SNR=16
ILAR PKPPKP P'P'df 06 11 04.4 -9.0
comp=Z,0.8nm,1.0s,baz=90,slow=0.9,SNR=2.4
ILAR LR LR 06 20 10.5
comp=Z,5µm,19.5s,baz=270,slow=34
COLD Coldfoot 83.49 20 *e*P **P** **05 44 50.4 0.0**
comp=Z,12nm,1.7s
KBK Karagaybulak 83.70 314 P **P** **05 44 52.5 +0.3**
SNR=24
UCH Uchtor 83.92 313 P **P** **05 44 54.3 +0.6**
SNR=60
CHMS Chumysh 83.92 314 P **P** **05 44 53.4 +0.1**
SNR=32
FRU Bishkek 83.98 314*i i*P **P** **05 44 54.0 +0.5**
FRU *e* 05 45 16.0
FRU *e* 05 55 12.0
FRU pmax pmax
comp=Z,320nm,1.8s
FRU MLR MLR
comp=E,2µm,20.0s
AAK Ala-Arcba 84.02 314 P **P** **05 44 55.4 +1.5**
SNR=22
AAK Ala-Arcba 84.02 314 *i*P **P** **05 44 53.1 -0.8**
AAK MLR MLR
comp=Z,7µm,20.0s
USP Ospenovka 84.16 314 P **P** **05 44 54.4 0.0**
SNR=71
MAW Mawson 84.26 203 P **P** **05 44 54.4 +0.1**
comp=Z,37nm,0.6s,baz=87,slow=6.5,SNR=47
MAW LR LR 06 19 47.2
comp=Z,9µm,21.4s,baz=86,slow=34
QSPA South Pole Qui 84.41 180 *e*P **P** **05 44 55.5 +0.2**
comp=Z,159nm,1.0s
QSPA LR LR
comp=Z,3µm,20.0s
BHJ Bhuj 84.44 294 *e*P **P** **05 44 57.2 +1.1**
AML Almayashu 84.49 313 P **P** **05 44 57.2 +0.7**
SNR=109
EKS2 Erkin-Say 84.55 314 P **P** **05 44 57.0 +0.5**
SNR=62
EKS2 Erkin-Say 84.55 314 *e*P **P** **05 44 56.8 +0.3**
comp=Z,240nm,1.4s
EKS2 *e*PcP **PcP** **05 45 00.2 +0.2**
EKS2 LR LR
comp=Z,4µm,22.0s
EGAK Eagle 85.68 23 *e*P **P** **05 45 01.3 -0.2**
comp=Z,59nm,0.9s
EGAK LR LR
comp=Z,7µm,22.0s
HYT Haines Junctio 85.84 28 *e*P **P** **05 45 03.6 +1.1**
DAWY Dawson 86.13 24 *e*P **P** **05 45 03.8 +0.1**
KBL Kabul 86.68 305 *e*P **P** **05 45 05.5 -1.8**
comp=Z,58nm,1.0s
KK31 Karatay Array 86.99 314 *i*P **P** **05 45 07.6 -0.8**
KK31 pmax pmax
comp=Z,222nm,1.6s
KKAR Karatay Array 86.99 314 *e*P **P** **05 45 07.7 -0.7**
comp=Z,68nm,0.9s
WRAK Wrangell Islan 87.16 33 *e*P **P** **05 45 09.6 +0.7**
comp=Z,57nm,1.1s
WRAK LR LR
comp=Z,7µm,20.0s
BBB Bella Bella 88.66 37 P **P** **05 45 16.4 +0.2**
comp=Z,16nm,1.0s,baz=270,slow=5.1,SNR=4.9
DLBC Dease Lake 88.85 31 P **P** **05 45 17.2 +0.2**
comp=Z,23nm,1.1s,baz=254,slow=4.3,SNR=25
BVA0 Borovoye Array 88.89 323 *i*P **P** **05 45 14.6 -2.6**
BVA0 pmax pmax
comp=Z,57nm,1.3s
BRVK Borovoye 88.95 323 P **P** **05 45 16.4 -1.1**
comp=Z,168nm,0.9s,SNR=12
BRVK Borovoye 88.95 323*c i*P **P** **05 45 15.7 -1.8**
BRVK pmax pmax
comp=Z,54nm,1.1s
BRVK MLR MLR
comp=Z,4µm,20.0s
BRVK Borovoye 88.95 323 P **P** **05 45 16.2 -1.3**
SNR=23
BRVK Borovoye 88.95 323 *e*P **P** **05 45 15.8 -1.8**
comp=Z,27nm,0.9s
BRVK *e*PP **PP** **05 48 51.0 +3.3**
BRVK LR LR
comp=Z,4µm,21.0s
KBO Bosley Butte 89.69 48 *e*P **P** **05 45 21.3 -0.1**
comp=Z,180nm,1.2s
KEBM Edson Butte 89.69 47 *e*P **P** **05 45 23.1 +1.7**
comp=Z,89nm,1.2s
INK Inuvik 89.73 21 P **P** **05 45 20.1 -0.6**
comp=Z,21nm,1.0s,baz=266,slow=5.0,SNR=15
INK Inuvik 89.73 21 P **P** **05 45 20.2 -0.6**
INK pmax pmax
comp=Z,21nm,1.0s
KCPM Cahto Peak 89.84 50 *e*P **P** **05 45 23.2 +1.0**
comp=Z,47nm,1.0s
KHMM Horse Mountain 89.88 49 *e*P **P** **05 45 23.5 +1.1**
comp=Z,94nm,1.2s
L02D Cave Junction, 90.14 48 P **P** **05 45 23.9 +0.6**
baz=90
OOW Octopus West 90.45 42 P **P** **05 45 26.6 +1.9**
I03D Drain, OR 90.52 46 P **P** **05 45 25.7 +0.6**
baz=91
M02C Callahan 90.60 49 P **P** **05 45 26.8 +1.2**
baz=91
NLWA Neilton Lookou 90.62 43 *e*P **P** **05 45 25.9 +0.3**
comp=Z,57nm,1.1s
NLWA LR LR
comp=Z,5µm,22.0s
COR Corvallis 90.66 45 P **P** **05 45 26.4 +0.8**
comp=Z,254nm,1.8s
N02D Trinity Center 90.66 49 P **P** **05 45 27.1 +1.2**
baz=91
HUMO Hull Mountain 90.67 47 *e*P **P** **05 45 26.2 +0.3**
comp=Z,84nm,0.8s
WDC Whiskeytown Da 90.74 49 *e*P **P** **05 45 26.8 +0.7**
comp=Z,125nm,1.4s
YBH Yreka Blue Hor 90.75 48 P **P** **05 45 26.8 +0.5**
comp=Z,67nm,1.0s,baz=207,slow=4.0,SNR=74
YBH Yreka Blue Hor 90.75 48 P **P** **05 45 26.8 +0.5**
YBH pmax pmax
comp=Z,67nm,1.0s
G03D McMinnville, O 90.76 45 P **P** **05 45 27.4 +1.3**
baz=91
F04D Rainier, OR 91.04 44 P **P** **05 45 27.6 +0.2**
baz=91
PGC Sidney 91.06 41 *e*P **P** **05 45 27.6 +0.2**
I04A Tendick Farm, 91.20 46 P **P** **05 45 28.6 +0.3**
baz=91
RVW Rose Valley 91.24 44 P **P** **05 45 29.5 +1.1**
J04D Umpqua Nationa 91.36 47 P **P** **05 45 30.0 +0.7**
baz=91
M04C Macdoel 91.40 48 P **P** **05 45 30.1 +0.7**
baz=91
MCW Mount Constitu 91.47 41 P **P** **05 45 30.8 +1.4**
FL2 Flat Top 2 91.51 44 P **P** **05 45 31.1 +1.3**
K04D Chiloquin, OR 91.55 48 P **P** **05 45 31.0 +0.9**
baz=92
LON Longmire 91.94 43 *e*P **P** **05 45 32.1 +0.4**
comp=Z,10nm,0.7s
J05D Fort Rock, OR 92.00 47 P **P** **05 45 33.1 +1.0**
baz=92
I05D Terrebonne, OR 92.03 46 P **P** **05 45 32.8 +0.6**
baz=92
VFP Flag Point 92.04 45 P **P** **05 45 33.4 +1.1**
G05D Wamic, OR 92.13 45 P **P** **05 45 33.3 +0.7**
baz=92
CMB Columbia Colle 92.14 52 *e*P **P** **05 45 33.2 +0.4**
comp=Z,96nm,1.3s
SMMC Simmler 92.20 55 P **P** **05 45 34.9 +1.8**
baz=92
PKM Mcpherson Peak 92.31 55 P **P** **05 45 35.3 +1.5**
baz=92
SBC Santa Barbara 92.35 56 P **P** **05 45 35.6 +1.9**
baz=92
BSC Santa Cruz Isl 92.38 56 P **P** **05 45 34.9 +0.9**
baz=92
CRZF Crozet Islands 92.42 223 P P 05 45 22.0 -12
CRZF Crozet Islands 92.42 223 S S 05 56 06.0 -28
CRZF SS SS 06 02 10.0 -35
CRZF L L 06 09 00.0
CRZF R 06 16 00.0
SYO Syowa Base 92.43 200*|| eX* **P** **05 45 31.5 -1.9**
MOD Modoc Plateau 92.55 48 *e*P **P** **05 45 35.2 +0.5**
comp=Z,172nm,1.3s
BLG Laguna Peak, P 92.86 56 P **P** **05 45 37.2 +1.0**
baz=93
WAKR Walker 92.92 52 *e*P **P** **05 45 37.7 +1.1**
comp=Z,76nm,1.2s
RER Riviere de l'E 93.08 249 PFAKE 05 45 50.0 +12
RER LR LR
comp=Z,2µm,20.0s
ARVC Arvin 93.14 55 P **P** **05 45 38.7 +1.3**
baz=93
OSI Osito Audit: C 93.18 56 P **P** **05 45 39.2 +1.5**
baz=93
OSI Osito Audit: C 93.18 56 *e*P **P** **05 45 39.0 +1.3**
comp=Z,156nm,1.4s
SCI San Clemente I 93.20 57 P **P** **05 45 38.3 +0.5**
baz=93
WTV Waterville 93.29 43 P **P** **05 45 38.8 +0.9**
MLAC Mammoth, Mammo 93.33 53 P **P** **05 45 39.7 +1.2**
baz=93
CIS Catalina Islan 93.36 57 P **P** **05 45 39.8 +1.3**
baz=93
ISA Isabella, Lake 93.47 55 P **P** **05 45 39.8 +0.7**
baz=94
ISA Isabella, Lake 93.47 55 *e*P **P** **05 45 39.7 +0.7**
comp=Z,98nm,1.3s
FMP Fort Macarthur 93.47 57 P **P** **05 45 40.3 +1.3**
baz=94
HAWA Hanford 93.48 44 *e*P **P** **05 45 39.0 +0.3**
comp=Z,24nm,0.9s
HAWA LR LR
comp=Z,5µm,20.0s
PASC Pasadena Art C 93.59 56 *e*P **P** **05 45 40.8 +1.3**
comp=Z,222nm,1.2s
TIN Tinemaha, Big 93.77 53 P **P** **05 45 41.7 +1.3**
baz=94
NVAR Mina Array Bea 93.81 52 P **P** **05 45 40.8 +0.1**
comp=Z,85nm,1.0s,baz=254,slow=5.4,SNR=180
NVAR PKKPbc **PKKPdf** **06 02 44.9 +0.2**
comp=Z,0.7nm,0.7s,baz=72,slow=5.8,SNR=2.1
EDW2 Edwards Air Fo 93.81 55 P **P** **05 45 41.9 +1.3**
baz=94
WVOR Wild Horse Val 93.83 48 *e*P **P** **05 45 40.9 +0.3**
comp=Z,137nm,1.5s
WVOR LR LR
comp=Z,5µm,19.0s
CWC Cottonwood Cre 93.84 54 P **P** **05 45 41.8 +1.0**
baz=94
BFSC Mount Baldy Ra 94.03 56 P **P** **05 45 42.8 +1.1**
baz=94
LRMC Laurel Mtn Rad 94.09 55 P **P** **05 45 43.5 +1.5**
baz=94
IMYA Miami 94.13 306 *e*P **P** **05 45 40.3 -1.9**
DAC Darwin (Calif) 94.22 54 *e*P **P** **05 45 43.5 +0.9**
comp=Z,200nm,1.3s
MPMC Manual Prospec 94.29 54 P **P** **05 45 44.4 +1.4**
baz=94
MURC Murrieta 94.37 57 P **P** **05 45 44.5 +1.3**
baz=94
109C Camp Elliot, M 94.41 58 P **P** **05 45 45.0 +1.8**
baz=94
GRAC Grapevine Rang 94.45 53 P **P** **05 45 44.6 +1.1**
baz=94
TPH Tonopah 94.63 52 *e*P **P** **05 45 45.1 +0.6**
comp=Z,85nm,1.2s
BBRC Big Bear Solar 94.64 56 P **P** **05 45 45.8 +1.1**
baz=95

IMOG	**Moghan**	94.73	306	*e*P		**P**	05 45 43.3	-1.8
BAR	**Barrett**	94.76	58	*e*P		**P**	05 45 46.3	+1.4
	comp=Z,113nm,1.4s							
BMN	**Battle Mountai**	94.77	50	*e*P		**P**	05 45 45.6	+0.6
	comp=Z,58nm,1.4s							
IKOO	**Kooshah**	94.79	302	*e*P		**P**	05 45 43.8	-1.6
GSC	**Goldstone, Bar**	94.80	55	P		**P**	05 45 46.3	+1.1
	baz=95							
GSC	**Goldstone, Bar**	94.80	55	*e*P		**P**	05 45 46.3	+1.1
	comp=Z,116nm,1.3s							
FURC	**Furnace Creek,**	94.83	54	P		**P**	05 45 46.3	+1.2
	baz=95							
SVE	**Sverdlovsk**	94.91	327	*e*P		**P**	05 45 43.9	-1.1
SVE				*e*S		SKSac	05 56 09.0	-7.3
SVE				pmax		pmax		
	comp=Z,20nm,1.1s							
SVE				MLR		MLR		
	comp=Z,7µm,24.0s							
BMO	**Blue Mountains**	94.94	46	*e*P		**P**	05 45 45.5	-0.1
	comp=Z,106nm,1.6s							
BMO				LR		LR		
	comp=Z,5µm,22.0s							
MONP	**Monument Peak,**	94.98	58	P		**P**	05 45 47.8	+1.6
	baz=95							
AB31	**Akbulak array**	94.98	319	*i* P		**P**	05 45 43.3	-2.2
AB31				pmax		pmax		
	comp=Z,11nm,0.8s							
ABKAR	**Akbulak array**	94.98	319	*e*P		**P**	05 45 43.2	-2.3
	comp=Z,9.8nm,0.8s							
ABKAR				*e*PP		**PP**	05 49 35.7	+0.4
PFO	**Pinyon Flats O**	94.99	57	P		**P**	05 45 47.3	+1.2
	comp=Z,415nm,1.0s,SNR=30							
PFO	**Pinyon Flats O**	94.99	57	P		**P**	05 45 47.3	+1.2
	baz=95							
PFO	**Pinyon Flats O**	94.99	57	*e*P		**P**	05 45 47.3	+1.2
	comp=Z,85nm,1.0s							
PFO				LR		LR		
	comp=Z,8µm,21.0s							
IPAY	**Payeh**	95.03	306	*e*P		**P**	05 45 44.4	-1.9
HEC	**Hector,Ludlow**	95.17	56	P		**P**	05 45 48.0	+1.1
	baz=95							
MSEY	**Mahe Island**	95.22	265	PFAKE			05 46 00.0	+12
MSEY				LR		LR		
	comp=Z,2µm,21.0s							
NEW	**Newport**	95.22	42	P		**P**	05 45 46.4	-0.4
	comp=Z,14nm,1.0s,baz=253,slow=4.2,SNR=24							
NEW	**Newport**	95.22	42	P		**P**	05 45 46.4	-0.4
NEW				pmax		pmax		
	comp=Z,14nm,1.0s							
NEW	**Newport**	95.22	42	P		**P**	05 45 46.9	+0.1
	baz=95							
NEW	**Newport**	95.22	42	*e*P		**P**	05 45 46.7	-0.1
NEW				LR		LR		
	comp=Z,5µm,19.0s							
IAKL	**Akhelmad**	95.23	306	*e*P		**P**	05 45 45.6	-1.7
IBP	**Imperial Bould**	95.24	58	P		**P**	05 45 48.8	+1.6
	baz=95							
SHOC	**Shoshone, Teco**	95.26	55	P		**P**	05 45 48.2	+1.0
	baz=95							
TPNV	**Topopah Spring**	95.34	53	P		**P**	05 45 48.8	+1.1
	baz=95							
BELC	**Belle Mtn. Jos**	95.39	56	P		**P**	05 45 49.4	+1.4
	baz=95							
SWSC	**Sam W. Stewart**	95.51	58	P		**P**	05 45 49.9	+1.6
	baz=96							
TUQ	**Turquoise Moun**	95.53	55	P		**P**	05 45 49.9	+1.3
	baz=96							
GMRC	**Granite Mounta**	95.71	56	P		**P**	05 45 50.6	+1.2
	baz=96							
BC3	**Big Chuckawall**	95.83	57	P		**P**	05 45 51.5	+1.5
	baz=96							
ISFR	**Sfrayin**	95.86	307	*e*P		**P**	05 45 49.7	-0.5
R11A	**Troy Canyon, C**	95.93	52	P		**P**	05 45 51.3	+0.9
	baz=96							
R11A	**Troy Canyon, C**	95.93	52	*e*P		**P**	05 45 51.1	+0.7
	comp=Z,53nm,1.3s							
R11A				*e*PP		**PP**	05 49 43.0	-0.2
ARU	**Arti**	96.05	326	*d i*P		**P**	05 45 47.3	-2.9
ARU							05 49 39.3	
ARU				PPP		PPP	05 51 54.4	
ARU				S		**SKSac**	05 56 16.7	-5.6
ARU				SP		**SP**	05 58 24.0	+0.3
ARU				PS		**PS**	05 58 33.9	+3.2
ARU				SSS		SSS	06 07 18.1	
ARU				pmax		pmax		
	comp=Z,12nm,1.0s							
ARU				MLR		MLR		
	comp=Z,8µm,25.0s							
ARU	**Arti**	96.05	326	*e*P		**P**	05 45 47.9	-2.3
	comp=Z,11nm,0.8s							
ARU				LR		LR		
	comp=Z,7µm,22.0s							
IRM	**Iron Mountain**	96.11	56	P		**P**	05 45 52.3	+1.2
	baz=96							
SHPR	**Sheep Range**	96.20	54	*e*P		**P**	05 45 53.0	+1.4
	comp=Z,133nm,1.4s							
ELK	**Elko**	96.29	50	*e*P		**P**	05 45 52.4	+0.3
	comp=Z,27nm,1.3s							
GLA	**Glamis**	96.33	57	P		**P**	05 45 54.0	+1.8
	baz=96							
GLA	**Glamis**	96.33	57	*e*P		**P**	05 45 53.9	+1.7
	comp=Z,96nm,1.3s							
NEE2	**Needles Airpor**	96.57	56	P		**P**	05 45 54.6	+1.4
	baz=97							
Y12C	**Blythe**	96.61	57	P		**P**	05 45 55.1	+1.8
	baz=97							
BSMT	**Bassoo Peak**	96.78	43	*e*P		**P**	05 45 54.6	+0.6
	comp=Z,16nm,0.8s							
YKA	**Yellowknife Ar**	96.83	28	P		**P**	05 45 53.3	-0.3
	comp=Z,5.3nm,0.7s,baz=270,slow=4.4,SNR=20							
YKA				PKiKP		**PKiKP**	05 50 30.4	+0.5
	comp=Z,1.3nm,0.7s,baz=262,slow=1.1,SNR=3.7							
YKA				PKKPbc		**PKKPbc**	06 02 34.5	-3.6
	comp=Z,2.7nm,0.8s,baz=107,slow=2.3,SNR=4.3							
PDMCI	**Parker Dam,Lak**	96.95	56	P		**P**	05 45 56.4	+1.5
	baz=97							
HLID	**Hailey**	96.97	47	P		**P**	05 45 55.6	+0.6
	baz=97							
HLID	**Hailey**	96.97	47	*e*P		**P**	05 45 55.1	+0.2
	comp=Z,10nm,0.9s							
HLID				LR		LR		
	comp=Z,5µm,20.0s							
BLMT	**Blacktail Moun**	97.07	42	*e*P		Pdif	05 45 55.6	+0.2
	comp=Z,8.1nm,0.8s							
JTMT	**Jette**	97.12	43	*e*P		Pdif	05 45 55.8	+0.2
	comp=Z,3.6nm,0.7s							
YBMT	**Yellow Bay**	97.30	43	*e*P		**P**	05 45 55.9	-0.4
	comp=Z,4.2nm,0.7s							
SWMT	**Swartz Lake**	97.31	43	*e*P		**P**	05 45 56.1	-0.2
	comp=Z,5.5nm,0.9s							
MSO	**Missoula**	97.34	44	P		**P**	05 45 55.9	-0.6
	baz=97							
WALA	**Waterton Lakes**	97.37	41	*e*P		Pdif	05 45 57.3	+0.7
WALA				*e*PP		**PP**	05 49 53.5	-0.4
SLMT	**Seeley Lake**	97.65	43	*e*P		**P**	05 45 57.7	-0.3
	comp=Z,5.5nm,0.8s							
CCUT	**Cedar City**	97.67	53	*e*P		Pdif	05 45 59.6	+1.2
	comp=Z,72nm,1.4s							
CHMT	**Chamberlain Mo**	97.82	44	*e*P		Pdif	05 45 59.1	+0.3
	comp=Z,32nm,1.7s							
BGU	**Big Grassy Mou**	97.97	50	*e*P		Pdif	05 45 59.8	+0.2
	comp=Z,17nm,1.2s							
214A	**Organ Pipe Nat**	97.99	59	P		Pdif	05 46 01.9	+2.2
	baz=98							
214A	**Organ Pipe Nat**	97.99	59	*e*P		Pdif	05 46 01.6	+1.9
	comp=Z,55nm,1.3s							
MCMT	**McKenzie Canyo**	98.11	46	*e*P		**P**	05 46 00.1	0.0
	comp=Z,7.7nm,1.3s							
DUG	**Dugway, Tooele**	98.13	50	P		Pdif	05 46 00.4	+0.1
	baz=98							
DUG	**Dugway, Tooele**	98.13	50	*e*P		Pdif	05 46 00.6	+0.3
	comp=Z,20nm,1.3s							
DUG				LR		LR		
	comp=Z,3µm,22.0s							
HVU	**Hansel Valley**	98.17	49	*e*P		Pdif	05 46 00.8	+0.4
	comp=Z,35nm,1.0s							
DLMT	**Dillon**	98.28	45	*e*P		Pdif	05 46 01.0	+0.1
	comp=Z,13nm,1.0s							
DLMT				*e*PP		**PP**	05 49 58.0	-3.1
LRM	**Limekiln Ridge**	98.38	45	*e*P		Pdif	05 46 01.4	0.0
	comp=Z,66nm,1.1s							
MVU	**Marysvale**	98.58	52	*e*P		Pdif	05 46 03.4	+0.9
	comp=Z,31nm,1.6s							
MSU	**Marysvale**	98.61	52	*e*P		Pdif	05 46 04.6	+2.0
	comp=Z,18nm,1.3s							
ICHK	**Chekchek**	98.67	302	*e*P		**P**	05 46 01.7	-1.3
NLU	**North Lily Min**	98.69	51	*e*P		**P**	05 46 02.6	-0.2
	comp=Z,13nm,1.1s							
CTU	**Camp Tracy**	98.94	50	*e*P		Pdif	05 46 04.5	+0.5
	comp=Z,45nm,1.6s							
BOZ	**Bozeman (W)**	98.96	45	Pdiff		Pdif	05 46 04.2	+0.3
	baz=99							
MPU	**Maple Canyon**	99.03	50	*e*P		**Pdif**	05 46 04.4	+0.1
	comp=Z,29nm,1.1s							
HWUT	**Hardware Ranch**	99.07	49	*e*P		**Pdif**	05 46 04.4	-0.1
	comp=Z,15nm,1.0s							
HWUT				LR		LR		
	comp=Z,4µm,21.0s							
QLMT	**Earthquake Lak**	99.12	46	*e*P		**Pdif**	05 46 05.5	+0.8
	comp=Z,0.8nm,0.7s							
JLU	**Jordanelle**	99.17	50	*e*P		**Pdif**	05 46 05.4	+0.4
	comp=Z,26nm,1.2s							
NVL	**N'lazarevskaya**	99.18	193	*i*P		Pdif	05 46 16.6	+12
NVL				*i* S		**SKSac**	05 56 32.5	-5.4
NVL				pmax		pmax		
	comp=Z,26nm,1.3s							
TCUT	**Toone Canyon**	99.19	49	*e*P		**Pdif**	05 46 05.4	+0.3
	comp=Z,50nm,1.4s							
WUAZ	**Wupatki**	99.24	55	Pdiff		**Pdif**	05 46 07.0	+1.6
	baz=99							
WUAZ	**Wupatki**	99.24	55	*e*P		**Pdif**	05 46 06.8	+1.4
	comp=Z,75nm,1.4s							
WUAZ				LR		LR		
	comp=Z,8µm,22.0s							
TMUT	**Trail Mountain**	99.37	51	*e*P		**Pdif**	05 46 06.7	+0.7
	comp=Z,25nm,0.9s							
AHID	**Auburn Hatcher**	99.40	48	PFAKE			05 46 20.0	+14
AHID				LR		LR		
	comp=Z,4µm,19.0s							
YMR	**Madison River**	99.45	46	*e*P		**Pdif**	05 46 06.0	-0.2
	comp=Z,12nm,0.8s							
IMW	**Indian Meadow**	99.49	47	*e*P		**Pdif**	05 46 06.8	+0.4
	comp=Z,5.2nm,0.7s							
TPAW	**Tetn Pass**	99.49	47	*e*P		**Pdif**	05 46 06.8	+0.3
	comp=Z,16nm,1.1s							
YFT	**Old Faithful**	99.55	46	*e*P		**Pdif**	05 46 08.5	+1.9
	comp=Z,13nm,0.8s							
REDW	**Red Top Meadow**	99.57	47	*e*Pdif		**Pdif**	05 46 06.8	+0.1
	comp=Z,53nm,1.6s							
MOOW	**Moose Ponds**	99.64	47	*e*Pdif		**Pdif**	05 46 07.2	+0.3
	comp=Z,11nm,1.2s							
SNOW	**Snow King Moun**	99.64	47	*e*Pdif		**Pdif**	05 46 07.5	+0.4
	comp=Z,12nm,1.1s							
FLWY	**Flagg Ranch**	99.66	46	*e*Pdif		**Pdif**	05 46 07.6	+0.5
	comp=Z,4.5nm,0.6s							
TUC	**Tucson**	99.72	58	*e*Pdif		**Pdif**	05 46 09.2	+1.8
	comp=Z,10nm,0.9s							
TUC				LR		LR		
	comp=Z,5µm,22.0s							
H17A	**Grant Village**	99.74	46	Pdiff		**Pdif**	05 46 08.7	+1.3
	baz=100							
H17A	**Grnt Village**	99.74	46	*e*Pdif		**Pdif**	05 46 09.2	+1.7
	comp=Z,8.2nm,0.9s							
LOHW	**Long Hollow**	99.74	47	*e*Pdif		**Pdif**	05 46 07.5	+0.1
	comp=Z,5.5nm,0.9s							
LKWY	**Lake**	99.86	46	PFAKE			05 46 20.0	+12
LKWY				LR		LR		
	comp=Z,6µm,21.0s							
SRU	**San Rafael Swe**	99.90	51	*e*Pdif		**Pdif**	05 46 08.6	+0.3
	comp=Z,16nm,0.8s							
EGMT	**Eagleton**	100.16	42	Pdiff		**Pdif**	05 46 09.3	+0.3
	baz=100							
EGMT	**Eagleton**	100.16	42	*e*Pdif		**Pdif**	05 46 09.4	+0.3
	comp=Z,14nm,0.8s							
EGMT				LR		LR		
	comp=Z,4µm,19.0s							
GCMT	**Greycliff**	100.33	45	*e*Pdif		**Pdif**	05 46 11.1	+1.2
	comp=Z,5.2nm,0.9s							
BW06	**Boulder Array**	100.53	48	*e*Pdif		**Pdif**	05 46 10.6	-0.5
	comp=Z,13nm,0.9s							
BW06				LR		LR		
	comp=Z,4µm,19.0s							
PDAR	**Pinedale Array**	100.53	48	P		**Pdif**	05 46 10.6	-0.4
	comp=Z,8.9nm,0.7s,baz=298,slow=1.3,SNR=69							
PDAR				PKiKP		**PKiKP**	05 50 37.4	0.0
	comp=Z,0.7nm,0.7s,baz=238,slow=1.7,SNR=2.5							
PDAR				PKKPbc		**PKKPbc**	06 02 24.1	-3.3
	comp=Z,1.3nm,0.8s,baz=82,slow=4.8,SNR=6.3							
PDAR				PKPPKP		**P'P'df**	06 10 45.7	+2.2
	comp=Z,0.7nm,1.0s,baz=101,slow=4.7,SNR=3.6							
W18A	**Petrified Fore**	100.58	55	Pdiff		**Pdif**	05 46 13.1	+1.8
	baz=101							
W18A	**Petrified Fore**	100.58	55	*e*Pdif		**Pdif**	05 46 12.8	+1.4
	comp=Z,71nm,1.2s							
RLMT	**Red Lodge**	100.64	45	Pdiff		**Pdif**	05 46 12.0	+0.6
	baz=101							
RLMT	**Red Lodge**	100.64	45	*e*Pdif		**Pdif**	05 46 11.7	+0.2
	comp=Z,12nm,1.2s							
RLMT				LR		LR		
	comp=Z,4µm,20.0s							
B19A	**Brinkman Farms**	100.67	42	Pdiff		**Pdif**	05 46 11.6	+0.3
	baz=101							
A19A	**Klindworth Far**	100.78	41	Pdiff		**Pdif**	05 46 12.2	+0.5
	baz=101							
H19A	**Powell**	100.86	46	Pdiff		**Pdif**	05 46 13.3	+1.0
	baz=101							
J19A	**Crowheart**	100.88	47	Pdiff		**Pdif**	05 46 12.7	+0.2
	baz=101							
I19A	**Meeteetse**	100.89	46	Pdiff		**Pdif**	05 46 12.8	+0.3
	baz=101							
IVRN	**Varamin**	100.91	304	*e*P		**Pdif**	05 46 11.8	-0.8
IKLH	**Kolahrood**	101.06	303	*e*P		**Pdif**	05 46 12.5	-1.1
SNAA	**Sanae**	101.07	188	P		**Pdif**	05 46 11.9	-0.7
SNAA	**Sanae**	101.07	188	PKiKP		**PKiKP**	05 50 33.8	-3.6
SNAA	**Sanae**	101.07	188	PKKPbc		PKKPbc	06 02 22.7	-3.8
	comp=Z,2.3nm,0.9s,baz=15,slow=2.3,SNR=18							
SNAA	**Sanae**	101.07	188	*i* P		**Pdif**	05 46 10.8	-1.8
SNAA				pmax		pmax		
	comp=Z,45nm,2.8s							
SNAA				MLR		MLR		
	comp=Z,3µm,18.0s							
SNAA	**Sanae**	101.07	188	*e*Pdif		**Pdif**	05 46 10.3	-2.3
	comp=Z,21nm,1.3s							
SNAA				PKKPbc		**PKKPbc**	06 02 22.7	-3.8
PV04	**Paradox Valley**	101.18	52	*e*Pdif		**Pdif**	05 46 15.1	+1.2
B20A	**Solberg Farm,**	101.29	42	Pdiff		**Pdif**	05 46 13.8	-0.2
	baz=101							
A20A	**Cobblestone Ra**	101.32	41	Pdiff		**Pdif**	05 46 14.7	+0.6
	baz=101							
C20A	**Veseth Ranch,**	101.35	43	Pdiff		**Pdif**	05 46 14.8	+0.4
	baz=101							
G20A	**Bridger**	101.38	45	Pdiff		**Pdif**	05 46 15.3	+0.7
	baz=101							
F20A	**Billings**	101.39	45	Pdiff		**Pdif**	05 46 15.4	+0.8
	baz=101							
OPO	**Ambohidratompo**	101.42	250	PKiKP		**PKiKP**	05 50 41.1	+1.5
	comp=Z,3.9nm,0.9s,baz=267,slow=3.7,SNR=3.2							
PV01	**Paradox Valley**	101.45	52	*e*Pdif		**Pdif**	05 46 15.4	+0.2
	comp=Z,2µm,1.2s							
I20A	**Wonland**	101.52	46	Pdiff		**Pdif**	05 46 15.5	+0.3
	baz=102							
RES	**Resolute Bay**	101.53	14	P		**Pdif**	05 46 14.2	-0.2
	comp=Z,5.5nm,0.8s,baz=280,slow=2.8,SNR=6.5							
RES	**Resolute Bay**	101.53	14	P		**Pdif**	05 46 14.2	-0.2
RES				pmax		pmax		
	comp=Z,6.0nm,0.8s							
MVCO	**Mesa Verde**	101.54	53	Pdiff		**Pdif**	05 46 17.2	+1.6
	baz=102							
MVCO	**Mesa Verde**	101.54	53	*e*Pdif		**Pdif**	05 46 16.9	+1.3
	comp=Z,50nm,1.3s							
MVCO				LR		LR		
	comp=Z,5µm,21.0s							
H20A	**Greybull**	101.58	46	Pdiff		**Pdif**	05 46 15.4	-0.1
	baz=102							
J20A	**Shoshoni**	101.59	47	Pdiff		**Pdif**	05 46 15.9	+0.4
	baz=102							
O20A	**White River Ci**	101.63	50	Pdiff		**Pdif**	05 46 16.4	+0.5
	baz=102							
O20A	**White River Ci**	101.63	50	*e*Pdif		**Pdif**	05 46 16.1	+0.2
	comp=Z,43nm,1.3s							
O20A				*e*PKPdf		**PKiKP**	05 50 39.4	-0.1
B21A	**Ellsworth Farm**	101.96	42	Pdiff		**Pdif**	05 46 17.4	+0.5
	baz=102							
C21A	**Desert Coulee**	101.96	42	Pdiff		**Pdif**	05 46 17.3	+0.3
	baz=102							
A21A	**Bergtoll Ranch**	101.96	41	Pdiff		**Pdif**	05 46 17.6	+0.6
	baz=102							
J21A	**Lysite**	102.05	47	Pdiff		**Pdif**	05 46 17.6	-0.1
	baz=102							
E21A	**Keefer Ranch,**	102.08	44	Pdiff		**Pdif**	05 46 18.1	+0.5
	baz=102							
D21A	**La Casta Ranch**	102.09	43	Pdiff		**Pdif**	05 46 17.9	+0.3
	baz=102							
G21A	**Lodge Grass**	102.09	45	Pdiff		**Pdif**	05 46 18.8	+1.0
	baz=102							
F21A	**Absaloka Mine,**	102.10	44	Pdiff		**Pdif**	05 46 18.6	+0.8
	baz=102							
I21A	**Big Trails, Te**	102.13	47	Pdiff		**Pdif**	05 46 18.1	+0.1
	baz=102							
121A	**Cookes Peak, D**	102.25	58	Pdiff		**Pdif**	05 46 21.0	+2.2
	baz=102							
121A	**Cookes Peak, D**	102.25	58	*e*Pdif		**Pdif**	05 46 20.9	+2.0
	comp=Z,27nm,1.1s							
H21A	**Big Horn, Sher**	102.25	46	Pdiff		**Pdif**	05 46 18.6	+0.1
	baz=102							
RWWY	**Rawlins**	102.33	49	*e*Pdif		**Pdif**	05 46 27.8	+8.7
	comp=Z,32nm,1.3s							
A22A	**Carney Farms,**	102.63	41	Pdiff		**Pdif**	05 46 20.2	+0.3
	baz=103							
D22A	**Cohagen**	102.64	43	Pdiff		**Pdif**	05 46 20.6	+0.5
	baz=103							
B22A	**Reddig Ranch S**	102.64	42	Pdiff		**Pdif**	05 46 20.3	+0.3
	baz=103							
SMCO	**Snowmass**	102.66	51	*e*Pdif		**Pdif**	05 46 21.4	+0.6
	comp=Z,22nm,0.9s							
I22A	**9 Mile Ranch,**	102.71	46	Pdiff		**Pdif**	05 46 21.1	+0.6
	baz=103							
F22A	**Rosebud**	102.71	44	Pdiff		**Pdif**	05 46 21.0	+0.6
	baz=103							
VNA1	**Neumayer--Stat**	102.71	187	P		**Pdif**	05 46 20.7	+0.9
VNA1	**Neumayer--Stat**	102.71	187	PKiKP		PKiKP	05 50 46.6	+6.4
G22A	**Birney**	102.73	45	Pdiff		**Pdif**	05 46 21.1	+0.5
	baz=103							
LAZ	**Ladron**	102.74	56	*e*Pdif		**Pdif**	05 46 22.8	+1.8
	comp=Z,16nm,1.6s							
H22A	**Clearmont**	102.75	46	Pdiff		**Pdif**	05 46 21.2	+0.5
	baz=103							
J22A	**Midwest**	102.75	47	Pdiff		**Pdif**	05 46 21.0	+0.2
	baz=103							
K22A	**Casper**	102.77	48	Pdiff		**Pdif**	05 46 21.1	+0.2
	baz=103							
K22A	**Casper**	102.77	48	*e*Pdif		**Pdif**	05 46 21.3	+0.4
	comp=Z,37nm,1.3s							
C22A	**Vida**	102.78	42	Pdiff		**Pdif**	05 46 20.8	+0.2
	baz=103							
S22A	**4UR Ranch, Cre**	102.85	53	Pdiff		**Pdif**	05 46 22.9	+1.4
	baz=103							
E22A	**Miles City**	102.86	44	Pdiff		**Pdif**	05 46 21.1	0.0
	baz=103							
C23A	**Lambert**	103.24	42	Pdiff		**Pdif**	05 46 23.0	+0.3
	baz=103							
ANMO	**Albuquerque**	103.28	56	Pdiff		**Pdif**	05 46 23.8	+0.5
	comp=Z,6.7nm,1.0s,baz=239,slow=4.2,SNR=18							
ANMO				PP		**PP**	05 50 39.4	+0.2
	comp=Z,2.5nm,1.0s,baz=262,slow=6.7,SNR=5.2							
ANMO	**Albuquerque**	103.28	56	P		**Pdif**	05 46 23.8	+0.5
ANMO							05 50 39.4	
ANMO				pmax		pmax		
	comp=Z,7.0nm,1.0s							
ANMO				pmax		pmax		
	comp=Z,3.0nm,1.0s							
ANMO	**Albuquerque**	103.28	56	Pdif		**Pdif**	05 46 23.8	+0.5
ANMO				PP		**PP**	05 50 39.4	+0.2
ANMO				LR		LR		
	comp=Z,4µm,22.0s							
B23A	**Brockton**	103.29	42	Pdiff		**Pdif**	05 46 23.6	+0.7
	baz=103							
E23A	**Ismay**	103.30	44	Pdiff		**Pdif**	05 46 23.6	+0.6
	baz=103							
A23A	**Redstone**	103.31	41	Pdiff		**Pdif**	05 46 23.1	+0.2
	baz=103							
F23A	**Volborg**	103.31	44	Pdiff		**Pdif**	05 46 24.0	+0.9
	baz=103							
N23A	**Red Feather La**	103.34	49	Pdiff		**Pdif**	05 46 24.2	+0.6
	baz=103							
G23A	**Biddle**	103.37	45	Pdiff		**Pdif**	05 46 24.2	+0.8
	baz=103							
HOPEN	**Hopen**	103.38	349	*e*		**SP**	05 59 44.1	+2.6
J23A	**Dilts Ranch, B**	103.42	47	Pdiff		**Pdif**	05 46 24.2	+0.4
	baz=103							
K23A	**Bowen Ranch, D**	103.43	48	Pdiff		**Pdif**	05 46 23.9	+0.2
	baz=103							
ISCO	**Idaho Springs**	103.67	51	Pdiff		**Pdif**	05 46 25.8	+0.7
	baz=104							
ISCO	**Idaho Springs**	103.67	51	*e*Pdif		**Pdif**	05 46 25.8	+0.7
	comp=Z,5.6nm,0.8s							
ISCO				*e*			05 50 42.1	
ISCO				LR		LR		
	comp=Z,3µm,22.0s							
MAK	**Makhachkala**	103.78	313	*i* P		**Pdif**	05 46 29.4	+4.3
MAK				*i*			05 50 42.8	
MAK				*e*PPP		PPP	05 53 00.5	
MAK				*e*			05 57 45.3	
MAK				*e*SP		SP	05 59 56.0	+8.6
MAK				pmax		pmax		
	comp=Z,315nm,1.4s							
C24A	**Savage**	103.78	43	Pdiff		**Pdif**	05 46 25.5	+0.4
	baz=104							
SPITS	**Spitsbergen Ar**	103.81	351	Pdiff		**Pdif**	05 46 22.0	-2.6
	comp=Z,2.9nm,0.8s,baz=357,slow=4.9,SNR=3.9							
SPITS				PP		**PP**	05 50 40.3	-1.3
	comp=Z,7.1nm,0.9s,baz=112,slow=8.5,SNR=4.3							
SPITS	**Spitsbergen Ar**	103.81	351	P		**Pdif**	05 46 22.0	-2.6
SPITS							05 50 40.3	
SPITS				pmax		pmax		
	comp=Z,3

	baz=105							
T25A	**Trinidad**	**104.81**	**53**	Pdiff	**Pdif**	**05 46 31.6**	**+1.4**	
	baz=105							
LVZ	**Lovozero**	**104.91**	**339**	PFAKE		05 46 40.0	+10	
LVZ				LR	LR			
	comp=Z,3μm,22.0s							
TMCR	**Tamitsa**	**104.95**	**335**	*e*P	**Pdif**	**05 46 28.5**	**-1.3**	
TMCR				pmax	pmax			
	comp=Z,10.0nm,0.3s							
B26A	**Jensen Ranch,**	**105.12**	**41**	PKiKP	**PKiKP**	**05 50 45.6**	**+0.2**	
	baz=105							
PMSA	**Palmer Station**	**105.16**	**165**	PFAKE		05 51 00.0		
PMSA				LR	LR			
	comp=Z,3μm,21.0s							
A26A	**Wade Farm, Ken**	**105.17**	**41**	PKiKP	**PKiKP**	**05 50 45.9**	**+0.5**	
	baz=105							
D26A	**Manning**	**105.19**	**43**	PKiKP	**PKiKP**	**05 50 46.2**	**+0.7**	
	baz=105							
F26A	**Lodgepole**	**105.19**	**44**	PKiKP	**PKiKP**	**05 50 47.0**	**+1.4**	
	baz=105							
K26A	**Motz Farm, Whi**	**105.22**	**47**	PKiKP	**PKiKP**	**05 50 47.0**	**+1.3**	
	baz=105							
J26A	**Sides Ranch, S**	**105.23**	**47**	PKiKP	**PKiKP**	**05 50 47.2**	**+1.4**	
	baz=105							
E26A	**Carlson Angus**	**105.25**	**43**	PKiKP	**PKiKP**	**05 50 46.5**	**+0.8**	
	baz=105							
H26A	**Fairpoint**	**105.28**	**45**	PKiKP	**PKiKP**	**05 50 45.7**	**-0.1**	
	baz=105							
C26A	**Wahner Farm, P**	**105.30**	**42**	PKiKP	**PKiKP**	**05 50 45.9**	**+0.2**	
	baz=105							
G26A	**Maurine**	**105.32**	**45**	PKiKP	**PKiKP**	**05 50 46.2**	**+0.4**	
	baz=105							
Q26A	**Hugo**	**105.36**	**51**	Pdiff	**Pdif**	**05 46 32.8**	**+0.3**	
	baz=105							
L26A	**Underwood Farm**	**105.37**	**48**	PKiKP	**PKiKP**	**05 50 46.5**	**+0.3**	
	baz=105							
P26A	**Davis Ranch, A**	**105.43**	**51**	PKiKP	**PKiKP**	**05 50 46.6**	**+0.2**	
	baz=105							
T26A	**Comanche Natio**	**105.45**	**53**	PKiKP	**PKiKP**	**05 50 47.1**	**+0.6**	
	baz=106							
R26A	**Arlington**	**105.47**	**52**	PKiKP	**PKiKP**	**05 50 46.5**	**+0.1**	
	baz=106							
APA	**Apatity**	**105.48**	**339**	*i*P	**Pdif**	**05 46 32.5**	**+0.4**	
APA				*i*		05 57 02.0		
APA				pmax	pmax			
	comp=Z,12nm,0.5s							
APA				MLR	MLR			
	comp=Z,4μm,22.0s							
S26A	**Kim**	**105.51**	**53**	PKiKP	**PKiKP**	**05 50 47.1**	**+0.6**	
	baz=106							
F27A	**Lemmon**	**105.64**	**44**	PKiKP	**PKiKP**	**05 50 47.1**	**+0.7**	
	baz=106							
C27A	**Sayler Ranch,**	**105.71**	**42**	PKiKP	**PKiKP**	**05 50 47.3**	**+0.9**	
	baz=106							
G27A	**Dupree**	**105.77**	**44**	PKiKP	**PKiKP**	**05 50 47.4**	**+0.8**	
	baz=106							
H27A	**Howes**	**105.78**	**45**	PKiKP	**PKiKP**	**05 50 46.9**	**+0.3**	
	baz=106							
E27A	**Carson**	**105.87**	**43**	PKiKP	**PKiKP**	**05 50 46.5**	**-0.3**	
	baz=106							
TXAR	**Lajitas Array**	**105.89**	**61**	Pdiff	**Pdif**	**05 46 34.0**	**-1.0**	
	comp=Z,0.5nm,0.8s,baz=260,slow=5.0,SNR=2.3							
TXAR				PKiKP	**PKiKP**	**05 50 47.1**	**-0.3**	
	comp=Z,2.7nm,0.9s,baz=225,slow=1.1,SNR=13							
TXAR				PP	**PP**	**05 50 59.2**	**+0.6**	
	comp=Z,9.2nm,1.2s,baz=262,slow=6.3,SNR=12							
TXAR				PKKPbc	**PKKPbc**	**06 02 09.4**	**-1.4**	
	comp=Z,0.5nm,0.6s,baz=116,slow=6.1,SNR=3.4							
TXAR				PKKPab	**PKKPab**	**06 02 27.8**	**+0.9**	
	comp=Z,4.0nm,1.0s,baz=113,slow=3.9,SNR=13							
TXAR	**Lajitas Array**	**105.89**	**61**	P	**Pdif**	**05 46 34.0**	**-1.0**	
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
N27A	**Anderson Farm,**	**105.92**	**49**	PKiKP	**PKiKP**	**05 50 47.6**	**+0.4**	
	baz=106							
R27A	**Eads**	**105.98**	**52**	PKiKP	**PKiKP**	**05 50 47.6**	**+0.2**	
	baz=106							
J27A	**Elkhorn Farm,**	**106.01**	**47**	PKiKP	**PKiKP**	**05 50 48.0**	**+0.8**	
	baz=106							
P27A	**Ficken Ranch,**	**106.02**	**51**	PKiKP	**PKiKP**	**05 50 48.0**	**+0.6**	
	baz=106							
O27A	**Beecher Island**	**106.03**	**50**	PKiKP	**PKiKP**	**05 50 47.9**	**+0.5**	
	baz=106							
KSCO	**Kaye Shedlock'**	**106.04**	**51**	PKiKP	**PKiKP**	**05 50 47.2**	**-0.3**	
	baz=106							
KSCO	**Kaye Shedlock'**	**106.04**	**51**	*e*Pdif	**Pdif**	**05 46 35.5**	**+0.1**	
	comp=Z,28nm,1.3s							
GNI	**Garni**	**106.13**	**310**	PFAKE		05 51 00.0		
GNI				LR	LR			
	comp=Z,1μm,22.0s							
U27A	**Thompson Grove**	**106.13**	**54**	PKiKP	**PKiKP**	**05 50 47.4**	**-0.3**	
	baz=106							
T27A	**Campo**	**106.16**	**53**	PKiKP	**PKiKP**	**05 50 48.2**	**+0.4**	
	baz=106							
OGNE	**Ogallala**	**106.28**	**49**	PFAKE		05 51 00.0		
OGNE				LR	LR			
	comp=Z,5μm,22.0s							
A28A	**Rude Farm, Bot**	**106.32**	**41**	PKiKP	**PKiKP**	**05 50 48.2**	**+0.6**	
	baz=106							
B28A	**Dugan Ranch, T**	**106.34**	**41**	PKiKP	**PKiKP**	**05 50 48.1**	**+0.5**	
	baz=106							
MSTX	**Muleshoe**	**106.38**	**56**	PKiKP	**PKiKP**	**05 50 47.8**	**-0.4**	
	baz=106							
MSTX	**Muleshoe**	**106.38**	**56**	*e*PKPdf	**PKiKP**	**05 50 48.8**	**+0.6**	
E28A	**Huff**	**106.44**	**43**	PKiKP	**PKiKP**	**05 50 48.2**	**+0.3**	
	baz=106							
C28A	**Hausauer Farms**	**106.46**	**42**	PKiKP	**PKiKP**	**05 50 48.2**	**+0.4**	
	baz=106							
I28A	**Midland**	**106.51**	**46**	PKiKP	**PKiKP**	**05 50 47.9**	**-0.1**	
	baz=106							
G28A	**Parade**	**106.53**	**45**	PKiKP	**PKiKP**	**05 50 48.1**	**0.0**	
	baz=106							
KEV	**Kevo**	**106.55**	**343**	PFAKE		05 51 00.0		
KEV				LR	LR			
	comp=Z,2μm,22.0s							
RAYN	**Ar Rayn**	**106.57**	**293**	*e*PKPdf	**PKiKP**	**05 50 49.2**	**+0.4**	
O28A	**Krutsinger Ran**	**106.57**	**50**	PKiKP	**PKiKP**	**05 50 48.7**	**+0.3**	
	baz=107							
U28A	**Mallet**	**106.62**	**54**	PKiKP	**PKiKP**	**05 50 48.6**	**+0.1**	
	baz=107							
T28A	**Walsh**	**106.64**	**53**	PKiKP	**PKiKP**	**05 50 48.9**	**+0.3**	
	baz=107							
P28A	**Saint Francis**	**106.65**	**50**	PKiKP	**PKiKP**	**05 50 49.2**	**+0.7**	
	baz=107							
128A	**Castleberry Fa**	**106.72**	**58**	PKiKP	**PKiKP**	**05 50 48.8**	**0.0**	
	baz=107							
R28A	**Tribune**	**106.75**	**52**	PKiKP	**PKiKP**	**05 50 49.1**	**+0.4**	
	baz=107							
Z28A	**Tucker Farm, M**	**106.75**	**57**	PKiKP	**PKiKP**	**05 50 48.9**	**0.0**	
	baz=107							
S28A	**Manter**	**106.76**	**53**	PKiKP	**PKiKP**	**05 50 48.9**	**+0.1**	
	baz=107							
Y28A	**McKinney Farm,**	**106.82**	**56**	PKiKP	**PKiKP**	**05 50 49.0**	**0.0**	
	baz=107							
MDND	**Maddock**	**106.95**	**42**	PKiKP	**PKiKP**	**05 50 50.0**	**+1.3**	
	baz=107							
A29A	**Manning Farm,**	**106.99**	**41**	PKiKP	**PKiKP**	**05 50 49.0**	**+0.3**	
	baz=107							
B29A	**Wagenman Farm,**	**107.00**	**41**	PKiKP	**PKiKP**	**05 50 48.8**	**0.0**	
	baz=107							
HAMF	**Hammerfest**	**107.02**	**344**	*e*	**SP**	**06 00 16.5**	**-2.9**	
529A	**Stev Forest Ra**	**107.11**	**60**	PKiKP	**PKiKP**	**05 50 50.2**	**+0.6**	
	baz=107							
ARCES	**ARCESS Array B**	**107.11**	**343**	Pdiff	**Pdif**	**05 46 39.4**	**+0.1**	
	comp=Z,3.7nm,0.8s,baz=37,slow=3.6,SNR=5.1							
ARCES				PKiKP	**PKiKP**	**05 50 48.0**	**-0.4**	
	comp=Z,9.3nm,0.9s,baz=108,slow=1.0,SNR=10							
ARCES				PKKPbc	**PKKPbc**	**06 02 04.8**	**-3.5**	
	comp=Z,1.0nm,0.5s,baz=256,slow=2.8,SNR=9.1							
ARCES				PKKP	**PKKPdf**	**06 02 19.1**	**-1.6**	
	comp=Z,3.0nm,0.9s,baz=256,slow=2.5,SNR=5.2							
ARE0	**ARCESS Array S**	**107.11**	**343**	*e*PP	PP	05 51 04.2	-1.9	
ARE0				*e*SKSac	**SKSac**	**05 57 11.5**	**-3.4**	
ARE0				IAMs_20	IAMs_20	06 37 38.4		
	comp=Z,3μm,22.2s							
KIV	**Kislovodsk**	**107.14**	**314**	*e*P	**Pdif**	**05 46 37.0**	**-3.2**	
KIV				*e*		05 51 04.0		
KIV				*e*PS	**PS**	**06 00 25.0**	**-4.2**	
KIV				*e*SS	SS	06 06 06.0	-5.4	
KIV				pmax	pmax			
	comp=Z,8.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,3μm,20.0s							
KIV	**Kislovodsk**	**107.14**	**314**	PFAKE		05 51 00.0		
KIV				LR	LR			
	comp=Z,3μm,22.0s							
G29A	**Hoven**	**107.20**	**44**	PKiKP	**PKiKP**	**05 50 49.9**	**+0.7**	
	baz=107							
J29A	**Okreek**	**107.20**	**46**	PKiKP	**PKiKP**	**05 50 49.5**	**+0.1**	
	baz=107							
329A	**Wagon Wheel Ra**	**107.22**	**59**	PKiKP	**PKiKP**	**05 50 49.7**	**-0.1**	
	baz=107							
129A	**Stewart Farms,**	**107.24**	**58**	PKiKP	**PKiKP**	**05 50 49.7**	**-0.1**	
	baz=107							
T29A	**Hugoton**	**107.28**	**53**	PKiKP	**PKiKP**	**05 50 49.9**	**+0.1**	
	baz=107							
Y29A	**Porterfield Fa**	**107.30**	**56**	PKiKP	**PKiKP**	**05 50 49.4**	**-0.5**	
	baz=107							
O29A	**4D Ranch, Culb**	**107.32**	**50**	PKiKP	**PKiKP**	**05 50 49.9**	**+0.2**	
	baz=107							
Z29A	**Hungry Hill Ra**	**107.32**	**57**	PKiKP	**PKiKP**	**05 50 50.1**	**+0.1**	
	baz=107							
229A	**Bryant Ranch,**	**107.33**	**58**	PKiKP	**PKiKP**	**05 50 50.6**	**+0.6**	
	baz=107							
Q29A	**Oakley**	**107.33**	**51**	PKiKP	**PKiKP**	**05 50 50.5**	**+0.7**	
	baz=107							
429A	**Davenport Ranc**	**107.36**	**60**	PKiKP	**PKiKP**	**05 50 50.3**	**+0.2**	
	baz=107							
S29A	**Ulysses**	**107.37**	**52**	PKiKP	**PKiKP**	**05 50 50.4**	**+0.5**	
	baz=107							
A30A	**Hoffart Farm,**	**107.59**	**40**	PKiKP	**PKiKP**	**05 50 50.6**	**+0.8**	
	baz=108							
D30A	**Buchanan**	**107.66**	**42**	PKiKP	**PKiKP**	**05 50 50.3**	**+0.2**	
	baz=108							
E30A	**Jud**	**107.67**	**43**	PKiKP	**PKiKP**	**05 50 50.3**	**+0.2**	
	baz=108							
B30A	**Myrvik Farm, E**	**107.67**	**41**	PKiKP	**PKiKP**	**05 50 50.2**	**+0.1**	
	baz=108							
F30A	**Leola**	**107.71**	**44**	PKiKP	**PKiKP**	**05 50 50.4**	**+0.2**	
	baz=108							
MOS	**Moscow**	**107.72**	**327**	*e*P	Pdif	05 46 56.9	+15	
MOS				*e*		05 51 11.1		
MOS				MLR	MLR			
	comp=N,2μm,21.0s							
MOS				MLR	MLR			
	comp=E,4μm,21.0s							
C30A	**Mose, Pekin**	**107.72**	**42**	PKiKP	**PKiKP**	**05 50 50.5**	**+0.4**	
	baz=108							
G30A	**Faulkton**	**107.76**	**44**	PKiKP	**PKiKP**	**05 50 51.2**	**+0.9**	
	baz=108							
I30A	**Oacoma**	**107.77**	**46**	PKiKP	**PKiKP**	**05 50 50.6**	**+0.3**	
	baz=108							
Z30A	**Sanderson Ranc**	**107.80**	**57**	PKiKP	**PKiKP**	**05 50 51.0**	**+0.2**	
	baz=108							
P30A	**Selden**	**107.81**	**50**	PKiKP	**PKiKP**	**05 50 51.2**	**+0.6**	
	baz=108							
J30A	**Dallas**	**107.82**	**46**	PKiKP	**PKiKP**	**05 50 51.0**	**+0.5**	
	baz=108							
M30A	**Dale-Ortello V**	**107.82**	**48**	PKiKP	**PKiKP**	**05 50 50.7**	**+0.1**	
	baz=108							
K30A	**Basset**	**107.83**	**47**	PKiKP	**PKiKP**	**05 50 50.9**	**+0.3**	
	baz=108							
U30A	**WK&E Inc. Balk**	**107.86**	**54**	PKiKP	**PKiKP**	**05 50 51.2**	**+0.4**	
	baz=108							
L30A	**Spencer Herefo**	**107.87**	**48**	PKiKP	**PKiKP**	**05 50 51.3**	**+0.7**	
	baz=108							
530A	**J-C Ranch, Com**	**107.87**	**60**	PKiKP	**PKiKP**	**05 50 51.7**	**+0.7**	
	baz=108							
O30A	**MW Ranch, Wils**	**107.87**	**50**	PKiKP	**PKiKP**	**05 50 51.3**	**+0.6**	
	baz=108							
S30A	**Matsuzuma**	**107.89**	**52**	PKiKP	**PKiKP**	**05 50 51.2**	**+0.4**	
	baz=108							
X30A	**Coker Ranch, T**	**107.90**	**56**	PKiKP	**PKiKP**	**05 50 51.4**	**+0.5**	
	baz=108							
Q30A	**Quinter**	**107.91**	**51**	PKiKP	**PKiKP**	**05 50 51.5**	**+0.7**	
	baz=108							
430A	**Baggett Ranch,**	**107.91**	**60**	PKiKP	**PKiKP**	**05 50 51.4**	**+0.3**	
	baz=108							
330A	**Mertzon**	**107.92**	**59**	PKiKP	**PKiKP**	**05 50 51.3**	**+0.2**	
	baz=108							
230A	**Sterling City**	**107.93**	**58**	PKiKP	**PKiKP**	**05 50 51.5**	**+0.4**	
	baz=108							
Y30A	**Stafford Cattl**	**107.94**	**56**	PKiKP	**PKiKP**	**05 50 51.6**	**+0.5**	
	baz=108							
Y31A	**Rekieta Farm,**	**108.45**	**56**	PKiKP	**PKiKP**	**05 50 52.2**	**+0.2**	
	baz=108							
431A	**Sonora**	**108.46**	**60**	PKiKP	**PKiKP**	**05 50 52.3**	**+0.2**	
	baz=108							
OBN	**Obninsk**	**108.48**	**327**	PFAKE		05 51 00.0		
OBN				LR	LR			
	comp=Z,5μm,22.0s							
R31A	**Burdett**	**108.54**	**52**	PKiKP	**PKiKP**	**05 50 52.7**	**+0.7**	
	baz=108							
531A	**Rocksprings**	**108.55**	**60**	PKiKP	**PKiKP**	**05 50 52.8**	**+0.5**	
	baz=109							
331A	**San Angelo**	**108.56**	**59**	PKiKP	**PKiKP**	**05 50 52.0**	**-0.2**	
	baz=109							
T31A	**Randall Ranch,**	**108.57**	**53**	PKiKP	**PKiKP**	**05 50 52.4**	**+0.3**	
	baz=109							
631A	**Perdido Creek**	**108.58**	**61**	PKiKP	**PKiKP**	**05 50 52.7**	**+0.4**	
	baz=109							
W31A	**Holland Ranch,**	**108.59**	**55**	PKiKP	**PKiKP**	**05 50 52.8**	**+0.6**	
	baz=109							
V31A	**Spring Creek L**	**108.60**	**54**	PKiKP	**PKiKP**	**05 50 52.6**	**+0.4**	
	baz=109							
231A	**Bronte**	**108.60**	**58**	PKiKP	**PKiKP**	**05 50 52.6**	**+0.3**	
	baz=109							
Z31A	**Sharp Cattle R**	**108.62**	**57**	PKiKP	**PKiKP**	**05 50 52.4**	**+0.1**	
	baz=109							
X31A	**McDonald Ranch**	**108.62**	**55**	PKiKP	**PKiKP**	**05 50 52.9**	**+0.6**	
	baz=109							
ULM	**Lac du Bonnet**	**108.83**	**39**	Pdiff	**Pdif**	**05 46 47.1**	**-0.3**	
	comp=Z,2.7nm,0.8s,baz=254,slow=5.4,SNR=4.8							
ULM				PKiKP	**PKiKP**	**05 50 51.2**	**-0.9**	
	comp=Z,7.4nm,0.9s,baz=332,slow=3.6,SNR=7.7							
TRO	**Tromso**	**108.93**	**344**	*e*PP	PP	05 51 19.9	+0.6	
TRO				*e*SKSac	**SKSac**	**05 57 18.9**	**-3.8**	
P32A	**Huiting Farm,**	**109.06**	**50**	PKiKP	**PKiKP**	**05 50 53.2**	**+0.3**	
	baz=109							
ABTX	**Abilene, Hawle**	**109.11**	**58**	PKiKP	**PKiKP**	**05 50 53.7**	**+0.5**	
	baz=109							
ABTX	**Abilene, Hawle**	**109.11**	**58**	*e*PKPdf	**PKiKP**	**05 50 53.7**	**+0.5**	
ABTX				*e*PP	**PP**	**05 51 23.2**	**+1.2**	
532A	**Rocksprings**	**109.11**	**60**	PKiKP	**PKiKP**	**05 50 53.4**	**+0.1**	
	baz=109							
N32A	**Stulken Farm,**	**109.11**	**49**	PKiKP	**PKiKP**	**05 50 53.4**	**+0.4**	
	baz=109							
BGNE	**Belgrade**	**109.11**	**48**	*e*PKPdf	**PKiKP**	**05 50 53.6**	**+0.6**	
Y32A	**R-V Farms, Ver**	**109.13**	**56**	PKiKP	**PKiKP**	**05 50 53.5**	**+0.2**	
	baz=109							
332A	**Millersview**	**109.14**	**59**	PKiKP	**PKiKP**	**05 50 53.6**	**+0.3**	
	baz=109							
432A	**Menard**	**109.14**	**59**	PKiKP	**PKiKP**	**05 50 53.6**	**+0.2**	
	baz=109							
R32A	**Long Quarter,**	**109.15**	**51**	PKiKP	**PKiKP**	**05 50 53.7**	**+0.6**	
	baz=109							
732A	**Laxson Ranch,**	**109.16**	**62**	PKiKP	**PKiKP**	**05 50 53.5**	**+0.1**	
	baz=109							
T32A	**Huddler Ranch,**	**109.16**	**53**	PKiKP	**PKiKP**	**05 50 53.7**	**+0.5**	
	baz=109							
W32A	**Sentinel**	**109.16**	**55**	PKiKP	**PKiKP**	**05 50 53.6**	**+0.4**	
	baz=109							
JCT	**Junction City**	**109.17**	**60**	PKiKP	**PKiKP**	**05 50 53.8**	**+0.4**	
	baz=109							
JCT	**Junction City**	**109.17**	**60**	*e*PKPdf	**PKiKP**	**05 50 53.7**	**+0.3**	
JCT				LR	LR			
	comp=Z,6μm,21.0s							
232A	**Coleman**	**109.17**	**58**	PKiKP	**PKiKP**	**05 50 53.5**	**+0.1**	
	baz=109							
Z32A	**Haskell**	**109.17**	**57**	PKiKP	**PKiKP**	**05 50 53.8**	**+0.5**	
	baz=109							
832A	**Faith Ranch, C**	**109.19**	**62**	PKiKP	**PKiKP**	**05 50 53.7**	**+0.2**	
	baz=109							
Q32A	**Meitler Ranch,**	**109.19**	**51**	PKiKP	**PKiKP**	**05 50 53.5**	**+0.4**	
	baz=109							
U32A	**Winter Ranch,**	**109.20**	**54**	PKiKP	**PKiKP**	**05 50 53.7**	**+0.4**	
	baz=109							
O32A	**Brockman Farm,**	**109.21**	**49**	PKiKP	**PKiKP**	**05 50 53.3**	**+0.1**	
	baz=109							
X32A	**Elmer**	**109.21**	**56**	PKiKP	**PKiKP**	**05 50 53.6**	**+0.3**	
	baz=109							
V32A	**Arapaho**	**109.25**	**54**	PKiKP	**PKiKP**	**05 50 53.6**	**+0.1**	
	baz=109							
632A	**Uvalde**	**109.26**	**61**	PKiKP	**PKiKP**	**05 50 53.7**	**+0.1**	
	baz=109							
AGMN	**Agassiz Nation**	**109.31**	**41**	PKiKP	**PKiKP**	**05 50 53.1**	**0.0**	
	baz=109							
AGMN	**Agassiz Nation**	**109.31**	**41**	PFAKE		05 51 10.0		
AGMN				LR	LR			
	comp=Z,5μm,21.0s							
WMOK	**Wichita Mounta**	**109.59**	**55**	*e*PKPdf	**PKiKP**	**05 50 53.8**	**-0.3**	
WMOK				LR	LR			
	comp=Z,3μm,22.0s							
833A	**Chaparral WMA,**	**109.70**	**62**	PKiKP	**PKiKP**	**05 50 54.3**	**-0.1**	
	baz=110							
133A	**Hamilton Ranch**	**109.72**	**57**	PKiKP	**PKiKP**	**05 50 53.9**	**-0.4**	
	baz=110							
R33A	**Olander Ranch,**	**109.74**	**51**	PKiKP	**PKiKP**	**05 50 54.3**	**+0.1**	
	baz=110							
Q33A	**Connelly Farm,**	**109.75**	**51**	PKiKP	**PKiKP**	**05 50 54.5**	**+0.2**	
	baz=110							
N33A	**J Bar K, Exete**	**109.75**	**49**	PKiKP	**PKiKP**	**05 50 54.2**	**0.0**	
	baz=110							
433A	**Art**	**109.75**	**59**	PKiKP	**PKiKP**	**05 50 54.9**	**+0.4**	
	baz=110							
733A	**Divot King Ran**	**109.75**	**62**	PKiKP	**PKiKP**	**05 50 54.3**	**-0.2**	
	baz=110							
O33A	**Hebron**	**109.76**	**49**	PKiKP	**PKiKP**	**05 50 54.2**	**0.0**	
	baz=110							
Z33A	**Whitaker Ranch**	**109.77**	**57**	PKiKP	**PKiKP**	**05 50 55.0**	**+0.6**	
	baz=110							
P33A	**Williams Farm,**	**109.78**	**50**	PKiKP	**PKiKP**	**05 50 54.4**	**+0.1**	
	baz=110							
333A	**Richland Sprin**	**109.79**	**59**	PKiKP	**PKiKP**	**05 50 54.3**	**-0.2**	
	baz=110							
233A	**Rising Star**	**109.79**	**58**	PKiKP	**PKiKP**	**05 50 55.2**	**+0.7**	
	baz=110							
M33A	**Taylor Creek F**	**109.79**	**48**	PKiKP	**PKiKP**	**05 50 54.3**	**+0.1**	
	baz=110							
ECSD	**EROS Data Cent**	**109.80**	**46**	PKiKP	**PKiKP**	**05 50 54.2**	**0.0**	
	baz=110							
ECSD	**EROS Data Cent**	**109.80**	**46**	*e*Pdif	**Pdif**	**05 46 51.7**	**-0.2**	
ECSD				*e*PKPdf	**PKiKP**	**05 50 53.4**	**-0.7**	
ECSD				LR	LR			
	comp=Z,4μm,19.0s							
X33A	**Lawton**	**109.84**	**55**	PKiKP	**PKiKP**	**05 50 54.9**	**+0.4**	
	baz=110							
933A	**Laredo**	**109.85**	**63**	PKiKP	**PKiKP**	**05 50 55.0**	**+0.2**	
	baz=110							
U33A	**Lingo Farm, Me**	**109.91**	**53**	PKiKP	**PKiKP**	**05 50 55.3**	**+0.7**	
	baz=110							
M34A	**Aspy Farms, Fr**	**110.26**	**48**	PKiKP	**PKiKP**	**05 50 55.5**	**+0.4**	
	baz=110							
R34A	**Isabella, Hill**	**110.31**	**51**	PKiKP	**PKiKP**	**05 50 55.3**	**0.0**	
	baz=110							
L34A	**Svendsen Farm,**	**110.32**	**47**	PKiKP	**PKiKP**	**05 50 55.7**	**+0.5**	
	baz=110							
534A	**Blanco**	**110.35**	**60**	PKiKP	**PKiKP**	**05 50 55.6**	**0.0**	
	baz=110							
U34A	**Anderson Ranch**	**110.37**	**53**	PKiKP	**PKiKP**	**05 50 55.6**	**+0.2**	
	baz=110							
X34A	**Smith Ranch, M**	**110.38**	**55**	PKiKP	**PKiKP**	**05 50 56.0**	**+0.5**	
	baz=110							
O34A	**Beatrice**	**110.42**	**49**	PKiKP	**PKiKP**	**05 50 55.4**	**-0.1**	
	baz=110							
034A	**Hebbronville**	**110.42**	**63**	PKiKP	**PKiKP**	**05 50 55.6**	**-0.1**	
	baz=110							
134A	**White-Moore Ra**	**110.42**	**57**	PKiKP	**PKiKP**	**05 50 55.6**	**0.0**	
	baz=110							
334A	**Lometa**	**110.42**	**59**	PKiKP	**PKiKP**	**05 50 55.6**	**-0.1**	
	baz=110							
P34A	**Walnut Farm, R**	**110.43**	**50**	PKiKP	**PKiKP**	**05 50 55.7**	**+0.3**	
	baz=110							
234A	**Clairette**	**110.44**	**58**	PKiKP	**PKiKP**	**05 50 55.9**	**+0.2**	
	baz=110							
Q34A	**Chapman**	**110.44**	**51**	PKiKP	**PKiKP**	**05 50 55.5**	**0.0**	
	baz=110							
434A	**Burnet**	**110.45**	**59**	PKiKP	**PKiKP**	**05 50 55.8**	**0.0**	
	baz=110							
834A	**Tilden**	**110.45**	**62**	PKiKP	**PKiKP**	**05 50 56.0**	**+0.1**	
	baz=110							
Z34A	**Collier Ranch,**	**110.47**	**57**	PKiKP	**PKiKP**	**05 50 55.8**	**+0.1**	
	baz=110							
V34A	**Guthrie**	**110.47**	**54**	PKiKP	**PKiKP**	**05 50 56.1**	**+0.4**	
	baz=110							
S34A	**Willow Spring**	**110.51**	**52**	PKiKP	**PKiKP**	**05 50 55.8**	**+0.1**	
	baz=110							
Y34A	**Reagan Ranch,**	**110.52**	**56**	PKiKP	**PKiKP**	**05 50 55.5**	**-0.4**	
	baz=110							
KSU1	**Kansas State U**	**110.67**	**50**	PKiKP	**PKiKP**	**05 50 56.2**	**+0.3**	
	baz=111							
KSU1	**Kansas State U**	**110.67**	**50**	PFAKE		05 51 10.0		
KSU1				LR	LR			
	comp=Z,6μm,22.0s							
ANN	**Anapa**	**110.67**	**316**	*e*P	**Pdif**	**05 46 58.3**	**+2.6**	
ANN				*e*		05 51 33.5		
ANN				*e*SP	SP	06 00 53.9	-3.4	
ANN				*e*SS	**SS**	**06 06 59.4**	**+0.8**	
ANN				pmax	pmax			
	comp=Z,100nm,1.4s							
ANN				MLR	MLR			
	comp=N,854nm,21.0s							
ANN				MLR	MLR			
	comp=E,2μm,21.0s							
ANN				MLR	MLR			
	comp=Z,2μm,21.0s							
L35A	**Bielow Farm, R**	**110.90**	**47**

SPMN	**Marine on St.**	**112.11**	**43**	PKiKP		**PKiKP**	**05 50 58.5**	**+0.1**
	baz=112							
R37A	**Teagarden Farm**	**112.18**	**51**	PKiKP		**PKiKP**	**05 50 58.3**	**-0.5**
	baz=112							
537A	**Green Hill Far**	**112.21**	**60**	PKiKP		**PKiKP**	**05 50 58.7**	**-0.4**
	baz=112							
EYMN	**Ely**	**112.22**	**40**	PKiKP		**PKiKP**	**05 50 58.2**	**-0.4**
	baz=112							
EYMN	**Ely**	**112.22**	**40**	PFAKE			05 51 10.0	
EYMN				LR		LR		
	comp=Z,4μm,21.0s							
W37A	**Quinton**	**112.26**	**54**	PKiKP		**PKiKP**	**05 50 59.4**	**+0.3**
	baz=112							
637A	**Eagle Lake**	**112.27**	**61**	PKiKP		**PKiKP**	**05 50 59.8**	**+0.5**
	baz=112							
Y37A	**Hugo**	**112.28**	**56**	PKiKP		**PKiKP**	**05 50 59.5**	**+0.4**
	baz=112							
T37A	**Chenevville 18**	**112.33**	**52**	PKiKP		**PKiKP**	**05 50 59.5**	**+0.3**
	baz=112							
137A	**Heron Place, G**	**112.36**	**57**	PKiKP		**PKiKP**	**05 50 59.8**	**+0.5**
	baz=112							
V37A	**Hulbert**	**112.37**	**54**	PKiKP		**PKiKP**	**05 50 59.7**	**+0.4**
	baz=112							
X37A	**Clayton**	**112.39**	**55**	PKiKP		**PKiKP**	**05 50 59.2**	**-0.1**
	baz=112							
Z37A	**Pogue Cattle C**	**112.39**	**56**	PKiKP		**PKiKP**	**05 50 59.6**	**+0.3**
	baz=112							
237A	**Washetta, Mont**	**112.40**	**58**	PKiKP		**PKiKP**	**05 50 59.6**	**+0.2**
	baz=112							
337A	**Centerville**	**112.43**	**59**	PKiKP		**PKiKP**	**05 51 00.2**	**+0.7**
	baz=112							
SCIA	**State Center**	**112.64**	**47**	PFAKE			05 51 10.0	
SCIA				LR		LR		
	comp=Z,4μm,22.0s							
HKT	**Hockley**	**112.64**	**60**	*e*PKPdf		**PKiKP**	**05 51 01.3**	**+1.5**
HKT				*e*PP		**PP**	**05 51 46.3**	**-1.1**
SUMG	**Summit**	**112.79**	**3**	*i* P		**PKiKP**	**05 51 00.3**	**+0.8**
	comp=Z,14nm,1.1s							
SUMG	**Summit**	**112.79**	**3**	*i* P		**PKKPbc**	**06 01 46.2**	**-4.2**
SUMG	**Summit**	**112.79**	**3**	*i* PKiKP		**PKiKP**	**05 51 00.3**	**+0.8**
SUMG				pmax		pmax		
	comp=Z,14nm,1.1s							
SUMG	**Summit**	**112.79**	**3**	*e*PKPdf		**PKiKP**	**05 51 00.3**	**+0.8**
X38A	**Whitesboro**	**112.82**	**55**	PKiKP		**PKiKP**	**05 51 00.7**	**+0.5**
	baz=113							
338A	**Crockett**	**112.91**	**58**	PKiKP		**PKiKP**	**05 51 00.6**	**+0.2**
	baz=113							
Z38A	**Mt. Pleasant**	**112.91**	**56**	PKiKP		**PKiKP**	**05 51 00.4**	**0.0**
	baz=113							
138A	**Matatall Enter**	**112.91**	**57**	PKiKP		**PKiKP**	**05 51 00.6**	**+0.2**
	baz=113							
738A	**Farr-Stevens R**	**112.93**	**61**	PKiKP		**PKiKP**	**05 51 00.4**	**-0.1**
	baz=113							
238A	**Jacksonville**	**112.98**	**58**	PKiKP		**PKiKP**	**05 51 00.6**	**+0.1**
	baz=113							
W38A	**Poteau**	**113.00**	**54**	PKiKP		**PKiKP**	**05 51 00.5**	**0.0**
	baz=113							
JMIC	**Jan Mayen**	**113.38**	**353**	*e*		**PS**	**06 01 31.7**	**+4.0**
NATX	**Nacogdoches**	**113.40**	**58**	*e*PKPdf		**PKiKP**	**05 51 02.5**	**+1.2**
439A	**Center Grove,**	**113.45**	**59**	PKiKP		**PKiKP**	**05 51 00.3**	**-1.2**
	baz=114							
239A	**Gary**	**113.53**	**58**	PKiKP		**PKiKP**	**05 51 01.4**	**-0.1**
	baz=114							
Y39A	**Lockesburg**	**113.54**	**55**	PKiKP		**PKiKP**	**05 51 01.7**	**+0.2**
	baz=114							
339A	**Huntington**	**113.55**	**58**	PKiKP		**PKiKP**	**05 51 01.7**	**+0.1**
	baz=114							
539A	**Cross D Ranch,**	**113.57**	**60**	PKiKP		**PKiKP**	**05 51 01.8**	**+0.1**
	baz=114							
Z39A	**Irene McRaven,**	**113.58**	**56**	PKiKP		**PKiKP**	**05 51 01.8**	**+0.1**
	baz=114							
NACGM	**Naroch**	**113.79**	**329**	*e*PP		PP	05 51 54.0	-0.6
MIAR	**Mount Ida**	**113.86**	**55**	PKiKP		**PKiKP**	**05 51 02.0**	**-0.1**
	baz=114							
MIAR	**Mount Ida**	**113.86**	**55**	*e*PKPdf		**PKiKP**	**05 51 02.7**	**+0.5**
MIAR				*e*PP		**PP**	**05 51 55.3**	**-0.7**
MIAR				LR		LR		
	comp=Z,5μm,22.0s							
340A	**Bronson**	**114.10**	**58**	PKiKP		**PKiKP**	**05 51 03.0**	**+0.3**
	baz=114							
440A	**Kirbyville**	**114.14**	**59**	PKiKP		**PKiKP**	**05 51 02.8**	**+0.1**
	baz=114							
AKASG	**Malin Array Be**	**114.16**	**324**	PKiKP		PKPdf	05 51 01.2	-1.0
	comp=Z,4.4nm,0.6s,baz=61,slow=2.2,SNR=11							
AKASG				PKKPbc		**PKKPbc**	**06 01 42.7**	**-2.0**
	comp=Z,2.9nm,0.7s,baz=258,slow=4.0,SNR=14							
AK01	**Malin Array Si**	**114.17**	**324**	*e*PKPdf		PKPdf	05 51 00.8	-1.4
KIEV	**Kiev**	**114.17**	**324**	*i* PKiKP		PKPdf	05 51 01.4	-0.8
KIEV	**Kiev**	**114.17**	**324**	PFAKE			05 51 10.0	+7.8
KIEV				LR		LR		
	comp=Z,3μm,22.0s							
AK02	**Malin Array Si**	**114.19**	**324**	*e*PKPdf		PKPdf	05 51 01.4	-0.8
AK02				*e*PP		**PP**	**05 51 59.2**	**+1.7**
JFWS	**Jewell Farm**	**114.51**	**45**	*e*PKPdf		PKPdf	05 51 02.6	-0.5
JFWS				*e*PP		PP	05 51 54.7	-5.4
JFWS				LR		LR		
	comp=Z,3μm,19.0s							
BR131	**Keskin Array S**	**114.60**	**311**	*e*PKPdf		PKPdf	05 51 01.9	-1.7
BR131				*e*PP		**PP**	**05 52 00.5**	**-0.6**
BRTR	**Keskin Array B**	**114.60**	**311**	PKP		PKPdf	05 51 02.6	-1.0
	comp=Z,6.4nm,0.8s,baz=79,slow=1.0,SNR=20							
BRTR				PKKPbc		**PKKPbc**	**06 01 42.1**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=255,slow=2.1,SNR=9.0							
BRTR	**Keskin Array B**	**114.60**	**311**	PKiKP		PKPdf	05 51 02.7	-0.9
BRTR							06 01 42.2	
BRTR				pmax		pmax		
	comp=Z,6.0nm,0.9s							
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
UALR	**University of**	**114.82**	**54**	*e*PKPdf		PKPdf	05 51 04.6	+0.6
ANTO	**Ankara**	**115.20**	**312**	⇑PKiKP		**PKPdf**	**05 51 05.2**	**+0.5**
ANTO	**Ankara**	**115.20**	**312**	*i*P		**PKPdf**	**05 51 05.2**	**+0.5**
ANTO	**Ankara**	**115.20**	**312**	*e*PKPdf		**PKPdf**	**05 51 04.2**	**-0.5**
ANTO				LR		LR		
	comp=Z,605nm,22.0s							
KIS	**Kishinev**	**115.78**	**320**	*e*PKP		PP	05 52 03.0	-5.9
KIS				*e*SKKS			05 58 12.0	
KIS	**Kishinev**	**115.78**	**320**	*e*PS		PS	06 02 02.0	+11
KIS				LRM		MLR	06 38 12.0	
	comp=Z,1μm,24.0s							
HDIL	**Hopedale**	**115.84**	**47**	PKiKP		**PKiKP**	**05 51 05.8**	**0.0**
	baz=116							
HDIL	**Hopedale**	**115.84**	**47**	PFAKE			05 51 20.0	+14
HDIL				LR		LR		
	comp=Z,3μm,21.0s							
CSS	**Prodhromos**	**115.91**	**306**	PFAKE			05 51 20.0	+14
CSS				LR		LR		
	comp=Z,434nm,22.0s							
SUW	**Suwalki**	**116.06**	**329**	*e*PKiKP		**PKPdf**	**05 51 05.9**	**+0.2**
SUW	**Suwalki**	**116.06**	**329**	*i* PKiKP		**PKPdf**	**05 51 06.0**	**+0.2**
GNAR	**Gosnell**	**116.43**	**53**	*e*PKPdf		**PKPdf**	**05 51 06.6**	**-0.4**
SIUC	**Southern Illin**	**116.64**	**50**	*e*PKPdf		**PKPdf**	**05 51 07.4**	**+0.1**
VBMS	**Vicksburg**	**116.80**	**57**	PKiKP		**PKiKP**	**05 51 08.2**	**+0.3**
	baz=117							
SFJD	**Kangerlussuaq**	**116.84**	**9**	*i* P		**PKPdf**	**05 51 06.3**	**-0.6**
	comp=Z,11nm,0.8s							
	comp=Z,2μm,20.0s							
SFJD	**Kangerlussuaq**	**116.84**	**9**	*e*PKiKP		**PKPdf**	**05 51 06.3**	**-0.6**
SFJD				pmax		pmax		
	comp=Z,11nm,0.8s							
SFJD				MLR		MLR		
	comp=Z,2μm,20.0s							
SFJD	**Kangerlussuaq**	**116.84**	**9**	PFAKE			05 51 20.0	+13
SFJD				LR		LR		
	comp=Z,2μm,20.0s							
CFR	**Carcaliu**	**116.87**	**318**	⇓PKiKP		**PKPdf**	**05 51 07.2**	**-0.4**
CFR	**Carcaliu**	**116.87**	**318**	⇓*i*P		**PKPdf**	**05 51 07.2**	**-0.4**
GLAT	**Glass**	**116.93**	**52**	*e*PKPdf		**PKPdf**	**05 51 08.5**	**+0.5**
TIRR	**Tirgusor**	**116.94**	**318**	⇓PKiKP		**PKPdf**	**05 51 08.9**	**+1.2**
TIRR	**Tirgusor**	**116.94**	**318**	⇓*i*P		**PKPdf**	**05 51 08.9**	**+1.2**
HALT	**Halls**	**116.98**	**52**	*e*PKPdf		**PKPdf**	**05 51 08.0**	**0.0**
NB2	**NORSAR Subarra**	**117.06**	**339**	PKPdf		**PKPdf**	**05 51 06.2**	**-1.4**
	comp=Z,4.9nm,0.9s,baz=44,slow=1.9							
NB2	**NORSAR Subarra**	**117.06**	**339**	PKPdf		**PKPdf**	**05 51 06.2**	**-1.4**
	baz=44,slow=1.9							
NOA	**NORSAR Array B**	**117.06**	**339**	PKP		**PKPdf**	**05 51 06.6**	**-0.9**
	comp=Z,8.4nm,0.7s,baz=49,slow=1.9,SNR=41							
NOA				SKP			05 54 37.2	
	comp=Z,1.1nm,0.7s,baz=50,slow=2.0,SNR=3.4							
NOA				PKKPbc		**PKKPbc**	**06 01 33.5**	**-1.5**
	comp=Z,1.1nm,0.9s,baz=224,slow=3.4,SNR=4.3							
NC602	**NORSAR Array S**	**117.16**	**339**	*e*PP		PP	05 52 18.2	+0.3
NC602				*e*SS		SS	06 08 25.6	+2.8
NC602				IAMs_20		IAMs_20	06 44 32.6	
	comp=Z,4μm,20.3s							
OLIL	**Olney**	**117.22**	**49**	*e*PKPdf		**PKPdf**	**05 51 08.2**	**-0.2**
OLIL				*e*PP		**PP**	**05 52 18.9**	**-0.4**
OXF	**Oxford**	**117.24**	**54**	*e*PKPdf		**PKPdf**	**05 51 08.4**	**-0.2**
NAO01	**NORSAR Array S**	**117.31**	**339**	*e*PKPdf		**PKPdf**	**05 51 08.2**	**+0.2**
PSN	**Preselentsi**	**117.36**	**317**	⇓PKiKP		**PKPdf**	**05 51 10.4**	**+1.8**
PSN	**Preselentsi**	**117.36**	**317**	⇓*i*P		**PKPdf**	**05 51 10.4**	**+1.8**
ISP	**Isparta**	**117.44**	**310**	PFAKE			05 51 20.0	+11
ISP				LR		LR		
	comp=Z,2μm,22.0s							
MSAB	**Monastry St. A**	**117.46**	**317**	⇑*i*P		**PKPdf**	**05 51 08.9**	**+0.2**
SFIN	**Lafayette**	**117.50**	**47**	PKiKP		**PKPdf**	**05 51 08.8**	**-0.1**
	baz=118							
SFIN	**Lafayette**	**117.50**	**47**	*e*PKPdf		**PKPdf**	**05 51 08.8**	**-0.1**
SFIN				*e*PP		**PP**	**05 52 16.8**	**-4.4**
VRI	**Vrincioaia**	**117.54**	**319**	⇑PKiKP		**PKPdf**	**05 51 08.4**	**-0.5**
VRI	**Vrincioaia**	**117.54**	**319**	⇑*i*P		**PKPdf**	**05 51 08.4**	**-0.5**
LVV	**L'vov**	**117.56**	**324**	*i* PKiKP		**PKPdf**	**05 51 07.9**	**-0.9**
LVV				*e*			05 52 21.9	
LVV				*e*			05 58 01.1	
LVV				MLR		MLR		
	comp=N,2μm,24.0s							
LVV				MLR		MLR		
	comp=E,4μm,24.0s							
LVV				MLR		MLR		
	comp=Z,5μm,24.0s							
EFI	**East Falkland**	**117.74**	**160**	PFAKE			05 51 20.0	+11
EFI				LR		LR		
	comp=Z,2μm,19.0s							
GLMI	**Grayling**	**117.75**	**42**	*e*PKPdf		**PKPdf**	**05 51 09.0**	**-0.3**
GLMI				LR		LR		
	comp=Z,5μm,20.0s							
BUR08	**Bucovina Ar. S**	**117.80**	**322**	*e*PKPdf		**PKPdf**	**05 51 10.1**	**+0.6**
BURAR	**Bucovina Array**	**117.80**	**322**	⇓PKiKP		**PKPdf**	**05 51 10.1**	**+0.6**
BURAR	**Bucovina Array**	**117.80**	**322**	⇓*i*P		**PKPdf**	**05 51 10.1**	**+0.6**
BOSA	**Boshof**	**117.89**	**234**	PKP		**PKPdf**	**05 51 09.8**	**-0.4**
	comp=Z,7.6nm,0.6s,baz=104,slow=2.2,SNR=20							
BOSA				SKP			05 54 40.1	
	comp=Z,2.7nm,0.7s,baz=90,slow=1.0,SNR=1.8							
BOSA				PKKPbc		**PKKPbc**	**06 01 30.4**	**-0.8**
	comp=Z,12nm,0.9s,baz=294,slow=4.5,SNR=14							
BOSA	**Boshof**	**117.89**	**234**	PKP		**PKPdf**	**05 51 09.8**	**-0.4**
BOSA				*e*PKPdf		**PKiKP**	**05 51 10.3**	**0.0**
BOSA				*e*PP		**PP**	**05 52 22.2**	**-2.0**
BOSA				SKP			05 54 40.1	
BOSA				*e*SKPdf		**SKiKP**	**05 54 42.6**	**+0.7**
BOSA				PKKPbc		**PKKPbc**	**06 01 30.4**	**-0.8**
ISR	**Istrita**	**117.94**	**319**	⇓PKiKP		**PKPdf**	**05 51 10.1**	**+0.3**
ISR	**Istrita**	**117.94**	**319**	⇓*i*P		**PKPdf**	**05 51 10.1**	**+0.3**
WVT	**Waverly**	**118.11**	**52**	*e*PKPdf		**PKPdf**	**05 51 08.6**	**-1.7**
MLR	**Muntele Rosu**	**118.19**	**319**	⇑PKiKP		**PKPdf**	**05 51 10.0**	**-0.3**
MLR	**Muntele Rosu**	**118.19**	**319**	⇑*i*P		**PKPdf**	**05 51 10.0**	**-0.3**
BLO	**Bloomington**	**118.28**	**48**	*e*PKPdf		**PKPdf**	**05 51 10.3**	**-0.1**
PAYG	**Puerto Ayora**	**118.30**	**94**	PFAKE			05 51 20.0	+8.7
PAYG				LR		LR		
	comp=Z,1μm,19.0s							
KWP	**Kalwaria Pacla**	**118.41**	**325**	*e*PKiKP		**PKPdf**	**05 51 10.3**	**-0.2**
KWP	**Kalwaria Pacla**	**118.41**	**325**	*i* PKiKP		**PKPdf**	**05 51 10.4**	**-0.1**
KONO	**Kongsberg**	**118.61**	**339**	*e*PP		PP	05 52 30.6	+2.6
KONO				*e*SS		SS	06 08 43.8	+2.2
KONO	**Kongsberg**	**118.61**	**339**	PFAKE			05 51 20.0	+9.5
KONO				LR		LR		
	comp=Z,3μm,21.0s							
WCI	**Wyandotte Cave**	**118.72**	**49**	*e*PKPdf		**PKPdf**	**05 51 10.9**	**-0.5**
WCI				*e*SKPdf		**SKiKP**	**05 54 45.3**	**+2.2**
VOIR			**118.79**	**320**	⇓PKiKP	**PKPdf**	**05 51 15.7**	**+4.3**
VOIR			**118.79**	**320**	⇓*i*P	**PKPdf**	**05 51 15.7**	**+4.3**
KOLS	**Kolonicke sedl**	**118.99**	**324**	*e*PKiKP		**PKPdf**	**05 51 11.9**	**+0.3**
KOLS	**Kolonicke sedl**	**118.99**	**324**	*e*PKP		**PKPdf**	**05 51 11.9**	**+0.3**
LBTB	**Lobatse**	**119.03**	**238**	*e*PKPdf		**PKPdf**	**05 51 12.7**	**+0.1**
UZH	**Uzhgorod**	**119.12**	**324**	*e*PKiKP		**PKPdf**	**05 51 13.8**	**+2.0**
CJR	**Cluj-Napoca**	**119.18**	**321**	⇓PKiKP		**PKPdf**	**05 51 12.7**	**+0.6**
CJR	**Cluj-Napoca**	**119.18**	**321**	⇓*i*P		**PKPdf**	**05 51 12.6**	**+0.5**
HUMR	**Humele**	**119.20**	**319**	⇑*i*P		**PKPdf**	**05 51 11.0**	**-1.1**
AAM	**Ann Arbor**	**119.31**	**44**	*e*PKPdf		**PKPdf**	**05 51 12.1**	**-0.3**
AAM				LR		LR		
	comp=Z,6μm,21.0s							
STHS	**Stebnicka Huta**	**119.35**	**325**	*e*PKiKP		**PKPdf**	**05 51 12.7**	**+0.4**
STHS				*e*			05 52 34.0	
STHS	**Stebnicka Huta**	**119.35**	**325**	*e*PKP		**PKPdf**	**05 51 12.7**	**+0.4**
STHS				*e*PP		**PP**	**05 52 34.0**	**+0.4**
GKP	**Gorka Klasztor**	**119.46**	**330**	*e*PKiKP		**PKPdf**	**05 51 12.0**	**-0.3**
GKP	**Gorka Klasztor**	**119.46**	**330**	*i* PKiKP		**PKPdf**	**05 51 12.0**	**-0.3**
BSD	**Bornholm Skovb**	**119.47**	**333**	⇑*i*P		**PKPdf**	**05 51 11.6**	**-0.7**
	comp=Z,15nm,0.7s							
	comp=Z,3μm,19.0s							
BSD	**Bornholm Skovb**	**119.47**	**333**	⇑*i*PKiKP		**PKPdf**	**05 51 11.6**	**-0.7**
BSD				pmax		pmax		
	comp=Z,15nm,0.7s							
BSD				MLR		MLR		
	comp=Z,3μm,19.0s							
BER	**Bergen**	**119.51**	**341**	*e*PP		PP	05 52 33.3	-0.8
BER				*e*SS		SS	06 08 56.8	+3.7
BER				IAMs_20		IAMs_20	06 45 42.0	
	comp=Z,3μm,19.8s							
LRAL	**Lakeview Retre**	**119.53**	**55**	*e*PKPdf		**PKPdf**	**05 51 12.7**	**-0.4**
SUR	**Sutherland**	**119.63**	**228**	PFAKE			05 51 30.0	+16
SUR				LR		LR		
	comp=Z,4μm,22.0s							
DRGR			**119.70**	**322**	⇓PKiKP	**PKPdf**	**05 51 13.2**	**+0.1**
DRGR			**119.70**	**322**	⇓*i*P	**PKPdf**	**05 51 13.2**	**+0.1**
OJC	**Ojcow**	**119.77**	**326**	*e*PKiKP		**PKPdf**	**05 51 12.5**	**-0.5**
OJC	**Ojcow**	**119.77**	**326**	*i* PKiKP		**PKPdf**	**05 51 12.5**	**-0.5**
LSZ	**Lusaka**	**119.88**	**249**	*e*PKPdf		**PKPdf**	**05 51 14.5**	**+0.1**
LSZ				LR		LR		
	comp=Z,2μm,21.0s							
NIE	**Niedzica**	**119.88**	**325**	*e*PKiKP		**PKiKP**	**05 51 13.9**	**+0.5**
NIE	**Niedzica**	**119.88**	**325**	*i* PKiKP		**PKiKP**	**05 51 13.9**	**+0.5**
BRAL	**Brewton**	**119.93**	**57**	*e*PKPdf		**PKPdf**	**05 51 14.2**	**+0.2**
BRAL				*e*PP		**PP**	**05 52 38.0**	**-0.4**
BRAL				LR		LR		
	comp=Z,4μm,21.0s							
KDZ	**Kurdzhali**	**119.98**	**315**	⇑PKiKP		**PKPdf**	**05 51 13.2**	**-0.5**
KDZ	**Kurdzhali**	**119.98**	**315**	⇑*i*P		**PKPdf**	**05 51 13.2**	**-0.5**
HOMB	**Homborsund**	**120.00**	**338**	*e*PP		PP	05 52 35.9	-1.6
HOMB				IAMs_20		IAMs_20	06 46 40.6	
	comp=Z,2μm,21.3s							
HOPE	**Hope Point**	**120.03**	**175**	PFAKE			05 51 30.0	+17
HOPE				LR		LR		
	comp=Z,3μm,22.0s							
KECS	**Kecovo**	**120.25**	**324**	*e*PKiKP		**PKPdf**	**05 51 13.6**	**-0.4**
KECS				*e*			05 52 38.7	
KECS	**Kecovo**	**120.25**	**324**	*e*PKP		**PKPdf**	**05 51 13.6**	**-0.4**
KECS				*e*PP		**PP**	**05 52 38.7**	**-1.0**
GZR	**Gura Zlata**	**120.27**	**320**	⇓PKiKP		**PKPdf**	**05 51 14.8**	**+0.6**
GZR	**Gura Zlata**	**120.27**	**320**	⇓*i*P		**PKPdf**	**05 51 14.8**	**+0.6**
KMY	**Karmoy**	**120.44**	**340**	*e*		PP	05 52 29.8	-11
MPEP	**Malo Peshtene**	**120.48**	**318**	P		**PKPdf**	**05 51 14.2**	**-0.4**
ACSO	**Alum Creek Sta**	**120.52**	**46**	*e*PKPdf		**PKPdf**	**05 51 14.3**	**-0.5**
ACSO				LR		LR		
	comp=Z,3μm,20.0s							
TEIG	**Tepich**	**120.52**	**70**	*e*PKPdf		**PKPdf**	**05 51 16.0**	**+0.7**
TEIG				LR		LR		
	comp=Z,1μm,22.0s							
LLD	**Lille Linde**	**120.53**	**334**	*i* P		**PKPdf**	**05 51 14.6**	**+0.3**
LLD	**Lille Linde**	**120.53**	**334**	*i* PKiKP		**PKPdf**	**05 51 14.6**	**+0.3**
RGN	**Rugen**	**120.55**	**333**	*e*PP		PP	05 52 42.1	+0.7
BORG	**Borgarnes**	**120.67**	**356**	PFAKE			05 51 30.0	+16
BORG				LR		LR		
	comp=Z,2μm,21.0s							
PSZ	**Piszkesteto**	**120.87**	**324**	⇑PKiKP		**PKPdf**	**05 51 16.3**	**+1.0**
PSZ	**Piszkesteto**	**120.87**	**324**	⇑*i*P		**PKPdf**	**05 51 16.3**	**+1.0**
PSZ	**Piszkesteto**	**120.87**	**324**	*e*PKPdf		**PKPdf**	**05 51 15.9**	**+0.6**
PSZ				LR		LR		
	comp=Z,3μm,22.0s							
PSZ	**Piszkesteto**	**120.87**	**324**	*e*PKPdf		**PKPdf**	**05 51 15.1**	**-0.2**
OKC	**Ostrava-Krasne**	**120.88**	**327**	*e*PKPdf		**PKPdf**	**05 51 14.1**	**-1.1**
OKC				*es*PKP			05 51 33.7	
OKC				*e*PP		PP	05 52 38.1	-5.8
OKC				*e*PS		**PS**	**06 02 31.0**	**-5.5**
OKC				*ex*		x	06 04 06.0	
OKC				AMS		AMS	06 45 10.0	
	comp=Z,3μm,21.2s							
OKC	**Ostrava-Krasne**	**120.88**	**327**	*e*PKiKP		**PKPdf**	**05 51 14.1**	**-1.1**
OKC				*e*			05 51 33.7	
OKC				*e*PS		**PS**	**06 02 31.0**	**-5.5**
OKC				*e*			06 04 06.0	
OKC				MLR		MLR		
	comp=Z,3μm,21.2s							
BZS	**Buzias**	**120.90**	**321**	⇑PKiKP		**PKPdf**	**05 51 14.6**	**-0.7**
BZS	**Buzias**	**120.90**	**321**	⇑*i*P		**PKPdf**	**05 51 14.6**	**-0.7**
MUD	**Monsted U'grnd**	**121.03**	**337**	*i* P		**PKPdf**	**05 51 15.7**	**+0.5**
	comp=Z,3μm,21.0s							
MUD	**Monsted U'grnd**	**121.03**	**337**	*e*PKiKP		**PKPdf**	**05 51 15.7**	**+0.5**
MUD				MLR		MLR		
	comp=Z,3μm,21.0s							
VTS	**Vitosha**	**121.14**	**317**	P		**PKPdf**	**05 51 15.2**	**-0.9**
VTS	**Vitosha**	**121.14**	**317**	⇑PKiKP		**PKPdf**	**05 51 16.0**	**-0.1**
VTS	**Vitosha**	**121.14**	**317**	⇑*i*P		**PKPdf**	**05 51 16.0**	**-0.1**
VTS	**Vitosha**	**121.14**	**317**	P		**PKPdf**	**05 51 14.8**	**-1.3**
VTS	**Vitosha**	**121.14**	**317**	P		**PKPdf**	**05 51 15.2**	**-0.9**
NVR	**Nevrokopi**	**121.18**	**316**	P		**PKPdf**	**05 51 14.8**	**-1.3**
NVR	**Nevrokopi**	**121.18**	**316**	P		**PKPdf**	**05 51 14.8**	**-1.3**
MMB	**Musomiste**	**121.18**	**316**	⇑PKiKP		**PKPdf**	**05 51 15.5**	**-0.6**
MMB	**Musomiste**	**121.18**	**316**	⇑*i*P		**PKPdf**	**05 51 15.5**	**-0.6**
MMB	**Musomiste**	**121.18**	**316**	P		**PKPdf**	**05 51 14.5**	**-1.6**
MORC	**Moravsky Berou**	**121.24**	**327**	⇓PKiKP		**PKPdf**	**05 51 16.2**	**+0.3**
MORC	**Moravsky Berou**	**121.24**	**327**	⇓*i*P		**PKPdf**	**05 51 16.1**	**+0.2**
MORC	**Moravsky Berou**	**121.24**	**327**	*e*PKPdf		**PKPdf**	**05 51 15.6**	**-0.4**
KSP	**Ksiaz**	**121.32**	**328**	*e*PKiKP		**PKiKP**	**05 51 16.1**	**0.0**
KSP	**Ksiaz**	**121.32**	**328**	*i* PKiKP		**PKiKP**	**05 51 16.1**	**0.0**
PKSN	**Nyarlorinc**	**121.38**	**323**	*e*PKPdf		**PKPdf**	**05 51 17.1**	**+0.9**
KRLC	**Kraliky**	**121.49**	**327**	*e*PKPdf		**PKPdf**	**05 51 16.3**	**-0.1**
KRLC				*e*PKKP		**PKKPab**	**06 01 17.5**	**-0.1**
KRLC	**Kraliky**	**121.49**	**327**	*e*PKiKP		**PKPdf**	**05 51 16.3**	**-0.1**
KKB	**Krupnik**	**121.52**	**316**	P		**PKPdf**	**05 51 15.5**	**-1.2**
DPC	**Dobruska-Polom**	**121.58**	**328**	*e*PKPdf		**PKPdf**	**05 51 16.4**	**-0.2**
DPC				*ex*		x	05 51 25.5	
DPC				*es*PKP			05 51 36.9	
DPC				*e*PP		**PP**	**05 52 43.7**	**-5.1**
DPC				*e*PKKP		**PKKPab**	**06 01 17.4**	**+0.2**
DPC				*ex*		x	06 01 31.6	
DPC				*e*PS		**PS**	**06 02 38.4**	**-4.4**
DPC				*ex*		x	06 04 08.5	
DPC				*e*SKKP			06 04 58.1	
DPC				*e*SS		SS	06 09 23.6	+3.1
DPC				AMS		AMS	06 45 30.0	
	comp=Z,4μm,20.1s							
DPC	**Dobruska-Polom**	**121.58**	**328**	*e*PKiKP		**PKPdf**	**05 51 16.4**	**-0.2**
DPC				*e*			05 51 36.9	
DPC				*e*PS		**PS**	**06 02 38.4**	**-4.4**
DPC				*e*			06 04 08.5	
DPC				*e*SS		SS	06 09 23.6	+3.1
DPC				MLR		MLR		
	comp=Z,4μm,20.1s							
BUD	**Budapest**	**121.59**	**324**	*e*PKPdf		**PKPdf**	**05 51 16.4**	**-0.2**
RUE	**Ruedersdorf**	**121.62**	**331**	*e*PP		PP	05 52 49.7	+0.9
RUE

CLL esPP 05 53 13.0
CLL e 05 54 18.0
CLL ePPP PPP 05 55 36.0
CLL eSKSac **SKSac** **05 58 12.0 -3.3**
CLL i PKKPbc **PKKPbc** **06 01 13.5 -0.2**
comp=Z,18nm,1.5s
CLL i sPKKPbc 06 01 26.8
comp=Z,21nm,1.6s
CLL ePS **PS** **06 02 54.0 +1.3**
CLL ePPS PPS 06 04 24.0
CLL epSKKPbc 06 05 12.0
CLL e 06 05 18.0
CLL ePKKSdf PKKSdf 06 05 25.0 -3.2
CLL ePPPrev 06 08 42.0
CLL eSS **SS** **06 09 36.0 +1.3**
CLL e 06 10 30.0
CLL eSSS SSS 06 14 36.0
CLL eSSSS 06 17 48.0
CLL e 06 20 00.0
CLL LmV 06 44 00.0
comp=Z,4µm,21.9s
CLL Collm 122.72 330 i PKIKP **PKPdf** **05 51 17.8 -0.9**
CLL e 05 51 37.0
CLL pmax pmax
comp=Z,33nm,0.9s
PRU Pruhonice 122.73 328 ePKPdf **PKPdf** **05 51 18.3 -0.4**
PRU esPKP 05 51 37.8
PRU ex x 05 51 46.5
PRU ePP **PP** **05 52 58.0 +1.5**
PRU ePKKP **PKKPbc** **06 01 13.9 +0.3**
PRU ex x 06 01 27.2
PRU ePS **PS** **06 02 48.3 -4.6**
PRU eSKKP 06 04 54.2
PRU eSS SS 06 09 30.8 -4.1
PRU AMS AMS 06 44 10.0
comp=Z,5µm,22.6s
PRU Pruhonice 122.73 328 ePKIKP **PKPdf** **05 51 18.3 -0.4**
PRU e 05 51 37.8
PRU e 05 51 46.5
PRU e 05 52 58.0
PRU ePS **PS** **06 02 48.3 -4.6**
PRU e 06 04 20.8
PRU eSS SS 06 09 30.8 -4.1
PRU MLR MLR
comp=Z,5µm,22.6s
PRA Prague 122.74 328 ePKPdf **PKPdf** **05 51 18.3 -0.4**
PRA esPKP 05 51 38.2
PRA ePP **PP** **05 52 56.4 -0.1**
PRA ePS **PS** **06 02 50.8 -2.1**
PRA eSS SS 06 09 31.8 -3.2
PRA AMS AMS 06 44 10.0
comp=Z,6µm,23.0s
PRA Prague 122.74 328 ePKIKP **PKPdf** **05 51 18.3 -0.4**
PRA e 05 51 38.2
PRA e 05 52 56.4
PRA ePS **PS** **06 02 50.8 -2.1**
PRA eSS SS 06 09 31.8 -3.2
PRA MLR MLR
comp=Z,6µm,23.0s
FBE Freiberg 122.78 330 ePKPdf **PKPdf** **05 51 18.9 +0.1**
SOP Sopron 122.92 325 ePKPdf PKPdf 05 51 10.5 -8.7
FNA Florina 123.13 316 P **PKPdf** **05 51 18.6 -1.3**
FNA Florina 123.13 316 P **PKPdf** **05 51 18.6 -1.3**
AGG Agios Georgios 123.15 314 P **PKPdf** **05 51 18.6 -1.3**
AGG Agios Georgios 123.15 314 P **PKPdf** **05 51 18.6 -1.3**
HLG Helgoland 123.16 335 ePKPdf **PKPdf** **05 51 19.6 +0.2**
HLG ePP **PP** **05 52 59.9 +0.8**
THL Klokotos Trika 123.17 314 P **PKPdf** **05 51 20.6 +0.7**
CONA Conrad Observa 123.18 326 i PKiKP **PKPdf** **05 51 19.7 -0.1**
comp=Z,20nm,0.8s,SNR=6.9
CONA ⇓i PKKPab **PKKPbc** **06 01 12.2 +0.3**
comp=Z,5.9nm,0.7s
NEUB Neuenburg 123.39 331 ePKPdf **PKPdf** **05 51 19.8 -0.1**
NEUB ePP **PP** **05 53 01.8 +1.0**
PHP Peshkopia 123.39 317 P **PKPdf** **05 51 19.6 -0.7**
PHP Peshkopia 123.39 317 P **PKPdf** **05 51 19.6 -0.7**
BLA Blacksburg 123.46 49 ePKPdf **PKPdf** **05 51 20.2 -0.4**
BLA LR LR
comp=Z,7µm,20.0s
KMSC Kings Mountain 123.46 51 ePKPdf **PKPdf** **05 51 20.7 +0.1**
TANN Tannenbergstha 123.54 330 ePKPdf **PKPdf** **05 51 20.2 -0.2**
TANN ePP **PP** **05 53 03.2 +1.2**
GUR Goura 123.54 312 P **PKPdf** **05 51 20.2 -0.6**
GUR Goura 123.54 312 P **PKPdf** **05 51 20.2 -0.6**
EVR Evrytania 123.56 314 P **PKPdf** **05 51 21.2 +0.4**
EVR Evrytania 123.56 314 P **PKPdf** **05 51 21.2 +0.4**
WERD Werda 123.60 330 ePKPdf **PKPdf** **05 51 20.3 -0.1**
GUNZ Gunzen 123.64 330 ePKPdf **PKPdf** **05 51 20.5 0.0**
KLV Kalavryta, Ach 123.64 313 P **PKPdf** **05 51 20.6 -0.3**
KLV Kalavryta, Ach 123.64 313 P **PKPdf** **05 51 20.6 -0.3**
CLZ Clausthal 123.65 332 ePKPdf **PKPdf** **05 51 20.7 +0.2**
CLZ ePP **PP** **05 53 03.9 +1.3**
PLN Plauen 123.65 330 ePKPdf **PKPdf** **05 51 20.4 -0.1**
WERN Wernitzgruen 123.66 330 ePKPdf **PKPdf** **05 51 20.6 0.0**
EFP Efpalio 123.68 313 P **PKPdf** **05 51 21.4 +0.5**
VLX Vlachokerasia 123.72 312 P **PKPdf** **05 51 21.5 +0.3**
VLX Vlachokerasia 123.72 312 P **PKPdf** **05 51 21.5 +0.3**
KHC Kasperske Hory 123.74 328 ePKPdf **PKPdf** **05 51 20.5 -0.2**
KHC ex x 05 51 28.9
KHC esPKP 05 51 39.5
KHC ex x 05 51 44.6
KHC ePP **PP** **05 53 01.2 -2.2**
KHC ePKKP **PKKPbc** **06 01 09.2 -0.5**
KHC eXS 06 01 21.9
KHC ePS **PS** **06 02 58.7 -3.2**
KHC eSKKP 06 04 52.9
KHC ex x 06 05 26.8
KHC eSS **SS** **06 09 43.0 -4.9**
KHC AMS AMS 06 44 50.0
comp=Z,6µm,22.8s
KHC Kasperske Hory 123.74 328 ePKIKP **PKPdf** **05 51 20.5 -0.2**
KHC e 05 51 39.5
KHC e 05 51 44.6
KHC e 05 53 01.2
KHC ePS **PS** **06 02 58.7 -3.2**
KHC eSS SS 06 09 43.0 -4.9
KHC MLR MLR
comp=Z,6µm,22.8s
KHC Kasperske Hory 123.74 328 ePKPdf **PKPdf** **05 51 20.6 -0.2**
BIGH Upper Bighouse 123.78 345 eP **PKPdf** **05 51 18.8 -1.6**
VWCC Virginia Weste 123.78 48 ePKPdf **PKPdf** **05 51 20.5 -0.7**
MLA1 Latheron 123.79 344 eP **PKPdf** **05 51 19.7 -0.8**
MOX Moxa 123.82 330 ePKPdf **PKPdf** **05 51 20.7 -0.1**
MOX ePP **PP** **05 53 05.1 +1.3**
MOX eL L 06 47 43.1
comp=Z,3µm,22.0s
GEC2 GERESS Array S 123.84 327 ePKPdf **PKPdf** **05 51 20.7 -0.3**
GEC2 ePP **PP** **05 53 04.7 +0.6**
GERES GERESS Array B 123.84 327 PKP **PKPdf** **05 51 20.6 -0.5**
comp=Z,18nm,0.7s,baz=48,slow=2.0,SNR=96
GERES PKKPbc **PKKPab** **06 01 08.2 +0.6**
comp=Z,1.0nm,0.6s,baz=204,slow=2.2,SNR=8.7
TIR Tirane 123.93 317 ePKPdf **PKPdf** **05 51 21.6 +0.3**
TIR LR LR
comp=Z,2µm,22.0s
SSPA Standing Stone 123.95 44 ePKPdf **PKPdf** **05 51 21.2 -0.1**
MANZ Manzenberg 123.98 329 ePKPdf **PKPdf** **05 51 21.2 0.0**
MANZ ePP **PP** **05 53 06.2 +1.3**
DRO Drossia 124.00 313 P **PKPdf** **05 51 24.0 +2.4**
ROTZ Rotzenmuhle 124.07 329 ePKPdf **PKPdf** **05 51 21.3 0.0**
ROTZ ePP **PP** **05 53 07.2 +1.7**
WET Wettzell 124.10 328 ePKPdf **PKPdf** **05 51 21.3 -0.1**
WET ePP **PP** **05 53 07.1 +1.3**
MOA Moln 124.11 326 i PKPdf **PKPdf** **05 51 21.0 -0.5**
comp=Z,14nm,1.0s,SNR=6.9
MOA ⇑i PKKPab **PKKPbc** **06 01 08.4 +0.3**
comp=Z,6.9nm,0.8s
PDO Prodromos 124.14 314 P **PKPdf** **05 51 21.4 -0.4**
RLS Riolos of Patr 124.14 313 P **PKPdf** **05 51 22.3 +0.5**
RLS Riolos of Patr 124.14 313 P **PKPdf** **05 51 22.3 +0.5**
JTS JuntasAbangare 124.25 81 PKP **PKPdf** **05 51 22.2 -0.5**
comp=Z,24nm,0.7s,baz=329,slow=1.4
JTS JuntasAbangare 124.25 81 PKIKP **PKPdf** **05 51 22.2 -0.5**
JTS pmax pmax
comp=Z,24nm,0.7s
JTS JuntasAbangare 124.25 81 PKP **PKPdf** **05 51 22.2 -0.5**
JTS ePKPdf **PKiKP** **05 51 22.8 -0.2**
JTS LR LR
comp=Z,4µm,22.0s
LONY Lake Ozonia 124.27 38 ePKPdf **PKPdf** **05 51 22.1 +0.3**
LONY LR LR
comp=Z,6µm,22.0s

PERS Pernice 124.31 325 i PKPdf **PKPdf** **05 51 21.0 -0.9**
SOKA Soboth 124.34 325 i PKPdf **PKPdf** **05 51 21.1 -0.9**
comp=Z,32nm,1.1s,SNR=12
MVH1 Achvaich 124.34 344 eP **PKPdf** **05 51 20.8 -0.8**
MCD Coleburn Disti 124.38 344 eP **PKPdf** **05 51 20.6 -1.0**
UBBA Unterbreizbach 124.50 331 ePKPdf **PKPdf** **05 51 22.1 +0.2**
UBBA ePP **PP** **05 53 09.3 +1.2**
IBBN Ibbenburen 124.53 334 ePKPdf **PKPdf** **05 51 22.2 +0.1**
IBBN ePP **PP** **05 53 09.2 +0.9**
MME1 Meikle Cairn 124.53 343 eP **PKPdf** **05 51 20.6 -1.4**
GRF Grafenberg Arr 124.62 330 ePKPdf **PKPdf** **05 51 22.2 -0.2**
GRF ePP **PP** **05 53 10.5 +1.3**
GRF eL L 06 45 54.3
comp=Z,3µm,21.8s
GRFO Grafenberg 124.62 330 ePKPdf **PKPdf** **05 51 22.9 +0.5**
OBKA Obir 124.71 325 ⇓i PKPdf **PKPdf** **05 51 22.1 -0.7**
comp=Z,24nm,1.3s
MDO Dochfour 124.81 344 eP **PKPdf** **05 51 21.0 -1.5**
NCB Newcomb 124.82 39 ePKPdf **PKPdf** **05 51 23.4 +0.4**
NCB LR LR
comp=Z,5µm,21.0s
BOJS Bojanci 124.85 323 i PKPdf **PKPdf** **05 51 22.6 -0.3**
VISS Visnje 124.93 324 i PKPdf **PKPdf** **05 51 22.6 -0.5**
RJOB Jochberg 124.98 327 ePKPdf **PKPdf** **05 51 22.5 -0.7**
RJOB ePP **PP** **05 53 13.3 +1.5**
KAC Achnashellach 125.01 345 eP **PKPdf** **05 51 22.8 -0.1**
NHSC New Hope 125.02 53 PFAKE 05 51 40.0 +16
NHSC LR LR
comp=Z,3µm,20.0s
KBA Koelnbreinsper 125.07 326 ⇓i PKPdf **PKPdf** **05 51 22.6 -0.9**
comp=Z,41nm,1.2s,SNR=14
JSRW J. Sargeant Re 125.16 47 ePKPdf **PKPdf** **05 51 23.4 -0.3**
MYKA Terra Mystica 125.16 325 ⇓i PKPdf **PKPdf** **05 51 22.8 -0.8**
comp=Z,26nm,1.3s
WTSB Winterswijk 125.19 334 ePKP **PKPdf** **05 51 23.0 -0.3**
comp=Z,38nm,0.8s
EDU Dundee 125.20 343 eP **PKPdf** **05 51 22.2 -1.0**
SDMD Soldier's Deli 125.20 45 ePKPdf **PKPdf** **05 51 23.7 -0.1**
KPL Plockton 125.24 345 eP **PKPdf** **05 51 23.5 +0.2**
KSB Sheil Bridge 125.30 345 eP **PKPdf** **05 51 22.6 -0.7**
CBN Corbin Frederi 125.32 46 ePKPdf **PKPdf** **05 51 24.3 +0.2**
CBN LR LR
comp=Z,5µm,21.0s
JAVS Javornik 125.33 324 i PKPdf **PKPdf** **05 51 22.9 -1.0**
BUG Bochum--Univer 125.34 333 ePKPdf **PKPdf** **05 51 23.6 -0.1**
BUG ePP **PP** **05 53 14.9 +1.1**
MDV Middlebury 125.45 38 ePKPdf **PKPdf** **05 51 24.1 0.0**
ACCN Adirondack Com 125.46 39 ePKPdf **PKPdf** **05 51 23.4 -0.7**
FUR Furstenfeldbru 125.54 328 ePKPdf **PKPdf** **05 51 24.0 -0.2**
FUR ePP **PP** **05 53 16.7 +1.3**
TRI Trieste 125.61 324 ePKPdf **PKPdf** **05 51 23.6 -0.8**
ESY Stoneypath 125.61 342 eP **PKPdf** **05 51 23.8 -0.3**
TNS Taunus Mts 125.63 331 ePKPdf **PKPdf** **05 51 24.3 -0.1**
TNS ePP **PP** **05 53 17.5 +1.6**
ABTA Abfaltersbach 125.72 326 i PKPdf **PKPdf** **05 51 23.9 -0.8**
comp=Z,45nm,1.0s,SNR=17
TRY Troy 125.79 40 ePKPdf **PKPdf** **05 51 25.6 +0.7**
EBL Broad Law 125.86 342 eP **PKPdf** **05 51 23.5 -1.1**
WATA Walderalm 125.89 327 i PKiKP **PKPdf** **05 51 25.0 0.0**
comp=Z,29nm,0.8s,SNR=6.0
WTTA Wattenberg 125.90 327 ⇑i PKPdf **PKPdf** **05 51 24.4 -0.7**
comp=Z,66nm,0.9s,SNR=19
CNNC Cliffs of the 126.08 50 ePKPdf **PKPdf** **05 51 25.6 0.0**
CNNC LR LR
comp=Z,7µm,22.0s
MOTA Moosalm 126.14 327 i PKPdf **PKPdf** **05 51 24.8 -0.8**
comp=Z,54nm,0.8s,SNR=28
HNH Hanover 126.16 38 ePKPdf **PKPdf** **05 51 25.6 +0.2**
STU Stuttgart 126.23 330 ePKPdf **PKPdf** **05 51 25.4 -0.1**
STU ePP **PP** **05 53 21.3 +1.4**
STU Stuttgart 126.23 330 ePKPdf **PKPdf** **05 51 25.8 +0.3**
RETA Reutte 126.23 328 ⇑i PKiKP **PKPdf** **05 51 25.6 0.0**
comp=Z,19nm,1.0s,SNR=9.9
PGBU Glenifferbraes 126.25 343 eP **PKPdf** **05 51 24.9 -0.4**
ESK Eskdalemuir 126.30 342 eP **PKPdf** **05 51 24.9 -0.5**
ESK Eskdalemuir 126.30 342 i PKIKP **PKPdf** **05 51 27.3 +1.9**
ESK Eskdalemuir 126.30 342 ePKPdf **PKPdf** **05 51 25.4 0.0**
ESK LR LR
comp=Z,2µm,22.0s
HGN Heimansgroeve 126.42 333 ePKP **PKPdf** **05 51 25.4 -0.4**
comp=Z,65nm,1.3s
MEM Membach 126.50 333 PKP **PKPdf** **05 51 25.7 -0.2**
FETA Feichten 126.54 327 i PKiKP **PKPdf** **05 51 26.0 -0.4**
comp=Z,76nm,1.1s,SNR=31
CPNY Central Park 126.55 42 ePKPdf **PKPdf** **05 51 27.2 +0.9**
FFD Franklin Falls 126.67 38 ePKPdf **PKPdf** **05 51 27.7 +1.3**
TRQA Tornquist 126.78 147 ePKPdf **PKPdf** **05 51 26.8 -0.1**
TRQA LR LR
comp=Z,3µm,22.0s
LANF Langenberg 126.78 331 PKP **PKPdf** **05 51 26.4 -0.1**
DAVA Damuels 126.82 328 i PKiKP **PKPdf** **05 51 26.8 -0.1**
comp=Z,14nm,0.7s,SNR=14
QUA2 Belchertown 126.86 40 ePKPdf **PKPdf** **05 51 27.7 +0.9**
KESW Keswick, Cumbr 126.88 342 eP **PKPdf** **05 51 26.6 +0.1**
KESW AMB AMB 05 51 28.0
comp=Z,79nm,1.1s
PQI Presque Isle 126.93 33 ePKPdf **PKPdf** **05 51 26.9 0.0**
HPK Haverah Park 126.93 340 eP **PKPdf** **05 51 26.2 -0.5**
BCLA Clavier 126.95 333 PKP **PKPdf** **05 51 26.5 0.0**
BFO Black Forest 126.95 330 ePKPdf **PKPdf** **05 51 26.4 -0.5**
BFO ePP **PP** **05 53 25.5 +0.8**
BFO Black Forest 126.95 330 i PKIKP **PKPdf** **05 51 27.5 +0.6**
BFO Black Forest 126.95 330 ePKPdf **PKPdf** **05 51 26.6 -0.3**
BFO LR LR
comp=Z,3µm,21.0s
YLE Yale 126.97 41 ePKPdf **PKPdf** **05 51 27.6 +0.5**
TIP Timpagrande 127.02 316 ePKPdf **PKPdf** **05 51 28.2 +0.9**
TIP LR LR
comp=Z,606nm,20.0s
LCO Las Campanas 127.06 133 ePKPdf **PKPdf** **05 51 28.6 +0.5**
LCO LR LR
comp=Z,2µm,22.0s
PKME Peaks-Kenny Pk 127.06 35 ePKPdf **PKPdf** **05 51 27.3 +0.1**
PKME LR LR
comp=Z,3µm,20.0s
UCC Uccle 127.09 334 PKP **PKPdf** **05 51 25.4 -1.6**
WLF Walferdange 127.09 332 PKP **PKPdf** **05 51 28.9 +1.8**
WLF Walferdange 127.09 332 ePKPdf **PKPdf** **05 51 27.8 +0.7**
WLF ePP **PP** **05 53 27.2 +1.7**
WLF Walferdange 127.09 332 ePKPdf **PKPdf** **05 51 27.3 +0.2**
WLF LR LR
comp=Z,2µm,21.0s
GAL1 Galloway 127.14 343 eP **PKPdf** **05 51 24.9 -2.1**
HRV Adam Dziewonsk 127.24 39 ePKPdf **PKPdf** **05 51 27.8 +0.2**
WVI Waterville 127.26 36 ePKPdf **PKPdf** **05 51 27.8 +0.3**
CUC Castrocucco 127.29 317 ePKPdf **PKPdf** **05 51 27.2 -0.7**
CUC LR LR
comp=Z,2µm,22.0s
CFAA Coronel Fontan 127.29 137 PKP **PKPdf** **05 51 27.9 -0.2**
comp=Z,4.5nm,0.7s,baz=237,slow=2.7,SNR=37
SNF Seneffe 127.33 334 PKP **PKPdf** **05 51 28.8 +1.3**
LHO Holmfirth 127.35 340 eP **PKPdf** **05 51 26.3 -1.2**
DOU Dourbes 127.50 333 PKP **PKPdf** **05 51 28.8 +0.9**
BRYW Bryant College 127.56 40 ePKPdf **PKPdf** **05 51 28.5 +0.2**
ECH Echery 127.61 330 PKP **PKPdf** **05 51 27.2 -1.0**
ECH Echery 127.61 330 ePKPdf **PKPdf** **05 51 28.0 -0.2**
ECH ePP **PP** **05 53 28.5 -0.5**
ECH LR LR
comp=Z,3µm,22.0s
TUE Stuetta 127.62 327 PFAKE 05 51 40.0 +12
TUE LR LR
comp=Z,4µm,21.0s
AQU L'Aquila 127.66 321 ePKPdf **PKPdf** **05 51 29.2 +0.7**
AQU LR LR
comp=Z,3µm,21.0s
STNC Stoke 127.84 340 eP **PKPdf** **05 51 28.0 -0.4**
MOF Molkenrain 127.87 330 PKP **PKPdf** **05 51 28.0 -0.8**
CEL Celeste 128.04 315 ePKPdf **PKPdf** **05 51 29.0 -0.3**
CEL LR LR
comp=Z,1µm,22.0s
TSUM Tsumeb 128.13 240 ePKPdf **PKPdf** **05 51 30.5 +0.4**
TSUM LR LR
comp=Z,2µm,20.0s
THEF They Montfort 128.18 331 PKP **PKPdf** **05 51 28.7 -0.5**
MENF Mencas 128.20 335 PKP **PKPdf** **05 51 29.7 +0.5**
LOMF Lomont 128.36 330 PKP **PKPdf** **05 51 29.5 -0.2**
WLF1 Llynfaes 128.39 342 eP **PKPdf** **05 51 29.0 -0.4**
VLC Villacollemand 128.46 324 ePKPdf **PKPdf** **05 51 31.4 +1.4**
VLC LR LR
comp=Z,4µm,22.0s
STRD Stroud 128.91 339 eP **PKPdf** **05 51 29.4 -1.1**
STRD AMB AMB 05 51 31.7
comp=Z,81nm,0.9s

ATAH Atahualpa 128.94 104 PKP **PKPdf** **05 51 31.8 -0.4**
comp=Z,59nm,0.9s,baz=269,slow=2.0,SNR=38
WOL Wolverton 128.94 338 eP **PKPdf** **05 51 30.3 -0.2**
MONM Monmouth 129.08 339 eP **PKPdf** **05 51 30.3 -0.5**
OG01 Vacheresse 129.12 329 PKP **PKPdf** **05 51 31.4 +0.2**
NNA Nana 129.15 110 PKP **PKPdf** **05 51 31.8 -0.3**
comp=Z,78nm,1.1s,baz=262,slow=2.4,SNR=14
NNA Nana 129.15 110 PKIKP **PKPdf** **05 51 31.8 -0.3**
NNA pmax pmax
comp=Z,78nm,1.1s
NNA Nana 129.15 110 PKP **PKPdf** **05 51 31.8 -0.3**
NNA ePKPdf **PKiKP** **05 51 32.4 -0.4**
NNA LR LR
comp=Z,1µm,20.0s
LPW Lampeter 129.28 341 eP **PKPdf** **05 51 29.8 -1.4**
BCIP Isla Barro Col 129.29 83 ePKPdf **PKPdf** **05 51 32.4 +0.1**
BCIP ePP **PP** **05 53 41.5 -0.3**
BCIP LR LR
comp=Z,2µm,20.0s
BNI Bardonecchia 129.97 328 ePKPdf **PKPdf** **05 51 33.3 +0.4**
BNI LR LR
comp=Z,7µm,21.0s
HEX Exmoor 130.07 340 eP **PKPdf** **05 51 32.7 0.0**
WDD Wield Dalam 130.10 313 PFAKE 05 51 50.0 +17
WDD LR LR
comp=Z,774nm,21.0s
OTAV Otavalo 130.16 94 ePKPdf **PKPdf** **05 51 34.8 +0.2**
OTAV ePP **PP** **05 53 48.2 +0.3**
OTAV LR LR
comp=Z,1µm,19.0s
GDM Grand'Maison 130.16 328 PKP **PKPdf** **05 51 34.7 +1.4**
SAOF Saorge 130.18 326 PKP **PKPdf** **05 51 32.6 -0.6**
CLTB Caltabellotta 130.23 316 ePKPdf **PKPdf** **05 51 33.9 +0.3**
CLTB LR LR
comp=Z,745nm,21.0s
SURF Saint Ours 130.27 327 PKP **PKPdf** **05 51 35.2 +1.6**
TOUF Mont Tournerai 130.33 326 PKP **PKPdf** **05 51 33.0 -0.7**
GRN Grenoble 130.33 328 PKP **PKPdf** **05 51 35.0 +1.5**
REVF Revere 130.44 326 PKP **PKPdf** **05 51 33.5 -0.2**
MVIF Mont Vial 130.46 326 PKP **PKPdf** **05 51 33.5 -0.4**
DYA Yadsworthy 130.65 339 eP **PKPdf** **05 51 32.9 -0.9**
CALN Calern 130.69 326 PKP **PKPdf** **05 51 34.2 -0.1**
MTDJ Mount Denham 130.84 71 ePKPdf **PKPdf** **05 51 35.4 +0.1**
MTDJ LR LR
comp=Z,2µm,21.0s
PLDF La Plantade 130.91 330 PKP **PKPdf** **05 51 35.9 +1.3**
SSB Saint Sauveur 130.93 329 PKP **PKPdf** **05 51 35.9 +1.3**
SSB Saint Sauveur 130.93 329 ePKPdf **PKPdf** **05 51 35.2 +0.6**
SSB LR LR
comp=Z,4µm,22.0s
JSA Saint Aubin 131.02 337 eP **PKPdf** **05 51 33.7 -0.8**
AGO Saint Agoulin 131.09 331 PKP **PKPdf** **05 51 36.1 +1.2**
COLF Collangettes 131.19 330 PKP **PKPdf** **05 51 35.6 +0.5**
PYM Petit Puy Mans 131.37 331 PKP **PKPdf** **05 51 36.6 +1.1**
LBL Lubilhac 131.62 330 PKP **PKPdf** **05 51 37.5 +1.5**
VSL Villasalto 131.78 320 ePKPdf **PKPdf** **05 51 35.6 -0.7**
VSL e 05 54 56.5
VSL LR LR
comp=Z,1µm,22.0s
LVC Limon Verde 131.82 127 PKP **PKPdf** **05 51 37.0 -0.2**
comp=Z,54nm,0.7s,baz=258,slow=2.5,SNR=15
LVC Limon Verde 131.82 127 PKP **PKPdf** **05 51 37.0 -0.2**
LVC ePKPdf **PKiKP** **05 51 38.9 +0.6**
LVC LR LR
comp=Z,3µm,21.0s
GTBY Guantanamo Bay 132.81 68 PFAKE 05 51 50.0 +11
GTBY LR LR
comp=Z,2µm,20.0s
LRDF Laroque-de-Fa 133.59 328 PKP **PKPdf** **05 51 40.9 +1.2**
FILF Fillols 133.84 328 PKP **PKPdf** **05 51 41.3 +1.1**
KEST Kesra 133.85 316 PKP **PKPdf** **05 51 40.0 -0.4**
comp=Z,11nm,0.9s,baz=68,slow=1.6,SNR=21
KEST SKPbc **SKPbc** **05 55 04.0 -1.3**
comp=Z,3.8nm,0.9s,baz=193,slow=0.2,SNR=4.2
VALF Valcebollere 134.24 328 PKP **PKPdf** **05 51 42.0 +0.9**
MLS Moulis 134.33 329 PKP **PKPdf** **05 51 42.9 +1.9**
ROSC El Rosal 134.67 89 PKhKP PKPpre 05 51 35.4
comp=Z,6.9nm,0.5s,baz=87,slow=2.8,SNR=7.8
ROSC El Rosal 134.67 89 PKPpre PKPpre 05 51 35.4
ROSC ePKPdf **PKPdf** **05 51 43.5 +0.5**
ROSC ePP **PP** **05 54 17.2 +0.3**
CMAH Djebel Manchou 134.67 318 P **PKPdf** **05 51 43.0 +1.0**
ABSA Djebel Ababsia 134.83 318 P **PKPdf** **05 51 44.0 +1.7**
VIEF Viey 134.92 330 PKP **PKPdf** **05 51 43.0 +0.7**
REYF Montagne du Re 134.99 330 PKP **PKPdf** **05 51 42.8 +0.4**
CKFL Kef-Lekhel 135.26 318 P **PKPdf** **05 51 45.0 +1.9**
LPAZ La Paz 135.45 120 PKhKP PKPpre 05 51 31.2
comp=Z,3.5nm,0.8s,baz=220,slow=1.9,SNR=13
LPAZ SKPbc **SKPbc** **05 55 09.1 -2.7**
comp=Z,2.1nm,0.8s,baz=217,slow=5.1,SNR=1.8
LPAZ La Paz 135.45 120 ePKPdf **PKPdf** **05 51 45.0 +0.4**
LPAZ SKPbc **SKPbc** **05 55 09.1 -2.7**
CASM Ain Smara 135.50 318 P **PKPdf** **05 51 43.6 +0.1**
CTEI Djebel Teioual 135.66 318 P **PKPdf** **05 51 45.5 +1.6**
GRTK Grand Turk 136.08 65 PFAKE 05 52 00.0 +15
GRTK LR LR
comp=Z,2µm,21.0s
CKHR Kef el Ahmar 136.28 319 P **PKPdf** **05 51 46.5 +1.4**
SDDR Presa de Saban 136.53 68 ePKPdf **PKPdf** **05 51 47.2 +1.3**
SDDR LR LR
comp=Z,3µm,22.0s
BBSR BB Station 137.19 47 PFAKE 05 52 00.0 +13
BBSR LR LR
comp=Z,4µm,21.0s
CPUP Villa Florida 137.94 140 ePKPdf **PKPdf** **05 51 47.9 -0.3**
CPUP ePP **PP** **05 54 34.4 -1.0**
SMN1 Samana, DR 138.34 67 ePKPdf **PKPdf** **05 51 49.5 +0.3**
SDV Santo Domingo 138.39 83 ePKPdf **PKPdf** **05 51 50.5 +0.9**
SDV LR LR
comp=Z,2µm,22.0s
ESDC Sonseca Array 139.31 330 PKhKP PKPpre 05 51 41.9
comp=Z,0.3nm,0.3s,baz=33,slow=2.0,SNR=5.4
ESDC PP **PP** **05 54 43.6 -0.1**
comp=Z,9.2nm,1.0s,baz=27,slow=6.6,SNR=11
PGAV Gavieira, Arco 139.39 336 ePKPdf **PKPdf** **05 51 50.6 0.0**
PGAV Gavieira, Arco 139.39 336 eSS SS 06 13 32.5 +34
PGAV Gavieira, Arco 139.39 336 eLQ LQ 06 33 11.2
PGAV Gavieira, Arco 139.39 336 ePKPdf **PKPdf** **05 51 50.6 0.0**
PGAV Gavieira, Arco 139.39 336 eSS SS 06 13 32.5 +34
PGAV Gavieira, Arco 139.39 336 eLQ LQ 06 33 11.2
MVO Moncorvo 139.54 334 ePKPdf PKPdf 05 51 43.8 -7.0
MVO Moncorvo 139.54 334 eSS SS 06 13 49.1 +49
MVO Moncorvo 139.54 334 eLQ LQ 06 33 29.8
MVO eLR LR 06 39 35.3
comp=Z,1µm,24.0s
MVO Moncorvo 139.54 334 ePKPdf PKPdf 05 51 43.8 -7.0
MVO Moncorvo 139.54 334 eSS SS 06 13 49.1 +49
MVO Moncorvo 139.54 334 eLQ LQ 06 33 29.8
MVO eLR LR 06 39 35.3
comp=Z,1µm,24.0s
PAB San Pablo 139.60 330 ePKPdf **PKPdf** **05 51 51.5 +0.5**
PAB ePP **PP** **05 54 46.2 +0.8**
PAB LR LR
comp=Z,1µm,22.0s
POLO Lamas de Olo 139.69 335 ePKPdf PKPdf 05 51 45.4 -5.7
POLO Lamas de Olo 139.69 335 ePP PP 05 54 48.5 +2.6
POLO Lamas de Olo 139.69 335 ePKPdf PKPdf 05 51 45.4 -5.7
POLO Lamas de Olo 139.69 335 ePP PP 05 54 48.5 +2.6
PVIS Viseu 140.28 335 ePKPdf **PKPdf** **05 51 48.3 -3.9**
PVIS Viseu 140.28 335 ePKPdf **PKPdf** **05 51 48.3 -3.9**
CRPR Cabo Rojo, PR 140.61 68 ePKPdf **PKPdf** **05 51 53.0 -0.3**
PCBR Castelo Branco 140.83 334 ePKPdf **PKPdf** **05 51 49.8 -3.3**
PCBR Castelo Branco 140.83 334 ePKPdf **PKPdf** **05 51 49.8 -3.3**
OBIP Obispado Ponce 141.07 68 ePKPdf **PKPdf** **05 51 54.2 +0.1**
CELP Cerrillos 141.09 68 ePKPdf **PKPdf** **05 51 55.2 +1.1**
CELP epPKPdf **pPKPdf** **05 52 15.8 +6.3**
PCAS Casmilo, Conde 141.09 335 ePKPdf **PKPdf** **05 51 56.6 +3.0**
PCAS Casmilo, Conde 141.09 335 ePKPdf **PKPdf** **05 51 56.6 +3.0**
PMRV Marv??o 141.12 333 ePKPdf PKPdf 05 51 48.3 -5.4
PMRV Marv??o 141.12 333 eSS SS 06 14 03.0 +44
PMRV Marv??o 141.12 333 eLQ LQ 06 34 24.4
PMRV eLR LR 06 41 45.5
comp=Z,2µm,22.0s
PMRV Marv??o 141.12 333 ePKPdf PKPdf 05 51 48.3 -5.4
PMRV Marv??o 141.12 333 eSS SS 06 14 03.0 +44
PMRV Marv??o 141.12 333 eLQ LQ 06 34 24.4
PMRV eLR LR 06 41 45.5
comp=Z,2µm,22.0s
PTOM Tomar 141.42 334 ePKPdf **PKPdf** **05 51 50.6 -3.6**
PTOM Tomar 141.42 334 ePKPdf **PKPdf** **05 51 50.6 -3.6**
SJG San Juan 141.47 68 ePKPdf **PKPdf** **05 51 56.1 +1.3**
SJG LR LR
comp=Z,2µm,22.0s

SIV	**San Ignacio**	**141.55**	**124**	PKhKP	PKPpre	05 51 48.2		
	comp=Z,24nm,0.8s,baz=240,slow=3.6,SNR=41							
PESTR	**Estremoz**	**141.67**	**333**	*e*PKPdf	**PKPdf**	**05 51 54.1**	**-0.6**	
PESTR	**Estremoz**	**141.67**	**333**	*e*PKPdf	**PKPdf**	**05 51 54.1**	**-0.6**	
PBAR	**Barrancos**	**141.97**	**332**	*e*PKPdf	**PKPdf**	**05 51 52.2**	**-3.0**	
PBAR	**Barrancos**	**141.97**	**332**	*e*PP	PP	05 55 02.9	+3.1	
PBAR	**Barrancos**	**141.97**	**332**	*e*PKPdf	**PKPdf**	**05 51 52.2**	**-3.0**	
PBAR	**Barrancos**	**141.97**	**332**	*e*PP	PP	05 55 02.9	+3.1	
EVO	**Evora**	**142.13**	**333**	*e*PKPdf	**PKPdf**	**05 51 51.3**	**-4.2**	
EVO	**Evora**	**142.13**	**333**	*e*PKPdf	**PKPdf**	**05 51 51.3**	**-4.2**	
LIS	**Lisbon**	**142.48**	**334**	*e*P	**PKPdf**	**05 51 55.4**	**-0.7**	
LIS				AMS	AMS	06 57 53.1		
	comp=Z,2μm,21.8s							
LIS	**Lisbon**	**142.48**	**334**	*e*PKIKP	**PKPdf**	**05 51 55.4**	**-0.7**	
STVI	**Saint Thomas**	**142.51**	**67**	*e*PKPdf	**PKPdf**	**05 51 57.0**	**+0.4**	
PNCL	**Nicolau / Gran**	**142.71**	**333**	*e*PKPdf	**PKPdf**	**05 51 52.9**	**-3.6**	
PNCL	**Nicolau / Gran**	**142.71**	**333**	*e*PKPdf	**PKPdf**	**05 51 52.9**	**-3.6**	
TAM	**Tamanrasset**	**142.71**	**301**	*e*PKPdf	**PKPdf**	**05 51 59.3**	**+2.2**	
TAM				LR	LR			
	comp=Z,998nm,22.0s							
MESJ	**Messejana**	**142.79**	**333**	*e*P	**PKPdf**	**05 51 56.1**	**-0.6**	
MESJ				*e*SS	SS	06 13 40.3	+2.3	
MESJ				AMS	AMS	06 57 48.0		
	comp=Z,2μm,23.1s							
MESJ	**Messejana**	**142.79**	**333**	*e*PKIKP	**PKPdf**	**05 51 56.1**	**-0.6**	
MESJ				*e*SS	SS	06 13 40.3	+2.3	
SAML	**Samuel**	**142.82**	**113**	*e*PKPdf	**PKPdf**	**05 51 54.1**	**-3.3**	
SAML				*e*PP	**PP**	**05 55 07.6**	**+1.1**	
SAML				LR	LR			
	comp=Z,1μm,22.0s							
CDVI	**St. Croix**	**142.84**	**68**	*e*PKPdf	**PKPdf**	**05 51 57.9**	**+0.7**	
PCVE	**Castro Verde**	**142.88**	**332**	*e*PKPdf	**PKPdf**	**05 51 55.3**	**-1.5**	
PCVE	**Castro Verde**	**142.88**	**332**	*e*PKPdf	**PKPdf**	**05 51 55.3**	**-1.5**	
PVAQ	**Vaqueiros**	**142.91**	**332**	*e*PKPdf	**PKPdf**	**05 51 55.2**	**-1.7**	
PVAQ	**Vaqueiros**	**142.91**	**332**	*e*SS	SS	06 14 01.4	+22	
PVAQ	**Vaqueiros**	**142.91**	**332**	*e*LQ	LQ	06 34 28.2		
PVAQ	**Vaqueiros**	**142.91**	**332**	*e*PKPdf	**PKPdf**	**05 51 55.2**	**-1.7**	
PVAQ	**Vaqueiros**	**142.91**	**332**	*e*SS	SS	06 14 01.4	+22	
PVAQ	**Vaqueiros**	**142.91**	**332**	*e*LQ	LQ	06 34 28.2		
PBDV	**Barranco-do-Ve**	**143.14**	**332**	*e*PKPdf	**PKPdf**	**05 51 56.9**	**-0.5**	
PBDV	**Barranco-do-Ve**	**143.14**	**332**	*e*PKPdf	**PKPdf**	**05 51 56.9**	**-0.5**	
MORF	**Marmelete**	**143.43**	**333**	*e*P	**PKPdf**	**05 51 57.0**	**-0.9**	
MORF				AMS	AMS	06 53 07.5		
	comp=Z,1μm,20.2s							
MORF	**Marmelete**	**143.43**	**333**	*e*PKIKP	**PKPdf**	**05 51 57.0**	**-0.9**	
MORF	**Marmelete**	**143.43**	**333**	*e*PKPdf	**PKPdf**	**05 51 58.0**	**+0.1**	
MORF	**Marmelete**	**143.43**	**333**	*e*PP	PP	05 55 10.7	+2.1	
MORF	**Marmelete**	**143.43**	**333**	*e*PKPdf	**PKPdf**	**05 51 58.0**	**+0.1**	
MORF	**Marmelete**	**143.43**	**333**	*e*PP	PP	05 55 10.7	+2.1	
PFVI	**Vila Bisbo**	**143.65**	**333**	*e*PKPdf	**PKPdf**	**05 51 57.2**	**-1.0**	
PFVI	**Vila Bisbo**	**143.65**	**333**	*e*PKPdf	**PKPdf**	**05 51 57.2**	**-1.0**	
PCRV	**Puerto La Cruz**	**144.23**	**80**	PKP	**PKPab**	**05 51 57.4**	**-0.4**	
	comp=Z,73nm,0.6s,baz=184,slow=2.3,SNR=52							
MBWH		**145.47**	**68**	*e*P	**PKPab**	**05 52 03.3**	**+1.1**	
ANWB	**Willy Bob**	**145.60**	**67**	*e*P	**PKPdf**	**05 52 01.1**	**-0.9**	
ANWB	**Willy Bob**	**145.60**	**67**	*e*PKPbc	**PKPab**	**05 52 02.9**	**+0.2**	
ANWB				LR	LR			
	comp=Z,2μm,22.0s							
H07N1	**FLORES T-PHASB**	**145.95**	**3**	*e*PKP	**PKPab**	**05 52 04.5**	**+1.1**	
LZG	**Guadaloupe-1**	**146.01**	**69**	*e*P	**PKPbc**	**05 52 03.7**	**+0.1**	
MLG	**Mont-d'or**	**146.09**	**69**	*e*P	**PKPbc**	**05 52 04.2**	**+0.2**	
SSG	**Sans Toucher**	**146.11**	**69**	*e*P	**PKPab**	**05 52 05.1**	**+0.3**	
HMG	**Houelmont**	**146.12**	**70**	*e*P	**PKPab**	**05 52 05.0**	**+0.3**	
SCG	**Saint Claude**	**146.12**	**69**	*e*P	**PKPab**	**05 52 05.1**	**+0.4**	
LKG	**Breislack**	**146.14**	**69**	*e*P	**PKPbc**	**05 52 04.5**	**+0.2**	
ECG	**Echelle**	**146.15**	**69**	*e*P	**PKPbc**	**05 52 04.5**	**+0.3**	
PHG	**Guadaloupe-2**	**146.16**	**69**	*e*P	**PKPab**	**05 52 04.8**	**-0.1**	
DOG	**Dongo Capester**	**146.18**	**69**	*e*P	**PKPab**	**05 52 05.5**	**+0.5**	
SEG	**Port Louis**	**146.19**	**69**	*e*P	**PKPab**	**05 52 04.8**	**-0.1**	
TBG	**Guadaloupe-3**	**146.20**	**70**	*e*P	**PKPab**	**05 52 05.2**	**+0.2**	
H07S1	**FLORES T-PHASB**	**146.26**	**3**	*e*PKP	**PKPab**	**05 52 04.4**	**-0.1**	
BBL	**Barber's Block**	**146.44**	**70**	*e*P	**PKPab**	**05 52 05.7**	**-0.3**	
PGRA	**Graciosa**	**146.67**	**359**	*e*PKP	**PKPab**	**05 52 05.7**	**-0.4**	
PGRA	**Graciosa**	**146.67**	**359**	*e*LQ	LQ	06 33 43.2		
PGRA				*e*LR	LR	06 41 10.3		
	comp=Z,111nm,19.1s							
GRGR	**Grenville**	**146.91**	**76**	*e*P	**PKPdf**	**05 52 04.1**	**-0.3**	
GRGR	**Grenville**	**146.91**	**76**	*e*PKPdf	**PKPdf**	**05 52 03.5**	**-0.9**	
GRGR				LR	LR			
	comp=Z,2μm,22.0s							
FDF	**Fort de France**	**146.92**	**72**	*e*P	**PKPbc**	**05 52 06.7**	**+0.3**	
FDF	**Fort de France**	**146.92**	**72**	*e*P	**PKPab**	**05 52 07.1**	**-0.7**	
FDF	**Fort de France**	**146.92**	**72**	*e*PKPdf	**PKPdf**	**05 52 04.7**	**+0.3**	
FDF				*e*PKPbc	**PKPbc**	**05 52 07.0**	**+0.5**	
FDF				LR	LR			
	comp=Z,2μm,20.0s							
ROSA	**Rosais**	**146.98**	**359**	*e*PKP	**PKPab**	**05 52 06.7**	**-0.6**	
ROSA	**Rosais**	**146.98**	**359**	*e*LQ	LQ	06 34 07.1		
ROSA				*e*LR	LR	06 41 30.4		
	comp=Z,175nm,25.8s							
ADH	**Angra Heroismo**	**147.02**	**358**	*e*PKP	**PKPab**	**05 52 06.8**	**-0.6**	
BIM	**Bigot**	**147.04**	**72**	*e*P	**PKPab**	**05 52 08.6**	**+0.2**	
PMAN	**Manadas**	**147.06**	**359**	*e*PKP	**PKPab**	**05 52 06.9**	**-0.7**	
PCED	**Cedros**	**147.07**	**360**	*e*PKP	**PKPab**	**05 52 06.9**	**-0.8**	
SVB	**Belmont**	**147.12**	**74**	*e*P	**PKPbc**	**05 52 06.1**	**-0.9**	
HOR	**Horta**	**147.18**	**360**	*e*PKP	**PKPab**	**05 52 08.0**	**-0.1**	
PICO	**Pico**	**147.20**	**359**	*e*PKP	**PKPbc**	**05 52 07.3**	**+0.7**	
PPNO	**Prainha do Nor**	**147.23**	**359**	*e*PKP	**PKPab**	**05 52 08.1**	**-0.3**	
PCAN	**Candelaria**	**147.24**	**360**	*e*PKP	**PKPab**	**05 52 07.5**	**-0.9**	
TPP	**Pointe-a-Pierr**	**147.34**	**80**	*e*	**PKPdf**	**05 52 06.1**	**+1.0**	
TRN	**Trinidad (W)**	**147.35**	**79**	*e*	**PKPbc**	**05 52 08.0**	**+0.4**	
TBH	**Brigand Hill**	**147.69**	**79**	*e*	**PKPbc**	**05 52 08.7**	**+0.1**	
BART	**Pico Bartolome**	**147.75**	**355**	*e*PKP	**PKPbc**	**05 52 07.6**	**-0.6**	
PSET	**Sete Cidades**	**147.76**	**355**	*e*PKP	**PKPbc**	**05 52 08.6**	**+0.5**	
PSET	**Sete Cidades**	**147.76**	**355**	*e*LQ	LQ	06 33 43.2		
PSET				*e*LR	LR	06 41 14.3		
	comp=Z,240nm,21.0s							
GRON	**Grota Negra**	**147.80**	**355**	*e*PKP	**PKPbc**	**05 52 08.3**	**+0.1**	
PDA	**Ponta Delgada**	**147.83**	**355**	*e*PKP	**PKPbc**	**05 52 07.0**	**-1.2**	
BOT	**Bacolet**	**147.96**	**78**	*e*	**PKPbc**	**05 52 08.3**	**-0.9**	
TOSP	**Speyside**	**148.12**	**78**	*e*P	**PKPbc**	**05 52 08.1**	**-1.5**	
PTGA	**Pitinga**	**148.26**	**100**	PKP	**PKPdf**	**05 52 06.6**	**-0.1**	
	comp=Z,144nm,0.7s,baz=274,slow=2.3,SNR=32							
PTGA				PKPbc	**PKPbc**	**05 52 09.8**	**-0.4**	
	comp=Z,144nm,0.7s,baz=255,slow=3.2,SNR=90							
PTGA	**Pitinga**	**148.26**	**100**	PKP	**PKPdf**	**05 52 06.6**	**-0.1**	
PTGA				*e*PKPdf	**PKPbc**	**05 52 06.8**	**-3.4**	
PTGA				PKPbc	**PKPbc**	**05 52 09.8**	**-0.4**	
PTGA				*e*PKPbc	**PKPab**	**05 52 10.7**	**-2.6**	
PSMN	**Pico do Norte,**	**148.51**	**354**	*e*PKP	**PKPdf**	**05 52 06.2**	**-0.3**	
PSMN	**Pico do Norte,**	**148.51**	**354**	*e*LQ	LQ	06 34 11.1		
PSMN				*e*LR	LR	06 41 10.2		
	comp=Z,69nm,19.1s							
PSMA	**Santa Maria**	**148.53**	**354**	*e*PKP	**PKPbc**	**05 52 08.4**	**-1.7**	
SHEL	**Horse Pasture**	**148.73**	**227**	*i* PKP2	**PKPab**	**05 52 14.0**	**-1.0**	
SHEL	**Horse Pasture**	**148.73**	**227**	*e*PKPbc	**PKPbc**	**05 52 11.8**	**+0.6**	
SHEL				LR	LR			
	comp=Z,3μm,21.0s							
BBGH	**Gun Hill**	**148.76**	**74**	*e*PKPbc	**PKPab**	**05 52 13.6**	**-1.5**	
BBGH				LR	LR			
	comp=Z,4μm,21.0s							
TORD	**Torodi Ar. Bea**	**149.00**	**286**	PKP	**PKPdf**	**05 52 06.8**	**-1.1**	
	comp=Z,48nm,0.9s,baz=151,slow=1.5,SNR=72							
TORD				PKPbc	**PKPbc**	**05 52 11.1**	**-0.9**	
	comp=Z,160nm,0.7s,baz=61,slow=2.8,SNR=215							
TOB5	**Torodi Ar. Sit**	**149.01**	**286**	*e*PKIKP	**PKPdf**	**05 52 07.5**	**-0.4**	
PMPST	**Porto Santo, M**	**150.25**	**339**	*e*PKPdf	**PKPdf**	**05 52 08.7**	**-0.7**	
PMPST	**Porto Santo, M**	**150.25**	**339**	*e*PKPdf	**PKPdf**	**05 52 08.7**	**-0.7**	
PMOZ	**Porto Moniz, M**	**150.79**	**340**	*e*PKPdf	**PKPbc**	**05 52 14.4**	**-1.5**	
PMOZ	**Porto Moniz, M**	**150.79**	**340**	*e*PKPdf	**PKPbc**	**05 52 14.4**	**-1.5**	
BDFB	**Brasilia**	**151.62**	**138**	PKP	**PKPdf**	**05 52 12.0**	**-0.1**	
	comp=Z,28nm,0.7s,baz=189,slow=1.1,SNR=42							
BDFB	**Brasilia**	**151.62**	**138**	PKIKP	**PKPdf**	**05 52 12.0**	**-0.1**	
BDFB				pmax	pmax			
	comp=Z,28nm,0.7s							
KIC	**Kosan Boka**	**156.05**	**273**	*e*PKIKP	**PKPdf**	**05 52 18.4**	**+0.1**	
	comp=Z,177nm,1.1s							
DBIC	**Dimbokro**	**156.16**	**274**	PKP	**PKPdf**	**05 52 17.9**	**-0.5**	
	comp=Z,56nm,1.0s,baz=41,slow=1.6,SNR=15							
DBIC				PKPbc	PKPbc	05 52 27.8		
	comp=Z,44nm,0.9s,baz=32,slow=3.3,SNR=12							
DBIC	**Dimbokro**	**156.16**	**274**	*e*PKPdf	**PKPdf**	**05 52 17.7**	**-0.7**	
DBIC				PKP	**PKPdf**	**05 52 17.9**	**-0.5**	
DBIC				PKPbc	PKPbc	05 52 27.8		
DBIC				*e*PKPab	**PKPab**	**05 52 46.5**	**+0.2**	
TIC	**Toumodi**	**156.32**	**274**	*e*PKPdf	**PKPdf**	**05 52 18.6**	**-0.1**	
LIC	**Lamto**	**156.34**	**273**	*e*PKIKP	**PKPdf**	**05 52 18.7**	**0.0**	
	comp=Z,125nm,1.2s							
RCBR	**Riachuelo**	**166.66**	**148**	PKP	**PKPdf**	**05 52 28.7**	**-0.8**	
	comp=Z,40nm,0.9s,baz=217,slow=1.0,SNR=9.6							
RCBR	**Riachuelo**	**166.66**	**148**	PKP	**PKPdf**	**05 52 28.7**	**-0.8**	
RCBR				LR	LR			
	comp=Z,3μm,22.0s							
SACV	**Santiago Islan**	**169.34**	**332**	*e*PKPdf	**PKPdf**	**05 52 30.1**	**-1.1**	
SACV				LR	LR			
	comp=Z,2μm,20.0s							

*SJA **24** 05:32:56.4±0.7, 32.66S×71.09W, h575km±11km, ML3.8, MW3.4*
*GUC **24** 05:32:59.5±0.5, 34.55S×73.29W, h30km±3km, ML3.9*
ISC 24 05:32:59.3±3.2, 34.60S±0.10×73.3W±0.2, h10km, n14, σ1§61/17, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**1.65**	**68**	*e*P	**Pn**	**05 33 27.6**	**-0.8**
LNV				*e*S	**Sn**	**05 33 49.4**	**-0.2**
NICH	**Los Niches**	**1.71**	**104**	AML	AML	05 33 55.1	
	comp=N,2μm,4.8s						
LNCH	**Linares**	**1.84**	**133**	*e*P	**Pn**	**05 33 31.0**	**+0.1**
CHCH	**Chadas Angostu**	**2.25**	**74**	*e*P	**Pn**	**05 33 36.2**	**-0.5**
CHCH				*e*S	**Sn**	**05 34 04.5**	**-0.1**
CLCH	**Cerro Calan**	**2.55**	**63**	*e*P	**Pn**	**05 33 40.6**	**-0.2**
CLCH				AML	AML	05 34 22.6	
	comp=E,486nm,0.5s						
PEL	**Peldehue**	**2.58**	**57**	*e*P	**Pn**	**05 33 41.5**	**+0.3**
PEL				*e*S	**Sn**	**05 34 12.6**	**-0.1**
PEL				AML	AML	05 34 31.8	
	comp=E,456nm,0.6s						
AAGR	**Agrelo**	**3.98**	**69**	*e*P	**Pb**	**05 34 09.8**	**+0.3**
ARCO	**CERRO ARCO**	**4.00**	**65**	*e*P	**Pb**	**05 34 09.7**	**-0.3**
ARCO				IAML		05 34 14.1	
	comp=Z,40nm,0.5s						
AUSP	**Uspallata**	**4.00**	**55**	*e*P	**Pb**	**05 34 09.3**	**-0.8**
AUSP				*e*S	**Sb**	**05 35 02.8**	**+4.0**
ASAL	**Salagasta**	**4.19**	**63**	*e*P	Pb	05 34 10.0	-3.2
ASAL				*e*S	**Sb**	**05 35 04.5**	**+0.6**
RTLS	**Leoncito**	**4.33**	**51**	*e*P	Pn	05 34 09.6	+4.1
RTLS				*e*S	**Sb**	**05 35 04.1**	**-4.0**
RTCV	**Cerro Valdivia**	**4.80**	**57**	*e*P	**Pn**	**05 34 12.2**	**+0.5**
RTCV				*e*S	**Sn**	**05 35 07.6**	**+0.2**
RTLL	**Cerro Villicun**	**5.17**	**52**	*e*P	Pn	05 34 08.3	-8.5
AMOG	**MOGNA**	**5.42**	**49**	*e*P	**Pn**	**05 34 21.5**	**+1.2**

IDC 24 05:37:24.9±3.1, 18.65S×174.06W, h0km, mb4.3/6, mb1 4.6/6, mb1mx4.1/47, mbtmp4.3/6, MS5.3/2, Ms1 5.3/2, ms1mx4.1/30, Error ellipse: s-maj=232.9km s-min=21.7km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.41**	**261**	P	P	05 44 39.3	-0.7
	11nm,0.7s,baz=73,slow=6.1,SNR=4.0						
JAY	**Jayapura**	**47.09**	**284**	LR	LR	06 04 37.4	
	comp=Z,2μm,18.5s,baz=16,slow=35						
WRA	**Warramunga Arr**	**48.57**	**260**	P	P	05 46 10.5	+0.1
	1.1nm,0.3s,baz=97,slow=7.7,SNR=16						
ASAR	**Alice Springs**	**48.58**	**255**	P	P	05 46 10.7	+0.2
	3.7nm,0.6s,baz=89,slow=8.7,SNR=5.9						
NVAR	**Mina Array Bea**	**77.15**	**42**	P	P	05 49 21.4	+0.6
	1.6nm,0.9s,baz=224,slow=7.6,SNR=4.9						
TXAR	**Lajitas Array**	**82.94**	**56**	P	P	05 49 51.9	-0.2
	1.1nm,1.0s,baz=190,slow=6.2,SNR=4.4						
PDAR	**Pinedale Array**	**85.09**	**42**	P	P	05 50 02.3	-0.7
	1.6nm,0.9s,baz=237,slow=2.7,SNR=3.7						
ULM	**Lac du Bonnet**	**96.83**	**39**	LR	LR	06 30 15.1	
	comp=Z,3μm,20.7s,baz=305,slow=33						
GERES	**GERESS Array B**	**149.23**	**350**	PKPbc	PKPbc	05 57 15.0	-0.6
	1.4nm,0.7s,baz=42,slow=2.2,SNR=4.9						

IDC 24 05:46:12.8±2.1, 8.61N×93.70E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/26, mbtmp3.8/6, Error ellipse: s-maj=155.3km s-min=21.5km az=53.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H**	**26.60**	**233**	T	T	06 17 52.1	
	baz=52,slow=76,SNR=20						
H08S2	**Diego Garcia H**	**26.60**	**233**	T	T	06 17 52.3	
	baz=52,slow=76,SNR=26						
H08S1	**Diego Garcia H**	**26.62**	**233**	T	T	06 17 52.8	
	baz=52,slow=76,SNR=19						
KURBB	**Kurchatov Arra**	**43.73**	**346**	P	P	05 54 18.7	-1.1
	1.1nm,0.8s,baz=167,slow=6.7,SNR=4.0						
BVAR	**Borovoye Array**	**48.16**	**341**	P	P	05 54 54.2	-0.6
	0.9nm,0.5s,baz=142,slow=7.3,SNR=3.4						
WRA	**Warramunga Arr**	**49.04**	**126**	P	P	05 55 02.4	+0.4
	0.7nm,0.7s,baz=302,slow=9.2,SNR=11						
WRA				PcP	PcP	05 56 24.0	-2.0
	0.4nm,0.6s,baz=308,slow=3.1,SNR=6.1						
ASAR	**Alice Springs**	**50.72**	**130**	P	P	05 55 15.3	+0.5
	0.3nm,0.4s,baz=306,slow=7.9,SNR=2.9						
FINES	**FINESS Array B**	**71.86**	**332**	P	P	05 57 39.3	+1.9
	1.3nm,0.7s,baz=122,slow=5.1,SNR=4.6						
NOA	**NORSAR Array B**	**78.88**	**331**	P	P	05 58 17.5	-0.4
	0.5nm,0.6s,baz=97,slow=5.2,SNR=2.3						

DHMR 24 06:01:42.3±0.7, 11.68N×45.70E, h8km±113km, ML3.5, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**2.18**	**315**	*i* P	Pn	06 02 20.5	+1.3
TRBA				*i* S	Sb	06 02 50.7	+0.9
TRBA				AML	AML	06 02 56.4	
	comp=N,328nm,0.5s						
LBOS		**2.22**	**349**	*i* P	Pb	06 02 21.7	-1.4
LBOS				*i* S	Sb	06 02 51.6	+0.6
BDHA	**Al Bayda'**	**2.28**	**357**	*i* P	Pn	06 02 22.1	+1.5
BDHA				AML	AML	06 02 30.9	
	comp=N,438nm,0.4s						
BDHA				*i* S	Sb	06 02 53.5	+0.9

*LJU **24** 06:04:42.9, 46.39N×15.07E, h0km Rockburst*
CSEM 24 06:04:42.9±99.0, 46.39N×15.07E, h0km, Suspected Mining induced., Northwestern Balkan Peninsula

IDC 24 06:35:22.7±11.0, 11.21S×166.12E, h273km±128km, mb2.9/3, mb1 3.4/4, mb1mx3.0/34, mbtmp3.8/4, Error ellipse: s-maj=89.3km s-min=30.7km az=158.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.81**	**178**	P	Pn	06 37 51.0	-0.2
	4.6nm,0.3s,baz=82,slow=23,SNR=27						
DZM				S	S	06 39 53.6	+1.1
	baz=90,slow=20						
WRA	**Warramunga Arr**	**31.77**	**250**	P	P	06 41 22.0	-0.2
	0.3nm,0.4s,baz=83,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**33.05**	**244**	P	P	06 41 33.3	+0.1
	0.5nm,0.6s,baz=63,slow=10,SNR=4.4						
ILAR	**Eielson Array**	**83.55**	**18**	P	P	06 47 19.9	0.0
	0.4nm,0.6s,baz=231,slow=4.6,SNR=6.6						

KRSC 24 06:42:27.5±1.8, 53.08N×156.70E, h266km±18km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APC	**Apacha**	**0.32**	**119**	*e*P	Pn	06 43 02.3	+0.5
MIPR	**Malaya Ipel'ka**	**0.80**	**177**	*e*P	Pn	06 43 04.0	+0.7
GNL	**Ganaly**	**0.97**	**50**	*e*P	Pn	06 43 05.4	+1.3
ASAK	**Asacha**	**1.01**	**133**	*e*P	Pn	06 43 05.6	+1.2
PET	**Petropavlovsk**	**1.18**	**92**	*e*P	Pn	06 43 06.6	+1.5
KOK	**Koryaka**	**1.19**	**79**	*e*P	Pn	06 43 07.1	+1.8
AVH	**Avacha**	**1.24**	**80**	*e*P	Pn	06 43 05.1	-0.5
RUS	**Russkaya**	**1.28**	**120**	*e*P	Pn	06 43 06.3	+0.5
RUS				*e*S	S	06 43 37.1	+1.1
SMAR	**Somma**	**1.28**	**81**	*e*P	Pn	06 43 07.7	+1.7
UGLR	**Uglovaya**	**1.29**	**83**	*e*P	Pn	06 43 07.9	+1.9
SDLR	**Sedlovina**	**1.33**	**80**	*e*P	Pn	06 43 07.8	+1.5
PAU	**Pauzhetka**	**1.61**	**178**	*e*P	Pn	06 43 09.2	+1.0
SPN	**Mys Shipunski**	**2.00**	**88**	*e*P	Pn	06 43 11.3	+0.1
SPN				*e*S	S	06 43 44.5	-1.4
MKZ	**Mys Kozlova**	**3.33**	**62**	*e*P	Pn	06 43 24.9	+0.6
MKZ				*e*S	S	06 44 07.9	-1.7
KBTR	**Krutoberegovo**	**4.74**	**46**	*e*P	Pn	06 43 41.8	+1.3

*IDC **24** 06:48:40.4±1.9, 1.89S×136.46E, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.6/20, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=38.9km s-min=28.8km az=120.0*
*ISCJB **24** 06:48:41.3±1.4, 2.10S±0.10×136.46E±0.04, h10km±10km, mb3.8/2, Error ellipse: s-maj=16.8km s-min=6.6km az=6.9*
*DJA **24** 06:48:43.4±0.3, 2°S±5°×13°6E±°, h10km, M4.0/7, MLv4.0/7*
ISC 24 06:48:42.1±1.5, 2.05S±0.1×136.46E±0.04, h11km±12km, n10, σ1§36/14, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.27**	**306**	P	**Pg**	**06 48 47.3**	**-0.4**
SRPI				S	**Sg**	**06 48 51.8**	**+0.4**
SMPI	**Sarmi**	**2.25**	**89**	P	**Pn**	**06 49 20.6**	**+1.4**
RKPI	**Ransiki, Papua**	**2.34**	**283**	P	**Pn**	**06 49 21.6**	**+1.1**
RKPI				S	**Sb**	**06 49 52.2**	**-1.0**
GENI	**Genyem**	**3.75**	**99**	P	**Pn**	**06 49 40.8**	**+1.0**
GENI				S	**Sb**	**06 50 30.6**	**-3.1**
JAY	**Jayapura**	**4.27**	**97**	P	Pn	06 49 51.6	+4.5
JAY	**Jayapura**	**4.27**	**97**	Pn	**Pn**	**06 49 47.5**	**+0.5**
	1.7nm,0.3s,baz=255,slow=10.0,SNR=5.4						
JAY				Sn	**Sn**	**06 50 37.0**	**+0.1**
	0.6nm,0.3s,baz=78,slow=20,SNR=2.5						
FAKI	**Fak Fak**	**4.30**	**258**	P	**Pn**	**06 49 47.2**	**-0.3**
FAKI				S	**Sn**	**06 50 36.9**	**-0.8**
WRA	**Warramunga Arr**	**17.92**	**186**	P	**Pn**	**06 52 51.9**	**+0.4**
	0.3nm,0.3s,baz=8.5,slow=12,SNR=7.6						
ASAR	**Alice Springs**	**21.65**	**186**	P	**P**	**06 53 34.2**	**+1.5**
	2.8nm,0.7s,baz=13,slow=12,SNR=20						
ILAR	**Eielson Array**	**86.15**	**25**	P	**P**	**07 01 22.8**	**-0.3**
	0.5nm,0.9s,baz=272,slow=4.4,SNR=5.2						

*IDC **24** 07:34:13.2±1.0, 1.99S×136.01E, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.8/32, mbtmp4.0/7, ML3.4/2, MS3.5/2, Ms1 3.5/2, ms1mx3.0/40, Error ellipse: s-maj=26.2km s-min=20.5km az=49.0*
*DJA **24** 07:34:15.2±0.3, 2°S±7'×13°6E±°, h10km, M4.4/7, MLv4.4/7*
*ISCJB **24** 07:34:16.6±0.4, 2.07S±0.08×136.02E±0.03, h33km, mb3.9/5, MS4.0/1, Error ellipse: s-maj=10.9km s-min=3.9km az=3.2*
*NEIC **24** 07:34:18.4±0.7, 2.08S×136.00E, h35km, mb4.0/1, Error ellipse: s-maj=13.0km s-min=11.4km az=176.0*
ISC 24 07:34:18.5±0.7, 2.13S±0.09×136.05E±0.04, h35km, n21, σ1§39/26, mb4.0/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.33**	**36**	P	Pn	07 34 19.1	-7.7
SRPI				S	Sn	07 34 22.3	-10
RKPI	**Ransiki, Papua**	**1.97**	**288**	P	**Pn**	**07 34 50.8**	**+1.4**
RKPI				S	**Sn**	**07 35 14.5**	**+1.6**
SMPI	**Sarmi**	**2.67**	**87**	P	**Pn**	**07 34 58.1**	**-0.9**
SMPI				S	**Sn**	**07 35 30.7**	**+0.6**
**FAK

	2.8nm,0.6s						
FINES	**FINESS Array B**	**71.98**	**333**	P	**P**	**07 51 15.0**	**-1.5**
	1.5nm,0.8s,baz=101,slow=9.9,SNR=4.2						
ARCES	**ARCESS Array B**	**74.83**	**340**	P	**P**	**07 51 31.4**	**-1.9**
	2.3nm,0.9s,baz=116,slow=6.1,SNR=2.4						
GERES	**GERESS Array B**	**76.61**	**318**	P	**P**	**07 51 44.3**	**+0.4**
	0.2nm,0.3s,baz=96,slow=5.4,SNR=3.9						
NVAR	**Mina Array Bea**	**126.29**	**29**	PKP	**PKPdf**	**07 58 56.9**	**+0.4**
	0.2nm,0.6s,baz=337,slow=1.4,SNR=2.9						
TXAR	**Lajitas Array**	**140.37**	**22**	PKP	**PKPdf**	**07 59 24.8**	**+1.8**
	0.1nm,0.4s,baz=286,slow=2.6,SNR=3.2						

*ISCJB **24** 07:48:48.6±0.5,33°.36N±0°.06×95°.28E±0°.07,h10km, mb3.7/11, Error ellipse: s-maj=9.6km s-min=6.4km az=135.5*
*BJI **24** 07:48:49.7,33°.41N×95°.30E,h7km,ML3.1/6*
*IDC **24** 07:48:49.1±0.7,33°.39N×95°.27E,h0km,mb3.7/11, mb1 3.9/13,mb1mx3.7/43,mbtmp3.7/13,ML4.0/2, Error ellipse: s-maj=34.9km s-min=15.1km az=57.0*
ISC 24 07:48:50.4±0.6,33°.41N±0°.09×95°.38E±0°.08,h10km,n25, σ0s84/25,mb3.7/11,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**6.98**	**30**	*e*Pn	Pn	07 50 35.9	+3.1
CD2	**Chengdu**	**7.53**	**107**	Pn	**Pn**	**07 50 41.0**	**+0.7**
CD2				Sn	**Sn**	**07 52 03.3**	**-2.4**
CD2				Sg	Sg	07 52 47.0	-5.0
CD2				SME			
	20nm,1.2s						
TAPN	**Taplejung**	**8.96**	**230**	*e*P	**Pn**	**07 51 00.0**	**-0.2**
ODAN	**Odare**	**9.51**	**229**	*e*P	**Pn**	**07 51 06.9**	**-0.7**
GUN	**Gumba**	**9.84**	**239**	*e*P	**Pn**	**07 51 12.0**	**-0.4**
	23nm,0.5s						
RAMN	**Ramite**	**9.95**	**232**	*e*P	**Pn**	**07 51 12.6**	**-1.2**
KKN	**Kakani**	**10.35**	**240**	*e*P	**Pn**	**07 51 18.7**	**-0.4**
	17nm,0.4s						
PKI	**Pulchoki**	**10.38**	**239**	*e*P	**Pn**	**07 51 19.6**	**-0.1**
	34nm,0.5s						
PKIN	**Phulchoki**	**10.38**	**239**	*e*P	**Pn**	**07 51 19.7**	**0.0**
	23nm,0.6s						
DMN	**Daman**	**10.57**	**240**	*e*P	**Pn**	**07 51 22.1**	**-0.2**
	18nm,0.5s						
GKN	**Gorkha**	**10.70**	**243**	*e*P	**Pn**	**07 51 23.7**	**-0.2**
	12nm,0.4s						
KOLN	**Koldanda**	**11.60**	**244**	*e*P	**Pn**	**07 51 36.0**	**-0.3**
	13nm,0.5s						
CMAR	**Chiang Mai Arr**	**15.22**	**167**	Pn	**Pn**	**07 52 26.0**	**+0.4**
	0.3nm,0.3s,baz=344,slow=18,SNR=5.1						
SONM	**Songino Array**	**16.64**	**27**	Pn	**Pn**	**07 52 43.2**	**-0.6**
	0.2nm,0.3s,baz=210,slow=12,SNR=2.9						
KURBB	**Kurchatov Arra**	**21.19**	**329**	P	**P**	**07 53 36.6**	**+0.7**
	2.9nm,0.8s,baz=138,slow=11,SNR=20						
ZALV	**Zalesovo Beam**	**21.86**	**343**	P	**P**	**07 53 44.2**	**+1.1**
	0.4nm,0.5s,baz=145,slow=10,SNR=2.1						
BVAR	**Borovoye Array**	**26.53**	**325**	P	**P**	**07 54 28.7**	**+0.5**
	0.2nm,0.5s,baz=134,slow=10,SNR=2.1						
BRTR	**Keskin Array B**	**49.14**	**296**	P	**P**	**07 57 37.7**	**-0.8**
	1.0nm,0.8s,baz=72,slow=5.8,SNR=4.1						
FINES	**FINESS Array B**	**51.49**	**325**	P	**P**	**07 57 55.1**	**-0.7**
	1.5nm,1.0s,baz=166,slow=6.7,SNR=4.2						
NOA	**NORSAR Array B**	**58.66**	**325**	P	**P**	**07 58 47.3**	**-0.4**
	0.4nm,0.7s,baz=76,slow=6.9,SNR=3.3						
WRA	**Warramunga Arr**	**64.78**	**139**	P	**P**	**07 59 29.6**	**+0.2**
	0.9nm,0.7s,baz=332,slow=7.4,SNR=11						
ASAR	**Alice Springs**	**67.58**	**142**	P	**P**	**07 59 48.4**	**+1.1**
	0.8nm,0.5s,baz=324,slow=6.6,SNR=11						
ILAR	**Eielson Array**	**70.83**	**24**	P	**P**	**08 00 07.5**	**+0.5**
	0.5nm,0.7s,baz=299,slow=5.6,SNR=9.1						
STKA	**Stephens Creek**	**78.20**	**141**	P	**P**	**08 00 51.3**	**+1.2**
	2.0nm,0.9s,baz=315,slow=11,SNR=2.8						
TORD	**Torodi Ar. Bea**	**85.90**	**283**	P	**P**	**08 01 30.6**	**-0.5**
	0.3nm,0.7s,baz=22,slow=6.0,SNR=2.3						

*ISCJB **24** 08:10:26.5±0.5,51°.47N±0°.03×16°.19E±0°.03,h0km, Error ellipse: s-maj=3.9km s-min=2.5km az=8.3*
*IPEC **24** 08:10:26.6±0.3,51°.59N×16°.28E,h0km,ML2.5/3, Error ellipse: s-maj=3.1km s-min=1.7km az=66.0*
*CSEM **24** 08:10:27.7±0.3,51°.49N×16°.16E,h2km,ML3.3/14, Error ellipse: s-maj=5.8km s-min=3.2km az=169.0*
*IDC **24** 08:10:28.3±0.8,51°.50N×16°.03E,h0km,mb1 3.2/5, mb1mx3.1/41,mbtmp3.1/5,ML2.9/5, Error ellipse: s-maj=15.3km s-min=7.8km az=111.0*
ISC 24 08:10:27.2±0.9,51°.54N±0°.04×16°.16E±0°.02,h0km,n49, σ0s92/98,2C-3D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**173**	*i* Pg	**Pg**	**08 10 41.3**	**+0.7**
KSP				*e*Sg	**Sg**	**08 10 50.4**	**+0.8**
KSP	**Ksiaz**	**0.70**	**173**	⇓*i* Pg	**Pg**	**08 10 41.3**	**+0.7**
KSP				*e*Sg	**Sg**	**08 10 50.4**	**+0.8**
UPC	**Upice**	**1.03**	**185**	*e*PG	**Pg**	**08 10 47.5**	**+0.5**
UPC				*e*SG	**Sg**	**08 10 59.9**	**-0.5**
	comp=Z,33nm,0.3s						
UPC	**Upice**	**1.03**	**185**	Pg	**Pg**	**08 10 47.5**	**+0.5**
UPC				Sg	**Sg**	**08 10 59.9**	**-0.5**
	33nm,0.3s						
DPC	**Dobruska-Polom**	**1.19**	**175**	*e*PG	**Pg**	**08 10 50.1**	**+0.1**
DPC				*e*SG	**Sg**	**08 11 04.7**	**-0.8**
	comp=Z,35nm,0.2s						
DPC	**Dobruska-Polom**	**1.19**	**175**	Pg	**Pg**	**08 10 50.1**	**+0.1**
DPC				Sg	**Sg**	**08 11 04.7**	**-0.8**
	35nm,0.2s						
PVCC	**Panska Ves**	**1.42**	**225**	*e*PG	**Pn**	**08 10 54.4**	**+0.1**
PVCC				*e*SG	**Sn**	**08 11 13.9**	**+0.2**
	comp=Z,151nm,0.2s						
PVCC	**Panska Ves**	**1.42**	**225**	Pg	**Pn**	**08 10 54.4**	**+0.1**
PVCC				Sg	**Sn**	**08 11 13.9**	**+0.2**
	151nm,0.2s						
KRLC	**Kraliky**	**1.52**	**165**	*e*PG	**Pn**	**08 10 55.2**	**-0.4**
KRLC				*e*SG	**Sg**	**08 11 14.7**	**-1.1**
KRLC	**Kraliky**	**1.52**	**165**	Pg	**Pn**	**08 10 55.2**	**-0.4**
KRLC				Sg	**Sg**	**08 11 14.7**	**-1.1**
BRG	**Berggiesshubel**	**1.54**	**245**	PN	**Pn**	**08 10 55.8**	**-0.1**
BRG				PG	**Pg**	**08 10 57.1**	**+0.3**
BRG				SG	**Sg**	**08 11 17.8**	**+1.0**
	119nm,0.4s						
PRA	**Prague**	**1.83**	**217**	*e*PN	**Pn**	**08 10 59.8**	**-0.1**
PRA				*e*PG	**Pb**	**08 11 01.9**	**+0.4**
PRA				*e*SG	**Sg**	**08 11 26.3**	**+0.3**
	comp=Z,26nm,0.4s						
PRA	**Prague**	**1.83**	**217**	Pn	**Pn**	**08 10 59.8**	**-0.1**
GOPC	**GO Pecny, Ondr**	**1.84**	**209**	*e*PN	**Pn**	**08 11 00.0**	**-0.1**
GOPC				*e*PG	**Pb**	**08 11 01.9**	**+0.1**
GOPC				*e*SG	**Sg**	**08 11 26.2**	**-0.2**
	comp=Z,26nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.84**	**209**	Pn	**Pn**	**08 11 00.0**	**-0.1**
PRU	**Pruhonice**	**1.86**	**214**	*e*PN	**Pn**	**08 11 00.0**	**-0.3**
PRU				*e*PG	**Pb**	**08 11 02.1**	**+0.1**
PRU				*e*SG	**Sg**	**08 11 27.1**	**+0.2**
	comp=Z,38nm,0.3s						
PRU	**Pruhonice**	**1.86**	**214**	Pn	**Pn**	**08 11 00.0**	**-0.3**
PRU	**Pruhonice**	**1.86**	**214**	Pg	**Pb**	**08 11 02.1**	**+0.1**
PRU				Sg	**Sg**	**08 11 27.1**	**+0.2**
	38nm,0.3s						
MORC	**Moravsky Berou**	**1.97**	**153**	*e*Pn	**Pn**	**08 11 01.4**	**-0.4**
	baz=337						
MORC				*e*Sg	**Sb**	**08 11 28.8**	**-0.2**
	25nm,0.4s,baz=337						
CLL	**Collm**	**1.99**	**265**	*i* Pn	**Pn**	**08 11 01.4**	**-0.7**
CLL				*i* Pg	**Pg**	**08 11 05.3**	**0.0**
CLL				*i*		08 11 07.7	
CLL				*e*Sn	**Sn**	**08 11 28.0**	**+0.3**
CLL				*i* Sg	**Sg**	**08 11 31.8**	**+0.7**
	comp=Z,44nm,0.6s						
OKC	**Ostrava-Krasne**	**2.12**	**143**	*e*PG	**Pb**	**08 11 06.3**	**-0.1**
OKC				*e*SG	**Sb**	**08 11 33.4**	**+0.1**
	comp=Z,30nm,0.4s						
OKC	**Ostrava-Krasne**	**2.12**	**143**	Pg	**Pb**	**08 11 06.3**	**-0.1**
OKC				Sg	**Sb**	**08 11 33.4**	**+0.1**
	comp=Z,30nm,0.4s						
VRAC	**Vranov**	**2.25**	**173**	Pn	**Pn**	**08 11 06.8**	**+1.2**
	comp=Z,5.0nm,0.3s,baz=4.7,slow=18,SNR=8.3						
VRAC				Lg	Lg	08 11 38.2	
	comp=Z,7.1nm,0.3s,baz=70,slow=23,SNR=7.2						
VRAC	**Vranov**	**2.25**	**173**	*e*Pn	**Pn**	**08 11 05.8**	**+0.2**
	baz=355						
VRAC				*e*Sg	**Sg**	**08 11 38.4**	**-1.0**
	comp=Z,28nm,0.3s,baz=355						
TREC	**Trest**	**2.29**	**191**	*e*PN	**Pn**	**08 11 06.4**	**+0.2**
TREC				*e*PG	**Pb**	**08 11 09.5**	**+0.2**
TREC				*e*SG	**Sg**	**08 11 39.7**	**-0.9**
	comp=Z,17nm,0.2s						
TREC	**Trest**	**2.29**	**191**	Pn	**Pn**	**08 11 06.4**	**+0.2**
KRUC	**Moravsky**	**2.48**	**176**	*e*Pn	**Pn**	**08 11 09.0**	**+0.2**
	baz=358						
KRUC				*e*Sg	**Sg**	**08 11 45.9**	**-1.0**
	comp=Z,28nm,0.7s,baz=358						
OJC	**Ojcow**	**2.66**	**118**	*e*Pg	**Pg**	**08 11 17.5**	**-0.5**
OJC				*e*Sg	**Sg**	**08 11 52.8**	**+0.4**
OJC	**Ojcow**	**2.66**	**118**	*e*Pg	**Pg**	**08 11 17.5**	**-0.5**
OJC				*e*Sg	**Sg**	**08 11 52.8**	**+0.4**
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PN	**Pn**	**08 11 15.0**	**+0.1**
KHC				*e*PG	**Pb**	**08 11 21.3**	**+1.2**
KHC				*e*SN	**Sn**	**08 11 49.9**	**-0.8**
KHC				*e*SG	**Sg**	**08 12 00.1**	**-0.9**
	comp=Z,20nm,0.6s						
KHC	**Kasperske Hory**	**2.92**	**215**	Pn	**Pn**	**08 11 15.0**	**+0.1**
KHC	**Kasperske Hory**	**2.92**	**215**	Pg	**Pb**	**08 11 21.3**	**+1.2**
KHC				Sn	**Sn**	**08 11 49.9**	**-0.8**
KHC				Sg	**Sg**	**08 12 00.1**	**-0.9**
	comp=Z,20nm,0.6s						
GERES	**GERESS Array B**	**3.12**	**211**	Pn	**Pn**	**08 11 17.8**	**0.0**
	comp=Z,1.1nm,0.3s,baz=25,slow=11,SNR=14						
GERES				Pg	**Pb**	**08 11 23.8**	**+0.2**
	comp=Z,3.0nm,0.3s,baz=33,slow=16,SNR=24						
GERES				Sn	**Sn**	**08 11 53.9**	**-1.9**
	comp=Z,1.8nm,0.3s,baz=27,slow=15,SNR=5.1						
GERES				Lg	Lg	08 12 04.1	
	comp=Z,5.2nm,0.3s,baz=32,slow=24,SNR=9.3						
SMOL	**Smolenice**	**3.13**	**164**	*e*Pg	**Pg**	**08 11 27.8**	**+0.6**
SMOL				*e*Sg	**Sg**	**08 12 05.2**	**-2.6**
SMOL	**Smolenice**	**3.13**	**164**	*e*PG	**Pg**	**08 11 27.8**	**+0.6**
SMOL				*e*SG	**Sg**	**08 12 05.2**	**-2.6**
LANS	**Liptovska Anna**	**3.19**	**137**	*e*Sg	**Sg**	**08 12 11.1**	**+1.4**
CONA	**Conrad Observa**	**3.62**	**183**	⇑*i* Pn	**Pn**	**08 11 26.6**	**+2.1**
	comp=Z,1.6nm,0.1s						
CONA				⇓*i* Sg	**Sg**	**08 12 23.7**	**+0.3**
	comp=Z,0.4nm,0.1s						
CONA	**Conrad Observa**	**3.62**	**183**	Pn	**Pn**	**08 11 26.6**	**+2.1**
	comp=Z,1.6nm,0.1s						
CONA				Sg	**Sg**	**08 12 23.7**	**+0.3**
	comp=Z,0.4nm,0.1s						
STHS	**Stebnicka Huta**	**3.88**	**121**	*e*Pn	**Pn**	**08 11 28.8**	**+0.7**
STHS	**Stebnicka Huta**	**3.88**	**121**	*e*PN	**Pn**	**08 11 28.8**	**+0.7**
STHS				*e*PG	**Pg**	**08 11 41.6**	**+0.1**
STHS				*e*SG	**Sg**	**08 12 35.0**	**+3.3**
MOA	**Molln**	**3.89**	**199**	⇑*i* Pn	**Pn**	**08 11 28.8**	**+0.6**
	comp=Z,3.4nm,0.4s						
MOA				⇓*i* Sg	**Sg**	**08 12 32.0**	**-0.1**
	comp=Z,12nm,0.5s						
MOA	**Molln**	**3.89**	**199**	Pn	**Pn**	**08 11 28.8**	**+0.6**
	comp=Z,3.4nm,0.4s						
MOA				Sg	**Sg**	**08 12 32.0**	**-0.1**
	comp=Z,12nm,0.5s						
KECS	**Kecovo**	**4.14**	**136**	*e*Pn	**Pn**	**08 11 30.7**	**-0.9**
KECS	**Kecovo**	**4.14**	**136**	*e*PN	**Pn**	**08 11 30.7**	**-0.9**
KECS				*e*PG	**Pg**	**08 11 48.1**	**+1.7**
KECS				*e*SG	**Sb**	**08 12 34.3**	**+2.9**
KOLS	**Kolonicke sedl**	**4.71**	**121**	*e*Pn	**Pn**	**08 11 39.6**	**+0.1**
KOLS	**Kolonicke sedl**	**4.71**	**121**	*e*PN	**Pn**	**08 11 39.6**	**+0.1**
KOLS				*e*PG	**Pg**	**08 11 57.1**	**-0.3**
KOLS				*e*SG	**Sg**	**08 12 57.4**	**-1.0**
AKASG	**Malin Array Be**	**8.27**	**91**	Pn	**Pn**	**08 12 26.5**	**-1.7**
	comp=Z,1.1nm,0.3s,baz=278,slow=12,SNR=4.5						
HFS	**Hagfors**	**8.73**	**352**	Pn	**Pn**	**08 12 33.3**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=174,slow=16,SNR=2.7						
FINES	**FINESS Array B**	**11.32**	**25**	Pn	Pn	08 13 07.4	-2.6
	comp=Z,0.1nm,0.3s,baz=210,slow=11,SNR=3.9						

*IDC **24** 08:10:25.1±1.5,1°.62N×96°.90E,h0km,mb3.8/7,mb1 4.0/8, mb1mx3.6/41,mbtmp3.9/8,ML4.5/1, Error ellipse: s-maj=53.7km s-min=21.6km az=57.0*
*NEIC **24** 08:10:30.5±0.7,1°.65N×97°.08E,h35km,mb4.3/5, Error ellipse: s-maj=21.3km s-min=8.7km az=58.0*
ISC 24 08:10:29.7±1.0,1°.7N±0°.1×97°.0E±0°.2,h28km,n20, σ0s78/18,mb4.0/11,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.67**	**126**	*e*Pg	**Pn**	**08 10 43.9**	**+0.6**
GSI				*e*Sg	**Sn**	**08 10 54.0**	**+1.1**
XMIS	**Christmas Isla**	**14.83**	**145**	*e*Pn	Pn	08 13 54.6	-3.1
XMIS				*e*Sn	**Sn**	**08 16 40.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**16.76**	**6**	Pn	**Pn**	**08 14 22.8**	**+0.1**
	0.6nm,0.3s,baz=185,slow=11,SNR=3.1						
KKM	**Kota Kinabalu**	**19.61**	**77**	*e*P	**P**	**08 14 54.7**	**-1.5**
	14nm,0.9s						
KAPI	**Kappang**	**23.65**	**106**	*e*P	**P**	**08 15 37.9**	**-1.2**
	4.7nm,0.6s						
H08S2	**Diego Garcia H**	**26.18**	**249**	T	T	08 43 18.7	
	baz=69,slow=75,SNR=204						
H08S3	**Diego Garcia H**	**26.19**	**249**	T	T	08 43 18.8	
	baz=69,slow=75,SNR=205						
H08S1	**Diego Garcia H**	**26.20**	**249**	T	T	08 43 15.7	
	baz=69,slow=75,SNR=242						
WRA	**Warramunga Arr**	**42.44**	**122**	P	**P**	**08 18 22.1**	**-0.3**
	0.4nm,0.7s,baz=303,slow=9.0,SNR=5.1						
WRAB	**Tennant Creek**	**42.44**	**122**	*e*P	**P**	**08 18 23.2**	**+0.6**
	25nm,1.6s						
ASAR	**Alice Springs**	**43.82**	**127**	P	**P**	**08 18 34.1**	**+0.4**
	0.4nm,0.8s,baz=304,slow=7.8,SNR=3.1						
KSAR	**Wonju Array Be**	**45.50**	**35**	P	**P**	**08 18 47.0**	**+0.1**
KSRS	**Korea Array**	**45.53**	**35**	P	**P**	**08 18 46.9**	**-0.1**
	0.5nm,0.4s,baz=240,slow=6.6,SNR=4.0						
SONM	**Songino Array**	**46.66**	**9**	P	**P**	**08 18 56.5**	**+0.5**
	0.7nm,0.4s,baz=190,slow=9.6,SNR=3.9						
MK31	**Makanchi Array**	**46.72**	**346**	*e*P	**P**	**08 18 57.1**	**+0.8**
ZALV	**Zalesovo Beam**	**53.04**	**351**	P	**P**	**08 19 44.8**	**+0.7**
	3.3nm,0.5s,baz=174,slow=6.7,SNR=16						
ABKAR	**Akbulak array**	**57.00**	**332**	*e*P	**P**	**08 20 12.6**	**-0.3**
	0.3nm,0.2s						
FINES	**FINESS Array B**	**79.48**	**332**	P	**P**	**08 22 32.5**	**-1.0**
	1.1nm,0.9s,baz=58,slow=6.2,SNR=2.6						
ARCES	**ARCESS Array B**	**82.01**	**340**	P	**P**	**08 22 47.5**	**+0.6**
	1.9nm,0.9s,baz=94,slow=3.6,SNR=7.3						
VNDA	**Vanda**	**86.34**	**169**	*e*P	**P**	**08 23 08.4**	**-0.4**
	4.9nm,1.6s						

*IDC **24** 08:10:30.8±9.0,31°.88S×179°.45E,h309km±98km, mb2.7/2, mb1 3.0/3,mb1mx2.8/24,mbtmp3.5/3, Error ellipse: s-maj=103.5km s-min=41.0km az=4.0*
ISC 24 08:10:34.9±2.0,32°.2S±0°.1×179°.1E±0°.3,h350km,n13, σ1s21/16,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**5.68**	**185**	PN	**Pn**	**08 12 02.0**	**0.0**
HAZ	**Te Kaha**	**5.69**	**190**	PN	**Pn**	**08 12 01.9**	**-0.2**
MWZ	**Matawai**	**6.30**	**191**	PN	**Pn**	**08 12 08.7**	**-0.4**
URZ	**Urewera**	**6.30**	**194**	P	**Pn**	**08 12 08.4**	**-0.7**
	0.7nm,0.3s,baz=323,slow=20,SNR=16						
URZ				S	**S**	**08 13 26.4**	**+0.9**
	0.7nm,0.3s,baz=133,slow=19,SNR=4.1						
URZ	**Urewera**	**6.30**	**194**	PN	**Pn**	**08 12 08.5**	**-0.6**
URZ				SN	**S**	**08 13 27.6**	**+2.1**
MRZ	**Mangatainoka R**	**8.95**	**197**	PN	**Pn**	**08 12 39.1**	**-1.1**
HOWZ	**Holdsworth Sta**	**9.19**	**197**	PN	**Pn**	**08 12 41.8**	**-1.3**
OGWZ	**Otaki Gorge**	**9.20**	**199**	PN	**Pn**	**08 12 41.8**	**-1.4**
OGWZ				SN	**S**	**08 14 27.1**	**-1.0**
KIW	**Kapiti Island**	**9.31**	**200**	PN	**Pn**	**08 12 43.7**	**-0.9**
THZ	**Tophouse**	**10.78**	**205**	PN	**Pn**	**08 13 00.4**	**-1.8**
THZ				SN	**S**	**08 15 03.9**	**+0.8**
ASAR	**Alice Springs**	**40.56**	**270**	P	P	08 17 44.0	+2.3
	0.2nm,0.4s,baz=106,slow=7.7,SNR=5.8						
WRA	**Warramunga Arr**	**41.72**	**276**	P	**P**	**08 17 52.3**	**+1.3**
	0.5nm,0.6s,baz=114,slow=7.8,SNR=22						
FINES	**FINESS Array B**	**145.85**	**337**	PKPbc	**PKPbc**	**08 29 31.9**	**-0.9**
	0.3nm,0.4s,baz=88,slow=3.9,SNR=2.4						

IDC 24 08:53:31.4±3.4,6°.10S×155°.40E,h0km,mb3.9/3, mb1 4.2/3,mb1mx3.6/33,mbtmp3.9/3,Error ellipse: s-maj=93.7km s-min=42.3km az=108.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.66**	**234**	P	P	08 58 54.3	+0.2
	1.7nm,0.7s,baz=60,slow=9.9,SNR=22						
ASAR	**Alice Springs**	**27.07**	**228**	P	P	08 59 15.8	-0.2
	0.8nm,0.7s,baz=57,slow=8.7,SNR=12						
CMAR	**Chiang Mai Arr**	**60.77**	**295**	P	P	09 03 45.9	+0.3
	0.7nm,0.3s,baz=122,slow=5.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**153.16**	**287**	PKPbc	PKPbc	09 13 31.9	-0.4
	0.3nm,0.8s,baz=103,slow=1.9,SNR=2.4						

NNC 24 08:53:33.2±8.3,37°.37N×70°.75E,h0km,mb3.8,mpv3.4, 1C-6D,Error ellipse: s-maj=71.5km s-min=49.4km az=169.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.08**	**314**	⇓Pn	Pn	08 54 10.0	+0.5
	30nm,0.4s						
DZET				⇑Lg	Lg	08 54 43.2	
	23nm,0.2s						
SFK	**Sufi-Kurgan**	**3.40**	**38**	⇓Pn	Pn	08 54 30.6	+2.9
	1.7nm,0.3s						
SFK				⇓Lg	Lg	08 55 20.7	
	28nm,0.5s						
KK31	**Karatay Array**	**5.72**	**358**	⇓Pn	Pn	08 55 00.4	+1.0
	1.1nm,0.3s,baz=7.7,slow=42,SNR=25						
KK31				Sn	Sn	08 56 11.1	+5.2
	1.8nm,0.3s,baz=182,slow=32,SNR=8.5						
AAK	**Ala-Archa**	**5.99**	**28**	⇓Pn	Pn	08 54 57.9	-5.3
	1.3nm,0.5s						
AAK				⇓Sn	Sn	08 56 19.5	+7.0
	11nm,0.6s						

*NNC **24** 09:01:35.1±2.1,37°.69N×71°.59E,h144km±19km,mb3.0, mpv3.8,Error ellipse: s-maj=19.4km s-min=6.5km az=161.0*
ISC 24 09:01:34.5±3.0,37°.6N±0°.2×71°.68E±0°.08,h109km,n15, σ0s74/20,6C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.56**	**300**	⇑Pn	**Pn**	**09 02 14.9**	**0.0**
	2.5nm,0.1s						
DZET				⇑Sn	**Sn**	**09 02 47.0**	**+1.2**
	47nm,0.3s						
SFK	**Sufi-Kurgan**	**2.83**	**30**	⇑Pn	**Pn**	**09 02 19.3**	**+0.8**
	17nm,0.3s						
SFK				⇑Sn	**Sn**	**09 02 54.0**	**+1.8**
	33nm,0.2s						
AML	**Almayashu**	**4.82**	**18**	P	**Pn**	**09 02 45.4**	**+0.2**
	SNR=8.2						
UCH	**Uchtor**	**5.14**	**24**	P	**Pn**	**09 02 49.4**	**-0.2**
	SNR=9.1						
KZA	**Kyzart**	**5.28**	**30**	P	**Pn**	**09 02 50.5**	**-0.9**
	SNR=12						
EKS2	**Erkin-Say**	**5.34**	**17**	P	**Pn**	**09 02 52.5**	**+0.6**
	SNR=13						
AAK	**Ala-Archa**	**5.50**	**22**	P	**Pn**	**09 02 54.7**	**+0.4**
	SNR=8.5						
AAK	**Ala-Archa**	**5.50**	**22**	⇑P	**Pn**	**09 02 54.4**	**+0.2**
	7.8nm,0.4s						
AAK				⇓S	**Sn**	**09 03 56.2**	**-0.1**
	4.5nm,0.4s						
KK31	**Karatay Array**	**5.60**	**351**	P	**Pn**	**09 02 56.1**	**+0.6**
	6.2nm,0.3s,baz=168,slow=11,SNR=88						
KK31				S	**Sn**	**09 03 57.7**	**-0.8**
	3.2nm,0.2s,baz=169,slow=20,SNR=22						
KBK	**Karagaybulak**	**5.67**	**25**	P	**Pn**	**09 02 57.2**	**+0.7**
	SNR=5.2						
ULHL	**Ulahol**	**5.84**	**35**	P	**Pn**	**09 02 58.9**	**0.0**
	SNR=5.5						
CHMS	**Chumysh**	**5.91**	**22**	P	**Pn**	**09 02 60.0**	**+0.3**
	SNR=7.6						
TKM2	**Tokmak 2**	**6.13**	**28**	P	**Pn**	**09 03 02.8**	**0.0**
	SNR=8.8						
TKM2	**Tokmak 2**	**6.13**	**28**	⇑P	**Pn**	**09 03 02.6**	**-0.2**
	4.4nm,0.5s						
TKM2				⇓S	**Sn**	**09 04 11.4**	**-0.2**
	3.1nm,0.8s						
AB31	**Akbulak array**	**14.44**	**328**	⇓P	**Pn**	**09 04 52.7**	**-0.9**
	0.5nm,0.4s,baz=132,slow=14,SNR=7.5						
AB31				⇓S	Sn	09 07 22.7	-10
	1.6nm,0.6s,baz=152,slow=22,SNR=7.7						

DDA 24 09:02:17.5,38°.27N×28°.71E,h7km,MD2.1,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANT	**Manisa**	**0.25**	**332**	*i* P	Pg	09 02 22.9	+0.1
MANT				*i* S	Sg	09 02 26.6	+0.2

*ISK **24** 09:02:24.3,40°.02N×28°.48E,h3km,MD2.7*
*CSEM **24** 09:02:25.4±0.1,40°.03N×28°.49E,h8km,MD2.7, Error ellipse: s-maj=3.3km s-min=

MANT				*i* S		**Sn**	**09 03 13.4**	**-0.3**
GULT	**Gulveren**	**1.61**	**74**	*e*PN		**Pn**	**09 02 54.7**	**+0.2**
GULT	**Gulveren**	**1.61**	**74**	*e*Pn		**Pn**	**09 02 54.7**	**+0.2**

FUNV ***24*** *09:51:04.2, 6.°75N×73.°25W, h163km, MW3.5*
ISCJB ***24*** *09:51:05.1±1.0, 6.°93N±0.°07×73.°03W±0.°08, h166km, Error ellipse: s-maj=11.9km s-min=9.3km az=34.7*
IDC ***24*** *09:51:12.1±6.3, 5.°97N×75.°74W, h166km±110km, Error ellipse: s-maj=528.7km s-min=103.8km az=49.0*

ISC 24 09:51:04.2±1.1, 6.°87N±0.°07×73.°11W±0.°08, h166km, n9, σ1§26/16, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.26**	**39**	⇓*i* P	**Pn**	**09 51 34.1**	**+1.1**
CAPV				*e*S	**Sn**	**09 51 55.5**	**+0.3**
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**09 51 46.5**	**+1.8**
	12nm,0.3s,baz=294,slow=2.1,SNR=43						
ROSC				S	**Sn**	**09 52 13.2**	**-2.8**
	13nm,0.3s,baz=110,slow=16,SNR=6.0						
SOCV	**Socops**	**2.64**	**58**	*e*P	**Pn**	**09 51 48.8**	**+1.0**
SOCV				*e*S	**Sn**	**09 52 21.3**	**-0.4**
ELOV	**Elorza**	**3.60**	**88**	*e*P	**Pn**	**09 52 00.1**	**+0.3**
ELOV				*e*S	**Sn**	**09 52 41.7**	**-1.4**
VIRV	**Villa del Rosa**	**3.67**	**11**	*e*P	**Pn**	**09 52 00.9**	**+0.2**
VIRV				*e*S	**Sn**	**09 52 43.3**	**-1.6**
SANV	**Sanarito**	**4.40**	**53**	*e*P	**Pn**	**09 52 11.2**	**+1.1**
CURV	**Curarigua**	**4.41**	**45**	*e*P	**Pn**	**09 52 10.7**	**+0.4**
CURV				*e*S	**Sn**	**09 53 01.1**	**-0.9**
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPbc**	**10 10 33.8**	**-0.1**
	0.2nm,0.5s,baz=116,slow=3.5,SNR=4.6						
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	**PKPbc**	**10 10 37.2**	**+0.3**
	0.4nm,0.5s,baz=107,slow=2.8,SNR=14						
WRA				pPKPbc	**pPKPbc**	**10 11 20.4**	**0.0**
	0.5nm,1.0s,baz=108,slow=2.9,SNR=1.8						

IDC 24 10:04:19.0±58.0, 19.°49S×179.°87W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/26, mbtmp3.9/3, Error ellipse: s-maj=1049.0km s-min=145.3km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.66**	**243**	P	P	10 11 27.8	+0.2
	1.0nm,0.5s,baz=79,slow=9.3,SNR=6.4						
WRA	**Warramunga Arr**	**43.00**	**261**	P	P	10 12 20.4	-0.2
	0.4nm,0.3s,baz=96,slow=7.7,SNR=20						
ASAR	**Alice Springs**	**43.04**	**256**	P	P	10 12 20.5	-0.4
	2.5nm,0.8s,baz=99,slow=7.8,SNR=16						

PRE 24 10:06:26.7±0.9, 28.°72S×20.°80E, h5km, ML4.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**3.65**	**180**	*e*P	Pn	10 07 24.2	+0.1
SUR				*e*S	Sn	10 08 06.2	-1.5
SUR				AML	AML	10 08 25.1	
	comp=Z,199nm,0.6s						
BOSA	**Boshof**	**3.91**	**89**	*e*P	Pn	10 07 28.6	+0.9
BOSA				AML	AML	10 08 36.8	
	comp=Z,213nm,0.5s						
SWZ	**Schweizer**	**4.29**	**70**	*e*P	Pn	10 07 32.8	0.0
SWZ				*e*S	Sn	10 08 21.6	-1.8
SWZ				AML	AML	10 08 51.1	
	comp=Z,242nm,0.4s						
CER	**Ceres**	**4.80**	**195**	*e*P	Pn	10 07 40.6	+0.9
CER				*e*S	Sn	10 08 34.5	-1.4
CER				AML	AML	10 08 57.0	
	comp=Z,195nm,0.6s						
LBTB	**Lobatse**	**5.65**	**50**	*e*P	Pn	10 07 52.4	+0.8
LBTB				*e*S	Sn	10 08 54.5	-2.4
LBTB				AML	AML	10 09 30.8	
	comp=Z,97nm,0.4s						
SOE	**Somerset East**	**5.71**	**135**	*e*P	Pn	10 07 52.9	+0.6
SOE				*e*S	Sn	10 08 55.9	-2.4
SOE				AML	AML	10 09 34.6	
	comp=Z,73nm,0.4s						
PRYS	**Parys**	**6.08**	**74**	*e*P	Pn	10 07 58.9	+1.4
PRYS				*e*S	Sn	10 09 04.8	-2.7
PRYS				AML	AML	10 09 46.7	
	comp=Z,55nm,0.4s						
BUFB	**Buffelsbos**	**6.37**	**149**	*e*P	Pn	10 08 02.4	+1.2
BUFB				*e*S	Sn	10 09 11.7	-2.8
BUFB				AML	AML	10 09 59.6	
	comp=Z,22nm,0.2s						
GRM	**Grahamstown**	**6.70**	**135**	*e*P	Pn	10 08 08.0	+2.1
GRM				*e*S	Sn	10 09 20.8	-1.9
GRM				AML	AML	10 10 05.0	
	comp=Z,42nm,0.6s						
KSD	**Kokstad**	**7.71**	**106**	*e*P	Pn	10 08 20.9	+1.0
KSD				*e*S	Sn	10 09 44.4	-3.4
KSD				AML	AML	10 10 12.5	
	comp=Z,4.6nm,0.5s						

IDC 24 10:19:39.7±21.0, 19.°19S×178.°60W, h650km±206km, mb2.6/3, mb1 2.9/3, mb1mx2.6/20, mbtmp3.6/3, Error ellipse: s-maj=283.4km s-min=48.1km az=132.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.23**	**261**	P	P	10 26 54.3	0.0
	0.6nm,0.6s,baz=97,slow=7.9,SNR=15						
ASAR	**Alice Springs**	**44.28**	**255**	P	P	10 26 54.8	+0.2
	0.8nm,0.8s,baz=86,slow=8.2,SNR=18						
ASAR				PcP	PcP	10 28 23.6	-0.4
	0.8nm,1.1s,baz=106,slow=4.4,SNR=3.2						
ILAR	**Eielson Array**	**87.17**	**13**	P	P	10 31 18.4	+0.1
	0.4nm,0.9s,baz=220,slow=5.5,SNR=4.7						

IDC 24 10:31:16.5±24.0, 19.°36S×178.°50W, h578km±224km, mb2.7/3, mb1 3.1/3, mb1mx2.7/25, mbtmp3.7/3, Error ellipse: s-maj=282.5km s-min=45.8km az=132.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.30**	**261**	P	P	10 38 36.2	-0.1
	0.3nm,0.3s,baz=96,slow=7.6,SNR=24						
ASAR	**Alice Springs**	**44.33**	**256**	P	P	10 38 36.3	-0.2
	0.4nm,0.4s,baz=90,slow=8.1,SNR=15						
ASAR				PcP	PcP	10 40 07.4	-0.4
	0.3nm,0.8s,baz=103,slow=4.0,SNR=2.6						
ILAR	**Eielson Array**	**87.32**	**13**	P	P	10 43 02.0	0.0
	0.4nm,0.5s,baz=214,slow=5.6,SNR=7.2						

IDC 24 10:50:01.8±2.1, 4.°85S×146.°50E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.4/19, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=283.7km s-min=28.7km az=121.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.11**	**217**	P	Pn	10 54 26.9	-0.3
	0.1nm,0.3s,baz=37,slow=12,SNR=8.7						
ASAR	**Alice Springs**	**22.30**	**212**	P	P	10 55 00.7	-0.3
	0.2nm,0.5s,baz=45,slow=7.9,SNR=8.6						
ILAR	**Eielson Array**	**84.63**	**23**	P	P	11 02 37.0	0.0
	0.3nm,0.8s,baz=248,slow=3.8,SNR=4.0						

CSEM ***24*** *11:01:09.4±0.2, 40.°57N×18.°96E, h2km, ML2.9, Error ellipse: s-maj=6.1km s-min=4.6km az=151.0*
ROM ***24*** *11:01:10.9±0.2, 40.°52N×18.°87E, h10km, Ml2.9/8, Error ellipse: s-maj=3.6km s-min=2.0km az=28.0*
SKO ***24*** *11:01:11.1, 40.°58N×19.°03E, h0km, M2.0, ML2.6*
ISCJB ***24*** *11:01:11.1±0.7, 40.°53N±0.°03×18.°90E±0.°04, h21km±7km, Error ellipse: s-maj=5.2km s-min=4.1km az=144.8*
BEO ***24*** *11:01:14.9±0.8, 40.°86N×18.°76E, h1km±3km, ML2.5/8*
TIR ***24*** *11:01:15.1, 40.°59N×18.°93E, h25km*

ISC 24 11:01:10.2±1.1, 40.°54N±0.°03×18.°90E±0.°02, h9km±10km, n56, σ1§47/86, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLO	**Vlora**	**0.46**	**99**	*i* PG	**Pg**	**11 01 17.8**	**-1.3**
VLO				*i* SG	**Sg**	**11 01 26.4**	**+1.2**
VLO	**Vlora**	**0.46**	**99**	*i* Pg	**Pg**	**11 01 17.8**	**-1.3**
SCTE	**Santa Cesarea**	**0.57**	**215**	Pn	**Pg**	**11 01 21.8**	**+0.5**
SCTE	**Santa Cesarea**	**0.57**	**215**	Pn	**Pg**	**11 01 21.8**	**+0.5**
MESG	**Mesagne**	**0.80**	**274**	Pn	**Pg**	**11 01 26.1**	**+0.5**
	643nm,0.6s						
MESG	**Mesagne**	**0.80**	**274**	Pn	**Pg**	**11 01 26.1**	**+0.5**
	643nm,0.6s						
SRN	**Sarande**	**1.07**	**128**	*i* PG	**Pg**	**11 01 30.0**	**-0.7**
SRN				*i* SG	**Sg**	**11 01 43.1**	**-1.5**
SRN	**Sarande**	**1.07**	**128**	*i* Pg	**Pg**	**11 01 30.0**	**-0.7**
SRN				*i* Sg	**Sg**	**11 01 43.2**	**-1.5**
KEK	**Kerkira**	**1.08**	**140**	Pn	**Pg**	**11 01 31.1**	**+0.2**
KEK				Sn	**Sg**	**11 01 45.6**	**+0.7**
	233nm,1.0s						
KEK	**Kerkira**	**1.08**	**140**	Pn	**Pg**	**11 01 31.1**	**+0.2**
KEK				Sn	**Sg**	**11 01 45.6**	**+0.7**
	233nm,1.0s						
TIR	**Tirane**	**1.09**	**42**	*e*Pg	**Pg**	**11 01 31.1**	**+0.1**
TIR				*e*Sg	**Sb**	**11 01 46.2**	**+0.9**
TIR	**Tirane**	**1.09**	**42**	Pn	**Pg**	**11 01 31.2**	**+0.2**
	377nm,1.1s						
TIR	**Tirane**	**1.09**	**42**	Pn	**Pg**	**11 01 31.2**	**+0.2**
	377nm,1.1s						
TIR				*e*Sg	**Sb**	**11 01 46.2**	**+0.9**
NOCI	**Noci**	**1.42**	**281**	Pn	**Pn**	**11 01 36.3**	**+0.2**
	364nm,0.4s						
NOCI	**Noci**	**1.42**	**281**	Pn	**Pn**	**11 01 36.3**	**+0.2**
	364nm,0.4s						
OHR	**Ohrid**	**1.55**	**68**	*i* Pg	**Pn**	**11 01 37.0**	**-1.0**
OHR				*i* Sg	**Sn**	**11 01 58.2**	**0.0**
OHR				*e*Lg	Lg	11 02 03.9	
	comp=N,70nm,1.0s						
OHR				*e*Lg	Lg	11 02 04.1	
	comp=E,53nm,0.6s						
OHR	**Ohrid**	**1.55**	**68**	*i* Pg	**Pn**	**11 01 36.9**	**-1.0**
OHR				*i* Sg	**Sn**	**11 01 58.1**	**0.0**
OHR				*e*Lg	Lg	11 02 03.9	
	comp=E,70nm,1.0s						
LTRZ	**Laterza**	**1.59**	**273**	Pn	**Pn**	**11 01 39.2**	**+0.8**
	comp=E,206nm,0.8s						
LTRZ	**Laterza**	**1.59**	**273**	Pn	**Pn**	**11 01 39.2**	**+0.8**
	comp=E,206nm,0.8s						
PHP	**Peshkopia**	**1.63**	**45**	*i* PG	**Pn**	**11 01 37.9**	**-1.1**
PHP				*i* SG	**Sn**	**11 01 59.7**	**-0.4**
PHP	**Peshkopia**	**1.63**	**45**	*i* Pg	**Pn**	**11 01 37.9**	**-1.1**
PHP				*i* Sg	**Sn**	**11 01 59.7**	**-0.4**
PUK	**Puka**	**1.67**	**26**	*i* PG	**Pn**	**11 01 40.1**	**+0.4**
PUK				*i* SG	**Sn**	**11 02 00.7**	**-0.6**
PUK	**Puka**	**1.67**	**26**	*i* Pg	**Pn**	**11 01 40.1**	**+0.4**
PUK				*i* Sg	**Sn**	**11 02 00.7**	**-0.6**
AMUR	**Altamura**	**1.78**	**282**	Pn	**Pn**	**11 01 42.7**	**+1.6**
	comp=E,191nm,0.7s						
AMUR	**Altamura**	**1.78**	**282**	Pn	**Pn**	**11 01 42.7**	**+1.6**
	comp=E,191nm,0.7s						
PDG	**Podgorica**	**1.90**	**8**	*e*Pg	**Pn**	**11 01 44.5**	**+1.8**
PDG				*e*Sg	**Sn**	**11 02 05.4**	**-1.4**
PDG	**Podgorica**	**1.90**	**8**	*e*Pg	**Pn**	**11 01 44.5**	**+1.8**
PDG				*e*Sg	**Sn**	**11 02 05.4**	**-1.4**
PIPA	**Pietrapaola**	**1.92**	**237**	Pn	**Pn**	**11 01 43.0**	**0.0**
	comp=E,47nm,0.5s						
PIPA	**Pietrapaola**	**1.92**	**237**	Pn	**Pn**	**11 01 43.0**	**0.0**
	comp=E,47nm,0.5s						
MRVN	**Minervino Murg**	**2.12**	**285**	Pn	**Pn**	**11 01 47.2**	**+1.5**
	comp=E,119nm,0.8s						
MRVN	**Minervino Murg**	**2.12**	**285**	Pn	**Pn**	**11 01 47.2**	**+1.5**
	comp=E,119nm,0.8s						
SKO	**Skopje**	**2.39**	**52**	*e*Pg	**Pb**	**11 01 52.6**	**-0.7**
SKO				*i* Sg	**Sb**	**11 02 23.6**	**+0.8**
SKO	**Skopje**	**2.39**	**52**	*e*Pg	**Pb**	**11 01 52.5**	**-0.7**
SKO				*i* Sg	**Sb**	**11 02 23.6**	**+0.8**
MTSN	**Montesano sull**	**2.42**	**264**	Pn	**Pn**	**11 01 49.8**	**-0.1**
MTSN	**Montesano sull**	**2.42**	**264**	Pn	**Pn**	**11 01 49.8**	**-0.1**
STON	**Ston**	**2.49**	**339**	*e*Pn	**Pb**	**11 01 54.4**	**-0.7**
STON				Sn	**Sn**	**11 02 18.9**	**-2.4**
STON	**Ston**	**2.49**	**339**	*e*Pn	**Pn**	**11 01 51.5**	**+0.7**
STON				*e*Sn	**Sn**	**11 02 18.9**	**-2.4**
STON	**Ston**	**2.49**	**339**	*e*Pn	**Pn**	**11 01 51.5**	**+0.7**
STON				Sn	**Sn**	**11 02 18.9**	**-2.4**
MGR	**Morigerati**	**2.59**	**262**	Pn	**Pn**	**11 01 52.8**	**+0.6**
MGR	**Morigerati**	**2.59**	**262**	Pn	**Pn**	**11 01 52.8**	**+0.6**
SJES	**Sjenica**	**2.83**	**16**	*e*Pn	**Pn**	**11 01 56.9**	**+1.3**
SJES				*e*Sn	**Sn**	**11 02 28.8**	**-1.1**
SJES				*e*Sn	**Sb**	**11 02 30.6**	**-5.1**
SJES	**Sjenica**	**2.83**	**16**	*e*Pn	**Pn**	**11 01 56.9**	**+1.3**
SJES				*e*Sn	**Sn**	**11 02 28.8**	**-1.1**
VAY	**Valandovo**	**2.89**	**73**	*e*Pn	**Pn**	**11 01 57.8**	**+1.6**
VAY				*i* Sg	**Sb**	**11 02 39.4**	**+2.2**
VAY				*e*Lg	Lg	11 02 46.1	
	comp=E,10nm,0.7s						
VAY				*e*Lg	Lg	11 02 47.1	
	comp=N,16nm,0.7s						
VAY	**Valandovo**	**2.89**	**73**	*e*Pn	**Pn**	**11 01 57.8**	**+1.6**
VAY				*i* Sg	**Sb**	**11 02 39.3**	**+2.2**
VAY				*e*Lg	Lg	11 02 46.1	
	comp=N,10nm,0.7s						
SELS	**Selova**	**3.15**	**31**	*e*Pn	**Pn**	**11 02 02.7**	**+2.9**
SELS				*e*Sn	**Sn**	**11 02 38.1**	**+0.6**
BARS	**Barje**	**3.15**	**43**	*e*Pn	Pn	11 02 04.1	+4.2
IVAS	**Ivanjica**	**3.17**	**17**	*e*Pn	**Pn**	**11 02 02.0**	**+1.8**
IVAS	**Ivanjica**	**3.17**	**17**	*e*Pn	**Pn**	**11 02 02.0**	**+1.8**
BBLS	**Lazići**	**3.34**	**6**	*e*Pn	**Pn**	**11 02 05.2**	**+2.6**
BBLS				*e*Sn	**Sn**	**11 02 40.7**	**-1.7**
BBLS	**Lazići**	**3.34**	**6**	*e*Pn	**Pn**	**11 02 05.2**	**+2.6**
BBLS				*e*Sn	**Sn**	**11 02 40.7**	**-1.7**
DIVS	**Divibare**	**3.64**	**12**	*e*Pn	**Pn**	**11 02 09.1**	**+2.4**
DIVS				*e*Sn	**Sn**	**11 02 48.8**	**-1.1**
DIVS	**Divibare**	**3.64**	**12**	*e*Pn	**Pn**	**11 02 09.1**	**+2.4**
DIVS				*e*Sn	**Sn**	**11 02 48.8**	**-1.1**
ZAPS	**Zavoj**	**3.90**	**44**	*e*Pn	**Pn**	**11 02 13.1**	**+2.9**
ZAPS				*e*Sn	**Sn**	**11 02 57.7**	**+1.6**
ZAPS	**Zavoj**	**3.90**	**44**	*e*Pn	**Pn**	**11 02 13.1**	**+2.9**
UDBI	**Udbina**	**4.61**	**331**	Sn	**Sn**	**11 03 13.2**	**-0.4**
UDBI	**Udbina**	**4.61**	**331**	Sn	**Sn**	**11 03 13.2**	**-0.4**

BUC 24 11:04:04.7±0.2, 45.°12N×28.°25E, h10km, MD1.7/1, 4C-2D, Error ellipse: s-maj=3.0km s-min=1.6km az=62.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFR	**Carcaliu**	**0.10**	**308**	⇑*i* P	Pg	11 04 07.5	+0.2
CFR				S	Sg	11 04 09.6	+0.4
CFR	**Carcaliu**	**0.10**	**308**	⇑*i* P	Pg	11 04 07.5	+0.2
CFR				*i* S	Sg	11 04 09.6	+0.4
TLCR		**0.41**	**80**	⇓*i* P	Pb	11 04 13.5	-0.5
TLCR		**0.41**	**80**	S	Sb	11 04 19.8	-0.4
TLCR		**0.41**	**80**	⇓*i* P	Pb	11 04 13.5	-0.5
TLCR				*i* S	Sb	11 04 19.8	-0.4
TIRR	**Tirgusor**	**0.67**	**170**	⇑*i* P	Pg	11 04 17.5	-0.1
TIRR	**Tirgusor**	**0.67**	**170**	⇑*i* P	Pg	11 04 17.5	-0.1
TIRR				*i* S	Sg	11 04 26.3	0.0

IDC ***24*** *11:19:06.5±0.8, 32.°77N×85.°13E, h0km, mb3.6/10, mb1 3.8/12, mb1mx3.6/42, mbtmp3.7/12, ML3.8/2, MS3.2/2, Ms1 3.2/2, ms1mx2.7/34, Error ellipse: s-maj=29.0km s-min=16.2km az=54.0*
ISCJB ***24*** *11:19:10.3±0.5, 32.°94N±0.°05×85.°2E±0.°1, h33km, mb3.6/9, MS3.1/2, Error ellipse: s-maj=13.0km s-min=6.1km az=168.5*

ISC 24 11:19:12.0±0.7, 32.°91N±0.°08×85.°33E±0.°08, h35km, n25, σ1§66/24, mb3.7/10, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GKN	**Gorkha**	**4.93**	**187**	*e*P	**Pn**	**11 20 24.8**	**+1.0**
GUN	**Gumba**	**5.01**	**174**	*e*P	**Pn**	**11 20 26.4**	**+1.4**
	223nm,1.3s						
KKN	**Kakani**	**5.10**	**181**	*e*P	**Pn**	**11 20 26.2**	**0.0**
	18nm,0.6s						
DMN	**Daman**	**5.29**	**182**	*e*P	**Pn**	**11 20 29.2**	**+0.4**
PKIN	**Phulchoki**	**5.32**	**179**	*e*P	**Pn**	**11 20 30.5**	**+1.3**
	14nm,0.3s						
PKI	**Pulchoki**	**5.32**	**179**	*e*P	**Pn**	**11 20 30.9**	**+1.6**
	77nm,1.1s						
KOLN	**Koldanda**	**5.34**	**197**	*e*P	**Pn**	**11 20 29.2**	**-0.2**
	32nm,0.4s						
TAPN	**Taplejung**	**5.91**	**159**	*e*P	**Pn**	**11 20 38.7**	**+1.3**
	13nm,0.3s						
ODAN	**Odare**	**6.29**	**163**	*e*P	**Pn**	**11 20 43.9**	**+1.4**
CEP	**Cherat**	**11.26**	**278**	P	**Pn**	**11 21 49.2**	**-1.4**
CEP				S	**Sn**	**11 24 00.0**	**+4.7**
THW	**Thamme Wali**	**11.43**	**273**	P	**Pn**	**11 21 50.4**	**-2.4**
CD2	**Chengdu**	**15.78**	**92**	*e*P	Pn	11 22 43.5	-8.1
KURBB	**Kurchatov Arra**	**18.40**	**346**	P	**Pn**	**11 23 23.3**	**-0.8**
	0.1nm,0.3s,baz=160,slow=11,SNR=9.5						
CMAR	**Chiang Mai Arr**	**18.88**	**136**	P	**P**	**11 23 27.0**	**-2.5**
	0.2nm,0.3s,baz=319,slow=11,SNR=6.8						
ZALV	**Zalesovo Beam**	**21.03**	**359**	P	**P**	**11 23 51.7**	**-0.9**
	0.8nm,0.4s,baz=186,slow=13,SNR=2.6						
SONM	**Songino Array**	**21.80**	**41**	P	**P**	**11 24 01.7**	**+0.6**
	3.1nm,0.9s,baz=227,slow=10,SNR=12						
SONM				LR	LR	11 33 24.5	
	comp=Z,62nm,21.9s,baz=256,slow=39						
BVAR	**Borovoye Array**	**22.80**	**336**	P	**P**	**11 24 11.7**	**+0.2**
	0.7nm,0.6s,baz=160,slow=14,SNR=4.0						
AKTO	**Aktyubinsk**	**26.66**	**319**	LR	LR	11 36 16.6	
	comp=Z,54nm,18.1s,baz=132,slow=39						
FINES	**FINESS Array B**	**47.09**	**326**	P	**P**	**11 27 40.5**	**+0.4**
	0.7nm,0.7s,baz=113,slow=8.7,SNR=2.4						
NOA	**NORSAR Array B**	**54.24**	**325**	P	**P**	**11 28 34.2**	**+0.1**
	0.3nm,0.6s,baz=110,slow=5.1,SNR=2.5						
ESDC	**Sonseca Array**	**69.40**	**304**	P	**P**	**11 30 15.5**	**-1.0**
	0.3nm,0.3s,baz=92,slow=9.0,SNR=4.1						
WRA	**Warramunga Arr**	**70.38**	**131**	P	**P**	**11 30 22.5**	**-0.1**
	0.5nm,0.6s,baz=326,slow=6.5,SNR=12						
ASAR	**Alice Springs**	**72.87**	**134**	P	**P**	**11 30 38.5**	**+0.9**
	0.6nm,0.7s,baz=316,slow=5.9,SNR=10						
ILAR	**Eielson Array**	**74.47**	**21**	P	**P**	**11 30 48.6**	**+2.2**
	0.2nm,0.5s,baz=311,slow=5.0,SNR=2.3						
TORD	**Torodi Ar. Bea**	**77.70**	**278**	P	**P**	**11 31 04.2**	**-1.4**
	0.6nm,0.6s,baz=54,slow=4.9,SNR=5.1						

CSEM ***24*** *11:23:43.5±0.2, 36.°78N×6.°63W, h15km, ML3.5/8, Error ellipse: s-maj=5.1km s-min=3.8km az=26.0*
CNRM ***24*** *11:23:43.6, 36.°73N×6.°29W, h30km, MD3.3*
LDG ***24*** *11:23:45.8±0.2, 36.°81N×6.°59W, h20km, Ml3.1/4, Error ellipse: s-maj=4.6km s-min=2.5km az=4.0*
IGIL ***24*** *11:23:45.2, 36.°72N×6.°68W, h15km, ML2.6*
SFS ***24*** *11:23:45.0, 36.°79N×6.°59W, h19km, ML3.1*
INMG ***24*** *11:23:45.1±2.4, 36.°74N×6.°65W, h16km±5km, ML3.0, Error ellipse: s-maj=3.9km s-min=3.9km az=1.0*
MDD ***24*** *11:23:45.6±0.4, 36.°79N×6.°62W, h22km±1km, mb4.3/3, mbLg3.1/20, Error ellipse: s-maj=5.1km s-min=3.1km az=17.0, PRXIMO*

ISC 24 11:23:43.9±1.0, 36.°74N±0.°03×6.°65W±0.°02, h17km±9km, n122, σ1§68/180, 1C-3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNIL	**Conil**	**0.60**	**128**	⇓P	**Pn**	**11 23 58.2**	**+0.5**
CNIL	**Conil**	**0.60**	**128**	*i* P	**Pn**	**11 23 58.2**	**+0.5**
ESPR	**Espera**	**0.65**	**79**	⇓Pg	**Pg**	**11 23 56.8**	**+0.2**
	3.0nm,0.3s,SNR=18						
ESPR				Lg	Lg	11 24 04.5	
	1μm,0.3s,SNR=21						
ESPR	**Espera**	**0.65**	**79**	Pg	**Pg**	**11 23 56.8**	**+0.2**
	45nm,0.1s,SNR=18						
ESPR				Lg	Lg	11 24 04.4	
	1μm,0.3s,SNR=21						
MOMI	**Momias**	**0.85**	**119**	P	**Pb**	**11 24 01.4**	**+1.1**
MOMI	**Momias**	**0.85**	**119**	*i* P	**Pb**	**11 24 01.4**	**+1.1**
LIJA	**Lijar**	**1.01**	**80**	⇓P	**Pg**	**11 24 03.4**	**-0.1**
LIJA	**Lijar**	**1.01**	**80**	*i* P	**Pg**	**11 24 03.4**	**-0.1**
EMIN	**Mina Concepcio**	**1.02**	**359**	Pg	**Pg**	**11 24 02.6**	**-1.1**
	31nm,0.1s,SNR=412						
EMIN				Lg	Lg	11 24 16.8	
	155nm,0.1s,SNR=14						
EMIN	**Mina Concepcio**	**1.02**	**359**	Pg	**Pg**	**11 24 02.6**	**-1.1**
	31nm,0.1s,SNR=412						
EMIN				Lg	Lg	11 24 16.6	
	155nm,0.1s,SNR=14						
EGRO	**El Granado**	**1.03**	**320**	⇑Pg	**Pg**	**11 24 03.4**	**-0.5**
	22nm,0.1s,SNR=18						
EGRO				Lg	Lg	11 24 18.1	
	180nm,0.1s,SNR=24						
EGRO	**El Granado**	**1.03**	**320**	Pg	**Pg**	**11 24 03.4**	**-0.5**
	22nm,0.1s,SNR=18						
EGRO				Lg	Lg	11 24 17.9	
	188nm,0.1s,SNR=24						
PVAQ	**Vaqueiros**	**1.08**	**308**	*e*P	**Pb**	**11 24 04.0**	**-0.2**
PVAQ				*e*S	**Sg**	**11 24 17.6**	**-1.4**
PVAQ				A	A	11 24 22.0	
	247nm,0.1s						
PVAQ	**Vaqueiros**	**1.08**	**308**	*e*P	**Pb**	**11 24 04.0**	**-0.2**
PVAQ				*e*S	**Sg**	**11 24 17.6**	**-1.4**
PVAQ				A	A	11 24 22.0	
	247nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.14**	**296**	*e*P	**Pb**	**11 24 05.0**	**-0.2**
PBDV				*e*S	**Sb**	**11 24 19.2**	**-0.6**
PBDV				A	A	11 24 33.4	
	143nm,0.4s						
PBDV	**Barranco-do-Ve**	**1.14**	**296**	*e*P	**Pb**	**11 24 05.0**	**-0.2**
PBDV				*e*S	**Sb**	**11 24 19.2**	**-0.6**
PBDV				A	A	11 24 33.4	
	143nm,0.4s						
PCVE	**Castro Verde**	**1.42**	**309**	*e*P	**Pn**	**11 24 08.7**	**-0.3**
PCVE				S	**Sn**	**11 24 26.5**	**-0.9**
PCVE				A	A	11 24 33.7	
	9.8nm,

PFVI	**Vila Bisbo**	**1.79**	**283**	Pn	**Pn**	**11 24 13.7**	**-0.4**
	comp=E,5.1nm,0.0s,SNR=13						
PFVI				Pg	**Pg**	**11 24 18.8**	**+0.6**
	comp=E,4.1nm,0.1s,SNR=12						
PFVI				Sn	**Sn**	**11 24 34.1**	**-2.3**
	comp=E,23nm,0.1s,SNR=7.9						
PFVI				Lg	Lg	11 24 39.9	
	comp=E,57nm,0.2s,SNR=6.8						
PFVI	**Vila Bisbo**	**1.79**	**283**	Pn	**Pn**	**11 24 13.6**	**-0.4**
	comp=E,2.6nm,0.1s,SNR=13						
PFVI	**Vila Bisbo**	**1.79**	**283**	Pg	**Pg**	**11 24 18.8**	**+0.6**
	comp=E,4.1nm,0.1s,SNR=12						
PFVI				Sn	**Sn**	**11 24 34.1**	**-2.3**
	comp=E,23nm,0.1s,SNR=7.9						
PFVI				Lg	Lg	11 24 38.5	
	comp=E,57nm,0.2s,SNR=6.8						
PFVI	**Vila Bisbo**	**1.79**	**283**	*e*Pn	**Pn**	**11 24 13.7**	**-0.4**
PFVI				*e*Sn	**Sn**	**11 24 34.5**	**-1.9**
PFVI				A	A	11 24 41.1	
	comp=E,33nm,0.1s						
PFVI	**Vila Bisbo**	**1.79**	**283**	*e*Pn	**Pn**	**11 24 13.7**	**-0.4**
PFVI				*e*Sn	**Sn**	**11 24 34.5**	**-1.9**
PFVI				A	A	11 24 41.1	
	comp=E,33nm,0.1s						
PTEO	**Sao Teotonio**	**1.84**	**296**	*e*Pn	**Pn**	**11 24 15.0**	**+0.2**
PTEO				*e*Sn	**Sn**	**11 24 36.8**	**-0.9**
PTEO				A	A	11 24 49.4	
	comp=E,93nm,0.5s						
PTEO	**Sao Teotonio**	**1.84**	**296**	*e*Pn	**Pn**	**11 24 15.0**	**+0.2**
PTEO				*e*Sn	**Sn**	**11 24 36.8**	**-0.9**
PTEO				A	A	11 24 49.4	
	comp=E,93nm,0.5s						
PNCL	**Nicolau / Gran**	**2.03**	**313**	*e*Pn	**Pn**	**11 24 17.2**	**-0.1**
PNCL				*e*Sn	**Sn**	**11 24 40.0**	**-2.3**
PNCL				A	A	11 24 54.8	
	comp=E,85nm,0.6s						
PNCL	**Nicolau / Gran**	**2.03**	**313**	*e*Pn	**Pn**	**11 24 17.2**	**-0.1**
PNCL				*e*Sn	**Sn**	**11 24 40.0**	**-2.3**
PNCL				A	A	11 24 54.8	
	comp=E,85nm,0.6s						
EBAD	**Badajoz**	**2.03**	**352**	Pn	**Pn**	**11 24 16.9**	**-0.5**
	comp=E,0.9nm,0.0s,SNR=16						
EBAD				Pg	**Pb**	**11 24 19.7**	**-0.6**
	comp=E,7.9nm,0.1s,SNR=5.7						
EBAD				Sn	**Sn**	**11 24 38.8**	**-3.5**
	comp=E,37nm,0.2s,SNR=7.9						
EBAD				Lg	Lg	11 24 46.6	
	comp=E,72nm,0.1s,SNR=20						
EBAD	**Badajoz**	**2.03**	**352**	Pn	**Pn**	**11 24 16.7**	**-0.7**
	comp=E,1.5nm,0.1s,SNR=16						
EBAD	**Badajoz**	**2.03**	**352**	Pg	**Pb**	**11 24 21.9**	**+1.5**
	comp=E,7.9nm,0.1s,SNR=5.7						
EBAD				Sn	**Sn**	**11 24 39.8**	**-2.6**
	comp=E,6.9nm,0.1s,SNR=7.9						
EBAD				Lg	Lg	11 24 46.3	
	comp=E,72nm,0.1s,SNR=20						
EVO	**Evora**	**2.09**	**329**	*e*Pn	**Pn**	**11 24 18.4**	**+0.2**
EVO	**Evora**	**2.09**	**329**	*e*Pg	**Pg**	**11 24 25.4**	**+1.4**
EVO				*e*Sn	**Sn**	**11 24 42.2**	**-1.6**
EVO				*e*Sg	**Sg**	**11 24 51.5**	**+0.4**
	comp=E,177nm,0.5s						
EVO	**Evora**	**2.09**	**329**	*e*Pn	**Pn**	**11 24 17.5**	**-0.7**
EVO	**Evora**	**2.09**	**329**	*e*Pn	**Pn**	**11 24 17.5**	**-0.7**
EVOP	**Sao Brissos**	**2.13**	**327**	*e*Pn	**Pn**	**11 24 18.4**	**-0.4**
EVOP	**Sao Brissos**	**2.13**	**327**	*e*Pg	**Pg**	**11 24 25.4**	**+0.6**
EVOP				*e*Sn	**Sn**	**11 24 42.2**	**-2.7**
EVOP				*e*Sg	**Sb**	**11 24 51.5**	**+3.2**
	comp=E,88nm,0.5s						
EADA	**Adamuz**	**2.18**	**49**	Pn	**Pn**	**11 24 19.6**	**+0.2**
	comp=E,0.4nm,0.2s,SNR=26						
EADA				Pg	**Pb**	**11 24 24.2**	**+1.3**
	comp=E,1.7nm,0.1s,SNR=7.0						
EADA				Sn	**Sn**	**11 24 44.9**	**-1.1**
	comp=E,13nm,0.1s,SNR=7.9						
EADA				Lg	Lg	11 24 51.2	
	comp=E,8.5nm,0.1s,SNR=9.8						
EADA	**Adamuz**	**2.18**	**49**	Pn	**Pn**	**11 24 19.1**	**-0.3**
	comp=E,0.4nm,0.2s,SNR=26						
EADA	**Adamuz**	**2.18**	**49**	Pg	**Pb**	**11 24 23.7**	**+0.8**
	comp=E,1.7nm,0.1s,SNR=7.0						
EADA				Sn	**Sn**	**11 24 44.9**	**-1.1**
	comp=E,13nm,0.1s,SNR=7.9						
EADA				Lg	Lg	11 24 50.6	
	comp=E,12nm,0.1s,SNR=9.8						
PESTR	**Estremoz**	**2.25**	**341**	*e*Pn	**Pn**	**11 24 20.3**	**-0.1**
PESTR				*e*Sg	**Sb**	**11 24 54.5**	**+2.8**
PESTR				A	A	11 25 00.5	
	comp=E,81nm,0.4s						
PESTR	**Estremoz**	**2.25**	**341**	*e*Pn	**Pn**	**11 24 20.3**	**-0.1**
PESTR				*e*Sg	**Sb**	**11 24 54.5**	**+2.8**
PESTR				A	A	11 25 00.5	
	comp=E,81nm,0.4s						
ECOG	**Cogollos-Vega**	**2.52**	**77**	Pg	**Pg**	**11 24 31.4**	**-0.9**
	comp=E,2.3nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**2.61**	**79**	Pg	**Pb**	**11 24 31.4**	**+1.2**
	comp=E,2.3nm,0.3s,SNR=4.0						
PACT	**Alcochete**	**2.66**	**320**	*e*Sg	**Sg**	**11 25 10.2**	**+0.7**
PACT				A	A	11 25 14.7	
	comp=E,84nm,0.4s						
PACT	**Alcochete**	**2.66**	**320**	*e*Sg	**Sg**	**11 25 10.2**	**+0.7**
PACT				A	A	11 25 14.7	
	comp=E,84nm,0.4s						
PMRV	**Marv??o**	**2.75**	**348**	*e*Pn	**Pn**	**11 24 26.9**	**-0.3**
PMRV				*e*Sg	**Sb**	**11 25 09.7**	**+3.8**
PMRV				A	A	11 25 14.9	
	comp=E,61nm,0.4s						
PMRV	**Marv??o**	**2.75**	**348**	*e*Pn	**Pn**	**11 24 26.9**	**-0.3**
PMRV				*e*Sg	**Sb**	**11 25 09.7**	**+3.8**
PMRV				A	A	11 25 14.9	
	comp=E,61nm,0.4s						
EBER	**Berja**	**3.02**	**86**	Pn	**Pn**	**11 24 32.4**	**+1.3**
	comp=E,0.3nm,0.3s,SNR=7.9						
EBER				Sn	**Sn**	**11 25 04.6**	**-2.4**
	comp=E,12nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**3.04**	**317**	Pn	**Pn**	**11 24 31.4**	**+0.1**
	comp=E,3.0nm,0.1s,SNR=398						
PMAFR				Pg	**Pb**	**11 24 38.0**	**+0.5**
	comp=E,15nm,0.2s,SNR=7.9						
PMAFR				Sn	**Sn**	**11 25 06.3**	**-0.9**
	comp=E,28nm,0.2s,SNR=7.9						
PMAFR				Lg	Lg	11 25 20.3	
	comp=E,93nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**3.04**	**317**	Pn	**Pn**	**11 24 31.3**	**+0.1**
	comp=E,2.2nm,0.0s,SNR=398						
PMAFR				Sn	**Sn**	**11 25 06.3**	**-0.9**
	comp=E,28nm,0.2s,SNR=7.9						
PMAFR				Lg	Lg	11 25 20.2	
	comp=E,65nm,0.3s,SNR=7.9						
EQES	**Quesada**	**3.04**	**69**	Pn	**Pn**	**11 24 30.4**	**-1.0**
	comp=E,0.3nm,0.1s,SNR=7.9						
EQES				Sn	**Sn**	**11 25 05.4**	**-2.1**
	comp=E,2.3nm,0.6s,SNR=7.9						
EQES				Lg	Lg	11 25 15.6	
	comp=E,11nm,0.4s,SNR=7.9						
EQES	**Quesada**	**3.04**	**69**	Pn	**Pn**	**11 24 30.4**	**-1.0**
	comp=E,0.1nm,0.0s,SNR=7.9						
PCBR	**Castelo Branco**	**3.16**	**348**	*e*Pn	**Pn**	**11 24 32.6**	**-0.3**
PCBR				*e*Sg	**Sb**	**11 25 21.9**	**+4.0**
PCBR				A	A	11 25 32.1	
	comp=E,38nm,0.6s						
PCBR	**Castelo Branco**	**3.16**	**348**	*e*Pn	**Pn**	**11 24 32.6**	**-0.3**
PCBR				*e*Sg	**Sb**	**11 25 21.9**	**+4.0**
PCBR				A	A	11 25 32.1	
	comp=E,38nm,0.6s						
PTOM	**Tomar**	**3.19**	**335**	*e*Pn	**Pn**	**11 24 33.6**	**+0.3**
PTOM				*e*Sg	**Sb**	**11 25 23.4**	**+4.7**
PTOM				A	A	11 25 34.2	
	comp=E,82nm,0.6s						
PTOM	**Tomar**	**3.19**	**335**	*e*Pn	**Pn**	**11 24 33.6**	**+0.3**
PTOM				*e*Sg	**Sb**	**11 25 23.4**	**+4.7**
PTOM				A	A	11 25 34.2	
	comp=E,82nm,0.6s						
EPLA	**Plasencia**	**3.35**	**7**	Pn	**Pn**	**11 24 35.5**	**0.0**
	comp=E,0.7nm,0.1s,SNR=8.2						
EPLA				Pg	**Pb**	**11 24 42.0**	**-0.8**
	comp=E,1.0nm,0.1s,SNR=6.0						
EPLA				Sn	**Sn**	**11 25 12.5**	**-2.4**
	comp=E,4.7nm,0.2s,SNR=6.3						
EPLA				Lg	Lg	11 25 28.3	
	comp=E,45nm,0.4s,SNR=17						
EPLA	**Plasencia**	**3.35**	**7**	Pn	**Pn**	**11 24 35.2**	**-0.3**
	comp=E,0.6nm,0.1s,SNR=8.2						
EPLA				Sn	**Sn**	**11 25 12.5**	**-2.4**
	comp=E,4.7nm,0.2s,SNR=6.3						
EPLA				Lg	Lg	11 25 28.3	
	comp=E,45nm,0.4s,SNR=17						
SESP	**Santiago Espad**	**3.54**	**66**	Pn	**Pn**	**11 24 37.2**	**-1.1**
	comp=E,0.8nm,0.1s,SNR=7.9						
SESP				Sn	**Sn**	**11 25 16.9**	**-3.0**
	comp=E,0.5nm,0.1s,SNR=7.9						
SESP				Lg	Lg	11 25 35.1	
	comp=E,7.6nm,0.2s,SNR=4.0						
SESP	**Santiago Espad**	**3.54**	**66**	Pn	**Pn**	**11 24 36.9**	**-1.4**
	comp=E,0.6nm,0.1s,SNR=7.9						
SESP				Sn	**Sn**	**11 25 16.9**	**-3.0**
	comp=E,0.5nm,0.1s,SNR=7.9						
SESP				Lg	Lg	11 25 31.5	
	comp=E,7.6nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**3.61**	**35**	Pn	**Pn**	**11 24 38.6**	**-0.5**
	comp=E,2.7nm,0.2s,baz=219,slow=13,SNR=7.5						
ESDC				Lg	Lg	11 25 35.0	
	comp=E,10nm,0.4s,baz=223,slow=28,SNR=7.8						
ESDC	**Sonseca Array**	**3.61**	**35**	Pn	**Pn**	**11 24 38.6**	**-0.5**
	comp=E,2.5nm,0.1s,SNR=7.5						
ESDC				Lg	Lg	11 25 37.0	
	comp=E,10nm,0.4s,SNR=7.8						
PCAS	**Casmilo, Conde**	**3.61**	**337**	*e*Sg	**Sg**	**11 25 38.6**	**-1.2**
PCAS				A	A	11 25 43.2	
	comp=E,48nm,0.5s						
PCAS	**Casmilo, Conde**	**3.61**	**337**	*e*Sg	**Sg**	**11 25 38.6**	**-1.2**
PCAS				A	A	11 25 43.2	
	comp=E,48nm,0.5s						
EVIA	**Vianos**	**3.79**	**59**	Pn	**Pn**	**11 24 40.1**	**-1.6**
	comp=E,2.0nm,0.1s,SNR=7.6						
EVIA				Sn	**Sn**	**11 25 22.3**	**-3.7**
	comp=E,8.0nm,0.3s,SNR=7.9						
EVIA				Lg	Lg	11 25 44.6	
	comp=E,29nm,0.5s,SNR=7.9						
EVIA	**Vianos**	**3.79**	**59**	Pn	**Pn**	**11 24 41.0**	**-0.7**
	comp=E,2.0nm,0.1s,SNR=7.6						
EVIA				Lg	Lg	11 25 42.3	
	comp=E,5.9nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**4.09**	**347**	*e*Pn	**Pn**	**11 24 45.6**	**-0.1**
PVIS				*e*Sg	**Sg**	**11 25 52.2**	**-2.9**
PVIS				A	A	11 25 59.4	
	comp=E,32nm,0.7s						
PVIS	**Viseu**	**4.09**	**347**	*e*Pn	**Pn**	**11 24 45.6**	**-0.1**
PVIS				*e*Sg	**Sg**	**11 25 52.2**	**-2.9**
PVIS				A	A	11 25 59.4	
	comp=E,32nm,0.7s						
KIB	**El Ksiba**	**4.19**	**173**	P	Pn	11 24 43.0	-4.1
KIB				S	Sn	11 25 29.0	-6.7
KIB	**El Ksiba**	**4.19**	**173**	*e*P	Pn	11 24 43.0	-4.1
GUD	**Guadarrama**	**4.36**	**26**	Pn	**Pn**	**11 24 49.0**	**-0.4**
	comp=E,0.8nm,0.2s,SNR=7.9						
GUD				Lg	Lg	11 25 58.1	
	comp=E,13nm,0.5s,SNR=7.9						
GUD	**Guadarrama**	**4.36**	**26**	Pn	**Pn**	**11 24 49.0**	**-0.4**
	SNR=7.9						
GUD				Lg	Lg	11 25 58.1	
	comp=E,13nm,0.5s,SNR=7.9						
MVO	**Moncorvo**	**4.43**	**356**	Pn	**Pn**	**11 24 50.0**	**-0.3**
	comp=E,1.5nm,0.1s,SNR=16						
MVO				Sn	**Sn**	**11 25 39.2**	**-2.4**
	comp=E,5.0nm,0.2s,SNR=5.7						
MVO				Lg	Lg	11 26 04.2	
	comp=E,35nm,0.5s,SNR=7.9						
MVO	**Moncorvo**	**4.43**	**356**	Pn	**Pn**	**11 24 50.1**	**-0.3**
	comp=E,13nm,0.4s,SNR=16						
MVO				Lg	Lg	11 26 00.4	
	comp=E,7.1nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**4.43**	**356**	*e*Pn	**Pn**	**11 24 50.1**	**-0.3**
MVO				*e*Sn	**Sn**	**11 25 37.9**	**-3.6**
MVO				*e*Sg	**Sg**	**11 26 02.4**	**-3.6**
MVO				A	A	11 26 07.8	
	comp=E,42nm,0.4s						
MVO	**Moncorvo**	**4.43**	**356**	*e*Pn	**Pn**	**11 24 50.1**	**-0.3**
MVO				*e*Sn	**Sn**	**11 25 37.9**	**-3.6**
MVO				*e*Sg	**Sg**	**11 26 02.4**	**-3.6**
MVO				A	A	11 26 07.8	
	comp=E,42nm,0.4s						
ETOB	**Tobarra**	**4.47**	**63**	Pn	**Pn**	**11 24 49.3**	**-1.6**
	comp=E,1.2nm,0.1s,SNR=8.1						
ETOB				Sn	**Sn**	**11 25 38.3**	**-4.2**
	comp=E,1.9nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.47**	**63**	Pn	**Pn**	**11 24 49.3**	**-1.6**
	comp=E,1.2nm,0.1s,SNR=8.1						
TZC	**Tazercounte**	**4.58**	**178**	P	Pn	11 24 49.0	-3.7
TZC				S	Sn	11 25 39.0	-6.7
TZC	**Tazercounte**	**4.58**	**178**	*e*P	Pn	11 24 49.0	-3.7
POLO	**Lamas de Olo**	**4.71**	**349**	*e*Pn	**Pn**	**11 24 53.9**	**-0.4**
POLO				*e*Sn	**Sn**	**11 25 46.0**	**-2.6**
POLO				*e*Sg	**Sg**	**11 26 14.4**	**-0.7**
POLO				A	A	11 26 22.4	
	comp=E,13nm,0.5s						
POLO	**Lamas de Olo**	**4.71**	**349**	*e*Pn	**Pn**	**11 24 53.9**	**-0.4**
POLO				*e*Sn	**Sn**	**11 25 46.0**	**-2.6**
POLO				*e*Sg	**Sg**	**11 26 14.4**	**-0.7**
POLO				A	A	11 26 22.4	
	comp=E,13nm,0.5s						
PCAB	**Cabril**	**5.08**	**348**	*e*Pn	**Pn**	**11 24 58.8**	**-0.4**
PCAB				*e*Sn	**Sn**	**11 26 00.3**	**+2.8**
PCAB				A	A	11 26 32.3	
	comp=E,21nm,0.5s						
PCAB	**Cabril**	**5.08**	**348**	*e*Pn	**Pn**	**11 24 58.8**	**-0.4**
PCAB				*e*Sn	**Sn**	**11 26 00.3**	**+2.8**
PCAB				A	A	11 26 32.3	
	comp=E,21nm,0.5s						
ECAL	**Calabor**	**5.19**	**359**	Pn	**Pn**	**11 25 02.3**	**+1.4**
	comp=E,0.4nm,0.1s,SNR=4.0						
ECAL				Sn	Sn	11 25 54.4	-6.1
	comp=E,5.0nm,0.4s,SNR=7.9						
ECAL				Lg	Lg	11 26 26.4	
	comp=E,38nm,0.6s,SNR=7.9						
ECAL	**Calabor**	**5.19**	**359**	Pn	**Pn**	**11 25 02.3**	**+1.4**
	comp=E,0.4nm,0.1s,SNR=4.7						
ECAL				Lg	Lg	11 26 24.6	
	comp=E,27nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**5.23**	**348**	Pn	**Pn**	**11 25 01.0**	**-0.5**
	comp=E,0.6nm,0.1s,SNR=5.7						
ELOB				Sn	Sn	11 25 56.8	-4.6
	comp=E,1.4nm,0.1s,SNR=7.9						
ELOB				Lg	Lg	11 26 29.2	
	comp=E,8.5nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**5.23**	**348**	Pn	**Pn**	**11 25 01.6**	**+0.1**
	comp=E,0.6nm,0.1s,SNR=5.7						
ELOB				Lg	Lg	11 26 29.2	
	comp=E,8.5nm,0.4s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.37**	**347**	*e*Sn	**Sn**	**11 26 02.0**	**-2.7**
PGAV				A	A	11 26 45.0	
	comp=E,19nm,0.1s						
PGAV	**Gavieira, Arco**	**5.37**	**347**	*e*Sn	**Sn**	**11 26 02.0**	**-2.7**
PGAV				A	A	11 26 45.0	
	comp=E,19nm,0.1s						
ETOR	**Torete**	**5.42**	**40**	Pn	**Pn**	**11 25 03.8**	**-0.3**
	comp=E,5.0nm,0.2s,SNR=6.7						
ETOR				Sn	Sn	11 25 59.8	-6.4
	comp=E,6.1nm,0.2s,SNR=7.9						
ETOR				Lg	Lg	11 26 35.4	
	comp=E,17nm,0.3s,SNR=5.0						
ETOR	**Torete**	**5.42**	**40**	Pn	**Pn**	**11 25 03.8**	**-0.3**
	comp=E,34nm,0.4s,SNR=6.7						
ETOR				Lg	Lg	11 26 33.1	
	comp=E,9.0nm,0.7s,SNR=5.0						
CIA	**Chichaoua**	**5.45**	**199**	P	**Pn**	**11 25 03.0**	**-1.4**
CIA				S	Sn	11 26 02.0	-4.8
CIA	**Chichaoua**	**5.45**	**199**	*e*P	**Pn**	**11 25 03.0**	**-1.4**
OUK	**Oukaimeden**	**5.61**	**191**	P	**Pn**	**11 25 06.0**	**-0.9**
OUK				S	Sn	11 26 06.0	-5.2
OUK	**Oukaimeden**	**5.61**	**191**	*i*P	**Pn**	**11 25 06.0**	**-0.9**
SJPF	**Ste Jean**	**7.60**	**32**	*e*Pn	Pn	11 25 31.9	-2.0
SJPF	**Ste Jean**	**7.60**	**32**	*e*P	Pn	11 25 37.1	+3.2
SJPF				*e*Sn	Sn	11 26 51.1	-8.7
	comp=E,1.6nm,0.4s						
SJPF	**Ste Jean**	**7.60**	**32**	Pn	Pn	11 25 31.9	-2.0
SJPF				Sn	Sn	11 26 51.1	-8.7
	comp=E,0.8nm,0.4s						
SJPF	**Ste Jean**	**7.60**	**32**	*e*Pn	Pn	11 25 31.9	-2.0
ETSF	**Etsaut**	**7.73**	**35**	*e*Pn	Pn	11 25 33.5	-2.2
ETSF	**Etsaut**	**7.73**	**35**	*e*P	**Pn**	**11 25 38.7**	**+3.0**
ETSF	**Etsaut**	**7.73**	**35**	*e*Pg		11 26 07.4	
ETSF				*e*Sn	Sn	11 26 53.9	-9.1
	comp=E,0.9nm,0.4s						
ETSF	**Etsaut**	**7.73**	**35**	Pn	Pn	11 25 33.5	-2.2
ETSF				Sn	Sn	11 26 53.9	-9.1
	comp=E,0.4nm,0.4s						
ETSF	**Etsaut**	**7.73**	**35**	*e*Pn	Pn	11 25 33.5	-2.2
EPF	**Esparros**	**8.26**	**38**	*e*P	Pn	11 25 46.4	+3.4
EPF	**Esparros**	**8.26**	**38**	P	Pn	11 25 46.4	+3.4
EPF				Pg		11 26 17.4	
EPF				Sn	Sn	11 27 07.3	-8.7
	comp=E,0.5nm,0.3s						

*IDC **24** 11:40:47.5±0.8, 32°.75N×85°.25E, h0km, mb3.8/13, mb1 3.9/15, mb1mx3.8/45, mbtmp3.8/15, ML3.5/2, MS3.2/4, Ms1 3.3/4, ms1mx3.0/34, Error ellipse: s-maj=25.0km s-min=14.4km az=43.0*

*BJI **24** 11:40:50.8, 32°.93N×85°.36E, h6km, mb4.4/10, mB4.5/7, Ms4.0/4, Ms7 3.8/2*

*ISCJB **24** 11:40:51.3±0.4, 32°.87N±0°.06×85°.14E±0°.04, h33km, mb3.8/15, MS3.4/2, Error ellipse: s-maj=8.0km s-min=4.3km az=179.9*

*NEIC **24** 11:40:53.8±1.0, 32°.90N×85°.30E, h42km±10km, mb4.0/3, Error ellipse: s-maj=12.1km s-min=7.0km az=222.0*

ISC 24 11:40:53.4±0.5, 32°.86N±0°.07×85°.19E±0°.04, h35km, n34, σ1s90/41, mb3.8/15, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.99**	**120**	Pn	**Pn**	**Pn**	**11 42 21.0**	**+1.0**
LSA	**Lhasa**	**5.99**	**120**	*e*Pn	**Pn**	**Pn**	**11 42 20.7**	**+0.7**
	20nm,0.8s							
NDI	**New Delhi**	**8.03**	**241**	*e*P	**Pn**	**Pn**	**11 42 49.0**	**+1.5**
NDI				*e*S	**Sn**	**Sn**	**11 44 21.5**	**+4.5**
CEP	**Cherat**	**11.15**	**279**	P	**Pn**	**Pn**	**11 43 30.3**	**-0.2**
CEP				S	**Sn**	**Sn**	**11 45 34.0**	**0.0**
THW	**Thamme Wali**	**11.32**	**273**	P	**Pn**	**Pn**	**11 43 31.7**	**-0.9**
TKM2	**Tokmak 2**	**12.57**	**326**	*e*Pn	**Pn**	**Pn**	**11 43 51.1**	**+1.2**
	3.0nm,1.0s							
AAK	**Ala-Archa**	**12.91**	**322**	LR	LR	LR	11 48 25.8	
	comp=Z,37nm,20.2s,baz=126,slow=35							
GTA	**Gaotai**	**13.50**	**57**	*e*P	**Pn**	**Pn**	**11 44 03.4**	**+0.9**
GTA				pP	pP	pP	11 44 07.0	
GTA				sP	sP	sP	11 44 10.4	
GTA				S	**Sn**	**Sn**	**11 46 33.4**	**+2.1**
GTA				sS	sS	sS	11 46 39.0	
GTA				SS	**SnSn**	**SnSn**	**11 46 48.0**	**+4.4**
GTA				PMZ				
	3.0nm,1.3s							
GTA				PMZ				
	30nm,4.1s							
GTA				LN				
	470nm,13.3s							
GTA				LE				
	190nm,13.3s							
KBL	**Kabul**	**13.55**	**282**	*e*Pn	**Pn**	**Pn**	**11 44 04.2**	**+0.9**
	6.6nm,0.4s							
MK31	**Makanchi Array**	**14.09**	**352**	*e*Pn	**Pn**	**Pn**	**11 44 09.1**	**-1.3**
KKAR	**Karatay Array**	**15.42**	**316**	*e*P	**P**	**P**	**11 44 32.5**	**0.0**
	2.0nm,0.6s							
LZH	**Lanzhou**	**15.71**	**73**	*e*P	**P**	**P**	**11 44 34.3**	**-1.6**
LZH				pP	pP	pP	11 44 36.5	-8.6
LZH				sP	sP	sP	11 44 39.1	-10
LZH				*e*PP	PP	PP	11 44 47.3	
LZH				*e*S	**Sn**	**Sn**	**11 47 26.3**	**+1.0**
LZH				sS	sS	sS	11 47 32.5	-21
LZH				*e*SS	**S**	**S**	**11 47 45.0**	**+5.6**
LZH				PMZ				
	25nm,1.0s							
LZH				PMZ				
	100nm,4.0s							
LZH				LN				
	370nm,11.5s							
LZH				LE				
	220nm,10.0s							
LZH				LZ				
	400nm,12.5s							
CD2	**Chengdu**	**15.89**	**92**	*e*P	**P**	**P**	**11 44 36.3**	**-1.5**
CD2				sP	**sP**	**sP**	**11 44 47.0**	**-4.4**
CD2				S	**Sn**	**Sn**	**11 47 31.9**	**+2.4**
CD2				PMZ				
	10.0nm,0.5s							
CD2				PMZ				
	120nm,5.0s							
CD2				LN				
	610nm,14.2s							
CD2				LE				
	340nm,11.2s							
CD2				LZ				
	310nm,10.8s							
KURBB	**Kurchatov Arra**	**18.42**	**346**	P	**P**	**P**	**11 45 05.2**	**-0.3**
	0.1nm,0.3s,baz=162,slow=10,SNR=7.4							
KURK	**Kurchatov**	**18.49**	**347**	*e*P	**P**	**P**	**11 45 05.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**18.93**	**136**	P	**P**	**P**	**11 45 10.3**	**-1.0**
	0.1nm,0.3s,baz=320,slow=11,SNR=7.4							
CMAR				LR	LR	LR	11 52 14.7	
	comp=Z,68nm,20.2s,baz=235,slow=36							
ZAA0	**Zalesovo Array**	**21.08**	**359**	*e*P	**P**	**P**	**11 45 34.1**	**-0.4**
ZALV	**Zalesovo Beam**	**21.08**	**359**	P	**P**	**P**	**11 45 33.1**	**-1.4**
	2.1nm,0.6s,baz=183,slow=12,SNR=9.1							
SONM	**Songino Array**	**21.92**	**41**	P	**P**	**P**	**11 45 42.6**	**-1.0**
	9.2nm,1.0s,baz=229,slow=10,SNR=18							
BVAR	**Borovoye Array**	**22.80**	**337**	P	**P**	**P**	**11 45 52.2**	**-0.6**
	1.2nm,0.8s,baz=155,slow=11,SNR=6.4							
ABKAR	**Akbulak array**	**24.95**	**318**	*e*P	**P**	**P**	**11 46 14.7**	**+1.4**
	2.2nm,0.6s							
AKTO	**Aktyubinsk**	**26.62**	**319**	P	**P**	**P**	**11 46 29.7**	**+1.2**
	0.6nm,0.4s,baz=76,slow=4.2,SNR=2.8							
AKTO				LR	LR	LR	11 57 48.8	
	comp=Z,97nm,18.9s,baz=122,slow=38							

0.6nm,0.5s,baz=104,slow=8.0,SNR=3.9
AKASG **Malin Array Be 143.17 331** PKP PKPab 12 00 19.6 -0.3
2.4nm,0.6s,baz=43,slow=4.3,SNR=28
BRTR **Keskin Array B 146.93 312** PKPbc **PKPbc 12 00 32.3 +0.3**
2.0nm,0.7s,baz=117,slow=7.1,SNR=7.6
BURAR **Bucovina Array 147.22 330**‖ *iP* **PKPbc 12 00 32.8 +0.4**
UPC Upice 148.26 343 *e*PKP **PKPbc 12 00 35.2 +0.3**
UPC *ex* x 12 00 40.6
CLL Collm 148.26 347‖ *i*PKPbc **PKPbc 12 00 35.1 +0.3**
comp=Z,8.0nm,0.8s
CLL *i* PKPab **PKPab 12 00 39.6 -0.3**
comp=Z,4.0nm,0.8s
DPC Dobruska-Polom 148.31 342 *e*PKP **PKPbc 12 00 35.1 0.0**
DPC *ex* x 12 00 41.0
BRG Berggiesshubel 148.46 345 *e*P **PKPbc 12 00 35.8 +0.4**
comp=Z,4.2nm,0.7s
BRG *e* 12 00 40.8
comp=Z,4.2nm,0.7s
GOPC GO Pecny, Ondr 149.13 344 *e*PKP **PKPbc 12 00 37.2 +0.2**
GOPC *ex* x 12 00 43.8
KHC Kasperske Hory 150.16 345 *e*PKP **PKPbc 12 00 39.6 +0.1**
KHC *ex* x 12 00 48.1
GERES GERESS Array B 150.39 344 PKP **PKPdf 12 00 34.6 +0.4**
comp=Z,0.3nm,0.3s,baz=51,slow=2.5,SNR=4.6
GERES PKPbc **PKPbc 12 00 40.2 +0.1**
comp=Z,0.9nm,0.6s,baz=53,slow=0.7,SNR=7.8
GERES PKPab **PKPab 12 00 48.6 -0.3**
comp=Z,0.5nm,0.4s,baz=344,slow=4.3,SNR=3.9
TORD Torodi Ar. Bea 172.46 178 PKP **PKPdf 12 00 56.4 -1.0**
comp=Z,0.5nm,0.7s,baz=204,slow=3.2,SNR=2.8
TORD PKPab **PKPab 12 02 26.7 +0.9**
comp=Z,0.3nm,0.7s,baz=198,slow=4.1,SNR=2.3

IDC **24** *11:44:56.5±0.5, 46.6′68N×152.6′5E, h0km, mb4.3/26, mb1 4.4/30, mb1mx4.3/46, mbtmp4.3/30, ML3.2/4, MS3.6/19, Ms1 3.6/19, ms1mx3.5/36, Error ellipse: s-maj=15.4km s-min=11.8km az=151.0*
JMA **24** *11:45:00.8±0.7, 46.6′55N×152.6′9E, h30km, M5.1*
NIED **24** *11:45:00, 46.6′50N×153.0′0E, h38km, Mw4.4 Best double couple: M₀5.21000×10¹⁵ NP1:φ=224.00000°, δ=58.00000°, λ=177.00000°. NP2:φ=315.00000°, δ=88.00000°, λ=32.00000°.*
BJI **24** *11:45:00.6, 46.6′65N×153.1′1E, h58km, mb4.6/33, mB4.7/24, Ms4.3/15, Ms7 4.3/6*
ISCJB **24** *11:45:01.1±0.5, 46.6′58N±0.0′4×152.6′9E±0.0′4, h45km±4km, mb4.5/82, MS3.8/20, Error ellipse: s-maj=6.9km s-min=3.5km az=144.2*
NEIC **24** *11:45:02.8±0.4, 46.6′68N×152.5′8E, h42km±3km, mb4.6/21, Error ellipse: s-maj=8.1km s-min=4.2km az=151.0*
SKHL **24** *11:45:03.4±0.1, 46.5′53N×152.6′6E, h68km±1km, mb4.9/11, Ms3.9/3, msh5.2/1*
MOS **24** *11:45:04.5±1.2, 46.7′1N×152.4′9E, h71km, mb4.5/27, Error ellipse: s-maj=8.7km s-min=6.2km az=114.0*
ISC 24 11:45:04.1±0.5, 46.6′0N±0.0′5×152.6′5E±0.0′4, h59km±3km, h58km:pP-P,n305,σ1§45/342, mb4.6/91, MS3.9/20, 34C-12D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.61**	**249**	*e*	PN	**Pn**		**11 45 58.2**	**+0.7**
KUR				*i*	S	**Sn**		**11 46 40.4**	**+1.6**
KUR					pmax	pmax			
	comp=N,50nm,0.4s								
KUR					pmax	pmax			
	comp=E,63nm,0.4s								
KUR					pmax	pmax			
	comp=Z,91nm,0.4s								
KUR					smax	smax			
	comp=E,202µm,0.6s								
KUR					smax	smax			
	comp=N,479nm,0.6s								
KUR	**Kuril'sk**	**3.61**	**249**	*e*	P	**Pn**		**11 45 58.0**	**+0.5**
KUR					AMB	AMB		11 46 01.1	
	comp=N,50nm,0.4s								
KUR					AMB	AMB		11 46 01.1	
	comp=N,630nm,0.4s								
KUR					AMB	AMB		11 46 01.1	
	comp=N,91nm,0.4s								
KUR					*e*S	**Sn**		**11 46 39.0**	**+0.2**
KUR					A	A		11 46 49.0	
	comp=N,860nm,0.8s								
KUR					A	A		11 46 49.0	
	comp=N,1µm,0.8s								
SKR	**Severo-Kuril's**	**4.69**	**28**	*e*	PN	Pn		11 46 06.1	-6.1
SKR					pmax	pmax			
	comp=N,50nm,0.5s								
SKR					pmax	pmax			
	comp=Z,80nm,0.5s								
SKR	**Severo-Kuril's**	**4.69**	**28**	*e*	P	**Pn**		**11 46 11.2**	**-1.0**
SKR					AMB	AMB		11 46 19.2	
	comp=Z,120nm,0.5s								
SKR					*e*S	**Sn**		**11 47 02.0**	**-3.2**
SKR					A	A		11 47 09.5	
	comp=Z,218nm,0.2s								
SHO	**Shikotan**	**4.94**	**238**	*e*	P	**Pn**		**11 46 14.4**	**-1.3**
SHO					AMB	AMB		11 46 19.9	
	comp=Z,176nm,0.8s								
SHO					*e*S	**Sn**		**11 47 09.4**	**-2.0**
SHO					A	A		11 47 24.9	
	comp=Z,600nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**5.43**	**244**	*c*	PN	**Pn**		**11 46 23.9**	**+1.5**
YUK	**Yuzh-Kuril'sk**	**5.43**	**244**	*i*	P	**Pn**		**11 46 23.9**	**+1.5**
YUK					AMB	AMB		11 46 31.2	
	comp=Z,55nm,0.3s								
YUK					AMB	AMB		11 46 31.2	
	comp=Z,26nm,0.3s								
YUK					AMB	AMB		11 46 31.2	
	comp=Z,163nm,0.3s								
YUK					*i* S	**Sn**		**11 47 26.1**	**+2.5**
YUK					A	A		11 47 41.7	
	comp=Z,1µm,3.0s								
YUK					A	A		11 47 41.7	
	comp=Z,1µm,3.0s								
YUK					A	A		11 47 51.2	
	comp=Z,611nm,0.7s								
YUK					A	A		11 47 51.2	
	comp=Z,320nm,0.7s								
YUK					AMS	AMS		11 48 29.0	
	comp=Z,660nm,17.0s								
PAU	**Pauzhetka**	**5.58**	**28**	*e*	P	**Pn**		**11 46 22.4**	**-2.1**
PAU					*e*S	**Sn**		**11 47 24.1**	**-3.1**
NEM2	**Nemuro 2**	**5.87**	**239**		P	**Pn**		**11 46 26.9**	**-1.6**
NEM2					*e*S	**Sn**		**11 47 31.2**	**-3.1**
JRA	**Rausu**	**5.94**	**246**		P	**Pn**		**11 46 31.4**	**+2.0**
JNK	**Nakash**	**6.37**	**245**		P	**Pn**		**11 46 35.9**	**+0.6**
JTKR	**Abashiri--Toko**	**6.70**	**250**		P	**Pn**		**11 46 41.5**	**+1.6**
JTKR					*e*S	**Sn**		**11 47 59.0**	**+4.2**
JAK	**Akkeshi**	**6.71**	**240**		P	**Pn**		**11 46 38.6**	**-1.3**
JAK					*e*S	**Sn**		**11 47 51.2**	**-3.7**
YSS	**Yuzh-Sakhalins**	**6.80**	**277**	*i*	PN	**Pn**		**11 46 42.0**	**+0.8**
YSS					*e*S	**Sn**		**11 47 58.7**	**+1.5**
YSS					pmax	pmax			
	comp=Z,60nm,1.0s								
YSS					smax	smax			
	comp=N,70nm,1.1s								
YSS					MLR	MLR			
	comp=E,400nm,15.0s								
YSS					MLR	MLR			
	comp=Z,500nm,15.0s								
YSS	**Yuzh-Sakhalins**	**6.80**	**277**	*i*	P	**Pn**		**11 46 43.7**	**+2.5**
YSS					AMB	AMB		11 46 48.6	
	comp=Z,79nm,0.8s								
YSS					*e*S	**Sn**		**11 47 58.7**	**+1.5**
YSS					A	A		11 48 04.0	
	comp=Z,70nm,1.0s								
YSS					AMS	AMS		11 49 12.0	
	comp=Z,400nm,15.0s								
YSS					AMS	AMS		11 49 12.0	
	comp=Z,500nm,15.0s								
YSS	**Yuzh-Sakhalins**	**6.80**	**277**	*e*	Pn	**Pn**		**11 46 41.7**	**+0.5**
	comp=Z,59nm,0.8s								
JMP	**Maruseppu**	**7.04**	**252**		P	**Pn**		**11 46 46.7**	**+2.1**
JAR	**Ashorobuto**	**7.11**	**246**		P	**Pn**		**11 46 46.2**	**+0.7**
JAR					*e*S	**Sn**		**11 48 05.2**	**+0.3**
JOB	**Onbets**	**7.28**	**243**		P	**Pn**		**11 46 47.7**	**-0.1**
JOB					*e*S	**Sn**		**11 48 07.1**	**-1.9**
PEA0B	**Petropavlovsk-**	**7.28**	**25**	*e*	PN	**Pn**		**11 46 47.3**	**-0.5**
PETK	**Petropavlovsk-**	**7.28**	**25**		Pn	Pn		11 46 43.8	-4.0
	comp=Z,0.7nm,0.3s,baz=185,slow=15,SNR=7.0								
PETK					LR	LR		11 49 57.3	
	comp=Z,84nm,18.9s,baz=215,slow=42								
PETK	**Petropavlovsk-**	**7.28**	**25**		PN	Pn		11 46 43.8	-4.0
PETK					pmax	pmax			
	comp=Z,1.0nm,0.3s								
PETK					MLR	MLR			
	comp=Z,84nm,18.9s								
HRK	**Horoka**	**7.44**	**248**	*e*	P	**Pn**		**11 46 51.4**	**+1.4**
JKA	**Kamikawa-asahi**	**7.50**	**254**	*e*	P	**Pn**		**11 46 53.2**	**+2.4**
JKK2	**Kamakawa 2**	**7.50**	**252**		P	**Pn**		**11 46 53.0**	**+2.2**
ASAJ	**Asahikawa**	**7.50**	**254**		P	**Pn**		**11 46 53.5**	**+2.7**
ASAJ	**Asahikawa**	**7.50**	**254**		Pn	**Pn**		**11 46 53.1**	**+2.3**
	baz=86,slow=14								
ASAJ	**Asahikawa**	**7.50**	**254**	*e*	Pn	**Pn**		**11 46 49.3**	**-1.5**
PET	**Petropavlovsk**	**7.51**	**29**	*e*	PN	Pn		11 46 54.9	+4.1
PET					MLR	MLR			
	comp=Z,200nm,15.0s								
PET					MLR	MLR			
	comp=Z,300nm,13.0s								
PET	**Petropavlovsk**	**7.51**	**29**	*e*	P	Pn		11 46 54.9	+4.1
PET					*e*S	**Sn**		**11 48 14.4**	**0.0**
PET					A	A		11 48 35.9	
	comp=Z,110nm,0.5s								
PET					AMS	AMS		11 49 48.8	
	comp=Z,270nm,13.0s								
UGL	**Uglegorsk**	**7.54**	**293**	*ce*	PN	**Pn**		**11 46 52.9**	**+1.6**
UGL					*e*S	**Sn**		**11 48 17.4**	**+2.2**
UGL	**Uglegorsk**	**7.54**	**293**	*e*	P	**Pn**		**11 46 54.0**	**+2.7**
UGL					AMB	AMB		11 46 55.5	
	comp=Z,90nm,0.8s								
UGL					AMB	AMB		11 46 57.0	
	comp=Z,250nm,1.5s								
UGL					AMS	AMS		11 49 55.0	
	comp=Z,300nm,16.0s								
UGL					AMS	AMS		11 49 55.0	
	comp=Z,500nm,16.0s								
JWK2	**Keihoku**	**7.60**	**264**		P	Pn		11 46 57.4	+5.2
JCH	**Churui**	**7.73**	**242**		P	**Pn**		**11 46 53.2**	**-0.8**
JCH					*e*S	**Sn**		**11 48 16.6**	**-3.4**
JFR	**Furan**	**7.92**	**248**		P	**Pn**		**11 46 57.7**	**+1.1**
MYR	**Moyori**	**7.96**	**241**	*e*	P	**Pn**		**11 46 55.8**	**-1.3**
MYR					*e*S	**Sn**		**11 48 21.8**	**-3.9**
ERM	**Erimo**	**8.21**	**239**	*c*	PN	**Pn**		**11 47 01.0**	**+0.6**
ERM					pmax	pmax			
	comp=Z,40nm,0.6s								
ERM	**Erimo**	**8.21**	**239**	*e*	P	**Pn**		**11 47 01.0**	**+0.6**
ERM	**Erimo**	**8.21**	**239**	*e*	Pn	**Pn**		**11 47 00.1**	**-0.4**
	comp=Z,85nm,0.6s								
ERM					*e*Sn	**Sn**		**11 48 26.6**	**-5.0**
JBT2	**Biratori 2**	**8.26**	**246**		P	**Pn**		**11 47 00.7**	**-0.5**
JNBK	**Urakawa-nobuka**	**8.29**	**242**		P	**Pn**		**11 46 59.8**	**-1.8**
JNB	**Noboribetsu**	**9.26**	**248**		P	**Pn**		**11 47 14.4**	**-0.5**
JNB					*e*S	**Sn**		**11 48 55.1**	**-2.4**
JKB	**Kayabe**	**9.57**	**245**		P	**Pn**		**11 47 17.4**	**-1.7**
JKB					*e*S	Sn		11 48 58.8	-6.3
JYM2	**Yakumo 2**	**9.87**	**247**		P	**Pn**		**11 47 22.7**	**-0.5**
JYM2					*e*S	**Sn**		**11 49 09.5**	**-2.8**
NKL	**Nikolayevsk**	**10.12**	**315**	*e*	PN	**Pn**		**11 47 24.5**	**-2.0**
NKL					pmax	pmax			
	comp=N,70nm,1.2s								
NKL					pmax	pmax			
	comp=E,70nm,1.2s								
NKL					pmax	pmax			
	comp=Z,84nm,1.2s								
NKL	**Nikolayevsk**	**10.12**	**315**	*e*	P	**Pn**		**11 47 24.5**	**-2.0**
NKL					AMB	AMB		11 47 26.0	
	comp=Z,70nm,1.0s								
NKL					AMB	AMB		11 47 26.0	
	comp=Z,84nm,1.0s								
JTM	**Tenmabayashi**	**10.20**	**239**		P	**Pn**		**11 47 25.1**	**-2.6**
JTM					*e*S	Sn		11 49 11.6	-8.8
JANG	**Nango**	**10.20**	**236**		*e*S	Sn		11 49 10.5	-10
JTK	**Tanohata**	**10.30**	**234**		*e*S	Sn		11 49 11.5	-11
JOSM	**Okushiri--Mats**	**10.46**	**249**		P	**Pn**		**11 47 30.7**	**-0.5**
JOSM					*e*S	**Sn**		**11 49 25.5**	**-1.3**
OFUJ	**Ofunato**	**11.02**	**231**		*e*S	Sn		11 49 30.5	-10
TEY	**Ternei**	**11.31**	**268**	*e*	P	**Pn**		**11 47 44.0**	**+1.2**
TEY					AMB	AMB		11 47 48.9	
	comp=Z,10.0nm,0.8s								
TEY					AMB	AMB		11 47 48.9	
	comp=Z,13nm,0.8s								
JRG	**Rokugo**	**11.36**	**235**		P	**Pn**		**11 47 40.8**	**-2.8**
JRG					*e*S	Sn		11 49 36.0	-13
GRNR	**Gornyy**	**11.50**	**297**	*e*	P	**Pn**		**11 47 46.5**	**+1.1**
GRNR					AMB	AMB		11 47 50.7	
	comp=Z,52nm,1.0s								
HABR	**Khabarovsk**	**12.04**	**285**	*ce*	PN	**Pn**		**11 47 55.5**	**+2.7**
HABR					*e*S	**Sn**		**11 50 09.7**	**+4.4**
HABR					pmax	pmax			
	comp=N,5.0nm,1.3s								
HABR					pmax	pmax			
	comp=E,28nm,1.3s								
HABR					pmax	pmax			
	comp=Z,37nm,1.3s								
HABR					MLR	MLR			
	comp=Z,269nm,14.0s								
HABR	**Khabarovsk**	**12.04**	**285**	*e*	P	**Pn**		**11 47 55.5**	**+2.7**
EKMR	**Ekimchan**	**14.24**	**304**	*e*	P	**Pn**		**11 48 22.5**	**0.0**
EKMR					AMB	AMB		11 48 32.5	
	comp=Z,11nm,0.5s								
KLR	**Kul'dur**	**14.25**	**288**	*e*	P	**Pn**		**11 48 22.1**	**-0.6**
KLR					MLR	MLR			
	comp=Z,600nm,15.5s								
KLR	**Kul'dur**	**14.25**	**288**	*e*	P	**Pn**		**11 48 22.1**	**-0.6**
KLR					AMS	AMS		11 54 07.5	
	comp=Z,600nm,15.0s								
USRK	**Ussuriysk Ar.**	**14.71**	**268**		Pn	**Pn**		**11 48 26.1**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=72,slow=14,SNR=3.3								
USRK					LR	LR		11 53 53.4	
	comp=Z,232nm,20.8s,baz=41,slow=36								
MJAR	**Matsushiro Arr**	**14.74**	**232**		Pn	**Pn**		**11 48 25.9**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=28,slow=13,SNR=6.6								
MJAR					LR	LR		11 54 34.4	
	comp=Z,101nm,21.4s,baz=65,slow=39								
MAJO	**Matsushiro**	**14.74**	**232**	*i*	P	**Pn**		**11 48 26.3**	**-2.8**
MAJO	**Matsushiro**	**14.74**	**232**	*e*	P	**Pn**		**11 48 26.3**	**-2.8**
MAJO	**Matsushiro**	**14.74**	**232**	*e*	Pn	**Pn**		**11 48 28.0**	**-1.1**
MAT	**Matsushiro**	**14.74**	**232**		P	**Pn**		**11 48 29.1**	**0.0**
MAT					S	**Sn**		**11 51 13.0**	**+1.9**
MDJ	**Mudanjiang**	**16.25**	**271**		P	**Pn**		**11 48 47.3**	**-1.0**
MDJ					pP	**pP**		**11 49 01.1**	**-2.0**
MDJ					sP	**sP**		**11 49 07.9**	**-2.7**
MDJ					sS	**sS**		**11 52 12.9**	**-4.9**
MDJ					PMZ				
	comp=Z,53nm,4.5s								
SEY	**Seymchan**	**16.36**	**360**		Pn	**Pn**		**11 48 48.2**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=176,slow=11,SNR=10								
SEY					LR	LR		11 55 30.7	
	comp=Z,136nm,18.4s,baz=174,slow=39								
SEY	**Seymchan**	**16.36**	**360**	*i*	P	**Pn**		**11 48 48.9**	**-0.8**
SEY	**Seymchan**	**16.36**	**360**	*e*	P	**Pn**		**11 48 48.9**	**-0.8**
BMKR	**Bomnak**	**17.07**	**307**	*e*	P	**P**		**11 49 00.5**	**+1.0**
BMKR					AMB	AMB		11 49 04.8	
	comp=Z,12nm,0.6s								
ZEA	**Zeya**	**17.70**	**303**	*e*	rx	rx		11 49 22.0	
ZEA					AMS	AMS		11 56 00.0	
	comp=Z,300nm,18.0s								
KROS	**Kirovskiy**	**18.03**	**305**	*e*	P	**Pn**		**11 49 12.6**	**+2.3**
KROS					AMB	AMB		11 49 14.3	
	comp=Z,5.0nm,0.8s								
CN2	**Changchun**	**19.34**	**272**	*e*	P	**P**		**11 49 25.1**	**+0.7**
CN2					*e*S	**S**		**11 52 53.0**	**-7.0**
CN2					PMZ				
	comp=Z,10.0nm,0.6s								
CN2					PMZ				
	comp=Z,200nm,4.0s								
YAK	**Yakutsk**	**20.27**	**328**		P	**P**		**11 49 34.3**	**-0.1**
	comp=Z,3.5nm,0.4s,baz=120,slow=20,SNR=4.7								
YAK					LR	LR		11 57 11.6	
	comp=Z,170nm,20.9s,baz=138,slow=36								
YAK	**Yakutsk**	**20.27**	**328**	*e*	P	**P**		**11 49 34.8**	**+0.3**
YAK					*e*S	**S**		**11 53 18.9**	**+0.6**
YAK					pmax	pmax			
	comp=Z,12nm,0.8s								
YAK					pmax	pmax			
	comp=N,3.0nm,1.1s								
YAK					pmax	pmax			
	comp=E,2.0nm,1.0s								
YAK					pmax	pmax			
	comp=Z,78nm,1.8s								
YAK					pmax	pmax			
	comp=E,58nm,1.5s								
YAK					pmax	pmax			
	comp=N,72nm,2.0s								
YAK					smax	smax			
	comp=N,36nm,2.5s								
YAK					smax	smax			
	comp=E,7.0nm,1.0s								
YAK					MLR	MLR			
	comp=Z,144nm,19.0s								
YAK					MLR	MLR			
	comp=N,170nm,19.0s								
YAK					MLR	MLR			
	comp=E,90nm,17.0s								
YAK	**Yakutsk**	**20.27**	**328**	*e*	P	**P**		**11 49 35.6**	**+1.1**
YAK	**Yakutsk**	**20.27**	**328**		P	**P**		**11 49 34.3**	**-0.1**
YAK				*e*	Pn	Pn		11 49 35.8	-1.1
KSRS	**Korea Array**	**20.45**	**252**		P	**P**		**11 49 37.0**	**+0.5**
	comp=E,7.0nm,0.8s,baz=56,slow=11,SNR=38								
KSRS					PcP	**PcP**		**11 53 48.1**	**+1.7**
	comp=E,0.6nm,0.8s,baz=342,slow=2.3,SNR=5.4								
KSRS					LR	LR		11 56 27.5	
	comp=E,115nm,21.9s,baz=79,slow=34								
KSRS	**Korea Array**	**20.45**	**252**		P	**P**		**11 49 37.0**	**+0.5**
KSRS								11 53 48.2	
KSRS					pmax	pmax			
	comp=Z,7.0nm,0.8s								
KSRS					pmax	pmax			
	comp=Z,1.0nm,0.8s								
KSRS					MLR	MLR			
	comp=Z,115nm,21.9s								
KSAR	**Wonju Array Be**	**20.48**	**252**		P	**P**		**11 49 37.0**	**+0.1**
KSAR					PcP	**PcP**		**11 53 48.1**	**+1.6**
JNU	**Nakatsue**	**21.37**	**239**		P	**P**		**11 49 47.3**	**+0.8**
	comp=Z,11nm,0.8s,baz=48,slow=9.7,SNR=7.3								
JNU					LR	LR		11 57 14.5	
	comp=Z,105nm,21.6s,baz=50,slow=34								
JNU	**Nakatsue**	**21.37**	**239**	*e*	P	**P**		**11 49 47.8**	**+1.2**
TJN	**Taejon**	**21.43**	**251**	*c*	P	**P**		**11 49 47.9**	**+0.7**
BILL	**Bilibino**	**22.61**	**13**‖	*i*	P	**P**		**11 49 58.9**	**-0.6**
BILL					pmax	pmax			
	comp=Z,5.0nm,0.8s								
BILL	**Bilibino**	**22.61**	**13**	*e*	P	**P**		**11 49 58.9**	**-0.6**
BOD	**Bodaibo**	**25.84**	**310**	*e*	P	**P**		**11 50 28.1**	**-1.5**
BOD					pmax	pmax			
	comp=Z,3.0nm,1.0s								
TIXI	**Tiksi**	**27.52**	**344**	*ce*	P	**P**		**11 50 43.3**	**-1.3**
TIXI					pmax	pmax			
	comp=Z,2.0nm,1.2s								
H11N2	**WAKE ISLAND Hy**	**29.24**	**152**		T	T		12 22 18.1	
	baz=339,slow=76,SNR=4596								
H11N1	**WAKE ISLAND Hy**	**29.25**	**152**		T	T		12 22 28.1	
	baz=339,slow=76,SNR=2030								
H11N3	**WAKE ISLAND Hy**	**29.26**	**152**		T	T		12 22 31.0	
	baz=339,slow=76,SNR=1762								
NJ2	**Nanjing**	**29.65**	**253**	*e*	P	**P**		**11 51 03.6**	**-0.3**
NJ2					PMZ				
	comp=Z,30nm,0.6s								
HHC	**Hu-ho-hao-te**	**29.98**	**274**	*e*	P	**P**		**11 51 05.3**	**-1.7**
HHC					pP	**pP**		**11 51 22.8**	**+1.2**
HHC					sP	**sP**		**11 51 31.6**	**+3.0**
HHC					PP	**PnPn**		**11 52 05.3**	**-0.3**
HHC					S	**S**		**11 56 00.1**	**-0.5**
HHC					sS	**sS**		**11 56 26.8**	**+1.3**
HHC					PMZ				
	comp=Z,16nm,1.0s								
HHC					PMZ				
	comp=Z,53nm,5.3s								
HHC					LN				
	comp=Z,190nm,12.1s								
HHC					LE				
	comp=Z,140nm,11.2s								
H11S1	**WAKE ISLAND Hy**	**30.32**	**153**		T	T		12 23 47.3	
	baz=340,slow=76,SNR=2389								
H11S3	**WAKE ISLAND Hy**	**30.33**	**153**		T	T		12 23 46.0	
	baz=340,slow=76,SNR=1919								
H11S2	**WAKE ISLAND Hy**	**30.34**	**153**		T	T		12 23 46.7	
	baz=340,slow=76,SNR=1908								
SONM	**Songino Array**	**31.08**	**289**		P	**P**		**11 51 17.3**	**+0.7**
	comp=Z,3.9nm,0.9s,baz=60,slow=8.8,SNR=9.2								
SONM					LR	LR		12 04 59.3	
	comp=Z,215nm,18.3s,baz=72,slow=39								
SONM	**Songino Array**	**31.08**	**289**		P	**P**		**11 51 17.3**	**+0.7**
SONM					pmax	pmax			
	comp=Z,4.0nm,0.9s								
SONM					MLR	MLR			
	comp=Z,215nm,18.3s								
TLY	**Talaya**	**31.96**	**297**		P	**P**		**11 51 21.9**	**-2.3**
	comp=Z,1.4nm,0.3s,baz=320,slow=21,SNR=4.4								
TLY	**Talaya**	**31.96**	**297**		P	**P**		**11 51 21.9**	**-2.3**
TLY					pmax	pmax			
	comp=Z,1.0nm,0.4s								
ZAK	**Zakamensk**	**32.45**	**295**	*e*	P	**P**		**11 51 26.8**	**-1.8**
ZAK					pmax	pmax			
	comp=Z,1.0nm,1.2s								
GUMO	**Guam**	**33.55**	**194**		LR	LR		12 05 11.4	
	comp=Z,53nm,19.7s,baz=30,slow=36								
IM04	**Indian Mountai**	**34.06**	**36**	*e*	P	**P**		**11 51 42.9**	**+0.5**
BPAW	**Bear Paw Mtn.**	**35.07**	**40**	*e*	P	**P**		**11 51 51.0**	**-0.1**
	comp=Z,4.6nm,1.0s								
XAN	**Xi'an**	**35.18**	**265**		P	**P**		**11 51 52.8**	**+0.4**
XAN					PMZ				
	comp=Z,4.0nm,0.8s								
TRF	**Thorofare Moun**	**35.36**	**41**	*e*	P	**P**		**11 51 53.7**	**-0.1**
	comp=Z,21nm,1.8s								
COLD	**Coldfoot**	**35.63**	**34**	*e*	P	**P**		**11 51 56.3**	**+0.5**
	comp=Z,4.7nm,1.1s								
COLA	**College**	**36.45**	**38**	*d*	P	**P**		**11 52 03.1**	**+0.3**
COLA				*i*	*PP	**pP**		**11 52 16.2**	**-1.4**
COLA					pmax	pmax			
	comp=Z,36nm,0.9s								
COLA	**College**	**36.45**	**38**	*e*	P	**P**		**11 52 03.1**	**+0.3**
COLA	**College**	**36.45**	**38**	*e*	P	**P**		**11 52 03.5**	**+0.8**
	comp=Z,8.4nm,0.9s								
CCB	**Clear Creek Bu**	**36.47**	**39**	*e*	P	**P**		**11 52 03.2**	**+0.3**
	comp=Z,9.6nm,1.6s								
HDA	**Harding Lake**	**36.84**	**39**	*e*	P	P		11 52 10.9	+4.8
	comp=Z,231nm,1.9s								
ILAR	**Eielson Array**	**36.86**	**38**		P	**P**		**11 52 06.2**	**-0.1**
	comp=Z,3.0nm,1.1s,baz=267,slow=7.1,SNR=25								
ILAR					LR	LR		12 10 03.2	
	comp=Z,55nm,18.4s,baz=292,slow=41								
ILAR	**Eielson Array**	**36.86**	**38**		P	**P**		**11 52 06.2**	**-0.1**
ILAR					pmax	pmax			
	comp=Z,3.0nm,1.1s		

ZALV	**Zalesovo Beam**	**42.44**	**306**	*i* P		**P**	**11 52 51.9**	**-0.8**
ZALV				pmax		pmax			
	comp=Z,3.0nm,0.4s								
QIZ	**Qiongzhong**	**44.50**	**247**	P		**P**	**11 53 10.1**	**+0.4**
QIZ				S		**S**	**11 59 42.0**	**+1.3**
WMQ	**Urumqi**	**44.68**	**291**	P		**P**	**11 53 12.8**	**+1.8**
WMQ				pP		**pP**	**11 53 28.1**	**+1.9**
WMQ				sP		**sP**	**11 53 35.3**	**+2.3**
WMQ				PcS		**PcS**	**11 58 47.4**	**+1.3**
WMQ				SS		**ScS**	**12 02 56.0**	**-6.9**
WMQ				PMZ					
	comp=Z,9.0nm,0.7s								
WMQ				PMZ					
	comp=Z,35nm,4.3s								
WMQ				LN					
	comp=Z,140nm,14.2s								
WMQ				LE					
	comp=Z,160nm,13.4s								
DLBC	**Dease Lake**	**45.92**	**46**	*e*P		**P**	**11 53 21.9**	**+1.2**
	comp=Z,3.3nm,0.9s								
MK31	**Makanchi Array**	**46.72**	**297**	*e*P		**P**	**11 53 26.3**	**-0.7**
MKAR	**Makanchi Array**	**46.72**	**297**	*e*P		**P**	**11 53 25.5**	**-1.5**
MKAR	**Makanchi Array**	**46.72**	**297**	*e*P		**P**	**11 53 26.6**	**-0.4**
KURK	**Kurchatov**	**47.18**	**304**	P		**P**	**11 53 30.8**	**+0.4**
KURK							11 55 02.0		
KURK				pmax		pmax			
	comp=Z,5.0nm,0.8s								
KURK	**Kurchatov**	**47.18**	**304**	*e*P		**P**	**11 53 29.2**	**-1.2**
KURK	**Kurchatov**	**47.18**	**304**	*e*P		**P**	**11 53 29.2**	**-1.2**
	comp=Z,7.2nm,0.8s								
KURK				PcP		**PcP**	**11 55 02.0**	**+1.0**
KURBB	**Kurchatov Arra**	**47.27**	**303**	P		**P**	**11 53 30.8**	**-0.4**
	comp=Z,5.3nm,0.8s,baz=68,slow=8.3,SNR=10								
KURBB				PcP		**PcP**	**11 55 02.0**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=70,slow=3.2,SNR=4.5								
BVAR	**Borovoye Array**	**50.70**	**309**	P		**P**	**11 53 56.2**	**-1.2**
	comp=Z,2.6nm,0.6s,baz=56,slow=7.9,SNR=11								
BVAR				PcP		**PcP**	**11 55 14.5**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=50,slow=2.3,SNR=8.6								
BVAR	**Borovoye Array**	**50.70**	**309**	P		**P**	**11 53 56.2**	**-1.2**
BVAR							11 55 14.5		
BVAR				pmax		pmax			
	comp=Z,3.0nm,0.6s								
BVAR				pmax		pmax			
	comp=Z,2.0nm,0.5s								
BRVK	**Borovoye**	**50.74**	**309**	*ce*P		**P**	**11 53 57.3**	**-0.4**
BRVK				pmax		pmax			
	comp=Z,6.0nm,1.1s								
BRVK	**Borovoye**	**50.74**	**309**	*e*P		**P**	**11 53 57.3**	**-0.4**
BRVK	**Borovoye**	**50.74**	**309**	*e*P		**P**	**11 53 57.7**	**0.0**
YKA	**Yellowknife Ar**	**51.23**	**36**	P		**P**	**11 54 01.3**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=295,slow=6.3,SNR=3.1								
YKA	**Yellowknife Ar**	**51.23**	**36**	P		**P**	**11 54 01.3**	**+0.1**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.5s								
CHTO	**Chiang Mai**	**51.77**	**256**	*e*P		**P**	**11 54 07.5**	**+1.7**
	comp=Z,13nm,1.0s								
CMAR	**Chiang Mai Arr**	**52.02**	**256**	P		**P**	**11 54 09.1**	**+1.3**
	comp=Z,5.1nm,0.8s,baz=34,slow=7.3,SNR=22								
CMAR	**Chiang Mai Arr**	**52.02**	**256**	*i* P		**P**	**11 54 09.6**	**+1.9**
CMAR				pmax		pmax			
	comp=Z,5.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**52.02**	**256**	*e*P		**P**	**11 54 09.6**	**+1.9**
TKM2	**Tokmak 2**	**52.77**	**296**	*e*P		**P**	**11 54 14.4**	**+1.1**
TKM2	**Tokmak 2**	**52.77**	**296**	*e*P		**P**	**11 54 12.9**	**-0.3**
	comp=Z,3.7nm,0.9s								
AAK	**Ala-Archa**	**53.61**	**296**	*e*pP		pP	11 54 31.0	-4.0
TAPN	**Taplejung**	**53.79**	**273**	*e*P		**P**	**11 54 22.0**	**+1.0**
	comp=Z,24nm,0.6s								
EKS2	**Erkin-Say**	**54.04**	**297**	*e*P		**P**	**11 54 23.6**	**+1.2**
EKS2	**Erkin-Say**	**54.04**	**297**	*e*P		**P**	**11 54 22.6**	**+0.1**
	comp=Z,3.8nm,0.8s								
KSH	**Kashi**	**54.41**	**292**	P		**P**	**11 54 27.8**	**+2.6**
KSH				*e*pP		**pP**	**11 54 43.3**	**+2.5**
KSH				sP		**sP**	**11 54 49.6**	**+2.1**
GUN	**Gumba**	**54.69**	**275**	*e*P		**P**	**11 54 28.7**	**+1.1**
	comp=Z,28nm,0.7s								
RAMN	**Ramite**	**54.80**	**273**	*e*P		**P**	**11 54 29.1**	**+0.8**
	comp=Z,102nm,0.8s								
ARU	**Arti**	**54.90**	**317**	*d* iP		**P**	**11 54 27.3**	**-1.0**
ARU				S		**S**	**12 02 03.6**	**-1.5**
ARU				pmax		pmax			
	comp=Z,6.0nm,1.2s								
ARU	**Arti**	**54.90**	**317**	*e*P		**P**	**11 54 27.6**	**-0.7**
ARU	**Arti**	**54.90**	**317**	*e*P		**P**	**11 54 27.2**	**-1.0**
	comp=Z,3.9nm,0.7s								
KKN	**Kakani**	**55.18**	**275**	*e*P		**P**	**11 54 31.8**	**+0.8**
	comp=Z,41nm,0.6s								
PKI	**Pulchoki**	**55.23**	**275**	*e*P		**P**	**11 54 32.3**	**+0.8**
	comp=Z,31nm,0.7s								
PKIN	**Phulchoki**	**55.23**	**275**	*e*P		**P**	**11 54 32.5**	**+1.1**
	comp=Z,21nm,0.7s								
DMN	**Daman**	**55.41**	**275**	*e*P		**P**	**11 54 33.8**	**+1.1**
	comp=Z,68nm,0.8s								
GKN	**Gorkha**	**55.49**	**276**	*e*P		**P**	**11 54 34.1**	**+1.0**
	comp=Z,74nm,0.7s								
LON	**Longmire**	**55.75**	**56**	*e*pP		pP	11 54 48.9	-1.4
KOLN	**Koldanda**	**56.35**	**276**	*e*P		**P**	**11 54 40.3**	**+1.0**
	comp=Z,48nm,0.7s								
EDM	**Edmonton**	**56.65**	**46**	*e*P		P	11 54 36.1	-4.8
ARCES	**ARCESS Array B**	**57.88**	**341**	P		**P**	**11 54 49.6**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=19,slow=7.7,SNR=8.0								
ARCES	**ARCESS Array B**	**57.88**	**341**	P		**P**	**11 54 49.6**	**+0.3**
ARCES				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ABKAR	**Akbulak array**	**58.27**	**310**	*e*P		**P**	**11 54 51.9**	**-0.5**
AKTO	**Aktyubinsk**	**58.58**	**312**	P		**P**	**11 54 53.5**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=352,slow=7.9,SNR=2.9								
AKTO	**Aktyubinsk**	**58.58**	**312**	P		**P**	**11 54 53.5**	**-1.0**
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.3s								
MOD	**Modoc Plateau**	**59.44**	**60**	*e*P		**P**	**11 55 01.3**	**+0.6**
	comp=Z,3.3nm,1.0s								
SUMG	**Summit**	**60.87**	**4**	*e*P		**P**	**11 55 10.1**	**-0.2**
FFC	**Flin Flon**	**61.06**	**40**	*e*P		**P**	**11 55 12.3**	**+0.9**
FFC	**Flin Flon**	**61.06**	**40**	*e*P		**P**	**11 55 11.8**	**+0.4**
	comp=Z,6.8nm,0.9s								
LRM	**Limekiln Ridge**	**61.54**	**52**	*e*P		**P**	**11 55 15.4**	**+0.3**
	comp=Z,21nm,0.8s								
HLID	**Hailey**	**61.85**	**55**	*e*pP		pP	11 55 27.7	-5.4
BOZ	**Bozeman (W)**	**62.10**	**52**	*e*P		**P**	**11 55 20.1**	**+1.4**
	comp=Z,9.1nm,1.3s								
BOZ				*e*pP		**pP**	**11 55 34.4**	**-0.3**
NVAR	**Mina Array Bea**	**62.78**	**62**	P		**P**	**11 55 23.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=300,slow=6.7,SNR=7.5								
FIA1	**FINESS Array S**	**64.03**	**335**	*e*P		**P**	**11 55 30.3**	**-0.7**
FINES	**FINESS Array B**	**64.03**	**335**	P		**P**	**11 55 30.5**	**-0.6**
	comp=Z,8.7nm,0.6s,baz=40,slow=7.1,SNR=42								
FINES	**FINESS Array B**	**64.03**	**335**	*i* P		**P**	**11 55 30.5**	**-0.6**
FINES				pmax		pmax			
	comp=Z,9.0nm,0.6s								
R11A	**Troy Canyon, C**	**64.48**	**61**	*e*P		**P**	**11 55 36.0**	**+1.3**
PDAR	**Pinedale Array**	**65.09**	**54**	P		**P**	**11 55 39.0**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=339,slow=3.8,SNR=6.6								
OBN	**Obninsk**	**65.25**	**325**	*e*P		**P**	**11 55 37.3**	**-1.8**
OBN				pmax		pmax			
	comp=Z,4.0nm,1.0s								
OBN	**Obninsk**	**65.25**	**325**	*e*P		**P**	**11 55 37.3**	**-1.8**
ULM	**Lac du Bonnet**	**66.84**	**41**	P		**P**	**11 55 48.5**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=311,slow=6.8,SNR=4.5								
ULM				LR		LR	12 27 38.8		
	comp=Z,39nm,18.2s,baz=350,slow=38								
ULM	**Lac du Bonnet**	**66.84**	**41**	P		**P**	**11 55 48.5**	**-0.9**
ULM				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ULM				MLR		MLR			
	comp=Z,39nm,18.2s								
SRU	**San Rafael Swe**	**66.97**	**57**	P		**P**	**11 55 51.1**	**+0.5**
	comp=Z,5.6nm,1.0s								
NB2	**NORSAR Subarra**	**68.26**	**341**	P		**P**	**11 55 57.6**	**-0.6**
	comp=Z,9.4nm,0.7s,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**68.26**	**341**	P		**P**	**11 55 58.0**	**-0.2**
	comp=Z,11nm,0.8s,baz=27,slow=6.3,SNR=31								
NOA				LR		LR	12 30 00.2		
	comp=Z,33nm,18.8s,baz=25,slow=40								
NOA	**NORSAR Array B**	**68.26**	**341**	P		**P**	**11 55 58.0**	**-0.2**
NOA				pmax		pmax			
	comp=Z,11nm,0.8s								
NOA				MLR		MLR			
	comp=Z,33nm,18.8s								
WRA	**Warramunga Arr**	**68.27**	**199**	P		**P**	**11 55 58.4**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=16,slow=6.9,SNR=7.2								
WRA	**Warramunga Arr**	**68.27**	**199**	P		**P**	**11 55 58.4**	**-0.3**
WRA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
KONO	**Kongsberg**	**69.87**	**341**	*e*P		**P**	**11 56 08.3**	**+0.2**
KIV	**Kislovodsk**	**70.67**	**314**	*e*P		**P**	**11 56 12.8**	**-0.7**
KIV				pmax		pmax			
	comp=Z,8.0nm,0.7s								
KIV				MLR		MLR			
	comp=Z,83nm,17.0s								
KIV	**Kislovodsk**	**70.67**	**314**	*e*P		**P**	**11 56 12.8**	**-0.7**
KBZ	**Khabaz**	**70.73**	**314**	P		**P**	**11 56 14.1**	**+0.4**
	comp=Z,4.7nm,0.7s,baz=41,slow=4.9,SNR=7.0								
KBZ				LR		LR	12 32 07.4		
	comp=Z,114nm,18.1s,baz=46,slow=40								
KBZ	**Khabaz**	**70.73**	**314**	P		**P**	**11 56 14.1**	**+0.4**
KBZ				pmax		pmax			
	comp=Z,5.0nm,0.7s								
KBZ				MLR		MLR			
	comp=Z,115nm,18.1s								
ECSD	**EROS Data Cent**	**71.22**	**46**	*e*P		**P**	**11 56 16.0**	**-0.7**
	comp=Z,4.1nm,1.0s								
AKASG	**Malin Array Be**	**71.49**	**326**	P		**P**	**11 56 17.8**	**-0.3**
	comp=Z,7.5nm,0.5s,baz=33,slow=6.2,SNR=18								
AKASG				LR		LR	12 29 52.1		
	comp=Z,64nm,18.4s,baz=55,slow=38								
AKASG	**Malin Array Be**	**71.49**	**326**	*i* P		**P**	**11 56 17.7**	**-0.4**
AKASG				pmax		pmax			
	comp=Z,8.0nm,0.5s								
AK01	**Malin Array Si**	**71.50**	**326**	*e*P		**P**	**11 56 17.9**	**-0.3**
ASAR	**Alice Springs**	**71.97**	**198**	P		**P**	**11 56 22.2**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=12,slow=5.3,SNR=16								
ASAR	**Alice Springs**	**71.97**	**198**	P		**P**	**11 56 22.3**	**+1.0**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
SCHQ	**Schefferville**	**73.57**	**23**	P		**P**	**11 56 30.4**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=279,slow=13,SNR=2.9								
RUE	**Ruedersdorf**	**75.20**	**335**	*e*P		**P**	**11 56 40.3**	**+0.4**
	comp=Z,26nm,1.1s								
STHS	**Stebnicka Huta**	**75.48**	**330**	*e*P		**P**	**11 56 42.6**	**+0.9**
STHS				pmax		pmax			
	comp=Z,6.0nm,0.7s								
STHS	**Stebnicka Huta**	**75.48**	**330**	*e*P		**P**	**11 56 42.6**	**+0.9**
STHS				*e*PCP		**PcP**	**11 56 52.2**	**-2.3**
STHS				*e*PP		**PP**	**11 59 28.1**	**-2.6**
BUR08	**Bucovina Ar. S**	**75.52**	**326**	*e*P		**P**	**11 56 42.4**	**+0.4**
KOLS	**Kolonicke sedl**	**75.52**	**329**	*e*P		**P**	**11 56 42.2**	**+0.3**
KOLS				pmax		pmax			
	comp=Z,6.0nm,1.0s								
KOLS	**Kolonicke sedl**	**75.52**	**329**	*e*P		**P**	**11 56 42.2**	**+0.3**
BURAR	**Bucovina Array**	**75.53**	**326**	⇓P		**P**	**11 56 42.2**	**+0.1**
BURAR	**Bucovina Array**	**75.53**	**326**	⇓*i*P		**P**	**11 56 42.2**	**+0.1**
TESR	**Tescani**	**75.88**	**325**	⇓*i*P		**P**	**11 56 44.3**	**+0.3**
UPC	**Upice**	**76.27**	**333**	*e*P		**P**	**11 56 46.4**	**+0.3**
UPC	**Upice**	**76.27**	**333**	*e*P		**P**	**11 56 46.4**	**+0.3**
DPC	**Dobruska-Polom**	**76.31**	**333**	*e*P		**P**	**11 56 46.6**	**+0.2**
DPC				*ex*		x	11 56 53.5		
DPC	**Dobruska-Polom**	**76.31**	**333**	*e*P		**P**	**11 56 46.6**	**+0.2**
DPC				*e*			11 56 53.5		
CFR	**Carcaliu**	**76.36**	**323**	⇑P		**P**	**11 56 47.3**	**+0.6**
CFR	**Carcaliu**	**76.36**	**323**	⇑*i*P		**P**	**11 56 47.3**	**+0.6**
VRI	**Vrincioaia**	**76.38**	**324**	⇑P		**P**	**11 56 47.7**	**+0.9**
VRI	**Vrincioaia**	**76.38**	**324**	⇑*i*P		**P**	**11 56 47.7**	**+0.9**
KRLC	**Kraliky**	**76.40**	**333**	*e*P		**P**	**11 56 47.2**	**+0.3**
KRLC	**Kraliky**	**76.40**	**333**	*e*P		**P**	**11 56 47.2**	**+0.3**
MORC	**Moravsky Berou**	**76.42**	**332**	⇑P		**P**	**11 56 47.5**	**+0.5**
MORC	**Moravsky Berou**	**76.42**	**332**	⇑*i*P		**P**	**11 56 47.5**	**+0.5**
CLL	**Collm**	**76.46**	**335**	*e*P		**P**	**11 56 47.1**	**-0.1**
	comp=Z,16nm,0.7s								
CLL	**Collm**	**76.46**	**335**	*i* P		**P**	**11 56 46.8**	**-0.4**
	comp=Z,16nm,0.7s								
CLL	**Collm**	**76.46**	**335**	*i* P		**P**	**11 56 46.8**	**-0.4**
CLL				pmax		pmax			
	comp=Z,16nm,0.7s								
CLL	**Collm**	**76.46**	**335**	*e*P		**P**	**11 56 46.8**	**-0.4**
KECS	**Kecovo**	**76.54**	**330**	*e*P		**P**	**11 56 46.9**	**-0.8**
KECS				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KECS	**Kecovo**	**76.54**	**330**	*e*P		**P**	**11 56 46.9**	**-0.8**
KECS				*e*PP		**PP**	**11 59 36.4**	**-3.1**
BRG	**Berggiesshubel**	**76.58**	**335**	*e*(P)		**P**	**11 56 47.6**	**-0.2**
	comp=Z,4.8nm,1.0s								
BRG	**Berggiesshubel**	**76.58**	**335**	*e*P		**P**	**11 56 47.9**	**+0.1**
	comp=Z,5.0nm,1.0s								
BRG	**Berggiesshubel**	**76.58**	**335**	*e*P		**P**	**11 56 47.6**	**-0.2**
BRG				pmax		pmax			
	comp=Z,5.0nm,1.0s								
FBE	**Freiberg**	**76.71**	**335**	*e*P		**P**	**11 56 48.9**	**+0.4**
	comp=Z,8.0nm,0.9s								
CLZ	**Clausthal**	**76.72**	**337**	*e*P		**P**	**11 56 49.4**	**+0.7**
	comp=Z,14nm,0.9s								
CJR	**Cluj-Napoca**	**76.90**	**327**	⇑P		**P**	**11 56 50.9**	**+1.1**
CJR	**Cluj-Napoca**	**76.90**	**327**	⇑*i*P		**P**	**11 56 50.9**	**+1.1**
IBBN	**Ibbenburen**	**76.97**	**339**	*e*P		**P**	**11 56 50.6**	**+0.6**
	comp=Z,18nm,1.0s								
MLR	**Muntele Rosu**	**77.00**	**325**	⇑P		**P**	**11 56 50.8**	**+0.3**
MLR	**Muntele Rosu**	**77.00**	**325**	⇑*i*P		**P**	**11 56 50.8**	**+0.3**
VRAC	**Vranov**	**77.13**	**332**	⇑P		**P**	**11 56 51.6**	**+0.6**
VRAC	**Vranov**	**77.13**	**332**	⇑*i*P		**P**	**11 56 51.6**	**+0.6**
DRGR		**77.16**	**327**	⇓P		**P**	**11 56 51.7**	**+0.4**
DRGR		**77.16**	**327**	⇓*i*P		**P**	**11 56 51.7**	**+0.4**
GOPC	**GO Pecny, Ondr**	**77.17**	**334**	*e*P		**P**	**11 56 51.5**	**+0.3**
GOPC				AMS		AMS	12 32 50.0		
	comp=Z,100nm,23.1s								
PRU	**Pruhonice**	**77.18**	**334**	*e*P		**P**	**11 56 51.6**	**+0.4**
PRU				AMS		AMS	12 33 00.0		
	comp=Z,100nm,16.6s								
PRU	**Pruhonice**	**77.18**	**334**	*e*PKP			12 00 37.6		
PRU	**Pruhonice**	**77.18**	**334**	*e*P		**P**	**11 56 51.6**	**+0.4**
PRU				MLR		MLR			
	comp=Z,100nm,16.6s								
PRU	**Pruhonice**	**77.18**	**334**	*e*P		**P**	**11 56 51.6**	**+0.4**
PSZ	**Piszkesteto**	**77.22**	**330**	⇑P		**P**	**11 56 52.1**	**+0.5**
PSZ	**Piszkesteto**	**77.22**	**330**	⇑*i*P		**P**	**11 56 52.1**	**+0.5**
VOIR		**77.40**	**325**	⇑P		**P**	**11 56 52.1**	**-0.6**
VOIR		**77.40**	**325**	⇑*i*P		**P**	**11 56 52.1**	**-0.6**
TANN	**Tannenbergstha**	**77.42**	**335**	*e*P		**P**	**11 56 52.9**	**+0.3**
	comp=Z,6.0nm,1.2s								
WERD	**Werda**	**77.43**	**335**	*e*P		**P**	**11 56 53.1**	**+0.4**
	comp=Z,7.0nm,1.0s								
PLN	**Plauen**	**77.44**	**335**	*e*P		**P**	**11 56 53.2**	**+0.5**
	comp=Z,7.0nm,0.9s								
MOX	**Moxa**	**77.45**	**336**	*e*P		**P**	**11 56 53.1**	**+0.3**
	comp=Z,9.0nm,1.0s								
TREC	**Trest**	**77.50**	**333**	AMS		AMS	12 35 10.0		
	comp=Z,100nm,17.2s								
GUNZ	**Gunzen**	**77.50**	**335**	*e*P		**P**	**11 56 53.5**	**+0.4**
	comp=Z,8.0nm,0.8s								
WERN	**Wernitzgruen**	**77.56**	**335**	*e*P		**P**	**11 56 53.9**	**+0.5**
	comp=Z,11nm,0.9s								
TXAR	**Lajitas Array**	**77.84**	**60**	P		**P**	**11 56 56.0**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=297,slow=3.6,SNR=15								
TXAR	**Lajitas Array**	**77.84**	**60**	P		**P**	**11 56 56.0**	**+0.6**
TXAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
TXAR	**Lajitas Array**	**77.84**	**60**	*e*P		**P**	**11 56 56.0**	**+0.6**
BUG	**Bochum--Univer**	**77.89**	**339**	*e*P		**P**	**11 56 55.5**	**+0.4**
	comp=Z,14nm,0.8s								
MANZ	**Manzenberg**	**77.90**	**335**	*e*P		**P**	**11 56 55.6**	**+0.3**
	comp=Z,7.0nm,0.9s								
ROTZ	**Rotzenmuhle**	**78.07**	**335**	*e*P		**P**	**11 56 57.1**	**+0.9**
	comp=Z,9.0nm,1.0s								
KHC	**Kasperske Hory**	**78.23**	**334**	*e*P		**P**	**11 56 57.5**	**+0.3**
KHC				*ex*		x	11 57 02.1		
KHC				AMS		AMS	12 33 20.0		
	comp=Z,100nm,18.1s								
KHC	**Kasperske Hory**	**78.23**	**334**	*e*P		**P**	**11 56 57.5**	**+0.3**
KHC				*e*			11 57 02.1		
KHC				MLR		MLR			
	comp=Z,100nm,18.1s								
KHC	**Kasperske Hory**	**78.23**	**334**	*e*P		**P**	**11 56 57.5**	**+0.3**
KHC	**Kasperske Hory**	**78.23**	**334**	*e*P		**P**	**11 56 57.4**	**+0.3**
	comp=Z,4.0nm,0.8s								
BR131	**Keskin Array S**	**78.28**	**316**	*e*P		**P**	**11 56 58.3**	**+0.6**
	comp=Z,3.6nm,0.8s								
BRTR	**Keskin Array B**	**78.28**	**316**	P		**P**	**11 56 58.5**	**+0.8**
	comp=Z,5.1nm,0.8s,baz=67,slow=4.2,SNR=16								
BRTR				LR		LR	12 37 17.5		
	comp=Z,41nm,18.5s,baz=46,slow=40								
GRF	**Grafenberg Arr**	**78.42**	**336**	*e*P		**P**	**11 56 59.0**	**+0.8**
	comp=Z,18nm,0.8s								
WET	**Wettzell**	**78.43**	**334**	*e*P		**P**	**11 56 59.0**	**+0.8**
	comp=Z,9.0nm,0.8s								
GEC2	**GERESS Array S**	**78.44**	**334**	*e*P		**P**	**11 56 58.7**	**+0.3**
	comp=Z,5.0nm,0.7s								
GERES	**GERESS Array B**	**78.44**	**334**	P		**P**	**11 56 58.6**	**+0.2**
	comp=Z,3.9nm,0.7s,baz=33,slow=5.1,SNR=23								
GERES				LR		LR	12 35 50.4		
	comp=Z,86nm,18.2s,baz=56,slow=39								
GERES	**GERESS Array B**	**78.44**	**334**	P		**P**	**11 56 58.6**	**+0.2**
GERES				pmax		pmax			
	comp=Z,4.0nm,0.7s								
GERES				MLR		MLR			
	comp=Z,86nm,18.2s								
TNS	**Taunus Mts**	**78.70**	**337**	*e*P		**P**	**11 57 00.3**	**+0.5**
	comp=Z,12nm,0.8s								
MEM	**Membach**	**78.97**	**339**	P		**P**	**11 57 01.9**	**+0.8**
	comp=Z,11nm,1.0s								
PKSM	**Moragy**	**79.13**	**329**	⇓P		**P**	**11 57 02.1**	**0.0**
PKSM	**Moragy**	**79.13**	**329**	⇓*i*P		**P**	**11 57 02.1**	**0.0**
MOA	**Molln**	**79.15**	**333**	⇑*i*P		**P**	**11 57 02.7**	**+0.4**
	comp=Z,7.3nm,0.8s								
BCLA	**Clavier**	**79.32**	**339**	P		**P**	**11 57 03.7**	**+0.7**
	comp=Z,6.4nm,1.1s								
RJOB	**Jochberg**	**79.71**	**334**	*e*P		**P**	**11 57 06.2**	**+0.9**
	comp=Z,8.0nm,0.7s								
SOKA	**Soboth**	**79.94**	**332**	*i* P		**P**	**11 57 07.2**	**+0.6**
	comp=Z,12nm,0.8s,SNR=7.7								
KBA	**Koelnbreinsper**	**80.13**	**333**	⇑*i*P		**P**	**11 57 08.4**	**+0.7**
	comp=Z,15nm,0.6s								
BFO	**Black Forest**	**80.46**	**337**	*e*P		**P**	**11 57 09.6**	**+0.2**
	comp=Z,11nm,0.9s								
BFO	**Black Forest**	**80.46**	**337**	*i* P		**P**	**11 57 09.5**	**+0.2**
VTS	**Vitosha**	**80.50**	**325**	⇑P		**P**	**11 57 10.0**	**+0.2**
VTS	**Vitosha**	**80.50**	**325**	⇑*i*P		**P**	**11 57 10.0**	**+0.2**
MOTA	**Moosalm**	**80.57**	**335**	⇓*i*P		**P**	**11 57 10.6**	**+0.6**
	comp=Z,11nm,0.7s,SNR=6.3								
ABTA	**Abfaltersbach**	**80.68**	**333**	⇓*i*P		**P**	**11 57 10.7**	**+0.1**
	comp=Z,4.6nm,0.7s								
ECH	**Echery**	**80.88**	**337**	⇑*e*P		**P**	**11 57 11.4**	**-0.1**
THEF	**They Montfort**	**81.17**	**338**	⇑*e*P		**P**	**11 57 13.2**	**+0.1**
MOF	**Molkenrain**	**81.22**	**337**	⇑*e*P		**P**	**11 57 13.3**	**-0.1**
LOMF	**Lomont**	**81.76**	**337**	⇑*e*P		**P**	**11 57 16.8**	**+0.5**
PPT	**Papeete**	**82.33**	**125**	LR		LR	12 28 18.3		
	comp=Z,78nm,18.6s,baz=302,slow=32								
PLDF	**La Plantade**	**83.87**	**339**	⇑*e*P		**P**	**11 57 27.7**	**+0.5**
RAYN	**Ar Rayn**	**84.21**	**298**	*e*P		**P**	**11 57 29.9**	**+0.6**
	comp=Z,5.3nm,0.9s								
ESDC	**Sonseca Array**	**91.59**	**342**	LR		LR	12 46 10.7		
	comp=Z,26nm,18.0s,baz=270,slow=40								
TORD	**Torodi Ar. Bea**	**115.05**	**329**	PKP		**PKPdf**	**12 03 38.2**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=27,slow=3.2,SNR=2.4								
LPAZ	**La Paz**	**134.69**	**62**	PKP		**PKPdf**	**12 04 18.4**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=331,slow=5.1,SNR=3.6								
PLCA	**Paso Flores**	**148.51**	**95**	PKPbc		**PKPbc**	**12 04 44.4**	**+0.6**
	comp=Z,6.1nm,0.9s,baz=312,slow=7.3,SNR=3.1								
PLCA	**Paso Flores**	**148.51**	**95**	PKP2		**PKPbc**	**12 04 44.4**	**+0.6**
PLCA				pmax		pmax			
	comp=Z,6.0nm,0.9s								
CPUP	**Villa Florida**	**148.82**	**60**	PKPbc		**PKPbc**	**12 04

mb4.4/21,MS3.6/8,Error ellipse: s-maj=6.9km s-min=4.9km az=16.3
*DJA **24** 12:08:50.9±2.2,11°S±6°×11°8E±°,h16km±30km,M4.9/21, mb5.0/9,mB5.3/3,MLv4.8/21,Mw(mB)4.7/3*
*NEIC **24** 12:08:52.5±0.4,10°37′S×117°51′E,h35km±,mb4.7/7,Error ellipse: s-maj=10.9km s-min=8.3km az=223.0*

ISC 24 12:08:52.6±0.5,10°39′S±0°07′×117°53′E±0°05,h35km±,n56, σ1s70/49,mb4.5/20,MS3.6/8,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.98**	**68**	P	**Pn**	**12 09 25.0**	**+1.4**
WBSI				S	**Sn**	**12 09 52.4**	**+5.2**
WSI	**Waingapu**	**2.82**	**75**	P	**Pn**	**12 09 37.2**	**+2.1**
IGBI	**Denpasar**	**2.83**	**303**	P	**Pn**	**12 09 34.8**	**-0.5**
IGBI				S	**Sn**	**12 10 09.3**	**+1.1**
DNP	**Denpasar**	**2.86**	**306**	P	**Pn**	**12 09 36.9**	**+1.2**
DNP				S	**Sn**	**12 10 14.7**	**+5.8**
ABJI	**Asem Bagus**	**4.16**	**308**	P	Pn	12 09 58.3	+4.7
BLJI	**Banyuglugur**	**4.70**	**304**	P	**Pn**	**12 10 01.6**	**+0.6**
MMRI	**Maumere** 173nm,1.2s,2μm0.8nm	**4.96**	**70**	P	**Pn**	**12 10 05.4**	**+0.8**
MMRI	**Maumere**	**4.96**	**70**	*e*Pn	**Pn**	**12 10 05.7**	**+1.1**
BSSI	**Bau Bau, Buton** 380nm,0.6s,5μm1.7nm	**5.14**	**35**	P	Pn	12 10 10.8	+3.7
BKSI	**Bulukumba** 160nm,0.6s,2μm0.6nm	**5.65**	**27**	P	Pn	12 10 17.7	+3.5
KAPI	**Kappang** 3.9nm,0.3s,baz=188,slow=6.1,SNR=16	**5.78**	**23**	Pn	**Pn**	**12 10 19.0**	**+3.1**
KAPI	4.1nm,0.3s,baz=236,slow=16,SNR=4.1			Sn	**Sn**	**12 11 23.4**	**+2.4**
KAPI	comp=Z,846nm,18.9s,baz=232,slow=44			LR	LR	12 12 57.5	
PWJI	**Pagerwojo** 88nm,1.1s,0.5nm	**6.13**	**292**	P	**Pn**	**12 10 21.7**	**+1.0**
SOEI	**Soe** 69nm,0.7s,0.5nm	**6.66**	**85**	P	**Pn**	**12 10 29.0**	**+0.8**
SOEI	**Soe** 65nm,0.8s	**6.66**	**85**	*e*Pn	**Pn**	**12 10 29.2**	**+1.0**
SPSI	**Sidrap Palu** 34nm,0.8s,0.1nm	**6.76**	**19**	P	Pn	12 10 34.8	+5.4
UGM	**Wanagama**	**7.35**	**289**	P	**Pn**	**12 10 39.2**	**+1.7**
MBWA	**Marble Bar** 20nm,0.4s	**10.91**	**169**	*e*Pn	Pn	12 11 20.3	-6.0
MBWA				*e*Sn	Sn	12 13 07.9	-19
FAKI	**Fak Fak** 37nm,0.9s	**16.39**	**64**	*e*Pn	**Pn**	**12 12 38.4**	**-1.6**
SIJI	**Sorong** 1.0nm,0.3s,baz=164,slow=10.0,SNR=5.3	**16.61**	**56**	Pn	**Pn**	**12 12 41.1**	**-1.9**
SIJI	comp=Z,269nm,20.3s,baz=222,slow=39			LR	LR	12 19 37.5	
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=296,slow=13,SNR=22	**18.78**	**122**	P	**P**	**12 13 06.5**	**-2.6**
WRA	0.2nm,0.3s,baz=292,slow=23,SNR=3.1			S	Sn	12 16 20.5	-18
WRA	comp=Z,251nm,19.7s,baz=280,slow=38			LR	LR	12 20 48.7	
AS31	**Alice Springs**	**20.45**	**132**	*e*P	**P**	**12 13 27.2**	**0.0**
ASAR	**Alice Springs** 4.5nm,0.7s,baz=310,slow=10.0,SNR=45	**20.45**	**132**	P	**P**	**12 13 27.4**	**+0.1**
ASAR	2.1nm,0.7s,baz=303,slow=22,SNR=4.5			S	S	12 17 03.8	-11
ASAR	comp=Z,223nm,19.3s,baz=307,slow=37			LR	LR	12 21 21.9	
NWAO	**Narrogin (SRO)** 7.1nm,0.8s,baz=162,slow=1.2,SNR=3.5	**22.43**	**181**	P	**P**	**12 13 49.4**	**+1.0**
NWAO	30nm,0.6s,baz=332,slow=0.7,SNR=11			S	S	12 17 42.4	-10
PSI	**Prapat** 7.8nm,0.7s,baz=117,slow=14,SNR=6.3	**22.70**	**304**	P	**P**	**12 13 50.1**	**-1.4**
STKA	**Stephens Creek** 2.8nm,0.8s,baz=349,slow=6.7,SNR=3.3	**30.86**	**137**	P	**P**	**12 15 05.7**	**0.0**
STKA	2.6nm,1.0s,baz=317,slow=6.4,SNR=3.2			PcP	**PcP**	**12 18 02.0**	**-0.1**
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=157,slow=7.1,SNR=5.3	**34.03**	**327**	P	**P**	**12 15 33.1**	**-0.5**
CMAR	comp=Z,200nm,19.6s,baz=156,slow=41			LR	LR	12 31 50.1	
H08S2	**Diego Garcia H** baz=72,slow=75,SNR=167	**44.54**	**270**	T	T	13 03 36.5	
H08S3	**Diego Garcia H** baz=72,slow=75,SNR=170	**44.55**	**270**	T	T	13 03 36.6	
H08S1	**Diego Garcia H** baz=72,slow=75,SNR=216	**44.56**	**270**	T	T	13 03 35.4	
H08N1	**Diego Garcia H** baz=112	**46.17**	**271**	T	T	13 05 43.7	
H08N2	**Diego Garcia H** baz=112	**46.18**	**271**	T	T	13 05 48.0	
H08N3	**Diego Garcia H** baz=112	**46.19**	**271**	T	T	13 05 48.1	
KSAR	**Wonju Array Be**	**48.56**	**11**	P	**P**	**12 17 32.4**	**-0.1**
KSRS	**Korea Array** 6.7nm,1.0s,baz=189,slow=7.8,SNR=36	**48.58**	**11**	P	**P**	**12 17 32.4**	**-0.2**
KSRS	comp=Z,55nm,18.3s,baz=212,slow=38			LR	LR	12 39 23.5	
MAT	**Matsushiro**	**50.58**	**22**	P	**P**	**12 17 46.0**	**-2.0**
MJAR	**Matsushiro Arr** 4.5nm,0.8s,baz=198,slow=9.1,SNR=12	**50.58**	**22**	P	**P**	**12 17 46.4**	**-1.6**
MJAR	comp=Z,44nm,21.6s,baz=200,slow=34			LR	LR	12 37 30.8	
USRK	**Ussuriysk Ar.** 5.4nm,0.5s,baz=185,slow=6.8,SNR=20	**55.90**	**13**	P	**P**	**12 18 26.3**	**-0.6**
SONM	**Songino Array** 7.3nm,0.8s,baz=171,slow=8.6,SNR=27	**58.81**	**351**	P	**P**	**12 18 47.0**	**-0.5**
SONM	comp=Z,80nm,18.7s,baz=232,slow=39			LR	LR	12 47 16.4	
KBL	**Kabul** 11nm,0.6s	**64.08**	**317**	*e*P	**P**	**12 19 22.1**	**-1.5**
TKM2	**Tokmak 2** 2.3nm,0.8s	**65.42**	**327**	*e*P	**P**	**12 19 31.5**	**-0.6**
EKS2	**Erkin-Say** 7.6nm,1.0s	**66.23**	**326**	*e*P	**P**	**12 19 36.7**	**-0.5**
ZAA0	**Zalesovo Array**	**69.84**	**340**	*e*P	**P**	**12 19 58.0**	**-1.4**
ZALV	**Zalesovo Beam** 3.7nm,0.6s,baz=147,slow=4.4,SNR=9.0	**69.84**	**340**	P	**P**	**12 19 57.8**	**-1.6**
VNDA	**Vanda** 1.4nm,1.0s,baz=344,slow=9.1,SNR=2.6	**70.85**	**171**	P	**P**	**12 20 06.1**	**+0.7**
PETK	**Petropavlovsk-** comp=Z,16nm,18.6s,baz=221,slow=38	**71.93**	**24**	LR	LR	12 54 20.2	
ABKAR	**Akbulak array** 6.0nm,0.8s	**77.87**	**326**	*e*P	**P**	**12 20 46.4**	**-0.3**
RAYN	**Ar Rayn** 2.7nm,0.4s	**78.03**	**297**	*e*P	**P**	**12 20 48.3**	**+0.1**
TIXI	**Tiksi** 8.3nm,0.9s	**82.21**	**4**	*e*P	**P**	**12 21 08.3**	**-1.3**
KBZ	**Khabaz** 5.2nm,0.8s,baz=102,slow=1.1,SNR=5.6	**86.24**	**316**	P	**P**	**12 21 31.4**	**+0.8**
BOSA	**Boshof** 1.6nm,0.7s,baz=104,slow=5.7,SNR=3.9	**87.08**	**242**	P	**P**	**12 21 36.1**	**+0.8**
SNAA	**Sanae** 0.6nm,0.9s,baz=203,slow=6.7,SNR=11	**89.28**	**196**	P	**P**	**12 21 45.8**	**+0.9**
BRTR	**Keskin Array B** 0.8nm,0.7s,baz=162,slow=5.2,SNR=4.0	**91.91**	**310**	P	**P**	**12 21 58.0**	**+0.1**
BRTR	comp=Z,27nm,19.4s,baz=132,slow=38			LR	LR	13 07 41.4	
FINES	**FINESS Array B** 1.5nm,0.6s,baz=90,slow=7.6,SNR=8.7	**99.74**	**331**	P	**Pdif**	**12 22 31.4**	**-1.3**
FINES	comp=Z,36nm,18.5s,baz=150,slow=39			LR	LR	13 12 51.8	
H09W1	**TRISTAN DA CUNI** SNR=5.8	**113.36**	**222**	T	T	14 34 01.0	
NVAR	**Mina Array Bea** 0.5nm,0.8s,baz=153,slow=0.4,SNR=4.4	**123.01**	**51**	PKP	**PKPdf**	**12 27 47.6**	**+1.6**
LPAZ	**La Paz** 1.1nm,0.8s,baz=207,slow=2.3,SNR=4.0	**152.90**	**168**	PKPbc	**PKPbc**	**12 28 48.6**	**+0.7**
LPAZ	2.3nm,0.9s,baz=112,slow=7.5,SNR=6.1			PKPab	**PKPab**	**12 28 59.2**	**+0.4**

DJA 24 12:10:14.6±1.0,2°N±9°×9°7E±°,h20km±23km,M3.7/6, MLv3.6/4,MLv3.8/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.93**	**173**	P	Pb	12 10 31.2	-0.8
TSI	**Tuntungan**	**1.68**	**41**	P	Pn	12 10 42.7	-0.1
TSI				S	Sn	12 11 04.2	+0.5
LHMI	**Lhok Sumawe**	**3.02**	**350**	P	Pn	12 11 01.6	+0.2
LHMI				S	Sn	12 11 38.6	+1.6

*ISCJB **24** 12:15:22.4±0.5,28°.28S±0°.04×67°.43W±0°.07,h135km, mb3.7/1,Error ellipse: s-maj=9.6km s-min=5.0km az=27.6*
*IDC **24** 12:15:22.1±1.2,28°23S×67°48W,h116km±14km,mb3.7/1, mb1 3.3/5,mb1mx3.2/20,mbtmp3.7/5,Error ellipse: s-maj=31.9km s-min=10.6km az=92.0*

*SJA **24** 12:15:22.4±0.7,28°.25S×67°.46W,h131km±3km,ML3.5*
ISC 24 12:15:23.0±0.8,28°22S±0°05×67°47W±0°08,h135km,n18, σ0s95/25,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VCA	**Vinchina**	**0.82**	**231**	*i* P	**Pn**	**12 15 44.8**	**-0.2**
VCA				*i* S	**Sn**	**12 16 00.7**	**-1.0**
CYA	**Choya**	**1.49**	**99**	*i* P	**Pn**	**12 15 51.5**	**+0.2**
CYA				*i* S	**Sn**	**12 16 11.9**	**-1.0**
CYA	comp=Z,374nm,0.5s			AML	AML	12 16 12.7	
AHML	**Horco Molle**	**2.38**	**53**	*i* P	**Pn**	**12 16 02.2**	**+0.2**
AMOG	**MOGNA**	**2.85**	**198**	*i* P	**Pn**	**12 16 07.9**	**+0.1**
AMOG				*i* S	**Sn**	**12 16 41.7**	**-0.8**
RTLL	**Cerro Villicun**	**3.21**	**195**	*i* P	**Pn**	**12 16 12.7**	**+0.1**
RTLL				*i* S	**Sn**	**12 16 49.8**	**-1.1**
CFAA	**Coronel Fontan** comp=Z,1.0nm,0.3s,baz=36,slow=19,SNR=84	**3.43**	**191**	P	**Pn**	**12 16 15.4**	**0.0**
CFAA	comp=Z,2.7nm,0.3s,baz=161,slow=17,SNR=26			S	**Sn**	**12 16 54.2**	**-1.9**
RTLS	**Leoncito**	**3.90**	**203**	*i* P	**Pn**	**12 16 22.1**	**+0.4**
RTLS				*i* P	**Pn**	**12 16 22.1**	**+0.4**
TCA	**Tanti**	**3.98**	**142**	*i* P	**Pn**	**12 16 22.5**	**-0.2**
AUSP	**Uspallata**	**4.32**	**202**	*i* P	**Pn**	**12 16 27.6**	**+0.3**
ASAL	**Salagasta**	**4.51**	**195**	*i* P	**Pn**	**12 16 29.6**	**0.0**
ASTB	**Santa Barbara**	**5.04**	**33**	*i* P	**Pn**	**12 16 37.7**	**+0.9**
LVC	**Limon Verde** comp=Z,64nm,0.3s,baz=165,slow=9.9,SNR=12	**5.74**	**347**	P	**Pn**	**12 16 47.1**	**+0.8**
LVC	comp=Z,51nm,0.3s,baz=150,slow=21,SNR=5.2			S	**Sn**	**12 17 48.7**	**-2.6**
CPUP	**Villa Florida** comp=Z,0.2nm,0.3s,baz=240,slow=14,SNR=2.9	**9.22**	**81**	P	**Pn**	**12 17 31.7**	**-1.1**
LPAZ	**La Paz** comp=Z,0.1nm,0.3s,baz=191,slow=5.2,SNR=3.6	**11.89**	**357**	P	**Pn**	**12 18 09.3**	**+0.3**
TORD	**Torodi Ar. Bea** comp=Z,1.3nm,0.7s,baz=250,slow=5.8,SNR=6.7	**78.50**	**68**	P	**P**	**12 27 10.6**	**+1.0**
ASAR	**Alice Springs** comp=Z,0.2nm,0.6s,baz=118,slow=1.4,SNR=3.7	**124.44**	**204**	PKP	**PKPdf**	**12 34 07.2**	**+0.5**
WRA	**Warramunga Arr** comp=Z,2.3nm,0.9s,baz=152,slow=1.8,SNR=3.8	**127.68**	**206**	PKP	**PKPdf**	**12 34 14.0**	**+1.0**
ZALV	**Zalesovo Beam** comp=Z,1.2nm,0.4s,baz=299,slow=2.6,SNR=6.1	**147.27**	**31**	PKPbc	**PKPab**	**12 34 52.0**	**-0.2**

IDC 24 12:20:55.5±1.6,2°21S×136°47E,h0km,mb3.5/2, mb1 3.9/5,mb1mx3.5/22,mbtmp3.6/5,ML3.4/3,MS3.4/3, Ms1 3.4/3,ms1mx3.0/19,Error ellipse: s-maj=30.1km s-min=26.8km az=168.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura** 1.4nm,0.3s,baz=248,slow=8.4,SNR=7.2	**4.24**	**94**	Pn	Pn	12 22 01.7	+0.2
JAY	0.7nm,0.3s,baz=204,slow=20,SNR=2.4			Sn	Sn	12 22 50.2	-1.7
JAY	comp=Z,189nm,19.6s,baz=331,slow=48			LR	LR	12 24 19.8	
SIJI	**Sorong** 0.9nm,0.3s,baz=108,slow=20,SNR=2.7	**5.37**	**284**	Pn	Pn	12 22 16.0	-1.0
KAPI	**Kappang** comp=Z,148nm,18.9s,baz=132,slow=43	**16.91**	**260**	LR	LR	12 32 57.3	
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=8.6,slow=12,SNR=12	**17.75**	**187**	P	Pn	12 25 03.3	-0.9
WRA	0.1nm,0.3s,baz=3.0,slow=23,SNR=3.9			S	Sn	12 28 15.0	-7.8
ASAR	**Alice Springs** 1.1nm,0.7s,baz=9.3,slow=11,SNR=14	**21.47**	**186**	P	P	12 25 46.1	+0.2
ASAR	comp=Z,156nm,21.7s,baz=352,slow=39			LR	LR	12 34 52.4	
ILAR	**Eielson Array** 0.5nm,0.9s,baz=265,slow=5.3,SNR=5.6	**86.31**	**25**	P	P	12 33 39.6	+0.5

DJA 24 12:30:57.3±1.2,1°N±5°×97°E±°,h31km±7km,M3.7/4, MLv3.7/4,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.57**	**53**	P	Pn	12 31 10.1	+0.8
GSI				S	Sn	12 31 18.1	+0.5
PBSI	**Pulau Batu**	**1.54**	**131**	P	Pn	12 31 21.3	-1.3
PBSI				S	Sb	12 31 43.6	-0.7
MNSI	**Mandailing Nat**	**2.46**	**94**	P	Pn	12 31 34.5	-0.9
MNSI				S	Sn	12 32 05.9	+1.5

KRSC 24 12:47:06.5±1.4,50°40N×157°40E,h15km±7km,ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.86**	**289**	*e*P	Pb	12 47 22.5	-0.7
SKR				*e*S	Sb	12 47 33.9	-0.7
ASAK	**Asacha**	**2.01**	**9**	*e*P	Pb	12 47 42.0	-0.8
MTVR	**Mutnovka**	**2.14**	**13**	*e*S	Sb	12 48 10.3	-1.3
RUS	**Russkaya**	**2.15**	**19**	*e*P	Pn	12 47 43.3	+1.5
RUS				*e*S	Sn	12 48 09.6	+1.5
UGLR	**Uglovaya**	**2.94**	**17**	*e*P	Pn	12 47 55.2	+2.3
AVH	**Avacha**	**2.98**	**16**	*e*P	Pb	12 47 56.5	-3.0
KOK	**Koryaka**	**2.99**	**14**	*e*P	Pb	12 47 56.9	-2.7
SDLR	**Sedlovina**	**3.02**	**17**	*e*P	Pn	12 47 55.5	+1.5
KRX	**Arik**	**3.06**	**14**	*e*P	Pb	12 47 58.0	-2.8
SPN	**Mys Shipunski**	**3.15**	**30**	*e*P	Pn	12 47 57.6	+2.0
GNL	**Ganaly**	**3.31**	**6**	*e*P	Pn	12 48 01.4	+3.4

*IDC **24** 12:48:01.1±1.8,12°.81N×92°.47E,h0km,mb3.7/4, mb1 3.7/5,mb1mx3.4/38,mbtmp3.5/5,Error ellipse: s-maj=60.5km s-min=22.0km az=74.0*
ISC 24 12:48:06.8±1.3,12°9N±0°1×92°8E±0°2,h31km,n9,σ1s21/8, mb3.6/4,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr** baz=232,slow=14,SNR=3.2	**8.10**	**47**	Pn	**Pn**	**12 50 04.1**	**+1.7**
CMAR	0.3nm,0.3s,baz=227,slow=24,SNR=2.9			Sn	**Sn**	**12 51 31.3**	**-1.7**
PALK	**Pallekele** 0.7nm,0.3s,baz=135,slow=18,SNR=4.4	**13.13**	**246**	Sn	Sn	12 53 16.1	-20
H08S3	**Diego Garcia H** baz=44,slow=76,SNR=29	**28.69**	**226**	T	T	13 23 32.7	
H08S2	**Diego Garcia H** baz=44,slow=76,SNR=34	**28.69**	**226**	T	T	13 23 33.4	
H08S1	**Diego Garcia H** baz=44,slow=76,SNR=36	**28.71**	**226**	T	T	13 23 36.8	
SONM	**Songino Array** 0.3nm,0.3s,baz=211,slow=8.2,SNR=3.2	**36.61**	**15**	P	**P**	**12 55 10.9**	**+0.6**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=160,slow=8.8,SNR=2.9	**41.39**	**353**	P	**P**	**12 55 49.2**	**-0.9**
WRA	**Warramunga Arr** 0.7nm,0.9s,baz=301,slow=9.7,SNR=8.9	**52.37**	**128**	P	**P**	**12 57 15.7**	**-0.7**
WRA	0.8nm,1.1s,baz=322,slow=3.2,SNR=4.9			PcP	**PcP**	**12 58 27.2**	**0.0**
ASAR	**Alice Springs** 0.3nm,0.3s,baz=312,slow=7.2,SNR=25	**54.25**	**132**	P	**P**	**12 57 30.3**	**+0.1**
ASAR	0.2nm,0.6s,baz=327,slow=4.4,SNR=2.7			PcP	**PcP**	**12 58 34.2**	**-0.1**

NNC 24 13:02:14.0±1.3,36°.85N×70°.35E,h188km±11km,mb2.7, mpv3.7,8C-4D,Error ellipse: s-maj=13.6km s-min=6.5km az=163.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino** 17nm,0.3s	**2.29**	**329**	⇑P	Pn	13 02 54.9	-0.1
DZET	12nm,0.2s			⇓S	Sn	13 03 27.3	+0.3
SFK	**Sufi-Kurgan** 3.2nm,0.3s	**4.01**	**37**	⇑P	Pn	13 03 15.4	-0.4
SFK	22nm,0.5s			⇓S	Sn	13 04 05.3	+1.0
KK31	**Karatay Array** 0.6nm,0.2s,baz=189,slow=18,SNR=28	**6.25**	**1**	⇑P	Pn	13 03 45.5	+1.2
KK31	1.3nm,0.3s,baz=169,slow=32,SNR=3.6			⇑S	Sn	13 04 55.8	+0.2
AAK	**Ala-Archa** 2.4nm,0.5s	**6.60**	**28**	⇓P	Pn	13 03 48.8	-0.2
AAK	173nm,0.1s			⇓S	Sn	13 05 04.3	+0.1
TKM2	**Tokmak 2** 9.0nm,0.5s	**7.28**	**32**	⇑P	Pn	13 03 57.5	-0.6
TKM2	7.3nm,1.2s			⇑S	Sn	13 05 20.0	-0.4
AB31	**Akbulak array** 0.4nm,0.3s,baz=135,slow=11,SNR=10	**14.53**	**332**	⇑P	P	13 05 31.9	-0.3
AKTO	**Aktyubinsk** 4.4nm,0.8s	**16.22**	**331**	⇑P	P	13 05 50.4	-0.5

*ISCJB **24** 13:17:17.5±0.3,32°.76N±0°.02×115°.95W±0°.02,h8km±3km, Error ellipse: s-maj=3.6km s-min=3.0km az=14.9*
*ECX **24** 13:17:18.9±0.6,32°.71N×115°.95W,h3km,MD3.3,ML3.5*
*NEIC **24** 13:17:18.7,32°.71N×115°.95W,h2km,ML3.5(PAS), ML3.6(ECX),After PAS.*

ISC 24 13:17:18.6±0.9,32°71N±0°02×115°95W±0°02,h8km±7km, n27,σ0s75/49,11C-5D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.07**	**158**	⇓*i*P	**Pg**	**13 17 20.0**	**-0.4**
RMX	**La Rumorosa**	**0.15**	**224**	⇑*i*P	**Pg**	**13 17 21.9**	**+0.1**
RMX				*e*S	**Sg**	**13 17 24.4**	**+0.4**
RMX	comp=N,10μm,0.2s			IAML		13 17 24.8	
RMX				*e*		13 17 24.8	
CRR	**Carrizo Plain**	**0.17**	**356**	⇓*i*P	**Pg**	**13 17 22.2**	**0.0**
WESC	**Westside Schoo**	**0.19**	**76**	⇑*i*P	**Pg**	**13 17 22.5**	**0.0**
WESC				*e*S	**Sg**	**13 17 26.0**	**+0.8**
SGL	**Mount Signal**	**0.20**	**108**	⇑*i*P	**Pg**	**13 17 22.4**	**-0.2**
COK	**Cook Ranch**	**0.23**	**54**	⇑*i*P	**Pg**	**13 17 23.4**	**+0.1**
ERPC	**Ernies Place**	**0.25**	**83**	⇑*i*P	**Pg**	**13 17 23.8**	**+0.3**
BAR	**Barrett**	**0.61**	**267**	*e*Pg	**Pg**	**13 17 30.2**	**0.0**
BAR				*e*Sg	**Sg**	**13 17 38.4**	**+0.2**
BAR	**Barrett**	**0.61**	**267**	⇑*i*P	**Pg**	**13 17 30.3**	**0.0**
BAR				*e*S	**Sg**	**13 17 38.5**	**+0.3**
CPBX	**Cerro Prieto**	**0.62**	**118**	*e*Pn	**Pg**	**13 17 31.0**	**+0.4**
CPBX				*e*S	**Sg**	**13 17 39.2**	**+0.5**
CPBX				⇓*e*		13 17 41.9	
CPBX	comp=E,9μm,0.2s			IAML		13 17 41.9	
CBX	**Cerro Bola**	**0.72**	**237**	⇑*e*P	**Pg**	**13 17 32.4**	**-0.1**
CBX				*e*S	**Sg**	**13 17 42.1**	**+0.3**
CBX				*e*		13 17 43.4	
CBX	comp=E,2μm,0.3s			IAML		13 17 43.4	
RDX	**Rancho Dawling**	**0.78**	**179**	⇓*e*P	**Pg**	**13 17 32.8**	**-0.9**
RDX	comp=N,2μm,0.3s			IAML		13 17 44.1	
RDX				⇓*e*		13 17 44.1	
SDRC	**San Diego Road**	**0.83**	**272**	⇑*e*P	**Pg**	**13 17 34.1**	**-0.5**
SDRC				*e*S	**Sg**	**13 17 45.0**	**-0.4**
PFO	**Pinyon Flats O**	**0.99**	**335**	*e*Pn	**Pg**	**13 17 36.6**	**-1.0**
PFO				*e*Sn	**Sg**	**13 17 49.8**	**-0.7**
GLA	**Glamis**	**1.01**	**70**	*e*Pg	**Pg**	**13 17 36.3**	**-1.7**
GLA				*e*Sg	**Sg**	**13 17 49.4**	**-1.6**
ECBX	**El Chinero**	**1.46**	**148**	*e*P	Pn	**13 17 43.8**	**-1.4**
ECBX				*e*S	**Sb**	**13 18 03.7**	**-0.8**
SPIG	**San Pedro Mart**	**1.71**	**166**	⇑*e*P	**Pn**	**13 17 50.2**	**+1.1**
SPX	**San Pedro Mart**	**1.71**	**166**	⇓*e*P	**Pn**	**13 17 50.2**	**+1.1**
SPX				⇑*e*		13 18 14.9	
SPX	comp=E,324nm,0.3s			IAML		13 18 14.9	
PASC	**Pasadena Art C**	**2.37**	**309**	*e*Pn	**Pn**	**13 17 57.3**	**-0.4**
PASC				*e*Pg	**Pg**	**13 18 03.7**	**-0.2**
PASC				*e*Sn	**Sn**	**13 18 27.6**	**+0.6**
LDFC	**Landfair**	**2.46**	**16**	Pn	**Pn**	**13 17 59.6**	**+0.4**
LDFC				*e*Pg	**Pg**	**13 18 06.2**	**+0.5**
LDFC				*e*Sn	**Sn**	**13 18 30.5**	**+0.9**
214A	**Organ Pipe Nat**	**2.77**	**105**	*e*Pn	Pn	13 18 00.7	-2.6
214A				*e*Pg	**Pg**	**13 18 11.5**	**-0.1**
214A				*e*Sn	**Sn**	**13 18 37.9**	**+1.0**
OSI	**Osito Audit: C**	**2.99**	**310**	*e*Pn	**Pn**	**13 18 05.4**	**-1.0**
OSI				*e*Sn	**Sn**	**13 18 42.9**	**+0.4**
OSI				*e*Sg	**Sg**	**13 18 54.3**	**-0.3**
DAC	**Darwin (Calif)**	**3.81**	**340**	*e*Pn	**Pn**	**13 18 18.1**	**+0.4**
DAC				*e*Pg	**Pg**	**13 18 31.5**	**0.0**
DAC				*e*Sn	**Sn**	**13 19 04.2**	**+1.4**
SHPR	**Sheep Range**	**3.84**	**10**	*e*Pn	**Pn**	**13 18 18.1**	**-0.1**
SHPR				*e*Pg	**Pg**	**13 18 32.3**	**+0.2**
SHPR				*e*Sg	**Sg**	**13 19 21.6**	**-0.4**
TUC	**Tucson**	**4.39**	**94**	*e*Pn	**Pn**	**13 18 24.4**	**-1.2**
WUAZ	**Wupatki**	**4.72**	**52**	*e*Pn	**Pn**	**13 18 30.3**	**+0.1**
WUAZ				*e*Pg	**Pg**	**13 18 50.3**	**+1.4**
121A	**Cookes Peak, D** comp=E,9.4nm,0.3s	**6.89**	**89**	*e*Pn	**Pn**	**13 18 59.3**	**-0.9**

*IDC **24** 13:20:25.4±0.7,1°.64S×136°.35E,h0km,mb4.0/9, mb1 4.2/11,mb1mx3.9/29,mbtmp4.0/11,ML3.3/2,MS3.2/5, Ms1 3.2/5,ms1mx2.9/27,Error ellipse: s-maj=26.4km s-min=15.8km az=60.0*
*ISCJB **24** 13:20:27.5±0.5,1°.63S±0°.06×136°.31E±0°.04,h23km, mb4.1/8,MS3.4/3,Error ellipse: s-maj=8.8km s-min=5.3km az=179.7*
*DJA **24** 13:20:28.9±0.4,2°S±6°×13°6E±°,h10km,M4.3/7,mb4.4/2, MLv4.3/7*

ISC 24 13:20:28.9±0.7,1°75S±0°09×136°32E±0°05,h23km,n20, σ1s50/22,mb4.1/8,MS3.6/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.15**	**214**	P	**Pb**	**13 20 33.0**	**-0.8**
SRPI				S	**Sb**	**13 20 37.6**	**+0.6**
SMPI	**Sarmi**	**2.40**	**96**	P	**Pn**	**13 21 06.5**	**-0.3**
SMPI				S	**Sn**	**13 21 35.7**	**+0.1**
GENI	**Genyem**	**3.94**	**102**	P	**Pn**	**13 21 29.3**	**+1.3**
GENI				S	**Sn**	**13 22 16.1**	**+2.6**
FAKI	**Fak Fak**	**4.23**	**254**	P	**Pn**	**13 21 33.8**	**+1.7**
JAY	**Jayapura**	**4.45**	**100**	P	**Pn**	**13 21 37.0**	**+1.9**
JAY	**Jayapura** 1.5nm,0.3s,baz=256,slow=9.0,SNR=8.6	**4.45**	**100**	Pn	**Pn**	**13 21 35.0**	**-0.1**
JAY	1.3nm,0.3s,baz=342,slow=20,SNR=2.5			Sn	**Sn**	**13 22 27.1**	**+0.9**
SIJI	**Sorong** 1.3nm,0.3s,baz=79,slow=16,SNR=5.2	**5.13**	**280**	Pn	**Pn**	**13 21 45.3**	**+0.9**
SIJI	comp=Z,65nm,21.4s,baz=48,slow=35			LR	LR	13

BMAS	Trigal station	1.14	1	⇓	P		Pn	13 22 56.9	+0.6
IGUA	Igualata	1.16	353	⇓	P		Pn	13 22 57.6	+0.7
BIL2	Estacion Bilba	1.18	0		P		Pg	13 22 56.2	+0.1
BBIL	Ulba Tungurahu	1.19	1		P		Pg	13 22 56.4	+0.1
RETU	Refugio	1.19	3		P		Pn	13 22 57.9	+0.6
ULBA	Ulba	1.19	5		P		Pn	13 22 57.8	+0.7
BULB	Ulba Tungurahu	1.20	5	⇓	S		Sb	13 23 13.0	-0.3
BULB	Ulba Tungurahu	1.20	5	⇓	P		Pn	13 22 57.8	+0.5
JUI6	Juive	1.21	2		P		Pn	13 22 57.8	+0.5
BRUN	Tungurahua Vol	1.22	4		P		Pn	13 22 57.9	+0.4
RUN5	Runtun	1.22	4		P		Pb	13 22 57.2	-0.1
PISA	Pisayambo	1.58	4		P		Pn	13 23 02.9	+0.3
PISA	Pisayambo	1.58	4		S		Sn	13 23 22.2	-1.9
TAMB	Tambo	1.94	2		P		Pn	13 23 08.0	+0.3
CAMI	Rancho Maria	1.96	0		P		Pn	13 23 08.5	+0.8
BNAS	Cotopaxi Volca	1.96	1	⇓	P		Pn	13 23 07.1	-0.8
BTAM	Cotopaxi Volca	1.96	3		P		Pn	13 23 08.0	+0.1
BREF	Cotopaxi Volca	1.96	2		P		Pn	13 23 07.4	-0.7
BVC2	Cotopaxi Volca	1.98	3		P		Pn	13 23 07.1	-1.0
COV1	Cotopaxi Volc	1.98	5		P		Pn	13 23 07.5	-0.8
NAS2	Nasa	1.99	1		P		Pn	13 23 07.0	-1.2
VC1	Cotopaxi 1	1.99	3		P		Pn	13 23 07.3	-1.0
PITA	Cotopaxi Volc	2.07	2		P		Pn	13 23 09.6	+0.3
ANTI	Antisana	2.21	9		P		Pn	13 23 10.1	-1.3
JUA2	San Juan 2	2.42	358		P		Pn	13 23 14.3	+0.2
GGP	Refugio Guagua	2.46	358		P		Pn	13 23 15.6	+0.9
PINO	Pino	2.47	358		P		Pn	13 23 14.7	-0.3
YANA	Yana	2.51	359		P		Pb	13 23 17.7	-1.7
CHAR	Charly	2.67	18		P		Pn	13 23 16.1	-1.5
CAYR	Refugio Cayamb	2.69	11		P		Pn	13 23 18.5	+0.5
CONE	Cono NE Rev Vo	2.70	19		P		Pn	13 23 17.0	-0.8
MAG1	Magdalena	2.85	334		P		Pn	13 23 17.1	-2.4
OTAV	Otavalo	2.86	1	⇑	P		Pn	13 23 18.5	-1.7

ISCJB ***24*** *13:24:04.5±0.2,36°.96S±0°.04×73°.60W±0°.06,h10km, mb4.9/61, MS4.4/10, Error ellipse: s-maj=6.5km s-min=4.9km az=158.8*

IDC ***24*** *13:24:04.0±0.7,36°.96S×73°.79W,h0km,mb4.7/11, mb1 4.9/14,mb1mx4.8/20,mbtmp4.7/14,ML3.8/3,MS4.2/7, Ms1 4.1/7,ms1mx3.9/17, Error ellipse: s-maj=22.9km s-min=16.3km az=90.0*

GUC ***24*** *13:24:04.7±0.5,37°.12S×73°.98W,h23km±3km,ML5.2*

BJI ***24*** *13:24:07.1,36°.68S×73°.52W,h28km,mB5.0/12,Ms5.1/9, Ms7 4.9/9*

MOS ***24*** *13:24:08.2±1.1,36°.88S×73°.58W,h33km,mb5.2/20, Error ellipse: s-maj=19.5km s-min=9.9km az=103.7*

GCMT ***24*** *13:24:09.5±0.3,37°.07S×74°.16W,h20km±1km,MW5.0/62, Moment Tensor Solution. s24,c26; s62,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.19±.21; $M_{\theta\theta}$-0.37±.11; $M_{\phi\phi}$-2.82±.14; $M_{r\theta}$0.30±.22; $M_{\theta\phi}$-0.26±.09; $M_{\phi r}$-2.78±.26; Best double couple: M≤4.11100×10^{16} NP1:ϕ_S178.00000°,δ66.00000°,λ85.00000°. NP2: ϕ_S12.00000°,δ24.00000°,λ102.00000°. Principal axes: T 4.3080, Plg68.0000°, Azm78.0000°; N -0.3980, Plg5.0000°, Azm180.0000°; P -3.9130, Plg21.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***24*** *13:24:09.5±0.2,36°.88S×73°.54W,h35km,mb5.0/51, ML5.2(GUC) Error ellipse: s-maj=8.2km s-min=6.3km az=60.0*

NEIC Felt [IV] at Arauco, Concepcion, La Laja, Lebu, Penco, San Rosendo and Talcahuano; [III] at Angol, Curacautin and Renaico; [II] at Chanco, Cobquecura and Contulmo. Also felt at Los Angeles.

ISC 24 13:24:05.7±0.3,36°.95S±0°.04×73°.76W±0°.06,h10km,n331, σ1§42/345,mb5.0/62,MS4.4/10,5C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.53	79		*e*P		Pn	13 24 19.3	0.0
CCSP					*i* S		Sn	13 24 30.2	+1.9
CCSP					AML		AML	13 24 32.9	
	comp=E,238μm,0.5s								
PSCH	Puerto Saavedr	1.87	171		*e*P		Pn	13 24 35.5	-2.2
PSCH					*i* S		Sn	13 24 58.9	-2.4
TALC	Talca	2.31	49	⇓	*i* P		Pb	13 24 47.2	-0.3
TALC					*e*S		Sg	13 25 20.0	0.0
NICH	Los Niches	2.83	47		*e*P		Pb	13 24 54.3	-1.9
VLCH	Valdivia	2.88	172		*e*P		Pn	13 24 49.7	-1.9
CFAA	Coronel Fontan	7.02	42		Pn		Pn	13 25 48.2	-0.3
	comp=E,0.4nm,0.3s,baz=216,slow=12,SNR=19								
CFAA					Sn		Sn	13 27 10.3	+1.8
	comp=E,0.7nm,0.3s,baz=191,slow=13,SNR=3.9								
CFAA					LR		LR	13 29 00.4	
	comp=E,308nm,21.8s,baz=225,slow=42								
LCO	Las Campanas	8.32	19		*e*Pn		Pn	13 26 03.9	-2.8
LCO					*e*Sn		Sn	13 27 38.5	-2.3
TRQA	Tornquist	9.43	100		*e*Pn		Pn	13 26 20.8	-0.8
LVC	Limon Verde	14.89	18		Pn		Pn	13 27 35.7	-0.8
	comp=E,14nm,0.3s,baz=222,slow=12,SNR=5.5								
CPUP	Villa Florida	17.52	57		P		Pn	13 28 10.6	+0.6
	comp=E,0.2nm,0.3s,baz=230,slow=10,SNR=12								
CPUP					Lg		Lg	13 33 35.2	
	comp=E,0.1nm,0.3s,baz=156,slow=20,SNR=2.8								
CPUP					LR		LR	13 35 58.0	
	comp=E,2μm,18.4s,baz=235,slow=41								
CPUP	Villa Florida	17.52	57		*e*P		Pn	13 28 09.2	-0.8
CPUP	Villa Florida	17.52	57		*e*Pn		Pn	13 28 09.2	-0.8
CPUP					Lg		Lg	13 33 35.2	
USHA	Ushuaia	18.25	170		P		P	13 28 19.8	+0.7
	comp=E,0.4nm,0.3s,baz=344,slow=7.4,SNR=3.2								
EFI	East Falkland	18.45	148		Pn		Pn	13 28 22.0	+0.6
	comp=E,609nm,0.8s,SNR=7.8								
EFI	East Falkland	18.45	148		*i* P		Pn	13 28 22.6	+1.2
EFI					pmax		pmax		
	comp=Z,847nm,1.9s								
EFI	East Falkland	18.45	148		*e*P		P	13 28 21.2	-0.1
LPAZ	La Paz	21.18	15		P		P	13 28 53.7	+1.8
	comp=Z,39nm,1.0s,baz=177,slow=9.2,SNR=43								
LPAZ	La Paz	21.18	15		*e*P		P	13 28 53.9	+2.0
LPAZ	La Paz	21.18	15		P		P	13 28 53.0	+1.1
	comp=Z,56nm,1.1s								
SIV	San Ignacio	23.72	32		P		P	13 29 18.1	+0.1
	comp=Z,41nm,1.1s,baz=223,slow=9.5,SNR=33								
SAML	Samuel	29.48	22		*e*P		P	13 30 08.7	-1.3
	comp=Z,25nm,1.3s								
BDFB	Brasilia	31.18	54		P		P	13 30 25.1	-0.1
	comp=Z,19nm,1.0s,baz=215,slow=8.3,SNR=11								
BDFB					LR		LR	13 43 24.7	
	comp=Z,648nm,19.0s,baz=224,slow=37								
BDFB	Brasilia	31.18	54		*e*P		P	13 30 24.0	-1.1
BDFB	Brasilia	31.18	54		*e*P		P	13 30 24.0	-1.1
OTAV	Otavalo	37.26	352		*e*P		P	13 31 15.5	-2.7
PTGA	Pitinga	38.23	23		*e*P		P	13 31 25.9	0.0
	comp=Z,40nm,1.3s								
SDV	Santo Domingo	45.69	4		*e*P		P	13 32 24.6	-2.4
	comp=Z,23nm,1.0s								
VNA1	Neumayer--Stat	47.54	156		P		P	13 32 41.0	+0.3
JTS	JuntasAbangare	48.15	345		*i* P		P	13 32 46.0	-0.1
SNAA	Sanae	49.41	157		P		P	13 32 54.6	-0.7
SNAA	Sanae	49.41	157		P		P	13 32 55.5	+0.3
	comp=Z,11nm,1.0s,baz=283,slow=6.4,SNR=52								
SNAA	Sanae	49.41	157	*c*	*i* P		P	13 32 54.4	-0.8
SNAA					pmax		pmax		
	comp=Z,54nm,1.3s								
SNAA	Sanae	49.41	157		*e*P		P	13 32 54.5	-0.7
	comp=Z,43nm,1.1s								
QSPA	South Pole Qui	53.29	180		*e*P		P	13 33 20.4	-4.1
	comp=Z,20nm,1.0s								
RKT	Rikitea	53.93	267		*e*S		S	13 41 05.3	+0.2
	comp=Z,165nm,29.0s								
RKT					*e*LR		LR	13 49 07.2	
	comp=Z,427nm,26.5s								
RKT	Rikitea	53.93	267	⇑	*e*T		T	14 31 26.1	
	comp=Z,1.5nm,0.2s								
NVL	N'lazarevskaya	54.19	156	⇓	*i* P		P	13 33 31.4	+0.6
NVL					*e*S		S	13 41 11.1	+3.7
NVL					pmax		pmax		
	comp=Z,15nm,0.8s								
CELP	Cerrillos	55.15	8		*e*P		P	13 33 36.7	-1.6
SYO	Syowa Base	63.65	158	⇓	*e*P		P	13 34 34.4	-2.0
TBI	Tubuai	65.31	259		*e*S		S	13 43 25.4	-6.6
	comp=Z,490nm,27.0s								
TBI	Tubuai	65.31	259		*e*LR		LR	13 54 16.6	
	comp=Z,445nm,27.0s								
MEH	Mehetia	67.11	264	⇑	*e*T		T	14 47 53.0	
	comp=Z,20nm,0.2s								
035A	Encino	67.55	337		P		P	13 35 04.4	+2.3
	baz=68								
TIAR	Tiarei	68.30	264	⇑	*e*T		T	14 49 22.0	
	comp=Z,2.7nm,0.3s								
PPT2	Papeete2	68.47	264		*e*S		S	13 44 07.6	-2.9
	comp=Z,167nm,23.0s								
PPT2	Papeete2	68.47	264		*e*LR		LR	13 55 42.0	
	comp=Z,496nm,24.8s								
933A	Laredo	68.56	336		P		P	13 35 10.2	+1.7
	baz=69								
832A	Faith Ranch, C	69.41	335		P		P	13 35 14.4	+0.6
	baz=70								
732A	Laxson Ranch,	69.82	336		P		P	13 35 17.7	+1.5
	baz=70								
632A	Uvalde	70.48	336		P		P	13 35 21.8	+1.5
	baz=71								
GOGA	Godfrey	70.58	351		*e*P		P	13 35 20.4	-0.5
GOGA					pmax		pmax		
	comp=Z,17nm,1.4s								
GOGA	Godfrey	70.58	351		*e*P		P	13 35 20.4	-0.5
	comp=Z,17nm,1.4s								
631A	Perdido Creek	70.65	335		P		P	13 35 22.5	+1.2
	baz=71								
532A	Rocksprings	71.09	336		P		P	13 35 24.5	+0.4
	baz=72,SNR=8.7								
NATX	Nacogdoches	71.10	341		P		P	13 35 25.6	+1.6
	baz=72								
434A	Burnet	71.22	338		P		P	13 35 26.0	+1.2
	baz=72								
531A	Rocksprings	71.33	336		P		P	13 35 25.9	+0.3
	baz=72,SNR=8.4								
336A	Riesel	71.33	339		P		P	13 35 26.7	+1.3
	baz=72								
JCT	Junction City	71.38	336		P		P	13 35 27.5	+1.7
	baz=72								
433A	Art	71.41	337		P		P	13 35 26.9	+0.9
	baz=72								
530A	J-C Ranch, Com	71.58	335		P		P	13 35 27.8	+0.8
	baz=72,SNR=12								
TXAR	Lajitas Array	71.66	333		P		P	13 35 28.2	+0.6
	comp=Z,2.2nm,0.7s,baz=154,slow=8.5,SNR=24								
TXAR					LR		LR	14 02 14.3	
	comp=Z,137nm,18.6s,baz=0.0,slow=32								
TX31	Lajitas Ar. Si	71.66	333		*e*P		P	13 35 28.1	+0.5
334A	Lometa	71.69	338		P		P	13 35 27.7	+0.1
	baz=72								
432A	Menard	71.75	337		P		P	13 35 28.9	+0.9
	baz=72								
431A	Sonora	71.83	336		P		P	13 35 30.2	+1.7
	baz=72								
529A	Stev Forest Ra	71.86	334		P		P	13 35 29.7	+0.9
	baz=72,SNR=10								
430A	Baggett Ranch,	72.13	335		P		P	13 35 30.1	-0.3
	baz=72,SNR=5.9								
332A	Millersview	72.20	337		P		P	13 35 31.1	+0.4
	baz=73								
429A	Davenport Ranc	72.21	335		P		P	13 35 31.3	+0.5
	baz=73,SNR=6.8								
234A	Clairette	72.29	338		P		P	13 35 32.4	+1.3
	baz=73								
331A	San Angelo	72.35	336		P		P	13 35 32.8	+1.2
	baz=73								
232A	Coleman	72.64	337		P		P	13 35 34.0	+0.6
	baz=73								
330A	Mexzon	72.68	336		P		P	13 35 34.2	+0.6
	baz=73								
CPCT	Cooper Cave	72.73	351		*e*P		P	13 35 32.3	-1.4
TKL	Tuckaleechee C	72.84	351		*e*P		P	13 35 33.3	-1.1
TKL	Tuckaleechee C	72.84	351		*e*P		P	13 35 33.3	-1.1
231A	Bronte	72.89	337		P		P	13 35 35.2	+0.3
	baz=73								
Z36A	Blue Ridge	73.00	340		P		P	13 35 37.0	+1.6
	baz=73								
329A	Wagon Wheel Ra	73.03	335		P		P	13 35 36.8	+1.1
	baz=73								
ABTX	Abilene, Hawle	73.32	337		P		P	13 35 38.3	+0.9
	baz=74								
ABTX	Abilene, Hawle	73.32	337		*e*P		P	13 35 36.1	-1.3
	comp=Z,16nm,1.0s								
229A	Bryant Ranch,	73.41	335		P		P	13 35 39.1	+1.1
	baz=74								
Z34A	Collier Ranch,	73.50	339		P		P	13 35 38.8	+0.4
	baz=74								
131A	Roby	73.60	337		P		P	13 35 40.2	+1.2
	baz=74								
Z33A	Whitaker Ranch	73.67	338		P		P	13 35 40.1	+0.7
	baz=74								
TZTN	Tazewell	73.69	352		*e*P		P	13 35 37.9	-1.5
	comp=Z,12nm,1.0s								
228A	UT Block 9, Go	73.81	335		P		P	13 35 41.1	+0.8
	baz=74								
WVT	Waverly	73.88	348		*e*P		P	13 35 39.6	-0.9
WVT					pmax		pmax		
	comp=Z,19nm,1.1s								
WVT	Waverly	73.88	348		*e*P		P	13 35 39.6	-0.9
	comp=Z,19nm,1.1s								
Z32A	Haskell	73.90	338		P		P	13 35 41.7	+1.0
	baz=74								
X38A	Whitesboro	73.91	342		P		P	13 35 42.3	+1.6
	baz=74								
Z31A	Sharp Cattle R	74.12	337		P		P	13 35 42.4	+0.4
	baz=74								
X36A	Centrahoma	74.20	341		P		P	13 35 42.4	-0.1
	baz=75								
128A	Castleberry Fa	74.23	335		P		P	13 35 41.9	-0.9
	baz=75,SNR=5.6								
Y33A	Hilltop Ranch,	74.30	339		P		P	13 35 43.2	+0.2
	baz=75								
JSRW	J. Sargeant Re	74.37	357		*e*P		P	13 35 43.5	+0.2
Z30A	Sanderson Ranc	74.40	336		P		P	13 35 44.3	+0.6
	baz=75								
Z29A	Hungry Hill Ra	74.56	336		P		P	13 35 43.8	-0.9
	baz=75,SNR=5.3								
SUR	Sutherland	74.63	119		*e*P		P	13 35 44.3	-1.2
	comp=Z,31nm,1.0s								
X34A	Smith Ranch, M	74.63	340		P		P	13 35 45.4	+0.5
	baz=75								
Y31A	Rekieta Farm,	74.75	337		P		P	13 35 47.2	+1.5
	baz=75								
WMOK	Wichita Mounta	75.03	339		*e*P		P	13 35 46.8	-0.5
WMOK					pmax		pmax		
	comp=Z,9.0nm,1.3s								
WMOK	Wichita Mounta	75.03	339		*e*P		P	13 35 46.8	-0.5
	comp=Z,9.2nm,1.3s								
V37A	Hulbert	75.14	342		P		P	13 35 47.8	0.0
	baz=76								
V36A	Jenks	75.25	341		P		P	13 35 48.7	+0.2
	baz=76								
X31A	McDonald Ranch	75.28	338		P		P	13 35 49.1	+0.4
	baz=76								
TUL1	Leonard	75.33	342		P		P	13 35 48.9	-0.1
	baz=76								
W33A	Caddo, Fort Co	75.33	339		P		P	13 35 50.3	+1.3
	baz=76								
W32A	Sentinel	75.53	339		P		P	13 35 51.4	+1.3
	baz=76								
MSTX	Muleshoe	75.56	335		P		P	13 35 51.3	+0.8
	baz=76								
MSTX	Muleshoe	75.56	335		*e*P		P	13 35 50.8	+0.3
	comp=Z,14nm,1.2s								
W31A	Holland Ranch,	75.79	338		P		P	13 35 52.6	+0.9
	baz=76								
V33A	Lossen Ranch,	75.90	340		P		P	13 35 53.3	+1.0
	baz=76								
U35A	Pawnee	76.00	341		P		P	13 35 53.6	+0.8
	baz=76								
AMTX	Amarillo	76.05	337		P		P	13 35 54.0	+0.9
	baz=76								
AMTX	Amarillo	76.05	337		*e*P		P	13 35 53.0	-0.2
	comp=Z,13nm,0.8s								
121A	Cookes Peak, D	76.08	331		P		P	13 35 54.7	+1.2
	baz=76								
W29A	Amarillo	76.25	337		P		P	13 35 54.4	0.0
	baz=77								
T37A	Cheneyville 18	76.27	343		P		P	13 35 55.1	+0.8
	baz=77								
T34A	McClaskey Farm	76.74	341		P		P	13 35 58.0	+1.1
	baz=77								
LIC	Lamto	77.03	72		*e*P		P	13 35 59.5	+0.3
	comp=Z,103nm,1.3s								
CASY	Casey	77.04	182		*e*P		P	13 35 58.5	+0.1
	comp=Z,24nm,1.3s								
T33A	Patterson Ranc	77.08	340		P		P	13 36 01.0	+2.2
	baz=78								
TUC	Tucson	77.10	328		*e*P		P	13 36 00.0	+0.8
TUC					pmax		pmax		
	comp=Z,16nm,1.6s								
TUC	Tucson	77.10	328		*e*P		P	13 36 00.0	+0.8
	comp=Z,16nm,1.6s								
ACSO	Alum Creek Sta	77.27	353		*e*P		P	13 35 59.2	-0.6
	comp=Z,34nm,1.3s								
TIC	Toumodi	77.30	72		*e*P		P	13 36 01.3	+0.6
KIC	Kosan Boka	77.33	72		*e*P		P	13 36 01.4	+0.5
	comp=Z,142nm,1.2s								
DBIC	Dimbokro	77.44	72		P		P	13 36 01.4	-0.1
	comp=Z,31nm,1.1s,baz=360,slow=24,SNR=10								
DBIC					LR		LR	14 08 28.2	
	comp=Z,124nm,18.1s,baz=202,slow=34								
DBIC	Dimbokro	77.44	72		*e*P		P	13 36 01.2	-0.3
DBIC					pmax		pmax		
	comp=Z,54nm,1.1s								
DBIC	Dimbokro	77.44	72		*e*P		P	13 36 01.1	-0.3
	comp=Z,54nm,1.1s								
LAZ	Ladron	77.50	332		*e*P		P	13 36 01.8	+0.3
214A	Organ Pipe Nat	77.67	327		P		P	13 36 04.7	+2.4
	baz=78								
ANMO	Albuquerque	77.73	333		*i* P		P	13 36 03.8	+1.0
ANMO					pmax		pmax		
	comp=Z,35nm,1.2s								
ANMO	Albuquerque	77.73	333		*e*P		P	13 36 01.1	-1.7
	comp=Z,11nm,1.1s								
R34A	Isabella, Hill	77.96	341		P		P	13 36 05.1	+1.3
	baz=78								
T28A	Walsh	78.24	337		P		P	13 36 05.8	+0.3
	baz=79								
T27A	Campo	78.38	337		P		P	13 36 07.1	+0.8
	baz=79								
R31A	Burdett	78.56	340		P		P	13 36 08.1	+1.0
	baz=79								
S28A	Manter	78.61	338		P		P	13 36 08.3	+0.9
	baz=79								
T26A	Comanche Natio	78.76	336		P		P	13 36 08.9	+0.4
	baz=79,SNR=6.2								
P35A	Duane Minner,	78.82	343		P		P	13 36 09.3	+0.8
	baz=79								
Q32A	Meitler Ranch,	78.95	341		P		P	13 36 10.3	+1.0
	baz=79								
T25A	Trinidad	79.00	335		P		P	13 36 11.0	+1.3
	baz=79,SNR=6.8								
T25A	Trinidad	79.00	335		*e*P		P	13 36 10.5	+0.7
	comp=Z,22nm,1.1s								
R28A	Tribune	79.27	338		P		P	13 36 12.0	+0.9
	baz=80								
Q30A	Quinter	79.39	339		P		P	13 36 13.2	+1.5
	baz=80								
GLA	Glamis	79.50	326		P		P	13 36 13.6	+1.2
	baz=80								
R27A	Eads	79.52	337		P		P	13 36 12.7	+0.2
	baz=80,SNR=5.1								
O34A	Beatrice	79.60	342		P		P	13 36 13.2	+0.5
	baz=80								
O33A	Hebron	79.72	342		P		P	13 36 14.4	+1.0
	baz=80								
R26A	Arlington	79.74	337		P		P	13 36 15.0	+1.3
	baz=80,SNR=8.2								
TSUM	Tsumeb	79.75	106		*e*P		P	13 36 12.9	-1.4
	comp=Z,12nm,1.1s								
SWSC	Sam W. Stewart	79.84	325		P		P	13 36 15.2	+1.0
	baz=80								
SDCO	Great Sand Dun	79.91	335		P		P	13 36 15.7	+0.8
	baz=80,SNR=6.2								
SDCO	Great Sand Dun	79.91	335		*e*P		P	13 36 15.3	+0.4
	comp=Z,64nm,3.0s								
BOSA	Boshof	79.93	118		P		P	13 36 15.5	+0.2
	comp=Z,19nm,1.0s,baz=239,slow=6.2,SNR=17								
BOSA					LR		LR	14 11 01.7	
	comp=Z,91nm,18.8s,baz=160,slow=35								
BOSA	Boshof	79.93	118		*e*P		P	13 36 15.3	0.0
BOSA	Boshof	79.93	118		*e*P		P	13 36 15.2	0.0
WUAZ	Wupatki	80.13	330		P		P	13 36 17.6	+1.7
	baz=80								
WUAZ	Wupatki	80.13	330		*e*P		P	13 36 15.1	-0.9
	comp=Z,26nm,1.9s								
P29A	Atwood	80.18	339		P		P	13 36 16.6	+0.6
	baz=81								
BC3	Big Chuckawall	80.28	326		P		P	13 36 18.4	+1.7
	baz=81								
Q26A	Hugo	80.33	337		P		P	13 36 18.2	+1.3
	baz=81								
IRM	Iron Mountain	80.57	326		P		P	13 36 19.9	+1.7
	baz=81								
PFO	Pinyon Flats O	80.70	325		P		P	13 36 19.2	+0.2
PFO					pmax		pmax		
	comp=Z,20nm,1.4s								
PFO	Pinyon Flats O	80.70	325		P		P	13 36 21.2	+2.2
	baz=81								
PFO	Pinyon Flats O	80.70	325		P		P	13 36 19.2	+0.2
	comp=Z,20nm,1.4s								
Q24A	Divide	80.89	336		P		P	13 36 20.4	+0.2
	baz=81,SNR=5.2								
Q24A	Divide	80.89	336		*e*P		P	13 36 21.1	+1.0
	comp=Z,51nm,2.0s								
GMRC	Granite Mounta	81.32	326		P		P	13 36 23.9	+1.7
	baz=82								
PV05	Paradox Valley	81.48	333		*e*P		P	13 36 21.9	-1.3
PV04	Paradox Valley	81.69	333		*e*P		P	13 36 25.2	+1.0
SMCO	Snowmass	81.70	335		*e*P		P	13 36 24.3	-0.2
	comp=Z,17nm,1.4s								
PV10	Paradox Valley	81.72	333		*e*P		P	13 36 25.2	+0.7
BFSC	Mount Baldy Ra	81.78	325		P		P	13 36 26.9	+2.1
	baz=82								
ISCO	Idaho Springs	81.80	336		*e*P		P	13 36 25.4	+0.4
ISCO					pmax		pmax		
	comp=Z,7.0nm,1.1s								
ISCO	Idaho Springs	81.80	336		P		P	13 36 26.0	+1.1
	baz=82								
ISCO	Idaho Springs	81.80	336		*e*P		P	13 36 25.4	+0.4
	comp=Z,6.7nm,1.1s								
TUQ	Turquoise Moun	81.99	326		P		P	13 36 27.4	+1.6
	baz=82

comp=Z,56nm,1.4s
J26A Sides Ranch, S 84.22 339 P **P** **13 36 38.2 +1.1**
baz=85
R11A Troy Canyon, C 84.29 328 P **P** **13 36 38.7 +1.0**
baz=85
R11A Troy Canyon, C 84.29 328 *e*P **P** **13 36 38.2 +0.5**
comp=Z,20nm,1.8s
I28A Midland 84.33 340 P **P** **13 36 38.7 +1.2**
baz=85
K23A Bowen Ranch, D 84.48 337 P **P** **13 36 39.2 +0.7**
baz=85
J25A Sunshine Ranch 84.50 338 P **P** **13 36 40.2 +1.6**
baz=85
K22A Casper 84.67 336 P **P** **13 36 41.0 +1.5**
baz=85
K22A Casper 84.67 336 *e*P **P** **13 36 38.6 -0.9**
comp=Z,36nm,1.6s
J24A Dixon Ranch, L 84.70 338 P **P** **13 36 40.6 +1.0**
baz=85
DUG Dugway, Tooele 84.74 331 *e*P **P** **13 36 39.3 -0.6**
DUG pmax pmax
comp=Z,42nm,1.9s
DUG Dugway, Tooele 84.74 331 P **P** **13 36 41.6 +1.7**
baz=85
DUG Dugway, Tooele 84.74 331 *e*P **P** **13 36 39.2 -0.6**
comp=Z,42nm,1.9s
TPH Tonopah 84.76 327 *e*P **P** **13 36 41.0 +0.9**
TPH pmax pmax
comp=Z,31nm,1.9s
TPH Tonopah 84.76 327 *e*P **P** **13 36 41.0 +0.9**
comp=Z,31nm,1.9s
RSSD Black Hills 85.24 339 *e*P **P** **13 36 42.5 +0.1**
RSSD pmax pmax
comp=Z,7.0nm,1.0s
RSSD Black Hills 85.24 339 *e*P **P** **13 36 42.5 +0.1**
comp=Z,6.9nm,1.0s
G28A Parade 85.26 341 P **P** **13 36 43.4 +1.2**
baz=86
BGU Big Grassy Mou 85.45 331 *e*P **P** **13 36 44.6 +1.2**
comp=Z,6.8nm,1.1s
HWUT Hardware Ranch 85.49 333 *e*P **P** **13 36 44.1 +0.5**
comp=Z,44nm,1.7s
NV01 Mina Array Sit 85.53 326 *e*P **P** **13 36 45.0 +1.0**
NVAR Mina Array Bea 85.53 326 P **P** **13 36 44.7 +0.7**
comp=Z,1.1nm,0.9s,baz=160,slow=5.6,SNR=6.5
H25A Fruitdale 85.57 339 P **P** **13 36 44.7 +0.8**
baz=86
I22A 9 Mile Ranch, 85.77 337 P **P** **13 36 45.6 +0.7**
baz=86
BW06 Boulder Array 85.78 334 *e*P **P** **13 36 45.0 -0.1**
PDAR Pinedale Array 85.78 334 P **P** **13 36 44.5 -0.6**
comp=Z,1.3nm,0.8s,baz=134,slow=4.3,SNR=12
J20A Shoshoni 85.81 336 P **P** **13 36 45.8 +0.7**
baz=86
G27A Dupree 85.81 341 P **P** **13 36 46.1 +1.2**
baz=86
G26A Maurine 85.91 340 P **P** **13 36 44.7 -0.8**
baz=86,SNR=5.6
I21A Big Trails, Te 85.96 336 P **P** **13 36 46.0 +0.1**
baz=86
H24A Dirks Ranch, A 85.96 339 P **P** **13 36 46.6 +0.8**
baz=86
G25A Newell 86.04 339 P **P** **13 36 46.4 +0.3**
baz=86
J19A Crowheart 86.05 335 P **P** **13 36 47.0 +0.6**
baz=86
HVU Hansel Valley 86.09 332 *e*P **P** **13 36 47.1 +0.5**
HVU pmax pmax
comp=Z,14nm,1.6s
HVU Hansel Valley 86.09 332 *e*P **P** **13 36 47.1 +0.5**
comp=Z,14nm,1.6s
ELK Elko 86.17 330 *e*P **P** **13 36 48.2 +1.1**
ELK pmax pmax
comp=Z,6.0nm,1.2s
ELK Elko 86.17 330 *e*P **P** **13 36 48.2 +1.1**
comp=Z,5.8nm,1.2s
F27A Lemmon 86.29 341 P **P** **13 36 47.4 0.0**
baz=87
I20A Worland 86.35 336 P **P** **13 36 48.5 +0.7**
baz=87
F26A Lodgepole 86.44 340 P **P** **13 36 48.4 +0.3**
baz=87
TOB5 Torodi Ar. Sit 86.51 71 *e*P **P** **13 36 48.2 -0.9**
TOA0 Torodi Ar. Sit 86.52 71 *e*P **P** **13 36 48.9 -0.2**
TORD Torodi Ar. Bea 86.52 71 P **P** **13 36 49.1 -0.1**
comp=Z,11nm,1.2s,baz=229,slow=3.7,SNR=20
TORD LR LR 14 14 21.5
comp=Z,143nm,18.8s,baz=235,slow=35
E28A Huff 86.60 342 P **P** **13 36 49.4 +0.6**
baz=87
D30A Buchanan 86.63 343 P **P** **13 36 48.8 -0.2**
baz=87
F25A Bowman 86.73 340 P **P** **13 36 50.0 +0.5**
baz=87
TPAW Teton Pass 86.91 334 *e*P **P** **13 36 51.4 +0.7**
comp=Z,20nm,1.7s
E26A Carlson Angus 86.96 341 P **P** **13 36 50.3 -0.3**
baz=87
FXWY Fox Creek 87.06 334 *e*P **P** **13 36 51.9 +0.5**
comp=Z,19nm,2.0s
C30A Mose, Pekin 87.13 344 P **P** **13 36 50.9 -0.5**
baz=88
E25A Miller Ranch, 87.24 340 P **P** **13 36 53.4 +1.4**
baz=88
IMW Indian Meadow 87.26 334 *e*P **P** **13 36 53.1 +0.7**
comp=Z,7.3nm,1.2s
D26A Manning 87.47 341 P **P** **13 36 52.7 -0.3**
baz=88,SNR=6.3
MDND Maddock 87.52 343 P **P** **13 36 53.3 +0.1**
baz=88
B30A Myrvik Farm, E 87.80 344 P **P** **13 36 54.6 +0.1**
baz=88
B29A Wagenman Farm, 88.04 343 P **P** **13 36 56.9 +1.2**
baz=88
HLID Hailey 88.24 332 P **P** **13 36 58.6 +1.6**
baz=89
HLID Hailey 88.24 332 *e*P **P** **13 36 58.4 +1.4**
comp=Z,22nm,1.7s
A30A Hoffart Farm, 88.25 344 P **P** **13 36 56.2 -0.5**
baz=89
B28A Dugan Ranch, T 88.27 343 P **P** **13 36 58.5 +1.7**
baz=89
A29A Manning Farm, 88.45 344 P **P** **13 36 57.9 +0.3**
baz=89
MCMT McKenzie Canyo 88.75 333 *e*P **P** **13 37 00.8 +1.4**
ULM Lac du Bonnet 89.00 346 P **P** **13 36 59.6 -0.6**
comp=Z,4.7nm,0.9s,baz=204,slow=4.6,SNR=5.7
ULM Lac du Bonnet 89.00 346 *e*P **P** **13 37 00.0 -0.1**
ULM Lac du Bonnet 89.00 346 *e*P **P** **13 37 00.1 -0.1**
DLMT Dillon 89.12 334 *e*P **P** **13 37 02.8 +1.8**
comp=Z,12nm,1.5s
LSZ Lusaka 90.19 109 *e*P **P** **13 37 08.1 +1.2**
LSZ Lusaka 90.19 109 *e*P **P** **13 37 08.1 +1.2**
DZM Mont Dzumac 98.38 234 *e*LR LR 14 09 41.8
comp=Z,235nm,24.3s
GERES GERESS Array B 115.21 47 PKP **PKPdf** **13 42 46.2 -0.7**
comp=Z,0.2nm,0.3s,baz=160,slow=3.1,SNR=4.4
CLL Collm 115.95 44 *e*PS **PS** **13 53 29.0 -4.7**
CLL LmV 13 32 00.0
comp=Z,100nm,20.6s
CLL *e*PPS PPS 13 55 00.0
PRU Pruhonice 116.22 46 AMS AMS 14 35 10.0
comp=Z,100nm,12.3s
GOPC GO Pecny, Ondr 116.33 46 AMS AMS 14 36 00.0
comp=Z,100nm,22.0s
TREC Trest 116.46 47 AMS AMS 14 39 00.0
comp=Z,100nm,19.8s
COLA College 116.58 333 *i* PKIKP **PKPdf** **13 42 51.4 +2.5**
DPC Dobruska-Polom 117.41 46 AMS AMS 14 36 30.0
OKC Ostrava-Krasne 118.25 47 AMS AMS 14 34 40.0
comp=Z,100nm,20.0s
AKASG Malin Array Be 125.20 49 PKP **PKPdf** **13 43 04.2 -1.7**
comp=Z,0.5nm,0.5s,baz=266,slow=1.5,SNR=5.3
AKASG Malin Array Be 125.20 49 *i* PKIKP **PKPdf** **13 43 05.4 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
OBN Obninsk 130.53 45 *e*PKIKP **PKPdf** **13 43 14.2 -1.7**
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN MLR MLR
comp=Z,121nm,19.0s
BILL Bilibino 134.84 333 *e*PKIKP **PKPdf** **13 43 24.5 +0.8**
BILL pmax pmax
comp=Z,2.0nm,1.2s
SEY Seymchan 141.83 328 *i* PKIKP PKPdf 13 43 42.7 +6.1
GEYT Alibeck 142.11 73 PKhKP PKPpre 13 43 33.1
comp=Z,1.4nm,0.4s,baz=302,slow=8.3,SNR=4.4

ARU Arti 142.87 43 *i* PKIKP **PKPdf** **13 43 41.2 +2.5**
ARU 13 46 47.2
ARU SS SS 14 05 14.8 -11
AKTO Aktyubinsk 143.27 53 PKhKP PKPpre 13 43 34.4
comp=Z,3.2nm,0.9s,baz=294,slow=1.7,SNR=7.7
TIXI Tiksi 143.32 348 *i* PKIKP PKPab 13 43 34.8 -0.2
TIXI *i* 13 43 40.0
ABKAR Akbulak array 144.57 55 *e*PKPdf **PKPab** **13 43 40.5 0.0**
PSI Prapat 145.35 167 PKPbc **PKPbc** **13 43 43.5 -0.8**
comp=Z,49nm,0.9s,baz=199,slow=3.7,SNR=29
URV Uravakonda 146.18 123 *e*PKPbc **PKPdf** **13 43 45.2 -0.5**
SKHT Srikalahasti 146.90 127 *e*PKPbc **PKPdf** **13 43 46.8 -0.1**
SKHT *e*PKPab **PKPbc** **13 43 48.6 -0.1**
RCLA Racherla 147.68 124 *e*PKPbc **PKPdf** **13 43 50.0 +1.8**
KLRI Killari 147.87 118 *e*PKPbc **PKPdf** **13 43 49.7 +1.2**
KULM Kulim 148.07 169 *e*PKPdf **PKPdf** **13 43 48.1 -0.8**
KULM *e*PKPbc **PKPbc** **13 43 51.3 -0.8**
KULM *e*PKPab **PKiKP** **13 43 54.8 +0.8**
SRLM Srisailam 148.10 123 *e*PKPbc **PKPdf** **13 43 50.9 +2.0**
NJS Nagarjunasagar 148.70 123 *e*PKPdf **PKPdf** **13 43 49.2 -0.6**
NJS *e*PKPbc **PKPbc** **13 43 53.0 -0.6**
HYB Hyderabad 148.79 121 *i* PKP **PKPdf** **13 43 52.5 +2.5**
comp=Z,50nm,1.0s
HYBB Hyderabad (bro 148.79 121 *e*PKiKP **PKPbc** **13 43 53.5 -0.4**
SRSP Sriramsagar 149.67 119 *e*PKPbc **PKPbc** **13 43 54.5 -1.5**
RPR Rampur 150.29 120 *e*PKPbc **PKPbc** **13 43 56.8 -0.7**
BRVK Borovoye 150.30 46 *e*PKIKP **PKPdf** **13 43 50.8 -0.5**
BRVK *e* 13 43 56.6
BRVK *e* 13 44 02.5
BRVK Borovoye 150.30 46 *e*PKPdf **PKPdf** **13 43 50.8 -0.5**
BRVK *e*PKPbc **PKPbc** **13 43 56.6 +0.1**
BRVK *e*PKPab **PKPab** **13 44 02.5 -0.2**
BVAR Borovoye Array 150.37 46 PKPbc **PKPbc** **13 43 56.9 +0.2**
comp=Z,4.9nm,0.9s,baz=290,slow=4.3,SNR=16
BVAR Borovoye Array 150.37 46 PKIKP **PKPbc** **13 43 56.9 +0.2**
BVAR pmax pmax
comp=Z,5.0nm,0.9s
PVM Polavaram 150.73 125 *e*PKPbc **PKPbc** **13 43 57.7 -0.8**
YAK Yakutsk 150.97 337 *e*PKIKP **PKPdf** **13 43 55.2 +3.2**
YAK pmax pmax
comp=Z,29nm,1.3s
CHLP Challavanipeta 153.22 127 *e*PKiKP **PKPbc** **13 44 03.6 -0.6**
KSH Kashi 156.14 75 *e*PKP **PKPdf** **13 44 00.0 -0.4**
KSH pPKP **pPKPdf** **13 44 10.0 +6.2**
KSH sPKP 13 44 14.9
KSH PKS **PKSdf** **13 47 34.3 -0.1**
KSH PP **PP** **13 48 03.8 -2.3**
KSH SKS SKSdf 13 50 58.8 -7.9
KSH PPMZ
comp=Z,77nm,5.3s
KSH LN
comp=Z,200nm,9.1s
KSH LE
comp=Z,170nm,7.2s
KSH LZ
comp=Z,130nm,9.3s
NVS Novosibirsk 156.17 34⇑ *i* PKIKP **PKPdf** **13 43 58.6 -1.1**
NVS pmax pmax
comp=N,4.0nm,1.1s
NVS pmax pmax
comp=Z,7.0nm,1.1s
NVS pmax pmax
comp=E,2.0nm,0.5s
ZALV Zalesovo Beam 157.46 34 PKP **PKPdf** **13 44 00.4 -1.0**
comp=E,4.3nm,0.9s,baz=286,slow=2.6,SNR=13
ZALV PKPab **PKPab** **13 44 33.1 +0.1**
comp=E,5.5nm,0.9s,baz=299,slow=6.1,SNR=8.6
BOD Bodaibo 158.50 349 *e*PKP2 **PKPab** **13 44 35.9 -1.5**
BOD pmax pmax
comp=Z,4.0nm,1.4s
CMAR Chiang Mai Arr 160.49 159 PKPab **PKPab** **13 44 46.5 -0.6**
comp=Z,0.8nm,0.5s,baz=209,slow=4.0,SNR=7.2
CMAR Chiang Mai Arr 160.49 159 PKP2 **PKPab** **13 44 46.5 -0.6**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
MDJ Mudanjiang 160.77 301 PKP **PKPdf** **13 44 07.1 +1.5**
WMQ Urumqi 164.31 58 PKP **PKPdf** **13 44 08.6 -0.6**
WMQ PP **PP** **13 48 52.0 +2.2**
WMQ PPMZ
comp=Z,31nm,9.2s
WMQ LN
comp=Z,58nm,7.8s
WMQ LE
comp=Z,110nm,8.4s
WMQ LZ
comp=Z,65nm,27.0s
ZAK Zakamensk 166.41 8 *e*PKP2 **PKPab** **13 45 12.3 -0.1**
ZAK pmax pmax
comp=Z,1.0nm,1.1s
NJ2 Nanjing 168.51 249 *e*PKP **PKPdf** **13 44 14.3 +1.6**
SONM Songino Array 169.12 359 PKPab **PKPab** **13 45 22.7 -1.7**
comp=Z,1.6nm,0.9s,baz=0.0,slow=4.9,SNR=6.8
SONM Songino Array 169.12 359 PKP2 **PKPab** **13 45 22.7 -1.7**
SONM pmax pmax
comp=Z,2.0nm,1.0s
GYA Guiyang 169.53 182 *e*PKP **PKPdf** **13 44 13.0 -0.7**
GYA PKPab **PKPab** **13 45 28.3 +1.5**
GYA PKS **PKSdf** **13 47 44.8 -1.6**
GYA PP **PP** **13 49 19.4 +3.9**
GYA PPMZ
comp=Z,120nm,8.2s
CD2 Chengdu 173.63 160 PKP **PKPdf** **13 44 15.5 0.0**
CD2 pPKP **pPKPdf** **13 44 24.9 +6.0**
CD2 sPKP 13 44 28.3
CD2 PP **PP** **13 49 37.4 +1.5**
CD2 SKS **SKSdf** **13 51 16.8 -2.0**
CD2 SKKS **SKKSac** **13 56 21.4 -1.8**
CD2 SS **SS** **14 10 53.3 +1.0**
CD2 PPMZ
comp=Z,120nm,5.2s
HHC Hu-ho-hao-te 174.31 315 *e*PKP PKPdf 13 44 10.8 -4.7
HHC sPKP 13 44 30.0
HHC PP **PP** **13 49 42.0 +2.0**
HHC SKS **SKSdf** **13 51 15.3 -3.4**
HHC PPMZ
comp=Z,47nm,9.9s
HHC LN
comp=Z,120nm,22.4s
HHC LE
comp=Z,100nm,22.2s
HHC LZ
comp=Z,82nm,22.1s
GTA Gaotai 174.37 62 *e*PKP **PKPdf** **13 44 15.8 +0.2**
GTA pPKP **pPKPdf** **13 44 25.4 +6.4**
GTA sPKP 13 44 29.6
GTA PKPab **PKPab** **13 45 49.1 +0.9**
GTA PP **PP** **13 49 44.3 +3.5**
GTA SKS **SKSdf** **13 51 13.8 -5.0**
GTA SKKS **SKKSac** **13 56 24.8 -2.3**
GTA SS **SS** **14 10 58.6 -3.2**
GTA PPMZ
comp=Z,99nm,5.9s
GTA LN
comp=Z,94nm,20.9s
GTA LE
comp=Z,85nm,18.5s
GTA LZ
comp=Z,77nm,17.6s
XAN Xi'an 176.37 218 PKP **PKPdf** **13 44 15.9 -0.3**
LZH Lanzhou 177.88 113 *e*PKP **PKPdf** **13 44 15.5 -1.0**
LZH pPKP **pPKPdf** **13 44 25.0 +5.0**
LZH sPKP 13 44 28.0
LZH LN
comp=Z,250nm,18.3s
LZH LE
comp=Z,270nm,18.0s
LZH LZ
comp=Z,330nm,20.2s

IDC 24 13:36:18.6±2.4, 3°37S×152°27E, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.5/37, mbtmp4.0/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/25, Error ellipse: s-maj=126.0km s-min=41.9km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.04**	**225**	P	P	13 41 36.5	+0.8
	4.3nm,0.4s,baz=51,slow=9.5,SNR=117						
WRA				PcP	PcP	13 45 17.4	-0.4
	0.2nm,0.6s,baz=52,slow=1.9,SNR=3.5						
ASAR	**Alice Springs**	**26.88**	**220**	P	P	13 42 01.2	-0.2
	0.4nm,0.4s,baz=53,slow=8.8,SNR=38						
URZ	**Urewera**	**41.48**	**150**	LR	LR	13 58 52.1	
	comp=Z,75nm,21.5s,baz=308,slow=33						
TORD	**Torodi Ar. Bea**	**149.34**	**290**	PKPbc	PKPbc	13 56 09.7	-1.0
	0.2nm,0.4s,baz=80,slow=3.6,SNR=3.5						

IDC 24 13:40:15.5±4.7, 12°06S×167°45E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=233.1km s-min=32.4km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**21.86**	**246**	P	P	13 45 14.7	+4.7
	3.7nm,0.8s,baz=75,slow=12,SNR=2.4						
WRA	**Warramunga Arr**	**32.73**	**252**	P	P	13 46 50.4	+0.1
	0.5nm,0.4s,baz=83,slow=8.5,SNR=15						
ASAR	**Alice Springs**	**33.87**	**245**	P	P	13 46 59.9	-0.3
	1.0nm,0.6s,baz=73,slow=9.1,SNR=32						
ILAR	**Eielson Array**	**83.94**	**18**	P	P	13 52 47.1	0.0
	0.2nm,0.6s,baz=239,slow=5.5,SNR=6.2						

*ISCJB **24** 13:49:04.3±0.3, 34°55S×0°05×108°28W±0°08, h10km, mb4.6/66, MS3.9/8, Error ellipse: s-maj=9.8km s-min=7.5km az=165.3*

*IDC **24** 13:49:04.3±0.5, 34°51S×108°38W, h0km, mb4.4/13, mb1 4.6/13, mb1mx4.5/20, mbtmp4.4/13, MS3.9/9, Ms1 3.9/9, ms1mx3.8/16, Error ellipse: s-maj=19.4km s-min=17.0km az=104.0*

*GCMT **24** 13:49:05.3±0.2, 34°74S×108°26W, h17km, MW5.1/84, Moment Tensor Solution. s46,c64; s84,c122; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.70±.18; Mθθ0.47±.13; Mϕϕ3.22±.14; Mrθ-1.27±.38; Mϕθ-1.98±.10; Mϕr-2.25±.36; Best double couple: M₀4.75300×10¹⁶ NP1:φs357.00000°, δ60.00000°, λ-61.00000°. NP2: φs129.00000°, δ40.00000°, λ-130.00000°. Principal axes: T 4.5270, Plg11.0000°, Azm67.0000°; N 0.4460, Plg25.0000°, Azm162.0000°; P -4.9790, Plg63.0000°, Azm315.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **24** 13:49:05.3±0.3, 34°54S×108°39W, h10km, mb4.8/52 Error ellipse: s-maj=10.6km s-min=7.0km az=78.0*

ISC 24 13:49:06.2±0.4, 34°61S±0°10×108°22W±0°09, h10km, n344, ₀0₉98/333, mb4.7/66, MS4.0/8, 3C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**7.52**	**352**	LR	LR	13 53 01.8	
	comp=Z,1μm,18.1s,baz=158,slow=32						
RKT	**Rikitea**	**26.00**	**289**	*e*LQ	LQ	13 59 54.1	
	389nm,33.2s						
RKT				*e*LR	LR	14 01 04.2	
	596nm,36.5s						
RKT	**Rikitea**	**26.00**	**289**	*e*T	T	14 20 59.6	
	1.8nm,0.2s						
CFAA	**Coronel Fontan**	**33.48**	**96**	P	**P**	**13 55 47.1**	**+1.4**
	0.4nm,0.5s,baz=264,slow=18,SNR=2.5						
LVC	**Limon Verde**	**36.30**	**81**	P	**P**	**13 56 12.2**	**+1.8**
	5.8nm,0.6s,baz=217,slow=20,SNR=1.9						
TBI	**Tubuai**	**37.55**	**276**	*e*S	**S**	**14 02 09.4**	**-0.5**
	150nm,32.0s						
TBI				*e*LQ	LQ	14 05 02.9	
	508nm,30.2s						
TBI				*e*LR	LR	14 06 25.9	
	875nm,28.2s						
TBI	**Tubuai**	**37.55**	**276**	*e*T	T	14 35 23.6	
	4.3nm,0.3s						
MEH	**Mehetia**	**39.14**	**285**	*e*T	T	14 37 30.2	
	31nm,0.2s						
LPAZ	**La Paz**	**40.22**	**73**	P	**P**	**13 56 44.0**	**+0.2**
	1.5nm,0.6s,baz=295,slow=3.9,SNR=6.1						
LPAZ				LR	LR	14 09 42.7	
	comp=Z,100nm,19.0s,baz=216,slow=31						
TIAR	**Tiarei**	**40.34**	**284**	*e*T	T	14 39 00.5	
	5.6nm,0.3s						
PPT2	**Papeete2**	**40.50**	**284**	*e*S	**S**	**14 02 51.8**	**-2.9**
	121nm,26.0s						
PPT2				*e*LQ	LQ	14 06 03.4	
	837nm,28.0s						
PPT2				*e*LR	LR	14 07 40.4	
	669nm,26.8s						
PPT	**Papeete**	**40.52**	**284**	LR	LR	14 09 26.5	
	comp=Z,243nm,18.6s,baz=140,slow=30						
CPUP	**Villa Florida**	**44.24**	**94**	P	**P**	**13 57 16.1**	**+0.2**
	2.8nm,0.8s,baz=320,slow=3.6,SNR=3.9						
CPUP				LR	LR	14 12 53.0	
	comp=Z,189nm,18.2s,baz=212,slow=32						
SIV	**San Ignacio**	**46.02**	**78**	P	**P**	**13 57 30.9**	**+0.7**
	4.0nm,0.9s,baz=249,slow=12,SNR=7.7						
SAML	**Samuel**	**48.45**	**69**	*e*P	**P**	**13 57 49.5**	**+0.4**
	3.1nm,0.8s						
ROSC	**El Rosal**	**50.60**	**46**	LR	LR	14 16 51.2	
	comp=Z,135nm,18.5s,baz=212,slow=33						
SBA	**Scott Base**	**55.41**	**195**	*e*P	**P**	**13 58 39.8**	**-0.3**
	16nm,1.3s						
QSPA	**South Pole Qui**	**55.59**	**180**	P	**P**	**13 58 42.9**	**+1.1**
	6.5nm,1.0s,baz=146,slow=1.7,SNR=14						
QSPA	**South Pole Qui**	**55.59**	**180**	*e*P	**P**	**13 58 39.6**	**-2.2**
QSPA				P	**P**	**13 58 42.9**	**+1.1**
VNDA	**Vanda**	**56.49**	**195**	P	**P**	**13 58 48.2**	**+0.3**
	1.4nm,0.7s,baz=90,slow=7.4,SNR=8.1						
VNDA				LR	LR	14 17 30.3	
	comp=Z,46nm,20.7s,baz=126,slow=30						
BDFB	**Brasilia**	**56.88**	**87**	P	**P**	**13 58 51.0**	**-0.6**
	2.4nm,0.6s,baz=272,slow=8.3,SNR=4.7						
BDFB				LR	LR	14 20 08.0	
	comp=Z,151nm,21.1s,baz=222,slow=33						
VNA1	**Neumayer--Stat**	**60.96**	**158**	P	**P**	**13 59 20.5**	**+1.5**
035A	**Encino**	**61.95**	**10**	P	**P**	**13 59 26.7**	**+0.5**
	baz=62						
SNAA	**Sanae**	**62.16**	**160**	P	**P**	**13 59 26.9**	**-0.3**
SNAA	**Sanae**	**62.16**	**160**	*e*P	**P**	**13 59 25.4**	**-1.8**
	21nm,1.3s						
834A	**Tilden**	**63.06**	**10**	P	**P**	**13 59 34.5**	**+0.9**
	baz=63						
833A	**Chaparral WMA,**	**63.14**	**9**	P	**P**	**13 59 34.2**	**+0.1**
	baz=63						
TXAR	**Lajitas Array**	**63.74**	**4**	P	**P**	**13 59 37.7**	**-0.5**
	2.7nm,0.8s,baz=187,slow=9.6,SNR=29						
TXAR				LR	LR	14 21 19.3	
	comp=Z,56nm,19.2s,baz=0.0,slow=30						
631A	**Perdido Creek**	**64.08**	**7**	P	**P**	**13 59 39.9**	**-0.4**
	baz=64,SNR=5.3						
632A	**Uvalde**	**64.26**	**8**	P	**P**	**13 59 41.5**	**0.0**
	baz=65,SNR=25						
633A	**Saathoff Ranch**	**64.29**	**9**	P	**P**	**13 59 41.7**	**0.0**
	baz=65						
529A	**Stev Forest Ra**	**64.63**	**6**	P	**P**	**13 59 43.7**	**-0.3**
	baz=65,SNR=9.1						
530A	**J-C Ranch, Com**	**64.73**	**7**	P	**P**	**13 59 44.3**	**-0.3**
	baz=65,SNR=38						
531A	**Rocksprings**	**64.83**	**7**	P	**P**	**13 59 45.3**	**0.0**
	baz=65,SNR=27						
532A	**Rocksprings**	**64.86**	**8**	P	**P**	**13 59 45.5**	**0.0**
	baz=65,SNR=12						
533A	**Kerrville**	**64.91**	**9**	P	**P**	**13 59 45.6**	**-0.1**
	baz=65						
534A	**Blanco**	**64.94**	**9**	P	**P**	**13 59 45.7**	**-0.3**
	baz=65						
429A	**Davenport Ranc**	**65.16**	**6**	P	**P**	**13 59 47.1**	**-0.3**
	baz=66,SNR=11						
JCT	**Junction City**	**65.22**	**8**	P	**P**	**13 59 47.8**	**0.0**
	baz=66,SNR=15						
JCT	**Junction City**	**65.22**	**8**	*e*P	**P**	**13 59 47.0**	**-0.8**
	30nm,0.8s						
431A	**Sonora**	**65.33**	**7**	P	**P**	**13 59 48.3**	**-0.2**
	baz=66,SNR=23						
430A	**Baggett Ranch,**	**65.38**	**7**	P	**P**	**13 59 49.0**	**+0.2**
	baz=66						
433A	**Art**	**65.58**	**9**	P	**P**	**13 59 49.7**	**-0.3**
	baz=66,SNR=21						
432A	**Menard**	**65.61**	**8**	P	**P**	**13 59 49.6**	**-0.7**
	baz=66,SNR=6.4						
434A	**Burnet**	**65.74**	**9**	P	**P**	**13 59 50.5**	**-0.6**
	baz=66,SNR=7.4						
435B	**Jarrell**	**65.81**	**10**	P	**P**	**13 59 51.5**	**0.0**
	baz=66						
436A	**Wall Ranch, Ga**	**65.91**	**11**	P	**P**	**13 59 51.5**	**-0.6**
	baz=66						
331A	**San Angelo**	**65.97**	**7**	P	**P**	**13 59 51.6**	**-1.0**
	baz=66,SNR=5.6						
330A	**Mertzon**	**66.00**	**7**	P	**P**	**13 59 51.9**	**-0.9**
	baz=66,SNR=6.8						
329A	**Wagon Wheel Ra**	**66.00**	**6**	P	**P**	**13 59 52.4**	**-0.5**

	baz=66,SNR=8.5									
332A	**Millersview**	66.12	8	P	P	13 59 52.8	-0.8			
	baz=66,SNR=22									
333A	**Richland Sprin**	66.16	9	P	P	13 59 53.1	-0.7			
	baz=66,SNR=10									
334A	**Lometa**	66.26	9	P	P	13 59 53.7	-0.7			
	baz=67,SNR=6.2									
214A	**Organ Pipe Nat**	66.35	356	P	P	13 59 54.8	-0.2			
	baz=67									
230A	**Sterling City**	66.48	7	P	P	13 59 55.2	-0.6			
	baz=67,SNR=8.9									
336A	**Riesel**	66.51	11	P	P	13 59 55.6	-0.4			
	baz=67,SNR=5.6									
228A	**UT Block 9, Go**	66.58	5	P	P	13 59 56.0	-0.6			
	baz=67									
337A	**Centerville**	66.59	11	P	P	13 59 56.9	+0.3			
	baz=67									
231A	**Bronte**	66.61	7	P	P	13 59 55.8	-0.9			
	baz=67									
TUC	**Tucson**	66.61	358	eP	P	13 59 54.3	-2.4			
	4.9nm,0.8s									
232A	**Coleman**	66.63	8	P	P	13 59 56.2	-0.7			
	baz=67,SNR=16									
121A	**Cookes Peak, D**	66.78	0	P	P	13 59 57.0	-1.0			
	baz=67,SNR=7.0									
121A	**Cookes Peak, D**	66.78	0	eP	P	13 59 56.5	-1.4			
	6.9nm,0.8s									
233A	**Rising Star**	66.85	9	P	P	13 59 57.0	-1.2			
	baz=67									
234A	**Clairette**	66.93	9	P	P	13 59 58.0	-0.7			
	baz=67									
WHTX	**Lake Whitney,**	67.01	10	P	P	13 59 58.6	-0.6			
	baz=67,SNR=8.2									
WHTX	**Lake Whitney,**	67.01	10	eP	P	13 59 56.6	-2.6			
	27nm,0.8s									
128A	**Castleberry Fa**	67.09	5	P	P	13 59 59.0	-0.8			
	baz=67,SNR=8.3									
236A	**Katherine and**	67.16	11	P	P	14 00 00.0	-0.1			
	baz=68									
130A	**Snyder**	67.19	7	P	P	14 00 00.3	-0.1			
	baz=68									
NATX	**Nacogdoches**	67.24	13	P	P	14 00 00.9	+0.3			
	baz=68									
NATX	**Nacogdoches**	67.24	13	eP	P	13 59 59.1	-1.6			
	42nm,0.8s									
237A	**Washetta, Mont**	67.28	11	P	P	14 00 01.0	+0.1			
	baz=68									
131A	**Roby**	67.33	7	P	P	14 00 00.5	-0.7			
	baz=68									
ABTX	**Abilene, Hawle**	67.36	8	P	P	14 00 00.8	-0.6			
	baz=68									
133A	**Hamilton Ranch**	67.43	8	P	P	14 00 01.3	-0.5			
	baz=68									
134A	**White-Moore Ra**	67.50	9	P	P	14 00 01.9	-0.4			
	baz=68									
239A	**Gary**	67.52	13	P	P	14 00 02.2	-0.2			
	baz=68									
MONP	**Monument Peak,**	67.58	353	P	P	14 00 03.8	+0.7			
	baz=68									
GLA	**Glamis**	67.59	354	P	P	14 00 03.1	+0.2			
	baz=68									
Z29A	**Hungry Hill Ra**	67.78	6	P	P	14 00 03.6	-0.6			
	baz=68									
Z30A	**Sanderson Ranc**	67.86	6	P	P	14 00 04.1	-0.6			
	baz=68									
Z31A	**Sharp Cattle R**	67.99	7	P	P	14 00 05.2	-0.2			
	baz=68									
Z32A	**Haskell**	68.05	8	P	P	14 00 05.4	-0.3			
	baz=68,SNR=8.5									
Z33A	**Whitaker Ranch**	68.12	9	P	P	14 00 05.2	-1.0			
	baz=68									
BC3	**Big Chuckawall**	68.24	354	P	P	14 00 07.4	+0.3			
	baz=68,SNR=5.7									
Y12C	**Blythe**	68.25	354	P	P	14 00 07.3	+0.3			
	baz=68									
PFO	**Pinyon Flats O**	68.30	353	P	P	14 00 07.4	0.0			
	baz=69									
Z35A	**Perchaven, San**	68.36	10	P	P	14 00 07.3	-0.4			
	baz=69									
Y29A	**Porterfield Fa**	68.38	6	P	P	14 00 06.9	-1.1			
	baz=69									
MSTX	**Muleshoe**	68.41	5	P	P	14 00 07.9	-0.2			
	baz=69									
MSTX	**Muleshoe**	68.41	5	eP	P	14 00 06.0	-2.2			
	14nm,1.0s									
Z36A	**Blue Ridge**	68.42	11	P	P	14 00 07.4	-0.7			
	baz=69									
Y30A	**Stafford Cattl**	68.47	7	P	P	14 00 08.1	-0.3			
	baz=69									
Y31A	**Rekieta Farm,**	68.62	7	P	P	14 00 09.3	0.0			
	baz=69,SNR=6.5									
BELC	**Belle Mtn. Jos**	68.64	353	P	P	14 00 09.9	+0.3			
	baz=69									
IRM	**Iron Mountain**	68.72	354	P	P	14 00 10.4	+0.5			
	baz=69									
Y32A	**R-V Farms, Ver**	68.75	8	P	P	14 00 09.9	-0.2			
	baz=69									
Y34A	**Reagan Ranch,**	68.91	9	P	P	14 00 10.6	-0.5			
	baz=69									
Y35A	**Marietta**	68.96	10	P	P	14 00 11.0	-0.4			
	baz=69									
X29A	**Tulia**	68.96	6	P	P	14 00 11.4	-0.2			
	baz=69									
X28A	**Dimmitt**	69.00	5	P	P	14 00 11.8	+0.1			
	baz=69									
BFSC	**Mount Baldy Ra**	69.06	352	P	P	14 00 13.0	+0.8			
	baz=69									
Y36A	**Durant**	69.06	11	P	P	14 00 12.4	+0.3			
	baz=69									
ANMO	**Albuquerque**	69.21	2	eP	P	14 00 11.0	-2.2			
	2.8nm,0.8s									
Y37A	**Hugo**	69.24	11	P	P	14 00 13.2	+0.1			
	baz=70									
X31A	**McDonald Ranch**	69.31	7	P	P	14 00 13.3	-0.3			
	baz=70,SNR=13									
GMRC	**Granite Mounta**	69.38	353	P	P	14 00 14.1	-0.1			
	baz=70,SNR=6.4									
AMTX	**Amarillo**	69.40	6	P	P	14 00 14.2	0.0			
	baz=70									
AMTX	**Amarillo**	69.40	6	eP	P	14 00 11.1	-3.1			
	11nm,1.0s									
X35A	**Drake**	69.45	10	P	P	14 00 14.2	-0.3			
	baz=70									
Y39A	**Lockesburg**	69.46	13	P	P	14 00 14.6	+0.1			
	baz=70									
X34A	**Smith Ranch, M**	69.53	9	P	P	14 00 14.6	-0.3			
	baz=70									
WMOK	**Wichita Mounta**	69.55	8	eP	P	14 00 13.7	-1.4			
	2.1nm,0.8s									
LDFC	**Landfair**	69.62	354	eP	P	14 00 14.2	-1.5			
X36A	**Centrahoma**	69.71	10	P	P	14 00 15.9	-0.1			
	baz=70									
EDW2	**Edwards Air Fo**	69.73	351	P	P	14 00 15.8	-0.4			
	baz=70									
W31A	**Holland Ranch,**	69.86	7	P	P	14 00 16.5	-0.5			
	baz=70									
W32A	**Sentinel**	69.88	8	P	P	14 00 16.8	-0.3			
	baz=70									
X37A	**Clayton**	69.88	11	P	P	14 00 16.0	-1.0			
	baz=70,SNR=11									
PKM	**Mcpherson Peak**	69.99	350	P	P	14 00 18.3	+0.3			
	baz=70									
GSC	**Goldstone, Bar**	70.01	353	P	P	14 00 18.2	+0.3			
	baz=70,SNR=6.1									
GSC	**Goldstone, Bar**	70.01	353	eP	P	14 00 16.9	-1.1			
	5.6nm,0.8s									
X38A	**Whitesboro**	70.05	12	P	P	14 00 17.9	-0.2			
	baz=70									
TUQ	**Turquoise Moun**	70.05	353	P	P	14 00 18.4	+0.1			
	baz=70,SNR=7.8									
MIAR	**Mount Ida**	70.15	13	P	P	14 00 18.1	-0.6			
	baz=70,SNR=6.4									
MIAR	**Mount Ida**	70.15	13	eP	P	14 00 15.2	-3.5			
	9.6nm,1.0s									
W34A	**Bridge Creek,**	70.16	9	P	P	14 00 18.6	-0.2			
	baz=70									
W35A	**Tecumseh**	70.20	10	P	P	14 00 18.3	-0.7			
	baz=70,SNR=5.6									
LRMC	**Laurel Mtn Rad**	70.28	352	P	P	14 00 20.5	+0.8			
	baz=71									
W36A	**Wetumka**	70.28	10	P	P	14 00 19.1	-0.5			
	baz=71									
W37A	**Quinton**	70.41	11	P	P	14 00 20.6	+0.3			
	baz=71									
V31A	**Spring Creek L**	70.45	7	P	P	14 00 20.7	+0.1			
	baz=71									
W38A	**Poteau**	70.49	12	P	P	14 00 20.8	-0.1			
	baz=71									
SHOC	**Shoshone, Teco**	70.55	353	P	P	14 00 21.6	+0.5			
	baz=71									
ISA	**Isabella, Lake**	70.56	351	P	P	14 00 21.6	+0.2			
	baz=71,SNR=6.8									
ISA	**Isabella, Lake**	70.56	351	eP	P	14 00 21.2	-0.1			
	60nm,2.1s									
V33A	**Lossen Ranch,**	70.68	9	P	P	14 00 21.8	-0.2			
	baz=71									
V34A	**Guthrie**	70.79	9	P	P	14 00 22.7	+0.1			
	baz=71									
MPMC	**Manual Prospec**	70.83	352	P	P	14 00 23.0	-0.1			
	baz=71,SNR=10									
U27A	**Thompson Grove**	70.84	5	P	P	14 00 22.7	-0.4			
	baz=71									
V36A	**Jenks**	70.96	11	P	P	14 00 22.9	-0.7			
	baz=71,SNR=17									
SHPR	**Sheep Range**	71.04	354	eP	P	14 00 23.2	-1.2			
TUL1	**Leonard**	71.11	11	P	P	14 00 23.7	-0.9			
	baz=71									
TUL1	**Leonard**	71.11	11	eP	P	14 00 23.2	-1.3			
	23nm,0.8s									
FURC	**Furnace Creek,**	71.17	353	P	P	14 00 25.4	+0.6			
	baz=71									
CWC	**Cottonwood Cre**	71.28	352	P	P	14 00 26.0	+0.2			
	baz=72									
U33A	**Lingo Farm, Me**	71.30	9	P	P	14 00 25.3	-0.4			
	baz=72									
U34A	**Anderson Ranch**	71.38	9	P	P	14 00 26.3	+0.1			
	baz=72									
U35A	**Pawnee**	71.42	10	P	P	14 00 26.3	-0.2			
	baz=72									
MVCO	**Mesa Verde**	71.45	360	P	P	14 00 26.6	-0.3			
	baz=72,SNR=6.3									
MVCO	**Mesa Verde**	71.45	360	eP	P	14 00 25.7	-1.2			
	9.7nm,0.8s									
T25A	**Trinidad**	71.47	3	P	P	14 00 27.3	+0.3			
	baz=72									
T26A	**Comanche Natio**	71.55	4	P	P	14 00 27.1	-0.3			
	baz=72,SNR=12									
TPNV	**Topopah Spring**	71.58	353	P	P	14 00 27.9	+0.3			
	baz=72,SNR=16									
GRAC	**Grapevine Rang**	71.75	352	P	P	14 00 29.2	+0.7			
	baz=72									
T33A	**Patterson Ranc**	71.92	8	P	P	14 00 29.6	+0.1			
	baz=72									
CCUT	**Cedar City**	71.95	356	eP	P	14 00 29.0	-0.9			
	8.5nm,0.8s									
S22A	**4UR Ranch, Cre**	72.00	1	P	P	14 00 29.9	-0.4			
	baz=72,SNR=8.8									
T34A	**McClaskey Farm**	72.00	9	P	P	14 00 30.1	+0.2			
	baz=72									
SDCO	**Great Sand Dun**	72.03	2	P	P	14 00 30.0	-0.4			
	baz=72,SNR=9.6									
SDCO	**Great Sand Dun**	72.03	2	P	P	14 00 26.6	-3.8			
	2.9nm,0.8s									
S28A	**Manter**	72.07	5	P	P	14 00 30.1	-0.3			
	baz=72									
T36A	**Boggs Farm, Ca**	72.22	10	P	P	14 00 31.0	-0.2			
	baz=72									
S31A	**Mullinville**	72.32	7	P	P	14 00 32.0	+0.1			
	baz=73									
T37A	**Cheneyville 18**	72.43	11	P	P	14 00 32.1	-0.3			
	baz=73,SNR=11									
PV04	**Paradox Valley**	72.64	359	eP	P	14 00 32.5	-1.4			
R26A	**Arlington**	72.67	4	P	P	14 00 34.0	0.0			
	baz=73									
R27A	**Eads**	72.70	4	P	P	14 00 34.0	-0.2			
	baz=73,SNR=6.4									
S35A	**Otter Creek Ra**	72.77	10	P	P	14 00 34.1	-0.4			
	baz=73									
TPH	**Tonopah**	72.80	353	eP	P	14 00 33.8	-1.1			
	6.0nm,0.8s									
R28A	**Tribune**	72.82	5	P	P	14 00 34.9	-0.1			
	baz=73,SNR=7.0									
MVU	**Marysvale**	72.84	357	eP	P	14 00 33.2	-2.0			
	1.9nm,0.8s									
R11A	**Troy Canyon, C**	72.91	354	P	P	14 00 35.8	+0.3			
	baz=73,SNR=12									
R11A	**Troy Canyon, C**	72.91	354	eP	P	14 00 34.7	-0.8			
	4.8nm,0.9s									
S36A	**Lake Cedric, C**	72.92	10	P	P	14 00 35.7	+0.3			
	baz=73									
PBMO	**Poplar Bluff**	72.93	15	eP	P	14 00 35.3	-0.1			
R34A	**Isabella, Hill**	73.25	9	P	P	14 00 37.5	+0.1			
	baz=74									
Q24A	**Divide**	73.26	2	P	P	14 00 37.9	+0.2			
	baz=74									
NVAR	**Mina Array Bea**	73.27	352	P	P	14 00 38.3	+0.6			
	12nm,0.8s,baz=188,slow=7.5,SNR=82									
Q26A	**Hugo**	73.29	4	P	P	14 00 38.1	+0.3			
	baz=74									
SRU	**San Rafael Swe**	73.38	358	eP	P	14 00 37.0	-1.4			
	12nm,0.7s									
R35A	**Emporia Munici**	73.41	10	P	P	14 00 38.8	+0.5			
	baz=74									
SMCO	**Snowmass**	73.42	1	eP	P	14 00 38.4	-0.5			
	9.7nm,1.1s									
KSCO	**Kaye Shedlock'**	73.43	5	P	P	14 00 39.0	+0.4			
	baz=74									
Q29A	**Oakley**	73.44	6	P	P	14 00 39.1	+0.6			
	baz=74									
WAKR	**Walker**	73.48	351	eP	P	14 00 37.7	-1.2			
R36A	**Gordon, Harris**	73.52	10	P	P	14 00 38.9	-0.1			
	baz=74									
TMUT	**Trail Mountain**	73.59	358	eP	P	14 00 39.0	-0.7			
	17nm,1.0s									
Q30A	**Quinter**	73.59	6	P	P	14 00 39.0	-0.4			
	baz=74,SNR=6.3									
R37A	**Teagarden Farm**	73.61	11	P	P	14 00 39.6	+0.2			
	baz=74									
Q31A	**Ellis**	73.70	7	P	P	14 00 40.2	+0.2			
	baz=74									
Q32A	**Meitler Ranch,**	73.77	8	P	P	14 00 40.2	-0.2			
	baz=74,SNR=5.6									
KMSC	**Kings Mountain**	73.80	23	P	P	14 00 40.1	-0.6			
	baz=74									
Q33A	**Connelly Farm,**	73.86	8	P	P	14 00 41.5	+0.5			
	baz=74									
Q34A	**Chapman**	73.90	9	P	P	14 00 41.5	+0.4			
	baz=74									
Q32A	**Meitler Ranch,**	73.77	8	P	P	14 00 40.2	-0.2			
	baz=74,SNR=5.6									
KMSC	**Kings Mountain**	73.80	23	P	P	14 00 40.1	-0.6			
	baz=74									
Q33A	**Connelly Farm,**	73.86	8	P	P	14 00 41.5	+0.5			
	baz=74									
Q34A	**Chapman**	73.90	9	P	P	14 00 41.5	+0.4			
	baz=74									
P26A	**Davis Ranch, A**	73.94	4	P	P	14 00 42.0	+0.4			
	baz=74									
Q35A	**Mercer Eighty,**	73.96	10	P	P	14 00 41.9	+0.3			
	baz=74									
SYO	**Syowa Base**	73.99	168	eP	P	14 00 40.6	-0.8			
ISCO	**Idaho Springs**	74.08	2	eP	P	14 00 41.4	-1.1			
	4.2nm,0.8s									
DZM	**Mont Dzumac**	74.13	254	eLR	LR	14 23 29.9				
	294nm,31.4s									
P29A	**Atwood**	74.15	6	P	P	14 00 43.0	+0.3			
	baz=74									
P31A	**Stockton**	74.21	7	P	P	14 00 43.6	+0.6			
	baz=74									
NLU	**North Lily Min**	74.28	357	eP	P	14 00 43.0	-0.7			
	7.7nm,1.0s									
P33A	**Williams Farm,**	74.31	8	P	P	14 00 44.0	+0.4			
	baz=75									
O20A	**White River Ci**	74.37	360	P	P	14 00 45.3	+1.2			
	baz=75									
P32A	**Huiting Farm,**	74.39	8	P	P	14 00 44.4	+0.3			
	baz=75									
P34A	**Walnut Farm, R**	74.53	9	P	P	14 00 45.4	+0.5			
	baz=75									
DUG	**Dugway, Tooele**	74.55	356	P	P	14 00 45.6	+0.5			
	baz=75									
O28A	**Krutsinger Ran**	74.60	5	P	P	14 00 45.8	+0.5			
	baz=75									
P35A	**Duane Minner,**	74.62	10	P	P	14 00 45.6	+0.2			
	baz=75									
O30A	**MW Ranch, Wils**	74.80	6	P	P	14 00 46.9	+0.5			
	baz=75									
P36A	**Good Intent, A**	74.83	10	P	P	14 00 47.3	+0.7			
	baz=75									
JLU	**Jordanelle**	74.90	357	P	P	14 00 45.3	-2.0			
	6.9nm,0.8s									
O33A	**Hebron**	74.96	8	P	P	14 00 48.0	+0.7			
	baz=75									
O32A	**Brockman Farm,**	75.06	8	P	P	14 00 48.8	+0.9			
	baz=75									
BMN	**Battle Mountai**	75.13	353	eP	P	14 00 48.0	-0.4			
	11nm,0.9s									
N23A	**Red Feather La**	75.16	2	P	P	14 00 49.5	+0.8			
	baz=76									
O34A	**Beatrice**	75.18	9	P	P	14 00 49.2	+0.7			
	baz=76									
ELK	**Elko**	75.26	354	eP	P	14 00 47.8	-1.5			
	4.4nm,0.9s									
OGNE	**Ogallala**	75.40	5	P	P	14 00 51.0	+1.1			
	baz=76									
HWUT	**Hardware Ranch**	75.90	357	eP	P	14 00 51.0	-1.9			
	3.8nm,1.0s									
WDC	**Whiskeytown Da**	75.97	349	eP	P	14 00 52.3	-0.8			
	7.2nm,1.0s									
HVU	**Hansel Valley**	76.13	356	eP	P	14 00 52.9	-1.2			
	1.7nm,0.7s									
N02D	**Trinity Center**	76.38	349	P	P	14 00 56.9	+1.4			
	baz=77									
L27A	**T5 Ranch, Ells**	76.51	5	P	P	14 00 57.3	+1.0			
	baz=77									
M02C	**Callahan**	76.81	349	P	P	14 00 58.6	+0.6			
	baz=77									
K22A	**Casper**	76.90	1	P	P	14 00 59.0	+0.4			
	baz=77									
K22A	**Casper**	76.90	1	eP	P	14 00 57.4	-1.1			
	33nm,1.4s									
MOD	**Modoc Plateau**	76.94	351	P	P	14 00 55.2	-3.5			
	6.6nm,0.8s									
K25A	**Mack Ranch, Ha**	76.95	3	P	P	14 00 58.7	-0.1			
	baz=77									
BW06	**Boulder Array**	77.01	359	eP	P	14 00 57.9	-1.4			
	7.7nm,0.8s									
PDAR	**Pinedale Array**	77.01	359	P	P	14 00 58.5	-0.8			
	8.4nm,0.8s,baz=144,slow=5.3,SNR=58									
K23A	**Bowen Ranch, D**	77.03	2	P	P	14 00 58.9	-0.3			
	baz=77,SNR=9.3									
M04C	**Macdoel**	77.04	350	P	P	14 00 59.9	+0.6			
	baz=77									
WVOR	**Wild Horse Val**	77.26	352	eP	P	14 00 59.7	-0.8			
	9.9nm,0.9s									
J19A	**Crowheart**	77.50	359	P	P	14 01 00.7	-1.2			
	baz=78,SNR=10									
J21A	**Lysite**	77.58	1	P	P	14 01 02.1	-0.3			
	baz=78									
J20A	**Shoshoni**	77.59	0	P	P	14 01 02.1	-0.2			
	baz=78,SNR=12									
REDW	**Red Top Meadow**	77.63	358	eP	P	14 01 00.9	-1.8			
	7.1nm,0.9s									
J22A	**Midwest**	77.66	1	P	P	14 01 01.7	-1.0			
	baz=78,SNR=6.0									
J26A	**Sides Ranch, S**	77.69	4	P	P	14 01 02.9	+0.1			
	baz=78									
J25A	**Sunshine Ranch**	77.73	3	P	P	14 01 03.0	0.0			
	baz=78,SNR=6.6									
TPAW	**Teton Pass**	77.76	358	P	P	14 01 01.5	-2.0			
	11nm,0.8s									
K05A	**Summer Lake**	77.83	350	eP	P	14 01 04.7	+0.9			
LOHW	**Long Hollow**	77.88	358	eP	P	14 01 01.2	-2.8			
	4.0nm,0.8s									
MAW	**Mawson**	77.88	177	P	P	14 01 04.0	+0.4			
	6.6nm,0.8s,baz=214,slow=7.3,SNR=7.4									
FXWY	**Fox Creek**	77.91	358	eP	P	14 01 04.1	-0.2			
	5.7nm,0.8s									
MFID	**Canas Ranch**	77.96	354	eP	P	14 01 02.9	-1.5			
	3.4nm,0.8s									
J29A	**Okreek**	77.97	6	P	P	14 01 04.3	-0.1			
	baz=78									
HLID	**Hailey**	78.00	355	P	P	14 01 04.3	-0.3			
	baz=78,SNR=43									
HLID	**Hailey**	78.00	355	eP	P	14 01 03.1	-1.6			
	20nm,1.0s									
MOOW	**Moose Ponds**	78.02	358	eP	P	14 01 03.4	-1.4			
	4.5nm,0.8s									
HUMO	**Hull Mountain**	78.02	349	eP	P	14 01 03.6	-1.0			
	20nm,1.4s									
I21A	**Big Trails, Te**	78.05	1	P	P	14 01 04.4	-0.5			
	baz=78,SNR=23									
I22A	**9 Mile Ranch,**	78.14	1	P	P	14 01 04.5	-0.9			
	baz=78,SNR=9.1									
IMW	**Indian Meadow**	78.17	358	eP	P	14 01 03.7	-2.1			
	7.3nm,0.8s									
I20A	**Worland**	78.18	0	P	P	14 01 04.6	-1.1			
	baz=78,SNR=5.2									
I19A	**Meeteetse**	78.27	359	P	P	14 01 05.1	-1.1			
	baz=79,SNR=5.3									
I25A	**Rochford**	78.36	3	P	P	14 01 06.4	-0.3			
	baz=79									
J05D	**Fort Rock, OR**	78.42	350	P	P	14 01 07.6	+0.6			
	baz=79									
RSSD	**Black Hills**	78.45	3	P	P	14 01 04.8	-2.4			
I28A	**Midland**	78.50	5	P	P	14 01 07.4	+0.2			
	baz=79									
I27A	**Quinn**	78.50	5	P	P	14 01 07.8	+0.5			
	baz=79									
J04D	**Umpqua Nationa**	78.51	350	P	P	14 01 08.1	+0.6			
	baz=79									
ECSD	**EROS Data Cent**	78.68	9	P	P	14 01 07.7	-0.5			
	baz=79,SNR=5.9									
ECSD	**EROS Data Cent**	78.68	9	eP	P	14 01 06.4	-1.9			
	8.5nm,1.1s									
H24A	**Dirks Ranch, A**	79.05	3	P	P	14 01 09.7	-0.6			
	baz=79									
I04A	**Tendick Farm,**	79.09	350	P	P	14 01 10.5	0.0			
	baz=79									
I03D	**Drain, OR**	79.14	349	P	P	14 01 10.5	-0.2			
	baz=79									
MCMT	**McKenzie Canyo**	79.17	357	eP	P	14 01 10.7	-0.5			
RLMT	**Red Lodge**	79.36	359	P	P	14 01 11.5	-0.6			
	baz=80									
RLMT	**Red Lodge**	79.36	359	eP	P	14 01 11.6	-0.6			
	4.8nm,0.9s									
G20A	**Bridger**	79.45	0	P	P	14 01 11.6	-0.9			
	baz=80,SNR=6.7									
G22A	**Birney**	79.47	1	P	P	14 01 11.8	-0.8			
	baz=80									
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H11S1 **WAKE ISLAND Hy 96.39 288** T T 15 49 30.3
baz=129
H11S3 **WAKE ISLAND Hy 96.39 288** T T 15 49 27.4
baz=129
ASAR Alice Springs 97.35 235 P **P** **14 02 38.6 -1.6**
0.8nm,1.1s,baz=116,slow=2.2,SNR=5.2
ASAR LR 14 39 48.0
comp=Z,66nm,19.0s,baz=151,slow=91
H01W1 **Cape Leeuwin H 100.31 214** T T 15 55 07.6
baz=144,slow=76,SNR=66
H01W2 **Cape Leeuwin H 100.31 214** T T 15 55 05.8
baz=144,slow=76,SNR=73
H01W3 **Cape Leeuwin H 100.33 214** T T 15 55 06.9
baz=144,slow=76,SNR=56
ESDC Sonseca Array 121.08 61 PKP **PKPdf** **14 07 58.7 -0.3**
0.2nm,0.3s,baz=282,slow=1.8,SNR=5.0
NOA NORSAR Array B 133.72 36 PKP **PKPdf** **14 08 21.1 -1.4**
0.6nm,0.7s,baz=281,slow=2.2,SNR=3.3
KSRS Korea Array 135.08 291 PKP **PKPdf** **14 08 24.2 -1.4**
0.8nm,0.7s,baz=114,slow=2.5,SNR=6.6
KSAR Wonju Array Be 135.10 291 PKP **PKPdf** **14 08 24.2 -1.5**
CLL Collm 135.11 50 *e*PKPdf **PKPdf** **14 08 25.0 -0.3**
MDJ Mudanjiang 135.20 301 PKP **PKPdf** **14 08 26.1 +0.4**
MDJ PPMZ
19nm,4.9s
GERES GERESS Array B 135.44 53 PKP **PKPdf** **14 08 25.6 -0.5**
0.7nm,0.8s,baz=180,slow=1.2,SNR=4.8
BRG Berggiesshubel 135.69 50 *e*P **PKPdf** **14 08 26.1 -0.3**
3.5nm,0.7s
FINES FINESS Array B 140.59 33 PKhKP PKPpre 14 08 27.8
1.2nm,0.7s,baz=342,slow=4.4,SNR=5.6
FINES PKP **PKPdf** **14 08 36.1 +1.1**
1.5nm,0.7s,baz=298,slow=2.4,SNR=6.6
NJ2 Nanjing 140.86 280 *e*PKP **PKPdf** **14 08 37.6 +1.1**
BUR08 Bucovina Ar. S 143.12 55 *e*PKPdf **PKPdf** **14 08 38.7 -1.4**
BURAR Bucovina Array 143.13 55 *i*P PKPbc 14 08 37.2 +0.1
MLR Muntele Rosu 143.72 58 *i*P PKPbc 14 08 39.2 +0.3
KIEV Kiev 145.35 49 *e*PKPdf **PKPbc** **14 08 42.5 -1.2**
AK02 Malin Array Si 145.35 49 *e*PKPdf **PKPbc** **14 08 42.8 -0.9**
AKASG Malin Array Be 145.35 49 *e*PKPbc **PKPbc** **14 08 42.3 -1.3**
7.8nm,0.9s,baz=279,slow=3.6,SNR=16
AKBB Malin Array Si 145.35 49 *e*PKPdf **PKPbc** **14 08 42.3 -1.3**
HHC Hu-ho-hao-te 148.13 293 *e*PKPbc **PKPdf** **14 08 50.3 +1.3**
HHC PP PP 14 12 28.1 +7.2
HHC SKKS 14 19 13.0
HHC PPMZ
45nm,9.4s
HHC LN
120nm,21.4s
HHC LE
95nm,21.3s
HHC LZ
83nm,21.9s
BRTR Keskin Array B 149.34 69 PKPbc **PKPdf** **14 08 51.0 -0.1**
3.6nm,1.0s,baz=192,slow=2.3,SNR=8.5
XAN Xi'an 149.43 280 PKPbc **PKPbc** **14 08 53.9 -1.8**
CM31 Chiang Mai Arr 150.99 243 *e*PKPbc **PKPbc** **14 08 59.4 -0.4**
CMAR Chiang Mai Arr 150.99 243 PKPbc **PKPbc** **14 08 59.3 -0.5**
6.0nm,0.8s,baz=197,slow=1.8,SNR=44
SONM Songino Array 151.06 308 PKPbc **PKPbc** **14 08 57.8 -1.4**
9.3nm,0.8s,baz=114,slow=2.0,SNR=36
CHTO Chiang Mai 151.21 244 *e*PKPbc **PKPbc** **14 08 59.7 -0.6**
CD2 Chengdu 152.92 271 PKPbc **PKPdf** **14 08 56.4 -0.2**
CD2 pPKP **pPKPdf** **14 08 59.8 -0.3**
CD2 sPKP 14 09 01.1
CD2 PP **PP** **14 12 50.3 +1.6**
CD2 SKS **SKSdf** **14 16 03.6 -0.4**
CD2 SKKS **SKKSac** **14 19 40.0 +1.1**
CD2 SS **SS** **14 32 26.3 +4.6**
CD2 PPMZ
120nm,5.2s
LZH Lanzhou 153.86 283 *e*PKPbc **PKPdf** **14 08 57.6 -0.4**
LZH pPKP **pPKPdf** **14 09 01.0 -0.4**
LZH sPKP 14 09 02.3
LZH LN
160nm,18.0s
LZH LE
160nm,18.1s
LZH LZ
190nm,20.0s
GTA Gaotai 157.15 290 *e*PKP **PKPdf** **14 09 06.4 +4.1**
ZALV Zalesovo Beam 158.59 339 PKP **PKPdf** **14 09 01.2 -2.2**
0.3nm,0.3s,baz=76,slow=0.6,SNR=2.7
ZALV PKPab **PKPab** **14 09 37.7 -0.8**
3.2nm,0.7s,baz=36,slow=4.7,SNR=10
WMQ Urumqi 164.63 312 PKP **PKPdf** **14 09 11.0 +0.9**
WMQ PP **PP** **14 13 56.4 +4.6**
WMQ PPMZ
29nm,10.5s
WMQ LN
13nm,11.0s
WMQ LE
12nm,12.3s
WMQ LZ
11nm,12.8s
GEYT Alibeck 168.48 69 PKP **PKPdf** **14 09 13.1 -0.1**
1.5nm,0.3s,baz=320,slow=3.8,SNR=3.9
KSH Kashi 174.06 327 *e*PKP **PKPdf** **14 09 19.0 +2.9**

*IDC **24** 14:20:10.2±3.6,5.˚10S×101.˚23E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/22, mbtmp3.6/6, MS3.5/1, Ms1 3.5/1, ms1mx2.8/31, Error ellipse: s-maj=116.3km s-min=23.2km az=58.0*
*ISCJB **24** 14:20:11.4±2.8,5.˚1S±0.˚3×101.˚2E±0.˚5, h22km, mb3.6/6, MS3.5/1, Error ellipse: s-maj=91.1km s-min=17.9km az=148.5*
ISC 24 14:20:13.4±3.2,5.˚1S±0.˚4×101.˚2E±0.˚6, h22km, n12, σ0.˚64/6, mb3.5/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**23.54**	**355**	P	**P**	**14 25 22.0**	**-0.2**
	0.7nm,0.7s,baz=188,slow=7.5,SNR=4.3						
H08S2	**Diego Garcia H**	**28.64**	**263**	T	T	14 55 50.7	
	baz=86,slow=74,SNR=75						
H08S3	**Diego Garcia H**	**28.65**	**264**	T	T	14 55 50.0	
	baz=86,slow=74,SNR=95						
H08S1	**Diego Carcia H**	**28.66**	**263**	T	T	14 55 50.8	
	baz=86,slow=74,SNR=74						
H01W3	**Cape Leeuwin H**	**31.94**	**160**	T	T	15 00 17.1	
	baz=337,slow=76,SNR=19						
H01W2	**Cape Leeuwin H**	**31.95**	**160**	T	T	15 00 17.1	
	baz=337,slow=76,SNR=20						
H01W1	**Cape Leeuwin H**	**31.95**	**160**	T	T	15 00 16.5	
	baz=337,slow=76,SNR=17						
WRA	**Warramunga Arr**	**35.43**	**118**	P	**P**	**14 27 08.7**	**+0.4**
	0.5nm,0.8s,baz=290,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**36.49**	**124**	P	**P**	**14 27 17.1**	**-0.3**
	0.3nm,0.4s,baz=296,slow=8.0,SNR=5.1						
SONM	**Songino Array**	**52.93**	**4**	P	**P**	**14 29 28.9**	**+0.8**
	1.0nm,0.6s,baz=191,slow=11,SNR=5.1						
MJAR	**Matsushiro Arr**	**53.98**	**37**	P	**P**	**14 29 35.4**	**-0.4**
	0.2nm,0.3s,baz=237,slow=5.0,SNR=2.7						
MJAR				LR	LR	14 53 16.2	
	comp=Z,39nm,18.3s,baz=150,slow=37						
ZALV	**Zalesovo Beam**	**60.44**	**349**	P	**P**	**14 30 20.9**	**-0.3**
	0.7nm,0.5s,baz=163,slow=5.6,SNR=3.9						

*NEIC **24** 14:27:18.7±0.2,25.˚56S×179.˚49E, mb4.9/36, Error ellipse: s-maj=8.9km s-min=6.5km az=131.0*
*ISCJB **24** 14:27:19.4±0.6,25.˚71S±0.˚04×179.˚43E±0.˚04, h518km±7km, mb4.7/68, Error ellipse: s-maj=6.4km s-min=4.8km az=136.0*
*BJI **24** 14:27:19.2,26.˚11S×178.˚99E, h519km, mb4.5/14, mB4.8/10*
*MOS **24** 14:27:19.4±1.1,25.˚54S×179.˚45E, h512km, mb4.8/13, Error ellipse: s-maj=13.7km s-min=11.3km az=33.4*
*IDC **24** 14:27:20.1±0.5,25.˚54S×179.˚45E, h515km±4km, mb4.0/23, mb1 4.1/25, mb1mx4.0/39, mbtmp4.8/25, Error ellipse: s-maj=9.1km s-min=7.6km az=4.0*
ISC 24 14:27:20.6±0.3,25.˚66S±0.˚05×179.˚46E±0.˚05, h524km±2km, h525km:pP-P, n420, σ1.˚28/503, mb4.8/68, 38C-20D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.27**	**147**	P	**P**	**14 28 42.8**	**+0.2**
	309nm,0.3s,baz=298,slow=17,SNR=16						
RAO				S	**S**	**14 29 51.8**	**+2.1**
	229nm,0.3s,baz=311,slow=20,SNR=2.9						
RAO	**Raoul Island**	**4.27**	**147**	P	**P**	**14 28 42.8**	**+0.2**
RAO				S	**S**	**14 29 51.8**	**+2.1**
RAO				pmax	pmax		
	comp=Z,309nm,0.3s						
RAO				smax	smax		
	comp=N,229nm,0.3s						
OUZ	**Omahuta**	**10.78**	**207**	PN	P	14 29 49.3	+3.2
WCZ	**Waipu Caves**	**11.14**	**202**	PN	P	14 29 53.1	+3.2
MKAZ	**Moumakai**	**11.98**	**197**	PN	**P**	**14 30 00.7**	**+2.0**
KBAZ	**Karaka Road Bo**	**12.04**	**198**	PN	**P**	**14 30 01.6**	**+2.3**
HAZ	**Te Kaha**	**12.14**	**186**	PN	**P**	**14 29 58.6**	**-1.7**
HAZ				SN	**S**	**14 32 07.6**	**-4.3**
WMGZ	**Waiomatatini S**	**12.15**	**184**	PN	**P**	**14 29 59.7**	**-0.8**
WMGZ				SN	**S**	**14 32 09.0**	**-3.2**
PUZ	**Puketiti**	**12.41**	**184**	*e*PN	**P**	**14 30 01.3**	**-1.9**
PUZ				*e*SN	**S**	**14 32 11.4**	**-5.9**
DZM	**Mont Dzumac**	**12.43**	**284**	*e*P	**P**	**14 30 05.8**	**+2.0**
	comp=N,137nm,0.8s						
DZM	**Mont Dzumac**	**12.43**	**284**	P	**P**	**14 30 05.8**	**+2.0**
	comp=N,3.6nm,0.3s,baz=270,slow=24,SNR=34						
DZM				ScP	**ScP**	**14 37 43.2**	**+1.6**
	comp=N,0.9nm,0.3s,baz=91,slow=23,SNR=8.1						
DZM	**Mont Dzumac**	**12.43**	**284**	*e*P	**P**	**14 30 04.3**	**+0.6**
NOUC	**Port Laguerre**	**12.54**	**284**	*e*P	**P**	**14 30 05.0**	**+0.1**
URZ	**Urewera**	**12.72**	**188**	P	**P**	**14 30 03.9**	**-2.5**
	comp=N,51nm,0.3s,baz=26,slow=2.0,SNR=110						
URZ				S	**S**	**14 32 21.1**	**-1.9**
	comp=N,5.2nm,0.3s,baz=72,slow=20,SNR=4.1						
URZ	**Urewera**	**12.72**	**188**	PN	**P**	**14 30 03.9**	**-2.5**
URZ				SN	**S**	**14 32 21.0**	**-2.0**
MWZ	**Matawai**	**12.74**	**187**	*e*PN	**P**	**14 30 03.9**	**-2.8**
HIZ	**Hauiti**	**13.39**	**196**	PN	**P**	**14 30 14.8**	**+1.4**
BKZ	**Black Stump Fm**	**13.70**	**190**	*e*P	**P**	**14 30 14.1**	**-2.6**
WTVZ	**West Tongariro**	**13.80**	**193**	PN	**P**	**14 30 18.6**	**+0.8**
PNHZ	**Pukenui**	**14.47**	**190**	PN	**P**	**14 30 23.5**	**-1.3**
TSZ	**Takapari Road**	**14.65**	**191**	*e*PN	**P**	**14 30 24.3**	**-2.4**
BFZ	**Birch Farm**	**15.22**	**189**	*e*P	**P**	**14 30 32.3**	**-0.2**
	comp=N,74nm,0.6s						
MRZ	**Mangatainoka R**	**15.30**	**191**	*e*PN	**P**	**14 30 29.9**	**-3.5**
MRZ				*e*SN	S	14 33 03.4	-8.9
CAW	**Cannon Point**	**15.83**	**192**	*e*PN	**P**	**14 30 35.7**	**-3.1**
SNZO	**South Karori**	**16.10**	**193**	*e*P	**P**	**14 30 37.0**	**-4.4**
	comp=N,138nm,0.8s						
QRZ	**Quartz Range**	**16.19**	**199**	PN	**P**	**14 30 42.0**	**-0.4**
NNZ	**Nelson**	**16.32**	**197**	PN	**P**	**14 30 41.5**	**-2.2**
TUWZ	**Tuamarina**	**16.38**	**195**	PN	**P**	**14 30 42.9**	**-1.4**
THZ	**Tophouse**	**16.95**	**197**	PN	**P**	**14 30 48.9**	**-1.1**
THZ				*e*SN	**S**	**14 33 36.9**	**-4.1**
KHZ	**Kahutara**	**17.41**	**195**	PN	**P**	**14 30 51.9**	**-2.2**
LTZ	**Lake Taylor**	**18.07**	**197**	PN	**P**	**14 30 58.7**	**-1.5**
OXZ	**Oxford**	**18.64**	**197**	PN	**P**	**14 31 03.8**	**-1.5**
WVZ	**Waitaha Valley**	**18.78**	**200**	PN	**P**	**14 31 05.6**	**-1.0**
MQZ	**McQueen's Vall**	**18.84**	**195**	PN	**P**	**14 31 06.0**	**-1.1**
MQZ				*e*SN	**S**	**14 34 09.4**	**-2.1**
RPZ	**Rata Peaks**	**19.27**	**199**	P	**P**	**14 31 10.6**	**-0.5**
	comp=N,4.9nm,0.3s,baz=334,slow=1.3,SNR=27						
RPZ				S	**S**	**14 34 15.5**	**-3.1**
	comp=N,0.4nm,0.3s,baz=22,slow=19,SNR=2.4						
RAR	**Rarotonga**	**19.56**	**81**	P	**P**	**14 31 12.9**	**-1.2**
	comp=N,2.0nm,0.3s,baz=235,slow=5.5,SNR=5.5						
JCZ	**Jackson Bay**	**20.32**	**203**	PN	**P**	**14 31 20.0**	**-0.8**
DCZ	**Deep Cove**	**22.11**	**203**	*e*P	**P**	**14 31 37.1**	**+0.4**
	comp=N,23nm,1.0s						
WHZ	**Wether Hill Ro**	**22.20**	**202**	PN	**P**	**14 31 37.0**	**-0.6**
PAE	**Paea**	**29.80**	**81**	*e*P	**P**	**14 32 44.4**	**-0.6**
	comp=N,19nm,1.1s						
PPT2	**Papeete2**	**29.83**	**81**	*e*P	**P**	**14 32 45.2**	**-0.1**
	comp=N,60nm,1.1s						
PPT	**Papeete**	**29.84**	**81**	P	**P**	**14 32 44.2**	**-1.1**
	comp=N,72nm,1.1s,baz=308,slow=0.4,SNR=6.3						
PPT	**Papeete**	**29.84**	**81**	P	**P**	**14 32 44.2**	**-1.1**
PPT				pmax	pmax		
	comp=Z,72nm,1.1s						
TIAR	**Tiarei**	**30.05**	**81**	*e*P	**P**	**14 32 46.9**	**-0.2**
	comp=Z,28nm,0.9s						
CTA	**Charters Tower**	**31.04**	**273**	P	**P**	**14 32 56.7**	**+1.1**
	comp=Z,12nm,0.5s,baz=97,slow=11,SNR=22						
CTA				ScP	**ScP**	**14 38 31.8**	**+3.2**
	comp=Z,5.6nm,0.5s,baz=162,slow=2.7,SNR=5.2						
CTA	**Charters Tower**	**31.04**	**273**	P	**P**	**14 32 56.7**	**+1.1**
CTA				pmax	pmax		
	comp=Z,12nm,0.5s						
CTA				pmax	pmax		
	comp=N,6.0nm,0.5s						
MEH	**Mehetia**	**31.08**	**82**	*e*P	**P**	**14 32 55.5**	**-0.5**
	comp=N,34nm,1.0s						
PMOR	**Pomariorio Ree**	**32.32**	**77**	*e*P	**P**	**14 33 06.2**	**-0.3**
	comp=N,111nm,1.2s						
VAH	**Vaihoa**	**32.46**	**78**	*e*P	**P**	**14 33 07.2**	**-0.5**
	comp=N,99nm,1.1s						
STKA	**Stephens Creek**	**33.64**	**250**	P	**P**	**14 33 19.1**	**+1.5**
	comp=N,1.9nm,0.4s,baz=95,slow=12,SNR=9.5						
STKA				PcP	**PcP**	**14 35 43.6**	**+1.1**
	comp=N,4.6nm,0.5s,baz=123,slow=6.4,SNR=4.4						
STKA				ScP	**ScP**	**14 38 40.2**	**+2.7**
	comp=N,10nm,1.1s,baz=79,slow=3.1,SNR=5.2						
STKA	**Stephens Creek**	**33.64**	**250**	P	**P**	**14 33 19.1**	**+1.5**
STKA						14 35 43.7	
STKA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
STKA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
STKA				pmax	pmax		
	comp=N,10.0nm,1.1s						
PMG	**Port Moresby**	**34.65**	**292**	*d* *i*P	**P**	**14 33 25.8**	**-0.4**
PMG				pmax	pmax		
	comp=Z,143nm,0.9s						
AS31	**Alice Springs**	**41.29**	**263**	*e*P	**P**	**14 34 18.8**	**-1.6**
ASAR	**Alice Springs**	**41.29**	**263**	P	**P**	**14 34 21.1**	**+0.7**
	comp=Z,2.7nm,0.5s,baz=89,slow=7.4,SNR=46						
ASAR				pP	**pP**	**14 35 53.3**	**-1.0**
	comp=Z,4.1nm,0.9s,baz=98,slow=8.4,SNR=3.2						
ASAR				ScP	**ScP**	**14 39 08.7**	**+1.9**
	comp=Z,6.7nm,0.8s,baz=106,slow=4.1,SNR=18						
ASAR				S	**S**	**14 39 55.4**	**-1.4**
	comp=Z,2.8nm,0.8s,baz=94,slow=16,SNR=8.3						
ASAR				PKiKP	**PKiKP**	**14 43 10.9**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=77,slow=1.8,SNR=4.3						
ASAR	**Alice Springs**	**41.29**	**263**	P	**P**	**14 34 21.1**	**+0.7**
ASAR				*PP	**pP**	**14 35 53.3**	**-1.0**
ASAR				S	**S**	**14 39 55.4**	**-1.4**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ASAR				pmax	pmax		
	comp=N,7.0nm,0.8s						
ASAR				smax	smax		
	comp=N,3.0nm,0.8s						
WRAB	**Tennant Creek**	**41.82**	**268**	*d* *i*P	**P**	**14 34 24.4**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,24nm,0.8s						
WRA	**Warramunga Arr**	**41.83**	**268**	P	**P**	**14 34 24.7**	**+0.1**
	comp=Z,7.2nm,0.6s,baz=103,slow=8.1,SNR=93						
WRA				pP	**pP**	**14 35 57.3**	**-1.6**
	comp=Z,6.5nm,1.0s,baz=106,slow=8.4,SNR=2.9						
WRA				ScP	**ScP**	**14 39 10.9**	**+2.0**
	comp=Z,9.6nm,0.9s,baz=102,slow=4.0,SNR=14						
WRA				S	**S**	**14 40 03.3**	**-1.3**
	comp=Z,6.8nm,1.1s,baz=103,slow=15,SNR=7.9						
WRA				PKiKP	**PKiKP**	**14 43 11.7**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=77,slow=0.4,SNR=8.1						
WRA	**Warramunga Arr**	**41.83**	**268**	P	**P**	**14 34 24.7**	**+0.1**
WRA				*PP	**pP**	**14 35 57.3**	**-1.6**
WRA				S	**S**	**14 40 03.3**	**-1.3**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WRA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WRA				pmax	pmax		
	comp=N,10.0nm,0.9s						
WRA				smax	smax		
	comp=N,7.0nm,1.1s						
TAOE	**Nuku Hiva Isla**	**41.83**	**74**	*e*P	**P**	**14 34 24.8**	**0.0**
	comp=N,386nm,1.0s						
TAOE	**Nuku Hiva Isla**	**41.83**	**74**	P	**P**	**14 34 23.1**	**-1.7**
	comp=N,66nm,0.6s						
JAY	**Jayapura**	**43.79**	**295**	P	**P**	**14 34 39.7**	**-0.4**
	comp=N,16nm,0.7s,baz=180,slow=1.5,SNR=8.8						
JAY	**Jayapura**	**43.79**	**295**	P	**P**	**14 34 39.7**	**-0.4**
JAY				pmax	pmax		
	comp=Z,16nm,0.7s						
GUMO	**Guam**	**51.55**	**315**	P	**P**	**14 35 37.1**	**-1.0**
	comp=Z,88nm,1.0s,baz=167,slow=12,SNR=4.6						
GUMO	**Guam**	**51.55**	**315**	P	**P**	**14 35 37.1**	**-1.0**
GUMO				pmax	pmax		
	comp=Z,88nm,1.0s						
SIJI	**Sorong**	**52.55**	**290**	P	**P**	**14 35 45.1**	**-0.4**
	comp=Z,39nm,0.7s,baz=87,slow=6.0,SNR=28						
SIJI				pP	**pP**	**14 37 24.0**	**-2.0**
	comp=Z,5.3nm,0.7s,baz=112,slow=8.0,SNR=2.6						
VNDA	**Vanda**	**52.59**	**185**	P	**P**	**14 35 46.7**	**+2.0**
	comp=Z,0.7nm,0.4s,baz=1.8,slow=8.4,SNR=5.3						
VNDA				PcP	**PcP**	**14 36 46.5**	**+0.4**
	comp=Z,4.4nm,0.8s,baz=342,slow=5.0,SNR=11						
VNDA				ScP	**ScP**	**14 39 54.2**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=333,slow=3.7,SNR=5.7						
QSPA	**South Pole Qui**	**64.43**	**180**	P	**P**	**14 37 06.7**	**+1.8**
	comp=Z,20nm,0.6s,baz=341,slow=0.5,SNR=224						
QSPA				PcP	**PcP**	**14 37 35.1**	**+1.2**
	comp=Z,7.5nm,0.8s,baz=79,slow=2.8,SNR=5.1						
MJAR	**Matsushiro Arr**	**73.07**	**326**	P	**P**	**14 37 57.2**	**-0.1**
	comp=Z,9.9nm,0.7s,baz=166,slow=5.8,SNR=30						
MJAR	**Matsushiro Arr**	**73.07**	**326**	P	**P**	**14 37 57.2**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MAJO	**Matsushiro**	**73.08**	**326**	*d* *i*P	**P**	**14 37 57.1**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,85nm,0.9s						
JNU	**Nakatsue**	**74.52**	**319**	*e*P	**P**	**14 38 04.7**	**-1.0**
	comp=Z,4.2nm,1.1s						
MAW	**Mawson**	**75.93**	**201**	P	**P**	**14 38 14.4**	**+1.5**
	comp=Z,10nm,0.6s,baz=131,slow=8.1,SNR=12						
MAW	**Mawson**	**75.93**	**201**	P	**P**	**14 38 14.4**	**+1.5**
MAW				pmax	pmax		
	comp=Z,11nm,0.6s						
TJN	**Taejon**	**78.86**	**320**	*d* *i*P	**P**	**14 38 30.1**	**+0.8**
KSRS	**Korea Array**	**79.28**	**321**	P	**P**	**14 38 32.2**	**+0.7**
	comp=Z,4.7nm,0.7s,baz=136,slow=5.7,SNR=36						
KSRS	**Korea Array**	**79.28**	**321**	P	**P**	**14 38 32.2**	**+0.7**
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KSAR	**Wonju Array Be**	**79.30**	**321**	P	**P**	**14 38 32.2**	**+0.6**
YSS	**Yuzh-Sakhalins**	**79.52**	**335**	*e*P	**P**	**14 38 32.2**	**-0.3**
PETK	**Petropavlovsk-**	**80.69**	**347**	P	**P**	**14 38 39.1**	**+0.5**
	comp=Z,3.4nm,0.6s,baz=128,slow=7.3,SNR=8.4						
PETK	**Petropavlovsk-**	**80.69**	**347**	P	**P**	**14 38 39.1**	**+0.5**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
QIZ	**Qiongzhong**	**80.92**	**296**	P	**P**	**14 38 40.0**	**-0.5**
QIZ				pP	**pP**	**14 40 32.3**	**-1.1**
QIZ				sP	**sP**	**14 41 26.3**	**-0.8**
QIZ				S	**S**	**14 48 05.8**	**-0.5**
QIZ				sS	**sS**	**14 51 26.8**	**-0.8**
QIZ				PMZ			
	comp=Z,17nm,1.6s						
SYO	**Syowa Base**	**81.19**	**194**	*e*P	**P**	**14 38 39.9**	**-1.1**
SYO	**Syowa Base**	**81.19**	**194**	*e*PcP	**PcP**	**14 38 45.0**	**-0.5**
NJ2	**Nanjing**	**81.45**	**312**	*e*P	**P**	**14 38 43.3**	**+0.4**
NJ2				PMZ			
	comp=Z,20nm,0.7s						
USRK	**Ussuriysk Ar.**	**81.98**	**328**	P	**P**	**14 38 46.2**	**+0.9**
	comp=Z,1.7nm,0.5s,baz=140,slow=3.8,SNR=9.6						
BSC	**Santa Cruz Isl**	**82.83**	**47**	P	**P**	**14 38 50.9**	**+1.0**
	baz=83						
SNAA	**Sanae**	**82.92**	**179**	*c* *i*P	**P**	**14 38 49.1**	**-0.8**
SNAA				pmax	pmax		
	comp=Z,20nm,1.1s						
PKM	**Mcpherson Peak**	**83.25**	**46**	P	**P**	**14 38 53.4**	**+1.2**
	baz=83						
CIS	**Catalina Islan**	**83.30**	**48**	P	**P**	**14 38 52.6**	**+0.3**
	baz=83						
SMMC	**Simmler**	**83.39**	**46**	P	**P**	**14 38 54.0**	**+1.3**
	baz=84						
NVL	**N'lazarevskaya**	**83.44**	**184**	*e*P	**P**	**14 38 53.0**	**+0.6**
NVL				pmax	pmax		
	comp=Z,13nm,0.7s						
MDJ	**Mudanjiang**	**83.45**	**327**	P	**P**	**14 38 53.8**	**+1.0**
MDJ				PMZ			
	comp=Z,4.0nm,0.7s						
MDJ				PMZ			
	comp=Z,34nm,3.7s						
FMP	**Fort Macarthur**	**83.55**	**48**	P	**P**	**14 38 54.6**	**+1.0**
	baz=84						
OSI	**Osito Audit: C**	**83.80**	**47**	P	**P**	**14 38 55.9**	**+1.0**
	baz=84						
HABR	**Khabarovsk**	**83.83**	**332**	*e*P	**P**	**14 38 56.7**	**+2.2**
HABR				*e*PP	**pP**	**14 40 47.4**	**-1.1**
HABR				*e*SP	**sP**	**14 41 40.6**	**-1.2**
HABR				*e*		14 42 16.5	
HABR				PPP	PPP	14 44 13.8	
HABR				*e*S	**SKSac**	**14 48 26.0**	**-1.0**
HABR				*e*SS	**SS**	**14 54 18.2**	**+0.7**
HABR				*e*SSS	SSS	14 57 54.1	
HABR				pmax	pmax		
	comp=Z,4.0nm,1.2s						
HABR				MLR	MLR		
	comp=Z,50nm,18.0s						
109C	**Camp Elliot, M**	**83.87**	**49**	P	**P**	**14 38 56.0**	**+0.9**
	baz=84						
MWC	**Mount Wilson**	**84.01**	**48**	*e*P	**P**	**14 38 55.2**	**-0.8**
	comp=Z,10nm,0.8s						
ARVC	**Arvin**	**84.04**	**47**	P	**P**	**14 38 56.8**	**+0.9**
	baz=84						
SLBS	**Sierra La Lagu**	**84.10**	**60**	*e*P	**P**	**14 38 57.7**	**+1.1**
	comp=Z,112nm,1.7s						
KMRM	**Mail Ridge**	**84.20**	**40**	*e*P	**P**	**14 38 58.3**	**+1.6**
	comp=Z,51nm,1.1s						
MURC	**Murrieta**	**84.22**	**49**	P	**P**	**14 38 57.6**	**+0.7**
	baz=84,SNR=6.2						
BFSC	**Mount Baldy Ra**	**84.29**	**48**	P	**P**	**14 38 57.9**	**+0.6**
	baz=84,SNR=10						
MONP	**Monument Peak,**	**84.34**	**50**	P	**P**	**14 38 58.9**	**+1.1**
	baz=84,SNR=38						
IBP	**Imperial Bould**	**84.44**	**50**	P	**P**	**14 38 59.4**	**+1.4**
	baz=84						
EDW2	**Edwards Air Fo**	**84.45**	**47**	P	**P**	**14 38 58.7**	**+0.7**
	baz=85,SNR=23						
ISA	**Isabella, Lake**	**84.59**	**46**	P	**P**	**14 38 59.7**	**+1.0**
	baz=85,SNR=42						
KHMM	**Horse Mountain**	**84.62**	**40**	*e*P	**P**	**14 38 59.1**	**+0.2**
PFO	**Pinyon Flats O**	**84.73**	**49**	P	**P**	**14 39 00.3**	**+0.7**
	baz=85,SNR=9.7						
PFO	**Pinyon Flats O**	**84.73**	**49**	*e*P	**P**	**14 38 59.3**	**-0.2**
	comp=Z,30nm,1.3s						
BBRC	**Big Bear Solar**	**84.80**	**48**	P	**P**	**14 39 00.7**	**+0.8**
	baz=85						
SWSC	**Sam W. Stewart**	**84.80**	**50**	P	**P**	**14 39 00.8**	**+1.1**
	baz=85,SNR=9.4						
LRMC	**Laurel Mtn Rad**	**85.00**	**47**

GRAC	Grapevine Rang	86.10	46	P		P		14 39 06.9	+0.9	
	baz=86,SNR=26									
FURC	Furnace Creek,	86.12	46	P		P		14 39 06.8	+0.9	
	baz=86									
Y12C	Blythe	86.14	50	P		P		14 39 07.4	+1.3	
	baz=86									
TUQ	Turquoise Moun	86.14	48	P		P		14 39 07.0	+0.7	
	baz=86,SNR=10									
SHOC	Shoshone, Teco	86.17	47	P		P		14 39 06.9	+0.6	
	baz=86									
M04C	Macdoel	86.29	40	P		P		14 39 07.8	+1.0	
	baz=86,SNR=6.8									
214A	Organ Pipe Nat	86.34	52	P		P		14 39 08.7	+1.5	
	baz=86									
214A	Organ Pipe Nat	86.34	52	*e*P		P		14 39 08.1	+0.9	
	comp=Z,22nm,0.9s									
NVAR	Mina Array Bea	86.36	44	P		P		14 39 07.9	+0.5	
	comp=Z,15nm,0.8s,baz=223,slow=8.4,SNR=65									
NEE2	Needles Airpor	86.64	49	P		P		14 39 09.6	+1.1	
	baz=87									
HOG	Hogback Mounta	86.66	40	P		P		14 39 09.6	+1.0	
I03D	Drain, OR	86.67	38	P		P		14 39 09.5	+1.2	
	baz=87,SNR=5.0									
PDMCI	Parker Dam,Lak	86.71	49	P		P		14 39 09.8	+1.0	
	baz=87,SNR=5.9									
TPNV	Topopah Spring	86.80	46	P		P		14 39 10.2	+0.8	
	baz=87,SNR=42									
TPH	Tonopah	86.83	45	*e*P		P		14 39 08.2	-1.4	
	comp=Z,23nm,0.8s									
K04D	Chiloquin, OR	86.87	39	P		P		14 39 10.5	+0.9	
	baz=87									
J04D	Umpqua Nationa	87.06	39	P		P		14 39 11.7	+1.2	
	baz=87,SNR=23									
GYA	Guiyang	87.22	301	*e*P		P		14 39 11.0	-0.6	
GYA				pP		pP		14 41 08.3	+1.6	
GYA				sP		sP		14 42 01.6	+1.8	
GYA				PP		PP		14 42 46.8	+1.3	
GYA				SKS		SKSac		14 48 47.4	-1.9	
GYA				S		S		14 49 05.0	-2.8	
I04A	Tendick Farm,	87.25	38	P		P		14 39 11.9	+0.7	
	baz=87,SNR=11									
HBO	Huckleberry Mo	87.33	38	P		P		14 39 12.5	+0.8	
K05A	Summer Lake	87.43	40	*e*P		P		14 39 13.5	+1.2	
J05D	Fort Rock, OR	87.59	39	P		P		14 39 14.1	+1.2	
	baz=88,SNR=17									
G03D	McMinnville, O	87.70	37	P		P		14 39 14.4	+1.2	
	baz=88									
R11A	Troy Canyon, C	88.04	45	P		P		14 39 15.5	+0.3	
	baz=88,SNR=7.5									
I05D	Terrebonne, OR	88.19	38	P		P		14 39 16.6	+1.0	
	baz=88									
F04D	Rainier, OR	88.40	36	P		P		14 39 17.8	+1.4	
	baz=88									
WVOR	Wild Horse Val	88.56	41	*e*P		P		14 39 16.7	-0.8	
	comp=Z,37nm,1.1s									
G05D	Wamic, OR	88.77	37	P		P		14 39 19.2	+0.9	
	baz=89									
CROR	Criterion Ridg	88.79	38	P		P		14 39 19.5	+1.1	
NLWA	Neilton Lookou	88.81	35	*e*P		P		14 39 16.2	-2.2	
	comp=Z,15nm,1.0s									
CCUT	Cedar City	89.04	47	*e*P		P		14 39 20.0	+0.1	
	comp=Z,24nm,1.2s									
VTHM	Trough	89.15	38	P		P		14 39 20.8	+0.8	
WUAZ	Wupatki	89.27	50	P		P		14 39 22.0	+1.0	
	baz=89									
XAN	Xi'an	89.44	308	P		P		14 39 23.9	+2.2	
XAN				pP		pP		14 41 14.8	-2.6	
XAN				PMZ						
	comp=Z,1.0nm,0.7s									
GNW	Green Mountain	89.45	35	P		P		14 39 22.1	+0.8	
LON	Longmire	89.46	36	*e*P		P		14 39 21.5	+0.1	
	comp=Z,7.7nm,0.7s									
ELK	Elko	89.63	44	*e*P		P		14 39 21.1	-1.5	
	comp=Z,11nm,1.1s									
CMAR	Chiang Mai Arr	89.68	291	P		P		14 39 23.6	+0.6	
	comp=Z,0.4nm,0.6s,baz=140,slow=4.4,SNR=2.5									
CMAR				pP		pP		14 41 17.8	-1.0	
	comp=Z,2.4nm,1.0s,baz=130,slow=3.5,SNR=6.8									
CMAR				PKKPbc		PKKPbc		14 56 54.2	+1.2	
	comp=Z,1.4nm,0.7s,baz=288,slow=3.9,SNR=8.4									
CMAR	Chiang Mai Arr	89.68	291	P		P		14 39 23.6	+0.6	
CMAR				*PP		pP		14 41 17.8	-1.0	
CMAR				pmax		pmax				
	comp=Z,2.0nm,1.0s									
CMAR				pmax		pmax				
	comp=Z,1.0nm,0.7s									
G08A	Pilot Rock	90.11	38	*e*P		P		14 39 25.3	+0.7	
W18A	Petrified Fore	90.20	51	P		P		14 39 26.1	+0.8	
	baz=90									
W18A	Petrified Fore	90.20	51	P		P		14 39 22.4	-3.0	
	comp=Z,18nm,1.1s									
121A	Cookes Peak, D	90.26	54	P		P		14 39 26.9	+1.3	
	baz=90									
MVU	Marysvale	90.32	47	*e*P		P		14 39 24.4	-1.5	
	comp=Z,17nm,1.0s									
MSU	Marysvale	90.35	47	*e*P		P		14 39 25.8	-0.2	
	comp=Z,21nm,1.0s									
BMO	Blue Mountains	90.78	39	*e*P		P		14 39 26.5	-1.2	
	comp=Z,3.3nm,0.6s									
MFID	Camas Ranch	90.81	41	*e*P		P		14 39 25.4	-2.4	
	comp=Z,25nm,1.3s									
DUG	Dugway, Tooele	90.86	45	P		P		14 39 28.7	+0.5	
	baz=91									
SEY	Seymchan	90.88	348	⇓*i*P		P		14 39 26.9	-0.6	
BGU	Big Grassy Mou	91.12	44	*e*P		P		14 39 25.0	-4.4	
	comp=Z,6.6nm,1.1s									
BMRM	Bremner River	91.12	17	*e*P		P		14 39 29.1	+0.3	
HHC	Hu-ho-hao-te	91.32	315	*e*P		P		14 39 28.5	-1.8	
HHC				pP		pP		14 41 29.6	+3.4	
HHC				PP		PP		14 43 16.0	-1.3	
HHC				SKS		SKSac		14 49 08.3	-4.0	
HHC				S		SKKSac		14 49 33.9	+3.5	
HHC				sS		sS		14 53 11.8	-0.2	
HHC				SS		SS		14 56 03.4	-2.7	
HHC				PMZ						
	comp=Z,25nm,1.4s									
HHC				PMZ						
	comp=Z,85nm,7.9s									
TMUT	Trail Mountain	91.41	47	*e*P		P		14 39 29.5	-1.5	
	comp=Z,40nm,0.8s									
TNA	Tin City	91.45	5	*e*P		P		14 39 28.7	-1.4	
	comp=Z,12nm,1.1s									
MPU	Maple Canyon	91.52	46	*e*P		P		14 39 29.2	-2.1	
	comp=Z,56nm,0.8s									
CAST	Castle Rocks	91.59	12	*e*P		P		14 39 28.6	-2.2	
	comp=Z,6.2nm,0.8s									
CD2	Chengdu	91.64	304	*e*P		P		14 39 31.8	-0.1	
CD2				pP		pP		14 41 28.4	+0.5	
CD2				sP		sP		14 42 21.9	+1.3	
CD2				PP		PP		14 43 19.1	-0.8	
CD2				SKS		SKSac		14 49 13.0	-1.4	
CD2				S		S		14 49 46.4	-1.0	
CD2				SS		SS		14 56 10.3	-0.5	
CD2				PMZ						
	comp=Z,10.0nm,0.5s									
CD2				PMZ						
	comp=Z,120nm,5.2s									
HLID	Hailey	91.74	42	P		P		14 39 33.0	+0.8	
	baz=92									
TXAR	Lajitas Array	91.78	58	P		P		14 39 33.5	+0.9	
	comp=Z,9.4nm,0.8s,baz=214,slow=6.5,SNR=94									
TXAR				PP		PP		14 43 18.0	-3.1	
	comp=Z,0.1nm,0.4s,baz=218,slow=6.9,SNR=2.9									
TXAR				PKKPbc		PKKPbc		14 56 49.7	+1.5	
	comp=Z,0.4nm,0.6s,baz=102,slow=2.9,SNR=5.5									
B08A	Colville Reser	91.78	36	*e*P		P		14 39 32.2	+0.1	
MVCO	Mesa Verde	92.14	49	P		P		14 39 34.4	+0.1	
	baz=92									
TCUT	Toone Canyon	92.25	45	*e*P		P		14 39 32.5	-2.3	
	comp=Z,14nm,0.7s									
ANMO	Albuquerque	92.43	52	P		P		14 39 36.2	+0.6	
	comp=Z,5.1nm,0.9s,baz=222,slow=6.6									
ANMO	Albuquerque	92.43	52	⇑*i*P		P		14 39 35.9	+0.3	
ANMO				pmax		pmax				
	comp=Z,36nm,1.2s									
PV04	Paradox Valley	92.47	48	*e*P		P		14 39 36.2	+0.5	
PAX	Paxson	92.62	15	*e*P		P		14 39 35.2	-0.5	
	comp=Z,3.3nm,1.0s									
NEW	Newport	92.90	37	P		P		14 39 37.8	+0.5	
	baz=93									
529A	Stev Forest Ra	93.26	58	P		P		14 39 39.5	+0.2	
	baz=93									
CMIG	Matias Romero	93.47	73	P		P		14 39 40.7	+0.2	
	comp=Z,3.8nm,0.6s,baz=228,slow=3.1,SNR=4.5									
HDA	Harding Lake	93.52	14	*e*P		P		14 39 39.1	-0.5	
	comp=Z,4.9nm,0.6s									
CCB	Clear Creek Bu	93.55	13	*e*P		P		14 39 38.7	-1.0	
	comp=Z,3.4nm,0.7s									
S22A	4UR Ranch, Cre	93.55	50	P		P		14 39 41.2	+0.3	
	baz=94									
COLA	College	93.74	13	*i* P		P		14 39 41.6	+1.0	
429A	Davenport Ranc	93.74	58	P		P		14 39 41.6	0.0	
	baz=94									
O20A	White River Ci	93.80	47	P		P		14 39 42.0	+0.2	
	baz=94									
FXWY	Fox Creek	93.84	43	*e*P		P		14 39 44.5	+2.5	
ILAR	Eielson Array	93.85	14	P		P		14 39 40.0	-1.1	
	comp=Z,1.7nm,0.7s,baz=224,slow=5.2,SNR=18									
ILAR	Eielson Array	93.85	14	P		P		14 39 40.1	-1.1	
ILAR				pmax		pmax				
	comp=Z,2.0nm,0.7s									
228A	UT Block 9, Go	93.90	56	P		P		14 39 42.4	+0.1	
	baz=94									
530A	J-C Ranch, Com	93.95	59	P		P		14 39 42.8	+0.3	
	baz=94									
LZH	Lanzhou	94.07	308	⇑P		P		14 39 41.3	-1.8	
LZH				pP		pP		14 41 39.0	-0.2	
LZH				sP		sP		14 42 31.0	-0.9	
LZH				PP		PP		14 43 39.5	+0.8	
LZH				PMZ						
	comp=Z,23nm,1.6s									
LZH				PMZ						
	comp=Z,82nm,9.3s									
329A	Wagon Wheel Ra	94.07	57	P		P		14 39 43.4	+0.3	
	baz=94									
631A	Perdido Creek	94.20	59	P		P		14 39 43.8	+0.2	
	baz=94									
128A	Castleberry Fa	94.22	56	P		P		14 39 43.9	+0.2	
	baz=94									
FLWY	Flagg Ranch	94.27	43	*e*P		P		14 39 41.6	-2.3	
	comp=Z,7.6nm,0.9s									
PDAR	Pinedale Array	94.29	44	P		P		14 39 43.5	-0.5	
	comp=Z,1.9nm,0.8s,baz=222,slow=2.0,SNR=14									
PDAR				PP		PP		14 43 37.2	-3.2	
	comp=Z,0.3nm,0.3s,baz=256,slow=4.3,SNR=5.7									
430A	Baggett Ranch,	94.32	58	P		P		14 39 44.1	0.0	
	baz=94									
933A	Laredo	94.42	62	P		P		14 39 44.9	+0.3	
	baz=94									
229A	Bryant Ranch,	94.42	57	P		P		14 39 44.8	+0.2	
	baz=94									
SDCO	Great Sand Dun	94.47	50	P		P		14 39 45.2	+0.2	
	baz=95									
H17A	Grant Village	94.51	43	P		P		14 39 46.4	+1.4	
	baz=95									
BOZ	Bozeman (W)	94.54	41	P		P		14 39 45.3	+0.3	
	baz=95									
BOZ	Bozeman (W)	94.54	41	*e*P		P		14 39 45.0	0.0	
	comp=Z,4.0nm,0.8s									
531A	Rocksprings	94.56	59	P		P		14 39 45.7	+0.4	
	baz=95									
MSTX	Muleshoe	94.63	55	P		P		14 39 45.8	+0.2	
	baz=95									
330A	Mertzon	94.64	57	P		P		14 39 45.5	-0.2	
	baz=95									
034A	Hebbronville	94.65	62	P		P		14 39 47.1	+1.4	
	baz=95									
J19A	Crowheart	94.87	44	P		P		14 39 46.4	-0.2	
	baz=95									
T25A	Trinidad	94.94	51	P		P		14 39 47.3	+0.2	
	baz=95									
532A	Rocksprings	95.05	59	P		P		14 39 47.7	+0.2	
	baz=95									
JCT	Junction City	95.28	59	P		P		14 39 48.0	-0.5	
	baz=95									
Q24A	Divide	95.30	49	P		P		14 39 49.1	+0.3	
	baz=95									
I19A	Meeteetse	95.30	43	P		P		14 39 48.7	+0.2	
	baz=95									
633A	Saathoff Ranch	95.31	60	P		P		14 39 49.0	+0.3	
	baz=95									
ISCO	Idaho Springs	95.39	48	P		P		14 39 49.4	+0.3	
	baz=96									
432A	Menard	95.46	58	P		P		14 39 49.2	-0.1	
	baz=96									
J20A	Shoshoni	95.52	44	P		P		14 39 49.7	+0.3	
	baz=96									
231A	Bronte	95.54	57	P		P		14 39 49.5	-0.2	
	baz=96									
RLMT	Red Lodge	95.69	42	P		P		14 39 50.6	+0.4	
	baz=96									
N23A	Red Feather La	95.69	47	P		P		14 39 50.9	+0.5	
	baz=96									
332A	Millersview	95.73	58	P		P		14 39 50.8	+0.2	
	baz=96									
I20A	Worland	95.79	44	P		P		14 39 51.1	+0.5	
	baz=96									
J21A	Lysite	95.92	45	P		P		14 39 51.8	+0.5	
	baz=96									
433A	Art	95.95	59	P		P		14 39 51.6	+0.1	
	baz=96									
232A	Coleman	96.03	58	P		P		14 39 52.1	+0.2	
	baz=96									
YAK	Yakutsk	96.03	339	*i* P		P		14 39 52.2	+1.2	
YAK				pmax		pmax				
	comp=Z,4.0nm,0.7s									
534A	Blanco	96.11	60	P		P		14 39 52.5	+0.2	
	baz=96									
R26A	Arlington	96.16	50	P		P		14 39 52.6	+0.1	
	baz=96									
I21A	Big Trails, Te	96.25	44	Pdiff		P		14 39 52.5	-0.2	
	baz=96									
Z31A	Sharp Cattle R	96.28	56	Pdiff		P		14 39 53.1	+0.1	
	baz=96									
ABTX	Abilene, Hawle	96.35	57	Pdiff		P		14 39 53.4	+0.1	
	baz=96									
635A	Leesville	96.38	61	Pdiff		P		14 39 53.6	+0.2	
	baz=96									
J22A	Midwest	96.57	45	Pdiff		P		14 39 54.4	+0.2	
	baz=97									
Z32A	Haskell	96.78	56	Pdiff		P		14 39 55.7	+0.5	
	baz=97									
I22A	9 Mile Ranch,	96.80	44	Pdiff		P		14 39 56.0	+0.8	
	baz=97									
334A	Lometa	96.86	59	Pdiff		P		14 39 56.1	+0.5	
	baz=97									
234A	Clairette	97.23	58	Pdiff		Pdif		14 39 57.7	+0.5	
	baz=97									
R28A	Tribune	97.32	51	Pdiff		P		14 39 58.3	+0.7	
	baz=97									
C20A	Veseth Ranch,	97.75	41	Pdiff		P		14 40 00.0	+0.8	
	baz=98									
F22A	Rosebud	97.85	43	Pdiff		P		14 40 00.8	+1.1	
	baz=98									
D21A	La Casta Ranch	98.03	41	Pdiff		P		14 40 01.3	+0.8	
	baz=98									
OGNE	Ogallala	98.34	49	Pdiff		P		14 40 03.1	+1.0	
	baz=98									
F23A	Volborg	98.35	43	Pdiff		P		14 40 03.2	+1.2	
	baz=98									
Y34A	Reagan Ranch,	98.35	56	Pdiff		P		14 40 03.0	+0.8	
	baz=98									
K26A	Motz Farm, Whi	98.37	47	Pdiff		P		14 40 02.6	+0.4	
	baz=98									
H24A	Dirks Ranch, A	98.42	44	Pdiff		P		14 40 02.7	+0.3	
	baz=98									
GTA	Gaotai	98.43	310	*e*P		P		14 40 05.8	+3.2	
GTA				pP		pP		14 42 03.5	+4.3	
GTA				sP		sP		14 42 54.0	+2.2	
GTA				PMZ						
	comp=Z,2.0nm,1.0s									
I25A	Rochford	98.61	45	Pdiff		P		14 40 04.2	+0.8	
	baz=99									
B21A	Ellsworth Farm	98.67	40	Pdiff		P		14 40 04.0	+0.6	
	baz=99									
Q30A	Quinter	98.72	51	Pdiff		P		14 40 04.5	+0.7	
	baz=99									
X38A	Whitesboro	100.86	57	Pdiff		Pdif		14 40 13.8	+0.5	
	baz=101									
R36A	Gordon, Harris	101.81	53	Pdiff		Pdif		14 40 18.8	+1.4	
	baz=102									
P35A	Duane Minner,	101.91	52	Pdiff		Pdif		14 40 19.3	+1.4	
	baz=102									
M34A	Aspy Farms, Fr	102.30	50	Pdiff		Pdif		14 40 21.0	+1.4	
	baz=102									
WMQ	Urumqi	108.50	310	Pdif		Pdif		14 40 46.8	-0.3	
WMQ				PP		PP		14 45 27.5	+2.0	
WMQ				PPMZ						
	comp=Z,29nm,11.2s									
ZALV	Zalesovo Beam	112.99	320	PKiKP		PKiKP		14 44 56.7	-0.9	
	comp=Z,1.3nm,0.7s,baz=158,slow=2.4,SNR=6.7									
ZALV	Zalesovo Beam	112.99	320	*i* PKiKP		PKiKP		14 44 56.7	-0.9	
ZALV				pmax		pmax				
	comp=Z,1.0nm,0.7s									
NVS	Novosibirsk	114.07	321	*e*PKiKP		PKiKP		14 44 58.0	-1.7	
KURK	Kurchatov	116.12	316	PKiKP		PKPdf		14 45 03.2	-0.6	
KURK								14 46 15.6		
KURK								14 47 49.8		
KURK				pmax		pmax				
	comp=Z,4.0nm,0.8s									
KURK				pmax		pmax				
	comp=Z,1.0nm,0.9s									
KURK				pmax		pmax				
	comp=N,2.0nm,0.7s									
KURK	Kurchatov	116.12	316	PKP		PKPdf		14 45 03.2	-0.6	
KURK				PP		PP		14 46 15.6	-3.3	
KURK				SKP				14 47 49.8		
KURBB	Kurchatov Arra	116.17	316	PKP		PKPdf		14 45 03.2	-0.7	
	comp=N,4.3nm,0.8s,baz=104,slow=1.9,SNR=45									
KURBB				PP		PP		14 46 15.6	-3.5	
	comp=N,1.0nm,0.8s,baz=100,slow=7.4,SNR=6.8									
KURBB				SKP				14 47 49.8		
	comp=N,1.5nm,0.7s,baz=111,slow=1.9,SNR=8.5									
PTGA	Pitinga	116.97	105	PKP		PKPdf		14 45 05.9	-0.7	
	comp=N,3.5nm,0.6s,baz=320,slow=4.0,SNR=7.8									
PTGA				SKP				14 47 50.6		
	comp=N,1.5nm,0.6s,baz=252,slow=20,SNR=3.5									
KBL	Kabul	120.19	296	*e*PKPdf		PKPdf		14 45 12.8	+0.4	
BOSA	Boshof	120.61	206	PKP		PKPdf		14 45 13.8	+0.4	
	comp=N,4.5nm,0.7s,baz=177,slow=2.6,SNR=9.4									
BOSA				PKKPbc		PKKPbc		14 55 16.4	-4.7	
	comp=N,2.7nm,0.9s,baz=52,slow=5.7,SNR=3.8									
BVAR	Borovoye Array	121.42	318	PKP		PKPdf		14 45 13.5	-0.4	
	comp=N,6.6nm,0.5s,baz=102,slow=1.5,SNR=41									
BVAR				SKP				14 48 01.4		
	comp=N,1.6nm,0.6s,baz=95,slow=3.4,SNR=4.1									
BVAR	Borovoye Array	121.42	318	PKIKP		PKPdf		14 45 13.5	-0.4	
BVAR								14 48 01.4		
BVAR				pmax		pmax				
	comp=Z,7.0nm,0.5s									
BVAR				pmax		pmax				
	comp=N,2.0nm,0.6s									
SCHQ	Schefferville	124.14	40	PKP		PKPdf		14 45 18.1	-1.0	
	comp=N,6.3nm,0.9s,baz=258,slow=3.7,SNR=4.2									
SPA0	Spitsbergen Ar	126.83	356	*e*P		PKPdf		14 45 23.1	-0.5	
SPITS	Spitsbergen Ar	126.83	356	PKP		PKPdf		14 45 23.3	-0.4	
	comp=N,12nm,0.7s,baz=95,slow=5.1,SNR=19									
SPITS	Spitsbergen Ar	126.83	356	PKIKP		PKPdf		14 45 23.3	-0.4	
SPITS				pmax		pmax				
	comp=Z,12nm,0.7s									
ARU	Arti	127.99	323	*i* PKIKP		PKPdf		14 45 26.3	-0.1	
ARU								14 47 34.8		
ARU								14 51 42.6		
HSPB	Hornsund (broa	128.01	355	*e*P		PKPdf		14 45 37.5	+12	
DAG	Danmarks Havn	128.07	5	*i* P		PKPdf		14 45 24.5	-1.5	
	comp=Z,4.3nm,0.7s									
DAG	Danmarks Havn	128.07	5	*i* PKIKP		PKPdf		14 45 24.5	-1.5	
DAG				pmax		pmax				
	comp=Z,3.0nm,0.7s									
SUMG	Summit	128.70	14	*i* P		PKPdf		14 45 27.5	-0.3	
	comp=Z,2.5nm,0.7s									
SUMG	Summit	128.70	14	*i* PKIKP		PKPdf		14 45 27.5	-0.3	
SUMG				pmax		pmax				
	comp=Z,3.0nm,0.7s									
AKTO	Aktyubinsk	129.21	315	PKP		PKPdf		14 45 28.7	-0.2	
	comp=Z,5.0nm,0.6s,baz=114,slow=3.1,SNR=24									
AKTO				SKPbc		SKPab		14 48 01.2	+0.1	
	comp=Z,1.4nm,0.7s,baz=235,slow=0.3,SNR=4.5									
AKTO				SKP				14 48 16.9		
	comp=Z,1.2nm,0.6s,baz=100,slow=4.7,SNR=4.2									
AKTO	Aktyubinsk	129.21	315	PKIKP		PKPdf		14 45 28.7	-0.2	
AKTO								14 48 16.9		
AKTO				pmax		pmax				
	comp=Z,5.0nm,0.6s									
AKTO				pmax		pmax				
	comp=N,1.0nm,0.7s									
AKTO				pmax		pmax				
	comp=N,1.0nm,0.6s									
GEYT	Alibeck	129.41	299	PKP		PKPdf		14 45 30.6	+0.8	
	comp=N,5.2nm,0.7s,baz=209,slow=2.6,SNR=10									
GEYT				SKPbc		SKPbc		14 48 04.8	+2.2	
	comp=N,5.2nm,0.8s,baz=259,slow=1.5,SNR=11									
LSZ	Lusaka	130.62	218	*e*PKPdf		PKPdf		14 45 33.7	+0.9	
ARCES	ARCESS Array B	133.50	348	PKhKP		PKPpre		14 45 26.8		
	comp=N,2.2nm,0.8s,baz=346,slow=2.5,SNR=4.3									
ARCES				PKP		PKPdf		14 45 36.1	-0.3	
	comp=N,5.5nm,0.6s,baz=29,slow=1.1,SNR=13									
ARCES				SKPbc		SKPbc		14 48 17.3	+1.4	
	comp=N,15nm,0.6s,baz=35,slow=3.6,SNR=45									
RCBR	Riachuelo	133.54	127	PKP		PKPdf		14 45 36.9	-1.4	
	comp=N,9.3nm,0.9s,baz=242,slow=13,SNR=3.1									
FINES	FINESS Array B	139.94	340	PKhKP		PKPpre		14 45 39.4		
	comp=N,3.1nm,0.9s,baz=66,slow=4.8,SNR=14									
FINES				SKPbc		SKiKP		14 48 36.5	-0.9	
	comp=N,22nm,0.7s,baz=60,slow=2.8,SNR=46									
OBN	Obninsk	140.00	327	*e*PKIKP		PKPdf		14 45 47.6	-1.2	
OBN				pmax		pmax				
	comp=Z,8.0nm,1.0s									
AKN	Aaknes	143.14	354	*e*P		PKPab		14 45 52.2	+0.3	
NB2	NORSAR Subarra	143.73	350	PKP		PKPab		14 45 53.7	-0.6	
	comp=Z,41nm,0.8s,baz=18,slow=3.3									
NB2	NORSAR Subarra	143.73

KWP	Kalwaria Pacla	150.04	329	⇑	*i*PKHKP	PKPbc	14 46	12.3	+0.6
BUR08	Bucovina Ar. S	150.11	324		*e*PKPbc	PKPbc	14 46	12.8	+0.8
BURAR	Bucovina Array	150.12	324	⇑	PKIKP	PKPbc	14 46	12.8	+0.7
BURAR	Bucovina Array	150.12	324	⇑	*i*P	PKPbc	14 46	12.8	+0.7
HARR	Harsova	150.20	317	⇓	PKIKP	PKPbc	14 46	13.0	+0.8
HARR	Harsova	150.20	317	⇓	*i*P	PKPbc	14 46	13.0	+0.8
EKA	Eskdalemuir Ar	150.30	3		PKP	PKPdf	14 46	05.9	-0.3
	comp=Z,8.5nm,0.6s,baz=307,slow=2.5,SNR=4.7								
EKA					PKPbc	PKPbc	14 46	11.5	-0.5
	comp=Z,7.1nm,0.5s,baz=342,slow=2.4,SNR=45								
VRI	Vrincioaia	150.30	320	⇑	PKIKP	PKPbc	14 46	12.6	+0.2
VRI	Vrincioaia	150.30	320	⇑	*i*P	PKPbc	14 46	12.6	+0.2
PSN	Preselentsi	150.53	315	⇑	PKIKP	PKPbc	14 46	13.8	+0.8
PSN	Preselentsi	150.53	315	⇑	*i*P	PKPbc	14 46	13.8	+0.8
BSEG	Bad Segeberg	150.62	347		*e*PKPbc	PKPbc	14 46	13.6	+0.8
HLG	Helgoland	150.83	350		*e*PKPbc	PKPbc	14 46	14.2	+0.9
OJC	Ojcow	150.89	333		*i* PKPc	PKPbc	14 46	14.0	+0.4
OJC	Ojcow	150.89	333	⇑	*i*PKIKP	PKPbc	14 46	14.1	+0.4
MLR	Muntele Rosu	150.97	320		PKPbc	PKPbc	14 46	13.9	-0.2
	comp=Z,1.6nm,0.8s,baz=328,slow=6.3,SNR=6.3								
MLR	Muntele Rosu	150.97	320	⇑	PKIKP	PKPbc	14 46	14.1	0.0
MLR	Muntele Rosu	150.97	320	⇑	*i*P	PKPbc	14 46	14.1	0.0
RUE	Ruedersdorf	151.11	342		*e*PKPbc	PKPbc	14 46	14.7	+0.7
NIE	Niedzica	151.27	331		*i* PKPc	PKPbc	14 46	15.5	+0.9
NIE	Niedzica	151.27	331	⇑	*i*PKIKP	PKPbc	14 46	15.5	+0.9
VOIR		151.51	320	⇑	PKIKP	PKPbc	14 46	16.0	+0.7
VOIR		151.51	320	⇑	*i*P	PKPbc	14 46	16.0	+0.7
KSP	Ksiaz	151.73	337		*i* PKPc	PKPbc	14 46	16.2	+0.7
KSP	Ksiaz	151.73	337	⇑	*i*PKIKP	PKPbc	14 46	16.2	+0.7
OKC	Ostrava-Krasne	151.86	334		*e*PKPDF	PKPdf	14 46	09.6	+0.8
OKC				⇑	*e*PKP	PKiKP	14 46	16.0	0.0
OKC	Ostrava-Krasne	151.86	334		*e*PKIKP	PKPdf	14 46	09.6	+0.8
UPC	Upice	152.11	337	⇓	*e*PKPBC	PKPbc	14 46	16.6	+0.2
UPC					*e*PKPAB	PKPab	14 46	29.7	+1.2
UPC					*ep*PKP	pPKPdf	14 48	21.0	+7.9
UPC	Upice	152.11	337		*e*PKIKP	PKPbc	14 46	16.6	+0.2
UPC					*e*		14 46	29.7	
DPC	Dobruska-Polom	152.13	337		*e*PKPDF	PKPdf	14 46	09.9	+0.6
DPC				⇑	*e*PKP	PKiKP	14 46	17.0	+0.4
DPC					*e*PKPAB	PKPab	14 46	29.3	+0.7
DPC					*ep*PKP	pPKPdf	14 48	15.1	+1.9
DPC					*ex*	x	14 48	20.7	
DPC					*ex*	x	14 48	25.5	
DPC	Dobruska-Polom	152.13	337		*e*PKIKP	PKPdf	14 46	09.9	+0.6
DPC					*e*		14 46	29.3	
JMB	Yambol	152.13	314	⇑	PKIKP	PKPbc	14 46	17.1	+0.4
JMB	Yambol	152.13	314	⇑	*i*P	PKPbc	14 46	17.1	+0.4
MORC	Moravsky Berou	152.14	334	⇓	PKIKP	PKPbc	14 46	16.1	-0.4
MORC	Moravsky Berou	152.14	334	⇓	*i*P	PKPbc	14 46	16.1	-0.4
KRLC	Kraliky	152.19	336	⇓	*e*PKPDF	PKPdf	14 46	10.3	+0.9
KRLC				⇑	*e*PKP	PKiKP	14 46	17.1	+0.3
KRLC					*e*PKPAB	PKPab	14 46	30.0	+1.1
KRLC					*ep*PKP	pPKPdf	14 48	17.4	+4.1
KRLC					*ex*	x	14 48	21.9	
KRLC					*ex*	x	14 48	26.3	
KRLC	Kraliky	152.19	336		*e*PKIKP	PKPdf	14 46	10.3	+0.9
KRLC					*e*		14 46	30.0	
CLL	Collm	152.38	342		*e*PKPdf	PKPdf	14 46	09.7	+0.2
CLL					*e*PKPbc	PKiKP	14 46	17.5	+0.5
CLL	Collm	152.38	342	⇑	*e*PKIKP	PKPdf	14 46	09.0	-0.5
CLL					*e*		14 46	30.0	
CLL					pmax	pmax			
	comp=Z,6.0nm,0.6s								
BRG	Berggiesshubel	152.48	340		*e*PKPdf	PKPdf	14 46	10.1	+0.4
BRG					*e*PKPbc	PKiKP	14 46	17.8	+0.5
BRG	Berggiesshubel	152.48	340		*e*PKIKP	PKPdf	14 46	10.0	+0.4
BRG					*e*		14 48	13.4	
BRG					pmax	pmax			
	comp=Z,4.0nm,1.0s								
CLZ	Clausthal	152.57	345		*e*PKPdf	PKPdf	14 46	10.4	+0.5
CLZ					*e*PKPbc	PKiKP	14 46	18.2	+0.7
PVCC	Panska Ves	152.58	339	⇓	*e*PKPBC	PKPbc	14 46	18.0	+0.6
PVCC					*ep*PKP	pPKPdf	14 48	21.9	+8.1
PVCC	Panska Ves	152.58	339		*e*PKIKP	PKPbc	14 46	18.0	+0.6
PVCC					*e*		14 48	21.9	
FBE	Freiberg	152.62	341		*e*PKPbc	PKPbc	14 46	18.5	+1.1
IBBN	Ibbenburen	152.66	349		*e*PKPdf	PKPdf	14 46	10.3	+0.4
SIRR	Siria	152.86	325	⇑	*i*P	PKPbc	14 46	17.4	-0.7
GOPC	GO Pecny, Ondr	153.03	338		*e*PKP	PKPbc	14 46	18.6	+0.2
GOPC					*e*PKPAB	PKPab	14 46	33.8	+1.4
PRU	Pruhonice	153.05	338	⇓	*e*PKPDF	PKPdf	14 46	11.7	+1.1
PRU				⇑	*e*PKP	PKiKP	14 46	18.8	+0.3
PRU	Pruhonice	153.05	338		*e*PKIKP	PKPdf	14 46	11.7	+1.1
BZS	Buzias	153.31	324	⇑	PKIKP	PKPbc	14 46	19.3	+0.2
BZS	Buzias	153.31	324	⇑	*i*P	PKPbc	14 46	19.3	+0.2
TANN	Tannenbergstha	153.33	341		*e*PKPdf	PKPdf	14 46	11.3	+0.3
TANN					*e*PKPbc	PKiKP	14 46	19.6	+0.5
WERD	Werda	153.34	342		*e*PKPdf	PKPdf	14 46	11.2	+0.2
WERD					*e*PKPbc	PKiKP	14 46	19.6	+0.5
PLN	Plauen	153.35	342		*e*PKPbc	PKPbc	14 46	19.6	+0.5
MOX	Moxa	153.36	343		*e*PKPdf	PKPdf	14 46	11.2	+0.2
MOX					*e*PKPab	PKPab	14 46	34.0	+0.2
GUNZ	Gunzen	153.41	341		*e*PKPbc	PKPbc	14 46	19.9	+0.7
GUNZ					*e*PKPab	PKPab	14 46	34.4	+0.3
WERN	Wernitzgruen	153.47	341		*e*PKPbc	PKPbc	14 46	20.1	+0.8
MANZ	Manzenberg	153.81	341		*e*PKPbc	PKPbc	14 46	20.7	+0.6
ROTZ	Rotzenmuhle	153.98	341		*e*PKPbc	PKPbc	14 46	20.9	+0.5
KHC	Kasperske Hory	154.11	338		*e*PKPDF	PKPdf	14 46	12.2	+0.1
KHC				⇑	*i*PKP	PKiKP	14 46	21.3	+0.5
KHC					*e*PKPAB	PKPab	14 46	38.2	+1.1
KHC					*ex*	x	14 48	24.1	
KHC					*ep*PKP	pPKPdf	14 48	31.5	+15
KHC	Kasperske Hory	154.11	338	⇓	*e*PKIKP	PKPdf	14 46	12.2	+0.1
KHC					*e*		14 46	38.2	
GEC2	GERESS Array S	154.32	338		*e*PKPdf	PKPdf	14 46	12.4	-0.1
GEC2					*e*PKPbc	PKPbc	14 46	21.7	+0.4
GERES	GERESS Array B	154.32	338		PKP	PKPdf	14 46	10.3	-2.2
	comp=Z,1.4nm,0.9s,baz=64,slow=3.1,SNR=8.9								
GERES					PKPbc	PKiKP	14 46	21.1	-0.1
	comp=Z,1.6nm,0.7s,baz=45,slow=2.3,SNR=9.3								
WET	Wettzell	154.33	339		*e*PKPdf	PKPdf	14 46	12.5	+0.1
PKSM	Moragy	154.40	328	⇑	PKIKP	PKPdf	14 46	14.0	+1.4
PKSM	Moragy	154.40	328	⇑	*i*P	PKPdf	14 46	13.9	+1.4
TNS	Taunus Mts	154.51	347		*e*PKPdf	PKPdf	14 46	12.9	+0.2
TNS					*e*PKPbc	PKPbc	14 46	22.1	+0.5
DAVOX	Davos/Dischmat	157.35	341		PKPab	PKPab	14 46	51.8	+0.5
	comp=Z,2.5nm,0.4s,baz=31,slow=4.1,SNR=3.9								
DAVOX	Davos/Dischmat	157.35	341		PKP2	PKPab	14 46	51.8	+0.5
DAVOX					pmax	pmax			
	comp=Z,3.0nm,0.4s								
DBIC	Dimbokro	160.67	167		PKPab	PKPab	14 47	07.0	+0.7
	comp=Z,8.8nm,0.9s,baz=235,slow=4.3,SNR=3.7								
DBIC	Dimbokro	160.67	167		PKP2	PKPab	14 47	07.0	+0.7
DBIC					pmax	pmax			
	comp=Z,9.0nm,0.9s								
ESDC	Sonseca Array	165.74	11		PKPab	PKPab	14 47	27.9	-0.2
	comp=Z,2.0nm,0.6s,baz=347,slow=4.1,SNR=17								
TORD	Torodi Ar. Bea	167.37	190		PKP	PKPdf	14 46	26.6	-0.6
	comp=Z,5.3nm,1.0s,baz=299,slow=0.1,SNR=15								
TORD					PKPab	PKPab	14 47	36.2	+0.5
	comp=Z,7.9nm,0.8s,baz=183,slow=3.7,SNR=21								

*CSEM **24** 14:44:50.1, 37.17N×28.15E, h5km, MD2.5*
ISK 24 14:44:50.1, 37.17N×28.15E, h5km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YER	Yerkesik	0.11	105		*e*Pg	Pg	14 44 52.6	0.0
YER	Yerkesik	0.11	105		*e*Pg	Pg	14 44 52.6	0.0
DALY	Dalyan (Mu˘la	0.54	130		*e*PG	Pb	14 45 01.8	-0.1
DALY	Dalyan (Mu˘la	0.54	130		*e*Pg	Pb	14 45 01.8	-0.1
BODT	Bodrum	0.68	262		*e*PG	Pb	14 45 04.5	+0.1
BODT					*e*SG	Sb	14 45 14.9	+0.8
BODT	Bodrum	0.68	262		*e*Pg	Pb	14 45 04.5	+0.1
BODT					*e*Sg	Sb	14 45 14.9	+0.8
AYDB	Zeytinkoy-Aydi	0.81	346		*e*PG	Pb	14 45 06.8	0.0
AYDB	Zeytinkoy-Aydi	0.81	346		*e*Pg	Pb	14 45 06.8	0.0
NIS1	Nisyros Isl.	0.96	234		*e*PG	Pb	14 45 09.5	+0.3
NIS1	Nisyros Isl.	0.96	234		*e*Pg	Pb	14 45 09.5	+0.3
ELL	Elmali	1.47	106		*e*PN	Pg	14 45 18.9	+0.4
ELL	Elmali	1.47	106		*e*Pn	Pg	14 45 18.9	+0.4

IGQ 24 14:45:06±1.1, 0.65N×80.31W, h5km±61km, Mb4.0, 8D, Error ellipse: s-maj=6.8km s-min=2.8km az=19.3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MAG1	Magdalena	0.90	144	⇓	P	Pg	14 45 23.1	-0.2
GOLV	Golondrinas	1.25	111		S	Sb	14 45 46.6	0.0
GOLV	Golondrinas	1.25	111		P	Pg	14 45 29.3	-0.8
PECV	Mancha de Ca P	1.45	170		P	Pb	14 45 33.7	+0.1
CHIS	Cerro-Chispas-	1.74	194		P	Pg	14 45 39.6	+0.1
PINO	Pino	1.88	115		P	Pn	14 45 40.0	+0.3
TERV	Terraza Guagua	1.89	116		P	Pn	14 45 39.4	-0.4
YANA	Yana	1.90	114		P	Pn	14 45 39.4	-0.4
GGP	Refugio Guagua	1.90	116		P	Pn	14 45 39.1	-0.8
OTAV	Otavalo	1.90	103	⇓	P	Pn	14 45 40.4	+0.6
OTAV	Otavalo	1.90	103	⇓	S	Sn	14 46 03.9	-0.7
JUA2	San Juan 2	1.91	117		P	Pn	14 45 40.5	+0.7
LITE	Lita	1.95	85	⇓	P	Pb	14 45 42.0	-0.2
LITE	Lita	1.95	85	⇓	S	Sn	14 46 05.1	+0.1
COTA	Cotacachi	1.99	99		P	Pb	14 45 43.9	+0.4
COTA	Cotacachi	1.99	99		S	Sb	14 46 09.5	+0.3
PITA	Cotopaxi Volc	2.23	123		P	Pn	14 45 45.7	+1.5
CAMI	Rancho Maria	2.23	126		P	Pn	14 45 45.6	+1.2
BNAS	Cotopaxi Volca	2.25	126	⇓	P	Pn	14 45 45.3	+0.6
BREF	Cotopaxi Volca	2.28	125	⇓	P	Pn	14 45 46.0	+0.8
VC1	Cotopaxi 1	2.30	124		P	Pn	14 45 46.1	+0.8
BVC2	Cotopaxi Volca	2.30	125		P	Pn	14 45 47.0	+1.6
BMOR	Cotopaxi Volca	2.30	127		P	Pn	14 45 46.5	+1.1
BTAM	Cotopaxi Volca	2.32	125		P	Pn	14 45 46.0	+0.4
TAMB	Tambo	2.35	125		P	Pn	14 45 47.0	+0.9
COV1	Cotopaxi Volc	2.36	124		P	Pn	14 45 47.0	+0.6
CAYR	Refugio Cayamb	2.38	105		P	Pb	14 45 49.4	-0.9
ANTI	Antisana	2.41	117		P	Pn	14 45 48.6	+1.7
PISA	Pisayambo	2.56	132		P	Pb	14 45 51.7	-1.5
CONE	CONE New Rev Vo	2.76	105		P	Pb	14 45 56.9	+0.6
BRUN	Tungurahua Vol	2.80	137		P	Pb	14 45 54.5	-2.5
BULB	Ulba Tungurahu	2.81	138	⇓	P	Pn	14 45 54.7	+2.5
BMAS	Trigal station	2.81	140		P	Pn	14 45 54.3	+2.1
ARRY	Arrayan	2.83	139		P	Pn	14 45 54.8	+2.3
MACE	Macas	3.58	144		P	Pb	14 46 06.4	-3.6

*IDC **24** 14:47:56.4±1.0, 47.09N×154.99E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/29, mbtmp3.6/6, ML2.4/1, Error ellipse: s-maj=35.7km s-min=20.6km az=115.0*
*ISCJB **24** 14:47:57.4±0.9, 47.1N±0.1×154.9E±0.3, h18km, mb3.6/5, Error ellipse: s-maj=31.5km s-min=10.0km az=22.3*
ISC 24 14:47:59.4±1.1, 47.1N±0.1×155.0E±0.2, h18km, n12, σ0s78/7, mb3.8/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PETK	Petropavlovsk-	6.29	15		Pn	Pn	14 49 32.3	+1.1
	0.5nm,0.3s,baz=173,slow=13,SNR=12							
PETK					Sn	Sn	14 50 41.8	-0.8
	0.3nm,0.3s,baz=197,slow=20,SNR=2.7							
KSRS	Korea Array	22.11	254		P	P	14 52 53.5	-0.1
	0.5nm,0.7s,baz=54,slow=8.5,SNR=3.8							
H11N2	WAKE ISLAND Hy	28.96	156		T	T	15 25 49.7	
	baz=340,slow=76,SNR=3.3							
H11N1	WAKE ISLAND Hy	28.98	156		T	T	15 25 49.7	
	baz=340,slow=76,SNR=9.8							
H11N3	WAKE ISLAND Hy	28.98	156		T	T	15 25 51.9	
	baz=340,slow=76,SNR=3.0							
H11S1	WAKE ISLAND Hy	30.08	157		T	T	15 27 04.5	
	baz=343,slow=76,SNR=31							
H11S3	WAKE ISLAND Hy	30.09	157		T	T	15 27 11.3	
	baz=343,slow=76,SNR=12							
H11S2	WAKE ISLAND Hy	30.10	157		T	T	15 27 05.6	
	baz=343,slow=76,SNR=22							
FINES	FINESS Array B	64.28	335		P	P	14 58 32.7	-0.3
	1.2nm,0.6s,baz=51,slow=7.3,SNR=14							
WRA	Warramunga Arr	69.25	201		P	P	14 59 05.1	-0.1
	0.7nm,1.0s,baz=20,slow=6.6,SNR=2.8							
ASAR	Alice Springs	72.94	200		P	P	14 59 28.0	+0.5
	0.6nm,0.8s,baz=14,slow=4.6,SNR=5.2							
TXAR	Lajitas Array	76.22	62		P	P	14 59 46.3	-0.5
	0.9nm,0.6s,baz=302,slow=4.8,SNR=9.8							

*KLM **24** 15:02:02.5, 3.59S×99.58E, h41km, mb4.5, MS5.3*
*IDC **24** 15:02:03.0±0.6, 3.20S×100.26E, h0km, mb4.5/23, mb1 4.6/26, mb1mx4.5/31, mbtmp4.5/26, ML4.0/3, MS3.8/9, Ms1 3.9/9, ms1mx3.5/32, Error ellipse: s-maj=24.2km s-min=10.5km az=44.0*
*BJI **24** 15:02:04.3, 3.55S×100.39E, h38km, mb4.7/47, mB4.9/33, Ms4.5/36, Ms7 4.2/31*
*ISCJB **24** 15:02:06.9±0.5, 3.21S±0.04×100.29E±0.04, h40km±4km, mb4.6/59, MS3.9/10, Error ellipse: s-maj=7.7km s-min=4.0km az=136.7*
*MOS **24** 15:02:07.4±1.0, 3.00S×100.42E, h38km, mb4.8/33, Error ellipse: s-maj=12.6km s-min=7.1km az=111.1*
*DJA **24** 15:02:07.2±0.6, 3˚S±4˚×10˚0E±˚, h34km±5km, M4.8/22, mb4.8/12, mB5.3/3, MLv4.8/10, MLv4.9/22, Mw(mB)4.8/3*
*NEIC **24** 15:02:08.3±0.9, 3.14S×100.35E, h35km±7km, mb4.8/26, Error ellipse: s-maj=10.5km s-min=4.8km az=53.0*
ISC 24 15:02:09.4±0.5, 3.18S±0.05×100.26E±0.05, h44km±2km, h44km:pP-P,n212, σ1s43/233, mb4.7/63, MS3.9/10, 21C-4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PPSI	Pulau Pagai	0.48	329		P	Pn	15 02 18.6	-1.6
PPSI					S	Sn	15 02 29.0	+1.2
SISI	Saibi	2.18	328		P	Pn	15 02 41.5	-1.8
SISI					S	Sn	15 03 09.2	+0.1
SDSI	Sungai Dareh	2.52	28		P	Pn	15 02 47.3	0.0
MNAI	Manna	2.93	114		P	Pn	15 02 53.0	-0.6
MNAI	Manna	2.93	114		*e*Pn	Pn	15 02 51.9	-1.7
LHSI	Lahat	3.32	101		P	Pn	15 02 59.3	+0.4
BKNI	Bangkinang	3.57	13		P	Pn	15 03 02.7	+0.4
BKNI	Bangkinang	3.57	13		*e*Pn	Pn	15 03 01.4	-0.9
PBSI	Pulau Batu	3.68	327		P	Pn	15 03 02.6	-1.3
JMBI	JAMBI	3.71	66		P	Pn	15 03 04.6	+0.3
MNSI	Mandailing Nat	4.01	350		P	Pn	15 03 07.3	-1.1
MDSI	Maura Dua	4.12	108		P	Pn	15 03 09.4	-0.5
LWLI	Liwa	4.20	116		P	Pn	15 03 10.1	-1.1
PMBI	Palembang	4.51	87		P	Pn	15 03 36.6	+21
KLSI		4.70	109		P	Pn	15 03 18.1	+0.2
KASI	Kota Agung	4.82	119		P	Pn	15 03 18.6	-0.9
KLI	Kotabumi	4.88	110		P	Pn	15 03 24.0	+3.7
GSI	Gunungsitoli	5.20	329		P	Pn	15 03 24.1	-0.7
	59nm,1.6s,0.6nm							
GSI	Gunungsitoli	5.20	329		*e*Pn	Pn	15 03 22.3	-2.5
PPBI	Pangkal Pinang	5.96	80		P	Pn	15 03 35.3	+0.2
	21nm,0.9s,8μm0.4nm0.4nm							
KGM	Kluang	6.00	31	⇑	P	Pn	15 03 36.9	+1.1
PSI	Prapat	6.09	347		Pn	Pn	15 03 34.0	-3.1
	0.9nm,0.3s,baz=174,slow=9.7,SNR=8.8							
PSI	Prapat	6.09	347		P	Pn	15 03 34.0	-3.1
PSI					pmax	pmax		
	comp=Z,1.0nm,0.3s							
PSI	Prapat	6.09	347		*e*Pn	Pn	15 03 36.4	-0.7
MYKOM	Kota Tinggi	6.10	36	⇑	P	Pn	15 03 37.6	+0.4
MYKOM	Kota Tinggi	6.10	36		*e*Pn	Pn	15 03 36.6	-0.5
CGJI	Cibinong	6.40	122		P	Pn	15 03 38.5	-2.7
	comp=Z,119nm,0.9s,comp=Z,0.5nmcomp=Z,0.5nm							
FRIM	Kepong	6.52	12	⇑	P	Pn	15 03 37.7	-5.2
IPM	Ipoh	7.65	6	⇑	P	Pn	15 04 00.2	+1.8
IPM	Ipoh	7.65	6		*e*Pn	Pn	15 03 57.8	-0.6
CNJI	Cibinong	7.97	121		P	Pn	15 03 59.7	-3.1
	comp=Z,200nm,0.9s							
LEM	Lembang	8.17	117		Pn	Pn	15 04 05.0	-0.7
	comp=Z,3.5nm,0.3s,baz=209,slow=19,SNR=3.2							
LEM	Lembang	8.17	117		P	Pn	15 04 05.0	-0.7
LEM					pmax	pmax		
	comp=Z,4.0nm,0.3s							
KULM	Kulim	8.42	3	⇓	P	Pn	15 04 08.6	-0.4
KULM	Kulim	8.42	3		*e*Pn	Pn	15 04 07.5	-1.5
CISI	Cisompet, Garu	8.69	120		P	Pn	15 04 09.2	-3.5
	comp=Z,180nm,0.7s,comp=Z,3μm							
CISI	Cisompet, Garu	8.69	120		*e*Pn	Pn	15 04 08.8	-3.8
CISI					*e*Sn	Sn	15 05 37.5	-12
KTGM	Kuala Trenggan	8.93	19	⇑	P	Pn	15 04 24.4	+8.5
KPJI	Karang Pucung	9.57	116		P	Pn	15 04 24.4	-0.3
SMRI	Semarang	10.84	111		*e*Pn	Pn	15 04 41.5	-0.7
SBUM	Sibu	13.20	65	⇓	P	P	15 05 21.3	-2.0
SBUM	Sibu	13.20	65		*e*Pn	Pn	15 05 09.1	-5.3
SBUM					*e*sPn	sPn	15 05 19.3	-9.3
BTM	Bintulu	14.30	64	⇑	P	P	15 05 36.6	+1.0
KKM	Kota Kinabalu	18.38	60	⇑	P	Pn	15 06 21.0	-0.3
KKM	Kota Kinabalu	18.38	60		*e*Pn	P	15 06 18.0	-2.9
	comp=Z,24nm,0.9s							
CHAI	Chaiyaphum	19.04	5		P	Pn	15 06 35.5	+6.4
SDKM	Sandakan	19.05	63	⇓	P	Pn	15 06 28.8	-0.5
UBPT	Khong Chiam	19.05	16		P	Pn	15 06 29.0	-0.3
	comp=Z,15nm,1.4s							
TSM	Tawau	19.10	67	⇑	P	Pn	15 06 28.8	-1.1
KDM	Kudat	19.34	59	⇑	P	P	15 06 31.2	-0.2
KAPI	Kappang	19.52	96		P	P	15 06 33.1	-0.3
	comp=Z,1.3nm,0.3s,baz=265,slow=6.2,SNR=9.5							
KAPI	Kappang	19.52	96		*e*P	P	15 06 32.7	-0.7
	comp=Z,53nm,1.1s							
PBKT	Sadao Pong	19.64	2		P	Pn	15 06 42.8	+6.6
SKNT	Sakolnakorn	20.36	10		P	P	15 06 41.7	-0.7
	comp=Z,18nm,1.1s							
LOEI	Loei	20.58	3		P	Pn	15 06 46.0	-1.4
	comp=Z,17nm,1.2s							
MHMT	Maesarieng	21.35	354		P	P	15 06 56.6	+3.6
	comp=Z,12nm,1.2s							
CM01	Chiang Mai Arr	21.50	357		*e*P	P	15 06 53.1	-1.6
CM31	Chiang Mai Arr	21.54	357		*e*P	P	15 06 53.7	-1.4
	comp=Z,13nm,1.0s							
CMAR	Chiang Mai Arr	21.54	357		P	P	15 06 52.9	-2.2
	comp=Z,5.6nm,0.9s,baz=185,slow=8.5,SNR=27							
CMAR					LR	LR	15 14 51.2	
	comp=Z,259nm,20.0s,baz=183,slow=36							
CMAR	Chiang Mai Arr	21.54	357		P	P	15 06 52.9	-2.2
CMAR					pmax	pmax		
	comp=Z,6.0nm,0.9s							
CMAR					MLR	MLR		
	comp=Z,259nm,20.0s							
LAMP	Lampang	21.57	358		P	P	15 06 58.7	+3.2
	comp=Z,5.4nm,0.9s							
CMMT	Chiang Mai	21.89	357		P	P	15 07 01.2	+2.3
	comp=Z,22nm,0.8s							
CHTO	Chiang Mai	21.89	357		P	P	15 07 01.3	+2.4
	comp=Z,37nm,1.4s							
CHTO	Chiang Mai	21.89	357		*e*P	P	15 06 56.7	-2.2
	comp=Z,7.7nm,1.0s							
PALK	Pallekele	22.11	298		LR	LR	15 14 43.9	
	comp=Z,308nm,19.2s,baz=114,slow=34							
CMAI	Chiengmai2	23.00	357		P	P	15 07 12.7	+1.9
QIZ	Qiongzhong	24.00	23		P	P	15 07 19.9	-0.3
QIZ					sP	sP	15 07 35.5	-1.6
QIZ					S	S	15 11 32.8	-1.6
QIZ					sS	sS	15 11 53.5	-0.3
QIZ					PMZ			
	comp=Z,27nm,2.1s							
QIZ					LN			
	comp=Z,330nm,13.0s							
H08S2	Diego Garcia H	27.99	260		T	T	15 36 58.0	
	baz=

NJ2 LZ
comp=Z,4μm,24.8s
GTA Gaotai 42.38 359 *e*P **P** **15 10 00.5 +0.8**
GTA pP **pP** **15 10 12.6 +0.8**
GTA sP **sP** **15 10 17.6 +0.6**
GTA PcP **PcP** **15 11 53.3 +0.8**
GTA S **S** **15 16 20.4 +2.2**
GTA sS **sS** **15 16 40.3 +1.9**
GTA SS **SS** **15 19 24.6 -4.0**
GTA PMZ
comp=Z,7.0nm,1.5s
GTA PMZ
comp=Z,61nm,4.2s
GTA LN
comp=Z,200nm,14.7s
GTA LE
comp=Z,380nm,15.7s
GTA LZ
comp=Z,170nm,15.7s
HHC Hu-ho-hao-te 45.02 12 *e*P **P** **15 10 22.0 +1.1**
HHC PP **PP** **15 12 08.5 +1.7**
HHC S **S** **15 16 56.6 -0.1**
HHC sS **sS** **15 17 18.8 +1.8**
HHC PMZ
comp=Z,33nm,1.0s
HHC PMZ
comp=Z,120nm,4.8s
HHC LN
comp=Z,200nm,14.9s
HHC LE
comp=Z,280nm,14.1s
HHC LZ
comp=Z,160nm,14.4s
BJT Baijiatuau 45.40 17 P **P** **15 10 23.9 +0.1**
comp=Z,15nm,0.8s
JNU Nakatsue 46.28 36 *e*P **P** **15 10 29.9 -1.0**
comp=Z,42nm,1.1s
PMG Port Moresby 46.99 100 *e*P **P** **15 10 38.3 +1.6**
PMG pmax pmax
comp=Z,91nm,1.1s
GUMO Guam 47.28 68 P **P** **15 10 38.3 -0.7**
comp=Z,29nm,1.3s
CTAO Charters Tower 47.87 114 P **P** **15 10 43.1 -0.4**
comp=Z,17nm,0.9s
KSAR Wonju Array Be 47.87 30 P **P** **15 10 43.0 -0.1**
KSRS Korea Array 47.90 30 P **P** **15 10 43.0 -0.3**
comp=Z,7.9nm,1.0s,baz=221,slow=8.4,SNR=40
KSRS LR LR 15 33 11.7
comp=Z,119nm,18.1s,baz=244,slow=39
KSRS Korea Array 47.90 30 P **P** **15 10 43.1 -0.3**
KSRS pmax pmax
comp=Z,8.0nm,1.0s
KSRS MLR MLR
comp=Z,119nm,18.1s
KS01 Wonju Array Si 47.90 30 *e*P **P** **15 10 42.9 -0.5**
KSH Kashi 48.01 335 P **P** **15 10 43.8 -0.6**
KSH sP **sP** **15 11 02.1 +0.4**
KSH PcP **PcP** **15 12 13.9 +2.0**
KSH PP **PP** **15 12 38.4 +1.6**
KSH S **S** **15 17 39.8 +0.3**
KSH sS **sS** **15 18 01.0 +1.1**
KSH PMZ
comp=Z,9.0nm,1.2s
KSH PMZ
comp=Z,66nm,5.4s
KSH LN
comp=Z,160nm,8.7s
KSH LE
comp=Z,100nm,5.4s
WMQ Urumqi 48.13 348 P **P** **15 10 46.9 +1.7**
WMQ pP **pP** **15 10 59.3 +1.8**
WMQ sP **sP** **15 11 04.6 +2.0**
WMQ PP **PP** **15 12 38.8 +0.9**
WMQ PMZ
comp=Z,14nm,0.9s
WMQ PMZ
comp=Z,56nm,4.6s
WMQ LN
comp=Z,57nm,7.1s
WMQ LE
comp=Z,190nm,8.8s
WMQ LZ
comp=Z,77nm,21.4s
STKA Stephens Creek 48.18 131 P **P** **15 10 46.0 +0.3**
comp=Z,3.7nm,0.7s,baz=316,slow=8.0,SNR=10
STKA Stephens Creek 48.18 131 P **P** **15 10 46.0 +0.3**
STKA pmax pmax
comp=Z,4.0nm,0.7s
STKA Stephens Creek 48.18 131 *e*P **P** **15 10 45.5 -0.2**
comp=Z,10nm,1.8s
TKM2 Tokmak 2 51.01 337 *e*P **P** **15 11 08.0 +0.7**
comp=Z,9.3nm,0.9s
SONM Songino Array 51.09 5 P **P** **15 11 08.8 +1.1**
comp=Z,12nm,0.8s,baz=188,slow=8.5,SNR=58
SONM PcP **PcP** **15 12 22.5 -0.5**
comp=Z,3.1nm,0.8s,baz=197,slow=3.7,SNR=2.5
SONM Songino Array 51.09 5 P **P** **15 11 08.8 +1.1**
SONM 15 12 22.5
SONM pmax pmax
comp=Z,12nm,0.9s
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONA1 Songino Array 51.10 5 *e*P **P** **15 11 08.7 +0.9**
AAK Ala-Archa 51.22 336 P **P** **15 11 07.0 -1.8**
comp=Z,2.0nm,0.4s,baz=210,slow=18,SNR=2.8
AAK Ala-Archa 51.22 336 P **P** **15 11 07.0 -1.8**
AAK pmax pmax
comp=Z,2.0nm,0.4s
EKS2 Erkin-Say 51.54 335 *e*P **P** **15 11 12.3 +1.1**
comp=Z,8.5nm,0.8s
CN2 Changchun 51.96 23 *e*P **P** **15 11 13.3 -0.8**
CN2 *e*S **S** **15 18 34.0 -0.2**
CN2 PMZ
comp=Z,30nm,0.7s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,200nm,12.0s
CN2 LE
comp=Z,200nm,12.0s
CN2 LZ
comp=Z,200nm,13.0s
MK01 Makanchi Array 52.20 344 *e*P **P** **15 11 16.3 +0.3**
MK31 Makanchi Array 52.23 344 *e*P **P** **15 11 16.4 +0.2**
MKAR Makanchi Array 52.23 344 *e*P **P** **15 11 16.6 +0.4**
MAJO Matsushiro 53.03 38 *c i*P **P** **15 11 20.8 -1.4**
MAJO pmax pmax
comp=Z,76nm,1.2s
MAJO Matsushiro 53.03 38 *e*P **P** **15 11 20.7 -1.5**
comp=Z,5.0nm,0.8s
MAT Matsushiro 53.03 38 P **P** **15 11 20.5 -1.7**
MJAR Matsushiro Arr 53.03 38 P **P** **15 11 20.9 -1.3**
comp=Z,7.1nm,1.0s,baz=221,slow=9.0,SNR=19
MJAR PcP **PcP** **15 12 31.3 +0.9**
comp=Z,2.2nm,1.0s,baz=200,slow=3.9,SNR=3.5
MJAR Matsushiro Arr 53.03 38 P **P** **15 11 20.9 -1.3**
MJAR 15 12 31.3
MJAR pmax pmax
comp=Z,7.0nm,1.0s
MJAR pmax pmax
comp=Z,2.0nm,1.0s
KKAR Karatay Array 53.32 333 *e*P **P** **15 11 23.2 -1.0**
ZAK Zakamensk 53.41 2 *e*P **P** **15 11 24.1 -0.8**
ZAK *e* 15 12 31.7
ZAK pmax pmax
comp=Z,2.0nm,1.1s
MDJ Mudanjiang 54.33 26 P **P** **15 11 31.1 -0.5**
MDJ PMZ
comp=Z,9.0nm,0.9s
MDJ PMZ
comp=Z,22nm,3.0s
MDJ Mudanjiang 54.33 26 *e*P **P** **15 11 31.9 +0.3**
comp=Z,12nm,1.0s
HIA Hailar 54.90 15 ⇓*i*P **P** **15 11 34.7 -1.0**
HIA pmax pmax
comp=Z,9.0nm,1.1s
USRK Ussuriysk Ar. 55.07 27 P **P** **15 11 37.2 +0.2**
comp=Z,27nm,0.8s,baz=220,slow=6.1,SNR=56
USRK LR LR 15 36 55.4
comp=Z,131nm,19.6s,baz=223,slow=38
GEYT Alibeck 56.52 320 P **P** **15 11 47.6 +0.2**
comp=Z,1.4nm,0.6s,baz=142,slow=5.6,SNR=5.9
KURBB Kurchatov Arra 56.75 344 P **P** **15 11 49.0 +0.2**
comp=Z,8.6nm,0.9s,baz=161,slow=6.6,SNR=67
KURK Kurchatov 56.81 344 P **P** **15 11 49.0 -0.2**
KURK pmax pmax
comp=Z,9.0nm,0.9s
KURK Kurchatov 56.81 344 *e*P **P** **15 11 49.3 +0.1**
comp=Z,20nm,0.9s
ZAA0 Zalesovo Array 58.37 349 *e*P **P** **15 11 59.8 -0.4**
ZALV Zalesovo Beam 58.37 349 P **P** **15 12 00.3 +0.1**
comp=Z,19nm,0.9s,baz=163,slow=5.6,SNR=62
ZALV Zalesovo Beam 58.37 349 *i*P **P** **15 12 00.3 +0.1**
ZALV pmax pmax
comp=Z,19nm,0.9s
KLR Kul'dur 58.90 24 *e*P P 15 12 00.0 -3.9
KRAR Krasnoyarsk 59.30 355 ⇑*i*P **P** **15 12 07.9 +1.3**
KRAR pmax pmax
comp=Z,8.0nm,0.4s
NVS Novosibirsk 59.52 349 *i*P **P** **15 12 07.2 -0.9**
HABR Khabarovsk 59.70 26 *e*P **P** **15 12 07.0 -2.4**
HABR *e**PP **pP** **15 12 17.1 -4.9**
HABR *e**SP sP 15 12 21.2 -5.9
HABR *e* 15 12 54.1
HABR *e* 15 14 18.7
HABR *e*S **S** **15 20 14.9 -2.1**
HABR *e* 15 20 27.7
HABR *e**SS sS 15 20 32.4 -5.6
HABR *e* 15 21 54.3
HABR pmax pmax
comp=Z,9.0nm,1.4s
HABR MLR MLR
comp=Z,120nm,18.0s
BVAR Borovoye Array 61.38 340 P **P** **15 12 20.5 -0.3**
comp=Z,4.5nm,0.9s,baz=134,slow=8.5,SNR=22
BVAR Borovoye Array 61.38 340 P **P** **15 12 20.5 -0.3**
BVAR pmax pmax
comp=Z,5.0nm,0.9s
BRVK Borovoye 61.44 340 ⇑*i*P **P** **15 12 20.7 -0.6**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 61.44 340 P **P** **15 12 20.0 -1.2**
comp=Z,5.1nm,0.9s
BOD Bodaibo 61.80 8 ⇑*i*P **P** **15 12 23.9 +0.3**
BOD pmax pmax
comp=Z,9.0nm,1.1s
YSS Yuzh-Sakhalins 62.34 31 *e*P **P** **15 12 26.0 -1.4**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 62.34 31 *e*P **P** **15 12 26.7 -0.7**
comp=Z,34nm,1.1s
ABKAR Akbulak array 62.80 332 *e*P **P** **15 12 30.1 -0.3**
CASY Casey 63.39 175 P **P** **15 12 35.4 +1.3**
AKTO Aktyubinsk 64.51 332 P **P** **15 12 41.2 -0.5**
comp=Z,1.6nm,0.5s,baz=150,slow=7.1,SNR=8.8
AKTO Aktyubinsk 64.51 332 P **P** **15 12 41.3 -0.5**
AKTO pmax pmax
comp=Z,2.0nm,0.5s
SVE Sverdlovsk 67.87 338 ⇑*i*P **P** **15 13 03.8 +0.7**
SVE pmax pmax
comp=Z,14nm,1.1s
ARU Arti 68.39 337 *c i*P **P** **15 13 06.2 -0.2**
ARU S **S** **15 22 07.7 +3.2**
ARU SS **SS** **15 26 27.7 -1.1**
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU Arti 68.39 337 *e*P **P** **15 13 05.9 -0.5**
comp=Z,13nm,1.5s
NCK Nalchik 68.81 319 *e*P **P** **15 13 10.3 +1.0**
YAK Yakutsk 68.81 14 *e*P **P** **15 13 06.5 -2.4**
YAK pmax pmax
comp=Z,24nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK Yakutsk 68.81 14 *e*P **P** **15 13 07.6 -1.3**
comp=N,24nm,0.9s
NEY Neytrino 69.27 319 *e*P **P** **15 13 11.2 -1.2**
NEY pmax pmax
comp=Z,2.0nm,1.0s
KBZ Khabaz 69.37 319 P **P** **15 13 13.1 +0.4**
comp=Z,7.2nm,0.9s,baz=154,slow=4.3,SNR=7.7
KBZ Khabaz 69.37 319 P **P** **15 13 13.1 +0.4**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KIV Kislovodsk 69.60 319 *e*P **P** **15 13 15.7 +1.4**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV Kislovodsk 69.60 319 P **P** **15 13 15.2 +0.9**
comp=Z,12nm,0.9s
EIL Elat 70.38 303 P **P** **15 13 19.8 +0.5**
comp=Z,6.2nm,0.9s,baz=41,slow=9.2,SNR=3.9
PETK Petropavlovsk- 73.74 32 LR LR 15 47 56.4
comp=Z,27nm,18.4s,baz=268,slow=37
PET Petropavlovsk 74.20 32 *e*P **P** **15 13 41.2 -0.4**
PET pmax pmax
comp=Z,28nm,1.0s
BRTR Keskin Array B 74.31 313 P **P** **15 13 42.0 -0.7**
comp=Z,2.9nm,0.8s,baz=127,slow=6.6,SNR=12
BRTR Keskin Array B 74.31 313 *ce*P **P** **15 13 42.2 -0.5**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
SEY Seymchan 76.62 22 ⇑*i*P **P** **15 13 55.1 -0.1**
TIXI Tiksi 76.97 9 *ce*P **P** **15 13 56.0 -1.1**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi 76.97 9 *e*P **P** **15 13 55.8 -1.3**
comp=Z,11nm,1.1s
OBN Obninsk 77.93 328 *e*P **P** **15 14 02.0 -0.7**
OBN *e* 15 14 10.5
OBN pmax pmax
comp=Z,21nm,1.2s
OBN Obninsk 77.93 328 *e*P P 15 13 59.0 -3.7
comp=Z,19nm,0.4s
AKASG Malin Array Be 80.57 322 P **P** **15 14 16.5 -0.7**
comp=Z,0.2nm,0.3s,baz=92,slow=4.3,SNR=4.2
AKASG Malin Array Be 80.57 322 *ce*P **P** **15 14 17.7 +0.4**
TMCR Tamitsa 81.12 337 *e*P **P** **15 14 20.8 +0.9**
TMCR pmax pmax
comp=Z,14nm,1.0s
SBA Scott Base 82.06 169 *e*P **P** **15 14 25.6 +0.9**
comp=Z,3.0nm,1.0s
BUR08 Bucovina Ar. S 82.33 319 *e*P **P** **15 14 26.9 0.0**
BILL Bilibino 84.17 20 *e*P **P** **15 14 35.7 0.0**
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL Bilibino 84.17 20 P **P** **15 14 35.2 -0.5**
comp=Z,3.3nm,1.1s
FINES FINESS Array B 85.27 332 P **P** **15 14 41.6 +0.2**
comp=Z,4.6nm,1.0s,baz=145,slow=12,SNR=8.3
FINES FINESS Array B 85.27 332 *ce*P **P** **15 14 42.0 +0.6**
FINES pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 87.67 340 P **P** **15 14 53.4 +0.5**
comp=Z,3.4nm,0.8s,baz=48,slow=1.8,SNR=7.1
ARCES LR LR 15 59 09.5
comp=Z,72nm,18.3s,baz=89,slow=39
DPC Dobruska-Polom 88.56 320 *e*P **P** **15 14 57.2 -0.5**
DPC Dobruska-Polom 88.56 320 *e*P **P** **15 14 57.2 -0.5**
GERES GERESS Array B 90.10 319 P **P** **15 15 05.8 +0.8**
comp=Z,0.9nm,0.8s,baz=94,slow=5.4,SNR=9.7
GERES GERESS Array B 90.10 319 P **P** **15 15 05.8 +0.8**
GERES pmax pmax
comp=Z,1.0nm,0.8s
HFS Hagfors 91.02 330 P **P** **15 15 10.0 +1.1**
comp=Z,1.4nm,0.8s,baz=84,slow=7.4,SNR=3.0
HFS Hagfors 91.02 330 P **P** **15 15 10.0 +1.1**
HFS pmax pmax
comp=Z,1.0nm,0.8s
SNAA Sanae 91.11 198 P **P** **15 15 08.8 -0.4**
comp=Z,1.4nm,1.0s
NOA NORSAR Array B 92.30 331 P **P** **15 15 14.0 -0.8**
comp=Z,1.7nm,1.0s,baz=90,slow=2.7,SNR=2.8
NOA NORSAR Array B 92.30 331 P **P** **15 15 14.0 -0.8**
NOA pmax pmax
comp=Z,2.0nm,1.0s
KEST Kesra 92.58 305 P **P** **15 15 17.2 +0.4**
comp=Z,1.3nm,0.9s,baz=21,slow=6.1,SNR=3.9
KEST LR LR 16 02 39.3
comp=Z,18nm,18.0s,baz=324,slow=39
NVAR Mina Array Bea 130.34 40 PKP **PKPdf** **15 21 17.3 +1.4**
comp=Z,0.8nm,0.8s,baz=304,slow=1.6,SNR=5.1
ULM Lac du Bonnet 131.15 14 PKP **PKPdf** **15 21 16.0 -0.7**
comp=Z,1.5nm,0.6s,baz=342,slow=4.9,SNR=3.4
ULM Lac du Bonnet 131.15 14 PKIKP **PKPdf** **15 21 16.0 -0.7**
ULM pmax pmax
comp=Z,2.0nm,0.6s
WMOK Wichita Mounta 143.96 27 *e*PKPdf PKPab 15 21 37.8 -0.3
TXAR Lajitas Array 145.47 39 PKPbc **PKPab** **15 21 44.7 +0.8**
comp=Z,16nm,0.8s,baz=299,slow=1.3,SNR=161
TXAR Lajitas Array 145.47 39 PKIKP **PKPab** **15 21 44.7 +0.8**
TXAR pmax pmax
comp=Z,17nm,0.8s
MIAR Mount Ida 146.24 21 *e*PKPbc **PKPbc** **15 21 45.5 -0.2**
JCT Junction City 146.88 33 *e*PKPbc **PKPbc** **15 21 48.0 +0.2**
KMSC Kings Mountain 148.16 2 *e*PKPbc **PKPbc** **15 21 50.5 -0.7**

IDC 24 15:09:35.1±2.9, 55.79S×146.64E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/19, mbtmp3.7/3, Error ellipse: s-maj=354.5km s-min=25.8km az=76.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VNDA	**Vanda**	**22.48**	**171**	P	P		15 14 35.5	0.0
	0.4nm,0.3s,baz=333,slow=9.0,SNR=7.0							
H01W1	**Cape Leeuwin H**	**30.51**	**300**	T	T		15 48 18.3	
	baz=147							
H01W2	**Cape Leeuwin H**	**30.52**	**300**	T	T		15 48 18.5	
	baz=147							
H01W3	**Cape Leeuwin H**	**30.53**	**300**	T	T		15 48 17.1	
	baz=147							
ASAR	**Alice Springs**	**33.44**	**338**	P	P		15 16 15.1	-0.5
	0.5nm,0.7s,baz=157,slow=8.9,SNR=4.8							
WRA	**Warramunga Arr**	**36.97**	**341**	P	P		15 16 46.2	+0.2
	1.6nm,0.7s,baz=168,slow=7.8,SNR=15							

*ISCJB **24** 15:11:13.9±0.8, 31.96N±0.03×117.24W±0.04, h12km±7km, Error ellipse: s-maj=7.0km s-min=3.7km az=139.9*
*ECX **24** 15:11:15.9±0.4, 31.99N×117.18W, h8km, MD3.5, ML3.7*
*NEIC **24** 15:11:15.9, 31.99N×117.18W, h8km, ML3.5(PAS), ML3.7(ECX), After ECX.*
ISC 24 15:11:14.5±1.3, 32.02N±0.03×117.18W±0.05, h7km±10km, n33, σ0 94/49, 9C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PBX	**Punta Banda**	**0.47**	**125**	⇑*e*P		**Pg**	**15 11 24.2**	**+0.5**
PBX				*e*S		**Sg**	**15 11 30.8**	**+0.8**
CBX	**Cerro Bola**	**0.53**	**56**	⇑*e*P		**Pb**	**15 11 26.1**	**-0.2**
CBX				*e*S		**Sb**	**15 11 33.7**	**-0.6**
CBX				IAML			15 11 34.2	
	comp=N,6μm,0.4s							
CBX				⇓*e*			15 11 34.2	
ECNX	**Esteban Cantu**	**0.61**	**126**	⇑*e*P		**Pg**	**15 11 26.5**	**+0.1**
ECNX				*e*S		**Sg**	**15 11 34.8**	**+0.4**
SDRC	**San Diego Road**	**0.74**	**16**	⇓*i*P		**Pg**	**15 11 29.5**	**+0.6**
BAR	**Barrett**	**0.79**	**33**	⇑*i*P		**Pg**	**15 11 30.0**	**+0.3**
109C	**Camp Elliot, M**	**0.87**	**4**	P		**Pg**	**15 11 31.3**	**0.0**
	baz=0.9							
109C				S		**Sg**	**15 11 42.4**	**-0.3**
	baz=0.9							
CPE	**Camp Elliot**	**0.87**	**4**	⇓*i*P		**Pg**	**15 11 31.3**	**0.0**
ZAX	**El Zacaton**	**0.92**	**123**	⇑*e*P		**Pg**	**15 11 31.6**	**-0.6**
ZAX				*e*S		**Sg**	**15 11 44.0**	**-0.2**
RDX	**Rancho Dawling**	**1.06**	**94**	⇑*e*P		**Pg**	**15 11 34.4**	**-0.4**
RDX				*e*S		**Sg**	**15 11 48.7**	**+0.1**
RDX				IAML			15 11 49.2	
	comp=N,2μm,0.3s							
RDX				⇑*e*			15 11 49.2	
MONP	**Monument Peak,**	**1.08**	**36**	P		**Pg**	**15 11 34.9**	**-0.5**
	baz=1.1							
MONP				S		**Sg**	**15 11 49.1**	**-0.4**
	baz=1.1							
RMX	**La Rumorosa**	**1.10**	**58**	⇑*e*P		**Pg**	**15 11 35.5**	**-0.2**
RMX				*e*S		**Sg**	**15 11 50.3**	**+0.2**
RMX				IAML			15 11 50.9	
	comp=N,995nm,0.2s							
RMX				⇑*e*			15 11 50.9	
IBP	**Imperial Bould**	**1.12**	**55**	P		**Pb**	**15 11 35.9**	**-0.5**
	baz=1.1							
IBP				S		**Sg**	**15 11 50.8**	**+0.1**
	baz=1.1							
SWSC	**Sam W. Stewart**	**1.49**	**51**	P		**Pn**	**15 11 42.4**	**+0.6**
	baz=1.5							
SWSC				Sb		**Sb**	**15 12 02.0**	**+0.3**
	baz=1.5							
MURC	**Murrieta**	**1.58**	**359**	P		**Pn**	**15 11 42.9**	**-0.2**
	baz=1.6							
MURC				S		**Sn**	**15 12 03.0**	**-0.8**
	baz=1.6							
PFO	**Pinyon Flats O**	**1.70**	**21**	Pb		**Pn**	**15 11 45.8**	**+0.9**
	baz=1.7							
PFO				Sb		**Sn**	**15 12 07.7**	**+0.7**
	baz=1.7							
PFO	**Pinyon Flats O**	**1.70**	**21**	*e*Pn		**Pn**	**15 11 44.4**	**-0.5**
PFO				*e*Sn		**Sn**	**15 12 05.8**	**-1.2**
SPIG	**San Pedro Mart**	**1.75**	**123**	*e*P		**Pn**	**15 11 45.6**	**-0.1**
SPX	**San Pedro Mart**	**1.76**	**123**	*e*P		**Pn**	**15 11 46.0**	**+0.2**
BC3	**Big Chuckawall**	**2.19**	**41**	S		**Sn**	**15 12 19.2**	**+0.2**
	baz=2.2							
BELC	**Belle Mtn. Jos**	**2.21**	**26**	Pb		**Pb**	**15 11 54.8**	**-0.3**
	baz=2.2							
BELC				Sb		**Sb**	**15 12 23.4**	**+0.6**
	baz=2.2							
GLA	**Glamis**	**2.24**	**62**	*e*Pn		**Pn**	**15 11 49.6**	**-2.6**
GLA				*e*Sn		**Sn**	**15 12 20.8**	**+0.6**
BBRC	**Big Bear Solar**	**2.25**	**6**	Sb		**Sb**	**15 12 23.5**	**-0.4**
	baz=2.3							
BFSC	**Mount Baldy Ra**	**2.25**	**350**	Pb		**Pb**	**15 11 55.5**	**-0.2**
	baz=2.2							
PASC	**Pasadena Art C**	**2.31**	**339**	*e*Pn		**Pn**	**15 11 51.5**	**-1.6**
MWC	**Mount Wilson**	**2.32**	**342**	*e*Pn		**Pn**	**15 11 53.2**	**-0.3**
MWC				*e*Sn		**Sn**	**15 12 24.2**	**+1.9**
HEC	**Hector,Ludlow**	**2.90**	**14**	Sb		**Sb**	**15 12 44.1**	**+1.8**
	baz=2.9							
OSI	**Osito Audit: C**	**2.90**	**334**	Pn		**Pn**	**15 11 58.5**	**-2.6**
EDW2	**Edwards Air Fo**	**2.94**	**347**	Sb		**Sb**	**15 12 44.7**	**+1.3**
	baz=2.9							
GSC	**Goldstone, Bar**	**3.29**	**5**	Sb		**Sb**	**15 12 55.0**	**+1.3**
	baz=3.3							
TUQ	**Turquoise Moun**	**3.57**	**17**	Sb		**Sb**	**15 13 03.8**	**+2.0**
	baz=3.6							
214A	**Organ Pipe Nat**	**3.71**	**90**	Pn		**Pn**	**15 12 11.9**	**-0.5**
ISA	**Isabella, Lake**	**3.79**	**344**	Pn		**Pn**	**15 12 13.2**	**-0.4**
DAC	**Darwin (Calif)**	**4.26**	**356**	*e*Pn		**Pn**	**15 12 20.0**	**-0.2**

IDC 24 15:15:59.7±11.0, 2.96S×100.73E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/23, mbtmp3.2/2, Error ellipse: s-maj=521.6km s-min=55.8km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**28.49**	**259**	T	T		15 50 55.3	
	baz=82,slow=75,SNR=119							
H08S3	**Diego Garcia H**	**28.50**	**260**	T	T		15 50 57.2	
	baz=82,slow=75,SNR=108							
H08S1	**Diego Garcia H**	**28.51**	**259**	T	T		15 50 58.0	
	baz=82,slow=75,SNR=116							
H08N1	**Diego Garcia H**	**29.80**	**262**	T	T		15 53 09.9	
	baz=155							
H08N2	**Diego Garcia H**	**29.82**	**262**	T	T		15 53 12.1	
	baz=155							
H08N3	**Diego Garcia H**	**29.83**	**262**	T	T		15 53 12.7	
	baz=155							
H01W3	**Cape Leeuwin H**	**34.12**	**160**	T	T		15 58 34.8	
	baz=332							
H01W2	**Cape Leeuwin H**	**34.13**	**160**	T	T		15 58 35.8	
	baz=332							
H01W1	**Cape Leeuwin H**	**34.13**	**160**	T	T		15 58 35.9	
	baz=332							
WRA	**Warramunga Arr**	**36.88**	**120**	P	P		15 23 10.7	+0.3
	0.2nm,0.7s,baz=309,slow=8.7,SNR=4.1							
ASAR	**Alice Springs**	**38.10**	**126**	P	P		15 23 20.1	-0.6
	0.3nm,0.9s,baz=297,slow=8.6,SNR=3.5							
TXAR	**Lajitas Array**	**145.00**	**39**	PKPbc	PKPab		15 35 38.8	-0.4
	0.3nm,0.7s,baz=304,slow=2.9,SNR=3.8							

IDC 24 15:22:51.6±3.5, 5.02S×149.83E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/20, mbtmp3.4/2, Error ellipse: s-maj=132.5km s-min=46.6km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.15**	**224**	P	P		15 27 39.5	+1.0
	1.0nm,0.8s,baz=50,slow=10,SNR=6.5							
ASAR	**Alice Springs**	**24.07**	**218**	P	P		15 28 08.7	-0.3
	1.0nm,0.7s,baz=52,slow=9.3,SNR=13							
TORD	**Torodi Ar. Bea**	**147.54**	**287**	PKPbc	PKPbc		15 42 37.9	-1.1

0.2nm,0.5s,baz=64,slow=3.3,SNR=2.7

*IDC **24** 15:41:10.4±1.5, 4°32S×122°35E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.4/34, mbtmp3.5/4, ML3.2/2, Error ellipse: s-maj=32.0km s-min=24.0km az=43.0*
*DJA **24** 15:41:12.5±0.5, 4°S±3°×12°2E±°, h10km, M4.2/9, mb4.8/2, mB5.7/1, MLv3.9/9, Mw(mB)5.3/1*
ISC 24 15:41:11.3±1.6, 4°43S±0.05×122°36E±0.07, h2km±14km, n13, σ0e96/19, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDI	**Kendari**	**0.53**	**29**	P	**Pg**	**15 41 21.9**	**+0.3**
KDI				S	**Sg**	**15 41 28.5**	**0.0**
BKSI	**Bulukumba**	**2.40**	**248**	P	**Pn**	**15 41 51.4**	**-0.2**
BKSI				S	**Sb**	**15 42 26.2**	**+0.9**
BSSI	**Bau Bau, Buton**	**2.52**	**227**	P	**Pn**	**15 41 55.3**	**+1.9**
BSSI				S	**Sb**	**15 42 29.4**	**+0.5**
SPSI	**Sidrap Palu**	**2.62**	**280**	P	**Pn**	**15 41 55.9**	**+1.2**
SPSI				S	**Sb**	**15 42 31.5**	**-0.2**
KAPI	**Kappang**	**2.66**	**257**	Pn	**Pn**	**15 41 55.7**	**+0.5**
	32nm,0.3s,baz=103,slow=6.7,SNR=23						
KAPI				Sn	**Sn**	**15 42 28.1**	**0.0**
	16nm,0.3s,baz=18,slow=20,SNR=12						
APSI	**Ampana**	**3.56**	**349**	P	**Pn**	**15 42 08.0**	**+0.3**
PCI	**Palu**	**4.31**	**324**	P	**Pn**	**15 42 18.8**	**+0.9**
MRSI	**Marisa**	**4.89**	**355**	P	**Pn**	**15 42 25.7**	**-0.2**
MPSI	**Mapaga**	**5.33**	**333**	P	**Pn**	**15 42 32.8**	**+0.8**
	12nm,0.7s,0.1nm						
WSI	**Waingapu**	**5.60**	**201**	P	**Pn**	**15 42 36.9**	**+1.3**
WSI				S	**Pg**	**15 42 57.4**	**-1.2**
WRA	**Warramunga Arr**	**19.34**	**144**	P	**P**	**15 45 38.4**	**+0.1**
	0.0nm,0.3s,baz=316,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**22.14**	**151**	P	**P**	**15 46 09.0**	**+0.4**
	1.1nm,0.6s,baz=329,slow=11,SNR=14						
SONM	**Songino Array**	**53.90**	**347**	P	**P**	**15 50 34.8**	**-1.5**
	0.4nm,0.6s,baz=171,slow=8.2,SNR=2.9						

*IDC **24** 15:49:51.8±22.0, 23°38S×179°73E, h510km±220km, mb3.3/5, mb1 3.4/5, mb1mx3.0/28, mbtmp4.2/5, Error ellipse: s-maj=153.1km s-min=29.0km az=55.0*
ISC 24 15:49:53.9±2.6, 23°39S±0.4×179.7E±0.3, h537km, n6, σ0e72/6, mb3.8/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.18**	**270**	P	**P**	**15 55 29.6**	**+0.3**
	3.8nm,0.6s,baz=95,slow=10,SNR=17						
STKA	**Stephens Creek**	**34.46**	**248**	P	**P**	**15 55 57.5**	**+0.4**
	4.1nm,1.2s,baz=82,slow=7.1,SNR=2.9						
ASAR	**Alice Springs**	**41.74**	**261**	P	**P**	**15 56 56.3**	**-0.1**
	0.7nm,0.4s,baz=95,slow=7.4,SNR=21						
WRA	**Warramunga Arr**	**42.11**	**266**	P	**P**	**15 56 58.3**	**-1.1**
	1.0nm,0.3s,baz=103,slow=8.4,SNR=109						
QSPA	**South Pole Qui**	**66.22**	**180**	P	**P**	**15 59 48.2**	**-0.2**
	1.6nm,0.6s						
BRTR	**Keskin Array B**	**147.32**	**307**	PKPbc	**PKPbc**	**16 08 37.9**	**+0.4**
	0.4nm,0.5s,baz=100,slow=2.4,SNR=3.1						

*ISCJB **24** 16:09:33.8±0.7, 22°59S±0.07×67°70W±0.06, h150km, mb4.1/1, Error ellipse: s-maj=11.1km s-min=6.0km az=38.1*
*SJA **24** 16:09:33.6±0.5, 22°60S×67°71W, h145km±7km, ML2.3, MW3.0*
*IDC **24** 16:09:36.0±8.0, 22°47S×67°58W, h162km±66km, mb4.1/1, mb1 3.5/3, mb1mx3.3/17, mbtmp4.1/3, Error ellipse: s-maj=71.6km s-min=44.0km az=13.0*
ISC 24 16:09:33.9±1.0, 22°62S±0.08×67°73W±0.07, h150km, n9, σ0e68/14, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.09**	**270**	*e*P	**Pn**	**16 10 00.1**	**+0.4**
LVC				*e*S	**Sn**	**16 10 19.4**	**0.0**
HJA	**Humahuaca**	**2.22**	**106**	*e*P	**Pn**	**16 10 12.9**	**+0.9**
HJA				*e*S	**Sn**	**16 10 41.4**	**+0.1**
AZAP	**Zapla**	**2.92**	**124**	*e*P	**Pn**	**16 10 20.9**	**+0.4**
AZAP				*e*S	**Sn**	**16 10 56.5**	**0.0**
SLA	**San Lorenzo**	**2.92**	**136**	*e*P	**Pn**	**16 10 21.1**	**+0.6**
SLA				IAML		16 10 23.2	
	comp=Z,7.5nm,0.6s						
ASTB	**Santa Barbara**	**3.27**	**115**	*e*P	**Pn**	**16 10 25.4**	**+0.6**
ASTB				*e*S	**Sn**	**16 11 03.9**	**-0.3**
LPAZ	**La Paz**	**6.31**	**357**	P	**Pn**	**16 11 06.5**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=170,slow=5.9,SNR=16						
LPAZ				S	**Sn**	**16 12 16.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=225,slow=1.4,SNR=3.0						
BDFB	**Brasilia**	**19.87**	**73**	P	**P**	**16 13 52.5**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=174,slow=9.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.71**	**70**	P	**P**	**16 21 09.0**	**0.0**
	comp=Z,2.4nm,0.4s,baz=254,slow=5.6,SNR=46						
WRA	**Warramunga Arr**	**132.52**	**209**	PKP	**PKPdf**	**16 28 31.4**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=160,slow=1.8,SNR=4.5						

*IDC **24** 16:46:35.4±7.6, 15°34N×95°54W, h0km, mb3.8/3, mb1 4.2/4, mb1mx3.7/29, mbtmp3.7/4, ML3.8/1, MS3.2/1, Ms1 3.1/1, ms1mx2.7/29, Error ellipse: s-maj=173.7km s-min=125.3km az=45.0*
*ISCJB **24** 16:46:40.0±0.8, 15°7N±0.1×96°48W±0.05, h20km±5km, mb3.9/8, MS3.1/1, Error ellipse: s-maj=21.3km s-min=6.2km az=13.4*
*NEIC **24** 16:46:40.9, 15°54N×96°54W, h6km, mb4.0/8, MD4.2(MEX), After MEX.*
*MEX **24** 16:46:40.9±0.6, 15°54N×96°54W, h6km±6km, MD4.2*
ISC 24 16:46:41.0±0.9, 15°7N±0.1×96°50W±0.04, h15km±6km, n30, σ1e53/37, mb3.9/8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PANG	**Puerto Angel**	**0.04**	**143**	*e*P	**Pb**	**16 46 43.4**	**-0.2**
PANG				*i* S	**Sb**	**16 46 45.5**	**+0.1**
HUIG	**Huatulco**	**0.38**	**79**	*i* P	**Pb**	**16 46 49.5**	**0.0**
HUIG				*i* S	**Sn**	**16 46 57.2**	**-1.9**
HUIG	**Huatulco**	**0.38**	**79**	*i* P	**Pb**	**16 46 49.5**	**0.0**
HUIG				*i* S	**Sn**	**16 46 57.2**	**-1.9**
PNIG	**Pinotepa**	**1.71**	**294**	*e*P	**Pn**	**16 47 08.6**	**-1.7**
PNIG				*i* S	**Sn**	**16 47 29.5**	**-2.5**
PNIG	**Pinotepa**	**1.71**	**294**	*e*P	**Pn**	**16 47 08.6**	**-1.7**
PNIG				*i* S	**Sn**	**16 47 29.5**	**-2.5**
TLIG	**Tlapa**	**2.72**	**313**	*e*P	**Pn**	**16 47 24.4**	**+0.2**
TLIG				*i* S	**Sn**	**16 47 56.5**	**-0.4**
PCIG		**3.16**	**89**	*e*P	**Pn**	**16 47 28.6**	**-1.6**
PCIG				*i* S	**Sn**	**16 48 06.1**	**-1.5**
PCIG		**3.16**	**89**	*e*P	**Pn**	**16 47 28.6**	**-1.6**
PCIG				*i* S	**Sn**	**16 48 06.1**	**-1.5**
ACX	**Acapulco**	**3.43**	**290**	*e*P	**Pb**	**16 47 41.3**	**-0.3**
ACX	**Acapulco**	**3.43**	**290**	*e*P	**Pb**	**16 47 41.3**	**-0.3**
CAIG	**El Cayaco**	**3.86**	**291**	*i* P	**Pn**	**16 47 39.4**	**-0.5**
CAIG	**El Cayaco**	**3.86**	**291**	*i* P	**Pn**	**16 47 39.4**	**-0.5**
PPM	**Popocatepetl**	**3.92**	**329**	*e*P	**Pb**	**16 47 49.4**	**-0.7**
TEIG	**Tepich**	**9.03**	**59**	*e*Pn	**Pn**	**16 48 50.4**	**-0.4**
TEIG				*e*Sn	**Sn**	**16 50 29.9**	**-2.5**
TXAR	**Lajitas Array**	**15.10**	**335**	Pn	**P**	**16 50 21.9**	**+2.7**
	0.1nm,0.3s,baz=159,slow=12,SNR=13						
MIAR	**Mount Ida**	**18.95**	**7**	*e*P	**P**	**16 51 01.9**	**+0.2**
	6.8nm,0.8s						
MSTX	**Muleshoe**	**19.05**	**344**	*e*P	**Pn**	**16 51 03.6**	**-0.1**
	12nm,1.0s						
WMOK	**Wichita Mounta**	**19.07**	**354**	*e*P	**P**	**16 51 03.0**	**+0.1**
	3.3nm,0.9s						
GOGA	**Godfrey**	**21.21**	**31**	P	**P**	**16 51 26.3**	**0.0**
	9.1nm,0.8s						
WVT	**Waverly**	**21.77**	**19**	*e*P	**P**	**16 51 31.9**	**-0.3**
	2.9nm,0.8s						
SDCO	**Great Sand Dun**	**23.36**	**342**	*e*P	**P**	**16 51 49.2**	**-0.1**
	1.9nm,0.8s						
WUAZ	**Wupatki**	**23.81**	**329**	*e*P	**P**	**16 51 56.2**	**+2.6**
	11nm,1.1s						
PV01	**Paradox Valley**	**24.76**	**337**	*e*P	**P**	**16 52 04.9**	**+2.5**
SDV	**Santo Domingo**	**26.14**	**102**	P	**P**	**16 52 15.5**	**+0.3**
PDAR	**Pinedale Array**	**29.21**	**340**	P	**P**	**16 52 44.9**	**+2.6**
	0.4nm,0.5s,baz=136,slow=9.7,SNR=2.7						
NVAR	**Mina Array Bea**	**29.68**	**324**	P	P	16 52 50.7	+4.1
	1.6nm,0.9s,baz=138,slow=9.5,SNR=7.2						
HLID	**Hailey**	**31.70**	**335**	P	**P**	**16 53 04.4**	**+0.1**
DLMT	**Dillon**	**32.53**	**339**	*e*P	**P**	**16 53 13.3**	**+1.8**
	7.8nm,1.3s						
ULM	**Lac du Bonnet**	**34.47**	**1**	LR	LR	17 12 01.2	

comp=Z,37nm,18.6s,baz=34,slow=44

ILAR	**Eielson Array**	**59.59**	**337**	P	**P**	**16 56 45.4**	**+1.4**
	1.3nm,1.0s,baz=147,slow=5.1,SNR=8.5						

*IDC **24** 17:00:24.3±2.0, 0.°67N×97.°28E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/26, mbtmp3.4/6, ML3.4/2, Error ellipse: s-maj=56.1km s-min=23.3km az=64.0*
*ISCJB **24** 17:00:26.2±1.1, 0.°74N±0.°06×97.°09E±0.°08, h27km, mb3.4/4, Error ellipse: s-maj=12.5km s-min=8.4km az=163.3*
*DJA **24** 17:00:31.9±1.8, 1°N±5°×97°7E±2°0, h25km±6km, M3.8/6, mb4.0/2, MLv3.7/6*
ISC 24 17:00:28.4±1.4, 0.°77N±0.°07×97°3E±0.°1, h27km, n15, σ1e5/12, mb3.2/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.62**	**31**	P	**Pn**	**17 00 41.8**	**+0.3**
GSI				S	**Sn**	**17 00 50.0**	**-0.6**
PBSI	**Pulau Batu**	**1.31**	**128**	P	**Pb**	**17 00 52.9**	**+0.5**
PBSI				S	**Sb**	**17 01 08.8**	**0.0**
MNSI	**Mandailing Nat**	**2.33**	**89**	P	**Pn**	**17 01 05.1**	**+0.2**
PSI	**Prapat**	**2.62**	**40**	Pn	**Pn**	**17 01 09.1**	**0.0**
	3.0nm,0.3s,baz=296,slow=8.4,SNR=6.4						
PSI				Sn	**Sn**	**17 01 47.0**	**+0.5**
	4.9nm,0.3s,baz=138,slow=19,SNR=4.3						
CMAR	**Chiang Mai Arr**	**17.66**	**5**	P	**Pn**	**17 04 31.7**	**-0.9**
	0.1nm,0.3s,baz=188,slow=13,SNR=5.1						
H08S2	**Diego Garcia H**	**26.07**	**251**	T	T	17 33 05.6	
	baz=72,slow=76,SNR=287						
H08S3	**Diego Garcia H**	**26.07**	**251**	T	T	17 33 08.0	
	baz=72,slow=76,SNR=328						
H08S1	**Diego Garcia H**	**26.09**	**251**	T	T	17 33 09.1	
	baz=72,slow=76,SNR=328						
H01W3	**Cape Leeuwin H**	**38.83**	**158**	T	T	17 49 13.6	
	baz=334,slow=76,SNR=21						
H01W2	**Cape Leeuwin H**	**38.84**	**158**	T	T	17 49 14.9	
	baz=334,slow=76,SNR=23						
H01W1	**Cape Leeuwin H**	**38.84**	**158**	T	T	17 49 16.5	
	baz=334,slow=76,SNR=14						
WRA	**Warramunga Arr**	**41.76**	**122**	P	**P**	**17 08 13.8**	**-2.0**
	0.2nm,0.3s,baz=306,slow=8.7,SNR=6.8						
ASAR	**Alice Springs**	**43.09**	**127**	P	**P**	**17 08 26.9**	**+0.3**
	0.2nm,0.4s,baz=294,slow=7.6,SNR=5.2						
KURBB	**Kurchatov Arra**	**52.16**	**345**	P	**P**	**17 09 36.1**	**-0.4**
	0.1nm,0.3s,baz=160,slow=7.4,SNR=2.6						
ZALV	**Zalesovo Beam**	**53.99**	**351**	P	**P**	**17 09 51.9**	**+2.0**
	0.7nm,0.3s,baz=181,slow=7.9,SNR=3.6						

*IDC **24** 17:03:21.8±8.0, 31°57S×179°76E, h348km±86km, mb2.9/2, mb1 3.4/3, mb1mx3.0/18, mbtmp4.0/3, Error ellipse: s-maj=94.0km s-min=37.0km az=8.0*
*ISCJB **24** 17:03:27.8±1.1, 32°15S±0.07×179°2E±0.2, h400km, mb3.1/2, Error ellipse: s-maj=23.5km s-min=9.7km az=177.9*
ISC 24 17:03:28.7±1.6, 32°20S±0.10×179°2E±0.2, h400km, n36, σ1e42/44, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**5.65**	**186**	PN	**Pn**	**17 04 58.2**	**+0.9**
HAZ	**Te Kaha**	**5.67**	**191**	*e*PN	**Pn**	**17 05 57.4**	**-0.1**
HAZ				SN	**S**	**17 06 09.8**	**-0.1**
PUZ	**Puketiti**	**5.91**	**187**	PN	**Pn**	**17 05 00.5**	**+0.3**
PUZ				SN	**S**	**17 06 13.4**	**-1.5**
TWGZ	**Tauwhareparae**	**6.05**	**189**	PN	**Pn**	**17 05 02.6**	**+0.9**
TWGZ				SN	**S**	**17 06 19.1**	**+1.5**
MWZ	**Matawai**	**6.27**	**192**	PN	**Pn**	**17 05 04.1**	**0.0**
MWZ				SN	**S**	**17 06 22.4**	**+0.3**
URZ	**Urewera**	**6.28**	**195**	P	**Pn**	**17 05 05.6**	**+1.3**
	16nm,0.3s,baz=271,slow=4.6,SNR=182						
URZ				S	**S**	**17 06 26.3**	**+4.0**
	12nm,0.3s,baz=233,slow=22,SNR=21						
URZ	**Urewera**	**6.28**	**195**	PN	**Pn**	**17 05 03.2**	**-1.0**
URZ				SN	**S**	**17 06 24.4**	**+2.2**
TKGZ	**Te Karaka**	**6.32**	**190**	PN	**Pn**	**17 05 04.9**	**+0.2**
CNGZ	**Carnagh Statio**	**6.33**	**187**	PN	**Pn**	**17 05 06.0**	**+1.3**
RRRZ	**Republican Roa**	**6.51**	**199**	PN	**P**	**17 05 10.0**	**+2.6**
RIGZ	**Rimuhau**	**6.60**	**190**	PN	**Pn**	**17 05 07.4**	**-0.4**
PRRZ	**Plateau Road**	**6.69**	**199**	PN	**P**	**17 05 11.7**	**+2.4**
SNGZ	**Shannon Statio**	**6.74**	**192**	PN	**P**	**17 05 09.9**	**0.0**
KNZ	**Kokohu**	**6.92**	**190**	PN	**Pn**	**17 05 11.3**	**+0.1**
RAHZ	**Arahi**	**6.92**	**194**	*e*PN	**Pn**	**17 05 11.6**	**+0.2**
WHHZ	**Waihua**	**7.05**	**192**	PN	**P**	**17 05 14.3**	**+1.0**
NMHZ	**Naumai**	**7.16**	**195**	*e*PN	**P**	**17 05 14.4**	**-0.1**
ARHZ	**Aropaoanui**	**7.27**	**194**	PN	**P**	**17 05 16.7**	**+0.9**
BKZ	**Black Stump Fm**	**7.29**	**197**	PN	**Pn**	**17 05 15.0**	**-0.6**
TUVZ	**Tukino**	**7.62**	**201**	PN	**P**	**17 05 20.8**	**+1.0**
BHHZ	**Black Hill Sta**	**7.71**	**198**	PN	**Pn**	**17 05 20.1**	**-0.2**
MOVZ	**Moawhango**	**7.72**	**200**	PN	**P**	**17 05 21.3**	**+0.5**
KRHZ	**Kereru**	**7.78**	**196**	*e*PN	**Pn**	**17 05 20.1**	**-0.9**
MTVZ	**Mangateitei**	**7.78**	**202**	PN	**P**	**17 05 22.7**	**+1.1**
KAHZ	**Kahuranaki**	**7.81**	**193**	PN	**P**	**17 05 22.4**	**+0.6**
PXZ	**Pawanui**	**8.04**	**193**	*e*PN	**P**	**17 05 24.5**	**+0.2**
PXZ				*e*SN	**S**	**17 06 56.4**	**-2.0**
PNHZ	**Pukenui**	**8.07**	**197**	PN	**Pn**	**17 05 23.6**	**-0.8**
MRZ	**Mangatainoka R**	**8.93**	**198**	PN	**Pn**	**17 05 32.9**	**-1.3**
MRZ				*e*SN	**S**	**17 07 13.8**	**-3.6**
HOWZ	**Holdsworth Sta**	**9.17**	**198**	PN	**P**	**17 05 36.3**	**-0.6**
OGWZ	**Otaki Gorge**	**9.19**	**199**	PN	**P**	**17 05 36.9**	**-0.2**
CAW	**Cannon Point**	**9.49**	**199**	PN	**P**	**17 05 39.9**	**-0.5**
THZ	**Tophouse**	**10.79**	**206**	*e*SN	**S**	**17 07 53.9**	**-1.6**
ASAR	**Alice Springs**	**40.66**	**270**	P	**P**	**17 10 33.3**	**+1.1**
	0.4nm,0.8s,baz=102,slow=7.7,SNR=4.8						
WRA	**Warramunga Arr**	**41.82**	**276**	P	**P**	**17 10 42.4**	**+0.9**
	0.6nm,0.3s,baz=114,slow=7.9,SNR=24						
FINES	**FINESS Array B**	**145.93**	**337**	PKPbc	**PKPdf**	**17 22 17.1**	**-2.7**
	2.2nm,0.8s,baz=66,slow=1.7,SNR=8.5						
AKASG	**Malin Array Be**	**151.16**	**319**	PKPbc	**PKPbc**	**17 22 34.7**	**-0.2**
	0.6nm,0.5s,baz=70,slow=0.2,SNR=3.9						

*IDC **24** 17:05:55.7±1.1, 7.°71N×91.°99E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.7/29, mbtmp3.8/11, ML3.8/2, Error ellipse: s-maj=38.6km s-min=17.6km az=48.0*
*ISCJB **24** 17:05:56.2±0.7, 7.°55N±0.°09×91.°67E±0.°07, h24km, mb3.9/11, Error ellipse: s-maj=14.2km s-min=7.6km az=31.8*
*NEIC **24** 17:05:59.1±3.0, 7.°64N×91.°95E, h25km±24km, mb4.6/2, Error ellipse: s-maj=13.1km s-min=10.0km az=221.0*
*HYB **24** 17:06:11.9±2.4, 8.°22N×91.°04E, h69km±53km*
ISC 24 17:05:58.7±0.8, 7.°58N±0.°09×91.°87E±0.°09, h24km, n41, σ1e86/38, mb3.9/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.48**	**124**	Pn	**Pn**	**17 08 02.1**	**+1.9**
	0.4nm,0.3s,baz=321,slow=12,SNR=5.8						
KULM	**Kulim**	**9.02**	**104**	*e*P	**Pn**	**17 08 05.8**	**-1.7**
	434nm,1.8s						
PALK	**Pallekele**	**11.08**	**269**	Pn	**Pn**	**17 08 36.6**	**+0.7**
	1.6nm,0.3s,baz=82,slow=14,SNR=6.5						
PALK				Sn	Sn	17 10 25.2	-14
	1.2nm,0.3s,baz=168,slow=20,SNR=3.5						
CMAR	**Chiang Mai Arr**	**12.81**	**32**	Pn	**Pn**	**17 09 00.9**	**+1.4**
	0.1nm,0.3s,baz=236,slow=13,SNR=7.2						
VIS	**Vishakhapatnam**	**13.07**	**321**	*i* P	**Pn**	**17 09 00.6**	**-2.4**
VIS				*i* S	Sn	17 11 14.6	-13
VIS				*i* S	Sn	17 11 17.3	-10
VIS				*ex*	x	17 11 37.3	
	comp=N,60nm,2.1s						
VIS				*ex*	x	17 11 40.9	
	comp=E,66nm,1.6s						
CHTO	**Chiang Mai**	**13.11**	**31**	P	**Pn**	**17 09 01.2**	**-2.3**
	comp=E,9.4nm,0.9s						
CHLP	**Challavanipeta**	**13.25**	**326**	*e*Pn	Pn	17 09 02.2	-3.3
CHLP					Sn	17 11 19.3	-13
SKHT	**Srikalahasti**	**13.42**	**298**	*e*Pn	**Pn**	**17 09 06.0**	**-1.8**
SKHT					Sn	17 11 20.8	-16
SKHT	**Srikalahasti**	**13.42**	**298**	*e*		17 11 20.6	
PVM	**Polavaram**	**13.87**	**315**	*e*Pn	**Pn**	**17 09 11.3**	**-2.5**
PVM					Sn	17 11 33.4	-14
ADKI	**Addanki**	**14.25**	**306**	*e*Pn	**Pn**	**17 09 17.3**	**-1.8**
ADKI					Sn	17 11 42.7	-14
RCLA	**Racherla**	**14.87**	**303**	*e*Pn	**Pn**	**17 09 25.8**	**-1.8**
RCLA					Sn	17 11 56.2	-16
NJS	**Nagarjunasagar**	**15.17**	**307**	*e*Pn	**Pn**	**17 09 28.5**	**-3.1**
NJS					Sn	17 12 06.7	-12
SRLM	**Srisailam**	**15.26**	**305**	*e*Pn	**Pn**	**17 09 30.4**	**-2.4**
SRLM					Sn	17 12 05.0	-16
URV	**Uravakonda**	**16.08**	**298**		Sn	17 12 27.1	-14
HYBB	**Hyderabad (bro**	**16.26**	**308**		Sn	17 12 31.2	-14
SRSP	**Sriramsagar**	**17.32**	**312**	*e*Pn	**Pn**	**17 09 56.0**	**-3.1**
SHL	**Shillong**	**17.88**	**0**	*ex*	**Pn**	**17 10 09.0**	**+2.9**
SHL				*ex*	**Sn**	**17 13 29.5**	**+4.5**
KLRI	**Killari**	**18.16**	**306**	*e*Pn	**Pn**	**17 10 05.6**	**-3.9**
KLRI					Sn	17 13 18.0	-14
ODAN	**Odare**	**19.64**	**348**	*e*P	**Pn**	**17 10 27.0**	**-0.5**
TAPN	**Taplejung**	**20.05**	**349**	*e*P	**P**	**17 10 30.6**	**0.0**
PKI	**Pulchoki**	**20.80**	**344**	*e*P	**P**	**17 10 38.6**	**-0.1**
QIZ	**Qiongzhong**	**20.84**	**55**	P	**P**	**17 10 36.7**	**-2.1**
GUN	**Gumba**	**21.00**	**345**	*e*P	**P**	**17 10 39.8**	**-1.1**
	comp=E,52nm,0.8s						
KKN	**Kakani**	**21.05**	**344**	*e*P	**P**	**17 10 41.2**	**0.0**
GKN	**Gorkha**	**21.43**	**342**	*e*P	**P**	**17 10 45.0**	**-0.3**
	comp=E,29nm,0.7s						
KOLN	**Koldanda**	**21.55**	**340**	*e*P	**P**	**17 10 46.4**	**-0.3**
	comp=E,35nm,0.7s						
LSA	**Lhasa**	**22.01**	**358**	*e*P	**P**	**17 10 51.8**	**0.0**
	comp=E,22nm,0.7s						
TKM2	**Tokmak 2**	**38.00**	**340**	P	**P**	**17 13 17.0**	**+1.9**
SONM	**Songino Array**	**41.97**	**15**	P	**P**	**17 13 46.9**	**-1.1**
	comp=E,1.3nm,0.9s,baz=198,slow=6.5,SNR=6.1						
GEYT	**Alibeck**	**42.94**	**320**	P	**P**	**17 13 57.5**	**+1.6**
	comp=E,3.6nm,0.8s,baz=150,slow=6.0,SNR=5.8						
KURBB	**Kurchatov Arra**	**44.32**	**348**	P	**P**	**17 14 07.4**	**+0.7**
	comp=E,1.7nm,0.8s,baz=173,slow=7.2,SNR=15						
KURK	**Kurchatov**	**44.38**	**348**	P	**P**	**17 14 07.4**	**+0.2**
ZAA0	**Zalesovo Array**	**46.58**	**354**	*e*P	**P**	**17 14 24.5**	**0.0**
ZALV	**Zalesovo Beam**	**46.58**	**354**	P	**P**	**17 14 24.2**	**-0.3**
	comp=E,0.5nm,0.4s,baz=170,slow=8.8,SNR=6.6						
BVAR	**Borovoye Array**	**48.57**	**343**	P	**P**	**17 14 39.5**	**-0.5**
	comp=E,1.2nm,0.7s,baz=152,slow=7.6,SNR=6.8						
ABKAR	**Akbulak array**	**49.44**	**333**	*e*P	**P**	**17 14 46.8**	**+0.1**
	comp=E,3.2nm,0.6s						
WRA	**Warramunga Arr**	**49.94**	**124**	P	**P**	**17 14 51.4**	**+0.3**
	comp=E,0.2nm,0.3s,baz=306,slow=8.3,SNR=9.8						
ASAR	**Alice Springs**	**51.48**	**128**	P	**P**	**17 15 03.0**	**+0.3**
	comp=E,0.3nm,0.7s,baz=300,slow=7.4,SNR=4.4						
FINES	**FINESS Array B**	**71.92**	**333**	P	**P**	**17 17 18.7**	**-1.1**
	comp=E,0.7nm,0.7s,baz=133,slow=6.1,SNR=3.1						
GERES	**GERESS Array B**	**76.55**	**318**	P	**P**	**17 17 48.3**	**+1.1**
	comp=E,0.3nm,0.7s,baz=96,slow=4.0,SNR=4.3						

*ISCJB **24** 17:06:17.6±1.7, 7.°74N±0.°06×92.°02E±0.°04, h14km±11km, mb4.2/25, MS4.1/6, Error ellipse: s-maj=11.2km s-min=5.6km az=19.0*
*IDC **24** 17:06:17.5±0.6, 7.°76N×92.°03E, h0km, mb4.2/20, mb1 4.3/22, mb1mx4.2/30, mbtmp4.2/22, ML4.4/2, MS4.1/3, Ms1 4.1/3, ms1mx3.5/26, Error ellipse: s-maj=20.3km s-min=12.8km az=45.0*
*GCMT **24** 17:06:22.1±0.4, 7.°72N×91.°96E, h17km±1km, MW4.9/71, Moment Tensor Solution. s11,c11; s71,c99; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr0.19±.13; Mθθ-2.79±.12; Mφφ2.60±.11; Mrθ-0.93±.33; Mrφ0.14±.10; Mθφ-1.49±.38; Best double couple: M☉3.21400×10^16 NP1:ϕ228.00000°, δ84.00000°, λ32.00000°. NP2: ϕ134.00000°, δ58.00000°, λ173.00000°. Principal axes: T 3.3580, Plg26.0000°, Azm96.0000°; N -0.2870, Plg58.0000°, Azm237.0000°; P -3.0690, Plg17.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **24** 17:06:22.1±0.4, 7.°76N×92.°05E, h30km, mb4.8/2 Error ellipse: s-maj=13.1km s-min=8.6km az=49.0*
ISC 24 17:06:20.9±1.6, 7.°74N±0.°08×92.°01E±0.°07, h22km±16km, n64, σ0e82/63, mb4.4/25, MS4.2/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.46**	**125**	Pn	**Pn**	**17 08 22.7**	**+0.4**
	2.2nm,0.3s,baz=327,slow=13,SNR=6.6						
PSI				LR	LR	17 11 59.5	
	comp=Z,1μm,18.2s,baz=248,slow=40						
PALK	**Pallekele**	**11.22**	**268**	Pn	**Pn**	**17 08 58.5**	**-1.7**
	5.8nm,0.3s,baz=90,slow=15,SNR=13						
PALK				Sn	Sn	17 10 47.5	-18
	3.1nm,0.3s,baz=168,slow=19,SNR=4.4						
PAL

KURK	**Kurchatov**	**44.26**	**348**	P	**P**	17 14 28.0	-0.7
KURK				PcP	**PcP**	**17 16 12.7**	**-0.2**
ZALV	**Zalesovo Beam**	**46.44**	**354**	P	**P**	**17 14 46.2**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=188,slow=8.7,SNR=4.8						
H01W3	**Cape Leeuwin H**	**47.27**	**155**	T	T	18 05 34.2	
	baz=331,slow=76,SNR=3.4						
H01W2	**Cape Leeuwin H**	**47.28**	**155**	T	T	18 05 44.5	
	baz=331,slow=76,SNR=3.1						
H01W1	**Cape Leeuwin H**	**47.29**	**155**	T	T	18 05 45.4	
	baz=331,slow=76,SNR=3.5						
BVAR	**Borovoye Array**	**48.46**	**343**	P	**P**	**17 15 01.1**	**-0.6**
	comp=Z,5.0nm,0.8s,baz=144,slow=10.0,SNR=12						
JAY	**Jayapura**	**49.64**	**100**	LR	LR	17 36 53.6	
	comp=Z,83nm,20.6s,slow=37						
WRA	**Warramunga Arr**	**49.92**	**124**	P	**P**	**17 15 13.2**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=306,slow=8.4,SNR=43						
WRA				PcP	**PcP**	**17 16 33.5**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=315,slow=3.0,SNR=5.8						
MJAR	**Matsushiro Arr**	**50.82**	**49**	P	**P**	**17 15 18.9**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=243,slow=7.4,SNR=4.3						
MJAR				PcP	**PcP**	**17 16 36.7**	**0.0**
	comp=Z,1.0nm,0.6s,baz=240,slow=5.9,SNR=3.3						
ASAR	**Alice Springs**	**51.47**	**128**	P	**P**	**17 15 24.8**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=306,slow=7.6,SNR=12						
ASAR				PcP	**PcP**	**17 16 39.6**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=306,slow=3.9,SNR=7.5						
KBZ	**Khabaz**	**55.77**	**318**	P	**P**	**17 15 57.4**	**+1.2**
	comp=Z,2.1nm,0.6s,baz=183,slow=2.3,SNR=4.7						
YAK	**Yakutsk**	**60.80**	**19**	*e*P	**P**	**17 16 31.4**	**+0.4**
	comp=Z,15nm,1.0s						
BRTR	**Keskin Array B**	**60.92**	**311**	P	**P**	**17 16 32.9**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=116,slow=8.6,SNR=5.4						
STKA	**Stephens Creek**	**61.56**	**133**	P	**P**	**17 16 37.2**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=306,slow=4.3,SNR=9.3						
AKASG	**Malin Array Be**	**66.95**	**322**	P	**P**	**17 17 11.3**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=89,slow=4.7,SNR=4.5						
PETK	**Petropavlovsk-**	**69.34**	**36**	P	**P**	**17 17 25.1**	**-1.7**
	comp=Z,2.3nm,0.8s,baz=238,slow=8.3,SNR=2.3						
FINES	**FINESS Array B**	**71.84**	**333**	P	**P**	**17 17 40.5**	**-1.3**
	comp=Z,1.4nm,0.6s,baz=111,slow=7.9,SNR=7.5						
OKC	**Ostrava-Krasne**	**73.72**	**320**	AMS	AMS	17 54 40.0	
	comp=Z,100nm,20.4s						
BOSA	**Boshof**	**73.73**	**237**	P	**P**	**17 17 52.7**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=311,slow=9.1,SNR=3.3						
KRLC	**Kraliky**	**74.62**	**320**	*e*P	**P**	**17 17 57.9**	**-0.7**
KRLC				*ex*	x	17 17 59.3	
ARCES	**ARCESS Array B**	**74.68**	**340**	P	**P**	**17 17 57.7**	**-0.8**
	comp=Z,3.4nm,1.0s,baz=112,slow=7.2,SNR=3.8						
DPC	**Dobruska-Polom**	**74.94**	**320**	*e*P	**P**	**17 17 59.9**	**-0.5**
DPC				*ex*	x	17 18 01.7	
TREC	**Trest**	**75.38**	**319**	AMS	AMS	17 56 20.0	
	comp=Z,100nm,14.9s						
GOPC	**GO Pecny, Ondr**	**75.89**	**319**	AMS	AMS	17 57 00.0	
	comp=Z,100nm,19.4s						
PRU	**Pruhonice**	**76.05**	**320**	*e*P	**P**	**17 18 06.0**	**-0.7**
PRU				*ex*	x	17 18 08.0	
PRU				AMS	AMS	17 57 20.0	
	comp=Z,100nm,17.2s						
BRG	**Berggiesshubel**	**76.50**	**320**	*e*P	**P**	**17 18 10.7**	**+1.4**
	comp=Z,6.4nm,1.3s						
GERES	**GERESS Array B**	**76.52**	**318**	P	**P**	**17 18 10.6**	**+1.1**
	comp=Z,2.0nm,0.8s,baz=86,slow=6.0,SNR=11						
KHC	**Kasperske Hory**	**76.61**	**319**	*e*P	**P**	**17 18 09.4**	**-0.6**
KHC				*ex*	x	17 18 10.9	
KHC				AMS	AMS	17 56 50.0	
	comp=Z,100nm,14.6s						
CLL	**Collm**	**77.12**	**321**	*i* P	**P**	**17 18 13.1**	**+0.3**
	comp=Z,4.0nm,1.0s						
NB2	**NORSAR Subarra**	**78.81**	**331**	P	**P**	**17 18 20.8**	**-1.2**
	comp=Z,3.3nm,1.2s,baz=92,slow=5.9						
NOA	**NORSAR Array B**	**78.81**	**331**	P	**P**	**17 18 21.1**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=92,slow=5.9,SNR=3.2						
NVAR	**Mina Array Bea**	**126.09**	**29**	PKP	**PKPdf**	**17 25 23.9**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=308,slow=2.1,SNR=4.0						
TXAR	**Lajitas Array**	**140.17**	**22**	PKP	**PKPdf**	**17 25 50.1**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=16,slow=1.3,SNR=3.8						
CPUP	**Villa Florida**	**145.49**	**234**	PKPbc	**PKPab**	**17 25 59.0**	**+0.6**
	comp=Z,2.6nm,0.9s,baz=90,slow=3.0,SNR=2.6						

*ISCJB **24** 17:07:35.7±0.3,32.74N×115.94W±0.02,h12km±2km, Error ellipse: s-maj=3.0km s-min=2.6km az=5.4*
*ECX **24** 17:07:36.5±0.6,32.73N×115.97W,h2km,MD3.8,ML4.0, Fault plane solution: NP1:ϕs276.67000°,δ90.00000°, λ30.00000°.*
*NEIC **24** 17:07:36.3,32.72N×115.96W,h1km,ML4.0(ECX), ML4.0(PAS),After PAS.*
NEIC Felt [II] at El Centro, La Jolla and San Diego. Also felt at Campo, Hemet, Imperial, Irvine, Lake Forest, Lakeside, Mission Viejo, Manhattan Beach, Moreno Valley, National City, Oceanside, Ontario, Poway, Riverside, Santee, Temecula and Yorba Linda. Felt at Mexicali and Rosarito, Baja California.

ISC 24 17:07:35.9±0.8,32.73N±0.02×115.95W±0.02,h14km±5km, n62,σ1°9°04/76,11C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.08**	**167**	⇓*i*P	**Pg**	**17 07 37.8**	**-1.1**
IBP	**Imperial Bould**	**0.14**	**243**	P	**Pg**	**17 07 38.9**	**-0.8**
	baz=0.1						
CRR	**Carrizo Plain**	**0.16**	**353**	⇓*i*P	**Pg**	**17 07 39.6**	**-0.3**
RMX	**La Rumorosa**	**0.17**	**223**	⇑*i*P	**Pg**	**17 07 39.5**	**-0.7**
RMX				*e*S	**Sg**	**17 07 42.1**	**-0.9**
WESC	**Westside Schoo**	**0.18**	**80**	⇑*i*P	**Pg**	**17 07 40.2**	**0.0**
WESC				*e*S	**Sg**	**17 07 43.9**	**+0.8**
COK	**Cook Ranch**	**0.22**	**56**	⇑*i*P	**Pg**	**17 07 41.0**	**+0.2**
ERPC	**Ernies Place**	**0.24**	**86**	⇑*i*P	**Pg**	**17 07 41.5**	**+0.4**
SWSC	**Sam W. Stewart**	**0.25**	**30**	P	**Pg**	**17 07 41.0**	**-0.3**
	baz=0.3						
SWSC				S	**Sg**	**17 07 45.1**	**+0.2**
	baz=0.3						
SWSC	**Sam W. Stewart**	**0.25**	**30**	⇑*i*P	**Pg**	**17 07 41.2**	**0.0**
DREC	**Desert Rsrch C**	**0.43**	**79**	⇑*i*P	**Pb**	**17 07 45.2**	**+0.1**
MONP	**Monument Peak,**	**0.43**	**292**	P	**Pg**	**17 07 44.3**	**-0.4**
	baz=0.4						
MONP				S	**Sg**	**17 07 50.4**	**-0.1**
	baz=0.4						
BAR	**Barrett**	**0.61**	**266**	*e*Pg	**Pg**	**17 07 47.5**	**-0.5**
BAR	**Barrett**	**0.61**	**266**	⇑*i*P	**Pg**	**17 07 47.6**	**-0.4**
BAR				*e*S	**Sg**	**17 07 55.5**	**-0.6**
CPBX	**Cerro Prieto**	**0.62**	**119**	⇓*e*P	**Pb**	**17 07 48.3**	**-0.2**
CPBX				*e*S	**Sb**	**17 07 57.5**	**+0.4**
CBX	**Cerro Bola**	**0.73**	**236**	⇑*i*P	**Pg**	**17 07 49.9**	**-0.4**
CBX				*e*S	**Sg**	**17 07 59.7**	**-0.2**
CBX				⇑*e*		17 08 04.8	
CBX				IAML		17 08 04.8	
	comp=E,6μm,0.8s						
RDX	**Rancho Dawling**	**0.80**	**180**	⇓*i*P	**Pg**	**17 07 50.5**	**-0.9**
RDX				IAML		17 08 01.9	
	comp=N,5μm,0.4s						
SDRC	**San Diego Road**	**0.84**	**271**	⇑*e*P	**Pg**	**17 07 51.4**	**-0.8**
PFO	**Pinyon Flats O**	**0.98**	**334**	P	**Pg**	**17 07 54.0**	**-0.8**
	baz=1.0						
PFO				S	**Sg**	**17 08 07.1**	**-0.6**
	baz=1.0						
109C	**Camp Elliot, M**	**0.99**	**280**	P	**Pg**	**17 07 54.0**	**-1.1**
	baz=1.0						
109C				S	**Sg**	**17 08 06.6**	**-1.4**
	baz=1.0						
GLA	**Glamis**	**0.99**	**71**	P	**Pg**	**17 07 53.8**	**-1.4**
	baz=1.0						
GLA				S	**Sg**	**17 08 06.8**	**-1.4**
	baz=1.0						
BC3	**Big Chuckawall**	**1.01**	**24**	P	**Pg**	**17 07 54.3**	**-1.2**
	baz=1.1						
BC3				S	**Sg**	**17 08 07.3**	**-1.5**
	baz=1.1						
ECNX	**Esteban Cantu**	**1.20**	**208**	*e*P	**Pg**	**17 07 57.9**	**-1.2**
ZAX	**El Zacaton**	**1.24**	**193**	*e*P	**Pg**	**17 07 58.5**	**-1.3**
BELC	**Belle Mtn. Jos**	**1.27**	**358**	P	**Pg**	**17 07 58.2**	**-2.2**
	baz=1.3						
MURC	**Murrieta**	**1.37**	**310**	P	**Pn**	**17 07 59.9**	**-0.7**
	baz=1.4						
MURC				S	**Sg**	**17 08 19.0**	**-1.1**
	baz=1.4						
ECBX	**El Chinero**	**1.46**	**149**	*e*Pn	**Pn**	**17 08 02.0**	**+0.2**
ECBX				*e*S	**Sb**	**17 08 22.3**	**+1.0**
ECBX				IAML		17 08 35.1	
	comp=E,2μm,1.0s						
ECBX				⇑*e*		17 08 35.1	
Y12C	**Blythe**	**1.57**	**49**	P	**Pn**	**17 08 02.3**	**-1.0**
	baz=1.6						
IRM	**Iron Mountain**	**1.58**	**25**	P	**Pn**	**17 08 02.7**	**-0.7**
	baz=1.6						
SPIG	**San Pedro Mart**	**1.72**	**166**	*e*P	**Pb**	**17 08 07.7**	**+0.2**
SPIG				*e*S	**Sg**	**17 08 30.9**	**-0.6**
SPX	**San Pedro Mart**	**1.73**	**166**	*e*P	**Pn**	**17 08 06.2**	**+0.5**
SPX				*e*S	**Sb**	**17 08 29.9**	**+0.7**
SPX				IAML		17 08 32.8	
	comp=E,1μm,0.5s						
SPX				*e*		17 08 32.8	
BBRC	**Big Bear Solar**	**1.74**	**332**	P	**Pn**	**17 08 05.9**	**0.0**
	baz=1.8						
GMRC	**Granite Mounta**	**2.06**	**7**	P	**Pn**	**17 08 09.6**	**-0.6**
	baz=2.1						
BFSC	**Mount Baldy Ra**	**2.08**	**317**	P	**Pn**	**17 08 10.3**	**-0.2**
	baz=2.1						
BFSC				Sb	**Sb**	**17 08 40.1**	**+0.9**
	baz=2.1						
HEC	**Hector,Ludlow**	**2.12**	**351**	P	**Pn**	**17 08 10.5**	**-0.5**
	baz=2.2						
HEC				S	**Sn**	**17 08 35.9**	**-1.3**
	baz=2.2						
CIS	**Catalina Islan**	**2.17**	**289**	S	**Sn**	**17 08 40.0**	**+1.6**
	baz=2.2						
PDMCI	**Parker Dam,Lak**	**2.18**	**43**	P	**Pn**	**17 08 11.3**	**-0.4**
	baz=2.2						
FMP	**Fort Macarthur**	**2.20**	**297**	Pb	**Pb**	**17 08 15.6**	**+0.2**
	baz=2.2						
FMP				Sb	**Sb**	**17 08 44.3**	**+1.8**
	baz=2.2						
SCI	**San Clemente I**	**2.21**	**277**	P	**Pn**	**17 08 12.7**	**+0.6**
	baz=2.2						
SCI				S	**Sn**	**17 08 40.5**	**+1.4**
	baz=2.2						
MWC	**Mount Wilson**	**2.31**	**311**	*e*Pn	**Pb**	**17 08 17.1**	**-0.4**
PASC	**Pasadena Art C**	**2.36**	**308**	*e*Pn	**Pb**	**17 08 17.2**	**-1.1**
LDFC	**Landfair**	**2.45**	**16**	*e*Pn	**Pb**	**17 08 18.5**	**-1.3**
GSC	**Goldstone, Bar**	**2.67**	**345**	*e*Pn	**Pn**	**17 08 18.3**	**-0.2**
EDW2	**Edwards Air Fo**	**2.74**	**322**	Sb	**Sb**	**17 09 00.4**	**+2.2**
	baz=2.8						
214A	**Organ Pipe Nat**	**2.76**	**105**	*e*Pn	**Pn**	**17 08 18.0**	**-1.8**
ARVC	**Arvin**	**3.39**	**316**	Sb	**Sb**	**17 09 19.7**	**+3.0**
	baz=3.4						
DAC	**Darwin (Calif)**	**3.79**	**339**	*e*Pn	**Pn**	**17 08 34.1**	**0.0**
SHPR	**Sheep Range**	**3.83**	**10**	*e*Pn	**Pn**	**17 08 36.0**	**+1.5**
TUC	**Tucson**	**4.38**	**94**	*e*Pn	**Pn**	**17 08 41.5**	**-0.6**
WUAZ	**Wupatki**	**4.70**	**52**	*e*Pn	**Pn**	**17 08 47.5**	**+1.0**
CCUT	**Cedar City**	**5.26**	**23**	*e*Pn	**Pn**	**17 08 53.7**	**-0.5**
TPH	**Tonopah**	**5.44**	**349**	*e*Pn	**Pn**	**17 08 57.9**	**+1.2**
R11A	**Troy Canyon, C**	**5.62**	**3**	*e*Pn	**Pn**	**17 08 59.6**	**+0.5**
W18A	**Petrified Fore**	**5.69**	**63**	*e*Pn	**Pn**	**17 09 01.4**	**+1.3**
WAKR	**Walker**	**6.43**	**335**	*e*Pg	Pg	17 09 35.0	-3.9
MVU	**Marysvale**	**6.52**	**27**	*e*Pn	Pn	17 09 15.8	+4.3
121A	**Cookes Peak, D**	**6.89**	**89**	*e*Pn	**Pn**	**17 09 16.9**	**+0.3**
MVCO	**Mesa Verde**	**7.57**	**52**	*e*Pn	Pn	17 09 29.5	+3.5
LENM	**Lemitar**	**7.63**	**77**	*e*Pn	**Pn**	**17 09 27.8**	**+1.0**
PV04	**Paradox Valley**	**8.05**	**43**	*e*Pn	Pn	17 09 36.3	+3.7
ANMO	**Albuquerque**	**8.20**	**72**	*e*Pn	**Pn**	**17 09 36.1**	**+1.6**
SDCO	**Great Sand Dun**	**9.90**	**57**	*e*Pn	**Pn**	**17 10 00.3**	**+2.3**
MSTX	**Muleshoe**	**11.09**	**80**	*e*P	Pn	17 10 19.2	+5.0

MEX 24 17:25:13.4±0.6,15.52N×96.47W,h28km±16km,MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.42**	**55**	*e*P	Pb	17 25 20.7	-1.8
HUIG				*i* S	Sb	17 25 27.2	-1.5
OXX	**Oaxaca**	**1.57**	**351**	*e*P	Pb	17 25 43.1	+1.1
OXX				*e*S	Sb	17 26 01.1	-0.7
PNIG	**Pinotepa**	**1.82**	**299**	*i* P	Pn	17 25 40.7	-2.2
PNIG				*i* S	Sn	17 26 02.8	-2.2
PCIG		**3.13**	**86**	*e*P	Pn	17 25 59.6	-1.3
PCIG				*i* S	Sn	17 26 34.2	-3.3

MEX 24 17:44:32.0±0.9,15.14N×96.28W,h16km±61km,MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.65**	**15**	*e*P	Pg	17 44 42.5	-2.2
HUIG				*e*S	Sg	17 44 50.0	-3.3
OXX	**Oaxaca**	**1.98**	**348**	*e*P	Pn	17 45 05.4	+0.3
OXX				*e*S	Sn	17 45 25.3	-4.5
PNIG	**Pinotepa**	**2.17**	**305**	*e*P	Pn	17 45 04.5	-3.1
PNIG				*i* S	Sn	17 45 29.1	-5.1
TLIG	**Tlapa**	**3.26**	**318**	*e*P	Pn	17 45 20.1	-2.6
TLIG				*i* S	Sn	17 45 58.3	-3.0

*IDC **24** 17:45:40.9±1.1,6.83N×91.76E,h0km,mb3.6/6,mb1 3.8/8, mb1mx3.5/29,mbtmp3.7/8,ML3.7/2,Error ellipse: s-maj=40.0km s-min=19.8km az=59.0*
*ISCJB **24** 17:45:42.4±0.9,6.9N±0.1×91.7E±0.1,h23km,mb3.6/6, Error ellipse: s-maj=17.9km s-min=15.8km az=18.2*

ISC 24 17:45:44.4±1.0,6.9N±0.1×91.8E±0.1,h23km,n11, σ0°61/10,mb3.7/6,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.98**	**273**	Pn	**Pn**	**17 48 20.1**	**-0.1**
	1.1nm,0.3s,baz=86,slow=12,SNR=4.1						
PALK				Sn	Sn	17 50 08.9	-14
	0.9nm,0.3s,baz=31,slow=18,SNR=3.2						
CMAR	**Chiang Mai Arr**	**13.48**	**31**	Pn	**Pn**	**17 48 54.1**	**-0.3**
	0.1nm,0.3s,baz=221,slow=11,SNR=4.7						
H08S3	**Diego Garcia H**	**24.02**	**234**	T	T	18 17 19.4	
	baz=52,slow=75,SNR=9.6						
H08S2	**Diego Garcia H**	**24.02**	**233**	T	T	18 17 24.4	
	baz=52,slow=75,SNR=13						
H08S1	**Diego Garcia H**	**24.03**	**233**	T	T	18 17 30.5	
	baz=52,slow=75,SNR=11						
SONM	**Songino Array**	**42.69**	**15**	P	**P**	**17 53 40.1**	**+0.5**
	0.5nm,0.7s,baz=185,slow=8.9,SNR=4.4						
KURBB	**Kurchatov Arra**	**44.99**	**348**	P	**P**	**17 53 58.3**	**+0.4**
	1.3nm,0.9s,baz=175,slow=7.4,SNR=9.7						
ZALV	**Zalesovo Beam**	**47.28**	**354**	P	**P**	**17 54 15.6**	**-0.3**
	0.3nm,0.3s,baz=188,slow=8.7,SNR=3.5						
BVAR	**Borovoye Array**	**49.22**	**343**	P	**P**	**17 54 31.2**	**+0.3**
	0.8nm,0.7s,baz=148,slow=8.7,SNR=5.9						
WRA	**Warramunga Arr**	**49.64**	**123**	P	**P**	**17 54 34.5**	**0.0**
	0.6nm,0.9s,baz=300,slow=9.1,SNR=7.6						
WRA				PcP	**PcP**	**17 55 55.0**	**-1.0**
	0.2nm,0.5s,baz=316,slow=3.0,SNR=4.0						
ASAR	**Alice Springs**	**51.12**	**128**	P	**P**	**17 54 46.6**	**+0.8**
	0.5nm,0.8s,baz=298,slow=8.1,SNR=4.9						
ASAR				PcP	**PcP**	**17 56 00.8**	**-0.5**
	0.2nm,0.5s,baz=298,slow=3.4,SNR=5.0						

*IPEC **24** 17:47:54.1±0.2,47.95N×16.45E,h10km±1km,ML1.7/7, Error ellipse: s-maj=1.2km s-min=0.8km az=116.0*
*VIE **24** 17:47:54.2±0.2,47.94N×16.40E,h12km±2km,mb1.3/5, ML2.2/6,Error ellipse: s-maj=2.1km s-min=1.6km az=115.0 2 km S of Ebreichsdorf felt 3-4 ems98 at Ebreichsdorf / Lower Austria*
*PRU **24** 17:47:55.6,47.99N×16.35E,h9km*

CSEM 24 17:47:53.8±0.3,47.99N×16.40E,h5km,ML2.6/13,4C-4D, Error ellipse: s-maj=5.8km s-min=2.8km az=111.0, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONA	**Conrad Observa**	**0.36**	**261**	⇑*e*Pg	Pb	17 48 02.3	-0.6
	9.5nm,0.2s						
CONA				⇑*i*Sg	Sb	17 48 08.1	-1.0
	28nm,0.2s						
CONA	**Conrad Observa**	**0.36**	**261**	Pg	Pb	17 48 02.3	-0.6
	9.5nm,0.2s						
CONA				Sg	Sb	17 48 08.1	-0.9
	28nm,0.2s						
ARSA	**Arzberg**	**0.94**	**219**	⇓*i*Pg	Pg	17 48 12.0	0.0
	3.8nm,0.1s						
ARSA				⇓*e*Sg	Sg	17 48 24.5	+0.3
	4.2nm,0.1s						
ARSA	**Arzberg**	**0.94**	**219**	Pg	Pg	17 48 12.0	0.0
	3.8nm,0.1s						
ARSA				Sg	Sg	17 48 24.5	+0.3
	4.2nm,0.1s						
KRUC	**Moravsky**	**1.08**	**360**	*e*Pg	Pn	17 48 15.5	-0.1
	baz=178						
KRUC				*e*Sg	Sb	17 48 29.0	-0.4
	14nm,0.1s,baz=178						
VRAC	**Vranov**	**1.33**	**6**	*e*Pg	Pb	17 48 19.3	0.0
VRAC				*e*Sg	Sn	17 48 37.0	-0.2
	5.1nm,0.1s,baz=184						
MOA	**Molln**	**1.44**	**265**	⇓*e*Pg	Pg	17 48 21.4	0.0
	1.5nm,0.1s						
MOA				⇑*i*Sg	Sg	17 48 41.3	+1.1
	2.9nm,0.1s						
MOA	**Molln**	**1.44**	**265**	Pg	Pg	17 48 21.4	-0.1
	1.5nm,0.1s						
MOA				Sg	Sg	17 48 41.3	+1.1
	2.9nm,0.1s						
TREC	**Trest**	**1.44**	**336**	*e*PG	Pg	17 48 21.7	+0.1
TREC				*e*SG	Sg	17 48 40.5	+0.2
	comp=Z,7.4nm,0.2s						
TREC	**Trest**	**1.44**	**336**	Pg	Pg	17 48 21.7	+0.1
TREC				Sg	Sg	17 48 40.5	+0.2
	7.4nm,0.2s						
SOKA	**Soboth**	**1.60**	**216**	⇓*e*Pg	Pb	17 48 24.3	+0.2
	0.6nm,0.2s						
SOKA				⇑*i*Sn	Sn	17 48 43.3	-0.8
	1.7nm,0.4s						
SOKA	**Soboth**	**1.60**	**216**	Pg	Pb	17 48 24.3	+0.3
	0.6nm,0.2s						
SOKA				Sn	Sn	17 48 43.3	-0.8
	1.7nm,0.4s						
MORC	**Moravsky Berou**	**1.95**	**22**	*e*Pn	Pn	17 48 27.6	0.0
MORC				*e*Sn	Sn	17 48 52.8	+0.3
	baz=202						
KRLC	**Kraliky**	**2.11**	**7**	*e*SG	Sg	17 49 02.8	+1.1
KRLC	**Kraliky**	**2.11**	**7**	Sg	Sg	17 49 02.8	+1.1
KHC	**Kasperske Hory**	**2.20**	**303**	*e*PG	Pb	17 48 34.1	0.0
KHC				*e*SN	Sn	17 48 58.8	+0.2
KHC				*e*SG	Sg	17 49 04.1	-0.4
	comp=Z,4.0nm,0.2s						
KHC	**Kasperske Hory**	**2.20**	**303**	Pg	Pb	17 48 34.1	0.0
KHC				Sn	Sn	17 48 58.8	+0.2
KHC				Sg	Sg	17 49 04.1	-0.4
	4.0nm,0.2s						
GOPC	**GO Pecny, Ondr**	**2.20**	**332**	*e*PG	Pb	17 48 34.9	+0.7
GOPC				*e*SN	Sn	17 48 59.2	+0.4
GOPC				*e*SG	Sg	17 49 04.8	+0.1
	comp=Z,4.6nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.20**	**332**	Pg	Pb	17 48 34.9	+0.7
GOPC				Sn	Sn	17 48 59.2	+0.4
GOPC				Sg	Sg	17 49 04.8	+0.1
	4.6nm,0.3s						
PRU	**Pruhonice**	**2.35**	**329**	*e*PG	Pb	17 48 37.7	+1.1
PRU				*e*SN	Sn	17 49 03.4	+1.1
PRU				*e*SG	Sg	17 49 08.9	-0.4
	comp=Z,2.6nm,0.3s						
PRU	**Pruhonice**	**2.35**	**329**	Pg	Pb	17 48 37.7	+1.1
PRU				Sn	Sn	17 49 03.4	+1.1
PRU				Sg	Sg	17 49 08.9	-0.4
	2.6nm,0.3s						
DPC	**Dobruska-Polom**	**2.37**	**359**	*e*SN	Sn	17 49 02.9	0.0
DPC				*e*SG	Sg	17 49 10.1	0.0
	comp=Z,2.6nm,0.4s						
DPC	**Dobruska-Polom**	**2.37**	**359**	Sn	Sn	17 49 02.9	0.0
DPC				Sg	Sg	17 49 10.1	0.0
	2.6nm,0.4s						
UPC	**Upice**	**2.54**	**354**	*e*SG	Sg	17 49 16.0	+0.6
	comp=Z,1.1nm,0.2s						
UPC	**Upice**	**2.54**	**354**	Sg	Sg	17 49 16.0	+0.6
	1.1nm,0.2s						
PVCC	**Panska Ves**	**2.81**	**335**	*e*SN	Sn	17 49 14.2	+0.5
PVCC				*e*SG	Sg	17 49 24.4	+0.2
	comp=Z,7.2nm,0.2s						
PVCC	**Panska Ves**	**2.81**	**335**	Sn	Sn	17 49 14.2	+0.5
PVCC				Sg	Sg	17 49 24.4	+0.2
	7.2nm,0.2s						

*NIED **24** 17:49:00,34.00N×141.90E,h11km,Mw3.8 Best double couple: M○4.90000×10^14 NP1:ϕs232.00000°,δ36.00000°, λ140.00000°. NP2:ϕs355.00000°,δ68.00000°,λ60.00000°.*
*JMA **24** 17:49:20.8±0.3,34.00N×141.93E,h30km±4km,MJ3.7*
*ISCJB **24** 17:49:23.0±0.7,34.10N±0.06×141.83E±0.09,h24km, mb3.8/11,Error ellipse: s-maj=13.4km s-min=5.3km az=143.0*
*IDC **24** 17:49:33.1±3.6,34.05N×141.04E,h73km±31km,mb3.5/11, mb1 3.6/13,mb1mx3.4/56,mbtmp3.7/13,MS3.0/1, Ms1 3.0/1,ms1mx2.5/29,Error ellipse: s-maj=33.4km s-min=17.9km az=74.0*

ISC 24 17:49:24.8±0.9,34.07N±0.07×141.8E±0.1,h24km,n31, σ1°31/31,mb3.9/11,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.88**	**312**	P	**Pb**	**17 49 39.3**	**-1.7**
BSO1				S	**Sb**	**17 49 52.2**	**+0.1**
BSO2	**Boso 2**	**1.08**	**309**	S	**Sn**	**17 49 58.9**	**+0.7**
BSO3	**Boso 3**	**1.27**	**305**	P	**Pn**	**17 49 45.6**	**-1.2**
BSO3				S	**Sb**	**17 50 04.5**	**+0.8**
BSO4	**Boso 4**	**1.50**	**308**	P	**Pn**	**17 49 49.3**	**-0.7**
CHOJ	**Chosi**	**1.79**	**336**	P	**Pn**	**17 49 52.6**	**-1.6**
CHOJ				S	**Sn**	**17 50 15.0**	**-1.2**
JIM2	**Oshima 3**	**2.04**	**289**	P	**Pn**	**17 49 56.0**	**-1.6**
JIZS	**Izushimoda**	**2.48**	**286**	P	**P

WRA	**Warramunga Arr**	**13.52**	**169**	P	Pn	17 56 55.2	-2.4
	0.6nm,0.3s,baz=347,slow=13,SNR=43						
WRA				S	Sn	17 59 21.0	-5.9
	1.3nm,0.3s,baz=351,slow=23,SNR=10						
ASAR	**Alice Springs**	**17.10**	**173**	P	P	17 57 41.3	-0.8
	0.4nm,0.3s,baz=346,slow=14,SNR=30						
ASAR				S	Sn	18 00 46.1	-7.2
	0.3nm,0.3s,baz=355,slow=27,SNR=6.6						
CMAR	**Chiang Mai Arr**	**40.71**	**308**	P	P	18 01 19.3	-0.1
	0.4nm,0.5s,baz=142,slow=6.7,SNR=4.0						
SONM	**Songino Array**	**58.59**	**340**	P	P	18 03 34.5	0.0
	0.2nm,0.4s,baz=159,slow=8.5,SNR=3.1						

*IDC **24** 17:55:50.8±1.6,33.°99N×141.°98E, h0km,mb3.8/7, mb1 3.9/9,mb1mx3.6/45,mbtmp3.7/9,ML3.4/2,Error ellipse: s-maj=44.2km s-min=24.0km az=82.0*
*NEIC **24** 17:55:52.1±1.1,34.°06N×142.°06E,h10km,mb4.4/1,Error ellipse: s-maj=21.4km s-min=13.9km az=101.0*
*ISCJB **24** 17:55:53.4±1.0,34.°12N±0.°06×141.°85E±0.°10, h21km, mb3.7/8,Error ellipse: s-maj=11.4km s-min=8.9km az=0.2*
*JMA **24** 17:55:55.8±0.5,34.°15N×141.°74E,h39km,3km,M3.0*

ISC 24 17:55:54.6±1.1,**34.°07N**±0.°07×**141.°8E**±0.°1,**h21**km,**n18,** σ1§**08**/21,**mb3.6**/8,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.91**	**310**	P		P	**Pb**	**17 56 10.8**	**-0.5**
BSO3	**Boso 3**	**1.31**	**304**	P		P	**Pn**	**17 56 16.9**	**-0.5**
BSO4	**Boso 4**	**1.53**	**307**	P		P	**Pn**	**17 56 20.8**	**+0.2**
CHOJ	**Chosi**	**1.81**	**334**	P		P	**Pn**	**17 56 24.2**	**-0.4**
JHJ2	**Mitsune**	**1.93**	**241**	P		P	**Pb**	**17 56 28.1**	**-0.9**
JHJ2				S		S	**Sn**	**17 56 49.9**	**+0.2**
JHJ2	**Mitsune**	**1.93**	**241**	*e*P	n	P	**Pb**	**17 56 28.0**	**-1.0**
MJAR	**Matsushiro Arr**	**3.85**	**311**	Pn		P	**Pn**	**17 56 53.9**	**+1.3**
	2.1nm,0.3s,baz=121,slow=14,SNR=30								
MJAR				Sn		S	**Sn**	**17 57 36.9**	**-0.4**
	0.8nm,0.3s,baz=192,slow=26,SNR=4.2								
MAJO	**Matsushiro**	**3.85**	**311**	*e*Pn		P	**Pn**	**17 56 53.0**	**+0.4**
MAT	**Matsushiro**	**3.85**	**311**	P		P	**Pn**	**17 56 53.2**	**+0.6**
MAT				S		S	**Sn**	**17 57 35.3**	**-2.0**
ASAJ	**Asahikawa**	**10.05**	**3**	Pn		P	**Pn**	**17 58 16.1**	**-1.5**
	0.4nm,0.3s,baz=198,slow=9.6,SNR=4.7								
SONM	**Songino Array**	**29.80**	**308**	P		P	**P**	**18 02 02.0**	**+2.0**
	0.4nm,0.6s,baz=100,slow=7.8,SNR=4.6								
CMAR	**Chiang Mai Arr**	**41.16**	**259**	P		P	**P**	**18 03 37.7**	**+0.1**
	0.2nm,0.3s,baz=54,slow=6.8,SNR=3.9								
KURK	**Kurchatov**	**48.06**	**310**	*e*P		P	**P**	**18 04 31.5**	**-0.8**
	1.1nm,0.3s								
KURBB	**Kurchatov Arra**	**48.13**	**310**	P		P	**P**	**18 04 33.2**	**+0.4**
	0.4nm,0.2s,baz=83,slow=8.5,SNR=3.6								
BVAR	**Borovoye Array**	**52.84**	**314**	P		P	**P**	**18 05 07.0**	**-1.4**
	0.2nm,0.3s,baz=86,slow=4.5,SNR=2.6								
WRA	**Warramunga Arr**	**54.18**	**189**	P		P	**P**	**18 05 17.5**	**-1.1**
	1.3nm,0.9s,baz=6.3,slow=7.7,SNR=2.2								
NOA	**NORSAR Array B**	**77.05**	**338**	P		P	**P**	**18 07 46.7**	**+0.9**
	0.4nm,0.6s,baz=39,slow=5.6,SNR=2.4								
GERES	**GERESS Array B**	**85.41**	**329**	P		P	**P**	**18 08 31.7**	**+1.2**
	0.2nm,0.4s,baz=32,slow=8.1,SNR=2.8								

GUC 24 17:56:24.4±0.7,**34.°45S**×**72.°68W**,**h35**km±7km,**ML3.6,**
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.16**	**65**	*e*P		P	n	17 56 45.5	+1.4
NICH	**Los Niches**	**1.32**	**115**	*e*P		P	n	17 56 47.9	+1.7
NICH				*e*S		S	n	17 57 05.9	+3.3
NICH				AML		AML		17 57 07.0	
	comp=N,3μm,0.4s								
CHCH	**Chadas Angostu**	**1.76**	**74**	*e*P		P	n	17 56 54.8	+2.4
CHCH				*e*S		S	n	17 57 18.9	+5.3
SAN	**Santiago**	**1.95**	**60**	*e*S		S	n	17 57 23.5	+5.2
CLCH	**Cerro Calan**	**2.07**	**60**	*e*P		P	n	17 56 59.6	+2.9
CLCH				*e*S		S	n	17 57 26.0	+4.7
CLCH				AML		AML		17 57 34.5	
	comp=E,335nm,0.7s								
PEL	**Peldehue**	**2.11**	**53**	*e*P		P	n	17 57 00.3	+3.1
PEL				*e*S		S	n	17 57 26.9	+4.6
PEL				AML		AML		17 57 35.2	
	comp=N,656nm,0.5s								

*IDC **24** 17:57:29.1±0.8,8.°21S×123.°42E,h0km,mb3.9/8, mb1 4.2/12,mb1mx3.9/32,mbtmp4.1/12,ML3.9/4,MS3.8/9, Ms1 3.8/9,ms1mx3.5/23,Error ellipse: s-maj=29.5km s-min=15.0km az=56.0*
*DJA **24** 17:57:31.9±1.3,8.°5±3.°×12.°3E±.°,h15km±11km,M4.5/11, mb4.7/3,mB5.1/1,MLv4.5/11,MLv4.5/11,Mw(mB)4.5/1*
*ISCJB **24** 17:57:32.2±0.4,8.°18S±0.°04×123.°46E±0.°05,h33km, mb4.0/10,MS3.8/5,Error ellipse: s-maj=7.2km s-min=5.3km az=142.3*
*NEIC **24** 17:57:34.1±0.4,8.°31S×123.°35E,h35km,mb4.4/3,Error ellipse: s-maj=10.2km s-min=7.1km az=55.0*

ISC 24 17:57:34.3±0.6,**8.°24S**±0.°05×**123.°45E**±0.°06,**h35**km,**n35,** σ1§**20**/31,**mb4.0**/10,**MS3.9**/5,**Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.26**	**252**	P		P	**Pn**	**17 57 53.8**	**-1.6**
MMRI				S		S	**Sn**	**17 58 13.8**	**+2.7**
MMRI	**Maumere**	**1.26**	**252**	*e*P		P	**Pn**	**17 57 53.9**	**-1.6**
SOEI	**Soe**	**1.71**	**152**	P		P	**Pn**	**17 58 00.9**	**-0.9**
SOEI				S		S	**Sn**	**17 58 23.8**	**+1.3**
SOEI	**Soe**	**1.71**	**152**	*e*P		P	**Pn**	**17 58 00.5**	**-1.3**
WSI	**Waingapu**	**3.42**	**245**	P		P	**Pn**	**17 58 24.8**	**-0.3**
BSSI	**Bau Bau, Buton**	**3.60**	**305**	P		P	**Pn**	**17 58 26.6**	**-1.1**
WBSI	**Waikabubak, Su**	**4.24**	**251**	P		P	**Pn**	**17 58 36.5**	**0.0**
BKSI	**Bulukumba**	**4.39**	**311**	P		P	**Pn**	**17 58 36.6**	**-2.0**
KAPI	**Kappang**	**4.87**	**311**	Pn		P	**Pn**	**17 58 44.8**	**-0.4**
	3.2nm,0.3s,baz=184,slow=2.3,SNR=38								
KAPI				Sn		S	**Sn**	**17 59 41.9**	**+1.5**
	4.3nm,0.3s,baz=217,slow=20,SNR=3.6								
KAPI				LR		LR		18 00 46.0	
	comp=Z,1μm,18.8s,baz=142,slow=41								
SPSI	**Sidrap Palu**	**5.61**	**319**	P		P	**Pn**	**17 58 54.6**	**-0.7**
	44nm,0.8s,0.2nm0.2nm								
SANI	**Sanana**	**6.65**	**23**	P		P	**Pn**	**17 59 09.3**	**-0.4**
TNTI	**Ternate**	**9.77**	**24**	*e*P		P	**Pn**	**17 59 54.2**	**+1.7**
	106nm,1.1s								
SIJI	**Sorong**	**10.69**	**47**	Pn		P	**Pn**	**18 00 04.4**	**-0.7**
	0.6nm,0.3s,baz=221,slow=6.9,SNR=11								
SIJI				LR		LR		18 04 21.4	
	comp=Z,587nm,18.8s,baz=264,slow=39								
WRA	**Warramunga Arr**	**15.70**	**139**	Pn		P	Pn	18 01 07.2	-5.8
	0.7nm,0.3s,baz=317,slow=13,SNR=11								
WRA				Sn		S	Sn	18 03 54.9	-11
	0.2nm,0.3s,baz=311,slow=24,SNR=5.9								
WRA				LR		LR		18 08 14.5	
	comp=Z,248nm,21.2s,baz=305,slow=41								
WRAB	**Tennant Creek**	**15.70**	**139**	*e*P		P	Pn	18 01 07.3	-5.8
	7.8nm,0.5s								
LEM	**Lembang**	**15.76**	**274**	Pn		P	**Pn**	**18 01 11.8**	**-2.1**
	0.3nm,0.3s,baz=125,slow=23,SNR=2.7								
JAY	**Jayapura**	**18.09**	**73**	LR		LR		18 10 27.4	
	comp=Z,164nm,18.8s,baz=254,slow=43								
ASAR	**Alice Springs**	**18.32**	**148**	P		P	**P**	**18 01 45.3**	**-0.4**
	0.8nm,0.3s,baz=326,slow=12,SNR=24								
ASAR				S		S	Sn	18 04 58.3	-11
	0.1nm,0.3s,baz=322,slow=21,SNR=3.5								
CTA	**Charters Tower**	**25.01**	**120**	P		P	**P**	**18 02 56.1**	**+0.9**
	4.6nm,0.8s,baz=309,slow=13,SNR=5.8								
NWAO	**Narrogin (SRO)**	**25.23**	**192**	P		P	**P**	**18 02 57.0**	**0.0**
	8.6nm,0.9s,baz=326,slow=4.6,SNR=8.0								
STKA	**Stephens Creek**	**28.95**	**147**	P		P	**P**	**18 03 30.8**	**+0.3**
	2.6nm,0.7s,baz=323,slow=8.9,SNR=5.4								
STKA				LR		LR		18 17 23.2	
	comp=Z,168nm,20.2s,baz=331,slow=41								
GUMO	**Guam**	**30.38**	**45**	LR		LR		18 15 29.4	
	comp=Z,81nm,20.6s,baz=183,slow=36								
CMAR	**Chiang Mai Arr**	**35.90**	**318**	P		P	**P**	**18 04 32.7**	**+1.3**
	0.4nm,0.3s,baz=134,slow=6.4,SNR=3.3								
LSA	**Lhasa**	**48.87**	**322**	*e*P		P	**P**	**18 06 18.0**	**+0.6**
HHC	**Hu-ho-hao-te**	**50.06**	**348**	*e*P		P	**P**	**18 06 25.4**	**-0.4**
SONM	**Songino Array**	**57.84**	**347**	P		P	**P**	**18 07 22.9**	**+0.4**
	0.2nm,0.5s,baz=152,slow=6.5,SNR=2.8								
ZALV	**Zalesovo Beam**	**69.99**	**337**	P		P	**P**	**18 08 41.1**	**-1.0**
	0.7nm,0.6s,baz=126,slow=7.3,SNR=3.0								
YAK	**Yakutsk**	**70.23**	**3**	*e*P		P	**P**	**18 08 43.3**	**-0.1**
	14nm,0.8s								
KURBB	**Kurchatov Arra**	**70.33**	**331**	P		P	**P**	**18 08 43.8**	**-0.5**
	0.3nm,0.2s,baz=141,slow=4.5,SNR=2.9								
KURK	**Kurchatov**	**70.34**	**332**	P		P	**P**	**18 08 43.8**	**-0.6**
MAW	**Mawson**	**71.46**	**201**	LR		LR		18 38 01.2	
	comp=Z,98nm,18.2s,baz=280,slow=34								
VNDA	**Vanda**	**72.08**	**172**	LR		LR		18 41 08.1	
	comp=Z,94nm,18.1s,baz=318,slow=36								
BVAR	**Borovoye Array**	**75.77**	**330**	P		P	**P**	**18 09 15.0**	**-1.5**
	0.2nm,0.5s,baz=123,slow=5.3,SNR=3.3								
TIXI	**Tiksi**	**79.80**	**2**	*e*P		P	**P**	**18 09 38.4**	**-0.2**
	1.2nm,0.3s								
BRTR	**Keskin Array B**	**95.05**	**309**	LR		LR		19 00 58.4	
	comp=Z,37nm,18.4s,baz=116,slow=40								

*ISCJB **24** 18:07:42.9±1.1,7.°60N±0.°04×91.°78E±0.°03,h10km±7km, mb4.5/49,MS3.6/9,Error ellipse: s-maj=6.9km s-min=4.3km az=33.3*
*BJI **24** 18:07:45.3,7.°59N×91.°84E,h27km,mb4.6/28,mB4.8/25, Ms4.3/16,Ms7 4.2/9*
*MOS **24** 18:07:45.8±1.3,7.°57N×91.°86E,h33km,mb4.6/29,Error ellipse: s-maj=11.8km s-min=6.8km az=120.1*
*NEIC **24** 18:07:46.8±0.3,7.°62N×91.°98E,mb5.0/12,Error ellipse: s-maj=8.8km s-min=5.1km az=225.0*
*DJA **24** 18:07:47.4±0.4,8.°N±3.°×9.°2E±.°,h10km,M4.6/17,mb4.6/17, mB5.2/2,Mw(mB)4.6/2*
*IDC **24** 18:07:47.1±0.5,7.°67N×91.°84E,h25km±2km,mb4.1/24, mb1 4.2/26,mb1mx4.1/34,mbtmp4.3/26,ML4.4/2,MS3.6/7, Ms1 3.6/7,ms1mx3.2/33,Error ellipse: s-maj=17.6km s-min=11.3km az=55.0*

ISC 24 18:07:47.0±0.4,**7.°57N**±0.°04×**91.°86E**±0.°04,**h27**km±1km, **h27**km:**pP-P,n191,**σ1§**64**/234,**mb4.5**/49,**MS3.5**/9,**1C-3D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**2.12**	**105**	*e*P		P	**Pn**	**18 08 21.1**	**+0.4**
PBA	**Port Blair**	**4.15**	**12**	*e*P		P	Pn	18 08 47.6	-1.0
LHMI	**Lhok Sumawe**	**5.56**	**114**	*e*Pn		P	**Pn**	**18 09 06.0**	**-2.1**
LHMI				*e*S	n	S	**Sn**	**18 10 05.5**	**-5.6**
DGPR	**DIGLIPUR**	**5.67**	**11**	*e*P		P	**Pn**	**18 09 08.9**	**-0.6**
SURT	**Suratani**	**7.00**	**78**	P		P	Pb	18 09 38.5	-9.4
	26nm,1.2s								
TRTT	**Trang**	**7.76**	**88**	P		P	Pb	18 09 52.5	-8.5
	35nm,1.3s								
GSI	**Gunungsitoli**	**8.43**	**137**	P		P	**Pn**	**18 09 46.6**	**-0.9**
	31nm,1.4s								
GSI				S		S	**Sn**	**18 11 18.2**	**-3.7**
	31nm,1.4s								
GSI	**Gunungsitoli**	**8.43**	**137**	*e*Pn		P	**Pn**	**18 09 45.5**	**-2.0**
GSI				*e*Sn		S	**Sn**	**18 11 18.4**	**-3.5**
PSI	**Prapat**	**8.48**	**124**	Pn		P	**Pn**	**18 09 47.4**	**-0.8**
	1.3nm,0.3s,baz=324,slow=10,SNR=13								
PSI				Sn		S	**Sn**	**18 11 26.4**	**+3.3**
	2.6nm,0.3s,baz=15,slow=18,SNR=4.1								
PSI	**Prapat**	**8.48**	**124**	P		P	**Pn**	**18 09 47.4**	**-0.8**
PSI								18 11 26.5	
PSI					pmax	pmax			
	comp=Z,1.0nm,0.3s								
PSI					smax	smax			
	comp=N,3.0nm,0.3s								
PSI	**Prapat**	**8.48**	**124**	*e*Pn		P	**Pn**	**18 09 47.3**	**-1.0**
PSI				*e*Sn		S	**Sn**	**18 11 21.0**	**-2.2**
PSI				Sn		S	**Sn**	**18 11 26.4**	**+3.3**
KULM	**Kulim**	**9.02**	**104**	*e*Pn		P	**Pn**	**18 09 54.2**	**-1.3**
KULM				*e*Sn		S	Sn	18 11 28.1	-6.2
IPM	**Ipoh**	**9.61**	**108**	*e*Pn		P	Pn	18 10 00.4	-3.3
IPM				*e*Sn		S	**Sn**	**18 11 47.3**	**-3.7**
PBSI	**Pulau Batu**	**9.91**	**140**	P		P	Pn	18 10 10.6	+2.8
	comp=N,87nm,1.8s								
MNSI	**Mandailing Nat**	**10.22**	**131**	P		P	Pn	18 10 16.0	+4.0
	comp=N,22nm,0.8s								
PALK	**Pallekele**	**11.07**	**269**	Pn		P	**Pn**	**18 10 24.6**	**+0.8**
	comp=N,276nm,0.5s,SNR=11								
PALK	**Pallekele**	**11.07**	**269**	Pn		P	**Pn**	**18 10 22.9**	**-0.8**
	comp=N,6.5nm,0.3s,baz=87,slow=13,SNR=38								
PALK				Sn		S	Sn	18 12 13.5	-13
	comp=N,6.7nm,0.3s,baz=180,slow=20,SNR=8.7								
PALK				LR		LR		18 14 13.5	
	comp=N,410nm,19.5s,baz=87,slow=35								
PALK	**Pallekele**	**11.07**	**269**	*e*P		P	**Pn**	**18 10 22.4**	**-1.4**
PALK	**Pallekele**	**11.07**	**269**	*e*Pn		P	**Pn**	**18 10 22.4**	**-1.4**
PALK				*e*Sn		S	Sn	18 12 14.0	-13
MHMT	**Maesarieng**	**12.09**	**29**	P		P	P	18 10 54.7	+4.6
PBKT	**Sadao Pong**	**12.62**	**44**	P		P	**P**	**18 10 53.2**	**-2.8**
	comp=N,12nm,0.8s								
CMAR	**Chiang Mai Arr**	**12.83**	**32**	Pn		P	**Pn**	**18 10 47.0**	**-0.8**
	comp=N,0.3nm,0.3s,baz=234,slow=15,SNR=10								
CMAR	**Chiang Mai Arr**	**12.83**	**32**	*i* P		P	**Pn**	**18 10 48.7**	**+0.9**
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
VIS	**Vishakhapatnam**	**13.08**	**321**	*e*P		P	**Pn**	**18 10 49.0**	**-2.1**
VIS					AMB	AMB		18 10 55.7	
	comp=Z,26nm,1.4s								
VIS				*i* x		x		18 12 46.9	
CHTO	**Chiang Mai**	**13.13**	**31**	P		P	**Pn**	**18 10 53.9**	**+2.1**
	comp=Z,29nm,1.6s								
CHTO	**Chiang Mai**	**13.13**	**31**	*e*Pn		P	**Pn**	**18 10 50.3**	**-1.6**
CMMT	**Chiang Mai**	**13.13**	**31**	P		P	**Pn**	**18 10 53.8**	**+1.9**
	comp=Z,16nm,1.0s								
UTTA	**Uttaradit**	**13.19**	**39**	P		P	P	18 11 06.9	+4.5
LAMP	**Lampang**	**13.26**	**34**	P		P	**P**	**18 11 05.1**	**+2.0**
CHLP	**Challavanipeta**	**13.26**	**326**	*e*Pn		Pn	Pn	18 10 50.1	-3.5
CHLP					IAmb	IAmb		18 10 59.8	
	comp=Z,19nm,0.8s								
CHLP				Sn		Sn	Sn	18 13 04.8	-15
CHLP				IVMs_BB		IVMs_BB		18 17 29.7	
	comp=Z,383nm,4.1s								
SKHT	**Srikalahasti**	**13.42**	**298**	*e*Pn		P	**Pn**	**18 10 54.0**	**-1.9**
SKHT					IAmb	IAmb		18 11 09.4	
	comp=Z,26nm,0.8s								
SKHT				Sn		Sn	Sn	18 13 09.0	-15
SKHT				IVMs_BB		IVMs_BB		18 18 14.5	
	comp=Z,430nm,4.9s								
PVM	**Polavaram**	**13.87**	**315**	*e*Pn		P	**Pn**	**18 10 59.7**	**-2.3**
PVM					IAmb	IAmb		18 11 11.7	
	comp=Z,6.5nm,0.6s								
PVM				Sn		Sn	Sn	18 13 18.3	-17
PVM				IVMs_BB		IVMs_BB		18 20 40.9	
	comp=Z,254nm,4.4s								
ADKI	**Addanki**	**14.25**	**306**	*e*Pn		Pn	**Pn**	**18 11 05.2**	**-1.9**
ADKI					IAmb	IAmb		18 11 13.4	
	comp=Z,16nm,0.6s								
ADKI				Sn		Sn	Sn	18 13 26.9	-18
RCLA	**Racherla**	**14.87**	**303**	*e*Pn		Pn	**Pn**	**18 11 13.0**	**-2.7**
RCLA					IAmb	IAmb		18 11 22.6	
	comp=Z,46nm,1.4s								
RCLA				Sn		Sn	Sn	18 13 42.3	-17
RCLA				IVMs_BB		IVMs_BB		18 18 37.5	
	comp=Z,423nm,3.3s								
JMBI	**JAMBI**	**14.89**	**127**	P		P	P	18 11 26.4	+5.1
CRAI	**Chiangrai**	**15.05**	**32**	P		P	**Pn**	**18 11 18.9**	**+1.0**
	comp=Z,11nm,0.8s								
SKNT	**Sakolnakorn**	**15.08**	**51**	P		P	**P**	**18 11 23.0**	**-0.4**
	comp=Z,18nm,1.2s								
NJS	**Nagarjunasagar**	**15.18**	**307**	*e*P		P	**Pn**	**18 11 17.1**	**-2.5**
NJS					IAmb	IAmb		18 11 33.9	
	comp=Z,17nm,0.9s								
NJS				Sn		Sn	Sn	18 13 50.6	-16
NJS				IVMs_BB		IVMs_BB		18 23 0.0	
	comp=Z,417nm,4.0s								
SRLM	**Srisailam**	**15.26**	**305**	*e*Pn		P	**Pn**	**18 11 19.5**	**-1.3**
SRLM					IAmb	IAmb		18 11 34.8	
	comp=Z,26nm,1.0s								
SRLM				Sn		Sn	Sn	18 13 52.4	-17
SRLM				IVMs_BB		IVMs_BB		18 18 12.2	
	comp=Z,486nm,3.6s								
UBPT	**Khong Chiam**	**15.38**	**59**	P		P	**P**	**18 11 27.5**	**+0.8**
URV	**Uravakonda**	**16.08**	**298**	*e*Pn		Pn	**Pn**	**18 11 29.6**	**-1.9**
URV					IAmb	IAmb		18 11 44.5	
	comp=Z,79nm,1.7s								
URV				Sn		Sn	Sn	18 14 14.2	-15
URV				IVMs_BB		IVMs_BB		18 17 22.2	
	comp=Z,541nm,3.8s								
LHSI	**Lahat**	**16.23**	**134**	P		P	**P**	**18 11 38.1**	**+1.9**
HYB	**Hyderabad**	**16.26**	**308**	*i* P		P		18 11 44.0	+7.5
HYB				*e*S		S	**P**	**18 14 45.0**	**-0.6**
HYB	**Hyderabad**	**16.26**	**308**	*e*P		P	**Pn**	**18 11 31.2**	**-2.4**
HYB					AMB	AMB		18 11 46.7	
	comp=Z,37nm,1.8s								
HYBB	**Hyderabad (bro**	**16.26**	**308**	*e*P		P	**P**	**18 11 35.6**	**-1.0**
HYBB					IAmb	IAmb		18 11 45.5	
	comp=Z,33nm,1.0s								
HYBB				Sn		Sn	**Sn**	**18 14 29.8**	**-3.6**
HYBB				IVMs_BB		IVMs_BB		18 19 52.4	
	comp=Z,586nm,4.0s								
RPR	**Rampur**	**16.59**	**314**	*e*Pn		Pn	**Pn**	**18 11 37.0**	**-0.9**
RPR					IAmb	IAmb		18 11 42.0	
	comp=Z,111nm,2.0s								
RPR				IVMs_BB		IVMs_BB		18 19 16.2	
	comp=Z,553nm,4.3s								
BOK	**Bokaro**	**17.12**	**341**	*e*P		Pn	**Pn**	**18 11 44.7**	**+0.1**
BOK				AMB		AMB		18 11 55.0	
	comp=Z,29nm,0.1s								
MDSI	**Maura Dua**	**17.16**	**134**	P		P	**Pn**	**18 11 43.0**	**-2.0**
	comp=Z,45nm,1.2s								
SRSP	**Sriramsagar**	**17.32**	**312**	*e*Pn		Pn	**Pn**	**18 11 44.5**	**-2.6**
SRSP					IAmb	IAmb		18 11 57.4	
	comp=Z,20nm,0.7s								
SRSP				Sn		Sn	Sn	18 14 47.0	-12
SRSP				IVMs_BB		IVMs_BB		18 18 16.7	
	comp=Z,515nm,3.7s								
LWLI	**Liwa**	**17.45**	**135**	P		P	**P**	**18 11 52.8**	**+3.0**
	comp=Z,66nm,0.8s								
KLSI		**17.70**	**133**	P		P	**P**	**18 11 54.6**	**+2.2**
	comp=Z,100nm,0.8s								
SHL	**Shillong**	**17.90**	**0**	*e*P		P	**P**	**18 11 55.4**	**+0.6**
KASI	**Kota Agung**	**18.11**	**136**	P		P	**P**	**18 11 58.6**	**+1.6**
KLRI	**Killari**	**18.16**	**307**	*e*Pn		Pn	**Pn**	**18 11 54.6**	**-2.9**
KLRI					IAmb	IAmb		18 12 06.8	
	comp=Z,39nm,1.3s								
KLRI				Sn		Sn	Sn	18 14 58.4	-21
KLRI				IVMs_BB		IVMs_BB		18 20 52.3	
	comp=Z,934nm,3.9s								
AKL	**Akola**	**19.41**	**314**	*e*P		P	**P**	**18 12 11.5**	**+0.2**
AKL					AMB	AMB		18 12 20.1	
	comp=Z,37nm,1.0s								
KMI	**Kunming**	**20.32**	**30**	P		Pn	Pn	18 12 24.8	+1.3
KMI					PMZ				
	comp=Z,20nm,1.4s								
QIZ	**Qiongzhong**	**20.85**	**55**	P		P	**P**	**18 12 25.6**	**-1.4**
QIZ				S		S	**S**	**18 16 16.3**	**-2.1**
BHPL	**Bhopal**	**20.86**	**320**	*e*P		P	**P**	**18 12 25.9**	**-1.1**
LEM	**Lembang**	**21.25**	**132**	LR		LR		18 21 12.0	
	comp=Z,226nm,20.5s,baz=296,slow=38								
GYA	**Guiyang**	**23.48**	**35**	P		P	**P**	**18 12 53.8**	**-0.9**
GYA				pP		pP	**pP**	**18 13 01.4**	**-1.1**
GYA				PP		PnPn	**PnPn**	**18 13 26.0**	**+4.2**
GYA				S		S	**S**	**18 17 01.6**	**-5.3**
GYA				sS		sS		18 17 14.3	-5.9
GYA				SS		SnSn	**SnSn**	**18 17 50.9**	**+6.9**
GYA				PMZ					
	comp=Z,20nm,0.8s								
GYA				PMZ					
	comp=Z,130nm,4.9s								
GYA				LN					
	comp=Z,660nm,16.0s								
GYA				LE					
	comp=Z,550nm,17.0s								
GYA				LZ					
	comp=Z,620nm,16.4s								
H08S3	**Diego Garcia H**	**24.52**	**232**	T		T		18 39 18.8	
	baz=52,slow=75,SNR=30								
H08S2	**Diego Garcia H**	**24.52**	**232**	T		T		18 39 27.0	
	baz=52,slow=75,SNR=39								
H08S1	**Diego Garcia H**	**24.54**	**232**	T		T		18 39 28.4	
	baz=52,slow=75,SNR=46								
NDI	**New Delhi**	**25.14**	**328**	*e*P		P	**P**	**18 13 11.0**	**+1.0**
CD2	**Chengdu**	**25.75**	**24**	*e*P		P	**P**	**18 13 15.0**	**-0.6**
CD2				pP		pP	**pP**	**18 13 22.3**	**-1.3**
CD2				sP		sP	**sP**	**18 13 25.5**	**-1.5**
CD2				PcP		PcP	**PcP**	**18 16 44.3**	**-0.9**
CD2				S		S	**S**	**18 17 43.3**	**+0.2**
CD2				sS		sS	**sS**	**18 17 55.8**	**-0.6**
CD2				PMZ					
	comp=Z,20nm,0.5s								
CD2				PMZ					
	comp=Z,190nm,5.2s								
CD2				LE					
	comp=Z,180nm,10.4s								
DDI	**Dehra Dun**	**26.08**	**332**	*e*P		P	**P**	**18 13 18.8

comp=Z,3.2nm,0.7s,baz=194,slow=8.6,SNR=18
SONM PcP **PcP** **18 17 30.0 -0.9**
comp=Z,0.5nm,0.5s,baz=198,slow=4.5,SNR=2.9
SONM LR LR 18 32 49.1
comp=Z,87nm,18.1s,baz=190,slow=36
SONM Songino Array 41.99 15 P **P** **18 15 35.3 -0.7**
SONM 18 17 30.0
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM MLR MLR
comp=Z,87nm,18.1s
SONA1 Songino Array 42.00 15 *eP* **P** **18 15 35.3 -0.8**
GEYT Alibeck 42.95 320 P **P** **18 15 44.9 +1.0**
comp=Z,5.2nm,0.9s,baz=146,slow=8.2,SNR=11
GEYT pP **pP** **18 15 52.9 +0.8**
comp=Z,27nm,0.9s,baz=126,slow=7.3,SNR=21
ZAK Zakamensk 43.73 11 *eP* **P** **18 15 50.0 0.0**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
JNU Nakatsue 44.15 49 P **P** **18 15 55.1 +1.6**
comp=Z,3.9nm,1.0s,baz=129,slow=6.5,SNR=2.7
KSAR Wonju Array Be 44.16 42 P **P** **18 15 52.1 -1.4**
KSRS Korea Array 44.19 42 P **P** **18 15 52.1 -1.6**
comp=Z,0.2nm,0.3s,baz=224,slow=9.3,SNR=3.4
KSRS LR LR 18 35 29.2
comp=Z,58nm,18.3s,baz=220,slow=38
KURBB Kurchatov Arra 44.33 348 P **P** **18 15 54.6 0.0**
comp=Z,5.3nm,0.7s,baz=170,slow=6.8,SNR=30
KURBB pP **pP** **18 16 02.5 -0.4**
comp=Z,13nm,0.9s,baz=169,slow=6.7,SNR=17
KURBB PcP **PP** **18 17 38.4 +0.1**
comp=Z,2.0nm,0.7s,baz=161,slow=2.7,SNR=6.1
KURK Kurchatov 44.40 348 P **P** **18 15 54.6 -0.6**
KURK *PP **pP** **18 16 02.5 -1.0**
KURK 18 17 38.4
KURK pmax pmax
comp=Z,5.0nm,0.7s
KURK pmax pmax
comp=Z,13nm,0.9s
KURK pmax pmax
comp=Z,2.0nm,0.7s
KURK Kurchatov 44.40 348 *eP* **P** **18 15 55.1 -0.1**
comp=Z,33nm,1.1s
KURK pP **pP** **18 16 02.5 -1.0**
KURK PcP **PcP** **18 17 38.4 -0.3**
CN2 Changchun 46.51 34 *eP* P 18 16 15.3 +3.3
ZAA0 Zalesovo Array 46.60 354 *eP* **P** **18 16 10.9 -1.7**
ZALV Zalesovo Beam 46.60 354 P **P** **18 16 12.2 -0.3**
comp=Z,3.9nm,0.8s,baz=183,slow=8.7,SNR=11
ZALV pP **pP** **18 16 21.2 +0.3**
comp=Z,9.4nm,0.9s,baz=169,slow=8.2,SNR=11
ZALV Zalesovo Beam 46.60 354 *i P* **P** **18 16 15.3 +2.8**
ZALV pmax pmax
comp=Z,4.0nm,0.8s
NWAO Narrogin (SRO) 46.95 150 P **P** **18 16 17.0 +1.3**
comp=Z,5.7nm,0.7s,baz=328,slow=8.8,SNR=9.3
NWAO Narrogin (SRO) 46.95 150 P **P** **18 16 17.0 +1.3**
NWAO pmax pmax
comp=Z,6.0nm,0.7s
RAYN Ar Rayn 47.16 295 *eP* **P** **18 16 18.4 +0.8**
comp=Z,6.7nm,0.8s
RAYN *e* 18 16 26.8
H01W3 Cape Leeuwin H 47.18 155 T T 19 07 17.0
baz=330
H01W2 Cape Leeuwin H 47.19 155 T T 19 07 17.5
baz=330
H01W1 Cape Leeuwin H 47.19 155 T T 19 07 18.5
baz=330
NVS Novosibirsk 47.65 353 *eP* **P** **18 16 19.8 -0.9**
BVAR Borovoye Array 48.58 343 P **P** **18 16 27.5 -0.5**
comp=Z,4.6nm,0.8s,baz=149,slow=9.4,SNR=20
BVAR Borovoye Array 48.58 343 P **P** **18 16 27.5 -0.5**
BVAR pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 48.64 343 P **P** **18 16 28.9 +0.4**
comp=Z,81nm,1.1s,SNR=6.6
BRVK Borovoye 48.64 343 *d i P* **P** **18 16 27.8 -0.7**
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK Borovoye 48.64 343 *eP* **P** **18 16 27.7 -0.7**
comp=Z,13nm,0.9s
ABKAR Akbulak array 49.44 333 *eP* **P** **18 16 34.5 -0.2**
WRA Warramunga Arr 49.94 124 P **P** **18 16 39.1 +0.1**
comp=Z,6.9nm,0.8s,baz=300,slow=9.1,SNR=63
WRA PcP **PcP** **18 17 59.7 +0.7**
comp=Z,2.4nm,0.6s,baz=308,slow=2.9,SNR=11
WRA Warramunga Arr 49.94 124 P **P** **18 16 39.1 +0.1**
WRA 18 17 59.7
WRA pmax pmax
comp=Z,7.0nm,0.8s
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRAB Tennant Creek 49.95 124⇑ *i P* **P** **18 16 38.8 -0.2**
WRAB pmax pmax
comp=Z,31nm,1.1s
WRAB Tennant Creek 49.95 124 *eP* **P** **18 16 38.7 -0.2**
comp=Z,13nm,0.9s
MJAR Matsushiro Arr 51.05 49 PcP **PcP** **18 18 02.5 -0.3**
comp=Z,2.6nm,0.7s,baz=238,slow=5.0,SNR=8.8
MJAR LR LR 18 40 12.4
comp=Z,57nm,18.3s,baz=225,slow=38
AKTO Aktyubinsk 51.16 333 P **P** **18 16 45.7 -2.0**
comp=Z,2.1nm,1.0s,baz=194,slow=4.2,SNR=4.4
AKTO Aktyubinsk 51.16 333 P **P** **18 16 45.7 -2.0**
AKTO pmax pmax
comp=Z,2.0nm,1.0s
ASAR Alice Springs 51.48 128 P **P** **18 16 50.7 +0.2**
comp=Z,3.1nm,0.7s,baz=300,slow=7.8,SNR=52
ASAR PcP **PcP** **18 18 05.5 +0.8**
comp=Z,3.2nm,0.6s,baz=305,slow=3.7,SNR=18
ASAR Alice Springs 51.48 128 P **P** **18 16 50.7 +0.2**
ASAR 18 18 05.5
ASAR pmax pmax
comp=Z,3.0nm,0.7s
ASAR pmax pmax
comp=Z,3.0nm,0.6s
GUMO Guam 52.37 79 LR LR 18 40 44.4
comp=Z,26nm,18.0s,baz=136,slow=38
BOD Bodaibo 52.99 15 *eP* **P** **18 17 01.0 -0.1**
BOD pmax pmax
comp=Z,11nm,1.2s
GNI Garni 53.05 315 *eP* **P** **18 17 02.5 +0.4**
GNI pmax pmax
comp=Z,9.0nm,1.1s
SVE Sverdlovsk 54.88 340 *eP* **P** **18 17 14.7 -0.2**
SVE pmax pmax
comp=Z,54nm,0.9s
ARU Arti 55.31 338 *d i P* **P** **18 17 17.5 -0.6**
ARU 18 18 23.4
ARU 18 18 24.8
ARU S **S** **18 25 02.2 +1.9**
ARU SS **SS** **18 28 46.1 +1.2**
ARU pmax pmax
comp=Z,14nm,1.2s
ARU Arti 55.31 338 *eP* **P** **18 17 17.3 -0.8**
comp=Z,19nm,1.0s
KBZ Khabaz 55.81 319 P **P** **18 17 21.7 -0.2**
comp=Z,1.7nm,0.7s,baz=130,slow=8.4,SNR=3.0
KBZ Khabaz 55.81 319 P **P** **18 17 21.7 -0.2**
KBZ pmax pmax
comp=Z,2.0nm,0.7s
KIV Kislovodsk 56.04 319 *eP* **P** **18 17 22.7 -1.0**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,36nm,16.0s
BRTR Keskin Array B 60.93 311 P **P** **18 17 56.5 -1.5**
comp=Z,0.7nm,0.6s,baz=107,slow=4.8,SNR=3.7
BRTR pP **pP** **18 18 04.6 -1.9**
comp=Z,3.1nm,0.8s,baz=106,slow=6.4,SNR=10
BRTR Keskin Array B 60.93 311 *i P* **P** **18 18 00.1 +2.2**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
YAK Yakutsk 61.01 19 *eP* **P** **18 17 56.0 -1.9**
comp=Z,8.0nm,0.7s
STKA Stephens Creek 61.55 132 P **P** **18 18 02.8 +0.8**
comp=Z,8.4nm,0.6s,baz=304,slow=6.1,SNR=19
STKA Stephens Creek 61.55 132 P **P** **18 18 02.8 +0.8**
STKA pmax pmax
comp=Z,8.0nm,0.6s
STKA Stephens Creek 61.55 132 *eP* **P** **18 18 02.0 0.0**
comp=Z,18nm,2.1s
MOS Moscow 64.18 329 *eP* P 18 18 25.0 +5.9
OBN Obninsk 64.44 328 *eP* **P** **18 18 20.8 0.0**
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN MLR MLR
comp=Z,62nm,24.0s
TIXI Tiksi 67.98 12 *eP* **P** **18 18 42.5 -0.7**
comp=Z,13nm,0.7s
TMCR Tamitsa 68.04 338 *eP* **P** **18 18 43.1 -0.6**
TMCR pmax pmax
comp=Z,25nm,1.5s
PETK Petropavlovsk- 69.57 36 LR LR 18 50 33.9
comp=Z,27nm,18.5s,baz=249,slow=37
KOLS Kolonicke sedl 70.95 319 *eP* **P** **18 19 02.8 +0.7**
KOLS pmax pmax
comp=Z,4.0nm,1.5s
KOLS Kolonicke sedl 70.95 319 *eP* **P** **18 19 02.8 +0.7**
KOLS *ePP* **PP** **18 21 39.0 -0.5**
APA Apatity 71.35 340⇓ *i P* P 18 19 12.0 +7.9
APA *eS* S 18 28 28.0 +8.0
APA pmax pmax
comp=Z,13nm,1.0s
APA MLR MLR
comp=Z,200nm,20.0s
STHS Stebnicka Huta 71.70 320 *eP* **P** **18 19 07.7 +1.1**
STHS pmax pmax
comp=Z,1.0nm,0.8s
STHS Stebnicka Huta 71.70 320 *eP* **P** **18 19 07.7 +1.1**
FINES FINESS Array B 71.93 333 P **P** **18 19 06.9 -0.8**
comp=Z,2.6nm,0.7s,baz=120,slow=7.5,SNR=14
FINES FINESS Array B 71.93 333 *i P* **P** **18 19 06.9 -0.8**
FINES pmax pmax
comp=Z,3.0nm,0.7s
KECS Kecovo 72.04 318 *eP* **P** **18 19 09.8 +1.1**
KECS pmax pmax
comp=Z,1.0nm,0.8s
KECS Kecovo 72.04 318 *eP* **P** **18 19 09.8 +1.1**
BOSA Boshof 73.52 237 P **P** **18 19 18.6 +0.7**
comp=Z,1.2nm,0.6s,baz=84,slow=3.5,SNR=6.2
BOSA Boshof 73.52 237 P **P** **18 19 18.6 +0.7**
BOSA pmax pmax
comp=Z,1.0nm,0.6s
KRLC Kraliky 74.66 320 *ep*P pP 18 19 32.3 -0.6
KRLC Kraliky 74.66 320 *eP* pP 18 19 32.3 -0.6
ARCES ARCESS Array B 74.79 340 P **P** **18 19 23.9 -0.5**
comp=Z,2.5nm,0.8s,baz=99,slow=6.4,SNR=7.9
ARCES pP **pP** **18 19 32.0 -1.2**
comp=Z,5.3nm,0.9s,baz=93,slow=4.5,SNR=3.8
ARCES ARCESS Array B 74.79 340 P **P** **18 19 23.9 -0.5**
ARCES *PP **pP** **18 19 32.0 -1.2**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES pmax pmax
comp=Z,5.0nm,1.0s
DPC Dobruska-Polom 74.99 320 *eP* **P** **18 19 26.5 +0.5**
DPC *ep*P **pP** **18 19 34.4 -0.4**
DPC *es*P **sP** **18 19 38.6 +0.6**
DPC Dobruska-Polom 74.99 320 *eP* **P** **18 19 26.5 +0.5**
DPC *e* 18 19 34.4
DPC *e* 18 19 38.6
UPC Upice 75.20 320 *ep*P pP 18 19 35.7 -0.2
UPC Upice 75.20 320 *eP* pP 18 19 35.7 -0.2
PRU Pruhonice 76.09 320 *eP* **P** **18 19 32.7 +0.4**
PRU *ep*P **pP** **18 19 40.4 -0.6**
PRU Pruhonice 76.09 320 *eP* **P** **18 19 32.7 +0.4**
PRU *e* 18 19 40.4
BRG Berggiesshubel 76.55 320 *eP* P 18 19 43.6 +8.8
comp=Z,8.7nm,1.3s
BRG Berggiesshubel 76.55 320 *eP* **pP** **18 19 43.6 0.0**
BRG pmax pmax
comp=Z,9.0nm,1.3s
GEC2 GERESS Array S 76.55 318 *eP* **P** **18 19 35.4 +0.3**
GEC2 *e* 18 19 43.6
GERES GERESS Array B 76.55 318 P **P** **18 19 35.0 0.0**
comp=Z,1.2nm,0.8s,baz=77,slow=5.9,SNR=12
GERES pP **pP** **18 19 42.8 -1.0**
comp=Z,2.5nm,0.8s,baz=90,slow=5.9,SNR=12
GERES GERESS Array B 76.55 318 P **P** **18 19 35.1 0.0**
GERES *PP **pP** **18 19 42.8 -1.0**
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES pmax pmax
comp=Z,3.0nm,0.8s
KHC Kasperske Hory 76.65 319 *eP* **P** **18 19 35.4 -0.1**
KHC *ep*P **pP** **18 19 43.2 -1.1**
KHC *es*P **sP** **18 19 47.9 +0.4**
KHC Kasperske Hory 76.65 319 *eP* **P** **18 19 35.4 -0.1**
KHC *e* 18 19 43.2
KHC *e* 18 19 47.9
CLL Collm 77.17 321 *i P* **P** **18 19 37.9 -0.4**
comp=Z,7.0nm,1.4s
CLL *i* pP **pP** **18 19 45.7 -1.4**
CLL Collm 77.17 321 P **P** **18 19 37.9 -0.4**
CLL *i *PP **pP** **18 19 45.7 -1.4**
CLL pmax pmax
comp=Z,7.0nm,1.4s
BILL Bilibino 77.20 22 *eP* **P** **18 19 38.5 +0.3**
BILL pmax pmax
comp=Z,2.0nm,1.2s
HFS Hagfors 77.58 330 P **P** **18 19 39.5 -1.0**
comp=Z,1.6nm,0.6s,baz=100,slow=7.9,SNR=8.5
HFS pP **pP** **18 19 47.8 -1.5**
comp=Z,1.6nm,0.6s,baz=110,slow=6.6,SNR=3.4
HFS Hagfors 77.58 330 P **P** **18 19 39.5 -1.0**
HFS *PP **pP** **18 19 47.8 -1.5**
HFS pmax pmax
comp=Z,2.0nm,0.6s
HFS pmax pmax
comp=Z,2.0nm,0.6s
NB2 NORSAR Subarra 78.89 331 P **P** **18 19 46.7 -1.1**
comp=Z,5.8nm,1.1s,baz=94,slow=5.3
NOA NORSAR Array B 78.89 331 P **P** **18 19 46.4 -1.4**
comp=Z,1.2nm,0.9s,baz=92,slow=6.0,SNR=3.3
NOA pP **PcP** **18 19 54.7 -1.7**
comp=Z,3.0nm,0.9s,baz=95,slow=5.7,SNR=7.8
NOA NORSAR Array B 78.89 331 P **P** **18 19 46.4 -1.4**
NOA *PP **PcP** **18 19 54.7 -1.7**
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA pmax pmax
comp=Z,3.0nm,0.9s
DAVOX Davos/Dischmat 79.04 316 P **P** **18 19 48.7 -0.4**
comp=Z,2.3nm,0.7s,baz=160,slow=5.4,SNR=3.7
DAVOX pP **PcP** **18 19 56.9 -0.7**
comp=Z,3.7nm,0.8s,baz=169,slow=3.0,SNR=3.9
DAVOX Davos/Dischmat 79.04 316 P **P** **18 19 48.7 -0.4**
DAVOX *PP **PcP** **18 19 56.9 -0.7**
DAVOX pmax pmax
comp=Z,2.0nm,0.7s
DAVOX pmax pmax
comp=Z,4.0nm,0.9s
SPITS Spitsbergen Ar 79.67 348 P **P** **18 19 50.6 -1.1**
comp=Z,5.3nm,0.8s,baz=142,slow=7.3,SNR=3.9
SPITS Spitsbergen Ar 79.67 348 P **P** **18 19 50.6 -1.1**
SPITS pmax pmax
comp=Z,5.0nm,0.8s
SENIN Lac Senin/Sane 80.83 316 *eP* **P** **18 19 59.4 +0.6**
TAM Tamanrasset 83.75 292 *eP* **P** **18 20 16.2 +1.7**
comp=Z,3.2nm,1.0s
TORD Torodi Ar. Bea 88.47 283 P **P** **18 20 38.0 +0.3**
comp=Z,0.5nm,1.0s,baz=90,slow=4.3,SNR=3.0
TORD pP **pP** **18 20 46.7 +0.1**
comp=Z,0.7nm,0.9s,baz=105,slow=3.7,SNR=3.4
ESDC Sonseca Array 89.68 310 P **P** **18 20 44.3 +1.3**
comp=Z,0.3nm,0.4s,baz=73,slow=5.5,SNR=5.6
ESDC pP **pP** **18 20 52.0 +0.1**
comp=Z,0.6nm,0.4s,baz=70,slow=4.3,SNR=4.1
SHEL Horse Pasture 99.32 255 *i* P **Pdif** **18 21 24.8 -2.7**
NVAR Mina Array Bea 126.31 29 PKP **PKPdf** **18 26 49.0 +0.9**
comp=Z,1.0nm,0.7s,baz=336,slow=2.0,SNR=9.1
BDFB Brasilia 139.94 255 PKP **PKPdf** **18 27 13.9 -0.1**
comp=Z,4.2nm,0.6s,baz=219,slow=1.6,SNR=3.7
BDFB Brasilia 139.94 255 PKIKP **PKPdf** **18 27 13.9 -0.1**
BDFB pmax pmax
comp=Z,4.0nm,0.6s
TXAR Lajitas Array 140.38 22 PKP **PKPdf** **18 27 15.7 +1.1**
comp=Z,0.2nm,0.5s,baz=83,slow=0.7,SNR=5.1
CPUP Villa Florida 145.27 234 PKPbc **PKPdf** **18 27 23.6 +0.6**
comp=Z,8.8nm,1.0s,baz=108,slow=2.7,SNR=9.0
CPUP Villa Florida 145.27 234 PKIKP **PKPdf** **18 27 23.6 +0.6**
CPUP pmax pmax
comp=Z,9.0nm,1.0s

IDC 24 18:44:23.8±1.6,**13°.31N**×**92°.16E**,**h0**km,**mb3.7**/4,
mb1 3.8/5,**mb1mx3.4**/40,**mbtmp3.6**/5,**ML3.3**/1,**MS3.3**/1,
Ms1 3.3/1,**ms1mx2.7**/38,**Error ellipse: s-maj=56.0km**
s-min=23.6km az=59.0,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.29**	**51**	P		Pn	18 46 25.9	+0.5
	0.1nm,0.3s,baz=241,slow=15,SNR=4.8							
H08S3	**Diego Garcia H**	**28.54**	**224**	T		T	19 19 29.5	
	baz=52							
H08S2	**Diego Garcia H**	**28.55**	**224**	T		T	19 19 36.0	
	baz=52,slow=74							
H08S1	**Diego Garcia H**	**28.56**	**224**	T		T	19 19 33.4	
	baz=52,slow=74							
ZALV	**Zalesovo Beam**	**40.96**	**353**	P		P	18 52 07.2	-0.9
	0.6nm,0.6s,baz=179,slow=8.5,SNR=3.3							
JAY	**Jayapura**	**50.66**	**105**	LR		LR	19 14 13.4	
	comp=Z,37nm,21.4s,baz=244,slow=35							
WRA	**Warramunga Arr**	**53.05**	**128**	P		P	18 53 42.7	-0.4
	0.7nm,0.5s,baz=307,slow=8.1,SNR=7.8							
ASAR	**Alice Springs**	**54.92**	**132**	P		P	18 53 56.8	-0.1
	0.3nm,0.4s,baz=308,slow=6.7,SNR=9.5							
FINES	**FINESS Array B**	**67.03**	**332**	P		P	18 55 19.5	+1.0
	0.4nm,0.6s,baz=88,slow=8.6,SNR=3.3							

*IDC **24** 18:47:12.3*±*2.0,0°.62N*×*121°.99E,h0*km*,mb3.7/3,*
mb1 3.9/3,mb1mx3.5/34,mbtmp3.7/3,Error ellipse:
s-maj=203.9km s-min=24.5km az=68.0
*ISCJB **24** 18:47:23.0*±*0.9,0°.6N*±*0°.1*×*121°.73E*±*0°.08,h113*km*,*
mb3.5/3,Error ellipse: s-maj=16.0km s-min=10.8km
az=5.4
*DJA **24** 18:47:27.7*±*1.1,0°N*±*7°*×*12°2E*±*°,h65*km*±12*km*,M3.8/8,*
MLv3.8/3,MLv3.7/8
ISC 24 18:47:24.0±1.1,**0°.6N**±0°.1×**121°.73E**±0°.08,**h113**km,**n9,**
σ**1°33**/10,**mb3.4**/3,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.23**	**114**	P		**Pn**	**18 47 39.1**	**-0.8**
MRSI				S		**Sn**	**18 47 49.9**	**-1.9**
APSI	**Ampana**	**1.48**	**183**	P		**Pn**	**18 47 51.3**	**+0.6**
MPSI	**Mapaga**	**1.84**	**263**	P		**Pn**	**18 47 55.7**	**+0.5**
MPSI				S		**Sn**	**18 48 17.5**	**-1.4**
LUWI	**Luwuk**	**1.92**	**147**	P		Pn	18 48 00.0	+3.9
PCI	**Palu**	**2.39**	**232**	P		**Pn**	**18 48 00.9**	**-1.3**
SPSI	**Sidrap Palu**	**4.91**	**203**	P		**Pn**	**18 48 36.8**	**+1.0**
WRA	**Warramunga Arr**	**23.84**	**149**	P		**P**	**18 52 26.4**	**-0.6**
	4.1nm,0.7s,baz=326,slow=10,SNR=95							
ASAR	**Alice Springs**	**26.84**	**155**	P		**P**	**18 52 54.3**	**+0.1**
	0.6nm,0.6s,baz=339,slow=10,SNR=12							
SONM	**Songino Array**	**48.92**	**346**	P		**P**	**18 56 00.3**	**+1.5**
	0.4nm,0.8s,baz=168,slow=7.4,SNR=2.9							

*ISCJB **24** 18:51:25.1*±*0.7,6°.80S*±*0°.06*×*147°.45E*±*0°.10,h65*km*,*
mb3.9/10,Error ellipse: s-maj=14.0km s-min=7.9km
az=2.4
*IDC **24** 18:51:28.4*±*3.8,6°.67S*×*147°.51E,h78*km*±35*km*,mb3.7/10,*
mb1 3.9/14,mb1mx3.7/33,mbtmp4.1/14,MS2.8/1,
Ms1 2.8/1,ms1mx2.5/24,Error ellipse: s-maj=30.9km
s-min=13.4km az=77.0
ISC 24 18:51:26.6±0.8,**6°.81S**±0°.07×**147°.5E**±0°.1,**h65**km,**n16,**
σ**1°38**/17,**mb3.9**/10,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JAY	**Jayapura**	**8.03**	**302**	P		**Pn**	**18 53 21.4**	**+0.9**
	0.9nm,0.3s,baz=45,slow=1.4,SNR=4.5							
CTA	**Charters Tower**	**13.26**	**185**	P		**P**	**18 54 37.3**	**-2.4**
	0.8nm,0.3s,baz=358,slow=17,SNR=8.8							
CTA				S		**Sn**	**18 56 56.8**	**-1.1**
	0.2nm,0.3s,baz=273,slow=18,SNR=3.0							
SIJI	**Sorong**	**17.26**	**289**	P		**Pn**	**18 55 23.1**	**-0.3**
	1.2nm,0.3s,baz=100,slow=14,SNR=8.5							
WRA	**Warramunga Arr**	**18.29**	**223**	P		**P**	**18 55 35.7**	**+0.4**
	0.5nm,0.3s,baz=50,slow=11,SNR=23							
WRA				S		Sn	18 58 51.9	-7.8
	0.2nm,0.3s,baz=42,slow=24,SNR=4.8							
GUMO	**Guam**	**20.43**	**353**	LR		LR	19 02 26.6	
	comp=Z,23nm,18.5s,baz=112,slow=32							
ASAR	**Alice Springs**	**21.27**	**217**	P		**P**	**18 56 08.9**	**+1.1**
	3.5nm,0.7s,baz=51,slow=8.9,SNR=67							
ASAR				S		**S**	**18 59 59.7**	**-1.1**
	1.2nm,0.5s,baz=34,slow=24,SNR=8.2							
STKA	**Stephens Creek**	**25.55**	**192**	P		**P**	**18 56 50.5**	**+1.1**
	1.4nm,0.3s,baz=5.7,slow=11,SNR=7.3							
URZ	**Urewera**	**41.20**	**144**	P		**P**	**18 59 07.3**	**+2.3**
	4.1nm,0.4s,baz=264,slow=10,SNR=4.2							
JNU	**Nakatsue**	**42.74**	**339**	P		**P**	**18 59 17.6**	**0.0**
	2.9nm,0.7s,baz=180,slow=8.1,SNR=4.6							
MJAR	**Matsushiro Arr**	**43.99**	**349**	P		**P**	**18 59 26.8**	**-0.9**
	0.8nm,0.7s,baz=166,slow=7.3,SNR=3.9							
KSRS	**Korea Array**	**47.69**	**339**	P		**P**	**18 59 55.8**	**-0.9**
	1.0nm,0.6s,baz=159,slow=8.3,SNR=7.1							
CMAR	**Chiang Mai Arr**	**54.09**	**298**	P		**P**	**19 00 46.7**	**+1.5**
	0.5nm,0.5s,baz=126,slow=5.1,SNR=4.5							
VNDA	**Vanda**	**71.08**	**177**	P		**P**	**19 02 38.7**	**+1.3**
	1.2nm,0.6s,baz=328,slow=7.9,SNR=11							
ZALV	**Zalesovo Beam**	**79.97**	**328**	P		**P**	**19 03 27.1**	**-1.6**
	0.4nm,0.5s,baz=122,slow=7.0,SNR=4.4							
ILAR	**Eielson Array**	**86.01**	**23**	P		**P**	**19 03 58.2**	**-1.5**
	0.4nm,0.6s,baz=242,slow=5.8,SNR=4.2							
TORD	**Torodi Ar. Bea**	**145.79**	**283**	PKPbc		**PKPbc**	**19 10 59.7**	**+0.2**
	0.4nm,0.5s,baz=78,slow=3.2,SNR=5.0							

SJA 24 18:52:01.6±0.5,**31°.37S**×**69°.48W**,**h93**km±7km,**MD2.1,**
MW4.9,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AUSP	**Uspallata**	**0.85**	**175**	*eP*		Pn	18 52 21.5	+1.2
AUSP				*eS*		Sn	18 52 36.2	+1.9
RTLL	**Cerro Villicun**	**0.86**	**87**	*eP*		Pn	18 52 21.0	+0.8
RTLL				*eS*		Sn	18 52 35.4	+1.4
AMOG	**MOGNA**	**0.95**	**63**	*eP*		Pn	18 52 22.2	+1.1
AMOG				*eS*		Sn	18 52 36.8	+1.0
CFAA	**Coronel Fontan**	**1.09**	**103**	*eP*		Pn	18 52 23.3	+0.7
CFAA				*eS*		Sn	18 52 39.8	+1.4

*ISCJB **24** 19:12:22.7*±*0.4,32°.22N*±*0°.03×115°.20W*±*0°.03,h24*km*±4*km*,*
Error ellipse: s-maj=4.3km s-min=3.9km az=18.5
*ECX **24** 19:12:24.1*±*0.4,32°.21N×115°.26W,h7*km*,MD3.1,ML3.4*
*NEIC **24** 19:12:24.2,32°.21N×115°.25W,h7*km*,ML3.1(PAS),*
ML3.7(ECX),After ECX.
ISC 24 19:12:22.3±1.1,**32°.21N**±0°.03×**115°.22W**±0°.03,
h17km±10km,**n33,**σ**0°67/44,12C-6D,California-Baja**
California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.22**	**342**⇑	*eP*		**Pb**	**19 12 28.2**	**+0.3**
EMSC	**East Mesa**	**0.57**	**21**⇑	*iP*		**Pb**	**19 12 34.6**	**+0.8**
SGL	**Mount Signal**	**0.61**	**316**⇑	*iP*		**Pb**	**19 12 34.8**	**+0.3**
COA	**Coachella**	**0.66**	**7**⇑	*iP*		**Pb**	**19 12 35.8**	**+0.5**
YMD	**Yuma Desert**	**0.67**	**59**⇑	*iP*		**Pb**	**19 12 35.9**	**+0.4**
RDX	**Rancho Dawling**	**0.67**	**246**⇑	*eP*		**Pb**	**19 12 35.7**	**0.0**
RDX				*eS*		**Sg**	**19 12 44.4**	**-0.1**
	comp=N,1μm,0.2s							
RDX			⇑	*e*			19 12 44.8	
RDX				IAML			19 12 44.8	
	comp=N,1μm,0.2s							
ECBX	**El Chinero**	**0.75**	**169**⇓	*eP*		**Pg**	**19 12 36.6**	**-0.4**
ECBX				*eS*		**Sg**	**19 12 47.0**	**+0.2**
RMX	**La Rumorosa**	**0.82**	**299**⇑	*eP*		**Pb**	**19 12 38.3**	**+0.1**
RMX				*eS*		**Sb**	**19 12 49.1**	**0.0**
RMX				IAML			19 12 51.1	
	comp=N,2μm,0.2s							
RMX			⇑	*e*			19 12 51.1	
IBP	**Imperial Bould**	**0.86**	**302**	P		**Pg**	**19 12 39.1**	**0.0**
	baz=0.9,SNR=139							
IBP				S		**Sb**	**19 12 50.8**	**+0.6**
	baz=0.9							
SWSC	**Sam W. Stewart**	**0.88**	**327**	P		**Pg**	**19 12 39.6**	**+0.2**
	baz=0.9,SNR=54							
GLA	**Glamis**	**0.91**	**22**	P		**Pb**	**19 12 39.2**	**-0.4**
	baz=0.9,SNR=99							
GLA				S		**Sb**	**19 12 51.0**	**-0.4**
	baz=0.9							
GLA	**Glamis**	**0.91**	**22**	*ePg*		**Pb**	**19 12 38.9**	**-0.7**
ZAX	**El Zacaton**	**1.13**	**233**⇑	*eP*		**Pn**	**19 12 43.6**	**+0.2**
ZAX				IAML			19 13 01.1	
	comp=E,982nm,0.5s							

ZAX				⇓*e*			19 13 01.1	
SPIG	**San Pedro Mart**	**1.18**	**190**	⇓*e*P	**Pn**	**19 12 44.1**	**-0.2**	
SPX	**San Pedro Mart**	**1.18**	**190**	⇓*e*P	**Pn**	**19 12 44.1**	**-0.2**	
SPX	comp=N,471nm,0.3s			IAML		19 13 02.8		
SPX				⇑*e*		19 13 02.8		
MONP	**Monument Peak,** baz=1.2,SNR=88	**1.22**	**304**	P	**Pn**	**19 12 44.3**	**-0.5**	
MONP				S	**Sn**	**19 13 00.8**	**-0.2**	
CBX	**Cerro Bola** baz=1.2	**1.23**	**275**	⇓*e*P	**Pb**	**19 12 44.9**	**-0.2**	
CBX				*e*S	**Sn**	**19 13 01.3**	**+0.3**	
ECNX	**Esteban Cantu**	**1.29**	**245**	*e*Pn	**Pb**	**19 12 46.4**	**+0.2**	
BAR	**Barrett**	**1.31**	**291**	⇑*e*P	**Pn**	**19 12 46.2**	**+0.3**	
PBX	**Punta Banda**	**1.36**	**250**	⇓*e*P	**Pb**	**19 12 47.1**	**-0.2**	
BC3	**Big Chuckawall** baz=1.5,SNR=65	**1.46**	**352**	P	**Pn**	**19 12 47.5**	**-0.5**	
BC3	baz=1.5			S	**Sn**	**19 13 05.8**	**-0.9**	
Y12C	**Blythe** baz=1.7	**1.65**	**21**	Pb	**Pb**	**19 12 51.6**	**-0.6**	
109C	**Camp Elliot, M** baz=1.7	**1.73**	**294**	P	**Pn**	**19 12 52.1**	**+0.6**	
109C	baz=1.7			S	**Sn**	**19 13 13.7**	**+0.5**	
PFO	**Pinyon Flats O** baz=1.8,SNR=16	**1.74**	**324**	P	**Pn**	**19 12 51.3**	**-0.5**	
PFO	baz=1.8			S	**Sn**	**19 13 13.2**	**-0.5**	
PFO	**Pinyon Flats O**	**1.74**	**324**	*e*Pn	**Pn**	**19 12 51.1**	**-0.7**	
IRM	**Iron Mountain** baz=2.0,SNR=64	**1.95**	**2**	Pb	**Pb**	**19 12 56.4**	**-1.0**	
214A	**Organ Pipe Nat** baz=2.1	**2.06**	**96**	P	**Pn**	**19 12 55.6**	**-0.6**	
214A	baz=2.1			S	**Sn**	**19 13 20.7**	**-0.9**	
214A	**Organ Pipe Nat**	**2.06**	**96**	*e*Pn	**Pn**	**19 12 55.3**	**-0.9**	
MURC	**Murrieta** baz=2.2	**2.17**	**310**	S	**Sn**	**19 13 24.2**	**+0.1**	
GSC	**Goldstone, Bar**	**3.36**	**337**	*e*Pg	**Pg**	**19 13 26.3**	**-0.3**	
TUC	**Tucson**	**3.76**	**87**	*e*Pn	**Pn**	**19 13 21.6**	**+2.0**	
WUAZ	**Wupatki**	**4.60**	**43**	*e*P	**Pn**	**19 13 33.3**	**+2.1**	
121A	**Cookes Peak, D** comp=N,3.9nm,0.5s	**6.30**	**85**	*e*P	**Pn**	**19 13 55.3**	**+0.7**	

MEX 24 19:52:28.6±0.3, 15°.15N×93°.78W, h31km±5km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.77**	**44**	*e*P	Pn	19 52 41.0	-2.4
PCIG				*i* S	Sb	19 52 51.0	-2.8
TGIG		**1.74**	**21**	*e*P	Pn	19 52 54.8	-2.0
TGIG				*e*S	Sn	19 53 15.2	-2.8

*IDC **24** 19:55:47.7±1.2, 7°.67S×105°.77E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.8/23, mbtmp3.8/9, ML4.0/1, MS3.4/3, Ms1 3.4/3, ms1mx3.0/25, Error ellipse: s-maj=31.8km s-min=19.7km az=30.0*

*DJA **24** 19:55:50.8±0.4, 8°.3S×3°.10°.6E±°, h10km, M4.1/15, MLv4.1/15*

*NEIC **24** 19:55:53.1±0.9, 7°.63S×105°.96E, h35km, mb4.4/2, Error ellipse: s-maj=23.5km s-min=11.4km az=209.0*

ISC 24 19:55:52.4±0.8, 7°.63S±0°.09×105°.88E±0°.05, h32km, n39, σ1§41/33, mb3.9/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.91**	**47**	P	**Pb**	**19 56 08.9**	**-0.8**
SKJI				S	**Sb**	**19 56 20.2**	**-1.3**
CGJI	**Cibinong**	**1.02**	**349**	P	Pb	19 56 14.6	+3.0
CGJI				S	Sb	19 56 33.2	+8.4
CNJI	**Cibinong**	**1.27**	**76**	P	**Pn**	**19 56 12.8**	**-1.2**
CNJI				S	**Sb**	**19 56 32.3**	**+0.4**
SBJI	**Serang**	**1.52**	**9**	P	**Pb**	**19 56 21.3**	**+1.4**
CBJI	**Citeko**	**1.53**	**39**	P	**Pn**	**19 56 16.2**	**-1.4**
LEM	**Lembang**	**1.89**	**65**	P	**Pb**	**19 56 24.6**	**-1.9**
LEM	**Lembang** 56nm,0.3s,baz=276,slow=3.5,SNR=58	**1.89**	**65**	Pn	**Pb**	**19 56 24.5**	**-2.0**
LEM	104nm,0.3s,baz=162,slow=23,SNR=9.9			Sn	**Sb**	**19 56 51.6**	**+1.8**
LEM	comp=Z,378nm,19.1s,baz=232,slow=45			LR	LR	19 57 17.6	
CISI	**Cisompet, Garu**	**1.92**	**88**	P	**Pn**	**19 56 21.5**	**-1.4**
CISI	**Cisompet, Garu**	**1.92**	**88**	*e*Pn	**Pn**	**19 56 20.5**	**-2.4**
KASI	**Kota Agung**	**2.50**	**326**	P	**Pb**	**19 56 35.6**	**-1.1**
CMJI	**Cimerak**	**2.55**	**94**	P	**Pn**	**19 56 29.5**	**-2.0**
KPJI	**Karang Pucung**	**3.04**	**85**	P	**Pn**	**19 56 39.3**	**+1.1**
KLSI		**3.13**	**338**	P	**Pb**	**19 56 44.8**	**-2.7**
LWLI	**Liwa**	**3.16**	**325**	P	**Pb**	**19 56 45.2**	**-2.8**
MDSI	**Maura Dua**	**3.55**	**331**	P	Pb	19 56 50.6	-4.0
UGM	**Wanagama**	**4.61**	**94**	P	**Pn**	**19 56 59.4**	**-0.5**
PSI	**Prapat** comp=Z,185nm,20.4s,baz=124,slow=41	**12.47**	**326**	LR	LR	20 04 12.4	
CMAR	**Chiang Mai Arr** 0.7nm,0.7s,baz=182,slow=9.0,SNR=6.1	**26.81**	**345**	P	**P**	**20 01 29.1**	**-0.9**
H01W3	**Cape Leeuwin H** baz=345,slow=76,SNR=8.7	**28.17**	**166**	T	T	20 31 22.6	
H01W1	**Cape Leeuwin H** baz=345,slow=76,SNR=6.2	**28.18**	**166**	T	T	20 31 27.2	
H01W2	**Cape Leeuwin H** baz=345,slow=76,SNR=10	**28.18**	**166**	T	T	20 31 27.5	
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=289,slow=10,SNR=3.1	**30.16**	**117**	P	**P**	**20 01 59.1**	**-0.8**
ASAR	**Alice Springs** 0.5nm,0.8s,baz=301,slow=8.4,SNR=5.0	**31.24**	**124**	P	**P**	**20 02 10.2**	**+0.8**
H08S2	**Diego Garcia H** baz=92,slow=76,SNR=13	**33.09**	**268**	T	T	20 37 55.7	
H08S3	**Diego Garcia H** baz=92,slow=76,SNR=11	**33.10**	**268**	T	T	20 37 53.0	
H08S1	**Diego Carcia H** baz=92,slow=76,SNR=12	**33.11**	**268**	T	T	20 37 53.7	
LSA	**Lhasa**	**39.73**	**340**	*e*P	**P**	**20 03 23.5**	**+0.9**
STKA	**Stephens Creek** comp=Z,77nm,18.1s,baz=171,slow=40	**41.06**	**131**	LR	LR	20 23 18.0	
KSAR	**Wonju Array Be**	**49.33**	**23**	P	**P**	**20 04 38.8**	**+0.1**
KSRS	**Korea Array** 0.6nm,0.6s,baz=215,slow=8.8,SNR=3.8	**49.35**	**23**	P	**P**	**20 04 38.7**	**-0.1**
SONM	**Songino Array** 0.5nm,0.5s,baz=182,slow=9.3,SNR=6.5	**55.22**	**0**	P	**P**	**20 05 22.1**	**-0.3**
SONM	0.3nm,0.3s,baz=174,slow=4.8,SNR=4.6			PcP	**PcP**	**20 06 24.7**	**+1.6**
KURK	**Kurchatov**	**62.72**	**341**	*e*P	**P**	**20 06 15.0**	**+0.9**
GEYT	**Alibeck** 1.5nm,0.6s,baz=161,slow=9.0,SNR=4.7	**63.50**	**319**	P	**P**	**20 06 20.5**	**+0.8**
ZALV	**Zalesovo Beam** 0.9nm,0.4s,baz=163,slow=5.1,SNR=6.2	**63.87**	**346**	P	**P**	**20 06 21.8**	**+0.1**
BRVK	**Borovoye**	**67.58**	**338**	*e*P	**P**	**20 06 47.3**	**+1.6**
ABKAR	**Akbulak array** 3.0nm,0.6s	**69.39**	**330**	*e*P	**P**	**20 06 58.3**	**+1.2**
TIXI	**Tiksi** 1.8nm,0.4s	**80.56**	**7**	*e*P	**P**	**20 08 00.1**	**-1.0**
BRTR	**Keskin Array B** 1.2nm,0.8s,baz=120,slow=4.4,SNR=5.0	**81.42**	**312**	P	**P**	**20 08 07.4**	**+0.8**
TXAR	**Lajitas Array** 0.6nm,0.7s,baz=289,slow=0.8,SNR=9.5	**144.81**	**48**	PKP	**PKPdf**	**20 15 27.4**	**+0.4**

IDC 24 20:01:22.7±47.0, 15°.58S×174°.20W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/35, mbtmp3.7/3, Error ellipse: s-maj=894.4km s-min=171.6km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 2.2nm,1.0s,baz=84,slow=10,SNR=3.2	**43.28**	**240**	P	P	20 09 26.4	+0.1
WRA	**Warramunga Arr** 0.2nm,0.8s,baz=91,slow=8.0,SNR=7.9	**49.05**	**257**	P	P	20 10 11.6	-0.4
ASAR	**Alice Springs** 1.6nm,0.6s,baz=90,slow=8.2,SNR=29	**49.32**	**252**	P	P	20 10 13.9	-0.1

*NIED **24** 20:07:00, 28°.60N×129°.60E, h14km, Mw3.4 Best double couple: M0 1.45000×10^14 NP1:φs 151.00000°, δ25.00000°, λ-67.00000°. NP2:φs 306.00000°, δ67.00000°, λ-100.00000°.*

JMA 24 20:07:55.8±0.1, 28°.65N×129°.60E, h16km±3km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.24**	**179**	P	Pg	20 08 00.8	-0.3
JAM				S	Sg	20 08 04.5	-0.2
JZK	**Kikaishima**	**0.47**	**136**	P	Pg	20 08 05.0	-0.2
JZK				S	Sb	20 08 12.0	-0.4
JAMN	**Amaminishikomi**	**0.55**	**223**	P	Pg	20 08 06.6	-0.1
JAMN				S	Sb	20 08 14.6	-0.1
JTAJ	**Takarajima**	**0.61**	**325**	P	Pg	20 08 07.8	-0.1
JTAJ				S	Sb	20 08 16.8	+0.3
JTK	**Tokunoshima**	**1.03**	**214**	P	Pb	20 08 13.8	-1.6
JTK				S	Sb	20 08 28.3	-0.4
JNN	**Nakanoshima**	**1.21**	**11**	P	Pn	20 08 15.8	-2.3
JNN				*e*S	Sb	20 08 32.7	-1.1
JOKE	**Okinoerabujima**	**1.57**	**216**	P	Pn	20 08 22.8	-0.3
JOKE				*e*S	Sn	20 08 43.4	+0.2
JYAK	**Yakushimahirau**	**1.77**	**26**	P	Pn	20 08 25.8	0.0
JYAK				*e*S	Sn	20 08 48.2	+0.2
JKC	**Kuchinoerabu**	**1.88**	**16**	P	Pn	20 08 25.3	-2.0
JKC				*e*S	Sn	20 08 46.9	-3.7
JOW	**Kunigami**	**2.16**	**213**	P	Pn	20 08 32.0	+0.9
JIH	**Iheya**	**2.16**	**222**	P	Pn	20 08 32.2	+1.0
JIH				S	Sn	20 08 56.3	-1.4
JTN	**Tanegashima 3**	**2.33**	**31**	P	Pn	20 08 33.3	-0.2
JNTH	**Nagotoyohara**	**2.54**	**214**	P	Pn	20 08 37.5	+1.1
JAGN	**Aguni-jima**	**2.93**	**226**	S	Sn	20 09 15.3	-1.3

*BJI **24** 20:13:40.2, 53°.70N×163°.70W, h10km, mb4.8/23, mB4.8/14, Ms4.5/7, Ms7 4.1/5*

*IDC **24** 20:13:41.1±0.7, 53°.63N×163°.53W, h0km, mb4.3/24, mb1 4.4/26, mb1mx4.2/43, mbtmp4.2/26, ML3.9/2, MS3.7/16, Ms1 3.7/16, ms1mx3.5/39, Error ellipse: s-maj=21.5km s-min=11.6km az=176.0*

*ISCJB **24** 20:13:43.0±1.0, 53°.43N±0°.05×163°.45W±0°.04, h25km±6km, mb4.5/76, MS3.7/19, Error ellipse: s-maj=8.1km s-min=3.7km az=165.3*

*NEIC **24** 20:13:43.8, 53°.44N×163°.43W, h24km, mb4.4/7, ML4.1(AEIC), After AEIC.*

*MOS **24** 20:13:44.9±1.0, 53°.64N×163°.62W, h33km, mb4.8/37, Error ellipse: s-maj=14.6km s-min=6.6km az=95.4*

*SZGRF **24** 20:13:58.0, 55°.23N×163°.86W, h33km, mb4.7, Unimak Island, Alaska, United States, region*

ISC 24 20:13:44.1±0.6, 53°.49N±0°.06×163°.60W±0°.04, h22km±3km, h22km:pP-P, n219, σ1§20/245, mb4.7/83, MS3.7/19, 36C-5D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.15**	**330**	P	**Pb**	**20 14 05.2**	**0.0**
WESP	**Westdahl Peak**	**1.21**	**327**	P	**Pb**	**20 14 06.2**	**-0.1**
SSLW	**Shishaldin Wes**	**1.32**	**347**	P	**Pn**	**20 14 07.4**	**+0.1**
SSLN	**Shishaldin Nor**	**1.35**	**350**	P	**Pb**	**20 14 08.4**	**-0.2**
ISNN	**Isanotski Nort**	**1.35**	**356**	P	**Pb**	**20 14 08.2**	**-0.5**
FALS	**False Pass**	**1.38**	**4**	P	**Pn**	**20 14 07.5**	**-0.4**
FALS				S	**Sb**	**20 14 28.6**	**+2.4**
AKUT	**Akutan**	**1.44**	**298**	P	**Pb**	**20 14 09.7**	**-0.5**
AKUT				S	**Sb**	**20 14 28.8**	**+0.8**
ZRO	**Akutan Zero**	**1.54**	**294**	P	**Pb**	**20 14 11.1**	**-0.7**
AKGG	**Akutan Green G**	**1.59**	**298**	P	**Pb**	**20 14 11.9**	**-0.8**
AKGG				S	**Sb**	**20 14 33.5**	**+1.2**
LVA	**Lava Point**	**1.59**	**296**	P	**Pb**	**20 14 12.1**	**-0.7**
AKRB	**Akutan Reef Bi**	**1.60**	**295**	P	**Pb**	**20 14 12.0**	**-0.9**
UNV	**Unalaska Valle**	**1.76**	**283**	P	**Pn**	**20 14 13.7**	**+0.5**
UNV				S	**Sb**	**20 14 38.0**	**+0.7**
DTNA	**Dutton South F**	**1.84**	**25**	P	**Pn**	**20 14 13.6**	**-0.8**
MREP	**Makushin Rep't**	**1.90**	**281**	P	**Pb**	**20 14 16.8**	**-1.3**
MSW	**Makushin Switc**	**1.94**	**284**	P	**Pb**	**20 14 17.3**	**-1.4**
MCIR	**Makushin Cirqu**	**2.01**	**285**	P	**Pn**	**20 14 18.1**	**+1.3**
PS1A	**Pavlof South-1**	**2.22**	**28**	P	**Pn**	**20 14 20.1**	**+0.6**
OKFG	**Magazine Ridge**	**2.58**	**270**	P	**Pn**	**20 14 25.9**	**+1.4**
SDPT	**Sand Point**	**2.61**	**43**	P	**Pn**	**20 14 24.6**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**2.66**	**270**	P	**Pn**	**20 14 27.8**	**+2.2**
OKSP	**Okmok Steeple**	**2.82**	**267**	P	**Pn**	**20 14 29.4**	**+1.6**
NIKH	**Nikolski High**	**3.20**	**263**	P	**Pn**	**20 14 34.1**	**+1.2**
VNHG	**Veniaminof 1**	**3.75**	**41**	P	**Pn**	**20 14 41.9**	**+1.2**
ANPB	**Aniakchak Plen**	**4.51**	**40**	P	**Pn**	**20 14 51.2**	**+0.2**
SPIA	**Saint Paul Isl**	**5.30**	**317**	P	**Pn**	**20 15 04.2**	**+2.5**
KABR	**Katmai Barrier**	**6.73**	**43**	P	**Pn**	**20 15 21.0**	**-0.5**
OHAK	**Old Harbor**	**6.97**	**53**	P	**Pn**	**20 15 22.4**	**-2.3**
KDAK	**Kodiak Island** 15nm,0.6s	**7.58**	**51**	*e*P	Pn	20 15 37.5	+4.5
GSCK	**Great Sitkin C**	**7.77**	**264**	P	**Pn**	**20 15 37.7**	**+2.0**
ADK	**Adak**	**8.11**	**264**	P	**Pn**	**20 15 42.9**	**+2.5**
RSO	**Redoubt South** 47nm,0.7s	**9.15**	**36**	*e*P	**Pn**	**20 15 57.0**	**+2.1**
AMKA	**Amchitka** 78nm,0.6s	**10.65**	**265**	*e*P	**Pn**	**20 16 16.1**	**+0.9**
RC01	**Rabbit Creek A** 12nm,1.0s	**10.67**	**39**	*e*P	**Pn**	**20 16 15.2**	**-0.3**
PPLA	**Purkeypile** 42nm,1.3s	**11.17**	**28**	*e*P	**Pn**	**20 16 24.4**	**+2.0**
TRF	**Thorofare Moun** 30nm,1.2s	**12.15**	**29**	*e*P	**Pn**	**20 16 36.0**	**+0.3**
TNA	**Tin City** 14nm,1.3s	**12.30**	**352**	*e*P	**Pn**	**20 16 39.3**	**+1.6**
BPAW	**Bear Paw Mtn.** 2.7nm,1.0s	**12.46**	**26**	*e*P	**Pn**	**20 16 40.1**	**+0.3**
BMRM	**Bremner River** 16nm,0.9s	**12.69**	**46**	*e*P	**Pn**	**20 16 43.7**	**+0.6**
IM04	**Indian Mountai**	**13.44**	**17**	*e*P	**Pn**	**20 16 54.1**	**+0.9**
COLA	**College**	**13.93**	**29**	*e*P	**Pn**	**20 16 59.7**	**-0.1**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=216,slow=13,SNR=5.2	**14.14**	**30**	Pn	Pn	20 16 58.7	-4.0
ILAR	comp=Z,683nm,18.1s,baz=230,slow=40			LR	LR	20 22 58.6	
COLD	**Coldfoot** 17nm,0.9s	**15.24**	**20**	*e*P	**Pn**	**20 17 17.2**	**-0.3**
EGAK	**Eagle** 12nm,0.8s	**16.03**	**36**	*e*P	**Pn**	**20 17 28.8**	**+1.0**
DAWY	**Dawson** 12nm,0.6s	**16.30**	**40**	*e*P	**Pn**	**20 17 31.0**	**-0.4**
DLBC	**Dease Lake** 0.2nm,0.3s,baz=269,slow=12,SNR=3.2	**19.30**	**62**	P	**P**	**20 18 05.2**	**-2.1**
BILL	**Bilibino**	**20.39**	**327**	*d* iP	**P**	**20 18 19.7**	**+0.7**
BILL	comp=Z,19nm,1.0s			pmax	pmax		
INK	**Inuvik** comp=Z,6.0nm,0.3s,baz=223,slow=14,SNR=3.3	**20.52**	**32**	P	**P**	**20 18 18.9**	**-1.4**
INK	**Inuvik**	**20.52**	**32**	P	**P**	**20 18 19.0**	**-1.4**
INK	comp=Z,6.0nm,0.4s			pmax	pmax		
PET	**Petropavlovsk**	**22.42**	**284**	*e*P	**P**	**20 18 43.2**	**+2.3**
PET	comp=Z,42nm,1.2s			pmax	pmax		
PETK	**Petropavlovsk-** comp=Z,9.3nm,0.6s,baz=88,slow=13,SNR=14	**22.95**	**285**	P	**P**	**20 18 46.8**	**+0.3**
PETK	comp=Z,146nm,20.9s,baz=80,slow=36			LR	LR	20 27 34.7	
PETK	**Petropavlovsk-**	**22.95**	**285**	P	**P**	**20 18 46.8**	**+0.3**
PETK	comp=Z,9.0nm,0.6s			pmax	pmax		
PETK	comp=Z,146nm,20.9s			MLR	MLR		
SEY	**Seymchan** comp=Z,2.9nm,0.7s,baz=95,slow=16,SNR=5.0	**24.55**	**310**	P	**P**	**20 19 00.8**	**-1.0**
SEY	comp=Z,234nm,18.7s,baz=163,slow=41			LR	LR	20 30 28.2	
SEY	**Seymchan**	**24.55**	**310**	*e*P	**P**	**20 19 01.9**	**+0.1**
YKA	**Yellowknife Ar** comp=Z,3.0nm,0.8s,baz=269,slow=7.9,SNR=7.7	**26.85**	**51**	P	**P**	**20 19 23.6**	**+1.0**
YKA	**Yellowknife Ar**	**26.85**	**51**	P	**P**	**20 19 23.6**	**+1.0**
YKA	comp=Z,3.0nm,0.8s			pmax	pmax		
MFID	**Camas Ranch** comp=Z,4.2nm,0.9s	**32.67**	**88**	*e*P	**P**	**20 20 15.4**	**+0.9**
TIXI	**Tiksi**	**33.61**	**328**	*d* iP	**P**	**20 20 21.5**	**-0.7**
TIXI	comp=Z,6.0nm,1.0s			pmax	pmax		
TIXI	**Tiksi** comp=Z,4.2nm,0.7s	**33.61**	**328**	*e*P	**P**	**20 20 21.4**	**-0.8**
RES	**Resolute Bay** comp=Z,2.0nm,0.8s,baz=292,slow=9.4,SNR=5.1	**33.84**	**26**	P	**P**	**20 20 22.5**	**-1.6**
RES	**Resolute Bay**	**33.84**	**26**	P	**P**	**20 20 22.5**	**-1.6**
RES	comp=Z,2.0nm,0.8s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**34.23**	**281**	*e*P	**P**	**20 20 27.0**	**-0.8**
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.6s,baz=318,slow=10,SNR=2.7	**34.26**	**97**	P	**P**	**20 20 29.4**	**+0.8**
YAK	**Yakutsk**	**35.07**	**311**	*e*P	**P**	**20 20 32.0**	**-2.9**
YAK				*e*PP	**pP**	**20 20 40.6**	**-1.0**
YAK				*e*		20 21 48.3	
YAK				*e*S	**S**	**20 26 00.6**	**-5.2**
YAK	comp=Z,9.0nm,0.9s			pmax	pmax		
YAK	comp=N,2.0nm,1.1s			pmax	pmax		
YAK	comp=Z,31nm,3.0s			pmax	pmax		
YAK	comp=E,13nm,2.5s			pmax	pmax		
YAK	comp=N,24nm,3.0s			smax	smax		
YAK	comp=E,44nm,3.8s			smax	smax		
YAK	comp=N,32nm,3.8s			MLR	MLR		
YAK	comp=N,166nm,17.0s			MLR	MLR		
YAK	comp=Z,259nm,20.0s			MLR	MLR		
YAK	comp=E,180nm,17.0s			MLR	MLR		
ERM	**Erimo**	**36.76**	**274**	*i* P	**P**	**20 20 49.7**	**+0.1**
ERM	comp=Z,22nm,0.9s			pmax	pmax		
PDAR	**Pinedale Array** comp=Z,0.3nm,0.7s,baz=306,slow=6.1,SNR=2.4	**36.79**	**84**	P	**P**	**20 20 48.9**	**-1.4**
PDAR	comp=Z,0.3nm,0.5s,baz=270,slow=2.7,SNR=2.6			PcP	**PcP**	**20 23 11.1**	**-0.9**
PDAR	comp=Z,48nm,19.1s,baz=308,slow=33			LR	LR	20 33 55.3	
HABR	**Khabarovsk**	**37.89**	**288**	*c e*P	**P**	**20 20 58.3**	**-0.9**
HABR				*e**PP	**pP**	**20 21 08.0**	**+2.1**
HABR				*e*		20 22 25.0	
HABR				*e*		20 23 14.0	
HABR				*e*S	**S**	**20 26 47.8**	**-1.3**
HABR				*e**SS	**ScP**	**20 27 04.5**	**+3.7**
HABR				*e*SS	**SnSn**	**20 29 31.8**	**+1.1**
HABR				*e*		20 31 07.6	
HABR	comp=N,12nm,1.5s			pmax	pmax		
HABR	comp=E,36nm,1.5s			pmax	pmax		
HABR	comp=Z,26nm,1.0s			pmax	pmax		
HABR	comp=Z,74nm,20.0s			MLR	MLR		
ULM	**Lac du Bonnet** comp=Z,84nm,18.6s,baz=321,slow=37	**40.52**	**66**	LR	LR	20 38 48.1	
H11N2	**WAKE ISLAND Hy** baz=26,slow=76,SNR=128	**40.62**	**225**	T	T	21 04 58.0	
H11N3	**WAKE ISLAND Hy** baz=26,slow=76,SNR=114	**40.63**	**225**	T	T	21 05 06.0	
H11N1	**WAKE ISLAND Hy** baz=26,slow=76,SNR=156	**40.64**	**225**	T	T	21 05 00.7	
H11S1	**WAKE ISLAND Hy** baz=25,slow=76,SNR=191	**41.79**	**225**	T	T	21 06 30.5	
H11S2	**WAKE ISLAND Hy** baz=25,slow=76,SNR=221	**41.80**	**225**	T	T	21 06 28.5	
H11S3	**WAKE ISLAND Hy** baz=25,slow=76,SNR=218	**41.81**	**225**	T	T	21 06 31.9	
USRK	**Ussuriysk Ar.** comp=Z,1.9nm,0.8s,baz=46,slow=10.0,SNR=4.6	**42.04**	**284**	P	**P**	**20 21 32.5**	**-1.1**
USRK	comp=Z,90nm,18.1s,baz=35,slow=39			LR	LR	20 41 03.5	
MAJO	**Matsushiro**	**43.20**	**271**	*c i* P	**P**	**20 21 44.1**	**+0.9**
MAJO	comp=Z,117nm,0.9s			pmax	pmax		
MAJO	**Matsushiro** comp=Z,17nm,0.8s	**43.20**	**271**	*e*P	**P**	**20 21 44.4**	**+1.2**
MAT	**Matsushiro**	**43.20**	**271**	P	**P**	**20 21 44.4**	**+1.2**
MJAR	**Matsushiro Arr** comp=Z,5.7nm,1.0s,baz=24,slow=6.1,SNR=14	**43.20**	**271**	P	**P**	**20 21 43.8**	**+0.6**
MJAR	comp=Z,64nm,21.7s,baz=70,slow=34			LR	LR	20 38 00.8	
MJAR	**Matsushiro Arr**	**43.20**	**271**	P	**P**	**20 21 43.8**	**+0.6**
MJAR	comp=Z,6.0nm,1.0s			pmax	pmax		
MJAR	comp=Z,64nm,21.7s			MLR	MLR		
ANMO	**Albuquerque**	**43.65**	**91**	*e*P	**P**	**20 21 48.0**	**+0.9**
BOD	**Bodaibo**	**43.98**	**310**	P	**P**	**20 21 47.9**	**-1.2**
BOD	comp=Z,6.0nm,1.4s			pmax	pmax		
CN2	**Changchun**	**46.03**	**288**	*e*P	**P**	**20 22 05.8**	**+0.1**
CN2				*e*S	**S**	**20 28 48.1**	**-1.4**
CN2	comp=Z,10.0nm,1.0s			PMZ			
CN2	comp=Z,200nm,3.0s			PMZ			
CN2	comp=Z,200nm,16.0s			LN			
CN2	comp=Z,200nm,16.0s			LE			
CN2	comp=Z,200nm,17.0s			LZ			
DAG	**Danmarks Havn** comp=Z,11nm,0.9s	**48.12**	**10**	⇑*i* P	**P**	**20 22 20.6**	**-0.9**
DAG	**Danmarks Havn**	**48.12**	**10**	⇑*i* P	**P**	**20 22 20.6**	**-0.9**
DAG	comp=Z,10.0nm,0.9s			pmax	pmax		
SUMG	**Summit** comp=Z,15nm,0.9s	**48.63**	**19**	*i* P	**P**	**20 22 26.1**	**+0.1**
SUMG	**Summit**	**48.63**	**19**	*i* P	**P**	**20 22 26.1**	**+0.1**
SUMG	comp=Z,15nm,0.9s			pmax	pmax		
SUMG	**Summit** comp=Z,16nm,0.9s	**48.63**	**19**	*e*P	**P**	**20 22 26.2**	**+0.2**
KSRS	**Korea Array** comp=Z,6.7nm,0.8s,baz=54,slow=7.0,SNR=36	**48.70**	**280**	P	**P**	**20 22 28.1**	**+1.7**
KSRS	comp=Z,38nm,20.5s,baz=245,slow=36			LR	LR	20 42 31.0	
KSRS	**Korea Array**	**48.70**	**280**	P	**P**	**20 22 28.2**	**+1.7**
KSRS	comp=Z,7.0nm,0.9s			pmax	pmax		
KSRS	comp=Z,38nm,20.5s			MLR	MLR		
KSAR	**Wonju Array Be**	**48.73**	**280**	P	**P**	**20 22 28.1**	**+1.4**
TXAR	**Lajitas Array** comp=Z,0.7nm,0.6s,baz=301,slow=5.4,SNR=11	**49.29**	**94**	P	**P**	**20 22 31.3**	**0.0**
TXAR	comp=Z,0.2nm,0.6s,baz=336,slow=2.0,SNR=2.3			PcP	**PcP**	**20 23 54.4**	**+0.6**
TXAR	comp=Z,43nm,19.6s,baz=0.0,slow=33			LR	LR	20 40 59.2	
TXAR	**Lajitas Array**	**49.29**	**94**	P	**P**	**20 22 31.3**	**0.0**
TXAR						20 23 54.4	
TXAR	comp=Z,1.0nm,0.6s			pmax	pmax		
TXAR	comp=Z,43nm,19.6s			MLR	MLR		
TJN	**Taejon**	**49.76**	**279**	⇓*i* P	**P**	**20 22 34.9**	**+0.3**
SCHQ	**Schefferville** comp=Z,4.9nm,0.9s,baz=294,slow=7.7,SNR=4.7	**52.18**	**47**	P	**P**	**20 22 51.8**	**-0.8**
ZAK	**Zakamensk**	**53.48**	**307**	*e*P	P	20 22 57.7	-4.7
ZAK	comp=Z,2.0nm,1.5s			pmax	pmax		
SONM	**Songino Array** comp=Z,9.5nm,1.0s,baz=44,slow=7.4,SNR=46	**53.67**	**303**	P	**P**	**20 23 04.0**	**+0.2**
SONM	comp=Z,1.6nm,0.9s,baz=85,slow=2.2,SNR=4.1			PcP	**PcP**	**20 24 10.0**	**+0.1**
SONM	comp=Z,83nm,19.9s,baz=48,slow=37			LR	LR	20 46 24.1	
SONM	**Songino Array**	**53.67**	**303**	P	**P**	**20 23 04.0**	**+0.2**
SONM						20 24 10.0	
SONM	comp

comp=Z,2.6nm,0.8s,baz=46,slow=4.3,SNR=6.4
ZALV LR LR 20 51 36.3
comp=Z,155nm,18.7s,baz=248,slow=39
ZALV Zalesovo Beam 58.88 320 P **P** **20 23 40.6 -0.1**
ZALV 20 24 30.3
ZALV pmax pmax
comp=Z,4.0nm,0.8s
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV MLR MLR
comp=Z,155nm,18.7s
TMCR Tamitsa 61.49 349 *eP* **P** **20 23 56.7 -1.7**
TMCR pmax pmax
comp=Z,15nm,1.1s
GTA Gaotai 63.01 300 *eP* **P** **20 24 09.1 -0.1**
GTA pP **pP** **20 24 13.3 -2.9**
GTA sP **sP** **20 24 16.1 -2.7**
GTA PMZ
comp=Z,10.0nm,1.3s
LZH Lanzhou 63.34 295 *eP* **P** **20 24 12.1 +0.6**
LZH pP **pP** **20 24 16.3 -2.2**
LZH sP **sP** **20 24 18.5 -2.7**
LZH *eP*P **PP** **20 26 33.4 +2.9**
LZH PMZ
comp=Z,20nm,1.3s
LZH PMZ
comp=Z,52nm,7.3s
LZH LN
comp=Z,130nm,14.8s
LZH LE
comp=Z,140nm,15.3s
LZH LZ
comp=Z,160nm,18.6s
SVE Sverdlovsk 64.25 335⇑ *iP* **P** **20 24 17.4 +0.5**
SVE pmax pmax
comp=Z,17nm,0.9s
BRVK Borovoye 64.74 327 *ceP* **P** **20 24 20.5 +0.3**
BRVK pmax pmax
comp=Z,14nm,1.0s
ARU Arti 65.13 336 *c iP* **P** **20 24 22.3 -0.3**
ARU 20 26 49.6
ARU S **S** **20 33 03.3 -0.4**
ARU SS **SS** **20 37 14.5 -0.5**
ARU pmax pmax
comp=Z,17nm,1.2s
FINES FINESS Array B 65.16 355 P **P** **20 24 22.5 -0.2**
comp=Z,7.2nm,0.9s,baz=20,slow=6.1,SNR=25
FINES FINESS Array B 65.16 355 *ceP* **P** **20 24 22.5 -0.2**
FINES pmax pmax
comp=Z,7.0nm,0.9s
WMQ Urumqi 65.51 311 *eP* **P** **20 24 26.4 +1.0**
WMQ pP **pP** **20 24 31.1 -1.4**
WMQ sP **sP** **20 24 33.4 -1.7**
WMQ PMZ
comp=Z,6.0nm,0.6s
WMQ PMZ
comp=Z,63nm,4.4s
WMQ LN
comp=Z,120nm,15.0s
WMQ LE
comp=Z,52nm,11.2s
NB2 NORSAR Subarra 65.75 3 P **P** **20 24 26.4 -0.2**
comp=Z,7.6nm,0.9s,baz=357,slow=6.9
NOA NORSAR Array B 65.75 3 P **P** **20 24 26.6 0.0**
comp=Z,5.3nm,0.9s,baz=357,slow=6.5,SNR=19
NOA LR LR 20 53 54.2
comp=Z,26nm,19.5s,baz=335,slow=37
NOA NORSAR Array B 65.75 3 P **P** **20 24 26.6 0.0**
NOA pmax pmax
comp=Z,5.0nm,0.9s
NOA MLR MLR
comp=Z,26nm,19.5s
VSU Vasula 68.09 354 *i* P **P** **20 24 41.7 +0.2**
VSU pmax pmax
comp=Z,43nm,1.2s
OBN Obninsk 70.49 348 *ceP* **P** **20 24 55.7 -0.7**
OBN pmax pmax
comp=Z,9.0nm,0.8s
OBN MLR MLR
comp=Z,89nm,19.0s
AAK Ala-Archa 72.06 319 *i* P **P** **20 25 07.1 +0.7**
AAK pmax pmax
comp=Z,13nm,1.3s
BSEG Bad Segeberg 72.83 4 *eP* **P** **20 25 11.4 +0.9**
comp=Z,8.0nm,1.1s
IBBN Ibbenburen 74.33 5 *eP* **P** **20 25 20.3 +1.0**
comp=Z,22nm,1.3s
RUE Ruedersdorf 74.38 2 *eP* **P** **20 25 20.7 +1.1**
comp=Z,16nm,1.0s
CLZ Clausthal 74.92 4 *eP* **P** **20 25 24.1 +1.2**
comp=Z,9.0nm,1.0s
BUG Bochum–Univer 75.17 6 *eP* **P** **20 25 24.6 +0.4**
comp=Z,10.0nm,1.1s
PMG Port Moresby 75.24 231 *i* P **P** **20 25 25.4 +0.4**
PMG pmax pmax
comp=Z,66nm,1.2s
CLL Collm 75.54 2 *eP* **P** **20 25 26.7 +0.4**
comp=Z,7.0nm,0.9s
CLL Collm 75.54 2 *i* P **P** **20 25 26.3 0.0**
comp=Z,7.0nm,0.9s
CLL *ep*P **pP** **20 25 36.0 +2.5**
CLL Collm 75.54 2 *i* P **P** **20 25 26.3 0.0**
CLL *e**PP **pP** **20 25 36.0 +2.5**
CLL pmax pmax
comp=Z,7.0nm,0.9s
NEUB Neuenburg 75.61 3 *eP* **P** **20 25 27.6 +0.9**
comp=Z,13nm,0.7s
AKASG Malin Array Be 75.63 352 P **P** **20 25 26.1 -0.8**
comp=Z,4.7nm,0.6s,baz=12,slow=5.6,SNR=11
AKASG LR LR 21 00 48.4
comp=Z,68nm,19.4s,baz=30,slow=38
KIEV Kiev 75.63 352 *c iP* **P** **20 25 26.2 -0.7**
FBE Freiberg 75.93 2 *eP* **P** **20 25 29.6 +1.0**
comp=Z,10.0nm,1.0s
BRG Berggiesshubel 75.99 2 *eP* **P** **20 25 29.4 +0.4**
comp=Z,4.8nm,0.9s
BRG *e* 20 25 39.5
comp=Z,3.2nm,1.1s
BRG Berggiesshubel 75.99 2 *eP* **P** **20 25 29.6 +0.6**
comp=Z,6.0nm,0.9s
BRG Berggiesshubel 75.99 2 *eP* **P** **20 25 29.4 +0.4**
BRG *e* 20 25 39.5
BRG pmax pmax
comp=Z,5.0nm,0.9s
MOX Moxa 76.16 3 *eP* **P** **20 25 30.8 +0.8**
comp=Z,9.0nm,1.2s
PLN Plauen 76.34 3 *eP* **P** **20 25 31.8 +0.8**
comp=Z,2.0nm,0.8s
PVCC Panska Ves 76.35 1 *eP* **P** **20 25 31.7 +0.7**
PVCC Panska Ves 76.35 1 *eP* **P** **20 25 31.7 +0.7**
UPC Upice 76.38 0 *eP* **P** **20 25 31.3 +0.1**
UPC Upice 76.38 0 *eP* **P** **20 25 31.3 +0.1**
TNS Taunus Mts 76.45 5 *eP* **P** **20 25 32.5 +0.9**
comp=Z,5.0nm,1.0s
GUNZ Gunzen 76.47 3 *eP* **P** **20 25 32.5 +0.8**
comp=Z,5.0nm,1.0s
DPC Dobruska-Polom 76.54 0 *eP* **P** **20 25 32.7 +0.6**
DPC *ex* x 20 25 37.3
DPC *ep*P **PcP** **20 25 42.0 -1.7**
DPC *es*P **sP** **20 25 43.9 +2.0**
DPC Dobruska-Polom 76.54 0 *eP* **P** **20 25 32.7 +0.6**
DPC *e* 20 25 42.0
DPC *e* 20 25 43.9
WERN Wernitzgruen 76.55 3 *eP* **P** **20 25 33.2 +1.0**
comp=Z,10.0nm,1.3s
KRLC Kraliky 76.81 360 *eP* **P** **20 25 34.2 +0.5**
KRLC *ep*P **PcP** **20 25 43.2 -1.7**
KRLC Kraliky 76.81 360 *eP* **P** **20 25 34.2 +0.5**
KRLC *e* 20 25 43.2
MANZ Manzenberg 76.84 3 *eP* **P** **20 25 34.6 +0.8**
comp=Z,6.0nm,1.4s
WLF Walferdange 76.86 7 *eP* **P** **20 25 35.1 +1.2**
comp=Z,12nm,1.1s
PRU Pruhonice 76.89 1 *eP* **P** **20 25 34.3 +0.3**
PRU *ep*P **PcP** **20 25 43.5 -1.6**
PRU Pruhonice 76.89 1 *eP* **P** **20 25 34.3 +0.3**
PRU *e* 20 25 43.5
GOPC GO Pecny, Ondr 76.97 1 *eP* **P** **20 25 35.1 +0.6**
OKC Ostrava-Krasne 77.04 359 *eP* **P** **20 25 35.0 +0.1**
OKC *es*P **sP** **20 25 47.1 +2.4**
OKC Ostrava-Krasne 77.04 359 *eP* **P** **20 25 35.0 +0.1**
OKC *e* 20 25 47.1
ROTZ Rotzenmuhle 77.06 3 *eP* **P** **20 25 36.3 +1.3**
comp=Z,5.0nm,1.0s
GRF Grafenberg Arr 77.10 3 *eP* **P** **20 25 36.5 +1.2**
comp=Z,11nm,1.1s
MORC Moravsky Berou 77.11 359⇑ P **P** **20 25 34.5 -0.8**
MORC Moravsky Berou 77.11 359⇑ *iP* **P** **20 25 34.5 -0.8**
KWP Kalwaria Pacla 77.12 356 *eP* **P** **20 25 36.0 +0.6**
KWP Kalwaria Pacla 77.12 356 *eP* **P** **20 25 36.0 +0.6**
STHS Stebnicka Huta 77.39 357 *eP* **P** **20 25 38.2 +1.3**
STHS pmax pmax
comp=Z,7.0nm,1.0s
STHS Stebnicka Huta 77.39 357 *eP* **P** **20 25 38.2 +1.3**
STHS *e*PCP **PcP** **20 25 48.9 +1.5**
WET Wettzell 77.70 2 *eP* **P** **20 25 39.8 +1.1**
comp=Z,6.0nm,1.3s
KHC Kasperske Hory 77.73 2 *eP* **P** **20 25 39.6 +0.8**
KHC *ep*P **PcP** **20 25 48.6 -0.3**
KHC *es*P **sP** **20 25 51.1 +2.5**
KHC Kasperske Hory 77.73 2 *eP* **P** **20 25 39.6 +0.8**
KHC *e* 20 25 48.6
KHC *e* 20 25 51.1
KOLS Kolonicke sedl 77.83 356 *eP* **P** **20 25 39.9 +0.5**
KOLS pmax pmax
comp=Z,4.0nm,1.2s
KOLS Kolonicke sedl 77.83 356 *eP* **P** **20 25 39.9 +0.5**
GEC2 GERESS Array S 78.02 2 *eP* **P** **20 25 41.3 +0.8**
comp=Z,4.0nm,0.9s
GERES GERESS Array B 78.02 2 P **P** **20 25 41.0 +0.6**
comp=Z,2.0nm,0.8s,baz=6.9,slow=4.4,SNR=22
GERES GERESS Array B 78.02 2 P **P** **20 25 41.1 +0.6**
GERES pmax pmax
comp=Z,2.0nm,0.8s
BFO Black Forest 78.33 5 *eP* **P** **20 25 42.8 +0.6**
comp=Z,5.0nm,1.2s
BFO Black Forest 78.33 5 *ceP* **P** **20 25 43.0 +0.8**
KECS Kecovo 78.35 357 *eP* **P** **20 25 41.6 -0.6**
KECS pmax pmax
comp=Z,4.0nm,1.1s
KECS Kecovo 78.35 357 *eP* **P** **20 25 41.6 -0.6**
KECS *e*PCP **PcP** **20 25 52.7 +1.2**
SMOL Smolenice 78.37 359 *eP* **P** **20 25 43.7 +1.3**
SMOL Smolenice 78.37 359 *eP* **P** **20 25 43.7 +1.3**
TAPN Taplejung 78.69 301 *eP* **P** **20 25 45.7 +0.9**
comp=Z,19nm,0.8s
CONA Conrad Observa 78.96 0⇑ *iP* **P** **20 25 46.6 +0.9**
comp=Z,6.5nm,1.1s
BURAR Bucovina Array 79.00 354⇑ P **P** **20 25 46.6 +0.7**
BURAR Bucovina Array 79.00 354⇑ *iP* **P** **20 25 46.6 +0.7**
MOA Molln 79.02 1⇑ *iP* **P** **20 25 46.5 +0.5**
comp=Z,4.6nm,1.2s
RJOB Jochberg 79.11 2 *eP* **P** **20 25 47.5 +1.0**
comp=Z,6.0nm,0.8s
GUN Gumba 79.17 302 *eP* **P** **20 25 48.2 +0.7**
ODAN Odare 79.25 301 *eP* **P** **20 25 46.3 -1.6**
MOTA Moosalm 79.44 4⇑ *iP* **P** **20 25 48.9 +0.5**
comp=Z,6.5nm,0.8s,SNR=6.1
WATA Walderalm 79.47 3⇑ *iP* **P** **20 25 49.1 +0.5**
comp=Z,3.1nm,0.6s
WTTA Wattenberg 79.55 3⇑ *iP* **P** **20 25 49.8 +0.7**
comp=Z,7.3nm,0.8s
KKN Kakani 79.57 303 *eP* **P** **20 25 50.2 +0.7**
comp=Z,30nm,1.1s
RAMN Ramite 79.58 301 *eP* **P** **20 25 48.1 -1.6**
comp=Z,57nm,0.9s
PKI Pulchoki 79.68 303 *eP* **P** **20 25 49.8 -0.5**
comp=Z,38nm,1.0s
PKIN Phulchoki 79.68 303 *eP* **P** **20 25 49.8 -0.4**
CMAR Chiang Mai Arr 79.70 287 P **P** **20 25 50.8 +0.7**
comp=Z,5.0nm,0.9s,baz=17,slow=5.6,SNR=24
CMAR LR LR 21 07 00.8
comp=Z,92nm,18.3s,baz=232,slow=40
GKN Gorkha 79.71 303 *eP* **P** **20 25 50.7 +0.5**
comp=Z,46nm,1.0s
FETA Feichten 79.75 4⇑ *iP* **P** **20 25 51.0 +0.8**
comp=Z,8.7nm,0.9s,SNR=6.3
KBA Koelnbreinsper 79.78 2⇑ *iP* **P** **20 25 51.4 +1.1**
comp=Z,13nm,0.9s,SNR=6.5
DMN Daman 79.80 303 *eP* **P** **20 25 49.8 -1.1**
comp=Z,34nm,1.0s
DRGR 79.95 356⇑ P **P** **20 25 50.5 -0.6**
DRGR 79.95 356⇑ *iP* **P** **20 25 50.5 -0.6**
SOKA Soboth 80.21 1⇑ *iP* **P** **20 25 53.5 +1.0**
comp=Z,11nm,1.1s,SNR=6.1
KIV Kislovodsk 80.35 341 *eP* **P** **20 25 53.2 -0.1**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,66nm,19.0s
OBKA Obir 80.37 1⇑ *iP* **P** **20 25 54.3 +0.9**
comp=Z,15nm,0.8s,SNR=7.4
KOLN Koldanda 80.42 304 *eP* **P** **20 25 51.1 -3.0**
comp=Z,14nm,0.5s
KBZ Khabaz 80.53 341 P **P** **20 25 55.0 +0.9**
comp=Z,5.2nm,0.9s,baz=28,slow=3.1,SNR=7.7
KBZ Khabaz 80.53 341 P **P** **20 25 55.0 +0.9**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
NCK Nalchik 80.61 340 *eP* **P** **20 25 55.8 +1.1**
PKSM Moragy 80.66 358⇑ P **P** **20 25 55.8 +1.0**
PKSM Moragy 80.66 358⇑ *iP* **P** **20 25 55.8 +1.0**
BZS Buzias 81.17 356⇑ P **P** **20 25 58.5 +0.9**
BZS Buzias 81.17 356⇑ *iP* **P** **20 25 58.5 +0.9**
GZR Gura Zlata 81.35 355⇑ P **P** **20 25 59.0 +0.4**
GZR Gura Zlata 81.35 355⇑ *iP* **P** **20 25 59.0 +0.4**
GEYT Alibeck 82.06 328 P **P** **20 26 02.5 +0.1**
comp=Z,4.9nm,0.8s,baz=337,slow=3.4,SNR=10
GNI Garni 83.58 339 *c iP* **P** **20 26 12.1 +1.6**
GNI pmax pmax
comp=Z,23nm,2.0s
VTS Vitosha 84.12 355⇑ P **P** **20 26 13.0 -0.2**
VTS Vitosha 84.12 355⇑ *iP* **P** **20 26 13.0 -0.2**
MMB Musomiste 85.09 354⇓ P **P** **20 26 18.8 +0.9**
MMB Musomiste 85.09 354⇓ *iP* **P** **20 26 18.8 +0.9**
ESDC Sonseca Array 85.56 16 P **P** **20 26 20.0 -0.4**
comp=Z,0.3nm,0.4s,baz=21,slow=18,SNR=3.2
BRTR Keskin Array B 85.97 347 P **P** **20 26 23.2 +0.7**
comp=Z,4.3nm,0.8s,baz=44,slow=2.7,SNR=16
BRTR LR LR 21 09 02.6
comp=Z,36nm,19.4s,baz=28,slow=39

IDC ***24*** *20:15:46.1±1.6, 17.°92S×178.°71W, h553km±19km, mb3.6/16, mb1 3.7/18, mb1mx3.5/37, mbtmp4.5/18, Error ellipse: s-maj=11.3km s-min=9.3km az=116.0*
ISCJB ***24*** *20:15:47.1±0.5, 17.°93S±0.°09×178.°73W±0.°09, h579km, mb4.1/16, Error ellipse: s-maj=12.2km s-min=10.5km az=44.1*
ISC 24 20:15:48.1±0.5,**17.°93S**±0.°09×**178.°74W**±0.°10,**h579**km,
n32,σ**1°22**/38,**mb4.2**/16,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.52**	**251**	P	**P**	**20 18 49.9**	**-2.6**
	0.3nm,0.3s,baz=90,slow=20,SNR=2.4						
RAR	**Rarotonga**	**18.17**	**103**	P	**P**	**20 19 23.8**	**-2.4**
	1.8nm,0.3s,baz=73,slow=17,SNR=2.6						
URZ	**Urewera**	**20.58**	**189**	P	**P**	**20 19 45.2**	**-2.6**
	12nm,0.3s,baz=299,slow=1.0,SNR=15						
URZ				S	**S**	**20 23 04.4**	**+2.8**
	10.0nm,0.8s,baz=41,slow=18,SNR=2.9						
RPZ	**Rata Peaks**	**27.12**	**196**	P	**P**	**20 20 44.2**	**-1.6**
	7.1nm,0.5s,baz=36,slow=19,SNR=4.0						
CTA	**Charters Tower**	**33.13**	**261**	P	**P**	**20 21 38.0**	**+0.2**
	2.6nm,0.4s,baz=73,slow=9.8,SNR=4.0						
STKA	**Stephens Creek**	**38.35**	**241**	P	**P**	**20 22 21.5**	**+0.9**
	15nm,0.7s,baz=86,slow=8.9,SNR=50						
WRA	**Warramunga Arr**	**44.32**	**260**	P	**P**	**20 23 07.4**	**-0.5**
	2.2nm,0.4s,baz=96,slow=7.1,SNR=165						
WRA				PcP	**PcP**	**20 24 37.9**	**-1.5**
	1.6nm,0.8s,baz=96,slow=7.6,SNR=5.4						
WRA				S	**S**	**20 29 01.5**	**+0.6**
	1.0nm,0.9s,baz=94,slow=13,SNR=5.2						
ASAR	**Alice Springs**	**44.48**	**254**	P	**P**	**20 23 09.9**	**+0.7**
	38nm,0.4s,baz=90,slow=7.7,SNR=1076						
ASAR				PcP	**PcP**	**20 24 38.0**	**-1.9**
	2.1nm,0.6s,baz=93,slow=4.2,SNR=6.5						
ASAR				S	**S**	**20 29 04.0**	**+0.8**
	3.1nm,0.9s,baz=92,slow=16,SNR=16						
VNDA	**Vanda**	**60.40**	**185**	P	**P**	**20 25 03.0**	**+1.3**
	2.2nm,0.6s,baz=347,slow=6.8,SNR=19						
MJAR	**Matsushiro Arr**	**67.73**	**324**	P	**P**	**20 25 48.8**	**0.0**
	6.6nm,0.6s,baz=162,slow=6.4,SNR=24						
MAT	**Matsushiro**	**67.74**	**324**	P	**P**	**20 25 48.9**	**+0.1**
PETK	**Petropavlovsk-**	**73.62**	**345**	P	**P**	**20 26 22.8**	**-0.2**
	8.4nm,0.7s,baz=145,slow=6.8,SNR=9.5						
KSRS	**Korea Array**	**74.51**	**319**	P	**P**	**20 26 29.2**	**+0.9**
	0.8nm,0.6s,baz=125,slow=6.4,SNR=6.0						
USRK	**Ussuriysk Ar.**	**76.45**	**326**	P	**P**	**20 26 40.5**	**+1.5**
	1.6nm,0.6s,baz=86,slow=5.0,SNR=6.6						
SEY	**Seymchan**	**83.72**	**347**	P	**P**	**20 27 16.1**	**-0.3**
	7.6nm,0.5s,baz=168,slow=6.7,SNR=26						
MAW	**Mawson**	**83.74**	**200**	P	**P**	**20 27 17.5**	**+1.0**
	5.3nm,0.5s,baz=142,slow=6.2,SNR=7.3						
ILAR	**Eielson Array**	**85.97**	**13**	P	**P**	**20 27 26.4**	**-0.9**
	1.1nm,0.3s,baz=224,slow=5.2,SNR=15						
TXAR	**Lajitas Array**	**86.27**	**58**	P	**P**	**20 27 31.2**	**+1.6**
	1.6nm,0.7s,baz=215,slow=5.9,SNR=22						
PDAR	**Pinedale Array**	**87.58**	**44**	P	**P**	**20 27 36.4**	**+0.7**
	0.2nm,0.4s,baz=227,slow=2.0,SNR=2.8						
SNAA	**Sanae**	**90.59**	**179**	P	**P**	**20 27 48.0**	**-1.0**
SNAA	**Sanae**	**90.59**	**179**	P	**P**	**20 27 49.2**	**+0.3**
	1.5nm,0.6s,baz=208,slow=7.3,SNR=26						
VNA1	**Neumayer–Stat**	**91.41**	**177**	P	**P**	**20 27 53.8**	**+1.1**
ZALV	**Zalesovo Beam**	**108.05**	**322**	PKiKP	**PKiKP**	**20 33 10.6**	**+0.1**
	0.4nm,0.4s,baz=77,slow=3.1,SNR=2.6						
ARCES	**ARCESS Array B**	**126.28**	**350**	PKP	**PKPdf**	**20 33 45.0**	**+0.1**
	1.3nm,0.8s,baz=343,slow=2.5,SNR=4.7						
SUR	**Sutherland**	**126.59**	**201**	PKP	**PKPdf**	**20 33 47.9**	**+0.9**
	3.7nm,0.8s,baz=32,slow=22,SNR=5.0						
FINES	**FINESS Array B**	**133.12**	**344**	PKP	**PKPdf**	**20 33 57.9**	**-0.1**
	0.6nm,0.7s,baz=347,slow=5.7,SNR=4.1						
BRTR	**Keskin Array B**	**144.57**	**315**	PKP	**PKPdf**	**20 34 19.8**	**0.0**
	1.0nm,0.8s,baz=43,slow=5.6,SNR=4.0						
UPC	**Upice**	**145.42**	**343**	*eP*	**PKPab**	**20 34 23.6**	**+0.2**
DPC	**Dobruska-Polom**	**145.47**	**343**	*eP*	**PKPab**	**20 34 23.4**	**-0.3**
DPC				*ex*	x	20 34 56.6	
KHC	**Kasperske Hory**	**147.31**	**345**	*eP*	**PKPbc**	**20 34 27.8**	**+0.5**
KHC				*ex*	x	20 34 31.6	
KHC				*ex*	x	20 35 03.6	
GERES	**GERESS Array B**	**147.55**	**345**	PKPbc	**PKPbc**	**20 34 28.3**	**+0.3**
	0.9nm,0.5s,baz=26,slow=3.2,SNR=12						
TORD	**Torodi Ar. Bea**	**175.23**	**185**	PKP	**PKPdf**	**20 34 52.5**	**-0.5**
	0.6nm,0.8s,baz=27,slow=1.5,SNR=3.4						
TORD				PKPab	**PKPab**	**20 36 32.6**	**-0.5**
	1.3nm,0.8s,baz=180,slow=2.8,SNR=6.4						

IDC ***24*** *20:19:58.8±2.5, 30.°61S±0.°06×66.°96W±0.°06, h1km±17km,*
mb1 3.7/5, mb1mx3.6/26, mbtmp3.6/5, ML4.2/2, Error ellipse: s-maj=20.6km s-min=12.7km az=137.0
SJA ***24*** *20:19:59.1±1.2, 30.°69S×67.°05W, h6km±6km, ML3.7*
ISC 24 20:19:58.6±2.5,**30.°61S**±0.°06×**66.°96W**±0.°06,**h1**km±17km,
n17,σ**1°32**/23,**mb3.5**/3,**1D**,**La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**1.48**	**227**	Pg	**Pn**	**20 20 26.0**	**-0.4**
	3.0nm,0.3s,baz=52,slow=22,SNR=24						
CFAA				Lg	Lg	20 20 44.2	
	19nm,0.3s,baz=320,slow=11,SNR=32						
CFAA	**Coronel Fontan**	**1.48**	**227**	*eP*	**Pn**	**20 20 25.5**	**-0.9**
CFAA				*i* S	**Sn**	**20 20 43.6**	**-2.8**
RTLL	**Cerro Villicun**	**1.49**	**241**	*eP*	**Pn**	**20 20 25.5**	**-1.0**
RTLL				*i* S	**Sn**	**20 20 45.0**	**-1.6**
ACAN	**Cantantal**	**1.67**	**187**	*eP*	**Pn**	**20 20 29.3**	**+0.3**
ACAN				*e*S	**Sn**	**20 20 52.1**	**+0.9**
RTCV	**Cerro Valdivia**	**1.84**	**227**	*eP*	**Pn**	**20 20 32.3**	**+0.9**
RTCV				*eP*	**Pn**	**20 20 32.3**	**+0.9**
TCA	**Tanti**	**2.16**	**110**	*eP*	**Pb**	**20 20 38.1**	**-0.4**
TCA				*e*S	**Sg**	**20 21 07.8**	**-0.1**
TCA				AML	AML	20 21 12.6	
	comp=Z,501nm,0.6s						
VCA	**Vinchina**	**2.16**	**330**	*eP*	**Pb**	**20 20 38.8**	**+0.2**
RTLS	**Leoncito**	**2.33**	**239**	*eP*	**Pn**	**20 20 40.2**	**+2.0**
RTLS				*e*S	**Sn**	**20 21 09.2**	**+2.2**
ASAL	**Salagasta**	**2.54**	**218**⇓	*eP*	**Pn**	**20 20 42.2**	**+1.1**
ASAL				*e*S	**Sn**	**20 21 14.0**	**+1.3**
LVC	**Limon Verde**	**8.15**	**347**	Pn	Pn	20 22 02.4	+4.1
	comp=Z,11nm,0.3s,baz=159,slow=14,SNR=2.6						
LVC				Lg	Lg	20 24 21.5	
	comp=Z,12nm,0.3s,baz=101,slow=19,SNR=3.8						
CPUP	**Villa Florida**	**9.49**	**66**	Pn	**Pn**	**20 22 16.9**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=258,slow=17,SNR=2.4						
CPUP				Lg	Lg	20 25 01.1	
	comp=Z,0.5nm,0.3s,baz=156,slow=19,SNR=3.0						
LPAZ	**La Paz**	**14.30**	**355**	Pn	**P**	**20 23 29.0**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=146,slow=6.6,SNR=14						
SNAA	**Sanae**	**53.15**	**159**	P	**P**	**20 29 16.5**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=261,slow=13,SNR=2.6						
TXAR	**Lajitas Array**	**69.11**	**326**	P	**P**	**20 31 07.1**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=161,slow=5.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**78.98**	**68**	P	**P**	**20 32 05.8**	**+1.3**
	comp=Z,0.6nm,0.9s,baz=240,slow=5.6,SNR=3.0						
WRA	**Warramunga Arr**	**125.72**	**205**	PKP	**PKPdf**	**20 39 01.7**	**-1.0**
	comp=Z,3nm,0.6s,baz=165,slow=1.6,SNR=12						
ZALV	**Zalesovo Beam**	**149.06**	**33**	PKPbc	**PKPbc**	**20 39 48.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=291,slow=6.0,SNR=2.5						

SJA 24 20:36:08.8±0.6,**31.°41S×68.°65W**,**h97**km±4km,**ML4.8,**
MW4.6,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.17**	**61**	*eP*	Pn	20 36 23.2	+0.6
RTLL				*e*S	Sn	20 36 33.7	+0.9
RTLL				IAML		20 36 35.8	
	comp=Z,33μm,0.2s						
CFAA	**Coronel Fontan**	**0.40**	**119**	*eP*	Pn	20 36 24.2	+0.6
CFAA				*e*S	Sn	20 36 35.8	+1.1
RTCV	**Cerro Valdivia**	**0.46**	**168**	*eP*	Pn	20 36 24.8	+0.8
RTCV				*e*S	Sn	20 36 36.5	+1.1
AMOG	**MOGNA**	**0.49**	**16**	*eP*	Pn	20 36 25.3	+1.0
AMOG				*e*S	Sn	20 36 36.6	+0.8
RTLS	**Leoncito**	**0.67**	**235**	*eP*	Pn	20 36 27.2	+1.2
RTLS				*e*S	Sn	20 36 41.2	+2.3
AUSP	**Uspallata**	**1.02**	**218**	*eP*	Pn	20 36 30.7	+1.0
AUSP				*e*S	Sn	20 36 46.8	+1.6

ISCJB ***24*** *20:45:28.8±0.2, 45.°13N±0.°02×106.°92W±0.°02, h0km, Error ellipse: s-maj=2.6km s-min=2.3km az=36.8*
IDC ***24*** *20:45:28.7±1.2, 45.°02N×106.°86W, h0km, mb1 3.7/3, mb1mx3.3/54, mbtmp3.4/3, ML3.4/3, Error ellipse: s-maj=35.5km s-min=8.3km az=135.0*
NEIC ***24*** *20:45:29.6±0.9, 45.°20N×106.°91W, h0km, ML2.5, Error ellipse: s-maj=12.6km s-min=10.9km az=172.0, Suspected Mining explosion.*
NEIC 45 km [30 miles] N of Sheridan.
ISC 24 20:45:28.8±0.8,**45.°13N**±0.°02×**106.°94W**±0.°02,**h0**km,**n60,**
σ**0°83**/74,**Montana**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
G22A	**Birney**	**0.47**	**79**	P	**Pg**	**20 45 38.1**	**+0.3**
	baz=0.4,SNR=7.1						
G22A				S	**Sg**	**20 45 44.4**	**+0.6**
	baz=0.4						
H21A	**Big Horn, Sher**	**0.51**	**188**	P	**Pg**	**20 45 38.9**	**+0.3**
	baz=0.6,SNR=15						
H22A	**Clearmont**	**0.68**	**142**	P	**Pg**	**20 45 42.2**	**+0.4**
	baz=0.7,SNR=13						
H22A				S	**Sg**	**20 45 51.3**	**+0.7**
	baz=0.7						
F21A	**Absaloka Mine,**	**0.70**	**349**	P	**Pg**	**20 45 42.6**	**+0.3**
	baz=0.6,SNR=9.6						
F21A				S	**Sg**	**20 45 52.0**	**+0.5**
	baz=0.6						
F22A	**Rosebud**	**0.81**	**36**	P	**Pg**	**20 45 44.2**	**-0.2**
	baz=0.7,SNR=40						
G20A	**Bridger**	**0.91**	**276**	P	**Pg**	**20 45 46.0**	**-0.2**
	baz=0.9,SNR=134						
G20A				S	**Sg**	**20 45 58.8**	**+0.8**
	baz=0.9						
H20A	**Greybull**	**0.99**	**230**	P	**Pg**	**20 45 47.6**	**-0.3**
	baz=1.1,SNR=29						
F20A	**Billings**	**1.08**	**309**	P	**Pg**	**20 45 49.5**	**-0.1**
	baz=1.1,SNR=18						
F23A	**Volborg**	**1.23**	**61**	P	**Pg**	**20 45 51.7**	**-0.7**
	baz=1.2						
I22A	**9 Mile Ranch,**	**1.28**	**165**	P	**Pg**	**20 45 53.1**	**-0.2**
	baz=1.3,SNR=84						
I22A				S	**Sg**	**20 46 10.6**	**+0.7**
	baz=1.3						
I21A	**Big Trails, Te**	**1.34**	**191**	P	**Pg**	**20 45 53.5**	**-1.1**
	baz=1.4						
E21A	**Keefer Ranch,**	**1.41**	**356**	P	**Pn**	**20 45 55.3**	**-0.7**
	baz=1.3,SNR=27						
E21A				S	**Sn**	**20 46 15.3**	**0.0**
	baz=1.3						
I20A	**Worland**	**1.46**	**216**	P	**Pn**	**20 45 56.1**	**-0.4**
	baz=1.5,SNR=209						
I20A				S	**Sn**	**20 46 16.5**	**+0.1**

baz=1.5
E22A Miles City 1.48 28 P **Pn** **20 45 56.3 -0.5**
baz=1.4,SNR=37
E22A S **Sn** **20 46 17.1 +0.2**
baz=1.4
H19A Powell 1.53 253 P **Pn** **20 45 57.7 +0.2**
baz=1.6,SNR=49
H19A S **Sg** **20 46 18.7 +0.8**
baz=1.6
RLMT Red Lodge 1.65 271 P **Pn** **20 45 59.4 +0.1**
baz=1.7,SNR=73
RLMT Sb **Sg** **20 46 22.7 +0.9**
baz=1.7
RLMT Red Lodge 1.65 271 *e*P **Pn** **20 45 59.4 +0.1**
H24A Dirks Ranch, A 1.74 102 P **Pn** **20 46 00.2 -0.1**
baz=1.7,SNR=105
H24A S **Sn** **20 46 22.7 -0.6**
baz=1.7
J22A Midwest 1.75 169 P **Pn** **20 46 00.7 +0.1**
baz=1.8,SNR=65
J22A S **Sn** **20 46 23.7 +0.1**
baz=1.8
E23A Ismay 1.78 39 P **Pn** **20 46 01.0 +0.1**
baz=1.7,SNR=46
E23A S **Sn** **20 46 24.9 +0.5**
baz=1.7
G24A Alzada 1.79 83 P **Pn** **20 46 01.1 -0.1**
baz=1.8
J21A Lysite 1.82 192 P **Pn** **20 46 01.7 0.0**
baz=1.9,SNR=30
J21A S **Sn** **20 46 25.4 -0.1**
baz=1.9
I19A Meeteetse 1.83 234 P **Pn** **20 46 01.7 -0.1**
baz=1.9,SNR=17
F24A Ekalaka 1.89 67 P **Pn** **20 46 02.7 +0.1**
baz=1.8
D21A La Casta Ranch 1.94 359 P **Pn** **20 46 03.8 +0.7**
baz=1.9,SNR=9.0
J20A Shoshoni 1.96 205 P **Pn** **20 46 04.0 +0.5**
baz=2.0,SNR=20
J23A Dilts Ranch, B 1.99 150 P **Pn** **20 46 04.5 +0.6**
baz=2.0,SNR=34
GCMT Greycliff 2.03 290 *e*P **Pn** **20 46 04.9 +0.4**
I24A Kuemmerle Ranc 2.09 127 P **Pn** **20 46 05.2 +0.1**
baz=2.1,SNR=54
D22A Cohagen 2.09 14 P **Pn** **20 46 05.5 +0.4**
baz=2.0,SNR=29
RSSD Black Hills 2.31 115 *e*P **Pn** **20 46 09.3 +1.0**
E24A Baker 2.33 51 P **Pn** **20 46 08.7 +0.2**
baz=2.3,SNR=22
J19A Crowheart 2.41 220 Pb **Pb** **20 46 12.0 -1.1**
baz=2.5
J24A Dixon Ranch, L 2.43 137 P **Pn** **20 46 10.0 0.0**
baz=2.5,SNR=14
K22A Casper 2.50 173 *e*P **Pn** **20 46 11.6 +0.7**
C20A Veseth Ranch, 2.69 344 P **Pn** **20 46 14.1 +0.7**
baz=2.6,SNR=9.5
D24A Glendive 2.69 42 P **Pn** **20 46 13.9 +0.5**
baz=2.6,SNR=17
D24A S **Sn** **20 46 47.7 +1.0**
baz=2.6
H17A Grant Village 2.69 255 *e*Pg **Pb** **20 46 18.4 +0.3**
E25A Miller Ranch, 2.83 60 P **Pn** **20 46 15.7 +0.3**
baz=2.8,SNR=10
FLWY Flagg Ranch 2.88 250 *e*P **Pb** **20 46 19.8 -1.5**
C23A Lambert 2.94 24 P **Pn** **20 46 17.8 +1.1**
baz=2.9,SNR=14
BW06 Boulder Array 3.03 220 *e*P **Pb** **20 46 21.3 -2.5**
PDAR Pinedale Array 3.03 220 Pn **Pn** **20 46 20.4 +2.2**
4.1nm,0.3s,baz=49,slow=18,SNR=85
PDAR Lg Lg 20 47 01.1
4.7nm,0.3s,baz=46,slow=31,SNR=20
LOHW Long Hollow 3.04 241 *e*P **Pb** **20 46 22.4 -1.5**
MOOW Moose Ponds 3.06 244 *e*P **Pn** **20 46 21.4 +2.7**
G26A Maurine 3.07 85 P **Pn** **20 46 19.4 +0.7**
baz=3.0,SNR=9.1
IMW Indian Meadow 3.12 248 *e*P **Pn** **20 46 20.9 +1.4**
QLMT Earthquake Lak 3.20 266 *e*P **Pb** **20 46 25.7 -1.0**
REDW Red Top Meadow 3.32 239 *e*Pg **Pb** **20 46 29.9 +1.2**
BOZ Bozeman (W) 3.35 281 P **Pn** **20 46 22.7 +0.1**
baz=3.3,SNR=5.4
EGMT Eagleton 3.49 327 *e*P **Pn** **20 46 25.4 +1.0**
HRY Holter Researc 3.76 297 *e*Pg **Pg** **20 46 39.6 -1.3**
DGMT Dagmar 3.83 28 P **Pn** **20 46 29.9 +0.8**
baz=3.8
DGMT Dagmar 3.83 28 *e*Pn **Pn** **20 46 29.1 0.0**
LRM Limekiln Ridge 3.94 282 *e*Pn **Pn** **20 46 30.6 -0.1**
DLMT Dillon 4.00 275 *e*Pn **Pn** **20 46 32.1 +0.6**
CHMT Chamberlain Mo 4.75 294 *e*Pn **Pn** **20 46 42.0 +0.2**
I56US NEWPORT INFRAS 7.67 298 *i* 21 34 10.0
baz=111,slow=318,SNR=0.9
ULM Lac du Bonnet 9.05 52 Pn **Pn** **20 47 38.8 -1.8**
1.7nm,0.3s,baz=240,slow=12,SNR=11
ULM Lg Lg 20 50 07.7
0.2nm,0.3s,baz=174,slow=16,SNR=2.1
TXAR Lajitas Array 15.98 170 Pn **Pn** **20 49 15.3 +0.2**
0.0nm,0.3s,baz=3.5,slow=16,SNR=2.5

IDC ***24*** *20:46:22.3±0.7, 3.71S×103.25W, h0km, mb4.3/17, mb1 4.5/17, mb1mx4.4/24, mbtmp4.3/17, MS3.9/13, Ms1 3.8/13, ms1mx3.7/23, Error ellipse: s-maj=25.9km s-min=14.4km az=59.0*

ISCJB ***24*** *20:46:23.7±0.5, 3.64S±0.07×102.92W±0.08, h10km, mb4.5/58, MS3.8/13, Error ellipse: s-maj=12.9km s-min=7.0km az=142.9*

NEIC ***24*** *20:46:24.1±0.4, 3.79S×103.06W, h10km, mb4.7/39, Error ellipse: s-maj=12.9km s-min=6.7km az=61.0*

ISC 24 20:46:24.0±0.6, 3.7S±0.1×103.1W±0.1, h10km, n208, σ1§11/197, mb4.5/58, MS4.0/13, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**22.84**	**52**	P	P	20 51 33.1	+5.5
	1.6nm,0.3s,baz=218,slow=8.7,SNR=3.7						
JTS				LR	LR	20 57 55.1	
	comp=Z,160nm,20.1s,baz=216,slow=30						
ATAH	**Atahualpa**	**24.85**	**99**	P	**P**	**20 51 50.2**	**+2.8**
	1.7nm,0.4s,baz=281,slow=13,SNR=3.5						
ATAH				LR	LR	20 59 07.3	
	comp=Z,482nm,19.2s,baz=272,slow=31						
OTAV	**Otavalo**	**24.97**	**81**	*e*P	**P**	**20 51 47.4**	**-1.2**
	24nm,1.2s						
NNA	**Nana**	**27.28**	**109**	LR	LR	21 00 18.2	
	comp=Z,284nm,20.5s,baz=284,slow=30						
LPIG	**La Paz**	**28.53**	**346**	LR	LR	21 00 50.7	
	comp=Z,217nm,21.9s,baz=181,slow=30						
035A	**Encino**	**30.87**	**9**	P	**P**	**20 52 42.7**	**+2.0**
	baz=31						
933A	**Laredo**	**31.38**	**7**	P	**P**	**20 52 46.9**	**+1.7**
	baz=32						
835A	**Beeville**	**32.23**	**9**	P	**P**	**20 52 53.9**	**+1.2**
	baz=32						
TXAR	**Lajitas Array**	**32.87**	**359**	P	**P**	**20 52 58.0**	**-0.4**
	1.8nm,1.0s,baz=183,slow=12,SNR=11						
TXAR				PcP	**PcP**	**20 55 43.5**	**+0.3**
	0.6nm,0.7s,baz=180,slow=5.8,SNR=5.9						
TXAR				LR	LR	21 05 03.5	
	comp=Z,118nm,20.6s,baz=0.0,slow=34						
633A	**Saathoff Ranch**	**33.21**	**6**	P	**P**	**20 53 02.9**	**+1.6**
	baz=34						
529A	**Stev Forest Ra**	**33.67**	**1**	P	**P**	**20 53 06.6**	**+1.2**
	baz=34						
530A	**J-C Ranch, Com**	**33.73**	**3**	P	**P**	**20 53 07.0**	**+1.2**
	baz=34,SNR=6.5						
531A	**Rocksprings**	**33.79**	**4**	P	**P**	**20 53 07.6**	**+1.2**
	baz=34						
532A	**Rocksprings**	**33.80**	**5**	P	**P**	**20 53 07.6**	**+1.1**
	baz=34						
533A	**Kerrville**	**33.83**	**6**	P	**P**	**20 53 07.6**	**+0.9**
	baz=34						
431A	**Sonora**	**34.30**	**4**	P	**P**	**20 53 12.1**	**+1.3**
	baz=35						
432A	**Menard**	**34.55**	**5**	P	**P**	**20 53 13.7**	**+0.7**
	baz=35						
SDV	**Santo Domingo**	**34.73**	**69**	*e*P	**P**	**20 53 14.9**	**0.0**
	13nm,1.0s						
334A	**Lometa**	**35.17**	**7**	P	**P**	**20 53 19.4**	**+1.1**
	baz=35						
231A	**Bronte**	**35.56**	**4**	P	**P**	**20 53 22.4**	**+0.7**
	baz=36						
232A	**Coleman**	**35.57**	**5**	P	**P**	**20 53 22.4**	**+0.7**
	baz=36						
121A	**Cookes Peak, D**	**36.33**	**353**	P	**P**	**20 53 30.1**	**+1.7**
	baz=37						
121A	**Cookes Peak, D**	**36.33**	**353**	*e*P	**P**	**20 53 29.6**	**+1.1**
	12nm,1.4s						
RKT	**Rikitea**	**36.33**	**235**	*e*T	T	21 31 35.0	
	1.4nm,0.3s						
238A	**Jacksonville**	**36.34**	**12**	P	**P**	**20 53 28.7**	**+0.4**
	baz=37						
133A	**Hamilton Ranch**	**36.35**	**6**	P	**P**	**20 53 29.2**	**+0.7**
	baz=37						
LPAZ	**La Paz**	**36.58**	**112**	P	**P**	**20 53 32.7**	**+1.5**
	2.7nm,0.9s,baz=254,slow=2.7,SNR=3.7						
LPAZ				LR	LR	21 06 27.4	
	comp=Z,121nm,18.6s,baz=272,slow=33						
LPAZ	**La Paz**	**36.58**	**112**	*e*P	**P**	**20 53 32.3**	**+1.1**
	9.2nm,1.3s						
Z29A	**Hungry Hill Ra**	**36.81**	**2**	P	**P**	**20 53 32.4**	**+0.1**
	baz=37						
Z30A	**Sanderson Ranc**	**36.86**	**3**	P	**P**	**20 53 33.0**	**+0.2**
	baz=37,SNR=6.0						
Z32A	**Haskell**	**36.99**	**5**	P	**P**	**20 53 34.8**	**+1.0**
	baz=37						
Z33A	**Whitaker Ranch**	**37.04**	**6**	P	**P**	**20 53 34.8**	**+0.6**
	baz=37						
Z35A	**Perchaven, San**	**37.27**	**8**	P	**P**	**20 53 37.1**	**+0.9**
	baz=38						
MSTX	**Muleshoe**	**37.49**	**0**	P	**P**	**20 53 39.9**	**+1.7**
	baz=38						
Y31A	**Rekieta Farm,**	**37.58**	**4**	P	**P**	**20 53 39.7**	**+0.9**
	baz=38						
Y32A	**R-V Farms, Ver**	**37.69**	**5**	P	**P**	**20 53 40.7**	**+0.9**
	baz=38						
LVC	**Limon Verde**	**38.08**	**123**	P	**P**	**20 53 44.7**	**+1.2**
	17nm,0.9s,baz=116,slow=1.0,SNR=3.6						
X32A	**Elmer**	**38.12**	**5**	P	**P**	**20 53 44.4**	**+1.0**
	baz=38						
GLA	**Glamis**	**38.22**	**344**	P	**P**	**20 53 46.2**	**+1.9**
	baz=38						
X31A	**McDonald Ranch**	**38.27**	**4**	P	**P**	**20 53 45.8**	**+1.2**
	baz=38						
SWSC	**Sam W. Stewart**	**38.39**	**343**	P	**P**	**20 53 47.7**	**+2.0**
	baz=39						
Y39A	**Lockesburg**	**38.42**	**12**	P	**P**	**20 53 46.2**	**+0.3**
	baz=39						
AMTX	**Amarillo**	**38.43**	**2**	P	**P**	**20 53 47.0**	**+1.0**
	baz=39						
ANMO	**Albuquerque**	**38.59**	**356**	P	**P**	**20 53 48.3**	**+0.7**
	0.5nm,0.5s,baz=114,slow=9.9,SNR=3.6						
X36A	**Centrahoma**	**38.62**	**9**	P	**P**	**20 53 48.7**	**+1.1**
	baz=39						
X37A	**Clayton**	**38.80**	**10**	P	**P**	**20 53 49.7**	**+0.5**
	baz=39						
BC3	**Big Chuckawall**	**38.96**	**344**	P	**P**	**20 53 52.4**	**+1.8**
	baz=39						
X38A	**Whitesboro**	**38.98**	**11**	P	**P**	**20 53 51.0**	**+0.4**
	baz=39						
MIAR	**Mount Ida**	**39.12**	**13**	P	**P**	**20 53 51.9**	**+0.2**
	baz=39						
MIAR	**Mount Ida**	**39.12**	**13**	*e*P	**P**	**20 53 52.4**	**+0.6**
	11nm,1.1s						
W35A	**Tecumseh**	**39.12**	**8**	P	**P**	**20 53 52.2**	**+0.5**
	baz=39						
PFO	**Pinyon Flats O**	**39.21**	**342**	P	**P**	**20 53 54.5**	**+1.7**
	baz=40						
PDMCI	**Parker Dam,Lak**	**39.22**	**346**	P	**P**	**20 53 54.4**	**+1.8**
	baz=40						
W37A	**Quinton**	**39.33**	**10**	P	**P**	**20 53 53.8**	**+0.3**
	baz=40,SNR=5.8						
BELC	**Belle Mtn. Jos**	**39.44**	**343**	P	**P**	**20 53 56.6**	**+2.0**
	baz=40						
V33A	**Lossen Ranch,**	**39.60**	**6**	P	**P**	**20 53 56.8**	**+1.0**
	baz=40						
WUAZ	**Wupatki**	**39.80**	**349**	P	**P**	**20 53 59.6**	**+2.0**
	baz=40						
WUAZ	**Wupatki**	**39.80**	**349**	*e*P	**P**	**20 53 59.8**	**+2.1**
	9.6nm,1.1s						
U29A	**Oasis Ranch, S**	**40.01**	**2**	P	**P**	**20 53 59.7**	**+0.5**
	baz=40						
SAML	**Samuel**	**40.02**	**99**	*e*P	**P**	**20 53 58.4**	**-1.2**
	17nm,1.3s						
TUL1	**Leonard**	**40.02**	**9**	P	**P**	**20 53 59.4**	**+0.1**
	baz=40						
GMRC	**Granite Mounta**	**40.08**	**344**	P	**P**	**20 54 01.1**	**+1.2**
	baz=40,SNR=7.3						
V37A	**Hulbert**	**40.10**	**10**	P	**P**	**20 54 00.2**	**+0.2**
	baz=40						
BFSC	**Mount Baldy Ra**	**40.17**	**341**	P	**P**	**20 54 03.2**	**+2.4**
	baz=40						
HEC	**Hector,Ludlow**	**40.31**	**343**	P	**P**	**20 54 03.9**	**+2.1**
	baz=41						
BLG	**Laguna Peak, P**	**40.52**	**339**	P	**P**	**20 54 05.4**	**+1.9**
	baz=41						
T33A	**Patterson Ranc**	**40.85**	**6**	P	**P**	**20 54 07.2**	**+1.1**
	baz=41						
EDW2	**Edwards Air Fo**	**40.87**	**341**	P	**P**	**20 54 07.9**	**+1.5**
	baz=41						
T32A	**Huddler Ranch,**	**40.88**	**5**	P	**P**	**20 54 07.0**	**+0.6**
	baz=41						
GSC	**Goldstone, Bar**	**40.89**	**343**	P	**P**	**20 54 07.7**	**+1.1**
	baz=41,SNR=5.7						
GSC	**Goldstone, Bar**	**40.89**	**343**	*e*P	**P**	**20 54 08.5**	**+1.9**
	7.6nm,1.0s						
T34A	**McClaskey Farm**	**40.91**	**7**	P	**P**	**20 54 06.8**	**+0.1**
	baz=41						
MVCO	**Mesa Verde**	**41.03**	**353**	P	**P**	**20 54 08.8**	**+0.9**
	baz=41						
MVCO	**Mesa Verde**	**41.03**	**353**	*e*P	**P**	**20 54 09.2**	**+1.3**
	13nm,1.2s						
T36A	**Boggs Farm, Ca**	**41.13**	**9**	P	**P**	**20 54 08.9**	**+0.4**
	baz=41						
SHOC	**Shoshone, Teco**	**41.30**	**344**	P	**P**	**20 54 12.3**	**+2.4**
	baz=42						
SDCO	**Great Sand Dun**	**41.32**	**357**	P	**P**	**20 54 11.6**	**+1.3**
	baz=42						
SDCO	**Great Sand Dun**	**41.32**	**357**	*e*P	**P**	**20 54 11.6**	**+1.3**
	15nm,1.9s						
T37A	**Cheneyville 18**	**41.35**	**10**	P	**P**	**20 54 10.6**	**+0.4**
	baz=42						
S22A	**4UR Ranch, Cre**	**41.40**	**356**	P	**P**	**20 54 11.9**	**+0.8**
	baz=42						
PKM	**Mcpherson Peak**	**41.50**	**339**	P	**P**	**20 54 13.5**	**+1.7**
	baz=42						
SHPR	**Sheep Range**	**41.57**	**345**	*e*P	**P**	**20 54 14.2**	**+1.9**
	11nm,1.2s						
S35A	**Otter Creek Ra**	**41.68**	**8**	P	**P**	**20 54 13.4**	**+0.4**
	baz=42						
ISA	**Isabella, Lake**	**41.74**	**341**	P	**P**	**20 54 14.7**	**+1.1**
	baz=42						
MPMC	**Manual Prospec**	**41.80**	**342**	P	**P**	**20 54 15.3**	**+1.1**
	baz=42,SNR=7.1						
S36A	**Lake Cedric, C**	**41.83**	**9**	P	**P**	**20 54 14.5**	**+0.4**
	baz=42						
R30A	**Dighton**	**41.88**	**3**	P	**P**	**20 54 15.1**	**+0.4**
	baz=42						
SMMC	**Simmler**	**41.94**	**339**	P	**P**	**20 54 16.7**	**+1.6**
	baz=42						
WVT	**Waverly**	**42.15**	**19**	*e*P	**P**	**20 54 16.4**	**-0.4**
	9.5nm,0.9s						
R34A	**Isabella, Hill**	**42.17**	**7**	P	**P**	**20 54 17.2**	**+0.3**
	baz=42						
TPNV	**Topopah Spring**	**42.27**	**344**	P	**P**	**20 54 20.0**	**+2.0**
	baz=43						
R35A	**Emporia Munici**	**42.33**	**8**	P	**P**	**20 54 19.2**	**+1.0**
	baz=43						
R36A	**Gordon, Harris**	**42.43**	**9**	P	**P**	**20 54 19.9**	**+0.8**
	baz=43						
CPCT	**Cooper Cave**	**42.70**	**23**	*e*P	**P**	**20 54 21.4**	**+0.1**
MSU	**Marysvale**	**42.85**	**350**	*e*P	**P**	**20 54 24.7**	**+1.9**
	5.2nm,1.1s						
Q35A	**Mercer Eighty,**	**42.88**	**8**	P	**P**	**20 54 22.9**	**+0.2**
	baz=43						
CFAA	**Coronel Fontan**	**42.94**	**134**	P	**P**	**20 54 23.2**	**-0.2**
	0.2nm,0.4s,baz=307,slow=12,SNR=2.5						
Q36A	**Arnold C. Orve**	**43.06**	**9**	P	**P**	**20 54 24.0**	**-0.2**
	baz=43						
TKL	**Tuckaleechee C**	**43.17**	**23**	P	**P**	**20 54 24.6**	**-0.6**
	3.2nm,0.8s,baz=236,slow=6.9,SNR=4.3						
TKL				PcP	**PcP**	**20 56 13.1**	**-1.6**
	6.2nm,0.5s,baz=71,slow=12,SNR=9.2						
PTGA	**Pitinga**	**43.23**	**87**	P	**P**	**20 54 25.7**	**-0.3**
	4.2nm,0.8s,baz=272,slow=7.5,SNR=8.6						
ISCO	**Idaho Springs**	**43.37**	**357**	P	**P**	**20 54 28.1**	**+1.1**
	baz=44						
ISCO	**Idaho Springs**	**43.37**	**357**	*e*P	**P**	**20 54 28.2**	**+1.1**
R11A	**Troy Canyon, C**	**43.42**	**346**	P	**P**	**20 54 29.2**	**+1.8**
	baz=44,SNR=7.5						
R11A	**Troy Canyon, C**	**43.42**	**346**	*e*P	**P**	**20 54 29.5**	**+2.1**
	4.9nm,1.1s						
P34A	**Walnut Farm, R**	**43.45**	**7**	P	**P**	**20 54 28.6**	**+1.3**
	baz=44						
P35A	**Duane Minner,**	**43.54**	**8**	P	**P**	**20 54 28.1**	**0.0**
	baz=44						
P36A	**Good Intent, A**	**43.74**	**9**	P	**P**	**20 54 30.1**	**+0.4**
	baz=44						
O20A	**White River Ci**	**43.90**	**354**	P	**P**	**20 54 32.6**	**+1.5**
	baz=44						
MPU	**Maple Canyon**	**44.22**	**351**	*e*P	**P**	**20 54 35.4**	**+1.6**
	37nm,1.1s						
NVAR	**Mina Array Bea**	**44.23**	**343**	P	**P**	**20 54 33.6**	**-0.3**
	2.1nm,0.9s,baz=172,slow=8.4,SNR=9.3						
NVAR				PcP	**PcP**	**20 56 19.8**	**+1.2**
	0.8nm,0.8s,baz=169,slow=5.0,SNR=4.4						
O35A	**Humboldt**	**44.28**	**8**	P	**P**	**20 54 34.7**	**+0.8**
	baz=44						
DUG	**Dugway, Tooele**	**44.60**	**349**	P	**P**	**20 54 38.5**	**+1.8**
	baz=45						
DUG	**Dugway, Tooele**	**44.60**	**349**	*e*P	**P**	**20 54 38.6**	**+1.8**
	9.8nm,1.3s						
BGU	**Big Grassy Mou**	**45.35**	**349**	*e*P	**P**	**20 54 44.2**	**+1.5**
	6.8nm,1.2s						
ELK	**Elko**	**45.62**	**347**	P	**P**	**20 54 45.4**	**+0.4**
	2.2nm,0.9s,baz=157,slow=7.1,SNR=9.6						
HWUT	**Hardware Ranch**	**45.77**	**351**	*e*P	**P**	**20 54 47.4**	**+1.4**
	15nm,1.0s						
HVU	**Hansel Valley**	**46.13**	**350**	*e*P	**P**	**20 54 50.1**	**+1.2**
	13nm,1.1s						
BW06	**Boulder Array**	**46.64**	**353**	*e*P	**P**	**20 54 53.3**	**+0.4**
	9.2nm,1.3s						
PDAR	**Pinedale Array**	**46.64**	**353**	P	**P**	**20 54 52.9**	**-0.1**
	5.1nm,1.1s,baz=145,slow=5.4,SNR=23						
PDAR				PcP	**PcP**	**20 56 26.1**	**-0.7**
	0.5nm,0.5s,baz=123,slow=4.4,SNR=3.3						
PDAR				LR	LR	21 13 46.2	
	comp=Z,25nm,18.6s,baz=136,slow=35						
AHID	**Auburn Hatcher**	**46.83**	**352**	*e*P	**P**	**20 54 54.9**	**+0.4**
	4.0nm,0.6s						
J21A	**Lysite**	**47.02**	**356**	P	**P**	**20 54 56.7**	**+0.9**
	baz=47						
J22A	**Midwest**	**47.02**	**357**	P	**P**	**20 54 56.3**	**+0.5**
	baz=47						
J20A	**Shoshoni**	**47.08**	**355**	P	**P**	**20 54 56.7**	**+0.5**
	baz=47,SNR=7.5						
J19A	**Crowheart**	**47.08**	**354**	P	**P**	**20 54 56.7**	**+0.4**
	baz=47						
I21A	**Big Trails, Te**	**47.47**	**356**	P	**P**	**20 54 59.5**	**+0.2**
	baz=48						
PPT	**Papeete**	**47.52**	**250**	LR	LR	21 09 24.5	
	comp=Z,173nm,20.9s,baz=90,slow=29						
TPAW	**Teton Pass**	**47.53**	**352**	*e*P	**P**	**20 55 00.5**	**+0.6**
	10nm,1.1s						
PPT2	**Papeete2**	**47.53**	**250**	*e*LR	LR	21 08 18.7	
	264nm,25.0s						
I25A	**Rochford**	**47.53**	**359**	P	**P**	**20 55 00.8**	**+0.9**
	baz=48						
LOHW	**Long Hollow**	**47.60**	**353**	*e*P	**P**	**20 55 00.8**	**+0.4**
	9.7nm,1.4s						
ECSD	**EROS Data Cent**	**47.60**	**6**	P	**P**	**20 55 00.0**	**-0.2**
	baz=48						
I20A	**Worland**	**47.67**	**355**	P	**P**	**20 55 01.6**	**+0.7**
	baz=48						
MOOW	**Moose Ponds**	**47.75**	**353**	*e*P	**P**	**20 55 02.0**	**+0.4**
	10nm,1.3s						
IMW	**Indian Meadow**	**47.92**	**352**	*e*P	**P**	**20 55 03.8**	**+0.8**
	10nm,1.0s						
MOD	**Modoc Plateau**	**48.03**	**343**	*e*P	**P**	**20 55 05.5**	**+1.8**
	28nm,1.5s						
WVOR	**Wild Horse Val**	**48.05**	**345**	*e*P	**P**	**20 55 05.4**	**+1.6**
	8.9nm,1.1s						
FLWY	**Flagg Ranch**	**48.08**	**353**	*e*P	**P**	**20 55 05.1**	**+1.0**
	13nm,1.1s						
HLID	**Hailey**	**48.16**	**349**	P	**P**	**20 55 05.8**	**+1.2**
	baz=48,SNR=13						
HLID	**Hailey**	**48.16**	**349**	*e*P	**P**	**20 55 05.9**	**+1.2**
	8.0nm,1.0s						
H24A	**Dirks Ranch, A**	**48.27**	**359**	P	**P**	**20 55 06.2**	**+0.8**
	baz=49						
MFID	**Camas Ranch**	**48.30**	**348**	*e*P	**P**	**20 55 07.1**	**+1.4**
	12nm,1.3s						
H17A	**Grant Village**	**48.37**	**353**	P	**P**	**20 55 04.4**	**-2.0**
M02C	**Callahan**	**48.37**	**340**	P	**P**	**20 55 07.7**	**+1.4**
	baz=49						
M04C	**Macdoel**	**48.39**	**341**	P	**P**	**20 55 07.6**	**+1.1**
	baz=49,SNR=6.5						
YBH	**Yreka Blue Hor**	**48.63**	**340**	P	**P**	**20 55 08.2**	**0.0**
	3.9nm,0.9s,baz=136,slow=4.1,SNR=6.3						
G26A	**Maurine**	**48.80**	**0**	P	**P**	**20 55 10.0**	**+0.5**
	baz=49						
QLMT	**Earthquake Lak**	**48.91**	**352**	*e*P	**P**	**20 55 12.1**	**+1.6**
	1.3nm,0.9s						
RLMT	**Red Lodge**	**48.94**	**354**	*e*P	**P**	**20 55 10.6**	**-0.2**
	6.7nm,1.1s						
MCMT	**McKenzie Canyo**	**49.11**	**351**	*e*P	**P**	**20 55 13.5**	**+1.4**
	5.6nm,1.2s						
CPUP	**Villa Florida**	**49.24**	**122**	P	P	20 55 16.3	+3.1
	5.6nm,1.0s,baz=279,slow=5.4,SNR=4.7						
CPUP				LR	LR	21 12 24.2	
	comp=Z,136nm,19.4s,baz=222,slow=32						
J05D	**Fort Rock, OR**	**49.57**	**343**	P	**P**	**20 55 16.3**	**+0.8**
	baz=50,SNR=5.3						
BOZ	**Bozeman (W)**	**49.73**	**352**	P	**P**	**20 55 17.6**	**+0.9**
	baz=50						
J04D	**Umpqua Nationa**	**49.79**	**342**	P	**P**	**20 55 18.6**	**+1.3**
	baz=50						
E26A	**Carlson Angus**	**49.98**	**1**	P	**P**	**20 55 18.7**	**+0.3**
	baz=50						
I04A	**Tendick Farm,**	**50.39**	**342**	P	**P**	**20 55 22.6**	**+1.1**
	baz=51						
D24A	**Glendive**	**50.63**	**359**	P	**P**	**20 55 24.2**	**+0.8**
	baz=51						
CHMT	**Chamberlain Mo**	**51.21**	**351**	*e*P	**P**	**20 55 28.8**	**+0.9**
	6.8nm,1.5s						
MSO	**Missoula**	**51.24**	**350**	P	**P**	**20 55 28.9**	**+0.9**
	baz=52						
C23A	**Lambert**	**51.34**	**358**	P	**P**	**20 55 29.5**	**+0.8**
	baz=52						
C26A	**Wahner Farm, P**	**51.34**	**1**	P	**P**	**20 55 29.3**	**+0.6**
	baz=52						
C30A	**Mose, Pekin**	**51.37**	**4**	P	**P**	**20 55 29.1**	**+0.2**
	baz=52						
G05D	**Wamic, OR**	**51.38**	**344**	P	**P**	**20 55 30.4**	**+1.4**
	baz=52						
C20A	**Veseth Ranch,**	**51.40**	**356**	P	**P**	**20 55 29.1**	**-0.1**
	baz=52,SNR=5.3						
C21A	**Desert Coulee**	**51.45**	**357**	P	**P**	**20 55 30.4**	**+0.9**
	baz=52						
EGMT	**Eagleton**	**51.86**	**354**	P	**P**	**20 55 33.0**	**+0.4**
	baz=52						
B20A	**Solberg Farm,**	**52.12**	**356**	P	**P**	**20 55 35.0**	**+0.5**
	baz=52						
AGMN	**Agassiz Nation**	**52.20**	**6**	P	**P**	**20 55 35.1**	**+0.1**
	baz=52						
B19A	**Brinkman Farms**	**52.21**	**355**	P	**P**	**20 55 35.7**	**+0.5**
	baz=52						
A24A	**Westby**	**52.44**	**359**	P	**P**	**20 55 37.7**	**+0.8**
	baz=53						
EYMN	**Ely**	**52.46**	**10**	P	**P**	**20 55 36.6**	**-0.3**
	baz=53						
A29A	**Manning Farm,**	**52.54**	**3**	P	**P**	**20 55 37.0**	**-0.6**
	baz=53,SNR=5.7						
A30A	**Hoffart Farm,**	**52.62**	**4**	P	**P**	**20 55 38.0**	**-0.1**
	baz=53						
A19A	**Klindworth Far**	**52.67**	**355**	P	**P**	**20 55 39.0**	**+

SUMG	**Summit**	**86.15**	**16**	*e*P	**P**	**20 59 06.2**	**+0.6**
	11nm,1.1s							
QSPA	**South Pole Qui**	**86.33**	**180**	*e*P	**P**	**20 59 06.7**	**+0.5**
	12nm,1.0s							
VNDA	**Vanda**	**87.48**	**193**	P	**P**	**20 59 12.6**	**+1.0**
	1.5nm,1.1s,baz=223,slow=0.2,SNR=3.7							
H11N3	**WAKE ISLAND Hy**	**91.20**	**290**	T	T	22 40 34.0		
	baz=95,slow=75,SNR=19							
H11N2	**WAKE ISLAND Hy**	**91.22**	**290**	T	T	22 40 39.9		
	baz=95,slow=75,SNR=17							
H11N1	**WAKE ISLAND Hy**	**91.22**	**290**	T	T	22 40 39.4		
	baz=95,slow=75,SNR=13							
H11S2	**WAKE ISLAND Hy**	**91.32**	**288**	T	T	22 40 47.3		
	baz=94,slow=75,SNR=19							
H11S1	**WAKE ISLAND Hy**	**91.33**	**288**	T	T	22 40 47.8		
	baz=94,slow=75,SNR=17							
H11S3	**WAKE ISLAND Hy**	**91.34**	**288**	T	T	22 40 48.6		
	baz=94,slow=75,SNR=12							
PETK	**Petropavlovsk-**	**98.48**	**323**	LR	LR	21 35 34.9		
	comp=Z,49nm,21.2s,baz=81,slow=30							
ASAR	**Alice Springs**	**118.17**	**241**	PKP	**PKPdf**	**21 05 10.9**	**-1.5**
	0.3nm,0.8s,baz=112,slow=1.6,SNR=4.1							
AKASG	**Malin Array Be**	**118.51**	**32**	PKP	**PKPdf**	**21 05 12.9**	**+0.7**
	0.2nm,0.3s,baz=264,slow=0.2,SNR=2.9							
WRA	**Warramunga Arr**	**118.88**	**245**	PKP	**PKPdf**	**21 05 11.8**	**-2.0**
	0.4nm,0.6s,baz=100,slow=2.7,SNR=7.1							
KSRS	**Korea Array**	**122.57**	**313**	PKP	**PKPdf**	**21 05 19.7**	**-0.7**
	0.5nm,0.3s,baz=133,slow=1.2,SNR=6.3							
KSAR	**Wonju Array Be**	**122.60**	**313**	PKP	**PKPdf**	**21 05 19.7**	**-0.8**
BRTR	**Keskin Array B**	**127.00**	**41**	PKP	**PKPdf**	**21 05 28.6**	**-0.4**
	1.7nm,1.0s,baz=149,slow=2.6,SNR=5.3							
SONM	**Songino Array**	**129.25**	**335**	PKP	**PKPdf**	**21 05 32.7**	**-0.4**
	2.1nm,1.1s,baz=45,slow=2.1,SNR=8.9							
ZALV	**Zalesovo Beam**	**129.51**	**354**	PKP	**PKPdf**	**21 05 32.5**	**-0.7**
	0.7nm,0.6s,baz=20,slow=4.7,SNR=4.2							
ABKAR	**Akbulak array**	**132.40**	**15**	*e*PKPdf	**PKPdf**	**21 05 39.2**	**+0.4**
KURK	**Kurchatov**	**133.15**	**358**	*e*PKPdf	**PKPdf**	**21 05 39.9**	**-0.3**
GEYT	**Alibeck**	**141.88**	**24**	PKP	**PKPdf**	**21 05 55.7**	**-1.1**
	2.3nm,0.9s,baz=141,slow=5.5,SNR=4.3							
LSA	**Lhasa**	**150.84**	**334**	*e*PKPbc	**PKPbc**	**21 06 18.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**153.91**	**306**	PKP	**PKPdf**	**21 06 16.9**	**0.0**
	0.7nm,0.9s,baz=325,slow=1.4,SNR=4.4							
CMAR				PKPbc	**PKPbc**	**21 06 24.0**	**-0.8**
	1.8nm,0.8s,baz=327,slow=1.2,SNR=4.5							

HLW ***24*** *20:50:51.6,36˚.14N×25˚.90E,h34km±15km,Md3.8,MI3.3*
DDA ***24*** *20:50:54.2,35˚.40N×26˚.19E,h8km,MD3.4*
IDC ***24*** *20:50:54.4±0.9,35˚.50N×26˚.40E,h0km,mb3.7/6, mb1 3.7/14,mb1mx3.6/32,mbtmp3.6/14,ML3.3/8,MS4.0/1, Ms1 4.0/1,ms1mx2.6/36,Error ellipse: s-maj=20.5km s-min=13.3km az=171.0*
ATH ***24*** *20:50:55.3,35˚.50N×26˚.33E,h29km±1km,MD3.8/40, ML3.8*
ISK ***24*** *20:50:55.8,35˚.56N×26˚.17E,h14km,ML3.6*
THE ***24*** *20:50:56.0,35˚.51N×26˚.33E,h3km±1km,ML3.7/3,Error ellipse: s-maj=1.8km s-min=0.6km az=171.0*
CSEM ***24*** *20:50:56.5±0.1,35˚.53N×26˚.28E,h5km,MD3.8,Error ellipse: s-maj=3.8km s-min=2.8km az=175.0*
ISCJB ***24*** *20:50:56.9±0.2,35˚.43N±0˚.02×26˚.31E±0˚.02,h35km±6km, mb3.5/6,MS4.1/1,Error ellipse: s-maj=3.4km s-min=2.4km az=0.6*

ISC 24 20:50:57.1±0.9,35˚.47N±0˚.02×26˚.33E±0˚.02,h20km±3km, n248,σ1s26/295,mb3.6/6,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZKR	**Zakros**	**0.37**	**195**	P		**Pg**	**20 51 04.2**	**-0.7**
ZKR				S		**Sb**	**20 51 10.8**	**+0.4**
ZKR	**Zakros**	**0.37**	**195**	*e*PB		**Pg**	**20 51 04.2**	**-0.7**
ZKR				*e*SB		**Sb**	**20 51 10.8**	**+0.4**
ZKR	**Zakros**	**0.37**	**195**	P		**Pg**	**20 51 04.2**	**-0.7**
ZKR				S		**Sb**	**20 51 10.8**	**+0.4**
NPS	**Neapolis**	**0.62**	**251**	P		**Pg**	**20 51 08.6**	**-1.0**
NPS				S		**Sg**	**20 51 17.3**	**-0.7**
NPS	**Neapolis**	**0.62**	**251**	*e*PN		**Pg**	**20 51 08.7**	**-0.9**
NPS				*e*SN		**Sg**	**20 51 17.5**	**-0.5**
NPS	**Neapolis**	**0.62**	**251**	P		**Pg**	**20 51 08.6**	**-1.0**
NPS				S		**Sg**	**20 51 17.3**	**-0.7**
KARP	**Karpathos**	**0.68**	**83**	P		**Pb**	**20 51 09.3**	**-1.0**
KARP				S		**Sg**	**20 51 19.1**	**-0.6**
KARP	**Karpathos**	**0.68**	**83**	*e*PN		**Pb**	**20 51 09.5**	**-0.8**
KARP				*e*SN		**Sg**	**20 51 18.9**	**-0.8**
KARP	**Karpathos**	**0.68**	**83**	P		**Pb**	**20 51 09.3**	**-1.0**
KARP				S		**Sg**	**20 51 19.1**	**-0.6**
LAST	**Lasithi**	**0.76**	**246**	P		**Pb**	**20 51 10.9**	**-0.9**
LAST				S		**Sg**	**20 51 22.2**	**0.1**
LAST	**Lasithi**	**0.76**	**246**	*e*PN		**Pb**	**20 51 11.0**	**-0.9**
LAST				*e*SN		**Sb**	**20 51 21.6**	**-0.2**
LAST	**Lasithi**	**0.76**	**246**	P		**Pb**	**20 51 10.9**	**-0.9**
LAST				*e*Sn		**Sb**	**20 51 21.6**	**-0.2**
LAST				S		**Sg**	**20 51 22.2**	**-0.1**
SANT	**Santorini**	**1.14**	**322**	P		**Pn**	**20 51 16.7**	**-1.3**
SANT	**Santorini**	**1.14**	**322**	*e*PN		**Pn**	**20 51 16.8**	**-1.3**
SANT				*e*SN		**Sb**	**20 51 31.6**	**-1.1**
SANT	**Santorini**	**1.14**	**322**	P		**Pn**	**20 51 16.7**	**-1.3**
SANT				*e*Sn		**Sb**	**20 51 31.6**	**-1.1**
THR6	**Thira Island,**	**1.17**	**320**	P		**Pn**	**20 51 17.0**	**-1.3**
THR6	**Thira Island,**	**1.17**	**320**	P		**Pn**	**20 51 17.0**	**-1.3**
IDI	**Anoyia**	**1.19**	**262**	Pn		**Pn**	**20 51 18.0**	**-0.7**
	79nm,0.3s,baz=28,slow=5.4,SNR=366							
IDI				Sn		**Sb**	**20 51 34.3**	**+0.1**
	1μm,0.3s,baz=349,slow=16,SNR=47							
IDI				LR		LR	20 51 58.7	
	comp=Z,285nm,21.7s,baz=94,slow=51							
THR7	**Fira-Santorini**	**1.20**	**323**	P		**Pn**	**20 51 17.8**	**-1.0**
THR7	**Fira-Santorini**	**1.20**	**323**	P		**Pn**	**20 51 17.8**	**-1.0**
THR3	**Thira Island,**	**1.20**	**321**	P		**Pn**	**20 51 17.5**	**-1.3**
THR3	**Thira Island,**	**1.20**	**321**	P		**Pn**	**20 51 17.5**	**-1.3**
THR2	**Thira island,**	**1.22**	**323**	P		**Pn**	**20 51 17.8**	**-1.2**
THR2	**Thira island,**	**1.22**	**323**	P		**Pn**	**20 51 17.8**	**-1.2**
THR5	**Thira Island,**	**1.24**	**320**	*e*PN		**Pn**	**20 51 17.5**	**-1.8**
THR5	**Thira Island,**	**1.24**	**320**	P		**Pn**	**20 51 18.1**	**-1.2**
THR5	**Thira Island,**	**1.24**	**320**	*e*Pn		**Pn**	**20 51 17.5**	**-1.8**
THR5	**Thira Island,**	**1.24**	**320**	P		**Pn**	**20 51 18.1**	**-1.2**
NIS3	**Nisyros Isl.**	**1.29**	**31**	P		**Pn**	**20 51 18.8**	**-1.2**
NIS3	**Nisyros Isl.**	**1.29**	**31**	P		**Pn**	**20 51 18.8**	**-1.2**
NIS1	**Nisyros Isl.**	**1.32**	**31**	*e*PN		**Pn**	**20 51 20.8**	**+0.3**
NIS1	**Nisyros Isl.**	**1.32**	**31**	P		**Pn**	**20 51 19.6**	**-0.9**
NIS1				S		**Sb**	**20 51 38.0**	**+0.2**
NIS1	**Nisyros Isl.**	**1.32**	**31**	*e*PN		**Pn**	**20 51 19.4**	**-1.1**
NIS1	**Nisyros Isl.**	**1.32**	**31**	P		**Pn**	**20 51 19.6**	**-0.9**
NIS1	**Nisyros Isl.**	**1.32**	**31**	*e*Pn		**Pn**	**20 51 20.8**	**+0.3**
NIS1				S		**Sb**	**20 51 38.0**	**+0.2**
SIVA	**Sivas**	**1.33**	**250**	P		**Pb**	**20 51 21.2**	**-0.1**
SIVA				S		**Sb**	**20 51 38.9**	**+1.0**
SIVA	**Sivas**	**1.33**	**250**	*e*PN		**Pb**	**20 51 21.4**	**+0.1**
SIVA				*e*SN		**Sg**	**20 51 39.2**	**-0.9**
SIVA	**Sivas**	**1.33**	**250**	*e*Pn		**Pb**	**20 51 21.4**	**+0.1**
SIVA				S		**Sb**	**20 51 38.9**	**+1.0**
SIVA				*e*Sn		**Sg**	**20 51 39.2**	**-0.9**
ARG	**Arkhangelos**	**1.64**	**62**	P		**Pn**	**20 51 24.7**	**0.0**
ARG				S		**Sn**	**20 51 45.2**	**-0.1**
ARG	**Arkhangelos**	**1.64**	**62**	*e*PN		**Pn**	**20 51 24.8**	**0.0**
ARG				*e*SN		**Sn**	**20 51 44.6**	**-0.7**
ARG	**Arkhangelos**	**1.64**	**62**	*e*Pn		**Pn**	**20 51 24.8**	**0.0**
ARG				S		**Sn**	**20 51 45.2**	**-0.1**
APE	**Apeiranthos**	**1.72**	**338**	*e*PN		**Pn**	**20 51 24.6**	**-1.4**
APE	**Apeiranthos**	**1.72**	**338**	P		**Pn**	**20 51 24.6**	**-1.4**
APE	**Apeiranthos**	**1.72**	**338**	*e*PN		**Pn**	**20 51 24.9**	**-1.1**
APE				*e*SN		**Sn**	**20 51 45.4**	**-2.1**
APE	**Apeiranthos**	**1.72**	**338**	P		**Pn**	**20 51 24.6**	**-1.4**
APE	**Apeiranthos**	**1.72**	**338**	*e*Pn		**Pn**	**20 51 24.9**	**-1.1**
APE				*e*Sn		**Sn**	**20 51 45.4**	**-2.1**
VAM	**Vamos**	**1.74**	**269**	*e*PB		**Pn**	**20 51 24.9**	**-1.4**
VAM				*e*SN		**Sn**	**20 51 46.1**	**-1.8**
BODT	**Bodrum**	**1.77**	**26**	*e*PN		**Pn**	**20 51 25.8**	**-0.9**
BODT	**Bodrum**	**1.77**	**26**	*e*Pn		**Pn**	**20 51 25.8**	**-0.9**
BDRM	**Kayabasi**	**1.83**	**29**	*i* P		**Pn**	**20 51 26.5**	**-0.9**
BDRM				*i* S		**Sb**	**20 51 52.3**	**0.0**
BDRM	**Kayabasi**	**1.83**	**29**	*i* P		**Pn**	**20 51 26.5**	**-0.9**
BDRM				*i* S		**Sb**	**20 51 52.3**	**0.0**
MHLO	**Agia Marina, M**	**1.98**	**308**	P		**Pn**	**20 51 29.1**	**-0.4**
MHLO				S		**Sn**	**20 51 54.3**	**+0.5**
MHLO	**Agia Marina, M**	**1.98**	**308**	P		**Pn**	**20 51 29.1**	**-0.4**
MHLO				S		**Sn**	**20 51 54.3**	**+0.5**
SMG	**Samos**	**2.27**	**10**	P		**Pn**	**20 51 32.2**	**-1.3**
SMG				S		**Sn**	**20 52 00.1**	**-0.9**
SMG	**Samos**	**2.27**	**10**	*e*PN		**Pn**	**20 51 32.4**	**-1.1**
SMG	**Samos**	**2.27**	**10**	*e*Pn		**Pn**	**20 51 32.4**	**-1.1**
SMG				S		**Sn**	**20 52 00.1**	**-0.9**
YER	**Yerkesik**	**2.29**	**43**	*e*PN		**Pn**	**20 51 34.5**	**+0.7**
YER				*e*SN		**Sb**	**20 52 04.0**	**-1.6**
YER	**Yerkesik**	**2.29**	**43**	*e*Pn		**Pn**	**20 51 34.5**	**+0.7**
YER				*e*Sn		**Sb**	**20 52 04.1**	**-1.6**
DALY	**Dalyan (Mu˘la**	**2.31**	**54**	*e*PN		**Pn**	**20 51 35.3**	**+1.3**
DALY	**Dalyan (Mu˘la**	**2.31**	**54**	*e*Pn		**Pn**	**20 51 35.3**	**+1.3**
TURN	**Turunc**	**2.31**	**52**	*i* P		Pn	20 51 29.5	-4.5
TURN				*i* S		Sn	20 51 55.3	-6.5
ANKY	**Antikythira Is**	**2.50**	**280**	*e*PN		**Pn**	**20 51 35.5**	**-1.2**
ANKY	**Antikythira Is**	**2.50**	**280**	*e*Pn		**Pn**	**20 51 35.5**	**-1.2**
KSL	**Kastellorizon**	**2.73**	**75**	*e*PN		**Pn**	**20 51 37.8**	**-2.0**
AYDB	**Zeytinkoy-Aydi**	**2.77**	**26**	*e*PN		**Pn**	**20 51 41.0**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**2.77**	**26**	*e*Pn		**Pn**	**20 51 41.0**	**+0.5**
KYTH	**Kithira**	**2.80**	**288**	P		**Pn**	**20 51 40.1**	**-0.7**
KYTH	**Kithira**	**2.80**	**288**	*e*PN		**Pn**	**20 51 39.7**	**-1.1**
KYTH	**Kithira**	**2.80**	**288**	*e*PN		**Pn**	**20 51 39.7**	**-1.1**
KYTH	**Kithira**	**2.80**	**288**	P		**Pn**	**20 51 40.1**	**-0.7**
URLA	**Izmir**	**2.89**	**4**	*i* P		**Pn**	**20 51 41.0**	**-1.2**
URLA				*i* S		**Sg**	**20 52 30.6**	**+0.5**
URLA	**Izmir**	**2.89**	**4**	*i* P		**Pn**	**20 51 40.9**	**-1.2**
CHOS	**Chios island**	**2.92**	**356**	*e*PN		**Pn**	**20 51 42.2**	**-0.2**
CHOS	**Chios island**	**2.92**	**356**	*e*PN		**Pn**	**20 51 41.4**	**-1.1**
CHOS	**Chios island**	**2.92**	**356**	*e*Pn		**Pn**	**20 51 42.3**	**-0.2**
BLCB	**Balcova**	**2.96**	**11**	*e*PN		**Pn**	**20 51 43.0**	**-0.1**
BLCB	**Balcova**	**2.96**	**11**	*e*Pn		**Pn**	**20 51 43.0**	**-0.1**
IZM	**Izmir**	**3.02**	**14**	*e*PN		**Pn**	**20 51 43.2**	**-0.6**
IZM	**Izmir**	**3.02**	**14**	*e*Pn		**Pn**	**20 51 43.2**	**-0.6**
VLI	**Veliai**	**3.02**	**295**	P		**Pn**	**20 51 43.2**	**-0.6**
VLI	**Veliai**	**3.02**	**295**	*e*PN		**Pn**	**20 51 43.4**	**-0.4**
VLI				*e*SN		**Sn**	**20 52 17.9**	**-1.5**
VLI	**Veliai**	**3.02**	**295**	*e*Pn		**Pn**	**20 51 43.4**	**-0.4**
VLI				*e*Sn		**Sn**	**20 52 17.9**	**-1.5**
GOLH	**Golhisar**	**3.15**	**55**	*i* P		**Pn**	**20 51 47.3**	**+1.7**
GOLH				*i* S		**Sb**	**20 52 27.4**	**-3.0**
GOLH	**Golhisar**	**3.15**	**55**	*i* P		**Pn**	**20 51 47.3**	**+1.7**
GOLH				*i* S		**Sb**	**20 52 27.4**	**-3.0**
ELL	**Elmali**	**3.16**	**65**	*e*PN		**Pn**	**20 51 48.2**	**+2.3**
ELL	**Elmali**	**3.16**	**65**	*e*Pn		**Pn**	**20 51 48.2**	**+2.3**
KRND	**KRANIDI**	**3.20**	**308**	P		**Pn**	**20 51 45.2**	**-1.1**
KRND	**KRANIDI**	**3.20**	**308**	*e*PN		**Pn**	**20 51 46.4**	**+0.1**
KRND				*e*SN		**Sn**	**20 52 22.6**	**-1.2**
KRND	**KRANIDI**	**3.20**	**308**	P		**Pn**	**20 51 45.2**	**-1.1**
KRND	**KRANIDI**	**3.20**	**308**	*e*Pn		**Pn**	**20 51 46.4**	**+0.1**
KRND				*e*Sn		**Sn**	**20 52 22.6**	**-1.2**
DID	**Didima**	**3.22**	**310**	P		**Pn**	**20 51 46.4**	**-0.2**
DID	**Didima**	**3.22**	**310**	P		**Pn**	**20 51 46.4**	**-0.2**
NAIG	**Nisos Aigina**	**3.23**	**316**	*e*PN		**Pn**	**20 51 46.6**	**-0.1**
NAIG	**Nisos Aigina**	**3.23**	**316**	*e*Pn		**Pn**	**20 51 46.6**	**-0.1**
PTL	**Penteli**	**3.25**	**323**	*e*PN		**Pn**	**20 51 47.1**	**+0.1**
PTL	**Penteli**	**3.25**	**323**	*e*Pn		**Pn**	**20 51 47.1**	**+0.1**
ATH	**Athens Observa**	**3.26**	**321**	*e*PN		**Pn**	**20 51 46.5**	**-0.7**
ATH	**Athens Observa**	**3.26**	**321**	*e*Pn		**Pn**	**20 51 46.5**	**-0.7**
MANT	**Manisa**	**3.50**	**30**	*i* P		**Pn**	**20 51 52.0**	**+1.3**
MANT				*i* S		**Sn**	**20 52 32.6**	**+1.0**
MANT	**Manisa**	**3.50**	**30**	*i* P		**Pn**	**20 51 52.0**	**+1.3**
MANT				*i* S		**Sn**	**20 52 32.6**	**+1.0**
EREA	**Eretria**	**3.52**	**328**	*e*PN		**Pn**	**20 51 51.1**	**+0.4**
EREA	**Eretria**	**3.52**	**328**	*e*Pn		**Pn**	**20 51 51.1**	**+0.4**
KULA	**Kula-Manisa**	**3.56**	**31**	*e*PN		**Pn**	**20 51 52.7**	**+1.3**
KULA	**Kula-Manisa**	**3.56**	**31**	*e*Pn		**Pn**	**20 51 52.7**	**+1.3**
AKS	**Akhisar**	**3.60**	**19**	*e*PN		**Pn**	**20 51 52.3**	**+0.5**
AKS	**Akhisar**	**3.60**	**19**	*e*Pn		**Pn**	**20 51 52.3**	**+0.5**
VILL	**Villia**	**3.62**	**319**	*e*Pn		**Pn**	**20 51 52.6**	**+0.5**
VIL2	**Platees**	**3.68**	**319**	*e*PN		**Pn**	**20 51 52.6**	**-0.3**
LOUT	**Loutraki**	**3.69**	**314**	*e*PN		**Pn**	**20 51 54.4**	**+1.4**
LOUT	**Loutraki**	**3.69**	**314**	*e*Pn		**Pn**	**20 51 54.4**	**+1.4**
VLX	**Vlachokerasia**	**3.71**	**302**	*e*PN		**Pn**	**20 51 53.9**	**+0.5**
VLX	**Vlachokerasia**	**3.71**	**302**	*e*Pn		**Pn**	**20 51 53.9**	**+0.5**
LTK	**Loutraki**	**3.71**	**314**	*e*PN		**Pn**	**20 51 54.5**	**+1.1**
LTK	**Loutraki**	**3.71**	**314**	*e*Pn		**Pn**	**20 51 54.5**	**+1.1**
SIGR	**SIGRI**	**3.75**	**354**	*e*PN		**Pn**	**20 51 53.2**	**-0.7**
SIGR	**SIGRI**	**3.75**	**354**	*e*PN		**Pn**	**20 51 52.7**	**-1.2**
SIGR	**SIGRI**	**3.75**	**354**	*e*Pn		**Pn**	**20 51 53.2**	**-0.7**
ANTB	**Antalya**	**3.77**	**67**	*e*PN		**Pn**	**20 51 56.5**	**+2.3**
ANTB	**Antalya**	**3.77**	**67**	*e*Pn		**Pn**	**20 51 56.5**	**+2.3**
KHL	**Karahalli**	**3.83**	**41**	*e*PN		**Pn**	**20 51 56.1**	**+1.1**
KHL	**Karahalli**	**3.83**	**41**	*e*Pn		**Pn**	**20 51 56.1**	**+1.1**
KHAL	**Karahalli**	**3.84**	**40**	*i* P		Pg	20 52 18.7	+8.0
KHAL				*i* S		**Sg**	**20 53 01.4**	**+0.8**
MRKA	**Markates**	**3.90**	**327**	*e*PN		**Pn**	**20 51 55.7**	**-0.3**
MRKA	**Markates**	**3.90**	**327**	*e*Pn		**Pn**	**20 51 55.7**	**-0.3**
BCK	**Bucak**	**3.96**	**59**	*e*PN		**Pn**	**20 51 59.5**	**+2.6**
BCK	**Bucak**	**3.96**	**59**	*e*Pn		**Pn**	**20 51 59.5**	**+2.6**
PYL	**PYLOS**	**3.98**	**292**	*e*PN		**Pn**	**20 51 57.4**	**+0.4**
PYL	**PYLOS**	**3.98**	**292**	*e*Pn		**Pn**	**20 51 57.4**	**+0.4**
DEMI	**Demirci**	**4.04**	**27**	*i* P		**Pn**	**20 51 59.0**	**+1.1**
DEMI				*i* S		**Sn**	**20 52 48.1**	**+3.4**
DEMI	**Demirci**	**4.04**	**27**	*i* P		**Pn**	**20 51 59.0**	**+1.1**
DEMI				*i* S		**Sn**	**20 52 48.1**	**+3.4**
GUR	**Goura**	**4.04**	**309**	*e*PN		**Pn**	**20 51 58.9**	**+0.9**
GUR	**Goura**	**4.04**	**309**	*e*Pn		**Pn**	**20 51 58.9**	**+0.9**
SLUM		**4.08**	**194**	AMP			20 52 00.0	
	comp=N,40μm,0.4s,logA/T=5.0,baz=188							
ISP	**Isparta**	**4.11**	**54**	*e*PN		**Pn**	**20 52 01.2**	**+2.3**
ISP	**Isparta**	**4.11**	**54**	*e*Pn		**Pn**	**20 52 01.2**	**+2.3**
LKR	**Lokris**	**4.14**	**321**	*e*PN		**Pn**	**20 51 59.8**	**+0.5**
LKR	**Lokris**	**4.14**	**321**	*e*Pn		**Pn**	**20 51 59.8**	**+0.5**
KLV	**Kalavryta, Ach**	**4.23**	**309**	*e*PN		**Pn**	**20 52 01.7**	**+1.2**
KLV				*e*SN		**Sn**	**20 52 48.2**	**-1.1**
KLV	**Kalavryta, Ach**	**4.23**	**309**	*e*Pn		**Pn**	**20 52 01.7**	**+1.2**
KLV				*e*Sn		**Sn**	**20 52 48.2**	**-1.1**
DSF	**Desfina**	**4.23**	**315**	*e*PN		**Pn**	**20 52 01.1**	**+0.6**
DSF	**Desfina**	**4.23**	**315**	*e*Pn		**Pn**	**20 52 01.1**	**+0.6**
SUTC	**Sutluce-Ispart**	**4.26**	**61**	*e*PN		**Pn**	**20 52 03.3**	**+2.3**
SUTC	**Sutluce-Ispart**	**4.26**	**61**	*e*Pn		**Pn**	**20 52 03.3**	**+2.3**
BALB	**Balikesir**	**4.34**	**16**	*e*PN		**Pn**	**20 52 02.9**	**+1.0**
BALB	**Balikesir**	**4.34**	**16**	*e*Pn		**Pn**	**20 52 02.9**	**+1.0**
AXAR	**Agios Charalam**	**4.41**	**319**	*e*PN		**Pn**	**20 52 04.4**	**+1.5**
AXAR	**Agios Charalam**	**4.41**	**319**	*e*Pn		**Pn**	**20 52 04.4**	**+1.5**
HMAT	**Matruh**	**4.41**	**171**	P		**Pn**	**20 52 04.2**	**+1.2**
	baz=168							
HMAT					AMP		20 52 00.0	
	comp=N,50μm,0.5s,logA/T=5.0,baz=168							
HMAT	**Matruh**	**4.41**	**171**	P		**Pn**	**20 52 04.2**	**+1.2**
KALE	**Kalithea**	**4.45**	**312**	*e*PN		**Pn**	**20 52 04.7**	**+1.2**
KALE	**Kalithea**	**4.45**	**312**	*e*Pn		**Pn**	**20 52 04.7**	**+1.2**
DRO	**Drossia**	**4.46**	**305**	*e*PN		**Pn**	**20 52 05.1**	**+1.4**
DRO	**Drossia**	**4.46**	**305**	*e*Pn		**Pn**	**20 52 05.1**	**+1.4**
LIA	**Limnos Island**	**4.51**	**349**	*e*PN		**Pn**	**20 52 04.4**	**+0.1**
LIA				*e*SN		**Sn**	**20 52 53.4**	**-2.8**
LIA	**Limnos Island**	**4.51**	**349**	*e*Pn		**Pn**	**20 52 04.4**	**+0.1**
NEO	**Neokhori**	**4.56**	**328**	*e*PN		**Pn**	**20 52 05.4**	**+0.4**
NEO	**Neokhori**	**4.56**	**328**	*e*Pn		**Pn**	**20 52 05.4**	**+0.4**
EFP	**Efpalio**	**4.61**	**311**	*e*PN		**Pn**	**20 52 07.1**	**+1.4**
EFP	**Efpalio**	**4.61**	**311**	*e*Pn		**Pn**	**20 52 07.1**	**+1.4**
XOR	**Xorichti**	**4.62**	**328**	*e*PN		**Pn**	**20 52 07.8**	**+1.9**
XOR	**Xorichti**	**4.62**	**328**	*e*Pn		**Pn**	**20 52 07.8**	**+1.9**
ALT	**Altintas**	**4.68**	**39**	*e*PN		**Pn**	**20 52 08.2**	**+1.5**
ALT	**Altintas**	**4.68**	**39**	*e*Pn		**Pn**	**20 52 08.2**	**+1.5**
TVSB	**Tavsanli**	**4.69**	**31**	*e*PN		**Pn**	**20 52 08.7**	**+1.9**
TVSB	**Tavsanli**	**4.69**	**31**	*e*Pn		**Pn**	**20 52 08.7**	**+1.9**
GADA	**Gvkgeada**	**4.72**	**356**	*e*PN		**Pn**	**20 52 06.7**	**-0.5**
GADA	**Gvkgeada**	**4.72**	**356**	*e*Pn		**Pn**	**20 52 06.7**	**-0.5**
AGG	**Agios Georgios**	**4.77**	**319**	*e*PN		**Pn**	**20 52 09.5**	**+1.6**
AGG	**Agios Georgios**	**4.77**	**319**	*e*Pn		**Pn**	**20 52 09.5**	**+1.6**
MAKR	**Makrakomi, Fth**	**4.87**	**318**	*e*PN		**Pn**	**20 52 11.5**	**+2.2**
MAKR	**Makrakomi, Fth**	**4.87**	**318**	*e*Pn		**Pn**	**20 52 11.5**	**+2.2**
LPK	**Lapseki**	**4.91**	**4**	*e*PN		**Pn**	**20 52 10.1**	**+0.4**
LPK	**Lapseki**	**4.91**	**4**	*e*Pn		**Pn**	**20 52 10.1**	**+0.4**
GAZI	**Gazipasa**	**4.92**	**79**	*i* P		**Pn**	**20 52 09.8**	**-0.2**
GAZI				*i* S		**Sn**	**20 53 03.9**	**-2.4**
GAZI	**Gazipasa**	**4.92**	**79**	*i* P		**Pn**	**20 52 09.8**	**-0.2**
GELI	**Tayfur-Gelibol**	**4.92**	**1**	*e*PN		**Pn**	**20 52 10.5**	**+0.6**
GELI	**Tayfur-Gelibol**	**4.92**	**1**	*e*Pn		**Pn**	**20 52 10.5**	**+0.6**
PAIG	**Palioui**	**4.92**	**335**	*e*PN		**Pn**	**20 52 09.9**	**0.0**
PAIG	**Palioui**	**4.92**	**335**	*e*Pn		**Pn**	**20 52 09.9**	**0.0**
EVR	**Evrytania**	**4.99**	**315**	*e*PN		**Pn**	**20 52 12.4**	**+1.4**
EVR	**Evrytania**	**4.99**	**315**	*e*Pn		**Pn**	**20 52 12.4**	**+1.4**
EDC	**Edincik**	**5.02**	**14**	*e*PN		**Pn**	**20 52 12.4**	**+1.1**
EDC	**Edincik**	**5.02**	**14**	*e*Pn		**Pn**	**20 52 12.4**	**+1.1**
SMTH	**Samothraki Isl**	**5.03**	**353**	*e*PN		**Pn**	**20 52 10.4**	**-1.1**
SMTH	**Samothraki Isl**	**5.03**	**353**	*e*Pn		**Pn**	**20 52 10.4**	**-1.1**
KCTX	**Karacabey (Bur**	**5.05**	**18**	*e*PN		**Pn**	**20 52 12.0**	**+0.3**
KCTX	**Karacabey (Bur**	**5.05**	**18**	*e*Pn		**Pn**	**20 52 12.0**	**+0.3**
PDO	**Prodromos**	**5.17**	**309**	*e*PN		**Pn**	**20 52 15.3**	**+2.0**
PDO	**Prodromos**	**5.17**	**309**	*e*Pn		**Pn**	**20 52 15.3**	**+2.0**
HDMB	**Hadim**	**5.19**	**72**	*e*PN		Pn	20 52 17.8	+3.9
HDMB	**Hadim**	**5.19**	**72**	*e*Pn		Pn	20 52 17.8	+3.9
MRMT	**Marmara Adasi**	**5.22**	**11**	*e*PN		**Pn**	**20 52 14.2**	**+0.1**
MRMT	**Marmara Adasi**	**5.22**	**11**	*e*Pn		**Pn**	**20 52 14.2**	**+0.1**
ENEZ	**Enez**	**5.26**	**359**	*e*PN		**Pn**

mb4.4/4,mB5.1/1,MLv4.4/15,Mw(mB)4.4/1
*IDC **24** 21:32:21.0±0.8,2°.29S×100°.38E,h48km±6km,mb4.0/15, mb1 4.1/18,mb1mx4.0/26,mbtmp4.2/18,MS3.5/5, Ms1 3.5/5,ms1mx3.1/36,Error ellipse: s-maj=25.0km s-min=12.2km az=48.0*
*KLM **24** 21:32:27.3,2°.07S×100°.69E,h105km,mb4.5,ML4.2, MS4.9*
ISC 24 21:32:21.1±0.5,**2°.34S**±0°.05×**100°.29E**±0°.05,**h50**km,**n67,** σ1§**00**/66,**mb4.4**/20,**1C-4D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.51**	**214**	P		**Pn**	**21 32 32.2**	**-0.3**
PPSI				S		**Sn**	**21 32 43.2**	**+2.6**
SISI	**Saibi**	**1.57**	**310**	P		**Pn**	**21 32 47.0**	**+0.5**
SISI				S		Sn	21 33 13.8	+8.1
SDSI	**Sungai Dareh**	**1.80**	**39**	P		**Pn**	**21 32 49.8**	**+0.1**
SDSI				S		**Sn**	**21 33 12.4**	**+1.0**
BKNI	**Bangkinang**	**2.75**	**16**	P		**Pn**	**21 33 03.5**	**+0.7**
BKNI				S		Sn	21 33 25.2	-10
BKNI	**Bangkinang**	**2.75**	**16**	*e*Pn		**Pn**	**21 33 03.0**	**+0.2**
MNSI	**Mandailing Nat**	**3.19**	**347**	P		**Pn**	**21 33 09.0**	**+0.2**
MNAI	**Manna**	**3.33**	**127**	*e*Pn		**Pn**	**21 33 11.2**	**+0.4**
MNAI				*e*Sn		**Sn**	**21 33 49.4**	**+0.3**
JMBI	**JAMBI**	**3.42**	**78**	P		Pn	21 33 34.4	+22
LHSI	**Lahat**	**3.55**	**115**	P		**Pn**	**21 33 15.2**	**+1.5**
MDSI	**Maura Dua**	**4.43**	**119**	P		**Pn**	**21 33 26.6**	**+0.8**
MDSI				S		x	21 33 42.9	
GSI	**Gunungsitoli**	**4.52**	**323**	P		**Pn**	**21 33 26.5**	**-0.7**
GSI	**Gunungsitoli**	**4.52**	**323**	*e*Pn		**Pn**	**21 33 26.4**	**-0.7**
LWLI	**Liwa**	**4.61**	**125**	P		**Pn**	**21 33 29.3**	**+1.0**
KLSI		**5.01**	**118**	P		**Pn**	**21 33 35.0**	**+1.3**
KGM	**Kluang**	**5.28**	**35**	⇑P		**Pn**	**21 33 38.1**	**+0.7**
PSI	**Prapat**	**5.29**	**345**	P		**Pn**	**21 33 36.1**	**-1.6**
	2.3nm,0.3s,baz=341,slow=16,SNR=5.1							
PSI				LR		LR	21 36 02.8	
	comp=Z,641nm,19.6s,baz=179,slow=43							
MYKOM	**Kota Tinggi**	**5.43**	**41**	⇓P		**Pn**	**21 33 40.0**	**+0.5**
FRIM	**Kepong**	**5.70**	**14**	⇓P		**Pn**	**21 33 45.5**	**+2.3**
IPM	**Ipoh**	**6.81**	**6**	*e*Pn		**Pn**	**21 34 00.1**	**+1.5**
CGJI	**Cibinong**	**6.86**	**128**	P		**Pn**	**21 33 56.2**	**-2.9**
	45nm,1.2s,0.2nm							
KULM	**Kulim**	**7.59**	**3**	⇓P		Pn	21 34 12.6	+3.4
KULM	**Kulim**	**7.59**	**3**	*e*Pn		**Pn**	**21 34 09.3**	**+0.2**
KTGM	**Kuala Trenggan**	**8.13**	**20**	⇓P		**Pn**	**21 34 18.0**	**+1.5**
LEM	**Lembang**	**8.55**	**122**	P		**Pn**	**21 34 23.4**	**+0.8**
	1.6nm,0.3s,baz=325,slow=12,SNR=2.1							
LEM				S		Sn	21 35 50.7	-7.1
	1.2nm,0.3s,baz=128,slow=19,SNR=2.5							
LEM				LR		LR	21 37 58.2	
	comp=Z,325nm,19.4s,baz=224,slow=40							
KAPI	**Kappang**	**19.60**	**98**	P		**P**	**21 36 45.7**	**+0.3**
	2.0nm,0.3s,baz=203,slow=6.3,SNR=8.8							
KAPI				LR		LR	21 46 10.4	
	comp=Z,87nm,19.5s,baz=263,slow=42							
CMAR	**Chiang Mai Arr**	**20.71**	**356**	P		**P**	**21 36 56.0**	**-1.3**
	1.9nm,0.5s,baz=188,slow=10.0,SNR=20							
CMAR				pP		**pP**	**21 37 08.9**	**0.0**
	2.4nm,0.7s,baz=187,slow=9.8,SNR=7.3							
CMAR				LR		LR	21 44 33.2	
	comp=Z,137nm,19.1s,baz=171,slow=35							
PALK	**Pallekele**	**21.76**	**296**	LR		LR	21 45 20.5	
	comp=Z,98nm,18.8s,baz=95,slow=36							
H08S2	**Diego Garcia H**	**18.18**	**258**	T		T	22 07 10.8	
	baz=81,slow=75,SNR=98							
H08S3	**Diego Garcia H**	**28.19**	**258**	T		T	22 07 15.6	
	baz=81,slow=75,SNR=106							
H08S1	**Diego Garcia H**	**28.20**	**258**	T		T	22 07 09.4	
	baz=81,slow=75,SNR=134							
ODAN	**Odare**	**31.59**	**338**	*e*P		**P**	**21 38 40.7**	**+1.3**
TAPN	**Taplejung**	**31.91**	**338**	*e*P		**P**	**21 38 43.3**	**+0.9**
	11nm,0.6s							
PKI	**Pulchoki**	**33.01**	**335**	*e*P		**P**	**21 38 52.7**	**+0.7**
LSA	**Lhasa**	**33.04**	**345**	*e*P		**P**	**21 38 53.0**	**+0.7**
	22nm,1.1s							
GUN	**Gumba**	**33.12**	**336**	*e*P		**P**	**21 38 53.4**	**+0.4**
	21nm,0.5s							
KKN	**Kakani**	**33.26**	**335**	*e*P		**P**	**21 38 54.7**	**+0.6**
GKN	**Gorkha**	**33.72**	**335**	*e*P		**P**	**21 38 58.8**	**+0.8**
H01W3	**Cape Leeuwin H**	**34.85**	**160**	T		T	22 15 47.1	
	baz=336,slow=76,SNR=5.4							
H01W2	**Cape Leeuwin H**	**34.86**	**160**	T		T	22 15 43.6	
	baz=336,slow=76,SNR=4.8							
H01W1	**Cape Leeuwin H**	**34.87**	**160**	T		T	22 15 48.2	
	baz=336,slow=76,SNR=2.4							
WRA	**Warramunga Arr**	**37.57**	**120**	P		**P**	**21 39 29.7**	**-1.3**
	7.6nm,0.8s,baz=298,slow=8.1,SNR=87							
WRA				PcP		**PcP**	**21 41 48.1**	**-0.2**
	0.3nm,0.6s,baz=312,slow=2.3,SNR=3.2							
WRAB	**Tennant Creek**	**37.58**	**120**	*e*P		**P**	**21 39 29.7**	**-1.3**
	12nm,0.9s							
ASAR	**Alice Springs**	**38.82**	**126**	P		**P**	**21 39 40.8**	**-0.7**
	2.8nm,0.5s,baz=300,slow=8.0,SNR=39							
ASAR				PcP		**PcP**	**21 41 52.5**	**+0.3**
	1.1nm,0.8s,baz=325,slow=2.8,SNR=6.8							
AS31	**Alice Springs**	**38.82**	**126**	*e*P		**P**	**21 39 40.7**	**-0.8**
KSAR	**Wonju Array Be**	**47.13**	**30**	P		**P**	**21 40 48.0**	**-0.5**
KSRS	**Korea Array**	**47.16**	**30**	P		**P**	**21 40 48.0**	**-0.7**
	1.1nm,0.6s,baz=220,slow=7.1,SNR=7.2							
STKA	**Stephens Creek**	**48.71**	**132**	P		**P**	**21 41 00.9**	**+0.1**
	6.1nm,0.9s,baz=299,slow=7.0,SNR=6.0							
STKA	**Stephens Creek**	**48.71**	**132**	*e*P		**P**	**21 41 00.7**	**-0.1**
	0.9nm,0.6s							
SONM	**Songino Array**	**50.25**	**5**	P		**P**	**21 41 12.9**	**+0.5**
	1.1nm,0.4s,baz=190,slow=8.8,SNR=16							
EKS2	**Erkin-Say**	**50.79**	**335**	*e*P		**P**	**21 41 17.2**	**+0.7**
	6.9nm,0.9s							
USRK	**Ussuriysk Ar.**	**54.32**	**28**	P		**P**	**21 41 41.9**	**-0.5**
	3.9nm,0.7s,baz=229,slow=5.8,SNR=16							
GEYT	**Alibeck**	**55.89**	**320**	P		**P**	**21 41 54.2**	**+0.2**
	3.1nm,0.9s,baz=154,slow=7.6,SNR=4.8							
KURK	**Kurchatov**	**56.01**	**344**	*e*P		**P**	**21 41 54.1**	**-0.5**
	4.5nm,1.2s							
ZAA0	**Zalesovo Array**	**57.55**	**349**	*e*P		**P**	**21 42 04.7**	**-0.7**
ZALV	**Zalesovo Beam**	**57.55**	**349**	P		**P**	**21 42 04.7**	**-0.8**
	1.2nm,0.3s,baz=164,slow=5.9,SNR=11							
ZALV				pP		**pP**	**21 42 17.8**	**-1.5**
	1.5nm,0.3s,baz=180,slow=5.7,SNR=7.2							
ABKAR	**Akbulak array**	**62.08**	**331**	*e*P		**P**	**21 42 35.9**	**-0.7**
	6.2nm,0.8s							
KBZ	**Khabaz**	**68.75**	**319**	P		**P**	**21 43 20.7**	**+0.8**
	4.8nm,0.9s,baz=149,slow=6.0,SNR=4.7							
KBZ				pP		**pP**	**21 43 34.8**	**+0.8**
	2.1nm,0.9s,baz=83,slow=3.8,SNR=4.5							
BRTR	**Keskin Array B**	**73.77**	**312**	P		**P**	**21 43 50.2**	**-0.3**
	1.8nm,0.9s,baz=119,slow=7.2,SNR=7.8							
BRTR				pP		**pP**	**21 44 04.5**	**-0.2**
	1.6nm,0.8s,baz=129,slow=7.6,SNR=4.9							
TIXI	**Tiksi**	**76.14**	**9**	*e*P		**P**	**21 44 01.9**	**-1.4**
	2.4nm,0.2s							
FINES	**FINESS Array B**	**84.55**	**332**	P		**P**	**21 44 48.1**	**-0.5**
	1.2nm,0.7s,baz=113,slow=6.4,SNR=6.5							
ARCES	**ARCESS Array B**	**86.89**	**340**	P		**P**	**21 45 00.0**	**-0.1**
	0.8nm,0.3s,baz=98,slow=5.4,SNR=22							
GERES	**GERESS Array B**	**89.49**	**319**	P		**P**	**21 45 14.1**	**+1.0**
	0.7nm,0.9s,baz=91,slow=9.1,SNR=4.9							
KEST	**Kesra**	**92.12**	**306**	P		**P**	**21 45 27.6**	**+1.9**
	1.2nm,0.9s,baz=103,slow=7.3,SNR=3.9							
CPUP	**Villa Florida**	**144.22**	**216**	PKP		**PKPdf**	**21 51 51.5**	**-0.8**
	3.3nm,0.9s,baz=156,slow=4.7,SNR=4.6							
TXAR	**Lajitas Array**	**144.79**	**38**	PKP		PKPbc	21 51 52.7	+0.3
	4.2nm,0.7s,baz=298,slow=1.3,SNR=55							
MIAR	**Mount Ida**	**145.45**	**20**	*e*PKPdf		**PKPbc**	**21 51 54.0**	**-0.2**
JCT	**Junction City**	**146.15**	**32**	*e*PKPbc		**PKPbc**	**21 51 56.5**	**0.0**

*ISCJB **24** 21:38:01.9±0.9,15°.9S±0°.1×167°.9E±0°.1,h177km,mb4.2/9, Error ellipse: s-maj=18.6km s-min=13.4km az=158.1*
*IDC **24** 21:38:02.8±2.4,15°.95S×167°.88E,h166km±18km,mb4.0/9, mb1 4.1/10,mb1mx3.6/37,mbtmp4.4/10,Error ellipse: s-maj=22.2km s-min=16.1km az=49.0*
ISC 24 21:38:04.3±0.9,**16°.08S**±0°.09×**167°.8E**±0°.2,**h177**km,**n13,** σ1§**15**/20,**mb4.4**/9,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.11**	**192**	P		**Pn**	**21 39 33.9**	**+1.1**
	9.8nm,0.3s,baz=267,slow=23,SNR=61							
DZM				S		**Sn**	**21 40 43.6**	**+1.1**
	1.2nm,0.3s,baz=267,slow=23,SNR=6.1							
DZM	**Mont Dzumac**	**6.11**	**192**	*e*P		**Pn**	**21 39 31.4**	**-1.4**
DZM				*e*S		**Sn**	**21 40 39.3**	**-3.1**
RAO	**Raoul Island**	**18.55**	**137**	P		**P**	**21 42 07.8**	**+0.2**
	106nm,0.3s,baz=171,slow=23,SNR=4.4							
URZ	**Urewera**	**23.56**	**161**	P		**P**	**21 42 59.4**	**+0.7**
	19nm,1.1s,baz=321,slow=19,SNR=2.4							
STKA	**Stephens Creek**	**28.56**	**232**	P		**P**	**21 43 44.8**	**+1.1**
	5.2nm,0.4s,baz=68,slow=11,SNR=22							
STKA				PcP		**PcP**	**21 46 50.7**	**0.0**
	2.7nm,0.9s,baz=72,slow=5.2,SNR=4.0							
WRA	**Warramunga Arr**	**32.05**	**258**	P		**P**	**21 44 14.3**	**-0.2**
	0.5nm,0.4s,baz=80,slow=6.2,SNR=13							
WRA				PcP		**PcP**	**21 46 60.0**	**-0.1**
	0.5nm,0.9s,baz=11,slow=0.9,SNR=3.5							
WRA				ScP		**ScP**	**21 50 28.1**	**+1.2**
	0.4nm,0.9s,baz=88,slow=3.1,SNR=3.9							
ASAR	**Alice Springs**	**32.72**	**251**	P		**P**	**21 44 20.8**	**+0.3**
	8.6nm,0.5s,baz=78,slow=8.6,SNR=148							
ASAR				PcP		**PcP**	**21 47 02.0**	**+0.1**
	0.5nm,0.6s,baz=84,slow=2.8,SNR=4.8							
ASAR				ScP		**ScP**	**21 50 30.9**	**+1.6**
	0.8nm,0.9s,baz=81,slow=4.4,SNR=4.9							
NWAO	**Narrogin (SRO)**	**48.53**	**240**	P		**P**	**21 46 29.6**	**-0.1**
	17nm,0.8s,baz=154,slow=4.7,SNR=7.5							
MJAR	**Matsushiro Arr**	**59.34**	**332**	P		**P**	**21 47 46.8**	**-1.0**
	2.0nm,0.7s,baz=172,slow=8.4,SNR=6.7							
VNDA	**Vanda**	**61.54**	**181**	P		**P**	**21 48 02.4**	**+0.3**
	1.1nm,0.6s,baz=1.6,slow=5.6,SNR=7.4							
QSPA	**South Pole Qui**	**73.96**	**180**	P		**P**	**21 49 20.3**	**+0.2**
	5.9nm,0.8s,baz=12,slow=0.8,SNR=32							
SNAA	**Sanae**	**92.24**	**183**	P		**P**	**21 50 53.1**	**-0.7**
	0.6nm,0.6s,baz=198,slow=5.0,SNR=9.6							
ARCES	**ARCESS Array B**	**121.68**	**345**	PKP		**PKPdf**	**21 56 35.6**	**-0.8**
	4.3nm,1.0s,baz=40,slow=1.5,SNR=4.6							

*IDC **24** 21:41:35.8±0.5,20°.06S×66°.37E,h0km,mb4.2/18, mb1 4.3/18,mb1mx4.1/40,mbtmp4.2/18,MS4.2/17, Ms1 4.2/17,ms1mx3.9/35,Error ellipse: s-maj=16.6km s-min=15.4km az=89.0*
*ISCJB **24** 21:41:36.4±0.4,20°.05S±0°.09×66°.4E±0°.1,h16km, mb4.2/20,MS4.2/16,Error ellipse: s-maj=13.6km s-min=12.7km az=13.8*
*NEIC **24** 21:41:37.3±0.3,20°.05S×66°.35E,h10km,mb4.7/3,Error ellipse: s-maj=8.8km s-min=8.2km az=83.0*
*GCMT **24** 21:41:37.3±0.3,19°.86S×66°.12E,h14km±1km,MW4.9/68, Moment Tensor Solution. s18,c19; s68,c92; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.65±.20; Mθθ0.68±.12; Mϕϕ 1.97±.13; Mrθ0.65±.34; Mϕθ-0.88±.08; Mϕr1.87±.32; Best double couple: M₀3.16700×10¹⁶ NP1:ϕs176.00000°,δ63.00000°,λ-71.00000°. NP2: ϕs318.00000°,δ33.00000°,λ-124.00000°. Principal axes: T 2.8210, Plg16.0000°, Azm252.0000°; N 0.6960, Plg17.0000°, Azm347.0000°; P -3.5120, Plg66.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 24 21:41:38.4±0.5,**20°.1S**±0°.1×**66°.4E**±0°.1,**h16**km,**n39,** σ0§**56**/27,**mb4.3**/20,**MS4.2**/16,**Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**13.69**	**27**	T		T	21 58 58.1	
	baz=205,slow=76,SNR=91							
H08S2	**Diego Garcia H**	**13.70**	**27**	T		T	21 59 06.4	
	baz=205,slow=76,SNR=65							
H08S3	**Diego Garcia H**	**13.71**	**27**	T		T	21 59 04.8	
	baz=205,slow=76,SNR=99							
H08N3	**Diego Garcia H**	**14.35**	**19**	T		T	21 59 47.1	
	baz=197,slow=75,SNR=36							
H08N1	**Diego Garcia H**	**14.36**	**19**	T		T	21 59 56.5	
	baz=197,slow=75,SNR=33							
H08N2	**Diego Garcia H**	**14.37**	**19**	T		T	21 59 46.0	
	baz=197,slow=75,SNR=34							
OPO	**Ambohidratompo**	**18.14**	**271**	LR		LR	21 51 08.6	
	comp=Z,1μm,19.7s,baz=116,slow=32							
MATP	**Matopo**	**35.46**	**263**	P		**P**	**21 48 34.5**	**0.0**
	5.1nm,1.9s,baz=76,slow=9.3,SNR=4.7							
LBTB	**Lobatse**	**37.86**	**255**	P		**P**	**21 48 54.6**	**-0.3**
	4.4nm,0.9s,baz=112,slow=7.6,SNR=6.8							
BOSA	**Boshof**	**38.25**	**249**	LR		LR	22 01 35.3	
	comp=Z,336nm,20.7s,baz=96,slow=31							
MAW	**Mawson**	**47.59**	**182**	P		**P**	**21 50 13.6**	**+0.5**
	4.0nm,0.7s,baz=322,slow=11,SNR=7.7							
MAW				LR		LR	22 06 08.5	
	comp=Z,197nm,20.1s,baz=27,slow=31							
CMAR	**Chiang Mai Arr**	**49.87**	**42**	P		**P**	**21 50 32.5**	**+1.3**
	2.5nm,0.9s,baz=237,slow=8.3,SNR=13							
CMAR				LR		LR	22 08 11.4	
	comp=Z,398nm,21.6s,baz=224,slow=32							
ASAR	**Alice Springs**	**62.28**	**107**	P		**P**	**21 51 59.8**	**-0.4**
	4.1nm,0.8s,baz=264,slow=6.4,SNR=29							
ASAR				LR		LR	22 15 01.4	
	comp=Z,382nm,21.5s,baz=276,slow=32							
GNI	**Garni**	**63.19**	**342**	*e*P		**P**	**21 52 05.8**	**-0.1**
	10nm,0.9s							
WRA	**Warramunga Arr**	**63.45**	**103**	P		**P**	**21 52 07.7**	**-0.3**
	5.1nm,0.8s,baz=259,slow=5.9,SNR=26							
WRA				LR		LR	22 15 49.9	
	comp=Z,224nm,21.4s,baz=245,slow=32							
WRAB	**Tennant Creek**	**63.46**	**103**	*e*P		**P**	**21 52 07.8**	**-0.3**
	4.5nm,0.7s							
SNAA	**Sanae**	**64.59**	**199**	P		**P**	**21 52 15.0**	**+0.3**
	0.8nm,0.9s,baz=108,slow=4.9,SNR=5.8							
BR131	**Keskin Array S**	**66.85**	**333**	*e*P		**P**	**21 52 29.2**	**-0.6**
	1.0nm,0.5s							
BRTR	**Keskin Array B**	**66.85**	**333**	P		**P**	**21 52 29.9**	**+0.2**
	2.5nm,0.8s,baz=148,slow=7.1,SNR=12							
KBZ	**Khabaz**	**67.02**	**342**	P		**P**	**21 52 31.2**	**+0.8**
	3.9nm,0.9s,baz=137,slow=5.2,SNR=4.8							
STKA	**Stephens Creek**	**67.49**	**117**	LR		LR	22 18 02.8	
	comp=Z,146nm,20.9s,baz=215,slow=32							
QSPA	**South Pole Qui**	**70.06**	**180**	P		**P**	**21 52 49.8**	**+0.3**
	2.7nm,1.1s,baz=250,slow=3.4,SNR=3.9							
TORD	**Tordi Ar. Bea**	**71.64**	**292**	P		**P**	**21 53 00.1**	**+0.3**
	0.8nm,1.0s,baz=110,slow=6.3,SNR=2.9							
TORD				LR		LR	22 22 37.8	
	comp=Z,124nm,20.3s,baz=140,slow=34							
VNDA	**Vanda**	**71.76**	**167**	P		**P**	**21 52 58.5**	**-0.9**
	0.5nm,0.8s,baz=293,slow=10.0,SNR=2.6							
VNDA				LR		LR	22 20 14.5	
	comp=Z,118nm,18.7s,baz=237,slow=32							
DBIC	**Dimbokro**	**74.84**	**283**	LR		LR	22 23 53.4	
	comp=Z,175nm,20.8s,baz=94,slow=34							
ZAA0	**Zalesovo Array**	**75.39**	**11**	*e*P		**P**	**21 53 20.3**	**-0.6**
ZALV	**Zalesovo Beam**	**75.39**	**11**	P		**P**	**21 53 20.8**	**-0.2**
	4.4nm,0.8s,baz=212,slow=5.1,SNR=17							
ZALV				LR		LR	22 25 57.1	
	comp=Z,72nm,18.1s,baz=250,slow=35							
SONM	**Songino Array**	**76.53**	**26**	P		**P**	**21 53 27.5**	**-0.3**
	2.6nm,0.8s,baz=215,slow=5.8,SNR=14							
SONM				LR		LR	22 26 37.6	
	comp=Z,116nm,21.4s,baz=200,slow=35							
AKASG	**Malin Array Be**	**77.67**	**337**	P		**P**	**21 53 33.2**	**-0.6**
	0.8nm,0.5s,baz=146,slow=4.3,SNR=6.2							
JNU	**Nakatsue**	**81.15**	**50**	LR		LR	22 29 05.2	
	comp=Z,208nm,19.4s,baz=242,slow=35							
KSAR	**Wonju Array Be**	**81.36**	**45**	P		**P**	**21 53 54.2**	**-0.1**
KSRS	**Korea Array**	**81.39**	**45**	P		**P**	**21 53 54.2**	**-0.3**
	1.0nm,0.7s,baz=244,slow=5.5,SNR=5.7							
KSRS				LR		LR	22 30 21.8	
	comp=Z,153nm,18.5s,baz=246,slow=36							
USRK	**Ussuriysk Ar.**	**87.59**	**41**	LR		LR	22 34 04.4	
	comp=Z,91nm,20.2s,baz=214,slow=36							
MJAR	**Matsushiro Arr**	**88.07**	**50**	P		**P**	**21 54 28.0**	**-0.3**
	1.6nm,0.8s,baz=231,slow=6.8,SNR=8.8							
MJAR				LR		LR	22 32 37.6	
	comp=Z,115nm,20.4s,baz=245,slow=35							
ESDC	**Sonseca Array**	**88.41**	**313**	P		**P**	**21 54 29.4**	**-0.5**
	0.1nm,0.3s,baz=64,slow=3.4,SNR=4.2							
ARCES	**ARCESS Array B**	**93.95**	**347**	LR		LR	22 39 11.2	
	comp=Z,48nm,18.2s,baz=141,slow=37							
BLA	**Blacksburg**	**146.41**	**308**	*e*PKPdf		**PKPdf**	**22 01 17.3**	**-0.5**
ULM	**Lac du Bonnet**	**146.72**	**339**	PKPbc		**PKPdf**	**22 01 18.3**	**+0.5**
	3.6nm,0.8s,baz=52,slow=5.8,SNR=5.7							
TXAR	**Lajitas Array**	**167.06**	**317**	PKP		**PKPdf**	**22 01 44.8**	**+0.6**
	0.2nm,0.5s,baz=325,slow=1.1,SNR=2.7							
TXAR				PKPab		**PKPab**	**22 02 48.9**	**+0.9**
	0.5nm,0.8s,baz=100,slow=5.2,SNR=6.0							

*ISCJB **24** 22:04:39.0±0.3,18°.88S±0°.03×68°.94W±0°.03,h113km±3km, mb5.0/144,Error ellipse: s-maj=6.1km s-min=3.8km az=143.6*
*GUC **24** 22:04:40.1±0.7,19°.01S×69°.28W,h129km±5km,ML5.3*
*NEIC **24** 22:04:40.0,19°.01S×69°.27W,h129km,mb4.9/111,After GUC.*
NEIC Felt [II] at Arica, Camarones, Camina, Cuya and Huara. Also felt at Iquique.

*IDC **24** 22:04:42.6±0.4,18°.91S×68°.85W,h126km±3km,mb4.5/19, mb1 4.6/23,mb1mx4.6/26,mbtmp4.9/23,MS3.5/4, Ms1 3.5/4,ms1mx3.2/18,Error ellipse: s-maj=12.8km s-min=9.4km az=92.0*
*MOS **24** 22:04:42.9±1.7,18°.82S×69°.07W,h146km,mb4.7/29, Error ellipse: s-maj=15.8km s-min=7.0km az=110.4*
*SJA **24** 22:04:43.0±1.2,19°.47S×69°.39W,h191km±51km,ML4.4*
*BJI **24** 22:04:43.5,18°.90S×68°.80W,h131km,mB5.1/16*
ISC 24 22:04:41.9±0.3,**19°.01S**±0°.03×**69°.07W**±0°.05,**h126**km±2km, **h126**km:**pP-P,n564,**σ1§**27**/595,**mb4.8**/143,**2C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MNMC	**Minimini**	**0.51**	**256**	*i* P		**Pn**	**22 04 59.3**	**-1.7**
MNMC				*e*S		**Sn**	**22 05 13.2**	**-2.1**
MNMC				AML		AML	22 05 13.9	
	comp=E,170μm,0.4s							
PB11	**IPOC Station P**	**0.93**	**216**	*e*P		**Pn**	**22 05 02.4**	**-1.6**
PB11				*i* S		**Sn**	**22 05 18.8**	**-2.0**
PB11				AML		AML	22 05 19.2	
	comp=N,109μm,0.4s							
PB01	**IPOC Station P**	**2.06**	**191**	*i* P		**Pn**	**22 05 15.6**	**-0.9**
PB01				*e*S		**Sn**	**22 05 41.9**	**-1.1**
PB01				AML		AML	22 05 45.6	
	comp=E,12μm,0.6s							
PATCX	**Punta Patache**	**2.07**	**209**	*e*P		**Pn**	**22 05 14.6**	**-2.0**
PATCX				*i* S		**Sn**	**22 05 40.9**	**-2.4**
PB09	**IPOC Station P**	**2.78**	**183**	⇑*i* P		**Pn**	**22 05 25.1**	**-0.6**
PB07	**IPOC Station P**	**2.81**	**196**	*e*P		**Pn**	**22 05 24.9**	**-1.2**
PB07				AML		AML	22 06 10.2	
	comp=N,6μm,0.5s							
LPAZ	**La Paz**	**2.85**	**18**	P		**Pn**	**22 05 28.1**	**+1.1**
	comp=N,402nm,0.3s,baz=208,slow=6.4,SNR=9677							
LPAZ				S		**Sn**	**22 05 59.5**	**-2.3**
	baz=350,slow=18,SNR=1.7							
LPAZ	**La Paz**	**2.85**	**18**	*e*P		**Pn**	**22 05 28.0**	**+0.9**
LPAZ	**La Paz**	**2.85**	**18**	*i* P		**Pn**	**22 05 28.2**	**+1.1**
LPAZ				*i* P		**Pn**	**22 05 28.2**	**+1.1**
LPAZ	**La Paz**	**2.85**	**18**	*e*Pn		**Pn**	**22 05 27.8**	**+0.7**
LPAZ				S		**Sn**	**22 05 59.5**	**-2.3**
PB04	**IPOC Station P**	**3.26**	**187**	AML		AML	22 06 29.8	
	comp=N,4μm,0.8s							
LVC	**Limon Verde**	**3.59**	**178**	P		**Pn**	**22 05 36.6**	**+0.2**
	comp=N,4μm,0.3s,baz=358,slow=9.7,SNR=234							
LVC				S		**Sn**	**22 06 17.7**	**-0.8**
	comp=N,5μm,0.3s,baz=307,slow=20,SNR=8.1							
LVC	**Limon Verde**	**3.59**	**178**	*e*Pn		**Pn**	**22 05 36.2**	**-0.1**
LVC				S		**Sn**	**22 06 17.7**	**-0.8**
LVC	**Limon Verde**	**3.59**	**178**	*e*P		**Pn**	**22 05 36.3**	**-0.1**
LVC				*e*S		**Sn**	**22 06 13.1**	**-5.4**
YJA	**Yavi**	**4.58**	**134**	*e*P		Pn	22 05 52.0	+2.2
YJA				*e*P		Pn	22 05 52.0	+2.2
YJA				*i* S		**Sn**	**22 05 52.4**	**+2.8**
PB10	**IPOC Station P**	**4.69**	**197**	⇓*i* P		**Pn**	**22 05 48.2**	**-2.6**
HJA	**Humahuaca**	**5.40**	**141**	*i* P		**Pn**	**22 06 01.9**	**+1.2**
HJA				*e*S		**Sn**	**22 07 00.8**	**-1.1**
AZAP	**Zapla**	**6.39**	**145**	*e*P		**Pn**	**22 06 13.8**	**-0.1**
AZAP				*i* S		**Sn**	**22 07 22.5**	**-3.1**
AZAP				AML		AML	22 07 28.1	
	comp=Z,95nm,0.6s							
ASTB	**Santa Barbara**	**6.51**	**140**	*i* P		**Pn**	**22 06 15.8**	**+0.4**
ASTB				*i* S		**Sn**	**22 07 25.6**	**-2.9**

comp=Z,27nm,0.7s,baz=355,slow=9.6,SNR=3.7
BBSR BB Station 51.26 5 eP P 22 13 30.3 -2.5
comp=Z,20nm,0.6s
TRIS Tristan da Cun 52.47 122 eP P 22 13 40.2 -1.6
comp=Z,2µm,2.6s
BRAL Brewton 52.65 341 eP P 22 13 44.2 +1.1
comp=Z,150nm,0.2s
RGRS Roger Stewart 52.71 348 eP P 22 13 42.3 -1.2
CSU Charleston Sou 52.76 348 eP P 22 13 43.4 -0.5
NHSC New Hope 52.90 348 eP P 22 13 45.2 +0.3
comp=Z,81nm,0.8s
GOGA Godfrey 53.91 345 eP P 22 13 51.3 -1.0
GOGA pmax pmax
comp=Z,49nm,2.0s
GOGA Godfrey 53.91 345 eP P 22 13 51.3 -1.0
comp=Z,49nm,2.0s
034A Hebbronville 54.06 327 P P 22 13 54.3 +0.7
baz=54
JSC Jenkinsville 54.25 348 eP P 22 13 53.4 -1.4
JSC Jenkinsville 54.25 348 eP P 22 13 53.4 -1.4
LRAL Lakeview Retre 54.52 341 eP P 22 13 56.0 -0.7
comp=Z,8.8nm,0.6s
736A Circle Diamond 54.82 330 P P 22 14 00.4 +1.4
baz=55,SNR=6.7
834A Tilden 54.86 328 P P 22 14 00.1 +0.9
baz=55
KMSC Kings Mountain 55.10 348 P P 22 14 00.6 -0.3
baz=55,SNR=9.6
KMSC Kings Mountain 55.10 348 eP P 22 13 59.9 -1.0
comp=Z,18nm,0.8s
636A Smothers Creek 55.25 330 P P 22 14 02.4 +0.3
baz=55
537A Green Hill Far 55.41 331 P P 22 14 04.2 +0.9
baz=56
833A Chaparral WMA, 55.45 327 P P 22 14 03.9 +0.4
baz=56,SNR=5.3
734A La Parita Cree 55.45 328 P P 22 14 04.4 +0.9
baz=56
340A Bronson 55.51 334 P P 22 14 05.4 +1.5
baz=56
635A Leesville 55.52 329 P P 22 14 04.7 +0.7
baz=56
438A Sam Houston St 55.61 332 P P 22 14 06.0 +1.4
baz=56
832A Faith Ranch, C 55.71 327 P P 22 14 06.1 +0.7
baz=56
733A Divot King Ran 55.72 328 P P 22 14 06.2 +0.8
baz=56
536A Bastrop 55.76 331 P P 22 14 06.1 +0.5
baz=56
SACV Santiago Islan 56.06 56 eP P 22 14 03.0 -5.2
comp=Z,96nm,1.4s
CPCT Cooper Cave 56.11 345 eP P 22 14 07.0 -1.1
TKL Tuckaleechee C 56.13 346 eP P 22 14 06.3 -1.9
TKL Tuckaleechee C 56.13 346 eP P 22 14 06.3 -1.9
436A Wall Ranch, Ga 56.22 331 P P 22 14 08.4 -0.5
baz=56
633A Seathoff Ranch 56.26 328 P P 22 14 10.2 +0.9
baz=56
239A Gary 56.28 334 P P 22 14 11.1 +1.8
baz=56
435B Jarrell 56.59 331 P P 22 14 12.2 +0.6
baz=57
632A Uvalde 56.61 328 P P 22 14 12.3 +0.5
baz=57
OXF Oxford 56.63 340 eP P 22 14 10.3 -1.5
OXF pmax pmax
comp=Z,16nm,0.6s
OXF Oxford 56.63 340 eP P 22 14 10.3 -1.5
comp=Z,16nm,0.6s
533A Kerrville 56.70 329 P P 22 14 12.9 +0.5
baz=57
336A Riesel 56.76 332 P P 22 14 13.6 +0.8
baz=57
237A Washetta, Mont 56.83 333 P P 22 14 14.6 +1.3
baz=57
VWCC Virginia Weste 56.89 350 eP P 22 14 12.2 -1.4
631A Perdido Creek 56.93 327 P P 22 14 14.6 +0.5
baz=57
BLA Blacksburg 56.93 349 eP P 22 14 12.5 -1.5
BLA pmax pmax
comp=Z,15nm,0.6s
BLA Blacksburg 56.93 349 eP P 22 14 12.5 -1.5
comp=Z,15nm,0.6s
335A Moody 56.94 331 P P 22 14 14.9 +0.8
baz=57
434A Burnet 56.94 330 P P 22 14 14.3 +0.2
baz=57
532A Rocksprings 57.17 328 P P 22 14 15.9 +0.1
baz=57
433A Art 57.28 329 P P 22 14 17.0 +0.5
baz=57
137A Heron Place, G 57.32 333 P P 22 14 18.0 +1.3
baz=58
334A Lometa 57.36 330 P P 22 14 17.3 +0.2
baz=58
JCT Junction City 57.41 328 eP P 22 14 16.7 -0.8
JCT pmax pmax
comp=Z,7.0nm,0.6s
JCT Junction City 57.41 328 P P 22 14 17.9 +0.5
baz=58
JCT Junction City 57.41 328 eP P 22 14 16.6 -0.8
comp=Z,7.2nm,0.6s
531A Rocksprings 57.52 328 P P 22 14 18.8 +0.5
baz=58,SNR=8.4
WVT Waverly 57.64 342 eP P 22 14 18.0 -0.9
WVT pmax pmax
comp=Z,14nm,0.5s
WVT Waverly 57.64 342 eP P 22 14 18.0 -0.9
comp=Z,14nm,0.5s
333A Richland Sprin 57.70 330 P P 22 14 19.4 -0.1
baz=58,SNR=5.7
432A Menard 57.73 329 P P 22 14 19.8 +0.1
baz=58,SNR=5.9
Y39A Lockesburg 57.80 335 P P 22 14 20.7 +0.6
baz=58
234A Clairette 57.87 331 P P 22 14 21.2 +0.6
baz=58,SNR=6.4
530A J-C Ranch, Com 57.92 327 P P 22 14 21.3 +0.2
baz=58,SNR=10
431A Sonora 57.97 328 P P 22 14 21.5 0.0
baz=58,SNR=7.5
332A Millersview 58.12 329 P P 22 14 22.5 +0.1
baz=58,SNR=8.8
MIAR Mount Ida 58.14 336 eP P 22 14 20.3 -2.1
MIAR pmax pmax
comp=Z,12nm,1.1s
MIAR Mount Ida 58.14 336 P P 22 14 22.2 -0.1
baz=58
MIAR Mount Ida 58.14 336 eP P 22 14 20.3 -2.1
comp=Z,12nm,1.1s
Z36A Blue Ridge 58.19 333 P P 22 14 23.0 +0.2
baz=58
SLBS Sierra La Lagu 58.23 315 eP P 22 14 24.2 +0.9
comp=Z,11nm,0.7s
233A Rising Star 58.24 330 P P 22 14 23.6 +0.4
baz=58,SNR=5.3
529A Stev Forest Ra 58.36 326 P P 22 14 24.5 +0.4
baz=58,SNR=16
430A Baggett Ranch, 58.38 327 P P 22 14 24.5 +0.3
baz=58,SNR=13
331A San Angelo 58.39 328 P P 22 14 24.1 -0.2
baz=58,SNR=5.2
Y37A Hugo 58.45 334 P P 22 14 25.3 +0.7
baz=59
232A Coleman 58.49 329 P P 22 14 25.1 +0.1
baz=59,SNR=9.0
TXAR Lajitas Array 58.52 324 P P 22 14 25.3 0.0
comp=Z,1.2nm,0.5s,baz=152,slow=7.9,SNR=21
TXAR pP pP 22 14 55.9 +0.5
comp=Z,1.0nm,0.8s,baz=150,slow=10,SNR=3.1
TX31 Lajitas Ar. Si 58.52 324 eP P 22 14 24.8 -0.5
429A Davenport Ranc 58.58 327 P P 22 14 26.0 +0.3
baz=59,SNR=21
Z35A Perchaven, San 58.59 332 P P 22 14 26.2 +0.7
baz=59
X38A Whitesboro 58.73 335 P P 22 14 27.9 +1.4
baz=59,SNR=6.2
133A Hamilton Ranch 58.74 331 P P 22 14 27.5 +0.9
baz=59
330A Mertzon 58.84 328 P P 22 14 27.6 +0.1
baz=59
231A Bronte 58.85 329 P P 22 14 27.3 -0.1
baz=59
X37A Clayton 58.88 335 P P 22 14 28.4 +0.9
baz=59
Z34A Collier Ranch, 58.92 332 P P 22 14 28.6 +0.7
baz=59
W38A Poteau 58.97 336 P P 22 14 29.3 +1.1
baz=59,SNR=5.5
Y35A Marietta 58.99 333 P P 22 14 29.1 +0.8
baz=59
PBMO Poplar Bluff 59.04 340 eP P 22 14 27.0 -1.6
comp=Z,23nm,0.4s
ABTX Abilene, Hawle 59.09 330 P P 22 14 29.6 +0.5
baz=59
MVL Millersville 59.09 353 eP P 22 14 27.7 -1.2
comp=Z,15nm,1.0s
WCI Wyandotte Cave 59.19 344 eP P 22 14 28.5 -1.1
WCI pmax pmax
comp=Z,10.0nm,0.7s
WCI Wyandotte Cave 59.19 344 eP P 22 14 28.5 -1.1
comp=Z,10nm,0.7s
230A Sterling City 59.20 328 P P 22 14 30.4 +0.5
baz=59
Z33A Whitaker Ranch 59.23 331 P P 22 14 30.7 +0.7
baz=59,SNR=6.3
X36A Centrahoma 59.27 334 P P 22 14 31.1 +0.9
baz=59
329A Wagon Wheel Ra 59.32 327 P P 22 14 30.9 +0.1
baz=59
Y34A Reagan Ranch, 59.35 332 P P 22 14 31.4 +0.6
baz=60,SNR=9.2
W37A Quinton 59.38 335 P P 22 14 31.9 +0.9
baz=60
X35A Drake 59.38 333 P P 22 14 31.3 +0.3
baz=60
131A Roby 59.49 329 P P 22 14 32.1 +0.3
baz=60
SIUC Southern Illin 59.52 342 eP P 22 14 30.6 -1.2
comp=Z,44nm,0.9s
Z32A Haskell 59.58 331 P P 22 14 32.9 +0.5
baz=60
229A Bryant Ranch, 59.62 328 P P 22 14 32.9 +0.1
baz=60
130A Snyder 59.70 329 P P 22 14 33.9 +0.6
baz=60,SNR=5.7
W36A Wetumka 59.71 334 P P 22 14 33.6 +0.4
baz=60
Y33A Hilltop Ranch, 59.77 332 P P 22 14 34.5 +0.8
baz=60
Z31A Sharp Cattle R 59.90 330 P P 22 14 35.1 +0.4
baz=60,SNR=10
V37A Hulbert 59.92 336 P P 22 14 34.9 +0.3
baz=60
X34A Smith Ranch, M 59.92 333 P P 22 14 35.3 +0.5
baz=60
W35A Tecumseh 59.99 334 P P 22 14 35.9 +0.8
baz=60
228A UT Block 9, Go 60.13 327 P P 22 14 36.3 0.0
baz=60
Y32A R-V Farms, Ver 60.14 331 P P 22 14 36.8 +0.5
baz=60
V36A Jenks 60.15 335 P P 22 14 36.8 +0.5
baz=60
TUL1 Leonard 60.20 335 eP P 22 14 36.8 +0.2
comp=Z,8.8nm,0.6s
Z30A Sanderson Ranc 60.34 329 P P 22 14 37.8 +0.1
baz=60,SNR=7.8
X32A Elmer 60.42 331 P P 22 14 38.8 +0.7
baz=61
128A Cleburne Fa 60.48 328 P P 22 14 38.7 0.0
baz=61
Y31A Rekieta Farm, 60.48 330 P P 22 14 39.5 +0.9
baz=61,SNR=5.7
Z29A Hungry Hill Ra 60.60 329 P P 22 14 39.5 0.0
baz=61
W33A Caddo, Fort Co 60.67 333 P P 22 14 40.5 +0.7
baz=61,SNR=6.4
Y30A Stafford Cattl 60.72 330 P P 22 14 40.6 +0.4
baz=61
V34A Guthrie 60.84 334 P P 22 14 41.0 0.0
baz=61
V34A Guthrie 60.84 334 eP P 22 14 39.5 -1.5
comp=Z,13nm,0.7s
X31A McDonald Ranch 60.91 331 P P 22 14 41.8 +0.4
baz=61,SNR=6.7
CLNB Carlsbad 60.91 326 eP P 22 14 41.8 +0.1
T37A Cheneyville 18 60.92 337 P P 22 14 41.9 +0.4
baz=61
W32A Sentinel 60.99 332 P P 22 14 42.5 +0.6
baz=61,SNR=11
V33A Lossen Ranch, 61.15 333 P P 22 14 43.5 +0.4
baz=61
X30A Coker Ranch, T 61.17 330 P P 22 14 43.8 +0.5
baz=61
T36A Boggs Farm, Ca 61.24 336 P P 22 14 44.0 +0.4
baz=61
U34A Anderson Ranch 61.36 334 P P 22 14 45.1 +0.7
baz=62
U34A Anderson Ranch 61.36 334 eP P 22 14 42.3 -2.1
comp=Z,22nm,0.6s
V32A Arapaho 61.40 332 P P 22 14 45.5 +0.8
baz=62
SFIN Lafayette 61.42 344 P P 22 14 43.7 -1.1
baz=62
SFIN Lafayette 61.42 344 eP P 22 14 43.1 -1.6
comp=Z,14nm,0.8s
X29A Tulia 61.56 330 P P 22 14 46.3 +0.4
baz=62
U33A Lingo Farm, Me 61.60 334 P P 22 14 46.3 +0.2
baz=62
MSTX Muleshoe 61.70 328 P P 22 14 47.2 +0.3
baz=62
MSTX Muleshoe 61.70 328 eP P 22 14 45.6 -1.3
comp=Z,19nm,0.9s
S36A Lake Cedric, C 61.70 336 P P 22 14 47.2 +0.4
baz=62
T34A McClaskey Farm 61.72 335 P P 22 14 47.3 +0.4
baz=62
V31A Spring Creek L 61.80 332 P P 22 14 47.7 +0.3
baz=62
U32A Winter Ranch, 61.93 333 P P 22 14 48.8 +0.4
baz=62
S35A Otter Creek Ra 61.95 336 P P 22 14 48.8 +0.5
baz=62
W29A Amarillo 62.09 330 P P 22 14 49.7 +0.3
baz=62
HDIL Hopedale 62.18 343 P P 22 14 48.7 -1.1
baz=62
HDIL Hopedale 62.18 343 eP P 22 14 48.0 -1.8
comp=Z,1.3nm,0.8s
R36A Gordon, Harris 62.20 337 P P 22 14 50.3 +0.3
baz=62
T33A Patterson Ranc 62.21 334 P P 22 14 50.6 +0.5
baz=62
S34A Willow Spring 62.28 335 P P 22 14 50.9 +0.3
baz=62
W28A Vega 62.46 330 P P 22 14 52.6 +0.6
baz=63
T32A Huddler Ranch, 62.58 333 P P 22 14 53.5 +0.9
baz=63
VNA1 Neumayer--Stat 62.67 161 P P 22 14 54.5 +1.8
MDV Middlebury 62.81 357 eP P 22 14 52.7 -1.2
R34A Isabella, Hill 62.85 335 P P 22 14 54.7 +0.3
baz=63
Q35A Mercer Eighty, 62.87 337 P P 22 14 54.9 +0.5
baz=63
V28A Channing 62.87 330 P P 22 14 54.8 +0.1
baz=63,SNR=5.5
P36A Good Intent, A 63.23 338 P P 22 14 56.8 0.0
baz=63
121A Cookes Peak, D 63.24 324 P P 22 14 58.2 +1.0
baz=63
Q34A Chapman 63.27 336 P P 22 14 57.6 +0.5
baz=64
WVL Waterville 63.27 360 eP P 22 14 53.8 -3.1
comp=Z,373nm,2.6s
KSU1 Kansas State U 63.30 336 eP P 22 14 55.8 -1.5
comp=Z,16nm,0.5s
U28A Mallet 63.38 330 P P 22 14 58.7 +0.7
baz=64
Q33A Connelly Farm, 63.68 335 P P 22 15 00.8 +1.0
baz=64
P34A Walnut Farm, R 63.77 336 P P 22 15 00.7 +0.4
baz=64
BNM Barren Site 63.83 326 eP P 22 14 59.9 -1.2
T28A Walsh 63.94 331 P P 22 15 01.7 0.0
baz=64
LPM Los Pinos Moun 63.95 326 eP P 22 15 01.9 0.0
T27A Campo 64.17 330 P P 22 15 03.7 +0.5
baz=64
S28A Manter 64.22 331 P P 22 15 04.1 +0.6
baz=64
O34A Beatrice 64.27 337 P P 22 15 04.0 +0.4
baz=64
CBKS Cedar Bluff 64.30 334 P P 22 15 04.4 +0.5
baz=64
Q31A Ellis 64.32 334 P P 22 15 05.3 +1.2
baz=64
ANMO Albuquerque 64.35 326 *c* iP P 22 15 04.8 +0.3
ANMO pmax pmax
comp=Z,15nm,0.7s
ANMO Albuquerque 64.35 326 eP P 22 15 04.4 -0.1
comp=Z,4.1nm,0.8s
SCIA State Center 64.60 340 eP P 22 15 04.9 -0.8
comp=Z,18nm,0.8s
JFWS Jewell Farm 64.63 343 eP P 22 15 04.5 -1.4
JFWS pmax pmax
comp=Z,16nm,0.6s
JFWS Jewell Farm 64.63 343 eP P 22 15 04.5 -1.4
comp=Z,16nm,0.6s
Q30A Quinter 64.64 333 P P 22 15 06.9 +0.7
baz=65
T26A Comanche Natio 64.67 330 P P 22 15 06.7 +0.1
baz=65,SNR=5.5
SNAA Sanae 64.67 161 P P 22 15 06.1 +0.1
SNAA Sanae 64.67 161 *d* iP P 22 15 06.0 +0.1
SNAA *i* *PP pP 22 15 36.5 -0.2
SNAA pmax pmax
comp=Z,28nm,1.0s
SNAA Sanae 64.67 161 eP P 22 15 05.8 -0.1
comp=Z,20nm,0.8s
P31A Stockton 64.75 334 P P 22 15 07.3 +0.5
baz=65
TUC Tucson 64.80 321 eP P 22 15 07.6 +0.3
TUC pmax pmax
comp=Z,4.0nm,0.8s
TUC Tucson 64.80 321 eP P 22 15 07.6 +0.3
comp=Z,3.8nm,0.8s
Q29A Oakley 64.89 333 P P 22 15 07.9 +0.1
baz=65
O32A Brockman Farm, 64.94 336 P P 22 15 08.8 +0.8
baz=65
P30A Selden 65.13 334 P P 22 15 10.2 +0.9
baz=65
R26A Arlington 65.51 331 P P 22 15 12.7 +0.8
baz=66
KSCO Kaye Shedlock' 65.72 332 P P 22 15 13.1 -0.1
baz=66
KSCO Kaye Shedlock' 65.72 332 eP P 22 15 11.0 -2.2
comp=Z,13nm,0.6s
O29A 4D Ranch, Culb 65.84 334 P P 22 15 14.9 +1.0
baz=66
BGNE Belgrade 65.88 336 P P 22 15 15.0 +0.9
baz=66
BGNE Belgrade 65.88 336 eP P 22 15 12.7 -1.3
comp=Z,50nm,0.8s
SDCO Great Sand Dun 66.04 329 P P 22 15 16.0 +0.5
baz=66,SNR=19
SDCO Great Sand Dun 66.04 329 eP P 22 15 15.7 +0.2
comp=Z,8.6nm,0.8s
Q26A Hugo 66.05 331 P P 22 15 16.0 +0.7
baz=66
W18A Petrified Fore 66.24 324 eP P 22 15 14.9 -1.8
comp=Z,6.0nm,0.7s
O27A Beecher Island 66.62 333 P P 22 15 20.1 +1.2
baz=67
S22A 4UR Ranch, Cre 66.70 328 P P 22 15 20.5 +0.8
baz=67,SNR=8.8
S22A 4UR Ranch, Cre 66.70 328 eP P 22 15 19.4 -0.3
comp=Z,5.4nm,0.9s
L31A Butterfield Fa 66.80 336 P P 22 15 20.8 +0.8
baz=67
Q24A Divide 66.84 330 P P 22 15 21.1 +0.5
baz=67,SNR=7.3
Q24A Divide 66.84 330 eP P 22 15 18.5 -2.1
comp=Z,9.7nm,0.8s
MVCO Mesa Verde 67.14 327 P P 22 15 22.8 +0.4
baz=67,SNR=5.1
MVCO Mesa Verde 67.14 327 eP P 22 15 22.0 -0.4
comp=Z,8.0nm,0.7s
ECSD EROS Data Cent 67.35 339 P P 22 15 24.3 +1.0
baz=68
ECSD EROS Data Cent 67.35 339 eP P 22 15 22.9 -0.5
comp=Z,7.5nm,1.0s
WUAZ Wupatki 67.44 324 P P 22 15 25.7 +1.4
baz=68
WUAZ Wupatki 67.44 324 eP P 22 15 22.2 -2.1
comp=Z,7.5nm,0.8s
SPMN Marine on St. 67.48 342 P P 22 15 24.6 +0.6
baz=68
SPMN Marine on St. 67.48 342 eP P 22 15 23.2 -0.9
comp=Z,24nm,1.0s
ISCO Idaho Springs 67.72 330 eP P 22 15 26.3 +0.2
ISCO pmax pmax
comp=Z,6.0nm,0.8s
ISCO Idaho Springs 67.72 330 P P 22 15 27.0 +0.9
baz=68,SNR=7.5
ISCO Idaho Springs 67.72 330 eP P 22 15 26.3 +0.2
comp=Z,6.1nm,0.8s
GLA Glamis 67.75 319 P P 22 15 26.9 +0.8
baz=68
LIC Lamto 67.86 75 eP P 22 15 26.1 -1.1
comp=Z,105nm,1.1s
K29A Lazy Trails An 67.87 336 P P 22 15 27.5 +0.8
baz=68
PV15 Paradox Valley 67.99 327 eP P 22 15 28.6 +0.9
TIC Toumodi 68.03 74 eP P 22 15 27.1 -1.2
KIC Kosan Boka 68.18 75 eP P 22 15 28.2 -0.9
comp=Z,168nm,0.7s
DBIC Dimbokro 68.19 74 P P 22 15 28.4 -0.8
comp=Z,72nm,0.6s,baz=225,slow=6.1,SNR=88
DBIC LR LR 22 45 04.3
comp=Z,40nm,18.4s,baz=100,slow=36
DBIC Dimbokro 68.19 74 eP P 22 15 28.2 -1.0
DBIC pmax pmax
comp=Z,76nm,0.7s
DBIC Dimbokro 68.19 74 eP P 22 15 28.2 -1.0
comp=Z,76nm,0.7s
BAR Barrett 68.65 318 eP P 22 15 31.6 -0.1
N23A Red Feather La 68.74 331 P P 22 15 33.1 +0.7
baz=69,SNR=6.1
N23A Red Feather La 68.74 331 eP P 22 15 30.8 -1.6
comp=Z,9.8nm,0.9s
K26A Motz Farm, Whi 68.98 334 P P 22 15 34.7 +1.1
baz=69
NVL N'lazarevskaya 69.20 160 eP P 22 15 36.5 +2.0
NVL pmax pmax
comp=Z,28nm,0.9s
O20A White River Ci 69.24 329 P P 22 15 36.3 +0.9
baz=69
O20A White River Ci 69.24 329 eP P 22 15 35.9 +0.5
comp=Z,7.0nm,0.8s
KNB Kanab 69.33 324 eP P 22 15 36.4 +0.3
KNB pmax pmax
comp=Z,20nm,1.0s
KNB Kanab 69.33 324 eP P 22 15 36.4 +0.3
comp=Z,20nm,1.0s
GMRC Granite Mounta 69.43 320 P P 22 15 37.6 +1.0
baz=70
J26A Sides Ranch, S 69.44 334 P P 22 15 37.5 +1.1
baz=70
EYMN Ely 69.62 344 P P 22 15 38.0 +0.7
baz=70
EYMN Ely 69.62 344 eP P 22 15 37.1 -0.2
comp=Z,11nm,0.9s
SRU San Rafael Swe 69.62 327 eP P 22 15 37.9 +0.1
SRU pmax pmax
comp=Z,9.0nm,0.7s
SRU San Rafael Swe 69.62 327 eP P 22 15 37.9 +0.1
comp=Z,9.4nm,0.7s
I27A Quinn 69.66 335 P P 22 15 38.5 +0.8
baz=70
K24A Anderson Ranch 69.70 333 P P 22 15 39.0 +0.9
baz=70
G29A Hoven 69.80 337 P P 22 15 39.3 +0.8
baz=70
J25A Sunshine Ranch 69.81 334 P P 22 15 39.3 +0.6
baz=70
HEC Hector,Ludlow 69.87 320 P P 22 15 40.8 +1.6
baz=70
CCUT Cedar City 70.02 324 eP P 22 15 40.9 +0.6
comp=Z,12nm,0.8s
MSU Marysvale 70.06 325 eP P 22 15 41.6 +1.1
MSU Marysvale 70.06 325 eP P 22 15 41.6 +1.1
MVU Marysvale 70.07 325 eP P 22 15 40.3 -0.3
comp=Z,14nm,0.8s
K23A Bowen Ranch, D 70.08 332 P P 22 15 41.3 +0.9
baz=70
J24A Dixon Ranch, L 70.12 333 P P 22 15 42.0 +1.3
baz=70
I25A Rochford 70.29 334 P P 22 15 43.3 +1.6
baz=70,SNR=13

SHPR **Sheep Range** 70.31 322 *eP* **P** 22 15 42.7 +0.7
K22A **Casper** 70.39 332 P **P** 22 15 43.6 +1.2
baz=71
K22A **Casper** 70.39 332 *eP* **P** 22 15 41.0 -1.4
comp=Z,6.6nm,0.8s
GSC **Goldstone, Bar** 70.48 320 *eP* **P** 22 15 43.0 0.0
GSC pmax pmax
comp=Z,13nm,1.4s
GSC **Goldstone, Bar** 70.48 320 P **P** 22 15 44.4 +1.4
baz=71
GSC **Goldstone, Bar** 70.48 320 *eP* **P** 22 15 43.0 0.0
comp=Z,13nm,1.4s
RSSD **Black Hills** 70.50 334 *eP* **P** 22 15 42.2 -0.9
RSSD pmax pmax
comp=Z,6.0nm,0.8s
RSSD **Black Hills** 70.50 334 *eP* **P** 22 15 42.2 -0.9
comp=Z,6.0nm,0.8s
I24A **Kuemmerle Ranc** 70.53 334 P **P** 22 15 44.4 +1.2
baz=71
E30A **Jud** 70.56 339 P **P** 22 15 43.9 +0.7
baz=71
G27A **Dupree** 70.70 336 P **P** 22 15 44.5 +0.4
baz=71
H25A **Fruitdale** 70.73 335 P **P** 22 15 45.2 +0.9
baz=71
MPU **Maple Canyon** 70.86 327 *eP* **P** 22 15 44.9 -0.5
comp=Z,26nm,1.0s
G26A **Maurine** 70.89 336 P **P** 22 15 45.6 +0.4
baz=71
EDW2 **Edwards Air Fo** 70.92 319 P **P** 22 15 47.0 +1.4
baz=71
D30A **Buchanan** 71.04 339 P **P** 22 15 47.1 +1.1
baz=71
NLU **North Lily Min** 71.05 326 *eP* **P** 22 15 46.1 -0.4
comp=Z,5.8nm,0.6s
G25A **Newell** 71.13 335 P **P** 22 15 47.1 +0.4
baz=71
F27A **Lemmon** 71.15 336 P **P** 22 15 47.5 +0.7
baz=71
AGMN **Agassiz Nation** 71.16 341 P **P** 22 15 47.4 +0.7
baz=71
AGMN **Agassiz Nation** 71.16 341 *eP* **P** 22 15 45.6 -1.1
comp=Z,18nm,1.4s
JLU **Jordanelle** 71.20 327 *eP* **P** 22 15 47.8 +0.3
comp=Z,10nm,0.6s
H24A **Dirks Ranch, A** 71.23 334 P **P** 22 15 47.7 +0.4
baz=71,SNR=6.0
TPNV **Topopah Spring** 71.25 322 *eP* **P** 22 15 46.3 -1.4
TPNV pmax pmax
comp=Z,14nm,1.1s
TPNV **Topopah Spring** 71.25 322 P **P** 22 15 49.4 +1.7
baz=71,SNR=5.8
TPNV **Topopah Spring** 71.25 322 *eP* **P** 22 15 46.3 -1.4
comp=Z,14nm,1.1s
E28A **Huff** 71.25 338 P **P** 22 15 48.2 +0.9
baz=72
J21A **Lysite** 71.36 331 P **P** 22 15 48.9 +0.7
baz=72
I22A **9 Mile Ranch,** 71.36 332 P **P** 22 15 49.1 +0.9
baz=72,SNR=6.3
F26A **Lodgepole** 71.38 336 P **P** 22 15 49.2 +1.1
baz=72
MPMC **Manual Prospec** 71.40 320 P **P** 22 15 49.5 +0.9
baz=72
TCUT **Toone Canyon** 71.56 328 *eP* **P** 22 15 47.2 -2.3
comp=Z,114nm,0.8s
DAC **Darwin (Calif)** 71.60 320 *eP* **P** 22 15 50.0 +0.1
DAC pmax pmax
comp=Z,6.0nm,0.8s
DAC **Darwin (Calif)** 71.60 320 *eP* **P** 22 15 50.0 +0.1
comp=Z,5.5nm,0.8s
DUG **Dugway, Tooele** 71.61 326 *eP* **P** 22 15 49.2 -0.6
DUG pmax pmax
comp=Z,8.0nm,0.8s
DUG **Dugway, Tooele** 71.61 326 P **P** 22 15 50.9 +1.1
baz=72,SNR=5.1
DUG **Dugway, Tooele** 71.61 326 *eP* **P** 22 15 49.1 -0.6
comp=Z,8.4nm,0.8s
G24A **Alzada** 71.64 335 P **P** 22 15 50.6 +0.8
baz=72
J20A **Shoshoni** 71.65 331 P **P** 22 15 50.8 +0.9
baz=72
I21A **Big Trails, Te** 71.66 332 P **P** 22 15 51.0 +1.0
baz=72,SNR=17
ISA **Isabella, Lake** 71.73 319 *eP* **P** 22 15 49.4 -1.1
ISA pmax pmax
comp=Z,6.0nm,0.8s
ISA **Isabella, Lake** 71.73 319 P **P** 22 15 51.9 +1.4
baz=72
ISA **Isabella, Lake** 71.73 319 *eP* **P** 22 15 49.4 -1.1
comp=Z,6.0nm,0.8s
E26A **Carlson Angus** 71.82 336 P **P** 22 15 51.9 +1.1
baz=72
R11A **Troy Canyon, C** 71.83 323 P **P** 22 15 52.9 +1.7
baz=72,SNR=12
R11A **Troy Canyon, C** 71.83 323 *eP* **P** 22 15 52.3 +1.2
comp=Z,5.2nm,0.8s
H22A **Clearmont** 71.86 333 P **P** 22 15 52.4 +1.3
baz=72
BW06 **Boulder Array** 71.89 330 *eP* **P** 22 15 50.6 -0.9
comp=Z,34nm,2.5s
PDAR **Pinedale Array** 71.89 330 P **P** 22 15 52.0 +0.5
comp=Z,1.3nm,0.4s,baz=132,slow=6.6,SNR=9.1
G23A **Biddle** 71.94 334 P **P** 22 15 52.2 +0.7
baz=72
MDND **Maddock** 71.96 339 *eP* **P** 22 15 51.8 +0.3
comp=Z,250nm,0.4s
HWUT **Hardware Ranch** 72.00 328 *eP* **P** 22 15 52.2 +0.1
comp=Z,9.2nm,0.7s
J19A **Crowheart** 72.03 330 P **P** 22 15 53.2 +0.9
baz=72,SNR=9.2
F24A **Ekalaka** 72.08 335 P **P** 22 15 52.9 +0.6
baz=72,SNR=6.4
PKM **Mcpherson Peak** 72.08 318 P **P** 22 15 53.7 +1.0
baz=72
I20A **Worland** 72.14 331 P **P** 22 15 53.6 +0.8
baz=72
H21A **Big Horn, Sher** 72.19 333 P **P** 22 15 54.0 +0.9
baz=72
E25A **Miller Ranch,** 72.21 336 P **P** 22 15 53.9 +0.8
baz=72
BGU **Big Grassy Mou** 72.26 326 *eP* **P** 22 15 53.4 -0.2
comp=Z,12nm,0.8s
D26A **Manning** 72.28 337 P **P** 22 15 54.5 +1.0
baz=72
G22A **Birney** 72.34 333 P **P** 22 15 54.3 +0.4
baz=72
F23A **Volborg** 72.37 334 P **P** 22 15 54.5 +0.4
baz=72,SNR=5.4
H20A **Greybull** 72.50 332 P **P** 22 15 55.4 +0.4
baz=73
TPH **Tonopah** 72.58 322 *eP* **P** 22 15 55.6 -0.1
TPH pmax pmax
comp=Z,5.0nm,0.8s
TPH **Tonopah** 72.58 322 *eP* **P** 22 15 55.6 -0.1
comp=Z,5.0nm,0.8s
I19A **Meeteetse** 72.60 331 P **P** 22 15 56.5 +0.9
baz=73,SNR=6.1
E24A **Baker** 72.61 335 P **P** 22 15 56.6 +1.1
baz=73
AHID **Auburn Hatcher** 72.63 329 *eP* **P** 22 15 54.0 -1.9
comp=Z,10nm,0.6s
HVU **Hansel Valley** 72.74 327 *eP* **P** 22 15 55.8 -0.7
HVU pmax pmax
comp=Z,6.0nm,0.6s
HVU **Hansel Valley** 72.74 327 *eP* **P** 22 15 55.8 -0.7
comp=Z,6.3nm,0.6s
F22A **Rosebud** 72.77 334 P **P** 22 15 56.9 +0.4
baz=73,SNR=5.6
A29A **Manning Farm,** 72.77 340 P **P** 22 15 56.9 +0.6
baz=73,SNR=5.6
ULM **Lac du Bonnet** 72.91 342 P **P** 22 15 57.4 +0.3
comp=Z,6.6nm,0.4s,baz=156,slow=6.5,SNR=14
ULM pP **pP** 22 16 30.2 +1.8
comp=Z,3.7nm,0.5s,baz=150,slow=5.4,SNR=2.6
ULM sP **sP** 22 16 42.1 +0.1
comp=Z,5.1nm,0.7s,baz=162,slow=5.6,SNR=2.4
ULM **Lac du Bonnet** 72.91 342 P **P** 22 15 57.4 +0.3
ULM *PP **pP** 22 16 30.2 +1.8
ULM pmax pmax
comp=Z,7.0nm,0.4s
ULM pmax pmax
comp=Z,4.0nm,0.5s
ULM **Lac du Bonnet** 72.91 342 *eP* **P** 22 15 56.5 -0.6
comp=Z,7.9nm,0.5s
ULM pP **pP** 22 16 30.2 +1.8
ULM sP **sP** 22 16 42.1 +0.1
E23A **Ismay** 72.96 335 P **P** 22 15 58.4 +0.9
baz=73
REDW **Red Top Meadow** 72.96 329 *eP* **P** 22 15 57.1 -0.7
comp=Z,4.2nm,0.7s
LOHW **Long Hollow** 73.03 330 *eP* **P** 22 15 57.1 -1.1
comp=Z,4.6nm,0.8s
D24A **Glendive** 73.07 336 P **P** 22 15 59.1 +0.9
baz=73
H19A **Powell** 73.09 331 P **P** 22 15 59.2 +0.8
baz=73
TPAW **Teton Pass** 73.10 329 *eP* **P** 22 15 56.4 -2.3
comp=Z,5.9nm,0.8s
G20A **Bridger** 73.17 332 P **P** 22 15 59.9 +1.0
baz=73
E22A **Miles City** 73.17 334 P **P** 22 15 59.9 +1.1
baz=73
MOOW **Moose Ponds** 73.20 330 *eP* **P** 22 15 58.8 -0.5
comp=Z,2.9nm,0.8s
MLAC **Mammoth, Mammo** 73.24 321 P **P** 22 16 00.5 +0.9
baz=73
FXWY **Fox Creek** 73.25 330 *eP* **P** 22 15 58.4 -1.2
comp=Z,4.3nm,0.8s
ELK **Elko** 73.30 325 *eP* **P** 22 15 59.5 -0.4
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK **Elko** 73.30 325 *eP* **P** 22 15 59.5 -0.4
comp=Z,4.4nm,0.8s
B26A **Jensen Ranch,** 73.34 338 P **P** 22 16 00.6 +0.9
baz=74
IMW **Indian Meadow** 73.40 330 *eP* **P** 22 15 58.2 -2.3
comp=Z,7.9nm,0.6s
FLWY **Flagg Ranch** 73.43 330 *eP* **P** 22 15 59.7 -0.9
comp=Z,19nm,0.8s
NV01 **Mina Array Sit** 73.45 322 *eP* **P** 22 16 00.4 -0.4
NVAR **Mina Array Bea** 73.45 322 P **P** 22 16 02.3 +1.5
comp=Z,5.1nm,0.8s,baz=155,slow=6.7,SNR=27
NVAR pP **pP** 22 16 33.2 +1.0
comp=Z,2.8nm,0.9s,baz=137,slow=6.5,SNR=3.2
NVAR sP **sP** 22 16 47.8 +2.0
comp=Z,2.0nm,0.8s,baz=152,slow=6.3,SNR=2.7
D23A **Lindsay** 73.47 335 P **P** 22 16 01.7 +1.2
baz=74
RLMT **Red Lodge** 73.56 332 P **P** 22 16 02.0 +0.7
baz=74,SNR=5.0
SCHQ **Schefferville** 73.57 1 P **P** 22 16 00.2 -0.6
comp=Z,7.3nm,0.8s,baz=196,slow=4.5,SNR=7.0
F20A **Billings** 73.59 333 P **P** 22 16 01.9 +0.6
baz=74
H17A **Grant Village** 73.61 330 P **P** 22 16 02.7 +1.0
baz=74
H17A **Grant Village** 73.61 330 *eP* **P** 22 15 59.5 -2.2
comp=Z,5.2nm,0.6s
LKWY **Lake** 73.66 331 *eP* **P** 22 15 59.0 -2.9
LKWY pmax pmax
comp=Z,58nm,1.1s
LKWY **Lake** 73.66 331 *eP* **P** 22 15 59.0 -2.9
comp=Z,58nm,1.1s
E21A **Keefer Ranch,** 73.72 334 P **P** 22 16 03.1 +1.1
baz=74
YFT **Old Faithful** 73.77 330 *eP* **P** 22 16 01.8 -0.8
comp=Z,7.4nm,0.7s
D22A **Cohagen** 73.84 335 P **P** 22 16 03.8 +1.2
baz=74
C23A **Lambert** 73.97 336 P **P** 22 16 04.6 +1.2
baz=74
D21A **La Casta Ranch** 74.10 334 P **P** 22 16 05.4 +1.1
baz=74
WAKR **Walker** 74.17 321 *eP* **P** 22 16 03.3 -1.7
C22A **Vida** 74.20 335 P **P** 22 16 05.9 +1.2
baz=74
B23A **Brockton** 74.44 336 P **P** 22 16 06.8 +0.7
baz=75
A24A **Westby** 74.44 337 P **P** 22 16 07.0 +0.9
baz=75
C21A **Desert Coulee** 74.75 335 P **P** 22 16 08.8 +0.8
baz=75
HLID **Hailey** 74.87 328 P **P** 22 16 10.6 +1.7
baz=75,SNR=24
HLID **Hailey** 74.87 328 *eP* **P** 22 16 08.6 -0.3
comp=Z,11nm,0.8s
MCMT **McKenzie Canyo** 75.01 329 *eP* **P** 22 16 06.8 -2.9
C20A **Veseth Ranch,** 75.04 334 P **P** 22 16 10.3 +0.7
baz=75
BOZ **Bozeman (W)** 75.04 331 P **P** 22 16 10.5 +0.8
baz=75,SNR=6.9
B21A **Ellsworth Farm** 75.20 335 P **P** 22 16 11.4 +1.0
baz=75
A22A **Carney Farms,** 75.22 336 P **P** 22 16 11.7 +1.1
baz=75
DLMT **Dillon** 75.28 330 *eP* **P** 22 16 09.0 -2.2
comp=Z,4.6nm,0.6s
MFID **Camas Ranch** 75.49 327 *eP* **P** 22 16 12.2 -0.2
comp=Z,12nm,0.8s
LRM **Franklin Ridge** 75.56 330 *eP* **P** 22 16 12.6 -0.3
B20A **Solberg Farm,** 75.62 334 P **P** 22 16 13.6 +0.7
baz=76
TOB5 **Torodi Ar. Sit** 76.67 71 *eP* **P** 22 16 18.3 -1.2
TOA0 **Torodi Ar. Sit** 76.68 71 *eP* **P** 22 16 16.8 -2.8
TORD **Torodi Ar. Bea** 76.68 71 P **P** 22 16 18.4 -1.1
comp=Z,26nm,0.5s,baz=254,slow=5.5,SNR=274
TORD PKKPbc **PKKPbc** 22 35 29.9 +0.9
comp=Z,1.4nm,1.2s,baz=67,slow=1.5,SNR=5.9
TORD LR LR 22 49 11.3
comp=Z,41nm,19.4s,baz=190,slow=35
N02D **Trinity Center** 77.69 321 P **P** 22 16 25.1 +0.3
baz=78
M04C **Macdoel** 77.69 322 P **P** 22 16 25.3 +0.5
baz=78
K05A **Summer Lake** 77.76 324 *eP* **P** 22 16 22.9 -2.3
comp=Z,11nm,0.8s
M02C **Callahan** 78.03 322 P **P** 22 16 27.2 +0.6
baz=78
SBA **Scott Base** 78.24 190 *eP* **P** 22 16 27.2 +0.1
SBA pmax pmax
comp=Z,12nm,1.1s
SBA **Scott Base** 78.24 190 *eP* **P** 22 16 27.2 +0.1
comp=Z,12nm,1.1s
J05D **Fort Rock, OR** 78.31 324 P **P** 22 16 29.6 +1.4
baz=78
G08A **Pilot Rock** 78.41 327 *eP* **P** 22 16 26.4 -2.3
J04D **Umpqua Nationa** 78.77 323 P **P** 22 16 32.2 +1.4
baz=79
L02D **Cave Junction,** 78.95 322 P **P** 22 16 32.9 +1.3
baz=79
I05D **Terrebonne, OR** 79.05 325 P **P** 22 16 33.7 +1.6
baz=79,SNR=5.1
VNDA **Vanda** 79.26 190 P **P** 22 16 34.8 +2.0
comp=Z,4.3nm,0.7s,baz=130,slow=5.3,SNR=15
VNDA **Vanda** 79.26 190 *eP* **P** 22 16 33.5 +0.7
VNDA pmax pmax
comp=Z,8.0nm,1.1s
VNDA **Vanda** 79.26 190 *eP* **P** 22 16 33.5 +0.7
comp=Z,7.9nm,1.1s
I04A **Tendick Farm,** 79.29 324 P **P** 22 16 34.4 +1.0
baz=79
HAWA **Hanford** 79.44 327 *eP* **P** 22 16 32.3 -1.9
comp=Z,26nm,1.3s
G05D **Wamic, OR** 79.62 325 P **P** 22 16 37.0 +1.8
baz=80
I03D **Drain, OR** 79.76 323 P **P** 22 16 37.6 +1.7
baz=80
C09A **Chrisman Ranch** 79.77 329 *eP* **P** 22 16 36.0 +0.1
comp=Z,20nm,0.7s
MORF **Marmelete** 79.80 45 *eP* **P** 22 16 37.0 +0.6
MORF **Marmelete** 79.80 45 *eP* **P** 22 16 37.3 +0.9
comp=Z,75nm,1.9s
MORF **Marmelete** 79.80 45 *eP* **P** 22 16 37.3 +0.9
comp=Z,75nm,1.9s
PTEO **Sao Teotonio** 79.89 45 *eP* **P** 22 16 37.8 +1.1
comp=Z,66nm,1.6s
PTEO **Sao Teotonio** 79.89 45 *eP* **P** 22 16 37.8 +1.1
comp=Z,66nm,1.6s
PNCL **Nicolau / Gran** 80.33 44 *eP* **P** 22 16 39.4 +0.3
comp=Z,19nm,1.0s
PNCL **Nicolau / Gran** 80.33 44 *eP* **P** 22 16 39.4 +0.3
comp=Z,19nm,1.0s
MESJ **Messejana** 80.38 45 *eP* **P** 22 16 39.4 0.0
MESJ **Messejana** 80.38 45 *eP* **P** 22 16 39.7 +0.3
comp=Z,30nm,2.0s
MESJ **Messejana** 80.38 45 *eP* **P** 22 16 39.7 +0.3
comp=Z,30nm,2.0s
PCVE **Castro Verde** 80.39 45 *eP* **P** 22 16 40.5 +1.1
comp=Z,16nm,2.1s
PCVE **Castro Verde** 80.39 45 *eP* **P** 22 16 40.5 +1.1
comp=Z,16nm,2.1s
F04A **Amboy** 80.66 325 *eP* **P** 22 16 41.0 +0.3
comp=Z,24nm,0.8s
B08A **Colville Reser** 80.67 329 *eP* **P** 22 16 38.5 -2.2
EVO **Evora** 80.89 44 *eP* **P** 22 16 41.2 -0.9
comp=Z,18nm,1.9s
EVO **Evora** 80.89 44 *eP* **P** 22 16 41.2 -0.9
comp=Z,18nm,1.9s
PTOM **Tomar** 81.23 43 *eP* **P** 22 16 43.8 -0.1
comp=Z,32nm,1.5s
PTOM **Tomar** 81.23 43 *eP* **P** 22 16 43.8 -0.1
comp=Z,32nm,1.5s
D05A **Enumclaw** 81.24 327 *eP* **P** 22 16 43.7 0.0
comp=Z,26nm,0.9s
PBAR **Barrancos** 81.35 45 *eP* **P** 22 16 43.4 -1.1
comp=Z,37nm,2.3s
PBAR **Barrancos** 81.35 45 *eP* **P** 22 16 43.4 -1.1
comp=Z,37nm,2.3s
EDM **Edmonton** 81.45 335 *eP* **P** 22 16 43.2 -1.6
EDM **Edmonton** 81.45 335 *eP* **P** 22 16 43.1 -1.6
B06A **Marblemount** 81.85 328 *eP* **P** 22 16 45.4 -1.5
comp=Z,25nm,0.6s
POLO **Lamas de Olo** 82.59 42 *eP* **P** 22 16 51.2 +0.1
comp=Z,5.5nm,1.3s
POLO **Lamas de Olo** 82.59 42 *eP* **P** 22 16 51.2 +0.1
comp=Z,5.5nm,1.3s
PCAB **Cabril** 82.62 41 *eP* **P** 22 16 51.5 +0.3
comp=Z,29nm,2.1s
PCAB **Cabril** 82.62 41 *eP* **P** 22 16 51.5 +0.3
comp=Z,29nm,2.1s
MVO **Moncorvo** 82.96 42 *eP* **P** 22 16 53.4 +0.5
comp=Z,21nm,1.3s
MVO **Moncorvo** 82.96 42 *eP* **P** 22 16 53.4 +0.5
comp=Z,21nm,1.3s
PBRG **Braganca** 83.48 42 *eP* **P** 22 16 56.1 +0.5
comp=Z,20nm,1.7s
PBRG **Braganca** 83.48 42 *eP* **P** 22 16 56.1 +0.5
comp=Z,20nm,1.7s
PAB **San Pablo** 83.85 45 *eP* P 22 16 53.7 -3.9
PAB pmax pmax
comp=Z,21nm,1.3s
PAB **San Pablo** 83.85 45 *eP* P 22 16 53.7 -3.9
comp=Z,21nm,1.3s
ESDC **Sonseca Array** 84.17 45 P **P** 22 16 59.1 -0.1
comp=Z,3.7nm,0.6s,baz=255,slow=5.3,SNR=24
ESDC pP **pP** 22 17 32.8 +1.4
comp=Z,2.6nm,0.9s,baz=242,slow=6.0,SNR=2.7
BOSA **Boshof** 84.75 118 P **P** 22 17 01.9 -0.6
comp=Z,0.9nm,0.4s,baz=269,slow=6.7,SNR=5.3
MAW **Mawson** 86.75 163 LR LR 22 54 52.5
comp=Z,38nm,19.7s,baz=262,slow=35
YKA **Yellowknife Ar** 88.80 341 P **P** 22 17 21.5 +0.4
comp=Z,8.7nm,0.5s,baz=130,slow=4.8,SNR=44
YKA pP **pP** 22 17 53.6 +0.1
comp=Z,12nm,0.8s,baz=136,slow=5.0,SNR=7.6
YKA sP **sP** 22 18 07.6 +0.9
comp=Z,3.5nm,0.6s,baz=132,slow=4.7,SNR=2.4
YKB5 **Yellowknife Ar** 88.80 341 *eP* **P** 22 17 21.1 0.0
KEST **Kesra** 91.93 53 P **P** 22 17 35.7 -0.7
comp=Z,0.7nm,0.8s,baz=225,slow=7.1,SNR=3.4
SUMG **Summit** 93.64 9 *i* P **P** 22 17 45.3 +1.5
comp=Z,4.9nm,0.9s
SUMG *i* 22 18 17.1
SUMG *e* 22 19 33.8
SUMG **Summit** 93.64 9 *eP* **P** 22 17 45.3 +1.5
SUMG pmax pmax
comp=Z,5.0nm,0.9s
CASY **Casey** 94.97 180 *eP* **P** 22 17 50.5 +0.7
comp=Z,157nm,2.8s
GERES **GERESS Array B** 99.46 42 P **Pdif** 22 18 11.6 +1.3
comp=Z,0.2nm,0.4s,baz=282,slow=4.7,SNR=4.9
GERES PKKPbc **PKKPbc** 22 34 34.4 -0.1
comp=Z,0.3nm,0.5s,baz=22,slow=0.5,SNR=4.2
CLL **Collm** 99.80 39 *e*Pdif **Pdif** 22 18 11.0 -0.6
CLL *e*PP PP 22 22 12.0 -6.0
ILAR **Eielson Array** 101.94 335 PP PP 22 22 40.4 +6.5
comp=Z,0.3nm,0.7s,baz=116,slow=7.8,SNR=4.6
KECS **Kecovo** 103.70 43 *eP* **Pdif** 22 18 33.2 +4.1
KECS **Kecovo** 103.70 43 *e* **Pdif** 22 18 33.2 +4.1
STHS **Stebnicka Huta** 104.39 42 *eP* **Pdif** 22 18 36.1 +3.9
STHS **Stebnicka Huta** 104.39 42 *e* **Pdif** 22 18 36.0 +3.9
KOLS **Kolonicke sedl** 104.95 43 *eP* **Pdif** 22 18 39.8 +5.1
KOLS **Kolonicke sedl** 104.95 43 *e* **Pdif** 22 18 39.8 +5.1
ARCES **ARCESS Array B** 109.25 22 PKKPbc PKKPbc 22 34 02.9 -2.6
comp=Z,3.3nm,0.9s,baz=94,slow=2.9,SNR=6.2
ARCES PKKPab **PKKPab** 22 34 15.9 +1.9
comp=Z,1.0nm,0.6s,baz=76,slow=3.8,SNR=4.6
AKASG **Malin Array Be** 109.67 42 PP PP 22 23 35.0 +3.8
comp=Z,0.2nm,0.4s,baz=253,slow=8.6,SNR=4.5
OBN **Obninsk** 114.30 37 *e*PKIKP PKPdf 22 23 07.2 +0.9
OBN pmax pmax
comp=Z,3.0nm,1.2s
STKA **Stephens Creek** 121.48 211 PKP **PKPdf** 22 23 21.4 +0.4
comp=Z,3.3nm,0.5s,baz=117,slow=3.8,SNR=10
STKA pPKP **pPKPdf** 22 23 55.7 +0.8
comp=Z,3.8nm,1.0s,baz=120,slow=4.1,SNR=2.5
TIXI **Tiksi** 126.31 353 *i* PKIKP **PKPdf** 22 23 29.6 +0.7
SEY **Seymchan** 127.76 337 PKP **PKPdf** 22 23 33.0 +1.1
comp=Z,3.9nm,0.6s,baz=108,slow=13,SNR=8.3
SEY **Seymchan** 127.76 337 PKIKP **PKPdf** 22 23 33.0 +1.1
ABKAR **Akbulak array** 129.41 41 *e*PKPdf **PKPdf** 22 23 34.2 -1.2
GEYT **Alibeck** 130.57 56 SKPbc **SKPab** 22 26 52.7 +2.3
comp=Z,0.7nm,0.5s,baz=253,slow=8.9,SNR=4.1
AS01 **Alice Springs** 132.00 209 *e*PKPdf **PKPdf** 22 23 40.0 -1.4
ASAR **Alice Springs** 132.03 209 PKHKP PKPpre 22 23 22.9
comp=Z,0.3nm,0.6s,baz=140,slow=2.8,SNR=5.1
ASAR PKP **PKPdf** 22 23 41.6 +0.2
comp=Z,3.6nm,0.5s,baz=136,slow=1.8,SNR=51
ASAR pPKP pPKPdf 22 24 15.6 +0.3
comp=Z,1.3nm,0.8s,baz=133,slow=2.6,SNR=2.7
ASAR SKPbc **SKPab** 22 26 57.1 0.0
comp=Z,2.9nm,0.9s,baz=140,slow=4.3,SNR=10
WRA **Warramunga Arr** 135.00 212 PKhKP PKPpre 22 23 35.8
comp=Z,0.8nm,0.6s,baz=142,slow=3.3,SNR=12
WRA PKP **PKPdf** 22 23 47.5 +0.5
comp=Z,6.7nm,0.5s,baz=146,slow=1.6,SNR=52
WRA pPKP pPKPdf 22 24 21.1 +0.1
comp=Z,2.3nm,0.6s,baz=150,slow=1.8,SNR=4.1
WRA SKPbc **SKPbc** 22 27 06.8 +0.7
comp=Z,3.5nm,1.0s,baz=148,slow=2.5,SNR=9.1
WRAB **Tennant Creek** 135.00 212 *i* PKIKP **PKPdf** 22 23 47.5 +0.5
KURK **Kurchatov** 139.31 31 PKIKP **PKPdf** 22 23 54.7 +0.7
KURK **Kurchatov** 139.31 31 PKP **PKPdf** 22 23 54.7 +0.7
KURBB **Kurchatov Arra** 139.33 32 PKP **PKPdf** 22 23 54.7 +0.7
comp=Z,0.7nm,0.6s,baz=306,slow=2.8,SNR=8.0
ZAA0 **Zalesovo Array** 139.76 24 *e*PKPdf **PKPdf** 22 23 54.1 -0.6
ZALV **Zalesovo Beam** 139.76 24 PKP **PKPdf** 22 23 55.6 +1.0
comp=Z,2.5nm,0.6s,baz=285,slow=2.6,SNR=12
ZALV pPKP **pPKPdf** 22 24 29.9 +1.2
comp=Z,3.9nm,0.7s,baz=273,slow=2.2,SNR=4.3
ZALV SKPbc **SKPbc** 22 27 20.0 +1.2
comp=Z,2.5nm,0.8s,baz=320,slow=3.1,SNR=7.2
KSH **Kashi** 143.61 48 *e*PKP **PKPdf** 22 24 02.1 -0.1
KSH PP **PP** 22 27 14.8 -0.9
KSH PKS PKSdf 22 27 32.4 -5.6
KSH PPMZ
comp=Z,72nm,4.7s
KSH LN
comp=Z,47nm,4.3s
KSH LE
comp=Z,63nm,4.7s
KLR **Kul'dur** 145.51 336 *e*PKIKP **PKPdf** 22 24 02.0 -3.0
KLR pmax pmax
comp=Z,40nm,1.6s
GUMO **Guam** 147.02 266 PKPbc **PKPbc** 22 24 11.2 +0.5
comp=Z,117nm,0.9s,baz=192,slow=8.5,SNR=3.8
ZAK **Zakamensk** 148.11 9 *e*PKP2 **PKPdf** 22 24 10.5 +1.0
ZAK pmax pmax
comp=Z,2.0nm,1.1s
ZAK pmax pmax
comp=Z,3.0nm,1.2s
WMQ **Urumqi** 148.50 33 *e*PKPbc **PKPdf** 22 24 10.1 -0.2
USRK **Ussuriysk Ar.** 149.32 330 PKPbc **PKPbc** 22 24 17.0 +1.1
comp=Z,9.8nm,0.7s,baz=37,slow=2.1,SNR=17
USRK pPKPbc **pPKPbc** 22 24 49.9 +0.3
comp=Z,5.8nm,0.8s,baz=254,slow=3.3,SNR=4.1
FAKI **Fak Fak** 149.76 226 *e*PKPdf **PKPdf** 22 24 12.0 -1.1
MJAR **Matsushiro Arr** 150.36 312 PKPbc **PKPbc** 22 24 19.5 +0.7
comp=Z,8.2nm,0.7s,baz=109,slow=1.3,SNR=37
MJAR pPKPbc **pPKPbc** 22 24 52.0 -0.6
comp=Z,3.0nm,0.6s,baz=116,slow=1.7,SNR=3.6
MAJO **Matsushiro** 150.36 312 *e*PKIKP **PKPbc** 22 24 19.0 +0.2
MAJO **Matsushiro** 150.36 312 *e*PKPbc **PKPbc** 22 24 19.0 +0.2
MAT **Matsushiro** 150.36 312 PKP **PKPbc** 22 24 19.3 +0.5
SONA1 **Songino Array** 151.00 6 *e*PKPbc **PKPbc** 22 24 20.6 +0.5
SONM **Songino Array** 151.01 6 PKP **PKPdf** 22 24 15.1 +0.8
comp=Z,1.1nm,0.8s,baz=346,slow=1.5,SNR=7.0
SONM PKPbc **PKiKP** 22 24 20.9 +0.2
comp=Z,8.6nm,0.8s,baz=317,slow=1.6,SNR=42
SONM pPKPbc **pPKPbc** 22 24 54.6 +0.7
comp=Z,5.5nm,0.6s,baz=320,slow=1.6,SNR=5.1

KOLN	**Koldanda**	**153.49**	**66**	*e*P		**PKPab**	**22 24 40.3**	**+1.1**	
	comp=Z,3.5nm,0.4s								
GKN	**Gorkha**	**154.32**	**65**	*e*P		**PKPab**	**22 24 42.4**	**-0.3**	
	comp=Z,23nm,0.8s								
DMN	**Daman**	**154.82**	**65**	*e*P		**PKPab**	**22 24 43.7**	**-1.2**	
	comp=Z,21nm,1.0s								
KKN	**Kakani**	**154.93**	**65**	*e*P		**PKPab**	**22 24 43.9**	**-1.4**	
	comp=Z,16nm,0.7s								
GUN	**Gumba**	**155.41**	**64**	*e*P		**PKPab**	**22 24 45.4**	**-2.1**	
RAMN	**Ramite**	**156.28**	**66**	*e*P		**PKPab**	**22 24 46.7**	**-4.5**	
	comp=Z,16nm,0.7s								
KSRS	**Korea Array**	**156.37**	**325**		PKPab	**PKPab**	**22 24 51.3**	**+0.5**	
	comp=Z,1.9nm,0.8s,baz=68,slow=3.8,SNR=6.1								
KSRS	**Korea Array**	**156.37**	**325**		PKP2	**PKPab**	**22 24 51.3**	**+0.5**	
KSRS					pmax	pmax			
	comp=Z,2.0nm,0.8s								
KSAR	**Wonju Array Be**	**156.40**	**325**		PKP2	**PKPab**	**22 24 51.3**	**+0.4**	
KSAR	**Wonju Array Be**	**156.40**	**325**		PKPab	**PKPab**	**22 24 51.3**	**+0.4**	
ODAN	**Odare**	**156.98**	**66**	*e*P		PKPab	22 24 47.8	-6.4	
	comp=Z,7.2nm,0.6s								
TAPN	**Taplejung**	**157.12**	**64**	*e*P		PKPab	22 24 48.4	-6.5	
GTA	**Gaotai**	**157.51**	**23**	*e*PKP		PKPdf	22 24 34.1	+11	
GTA					pPKP	pPKPdf	22 25 02.3	+4.6	
GTA					sPKP		22 25 11.1		
HHC	**Hu-ho-hao-te**	**158.23**	**359**	*e*PKP		PKPdf	22 24 18.3	-6.1	
HHC					PP	**PP**	**22 28 39.5**	**+1.5**	
HHC					SKS	**SKSdf**	**22 31 17.3**	**-1.3**	
LZH	**Lanzhou**	**161.88**	**19**	*e*PKP		**PKPdf**	**22 24 29.6**	**+0.9**	
LZH					LN				
	comp=Z,130nm,18.0s								
LZH					LE				
	comp=Z,130nm,17.9s								
LZH					LZ				
	comp=Z,170nm,20.0s								
NJ2	**Nanjing**	**165.18**	**333**	*e*PKP		**PKPdf**	**22 24 33.3**	**+1.7**	
CD2	**Chengdu**	**166.49**	**27**	PKP		**PKPdf**	**22 24 31.9**	**-0.9**	
CD2				PP		**PP**	**22 29 21.6**	**-0.7**	
CD2				SKKS			22 35 59.5		
CD2				SS		**SS**	**22 49 55.9**	**+2.5**	
CD2				PPMZ					
	comp=Z,120nm,5.2s								
GYA	**Guiyang**	**171.61**	**27**	PKP		**PKPdf**	**22 24 36.0**	**-0.2**	
GYA				PKPab		**PKPab**	**22 25 58.4**	**+0.4**	
GYA				PKS		**PKSdf**	**22 28 08.3**	**-0.5**	
GYA				PP		**PP**	**22 29 49.8**	**+1.6**	
GYA				PPMZ					
	comp=Z,110nm,8.0s								

ROM 24 22:30:27.6±0.2, 41.79N×15.82E, h24km±1km, MI1.9/1, Error ellipse: s-maj=9.1km s-min=1.8km az=8.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGRT	**San Giovanni R**	**0.07**	**240**	Pg	Pb	22 30 32.1	0.0
SGRT				Sg	Sb	22 30 35.3	+0.2
MSAG	**Monte S. Angel**	**0.10**	**138**	Pg	Pb	22 30 32.3	0.0
MSAG				Sg	Sb	22 30 35.7	+0.2
MELA	**Melanico ??? S**	**0.52**	**261**	Pg	Pb	22 30 38.1	-0.1
MELA				Sg	Sb	22 30 46.2	+0.8
	67nm,0.5s						

JMA ***24*** *22:34:28.5±0.3, 19.60N×144.92E, h465km±2km, M5.4*
BJI ***24*** *22:34:31.2, 19.84N×144.41E, h433km, mb4.6/55, mB4.4/35*
MOS ***24*** *22:34:31.3±0.8, 19.83N×144.37E, h437km, mb4.5/38, Error ellipse: s-maj=10.3km s-min=6.0km az=102.9*
ISCJB ***24*** *22:34:32.5±0.4, 19.76N±0.02×144.41E±0.03, h451km±4km, mb4.6/137, Error ellipse: s-maj=4.5km s-min=3.3km az=5.3*
NEIC ***24*** *22:34:32.9±0.4, 19.79N×144.36E, h441km±5km, mb4.7/91, Error ellipse: s-maj=3.8km s-min=2.8km az=116.0*
IDC ***24*** *22:34:33.8±0.8, 19.81N×144.31E, h449km±8km, mb4.0/27, mb1 4.1/32, mb1mx4.0/43, mbtmp4.8/32, Error ellipse: s-maj=10.8km s-min=5.5km az=83.0*

ISC 24 22:34:32.9±0.4, 19.82N±0.03×144.39E±0.05, h441km±3km, h441km:pP-P, n335, σ1.23/397, mb4.7/137, 10C-5D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.21**	**176**	P	**P**	**22 36 10.0**	**+0.9**
	22nm,0.3s,baz=165,slow=10,SNR=6.6						
GUMO				S	**S**	**22 37 30.7**	**+3.1**
	17nm,0.3s,baz=346,slow=22,SNR=11						
GUMO	**Guam**	**6.21**	**176**	*e*P	**P**	**22 36 08.5**	**-0.6**
GUMO				*e*S	**S**	**22 37 27.1**	**-0.6**
GUMO	**Guam**	**6.21**	**176**	*e*P	**P**	**22 36 08.5**	**-0.6**
GUMO				*e*S	**S**	**22 37 27.1**	**-0.6**
JHHJ	**Haha-jima-NKT**	**7.08**	**344**	P	**P**	**22 36 19.6**	**+1.4**
JHHJ				S	**S**	**22 37 47.3**	**+2.9**
CBIJ	**Chichi jima**	**7.52**	**345**	P	**P**	**22 36 23.7**	**+0.7**
CBIJ				S	**S**	**22 37 54.9**	**+1.7**
CBIJ	**Chichi jima**	**7.52**	**345**	*e*P	**P**	**22 36 21.8**	**-1.2**
CBIJ				*e*S	**S**	**22 37 51.5**	**-1.6**
JCJ	**Chichijima**	**7.52**	**345**	P	**P**	**22 36 22.4**	**-0.6**
	38nm,0.3s,baz=251,slow=11,SNR=31						
JCJ				S	**S**	**22 37 55.1**	**+2.0**
	19nm,0.3s,baz=360,slow=22,SNR=3.6						
JMZ	**Minamidaito 2**	**13.53**	**299**	P	**P**	**22 37 28.1**	**-0.3**
JHCJ	**Hachijojimakas**	**13.83**	**344**	P	**P**	**22 37 31.6**	**+0.1**
JHCJ				S	**S**	**22 40 00.1**	**+1.0**
JHJ2	**Mitsune**	**13.86**	**344**	P	**P**	**22 37 31.8**	**0.0**
JHJ2	**Mitsune**	**13.86**	**344**	*e*P	**P**	**22 37 31.4**	**-0.5**
JHJ2				*e*S	**S**	**22 39 58.1**	**-1.7**
BSO1	**Boso 1**	**15.09**	**349**	S	**S**	**22 40 27.2**	**+4.3**
BSO3	**Boso 3**	**15.32**	**348**	P	**P**	**22 37 47.7**	**+0.5**
BSO3				S	**S**	**22 40 32.5**	**+4.6**
JIM2	**Oshima 3**	**15.48**	**345**	P	**P**	**22 37 48.4**	**-0.9**
BSO4	**Boso 4**	**15.54**	**347**	P	**P**	**22 37 49.8**	**+0.1**
BSO4				S	**S**	**22 40 32.9**	**+0.5**
JWZ	**Kozaga**	**15.70**	**332**	P	**P**	**22 37 51.2**	**-0.4**
JWZ				S	**S**	**22 40 38.3**	**+2.6**
JAM	**Amami Oshima**	**15.97**	**305**	P	**P**	**22 37 56.0**	**+1.5**
JIE	**Ise**	**16.04**	**336**	P	**P**	**22 37 54.7**	**-0.5**
JOD2	**Odawara 2**	**16.09**	**344**	P	**P**	**22 37 54.6**	**-1.1**
JTK	**Tokunoshima**	**16.19**	**302**	P	**P**	**22 37 58.2**	**+1.3**
JAMN	**Amaminishikomi**	**16.22**	**304**	P	**P**	**22 37 58.2**	**+1.0**
JYAK	**Yakushimahirau**	**16.29**	**312**	P	**P**	**22 37 58.5**	**+0.6**
JOKE	**Okinoerabujima**	**16.32**	**300**	P	**P**	**22 37 58.8**	**+0.5**
JOW	**Kunigami**	**16.36**	**298**	P	**P**	**22 37 59.7**	**+1.0**
JOW	**Kunigami**	**16.36**	**298**	P	**P**	**22 37 58.5**	**-0.1**
	0.4nm,0.3s,baz=121,slow=9.5,SNR=24						
JOW				S	**S**	**22 40 50.6**	**+1.8**
	0.1nm,0.3s,baz=115,slow=17,SNR=3.1						
JOW	**Kunigami**	**16.36**	**298**	*e*P	**P**	**22 37 58.6**	**-0.1**
	299nm,1.2s						
JOW				S	**S**	**22 40 50.6**	**+1.8**
JNY	**Yasuok**	**16.52**	**341**	P	**P**	**22 37 59.5**	**-0.8**
JHU	**Hanno**	**16.60**	**345**	P	**P**	**22 37 59.9**	**-1.2**
JTO	**Tosashimizu**	**16.61**	**324**	P	**P**	**22 38 02.5**	**+1.2**
JRY	**Ryogami san**	**16.85**	**344**	P	**P**	**22 38 03.0**	**-0.7**
MJAR	**Matsushiro Arr**	**17.52**	**343**	P	**P**	**22 38 09.2**	**-1.7**
	1.8nm,0.3s,baz=166,slow=9.2,SNR=25						
MJAR				S	**S**	**22 41 09.9**	**-0.8**
	0.4nm,0.3s,baz=181,slow=18,SNR=5.9						
MAJO	**Matsushiro**	**17.53**	**343**	*c* *i*P	**P**	**22 38 09.4**	**-1.5**
MAJO	**Matsushiro**	**17.53**	**343**	*e*P	**P**	**22 38 09.5**	**-1.5**
	27nm,1.0s						
MAT	**Matsushiro**	**17.53**	**343**	P	**P**	**22 38 09.0**	**-1.9**
MAT				S	**S**	**22 41 11.1**	**+0.4**
JNU	**Nakatsue**	**17.92**	**320**	P	**P**	**22 38 13.0**	**-2.1**
	3.6nm,0.3s,baz=116,slow=6.4,SNR=72						
JNU				S	**S**	**22 41 17.7**	**-0.2**
	0.1nm,0.3s,baz=200,slow=16,SNR=3.4						
JNU	**Nakatsue**	**17.92**	**320**	*e*P	**P**	**22 38 15.7**	**+0.6**
	157nm,0.9s						
JNU				S	**S**	**22 41 17.7**	**-0.2**
YOJ	**Yonaguni jima**	**20.33**	**287**	*e*P	**P**	**22 38 38.0**	**+0.2**
YOJ				pmax	pmax		
	comp=Z,59nm,0.9s						
YOJ	**Yonaguni jima**	**20.33**	**287**	*e*P	**P**	**22 38 38.0**	**+0.2**
	comp=Z,59nm,0.9s						
KSBUS	**Busan**	**20.45**	**322**	P	**P**	**22 38 40.0**	**+1.2**
	SNR=16						
KSBUS	**Busan**	**20.45**	**322**	P	**P**	**22 38 40.6**	**+1.8**
	SNR=42						
KSSGP	**Seogwipo**	**20.82**	**314**	P	**P**	**22 38 44.1**	**+1.8**
	SNR=10						
KSSGP	**Seogwipo**	**20.82**	**314**	P	**P**	**22 38 44.1**	**+1.8**
	SNR=8.5						
KSNAH	**Namhae**	**20.86**	**319**	P	**P**	**22 38 43.5**	**+0.9**
	SNR=24						
KSNAH	**Namhae**	**20.86**	**319**	P	**P**	**22 38 43.5**	**+0.9**
	SNR=24						
KSJJU	**Jeju**	**20.89**	**314**	P	**P**	**22 38 44.3**	**+1.4**
	SNR=18						
KSJJU	**Jeju**	**20.89**	**314**	P	**P**	**22 38 44.4**	**+1.4**
	SNR=20						
KSDAG	**Daegu**	**20.94**	**323**	P	**P**	**22 38 44.5**	**+1.2**
	SNR=38						
KSDAG	**Daegu**	**20.94**	**323**	P	**P**	**22 38 44.5**	**+1.2**
	SNR=38						
KSPHA	**Pohang**	**20.98**	**324**	P	**P**	**22 38 45.1**	**+1.5**
	SNR=17						
KSJIN	**Jinju**	**21.03**	**320**	P	**P**	**22 38 44.8**	**+0.7**
	SNR=16						
KSJIN	**Jinju**	**21.03**	**320**	P	**P**	**22 38 45.5**	**+1.3**
	SNR=22						
KSYOC	**YEONGCHEON**	**21.05**	**323**	P	**P**	**22 38 46.0**	**+1.7**
	SNR=14						
KSYOC	**YEONGCHEON**	**21.05**	**323**	P	**P**	**22 38 46.2**	**+1.9**
	SNR=7.9						
KSKOH	**Goheung**	**21.14**	**318**	P	**P**	**22 38 45.9**	**+0.8**
	SNR=12						
KSKOH	**Goheung**	**21.14**	**318**	P	**P**	**22 38 45.9**	**+0.8**
	SNR=12						
KSULJ	**Uljin**	**21.33**	**325**	P	**P**	**22 38 47.8**	**+1.0**
	SNR=49						
KSULJ	**Uljin**	**21.33**	**325**	P	**P**	**22 38 47.8**	**+1.0**
	SNR=49						
KSWAN	**Wando**	**21.37**	**316**	P	**P**	**22 38 47.7**	**+0.5**
	SNR=17						
KSWAN	**Wando**	**21.37**	**316**	P	**P**	**22 38 47.7**	**+0.5**
	SNR=17						
KSEUS	**ULSEONG**	**21.48**	**323**	P	**P**	**22 38 49.7**	**+1.6**
	SNR=8.2						
NACB	**Ninganchiao**	**21.57**	**286**	*e*P	**P**	**22 38 48.3**	**-0.9**
	comp=Z,37nm,1.0s						
KSJDO	**Jindo**	**21.67**	**316**	P	**P**	**22 38 50.2**	**+0.2**
	SNR=58						
KSJDO	**Jindo**	**21.67**	**316**	P	**P**	**22 38 50.2**	**+0.2**
	SNR=58						
KSKWJ	**Gwangju**	**21.67**	**318**	P	**P**	**22 38 50.3**	**+0.3**
	SNR=30						
KSGWJ	**Gwangju-acc**	**21.74**	**318**	P	**P**	**22 38 51.3**	**+0.8**
	SNR=8.9						
YULB	**Yu-li**	**21.76**	**284**	*e*P	**P**	**22 38 50.6**	**-0.3**
	comp=Z,36nm,1.4s						
KSCPR	**CHUPUNGNYEONG**	**21.79**	**322**	P	**P**	**22 38 52.1**	**+1.1**
	SNR=7.8						
KSSAJ	**Sangju**	**21.82**	**323**	P	**P**	**22 38 51.8**	**+0.6**
	SNR=9.7						
YHNB	**Yeheng**	**21.83**	**287**	*e*P	**P**	**22 38 51.6**	**-0.1**
	comp=Z,272nm,2.0s						
KSTBA	**Taebaek**	**21.89**	**325**	P	**P**	**22 38 52.6**	**+0.7**
	SNR=18						
KSJEU	**Jeongeup**	**21.92**	**319**	P	**P**	**22 38 52.9**	**+0.6**
	SNR=95						
KSJEO	**Jeonju**	**22.00**	**320**	P	**P**	**22 38 53.7**	**+0.8**
	SNR=7.9						
KSBON	**Boeun**	**22.09**	**322**	P	**P**	**22 38 54.6**	**+0.9**
	SNR=23						
SSLB	**Suanglung**	**22.11**	**285**	*e*P	**P**	**22 38 54.6**	**+0.5**
	comp=Z,25nm,0.6s						
ERM	**Erimo**	**22.16**	**358**	*i* P	**P**	**22 38 52.4**	**-1.8**
ERM				pmax	pmax		
	comp=Z,18nm,1.1s						
KSYOW	**Yeongwol**	**22.20**	**325**	P	**P**	**22 38 55.8**	**+1.1**
	SNR=5.9						
KSTEJ	**Daejeon**	**22.24**	**321**	P	**P**	**22 38 57.1**	**+2.0**
	SNR=5.9						
KSCHJ	**Chungju**	**22.25**	**323**	P	**P**	**22 38 55.9**	**+0.8**
	SNR=11						
TJN	**Taejon**	**22.25**	**321**	*d* iP	**P**	**22 38 54.6**	**-0.6**
KSJES	**JEONGSEON**	**22.27**	**325**	P	**P**	**22 38 56.8**	**+1.4**
	SNR=7.1						
TPUB	**Ta-pu**	**22.36**	**283**	*e*P	**P**	**22 38 56.2**	**-0.2**
	comp=Z,59nm,1.4s						
KSGUS	**GUNSAN**	**22.37**	**320**	P	**P**	**22 38 57.5**	**+1.2**
	SNR=5.9						
KSKOJ	**Gongju**	**22.45**	**321**	P	**P**	**22 38 58.6**	**+1.6**
	SNR=8						
KSDGY	**Daegwallycong**	**22.46**	**326**	P	**P**	**22 38 59.7**	**+2.6**
	SNR=13						
KSWJU	**Wonju**	**22.59**	**324**	P	**P**	**22 38 59.3**	**+1.1**
	SNR=6.7						
KSCEA	**Cheonan**	**22.62**	**322**	P	**P**	**22 39 00.8**	**+2.2**
	SNR=12						
KSRS	**Korea Array**	**22.69**	**324**	P	**P**	**22 38 59.5**	**+0.4**
	comp=Z,36nm,0.7s,baz=145,slow=9.0,SNR=137						
KSRS				ScP	**ScP**	**22 45 30.1**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=130,slow=2.9,SNR=4.5						
KSRS	**Korea Array**	**22.69**	**324**	P	**P**	**22 38 59.5**	**+0.4**
KSRS				pmax	pmax		
	comp=Z,36nm,0.7s						
KSRS				pmax	pmax		
	comp=N,1.0nm,0.6s						
KSAR	**Wonju Array Be**	**22.70**	**324**	P	**P**	**22 38 59.5**	**+0.2**
KSAR	**Wonju Array Be**	**22.70**	**324**	P	**P**	**22 38 59.5**	**+0.2**
KSAR				ScP	**ScP**	**22 45 30.1**	**-1.1**
KS01	**Wonju Array Si**	**22.73**	**324**	*e*P	**P**	**22 38 59.9**	**+0.4**
KSICN	**Icheon**	**22.86**	**323**	P	**P**	**22 39 03.1**	**+2.5**
	SNR=34						
KSIJA	**INJE**	**22.98**	**325**	P	**P**	**22 39 02.5**	**+0.8**
	SNR=38						
KSCHC	**Chuncheon**	**22.99**	**325**	P	**P**	**22 39 02.7**	**+0.9**
	SNR=42						
KSSES	**Seosan**	**23.07**	**321**	P	**P**	**22 39 04.4**	**+1.9**
	SNR=25						
KSSWO	**Suwon**	**23.10**	**322**	P	**P**	**22 39 05.3**	**+2.5**
	SNR=7.9						
KSSEO	**Seoul**	**23.28**	**323**	P	**P**	**22 39 07.0**	**+2.6**
	SNR=13						
KSCWO	**Cheorwon**	**23.37**	**325**	P	**P**	**22 39 06.1**	**+0.9**
	SNR=31						
INCN	**Inchon**	**23.44**	**322**	*e*P	**P**	**22 39 05.8**	**-0.1**
	comp=N,391nm,1.5s						
SIJI	**Sorong**	**24.25**	**214**	P	**P**	**22 39 13.1**	**-0.4**
	comp=N,28nm,0.6s,baz=23,slow=13,SNR=4.9						
FAKI	**Fak Fak**	**25.55**	**209**	*e*P	**P**	**22 39 24.2**	**-0.7**
	comp=N,36nm,0.8s						
LBMI	**Labuha**	**26.22**	**221**	P	**P**	**22 39 31.5**	**+0.6**
	comp=N,89nm,1.2s,comp=N,886nm						
USRK	**Ussuriysk Ar.**	**26.43**	**340**	P	**P**	**22 39 33.1**	**+0.7**
	comp=N,9.9nm,0.8s,baz=156,slow=8.2,SNR=22						
MDJ	**Mudanjiang**	**27.63**	**337**	P	**P**	**22 39 44.0**	**+1.1**
MDJ				sP	**sP**	**22 41 51.3**	**-0.7**
MDJ				S	**S**	**22 43 52.4**	**+0.1**
MDJ				PMZ			
	comp=N,16nm,0.9s						
MDJ				PMZ			
	comp=N,15nm,2.6s						
MDJ	**Mudanjiang**	**27.63**	**337**	*e*P	**P**	**22 39 43.6**	**+0.7**
	comp=N,15nm,0.9s						
CN2	**Changchun**	**28.69**	**331**	*e*P	**P**	**22 39 51.3**	**-1.0**
CN2				*es*P	**sP**	**22 42 00.0**	**-1.6**
CN2				*e*S	**S**	**22 44 08.0**	**-0.9**
CN2				PMZ			
	comp=N,10.0nm,0.6s						
CN2				PMZ			
	comp=N,200nm,4.0s						
TIA	**Tai'an**	**28.95**	**310**	⇑P	**P**	**22 39 55.5**	**+0.8**
TIA				PMZ			
	comp=N,30nm,0.8s						
WHN	**Wuhan**	**29.12**	**297**	P	**P**	**22 39 57.1**	**+0.8**
PMG	**Port Moresby**	**29.16**	**174**	*d* iP	**P**	**22 39 56.6**	**-0.2**
PMG				pmax	pmax		
	comp=Z,199nm,0.8s						
PMG	**Port Moresby**	**29.16**	**174**	*e*P	**P**	**22 39 57.0**	**+0.3**
	comp=Z,176nm,0.7s						
MRSI	**Marisa**	**29.20**	**232**	P	**P**	**22 39 56.9**	**-0.2**
	comp=Z,59nm,1.0s,comp=Z,930nm						
HABR	**Khabarovsk**	**29.57**	**347**	*e*P	**P**	**22 39 58.5**	**-1.4**
HABR				*e**SP	**sP**	**22 42 05.4**	**-4.0**
HABR				*e*		22 42 50.6	
HABR				*e*S	**S**	**22 44 22.3**	**-0.1**
HABR				*e**SS	**sS**	**22 46 45.1**	**-2.0**
HABR				*e*		22 49 46.9	
HABR				pmax	pmax		
	comp=Z,12nm,0.8s						
HABR				MLR	MLR		
	comp=Z,75nm,18.0s						
TOLI	**Toli-Toli**	**29.64**	**234**	*e*P	**P**	**22 40 00.5**	**-0.4**
	comp=Z,90nm,0.9s						
LUWI	**Luwuk**	**29.65**	**228**	*e*P	**P**	**22 39 59.4**	**-1.7**
	comp=Z,36nm,0.8s						
APSI	**Ampana**	**30.36**	**230**	P	**P**	**22 40 06.7**	**-0.5**
	comp=Z,120nm,1.0s,comp=Z,948nm						
KKM	**Kota Kinabalu**	**30.61**	**247**	*e*P	**P**	**22 40 10.3**	**+0.7**
	comp=Z,55nm,0.7s						
MPSI	**Mapaga**	**30.82**	**234**	P	**P**	**22 40 12.8**	**+1.6**
	comp=Z,22nm,1.0s,comp=Z,1μm						
KLR	**Kul'dur**	**31.05**	**344**	*e*P	P	22 40 09.3	-3.5
KLR				*e*S	**S**	**22 44 39.8**	**-5.6**
BJT	**Baijiatuau**	**31.47**	**316**	*e*P	**P**	**22 40 17.0**	**+0.5**
BJT				pmax	pmax		
	comp=Z,69nm,0.7s						
BJT	**Baijiatuau**	**31.47**	**316**	*e*P	**P**	**22 40 17.0**	**+0.5**
	comp=Z,69nm,0.7s						
ENH	**Enshi**	**33.17**	**295**	*e*P	**P**	**22 40 31.6**	**+0.3**
	comp=Z,20nm,1.0s						
COEN	**Coen**	**33.58**	**182**	*e*P	**P**	**22 40 35.0**	**+0.1**
	comp=Z,5.3nm,0.8s						
SPSI	**Sidrap Palu**	**33.82**	**228**	P	**P**	**22 40 37.5**	**+0.5**
	comp=Z,108nm,0.8s,comp=Z,1μm						
XAN	**Xi'an**	**34.46**	**302**	P	**P**	**22 40 42.5**	**+0.3**
XAN				PMZ			
	comp=Z,4.0nm,0.8s						
BKSI	**Bulukumba**	**34.55**	**226**	P	**P**	**22 40 43.1**	**0.0**
	comp=Z,22nm,0.7s						
KAPI	**Kappang**	**34.58**	**227**	P	**P**	**22 40 43.8**	**+0.5**
	comp=Z,40nm,0.5s,baz=80,slow=4.2,SNR=15						
KAPI	**Kappang**	**34.58**	**227**	*e*P	**P**	**22 40 42.8**	**-0.5**
	comp=Z,44nm,0.7s						
BSSI	**Bau Bau, Buton**	**34.91**	**225**	P	**P**	**22 40 46.7**	**+0.6**
	comp=Z,106nm,0.8s						
HHC	**Hu-ho-hao-te**	**34.94**	**314**	SS	SS	22 48 29.3	-12
HHC				AMB	AMB		
	comp=Z,72nm,9.2s						
HHC				LR	LR		
	comp=N,120nm,21.7s						
HHC				LR	LR		
	comp=E,110nm,21.4s						
HHC				LR	LR		
	comp=Z,88nm,21.1s						
HHC	**Hu-ho-hao-te**	**34.94**	**314**	*e*P	**P**	**22 40 47.3**	**+1.1**
HHC				PP	**PP**	**22 42 20.3**	**+2.4**
HHC				S	**S**	**22 45 44.8**	**-0.5**
HHC				sS	**sS**	**22 48 10.6**	**-1.6**
HHC				SS	**SS**	**22 48 35.4**	**-6.0**
HHC				PMZ			
	comp=Z,32nm,0.8s						
HHC				PMZ			
	comp=Z,69nm,5.6s						
GYA	**Guiyang**	**35.22**	**288**	P	**P**	**22 40 48.5**	**-0.3**
GYA				pP	**pP**	**22 42 11.3**	**+2.4**
GYA				sP	**sP**	**22 43 00.8**	**+1.0**
GYA				PcP	**PcP**	**22 43 10.6**	**+2.5**
GYA				S	**S**	**22 45 50.4**	**+0.4**
GYA				ScP	**ScP**	**22 46 11.3**	**-0.2**
GYA				PcS	**PcS**	**22 46 55.0**	**-1.1**
GYA				ScS	**ScS**	**22 50 16.8**	**-0.5**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,120nm,4.8s						
HIA	**Hailar**	**35.40**	**332**	*i* P	**P**	**22 40 49.2**	**-0.6**
HIA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
HIA	**Hailar**	**35.40**	**332**	*e*P	**P**	**22 40 50.0**	**+0.2**
	comp=Z,11nm,0.4s						
SOEI	**Soe**	**35.44**	**216**	P	**P**	**22 40 49.5**	**-1.2**
	comp=Z,53nm,0.9s						
SOEI	**Soe**	**35.44**	**216**	*e*P	**P**	**22 40 49.5**	**-1.2**
	comp=Z,37nm,0.7s						
MMRI	**Maumere**	**35.71**	**220**	*e*P	**P**	**22 40 52.2**	**-0.6**
	comp=Z,44nm,0.9s						
SBUM	**Sibu**	**35.85**	**245**	*e*P	**P**	**22 40 53.6**	**-0.4**
	comp=Z,40nm,0.8s						
WSI	**Waingapu**	**37.70**	**221**	P	**P**	**22 41 08.0**	**-1.3**
	comp=Z,326nm,0.6s						
STKI	**Sintang**	**37.74**	**243**	P	**P**	**22 41 10.1**	**+0.4**
	comp=Z,53nm,1.1s,comp=Z,10μm						
CD2	**Chengdu**	**38.15**	**295**	*e*P	**P**	**22 41 11.8**	**-1.2**
CD2				pP	**pP**	**22 42 33.3**	**-1.1**
CD2				PP	**PP**	**22 42 51.0**	**-1.4**
CD2				PcP	**PcP**	**22 43 16.3**	**-0.7**
CD2				S	**S**	**22 46 31.8**	**-1.8**
CD2				sS	**sS**	**22 49 01.4**	**-1.0**
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,160nm,5.2s						
KMI	**Kunming**	**38.74**	**286**	P	**P**	**22 41 18.9**	**+0.8**
KMI				PMZ			
	comp=Z,9.0nm,1.1s						
LZH	**Lanzhou**	**39.00**	**303**	*e*P	**P**	**22 41 21.3**	**+1.3**
LZH				PMZ			
	comp=Z,26nm,1.2s						
LZH				PMZ			
	comp=Z,97nm,5.8s						
PBKI	**Pangkalan Bun**	**39.15**	**239**	P	**P**	**22 41 21.8**	**+0.5**
	comp=Z,168nm,0.8s,comp=Z,2μm						
CTA	**Charters Tower**	**39.70**	**177**	P	**P**	**22 41 26.6**	**+1.0**
	comp=Z,28nm,0.9s,baz=358,slow=9.2,SNR=13						
CTAO	**Charters Tower**	**39.70**	**177**	*e*P	**P**	**22 41 26.2**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,34nm,0.9s						
CTAO	**Charters Tower**	**39.70**	**177**	*e*P	**P**	**22 41 26.2**	**+0.6**
	comp=Z,34nm,0.9s						
WRAB	**Tennant Creek**	**40.71**	**195**	*c* *e*P	**P**	**22 41 33.8**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,67nm,0.5s						
WRAB	**Tennant Creek**	**40.71**	**195**	*e*P	**P**	**22 41 33.6**	**-0.1**
	comp=Z,30nm,0.6s						
WRA	**Warramunga Arr**	**40.72**	**195**	P	**P**	**22 41 33.7**	**-0.2**
	comp=Z,18nm,0.5s,baz=15,slow=8.7,SNR=74						
WRA				ScP	**ScP**	**22 46 33.1**	**+0.8**
	comp=Z,2

ZAK				*e*				22 48 04.1		
ZAK					pmax	pmax				
	comp=Z,16nm,1.1s									
LEM	**Lembang**	**44.84**	**237**	P		**P**		**22 42 06.8**	**+0.2**	
	comp=Z,62nm,0.8s									
LEM	**Lembang**	**44.84**	**237**	P		**P**		**22 42 06.0**	**-0.6**	
	comp=Z,43nm,0.8s,baz=159,slow=20,SNR=9.3									
IPM	**Ipoh**	**44.88**	**256**	*e*P		**P**		**22 42 07.8**	**+0.9**	
	comp=Z,15nm,0.7s									
KULM	**Kulim**	**44.91**	**257**	*e*P		**P**		**22 42 07.8**	**+0.8**	
	comp=Z,63nm,1.8s									
TLY	**Talaya**	**44.94**	**325**	P		**P**		**22 42 06.8**	**+0.1**	
	comp=Z,4.2nm,0.4s,baz=130,slow=7.3,SNR=4.5									
TLY	**Talaya**	**44.94**	**325**	*e*P		**P**		**22 42 08.0**	**+1.2**	
TLY					pmax	pmax				
	comp=Z,20nm,1.5s									
CISI	**Cisompet, Garu**	**45.12**	**236**	*e*P		**P**		**22 42 06.5**	**-2.2**	
	comp=Z,73nm,1.2s									
ATKA	**Atka Island**	**45.56**	**35**	*e*P		**P**		**22 42 12.6**	**+1.1**	
	comp=Z,70nm,0.7s									
KLSI		**45.97**	**242**	P		**P**		**22 42 15.0**	**-0.2**	
	comp=Z,35nm,1.1s									
MOY	**Mondy**	**46.39**	**324**	*e*P		**P**		**22 42 19.1**	**+1.1**	
MOY					pmax	pmax				
	comp=Z,23nm,1.7s									
DZM	**Mont Dzumac**	**46.88**	**151**	P		**P**		**22 42 22.3**	**+0.2**	
	comp=Z,21nm,0.7s,baz=6.8,slow=4.8,SNR=19									
MBWA	**Marble Bar**	**47.33**	**212**	*e*P		**P**		**22 42 25.1**	**-0.3**	
	comp=Z,295nm,2.5s									
LHMI	**Lhok Sumawe**	**48.34**	**259**	*e*P		**P**		**22 42 32.3**	**-0.9**	
	comp=Z,116nm,0.9s									
NIKH	**Nikolski High**	**48.82**	**36**	*e*P		**P**		**22 42 35.8**	**-0.4**	
	comp=Z,189nm,1.4s									
LSA	**Lhasa**	**48.98**	**292**	*e*P		**P**		**22 42 39.6**	**+1.2**	
LSA					pmax	pmax				
	comp=Z,12nm,0.8s									
LSA	**Lhasa**	**48.98**	**292**	*e*P		**P**		**22 42 39.6**	**+1.2**	
	comp=Z,12nm,0.8s									
GSI	**Gunungsitoli**	**49.32**	**254**	P		**P**		**22 42 42.1**	**+1.5**	
GSI	**Gunungsitoli**	**49.32**	**254**	*e*P		**P**		**22 42 40.1**	**-0.4**	
	comp=Z,38nm,0.7s									
MSVF	**Nonsavu**	**49.84**	**136**	*e*P		**P**		**22 42 45.3**	**+0.9**	
MSVF					pmax	pmax				
	comp=Z,183nm,2.3s									
MSVF	**Nonsavu**	**49.84**	**136**	*e*P		**P**		**22 42 45.3**	**+0.9**	
	comp=Z,183nm,2.3s									
BILL	**Bilibino**	**50.15**	**11**	*c i*P		**P**		**22 42 46.5**	**+0.7**	
BILL					pmax	pmax				
	comp=Z,16nm,0.9s									
BILL	**Bilibino**	**50.15**	**11**	*e*P		**P**		**22 42 46.7**	**+0.9**	
HVS	**Khovu-Aksy**	**50.39**	**321**	⇑*i*P		**P**		**22 42 49.1**	**+1.1**	
HVS					pmax	pmax				
	comp=Z,30nm,0.6s									
ARMA	**Armidale**	**50.43**	**172**	*e*P		**P**		**22 42 48.0**	**-0.5**	
	comp=Z,34nm,1.6s									
UNV	**Unalaska Valle**	**50.46**	**36**	*e*P		**P**		**22 42 48.5**	**+0.2**	
	comp=Z,130nm,1.7s									
AKUT	**Akutan**	**50.97**	**35**	*e*P		**P**		**22 42 52.8**	**+0.8**	
	comp=Z,74nm,0.9s									
STKA	**Stephens Creek**	**51.47**	**183**	P		**P**		**22 42 55.7**	**-0.3**	
	comp=Z,7.5nm,0.8s,baz=338,slow=9.8,SNR=8.8									
STKA	**Stephens Creek**	**51.47**	**183**	*e*P		**P**		**22 42 55.5**	**-0.5**	
STKA					pmax	pmax				
	comp=Z,2.0nm,1.0s									
STKA	**Stephens Creek**	**51.47**	**183**	*e*P		**P**		**22 42 55.5**	**-0.5**	
	comp=Z,2.2nm,1.0s									
TIXI	**Tiksi**	**52.63**	**354**	*i* P		**P**		**22 43 03.4**	**-0.4**	
WMQ	**Urumqi**	**52.65**	**310**	P		**P**		**22 43 06.0**	**+1.4**	
WMQ				PcP		**PcP**		**22 44 09.8**	**+2.2**	
WMQ				pP		**pP**		**22 44 35.3**	**+2.6**	
WMQ				PP		**PP**		**22 45 12.3**	**+3.0**	
WMQ				PMZ						
	comp=Z,44nm,0.9s									
WMQ				PMZ						
	comp=Z,240nm,4.5s									
FORT	**Forrest**	**52.70**	**198**	*e*P		**P**		**22 43 05.2**	**+0.3**	
	comp=Z,38nm,0.6s									
BBOO	**Buckleboo**	**52.93**	**189**	*e*P		**P**		**22 43 06.4**	**-0.2**	
	comp=Z,234nm,2.2s									
CHGN	**Chignik**	**55.66**	**35**	*e*P		**P**		**22 43 24.3**	**-1.2**	
ZAA0	**Zalesovo Array**	**56.38**	**322**	*e*P		**P**		**22 43 30.5**	**-0.2**	
ZALV	**Zalesovo Beam**	**56.38**	**322**	P		**P**		**22 43 30.6**	**-0.1**	
	comp=Z,5.6nm,0.3s,baz=102,slow=6.7,SNR=53									
ZALV				S		**S**		**22 50 44.6**	**-2.0**	
	comp=Z,0.4nm,0.4s,baz=100,slow=13,SNR=4.0									
MK01	**Makanchi Array**	**56.79**	**313**	*e*P		**P**		**22 43 34.5**	**+0.8**	
MKAR	**Makanchi Array**	**56.80**	**313**	*e*P		**P**		**22 43 34.5**	**+0.7**	
MKAR	**Makanchi Array**	**56.80**	**313**	*e*P		**P**		**22 43 34.5**	**+0.7**	
NVS	**Novosibirsk**	**57.48**	**323**	*i* P		**P**		**22 43 37.5**	**-0.7**	
NWAO	**Narrogin (SRO)**	**58.52**	**207**	P		**P**		**22 43 45.6**	**0.0**	
	comp=Z,6.1nm,0.5s,baz=334,slow=4.9,SNR=9.8									
OHAK	**Old Harbor**	**58.62**	**34**	*e*P		**P**		**22 43 46.9**	**+0.9**	
	comp=Z,98nm,2.1s									
KDAK	**Kodiak Island**	**59.12**	**34**	*e*P		**P**		**22 43 49.7**	**+0.4**	
KDAK					pmax	pmax				
	comp=Z,96nm,2.0s									
KDAK	**Kodiak Island**	**59.12**	**34**	*e*P		**P**		**22 43 49.7**	**+0.4**	
	comp=Z,96nm,2.0s									
KURK	**Kurchatov**	**59.62**	**318**	*e*P		**P**		**22 43 52.8**	**0.0**	
KURK				S		**S**		**22 51 27.2**	**-0.9**	
KURK					pmax	pmax				
	comp=Z,31nm,0.8s									
KURK	**Kurchatov**	**59.62**	**318**	*e*P		**P**		**22 43 52.8**	**0.0**	
	comp=Z,31nm,0.8s									
KURK				S		**S**		**22 51 27.1**	**-0.9**	
RSO	**Redoubt South**	**59.63**	**31**	*e*P		**P**		**22 43 53.6**	**+0.6**	
KURBB	**Kurchatov Arra**	**59.66**	**318**	P		**P**		**22 43 53.7**	**+0.6**	
	comp=Z,30nm,0.7s,baz=98,slow=6.2,SNR=139									
KURBB				S		**S**		**22 51 27.1**	**-1.5**	
	comp=Z,1.7nm,0.9s,baz=95,slow=11,SNR=8.0									
BRLK	**Bradley Lake**	**60.39**	**32**	*e*P		**P**		**22 43 57.6**	**-0.3**	
	comp=Z,21nm,0.8s									
PPLA	**Purkeypile**	**60.50**	**28**	*e*P		**P**		**22 43 59.4**	**+0.7**	
	comp=Z,132nm,2.4s									
SEW	**Seward**	**61.17**	**32**	*e*P		**P**		**22 44 03.2**	**+0.3**	
	comp=Z,21nm,0.9s									
RC01	**Rabbit Creek A**	**61.22**	**30**	*e*P		**P**		**22 44 03.4**	**+0.1**	
	comp=Z,22nm,0.7s									
KSH	**Kashi**	**61.22**	**305**	P		P		22 44 07.5	+3.6	
KSH				PcP		PcP		22 44 47.8	+6.2	
KSH				pP		pP		22 45 38.0	+2.6	
KSH				PP		PP		22 46 31.4	+6.2	
KSH				S		**S**		**22 51 52.8**	**+4.0**	
KSH				sS		sS		22 54 32.6	+0.2	
KSH				PMZ						
	comp=Z,11nm,0.8s									
KSH				PMZ						
	comp=Z,53nm,4.5s									
BPAW	**Bear Paw Mtn.**	**61.32**	**27**	*e*P		**P**		**22 44 04.9**	**+0.9**	
TKM2	**Tokmak 2**	**61.39**	**309**	P		**P**		**22 44 06.7**	**+1.6**	
	SNR=7.4									
TKM2	**Tokmak 2**	**61.39**	**309**	*e*P		**P**		**22 44 05.1**	**0.0**	
TKM2					pmax	pmax				
	comp=Z,11nm,0.9s									
TKM2	**Tokmak 2**	**61.39**	**309**	*e*P		**P**		**22 44 05.1**	**0.0**	
	comp=Z,11nm,0.9s									
TRF	**Thorofare Moun**	**61.47**	**28**	*e*P		**P**		**22 44 05.3**	**+0.2**	
	comp=Z,25nm,1.0s									
PMR	**Palmer**	**61.60**	**30**	*e*P		**P**		**22 44 05.8**	**0.0**	
PMR	**Palmer**	**61.60**	**30**	*e*P		**P**		**22 44 05.8**	**0.0**	
MLY	**Manley**	**61.65**	**26**	*e*P		**P**		**22 44 07.0**	**+0.8**	
	comp=Z,14nm,0.9s									
KZA	**Kyzart**	**61.67**	**308**	P		**P**		**22 44 09.5**	**+2.3**	
	SNR=9.8									
KBK	**Karagaybulak**	**61.87**	**308**	P		**P**		**22 44 09.7**	**+1.5**	
	SNR=6.9									
BWN	**Browne**	**61.98**	**27**	*e*P		**P**		**22 44 09.2**	**+0.9**	
	comp=Z,30nm,1.0s									
RND	**Reindeer**	**62.09**	**28**	*e*P		**P**		**22 44 09.0**	**-0.1**	
RND					pmax	pmax				
	comp=Z,10.0nm,0.9s									
RND	**Reindeer**	**62.09**	**28**	*e*P		**P**		**22 44 08.9**	**-0.1**	
	comp=Z,9.8nm,0.9s									
MCK	**McKinley**	**62.12**	**28**	*e*P		**P**		**22 44 09.2**	**0.0**	
MCK					pmax	pmax				
	comp=Z,15nm,1.0s									
MCK	**McKinley**	**62.12**	**28**	*e*P		**P**		**22 44 09.2**	**0.0**	
	comp=Z,15nm,1.0s									
UCH	**Uchtor**	**62.21**	**308**	P		**P**		**22 44 12.8**	**+2.0**	
	SNR=8.5									
COLD	**Coldfoot**	**62.42**	**24**	*e*P		**P**		**22 44 12.2**	**+1.1**	
	comp=Z,9.0nm,0.9s									
SCM	**Sheep Creek Mo**	**62.49**	**30**	*e*P		**P**		**22 44 12.2**	**+0.5**	
SCM					pmax	pmax				
	comp=Z,35nm,0.9s									
SCM	**Sheep Creek Mo**	**62.49**	**30**	*e*P		**P**		**22 44 12.2**	**+0.5**	
	comp=Z,35nm,0.9s									
WRH	**Wood River Hil**	**62.63**	**27**	*e*P		**P**		**22 44 12.5**	**0.0**	
	comp=Z,12nm,0.9s									
MDM	**Murphy Dome**	**62.67**	**26**	*e*P		**P**		**22 44 13.2**	**+0.3**	
	comp=Z,8.8nm,0.7s									
CCB	**Clear Creek Bu**	**62.79**	**27**	*e*P		**P**		**22 44 13.3**	**-0.2**	
	comp=Z,16nm,1.5s									
COLA	**College**	**62.81**	**26**	*c i*P		**P**		**22 44 13.7**	**0.0**	
COLA					pmax	pmax				
	comp=Z,36nm,0.8s									
COLA	**College**	**62.81**	**26**	*e*P		**P**		**22 44 13.9**	**+0.2**	
	comp=Z,12nm,0.8s									
AML	**Almayashu**	**62.82**	**308**	P		**P**		**22 44 16.5**	**+1.8**	
	SNR=5.9									
HDA	**Harding Lake**	**63.10**	**27**	*e*P		**P**		**22 44 15.2**	**-0.4**	
	comp=Z,13nm,1.0s									
DIV	**Divide**	**63.12**	**31**	*e*P		**P**		**22 44 15.8**	**0.0**	
	comp=Z,18nm,1.2s									
ILAR	**Eielson Array**	**63.20**	**27**	P		**P**		**22 44 15.8**	**-0.5**	
	comp=Z,11nm,0.9s,baz=258,slow=5.1,SNR=72									
IL1	**Eielson Array**	**63.20**	**27**	*e*P		**P**		**22 44 15.5**	**-0.7**	
PAX	**Paxson**	**63.52**	**29**	*e*P		**P**		**22 44 18.2**	**-0.2**	
PAX					pmax	pmax				
	comp=Z,14nm,0.7s									
PAX	**Paxson**	**63.52**	**29**	*e*P		**P**		**22 44 18.2**	**-0.2**	
	comp=Z,14nm,0.7s									
RAGM	**Ragged Mountai**	**63.56**	**32**	*e*P		**P**		**22 44 19.7**	**+1.0**	
	comp=Z,15nm,0.8s									
HARP	**HAARP**	**63.59**	**29**	*e*P		**P**		**22 44 20.2**	**+1.4**	
	comp=Z,36nm,0.8s									
BMRM	**Bremner River**	**63.66**	**31**	*e*P		**P**		**22 44 19.4**	**+0.1**	
	comp=Z,52nm,1.3s									
BRVK	**Borovoye**	**64.89**	**320**	*e*P		**P**		**22 44 27.8**	**+0.5**	
BRVK					pmax	pmax				
	comp=Z,24nm,0.6s									
BRVK	**Borovoye**	**64.89**	**320**	*e*P		**P**		**22 44 27.8**	**+0.5**	
	comp=Z,24nm,0.6s									
KKAR	**Karatay Array**	**65.11**	**309**	*e*P		**P**		**22 44 29.3**	**+0.4**	
KKAR	**Karatay Array**	**65.11**	**309**	*e*P		**P**		**22 44 29.3**	**+0.4**	
EGAK	**Eagle**	**65.63**	**27**	*e*P		**P**		**22 44 31.1**	**-0.6**	
	comp=Z,16nm,1.4s									
BKZ	**Black Stump Fm**	**65.92**	**153**	*e*P		**P**		**22 44 33.2**	**-0.8**	
	comp=Z,370nm,2.5s									
DAWY	**Dawson**	**66.34**	**28**	*e*P		**P**		**22 44 37.0**	**+0.8**	
HYT	**Haines Junctio**	**67.12**	**31**	*e*P		**P**		**22 44 42.7**	**+1.4**	
KBL	**Kabul**	**67.24**	**300**	*e*P		**P**		**22 44 42.2**	**-0.4**	
KBL					pmax	pmax				
	comp=Z,14nm,0.8s									
KBL	**Kabul**	**67.24**	**300**	*e*P		**P**		**22 44 42.2**	**-0.4**	
	comp=Z,14nm,0.8s									
SKAG	**Skagway**	**68.23**	**33**	*e*P		**P**		**22 44 47.3**	**-0.6**	
BESE	**Bessie Mountai**	**68.52**	**34**	*e*P		**P**		**22 44 49.9**	**+0.1**	
	comp=Z,8.7nm,0.8s									
INK	**Inuvik**	**68.84**	**23**	P		**P**		**22 44 52.1**	**+0.7**	
	comp=Z,6.9nm,0.3s,baz=277,slow=6.6,SNR=11									
INK	**Inuvik**	**68.84**	**23**	*e*P		**P**		**22 44 51.8**	**+0.3**	
INK					pmax	pmax				
	comp=Z,19nm,0.9s									
INK	**Inuvik**	**68.84**	**23**	*e*P		**P**		**22 44 51.8**	**+0.3**	
	comp=Z,19nm,0.9s									
SVE	**Sverdlovsk**	**70.26**	**325**	⇓*i*P		**P**		**22 45 01.1**	**+0.9**	
SVE					pmax	pmax				
	comp=Z,20nm,1.5s									
DLBC	**Dease Lake**	**71.05**	**34**	*e*P		**P**		**22 45 05.9**	**+0.8**	
ARU	**Arti**	**71.44**	**324**	*d i*P		**P**		**22 45 07.3**	**0.0**	
ARU				*PP		**pP**		**22 46 42.5**	**+0.2**	
ARU								22 47 48.2		
ARU				S		**S**		**22 53 48.7**	**-0.6**	
ARU					pmax	pmax				
	comp=Z,27nm,1.7s									
ARU	**Arti**	**71.44**	**324**	*e*P		**P**		**22 45 06.0**	**-1.2**	
	comp=Z,13nm,0.9s									
ABKAR	**Akbulak array**	**71.68**	**317**	*e*P		**P**		**22 45 08.8**	**0.0**	
IMYA	**Miami**	**74.07**	**303**	*e*P		**P**		**22 45 23.2**	**+0.1**	
IDAH	**Dahanechah**	**75.10**	**300**	*e*P		**P**		**22 45 29.4**	**+0.3**	
IKRD	**Kardeh**	**75.21**	**304**	*e*P		P		22 45 25.9	-3.8	
GEYT	**Alibeck**	**75.25**	**305**	P		**P**		**22 45 29.3**	**-0.2**	
	comp=Z,8.8nm,1.1s,baz=22,slow=1.6,SNR=13									
ITEG	**Tejag**	**75.97**	**300**	*e*P		**P**		**22 45 34.4**	**+0.5**	
YKA	**Yellowknife Ar**	**77.58**	**28**	P		**P**		**22 45 42.6**	**+0.7**	
	comp=Z,6.6nm,0.7s,baz=293,slow=5.6,SNR=13									
YKA	**Yellowknife Ar**	**77.58**	**28**	P		**P**		**22 45 42.6**	**+0.7**	
YKA					pmax	pmax				
	comp=Z,7.0nm,0.7s									
YKB5	**Yellowknife Ar**	**77.58**	**28**	*e*P		**P**		**22 45 41.9**	**-0.1**	
F04A	**Amboy**	**78.19**	**45**	*e*P		**P**		**22 45 45.4**	**-0.2**	
	comp=Z,15nm,0.8s									
H04A	**Detroit Lake**	**78.69**	**47**	*e*P		**P**		**22 45 48.9**	**+0.5**	
	comp=Z,11nm,1.0s									
HUMO	**Hull Mountain**	**78.75**	**49**	*e*P		**P**		**22 45 51.0**	**+2.3**	
LTY	**Liberty**	**78.96**	**44**	*e*P		**P**		**22 45 49.2**	**-0.6**	
	comp=Z,5.5nm,0.8s									
YBH	**Yreka Blue Hor**	**79.17**	**50**	*e*P		**P**		**22 45 52.3**	**+1.2**	
YBH					pmax	pmax				
	comp=Z,8.0nm,0.8s									
YBH	**Yreka Blue Hor**	**79.17**	**50**	*e*P		**P**		**22 45 52.3**	**+1.2**	
	comp=Z,8.1nm,0.8s									
B08A	**Colville Reser**	**79.49**	**42**	*e*P		**P**		**22 45 52.9**	**+0.3**	
D08A	**Wollman Farm,**	**80.16**	**44**	*e*P		**P**		**22 45 56.4**	**+0.3**	
	comp=Z,7.1nm,1.1s									
C09A	**Chrisman Ranch**	**80.34**	**43**	*e*P		**P**		**22 45 57.4**	**+0.4**	
	comp=Z,5.1nm,0.8s									
E09A	**Wood Farm, Sta**	**80.84**	**44**	*e*P		**P**		**22 45 59.8**	**+0.2**	
	comp=Z,6.2nm,1.0s									
NEW	**Newport**	**80.92**	**42**	*e*P		**P**		**22 46 00.9**	**+0.8**	
NEW					pmax	pmax				
	comp=Z,6.0nm,0.8s									
NEW	**Newport**	**80.92**	**42**	*e*P		**P**		**22 46 00.9**	**+0.8**	
	comp=Z,5.9nm,0.8s									
ARCES	**ARCESS Array B**	**81.05**	**342**	P		**P**		**22 46 00.7**	**+0.4**	
	comp=Z,2.2nm,0.5s,baz=71,slow=7.8,SNR=15									
EDM	**Edmonton**	**81.43**	**36**	*e*P		**P**		**22 46 02.5**	**-0.1**	
EDM					pmax	pmax				
	comp=Z,24nm,1.6s									
EDM	**Edmonton**	**81.43**	**36**	*e*P		**P**		**22 46 02.5**	**-0.1**	
	comp=Z,24nm,1.6s									
WVOR	**Wild Horse Val**	**81.84**	**48**	*e*P		**P**		**22 46 04.1**	**-1.0**	
WVOR					pmax	pmax				
	comp=Z,39nm,2.3s									
WVOR	**Wild Horse Val**	**81.84**	**48**	*e*P		**P**		**22 46 04.1**	**-1.0**	
	comp=Z,39nm,2.3s									
CMB	**Columbia Colle**	**82.01**	**53**	*e*P		**P**		**22 46 06.3**	**+0.4**	
CMB					pmax	pmax				
	comp=Z,6.0nm,0.8s									
CMB	**Columbia Colle**	**82.01**	**53**	*e*P		**P**		**22 46 06.3**	**+0.4**	
	comp=Z,6.2nm,0.8s									
BSMT	**Bassoo Peak**	**82.53**	**42**	*e*P		**P**		**22 46 09.3**	**+0.7**	
WAKR	**Walker**	**82.56**	**52**	*e*P		**P**		**22 46 08.3**	**-0.6**	
NV01	**Mina Array Sit**	**83.42**	**52**	*e*P		**P**		**22 46 13.7**	**+0.4**	
NVAR	**Mina Array Bea**	**83.42**	**52**	P		**P**		**22 46 14.3**	**+1.0**	
	comp=Z,4.3nm,0.8s,baz=265,slow=5.5,SNR=21									
MFID	**Camas Ranch**	**83.44**	**46**	*e*P		**P**		**22 46 13.2**	**0.0**	
	comp=Z,9.8nm,0.9s									
BMN	**Battle Mountai**	**83.52**	**49**	*e*P		**P**		**22 46 13.6**	**-0.1**	
BMN					pmax	pmax				
	comp=Z,6.0nm,1.3s									
BMN	**Battle Mountai**	**83.52**	**49**	*e*P		**P**		**22 46 13.6**	**-0.1**	
	comp=Z,5.8nm,1.3s									
OBN	**Obninsk**	**83.67**	**327**	*e*P		**P**		**22 46 14.5**	**+0.7**	
OBN				*e*PP		**pP**		**22 47 51.8**	**-0.7**	
OBN					pmax	pmax				
	comp=Z,5.0nm,1.2s									
CHMT	**Chamberlain Mo**	**83.85**	**42**	*e*P		**P**		**22 46 14.7**	**-0.5**	
TPH	**Tonopah**	**84.34**	**52**	*e*P		**P**		**22 46 17.6**	**-0.3**	
TPH					pmax	pmax				
	comp=Z,5.0nm,1.1s									
TPH	**Tonopah**	**84.34**	**52**	*e*P		**P**		**22 46 17.6**	**-0.3**	
	comp=Z,5.4nm,1.1s									
HLID	**Hailey**	**84.35**	**46**	*e*P		**P**		**22 46 18.7**	**+1.0**	
	comp=Z,5.6nm,1.0s									
KBZ	**Khabaz**	**84.48**	**314**	P		**P**		**22 46 18.6**	**+0.5**	
	comp=Z,1.4nm,0.7s,baz=90,slow=3.0,SNR=2.7									
LRM	**Limekiln Ridge**	**84.78**	**43**	*e*P		**P**		**22 46 19.6**	**-0.3**	
ELK	**Elko**	**84.82**	**49**	*e*P		**P**		**22 46 20.9**	**+0.7**	
ELK					pmax	pmax				
	comp=Z,6.0nm,0.9s									
ELK	**Elko**	**84.82**	**49**	*e*P		**P**		**22 46 20.9**	**+0.7**	
	comp=Z,5.8nm,0.9s									
HRY	**Holter Researc**	**84.83**	**42**	*e*P		**P**		**22 46 20.7**	**+0.7**	
FINES	**FINESS Array B**	**85.36**	**335**	P		**P**		**22 46 20.8**	**-1.2**	
	comp=Z,1.4nm,0.4s,baz=78,slow=4.6,SNR=48									
FINES	**FINESS Array B**	**85.36**	**335**	*ce*P		**P**		**22 46 20.7**	**-1.3**	
FINES					pmax	pmax				
	comp=Z,1.0nm,0.4s									
NOA	**NORSAR Array B**	**91.10**	**339**	P		**P**		**22 46 48.5**	**-0.6**	
	comp=Z,0.2nm,0.4s,baz=36,slow=4.9,SNR=2.4									
BRTR	**Keskin Array B**	**92.45**	**314**	P		**P**		**22 46 54.6**	**-1.4**	
	comp=Z,1.5nm,0.8s,baz=90,slow=4.5,SNR=6.1									
BRTR	**Keskin Array B**	**92.45**	**314**	*ce*P		**P**		**22 46 55.2**	**-0.7**	
BRTR					pmax	pmax				
	comp=Z,2.0nm,0.8s									
KOLS	**Kolonicke sedl**	**94.40**	**326**	*e*P		**P**		**22 47 02.9**	**-1.6**	
KOLS					pmax	pmax				
	comp=Z,2.0nm,1.2s									
KOLS	**Kolonicke sedl**	**94.40**	**326**	*e*P		**P**		**22 47 02.9**	**-1.6**	
STHS	**Stebnicka Huta**	**94.65**	**327**	*e*P		P		22 47 01.0	-4.6	
STHS					pmax	pmax				
	comp=Z,2.0nm,1.2s									
STHS	**Stebnicka Huta**	**94.65**	**327**	*e*P		P		22 47 01.0	-4.6	
STHS				*e*pP		pP		22 48 45.7	-0.4	
STHS				*e*PP		**PP**		**22 50 58.3**	**-1.8**	
KECS	**Kecovo**	**95.61**	**326**	*e*P		**P**		**22 47 08.1**	**-1.9**	
KECS					pmax	pmax				
	comp=Z,1.0nm,0.7s									
KECS	**Kecovo**	**95.61**	**326**	*e*P		**P**		**22 47 08.1**	**-1.9**	
KECS				*e*pP		**pP**		**22 48 48.7**	**-1.9**	
GERES	**GERESS Array B**	**98.77**	**330**	PP		PP		22 51 31.1	-0.4	
	comp=Z,0.1nm,0.3s,baz=52,slow=8.6,SNR=4.0									
ESDC	**Sonseca Array**	**113.85**	**334**	PP		PP		22 53 21.6	+0.7	
	comp=Z,0.4nm,0.7s,baz=21,slow=6.2,SNR=4.2									
TORD	**Torodi Ar. Bea**	**130.79**	**309**	PKP		**PKPdf**		**22 52 53.3**	**-0.6**	
	comp=Z,0.2nm,0.5s,baz=350,slow=1.7,SNR=6.6									
TORD				SKPbc		**SKPbc**		**22 55 34.8**	**-1.6**	
	comp=Z,2.4nm,0.7s,baz=30,slow=3.1,SNR=12									
DBIC	**Dimbokro**	**139.89**	**308**	SKPbc		**SKPbc**		**22 56 02.5**	**-2.1**	
	comp=Z,4.9nm,0.8s,baz=59,slow=5.9,SNR=3.8									
LPAZ	**La Paz**	**148.91**	**89**	PKPbc		**PKPbc**		**22 53 31.7**	**+0.1**	
	comp=Z,1.5nm,0.6s,baz=251,slow=5.6,SNR=7.7									

*ISCJB **24** 22:35:40.8±0.8, 2°.2S±0°.1×136°.29E±0°.05, h33km, mb3.6/1, Error ellipse: s-maj=16.6km s-min=6.5km az=3.1*
*DJA **24** 22:35:40.6±0.3, 2°.5S±6°×13°6E±°, h10km, M4.5/8, mb4.6/2, mB4.8/1, MLv4.5/8, Mw(mB)4.0/1*
*NEIC **24** 22:35:41.0, 2°.17S×136°.23E, h10km, mb3.9/2, After DJA.*
NEIC Felt [III] at Serui.

ISC 24 22:35:43.9±1.0, 2°.3S±0°.1×136°.27E±0°.04, h35km, n10, σ1°81/14, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**2.22**	**289**	P		**Pn**	**22 36 16.3**	**-1.9**
RKPI				S		**Sn**	**22 36 46.3**	**+1.8**
SMPI	**Sarmi**	**2.45**	**84**	P		**Pn**	**22 36 18.4**	**-3.0**
SMPI				S		**Sn**	**22 36 53.3**	**+3.1**
GENI	**Genyem**	**3.91**	**95**	P		**Pn**	**22 36 40.1**	**-1.4**
FAKI	**Fak Fak**	**4.07**	**261**	P		**Pn**	**22 36 42.5**	**-1.3**
FAKI				S		**Sn**	**22 37 30.2**

MRZ	Mangatainoka R	2.57	182	PN	Pn	23 43 34.1	-2.5
MRZ				AML	AML	23 44 07.7	
MRZ				AML	AML	23 44 07.7	
BFZ	Birch Farm	2.62	171	PN	Pn	23 43 34.9	-2.3
KIW	Kapiti Island	2.84	192	PN	Pn	23 43 37.2	-2.6
CAW	Cannon Point	3.06	189	PN	Pn	23 43 39.8	-2.7
MTW	Mount Morrison	3.07	183	PN	Pn	23 43 39.5	-3.2
PAWZ	Paruwai Farm	3.30	184	AML	AML	23 44 23.1	
TRWZ	Traveller	3.31	180	PN	Pn	23 43 42.3	-3.4
PLWZ	Palliser	3.49	185	PN	Pn	23 43 44.2	-3.8
TUWZ	Tuamarina	3.60	201	PN	Pn	23 43 46.3	-3.0
THZ	Tophouse	4.25	209	PN	Pn	23 43 55.1	-2.7
KHZ	Kahutara	4.63	200	PN	Pn	23 43 58.9	-3.7

*IDC **24** 23:48:21.5±0.6, 36°.19N×71°.35E, h0km, mb4.3/23, mb1 4.4/26, mb1mx4.4/31, mbtmp4.3/26, ML4.1/3, MS3.4/16, Ms1 3.4/16, ms1mx3.2/42, Error ellipse: s-maj=13.9km s-min=11.3km az=173.0*

*BJI **24** 23:48:30.7, 36°.52N×71°.25E, h62km, mb4.4/15, mB4.5/11, ML4.7/4*

*ISCJB **24** 23:48:31.9±0.3, 36°.47N±0°.02×71°.51E±0°.03, h85km±4km, mb4.5/78, Error ellipse: s-maj=3.7km s-min=2.7km az=155.3*

*MOS **24** 23:48:33.0±1.1, 36°.54N×71°.42E, h89km, mb4.7/28, Error ellipse: s-maj=7.0km s-min=4.5km az=114.3*

*NEIC **24** 23:48:33.9±0.8, 36°.54N×71°.36E, h91km±7km, mb4.7/29, Error ellipse: s-maj=8.0km s-min=6.2km az=168.0*

*SZGRF **24** 23:48:35.2, 36°.29N×72°.13E, h138km, mb4.7, Afghanistan-Tajikistan border region*

*NNC **24** 23:48:36.8±2.6, 36°.84N×70°.99E, h155km±19km, mb4.0, mpv4.9, Error ellipse: s-maj=24.5km s-min=10.7km az=168.0*

ISC 24 23:48:33.3±0.4**, 36°.43N**±0°.03×**71°.48E**±0°.04**, h90**km±4km**, h90km:pP-P, n297, σ1.81**/337**, mb4.5**/83**, 32C-13D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.63	172	P	Pn	23 49 17.2	+3.2
CEP				S	Sn	23 49 51.0	+5.8
KBL	Kabul	2.74	227	ePN	Pn	23 49 16.5	+1.0
KBL				e		23 49 49.4	
KBL	Kabul	2.74	227	ePn	Pn	23 49 16.5	+1.0
KBL				eSn	Sn	23 49 49.4	+1.4
CHCP	Chirah Chowk	3.13	152	P	Pn	23 49 24.5	+3.8
DZET	Dzherino	3.17	319	⇑Pn	Pn	23 49 19.1	-2.0
	226nm,0.6s						
DZET				⇑Sn	Sn	23 49 52.8	-5.2
	747nm,0.6s						
THW	Thamme Wali	3.64	176	P	Pn	23 49 29.5	+2.0
SFK	Sufi-Kurgan	3.91	23	⇑Pn	Pn	23 49 33.8	+2.5
	43nm,0.3s						
SFK				⇑Sn	Sn	23 50 19.8	+3.5
	362nm,0.6s						
SARP	Sargodha	4.61	167	P	Pn	23 49 41.9	+1.3
JMU	Jammu	4.66	142	eP	Pn	23 49 37.5	-3.8
JMU				eS	Sn	23 50 29.0	-5.2
KSH	Kashi	4.70	48	P	Pn	23 49 39.8	-2.1
KSH				S	Sn	23 50 26.6	-8.7
KSH				SMN			
	2μm,0.8s						
KSH				SME			
	2μm,1.0s						
DLH	Dalhousie	5.37	135	eP	Pn	23 49 54.0	+2.8
DLH				eS	Sn	23 50 51.0	-0.8
DHRM	DHARAMSHALA	5.77	135	eP	Pn	23 49 59.0	+2.3
DHRM				eS	Sn	23 51 02.9	+1.2
DHRM				AML	AML	23 51 45.3	
	comp=N,606nm,0.5s						
DHRM				AML	AML	23 51 49.3	
	comp=E,853nm,0.5s						
AML	Almayashu	5.94	16	P	Pn	23 49 59.9	+0.8
	SNR=232						
UCH	Uchtor	6.25	21	P	Pn	23 50 04.5	+1.3
	SNR=92						
KZA	Kyzart	6.35	26	P	Pn	23 50 06.2	+1.5
	SNR=48						
EKS2	Erkin-Say	6.47	15	P	Pn	23 50 07.1	+1.1
	SNR=80						
EKS2	Erkin-Say	6.47	15	ePN	Pn	23 50 06.8	+0.8
EKS2	Erkin-Say	6.47	15	ePn	Pn	23 50 06.8	+0.8
EKS2				eSn	Sn	23 51 16.2	-2.1
BHK	Bhakra	6.47	139	eP	Pn	23 50 08.4	+2.4
BHK				eS	Sn	23 51 17.8	-0.6
AAK	Ala-Archa	6.62	20	P	Pn	23 50 09.7	+1.7
	SNR=78						
AAK	Ala-Archa	6.62	20	⇓P	Pn	23 50 09.4	+1.4
	comp=E,123nm,0.7s						
AAK				⇓S	Sn	23 51 20.4	-1.6
	comp=E,176nm,0.9s						
AAK	Ala-Archa	6.62	20	Pn	Pn	23 50 23.8	+16
	comp=E,27nm,0.3s,baz=191,slow=10,SNR=140						
AAK				Sn	Sn	23 51 34.8	+13
	comp=E,4.9nm,0.3s,baz=343,slow=22,SNR=6.3						
AAK				LR	LR	23 52 09.0	
	comp=E,111nm,18.3s,baz=189,slow=33						
AAK	Ala-Archa	6.62	20	ePN	Pn	23 50 09.0	+1.0
AAK	Ala-Archa	6.62	20	ePn	Pn	23 50 09.0	+1.0
AAK				eSn	Sn	23 51 18.2	-3.8
KK31	Karatay Array	6.70	354	⇓P	Pn	23 50 08.5	-0.5
	comp=E,90nm,0.6s,baz=177,slow=12,SNR=1013						
KK31				⇑S	Sn	23 51 20.9	-3.0
	comp=E,104nm,0.6s						
KKAR	Karatay Array	6.70	354	ePN	Pn	23 50 07.9	-1.1
KKAR	Karatay Array	6.70	354	ePn	Pn	23 50 07.9	-1.1
KKAR				eSn	Sn	23 51 14.6	-9.2
SDNR	Sundarnagar	6.71	136	eP	Pn	23 50 10.0	+0.7
SDNR				eS	Sn	23 51 22.0	-2.3
KBK	Karagaybulak	6.77	22	P	Pn	23 50 12.3	+2.2
	SNR=44						
FRU	Bishkek	6.83	20	iPN	Pn	23 50 12.0	+1.1
FRU				pmax	pmax		
	comp=Z,280nm,1.2s						
ULHL	Ulahol	6.88	31	P	Pn	23 50 14.2	+2.6
	SNR=9.5						
CHMS	Chumysh	7.03	20	P	Pn	23 50 14.9	+1.4
	SNR=24						
SMLA	Simla	7.10	137	iP	Pn	23 50 16.0	+1.5
SMLA				eS	Sn	23 51 34.0	+0.3
SMLA				AML	AML	23 52 36.8	
	comp=E,360nm,0.3s						
SMLA				AML	AML	23 52 36.9	
	comp=N,364nm,0.7s						
USP	Ospenovka	7.21	18	P	Pn	23 50 16.8	+0.8
	SNR=59						
TKM2	Tokmak 2	7.21	25	P	Pn	23 50 17.8	+1.6
	SNR=15						
TKM2	Tokmak 2	7.21	25	⇑P	Pn	23 50 17.8	+1.6
	comp=N,142nm,1.1s						
TKM2				⇑S	Sn	23 51 35.3	-1.3
	comp=N,57nm,0.9s						
TKM2	Tokmak 2	7.21	25	ePN	Pn	23 50 17.8	+1.6
TKM2	Tokmak 2	7.21	25	ePn	Pn	23 50 17.8	+1.6
KKR	Kurukshetra	7.86	144	ex	Pn	23 50 22.5	-2.4
AAA	Alma-Ata	8.02	30	iPN	Pn	23 50 28.9	+1.9
AAA				pmax	pmax		
	comp=Z,300nm,0.6s						
AAA				MLR	MLR		
	comp=Z,600nm,3.0s						
DDI	Dehra Dun	8.21	136	eP	Pn	23 50 31.1	+1.4
DDI				ex	Sn	23 51 57.9	-2.9
DDI				AML	AML	23 52 04.1	
	comp=E,759nm,0.2s						
DDI				AML	AML	23 52 05.4	
	comp=N,921nm,1.0s						
KHET	Khetri	9.11	155	eP	Pn	23 50 40.5	-1.4
KHET				eS	Sn	23 52 17.5	-5.1
KHET				AML	AML	23 52 21.5	
	comp=E,926nm,0.4s						
KHET				AML	AML	23 52 22.5	
	comp=N,718nm,0.6s						
NDI	New Delhi	9.12	146	eP	Pn	23 50 44.0	+1.9
NDI				ex	Sn	23 52 21.0	-2.0
IMYA	Miami	9.17	273	eP	Pn	23 50 37.4	-5.5
KALG	Kalgarh	9.22	136	eP	Pn	23 50 43.9	+0.4
KALG				eS	Sn	23 52 21.7	-3.7
PDGK	Podgornoye	9.23	39	⇓P	Pn	23 50 44.6	+1.1
	comp=N,52nm,1.1s						
PDGK				⇓S	Sn	23 52 24.5	-1.0
	comp=N,81nm,1.1s						
KUDL	Kundal	9.29	151	eP	Pn	23 50 43.4	-0.9
KUDL				eS	Sn	23 52 21.6	-5.5
ISRO	Mashad	9.68	273	eP	Pn	23 50 44.6	-5.2
IMOG	Moghan	9.81	272	eP	Pn	23 50 47.8	-3.8
IPAY	Payeh	10.05	274	eP	Pn	23 50 49.7	-5.3
LGTI	Lohaghat	10.14	131	eP	Pn	23 50 57.1	+1.2
LGTI				eS	Sn	23 52 43.1	-4.6
IAKL	Akhelmad	10.24	275	eP	Pn	23 50 52.8	-4.7
IDAH	Dahanechah	10.25	252	eP	Pn	23 50 57.6	-0.1
AGRA	Agra	10.69	147	eP	Pn	23 51 03.4	-0.1
AGRA				ex	x	23 52 55.9	
AGRA				AML	AML	23 53 22.9	
	comp=N,136nm,1.0s						
AGRA				AML	AML	23 53 24.5	
	comp=E,218nm,0.8s						
GEYT	Alibeck	10.76	282	Pn	Pn	23 50 57.4	-7.1
	comp=E,2.0nm,0.3s,baz=104,slow=11,SNR=24						
GEYT				Sn	Sn	23 52 50.8	-12
	comp=E,10nm,0.3s,baz=118,slow=19,SNR=10						
GEYT				LR	LR	23 56 41.7	
	comp=E,193nm,19.4s,baz=165,slow=47						
ISFR	Sfrayin	10.83	277	eP	Pn	23 50 59.7	-5.9
MK01	Makanchi Array	13.11	35	ePn	Pn	23 51 34.5	-1.4
MK31	Makanchi Array	13.12	35	⇑P	Pn	23 51 35.7	-0.3
	comp=E,17nm,1.1s						
MKAR	Makanchi Array	13.12	35	eP	Pn	23 51 35.7	-0.3
MKAR	Makanchi Array	13.12	35	ePn	Pn	23 51 35.7	-0.3
KOLN	Koldanda	13.42	127	eP	Pn	23 51 38.4	-1.8
	comp=E,50nm,0.5s						
GKN	Gorkha	13.95	123	eP	Pn	23 51 45.3	-1.7
	comp=E,102nm,0.6s						
BHPL	Bhopal	14.12	157	eP	Pn	23 51 48.8	-0.4
BHPL				ex	x	23 54 14.5	
DMN	Daman	14.52	123	eP	Pn	23 51 52.6	-1.9
	comp=E,78nm,0.6s						
KKN	Kakani	14.52	123	eP	Pn	23 51 52.3	-2.2
	comp=E,48nm,0.5s						
PKIN	Phulchoki	14.73	123	eP	Pn	23 51 55.2	-2.1
PKI	Pulchoki	14.75	123	eP	Pn	23 51 55.2	-2.3
	comp=E,93nm,0.6s						
GUN	Gumba	14.85	121	eP	Pn	23 51 56.9	-2.0
KURBB	Kurchatov Arra	15.07	18	⇓P	Pn	23 51 57.4	-3.7
	comp=E,16nm,0.7s						
KURBB	Kurchatov Arra	15.07	18	Pn	Pn	23 51 57.6	-3.5
	comp=E,0.1nm,0.3s,baz=211,slow=12,SNR=12						
KURBB				Sn	S	23 54 53.3	-5.3
	baz=211,slow=25,SNR=3.7						
KURK	Kurchatov	15.17	18	⇑P	Pn	23 51 58.7	-3.7
	comp=E,8.7nm,0.9s						
KURK	Kurchatov	15.17	18	eP	Pn	23 51 58.8	-3.7
KURK						23 54 53.3	
KURK				pmax	pmax		
	comp=Z,17nm,0.8s						
KURK	Kurchatov	15.17	18	ePn	Pn	23 51 58.8	-3.7
	comp=Z,17nm,0.8s						
KURK				Sn	Sn	23 54 53.3	+3.6
AB31	Akbulak array	15.33	330	⇑P	Pn	23 52 00.2	-4.2
	comp=Z,3.4nm,0.3s,baz=135,slow=12,SNR=126						
AB31				⇑S	Sn	23 54 37.1	-16
	comp=Z,12nm,0.7s,baz=148,slow=22,SNR=5.7						
ABKAR	Akbulak array	15.33	330	ePn	Pn	23 52 00.2	-4.2
ABKAR				eSn	Sn	23 54 37.0	-16
ISAD	Sadrabad	15.40	258	eP	P	23 52 07.7	-0.7
IPRN	Peran	15.43	275	eP	Pn	23 52 03.3	-2.6
IDMV	Damavand	15.76	273	eP	P	23 52 12.3	-0.1
RAMN	Ramite	15.96	122	eP	Pn	23 52 09.8	-2.9
	comp=Z,73nm,0.5s						
IZEF	Zefreh	16.14	263	eP	Pn	23 52 12.7	-2.3
TAPN	Taplejung	16.48	119	eP	Pn	23 52 18.0	-1.3
	comp=Z,120nm,0.7s						
ODAN	Odare	16.56	121	eP	Pn	23 52 18.1	-2.1
	comp=Z,68nm,0.6s						
BVA0	Borovoye Array	16.61	358	⇑P	Pn	23 52 17.2	-3.2
	comp=Z,24nm,1.4s,baz=261,slow=42,SNR=34						
BVAR	Borovoye Array	16.61	358	Pn	Pn	23 52 17.6	-2.7
	comp=Z,1.9nm,0.3s,baz=168,slow=15,SNR=30						
BVAR				Sn	Sn	23 55 26.2	+1.9
	baz=164,slow=22,SNR=4.0						
BVAR				LR	LR	23 58 37.2	
	comp=Z,108nm,20.1s,baz=230,slow=36						
BRVK	Borovoye	16.64	357	⇓P	Pn	23 52 18.2	-2.6
	comp=Z,70nm,1.5s						
BRVK	Borovoye	16.64	357	c eP	Pn	23 52 18.2	-2.6
BRVK				pmax	pmax		
	comp=Z,52nm,1.7s						
BRVK	Borovoye	16.64	357	ePn	Pn	23 52 17.2	-3.6
	comp=Z,64nm,1.5s						
BRVK				eS	Sn	23 55 23.7	-1.4
AKTO	Aktyubinsk	17.03	329	⇑P	Pn	23 52 22.0	-3.6
	comp=Z,62nm,0.8s						
AKTO				⇑S	Sn	23 55 18.7	-16
AKTO	Aktyubinsk	17.03	329	P	Pn	23 52 23.1	-2.5
	comp=Z,3.9nm,0.3s,baz=138,slow=13,SNR=41						
AKTO				LR	LR	00 00 13.2	
	comp=Z,31nm,20.9s,baz=139,slow=41						
UOSS	Wadi Hilu	17.40	233	ePn	Pn	23 52 32.1	+1.8
	comp=Z,52nm,1.7s						
IRAZ	Razeghan	17.48	273	eP	Pn	23 52 32.3	+0.8
BOK	Bokaro	17.70	131	ex	P	23 52 32.7	-0.8
BOK				ex	x	23 55 36.1	
LSA	Lhasa	17.79	107	eP	Pn	23 52 35.7	+0.2
LSA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LSA	Lhasa	17.79	107	eP	Pn	23 52 35.7	+0.2
	comp=Z,7.8nm,0.7s						
SRSP	Sriramsagar	18.46	159	eP	Pn	23 52 43.0	-0.1
SRSP				IAmb	IAmb	23 52 45.3	
	comp=Z,9.9nm,0.8s						
SRSP				eS	S	23 55 54.6	-13
RPR	Rampur	18.82	156	eP	Pn	23 52 47.7	+0.3
RPR				IAmb	IAmb	23 52 50.2	
	comp=Z,12nm,1.0s						
RPR				eS	S	23 56 14.4	-0.6
KLRI	Killari	18.84	165	eP	Pn	23 52 48.8	+1.1
KLRI				IAmb	IAmb	23 52 54.0	
	comp=Z,116nm,1.9s						
KLRI				Sn	S	23 56 04.2	-12
ISRB	Sarab	19.03	281	eP	P	23 52 47.6	-0.7
IHRS	Heris	19.50	283	eP	P	23 52 54.4	+1.0
IKOM	Komasi	19.68	270	eP	Pn	23 52 57.1	-0.5
ZAA0	Zalesovo Array	19.82	24	eP	P	23 52 56.6	+0.2
ZAA0				eS	S	23 56 34.2	-0.4
ZALV	Zalesovo Beam	19.82	24	P	P	23 52 56.7	+0.3
	comp=Z,21nm,0.5s,baz=227,slow=10,SNR=99						
ZALV				S	Sn	23 56 43.1	+1.8
	comp=Z,6.9nm,0.8s,baz=216,slow=18,SNR=5.6						
ZALV				LR	LR	00 01 20.0	
	comp=Z,90nm,22.0s,baz=252,slow=39						
HYBB	Hyderabad (bro	19.95	160	eP	Pn	23 53 00.2	-0.5
HYBB				IAmb	IAmb	23 53 13.7	
	comp=Z,78nm,1.8s						
HYBB				eS	Sn	23 56 42.3	-2.9
HYB	Hyderabad	19.95	160	iP	P	23 52 59.0	+0.7
HYB				eS	S	23 56 41.0	+3.1
NVS	Novosibirsk	20.11	20	⇑iP	P	23 52 58.7	-0.9
NVS				i*PP	sP	23 53 29.2	+0.6
NVS				iS	S	23 56 36.4	-3.9
NVS				i*SS	sS	23 57 20.8	+11
NVS				pmax	pmax		
	comp=N,24nm,0.9s						
NVS				pmax	pmax		
	comp=Z,25nm,0.9s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.6s						
NVS				smax	smax		
	comp=N,29nm,1.4s						
NVS				smax	smax		
	comp=E,14nm,1.2s						
IMRD	Marand	20.54	284	eP	P	23 53 02.6	-2.0
SHL	Shillong	20.54	116	eP	Pn	23 53 09.0	+1.3
DGRG	David-gareji	20.88	292	P	P	23 53 08.1	0.0
DGRG	David-gareji	20.88	292	P	P	23 53 08.1	0.0
NJS	Nagarjunasagar	20.99	159	eP	P	23 53 10.7	+1.3
NJS				IAmb	IAmb	23 53 21.5	
	comp=Z,179nm,2.5s						
NJS				eS	S	23 56 58.7	+0.6
CHLP	Challavanipeta	21.02	145	eP	P	23 53 13.6	+3.8
CHLP				IAmb	IAmb	23 53 14.7	
	comp=Z,17nm,0.7s						
CHLP				eS	S	23 56 59.0	+0.1
PVM	Polavaram	21.12	152	eP	P	23 53 13.5	+2.8
PVM				IAmb	IAmb	23 53 17.7	
	comp=Z,24nm,1.0s						
PVM				eS	S	23 56 57.8	-3.0
GNI	Garni	21.28	288	P	P	23 53 12.9	+0.4
	comp=Z,20nm,0.9s,baz=6.5,slow=3.7,SNR=9.5						
GNI	Garni	21.28	288	c eP	P	23 53 14.5	+2.0
GNI				pmax	pmax		
	comp=Z,95nm,1.7s						
GNI	Garni	21.28	288	eP	P	23 53 12.9	+0.4
	comp=Z,91nm,1.4s						
SRLM	Srisailam	21.30	160	eP	P	23 53 13.9	+1.2
SRLM				IAmb	IAmb	23 53 27.5	
	comp=Z,37nm,1.4s						
SRLM				eS	S	23 57 02.7	-1.7
TBLG	Delisi	21.38	293	P	P	23 53 13.4	0.0
TBLG	Delisi	21.38	293	P	P	23 53 13.4	0.0
HVS	Khovu-Aksy	21.64	40	c iP	P	23 53 19.2	+3.0
SVE	Sverdlovsk	21.66	344	⇓iP	P	23 53 16.0	-0.2
SVE				eS	S	23 57 15.4	+4.6
SVE				pmax	pmax		
	comp=Z,24nm,0.8s						
ARU	Arti	21.82	340	d iP	P	23 53 17.0	-0.9
ARU						23 53 43.0	
ARU				S	S	23 57 13.2	-0.6
ARU				pmax	pmax		
	comp=Z,54nm,1.2s						
ARU	Arti	21.82	340	eP	P	23 53 17.2	-0.7
	comp=Z,49nm,1.0s						
RCLA	Racherla	21.93	160	eP	P	23 53 20.7	+1.3
RCLA				IAmb	IAmb	23 53 20.9	
	comp=Z,15nm,1.1s						
RCLA				eS	S	23 57 14.2	-2.2
ONI	Oni	22.42	295	P	P	23 53 26.0	+1.5
ONI	Oni	22.42	295	P	P	23 53 26.0	+1.5
NCK	Nalchik	22.43	297	⇑iP	P	23 53 24.9	+0.3
GTA	Gaotai	22.52	74	eP	P	23 53 29.5	+3.9
GTA				pP	pP	23 53 39.8	-3.8
GTA				sP	sP	23 53 44.0	-11
GTA				PMZ			
	comp=Z,29nm,0.9s						
KBZ	Khabaz	22.97	297	P	P	23 53 28.9	-1.1
	comp=Z,4.9nm,0.7s,baz=94,slow=9.8,SNR=4.8						
KBZ				S	S	23 57 41.1	+7.9
	comp=Z,3.4nm,1.0s,baz=18,slow=20,SNR=1.9						
KBZ				LR	LR	00 04 52.2	
	comp=Z,71nm,18.7s,baz=84,slow=43						
GOF	Gofitskoye	23.11	301	eP	P	23 53 31.9	+0.5
GOF				pmax	pmax		
	comp=Z,22nm,1.1s						
KIV	Kislovodsk	23.16	298	eP	P	23 53 32.0	0.0
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
KIV				MLR	MLR		
	comp=Z,53nm,14.0s						
KIV	Kislovodsk	23.16	298	eP	P	23 53 22.8	-9.1
	comp=Z,28nm,1.1s						
SKHT	Srikalahasti	23.77	160	eP	P	23 53 37.2	-0.4
SKHT				IAmb	IAmb	23 53 55.1	
	comp=Z,153nm,2.3s						
VRHR	Novokhopersk	25.84	314	eP	P	23 53 56.9	+0.8
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VRHR				pmax	pmax		
	comp=N,20nm,1.0s						
VRHR				pmax	pmax		
	comp=E,40nm,1.1s						
ZAK	Zakamensk	26.75	49	eP	P	23 54 05.6	+1.2
ZAK				e		23 54 33.9	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
VORD	Divnogorie	27.17	312	eP	P	23 54 07.7	-0.3
VORD				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VORD				pmax	pmax		
	comp=N,70nm,0.8s						
VORD				pmax	pmax		
	comp=E,20nm,0.3s						
VSR	Storozhevoye	27.33	313	eP	P	23 54 09.1	-0.3
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VSR				pmax	pmax		
	comp=N,10.0nm,1.1s						
VSR				pmax	pmax		
	comp=E,20nm,0.9s						
SONM	Songino Array	28.06	55	P	P	23 54 18.5	+2.4
	comp=E,1.7nm,0.9s,baz=275,slow=9.4,SNR=9.5						
SONM	Songino Array	28.06	55	eP	P	23 54 18.6	+2.4
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONA1	Songino Array	28.07	55	eP	P	23 54 17.9	+1.7
BRTR	Keskin Array B	29.82	288	P	P	23 54 31.5	-0.3
	comp=Z,0.6nm,0.7s,baz=98,slow=7.9,SNR=2.6						
BRTR				LR	LR	00 09 56.6	
	comp=Z,33nm,18.9s,baz=64,slow=44						
CMAR	Chiang Mai Arr	30.09	119	P	P	23 54 35.4	+1.2
	comp=Z,1.0nm,0.3s,baz=308,slow=9.7,SNR=8.3						
CMAR				LR	LR	00 09 32.5	
	comp=Z,54nm,18.0s,baz=205,slow=42						
OBN	Obninsk	30.24	319	P	P	23 54 34.7	-0.5
	comp=Z,7.7nm,0.4s,baz=101,slow=10,SNR=6.1						
OBN				LR	LR	00 08 02.5	
	comp=Z,57nm,19.2s,baz=89,slow=39						
OBN	Obninsk	30.24	319	c eP	P	23 54 34.4	-0.8
OBN				pmax	pmax		
	comp=Z,42nm,2.0s						
OBN				MLR	MLR		
	comp=Z,67nm,17.0s						
OBN	Obninsk	30.24	319	eP	P	23 54 33.4	-1.8
	comp=Z,67nm,1.7s						
HHC	Hu-ho-hao-te	31.43	70	eP	P	23 54 40.9	-5.1
AKASG	Malin Array Be	33.28	309	P	P	23 55 01.1	-0.8
	comp=Z,5.7nm,0.6s,baz=84,slow=7.0,SNR=23						
AKASG				LR	LR	00 11 43.3	
	comp=Z,32nm,18.4s,baz=100,slow=42						
AKASG	Malin Array Be	33.28	309	eP	P	23 55 03.2	+1.2
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KIEV	Kiev	33.29	309	d iP	P	23 55 03.2	+1.2
KIEV	Kiev	33.29	309	eP	P	23 55 00.6	-1.4
	comp=Z,77nm,2.1s						
AK11	Malin Array Si	33.32	309	eP	P	23 55 01.7	-0.5
TMCR	Tamitsa	34.27	335	eP	P	23 55 10.5	+0.2
TMCR				e		23 56 23.1	
TMCR				pmax	pmax		
	comp=Z,34nm,1.1s						
BJT	Baijiatuau	35.02	70	eP	P	23 55 19.2	+2.1
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	Baijiatuau	35.02	70	eP	P	23 55 19.2	+2.1
	comp=Z,9.8nm,0.6s						
NACGM	Naroch	35.53	316	e	P	23 55 18.0	-3.3
BURAR	Bucovina Array	35.64	303	⇑P	P	23 55 21.8	-0.7
BURAR	Bucovina Array	35.64	303	⇑iP	P	23 55 21.8	-0.7
BUR04	Bucovina Ar. S	35.65	303	eP	P	23 55 20.6	-1.9
VSU	Vasula	36.47	322	d iP	P	23 55 29.1	-0.2
VSU				pmax	pmax		
	comp=Z,53nm,1.1s						
LVV	L'vov	36.51	307	eP	P	23 55 30.7	+1.0
DRGR		37.36	302	⇑P	P	23 55 38.0	+1.0
DRGR		37.36	302	⇑iP	P	23 55 38.0	+1.0
KWP	Kalwaria Pacla	37.36	306	eP	P	23 55 39.4	+2.5
KWP	Kalwaria Pacla	37.36	306	eP	P	23 55 39.5	+2.5
SUW	Suwalki	37.44	314	eP	P	23 55 38.7	+1.2
SUW	Suwalki	37.44	314	eP	P	23 55 38.7	+1.2
UZH	Uzhgorod	37.61	305	eP	P	23 55 40.6	+1.6
KOLS	Kolonicke sedl	37.63	305	eP	P	23 55 39.9	+0.7
KOLS				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KOLS	Kolonicke sedl	37.63	305	eP	P	23 55 39.9	+0.7
LVZ	Lovozero	37.66	338	iP	P	23 55 39.8	+0.5
LVZ				pmax	pmax		
	comp=Z,15nm,1.1s						
LVZ	Lovozero	37.66	338	eP	P	23 55 38.0	-1.3
	comp=Z,13nm,0.8s						
FINES	FINESS Array B	37.75	326	P	P	23 55 40.2	+0.2
	comp=Z,4.8nm,0.5s,baz=123,slow=8.6,SNR=40						
FINES				LR	LR	00 11 49.7	
	comp=Z,66nm,18.6s,baz=98,slow=37						
SIRR	Siria	38.10	301	⇑iP	P	23 55 43.8	+0.5
STHS	Stebnicka Huta	38.31	306	eP	P	23 55 45.3	+0.4
STHS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STHS	Stebnicka Huta	38.31	306	eP	P	23 55 45.3	+0.4
KECS	Kecovo	38.81	304	eP	P	23 55 50.2	+1.0
KECS				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KECS	Kecovo	38.81	304	eP	P	23 55 50.2	+1.0
NIE	Niedzica	38.91	306	eP	P	23 55 51.3	+1.3
NIE	Niedzica	38.91	306	eP	P	23 55 51.3	+1.3
PSZ	Piszkesteto	39.23	304	eP	P	23 55 50.1	-2.6

PSZ					pmax	pmax			
	comp=Z,26nm,2.1s								
PSZ	**Piszkesteto**	**39.23**	**304**	*e*P	**P**		**23 55 50.1**	**-2.6**
	comp=Z,26nm,2.1s								
OJC	**Ojcow**	**39.25**	**307**	*e*P	**P**		**23 55 53.5**	**+0.7**
OJC	**Ojcow**	**39.25**	**307**	*e*P	**P**		**23 55 53.0**	**+0.2**
OJC					pmax	pmax			
	comp=Z,9.0nm,0.9s								
OJC	**Ojcow**	**39.25**	**307**	*e*P	**P**		**23 55 53.0**	**+0.2**
	comp=Z,9.1nm,0.9s								
PKSM	**Moragy**	**40.20**	**301**	⇓P	**P**		**23 56 01.7**	**+1.0**
PKSM	**Moragy**	**40.20**	**301**	⇓*i*P	**P**		**23 56 01.7**	**+1.0**
OKC	**Ostrava-Krasne**	**40.32**	**307**	*e*P	**P**		**23 56 02.5**	**+0.9**
OKC				*es*P	**sP**		**23 56 33.7**	**+0.5**
OKC	**Ostrava-Krasne**	**40.32**	**307**	*e*P	**P**		**23 56 02.5**	**+0.9**
OKC				*e*			23 56 33.7	
MORC	**Moravsky Berou**	**40.71**	**307**	⇑P	**P**		**23 56 04.7**	**-0.2**
MORC	**Moravsky Berou**	**40.71**	**307**	⇑*i*P	**P**		**23 56 04.7**	**-0.2**
MORC	**Moravsky Berou**	**40.71**	**307**	*e*P	**P**		**23 56 04.6**	**-0.2**
	comp=Z,144nm,2.0s								
GKP	**Gorka Klasztor**	**40.90**	**312**	*e*P	**P**		**23 56 08.1**	**+1.8**
GKP	**Gorka Klasztor**	**40.90**	**312**	*e*P	**P**		**23 56 08.2**	**+1.9**
KEV	**Kevo**	**41.00**	**338**	*e*P	**P**		**23 56 07.2**	**+0.2**
KEV					pmax	pmax			
	comp=Z,18nm,1.0s								
KEV	**Kevo**	**41.00**	**338**	*e*P	**P**		**23 56 07.2**	**+0.2**
	comp=Z,18nm,1.0s								
KRLC	**Kraliky**	**41.19**	**307**	*e*P	**P**		**23 56 08.3**	**-0.6**
KRLC	**Kraliky**	**41.19**	**307**	*e*P	**P**		**23 56 08.3**	**-0.6**
CN2	**Changchun**	**41.30**	**63**	*e*P	P		23 56 02.5	-7.3
CN2					pmax	pmax			
	comp=Z,10.0nm,0.6s								
VRAC	**Vranov**	**41.35**	**306**	⇑P	**P**		**23 56 10.7**	**+0.6**
VRAC	**Vranov**	**41.35**	**306**	⇑*i*P	**P**		**23 56 10.7**	**+0.6**
ARA0	**ARCESS Array S**	**41.35**	**337**	*e*P	**P**		**23 56 09.7**	**-0.1**
ARCES	**ARCESS Array B**	**41.35**	**337**	P	**P**		**23 56 10.1**	**+0.3**
	comp=Z,15nm,0.7s,baz=114,slow=4.8,SNR=36								
ARCES					LR	LR	00 13 48.7		
	comp=Z,123nm,21.6s,baz=140,slow=37								
ARCES	**ARCESS Array B**	**41.35**	**337**	*e*P	**P**		**23 56 10.7**	**+0.8**
ARCES					pmax	pmax			
	comp=Z,15nm,0.7s								
DPC	**Dobruska-Polom**	**41.48**	**307**	*e*P	**P**		**23 56 12.0**	**+0.8**
DPC				*es*P	**sP**		**23 56 43.2**	**+0.4**
DPC				*ex*	x		23 56 55.8		
DPC	**Dobruska-Polom**	**41.48**	**307**	*e*P	**P**		**23 56 12.0**	**+0.8**
DPC				*e*			23 56 43.2	
UPC	**Upice**	**41.67**	**308**	*e*P	**P**		**23 56 13.0**	**+0.3**
UPC				*es*P	**sP**		**23 56 45.3**	**+1.0**
UPC	**Upice**	**41.67**	**308**	*e*P	**P**		**23 56 13.0**	**+0.3**
UPC				*e*			23 56 45.3	
TREC	**Trest**	**42.07**	**306**	*e*P	**P**		**23 56 17.0**	**+1.0**
TREC				*es*P	**sP**		**23 56 49.0**	**+1.3**
TREC	**Trest**	**42.07**	**306**	*e*P	**P**		**23 56 17.0**	**+1.0**
TREC				*e*			23 56 49.0	
GOPC	**GO Pecny, Ondr**	**42.48**	**307**	*e*P	**P**		**23 56 19.7**	**+0.3**
PRU	**Pruhonice**	**42.64**	**307**	*e*P	**P**		**23 56 21.0**	**+0.4**
PRU				*es*P	**sP**		**23 56 53.4**	**+1.1**
PRU				*ex*	x		23 57 05.5		
PRU	**Pruhonice**	**42.64**	**307**	*e*P	**P**		**23 56 21.0**	**+0.4**
PRU				*e*			23 56 53.4	
PRA	**Prague**	**42.70**	**307**	*e*P	**P**		**23 56 21.4**	**+0.3**
PRA	**Prague**	**42.70**	**307**	*e*P	**P**		**23 56 21.4**	**+0.3**
BRG	**Berggiesshubel**	**42.96**	**308**	*e*P	**P**		**23 56 25.3**	**+2.1**
	comp=Z,19nm,1.5s								
BRG				*e*			23 56 54.9		
	comp=Z,12nm,1.4s								
BRG	**Berggiesshubel**	**42.96**	**308**	*e*P	**P**		**23 56 25.0**	**+1.8**
	comp=Z,19nm,1.5s								
BRG				*ep*P	**sP**		**23 56 56.1**	**+1.2**
BRG	**Berggiesshubel**	**42.96**	**308**	*e*P	**P**		**23 56 25.3**	**+2.1**
BRG				*e*			23 56 54.9		
BRG					pmax	pmax			
	comp=Z,19nm,1.5s								
BRG					pmax	pmax			
	comp=Z,12nm,1.4s								
RGN	**Rugen**	**43.24**	**314**	*e*P	**P**		**23 56 27.6**	**+2.3**
	comp=Z,62nm,1.1s								
RGN				*ep*P	**sP**		**23 56 58.6**	**+1.6**
CUC	**Castrocucco**	**43.28**	**292**	*e*P	**P**		**23 56 27.8**	**+1.8**
	comp=Z,5.2nm,0.8s								
GERES	**GERESS Array B**	**43.28**	**305**	P	**P**		**23 56 25.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=81,slow=8.8,SNR=5.4								
GERES	**GERESS Array B**	**43.28**	**305**	*e*P	**P**		**23 56 27.7**	**+1.8**
KHC	**Kasperske Hory**	**43.33**	**306**	*e*P	**P**		**23 56 27.1**	**+0.8**
KHC				*es*P	**sP**		**23 56 58.8**	**+0.8**
KHC				*ex*	x		23 57 10.9		
KHC	**Kasperske Hory**	**43.33**	**306**	*e*P	**P**		**23 56 27.1**	**+0.8**
KHC				*e*			23 56 58.8		
FBE	**Freiberg**	**43.33**	**308**	*e*P	**P**		**23 56 28.2**	**+2.0**
	comp=Z,31nm,1.6s								
CLL	**Collm**	**43.53**	**309**	*e*P	**P**		**23 56 29.1**	**+1.4**
	comp=Z,17nm,1.6s								
CLL	**Collm**	**43.53**	**309**	*i* P	**P**		**23 56 28.1**	**+0.4**
	comp=Z,17nm,1.6s								
CLL				*ePP*	**PP**		**23 58 11.0**	**+0.6**
CLL	**Collm**	**43.53**	**309**	*i* P	**P**		**23 56 28.1**	**+0.4**
CLL					pmax	pmax			
	comp=Z,17nm,1.6s								
CLL	**Collm**	**43.53**	**309**	*e*P	**P**		**23 56 27.3**	**-0.4**
	comp=Z,25nm,1.6s								
TANN	**Tannenbergstha**	**43.94**	**308**	*e*P	**P**		**23 56 32.8**	**+1.7**
	comp=Z,5.0nm,1.1s								
TANN				*ep*P	**sP**		**23 57 04.1**	**+1.2**
GUNZ	**Gunzen**	**44.02**	**308**	*e*P	**P**		**23 56 33.6**	**+1.8**
	comp=Z,7.0nm,1.2s								
GUNZ				*ep*P	**sP**		**23 57 04.8**	**+1.2**
WERD	**Werda**	**44.03**	**308**	*e*P	**P**		**23 56 33.5**	**+1.7**
	comp=Z,6.0nm,1.2s								
WERD				*ep*P	**sP**		**23 57 04.7**	**+1.1**
ROTZ	**Rotzenmuhle**	**44.16**	**307**	*e*P	**P**		**23 56 35.1**	**+2.3**
	comp=Z,11nm,1.3s								
ROTZ				*ep*P	**sP**		**23 57 06.2**	**+1.6**
MANZ	**Manzenberg**	**44.20**	**307**	*e*P	**P**		**23 56 35.0**	**+1.8**
	comp=Z,8.0nm,1.1s								
MANZ				*ep*P	**sP**		**23 57 06.5**	**+1.5**
NEUB	**Neuenburg**	**44.31**	**309**	*e*P	**P**		**23 56 35.7**	**+1.8**
	comp=Z,14nm,1.0s								
NEUB				*ep*P	**sP**		**23 57 06.6**	**+0.9**
MOX	**Moxa**	**44.45**	**308**	*e*P	**P**		**23 56 37.0**	**+1.8**
	comp=Z,7.0nm,1.1s								
KSAR	**Wonju Array Be**	**44.51**	**71**	P	**P**		**23 56 37.1**	**+1.3**
KSAR	**Wonju Array Be**	**44.51**	**71**	P	**P**		**23 56 37.1**	**+1.3**
KSRS	**Korea Array**	**44.54**	**71**	P	**P**		**23 56 37.1**	**+1.1**
	comp=Z,2.4nm,0.6s,baz=283,slow=6.9,SNR=11								
KSRS	**Korea Array**	**44.54**	**71**	P	**P**		**23 56 37.1**	**+1.1**
KSRS					pmax	pmax			
	comp=Z,2.0nm,0.6s								
NB2	**NORSAR Subarra**	**44.66**	**323**	P	**P**		**23 56 36.2**	**-0.5**
	comp=Z,20nm,0.8s,baz=96,slow=7.9								
NB2	**NORSAR Subarra**	**44.66**	**323**	P	**P**		**23 56 36.2**	**-0.5**
	baz=96,slow=7.9								
NOA	**NORSAR Array B**	**44.66**	**323**	P	**P**		**23 56 36.4**	**-0.3**
	comp=Z,17nm,0.8s,baz=96,slow=7.8,SNR=76								
NOA					LR	LR	00 18 02.1		
	comp=Z,35nm,19.7s,baz=80,slow=40								
GRF	**Grafenberg Arr**	**44.80**	**307**	*e*P	**P**		**23 56 40.5**	**+2.5**
	comp=Z,16nm,1.2s								
GRF				*ep*P	**sP**		**23 57 11.6**	**+1.8**
GRFO	**Grafenberg**	**44.81**	**307**	*e*P	**P**		**23 56 38.9**	**+0.9**
GRFO					pmax	pmax			
	comp=Z,21nm,1.5s								
GRFO	**Grafenberg**	**44.81**	**307**	*e*P	**P**		**23 56 38.9**	**+0.9**
	comp=Z,21nm,1.5s								
NBO02	**NORSAR Array S**	**44.84**	**323**	*e*P	**P**		**23 56 37.3**	**-0.7**
BSEG	**Bad Segeberg**	**45.02**	**313**	*e*P	**P**		**23 56 41.4**	**+1.9**
	comp=Z,14nm,0.9s								
CLZ	**Clausthal**	**45.13**	**310**	*e*P	**P**		**23 56 42.3**	**+1.8**
	comp=Z,13nm,1.2s								
CLZ				*ep*P	**sP**		**23 57 13.5**	**+1.1**
KONO	**Kongsberg**	**45.38**	**321**	*e*P	**P**		**23 56 41.2**	**-1.1**
KONO					pmax	pmax			
	comp=Z,12nm,0.9s								
KONO	**Kongsberg**	**45.38**	**321**	*e*P	**P**		**23 56 41.2**	**-1.1**
	comp=Z,12nm,0.9s								
TIXI	**Tiksi**	**45.69**	**22**	⇑*i*P	**P**		**23 56 44.9**	**+0.3**
TIXI					pmax	pmax			
	comp=Z,4.0nm,0.9s								
TIXI	**Tiksi**	**45.69**	**22**	*e*P	**P**		**23 56 45.0**	**+0.4**
	comp=Z,5.0nm,0.6s								
DAVOX	**Davos/Dischmat**	**46.12**	**303**	P	**P**		**23 56 48.5**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=56,slow=4.3,SNR=4.1								
IBBN	**Ibbenburen**	**46.69**	**311**	*e*P	**P**		**23 56 54.4**	**+1.7**
	comp=Z,21nm,1.2s								
IBBN				*ep*P	**sP**		**23 57 25.7**	**+1.1**
BFO	**Black Forest**	**46.88**	**305**	*i* P	**P**		**23 56 57.0**	**+2.6**
SPITS	**Spitsbergen Ar**	**47.64**	**347**	P	**P**		**23 57 01.9**	**+2.1**
	comp=Z,8.2nm,0.7s,baz=134,slow=13,SNR=7.4								
SENIN	**Lac Senin/Sane**	**47.94**	**303**	*e*P	**P**		**23 57 02.9**	**+0.1**
MEM	**Membach**	**48.00**	**309**	P	**P**		**23 57 04.5**	**+1.6**
WLF	**Walferdange**	**48.07**	**307**	P	**P**		**23 57 05.8**	**+2.4**
WLF	**Walferdange**	**48.07**	**307**	*e*P	**P**		**23 57 05.5**	**+2.0**
	comp=Z,12nm,1.1s								
WLF				*ep*P	**sP**		**23 57 36.9**	**+1.4**
WLF	**Walferdange**	**48.07**	**307**	*e*P	**P**		**23 57 03.6**	**+0.1**
WLF					pmax	pmax			
	comp=Z,10.0nm,1.0s								
WLF	**Walferdange**	**48.07**	**307**	*e*P	**P**		**23 57 03.6**	**+0.1**
	comp=Z,9.5nm,1.0s								
KBS	**Kingsbay**	**48.76**	**347**	*e*P	P		23 57 03.5	-4.9
KBS					pmax	pmax			
	comp=Z,16nm,0.8s								
KBS	**Kingsbay**	**48.76**	**347**	*e*P	P		23 57 03.5	-4.9
	comp=Z,16nm,0.8s								
DOU	**Dourbes**	**48.98**	**308**	P	**P**		**23 57 12.2**	**+1.7**
	comp=Z,3.6nm,1.4s								
MJAR	**Matsushiro Arr**	**52.62**	**69**	P	**P**		**23 57 39.0**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=289,slow=9.1,SNR=6.3								
MJAR					LR	LR	00 21 45.4		
	comp=Z,143nm,19.3s,baz=125,slow=38								
MJAR	**Matsushiro Arr**	**52.62**	**69**	P	**P**		**23 57 39.0**	**+1.0**
ESK	**Eskdalemuir**	**52.63**	**316**	*i* P	**P**		**23 57 40.2**	**+2.5**
ASAJ	**Asahikawa**	**53.26**	**58**	LR	LR		00 21 05.4		
	comp=Z,112nm,19.3s,slow=37								
DAG	**Danmarks Havn**	**54.90**	**344**	⇑*i*P	**P**		**23 57 55.5**	**+1.5**
	comp=Z,18nm,0.8s								
DAG	**Danmarks Havn**	**54.90**	**344**	⇑*i*P	**P**		**23 57 55.5**	**+1.5**
DAG					pmax	pmax			
	comp=Z,13nm,0.8s								
ESDC	**Sonseca Array**	**57.83**	**298**	P	**P**		**23 58 15.0**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=78,slow=7.9,SNR=6.1								
BILL	**Bilibino**	**58.50**	**26**	*e*P	P		23 58 23.5	+3.9
BILL					pmax	pmax			
	comp=Z,2.0nm,1.2s								
SUMG	**Summit**	**61.25**	**341**	*i* P	**P**		**23 58 40.1**	**+1.3**
	comp=Z,19nm,0.9s								
SUMG	**Summit**	**61.25**	**341**	*i* P	**P**		**23 58 40.1**	**+1.3**
SUMG					pmax	pmax			
	comp=Z,19nm,0.9s								
SUMG	**Summit**	**61.25**	**341**	*e*P	**P**		**23 58 39.8**	**+1.0**
	comp=Z,22nm,1.0s								
KULLO	**Kullorsuaq**	**64.22**	**347**	*i* P	**P**		**23 58 59.3**	**+1.3**
	comp=Z,9.8nm,0.9s								
TOA0	**Torodi Ar. Sit**	**66.10**	**269**	*e*P	**P**		**23 59 08.1**	**-3.0**
TORD	**Torodi Ar. Bea**	**66.10**	**269**	P	**P**		**23 59 08.8**	**-2.3**
	comp=Z,2.0nm,0.7s,baz=47,slow=5.5,SNR=23								
ILULI	**Ilulissat**	**66.59**	**341**	*i* P	**P**		**23 59 14.9**	**+1.6**
	comp=Z,19nm,0.8s								
COLD	**Coldfoot**	**71.93**	**16**	*e*P	**P**		**23 59 46.6**	**+0.2**
	comp=Z,10nm,1.3s								
IM04	**Indian Mountai**	**72.12**	**18**	*e*P	**P**		**23 59 47.4**	**-0.1**
MDM	**Murphy Dome**	**74.28**	**16**	*e*P	**P**		**23 59 59.6**	**-0.7**
	comp=Z,6.1nm,1.2s								
CAST	**Castle Rocks**	**74.62**	**19**	*e*P	**P**		**00 00 01.9**	**-0.4**
	comp=Z,6.3nm,0.9s								
IL1	**Eielson Array**	**74.74**	**16**	*e*P	**P**		**00 00 01.6**	**-1.3**
ILAR	**Eielson Array**	**74.74**	**16**	P	**P**		**00 00 02.5**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=312,slow=4.8,SNR=15								
BOSA	**Boshof**	**77.94**	**220**	P	**P**		**00 00 20.8**	**-0.8**
	comp=Z,5.2nm,0.8s,baz=43,slow=6.2,SNR=12								
HYT	**Haines Junctio**	**80.22**	**14**	*e*P	**P**		**00 00 34.9**	**+1.2**
YKA	**Yellowknife Ar**	**81.29**	**3**	P	**P**		**00 00 39.7**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=342,slow=5.4,SNR=8.4								
YKA	**Yellowknife Ar**	**81.29**	**3**	P	P		00 00 42.8	+3.6
YKA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
YKB5	**Yellowknife Ar**	**81.29**	**3**	*e*P	**P**		**00 00 38.5**	**-0.7**
WRA	**Warramunga Arr**	**81.63**	**122**	P	**P**		**00 00 41.3**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=325,slow=5.0,SNR=14								
SCHQ	**Schefferville**	**82.31**	**337**	P	**P**		**00 00 45.1**	**+0.5**
	comp=Z,4.2nm,0.9s,baz=48,slow=13,SNR=3.9								
DRLN	**Deer Lake**	**83.43**	**329**	*e*P	**P**		**00 00 48.4**	**-2.1**
	comp=Z,116nm,1.7s								
ASAR	**Alice Springs**	**83.90**	**125**	P	**P**		**00 00 53.0**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=308,slow=5.1,SNR=8.7								
FFC	**Flin Flon**	**89.03**	**356**	*e*P	**P**		**00 01 18.6**	**+0.7**
	comp=Z,7.9nm,1.0s								
EDM	**Edmonton**	**90.61**	**3**	*e*P	**P**		**00 01 26.1**	**+0.7**
	comp=Z,12nm,1.0s								
ULM	**Lac du Bonnet**	**92.97**	**352**	P	**P**		**00 01 36.4**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=28,slow=2.3,SNR=3.9								
ULM					LR	LR	00 47 03.7		
	comp=Z,54nm,18.7s,baz=86,slow=38								

IDC 25 00:09:49.6±8.2, 17°94N×144°91E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/37, mbtmp3.4/3, Error ellipse: s-maj=317.9km s-min=28.2km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.33**	**181**	LR	LR	00 11 50.9	
	comp=Z,20nm,18.8s,baz=110,slow=28						
WRA	**Warramunga Arr**	**39.05**	**196**	P		00 17 18.6	+0.1
	0.5nm,0.6s,baz=17,slow=8.7,SNR=7.8						
ASAR	**Alice Springs**	**42.73**	**195**	P	P	00 17 48.3	-0.4
	0.2nm,0.5s,baz=19,slow=5.9,SNR=3.0						
SONM	**Songino Array**	**43.27**	**322**	P	P	00 17 53.0	-0.1
	0.3nm,0.5s,baz=120,slow=8.5,SNR=3.0						

NIED ***25*** *00:17:00, 30°80N×141°90E, h5km, Mw4.4 Best double couple: M0=4.14000×10^15 NP1:φ=154.00000°, δ17.00000°, λ50.00000°. NP2:φ=15.00000°, δ77.00000°, λ101.00000°.*

BJI ***25*** *00:17:32.5, 30°62N×141°98E, h22km, mb4.6/32, mB4.7/27, Ms4.1/21, Ms7 3.9/22*

IDC ***25*** *00:17:33.2±0.6, 30°67N×141°69E, h0km, mb4.2/16, mb1 4.4/18, mb1mx4.2/35, mbtmp4.2/18, ML4.1/2, MS3.6/6, Ms1 3.6/6, ms1mx3.2/26, Error ellipse: s-maj=23.6km s-min=15.2km az=77.0*

NEIC ***25*** *00:17:35.1±2.4, 30°67N×141°80E, h15km±15km, mb4.7/10, MW4.3(NIED), Error ellipse: s-maj=8.0km s-min=5.8km az=84.0*

JMA ***25*** *00:17:35.5±0.2, 30°79N×141°93E, h41km, M4.5*

MOS ***25*** *00:17:35.6±0.9, 30°70N×141°85E, h33km, mb4.6/27, Error ellipse: s-maj=14.9km s-min=5.9km az=113.2*

ISCJB ***25*** *00:17:35.1±0.3, 30°74N±0°02×141°80E±0°05, h28km, mb4.5/40, MS3.7/5, Error ellipse: s-maj=6.9km s-min=3.2km az=168.2*

ISC 25 00:17:37.2±0.5, 30°74N±0°04×141°70E±0°06, h28km, h28km:pP-P,n130,σ1°62/164, mb4.5/40, MS3.7/5, 10C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.86**	**326**	P	**Pn**	**00 18 22.0**	**+1.1**
JHJ2				*e*S	**Sn**	**00 18 54.2**	**-0.1**
JHJ2	**Mitsune**	**2.86**	**326**	*e*Pn	**Pn**	**00 18 21.6**	**+0.7**
JHJ2				*e*Sn	**Sn**	**00 18 54.6**	**+0.3**
CBIJ	**Chichi jima**	**3.66**	**173**	*e*Pn	**Pn**	**00 18 29.6**	**-2.3**
CBIJ				*e*Sn	**Sn**	**00 19 11.8**	**-2.4**
JCJ	**Chichijima**	**3.66**	**173**	Pn	**Pn**	**00 18 30.7**	**-1.2**
	12nm,0.3s,baz=91,slow=23,SNR=14						
JCJ				Sn	**Sn**	**00 19 09.1**	**-5.1**
	54nm,0.3s,baz=230,slow=22,SNR=8.6						
BSO1	**Boso 1**	**3.95**	**351**	P	**Pn**	**00 18 35.9**	**+0.5**
BSO1				S	**Sn**	**00 19 20.5**	**0.0**
JHHJ	**Haha-jima-NKT**	**4.12**	**174**	P	**Pn**	**00 18 38.0**	**-0.3**
JHHJ				S	**Sn**	**00 19 22.7**	**-2.8**
BSO3	**Boso 3**	**4.17**	**346**	P	**Pn**	**00 18 39.2**	**+0.5**
BSO4	**Boso 4**	**4.39**	**345**	P	**Pn**	**00 18 44.3**	**+2.4**
BSO4				*e*S	**Sn**	**00 19 31.4**	**-0.6**
TK02	**Tokai 2**	**4.62**	**315**	P	Pn	00 18 49.5	+4.5
JOD2	**Odawara 2**	**5.01**	**335**	P	**Pn**	**00 18 50.6**	**0.0**
JOD2				*e*S	**Sn**	**00 19 45.3**	**-2.4**
JYN	**Shimob**	**5.43**	**332**	P	**Pn**	**00 18 58.0**	**+1.6**
JHU	**Hanno**	**5.49**	**339**	P	**Pn**	**00 18 58.0**	**+1.0**
JHU				*e*S	**Sn**	**00 19 58.4**	**-0.8**
JYT	**Yasato**	**5.62**	**347**	P	**Pn**	**00 19 00.9**	**+2.1**
JRY	**Ryogami san**	**5.76**	**337**	P	**Pn**	**00 19 02.0**	**+1.2**
JRY				S	**Sn**	**00 20 06.9**	**+0.9**
JHO	**Hitachi**	**5.93**	**351**	P	**Pn**	**00 19 03.0**	**-0.1**
JHO				*e*S	**Sn**	**00 20 07.2**	**-3.0**
JAG	**Ashikaga**	**5.97**	**342**	P	**Pn**	**00 19 04.0**	**+0.3**
JAG				S	**Sn**	**00 20 09.8**	**-1.4**

MJAR	**Matsushiro Arr**	**6.48**	**334**	Pn	**Pn**		**00 19 11.4**	**+0.8**
	6.3nm,0.3s,baz=156,slow=11,SNR=63								
MJAR				Sn	**Sn**		**00 20 25.5**	**+1.9**
	2.4nm,0.3s,baz=160,slow=18,SNR=6.1								
MJAR	**Matsushiro Arr**	**6.48**	**334**	P	**Pn**		**00 19 11.5**	**+0.8**
MJAR							00 20 25.5		
MJAR				pmax	pmax				
	comp=Z,6.0nm,0.3s								
MJAR				smax	smax				
	comp=N,2.0nm,0.3s								
MAJO	**Matsushiro**	**6.48**	**334**	*d* iP	**Pn**		**00 19 13.2**	**+2.5**
MAJO	**Matsushiro**	**6.48**	**334**	*e*Pn	**Pn**		**00 19 11.9**	**+1.2**
MAJO				*e*Sn	**Sn**		**00 20 25.9**	**+2.2**
MAT	**Matsushiro**	**6.48**	**334**	P	**Pn**		**00 19 12.7**	**+2.0**
MAT				S	**Sn**		**00 20 22.0**	**-1.7**
MAT	**Matsushiro**	**6.48**	**334**	P	**Pn**		**00 19 13.1**	**+2.4**
JFK	**Kawauchi**	**6.64**	**354**	P	**Pn**		**00 19 11.8**	**-1.2**
JFK				*e*S	Sn		00 20 21.6	-6.2
JMK	**Ichinoseki**	**8.20**	**357**	P	**Pn**		**00 19 34.4**	**+0.1**
JMK				S	**Sn**		**00 21 00.3**	**-5.7**
JNU	**Nakatsue**	**9.50**	**287**	LR	LR		00 23 25.2		
	comp=N,422nm,19.2s,baz=78,slow=37								
ERM	**Erimo**	**11.31**	**6**	*e*P	**Pn**		**00 20 17.7**	**+0.8**
ERM	**Erimo**	**11.31**	**6**	*e*Pn	**Pn**		**00 20 15.5**	**-1.4**
TJN	**Taejon**	**13.21**	**299**	*e*P	**Pn**		**00 20 44.8**	**+2.0**
KSRS	**Korea Array**	**13.23**	**304**	Pn	**Pn**		**00 20 46.0**	**+2.9**
	comp=N,0.2nm,0.3s,baz=110,slow=15,SNR=4.0								
KSRS				LR	LR		00 25 52.5		
	comp=N,196nm,18.3s,baz=120,slow=38								
KSAR	**Wonju Array Be**	**13.25**	**304**	Pn	**Pn**		**00 20 46.0**	**+2.6**
KS01	**Wonju Array Si**	**13.26**	**304**	*e*Pn	Pn		00 20 48.0	+4.5
USRK	**Ussuriysk Ar.**	**15.47**	**333**	LR	LR		00 27 09.5		
	comp=N,167nm,18.5s,baz=148,slow=37								
YSS	**Yuzh-Sakhalins**	**16.21**	**3**	*e*P	**P**		**00 21 24.0**	**-1.7**
YSS					pmax	pmax			
	comp=Z,28nm,1.7s								
UGL	**Uglegorsk**	**18.32**	**1**	*e*P	**P**		**00 21 47.8**	**-1.2**
UGL				*e*S	**Sn**		**00 25 13.6**	**+0.9**
CN2	**Changchun**	**18.32**	**320**	*e*P	**P**		**00 21 48.0**	**-1.1**
CN2				PP	**PnPn**		**00 22 03.6**	**+2.7**
CN2				*e*S	**Sn**		**00 25 09.0**	**-3.9**
CN2				PMZ					
	comp=Z,10.0nm,0.8s								
CN2				PMZ					
	comp=Z,40nm,4.0s								
CN2				LN					
	comp=Z,100nm,14.0s								
CN2				LE					
	comp=Z,100nm,14.0s								
CN2				LZ					
	comp=Z,1μm,15.0s								
HABR	**Khabarovsk**	**18.42**	**346**	*e*P	**P**		**00 21 49.2**	**-1.0**
HABR				S	**S**		**00 25 17.1**	**-1.8**
HABR				pmax	pmax				
	comp=Z,25nm,1.3s								
HABR				MLR	MLR				
	comp=Z,89nm,16.0s								
NJ2	**Nanjing**	**19.55**	**280**	*e*P	**Pn**		**00 22 04.1**	**0.0**
NJ2				PMZ					
	comp=Z,20nm,0.6s								
YULB	**Yu-li**	**19.57**	**253**	*e*P	**Pn**		**00 22 03.9**	**-0.6**
	comp=Z,74nm,1.8s								
SSLB	**Suanglung**	**19.69**	**254**	*e*Pn	**Pn**		**00 22 05.8**	**0.0**
	comp=Z,40nm,1.3s								
BJI	**Beijing**	**22.72**	**301**	P	**P**		**00 22 38.1**	**+1.3**
BJI				S	**S**		**00 26 46.6**	**+3.0**
BJI				PMZ					
	comp=Z,13nm,0.9s								
BJI				PMZ					
	comp=Z,65nm,5.2s								
BJI				LN					
	comp=Z,140n

GTA				LN				
	comp=Z,190nm,16.6s							
GTA				LE				
	comp=Z,170nm,21.4s							
GTA				LZ				
	comp=Z,190nm,16.6s							
CMAR	**Chiang Mai Arr**	**40.53**	**263**	P	**P**		**00 25 13.6**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=55,slow=6.8,SNR=4.9							
CMAR				LR	LR		00 42 00.2	
	comp=Z,109nm,19.3s,baz=66,slow=36							
CMAR	**Chiang Mai Arr**	**40.53**	**263**	*ce*P	**P**		**00 25 14.5**	**+0.4**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
TIXI	**Tiksi**	**41.55**	**354**	*i* P	**P**		**00 25 22.3**	**+0.4**
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.4s							
WMQ	**Urumqi**	**44.18**	**303**	P	**P**		**00 25 45.3**	**+1.7**
WMQ				pP	**pP**		**00 25 51.3**	**-0.8**
WMQ				sP	**sP**		**00 25 54.3**	**-1.2**
WMQ				PP	**PcP**		**00 27 29.9**	**+1.8**
WMQ				S	**S**		**00 32 17.6**	**+2.5**
WMQ				sS	**sS**		**00 32 27.1**	**-1.9**
WMQ				SS	**SS**		**00 35 28.9**	**-4.3**
WMQ				ScS	**ScS**		**00 35 42.0**	**+1.7**
WMQ				PMZ				
	comp=Z,6.0nm,0.6s							
WMQ				PMZ				
	comp=Z,52nm,5.6s							
WMQ				LN				
	comp=Z,140nm,17.0s							
WMQ				LE				
	comp=Z,56nm,9.0s							
WMQ				LZ				
	comp=Z,37nm,22.3s							
ZAA0	**Zalesovo Array**	**46.50**	**317**	*e*P	**P**		**00 26 01.3**	**-0.5**
ZAA0				*e*PcP	**PcP**		**00 27 36.1**	**+0.2**
ZALV	**Zalesovo Beam**	**46.50**	**317**	P	**P**		**00 26 01.6**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=110,slow=6.3,SNR=6.7							
ZALV				PcP	**PcP**		**00 27 36.1**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=82,slow=3.3,SNR=5.1							
ZALV	**Zalesovo Beam**	**46.50**	**317**	P	**P**		**00 26 01.6**	**-0.2**
ZALV							00 27 36.1	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MK01	**Makanchi Array**	**47.88**	**307**	*e*P	**P**		**00 26 12.9**	**+0.2**
MK31	**Makanchi Array**	**47.89**	**307**	*e*P	**P**		**00 26 13.1**	**+0.3**
MK31				pmax	pmax			
	comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**47.89**	**307**	*e*P	**P**		**00 26 13.3**	**+0.5**
KURK	**Kurchatov**	**50.18**	**312**	P	**P**		**00 26 29.1**	**-1.1**
KURK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KURK	**Kurchatov**	**50.18**	**312**	*e*P	**P**		**00 26 30.5**	**+0.3**
	comp=Z,10nm,0.9s							
WRAB	**Tennant Creek**	**50.88**	**189**	*i* P	**P**		**00 26 34.7**	**-1.0**
WRAB				pmax	pmax			
	comp=Z,154nm,5.1s							
WRAB	**Tennant Creek**	**50.88**	**189**	*e*P	**P**		**00 26 35.0**	**-0.7**
	comp=Z,62nm,2.2s							
WRA	**Warramunga Arr**	**50.89**	**189**	P	**P**		**00 26 35.2**	**-0.6**
	comp=Z,5.4nm,0.6s,baz=6.1,slow=7.5,SNR=99							
WRA	**Warramunga Arr**	**50.89**	**189**	P	**P**		**00 26 35.2**	**-0.6**
WRA				pmax	pmax			
	comp=Z,5.0nm,0.6s							
KSH	**Kashi**	**53.41**	**299**	P	P		00 26 58.9	+4.2
KSH				pP	pP		00 27 04.3	+1.1
KSH				sP	sP		00 27 07.9	+1.3
KSH				PcP	**PcP**		**00 28 03.9**	**+2.2**
KSH				PP	PP		00 29 00.5	+5.5
KSH				PcS	**PcS**		**00 32 03.0**	**+2.2**
KSH				S	S		00 34 32.0	+6.7
KSH				ScS	**ScS**		**00 36 43.9**	**+1.4**
KSH				PMZ				
	comp=Z,5.0nm,0.6s							
KSH				PMZ				
	comp=Z,79nm,5.5s							
KSH				LN				
	comp=Z,100nm,6.3s							
KSH				LE				
	comp=Z,65nm,4.6s							
KSH				LZ				
	comp=Z,120nm,6.3s							
ASAR	**Alice Springs**	**54.61**	**189**	P	**P**		**00 27 02.8**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=3.0,slow=6.2,SNR=23							
ASAR	**Alice Springs**	**54.61**	**189**	P	**P**		**00 27 02.8**	**-0.5**
ASAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ILAR	**Eielson Array**	**54.75**	**30**	P	**P**		**00 27 03.9**	**0.0**
	comp=Z,0.5nm,0.6s,baz=258,slow=6.6,SNR=7.4							
ILAR	**Eielson Array**	**54.75**	**30**	P	**P**		**00 27 03.9**	**0.0**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BRVK	**Borovoye**	**55.17**	**316**	⇑ *i* P	**P**		**00 27 06.7**	**-0.4**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KK31	**Karatay Array**	**56.66**	**304**	*i* P	**P**		**00 27 18.5**	**+0.5**
KK31				pmax	pmax			
	comp=Z,2.0nm,0.4s							
KKAR	**Karatay Array**	**56.66**	**304**	*e*P	**P**		**00 27 18.4**	**+0.4**
DAWY	**Dawson**	**58.02**	**31**	*e*P	**P**		**00 27 26.2**	**-1.0**
	comp=Z,8.6nm,1.5s							
DZET	**Dzherino**	**58.97**	**299**	P	**P**		**00 27 34.8**	**+0.4**
DZET				pmax	pmax			
	comp=Z,17nm,0.5s							
KBL	**Kabul**	**60.07**	**295**	*e*P	**P**		**00 27 41.8**	**-0.3**
	comp=Z,7.1nm,0.8s							
SVE	**Sverdlovsk**	**60.11**	**321**	⇑ *i*P	**P**		**00 27 43.2**	**+1.5**
SVE				pmax	pmax			
	comp=Z,11nm,0.8s							
ARU	**Arti**	**61.31**	**321**	*c i*P	**P**		**00 27 50.4**	**+0.5**
ARU				*PP	**pP**		**00 28 01.2**	**+2.5**
ARU							00 28 29.3	
ARU							00 30 07.1	
ARU				S	**S**		**00 36 11.0**	**+2.6**
ARU				pmax	pmax			
	comp=Z,12nm,0.7s							
ARU	**Arti**	**61.31**	**321**	*e*P	**P**		**00 27 50.5**	**+0.5**
	comp=Z,12nm,0.7s							
AB31	**Akbulak array**	**62.28**	**313**	P	**P**		**00 27 57.1**	**+0.5**
AB31				pmax	pmax			
	comp=Z,2.0nm,0.4s							
ABKAR	**Akbulak array**	**62.28**	**313**	*e*P	**P**		**00 27 57.0**	**+0.4**
AKTO	**Aktyubinsk**	**63.15**	**315**	P	**P**		**00 28 01.6**	**-0.8**
AKTO				pmax	pmax			
	comp=Z,3.0nm,0.9s							
GEYT	**Alibeck**	**67.21**	**302**	P	**P**		**00 28 30.8**	**+1.8**
	comp=Z,3.5nm,0.8s,baz=57,slow=5.5,SNR=6.7							
LVZ	**Lovozero**	**67.96**	**337**	*e*P	**P**		**00 28 33.3**	**+0.1**
LVZ				pmax	pmax			
	comp=Z,3.0nm,0.7s							
ARCES	**ARCESS Array B**	**69.97**	**340**	P	**P**		**00 28 46.8**	**+1.1**
	comp=Z,2.7nm,0.7s,baz=59,slow=10.0,SNR=6.7							
ARCES	**ARCESS Array B**	**69.97**	**340**	P	**P**		**00 28 46.8**	**+1.1**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.7s							
OBN	**Obninsk**	**73.31**	**325**	*e*P	**P**		**00 29 06.5**	**+0.6**
OBN				*i*			00 29 21.0	
OBN				*i*			00 31 50.6	
OBN				*i* S	**SPn**		**00 38 59.2**	**-3.4**
OBN				pmax	pmax			
	comp=Z,7.0nm,0.8s							
OBN				MLR	MLR			
	comp=Z,65nm,18.0s							
VSR	**Storozhevoye**	**73.86**	**320**	*e*P	**P**		**00 29 09.5**	**+0.2**
VSR				pmax	pmax			
	comp=N,4.0nm,0.8s							
VSR				pmax	pmax			
	comp=E,3.0nm,0.8s							
VSR				pmax	pmax			
	comp=Z,5.0nm,0.8s							
VORD	**Divnogorie**	**73.92**	**320**	*e*P	**P**		**00 29 09.1**	**-0.5**
VORD				pmax	pmax			
	comp=N,10.0nm,0.8s							
VORD				pmax	pmax			
	comp=E,10.0nm,0.8s							
VORD				pmax	pmax			
	comp=Z,3.0nm,0.8s							
FINES	**FINESS Array B**	**74.51**	**333**	P	**P**		**00 29 13.5**	**+0.7**
	comp=Z,3.2nm,0.5s,baz=74,slow=4.5,SNR=56							
FINES	**FINESS Array B**	**74.51**	**333**	*ce*P	**P**		**00 29 13.5**	**+0.7**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.5s							
KBZ	**Khabaz**	**75.24**	**312**	P	**P**		**00 29 18.7**	**+1.3**
	comp=Z,4.1nm,0.8s,baz=90,slow=2.0,SNR=6.8							
KBZ	**Khabaz**	**75.24**	**312**	P	**P**		**00 29 18.7**	**+1.3**
KBZ				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KIV	**Kislovodsk**	**75.26**	**312**	*c i*P	**P**		**00 29 16.1**	**-1.6**
KIV				*i*			00 29 32.6	
KIV				pmax	pmax			
	comp=Z,13nm,1.2s							
KIV				MLR	MLR			
	comp=Z,36nm,16.0s							
VSU	**Vasula**	**76.01**	**331**	*c i*P	**P**		**00 29 22.5**	**+1.0**
ANN	**Anapa**	**78.11**	**315**	*e*P	**P**		**00 29 30.9**	**-2.7**
ANN				pmax	pmax			
	comp=Z,87nm,1.3s							
LRM	**Limekiln Ridge**	**78.51**	**43**	*e*P	**P**		**00 29 35.7**	**-0.4**
NV01	**Mina Array Sit**	**78.61**	**52**	*e*P	**P**		**00 29 35.8**	**-1.0**
NVAR	**Mina Array Bea**	**78.61**	**52**	P	**P**		**00 29 38.1**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=283,slow=7.4,SNR=3.9							
AKASG	**Malin Array Be**	**79.44**	**323**	P	**P**		**00 29 41.4**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=47,slow=5.4,SNR=6.7							
AKASG	**Malin Array Be**	**79.44**	**323**	*ce*P	**P**		**00 29 41.4**	**+0.6**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KIEV	**Kiev**	**79.45**	**323**	*e*P	**P**		**00 29 41.0**	**+0.1**
	comp=Z,40nm,2.1s							
NB2	**NORSAR Subarra**	**80.08**	**338**	P	**P**		**00 29 44.3**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=41,slow=5.3							
NOA	**NORSAR Array B**	**80.08**	**338**	P	**P**		**00 29 44.4**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=41,slow=5.3,SNR=16							
NOA				LR	LR		01 08 28.1	
	comp=Z,28nm,20.5s,baz=250,slow=38							
NOA	**NORSAR Array B**	**80.08**	**338**	P	**P**		**00 29 44.4**	**+0.3**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
NOA				MLR	MLR			
	comp=Z,28nm,20.5s							
BRTR	**Keskin Array B**	**83.23**	**312**	P	**P**		**00 30 02.4**	**+1.1**
	comp=Z,3.0nm,0.8s,baz=103,slow=3.7,SNR=14							
BRTR	**Keskin Array B**	**83.23**	**312**	*ce*P	**P**		**00 30 02.4**	**+1.1**
BRTR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KOLS	**Kolonicke sedl**	**84.06**	**325**	*e*P	**P**		**00 30 04.1**	**-1.2**
KOLS	**Kolonicke sedl**	**84.06**	**325**	*e*P	**P**		**00 30 04.1**	**-1.2**
DPC	**Dobruska-Polom**	**85.92**	**328**	*e*P	**P**		**00 30 15.6**	**+1.0**
DPC				*ex*	x		00 30 25.9	
DPC				*ex*	x		00 30 36.7	
DPC	**Dobruska-Polom**	**85.92**	**328**	*e*P	**P**		**00 30 15.6**	**+1.0**
DPC				*e*			00 30 25.9	
GERES	**GERESS Array B**	**88.19**	**329**	P	**P**		**00 30 25.9**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=52,slow=5.2,SNR=4.1							
TXAR	**Lajitas Array**	**93.75**	**53**	P	**P**		**00 30 53.3**	**+1.3**
	comp=Z,0.7nm,0.9s,baz=338,slow=2.7,SNR=3.7							
TXAR	**Lajitas Array**	**93.75**	**53**	P	**P**		**00 30 53.3**	**+1.3**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**121.84**	**313**	PKP	**PKPdf**		**00 36 29.1**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=39,slow=2.1,SNR=3.4							
LPAZ	**La Paz**	**149.21**	**69**	PKPbc	**PKPbc**		**00 37 25.5**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=251,slow=2.9,SNR=4.9							
LPAZ	**La Paz**	**149.21**	**69**	PKP2	**PKPbc**		**00 37 25.5**	**+1.0**
LPAZ				pmax	pmax			
	comp=Z,1.0nm,0.7s							

ISCJB ***25*** *00:26:15.3±1.0, 16°.2S±0°.1×73°.0W±0°.1, h82km, mb3.7/2, Error ellipse: s-maj=25.5km s-min=7.7km az=139.0*
IDC ***25*** *00:26:18.9±1.9, 15°.90S×72°.86W, h105km±18km, mb3.6/2, mb1 3.5/4, mb1mx3.3/22, mbtmp3.8/4, Error ellipse: s-maj=45.8km s-min=15.9km az=40.0*

ISC 25 00:26:16.8±1.0, 16°.2S±0°.2×73°.0W±0°.2, h82km, n7, σ1§70/8, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
LPAZ	**La Paz**	**4.63**	**92**	P	**Pn**	**00 27 26.5**	**+1.5**
	1.8nm,0.3s,baz=279,slow=8.1,SNR=51						
NNA	**Nana**	**5.60**	**317**	P	**Pn**	**00 27 39.6**	**+2.0**
	0.8nm,0.3s,baz=180,slow=17,SNR=2.5						
NNA				S	**Sn**	**00 28 40.0**	**-0.7**
	2.4nm,0.3s,baz=248,slow=16,SNR=3.6						
LVC	**Limon Verde**	**7.48**	**150**	P	Pn	00 28 07.6	+4.1
	329nm,0.3s,baz=353,slow=8.9,SNR=141						
LVC				S	**Sn**	**00 29 27.5**	**+0.6**
	243nm,0.3s,baz=87,slow=21,SNR=9.0						
TORD	**Torodi Ar. Bea**	**79.31**	**73**	P	**P**	**00 38 12.0**	**-2.1**
	1.2nm,0.7s,baz=241,slow=5.5,SNR=10.0						
ESDC	**Sonseca Array**	**84.82**	**46**	P	**P**	**00 38 41.6**	**-0.9**
	0.4nm,0.6s,baz=258,slow=7.0,SNR=4.8						
WRA	**Warramunga Arr**	**135.22**	**218**	PKP	**PKPdf**	**00 45 26.6**	**-1.2**
	0.5nm,0.9s,baz=122,slow=2.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**138.48**	**20**	PKP	**PKPdf**	**00 45 33.4**	**+0.7**
	0.3nm,0.3s,baz=305,slow=5.1,SNR=1.9						

SKO 25 00:28:16.9, 41°.08N×22°.41E, h24km, M0.9, ML1.1, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
VAY	**Valandovo**	**0.27**	**27**	*i* Pg	Pb	00 28 23.4	0.0
VAY				*e*Lg	Lg	00 28 26.9	
	comp=E,31nm,0.4s						
VAY				*i* Sg	Sb	00 28 27.1	-0.7
VAY				*e*Lg	Lg	00 28 27.2	
	comp=N,63nm,0.3s						

WEL 25 00:40:38.5±0.3, 45°.69S×166°.63E, h5km, ML3.5/8, 1C-3D, Error ellipse: s-maj=2.7km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
DCZ	**Deep Cove**	**0.42**	**61**	⇓PG	Pb	00 40 47.5	-0.9
DCZ				SG	Sg	00 40 52.7	+0.7
DCZ				AML	AML	00 40 53.3	
DCZ				AML	AML	00 40 53.3	
DCZ				AML	AML	00 40 53.4	
PYZ	**Puysegur Point**	**0.48**	**176**	⇓PG	Pg	00 40 48.3	+0.5
PYZ				SG	Sg	00 40 54.8	+0.6
WHZ	**Wether Hill Ro**	**0.94**	**103**	⇑P*	Pg	00 40 56.6	0.0
WHZ				S*	Sb	00 41 10.1	0.0
WHZ				AML	AML	00 41 18.1	
MLZ	**Mavora Lakes**	**1.13**	**73**	⇓P*	Pg	00 40 58.8	-1.5
MLZ				S*	Sg	00 41 13.3	-1.8
MLZ				AML	AML	00 41 14.7	
APZ	**The Paps**	**1.48**	**141**	PN	Pn	00 41 04.7	-1.2
APZ				AML	AML	00 41 23.8	
APZ				AML	AML	00 41 24.1	
WKZ	**Wanaka**	**1.89**	**64**	PN	Pn	00 41 12.1	+0.7
WKZ				AML	AML	00 41 43.5	
WKZ				AML	AML	00 41 47.0	
EAZ	**Earnscleugh**	**1.94**	**77**	PN	Pn	00 41 12.9	+0.9
EAZ				AML	AML	00 41 39.6	
EAZ				AML	AML	00 41 39.8	
EAZ				AML	AML	00 41 42.1	
EAZ				AML	AML	00 41 42.2	
SYZ	**Scrubby Hill**	**1.94**	**117**	PN	Pn	00 41 12.0	-0.1
SYZ				AML	AML	00 41 45.4	
SYZ				AML	AML	00 41 46.6	
SYZ				AML	AML	00 41 47.3	
TUZ	**Tuapeka**	**2.11**	**98**	PN	Pn	00 41 15.4	+0.9
JCZ	**Jackson Bay**	**2.21**	**44**	PN	Pn	00 41 16.2	+0.3
JCZ				AML	AML	00 41 52.1	
JCZ				AML	AML	00 41 52.5	
HHSZ	**Highcliff Hill**	**2.78**	**96**	PN	Pn	00 41 24.9	+1.3
LBZ	**Lake Benmore**	**2.83**	**64**	PN	Pn	00 41 24.8	+0.4
RPZ	**Rata Peaks**	**3.71**	**60**	PN	Pn	00 41 35.6	-0.9
WVZ	**Waitaha Valley**	**3.93**	**50**	PN	Pn	00 41 39.3	-0.1
OXZ	**Oxford**	**4.53**	**61**	*e*PN	Pn	00 41 46.7	-1.0

MEX 25 01:05:59.7±0.6, 16°.94N×100°.18W, h25km±5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
CAIG	**El Cayaco**	**0.14**	**323**	*i* P	Pb	01 06 03.1	-1.6
CAIG				*e*S	Sb	01 06 06.8	-1.2
ACP2	**Acapulco**	**0.29**	**102**	*i* P	Pb	01 06 05.0	-1.5
ACP2				*i* S	Sb	01 06 10.0	-1.2
ACX	**Acapulco**	**0.32**	**102**	*i* P	Pn	01 06 09.3	+0.5
ACX				*e*S	Sn	01 06 13.6	-1.0
ARIG	**Puente Sto Nin**	**1.35**	**353**	*e*P	Pn	01 06 20.1	-2.9
ARIG				*i* S	Sn	01 06 36.5	-3.6
ZIIG	**Zihuatanejo**	**1.40**	**299**	*e*P	Pn	01 06 21.0	-2.6
TLIG	**Tlapa**	**1.66**	**68**	*e*P	Pn	01 06 25.0	-2.5
TLIG				*e*S	Sn	01 06 44.4	-3.8

IDC 25 01:19:07.5±12.0, 8°.11S×128°.99E, h149km±99km, mb3.7/1, mb1 3.7/3, mb1mx3.2/22, mbtmp4.0/3, Error ellipse: s-maj=131.8km s-min=84.7km az=76.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.85**	**157**	P	Pn	01 22 04.1	-0.8
	0.4nm,0.3s,baz=331,slow=14,SNR=22						
WRA				S	Sn	01 24 27.1	0.0
	1.5nm,0.3s,baz=336,slow=23,SNR=10						
ASAR	**Alice Springs**	**16.17**	**164**	P	P	01 22 48.2	+1.4
	0.5nm,0.3s,baz=337,slow=10,SNR=33						
ASAR				S	Sn	01 25 47.0	+0.2
	0.3nm,0.3s,baz=343,slow=25,SNR=6.2						
STKA	**Stephens Creek**	**26.39**	**155**	P	P	01 24 29.8	-0.3
	2.0nm,0.6s,baz=342,slow=9.6,SNR=3.3						

GUC 25 01:41:32.5±0.4, 34°.93S×72°.55W, h36km±1km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
TALC	**Talca**	**0.89**	**122**	*e*P	Pn	01 41 48.7	+0.3
TALC				*e*S	Sn	01 42 01.2	+1.1
NICH	**Los Niches**	**1.09**	**94**	*e*P	Pn	01 41 51.9	+0.7
NICH				*e*S	Sn	01 42 06.6	+1.6
LNCH	**Linares**	**1.20**	**140**	*e*P	Pn	01 41 53.5	+0.7
LNCH				*e*S	Sn	01 42 09.4	+1.5
LNV	**Longovilo**	**1.35**	**45**	*e*P	Pn	01 41 55.8	+1.0
LNV				*e*S	Sn	01 42 14.0	+2.5
CHCH	**Chadas Angostu**	**1.85**	**58**	*e*P	Pn	01 42 03.3	+1.4
CHCH				*e*S	Sn	01 42 26.5	+2.4
CLCH	**Cerro Calan**	**2.26**	**48**	*e*P	Pn	01 42 08.7	+1.2
CLCH				*e*S	Sn	01 42 36.6	+2.4
CLCH				AML	AML	01 42 49.4	
	comp=E,481nm,0.5s						
PEL	**Peldehue**	**2.36**	**42**	*e*P	Pn	01 42 10.2	+1.4
PEL				*e*S	Sn	01 42 38.7	+2.2
PEL				AML	AML	01 42 49.7	
	comp=N,485nm,0.5s						

PGC 25 02:22:41.4±1.5, 51°.06N×130°.14W, h10km, ML3.2/25, Mw3.8, 185km Wsw of Bella Bella, Bc Queen Charlotte Islands Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
HOLB	**Holberg**	**1.34**	**108**	P	Pn	02 23 04.6	-1.6
HOLB				S	Sb	02 23 21.5	-2.5
BBB	**Bella Bella**	**1.69**	**48**	Pn	Pn	02 23 07.8	-3.2
BBB				Sn	Sn	02 23 29.8	-2.9
PHC	**Port Hardy**	**1.75**	**101**	Pn	Pn	02 23 10.7	-1.1
PHC				Sn	Sn	02 23 33.0	-1.2
BPBC	**Brooks Peninsu**	**1.76**	**120**	Pn	Pn	02 23 08.9	-3.2
BPBC				Sn	Sn	02 23 29.5	-5.1
BNB	**Barry Inlet**	**1.81**	**327**	Pn	Pn	02 23 11.1	-1.6
BNB				Sn	Sn	02 23 33.3	-2.6
MAYB	**Maynard**	**2.00**	**108**	Pn	Pn	02 23 13.8	-1.6
MAYB				Sn	Sn	02 23 39.1	-1.6
TLCB	**Telegraph Cove**	**2.16**	**103**	Pn	Pn	02 23 16.7	-0.7
TLCB				Sn	Sn	02 23 43.6	-0.6
FHRB	**Fair Harbour**	**2.18**	**116**	Pn	Pn	02 23 15.3	-2.3
FHRB				Sn	Sn	02 23 41.3	-3.3
EDB	**Eliza Dome**	**2.27**	**120**	Pn	Pn	02 23 15.9	-3.0
EDB				Sn	Sn	02 23 44.4	-2.5
MOBC	**Moresby Island**	**2.37**	**332**	Pn	Pn	02 23 19.4	-0.9
MOBC				Sn	Sn	02 23 49.5	-0.1
WOSB	**Woss**	**2.45**	**110**	Pn	Pn	02 23 20.1	-1.4
WOSB				Sn	Sn	02 23 49.2	-2.3
DIB	**Dawson Inlet,**	**2.58**	**327**	Pn	Pn	02 23 21.9	-1.3
DIB				Sn	Sn	02 23 54.0	-0.6
VIB	**Van Inlet**	**2.64**	**327**	Pn	Pn	02 23 22.6	-1.6
VIB				Sn	Sn	02 23 55.5	-0.9
NCRB	**Newcastle Ridg**	**2.68**	**103**	Pn	Pn	02 23 23.8	-1.0
ETB	**Estevan Point**	**2.87**	**125**	Pn	Pn	02 23 23.7	-3.4
GDR	**Gold River**	**2.93**	**114**	Pn	Pn	02 23 25.7	-2.2
CBB	**Campbell River**	**3.22**	**107**	Pn	Pn	02 23 31.4	-0.6
CBB				Sn	Sn	02 24 09.2	-1.1
CBB				Sg	Sg	02 24 26.9	+2.2
RUBB	**Prince Rupert**	**3.27**	**359**	Pn	Pn	02 23 34.6	+2.0
TOFB	**Tofino**	**3.33**	**123**	Pn	Pn	02 23 30.7	-2.7
NDB	**Naden**	**3.37**	**331**	Pn	Pn	02 23 33.1	-0.9
BTB	**Buttle Lake**	**3.37**	**116**	Pn	Pn	02 23 31.3	-3.0
OZB	**Mount Ozzard**	**3.66**	**123**	Pn	Pn	02 23 35.4	-2.7
OZB				Sg	Sg	02 24 54.1	+15
TXB	**Texada**	**3.90**	**108**	Pn	Pn	02 23 40.5	-0.9
MGB	**Mount Grey**	**4.08**	**118**	Pn	Pn	02 23 41.5	-2.4
UBRB	**Upper Baezaeko**	**4.17**	**62**	Pn	Pn	02 23 37.7	-7.5
SHB	**Sechelt**	**4.28**	**108**	Pn	Pn	02 23 45.6	-1.0
YOUB	**Youbou, Lake C**	**4.37**	**117**	Sg	Sg	02 25 08.7	+6.9
PFB	**Port Renfrew**	**4.46**	**122**	Pn	Pn	02 23 47.3	-1.7
OCP	**Olym-Cheeka Pk**	**4.53**	**126**	Pn	Pn	02 23 49.3	-0.6
FSB	**Fort Saint Jam**	**4.92**	**44**	Pn	Pn	02 23 58.5	+3.1
FSB				Sn	Sn	02 24 57.1	+4.8

ISCJB ***25*** *02:49:36.4±0.9, 36°.4S±0°.1×100°.9W±0°.3, h10km, mb3.7/6, MS3.6/7, Error ellipse: s-maj=38.8km s-min=20.6km az=177.4*
IDC ***25*** *02:49:36.8±1.1, 36°.33S×100°.82W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.8/21, mbtmp3.7/6, MS3.6/7, Ms1 3.6/7, ms1mx3.4/21, Error ellipse: s-maj=50.3km s-min=24.0km az=86.0*

ISC 25 02:49:38.3±1.0, 36°.3S±0°.2×100°.8W±0°.3, h10km, n13, σ1§32/7, mb3.8/6, MS3.7/7, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
LPAZ	**La Paz**

FHRB	**Fair Harbour**	**2.27**	**108**	Pn	Pn	03 09 10.4	-2.1
FHRB				Sn	Sn	03 09 37.4	-3.1
TLCB	**Telegraph Cove**	**2.33**	**95**	Pn	Pn	03 09 12.3	-1.0
TLCB				Sn	Sn	03 09 39.4	-2.6
EDB	**Eliza Dome**	**2.34**	**112**	Pn	Pn	03 09 11.5	-2.0
MOBC	**Moresby Island**	**2.51**	**339**	Pn	Pn	03 09 14.7	-1.3
MOBC				Sn	Sn	03 09 44.7	-2.0
WOSB	**Woss**	**2.58**	**103**	Pn	Pn	03 09 15.2	-1.7
DIB	**Dawson Inlet,**	**2.70**	**333**	Pn	Pn	03 09 17.9	-0.5
VIB	**Van Inlet**	**2.76**	**333**	Pn	Pn	03 09 17.7	-1.6
NCRB	**Newcastle Ridg**	**2.84**	**97**	Pn	Pn	03 09 19.1	-1.4
ETB	**Estevan Point**	**2.91**	**118**	Pn	Pn	03 09 21.5	+0.3
GDR	**Gold River**	**3.03**	**108**	Pn	Pn	03 09 20.8	-2.1
CBB	**Campbell River**	**3.36**	**101**	Pn	Pn	03 09 26.4	-1.0
CBB				Sn	Sn	03 10 07.0	-0.4
BTB	**Buttle Lake**	**3.46**	**111**	Pn	Pn	03 09 28.0	-1.0
NDB	**Naden**	**3.49**	**335**	Pn	Pn	03 09 28.0	-1.3
RUBB	**Prince Rupert**	**3.52**	**2**	Sn	Sn	03 10 11.4	0.0
OZB	**Mount Ozzard**	**3.71**	**118**	Pn	Pn	03 09 31.2	-1.3
TXB	**Texada**	**4.03**	**104**	Pn	Pn	03 09 35.6	-1.1
MGB	**Mount Grey**	**4.15**	**114**	Pn	Pn	03 09 37.5	-1.0
SHB	**Sechelt**	**4.41**	**103**	Pn	Pn	03 09 41.9	-0.2

IDC 25 03:18:21.8±3.5, 47°49N×152°09E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/43, mbtmp3.7/7, MS3.1/2, Ms1 3.1/2, ms1mx2.5/38, Error ellipse: s-maj=96.9km s-min=32.1km az=6.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**15.02**	**228**	LR	LR	03 27 33.5	
	comp=Z,29nm,20.2s,baz=215,slow=37						
H11N2	**WAKE ISLAND Hy**	**30.20**	**151**	T	T	03 55 45.7	
	baz=340,slow=76,SNR=68						
H11N1	**WAKE ISLAND Hy**	**30.22**	**151**	T	T	03 55 46.0	
	baz=340,slow=76,SNR=43						
H11N3	**WAKE ISLAND Hy**	**30.22**	**151**	T	T	03 55 47.6	
	baz=340,slow=76,SNR=40						
H11S1	**WAKE ISLAND Hy**	**31.29**	**153**	T	T	03 57 04.9	
	baz=340,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**31.29**	**153**	T	T	03 57 09.5	
	baz=340,slow=76,SNR=35						
H11S2	**WAKE ISLAND Hy**	**31.30**	**153**	T	T	03 57 08.1	
	baz=340,slow=76,SNR=33						
ILAR	**Eielson Array**	**36.41**	**39**	P	P	03 25 26.9	-0.6
	0.1nm,0.6s,baz=282,slow=6.3,SNR=2.6						
FINES	**FINESS Array B**	**63.07**	**334**	P	P	03 28 51.0	+0.6
	0.6nm,0.4s,baz=20,slow=6.7,SNR=13						
NOA	**NORSAR Array B**	**67.30**	**341**	P	P	03 29 17.9	+0.1
	0.6nm,0.8s,baz=27,slow=6.0,SNR=4.4						
HFS	**Hagfors**	**67.51**	**339**	P	P	03 29 19.4	+0.2
	1.7nm,0.8s,baz=29,slow=3.3,SNR=10						
AKASG	**Malin Array Be**	**70.54**	**325**	P	P	03 29 37.7	-0.5
	0.6nm,0.4s,baz=30,slow=5.7,SNR=2.5						
SCHQ	**Schefferville**	**72.89**	**22**	LR	LR	04 06 36.7	
	comp=Z,23nm,18.0s,baz=22,slow=40						
BRTR	**Keskin Array B**	**77.37**	**316**	P	P	03 30 18.1	-0.5
	2.0nm,1.1s,baz=39,slow=5.5,SNR=3.6						
TXAR	**Lajitas Array**	**77.73**	**60**	P	P	03 30 21.0	+0.3
	0.2nm,0.5s,baz=298,slow=1.9,SNR=3.1						

NNC 25 04:12:18.5±1.6, 41°76N×82°73E, h0km, mb3.5, mpv3.1, 5C-4D, Error ellipse: s-maj=14.6km s-min=8.1km az=166.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**2.86**	**304**	⇑Pn	Pn	04 13 05.5	+0.2
	9.9nm,0.5s						
PDGK				⇑Sn	Sn	04 13 42.1	+1.6
	64nm,0.8s						
MK31	**Makanchi Array**	**5.04**	**357**	⇓Pn	Pn	04 13 35.8	+0.5
	0.7nm,0.6s,baz=192,slow=13,SNR=13						
MK31				⇑Pg	Pb	04 13 49.5	+1.9
	1.0nm,0.5s,baz=174,slow=12,SNR=4.5						
MK31				⇓Lg	Lg	04 14 56.9	
	7.0nm,0.8s,baz=178,slow=27,SNR=4.9						
TKM2	**Tokmak 2**	**5.41**	**285**	⇓Pg	Pb	04 13 57.1	+2.9
	2.4nm,0.7s						
TKM2				⇑Lg	Lg	04 15 08.9	
	3.2nm,0.6s						
AAK	**Ala-Archa**	**6.18**	**281**	⇓Pg	Pb	04 14 10.2	+3.1
	1.8nm,0.6s						
AAK				⇑Lg	Lg	04 15 33.1	
	4.4nm,0.9s						

NIED ***25*** *04:28:00,24°40N×122°10E,h53km,Mw4.1 Best double couple: M₀1.40000×10¹⁵ NP1:φ₀164.00000°,δ36.00000°, λ92.00000°. NP2:φ₀342.00000°,δ55.00000°,λ89.00000°.*
BJI ***25*** *04:28:02.4,24°50N×121°93E,h10km,mb3.9/5,ML3.9/7*
NEIC ***25*** *04:28:04.0±0.6,24°41N×122°21E,h66km±7km,mb4.3/11, Error ellipse: s-maj=12.4km s-min=10.2km az=150.0*
NEIC Recorded [3 TAP] in I-lan, [2 TAP] in Hua-lien and [1 TAP] in Nan-t'ou, T'ai-chung and T'ao-yuan.
ISCJB ***25*** *04:28:04.0±0.2,24°49N±0°02×122°15E±0°02,h72km±2km, mb3.9/25, Error ellipse: s-maj=3.1km s-min=2.0km az=153.6*
JMA ***25*** *04:28:04.3±0.1,24°38N×122°09E,h64km±2km,M3.9*
TAP ***25*** *04:28:04.7,24°44N×122°11E,h62km,ML4.7,B*
IDC ***25*** *04:28:06.0±0.8,24°55N×122°25E,h78km±8km,mb3.6/14, mb1 3.7/15,mb1mx3.6/34,mbtmp4.0/15,MS3.0/2, Ms1 3.0/2,ms1mx2.6/31, Error ellipse: s-maj=15.5km s-min=11.8km az=66.0*

ISC 25 04:28:04.9±0.6, 24°45N±0°03×122°13E±0°02, h66km±4km, n130, σ1§19/195, mb4.1/25, 24C-10D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.30**	**301**	⇓*i*P	Pn	04 28 15.4	-0.2
	baz=312						
ENA	**Nanau**	**0.36**	**266**	⇓*i*P	Pn	04 28 15.6	-0.4
	baz=272						
ENA				*e*S	Sn	04 28 23.9	-0.3
	baz=272						
EHP	**Heping Village**	**0.38**	**248**	*e*P	Pn	04 28 16.5	+0.2
	baz=256						
EHP				*i* S	Sn	04 28 24.8	+0.2
	baz=256						
EGS		**0.43**	**335**	⇓*i*P	Pn	04 28 16.5	-0.2
	baz=350						
EGS				S	Sn	04 28 24.2	-1.0
	baz=350						
ILA	**Ilan**	**0.47**	**312**	⇓*i*P	Pn	04 28 17.4	+0.3
	baz=322						
ILA				*i* S	Sn	04 28 26.2	+0.3
	baz=322						
TWE	**Neicheng**	**0.50**	**302**	⇑*i*P	Pn	04 28 17.6	+0.3
	baz=309						
TWE				*e*S	Sn	04 28 26.2	-0.3
	baz=309						
ENTT	**Nioudou**	**0.55**	**290**	⇑*i*P	Pn	04 28 17.9	0.0
	baz=285						
NACB	**Ninganchiao**	**0.56**	**240**	*e*Pn	Pn	04 28 16.7	-1.3
NACB				*e*Sn	Sn	04 28 25.6	-2.1
TWB1	**Santiao Chiao**	**0.57**	**347**	⇓*i*P	Pn	04 28 17.7	-0.4
	baz=350						
TWB1				S	Sn	04 28 26.2	-1.5
	baz=350						
TWD	**Chiawan**	**0.61**	**233**	⇑P	Pn	04 28 17.7	-0.8
	baz=228						
TWD				S	Sn	04 28 27.6	-0.9
	baz=228						
HWA	**Hwalien**	**0.68**	**225**	*e*P	Pn	04 28 18.7	-0.5
	baz=217						
HWA				*e*S	Sn	04 28 29.4	-0.4
	baz=217						
NNS	**Nan Shan**	**0.69**	**269**	⇑*i*P	Pn	04 28 19.1	-0.4
	baz=264						
NNS				S	Sn	04 28 29.1	-1.2
	baz=264						
NWF	**Wu-fen Shan**	**0.69**	**333**	⇓*i*P	Pn	04 28 19.5	-0.1
	baz=344						
NWF				*i* S	Sn	04 28 29.2	-1.1
	baz=344						
TWA	**Mucha**	**0.72**	**317**	⇓*e*P	Pn	04 28 19.9	+0.1
	baz=329						
TWA				S	Sn	04 28 30.5	-0.3
	baz=329						
JYNG	**Yonaguni jima**	**0.74**	**90**	P	Pn	04 28 20.1	+0.1
JYNG				S	Sn	04 28 31.3	+0.2
TATO	**Taipei**	**0.78**	**312**	*e*Pn	Pn	04 28 20.5	+0.1
TATO				*e*Sn	Sn	04 28 32.7	+0.7
YOJ	**Yonaguni jima**	**0.80**	**89**	P	Pn	04 28 20.7	0.0
YOJ				S	Sn	04 28 32.3	-0.1
YOJ	**Yonaguni jima**	**0.80**	**89**	⇓*i*P	Pn	04 28 20.9	+0.2
	baz=79						
YOJ				*i* S	Sn	04 28 32.3	-0.1
	baz=79						
YOJ	**Yonaguni jima**	**0.80**	**89**	*e*Pn	Pn	04 28 20.5	-0.2
YOJ				*e*Sn	Sn	04 28 31.9	-0.5
TAP1	**Taipei**	**0.80**	**317**	P	Pn	04 28 20.8	+0.1
	baz=330						
TAP1				S	Sn	04 28 31.9	-0.5
	baz=330						
ESF	**Shoufeng Towns**	**0.81**	**225**	*e*P	Pn	04 28 20.7	-0.1
	baz=224						
TAP	**Taipei**	**0.81**	**316**	*e*P	Pn	04 28 20.6	-0.2
	baz=330						
TAP				*e*S	Sn	04 28 32.2	-0.5
	baz=330						
WHF	**Hehuan Shan**	**0.85**	**249**	⇑*i*P	Pn	04 28 21.6	-0.1
	baz=250						
WHF				*e*S	Sn	04 28 33.2	-0.9
	baz=250						
TWT	**Tachien**	**0.89**	**257**	⇑*i*P	Pn	04 28 22.4	+0.4
	baz=255						
TWT				*i* S	Sn	04 28 34.3	-0.4
	baz=255						
ESL	**Shilin**	**0.90**	**225**	⇑*i*P	Pn	04 28 21.0	-0.9
	baz=235						
ESL				*e*S	Sn	04 28 32.9	-1.6
	baz=235						
TWS1	**Kuangyinshan**	**0.91**	**315**	⇑*i*P	Pn	04 28 22.4	+0.3
	baz=326						
TWS1				*e*S	Sn	04 28 35.2	+0.3
	baz=326						
TEGC	**Jichi Village**	**0.92**	**216**	*e*P	Pn	04 28 21.0	-1.1
	baz=207						
TWY	**Chenhua**	**0.95**	**330**	*e*P	Pn	04 28 22.5	0.0
	baz=332						
NCU	**National Centr**	**1.00**	**301**	⇑*i*P	Pn	04 28 23.6	+0.4
	baz=303						
NCU				S	Sn	04 28 37.3	+0.5
	baz=303						
NSTT	**Nanjuang**	**1.04**	**280**	⇑*i*P	Pn	04 28 24.1	+0.4
	baz=281						
NSTT				S	Sn	04 28 38.6	+0.8
	baz=281						
HSN	**Hsinchu**	**1.11**	**288**	⇑*i*P	Pn	04 28 24.5	-0.1
	baz=292						
PCYT	**Pengchaiyu**	**1.17**	**357**	⇓*i*P	Pn	04 28 25.8	+0.4
	baz=351						
PCYT				*i* S	Sn	04 28 40.1	-0.6
	baz=351						
EHY	**Hungye**	**1.20**	**218**	⇑*i*P	Pn	04 28 24.5	-1.2
	baz=226						
TWQ1	**Liyutan**	**1.24**	**265**	⇑*i*P	Pn	04 28 26.9	+0.6
	baz=266						
NSY	**Sanyi**	**1.25**	**269**	⇑*i*P	Pn	04 28 27.2	+0.8
	baz=270						
NSY				*e*S	Sn	04 28 43.2	+0.6
	baz=270						
SMLT	**Sun Moon Lake**	**1.26**	**243**	⇑*i*P	Pn	04 28 27.1	+0.4
	baz=238						
SMLT				*e*S	Sn	04 28 43.7	+0.7
	baz=238						
SSLB	**Suanglung**	**1.26**	**239**	*e*Pn	Pn	04 28 26.1	-0.5
SSLB				*e*Sn	Sn	04 28 41.3	-1.6
TYC	**Yuchr**	**1.29**	**245**	⇑*i*P	Pn	04 28 27.3	+0.4
	baz=240						
TYC				*e*S	Sn	04 28 43.5	+0.1
	baz=240						
YULB	**Yu-li**	**1.30**	**216**	*e*Pn	Pn	04 28 25.4	-1.7
TWF1	**Yuli**	**1.34**	**215**	P	Pn	04 28 26.3	-1.3
	baz=224						
TCU	**Taichung**	**1.36**	**257**	⇑*i*P	Pn	04 28 28.7	+0.8
	baz=270						
TCU				*e*S	Sn	04 28 46.3	+1.1
	baz=270						
WNT	**Mingjian**	**1.44**	**247**	P	Pn	04 28 30.0	+1.1
	baz=260						
WNT				*e*S	Sn	04 28 49.1	+2.1
	baz=260						
YUS	**Yu-Shan**	**1.44**	**229**	⇑*i*P	Pn	04 28 29.7	+0.3
	baz=222						
YUS				S	Sn	04 28 47.6	-0.2
	baz=222						
IRIF	**Iriomote-Funau**	**1.46**	**94**	P	Pn	04 28 29.3	+0.1
IRIF				S	Sn	04 28 47.4	-0.1
CHKT	**Chengkung**	**1.52**	**208**	*e*P	Pn	04 28 28.6	-1.4
	baz=198						
ALS	**Alishan**	**1.53**	**233**	*e*P	Pn	04 28 31.1	+0.6
	baz=225						
HATJ	**Hateruma jima**	**1.58**	**104**	P	Pn	04 28 31.6	+0.9
HATJ				S	Sn	04 28 51.2	+0.9
CHN5	**Tsauling**	**1.58**	**238**	⇑*i*P	Pn	04 28 31.9	+1.0
	baz=229						
CHN5				S	Sn	04 28 52.8	+2.3
	baz=229						
WGK	**Gukeng**	**1.63**	**242**	*e*P	Pn	04 28 32.6	+1.2
	baz=243						
WGK				*e*S	Sn	04 28 53.6	+2.2
	baz=243						
JKRS	**Kuro-shima**	**1.73**	**97**	P	Pn	04 28 33.4	+0.7
JKRS				S	Sn	04 28 54.6	+0.8
CHN2	**Minshiung**	**1.77**	**239**	*e*P	Pn	04 28 34.6	+1.2
	baz=231						
CHN2				*e*S	Sn	04 28 57.6	+2.7
	baz=231						
CHN4	**Tsaushan**	**1.79**	**232**	*i* P	Pn	04 28 35.0	+1.4
	baz=233						
CHN4				S	Sn	04 28 57.8	+2.4
	baz=233						
WTCT	**Ta-ch'eng**	**1.79**	**251**	*e*P	Pn	04 28 33.9	+0.3
	baz=263						
WTCT				S	Sn	04 28 55.2	-0.1
	baz=263						
TPUB	**Ta-pu**	**1.79**	**230**	*e*Pn	Pn	04 28 34.3	+0.6
TPUB				*e*Sn	Sn	04 28 54.1	-1.3
STYT	**Tauyuan**	**1.80**	**225**	*i* P	Pn	04 28 34.5	+0.7
	baz=225						
STYT				S	Sn	04 28 57.1	+1.4
	baz=225						
CHY	**Chiayi**	**1.83**	**239**	⇑*i*P	Pn	04 28 35.3	+1.1
	baz=230						
CHY				*e*S	Sn	04 28 58.7	+2.4
	baz=230						
JIJ	**Ishigaki jima**	**1.84**	**92**	P	Pn	04 28 34.2	0.0
JIJ				S	Sn	04 28 55.6	-0.9
WTP	**Ta-pu**	**1.84**	**229**	⇑*i*P	Pn	04 28 35.2	+0.9
	baz=229						
WTP				S	Sn	04 28 58.2	+1.5
	baz=229						
TWG	**Pinlang**	**1.89**	**211**	*e*P	Pn	04 28 33.4	-1.6
	baz=211						
TWG				*e*S	Sn	04 28 54.9	-3.0
	baz=211						
TWG	**Pinlang**	**1.89**	**211**	*e*Pn	Pn	04 28 33.0	-2.1
TWG				*e*Sn	Sn	04 28 55.4	-2.6
TWK	**Hsinying**	**1.91**	**232**	⇑*i*P	Pn	04 28 36.4	+1.1
	baz=233						
TWK				S	Sn	04 29 00.1	+1.6
	baz=233						
TTN	**Taitung**	**1.92**	**208**	*e*P	Pn	04 28 35.0	-0.3
	baz=215						
WSF	**Szhu**	**1.93**	**245**	*i* P	Pn	04 28 36.1	+0.7
	baz=257						
WSF				*e*S	Sn	04 28 59.3	+0.7
	baz=257						
CHN1	**Nanshi**	**1.94**	**230**	P	Pn	04 28 36.6	+1.0
	baz=230						
CHN1				*e*S	Sn	04 29 00.3	+1.3
	baz=230						
SGST	**Jiashian**	**1.97**	**226**	⇑*i*P	Pn	04 28 37.4	+1.4
	baz=227						
SGST				S	Sn	04 29 01.3	+1.6
	baz=227						
JISG	**Ishigakijimahi**	**1.99**	**86**	P	Pn	04 28 36.4	+0.1
JISG				S	Sn	04 28 59.7	-0.5
CHN8	**Yiju**	**2.08**	**238**	*e*P	Pn	04 28 38.3	+0.8
	baz=229						
CHN8				*e*S	Sn	04 29 04.2	+1.9
	baz=229						
CHN3	**Shinhua**	**2.12**	**230**	*e*P	Pn	04 28 39.4	+1.4
	baz=230						
SCLT	**Jiali**	**2.18**	**235**	*e*P	Pn	04 28 40.1	+1.2
	baz=225						
SCLT				*e*S	Sn	04 29 07.0	+2.0
	baz=225						
SSD	**Sandimen**	**2.19**	**219**	*e*P	Pn	04 28 39.8	+0.8
	baz=231						
SSD				*e*S	Sn	04 29 06.6	+1.6
	baz=231						
TAI1	**Yung-k'ang**	**2.24**	**231**	*e*P	Pn	04 28 40.3	+0.6
	baz=231						
TWM1	**Shoushan**	**2.26**	**224**	*e*P	Pn	04 28 42.1	+2.2
	baz=224						
SGLT	**Jiouru**	**2.29**	**222**	*e*P	Pn	04 28 42.6	+2.2
	baz=221						
JTJ	**Tarama**	**2.35**	**85**	P	Pn	04 28 41.9	+0.8
JTJ				*e*S	Sn	04 29 09.4	+0.5
TAW	**Tawu**	**2.38**	**209**	*e*P	Pn	04 28 40.8	-0.7
	baz=208						
LAY	**Lan-yu**	**2.46**	**193**	*e*P	Pn	04 28 40.8	-2.0
	baz=184						
SCZT	**Fangliau**	**2.49**	**214**	*e*P	Pn	04 28 44.5	+1.4
	baz=214						
PNG	**Penghu**	**2.52**	**250**	*i* P	Pn	04 28 42.6	-0.8
	baz=251						
PNG				*e*S	Sn	04 29 11.3	-1.7
	baz=251						
WDGT	**Dungji**	**2.56**	**243**	*e*P	Pn	04 28 43.6	-0.4
	baz=243						
WDGT				*e*S	Sn	04 29 12.7	-1.3
	baz=243						
TWP	**Hsiaoliuchiu**	**2.65**	**218**	*e*P	Pn	04 28 49.4	+4.1
	baz=218						
TWK1	**Hengchun**	**2.78**	**206**	*e*P	Pn	04 28 46.2	-0.9
	baz=199						
TWK1				*e*S	Sn	04 29 18.8	-0.7
	baz=199						
TSEB	**Hengchuen, Pin**	**2.78**	**204**	*e*P	Pn	04 28 46.6	-0.5
	baz=199						
JIRB	**Irabujima**	**2.79**	**82**	P	Pn	04 28 48.1	+0.9
JIKM	**Ikemajima**	**2.87**	**80**	P	Pn	04 28 49.6	+1.3
JIKM				*e*S	Sn	04 29 24.7	+3.0
JOGS	**Gusukube**	**3.00**	**83**	P	Pn	04 28 51.9	+1.9
QZH	**Quanzhou**	**3.26**	**279**	⇓*i*Pn	Pn	04 28 52.6	-0.9
QZH				Sn	Sn	04 29 27.4	-3.7
QZH				SMN			
	480nm,0.4s						
QZH				SME			
	340nm,0.5s						
KNM	**Kinmen**	**3.37**	**270**	⇑*e*P	Pn	04 28 55.9	+0.8
	baz=272						
KNM				*e*S	Sn	04 29 33.2	-0.7
	baz=272						
JKE	**Kume jima 2**	**4.60**	**65**	P	Pn	04 29 13.2	+1.3
JAGN	**Aguni-jima**	**5.08**	**64**	P	Pn	04 29 20.8	+2.3
JNTH	**Nagotoyohara**	**5.71**	**68**	P	Pn	04 29 27.2	+0.2
JOW	**Kunigami**	**6.03**	**66**	P	Pn	04 29 31.4	0.0
JOW	**Kunigami**	**6.03**	**66**	P	Pn	04 29 31.3	-0.2
	1.2nm,0.3s,baz=218,slow=7.3,SNR=28						
JOW				S	Sn	04 30 38.6	-0.5
	0.1nm,0.3s,baz=102,slow=20,SNR=1.4						
JOW	**Kunigami**	**6.03**	**66**	*e*P	Pn	04 29 31.4	0.0
	baz=67						
JOKE	**Okinoerabujima**	**6.48**	**62**	P	Pn	04 29 36.9	-0.7
JTK	**Tokunoshima**	**6.97**	**60**	P	Pn	04 29 43.5	-0.8
JAMN	**Amaminishikomi**	**7.36**	**58**	P	Pn	04 29 48.7	-0.9
KSRS	**Korea Array**	**13.87**	**20**	P	P	04 31 22.3	-2.1
	0.2nm,0.3s,baz=200,slow=13,SNR=8.8						
KSRS				LR	LR	04 36 36.7	
	comp=Z,43nm,18.1s,baz=210,slow=37						
CD2	**Chengdu**	**17.49**	**296**	*e*P	P	04 32 06.0	+1.3
CMAR	**Chiang Mai Arr**	**22.38**	**259**	P	P	04 33 00.1	+2.3
	0.9nm,0.3s,baz=60,slow=7.4,SNR=2.9						
GTA	**Gaotai**	**24.02**	**314**	*e*P	P	04 33 15.4	+1.7
GTA				pP	pP	04 33 18.6	-11
GTA				sP	sP	04 33 21.5	-16
GTA				PMZ			
	3.0nm,1.0s						
SONM	**Songino Array**	**26.47**	**336**	P	P	04 33 35.9	+0.1
	6.0nm,1.0s,baz=151,slow=9.2,SNR=26						
SONM				pP	pP	04 33 54.1	+2.4
	1.4nm,0.9s,baz=152,slow=10.0,SNR=3.1						
MK31	**Makanchi Array**	**38.75**	**315**	*e*P	P	04 35 22.9	+0.2
ZAA0	**Zalesovo Array**	**40.49**	**327**	*e*P	P	04 35 36.1	-1.0
ZALV	**Zalesovo Beam**	**40.49**	**327**	P	P	04 35 36.3	-0.7
	3.4nm,0.4s,baz=115,slow=8.0,SNR=13						
ZALV				LR	LR	04 52 26.1	
	comp=Z,25nm,20.4s,baz=68,slow=36						
H11S3	**WAKE ISLAND Hy**	**41.75**	**89**	T	T	05 21 30.3	
	baz=291,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**41.76**	**89**	T	T	05 21 30.3	
	baz=291						
H11S2	**WAKE ISLAND Hy**	**41.77**	**89**	T	T	05 21 30.3	
	baz=291						
TKM2	**Tokmak 2**	**42.28**	**308**	*e*P	P	04 35 53.2	+1.1
	2.2nm,0.8s						
KURK	**Kurchatov**	**42.44**	**320**	*e*P	P	04 35 52.9	-0.2
	1.8nm,0.3s						
KURBB	**Kurchatov Arra**	**42.46**	**319**	P	P	04 35 53.1	-0.1
	0.7nm,0.4s,baz=106,slow=9.7,SNR=8.9						
WRAB	**Tennant Creek**	**45.70**	**164**	*e*P	P	04 36 18.8	-0.6
	5.4nm,1.0s						
WRA	**Warramunga Arr**	**45.70**	**164**	P	P	04 36 19.3	-0.2
	1.8nm,0.6s,baz=348,slow=9.3,SNR=24						
WRA				pP	pP	04 36 38.5	+2.3
	2.3nm,0.8s,baz=346,slow=8.6,SNR=4.5						
WRA				PcP	PcP	04 37 56.4	-0.1
	0.5nm,0.5s,baz=350,slow=3.9,SNR=6.8						
KBL	**Kabul**	**46.83**	**295**	*e*P	P	04 36 30.1	+1.6
	3.5nm,0.5s						
TIXI	**Tiksi**	**47.38**	**3**	*e*P	P	04 36 30.6	-1.3
	2.1nm,0.4s						
BRVK	**Borovoye**	**48.09**	**320**	*e*P	P	04 36 37.6	-0.1
	3.2nm,0.6s						
ASAR	**Alice Springs**	**49.18**	**166**	P	P	04 36 47.0	+0.6
	0.6nm,0.4s,baz=342,slow=8.2,SNR=9.2						
ASAR				pP	pP	04 37 05.5	+2.2
	1.4nm,0.9s,baz=1.6,slow=7.0,SNR=4.6						
ASAR				PcP	PcP	04 38 08.8	0.0
	0.7nm,0.6s,baz=335,slow=3.3,SNR=5.6						
ABKAR	**Akbulak array**	**53.87**	**314**	*e*P	P	04 37 21.4	+0.2
GEYT	**Alibeck**	**55.41**	**300**	P	P	04 37 33.4	+0.9
	1.8nm,0.3s,baz=108,slow=7.7,SNR=3.5						
STKA	**Stephens Creek**	**59.02**	**161**	P	P	04 37 58.4	+0.5
	3.7nm,0.7s,baz=318,slow=7.3,SNR=5.0						
BPAW	**Bear Paw Mtn.**	**66.95**	**28**	*e*P	P	04 38 47.0	-3.1
	0.3nm,0.7s						
TRF	**Thorofare Moun**	**67.35**	**29**	*e*P	P	04 38 51.2	-1.7
	2.9nm,1.0s						
ILAR	**Eielson Array**	**68.58**	**27**	P	P	04 38 59.5	-0.8
	0.2nm,0.6s,baz=264,slow=5.1,SNR=7.4						
EGAK	**Eagle**	**70.95**	**27**	*e*P	P	04 39 14.7	-0.3
	1.3nm,0.6s						
FINES	**FINESS Array B**	**71.65**	**330**	P	P	04 39 19.0	-0.2
	0.5nm,0.4s,baz=72,slow=5.5,SNR=

FSA	**Cafayete**	**1.76**	**220**	*i* P		**Pn**	04 49 45.1	**+0.4**
FSA				*i* S		**Sn**	04 50 09.4	**+2.2**
AHML	**Horco Molle**	**2.09**	**195**	*i* P		**Pn**	04 49 49.5	**+0.4**
AHML				*i* S		**Sn**	04 50 16.6	**+1.3**
CPUP	**Villa Florida**	**6.88**	**105**	Pn		Pn	04 50 54.2	-0.6
	comp=Z,0.7nm,0.3s,baz=276,slow=11,SNR=14							
CPUP				Pg		**Pb**	04 51 13.5	**-0.1**
	comp=Z,1.5nm,0.3s,baz=279,slow=15,SNR=8.0							
CPUP				Sn	Sn		04 52 08.7	-4.5
	comp=Z,1.6nm,0.3s,baz=230,slow=10.0,SNR=4.4							
CPUP				Lg	Lg		04 52 49.6	
	comp=Z,2.4nm,0.3s,baz=196,slow=20,SNR=2.0							
LPAZ	**La Paz**	**9.00**	**339**	Pn		**Pn**	04 51 24.2	**-0.4**
	comp=Z,0.0nm,0.3s,baz=173,slow=8.1,SNR=4.5							
LPAZ				Sn		**Sn**	04 53 03.1	**-3.2**
	comp=Z,0.1nm,0.3s,baz=170,slow=22,SNR=2.6							
QSPA	**South Pole Qui**	**65.46**	**180**	P		**P**	04 59 57.1	**+0.1**
	comp=Z,1.0nm,0.9s,baz=153,slow=2.3,SNR=4.1							
TORD	**Torodi Ar. Bea**	**74.94**	**68**	P		P	05 00 54.6	-1.1
	comp=Z,1.1nm,0.7s,baz=253,slow=5.9,SNR=17							

GUC 25 04:51:32.4±0.6, 34°29S×72°40W, h3km±5km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.20**	**127**	*eP*	Pg	04 51 54.8	-0.7
NICH				*eS*	Sg	04 52 11.4	+0.3
TALC	**Talca**	**1.28**	**151**	*eP*	Pg	04 51 56.1	-0.8
TALC				*eS*	Sg	04 52 13.7	+0.2
LNCH	**Linares**	**1.69**	**157**	*eP*	Pn	04 52 02.2	-0.6
LNCH				*eS*	Sn	04 52 24.9	-0.1
CLCH	**Cerro Calan**	**1.79**	**61**	*eP*	Pn	04 52 03.8	-0.5
CLCH				*eS*	Sb	04 52 28.4	-0.4
CLCH				AML	AML	04 52 40.8	
	comp=E,889nm,0.7s						
SJCH	**San Jose de Ma**	**1.82**	**70**	*eP*	Pn	04 52 04.8	0.0
SJCH				*eS*	Sn	04 52 28.8	+0.4
PEL	**Peldehue**	**1.83**	**52**	*eP*	Pn	04 52 04.3	-0.5
PEL				*eS*	Sb	04 52 29.4	-0.6
PEL				AML	AML	04 52 40.4	
	comp=E,1μm,0.5s						

GUC 25 04:56:16.5±0.5, 29°34S×70°95W, h63km±5km, ML4.4, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.62**	**204**	*eP*	Pn	04 56 30.2	+0.2
LSCH				*eS*	Sn	04 56 40.6	+0.6
VACH	**Vallenar**	**0.78**	**13**	*eP*	Pn	04 56 32.2	+0.2
VACH				*eS*	Sn	04 56 43.8	+0.5
CPCH	**Copiapo**	**2.04**	**15**	*eP*	Pn	04 56 49.3	+0.6
CPCH				*eS*	Sn	04 57 14.0	+0.9
CDCH	**Caldera**	**2.27**	**3**	*eP*	Pn	04 56 51.8	+0.1
CDCH				*eS*	Sn	04 57 18.8	+0.3
PEL	**Peldehue**	**3.80**	**177**	*eP*	Pn	04 57 12.8	+0.1
PEL				*eS*	Sn	04 57 56.4	+0.2
PEL				AML	AML	04 58 06.1	
	comp=N,294nm,0.7s						
CLCH	**Cerro Calan**	**4.06**	**175**	*eP*	Pn	04 57 16.6	+0.4
CLCH				*eS*	Sn	04 58 03.0	+0.4
CLCH				AML	AML	04 58 18.0	
	comp=E,219nm,1.1s						

BJI ***25*** *04:56:46.5, 61°.90N×147°.70W, h26km, mb5.0/38, mB4.9/29, Ms4.7/17, Ms7 4.3/15*

ISCJB ***25*** *04:56:51.7±0.2, 61°.98N±0°.01×147°.86W±0°.03, h50km±1km, mb4.6/177, MS3.5/21, Error ellipse: s-maj=2.5km s-min=1.8km az=35.5*

MOS ***25*** *04:56:51.1±1.0, 62°.02N×148°.00W, h48km, mb4.9/45, Error ellipse: s-maj=15.0km s-min=5.5km az=92.3*

IDC ***25*** *04:56:52.3±0.4, 61°.95N×148°.03W, h45km±3km, mb4.2/32, mb1 4.4/35, mb1mx4.3/39, mbtmp4.5/35, MS3.5/22, Ms1 3.5/22, ms1mx3.5/34, Error ellipse: s-maj=10.3km s-min=7.0km az=72.0*

NEIC ***25*** *04:56:53.3, 61°.89N×147°.70W, h26km, mb4.6/113, MW4.5, ML4.7(AEIC), Moment Tensor Solution. s26 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.19; $M_{\theta\theta}$-0.42; $M_{\phi\phi}$1.61; $M_{r\theta}$6.17; $M_{\theta\phi}$1.63; $M_{r\phi}$2.70; Best double couple: M_o7.10000×10^{15} NP1:ϕ_s353.00000°,δ16.00000°, λ-161.00000°. NP2:ϕ_s245.00000°,δ85.00000°, λ-75.00000°. Principal axes: T 7.0800, Plg38.0000°, Azm321.0000°; N 0.0000, Plg14.0000°, Azm63.0000°; P -7.0800, Plg47.0000°, Azm170.0000°; After AEIC.*

NEIC Felt [III] at Anchorage, Chugiak, Cordova, Eagle River, Palmer and Valdez; [II] at Fort Richardson and Wasilla. Also felt at Copper Center, Denali National Park, Elmendorf AFB, Girdwood, Glennallen, Moose Pass, Seward, Talkeetna and Willow.

ISC 25 04:56:52.2±0.3, 61°.95N±0°.03×147°.79W±0°.03, h41km±2km, h41km:pP-P, n754, σ1s19/797, mb4.6/176, MS3.6/22, 30C-14D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCM	**Sheep Creek Mo**	**0.25**	**117**	P	**Pn**	04 56 59.2	**-0.9**
SML	**Sawmill**	**0.29**	**242**	P	**Pn**	04 56 60.0	**-0.6**
SML				S	**Sn**	04 57 06.1	**-0.3**
PMR	**Palmer**	**0.73**	**241**	P	**Pn**	04 57 05.6	**-0.4**
PMR				S	**Sn**	04 57 15.9	**-0.1**
JPK	**Jack Peak**	**1.06**	**147**	P	**Pn**	04 57 09.5	**-1.1**
VLZ	**Valdez**	**1.08**	**139**	P	**Pn**	04 57 09.4	**-1.3**
PS11	**TAPS Pump St11**	**1.10**	**82**	P	**Pn**	04 57 11.8	**+0.7**
VMT	**TAPS Tl Valdez**	**1.10**	**141**	P	**Pn**	04 57 09.8	**-1.2**
VMT				S	**Sn**	04 57 24.2	**-0.8**
GLI	**Glacier Island**	**1.12**	**162**	P	**Pn**	04 57 10.7	**-0.7**
DHY	**Denali Highway**	**1.15**	**10**	P	**Pn**	04 57 12.2	**+0.3**
DHY				S	**Sn**	04 57 27.7	**+1.1**
TRAP	**Trapper Creek**	**1.22**	**290**	P	**Pn**	04 57 13.5	**+0.9**
DIV	**Divide**	**1.27**	**129**	P	**Pn**	04 57 12.1	**-1.3**
DIV				S	**Sn**	04 57 29.5	**+0.2**
RC01	**Rabbit Creek A**	**1.27**	**228**	P	**Pn**	04 57 14.1	**+0.7**
RC01				S	**Sn**	04 57 31.5	**+2.3**
HARP	**HAARP**	**1.32**	**68**	P	**Pn**	04 57 14.9	**+0.8**
FIB	**Fire Island**	**1.39**	**237**	P	**Pn**	04 57 16.6	**+1.7**
SUA	**Susitna One**	**1.49**	**252**	P	**Pn**	04 57 17.4	**+0.9**
SUA				S	**Sn**	04 57 37.2	**+2.5**
PAX	**Paxson**	**1.49**	**45**	P	**Pn**	04 57 17.3	**+0.8**
PAX				S	**Sn**	04 57 36.2	**+1.5**
RND	**Reindeer**	**1.54**	**342**	P	**Pn**	04 57 18.4	**+1.1**
VOGL	**Vogel Lake**	**1.59**	**234**	P	Pn	04 57 20.1	+2.3
HIN	**Hinchinbrook I**	**1.68**	**158**	P	**Pn**	04 57 19.4	**+0.4**
WASW	**Wrangell South**	**1.71**	**89**	P	**Pn**	04 57 20.2	**+0.5**
EYAK	**Cordova Ski Ar**	**1.71**	**144**	P	**Pn**	04 57 19.6	**+0.2**
PS10	**TAPS Pump St10**	**1.75**	**31**	P	**Pn**	04 57 21.8	**+1.7**
SKT	**Skwentna**	**1.77**	**273**	P	**Pn**	04 57 21.6	**+1.3**
BMRM	**Bremner River**	**1.82**	**121**	P	**Pn**	04 57 20.5	**-0.5**
SLKM	**Skilak Lake**	**1.86**	**220**	P	**Pn**	04 57 22.2	**+0.7**
MCK	**McKinley**	**1.87**	**344**	P	**Pn**	04 57 23.4	**+1.8**
TRF	**Thorofare Moun**	**1.90**	**324**	P	**Pn**	04 57 23.6	**+1.4**
GLB	**Gilahina Butte**	**1.96**	**103**	P	**Pn**	04 57 23.3	**+0.3**
STLK	**Strandline Lak**	**1.98**	**259**	P	**Pn**	04 57 24.9	**+1.7**
GOAT	**Goat Mountain**	**2.02**	**131**	P	**Pn**	04 57 23.9	**+0.2**
SEW	**Seward**	**2.02**	**204**	P	**Pn**	04 57 23.6	**0.0**
MENT	**Mentasta**	**2.14**	**60**	*e*Pn	**Pn**	04 57 26.3	**+0.9**
MENT				*e*Sn	**Sn**	04 57 52.0	**+1.3**
RAGM	**Ragged Mountai**	**2.17**	**135**	P	**Pn**	04 57 26.0	**+0.2**
VRDI	**Verde Repeater**	**2.20**	**107**	P	**Pn**	04 57 26.3	**0.0**
CKN	**Chakachatna No**	**2.22**	**253**	P	Pn	04 57 28.6	+2.1
RIDG	**Independ'e Rid**	**2.25**	**36**	P	**Pn**	04 57 28.8	**+1.9**
SPBG	**Spurr Blockage**	**2.29**	**255**	P	**Pn**	04 57 29.1	**+1.6**
CKL	**Chakachamna La**	**2.30**	**253**	P	**Pn**	04 57 29.1	**+1.4**
BGL	**Barrier Glacie**	**2.30**	**255**	P	Pn	04 57 29.6	+1.9
MCARA	**McCarthy VSAT**	**2.34**	**102**	P	**Pn**	04 57 28.8	**+0.7**
BWN	**Browne**	**2.36**	**342**	P	**Pn**	04 57 29.9	**+1.5**
HDA	**Harding Lake**	**2.50**	**8**	P	**Pn**	04 57 32.4	**+2.2**
BERG	**Berg Lake**	**2.52**	**126**	P	**Pn**	04 57 30.4	**-0.1**
NICHA	**Nichawak Mount**	**2.53**	**131**	P	**Pn**	04 57 30.5	**-0.2**
WRH	**Wood River Hil**	**2.54**	**357**	P	**Pn**	04 57 32.2	**+1.4**
BPAW	**Bear Paw Mtn.**	**2.61**	**327**	P	**Pn**	04 57 33.1	**+1.3**
KAIM	**Kayak Island**	**2.61**	**139**	P	**Pn**	04 57 31.9	**+0.1**
MID	**Middleton Isla**	**2.63**	**164**	P	**Pn**	04 57 31.9	**-0.1**
PS08	**TAPS Pump Stn8**	**2.64**	**9**	P	**Pn**	04 57 34.0	**+1.8**
PTPK	**Patty Peak**	**2.66**	**104**	P	**Pn**	04 57 33.3	**+0.6**
BRLK	**Bradley Lake**	**2.66**	**216**	P	**Pn**	04 57 33.5	**+0.9**
KHIT	**Khitrov Hills**	**2.67**	**122**	P	**Pn**	04 57 32.5	**-0.2**
TGL	**Tana Glacier**	**2.67**	**114**	P	**Pn**	04 57 32.9	**+0.1**
CCB	**Clear Creek Bu**	**2.71**	**360**	P	**Pn**	04 57 34.6	**+1.5**
SUCK	**Suckling Hills**	**2.71**	**132**	P	**Pn**	04 57 33.3	**+0.1**
DFR	**Drift River**	**2.73**	**242**	P	**Pn**	04 57 34.9	**+1.4**
GRIN	**Grindle Hills**	**2.74**	**126**	P	**Pn**	04 57 34.0	**+0.4**
BALM	**Baldy**	**2.77**	**107**	P	**Pn**	04 57 34.2	**+0.1**
RDN	**Redoubt North**	**2.80**	**241**	P	**Pn**	04 57 35.7	**+1.2**
RSO	**Redoubt South**	**2.83**	**240**	P	**Pn**	04 57 36.1	**+1.1**
NCT	**North Crescent**	**2.85**	**243**	P	**Pn**	04 57 36.4	**+1.3**
IL1	**Eielson Array**	**2.87**	**8**	P	**Pn**	04 57 36.7	**+1.4**
ILAR	**Eielson Array**	**2.87**	**8**	P	**Pn**	04 57 36.5	**+1.3**
	125nm,0.3s,baz=189,slow=13,SNR=2551						
ILAR				S	**Sn**	04 58 10.6	**+2.1**
	349nm,0.3s,baz=188,slow=22,SNR=20						
ILAR				LR	LR	04 59 01.5	
	comp=Z,1μm,21.9s,baz=159,slow=45						
ILAR	**Eielson Array**	**2.87**	**8**	P	**Pn**	04 57 36.6	**+1.3**
ILAR				S	**Sn**	04 58 10.6	**+2.1**
ILAR				pmax	pmax		
	comp=Z,125nm,0.3s						
ILAR				smax	smax		
	comp=N,349nm,0.3s						
ILAR				MLR	MLR		
	comp=Z,1μm,21.9s						
ILB	**Eielson Array**	**2.87**	**8**	P	**Pn**	04 57 36.7	**+1.4**
COLA	**College**	**2.94**	**359**	*c* *i*P	**Pn**	04 57 37.9	**+1.6**
COLA	**College**	**2.94**	**359**	P	**Pn**	04 57 37.8	**+1.5**
I53US	**FAIRBANKS INFR**	**2.94**	**359**	P	**Pn**	04 57 38.0	**+1.7**
	baz=182,slow=25,SNR=0.8						
I53US				S	**Sn**	04 58 13.0	**+2.7**
	baz=191,slow=28						
ISLE	**Juniper Island**	**2.96**	**115**	P	**Pn**	04 57 36.3	**-0.3**
KULT	**Kultieth River**	**2.99**	**122**	P	**Pn**	04 57 36.9	**-0.2**
BARK	**Barkley Ridge**	**3.00**	**119**	P	**Pn**	04 57 37.5	**+0.3**
BCA3	**Beaver Creek A**	**3.00**	**65**	P	**Pn**	04 57 38.4	**+1.1**
MDM	**Murphy Dome**	**3.03**	**356**	P	**Pn**	04 57 39.1	**+1.5**
BARN	**Barnard Glacie**	**3.07**	**104**	P	**Pn**	04 57 38.9	**+0.6**
BAGL	**Bagley Icefiel**	**3.12**	**115**	P	**Pn**	04 57 38.8	**0.0**
ILIM	**Iliamna**	**3.14**	**236**	P	**Pn**	04 57 40.4	**+1.3**
CTGM	**Chitina Glacie**	**3.25**	**105**	P	**Pn**	04 57 41.3	**+0.5**
YAH	**Yahtse**	**3.33**	**116**	P	**Pn**	04 57 41.8	**-0.1**
MESA	**MESA**	**3.35**	**119**	P	**Pn**	04 57 42.1	**0.0**
MLY	**Manley**	**3.37**	**338**	P	**Pn**	04 57 43.8	**+1.6**
OPT	**Oil Point**	**3.52**	**232**	P	**Pn**	04 57 45.9	**+1.6**
RKAV	**Rock Avalanche**	**3.54**	**115**	P	**Pn**	04 57 44.8	**+0.1**
CHX	**Chaix Hills**	**3.76**	**117**	P	**Pn**	04 57 48.2	**+0.6**
AUL	**Augustine Lava**	**3.79**	**230**	P	**Pn**	04 57 49.9	**+2.0**
AUH	**Augustine H**	**3.80**	**230**	P	**Pn**	04 57 50.0	**+1.8**
AUI	**Augustine Isla**	**3.82**	**229**	P	**Pn**	04 57 49.7	**+1.3**
TT01	**Tatalina**	**3.95**	**288**	P	**Pn**	04 57 50.6	**+0.5**
PS06	**TAPS Pump Stn6**	**4.02**	**349**	P	**Pn**	04 57 52.8	**+1.7**
EGAK	**Eagle**	**4.12**	**44**	P	**Pn**	04 57 54.0	**+1.5**
MCNL	**McNeil River**	**4.25**	**232**	P	**Pn**	04 57 54.9	**+0.5**
DAWY	**Dawson**	**4.38**	**57**	P	**Pn**	04 57 57.4	**+1.3**
FYU	**Fort Yukon**	**4.77**	**12**	P	**Pn**	04 58 02.7	**+1.3**
KDAK	**Kodiak Island**	**4.82**	**212**	*c* *i*P	Pn	04 58 09.6	+7.5
KDAK	**Kodiak Island**	**4.82**	**212**	P	**Pn**	04 58 02.5	**+0.4**
IM3	**Indian Mountai**	**4.83**	**330**	P	**Pn**	04 58 03.5	**+1.4**
IM04	**Indian Mountai**	**4.83**	**329**	*e*Pn	**Pn**	04 58 03.7	**+1.5**
IM04				*e*Sn	**Sn**	04 58 55.7	**-1.1**
PS05	**TAPS Pump Stn5**	**5.04**	**347**	P	**Pn**	04 58 07.2	**+2.1**
HYT	**Haines Junctio**	**5.07**	**98**	P	**Pn**	04 58 05.9	**+0.2**
KAKN	**Katmai Knife C**	**5.16**	**228**	P	**Pn**	04 58 06.9	**0.0**
KVTA	**Katmai Vly 10**	**5.18**	**230**	P	**Pn**	04 58 07.4	**+0.4**
KBM	**Katmai Bkd Mtn**	**5.22**	**228**	P	**Pn**	04 58 08.1	**+0.4**
KCE	**Katmai Mt Cerb**	**5.24**	**228**	P	**Pn**	04 58 08.6	**+0.7**
KABR	**Katmai Barrier**	**5.25**	**226**	P	**Pn**	04 58 08.2	**+0.1**
KELA	**Mount Kelaz**	**5.30**	**232**	P	**Pn**	04 58 09.3	**+0.6**
COLD	**Coldfoot**	**5.40**	**350**	P	**Pn**	04 58 11.9	**+1.8**
OHAK	**Old Harbor**	**5.50**	**213**	P	**Pn**	04 58 10.5	**-0.9**
BM3	**Burnt Mountain**	**5.66**	**13**	P	**Pn**	04 58 14.7	**+1.0**
BESE	**Bessie Mountai**	**7.26**	**112**	P	**Pn**	04 58 35.9	**+0.2**
SIT	**Sitka**	**8.01**	**122**	P	**Pn**	04 58 45.3	**-0.5**
VNHG	**Veniaminof 1**	**8.19**	**231**	P	**Pn**	04 58 48.9	**+0.4**
INK	**Inuvik**	**8.75**	**37**	P	**Pn**	04 58 55.9	**+0.1**
	comp=Z,2.9nm,0.3s,baz=238,slow=15,SNR=25						
INK				S	**Sn**	05 00 30.6	**-2.4**
	comp=Z,4.7nm,0.3s,baz=173,slow=27,SNR=2.8						
INK				Lg	Lg	05 01 23.7	
	baz=237,slow=3.3,SNR=4.7						
INK				LR	LR	05 02 43.7	
	comp=Z,355nm,18.1s,baz=228,slow=40						
INK	**Inuvik**	**8.75**	**37**	P	**Pn**	04 58 55.9	**+0.1**
INK				S	**Sn**	05 00 30.6	**-2.4**
INK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
INK				smax	smax		
	comp=N,5.0nm,0.3s						
INK				MLR	MLR		
	comp=Z,355nm,18.1s						
DLBC	**Dease Lake**	**9.51**	**104**	P	**Pn**	04 59 06.5	**0.0**
	comp=Z,0.9nm,0.3s,baz=289,slow=13,SNR=16						
DLBC				Lg	Lg	05 01 44.0	
	comp=Z,0.5nm,0.3s,baz=27,slow=24,SNR=4.0						
DLBC				LR	LR	05 02 51.5	
	comp=Z,619nm,21.4s,baz=260,slow=37						
DLBC	**Dease Lake**	**9.51**	**104**	P	**Pn**	04 59 05.5	**-0.9**
WRAK	**Wrangell Islan**	**9.65**	**118**	P	**Pn**	04 59 08.2	**-0.1**
GAMB	**Gambell**	**11.05**	**290**	*e*Pn	**Pn**	04 59 28.7	**+1.4**
BBB	**Bella Bella**	**14.43**	**124**	P	**Pn**	05 00 12.7	**-0.7**
	comp=Z,0.9nm,0.3s,baz=317,slow=11,SNR=15						
YKW3	**Yellowknife Ar**	**15.37**	**73**	*e*Pn	**Pn**	05 00 25.9	**+0.1**
	comp=Z,0.2nm,0.8s						
YKA	**Yellowknife Ar**	**15.39**	**73**	P	**Pn**	05 00 25.0	**-1.0**
	comp=Z,0.1nm,0.3s,baz=285,slow=12,SNR=6.0						
YKA				Lg	Lg	05 04 52.8	
	baz=280,slow=26,SNR=3.6						
NLWA	**Neilton Lookou**	**19.92**	**126**	*e*P	Pn	05 01 22.2	+0.1
	comp=Z,31nm,1.0s						
BILL	**Bilibino**	**19.92**	**308**	*c* *i*P	**P**	05 01 19.4	**-0.6**
BILL				pmax	pmax		
	comp=Z,51nm,1.7s						
BILL				MLR	MLR		
	comp=Z,223nm,23.0s						
BILL	**Bilibino**	**19.92**	**308**	*e*P	**P**	05 01 19.2	**-0.7**
	comp=Z,22nm,0.6s						
JCW	**Jim Creek**	**20.03**	**122**	P	Pn	05 01 23.4	+0.1
EDM	**Edmonton**	**20.19**	**100**	*e*P	**P**	05 01 23.4	**+0.4**
BMW	**Boistfort Moun**	**20.93**	**126**	P	**P**	05 01 33.0	**+1.9**
B08A	**Colville Reser**	**20.97**	**117**	*e*P	**P**	05 01 33.0	**+1.6**
WTV	**Waterville**	**21.23**	**119**	P	**P**	05 01 35.9	**+1.6**
LON	**Longmire**	**21.25**	**124**	*e*P	**P**	05 01 36.8	**+2.4**
	comp=Z,18nm,1.0s						
TDL	**Tradedollar La**	**21.42**	**125**	P	**P**	05 01 38.5	**+2.1**
SAW	**Saint Andrews**	**21.45**	**119**	P	**P**	05 01 38.1	**+1.5**
NAC	**Naches**	**21.65**	**122**	P	**P**	05 01 40.7	**+2.0**
G03D	**McMinnville, O**	**21.98**	**128**	P	**P**	05 01 44.8	**+2.6**
	baz=22						
NEW	**Newport**	**21.98**	**114**	P	**P**	05 01 43.2	**+0.9**
	comp=Z,37nm,1.2s,baz=323,slow=9.2,SNR=22						
NEW	**Newport**	**21.98**	**114**	P	**P**	05 01 43.2	**+0.9**
NEW				pmax	pmax		
	comp=Z,37nm,1.2s						
NEW	**Newport**	**21.98**	**114**	P	**P**	05 01 44.0	**+1.7**
	baz=22						
NEW	**Newport**	**21.98**	**114**	*e*P	**P**	05 01 43.0	**+0.7**
	comp=Z,33nm,1.1s						
OD2	**Odessa Site #2**	**21.99**	**118**	P	**P**	05 01 43.5	**+1.2**
D08A	**Wollman Farm,**	**22.16**	**119**	*e*P	**P**	05 01 45.6	**+1.4**
RES	**Resolute Bay**	**22.29**	**34**	P	**P**	05 01 44.3	**-1.0**
	comp=Z,5.4nm,0.6s,baz=241,slow=14,SNR=18						
RES				LR	LR	05 10 53.5	
	comp=Z,73nm,21.1s,baz=339,slow=38						
RES	**Resolute Bay**	**22.29**	**34**	P	**P**	05 01 44.3	**-1.0**
RES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
RES				MLR	MLR		
	comp=Z,73nm,21.1s						
RES	**Resolute Bay**	**22.29**	**34**	*e*P	**P**	05 01 44.6	**-0.7**
	comp=Z,12nm,0.8s						
VFP	**Flag Point**	**22.57**	**125**	P	**P**	05 01 50.3	**+1.5**
WALA	**Waterton Lakes**	**22.80**	**109**	*e*P	**P**	05 01 51.3	**+0.2**
	comp=Z,24nm,1.1s						
I03D	**Drain, OR**	**23.25**	**131**	P	**P**	05 01 57.2	**+1.7**
	baz=23						
BSMT	**Bassoo Peak**	**23.31**	**112**	*e*P	**P**	05 01 56.8	**+0.4**
	comp=Z,3.2nm,0.8s						
BLMT	**Blacktail Moun**	**23.38**	**111**	*e*P	**P**	05 01 58.1	**+1.1**
I04A	**Tendick Farm,**	**23.51**	**129**	P	**P**	05 01 59.3	**+1.2**
	baz=23						
G08A	**Pilot Rock**	**23.58**	**122**	*e*P	**P**	05 02 01.0	**+2.1**
JTMT	**Jette**	**23.61**	**112**	*e*P	**P**	05 02 00.0	**+0.9**
YBMT	**Yellow Bay**	**23.64**	**111**	*e*P	**P**	05 02 00.0	**+0.6**
	comp=Z,10nm,0.9s						
SWMT	**Swartz Lake**	**23.92**	**112**	*e*P	**P**	05 02 02.2	**+0.2**
	comp=Z,12nm,1.0s						
J04D	**Umppqua Nationa**	**24.09**	**129**	P	**P**	05 02 04.9	**+1.1**
	baz=24						
HUMO	**Hull Mountain**	**24.34**	**131**	*e*P	**P**	05 02 06.9	**+1.0**
	comp=Z,11nm,0.8s						
SLMT	**Seeley Lake**	**24.34**	**111**	*e*P	**P**	05 02 06.9	**+0.9**
	comp=Z,11nm,1.0s						
J05D	**Fort Rock, OR**	**24.38**	**128**	P	**P**	05 02 07.8	**+1.5**
	baz=24,SNR=10						
MSO	**Missoula**	**24.46**	**113**	P	**P**	05 02 07.8	**+0.8**
	baz=24,SNR=12						
MSO	**Missoula**	**24.46**	**113**	*e*P	**P**	05 02 07.3	**+0.3**
	comp=Z,8.9nm,0.8s						
L02D	**Cave Junction,**	**24.51**	**133**	P	**P**	05 02 09.4	**+2.1**
	baz=24						
BMO	**Blue Mountains**	**24.61**	**120**	*e*P	**P**	05 02 08.8	**+0.5**
	comp=Z,11nm,0.9s						
FFC	**Flin Flon**	**24.64**	**86**	*e*P	**P**	05 02 08.0	**-0.4**
	comp=Z,4.5nm,0.8s						
CHMT	**Chamberlain Mo**	**24.70**	**112**	*e*P	**P**	05 02 09.3	**0.0**
	comp=Z,6.7nm,0.9s						
K05A	**Summer Lake**	**24.99**	**128**	*e*P	**P**	05 02 14.0	**+2.1**
YBH	**Yreka Blue Hor**	**25.20**	**132**	P	**P**	05 02 15.6	**+1.9**
	comp=Z,11nm,0.9s,baz=335,slow=3.4,SNR=20						
YBH	**Yreka Blue Hor**	**25.20**	**132**	P	**P**	05 02 15.6	**+1.9**
YBH				pmax	pmax		
	comp=Z,11nm,0.9s						
YBH	**Yreka Blue Hor**	**25.20**	**132**	*e*P	**P**	05 02 15.8	**+2.1**
	comp=Z,12nm,0.9s						
A19A	**Klindworth Far**	**25.24**	**103**	P	**P**	05 02 15.2	**+1.2**
	baz=25						
EGMT	**Eagleton**	**25.43**	**106**	P	**P**	05 02 16.0	**+0.2**
	baz=25,SNR=6.6						
EGMT	**Eagleton**	**25.43**	**106**	*e*P	**P**	05 02 15.7	**-0.1**
	comp=Z,13nm,0.8s						
M02C	**Callahan**	**25.45**	**132**	P	**P**	05 02 17.1	**+1.2**
	baz=25						
M04C	**Macdoel**	**25.46**	**130**	P	**P**	05 02 17.7	**+1.6**
	baz=25						
B19A	**Brinkman Farms**	**25.49**	**104**	P	**P**	05 02 17.8	**+1.6**
	baz=25						
KHMM	**Horse Mountain**	**25.61**	**134**	*e*P	P	05 02 22.8	+5.4
	comp=Z,34nm,1.3s						
N02D	**Trinity Center**	**25.87**	**133**	P	**P**	05 02 21.4	**+1.7**
	baz=26						
LRM	**Limekiln Ridge**	**25.90**	**112**	*e*P	**P**	05 02 20.5	**+0.3**
	comp=Z,138nm,1.4s						
MOD	**Modoc Plateau**	**25.92**	**128**	*e*P	**P**	05 02 24.5	**+4.2**
	comp=Z,5.8nm,0.6s						
A21A	**Bergtoll Ranch**	**26.04**	**101**	P	**P**	05 02 22.8	**+1.6**
	baz=26						
WVOR	**Wild Horse Val**	**26.10**	**125**	*e*P	**P**	05 02 23.0	**+1.1**
	comp=Z,6.9nm,1.0s						
FCC	**Fort Churchill**	**26.11**	**73**	*e*P	**P**	05 02 21.1	**-0.6**
DLMT	**Dillon**	**26.19**	**113**	*e*P	**P**	05 02 23.6	**+0.9**
	comp=Z,10nm,1.0s						
WDC	**Whiskeytown Da**	**26.27**	**133**	*e*P	**P**	05 02 25.3	**+1.9**
	comp=Z,17nm,1.0s						
BOZ	**Bozeman (W)**	**26.39**	**111**	P	**P**	05 02 25.6	**+1.0**
	baz=26,SNR=9.3						
BOZ	**Bozeman (W)**	**26.39**	**111**	*e*P	**P**	05 02 25.6	**+1.0**
	comp=Z,28nm,2.1s						
MFID	**Camas Ranch**	**26.40**	**120**	*e*P	**P**	05 02 24.8	**+0.3**

NVAR pP **pP** 05 03 07.4 +2.0
comp=Z,4.5nm,0.8s,baz=308,slow=8.9,SNR=15
PETK Petropavlovsk- 29.71 278 P **P** 05 02 52.8 -1.1
comp=Z,9.9nm,1.0s,baz=88,slow=10,SNR=2.9
PETK LR LR 05 16 05.6
comp=Z,48nm,19.2s,baz=71,slow=39
PETK Petropavlovsk- 29.71 278 P **P** 05 02 52.8 -1.1
PETK pmax pmax
comp=Z,10.0nm,1.0s
PETK MLR MLR
comp=Z,48nm,19.2s
I21A Big Trails, Te 29.75 109 P **P** 05 02 55.4 +0.9
baz=30,SNR=5.8
J20A Shoshoni 29.76 110 P **P** 05 02 56.2 +1.5
baz=30
F25A Bowman 29.88 102 P **P** 05 02 56.9 +1.3
baz=30
G24A Alzada 29.89 104 P **P** 05 02 56.7 +1.0
baz=30
E26A Carlson Angus 29.94 100 P **P** 05 02 57.5 +1.4
baz=30
J21A Lysite 30.05 109 P **P** 05 02 58.5 +1.2
baz=30,SNR=12
I22A 9 Mile Ranch, 30.05 108 P **P** 05 02 58.2 +1.0
baz=30,SNR=9.8
H24A Dirks Ranch, A 30.27 104 P **P** 05 03 00.2 +1.2
baz=30
F26A Lodgepole 30.30 101 P **P** 05 03 00.7 +1.4
baz=30,SNR=5.2
DUG Dugway, Tooele 30.32 120 P **P** 05 03 00.8 +1.2
baz=30,SNR=8.6
DUG Dugway, Tooele 30.32 120 *e*P **P** 05 03 00.8 +1.2
comp=Z,4.9nm,0.8s
CTU Camp Tracy 30.35 118 *e*P **P** 05 03 01.3 +1.5
comp=Z,15nm,1.3s
ULM Lac du Bonnet 30.36 88 P **P** 05 03 00.6 +0.9
comp=Z,2.0nm,0.7s,baz=289,slow=6.2,SNR=2.9
ULM LR LR 05 16 09.0
comp=Z,103nm,18.8s,baz=69,slow=38
ULM Lac du Bonnet 30.36 88 P **P** 05 03 00.6 +0.9
ULM pmax pmax
comp=Z,2.0nm,0.7s
ULM MLR MLR
comp=Z,103nm,18.8s
E27A Carson 30.39 99 P **P** 05 03 01.4 +1.5
baz=30
TPH Tonopah 30.41 128 *e*P **P** 05 03 01.6 +1.2
comp=Z,3.6nm,0.8s
J22A Midwest 30.43 108 P **P** 05 03 01.9 +1.4
baz=30
B30A Myrvik Farm, E 30.45 93 P **P** 05 03 01.1 +0.6
baz=30
G25A Newell 30.45 103 P **P** 05 03 02.2 +1.6
baz=30
JLU Jordanelle 30.55 117 *e*P **P** 05 03 03.6 +1.9
comp=Z,5.5nm,1.1s
F27A Lemmon 30.59 100 P **P** 05 03 03.0 +1.2
baz=30
G26A Maurine 30.75 102 P **P** 05 03 04.2 +0.9
baz=31
R11A Troy Canyon, C 30.80 125 P **P** 05 03 05.2 +1.3
baz=31,SNR=9.7
R11A Troy Canyon, C 30.80 125 *e*P **P** 05 03 05.1 +1.3
comp=Z,4.2nm,0.9s
I24A Kuemmerle Ranc 30.92 106 P **P** 05 03 06.2 +1.4
baz=31
RSSD Black Hills 30.99 105 *e*P **P** 05 03 06.5 +1.0
comp=Z,5.0nm,0.6s
G27A Dupree 31.00 101 P **P** 05 03 06.6 +1.2
baz=31
K22A Casper 31.02 109 P **P** 05 03 06.8 +1.1
baz=31,SNR=6.6
K22A Casper 31.02 109 *e*P **P** 05 03 06.3 +0.6
comp=Z,11nm,0.9s
H26A Fairpoint 31.19 103 P **P** 05 03 08.1 +1.1
baz=31,SNR=6.0
J24A Dixon Ranch, L 31.32 106 P **P** 05 03 09.5 +1.1
baz=31
K23A Bowen Ranch, D 31.34 108 P **P** 05 03 09.8 +1.2
baz=31
TIXI Tiksi 31.44 323 ⇑*i*P **P** 05 03 07.7 -1.2
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 31.44 323 *e*P **P** 05 03 07.9 -1.0
comp=Z,3.9nm,0.6s
H27A Howes 31.50 102 P **P** 05 03 10.7 +1.0
baz=31
AGMN Agassiz Nation 31.72 91 P **P** 05 03 12.1 +0.5
baz=32
AGMN Agassiz Nation 31.72 91 *e*P **P** 05 03 11.1 -0.6
comp=Z,16nm,1.6s
TPNV Topopah Spring 31.77 127 P **P** 05 03 13.8 +1.4
baz=32
DAC Darwin (Calif) 31.86 130 *e*P **P** 05 03 15.2 +2.0
comp=Z,4.3nm,1.0s
I27A Quinn 31.94 103 P **P** 05 03 14.4 +0.7
baz=32
MVU Marysvale 32.00 121 *e*P **P** 05 03 16.0 +1.5
comp=Z,15nm,1.0s
MSU Marysvale 32.01 120 *e*P **P** 05 03 16.0 +1.5
J26A Sides Ranch, S 32.05 105 P **P** 05 03 16.8 +2.0
baz=32
MPMC Manual Prospec 32.10 130 P **P** 05 03 17.2 +2.0
baz=32
ISA Isabella, Lake 32.10 131 *e*P **P** 05 03 16.5 +1.4
comp=Z,6.9nm,0.9s
SRU San Rafael Swe 32.19 118 *e*P **P** 05 03 17.4 +1.4
comp=Z,19nm,1.0s
K25A Mack Ranch, Ha 32.24 106 P **P** 05 03 17.4 +1.0
baz=32
O20A White River Ci 32.30 114 P **P** 05 03 18.3 +1.2
baz=32,SNR=8.2
O20A White River Ci 32.30 114 *e*P **P** 05 03 17.6 +0.6
comp=Z,16nm,1.3s
CCUT Cedar City 32.36 123 *e*P **P** 05 03 19.0 +1.4
comp=Z,7.1nm,0.8s
H29A Onida 32.37 100 P **P** 05 03 18.5 +1.1
baz=32
SHPR Sheep Range 32.57 126 *e*P **P** 05 03 20.6 +1.2
comp=Z,1.5nm,0.9s
N23A Red Feather La 32.69 111 P **P** 05 03 21.1 +0.6
baz=32
I29A Vivian Onida 32.78 101 P **P** 05 03 22.0 +0.9
baz=33
J28A Allard Ranch, 32.81 103 P **P** 05 03 22.5 +1.2
baz=33
K27A Flueckinger Fa 32.91 104 P **P** 05 03 22.9 +0.6
baz=33
GSC Goldstone, Bar 33.02 129 P **P** 05 03 24.7 +1.4
baz=33
GSC Goldstone, Bar 33.02 129 *e*P **P** 05 03 24.4 +1.1
comp=Z,16nm,1.4s
GSC *e*pP **pP** 05 03 36.9 +2.3
M25A Palm-Egli Farm 33.09 108 P **P** 05 03 25.3 +1.3
baz=33
J29A Okreek 33.25 102 P **P** 05 03 25.8 +0.7
baz=33
PV04 Paradox Valley 33.47 117 *e*P **P** 05 03 28.6 +1.4
ISCO Idaho Springs 33.72 111 P **P** 05 03 30.4 +0.8
baz=34
ISCO Idaho Springs 33.72 111 *e*P **P** 05 03 30.6 +1.0
comp=Z,3.4nm,0.9s
K29A Lazy Trails An 33.75 102 P **P** 05 03 30.7 +1.2
baz=34
PV01 Paradox Valley 33.83 116 *e*P **P** 05 03 31.1 +0.6
LDFC Landfair 33.85 127 *e*P **P** 05 03 31.7 +1.2
comp=Z,13nm,0.9s
GMRC Granite Mounta 33.91 128 P **P** 05 03 32.1 +1.1
baz=34
EYMN Ely 34.03 88 P **P** 05 03 31.9 0.0
baz=34
EYMN Ely 34.03 88 *e*P **P** 05 03 31.7 -0.2
comp=Z,11nm,1.1s
K30A Basset 34.15 102 P **P** 05 03 33.5 +0.5
baz=34
BELC Belle Mtn. Jos 34.48 129 P **P** 05 03 37.8 +1.8
baz=34
Q24A Divide 34.62 112 P **P** 05 03 38.5 +1.2
baz=34
MVCO Mesa Verde 34.64 117 P **P** 05 03 38.5 +1.0
baz=34
MVCO Mesa Verde 34.64 117 *e*P **P** 05 03 38.0 +0.5
comp=Z,4.9nm,0.8s
IRM Iron Mountain 34.65 128 P **P** 05 03 38.5 +1.2
baz=34
L30A Spencer Herefo 34.66 103 P **P** 05 03 38.3 +0.9
baz=34
PFO Pinyon Flats O 34.67 130 P **P** 05 03 38.6 +1.0
baz=34
PFO Pinyon Flats O 34.67 130 *e*P **P** 05 03 39.0 +1.4
comp=Z,6.9nm,1.1s
ECSD EROS Data Cent 34.73 98 P **P** 05 03 38.6 +0.7
baz=35
ECSD EROS Data Cent 34.73 98 *e*P **P** 05 03 37.4 -0.5
comp=Z,10nm,1.5s
O27A Beecher Island 34.80 107 P **P** 05 03 40.2 +1.5
baz=35
N28A Pribbeno Ranch 34.83 106 P **P** 05 03 40.3 +1.4
baz=35
S22A 4UR Ranch, Cre 34.90 115 P **P** 05 03 41.4 +1.6
baz=35,SNR=11
PDMCI Parker Dam,Lak 34.91 127 P **P** 05 03 41.2 +1.8
baz=35
WUAZ Wupatki 34.91 122 P **P** 05 03 41.7 +1.9
baz=35,SNR=16
WUAZ Wupatki 34.91 122 *e*P **P** 05 03 41.7 +1.9
comp=Z,22nm,1.0s
P26A Davis Ranch, A 34.92 109 P **P** 05 03 41.3 +1.5
baz=35
BC3 Big Chuckawall 34.99 129 P **P** 05 03 41.8 +1.4
baz=35
Y12C Blythe 35.25 128 P **P** 05 03 44.3 +1.8
baz=35
P27A Ficken Ranch, 35.27 108 P **P** 05 03 44.0 +1.3
baz=35
MONP Monument Peak, 35.33 131 P **P** 05 03 44.6 +1.2
baz=35
Q26A Hugo 35.37 110 P **P** 05 03 44.8 +1.1
baz=35
SPMN Marine on St. 35.40 92 P **P** 05 03 44.4 +0.8
baz=35
SPMN Marine on St. 35.40 92 *e*P **P** 05 03 44.5 +0.8
comp=Z,8.3nm,0.8s
SDCO Great Sand Dun 35.47 113 P **P** 05 03 46.2 +1.5
baz=35,SNR=13
SDCO Great Sand Dun 35.47 113 *e*P **P** 05 03 46.1 +1.4
comp=Z,7.0nm,1.0s
P28A Saint Francis 35.63 107 P **P** 05 03 47.1 +1.3
baz=36
KSCO Kaye Shedlock' 35.70 109 P **P** 05 03 48.0 +1.6
baz=36
KSCO Kaye Shedlock' 35.70 109 *e*P **P** 05 03 48.0 +1.6
comp=Z,22nm,1.2s
GLA Glamis 35.76 129 P **P** 05 03 48.7 +1.8
baz=36
GLA Glamis 35.76 129 *e*P **P** 05 03 48.5 +1.6
comp=Z,5.3nm,0.7s
R26A Arlington 35.91 110 P **P** 05 03 49.3 +1.0
baz=36
W18A Petrified Fore 35.92 121 P **P** 05 03 50.0 +1.6
baz=36,SNR=7.8
W18A Petrified Fore 35.92 121 *e*P **P** 05 03 49.9 +1.5
comp=Z,25nm,1.2s
Q28A Sharon Springs 36.01 108 P **P** 05 03 50.5 +1.4
baz=36
R27A Eads 36.21 110 P **P** 05 03 51.7 +0.9
baz=36
N32A Stulken Farm, 36.26 102 P **P** 05 03 52.1 +1.1
baz=36
YAK Yakutsk 36.28 308 *e*P **P** 05 03 49.2 -1.8
YAK pmax pmax
comp=Z,31nm,1.0s
YAK pmax pmax
comp=E,13nm,1.5s
YAK pmax pmax
comp=N,7.0nm,1.4s
T25A Trinidad 36.45 113 P **P** 05 03 54.2 +1.2
baz=36
Q29A Oakley 36.53 107 P **P** 05 03 54.8 +1.3
baz=36
R28A Tribune 36.61 109 P **P** 05 03 55.4 +1.2
baz=36
T26A Comanche Natio 36.78 112 P **P** 05 03 56.9 +1.1
baz=37
R29A Marienthal 36.84 108 P **P** 05 03 57.3 +1.2
baz=37
P32A Huiting Farm, 37.03 104 P **P** 05 03 58.2 +0.6
baz=37,SNR=5.4
N34A Lincoln 37.03 101 P **P** 05 03 57.9 +0.3
baz=37
O33A Hebron 37.13 102 P **P** 05 03 58.7 +0.2
baz=37
CBKS Cedar Bluff 37.16 106 P **P** 05 04 00.1 +1.3
baz=37
Q31A Ellis 37.16 105 P **P** 05 03 59.8 +1.0
baz=37
S28A Manter 37.19 109 P **P** 05 03 59.9 +0.8
baz=37,SNR=5.9
T27A Campo 37.26 111 P **P** 05 04 01.3 +1.5
baz=37
R30A Dighton 37.35 107 P **P** 05 04 01.7 +1.3
baz=37,SNR=6.3
ANMO Albuquerque 37.43 117 *d i*P **P** 05 04 02.5 +1.2
ANMO pmax pmax
comp=Z,35nm,1.4s
ANMO Albuquerque 37.43 117 *e*P **P** 05 04 02.7 +1.4
comp=Z,11nm,1.3s
O34A Beatrice 37.46 101 P **P** 05 04 01.8 +0.6
baz=37
T28A Walsh 37.48 110 P **P** 05 04 03.0 +1.4
baz=37
214A Organ Pipe Nat 37.49 127 P **P** 05 04 03.4 +1.8
baz=37
214A Organ Pipe Nat 37.49 127 *e*P **P** 05 04 03.1 +1.5
comp=Z,1.8nm,0.9s
S29A Ulysses 37.51 108 P **P** 05 04 02.9 +1.1
baz=37
SUMG Summit 37.52 28 ⇑*i*P **P** 05 04 02.3 +0.4
comp=Z,9.1nm,0.9s
SUMG Summit 37.52 28 ⇑*i*P **P** 05 04 02.3 +0.4
SUMG pmax pmax
comp=Z,9.0nm,0.9s
SUMG Summit 37.52 28 *e*P **P** 05 04 02.3 +0.4
Q32A Meitler Ranch, 37.55 104 P **P** 05 04 03.1 +1.0
baz=37
LAZ Ladron 37.61 118 *e*P **P** 05 04 04.3 +1.5
comp=Z,5.5nm,1.3s
R31A Burdett 37.68 106 P **P** 05 04 04.7 +1.5
baz=38
U27A Thompson Grove 37.75 111 P **P** 05 04 05.0 +1.1
baz=38
Q33A Connelly Farm, 37.88 104 P **P** 05 04 05.1 +0.2
baz=38
DAG Danmarks Havn 37.93 17 *i* P **P** 05 04 04.5 -0.3
DAG *i* 05 04 16.2
DAG Danmarks Havn 37.93 17 *i* P **P** 05 04 04.5 -0.3
DAG *i* 05 04 16.2
DAG pmax pmax
comp=Z,11nm,0.9s
R32A Long Quarter, 37.95 105 P **P** 05 04 06.3 +0.9
baz=38
TUC Tucson 37.96 124 *e*P **P** 05 04 07.5 +1.8
comp=Z,6.3nm,1.1s
T30A Plains 38.25 108 P **P** 05 04 09.1 +1.1
baz=38
S31A Mullinville 38.25 107 P **P** 05 04 09.1 +1.1
baz=38
P35A Duane Minner, 38.29 101 P **P** 05 04 08.8 +0.5
baz=38
V27A Dan Oppiter Fa 38.30 112 P **P** 05 04 09.8 +1.2
baz=38
JFWS Jewell Farm 38.35 92 *e*P **P** 05 04 08.7 -0.1
comp=Z,15nm,0.6s
Q34A Chapman 38.35 103 P **P** 05 04 09.7 +0.9
baz=38
KSU1 Kansas State U 38.36 102 P **P** 05 04 09.2 +0.4
baz=38
KSU1 Kansas State U 38.36 102 *e*P **P** 05 04 08.6 -0.3
comp=Z,12nm,0.6s
R33A Olander Ranch, 38.37 105 P **P** 05 04 09.1 +0.1
baz=38
S32A Newby Ranch, P 38.43 106 P **P** 05 04 10.9 +1.4
baz=38
V28A Channing 38.58 111 P **P** 05 04 12.1 +1.2
baz=38
P36A Good Intent, A 38.60 100 P **P** 05 04 11.2 +0.3
baz=38
U30A WK&E Inc. Balk 38.62 109 P **P** 05 04 12.3 +1.1
baz=38
V29A Stinnett 38.78 110 P **P** 05 04 13.8 +1.2
baz=39
Q35A Mercer Eighty, 38.82 102 P **P** 05 04 13.1 +0.4
baz=39
T32A Huddler Ranch, 38.86 107 P **P** 05 04 14.4 +1.2
baz=39
121A Cookes Peak, D 38.97 120 P **P** 05 04 15.6 +1.4
baz=39,SNR=6.8
121A Cookes Peak, D 38.97 120 *e*P **P** 05 04 15.8 +1.6
comp=Z,18nm,1.3s
Q36A Arnold C. Orve 39.01 101 P **P** 05 04 14.5 +0.2
baz=39,SNR=5.6
U31A Nine Bar Ranch 39.12 108 P **P** 05 04 16.4 +1.1
baz=39
T33A Patterson Ranc 39.25 106 P **P** 05 04 17.4 +1.0
baz=39
W29A Amarillo 39.36 111 P **P** 05 04 18.4 +1.0
baz=39
U32A Winter Ranch, 39.49 107 P **P** 05 04 19.3 +0.9
baz=39
R36A Gordon, Harris 39.50 102 P **P** 05 04 18.5 +0.1
baz=39,SNR=5.2
Q37A Longview Farm, 39.54 100 P **P** 05 04 19.5 +0.7
baz=39
AMTX Amarillo 39.54 111 P **P** 05 04 20.1 +1.1
baz=39
AMTX Amarillo 39.54 111 *e*P **P** 05 04 19.4 +0.4
comp=Z,10nm,0.8s
V31A Spring Creek L 39.61 109 P **P** 05 04 20.7 +1.3
baz=40,SNR=11
X28A Dimmitt 39.63 112 P **P** 05 04 20.5 +0.9
baz=40,SNR=14
S35A Otter Creek Ra 39.64 103 P **P** 05 04 20.1 +0.5
baz=40
SPITS Spitsbergen Ar 39.78 5 P **P** 05 04 20.0 -0.4
comp=Z,1.7nm,0.4s,baz=25,slow=7.9,SNR=10
SPITS Spitsbergen Ar 39.78 5 P **P** 05 04 20.0 -0.4
SPITS pmax pmax
comp=Z,2.0nm,0.4s
R37A Teagarden Farm 39.82 101 P **P** 05 04 21.1 0.0
baz=40
MSTX Muleshoe 39.84 113 P **P** 05 04 22.6 +1.1
baz=40,SNR=30
MSTX Muleshoe 39.84 113 *e*P **P** 05 04 22.4 +1.0
comp=Z,39nm,0.8s
X29A Tulia 39.91 112 P **P** 05 04 22.9 +1.0
baz=40,SNR=12
S36A Lake Cedric, C 39.94 103 P **P** 05 04 21.6 -0.5
baz=40,SNR=5.8
V32A Arapaho 40.02 108 P **P** 05 04 23.9 +1.2
baz=40
W31A Holland Ranch, 40.06 109 P **P** 05 04 24.1 +0.9
baz=40
U34A Anderson Ranch 40.11 106 P **P** 05 04 24.5 +1.0
baz=40
Y28A McKinney Farm, 40.12 113 P **P** 05 04 24.9 +1.2
baz=40
X30A Coker Ranch, T 40.27 111 P **P** 05 04 25.5 +0.6
baz=40,SNR=17
V33A Lossen Ranch, 40.27 107 P **P** 05 04 25.7 +0.8
baz=40
T36A Boggs Farm, Ca 40.35 104 P **P** 05 04 25.9 +0.4
baz=40
SCHQ Schefferville 40.38 62 P **P** 05 04 25.4 -0.2
comp=Z,2.5nm,0.8s,baz=274,slow=7.1,SNR=3.8
Y29A Porterfield Fa 40.41 112 P **P** 05 04 26.3 +0.2
baz=40,SNR=8.3
W32A Sentinel 40.42 109 P **P** 05 04 26.9 +0.8
baz=40,SNR=9.0
X31A McDonald Ranch 40.51 110 P **P** 05 04 27.9 +1.1
baz=40,SNR=12
U35A Pawnee 40.53 105 P **P** 05 04 27.4 +0.4
baz=40
Z28A Tucker Farm, M 40.59 114 P **P** 05 04 27.8 +0.2
baz=40,SNR=5.1
V34A Guthrie 40.61 106 P **P** 05 04 27.8 +0.2
baz=40,SNR=5.8
V34A Guthrie 40.61 106 *e*P **P** 05 04 27.8 +0.2
comp=Z,21nm,1.0s
HDIL Hopedale 40.63 94 P **P** 05 04 27.8 +0.1
baz=40,SNR=5.9
HDIL Hopedale 40.63 94 *e*P **P** 05 04 27.8 +0.1
comp=Z,336nm,1.0s
Y30A Stafford Cattl 40.74 111 P **P** 05 04 29.7 +0.9
baz=41
T37A Cheneyville 18 40.74 102 P **P** 05 04 28.4 -0.3
baz=41,SNR=6.2
W33A Caddo, Fort Co 40.75 108 P **P** 05 04 29.8 +1.0
baz=41
Z29A Hungry Hill Ra 40.91 113 P **P** 05 04 30.9 +0.7
baz=41,SNR=16
YSS Yuzh-Sakhalins 40.92 282 *e*P **P** 05 04 30.0 0.0
YSS pmax pmax
comp=Z,27nm,1.2s
Y31A Rekieta Farm, 40.95 111 P **P** 05 04 31.4 +1.0
baz=41
WMOK Wichita Mounta 40.95 108 *e*P **P** 05 04 30.6 +0.1
comp=Z,20nm,1.1s
V35A Meyer Ranch, C 40.98 106 P **P** 05 04 31.1 +0.5
baz=41
W34A Bridge Creek, 40.99 107 P **P** 05 04 31.6 +0.8
baz=41,SNR=5.9
W34A Bridge Creek, 40.99 107 *e*P **P** 05 04 30.9 +0.1
comp=Z,24nm,1.1s
128A Castleberry Fa 41.12 114 P **P** 05 04 32.9 +1.0
baz=41,SNR=11
Z30A Sanderson Ranc 41.14 112 P **P** 05 04 32.4 +0.4
baz=41,SNR=5.9
X33A Lawton 41.24 108 P **P** 05 04 33.0 +0.1
baz=41
Y32A R-V Farms, Ver 41.28 110 P **P** 05 04 33.8 +0.6
baz=41,SNR=6.2
TUL1 Leonard 41.34 104 P **P** 05 04 34.2 +0.6
baz=41
TUL1 Leonard 41.34 104 *e*P **P** 05 04 33.3 -0.3
comp=Z,4.3nm,0.6s
V36A Jenks 41.37 105 P **P** 05 04 34.2 +0.3
baz=41
129A Stewart Farms, 41.38 113 P **P** 05 04 34.5 +0.5
baz=41
W35A Tecumseh 41.47 106 P **P** 05 04 35.2 +0.5
baz=41,SNR=5.3
X34A Smith Ranch, M 41.49 108 P **P** 05 04 35.9 +1.0
baz=41
228A UT Block 9, Go 41.50 115 P **P** 05 04 36.0 +0.9
baz=41,SNR=5.7
Z31A Sharp Cattle R 41.54 111 P **P** 05 04 35.2 -0.1
baz=41,SNR=5.1
CLNS Chul'man 41.55 304 *e*P **P** 05 04 32.1 -3.1
CLNS *e**PP pP 05 04 41.3 -5.4
CLNS *e* 05 06 32.6
CLNS *e*S S 05 10 39.7 -8.1
CLNS pmax pmax
comp=Z,17nm,0.9s
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=Z,5.0nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.7s
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS smax smax
comp=N,329nm,12.5s
CLNS smax smax
comp=E,564nm,10.4s
CLNS MLR MLR
comp=E,70nm,14.0s
CLNS MLR MLR
comp=Z,70nm,15.0s
CLNS MLR MLR
comp=N,40nm,14.0s
Y33A Hilltop Ranch, 41.64 109 P **P** 05 04 37.0 +0.9
baz=42
V37A Hulbert 41.66 104 P **P** 05 04 36.3 +0.1
baz=42,SNR=7.0
W36A Wetumka 41.77 106 P **P** 05 04 37.8 +0.6
baz=42,SNR=8.1
130A Snyder 41.80 113 P **P** 05 04 38.0 +0.5
baz=42
SFIN Lafayette 41.80 92 P **P** 05 04 37.6 +0.2
baz=42
SFIN Lafayette 41.80 92 *e*P **P** 05 04 36.5 -0.8
comp=N,16nm,1.0s
Z32A Haskell 41.85 110 P **P** 05 04 38.1 +0.3
baz=42,SNR=12
229A Bryant Ranch, 41.97 114 P **P** 05 04 39.7 +0.8
baz=42
131A Roby 41.98 112 P **P** 05 04 39.5 +0.5
baz=42,SNR=6.2
V38A Canehill 42.01 103 P **P** 05 04 38.9 -0.2
baz=42

X35A **Drake** 42.05 107 P P 05 04 39.8 +0.4
baz=42,SNR=5.5
Y34A **Reagan Ranch,** 42.07 108 P P 05 04 40.2 +0.6
baz=42,SNR=7.3
W37A **Quinton** 42.14 105 P P 05 04 40.6 +0.5
baz=42,SNR=7.0
Z33A **Whitaker Ranch** 42.18 110 P P 05 04 40.8 +0.3
baz=42
X36A **Centrahoma** 42.19 106 P P 05 04 41.3 +0.7
baz=42
329A **Wagon Wheel Ra** 42.31 114 P P 05 04 42.7 +1.0
baz=42,SNR=13
230A **Sterling City** 42.34 113 P P 05 04 42.4 +0.5
baz=42,SNR=22
ABTX **Abilene, Hawle** 42.35 111 P P 05 04 42.1 +0.1
baz=42,SNR=6.1
ABTX **Abilene, Hawle** 42.35 111 eP P 05 04 42.1 +0.1
comp=N,9.0nm,0.7s
Y35A **Marietta** 42.44 107 P P 05 04 43.7 +1.1
baz=42
Z34A **Collier Ranch,** 42.49 109 P P 05 04 43.8 +0.8
baz=42
W38A **Poteau** 42.61 104 P P 05 04 44.7 +0.7
baz=42
X37A **Clayton** 42.62 105 P P 05 04 44.4 +0.4
baz=42,SNR=9.0
OLIL **Olney** 42.63 95 eP P 05 04 43.6 -0.5
comp=N,20nm,0.9s
231A **Bronte** 42.65 112 P P 05 04 44.8 +0.4
baz=42,SNR=13
133A **Hamilton Ranch** 42.69 110 P P 05 04 45.1 +0.4
baz=42,SNR=6.5
330A **Mertzon** 42.73 114 P P 05 04 45.6 +0.5
baz=43,SNR=22
Y36A **Durant** 42.78 107 P P 05 04 46.3 +0.9
baz=43
X38A **Whitesboro** 42.80 104 P P 05 04 46.0 +0.5
baz=43,SNR=7.4
Z35A **Perchaven, San** 42.82 108 P P 05 04 46.2 +0.5
baz=43
232A **Coleman** 42.98 112 P P 05 04 47.7 +0.7
baz=43,SNR=13
Y37A **Hugo** 43.02 106 P P 05 04 48.3 +1.0
baz=43,SNR=6.2
429A **Davenport Ranc** 43.09 115 P P 05 04 48.7 +0.7
baz=43,SNR=26
134A **White-Moore Ra** 43.09 109 P P 05 04 48.3 +0.4
baz=43,SNR=6.3
PBMO **Poplar Bluff** 43.11 98 eP P 05 04 47.3 -0.7
331A **San Angelo** 43.13 113 P P 05 04 48.1 -0.2
baz=43
233A **Rising Star** 43.20 111 P P 05 04 49.2 +0.4
baz=43,SNR=12
430A **Baggett Ranch,** 43.23 114 P P 05 04 49.7 +0.6
baz=43,SNR=23
Z36A **Blue Ridge** 43.24 107 P P 05 04 49.5 +0.4
baz=43,SNR=7.6
332A **Millersview** 43.37 112 P P 05 04 50.5 +0.3
baz=43,SNR=13
529A **Stev Forest Ra** 43.38 116 P P 05 04 51.3 +1.0
baz=43
135A **Vickery Place,** 43.40 109 P P 05 04 50.6 +0.2
baz=43
TXAR **Lajitas Array** 43.46 118 P P 05 04 52.1 +1.0
comp=N,6.8nm,0.7s,baz=331,slow=6.8,SNR=98
TXAR pP pP 05 05 04.0 +1.4
comp=N,3.0nm,0.7s,baz=335,slow=6.2,SNR=9.2
TXAR LR LR 05 24 22.0
comp=N,134nm,20.2s,baz=0.0,slow=38
TXAR **Lajitas Array** 43.46 118 P P 05 04 52.1 +1.0
TXAR *PP pP 05 05 04.0 +1.4
TXAR pmax pmax
comp=Z,7.0nm,0.7s
TXAR pmax pmax
comp=Z,3.0nm,0.7s
TXAR MLR MLR
comp=Z,134nm,20.2s
MIAR **Mount Ida** 43.48 103 P P 05 04 51.0 0.0
baz=43,SNR=13
MIAR **Mount Ida** 43.48 103 eP P 05 04 50.9 -0.1
comp=Z,12nm,0.9s
234A **Clairette** 43.55 110 P P 05 04 52.1 +0.4
baz=43,SNR=16
431A **Sonora** 43.59 114 P P 05 04 53.0 +0.9
baz=44,SNR=29
530A **J-C Ranch, Com** 43.74 115 P P 05 04 54.0 +0.7
baz=44,SNR=16
Y39A **Lockesburg** 43.75 104 P P 05 04 53.1 -0.1
baz=44,SNR=7.3
333A **Richland Sprin** 43.75 111 P P 05 04 54.0 +0.7
baz=44,SNR=22
432A **Menard** 43.78 113 P P 05 04 54.5 +0.9
baz=44
WHTX **Lake Whitney,** 43.86 109 P P 05 04 54.9 +0.8
baz=44
ACSO **Alum Creek Sta** 43.87 89 eP P 05 04 53.9 -0.2
ACSO epP pP 05 05 06.2 +0.6
136A **Ennis** 43.87 108 P P 05 04 54.5 +0.3
baz=44,SNR=5.5
531A **Rocksprings** 44.07 114 P P 05 04 56.8 +1.0
baz=44,SNR=18
334A **Lometa** 44.08 111 P P 05 04 56.2 +0.3
baz=44,SNR=13
137A **Heron Place, G** 44.11 107 P P 05 04 56.9 +0.8
baz=44
JCT **Junction City** 44.12 113 P P 05 04 57.2 +1.0
baz=44,SNR=24
JCT **Junction City** 44.12 113 eP P 05 04 56.9 +0.6
comp=Z,33nm,0.6s
433A **Art** 44.19 112 P P 05 04 57.1 +0.2
baz=44,SNR=8.9
KLR **Kul'dur** 44.21 292 eP P 05 04 52.2 -4.5
236A **Katherine and** 44.27 108 P P 05 04 58.3 +1.0
baz=44
138A **Matatall Enter** 44.36 106 P P 05 04 59.0 +0.9
baz=44
532A **Rocksprings** 44.38 113 P P 05 04 59.4 +1.1
baz=44,SNR=28
ERM **Erimo** 44.47 277⇑ iP P 05 04 59.0 +0.1
ERM pmax pmax
comp=Z,8.0nm,0.7s
335A **Moody** 44.48 110 P P 05 04 59.7 +0.6
baz=44
434A **Burnet** 44.50 111 P P 05 05 00.0 +0.7
baz=44,SNR=12
336A **Riesel** 44.65 109 P P 05 05 01.0 +0.6
baz=44
631A **Perdido Creek** 44.71 114 P P 05 05 01.3 +0.4
baz=45,SNR=23
533A **Kerrville** 44.80 112 P P 05 05 02.6 +0.9
baz=45
435B **Jarrell** 44.83 110 P P 05 05 02.8 +0.9
baz=45
BOD **Bodaibo** 44.91 311 eP P 05 05 00.9 -1.2
BOD pmax pmax
comp=Z,11nm,1.1s
632A **Uvalde** 44.97 114 P P 05 05 03.8 +0.8
baz=45,SNR=25
534A **Blanco** 45.09 112 P P 05 05 04.5 +0.5
baz=45,SNR=10
633A **Saathoff Ranch** 45.27 113 P P 05 05 06.1 +0.7
baz=45,SNR=11
OXF **Oxford** 45.44 99 eP P 05 05 06.8 +0.1
comp=Z,33nm,0.9s
535A **Dale** 45.48 111 P P 05 05 08.1 +1.0
baz=45
732A **Laxson Ranch,** 45.56 114 P P 05 05 08.9 +1.2
baz=45,SNR=15
536A **Bastrop** 45.67 110 P P 05 05 10.0 +1.5
baz=46
339A **Huntington** 45.72 107 P P 05 05 09.9 +1.0
baz=46
438A **Sam Houston St** 45.80 108 P P 05 05 10.7 +1.1
baz=46
733A **Divot King Ran** 45.86 114 P P 05 05 11.4 +1.3
baz=46,SNR=9.0
832A **Faith Ranch, C** 45.94 115 P P 05 05 12.1 +1.4
baz=46,SNR=34
635A **Leesville** 45.95 111 P P 05 05 12.9 +2.2
baz=46
537A **Green Hill Far** 46.00 109 P P 05 05 13.0 +1.9
baz=46
734A **La Parita Cree** 46.07 113 P P 05 05 13.0 +1.3
baz=46,SNR=5.8
833A **Chaparral WMA,** 46.16 114 P P 05 05 14.0 +1.6
baz=46
636A **Smothers Creek** 46.18 111 P P 05 05 14.6 +2.1
baz=46,SNR=6.1

HKT **Hockley** 46.33 109 eP P 05 05 14.6 +1.0
comp=Z,14nm,1.3s
440A **Kirbyville** 46.49 107 P P 05 05 16.6 +1.6
baz=46
637A **Eagle Lake** 46.54 110 P P 05 05 17.4 +2.1
baz=46
736A **Circle Diamond** 46.63 111 P P 05 05 18.2 +2.1
baz=46,SNR=5.4
834A **Tilden** 46.70 113 P P 05 05 19.1 +2.5
baz=47,SNR=7.4
933A **Laredo** 46.83 114 P P 05 05 19.2 +1.5
baz=47,SNR=7.0
835A **Beeville** 46.87 112 P P 05 05 20.0 +2.0
baz=47
934A **Benavides** 47.17 113 P P 05 05 22.7 +2.4
baz=47,SNR=5.2
034A **Hebbronville** 47.56 114 P P 05 05 25.5 +2.2
baz=47
035A **Encino** 47.92 113 P P 05 05 28.3 +2.2
baz=48
ARCES **ARCESS Array B** 48.72 3 P P 05 05 30.7 -1.1
comp=Z,7.1nm,0.4s,baz=360,slow=7.8,SNR=106
ARCES pP pP 05 05 42.9 -0.6
comp=Z,9.9nm,0.8s,baz=3.5,slow=7.9,SNR=7.0
ARCES LR LR 05 25 22.7
comp=Z,24nm,20.1s,baz=18,slow=35
ARCES **ARCESS Array B** 48.72 3 P P 05 05 30.7 -1.1
ARCES *PP pP 05 05 42.9 -0.6
ARCES pmax pmax
comp=Z,7.0nm,0.4s
ARCES pmax pmax
comp=Z,10.0nm,0.8s
ARE0 **ARCESS Array S** 48.72 3 eP P 05 05 30.0 -1.8
VLA **Vladivostok** 48.83 286 iP P 05 05 32.1 -0.8
VLA pmax pmax
comp=Z,17nm,0.6s
GOGA **Godfrey** 49.13 95 eP P 05 05 34.8 -0.6
HIA **Hailar** 49.27 300 iP P 05 05 36.1 -0.2
HIA pmax pmax
comp=Z,33nm,0.9s
HIA **Hailar** 49.27 300 eP P 05 05 36.2 -0.1
comp=Z,31nm,0.9s
LVZ **Lovozero** 50.44 359 iP P 05 05 43.8 -1.2
LVZ pmax pmax
comp=Z,10.0nm,1.1s
LVZ **Lovozero** 50.44 359 eP P 05 05 43.7 -1.2
comp=Z,26nm,1.1s
MAJO **Matsushiro** 51.15 276⇑ iP P 05 05 50.4 -0.2
MAJO **Matsushiro** 51.15 276 eP P 05 05 50.5 -0.2
comp=Z,7.1nm,0.6s
MJAR **Matsushiro Arr** 51.15 276 P P 05 05 50.2 -0.5
comp=Z,1.5nm,0.6s,baz=13,slow=6.9,SNR=8.5
MJAR LR LR 05 28 59.2
comp=Z,23nm,20.7s,baz=340,slow=38
MJAR **Matsushiro Arr** 51.15 276 P P 05 05 50.2 -0.5
MJAR pmax pmax
comp=Z,2.0nm,0.6s
MJAR MLR MLR
comp=Z,23nm,20.7s
CN2 **Changchun** 51.16 292 eP P 05 05 49.9 -0.7
CN2 PP PP 05 07 47.4 +0.1
CN2 eS S 05 13 04.6 -0.9
CN2 SS SS 05 16 36.1 -4.4
CN2 PMZ
comp=Z,30nm,0.9s
CN2 PMZ
comp=Z,80nm,6.0s
CN2 LN
comp=Z,200nm,20.0s
CN2 LE
comp=Z,100nm,20.0s
CN2 LZ
comp=Z,80nm,21.0s
TLY **Talaya** 53.43 313 LR LR 05 29 03.9
comp=Z,71nm,19.2s,baz=3.0,slow=36
ZAK **Zakamensk** 54.64 312 eP P 05 06 15.6 -0.7
ZAK pmax pmax
comp=Z,2.0nm,1.1s
KSRS **Korea Array** 55.18 285 P P 05 06 20.6 +0.4
comp=Z,6.0nm,0.8s,baz=33,slow=6.6,SNR=17
KSRS LR LR 05 30 13.5
comp=Z,54nm,20.0s,baz=58,slow=36
KSRS **Korea Array** 55.18 285 P P 05 06 20.6 +0.4
KSRS pmax pmax
comp=Z,6.0nm,0.8s
KSRS MLR MLR
comp=Z,54nm,20.0s
KSAR **Wonju Array Be** 55.20 285 P P 05 06 20.6 +0.2
SONM **Songino Array** 55.64 308 P P 05 06 24.0 +0.4
comp=Z,14nm,0.8s,baz=27,slow=7.4,SNR=87
SONM LR LR 05 32 09.2
comp=Z,77nm,18.2s,baz=24,slow=38
SONM **Songino Array** 55.64 308 P P 05 06 24.0 +0.4
SONM pmax pmax
comp=Z,14nm,0.8s
SONM MLR MLR
comp=Z,77nm,18.2s
NB2 **NORSAR Subarra** 56.29 12 P P 05 06 27.0 -1.0
comp=Z,8.6nm,1.0s,baz=348,slow=7.4
NOA **NORSAR Array B** 56.29 12 P P 05 06 26.9 -1.0
comp=Z,4.1nm,0.8s,baz=350,slow=7.0,SNR=17
NOA pP pP 05 06 39.3 -0.6
comp=Z,3.2nm,0.7s,baz=349,slow=7.2,SNR=8.3
NOA LR LR 05 32 11.3
comp=Z,20nm,18.8s,baz=355,slow=38
NOA **NORSAR Array B** 56.29 12 P P 05 06 26.9 -1.0
NOA *PP pP 05 06 39.3 -0.6
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA MLR MLR
comp=Z,20nm,18.8s
TJN **Taejon** 56.31 285 iP P 05 06 28.8 +0.4
NAO01 **NORSAR Array S** 56.45 12 eP P 05 06 27.6 -1.4
comp=Z,6.8nm,0.9s
FIA1 **FINESS Array S** 56.84 4 eP P 05 06 30.4 -1.4
FINES **FINESS Array B** 56.84 4 P P 05 06 30.4 -1.3
comp=Z,4.9nm,0.5s,baz=5.3,slow=6.8,SNR=77
FINES pP pP 05 06 43.0 -0.7
comp=Z,3.7nm,0.6s,baz=357,slow=7.6,SNR=7.0
FINES LR LR 05 31 28.7
comp=Z,50nm,18.3s,baz=318,slow=36
FINES **FINESS Array B** 56.84 4 ceP P 05 06 30.7 -1.1
FINES pmax pmax
comp=Z,5.0nm,0.5s
NVS **Novosibirsk** 56.85 328⇑ iP P 05 06 29.4 -2.5
NVS pmax pmax
comp=Z,9.0nm,0.7s
NVS pmax pmax
comp=N,3.0nm,0.4s
NVS pmax pmax
comp=E,2.0nm,0.4s
ZAA0 **Zalesovo Array** 57.24 326 eP P 05 06 33.3 -1.5
ZALV **Zalesovo Beam** 57.24 326 P P 05 06 33.4 -1.3
comp=E,6.4nm,0.8s,baz=19,slow=6.1,SNR=21
ZALV pP pP 05 06 45.8 -0.9
comp=E,12nm,0.9s,baz=27,slow=6.8,SNR=10.0
ZALV LR LR 05 33 23.0
comp=E,116nm,21.3s,baz=70,slow=38
ZALV **Zalesovo Beam** 57.24 326 P P 05 06 33.4 -1.3
ZALV *PP pP 05 06 45.8 -0.9
ZALV pmax pmax
comp=Z,6.0nm,0.8s
ZALV pmax pmax
comp=Z,13nm,0.9s
ZALV MLR MLR
comp=Z,116nm,21.3s
HFS **Hagfors** 57.42 11 P P 05 06 34.8 -1.1
comp=Z,2.7nm,0.5s,baz=11,slow=3.0,SNR=27
HFS LR LR 05 31 40.0
comp=Z,21nm,19.8s,baz=334,slow=36
HFS **Hagfors** 57.42 11 P P 05 06 34.8 -1.1
HFS pmax pmax
comp=Z,3.0nm,0.5s
HFS MLR MLR
comp=Z,21nm,19.8s
HHC **Hu-ho-hao-te** 59.48 300 eP P 05 06 51.5 +0.8
HHC sP sP 05 07 01.8 -5.6
HHC PcP PcP 05 07 41.5 +3.6
HHC PP PP 05 09 07.8 +6.0
HHC S S 05 14 53.0 -3.8
HHC sS sS 05 15 09.3 -7.4
HHC SS SS 05 18 56.3 +4.7
HHC PMZ
comp=Z,21nm,1.1s
HHC PMZ
comp=Z,46nm,7.6s
HHC LN
comp=Z,160nm,15.9s
HHC LE
comp=Z,130nm,16.1s
HHC LZ
comp=Z,200nm,16.2s
SVE **Sverdlovsk** 59.50 342 eP P 05 06 48.8 -1.6
SVE pmax pmax
comp=Z,21nm,0.9s
EKA **Eskdalemuir Ar** 59.81 22 P P 05 06 52.4 -0.2
comp=Z,3.7nm,0.6s,baz=331,slow=5.3,SNR=30
EKA pP pP 05 07 04.9 +0.3
comp=Z,2.5nm,0.4s,baz=335,slow=5.5,SNR=8.3
EKA **Eskdalemuir Ar** 59.81 22 P P 05 06 52.4 -0.2
EKA *PP pP 05 07 04.9 +0.3
EKA pmax pmax
comp=Z,4.0nm,0.6s
EKA pmax pmax
comp=Z,3.0nm,0.4s
ESK **Eskdalemuir** 59.81 23 eP P 05 06 52.1 -0.5
VSU **Vasula** 59.85 3c iP P 05 06 51.8 -1.0
VSU pmax pmax
comp=Z,49nm,0.9s
ARU **Arti** 60.17 343c iP P 05 06 53.8 -1.2
ARU 05 09 04.5
ARU S S 05 15 08.2 +3.1
ARU SS SS 05 19 02.9 +1.3
ARU pmax pmax
comp=Z,10.0nm,0.6s
ARU **Arti** 60.17 343 eP P 05 06 53.9 -1.2
BRVK **Borovoye** 61.45 335ceP P 05 07 02.3 -1.5
BRVK pmax pmax
comp=Z,15nm,1.1s
BRVK **Borovoye** 61.45 335 eP P 05 07 03.0 -0.8
comp=Z,17nm,0.9s
KURK **Kurchatov** 61.77 328 eP P 05 07 04.6 -1.4
comp=Z,15nm,0.7s
OBN **Obninsk** 63.23 357⇑ iP P 05 07 14.6 -1.0
OBN i 05 07 27.6
OBN i 05 07 55.6
OBN pmax pmax
comp=Z,14nm,0.7s
OBN MLR MLR
comp=Z,52nm,19.0s
NJ2 **Nanjing** 63.78 289 eP P 05 07 24.1 +4.5
NJ2 PMZ
comp=Z,40nm,1.1s
MK31 **Makanchi Array** 64.42 324 eP P 05 07 21.7 -2.0
GTA **Gaotai** 65.31 308 ⇑P P 05 07 29.6 -0.1
GTA pP pP 05 07 37.9 -3.9
GTA sP sP 05 07 41.8 -4.8
GTA S S 05 16 09.8 -0.5
GTA sS sS 05 16 21.9 -8.5
GTA SS SS 05 20 23.8 +1.0
GTA PMZ
comp=Z,21nm,1.0s
GTA PMZ
comp=Z,110nm,6.0s
GTA LN
comp=Z,100nm,19.5s
GTA LE
comp=Z,100nm,23.8s
GTA LZ
comp=Z,89nm,17.1s
WMQ **Urumqi** 65.54 319 P P 05 07 35.8 +4.8
WMQ pP pP 05 07 43.5 +0.4
WMQ sP sP 05 07 46.8 -1.1
WMQ PcP PcP 05 08 07.1 +4.7
WMQ PP PP 05 10 02.3 +7.4
WMQ pmax pmax
comp=Z,3.0nm,0.5s
WMQ pmax pmax
comp=Z,78nm,4.4s
WMQ LR LR
comp=N,150nm,12.4s
WMQ LR LR
comp=E,83nm,9.8s
WMQ LR LR
comp=Z,43nm,24.0s
WMQ **Urumqi** 65.54 319 P P 05 07 35.0 +4.0
WMQ pP pP 05 07 42.8 -0.3
WMQ sP sP 05 07 46.0 -1.9
WMQ PP PP 05 10 01.6 +6.7
WMQ PMZ
comp=Z,3.0nm,0.5s
WMQ PMZ
comp=Z,18nm,4.8s
WMQ LN
comp=Z,18nm,10.2s
WMQ LE
comp=Z,15nm,11.2s
WMQ LZ
comp=Z,43nm,28.0s
CLL **Collm** 66.06 13 iP P 05 07 33.9 -0.2
comp=Z,6.0nm,1.1s
CLL i pP pP 05 07 45.8 -0.5
CLL e 05 08 03.0
CLL LmV 05 32 00.0
comp=Z,100nm,19.3s
CLL **Collm** 66.06 13 iP P 05 07 33.9 -0.2
CLL i 05 07 45.8
CLL pmax pmax
comp=Z,6.0nm,1.1s
AKTO **Aktyubinsk** 66.09 342 P P 05 07 33.3 -1.1
comp=Z,6.3nm,0.6s,baz=42,slow=8.7,SNR=4.1
AKTO pP pP 05 07 45.6 -0.9
comp=Z,4.0nm,0.5s,baz=36,slow=9.4,SNR=2.4
AKTO **Aktyubinsk** 66.09 342 P P 05 07 33.3 -1.1
AKTO *PP pP 05 07 45.6 -0.9
AKTO pmax pmax
comp=Z,6.0nm,0.6s
AKTO pmax pmax
comp=Z,4.0nm,0.5s
BRG **Berggiesshubel** 66.59 12 iP P 05 07 37.3 -0.2
comp=Z,6.4nm,0.9s
BRG i 05 07 51.0
comp=Z,8.2nm,1.1s
BRG **Berggiesshubel** 66.59 12 iP P 05 07 37.3 -0.2
BRG i 05 07 51.0
BRG pmax pmax
comp=Z,6.0nm,0.9s
LZH **Lanzhou** 66.67 303 eP P 05 07 38.4 -0.1
LZH pP pP 05 07 44.6 -6.0
LZH sP sP 05 07 47.3 -8.1
LZH PMZ
comp=Z,26nm,1.0s
LZH PMZ
comp=Z,100nm,4.6s
ABKAR **Akbulak array** 66.95 341 eP P 05 07 38.6 -1.2
PVCC **Panska Ves** 66.99 12 eP P 05 07 48.4 +8.3
PVCC **Panska Ves** 66.99 12 eP P 05 07 48.4 +8.3
VSR **Storozhevoye** 67.05 355 eP P 05 07 39.1 -1.3
VSR pmax pmax
comp=N,7.0nm,0.8s
VSR pmax pmax
comp=E,7.0nm,0.8s
VSR pmax pmax
comp=Z,7.0nm,0.8s
NKC **Novy Kostel** 67.06 14 eP P 05 07 40.8 +0.2
NKC epP pP 05 07 53.2 +0.5
NKC **Novy Kostel** 67.06 14 eP P 05 07 40.8 +0.2
NKC e 05 07 53.2
UPC **Upice** 67.15 11 eP P 05 07 41.4 +0.3
UPC epP pP 05 07 53.5 +0.2
UPC **Upice** 67.15 11 eP P 05 07 41.4 +0.3
UPC e 05 07 53.5
DPC **Dobruska-Polom** 67.34 11 eP P 05 07 42.5 +0.1
DPC ex x 05 07 49.2
DPC epP pP 05 07 55.6 +1.1
DPC ex x 05 08 01.1
DPC **Dobruska-Polom** 67.34 11 eP P 05 07 42.5 +0.1
DPC e 05 07 55.6
DPC e 05 08 01.1
PRU **Pruhonice** 67.53 12 eP P 05 07 43.5 0.0
PRU epP pP 05 07 56.9 +1.2
PRU **Pruhonice** 67.53 12 eP P 05 07 43.5 0.0
PRU e 05 07 56.9
GOPC **GO Pecny, Ondr** 67.62 12 eP P 05 07 43.8 -0.3
GOPC epP pP 05 07 55.9 -0.4
KRLC **Kraliky** 67.65 11 eP P 05 07 44.2 -0.1
KRLC ex x 05 07 51.0
KRLC epP pP 05 07 56.7 +0.2

KRLC	**Kraliky**	**67.65**	**11**	*eP*	**P**		**05 07 44.2**	**-0.1**
KRLC				*e*			05 07 56.7	
AKASG	**Malin Array Be**	**67.68**	**2**	P	**P**		**05 07 43.3**	**-1.1**
	comp=Z,3.6nm,0.4s,baz=359,slow=6.3,SNR=22							
AKASG				pP	**pP**		**05 07 56.3**	**-0.3**
	comp=Z,4.3nm,0.6s,baz=0.2,slow=6.3,SNR=6.9							
AKASG				LR	LR		05 36 14.3	
	comp=Z,27nm,21.4s,baz=5.0,slow=35							
AKASG	**Malin Array Be**	**67.68**	**2**	*ceP*	**P**		**05 07 43.5**	**-0.9**
AKASG				pmax	pmax			
	comp=Z,4.0nm,0.4s							
AKBB	**Malin Array Si**	**67.68**	**2**	*eP*	**P**		**05 07 43.4**	**-1.0**
KIEV	**Kiev**	**67.68**	**2**	*c i*P	**P**		**05 07 43.4**	**-1.0**
KIEV	**Kiev**	**67.68**	**2**	*eP*	**P**		**05 07 43.3**	**-1.2**
AK01	**Malin Array Si**	**67.69**	**2**	*eP*	**P**		**05 07 43.0**	**-1.4**
AK02	**Malin Array Si**	**67.72**	**2**	*eP*	**P**		**05 07 43.4**	**-1.3**
OKC	**Ostrava-Krasne**	**68.00**	**10**	*eP*	**P**		**05 07 46.0**	**-0.5**
OKC				*epP*	**pP**		**05 07 58.7**	**+0.1**
OKC	**Ostrava-Krasne**	**68.00**	**10**	*eP*	**P**		**05 07 46.0**	**-0.5**
OKC				*e*			05 07 58.7	
MORC	**Moravsky Berou**	**68.01**	**10**	⇓P	**P**		**05 07 46.9**	**+0.3**
MORC	**Moravsky Berou**	**68.01**	**10**	⇓*i*P	**P**		**05 07 46.9**	**+0.3**
MORC	**Moravsky Berou**	**68.01**	**10**	*eP*	**P**		**05 07 46.2**	**-0.4**
	comp=Z,30nm,0.8s							
KHC	**Kasperske Hory**	**68.27**	**13**	*eP*	**P**		**05 07 48.1**	**-0.2**
KHC				*ex*	x		05 07 56.2	
KHC				*epP*	**pP**		**05 08 01.1**	**+0.7**
KHC				*ex*	x		05 08 06.6	
KHC	**Kasperske Hory**	**68.27**	**13**	*eP*	**P**		**05 07 48.1**	**-0.2**
KHC				*e*			05 08 01.1	
KHC				*e*			05 08 06.6	
KHC	**Kasperske Hory**	**68.27**	**13**	*eP*	**P**		**05 07 48.1**	**-0.2**
	comp=Z,3.8nm,1.0s							
TREC	**Trest**	**68.30**	**12**	*eP*	**P**		**05 07 48.1**	**-0.3**
TREC				*epP*	**pP**		**05 08 01.0**	**+0.4**
TREC	**Trest**	**68.30**	**12**	*eP*	**P**		**05 07 48.1**	**-0.3**
TREC				*e*			05 08 01.0	
ECH	**Echery**	**68.37**	**18**	*eP*	**P**		**05 07 48.7**	**-0.2**
	comp=Z,3.1nm,0.8s							
LVV	**L'vov**	**68.39**	**6**	*eP*	pP		05 08 01.0	-0.1
VRAC	**Vranov**	**68.39**	**11**	P	**P**		**05 07 47.8**	**-1.2**
	comp=Z,5.8nm,0.8s,baz=352,slow=6.9,SNR=8.6							
VRAC				pP	**pP**		**05 08 01.6**	**+0.5**
	comp=Z,6.6nm,0.9s,baz=355,slow=6.2,SNR=3.3							
VRAC	**Vranov**	**68.39**	**11**	P	**P**		**05 07 47.8**	**-1.2**
VRAC				*PP	**pP**		**05 08 01.6**	**+0.5**
VRAC				pmax	pmax			
	comp=Z,6.0nm,0.8s							
VRAC	**Vranov**	**68.39**	**11**	⇑*i*P	**P**		**05 07 49.3**	**+0.3**
KWP	**Kalwaria Pacla**	**68.51**	**7**	*eP*	**P**		**05 07 49.6**	**-0.1**
KWP	**Kalwaria Pacla**	**68.51**	**7**	*eP*	**P**		**05 07 49.6**	**-0.1**
GERES	**GERESS Array B**	**68.57**	**13**	P	**P**		**05 07 50.0**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=355,slow=4.4,SNR=14							
GERES				pP	**pP**		**05 08 02.7**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=346,slow=3.3,SNR=6.5							
GERES				LR	LR		05 39 56.8	
	comp=Z,27nm,20.0s,baz=18,slow=38							
GERES	**GERESS Array B**	**68.57**	**13**	P	**P**		**05 07 50.0**	**-0.2**
GERES				*PP	**pP**		**05 08 02.7**	**+0.3**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GERES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
GERES				MLR	MLR			
	comp=Z,27nm,20.0s							
NIE	**Niedzica**	**68.58**	**8**	*eP*	**P**		**05 07 50.1**	**0.0**
NIE	**Niedzica**	**68.58**	**8**	*eP*	**P**		**05 07 50.1**	**0.0**
STHS	**Stebnicka Huta**	**68.64**	**8**	*eP*	**P**		**05 07 51.0**	**+0.5**
STHS				pmax	pmax			
	comp=Z,9.0nm,0.7s							
STHS	**Stebnicka Huta**	**68.64**	**8**	*eP*	**P**		**05 07 51.0**	**+0.5**
KOLS	**Kolonicke sedl**	**69.18**	**7**	*eP*	**P**		**05 07 53.8**	**-0.1**
KOLS				pmax	pmax			
	comp=Z,7.0nm,1.2s							
KOLS	**Kolonicke sedl**	**69.18**	**7**	*eP*	**P**		**05 07 53.8**	**-0.1**
KECS	**Kecovo**	**69.52**	**8**	*eP*	**P**		**05 07 55.8**	**-0.2**
KECS				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KECS	**Kecovo**	**69.52**	**8**	*eP*	**P**		**05 07 55.8**	**-0.2**
RETA	**Reutte**	**69.57**	**15**	⇓*i*P	**P**		**05 07 57.1**	**+0.7**
	comp=Z,4.9nm,1.2s							
MOA	**Molln**	**69.61**	**13**	⇑*i*P	**P**		**05 07 57.2**	**+0.6**
	comp=Z,2.7nm,0.9s							
CONA	**Conrad Observa**	**69.69**	**12**	⇓*i*P	**P**		**05 07 57.8**	**+0.6**
	comp=Z,5.5nm,0.9s							
TKM2	**Tokmak 2**	**69.78**	**327**	P	**P**		**05 07 57.4**	**-0.6**
	SNR=8.3							
TKM2	**Tokmak 2**	**69.78**	**327**	*eP*	**P**		**05 07 57.1**	**-0.9**
	comp=Z,9.4nm,0.9s							
WTTA	**Wattenberg**	**69.89**	**15**	⇑*i*P	**P**		**05 07 57.9**	**-0.6**
	comp=Z,11nm,1.0s							
CHMS	**Chumysh**	**69.92**	**328**	P	**P**		**05 07 58.2**	**-0.4**
	SNR=5.6							
FETA	**Feichten**	**70.02**	**15**	⇓*i*P	**P**		**05 08 00.1**	**+0.8**
	comp=Z,6.6nm,1.1s							
PSZ	**Piszkesteto**	**70.04**	**9**	⇑P	**P**		**05 08 00.3**	**+1.0**
PSZ	**Piszkesteto**	**70.04**	**9**	⇑*i*P	**P**		**05 08 00.3**	**+1.0**
PSZ	**Piszkesteto**	**70.04**	**9**	*eP*	**P**		**05 07 59.9**	**+0.7**
	comp=Z,9.9nm,1.0s							
DAVOX	**Davos/Dischmat**	**70.15**	**16**	P	**P**		**05 08 00.9**	**+0.8**
	comp=Z,3.5nm,0.6s,baz=336,slow=5.7,SNR=6.1							
DAVOX				pP	**pP**		**05 08 13.5**	**+1.2**
	comp=Z,6.0nm,0.7s,baz=295,slow=4.9,SNR=4.0							
DAVOX	**Davos/Dischmat**	**70.15**	**16**	P	**P**		**05 08 00.9**	**+0.8**
DAVOX				*PP	**pP**		**05 08 13.5**	**+1.2**
DAVOX				pmax	pmax			
	comp=Z,4.0nm,0.6s							
DAVOX				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KBK	**Karagaybulak**	**70.20**	**328**	P	**P**		**05 08 00.1**	**-0.3**
	SNR=7.1							
SENIN	**Lac Senin/Sane**	**70.20**	**18**	*eP*	**P**		**05 08 01.6**	**+1.2**
KBA	**Koelnbreinsper**	**70.27**	**14**	⇓*i*P	**P**		**05 08 01.8**	**+0.9**
	comp=Z,9.7nm,0.7s							
AAK	**Ala-Archa**	**70.33**	**328**	*eP*	**P**		**05 08 02.6**	**+1.3**
	comp=Z,7.7nm,0.9s							
FUORN	**Ofenpass-Fuorn**	**70.36**	**16**	*eP*	**P**		**05 08 02.5**	**+1.1**
TUE	**Stuetta**	**70.38**	**17**	*eP*	**P**		**05 08 02.6**	**+1.1**
	comp=Z,10nm,0.8s							
EKS2	**Erkin-Say**	**70.48**	**329**	P	**P**		**05 08 01.9**	**-0.3**
	SNR=16							
EKS2	**Erkin-Say**	**70.48**	**329**	*eP*	**P**		**05 08 01.5**	**-0.7**
	comp=Z,17nm,0.8s							
EKS2				*epP*	**pP**		**05 08 14.8**	**+0.4**
BUR08	**Bucovina Ar. S**	**70.62**	**5**	*eP*	**P**		**05 08 02.2**	**-0.6**
KZA	**Kyzart**	**70.67**	**327**	P	**P**		**05 08 03.2**	**-0.4**
	SNR=9.3							
KKAR	**Karatay Array**	**70.84**	**331**	*eP*	**P**		**05 08 02.7**	**-1.4**
	comp=Z,5.1nm,0.7s							
KKAR				*epP*	**pP**		**05 08 16.1**	**-0.3**
SOKA	**Soboth**	**70.85**	**12**	⇓*i*P	**P**		**05 08 05.2**	**+0.9**
	comp=Z,1.6nm,0.4s							
OBKA	**Obir**	**70.97**	**13**	⇓*i*P	**P**		**05 08 05.4**	**+0.4**
	comp=Z,13nm,0.8s							
AML	**Almayashu**	**71.00**	**329**	P	**P**		**05 08 05.6**	**0.0**
	SNR=5.7							
GROS	**Grobnik**	**71.11**	**12**	*eP*	**P**		**05 08 05.4**	**-0.4**
GROS				*epP*	**pP**		**05 08 18.3**	**+0.2**
CD2	**Chengdu**	**71.23**	**301**	*eP*	P		05 08 09.3	+2.6
CD2				pP	pP		05 08 17.8	-1.2
CD2				PcP	**PcP**		**05 08 29.3**	**+2.8**
CD2				PP	**PP**		**05 10 46.8**	**+2.3**
CD2				S	**S**		**05 17 24.5**	**+3.8**
CD2				SS	**SS**		**05 21 59.0**	**+4.7**
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,120nm,5.4s							
PKSM	**Moragy**	**71.64**	**10**	⇓P	**P**		**05 08 08.9**	**0.0**
PKSM	**Moragy**	**71.64**	**10**	⇓*i*P	**P**		**05 08 08.9**	**0.0**
PBRG	**Braganca**	**71.92**	**30**	*eP*	pP		05 08 24.3	+1.3
	comp=Z,16nm,1.8s							
PBRG	**Braganca**	**71.92**	**30**	*eP*	pP		05 08 24.3	+1.3
	comp=Z,16nm,1.8s							
BZS	**Buzias**	**72.45**	**8**	⇑P	**P**		**05 08 12.4**	**-1.4**
BZS	**Buzias**	**72.45**	**8**	⇑*i*P	**P**		**05 08 12.4**	**-1.4**
MVO	**Moncorvo**	**72.46**	**30**	*eP*	pP		05 08 27.4	+1.1
	comp=Z,16nm,1.7s							
MVO	**Moncorvo**	**72.46**	**30**	*eP*	pP		05 08 27.4	+1.1
	comp=Z,16nm,1.7s							
PVIS	**Viseu**	**72.68**	**31**	*eP*	pP		05 08 28.6	+1.1
	comp=Z,18nm,1.3s							
PVIS	**Viseu**	**72.68**	**31**	*eP*	pP		05 08 28.6	+1.1
	comp=Z,18nm,1.3s							
GZR	**Gura Zlata**	**72.74**	**7**	⇓P	**P**		**05 08 15.6**	**0.0**
GZR	**Gura Zlata**	**72.74**	**7**	⇓*i*P	**P**		**05 08 15.6**	**0.0**
MLR	**Muntele Rosu**	**72.80**	**5**	⇑P	**P**		**05 08 17.8**	**+1.8**
MLR	**Muntele Rosu**	**72.80**	**5**	⇑*i*P	**P**		**05 08 17.8**	**+1.8**
KSH	**Kashi**	**72.88**	**326**	P	**P**		**05 08 18.6**	**+2.0**
KSH				sP	**sP**		**05 08 32.0**	**-1.6**
KSH				PcP	PcP		05 08 39.3	+5.8
KSH				S	**SKiKP**		**05 17 47.3**	**+1.6**
KSH				sS	**sS**		**05 18 00.4**	**+0.3**
KSH				PMZ				
	comp=Z,8.0nm,0.7s							
KSH				PMZ				
	comp=Z,130nm,4.3s							
KSH				LN				
	comp=Z,220nm,7.4s							
KSH				LE				
	comp=Z,95nm,7.1s							
GOF	**Gofitskoye**	**72.99**	**352**	*eP*	pP		05 08 28.7	-0.6
PCAS	**Casmilo, Conde**	**73.16**	**32**	*eP*	pP		05 08 31.8	+1.5
	comp=Z,30nm,1.5s							
PCAS	**Casmilo, Conde**	**73.16**	**32**	*eP*	pP		05 08 31.8	+1.5
	comp=Z,30nm,1.5s							
CFR	**Carcaliu**	**73.18**	**3**	⇑P	**P**		**05 08 17.3**	**-0.7**
CFR	**Carcaliu**	**73.18**	**3**	⇑*i*P	**P**		**05 08 17.3**	**-0.7**
DIVS	**Divibare**	**73.85**	**9**	⇓*i*P	**P**		**05 08 21.9**	**-0.3**
KBZ	**Khabaz**	**74.32**	**352**	P	**P**		**05 08 23.6**	**-1.2**
	comp=Z,3.8nm,1.0s,baz=315,slow=1.4,SNR=2.6							
KBZ				pP	**pP**		**05 08 37.4**	**+0.3**
	comp=Z,4.3nm,0.7s,baz=311,slow=7.7,SNR=4.2							
KBZ				LR	LR		05 45 26.9	
	comp=Z,32nm,18.3s,baz=44,slow=39							
KBZ	**Khabaz**	**74.32**	**352**	P	**P**		**05 08 23.6**	**-1.2**
KBZ				*PP	**pP**		**05 08 37.4**	**+0.3**
KBZ				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KBZ				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KBZ				MLR	MLR			
	comp=Z,32nm,18.3s							
ESDC	**Sonseca Array**	**74.59**	**28**	P	**P**		**05 08 26.8**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=342,slow=5.8,SNR=16							
ESDC				pP	**pP**		**05 08 40.0**	**+1.2**
	comp=Z,19nm,0.9s,baz=343,slow=5.6,SNR=25							
PAB	**San Pablo**	**74.62**	**29**	*eP*	**P**		**05 08 27.3**	**+0.6**
	comp=Z,16nm,1.0s							
PAB				*epP*	**pP**		**05 08 39.3**	**+0.3**
EVO	**Evora**	**74.72**	**32**	*eP*	pP		05 08 39.5	0.0
	comp=Z,14nm,1.4s							
EVO	**Evora**	**74.72**	**32**	*eP*	pP		05 08 39.5	0.0
	comp=Z,14nm,1.4s							
PNCL	**Nicolau / Gran**	**74.99**	**32**	*eP*	pP		05 08 42.3	+1.3
	comp=Z,31nm,1.7s							
PNCL	**Nicolau / Gran**	**74.99**	**32**	*eP*	pP		05 08 42.3	+1.3
	comp=Z,31nm,1.7s							
PBAR	**Barrancos**	**75.30**	**31**	*eP*	pP		05 08 43.8	+1.0
	comp=Z,55nm,1.9s							
PBAR	**Barrancos**	**75.30**	**31**	*eP*	pP		05 08 43.8	+1.0
	comp=Z,55nm,1.9s							
MORF	**Marmelete**	**75.72**	**33**	*eP*	pP		05 08 46.3	+0.9
	comp=Z,39nm,1.5s							
MORF	**Marmelete**	**75.72**	**33**	*eP*	pP		05 08 46.3	+0.9
	comp=Z,39nm,1.5s							
RDO	**Rodhopi**	**77.12**	**5**	*eP*	**P**		**05 08 40.6**	**-0.2**
LSA	**Lhasa**	**77.16**	**310**	*eP*	**P**		**05 08 41.8**	**0.0**
	comp=Z,13nm,0.8s							
GEYT	**Alibeck**	**78.28**	**339**	P	**P**		**05 08 47.1**	**-0.3**
	comp=Z,3.1nm,0.4s,baz=358,slow=4.5,SNR=3.8							
GEYT				pP	**pP**		**05 08 59.6**	**-0.2**
	comp=Z,2.2nm,0.3s,baz=350,slow=7.5,SNR=2.4							
BR131	**Keskin Array S**	**78.67**	**359**	*eP*	**P**		**05 08 49.0**	**-0.6**
	comp=Z,5.7nm,1.0s							
BRTR	**Keskin Array B**	**78.67**	**359**	P	**P**		**05 08 49.4**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=26,slow=3.0,SNR=6.9							
BRTR				pP	**pP**		**05 09 02.8**	**+0.8**
	comp=Z,3.7nm,0.9s,baz=5.0,slow=4.2,SNR=6.6							
BRTR				LR	LR		05 48 52.7	
	comp=Z,12nm,18.3s,baz=356,slow=40							
QIZ	**Qiongzhong**	**79.06**	**290**	P	P		05 08 55.3	+3.4
QIZ				S	S		05 18 53.3	+5.5
ISFR	**Sfrayin**	**79.15**	**339**	*eP*	**P**		**05 08 52.9**	**+0.4**
IHRS	**Heris**	**79.36**	**348**	*eP*	**P**		**05 08 53.3**	**-0.3**
OTAV	**Otavalo**	**80.19**	**108**	*eP*	**P**		**05 08 57.6**	**-1.0**
	comp=Z,3.0nm,1.0s							
TAPN	**Taplejung**	**80.53**	**312**	*eP*	**P**		**05 09 00.1**	**0.0**
	comp=Z,24nm,0.6s							
GUN	**Gumba**	**80.65**	**314**	*eP*	**P**		**05 09 00.6**	**-0.2**
	comp=Z,37nm,0.9s							
KEST	**Kesra**	**80.91**	**19**	P	**P**		**05 09 02.2**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=14,slow=4.2,SNR=4.3							
KEST				pP	**pP**		**05 09 15.4**	**+1.2**
	comp=Z,4.5nm,0.9s,baz=337,slow=6.0,SNR=12							
KEST	**Kesra**	**80.91**	**19**	*eP*	**P**		**05 09 02.0**	**+0.2**
KKN	**Kani**	**80.97**	**314**	*eP*	**P**		**05 09 02.1**	**-0.3**
	comp=Z,15nm,0.6s							
GKN	**Gorkha**	**80.99**	**315**	*eP*	**P**		**05 09 02.3**	**-0.1**
ODAN	**Odare**	**81.09**	**312**	*eP*	**P**		**05 09 02.0**	**-1.1**
	comp=Z,4.4nm,0.2s							
PKI	**Pulchoki**	**81.12**	**314**	*eP*	**P**		**05 09 02.1**	**-1.2**
	comp=Z,15nm,0.8s							
DMN	**Daman**	**81.19**	**314**	*eP*	**P**		**05 09 03.3**	**-0.3**
RAMN	**Ramite**	**81.28**	**313**	*eP*	**P**		**05 09 02.7**	**-1.4**
	comp=Z,21nm,0.7s							
KOLN	**Koldanda**	**81.55**	**316**	*eP*	**P**		**05 09 04.5**	**-0.9**
	comp=Z,16nm,0.7s							
IDAH	**Dahanechah**	**83.03**	**337**	*eP*	**P**		**05 09 12.2**	**-1.0**
GVD	**Gavdhos**	**83.33**	**7**	*eP*	**P**		**05 09 14.5**	**+0.1**
CSS	**Prodhromos**	**83.43**	**359**	*eP*	**P**		**05 09 14.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**84.26**	**299**	P	**P**		**05 09 18.7**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=1.7,slow=6.2,SNR=11							
CMAR				pP	**pP**		**05 09 32.4**	**+0.6**
	comp=Z,1.8nm,0.4s,baz=13,slow=5.1,SNR=4.5							
CMAR				LR	LR		05 48 08.9	
	comp=Z,39nm,18.1s,baz=15,slow=37							
CMAR	**Chiang Mai Arr**	**84.26**	**299**	*ceP*	**P**		**05 09 19.2**	**-0.1**
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
IPAR	**Pars**	**87.00**	**342**	*eP*	**P**		**05 09 30.2**	**-3.0**
IKAZ	**Kazeroun**	**87.23**	**343**	*eP*	**P**		**05 09 33.8**	**-0.6**
NNA	**Nana**	**91.77**	**112**	*eP*	**P**		**05 09 55.1**	**-0.1**
VNDA	**Vanda**	**142.61**	**196**	PKP	**PKPdf**		**05 16 15.9**	**-2.6**
	comp=Z,0.5nm,0.6s,baz=0.0,slow=7.1,SNR=2.9							
VNDA	**Vanda**	**142.61**	**196**	PKIKP	**PKPdf**		**05 16 15.9**	**-2.6**
VNDA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BOSA	**Boshof**	**146.35**	**11**	PKPbc	**PKPdf**		**05 16 27.1**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=0.1,slow=3.0,SNR=7.3							
BOSA				pPKPbc	pPKPbc		05 16 41.7	+0.9
	comp=Z,9.3nm,0.6s,baz=2.2,slow=3.0,SNR=12							
BOSA	**Boshof**	**146.35**	**11**	*e*PKPbc	**PKPab**		**05 16 30.0**	**+1.1**
BOSA				pPKPbc	pPKPbc		05 16 41.7	+0.8
QSPA	**South Pole Qui**	**151.76**	**180**	*e*PKPdf	**PKPbc**		**05 16 39.0**	**-1.4**

*ISCJB **25** 05:08:33.0±0.5, 24.05N±0.01×122.30E±0.01, h7$^{km}_{\pm}$3^{km},*
Error ellipse: s-maj=2.6km s-min=2.1km az=152.7
*TAP **25** 05:08:33.4, 24.11N×122.25E, h6$^{km}_{\pm}$1^{km}, ML3.8, D*
*JMA **25** 05:08:33.8±0.1, 24.00N×122.28E, h27$^{km}_{\pm}$4^{km}, M3.2*
ISC 25 05:08:33.2±1.0, 24.04N±0.02×122.27E±0.02, h15$^{km}_{\pm}$8km, n70, σ0.59/118, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.61**	**264**	*eP*		**Pb**	**05 08 46.2**	**+0.6**
	baz=256							
HWA				*eS*		**Sn**	**05 08 56.6**	**-0.4**
	baz=256							
ENA	**Nanau**	**0.62**	**308**	P		**Pb**	**05 08 45.7**	**-0.1**
	baz=304							
ENA				*eS*		**Sb**	**05 08 54.2**	**-0.1**
	baz=304							
TWD	**Chiawan**	**0.62**	**273**	*eP*		**Pg**	**05 08 45.4**	**0.0**
	baz=266							
TWD				*eS*		**Sb**	**05 08 54.8**	**+0.5**
	baz=266							
TWC	**Suao**	**0.68**	**326**	P		**Pg**	**05 08 46.3**	**-0.3**
	baz=324							
TWC				*eS*		**Sg**	**05 08 54.5**	**-1.2**
	baz=324							
JYNG	**Yonagunijimaku**	**0.73**	**56**	P		**Pb**	**05 08 47.9**	**+0.2**
JYNG				S		**Sb**	**05 08 57.7**	**+0.1**
YOJ	**Yonaguni jima**	**0.79**	**58**	P		**Pg**	**05 08 48.9**	**+0.3**
YOJ				S		**Sb**	**05 08 59.6**	**+0.4**
ESL	**Shilin**	**0.80**	**254**	*eP*		**Pb**	**05 08 48.9**	**+0.1**
	baz=247							
ESL				*eS*		**Sg**	**05 09 00.6**	**+1.2**
	baz=247							
EGS		**0.86**	**339**	*eP*		**Pb**	**05 08 49.7**	**0.0**
	baz=339							
EGS				*eS*		**Sg**	**05 09 01.0**	**-0.1**
	baz=339							
ILA	**Ilan**	**0.86**	**326**	*eS*		**Sg**	**05 09 02.0**	**+0.6**
	baz=325							
TWE	**Neicheng**	**0.87**	**321**	*eP*		**Pg**	**05 08 50.3**	**+0.2**
	baz=319							
TWE				*eS*		**Sb**	**05 09 01.0**	**-0.5**
	baz=319							
ENTT	**Nioudou**	**0.88**	**313**	*eP*		**Pg**	**05 08 50.4**	**+0.2**
	baz=310							
ENTT				*eS*		**Sg**	**05 09 01.7**	**-0.1**
	baz=310							
NNS	**Nan Shan**	**0.91**	**296**	P		**Pg**	**05 08 51.2**	**+0.3**
	baz=292							
NNS				*eS*		**Sn**	**05 09 03.5**	**-1.0**
	baz=292							
TWB1	**Santiao Chiao**	**0.99**	**345**	*eP*		**Pb**	**05 08 51.8**	**-0.4**
	baz=345							
TWB1				*eS*		**Sb**	**05 09 04.5**	**-0.5**
	baz=345							
EHY	**Hungye**	**1.02**	**239**	*eP*		**Pb**	**05 08 52.5**	**-0.1**
	baz=234							
EHY				*eS*		**Sb**	**05 09 05.8**	**-0.1**
	baz=234							
TWT	**Tachien**	**1.02**	**282**	*eP*		**Pg**	**05 08 53.7**	**+0.6**
	baz=277							
TWT				*eS*		**Sn**	**05 09 07.3**	**-0.1**
	baz=277							
NWF	**Wu-fen Shan**	**1.12**	**336**	*eP*		**Pb**	**05 08 54.1**	**-0.2**
	baz=336							
NWF				*eS*		**Sn**	**05 09 08.8**	**-0.7**
	baz=336							
TWA	**Mucha**	**1.12**	**326**	*eP*		**Pg**	**05 08 55.0**	**+0.1**
	baz=325							
TWA				*eS*		**Sb**	**05 09 08.3**	**-0.5**
	baz=325							
TWF1	**Yuli**	**1.13**	**233**	*eP*		**Pn**	**05 08 54.0**	**-0.5**
	baz=228							
TWF1				*eS*		**Sb**	**05 09 09.2**	**+0.3**
	baz=228							
TAP1	**Taipei**	**1.20**	**326**	*eP*		**Pg**	**05 08 56.8**	**+0.3**
	baz=324							
TAP1				*eS*		**Sg**	**05 09 11.6**	**-0.5**
	baz=324							
TAP	**Taipei**	**1.21**	**325**	*eP*		**Pb**	**05 08 55.8**	**-0.1**
	baz=324							
TAP				*eS*		**Sg**	**05 09 12.8**	**+0.3**
	baz=324							
CHKT	**Chengkung**	**1.26**	**222**	*eP*		**Pn**	**05 08 55.4**	**-0.8**
	baz=218							
SMLT	**Sun Moon Lake**	**1.27**	**263**	*eP*		**Pb**	**05 08 57.1**	**+0.2**
	baz=259							
SMLT				*eS*		**Sg**	**05 09 14.6**	**+0.4**
	baz=259							
NSTT	**Nanjuang**	**1.30**	**297**	*eP*		**Pb**	**05 08 57.4**	**+0.1**
	baz=294							
NSTT				*eS*		**Sn**	**05 09 14.3**	**+0.4**
	baz=294							
TYC	**Yuchr**	**1.30**	**264**	P		**Pb**	**05 08 57.5**	**+0.1**
	baz=260							
TYC				*eS*		**Sg**	**05 09 15.3**	**0.0**
	baz=260							
TWS1	**Kuangyinshan**	**1.31**	**324**	*eP*		**Pb**	**05 08 57.3**	**-0.2**
	baz=322							
TWS1				*eS*		**Sg**	**05 09 14.8**	**-0.7**
	baz=322							
YUS	**Yu-Shan**	**1.33**	**246**	*eP*		**Pb**	**05 08 58.3**	**+0.1**
	baz=242							
YUS				*eS*		**Sn**	**05 09 15.2**	**-0.2**
	baz=242							
NCU	**National Centr**	**1.35**	**313**	*eS*		**Sg**	**05 09 16.5**	**-0.4**
	baz=311							
IRIF	**Iriomote-Funau**	**1.36**	**77**	P		**Pn**	**05 08 58.2**	**+0.5**
TWY	**Chenhua**	**1.37**	**334**	*eP*		**Pb**	**05 08 59.0**	**+0.4**
	baz=333							
TWY				*eS*		**Sg**	**05 09 17.4**	**0.0**
	baz=333							
HATJ	**Hateruma jima**	**1.40**	**89**	P		**Pn**	**05 08 58.8**	**+0.6**
HATJ				*eS*		**Sg**	**05 09 18.8**	**+0.4**
TWQ1	**Liyutan**	**1.40**	**283**	*eP*		**Pg**	**05 08 59

SGLT				*e*S		**Sb**	**05 09 37.7**	**+0.8**
	baz=229							
LAY	**Lan-yu**	**2.10**	**199**	*e*P		**Pn**	**05 09 07.0**	**-0.9**
	baz=197							
EAST	**Anshuo**	**2.11**	**219**	*e*P		**Pn**	**05 09 07.5**	**-0.5**
	baz=216							
EAST				*e*S		**Sb**	**05 09 36.8**	**-0.5**
	baz=216							
TAI1	**Yung-k'ang**	**2.13**	**242**	*e*S		**Sb**	**05 09 37.5**	**-0.2**
	baz=239							
SCZT	**Fangliau**	**2.25**	**223**	*e*P		**Pb**	**05 09 12.6**	**-1.1**
	baz=220							
SCZT				*e*S		**Sb**	**05 09 40.9**	**-0.5**
	baz=220							
JTJ	**Tarama**	**2.29**	**74**	*e*S		**Sn**	**05 09 38.7**	**+0.2**
HEN	**Hengchun**	**2.47**	**215**	*e*P		**Pn**	**05 09 14.2**	**+1.2**
	baz=213							
HEN				*e*S		**Sn**	**05 09 42.8**	**-0.1**
	baz=213							
TWK1	**Hengchun**	**2.49**	**213**	*e*P		**Pn**	**05 09 12.3**	**-0.9**
	baz=211							
TWK1				*e*S		**Sn**	**05 09 43.4**	**+0.1**
	baz=211							
WDGT	**Dungji**	**2.52**	**252**	*e*S		**Sn**	**05 09 44.1**	**0.0**
	baz=250							
PNG	**Penghu**	**2.54**	**260**	*e*S		**Sn**	**05 09 45.4**	**+0.9**
	baz=257							
KNM	**Kinmen**	**3.52**	**277**	*e*S		**Sn**	**05 10 08.9**	**+0.1**
	baz=274							

IDC ***25*** *05:11:49.7±1.9,2.°67N×97.°23E,h0km,mb3.7/5,mb1 3.8/5, mb1mx3.5/24,mbtmp3.7/5,Error ellipse: s-maj=59.5km s-min=24.7km az=37.0*

DJA ***25*** *05:11:51.4±0.6,3.°N±4.°×9.°8E±.°,h25km±10km,M3.5/5, MLv3.5/5*

ISCJB ***25*** *05:11:52.7±0.8,2.°70N±0.°07×97.°5E±0.°3,h33km,mb3.6/5, Error ellipse: s-maj=39.5km s-min=9.2km az=175.9*

ISC 25 05:11:53.8±1.0,2.°58N±0.°08×97.°4E±0.°1,h33km,n12, σ1°**22/8,mb3.6/5,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**1.05**	**261**	P	Pb	05 12 21.6	**+8.1**
GSI	**Gunungsitoli**	**1.28**	**170**	P	**Pn**	**05 12 15.2**	**-0.3**
GSI				S	**Sb**	**05 12 33.3**	**-0.4**
PSI	**Prapat**	**1.58**	**82**	Pn	**Pb**	**05 12 22.6**	**+0.1**
	2.2nm,0.3s,baz=182,slow=16,SNR=6.4						
H08S2	**Diego Garcia H**	**26.81**	**248**	T	T	05 44 55.7	
	baz=70,slow=76,SNR=6.5						
H08S3	**Diego Garcia H**	**26.81**	**248**	T	T	05 44 46.9	
	baz=70,slow=76,SNR=8.9						
H08S1	**Diego Garcia H**	**26.83**	**248**	T	T	05 44 50.3	
	baz=70,slow=76,SNR=8.2						
WRA	**Warramunga Ar**	**42.64**	**123**	P	**P**	**05 19 48.2**	**+0.7**
	0.2nm,0.6s,baz=302,slow=9.0,SNR=4.2						
SONM	**Songino Array**	**45.75**	**8**	P	**P**	**05 20 10.4**	**-1.8**
	0.3nm,0.3s,baz=195,slow=9.0,SNR=3.5						
ZALV	**Zalesovo Beam**	**52.23**	**351**	P	**P**	**05 21 01.3**	**-0.3**
	0.6nm,0.4s,baz=178,slow=8.2,SNR=4.6						
FINES	**FINESS Array B**	**78.86**	**332**	P	**P**	**05 23 54.6**	**+1.1**
	0.3nm,0.5s,baz=123,slow=10,SNR=4.7						
ARCES	**ARCESS Array B**	**81.30**	**340**	P	**P**	**05 24 08.0**	**+1.4**
	3.1nm,1.1s,baz=90,slow=6.3,SNR=5.8						
H09N1	**TRISTAN DA CUNI**	**07.21**	**232**	T	T	07 26 17.6	
	SNR=4.2						

IDC 25 05:34:35.1±2.0,17.°78S×167.°21E,h0km,mb3.7/4, mb1 4.0/5,mb1mx3.7/22,mbtmp3.8/5,ML3.9/1,Error ellipse: s-maj=53.1km s-min=32.1km az=126.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.33**	**189**	Pn	Pn	05 35 41.4	-1.0
	6.3nm,0.3s,baz=90,slow=24,SNR=58						
DZM	**Mont Dzumac**	**4.33**	**189**	*e*P	Pn	05 35 40.3	-2.1
STKA	**Stephens Creek**	**27.07**	**234**	P	P	05 40 20.7	+1.2
	3.9nm,0.9s,baz=66,slow=10.0,SNR=4.0						
WRA	**Warramunga Arr**	**31.16**	**261**	P	P	05 40 55.3	-0.7
	0.3nm,0.8s,baz=92,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**31.65**	**254**	P	P	05 41 00.3	-0.1
	0.8nm,0.8s,baz=80,slow=9.4,SNR=5.8						
ILAR	**Eielson Array**	**89.43**	**18**	P	P	05 47 33.5	0.0
	0.3nm,0.7s,baz=229,slow=5.5,SNR=5.6						

ISK ***25*** *05:58:26.7,36.°15N×30.°42E,h26km,MD3.6*

DDA ***25*** *05:58:27.2,36.°18N×30.°55E,h44km,ML3.8*

CSEM ***25*** *05:58:28.5±0.3,36.°20N×30.°48E,h30km,MD3.6,Error ellipse: s-maj=6.5km s-min=4.1km az=175.0*

ISC 25 05:58:28.9±1.5,36.°22N±0.°05×30.°49E±0.°03,h26km±13km, n58,σ1°**05/79,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANTB	**Antalya**	**0.69**	**11**	*e*PG	**Pn**	**05 58 42.4**	**-0.6**
ANTB	**Antalya**	**0.69**	**11**	*e*Pg	**Pb**	**05 58 42.4**	**-0.6**
ELL	**Elmali**	**0.70**	**318**	*e*PG	**Pb**	**05 58 41.7**	**-1.0**
ELL				*e*SG	**Sn**	**05 58 52.7**	**-0.7**
ELL	**Elmali**	**0.70**	**318**	*e*Pg	**Pb**	**05 58 41.7**	**-1.0**
ELL				*e*Sg	**Sn**	**05 58 52.7**	**-0.7**
AKAS	**Kas**	**0.72**	**271**	*i* P	**Pn**	**05 58 42.8**	**-0.7**
AKAS				*i* S	**Sn**	**05 58 54.4**	**+0.6**
AKAS	**Kas**	**0.72**	**271**	*i* P	**Pn**	**05 58 42.8**	**-0.7**
AKAS				*i* S	**Sn**	**05 58 54.4**	**+0.6**
KORT	**Korkueli**	**0.78**	**352**	*i* P	**Pb**	**05 58 42.6**	**-1.4**
KORT				*i* S	**Sn**	**05 58 56.2**	**+0.8**
KORT	**Korkueli**	**0.78**	**352**	*i* P	**Pb**	**05 58 42.6**	**-1.4**
KORT				*i* S	**Sn**	**05 58 56.2**	**+0.8**
BCK	**Bucak**	**1.24**	**4**	*e*PN	**Pn**	**05 58 50.2**	**-0.4**
BCK	**Bucak**	**1.24**	**4**	*e*Pn	**Pn**	**05 58 50.2**	**-0.4**
GOLH	**Golhisar**	**1.26**	**324**	*i* P	**Pb**	**05 58 51.2**	**-0.8**
GOLH				*i* S	**Sb**	**05 59 10.5**	**+2.6**
GOLH	**Golhisar**	**1.26**	**324**	*i* P	**Pb**	**05 58 51.2**	**-0.8**
GOLH				*i* S	**Sb**	**05 59 10.5**	**+2.6**
SUTC	**Sutluce-Ispart**	**1.31**	**18**	*e*PN	**Pn**	**05 58 51.0**	**-0.8**
SUTC	**Sutluce-Ispart**	**1.31**	**18**	*e*Pn	**Pn**	**05 58 51.0**	**-0.8**
DALY	**Dalyan (Mu˙la**	**1.59**	**292**	*e*PN	**Pn**	**05 58 53.0**	**-2.5**
DALY	**Dalyan (Mu˙la**	**1.59**	**292**	*e*Pn	**Pn**	**05 58 53.0**	**-2.5**
ISP	**Isparta**	**1.59**	**1**	*e*PN	**Pn**	**05 58 55.9**	**+0.3**
ISP	**Isparta**	**1.59**	**1**	*e*Pn	**Pn**	**05 58 55.9**	**+0.3**
TURN	**Turunc**	**1.65**	**294**	*i* P	**Pb**	**05 58 60.0**	**+1.3**
TURN				*i* S	**Sb**	**05 59 22.9**	**+3.8**
TURN	**Turunc**	**1.65**	**294**	*i* P	**Pb**	**05 59 00.0**	**+1.3**
HDMB	**Hadim**	**1.77**	**65**	*e*PN	**Pn**	**05 58 57.7**	**-0.4**
HDMB	**Hadim**	**1.77**	**65**	*e*Pn	**Pn**	**05 58 57.7**	**-0.4**
YER	**Yerkesik**	**2.00**	**298**	*e*PN	**Pn**	**05 58 59.7**	**-1.3**
YER	**Yerkesik**	**2.00**	**298**	*e*Pn	**Pn**	**05 58 59.7**	**-1.3**
KHL	**Karahalli**	**2.23**	**340**	*e*PN	**Pn**	**05 59 03.3**	**-1.0**
KHL	**Karahalli**	**2.23**	**340**	*e*Pn	**Pn**	**05 59 03.3**	**-1.0**
LEF	**Lefka**	**2.24**	**119**	*e*PN	**Pn**	**05 59 03.7**	**-0.7**
LEF	**Lefka**	**2.24**	**119**	*e*Pn	**Pn**	**05 59 03.7**	**-0.7**
KONT	**Konya--Tatoy**	**2.28**	**40**	*e*PN	**Pn**	**05 59 04.5**	**-0.4**
KONT	**Konya--Tatoy**	**2.28**	**40**	*e*Pn	**Pn**	**05 59 04.5**	**-0.4**
LADK	**Ladik-KONYA**	**2.48**	**37**	*e*PN	**Pn**	**05 59 08.3**	**+0.6**
LADK	**Ladik-KONYA**	**2.48**	**37**	*e*Pn	**Pn**	**05 59 08.3**	**+0.6**
AYDN	**Tasoluk**	**2.54**	**305**	*i* P	**Pn**	**05 59 08.5**	**0.0**
AYDN				*i* S	**Sb**	**05 59 43.0**	**-1.6**
AYDN	**Tasoluk**	**2.54**	**305**	*i* P	**Pn**	**05 59 08.5**	**0.0**
AYDN				*i* S	**Sb**	**05 59 43.0**	**-1.6**
BDRM	**Kayabasi**	**2.59**	**290**	*i* P	**Pn**	**05 59 09.3**	**+0.1**
BDRM				*i* S	**Sn**	**05 59 39.8**	**-0.1**
BDRM	**Kayabasi**	**2.59**	**290**	*i* P	**Pn**	**05 59 09.3**	**+0.1**
BDRM				*i* S	**Sn**	**05 59 39.8**	**-0.1**
KDHN	**Kadinhani**	**2.63**	**29**	*i* P	**Pn**	**05 59 09.4**	**-0.5**
KDHN				*i* S	**Sn**	**05 59 41.0**	**0.0**
KDHN	**Kadinhani**	**2.63**	**29**	*i* P	**Pn**	**05 59 09.4**	**-0.5**
KDHN				*i* S	**Sn**	**05 59 41.0**	**0.0**
BODT	**Bodrum**	**2.69**	**289**	*e*PN	**Pn**	**05 59 10.0**	**-0.6**
BODT	**Bodrum**	**2.69**	**289**	*e*Pn	**Pn**	**05 59 10.0**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**2.70**	**310**	*e*PN	**Pn**	**05 59 09.5**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**2.70**	**310**	*e*Pn	**Pn**	**05 59 09.5**	**-1.2**
KULA	**Kula-Manisa**	**2.71**	**328**	*e*PN	**Pn**	**05 59 10.2**	**-0.7**
KULA	**Kula-Manisa**	**2.71**	**328**	*e*Pn	**Pn**	**05 59 10.2**	**-0.7**
MANT	**Manisa**	**2.74**	**326**	*i* P	**Pn**	**05 59 09.9**	**-1.5**
MANT				*i* S	**Sn**	**05 59 44.2**	**+0.4**
MANT	**Manisa**	**2.74**	**326**	*i* P	**Pn**	**05 59 09.9**	**-1.5**
MANT				*i* S	**Sn**	**05 59 44.2**	**+0.4**
ALT	**Altintas**	**2.84**	**354**	*e*PN	**Pn**	**05 59 12.7**	**0.0**
ALT	**Altintas**	**2.84**	**354**	*e*Pn	**Pn**	**05 59 12.7**	**0.0**
KIZT	**Kizilcal**	**2.87**	**22**	*e*PN	**Pn**	**05 59 12.9**	**-0.3**
KIZT	**Kizilcal**	**2.87**	**22**	*e*Pn	**Pn**	**05 59 12.9**	**-0.3**
GDZ	**Gediz**	**2.97**	**345**	*i* P	**Pn**	**05 59 14.3**	**-0.2**
GDZ				*i* S	**Sn**	**05 59 48.9**	**-0.5**
GDZ	**Gediz**	**2.97**	**345**	*i* P	**Pn**	**05 59 14.3**	**-0.2**
GDZ				*i* S	**Sn**	**05 59 48.9**	**-0.5**
DEMI	**Demirci**	**3.15**	**334**	*i* P	**Pn**	**05 59 16.8**	**-0.1**
DEMI				*i* S	**Sn**	**05 59 54.4**	**+0.7**
DEMI	**Demirci**	**3.15**	**334**	*i* P	**Pn**	**05 59 16.8**	**-0.1**
DEMI				*i* S	**Sn**	**05 59 54.4**	**+0.7**
TVSB	**Tavsanli**	**3.32**	**346**	*e*PN	**Pn**	**05 59 19.2**	**-0.1**
TVSB	**Tavsanli**	**3.32**	**346**	*e*Pn	**Pn**	**05 59 19.2**	**-0.1**
IZM	**Izmir**	**3.37**	**311**	*e*PN	**Pn**	**05 59 19.1**	**-0.8**
IZM	**Izmir**	**3.37**	**311**	*e*Pn	**Pn**	**05 59 19.1**	**-0.8**

IDC 25 06:22:34.1±3.6,15.°66S×172.°34W,h0km,mb3.5/4, mb1 3.9/4,mb1mx3.6/34,mbtmp3.5/4,MS3.6/1,Ms1 3.6/1, ms1mx2.7/20,Error ellipse: s-maj=193.8km s-min=28.1km az=145.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**24.36**	**200**	LR	LR	06 36 04.3	
	comp=Z,137nm,18.2s,baz=340,slow=33						
WRA	**Warramunga Arr**	**50.78**	**257**	P		06 31 36.8	+0.3
	0.5nm,1.0s,baz=86,slow=6.5,SNR=3.3						
ASAR	**Alice Springs**	**51.00**	**252**	P	P	06 31 37.6	-0.6
	0.8nm,0.7s,baz=87,slow=8.2,SNR=7.6						
NVAR	**Mina Array Bea**	**73.84**	**41**	P	P	06 34 11.2	+0.1
	0.5nm,0.8s,baz=230,slow=8.1,SNR=3.6						
ILAR	**Eielson Array**	**82.51**	**11**	P	P	06 34 58.1	-0.1
	0.2nm,0.8s,baz=226,slow=6.1,SNR=3.6						

DJA ***25*** *06:37:04.8±0.7,0.°N±4.°×9.°7E±.°,h53km±9km,M4.3/9, mb4.6/3,mB5.7/1,MLv4.1/9,Mw(mB)5.2/1*

IDC ***25*** *06:37:12.6±4.5,0.°64N×98.°18E,h80km±37km,mb3.7/8, mb1 3.8/9,mb1mx3.6/26,mbtmp4.0/9,MS3.2/2,Ms1 3.2/2, ms1mx2.7/35,Error ellipse: s-maj=49.6km s-min=16.2km az=55.0*

ISC 25 06:37:08.4±1.3,0.°10N±0.°08×97.°5E±0.°1,h65km±10km,n28, σ1°**70/20,mb4.0/8,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**0.81**	**101**	P	**Pn**	**06 37 22.1**	**-2.2**
PBSI				S	**Sn**	**06 37 36.2**	**+0.1**
GSI	**Gunungsitoli**	**1.20**	**5**	P	Pn	06 37 25.9	-3.3
GSI				S	**Sn**	**06 37 44.4**	**-0.4**
SISI	**Saibi**	**2.15**	**131**	P	Pn	06 37 38.8	-3.1
SISI				S	**Sn**	**06 38 05.6**	**-1.9**
MNSI	**Mandailing Nat**	**2.21**	**72**	P	**Pn**	**06 37 41.3**	**-1.5**
MNSI				S	**Sn**	**06 38 11.4**	**+2.3**
PSI	**Prapat**	**3.04**	**28**	P	Pn	06 37 46.9	-7.4
	0.6nm,0.3s,baz=337,slow=20,SNR=2.8						
PDSI	**Padang**	**3.15**	**109**	P	**Pn**	**06 37 53.9**	**-1.7**
PDSI				S	**Sn**	**06 38 32.2**	**+0.2**
BKNI	**Bangkinang**	**3.57**	**86**	P	**Pn**	**06 37 59.8**	**-1.5**
LHSI	**Lahat**	**7.19**	**123**	P	**Pn**	**06 38 49.5**	**-1.4**
	61nm,0.7s,5µm0.4nm						
MDSI	**Maura Dua**	**8.10**	**124**	P	Pn	06 39 00.3	-3.1
KLSI		**8.67**	**123**	P	Pn	06 39 17.0	+5.8
LEM	**Lembang**	**12.23**	**124**	LR	LR	06 44 40.6	
	comp=Z,80nm,21.0s,baz=350,slow=37						
CMAR	**Chiang Mai Arr**	**18.30**	**4**	P	**P**	**06 41 14.3**	**-3.0**
	0.1nm,0.3s,baz=197,slow=12,SNR=3.3						
H08S2	**Diego Garcia H**	**26.07**	**252**	T	T	07 09 13.7	
	baz=72,slow=74,SNR=164						
H08S3	**Diego Garcia H**	**26.08**	**252**	T	T	07 09 13.0	
	baz=72,slow=74,SNR=166						
H08S1	**Diego Garcia H**	**26.09**	**252**	T	T	07 09 14.3	
	baz=72,slow=74,SNR=254						
H01W3	**Cape Leeuwin H**	**38.13**	**158**	T	T	07 24 40.7	
	baz=334,slow=76,SNR=50						
H01W2	**Cape Leeuwin H**	**38.14**	**158**	T	T	07 24 40.2	
	baz=334,slow=76,SNR=49						
H01W1	**Cape Leeuwin H**	**38.15**	**158**	T	T	07 24 40.0	
	baz=334,slow=76,SNR=50						
WRA	**Warramunga Arr**	**41.23**	**121**	P	**P**	**06 44 47.5**	**+0.2**
	2.1nm,0.5s,baz=303,slow=8.9,SNR=31						
WRA				pP	**pP**	**06 45 05.8**	**+2.2**
	1.9nm,0.7s,baz=301,slow=9.0,SNR=4.9						
ASAR	**Alice Springs**	**42.52**	**126**	P	**P**	**06 44 58.2**	**+0.3**
	1.0nm,0.7s,baz=294,slow=8.0,SNR=10						
ASAR				pP	**pP**	**06 45 16.6**	**+2.4**
	1.2nm,0.8s,baz=307,slow=7.3,SNR=5.8						
KSRS	**Korea Array**	**46.59**	**34**	P	P	06 45 25.6	-4.5
	0.6nm,0.3s,baz=224,slow=10,SNR=4.8						
KSRS				LR	LR	07 07 54.0	
	comp=Z,44nm,19.1s,baz=214,slow=40						
STKA	**Stephens Creek**	**52.42**	**132**	P	**P**	**06 46 15.8**	**+1.2**
	2.0nm,0.7s,baz=329,slow=8.2,SNR=3.7						
KURBB	**Kurchatov Arra**	**52.86**	**345**	P	**P**	**06 46 17.4**	**0.0**
	0.3nm,0.3s,baz=163,slow=6.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**54.68**	**351**	P	**P**	**06 46 30.9**	**+0.3**
	3.0nm,0.4s,baz=182,slow=8.4,SNR=11						
AKASG	**Malin Array Be**	**76.29**	**323**	P	**P**	**06 48 51.2**	**+0.9**
	0.8nm,0.5s,baz=91,slow=4.4,SNR=5.7						
TORD	**Torodi Ar. Bea**	**95.61**	**283**	P	P	06 50 33.9	+6.4
	0.3nm,0.7s,baz=113,slow=6.0,SNR=2.5						
H09N1	**TRISTAN DA CUNI**	**05.78**	**231**	T	T	08 49 22.2	
TXAR	**Lajitas Array**	**144.44**	**33**	PKP	**PKPdf**	**06 56 38.2**	**-0.1**
	1.0nm,0.9s,baz=274,slow=0.8,SNR=9.8						

IASPEI ***25*** *06:37:51.5±1.0,32.°64N±0.°02×115.°78W±0.°02,h18km±3km, Error ellipse: s-maj=3.6km s-min=2.9km az=158.9*

ISCJB ***25*** *06:37:51.9±0.3,32.°65N±0.°02×115.°78W±0.°02,h12km±2km, mb3.1/1,MS2.9/1,Error ellipse: s-maj=2.6km s-min=2.1km az=177.3*

NEIC ***25*** *06:37:53.3,32.°63N×115.°80W,h4km,mb3.8/1, ML4.2(ECX),ML4.2(PAS),After ECX.*

NEIC Felt [III] at Mexicali. Felt [III] at El Centro and Imperial; [II] at El Cajon, Escondido, San Diego and Santee, California. Also felt at Brawley, Calexico, Carlsbad, Chula Vista, Holtville, Indio, Julian, La Jolla, Lakeside, La Mesa, Mountain Center, National City, Poway, San Marcos and Spring Valley.

ECX ***25*** *06:37:53.2±0.5,32.°64N×115.°81W,h4km,MD4.0,ML4.2*

IDC ***25*** *06:37:54.5±2.4,32.°74N×115.°40W,h0km,mb3.1/1, mb1 3.7/6,mb1mx3.4/42,mbtmp3.3/6,ML3.6/5,MS2.7/3, Ms1 2.7/3,ms1mx2.5/14,Error ellipse: s-maj=42.5km s-min=12.5km az=45.0*

ISC 25 06:37:52.7±0.8,32.°62N±0.°02×115.°79W±0.°02,h12km±5km, n108,σ1°**60/140,14C-6D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.06**	**60**	⇑*i*P	**Pg**	**06 37 54.5**	**-0.6**
YUH	**Yuha Desert**	**0.12**	**285**	⇑*i*P	**Pg**	**06 37 55.3**	**-0.4**
WESC	**Westside Schoo**	**0.15**	**19**	⇓*i*P	**Pg**	**06 37 55.8**	**-0.3**
WESC				*e*S	**Sg**	**06 37 58.7**	**0.0**
ERPC	**Ernies Place**	**0.16**	**40**	⇑*i*P	**Pg**	**06 37 56.4**	**0.0**
COK	**Cook Ranch**	**0.24**	**13**	⇓*i*P	**Pg**	**06 37 57.5**	**-0.1**
RMX	**La Rumorosa**	**0.24**	**266**	⇑*i*P	**Pg**	**06 37 57.6**	**-0.3**
RMX				*e*S	**Sg**	**06 38 01.3**	**-0.1**
IBP	**Imperial Bould**	**0.26**	**280**	P	**Pg**	**06 37 57.6**	**-0.5**
	baz=0.3						
IBP				S	**Sg**	**06 38 01.5**	**-0.3**
	baz=0.3						
CRR	**Carrizo Plain**	**0.31**	**330**	⇓*i*P	**Pg**	**06 37 58.4**	**-0.5**
SWSC	**Sam W. Stewart**	**0.32**	**359**	P	**Pg**	**06 37 58.4**	**-0.8**
	baz=0.3						
SWSC				S	**Sg**	**06 38 03.0**	**-0.5**
	baz=0.3						
SWSC	**Sam W. Stewart**	**0.32**	**359**	⇓*i*P	**Pg**	**06 37 58.6**	**-0.6**
DREC	**Desert Rsrch C**	**0.34**	**57**	⇑*i*P	**Pg**	**06 37 59.8**	**+0.2**
CPBX	**Cerro Prieto**	**0.46**	**116**	⇑*i*P	**Pg**	**06 38 01.6**	**0.0**
CPBX				*e*S	**Sg**	**06 38 08.6**	**+0.9**
CBKC	**Canebrake**	**0.48**	**306**	⇑*i*P	**Pg**	**06 38 01.9**	**-0.2**
CLIC	**Calipatria**	**0.57**	**23**	⇑*i*P	**Pg**	**06 38 03.4**	**-0.3**
MONP	**Monument Peak,**	**0.60**	**297**	P	**Pg**	**06 38 03.4**	**-0.9**
	baz=0.6						
MONP				S	**Sg**	**06 38 11.5**	**-0.8**
	baz=0.6						
COA	**Coachella**	**0.61**	**66**	⇑*i*P	**Pg**	**06 38 04.0**	**-0.5**
RDX	**Rancho Dawling**	**0.70**	**191**	⇓*e*P	**Pg**	**06 38 05.5**	**-0.7**
RDX				⇓*e*		06 38 16.4	
BAR	**Barrett**	**0.75**	**275**	*e*Pg	**Pg**	**06 38 06.3**	**-0.9**
BAR				*e*Sg	**Sg**	**06 38 16.1**	**-0.8**
BAR	**Barrett**	**0.75**	**275**	⇑*i*P	**Pg**	**06 38 06.4**	**-0.7**
BAR				*e*S	**Sg**	**06 38 16.0**	**-1.0**
CBX	**Cerro Bola**	**0.80**	**248**	⇑*i*P	**Pg**	**06 38 07.7**	**-0.5**
CBX				*e*S	**Sg**	**06 38 18.3**	**-0.4**
CBX				⇑*e*		06 38 21.4	
CBX				IAML		06 38 21.4	
	comp=N,12µm,0.3s						
GLA	**Glamis**	**0.92**	**62**	P	**Pb**	**06 38 08.3**	**-2.3**
	baz=0.9						
GLA				S	**Sg**	**06 38 20.1**	**-2.3**
	baz=0.9						
GLA	**Glamis**	**0.92**	**62**	*e*Pg	**Pb**	**06 38 08.4**	**-2.2**
GLA				*e*Sg	**Sg**	**06 38 20.9**	**-1.5**
SDRC	**San Diego Road**	**0.98**	**277**	⇑*e*P	**Pb**	**06 38 10.3**	**-1.3**
BC3	**Big Chuckawall**	**1.07**	**15**	P	**Pb**	**06 38 10.8**	**-2.4**
	baz=1.1						
PFO	**Pinyon Flats O**	**1.14**	**331**	P	**Pb**	**06 38 11.8**	**-2.6**
	baz=1.2						
PFO				S	**Sb**	**06 38 26.0**	**-3.1**
	baz=1.2						
PFO	**Pinyon Flats O**	**1.14**	**331**	*e*Pn	**Pb**	**06 38 11.8**	**-2.6**
PFO				*e*Sg	**Sb**	**06 38 27.5**	**-1.7**
109C	**Camp Elliot, M**	**1.14**	**284**	P	**Pb**	**06 38 12.9**	**-1.4**
	baz=1.1						
109C				S	**Sb**	**06 38 27.4**	**-1.7**
	baz=1.1						
ZAX	**El Zacaton**	**1.18**	**201**	*e*P	**Pn**	**06 38 14.2**	**-0.8**
ZAX				*e*S	**Sb**	**06 38 30.1**	**-0.2**
ECNX	**Esteban Cantu**	**1.18**	**216**	*e*P	**Pn**	**06 38 14.2**	**-0.9**
ECNX				*e*S	**Sb**	**06 38 29.8**	**-0.5**
PBX	**Punta Banda**	**1.18**	**223**	⇑*e*P	**Pn**	**06 38 14.2**	**-0.9**
PBX				*e*S	**Sb**	**06 38 30.1**	**-0.2**
ECBX	**El Chinero**	**1.30**	**151**	*e*Pn	Pn	06 38 13.9	-2.8
ECBX				*e*S	**Sb**	**06 38 31.4**	**-2.4**
BELC	**Belle Mtn. Jos**	**1.39**	**353**	P	**Pn**	**06 38 15.5**	**-2.6**
	baz=1.4						
MURC	**Murrieta**	**1.54**	**310**	P	**Pn**	**06 38 17.9**	**-2.0**
	baz=1.5						
MURC				Sb	**Sn**	**06 38 39.6**	**-0.3**
	baz=1.5						
Y12C	**Blythe**	**1.55**	**43**	P	**Pn**	**06 38 17.8**	**-2.3**
	baz=1.6						
SPX	**San Pedro Mart**	**1.59**	**170**	*e*Pn	**Pn**	**06 38 19.8**	**-1.2**
SPX				*e*S	**Sb**	**06 38 43.2**	**+0.7**
IRM	**Iron Mountain**	**1.63**	**19**	P	**Pn**	**06 38 19.0**	**-2.3**
	baz=1.7						
BBRC	**Big Bear Solar**	**1.89**	**330**	P	**Pn**	**06 38 23.3**	**-1.7**
	baz=1.9						
BBRC				S	**Sn**	**06 38 47.2**	**-1.8**
	baz=1.9						
GMRC	**Granite Mounta**	**2.16**	**3**	P	**Pn**	**06 38 26.9**	**-1.7**
	baz=2.2						
PDMCI	**Parker Dam,Lak**	**2.17**	**39**	P	**Pn**	**06 38 26.9**	**-1.8**
	baz=2.2						
BFSC	**Mount Baldy Ra**	**2.25**	**316**	Sb	**Sb**	**06 39 00.3**	**-0.9**
	baz=2.3						
CIS	**Catalina Islan**	**2.33**	**290**	P	**Pn**	**06 38 29.6**	**-1.3**
	baz=2.3						
SCI	**San Clemente I**	**2.35**	**280**	P	**Pn**	**06 38 30.9**	**-0.2**
	baz=2.3						
FMP	**Fort Macarthur**	**2.37**	**298**	Pb	**Pb**	**06 38 33.9**	**-1.4**
	baz=2.4						
FMP				Sb	**Sb**	**06 39 03.6**	**-0.9**
	baz=2.4						
MWC	**Mount Wilson**	**2.48**	**311**	*e*Pn	**Pb**	**06 38 35.9**	**-1.5**
MWC				*e*Sg	**Sb**	**06 39 08.4**	**+0.4**
LDFC	**Landfair**	**2.52**	**13**	*e*Pn	**Pb**	**06 38 36.9**	**-1.0**
PASC	**Pasadena Art C**	**2.53**	**308**	*e*Pg	**Pb**	**06 38 36.9**	**-1.2**
PASC				*e*Sg	**Sb**	**06 39 10.2**	**+0.9**
214A	**Organ Pipe Nat**	**2.61**	**104**	P	Pn	**06 38 32.1**	**-2.6**
	baz=2.6						
214A	**Organ Pipe Nat**	**2.61**	**104**	*e*Pn	**Pn**	**06 38 32.1**	**-2.6**
214A				*e*Sg	**Pg**	**06 38 42.6**	**0.0**
GSC	**Goldstone, B

MSTX	**Muleshoe**	**10.98**	**79**	*e*Pn		**Pn**	**06 40 32.5 +2.9**
PDAR	**Pinedale Array**	**11.26**	**24**	Pn		**Pn**	**06 40 36.6 +2.9**
	comp=N,0.1nm,0.3s,baz=207,slow=7.1,SNR=4.5						
Y28A	**McKinney Farm,**	**11.41**	**80**	P		Pn	06 40 39.1 +3.5
	baz=11						
Y29A	**Porterfield Fa**	**11.89**	**80**	P		Pn	06 40 45.8 +3.7
	baz=12						
AMTX	**Amarillo**	**11.96**	**75**	P		Pn	06 40 47.5 +4.4
	baz=12						
T28A	**Walsh**	**12.09**	**64**	P		**Pn**	**06 40 47.8 +2.9**
	baz=12						
432A	**Menard**	**13.72**	**93**	P		**Pn**	**06 41 09.9 +2.8**
	baz=14						
W32A	**Sentinel**	**13.97**	**75**	P		**Pn**	**06 41 12.8 +2.2**
	baz=14						
233A	**Rising Star**	**14.30**	**88**	P		**Pn**	**06 41 16.1 +1.1**
	baz=14						
Z33A	**Whitaker Ranch**	**14.31**	**83**	P		**Pn**	**06 41 16.7 +1.6**
	baz=14						
WMOK	**Wichita Mounta**	**14.32**	**77**	*e*Pn		**Pn**	**06 41 16.0 +0.7**
333A	**Richland Sprin**	**14.32**	**91**	P		**Pn**	**06 41 18.0 +2.6**
	baz=14						
NEW	**Newport**	**15.66**	**357**	Pn		**P**	**06 41 39.5 +2.3**
	comp=N,0.1nm,0.3s,baz=208,slow=14,SNR=4.4						
F24A	**Ekalaka**	**15.84**	**30**	P		**P**	**06 41 37.7 -1.7**
	baz=16						
EDM	**Edmonton**	**20.67**	**4**	*e*P		Pn	06 42 36.1 +1.5
	comp=N,4.1nm,0.8s						
TKL	**Tuckaleechee C**	**26.61**	**75**	LR		LR	06 54 13.9
	comp=N,31nm,20.2s,baz=358,slow=37						
ILAR	**Eielson Array**	**37.40**	**339**	P		P	06 45 10.1 +4.9
	comp=N,0.2nm,0.7s,baz=149,slow=7.3,SNR=5.1						

KRNET ***25*** *06:41:12.4±0.1, 41.00N×69.57E, mb3.0*
NNC ***25*** *06:41:15.5±0.8, 41.18N×68.88E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=9.2km s-min=4.6km az=107.0*

ISC 25 06:41:12.8±0.8, 41.01N±0.04×69.53E±0.04, h10km, n20, σ1§89/28, 11C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**1.99**	**66**	⇓*i*P	**Pb**	**06 41 48.9**	**-0.3**
	baz=65						
ARK				⇓*i*S	**Sg**	**06 42 15.7**	**-1.1**
	baz=65						
KK31	**Karatay Array**	**2.22**	**19**	⇓Pn	**Pb**	**06 41 53.5**	**+0.5**
	15nm,0.3s,baz=205,slow=14,SNR=685						
KK31				⇑Sn	**Sg**	**06 42 23.7**	**-0.3**
	68nm,0.5s,baz=15,slow=80,SNR=5.8						
DZET	**Dzherino**	**2.27**	**194**	⇑Pn	**Pg**	**06 41 54.9**	**-1.4**
	22nm,0.6s						
DZET				⇓Sn	**Sg**	**06 42 26.5**	**+0.9**
	104nm,0.5s						
SFK	**Sufi-Kurgan**	**3.19**	**107**	⇓Pn	**Pg**	**06 42 13.9**	**0.0**
	21nm,0.8s						
SFK				⇑Sn	Sg	06 43 00.9	+5.7
	38nm,0.6s						
SFK	**Sufi-Kurgan**	**3.19**	**107**	⇓*i*P	**Pn**	**06 42 05.5**	**+2.3**
	baz=107						
SFK				⇓*i*S	**Sb**	**06 42 45.0**	**-3.7**
	baz=107						
AML	**Almayashu**	**3.32**	**69**	P	**Pb**	**06 42 11.2**	**-0.8**
	SNR=9.6						
EKS2	**Erkin-Say**	**3.58**	**61**	P	**Pb**	**06 42 16.4**	**+0.2**
	SNR=22						
EKS	**Erkin-Say**	**3.58**	**61**	⇓*i*P	Pb	06 42 12.0	-4.3
	baz=61						
EKS				⇓*i*S	**Sn**	**06 42 54.4**	**+3.4**
	baz=61						
UCH	**Uchtor**	**3.93**	**70**	P	**Pb**	**06 42 22.5**	**+0.1**
	SNR=6.4						
AAK	**Ala-Archa**	**4.05**	**65**	P	**Pb**	**06 42 25.2**	**+0.9**
	SNR=9.2						
AAK	**Ala-Archa**	**4.05**	**65**	⇑Pn	**Pb**	**06 42 24.5**	**+0.2**
	16nm,0.8s						
AAK				⇓Sn	**Sg**	**06 43 17.7**	**-5.1**
	36nm,0.9s						
USP	**Ospenovka**	**4.33**	**57**	P	**Pb**	**06 42 29.9**	**+1.0**
	SNR=7.9						
CHMS	**Chumysh**	**4.37**	**61**	P	**Pb**	**06 42 30.9**	**+1.2**
	SNR=7.5						
KZA	**Kyzart**	**4.42**	**74**	P	**Pn**	**06 42 22.2**	**+1.9**
	SNR=9.6						
NRN	**Naryn**	**4.90**	**83**	⇑*i*P	Pn	06 42 29.3	+2.5
	baz=83						
NRN				⇑*i*S	**Sn**	**06 43 25.1**	**+1.4**
	baz=83						
TKM2	**Tokmak 2**	**4.91**	**65**	P	**Pb**	**06 42 39.4**	**+0.4**
	SNR=8.4						
TKM2	**Tokmak 2**	**4.91**	**65**	⇑Pn	**Pb**	**06 42 37.5**	**-1.5**
	7.7nm,0.7s						
TKM2				⇓Sn	**Sb**	**06 43 40.2**	**+2.1**
	30nm,0.7s						
ULHL	**Ulahol**	**5.18**	**74**	P	**Pn**	**06 42 31.6**	**+1.0**
	SNR=5.8						
AB31	**Akbulak array**	**10.66**	**324**	⇑Pn	**Pn**	**06 43 45.3**	**-0.2**
	0.5nm,0.3s,baz=126,slow=14,SNR=21						
AB31				⇑Sn	**Sn**	**06 45 42.5**	**-2.3**
	0.8nm,0.5s,baz=150,slow=20,SNR=3.1						
AKTO	**Aktyubinsk**	**12.38**	**323**	⇑Pn	**Pn**	**06 44 09.7**	**+0.7**
	0.8nm,0.5s						
AKTO				⇑Sn	**Sn**	**06 46 24.5**	**-2.3**
	1.2nm,0.7s						

MEX 25 06:47:42.7±0.7, 17.09N×99.24W, h15km±7km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**0.80**	**53**	*e*P	Pg	06 47 55.3	-3.0
TLIG				*i* S	Sg	06 48 05.5	-3.5
MEIG	**Mezcala**	**0.91**	**336**	*e*P	Pb	06 47 56.6	-3.8
MEIG				*e*S	Sb	06 48 08.6	-3.8
CAIG	**El Cayaco**	**0.99**	**268**	*e*P	Pb	06 47 57.7	-3.8
CAIG				*e*S	Sb	06 48 10.3	-4.1
PNIG	**Pinotepa**	**1.27**	**123**	*i* P	Pn	06 48 02.5	-3.4
PNIG				*i* S	Sb	06 48 17.5	-5.0
PLIG	**Platanillo**	**1.32**	**349**	*e*P	Pn	06 48 03.2	-3.6
PLIG				*i* S	Sb	06 48 19.3	-5.0
ARIG	**Puente Sto Nin**	**1.59**	**318**	*e*P	Pn	06 48 07.7	-2.8
ARIG				*e*S	Sn	06 48 26.2	-4.6

IDC ***25*** *07:10:33.6±1.8, 2.43S×138.90E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.5/26, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=36.4km s-min=24.6km az=141.0*
DJA ***25*** *07:10:35.3±1.7, 3.5S×13.9E±, h10km, M3.6/3, MLv3.6/3*
ISCJB ***25*** *07:10:36.9±0.7, 2.54S±0.05×138.81E±0.06, h37km, mb3.6/2, Error ellipse: s-maj=7.9km s-min=7.3km az=3.7*

ISC 25 07:10:37.5±1.1, 2.53S±0.07×138.79E±0.08, h37km, n7, σ1§79/11, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.54**	**352**	P	**Pn**	**07 10 47.5**	**-1.4**
SMPI				S	**Sn**	**07 10 56.8**	**+0.1**
GENI	**Genyem**	**1.38**	**93**	P	**Pn**	**07 10 58.6**	**-1.6**
GENI				S	**Sn**	**07 11 17.8**	**+0.6**
JAY	**Jayapura**	**1.91**	**90**	P	**Pn**	**07 11 08.0**	**+0.4**
JAY	**Jayapura**	**1.91**	**90**	Pn	**Pn**	**07 11 06.8**	**-0.8**
	12nm,0.3s,baz=235,slow=11,SNR=15						
JAY				LR	LR	07 11 18.7	
	comp=Z,18nm,21.2s,baz=271,slow=25						
JAY				Sn	**Sn**	**07 11 29.4**	**-1.1**
	19nm,0.3s,baz=307,slow=20,SNR=12						
WRA	**Warramunga Arr**	**17.84**	**194**	P	**P**	**07 14 43.9**	**+0.4**
	0.3nm,0.3s,baz=17,slow=13,SNR=18						
WRA				S	**Sn**	**07 17 58.1**	**-2.9**
	0.0nm,0.3s,baz=9.8,slow=21,SNR=2.6						
ASAR	**Alice Springs**	**21.54**	**192**	P	**P**	**07 15 26.8**	**+3.0**
	0.8nm,0.5s,baz=18,slow=10,SNR=9.3						
ILAR	**Eielson Array**	**85.64**	**24**	P	**P**	**07 23 12.9**	**+0.9**
	0.5nm,0.8s,baz=254,slow=3.7,SNR=6.6						

IDC ***25*** *07:12:40.5±0.8, 36.42N×67.86E, h0km, mb3.8/13, mb1 4.0/17, mb1mx3.8/44, mbtmp3.9/17, ML3.3/3, Error ellipse: s-maj=19.4km s-min=15.4km az=27.0*
ISCJB ***25*** *07:12:41.5±0.4, 36.51N±0.04×67.83E±0.05, h22km, mb3.8/12, Error ellipse: s-maj=6.3km s-min=5.9km az=32.2*
NNC ***25*** *07:12:48.1±2.2, 36.93N×67.63E, h25km±9km, mb4.3, mpv4.1, Error ellipse: s-maj=17.6km s-min=13.7km az=151.0*

ISC 25 07:12:43.7±0.6, 36.62N±0.07×67.75E±0.06, h22km, n46, σ1§87/52, mb3.8/11, 10C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.34**	**21**	⇓Pn	**Pn**	**07 13 22.6**	**+1.5**
	16nm,0.4s						
DZET				⇓Pg	**Pb**	**07 13 26.0**	**+0.7**
	90nm,0.4s						
DZET				⇓Lg	Lg	07 13 56.0	
	824nm,0.6s						
SFK	**Sufi-Kurgan**	**5.65**	**51**	⇓Pn	**Pn**	**07 14 09.2**	**+2.5**
	7.8nm,0.3s						
SFK				⇓Sn	**Sn**	**07 15 13.2**	**+2.2**
	100nm,0.8s						
KK31	**Karatay Array**	**6.81**	**17**	⇑Pn	**Pn**	**07 14 23.8**	**+1.5**
	1.5nm,0.2s,baz=211,slow=15,SNR=81						
KK31				⇑Sn	**Sn**	**07 15 36.3**	**-3.0**
	13nm,0.6s						
KK31				⇑Lg	Lg	07 16 16.4	
	23nm,0.6s,baz=201,slow=28,SNR=6.5						
AML	**Almayashu**	**7.17**	**38**	P	**Pn**	**07 14 29.1**	**+1.5**
	SNR=11						
EKS2	**Erkin-Say**	**7.62**	**36**	P	**Pn**	**07 14 35.1**	**+1.6**
	SNR=7.9						
UCH	**Uchtor**	**7.67**	**41**	P	**Pn**	**07 14 36.1**	**+1.6**
	SNR=20						
GEYT	**Alibeck**	**7.79**	**283**	Pn	**Pn**	**07 14 36.3**	**+0.5**
	baz=119,slow=12						
GEYT				Sn	**Sn**	**07 16 01.4**	**-1.9**
	1.2nm,0.3s,baz=111,slow=24,SNR=2.8						
AAK	**Ala-Archa**	**7.95**	**39**	P	**Pn**	**07 14 39.8**	**+1.7**
	SNR=9.8						
AAK	**Ala-Archa**	**7.95**	**39**	⇓Pn	**Pn**	**07 14 39.8**	**+1.7**
	9.9nm,0.6s						
AAK				⇑Sn	**Sn**	**07 16 08.5**	**+1.1**
	28nm,0.7s						
AAK	**Ala-Archa**	**7.95**	**39**	Pn	Pb	07 14 52.6	-8.2
	3.6nm,0.3s,baz=198,slow=7.4,SNR=17						
AAK				Sn	Sb	07 16 23.3	-12
	0.7nm,0.3s,baz=278,slow=7.1,SNR=8.2						
KZA	**Kyzart**	**7.97**	**45**	P	**Pn**	**07 14 39.7**	**+1.2**
	SNR=37						
KBK	**Karagaybulak**	**8.20**	**40**	P	**Pn**	**07 14 43.6**	**+2.1**
	SNR=11						
ULHL	**Ulahol**	**8.64**	**47**	P	**Pn**	**07 14 49.0**	**+1.3**
	SNR=20						
TKM2	**Tokmak 2**	**8.72**	**41**	P	**Pn**	**07 14 50.3**	**+1.6**
	SNR=13						
TKM2	**Tokmak 2**	**8.72**	**41**	⇓Pn	**Pn**	**07 14 49.5**	**+0.7**
	10.0nm,0.6s						
TKM2				⇑Sn	**Sn**	**07 16 25.7**	**-0.7**
	23nm,0.7s						
PDGK	**Podgornoye**	**11.22**	**50**	⇑P	**Pn**	**07 15 22.8**	**+0.1**
	5.3nm,0.8s						
AB31	**Akbulak array**	**13.85**	**338**	Pn	**Pn**	**07 15 57.5**	**-1.1**
	1.3nm,0.4s,baz=149,slow=12,SNR=35						
AB31				⇑Sn	**Sn**	**07 18 26.9**	**-4.7**
	1.8nm,0.6s						
MK31	**Makanchi Array**	**14.85**	**42**	P	**Pn**	**07 16 11.2**	**-1.2**
	1.4nm,0.6s,baz=230,slow=14,SNR=16						
AKTO	**Aktyubinsk**	**15.49**	**336**	⇑Pn	**Pn**	**07 16 20.7**	**0.0**
	5.7nm,0.8s						
AKTO	**Aktyubinsk**	**15.49**	**336**	Pn	**Pn**	**07 16 20.3**	**-0.4**
	0.1nm,0.3s,baz=149,slow=14,SNR=19						
KURBB	**Kurchatov Arra**	**16.00**	**26**	⇑P	**Pn**	**07 16 24.5**	**-2.8**
	6.4nm,0.6s						
KURBB	**Kurchatov Arra**	**16.00**	**26**	Pn	**Pn**	**07 16 24.8**	**-2.5**
	0.0nm,0.3s,baz=215,slow=12,SNR=12						
KOLN	**Koldanda**	**16.04**	**119**	*e*P	**Pn**	**07 16 25.3**	**-2.9**
	13nm,0.4s						
KURK	**Kurchatov**	**16.11**	**26**	⇑P	**P**	**07 16 31.6**	**-0.2**
	3.0nm,0.9s						
BVAR	**Borovoye Array**	**16.51**	**6**	Pn	**Pn**	**07 16 31.7**	**-2.0**
	0.4nm,0.3s,baz=182,slow=16,SNR=6.8						
GKN	**Gorkha**	**16.65**	**116**	*e*P	**Pn**	**07 16 33.4**	**-2.4**
	87nm,0.7s						
DMN	**Daman**	**17.21**	**117**	*e*P	**Pn**	**07 16 40.1**	**-3.0**
	56nm,1.0s						
KKN	**Kakani**	**17.23**	**116**	*e*P	**Pn**	**07 16 40.6**	**-2.7**
	61nm,0.7s						
PKIN	**Phulchoki**	**17.44**	**116**	*e*P	**Pn**	**07 16 43.2**	**-2.7**
	33nm,0.4s						
PKI	**Pulchoki**	**17.45**	**116**	*e*P	**Pn**	**07 16 43.5**	**-2.6**
	22nm,0.4s						
GUN	**Gumba**	**17.60**	**114**	*e*P	**Pn**	**07 16 46.2**	**-1.8**
	124nm,0.9s						
RAMN	**Ramite**	**18.68**	**116**	*e*P	**P**	**07 16 59.2**	**-1.4**
	63nm,0.7s						
KBZ	**Khabaz**	**20.23**	**298**	P	**P**	**07 17 17.7**	**+0.5**
	1.6nm,0.7s,baz=166,slow=4.2,SNR=2.3						
ZALV	**Zalesovo Beam**	**20.99**	**29**	P	**P**	**07 17 25.6**	**+0.2**
	5.9nm,0.6s,baz=223,slow=10.0,SNR=13						
BRTR	**Keskin Array B**	**26.90**	**287**	P	**P**	**07 18 25.2**	**+2.0**
	1.0nm,0.8s,baz=92,slow=9.4,SNR=4.1						
SONM	**Songino Array**	**30.43**	**56**	P	**P**	**07 18 54.2**	**-0.5**
	0.3nm,0.4s,baz=252,slow=8.6,SNR=2.4						
CMAR	**Chiang Mai Arr**	**32.85**	**115**	P	**P**	**07 19 15.6**	**-0.3**
	1.0nm,0.3s,baz=297,slow=7.9,SNR=4.9						
FINES	**FINESS Array B**	**35.94**	**327**	P	**P**	**07 19 44.4**	**+2.1**
	1.3nm,0.8s,baz=121,slow=7.4,SNR=6.0						
ARCES	**ARCESS Array B**	**40.05**	**338**	P	**P**	**07 20 17.8**	**+0.9**
	1.2nm,0.8s,baz=119,slow=9.4,SNR=3.4						
NB2	**NORSAR Subarra**	**42.71**	**323**	P	**P**	**07 20 40.2**	**+1.4**
	comp=Z,1.2nm,0.6s,baz=100,slow=8.6						
NOA	**NORSAR Array B**	**42.71**	**323**	P	**P**	**07 20 39.9**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=100,slow=8.1,SNR=7.8						
TORD	**Torodi Ar. Bea**	**63.11**	**267**	P	**P**	**07 23 11.6**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=51,slow=6.1,SNR=10						
ILAR	**Eielson Array**	**75.35**	**15**	P	**P**	**07 24 26.9**	**+1.9**
	comp=Z,0.6nm,1.0s,baz=325,slow=3.8,SNR=6.2						
YKA	**Yellowknife Ar**	**81.21**	**1**	P	**P**	**07 24 59.3**	**+1.9**
	comp=Z,1.0nm,0.8s,baz=354,slow=5.0,SNR=7.0						
WRA	**Warramunga Arr**	**84.30**	**120**	P	**P**	**07 25 12.9**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=324,slow=4.9,SNR=13						
ASAR	**Alice Springs**	**86.50**	**123**	P	**P**	**07 25 24.4**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=309,slow=4.8,SNR=3.3						

KMA 25 07:15:30.7, 36.68N×128.75E, h14km, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSULJ	**Ulijin**	**0.53**	**87**	P	Pn	07 15 43.3	-0.6
	SNR=6.8						
KSULJ	**Ulijin**	**0.53**	**87**	P	Pn	07 15 43.3	-0.6
	SNR=6.8						
KSSAJ	**Sangju**	**0.55**	**241**	P	Pb	07 15 41.9	-0.2
	SNR=6.8						
KSSAJ	**Sangju**	**0.55**	**241**	P	Pb	07 15 41.9	-0.2
	SNR=6.8						
KSCHJ	**Chungju**	**0.65**	**288**	P	Pg	07 15 42.8	-0.6
	SNR=9.6						
KSCHJ	**Chungju**	**0.65**	**288**	P	Pg	07 15 42.8	-0.6
	SNR=12						
KSBON	**Boeun**	**0.78**	**257**	P	Pg	07 15 45.5	-0.5
	SNR=19						
KSBON	**Boeun**	**0.78**	**257**	P	Pg	07 15 45.5	-0.5
	SNR=19						
KSDGY	**Daegwallycong**	**1.01**	**357**	P	Pg	07 15 50.3	-0.1
	SNR=7.7						
KSDGY	**Daegwallycong**	**1.01**	**357**	P	Pg	07 15 50.3	-0.1
	SNR=5.9						
KSCEA	**Cheonan**	**1.21**	**277**	P	Pn	07 15 53.1	0.0
	SNR=6.2						

IDC ***25*** *07:28:55.4±0.4, 7.69N×91.87E, h0km, mb4.7/41, mb1 4.7/43, mb1mx4.7/44, mbtmp4.7/43, ML5.1/3, MS4.4/35, Ms1 4.4/35, ms1mx4.3/47, Error ellipse: s-maj=13.3km s-min=9.7km az=40.0*
ISCJB ***25*** *07:28:56.1±0.7, 7.60N±0.02×91.83E±0.02, h15km±4km, mb5.0/158, MS4.5/48, Error ellipse: s-maj=4.3km s-min=2.8km az=25.2*
SZGRF ***25*** *07:28:56.5, 7.44N×93.03E, h34km, mb5.0, MS4.4, Nicobar Islands, India, region*
BJI ***25*** *07:28:57.4, 7.44N×91.93E, h37km, mb5.1/71, mB5.0/47, Ms4.7/72, Ms7 4.4/66*
MOS ***25*** *07:28:58.5±0.9, 7.66N×91.94E, h33km, mb5.3/51, MS4.5/23, Error ellipse: s-maj=8.2km s-min=4.6km az=114.4*
DJA ***25*** *07:28:59.5±0.2, 8.3N±3.9×9.2E±, h10km, M5.1/33, mb5.3/33, mb5.4/17, mB5.5/13, mB5.5/21, MLv5.4/1, Mw(mB)5.0/21, Mw(mB)5.0/13*
GCMT ***25*** *07:29:00.7±0.2, 7.65N×91.85E, h14km±1km, MW5.2/100, Moment Tensor Solution. s59,c87; s100,c164; Duration: 180 Moment tensor: Scale 10^16 Nm; Mrr=1.71±.15; Mθθ=3.77±.13; Mφφ=5.48±.16; Mrθ=0.34±.26; Mrφ=-5.74±.15; Mθφ=-1.19±.30; Best double couple: M=7.48400×10^16 NP1=308.19.0000°, δ87.00000°, λ=-11.00000°. NP2=038.10.0000°, δ79.0000°, λ=-177.00000°. Principal axes: T 8.3120, Plg5.0000°, Azm65.0000°; N -1.6570, Plg79.0000°, Azm183.0000°; P -6.6550, Plg10.0000°, Azm334.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***25*** *07:29:00.7±0.1, 7.59N×91.86E, h35km, mb5.1/59 Error ellipse: s-maj=5.2km s-min=3.3km az=221.0*
KLM ***25*** *07:29:01.0, 7.77N×91.91E, h35km, mb5.0, MS6.1*

ISC 25 07:29:00.5±0.3, 7.63N±0.03×91.90E±0.03, h34km, h34km:pP-P, n556, σ1§23/642, mb5.0/161, MS4.5/51, 30C-43D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**2.10**	**107**	*e*P	**Pn**	**07 29 34.4**	**+1.1**
CMBY				*e*S	**Sn**	**07 29 59.8**	**+1.6**
PBA	**Port Blair**	**4.09**	**12**	*e*P	Pn	07 29 59.0	-1.6
PBA				*e*S	Sn	07 30 44.5	-2.8
LHMI	**Lhok Sumawe**	**5.55**	**115**	P	**Pn**	**07 30 21.9**	**+1.1**
	392nm,0.7s,2.6nm						
LHMI	**Lhok Sumawe**	**5.55**	**115**	*e*Pn	**Pn**	**07 30 21.2**	**+0.4**
DGPR	**DIGLIPUR**	**5.61**	**10**	*e*P	**Pn**	**07 30 19.7**	**-1.8**
DGPR				*e*S	**Sn**	**07 31 20.5**	**-4.3**
PKDT	**Phuket**	**6.38**	**87**	P	**Pn**	**07 30 34.5**	**+2.3**
	223nm,0.8s,6μm1.8nm						
KRAB	**Krabi**	**7.25**	**85**	P	Pn	07 30 47.1	+3.0
	309nm,0.5s,4μm						
SRIT	**Nakonsritamara**	**7.68**	**82**	P	**Pn**	**07 30 52.3**	**+2.2**
	153nm,0.6s,4μm0.9nm						
TRTT	**Trang**	**7.72**	**88**	P	**Pn**	**07 30 51.6**	**+1.0**
	157nm,0.5s,2μm0.6nm						
GSI	**Gunungsitoli**	**8.45**	**138**	P	**Pn**	**07 30 58.0**	**-2.7**
GSI				S	**Sn**	**07 32 32.1**	**-2.9**
GSI	**Gunungsitoli**	**8.45**	**138**	*e*Pn	**Pn**	**07 30 58.0**	**-2.7**
GSI				*e*Sn	**Sn**	**07 32 31.9**	**-3.1**
PSI	**Prapat**	**8.48**	**124**	Pn	**Pn**	**07 31 00.4**	**-0.7**
	11nm,0.3s,baz=292,slow=14,SNR=26						
PSI				LR	LR	07 33 47.6	
	comp=Z,942nm,20.6s,baz=276,slow=34						
PSI	**Prapat**	**8.48**	**124**	P	**Pn**	**07 31 00.4**	**-0.7**
PSI				pmax	pmax		
	comp=Z,11nm,0.3s						
PSI				MLR	MLR		
	comp=Z,942nm,20.6s						
SKLT	**Songkhla**	**8.66**	**92**	P	Pn	07 31 06.3	+2.8
	comp=Z,67nm,0.7s,comp=Z,906nmcomp=Z,0.3nm						
KULM	**Kulim**	**9.00**	**104**	⇑P	**Pn**	**07 31 08.3**	**+0.2**
KULM	**Kulim**	**9.00**	**104**	*e*Pn	**Pn**	**07 31 08.1**	**-0.1**
IPM	**Ipoh**	**9.60**	**109**	⇓P	**Pn**	**07 31 16.8**	**+0.4**
IPM	**Ipoh**	**9.60**	**109**	*e*Pn	**Pn**	**07 31 16.1**	**-0.3**
IPM				*e*Sn	**Sn**	**07 32 58.7**	**-4.5**
KHLT	**Khaolaem Dam**	**9.68**	**42**	P	Pn	07 31 25.3	+7.8
PBSI	**Pulau Batu**	**9.94**	**140**	P	**Pn**	**07 31 20.0**	**-1.0**
	comp=Z,177nm,0.8s						
MNSI	**Mandailing Nat**	**10.23**	**131**	P	**Pn**	**07 31 23.7**	**-1.4**
	comp=Z,74nm,0.5s						
MNSI				S	**Sn**	**07 33 13.8**	**-4.8**
	comp=Z,74nm,0.5s						
PATY	**Pattaya**	**10.27**	**58**	P	**Pn**	**07 31 27.0**	**+1.4**
	comp=Z,44nm,0.4s,comp=Z,1μm						
PALK	**Pallekele**	**11.11**	**269**	Pn	**Pn**	**07 31 35.4**	**-1.8**
	comp=Z,1μm,0.4s,SNR=18						
PALK	**Pallekele**	**11.11**	**269**	Pn	**Pn**	**07 31 35.4**	**-1.8**
	comp=Z,3μm,2.1s,SNR=18						
PALK	**Pallekele**	**11.11**	**269**	Pn	**Pn**	**07 31 35.0**	**-2.2**
	comp=Z,30nm,0.3s,baz=90,slow=14,SNR=128						
PALK				Sn	Sn	07 33 25.1	-15
	comp=Z,68nm,0.3s,baz=163,slow=19,SNR=8.3						
PALK				LR	LR	07 35 36.9	
	comp=Z,2μm,18.7s,baz=81,slow=36						
PALK	**Pallekele**	**11.11**	**269**	*i* P	**Pn**	**07 31 37.8**	**+0.6**
PALK	**Pallekele**	**11.11**	**269**	*e*Pn	**Pn**	**07 31 35.2**	**-1.9**
PALK				*e*Sn	Sn	07 33 27.3	-13
KTGM	**Kuala Trenggan**	**11.39**	**101**	⇓P	**Pn**	**07 31 41.7**	**+0.7**
MHMT	**Maesarieng**	**12.02**	**29**	P	**Pn**	**07 31 51.1**	**+1.6**
	comp=Z,119nm,0.7s,comp=Z,890nm						
PBKT	**Sadao Pong**	**12.55**	**44**	P	**Pn**	**07 31 58.5**	**+1.8**
	comp=Z,59nm,0.8s,comp=Z,1μm						
MDRS	**Chennai**	**12.67**	**296**	*e*P	**Pn**	**07 31 56.7**	**-1.7**
MDRS				AMB	AMB	07 31 57.9	
	comp=Z,91nm,0.9s						
CMAR	**Chiang Mai Arr**	**12.76**	**32**	Pn	**Pn**	**07 31 58.9**	**-0.8**
	comp=Z,3.6nm,0.3s,baz=222,slow=14,SNR=37						
CMAR				Sn	Sn	07 34 27.0	+6.5
	comp=Z,0.7nm,0.3s,baz=231,slow=27,SNR=2.5						
CMAR				LR	LR	07 36 54.7	
	comp=Z,938nm,21.0s,baz=214,slow=38						
CMAR	**Chiang Mai Arr**	**12.76**	**32**	P	**Pn**	**07 31 58.9**	**-0.8**
CMAR						07 34 27.0	
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
CMAR				smax	smax		
	comp=N,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,938nm,21.0s						
VIS	**Vishakhapatnam**	**13.05**	**321**	*i* P	**Pn**	**07 32 00.7**	**-2.9**
VIS				AMB	AMB	07 32 03.6	
	comp=Z,115nm,0.6s						
VIS				*i* x	x	07 34 11.5	
CHTO	**Chiang Mai**	**13.06**	**31**	P	**Pn**	**07 32 03.7**	**0.0**
	comp=Z,242nm,0.9s,comp=Z,

comp=Z,114nm,0.6s,comp=Z,1μm
URV Uravakonda 16.09 298 *e*Pn **Pn** **07 32 42.8 -1.5**
URV IAmb IAmb 07 32 48.3
comp=Z,85nm,1.3s
URV Sn Sn 07 35 23.2 -19
URV IVMs_BB IVMs_BB 07 39 25.2
comp=Z,848nm,4.1s
MNAI Manna 16.23 137 *e*Pn **Pn** **07 32 44.1 -2.1**
comp=Z,113nm,0.4s
LHSI Lahat 16.25 134 P **P** **07 32 49.6 +0.5**
comp=Z,284nm,0.9s,comp=Z,3μm
HYB Hyderabad 16.25 308 *i* P **Pn** **07 32 45.0 -1.4**
HYB *e*S **Sn** **07 35 46.0 +0.3**
HYB Hyderabad 16.25 308 *e*P **Pn** **07 32 45.3 -1.1**
HYB AMB AMB 07 32 52.5
comp=Z,51nm,1.5s
HYBB Hyderabad (bro 16.25 308 *e*P **Pn** **07 32 45.9 -0.6**
HYBB IAmb IAmb 07 32 51.9
comp=Z,54nm,1.1s
HYBB Sn Sn 07 35 30.9 -15
HYBB IVMs_BB IVMs_BB 07 41 37.1
comp=Z,782nm,4.3s
BOK Bokaro 17.08 341 *e*P **Pn** **07 32 55.6 -1.2**
BOK AMB AMB 07 33 00.6
comp=Z,170nm,0.8s
MDSI Maura Dua 17.17 134 P **Pn** **07 32 56.4 -1.6**
comp=Z,120nm,1.1s,comp=Z,2μm
PPBI Pangkal Pinang 17.21 124 P **P** **07 33 00.6 +0.8**
SRSP Sriramsagar 17.31 312 *e*Pn **Pn** **07 32 57.8 -2.0**
SRSP IAmb IAmb 07 33 13.0
comp=Z,50nm,0.6s
SRSP Sn Sn 07 35 53.2 -18
SRSP IVMs_BB IVMs_BB 07 42 10.4
comp=Z,965nm,14.2s
LWLI Liwa 17.46 136 P **P** **07 33 05.7 +3.0**
comp=Z,154nm,0.8s
KLSI 17.71 133 P **P** **07 33 05.9 +0.6**
comp=Z,210nm,0.9s,comp=Z,2μm
SHL Shillong 17.84 360 *e*P **Pn** **07 33 05.2 -1.1**
SHL AMB AMB 07 33 16.2
comp=Z,76nm,2.1s
SHL *i* x x 07 36 08.0
KASI Kota Agung 18.13 136 P **P** **07 33 10.3 +0.4**
comp=Z,122nm,0.6s,comp=Z,2μm
KLRI Killari 18.16 306 *e*P **Pn** **07 33 08.5 -1.7**
KLRI IAmb IAmb 07 33 11.9
comp=Z,60nm,0.8s
KLRI Sn Sn 07 36 15.1 -17
KLRI IVMs_BB IVMs_BB 07 41 34.2
comp=Z,1μm,16.2s
NGP Nagpur 18.30 319 *e*P **Pn** **07 33 13.0 +1.2**
NGP *ex* x 07 33 16.7
comp=Z,82nm,1.5s
NGP *ex* x 07 36 22.0
TPI Tanjungpandan 18.80 123 P **Pn** **07 33 18.4 +0.4**
comp=Z,109nm,1.1s,comp=Z,1μm
KSM Kuching 19.33 108 *e*P **Pn** **07 33 24.6 +0.2**
comp=Z,34nm,0.9s
ODAN Odare 19.60 348 *e*P **Pn** **07 33 27.4 -0.3**
comp=Z,214nm,0.6s
CGJI Cibinong 19.73 135 P **Pn** **07 33 29.1 -0.1**
comp=Z,96nm,0.9s,comp=Z,2μm
RAMN Ramite 19.86 346 *e*P **Pn** **07 33 31.1 +0.2**
comp=Z,248nm,0.4s
TAPN Taplejung 20.01 349 *e*P Pn 07 33 32.3 -0.5
comp=Z,498nm,0.9s
KMI Kunming 20.24 30 ⇓P Pn 07 33 35.0 -0.4
KMI pP pP 07 33 46.5 +4.2
KMI S **S** **07 37 18.5 -0.3**
KMI PMZ
comp=Z,87nm,0.9s
KMI PMZ
comp=Z,420nm,4.1s
KMI LN
comp=Z,1μm,18.8s
KMI LE
comp=Z,1μm,16.9s
KMI LZ
comp=Z,1μm,16.5s
POO Poona 20.63 303 *ex* **pP** **07 33 46.8 +0.5**
POO *i* PP **PnPn** **07 33 55.5 -0.2**
PKI Pulchoki 20.77 344 *e*P **P** **07 33 39.8 +0.8**
comp=Z,672nm,1.4s
PKIN Phulchoki 20.77 344 *e*P Pn 07 33 40.7 -1.0
comp=Z,87nm,0.3s
QIZ Qiongzhong 20.79 55 P **P** **07 33 39.0 0.0**
QIZ pP **pP** **07 33 48.3 +0.3**
QIZ sP **sP** **07 33 52.5 +0.2**
QIZ S **S** **07 37 28.3 -1.0**
QIZ PMZ
comp=Z,400nm,12.4s
QIZ LN
comp=Z,2μm,16.6s
QIZ LE
comp=Z,680nm,17.5s
QIZ LZ
comp=Z,1μm,21.3s
QIZ Qiongzhong 20.79 55 *e*P Pn 07 33 39.9 -1.6
comp=Z,68nm,0.8s
BHPL Bhopal 20.84 320 *e*P **P** **07 33 40.1 +0.6**
SBUM Sibu 20.88 103 *e*P **P** **07 33 40.5 +0.5**
comp=Z,51nm,1.2s
DMN Daman 20.89 343 *e*P **P** **07 33 41.2 +1.0**
comp=Z,291nm,1.2s
STKI Sintang 20.91 110 P Pn 07 33 41.9 -1.1
comp=Z,85nm,1.0s,comp=Z,21μm
GUN Gumba 20.96 345 *e*P **P** **07 33 41.7 +0.6**
comp=Z,330nm,0.6s
KKN Kakani 21.01 343 *e*P **P** **07 33 42.1 +0.6**
comp=Z,160nm,0.9s
LEM Lembang 21.26 132 P **P** **07 33 45.4 +1.2**
comp=Z,28nm,0.7s,baz=331,slow=19,SNR=1.8
LEM LR LR 07 42 35.0
comp=Z,1μm,18.3s,baz=298,slow=38
LEM Lembang 21.26 132 P **P** **07 33 45.4 +1.2**
LEM pmax pmax
comp=Z,28nm,0.7s
LEM MLR MLR
comp=Z,1μm,18.3s
GKN Gorkha 21.40 342 *e*P **P** **07 33 46.7 +1.1**
comp=Z,172nm,0.5s
KOLN Koldanda 21.52 340 *e*P **P** **07 33 48.0 +1.0**
comp=Z,412nm,0.8s
LSA Lhasa 21.97 358 P **P** **07 33 53.0 +1.0**
LSA PMZ
comp=Z,30nm,0.8s
LSA Lhasa 21.97 358 *e*P **P** **07 33 52.5 +0.5**
comp=Z,193nm,0.6s
XMIS Christmas Isla 22.61 143 *e*P **P** **07 33 57.0 -1.5**
comp=Z,42nm,0.6s
GYA Guiyang 23.40 35 P **P** **07 34 07.8 +1.1**
GYA pP **pP** **07 34 18.0 +1.9**
GYA PP PnPn 07 34 41.5 +7.8
GYA S **S** **07 38 17.3 -0.5**
GYA sS **sS** **07 38 33.5 -0.4**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,130nm,4.9s
GYA LN
comp=Z,640nm,16.2s
GYA LE
comp=Z,530nm,17.2s
GYA LZ
comp=Z,600nm,16.8s
SMRI Semarang 23.55 128 *e*P **P** **07 34 08.0 -0.1**
comp=Z,57nm,0.7s
KKM Kota Kinabalu 24.19 92 *e*P **P** **07 34 15.9 +1.7**
comp=Z,164nm,1.6s
TBJI Tambak Boyo 24.53 125 P P 07 34 22.9 +5.7
comp=Z,392nm,0.8s,comp=Z,4μm
H08S3 Diego Garcia H 24.59 232 T T 08 00 30.2
baz=52,slow=75,SNR=1542
H08S2 Diego Garcia H 24.59 232 T T 08 00 29.1
baz=52,slow=75,SNR=1244
H08S1 Diego Garcia H 24.61 232 T T 08 00 29.6
baz=52,slow=75,SNR=1256
H08N1 Diego Garcia H 25.03 237 T T 08 01 17.4
baz=23,slow=75,SNR=5.1
H08N2 Diego Garcia H 25.04 237 T T 08 01 18.0
baz=23,slow=75,SNR=11
H08N3 Diego Garcia H 25.05 237 T T 08 01 18.6
baz=23,slow=75,SNR=8.0
NDI New Delhi 25.11 328 *e*P **P** **07 34 23.5 +1.2**
CD2 Chengdu 25.68 24 P **P** **07 34 28.5 +1.0**
CD2 pP **pP** **07 34 38.3 +1.0**
CD2 sP **sP** **07 34 42.8 +1.3**
CD2 PcP **PcP** **07 37 56.0 -1.5**
CD2 S **S** **07 38 57.3 +3.3**
CD2 sS **sS** **07 39 14.0 +3.8**
CD2 PMZ
comp=Z,170nm,0.8s
CD2 PMZ
comp=Z,470nm,5.5s
CD2 LN
comp=Z,1μm,16.0s
CD2 LE
comp=Z,1μm,10.6s
CD2 LZ
comp=Z,1μm,14.9s
KMMI Kalianget 26.40 123 P **P** **07 34 36.0 +1.9**
comp=Z,96nm,0.7s
BLJI Banyuglugur 26.48 125 P P 07 34 41.9 +7.1
comp=Z,128nm,0.7s,comp=Z,128nm,0.7s,comp=Z,4μm
comp=Z,4μm
SMLA Simla 27.13 331 *e*P **P** **07 34 41.6 +1.0**
SMLA AMB AMB 07 34 42.7
comp=Z,46nm,3.4s
ENH Enshi 27.92 34 *e*P **P** **07 34 46.8 -0.8**
comp=Z,28nm,0.8s
DHRM DHARAMSHALA 28.47 331 *e*P **P** **07 34 53.0 +0.2**
LZH Lanzhou 30.36 19 ⇑P **P** **07 35 09.3 -0.1**
LZH pP **pP** **07 35 17.0 -2.3**
LZH sP **sP** **07 35 21.5 -1.9**
LZH PP **PnPn** **07 36 10.0 +1.6**
LZH S **S** **07 40 06.0 -1.8**
LZH sS **sS** **07 40 22.3 -1.7**
LZH SS **ScP** **07 41 49.0 -0.1**
LZH PMZ
comp=Z,58nm,1.0s
LZH PMZ
comp=Z,170nm,4.0s
LZH LN
comp=Z,1μm,16.5s
LZH LE
comp=Z,1μm,16.3s
LZH LZ
comp=Z,2μm,18.7s
KAPI Kappang 30.49 113 P **P** **07 35 12.4 +1.7**
comp=Z,4.0nm,0.4s,baz=345,slow=7.6,SNR=5.0
KAPI LR LR 07 48 57.2
comp=Z,977nm,18.4s,baz=304,slow=39
XAN Xi'an 30.62 29 P **P** **07 35 09.5 -2.1**
XAN PMZ
comp=Z,9.0nm,0.9s
XAN LN
comp=Z,1μm,19.2s
XAN LE
comp=Z,300nm,15.8s
XAN LZ
comp=Z,340nm,15.4s
QZH Quanzhou 30.76 53 P **P** **07 35 14.0 +1.1**
QZH S **S** **07 40 16.5 +2.5**
QZH LN
comp=Z,1μm,11.2s
QZH LE
comp=Z,3μm,18.9s
QZH LZ
comp=Z,3μm,13.8s
MRSI Marisa 30.77 102 P **P** **07 35 10.3 -2.9**
BKSI Bulukumba 30.96 114 P P 07 35 23.6 +8.8
WHN Wuhan 31.01 40 ⇓P **P** **07 35 15.8 +0.8**
WHN S **S** **07 40 15.5 -2.3**
WHN LN
comp=Z,2μm,15.5s
WHN LE
comp=Z,910nm,16.0s
WHN LZ
comp=Z,2μm,17.1s
TWG Pinlang 31.85 58 *e*P **P** **07 35 23.1 +0.6**
comp=Z,85nm,0.5s
SSLB Suanglung 32.15 57 *e*P **P** **07 35 26.3 +1.1**
comp=Z,20nm,0.8s
YULB Yu-li 32.27 58 *e*P **P** **07 35 27.8 +1.6**
comp=Z,25nm,0.8s
GTA Gaotai 32.43 11 *e*P **P** **07 35 27.8 +0.2**
GTA pP **pP** **07 35 37.5 0.0**
GTA sP **sP** **07 35 41.3 -0.3**
GTA PP **PP** **07 36 38.0 -3.3**
GTA PcP **PcP** **07 38 16.5 +2.0**
GTA S **S** **07 40 39.0 -1.1**
GTA sS **sS** **07 40 55.0 -1.4**
GTA SS **SnSn** **07 42 35.0 +0.2**
GTA PMZ
comp=Z,170nm,1.0s
GTA PMZ
comp=Z,290nm,5.1s
GTA LN
comp=Z,420nm,20.4s
GTA LE
comp=Z,470nm,20.4s
GTA LZ
comp=Z,400nm,23.3s
KBL Kabul 34.06 325 *e*P **P** **07 35 42.3 +0.3**
comp=Z,16nm,0.9s
KSH Kashi 34.82 338 P **P** **07 35 47.5 -0.9**
KSH pP **pP** **07 35 57.0 -1.3**
KSH sP **sP** **07 36 00.3 -2.2**
KSH PcP **PcP** **07 38 21.5 +0.3**
KSH S **S** **07 41 16.8 -0.3**
KSH sS **sS** **07 41 34.0 +0.5**
KSH PcS **PcS** **07 42 08.8 +0.8**
KSH PMZ
comp=Z,72nm,1.5s
KSH LN
comp=Z,110nm,7.1s
KSH LE
comp=Z,220nm,5.9s
KSH LZ
comp=Z,150nm,7.2s
NJ2 Nanjing 34.92 42 *e*P **P** **07 35 51.0 +1.8**
NJ2 pP **pP** **07 35 59.0 -0.1**
NJ2 sP **sP** **07 36 03.0 -0.2**
NJ2 PP **PP** **07 37 10.0 +1.2**
NJ2 S **S** **07 41 23.0 +4.5**
NJ2 sS **sS** **07 41 35.5 +0.6**
NJ2 PMZ
comp=Z,110nm,0.8s
NJ2 PMZ
comp=Z,340nm,5.5s
NJ2 LN
comp=Z,1μm,23.4s
NJ2 LE
comp=Z,1μm,22.5s
NJ2 LZ
comp=Z,1μm,22.6s
SSE Sheshan 35.96 46 P **P** **07 35 59.8 +1.7**
SSE sP **sP** **07 36 15.8 +3.6**
SSE S **S** **07 41 37.8 +3.3**
SSE PMZ
comp=Z,40nm,0.8s
SSE PMZ
comp=Z,92nm,7.8s
SSE LN
comp=Z,660nm,17.0s
SSE LE
comp=Z,400nm,17.0s
SSE LZ
comp=Z,600nm,13.7s
SFK Sufi-Kurgan 36.21 336 P **P** **07 36 01.5 +1.0**
SFK pmax pmax
comp=Z,58nm,0.7s
WMQ Urumqi 36.24 355 P **P** **07 36 01.8 +1.4**
WMQ pP **pP** **07 36 12.0 +1.6**
WMQ sP **sP** **07 36 16.0 +1.5**
WMQ PP **PP** **07 37 26.3 +3.0**
WMQ S S 07 41 44.5 +5.9
WMQ sS **sS** **07 41 56.0 +1.0**
WMQ ScP **ScP** **07 42 09.5 +0.2**
WMQ SS **SnSn** **07 44 09.5 +2.7**
WMQ ScS **ScS** **07 46 12.0 -3.2**
WMQ PMZ
comp=Z,16nm,0.9s
WMQ PMZ
comp=Z,120nm,7.5s
WMQ LN
comp=Z,660nm,20.1s
WMQ LE
comp=Z,770nm,20.5s
WMQ LZ
comp=Z,640nm,25.4s
TIA Tai'an 36.60 35 *e*P **P** **07 36 03.8 +0.2**
TIA PMZ
comp=Z,20nm,0.7s
TIA LN
comp=Z,410nm,15.0s
TIA LE
comp=Z,660nm,17.2s
TIA LZ
comp=Z,610nm,18.0s
ULHL Ulahol 37.15 341 P **P** **07 36 09.4 +1.0**
SNR=22
PDGK Podgornoye 37.19 345 P **P** **07 36 09.6 +1.2**
PDGK pmax pmax
comp=Z,36nm,1.6s
KZA Kyzart 37.34 339 P **P** **07 36 11.5 +1.2**
SNR=43
HHC Hu-ho-hao-te 37.43 25 *e*P **P** **07 36 10.8 +0.1**
HHC pP **pP** **07 36 21.0 +0.3**
HHC PP **PP** **07 37 36.5 0.0**
HHC S **S** **07 41 56.8 -0.2**
HHC sS **sS** **07 42 12.5 -0.9**
HHC SS **SnSn** **07 44 29.8 -6.1**
HHC PMZ
comp=Z,29nm,0.9s
HHC PMZ
comp=Z,130nm,5.3s
HHC LN
comp=Z,560nm,12.3s
HHC LE
comp=Z,550nm,13.9s
HHC LZ
comp=Z,420nm,13.4s
UCH Uchtor 37.73 339 P **P** **07 36 15.1 +1.4**
SNR=5.4
AAA Alma-Ata 37.85 342 *e*P **P** **07 36 15.5 +1.3**
AAA *e*S **S** **07 42 03.8 +0.6**
AAA pmax pmax
comp=Z,500nm,2.8s
AAA smax smax
comp=E,800nm,15.3s
AML Almayashu 37.95 338 P **P** **07 36 17.0 +1.6**
SNR=16
KBK Karagaybulak 37.95 340 P **P** **07 36 16.4 +1.2**
SNR=108
TKM2 Tokmak 2 37.97 340 P **P** **07 36 16.5 +1.1**
SNR=50
TKM2 Tokmak 2 37.97 340 *i* P **P** **07 36 16.0 +0.7**
TKM2 pmax pmax
comp=Z,30nm,0.5s
TKM2 Tokmak 2 37.97 340 *e*P **P** **07 36 16.3 +0.9**
comp=Z,34nm,0.5s
AAK Ala-Archa 38.09 339 P **P** **07 36 17.9 +1.6**
SNR=27
AAK Ala-Archa 38.09 339 LR LR 07 54 10.5
comp=Z,723nm,21.7s,baz=143,slow=40
AAK Ala-Archa 38.09 339 *i* P **P** **07 36 17.7 +1.4**
AAK pmax pmax
comp=Z,84nm,1.1s
FRU Bishkek 38.22 339⇓ *e*P **P** **07 36 18.5 +1.2**
FRU *e*S **S** **07 42 11.0 +2.2**
FRU pmax pmax
comp=Z,120nm,1.9s
FRU MLR MLR
comp=E,1μm,21.0s
CHMS Chumysh 38.32 340 P **P** **07 36 19.6 +1.5**
SNR=12
EKS2 Erkin-Say 38.38 338 P **P** **07 36 20.3 +1.6**
SNR=37
EKS2 Erkin-Say 38.38 338 *e*P **P** **07 36 20.0 +1.4**
comp=E,44nm,0.8s
USP Ospenovka 38.65 340 P **P** **07 36 21.7 +0.9**
SNR=58
IDAH Dahanechah 38.81 315 *e*P **P** **07 36 25.0 +2.3**
BJI Beijing 38.90 30 P **P** **07 36 23.5 +0.6**
BJI S **S** **07 42 22.8 +3.9**
BJI PMZ
comp=E,20nm,0.8s
BJI PMZ
comp=E,150nm,4.3s
BJI LN
comp=E,710nm,19.6s
BJI LE
comp=E,890nm,21.7s
BJI LZ
comp=E,740nm,29.4s
MBWA Marble Bar 39.57 137 *e*P **P** **07 36 28.8 0.0**
comp=E,74nm,1.6s
MK31 Makanchi Array 39.88 350 *i* P **P** **07 36 31.1 0.0**
MK31 pmax pmax
comp=Z,50nm,0.9s
MK31 Makanchi Array 39.88 350 *e*P **P** **07 36 30.8 -0.3**
MKAR Makanchi Array 39.88 350 *e*P **P** **07 36 31.6 +0.5**
KK31 Karatay Array 40.02 335 *i* P **P** **07 36 32.5 +0.2**
KK31 pmax pmax
comp=Z,12nm,0.5s
KKAR Karatay Array 40.02 335 *e*P **P** **07 36 33.0 +0.7**
comp=Z,24nm,0.6s
SIJI Sorong 40.16 100 P **P** **07 36 34.6 +0.8**
comp=Z,5.7nm,0.5s,baz=229,slow=19,SNR=2.8
IMOG Moghan 41.07 318 *e*P **P** **07 36 42.3 +0.9**
IBAF Bafgh 41.39 310 *e*P **P** **07 36 45.4 +1.5**
FAKI Fak Fak 41.60 103 *e*P **P** **07 36 46.6 +1.0**
comp=Z,23nm,1.0s
IAKL Akhelmad 41.74 319 *e*P **P** **07 36 47.9 +1.0**
SONM Songino Array 41.92 15 P **P** **07 36 47.8 -0.2**
comp=Z,45nm,0.7s,baz=194,slow=8.7,SNR=261
SONM PcP **PcP** **07 38 43.9 +0.7**
comp=Z,3.8nm,0.9s,baz=197,slow=4.5,SNR=2.9
SONM LR LR 07 56 45.3
comp=Z,1μm,21.3s,baz=222,slow=40
SONM Songino Array 41.92 15 P **P** **07 36 47.8 -0.2**
SONM 07 38 43.9
SONM pmax pmax
comp=Z,45nm,0.7s
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM MLR MLR
comp=Z,1μm,21.3s
ISRV Sarvestan 42.38 306 *e*P **P** **07 36 53.6 +1.4**
ISFR Sfrayin 42.49 319 *e*P **P** **07 36 54.4 +1.4**
IPAR Pars 42.61 306 *e*P **P** **07 36 54.9 +0.8**
GEYT Alibeck 42.93 320 P **P** **07 36 57.4 +1.2**
comp=Z,26nm,0.7s,baz=150,slow=6.8,SNR=42
GEYT LR LR 07 55 50.6
comp=Z,734nm,20.8s,baz=125,slow=38
TJN Taejon 43.16 43 *e*P **P** **07 36 56.8 -1.2**
IKAZ Kazeroun 43.55 306 *e*P **P** **07 37 02.1 +0.3**
ZAK Zakamensk 43.66 11⇑ *i*P **P** **07 37 02.6 +0.6**
ZAK pmax pmax
comp=Z,12nm,1.0s
JNU Nakatsue 44.08 49 LR LR 07 57 35.8
comp=Z,638nm,18.3s,baz=241,slow=39
JNU Nakatsue 44.08 49 *e*P **P** **07 37 06.4 +0.9**
comp=Z,4.5nm,0.7s
KSAR Wonju Array Be 44.09 42 P **P** **07 37 05.2 -0.3**
KSRS Korea Array 44.12 42 P **P** **07 37 05.2 -0.6**
comp=Z,3.6nm,0.8s,baz=259,slow=7.6,SNR=11
KSRS LR LR 07 56 45.3
comp=Z,422nm,19.6s,baz=243,slow=38
KSRS Korea Array 44.12 42 P **P** **07 37 05.2 -0.6**
KSRS pmax pmax
comp=Z,4.0nm,0.8s
KSRS MLR MLR
comp=Z,422nm,19.6s
KURBB Kurchatov Arra 44.28 348 PcP **PcP** **07 38 51.3 +0.5**
comp=Z,4.3nm,0.7s,baz=152,slow=4.2,SNR=3.9
KURBB S **S** **07 43 37.8 -0.5**
comp=Z,0.7nm,0.8s,baz=163,slow=17,SNR=4.7
KURK Kurchatov 44.35 348 P **P** **07 37 08.4 +1.0**
comp=Z,560nm,1.1s,SNR=54
KURK Kurchatov 44.35 348 P **P** **07 37 07.7 +0.3**
KURK pmax pmax
comp=Z,67nm,1.4s
KURK Kurchatov 44.35 348 *e*P **P** **07 37 07.5 +0.2**
comp=Z,164nm,0.9s
KURK PcP **PP** **07 38 51.3 +0.1**
KURK S **S** **07 43 37.8 -1.5**
IZEF Zefreh 44.43 310 *e*P **P** **07 37 08.5 -0.1**
MOY Mondy 44.54 8 *e*P **P** **07 37 10.0 +1.0**
TLY Talaya 44.97 10 P **P** **07 37 13.3 +0.9**
comp=Z,109nm,1.1s,SNR=8.8
TLY Talaya 44.97 10 P **P** **07 37 12.2 -0.2**
comp=Z,11nm,0.8s,baz=215,slow=7.6,SNR=24
TLY Talaya 44.97 10 P **P** **07 37 12.2 -0.2**
TLY pmax pmax
comp=Z,11nm,0.8s

TLY Talaya 44.97 10 *e*P **P 07 37 14.1 +1.7**
comp=Z,18nm,1.0s
IKLH Kolahrood 45.18 310 *e*P **P 07 37 15.5 +0.9**
IPIR Pirpir 45.44 309 *e*P **P 07 37 16.3 -0.5**
IRK Irkutsk 45.62 11 *e*P **P 07 37 17.7 +0.2**
IRK pmax pmax
comp=Z,58nm,2.0s
CN2 Changchun 46.44 34 *e*P **P 07 37 22.0 -2.1**
CN2 PP **PP 07 39 11.8 -1.8**
CN2 *e*S **S 07 44 09.8 +0.1**
CN2 SS SS 07 47 28.5 -7.4
CN2 PMZ
comp=Z,20nm,1.1s
CN2 PMZ
comp=Z,90nm,3.0s
CN2 LN
comp=Z,400nm,18.0s
CN2 LE
comp=Z,400nm,18.0s
CN2 LZ
comp=Z,300nm,22.0s
ZAA0 Zalesovo Array 46.54 354 *e*P **P 07 37 24.9 +0.2**
ZALV Zalesovo Beam 46.54 354 P **P 07 37 24.8 +0.1**
comp=Z,54nm,0.9s,baz=168,slow=7.6,SNR=34
ZALV LR LR 08 01 09.2
comp=Z,416nm,20.4s,baz=250,slow=42
ZALV Zalesovo Beam 46.54 354 *i* P **P 07 37 25.0 +0.3**
ZALV pmax pmax
comp=Z,54nm,0.9s
NWAO Narrogin (SRO) 46.99 151 P **P 07 37 28.9 +0.4**
comp=Z,11nm,0.9s,baz=329,slow=5.2,SNR=5.1
NWAO Narrogin (SRO) 46.99 151 P **P 07 37 28.9 +0.4**
NWAO pmax pmax
comp=Z,11nm,0.9s
RAYN Ar Rayn 47.17 295 P **P 07 37 31.8 +1.6**
comp=Z,196nm,0.6s,SNR=10
RAYN Ar Rayn 47.17 295 *e*P **P 07 37 30.8 +0.5**
comp=Z,22nm,0.7s
H01W3 Cape Leeuwin H 47.22 155 T T 08 28 19.9
baz=331,slow=76,SNR=11
H01W2 Cape Leeuwin H 47.23 155 T T 08 28 19.9
baz=331,slow=76,SNR=12
H01W1 Cape Leeuwin H 47.23 155 T T 08 28 17.0
baz=331,slow=76,SNR=11
IRAZ Razeghan 47.30 312 *e*P **P 07 37 32.4 +1.1**
NVS Novosibirsk 47.59 353 ⇓*i*P **P 07 37 32.7 -0.2**
NVS *i* 07 38 58.5
NVS *i* 07 39 27.7
NVS *e*S S 07 44 19.2 -6.6
NVS pmax pmax
comp=Z,64nm,1.1s
NVS pmax pmax
comp=N,31nm,0.9s
NVS pmax pmax
comp=E,15nm,0.9s
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=Z,12nm,1.0s
NVS pmax pmax
comp=E,10.0nm,1.5s
NVS smax smax
comp=N,19nm,1.9s
NVS smax smax
comp=E,38nm,1.9s
HIA Hailar 47.64 24 *e*P **P 07 37 33.9 +0.5**
comp=E,49nm,1.1s
KRAR Krasnoyarsk 48.26 1 *e*P **P 07 37 36.1 -1.9**
KRAR pmax pmax
comp=Z,23nm,1.3s
BVA0 Borovoye Array 48.53 343 *i* P **P 07 37 40.2 0.0**
BVA0 pmax pmax
comp=Z,23nm,0.6s
BRVK Borovoye 48.59 343 P **P 07 37 40.4 -0.3**
comp=Z,301nm,0.5s,SNR=17
BRVK Borovoye 48.59 343*c i*P **P 07 37 40.0 -0.7**
BRVK pmax pmax
comp=Z,56nm,1.2s
BRVK Borovoye 48.59 343 *e*P **P 07 37 40.8 +0.1**
comp=Z,71nm,1.3s
MDJ Mudanjiang 49.27 35 P **P 07 37 46.8 +0.8**
MDJ pP **pP 07 37 56.3 +0.1**
MDJ sP **sP 07 38 00.0 -0.3**
MDJ PP **PP 07 39 40.8 +0.7**
MDJ ScP **ScP 07 43 01.8 +0.3**
MDJ PcS **PcS 07 43 04.8 -0.2**
MDJ S **S 07 44 53.5 +3.6**
MDJ sS **sS 07 45 09.0 +2.3**
MDJ PMZ
comp=Z,13nm,1.5s
MDJ PMZ
comp=Z,90nm,6.8s
MDJ LN
comp=Z,150nm,20.5s
MDJ LE
comp=Z,300nm,21.6s
MDJ LZ
comp=Z,320nm,20.5s
AB31 Akbulak array 49.41 333 *i* P **P 07 37 47.4 +0.4**
AB31 pmax pmax
comp=Z,6.0nm,0.4s
ABKAR Akbulak array 49.41 333 *e*P **P 07 37 47.4 +0.4**
comp=Z,17nm,0.6s
VLA Vladivostok 49.76 38 *e*P **P 07 37 48.9 -0.9**
VLA pmax pmax
comp=Z,20nm,1.3s
WRA Warramunga Arr 49.95 124 P **P 07 37 51.1 -0.4**
comp=Z,4.4nm,0.4s,baz=302,slow=9.0,SNR=35
WRA LR LR 08 02 24.4
comp=Z,343nm,19.3s,baz=280,slow=40
WRA Warramunga Arr 49.95 124 *i* P **P 07 37 52.0 +0.5**
WRA pmax pmax
comp=Z,4.0nm,0.4s
WRAB Tennant Creek 49.95 124 P **P 07 37 52.7 +1.1**
comp=Z,89nm,1.0s,SNR=6.0
WRAB Tennant Creek 49.95 124*ce*P **P 07 37 52.4 +0.8**
WRAB pmax pmax
comp=Z,58nm,0.7s
WRAB Tennant Creek 49.95 124 *e*P **P 07 37 51.6 +0.1**
comp=Z,26nm,0.7s
USRK Ussuriysk Ar. 50.42 37 P **P 07 37 54.3 -0.5**
comp=Z,7.3nm,0.9s,baz=237,slow=7.3,SNR=11
USRK LR LR 08 01 31.4
comp=Z,308nm,18.1s,baz=225,slow=39
MAJO Matsushiro 50.98 49 *e*P **P 07 37 57.5 -1.6**
MAJO pmax pmax
comp=Z,63nm,1.0s
MAJO Matsushiro 50.98 49 *e*P **P 07 37 59.3 +0.2**
comp=Z,10.0nm,0.9s
MAT Matsushiro 50.98 49 P **P 07 37 59.1 0.0**
MAT S S 07 45 07.6 -6.4
MJAR Matsushiro Arr 50.98 49 P **P 07 37 59.6 +0.5**
comp=Z,4.5nm,0.8s,baz=245,slow=8.8,SNR=13
MJAR PcP **PcP 07 39 14.9 -0.2**
comp=Z,4.8nm,0.7s,baz=241,slow=5.1,SNR=7.4
MJAR LR LR 08 01 27.5
comp=Z,357nm,19.3s,baz=285,slow=38
MJAR Matsushiro Arr 50.98 49 P **P 07 37 59.7 +0.5**
MJAR 07 39 14.9
MJAR pmax pmax
comp=Z,5.0nm,0.9s
MJAR pmax pmax
comp=Z,5.0nm,0.7s
MJAR MLR MLR
comp=Z,357nm,19.3s
AKTO Aktyubinsk 51.12 333 P **P 07 37 59.5 -0.5**
AKTO pmax pmax
comp=Z,26nm,1.3s
OPO Ambohidratompo 51.21 239 LR LR 07 54 46.9
comp=Z,414nm,21.5s,baz=60,slow=30
JCJ Chichijima 51.36 61 LR LR 07 58 06.3
comp=Z,292nm,20.8s,baz=230,slow=34
ABPO Ambohimpanom 51.38 238 *e*P **P 07 38 01.2 -1.4**
comp=Z,6.2nm,0.8s
AS31 Alice Springs 51.48 128 *e*P **P 07 38 03.6 +0.5**
ASAR Alice Springs 51.48 128 P **P 07 38 03.0 -0.1**
comp=Z,3.5nm,0.8s,baz=315,slow=7.7,SNR=18
ASAR LR LR 08 00 29.4
comp=Z,483nm,21.4s,baz=296,slow=37
ASAR Alice Springs 51.48 128 P **P 07 38 03.0 -0.1**
ASAR pmax pmax
comp=Z,4.0nm,0.8s
ASAR MLR MLR
comp=Z,483nm,21.5s
FORT Forrest 51.56 140 *e*P **P 07 38 01.9 -1.7**
comp=Z,44nm,0.9s

GUMO Guam 52.32 79 LR LR 08 00 11.8
comp=Z,286nm,20.2s,baz=250,slow=36
BOD Bodaibo 52.92 15 *e*P **P 07 38 13.8 +0.6**
BOD pmax pmax
comp=Z,73nm,0.9s
GNI Garni 53.03 315 *i* P **P 07 38 13.7 -0.9**
GNI pmax pmax
comp=Z,21nm,1.2s
KLR Kul'dur 53.24 32 *e*P P 07 38 12.1 -3.6
HABR Khabarovsk 54.57 34 *e*P **P 07 38 23.8 -1.6**
HABR *PP **pP 07 38 32.6 -3.1**
HABR *e*SP **sP 07 38 36.6 -3.2**
HABR *e* 07 40 24.9
HABR *e*PPP PPP 07 41 35.0
HABR *e*S **S 07 46 01.2 -1.3**
HABR *e**SS **sS 07 46 17.0 -2.5**
HABR *e*SS **SS 07 49 43.8 -1.7**
HABR *e*SSS SSS 07 51 46.6
HABR pmax pmax
comp=Z,41nm,1.3s
HABR MLR MLR
comp=Z,404nm,22.0s
SVE Sverdlovsk 54.83 340*c i*P **P 07 38 28.0 +0.8**
SVE *e*S **S 07 46 06.3 +0.5**
SVE pmax pmax
comp=Z,110nm,1.1s
SVE MLR MLR
comp=Z,934nm,23.0s
NCK Nalchik 55.23 319 *e*P **P 07 38 29.5 -0.8**
ARU Arti 55.27 338 P **P 07 38 30.1 -0.2**
comp=Z,249nm,1.3s,SNR=5.6
ARU Arti 55.27 338*d i*P **P 07 38 30.4 +0.1**
ARU 07 39 24.4
ARU 07 40 28.6
ARU S **S 07 46 13.4 +1.7**
ARU SS **SS 07 49 55.3 -1.0**
ARU pmax pmax
comp=Z,60nm,1.2s
ARU MLR MLR
comp=Z,550nm,18.0s
ARU Arti 55.27 338 *e*P **P 07 38 30.2 -0.1**
comp=Z,60nm,1.2s
CLNS Chul'man 55.45 21 *e*P **P 07 38 32.0 +0.3**
CLNS pmax pmax
comp=Z,58nm,0.9s
CLNS pmax pmax
comp=E,27nm,0.9s
CLNS pmax pmax
comp=N,29nm,0.9s
CLNS MLR MLR
comp=E,299nm,13.0s
CLNS MLR MLR
comp=N,251nm,15.0s
CLNS MLR MLR
comp=Z,308nm,14.0s
KBZ Khabaz 55.79 319 P **P 07 38 34.6 +0.4**
comp=Z,4.7nm,0.9s,baz=186,slow=2.8,SNR=6.1
KBZ Khabaz 55.79 319 P **P 07 38 34.7 +0.4**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KIV Kislovodsk 56.02 319 *e*P **P 07 38 34.4 -1.7**
KIV *i* 07 39 27.2
KIV *i* S **S 07 46 26.8 +4.4**
KIV pmax pmax
comp=Z,23nm,1.4s
KIV MLR MLR
comp=Z,324nm,23.0s
ASAJ Asahikawa 57.06 42 P **P 07 38 43.1 -0.3**
comp=Z,17nm,0.8s,baz=245,slow=14
ASAJ Asahikawa 57.06 42 P **P 07 38 43.1 -0.3**
ASAJ pmax pmax
comp=Z,17nm,0.8s
ASAJ Asahikawa 57.06 42 *e*P **P 07 38 45.2 +1.9**
comp=Z,13nm,1.0s
MMAI Mount Meron Ar 57.91 304 P **P 07 38 51.2 +1.6**
comp=Z,1.6nm,0.3s,baz=94,slow=10,SNR=4.0
YSS Yuzh-Sakhalins 58.35 39 *e* **PcP 07 39 39.1 -4.0**
YSS *e*S **S 07 46 50.0 -2.7**
YSS pmax pmax
comp=Z,50nm,1.0s
YSS Yuzh-Sakhalins 58.35 39 *e*P **P 07 38 53.4 +1.1**
comp=Z,45nm,0.9s
YUK Yuzh-Kuril'sk 59.20 43 P **P 07 38 58.0 -0.3**
YUK *i* S **S 07 47 05.1 +1.2**
YUK MLR MLR
comp=E,823nm,22.0s
YUK MLR MLR
comp=Z,1µm,22.0s
VRHR Novokhopersk 59.88 326 *e*P **P 07 39 03.2 +0.3**
VRHR pmax pmax
comp=N,50nm,1.2s
VRHR pmax pmax
comp=E,30nm,1.2s
VRHR pmax pmax
comp=Z,30nm,1.2s
BRTR Keskin Array B 60.91 311 P **P 07 39 09.8 -0.6**
comp=Z,3.6nm,0.6s,baz=132,slow=7.3,SNR=14
BRTR LR LR 08 07 48.6
comp=Z,214nm,20.2s,baz=109,slow=38
BRTR Keskin Array B 60.91 311 *i* P **P 07 39 09.8 -0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.5s
YAK Yakutsk 60.94 19 P **P 07 39 09.4 -0.5**
comp=Z,3.7nm,0.4s,baz=30,slow=22,SNR=8.1
YAK LR LR 08 09 08.9
comp=Z,480nm,18.4s,baz=230,slow=40
YAK Yakutsk 60.94 19 *e*P **P 07 39 09.8 -0.1**
YAK *e*PP **pP 07 39 21.1 +0.7**
YAK *e* 07 39 55.0
YAK *e* 07 41 22.6
YAK *e*S **S 07 47 25.4 -0.2**
YAK *e**SS **sS 07 47 41.3 -1.5**
YAK *e* 07 48 59.1
YAK pmax pmax
comp=Z,90nm,0.9s
YAK pmax pmax
comp=N,29nm,1.0s
YAK pmax pmax
comp=E,30nm,1.2s
YAK pmax pmax
comp=Z,13nm,0.8s
YAK smax smax
comp=N,68nm,1.8s
YAK smax smax
comp=E,48nm,1.8s
YAK MLR MLR
comp=Z,503nm,16.0s
YAK MLR MLR
comp=E,315nm,15.0s
YAK MLR MLR
comp=N,240nm,16.0s
YAK Yakutsk 60.94 19 *e*P **P 07 39 09.1 -0.8**
comp=N,118nm,1.0s
VSR Storozhevoye 61.31 325 *e*P **P 07 39 11.8 -0.9**
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=Z,7.0nm,0.6s
VSR pmax pmax
comp=E,3.0nm,0.3s
STKA Stephens Creek 61.56 132 P **P 07 39 15.2 +0.4**
comp=E,7.5nm,0.7s,baz=303,slow=3.4,SNR=13
STKA LR LR 08 11 34.6
comp=E,208nm,18.0s,baz=301,slow=42
STKA Stephens Creek 61.56 132 *e*P **P 07 39 15.1 +0.4**
comp=E,1.5nm,0.6s
MOS Moscow 64.14 329 *e*P **P 07 39 29.2 -2.2**
MOS *e* 07 39 39.3
OBN Obninsk 64.41 328 P **P 07 39 33.2 0.0**
comp=E,12nm,0.4s,baz=112,slow=12,SNR=4.2
OBN Obninsk 64.41 328 *e*P **P 07 39 30.5 -2.7**
OBN *i* 07 39 41.9
OBN *i* 07 41 58.5
OBN *i* SS SS 07 52 26.8 +7.1
OBN pmax pmax
comp=Z,34nm,1.4s
OBN MLR MLR
comp=Z,643nm,20.0s
TIRR Tirgusor 65.86 315 ⇓P **P 07 39 43.3 +0.5**
TIRR Tirgusor 65.86 315 ⇓*i*P **P 07 39 43.3 +0.5**
EIDS Eidsvold 66.22 122 *e*P **P 07 39 46.6 +1.2**
comp=Z,22nm,1.3s
IDI Anoyia 66.89 305 P **P 07 39 49.7 0.0**
comp=Z,16nm,0.5s,baz=92,slow=7.6,SNR=23
AKASG Malin Array Be 66.97 322 P **P 07 39 48.0 -1.8**
comp=Z,0.5nm,0.4s,baz=91,slow=4.3,SNR=10
AKASG LR LR 08 13 18.5
comp=Z,275nm,20.2s,baz=85,slow=40
AKASG Malin Array Be 66.97 322 *i* P **P 07 39 48.4 -1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 66.98 322 *e*P **P 07 39 48.3 -1.6**
KIEV Kiev 66.98 322 *e*P **P 07 39 47.8 -2.1**
VRI Vrincioaia 67.35 317 ⇓P **P 07 39 53.5 +1.2**
VRI Vrincioaia 67.35 317 ⇓*i*P **P 07 39 53.5 +1.2**
PLOR Plostina 67.39 317 ⇓P **P 07 39 53.5 +0.8**
PLOR Plostina 67.39 317 ⇓*i*P **P 07 39 53.5 +0.8**
KDZ Kurdzhali 67.44 312 ⇓P **P 07 39 52.9 -0.1**
KDZ Kurdzhali 67.44 312 ⇓*i*P **P 07 39 52.8 -0.2**
TESR Tescani 67.54 317 ⇓*i*P **P 07 39 53.6 0.0**
MLR Muntele Rosu 67.80 316 P **P 07 39 55.3 -0.1**
comp=Z,3.6nm,0.9s,baz=91,slow=2.4,SNR=10
MLR Muntele Rosu 67.80 316 ⇓P **P 07 39 55.7 +0.3**
MLR Muntele Rosu 67.80 316 ⇓*i*P **P 07 39 55.7 +0.3**
TIXI Tiksi 67.92 12*c i*P **P 07 39 55.1 -0.3**
TIXI pmax pmax
comp=Z,126nm,1.0s
TIXI Tiksi 67.92 12 *e*P **P 07 39 55.1 -0.3**
comp=Z,64nm,0.5s
TMCR Tamitsa 68.00 338 *e*P **P 07 39 55.6 -0.4**
TMCR pmax pmax
comp=Z,46nm,1.3s
VOIR 68.41 316 ⇑P **P 07 39 58.5 -0.6**
VOIR 68.41 316 ⇑*i*P **P 07 39 58.5 -0.6**
ARMA Armidale 68.58 127 *e*P **P 07 40 02.0 +1.6**
comp=Z,10nm,0.9s
BURAR Bucovina Array 68.74 318 ⇓P **P 07 40 01.4 +0.2**
BURAR Bucovina Array 68.74 318 ⇓*i*P **P 07 40 01.4 +0.2**
BUR08 Bucovina Ar. S 68.76 318 *e*P **P 07 40 01.5 +0.2**
VTS Vitosha 69.21 313 ⇓P **P 07 40 01.9 -2.4**
VTS Vitosha 69.21 313 ⇓*i*P **P 07 40 01.9 -2.4**
LOT Lotru 69.29 316 ⇓*i*P **P 07 40 03.8 -0.9**
PUL Pulkovo 69.36 332 *e*P **P 07 40 04.4 -0.2**
PUL pmax pmax
comp=Z,46nm,0.7s
PETK Petropavlovsk- 69.50 36 P **P 07 40 04.4 -1.2**
comp=Z,4.8nm,0.9s,baz=254,slow=11,SNR=3.8
PETK LR LR 08 12 27.2
comp=Z,132nm,20.2s,baz=258,slow=38
PETK Petropavlovsk- 69.50 36 P **P 07 40 04.4 -1.2**
PETK pmax pmax
comp=Z,5.0nm,0.9s
PETK MLR MLR
comp=Z,132nm,20.2s
NACGM Naroch 69.60 326 *e* P 07 40 02.0 -4.2
ZAPS Zavoj 69.73 313 *e*P **P 07 40 07.8 +0.5**
GZR Gura Zlata 69.97 316 ⇓P **P 07 40 09.1 +0.3**
GZR Gura Zlata 69.97 316 ⇓*i*P **P 07 40 09.1 +0.3**
SEY Seymchan 70.08 25 P **P 07 40 08.5 -0.5**
comp=Z,9.1nm,0.8s,baz=271,slow=5.0,SNR=15
SEY LR LR 08 13 30.5
comp=Z,327nm,21.8s,baz=244,slow=38
SEY Seymchan 70.08 25 *e*P **P 07 40 08.3 -0.7**
DRGR 70.26 317 ⇓P **P 07 40 08.8 -1.7**
DRGR 70.26 317 ⇓*i*P **P 07 40 08.8 -1.7**
BARS Barje 70.26 313 *e*P **P 07 40 09.7 -0.8**
VSU Vasula 70.67 330*d i*P **P 07 40 11.7 -0.9**
VSU pmax pmax
comp=Z,78nm,1.3s
BZS Buzias 70.81 316 *e*P **P 07 40 13.1 -0.7**
BZS Buzias 70.81 316 ⇓P **P 07 40 13.5 -0.3**
BZS Buzias 70.81 316 ⇓*i*P **P 07 40 13.5 -0.3**
SELS Selova 70.82 313 *e*P **P 07 40 12.5 -1.5**
SIRR Siria 70.89 316 ⇑*i*P **P 07 40 13.5 -0.8**
KOLS Kolonicke sedl 70.93 319 *e*P **P 07 40 14.9 +0.4**
KOLS pmax pmax
comp=Z,7.0nm,1.1s
KOLS Kolonicke sedl 70.93 319 *e*P **P 07 40 14.9 +0.4**
LVZ Lovozero 71.03 340 P **P 07 40 14.1 -0.7**
comp=Z,140nm,0.6s,SNR=5.4
LVZ Lovozero 71.03 340*d i*P **P 07 40 14.1 -0.7**
LVZ pmax pmax
comp=Z,21nm,1.2s
LVZ Lovozero 71.03 340 *e*P **P 07 40 14.1 -0.7**
comp=Z,7.7nm,0.6s
GRUS Gruza 71.20 314 *e*P **P 07 40 15.4 -0.8**
APA Apatity 71.30 340 ⇓*i*P **P 07 40 16.8 +0.5**
APA *i* 07 40 26.0
APA *i* S **S 07 49 31.0 -0.4**
APA *i* SSS SSS 07 57 10.0
APA pmax pmax
comp=Z,18nm,0.7s
APA MLR MLR
comp=Z,700nm,20.0s
SUW Suwalki 71.41 325 *e*P **P 07 40 16.3 -0.9**
SUW Suwalki 71.41 325 *e*P **P 07 40 16.4 -0.8**
IVAS Ivanjica 71.57 313 *e*P **P 07 40 18.7 +0.2**
SJES Sjenica 71.66 313 *e*P **P 07 40 19.6 +0.5**
STHS Stebnicka Huta 71.68 320 *e*P **P 07 40 19.2 +0.2**
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 71.68 320 *e*P **P 07 40 19.1 +0.1**
DIVS Divibare 71.75 314 *e*P **P 07 40 18.1 -1.5**
DIVS Divibare 71.75 314 ⇓*i*P **P 07 40 18.5 -1.1**
FIA1 FINESS Array S 71.89 333 *e*P **P 07 40 19.6 -0.4**
FINES FINESS Array B 71.90 333 P **P 07 40 19.4 -0.6**
comp=Z,16nm,0.9s,baz=114,slow=8.5,SNR=61
FINES LR LR 08 16 20.3
comp=Z,327nm,18.1s,baz=118,slow=40
FINES FINESS Array B 71.90 333 *i* P **P 07 40 19.7 -0.3**
FINES pmax pmax
comp=Z,9.0nm,0.6s
FRGS Fruska Gora 72.01 315 *e*P **P 07 40 20.6 -0.5**
KECS Kecovo 72.02 318 *e*P **P 07 40 20.5 -0.6**
KECS pmax pmax
comp=Z,3.0nm,0.7s
KECS Kecovo 72.02 318 *e*P **P 07 40 20.5 -0.6**
TEKS Tekeris 72.13 314 *e*P **P 07 40 21.2 -0.6**
BBLS Lazići 72.14 314 *e*P **P 07 40 22.1 +0.1**
LBTB Lobatse 72.18 241 *e*P **P 07 40 22.6 0.0**
comp=Z,17nm,1.2s
PSZ Piszkesteto 72.33 318 ⇓P **P 07 40 22.5 -0.5**
PSZ Piszkesteto 72.33 318 ⇓*i*P **P 07 40 22.5 -0.5**
OJC Ojcow 72.74 320 *e*P **P 07 40 25.1 -0.2**
OJC Ojcow 72.74 320 *e*P **P 07 40 25.2 -0.1**
OJC Ojcow 72.74 320 *e*P **P 07 40 25.6 +0.3**
comp=Z,26nm,1.4s
BOSA Boshof 73.58 237 P **P 07 40 31.1 +0.3**
comp=Z,2.3nm,0.5s,baz=77,slow=4.4,SNR=8.3
BOSA LR LR 08 07 19.8
comp=Z,352nm,21.5s,baz=75,slow=31
BOSA Boshof 73.58 237 *e*P **P 07 40 30.7 -0.1**
comp=Z,7.5nm,0.8s
OKC Ostrava-Krasne 73.73 320 *e*P **P 07 40 31.6 +0.4**
OKC *ep*P **pP 07 40 41.1 -0.8**
OKC AMS AMS 08 17 20.0
comp=Z,200nm,19.9s
OKC Ostrava-Krasne 73.73 320 *e*P **P 07 40 31.6 +0.4**
OKC *e* 07 40 41.1
OKC MLR MLR
comp=Z,200nm,19.9s
MORC Moravsky Berou 74.12 320 *e*P **P 07 40 33.1 -0.4**
comp=Z,65nm,1.3s
KEV Kevo 74.33 341 *e*P **P 07 40 34.5 +0.2**
comp=Z,28nm,1.2s
KRLC Kraliky 74.64 320 *e*P **P 07 40 36.8 +0.3**
KRLC *ep*P **pP 07 40 46.7 -0.5**
KRLC Kraliky 74.64 320 *e*P **P 07 40 36.8 +0.3**
KRLC *e* 07 40 46.7
VRAC Vranov 74.68 319 P **P 07 40 35.9 -0.8**
comp=Z,2.2nm,0.4s,baz=154,slow=2.0,SNR=3.4
VRAC Vranov 74.68 319 P **P 07 40 35.9 -0.8**
VRAC pmax pmax
comp=Z,2.0nm,0.4s
ARCES ARCESS Array B 74.75 340 P **P 07 40 36.1 -0.6**
comp=Z,9.3nm,0.8s,baz=102,slow=5.0,SNR=35
ARCES LR LR 08 17 45.4
comp=Z,379nm,20.2s,baz=109,slow=39
ARCES ARCESS Array B 74.75 340 P **P 07 40 36.1 -0.6**
ARCES pmax pmax
comp=Z,9.0nm,0.8s
ARCES MLR MLR
comp=Z,379nm,20.2s
ARE0 ARCESS Array S 74.75 340 *e*P **P 07 40 35.6 -1.1**
DPC Dobruska-Polom 74.96 320 *e*P **P 07 40 38.9 +0.5**
DPC *ep*P **pP 07 40 48.6 -0.5**
DPC *ex* x 07 40 57.0
DPC AMS AMS 08 23 30.0
comp=Z,100nm,15.3s
DPC Dobruska-Polom 74.96 320 *e*P **P 07 40 38.9 +0.5**

DPC				*e*			07 40 48.6	
DPC				*e*			07 40 57.0	
DPC				MLR	MLR			
	comp=Z,100nm,15.3s							
CASY	**Casey**	**74.97**	**172**	*eP*	**P**		**07 40 38.1**	**+0.2**
	comp=Z,8.0nm,0.6s							
GCIS	**Gornji Cirnik**	**75.01**	**315**	*eP*	**P**		**07 40 38.2**	**-0.5**
KSP	**Ksiaz**	**75.04**	**321**	*eP*	**P**		**07 40 39.3**	**+0.5**
KSP	**Ksiaz**	**75.04**	**321**	*eP*	**P**		**07 40 39.3**	**+0.5**
UPC	**Upice**	**75.18**	**320**	*eP*	**P**		**07 40 39.7**	**+0.1**
UPC				*ep*P	**pP**		**07 40 48.6**	**-1.7**
UPC	**Upice**	**75.18**	**320**	*eP*	**P**		**07 40 39.7**	**+0.1**
UPC				*e*			07 40 48.6	
TREC	**Trest**	**75.40**	**319**	AMS	AMS		08 21 50.0	
	comp=Z,200nm,16.4s							
SOKA	**Soboth**	**75.48**	**316**	⇑*iP*	**P**		**07 40 42.0**	**+0.5**
	comp=Z,15nm,1.2s,SNR=8.1							
OBKA	**Obir**	**75.80**	**316**	⇑*iP*	**P**		**07 40 43.9**	**+0.6**
	comp=Z,14nm,1.4s,SNR=5.6							
GOPC	**GO Pecny, Ondr**	**75.91**	**319**	*eP*	**P**		**07 40 44.1**	**+0.3**
GOPC				*ep*P	**pP**		**07 40 52.7**	**-1.8**
GOPC				AMS	AMS		08 19 40.0	
	comp=Z,200nm,17.0s							
PRU	**Pruhonice**	**76.07**	**320**	*eP*	**P**		**07 40 44.7**	**0.0**
PRU				*ep*P	**pP**		**07 40 54.8**	**-0.6**
PRU				AMS	AMS		08 19 50.0	
	comp=Z,200nm,19.1s							
PRU	**Pruhonice**	**76.07**	**320**	*eP*	**P**		**07 40 44.7**	**0.0**
PRU				*e*			07 40 54.8	
PRU				MLR	MLR			
	comp=Z,200nm,19.1s							
MOA	**Molln**	**76.09**	**317**	⇑*iP*	**P**		**07 40 45.0**	**+0.1**
	comp=Z,5.6nm,0.9s							
PVCC	**Panska Ves**	**76.10**	**320**	*eP*	**P**		**07 40 45.3**	**+0.5**
PVCC				*ep*P	**pP**		**07 40 55.1**	**-0.4**
PVCC	**Panska Ves**	**76.10**	**320**	*eP*	**P**		**07 40 45.3**	**+0.5**
PVCC				*e*			07 40 55.1	
PRA	**Prague**	**76.14**	**320**	*eP*	**P**		**07 40 45.5**	**+0.4**
PRA				*ep*P	**pP**		**07 40 55.5**	**-0.3**
PRA	**Prague**	**76.14**	**320**	*eP*	**P**		**07 40 45.5**	**+0.4**
PRA				*e*			07 40 55.5	
BSD	**Bornholm Skovb**	**76.34**	**325**	*i* P	**P**		**07 40 44.3**	**-1.8**
	comp=Z,12nm,0.6s							
BSD	**Bornholm Skovb**	**76.34**	**325**	*i* P	**P**		**07 40 44.3**	**-1.8**
BSD				pmax	pmax			
	comp=Z,12nm,0.6s							
CADS	**Cadrg**	**76.34**	**316**	*eP*	**P**		**07 40 45.4**	**-1.0**
MYKA	**Terra Mystica**	**76.43**	**316**	⇑*iP*	**P**		**07 40 47.4**	**+0.5**
	comp=Z,17nm,1.7s							
BRG	**Berggiesshubel**	**76.52**	**320**	*eP*	**P**		**07 40 47.3**	**+0.1**
	comp=Z,11nm,1.0s							
BRG				*e*PCP	**pP**		**07 40 57.8**	**-0.2**
	comp=Z,23nm,1.4s							
	comp=N,307nm,21.4s							
	comp=E,209nm,24.1s							
	comp=Z,159nm,16.0s							
BRG	**Berggiesshubel**	**76.52**	**320**	*eP*	**P**		**07 40 47.4**	**+0.2**
	comp=Z,25nm,1.5s							
BRG				*ep*P	**pP**		**07 40 57.6**	**-0.3**
BRG	**Berggiesshubel**	**76.52**	**320**	*eP*	**P**		**07 40 47.3**	**+0.1**
BRG				*e*			07 40 57.8	
BRG				pmax	pmax			
	comp=Z,11nm,1.0s							
BRG				MLR	MLR			
	comp=N,307nm,21.4s							
BRG				MLR	MLR			
	comp=E,209nm,24.1s							
BRG				MLR	MLR			
	comp=Z,159nm,16.0s							
GEC2	**GERESS Array S**	**76.53**	**318**	*eP*	**P**		**07 40 47.8**	**+0.3**
	comp=Z,10.0nm,0.9s							
GEC2				*ep*P	**pP**		**07 40 57.7**	**-0.5**
GERES	**GERESS Array B**	**76.53**	**318**	P	**P**		**07 40 47.5**	**+0.1**
	comp=Z,5.5nm,0.8s,baz=90,slow=5.5,SNR=38							
GERES				LR	LR		08 17 56.0	
	comp=Z,138nm,21.0s,baz=88,slow=38							
GERES	**GERESS Array B**	**76.53**	**318**	P	**P**		**07 40 47.6**	**+0.1**
GERES				pmax	pmax			
	comp=Z,6.0nm,0.8s							
GERES				MLR	MLR			
	comp=Z,138nm,21.0s							
KHC	**Kasperske Hory**	**76.63**	**319**	*eP*	**P**		**07 40 48.1**	**+0.1**
KHC				*ep*P	**pP**		**07 40 57.4**	**-1.3**
KHC				AMS	AMS		08 19 20.0	
	comp=Z,200nm,21.1s							
KHC	**Kasperske Hory**	**76.63**	**319**	*eP*	**P**		**07 40 48.1**	**+0.1**
KHC				*e*			07 40 57.4	
KHC				MLR	MLR			
	comp=Z,200nm,21.1s							
KHC	**Kasperske Hory**	**76.63**	**319**	*eP*	**P**		**07 40 48.0**	**+0.1**
	comp=Z,2.0nm,0.8s							
KBA	**Koelnbreinsper**	**76.66**	**316**	⇑*iP*	**P**		**07 40 48.2**	**-0.2**
	comp=Z,11nm,1.5s							
FBE	**Freiberg**	**76.90**	**320**	*eP*	**P**		**07 40 50.0**	**+0.7**
	comp=Z,33nm,1.3s							
FBE				*ep*P	**pP**		**07 40 59.8**	**-0.3**
WET	**Wettzell**	**77.09**	**319**	*eP*	**P**		**07 40 50.9**	**+0.4**
	comp=Z,16nm,1.4s							
WET				*ep*P	**PcP**		**07 41 00.7**	**-0.6**
BILL	**Bilibino**	**77.13**	**22**	*eP*	**P**		**07 40 50.8**	**+0.4**
	comp=Z,14nm,1.2s							
CLL	**Collm**	**77.14**	**321**	*eP*	**P**		**07 40 50.7**	**0.0**
	comp=Z,15nm,1.2s							
CLL				*ep*P	**PcP**		**07 41 00.6**	**-0.8**
CLL	**Collm**	**77.14**	**321**	⇓*iP*	**P**		**07 40 50.5**	**-0.2**
	comp=Z,15nm,1.2s							
CLL				*i* pP	**PcP**		**07 40 59.4**	**-2.0**
CLL				*e*SS	SS		07 55 36.0	+0.6
CLL				*e*SSS	SSS		07 59 12.0	
CLL				*e*SSSS			08 01 24.0	
CLL				Lm	MLR		08 19 00.0	
	comp=N,300nm,20.0s							
CLL				Lm	MLR		08 19 00.0	
	comp=E,200nm,21.9s							
CLL				Lm	MLR		08 19 00.0	
	comp=Z,200nm,21.1s							
CLL	**Collm**	**77.14**	**321**	⇓*iP*	**P**		**07 40 50.5**	**-0.2**
CLL				*i*			07 40 59.4	
CLL				pmax	pmax			
	comp=Z,15nm,1.2s							
CLL				MLR	MLR			
	comp=Z,200nm,21.1s							
CLL	**Collm**	**77.14**	**321**	*eP*	**P**		**07 40 51.0**	**+0.3**
NKC	**Novy Kostel**	**77.43**	**320**	*eP*	**P**		**07 40 52.5**	**+0.1**
NKC				*ep*P	**pP**		**07 41 02.7**	**-0.4**
NKC	**Novy Kostel**	**77.43**	**320**	*eP*	**P**		**07 40 52.5**	**+0.1**
NKC				*e*			07 41 02.7	
TANN	**Tannenbergstha**	**77.43**	**320**	*eP*	**P**		**07 40 52.6**	**+0.1**
	comp=Z,12nm,1.3s							
TANN				*ep*P	**PcP**		**07 41 02.4**	**-0.4**
WERN	**Wernitzgruen**	**77.48**	**320**	*eP*	**P**		**07 40 53.1**	**+0.4**
	comp=Z,10.0nm,1.2s							
WERN				*ep*P	**pP**		**07 41 03.0**	**-0.4**
GUNZ	**Gunzen**	**77.51**	**320**	*eP*	**P**		**07 40 53.3**	**+0.4**
	comp=Z,17nm,1.1s							
GUNZ				*ep*P	**PcP**		**07 41 03.0**	**-0.1**
WERD	**Werda**	**77.53**	**320**	*eP*	**P**		**07 40 53.1**	**+0.1**
	comp=Z,16nm,1.3s							
WERD				*ep*P	**PcP**		**07 41 03.1**	**-0.1**
HFS	**Hagfors**	**77.55**	**330**	P	**P**		**07 40 52.4**	**-0.4**
	comp=Z,6.2nm,0.7s,baz=106,slow=7.9,SNR=27							
HFS	**Hagfors**	**77.55**	**330**	P	**P**		**07 40 52.4**	**-0.4**
HFS				pmax	pmax			
	comp=Z,6.0nm,0.7s							
ROTZ	**Rotzenmuhle**	**77.56**	**319**	*eP*	**P**		**07 40 53.9**	**+0.8**
	comp=Z,20nm,1.2s							
ROTZ				*ep*P	**pP**		**07 41 03.9**	**+0.1**
PLN	**Plauen**	**77.63**	**320**	*eP*	**P**		**07 40 53.7**	**+0.2**
	comp=Z,11nm,1.2s							
PLN				*ep*P	**pP**		**07 41 03.7**	**-0.5**
MANZ	**Manzenberg**	**77.64**	**319**	*eP*	**P**		**07 40 54.3**	**+0.7**
	comp=Z,28nm,1.2s							
MANZ				*ep*P	**pP**		**07 41 04.3**	**0.0**
WTTA	**Wattenberg**	**77.83**	**317**	⇑*iP*	**P**		**07 40 54.0**	**-0.9**
	comp=Z,16nm,1.0s							
MAW	**Mawson**	**77.86**	**191**	P	**P**		**07 40 54.6**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=359,slow=7.7,SNR=3.1							
MAW				LR	LR		08 08 11.8	
	comp=Z,81nm,18.0s,baz=54,slow=30							
NEUB	**Neuenburg**	**77.91**	**321**	*eP*	**P**		**07 40 54.9**	**-0.1**
	comp=Z,25nm,1.1s							
MOX	**Moxa**	**77.98**	**320**	*eP*	**P**		**07 40 55.8**	**+0.3**
	comp=Z,19nm,1.4s							
MOX				*ep*P	**pP**		**07 41 05.7**	**-0.5**
MOX				*e*L	L		08 20 10.0	
	comp=Z,200nm,21.3s							
GRF	**Grafenberg Arr**	**78.20**	**319**	*eP*	**P**		**07 40 57.5**	**+0.8**
	comp=Z,21nm,0.9s							
GRF				*ep*P	**pP**		**07 41 07.3**	**-0.1**
GRF				*e*L	L		08 22 31.7	
	comp=Z,169nm,18.8s							
MOTA	**Moosalm**	**78.20**	**317**	⇑*iP*	**P**		**07 40 56.5**	**-0.5**
	comp=Z,17nm,1.0s							
RETA	**Reutte**	**78.44**	**317**	⇓*iP*	**P**		**07 40 58.1**	**0.0**
	comp=Z,32nm,1.5s,SNR=11							
FETA	**Feichten**	**78.45**	**316**	*i* P	**P**		**07 40 58.1**	**-0.2**
	comp=Z,16nm,1.0s,SNR=9.3							
DZM	**Mont Dzumac**	**78.71**	**114**	*eP*	P		07 41 05.9	+5.8
	comp=Z,53nm,1.4s							
DZM	**Mont Dzumac**	**78.71**	**114**	*e*LR	LR		08 05 28.3	
	comp=Z,343nm,26.2s							
FUORN	**Ofenpass-Fuorn**	**78.76**	**316**	*eP*	**P**		**07 41 00.8**	**+0.7**
	comp=Z,53nm,1.9s							
CLZ	**Clausthal**	**78.81**	**321**	*eP*	**P**		**07 41 00.1**	**+0.1**
	comp=Z,13nm,0.9s							
CLZ				*ep*P	**pP**		**07 41 10.4**	**-0.4**
NB2	**NORSAR Subarra**	**78.86**	**331**	P	**P**		**07 40 59.1**	**-1.0**
	comp=Z,10.0nm,1.0s,baz=92,slow=5.3							
NOA	**NORSAR Array B**	**78.86**	**331**	P	**P**		**07 40 58.8**	**-1.3**
	comp=Z,5.5nm,0.9s,baz=94,slow=5.7,SNR=13							
NOA				LR	LR		08 19 24.4	
	comp=Z,399nm,20.3s,baz=125,slow=38							
NOA	**NORSAR Array B**	**78.86**	**331**	P	**P**		**07 40 58.8**	**-1.3**
NOA				pmax	pmax			
	comp=Z,6.0nm,0.9s							
NOA				MLR	MLR			
	comp=Z,399nm,20.3s							
BSEG	**Bad Segeberg**	**78.92**	**323**	*eP*	**P**		**07 41 00.8**	**+0.3**
	comp=Z,26nm,1.2s							
BSEG				*ep*P	**pP**		**07 41 10.9**	**-0.3**
NAO01	**NORSAR Array S**	**79.00**	**330**	*eP*	**P**		**07 41 00.4**	**-0.5**
	comp=Z,6.6nm,0.9s							
DAVOX	**Davos/Dischmat**	**79.03**	**316**	P	**P**		**07 41 01.8**	**+0.3**
	comp=Z,7.4nm,0.5s,baz=113,slow=4.0,SNR=17							
DAVOX	**Davos/Dischmat**	**79.03**	**316**	P	**P**		**07 41 01.8**	**+0.3**
DAVOX				pmax	pmax			
	comp=Z,7.0nm,0.5s							
DAVA	**Damuels**	**79.03**	**317**	⇓*iP*	**P**		**07 41 01.7**	**+0.2**
	comp=Z,32nm,1.1s,SNR=11							
TUE	**Stuetta**	**79.39**	**316**	*eP*	**P**		**07 41 02.7**	**-0.9**
	comp=Z,356nm,0.4s							
KEST	**Kesra**	**79.56**	**305**	P	**P**		**07 41 04.8**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=10.0,slow=7.7,SNR=4.9							
KONO	**Kongsberg**	**79.57**	**329**	*eP*	**P**		**07 41 02.6**	**-1.4**
	comp=Z,19nm,1.2s							
SPITS	**Spitsbergen Ar**	**79.62**	**348**	P	**P**		**07 41 04.3**	**+0.3**
	comp=Z,7.0nm,0.4s,baz=104,slow=9.8,SNR=46							
SPITS	**Spitsbergen Ar**	**79.62**	**348**	P	**P**		**07 41 04.3**	**+0.3**
SPITS				pmax	pmax			
	comp=Z,7.0nm,0.4s							
TNS	**Taunus Mts**	**80.00**	**320**	*eP*	**P**		**07 41 06.9**	**+0.3**
	comp=Z,19nm,1.3s							
BFO	**Black Forest**	**80.08**	**318**	*eP*	**P**		**07 41 06.9**	**-0.1**
	comp=Z,13nm,1.2s							
BFO				*ep*P	**pP**		**07 41 16.9**	**-0.9**
BFO	**Black Forest**	**80.08**	**318**	*iP*	**P**		**07 41 07.1**	**+0.1**
BFO	**Black Forest**	**80.08**	**318**	*eP*	**P**		**07 41 06.3**	**-0.7**
	comp=Z,14nm,1.1s							
LANF	**Langenberg**	**80.42**	**318**	⇑*eP*	**P**		**07 41 08.8**	**0.0**
IBBN	**Ibbenburen**	**80.43**	**322**	*eP*	**P**		**07 41 08.7**	**-0.1**
	comp=Z,31nm,1.4s							
IBBN				*ep*P	**pP**		**07 41 19.1**	**-0.4**
SAOF	**Saorge**	**80.69**	**313**	⇑*eP*	**P**		**07 41 10.6**	**+0.2**
AUTN	**L'Aution**	**80.78**	**313**	⇑*eP*	**P**		**07 41 11.6**	**+0.5**
AUTN	**L'Aution**	**80.78**	**313**	⇑*eP*	**P**		**07 41 12.1**	**+1.0**
SENIN	**Lac Senin/Sane**	**80.81**	**316**	*eP*	**P**		**07 41 11.9**	**+0.7**
	comp=Z,25nm,1.0s							
REVF	**Revere**	**80.83**	**313**	⇑*eP*	**P**		**07 41 12.0**	**+0.8**
ECH	**Echery**	**80.86**	**318**	⇑*eP*	**P**		**07 41 11.6**	**+0.4**
ECH	**Echery**	**80.86**	**318**	*eP*	**P**		**07 41 10.2**	**-1.0**
	comp=Z,6.4nm,1.0s							
MOF	**Molkenrain**	**80.89**	**317**	⇑*eP*	**P**		**07 41 10.9**	**-0.6**
MVIF	**Mont Vial**	**80.98**	**313**	⇑*eP*	**P**		**07 41 12.6**	**+0.5**
LOMF	**Lomont**	**81.11**	**317**	⇑*eP*	**P**		**07 41 11.3**	**-1.3**
CALN	**Calern**	**81.18**	**313**	⇑*eP*	**P**		**07 41 12.8**	**-0.4**
THEF	**They Montfort**	**81.65**	**318**	⇑*eP*	**P**		**07 41 15.1**	**-0.3**
SSB	**Saint Sauveur**	**82.78**	**315**	*eP*	**P**		**07 41 21.4**	**0.0**
	comp=Z,16nm,1.1s							
PLDF	**La Plantade**	**83.38**	**315**	⇑*eP*	**P**		**07 41 24.7**	**+0.2**
LBL	**Lubilhac**	**83.70**	**315**	*eP*	**P**		**07 41 26.7**	**+0.5**
TAM	**Tamanrasset**	**83.77**	**292**	*eP*	**P**		**07 41 29.0**	**+1.9**
	comp=Z,11nm,1.2s							
EKA	**Eskdalemuir Ar**	**86.66**	**325**	P	**P**		**07 41 40.9**	**+0.2**
	comp=Z,4.9nm,0.6s,baz=96,slow=5.4,SNR=22							
EKA	**Eskdalemuir Ar**	**86.66**	**325**	P	**P**		**07 41 40.9**	**+0.2**
EKA				pmax	pmax			
	comp=Z,5.0nm,0.6s							
ESK	**Eskdalemuir**	**86.69**	**325**	*i* P	**P**		**07 41 41.8**	**+1.0**
ESK	**Eskdalemuir**	**86.69**	**325**	*eP*	**P**		**07 41 40.3**	**-0.5**
	comp=Z,11nm,0.9s							
DAG	**Danmarks Havn**	**87.24**	**348**	⇓*iP*	**P**		**07 41 42.2**	**-0.9**
	comp=Z,12nm,0.6s							
DAG	**Danmarks Havn**	**87.24**	**348**	⇓*iP*	**P**		**07 41 42.2**	**-0.9**
DAG				pmax	pmax			
	comp=Z,8.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**88.49**	**283**	P	**P**		**07 41 50.7**	**+0.4**
	comp=Z,1.6nm,1.0s,baz=81,slow=4.2,SNR=6.3							
TORD				LR	LR		08 19 39.3	
	comp=Z,129nm,19.6s,baz=110,slow=34							
ALE	**Alert**	**89.23**	**357**	P	**P**		**07 41 52.6**	**+0.1**
	comp=Z,142nm,0.7s,SNR=8.0							
ESDC	**Sonseca Array**	**89.67**	**310**	P	**P**		**07 41 55.5**	**0.0**
	comp=Z,3.0nm,0.9s,baz=59,slow=4.6,SNR=14							
ESDC				LR	LR		08 27 58.4	
	comp=Z,94nm,18.8s,baz=315,slow=40							
IM04	**Indian Mountai**	**92.68**	**22**	*eP*	**P**		**07 42 09.8**	**+1.0**
VNDA	**Vanda**	**93.14**	**168**	P	**P**		**07 42 11.6**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=261,slow=19,SNR=2.7							
VNDA				LR	LR		08 19 14.8	
	comp=Z,238nm,19.4s,baz=303,slow=32							
COLD	**Coldfoot**	**93.39**	**20**	*eP*	**P**		**07 42 12.4**	**+0.3**
	comp=Z,3.8nm,0.8s							
SUMG	**Summit**	**93.88**	**347**	*i* P	**P**		**07 42 14.9**	**+0.2**
	comp=Z,14nm,1.1s							
SUMG	**Summit**	**93.88**	**347**	*i* P	**P**		**07 42 14.9**	**+0.2**
SUMG				pmax	pmax			
	comp=Z,14nm,1.1s							
BPAW	**Bear Paw Mtn.**	**94.58**	**23**	*eP*	**P**		**07 42 17.7**	**+0.1**
	comp=Z,1.2nm,1.0s							
PPLA	**Purkeypile**	**94.66**	**24**	*eP*	**P**		**07 42 19.2**	**+1.1**
	comp=Z,5.2nm,0.9s							
COLA	**College**	**95.39**	**22**	*eP*	**P**		**07 42 21.7**	**+0.5**
	comp=Z,1.6nm,0.6s							
KULLO	**Kullorsuaq**	**95.77**	**352**	⇓*iP*	**P**		**07 42 23.0**	**+0.2**
	comp=Z,17nm,1.2s							
KULLO				*i*			07 42 32.5	
DBIC	**Dimbokro**	**95.78**	**277**	LR	LR		08 24 45.2	
	comp=Z,268nm,18.8s,baz=64,slow=35							
ILAR	**Eielson Array**	**95.80**	**22**	P	**P**		**07 42 22.4**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=303,slow=4.5,SNR=19							
ILAR				PP	PP		07 46 00.9	-14
	comp=Z,1.0nm,0.9s,baz=306,slow=7.6,SNR=5.9							
ILAR				PKKPbc	PKKPbc		07 59 20.1	+5.1
	comp=Z,0.1nm,0.7s,baz=131,slow=1.3,SNR=6.1							
ILAR				LR	LR		08 30 54.0	
	comp=Z,166nm,20.4s,baz=310,slow=39							
YKA	**Yellowknife Ar**	**107.16**	**13**	PP	PP		07 47 36.6	-3.4
	comp=Z,2.2nm,1.0s,baz=332,slow=7.5,SNR=5.5							
PPT2	**Papeete2**	**119.41**	**106**	*e*LR	LR		08 24 15.1	
	comp=Z,160nm,22.8s							
J04D	**Umpqua Nationa**	**120.69**	**28**	P	**PKPdf**		**07 47 50.1**	**+0.5**
	baz=121							
HUMO	**Hull Mountain**	**120.77**	**29**	*e*PKPdf	**PKPdf**		**07 47 51.1**	**+1.6**
J05D	**Fort Rock, OR**	**121.07**	**28**	P	**PKPdf**		**07 47 50.4**	**+0.2**
	baz=121							
MSO	**Missoula**	**121.11**	**20**	P	**PKPdf**		**07 47 49.8**	**-0.3**
	baz=121							
A21A	**Bergtoll Ranch**	**121.25**	**14**	P	**PKPdf**		**07 47 50.0**	**-0.2**
	baz=121							
EGMT	**Eagleton**	**121.38**	**17**	P	**PKPdf**		**07 47 50.4**	**-0.2**
	baz=121							
EGMT	**Eagleton**	**121.38**	**17**	*e*PKPdf	**PKPdf**		**07 47 50.9**	**+0.3**
A22A	**Carney Farms,**	**121.49**	**14**	P	**PKPdf**		**07 47 51.0**	**+0.2**
	baz=121							
M04C	**Modoel**	**121.93**	**29**	P	**PKPdf**		**07 47 52.0**	**+0.1**
	baz=122							
MOD	**Modoc Plateau**	**122.57**	**28**	*e*PKPdf	**PKPdf**		**07 47 53.8**	**+0.6**
C23A	**Lambert**	**122.78**	**14**	P	**PKPdf**		**07 47 54.3**	**+1.1**
	baz=123							
MFID	**Camas Ranch**	**123.30**	**24**	*e*PKPdf	**PKPdf**		**07 47 55.2**	**+0.7**
HLID	**Hailey**	**123.73**	**23**	P	**PKPdf**		**07 47 56.6**	**+1.2**
	baz=124							
HLID	**Hailey**	**123.73**	**23**	*e*PKPdf	**PKPdf**		**07 47 56.4**	**+1.1**
AGMN	**Agassiz Nation**	**123.89**	**6**	P	**PKPdf**		**07 47 55.2**	**0.0**
	baz=124							
E23A	**Ismay**	**123.97**	**14**	P	**PKPdf**		**07 47 55.8**	**+0.3**
	baz=124							
G20A	**Bridger**	**124.37**	**17**	P	**PKPdf**		**07 47 57.0**	**+0.5**
	baz=124							
EYMN	**Ely**	**124.58**	**3**	*e*PKPdf	**PKPdf**		**07 47 56.9**	**+0.2**
E26A	**Carlson Angus**	**124.64**	**12**	P	**PKPdf**		**07 47 57.6**	**+0.7**
	baz=124							
F23A	**Volborg**	**124.67**	**15**	P	**PKPdf**		**07 47 56.9**	**-0.1**
	baz=124							
G22A	**Birney**	**124.91**	**16**	P	**PKPdf**		**07 47 57.4**	**-0.1**
	baz=125							
LOHW	**Long Hollow**	**125.06**	**20**	*e*PKPdf	**PKPdf**		**07 47 58.2**	**+0.2**
SNOW	**Snow King Moun**	**125.15**	**20**	*e*PKPdf	**PKPdf**		**07 47 59.3**	**+1.1**
REDW	**Red Top Meadow**	**125.20**	**20**	*e*PKPdf	**PKPdf**		**07 47 59.1**	**+0.9**
F27A	**Lemmon**	**125.30**	**12**	P	**PKPdf**		**07 47 57.9**	**-0.2**
	baz=125							
I20A	**Worland**	**125.55**	**18**	P	**PKPdf**		**07 47 58.8**	**+0.1**
	baz=125							
H24A	**Dirks Ranch, A**	**125.80**	**14**	P	**PKPdf**		**07 47 59.2**	**0.0**
	baz=126							
I21A	**Big Trails, Te**	**125.92**	**17**	P	**PKPdf**		**07 47 59.9**	**+0.4**
	baz=126							
BW06	**Boulder Array**	**126.17**	**19**	*e*PKPdf	**PKPdf**		**07 47 60.0**	**-0.1**
PDAR	**Pinedale Array**	**126.17**	**19**	PKP	**PKPdf**		**07 48 00.7**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=29,slow=3.4,SNR=14							
PDAR				PP	**PP**		**07 49 51.0**	**-2.2**
	comp=Z,2.7nm,1.0s,baz=15,slow=6.2,SNR=5.7							
NVAR	**Mina Array Bea**	**126.24**	**29**	PKP	**PKPdf**		**07 48 01.9**	**+1.5**
	comp=Z,2.8nm,0.8s,baz=312,slow=1.6,SNR=17							
HWUT	**Hardware Ranch**	**126.49**	**22**	*e*PKPdf	**PKPdf**		**07 48 00.2**	**-0.5**
J22A	**Midwest**	**126.53**	**17**	P	**PKPdf**		**07 48 00.1**	**-0.6**
	baz=126							
DUG	**Dugway, Tooele**	**127.22**	**24**	P	**PKPdf**		**07 48 02.8**	**+0.6**
	baz=127							
DUG	**Dugway, Tooele**	**127.22**	**24**	*e*PKPdf	**PKPdf**		**07 48 02.7**	**+0.6**
I28A	**Midland**	**127.27**	**12**	P	**PKPdf**		**07 48 02.1**	**+0.2**
	baz=127							
K23A	**Bowen Ranch, D**	**127.37**	**16**	P	**PKPdf**		**07 48 02.0**	**-0.3**
	baz=127							
R11A	**Troy Canyon, C**	**127.58**	**27**	P	**PKPdf**		**07 48 03.2**	**+0.3**
	baz=127							
R11A	**Troy Canyon, C**	**127.58**	**27**	*e*PKPdf	**PKPdf**		**07 48 04.1**	**+1.2**
ECSD	**EROS Data Cent**	**128.30**	**8**	P	**PKPdf**		**07 48 04.2**	**+0.3**
	baz=128							
ECSD	**EROS Data Cent**	**128.30**	**8**	*e*PKPdf	**PKPdf**		**07 48 04.0**	**+0.2**
MVU	**Marysvale**	**128.91**	**24**	*e*PKPdf	**PKPdf**		**07 48 07.2**	**+1.7**
MSU	**Marysvale**	**128.92**	**24**	*e*PKPdf	**PKPdf**		**07 48 07.2**	**+1.7**
O20A	**White River Ci**	**128.96**	**20**	P	**PKPdf**		**07 48 06.2**	**+0.7**
	baz=129							
N23A	**Red Feather La**	**129.00**	**17**	P	**PKPdf**		**07 48 05.9**	**+0.2**
	baz=129							
SMCO	**Snowmass**	**130.25**	**19**	*e*PKPdf	**PKPdf**		**07 48 09.1**	**+0.9**
O27A	**Beecher Island**	**130.60**	**15**	P	**PKPdf**		**07 48 09.5**	**+1.0**
	baz=130							
O28A	**Krutsinger Ran**	**130.83**	**14**	P	**PKPdf**		**07 48 10.1**	**+1.2**
	baz=131							
RKT	**Rikitea**	**132.48**	**114**	*e*LR	LR		08 30 22.5	
	comp=Z,189nm,27.0s							
ANMO	**Albuquerque**	**134.24**	**21**	*e*PKPdf	**PKPdf**		**07 48 16.8**	**+1.2**
U38A	**Gravette**	**135.77**	**7**	P	**PKPdf**		**07 48 19.1**	**+0.9**
	baz=136							
121A	**Cookes Peak, D**	**135.87**	**24**	P	**PKPdf**		**07 48 19.7**	**+1.0**
	baz=136							
V35A	**Meyer Ranch, C**	**136.06**	**10**	P	**PKPdf**		**07 48 20.4**	**+1.6**
	baz=136							
TUL1	**

1.0nm,0.8s,baz=16,slow=8.8,SNR=4.1
SONM Songino Array 46.23 327 P P 07 45 07.9 +0.5
0.4nm,0.5s,baz=149,slow=6.4,SNR=2.7
KURBB Kurchatov Arra 63.87 320 P P 07 47 13.7 -0.1
1.4nm,0.6s,baz=107,slow=6.6,SNR=10
BVAR Borovoye Array 69.25 322 P P 07 47 48.2 +0.2
2.2nm,0.5s,baz=110,slow=8.3,SNR=10
ILAR Eielson Array 70.61 25 P P 07 47 56.0 -0.1
0.8nm,0.7s,baz=244,slow=6.3,SNR=13
YKA Yellowknife Ar 84.95 27 P P 07 49 16.5 +0.9
0.3nm,0.5s,baz=292,slow=5.2,SNR=3.1
FINES FINESS Array B 91.08 334 P P 07 49 42.9 -1.9
0.4nm,0.4s,baz=86,slow=5.9,SNR=5.5
LPAZ La Paz 150.28 101 PKPbc PKPbc 07 56 33.1 +0.3
0.9nm,0.5s,baz=345,slow=3.5,SNR=6.1

ISCJB ***25*** *07:48:11.8±0.5, 7.42N±0.07×91.92E±0.08, h10km, mb4.4/27, MS3.5/1, Error ellipse: s-maj=11.9km s-min=8.8km az=150.5*
IDC ***25*** *07:48:11.8±0.7, 7.49N×91.81E, h0km, mb4.1/16, mb1 4.2/18, mb1mx4.0/44, mbtmp4.1/18, ML3.9/2, MS3.5/1, Ms1 3.5/1, ms1mx2.9/39, Error ellipse: s-maj=25.1km s-min=14.2km az=58.0*
NEIC ***25*** *07:48:15.3±3.6, 7.44N×91.88E, h21km±25km, mb4.8/11, Error ellipse: s-maj=13.5km s-min=11.1km az=54.0*
BJI ***25*** *07:48:23.9, 7.57N×92.21E, h110km, mb4.6/8, mB4.9/4*
ISC 25 07:48:13.8±0.6, 7.45N±0.07×91.95E±0.10, h10km, n59, σ1§38/48, mb4.4/27, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PBA	**Port Blair**	**4.26**	**11**	*eS*		Sg	07 50 45.0	+14
PBA					AML	AML	07 50 48.4	
	comp=E,414nm,0.4s							
PBA					AML	AML	07 50 48.8	
	comp=N,667nm,0.1s							
DGPR	**DIGLIPUR**	**5.78**	**10**	*eS*		**Sg**	**07 51 19.4**	**-0.1**
DGPR					AML	AML	07 51 25.7	
	comp=N,159nm,0.6s							
DGPR					AML	AML	07 51 27.8	
	comp=E,216nm,0.3s							
PALK	**Pallekele**	**11.16**	**270**	Pn		**Pn**	**07 50 52.3**	**-1.3**
	comp=E,2.6nm,0.3s,baz=88,slow=12,SNR=18							
PALK					Sn	Sn	07 52 41.3	-17
	comp=E,2.7nm,0.3s,baz=162,slow=18,SNR=4.6							
CMAR	**Chiang Mai Arr**	**12.89**	**31**	Pn		**Pn**	**07 51 17.1**	**-0.1**
	comp=E,0.1nm,0.3s,baz=230,slow=14,SNR=17							
CHTO	**Chiang Mai**	**13.19**	**30**	*ePn*		**Pn**	**07 51 20.9**	**-0.4**
	comp=E,8.0nm,1.0s							
ODAN	**Odare**	**19.79**	**348**	*eP*		**Pn**	**07 52 47.6**	**+1.4**
	comp=E,50nm,0.9s							
RAMN	**Ramite**	**20.05**	**346**	*eP*		Pn	07 52 49.9	+0.5
	comp=E,33nm,0.6s							
TAPN	**Taplejung**	**20.20**	**349**	*eP*		**P**	**07 52 49.6**	**+0.4**
	comp=E,98nm,1.1s							
PKI	**Pulchoki**	**20.95**	**344**	*eP*		**P**	**07 52 57.9**	**+0.5**
	comp=E,73nm,1.1s							
DMN	**Daman**	**21.08**	**343**	*eP*		**P**	**07 52 59.4**	**+0.7**
	comp=E,49nm,0.8s							
GUN	**Gumba**	**21.15**	**345**	*eP*		**P**	**07 52 59.9**	**+0.3**
	comp=E,96nm,0.8s							
GKN	**Gorkha**	**21.59**	**342**	*eP*		**P**	**07 53 03.6**	**-0.5**
	comp=E,79nm,1.0s							
KOLN	**Koldanda**	**21.71**	**340**	*eP*		**P**	**07 53 05.8**	**+0.4**
	comp=E,51nm,0.8s							
LSA	**Lhasa**	**22.15**	**358**	*eP*		**P**	**07 53 12.7**	**+2.3**
	comp=E,32nm,0.8s							
H08S3	**Diego Garcia H**	**24.51**	**233**	T		T	08 19 47.6	
	baz=56,slow=74,SNR=40							
H08S2	**Diego Garcia H**	**24.52**	**233**	T		T	08 19 48.0	
	baz=56,slow=74,SNR=32							
H08S1	**Diego Garcia H**	**24.53**	**233**	T		T	08 19 49.9	
	baz=56,SNR=38							
GTA	**Gaotai**	**32.60**	**11**	*eP*		**P**	**07 54 46.5**	**+0.7**
GTA					PMZ			
	comp=E,15nm,0.9s							
TKM2	**Tokmak 2**	**38.16**	**340**	*eP*		**P**	**07 55 34.4**	**+0.8**
	comp=E,17nm,1.0s							
AAK	**Ala-Archa**	**38.28**	**339**	P		P	07 55 49.1	+14
	comp=E,3.5nm,0.6s,baz=200,slow=7.1,SNR=7.6							
EKS2	**Erkin-Say**	**38.56**	**338**	*eP*		**P**	**07 55 38.4**	**+1.4**
	comp=E,19nm,0.9s							
MK31	**Makanchi Array**	**40.07**	**350**	*eP*		**P**	**07 55 48.2**	**-1.2**
KKAR	**Karatay Array**	**40.21**	**336**	*eP*		**P**	**07 55 51.5**	**+0.9**
	comp=E,13nm,0.8s							
SONM	**Songino Array**	**42.09**	**15**	P		**P**	**07 56 05.5**	**-0.6**
	comp=E,3.0nm,0.8s,baz=195,slow=8.7,SNR=14							
GEYT	**Alibeck**	**43.10**	**320**	P		**P**	**07 56 14.2**	**-0.2**
	comp=E,1.3nm,0.3s,baz=142,slow=7.3,SNR=3.7							
KURBB	**Kurchatov Arra**	**44.47**	**348**	P		**P**	**07 56 24.8**	**-0.3**
	comp=E,9.6nm,1.1s,baz=167,slow=7.4,SNR=22							
KURK	**Kurchatov**	**44.54**	**348**	*eP*		**P**	**07 56 24.9**	**-0.8**
	comp=E,25nm,1.0s							
TLY	**Talaya**	**45.14**	**10**	P		**P**	**07 56 31.1**	**+0.6**
	comp=E,0.8nm,0.5s,baz=236,slow=9.8,SNR=3.3							
CN2	**Changchun**	**46.56**	**33**	*eP*		**P**	**07 56 40.3**	**-1.6**
ZAA0	**Zalesovo Array**	**46.73**	**354**	*eP*		**P**	**07 56 43.8**	**+0.8**
ZALV	**Zalesovo Beam**	**46.73**	**354**	P		**P**	**07 56 42.3**	**-0.6**
	comp=E,6.5nm,1.0s,baz=170,slow=9.0,SNR=14							
H01W3	**Cape Leeuwin H**	**47.03**	**155**	T		T	08 46 28.5	
	baz=318							
H01W2	**Cape Leeuwin H**	**47.04**	**155**	T		T	08 46 26.9	
	baz=318							
H01W1	**Cape Leeuwin H**	**47.05**	**155**	T		T	08 46 29.6	
	baz=318							
BVAR	**Borovoye Array**	**48.72**	**343**	P		**P**	**07 56 57.8**	**-0.7**
	comp=E,5.4nm,0.9s,baz=148,slow=6.8,SNR=12							
BRVK	**Borovoye**	**48.78**	**343**	*eP*		**P**	**07 56 58.9**	**-0.1**
	comp=E,13nm,0.9s							
ABKAR	**Akbulak array**	**49.59**	**333**	*eP*		**P**	**07 57 06.4**	**+1.2**
	comp=E,9.9nm,0.8s							
WRA	**Warramunga Arr**	**49.80**	**124**	P		**P**	**07 57 07.8**	**+0.5**
	comp=E,2.3nm,0.6s,baz=308,slow=8.1,SNR=27							
WRAB	**Tennant Creek**	**49.81**	**124**	*eP*		**P**	**07 57 07.8**	**+0.4**
	comp=E,17nm,1.4s							
MJAR	**Matsushiro Arr**	**51.06**	**48**	PcP		**PcP**	**07 58 32.0**	**-0.5**
	comp=E,0.9nm,0.6s,baz=244,slow=5.3,SNR=3.5							
AKTO	**Aktyubinsk**	**51.31**	**333**	P		**P**	**07 57 16.1**	**-2.1**
	comp=E,1.5nm,0.7s,baz=142,slow=12,SNR=2.5							
ASAR	**Alice Springs**	**51.33**	**128**	P		**P**	**07 57 19.4**	**+0.5**
	comp=E,1.9nm,0.9s,baz=310,slow=7.2,SNR=11							
GUMO	**Guam**	**52.31**	**79**	LR		LR	08 21 23.7	
	comp=E,41nm,18.0s,baz=239,slow=38							
ARU	**Arti**	**55.46**	**338**	*eP*		**P**	**07 57 50.1**	**+1.5**
	comp=E,17nm,1.0s							
BRTR	**Keskin Array B**	**61.07**	**311**	P		**P**	**07 58 27.7**	**-0.7**
	comp=E,0.9nm,0.8s,baz=100,slow=1.4,SNR=3.5							
STKA	**Stephens Creek**	**61.40**	**132**	P		**P**	**07 58 31.5**	**+1.0**
	comp=E,3.9nm,0.8s,baz=322,slow=6.3,SNR=4.8							
STKA	**Stephens Creek**	**61.40**	**132**	*eP*		**P**	**07 58 31.4**	**+0.9**
	comp=E,1.8nm,1.1s							
TIXI	**Tiksi**	**68.08**	**12**	*eP*		**P**	**07 59 11.3**	**-2.1**
	comp=E,24nm,0.9s							
STHS	**Stebnicka Huta**	**71.85**	**320**	*eP*		**P**	**07 59 39.2**	**+2.2**
FINES	**FINESS Array B**	**72.08**	**333**	P		**P**	**07 59 35.5**	**-2.5**
	comp=E,1.6nm,0.9s,baz=110,slow=14,SNR=5.6							
KECS	**Kecovo**	**72.19**	**319**	*e*		P	07 59 43.9	+4.8
DPC	**Dobruska-Polom**	**75.13**	**320**	*eP*		**P**	**07 59 59.4**	**+3.0**
DPC					*epP*	**pP**	**08 00 04.7**	**+5.0**
DPC					*ePCP*	**PcP**	**08 00 10.6**	**+0.7**
GERES	**GERESS Array B**	**76.70**	**318**	P		**P**	**08 00 04.2**	**-1.2**
	comp=E,0.4nm,0.2s,baz=79,slow=5.1,SNR=3.2							
CLL	**Collm**	**77.32**	**321**	*e*(pP)		pP	08 00 12.0	0.0
	comp=Z,6.0nm,1.3s							
MAW	**Mawson**	**77.69**	**191**	P		**P**	**08 00 10.2**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=340,slow=15,SNR=2.4							
NOA	**NORSAR Array B**	**79.04**	**331**	P		P	08 00 15.2	-2.9
	comp=Z,0.8nm,0.9s,baz=91,slow=5.4,SNR=2.1							
ILAR	**Eielson Array**	**95.95**	**22**	P		**P**	**08 01 39.7**	**-1.2**
	comp=Z,0.2nm,0.8s,baz=297,slow=2.6,SNR=2.8							
NVAR	**Mina Array Bea**	**126.38**	**29**	PKP		**PKPdf**	**08 07 17.5**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=197,slow=2.7,SNR=3.0							
TXAR	**Lajitas Array**	**140.46**	**22**	PKP		**PKPdf**	**08 07 43.4**	**-0.9**
	comp=Z,0.1nm,0.7s,baz=230,slow=2.2,SNR=2.5							

IDC ***25*** *07:55:59.5±4.2, 7.85N×91.64E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.8/29, mbtmp4.0/8, ML4.3/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/41, Error ellipse: s-maj=90.9km s-min=33.9km az=151.0*
ISC 25 07:55:60.0±2.6, 7.4N±0.3×91.9E±0.2, h24km, n23, σ1§12/16, mb4.1/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**8.41**	**123**	LR		LR	08 02 08.6	
	comp=Z,267nm,18.1s,baz=324,slow=42							
PALK	**Pallekele**	**11.06**	**270**	Pn		**Pn**	**07 58 36.0**	**-0.8**
	1.5nm,0.3s,baz=76,slow=13,SNR=8.3							
PALK					Sn	Sn	08 00 26.3	-14
	3.6nm,0.3s,baz=167,slow=19,SNR=9.4							
CMAR	**Chiang Mai Arr**	**12.95**	**32**	Pn		**Pn**	**07 59 01.5**	**-1.1**
	0.8nm,0.3s,baz=225,slow=14,SNR=8.6							
RAMN	**Ramite**	**20.04**	**346**	*eP*		**Pn**	**08 00 33.8**	**+0.3**
TAPN	**Taplejung**	**20.19**	**349**	*eP*		**P**	**08 00 34.4**	**+1.0**
	24nm,0.8s							
PKI	**Pulchoki**	**20.94**	**344**	*eP*		**P**	**08 00 43.2**	**+1.7**
PKIN	**Phulchoki**	**20.95**	**344**	*eP*		**P**	**08 00 43.2**	**+1.7**
	14nm,0.8s							
GUN	**Gumba**	**21.13**	**345**	*eP*		**P**	**08 00 45.0**	**+1.4**
	35nm,0.7s							
GKN	**Gorkha**	**21.57**	**342**	*eP*		**P**	**08 00 47.9**	**-0.2**
	30nm,0.9s							
KOLN	**Koldanda**	**21.68**	**340**	*eP*		**P**	**08 00 49.1**	**-0.3**
	20nm,0.8s							
H08S3	**Diego Garcia H**	**24.43**	**233**	T		T	08 27 29.3	
	baz=52,slow=76,SNR=11							
H08S2	**Diego Garcia H**	**24.43**	**233**	T		T	08 27 29.9	
	baz=52,slow=76,SNR=3.0							
H08S1	**Diego Garcia H**	**24.45**	**233**	T		T	08 27 27.1	
	baz=52,slow=76,SNR=3.2							
AAK	**Ala-Archa**	**39.25**	**339**	P		P	08 03 34.4	+16
	1.4nm,0.3s,baz=186,slow=10,SNR=3.0							
SONM	**Songino Array**	**42.12**	**15**	P		**P**	**08 03 49.8**	**-0.7**
	1.1nm,0.6s,baz=196,slow=9.7,SNR=3.5							
GEYT	**Alibeck**	**43.04**	**320**	P		**P**	**08 03 57.3**	**-0.6**
	1.6nm,0.3s,baz=123,slow=10,SNR=4.0							
KURBB	**Kurchatov Arra**	**44.45**	**348**	P		**P**	**08 04 09.2**	**+0.1**
	1.1nm,0.7s,baz=169,slow=7.1,SNR=11							
KURBB					PcP	**PcP**	**08 05 54.4**	**+2.0**
	0.5nm,0.8s,baz=142,slow=3.5,SNR=3.3							
ZALV	**Zalesovo Beam**	**46.73**	**354**	P		**P**	**08 04 27.2**	**+0.3**
	0.6nm,0.5s,baz=183,slow=7.2,SNR=4.5							
H01W3	**Cape Leeuwin H**	**47.06**	**155**	T		T	08 55 25.4	
	baz=318							
H01W2	**Cape Leeuwin H**	**47.08**	**155**	T		T	08 55 26.0	
	baz=318							
H01W1	**Cape Leeuwin H**	**47.08**	**155**	T		T	08 55 24.3	
	baz=318							
BVAR	**Borovoye Array**	**48.70**	**343**	P		**P**	**08 04 41.9**	**-0.5**
	1.1nm,0.8s,baz=142,slow=7.5,SNR=5.4							
GERES	**GERESS Array B**	**76.64**	**318**	P		**P**	**08 07 49.6**	**+0.6**
	0.2nm,0.3s,baz=83,slow=4.1,SNR=2.2							

JMA 25 08:03:50.8±0.5, 22.31N×123.75E, h63km, M3.9, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.74**	**2**	P		Pn	08 04 19.9	+1.1
HATJ				S		Sn	08 04 40.5	+0.5
JKRS	**Kuro-shima**	**1.93**	**7**	P		Pn	08 04 22.9	+1.5
JKRS				S		Sn	08 04 45.3	+0.6
JIJ	**Ishigaki jima**	**2.08**	**10**	P		Pn	08 04 23.8	+0.4
JIJ				S		Sn	08 04 47.0	-1.1
YOJ	**Yonaguni jima**	**2.25**	**343**	P		Pn	08 04 27.6	+1.9
YOJ				S		Sn	08 04 53.0	+0.7
JYNG	**Yonagunijimaku**	**2.26**	**341**	P		Pn	08 04 27.8	+2.0
JYNG				S		Sn	08 04 52.8	+0.3
JISG	**Ishigakijimahi**	**2.32**	**13**	P		Pn	08 04 27.1	+0.4
JISG				S		Sn	08 04 53.5	-0.7
JTJ	**Tarama**	**2.48**	**20**	P		Pn	08 04 29.4	+0.6
JTJ				S		Sn	08 04 58.0	0.0
JIRB	**Irabujima**	**2.83**	**27**	P		Pn	08 04 34.1	+0.5
JIRB				S		Sn	08 05 05.4	-1.1
JMJ	**Miyako jima 2**	**2.87**	**29**	S		Sn	08 05 07.1	-0.4
JOGS	**Gusukube**	**2.87**	**32**	P		Pn	08 04 35.0	+0.8
JOGS				S		Sn	08 05 07.4	-0.2
JIKM	**Ikemajima**	**2.94**	**28**	P		Pn	08 04 35.9	+0.8
JIKM				S		Sn	08 05 09.1	-0.2
JKE	**Kume jima 2**	**4.86**	**34**	P		Pn	08 05 00.6	-0.8
JKE				S		Sn	08 05 52.9	-3.5
JNTH	**Nagotoyohara**	**5.72**	**42**	P		Pn	08 05 12.3	-0.8
JNTH				S		Sn	08 06 14.3	-3.1
JIH	**Iheya**	**6.07**	**38**	P		Pn	08 05 16.8	-1.1
JIH				S		Sn	08 06 22.6	-3.4
JOW	**Kunigami**	**6.10**	**42**	P		Pn	08 05 17.7	-0.7
JOW				S		Sn	08 06 22.6	-4.3
JOKE	**Okinoerabujima**	**6.67**	**40**	P		Pn	08 05 25.2	-1.0
JOKE				S		Sn	08 06 35.4	-5.4
JAMN	**Amaminishikomi**	**7.68**	**39**	P		Pn	08 05 37.3	-2.7

IDC 25 08:24:37.6±17.0, 1.62S×122.23E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/33, mbtmp3.8/3, Error ellipse: s-maj=293.2km s-min=215.4km az=9.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.72**	**148**	P		P	08 29 30.8	+0.1
	0.6nm,0.3s,baz=324,slow=11,SNR=62							
ASAR	**Alice Springs**	**24.66**	**154**	P		P	08 30 00.0	-0.3
	1.2nm,0.4s,baz=331,slow=8.4,SNR=24							
STKA	**Stephens Creek**	**35.21**	**151**	P		P	08 31 33.9	+0.2
	0.6nm,0.3s,baz=326,slow=9.9,SNR=3.9							

ISCJB ***25*** *08:43:48.0±0.6, 29.46N±0.05×139.2E±0.1, h414km, mb3.0/4, Error ellipse: s-maj=12.4km s-min=4.8km az=160.6*
JMA ***25*** *08:43:48.2±0.1, 29.60N×140.07E, h460km, M3.7*
IDC ***25*** *08:43:48.3±0.9, 29.43N×139.36E, h418km±10km, mb2.8/4, mb1 3.0/9, mb1mx2.9/29, mbtmp3.7/9, Error ellipse: s-maj=23.8km s-min=13.0km az=62.0*
ISC 25 08:43:48.3±0.8, 29.49N±0.07×139.4E±0.1, h414km, n17, σ1§29/23, mb3.0/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.43**	**134**	P		**P**	**08 44 57.3**	**+1.2**
CBIJ				S		**S**	**08 45 51.4**	**+0.2**
JCJ	**Chichijima**	**3.43**	**134**	P		**P**	**08 44 57.1**	**+1.0**
	47nm,0.3s,baz=356,slow=16,SNR=66							
JCJ				S		**S**	**08 45 51.5**	**+0.3**
	108nm,0.3s,baz=279,slow=22,SNR=24							
JHHJ	**Haha-jima-NKT**	**3.77**	**139**	P		**P**	**08 45 00.3**	**+1.2**
JHHJ				S		**S**	**08 45 56.6**	**0.0**
BSO3	**Boso 3**	**5.38**	**10**	S		**S**	**08 46 24.6**	**-0.1**
BSO4	**Boso 4**	**5.54**	**8**	S		**S**	**08 46 29.2**	**+1.1**
JHU	**Hanno**	**6.34**	**359**	S		**S**	**08 46 42.5**	**-1.4**
JRY	**Ryogami san**	**6.52**	**356**	P		**S**	**08 45 28.8**	**+1.5**
JRY				S		**S**	**08 46 47.4**	**-0.1**
JAG	**Ashikaga**	**6.91**	**0**	P		**P**	**08 45 31.7**	**+0.1**
JAG				S		**S**	**08 46 52.0**	**-3.4**
MJAR	**Matsushiro Arr**	**7.10**	**352**	P		**P**	**08 45 34.0**	**+0.3**
	0.3nm,0.3s,baz=164,slow=8.8,SNR=3.4							
MJAR				S		**S**	**08 46 58.6**	**-0.6**
	0.3nm,0.3s,baz=164,slow=18,SNR=4.5							
JHO	**Hitachi**	**7.17**	**8**	S		**S**	**08 46 58.5**	**-2.0**
JNU	**Nakatsue**	**8.14**	**299**	P		**P**	**08 45 46.0**	**+1.0**
	0.5nm,0.3s,baz=53,slow=5.1,SNR=3.7							
KSRS	**Korea Array**	**12.43**	**313**	P		**P**	**08 46 32.6**	**+0.3**
	0.2nm,0.3s,baz=132,slow=11,SNR=14							
USRK	**Ussuriysk Ar.**	**15.82**	**340**	P		**P**	**08 47 10.1**	**+1.1**
	0.6nm,0.3s,baz=146,slow=11,SNR=16							
SONM	**Songino Array**	**31.29**	**315**	P		**P**	**08 49 32.1**	**-0.1**
	0.5nm,0.4s,baz=116,slow=9.8,SNR=5.1							
WRA	**Warramunga Arr**	**49.39**	**186**	P		**P**	**08 51 56.6**	**-1.7**
	0.6nm,1.0s,baz=3.0,slow=7.9,SNR=4.9							
ILAR	**Eielson Array**	**56.82**	**29**	P		**P**	**08 52 50.2**	**-1.0**
	0.2nm,0.5s,baz=260,slow=5.4,SNR=5.9							
NVAR	**Mina Array Bea**	**80.95**	**51**	P		**P**	**08 55 19.9**	**+1.3**
	0.6nm,0.6s,baz=299,slow=4.6,SNR=5.9							

IDC 25 09:20:52.8±8.5, 2.04N×125.96E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/32, mbtmp3.8/4, ML3.9/1, MS3.3/1, Ms1 3.5/1, ms1mx2.5/31, Error ellipse: s-maj=131.4km s-min=68.5km az=168.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**6.04**	**119**	Pn		Pn	09 22 22.8	-0.7
	2.9nm,0.3s,baz=318,slow=18,SNR=5.7							
WRA	**Warramunga Arr**	**23.34**	**160**	P		P	09 26 04.4	+1.4
	1.4nm,0.5s,baz=338,slow=11,SNR=22							
ASAR	**Alice Springs**	**26.69**	**164**	P		P	09 26 32.4	-1.6
	0.2nm,0.3s,baz=342,slow=9.8,SNR=3.8							
CMAR	**Chiang Mai Arr**	**31.11**	**303**	LR		LR	09 39 42.0	
	comp=Z,46nm,18.5s,baz=199,slow=36							
STKA	**Stephens Creek**	**36.85**	**158**	P		P	09 28 03.6	+0.6
	1.3nm,0.7s,baz=0.0,slow=10,SNR=3.0							

MEX 25 09:23:08.2±0.7, 18.06N×99.72W, h54km±7km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MEIG	**Mezcala**	**0.16**	**145**	*eP*		Pn	09 23 14.8	-2.1
MEIG				*eS*		Sn	09 23 21.1	-1.9
PLIG	**Platanillo**	**0.39**	**31**	*eP*		Pn	09 23 17.0	-1.7
PLIG				*eS*		Sn	09 23 24.5	-1.7
ARIG	**Puente Sto Nin**	**0.64**	**290**	*eP*		Pn	09 23 20.0	-1.4
ARIG				*eS*		Sn	09 23 29.8	-1.2
YAIG	**Yautepec**	**1.01**	**38**	*eP*		Pn	09 23 24.2	-2.2
YAIG				*i* S		Sn	09 23 38.0	-1.8
CAIG	**El Cayaco**	**1.13**	**208**	*eP*		Pn	09 23 25.6	-2.2
CAIG				*i* S		Sn	09 23 40.8	-1.6
ACX	**Acapulco**	**1.19**	**187**	*i* P		Pn	09 23 29.4	+0.7
ACX				*i* S		Sn	09 23 44.1	+0.3
TLIG	**Tlapa**	**1.20**	**114**	*eP*		Pn	09 23 27.5	-1.4
TLIG				*eS*		Sn	09 23 43.1	-1.2

PDA 25 09:26:37.7±1.1, 38.74N×29.00W, h6km±4km, MD3.7, ML3.8, Error ellipse: s-maj=6.6km s-min=4.0km az=62.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCED	**Cedros**	**0.26**	**116**	*i* P		Pg	09 26 42.6	-0.2
PCED				*eS*		Sg	09 26 46.2	0.0
PCED					A	A	09 26 47.2	
	7μm,0.1s							
CALA	**Caldeira**	**0.28**	**125**	*eP*		Pg	09 26 43.0	-0.3
CALA				*eS*		Sg	09 26 46.8	-0.4
HOR	**Horta**	**0.36**	**127**	*eP*		Pg	09 26 44.0	-0.7
HOR				*eS*		Sg	09 26 49.1	-0.3
PCAN	**Candelaria**	**0.49**	**125**	*i* P		Pg	09 26 45.8	-1.4
PCAN				*eS*		Sg	09 26 52.1	-1.5
PCAN					A	A	09 26 55.2	
	6μm,0.2s							
PICO	**Pico**	**0.51**	**118**	*i* P		Pg	09 26 46.5	-1.1
PICO				*eS*		Sg	09 26 53.1	-1.2
ROSA	**Rosais**	**0.59**	**92**	*eP*		Pg	09 26 47.7	-1.4
ROSA				*eS*		Sg	09 26 54.9	-1.9
ROSA					A	A	09 26 55.7	
	6μm,0.3s							
PPNO	**Prainha do Nor**	**0.64**	**115**	*eP*		Pg	09 26 48.4	-1.6
PPNO				*eS*		Sg	09 26 56.8	-1.6
PPNO					A	A	09 26 58.9	
	4μm,0.3s							
PMAN	**Manadas**	**0.72**	**99**	*eP*		Pg	09 26 49.2	-2.3
PMAN				*eS*		Sg	09 26 58.4	-2.5
PMAN					A	A	09 27 03.5	
	2μm,0.3s							
PGRA	**Graciosa**	**0.84**	**70**	*eP*		Pg	09 26 51.6	-2.3
PGRA				*eS*		Sg	09 27 01.1	-3.8
PGRA					A	A	09 27 12.1	
	1μm,0.4s							
ADH	**Angra Heroismo**	**1.38**	**93**	*eP*		Pn	09 26 59.0	-4.6
ADH				*eS*		Sb	09 27 14.6	-7.3
ADH					A	A	09 27 18.1	
	373nm,0.3s							
PSET	**Sete Cidades**	**2.74**	**109**	*eP*		Pn	09 27 17.9	-4.4
PSET				*eS*		Sn	09 27 47.5	-8.2
PSET					A	A	09 27 52.3	
	113nm,0.3s							
PDA	**Ponta Delgada**	**2.81**	**110**	*eP*		Pn	09 27 18.9	-4.2
BART	**Pico Bartolome**	**3.16**	**107**	*eP*		Pn	09 27 23.9	-4.3
BART				*eS*		Sn	09 27 58.6	-7.8
BART					A	A	09 28 09.2	
	40nm,0.5s							
PSMA	**Santa Maria**	**3.52**	**118**	*i* P		Pn	09 27 28.1	-4.9
PSMA				*eS*		Sn	09 28 04.5	-11
PSMA					A	A	09 28 07.0	
	43nm,0.2s							
PSMN	**Pico do Norte,**	**3.56**	**118**	*eP*		Pn	09 27 28.8	-4.8
PSMN				*eS*		Sn	09 28 07.3	-8.7
PSMN					A	A	09 28 10.3	
	24nm,0.3s							

IDC ***25*** *09:26:37.1±2.7, 8.35S×120.36E, h174km±22km, mb3.5/3, mb1 3.4/5, mb1mx3.1/37, mbtmp3.8/5, Error ellipse: s-maj=69.1km s-min=14.4km az=59.0*
DJA ***25*** *09:26:40.6±0.5, 8°S±3'×12°0E±', h95km±7km, M3.5/6, MLv3.5/6*
**ISC 25 09:

URZ	**Urewera**	**19.02**	**194**	P		**P**	**09 43 36.8**	**+0.7**
	0.5nm,0.3s,baz=102,slow=17,SNR=1.9							
URZ				S		**S**	**09 46 49.3**	**+0.4**
	0.2nm,0.3s,baz=81,slow=17,SNR=2.0							
STKA	**Stephens Creek**	**38.89**	**244**	P		**P**	**09 46 29.1**	**-1.0**
	2.1nm,0.7s,baz=73,slow=12,SNR=3.9							
JAY	**Jayapura**	**44.73**	**287**	P		**P**	**09 47 17.4**	**+0.4**
	9.4nm,0.5s,baz=133,slow=19,SNR=8.9							
ASAR	**Alice Springs**	**45.56**	**256**	P		**P**	**09 47 22.4**	**-1.0**
	5.8nm,0.7s,baz=96,slow=7.9,SNR=72							
ASAR				PcP		**PcP**	**09 48 54.4**	**+0.2**
	1.4nm,0.6s,baz=101,slow=3.7,SNR=10							
WRA	**Warramunga Arr**	**45.60**	**261**	P		**P**	**09 47 22.3**	**-1.4**
	1.3nm,0.3s,baz=96,slow=7.6,SNR=94							
WRA				PcP		**PcP**	**09 48 54.6**	**+0.2**
	0.5nm,0.6s,baz=98,slow=3.5,SNR=3.2							
SIJI	**Sorong**	**53.98**	**284**	P		**P**	**09 48 26.2**	**+0.2**
	6.2nm,0.6s,baz=172,slow=19							
TXAR	**Lajitas Array**	**85.94**	**57**	P		**P**	**09 51 37.4**	**-0.4**
	0.3nm,0.9s,baz=69,slow=6.9,SNR=3.7							
ILAR	**Eielson Array**	**87.50**	**12**	P		**P**	**09 51 45.0**	**+0.8**
	0.1nm,0.6s,baz=205,slow=7.4,SNR=2.8							
FINES	**FINESS Array B**	**135.43**	**344**	PKP		**PKPdf**	**09 58 12.5**	**-1.2**
	0.9nm,0.9s,baz=338,slow=10,SNR=3.0							
AKASG	**Malin Array Be**	**142.90**	**332**	PKP		**PKPdf**	**09 58 26.4**	**-1.2**
	0.9nm,0.5s,baz=42,slow=4.1,SNR=7.3							
BRTR	**Keskin Array B**	**147.09**	**314**	PKPbc		**PKPbc**	**09 58 38.9**	**+0.7**
	1.4nm,0.6s,baz=113,slow=3.3,SNR=6.8							
CLL	**Collm**	**147.65**	**348**	⇑*iP*		**PKPab**	**09 58 42.9**	**+0.4**
	comp=Z,6.0nm,0.9s							
CLL				Lm		MLR	15 39 00.0	
	comp=Z,100nm,18.7s							
GERES	**GERESS Array B**	**149.83**	**346**	PKPbc		**PKPbc**	**09 58 45.4**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=344,slow=3.2,SNR=5.0							

*ISCJB **25** 09:41:12.1±0.8,36°.39N±0°.04×22°.05E±0°.05,h3km±5km, Error ellipse: s-maj=7.5km s-min=4.3km az=44.9*
*CSEM **25** 09:41:12.7±0.3,36°.38N×22°.09E,h5km,ML3.2, Error ellipse: s-maj=6.3km s-min=3.2km az=40.0*
*ATH **25** 09:41:13.1,36°.40N×22°.09E,h23km±1km,MD3.3/13*
*THE **25** 09:41:13.6,36°.45N×22°.12E,h0km±2km,ML3.0/9, Error ellipse: s-maj=2.5km s-min=0.9km az=211.0*

ISC 25 09:41:12.9±1.4, 36°.40N±0°.04×22°.11E±0°.03, h3km±11km, n56, σ0.59/88, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.57**	**329**	P	**Pg**	**09 41 23.8**	**-0.1**
PYL				S	**Sg**	**09 41 31.9**	**+0.6**
PYL	**PYLOS**	**0.57**	**329**	*e*PN	**Pg**	**09 41 24.0**	**+0.1**
PYL				*e*SN	**Sb**	**09 41 33.4**	**-0.8**
PYL	**PYLOS**	**0.57**	**329**	P	**Pg**	**09 41 23.8**	**-0.1**
PYL				S	**Sg**	**09 41 31.9**	**+0.6**
PYL				*e*Sn	**Sb**	**09 41 33.4**	**-0.8**
VLI	**Veliai**	**0.74**	**65**	P	**Pg**	**09 41 28.0**	**+0.9**
VLI				S	**Sb**	**09 41 38.8**	**-0.2**
VLI	**Veliai**	**0.74**	**65**	*e*PN	**Pg**	**09 41 28.0**	**+0.9**
VLI				*e*SN	**Sb**	**09 41 38.8**	**-0.2**
VLI	**Veliai**	**0.74**	**65**	P	**Pb**	**09 41 28.2**	**-0.3**
VLI				S	**Sb**	**09 41 38.8**	**-0.2**
KYTH	**Kithira**	**0.76**	**99**	P	**Pg**	**09 41 27.3**	**-0.3**
KYTH	**Kithira**	**0.76**	**99**	*e*PB	**Pg**	**09 41 27.3**	**-0.3**
KYTH	**Kithira**	**0.76**	**99**	P	**Pg**	**09 41 27.3**	**-0.3**
ITM	**Ithomi**	**0.79**	**350**	P	**Pg**	**09 41 27.7**	**-0.3**
ITM				S	**Sg**	**09 41 38.3**	**0.0**
ITM	**Ithomi**	**0.79**	**350**	*e*PB	**Pg**	**09 41 27.8**	**-0.3**
ITM				*e*SN	**Sb**	**09 41 40.0**	**-0.4**
ITM	**Ithomi**	**0.79**	**350**	*e*Pb	**Pg**	**09 41 27.8**	**-0.3**
ITM				S	**Sg**	**09 41 39.4**	**+1.1**
ITM				*e*Sn	**Sb**	**09 41 40.0**	**-0.4**
VLX	**Vlachokerasia**	**0.99**	**13**	P	**Pg**	**09 41 30.9**	**-1.0**
VLX				S	**Sg**	**09 41 45.0**	**+0.2**
VLX	**Vlachokerasia**	**0.99**	**13**	*e*PN	**Pg**	**09 41 31.9**	**0.0**
VLX				*e*SN	**Sb**	**09 41 46.2**	**-0.1**
VLX	**Vlachokerasia**	**0.99**	**13**	P	**Pg**	**09 41 31.7**	**-0.2**
VLX				S	**Sb**	**09 41 46.1**	**-0.2**
ANKY	**Antikythira Is**	**1.11**	**119**	P	**Pb**	**09 41 34.9**	**+0.2**
ANKY				S	**Sn**	**09 41 51.4**	**+0.3**
ANKY	**Antikythira Is**	**1.11**	**119**	*e*PN	**Pb**	**09 41 35.1**	**+0.4**
ANKY	**Antikythira Is**	**1.11**	**119**	P	**Pb**	**09 41 34.8**	**+0.1**
ANKY	**Antikythira Is**	**1.11**	**119**	*e*Pn	**Pb**	**09 41 35.1**	**+0.4**
ANKY				S	**Sn**	**09 41 51.4**	**+0.3**
AMT	**Artemida-Makis**	**1.17**	**344**	P	**Pg**	**09 41 34.7**	**-0.7**
AMT				S	**Sb**	**09 41 51.5**	**0.0**
AMT	**Artemida-Makis**	**1.17**	**344**	*e*PN	**Pg**	**09 41 34.8**	**-0.7**
AMT	**Artemida-Makis**	**1.17**	**344**	P	**Pg**	**09 41 34.7**	**-0.7**
AMT				S	**Sb**	**09 41 51.5**	**0.0**
KRND	**KRANIDI**	**1.29**	**40**	P	**Pn**	**09 41 36.6**	**-1.3**
KRND				S	**Sb**	**09 41 55.2**	**+0.4**
KRND	**KRANIDI**	**1.29**	**40**	P	**Pn**	**09 41 36.6**	**-1.3**
KRND				S	**Sb**	**09 41 55.2**	**+0.4**
DID	**Didima**	**1.43**	**39**	P	**Pn**	**09 41 38.4**	**-1.4**
DID				S	**Sb**	**09 41 58.3**	**-0.5**
DID	**Didima**	**1.43**	**39**	*e*PB	**Pn**	**09 41 38.5**	**-1.4**
DID	**Didima**	**1.43**	**39**	P	**Pn**	**09 41 38.4**	**-1.4**
DID				S	**Sb**	**09 41 58.3**	**-0.5**
GUR	**Goura**	**1.54**	**7**	P	**Pn**	**09 41 41.5**	**0.0**
GUR				S	**Sg**	**09 42 03.0**	**+0.5**
GUR	**Goura**	**1.54**	**7**	*e*PN	**Pn**	**09 41 41.7**	**+0.2**
GUR	**Goura**	**1.54**	**7**	*e*Pn	**Pn**	**09 41 41.7**	**+0.2**
GUR				S	**Sg**	**09 42 03.0**	**+0.5**
DRO	**Drossia**	**1.58**	**349**	P	**Pn**	**09 41 42.0**	**+0.1**
DRO				S	**Sb**	**09 42 03.3**	**+0.1**
DRO	**Drossia**	**1.58**	**349**	*e*PN	**Pn**	**09 41 42.2**	**+0.3**
DRO	**Drossia**	**1.58**	**349**	P	**Pn**	**09 41 42.0**	**+0.1**
DRO				S	**Sb**	**09 42 03.3**	**+0.1**
KLV	**Kalavryta, Ach**	**1.64**	**1**	P	**Pn**	**09 41 42.8**	**+0.1**
KLV				S	**Sb**	**09 42 04.7**	**-0.2**
KLV	**Kalavryta, Ach**	**1.64**	**1**	*e*PN	**Pn**	**09 41 42.8**	**+0.1**
KLV	**Kalavryta, Ach**	**1.64**	**1**	P	**Pn**	**09 41 42.8**	**+0.1**
KLV				S	**Sb**	**09 42 04.7**	**-0.2**
RLS	**Riolos of Patr**	**1.73**	**343**	P	**Pn**	**09 41 43.5**	**-0.4**
RLS				S	**Sg**	**09 42 08.2**	**-0.3**
RLS	**Riolos of Patr**	**1.73**	**343**	*e*PN	**Pn**	**09 41 44.1**	**+0.2**
RLS	**Riolos of Patr**	**1.73**	**343**	P	**Pn**	**09 41 43.5**	**-0.4**
RLS	**Riolos of Patr**	**1.73**	**343**	*e*Pn	**Pn**	**09 41 44.1**	**+0.2**
RLS				S	**Sg**	**09 42 08.2**	**-0.3**
LTK	**Loutraki**	**1.76**	**23**	*e*PN	**Pn**	**09 41 44.6**	**+0.3**
LTK	**Loutraki**	**1.76**	**23**	*e*Pn	**Pn**	**09 41 44.6**	**+0.3**
KALE	**Kalithea**	**1.98**	**1**	P	**Pn**	**09 41 47.0**	**-0.5**
KALE				S	**Sn**	**09 42 13.8**	**+0.9**
KALE	**Kalithea**	**1.98**	**1**	P	**Pn**	**09 41 47.0**	**-0.5**
KALE				S	**Sn**	**09 42 13.8**	**+0.9**
EFP	**Efpalio**	**2.03**	**356**	*e*PN	**Pn**	**09 41 49.1**	**+1.1**
EFP	**Efpalio**	**2.03**	**356**	*e*Pn	**Pn**	**09 41 49.1**	**+1.1**
DSF	**Desfina**	**2.03**	**9**	P	**Pn**	**09 41 46.9**	**-1.3**
DSF	**Desfina**	**2.03**	**9**	*e*PN	**Pn**	**09 41 48.3**	**+0.1**
DSF	**Desfina**	**2.03**	**9**	P	**Pn**	**09 41 46.9**	**-1.3**
DSF	**Desfina**	**2.03**	**9**	*e*Pn	**Pn**	**09 41 48.3**	**+0.1**
VLS	**Valsamata**	**2.14**	**326**	P	**Pn**	**09 41 49.0**	**-0.6**
VLS	**Valsamata**	**2.14**	**326**	*e*PN	**Pn**	**09 41 50.1**	**+0.5**
VLS	**Valsamata**	**2.14**	**326**	P	**Pn**	**09 41 49.0**	**-0.6**
VLS	**Valsamata**	**2.14**	**326**	*e*Pn	**Pn**	**09 41 50.1**	**+0.5**
DSL	**Palaion Diasel**	**2.84**	**344**	*e*PN	**Pn**	**09 41 58.7**	**-0.5**
DSL	**Palaion Diasel**	**2.84**	**344**	*e*Pn	**Pn**	**09 41 58.7**	**-0.5**

MAN 25 09:49:23,17°.41N×120°.35E,h45km,mb4.6,ML3.5,MS3.4, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.42**	**55**	*e*P	Pn	09 49 35.2	+2.2
ABRA				*e*S	Sn	09 49 44.0	+3.9
SIPP	**Brgy, Tapao**	**0.52**	**11**	⇑*e*P	Pn	09 49 36.1	+1.8
SIPP				*e*S	Sn	09 49 47.1	+4.8
PIP	**Pasuquin**	**0.95**	**16**	⇑*iP*	Pn	09 49 41.2	+1.2
PIP				*i* S	Sn	09 49 57.4	+5.0
APYP	**Conner**	**0.96**	**62**	*e*P	Pn	09 49 41.1	+1.0
APYP				*e*S	Sn	09 49 54.6	+1.9
BCPH	**Baguio City Da**	**1.04**	**168**	⇑*iP*	Pn	09 49 42.8	+1.3
BCPH				*i* S	Sn	09 49 55.6	+0.5
BOLP	**Bolinao**	**1.10**	**202**	*e*P	Pn	09 49 43.6	+1.8
CVP	**Callao Caves**	**1.43**	**78**	⇓*e*P	Pn	09 49 47.6	+1.0
CAUP	**Cauayan**	**1.48**	**108**	*e*P	Pn	09 49 49.6	+2.5
CAUP				*e*S	Sn	09 50 10.7	+5.3
SCZP	**Santa Cruz**	**1.68**	**195**	*e*P	Pn	09 49 50.4	+0.5
SGCP	**Mt. Cagua**	**1.82**	**63**	*e*P	Pn	09 49 53.0	+1.2
SGCP				*e*S	Sn	09 50 15.8	+2.2
BALP	**Baler**	**2.03**	**144**	*e*P	Pn	09 49 56.6	+1.8

*IDC **25** 09:49:34.2±1.2,32°.97N×142°.92E,h0km,mb3.4/4, mb1 3.7/7,mb1mx3.6/27,mbtmp3.6/7,ML3.8/2,MS2.7/4, Ms1 2.7/4,ms1mx2.5/20,Error ellipse: s-maj=42.7km s-min=20.3km az=86.0*
*ISCJB **25** 09:49:37.4±0.8,33°.05N±0°.05×142°.57E±0°.07,h33km, mb3.5/4,MS3.1/1,Error ellipse: s-maj=9.6km s-min=6.3km az=141.7*
*JMA **25** 09:49:39.2±0.3,33°.08N×142°.43E,h92km,M3.1*

ISC 25 09:49:39.3±1.2, 33°.03N±0°.07×142°.57E±0°.09, h33km, n25, σ19/15/31, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.09**	**321**	P	**Pn**	**09 50 11.6**	**+0.2**
BSO1				S	**Sn**	**09 50 37.6**	**+1.6**
BSO2	**Boso 2**	**2.28**	**319**	S	**Sn**	**09 50 41.3**	**+0.1**
JHJ2	**Mitsune**	**2.31**	**273**	P	**Pn**	**09 50 14.8**	**-0.2**
JHCJ	**Hachijojimakas**	**2.32**	**272**	P	**Pn**	**09 50 15.0**	**-0.2**
JHCJ				S	**Sn**	**09 50 41.2**	**-1.4**
BSO3	**Boso 3**	**2.46**	**316**	P	**Pn**	**09 50 16.9**	**+0.1**
BSO4	**Boso 4**	**2.69**	**317**	P	**Pn**	**09 50 20.8**	**+0.7**
JIM2	**Oshima 3**	**3.10**	**304**	P	**Pn**	**09 50 25.0**	**-0.9**
JIM2				S	**Sn**	**09 51 00.7**	**-1.2**
JIZS	**Izushimoda**	**3.50**	**300**	P	**Pn**	**09 50 31.0**	**-0.3**
JIZS				S	**Sn**	**09 51 10.1**	**-1.5**
JOD2	**Odawara 2**	**3.64**	**309**	P	**Pn**	**09 50 32.4**	**-0.9**
JYN	**Shimob**	**4.14**	**308**	P	**Pn**	**09 50 40.1**	**-0.1**
JRY	**Ryogami san**	**4.24**	**316**	P	**Pn**	**09 50 41.5**	**-0.1**
JRY				S	**Sn**	**09 51 29.1**	**-0.9**
JAG	**Ashikaga**	**4.25**	**324**	P	**Pn**	**09 50 41.9**	**+0.3**
JAG				S	**Sn**	**09 51 28.8**	**-1.2**
JFT	**Otama**	**4.83**	**338**	P	**Pn**	**09 50 49.9**	**+0.2**
JFT				S	**Sn**	**09 51 41.3**	**-3.2**
MJAR	**Matsushiro Arr**	**5.01**	**316**	Pn	**Pn**	**09 50 52.9**	**+0.7**
	1.6nm,0.3s,baz=184,slow=16,SNR=19						
MJAR				Sn	**Sn**	**09 51 48.1**	**-0.8**
	1.7nm,0.3s,baz=174,slow=28,SNR=7.1						
MJAR				LR	LR	09 53 51.0	
	comp=Z,22nm,19.5s,baz=115,slow=49						
MAT	**Matsushiro**	**5.01**	**316**	P	**Pn**	**09 50 53.1**	**+0.9**
MAT				S	**Sn**	**09 51 47.9**	**-1.0**
MAT	**Matsushiro**	**5.01**	**316**	P	**Pn**	**09 50 53.2**	**+1.0**
MAT				S	**Sn**	**09 51 48.7**	**-0.2**
JCJ	**Chichijima**	**5.93**	**183**	Pn	Pn	09 51 01.5	-3.3
	5.4nm,0.3s,baz=281,slow=22,SNR=12						
JCJ				Sn	Sn	09 52 05.3	-6.2
	4.7nm,0.3s,baz=90,slow=20,SNR=3.1						
JNU	**Nakatsue**	**9.81**	**274**	LR	LR	09 56 48.1	
	comp=Z,45nm,18.0s,baz=85,slow=43						
ASAJ	**Asahikawa**	**11.07**	**0**	Pn	**Pn**	**09 52 14.8**	**-0.4**
	baz=218,slow=19						
KSRS	**Korea Array**	**12.75**	**294**	LR	LR	09 57 26.8	
	comp=Z,27nm,19.4s,baz=65,slow=36						
SONM	**Songino Array**	**30.93**	**309**	P	**P**	**09 55 55.8**	**+2.7**
	0.2nm,0.3s,baz=109,slow=7.8,SNR=3.4						
ILAR	**Eielson Array**	**52.41**	**31**	P	**P**	**09 58 46.8**	**-1.2**
	0.2nm,0.6s,baz=263,slow=6.3,SNR=3.9						
WRA	**Warramunga Arr**	**53.26**	**190**	P	**P**	**09 58 55.2**	**+0.4**
	0.6nm,0.5s,baz=7.0,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**56.98**	**189**	P	**P**	**09 59 20.8**	**-0.8**
	0.3nm,0.7s,baz=358,slow=5.6,SNR=3.1						
AKTO	**Aktyubinsk**	**62.09**	**314**	LR	LR	10 29 58.2	
	comp=Z,14nm,19.1s,baz=181,slow=39						

*ISCJB **25** 09:49:46.5±0.5,22°.45S±0°.05×66°.20W±0°.07,h251km, mb3.8/5,Error ellipse: s-maj=9.5km s-min=7.3km az=2.3*
*IDC **25** 09:49:47.3±0.9,22°.35S×66°.24W,h243km±10km,mb3.6/5, mb1 3.7/10,mb1mx3.5/20,mbtmp4.1/10,Error ellipse: s-maj=16.0km s-min=15.2km az=157.0*

ISC 25 09:49:47.3±0.6, 22°.46S±0°.07×66°.25W±0°.09, h251km, n13, σ1/67/17, mb3.9/5, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.46**	**266**	P	**Pn**	**09 50 35.7**	**+1.1**
	738nm,0.3s,baz=85,slow=9.1,SNR=169						
LVC				S	**S**	**09 51 11.3**	**-0.5**
	1μm,0.3s,baz=72,slow=20,SNR=14						
LPAZ	**La Paz**	**6.38**	**344**	P	**Pn**	**09 51 20.6**	**-0.4**
	0.7nm,0.3s,baz=162,slow=9.8,SNR=26						
LPAZ				S	**S**	**09 52 32.8**	**-3.1**
	0.3nm,0.3s,baz=92,slow=11,SNR=4.4						
SIV	**San Ignacio**	**8.08**	**38**	P	**Pn**	**09 51 39.8**	**-1.9**
	6.0nm,0.3s,baz=247,slow=7.1,SNR=56						
CPUP	**Villa Florida**	**9.00**	**117**	P	**Pn**	**09 51 53.3**	**+0.1**
	0.1nm,0.3s,baz=258,slow=19,SNR=2.3						
CFAA	**Coronel Fontan**	**9.28**	**191**	P	**Pn**	**09 51 57.5**	**+0.7**
	0.1nm,0.3s,baz=42,slow=21,SNR=19						
CFAA				S	**S**	**09 53 37.8**	**-3.9**
	0.1nm,0.3s,baz=281,slow=23,SNR=9.7						
BDFB	**Brasilia**	**18.52**	**72**	P	**P**	**09 53 46.2**	**+0.5**
	0.3nm,0.3s,baz=249,slow=14,SNR=4.1						
TORD	**Torodi Ar. Bea**	**75.37**	**69**	P	**P**	**10 01 04.3**	**+0.4**
	2.2nm,0.4s,baz=254,slow=5.8,SNR=51						
PDAR	**Pinedale Array**	**76.19**	**329**	P	**P**	**10 01 08.8**	**+0.7**
	0.3nm,0.5s,baz=91,slow=9.0,SNR=3.1						
ULM	**Lac du Bonnet**	**76.99**	**341**	P	**P**	**10 01 11.5**	**-0.7**
	2.3nm,0.5s,baz=155,slow=4.9,SNR=7.2						
ESDC	**Sonseca Array**	**84.81**	**43**	P	**P**	**10 01 55.2**	**+1.5**
	0.7nm,0.5s,baz=249,slow=4.7,SNR=6.6						
YKA	**Yellowknife Ar**	**92.92**	**340**	P	**P**	**10 02 32.6**	**+1.3**
	0.5nm,0.4s,baz=131,slow=4.4,SNR=6.2						
WRA	**Warramunga Arr**	**133.31**	**207**	PKP	**PKPdf**	**10 08 35.1**	**+1.0**
	0.1nm,0.4s,baz=154,slow=2.0,SNR=4.2						
SONM	**Songino Array**	**154.00**	**11**	PKP	**PKPdf**	**10 09 07.8**	**-1.1**
	0.2nm,0.4s,baz=347,slow=3.1,SNR=2.9						
SONM				PKPbc	**PKiKP**	**10 09 18.1**	**+1.0**
	0.5nm,0.6s,baz=327,slow=2.4,SNR=3.5						

*KOLA **25** 10:04:18.9,67°.66N×34°.03E,h0km*
*NAO **25** 10:04:18.3±1.7,67°.66N×34°.00E,ML2.6*
*CSEM **25** 10:04:19.4±0.9,67°.53N×33°.61E,h1km,ML2.6, Error ellipse: s-maj=17.7km s-min=8.3km az=96.0,Mining explosion.*
*HEL **25** 10:04:19.0±0.3,67°.64N×33°.88E,h0km,ML2.2, Explosion*

ISC 25 10:04:15.7±1.7, 67°.61N±0°.04×34°.27E±0°.09, h0km, n35, σ1/55/55, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.33**	**263**	P	**Pg**	**10 04 23.4**	**+1.4**
APA				S	**Sg**	**10 04 26.7**	**+0.3**
APA0	**Apatity Array**	**0.49**	**270**	Pg	**Pb**	**10 04 26.0**	**-1.1**
APA0				Lg	Lg	10 04 31.1	
APA0				Rg	Rg	10 04 33.6	
APA0	**Apatity Array**	**0.49**	**270**	Pg	**Pb**	**10 04 26.0**	**-1.1**
APA0				Lg	Lg	10 04 31.1	
APA0				Rg	Rg	10 04 33.6	
APA0	**Apatity Array**	**0.49**	**270**	P	**Pb**	**10 04 26.0**	**-1.1**
APA0				S	**Sg**	**10 04 31.2**	**-0.1**
APA0	**Apatity Array**	**0.49**	**270**	Pg	**Pb**	**10 04 26.0**	**-1.1**
	SNR=91						
APA0				Lg	Lg	10 04 31.1	
	SNR=50						
KU6	**Riekki**	**2.35**	**229**	PB	**Pb**	**10 04 58.3**	**-0.6**
	baz=45						
KU6				MSG		10 05 25.9	
	comp=Z,12nm,0.2s						
KU6				SG	**Sb**	**10 05 29.2**	**+0.8**
KU6	**Riekki**	**2.35**	**229**	Pb	**Pb**	**10 04 58.2**	**-0.6**
KU6				Sg	**Sb**	**10 05 29.2**	**+0.8**
MSF	**Maaselka**	**2.69**	**233**	PB	**Pn**	**10 05 03.1**	**+3.0**
MSF				SG	**Sb**	**10 05 38.6**	**+0.6**
MSF	**Maaselka**	**2.69**	**233**	Pb	**Pn**	**10 05 03.1**	**+3.0**
MSF				Sg	**Sb**	**10 05 38.6**	**+0.6**
SGF	**Sodankyl**	**2.98**	**270**	PN	**Pn**	**10 05 05.3**	**+1.2**
SGF				SG	**Sb**	**10 05 45.2**	**-1.2**
SGF	**Sodankyl**	**2.98**	**270**	Pn	**Pn**	**10 05 05.3**	**+1.2**
SGF				Sg	**Sb**	**10 05 45.2**	**-1.2**
RNF	**Rovaniemi**	**3.38**	**257**	PN	**Pn**	**10 05 11.1**	**+1.5**
RNF				SB	**Sn**	**10 05 51.5**	**+1.2**
RNF	**Rovaniemi**	**3.38**	**257**	Pn	**Pn**	**10 05 11.1**	**+1.5**
RNF				Sb	**Sn**	**10 05 51.5**	**+1.2**
KEV	**Kevo**	**3.42**	**312**	PN	**Pn**	**10 05 12.2**	**+2.1**
	baz=124						
KEV				SN	**Sn**	**10 05 51.3**	**+0.1**
KEV	**Kevo**	**3.42**	**312**	Pn	**Pn**	**10 05 12.2**	**+2.1**
KEV				Sn	**Sn**	**10 05 51.3**	**+0.1**
ARA0	**ARCESS Array S**	**3.75**	**305**	Pn	**Pn**	**10 05 16.0**	**+1.3**
	baz=121,slow=16						
ARA0				Pg	**Pb**	**10 05 23.5**	**+0.8**
	baz=117,slow=18						
ARA0				Sn	**Sn**	**10 05 56.9**	**-2.7**
	baz=120,slow=28						
ARA0				Lg	Lg	10 06 08.8	
	baz=110,slow=37						
ARA0	**ARCESS Array S**	**3.75**	**305**	Pn	**Pn**	**10 05 16.0**	**+1.3**
	baz=121,slow=16						
ARA0				Pg	**Pb**	**10 05 23.5**	**+0.8**
	baz=117,slow=18						
ARA0				Sn	**Sn**	**10 05 56.9**	**-2.7**
	baz=120,slow=28						
ARA0				Lg	Lg	10 06 08.8	
	baz=110,slow=37						
ARA0	**ARCESS Array S**	**3.75**	**305**	Pn	**Pn**	**10 05 16.0**	**+1.3**
	SNR=50						
ARA0				Sn	**Sn**	**10 05 56.9**	**-2.7**
	SNR=50						
ARA0				Lg	Lg	10 06 08.8	
	SNR=92						
ARE0	**ARCESS Array S**	**3.75**	**305**	PN	**Pn**	**10 05 15.8**	**+1.1**
	baz=121						
ARE0				SN	**Sn**	**10 05 58.0**	**-1.5**
ARE0	**ARCESS Array S**	**3.75**	**305**	Pn	**Pn**	**10 05 15.8**	**+1.1**
ARE0				Sn	**Sn**	**10 05 58.0**	**-1.5**
HEF	**Hetta**	**4.07**	**286**	PN	**Pn**	**10 05 20.0**	**+0.9**
	baz=98						
HEF	**Hetta**	**4.07**	**286**	Pn	**Pn**	**10 05 20.0**	**+0.9**
OUL	**Oulu**	**4.22**	**237**	PB	**Pb**	**10 05 28.8**	**-1.8**
	baz=48						
OUL				SB	**Sb**	**10 06 21.7**	**-0.3**
OUL	**Oulu**	**4.22**	**237**	Pb	**Pb**	**10 05 28.8**	**-1.8**
KALU	**Kalix**	**4.67**	**253**	PN	Pn	10 05 30.7	+3.3
KALU	**Kalix**	**4.67**	**253**	Pn	Pn	10 05 30.6	+3.3
LANU	**Lannavaara**	**4.67**	**281**	PN	**Pn**	**10 05 27.7**	**+0.3**
LANU	**Lannavaara**	**4.67**	**281**	Pn	**Pn**	**10 05 27.7**	**+0.3**
ERTU	**Ertsjaerv**	**4.84**	**263**	PN	**Pn**	**10 05 30.5**	**+0.9**
ERTU				SN	**Sn**	**10 06 26.1**	**-0.2**
ERTU	**Ertsjaerv**	**4.84**	**263**	Pn	**Pn**	**10 05 30.5**	**+0.9**
ERTU				Sn	**Sn**	**10 06 26.1**	**-0.2**
FIA0	**FINESS Array S**	**7.12**	**214**	Sn	**Sn**	**10 07 19.5**	**-2.9**
	baz=27,slow=16						
FIA0				Lg	Lg	10 07 55.5	
	baz=24,slow=28						
FIA0	**FINESS Array S**	**7.12**	**214**	Sn	**Sn**	**10 07 19.5**	**-2.9**
	baz=27,slow=16						
FIA0				Lg	Lg	10 07 55.5	
	baz=24,slow=28						
FIA0	**FINESS Array S**	**7.12**	**214**	Sn	**Sn**	**10 07 19.5**	**-2.9**
	SNR=50						
SPA0	**Spitsbergen Ar**	**11.76**	**342**	Pn	**Pn**	**10 07 02.9**	**-1.4**
	baz=145,slow=22						
SPA0	**Spitsbergen Ar**	**11.76**	**342**	Pn	**Pn**	**10 07 02.9**	**-1.4**
	baz=145,slow=22						

NNC 25 10:23:34.3±4.2, 36°.91N×70°.97E, h0km, mb3.5, mpv3.3, 4C-3D, Error ellipse: s-maj=35.1km s-min=14.5km az=176.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.54**	**319**	⇓Pn	Pn	10 24 17.2	+0.1
	5.5nm,0.4s						
DZET				⇑Sn	Sn	10 24 50.2	+1.4
	30nm,0.4s						
SFK	**Sufi-Kurgan**	**3.68**	**32**	⇓Pn	Pn	10 24 32.9	0.0
	2.8nm,0.3s						
SFK				⇑Sn	Sn	10 25 19.0	+1.8
	3.6nm,0.3s						
KK31	**Karatay Array**	**6.20**	**357**	⇓Pn	Pn	10 25 06.1	-1.0
	1.0nm,0.4s,baz=178,slow=13,SNR=6.1						
KK31				⇑Sn	Sn	10 26 17.6	-1.2
	1.2nm,0.3s,baz=186,slow=21,SNR=

comp=Z,7.5nm,1.0s,baz=242,slow=15,SNR=7.3
SIV LR LR 10 42 38.3
comp=Z,126nm,19.5s,baz=188,slow=36
NNA Nana 22.66 352 P **P 10 34 33.2 +0.6**
comp=Z,3.9nm,0.4s,baz=212,slow=15,SNR=3.3
NNA LR LR 10 41 05.2
comp=Z,142nm,18.5s,baz=193,slow=31
SAML Samuel 27.20 23 *eP* **P 10 35 15.5 +0.7**
comp=Z,6.7nm,1.2s
ATAH Atahualpa 27.64 350 LR LR 10 43 46.8
comp=Z,112nm,18.4s,baz=196,slow=31
BDFB Brasilia 29.68 57 P **P 10 35 38.8 +1.7**
comp=Z,3.8nm,0.8s,baz=245,slow=14,SNR=2.4
BDFB LR LR 10 48 41.8
comp=Z,165nm,21.8s,baz=222,slow=39
RPN Rapa Nui 31.48 274 LR LR 10 44 47.2
comp=Z,264nm,21.6s,baz=90,slow=29
PTGA Pitinga 35.96 24 P **P 10 36 31.6 -0.1**
comp=Z,1.2nm,0.3s,baz=186,slow=12,SNR=3.6
PTGA LR LR 10 50 38.5
comp=Z,57nm,19.8s,baz=188,slow=35
ROSC El Rosal 39.20 359 LR LR 10 51 23.3
comp=Z,52nm,21.0s,baz=33,slow=34
SDV Santo Domingo 43.29 4 *eP* **P 10 37 31.9 -1.0**
comp=Z,7.5nm,0.8s
SDV *epP* **pP 10 37 39.9 -1.5**
SDV *esP* **sP 10 37 46.1 +1.5**
VNA1 Neumayer--Stat 49.67 157 P sP 10 38 32.3 -1.7
SNAA Sanae 51.55 158 P **P 10 38 36.2 -0.4**
SNAA Sanae 51.55 158 P **P 10 38 36.5 0.0**
comp=Z,1.8nm,0.6s,baz=284,slow=9.4,SNR=34
SNAA Sanae 51.55 158 *eP* **P 10 38 36.1 -0.4**
comp=Z,42nm,1.3s
SNAA *epP* **pP 10 38 43.8 -1.2**
QSPA South Pole Qui 55.69 180 P **P 10 39 08.6 +1.7**
comp=Z,2.0nm,0.5s,baz=194,slow=1.1,SNR=22
QSPA South Pole Qui 55.69 180 *eP* **P 10 39 08.3 +1.4**
comp=Z,13nm,1.3s
QSPA *epP* **pP 10 39 16.3 +0.7**
TEIG Tepich 56.24 343 P **P 10 39 08.8 -2.4**
comp=Z,11nm,0.8s,baz=145,slow=16,SNR=3.9
SYO Syowa Base 65.81 159† *eX* pP 10 40 23.0 -1.3
JCT Junction City 69.26 336 *eP* **P 10 40 37.8 0.0**
comp=Z,25nm,1.4s
JCT *epP* **pP 10 40 45.8 -0.8**
JCT *esP* **sP 10 40 52.5 +2.6**
TXAR Lajitas Array 69.61 332 P **P 10 40 39.3 -0.8**
comp=Z,1.2nm,0.7s,baz=154,slow=8.6,SNR=18
TXAR LR LR 11 06 10.0
comp=Z,76nm,18.8s,baz=0.0,slow=32
ABTX Abilene, Hawle 71.17 337 *eP* **P 10 40 49.6 +0.1**
comp=Z,21nm,1.3s
ABTX *epP* **pP 10 40 56.9 -1.4**
ABTX *esP* **sP 10 41 02.5 +0.9**
WVT Waverly 71.57 348 *eP* **P 10 40 50.5 -1.2**
comp=Z,18nm,0.9s
WVT *epP* **pP 10 40 59.0 -1.6**
PBMO Poplar Bluff 72.69 346 *eP* **P 10 40 58.3 -0.1**
MAW Mawson 73.00 164 P **P 10 41 01.2 +1.1**
comp=Z,1.9nm,0.5s,baz=204,slow=5.0,SNR=8.5
MAW LR LR 11 13 17.1
comp=Z,84nm,18.1s,baz=240,slow=36
MSTX Muleshoe 73.46 335 *eP* **P 10 41 02.7 -0.5**
comp=Z,9.2nm,0.8s
MSTX *epP* **pP 10 41 10.8 -1.3**
AMTX Amarillo 73.92 336 *eP* **P 10 41 06.4 +0.6**
comp=Z,13nm,1.1s
AMTX *epP* **pP 10 41 13.6 -1.1**
121A Cookes Peak, D 74.08 330 *eP* **P 10 41 08.1 +1.1**
comp=Z,8.7nm,1.1s
121A *epP* **pP 10 41 15.7 -0.2**
TUC Tucson 75.15 328 *eP* **P 10 41 14.4 +1.3**
comp=Z,3.3nm,0.9s
ANMO Albuquerque 75.68 333 *eP* **P 10 41 17.0 +0.8**
comp=Z,0.6nm,0.4s
ANMO *epP* **pP 10 41 24.8 -0.3**
LIC Lamto 76.14 72 *eP* P 10 41 24.8 +5.7
comp=Z,50nm,0.7s
TIC Toumodi 76.40 72 *eP* **P 10 41 22.5 +1.9**
KIC Kosan Boka 76.45 72 *eP* **P 10 41 22.1 +1.3**
comp=Z,50nm,0.7s
DBIC Dimbokro 76.55 72 P **P 10 41 21.6 +0.2**
comp=Z,6.0nm,0.7s,baz=208,slow=6.4,SNR=7.0
DBIC LR LR 11 13 45.1
comp=Z,36nm,18.4s,baz=108,slow=35
SDCO Great Sand Dun 77.81 335 *eP* **P 10 41 28.6 +0.4**
comp=Z,2.8nm,0.9s
SDCO *epP* **pP 10 41 36.8 -0.4**
MVCO Mesa Verde 78.45 332 *eP* **P 10 41 32.2 +0.4**
comp=Z,9.2nm,1.3s
PFO Pinyon Flats O 78.84 325 *eP* **P 10 41 34.1 +0.3**
comp=Z,9.3nm,1.2s
PFO *epP* **pP 10 41 43.1 +0.3**
PFO *esP* **sP 10 41 49.2 +3.2**
SMCO Snowmass 79.61 334 *eP* **P 10 41 38.5 +0.2**
comp=Z,6.2nm,1.1s
SMCO *epP* **pP 10 41 47.2 0.0**
ISCO Idaho Springs 79.69 335 *eP* **P 10 41 39.5 +0.9**
comp=Z,8.7nm,1.5s
ISCO *epP* **PcP 10 41 47.0 +0.7**
TSUM Tsumeb 80.27 107 *eP* **P 10 41 40.2 -1.9**
comp=Z,20nm,1.6s
SHPR Sheep Range 80.62 327 *eP* **P 10 41 44.9 +1.3**
comp=Z,5.0nm,1.5s
SHPR *epP* **pP 10 41 52.8 +0.3**
ECSD EROS Data Cent 80.70 343 *eP* **P 10 41 43.0 -0.6**
comp=Z,14nm,1.1s
ECSD *epP* **PcP 10 41 51.1 +0.9**
CCUT Cedar City 80.71 329 *eP* **P 10 41 45.5 +1.4**
comp=Z,2.8nm,1.3s
CCUT *epP* **pP 10 41 53.7 +0.6**
BOSA Boshof 80.92 118 P **P 10 41 45.7 +0.2**
comp=Z,3.2nm,0.8s,baz=213,slow=7.1,SNR=4.7
BOSA LR LR 11 17 29.9
comp=Z,54nm,18.1s,baz=197,slow=36
R11A Troy Canyon, C 82.34 328 *eP* **P 10 41 54.0 +1.4**
comp=Z,4.8nm,1.2s
R11A *epP* **pP 10 42 01.7 +0.2**
K22A Casper 82.54 336 *eP* **P 10 41 54.5 +1.0**
comp=Z,15nm,1.5s
K22A *epP* **pP 10 42 01.9 -0.6**
DUG Dugway, Tooele 82.72 331 *eP* **P 10 41 55.5 +1.0**
HWUT Hardware Ranch 83.44 332 *eP* **P 10 41 58.5 +0.3**
comp=Z,16nm,1.5s
HWUT *epP* **pP 10 42 06.5 -0.7**
NVAR Mina Array Bea 83.63 326 P **P 10 41 59.2 -0.1**
comp=Z,0.3nm,0.7s,baz=139,slow=7.0,SNR=3.7
PDAR Pinedale Array 83.70 334 P **P 10 41 59.6 0.0**
comp=Z,0.5nm,0.6s,baz=134,slow=4.3,SNR=6.2
PDAR LR LR 11 14 58.2
comp=Z,56nm,19.0s,baz=173,slow=33
AGMN Agassiz Nation 84.85 345 *eP* **P 10 42 04.2 -0.8**
comp=Z,5.2nm,0.8s
IMW Indian Meadow 85.18 334 P **P 10 42 07.4 +0.3**
comp=Z,1.2nm,0.6s
IMW *epP* **pP 10 42 15.4 -0.7**
TOA0 Torodi Ar. Sit 85.58 71 *eP* **P 10 42 09.5 +0.1**
TORD Torodi Ar. Bea 85.58 71 P **P 10 42 09.7 +0.2**
comp=Z,3.4nm,1.0s,baz=253,slow=3.4,SNR=11
MCMT McKenzie Canyo 86.68 333 *eP* **P 10 42 15.3 +0.8**
comp=Z,4.4nm,1.5s
MCMT *epP* **pP 10 42 23.3 -0.2**
DGMT Dagmar 87.06 340 *eP* **P 10 42 15.9 -0.1**
comp=Z,23nm,1.2s
DGMT *epP* **pP 10 42 23.7 -1.2**
MOD Modoc Plateau 87.33 327 *eP* **P 10 42 18.1 +0.5**
comp=Z,6.4nm,1.1s
MOD *epP* **pP 10 42 26.4 -0.2**
ILAR Eielson Array 114.12 333 PKiKP **PKiKP 10 48 10.6 +1.6**
comp=Z,0.1nm,0.8s,baz=114,slow=1.1,SNR=3.0
WRA Warramunga Arr 119.66 210 PKP **PKPdf 10 48 20.1 -1.1**
comp=Z,0.3nm,0.9s,baz=162,slow=1.8,SNR=4.8
BRTR Keskin Array B 123.20 62 PKP **PKPdf 10 48 29.7 +2.2**
comp=Z,0.3nm,0.5s,baz=222,slow=1.9,SNR=3.2
ABKAR Akbulak array 143.01 52 *e*PKPdf **PKPdf 10 49 02.5 -1.5**
ABKAR *ep*PKPdf **PKiKP 10 49 09.0 +1.8**
ABKAR *es*PKPdf **sPKPdf 10 49 13.2 -3.3**
KSH Kashi 155.24 69 *e*PKPbc PKPdf 10 49 12.8 -11
KSH pPKP pPKPdf 10 49 23.0 -10
KSH sPKP 10 49 29.3
ZALV Zalesovo Beam 155.36 31 PKP **PKPdf 10 49 21.5 -1.9**
comp=Z,0.5nm,0.3s,baz=298,slow=3.1,SNR=3.0
ZALV PKPbc PKPbc 10 49 30.8
comp=Z,1.4nm,0.5s,baz=304,slow=2.7,SNR=5.0
WMQ Urumqi 162.80 52 *e*PKP PKPdf 10 49 22.5 -10
SONM Songino Array 166.73 0 PKPab **PKPab 10 50 37.3 -1.5**
comp=Z,0.2nm,0.3s,baz=357,slow=5.8,SNR=2.5
NJ2 Nanjing 169.32 260 *e*PKP PKPdf 10 49 29.0 -9.1
GYA Guiyang 171.93 181 *e*PKP PKPdf 10 49 28.8 -11
GYA sPKP 10 49 44.0
GYA PKPab PKPab 10 50 48.5 -14
GYA PKS PKSdf 10 53 00.3 -12
GYA PP PP 10 54 41.0 -11
GYA PPMZ
comp=Z,110nm,8.0s
HHC Hu-ho-hao-te 172.52 329 *e*PKP PKPdf 10 49 28.5 -11
HHC pPKP pPKPdf 10 49 40.3 -8.7
HHC sPKP 10 49 45.0
HHC PKS PKSdf 10 52 58.8 -13
HHC PP **PP 10 54 56.8 +1.1**
HHC PPMZ
comp=Z,34nm,9.9s
HHC LN
comp=Z,140nm,22.4s
HHC LE
comp=Z,96nm,22.3s
HHC LZ
comp=Z,55nm,22.4s
CD2 Chengdu 175.72 147 PKP PKPdf 10 49 30.5 -10
CD2 pPKP pPKPdf 10 49 42.0 -8.3
CD2 sPKP 10 49 46.0
CD2 PP PP 10 54 53.8 -17
CD2 SKS SKSdf 10 56 31.0 -11
CD2 SKKS SKKSac 11 01 37.0 -19
CD2 SS SS 11 16 10.3 -26
CD2 PPMZ
comp=Z,120nm,5.2s
LZH Lanzhou 177.38 53 *e*PKP PKPdf 10 49 31.5 -10
LZH pPKP pPKPdf 10 49 41.0 -10
LZH sPKP 10 49 44.3
XAN Xi'an 177.88 257 PKP PKPdf 10 49 31.0 -10

IDC ***25*** *10:52:47.6±2.0, 5.°30S×153.°99E, h131km±17km, mb4.1/19, mb1 4.3/21, mb1mx4.2/27, mbtmp4.5/21, MS3.0/2, Ms1 3.1/2, ms1mx2.6/23, Error ellipse: s-maj=14.3km s-min=9.8km az=100.0*
ISCJB ***25*** *10:52:48.3±0.3, 5.°30S±0.°04×154.°12E±0.°06, h150km, mb4.3/31, Error ellipse: s-maj=7.9km s-min=5.7km az=13.1*
BJI ***25*** *10:52:48.5, 5.°10S×154.°11E, h142km, mb4.9/28, mB4.9/19*
NEIC ***25*** *10:52:48.7±1.2, 5.°30S×154.°09E, h141km±11km, mb4.5/13, Error ellipse: s-maj=8.9km s-min=7.7km az=92.0*

ISC 25 10:52:49.5±0.4, 5.°35S±0.°05×154.°10E±0.°06, h150km, n83, σ1§34/98, mb4.5/36, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.08**	**125**	P	**Pn**	**10 54 28.0**	**-2.7**
HNR	**Honiara**	**7.08**	**125**	*e*Pn	**Pn**	**10 54 28.0**	**-2.7**
	264nm,1.0s						
HNR				*e*Sn	Sn	10 55 43.5	-6.6
PMG	**Port Moresby**	**7.97**	**239**	*e*Pn	**Pn**	**10 54 43.4**	**+0.7**
JAY	**Jayapura**	**13.65**	**281**	P	**Pn**	**10 55 55.3**	**-1.9**
	0.5nm,0.3s,baz=135,slow=8.6,SNR=2.7						
COEN	**Coen**	**13.75**	**231**	*e*Pn	**P**	**10 56 00.6**	**-1.4**
COEN				*e*Sn	**Sn**	**10 58 31.2**	**+0.5**
CTA	**Charters Tower**	**16.52**	**207**	P	**Pn**	**10 56 33.5**	**+0.8**
	1.0nm,0.3s,baz=26,slow=13,SNR=16						
CTAO	**Charters Tower**	**16.52**	**207**	*e*Pn	**Pn**	**10 56 33.4**	**+0.7**
	19nm,0.8s						
EIDS	**Eidsvold**	**20.12**	**188**	*e*P	**P**	**10 57 12.4**	**+0.6**
	43nm,1.0s						
GUMO	**Guam**	**20.92**	**334**	LR	LR	11 04 45.9	
	comp=Z,20nm,19.6s,baz=153,slow=34						
SIJI	**Sorong**	**23.22**	**280**	P	**P**	**10 57 42.0**	**-1.6**
	19nm,0.9s,baz=100,slow=6.7,SNR=6.3						
WRAB	**Tennant Creek**	**24.07**	**231**	*e*P	**P**	**10 57 50.9**	**-0.3**
	14nm,0.6s						
WRA	**Warramunga Arr**	**24.08**	**231**	P	**P**	**10 57 51.7**	**+0.3**
	9.8nm,0.7s,baz=55,slow=9.8,SNR=119						
WRA				ScP	**ScP**	**11 04 55.1**	**+1.5**
	0.7nm,0.8s,baz=57,slow=3.0,SNR=5.1						
ARMA	**Armidale**	**25.05**	**185**	*e*P	**P**	**10 58 00.8**	**+0.7**
	12nm,0.6s						
AS31	**Alice Springs**	**26.65**	**225**	P	**P**	**10 58 15.6**	**+1.1**
ASAR	**Alice Springs**	**26.65**	**225**	P	**P**	**10 58 14.3**	**-0.2**
	1.5nm,0.5s,baz=60,slow=8.8,SNR=25						
ASAR				S	**S**	**11 02 39.6**	**+0.9**
	1.3nm,0.7s,baz=54,slow=14,SNR=5.1						
ASAR				ScP	**ScP**	**11 05 04.1**	**+3.2**
	0.8nm,0.8s,baz=56,slow=2.9,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**26.75**	**27**	T	T	11 26 05.1	
	baz=207,slow=73,SNR=71						
H11S2	**WAKE ISLAND Hy**	**26.75**	**27**	T	T	11 26 02.7	
	baz=207,slow=73,SNR=81						
H11S1	**WAKE ISLAND Hy**	**26.76**	**27**	T	T	11 26 01.9	
	baz=207,slow=73,SNR=24						
H11N1	**WAKE ISLAND Hy**	**27.90**	**26**	T	T	11 28 12.8	
	baz=196						
H11N3	**WAKE ISLAND Hy**	**27.92**	**27**	T	T	11 28 11.5	
	baz=196						
H11N2	**WAKE ISLAND Hy**	**27.92**	**26**	T	T	11 28 10.0	
	baz=196						
STKA	**Stephens Creek**	**28.88**	**202**	P	**P**	**10 58 33.5**	**-0.6**
	5.6nm,0.7s,baz=34,slow=12,SNR=13						
STKA	**Stephens Creek**	**28.88**	**202**	*e*P	**P**	**10 58 33.6**	**-0.6**
	0.7nm,0.6s						
BBOO	**Buckleboo**	**32.09**	**209**	*e*P	**P**	**10 59 01.8**	**-0.7**
	12nm,0.6s						
KAPI	**Kappang**	**34.20**	**269**	P	**P**	**10 59 18.2**	**-2.9**
	9.9nm,0.9s,baz=149,slow=12,SNR=3.9						
RAO	**Raoul Island**	**35.57**	**135**	P	**P**	**10 59 33.8**	**+1.2**
	228nm,0.4s,baz=340,slow=12,SNR=3.6						
JOW	**Kunigami**	**40.59**	**323**	P	P	11 00 08.6	-6.1
	3.4nm,0.5s,baz=102,slow=18,SNR=9.9						
RPZ	**Rata Peaks**	**41.03**	**161**	P	**P**	**11 00 18.4**	**+0.3**
	15nm,0.6s,baz=304,slow=2.5,SNR=9.5						
MJAR	**Matsushiro Arr**	**44.24**	**342**	P	**P**	**11 00 41.7**	**-2.4**
	1.9nm,0.6s,baz=176,slow=10,SNR=10						
MAT	**Matsushiro**	**44.24**	**342**	P	**P**	**11 00 42.9**	**-1.2**
KSM	**Kuching**	**44.26**	**278**	*e*P	**P**	**11 00 44.7**	**+0.2**
	12nm,0.7s						
KSRS	**Korea Array**	**49.07**	**332**	P	**P**	**11 01 21.1**	**-0.4**
	2.9nm,0.6s,baz=145,slow=6.7,SNR=13						
KSAR	**Wonju Array Be**	**49.08**	**332**	P	**P**	**11 01 21.1**	**-0.5**
INCN	**Inchon**	**49.70**	**331**	*e*P	**P**	**11 01 26.5**	**+0.1**
QIZ	**Qiongzhong**	**49.86**	**300**	P	**P**	**11 01 29.0**	**+1.1**
QIZ				pP	**pP**	**11 02 01.5**	**-0.6**
QIZ				S	**S**	**11 08 29.5**	**+2.9**
QIZ				sS	**sS**	**11 09 25.8**	**0.0**
QIZ				PMZ			
	130nm,3.6s						
NJ2	**Nanjing**	**50.08**	**320**	*e*P	**P**	**11 01 30.0**	**+0.7**
NJ2				PMZ			
	30nm,0.8s						
ASAJ	**Asahikawa**	**50.31**	**349**	*e*P	**P**	**11 01 32.1**	**+1.3**
USRK	**Ussuriysk Ar.**	**53.19**	**340**	P	**P**	**11 01 51.6**	**-0.5**
	3.8nm,0.5s,baz=139,slow=4.1,SNR=16						
CN2	**Changchun**	**55.33**	**335**	*e*P	**P**	**11 02 08.5**	**+0.8**
CN2				*ep*P	**pP**	**11 02 38.0**	**-4.5**
CN2				*es*P	sP	11 02 52.3	-6.7
CN2				PP	**PP**	**11 04 15.5**	**+2.4**
CN2				*e*S	**S**	**11 09 41.3**	**+1.2**
CN2				PMZ			
	10.0nm,0.7s						
CN2				PMZ			
	20nm,3.0s						
ENH	**Enshi**	**55.47**	**312**	*e*P	**P**	**11 02 09.1**	**+0.1**
	7.0nm,0.6s						
PPT2	**Papeete2**	**56.33**	**107**	*e*LR	LR	11 01 08.4	
	155nm,28.2s						
PETK	**Petropavlovsk-**	**58.31**	**3**	P	**P**	**11 02 29.2**	**+0.7**
	3.6nm,0.6s,baz=168,slow=8.3,SNR=9.8						
KMI	**Kunming**	**58.36**	**304**	P	**P**	**11 02 31.5**	**+1.8**
KMI				PMZ			
	22nm,0.9s						
CMAR	**Chiang Mai Arr**	**59.28**	**295**	P	**P**	**11 02 36.7**	**+0.9**
	4.9nm,0.8s,baz=114,slow=5.3,SNR=17						
CD2	**Chengdu**	**60.07**	**310**	*e*P	**P**	**11 02 41.8**	**+0.6**
CD2				pP	**pP**	**11 03 15.5**	**-1.0**
CD2				PcP	**PcP**	**11 03 25.5**	**0.0**
CD2				PP	**PP**	**11 04 56.3**	**+0.8**
CD2				PcS	**PcS**	**11 07 28.3**	**+0.1**
CD2				S	**S**	**11 10 45.3**	**+2.7**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.4s						
HHC	**Hu-ho-hao-te**	**60.24**	**324**	*e*P	**P**	**11 02 42.3**	**+0.1**
HHC				sP	**sP**	**11 03 32.8**	**-1.2**
HHC				S	**S**	**11 10 42.5**	**-2.1**
HHC				sS	**sS**	**11 11 42.0**	**-3.8**
HHC				PMZ			
	18nm,1.0s						
HHC				PMZ			
	74nm,6.2s						
LZH	**Lanzhou**	**62.52**	**315**	*e*P	P	11 03 02.3	+4.6
LZH				pP	**PcP**	**11 03 36.3**	**+0.8**
LZH				sP	sP	11 03 50.8	+1.2
LZH				PMZ			
	31nm,1.0s						
LZH				PMZ			
	160nm,5.3s						
GTA	**Gaotai**	**66.93**	**317**	*e*P	**P**	**11 03 27.0**	**+0.8**
GTA				pP	**pP**	**11 04 02.3**	**+0.1**
GTA				sP	**sP**	**11 04 17.5**	**-0.9**
GTA				PMZ			
	7.0nm,1.2s						
SONM	**Songino Array**	**67.47**	**327**	P	**P**	**11 03 29.8**	**+0.4**
	5.4nm,0.6s,baz=149,slow=7.3,SNR=32						
TAPN	**Taplejung**	**71.79**	**301**	*e*P	**P**	**11 03 56.9**	**+0.4**
	22nm,0.5s						
ODAN	**Odare**	**71.93**	**300**	*e*P	**P**	**11 03 58.0**	**+0.7**
	48nm,0.6s						
VNDA	**Vanda**	**72.25**	**178**	P	**P**	**11 03 58.5**	**+0.7**
	0.6nm,0.5s,baz=330,slow=8.4,SNR=6.0						
RAMN	**Ramite**	**72.64**	**300**	*e*P	**P**	**11 04 01.4**	**-0.1**
	15nm,0.7s						
GUN	**Gumba**	**73.51**	**301**	*e*P	**P**	**11 04 07.2**	**+0.5**
	14nm,0.6s						
BILL	**Bilibino**	**73.72**	**5**	*e*P	**P**	**11 04 06.7**	**+0.1**
PKI	**Pulchoki**	**73.82**	**301**	*e*P	**P**	**11 04 08.8**	**+0.3**
KKN	**Kakani**	**73.99**	**301**	*e*P	**P**	**11 04 09.5**	**+0.2**
DMN	**Daman**	**74.09**	**301**	*e*P	**P**	**11 04 10.6**	**+0.6**
GKN	**Gorkha**	**74.59**	**301**	*e*P	**P**	**11 04 12.8**	**0.0**
	8.0nm,0.3s						
KOLN	**Koldanda**	**75.42**	**300**	*e*P	**P**	**11 04 17.8**	**+0.2**
	24nm,0.7s						
TIXI	**Tiksi**	**78.61**	**352**	*e*P	**P**	**11 04 33.7**	**-0.5**
CAST	**Castle Rocks**	**79.53**	**22**	*e*P	**P**	**11 04 39.9**	**+0.5**
IM04	**Indian Mountai**	**80.45**	**19**	*e*P	**P**	**11 04 44.7**	**+0.4**
COLA	**College**	**81.88**	**21**	*e*P	**P**	**11 04 51.6**	**-0.2**
ILAR	**Eielson Array**	**82.18**	**22**	P	**P**	**11 04 52.5**	**-1.0**
	3.7nm,0.6s,baz=245,slow=5.5,SNR=81						
ILAR				LR	LR	11 38 34.0	
	comp=Z,19nm,19.2s,baz=175,slow=33						
ZALV	**Zalesovo Beam**	**82.32**	**326**	P	**P**	**11 04 53.4**	**-0.9**
	3.5nm,0.4s,baz=118,slow=6.0,SNR=17						
MENT	**Mentasta**	**82.52**	**24**	*e*P	**P**	**11 04 56.0**	**+0.8**
KSH	**Kashi**	**84.27**	**310**	P	**P**	**11 05 07.0**	**+2.1**
KSH				pP	**pP**	**11 05 43.5**	**+1.1**
KSH				sP	**sP**	**11 05 58.0**	**-0.3**
KSH				PP	PP	11 08 26.0	+4.3
KSH				SKS	**S**	**11 15 15.5**	**-2.6**
KSH				S	**SKKSac**	**11 15 23.5**	**+3.1**
KSH				sS	**sS**	**11 16 23.8**	**+0.6**
KSH				PMZ			
	5.0nm,0.7s						
KSH				PMZ			
	110nm,4.8s						
KSH				LN			
	75nm,5.2s						
KSH				LE			
	78nm,5.6s						
KSH				LZ			
	100nm,7.8s						
HYT	**Haines Junctio**	**84.32**	**27**	*e*P	**P**	**11 05 05.4**	**+0.8**
	3.8nm,0.6s						
EGAK	**Eagle**	**84.35**	**23**	*e*P	**P**	**11 05 04.9**	**+0.3**
	3.2nm,0.6s						
QSPA	**South Pole Qui**	**84.62**	**180**	*e*P	**P**	**11 05 06.0**	**0.0**
	6.3nm,1.0s						
TKM2	**Tokmak 2**	**85.24**	**314**	*e*P	**P**	**11 05 10.1**	**+0.3**
	2.3nm,0.6s						
MAW	**Mawson**	**85.56**	**203**	P	**P**	**11 05 10.4**	**-0.1**
	1.1nm,0.5s,baz=114,slow=6.4,SNR=5.0						
NVAR	**Mina Array Bea**	**91.41**	**52**	P	**P**	**11 05 39.8**	**+0.6**
	0.9nm,0.8s,baz=256,slow=5.8,SNR=8.2						
YKA	**Yellowknife Ar**	**95.30**	**28**	P	**P**	**11 05 57.2**	**+1.0**
	0.8nm,0.6s,baz=270,slow=4.3,SNR=6.7						
ABKAR	**Akbulak array**	**96.73**	**319**	*e*P	**P**	**11 06 02.5**	**-0.5**
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**98.26**	**48**	P	Pdif	11 06 12.1	+1.7
	0.4nm,0.7s,baz=251,slow=2.8,SNR=3.0						
STHS	**Stebnicka Huta**	**120.82**	**326**	*e*PKP	**PKPdf**	**11 11 23.7**	**-0.3**
GERES	**GERESS Array B**	**125.19**	**329**	PKP	**PKPdf**	**11 11 33.2**	**+0.7**
	0.3nm,0.3s,baz=27,slow=4.6,SNR=3.9						
EKA	**Eskdalemuir Ar**	**126.92**	**344**	PKP	**PKPdf**	**11 11 35.0**	**-0.5**
	0.3nm,0.5s,baz=346,slow=1.5,SNR=2.3						
LPAZ	**La Paz**	**133.02**	**118**	PKP	**PKPdf**	**11 11 50.0**	**+1.1**
	0.6nm,0.6s,baz=248,slow=5.4,SNR=4.2						
MDT	**Midelt**	**146.22**	**327**	PKPbc	**PKPdf**	**11 12 11.1**	**-0.8**
	1.3nm,0.4s,baz=4.3,slow=1.7,SNR=9.2						
TORD	**Torodi Ar. Bea**	**151.70**	**288**	PKPbc	**PKPbc**	**11 12 26.0**	**-1.4**
	0.6nm,0.3s,baz=71,slow=2.0,SNR=11						

MEX 25 11:06:04.1±0.6, 15.°40N×94.°51W, h16km±11km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.28**	**76**	*e*P	Pn	11 06 23.4	-3.9
PCIG				*e*S	Sb	11 06 38.9	-5.1
HUIG	**Huatulco**	**1.59**	**284**	*e*P	Pn	11 06 28.5	-3.1
HUIG				*e*S	Sn	11 06 46.1	-5.6

ISCJB ***25*** *11:27:09.1±0.3, 59.°10N±0.°03×22.°04E±0.°04, h0km, Error ellipse: s-maj=4.2km s-min=2.8km az=178.5*
UPP ***25*** *11:27:09.2, 59.°15N×22.°14E, h0km, ML2.2, Suspected Mining explosion.*
CSEM ***25*** *11:27:09.9±0.2, 59.°11N×22.°05E, h2km, ML2.1, Error ellipse: s-maj=4.8km s-min=3.4km az=175.0, Mining explosion.*
NAO ***25*** *11:27:10.0±1.4, 59.°03N±22.°15E, ML2.2*
IDC ***25*** *11:27:10.1±2.4, 59.°05N×21.°99E, h0km, mb1 3.0/4, mb1mx2.9/39, mbtmp2.9/4, ML2.6/4, Error ellipse: s-maj=31.5km s-min=9.1km az=166.0*
HEL ***25*** *11:27:10.3±0.0, 59.°11N×21.°99E, h0km, ML2.1, ML2.2(UPP), Explosion*
BER ***25*** *11:27:10.2±2.7, 58.°93N×21.°98E, h0km, ML2.2(NAO), Suspected explosion*

ISC 25 11:27:09.1±0.8, 59.°11N±0.°03×22.°00E±0.°02, h0km, n83, σ1§15/107, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTSE	**Matsula**	**1.02**	**112**	*e*P	**Pg**	**11 27 28.5**	**-0.2**
MTSE				*e*S	**Sg**	**11 27 42.0**	**0.0**
MTSE	**Matsula**	**1.02**	**112**	P	Pg	11 27 28.5	-0.2
MTSE				S	**Sg**	**11 27 41.9**	**0.0**
SRPE	**Suurupi**	**1.27**	**73**	*e*P	**Pg**	**11 27 33.0**	**-0.5**
SRPE				*e*S	**Sg**	**11 27 49.6**	**-0.4**
SRPE	**Suurupi**	**1.27**	**73**	P	**Pg**	**11 27 32.9**	**-0.5**
SRPE				S	**Sg**	**11 27 49.5**	**-0.4**
AAL	**Aland**	**1.48**	**317**	*e*P	**Pn**	**11 27 36.5**	**-0.5**
AAL				*e*SB	**Sg**	**11 27 56.1**	**-0.5**
AAL	**Aland**	**1.48**	**317**	P	**Pn**	**11 27 36.4**	**-0.5**
AAL				Sb	**Sg**	**11 27 56.1**	**-0.5**
AAL	**Aland**	**1.48**	**317**	P	**Pn**	**11 27 36.4**	**-0.5**
SLIT	**Slitere, Latvi**	**1.50**	**174**	*e*P	**Pn**	**11 27 37.3**	**+0.1**
SLIT				*e*SN	**Sn**	**11 27 58.5**	**+1.2**
SLIT	**Slitere, Latvi**	**1.50**	**174**	P	**Pn**	**11 27 37.3**	**+0.1**
SLIT				Sn	**Sn**	**11 27 58.5**	**+1.2**
MEF	**Metsahovi**	**1.65**	**47**	*e*P	**Pn**	**11 27 39.7**	**+0.4**
MEF				*e*S	**Sn**	**11 28 00.9**	**-0.2**
MEF				MSG		11 28 05.5	
	comp=Z,16nm,0.1s						
MEF	**Metsahovi**	**1.65**	**47**	P	**Pn**	**11 27 39.6**	**+0.4**
MEF				S	**Sn**

NYNU				*e*S	**Sb**	**11 28 14.2**	**+0.5**
NYNU	**Nynaeshamn**	**2.07**	**269**	P	**Pn**	**11 27 46.2**	**+1.2**
NYNU				S	**Sb**	**11 28 14.1**	**+0.5**
NYNU	**Nynaeshamn**	**2.07**	**269**	P	**Pn**	**11 27 46.3**	**+1.2**
NYNU				S	**Sb**	**11 28 14.2**	**+0.5**
GRAU	**Graesoe**	**2.14**	**306**	*e*P	**Pn**	**11 27 46.7**	**+0.7**
GRAU	**Graesoe**	**2.14**	**306**	P	**Pn**	**11 27 46.7**	**+0.7**
GRAU	**Graesoe**	**2.14**	**306**	P	**Pn**	**11 27 46.7**	**+0.7**
GOTU	**Gotland**	**2.30**	**233**	*e*P	**Pn**	**11 27 49.2**	**+0.9**
GOTU	**Gotland**	**2.30**	**233**	P	**Pn**	**11 27 49.2**	**+0.9**
GOTU	**Gotland**	**2.30**	**233**	P	**Pn**	**11 27 49.2**	**+0.9**
FORU	**Forsmark**	**2.32**	**305**	*e*P	**Pn**	**11 27 49.2**	**+0.7**
FORU	**Forsmark**	**2.32**	**305**	P	**Pn**	**11 27 49.2**	**+0.7**
FORU	**Forsmark**	**2.32**	**305**	P	**Pn**	**11 27 49.2**	**+0.7**
FLYU	**Flymyra**	**2.33**	**298**	*e*P	**Pn**	**11 27 49.5**	**+0.9**
FLYU	**Flymyra**	**2.33**	**298**	P	**Pn**	**11 27 49.5**	**+0.9**
FLYU	**Flymyra**	**2.33**	**298**	P	**Pn**	**11 27 49.5**	**+0.9**
UPP	**Uppsala**	**2.35**	**290**	*e*P	**Pn**	**11 27 50.8**	**+1.8**
UPP	**Uppsala**	**2.35**	**290**	P	**Pn**	**11 27 50.8**	**+1.8**
UPP	**Uppsala**	**2.35**	**290**	P	**Pn**	**11 27 50.8**	**+1.8**
PVF	**Pernaja**	**2.42**	**52**	*e*P	**Pn**	**11 27 51.7**	**+1.8**
PVF				*e*SB	**Sb**	**11 28 23.1**	**-0.7**
PVF				MSG		11 28 27.5	
	comp=Z,10nm,0.1s						
PVF	**Pernaja**	**2.42**	**52**	P	**Pn**	**11 27 51.7**	**+1.8**
VSU	**Vasula**	**2.55**	**103**	Pn	**Pn**	**11 27 51.4**	**-0.3**
VSU				Pg	**Pb**	**11 27 54.9**	**-0.8**
VSU				Lg	Lg	11 28 27.7	
VSU	**Vasula**	**2.55**	**103**	Pn	**Pn**	**11 27 51.4**	**-0.3**
VSU				Pg	**Pb**	**11 27 54.9**	**-0.8**
VSU				Lg	Lg	11 28 27.7	
VSU	**Vasula**	**2.55**	**103**	*e*PB	**Pb**	**11 27 54.8**	**-0.8**
VSU				*e*SB	**Sb**	**11 28 27.4**	**-0.2**
VSU	**Vasula**	**2.55**	**103**	Pn	**Pn**	**11 27 51.4**	**-0.3**
	SNR=50						
BACU	**Backbrunna**	**2.60**	**289**	*e*P	**Pn**	**11 27 53.9**	**+1.5**
BACU	**Backbrunna**	**2.60**	**289**	P	**Pn**	**11 27 53.9**	**+1.5**
BACU	**Backbrunna**	**2.60**	**289**	P	**Pn**	**11 27 53.9**	**+1.5**
OSTU	**Oestervaala**	**2.71**	**297**	*e*P	**Pn**	**11 27 55.0**	**+1.1**
OSTU	**Oestervaala**	**2.71**	**297**	P	**Pn**	**11 27 55.0**	**+1.1**
OSTU	**Oestervaala**	**2.71**	**297**	P	**Pn**	**11 27 55.0**	**+1.1**
VIKU	**Vikbolandet**	**2.83**	**260**	*e*P	**Pn**	**11 27 56.2**	**+0.7**
VIKU	**Vikbolandet**	**2.83**	**260**	P	**Pn**	**11 27 56.2**	**+0.7**
VIKU	**Vikbolandet**	**2.83**	**260**	P	**Pn**	**11 27 56.2**	**+0.7**
ESKU	**Eskilstuna**	**2.89**	**275**	*e*P	**Pn**	**11 27 57.8**	**+1.4**
ESKU	**Eskilstuna**	**2.89**	**275**	P	**Pn**	**11 27 57.7**	**+1.4**
ESKU	**Eskilstuna**	**2.89**	**275**	P	**Pn**	**11 27 57.8**	**+1.4**
IGGU	**Iggoen**	**2.94**	**309**	*e*P	**Pn**	**11 27 58.2**	**+1.1**
IGGU	**Iggoen**	**2.94**	**309**	P	**Pn**	**11 27 58.1**	**+1.1**
IGGU	**Iggoen**	**2.94**	**309**	P	**Pn**	**11 27 58.2**	**+1.1**
FIA0	**FINESS Array S**	**3.10**	**39**	Pn	**Pn**	**11 28 00.9**	**+1.7**
	baz=216,slow=14						
FIA0				Sn	**Sn**	**11 28 39.0**	**+2.1**
	baz=222,slow=28						
FIA0	**FINESS Array S**	**3.10**	**39**	Pn	**Pn**	**11 28 00.9**	**+1.7**
	baz=216,slow=14						
FIA0				Sn	**Sn**	**11 28 39.0**	**+2.1**
	baz=222,slow=28						
FIA0	**FINESS Array S**	**3.10**	**39**	Pn	**Pn**	**11 28 00.9**	**+1.7**
	SNR=50						
FIA0				Sn	**Sn**	**11 28 39.0**	**+2.1**
	SNR=50						
FINES	**FINESS Array B**	**3.10**	**39**	Pn	**Pn**	**11 28 00.9**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=222,slow=13,SNR=25						
FINES				Sn	**Sn**	**11 28 40.0**	**+3.1**
	comp=Z,1.2nm,0.3s,baz=221,slow=23,SNR=8.9						
VSTU	**Vaestervik**	**3.23**	**246**	*e*P	**Pn**	**11 28 02.1**	**+1.2**
VSTU	**Vaestervik**	**3.23**	**246**	P	**Pn**	**11 28 02.1**	**+1.2**
VSTU	**Vaestervik**	**3.23**	**246**	P	**Pn**	**11 28 02.1**	**+1.2**
LNKU	**Linkoeping**	**3.51**	**258**	*e*P	**Pn**	**11 28 06.0**	**+1.2**
LNKU	**Linkoeping**	**3.51**	**258**	P	**Pn**	**11 28 06.0**	**+1.2**
LNKU	**Linkoeping**	**3.51**	**258**	P	**Pn**	**11 28 06.0**	**+1.2**
OSKU	**Oskarshamn**	**3.67**	**241**	*e*P	**Pn**	**11 28 08.0**	**+0.9**
OSKU	**Oskarshamn**	**3.67**	**241**	P	**Pn**	**11 28 08.0**	**+0.9**
OSKU	**Oskarshamn**	**3.67**	**241**	P	**Pn**	**11 28 08.0**	**+0.9**
EKSU	**Eksjoe**	**3.85**	**249**	*e*P	**Pn**	**11 28 10.0**	**+0.4**
EKSU	**Eksjoe**	**3.85**	**249**	P	**Pn**	**11 28 10.0**	**+0.4**
EKSU	**Eksjoe**	**3.85**	**249**	P	**Pn**	**11 28 10.0**	**+0.4**
HFS	**Hagfors**	**4.34**	**287**	Pn	**Pn**	**11 28 17.7**	**+1.4**
	baz=101,slow=12						
HFS	**Hagfors**	**4.34**	**287**	Pn	**Pn**	**11 28 17.7**	**+1.4**
	baz=101,slow=12						
HFS	**Hagfors**	**4.34**	**287**	Pn	**Pn**	**11 28 17.4**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=104,slow=16,SNR=34						
HFS				Lg	Lg	11 29 24.6	
	comp=Z,1.9nm,0.3s,baz=101,slow=32,SNR=11						
HFS	**Hagfors**	**4.34**	**287**	Pn	**Pn**	**11 28 17.7**	**+1.4**
	SNR=50						
NB2	**NORSAR Subarra**	**5.74**	**294**	Pn	**Pn**	**11 28 34.9**	**-0.6**
	baz=106,slow=12						
NB2	**NORSAR Subarra**	**5.74**	**294**	Pn	**Pn**	**11 28 34.9**	**-0.6**
	baz=106,slow=12						
NB2	**NORSAR Subarra**	**5.74**	**294**	Pn	**Pn**	**11 28 34.9**	**-0.6**
	SNR=50						
NOA	**NORSAR Array B**	**5.74**	**294**	Pn	**Pn**	**11 28 33.4**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=109,slow=12,SNR=9.8						
NOA				Sn	**Sn**	**11 29 40.0**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=130,slow=23,SNR=3.3						
ARA0	**ARCESS Array S**	**10.57**	**7**	Pn	**Pn**	**11 29 40.2**	**-1.5**
	baz=187,slow=14						
ARA0	**ARCESS Array S**	**10.57**	**7**	Pn	**Pn**	**11 29 40.2**	**-1.5**
	baz=187,slow=14						
ARA0	**ARCESS Array S**	**10.57**	**7**	Pn	**Pn**	**11 29 40.2**	**-1.5**
	SNR=5.5						
ARCES	**ARCESS Array B**	**10.57**	**7**	Pn	**Pn**	**11 29 40.3**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=187,slow=13,SNR=10						

*IDC **25** 11:45:15.6±1.0, 4.°56S×79.°81W, h0km, mb3.6/9, mb1 3.9/12, mb1mx3.7/48, mbtmp3.7/12, ML3.5/3, MS3.6/10, Ms1 3.7/10, ms1mx3.3/27, Error ellipse: s-maj=42.8km s-min=14.8km az=51.0*

*ISCJB **25** 11:45:18.9±0.6, 4.°40S±0.°08×79.°6W±0.°1, h33km, mb3.6/8, MS3.6/7, Error ellipse: s-maj=22.5km s-min=6.7km az=154.8*

ISC 25 11:45:21.0±0.8, 4.°5S±0.°1×79.°7W±0.°2, h35km, n24, σ1♀98/14, mb3.7/8, MS3.7/8, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.96**	**154**	Pn	**Pn**	**11 46 03.9**	**-2.0**
ATAH	3.4nm,0.3s,baz=306,slow=11,SNR=42			Sn	**Sn**	**11 46 42.3**	**+2.0**
	49nm,0.3s,baz=14,slow=22,SNR=6.7						
NNA	**Nana**	**8.00**	**160**	Pn	**Pn**	**11 47 13.4**	**-1.4**
	1.7nm,0.3s,baz=270,slow=7.1,SNR=3.0						
NNA				Sn	**Sn**	**11 48 48.2**	**+4.1**
	1.2nm,0.3s,baz=308,slow=18,SNR=3.9						
JTS	**JuntasAbangare**	**15.56**	**340**	LR	LR	11 54 11.2	
	comp=Z,122nm,19.6s,baz=166,slow=34						
LPAZ	**La Paz**	**16.34**	**137**	Pn	**Pn**	**11 49 05.3**	**-3.1**
	0.1nm,0.3s,baz=327,slow=12,SNR=7.8						
LPAZ				LR	LR	11 55 33.2	
	comp=Z,141nm,18.6s,baz=330,slow=38						
PTGA	**Pitinga**	**20.04**	**80**	P	**P**	**11 49 51.9**	**+0.7**
	1.0nm,0.5s,baz=288,slow=19,SNR=2.3						
PTGA				LR	LR	11 58 59.9	
	comp=Z,187nm,20.1s,baz=243,slow=41						
PCRV	**Puerto La Cruz**	**20.88**	**46**	LR	LR	12 00 10.2	
	comp=Z,267nm,19.9s,baz=217,slow=42						
SIV	**San Ignacio**	**21.58**	**123**	P	**P**	**11 50 06.7**	**-1.2**
	2.9nm,0.9s,baz=291,slow=8.4,SNR=4.5						
SIV				LR	LR	11 59 25.6	
	comp=Z,305nm,18.7s,baz=315,slow=39						
CMIG	**Matias Romero**	**26.15**	**325**	LR	LR	11 58 23.5	
	comp=Z,15nm,18.5s,baz=193,slow=30						
CPUP	**Villa Florida**	**30.51**	**138**	LR	LR	12 05 11.9	
	comp=Z,147nm,20.8s,baz=276,slow=39						
BDFB	**Brasilia**	**33.05**	**112**	LR	LR	12 06 42.7	
	comp=Z,300nm,19.4s,baz=254,slow=39						
TXAR	**Lajitas Array**	**40.73**	**327**	P	**P**	**11 52 59.1**	**+0.4**
	0.2nm,0.7s,baz=156,slow=6.9,SNR=2.3						
ANMO	**Albuquerque**	**46.59**	**329**	P	**P**	**11 53 46.3**	**+0.4**
	0.4nm,0.4s,baz=128,slow=17						
PDAR	**Pinedale Array**	**54.23**	**333**	P	**P**	**11 54 43.8**	**+0.1**
	0.5nm,0.7s,baz=99,slow=5.6,SNR=4.2						
PDAR				LR	LR	12 18 11.9	
	comp=Z,62nm,18.8s,baz=128,slow=36						
NVAR	**Mina Array Bea**	**55.66**	**324**	P	**P**	**11 54 53.4**	**-0.7**
	0.1nm,0.3s,baz=122,slow=7.9,SNR=2.7						
ULM	**Lac du Bonnet**	**56.25**	**348**	P	**P**	**11 54 58.0**	**+0.3**
	2.6nm,0.9s,baz=91,slow=2.0,SNR=3.7						
DLBC	**Dease Lake**	**74.39**	**335**	P	**P**	**11 56 55.0**	**-0.2**
	1.4nm,0.8s,baz=130,slow=12,SNR=3.6						
TORD	**Torodi Ar. Bea**	**82.64**	**76**	P	**P**	**11 57 43.6**	**+2.1**
	1.0nm,0.8s,baz=299,slow=3.6,SNR=4.5						
TORD				LR	LR	12 36 03.9	
	comp=Z,100nm,18.0s,baz=105,slow=37						
H11N3	**WAKE ISLAND Hyl**	**13.51**	**289**	T	T	14 05 59.3	
	baz=91						
H11N2	**WAKE ISLAND Hyl**	**13.53**	**289**	T	T	14 06 08.2	
	baz=91						
H11N1	**WAKE ISLAND Hyl**	**13.53**	**289**	T	T	14 06 07.4	
	baz=91						
H11S2	**WAKE ISLAND Hyl**	**13.78**	**288**	T	T	14 06 20.7	
	baz=92						
H11S1	**WAKE ISLAND Hyl**	**13.79**	**288**	T	T	14 06 23.1	
	baz=92						
H11S3	**WAKE ISLAND Hyl**	**13.80**	**288**	T	T	14 06 22.9	
	baz=92						
WRA	**Warramunga Arr**	**138.70**	**233**	PKhKP	PKPpre	12 04 35.5	
	0.6nm,0.9s,baz=119,slow=1.6,SNR=3.5						

GUC 25 11:48:29.3±0.5, 37.°40S×73.°28W, h26km±2km, ML4.3, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.57**	**14**	*e*P	Pb	11 48 40.6	-0.2
CCSP				*i* S	Sb	11 48 48.6	0.0
CCSP				AML	AML	11 48 52.4	
	comp=E,37μm,0.5s						
LNCH	**Linares**	**2.06**	**42**	*i* P	Pn	11 49 03.6	+1.4
LNCH				*i* S	Sb	11 49 29.3	-1.9
TALC	**Talca**	**2.40**	**34**	*i* P	Pn	11 49 07.7	+0.9
TALC				*i* S	Sn	11 49 37.5	+2.1

MEX 25 12:56:24.9±0.5, 16.°61N×93.°75W, h137km±6km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGIG		**0.62**	**74**	*e*P	Pn	12 56 44.3	-1.2
TGIG				*e*S	Sn	12 56 59.4	-1.9
PCIG		**1.03**	**150**	*e*P	Pn	12 56 47.3	-1.5
PCIG				*e*S	Sn	12 57 04.6	-2.3
CMIG	**Matias Romero**	**1.19**	**294**	*e*P	Pn	12 56 48.8	-1.4
CMIG				*e*S	Sn	12 57 08.0	-1.6
CCIG	**Comitan**	**1.58**	**102**	*e*P	Pn	12 56 52.6	-2.0
CCIG				*e*S	Sn	12 57 15.9	-1.4

*IDC **25** 13:17:29.0±6.0, 3.°47S×28.°70E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/39, mbtmp3.8/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/30, Error ellipse: s-maj=128.3km s-min=43.7km az=175.0*

*ISCJB **25** 13:17:32.2±0.7, 2.°87S±0.°06×28.°7E±0.°2, h10km, mb3.7/6, MS3.2/1, Error ellipse: s-maj=27.1km s-min=8.4km az=7.1*

*NEIC **25** 13:17:34.2±0.7, 2.°76S×28.°68E, h10km, mb3.7/2, Error ellipse: s-maj=26.8km s-min=8.5km az=101.0*

NEIC Felt in the Lac Kivu area.

ISC 25 13:17:33.8±0.7, 2.°84S±0.°06×28.°93E±0.°10, h10km, n11, σ1♀61/12, mb3.7/6, 1C, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LWI	**Lwiro**	**0.61**	**348**	*i* P	**Pg**	**13 17 44.0**	**-1.7**
LWI				*i* S	Sg	13 17 47.0	-6.8
DODT	**Dodoma, Tanzan**	**7.57**	**116**	*i* S	**Sg**	**13 21 35.2**	**-1.6**
LSZ	**Lusaka**	**12.38**	**183**	*e*Pn	**Pn**	**13 20 30.8**	**+0.5**
LSZ				*e*Sn	**Sn**	**13 22 47.5**	**-1.1**
TSUM	**Tsumeb**	**19.69**	**214**	*e*P	**P**	**13 22 03.3**	**-0.2**
	4.3nm,0.9s						
LBTB	**Lobatse**	**22.28**	**188**	P	**P**	**13 22 32.9**	**+1.4**
	2.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**31.36**	**301**	P	**P**	**13 23 52.5**	**-2.5**
	1.3nm,0.7s,baz=106,slow=8.0,SNR=6.2						
TORD				LR	LR	13 35 45.1	
	comp=Z,63nm,21.1s,baz=200,slow=35						
KEST	**Kesra**	**42.52**	**336**	P	**P**	**13 25 31.7**	**+1.9**
	0.9nm,0.7s,baz=185,slow=0.6,SNR=4.3						
BRTR	**Keskin Array B**	**42.58**	**5**	P	**P**	**13 25 31.7**	**+1.5**
	1.4nm,0.8s,baz=171,slow=9.8,SNR=5.2						
GERES	**GERESS Array B**	**52.15**	**347**	P	**P**	**13 26 51.8**	**-0.2**
	0.9nm,0.7s,baz=160,slow=9.3,SNR=4.9						
KURBB	**Kurchatov Arra**	**68.01**	**32**	P	**P**	**13 28 34.5**	**+1.2**
	0.5nm,0.8s,baz=241,slow=5.9,SNR=4.4						
KURK	**Kurchatov**	**68.11**	**31**	P	**P**	**13 28 34.5**	**+0.6**

MAN 25 13:19:44, 9.°25N×126.°16E, h27km, mb4.6, ML3.5, MS3.4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.60**	**242**	*e*P	Pn	13 19 57.2	+0.4
BUTP				*e*S	Sn	13 20 07.8	+2.0
SCPH	**Surigao**	**0.85**	**308**	*e*P	Pn	13 20 00.7	+0.5
SCPH				*e*S	Sn	13 20 12.3	+0.6
MSLP	**Maasin**	**1.56**	**304**	*e*P	Pn	13 20 10.8	+0.9
BUKP	**Musuan**	**1.75**	**219**	*e*P	Pn	13 20 12.4	-0.2
PAGZ	**Pagadian**	**3.08**	**243**	*e*P	Pn	13 20 33.6	+2.6

*ISCJB **25** 13:21:26.7±0.7, 6.°8N±0.°1×91.°59E±0.°10, h20km, mb3.9/15, Error ellipse: s-maj=16.1km s-min=12.4km az=40.8*

*IDC **25** 13:21:26.1±1.1, 6.°76N×91.°69E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.6/41, mbtmp3.7/9, ML3.8/2, MS3.1/2, Ms1 3.2/2, ms1mx2.7/36, Error ellipse: s-maj=34.8km s-min=19.8km az=48.0*

*NEIC **25** 13:21:30.8±0.7, 6.°80N×91.°61E, h35km, mb4.3/6, Error ellipse: s-maj=16.2km s-min=12.8km az=221.0*

ISC 25 13:21:29.0±1.1, 6.°8N±0.°1×91.°6E±0.°1, h20km, n20, σ1♀17/15, mb4.0/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.85**	**273**	Pn	**Pn**	**13 24 03.1**	**-0.2**
PALK	0.6nm,0.3s,baz=87,slow=18,SNR=5.3			Sn	Sn	13 25 54.1	-10
PALK	0.6nm,0.3s,baz=324,slow=19,SNR=4.9			LR	LR	13 27 48.0	
	comp=Z,93nm,18.3s,baz=86,slow=35						
CMAR	**Chiang Mai Arr**	**13.62**	**31**	Pn	**Pn**	**13 24 41.6**	**+0.4**
	0.2nm,0.3s,baz=210,slow=19,SNR=3.7						
CMAR				LR	LR	13 29 47.7	
	comp=Z,75nm,18.1s,baz=230,slow=37						
LSA	**Lhasa**	**22.80**	**359**	*e*P	**P**	**13 26 30.8**	**-0.3**
	7.7nm,0.8s						
H08S3	**Diego Garcia H**	**23.86**	**233**	T	T	13 52 57.7	
	baz=51,slow=74,SNR=5.2						
H08S2	**Diego Garcia H**	**23.86**	**233**	T	T	13 53 14.5	
	baz=51,slow=74,SNR=3.0						
H08S1	**Diego Carcia H**	**23.87**	**233**	T	T	13 53 00.3	
	baz=51						
EKS2	**Erkin-Say**	**39.06**	**339**	*e*P	**P**	**13 28 51.9**	**-2.8**
	3.8nm,0.8s						
KKAR	**Karatay Array**	**40.67**	**336**	*e*P	**P**	**13 29 06.4**	**-1.7**
	6.2nm,0.9s						
SONM	**Songino Array**	**42.81**	**15**	P	**P**	**13 29 24.8**	**-0.8**
	1.2nm,0.8s,baz=194,slow=8.1,SNR=5.5						
GEYT	**Alibeck**	**43.39**	**321**	P	P	13 29 33.8	+3.4
	3.2nm,0.6s,baz=160,slow=4.7,SNR=5.6						
KURBB	**Kurchatov Arra**	**45.04**	**348**	P	**P**	**13 29 43.8**	**+0.5**
	2.7nm,0.7s,baz=171,slow=7.2,SNR=22						
KURK	**Kurchatov**	**45.11**	**348**	P	**P**	**13 29 43.8**	**-0.1**
	0.3nm,1.1s						
ZALV	**Zalesovo Beam**	**47.35**	**355**	P	**P**	**13 30 01.8**	**+0.4**
	1.0nm,0.7s,baz=191,slow=7.2,SNR=4.8						
WRA	**Warramunga Arr**	**49.72**	**123**	P	**P**	**13 30 19.9**	**-0.3**
	0.5nm,0.7s,baz=305,slow=8.4,SNR=8.8						
WRAB	**Tennant Creek**	**49.72**	**123**	*e*P	**P**	**13 30 20.1**	**-0.1**
	1.3nm,0.9s						
ABKAR	**Akbulak array**	**50.03**	**333**	*e*P	**P**	**13 30 22.8**	**+0.7**
	3.0nm,0.7s						
ASAR	**Alice Springs**	**51.19**	**128**	P	**P**	**13 30 30.9**	**-0.3**
	0.2nm,0.8s,baz=316,slow=7.6,SNR=3.6						
BRTR	**Keskin Array B**	**61.26**	**312**	P	**P**	**13 31 43.7**	**+0.5**
	0.7nm,0.7s,baz=134,slow=10,SNR=2.8						
FINES	**FINESS Array B**	**72.51**	**333**	P	**P**	**13 32 56.1**	**+1.9**
	0.6nm,0.7s,baz=150,slow=9.6,SNR=3.6						
GERES	**GERESS Array B**	**76.97**	**318**	P	P	13 33 24.0	+3.5
	0.5nm,0.7s,baz=79,slow=6.9,SNR=4.9						

IDC 25 13:25:17.1±3.6, 5.°26S×153.°14E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.2/29, mbtmp3.2/2, Error ellipse: s-maj=169.9km s-min=47.1km az=122.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.40**	**230**	P	P	13 30 27.6	-0.3
	0.3nm,0.4s,baz=53,slow=9.9,SNR=6.7						
ASAR	**Alice Springs**	**26.05**	**223**	P	P	13 30 52.4	0.0
	0.1nm,0.4s,baz=64,slow=9.8,SNR=7.2						
TORD	**Torodi Ar. Bea**	**150.77**	**288**	PKPbc	PKPbc	13 45 12.3	-0.2
	0.2nm,0.5s,baz=64,slow=3.4,SNR=2.3						

*IDC **25** 13:43:17.4±0.8, 7.°56N×91.°89E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.7/44, mbtmp3.9/11, ML3.8/2, MS3.2/4, Ms1 3.3/4, ms1mx2.9/37, Error ellipse: s-maj=33.2km s-min=16.8km az=52.0*

*ISCJB **25** 13:43:18.6±0.7, 7.°36N±0.°09×91.°8E±0.°1, h24km, mb4.0/15, MS3.3/3, Error ellipse: s-maj=17.2km s-min=10.7km az=148.0*

*NEIC **25** 13:43:22.3±0.5, 7.°55N×91.°86E, h35km, mb4.6/6, Error ellipse: s-maj=12.3km s-min=10.1km az=51.0*

ISC 25 13:43:20.9±0.8, 7.°5N±0.°1×91.°9E±0.°1, h24km, n40, σ0♀93/28, mb4.2/19, MS3.3/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.08**	**269**	Pn	**Pn**	**13 45 56.8**	**-1.3**
PALK	0.9nm,0.3s,baz=73,slow=13,SNR=8.4			Sn	Sn	13 47 49.0	-12
PALK	1.3nm,0.3s,baz=16,slow=20,SNR=6.8			LR	LR	13 49 49.5	
	comp=Z,99nm,20.1s,baz=87,slow=35						
CMAR	**Chiang Mai Arr**	**12.87**	**32**	Pn	**Pn**	**13 46 21.1**	**-1.3**
	0.1nm,0.3s,baz=233,slow=14,SNR=6.9						
ODAN	**Odare**	**19.70**	**348**	*e*P	**Pn**	**13 47 51.9**	**+1.5**
RAMN	**Ramite**	**19.96**	**346**	*e*P	Pn	13 47 56.1	+2.5
	20nm,0.6s						
TAPN	**Taplejung**	**20.11**	**349**	*e*P	**P**	**13 47 53.8**	**+0.3**
	40nm,0.9s						
PKI	**Pulchoki**	**20.86**	**344**	*e*P	Pn	13 48 04.5	+0.2
	36nm,0.9s						
PKIN	**Phulchoki**	**20.87**	**344**	*e*P	Pn	13 48 04.7	+0.4
	18nm,0.8s						
GUN	**Gumba**	**21.06**	**345**	*e*P	**P**	**13 48 04.6**	**+0.8**
	66nm,0.8s						
KKN	**Kakani**	**21.11**	**344**	*e*P	**P**	**13 48 05.5**	**+1.4**
	19nm,0.8s						
LEM	**Lembang**	**21.21**	**132**	LR	LR	13 56 13.0	
	comp=Z,136nm,18.0s,baz=294,slow=36						
GKN	**Gorkha**	**21.49**	**342**	*e*P	**P**	**13 48 09.0**	**+0.8**
	36nm,0.7s						
KOLN	**Koldanda**	**21.61**	**340**	*e*P	**P**	**13 48 12.2**	**+2.6**
	46nm,0.7s						
LSA	**Lhasa**	**22.07**	**358**	*e*P	**P**	**13 48 15.0**	**+0.2**
	22nm,0.9s						
H08S3	**Diego Garcia H**	**24.50**	**233**	T	T	14 14 50.0	
	baz=52,slow=75,SNR=17						
H08S2	**Diego Garcia H**	**24.50**	**232**	T	T	14 14 51.4	
	baz=52,slow=75,SNR=13						
H08S1	**Diego Carcia H**	**24.52**	**233**	T	T	14 14 58.9	
	baz=52,slow=75,SNR=18						
UCH	**Uchtor**	**37.82**	**339**	P	P	13 50 44.2	+8.1
	SNR=7.2						
AML	**Almayashu**	**38.04**	**338**	P	P	13 50 47.0	+9.1
	SNR=9.7						
KBK	**Karagaybulak**	**38.05**	**340**	P	P	13 50 47.0	+9.3
	SNR=7.2						
TKM2	**Tokmak 2**	**38.06**	**340**	P	P	13 50 46.4	+8.6
	SNR=5.3						
TKM2	**Tokmak 2**	**38.06**	**340**	*e*P	**P**	**13 50 37.2**	**-0.6**
	5.2nm,0.7s						
EKS2	**Erkin-Say**	**38.47**	**338**	P	P	13 50 50.2	+9.0
	SNR=6.3						
EKS2	**Erkin-Say**	**38.47**	**338**	P	**P**	**13 50 41.9**	**+0.7**
	11nm,0.8s						
USP	**Ospenovka**	**38.74**	**340**	P	P	13 50 52.0	+8.7
	SNR=7.8						
MK31	**Makanchi Array**	**39.99**	**350**	*e*P	**P**	**13 50 53.3**	**-0.4**
KKAR	**Karatay Array**	**40.11**	**336**	*e*P	**P**	**13 50 55.3**	**+0.5**
	6.6nm,0.7s						
SONM	**Songino Array**	**42.03**	**15**	P	**P**	**13 51 10.1**	**-0.6**
	1.2nm,0.8s,baz=193,slow=8.9,SNR=5.2						
GEYT	**Alibeck**	**42.99**	**320**	P	**P**	**13 51 18.3**	**-0.2**
	1.2nm,0.3s,baz=182,slow=8.2,SNR=3.8						
KURBB	**Kurchatov Arra**	**44.38**	**348**	P	**P**	**13 51 29.5**	**+0.1**
	3.6nm,1.0s,baz=169,slow=6.9,SNR=12						
KURBB				PcP	**PcP**	**13 53 12

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.63**	**101**	*i* P	**Pn**	**13 59 03.6**	**+1.2**
SLA				*i* S	**Sn**	**13 59 28.3**	**+0.5**
SLA				AML	AML	13 59 30.5	
	comp=Z,454nm,0.7s						
AZAP	**Zapla**	**2.01**	**85**	*i* P	**Pn**	**13 59 06.8**	**+0.2**
AZAP				*i* S	**Sn**	**13 59 34.3**	**-0.8**
FSA	**Cafayete**	**2.02**	**146**	*i* P	**Pn**	**13 59 07.9**	**+1.3**
FSA				*i* P	**Pn**	**13 59 07.9**	**+1.3**
HJA	**Humahuaca**	**2.08**	**55**	*i* P	**Pn**	**13 59 08.0**	**+0.6**
LVC	**Limon Verde**	**2.34**	**315**	P	**Pn**	**13 59 11.8**	**+1.4**
	comp=Z,3µm,0.3s,baz=141,slow=6.4,SNR=336						
LVC				S	**Sn**	**13 59 41.6**	**-0.4**
	comp=Z,12µm,0.3s,baz=294,slow=20,SNR=95						
LVC				LR	LR	13 59 48.6	
	comp=Z,263nm,18.2s,baz=121,slow=33						
LVC	**Limon Verde**	**2.34**	**319**	*i* P	**Pn**	**13 59 11.7**	**+1.4**
LVC				*i* S	**Sn**	**13 59 42.5**	**+0.5**
ASTB	**Santa Barbara**	**2.58**	**80**	*i* P	**Pn**	**13 59 13.3**	**+0.3**
YJA	**Yavi**	**2.75**	**36**	*i* P	**Pn**	**13 59 15.8**	**+0.5**
YJA				*i* S	**Sn**	**13 59 49.2**	**-1.5**
AHML	**Horco Molle**	**2.94**	**144**	*i* P	**Pn**	**13 59 17.7**	**+0.5**
AHML				*i* S	**Sn**	**13 59 54.0**	**-0.3**
PB04	**IPOC Station P**	**2.96**	**316**	*eP*	Pn	13 59 23.3	+5.9
PB04				*eS*	Sn	14 00 02.3	+7.7
PB04				AML	AML	14 00 07.9	
	comp=N,3µm,0.4s						
ANCH	**Antofagasta**	**2.97**	**284**	*eP*	**Pn**	**13 59 18.1**	**+0.6**
ANCH				*eS*	**Sn**	**13 59 53.1**	**-1.7**
ALOL	**LOMAS DE OLMED**	**3.06**	**80**	*i* P	**Pn**	**13 59 18.4**	**-0.4**
PB10	**IPOC Station P**	**3.14**	**286**	*eP*	**Pn**	**13 59 20.4**	**+0.7**
PB10				*eS*	**Sn**	**13 59 57.3**	**-1.3**
PB10				AML	AML	14 00 02.2	
	comp=N,7µm,0.4s						
PB09	**IPOC Station P**	**3.18**	**325**	*eP*	**Pn**	**13 59 21.7**	**+1.3**
PB09				*eS*	**Sn**	**14 00 00.0**	**+0.2**
PB09				AML	AML	14 00 05.5	
	comp=E,5µm,0.5s						
PB01	**IPOC Station P**	**3.93**	**328**	*eP*	**Pn**	**13 59 29.5**	**-0.2**
PB01				*eS*	**Sn**	**14 00 14.0**	**-2.7**
PB01				AML	AML	14 00 15.9	
	comp=E,937nm,0.2s						
CDCH	**Caldera**	**4.16**	**230**	*eP*	**Pn**	**13 59 32.1**	**-0.4**
CDCH				*eS*	**Sn**	**14 00 19.8**	**-1.9**
CYA	**Choya**	**4.22**	**162**	*i* P	**Pn**	**13 59 34.2**	**+0.9**
PATCX	**Punta Patache**	**4.46**	**323**	*eP*	**Pn**	**13 59 36.3**	**-0.3**
PB11	**IPOC Station P**	**5.13**	**334**	*eP*	**Pn**	**13 59 43.9**	**-1.5**
VACH	**Vallenar**	**5.20**	**216**	*eS*	**Sn**	**14 00 44.3**	**-1.7**
MNMC	**Minimini**	**5.68**	**337**	*eP*	**Pn**	**13 59 51.7**	**-1.0**
CFAA	**Coronel Fontan**	**7.22**	**187**	P	**Pn**	**14 00 12.8**	**+0.2**
	comp=E,0.2nm,0.3s,baz=357,slow=12,SNR=15						
CFAA				S	**Sn**	**14 01 31.6**	**-2.3**
	comp=E,0.4nm,0.3s,baz=241,slow=18,SNR=7.7						
LPAZ	**La Paz**	**8.12**	**354**	P	**Pn**	**14 00 25.6**	**+0.4**
	comp=E,9.6nm,0.3s,baz=156,slow=6.7,SNR=284						
LPAZ				S	**Sn**	**14 01 50.6**	**-5.8**
	comp=E,0.4nm,0.3s,baz=0.0,slow=17,SNR=2.9						
CPUP	**Villa Florida**	**9.18**	**104**	P	**Pn**	**14 00 38.0**	**-0.5**
	comp=E,0.2nm,0.3s,baz=291,slow=11,SNR=6.3						
SIV	**San Ignacio**	**10.19**	**36**	P	**Pn**	**14 00 49.3**	**-2.6**
	comp=E,4.6nm,0.3s,baz=225,slow=14,SNR=56						
SIV				S	Sn	14 02 30.6	-15
	comp=E,0.1nm,0.3s,baz=230,slow=20,SNR=5.6						
BDFB	**Brasilia**	**20.06**	**68**	P	**P**	**14 02 48.7**	**-1.1**
	comp=E,1.1nm,0.3s,baz=244,slow=11,SNR=22						
PTGA	**Pitinga**	**24.58**	**18**	P	**P**	**14 03 33.0**	**-0.8**
	comp=E,3.7nm,0.3s,baz=322,slow=19,SNR=7.9						
SNAA	**Sanae**	**59.04**	**161**	P	**P**	**14 08 10.9**	**-0.2**
	comp=E,0.2nm,0.5s,baz=259,slow=8.9,SNR=3.3						
TXAR	**Lajitas Array**	**63.87**	**325**	P	**P**	**14 08 45.1**	**+1.1**
	comp=E,0.1nm,0.5s,baz=143,slow=12,SNR=2.9						
DBIC	**Dimbokro**	**68.16**	**72**	P	**P**	**14 09 10.8**	**-0.8**
	comp=E,2.3nm,0.5s,baz=202,slow=11,SNR=5.9						
VNDA	**Vanda**	**74.26**	**190**	P	**P**	**14 09 49.2**	**+2.0**
	comp=E,1.2nm,0.9s,baz=126,slow=0.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**76.94**	**69**	P	**P**	**14 10 03.1**	**-0.3**
	comp=E,5.8nm,0.6s,baz=261,slow=5.5,SNR=58						
PDAR	**Pinedale Array**	**77.38**	**329**	P	**P**	**14 10 07.2**	**+1.6**
	comp=E,0.4nm,0.8s,baz=128,slow=12,SNR=2.9						
BOSA	**Boshof**	**80.76**	**117**	P	**P**	**14 10 25.0**	**+0.7**
	comp=E,5.0nm,0.7s,baz=311,slow=3.4,SNR=5.7						
ESDC	**Sonseca Array**	**86.86**	**44**	P	**P**	**14 10 54.5**	**-0.3**
	comp=E,0.2nm,0.3s,baz=206,slow=4.8,SNR=5.1						
YKA	**Yellowknife Ar**	**94.43**	**340**	P	**P**	**14 11 30.1**	**+0.8**
	comp=E,0.3nm,0.5s,baz=127,slow=4.9,SNR=3.8						
ASAR	**Alice Springs**	**127.98**	**205**	PKP	**PKPdf**	**14 17 16.4**	**+0.7**
	comp=E,0.2nm,0.8s,baz=145,slow=1.8,SNR=4.3						
WRA	**Warramunga Arr**	**131.15**	**207**	PKP	**PKPdf**	**14 17 22.4**	**+0.7**
	comp=E,0.1nm,0.4s,baz=153,slow=1.7,SNR=7.7						
ZALV	**Zalesovo Beam**	**143.87**	**28**	PKP	PKPbc	14 17 43.0	+0.9
	comp=E,3.2nm,0.7s,baz=304,slow=5.2,SNR=8.9						
MJAR	**Matsushiro Arr**	**155.02**	**305**	PKPab	**PKPab**	**14 18 27.8**	**+0.5**
	comp=E,0.7nm,0.6s,baz=65,slow=3.1,SNR=4.2						
SONM	**Songino Array**	**156.09**	**11**	PKPab	**PKPab**	**14 18 31.9**	**+0.3**
	comp=E,0.7nm,0.6s,baz=312,slow=4.5,SNR=3.9						

IDC 25 14:12:52.6±4.5, 60°28S×155°14E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/22, mbtmp4.0/5, ML3.7/1, MS3.8/8, Ms1 3.8/8, ms1mx3.6/21, Error ellipse: s-maj=254.6km s-min=20.7km az=77.0, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**17.47**	**175**	P	Pn	14 16 55.9	-1.3
	0.3nm,0.3s,baz=346,slow=14,SNR=10						
URZ	**Urewera**	**26.04**	**42**	LR	LR	14 27 14.9	
	comp=Z,173nm,18.4s,baz=222,slow=33						
STKA	**Stephens Creek**	**29.80**	**336**	LR	LR	14 29 55.1	
	comp=Z,116nm,18.0s,baz=177,slow=34						
QSPA	**South Pole Qui**	**29.82**	**180**	P	P	14 19 00.9	-0.2
	3.1nm,1.1s,baz=34,slow=4.9,SNR=3.3						
QSPA				LR	LR	14 30 02.5	
	comp=Z,157nm,21.1s,baz=12,slow=34						
H01W1	**Cape Leeuwin H**	**36.59**	**295**	T	T	14 58 07.7	
	baz=146,slow=75,SNR=217						
H01W2	**Cape Leeuwin H**	**36.59**	**295**	T	T	14 58 06.4	
	baz=146,slow=75,SNR=203						
H01W3	**Cape Leeuwin H**	**36.61**	**295**	T	T	14 58 07.2	
	baz=146,slow=75,SNR=227						
MAW	**Mawson**	**37.51**	**219**	LR	LR	14 35 06.5	
	comp=Z,180nm,19.7s,baz=63,slow=36						
ASAR	**Alice Springs**	**39.47**	**328**	P	P	14 20 24.4	-0.2
	1.6nm,0.9s,baz=160,slow=8.6,SNR=12						
ASAR				LR	LR	14 34 37.3	
	comp=Z,85nm,19.5s,baz=168,slow=33						
WRA	**Warramunga Arr**	**42.93**	**331**	P	P	14 20 52.8	-0.2
	1.1nm,0.9s,baz=164,slow=7.5,SNR=7.3						
SNAA	**Sanae**	**47.45**	**189**	P	P	14 21 28.7	+0.3
SNAA	**Sanae**	**47.45**	**189**	P	P	14 21 28.9	+0.5
	2.5nm,1.2s,baz=193,slow=7.3,SNR=6.6						
VNA1	**Neumayer--Stat**	**48.84**	**187**	P	P	14 21 40.5	+1.6
KAPI	**Kappang**	**61.32**	**319**	LR	LR	14 48 09.1	
	comp=Z,55nm,18.2s,baz=169,slow=34						
PLCA	**Paso Flores**	**72.60**	**145**	LR	LR	14 50 36.1	
	comp=Z,134nm,19.4s,baz=127,slow=31						
H08S2	**Diego Garcia H**	**79.76**	**273**	T	T	15 51 57.0	
	baz=149,slow=76,SNR=18						
H08S1	**Diego Garcia H**	**79.77**	**273**	T	T	15 51 57.8	
	baz=149,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**79.78**	**273**	T	T	15 51 57.6	
	baz=149,slow=76,SNR=20						
H08N1	**Diego Garcia H**	**81.62**	**272**	T	T	15 54 45.4	
	baz=105,slow=14,SNR=21						
H08N3	**Diego Garcia H**	**81.62**	**272**	T	T	15 54 45.7	
	baz=105,slow=14,SNR=17						
H08N2	**Diego Garcia H**	**81.64**	**272**	T	T	15 54 45.7	
	baz=105,slow=14,SNR=19						
CMAR	**Chiang Mai Arr**	**90.56**	**308**	LR	LR	15 07 49.0	
	comp=Z,44nm,18.1s,baz=193,slow=36						

*IDC **25** 14:26:48.3±5.6, 24°.10N×122°.62E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/45, mbtmp3.5/4, ML3.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/26, Error ellipse: s-maj=308.7km s-min=26.8km az=95.0*

*ISCJB **25** 14:26:57.1±0.8, 24°.47N±0°.10×122°.98E±0°.06, h102km±5km, mb3.3/3, Error ellipse: s-maj=16.5km s-min=7.9km az=166.6*

*JMA **25** 14:26:57.1±0.2, 24°.51N×122°.91E, h100km±2km, M2.8*

ISC 25 14:26:57.1±1.2, 24°.6N±0°.1×122°.93E±0°.07, h99km±8km, n18, σ0°.57/26, mb3.3/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jima**	**0.14**	**174**	P	**Pn**	**14 27 11.3**	**+0.3**
JYNG				S	**Sn**	**14 27 21.2**	**-0.1**
YOJ	**Yonaguni jima**	**0.15**	**150**	P	**Pn**	**14 27 11.3**	**+0.3**
YOJ				S	**Sn**	**14 27 21.2**	**-0.1**
IRIF	**Iriomote-Funau**	**0.77**	**109**	P	**Pn**	**14 27 15.2**	**+0.2**
IRIF				S	**Sn**	**14 27 28.4**	**-0.1**
HATJ	**Hateruma jima**	**0.96**	**123**	P	**Pn**	**14 27 17.5**	**+0.5**
HATJ				S	**Sn**	**14 27 31.7**	**-0.2**
JKRS	**Kuro-shima**	**1.05**	**109**	P	**Pn**	**14 27 18.5**	**+0.6**
JKRS				S	**Sn**	**14 27 33.5**	**-0.1**
JIJ	**Ishigaki jima**	**1.13**	**101**	P	**Pn**	**14 27 19.0**	**+0.2**
JIJ				S	**Sn**	**14 27 34.4**	**-0.8**
JISG	**Ishigakijimahi**	**1.26**	**90**	P	**Pn**	**14 27 20.5**	**+0.2**
JISG				S	**Sn**	**14 27 37.4**	**-0.5**
JTJ	**Tarama**	**1.61**	**88**	P	**Pn**	**14 27 25.3**	**+0.6**
JTJ				S	**Sn**	**14 27 45.1**	**-0.5**
JIRB	**Irabujima**	**2.05**	**83**	P	**Pn**	**14 27 30.7**	**+0.4**
JIRB				S	**Sn**	**14 27 54.7**	**-1.0**
JIKM	**Ikemajima**	**2.13**	**81**	P	**Pn**	**14 27 32.9**	**+1.6**
JIKM				S	**Sn**	**14 27 57.1**	**-0.4**
JMJ	**Miyako jima 2**	**2.16**	**84**	S	**Sn**	**14 27 57.8**	**-0.4**
JOGS	**Gusukube**	**2.26**	**85**	S	**Sn**	**14 28 01.0**	**+0.5**
JKE	**Kume jima 2**	**3.89**	**63**	P	**Pn**	**14 27 54.9**	**+0.2**
KSRS	**Korea Array**	**13.51**	**17**	Pn	**P**	**14 30 10.2**	**-0.1**
	0.2nm,0.3s,baz=198,slow=12,SNR=8.7						
JCJ	**Chichijima**	**17.51**	**78**	LR	LR	14 36 50.6	
	comp=Z,42nm,21.2s,baz=112,slow=34						
WRA	**Warramunga Arr**	**45.64**	**165**	P	**P**	**14 35 07.5**	**-0.3**
	1.0nm,0.7s,baz=346,slow=8.5,SNR=8.3						
ASAR	**Alice Springs**	**49.14**	**167**	P	**P**	**14 35 34.9**	**0.0**
	0.1nm,0.4s,baz=355,slow=7.8,SNR=7.3						
ILAR	**Eielson Array**	**68.12**	**28**	P	P	14 37 52.9	+6.8
	0.2nm,0.5s,baz=240,slow=7.1,SNR=4.2						

*SJA **25** 14:33:47.7±0.7, 32°.43S×72°.51W, h17km±31km, ML5.2*

*IDC **25** 14:33:51.8±0.5, 32°.61S×71°.68W, h0km, mb4.7/14, mb1 4.7/18, mb1mx4.7/22, mbtmp4.6/18, ML4.9/4, MS4.0/12, Ms1 4.0/12, ms1mx3.9/16, Error ellipse: s-maj=19.4km s-min=14.7km az=87.0*

*NEIC **25** 14:33:55.0, 32°.64S×71°.79W, h36km, mb4.8/28, ML5.2(GUC), After GUC.*

NEIC Felt [IV] at Petorca, Quillota, San Antonio, Valparaiso and Vina del Mar; [III] at Quintero; [II] at Melipilla, Navidad, Rancagua and Santiago. Also felt at La Ligua and Quilpue.

*GUC **25** 14:33:55.6±0.7, 32°.64S×71°.79W, h36km±3km, ML5.2*

*ISCJB **25** 14:33:56.6±0.6, 32°.63S±0°.03×71°.76W±0°.06, h43km±5km, mb4.7/41, MS4.0/9, Error ellipse: s-maj=8.0km s-min=5.5km az=163.0*

ISC 25 14:33:57.0±0.4, 32°.65S±0°.03×71°.73W±0°.06, h38km±1km, n307, σ1°.19/304, mb4.8/41, MS4.0/9, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.38**	**168**	*i* P	**Pn**	**14 34 04.5**	**-1.3**
PEL	**Peldehue**	**1.01**	**119**	*i* P	**Pn**	**14 34 14.9**	**+0.2**
PEL				*i* S	**Sn**	**14 34 29.0**	**+1.4**
PEL				AML	AML	14 34 31.9	
	comp=E,107µm,0.3s						
TACH	**Talagante**	**1.20**	**146**	*eP*	**Pn**	**14 34 17.4**	**+0.1**
SAN	**Santiago**	**1.21**	**132**	*i* P	**Pn**	**14 34 17.9**	**+0.5**
SAN				*i* S	**Sn**	**14 34 34.2**	**+1.8**
CLCH	**Cerro Calan**	**1.25**	**127**	*i* P	**Pn**	**14 34 18.5**	**+0.5**
CLCH				*i* S	**Sn**	**14 34 35.3**	**+1.7**
CLCH				AML	AML	14 34 42.7	
	comp=E,57µm,0.5s						
FSR	**Penalolen**	**1.31**	**130**	*eP*	**Pn**	**14 34 20.6**	**+1.8**
FSR				*eS*	**Sn**	**14 34 38.2**	**+3.2**
LNV	**Longovilo**	**1.33**	**168**	*i* P	**Pn**	**14 34 18.7**	**-0.3**
PCH	**Pirque**	**1.41**	**134**	*eP*	**Pn**	**14 34 21.1**	**+1.0**
AUSP	**Uspallata**	**2.03**	**79**	*i* P	Pn	14 34 32.3	+3.5
RTLS	**Lencito**	**2.23**	**68**	*i* P	Pn	14 34 35.4	+3.8
ARCO	**CERRO ARCO**	**2.37**	**95**	*i* P	Pn	14 34 38.3	+4.9
ARCO				*i* S	Sn	14 35 15.4	+14
ARCO				AML	AML	14 35 19.1	
	comp=Z,6µm,0.6s						
NICH	**Los Niches**	**2.38**	**170**	*i* P	**Pn**	**14 34 34.0**	**+0.5**
NICH				*eS*	**Sn**	**14 35 02.5**	**+1.1**
ASAL	**Salagasta**	**2.45**	**89**	*i* P	Pn	14 34 39.1	+4.6
AAGR	**Agrelo**	**2.48**	**101**	*i* P	Pn	14 34 39.8	+4.8
TLL	**Tololo Astrono**	**2.60**	**18**	*eP*	**Pn**	**14 34 36.8**	**+0.1**
TLL				AML	AML	14 35 20.9	
	comp=N,15µm,0.6s						
TALC	**Talca**	**2.74**	**178**	*i* P	**Pn**	**14 34 38.5**	**+0.1**
TALC				*eS*	**Sn**	**14 35 11.4**	**+1.2**
LSCH	**La Serena**	**2.77**	**9**	*eP*	**Pn**	**14 34 38.7**	**0.0**
RTCV	**Cerro Valdivia**	**2.82**	**75**	*i* P	Pn	14 34 43.4	+3.9
RTLL	**Cerro Villicun**	**3.07**	**65**	*i* P	**Pn**	**14 34 45.8**	**+2.8**
CFAA	**Coronel Fontan**	**3.14**	**72**	Pn	**Pn**	**14 34 47.1**	**+3.2**
	comp=N,18nm,0.3s,baz=243,slow=11,SNR=181						
CFAA				Lg	Lg	14 35 27.6	
	comp=N,7.6nm,0.3s,baz=268,slow=9.2,SNR=4.6						
CFAA				LR	LR	14 36 15.0	
	comp=N,453nm,18.8s,baz=302,slow=46						
LNCH	**Linares**	**3.19**	**178**	*eP*	**Pn**	**14 34 44.7**	**+0.2**
LCO	**Las Campanas**	**3.73**	**14**	*eP*	**Pn**	**14 34 52.2**	**-0.1**
LCO				*eSn*	**Sn**	**14 35 31.4**	**-3.7**
CANA	**Caviahue**	**5.25**	**174**	*i* P	**Pn**	**14 35 13.7**	**+0.6**
CANA				*i* P	**Pn**	**14 35 13.7**	**+0.6**
TRQA	**Tornquist**	**9.62**	**127**	*ePn*	**Pn**	**14 36 11.2**	**-1.6**
	comp=N,87nm,1.0s						
TRQA				*eSn*	**Sn**	**14 37 57.7**	**-1.9**
LVC	**Limon Verde**	**10.31**	**15**	Pn	Pn	14 36 18.3	-4.2
	comp=N,39nm,0.3s,baz=205,slow=9.0,SNR=6.2						
LVC				LR	LR	14 40 23.0	
	comp=N,4µm,22.0s,baz=212,slow=38						
LVC	**Limon Verde**	**10.31**	**15**	*ePn*	Pn	14 36 17.1	-5.4
	comp=N,34nm,0.7s						
LVC				*eSn*	Sn	14 38 08.8	-8.1
CPUP	**Villa Florida**	**14.03**	**67**	Pn	**Pn**	**14 37 13.0**	**-0.1**
	comp=N,0.8nm,0.3s,baz=235,slow=12,SNR=11						
CPUP				Sn	**Sn**	**14 39 48.2**	**+0.7**
	comp=N,1.3nm,0.3s,baz=259,slow=16,SNR=3.4						
CPUP				LR	LR	14 43 20.8	
	comp=N,610nm,21.2s,baz=246,slow=41						
CPUP	**Villa Florida**	**14.03**	**67**	*ePn*	**Pn**	**14 37 10.9**	**-2.2**
	comp=N,0.6nm,0.8s						
CPUP				Sn	**Sn**	**14 39 45.0**	**-2.6**
CPUP				Sn	**Sn**	**14 39 48.2**	**+0.7**
LPAZ	**La Paz**	**16.61**	**12**	Pn	**Pn**	**14 37 48.0**	**+0.3**
	comp=N,2.2nm,0.3s,baz=192,slow=6.0,SNR=60						
LPAZ	**La Paz**	**16.61**	**12**	*ePn*	**Pn**	**14 37 45.5**	**-2.2**
	comp=N,12nm,0.6s						
SIV	**San Ignacio**	**19.20**	**33**	P	**P**	**14 38 16.3**	**-1.4**
	comp=N,1.2nm,0.3s,baz=236,slow=13,SNR=18						
NNA	**Nana**	**21.09**	**346**	P	**P**	**14 38 38.5**	**+0.1**
	comp=N,8.4nm,0.6s,baz=236,slow=13,SNR=3.6						
USHA	**Ushuaia**	**22.30**	**175**	P	**P**	**14 38 51.8**	**+1.0**
	comp=N,13nm,0.7s,baz=329,slow=11,SNR=7.4						
SAML	**Samuel**	**24.88**	**20**	P	**P**	**14 39 14.2**	**-2.0**
	comp=N,13nm,1.1s						
BDFB	**Brasilia**	**27.38**	**57**	P	**P**	**14 39 38.5**	**-0.5**
	comp=N,31nm,0.9s,baz=228,slow=6.7,SNR=30						
BDFB				PcP	**PcP**	**14 42 57.6**	**0.0**
	comp=N,5.3nm,0.9s,baz=226,slow=4.9,SNR=3.0						
BDFB				LR	LR	14 52 04.9	
	comp=N,621nm,20.5s,baz=224,slow=40						
OTAV	**Otavalo**	**33.32**	**348**	P	P	14 40 27.9	-4.0
ROSC	**El Rosal**	**37.38**	**356**	P	P	14 41 11.4	+4.7
	comp=N,9.5nm,0.6s,baz=118,slow=3.8,SNR=3.7						
SDV	**Santo Domingo**	**41.32**	**2**	*eP*	P	14 41 35.7	-3.6
	comp=N,12nm,0.8s						
CELP	**Cerrillos**	**50.68**	**6**	*eP*	P	14 42 49.6	-3.2
VNA1	**Neumayer--Stat**	**50.81**	**157**	P	**P**	**14 42 55.0**	**+1.8**
SNAA	**Sanae**	**52.74**	**158**	P	**P**	**14 43 06.9**	**-0.8**
SNAA	**Sanae**	**52.74**	**158**	*eP*	**P**	**14 43 05.6**	**-2.1**
	comp=N,23nm,1.3s						
RKT	**Rikitea**	**55.99**	**263**	*eT*	T	15 44 01.7	
	comp=N,3.6nm,0.2s						
QSPA	**South Pole Qui**	**57.58**	**180**	*eP*	**P**	**14 43 41.5**	**-1.3**
	comp=N,25nm,1.0s						
035A	**Encino**	**64.35**	**334**	P	**P**	**14 44 30.6**	**+1.7**
	baz=65						
034A	**Hebbronville**	**64.69**	**333**	P	**P**	**14 44 32.8**	**+1.7**
	baz=65						
VNDA	**Vanda**	**65.47**	**191**	P	**P**	**14 44 37.7**	**+2.1**
	comp=N,1.5nm,0.8s,baz=146,slow=4.0,SNR=5.4						
VNDA				LR	LR	15 10 44.0	
	comp=N,59nm,18.2s,baz=212,slow=34						

Code	Station Name						
735A	**Kenedy**	**65.99**	**335**	P	**P**	**14 44 41.4**	**+1.9**
	baz=66						
833A	**Chaparral WMA,**	**66.09**	**333**	P	**P**	**14 44 41.7**	**+1.5**
	baz=66						
832A	**Faith Ranch, C**	**66.27**	**333**	P	**P**	**14 44 42.5**	**+1.2**
	baz=66						
636A	**Smothers Creek**	**66.30**	**336**	P	**P**	**14 44 43.3**	**+1.9**
	baz=67						
GOGA	**Godfrey**	**66.63**	**349**	*eP*	**P**	**14 44 41.6**	**-1.9**
	comp=N,10nm,0.8s						
732A	**Laxson Ranch,**	**66.67**	**333**	P	**P**	**14 44 45.2**	**+1.3**
	baz=67						
VBMS	**Vicksburg**	**66.91**	**343**	P	**P**	**14 44 46.5**	**+1.2**
	baz=67						
SYO	**Syowa Base**	**67.03**	**159**	*eP*	**P**	**14 44 43.7**	**-1.9**
632A	**Uvalde**	**67.30**	**334**	P	**P**	**14 44 49.1**	**+1.2**
	baz=68						
TBI	**Tubuai**	**67.89**	**256**	*e*LR	LR	15 05 11.9	
	comp=N,332nm,26.5s						
TBI	**Tubuai**	**67.89**	**256**	*e*T	T	15 58 54.1	
	comp=N,12nm,0.3s						
532A	**Rocksprings**	**67.90**	**334**	P	**P**	**14 44 53.0**	**+1.3**
	baz=68						
434A	**Burnet**	**67.93**	**335**	P	**P**	**14 44 52.6**	**+0.8**
	baz=68						
KMSC	**Kings Mountain**	**68.03**	**352**	P	**P**	**14 44 53.3**	**+1.0**
	baz=68						
433A	**Art**	**68.17**	**335**	P	**P**	**14 44 54.1**	**+0.8**
	baz=68						
531A	**Rocksprings**	**68.18**	**333**	P	**P**	**14 44 54.7**	**+1.3**
	baz=68						
JCT	**Junction City**	**68.18**	**334**	P	**P**	**14 44 54.5**	**+1.0**
	baz=68						
JCT	**Junction City**	**68.18**	**334**	*eP*	**P**	**14 44 54.9**	**+1.4**
334A	**Lometa**	**68.40**	**336**	P	**P**	**14 44 55.5**	**+0.8**
	baz=69						
530A	**J-C Ranch, Com**	**68.47**	**333**	P	**P**	**14 44 56.4**	**+1.1**
	baz=69						
333A	**Richland Sprin**	**68.65**	**335**	P	**P**	**14 44 57.3**	**+1.0**
	baz=69						
431A	**Sonora**	**68.67**	**333**	P	**P**	**14 44 57.2**	**+0.7**
	baz=69						
TXAR	**Lajitas Array**	**68.69**	**330**	P	**P**	**14 44 57.7**	**+1.0**
	comp=N,2.8nm,0.7s,baz=150,slow=7.7,SNR=37						
WHTX	**Lake Whitney,**	**68.73**	**337**	P	**P**	**14 44 57.5**	**+0.8**
	baz=69						
529A	**Stev Forest Ra**	**68.79**	**332**	P	**P**	**14 44 58.4**	**+1.1**
	baz=69						
OXF	**Oxford**	**68.84**	**344**	*eP*	**P**	**14 44 57.9**	**+0.5**
234A	**Clairette**	**68.97**	**336**	P	**P**	**14 44 59.2**	**+0.8**
	baz=69						
332A	**Millersview**	**68.97**	**335**	P	**P**	**14 44 59.0**	**+0.6**
	baz=69						
430A	**Baggett Ranch,**	**69.00**	**333**	P	**P**	**14 44 59.2**	**+0.7**
	baz=69						
429A	**Davenport Ranc**	**69.11**	**332**	P	**P**	**14 45 00.1**	**+0.8**
	baz=69						
331A	**San Angelo**	**69.16**	**334**	P	**P**	**14 45 00.4**	**+0.9**
	baz=69						
233A	**Rising Star**	**69.25**	**335**	P	**P**	**14 45 01.4**	**+1.3**
	baz=70						
232A	**Coleman**	**69.40**	**335**	P	**P**	**14 45 01.5**	**+0.5**
	baz=70						
330A	**Mertzon**	**69.53**	**333**	P	**P**	**14 45 02.5**	**+0.6**
	baz=70						
Z36A	**Blue Ridge**	**69.58**	**338**	P	**P**	**14 45 03.0**	**+1.0**
	baz=70						
231A	**Bronte**	**69.68**	**334**	P	**P**	**14 45 03.6**	**+0.8**
	baz=70						
Z35A	**Perchaven, San**	**69.89**	**337**	P	**P**	**14 45 04.8**	**+0.9**
	baz=70						
329A	**Wagon Wheel Ra**	**69.91**	**333**	P	**P**	**14 45 05.4**	**+1.2**
	baz=70						
MIAR	**Mount Ida**	**69.92**	**341**	P	**P**	**14 45 04.9**	**+0.8**
	baz=70						
MIAR	**Mount Ida**	**69.92**	**341**	*eP*	**P**	**14 45 04.9**	**+0.8**
ABTX	**Abilene, Hawle**	**70.06**	**335**	P	**P**	**14 45 06.0**	**+1.0**
	baz=70						
ABTX	**Abilene, Hawle**	**70.06**	**335**	*eP*	**P**	**14 45 06.2

comp=N,18nm,1.0s,baz=218,slow=6.4,SNR=15
DBIC LR LR 15 14 01.2
comp=N,77nm,22.0s,baz=162,slow=32
P36A Good Intent, A 75.13 341 P **P** **14 45 35.0 0.0**
baz=75
T27A Campo 75.15 335 P **P** **14 45 36.2 +0.8**
baz=75
Q32A Meitler Ranch, 75.51 339 P **P** **14 45 36.5 -0.7**
baz=76
O36A Bolckow 75.54 342 P **P** **14 45 37.1 -0.3**
baz=76
T26A Comanche Natio 75.57 334 P **P** **14 45 39.0 +1.2**
baz=76
T25A Trinidad 75.84 334 P **P** **14 45 40.9 +1.6**
baz=76
S26A Kim 75.92 334 P **P** **14 45 40.9 +1.1**
baz=76
Q30A Quinter 76.02 337 P **P** **14 45 41.0 +0.8**
baz=76
O33A Hebron 76.22 340 P **P** **14 45 42.0 +0.8**
baz=76
R27A Eads 76.27 335 P **P** **14 45 42.5 +0.8**
baz=77
R26A Arlington 76.51 335 P **P** **14 45 44.0 +0.9**
baz=77
SDCO Great Sand Dun 76.78 333 P **P** **14 45 46.2 +1.3**
baz=77
SDCO Great Sand Dun 76.78 333 *e*P **P** **14 45 42.5 -2.3**
comp=N,3.3nm,0.8s
O31A Woolen Ranch, 76.81 339 P **P** **14 45 45.4 +0.8**
baz=77
P29A Atwood 76.82 337 P **P** **14 45 46.3 +1.6**
baz=77
S22A 4UR Ranch, Cre 77.30 332 P **P** **14 45 49.3 +1.5**
baz=78
WUAZ Wupatki 77.32 328 P **P** **14 45 49.4 +1.6**
baz=78
WUAZ Wupatki 77.32 328 *e*P **P** **14 45 47.3 -0.4**
comp=N,13nm,1.2s
Q24A Divide 77.72 334 P **P** **14 45 51.4 +1.3**
baz=78
BC3 Big Chuckawall 77.74 324 P **P** **14 45 51.8 +1.8**
baz=78
IRM Iron Mountain 77.99 324 P **P** **14 45 53.4 +2.0**
baz=78
N27A Anderson Farm, 78.43 337 P **P** **14 45 55.2 +1.4**
baz=79
SMCO Snowmass 78.60 333 *e*P P 14 45 52.5 -2.6
comp=N,10.0nm,1.0s
ISCO Idaho Springs 78.62 334 P **P** **14 45 56.3 +1.2**
baz=79
ISCO Idaho Springs 78.62 334 P P 14 45 51.9 -3.2
comp=N,2.6nm,0.8s
GMRC Granite Mounta 78.74 324 P **P** **14 45 57.4 +1.8**
baz=79
K30A Basset 79.20 339 P **P** **14 45 59.0 +1.2**
baz=80
TSUM Tsumeb 79.34 106 *e*P P 14 45 54.9 -4.5
comp=N,34nm,1.3s
ECSD EROS Data Cent 79.34 342 P **P** **14 45 58.7 +0.2**
baz=80
ECSD EROS Data Cent 79.34 342 *e*P P 14 45 55.1 -3.5
comp=N,20nm,0.9s
TUQ Turquoise Moun 79.39 325 P **P** **14 46 00.9 +1.8**
baz=80
N23A Red Feather La 79.70 334 P **P** **14 46 02.5 +1.6**
baz=80
SHPR Sheep Range 79.89 326 *e*P **P** **14 45 59.9 -2.0**
comp=N,15nm,1.4s
O20A White River Ci 79.91 332 P **P** **14 46 03.4 +1.4**
baz=80
SRU San Rafael Swe 79.97 330 *e*P P 14 45 58.9 -3.4
comp=N,5.4nm,0.9s
EDW2 Edwards Air Fo 79.98 323 P **P** **14 46 03.5 +1.2**
baz=80
BOSA Boshof 80.47 118 P **P** **14 46 06.0 +0.6**
comp=N,17nm,0.8s,baz=240,slow=4.5,SNR=27
BOSA LR LR 15 19 49.1
comp=N,132nm,18.0s,baz=240,slow=34
BOSA Boshof 80.47 118 *e*P **P** **14 46 02.9 -2.5**
comp=N,28nm,1.1s
MPMC Manual Prospec 80.66 324 P **P** **14 46 07.4 +1.3**
baz=81
TPNV Topopah Spring 80.76 325 P **P** **14 46 08.4 +1.8**
baz=81
ISA Isabella, Lake 80.84 323 P **P** **14 46 08.7 +1.8**
baz=81
J26A Sides Ranch, S 80.86 337 P **P** **14 46 08.3 +1.5**
baz=81
I28A Midland 80.88 339 P **P** **14 46 08.0 +1.1**
baz=81
J25A Sunshine Ranch 81.16 337 P **P** **14 46 09.6 +1.1**
baz=82
H29A Onida 81.16 340 P **P** **14 46 09.2 +0.9**
baz=82
I27A Quinn 81.21 338 P **P** **14 46 09.5 +0.9**
baz=82
CASY Casey 81.37 181 P P 14 46 06.1 -3.2
comp=N,16nm,0.9s
J24A Dixon Ranch, L 81.40 336 P **P** **14 46 11.4 +1.7**
baz=82
H28A Mission Ridge 81.45 339 P **P** **14 46 10.5 +0.6**
baz=82
R11A Troy Canyon, C 81.57 327 P **P** **14 46 12.6 +1.8**
baz=82
R11A Troy Canyon, C 81.57 327 *e*P **P** **14 46 08.6 -2.3**
comp=N,7.3nm,1.4s
I25A Rochford 81.70 337 P **P** **14 46 12.5 +1.1**
baz=82
H27A Howes 81.73 339 P **P** **14 46 12.2 +0.8**
baz=82
G28A Parade 81.78 340 P **P** **14 46 12.3 +0.7**
baz=82
F29A Eureka 82.16 341 P **P** **14 46 14.0 +0.5**
baz=82
EYMN Ely 82.17 347 P **P** **14 46 13.4 -0.1**
baz=82
EYMN Ely 82.17 347 *e*P **P** **14 46 11.6 -2.0**
comp=N,4.5nm,0.8s
G27A Dupree 82.36 339 P **P** **14 46 15.2 +0.5**
baz=83
F28A McLaughlin 82.45 340 P **P** **14 46 15.8 +0.7**
baz=83
G26A Maurine 82.48 339 P **P** **14 46 15.8 +0.5**
baz=83
I22A 9 Mile Ranch, 82.52 335 P **P** **14 46 16.1 +0.5**
baz=83
E30A Jud 82.52 341 P **P** **14 46 15.8 +0.4**
baz=83
J20A Shoshoni 82.63 334 P **P** **14 46 17.9 +1.7**
baz=83
LBTB Lobatse 82.64 115 *e*P **P** **14 46 17.1 +0.3**
comp=N,8.8nm,0.4s
G25A Newell 82.65 338 P **P** **14 46 17.1 +0.9**
baz=83
PDAR Pinedale Array 82.68 333 P **P** **14 46 16.8 +0.1**
comp=N,0.8nm,0.7s,baz=108,slow=4.8,SNR=7.3
PDAR LR LR 15 19 25.6
comp=N,70nm,20.4s,baz=156,slow=33
I21A Big Trails, Te 82.74 335 P **P** **14 46 17.1 +0.2**
baz=83
F27A Lemmon 82.83 339 P **P** **14 46 17.9 +0.8**
baz=83
J19A Crowheart 82.91 333 P **P** **14 46 18.1 +0.4**
baz=83
NVAR Mina Array Bea 82.93 325 P **P** **14 46 19.7 +1.7**
comp=N,2.5nm,0.7s,baz=157,slow=6.3,SNR=20
F26A Lodgepole 83.01 339 P **P** **14 46 18.7 +0.7**
baz=83
D30A Buchanan 83.04 342 P **P** **14 46 18.7 +0.6**
baz=83
G24A Alzada 83.09 337 P **P** **14 46 19.0 +0.5**
baz=83
HVU Hansel Valley 83.14 330 *e*P **P** **14 46 17.3 -1.7**
comp=N,4.0nm,0.9s
AGMN Agassiz Nation 83.43 344 P **P** **14 46 20.4 +0.4**
baz=84
TOA0 Torodi Ar. Sit 83.51 70 *e*P **P** **14 46 20.7 -0.6**
TOA0 Torodi Ar. Sit 83.51 70 P **P** **14 46 18.2 -3.0**
TORD Torodi Ar. Bea 83.51 70 P **P** **14 46 21.6 +0.3**
comp=N,18nm,0.8s,baz=261,slow=4.7,SNR=82
TORD LR LR 15 20 00.8
comp=N,92nm,22.0s,baz=160,slow=33
C30A Mose, Pekin 83.52 342 P **P** **14 46 21.2 +0.6**
baz=84
F24A Ekalaka 83.56 338 P **P** **14 46 21.7 +0.8**
baz=84
E25A Miller Ranch, 83.81 339 P **P** **14 46 22.8 +0.7**
baz=84
G21A Lodge Grass 83.94 336 P **P** **14 46 23.4 +0.6**
baz=84
MDND Maddock 83.94 342 P **P** **14 46 23.2 +0.5**
baz=84
MDND Maddock 83.94 342 *e*P P 14 46 19.9 -2.8
comp=N,37nm,0.9s
D26A Manning 84.00 339 P **P** **14 46 23.8 +0.7**
baz=84
B30A Myrvik Farm, E 84.17 343 P **P** **14 46 24.3 +0.4**
baz=84
G20A Bridger 84.29 335 P **P** **14 46 24.8 +0.1**
baz=85
C27A Sayler Ranch, 84.35 340 P **P** **14 46 25.5 +0.7**
baz=85
B29A Wagenman Farm, 84.45 342 P **P** **14 46 25.9 +0.7**
baz=85
A30A Hoffart Farm, 84.62 343 P **P** **14 46 26.4 +0.3**
baz=85
A29A Manning Farm, 84.84 342 P **P** **14 46 27.4 +0.2**
baz=85
A28A Rude Farm, Bot 85.10 342 P **P** **14 46 29.0 +0.5**
baz=85
ULM Lac du Bonnet 85.27 345 P **P** **14 46 29.1 -0.2**
comp=N,7.1nm,0.8s,baz=157,slow=3.9,SNR=12
ULM Lac du Bonnet 85.27 345 *e*P **P** **14 46 27.2 -2.1**
comp=N,8.4nm,0.8s
HLID Hailey 85.29 330 P **P** **14 46 30.3 +0.5**
baz=86
B25A Knox Farm, Ray 85.33 340 P **P** **14 46 30.4 +0.7**
baz=86
A27A Ledoux Ranch, 85.40 341 P **P** **14 46 30.7 +0.7**
baz=86
D21A La Casta Ranch 85.47 337 P **P** **14 46 31.1 +0.6**
baz=86
C23A Lambert 85.53 338 P **P** **14 46 31.4 +0.7**
baz=86
A26A Wade Farm, Ken 85.57 340 P **P** **14 46 31.3 +0.4**
baz=86
MCMT McKenzie Canyo 85.70 332 P **P** **14 46 31.4 -0.6**
comp=N,2.0nm,0.7s
C22A Vida 85.70 338 P **P** **14 46 32.0 +0.4**
baz=86
DGMT Dagmar 85.82 339 P **P** **14 46 33.0 +0.9**
baz=86
BOZ Bozeman (W) 85.91 333 P **P** **14 46 33.1 +0.3**
baz=86
A24A Westby 86.16 339 P **P** **14 46 34.5 +0.6**
baz=86
C21A Desert Coulee 86.17 337 P **P** **14 46 34.3 +0.4**
baz=86
B22A Reddig Ranch S 86.22 338 P **P** **14 46 34.9 +0.7**
baz=86
C20A Veseth Ranch, 86.37 336 P **P** **14 46 34.9 -0.1**
baz=87
B21A Ellsworth Farm 86.66 337 P **P** **14 46 36.8 +0.5**
baz=87
B20A Solberg Farm, 87.00 337 P **P** **14 46 38.3 +0.3**
baz=87
SCHQ Schefferville 87.23 3 P **P** **14 46 37.9 -1.0**
comp=N,8.2nm,1.0s,baz=231,slow=3.3,SNR=3.6
SCHQ LR LR 15 25 05.8
comp=N,32nm,21.9s,baz=281,slow=35
EGMT Eagleton 87.24 336 P **P** **14 46 39.3 +0.1**
baz=88
B19A Brinkman Farms 87.33 336 P **P** **14 46 40.0 +0.5**
baz=88
A20A Cobblestone Ra 87.36 337 P **P** **14 46 40.1 +0.4**
baz=88
BMO Blue Mountains 87.56 329 *e*P **P** **14 46 39.4 -1.4**
comp=N,2.8nm,0.8s
A19A Kindworth Far 87.67 337 P **P** **14 46 41.5 +0.2**
baz=88
ESDC Sonseca Array 95.46 46 P **P** **14 47 18.3 +0.7**
comp=N,0.2nm,0.3s,baz=261,slow=6.4,SNR=3.3
ESDC LR LR 15 27 06.0
comp=N,48nm,22.0s,baz=145,slow=34
YKA Yellowknife Ar 100.86 341 P **Pdif** **14 47 40.9 -0.3**
comp=N,0.7nm,0.6s,baz=146,slow=4.6,SNR=4.9
ILAR Eielson Array 113.11 333 PKiKP **PKiKP** **14 52 29.3 -0.1**
comp=N,0.4nm,0.7s,baz=165,slow=0.9,SNR=4.6
ASAR Alice Springs 118.88 207 PKP **PKPdf** **14 52 41.1 -0.8**
comp=N,0.4nm,0.6s,baz=119,slow=1.5,SNR=9.8
BRTR Keskin Array B 120.95 60 PKP **PKPdf** **14 52 45.8 +0.3**
comp=N,1.9nm,0.7s,baz=180,slow=2.4,SNR=8.8
AKASG Malin Array Be 121.09 47 PKP **PKPdf** **14 52 44.4 -0.7**
comp=N,1.0nm,0.5s,baz=265,slow=2.8,SNR=11
FINES FINESS Array B 121.73 34 PKP **PKPdf** **14 52 46.4 +0.4**
comp=N,1.6nm,1.0s,baz=212,slow=1.8,SNR=5.9
WRA Warramunga Arr 122.06 209 PKP **PKPdf** **14 52 47.6 -0.5**
comp=N,1.1nm,0.6s,baz=158,slow=1.7,SNR=40
H11S2 WAKE ISLAND Hyl 126.04 270 T T 17 11 50.3
baz=118,slow=75,SNR=234
H11S1 WAKE ISLAND Hyl 126.05 270 T T 17 11 54.6
baz=118,slow=75,SNR=214
H11S3 WAKE ISLAND Hyl 126.05 270 T T 17 11 51.6
baz=118,slow=75,SNR=156
H11N3 WAKE ISLAND Hyl 126.42 271 T T 17 12 23.5
baz=117,slow=76,SNR=30
H11N1 WAKE ISLAND Hyl 126.43 271 T T 17 12 22.4
baz=117,slow=76,SNR=16
H11N2 WAKE ISLAND Hyl 126.43 271 T T 17 12 24.9
baz=117,slow=76,SNR=83
KBZ Khabaz 128.66 58 PKP **PKPdf** **14 52 59.6 -0.2**
comp=N,1.4nm,0.5s,baz=13,slow=5.0,SNR=3.2
SEY Seymchan 138.98 331 PKP **PKPdf** **14 53 17.0 -1.6**
comp=N,6.7nm,0.9s,baz=155,slow=5.7,SNR=6.3
GEYT Eilbeck 139.13 68 PKP **PKPdf** **14 53 21.0 +1.2**
comp=N,2.0nm,0.5s,baz=270,slow=2.2,SNR=3.8
AKTO Aktyubinsk 139.27 49 PKP **PKPdf** **14 53 20.6 +1.1**
comp=N,2.2nm,0.9s,baz=282,slow=5.9,SNR=6.4
BVAR Borovoye Array 146.11 42 PKPbc **PKPbc** **14 53 33.1 +0.5**
comp=N,7.6nm,0.6s,baz=297,slow=2.9,SNR=58
URV Uravakonda 146.78 115 *e*PKiKP **PKPbc** **14 53 35.5 -0.1**
YAK Yakutsk 147.54 341 PKPbc **PKPbc** **14 53 36.8 +0.5**
comp=N,6.0nm,0.6s,baz=190,slow=4.7,SNR=11
SKHT Srikalahasti 147.86 119 *e*PKPab **PKPbc** **14 53 38.6 0.0**
KLRI Killari 148.06 109 *e*PKiKP **PKPbc** **14 53 38.7 -0.4**
RCLA Racherla 148.38 116 *e*PKPdf **PKPdf** **14 53 33.9 -2.6**
RCLA *e*PKPab **PKPbc** **14 53 40.6 +0.7**
SRLM Srisailam 148.72 115 *e*PKPab **PKPbc** **14 53 41.2 +0.3**
HYB Hyderabad 149.23 112 *i* PKP **PKPbc** **14 53 43.0 +0.9**
HYBB Hyderabad (bro 149.23 112 *e*PKiKP **PKPbc** **14 53 42.2 +0.1**
NJS Nagarjunasagar 149.31 115 *e*PKiKP **PKPbc** **14 53 41.8 -0.4**
SRSP Sriramsagar 149.91 110 *e*PKiKP **PKPbc** **14 53 43.0 -0.8**
RPR Rampur 150.62 111 *e*PKiKP **PKPbc** **14 53 45.1 -0.3**
EKS2 Erkin-Say 151.10 60 P **PKPbc** **14 53 47.4 +1.4**
SNR=23
PVM Polavaram 151.50 116 *e*PKiKP **PKPbc** **14 53 46.8 -0.7**
USP Ospenovka 151.52 58 P **PKPbc** **14 53 47.9 +1.1**
SNR=12
AAK Ala-Archa 151.62 60 P **PKPbc** **14 53 48.7 +1.4**
SNR=17
AAK Ala-Archa 151.62 60 PKPbc PKPab 14 54 02.8 +6.8
comp=N,34nm,0.7s,baz=186,slow=2.1,SNR=44
UCH Uchtor 151.70 61 P **PKPbc** **14 53 49.4 +1.6**
SNR=29
KURBB Kurchatov Arra 151.71 42 PKP **PKPdf** **14 53 41.4 +0.8**
comp=N,1.1nm,0.9s,baz=290,slow=2.5,SNR=6.9
KURBB PKPbc **PKiKP** **14 53 47.5 +0.2**
comp=N,24nm,0.8s,baz=299,slow=3.0,SNR=126
KURK Kurchatov 151.71 42 PKP **PKPdf** **14 53 41.4 +0.8**
KURK PKPbc **PKiKP** **14 53 47.5 +0.2**
CHMS Chumysh 151.75 59 P **PKPbc** **14 53 48.5 +1.1**
SNR=7.7
KBK Karagaybulak 151.95 60 P **PKPbc** **14 53 49.1 +1.0**
SNR=7.3
KZA Kyzart 152.27 61 P **PKPbc** **14 53 50.4 +1.3**
SNR=10
TKM2 Tokmak 2 152.37 59 P **PKPbc** **14 53 50.0 +0.9**
SNR=15
ZALV Zalesovo Beam 152.95 31 PKP **PKPdf** **14 53 42.6 +0.3**
comp=N,2.1nm,0.8s,baz=262,slow=4.0,SNR=8.6
ZALV PKPbc **PKiKP** **14 53 50.1 +0.3**
comp=N,23nm,0.7s,baz=295,slow=3.3,SNR=78
ULHL Ulahol 152.97 60 P **PKPbc** **14 53 51.8 +1.4**
SNR=11
KSH Kashi 153.12 66 PKPbc **PKPbc** **14 53 51.5 +0.8**
KSH sPKP 14 54 02.0
KSH PP **PP** **14 57 33.5 -2.9**
KSH AMB AMB
comp=Z,88nm,5.7s
WMQ Urumqi 160.42 49 *e*PKP **PKPdf** **14 53 52.8 +0.4**
TLY Talaya 160.68 9 PKPab **PKPab** **14 54 36.2 +1.9**
comp=Z,2.3nm,0.6s,baz=207,slow=4.5,SNR=7.9
KSRS Korea Array 163.21 292 PKP **PKPdf** **14 53 54.6 -0.7**
comp=Z,1.6nm,1.0s,baz=29,slow=2.8,SNR=5.5
KSRS PKPab **PKPab** **14 54 47.1 +1.1**
comp=Z,0.3nm,0.3s,baz=88,slow=4.1,SNR=4.7
KSAR Wonju Array Be 163.24 292 PKP **PKPdf** **14 53 54.6 -0.8**
KSAR PKPab **PKPab** **14 54 47.1 +1.0**
CMAR Chiang Mai Arr 163.57 147 PKP **PKPdf** **14 53 55.9 -0.4**
comp=Z,0.6nm,0.7s,baz=315,slow=0.5,SNR=4.1
SONM Songino Array 164.77 5 PKP **PKPdf** **14 53 56.5 -0.2**
comp=Z,0.5nm,0.8s,baz=356,slow=0.5,SNR=4.2
SONM PKPab **PKPab** **14 54 53.5 +1.1**
comp=Z,1.8nm,0.9s,baz=341,slow=3.3,SNR=9.6
GTA Gaotai 170.39 43 *e*PKP **PKPdf** **14 54 01.5 +0.6**
GTA PKPab **PKPab** **14 55 18.8 +1.1**
HHC Hu-ho-hao-te 171.40 343 *e*PKP **PKPdf** **14 53 58.0 -3.4**
HHC PKS PKSdf 14 57 26.8 -7.0
HHC PP **PP** **14 59 15.8 +3.7**
HHC PPMZ
comp=Z,50nm,10.0s
HHC LN
comp=Z,98nm,22.1s
HHC LE
comp=Z,110nm,22.1s
HHC LZ
comp=Z,67nm,22.4s
GYA Guiyang 173.68 167 *e*PKP **PKPdf** **14 54 02.0 -0.8**
GYA PKS **PKSdf** **14 57 32.3 -3.0**
GYA PPMZ
comp=Z,110nm,8.2s
CD2 Chengdu 175.79 113 PKP **PKPdf** **14 54 02.0 -1.2**
CD2 PP **PP** **14 59 33.3 -1.6**
CD2 SKS **SKSdf** **15 01 02.3 -1.2**
CD2 SKKS **SKKSac** **15 06 16.3 -1.9**
CD2 SS **SS** **15 20 58.3 -1.7**
CD2 PPMZ
comp=Z,120nm,5.4s
XAN Xi'an 178.51 339 PKP **PKPdf** **14 54 05.8 +2.2**

*ISCJB **25** 14:54:52.1±0.5, 30.04N±0.04×141.5E±0.1, h74km, mb3.8/9, Error ellipse: s-maj=17.1km s-min=3.5km az=166.4*
*JMA **25** 14:54:52.7±0.1, 30.09N×141.68E, h53km, M4.5*
*IDC **25** 14:54:53.3±1.5, 29.93N×141.36E, h68km±15km, mb3.5/9, mb1 3.6/13, mb1mx3.4/46, mbtmp3.8/13, Error ellipse: s-maj=61.5km s-min=8.9km az=72.0*
ISC 25 14:54:53.6±0.7, 30.01N±0.05×141.5E±0.1, h74km, n26, σ1§31/34, mb3.9/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.97**	**168**	P		**Pn**		**14 55 39.3**	**+0.8**
JCJ	**Chichijima**	**2.97**	**168**	P		**Pn**		**14 55 39.3**	**+0.9**
	15nm,0.3s,baz=348,slow=18,SNR=24								
JCJ				S		**Sn**		**14 56 11.6**	**-1.4**
	61nm,0.3s,baz=313,slow=21,SNR=15								
JHCJ	**Hachijojimakas**	**3.38**	**335**	P		**Pn**		**14 55 44.4**	**+0.3**
JHCJ				S		**Sn**		**14 56 19.9**	**-3.2**
JHJ2	**Mitsune**	**3.41**	**335**	S		**Sn**		**14 56 21.6**	**-2.2**
JHHJ	**Haha-jima-NKT**	**3.42**	**170**	P		**Pn**		**14 55 45.1**	**+0.5**
JHHJ				S		**Sn**		**14 56 25.2**	**+1.1**
JKO	**Kozu shima**	**4.62**	**335**	P		**Pn**		**14 56 03.0**	**+2.0**
JKO				*e*S		**Sn**		**14 56 54.4**	**+1.0**
BSO1	**Boso 1**	**4.65**	**355**	P		**Pn**		**14 56 01.5**	**+0.6**
BSO1				S		**Sn**		**14 56 52.9**	**-0.3**
BSO2	**Boso 2**	**4.77**	**352**	S		**Sn**		**14 56 58.1**	**+1.6**
BSO3	**Boso 3**	**4.85**	**350**	P		**Pn**		**14 56 04.2**	**+0.4**
BSO4	**Boso 4**	**5.06**	**349**	S		**Sn**		**14 57 03.1**	**-0.8**
TTO1	**TONANKAI O.B.S**	**5.40**	**313**	P		**Pn**		**14 56 13.6**	**+2.3**
JOD2	**Odawara 2**	**5.62**	**339**	P		**Pn**		**14 56 15.8**	**+1.2**
JHO	**Hitachi**	**6.63**	**353**	P		**Pn**		**14 56 28.0**	**-0.4**
MJAR	**Matsushiro Arr**	**7.07**	**338**	P		**Pn**		**14 56 34.8**	**+0.3**
	0.9nm,0.3s,baz=194,slow=24,SNR=25								
MJAR				S		**Sn**		**14 57 52.0**	**-1.3**
	1.0nm,0.3s,baz=124,slow=13,SNR=4.3								
MAT	**Matsushiro**	**7.08**	**338**	P		**Pn**		**14 56 35.5**	**+1.0**
MAT				S		**Sn**		**14 57 50.5**	**-2.9**
KSRS	**Korea Array**	**13.52**	**307**	P		**Pn**		**14 58 02.5**	**+0.5**
	0.0nm,0.3s,baz=114,slow=12,SNR=4.1								
ASAJ	**Asahikawa**	**14.11**	**3**	P		**Pn**		**14 58 09.5**	**-0.3**
	baz=217,slow=9.1								
SONM	**Songino Array**	**32.24**	**313**	P		**P**		**15 01 15.1**	**+0.1**
	0.4nm,0.4s,baz=116,slow=6.6,SNR=3.0								
ZALV	**Zalesovo Beam**	**46.92**	**317**	P		**P**		**15 03 16.2**	**-0.4**
	0.7nm,0.4s,baz=80,slow=7.8,SNR=4.0								
WRA	**Warramunga Arr**	**50.14**	**189**	P		**P**		**15 03 40.4**	**-1.3**
	0.5nm,0.4s,baz=6.7,slow=7.7,SNR=19								
WRA				PcP		**PcP**		**15 04 59.8**	**-0.3**
	0.4nm,0.4s,baz=2.5,slow=4.3,SNR=5.1								
KURBB	**Kurchatov Arra**	**50.61**	**313**	P		**P**		**15 03 44.1**	**-0.7**
	0.6nm,0.4s,baz=90,slow=8.8,SNR=18								
ASAR	**Alice Springs**	**53.87**	**189**	P		**P**		**15 04 08.2**	**-1.1**
	0.3nm,0.4s,baz=359,slow=5.8,SNR=7.8								
BVAR	**Borovoye Array**	**55.52**	**316**	P		**P**		**15 04 21.1**	**+0.1**
	1.9nm,0.7s,baz=114,slow=5.1,SNR=10								
STKA	**Stephens Creek**	**61.55**	**180**	P		**P**		**15 05 03.1**	**+0.2**
	1.4nm,0.6s,baz=356,slow=8.4,SNR=4.0								
AKTO	**Aktyubinsk**	**63.55**	**315**	P		**P**		**15 05 17.4**	**+1.2**
	0.8nm,0.6s,baz=78,slow=9.3,SNR=3.3								
FINES	**FINESS Array B**	**75.08**	**333**	P		**P**		**15 06 28.2**	**+1.0**
	0.3nm,0.4s,baz=77,slow=4.1,SNR=4.7								

*NIED **25** 15:23:00, 29.10N×131.50E, h47km, Mw4.8 Best double couple: M₀1.56000×10¹⁶ NP1:φ₀272.00000°, δ58.00000°, λ165.00000°. NP2:φ₀10.00000°, δ77.00000°, λ32.00000°.*
*ISCJB **25** 15:23:14.9±0.8, 29.09N±0.02×131.51E±0.03, h32km±5km, mb4.6/70, MS3.9/25, Error ellipse: s-maj=4.2km s-min=3.1km az=40.0*
*MOS **25** 15:23:15.4±1.0, 29.14N×131.43E, h34km, mb4.8/27, Error ellipse: s-maj=12.9km s-min=6.3km az=107.9*
*BJI **25** 15:23:15.8, 29.02N×131.46E, h43km, mb4.5/41, mB4.6/27, Ms4.2/38, Ms7 4.0/36*
*JMA **25** 15:23:16.5±0.1, 29.16N×131.39E, h83km±5km, M4.6*
JMA Felt I J1.
*NEIC **25** 15:23:17.6±0.6, 29.14N×131.41E, h44km±6km, mb4.8/23, MW4.7(NIED), Error ellipse: s-maj=7.0km s-min=5.8km az=119.0*
NEIC Recorded [1 JMA] on Akuseki-jima.
*IDC **25** 15:23:18.1±1.7, 29.16N×131.49E, h44km±16km, mb4.0/18, mb1 4.3/23, mb1mx4.2/35, mbtmp4.3/23, ML4.2/3, MS3.7/20, Ms1 3.7/20, ms1mx3.5/44, Error ellipse: s-maj=16.4km s-min=11.8km az=78.0*
ISC 25 15:23:17.2±0.4, 29.12N±0.04×131.53E±0.04, h41km±2km, h41km:pP-P, n267, σ1§71/312, mb4.6/70, MS3.9/27, 18C-8D, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYAK	**Yakushimahirau**	**1.43**	**322**	P		**Pn**		**15 23 40.0**	**-0.7**
JYAK				*e*S		**Sn**		**15 23 56.5**	**-1.7**
JZK	**Kikaishima**	**1.59**	**240**	P		**Pn**		**15 23 42.5**	**-0.4**
JTN	**Tanegashima 3**	**1.60**	**343**	P		**Pn**		**15 23 42.4**	**-0.7**
JNN	**Nakanoshima**	**1.61**	**297**	P		**Pn**		**15 23 42.4**	**-0.9**
JNN				*e*S		**Sn**		**15 24 01.3**	**-1.6**
JKC	**Kuchinoerabu**	**1.77**	**319**	P		**Pn**		**15 23 44.7**	**-0.7**
JAM	**Amami Oshima**	**1.83**	**248**	P		**Pn**		**15 23 45.0**	**-1.2**
JAM				*e*S		**Sn**		**15 24 06.8**	**-1.4**
JTAJ	**Takarajima**	**2.04**	**272**	P		**Pn**		**15 23 47.7**	**-1.3**
JTSR	**Tashiro 2**	**2.11**	**346**	P		**Pn**		**15 23 49.8**	**-0.3**
JTSR				*e*S		**Sn**		**15 24 13.9**	**-1.2**
JAMN	**Amaminishikomi**	**2.25**	**248**	P		**Pn**		**15 23 51.0**	**-0.9**
JTK	**Tokunoshima**	**2.63**	**240**	P		**Pn**		**15 23 56.3**	**-0.9**
JTK				*e*S		**Sn**		**15 24 25.8**	**-2.2**
JTZ	**Takazaki**	**2.80**	**352**	P		**Pn**		**15 23 59.5**	**0.0**
JTZ				*e*S		**Sn**		**15 24 30.9**	**-1.2**
JSJ	**Shimokoshiki**	**3.00**	**329**	P		**Pn**		**15 24 00.7**	**-1.5**
JOKE	**Okinoerabujima**	**3.15**	**237**	P		**Pn**		**15 24 03.1**	**-1.2**
JIU2	**Izumi 2**	**3.47**	**350**	P		**Pn**		**15 24 08.5**	**-0.3**
JIU2				S		**Sn**		**15 24 46.2**	**-2.4**
JOW	**Kunigami**	**3.67**	**232**	P		**Pn**		**15 24 10.1**	**-1.4**
JOW	**Kunigami**	**3.67**	**232**	P		**Pn**		**15 24 10.4**	**-1.1**
	baz=92,slow=15								
JOW				S		**Sn**		**15 24 50.5**	**-3.2**
	baz=90,slow=20								
JOW	**Kunigami**	**3.67**	**232**	*e*Pn		**Pn**		**15 24 10.1**	**-1.4**
JOW				*e*Sn		**Sn**		**15 24 51.7**	**-1.9**
JIH	**Iheya**	**3.77**	**237**	P		**Pn**		**15 24 11.3**	**-1.6**
JIH				S		**Sn**		**15 24 52.0**	**-4.0**
JTO	**Tosashimizu**	**3.88**	**16**	P		**Pn**		**15 24 14.0**	**-0.4**
JNU	**Nakatsue**	**4.03**	**352**	P		**Pn**		**15 24 16.6**	**+0.1**
	12nm,0.3s,baz=218,slow=1.1,SNR=118								

JNU S **Sn** **15 25 00.4 -2.1**
51nm,0.3s,baz=129,slow=21,SNR=13
JNU Nakatsue 4.03 352 *e*Pn **Pn** **15 24 15.9 -0.5**
JNU S **Sn** **15 25 00.4 -2.1**
JNU *e*Sn Sn 15 25 03.0 +0.5
JNTH Nagotoyohara 4.05 231 P **Pn** **15 24 15.2 -1.5**
JJT2 Tamagusuku 2 4.48 229 P **Pn** **15 24 21.3 -1.3**
JJT2 S **Sn** **15 25 09.9 -3.6**
JAGN Aguni-jima 4.56 237 P **Pn** **15 24 22.0 -1.7**
KSSGP Seogwipo 5.97 315 P **Pn** **15 24 44.4 +1.4**
SNR=6.4
KSSGP Seogwipo 5.97 315 P **Pn** **15 24 44.4 +1.4**
SNR=6.4
KSJJU Jeju 6.06 316 P **Pn** **15 24 45.4 +1.1**
SNR=10
KSJJU Jeju 6.06 316 P **Pn** **15 24 45.4 +1.1**
SNR=10
KSKOH Goheung 6.56 328 P **Pn** **15 24 52.2 +1.0**
SNR=8.1
KSKOH Goheung 6.56 328 P **Pn** **15 24 52.2 +1.0**
SNR=8.1
KSWAN Wando 6.67 323 P **Pn** **15 24 54.3 +1.6**
SNR=9.7
KSWAN Wando 6.67 323 P **Pn** **15 24 54.3 +1.6**
SNR=9.7
KSJDO Jindo 6.94 322 P **Pn** **15 24 57.9 +1.5**
SNR=15
KSJDO Jindo 6.94 322 P **Pn** **15 24 57.9 +1.5**
SNR=15
KSDAG Daegu 6.99 342 P **Pn** **15 24 58.3 +1.2**
SNR=5.9
KSDAG Daegu 6.99 342 P **Pn** **15 24 58.3 +1.2**
SNR=5.9
KSKWJ Gwangju 7.15 329 P **Pn** **15 25 00.2 +1.0**
SNR=5.1
KSKWJ Gwangju 7.15 329 P **Pn** **15 25 00.2 +1.0**
SNR=5.1
KSJEU Jeongeup 7.45 330 P **Pn** **15 25 04.4 +1.0**
SNR=10.0
KSJEU Jeongeup 7.45 330 P **Pn** **15 25 04.4 +1.0**
SNR=10.0
KSCPR CHUPUNGNYEONG 7.69 338 P **Pn** **15 25 08.8 +2.2**
SNR=10
KSCPR CHUPUNGNYEONG 7.69 338 P **Pn** **15 25 08.8 +2.2**
SNR=10
KSBON Boeun 8.00 338 P **Pn** **15 25 13.5 +2.6**
SNR=7.6
TJN Taejon 8.04 335 *e*P **Pn** **15 25 12.0 +0.5**
JHJ2 Mitsune 8.14 59 *e*Pn **Pn** **15 25 14.6 +1.7**
JHJ2 *e*Sn **Sn** **15 26 44.4 +0.9**
KSTBA Taebaek 8.27 346 P **Pn** **15 25 15.7 +1.1**
SNR=5.9
KSTBA Taebaek 8.27 346 P **Pn** **15 25 15.7 +1.1**
SNR=5.9
KSCHJ Chungju 8.29 340 P **Pn** **15 25 16.1 +1.3**
SNR=7.8
KSCHJ Chungju 8.29 340 P **Pn** **15 25 16.1 +1.3**
SNR=7.8
KSCEA Cheonan 8.48 336 P **Pn** **15 25 18.7 +1.2**
SNR=6.0
KSAR Wonju Array Be 8.84 341 P **Pn** **15 25 23.6 +1.2**
KSRS Korea Array 8.84 341 P **Pn** **15 25 23.6 +1.2**
0.9nm,0.3s,baz=159,slow=14,SNR=26
KSRS Korea Array 8.84 341 P **Pn** **15 25 23.7 +1.2**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
MAJO Matsushiro 9.29 35*c i*P **Pn** **15 25 30.7 +2.1**
MAJO Matsushiro 9.29 35 *e*Pn **Pn** **15 25 29.9 +1.4**
MAJO *e*Sn **Sn** **15 27 12.2 +0.5**
MAT Matsushiro 9.29 35 P **Pn** **15 25 30.3 +1.7**
MAT S **Sn** **15 27 10.4 -1.4**
MJAR Matsushiro Arr 9.29 35 P **Pn** **15 25 30.9 +2.3**
comp=Z,20nm,0.3s,baz=209,slow=14,SNR=204
MJAR S **Sn** **15 27 11.1 -0.6**
baz=222,slow=23,SNR=2.4
MJAR LR LR 15 29 01.7
comp=Z,466nm,20.9s,baz=215,slow=37
MJAR Matsushiro Arr 9.29 35 P **Pn** **15 25 30.9 +2.3**
MJAR S **Sn** **15 27 11.1 -0.6**
MJAR pmax pmax
comp=Z,20nm,0.3s
MJAR MLR MLR
comp=Z,466nm,20.9s
INCN Inchon 9.29 335 Pn **Pn** **15 25 27.3 -1.4**
CBIJ Chichi jima 9.62 100 *e*Pn **Pn** **15 25 33.8 +0.6**
CBIJ *e*Sn **Sn** **15 27 22.5 +2.6**
JCJ Chichijima 9.62 100 P **Pn** **15 25 34.3 +1.1**
comp=Z,67nm,0.3s,baz=10,slow=1.7,SNR=52
JCJ S **Sn** **15 27 14.8 -5.1**
comp=Z,5.9nm,0.3s,baz=286,slow=19,SNR=3.8
JCJ LR LR 15 28 40.2
comp=Z,734nm,21.5s,baz=308,slow=33
YULB Yu-li 10.81 241 *e*Pn Pn 15 25 43.0 -6.4
comp=Z,14nm,0.5s
YULB *e*Sn **Sn** **15 27 48.0 -1.2**
SSLB Suanglung 10.86 243 Pn Pn 15 25 44.6 -5.6
SSLB *e*Sn **Sn** **15 27 49.0 -1.5**
NJ2 Nanjing 11.31 288 *e*P **Pn** **15 25 54.0 -2.2**
NJ2 S **Sn** **15 28 00.0 -1.3**
NJ2 LN
comp=Z,870nm,15.0s
NJ2 LE
comp=Z,860nm,14.3s
NJ2 LZ
comp=Z,970nm,13.7s
TPUB Ta-pu 11.37 242 *e*Pn Pn 15 25 52.4 -4.8
comp=Z,45nm,1.0s
TPUB *e*Sn **Sn** **15 28 00.2 -2.7**
QZH Quanzhou 12.26 253 ‖ *i*P Pn 15 26 14.0 +4.7
QZH S Sn 15 28 30.8 +6.2
QZH LN
comp=Z,840nm,15.4s
QZH LE
comp=Z,1μm,14.8s
QZH LZ
comp=Z,1μm,19.2s
SNY Shenyang 14.23 335 ‖P **Pn** **15 26 38.5 +2.5**
SNY S Sn 15 29 21.5 +9.0
SNY PMZ
comp=Z,13nm,0.4s
SNY LN
comp=Z,270nm,15.8s
SNY LE
comp=Z,490nm,17.8s
SNY LZ
comp=Z,370nm,18.1s
WHN Wuhan 14.98 280 P **P** **15 26 48.5 -2.5**
WHN S **Sn** **15 29 31.5 +0.5**
WHN LN
comp=Z,970nm,15.7s
WHN LE
comp=Z,940nm,15.7s
WHN LZ
comp=Z,740nm,14.9s
USRK Ussuriysk Ar. 15.06 1 P **P** **15 26 54.5 +2.8**
comp=Z,0.6nm,0.3s,baz=178,slow=9.1,SNR=19
USRK LR LR 15 32 22.4
comp=Z,114nm,19.0s,baz=172,slow=36
SZP Santa 15.35 224 *e*Pn **Pn** **15 26 50.2 -0.9**
comp=Z,361nm,0.9s
CN2 Changchun 15.44 343 *e*P **P** **15 26 57.0 +1.0**
CN2 PMZ
comp=Z,20nm,0.9s
ERM Erimo 15.95 33 *e*P **Pn** **15 26 59.7 +1.1**
ENH Enshi 19.19 279 *e*P **P** **15 27 35.4 -2.1**
comp=Z,44nm,0.9s
HABR Khabarovsk 19.52 7 P **P** **15 27 39.0 -1.9**
HABR *e*S **S** **15 31 15.9 -3.1**
HABR pmax pmax
comp=Z,11nm,0.9s
HABR MLR MLR
comp=Z,294nm,18.0s
GUMO Guam 19.80 139 LR LR 15 34 56.2
comp=Z,199nm,18.1s,baz=331,slow=35
YSS Yuzh-Sakhalins 19.84 23 *e*P Pn 15 27 53.0 +6.7
XAN Xi'an 19.87 290 P **P** **15 27 44.0 -0.9**
XAN PMZ
comp=Z,3.0nm,0.9s
HHC Hu-ho-hao-te 20.07 311 *e*P Pn 15 27 50.5 +1.3
HHC pP pP 15 28 02.0 +4.7
HHC sP sP 15 28 09.0 +6.4
HHC S **S** **15 31 31.8 +1.4**
HHC sS sS 15 31 44.3 -2.4
HHC SS **SnSn** **15 31 57.8 +9.0**
HHC PMZ
comp=Z,15nm,0.6s
HHC PMZ
comp=Z,120nm,3.9s
HHC LN
comp=Z,610nm,10.9s
HHC LE
comp=Z,680nm,11.0s
HHC LZ
comp=Z,650nm,9.9s
KLR Kul'dur 20.09 0 *e*P **P** **15 27 44.2 -2.9**
HIA Hailar 22.05 339 *e*P **P** **15 28 06.8 -1.5**
HIA pmax pmax
comp=Z,4.0nm,1.1s
GYA Guiyang 22.15 269 P **P** **15 28 08.5 -1.2**
GYA pP **pP** **15 28 20.8 +0.8**
GYA PP **PnPn** **15 28 36.0 +3.1**
GYA S S 15 32 02.5 -9.0
GYA sS Sn 15 32 23.5 -0.8
GYA SS **SnSn** **15 32 45.0 +5.0**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.9s
GYA LN
comp=Z,540nm,16.5s
GYA LE
comp=Z,480nm,17.0s
GYA LZ
comp=Z,500nm,16.6s
CD2 Chengdu 24.10 281 *e*P **P** **15 28 27.3 -1.8**
CD2 pP **pP** **15 28 38.8 -1.4**
CD2 sP **sP** **15 28 44.3 -0.9**
CD2 PcP **PcP** **15 32 08.3 -1.3**
CD2 S **S** **15 32 42.0 -2.0**
CD2 sS **sS** **15 33 01.8 -0.8**
CD2 PMZ
comp=Z,30nm,0.8s
CD2 PMZ
comp=Z,130nm,4.3s
CD2 LN
comp=Z,340nm,17.7s
CD2 LE
comp=Z,340nm,11.7s
CD2 LZ
comp=Z,360nm,10.6s
LZH Lanzhou 24.29 294 *e*P **P** **15 28 31.8 +0.9**
LZH pP **pP** **15 28 41.3 -0.8**
LZH sP **sP** **15 28 46.8 -0.3**
LZH PP **PnPn** **15 29 07.0 +4.9**
LZH S **S** **15 32 44.5 -2.7**
LZH sS **sS** **15 33 01.0 -4.8**
LZH SS **SnSn** **15 33 38.3 +6.0**
LZH PMZ
comp=Z,18nm,1.0s
LZH PMZ
comp=Z,73nm,4.3s
LZH LN
comp=Z,500nm,12.3s
LZH LE
comp=Z,540nm,14.2s
LZH LZ
comp=Z,580nm,14.0s
KMI Kunming 25.90 268 P P 15 28 50.8 +5.1
KMI pP pP 15 29 02.5 +5.6
KMI pmax pmax
comp=Z,16nm,0.7s
SONM Songino Array 26.95 321 P **P** **15 28 54.5 -0.3**
comp=Z,4.1nm,0.7s,baz=140,slow=11,SNR=14
SONM LR LR 15 40 41.6
comp=Z,154nm,19.0s,baz=119,slow=39
SONM Songino Array 26.95 321 P **P** **15 28 54.5 -0.3**
SONM pmax pmax
comp=Z,4.0nm,0.7s
SONM MLR MLR
comp=Z,154nm,19.0s
UBPT Khong Chiam 27.70 246 P **P** **15 29 04.2 +2.5**
comp=Z,13nm,1.2s
SKNT Sakolnakorn 28.01 250 P **P** **15 29 05.8 +1.3**
comp=Z,21nm,1.4s
GTA Gaotai 28.02 300 *e*P **P** **15 29 06.3 +1.7**
GTA pP **pP** **15 29 17.5 +1.7**
GTA sP **sP** **15 29 22.8 +2.0**
GTA S **S** **15 33 49.5 +3.2**
GTA sS sS 15 34 10.3 +5.2
GTA PMZ
comp=Z,2.0nm,0.9s
GTA PMZ
comp=Z,36nm,5.8s
GTA LN
comp=Z,190nm,18.1s
GTA LE
comp=Z,290nm,13.8s
GTA LZ
comp=Z,300nm,16.6s
ZAK Zakamensk 30.08 323 *e*P **P** **15 29 19.8 -2.8**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
UTTA Uttaradit 30.50 255 P **P** **15 29 27.6 +1.0**
comp=Z,4.7nm,0.8s
TLY Talaya 30.64 325 *e*P **P** **15 29 27.5 0.0**
TLY pmax pmax
comp=Z,5.0nm,0.8s
PBKT Sadao Pong 30.71 253 P **P** **15 29 29.6 +1.2**
comp=Z,19nm,1.0s
PETK Petropavlovsk- 30.72 31 LR LR 15 42 33.1
comp=Z,98nm,19.0s,baz=236,slow=38
CMMT Chiang Mai 31.40 258 P **P** **15 29 35.9 +1.4**
comp=Z,15nm,1.1s,comp=Z,513nm
CHTO Chiang Mai 31.40 258 P **P** **15 29 36.0 +1.5**
comp=Z,52nm,1.1s
CHTO Chiang Mai 31.40 258 *e*P **P** **15 29 34.6 +0.1**
comp=Z,6.6nm,0.7s
CMAR Chiang Mai Arr 31.56 258 P **P** **15 29 36.6 +0.8**
comp=Z,1.5nm,0.8s,baz=53,slow=6.9,SNR=13
CMAR PcP **PcP** **15 32 26.9 -1.0**
comp=Z,2.0nm,0.8s,baz=14,slow=1.1,SNR=9.8
CMAR LR LR 15 43 34.8
comp=Z,113nm,18.7s,baz=72,slow=39
JAY Jayapura 32.66 163 LR LR 15 40 07.2
comp=Z,107nm,19.7s,baz=357,slow=31
YAK Yakutsk 32.94 358 *e*P **P** **15 29 46.3 -1.2**
YAK *e**PP **pP** **15 29 54.2 -4.6**
YAK *e*PPP PPP 15 31 04.8
YAK *e* 15 32 34.3
YAK *e*S **S** **15 34 57.4 -5.0**
YAK *e**SS sS 15 35 13.2 -8.1
YAK *e*SSS SSS 15 37 06.4
YAK *e* 15 40 14.4
YAK pmax pmax
comp=Z,6.0nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=Z,10.0nm,1.8s
YAK smax smax
comp=N,40nm,2.6s
YAK smax smax
comp=E,19nm,2.0s
YAK MLR MLR
comp=Z,157nm,20.0s
YAK MLR MLR
comp=N,125nm,18.0s
YAK Yakutsk 32.94 358 *e*P **P** **15 29 45.4 -2.0**
comp=N,16nm,0.7s
KSM Kuching 34.13 220 *e*P **P** **15 29 58.0 -0.3**
comp=N,31nm,1.0s
HVS Khovu-Aksy 35.77 319 *e*P **P** **15 30 11.8 -0.5**
SRIT Nakonsritamara 36.27 242 P **P** **15 30 19.1 +2.3**
comp=N,47nm,0.9s
SEY Seymchan 36.43 16 P P 15 30 23.7 +6.1
comp=N,1.8nm,0.9s,baz=37,slow=20,SNR=2.8
SEY Seymchan 36.43 16 *e*P **P** **15 30 18.4 +0.8**
WMQ Urumqi 37.73 305 P **P** **15 30 29.8 +0.8**
WMQ pP **pP** **15 30 42.0 +1.5**
WMQ sP **sP** **15 30 47.5 +2.1**
WMQ PP **PnPn** **15 32 00.0 +3.0**
WMQ PMZ
comp=N,4.0nm,1.9s
WMQ PMZ
comp=N,93nm,6.2s
WMQ LN
comp=N,170nm,15.0s
WMQ LE
comp=N,120nm,6.0s
WMQ LZ
comp=N,81nm,21.0s
ODAN Odare 38.88 278 *e*P **P** **15 30 37.8 -1.3**
comp=N,31nm,0.7s
GUN Gumba 39.94 280 *e*P **P** **15 30 47.8 -0.3**
comp=N,108nm,0.8s
PKI Pulchoki 40.42 279 *e*P **P** **15 30 51.0 -1.1**
comp=N,57nm,0.9s
PKIN Phulchoki 40.43 279 *e*P **P** **15 30 51.3 -0.8**
comp=N,12nm,0.6s
KKN Kakani 40.49 280 *e*P **P** **15 30 51.5 -0.9**
comp=N,52nm,0.9s
PSI Prapat 40.56 236 *e*P **P** **15 30 52.9 -0.2**
comp=N,9.2nm,0.7s
DMN Daman 40.68 279 *e*P **P** **15 30 53.0 -1.1**
comp=N,31nm,0.9s
GKN Gorkha 40.99 280 *e*P **P** **15 30 55.6 -0.9**
comp=N,30nm,0.8s
ZALV Zalesovo Beam 41.83 320 P **P** **15 31 03.6 +0.8**
comp=N,1.0nm,0.6s,baz=99,slow=9.2,SNR=5.9
ZALV PcP **PcP** **15 32 57.4 -0.8**
comp=N,2.5nm,0.7s,baz=113,slow=3.9,SNR=7.2
ZALV Zalesovo Beam 41.83 320 P **P** **15 31 03.6 +0.8**
ZALV 15 32 57.4
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 41.91 309 *e*P **P** **15 31 01.6 -2.0**
KOLN Koldanda 41.94 280 *e*P **P** **15 31 04.1 -0.2**
comp=Z,25nm,0.8s
GSI Gunungsitoli 42.56 236 *e*P **P** **15 31 08.5 -0.8**
comp=Z,139nm,1.5s
TIXI Tiksi 42.60 359*c e*P **P** **15 31 08.3 -0.6**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 42.60 359 *e*P **P** **15 31 09.1 +0.2**
comp=Z,5.8nm,0.8s
NVS Novosibirsk 42.98 321 *e*P P 15 31 16.5 +4.4
KURK Kurchatov 44.84 314 *e*P **P** **15 31 26.3 -0.8**
comp=Z,9.4nm,0.6s
KSH Kashi 46.40 298 *e*P **P** **15 31 42.3 +2.4**
KSH pP **pP** **15 31 54.5 +3.0**
TKM2 Tokmak 2 46.49 303 *e*P **P** **15 31 40.3 -0.2**
comp=Z,5.5nm,0.6s
WRA Warramunga Arr 48.85 176 P **P** **15 31 59.3 +0.5**
comp=Z,1.2nm,0.8s,baz=355,slow=8.2,SNR=10
WRA Warramunga Arr 48.85 176 P **P** **15 31 59.3 +0.5**
WRA pmax pmax
comp=Z,1.0nm,0.8s
KKAR Karatay Array 50.20 303 *e*P **P** **15 32 08.7 -0.3**
BRVK Borovoye 50.21 316*c i*P **P** **15 32 08.6 -0.2**
BRVK pmax pmax
comp=Z,13nm,1.2s
BRVK Borovoye 50.21 316 *e*P **P** **15 32 08.2 -0.6**
comp=Z,19nm,0.6s
CTA Charters Tower 50.94 162 P **P** **15 32 15.6 +0.9**
comp=Z,7.2nm,1.1s,baz=18,slow=9.6,SNR=2.5
CTA Charters Tower 50.94 162 P **P** **15 32 15.6 +0.9**
CTA pmax pmax
comp=Z,7.0nm,1.1s
ASAR Alice Springs 52.53 177 P **P** **15 32 27.6 +1.1**
comp=Z,1.9nm,0.8s,baz=8.9,slow=14,SNR=22
ASAR Alice Springs 52.53 177 P **P** **15 32 27.6 +1.1**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
SVE Sverdlovsk 55.82 321 *e*P **P** **15 32 50.5 +0.4**
SVE pmax pmax
comp=Z,20nm,1.4s
ABKAR Akbulak array 56.85 312 *e*P **P** **15 32 57.5 -0.1**
ARU Arti 56.98 321*c i*P **P** **15 32 58.4 0.0**
ARU *PP **pP** **15 33 14.5 +4.2**
ARU 15 35 01.0
ARU S **S** **15 40 50.5 +1.0**
ARU SS **SS** **15 44 33.4 -4.6**
ARU pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 56.98 321 *e*P **P** **15 32 57.0 -1.3**
comp=Z,15nm,1.2s
IMYA Miami 59.30 297 *e*Pn **P** **15 33 15.9 +0.8**
MCK McKinley 59.72 30 *e*P **P** **15 33 18.3 +0.9**
comp=Z,5.6nm,0.8s
GEYT Alibeck 60.41 299 P **P** **15 33 23.4 +0.9**
comp=Z,4.8nm,0.7s,baz=46,slow=4.3,SNR=8.2
IKRD Kardeh 60.41 298 *e*Pn P 15 33 18.9 -4.0
IDAH Dahanechah 60.49 293 *e*Pn **P** **15 33 24.3 +0.8**
ILAR Eielson Array 60.51 29 P P 15 33 28.8 +6.1
comp=Z,1.1nm,0.8s,baz=264,slow=5.6,SNR=7.9
ILAR LR LR 16 01 13.2
comp=Z,36nm,19.1s,baz=205,slow=38
ILAR Eielson Array 60.51 29 P P 15 33 28.8 +6.1
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR MLR MLR
comp=Z,36nm,19.1s
IKOO Kooshah 61.28 293 *e*Pn **P** **15 33 30.4 +1.6**
ITEG Tejag 61.34 294 *e*Pn **P** **15 33 30.5 +1.3**
STKA Stephens Creek 61.41 170 P **P** **15 33 30.6 +1.4**
comp=Z,2.8nm,0.6s,baz=334,slow=8.5,SNR=5.6
STKA Stephens Creek 61.41 170 P **P** **15 33 30.6 +1.4**
STKA pmax pmax
comp=Z,3.0nm,0.6s
IBAF Bafgh 64.31 293 *e*Pn **P** **15 33 49.7 +0.8**
TMCR Tamitsa 65.68 331 *e*P **P** **15 33 59.0 +2.0**
TMCR pmax pmax
comp=Z,26nm,1.5s
IZEF Zefreh 66.45 296 *e*Pn **P** **15 34 04.2 +1.3**
SPITS Spitsbergen Ar 66.61 348 LR LR 16 05 39.3
comp=Z,57nm,19.9s,baz=40,slow=38
IPIR Pirpir 67.66 296 *e*Pn **P** **15 34 10.4 -0.1**
VRHR Novokhopersk 67.88 317 *e*P **P** **15 34 10.1 -1.1**
VRHR pmax pmax
comp=N,7.0nm,0.5s
VRHR pmax pmax
comp=E,5.0nm,0.5s
VRHR pmax pmax
comp=Z,7.0nm,0.5s
ARCES ARCESS Array B 68.39 339 P **P** **15 34 14.3 +0.1**
comp=Z,2.6nm,0.7s,baz=60,slow=7.2,SNR=6.6
ARCES LR LR 16 10 02.6
comp=Z,119nm,18.3s,baz=60,slow=41
VSR Storozhevoye 69.29 318 *e*P **P** **15 34 19.6 -0.4**
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,5.0nm,0.8s
VSR pmax pmax
comp=Z,9.0nm,0.8s
VORD Divnogorie 69.30 318 *e*P **P** **15 34 19.4 -0.7**
VORD pmax pmax
comp=N,10.0nm,0.5s
VORD pmax pmax
comp=Z,10.0nm,0.5s
VORD pmax pmax
comp=E,6.0nm,0.4s
OBN Obninsk 69.34 322 *e*P **P** **15 34 18.4 -1.9**
OBN *i* 15 34 43.0
OBN pmax pmax
comp=Z,6.0nm,1.2s
OBN MLR MLR
comp=Z,124nm,20.0s
KBZ Khabaz 69.60 309 P **P** **15 34 23.8 +1.7**
comp=Z,8.7nm,0.9s,baz=185,slow=4.2,SNR=12
KBZ Khabaz 69.60 309 P **P** **15 34 23.8 +1.7**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
GNI Garni 69.61 305 *i*P **P** **15 34 23.1 +0.6**
GNI pmax pmax
comp=Z,12nm,1.2s
KIV Kislovodsk 69.66 310 *i*P **P** **15 34 23.0 +0.4**
KIV *i* 15 34 30.4
KIV *i* 15 34 38.7
KIV pmax pmax
comp=Z,18nm,1.2s
KIV MLR MLR
comp=Z,44nm,19.0s
KIV Kislovodsk 69.66 310 *e*P **P** **15 34 19.8 -2.8**
comp=Z,34nm,1.3s
NEY Neytrino 69.89 309 *e*P **P** **15 34 24.1 -0.1**
FIA1 FINESS Array S 71.79 331 *e*P **P** **15 34 34.5 -0.5**
FINES FINESS Array B 71.79 331 P **P** **15 34 34.8 -0.3**
comp=Z,1.7nm,0.4s,baz=82,slow=5.8,SNR=33
FINES LR LR 16 09 56.7
comp=Z,137nm,18.0s,baz=58,slow=39
FINES FINESS Array B 71.79 331 P **P** **15 34 34.8 -0.3**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES MLR MLR
comp=Z,137nm,18.0s

RES	**Resolute Bay**	**72.15**	**12**	LR	LR	16 08 56.2	
	comp=Z,44nm,18.5s,baz=342,slow=38						
VSU	**Vasula**	**72.88**	**328**	*i* P	**P**	**15 34 41.5**	**-0.1**
VSU				pmax	pmax		
	comp=Z,15nm,1.0s						
BBB	**Bella Bella**	**73.46**	**39**	LR	LR	16 07 23.6	
	comp=Z,12nm,18.8s,baz=12,slow=36						
YKA	**Yellowknife Ar**	**74.67**	**26**	P	**P**	**15 34 52.9**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=302,slow=5.9,SNR=3.3						
MALT	**Malatya**	**74.83**	**306**	⇑*i* P	**P**	**15 34 55.1**	**+1.4**
AKASG	**Malin Array Be**	**75.23**	**320**	P	**P**	**15 34 55.4**	**-0.1**
	comp=Z,5.7nm,0.7s,baz=51,slow=5.9,SNR=17						
AKASG				LR	LR	16 08 57.1	
	comp=Z,54nm,19.7s,baz=95,slow=36						
AKASG	**Malin Array Be**	**75.23**	**320**	P	**P**	**15 34 55.4**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AKASG				MLR	MLR		
	comp=Z,54nm,19.7s						
AKBB	**Malin Array Si**	**75.23**	**320**	*e*P	**P**	**15 34 54.9**	**-0.6**
AK01	**Malin Array Si**	**75.24**	**320**	*e*P	**P**	**15 34 55.5**	**-0.1**
KIEV	**Kiev**	**75.24**	**320c**	*i* P	**P**	**15 34 55.4**	**-0.2**
KIEV	**Kiev**	**75.24**	**320**	*e*P	**P**	**15 34 55.3**	**-0.2**
	comp=Z,8.5nm,0.8s						
AK02	**Malin Array Si**	**75.26**	**320**	*e*P	**P**	**15 34 55.5**	**-0.1**
RAYN	**Ar Rayn**	**75.66**	**289**	*e*P	**P**	**15 34 58.4**	**-0.1**
BR131	**Keskin Array S**	**77.56**	**309**	P	**P**	**15 35 07.5**	**-1.6**
	comp=Z,6.9nm,0.8s						
BRTR	**Keskin Array B**	**77.56**	**309**	P	**P**	**15 35 09.8**	**+0.7**
	comp=Z,3.2nm,0.8s,baz=114,slow=4.6,SNR=11						
BRTR	**Keskin Array B**	**77.56**	**309**	P	**P**	**15 35 09.8**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NB2	**NORSAR Subarra**	**78.00**	**335**	P	**P**	**15 35 10.4**	**-0.7**
	comp=Z,3.5nm,0.7s,baz=51,slow=5.9						
NOA	**NORSAR Array B**	**78.00**	**335**	P	**P**	**15 35 10.6**	**-0.5**
	comp=Z,3.0nm,0.6s,baz=51,slow=5.6,SNR=21						
NOA				LR	LR	16 15 15.0	
	comp=Z,24nm,18.6s,baz=105,slow=40						
SUMG	**Summit**	**78.34**	**357**	*e*P	**P**	**15 35 11.4**	**-1.8**
	comp=Z,8.2nm,0.8s						
TIRR	**Tirgusor**	**78.72**	**315**	⇓*i* P	pP	15 35 25.8	-1.9
TESR	**Tescani**	**78.76**	**317**	⇓*i* P	**P**	**15 35 16.3**	**+0.8**
BUR08	**Bucovina Ar. S**	**79.03**	**319**	*e*P	**P**	**15 35 16.5**	**-0.6**
BURAR	**Bucovina Array**	**79.04**	**319**	⇑*i* P	**P**	**15 35 17.5**	**+0.4**
VRI	**Vrincioaia**	**79.04**	**317**	⇑*i* P	**P**	**15 35 18.9**	**+1.8**
PLOR	**Plostina**	**79.10**	**317**	⇓*i* P	**P**	**15 35 18.3**	**+0.9**
MSAB	**Monastry St. A**	**79.26**	**315**	⇓*i* P	**P**	**15 35 19.4**	**+1.1**
KWP	**Kalwaria Pacla**	**79.38**	**321**	*e*P	**P**	**15 35 19.9**	**+1.0**
KWP	**Kalwaria Pacla**	**79.38**	**321**	*e*P	**P**	**15 35 19.9**	**+1.0**
MLR	**Muntele Rosu**	**79.70**	**316**	⇑*i* P	**P**	**15 35 21.7**	**+0.9**
KOLS	**Kolonicke sedl**	**80.00**	**321**	*e*P	**P**	**15 35 22.3**	**+0.1**
KOLS				pmax	pmax		
	comp=Z,5.0nm,1.4s						
KOLS	**Kolonicke sedl**	**80.00**	**321**	*e*P	**P**	**15 35 22.3**	**+0.1**
KOLS				*ep*P	**pP**	**15 35 32.6**	**-2.1**
VOIR		**80.27**	**317**	⇑*i* P	**P**	**15 35 24.9**	**+1.1**
STHS	**Stebnicka Huta**	**80.30**	**322**	*e*P	**P**	**15 35 25.2**	**+1.4**
STHS				pmax	pmax		
	comp=Z,2.0nm,1.0s						
STHS	**Stebnicka Huta**	**80.30**	**322**	*e*P	**P**	**15 35 25.2**	**+1.4**
STHS				*ep*P	**pP**	**15 35 35.0**	**-1.3**
OJC	**Ojcow**	**80.63**	**323**	*e*P	**P**	**15 35 26.6**	**+1.1**
OJC	**Ojcow**	**80.63**	**323**	*e*P	**P**	**15 35 26.6**	**+1.1**
OJC	**Ojcow**	**80.63**	**323**	*e*P	**P**	**15 35 24.6**	**-0.9**
	comp=Z,14nm,0.9s						
NIE	**Niedzica**	**80.80**	**322**	*e*P	**P**	**15 35 28.2**	**+1.6**
NIE	**Niedzica**	**80.80**	**322**	*e*P	**P**	**15 35 28.2**	**+1.6**
DRGR		**80.92**	**319**	⇑*i* P	**P**	**15 35 28.1**	**+0.8**
KECS	**Kecovo**	**81.24**	**321**	*e*P	**P**	**15 35 29.8**	**+1.0**
KECS				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KECS	**Kecovo**	**81.24**	**321**	*e*P	**P**	**15 35 29.8**	**+1.0**
KECS				*ep*P	**pP**	**15 35 39.1**	**-2.2**
NEW	**Newport**	**81.52**	**39**	LR	LR	16 18 11.2	
	comp=Z,15nm,18.0s,baz=302,slow=40						
GZR	**Gura Zlata**	**81.65**	**318**	⇑*i* P	**P**	**15 35 31.5**	**+0.4**
OKC	**Ostrava-Krasne**	**81.72**	**323**	*ep*P	pP	15 35 41.7	-2.1
OKC	**Ostrava-Krasne**	**81.72**	**323**	*e*P	pP	15 35 41.7	-2.1
KDZ	**Kurdzhali**	**82.04**	**313**	⇑*i* P	**P**	**15 35 34.5**	**+1.3**
MORC	**Moravsky Berou**	**82.07**	**323**	⇑*i* P	**P**	**15 35 34.2**	**+0.9**
MORC	**Moravsky Berou**	**82.07**	**323**	*e*P	**P**	**15 35 31.6**	**-1.7**
	comp=Z,34nm,1.3s						
KRLC	**Kraliky**	**82.29**	**324**	*e*P	**P**	**15 35 35.2**	**+0.8**
KRLC				*ep*P	**pP**	**15 35 43.8**	**-3.1**
KRLC	**Kraliky**	**82.29**	**324**	*e*P	**P**	**15 35 35.2**	**+0.8**
KRLC				*e*		15 35 43.8	
DPC	**Dobruska-Polom**	**82.36**	**324**	*e*P	**P**	**15 35 36.3**	**+1.5**
DPC				*ep*P	**pP**	**15 35 44.7**	**-2.6**
DPC	**Dobruska-Polom**	**82.36**	**324**	*e*P	**P**	**15 35 36.3**	**+1.5**
DPC				*e*		15 35 44.7	
UPC	**Upice**	**82.42**	**324**	*e*P	**P**	**15 35 35.6**	**+0.6**
UPC				*ep*P	**pP**	**15 35 45.1**	**-2.4**
UPC	**Upice**	**82.42**	**324**	*e*P	**P**	**15 35 35.6**	**+0.6**
UPC				*e*		15 35 45.1	
VRAC	**Vranov**	**82.84**	**323**	⇓*i* P	**P**	**15 35 38.7**	**+1.4**
MMB	**Musomiste**	**83.14**	**314**	⇓*i* P	**P**	**15 35 39.2**	**+0.2**
BRG	**Berggiesshubel**	**83.23**	**326**	*e*P	**P**	**15 35 39.9**	**+0.7**
	comp=Z,6.2nm,0.8s						
BRG	**Berggiesshubel**	**83.23**	**326**	*e*P	**P**	**15 35 40.3**	**+1.1**
	comp=Z,6.0nm,0.8s						
BRG	**Berggiesshubel**	**83.23**	**326**	*e*P	**P**	**15 35 39.9**	**+0.7**
BRG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GOPC	**GO Pecny, Ondr**	**83.41**	**324**	*e*P	**P**	**15 35 41.1**	**+0.9**
GOPC				*ep*P	**pP**	**15 35 50.3**	**-2.4**
GOPC				*es*P	**sP**	**15 35 56.8**	**-0.6**
GOPC				AMS	AMS	16 16 20.0	
	comp=Z,100nm,17.4s						
CLL	**Collm**	**83.42**	**326**	*e*P	**P**	**15 35 41.2**	**+1.0**
	comp=Z,20nm,0.8s						
CLL	**Collm**	**83.42**	**326**	⇑*i* P	**P**	**15 35 40.6**	**+0.4**
	comp=Z,20nm,0.8s						
CLL				*e*		15 35 47.0	
CLL				*i* pP	**pP**	**15 35 50.5**	**-2.2**
CLL				*es*P	**sP**	**15 35 56.0**	**-1.4**
CLL				Lm	MLR	16 16 00.0	
	comp=Z,200nm,18.7s						
CLL	**Collm**	**83.42**	**326**	⇑*i* P	**P**	**15 35 40.6**	**+0.4**
CLL				*e*		15 35 47.0	
CLL				pmax	pmax		
	comp=Z,20nm,0.8s						
CLL				MLR	MLR		
	comp=Z,200nm,18.7s						
CLL	**Collm**	**83.42**	**326**	*e*P	**P**	**15 35 38.6**	**-1.6**
	comp=Z,20nm,0.7s						
TREC	**Trest**	**83.43**	**324**	*e*P	**P**	**15 35 41.2**	**+0.9**
TREC				*ep*P	**pP**	**15 35 50.5**	**-2.3**
TREC				AMS	AMS	16 16 40.0	
	comp=Z,100nm,21.1s						
TREC	**Trest**	**83.43**	**324**	*e*P	**P**	**15 35 41.2**	**+0.9**
TREC				*e*		15 35 50.5	
TREC				MLR	MLR		
	comp=Z,100nm,21.1s						
PRU	**Pruhonice**	**83.49**	**325**	*e*P	**P**	**15 35 41.4**	**+0.9**
PRU				*ep*P	**pP**	**15 35 51.0**	**-2.1**
PRU				AMS	AMS	16 16 30.0	
	comp=Z,100nm,16.7s						
PRU	**Pruhonice**	**83.49**	**325**	*e*P	**P**	**15 35 41.4**	**+0.9**
PRU				*e*		15 35 51.0	
PRU				MLR	MLR		
	comp=Z,100nm,16.7s						
FBE	**Freiberg**	**83.50**	**326**	*e*P	**P**	**15 35 42.0**	**+1.4**
	comp=Z,15nm,0.8s						
PKSM	**Moragy**	**83.57**	**320**	⇓*i* P	**P**	**15 35 41.9**	**+0.9**
DIVS	**Divibare**	**84.02**	**318**	⇑*i* P	**P**	**15 35 44.4**	**+0.9**
NEUB	**Neuenburg**	**84.08**	**327**	*e*P	**P**	**15 35 44.8**	**+1.3**
	comp=Z,28nm,0.8s						
TANN	**Tannenbergstha**	**84.26**	**326**	*e*P	**P**	**15 35 45.5**	**+1.0**
	comp=Z,4.0nm,0.9s						
WERD	**Werda**	**84.31**	**326**	*e*P	**P**	**15 35 45.8**	**+1.0**
	comp=Z,6.0nm,1.2s						
CLZ	**Clausthal**	**84.33**	**328**	*e*P	**P**	**15 35 46.1**	**+1.2**
	comp=Z,14nm,1.0s						
GUNZ	**Gunzen**	**84.35**	**326**	*e*P	**P**	**15 35 46.2**	**+1.2**
	comp=Z,7.0nm,0.9s						
NKC	**Novy Kostel**	**84.38**	**326**	*e*P	**P**	**15 35 45.8**	**+0.7**
NKC				*e*PCP	**PcP**	**15 35 51.0**	**+2.2**
NKC				*ep*P	**pP**	**15 35 55.4**	**-2.3**
NKC				AMS	AMS	16 17 10.0	
	comp=Z,100nm,18.3s						
NKC	**Novy Kostel**	**84.38**	**326**	*e*P	**P**	**15 35 45.8**	**+0.7**
NKC				*e*		15 35 55.4	
NKC				MLR	MLR		
	comp=Z,100nm,18.3s						
WERN	**Wernitzgruen**	**84.38**	**326**	*e*P	**P**	**15 35 46.3**	**+1.2**
	comp=Z,9.0nm,0.9s						
KHC	**Kasperske Hory**	**84.51**	**324**	*e*P	**P**	**15 35 46.8**	**+0.9**
KHC				*ex*	x	15 35 53.8	
KHC				*ep*P	**pP**	**15 35 55.1**	**-3.3**
KHC				AMS	AMS	16 17 00.0	
	comp=Z,100nm,14.1s						
KHC	**Kasperske Hory**	**84.51**	**324**	*e*P	**P**	**15 35 45.8**	**-0.1**
	comp=Z,8.7nm,1.8s						
MOX	**Moxa**	**84.52**	**326**	*e*L	L	16 17 44.4	
	comp=Z,117nm,18.3s						
GERES	**GERESS Array B**	**84.63**	**324**	P	**P**	**15 35 47.2**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=46,slow=5.8,SNR=13						
GERES				LR	LR	16 17 45.9	
	comp=Z,75nm,18.1s,baz=40,slow=39						
GERES	**GERESS Array B**	**84.63**	**324**	P	**P**	**15 35 47.2**	**+0.7**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES				MLR	MLR		
	comp=Z,75nm,18.1s						
MANZ	**Manzenberg**	**84.70**	**326**	*e*P	**P**	**15 35 47.9**	**+1.1**
	comp=Z,4.0nm,1.1s						
ROTZ	**Rotzenmuhle**	**84.80**	**325**	*e*P	**P**	**15 35 48.6**	**+1.4**
	comp=Z,4.0nm,0.9s						
WET	**Wettzell**	**84.86**	**325**	*e*P	**P**	**15 35 48.6**	**+1.0**
	comp=Z,3.0nm,1.1s						
GRF	**Grafenberg Arr**	**85.33**	**326**	*e*L	L	16 17 48.6	
	comp=Z,106nm,20.0s						
DLMT	**Dillon**	**85.75**	**40**	*e*P	**P**	**15 35 51.5**	**-0.8**
	comp=Z,4.0nm,0.9s						
HLID	**Hailey**	**85.80**	**42**	*e*P	**P**	**15 35 50.7**	**-1.9**
	comp=Z,2.5nm,1.0s						
NVAR	**Mina Array Bea**	**86.40**	**48**	P	**P**	**15 35 57.2**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=300,slow=5.7,SNR=4.6						
PDAR	**Pinedale Array**	**89.08**	**40**	P	**P**	**15 36 09.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=344,slow=2.0,SNR=2.8						
PPT	**Papeete**	**89.11**	**111**	LR	LR	16 09 48.2	
	comp=Z,33nm,19.3s,baz=100,slow=31						
SCHQ	**Schefferville**	**94.91**	**11**	LR	LR	16 21 58.1	
	comp=Z,52nm,21.0s,baz=296,slow=37						
TORD	**Torodi Ar. Bea**	**115.89**	**304**	PKP	**PKPdf**	**15 41 55.6**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=32,slow=3.2,SNR=3.3						
DBIC	**Dimbokro**	**124.99**	**303**	PKP	**PKPdf**	**15 42 13.9**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=18,slow=3.2,SNR=3.1						
DBIC	**Dimbokro**	**124.99**	**303**	PKIKP	**PKPdf**	**15 42 14.0**	**+0.3**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						

*ISCJB **25** 15:27:31.2±0.5, 35°.49N±0°.04×26°.34E±0°.03, h26km±6km, Error ellipse: s-maj=6.6km s-min=4.4km az=167.8*
*THE **25** 15:27:31.2, 35°.46N×26°.31E, h13km±10km, ML3.0/3, Error ellipse: s-maj=12.5km s-min=0.5km az=168.0*
*ATH **25** 15:27:31.4, 35°.46N×26°.33E, h22km±3km, MD3.0/7*
*CSEM **25** 15:27:31.0±0.2, 35°.49N×26°.34E, h20km, MD3.0, Error ellipse: s-maj=6.0km s-min=4.6km az=155.0*
*ISK **25** 15:27:39.0, 36°.44N×26°.27E, h22km, MD3.5*

ISC 25 15:27:30.6±1.0, 35°.54N±0°.03×26°.33E±0°.02, h15km±9km, n51, σ1§98/65, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.43**	**192**	*e*PB	**Pg**	**15 27 38.8**	**-0.5**
ZKR				*e*SB	**Sg**	**15 27 45.3**	**+0.1**
ZKR	**Zakros**	**0.43**	**192**	*e*Pb	**Pg**	**15 27 38.8**	**-0.5**
ZKR				*e*Sb	**Sg**	**15 27 45.3**	**+0.1**
NPS	**Neapolis**	**0.65**	**245**	P	**Pg**	**15 27 43.2**	**0.0**
NPS				S	**Sg**	**15 27 51.8**	**0.0**
NPS	**Neapolis**	**0.65**	**245**	*e*PB	**Pg**	**15 27 43.2**	**0.0**
NPS				*e*SN	**Sg**	**15 27 51.8**	**0.0**
NPS	**Neapolis**	**0.65**	**245**	P	**Pg**	**15 27 43.2**	**0.0**
NPS				S	**Sg**	**15 27 51.8**	**0.0**
KARP	**Karpathos**	**0.68**	**89**	P	**Pb**	**15 27 44.4**	**+0.2**
KARP				S	**Sn**	**15 27 55.0**	**-1.1**
KARP	**Karpathos**	**0.68**	**89**	*e*PN	**Pb**	**15 27 44.5**	**+0.2**
KARP				*e*SN	**Sb**	**15 27 54.7**	**+1.3**
KARP	**Karpathos**	**0.68**	**89**	P	**Pb**	**15 27 44.4**	**+0.2**
KARP				*e*Sn	**Sb**	**15 27 54.7**	**+1.3**
KARP				S	**Sn**	**15 27 55.0**	**-1.1**
LAST	**Lasithi**	**0.79**	**242**	*e*PN	**Pg**	**15 27 45.7**	**-0.2**
LAST				*e*SN	**Sb**	**15 27 57.2**	**+0.7**
LAST	**Lasithi**	**0.79**	**242**	*e*Pn	**Pg**	**15 27 45.7**	**-0.2**
LAST				*e*Sn	**Sb**	**15 27 57.2**	**+0.7**
THR1	**Thera Island**	**1.09**	**320**	*e*PG	**Pg**	**15 27 52.4**	**+0.8**
THR1				*e*SG	**Sb**	**15 28 02.4**	**-2.7**
THR1	**Thera Island**	**1.09**	**320**	P	**Pn**	**15 27 51.5**	**+0.2**
THR1	**Thera Island**	**1.09**	**320**	P	**Pn**	**15 27 51.5**	**+0.2**
THR1	**Thera Island**	**1.09**	**320**	*e*Pg	**Pg**	**15 27 52.4**	**+0.8**
THR1				*e*Sg	**Sb**	**15 28 02.4**	**-2.7**
SANT	**Santorini**	**1.09**	**320**	P	**Pn**	**15 27 51.4**	**+0.1**
SANT				S	**Sn**	**15 28 07.2**	**+1.1**
SANT	**Santorini**	**1.09**	**320**	P	**Pn**	**15 27 51.4**	**+0.1**
SANT				S	**Sn**	**15 28 07.2**	**+1.1**
THR6	**Thira Island,**	**1.11**	**318**	P	**Pg**	**15 27 51.9**	**-0.1**
THR6	**Thira Island,**	**1.11**	**318**	P	**Pg**	**15 27 51.9**	**-0.1**
THR3	**Thira Island,**	**1.15**	**319**	P	**Pn**	**15 27 51.9**	**-0.2**
THR3	**Thira Island,**	**1.15**	**319**	P	**Pn**	**15 27 51.9**	**-0.2**
THR5	**Thira Island,**	**1.18**	**318**	*e*PG	**Pg**	**15 27 54.0**	**+0.6**
THR5	**Thira Island,**	**1.18**	**318**	P	**Pb**	**15 27 52.7**	**0.0**
THR5	**Thira Island,**	**1.18**	**318**	P	**Pb**	**15 27 52.7**	**0.0**
THR5	**Thira Island,**	**1.18**	**318**	*e*Pg	**Pg**	**15 27 54.0**	**+0.6**
NIS1	**Nisyros Isl.**	**1.27**	**33**	*e*PG	**Pg**	**15 27 54.2**	**+0.1**
NIS1	**Nisyros Isl.**	**1.27**	**33**	*e*PN	**Pg**	**15 27 56.8**	**+1.8**
NIS1	**Nisyros Isl.**	**1.27**	**33**	*e*Pg	**Pb**	**15 27 54.2**	**+0.1**
SIVA	**Sivas**	**1.34**	**248**	*e*PN	**Pg**	**15 27 56.7**	**+0.2**
SIVA	**Sivas**	**1.34**	**248**	*e*Pn	**Pg**	**15 27 56.7**	**+0.2**
ARG	**Arkhangelos**	**1.61**	**65**	*e*PB	**Pb**	**15 28 00.0**	**0.0**
ARG	**Arkhangelos**	**1.61**	**65**	*e*Pb	**Pb**	**15 28 00.0**	**0.0**
APE	**Apeiranthos**	**1.66**	**337**	*e*PG	**Pn**	**15 27 56.4**	**-2.8**
APE	**Apeiranthos**	**1.66**	**337**	P	**Pn**	**15 27 59.3**	**+0.2**
APE				S	**Sb**	**15 28 21.4**	**-0.1**
APE	**Apeiranthos**	**1.66**	**337**	*e*Pg	**Pn**	**15 27 56.4**	**-2.8**
APE	**Apeiranthos**	**1.66**	**337**	P	**Pn**	**15 27 59.3**	**+0.2**
APE				S	**Sb**	**15 28 21.4**	**-0.1**
BODT	**Bodrum**	**1.71**	**27**	*e*PG	**Pn**	**15 27 58.7**	**-1.2**
BODT	**Bodrum**	**1.71**	**27**	*e*Pg	**Pn**	**15 27 58.7**	**-1.2**
VAM	**Vamos**	**1.74**	**266**	*e*PN	**Pb**	**15 28 03.0**	**+0.8**
YER	**Yerkesik**	**2.24**	**44**	*e*PN	**Pb**	**15 28 09.2**	**-1.7**
YER	**Yerkesik**	**2.24**	**44**	*e*Pn	**Pb**	**15 28 09.2**	**-1.7**
DALY	**Dalyan (Mu˘la**	**2.27**	**55**	*e*PN	**Pb**	**15 28 11.8**	**+0.5**
DALY	**Dalyan (Mu˘la**	**2.27**	**55**	*e*Pn	**Pb**	**15 28 11.8**	**+0.5**
CHOS	**Chios island**	**2.85**	**356**	*e*PN	Pn	15 28 11.5	-4.1
CHOS	**Chios island**	**2.85**	**356**	*e*Pn	Pn	15 28 11.5	-4.1
KULA	**Kula-Manisa**	**3.51**	**31**	*e*PN	**Pn**	**15 28 24.1**	**-0.5**
KULA	**Kula-Manisa**	**3.51**	**31**	*e*Pn	**Pn**	**15 28 24.1**	**-0.5**
SUTC	**Sutluce-Ispart**	**4.23**	**61**	*e*PN	Pn	15 28 39.8	+5.1
TVSB	**Tavsanli**	**4.63**	**32**	*e*PN	**Pn**	**15 28 40.1**	**0.0**
TVSB	**Tavsanli**	**4.63**	**32**	*e*Pn	**Pn**	**15 28 40.1**	**0.0**
AGG	**Agios Georgios**	**4.71**	**319**	*e*PN	**Pn**	**15 28 42.5**	**+1.3**
AGG	**Agios Georgios**	**4.71**	**319**	*e*Pn	**Pn**	**15 28 42.5**	**+1.3**

*ISCJB **25** 16:46:48.4±0.6, 2°.99N±0°.05×126°.87E±0°.05, h44km, mb4.0/9, Error ellipse: s-maj=8.8km s-min=6.0km az=138.3*
*DJA **25** 16:46:51.1±0.8, 3°N±5°×122°.7E±°, h55km±12km, M4.4/8, mb4.7/8, mB5.0/6, MLv4.4/4, Mw(mB)4.2/6*
*IDC **25** 16:46:52.4±4.3, 2°.69N×126°.55E, h75km±43km, mb3.7/8, mb1 3.8/9, mb1mx3.6/32, mbtmp3.9/9, ML3.7/1, Error ellipse: s-maj=41.1km s-min=15.7km az=70.0*

ISC 25 16:46:50.1±0.8, 2°.95N±0°.06×126°.85E±0°.07, h44km, n21, σ1§98/22, mb3.9/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.51**	**299**	P	**Pn**	**16 47 15.4**	**+0.7**
SGSI				S	**Sn**	**16 47 34.0**	**+0.9**
TNTI	**Ternate**	**2.23**	**166**	P	**Pn**	**16 47 25.0**	**+0.4**
TNTI				S	**Sn**	**16 47 52.0**	**+1.1**
KMSI	**Cibinong**	**3.71**	**231**	P	**Pn**	**16 47 44.4**	**-0.6**
KMSI				S	**Sn**	**16 48 30.7**	**+3.2**
SANI	**Sanana**	**5.04**	**190**	P	Pn	16 48 00.3	-3.0
	16nm,0.6s,1µm						
MRSI	**Marisa**	**5.49**	**243**	P	**Pn**	**16 48 09.2**	**-0.2**
LUWI	**Luwuk**	**5.69**	**226**	P	**Pn**	**16 48 14.9**	**+2.8**
	156nm,0.7s,1µm						
SIJI	**Sorong**	**5.82**	**131**	P	Pn	16 48 18.6	+4.5
	1.8nm,0.3s,baz=327,slow=20,SNR=13						
SIJI				S	**Sn**	**16 49 23.6**	**+4.0**
	0.2nm,0.3s,baz=202,slow=19,SNR=3.0						
NLAI	**Namlea**	**6.15**	**178**	P	**Pn**	**16 48 17.3**	**-1.2**
	18nm,0.4s,1µm						
APSI	**Ampana**	**6.46**	**234**	P	**Pn**	**16 48 25.3**	**+2.6**
	116nm,0.7s,1µm						
MPSI	**Mapaga**	**7.42**	**250**	P	**Pn**	**16 48 34.8**	**-1.1**
	20nm,0.8s						
PCI	**Palu**	**7.99**	**241**	P	**Pn**	**16 48 42.5**	**-1.2**
LEM	**Lembang**	**21.51**	**243**	P	**P**	**16 51 37.0**	**+1.2**
	6.6nm,0.4s,baz=74,slow=19,SNR=3.9						
WRA	**Warramunga Arr**	**23.31**	**162**	P	**P**	**16 51 57.7**	**-2.4**
	3.6nm,0.5s,baz=341,slow=11,SNR=57						
ASAR	**Alice Springs**	**27.33**	**166**	P	**P**	**16 52 28.6**	**-2.6**
	1.2nm,0.3s,baz=347,slow=7.6,SNR=50						
CMAR	**Chiang Mai Arr**	**31.37**	**301**	P	**P**	**16 53 05.9**	**-1.1**
	1.4nm,1.1s,baz=127,slow=7.0,SNR=5.5						
MJAR	**Matsushiro Arr**	**35.03**	**16**	P	**P**	**16 53 41.2**	**+2.5**
	0.6nm,0.6s,baz=200,slow=10,SNR=4.4						
STKA	**Stephens Creek**	**37.36**	**159**	P	**P**	**16 53 56.9**	**-1.8**
	2.2nm,0.5s,baz=329,slow=5.5,SNR=6.6						
SONM	**Songino Array**	**48.07**	**342**	P	**P**	**16 55 26.0**	**+0.5**
	0.6nm,0.6s,baz=142,slow=7.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**61.33**	**333**	P	P	16 56 58.9	-2.3
	0.4nm,0.4s,baz=124,slow=8.9,SNR=3.1						
AKTO	**Aktyubinsk**	**74.34**	**322**	P	**P**	**16 58 22.3**	**-0.9**
	1.1nm,0.4s,baz=101,slow=9.9,SNR=5.7						
TORD	**Torodi Ar. Bea**	**123.27**	**288**	PKP	**PKPdf**	**17 05 42.5**	**-0.8**
	0.6nm,0.7s,baz=44,slow=0.4,SNR=3.4						

*IDC **25** 15:53:17.8±0.8, 32°.79N×142°.51E, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.8/43, mbtmp3.8/14, ML4.2/2, MS3.9/2, Ms1 3.9/2, ms1mx2.6/35, Error ellipse: s-maj=26.7km s-min=15.8km az=88.0*
*ISCJB **25** 15:53:21.3±0.6, 32°.87N±0°.06×142°.40E±0°.08, h33km, mb3.7/12, MS4.0/2, Error ellipse: s-maj=12.1km s-min=5.2km az=142.8*
*JMA **25** 15:53:21.1±0.4, 32°.90N×142°.47E, h85km, M3.4*

ISC 25 15:53:22.9±0.7, 32°.78N±0°.06×142°.31E±0°.08, h33km, n28, σ1§46/36, mb3.8/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.12**	**280**	P	**Pn**	**15 53 57.0**	**+1.0**
JHJ2				S	**Sb**	**15 54 24.5**	**-2.1**
BSO1	**Boso 1**	**2.17**	**330**	P	**Pn**	**15 53 55.5**	**-0.7**
BSO1				S	**Sn**	**15 54 21.6**	**-0.1**
BSO2	**Boso 2**	**2.35**	**327**	S	**Sn**	**15 54 27.9**	**+1.4**
BSO3	**Boso 3**	**2.51**	**324**	P	**Pn**	**15 54 00.4**	**-0.8**
BSO4	**Boso 4**	**2.74**	**324**	P	**Pn**	**15 54 04.8**	**+0.3**
BSO4				S	**Sn**	**15 54 37.3**	**+0.8**
KTR	**Katsuura**	**2.88**	**326**	P	**Pn**	**15 54 06.3**	**-0.2**
KTR				S	**Sn**	**15 54 39.2**	**-0.8**
JOD2	**Odawara 2**	**3.64**	**314**	P	**Pn**	**15 54 16.2**	**-0.8**
JOD2				S	**Sn**	**15 54 58.4**	**-0.4**
JYN	**Shimob**	**4.13**	**312**	P	**Pn**	**15 54 24.2**	**+0.4**
JYN				S	**Sn**	**15 55 11.2**	**+0.2**
JRY	**Ryogami san**	**4.28**	**320**	P	**Pn**	**15 54 24.9**	**-0.9**
JRY				S	**Sn**	**15 55 12.9**	**-1.7**
JAG	**Ashikaga**	**4.33**	**328**	P	**Pn**	**15 54 25.6**	**-0.8**
JAG				S	**Sn**	**15 55 13.8**	**-2.0**
MJAR	**Matsushiro Arr**	**5.05**	**319**	Pn	**Pn**	**15 54 36.5**	**+0.2**
	5.6nm,0.3

MAN 25 16:59:01,12°.95N×120°.69E,h40km,mb4.7,ML3.5,MS3.5, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.61**	**25**	⇑*eP*	Pn	16 59 15.3	+2.1
SJMP	**San Jose**	**0.64**	**139**	*eP*	Pn	16 59 15.9	+2.2
SJMP				*eS*	Sn	16 59 25.9	+3.2
LUBP	**Lubang**	**0.89**	**331**	*eP*	Pn	16 59 18.7	+1.6
LUBP				*eS*	Sn	16 59 30.8	+2.0
BUSP	**Coron**	**1.05**	**207**	*eP*	Pn	16 59 21.1	+1.8
CUYO	**Cuyo Island**	**2.11**	**171**	*eP*	Pn	16 59 35.1	+1.2
ENPP	**El Nido**	**2.13**	**216**	*eP*	Pn	16 59 35.4	+1.3

*KNET **25** 16:59:11.8±0.4,42°.82N×74°.95E,h10km±7km,ml1.8,Error ellipse: s-maj=1.6km s-min=1.4km az=30.0*
*KRNET **25** 16:59:11.8±0.1,42°.81N×74°.92E,h1km,mb2.6*
*NNC **25** 16:59:12.0±0.2,42°.76N×74°.98E,h0km,mb2.9,mpv2.5, Error ellipse: s-maj=34.9km s-min=1.1km az=160.0*

ISC 25 16:59:12.5±1.0,42°.82N±0°.02×74°.94E±0°.02,h7km±9km, n29,σ0°75/50,39C-11D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.16**	**178**	P	**Pg**	**16 59 16.1**	**+0.1**
	268nm,0.1s,SNR=699						
KBK				⇑S	**Sg**	**16 59 18.7**	**+0.4**
	351nm,0.1s						
KBK	**Karagaybulak**	**0.16**	**178**	⇑*iP*	**Pg**	**16 59 15.9**	**0.0**
	baz=174						
KBK				⇑*iS*	**Sg**	**16 59 18.6**	**+0.3**
	baz=174						
CHMS	**Chumysh**	**0.23**	**322**	⇑P	**Pg**	**16 59 16.9**	**-0.1**
	211nm,0.1s,SNR=63						
CHMS				⇑S	**Sg**	**16 59 20.4**	**+0.3**
	574nm,0.1s						
CHMS	**Chumysh**	**0.23**	**322**	⇑*iP*	**Pg**	**16 59 16.8**	**-0.2**
	baz=326						
CHMS				⇑*iS*	**Sg**	**16 59 20.2**	**+0.1**
	baz=326						
AAK	**Ala-Archa**	**0.38**	**241**	⇑P	**Pg**	**16 59 19.7**	**-0.3**
	9.7nm,0.2s,SNR=7.7						
AAK				⇓S	**Sg**	**16 59 24.9**	**0.0**
	26nm,0.1s						
AAK	**Ala-Archa**	**0.38**	**241**	⇑P	**Pg**	**16 59 19.6**	**-0.3**
	4.9nm,0.3s						
AAK				⇓S	**Sg**	**16 59 24.6**	**-0.2**
	40nm,0.5s						
AAK	**Ala-Archa**	**0.38**	**241**	⇑*iP*	**Pg**	**16 59 19.5**	**-0.4**
	baz=241						
AAK				⇑*iS*	**Sg**	**16 59 24.4**	**-0.5**
	baz=241						
TKM2	**Tokmak 2**	**0.49**	**78**	⇑P	**Pg**	**16 59 21.8**	**-0.3**
	17nm,0.3s,SNR=18						
TKM2				⇓S	**Sg**	**16 59 28.6**	**+0.1**
	58nm,0.1s						
TKM2	**Tokmak 2**	**0.49**	**78**	⇑P	**Pg**	**16 59 21.7**	**-0.3**
	5.0nm,0.3s						
TKM2				⇑S	**Sg**	**16 59 28.4**	**-0.1**
	10nm,0.2s						
TKM2	**Tokmak 2**	**0.49**	**78**	⇑*iP*	**Pg**	**16 59 21.6**	**-0.5**
	baz=78						
TKM2				⇑*iS*	**Sg**	**16 59 28.4**	**-0.1**
	baz=78						
USP	**Ospenovka**	**0.55**	**324**	⇓P	**Pg**	**16 59 23.0**	**-0.2**
	28nm,0.1s,SNR=22						
USP				⇑S	**Sg**	**16 59 30.6**	**+0.2**
	82nm,0.1s						
USP	**Ospenovka**	**0.55**	**324**	⇑*iP*	**Pg**	**16 59 22.8**	**-0.4**
	baz=326						
USP				⇑*iS*	**Sg**	**16 59 30.4**	**0.0**
	baz=326						
UCH	**Uchtor**	**0.67**	**208**	⇓P	**Pg**	**16 59 25.1**	**-0.4**
	7.8nm,0.1s,SNR=30						
UCH				⇓S	**Sg**	**16 59 34.0**	**-0.3**
	33nm,0.1s						
UCH	**Uchtor**	**0.67**	**208**	⇑*iP*	**Pg**	**16 59 24.9**	**-0.6**
	baz=208						
UCH				⇑*iS*	**Sg**	**16 59 33.8**	**-0.5**
	baz=208						
KZA	**Kyzart**	**0.78**	**163**	P	**Pg**	**16 59 27.3**	**-0.1**
	11nm,0.1s,SNR=64						
KZA				⇓S	**Sg**	**16 59 38.2**	**+0.6**
	37nm,0.2s						
KZA	**Kyzart**	**0.78**	**163**	⇑*iP*	**Pg**	**16 59 27.1**	**-0.3**
	baz=162						
KZA				⇑*iS*	**Sg**	**16 59 37.9**	**+0.3**
	baz=162						
EKS	**Erkin-Say**	**0.86**	**260**	⇑*iP*	**Pg**	**16 59 29.0**	**-0.1**
	baz=260						
EKS				⇑*iS*	**Sg**	**16 59 40.9**	**+0.6**
	baz=260						
EKS2	**Erkin-Say**	**0.87**	**260**	⇑P	**Pg**	**16 59 29.2**	**-0.1**
	6.6nm,0.1s,SNR=55						
EKS2	**Erkin-Say**	**0.87**	**260**	*eP*	**Pg**	**16 59 29.1**	**-0.1**
	baz=260						
EKS2				*i* S	**Sg**	**16 59 40.9**	**+0.3**
	baz=260						
ULHL	**Ulahol**	**1.12**	**120**	⇑P	**Pg**	**16 59 33.2**	**-0.8**
	2.9nm,0.1s,SNR=29						
ULHL	**Ulahol**	**1.12**	**120**	⇑*iP*	**Pg**	**16 59 33.1**	**-0.9**
	baz=121						
ULHL				⇑*iS*	**Sg**	**16 59 48.0**	**-0.5**
	baz=121						
AML	**Almayashu**	**1.15**	**234**	⇑*iP*	**Pg**	**16 59 33.6**	**-1.0**
	baz=234						
AML				⇑*iS*	**Sg**	**16 59 48.8**	**-0.7**
	baz=234						
NRN	**Naryn**	**1.59**	**150**	⇑*iP*	Pg	16 59 45.7	+2.7
	baz=150						
NRN				⇑*iS*	Sg	17 00 09.8	+6.1
	baz=150						
ANVS	**Anan'yevo**	**2.01**	**90**	⇓*iP*	**Pg**	**16 59 51.5**	**+0.5**
	baz=90						
ANVS				⇓*iS*	**Sg**	**17 00 19.0**	**+2.0**
	baz=90						
ARK	**Arkit**	**2.43**	**246**	⇑*iP*	**Pn**	**16 59 54.7**	**+2.0**
	baz=246						
ARK				⇑*iS*	**Sb**	**17 00 26.9**	**+0.1**
	baz=246						
SFK	**Sufi-Kurgan**	**3.00**	**202**	⇑*iP*	**Pb**	**17 00 05.2**	**-1.2**
	baz=201						
SFK				⇑*iS*	**Sb**	**17 00 44.0**	**+0.6**
	baz=201						
KK31	**Karatay Array**	**3.26**	**276**	⇑Pg	**Pg**	**17 00 13.4**	**-1.6**
	0.4nm,0.3s,baz=95,slow=15,SNR=8.2						
KK31				Lg	Lg	17 00 54.0	
	3.9nm,0.5s,baz=96,slow=29,SNR=7.0						
PDGK	**Podgornoye**	**3.37**	**80**	⇑Pg	**Pg**	**17 00 14.4**	**-2.6**
	1.9nm,0.8s						
PDGK				⇓Lg	Lg	17 00 57.6	
	4.6nm,0.8s						
MK31	**Makanchi Array**	**6.56**	**50**	⇓Lg	Lg	17 15 09.1	
	1.2nm,1.1s,baz=207,slow=28,SNR=5.1						

*IDC **25** 17:08:56.7±0.7,15°.61N×96°.27W,h0km,mb4.5/19, mb1 4.7/21,mb1mx4.6/26,mbtmp4.5/21,ML4.6/2,MS4.3/25, Ms1 4.3/25,ms1mx4.2/32,Error ellipse: s-maj=19.3km s-min=12.8km az=55.0*
*MEX **25** 17:08:58.4±0.8,15°.42N×96°.46W,h10km,MD5.1*
*ISCJB **25** 17:08:59.7±0.8,15°.97N±0°.03×96°.23W±0°.02,h14km±4km, mb4.9/143,MS4.4/31,Error ellipse: s-maj=5.1km s-min=3.0km az=34.1*
*BJI **25** 17:09:01.1,15°.80N×96°.20W,h37km,mB5.3/6,Ms5.2/3, Ms7 4.9/4*
*NEIC **25** 17:09:01.5±0.8,15°.77N×96°.25W,h27km±5km,mb4.9/100, MD5.1(MEX),Error ellipse: s-maj=6.8km s-min=3.6km az=219.0*
NEIC Felt [III] at Huatulco. Also felt at Pochutla and Puerto Escondido.
*GCMT **25** 17:09:01.5±0.2,15°.76N×96°.32W,h12km,MW5.2/90, Moment Tensor Solution. s59,c84; s90,c151; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.71±.13; $M_{\theta\theta}$-5.87±.11; $M_{\phi\phi}$1.16±.14; $M_{r\theta}$5.47±.31; $M_{\theta\phi}$1.66±.11; $M_{\phi r}$-2.49±.41; Best double couple: M○8.15600×10^{16} NP1:ϕs113.00000°,δ59.00000°,λ99.00000°. NP2: ϕs268.00000°,δ23.00000°,λ67.00000°. Principal axes: T 7.4860, Plg65.0000°, Azm38.0000°; N 1.3410, Plg9.0000°, Azm290.0000°; P -8.8260, Plg24.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **25** 17:09:02.7±1.1,15°.90N×96°.23W,h42km,mb5.1/29, MS4.6/6 Error ellipse: s-maj=10.1km s-min=5.2km az=96.4*
*SZGRF **25** 17:09:05.0,16°.24N×96°.61W,h33km,mb5.0,MS4.6, Oaxaca, Mexico*

ISC 25 17:08:59.2±0.5,15°.62N±0°.04×96°.41W±0°.03,h19km±1km, n808,σ1°34/843,mb5.0/145,MS4.5/33,28C,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.08**	**305**	*eP*	**Pg**	**17 09 00.6**	**-2.3**
PANG				*i* S	**Sg**	**17 09 03.3**	**-2.1**
HUIG	**Huatulco**	**0.32**	**63**	*i* P	**Pb**	**17 09 06.6**	**+0.1**
HUIG				*i* S	**Sn**	**17 09 13.8**	**-1.3**
HUIG	**Huatulco**	**0.32**	**63**	*i* P	**Pb**	**17 09 06.6**	**+0.1**
HUIG				*i* S	**Sn**	**17 09 13.8**	**-1.3**
OXBJ	**Oaxaca**	**1.47**	**348**	*eP*	**Pn**	**17 09 24.1**	**-0.8**
OXBJ				*i* S	**Sb**	**17 09 44.2**	**-0.2**
VHO	**Vista Hermosa**	**1.47**	**348**	*i* P	**Pn**	**17 09 23.9**	**-1.1**
VHO				*i* S	**Sg**	**17 09 45.9**	**-1.2**
VHO	**Vista Hermosa**	**1.47**	**348**	*i* P	**Pn**	**17 09 23.9**	**-1.1**
VHO				*i* S	**Sg**	**17 09 45.9**	**-1.2**
OXX	**Oaxaca**	**1.48**	**348**	*eP*	**Pg**	**17 09 27.6**	**-0.3**
OXX				*i* S	**Sg**	**17 09 46.3**	**-1.0**
OXX	**Oaxaca**	**1.48**	**348**	*eP*	**Pg**	**17 09 27.6**	**-0.3**
OXX				*i* S	**Sg**	**17 09 46.3**	**-1.0**
PNIG	**Pinotepa**	**1.82**	**295**	*eP*	**Pn**	**17 09 27.0**	**-2.6**
PNIG				*i* S	**Sn**	**17 09 50.0**	**-2.2**
PNIG	**Pinotepa**	**1.82**	**295**	*eP*	**Pn**	**17 09 27.0**	**-2.6**
PNIG				*i* S	**Sn**	**17 09 50.0**	**-2.2**
CMIG	**Matias Romero**	**2.07**	**45**	Pn	**Pn**	**17 09 32.2**	**-0.7**
	299nm,0.3s,baz=222,slow=13,SNR=1325						
CMIG				Sn	**Sn**	**17 09 59.4**	**+1.2**
	537nm,0.3s,baz=331,slow=19,SNR=8.3						
CMIG				LR	LR	17 10 01.6	
	comp=Z,6μm,18.2s,baz=170,slow=33						
TLIG	**Tlapa**	**2.83**	**313**	*eP*	**Pn**	**17 09 42.4**	**-1.1**
TLIG				*eS*	**Sn**	**17 10 17.7**	**+0.5**
HMTT	**Tlapaneco**	**2.99**	**317**	*eP*	**Pb**	**17 09 52.2**	**+0.3**
PCIG		**3.08**	**88**	*i* P	**Pn**	**17 09 46.2**	**-0.6**
PCIG				*eS*	**Sn**	**17 10 22.5**	**-0.5**
PCIG		**3.08**	**88**	*i* P	**Pn**	**17 09 46.2**	**-0.6**
PCIG				*eS*	**Sn**	**17 10 22.5**	**-0.5**
TGIG		**3.36**	**70**	*eP*	**Pn**	**17 09 50.1**	**-0.7**
TGIG				*i* S	**Sn**	**17 10 31.1**	**+0.9**
TGIG		**3.36**	**70**	*eP*	**Pn**	**17 09 50.1**	**-0.7**
TGIG				*i* S	**Sn**	**17 10 32.6**	**+2.4**
ACX	**Acapulco**	**3.54**	**291**	*i* P	**Pn**	**17 09 51.7**	**-1.4**
ACX				*eS*	**Sn**	**17 10 33.8**	**-0.7**
ACX	**Acapulco**	**3.54**	**291**	*i* P	**Pn**	**17 09 51.7**	**-1.4**
ACX				*eS*	**Sn**	**17 10 33.8**	**-0.7**
PHPU	**Puebla**	**3.79**	**334**	*eP*	**Pb**	**17 10 03.9**	**-1.9**
CAIG	**El Cayaco**	**3.97**	**291**	*eP*	**Pn**	**17 09 56.9**	**-2.2**
CAIG				*i* S	**Sn**	**17 10 44.5**	**-0.6**
CAIG	**El Cayaco**	**3.97**	**291**	*eP*	**Pn**	**17 09 56.9**	**-2.2**
CAIG				*i* S	**Sn**	**17 10 44.5**	**-0.6**
PPM	**Popocatepetl**	**4.03**	**329**	*eP*	Pn	17 10 04.3	+4.0
PPM				*eS*	**Sn**	**17 10 49.3**	**+2.0**
PPM	**Popocatepetl**	**4.03**	**329**	*eP*	Pn	17 10 04.3	+4.0
PPM				*eS*	**Sn**	**17 10 49.3**	**+2.0**
PPM	**Popocatepetl**	**4.03**	**329**	*eP*	Pn	17 10 04.3	+4.0
PPM				*eS*	**Sn**	**17 10 49.3**	**+2.0**
PLIG	**Platanillo**	**4.04**	**313**	*eP*	**Pn**	**17 10 00.2**	**+0.1**
PLIG				*i* S	**Sn**	**17 10 47.9**	**+0.8**
PLIG	**Platanillo**	**4.04**	**313**	*eP*	**Pn**	**17 10 00.2**	**+0.1**
PLIG				*i* S	**Sn**	**17 10 47.9**	**+0.8**
YAIG	**Yautepec**	**4.10**	**322**	*eP*	**Pn**	**17 09 59.8**	**-1.2**
YAIG				*i* S	**Sn**	**17 10 50.3**	**+1.6**
YAIG	**Yautepec**	**4.10**	**322**	*eP*	**Pn**	**17 09 59.8**	**-1.2**
YAIG				*i* S	**Sn**	**17 10 50.3**	**+1.6**
UNM	**Universidad Na**	**4.54**	**325**	*eP*	**Pn**	**17 10 07.8**	**+0.7**
UNM				*eS*	**Sn**	**17 11 00.1**	**+0.6**
UNM	**Universidad Na**	**4.54**	**325**	*eP*	**Pn**	**17 10 07.8**	**+0.7**
UNM				*eS*	**Sn**	**17 11 00.1**	**+0.6**
UNM	**Universidad Na**	**4.54**	**325**	*eP*	**Pn**	**17 10 07.8**	**+0.7**
UNM				*eS*	**Sn**	**17 11 00.1**	**+0.6**
ARIG	**Puente Sto Nin**	**4.60**	**306**	*eP*	**Pn**	**17 10 07.4**	**-0.4**
ARIG				*i* S	**Sn**	**17 11 00.5**	**-0.3**
ZIIG	**Zihuatanejo**	**5.23**	**293**	*eP*	**Pn**	**17 10 14.9**	**-1.6**
ZIIG				*i* S	**Sn**	**17 11 15.3**	**-1.0**
ZIIG	**Zihuatanejo**	**5.23**	**293**	*eP*	**Pn**	**17 10 14.9**	**-1.6**
ZIIG				*i* S	**Sn**	**17 11 15.3**	**-1.0**
TEIG	**Tepich**	**8.99**	**58**	Pn	**Pn**	**17 11 05.5**	**-2.6**
	17nm,0.3s,baz=257,slow=0.7,SNR=40						
TEIG				Sn	**Sn**	**17 12 47.5**	**-1.4**
	25nm,0.3s,baz=210,slow=20,SNR=6.9						
TEIG				LR	LR	17 14 51.1	
	comp=Z,2μm,20.4s,baz=263,slow=40						
TEIG	**Tepich**	**8.99**	**58**	*ePn*	Pn	17 11 04.8	-3.3
	116nm,0.4s						
TEIG				*eSn*	**Sn**	**17 12 45.5**	**-3.4**
035Z	**Hargill**	**10.90**	**352**	P	**Pn**	**17 11 35.5**	**+1.3**
	baz=11						
035A	**Encino**	**11.37**	**352**	P	**Pn**	**17 11 41.4**	**+0.7**
	baz=11						
034A	**Hebbronville**	**11.58**	**350**	P	**Pn**	**17 11 44.9**	**+1.4**
	baz=12						
JTS	**JuntasAbangare**	**12.36**	**114**	Pn	**Pn**	**17 11 56.4**	**+2.1**
	1.2nm,0.3s,baz=298,slow=16,SNR=7.9						
JTS	**JuntasAbangare**	**12.36**	**114**	*eP*	**Pn**	**17 11 56.6**	**+2.3**
JTS				pmax	pmax		
	comp=Z,74nm,1.1s						
JTS	**JuntasAbangare**	**12.36**	**114**	*ePn*	**Pn**	**17 11 56.5**	**+2.3**
	comp=Z,74nm,1.1s						
834A	**Tilden**	**12.60**	**351**	P	**Pn**	**17 11 58.4**	**+1.0**
	baz=12,SNR=5.7						
835A	**Beeville**	**12.67**	**354**	P	**Pn**	**17 11 58.6**	**+0.2**
	baz=13						
833A	**Chaparral WMA,**	**12.94**	**348**	P	**Pn**	**17 12 02.6**	**+0.5**
	baz=13						
832A	**Faith Ranch, C**	**13.03**	**346**	P	**Pn**	**17 12 03.6**	**+0.3**
	baz=13						
737A	**Port Lavaca**	**13.08**	**360**	P	**Pn**	**17 12 03.3**	**-0.7**
	baz=13						
735A	**Kenedy**	**13.23**	**355**	P	**Pn**	**17 12 05.4**	**-0.7**
	baz=13						
736A	**Circle Diamond**	**13.28**	**357**	P	**Pn**	**17 12 05.1**	**-1.7**
	baz=13						
733A	**Divot King Ran**	**13.30**	**349**	P	**Pn**	**17 12 06.7**	**-0.4**
	baz=13						
732A	**Laxson Ranch,**	**13.45**	**346**	P	**Pn**	**17 12 08.7**	**-0.5**
	baz=13						
637A	**Eagle Lake**	**13.75**	**0**	P	**Pn**	**17 12 11.5**	**-1.7**
	baz=14						
635A	**Leesville**	**13.76**	**355**	P	**Pn**	**17 12 12.1**	**-1.2**
	baz=14						
636A	**Smothers Creek**	**13.81**	**358**	P	**Pn**	**17 12 12.8**	**-1.2**
	baz=14						
634A	**China Grove, S**	**13.81**	**353**	P	**Pn**	**17 12 13.0**	**-1.1**
	baz=14						
633A	**Saathoff Ranch**	**14.01**	**350**	P	**Pn**	**17 12 15.7**	**-1.0**
	baz=14						
632A	**Uvalde**	**14.16**	**348**	P	**Pn**	**17 12 18.5**	**-0.5**
	baz=14,SNR=8.5						
631A	**Perdido Creek**	**14.25**	**345**	P	**Pn**	**17 12 18.8**	**-1.3**
	baz=14						
HKT	**Hockley**	**14.27**	**2**	*eP*	**Pn**	**17 12 17.8**	**-2.5**
HKT				pmax	pmax		
	comp=Z,42nm,1.4s						
HKT	**Hockley**	**14.27**	**2**	*ePn*	**Pn**	**17 12 17.8**	**-2.5**
	comp=Z,42nm,1.4s						
535A	**Dale**	**14.38**	**356**	P	**Pn**	**17 12 20.1**	**-1.7**
	baz=14						
537A	**Green Hill Far**	**14.39**	**0**	P	**Pn**	**17 12 20.4**	**-1.6**
	baz=14						
536A	**Bastrop**	**14.40**	**358**	P	**Pn**	**17 12 20.7**	**-1.3**
	baz=14						
534A	**Blanco**	**14.46**	**353**	P	**Pn**	**17 12 22.0**	**-1.0**
	baz=14,SNR=12						
539A	**Cross D Ranch,**	**14.50**	**6**	P	**Pn**	**17 12 22.2**	**-1.2**
	baz=14						
538A	**Harpers Horsep**	**14.56**	**3**	P	**Pn**	**17 12 22.2**	**-2.0**
	baz=14						
533A	**Kerrville**	**14.58**	**351**	P	**Pn**	**17 12 23.1**	**-1.5**
	baz=14						
532A	**Rocksprings**	**14.79**	**348**	P	**Pn**	**17 12 27.9**	**+0.4**
	baz=15,SNR=16						
531A	**Rocksprings**	**14.96**	**346**	P	**Pn**	**17 12 29.7**	**-0.1**
	baz=15,SNR=13						
436A	**Wall Ranch, Ga**	**15.08**	**359**	P	**Pn**	**17 12 29.4**	**-1.9**
	baz=15						
438A	**Sam Houston St**	**15.08**	**3**	P	**Pn**	**17 12 29.3**	**-2.0**
	baz=15						
JCT	**Junction City**	**15.11**	**349**	*eP*	**Pn**	**17 12 32.9**	**+1.1**
JCT				pmax	pmax		
	comp=Z,59nm,1.1s						
JCT	**Junction City**	**15.11**	**349**	P	**Pn**	**17 12 31.6**	**-0.2**
	baz=15						
JCT	**Junction City**	**15.11**	**349**	*ePn*	**Pn**	**17 12 32.9**	**+1.1**
	comp=Z,59nm,1.1s						
435B	**Jarrell**	**15.13**	**356**	P	**Pn**	**17 12 31.7**	**-0.3**
	baz=15						
437A	**Phantom Ranch,**	**15.14**	**1**	P	**Pn**	**17 12 30.9**	**-1.1**
	baz=15						
530A	**J-C Ranch, Com**	**15.15**	**343**	P	**Pn**	**17 12 31.5**	**-0.8**
	baz=15						
439A	**Center Grove,**	**15.18**	**5**	P	**Pn**	**17 12 31.2**	**-1.4**
	baz=15						
TXAR	**Lajitas Array**	**15.20**	**335**	Pn	**Pn**	**17 12 35.0**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=156,slow=11,SNR=18						
TXAR	**Lajitas Array**	**15.20**	**335**	P	**Pn**	**17 12 35.0**	**+2.0**
434A	**Burnet**	**15.22**	**354**	P	**Pn**	**17 12 31.3**	**-1.8**
	baz=15						
440A	**Kirbyville**	**15.22**	**8**	P	**Pn**	**17 12 30.7**	**-2.5**
	baz=15						
433A	**Art**	**15.26**	**351**	P	**Pn**	**17 12 32.3**	**-1.4**
	baz=15						
529A	**Stev Forest Ra**	**15.39**	**341**	P	**Pn**	**17 12 35.8**	**+0.3**
	baz=15,SNR=12						
431A	**Sonora**	**15.48**	**346**	P	**Pn**	**17 12 35.8**	**-0.8**
	baz=15						
432A	**Menard**	**15.50**	**349**	P	**Pn**	**17 12 35.4**	**-1.4**
	baz=16						
LPIG	**La Paz**	**15.55**	**305**	LR	LR	17 17 37.2	
	comp=Z,2μm,18.1s,baz=129,slow=33						
335A	**Moody**	**15.62**	**357**	P	**Pn**	**17 12 36.7**	**-1.6**
	baz=16						
338A	**Crockett**	**15.70**	**3**	P	**Pn**	**17 12 37.1**	**-2.2**
	baz=16						
336A	**Riesel**	**15.70**	**359**	P	**Pn**	**17 12 37.4**	**-2.0**
	baz=16						
334A	**Lometa**	**15.73**	**354**	P	**Pn**	**17 12 37.9**	**-1.9**
	baz=16						
430A	**Baggett Ranch,**	**15.73**	**345**	P	**Pn**	**17 12 38.3**	**-1.6**
	baz=16						
339A	**Huntington**	**15.73**	**6**	P	**Pn**	**17 12 37.5**	**-2.3**
	baz=16						
429A	**Davenport Ranc**	**15.76**	**342**	P	**Pn**	**17 12 40.1**	**-0.1**
	baz=16,SNR=12						
333A	**Richland Sprin**	**15.81**	**352**	P	**Pn**	**17 12 39.2**	**-1.7**
	baz=16						
340A	**Bronson**	**15.89**	**8**	P	**Pn**	**17 12 39.3**	**-2.5**
	baz=16						
332A	**Millersview**	**15.98**	**350**	P	**Pn**	**17 12 41.3**	**-1.8**
	baz=16						
331A	**San Angelo**	**16.04**	**347**	P	**Pn**	**17 12 43.5**	**-0.3**
	baz=16,SNR=10						
NATX	**Nacogdoches**	**16.14**	**5**	P	**Pn**	**17 12 43.1**	**-2.0**
	baz=16						
NATX	**Nacogdoches**	**16.14**	**5**	*ePn*	**P**	**17 12 46.9**	**-1.3**
	comp=Z,168nm,1.3s						
236A	**Katherine and**	**16.30**	**360**	P	**Pn**	**17 12 45.0**	**-2.2**
	baz=16						
330A	**Mertzon**	**16.30**	**345**	P	**Pn**	**17 12 46.8**	**-0.4**
	baz=16,SNR=17						
237A	**Washetta, Mont**	**16.32**	**2**	P	**Pn**	**17 12 44.9**	**-2.4**
	baz=16						
WHTX	**Lake Whitney,**	**16.32**	**357**	P	**Pn**	**17 12 45.3**	**-2.1**
	baz=16						
WHTX	**Lake Whitney,**	**16.32**	**357**	*ePn*	**Pn**	**17 12 46.7**	**-0.7**
	comp=Z,47nm,1.0s						
238A	**Jacksonville**	**16.35**	**4**	P	**Pn**	**17 12 45.5**	**-2.3**
	baz=16						
234A	**Clairette**	**16.38**	**355**	P	**Pn**	**17 12 46.1**	**-2.1**
	baz=16						
239A	**Gary**	**16.42**	**6**	P	**Pn**	**17 12 46.2**	**-2.4**
	baz=16						
232A	**Coleman**	**16.46**	**350**	P	**Pn**	**17 12 47.5**	**-1.7**
	baz=16,SNR=5.7						
233A	**Rising Star**	**16.48**	**353**	P	**Pn**	**17 12 47.4**	**-2.0**
	baz=16						
329A	**Wagon Wheel Ra**	**16.59**	**343**	P	**Pn**	**17 12 50.0**	**-0.9**
	baz=17						
231A	**Bronte**	**16.62**	**348**	P	**Pn**	**17 12 49.5**	**-1.8**
	baz=17						
230A	**Sterling City**	**16.75**	**346**	P	**Pn**	**17 12 51.6**	**-1.3**
	baz=17						
136A	**Ennis**	**16.78**	**360**	P	**Pn**	**17 12 50.9**	**-2.3**
	baz=17						
135A	**Vickery Place,**	**16.88**	**357**	P	**Pn**	**17 12 52.7**	**-1.8**
	baz=17						
137A	**Heron Place, G**	**16.91**	**2**	P	**Pn**	**17 12 52.8**	**-2.0**
	baz=17						
134A	**White-Moore Ra**	**16.94**	**355**	P	**Pn**	**17 12 53.4**	**-1.8**
	baz=17						
229A	**Bryant Ranch,**	**17.00**	**344**	P	**Pn**	**17 12 55.1**	**-1.0**
	baz=17						
138A	**Matatall Enter**	**17.00**	**4**	P	**Pn**	**17 12 53.9**	**-2.1**
	baz=17						
133A	**Hamilton Ranch**	**17.06**	**353**	P	**Pn**	**17 12 54.9**	**-1.9**
	baz=17,SNR=5.8						
139A	**Bunkhouse Ranc**	**17.08**	**6**	P	**Pn**	**17 12 54.0**	**-2.9**
	baz=17						
ABTX	**Abilene, Hawle**	**17.18**	**351**	P	**Pn**	**17 12 56.9**	**-1.4**
	baz=17,SNR=6.2						
ABTX	**Abilene, Hawle**	**17.18**	**351**	*ePn*	**Pn**	**17 12 56.8**	**-1.4**
	comp=Z,49nm,1.0s						
131A	**Roby**	**17.36**	**349**	P	**Pn**	**17 12 59.1**	**-1.4**
	baz=17						
228A	**UT Block 9, Go**	**17.36**	**342**	P	**Pn**	**17 12 59.9**	**-0.6**
	baz=17,SNR=6.5						
VBMS	**Vicksburg**	**17.37**	**17**	P	**Pn**	**17 12 57.9**	**-2.7**
	baz=17						
130A	**Snyder**	**17.40**	**347**	P	**Pn**	**17 13 00.0**	**-1.0**
	baz=17						
Z37A	**Pogue Cattle C**	**17.51**	**2**	P	**Pn**	**17 13 00.2**	**-2.1**
	baz=17						
Z36A	**Blue Ridge**	**17.57**	**360**	P	**Pn**	**17 13 01.1**	**-2.0**
	baz=18						
Z38A	**Mt. Pleasant**	**17.60**	**4**	P	**Pn**	**17 13 01.

X36A	Centrahoma	18.87	0	P		P	17 13 17.9	-0.4	
	baz=19,SNR=8.9								
X32A	Elmer	18.90	353	P		P	17 13 18.3	-0.4	
	baz=19								
X37A	Clayton	18.91	3	P		P	17 13 18.5	-0.3	
	baz=19,SNR=16								
X33A	Lawton	18.93	355	P		P	17 13 17.7	-1.3	
	baz=19								
X34A	Smith Ranch, M	18.94	356	P		P	17 13 19.0	-0.2	
	baz=19								
Y28A	McKinney Farm,	18.95	345	P		P	17 13 19.3	-0.2	
	baz=19,SNR=18								
MIAR	Mount Ida	19.02	7	eP		P	17 13 20.0	0.0	
MIAR				e			17 16 43.4		
MIAR					pmax	pmax			
	comp=Z,83nm,1.0s								
MIAR	Mount Ida	19.02	7	P		P	17 13 18.7	-1.2	
	baz=19,SNR=14								
MIAR	Mount Ida	19.02	7	ePn		P	17 13 20.0	0.0	
	comp=Z,83nm,1.0s								
MIAR				eSn		Sn	17 16 43.4	-10	
X38A	Whitesboro	19.02	4	P		P	17 13 20.0	0.0	
	baz=19,SNR=18								
MSTX	Muleshoe	19.15	344	P		P	17 13 21.7	+0.1	
	baz=19,SNR=40								
MSTX	Muleshoe	19.15	344	eP		P	17 13 21.1	-0.5	
	comp=Z,118nm,1.2s								
WMOK	Wichita Mounta	19.15	354	eP		P	17 13 20.7	-0.8	
WMOK				e			17 16 56.7		
WMOK					pmax	pmax			
	comp=Z,18nm,0.8s								
WMOK	Wichita Mounta	19.15	354	ePn		P	17 13 20.7	-0.8	
	comp=Z,18nm,0.8s								
WMOK				eSn		Sn	17 16 56.7	0.0	
X30A	Coker Ranch, T	19.17	349	P		P	17 13 21.6	-0.1	
	baz=19								
X31A	McDonald Ranch	19.20	351	P		P	17 13 21.9	-0.1	
	baz=19								
LRAL	Lakeview Retre	19.32	25	eP		P	17 13 23.4	0.0	
	comp=Z,31nm,1.1s								
LRAL				eS		Sn	17 16 43.5	-17	
X29A	Tulia	19.34	347	P		P	17 13 23.3	-0.3	
	baz=19								
UALR	University of	19.42	10	eP		P	17 13 23.9	-0.5	
	comp=Z,38nm,0.8s								
W36A	Wetumka	19.44	0	P		P	17 13 24.1	-0.4	
	baz=19								
W38A	Poteau	19.44	5	P		P	17 13 24.4	-0.2	
	baz=19,SNR=9.6								
W35A	Tecumseh	19.45	359	P		P	17 13 24.3	-0.5	
	baz=19,SNR=13								
W37A	Quinton	19.45	2	P		P	17 13 24.4	-0.4	
	baz=19								
X28A	Dimmitt	19.52	346	P		P	17 13 25.8	+0.2	
	baz=20								
W33A	Caddo, Fort Co	19.54	355	P		P	17 13 25.4	-0.2	
	baz=20								
W34A	Bridge Creek,	19.57	357	P		P	17 13 25.5	-0.5	
	baz=20								
W34A	Bridge Creek,	19.57	357	eP		P	17 13 25.9	-0.1	
	comp=Z,28nm,0.8s								
W32A	Sentinel	19.59	353	P		P	17 13 26.1	-0.2	
	baz=20,SNR=5.1								
TIGA	Tifton	19.62	34	P		P	17 13 24.9	-1.7	
	baz=20								
W31A	Holland Ranch,	19.74	351	P		P	17 13 27.7	-0.2	
	baz=20								
121A	Cookes Peak, D	19.75	330	P		Pn	17 13 29.5	-0.3	
	baz=20,SNR=12								
AMTX	Amarillo	19.76	347	P		P	17 13 27.8	-0.3	
	baz=20								
AMTX	Amarillo	19.76	347	eP		P	17 13 27.4	-0.7	
	comp=Z,54nm,1.0s								
W30A	Crocket Farms	19.83	350	P		P	17 13 29.0	+0.1	
	baz=20								
OXF	Oxford	19.84	17	eP		P	17 13 28.1	-0.8	
OXF					pmax	pmax			
	comp=Z,93nm,1.1s								
OXF	Oxford	19.84	17	eP		P	17 13 28.1	-0.8	
	comp=Z,93nm,1.1s								
W29A	Amarillo	19.98	347	P		P	17 13 29.5	-1.1	
	baz=20								
V35A	Meyer Ranch, C	20.06	359	P		P	17 13 30.5	-0.8	
	baz=20								
V36A	Jenks	20.09	1	P		P	17 13 31.0	-0.7	
	baz=20,SNR=7.7								
V32A	Arapaho	20.15	354	P		P	17 13 30.8	-1.7	
	baz=20								
V34A	Guthrie	20.15	357	P		P	17 13 31.5	-0.9	
	baz=20								
V34A	Guthrie	20.15	357	eP		P	17 13 31.0	-1.4	
	comp=Z,84nm,1.2s								
V33A	Lossen Ranch,	20.18	356	P		P	17 13 32.4	-0.3	
	baz=20,SNR=5.5								
V37A	Hulbert	20.21	3	P		P	17 13 31.9	-1.1	
	baz=20,SNR=13								
TUL1	Leonard	20.21	1	P		P	17 13 32.0	-1.1	
	baz=20								
TUL1	Leonard	20.21	1	eP		Pn	17 13 34.4	-0.6	
	comp=Z,83nm,1.0s								
W28A	Vega	20.23	346	P		P	17 13 32.9	-0.4	
	baz=20								
V31A	Spring Creek L	20.30	352	P		P	17 13 33.7	-0.4	
	baz=20								
V30A	Spur Ranch, Mi	20.42	350	P		P	17 13 34.8	-0.6	
	baz=20								
U35A	Pawnee	20.67	359	P		P	17 13 37.0	-1.0	
	baz=21								
Y22D	IRIS PASSCAL I	20.67	335	P		P	17 13 38.2	0.0	
	baz=21								
V29A	Stinnett	20.68	348	P		P	17 13 38.0	-0.2	
	baz=21								
V28A	Channing	20.71	347	P		P	17 13 38.4	-0.2	
	baz=21								
U34A	Anderson Ranch	20.75	357	P		P	17 13 37.5	-1.4	
	baz=21								
U34A	Anderson Ranch	20.75	357	eP		P	17 13 39.9	+1.0	
	comp=Z,88nm,1.0s								
LPM	Los Pinos Moun	20.76	336	eP		Pn	17 13 40.8	-0.9	
	comp=Z,52nm,1.5s								
LENM	Lemitar	20.77	335	eP		P	17 13 40.4	+1.1	
	comp=Z,30nm,1.2s								
U33A	Lingo Farm, Me	20.78	356	P		P	17 13 38.1	-1.1	
	baz=21,SNR=8.3								
U32A	Winter Ranch,	20.80	354	P		P	17 13 38.7	-0.8	
	baz=21								
V27A	Dan Oppiter Fa	20.86	345	P		P	17 13 40.3	+0.1	
	baz=21,SNR=10								
U31A	Nine Bar Ranch	20.89	352	P		P	17 13 40.2	-0.2	
	baz=21								
TUC	Tucson	21.14	324	eP		P	17 13 44.8	+1.6	
TUC					pmax	pmax			
	comp=Z,20nm,0.9s								
TUC	Tucson	21.14	324	eP		P	17 13 44.8	+1.6	
	comp=Z,20nm,0.9s								
U30A	WK&E Inc. Balk	21.16	351	P		P	17 13 43.1	-0.3	
	baz=21								
U29A	Oasis Ranch, S	21.19	349	P		P	17 13 43.2	-0.5	
	baz=21								
GOGA	Godfrey	21.23	31	eP		P	17 13 42.4	-1.7	
GOGA					pmax	pmax			
	comp=Z,91nm,1.0s								
GOGA	Godfrey	21.23	31	eP		P	17 13 42.4	-1.7	
	comp=Z,91nm,1.0s								
ANMO	Albuquerque	21.25	337	P		P	17 13 45.6	+1.1	
	comp=Z,2.2nm,0.7s,baz=138,slow=12,SNR=13								
ANMO	Albuquerque	21.25	337	c iP		P	17 13 45.6	+1.1	
ANMO					pmax	pmax			
	comp=Z,74nm,1.7s								
ANMO	Albuquerque	21.25	337	eP		P	17 13 45.1	+0.6	
	comp=Z,18nm,0.9s								
U28A	Mallet	21.31	347	P		P	17 13 44.4	-0.7	
	baz=21								
T34A	McClaskey Farm	21.32	358	P		P	17 13 43.8	-1.3	
	baz=21,SNR=8.9								
T36A	Boggs Farm, Ca	21.36	1	P		P	17 13 43.9	-1.5	
	baz=21,SNR=15								
T33A	Patterson Ranc	21.44	356	P		P	17 13 45.2	-1.0	
	baz=21,SNR=12								
T37A	Cheneyville 18	21.46	3	P		P	17 13 45.4	-1.1	
	baz=21,SNR=15								
U27A	Thompson Grove	21.49	346	P		P	17 13 46.7	-0.3	
	baz=22,SNR=13								
T32A	Huddler Ranch,	21.59	355	P		P	17 13 47.4	-0.5	
	baz=22								
T30A	Plains	21.66	351	P		P	17 13 47.9	-0.8	
	baz=22								
WVT	Waverly	21.81	19	eP		P	17 13 48.3	-1.9	
WVT					pmax	pmax			
	comp=Z,82nm,1.3s								
WVT	Waverly	21.81	19	eP		P	17 13 48.3	-1.9	
	comp=Z,82nm,1.3s								
T29A	Hugoton	21.88	349	P		P	17 13 50.0	-1.1	
	baz=22								
S33A	Kaszmaul Farm,	21.93	357	P		P	17 13 50.1	-1.4	
	baz=22								
S35A	Otter Creek Ra	21.97	0	P		P	17 13 50.7	-1.3	
	baz=22,SNR=13								
S34A	Willow Spring	22.00	359	P		P	17 13 50.9	-1.4	
	baz=22								
T28A	Walsh	22.00	348	P		P	17 13 51.8	-0.7	
	baz=22								
S36A	Lake Cedric, C	22.03	2	P		P	17 13 51.7	-0.9	
	baz=22,SNR=13								
T27A	Campo	22.08	346	P		P	17 13 52.6	-0.7	
	baz=22,SNR=7.1								
214A	Organ Pipe Nat	22.08	320	P		P	17 13 54.6	+1.3	
	baz=22,SNR=9.5								
214A	Organ Pipe Nat	22.08	320	eP		P	17 13 54.8	+1.6	
	comp=Z,58nm,1.5s								
S31A	Mullinville	22.08	353	P		P	17 13 52.3	-0.9	
	baz=22								
S32A	Newby Ranch, P	22.10	355	P		P	17 13 52.6	-0.9	
	baz=22								
S30A	Montezuma	22.22	351	P		P	17 13 53.6	-1.2	
	baz=22								
S29A	Ulysses	22.30	350	P		P	17 13 54.9	-0.8	
	baz=22								
T26A	Comanche Natio	22.39	345	P		P	17 13 57.0	+0.3	
	baz=22,SNR=16								
S28A	Manter	22.41	349	P		P	17 13 56.0	-0.9	
	baz=22								
T25A	Trinidad	22.58	343	P		P	17 14 00.3	+1.6	
	baz=23,SNR=34								
R34A	Isabella, Hill	22.60	358	P		P	17 13 57.2	-1.5	
	baz=23,SNR=9.2								
R35A	Emporia Munici	22.61	0	P		P	17 13 57.4	-1.5	
	baz=23								
R36A	Gordon, Harris	22.63	2	P		P	17 13 57.8	-1.2	
	baz=23,SNR=13								
R33A	Olander Ranch,	22.64	357	P		P	17 13 58.6	-0.6	
	baz=23,SNR=8.6								
R37A	Teagarden Farm	22.65	3	P		P	17 13 57.7	-1.5	
	baz=23								
S27A	Las Animas	22.71	347	P		P	17 13 59.5	-0.6	
	baz=23								
R31A	Burdett	22.75	354	P		P	17 13 59.9	-0.4	
	baz=23,SNR=12								
W18A	Petrified Fore	22.80	331	P		P	17 14 01.9	+0.8	
	baz=23								
W18A	Petrified Fore	22.80	331	eP		P	17 14 02.6	+1.6	
	comp=Z,8.2nm,0.9s								
R32A	Long Quarter,	22.80	355	P		P	17 14 00.3	-0.5	
	baz=23								
R30A	Dighton	22.83	352	P		P	17 14 00.5	-0.7	
	baz=23								
SIUC	Southern Illin	22.91	15	eP		P	17 14 01.8	-0.1	
	comp=Z,38nm,0.7s								
TKL	Tuckaleechee C	22.93	27	P		P	17 14 02.6	+0.3	
	comp=Z,18nm,1.0s,baz=207,slow=11,SNR=13								
TKL					LR	LR	17 26 13.6		
	comp=Z,420nm,18.2s,baz=213,slow=45								
R29A	Marienthal	23.09	350	P		P	17 14 02.9	-1.1	
	baz=23								
R28A	Tribune	23.13	349	P		P	17 14 03.4	-0.9	
	baz=23								
Q35A	Mercer Eighty,	23.15	1	P		P	17 14 02.9	-1.5	
	baz=23,SNR=7.8								
Q34A	Chapman	23.21	359	P		P	17 14 03.7	-1.4	
	baz=23,SNR=6.5								
Q37A	Loyview Farm,	23.23	4	P		P	17 14 04.4	-0.8	
	baz=23								
Q36A	Arnold C. Orve	23.27	2	P		P	17 14 04.1	-1.5	
	baz=23								
R27A	Eads	23.27	347	P		P	17 14 05.4	-0.4	
	baz=23,SNR=22								
CBKS	Cedar Bluff	23.29	353	eP		P	17 14 06.6	+0.7	
CBKS					pmax	pmax			
	comp=Z,319nm,1.5s								
CBKS	Cedar Bluff	23.29	353	P		P	17 14 05.2	-0.7	
	baz=23								
CBKS	Cedar Bluff	23.29	353	eP		P	17 14 06.6	+0.7	
	comp=Z,319nm,1.5s								
Q33A	Connelly Farm,	23.32	357	P		P	17 14 05.7	-0.4	
	baz=23								
Q32A	Meitler Ranch,	23.36	356	P		P	17 14 05.4	-1.1	
	baz=23,SNR=6.7								
KSU1	Kansas State U	23.39	360	P		P	17 14 05.4	-1.5	
	baz=23,SNR=6.6								
KSU1	Kansas State U	23.39	360	eP		P	17 14 06.3	-0.5	
	comp=Z,92nm,1.1s								
OTAV	Otavalo	23.41	129	eP		P	17 14 10.5	+2.7	
	comp=Z,28nm,1.2s								
R26A	Arlington	23.43	346	P		P	17 14 08.2	+0.8	
	baz=23,SNR=21								
Q31A	Ellis	23.44	354	P		P	17 14 06.6	-0.8	
	baz=23,SNR=5.9								
SDCO	Great Sand Dun	23.46	342	P		P	17 14 08.2	+0.3	
	baz=23,SNR=20								
SDCO	Great Sand Dun	23.46	342	eP		P	17 14 08.1	+0.2	
	comp=Z,21nm,1.1s								
Q30A	Quinter	23.51	353	P		P	17 14 07.5	-0.5	
	baz=24								
Q29A	Oakley	23.52	351	P		P	17 14 07.4	-0.9	
	baz=24,SNR=13								
USIN	University of	23.56	17	eP		P	17 14 07.9	-0.6	
	comp=Z,156nm,1.2s								
KMSC	Kings Mountain	23.68	32	P		P	17 14 07.0	-2.7	
	baz=24,SNR=7.8								
KMSC	Kings Mountain	23.68	32	eP		P	17 14 08.1	-1.6	
	comp=Z,52nm,1.0s								
P33A	Williams Farm,	23.75	358	P		P	17 14 09.4	-0.9	
	baz=24								
P35A	Duane Minner,	23.82	1	P		P	17 14 10.1	-0.9	
	baz=24,SNR=6.6								
Q28A	Sharon Springs	23.83	350	P		P	17 14 10.8	-0.4	
	baz=24								
P34A	Walnut Farm, R	23.84	359	P		P	17 14 10.7	-0.5	
	baz=24,SNR=10								
S22A	4UR Ranch, Cre	23.89	339	P		P	17 14 12.7	+0.7	
	baz=24,SNR=17								
WUAZ	Wupatki	23.91	329	P		P	17 14 13.7	+1.5	
	baz=24,SNR=28								
WUAZ	Wupatki	23.91	329	eP		P	17 14 13.8	+1.7	
	comp=Z,89nm,1.3s								
KSCO	Kaye Shedlock'	23.93	348	P		P	17 14 11.9	-0.3	
	baz=24,SNR=6.5								
KSCO	Kaye Shedlock'	23.93	348	eP		P	17 14 12.8	+0.6	
	comp=Z,114nm,1.5s								
P36A	Good Intent, A	23.93	2	P		P	17 14 11.1	-1.0	
	baz=24,SNR=9.3								
P31A	Stockton	23.95	354	P		P	17 14 12.0	-0.3	
	baz=24,SNR=11								
P32A	Huiting Farm,	23.99	356	P		P	17 14 12.2	-0.5	
	baz=24,SNR=7.0								
MVCO	Mesa Verde	24.03	336	P		P	17 14 14.0	+0.7	
	baz=24,SNR=24								
MVCO	Mesa Verde	24.03	336	eP		P	17 14 14.3	+1.0	
	comp=Z,165nm,1.6s								
Q26A	Hugo	24.04	346	P		P	17 14 14.2	+0.9	
	baz=24,SNR=13								
P30A	Selden	24.07	353	P		P	17 14 13.5	+0.1	
	baz=24								
GLA	Glamis	24.07	319	P		P	17 14 14.4	+0.9	
	baz=24								
ROSC	El Rosal	24.19	114	P		P	17 14 14.1	-1.0	
	comp=Z,3.4nm,0.3s,baz=252,slow=20,SNR=1.9								
ROSC	El Rosal	24.19	114	eP		P	17 14 18.7	+3.6	
SDDR	Presa de Saban	24.21	78	P		P	17 14 14.7	-0.3	
P29A	Atwood	24.22	351	P		P	17 14 15.0	+0.2	
	baz=24,SNR=7.0								
WCI	Wyandotte Cave	24.22	20	eP		P	17 14 14.7	-0.1	
WCI					pmax	pmax			
	comp=Z,199nm,1.4s								
WCI	Wyandotte Cave	24.22	20	eP		P	17 14 14.7	-0.1	
	comp=Z,199nm,1.4s								
P28A	Saint Francis	24.32	350	P		P	17 14 16.0	+0.2	
	baz=24,SNR=7.8								
Y12C	Blythe	24.36	321	P		P	17 14 17.3	+1.3	
	baz=24								
O33A	Hebron	24.38	358	P		P	17 14 15.7	-0.6	
	baz=24,SNR=6.1								
P27A	Ficken Ranch,	24.45	348	P		P	17 14 17.8	+0.8	
	baz=24,SNR=6.1								
O36A	Bolckow	24.45	3	P		P	17 14 16.2	-0.7	
	baz=24								
O34A	Beatrice	24.47	359	P		P	17 14 16.7	-0.4	
	baz=24,SNR=10								
Q24A	Divide	24.49	343	P		P	17 14 18.3	+0.7	
	baz=24								
PDMCI	Parker Dam,Lak	24.51	323	P		P	17 14 18.7	+1.3	
	baz=24								
O35A	Humboldt	24.56	1	P		P	17 14 17.0	-0.9	
	baz=24								
O31A	Woolen Ranch,	24.57	355	P		P	17 14 18.0	0.0	
	baz=24								
O32A	Brockman Farm,	24.60	357	P		P	17 14 18.1	-0.1	
	baz=25								
P26A	Davis Ranch, A	24.61	347	P		P	17 14 19.0	+0.5	
	baz=25								
SWSC	Sam W. Stewart	24.62	318	P		P	17 14 19.9	+1.5	
	baz=25								
IBP	Imperial Bould	24.63	317	P		P	17 14 20.4	+1.7	
	baz=25								
O30A	MW Ranch, Wils	24.67	353	P		P	17 14 19.0	+0.1	
	baz=25,SNR=9.2								
O29A	4D Ranch, Culb	24.71	352	P		P	17 14 19.5	+0.2	
	baz=25								
O28A	Krutsinger Ran	24.86	350	P		P	17 14 21.1	+0.4	
	baz=25								
PV01	Paradox Valley	24.86	337	eP		P	17 14 22.1	+1.2	
	comp=Z,6µm,1.3s								
BC3	Big Chuckawall	24.86	320	P		P	17 14 22.1	+1.3	
	baz=25,SNR=7.6								
MONP	Monument Peak,	24.99	317	P		P	17 14 23.3	+1.2	
	baz=25								
BLO	Bloomington	25.01	18	eP		P	17 14 22.6	+0.7	
BLO					pmax	pmax			
	comp=Z,112nm,0.9s								
BLO	Bloomington	25.01	18	eP		P	17 14 22.6	+0.7	
	comp=Z,112nm,0.9s								
IRM	Iron Mountain	25.02	321	P		P	17 14 23.6	+1.5	
	baz=25,SNR=22								
N33A	J Bar K, Exete	25.04	358	P		P	17 14 22.0	-0.3	
	baz=25								
O27A	Beecher Island	25.04	349	P		P	17 14 23.0	+0.7	
	baz=25,SNR=6.7								
N32A	Stulken Farm,	25.10	357	P		P	17 14 22.6	-0.2	
	baz=25								
NEE2	Needles Airpor	25.12	323	P		P	17 14 24.6	+1.6	
	baz=25								
N34A	Lincoln	25.12	360	P		P	17 14 22.7	-0.3	
	baz=25								
N35A	Tabor	25.16	1	P		P	17 14 22.9	-0.3	
	baz=25								
N31A	Bailey Ranch,	25.21	355	P		P	17 14 24.2	+0.4	
	baz=25								
PV04	Paradox Valley	25.21	336	eP		P	17 14 25.0	+0.9	
SMCO	Snowmass	25.23	340	eP		P	17 14 25.5	+1.1	
	comp=Z,21nm,1.0s								
O26A	Horse Wrangler	25.26	348	P		P	17 14 25.3	+1.0	
	baz=25,SNR=7.5								
N30A	Hueftle Ranch,	25.29	353	P		P	17 14 25.2	+0.7	
	baz=25								
N28A	Pribbeno Ranch	25.37	351	P		P	17 14 26.1	+0.8	
	baz=25								
N29A	Votaw Ranch, W	25.37	353	P		P	17 14 25.8	+0.5	
	baz=25								
ISCO	Idaho Springs	25.40	343	eP		P	17 14 26.4	+0.6	
ISCO					pmax	pmax			
	comp=Z,29nm,1.2s								
ISCO	Idaho Springs	25.40	343	P		P	17 14 27.1	+1.3	
	baz=25,SNR=8.6								
ISCO	Idaho Springs	25.40	343	eP		P	17 14 26.4	+0.6	
	comp=Z,29nm,1.2s								
BELC	Belle Mtn. Jos	25.43	320	P		P	17 14 27.6	+1.6	
	baz=26,SNR=8.2								
109C	Camp Elliot, M	25.44	316	P		P	17 14 27.7	+1.7	
	baz=26								
PFO	Pinyon Flats O	25.47	318	P		P	17 14 27.7	+1.4	
	baz=26								
HDIL	Hopedale	25.60	13	P		P	17 14 26.9	-0.3	
	baz=26								
HDIL	Hopedale	25.60	13	eP		P	17 14 26.4	-0.9	
	comp=Z,90nm,1.3s								
N27A	Anderson Farm,	25.65	349	P		P	17 14 28.3	+0.4	
	baz=26								
OGNE	Ogallala	25.70	350	P		P	17 14 28.8	+0.6	
	baz=26								
OGNE	Ogallala	25.70	350	eP		P	17 14 29.6	+1.3	
	comp=Z,108nm,1.2s								
M31A	Lambtecht Ranc	25.73	356	P		P	17 14 28.8	+0.3	
	baz=26								
BGNE	Belgrade	25.74	357	P		P	17 14 28.8	+0.3	
	baz=26								
GMRC	Granite Mounta	25.75	321	P		P	17 14 30.4	+1.5	
	baz=26,SNR=10								
BLA	Blacksburg	25.76	30	eP		P	17 14 27.7	-1.1	
BLA					pmax	pmax			
	comp=Z,33nm,0.9s								
BLA	Blacksburg	25.76	30	eP		P	17 14 27.7	-1.1	
	comp=Z,33nm,0.9s								
M35A	Neola	25.76	1	P		P	17 14 28.9	+0.2	
	baz=26								
M34A	Aspy Farms, Fr	25.79	360	P		P	17 14 28.9	0.0	
	baz=26								
N26A	Koester Ranch,	25.80	348	P		P	17 14 29.5	+0.2	
	baz=26								
M33A	Taylor Creek F	25.87	359	P		P	17 14 29.6	-0.1	
	baz=26								
MURC	Murrieta	25.94	317	P		P	17 14 32.0	+1.5	
	baz=26								
SFIN	Lafayette	25.97	16	P		P	17 14 29.9	-0.7	
	baz=26,SNR=9.8								
SFIN	Lafayette	25.97	16	eP		P	17 14 29.7	-0.8	
	comp=Z,85nm,1.2s								
M29A	Burnside Ranch	26.00	353	P		P	17 14 31.6	+0.6	
	baz=26								
M30A	Dale-Ortello V	26.00	354	P		P	17 14 30.8	-0.2	
	baz=26								
VWCC	Virginia Weste	26.00	31	eP		P	17 14 29.9	-1.1	
M28A	Bar X Bar Ranc	26.04	351	P		P	17 14 31.5	+0.1	
	baz=26								
SDV	Santo Domingo	26.05	102	eP		P	17 14 33.3	+1.5	
	comp=Z,75nm,0.9s								
BBRC	Big Bear Solar	26.18	319	P		P	17 14 35.0	+2.1	
	baz=26								
HEC	Hector,Ludlow	26.18	321	P		P	17 14 34.8	+2.0	
	baz=26,SNR=5.6								
L34A	Svendsen Ran,	26.25	0	P		P	17 14 34.6	+1.4	
	baz=26								
M27A	Reverse DX Ran	26.33	350	P		P	17 14 34.8	+0.8	
	baz=26								
TUQ	Turquoise Moun	26.35	322	P		P	17 14 35.7	+1.4	
	baz=26								
L30A	Spencer Herefo	26.39	354	P		P	17 14 34.7	+0.2	
	baz=26								
M26A	McRoberts Ranc	26.40	349	P		P	17 14 35.1	+0.4	
	baz=26								
L35A	Bielow Farm, R	26.41	1	P		P	17 14 34.5	-0.1	
	baz=26								
N23A	Red Feather La	26.51	344	P		P	17 14 36.6	+0.8	
	baz=26,

comp=Z,185nm,1.7s
L25A Engebretsen Ra 27.23 348 P P 17 14 43.0 +0.9
baz=27
K29A Lazy Trails An 27.25 354 P P 17 14 42.5 +0.2
baz=27
EDW2 Edwards Air Fo 27.25 319 P P 17 14 43.7 +1.3
baz=27
K28A Ten Mile Ranch 27.33 352 P P 17 14 44.1 +1.1
baz=27
K27A Flueckinger Fa 27.45 351 P P 17 14 44.9 +0.8
baz=27
LRMC Laurel Mtn Rad 27.45 320 P P 17 14 45.6 +1.4
baz=28
BLG Laguna Peak, P 27.48 316 P P 17 14 46.1 +1.7
baz=28
TPNV Topopah Spring 27.59 324 P P 17 14 47.0 +1.5
baz=28
K26A Motz Farm, Whi 27.61 349 P P 17 14 46.3 +0.9
baz=28
FURC Furnace Creek, 27.61 323 P P 17 14 47.1 +1.7
baz=28
K25A Mack Ranch, Ha 27.65 348 P P 17 14 47.1 +1.2
baz=28
JFWS Jewell Farm 27.71 10 *e*P P 17 14 45.6 -0.7
JFWS pmax pmax
comp=Z,33nm,0.8s
JFWS Jewell Farm 27.71 10 *e*P P 17 14 45.6 -0.7
comp=Z,33nm,0.8s
MPMC Manual Prospec 27.71 321 P P 17 14 48.3 +1.7
baz=28
DAC Darwin (Calif) 27.92 321 *e*P P 17 14 49.5 +1.0
DAC pmax pmax
comp=Z,11nm,1.4s
DAC Darwin (Calif) 27.92 321 *e*P P 17 14 49.5 +1.0
comp=Z,11nm,1.4s
ARVC Arvin 27.95 318 P P 17 14 49.9 +1.4
baz=28
J27A Elkhorn Farm, 27.95 351 P P 17 14 48.0 -0.6
baz=28
K24A Anderson Ranch 27.95 347 P P 17 14 49.4 +0.7
baz=28
ECSD EROS Data Cent 28.02 360 P P 17 14 49.2 +0.1
baz=28
ECSD EROS Data Cent 28.02 360 *e*P P 17 14 48.4 -0.7
comp=Z,27nm,1.0s
ISA Isabella, Lake 28.06 319 P P 17 14 50.9 +1.4
baz=28
K23A Bowen Ranch, D 28.17 346 P P 17 14 51.8 +1.1
baz=28
J26A Sides Ranch, S 28.18 350 P P 17 14 51.4 +0.9
baz=28
R11A Troy Canyon, C 28.25 327 P P 17 14 52.7 +1.3
baz=28,SNR=10.0
GRAC Grapevine Rang 28.27 323 P P 17 14 53.2 +1.8
baz=28
K22A Casper 28.30 344 P P 17 14 52.3 +0.6
baz=28,SNR=5.8
I30A Oacoma 28.32 355 P P 17 14 51.8 +0.1
baz=28
CWC Cottonwood Cre 28.32 321 P P 17 14 53.7 +1.7
baz=28
DUG Dugway, Tooele 28.35 333 P P 17 14 53.6 +1.4
baz=28
J25A Sunshine Ranch 28.39 349 P P 17 14 53.3 +0.9
baz=28
I29A Vivian Onida 28.50 354 P P 17 14 53.9 +0.5
baz=28
J24A Dixon Ranch, L 28.50 347 P P 17 14 54.5 +1.0
baz=28
TCUT Toone Canyon 28.54 336 *e*P P 17 14 55.6 +1.6
comp=Z,114nm,1.1s
VES Vestal, Richgr 28.55 319 P P 17 14 55.5 +1.6
baz=29
I28A Midland 28.57 353 P P 17 14 54.7 +0.7
baz=28
I27A Quinn 28.76 352 P P 17 14 56.6 +1.0
baz=29
J23A Dilts Ranch, B 28.77 346 P P 17 14 56.7 +0.8
baz=29
ATAH Atahualpa 28.80 140 LR LR 17 24 35.3
comp=Z,415nm,18.3s,baz=318,slow=33
TIN Tinemaha, Big 28.82 322 P P 17 14 58.4 +2.0
baz=29
SMMC Simmler 28.82 317 P P 17 14 57.7 +1.3
baz=29
I26A New Underwood 28.84 350 P P 17 14 57.8 +1.4
baz=29
TPH Tonopah 28.94 325 *e*P P 17 14 59.3 +1.8
TPH pmax pmax
comp=Z,6.0nm,0.2s
TPH Tonopah 28.94 325 *e*P P 17 14 59.3 +1.8
comp=Z,6.3nm,0.2s
I25A Rochford 28.98 349 P P 17 14 59.2 +1.4
baz=29
I24A Kuemmerle Ranc 29.00 348 P P 17 14 58.7 +0.8
baz=29
J22A Midwest 29.00 345 P P 17 14 58.4 +0.4
baz=29,SNR=6.3
HWUT Hardware Ranch 29.02 336 *e*P P 17 14 58.7 +0.6
comp=Z,13nm,1.4s
J21A Lysite 29.20 343 P P 17 15 00.4 +0.7
baz=29,SNR=11
H28A Mission Ridge 29.22 353 P P 17 14 59.7 0.0
baz=29
BW06 Boulder Array 29.31 340 *e*P P 17 15 00.1 -0.7
comp=Z,20nm,1.7s
PDAR Pinedale Array 29.31 340 P P 17 15 01.3 +0.5
comp=Z,2.4nm,1.1s,baz=127,slow=11,SNR=14
PDAR LR LR 17 26 18.7
comp=Z,484nm,18.2s,baz=174,slow=36
H27A Howes 29.31 352 P P 17 15 01.3 +0.7
baz=29
J20A Shoshoni 29.38 342 P P 17 15 02.9 +1.5
baz=29,SNR=7.5
I22A 9 Mile Ranch, 29.45 345 P P 17 15 02.8 +0.8
baz=29
I21A Big Trails, Te 29.59 344 P P 17 15 04.0 +0.8
baz=30,SNR=9.2
J19A Crowheart 29.59 341 P P 17 15 04.3 +1.0
baz=30
HVU Hansel Valley 29.65 335 *e*P P 17 15 05.2 +1.4
HVU pmax pmax
comp=Z,32nm,1.6s
HVU Hansel Valley 29.65 335 *e*P P 17 15 05.2 +1.4
comp=Z,32nm,1.6s
SSPA Standing Stone 29.67 29 *e*P P 17 15 02.7 -1.0
comp=Z,23nm,1.1s
NVAR Mina Array Bea 29.79 324 P P 17 15 07.9 +2.7
comp=Z,111nm,1.1s,baz=138,slow=9.6,SNR=44
H24A Dirks Ranch, A 29.84 348 P P 17 15 05.6 +0.3
baz=30,SNR=7.6
ELK Elko 29.90 331 P P 17 15 07.9 +1.8
comp=Z,3.9nm,1.1s,baz=133,slow=8.7,SNR=12
ELK LR LR 17 27 27.4
comp=Z,1μm,20.5s,baz=132,slow=37
ELK Elko 29.90 331 *e*P P 17 15 07.5 +1.4
ELK pmax pmax
comp=Z,5.0nm,1.0s
ELK Elko 29.90 331 *e*P P 17 15 07.5 +1.4
comp=Z,4.5nm,1.0s
I20A Worland 29.94 343 P P 17 15 07.6 +1.3
baz=30
G25A Newell 30.07 350 P P 17 15 08.2 +0.9
baz=30
H22A Clearmont 30.08 346 P P 17 15 08.2 +0.7
baz=30
REDW Red Top Meadow 30.27 339 *e*P P 17 15 10.2 +0.8
comp=Z,53nm,1.5s
I19A Meeteetse 30.28 342 P P 17 15 10.2 +0.8
baz=30
H21A Big Horn, Sher 30.28 345 P P 17 15 10.1 +0.8
baz=30
SNOW Snow King Moun 30.33 339 *e*P P 17 15 11.0 +1.2
comp=Z,26nm,1.0s
G24A Alzada 30.37 349 P P 17 15 10.3 +0.3
baz=30
H20A Greybull 30.40 343 P P 17 15 11.2 +0.9
baz=30
LOHW Long Hollow 30.41 339 *e*P P 17 15 11.2 +0.6
comp=Z,39nm,1.5s
TPAW Teton Pass 30.42 339 *e*P P 17 15 11.7 +1.0
comp=Z,29nm,1.3s
G23A Biddle 30.44 347 P P 17 15 11.3 +0.7
baz=30
WAKR Walker 30.50 323 *e*P P 17 15 11.6 +0.3
comp=Z,18nm,1.5s
F27A Lemmon 30.52 352 P P 17 15 11.8 +0.5
baz=30

MOOW Moose Ponds 30.58 339 *e*P P 17 15 12.9 +0.9
comp=Z,31nm,1.7s
F26A Lodgepole 30.59 351 P P 17 15 12.4 +0.5
baz=31
BMN Battle Mountai 30.64 328 *e*P P 17 15 14.2 +1.7
BMN pmax pmax
comp=Z,5.0nm,1.1s
BMN Battle Mountai 30.64 328 *e*P P 17 15 14.2 +1.7
comp=Z,4.9nm,1.1s
G22A Birney 30.66 346 P P 17 15 12.9 +0.3
baz=31
IMW Indian Meadow 30.77 339 *e*P P 17 15 13.9 +0.1
comp=Z,5.5nm,0.9s
H19A Powell 30.85 342 P P 17 15 15.2 +0.9
baz=31
FLWY Flagg Ranch 30.86 340 *e*P P 17 15 15.2 +0.8
comp=Z,20nm,1.5s
F24A Ekalaka 30.88 349 P P 17 15 15.1 +0.6
baz=31
G21A Lodge Grass 30.88 345 P P 17 15 15.2 +0.6
baz=31,SNR=5.2
F23A Volborg 30.94 348 P P 17 15 15.6 +0.6
baz=31
E29A Napoleon 30.97 356 P P 17 15 15.2 0.0
baz=31
E28A Huff 31.07 354 P P 17 15 16.2 +0.2
baz=31
G20A Bridger 31.14 344 P P 17 15 17.1 +0.3
baz=31
E26A Carlson Angus 31.17 352 P P 17 15 17.3 +0.4
baz=31
RLMT Red Lodge 31.34 342 P P 17 15 19.1 +0.3
baz=31,SNR=13
RLMT Red Lodge 31.34 342 *e*P P 17 15 19.5 +0.7
comp=Z,32nm,1.2s
F21A Absaloka Mine, 31.42 346 P P 17 15 19.5 +0.3
baz=31
D30A Buchanan 31.45 357 P P 17 15 19.6 +0.1
baz=31
E24A Baker 31.54 350 P P 17 15 20.6 +0.3
baz=32
F20A Billings 31.66 344 P P 17 15 21.5 +0.1
baz=32
D28A Regan 31.67 355 P P 17 15 21.4 0.0
baz=32,SNR=5.7
E23A Ramay 31.67 348 P P 17 15 21.7 +0.3
baz=32
D27A Center 31.68 353 P P 17 15 21.8 +0.3
baz=32
D26A Manning 31.71 352 P P 17 15 21.9 +0.1
baz=32
E22A Miles City 31.74 347 P P 17 15 21.9 -0.1
baz=32
HLID Hailey 31.80 335 P P 17 15 23.7 +0.9
baz=32,SNR=15
HLID Hailey 31.80 335 *e*P P 17 15 23.4 +0.7
comp=Z,10.0nm,1.1s
C30A Mose, Pekin 32.03 357 P P 17 15 24.4 -0.1
baz=32
GCMT Greycliff 32.07 342 *e*P P 17 15 25.4 +0.4
comp=Z,3.1nm,0.7s
D24A Glendive 32.08 350 P P 17 15 26.1 +1.0
baz=32
E21A Keefer Ranch, 32.09 346 P P 17 15 25.8 +0.8
baz=32
C28A Hausauer Farms 32.17 355 P P 17 15 26.2 +0.4
baz=32
MDND Maddock 32.24 356 P P 17 15 26.8 +0.4
baz=32
C27A Sayler Ranch, 32.28 354 P P 17 15 27.1 +0.5
baz=32
MFID Camas Ranch 32.28 333 *e*P P 17 15 27.8 +0.9
comp=Z,14nm,1.3s
C26A Wahner Farm, P 32.45 353 P P 17 15 29.0 +0.7
baz=32
D22A Cohagen 32.47 348 P P 17 15 29.0 +0.6
baz=32,SNR=9.1
EYMN Ely 32.49 6 P P 17 15 28.2 -0.3
baz=32
EYMN Ely 32.49 6 *e*P P 17 15 27.1 -1.4
comp=Z,9.6nm,0.9s
C25A Freed Ranch, W 32.50 351 P P 17 15 29.4 +0.8
baz=32
C24A Savage 32.50 350 P P 17 15 29.5 +0.8
baz=32
BOZ Bozeman (W) 32.55 340 P P 17 15 30.5 +1.2
baz=32,SNR=7.6
D21A La Casta Ranch 32.56 347 P P 17 15 30.0 +0.7
baz=32,SNR=7.5
AGMN Agassiz Nation 32.59 1 P P 17 15 28.9 -0.5
baz=32,SNR=10
AGMN Agassiz Nation 32.59 1 *e*P P 17 15 28.6 -0.8
comp=Z,31nm,0.8s
DLMT Dillon 32.63 339 *e*P P 17 15 31.3 +1.3
comp=Z,42nm,1.2s
B30A Myrvik Farm, E 32.77 358 P P 17 15 31.1 +0.1
baz=33
B29A Wagenman Farm, 32.84 356 P P 17 15 31.7 +0.1
baz=33,SNR=5.2
B28A Dugan Ranch, T 32.90 355 P P 17 15 32.9 +0.8
baz=33
C23A Lambert 32.90 349 P P 17 15 33.0 +0.8
baz=33
C22A Vida 32.98 348 P P 17 15 33.8 +1.0
baz=33,SNR=16
LRM Limekiln Ridge 32.98 339 *e*P P 17 15 34.0 +0.9
comp=Z,379nm,1.6s
B26A Jensen Ranch, 33.01 353 P P 17 15 33.3 +0.2
baz=33
ANWB Willy Bob 33.21 82 P P 17 15 32.8 -2.4
BBSR BB Station 33.26 54 *e*P P 17 15 34.1 -1.3
comp=Z,70nm,1.1s
A30A Hoffart Farm, 33.26 358 P P 17 15 35.2 0.0
baz=33,SNR=6.8
A29A Manning Farm, 33.29 357 P P 17 15 35.5 0.0
baz=33,SNR=5.6
C21A Desert Coulee 33.31 347 P P 17 15 36.2 +0.5
baz=33,SNR=6.9
MOD Modoc Plateau 33.31 327 *e*P P 17 15 36.9 +0.9
comp=Z,35nm,1.5s
A28A Rude Farm, Bot 33.35 355 P P 17 15 36.5 +0.5
baz=33
DGMT Dagmar 33.38 351 P P 17 15 36.8 +0.5
baz=33
C20A Veseth Ranch, 33.41 346 P P 17 15 37.2 +0.6
baz=33,SNR=5.2
A26A Wade Farm, Ken 33.50 353 P P 17 15 38.0 +0.6
baz=34
B23A Brockton 33.50 350 P P 17 15 38.5 +1.0
baz=34,SNR=7.8
B22A Reddig Ranch S 33.53 348 P P 17 15 38.6 +0.9
baz=34
A25A Svangstu Ranch 33.68 352 P P 17 15 39.9 +1.0
baz=34
A24A Westby 33.79 351 P P 17 15 40.8 +0.9
baz=34
B21A Ellsworth Farm 33.86 347 P P 17 15 41.4 +0.9
baz=34
A23A Redstone 33.96 350 P P 17 15 42.4 +1.0
baz=34
NCB Newcomb 33.97 29 *e*P P 17 15 40.0 -1.5
comp=Z,17nm,1.0s
M04C Macdoel 34.06 325 P P 17 15 43.5 +1.1
baz=34
BMO Blue Mountains 34.07 333 *e*P P 17 15 42.2 -0.2
comp=Z,17nm,1.5s
B20A Solberg Farm, 34.09 346 P P 17 15 43.4 +0.9
baz=34
EGMT Eagleton 34.14 344 P P 17 15 43.9 +0.9
baz=34,SNR=8.1
EGMT Eagleton 34.14 344 *e*P P 17 15 43.6 +0.7
comp=Z,62nm,1.6s
LONY Lake Ozonia 34.30 28 *e*P P 17 15 43.3 -1.1
comp=Z,46nm,1.0s
B19A Brinkman Farms 34.33 345 P P 17 15 45.5 +0.9
baz=34,SNR=15
MSO Missoula 34.37 339 P P 17 15 45.7 +0.6
baz=34
M02C Callahan 34.37 324 P P 17 15 45.5 +0.4
baz=34
ULM Lac du Bonnet 34.54 1 P P 17 15 44.5 -1.8
comp=Z,14nm,1.2s,baz=192,slow=8.7,SNR=7.4
ULM LR LR 17 30 43.9
comp=Z,224nm,21.3s,baz=194,slow=38
ULM Lac du Bonnet 34.54 1 *e*P P 17 15 44.8 -1.6
ULM pmax pmax
comp=Z,15nm,0.9s
ULM Lac du Bonnet 34.54 1 *e*P P 17 15 44.8 -1.6

comp=Z,14nm,0.9s
A19A Klindworth Far 34.72 346 P P 17 15 49.2 +1.2
baz=35
J04D Umpqua Nationa 35.20 327 P P 17 15 53.6 +1.2
baz=35
I03D Drain, OR 36.17 326 P P 17 16 01.8 +1.3
baz=36
G05D Wamic, OR 36.21 330 P P 17 16 01.8 +0.9
baz=36
WALA Waterton Lakes 36.29 340 *e*P P 17 16 02.7 +1.1
NEW Newport 36.74 337 P P 17 16 05.8 +0.5
baz=37
G03D McMinnville, O 37.16 328 P P 17 16 09.5 +0.6
baz=37
SAML Samuel 40.98 124 *e*P P 17 16 39.9 -1.3
comp=Z,9.3nm,0.9s
LPAZ La Paz 42.24 137 P P 17 16 52.3 +0.1
comp=Z,4.3nm,1.0s,baz=338,slow=10.0,SNR=11
LPAZ LR LR 17 34 39.1
comp=Z,300nm,18.2s,baz=320,slow=37
LPAZ La Paz 42.24 137 *e*P P 17 16 52.8 +0.6
LPAZ pmax pmax
comp=Z,3.0nm,0.7s
LPAZ La Paz 42.24 137 *e*P P 17 16 52.8 +0.6
comp=Z,3.2nm,0.7s
SCHQ Schefferville 45.32 24 P P 17 17 15.2 -0.6
comp=Z,21nm,1.0s,baz=234,slow=6.6,SNR=9.3
SCHQ LR LR 17 38 26.6
comp=Z,533nm,19.2s,baz=259,slow=39
SCHQ Schefferville 45.32 24 *e*P P 17 17 14.8 -1.1
comp=Z,18nm,0.9s
LVC Limon Verde 46.57 144 P P 17 17 31.8 +5.4
YKA Yellowknife Ar 48.55 349 P P 17 17 40.4 -0.5
comp=Z,3.5nm,0.9s,baz=154,slow=7.7,SNR=18
DLBC Dease Lake 49.48 337 *e*P P 17 17 50.6 +2.3
comp=Z,40nm,1.4s
TAOE Iuku Hiva Isla 49.68 244 *e*T T 18 10 45.2
comp=Z,164nm,0.2s
RKT Rikitea 53.91 225 *e*S S 17 25 53.7 -2.6
comp=Z,327nm,26.8s
RKT *e*LR LR 17 34 06.8
comp=Z,462nm,28.5s,baz=40
RKT Rikitea 53.91 225 *e*T T 18 16 11.5
comp=Z,24nm,0.3s
HYT Haines Junctio 53.91 337 *e*P P 17 18 23.2 +1.9
comp=Z,20nm,1.4s
CPUP Villa Florida 56.42 137 P P 17 18 39.0 -0.7
comp=Z,3.8nm,1.0s,baz=332,slow=11,SNR=4.6
CPUP LR LR 17 42 04.8
comp=Z,183nm,20.3s,baz=330,slow=35
BDFB Brasilia 57.00 121 P P 17 18 44.0 -0.2
comp=Z,10nm,0.9s,baz=282,slow=6.3,SNR=9.9
EGAK Eagle 57.65 339 *e*P P 17 18 48.0 +0.1
comp=Z,8.9nm,1.0s
INK Inuvik 57.72 345 P P 17 18 49.3 +1.0
baz=143,slow=6.6
PAX Paxson 58.23 336 *e*P P 17 18 52.5 +0.3
PAX pmax pmax
comp=Z,11nm,1.1s
PAX Paxson 58.23 336 *e*P P 17 18 52.5 +0.3
comp=Z,11nm,1.1s
PMOR Pomariorio Ree 59.27 242 *e*T T 18 22 45.0
comp=Z,2.0nm,0.2s
ILAR Eielson Array 59.70 337 P P 17 19 02.7 +0.5
comp=Z,15nm,1.2s,baz=135,slow=4.5,SNR=59
ILAR LR LR 17 47 16.4
comp=Z,472nm,20.0s,baz=144,slow=38
MCK McKinley 59.97 336 *e*P P 17 19 04.5 +0.4
MCK pmax pmax
comp=Z,21nm,1.3s
MCK McKinley 59.97 336 *e*P P 17 19 04.5 +0.4
comp=Z,22nm,1.3s
COLA College 60.10 337⇑ *i*P P 17 19 04.4 -0.5
COLA pmax pmax
comp=Z,36nm,1.0s
COLA College 60.10 337 *e*P P 17 19 05.1 +0.2
comp=Z,9.3nm,1.0s
RSO Redoubt South 60.20 332 *e*P P 17 19 05.8 -0.2
comp=Z,32nm,0.8s
TRF Thorofare Moun 60.37 335 *e*P P 17 19 07.3 +0.2
comp=Z,59nm,1.6s
PPLA Purkeypile 60.91 334 *e*P P 17 19 09.8 -0.9
comp=Z,34nm,1.5s
BPAW Bear Paw Mtn. 60.94 336 *e*P P 17 19 10.2 -0.6
comp=Z,4.5nm,1.4s
PPT Papeete 61.92 240 LR LR 17 39 19.3
comp=Z,190nm,18.1s,baz=68,slow=29
PPT2 Papeete2 61.93 240 *e*LQ LQ 17 35 19.7
comp=Z,761nm,30.0s
PPT2 *e*LR LR 17 37 38.4
comp=Z,445nm,24.8s,baz=58
COLD Coldfoot 62.09 339 *e*P P 17 19 19.7 +1.3
comp=Z,3.0nm,0.4s
TBI Tubuai 64.73 234 *e*LR LR 17 39 07.7
comp=Z,346nm,25.8s,baz=61
SUMG Summit 65.84 16⇑ *i*P P 17 19 44.0 +0.5
comp=Z,15nm,1.1s
SUMG Summit 65.84 16⇑ *i*P P 17 19 44.0 +0.5
SUMG pmax pmax
comp=Z,15nm,1.1s
SUMG Summit 65.84 16 *e*P P 17 19 42.5 -1.0
comp=Z,6.5nm,0.9s
DAG Danmarks Havn 72.09 14⇑ *i*P P 17 20 21.4 -0.4
comp=Z,15nm,1.1s
DAG Danmarks Havn 72.09 14⇑ *i*P P 17 20 21.4 -0.4
DAG pmax pmax
comp=Z,19nm,1.1s
RAR Rarotonga 72.14 241 LR LR 17 43 42.3
comp=Z,154nm,18.4s,baz=78,slow=29
PMAFR Mafra 78.16 53 *e*S S 17 31 06.5 +15
PMAFR Mafra 78.16 53 *e*S S 17 31 06.5 +15
KBS Kingsbay 78.23 11 *e*P P 17 20 58.5 +1.4
KBS pmax pmax
comp=Z,16nm,1.1s
KBS Kingsbay 78.23 11 *e*P P 17 20 58.5 +1.4
comp=Z,16nm,1.1s
BILL Bilibino 78.36 338 *c i*P P 17 20 58.6 +0.6
BILL pmax pmax
comp=Z,26nm,1.2s
PGAV Gavieira, Arco 78.37 50 *e*LR LR 17 45 55.0
comp=Z,284nm,18.0s
PGAV Gavieira, Arco 78.37 50 *e*LR LR 17 45 55.0
comp=Z,284nm,18.0s
PCAS Casmilo, Conde 78.55 52 *e*P P 17 21 00.9 +1.2
comp=Z,67nm,1.1s
PCAS Casmilo, Conde 78.55 52 *e*S S 17 31 12.2 +17
PCAS Casmilo, Conde 78.55 52 *e*P P 17 21 00.9 +1.2
comp=Z,67nm,1.1s
PCAS Casmilo, Conde 78.55 52 *e*S S 17 31 12.2 +17
PCAB Cabril 78.59 50 *e*P P 17 21 00.4 +0.5
comp=Z,21nm,1.2s
PCAB Cabril 78.59 50 *e*P P 17 21 00.4 +0.5
comp=Z,21nm,1.2s
PTOM Tomar 78.70 52 *e*P P 17 21 01.4 +0.9
comp=Z,43nm,1.1s
PTOM Tomar 78.70 52 *e*P P 17 21 01.4 +0.9
comp=Z,43nm,1.1s
POLO Lamas de Olo 78.83 50 *e*P P 17 21 01.1 -0.2
comp=Z,13nm,1.2s
POLO Lamas de Olo 78.83 50 *e*P P 17 21 01.1 -0.2
comp=Z,13nm,1.2s
PNCL Nicolau / Gran 78.89 53 *e*P P 17 21 02.5 +0.9
comp=Z,29nm,1.2s
PNCL Nicolau / Gran 78.89 53 *e*S S 17 31 05.2 +6.0
PNCL Nicolau / Gran 78.89 53 *e*P P 17 21 02.5 +0.9
comp=Z,28nm,1.2s
PNCL Nicolau / Gran 78.89 53 *e*S S 17 31 05.2 +6.0
MORF Marmelete 78.96 54 *e*P P 17 21 01.3 -0.7
MORF AMb AMB 17 21 18.8
comp=Z,34nm,1.9s
MORF Marmelete 78.96 54 *e*P P 17 21 01.3 -0.7
MORF Marmelete 78.96 54 *e*P P 17 21 03.0 +1.0
comp=Z,29nm,1.2s
MORF Marmelete 78.96 54 *e*P P 17 21 03.0 +1.0
comp=Z,29nm,1.2s
ESK Eskdalemuir 79.12 36 *i*P P 17 21 03.5 +1.1
MESJ Messejana 79.19 54 *e*P P 17 21 02.6 -0.6
MESJ AMb AMB 17 21 08.9
comp=Z,20nm,1.7s
MESJ Messejana 79.19 54 *e*P P 17 21 02.6 -0.6
MESJ Messejana 79.19 54 *e*P P 17 21 03.7 +0.5
comp=Z,19nm,1.9s
MESJ Messejana 79.19 54 *e*P P 17 21 03.7 +0.5
comp=Z,19nm,1.9s
EVO Evora 79.21 53 *e*P P 17 21 03.7 +0.4
comp=Z,29nm,1.5s
EVO Evora 79.21 53 *e*P P 17 21 03.7 +0.4

comp=Z,29nm,1.5s
PCBR Castelo Branco 79.36 52 *e*P **P 17 21 05.3 +1.2**
PCBR Castelo Branco 79.36 52 *e*P **P 17 21 05.3 +1.2**
PCVE Castro Verde 79.37 54 *e*P **P 17 21 05.4 +1.2**
comp=Z,5.5nm,1.7s
PCVE Castro Verde 79.37 54 *e*S S 17 31 21.8 +18
PCVE Castro Verde 79.37 54 *e*P **P 17 21 05.4 +1.2**
comp=Z,5.5nm,1.7s
PCVE Castro Verde 79.37 54 *e*S S 17 31 21.8 +18
MVO Moncorvo 79.44 50 *e*P **P 17 21 05.6 +1.0**
comp=Z,29nm,1.0s
MVO Moncorvo 79.44 50 *e*S **S 17 31 10.9 +5.9**
MVO Moncorvo 79.44 50 *e*LR LR 17 46 18.6
comp=Z,189nm,18.0s
MVO Moncorvo 79.44 50 *e*P **P 17 21 05.6 +1.0**
comp=Z,29nm,1.0s
MVO Moncorvo 79.44 50 *e*S **S 17 31 10.9 +5.9**
MVO Moncorvo 79.44 50 *e*LR LR 17 46 18.6
comp=Z,189nm,18.0s
PESTR Estremoz 79.47 53 *e*S **S 17 31 09.1 +3.8**
PESTR Estremoz 79.47 53 *e*S **S 17 31 09.1 +3.8**
PMRV Marv??o 79.51 52 *e*P **P 17 21 05.2 +0.3**
comp=Z,29nm,1.2s
PMRV *e*S S 17 30 56.9 -8.8
PMRV Marv??o 79.51 52 *e*LR LR 17 46 15.8
comp=Z,273nm,18.0s
PMRV Marv??o 79.51 52 *e*P **P 17 21 05.2 +0.3**
comp=Z,29nm,1.2s
PMRV *e*S S 17 30 56.9 -8.8
PMRV Marv??o 79.51 52 *e*LR LR 17 46 15.8
comp=Z,273nm,18.0s
PBRG Braganca 79.52 49 *e*P **P 17 21 05.8 +0.8**
comp=Z,26nm,1.4s
PBRG Braganca 79.52 49 *e*P **P 17 21 05.8 +0.8**
comp=Z,26nm,1.4s
PBDV Barranco-do-Ve 79.53 54 *e*P **P 17 21 06.5 +1.4**
comp=Z,29nm,1.4s
PBDV Barranco-do-Ve 79.53 54 *e*S S 17 31 25.8 +20
PBDV Barranco-do-Ve 79.53 54 *e*P **P 17 21 06.5 +1.4**
comp=Z,29nm,1.4s
PBDV Barranco-do-Ve 79.53 54 *e*S S 17 31 25.8 +20
PVAQ Vaqueiros 79.67 54 *e*P **P 17 21 07.0 +1.2**
comp=Z,22nm,1.3s
PVAQ Vaqueiros 79.67 54 *e*S S 17 31 25.4 +18
PVAQ Vaqueiros 79.67 54 *e*LR LR 17 46 21.0
comp=Z,215nm,18.0s
PVAQ Vaqueiros 79.67 54 *e*P **P 17 21 07.0 +1.2**
comp=Z,22nm,1.3s
PVAQ Vaqueiros 79.67 54 *e*S S 17 31 25.4 +18
PVAQ Vaqueiros 79.67 54 *e*LR LR 17 46 21.0
comp=Z,215nm,18.0s
PBAR Barrancos 80.03 53 *e*P **P 17 21 08.7 +0.9**
comp=Z,48nm,1.9s
PBAR Barrancos 80.03 53 *e*S S 17 31 28.0 +17
PBAR Barrancos 80.03 53 *e*P **P 17 21 08.7 +0.9**
comp=Z,48nm,1.9s
PBAR Barrancos 80.03 53 *e*S S 17 31 28.0 +17
PAB San Pablo 81.78 51 *e*P **P 17 21 17.9 +0.7**
PAB pmax pmax
comp=Z,50nm,1.4s
PAB San Pablo 81.78 51 *e*P **P 17 21 17.9 +0.7**
comp=Z,50nm,1.4s
ESDC Sonseca Array 82.04 51 P **P 17 21 19.2 +0.7**
comp=Z,12nm,1.0s,baz=295,slow=5.2,SNR=46
ESDC LR LR 17 57 26.5
comp=Z,96nm,18.0s,baz=275,slow=36
LARF Larrau 83.38 47⇑ *e*P **P 17 21 26.6 +1.2**
NB2 NORSAR Subarra 84.73 28 P **P 17 21 33.2 +1.3**
comp=Z,31nm,1.2s,baz=297,slow=4.8
NB2 NORSAR Subarra 84.73 28 P **P 17 21 33.2 +1.3**
baz=297,slow=4.8
NOA NORSAR Array B 84.73 28 P **P 17 21 33.5 +1.6**
comp=Z,8.9nm,1.0s,baz=296,slow=4.8,SNR=14
NOA LR LR 17 58 17.3
comp=Z,148nm,21.9s,baz=270,slow=35
MLS Moulis 84.87 47⇑ *e*P **P 17 21 33.6 +0.6**
SALF Salau 85.00 47⇑ *e*P **P 17 21 34.7 +1.0**
DOU Dourbes 85.05 39 P **P 17 21 34.3 +0.6**
comp=Z,10.0nm,1.8s
AGO Saint Agoulin 85.36 44⇑ *e*P **P 17 21 36.0 +0.6**
PYM Petit Puy Mans 85.37 44⇑ *e*P **P 17 21 36.5 +1.0**
BEBN Eben Emael 85.48 38 P **P 17 21 36.7 +0.9**
HGN Heimansgroeve 85.64 38 *e*P **P 17 21 37.2 +0.5**
comp=Z,33nm,1.2s
HGN Heimansgroeve 85.64 38 *e*S S 17 32 18.3 +10
VALF Valcebollere 85.69 47⇑ *e*P **P 17 21 38.2 +0.9**
LBL Lubilhac 85.69 44⇑ *e*P **P 17 21 38.0 +0.9**
PLDF La Plantade 85.71 44⇑ *e*P **P 17 21 37.3 +0.1**
MEM Membach 85.74 39 P **P 17 21 38.4 +1.3**
WTSB Winterswijk 85.75 37 *e*P **P 17 21 37.7 +0.6**
comp=Z,24nm,0.9s
LRDF Laroque-de-Fa 85.89 47⇑ *e*P **P 17 21 38.8 +0.7**
COLF Collangettes 85.90 44⇑ *e*P **P 17 21 38.9 +0.8**
ARCES ARCESS Array B 85.91 17 P **P 17 21 38.1 +0.5**
comp=Z,3.8nm,0.9s,baz=297,slow=4.0,SNR=4.7
ARCES LR LR 18 00 13.5
comp=Z,197nm,21.9s,baz=296,slow=36
FILF Fillols 86.02 47⇑ *e*P **P 17 21 39.1 +0.3**
WLF Walferdange 86.14 39 P **P 17 21 40.8 +1.6**
comp=Z,19nm,1.8s
WLF Walferdange 86.14 39 *e*P **P 17 21 40.9 +1.8**
comp=Z,40nm,1.5s
IBBN Ibbenburen 86.19 37 *e*P **P 17 21 40.9 +1.6**
comp=Z,24nm,1.1s
BUG Bochum-Univer 86.21 38 *e*P **P 17 21 40.7 +1.3**
comp=Z,19nm,1.3s
PET Petropavlovsk 86.37 324 P P 17 21 47.3 +7.1
PET *e*S **S 17 32 19.8 +4.9**
PET MLR MLR
comp=Z,300nm,21.0s
THEF They Montfort 86.52 41⇑ *e*P **P 17 21 41.8 +0.7**
SSB Saint Sauveur 86.54 44⇑ *e*P **P 17 21 41.9 +0.6**
SSB Saint Sauveur 86.54 44 *e*P **P 17 21 41.7 +0.4**
SSB pmax pmax
comp=Z,12nm,1.0s
SSB Saint Sauveur 86.54 44 *e*P **P 17 21 41.7 +0.4**
comp=Z,12nm,1.0s
PETK Petropavlovsk- 86.88 324 LR LR 17 59 56.5
comp=Z,99nm,20.9s,baz=38,slow=35
BSEG Bad Segeberg 87.03 35 *e*P **P 17 21 44.7 +1.4**
comp=Z,14nm,1.2s
ECH Echery 87.26 41⇑ *e*P **P 17 21 44.9 +0.2**
ECH Echery 87.26 41 *e*P **P 17 21 44.8 +0.1**
ECH pmax pmax
comp=Z,11nm,1.6s
ECH Echery 87.26 41 *e*P **P 17 21 44.8 +0.1**
comp=Z,11nm,1.6s
TNS Taunus Mts 87.34 38 *e*P **P 17 21 46.4 +1.3**
comp=Z,14nm,1.1s
LOMF Lomont 87.35 41⇑ *e*P **P 17 21 45.8 +0.6**
MOF Molkenrain 87.37 41⇑ *e*P **P 17 21 45.3 0.0**
LANF Langenberg 87.39 40⇑ *e*P **P 17 21 45.8 +0.5**
TIXI Tiksi 87.76 347 *i* P **P 17 21 45.4 -1.1**
TIXI pmax pmax
comp=Z,8.0nm,1.2s
TIXI Tiksi 87.76 347 *e*P **P 17 21 46.1 -0.4**
comp=Z,3.1nm,0.6s
LEPF PUYLOUBIER 87.90 45⇑ *e*P **P 17 21 48.6 +0.8**
BFO Black Forest 87.95 40 *e*P **P 17 21 48.9 +0.9**
comp=Z,9.0nm,1.5s
BFO Black Forest 87.95 40 *i* P **P 17 21 49.9 +1.9**
UBBA Unterbreizbach 88.04 38 *e*P **P 17 21 49.3 +1.1**
comp=Z,28nm,2.3s
MOX Moxa 89.05 37 *e*P **P 17 21 54.2 +1.1**
comp=Z,7.0nm,1.2s
MOX *e*L L 18 02 04.1
comp=Z,221nm,20.4s
GRF Grafenberg Arr 89.20 38 *e*P **P 17 21 55.4 +1.6**
comp=Z,19nm,1.8s
GRF *e*L L 17 59 25.4
comp=Z,211nm,21.7s
PLN Plauen 89.43 37 *e*P **P 17 21 56.1 +1.2**
comp=Z,14nm,1.5s
WERD Werda 89.53 37 *e*P **P 17 21 56.6 +1.2**
comp=Z,8.0nm,1.2s
CLL Collm 89.58 36 *e*P **P 17 21 56.4 +0.9**
comp=Z,8.0nm,1.1s
CLL Collm 89.58 36⇑ *i* P **P 17 21 55.0 -0.5**
comp=Z,8.0nm,1.1s
CLL *e* 17 22 13.0
CLL *e*PP **PP 17 25 25.0 -1.8**
CLL *e*SKSac **SKSac 17 32 20.0 -5.0**
CLL *e*SKKSac **SKKSac 17 32 33.0 -4.6**
CLL *e*S **S 17 32 42.0 -3.6**
CLL *e*sS sS 17 33 05.0 +8.7
CLL *e*PS **PS 17 34 01.0 +8.1**
CLL *e* 17 36 30.0
CLL *e*SS **SS 17 38 36.0 -4.9**
CLL *e*SSSS 17 45 12.0
CLL LmV 18 02 00.0
comp=Z,200nm,20.6s
CLL Collm 89.58 36⇑ *i* P **P 17 21 55.0 -0.5**
CLL *e* 17 22 13.0
CLL *e* 17 32 20.0
CLL *e*S **S 17 32 42.0 -3.6**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL MLR MLR
comp=Z,200nm,20.6s
GUNZ Gunzen 89.58 37 *e*P **P 17 21 56.9 +1.2**
comp=Z,7.0nm,1.1s
MANZ Manzenberg 89.61 38 *e*P **P 17 21 57.0 +1.2**
comp=Z,7.0nm,1.1s
TANN Tannenbergstha 89.64 37 *e*P **P 17 21 57.1 +1.2**
comp=Z,11nm,1.2s
WERN Wernitzgruen 89.64 37 *e*P **P 17 21 57.3 +1.4**
comp=Z,12nm,1.2s
NKC Novy Kostel 89.70 37 *e*P **P 17 21 56.5 +0.3**
NKC *e*PP **PP 17 25 25.2 -2.7**
NKC *e*PS **PnS 17 33 54.1 +0.2**
NKC Novy Kostel 89.70 37 *e*P **P 17 21 56.5 +0.3**
NKC *e* 17 25 25.2
NKC *e*PS **PnS 17 33 54.1 +0.2**
DBIC Dimbokro 89.72 83 LR LR 17 59 20.5
comp=Z,112nm,20.2s,baz=266,slow=34
ROTZ Rotzenmuhle 89.75 38 *e*P **P 17 21 57.9 +1.5**
comp=Z,6.0nm,1.2s
FBE Freiberg 89.94 37 *e*P **P 17 21 58.7 +1.4**
comp=Z,12nm,1.2s
BRG Berggiesshubel 90.30 36 *e*P **P 17 21 59.4 +0.5**
comp=Z,10nm,1.2s
BRG PP **PP 17 25 34.0 +1.4**
BRG SKS **SKSac 17 32 31.0 +1.7**
BRG S **ScS 17 32 57.0 +0.8**
BRG SS **SS 17 38 56.0 +4.7**
comp=N,130nm,18.4s
comp=E,126nm,16.2s
comp=Z,295nm,21.5s
BRG Berggiesshubel 90.30 36 *e*P **P 17 22 00.0 +1.1**
comp=Z,11nm,1.2s
BRG Berggiesshubel 90.30 36 *e*P **P 17 21 59.4 +0.5**
BRG 17 25 34.0
BRG 17 32 31.0
BRG SS SS 17 38 56.0 +4.6
BRG pmax pmax
comp=Z,11nm,1.2s
BRG MLR MLR
comp=N,130nm,18.4s
BRG MLR MLR
comp=E,126nm,16.2s
BRG MLR MLR
comp=Z,295nm,21.5s
WET Wettzell 90.41 38 *e*P **P 17 22 01.0 +1.5**
comp=Z,10.0nm,1.2s
FINES FINESS Array B 90.80 24 P **P 17 22 00.6 -0.4**
comp=Z,2.2nm,1.0s,baz=187,slow=9.4,SNR=4.5
FINES LR LR 18 05 01.3
comp=Z,197nm,19.1s,baz=316,slow=37
PVCC Panska Ves 90.81 37 *e*PP PP 17 25 36.5 -0.1
KHC Kasperske Hory 90.83 38 *e*P **P 17 22 01.9 +0.4**
KHC *e*pP **pP 17 22 08.6 +0.6**
KHC *e*PP **PP 17 25 32.9 -4.0**
KHC *e*SKS SKSac 17 32 23.9 -8.6
KHC *e*XS **sS 17 33 08.1 0.0**
KHC *e*PS **PS 17 34 06.1 -0.9**
KHC AMS AMS 18 03 50.0
comp=Z,400nm,20.3s
KHC Kasperske Hory 90.83 38 *e*P **P 17 22 01.9 +0.4**
KHC *e* 17 25 32.9
KHC *e* 17 32 23.9
KHC *e*PS **PS 17 34 06.1 -0.9**
KHC MLR MLR
comp=Z,400nm,20.3s
RJOB Jochberg 90.94 40 *e*P **P 17 22 03.3 +1.2**
comp=Z,14nm,1.7s
GEC2 GERESS Array S 91.03 38 *e*P **P 17 22 03.6 +1.1**
comp=Z,8.0nm,1.4s
GERES GERESS Array B 91.03 38 P **P 17 22 03.0 +0.5**
comp=Z,2.7nm,1.0s,baz=321,slow=3.4,SNR=15
GERES LR LR 18 03 55.0
comp=Z,297nm,18.5s,baz=288,slow=36
GERES GERESS Array B 91.03 38 P **P 17 22 03.0 +0.5**
PRU Pruhonice 91.03 37 *e*P **P 17 22 02.8 +0.5**
PRU *e*pP **pP 17 22 09.8 +1.0**
PRU *e*PP **PP 17 25 36.6 -1.8**
PRU *e*SKS **SKSac 17 32 30.3 -3.2**
PRU *e*PS **PS 17 34 06.1 -3.0**
PRU AMS AMS 18 08 10.0
comp=Z,300nm,17.6s
PRU Pruhonice 91.03 37 *e*P **P 17 22 02.8 +0.5**
PRU *e* 17 25 36.6
PRU *e* 17 32 30.3
PRU *e*PS **PS 17 34 06.1 -3.0**
PRU MLR MLR
comp=Z,300nm,17.6s
GOPC GO Pecny, Ondr 91.20 37 *e*P **P 17 22 04.2 +1.0**
GOPC *e*PP **PP 17 25 37.1 -2.7**
GOPC *e*SKS **SKSac 17 32 31.7 -2.9**
GOPC AMS AMS 18 08 20.0
comp=Z,300nm,17.0s
UPC Upice 91.64 36 *e*P **P 17 22 05.6 +0.4**
UPC *e*pP **pP 17 22 14.5 +2.8**
UPC Upice 91.64 36 *e*P **P 17 22 05.6 +0.4**
UPC *e* 17 22 14.5
TREC Trest 91.89 37 *e*PP PP 17 25 42.2 -3.0
TREC AMS AMS 18 11 00.0
comp=Z,200nm,15.9s
DPC Dobruska-Polom 91.89 36 *e*P **P 17 22 07.1 +0.7**
DPC *e*pP **pP 17 22 14.2 +1.3**
DPC *e*sP **sP 17 22 16.5 +1.3**
DPC *e*PP **PP 17 25 40.3 -4.9**
DPC *e*PS **PnS 17 34 20.8 +1.3**
DPC Dobruska-Polom 91.89 36 *e*P **P 17 22 07.1 +0.7**
DPC *e* 17 22 16.5
DPC *e* 17 25 40.3
DPC *e*PS **PnS 17 34 20.8 +1.3**
CADS Cadrg 92.16 41 *e*P **P 17 22 08.1 +0.3**
KRLC Kraliky 92.28 36 *e*P **P 17 22 08.7 +0.5**
KRLC Kraliky 92.28 36 *e*P **P 17 22 08.7 +0.5**
VRAC Vranov 92.53 37 LR LR 18 05 37.4
comp=Z,196nm,18.0s,baz=296,slow=37
OKC Ostrava-Krasne 93.17 36 *e*P **P 17 22 12.9 +0.7**
OKC *e*PP **PP 17 25 53.6 -1.6**
OKC *e*SKS **SKSac 17 32 40.4 -5.1**
OKC *e*PS **PS 17 34 30.1 -2.6**
OKC AMS AMS 18 07 10.0
comp=Z,100nm,18.2s
OKC Ostrava-Krasne 93.17 36 *e*P **P 17 22 12.9 +0.7**
OKC *e* 17 25 53.6
OKC *e* 17 32 40.4
OKC *e*PS **PS 17 34 30.1 -2.6**
OKC MLR MLR
comp=Z,100nm,18.2s
KEST Kesra 93.28 52 P **P 17 22 13.5 +0.3**
comp=Z,2.4nm,0.9s,baz=350,slow=2.9,SNR=5.4
KEST LR LR 17 59 59.2
comp=Z,47nm,21.5s,baz=272,slow=33
KEST Kesra 93.28 52 *e*P **P 17 22 14.6 +1.4**
TORD Torodi Ar. Bea 94.12 75 P **P 17 22 16.4 -0.9**
comp=Z,1.0nm,0.9s,baz=297,slow=6.5,SNR=4.2
TORD LR LR 18 02 15.4
comp=Z,222nm,19.4s,baz=310,slow=34
TAM Tamanrasset 94.63 65 *e*P **P 17 22 20.9 +1.2**
TAM pmax pmax
comp=Z,4.0nm,1.0s
TAM Tamanrasset 94.63 65 *e*P **P 17 22 20.9 +1.2**
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 95.13 36 *e*P **P 17 22 21.6 +0.3**
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 95.13 36 *e*P **P 17 22 21.6 +0.3**
KECS Kecovo 95.17 37 *e*P **P 17 22 23.0 +1.5**
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 95.17 37 *e*P **P 17 22 23.0 +1.5**
KOLS Kolonicke sedl 95.96 36 *e*P **P 17 22 25.6 +0.5**
KOLS pmax pmax
comp=Z,3.0nm,1.1s
KOLS Kolonicke sedl 95.96 36 *e*P **P 17 22 25.6 +0.5**
URZ Urewera 96.80 232 LR LR 17 57 47.1
comp=Z,139nm,20.9s,baz=51,slow=30
AKASG Malin Array Be 98.65 32 LR LR 18 08 06.8
comp=Z,113nm,20.1s,baz=310,slow=36
DZM Mont Dzumac 102.19 250 *e*LR LR 17 56 43.2
comp=Z,223nm,22.9s
HHC Hu-ho-hao-te 118.11 336 *e*PKP **PKPdf 17 27 42.0 -3.4**
HHC sPKP 17 27 57.3
HHC PP **PP 17 29 03.8 +4.5**
HHC PKS PKSdf 17 31 15.0 -7.2
HHC SKS SKSdf 17 34 46.5 -10
HHC PPMZ
comp=Z,74nm,9.5s
HHC LN
comp=Z,280nm,19.2s
HHC LE
comp=Z,340nm,20.6s
HHC LZ
comp=Z,260nm,20.6s
WMQ Urumqi 120.73 357 PKP **PKPdf 17 27 51.5 +1.2**
WMQ PP PP 17 29 22.5 +5.6
WMQ PPMZ
comp=Z,24nm,9.3s
WMQ LN
comp=Z,170nm,12.8s
WMQ LE
comp=Z,94nm,14.5s
WMQ LZ
comp=Z,120nm,29.0s
KSH Kashi 124.69 7 *e*PKP **PKPdf 17 27 59.0 +0.8**
BOSA Boshof 124.91 114 PKP **PKPdf 17 27 59.0 +0.2**
comp=Z,2.2nm,1.0s,baz=305,slow=2.1,SNR=3.6
BOSA Boshof 124.91 114 PKIKP **PKPdf 17 27 59.0 +0.2**
STKA Stephens Creek 125.10 242 PKP **PKPdf 17 27 59.3 +0.4**
comp=Z,2.7nm,0.7s,baz=98,slow=2.3,SNR=6.1
CD2 Chengdu 129.83 337 PKP **PKPdf 17 28 08.5 +0.4**
CD2 sPKP 17 28 19.5
CD2 PP **PP 17 30 18.5 +0.5**
CD2 SKKS 17 37 12.5
CD2 SS **SS 17 47 40.3 -0.3**
CD2 PPMZ
comp=Z,120nm,5.4s
WRAB Tennant Creek 131.62 257 *e*PKIKP **PKPdf 17 28 12.5 +0.9**
WRAB Tennant Creek 131.62 257 *e*PKPdf **PKPdf 17 28 12.5 +0.9**
WRA Warramunga Arr 131.63 257 PKP **PKPdf 17 28 12.1 +0.4**
comp=Z,3.2nm,1.0s,baz=82,slow=1.4,SNR=10
ASAR Alice Springs 132.14 252 PKP **PKPdf 17 28 13.4 +0.9**
comp=Z,1.9nm,1.0s,baz=90,slow=2.7,SNR=7.7
GYA Guiyang 132.53 332 *e*Pdif **Pdif 17 25 06.8 -1.8**
GYA PKP **PKPdf 17 28 13.0 -0.4**
GYA sPKP 17 28 29.0
GYA PP **PP 17 30 38.5 +2.7**
GYA PPMZ
comp=Z,90nm,7.8s
QIZ Qiongzhong 136.95 322 PKP **PKPdf 17 28 21.8 +0.1**
QIZ PP **PP 17 31 05.0 +1.1**
QIZ SS SS 17 49 08.0 +0.3
QIZ LZ
comp=Z,170nm,16.4s
CMAR Chiang Mai Arr 142.91 335 PKP **PKPdf 17 28 33.8 +1.3**
comp=Z,1.1nm,0.9s,baz=346,slow=2.8,SNR=5.8
CMAR Chiang Mai Arr 142.91 335 *c i* PKIKP **PKPdf 17 28 34.5 +2.0**
CMAR pmax pmax
comp=Z,2.0nm,1.0s
ABPO Ambohimpanom 145.16 101 *e*PKIKP **PKPdf 17 28 37.4 +0.8**
ABPO Ambohimpanom 145.16 101 *e*PKPdf **PKPdf 17 28 37.4 +0.8**
SRSP Sriramsagar 145.28 9 *e*PKPdf **PKPbc 17 28 35.5 -0.8**
KLRI Killari 145.82 12 *e*PKPbc **PKPdf 17 28 36.8 -0.9**
KLRI *e*PKiKP **PKiKP 17 28 41.1 -0.6**
CHLP Challavanipeta 146.08 359 *e*PKPbc **PKPdf 17 28 37.9 -0.1**
HYBB Hyderabad (bro 146.79 9 *e*PKPdf **PKPdf 17 28 38.3 -1.0**
HYBB *e*PKPab **PKPbc 17 28 40.8 -0.2**
HYBB *e*PKiKP **PKiKP 17 28 43.2 -0.6**
HYB Hyderabad 146.80 9 *i* PKP **PKPdf 17 28 40.0 +0.7**
PVM Polavaram 147.28 3 *e*PKPab **PKPab 17 28 43.4 -0.6**
NJS Nagarjunasagar 147.75 8 *e*PKPbc **PKPbc 17 28 42.3 -1.3**
SRLM Srisailam 148.14 9 *e*PKPbc **PKPbc 17 28 43.5 -1.2**
ADKI Addanki 148.53 7 *e*PKPdf **PKPdf 17 28 42.0 -0.1**
ADKI *e*PKPbc **PKPbc 17 28 45.3 -0.3**
URV Uravakonda 148.99 12 *e*PKPdf **PKPdf 17 28 43.7 +0.8**
SKHT Srikalahasti 150.57 8 *e*PKPbc **PKPbc 17 28 50.2 -0.6**

IDC ***25*** *17:14:53.5±1.5, 15°.40N×96°.34W, h0km, mb3.7/7, mb1 4.2/10, mb1mx3.9/27, mbtmp3.9/10, ML4.1/3, Error ellipse: s-maj=31.2km s-min=17.8km az=146.0*
ISCJB ***25*** *17:14:55.9±1.0, 15°.52N±0°.08×96°.46W±0°.05, h24km, mb3.7/7, Error ellipse: s-maj=12.0km s-min=6.4km az=4.5*
MEX ***25*** *17:14:55.7±0.3, 15°.41N×96°.40W, h14km±10km, MD3.7*
ISC 25 17:14:57.3±1.0, 15°.59N±0°.09×96°.38W±0°.06, h24km, n17, σ1s 62/22, mb3.8/7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.32**	**55**	*i* P	**Pb**	**17 15 03.8**	**-0.8**
HUIG				*i* S	**Sb**	**17 15 10.1**	**+0.6**
VHO	**Vista Hermosa**	**1.52**	**347**	*i* P	**Pn**	**17 15 21.6**	**-1.5**
VHO				*i* S	**Sn**	**17 15 41.7**	**-0.6**
OXX	**Oaxaca**	**1.52**	**347**	*e*P	**Pb**	**17 15 25.3**	**+0.3**
OXX				*i* S	**Sb**	**17 15 45.3**	**+1.2**
PNIG	**Pinotepa**	**1.86**	**296**	*e*P	Pn	17 15 24.3	-3.5
PNIG				*e*S	**Sn**	**17 15 48.4**	**-2.3**
CMIG	**Matias Romero**	**2.07**	**44**	Pn	**Pn**	**17 15 30.4**	**-0.3**
	76nm,0.3s,baz=244,slow=13,SNR=24						
CMIG				Lg	Lg	17 16 03.8	
	200nm,0.3s,baz=328,slow=21,SNR=17						
TLIG	**Tlapa**	**2.88**	**313**	*e*P	**Pn**	**17 15 39.9**	**-1.9**
TLIG				*e*S	**Sn**	**17 16 14.5**	**-1.2**
TEIG	**Tepich**	**8.98**	**58**	Pn	**Pn**	**17 17 04.9**	**-0.7**
	7.1nm,0.3s,baz=230,slow=14,SNR=6.7						
TEIG				Sn	**Sn**	**17 18 42.9**	**-3.2**
	1.9nm,0.3s,baz=234,slow=19,SNR=3.0						
TXAR	**Lajitas Array**	**15.24**	**335**	Pn	**P**	**17 18 33.7**	**-2.2**
	0.1nm,0.3s,baz=149,slow=13,SNR=3.2						
ANMO	**Albuquerque**	**21.30**	**337**	P	**P**	**17 19 44.6**	**+2.1**
	0.6nm,0.4s,baz=67,slow=6.2,SNR=3.4						
NVAR	**Mina Array Bea**	**29.84**	**324**	P	**P**	**17 21 05.1**	**+2.1**
	1.4nm,0.8s,baz=138,slow=8.5,SNR=7.1						
ELK	**Elko**	**29.95**	**331**	P	**P**	**17 21 06.2**	**+2.2**
	0.3nm,0.3s,baz=125,slow=12,SNR=3.4						
YKA	**Yellowknife Ar**	**48.59**	**349**	P	**P**	**17 23 38.0**	**-0.6**
	0.8nm,0.8s,baz=154,slow=7.4,SNR=4.1						
ILAR	**Eielson Array**	**59.74**	**337**	P	**P**	**17 25 00.4**	**+0.5**
	2.4nm,1.1s,baz=136,slow=4.6,SNR=8.1						
ESDC	**Sonseca Array**	**82.04**	**51**	P	**P**	**17 27 16.7**	**+0.7**
	0.1nm,0.3s,baz=301,slow=5.7,SNR=4.6						
NOA	**NORSAR Array B**	**84.75**	**28**	P	**P**	**17 27 31.3**	**+1.9**
	1.2nm,1.0s,baz=297,slow=5.3,SNR=2.7						
WRA	**Warramunga Arr**	**131.65**	**257**	PKP	**PKPdf**	**17 34 08.9**	**-0.1**
	0.5nm,1.0s,baz=83,slow=3.7,SNR=4.8						
ASAR	**Alice Springs**	**132.16**	**252**	PKP	**PKPdf**	**17 34 09.7**	**-0.2**
	0.4nm,1.0s,baz=100,slow=1.8,SNR=4.4						

SKHL ***25*** *17:16:40.7±0.7, 44°.87N×149°.67E, h44km±4km, mb4.7/3*
JMA ***25*** *17:16:41.1±0.6, 45°.00N×149°.53E, h30km, M4.0*
ISC 25 17:16:38.8±3.5, 44.75N±0°.08×149.8E±0°.2, h50km, n25, σ2s 03/34, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.44**	**290**	*i* P	**Pn**	**17 17 01.6**	**-0.8**
KUR				AMB	AMB	17 17 03.0	
	98nm,0.3s						
KUR				AMB	AMB	17 17 03.0	
	27nm,0.3s						
KUR				AMB	AMB	17 17 03.0	
	255nm,0.3s						
KUR				*i* S	**Sn**	**17 17 17.5**	**-2.6**
KUR				A	A	17 17 19.4	
	540nm,0.3s						
KUR				A	A	17 17 19.4	
	360nm,0.3s						
SHO	**Shikotan**	**2.29**	**248**	*e*P	**Pn**	**17 17 15.6**	**+1.5**
SHO				AMB	AMB	17 17 21.3	
	105nm,0.4s						
SHO				*e*S	**Sn**	**17 17 41.2**	**+0.2**
SHO				A	A	17 17 51.3	
	244nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.90**	**257**	*e*P	**Pn**	**17 17 24.5**	**+2.1**
YUK				AMB	AMB	17 17 26.3	
	15nm,0.2s						
YUK				AMB	AMB	17 17 26.3	
	22nm,0.2s						
YUK				AMB	AMB	17 17 26.3	

	74nm,0.2s					
YUK			*i* S	**Sn**	**17 17 57.8**	**+1.9**
YUK			A	A	17 18 00.2	
	64nm,0.4s					
YUK			A	A	17 18 00.2	
	115nm,0.4s					
NEM2	**Nemuro 2**	**3.22 246**	P	**Pn**	**17 17 27.5**	**+0.7**
NEM2			*e*S	**Sn**	**17 18 02.9**	**-1.0**
JRA	**Rausu**	**3.44 258**	P	**Pn**	**17 17 32.3**	**+2.5**
JRA			*e*S	**Sn**	**17 18 10.2**	**+1.0**
JNK	**Nakash**	**3.82 254**	P	**Pn**	**17 17 37.2**	**+2.1**
JNK			*e*S	**Sn**	**17 18 19.7**	**+1.0**
JAK	**Akkeshi**	**4.07 246**	P	**Pn**	**17 17 39.7**	**+1.2**
JAK			*e*S	**Sn**	**17 18 23.5**	**-1.3**
JTKR	**Abashiri--Toko**	**4.28 262**	P	Pn	17 17 44.6	+3.3
JAR	**Ashorobuto**	**4.57 254**	P	**Pn**	**17 17 47.5**	**+2.2**
JAR			*e*S	**Sn**	**17 18 35.7**	**-1.4**
JMP	**Maruseppu**	**4.66 263**	P	Pn	17 17 50.4	+3.8
JOB	**Onbets**	**4.68 249**	P	**Pn**	**17 17 49.3**	**+2.5**
JOB			*e*S	**Sn**	**17 18 40.1**	**+0.3**
JCH	**Churui**	**5.12 248**	P	**Pn**	**17 17 55.2**	**+2.4**
JCH			*e*S	**Sn**	**17 18 50.3**	**-0.3**
JKK2	**Kamakawa 2**	**5.12 263**	P	Pn	17 17 57.1	+4.2
ASAJ	**Asahikawa**	**5.18 265**	P	Pn	17 17 58.1	+4.4
MYR	**Moyori**	**5.32 245**	*e*S	**Sn**	**17 18 54.9**	**-0.7**
YSS	**Yuzh-Sakhalins**	**5.37 297**	*e*P	**Pn**	**17 17 57.3**	**+1.0**
YSS			*e*S	**Sn**	**17 18 55.1**	**-1.7**
JNBK	**Urakawa-nobuka**	**5.67 247**	P	**Pn**	**17 18 02.1**	**+1.6**
JNBK			*e*S	**Sn**	**17 19 00.8**	**-3.4**
JBT2	**Biratori 2**	**5.72 252**	P	**Pn**	**17 18 04.1**	**+3.0**
JNB	**Noboribetsu**	**6.74 253**	P	**Pn**	**17 18 17.7**	**+2.6**
JKB	**Kayabe**	**6.99 249**	P	**Pn**	**17 18 18.6**	**+0.1**
JKB			*e*S	**Sn**	**17 19 33.6**	**-3.0**
JANG	**Nango**	**7.50 237**	P	**Pn**	**17 18 25.5**	**-0.1**
JANG			*e*S	Sn	17 19 43.9	-5.4
JTM	**Tenmabayashi**	**7.53 241**	*e*S	**Sn**	**17 19 45.9**	**-4.0**
JTH	**Tanohata**	**7.58 233**	*e*S	Sn	17 19 44.8	-6.3
JRG	**Rokugo**	**8.65 235**	P	**Pn**	**17 18 42.4**	**+1.1**
JRG			*e*S	**Sn**	**17 20 14.0**	**-3.4**
JIO	**Ouri**	**8.91 228**	P	**Pn**	**17 18 45.7**	**+0.9**
JIO			*e*S	Sn	17 20 18.6	-5.1

MEX 25 17:19:35.3±0.4, 15°75'N×96°56'W, h11km±17km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.12**	**136**	*i* P	Pg	17 19 37.8	-0.5
PANG				*i* S	Sg	17 19 39.4	-0.9
HUIG	**Huatulco**	**0.43**	**88**	*i* P	Pg	17 19 43.6	-0.3
HUIG				*e*S	Sg	17 19 49.4	-0.2
VHO	**Vista Hermosa**	**1.32**	**353**	*e*P	Pn	17 19 55.5	-4.5
VHO				*i* S	Sb	17 20 12.8	-4.9

MEX 25 17:23:59.2±0.4, 15°55'N×96°51'W, h4km±4km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.12**	**17**	*i* P	Pg	17 24 01.4	-0.3
PANG				*e*S	Sg	17 24 03.2	-0.1
HUIG	**Huatulco**	**0.44**	**61**	*e*P	Pg	17 24 07.4	-0.4
HUIG				*e*S	Sg	17 24 13.8	+0.3
VHO	**Vista Hermosa**	**1.53**	**352**	*e*P	Pn	17 24 24.2	-3.4
VHO				*i* S	Sn	17 24 42.7	-5.4
PNIG	**Pinotepa**	**1.77**	**298**	*e*P	Pn	17 24 26.9	-3.7
PNIG				*i* S	Sn	17 24 48.6	-5.0

MEX 25 17:27:30.7±0.5, 15°58'N×96°47'W, h5km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.08**	**357**	*e*P	Pg	17 27 31.9	-0.7
PANG				*i* S	Sg	17 27 33.6	-0.2
HUIG	**Huatulco**	**0.39**	**62**	*e*P	Pg	17 27 37.8	-0.5
HUIG				*e*S	Sg	17 27 44.0	+0.5
VHO	**Vista Hermosa**	**1.50**	**350**	*e*P	Pn	17 27 55.2	-3.4
VHO				*i* S	Sn	17 28 14.5	-4.3
PNIG	**Pinotepa**	**1.79**	**297**	*e*P	Pn	17 27 59.4	-2.9
PNIG				*i* S	Sn	17 28 19.9	-5.5

CASC 25 17:36:07.0±1.5, 13°39N×90°02W, h31km±4km, MD3.6, ML3.8, 6C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.59**	**41**	⇓*i* P	Pb	17 36 19.5	+0.1
RTR	**El Retiro**	**0.62**	**36**	⇓*i* P	Pn	17 36 19.9	0.0
SNJE	**San Jose**	**0.63**	**40**	⇓*i* P	Pb	17 36 19.9	0.0
RBLD	**Robledal**	**0.79**	**24**	⇓*i* P	Pn	17 36 22.0	-0.2
BOQS	**Boqueron**	**0.80**	**65**	⇑*e*P	Pn	17 36 17.1	-0.3
BOQS				*e*S	Sb	17 36 33.8	+0.3
SNET	**Serv Nac Est T**	**0.82**	**69**	*e*P	Pn	17 36 22.2	-0.4
SNET				AML	AML	17 36 23.2	
	comp=Z,3μm,0.3s						
IXG	**Ixpaco**	**0.89**	**332**	⇑*i* P	Pn	17 36 22.7	-0.9
LFRS	**El Faro**	**0.96**	**76**	*e*P	Pn	17 36 24.1	-0.5
LBRS	**Las Brisas**	**1.01**	**70**	⇑*e*P	Pn	17 36 25.3	+0.1
LBRS				*e*S	Sb	17 36 39.4	+0.1
PCG	**Pacaya**	**1.15**	**330**	⇑*e*P	Pn	17 36 27.9	+0.6
PCG				*e*S	Sn	17 36 42.1	-0.1
SNVI	**San Vicente**	**1.17**	**79**	*e*P	Pn	17 36 27.4	-0.1
NBG	**Las Nubes**	**1.23**	**345**	⇓*e*P	Pb	17 36 29.5	-0.6
NBG				*e*S	Sb	17 36 46.6	+0.7
FUG	**Fuego 3**	**1.32**	**323**	*e*P	Pn	17 36 29.8	+0.3
MRL	**Marmol**	**1.70**	**11**	⇑*e*P	Pn	17 36 34.8	0.0
MRL				⇑*e*P	Pb	17 36 35.6	-2.2

IDC 25 17:48:38.8±4.3, 21°93S×173°72E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/26, mbtmp4.1/3, MS3.6/7, Ms1 3.6/7, ms1mx3.3/23, Error ellipse: s-maj=205.4km s-min=38.0km az=155.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.76**	**267**	*e*Pn	Pn	17 50 24.2	+4.7
	15nm,0.7s						
DZM				*e*LR	LR	17 52 02.4	
	1μm,25.3s						
RAR	**Rarotonga**	**24.65**	**93**	LR	LR	18 00 45.0	
	comp=Z,125nm,21.4s,baz=280,slow=30						
CTA	**Charters Tower**	**25.70**	**269**	P	P	17 54 11.9	+1.0
	5.8nm,1.0s,baz=45,slow=8.6,SNR=3.1						
STKA	**Stephens Creek**	**30.22**	**244**	LR	LR	18 05 56.0	
	comp=Z,108nm,21.0s,baz=43,slow=34						
PPT2	**Papeete2**	**34.75**	**89**	*e*LR	LR	18 04 46.3	
	155nm,25.2s						
ASAR	**Alice Springs**	**36.67**	**259**	P	P	17 55 48.1	+0.5
	2.0nm,0.8s,baz=78,slow=8.9,SNR=18						
ASAR				LR	LR	18 10 29.1	
	comp=Z,74nm,21.7s,baz=90,slow=36						
WRA	**Warramunga Arr**	**36.77**	**266**	P	P	17 55 46.8	-1.6
	1.1nm,0.8s,baz=103,slow=7.9,SNR=8.3						
VNDA	**Vanda**	**55.94**	**183**	LR	LR	18 18 24.3	
	comp=Z,39nm,21.7s,baz=274,slow=32						
PETK	**Petropavlovsk-**	**76.00**	**350**	LR	LR	18 29 39.5	
	comp=Z,38nm,19.6s,baz=134,slow=32						
TXAR	**Lajitas Array**	**94.40**	**60**	LR	LR	18 36 26.5	
	comp=Z,39nm,20.1s,baz=0.0,slow=30						
PDAR	**Pinedale Array**	**95.40**	**46**	LR	LR	18 39 30.2	
	comp=Z,33nm,18.3s,baz=270,slow=32						
EKA	**Eskdalemuir Ar**	**146.56**	**357**	PKPbc	PKPdf	18 08 20.0	-0.4
	0.3nm,0.5s,baz=357,slow=2.8,SNR=4.3						
GERES	**GERESS Array B**	**148.78**	**334**	PKPbc	PKPbc	18 08 28.8	+0.5
	0.6nm,0.6s,baz=46,slow=2.8,SNR=5.2						

*IDC **25** 18:15:25.1±0.7, 32°.96N×142°.72E, h0km, mb3.7/11, mb1 3.9/15, mb1mx3.8/45, mbtmp3.8/15, ML3.8/4, MS3.3/2, Ms1 3.3/2, ms1mx2.6/31, Error ellipse: s-maj=22.6km s-min=16.4km az=80.0*
*ISCJB **25** 18:15:28.2±0.5, 32°.96N±0°.04×142°.46E±0°.05, h33km, mb3.9/15, MS3.6/1, Error ellipse: s-maj=6.9km s-min=4.5km az=138.3*
*NEIC **25** 18:15:30.0±0.6, 32°.99N×142°.57E, h35km, mb4.5/4, Error ellipse: s-maj=12.9km s-min=11.3km az=75.0*

*JMA **25** 18:15:29.6±0.4, 33°.04N×142°.37E, h90km, M3.7*
ISC 25 18:15:29.8±0.6, 32°.95N±0°.05×142°.49E±0°.07, h33km, n42, σ1=82/47, mb3.9/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.12**	**324**	P	**Pn**	**18 16 01.6**	**-0.8**
BSO1				S	**Sn**	**18 16 27.0**	**-0.4**
JHJ2	**Mitsune**	**2.25**	**275**	P	**Pn**	**18 16 04.5**	**-0.3**
JHJ2				S	**Sn**	**18 16 30.9**	**-0.5**
JHJ2	**Mitsune**	**2.25**	**275**	*e*Pn	**Sn**	**18 16 04.1**	**-0.7**
JHJ2				*e*Sn	**Sn**	**18 16 27.6**	**-3.8**
JHCJ	**Hachijojimakas**	**2.27**	**274**	P	**Pn**	**18 16 04.5**	**-0.5**
JHCJ				S	**Sn**	**18 16 29.7**	**-2.0**
BSO2	**Boso 2**	**2.31**	**322**	S	**Sn**	**18 16 31.0**	**-1.4**
BSO3	**Boso 3**	**2.48**	**319**	P	**Pn**	**18 16 07.1**	**-0.5**
BSO3				S	**Sn**	**18 16 35.8**	**-0.8**
BSO4	**Boso 4**	**2.71**	**319**	P	**Pn**	**18 16 11.1**	**+0.1**
BSO4				S	**Sn**	**18 16 42.6**	**0.0**
KTR	**Katsuura**	**2.84**	**321**	P	**Pn**	**18 16 12.5**	**-0.4**
KTR				S	**Sn**	**18 16 44.5**	**-1.5**
JOD2	**Odawara 2**	**3.65**	**310**	P	**Pn**	**18 16 22.5**	**-1.5**
JOD2				S	**Sn**	**18 17 01.3**	**-4.6**
MJAR	**Matsushiro Arr**	**5.03**	**317**	Pn	**Pn**	**18 16 43.0**	**0.0**
	2.6nm,0.3s,baz=160,slow=12,SNR=42						
MJAR				Sn	**Sn**	**18 17 38.2**	**-1.7**
	4.6nm,0.3s,baz=340,slow=19,SNR=8.3						
MAJO	**Matsushiro**	**5.03**	**317**	*e*Pn	**Pn**	**18 16 42.2**	**-0.8**
	16nm,0.4s						
MAJO				*e*Pg	Pb	18 17 04.4	+7.2
MAJO				*e*Sn	**Sn**	**18 17 36.7**	**-3.2**
MAT	**Matsushiro**	**5.03**	**317**	P	**Pn**	**18 16 42.9**	**-0.1**
MAT				S	**Sn**	**18 17 38.1**	**-1.9**
CBIJ	**Chichi jima**	**5.84**	**183**	Pn	**Pn**	**18 16 53.2**	**-0.9**
CBIJ				Sn	**Sn**	**18 17 55.8**	**-4.0**
JCJ	**Chichijima**	**5.84**	**183**	Pn	**Pn**	**18 16 53.2**	**-0.9**
	5.4nm,0.3s,baz=305,slow=16,SNR=52						
JCJ				Sn	**Sn**	**18 17 55.8**	**-4.0**
	14nm,0.3s,baz=9.0,slow=19,SNR=7.6						
ASAJ	**Asahikawa**	**11.15**	**0**	Pn	**Pn**	**18 18 04.5**	**-2.5**
	1.2nm,0.3s,baz=150,slow=16,SNR=13						
KSRS	**Korea Array**	**12.73**	**295**	Pn	Pn	18 18 31.2	+2.7
	0.1nm,0.3s,baz=94,slow=14,SNR=2.7						
KSRS				LR	LR	18 24 29.4	
	comp=Z,68nm,19.4s,baz=140,slow=42						
KSAR	**Wonju Array Be**	**12.76**	**295**	Pn	**Pn**	**18 18 31.2**	**+2.4**
H11N2	**WAKE ISLAND Hy**	**25.45**	**115**	T	T	18 47 44.2	
	baz=307						
H11N1	**WAKE ISLAND Hy**	**25.46**	**115**	T	T	18 47 38.6	
	baz=307						
H11N3	**WAKE ISLAND Hy**	**25.47**	**115**	T	T	18 47 40.6	
	baz=307						
H11S3	**WAKE ISLAND Hy**	**26.04**	**118**	T	T	18 48 30.3	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**26.04**	**118**	T	T	18 48 37.1	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**26.05**	**118**	T	T	18 48 32.5	
	baz=312						
SONM	**Songino Array**	**30.93**	**309**	P	**P**	**18 21 46.2**	**+2.5**
	1.3nm,0.8s,baz=113,slow=9.6,SNR=8.8						
BILL	**Bilibino**	**37.73**	**14**	*e*P	**P**	**18 22 41.8**	**-0.2**
	1.7nm,0.6s						
UNV	**Unalaska Valle**	**41.45**	**44**	P	**P**	**18 23 11.6**	**-1.6**
	11nm,0.8s						
KSM	**Kuching**	**43.51**	**231**	P	**P**	**18 23 32.2**	**+1.9**
	9.5nm,1.0s						
ZALV	**Zalesovo Beam**	**45.38**	**315**	P	**P**	**18 23 46.0**	**+1.1**
	0.2nm,0.3s,baz=99,slow=8.9,SNR=2.1						
MK31	**Makanchi Array**	**47.12**	**306**	*e*P	**P**	**18 23 57.5**	**-1.3**
KURK	**Kurchatov**	**49.21**	**311**	P	**P**	**18 24 12.3**	**-2.5**
	2.9nm,0.6s						
KURBB	**Kurchatov Arra**	**49.28**	**311**	P	**P**	**18 24 16.2**	**+1.0**
	0.7nm,0.5s,baz=85,slow=7.2,SNR=9.1						
ILAR	**Eielson Array**	**52.51**	**31**	P	**P**	**18 24 37.9**	**-1.5**
	0.2nm,0.6s,baz=259,slow=7.2,SNR=2.6						
WRA	**Warramunga Arr**	**53.16**	**190**	P	**P**	**18 24 45.1**	**+0.4**
	1.0nm,0.6s,baz=7.9,slow=7.7,SNR=24						
ASAR	**Alice Springs**	**56.89**	**189**	P	**P**	**18 25 11.7**	**+0.1**
	0.5nm,0.7s,baz=9.2,slow=7.5,SNR=6.8						
YKA	**Yellowknife Ar**	**66.91**	**29**	P	**P**	**18 26 17.7**	**-0.8**
	1.1nm,0.8s,baz=305,slow=5.9,SNR=4.7						
ARCES	**ARCESS Array B**	**68.13**	**340**	LR	LR	19 00 14.0	
	comp=Z,35nm,20.8s,baz=68,slow=39						
FINES	**FINESS Array B**	**72.84**	**333**	P	**P**	**18 26 55.6**	**+0.7**
	0.8nm,0.8s,baz=53,slow=7.1,SNR=4.4						
NVAR	**Mina Array Bea**	**76.74**	**53**	P	**P**	**18 27 19.4**	**+1.2**
	0.5nm,0.6s,baz=284,slow=6.7,SNR=4.2						
NOA	**NORSAR Array B**	**78.30**	**338**	P	**P**	**18 27 26.9**	**+0.6**
	0.5nm,0.8s,baz=60,slow=4.5,SNR=3.1						
CLL	**Collm**	**85.08**	**331**	*e*P	**P**	**18 28 03.0**	**+0.8**
TXAR	**Lajitas Array**	**91.89**	**53**	P	**P**	**18 28 36.6**	**+1.4**
	0.3nm,0.6s,baz=318,slow=3.8,SNR=5.4						
LPAZ	**La Paz**	**147.76**	**66**	PKPbc	**PKPdf**	**18 35 11.1**	**+1.4**
	1.1nm,0.7s,baz=349,slow=3.7,SNR=3.7						

*ISCJB **25** 18:16:36.4±0.6, 40°.48N±0°.05×63°.49E±0°.06, h13km, mb3.6/3, Error ellipse: s-maj=7.2km s-min=6.0km az=22.8*
*IDC **25** 18:16:39.0±1.1, 40°.39N×63°.27E, h0km, mb3.6/3, mb1 3.7/7, mb1mx3.4/43, mbtmp3.6/7, ML3.5/4, Error ellipse: s-maj=19.4km s-min=13.0km az=92.0*
*NNC **25** 18:16:40.7±2.0, 40°.64N×63°.84E, h5km, 9km, mb3.6, mpv3.3, Error ellipse: s-maj=20.1km s-min=7.0km az=44.0*
ISC 25 18:16:39.6±0.7, 40°.48N±0°.06×63°.48E±0°.05, h13km, n12, σ2=03/21, mb3.6/3, 9C-3D, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**4.45**	**110**	⇑Pn	**Pn**	**18 17 47.4**	**+0.5**
	2.9nm,0.4s						
DZET				⇑Pg	**Pb**	**18 17 57.8**	**+0.1**
	11nm,0.5s						
DZET				⇑Sn	**Sn**	**18 18 36.9**	**-1.7**
	20nm,0.5s						
DZET				⇑Lg	Lg	18 18 54.8	
	80nm,0.5s						
GEYT	**Alibeck**	**4.88**	**240**	Pn	**Pn**	**18 17 50.7**	**-2.1**
	2.7nm,0.3s,baz=57,slow=11,SNR=12						
GEYT				Pg	**Pb**	**18 18 03.0**	**-2.0**
	4.4nm,0.3s,baz=58,slow=14,SNR=21						
GEYT				Sn	**Sn**	**18 18 48.0**	**-1.1**
	10.0nm,0.3s,baz=238,slow=30,SNR=7.5						
GEYT				Lg	Lg	18 19 18.6	
	4.8nm,0.3s,baz=96,slow=23,SNR=2.6						
KK31	**Karatay Array**	**5.87**	**61**	⇑Pn	**Pn**	**18 18 06.2**	**-0.1**
	0.3nm,0.3s,baz=233,slow=17,SNR=5.5						
KK31				Pg	**Pb**	**18 18 22.3**	**+0.5**
	0.8nm,0.4s,baz=242,slow=17,SNR=7.8						
KK31				⇑Lg	Lg	18 19 36.2	
	19nm,0.6s,baz=235,slow=30,SNR=5.7						
SFK	**Sufi-Kurgan**	**7.68**	**90**	⇑Pg	**Pb**	**18 18 54.6**	**+1.8**
	0.6nm,0.2s						
SFK				⇓Sn	**Sn**	**18 19 55.3**	**-3.0**
	4.5nm,0.5s						
SFK				⇓Lg	Lg	18 20 36.3	
	11nm,0.7s						
AB31	**Akbulak array**	**9.12**	**345**	Pn	**Pn**	**18 18 51.2**	**+0.4**
	0.1nm,0.2s,baz=150,slow=14,SNR=13						
AB31				Sn	**Sn**	**18 20 33.8**	**+0.4**
AB31				⇓Lg	Lg	18 21 28.6	
	4.9nm,0.6s						
AKTO	**Aktyubinsk**	**10.66**	**341**	⇑Pn	**Pn**	**18 19 12.4**	**+0.5**
	2.2nm,1.0s						
AKTO				⇑Lg	Lg	18 22 17.6	
	7.3nm,1.2s						
AKTO	**Aktyubinsk**	**10.66**	**341**	Pn	**Pn**	**18 19 12.8**	**+0.8**
	0.7nm,0.3s,baz=158,slow=12,SNR=6.0						
AKTO				Sn	**Sn**	**18 21 10.9**	**-0.2**
	0.2nm,0.3s,baz=342,slow=20,SNR=2.0						
AKTO				Lg	Lg	18 22 19.3	
	0.2nm,0.3s,baz=53,slow=20,SNR=2.5						
BVAR	**Borovoye Array**	**13.40**	**18**	Pn	**Pn**	**18 19 48.2**	**-1.1**
	0.3nm,0.3s,baz=192,slow=13,SNR=3.8						
BVAR				Sn	**Sn**	**18 22 12.5**	**-5.5**
	0.1nm,0.3s,baz=204,slow=17,SNR=2.0						
BVAR				Lg	Lg	18 23 48.1	
	0.3nm,0.3s,baz=251,slow=32,SNR=3.0						
ZALV	**Zalesovo Beam**	**19.68**	**40**	P	**Pn**	**18 21 09.4**	**-0.2**
	0.2nm,0.3s,baz=233,slow=11,SNR=5.4						
FINES	**FINESS Array B**	**30.88**	**325**	P	**P**	**18 22 57.1**	**+1.8**
	0.3nm,0.4s,baz=138,slow=9.5,SNR=6.6						
WRA	**Warramunga Arr**	**89.08**	**117**	P	**P**	**18 29 36.9**	**+2.3**
	0.4nm,0.9s,baz=325,slow=4.6,SNR=4.0						
ASAR	**Alice Springs**	**91.36**	**120**	P	**P**	**18 29 47.9**	**+2.6**
	0.2nm,0.7s,baz=322,slow=5.2,SNR=2.7						

*IDC **25** 18:22:23.0±1.1, 7°.58N×91°.88E, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.6/39, mbtmp3.9/8, ML4.0/1, MS3.1/2, Ms1 3.2/2, ms1mx2.8/28, Error ellipse: s-maj=34.5km s-min=19.4km az=54.0*
*ISCJB **25** 18:22:24.1±0.5, 7°.52N±0°.07×91°.94E±0°.07, h24km, mb4.0/14, Error ellipse: s-maj=11.6km s-min=7.6km az=138.6*
*NEIC **25** 18:22:25.4±3.8, 7°.53N×91°.87E, h20km±24km, mb4.3/7, Error ellipse: s-maj=10.6km s-min=7.7km az=47.0*
ISC 25 18:22:26.1±0.7, 7°.53N±0°.09×91°.87E±0°.08, h24km, n38, σ1=04/29, mb4.2/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**9.00**	**104**	Pn	**Pn**	**18 24 34.9**	**+0.2**
PALK	**Pallekele**	**11.08**	**269**	Pn	**Pn**	**18 25 02.3**	**-0.9**
	1.2nm,0.3s,baz=87,slow=16,SNR=13						
PALK				Sn	Sn	18 26 52.4	-14
	3.8nm,0.3s,baz=173,slow=19,SNR=8.0						
PALK				LR	LR	18 28 55.8	
	comp=Z,104nm,19.7s,baz=61,slow=35						
PALK	**Pallekele**	**11.08**	**269**	*e*Pn	**Pn**	**18 25 02.3**	**-0.9**
PALK				*e*Sn	Sn	18 26 51.6	-15
CM31	**Chiang Mai Arr**	**12.86**	**32**	Pn	**Pn**	**18 25 26.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**12.86**	**32**	Pn	**Pn**	**18 25 28.2**	**+0.7**
	baz=231,slow=14,SNR=10						
CMAR				LR	LR	18 30 11.4	
	comp=Z,74nm,20.8s,baz=270,slow=36						
CHTO	**Chiang Mai**	**13.15**	**31**	P	**Pn**	**18 25 31.3**	**-0.3**
KSM	**Kuching**	**19.33**	**107**	*e*P	**P**	**18 26 48.8**	**-1.1**
ODAN	**Odare**	**19.69**	**348**	*e*P	**Pn**	**18 26 57.9**	**+2.4**
	8.8nm,0.5s						
TAPN	**Taplejung**	**20.10**	**349**	*e*P	**P**	**18 26 59.1**	**+0.6**
	72nm,1.3s						
PKI	**Pulchoki**	**20.85**	**344**	*e*P	Pn	18 27 08.0	-1.3
	56nm,1.4s						
PKIN	**Phulchoki**	**20.86**	**344**	*e*P	Pn	18 27 08.2	-1.1
	11nm,0.8s						
DMN	**Daman**	**20.97**	**343**	*e*P	Pn	18 27 09.8	-0.9
	18nm,0.9s						
GKN	**Gorkha**	**21.48**	**342**	*e*P	**P**	**18 27 12.0**	**-1.3**
	51nm,1.2s						
KOLN	**Koldanda**	**21.60**	**340**	*e*P	**P**	**18 27 15.1**	**+0.5**
	25nm,0.8s						
LSA	**Lhasa**	**22.06**	**358**	*e*P	**P**	**18 27 21.5**	**+1.6**
	14nm,1.1s						
H08S3	**Diego Garcia H**	**24.50**	**233**	T	T	18 53 38.0	
	baz=52,slow=76,SNR=10						
H08S2	**Diego Garcia H**	**24.51**	**232**	T	T	18 54 04.1	
	baz=52,slow=76,SNR=9.0						
H08S1	**Diego Carcia H**	**24.52**	**232**	T	T	18 53 47.5	
	baz=52,slow=76,SNR=13						
ENH	**Enshi**	**28.01**	**34**	P	**P**	**18 28 13.7**	**-1.7**
AAK	**Ala-Archa**	**38.17**	**339**	P	P	18 29 59.5	+16
	4.0nm,0.9s,baz=211,slow=7.7,SNR=3.8						
EKS2	**Erkin-Say**	**38.45**	**338**	*e*P	**P**	**18 29 47.5**	**+1.2**
	3.7nm,0.7s						
MK31	**Makanchi Array**	**39.98**	**350**	*e*P	**P**	**18 29 58.3**	**-0.5**
KKAR	**Karatay Array**	**40.10**	**336**	*e*P	**P**	**18 29 59.6**	**-0.2**
	2.4nm,0.8s						
SONM	**Songino Array**	**42.02**	**15**	P	**P**	**18 30 15.3**	**-0.4**
	1.9nm,0.9s,baz=194,slow=7.9,SNR=12						
GEYT	**Alibeck**	**42.98**	**320**	P	**P**	**18 30 24.5**	**+0.9**
	0.9nm,0.4s,baz=141,slow=9.3,SNR=2.0						
KURK	**Kurchatov**	**44.44**	**348**	*e*P	P	18 30 29.6	-5.4
	3.8nm,0.9s						
ZAA0	**Zalesovo Array**	**46.63**	**354**	P	**P**	**18 30 53.0**	**+0.6**
ZALV	**Zalesovo Beam**	**46.63**	**354**	P	**P**	**18 30 52.2**	**-0.2**
	0.8nm,0.6s,baz=169,slow=8.8,SNR=5.4						
RAYN	**Ar Rayn**	**47.19**	**295**	*e*P	**P**	**18 30 57.0**	**-0.3**
	4.2nm,1.0s						
BRVK	**Borovoye**	**48.68**	**343**	P	**P**	**18 31 07.8**	**-0.5**
ABKAR	**Akbulak array**	**49.48**	**333**	*e*P	**P**	**18 31 14.5**	**0.0**
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**49.91**	**124**	P	**P**	**18 31 18.6**	**+0.3**
	1.1nm,0.7s,baz=304,slow=8.4,SNR=8.8						
WRAB	**Tennant Creek**	**49.92**	**124**	P	**P**	**18 31 16.5**	**-1.8**
ASAR	**Alice Springs**	**51.44**	**128**	P	**P**	**18 31 30.7**	**+0.9**
	0.6nm,0.9s,baz=297,slow=8.1,SNR=7.2						
STKA	**Stephens Creek**	**61.52**	**132**	P	**P**	**18 32 42.6**	**+1.3**
	2.3nm,0.9s,baz=350,slow=6.1,SNR=3.8						
SANT	**Santorini**	**66.61**	**306**	P	P	18 33 10.3	-4.5
TIXI	**Tiksi**	**68.02**	**12**	*e*P	**P**	**18 33 22.2**	**-0.8**
	4.3nm,0.8s						
CASY	**Casey**	**74.87**	**172**	P	**P**	**18 34 05.1**	**+0.7**

MEX 25 18:26:09.5±0.7, 15°51N×96°50W, h5km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.16**	**9**	*i* P	Pg	18 26

ellipse: s-maj=5.9km s-min=0.4km az=117.0
*ISK **25** 18:56:48.0, 40˚.66N×25˚.88E, h9km, MD2.9*
*DDA **25** 18:56:49.5, 40˚.56N×25˚.90E, h6km, MD2.8*
ISC 25 18:56:46.0±0.9,**40˚.71N**±0˚.02×**25˚.66E**±0˚.02,**h11**km±7km,
n56,σ0§77/77,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMTH	**Samothraki Isl**	**0.25**	**202**	P	**Pg**	**18 56 51.1**	**-0.2**
SMTH				S	**Sg**	**18 56 55.0**	**+0.2**
SMTH	**Samothraki Isl**	**0.25**	**202**	*e*PB	**Pg**	**18 56 51.1**	**-0.2**
SMTH				*e*SB	**Sg**	**18 56 55.1**	**+0.2**
ALN	**Alexandroupoli**	**0.35**	**57**	*e*PG	**Pb**	**18 56 53.9**	**-0.4**
ALN				*e*SG	**Sg**	**18 56 58.0**	**+0.2**
ALN	**Alexandroupoli**	**0.35**	**57**	P	**Pg**	**18 56 52.8**	**-0.3**
ALN				S	**Sg**	**18 56 58.0**	**+0.2**
ALN	**Alexandroupoli**	**0.35**	**57**	*e*PB	**Pg**	**18 56 52.9**	**-0.2**
ALN				*e*SB	**Sg**	**18 56 58.0**	**+0.2**
ALN	**Alexandroupoli**	**0.35**	**57**	*e*Pg	**Pb**	**18 56 53.9**	**-0.4**
ALN				S	**Sg**	**18 56 58.0**	**+0.2**
ENEZ	**Enez**	**0.38**	**85**	*e*PG	**Pg**	**18 56 53.5**	**0.0**
ENEZ	**Enez**	**0.38**	**85**	*e*Pg	**Pg**	**18 56 53.5**	**0.0**
GADA	**Gvkgeada**	**0.55**	**160**	*e*PG	**Pg**	**18 56 57.0**	**+0.4**
GADA	**Gvkgeada**	**0.55**	**160**	*e*Pg	**Pg**	**18 56 57.1**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.70**	**116**	*e*PG	**Pg**	**18 56 59.0**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.70**	**116**	*e*Pg	**Pg**	**18 56 59.0**	**-0.5**
LIA	**Limnos Island**	**0.89**	**204**	P	**Pg**	**18 57 02.7**	**-0.4**
LIA				S	**Sb**	**18 57 15.7**	**+0.6**
LIA	**Limnos Island**	**0.89**	**204**	*e*PN	**Pg**	**18 57 03.0**	**-0.1**
LIA				*e*SN	**Sb**	**18 57 15.3**	**+0.2**
LIA	**Limnos Island**	**0.89**	**204**	P	**Pg**	**18 57 02.7**	**-0.4**
LIA	**Limnos Island**	**0.89**	**204**	*e*Pn	**Pg**	**18 57 03.0**	**-0.1**
LIA				*e*Sn	**Sb**	**18 57 15.3**	**+0.2**
LPK	**Lapseki**	**0.91**	**111**	*e*PG	**Pg**	**18 57 02.6**	**-0.9**
LPK	**Lapseki**	**0.91**	**111**	*e*Pg	**Pg**	**18 57 02.6**	**-0.9**
KAVA	**Kavala**	**0.91**	**289**	P	**Pg**	**18 57 02.9**	**-0.7**
KAVA				S	**Sg**	**18 57 15.5**	**-0.1**
KAVA	**Kavala**	**0.91**	**289**	*e*PN	**Pg**	**18 57 03.1**	**-0.5**
KAVA				*e*SN	**Sg**	**18 57 15.3**	**-0.3**
BOZC	**Bozcaada**	**0.92**	**161**	*e*P	**Pg**	**18 57 03.5**	**-0.2**
BOZC				*e*S	**Sg**	**18 57 14.7**	**-0.9**
EZN	**Ezine**	**1.02**	**150**	*e*PG	**Pg**	**18 57 05.7**	**+0.1**
EZN	**Ezine**	**1.02**	**150**	*e*Pg	**Pg**	**18 57 05.7**	**+0.1**
SART	**Tekirdag**	**1.16**	**90**	*e*P	**Pg**	**18 57 07.7**	**-0.6**
SART				*e*S	**Sg**	**18 57 23.9**	**+0.5**
SART	**Tekirdag**	**1.16**	**90**	*e*PF	**Pg**	**18 57 07.7**	**-0.6**
SART				*e*S	**Sg**	**18 57 23.9**	**+0.5**
OUR	**Ouranopolis**	**1.33**	**254**	*e*PN	**Pn**	**18 57 10.5**	**+0.1**
OUR	**Ouranopolis**	**1.33**	**254**	*e*Pn	**Pn**	**18 57 10.5**	**+0.1**
MRMT	**Marmara Adasi**	**1.48**	**93**	*e*PN	**Pn**	**18 57 12.8**	**+0.2**
MRMT	**Marmara Adasi**	**1.48**	**93**	*e*Pn	**Pn**	**18 57 12.8**	**+0.2**
NVR	**Nevrokopi**	**1.50**	**296**	*e*PN	**Pn**	**18 57 13.5**	**+0.6**
SIGR	**SIGRI**	**1.50**	**174**	*e*PN	**Pg**	**18 57 15.2**	**+0.4**
SIGR	**SIGRI**	**1.50**	**174**	*e*PN	**Pb**	**18 57 13.9**	**+0.1**
SIGR	**SIGRI**	**1.50**	**174**	*e*Pn	**Pb**	**18 57 13.9**	**+0.1**
AYVA	**Ayvalik**	**1.61**	**150**	*e*P	**Pb**	**18 57 16.3**	**+0.7**
AYVA				*e*S	**Sn**	**18 57 32.3**	**-2.6**
AYVA	**Ayvalik**	**1.61**	**150**	*e*P	**Pb**	**18 57 16.3**	**+0.7**
AYVA				*e*S	**Sn**	**18 57 32.3**	**-2.6**
SRS	**Serrai**	**1.62**	**285**	*e*PN	**Pn**	**18 57 15.4**	**+1.0**
SRS				*e*SN	**Sg**	**18 57 37.4**	**-0.6**
CRLT	**Corlu**	**1.63**	**74**	*e*PN	**Pn**	**18 57 15.3**	**+0.7**
CRLT	**Corlu**	**1.63**	**74**	*e*Pn	**Pn**	**18 57 15.3**	**+0.7**
PAIG	**Paliouri**	**1.70**	**243**	*e*PN	**Pb**	**18 57 16.8**	**-0.4**
PAIG	**Paliouri**	**1.70**	**243**	*e*Pn	**Pb**	**18 57 16.8**	**-0.4**
EDC	**Edincik**	**1.72**	**101**	*e*PN	**Pn**	**18 57 16.0**	**+0.2**
EDC	**Edincik**	**1.72**	**101**	*e*Pn	**Pn**	**18 57 16.0**	**+0.2**
BALY	**Balya**	**1.79**	**122**	*e*P	**Pb**	**18 57 18.5**	**-0.2**
BALY				*e*S	**Sn**	**18 57 41.1**	**+1.6**
BALY	**Balya**	**1.79**	**122**	*e*P	**Pb**	**18 57 18.5**	**-0.2**
BALY				*e*S	**Sn**	**18 57 41.1**	**+1.6**
HORT	**Hortiatis**	**1.95**	**268**	*e*PN	**Pg**	**18 57 24.8**	**+1.5**
SLVT	**Silivri**	**2.00**	**74**	*e*PN	**Pn**	**18 57 20.6**	**+1.0**
SLVT	**Silivri**	**2.00**	**74**	*e*Pn	**Pn**	**18 57 20.7**	**+1.0**
BALB	**Balikesir**	**2.01**	**121**	*e*PN	**Pn**	**18 57 20.7**	**+0.9**
BALB	**Balikesir**	**2.01**	**121**	*e*Pn	**Pn**	**18 57 20.7**	**+0.9**
KNT	**Kendrikon**	**2.14**	**283**	*e*PN	**Pg**	**18 57 27.3**	**+0.4**
CTKS	**Kestanelik-??a**	**2.22**	**75**	*e*PN	**Pn**	**18 57 23.5**	**+0.8**
CTKS	**Kestanelik-??a**	**2.22**	**75**	*e*Pn	**Pn**	**18 57 23.5**	**+0.8**
CHOS	**Chios island**	**2.34**	**172**	*e*PN	**Pb**	**18 57 27.2**	**-1.0**
CHOS	**Chios island**	**2.34**	**172**	*e*Pn	**Pb**	**18 57 27.2**	**-1.0**
DURS	**Dursunbey**	**2.43**	**116**	*e*P	**Pn**	**18 57 27.0**	**+1.4**
DURS				*e*S	**Sb**	**18 57 58.9**	**-0.7**
DURS	**Dursunbey**	**2.43**	**116**	*e*P	**Pn**	**18 57 27.0**	**+1.4**
DURS				*e*S	**Sb**	**18 57 58.9**	**-0.7**

*HLW **25** 19:17:20.2, 36˚.14N×26˚.00E, h31km±21km, Md3.8, MI3.2*
*IDC **25** 19:17:22.2±0.9, 35˚.48N×26˚.35E, h0km, mb3.6/9, mb1 3.7/16, mb1mx3.6/38, mbtmp3.6/16, ML3.5/7, MS2.3/1, Ms1 2.3/1, ms1mx2.0/45, Error ellipse: s-maj=18.9km s-min=13.1km az=175.0*
*ATH **25** 19:17:23.3, 35˚.46N×26˚.32E, h31km, MD3.7/18, ML3.7*
*THE **25** 19:17:23.5, 35˚.50N×26˚.31E, h1km±1km, ML3.8/4, Error ellipse: s-maj=1.1km s-min=0.6km az=286.0*
*CSEM **25** 19:17:24.1±0.1, 35˚.51N×26˚.27E, h10km, MD3.7, Error ellipse: s-maj=3.2km s-min=2.5km az=172.0*
*ISCJB **25** 19:17:24.2±0.4, 35˚.44N±0˚.02×26˚.32E±0˚.02, h30km±4km, mb3.6/9, Error ellipse: s-maj=3.7km s-min=2.7km az=177.4*
*ISK **25** 19:17:26.0, 35˚.59N×26˚.25E, h73km, ML3.4*
ISC 25 19:17:24.7±0.9,**35˚.48N**±0˚.02×**26˚.30E**±0˚.02,**h20**km±3km,
n176,σ1§15/214,mb3.6/9,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.37**	**191**	P	**Pg**	**19 17 31.6**	**-1.0**
ZKR				S	**Sb**	**19 17 38.1**	**-0.1**
ZKR	**Zakros**	**0.37**	**191**	*e*PB	**Pg**	**19 17 31.7**	**-0.9**
ZKR				*e*SB	**Sb**	**19 17 38.1**	**-0.1**
ZKR	**Zakros**	**0.37**	**191**	*e*Pb	**Pg**	**19 17 31.7**	**-0.9**
ZKR				S	**Sb**	**19 17 38.1**	**-0.1**
NPS	**Neapolis**	**0.60**	**249**	P	**Pb**	**19 17 36.1**	**-0.5**
NPS				S	**Sg**	**19 17 45.6**	**+0.6**
NPS	**Neapolis**	**0.60**	**249**	*e*PN	**Pb**	**19 17 36.1**	**-0.5**
NPS				*e*SN	**Sb**	**19 17 44.5**	**-0.2**
NPS	**Neapolis**	**0.60**	**249**	P	**Pb**	**19 17 36.1**	**-0.5**
NPS				*e*Sn	**Sb**	**19 17 44.5**	**-0.2**
NPS				S	**Sg**	**19 17 45.6**	**+0.6**
KARP	**Karpathos**	**0.70**	**84**	P	**Pb**	**19 17 37.2**	**-1.1**
KARP				S	**Sb**	**19 17 47.6**	**0.0**
KARP	**Karpathos**	**0.70**	**84**	*e*PN	**Pb**	**19 17 37.3**	**-1.1**
KARP				*e*SN	**Sb**	**19 17 47.5**	**0.0**
KARP	**Karpathos**	**0.70**	**84**	P	**Pb**	**19 17 37.2**	**-1.1**
KARP				S	**Sb**	**19 17 47.6**	**0.0**
LAST	**Lasithi**	**0.75**	**245**	P	**Pb**	**19 17 38.5**	**-0.6**
LAST				S	**Sn**	**19 17 50.5**	**-0.5**
LAST	**Lasithi**	**0.75**	**245**	*e*PN	**Pb**	**19 17 38.5**	**-0.6**
LAST				*e*SN	**Sb**	**19 17 48.9**	**0.0**
LAST	**Lasithi**	**0.75**	**245**	P	**Pb**	**19 17 38.5**	**-0.6**
LAST				*e*Sn	**Sb**	**19 17 48.9**	**0.0**
LAST				S	**Sn**	**19 17 50.5**	**-0.5**
SANT	**Santorini**	**1.12**	**323**	P	**Pn**	**19 17 44.1**	**-1.3**
SANT				S	**Sn**	**19 18 00.7**	**+0.5**
SANT	**Santorini**	**1.12**	**323**	P	**Pn**	**19 17 44.1**	**-1.3**
SANT				S	**Sn**	**19 18 00.7**	**+0.5**
THR1	**Thera Island**	**1.12**	**323**	P	**Pn**	**19 17 44.4**	**-1.0**
THR1	**Thera Island**	**1.12**	**323**	P	**Pn**	**19 17 44.4**	**-1.0**
THR6	**Thira Island,**	**1.14**	**320**	P	**Pn**	**19 17 44.5**	**-1.1**
THR6	**Thira Island,**	**1.14**	**320**	P	**Pn**	**19 17 44.5**	**-1.1**
IDI	**Anoyia**	**1.17**	**261**	Pn	**Pn**	**19 17 45.6**	**-0.4**
	60nm,0.3s,baz=70,slow=14,SNR=68						
IDI				Sn	**Sb**	**19 18 00.7**	**-0.4**
	132nm,0.3s,baz=12,slow=20,SNR=16						
THR7	**Fira-Santorini**	**1.18**	**323**	P	**Pn**	**19 17 45.2**	**-0.9**
THR7	**Fira-Santorini**	**1.18**	**323**	P	**Pn**	**19 17 45.2**	**-0.9**
THR3	**Thira Island,**	**1.18**	**322**	P	**Pn**	**19 17 45.1**	**-1.0**
THR3	**Thira Island,**	**1.18**	**322**	P	**Pn**	**19 17 45.1**	**-1.0**
THR2	**Thira island,**	**1.19**	**324**	P	**Pn**	**19 17 45.4**	**-0.9**
THR2	**Thira island,**	**1.19**	**324**	P	**Pn**	**19 17 45.4**	**-0.9**
THR5	**Thira Island,**	**1.21**	**321**	*e*PN	**Pn**	**19 17 45.8**	**-0.8**
THR5				*e*SN	**Sb**	**19 18 02.2**	**-0.1**
THR5	**Thira Island,**	**1.21**	**321**	P	**Pn**	**19 17 45.5**	**-1.1**
THR5	**Thira Island,**	**1.21**	**321**	P	**Pn**	**19 17 45.5**	**-1.1**
THR5	**Thira Island,**	**1.21**	**321**	*e*Pn	**Pn**	**19 17 45.8**	**-0.8**
THR5				*e*Sn	**Sb**	**19 18 02.2**	**-0.1**
SIVA	**Sivas**	**1.31**	**250**	P	**Pb**	**19 17 48.7**	**+0.1**
SIVA				S	**Sg**	**19 18 06.7**	**-0.4**
SIVA	**Sivas**	**1.31**	**250**	*e*PN	**Pn**	**19 17 47.8**	**-0.1**
SIVA	**Sivas**	**1.31**	**250**	*e*Pn	**Pn**	**19 17 47.8**	**-0.1**
SIVA				S	**Sg**	**19 18 06.7**	**-0.4**
NISR	**Nisiros**	**1.31**	**30**	P	**Pn**	**19 17 47.0**	**-0.9**
NISR				S	**Sg**	**19 18 06.9**	**-0.3**
NISR	**Nisiros**	**1.31**	**30**	P	**Pn**	**19 17 47.0**	**-0.9**
NISR				S	**Sg**	**19 18 06.9**	**-0.3**
NIS1	**Nisyros Isl.**	**1.32**	**32**	*e*PN	**Pb**	**19 17 49.0**	**0.0**
NIS1	**Nisyros Isl.**	**1.32**	**32**	P	**Pn**	**19 17 47.3**	**-0.8**
NIS1				S	**Sg**	**19 18 07.0**	**-0.7**
NIS1	**Nisyros Isl.**	**1.32**	**32**	*e*PN	**Pn**	**19 17 47.7**	**-0.4**
NIS1	**Nisyros Isl.**	**1.32**	**32**	P	**Pn**	**19 17 47.3**	**-0.8**
NIS1	**Nisyros Isl.**	**1.32**	**32**	*e*Pn	**Pn**	**19 17 47.7**	**-0.4**
NIS1				S	**Sg**	**19 18 07.0**	**-0.7**
ARG	**Arkhangelos**	**1.65**	**63**	P	**Pn**	**19 17 52.1**	**-0.5**
ARG				S	**Sn**	**19 18 13.6**	**+0.3**
ARG	**Arkhangelos**	**1.65**	**63**	*e*PN	**Pn**	**19 17 52.7**	**+0.1**
ARG				*e*SN	**Sn**	**19 18 13.3**	**0.0**
ARG	**Arkhangelos**	**1.65**	**63**	P	**Pn**	**19 17 52.1**	**-0.5**
ARG	**Arkhangelos**	**1.65**	**63**	*e*Pn	**Pn**	**19 17 52.7**	**+0.1**
ARG				*e*Sn	**Sn**	**19 18 13.3**	**0.0**
APE	**Apeiranthos**	**1.70**	**339**	*e*PN	**Pn**	**19 17 53.0**	**-0.3**
APE	**Apeiranthos**	**1.70**	**339**	P	**Pn**	**19 17 52.2**	**-1.2**
APE				S	**Sn**	**19 18 14.5**	**-0.1**
APE	**Apeiranthos**	**1.70**	**339**	*e*PN	**Pn**	**19 17 53.4**	**0.0**
APE	**Apeiranthos**	**1.70**	**339**	P	**Pn**	**19 17 52.2**	**-1.2**
APE	**Apeiranthos**	**1.70**	**339**	*e*Pn	**Pn**	**19 17 53.4**	**0.0**
APE				S	**Sn**	**19 18 14.5**	**-0.1**
VAM	**Vamos**	**1.72**	**268**	*e*PB	**Pn**	**19 17 53.0**	**-0.5**
VAM	**Vamos**	**1.72**	**268**	*e*Pb	**Pn**	**19 17 53.0**	**-0.5**
BODT	**Bodrum**	**1.77**	**27**	*e*PN	**Pn**	**19 17 54.1**	**-0.2**
BODT	**Bodrum**	**1.77**	**27**	*e*Pn	**Pn**	**19 17 54.1**	**-0.2**
MHLO	**Agia Marina, M**	**1.96**	**309**	P	**Pn**	**19 17 56.5**	**-0.3**
MHLO	**Agia Marina, M**	**1.96**	**309**	*e*PB	**Pn**	**19 17 57.1**	**+0.3**
MHLO	**Agia Marina, M**	**1.96**	**309**	P	**Pn**	**19 17 56.5**	**-0.3**
MHLO	**Agia Marina, M**	**1.96**	**309**	*e*Pb	**Pn**	**19 17 57.1**	**+0.3**
YER	**Yerkesik**	**2.30**	**44**	*e*PN	**Pn**	**19 18 02.6**	**+1.1**
YER	**Yerkesik**	**2.30**	**44**	*e*Pn	**Pn**	**19 18 02.7**	**+1.1**
DALY	**Dalyan (Mu˘la**	**2.32**	**54**	*e*PN	**Pn**	**19 18 03.3**	**+1.5**
DALY	**Dalyan (Mu˘la**	**2.32**	**54**	*e*Pn	**Pn**	**19 18 03.3**	**+1.5**
ANKY	**Antikythira Is**	**2.47**	**280**	*e*PN	**Pn**	**19 18 03.8**	**-0.1**
ANKY	**Antikythira Is**	**2.47**	**280**	*e*Pn	**Pn**	**19 18 03.8**	**-0.1**
KYTH	**Kithira**	**2.77**	**288**	P	**Pn**	**19 18 07.7**	**-0.3**
KYTH	**Kithira**	**2.77**	**288**	P	**Pn**	**19 18 07.7**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**2.77**	**27**	*e*PN	**Pn**	**19 18 08.3**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**2.77**	**27**	*e*Pn	**Pn**	**19 18 08.3**	**+0.2**
CHOS	**Chios island**	**2.91**	**356**	*e*PN	**Pn**	**19 18 10.4**	**+0.5**
CHOS	**Chios island**	**2.91**	**356**	*e*PN	**Pn**	**19 18 09.4**	**-0.5**
CHOS	**Chios island**	**2.91**	**356**	*e*Pn	**Pn**	**19 18 10.4**	**+0.5**
VLI	**Veliai**	**2.99**	**295**	P	**Pn**	**19 18 10.9**	**-0.1**
VLI	**Veliai**	**2.99**	**295**	*e*PN	**Pn**	**19 18 11.1**	**+0.1**
VLI	**Veliai**	**2.99**	**295**	P	**Pn**	**19 18 10.9**	**-0.1**
IZM	**Izmir**	**3.01**	**15**	*e*PN	**Pn**	**19 18 11.8**	**+0.5**
IZM	**Izmir**	**3.01**	**15**	*e*Pn	**Pn**	**19 18 11.8**	**+0.5**
KRND	**KRANIDI**	**3.17**	**308**	*e*PN	**Pn**	**19 18 14.6**	**+1.1**
KRND	**KRANIDI**	**3.17**	**308**	*e*Pn	**Pn**	**19 18 14.6**	**+1.1**
DID	**Didima**	**3.19**	**310**	P	**Pn**	**19 18 14.1**	**+0.3**
DID	**Didima**	**3.19**	**310**	*e*PN	**Pn**	**19 18 14.4**	**+0.6**
DID	**Didima**	**3.19**	**310**	P	**Pn**	**19 18 14.1**	**+0.3**
DID	**Didima**	**3.19**	**310**	*e*Pn	**Pn**	**19 18 14.4**	**+0.6**
ATH	**Athens Observa**	**3.24**	**321**	*e*PN	**Pn**	**19 18 14.4**	**0.0**
ATH	**Athens Observa**	**3.24**	**321**	*e*Pn	**Pn**	**19 18 14.4**	**0.0**
KULA	**Kula-Manisa**	**3.57**	**31**	*e*PN	**Pn**	**19 18 20.0**	**+1.0**
KULA	**Kula-Manisa**	**3.57**	**31**	*e*Pn	**Pn**	**19 18 20.0**	**+1.0**
VLX	**Vlachokerasia**	**3.68**	**302**	*e*PN	**Pn**	**19 18 20.6**	**0.0**
VLX	**Vlachokerasia**	**3.68**	**302**	*e*Pn	**Pn**	**19 18 20.6**	**0.0**
SIGR	**SIGRI**	**3.74**	**355**	*e*PN	**Pn**	**19 18 22.1**	**+0.7**
SIGR	**SIGRI**	**3.74**	**355**	*e*PN	**Pn**	**19 18 21.5**	**+0.2**
SIGR	**SIGRI**	**3.74**	**355**	*e*Pn	**Pn**	**19 18 21.5**	**+0.2**
ANTB	**Antalya**	**3.79**	**67**	*e*PN	**Pn**	**19 18 24.1**	**+2.1**
ANTB	**Antalya**	**3.79**	**67**	*e*Pn	**Pn**	**19 18 24.1**	**+2.1**
KHL	**Karahalli**	**3.83**	**41**	*e*PN	**Pn**	**19 18 24.1**	**+1.4**
KHL	**Karahalli**	**3.83**	**41**	*e*Pn	**Pn**	**19 18 24.1**	**+1.4**
ITM	**Ithomi**	**3.92**	**297**	*e*PN	**Pn**	**19 18 24.9**	**+1.1**
ITM	**Ithomi**	**3.92**	**297**	*e*Pn	**Pn**	**19 18 24.9**	**+1.1**
BCK	**Bucak**	**3.98**	**59**	*e*PN	**Pn**	**19 18 26.5**	**+1.8**
BCK	**Bucak**	**3.98**	**59**	*e*Pn	**Pn**	**19 18 26.5**	**+1.8**
GUR	**Goura**	**4.01**	**309**	*e*PN	**Pn**	**19 18 26.0**	**+0.8**
GUR	**Goura**	**4.01**	**309**	*e*Pn	**Pn**	**19 18 26.0**	**+0.8**
AOS	**Alonnisos**	**4.16**	**333**	*e*PN	**Pn**	**19 18 27.4**	**+0.3**
AOS	**Alonnisos**	**4.16**	**333**	*e*Pn	**Pn**	**19 18 27.4**	**+0.3**
KLV	**Kalavryta, Ach**	**4.20**	**309**	*e*PN	**Pn**	**19 18 28.6**	**+0.9**
KLV	**Kalavryta, Ach**	**4.20**	**309**	*e*Pn	**Pn**	**19 18 28.6**	**+0.9**
DSF	**Desfina**	**4.21**	**315**	*e*PN	**Pn**	**19 18 29.2**	**+1.4**
DSF	**Desfina**	**4.21**	**315**	*e*Pn	**Pn**	**19 18 29.2**	**+1.4**
SUTC	**Sutluce-Ispart**	**4.28**	**61**	*e*PN	**Pn**	**19 18 30.6**	**+1.8**
SUTC	**Sutluce-Ispart**	**4.28**	**61**	*e*Pn	**Pn**	**19 18 30.7**	**+1.8**
HMAT	**Matruh**	**4.43**	**171**	P	**Pn**	**19 18 32.6**	**+1.8**
	baz=169						
HMAT				S	**Sn**	**19 19 24.1**	**+2.3**
	baz=169						
HMAT	**Matruh**	**4.43**	**171**	P	**Pn**	**19 18 32.6**	**+1.8**
HMAT				S	**Sn**	**19 19 24.1**	**+2.3**
DRO	**Drossia**	**4.44**	**305**	*e*PN	**Pn**	**19 18 31.8**	**+0.9**
DRO	**Drossia**	**4.44**	**305**	*e*Pn	**Pn**	**19 18 31.8**	**+0.9**
LIA	**Limnos Island**	**4.50**	**349**	*e*PN	**Pn**	**19 18 32.4**	**+0.7**
LIA	**Limnos Island**	**4.50**	**349**	*e*Pn	**Pn**	**19 18 32.4**	**+0.7**
ALT	**Altintas**	**4.68**	**39**	*e*PN	**Pn**	**19 18 34.8**	**+0.4**
ALT	**Altintas**	**4.68**	**39**	*e*Pn	**Pn**	**19 18 34.8**	**+0.4**
TVSB	**Tavsanli**	**4.69**	**31**	*e*PN	**Pn**	**19 18 35.0**	**+0.6**
TVSB	**Tavsanli**	**4.69**	**31**	*e*Pn	**Pn**	**19 18 35.1**	**+0.6**
GADA	**Gvkgeada**	**4.71**	**356**	*e*PN	**Pn**	**19 18 34.8**	**+0.1**
GADA	**Gvkgeada**	**4.71**	**356**	*e*Pn	**Pn**	**19 18 34.8**	**+0.1**
LPK	**Lapseki**	**4.90**	**4**	*e*PN	**Pn**	**19 18 37.2**	**0.0**
LPK	**Lapseki**	**4.90**	**4**	*e*Pn	**Pn**	**19 18 37.2**	**0.0**
GELI	**Tayfur-Gelibol**	**4.91**	**2**	*e*PN	**Pn**	**19 18 37.4**	**0.0**
GELI	**Tayfur-Gelibol**	**4.91**	**2**	*e*Pn	**Pn**	**19 18 37.4**	**0.0**
PDO	**Prodromos**	**5.14**	**309**	*e*PN	**Pn**	**19 18 42.6**	**+2.0**
PDO	**Prodromos**	**5.14**	**309**	*e*Pn	**Pn**	**19 18 42.6**	**+2.0**
HDMB	**Hadim**	**5.21**	**72**	*e*PN	**Pn**	**19 18 43.4**	**+1.6**
HDMB	**Hadim**	**5.21**	**72**	*e*Pn	**Pn**	**19 18 43.4**	**+1.6**
MRMT	**Marmara Adasi**	**5.21**	**11**	*e*PN	**Pn**	**19 18 41.5**	**-0.2**
MRMT	**Marmara Adasi**	**5.21**	**11**	*e*Pn	**Pn**	**19 18 41.5**	**-0.2**
THL	**Klokotos Trika**	**5.31**	**321**	*e*PN	**Pn**	**19 18 44.6**	**+1.7**
THL	**Klokotos Trika**	**5.31**	**321**	*e*Pn	**Pn**	**19 18 44.6**	**+1.7**
ALN	**Alexandroupoli**	**5.41**	**358**	*e*PN	**Pn**	**19 18 44.2**	**0.0**
ALN	**Alexandroupoli**	**5.41**	**358**	*e*Pn	**Pn**	**19 18 44.2**	**0.0**
KONT	**Konya--Tatoy**	**5.45**	**61**	*e*PN	**Pn**	**19 18 46.0**	**+1.1**
KONT	**Konya--Tatoy**	**5.45**	**61**	*e*Pn	**Pn**	**19 18 46.0**	**+1.1**
LADK	**Ladik-KONYA**	**5.57**	**59**	*e*PN	**Pn**	**19 18 47.7**	**+1.2**
LADK	**Ladik-KONYA**	**5.57**	**59**	*e*Pn	**Pn**	**19 18 47.7**	**+1.2**
KIZT	**Kizilcal**	**5.60**	**51**	*e*PN	**Pn**	**19 18 48.5**	**+1.6**
KIZT	**Kizilcal**	**5.60**	**51**	*e*Pn	**Pn**	**19 18 48.5**	**+1.6**
CSS	**Prodhromos**	**5.78**	**93**	*e*PN	**Pn**	**19 18 51.8**	**+2.4**
CSS	**Prodhromos**	**5.78**	**93**	*e*Pn	**Pn**	**19 18 51.8**	**+2.4**
GULT	**Gulveren**	**5.96**	**33**	*e*PN	**Pn**	**19 18 52.1**	**+0.2**
GULT	**Gulveren**	**5.96**	**33**	*e*Pn	**Pn**	**19 18 52.1**	**+0.2**
SWA2		**6.26**	**187**	P	**Pn**	**19 18 56.7**	**+0.7**
	baz=184						
SWA2				S	**Sn**	**19 20 04.5**	**-2.5**
	baz=184						
SWA2		**6.26**	**187**	P	**Pn**	**19 18 56.7**	**+0.7**
SWA2				S	**Sn**	**19 20 04.5**	**-2.5**
MERS	**Mersin**	**6.79**	**76**	*e*PN	**Pn**	**19 19 04.6**	**+1.3**
MERS	**Mersin**	**6.79**	**76**	*e*Pn	**Pn**	**19 19 04.6**	**+1.3**
BRTR	**Keskin Array B**	**7.20**	**52**	Pn	**Pn**	**19 19 09.6**	**+0.7**
	0.2nm,0.3s,baz=214,slow=11,SNR=5.4						
BRTR				Sn	**Sn**	**19 20 30.0**	**-0.3**
	0.1nm,0.3s,baz=218,slow=25,SNR=3.7						
GLL	**Jalalah**	**7.45**	**141**	P	**Pn**	**19 19 12.7**	**+0.3**
	baz=142						
GLL				S	**Sn**	**19 20 32.8**	**-3.5**
	baz=142						
GLL	**Jalalah**	**7.45**	**141**	P	**Pn**	**19 19 12.6**	**+0.3**
AMAG	**Maghara**	**7.54**	**128**	P	**Pn**	**19 19 13.4**	**-0.2**
	baz=130						
AMAG	**Maghara**	**7.54**	**128**	P	**Pn**	**19 19 13.4**	**-0.2**
MMAI	**Mount Meron Ar**	**7.93**	**105**	Pn	**Pn**	**19 19 17.5**	**-1.4**
	1.4nm,0.3s,baz=304,slow=11,SNR=12						
MMAI				Sn	**Sn**	**19 20 47.6**	**-0.5**
	2.9nm,0.3s,baz=311,slow=22,SNR=6.6						
KOZT	**Kozan**	**7.93**	**73**	*e*PN	**Pn**	**19 19 19.8**	**+0.9**
KOZT	**Kozan**	**7.93**	**73**	*e*Pn	**Pn**	**19 19 19.8**	**+0.9**
HFRF	**Wahat Farafira**	**8.48**	**168**	S	**Sn**	**19 20 56.9**	**-4.8**
	baz=167						
HNKL	**Nakhl**	**8.51**	**128**	P	**Pn**	**19 19 25.9**	**-1.0**
	baz=130						
HNKL				AMP		**19 20 00.0**	
	comp=E,10μm,1.1s,logA/T=3.9,baz=130						
HNKL	**Nakhl**	**8.51**	**128**	P	**Pn**	**19 19 25.9**	**-1.0**
EIL	**Elat**	**9.32**	**126**	Pn	**Pn**	**19 19 37.5**	**-0.5**
	comp=E,0.3nm,0.3s,baz=246,slow=1.7,SNR=13						
EIL				Sn	**Sn**	**19 21 17.4**	**-4.7**
	comp=E,1.0nm,0.3s,baz=299,slow=19,SNR=5.2						
ASF	**Jabal al Asfar**	**9.41**	**108**	Pn	**Pn**	**19 19 40.2**	**+0.9**
	comp=E,0.3nm,0.3s,baz=240,slow=14,SNR=3.6						
ASF				Sn	**Sn**	**19 21 30.0**	**+5.4**
	comp=E,0.2nm,0.3s,baz=66,slow=19,SNR=2.3						
MLR	**Muntele Rosu**	**10.00**	**359**	LR	LR	19 24 35.6	
	comp=E,14nm,18.3s,baz=199,slow=43						
KOLS	**Kolonicke sedl**	**13.77**	**349**	*e*PN	**Pn**	**19 20 41.5**	**+2.8**
STHS	**Stebnicka Huta**	**14.41**	**347**	*e*PN	**P**	**19 20 53.7**	**-0.6**
KBZ	**Khabaz**	**15.19**	**52**	Pn	**P**	**19 21 02.5**	**-0.5**
	comp=E,0.1nm,0.3s,baz

GVD	Gavdhos	1.94	251	P	Pn	19 28 35.3	+0.2	GAZI	Gazipasa	4.92	80	*e*Pn	Pn	19 29 16.5	+0.3		comp=N,16nm,0.8s		
GVD	Gavdhos	1.94	251	*e*Pb	Pn	19 28 35.6	+0.5	AKMC	Akamas	4.94	94	P	Pn	19 29 17.2	+0.8	CEL		*e*Sn	Sn	19 31 36.3	-12
GVD	Gavdhos	1.94	251	*e*Pn	Pb	19 28 38.0	+0.1		baz=277							GRB	Gharib	9.06 141	P	Pn	19 30 13.0	0.0
GVD	Gavdhos	1.94	251	*e*Pn	Pb	19 28 38.0	+0.1	AKMC	Akamas	4.94	94	P	Pn	19 29 17.2	+0.8		baz=141					
MHLO	Agia Marina, M	1.95	308	P	Pn	19 28 35.0	-0.3	EVR	Evrytania	4.96	315	*e*PN	Pn	19 29 19.2	+2.5	GRB	Gharib	9.06 141	P	Pn	19 30 13.0	0.0
MHLO				S	Sb	19 29 01.0	-1.1	EVR	Evrytania	4.96	315	*e*Pn	Pn	19 29 19.2	+2.5	TIRR	Tirgusor	9.09 10	*e*PN	Pn	19 30 13.1	-0.1
MHLO	Agia Marina, M	1.95	308	*e*PB	Pn	19 28 35.7	+0.4	EDC	Edincik	4.99	14	*e*PN	Pn	19 29 18.1	+1.1	TIRR	Tirgusor	9.09 10⇑	*i*P	Pn	19 30 14.5	+1.3
MHLO	Agia Marina, M	1.95	308	P	Pn	19 28 35.0	-0.3	EDC	Edincik	4.99	14	*e*Pn	Pn	19 29 18.1	+1.1	TIRR	Tirgusor	9.09 10	*e*Pn	Pn	19 30 13.9	+0.7
MHLO	Agia Marina, M	1.95	308	*e*Pb	Pn	19 28 35.7	+0.4	SMTH	Samothraki Isl	5.00	353	*e*PN	Pn	19 29 16.8	-0.4		comp=N,12nm,0.8s					
MHLO				S	Sb	19 29 01.0	-1.1	SMTH	Samothraki Isl	5.00	353	*e*Pn	Pn	19 29 16.8	-0.4	TIRR	Tirgusor	9.09 10⇑	*i*P	Pn	19 30 14.5	+1.3
SMG	Samos	2.24	11	P	Pn	19 28 38.5	-0.7	KCTX	Karacabey (Bur	5.02	18	*e*PN	Pn	19 29 18.5	+1.0	TIRR	Tirgusor	9.09 10	*e*Pn	Pn	19 30 13.9	+0.7
SMG	Samos	2.24	11	*e*PN	Pn	19 28 38.6	-0.7	KCTX	Karacabey (Bur	5.02	18	*e*Pn	Pn	19 29 18.5	+1.0		comp=N,12nm,0.8s					
SMG	Samos	2.24	11	*e*Pn	Pn	19 28 38.6	-0.7	ALFC	Alevga	5.15	92	P	Pn	19 29 19.9	+0.7	EIL	Elat	9.32 126	Pn	Pn	19 30 16.6	+0.1
YER	Yerkesik	2.27	44	*e*PN	Pn	19 28 40.1	+0.4		baz=276								comp=N,1.2nm,0.3s,baz=325,slow=13,SNR=38					
YER	Yerkesik	2.27	44	*e*Pn	Pn	19 28 40.1	+0.4	ALFC				S	Sn	19 30 19.8	+1.6	EIL			Sn	Sn	19 31 55.8	-5.0
TURN	Turunc	2.30	53	*e*Pn	Pn	19 28 35.3	-4.7	ALFC	Alevga	5.15	92	P	Pn	19 29 19.9	+0.7		comp=N,3.1nm,0.3s,baz=319,slow=20,SNR=4.7					
TURN				*e*Sn	Sn	19 28 59.7	-8.1	ALFC				S	Sn	19 30 19.8	+1.6	ASF	Jabal al Asfar	9.40 108	Pn	Pn	19 30 17.0	-0.7
DALY	Dalyan (Mu¨la	2.30	55	*e*PN	Pn	19 28 40.9	+0.9	OUR	Ouranopolis	5.17	340	*e*PN	Pn	19 29 20.9	+1.5		comp=N,0.4nm,0.3s,baz=251,slow=8.8,SNR=11					
DALY	Dalyan (Mu¨la	2.30	55	*e*Pn	Pn	19 28 40.9	+0.9	OUR	Ouranopolis	5.17	340	*e*Pn	Pn	19 29 20.9	+1.5	ASF			Sn	Sn	19 31 59.9	-3.2
GCAM	G?zelcaml?	2.31	18	*e*Pn	Pn	19 28 40.6	+0.4	MRMT	Marmara Adasi	5.19	11	*e*PN	Pn	19 29 20.8	+1.0		baz=349,slow=16,SNR=2.6					
GCAM				*e*Sn	Sb	19 29 13.3	+0.8	MRMT	Marmara Adasi	5.19	11	*e*Pn	Pn	19 29 20.8	+1.0	CUC	Castrocucco	9.45 301	*e*Pn	Pn	19 30 18.1	-0.1
ANKY	Antikythira Is	2.48	279	P	Pn	19 28 42.1	-0.4	HDMB	Hadim	5.19	72	*e*PN	Pn	19 29 22.5	+2.5		comp=N,35nm,0.8s					
ANKY				S	Sn	19 29 13.9	+1.5	HDMB	Hadim	5.19	72	*e*Pn	Pn	19 29 22.5	+2.5	CUC	Castrocucco	9.45 301	*e*Pn	Pn	19 30 18.1	-0.1
ANKY	Antikythira Is	2.48	279	*e*PN	Pn	19 28 41.9	-0.6	ENEZ	Enez	5.23	359	*e*PN	Pn	19 29 21.6	+1.3		comp=N,35nm,0.8s					
ANKY	Antikythira Is	2.48	279	P	Pn	19 28 42.1	-0.4	ENEZ	Enez	5.23	359	*e*Pn	Pn	19 29 21.6	+1.3	CUC			*e*Sn	Sn	19 31 49.8	-14
ANKY				S	Sn	19 29 13.9	+1.5	THL	Klokotos Trika	5.30	321	*e*PN	Pn	19 29 23.7	+2.4	TR2		9.48 136	P	Pn	19 30 18.2	-0.4
AYDN	Tasoluk	2.49	30	*e*Pn	Pn	19 28 43.7	+1.0	THL	Klokotos Trika	5.30	321	*e*Pn	Pn	19 29 23.7	+2.4		baz=136					
AYDN				*e*Sn	Sb	19 29 17.9	+0.2	PLG	Polygyros	5.37	336	*e*PN	Pn	19 29 24.1	+1.9	TR2		9.48 136	P	Pn	19 30 18.2	-0.4
KSL	Kastellorizon	2.73	75	*e*PN	Pn	19 28 47.0	+1.1	PLG	Polygyros	5.37	336	*e*Pn	Pn	19 29 24.1	+1.9	HKAT	Jabal Katrina	9.53 135	P	Pn	19 30 19.1	-0.4
ZEY	¨zmir	2.74	3	*e*Pn	Pn	19 28 45.5	-0.5	LEF	Lefka	5.39	92	*e*PN	Pn	19 29 25.7	+3.2		baz=135					
AYDB	Zeytinkoy-Aydi	2.75	27	*e*PN	Pn	19 28 47.1	+0.8	ALN	Alexandroupoli	5.39	358	*e*PN	Pn	19 29 23.6	+1.1	HKAT	Jabal Katrina	9.53 135	P	Pn	19 30 19.1	-0.4
AYDB	Zeytinkoy-Aydi	2.75	27	*e*Pn	Pn	19 28 47.1	+0.8	ALN	Alexandroupoli	5.39	358	*e*Pn	Pn	19 29 23.6	+1.1	CFR	Carcaliu	9.76 8⇑	*i*P	Pn	19 30 23.9	+1.4
AKAS	Kas	2.77	74	*e*PN	Pn	19 28 48.0	+1.5	KONT	Konya--Tatoy	5.43	62	*e*PN	Pn	19 29 25.6	+2.5	CFR	Carcaliu	9.76 8⇑	*i*P	Pn	19 30 23.9	+1.4
AKAS				*e*Sn	Sn	19 29 22.3	+2.6	KONT	Konya--Tatoy	5.43	62	*e*Pn	Pn	19 29 25.6	+2.5	TLCR		9.86 10⇓	*i*P	Pn	19 30 24.7	+0.9
KYTH	Kithira	2.78	287	P	Pn	19 28 46.2	-0.4	SZAC	Souni-Zanaja	5.43	96	P	Pn	19 29 23.9	+0.8	TLCR		9.86 10⇓	*i*P	Pn	19 30 24.7	+0.9
KYTH	Kithira	2.78	287	*e*PN	Pn	19 28 46.4	-0.2		baz=280							DIVS	Divibare	9.87 332⇓	*i*P	Pn	19 30 27.0	+3.0
KYTH	Kithira	2.78	287	*e*Pn	Pn	19 28 46.4	-0.2	SZAC				S	Sn	19 30 26.9	+1.7	DIVS	Divibare	9.87 332⇓	*i*P	Pn	19 30 27.0	+3.0
CHOS	Chios island	2.89	356	*e*PN	Pn	19 28 48.1	-0.1	SZAC	Souni-Zanaja	5.43	96	P	Pn	19 29 23.9	+0.8	TR1		9.90 137	P	Pn	19 30 23.8	-0.6
CHOS	Chios island	2.89	356	*e*PN	Pn	19 28 47.7	-0.5	SZAC				S	Sn	19 30 26.9	+1.7		baz=137					
CHOS	Chios island	2.89	356	*e*Pn	Pn	19 28 48.1	-0.1	ARMT	Armutlu	5.44	21	*e*PN	Pn	19 29 24.6	+1.5	TR1		9.90 137	P	Pn	19 30 23.8	-0.6
IZM	Izmir	2.99	14	*e*PN	Pn	19 28 49.8	+0.3	ARMT	Armutlu	5.44	21	*e*Pn	Pn	19 29 24.7	+1.5	STON	Ston	9.94 320	*e*Pn	Pn	19 30 22.9	-2.0
IZM	Izmir	2.99	14	*e*Pn	Pn	19 28 49.8	+0.3	LADK	Ladik-KONYA	5.54	59	*e*PN	Pn	19 29 26.6	+1.8	STON			Sn	Sn	19 32 10.7	-5.3
VLI	Veliai	3.00	295	P	Pn	19 28 49.5	-0.1	LADK	Ladik-KONYA	5.54	59	*e*Pn	Pn	19 29 26.6	+1.8	VOIR		9.97 355⇓	*i*P	Pn	19 30 27.9	+2.5
VLI				S	Sn	19 29 24.4	-0.7	SVRH	Sivrihisar-ESK	5.71	45	*e*PN	Pn	19 29 28.7	+1.7	VOIR		9.97 355⇓	*i*P	Pn	19 30 27.9	+2.5
VLI	Veliai	3.00	295	*e*PN	Pn	19 28 49.5	-0.1	SVRH	Sivrihisar-ESK	5.71	45	*e*Pn	Pn	19 29 28.7	+1.7	MLR	Muntele Rosu	9.98 358	Pn	Pn	19 30 26.4	+0.8
VLI	Veliai	3.00	295	P	Pn	19 28 49.5	-0.1	CRLT	Corlu	5.73	11	*e*PN	Pn	19 29 28.3	+1.2		comp=N,0.1nm,0.3s,baz=227,slow=16,SNR=2.1					
VLI				S	Sn	19 29 24.4	-0.7	CRLT	Corlu	5.73	11	*e*Pn	Pn	19 29 28.3	+1.2	MLR			LR	LR	19 34 34.6	
GOLH	Golhisar	3.14	56	*e*Pn	Pn	19 28 54.0	+2.3	CSS	Prodhromos	5.76	93	P	Pn	19 29 28.9	+1.2		comp=N,57nm,21.1s,baz=202,slow=40					
GOLH				*e*Sn	Sb	19 29 32.5	-3.8		baz=277							MLR	Muntele Rosu	9.98 358⇑	*i*P	Pn	19 30 28.2	+2.6
KRND	KRANIDI	3.17	307	*e*PN	Pn	19 28 53.1	+1.1	CSS	Prodhromos	5.76	93	*e*PN	Pn	19 29 31.4	+3.7	MALT	Malatya	10.09 70⇑	*i*P	Pn	19 30 32.2	+5.0
KRND	KRANIDI	3.17	307	*e*Pn	Pn	19 28 53.1	+1.1	CSS	Prodhromos	5.76	93	*e*Pn	Pn	19 29 27.8	+0.1	LOT	Lotru	10.12 350⇑	*i*P	Pn	19 30 29.2	+1.7
DID	Didima	3.19	310	P	Pn	19 28 52.5	+0.2		6.5nm,0.8s							LOT	Lotru	10.12 350⇑	*i*P	Pn	19 30 29.2	+1.7
DID	Didima	3.19	310	*e*PN	Pn	19 28 52.7	+0.4	CSS	Prodhromos	5.76	93	P	Pn	19 29 28.9	+1.2	GZR	Gura Zlata	10.24 346⇓	*i*P	Pn	19 30 30.6	+1.5
DID	Didima	3.19	310	*e*Pn	Pn	19 28 52.7	+0.4	CSS	Prodhromos	5.76	93	*e*Pn	Pn	19 29 27.8	+0.1	GZR	Gura Zlata	10.24 346⇓	*i*P	Pn	19 30 30.6	+1.5
NAIG	Nisos Aigina	3.20	316	*e*PN	Pn	19 28 53.6	+1.2		6.5nm,0.8s							PLOR	Plostina	10.34 1⇓	*i*P	Pn	19 30 33.0	+2.6
NAIG	Nisos Aigina	3.20	316	*e*Pn	Pn	19 28 53.6	+1.2	CSS				*e*Sn	Sn	19 30 23.2	-10	PLOR	Plostina	10.34 1⇓	*i*P	Pn	19 30 33.0	+2.6
PTL	Penteli	3.22	323	*e*PN	Pn	19 28 53.6	+0.9	LFK	Lefkose	5.90	90	*e*PN	Pn	19 29 32.9	+3.4	TEKS	Tekeris	10.42 332	*e*Pn	Pn	19 30 34.4	+3.0
PTL	Penteli	3.22	323	*e*Pn	Pn	19 28 53.6	+0.9	GULT	Gulveren	5.93	33	*e*PN	Pn	19 29 31.1	+1.1	BZS	Buzias	10.71 342⇑	*i*P	Pn	19 30 36.4	+0.9
ATH	Athens Observa	3.23	320	*e*PN	Pn	19 28 52.8	0.0	GULT	Gulveren	5.93	33	*e*Pn	Pn	19 29 31.1	+1.1	BZS	Buzias	10.71 342⇑	*i*P	Pn	19 30 36.4	+0.9
ATH	Athens Observa	3.23	320	*e*Pn	Pn	19 28 52.8	0.0	CTKS	Kestanelik-??a	5.98	16	*e*PN	Pn	19 29 31.5	+1.0	BURAR	Bucovina Array	12.13 356⇑	*i*P	P	19 31 03.2	-4.4
EREA	Eretria	3.48	327	*e*PN	Pn	19 28 57.2	+0.9	CTKS	Kestanelik-??a	5.98	16	*e*Pn	Pn	19 29 31.5	+1.0	AQU	L'Aquila	12.16 308⇑	*i*P	Pn	19 30 57.4	+2.1
EREA	Eretria	3.48	327	*e*Pn	Pn	19 28 57.2	+0.9	KDZ	Kurdzhali	6.18 354⇑		*i*P	Pn	19 29 33.4	0.0	AQU	L'Aquila	12.16 308⇑	*i*P	Pn	19 30 57.4	+2.1
KULA	Kula-Manisa	3.54	31	*e*PN	Pn	19 28 58.4	+1.2	KDZ	Kurdzhali	6.18	354	*e*P	Pn	19 29 32.7	-0.7	PKSM	Moragy	12.17 334⇓	*i*P	Pn	19 30 57.6	+2.2
KULA	Kula-Manisa	3.54	31	*e*Pn	Pn	19 28 58.4	+1.2	KDZ	Kurdzhali	6.18	354	*e*P	Pn	19 29 32.7	-0.7	PKSM	Moragy	12.17 334⇓	*i*P	Pn	19 30 57.6	+2.2
AKHS	Akhisar	3.58	19	*e*PN	Pn	19 28 58.0	+0.4	IGT	Igoumenitsa	6.23	312	*e*PN	Pn	19 29 35.3	+1.2	ANN	Anapa	12.58 39	*e*P	Pn	19 30 50.8	-10
AKS	Akhisar	3.58	19	*e*PN	Pn	19 28 58.3	+0.7	IGT	Igoumenitsa	6.23	312	*e*Pn	Pn	19 29 35.3	+1.2	ANN			pmax	pmax		
AKS	Akhisar	3.58	19	*e*Pn	Pn	19 28 58.3	+0.7	KNT	Kendrikon	6.26	336	*e*PN	Pn	19 29 36.3	+1.9		comp=Z,112nm,1.1s					
VILL	Villia	3.59	319	*e*PN	Pn	19 28 59.2	+1.4	KNT	Kendrikon	6.26	336	*e*Pn	Pn	19 29 36.3	+1.9	ANN			MLR	MLR		
VIL2	Platees	3.65	319	*e*PN	Pn	19 28 59.2	+0.6	GRG	Griva	6.26	332	*e*PN	Pn	19 29 35.9	+1.5		comp=Z,160nm,10.0s					
VLX	Vlachokerasia	3.68	302	*e*PN	Pn	19 28 59.7	+0.6	GRG	Griva	6.26	332	*e*Pn	Pn	19 29 35.9	+1.5	NVLJ	Novalja	12.59 319	*e*Pn	Pn	19 31 01.2	0.0
VLX	Vlachokerasia	3.68	302	*e*Pn	Pn	19 28 59.7	+0.6	MDUB	Mudurnu	6.28	36	*e*PN	Pn	19 29 36.0	+1.2	NVLJ			Sn	Sn	19 33 14.2	-6.7
LTK	Loutraki	3.68	314	*e*PN	Pn	19 29 00.3	+1.2	MDUB	Mudurnu	6.28	36	*e*Pn	Pn	19 29 36.0	+1.2	NVLJ	Novalja	12.59 319	*e*Pn	Pn	19 31 01.1	0.0
LTK	Loutraki	3.68	314	*e*Pn	Pn	19 29 00.3	+1.2	SWA2		6.28	187	P	Pn	19 29 33.5	-1.2	PSZ	Piszkesteto	13.29 341	Pn	Pn	19 31 13.0	+2.2
SIGR	SIGRI	3.72	354	*e*PN	Pn	19 29 00.2	+0.6		baz=184							PSZ	Piszkesteto	13.29 341	Pn	Pn	19 31 13.0	+2.2
SIGR	SIGRI	3.72	354	*e*Pn	Pn	19 28 59.7	+0.1	SWA2		6.28	187	P	Pn	19 29 33.6	-1.2	KECS	Kecovo	13.67 343	*e*P	P	19 31 23.8	-0.8
SIGR	SIGRI	3.72	354	*e*Pn	Pn	19 29 00.2	+0.6	SULT	Sultanhani-AKS	6.37	63	*e*PN	Pn	19 29 37.9	+1.9	KECS	Kecovo	13.67 343	*e*	P	19 31 23.8	-0.8
PRK	Paraskevi	3.74	359	*e*PN	Pn	19 28 59.8	0.0	SULT	Sultanhani-AKS	6.37	63	*e*Pn	Pn	19 29 37.9	+1.9	KOLS	Kolonicke sedl	13.75 349	*e*P	P	19 31 23.7	-1.8
PRK	Paraskevi	3.74	359	*e*Pn	Pn	19 28 59.8	0.0	EREN	Erenkoy	6.40	87	*e*PN	Pn	19 29 39.9	+3.5	KOLS	Kolonicke sedl	13.75 349	*e*P	P	19 31 23.7	-1.8
ANTB	Antalya	3.77	67	*e*PN	Pn	19 29 01.8	+1.5	MMB	Musomiste	6.41	342⇓	*i*P	Pn	19 29 37.2	+0.7	KOLS	Kolonicke sedl	13.75 349	*e*	P	19 31 23.7	-1.8
ANTB	Antalya	3.77	67	*e*Pn	Pn	19 29 01.8	+1.5	MMB	Musomiste	6.41	342	*e*P	Pn	19 29 37.9	+1.4	KEST	Kesra	13.81 276	Pn	Pn	19 31 16.6	-1.4
KHL	Karahalli	3.81	41	*e*PN	Pn	19 29 02.5	+1.6	MMB	Musomiste	6.41	342⇓	*i*P	Pn	19 29 37.2	+0.7		comp=Z,0.0nm,0.3s,baz=115,slow=14,SNR=2.4					
KHL	Karahalli	3.81	41	*e*Pn	Pn	19 29 02.5	+1.6	VAY	Valandovo	6.51	334	*e*PN	Pn	19 29 42.3	+4.4	STHS	Stebnicka Huta	14.40 347	*e*P	P	19 31 33.8	+1.1
AYVA	Ayvalik	3.81	4	*e*Pn	Pn	19 29 01.0	+0.2	AFSR	Af˙ar-Bala (A	6.66	52	*e*PN	Pn	19 29 41.4	+1.4	STHS	Stebnicka Huta	14.40 347	*e*P	P	19 31 33.8	+1.1
MRKA	Markates	3.87	326	*e*PN	Pn	19 29 03.2	+1.5	AFSR	Af˙ar-Bala (A	6.66	52	*e*Pn	Pn	19 29 41.4	+1.4	STHS	Stebnicka Huta	14.40 347	*e*P	P	19 31 33.8	+1.1
MRKA	Markates	3.87	326	*e*Pn	Pn	19 29 03.2	+1.5	LOD	Lodumlu	6.73	47	*e*PN	Pn	19 29 43.0	+2.0	NEY	Neytrino	14.84 54	*e*P	Pn	19 31 34.7	+2.6
THAL	Thalero	3.88	312	*e*PN	Pn	19 29 03.1	+1.4	LOD	Lodumlu	6.73	47	*e*Pn	Pn	19 29 43.0	+2.0	KIV	Kislovodsk	15.14 51	*i* P	Pn	19 31 37.8	+1.8
THAL	Thalero	3.88	312	*e*Pn	Pn	19 29 03.1	+1.4	ANTO	Ankara	6.73	48	*e*PN	Pn	19 29 42.2	+1.2	KIV			pmax	pmax		
ITM	Ithomi	3.92	297	*e*PN	Pn	19 29 03.5	+1.2	ANTO	Ankara	6.73	48	*i*P	Pn	19 29 43.5	+2.5		comp=Z,8.0nm,0.9s					
ITM	Ithomi	3.92	297	*e*Pn	Pn	19 29 03.5	+1.2	ANTO	Ankara	6.73	48	*e*Pn	Pn	19 29 42.2	+1.2	KIV			MLR	MLR		
PYL	PYLOS	3.95	292	*e*PN	Pn	19 29 04.3	+1.5	ANTO	Ankara	6.73	48	*i*P	Pn	19 29 43.5	+2.5		comp=Z,80nm,16.0s					
PYL	PYLOS	3.95	292	*e*Pn	Pn	19 29 04.3	+1.5	ANTO	Ankara	6.73	48	*e*Pn	Pn	19 29 42.4	+1.4	KIV	Kislovodsk	15.14 51	*e*Pn	Pn	19 31 38.2	+2.2
BCK	Bucak	3.96	59	*e*PN	Pn	19 29 04.5	+1.6		23nm,0.6s								comp=Z,17nm,1.1s					
BCK	Bucak	3.96	59	*e*Pn	Pn	19 29 04.5	+1.6	MERS	Mersin	6.77	76	*e*PN	Pn	19 29 43.7	+2.1	KIV	Kislovodsk	15.14 51	*e*Pn	Pn	19 31 38.2	+2.2
GUR	Goura	4.01	308	*e*PN	Pn	19 29 05.0	+1.3	MERS	Mersin	6.77	76	*e*Pn	Pn	19 29 43.7	+2.1		comp=Z,17nm,1.1s					
GUR	Goura	4.01	308	*e*Pn	Pn	19 29 05.0	+1.3	KKB	Krupnik	6.84	339	*e*PN	Pn	19 29 43.7	+1.3	KBZ	Khabaz	15.17 52	Pn	P	19 31 41.3	0.0
ISP	Isparta	4.10	54	*e*PN	Pn	19 29 06.5	+1.6	KKB	Krupnik	6.84	339	*e*P	Pn	19 29 43.7	+1.3		comp=Z,0.3nm,0.3s,baz=234,slow=7.8,SNR=20					
ISP	Isparta	4.10	54	*e*P	Pn	19 29 06.3	+1.5	BRTR	Keskin Array B	7.18	52	Pn	Pn	19 29 48.7	+1.5	GNI	Garni	15.28 67	Pn	P	19 31 42.4	-0.2
ISP	Isparta	4.10	54⇓	*i*P	Pn	19 29 09.0	+4.2		0.5nm,0.3s,baz=237,slow=15,SNR=16								comp=Z,0.4nm,0.3s,baz=340,slow=6.1,SNR=4.5					
ISP	Isparta	4.10	54	*e*P	Pn	19 29 06.3	+1.5	BRTR				Sn	Sn	19 31 08.9	+0.6	GNI	Garni	15.28 67	*e*P	P	19 31 37.9	0.0
ISP	Isparta	4.10	54	*e*Pn	Pn	19 29 06.3	+1.5		0.5nm,0.3s,baz=223,slow=26,SNR=5.7							AK02	Malin Array Si	15.29 7	*e*PN	Pn	19 31 39.8	+2.0
SLUM		4.11	193	P	Pn	19 29 04.8	-0.1	BRTR	Keskin Array B	7.18	52	*i* P	Pn	19 29 48.7	+1.5	AK02	Malin Array Si	15.29 7	*e*Pn	Pn	19 31 39.8	+2.0
	baz=187							BRTR				pmax	pmax			AK01	Malin Array Si	15.33 7	*e*PN	P	19 31 41.0	-2.0
SLUM		4.11	193	P	Pn	19 29 04.8	-0.1		comp=Z,3.0nm,0.7s							AK01	Malin Array Si	15.33 7	*e*Pn	P	19 31 41.0	-2.0
LKR	Lokris	4.11	321	*e*PN	Pn	19 29 06.4	+1.4	BRTR	Keskin Array B	7.18	52	*i* P	Pn	19 29 48.7	+1.5	KIEV	Kiev	15.33 7	*e*P	P	19 31 40.8	-2.2
LKR	Lokris	4.11	321	*e*Pn	Pn	19 29 06.4	+1.4		comp=Z,3.0nm,0.7s							KIEV	Kiev	15.33 7	*e*Pn	Pn	19 31 40.4	+2.1
AOS	Alonnisos	4.14	333	*e*PN	Pn	19 29 06.5	+1.1	BRTR				Sn	Sn	19 31 08.9	+0.6		comp=Z,4.7nm,0.4s					
AOS	Alonnisos	4.14	333	*e*Pn	Pn	19 29 06.3	+0.9	BR131	Keskin Array S	7.18	52	*e*Pn	Pn	19 29 45.8	-1.4	KIEV	Kiev	15.33 7	*e*Pn	Pn	19 31 40.4	+2.1
AOS	Alonnisos	4.14	333	*e*Pn	Pn	19 29 06.3	+0.9		comp=Z,7.3nm,0.7s								comp=Z,4.7nm,0.4s					
SMIA	Simia	4.19	325	*e*PN	Pn	19 29 07.2	+1.2	BR131	Keskin Array S	7.18	52	*e*Pn	Pn	19 29 45.8	-1.4	AKASG	Malin Array Be	15.34 7	Pn	Pn	19 31 38.9	+0.5
SMIA	Simia	4.19	325	*e*Pn	Pn	19 29 07.2	+1.2		comp=Z,7.3nm,0.7s								comp=Z,1.7nm,0.3s,baz=194,slow=11,SNR=20					
KLV	Kalavryta, Ach	4.20	308	*e*PN	Pn	19 29 07.9	+1.7	BR131				*e*Sn	Sn	19 31 04.5	-3.8	AKASG		15.34 7	P	Pn	19 31 38.9	+0.5
KLV	Kalavryta, Ach	4.20	308	*e*Pn	Pn	19 29 07.9	+1.7	KOT	Kottamia	7.24	139	P	Pn	19 29 48.0	0.0	AKASG			pmax	pmax		
DSF	Desfina	4.20	315	*e*PN	Pn	19 29 06.0	-0.2		baz=139								comp=Z,2.0nm,0.3s					
DSF	Desfina	4.20	315	*e*Pn	Pn	19 29 06.0	-0.2	KOT	Kottamia	7.24	139	P	Pn	19 29 48.0	0.0	AKBB	Malin Array Si	15.34 7	*e*Pn	P	19 31 41.0	-2.1
SUTC	Sutluce-Ispart	4.25	61	*e*PN	Pn	19 29 09.1	+2.0	HHAG	Hagoal	7.37	137	AMP		19 31 00.0		AKBB	Malin Array Si	15.34 7	*e*Pn	P	19 31 41.0	-2.1
SUTC	Sutluce-Ispart	4.25	61	*e*Pn	Pn	19 29 09.1	+2.0		comp=N,70µm,0.5s,logA/T=5.2,baz=137							OKC	Ostrava-Krasne	15.52 340	*e*P	P	19 31 45.4	+0.3
BALB	Balikesir	4.31	16	*e*PN	Pn	19 29 08.7	+1.0	GLL	Jalalah	7.46	141	P	Pn	19 29 51.3	+0.4	OKC			*e*pP	pP	19 31 47.9	-2.1
BALB	Balikesir	4.31	16	*e*Pn	Pn	19 29 08.7	+1.0		baz=141							OKC			*e*sP	sP	19 31 54.3	+2.0
EZN	Ezine	4.32	0	*e*PN	Pn	19 29 07.8	+0.1	GLL				S	Sn	19 31 11.2	-3.9	OKC			AMS	AMS	19 39 50.0	
EZN	Ezine	4.32	0	*e*Pn	Pn	19 29 07.8	+0.1		baz=141								comp=Z,200nm,9.4s					
BALY	Balya	4.36	13	*e*Pn	Pn	19 29 08.9	+0.5	GLL	Jalalah	7.46	141	P	Pn	19 29 51.3	+0.4	OKC	Ostrava-Krasne	15.52 340	*e*P	P	19 31 45.4	+0.3
AXAR	Agios Charalam	4.38	319	*e*PN	Pn	19 29 10.0	+1.4	VTS	Vitosha	7.48	342⇑	*i*P	Pn	19 29 53.5	+2.1		comp=Z,200nm,9.4s					
AXAR	Agios Charalam	4.38	319	*e*Pn	Pn	19 29 10.0	+1.4	VTS	Vitosha	7.48	342	*e*P	Pn	19 29 53.2	+1.9	OKC	Ostrava-Krasne	15.52 340	*e*P	P	19 31 45.4	+0.3
KALE	Kalithea	4.42	312	*e*PN	Pn	19 29 11.2	+2.0	VTS	Vitosha	7.48	342	*e*Pn	Pn	19 29 53.2	+1.9		comp=Z,200nm,9.4s					
KALE	Kalithea	4.42	312	*e*Pn	Pn	19 29 11.2	+2.0	AWBH		7.49	162	P	Pn	19 29 51.3	0.0	NCK	Nalchik	15.52 54	*e*P	P	19 31 43.8	-1.4
DRO	Drossia	4.44	305	*e*PN	Pn	19 29 11.0	+1.6		baz=160							NCK	Nalchik	15.52 54	*e*P	P	19 31 43.8	-1.4
DRO	Dross

KHC	**Kasperske Hory**	**16.53**	**329**	*e*P		**P**	**19 31 55.0**	**-1.4**
	comp=Z,300nm,8.0s								
KHC	**Kasperske Hory**	**16.53**	**329**	*e*Pn		**P**	**19 31 55.0**	**-1.4**
	comp=Z,3.6nm,1.5s								
GOPC	**GO Pecny, Ondr**	**16.68**	**333**	*e*P		**P**	**19 32 02.5**	**+4.5**
GOPC				AMS		AMS	19 39 10.0		
	comp=Z,300nm,12.0s								
DAVOX	**Davos/Dischmat**	**16.70**	**317**	Pn		**Pn**	**19 31 54.1**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=324,slow=19,SNR=2.9								
DAVOX				LR		LR	19 39 18.3		
	comp=Z,86nm,18.7s,baz=106,slow=41								
UPC	**Upice**	**16.76**	**337**	*e*P		**P**	**19 31 58.9**	**0.0**
UPC				*ep*P		**pP**	**19 32 04.5**	**+0.7**
UPC	**Upice**	**16.76**	**337**	*e*P		**P**	**19 31 58.9**	**0.0**
UPC	**Upice**	**16.76**	**337**	*e*P		**P**	**19 31 58.9**	**0.0**
IHRS	**Heris**	**16.81**	**74**	*e*P		**P**	**19 31 58.7**	**-1.0**
IHRS	**Heris**	**16.81**	**74**	*e*P		**P**	**19 31 58.7**	**-1.0**
PRU	**Pruhonice**	**16.83**	**333**	*e*P		**P**	**19 31 59.0**	**-0.7**
PRU				*ep*P		**pP**	**19 32 03.7**	**-0.9**
PRU				*es*P		**sP**	**19 32 09.1**	**+2.2**
PRU				AMS		AMS	19 39 10.0		
	comp=Z,300nm,11.5s								
PRU	**Pruhonice**	**16.83**	**333**	*e*P		**P**	**19 31 59.0**	**-0.7**
PRU				MLR		MLR			
	comp=Z,300nm,11.5s								
PRU	**Pruhonice**	**16.83**	**333**	*e*P		**P**	**19 31 59.0**	**-0.7**
	comp=Z,300nm,11.5s								
PRA	**Prague**	**16.94**	**333**	*e*P		**P**	**19 32 01.2**	**+0.3**
PRA				*ex*		x	19 32 06.1		
PRA	**Prague**	**16.94**	**333**	*e*P		**P**	**19 32 01.2**	**+0.3**
PRA	**Prague**	**16.94**	**333**	*e*P		**P**	**19 32 01.2**	**+0.3**
PVCC	**Panska Ves**	**17.27**	**334**	*e*P		**P**	**19 32 06.8**	**+2.3**
PVCC				*ep*P		**pP**	**19 32 11.1**	**+1.7**
PVCC				AMS		AMS	19 40 50.0		
	comp=Z,200nm,9.4s								
PVCC	**Panska Ves**	**17.27**	**334**	*e*P		**P**	**19 32 06.8**	**+2.3**
PVCC				MLR		MLR			
	comp=Z,200nm,9.4s								
PVCC	**Panska Ves**	**17.27**	**334**	*e*P		**P**	**19 32 06.8**	**+2.3**
	comp=Z,200nm,9.4s								
BNI	**Bardonecchia**	**17.73**	**309**	Pn		**Pn**	**19 32 06.9**	**-2.1**
	comp=Z,6.8nm,1.1s								
BNI	**Bardonecchia**	**17.73**	**309**	Pn		**Pn**	**19 32 06.9**	**-2.1**
	comp=Z,6.8nm,1.1s								
BRG	**Berggiesshubel**	**17.78**	**334**	*e*(P)		P	19 32 23.8	+14	
	comp=Z,2.9nm,1.0s								
BRG	**Berggiesshubel**	**17.78**	**334**	*e*P		P	19 32 23.8	+14	
BRG				pmax		pmax			
	comp=Z,3.0nm,1.0s								
NKC	**Novy Kostel**	**17.85**	**330**	AMS		AMS	19 40 00.0		
	comp=Z,300nm,12.8s								
VORD	**Divnogorie**	**18.07**	**27**	*e*P		**P**	**19 32 15.0**	**+1.7**
VORD				pmax		pmax			
	comp=N,40nm,0.6s								
VORD				pmax		pmax			
	comp=E,10.0nm,0.6s								
VORD				pmax		pmax			
	comp=Z,10.0nm,0.6s								
VORD	**Divnogorie**	**18.07**	**27**	*e*P		**P**	**19 32 15.0**	**+1.7**
VSR	**Storozhevoye**	**18.23**	**27**	*e*P		**P**	**19 32 14.9**	**-0.2**
VSR				pmax		pmax			
	comp=N,10.0nm,0.9s								
VSR				pmax		pmax			
	comp=E,8.0nm,0.9s								
VSR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
VSR	**Storozhevoye**	**18.23**	**27**	*e*P		**P**	**19 32 14.9**	**-0.2**
CLL	**Collm**	**18.48**	**333**	*es*P		**sP**	**19 32 23.0**	**-2.0**
CLL				*i*			19 32 25.9		
CLL				*i* PP		**PnPn**	**19 32 34.3**	**+4.6**
CLL				*e*S		**Sn**	**19 35 45.0**	**+1.1**
CLL				Lmax			19 40 00.0		
CLL	**Collm**	**18.48**	**333**	*e*P		**sP**	**19 32 23.0**	**-2.0**
CLL				*e*S		**Sn**	**19 35 45.0**	**+1.1**
ECH	**Echery**	**19.04**	**318**	P		**Pn**	**19 32 25.6**	**+0.7**
	comp=Z,2.5nm,0.8s								
ECH	**Echery**	**19.04**	**318**	P		**Pn**	**19 32 25.6**	**+0.7**
	comp=Z,2.5nm,0.8s								
VRHR	**Novokhopersk**	**19.09**	**31**	*e*P		**Pn**	**19 32 25.6**	**+0.2**
VRHR				pmax		pmax			
	comp=N,20nm,1.0s								
VRHR				pmax		pmax			
	comp=E,20nm,1.0s								
VRHR				pmax		pmax			
	comp=Z,10.0nm,1.0s								
VRHR	**Novokhopersk**	**19.09**	**31**	*e*P		**Pn**	**19 32 25.6**	**+0.2**
WLF	**Walferdange**	**20.42**	**320**	P		Pn	19 32 40.4	-0.9	
	comp=Z,4.5nm,0.7s								
WLF	**Walferdange**	**20.42**	**320**	P		Pn	19 32 40.4	-0.8	
	comp=Z,4.5nm,0.7s								
RAYN	**Ar Rayn**	**20.48**	**120**	*e*P		Pn	19 32 42.2	0.0	
	comp=Z,3.2nm,0.8s								
IPIR	**Pirpir**	**20.53**	**91**	*e*P		Pn	19 32 42.2	-0.9	
IPIR	**Pirpir**	**20.53**	**91**	*e*P		Pn	19 32 42.2	-0.9	
OBN	**Obninsk**	**20.85**	**17**	P		**P**	**19 32 42.7**	**-1.0**
	comp=Z,7.4nm,0.4s,baz=219,slow=18,SNR=3.8								
OBN				LR		LR	19 41 51.6		
	comp=Z,52nm,18.2s,baz=272,slow=40								
OBN	**Obninsk**	**20.85**	**17**	*e*P		**P**	**19 32 44.2**	**+0.6**
OBN				*i*			19 33 05.1		
OBN				pmax		pmax			
	comp=Z,12nm,1.2s								
OBN				MLR		MLR			
	comp=Z,70nm,23.0s								
OBN	**Obninsk**	**20.85**	**17**	*e*P		**P**	**19 32 44.2**	**+0.6**
	comp=Z,12nm,1.2s								
OBN	**Obninsk**	**20.85**	**17**	*e*P		**P**	**19 32 42.4**	**-1.2**
IKLH	**Kolahrood**	**20.94**	**89**	*e*P		Pn	19 32 47.6	-0.2	
IKLH	**Kolahrood**	**20.94**	**89**	*e*P		Pn	19 32 47.6	-0.2	
IZEF	**Zefreh**	**21.65**	**89**	*e*P		**P**	**19 32 54.8**	**+2.0**
IZEF	**Zefreh**	**21.65**	**89**	*e*P		**P**	**19 32 54.8**	**+2.0**
TAM	**Tamanrasset**	**22.09**	**241**	P		**P**	**19 32 58.1**	**+0.7**
	comp=Z,6.2nm,1.0s								
TAM	**Tamanrasset**	**22.09**	**241**	P		**P**	**19 32 58.1**	**+0.7**
	comp=Z,6.2nm,1.0s								
VSU	**Vasula**	**22.97**	**1**	*e*P		**P**	**19 33 06.2**	**-0.1**
VSU				pmax		pmax			
	comp=Z,29nm,1.1s								
VSU	**Vasula**	**22.97**	**1**	*e*P		**P**	**19 33 06.2**	**-0.1**
	comp=Z,29nm,1.1s								
IPAR	**Pars**	**23.16**	**97**	*e*P		**P**	**19 33 12.0**	**+3.1**
ESDC	**Sonseca Array**	**24.30**	**289**	P		**P**	**19 33 18.3**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=80,slow=9.5,SNR=8.4								
GEYT	**Alibeck**	**25.54**	**75**	P		**P**	**19 33 31.7**	**+1.0**
	comp=Z,5.3nm,0.7s,baz=277,slow=11,SNR=12								
MDT	**Midelt**	**25.69**	**273**	P		**P**	**19 33 33.2**	**+1.1**
	comp=Z,3.7nm,0.9s,baz=93,slow=10.0,SNR=3.8								
MDT				LR		LR	19 45 44.2		
	comp=Z,58nm,18.9s,baz=102,slow=42								
FINES	**FINESS Array B**	**25.96**	**360**	P		**P**	**19 33 34.1**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=169,slow=12,SNR=8.5								
FINES				LR		LR	19 44 27.0		
	comp=Z,59nm,18.4s,baz=185,slow=38								
FINES	**FINESS Array B**	**25.96**	**360**	*i* P		**P**	**19 33 35.0**	**+0.8**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.6s								
FINES	**FINESS Array B**	**25.96**	**360**	*i* P		**P**	**19 33 35.0**	**+0.8**
	comp=Z,1.0nm,0.6s								
HFS	**Hagfors**	**25.97**	**346**	P		**P**	**19 33 34.2**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=145,slow=11,SNR=6.1								
HFS				LR		LR	19 44 35.4		
	comp=Z,102nm,19.7s,baz=136,slow=38								
HFS	**Hagfors**	**25.97**	**346**	P		**P**	**19 33 34.2**	**-0.1**
HFS				pmax		pmax			
	comp=Z,2.0nm,0.7s								
HFS				MLR		MLR			
	comp=Z,103nm,19.7s								
NOA	**NORSAR Array B**	**27.32**	**344**	P		**P**	**19 33 47.3**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=140,slow=9.2,SNR=2.5								
NOA				LR		LR	19 45 28.4		
	comp=Z,52nm,19.5s,baz=170,slow=38								
NOA	**NORSAR Array B**	**27.32**	**344**	P		**P**	**19 33 47.3**	**+0.8**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
NOA				MLR		MLR			
	comp=Z,52nm,19.5s								
AKTK	**Aktyubinsk**	**27.32**	**47**	P		**P**	**19 33 46.9**	**+0.2**
	comp=Z,70nm,18.1s								
AKTO	**Aktyubinsk**	**27.32**	**47**	P		**P**	**19 33 46.9**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=256,slow=11,SNR=6.3								
AKTO				LR		LR	19 48 34.2		
	comp=Z,70nm,18.1s,baz=253,slow=45								
AKTO	**Aktyubinsk**	**27.32**	**47**	P		**P**	**19 33 46.9**	**+0.2**
AKTO				pmax		pmax			
	comp=Z,2.0nm,0.7s								
AKTO				MLR		MLR			
	comp=Z,70nm,18.1s								
ABKAR	**Akbulak array**	**28.12**	**50**	*e*P		**P**	**19 33 53.3**	**-0.5**
	comp=Z,2.4nm,0.6s								
ABKAR	**Akbulak array**	**28.12**	**50**	*e*P		**P**	**19 33 53.3**	**-0.5**
	comp=Z,2.4nm,0.6s								
EKA	**Eskdalemuir Ar**	**28.32**	**324**	P		**P**	**19 33 53.8**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=114,slow=10,SNR=7.0								
ESK	**Eskdalemuir**	**28.33**	**324**	P		**P**	**19 33 56.5**	**+0.9**
ESK	**Eskdalemuir**	**28.33**	**324**	P		**P**	**19 33 56.5**	**+0.9**
TOA0	**Torodi Ar. Sit**	**31.44**	**231**	*e*P		**P**	**19 34 24.5**	**+1.0**
TOA0	**Torodi Ar. Sit**	**31.44**	**231**	*e*P		**P**	**19 34 24.4**	**+1.0**
TORD	**Torodi Ar. Bea**	**31.44**	**231**	P		**P**	**19 34 23.9**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=32,slow=9.1,SNR=16								
TORD				LR		LR	19 49 50.7		
	comp=Z,72nm,19.2s,baz=170,slow=42								
ARCES	**ARCESS Array B**	**34.09**	**359**	P		**P**	**19 34 44.2**	**-1.9**
	comp=Z,1.7nm,0.9s,baz=181,slow=8.0,SNR=3.5								
ARCES				LR		LR	19 48 42.9		
	comp=Z,48nm,19.8s,baz=181,slow=36								
ARCES	**ARCESS Array B**	**34.09**	**359**	P		**P**	**19 34 44.2**	**-1.9**
ARCES				pmax		pmax			
	comp=Z,2.0nm,0.9s								
ARCES				MLR		MLR			
	comp=Z,48nm,19.8s								
KKAR	**Karatay Array**	**34.70**	**64**	*e*P		**P**	**19 34 52.0**	**+0.2**
	comp=Z,2.4nm,0.7s								
KKAR	**Karatay Array**	**34.70**	**64**	*e*P		**P**	**19 34 52.0**	**+0.2**
	comp=Z,2.4nm,0.7s								
BRVK	**Borovoye**	**35.37**	**46**	*e*P		**P**	**19 34 57.6**	**+0.2**
BRVK				pmax		pmax			
	comp=Z,2.0nm,1.4s								
BRVK	**Borovoye**	**35.37**	**46**	*e*P		**P**	**19 34 57.6**	**+0.2**
	comp=Z,2.0nm,1.4s								
EKS2	**Erkin-Say**	**37.13**	**64**	*e*P		**P**	**19 35 12.2**	**-0.5**
	comp=Z,1.8nm,0.6s								
EKS2	**Erkin-Say**	**37.13**	**64**	*e*P		**P**	**19 35 12.2**	**-0.5**
	comp=Z,1.8nm,0.6s								
AAK	**Ala-Archa**	**37.66**	**64**	*e*P		P	19 35 20.3	+3.1	
AAK	**Ala-Archa**	**37.66**	**64**	P		**P**	**19 35 14.8**	**-2.5**
TKM2	**Tokmak 2**	**38.44**	**64**	*e*P		**P**	**19 35 24.0**	**+0.1**
	comp=Z,3.2nm,0.7s								
TKM2	**Tokmak 2**	**38.44**	**64**	*e*P		**P**	**19 35 24.0**	**+0.1**
	comp=Z,3.2nm,0.7s								
KURK	**Kurchatov**	**40.23**	**51**	*i* P		**P**	**19 35 39.0**	**+0.6**
KURK				pmax		pmax			
	comp=Z,3.0nm,1.0s								
KURK	**Kurchatov**	**40.23**	**51**	*i* P		**P**	**19 35 39.0**	**+0.6**
	comp=Z,3.0nm,1.0s								
KURK	**Kurchatov**	**40.23**	**51**	*e*P		**P**	**19 35 38.6**	**+0.2**
	comp=Z,3.7nm,0.6s								
DBIC	**Dimbokro**	**40.52**	**232**	P		**P**	**19 35 40.8**	**-0.4**
	comp=Z,4.7nm,0.9s,baz=63,slow=4.5,SNR=2.6								
DBIC	**Dimbokro**	**40.52**	**232**	P		**P**	**19 35 40.8**	**-0.4**
DBIC				pmax		pmax			
	comp=Z,5.0nm,1.0s								
MK31	**Makanchi Array**	**42.80**	**57**	*e*P		**P**	**19 35 59.0**	**-0.6**
MK31	**Makanchi Array**	**42.80**	**57**	*e*P		**P**	**19 35 59.0**	**-0.6**
SPITS	**Spitsbergen Ar**	**42.99**	**357**	LR		LR	19 53 42.5		
	comp=Z,39nm,20.4s,baz=130,slow=36								
NVS	**Novosibirsk**	**43.18**	**45**	*e*P		**P**	**19 36 02.7**	**+0.2**
NVS				*es*		**S**	**19 42 24.1**	**-4.0**
NVS				pmax		pmax			
	comp=E,3.0nm,0.8s								
NVS				pmax		pmax			
	comp=Z,6.0nm,0.8s								
NVS				smax		smax			
	comp=N,9.0nm,1.7s								
NVS				smax		smax			
	comp=E,4.0nm,1.2s								
NVS	**Novosibirsk**	**43.18**	**45**	*e*P		**P**	**19 36 02.7**	**+0.2**
	comp=E,9.0nm,1.7s								
ZAA0	**Zalesovo Array**	**44.08**	**46**	*e*P		**P**	**19 36 08.5**	**-1.3**
ZAA0	**Zalesovo Array**	**44.08**	**46**	*e*P		**P**	**19 36 08.5**	**-1.3**
ZALV	**Zalesovo Beam**	**44.08**	**46**	P		**P**	**19 36 09.5**	**-0.3**
	comp=E,3.4nm,0.7s,baz=264,slow=9.5,SNR=15								
ZALV				LR		LR	19 56 38.9		
	comp=E,27nm,19.8s,baz=248,slow=39								
ZALV	**Zalesovo Beam**	**44.08**	**46**	*i* P		**P**	**19 36 09.6**	**-0.2**
ZALV				pmax		pmax			
	comp=Z,4.0nm,0.7s								
ZALV	**Zalesovo Beam**	**44.08**	**46**	*i* P		**P**	**19 36 09.6**	**-0.2**
	comp=Z,4.0nm,0.7s								
ZAK	**Zakamensk**	**55.81**	**49**	*e*P		**P**	**19 37 39.6**	**+0.5**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.9s								
ZAK	**Zakamensk**	**55.81**	**49**	*e*P		**P**	**19 37 39.6**	**+0.5**
	comp=Z,2.0nm,1.9s								
GTA	**Gaotai**	**56.97**	**62**	*e*P		P	19 37 55.5	+8.0	
GTA				pP		pP	19 37 59.0	+5.9	
GTA				sP		sP	19 38 01.5	+6.2	
GTA				PMZ					
	comp=Z,2.0nm,1.3s								
PALK	**Pallekele**	**57.04**	**106**	*i* P		P	19 37 44.8	-3.4	
SONM	**Songino Array**	**58.53**	**51**	P		**P**	**19 37 58.7**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=293,slow=7.7,SNR=6.1								
SONM				LR		LR	20 06 01.5		
	comp=Z,57nm,19.1s,baz=264,slow=39								
SONM	**Songino Array**	**58.53**	**51**	P		**P**	**19 37 58.7**	**+0.3**
SONM				pmax		pmax			
	comp=Z,1.0nm,0.6s								
SONM				MLR		MLR			
	comp=Z,57nm,19.1s								
TIXI	**Tiksi**	**60.51**	**21**	*e*P		**P**	**19 38 10.8**	**-0.7**
TIXI				pmax		pmax			
	comp=Z,2.0nm,1.0s								
TIXI	**Tiksi**	**60.51**	**21**	*e*P		**P**	**19 38 10.8**	**-0.7**
	comp=Z,2.0nm,1.0s								
SCHQ	**Schefferville**	**63.54**	**320**	P		**P**	**19 38 32.3**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=18,slow=6.4,SNR=2.1								
CMAR	**Chiang Mai Arr**	**65.59**	**84**	P		**P**	**19 38 47.5**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=297,slow=8.0,SNR=3.1								
CMAR				LR		LR	20 15 40.3		
	comp=Z,23nm,18.4s,baz=135,slow=44								
CMAR	**Chiang Mai Arr**	**65.59**	**84**	P		**P**	**19 38 47.5**	**+1.4**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.9s								
CMAR				MLR		MLR			
	comp=Z,23nm,18.5s								
SEY	**Seymchan**	**72.88**	**23**	P		**P**	**19 39 32.8**	**+2.3**
	comp=Z,0.8nm,0.7s,baz=122,slow=24,SNR=3.7								
SEY	**Seymchan**	**72.88**	**23**	P		**P**	**19 39 32.8**	**+2.3**
SEY				pmax		pmax			
	comp=Z,1.0nm,0.7s								
USRK	**Ussuriysk Ar.**	**75.93**	**46**	P		**P**	**19 39 48.5**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=143,slow=40,SNR=3.6								
KSAR	**Wonju Array Be**	**77.30**	**53**	P		**P**	**19 39 56.2**	**-0.3**
KSAR	**Wonju Array Be**	**77.30**	**53**	P		**P**	**19 39 56.1**	**-0.3**
KSRS	**Korea Array**	**77.32**	**53**	P		**P**	**19 39 56.1**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=295,slow=5.3,SNR=3.7								
KSRS				LR		LR	20 16 29.1		
	comp=Z,36nm,20.3s,baz=297,slow=38								
KSRS	**Korea Array**	**77.32**	**53**	P		**P**	**19 39 56.1**	**-0.5**
KSRS				pmax		pmax			
	comp=Z,2.0nm,0.9s								
KSRS				MLR		MLR			
	comp=Z,36nm,20.3s								
YKA	**Yellowknife Ar**	**77.41**	**343**	P		**P**	**19 39 55.3**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=34,slow=5.1,SNR=3.1								
PETK	**Petropavlovsk-**	**82.18**	**27**	LR		LR	20 21 21.3		
	comp=Z,21nm,18.4s,baz=312,slow=39								
MJAR	**Matsushiro Arr**	**84.39**	**49**	P		**P**	**19 40 34.1**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=286,slow=4.0,SNR=4.3								
MJAR	**Matsushiro Arr**	**84.39**	**49**	P		**P**	**19 40 34.1**	**-0.3**
MJAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
MJAR	**Matsushiro Arr**	**4.93**	**320**	Pn		**Pn**	**19 31 47.6**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=162,slow=13,SNR=13								
MJAR				Sn		**Sn**	**19 32 44.5**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=273,slow=28,SNR=4.8								
JCJ	**Chichijima**	**5.68**	**179**	Pn		**Pn**	**19 31 58.2**	**+1.2**
	comp=Z,2.5nm,0.3s,baz=6.8,slow=18,SNR=14								
JCJ				Sn		**Sn**	**19 32 59.1**	**-2.1**
	comp=Z,3.4nm,0.3s,baz=287,slow=22,SNR=5.8								
WRA	**Warramunga Arr**	**52.96**	**189**	P		**P**	**19 39 49.5**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=5.5,slow=7.5,SNR=4.5								
ASAR	**Alice Springs**	**56.69**	**189**	P		P	19 40 20.1	+4.8	
	comp=Z,0.5nm,1.0s,baz=357,slow=5.6,SNR=3.2								

DJA 25 19:31:12.8±0.5, 3°N±5°×12°7E±°, h10km, M3.6/5, MLv3.6/5, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SGSI	**Sangihe**	**1.42**	**309**	P	Pn		19 31 37.4	-1.2
SGSI				S	Sn		19 31 56.5	-0.8
TNTI	**Ternate**	**2.14**	**160**	P	Pn		19 31 47.7	-0.8
KMSI	**Cibinong**	**3.44**	**230**	P	Pn		19 32 05.6	-0.9
MRSI	**Marisa**	**5.22**	**244**	P	Pn		19 32 32.0	+1.0

*ISCJB **25** 19:35:02.5±0.5, 27°.99N×0°.05×140°.2E±0°.1, h400km, mb3.5/7, Error ellipse: s-maj=12.5km s-min=5.6km az=161.4*
*IDC **25** 19:35:02.9±0.6, 27°.91N×140°.31E, h396km±10km, mb3.3/7, mb1 3.3/11, mb1mx3.1/28, mbtmp4.0/11, Error ellipse: s-maj=34.6km s-min=12.2km az=74.0*
*JMA **25** 19:35:04.7±0.1, 28°.11N×140°.49E, h396km, M3.6*
ISC 25 19:35:03.3±0.7, 28°.04N±0°.07×140°.4E±0°.1, h400km, n22, σ1§47/27, mb3.8/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CBIJ	**Chichi jima**	**1.87**	**120**	P	**Pn**		**19 35 59.2**	**+0.7**
CBIJ				S	**S**		**19 36 42.1**	**-0.9**
JCJ	**Chichijima**	**1.87**	**120**	P	**Pn**		**19 35 59.3**	**+0.8**
	44nm,0.3s,baz=359,slow=1.8,SNR=61							
JCJ				S	**S**		**19 36 41.8**	**-1.2**
	76nm,0.3s,baz=315,slow=20,SNR=19							
JHHJ	**Haha-jima-NKT**	**2.14**	**131**	P	**Pn**		**19 36 01.2**	**+1.0**
JHHJ				S	**S**		**19 36 46.4**	**+0.3**
JHJ2	**Mitsune**	**5.08**	**355**	S	**S**		**19 37 31.2**	**-2.2**
BSO1	**Boso 1**	**6.62**	**4**	P	**P**		**19 36 44.4**	**+1.8**
BSO1				S	**S**		**19 38 02.5**	**-0.3**
BSO3	**Boso 3**	**6.75**	**1**	S	**S**		**19 38 05.2**	**-0.6**
BSO4	**Boso 4**	**6.93**	**360**	S	**S**		**19 38 08.3**	**-1.6**
JIE	**Ise**	**7.07**	**335**	P	**P**		**19 36 50.1**	**+1.9**
JHMK	**Hamakita**	**7.12**	**342**	P	**P**		**19 36 49.6**	**+1.0**
MJAR	**Matsushiro Arr**	**8.68**	**348**	P	**Pn**		**19 37 05.5**	**-0.4**
	0.5nm,0.3s,baz=228,slow=18,SNR=7.5							
MJAR				S	**S**		**19 38 41.8**	**-4.8**
	0.3nm,0.3s,baz=212,slow=22,SNR=4.0							
JNU	**Nakatsue**	**9.62**	**304**	P	**Pn**		**19 37 17.9**	**+1.0**
	0.8nm,0.3s,baz=142,slow=4.1,SNR=9.4							
KSRS	**Korea Array**	**14.05**	**315**	P	**P**		**19 38 05.2**	**-0.2**
	0.2nm,0.3s,baz=130,slow=10,SNR=9.5							
USRK	**Ussuriysk Ar.**	**17.48**	**340**	P	**P**		**19 38 43.2**	**+1.1**
	0.5nm,0.3s,baz=163,slow=10,SNR=12							
SONM	**Songino Array**	**32.92**	**316**	P	**P**		**19 41 01.6**	**-0.7**
	0.5nm,0.4s,baz=125,slow=8.2,SNR=7.0							
WRA	**Warramunga Arr**	**48.05**	**188**	P	**P**		**19 43 03.2**	**-1.2**
	0.3nm,0.4s,baz=5.2,slow=7.7,SNR=13							
ASAR	**Alice Springs**	**51.78**	**188**	P	**P**		**19 43 30.6**	**-1.4**
	0.3nm,0.9s,baz=358,slow=5.0,SNR=6.2							
ARCES	**ARCESS Array B**	**72.12**	**340**	P	**P**		**19 45 46.5**	**+1.4**
	1.6nm,0.5s,baz=68,slow=8.4,SNR=17							
FINES	**FINESS Array B**	**76.39**	**333**	P	**P**		**19 46 09.9**	**+0.4**
	2.7nm,0.4s,baz=80,slow=4.8,SNR=57							
HFS	**Hagfors**	**81.92**	**336**	P	**P**		**19 46 39.2**	**0.0**
	1.8nm,0.5s,baz=83,slow=3.4,SNR=16							
NB2	**NORSAR Subarra**	**82.14**	**338**	P	**P**		**19 46 40.2**	**-0.1**
	0.3nm,0.9s,baz=49,slow=4.6							
NOA	**NORSAR Array B**	**82.14**	**339**	P	**P**		**19 46 40.5**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=46,slow=5.0,SNR=6.3							
TORD	**Torodi Ar. Bea**	**122.75**	**310**	PKP	**PKPdf**		**19 53 12.6**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=104,slow=1.8,SNR=4.1							

*IDC **25** 19:43:43.2±0.8, 36°.25N×33°.88W, h0km, mb3.9/22, mb1 4.0/22, mb1mx3.9/47, mbtmp3.9/22, MS3.6/10, Ms1 3.6/10, ms1mx3.2/34, Error ellipse: s-maj=24.3km s-min=14.6km az=171.0*
*ISCJB **25** 19:43:44.2±0.7, 36°.3N±0°.1×33°.9W±0°.1, h18km, mb3.8/22, MS3.6/10, Error ellipse: s-maj=19.3km s-min=11.9km az=171.2*
ISC 25 19:43:46.0±0.8, 36°.2N±0°.2×33°.9W±0°.1, h18km, n28, σ0°59/23, mb3.9/22, MS3.7/10, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ESDC	**Sonseca Array**	**23.77**	**73**	P

az=28.2
IDC ***25*** *19:46:53.1±1.4, 14.˝86N×96.˝19E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.4/45, mbtmp3.7/6, ML3.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/41, Error ellipse: s-maj=41.5km s-min=21.4km az=44.0*
ISC 25 19:46:55.9±1.3, 15°0.˝0N±0.˝1×96°2.˝2E±0.˝1, h16km, n7, σ1♀01/7, mb3.6/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**4.31**	**37**	Pn	**Pn**	**19 48 01.8**	**+0.9**
	1.0nm,0.3s,baz=226,slow=15,SNR=30						
CMAR				Sn	**Sb**	**19 49 02.0**	**-1.1**
	0.3nm,0.3s,baz=197,slow=32,SNR=4.2						
LEM	**Lembang**	**24.44**	**152**	LR	LR	20 02 12.5	
	comp=Z,90nm,18.1s,baz=208,slow=38						
KURBB	**Kurchatov Arra**	**38.32**	**342**	P	**P**	**19 54 16.6**	**+0.8**
	0.7nm,0.6s,baz=151,slow=8.2,SNR=6.9						
ZALV	**Zalesovo Beam**	**39.89**	**349**	P	**P**	**19 54 29.4**	**+0.6**
	0.9nm,0.7s,baz=163,slow=7.4,SNR=4.5						
GEYT	**Alibeck**	**40.66**	**311**	P	**P**	**19 54 35.5**	**-0.1**
	1.5nm,0.4s,baz=100,slow=7.5,SNR=5.2						
WRA	**Warramunga Arr**	**51.08**	**132**	P	**P**	**19 55 57.8**	**-0.2**
	0.3nm,1.0s,baz=311,slow=7.8,SNR=3.4						
BRTR	**Keskin Array B**	**59.56**	**307**	P	**P**	**19 56 58.1**	**-1.0**
	0.7nm,0.8s,baz=86,slow=5.9,SNR=3.8						

IDC ***25*** *19:48:31.1±1.1, 25.˝75N×130.˝17E, h0km, mb3.4/4, mb1 3.7/8, mb1mx3.5/39, mbtmp3.7/8, ML3.6/4, MS2.8/1, Ms1 2.8/1, ms1mx2.4/21, Error ellipse: s-maj=30.5km s-min=19.9km az=66.0*
JMA ***25*** *19:48:32.2±0.1, 25°82.˝N×130°16.˝6E, h41km, M4.2*
ISC 25 19:48:30.1±2.3, 25°80.˝N±0°06.˝×130°08.˝E±0°07, h0km±18km, n31, σ2♀13/42, mb3.5/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMZ	**Minamidaito 2**	**1.02**	**89**	P	**Pg**	**19 48 49.5**	**-0.2**
JMZ				*e*S	**Sg**	**19 49 01.2**	**-1.8**
JOW	**Kunigami**	**1.92**	**303**	P	**Pn**	**19 49 04.4**	**+0.4**
JOW				S	**Sn**	**19 49 27.3**	**-1.6**
JOW	**Kunigami**	**1.92**	**303**	Pn	**Pn**	**19 49 04.5**	**+0.4**
	21nm,0.3s,baz=110,slow=24,SNR=1226						
JOW				Sn	**Sn**	**19 49 26.5**	**-2.4**
	11nm,0.3s,baz=119,slow=19,SNR=12						
JNTH	**Nagotoyohara**	**1.99**	**292**	P	**Pn**	**19 49 05.0**	**+0.1**
JNTH				*e*S	**Sn**	**19 49 28.2**	**-2.2**
JOKE	**Okinoerabujima**	**2.06**	**319**	P	**Pn**	**19 49 06.4**	**+0.4**
JOKE				*e*S	**Sn**	**19 49 30.4**	**-2.0**
JJT2	**Tamagusuku 2**	**2.13**	**280**	P	**Pn**	**19 49 07.5**	**+0.6**
JJT2				*e*S	**Sn**	**19 49 32.6**	**-1.4**
JTK	**Tokunoshima**	**2.22**	**333**	P	**Pn**	**19 49 08.7**	**+0.6**
JTK				*e*S	**Sn**	**19 49 33.4**	**-2.9**
JIH	**Iheya**	**2.26**	**303**	P	**Pn**	**19 49 09.2**	**+0.5**
JIH				*e*S	**Sn**	**19 49 35.2**	**-2.0**
JZK	**Kikaishima**	**2.51**	**358**	*e*S	**Sn**	**19 49 41.3**	**-2.0**
JAMN	**Amaminishikomi**	**2.56**	**342**	P	**Pn**	**19 49 13.3**	**+0.5**
JAMN				S	**Sn**	**19 49 41.2**	**-3.5**
JAM	**Amami Oshima**	**2.63**	**351**	P	**Pn**	**19 49 13.1**	**-0.7**
JAM				*e*S	**Sn**	**19 49 43.7**	**-2.8**
JAGN	**Aguni-jima**	**2.67**	**288**	P	**Pn**	**19 49 14.8**	**+0.5**
JAGN				*e*S	**Sn**	**19 49 45.5**	**-1.9**
JKE	**Kume jima 2**	**3.01**	**281**	P	**Pn**	**19 49 18.7**	**-0.3**
JKE				*e*S	**Sn**	**19 49 52.4**	**-3.4**
JTAJ	**Takarajima**	**3.43**	**347**	P	**Pn**	**19 49 25.3**	**+0.6**
JTAJ				*e*S	**Sn**	**19 50 01.9**	**-4.2**
JOGS	**Gusukube**	**4.36**	**257**	P	**Pn**	**19 49 39.0**	**+1.5**
JOGS				*e*S	**Sn**	**19 50 26.2**	**-2.8**
JMJ	**Miyako jima 2**	**4.45**	**258**	*e*S	**Sn**	**19 50 27.9**	**-3.3**
JIKM	**Ikemajima**	**4.46**	**260**	*e*S	Sn	19 50 27.6	-4.0
JIRB	**Irabujima**	**4.55**	**259**	*e*S	**Sn**	**19 50 30.3**	**-3.4**
JTJ	**Tarama**	**5.01**	**258**	*e*S	Sn	19 50 39.9	-5.2
JISG	**Ishigakijimahi**	**5.37**	**258**	P	**Pn**	**19 49 52.0**	**+0.6**
JISG				*e*S	Sn	19 50 48.8	-5.1
JIJ	**Ishigaki jima**	**5.57**	**256**	P	**Pn**	**19 49 53.1**	**-1.1**
JIJ				*e*S	Sn	19 50 53.4	-5.6
JKRS	**Kuro-shima**	**5.73**	**256**	*e*S	**Sn**	**19 50 59.0**	**-3.8**
JNU	**Nakatsue**	**7.33**	**5**	Pn	**Pn**	**19 50 19.1**	**+0.7**
	0.9nm,0.3s,baz=315,slow=4.3,SNR=13						
JNU				Sn	Sn	19 51 35.8	-6.5
	0.6nm,0.3s,baz=73,slow=20,SNR=3.0						
JCJ	**Chichijima**	**10.92**	**81**	Pn	**Pn**	**19 51 06.0**	**-1.6**
	1.2nm,0.3s,baz=282,slow=20,SNR=2.7						
JCJ				Sn	Sn	19 53 02.4	-8.1
	1.7nm,0.3s,baz=270,slow=20,SNR=2.7						
KSRS	**Korea Array**	**11.76**	**352**	LR	LR	19 56 28.9	
	comp=Z,41nm,19.5s,baz=172,slow=40						
MAT	**Matsushiro**	**12.76**	**31**	P	**Pn**	**19 51 35.2**	**+2.4**
MJAR	**Matsushiro Arr**	**12.76**	**31**	Pn	**Pn**	**19 51 35.3**	**+2.5**
	0.7nm,0.3s,baz=206,slow=13,SNR=9.7						
ZALV	**Zalesovo Beam**	**43.60**	**322**	P	**P**	**19 56 38.7**	**+2.9**
	0.3nm,0.5s,baz=111,slow=7.9,SNR=3.9						
WRA	**Warramunga Arr**	**45.66**	**174**	P	**P**	**19 56 52.2**	**-0.3**
	0.4nm,0.5s,baz=353,slow=8.6,SNR=5.6						
KURBB	**Kurchatov Arra**	**46.31**	**316**	P	**P**	**19 56 59.3**	**+1.9**
	0.4nm,0.6s,baz=104,slow=7.7,SNR=3.7						
ASAR	**Alice Springs**	**49.31**	**175**	P	**P**	**19 57 22.5**	**+1.5**
	0.2nm,0.5s,baz=5.2,slow=14,SNR=4.2						

NNC ***25*** *20:24:16.5±7.0, 38°.05N×73°.82E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=56.3km s-min=36.8km az=144.0*
ISC 25 20:24:18.2±3.5, 38°.2N±0°.2×74°.1E±0°.1, h152km, n14, σ0♀76/15, 6C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.88**	**347**	⇑Pn	**Pn**	**20 24 53.3**	**+0.9**
	11nm,0.4s						
SFK				⇑Sn	**Sn**	**20 25 18.9**	**+0.2**
	73nm,0.3s						
AML	**Almayashu**	**3.96**	**356**	P	**Pn**	**20 25 18.7**	**+0.3**
	SNR=18						
KZA	**Kyzart**	**4.00**	**13**	P	**Pn**	**20 25 18.3**	**-0.6**
	SNR=18						
UCH	**Uchtor**	**4.06**	**5**	P	**Pn**	**20 25 19.9**	**+0.2**
	SNR=26						
DZET	**Dzherino**	**4.15**	**280**	⇓Sn	**Sn**	**20 26 08.4**	**-0.7**
	27nm,0.5s						
ULHL	**Ulahol**	**4.39**	**22**	P	**Pn**	**20 25 23.9**	**0.0**
	SNR=7.0						
AAK	**Ala-Archa**	**4.46**	**4**	⇑Pn	**Pn**	**20 25 25.1**	**+0.4**
	2.9nm,0.5s						
EKS2	**Erkin-Say**	**4.49**	**357**	P	**Pn**	**20 25 26.4**	**+1.5**
	SNR=5.1						
KBK	**Karagaybulak**	**4.53**	**8**	P	**Pn**	**20 25 26.6**	**+1.1**
	SNR=7.7						
CHMS	**Chumysh**	**4.85**	**6**	P	**Pn**	**20 25 30.1**	**+0.5**
	SNR=14						
TKM2	**Tokmak 2**	**4.88**	**13**	P	**Pn**	**20 25 30.0**	**-0.3**
	SNR=15						
TKM2	**Tokmak 2**	**4.88**	**13**	⇑Pn	**Pn**	**20 25 29.8**	**-0.4**
	7.9nm,0.5s						
KNDC	**Almaty**	**5.50**	**23**	⇑Pn	Pn	20 25 43.2	+4.9
KK31	**Karatay Array**	**5.61**	**332**	Pn	**Pn**	**20 25 39.8**	**0.0**
	4.8nm,0.8s,baz=85,slow=2.5,SNR=34						
KK31				⇑Sn	**Sn**	**20 26 42.4**	**-1.0**
	8.6nm,0.6s,baz=136,slow=21,SNR=15						

IDC ***25*** *20:34:44.4±0.8, 2°.30S×139°.75E, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.8/29, mbtmp3.9/7, ML3.8/2, MS2.8/2, Ms1 2.8/2, ms1mx2.5/31, Error ellipse: s-maj=15.3km s-min=10.2km az=10.0*
ISCJB ***25*** *20:34:46.2±0.5, 2°.36S±0°.07×139°.74E±0°.05, h25km, mb3.9/5, MS2.7/1, Error ellipse: s-maj=11.0km s-min=6.1km az=25.1*
DJA ***25*** *20:34:47.1±0.6, 2°S±5°×14°0E±°, h15km±8km, M4.1/2, MLv4.1/2*
NEIC ***25*** *20:34:48.9±0.5, 2°.37S×139°.88E, h35km, mb4.0/1, Error ellipse: s-maj=13.6km s-min=9.6km az=88.0*
ISC 25 20:34:47.5±0.7, 2°.26S±0°.06×139°.88E±0°.05, h25km, n23, σ1♀19/25, mb3.9/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.43**	**139**	P	**Pn**	**20 34 57.1**	**-1.1**
GENI				S	**Sn**	**20 35 05.7**	**+0.4**
JAY	**Jayapura**	**0.86**	**107**	P	**Pb**	**20 35 03.4**	**-0.5**
JAY	**Jayapura**	**0.86**	**107**	Pg	**Pb**	**20 35 03.3**	**-0.5**
	127nm,0.3s,baz=271,slow=12,SNR=221						
JAY				Lg	Lg	20 35 16.7	
	208nm,0.3s,baz=135,slow=20,SNR=24						
SMPI	**Sarmi**	**1.20**	**283**	P	**Pn**	**20 35 06.8**	**-2.0**
SMPI				S	**Sn**	**20 35 24.8**	**+0.5**
WAMI	**Wamena**	**1.99**	**216**	P	**Pb**	**20 35 22.0**	**-1.1**
WAMI				S	**Sb**	**20 35 49.4**	**+1.9**
SRPI	**Serui, Papua**	**3.66**	**276**	P	**Pn**	**20 35 42.9**	**+0.3**
SIJI	**Sorong**	**8.72**	**279**	Pn	**Pn**	**20 36 51.7**	**-0.5**
	0.5nm,0.3s,baz=90,slow=20,SNR=2.4						
SIJI				Sn	**Sn**	**20 38 29.1**	**-0.7**
	0.7nm,0.3s,baz=120,slow=20,SNR=2.7						
GUMO	**Guam**	**16.51**	**17**	LR	LR	20 44 35.9	
	comp=Z,35nm,18.4s,baz=126,slow=36						
WRAB	**Tennant Creek**	**18.38**	**197**	*e*Pn	**P**	**20 38 59.7**	**-1.0**
	12nm,0.9s						
WRA	**Warramunga Arr**	**18.39**	**197**	P	**P**	**20 38 58.4**	**-2.4**
	0.5nm,0.3s,baz=19,slow=12,SNR=26						
WRA				S	Sn	20 42 15.6	-10
	0.1nm,0.3s,baz=16,slow=24,SNR=4.5						
AS31	**Alice Springs**	**22.05**	**195**	*e*P	**P**	**20 39 39.4**	**-1.3**
ASAR	**Alice Springs**	**22.05**	**195**	P	**P**	**20 39 39.9**	**-0.8**
	3.5nm,0.9s,baz=27,slow=11,SNR=32						
ASAR				S	**S**	**20 43 45.3**	**+2.6**
	2.2nm,1.2s,baz=20,slow=23,SNR=4.6						
JCJ	**Chichijima**	**29.27**	**4**	LR	LR	20 50 45.0	
	comp=Z,19nm,21.7s,baz=146,slow=33						
STKA	**Stephens Creek**	**29.50**	**177**	P	**P**	**20 40 50.2**	**+0.3**
	0.9nm,0.5s,baz=3.5,slow=8.9,SNR=3.4						
CM31	**Chiang Mai Arr**	**45.24**	**299**	P	**P**	**20 43 03.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**45.24**	**299**	P	**P**	**20 43 03.8**	**+0.5**
	1.4nm,0.6s,baz=120,slow=6.5,SNR=14						
YSS	**Yuzh-Sakhalins**	**49.08**	**3**	P	**P**	**20 43 32.6**	**0.0**
CASY	**Casey**	**67.16**	**192**	P	**P**	**20 45 38.5**	**-0.4**
MK31	**Makanchi Array**	**70.16**	**322**	*e*P	**P**	**20 45 59.5**	**+1.4**
ZALV	**Zalesovo Beam**	**72.14**	**329**	P	**P**	**20 46 09.9**	**0.0**
	0.8nm,0.6s,baz=106,slow=6.0,SNR=4.2						
ILAR	**Eielson Array**	**84.95**	**24**	P	**P**	**20 47 21.4**	**+1.1**
	0.9nm,0.7s,baz=265,slow=4.5,SNR=7.5						
DBIC	**Dimbokro**	**144.59**	**278**	PKP	PKPbc	20 54 21.8	0.0
	3.8nm,0.7s,baz=64,slow=2.2,SNR=6.6						
LPAZ	**La Paz**	**146.75**	**125**	PKPbc	**PKPab**	**20 54 30.6**	**+0.2**
	1.5nm,0.8s,baz=223,slow=1.3,SNR=4.7						

IDC ***25*** *20:36:56.4±0.7, 25°.46S×176°.64W, h0km, mb4.3/12, mb1 4.5/13, mb1mx4.2/36, mbtmp4.3/13, ML3.5/1, MS3.7/4, Ms1 3.6/4, ms1mx3.2/34, Error ellipse: s-maj=26.0km s-min=18.6km az=144.0*
NEIC ***25*** *20:36:57.1±0.5, 25°.55S×176°.50W, h10km, mb4.8/10, Error ellipse: s-maj=18.9km s-min=11.3km az=124.0*
ISCJB ***25*** *20:37:00.0±0.4, 25°.71S±0°.06×176°.60W±0°.09, h33km, mb4.5/21, MS3.6/4, Error ellipse: s-maj=12.3km s-min=7.8km az=18.4*
ISC 25 20:37:01.5±0.5, 25°.78S±0°.07×176°.5W±0°.1, h35km, n57, σ1♀55/44, mb4.6/21, MS3.6/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.67**	**199**	*e*Pn	Pn	20 37 52.5	-3.3
RAO				*e*Sn	**Sn**	**20 38 38.4**	**+0.7**
MSVF	**Nonsavu**	**9.46**	**327**	*e*P	**Pn**	**20 39 17.1**	**+1.6**
	37nm,0.9s						
AFI	**Afiamalu**	**12.63**	**22**	*e*Pn	Pn	20 39 51.5	-7.2
URZ	**Urewera**	**13.55**	**202**	Pn	Pn	20 40 14.8	+3.6
	0.2nm,0.3s,baz=59,slow=12,SNR=2.0						
URZ				Sn	**Sn**	**20 42 35.4**	**-5.2**
	0.8nm,0.3s,baz=24,slow=20,SNR=5.3						
DZM	**Mont Dzumac**	**16.00**	**280**	*e*LR	LR	20 44 37.5	
	494nm,24.9s						
TBI	**Tubuai**	**24.72**	**90**	*e*LR	LR	20 48 35.7	
	342nm,26.0s						
TBI	**Tubuai**	**24.72**	**90**	*e*T	T	21 07 26.9	
	36nm,0.3s						
PAE	**Paea**	**26.27**	**77**	*e*T	T	21 09 16.0	
	5.9nm,0.2s						
PPT2	**Papeete2**	**26.30**	**77**	*e*LQ	LQ	20 47 40.7	
	376nm,26.0s						
PPT2				*e*LR	LR	20 49 05.2	
	308nm,25.8s,baz=246						
PPT	**Papeete**	**26.30**	**77**	LR	LR	20 50 10.8	
	comp=Z,140nm,19.6s,baz=287,slow=30						
TVO	**Tavao**	**26.51**	**78**	*e*T	T	21 09 34.8	
	2.6nm,0.3s						
MEH	**Mehetia**	**27.52**	**79**	*e*T	T	21 10 50.9	
	17nm,0.2s						
VAH	**Vaihoa**	**28.96**	**74**	*e*T	T	21 12 36.9	
	7.1nm,0.2s						
EIDS	**Eidsvold**	**29.19**	**264**	*e*P	**P**	**20 43 00.8**	**+1.0**
	24nm,1.0s						
CTA	**Charters Tower**	**34.66**	**272**	P	**P**	**20 43 47.4**	**-0.5**
	7.7nm,0.5s,baz=109,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**37.02**	**251**	P	**P**	**20 44 08.4**	**+0.4**
	2.7nm,0.8s,baz=99,slow=12,SNR=8.0						
STKA				LR	LR	20 57 09.6	
	comp=Z,183nm,18.9s,baz=42,slow=33						
STKA	**Stephens Creek**	**37.02**	**251**	*e*P	**P**	**20 44 08.4**	**+0.4**
	1.7nm,1.1s						
RKT	**Rikitea**	**37.81**	**95**	*e*T	T	21 23 50.6	
	3.8nm,0.4s						
AS31	**Alice Springs**	**44.87**	**262**	*e*P	**P**	**20 45 11.8**	**-1.0**
ASAR	**Alice Springs**	**44.87**	**262**	P	**P**	**20 45 11.9**	**-0.8**
	5.5nm,0.4s,baz=92,slow=7.1,SNR=92						
WRAB	**Tennant Creek**	**45.44**	**267**	P	**P**	**20 45 17.8**	**+0.5**
	22nm,1.5s						
WRA	**Warramunga Arr**	**45.45**	**267**	P	**P**	**20 45 15.5**	**-1.8**
	1.7nm,0.5s,baz=103,slow=7.0,SNR=26						
SBA	**Scott Base**	**52.72**	**184**	*e*P	P	20 46 16.5	+4.3
	18nm,1.5s						
VNDA	**Vanda**	**52.80**	**186**	P	**P**	**20 46 15.7**	**+2.9**
	1.6nm,1.0s,baz=9.9,slow=5.0,SNR=2.7						
VNDA	**Vanda**	**52.80**	**186**	*e*P	**P**	**20 46 15.2**	**+2.4**
	3.8nm,1.2s						
CASY	**Casey**	**59.83**	**207**	*e*P	**P**	**20 47 03.5**	**+0.6**
	9.0nm,1.0s						
KAPI	**Kappang**	**64.20**	**277**	LR	LR	21 17 13.2	
	comp=Z,34nm,18.3s,baz=112,slow=38						
QSPA	**South Pole Qui**	**64.31**	**180**	*e*P	**P**	**20 47 35.5**	**+2.2**
	5.8nm,1.0s						
JCJ	**Chichijima**	**65.93**	**320**	LR	LR	21 11 26.2	
	comp=Z,38nm,21.1s,baz=114,slow=32						
MAW	**Mawson**	**77.07**	**200**	P	**P**	**20 48 53.1**	**+2.4**
	1.2nm,0.4s,baz=119,slow=7.5,SNR=3.8						
SNAA	**Sanae**	**82.71**	**178**	P	**P**	**20 49 20.8**	**-0.5**
SNAA	**Sanae**	**82.71**	**178**	*e*P	**P**	**20 49 20.4**	**-0.9**
	11nm,1.4s						
NVAR	**Mina Array Bea**	**83.97**	**42**	P	**P**	**20 49 28.9**	**+0.6**
	2.0nm,0.9s,baz=224,slow=9.3,SNR=8.8						
USRK	**Ussuriysk Ar.**	**84.08**	**326**	P	**P**	**20 49 28.2**	**-0.3**
	2.9nm,0.8s,baz=158,slow=4.2,SNR=5.8						
TPH	**Tonopah**	**84.40**	**43**	P	**P**	**20 49 30.2**	**-0.3**
TXAR	**Lajitas Array**	**88.79**	**57**	P	**P**	**20 49 51.7**	**-0.4**
	0.7nm,0.9s,baz=216,slow=6.2,SNR=5.2						
ANMO	**Albuquerque**	**89.67**	**51**	*e*P	**P**	**20 49 56.0**	**-0.2**
	3.3nm,1.0s						
ENH	**Enshi**	**90.11**	**304**	*e*P	**P**	**20 49 58.6**	**+0.5**
	13nm,1.5s						
MCMT	**McKenzie Canyo**	**91.11**	**40**	*e*P	**P**	**20 50 00.1**	**-2.6**
SDCO	**Great Sand Dun**	**91.79**	**49**	P	**P**	**20 50 05.6**	**-0.5**
	3.4nm,1.2s						
PDAR	**Pinedale Array**	**91.89**	**43**	P	**P**	**20 50 06.2**	**-0.1**
	0.8nm,0.8s,baz=238,slow=3.1,SNR=6.7						
CMAR	**Chiang Mai Arr**	**93.13**	**289**	P	**P**	**20 50 12.8**	**+0.4**
	3.5nm,0.8s,baz=140,slow=3.4,SNR=22						
ILAR	**Eielson Array**	**93.15**	**12**	P	**P**	**20 50 10.3**	**-1.1**
	0.6nm,0.8s,baz=219,slow=4.2,SNR=4.5						
ARCES	**ARCESS Array B**	**134.34**	**349**	PKP	**PKPdf**	**20 56 13.5**	**-1.4**
	3.9nm,0.9s,baz=25,slow=3.2,SNR=5.1						
FINES	**FINESS Array B**	**141.20**	**343**	PKhKP	PKPpre	20 56 19.7	
	1.7nm,0.9s,baz=64,slow=3.2,SNR=3.9						
NB2	**NORSAR Subarra**	**144.36**	**354**	PKP	**PKPab**	**20 56 30.4**	**-1.1**
	comp=Z,9.9nm,0.9s,baz=12,slow=3.6						
NOA	**NORSAR Array B**	**144.36**	**354**	PKP	**PKPab**	**20 56 30.7**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=13,slow=2.4,SNR=20						
NAO01	**NORSAR Array S**	**144.59**	**354**	*e*PKPdf	**PKPab**	**20 56 30.7**	**-1.6**
NACGM	**Naroch**	**146.24**	**336**	*e*	**PKPdf**	**20 56 33.0**	**-3.7**
AKASG	**Malin Array Be**	**148.24**	**328**	PKPbc	**PKPdf**	**20 56 41.8**	**+1.6**
	comp=Z,3.4nm,0.8s,baz=40,slow=3.3,SNR=12						
BRTR	**Keskin Array B**	**151.23**	**306**	PKPbc	**PKPbc**	**20 56 51.2**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=145,slow=3.0,SNR=7.6						
BRTR				PKPab	**PKPab**	**20 56 58.9**	**-0.5**
	comp=Z,3.6nm,1.0s,baz=96,slow=3.7,SNR=7.4						
CLL	**Collm**	**153.49**	**347**	*i* PKPbc	**PKPbc**	**20 56 55.3**	**-0.6**
	comp=Z,5.0nm,0.8s						
CLL				*i* PKPab	**PKPab**	**20 57 07.7**	**-0.6**
	comp=Z,5.0nm,1.0s						
DPC	**Dobruska-Polom**	**153.55**	**341**	*e*PKPAB	**PKPab**	**20 57 08.7**	**+0.1**
BRG	**Berggiesshubel**	**153.69**	**345**	*e*P	**PKPbc**	**20 56 55.1**	**-1.3**
	comp=Z,3.4nm,0.9s						
NKC	**Novy Kostel**	**154.62**	**346**	*e*PKPAB	**PKPab**	**20 57 12.4**	**-0.8**
KHC	**Kasperske Hory**	**155.40**	**344**	*e*PKPAB	**PKPab**	**20 57 16.3**	**-0.2**
KHC				*ex*	x	20 57 26.9	
TORD	**Torodi Ar. Bea**	**167.32**	**172**	PKPab	**PKPab**	**20 58 09.5**	**+0.3**
	comp=Z,1.8nm,1.1s,baz=198,slow=4.9,SNR=4.5						

IDC ***25*** *20:41:43.3±1.0, 4°.77N×125°.42E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/33, mbtmp4.0/8, MS3.0/1, Ms1 3.0/1, ms1mx2.6/29, Error ellipse: s-maj=193.7km s-min=16.8km az=70.0*
NEIC ***25*** *20:41:47.3±0.8, 5°.41N×126°.77E, h35km, mb4.4/4, Error ellipse: s-maj=37.5km s-min=11.6km az=73.0*
ISCJB ***25*** *20:41:49.1±0.5, 5°.25N±0°.03×126°.43E±0°.07, h66km, mb4.0/11, Error ellipse: s-maj=10.5km s-min=4.1km az=171.6*
DJA ***25*** *20:41:49.4±0.5, 5°.N±4°×12°6E±°, h10km, M4.5/6, mb4.8/6, mB5.1/3, MLv4.4/4, Mw(mB)4.4/3*
MAN ***25*** *20:41:52, 5°.46N×126°.08E, h12km, mb5.3, ML4.2, MS4.4*
ISC 25 20:41:50.8±0.7, 5°.26N±0°.05×126°.37E±0°.09, h66km, n38, σ1♀83/40, mb4.1/11, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.64**	**300**	⇓*i*P	**Pn**	**20 42 14.4**	**-3.2**
GSPH				*i* S	**Sn**	**20 42 33.0**	**-4.8**
MATI	**Mati**	**1.68**	**356**	*e*P	**Pn**	**20 42 17.7**	**-0.4**
SGSI	**Sangihe**	**1.78**	**208**	P	**Pn**	**20 42 18.5**	**-0.9**
SGSI				S	**Sn**	**20 42 41.4**	**+0.3**
DAV	**Davao City (W)**	**1.96**	**336**	*e*Pn	**Pn**	**20 42 19.7**	**-2.2**
BUKP	**Musuan**	**2.91**	**333**	*e*P	**Pn**	**20 42 35.1**	**+0.3**
BUKP				*e*S	**Sn**	**20 43 06.9**	**-1.7**
CGP	**Cagayan de Oro**	**3.58**	**332**	*e*P	**Pn**	**20 42 44.5**	**+0.5**
CGP				*e*S	**Sn**	**20 43 25.3**	**+0.2**
BUTP	**Butuan**	**3.76**	**349**	*e*P	**Pn**	**20 42 48.5**	**+2.1**
PAGZ	**Pagadian**	**3.93**	**311**	*e*P	**Pn**	**20 42 48.3**	**-0.3**
IPIL	**Ipil**	**4.53**	**304**	*e*P	**Pn**	**20 42 57.7**	**+0.7**
TNTI	**Ternate**	**4.57**	**167**	P	**Pn**	**20 42 57.1**	**-0.4**
TNTI	**Ternate**	**4.57**	**167**	*e*Pn	**Pn**	**20 42 56.0**	**-1.4**
MSLP	**Maasin**	**5.07**	**343**	*e*P	**Pn**	**20 43 07.0**	**+2.7**
MRSI	**Marisa**	**6.49**	**223**	P	**Pn**	**20 43 23.5**	**-0.3**
GUIM	**Jordan**	**6.51**	**325**	*e*P	**Pn**	**20 43 26.8**	**+2.8**
LUWI	**Luwuk**	**7.22**	**210**	P	**Pn**	**20 43 36.1**	**+2.3**
	94nm,1.0s,1μm						
LUWI	**Luwuk**	**7.22**	**210**	*e*Pn	**Pn**	**20 43 35.6**	**+1.9**
	48nm,0.6s						
LUWI				*e*Sg	Sn	20 45 02.7	+8.3
SANI	**Sanana**	**7.27**	**183**	P	**Pn**	**20 43 33.0**	**-1.5**
APSI	**Ampana**	**7.74**	**218**	P	**Pn**	**20 43 42.9**	**+2.1**
	81nm,0.8s,745nm						
MPSI	**Mapaga**	**8.11**	**233**	P	**Pn**	**20 43 47.6**	**+1.7**
	7.7nm,0.7s						
NLAI	**Namlea**	**8.48**	**175**	P	**Pn**	**20 43 49.3**	**-1.6**
	37nm,0.6s,1μm						
SPSI	**Sidrap Palu**	**11.29**	**216**	P	**Pn**	**20 44 30.7**	**+1.3**
KAPI	**Kappang**	**12.16**	**213**	LR	LR	20 48 40.1	
	comp=Z,79nm,18.9s,baz=65,slow=37						
WRAB	**Tennant Creek**	**26.24**	**163**	*e*P	**P**	**20 47 21.1**	**+1.2**
	3.4nm,0.5s						
WRA	**Warramunga Arr**	**26.24**	**163**	P	**P**	**20 47 18.5**	**-1.4**
	1.1nm,0.4s,baz=336,slow=10,SNR=14						
ASAR	**Alice Springs**	**29.68**	**166**	P	**P**	**20 47 49.7**	**-0.8**
	0.8nm,0.5s,baz=339,slow=7.4,SNR=13						
STKA	**Stephens Creek**	**39.68**	**160**	P	**P**	**20 49 16.0**	**-0.6**
	1.8nm,0.6s,baz=326,slow=10,SNR=6.4						

CTAO Charters Tower 34.64 271 *e*P **P 21 02 25.4 -0.6**
CTAO pmax pmax
comp=Z,14nm,0.8s
CTAO Charters Tower 34.64 271 *e*P **P 21 02 25.4 -0.6**
comp=Z,14nm,0.8s
STKA Stephens Creek 37.05 250 P **P 21 02 46.6 +0.1**
comp=Z,2.4nm,0.4s,baz=98,slow=12,SNR=21
STKA LR LR 21 15 47.8
comp=Z,258nm,20.7s,baz=52,slow=33
RKT Rikitea 37.84 95 *e*T T 21 42 40.6
comp=Z,6.3nm,0.3s
PMG Port Moresby 38.02 288 *e*P **P 21 02 53.8 -1.0**
PMG pmax pmax
comp=Z,29nm,0.9s
PMG Port Moresby 38.02 288 *e*P **P 21 02 53.8 -1.0**
comp=Z,29nm,0.9s
AS31 Alice Springs 44.87 261 *e*P **P 21 03 49.6 -1.4**
ASAR Alice Springs 44.87 261 P **P 21 03 50.2 -0.8**
comp=Z,12nm,0.5s,baz=91,slow=7.1,SNR=155
ASAR LR LR 21 20 48.4
comp=Z,156nm,21.2s,baz=99,slow=34
WRAB Tennant Creek 45.43 267 *e*P **P 21 03 53.8 -1.6**
WRAB Tennant Creek 45.43 267 *e*P **P 21 03 53.8 -1.6**
WRA Warramunga Arr 45.43 267 P **P 21 03 53.4 -2.0**
comp=Z,3.1nm,0.5s,baz=100,slow=7.0,SNR=70
FORT Forrest 48.68 251 *e*P **P 21 04 18.6 -2.0**
comp=Z,248nm,2.4s
SBA Scott Base 52.88 184 *e*P **P 21 04 54.3 +2.8**
SBA pmax pmax
comp=Z,17nm,1.4s
SBA Scott Base 52.88 184 *e*P **P 21 04 54.3 +2.8**
comp=Z,16nm,1.4s
VNDA Vanda 52.96 186 P **P 21 04 54.6 +2.5**
comp=Z,1.0nm,0.7s,baz=0.7,slow=7.2,SNR=5.0
VNDA LR LR 21 24 00.1
comp=Z,56nm,21.7s,baz=357,slow=32
VNDA Vanda 52.96 186 *e*P **P 21 04 54.1 +2.0**
VNDA pmax pmax
comp=Z,3.0nm,1.0s
VNDA Vanda 52.96 186 *e*P **P 21 04 54.1 +2.0**
comp=Z,3.3nm,1.0s
MBWA Marble Bar 58.17 260 P **P 21 05 28.3 -2.1**
CASY Casey 59.96 207 *e*P **P 21 05 41.9 -0.2**
comp=Z,138nm,2.7s
QSPA South Pole Qui 64.47 180 *e*P **P 21 06 13.0 +0.5**
comp=Z,7.0nm,1.1s
KKM Kota Kinabalu 72.40 286 P **P 21 07 02.0 -0.8**
LEM Lembang 74.33 270 LR LR 21 39 00.6
comp=Z,117nm,21.3s,baz=210,slow=35
MJAR Matsushiro Arr 75.11 324 P **P 21 07 16.8 -1.2**
comp=Z,1.4nm,0.8s,baz=145,slow=4.5,SNR=3.8
MJAR LR LR 21 34 38.3
comp=Z,93nm,21.9s,baz=135,slow=31
MAJO Matsushiro 75.11 324 *e*P **P 21 07 17.8 -0.2**
MAJO pmax pmax
comp=Z,17nm,0.9s
KSM Kuching 75.48 279 P **P 21 07 19.3 -1.4**
MAW Mawson 77.22 200 P **P 21 07 30.5 +0.9**
comp=Z,1.9nm,0.5s,baz=131,slow=0.2,SNR=3.8
MAW LR LR 21 41 05.3
comp=Z,124nm,18.4s,baz=63,slow=35
MAW Mawson 77.22 200 *e*P **P 21 07 29.5 -0.1**
MAW pmax pmax
comp=Z,4.0nm,1.5s
MAW Mawson 77.22 200 *e*P **P 21 07 29.4 -0.1**
comp=Z,4.0nm,1.5s
PETK Petropavlovsk- 81.54 345 P **P 21 07 53.3 +0.2**
comp=Z,5.4nm,0.8s,baz=140,slow=7.6,SNR=5.6
PETK LR LR 21 38 07.1
comp=Z,44nm,20.5s,baz=166,slow=31
KSRS Korea Array 81.59 318 P **P 21 07 53.8 +0.1**
comp=Z,2.3nm,0.9s,baz=133,slow=6.1,SNR=6.3
KSRS LR LR 21 38 28.5
comp=Z,50nm,20.6s,baz=126,slow=32
KSRS Korea Array 81.59 318 P **P 21 07 53.8 +0.1**
KSRS pmax pmax
comp=Z,2.0nm,0.9s
KSRS MLR MLR
comp=Z,51nm,20.6s
KSAR Wonju Array Be 81.61 318 P **P 21 07 53.8 0.0**
KSAR Wonju Array Be 81.61 318 P **P 21 07 53.8 0.0**
ISA Isabella, Lake 82.00 44 *e*P **P 21 07 56.2 +0.2**
ISA pmax pmax
comp=Z,12nm,1.1s
ISA Isabella, Lake 82.00 44 *e*P **P 21 07 56.2 +0.2**
comp=Z,12nm,1.1s
SYO Syowa Base 82.04 192⇑*e*pP pP 21 08 06.5 -2.9
CMB Columbia Colle 82.35 41 *e*P **P 21 07 58.4 +0.6**
CMB pmax pmax
comp=Z,3.0nm,0.8s
CMB Columbia Colle 82.35 41 *e*P **P 21 07 58.4 +0.6**
comp=Z,3.5nm,0.8s
WDC Whiskeytown Da 82.79 38 *e*P **P 21 08 00.7 +0.7**
WDC pmax pmax
comp=Z,8.0nm,1.0s
WDC Whiskeytown Da 82.79 38 *e*P **P 21 08 00.7 +0.7**
comp=Z,7.6nm,1.0s
SNAA Sanae 82.88 178 P **P 21 07 58.7 -1.4**
SNAA Sanae 82.88 178 *e*P **P 21 07 58.1 -2.1**
SNAA *e* 21 08 06.2
SNAA pmax pmax
comp=Z,7.0nm,1.2s
SNAA Sanae 82.88 178 *e*P **P 21 07 58.1 -2.1**
comp=Z,7.1nm,1.2s
SNAA *e* 21 08 06.2
WAKR Walker 83.22 42 *e*P **P 21 08 02.4 -0.1**
comp=Z,8.1nm,1.2s
YBH Yreka Blue Hor 83.48 37 P **P 21 08 04.6 +1.0**
comp=Z,4.6nm,1.0s,baz=223,slow=4.6,SNR=7.7
YBH Yreka Blue Hor 83.48 37 *e*P **P 21 08 04.1 +0.5**
YBH pmax pmax
comp=Z,35nm,2.1s
YBH Yreka Blue Hor 83.48 37 *e*P **P 21 08 04.1 +0.5**
comp=Z,35nm,2.1s
NVAR Mina Array Bea 83.86 42 P **P 21 08 06.3 +0.5**
comp=Z,4.2nm,1.0s,baz=224,slow=8.5,SNR=19
USRK Ussuriysk Ar. 83.93 326 P **P 21 08 06.2 +0.5**
comp=Z,6.8nm,0.9s,baz=163,slow=5.3,SNR=15
NJ2 Nanjing 84.16 310 *e*P **P 21 08 09.0 +1.8**
NJ2 PMZ
comp=Z,30nm,0.9s
QIZ Qiongzhong 84.17 294 P **P 21 08 09.3 +1.8**
TPH Tonopah 84.29 43 *e*P **P 21 08 08.8 +0.8**
TPH pmax pmax
comp=Z,10.0nm,1.0s
TPH Tonopah 84.29 43 *e*P **P 21 08 08.8 +0.8**
comp=Z,9.6nm,1.0s
SHPR Sheep Range 84.63 45 *e*P **P 21 08 10.7 +1.0**
MOD Modoc Plateau 84.93 39 *e*P **P 21 08 11.4 +0.3**
comp=Z,7.9nm,1.1s
TUC Tucson 85.12 51 *e*P **P 21 08 13.1 +0.9**
TUC pmax pmax
comp=Z,6.0nm,0.9s
TUC Tucson 85.12 51 *e*P **P 21 08 13.1 +0.9**
comp=Z,6.3nm,0.9s
K05A Summer Lake 85.14 38 *e*P **P 21 08 13.4 +1.2**
MDJ Mudanjiang 85.45 325 P **P 21 08 13.8 +0.4**
R11A Troy Canyon, C 85.48 44 *e*P **P 21 08 13.6 -0.3**
comp=Z,1.8nm,0.8s
HABR Khabarovsk 85.53 330 *e*P **P 21 08 11.9 -1.8**
HABR *e* 21 11 30.3
HABR *e*S **S 21 18 36.1 -5.5**
HABR *e*SS **SS 21 24 22.3 +3.5**
HABR *e*SSS SSS 21 27 53.4
HABR pmax pmax
comp=Z,22nm,1.4s
HABR MLR MLR
comp=Z,48nm,24.0s
WUAZ Wupatki 86.53 48 *e*P **P 21 08 20.3 +1.1**
comp=Z,5.4nm,1.0s
WHN Wuhan 86.54 306 P **P 21 08 19.8 +0.7**
CN2 Changchun 87.15 322 *e*P **P 21 08 21.5 -0.2**
CN2 *e*S **S 21 18 53.5 -4.1**
CN2 PMZ
comp=Z,10.0nm,0.8s
CN2 PMZ
comp=Z,30nm,3.0s
ELK Elko 87.15 42 P **P 21 08 22.7 +0.6**
comp=Z,1.5nm,0.9s,baz=234,slow=6.6,SNR=6.8
KLR Kul'dur 87.59 329 *e*P P 21 08 20.2 -3.5
MSU Marysvale 87.72 45 *e*P **P 21 08 26.0 +1.0**
MSU pmax pmax
comp=Z,1.0nm,0.4s
MSU Marysvale 87.72 45 *e*P **P 21 08 26.0 +1.0**
comp=Z,0.9nm,0.4s
TXAR Lajitas Array 88.71 57 P **P 21 08 30.2 +0.5**
comp=Z,1.0nm,0.8s,baz=215,slow=7.5,SNR=9.5
D08A Wollman Farm, 89.04 35 *e*P **P 21 08 31.9 +1.2**
HLID Hailey 89.34 40 *e*P **P 21 08 33.9 +1.5**
comp=Z,4.6nm,1.2s
ANMO Albuquerque 89.58 51 P **P 21 08 34.6 +0.8**
comp=Z,6.9nm,1.0s,baz=208,slow=7.4,SNR=13
ANMO Albuquerque 89.58 51 *e*P **P 21 08 31.6 -2.2**
ANMO pmax pmax
comp=Z,32nm,1.1s
ANMO Albuquerque 89.58 51 *e*P **P 21 08 34.5 +0.8**
comp=Z,6.4nm,0.9s
B08A Colville Reser 89.67 34 *e*P **P 21 08 34.5 +0.8**
ENH Enshi 90.00 304 *e*P **P 21 08 35.9 +0.2**
comp=Z,9.3nm,1.2s
GYA Guiyang 90.32 299 *e*P **P 21 08 38.0 +0.7**
GYA pP **pP 21 08 50.5 -0.7**
GYA PP **PP 21 12 14.8 +2.6**
GYA SKS **SKSac 21 19 04.0 -1.1**
GYA S **S 21 19 27.3 -1.2**
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,90nm,5.8s
MCMT McKenzie Canyo 91.00 40 *e*P **P 21 08 40.3 +0.1**
TRF Thorofare Moun 91.16 11 *e*P **P 21 08 39.5 -0.9**
comp=Z,5.5nm,0.8s
REDW Red Top Meadow 91.33 42 *e*P **P 21 08 42.4 +0.6**
comp=Z,9.3nm,1.2s
TPAW Teton Pass 91.34 42 *e*P **P 21 08 43.0 +1.1**
comp=Z,4.4nm,1.1s
FXWY Fox Creek 91.38 41 *e*P **P 21 08 43.1 +1.1**
comp=Z,4.3nm,1.1s
DLMT Dillon 91.46 39 *e*P **P 21 08 43.1 +0.9**
comp=Z,9.7nm,1.3s
IMW Indian Meadow 91.58 41 *e*P **P 21 08 44.1 +1.2**
comp=Z,10.0nm,1.3s
LOHW Long Hollow 91.62 42 *e*P **P 21 08 43.0 -0.1**
comp=Z,6.3nm,1.3s
SEY Seymchan 91.64 346 *e*P **P 21 08 42.4 0.0**
MCK McKinley 91.67 12 P **P 21 08 42.7 +0.1**
MCK McKinley 91.67 12 P **P 21 08 42.7 +0.1**
BW06 Boulder Array 91.78 43 *e*P **P 21 08 43.8 -0.1**
comp=Z,5.6nm,1.3s
PDAR Pinedale Array 91.78 43 P **P 21 08 43.9 0.0**
comp=Z,2.6nm,1.0s,baz=238,slow=1.7,SNR=13
PDAR LR LR 21 45 27.5
comp=Z,36nm,18.6s,baz=253,slow=32
BOZ Bozeman (W) 92.18 39 *e*P **P 21 08 46.3 +0.8**
BOZ pmax pmax
comp=Z,8.0nm,0.9s
BOZ Bozeman (W) 92.18 39 *e*P **P 21 08 46.3 +0.8**
comp=Z,7.6nm,0.9s
XAN Xi'an 92.27 307 P **P 21 08 46.3 +0.2**
XAN PMZ
comp=Z,5.0nm,0.8s
CCB Clear Creek Bu 92.71 12 *e*P **P 21 08 46.8 -0.5**
comp=Z,3.5nm,1.0s
COLA College 92.91 12 *e*P **P 21 08 46.6 -1.6**
COLA pmax pmax
comp=Z,12nm,0.7s
ILAR Eielson Array 93.00 12 P **P 21 08 48.1 -0.5**
comp=Z,1.4nm,0.8s,baz=221,slow=5.2,SNR=11
ILAR PP **PP 21 12 35.6 +3.2**
comp=Z,0.4nm,0.8s,baz=181,slow=7.1,SNR=4.4
CMAR Chiang Mai Arr 93.06 289 P **P 21 08 51.5 +1.4**
comp=Z,7.0nm,0.9s,baz=138,slow=3.3,SNR=36
CHTO Chiang Mai 93.21 289 *e*P **P 21 08 51.9 +1.2**
CHTO pmax pmax
comp=Z,12nm,1.0s
CHTO Chiang Mai 93.21 289 *e*P **P 21 08 51.9 +1.2**
comp=Z,12nm,1.0s
HHC Hu-ho-hao-te 93.86 314 *e*P **P 21 08 54.5 +1.2**
HHC PMZ
comp=Z,29nm,1.3s
HHC PMZ
comp=Z,70nm,8.4s
HHC LN
comp=Z,83nm,17.9s
HHC LE
comp=Z,110nm,17.9s
HHC LZ
comp=Z,110nm,17.2s
BILL Bilibino 94.24 354 *e*P **P 21 08 53.9 -0.4**
BILL pmax pmax
comp=Z,9.0nm,1.2s
BILL Bilibino 94.24 354 *e*P **P 21 08 54.3 0.0**
comp=Z,6.9nm,0.9s
CD2 Chengdu 94.64 302 *e*P **P 21 08 59.3 +2.2**
CD2 PP **PP 21 12 48.5 +2.4**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.6s
LZH Lanzhou 96.91 307 *e*P **P 21 09 09.5 +2.0**
LZH pP **pP 21 09 20.0 -1.4**
LZH sP **sP 21 09 23.0 -3.5**
LZH PMZ
comp=Z,11nm,1.0s
LPAZ La Paz 98.86 113 LR LR 21 45 34.4
comp=Z,55nm,18.5s,baz=204,slow=30
GTA Gaotai 101.21 308 *e*P **Pdif 21 09 27.8 +1.2**
GTA PMZ
comp=Z,2.0nm,1.2s
KRAR Krasnoyarsk 111.16 323 *i* PKIKP 21 14 09.1
WMQ Urumqi 111.24 309 PKP 21 14 10.0
WMQ PP **PP 21 14 53.8 +3.7**
WMQ PPMZ
comp=Z,21nm,10.8s
WMQ LN
comp=Z,12nm,18.7s
WMQ LE
comp=Z,13nm,16.8s
WMQ LZ
comp=Z,15nm,19.8s
ZALV Zalesovo Beam 115.28 320 PKP **PKPdf 21 14 16.0 -0.8**
comp=Z,0.7nm,0.7s,baz=105,slow=1.6,SNR=3.0
ZALV Zalesovo Beam 115.28 320 PKIKP **PKPdf 21 14 16.0 -0.8**
KURK Kurchatov 118.61 316 PKIKP **PKPdf 21 14 22.2 -1.1**
KURK Kurchatov 118.61 316 PKP **PKPdf 21 14 22.2 -1.1**
KURBB Kurchatov Arra 118.66 315 PKP **PKPdf 21 14 22.2 -1.2**
comp=Z,1.2nm,0.9s,baz=107,slow=2.0,SNR=10
KSH Kashi 118.83 303 PKP PKPdf 21 14 33.3 +9.0
BOSA Boshof 122.15 203 PKP **PKPdf 21 14 31.3 +0.2**
comp=Z,2.7nm,0.9s,baz=158,slow=6.1,SNR=3.8
KKAR Karatay Array 123.40 306 *e*PKIKP **PKPdf 21 14 32.1 -0.7**
KKAR Karatay Array 123.40 306 *e*PKPdf **PKPdf 21 14 32.1 -0.7**
ARU Arti 130.12 323 *i* PKIKP **PKPdf 21 14 44.8 -0.5**
ARU 21 16 58.6
ARU SS SS 21 34 18.3 -2.6
ARU Arti 130.12 323 *e*PKPdf **PKPdf 21 14 44.7 -0.5**
ARCES ARCESS Array B 134.17 349 PKP **PKPdf 21 14 53.1 +0.6**
comp=Z,3.2nm,0.8s,baz=82,slow=1.2,SNR=7.3
FINES FINESS Array B 141.04 343 PKhKP PKPpre 21 14 58.1
comp=Z,1.5nm,0.8s,baz=55,slow=3.9,SNR=7.0
VSR Storozhevoye 142.69 323 *e*PKHKP PKPpre 21 15 03.4
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,5.0nm,0.9s
VSR pmax pmax
comp=Z,5.0nm,0.9s
NB2 NORSAR Subarra 144.19 354 PKP **PKPab 21 15 08.3 -0.6**
comp=Z,21nm,0.9s,baz=12,slow=3.5
NOA NORSAR Array B 144.19 354 PKP **PKPab 21 15 08.2 -0.6**
comp=Z,13nm,0.8s,baz=12,slow=2.3,SNR=43
NAO01 NORSAR Array S 144.42 354 *e*PKPdf **PKPab 21 15 09.1 -0.6**
KONO Kongsberg 145.72 354 *e*PKP2 **PKPdf 21 15 13.3 -0.4**
KONO Kongsberg 145.72 354 *e*PKPdf **PKPdf 21 15 13.2 -0.4**
NACGM Naroch 146.08 336 *e* **PKPdf 21 15 12.0 -2.4**
MALT Malatya 147.93 302⇑PKP2 **PKPbc 21 15 22.0 +0.7**
MALT Malatya 147.93 302⇑*i*P **PKPbc 21 15 22.0 +0.7**
SUW Suwalki 148.07 338 *e*PKP **PKPbc 21 15 20.9 -0.1**
SUW Suwalki 148.07 338 *e*PKP2 **PKPbc 21 15 20.9 -0.1**
AKASG Malin Array Be 148.09 328 PKPbc **PKPbc 21 15 20.1 -1.0**
comp=Z,1.9nm,0.4s,baz=41,slow=3.7,SNR=21
AKBB Malin Array Si 148.09 328 *e*PKP2 **PKPbc 21 15 19.8 -1.3**
AKBB Malin Array Si 148.09 328 *e*PKPbc **PKPbc 21 15 19.8 -1.3**
AK01 Malin Array Si 148.10 328 *e*PKPbc **PKPbc 21 15 20.0 -1.1**
KIEV Kiev 148.10 328 *e*PKP2 **PKPdf 21 15 19.3 +1.4**
KIEV Kiev 148.10 328 *e*PKPdf **PKPdf 21 15 19.3 +1.4**
AK02 Malin Array Si 148.13 328 *e*PKPbc **PKPbc 21 15 20.2 -1.0**
SIM Simferopol' 148.68 316 *e*PKP2 **PKPab 21 15 27.6 +1.0**
SIM pmax pmax
comp=Z,29nm,0.9s
LVV L'vov 151.06 332 *e*PKIKP **PKPbc 21 15 27.8 -0.7**
BR131 Keskin Array S 151.12 307 *e*PKPbc **PKPbc 21 15 28.0 -1.2**
BR131 *e*PKPab **PKPab 21 15 36.7 -0.3**
BRTR Keskin Array B 151.12 307 PKPbc **PKPbc 21 15 28.6 -0.6**
comp=Z,4.3nm,1.0s,baz=83,slow=1.7,SNR=13
BRTR PKPab **PKPab 21 15 36.4 -0.6**
comp=Z,4.6nm,0.7s,baz=102,slow=3.0,SNR=12
BSEG Bad Segeberg 151.26 352 *e*PKPbc **PKPbc 21 15 29.1 +0.3**
ANTO Ankara 151.67 307⇑PKIKP **PKPbc 21 15 30.2 -0.2**
ANTO Ankara 151.67 307⇑*i*P **PKPbc 21 15 30.2 -0.2**
KWP Kalwaria Pacla 151.75 333 *e*PKP **PKPbc 21 15 30.0 -0.1**
KWP Kalwaria Pacla 151.75 333 *e*PKIKP **PKPbc 21 15 30.0 -0.1**
RUE Ruedersdorf 152.06 346 *e*PKPbc **PKPbc 21 15 31.0 +0.4**
BUR08 Bucovina Ar. S 152.11 328 *e*PKPbc **PKPbc 21 15 31.0 -0.1**
BUR08 *e*PKPab **PKPab 21 15 40.9 +0.1**
BURAR Bucovina Array 152.12 328⇑PKIKP **PKPbc 21 15 30.6 -0.5**
BURAR Bucovina Array 152.12 328⇑*i*P **PKPbc 21 15 30.6 -0.5**
TESR Tescani 152.14 324⇑*i*P **PKPab 21 15 41.0 +0.2**
CFR Carcaliu 152.15 321 ⇓PKIKP **PKPbc 21 15 31.1 0.0**
CFR Carcaliu 152.15 321⇓*i*P **PKPbc 21 15 31.1 0.0**
OJC Ojcow 152.38 337 *e*PKP **PKPbc 21 15 31.2 -0.3**
OJC Ojcow 152.38 337 *e*PKIKP **PKPbc 21 15 31.3 -0.3**
KOLS Kolonicke sedl 152.47 333 *e*PKIKP **PKPbc 21 15 31.8 0.0**
KOLS Kolonicke sedl 152.47 333 *e*PKP **PKPbc 21 15 31.8 0.0**
STHS Stebnicka Huta 152.51 334 *e*PKIKP **PKPbc 21 15 32.0 +0.2**
STHS Stebnicka Huta 152.51 334 *e*PKP **PKPbc 21 15 32.0 +0.2**
CSS Prodhromos 152.66 297 *e*PKPdf **PKPdf 21 15 26.3 +0.7**
CSS *e*PKPab **PKPab 21 15 42.6 -0.9**
UZH Uzhgorod 152.70 332 *e*PKIKP PKPpre 21 15 10.8
UZH *e* 21 15 29.0
UZH *i* 21 15 39.2
NIE Niedzica 152.86 335 *e*PKP **PKPbc 21 15 32.9 +0.3**
NIE Niedzica 152.86 335 *e*PKIKP **PKPbc 21 15 33.0 +0.3**
CLZ Clausthal 153.29 350 *e*PKPbc **PKPbc 21 15 33.9 +0.4**
CLL Collm 153.33 347 *e*PKPdf **PKPdf 21 15 26.0 0.0**
CLL ⇑*i*PKPbc **PKPbc 21 15 33.3 -0.2**
comp=Z,9.0nm,1.0s
CLL *i* PKPab **PKPab 21 15 45.3 -0.3**
comp=Z,11nm,0.9s
CLL *e*pPKPbc **pPKPbc 21 15 50.0 +2.2**
CLL Collm 153.33 347⇑*e*PKIKP **PKPdf 21 15 26.0 0.0**
CLL *i* 21 15 45.3
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL pmax pmax
comp=Z,11nm,0.9s
UPC Upice 153.33 342⇑*e*PKP **PKPbc 21 15 33.6 0.0**
UPC *e*PKPAB **PKPab 21 15 45.8 +0.1**
UPC *e*pPKP pPKPdf 21 15 51.4 +11
UPC Upice 153.33 342 *e*PKIKP **PKPbc 21 15 33.6 0.0**
UPC *e* 21 15 45.8
UPC *e* 21 15 51.4
DPC Dobruska-Polom 153.38 341⇑*e*PKP **PKPbc 21 15 33.9 +0.1**
DPC *e*PKPAB **PKPab 21 15 45.9 -0.1**
DPC *e*pPKP pPKPdf 21 15 49.6 +9.0
DPC *e*sPKP 21 15 55.9
DPC Dobruska-Polom 153.38 341 *e*PKIKP **PKPbc 21 15 33.9 +0.1**
DPC *e* 21 15 45.9
DPC *e* 21 15 49.6
KRLC Kraliky 153.49 341⇑*e*PKP **PKPbc 21 15 33.8 -0.2**
KRLC *e*PKPAB **PKPab 21 15 45.2 -1.2**
KRLC *e*pPKP pPKPdf 21 15 52.3 +12
KRLC *e*sPKP 21 15 57.3
KRLC Kraliky 153.49 341 *e*PKIKP **PKPbc 21 15 33.8 -0.2**
KRLC *e* 21 15 45.2
KRLC *e* 21 15 52.3
BRG Berggiesshubel 153.53 345 *e*PKP **PKPdf 21 15 25.7 -0.6**
comp=Z,4.1nm,1.3s
BRG *i* 21 15 33.9
comp=Z,6.9nm,1.0s
BRG *e* 21 15 46.1
comp=Z,6.2nm,1.0s
BRG Berggiesshubel 153.53 345 *e*PKPbc **PKPbc 21 15 34.2 +0.2**
BRG *e*PKPab **PKPab 21 15 46.3 -0.2**
BRG Berggiesshubel 153.53 345 *e*PKIKP **PKPdf 21 15 25.7 -0.6**
BRG *i* 21 15 33.9
BRG *e* 21 15 46.1
BRG pmax pmax
comp=Z,4.0nm,1.3s
KECS Kecovo 153.55 334 *e*PKP2 **PKPab 21 15 46.7 0.0**
KECS Kecovo 153.55 334 *e*PKP **PKPab 21 15 46.7 0.0**
FBE Freiberg 153.62 346 *e*PKPbc **PKPbc 21 15 34.8 +0.6**
FBE *e*PKPab **PKPab 21 15 47.1 +0.3**
NEUB Neuenburg 153.66 348 *e*PKPab **PKPab 21 15 46.8 -0.2**
VOIR 153.69 324 ⇓PKP2 **PKPab 21 15 49.6 +2.1**
VOIR 153.69 324 ⇓*i*P **PKPab 21 15 49.6 +2.1**
PVCC Panska Ves 153.69 344⇑*e*PKP **PKPbc 21 15 33.9 -0.5**
PVCC *e*PKPAB **PKPab 21 15 46.9 -0.3**
PVCC Panska Ves 153.69 344 *e*PKIKP **PKPbc 21 15 33.9 -0.5**
PVCC *e* 21 15 46.9
DRGR 153.90 329⇑PKIKP **PKPbc 21 15 33.5 -1.6**
DRGR 153.90 329⇑*i*P **PKPbc 21 15 33.5 -1.6**
BUG Bochum--Univer 154.05 355 *e*PKPbc **PKPbc 21 15 34.9 -0.2**
PRU Pruhonice 154.20 343⇑*e*PKP **PKPbc 21 15 34.7 -0.8**
PRU *e*PKPAB **PKPab 21 15 48.4 -0.9**
PRU Pruhonice 154.20 343 *e*PKIKP **PKPbc 21 15 34.7 -0.8**
PRU *e* 21 15 48.4
GOPC GO Pecny, Ondr 154.20 343 *e*PKPAB **PKPab 21 15 47.6 -1.8**
MOX Moxa 154.23 348 *e*PKPbc **PKPbc 21 15 35.6 0.0**
PLN Plauen 154.28 347 *e*PKPbc **PKPbc 21 15 35.8 +0.1**
PLN *e*PKPab **PKPab 21 15 48.3 -1.4**
TANN Tannenbergstha 154.28 347 *e*PKPbc **PKPbc 21 15 36.3 +0.1**
WERD Werda 154.29 347 *e*PKPbc **PKPbc 21 15 35.9 +0.2**
WERD *e*PKPab **PKPab 21 15 49.6 -0.1**
GUNZ Gunzen 154.36 347 *e*PKPab **PKPab 21 15 49.8 -0.3**
WERN Wernitzgruen 154.42 347 *e*PKPab **PKPab 21 15 50.5 +0.2**
NKC Novy Kostel 154.46 347 *e*PKPAB **PKPab 21 15 49.9 -0.6**
NKC Novy Kostel 154.46 347 *e*PKP2 **PKPab 21 15 49.9 -0.6**
MANZ Manzenberg 154.76 347 *e*PKPbc **PKPbc 21 15 36.9 +0.2**
GRF Grafenberg Arr 155.22 348 *e*PKPab **PKPab 21 15 53.5 -0.2**
KHC Kasperske Hory 155.23 344 *e*PKPDF **PKPdf 21 15 28.3 -0.6**
KHC ⇑*e*PKP PKP 21 15 37.5
KHC *ex* x 21 15 43.2
KHC *e*PKPAB **PKPab 21 15 54.1 +0.3**
KHC *es*PKP 21 16 04.6
KHC Kasperske Hory 155.23 344 *e*PKIKP **PKPdf 21 15 28.2 -0.6**
KHC *e* 21 15 53.7
KHC Kasperske Hory 155.23 344 *e*PKPdf **PKPdf 21 15 28.2 -0.6**
KHC *e*PKPab **PKPab 21 15 53.7 -0.1**
GERES GERESS Array B 155.47 344 PKPab **PKPab 21 15 53.9 -1.0**
comp=Z,0.2nm,0.3s,baz=18,slow=4.8,SNR=4.1
CONA Conrad Observa 155.68 339⇓*e*PKPab **PKPab 21 15 56.4 +0.6**
comp=Z,11nm,1.7s
MOA Molln 156.23 342⇓*i*PKPab **PKPab 21 15 58.3 +0.2**
comp=Z,6.9nm,1.1s
ARSA Arzberg 156.38 339⇓*i*PKPab **PKPab 21 15 58.2 -0.6**
comp=Z,3.9nm,1.0s
VTS Vitosha 156.55 321 ⇓PKP2 **PKPab 21 16 01.5 +1.6**
VTS Vitosha 156.55 321⇓*i*P **PKPab 21 16 01.5 +1.6**
KOGS Kog 156.84 337 *e*PKPbc **PKPab 21 16 00.6 -0.2**
MMB Musomiste 156.87 319 ⇓PKP2 **PKPab 21 16 01.2 0.0**
MMB Musomiste 156.87 319⇓*i*P **PKPab 21 16 01.2 0.0**
SOKA Soboth 157.05 339⇓*e*PKPab **PKPab 21 16 01.7 -0.1**
comp=Z,7.6nm,1.2s
KBA Koelnbreinsper 157.19 342⇓*e*PKPab **PKPab 21 16 02.3 -0.1**
comp=Z,7.6nm,1.1s
WTTA Wattenberg 157.44 345⇓*e*PKPab **PKPab 21 16 01.8 -1.7**
comp=Z,8.1nm,1.1s
MOTA Moosalm 157.48 346⇑*i*PKPab **PKPab 21 16 03.1 -0.6**
comp=Z,6.7nm,1.0s
MYKA Terra Mystica 157.51 341⇓*i*PKPab **PKPab 21 16 03.1 -0.6**
comp=Z,5.7nm,0.9s
ABTA Abfaltersbach 157.71 343⇓*e*PKPab **PKPab 21 16 03.7 -0.9**
comp=Z,4.6nm,0.8s
JAVS Javornik 158.05 340 *e*PKPbc **PKPab 21 16 05.1 -1.0**
ESDC Sonseca Array 164.66 22 PKP **PKPdf 21 15 38.5 -1.3**
comp=Z,0.1nm,0.3s,baz=306,slow=3.0,SNR=4.8
ESDC PKPab **PKPab 21 16 34.8 -0.3**
comp=Z,0.1nm,0.3s,baz=345,slow=4.7,SNR=4.6
TORD Torodi Ar. Bea 167.49 172 PKP **PKPdf 21 15 40.9 -1.7**
comp=Z,1.9nm,1.1s,baz=161,slow=4.4,SNR=5.9
TORD PKPab **PKPab 21 16 48.0 0.0**
comp=Z,0.9nm,0.9s,baz=217,slow=1.5,SNR=3.8

IDC ***25*** *21:02:32.9±2.8, 5.°42N×94.°71E, h71km±26km, mb3.7/9, mb1 3.8/12, mb1mx3.5/40, mbtmp4.0/12, MS2.9/2, Ms1 3.0/2, ms1mx2.6/38, Error ellipse: s-maj=35.5km s-min=13.8km az=49.0*
ISC 25 21:02:30.5±0.8, **5.°8N**±0.°1×**94.°8E**±0.°1, **h35**km, **n18**, σ1§**41**/16, **mb4.0**/10, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.06**	**125**	P	**Pn**	**21 03 46.3**	**+2.3**
	1.5nm,0.3s,baz=329,slow=11,SNR=6.4						
PSI				S	**Sn**	**21 04 41.9**	**+0.4**
	1.3nm,0.3s,baz=73,slow=20,SNR=2.7						
CMAR	**Chiang Mai Arr**	**13.26**	**17**	P	**P**	**21 05 44.6**	**-1.1**
	0.4nm,0.3s,baz=206,slow=14,SNR=18						
CMAR				LR	LR	21 11 08.4	
	comp=Z,24nm,19.3s,baz=290,slow=38						
PALK	**Pallekele**	**14.07**	**277**	P	**Pn**	**21 05 48.3**	**+0.8**
	0.3nm,0.3s,baz=103,slow=14,SNR=4.7						
PALK				S	Sn	21 08 08.6	-14
	1.0nm,0.3s,baz=181,slow=14,SNR=12						
H08S3	**Diego Garcia H**	**25.92**	**239**	T	T	21 35 06.2	
	baz=60,slow=76,SNR=40						
H08S2	**Diego Garcia H**	**25.92**	**239**	T	T	21 35 06.3	
	baz=60,slow=76,SNR=51						
H08S1	**Diego Garcia H**	**25.93**	**239**	T	T	21 35 04.9	
	baz=60,slow=76,SNR=60						
GTA	**Gaotai**	**33.81**	**7**	*e*P	**P**	**21 09 10.5**	**+1.0**
GTA				pP	pP	21 09 14.0	-5.6
GTA				sP	sP	21 09 16.5	-7.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**43.09**	**11**	P	**P**	**21 10 28.2**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=193,slow=8.4,SNR=7.5						
GEYT	**Alibeck**	**46.20**	**319**	P	**P**	**21 10 52.5**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=148,slow=8.5,SNR=3.0						
TLY	**Talaya**	**46.37**	**8**	LR	LR	21 33 45.5	
	comp=Z,28nm,18.8s,baz=131,slow=40						
WRA	**Warramunga Arr**	**46.53**	**124**	P	**P**	**21 10 52.9**	**-2.1**
	comp=Z,1.0nm,0.5s,baz=301,slow=9.9,SNR=22						
KURBB	**Kurchatov Arra**	**46.74**	**346**	P	**P**	**21 10 57.6**	**+1.4**
	comp=Z,2.7nm,0.5s,baz=172,slow=6.9,SNR=66						
KURBB				PcP	**PcP**	**21 12 28.5**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=154,slow=2.7,SNR=4.5						
ASAR	**Alice Springs**	**48.08**	**129**	P	**P**	**21 11 05.0**	**-2.0**
	comp=Z,0.8nm,0.5s,baz=299,slow=7.6,SNR=20						
ZALV	**Zalesovo Beam**	**48.73**	**352**	P	**P**	**21 11 12.2**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=183,slow=7.6,SNR=14						
FINES	**FINESS Array B**	**74.87**	**332**	P	**P**	**21 14 06.5**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=116,slow=5.7,SNR=8.7						
ARCES	**ARCESS Array B**	**77.46**	**340**	P	**P**	**21 14 21.6**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=96,slow=7.4,SNR=8.1						
GERES	**GERESS Array B**	**79.83**	**318**	P	**P**	**21 14 34.9**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=108,slow=4.3,SNR=6.5						
TXAR	**Lajitas Array**	**140.86**	**26**	PKP	**PKPdf**	**21 21 55.8**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=204,slow=2.7,SNR=3.9						

MEX 25 21:17:48.0±0.8, 16°35N×94°05W, h118km±10km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.02**	**129**	*i* P	Pn	21 18 09.1	-1.0
PCIG				*e*S	Sn	21 18 24.8	-1.9
CMIG	**Matias Romero**	**1.09**	**313**	*i* P	Pn	21 18 09.9	-0.9
CCIG	**Comitan**	**1.83**	**92**	*i* P	Pn	21 18 18.0	-1.6
CCIG				*i* S	Sn	21 18 40.9	-2.6
HUIG	**Huatulco**	**2.07**	**254**	*i* P	Pn	21 18 20.3	-1.9
HUIG				*e*S	Sn	21 18 46.5	-1.8

*IDC **25** 21:27:15.6±1.5, 7.68N×92.07E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.5/44, mbtmp3.7/7, ML3.6/2, MS2.9/2, Ms1 3.0/2, ms1mx2.6/37, Error ellipse: s-maj=35.5km s-min=26.0km az=44.0*

ISC 25 21:27:17.7±1.6, 7.7N±0.2×92.2E±0.2, h10km, n16, σ1$ 52/11, mb3.8/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**8.24**	**126**	LR	LR	21 32 59.4	
	comp=Z,95nm,21.0s,baz=252,slow=41						
PALK	**Pallekele**	**11.44**	**269**	Pn	Pn	21 29 56.1	-5.2
	0.8nm,0.3s,baz=83,slow=14,SNR=8.0						
PALK				Sn	Sn	21 31 48.1	-21
	2.4nm,0.3s,baz=190,slow=21,SNR=8.7						
CMAR	**Chiang Mai Arr**	**12.54**	**31**	Pn	**Pn**	**21 30 16.5**	**+0.1**
	0.1nm,0.3s,baz=212,slow=13,SNR=3.1						
CMAR				LR	LR	21 35 37.2	
	comp=Z,49nm,18.9s,baz=240,slow=40						
PKI	**Pulchoki**	**20.81**	**343**	*e*P	**P**	**21 32 01.8**	**+2.1**
	39nm,1.3s						
PKIN	**Phulchoki**	**20.82**	**343**	*e*P	**P**	**21 32 01.8**	**+2.0**
DMN	**Daman**	**20.94**	**342**	*e*P	**P**	**21 32 03.1**	**+2.1**
	21nm,1.1s						
GKN	**Gorkha**	**21.45**	**341**	*e*P	**P**	**21 32 05.6**	**-0.8**
	17nm,0.6s						
KOLN	**Koldanda**	**21.59**	**339**	*e*P	**P**	**21 32 09.5**	**+1.5**
	19nm,0.7s						
H08S3	**Diego Garcia H**	**24.88**	**233**	T	T	21 58 47.8	
	baz=52,slow=76,SNR=18						
H08S2	**Diego Garcia H**	**24.88**	**233**	T	T	21 58 55.1	
	baz=52,slow=76,SNR=12						
H08S1	**Diego Garcia H**	**24.90**	**233**	T	T	21 58 47.0	
	baz=52,slow=76,SNR=14						
SONM	**Songino Array**	**41.79**	**14**	P	**P**	**21 35 06.8**	**-0.8**
	1.2nm,0.7s,baz=191,slow=9.4,SNR=8.9						
GEYT	**Alibeck**	**43.10**	**320**	P	**P**	**21 35 17.9**	**-0.4**
	0.8nm,0.4s,baz=131,slow=10,SNR=2.5						
KURBB	**Kurchatov Arra**	**44.30**	**348**	P	**P**	**21 35 26.7**	**-0.9**
	0.4nm,0.6s,baz=172,slow=6.9,SNR=7.5						
ZALV	**Zalesovo Beam**	**46.52**	**354**	P	**P**	**21 35 44.2**	**-1.0**
	0.7nm,0.7s,baz=169,slow=8.7,SNR=3.8						
WRA	**Warramunga Arr**	**49.70**	**124**	P	**P**	**21 36 10.9**	**+0.5**
	0.6nm,1.1s,baz=307,slow=8.5,SNR=3.0						

IDC 25 21:45:13.8±9.2, 16°10S×167°55E, h169km±88km, mb3.6/3, mb1 3.7/4, mb1mx3.7/42, mbtmp4.0/4, Error ellipse: s-maj=173.2km s-min=69.0km az=91.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.03**	**190**	P	Pn	21 46 41.1	-0.1
	0.9nm,0.3s,baz=90,slow=20,SNR=6.6						
DZM				S	Sn	21 47 50.2	+0.3
	0.3nm,0.3s,baz=270,slow=20,SNR=1.8						
STKA	**Stephens Creek**	**28.33**	**232**	P	P	21 50 52.4	+0.4
	0.8nm,0.4s,baz=77,slow=11,SNR=5.8						
WRA	**Warramunga Arr**	**31.78**	**258**	P	P	21 51 21.7	-0.8
	0.2nm,0.4s,baz=90,slow=8.7,SNR=13						
ASAR	**Alice Springs**	**32.46**	**251**	P	P	21 51 28.8	+0.3
	4.5nm,0.5s,baz=81,slow=8.6,SNR=77						

*ISCJB **25** 21:55:20.3±0.6, 9°64S±0°07×115°84E±0°06, h26km, mb3.6/6, MS3.0/2, Error ellipse: s-maj=12.3km s-min=5.1km az=37.2*

*DJA **25** 21:55:24.8±0.8, 9°5S±5°×111°6E±°, h37km±8km, M4.4/6, MLv4.4/6*

*IDC **25** 21:55:29.0±6.7, 9°24S×116°06E, h108km±62km, mb3.2/7, mb1 3.4/8, mb1mx3.2/32, mbtmp3.6/8, MS2.9/4, Ms1 2.9/4, ms1mx2.7/11, Error ellipse: s-maj=56.0km s-min=14.9km az=67.0*

ISC 25 21:55:21.3±0.8, 9°54S±0°07×115°88E±0°05, h26km, n17, σ2$ 10/20, mb3.7/6, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGBI	**Denpasar**	**1.02**	**315**	P	**Pb**	**21 55 40.2**	**-0.1**
IGBI				S	**Sb**	**21 55 52.1**	**-1.1**
DNP	**Denpasar**	**1.08**	**322**	P	**Pb**	**21 55 42.4**	**+1.1**
DNP				S	**Sb**	**21 55 55.5**	**+0.5**
ABJI	**Asem Bagus**	**2.37**	**317**	P	**Pn**	**21 56 00.5**	**+1.9**
BLJI	**Banyuglugur**	**2.87**	**308**	P	**Pn**	**21 56 07.3**	**+1.8**
BLJI				S	**Sn**	**21 56 40.4**	**+1.2**
PWJI	**Pagerwojo**	**4.30**	**290**	P	**Pn**	**21 56 26.2**	**+1.1**
PWJI				S	**Sn**	**21 57 13.9**	**-0.5**
KAPI	**Kappang**	**5.92**	**41**	P	**Pn**	**21 56 49.8**	**+2.5**
	1.8nm,0.3s,baz=217,slow=5.1,SNR=4.3						
KAPI				S	**Sn**	**21 57 52.9**	**-1.4**
	4.5nm,0.3s,baz=236,slow=17,SNR=7.9						
KAPI				LR	LR	21 59 32.0	
	comp=Z,35nm,21.7s,baz=204,slow=44						
BKSI	**Bulukumba**	**5.94**	**45**	P	**Pn**	**21 56 49.8**	**+2.1**
LEM	**Lembang**	**8.61**	**288**	LR	LR	22 01 39.4	
	comp=Z,83nm,19.4s,baz=206,slow=43						
WRA	**Warramunga Arr**	**20.61**	**122**	P			
	0.5nm,0.5s,baz=296,slow=12,SNR=7.2						
WRA				S	**S**	**22 03 42.6**	**-5.5**
	0.3nm,0.5s,baz=294,slow=23,SNR=4.0						
PSI	**Prapat**	**20.87**	**305**	LR	LR	22 09 36.6	
	comp=Z,99nm,18.1s,baz=190,slow=41						
ASAR	**Alice Springs**	**22.23**	**131**	P	**P**	**22 00 17.1**	**+0.9**
	0.7nm,0.6s,baz=304,slow=8.8,SNR=8.0						
ASAR				S	**S**	**22 04 22.6**	**+2.8**
	0.6nm,0.7s,baz=293,slow=22,SNR=3.6						
CMAR	**Chiang Mai Arr**	**32.45**	**329**	P	**P**	**22 01 47.8**	**-1.9**
	1.0nm,1.0s,baz=164,slow=7.1,SNR=4.4						
STKA	**Stephens Creek**	**32.59**	**137**	P	**P**	**22 01 51.6**	**+0.8**
	1.2nm,0.7s,baz=320,slow=7.9,SNR=3.0						
GUMO	**Guam**	**36.83**	**52**	LR	LR	22 18 53.6	
	comp=Z,12nm,19.1s,baz=106,slow=38						
SONM	**Songino Array**	**57.74**	**352**	P	**P**	**22 05 07.7**	**-2.3**
	0.4nm,0.5s,baz=170,slow=7.7,SNR=3.1						
ZALV	**Zalesovo Beam**	**68.49**	**341**	P	P	22 06 16.8	-4.3
	0.3nm,0.4s,baz=158,slow=4.7,SNR=2.9						
VNDA	**Vanda**	**71.95**	**171**	P	**P**	**22 06 42.2**	**+0.2**
	0.5nm,0.6s,baz=307,slow=7.7,SNR=4.2						

*IDC **25** 22:27:02.1±1.7, 25°45S×69°39W, h0km, mb4.0/1, mb1 3.8/2, mb1mx3.5/19, mbtmp3.8/2, ML3.6/1, Error ellipse: s-maj=74.9km s-min=48.1km az=108.0*

*SJA **25** 22:27:03.4±0.5, 25°23S×69°35W, h420km±18km, ML2.8*

ISC 25 22:27:03.7±1.6, 25°45S±0°1×69°3W±0°1, h10km, n14, σ1$ 89/9, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VCA	**Vinchina**	**3.44**	**163**	*i* P	Pg	22 28 14.6	+4.9
VCA				*i* S	Sg	22 29 07.1	+12
SLA	**San Lorenzo**	**3.54**	**79**	*i* P	**Pg**	**22 28 14.0**	**+2.4**
SLA				AML	AML	22 28 39.3	
	comp=Z,4.3nm,0.5s						
AHML	**Horco Molle**	**3.84**	**111**	*i* P	**Pg**	**22 28 17.3**	**+0.1**
AHML				AML	AML	22 28 56.1	
	comp=Z,4.9nm,0.5s						
AZAP	**Zapla**	**4.06**	**74**	*i* P	**Pg**	**22 28 18.4**	**-3.1**
HJA	**Humahuaca**	**4.21**	**59**	*i* P	**Pb**	**22 28 19.9**	**+1.9**
ASTB	**Santa Barbara**	**4.65**	**73**	*i* P	**Pb**	**22 28 24.3**	**-1.1**
ALOL	**LOMAS DE OLMED**	**5.14**	**73**	*i* P	Pb	22 28 28.3	-5.4
LPAZ	**La Paz**	**9.16**	**7**	Pn	**Pn**	**22 29 16.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=177,slow=4.8,SNR=5.7						
TORD	**Torodi Ar. Bea**	**79.06**	**70**	P	**P**	**22 39 09.0**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=258,slow=5.2,SNR=14						
H11S2	**WAKE ISLAND Hyl**	**27.88**	**274**	T	T	01 06 13.6	
	baz=107						
H11S1	**WAKE ISLAND Hyl**	**27.89**	**274**	T	T	01 06 14.4	
	baz=107						
H11S3	**WAKE ISLAND Hyl**	**27.90**	**274**	T	T	01 06 15.1	
	baz=107						
WRA	**Warramunga Arr**	**129.37**	**209**	PKP	**PKPdf**	**22 46 13.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=140,slow=1.3,SNR=3.4						
ZALV	**Zalesovo Beam**	**145.64**	**27**	PKPbc	**PKPab**	**22 46 41.4**	**-1.1**
	comp=Z,1.6nm,0.6s,baz=302,slow=3.8,SNR=9.4						

GUC 25 22:32:05.0±0.5, 33°82S×72°50W, h33km±2km, ML3.5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.92**	**99**	*e*P	Pn	22 32 21.5	-0.2
TACH	**Talagante**	**1.32**	**83**	*e*P	Pn	22 32 27.9	+0.7
CHCH	**Chadas Angostu**	**1.54**	**95**	*e*P	Pn	22 32 31.5	+1.2
SAN	**Santiago**	**1.58**	**77**	*e*P	Pn	22 32 32.2	+1.4
SAN				*e*S	Sb	22 32 52.5	-0.8
NICH	**Los Niches**	**1.58**	**139**	*e*P	Pb	22 32 32.3	-1.4
NICH				*e*S	Sb	22 32 52.5	-0.8
PEL	**Peldehue**	**1.66**	**67**	*e*P	Pn	22 32 33.3	+1.4
PEL				*e*S	Sb	22 32 55.1	-0.6
PEL				AML	AML	22 33 06.6	
	comp=N,2μm,0.4s						
PCH	**Pirque**	**1.67**	**84**	*e*P	Pn	22 32 33.5	+1.3
CLCH	**Cerro Calan**	**1.69**	**76**	*e*P	Pn	22 32 33.5	+1.0
CLCH				*e*S	Sb	22 32 55.8	-0.9
CLCH				AML	AML	22 33 12.4	
	comp=E,516nm,0.5s						

*IDC **25** 22:42:28.4±1.2, 29°98S×177°42W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/31, mbtmp4.0/5, MS3.4/1, Ms1 3.3/1, ms1mx2.8/25, Error ellipse: s-maj=31.4km s-min=22.4km az=74.0*

*ISCJB **25** 22:42:33.0±1.9, 30°09S±0°07×177°6W±0°3, h35km, mb4.0/5, MS3.3/1, Error ellipse: s-maj=40.0km s-min=10.6km az=177.7*

ISC 25 22:42:31.4±1.6, 30°25S±0°08×177°5W±0°2, h35km, n12, σ2$ 67/11, mb4.2/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.05**	**341**	Pn	**Pn**	**22 42 48.3**	**-1.4**
	233nm,0.3s,baz=19,slow=22,SNR=14						
RAO				Sn	**Sn**	**22 43 00.9**	**-2.1**
	624nm,0.3s,baz=300,slow=23,SNR=9.9						
URZ	**Urewera**	**9.13**	**208**	Pn	**Pn**	**22 44 38.6**	**-2.1**
	0.2nm,0.3s,baz=127,slow=15,SNR=2.6						
URZ				Sn	**Sn**	**22 46 20.8**	**-1.4**
	0.5nm,0.3s,baz=108,slow=19,SNR=2.4						
CTA	**Charters Tower**	**34.17**	**279**	P	**P**	**22 49 15.8**	**+2.3**
	2.6nm,0.6s,baz=108,slow=6.4,SNR=3.2						
STKA	**Stephens Creek**	**34.90**	**257**	P	P	22 49 23.7	+4.0
	2.1nm,0.7s,baz=107,slow=11,SNR=6.3						
STKA				LR	LR	23 03 36.0	
	comp=Z,55nm,19.2s,baz=200,slow=36						
ASAR	**Alice Springs**	**43.52**	**267**	P	P	22 50 34.8	+2.9
	0.7nm,0.5s,baz=104,slow=7.5,SNR=11						
WRA	**Warramunga Arr**	**44.49**	**272**	P	**P**	**22 50 41.6**	**+1.9**
	2.0nm,0.6s,baz=110,slow=7.9,SNR=9.9						
VNDA	**Vanda**	**48.28**	**186**	P	P	22 51 13.7	+5.0
	1.0nm,0.7s,baz=5.9,slow=8.3,SNR=3.7						
FINES	**FINESS Array B**	**145.14**	**340**	PKP	**PKPdf**	**23 02 04.8**	**+0.4**
	1.8nm,0.7s,baz=84,slow=2.7,SNR=18						
NB2	**NORSAR Subarra**	**148.66**	**352**	PKP	**PKPab**	**23 02 21.9**	**+4.0**
	comp=Z,2.1nm,1.1s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.66**	**352**	PKPbc	**PKPab**	**23 02 15.6**	**-2.3**
	comp=Z,1.0nm,1.1s,baz=16,slow=4.3,SNR=2.7						
HFS	**Hagfors**	**149.18**	**349**	PKPbc	**PKPab**	**23 02 17.1**	**-2.8**
	comp=Z,0.5nm,0.6s,baz=56,slow=3.6,SNR=2.5						
MMAI	**Mount Meron Ar**	**151.88**	**284**	PKPbc	**PKPbc**	**23 02 25.4**	**+2.4**
	comp=Z,0.5nm,0.4s,baz=78,slow=7.9,SNR=7.9						

*IDC **25** 22:43:22.7±0.9, 29°99S×177°39W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/31, mbtmp4.1/5, Error ellipse: s-maj=28.8km s-min=17.5km az=66.0*

*ISCJB **25** 22:43:27.7±1.9, 30°13S±0°07×177°7W±0°3, h35km, mb4.1/5, Error ellipse: s-maj=39.0km s-min=10.0km az=179.0*

ISC 25 22:43:29.1±1.0, 30°0S±0°1×177°6W±0°2, h35km, n17, σ1$ 28/18, mb4.3/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.83**	**339**	Pn	**Pn**	**22 43 43.3**	**-1.0**
	27nm,0.3s,baz=90,slow=20,SNR=1.8						
RAO				Sn	**Sn**	**22 43 56.4**	**+1.1**
	2μm,0.3s,baz=86,slow=21,SNR=8.0						
URZ	**Urewera**	**9.31**	**207**	Pn	Pn	22 45 34.0	-6.7
	0.2nm,0.3s,baz=19,slow=18,SNR=1.8						
URZ				Sn	Sn	22 47 16.3	-7.9
	0.9nm,0.3s,baz=38,slow=17,SNR=2.1						
CTA	**Charters Tower**	**34.10**	**278**	P	**P**	**22 50 11.7**	**+1.1**
	6.2nm,0.7s,baz=117,slow=14,SNR=5.2						
STKA	**Stephens Creek**	**34.91**	**256**	P	**P**	**22 50 18.5**	**+1.0**
	1.6nm,0.4s,baz=101,slow=12,SNR=7.1						
ASAR	**Alice Springs**	**43.49**	**266**	P	**P**	**22 51 28.1**	**-1.2**
	0.9nm,0.6s,baz=102,slow=7.6,SNR=9.0						
ASAR				PcP	**PcP**	**22 53 16.9**	**0.0**
	0.3nm,0.6s,baz=116,slow=4.2,SNR=3.1						
WRA	**Warramunga Arr**	**44.45**	**272**	P	**P**	**22 51 35.5**	**-1.5**
	3.2nm,0.6s,baz=110,slow=7.8,SNR=12						
VNDA	**Vanda**	**48.50**	**186**	P	**P**	**22 52 08.1**	**+0.2**
	0.7nm,0.7s,baz=21,slow=7.0,SNR=6.6						
FINES	**FINESS Array B**	**144.92**	**340**	PKP	**PKPab**	**23 02 59.5**	**-1.5**
	2.5nm,0.6s,baz=70,slow=3.0,SNR=7.4						
NB2	**NORSAR Subarra**	**148.44**	**352**	PKP	**PKPab**	**23 03 16.6**	**+1.9**
	comp=Z,1.6nm,0.6s,baz=14,slow=2.8						
NOA	**NORSAR Array B**	**148.44**	**352**	PKPbc	**PKPdf**	**23 03 09.7**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=15,slow=4.3,SNR=3.2						
HFS	**Hagfors**	**148.96**	**349**	PKPbc	**PKPdf**	**23 03 10.5**	**+1.9**
	comp=Z,2.5nm,0.7s,baz=186,slow=1.5,SNR=3.7						
ASF	**Jabal al Asfar**	**150.47**	**283**	PKPbc	**PKPbc**	**23 03 16.8**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=45,slow=8.6,SNR=3.5						
AKASG	**Malin Array Be**	**151.22**	**323**	PKPbc	**PKPbc**	**23 03 17.8**	**-0.5**
	comp=Z,2.4nm,0.6s,baz=49,slow=2.8,SNR=4.6						
MMAI	**Mount Meron Ar**	**151.79**	**285**	PKPbc	**PKPbc**	**23 03 19.8**	**-0.6**
	comp=Z,3.1nm,0.7s,baz=82,slow=7.7,SNR=7.3						
BRTR	**Keskin Array B**	**152.74**	**299**	PKPbc	**PKPbc**	**23 03 21.1**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=147,slow=4.9,SNR=3.3						
GERES	**GERESS Array B**	**159.33**	**339**	PKPab	**PKPab**	**23 04 00.3**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=25,slow=2.6,SNR=2.1						
TORD	**Torodi Ar. Bea**	**163.18**	**178**	PKPab	**PKPab**	**23 04 18.1**	**-0.4**
	comp=Z,0.6nm,1.0s,baz=168,slow=4.3,SNR=2.0						

*ISCJB **25** 22:54:56.3±0.3, 39°02N±0°03×111°40W±0°04, h7km, Error ellipse: s-maj=4.0km s-min=3.9km az=140.5*

*IDC **25** 22:54:56.4±1.3, 38°95N×111°22W, h0km, mb1 3.1/4, mb1mx3.0/46, mbtmp2.8/4, ML3.0/4, Error ellipse: s-maj=14.0km s-min=9.9km az=146.0*

*NEIC **25** 22:54:56.0, 39°01N×111°38W, h2km, ML2.6(SLC), After SLC.*

ISC 25 22:54:56.4±0.8, 39°00N±0°03×111°34W±0°03, h7km, n44, σ1$ 69/52, Utah

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TMUT	**Trail Mountain**	**0.31**	**19**	*e*Pg	**Pg**	**22 55 02.2**	**-0.5**
SRU	**San Rafael Swe**	**0.65**	**80**	*e*Pg	**Pg**	**22 55 08.3**	**-0.5**
MSU	**Marysvale**	**0.81**	**234**	*e*Pg	**Pg**	**22 55 10.6**	**-1.4**
MVU	**Marysvale**	**0.84**	**234**	*e*Pg	**Pg**	**22 55 11.3**	**-1.2**
MPU	**Maple Canyon**	**1.04**	**347**	*e*Pg	**Pg**	**22 55 15.5**	**-0.9**
NLU	**North Lily Min**	**1.11**	**329**	*e*Pg	**Pg**	**22 55 16.9**	**-0.8**
JLU	**Jordanelle**	**1.60**	**357**	*e*Pn	**Pn**	**22 55 25.5**	**+0.1**
DUG	**Dugway, Tooele**	**1.65**	**317**	*e*Pn	**Pn**	**22 55 24.8**	**-1.1**
CTU	**Camp Tracy**	**1.72**	**350**	*e*Pn	**Pn**	**22 55 26.8**	**-0.1**
PV04	**Paradox Valley**	**2.00**	**107**	*e*Pn	**Pb**	**22 55 32.8**	**-0.4**
PV04				*e*Sg	**Sg**	**22 56 03.7**	**+3.1**
TCUT	**Toone Canyon**	**2.12**	**359**	*e*Pn	**Pn**	**22 55 33.1**	**+0.7**
CCUT	**Cedar City**	**2.15**	**228**	*e*Pn	**Pn**	**22 55 33.2**	**+0.4**
BGU	**Big Grassy Mou**	**2.32**	**327**	*e*Pn	**Pn**	**22 55 33.9**	**-1.2**
PV01	**Paradox Valley**	**2.34**	**111**	*e*Pn	**Pb**	**22 55 37.4**	**-1.5**
PV01				*e*Sg	**Sg**	**22 56 10.8**	**-0.7**
HWUT	**Hardware Ranch**	**2.61**	**356**	*e*Pn	**Pn**	**22 55 39.9**	**+0.8**
O20A	**White River Ci**	**2.65**	**64**	*e*Pb	**Pb**	**22 55 43.4**	**-0.9**
O20A				*e*Sb	**Sb**	**22 56 18.6**	**+1.5**
MVCO	**Mesa Verde**	**2.87**	**128**	*e*Pn	**Pb**	**22 55 45.0**	**-3.0**
HVU	**Hansel Valley**	**2.99**	**339**	*e*Pn	**Pn**	**22 55 43.5**	**-0.8**
R11A	**Troy Canyon, C**	**3.39**	**260**	*e*Pb	**Pb**	**22 55 55.9**	**-0.9**
SMCO	**Snowmass**	**3.40**	**86**	*e*Pn	**Pn**	**22 55 52.8**	**+2.6**
ELK	**Elko**	**3.47**	**301**	Pn	**Pn**	**22 55 54.0**	**+3.0**
	0.2nm,0.3s,baz=121,slow=12,SNR=4.9						
ELK				Pg	**Pb**	**22 55 59.8**	**+1.6**
	0.3nm,0.3s,baz=122,slow=18,SNR=11						
ELK				Lg	Lg	22 56 44.4	
	0.4nm,0.3s,baz=31,slow=23,SNR=6.6						
ELK	**Elko**	**3.47**	**301**	Pn	**Pn**	**22 55 54.0**	**+3.0**
ELK				Pg	**Pb**	**22 55 59.8**	**+1.6**
ELK				*e*Pg	**Pg**	**22 56 00.7**	**-2.1**
ELK				Lg	Lg	22 56 44.4	
WUAZ	**Wupatki**	**3.48**	**180**	*e*Pb	**Pb**	**22 55 57.9**	**-0.4**
SHPR	**Sheep Range**	**3.92**	**232**	*e*Pb	**Pb**	**22 56 07.7**	**+1.8**
BW06	**Boulder Array**	**4.00**	**19**	*e*Pn	**Pn**	**22 55 59.7**	**+1.4**
PDAR	**Pinedale Array**	**4.00**	**19**	Pn	**Pn**	**22 56 00.3**	**+2.0**
	0.3nm,0.3s,baz=190,slow=12,SNR=7.1						
PDAR				Pg	**Pb**	**22 56 09.4**	**+2.1**
	0.7nm,0.3s,baz=186,slow=14,SNR=16						
PDAR				Lg	Lg	22 57 03.1	
	0.4nm,0.3s,baz=192,slow=31,SNR=3.7						
W18A	**Petrified Fore**	**4.08**	**161**	*e*Pn	**Pn**	**22 56 01.2**	**+1.9**
RWWY	**Rawlins**	**4.14**	**48**	*e*Pn	**Pn**	**22 56 01.1**	**+0.8**
REDW	**Red Top Meadow**	**4.38**	**5**	*e*Pn	**Pn**	**22 56 04.4**	**+1.0**
ISCO	**Idaho Springs**	**4.51**	**78**	*e*Pg	**Pg**	**22 56 21.7**	**-1.0**
LOHW	**Long Hollow**	**4.64**	**7**	*e*Pn	**Pn**	**22 56 07.8**	**+0.7**
TPH	**Tonopah**	**4.70**	**261**	*e*Pg	**Pg**	**22 56 25.5**	**-1.0**
SDCO	**Great Sand Dun**	**4.76**	**103**	*e*P

420nm,16.7s
CD2 Chengdu 29.66 13 *e*P **P** **23 14 20.8 0.0**
CD2 pP **pP** **23 14 29.5 +0.5**
CD2 PcP **PcP** **23 17 24.0 -1.0**
CD2 S **S** **23 19 15.8 +0.9**
CD2 PcS **PcS** **23 21 07.5 -0.7**
CD2 PMZ
20nm,0.5s
CD2 PMZ
160nm,5.2s
CD2 LN
730nm,16.6s
CD2 LE
1µm,17.1s
CD2 LZ
590nm,21.0s
WHN Wuhan 33.12 29 P P 23 14 46.5 -4.7
WHN S **S** **23 20 09.5 +0.7**
WHN LN
970nm,10.0s
WHN LE
870nm,13.5s
WHN LZ
1µm,17.4s
SMLA Simla 34.37 330 *e*P **P** **23 15 04.2 +2.0**
SMLA AML AML 23 16 03.9
comp=N,5.8nm,1.2s
SMLA AML AML 23 16 09.5
comp=E,9.1nm,0.5s
LZH Lanzhou 34.69 10 *e*P **P** **23 15 06.8 +1.8**
LZH pP **pP** **23 15 15.8 +2.5**
LZH sP **sP** **23 15 19.5 +2.8**
LZH PP **PP** **23 16 25.0 +1.0**
LZH *e*S **S** **23 20 36.5 +3.1**
LZH sS **sS** **23 20 49.5 +2.4**
LZH SS **SnSn** **23 22 48.0 +0.6**
LZH PMZ
comp=E,16nm,1.0s
LZH PMZ
comp=E,69nm,4.9s
LZH LN
comp=E,270nm,14.5s
LZH LE
comp=E,520nm,14.7s
LZH LZ
comp=E,580nm,16.1s
DHRM DHARAMSHALA 35.71 330 *e*P **P** **23 15 13.2 -0.8**
DHRM AML AML 23 16 20.2
comp=N,9.4nm,0.6s
DHRM AML AML 23 16 20.9
comp=E,17nm,0.5s
GTA Gaotai 37.46 4 *e*P **P** **23 15 26.5 -2.2**
GTA pP **pP** **23 15 36.5 -0.5**
GTA sP **sP** **23 15 40.0 -0.4**
GTA PcP **PcP** **23 17 47.3 +0.4**
GTA S **S** **23 21 12.0 -3.7**
GTA sS **sS** **23 21 28.5 -0.9**
GTA ScP **ScP** **23 21 32.3 -0.1**
GTA ScS **ScS** **23 25 34.8 -5.9**
GTA PMZ
comp=E,9.0nm,1.3s
GTA PMZ
comp=E,62nm,4.4s
GTA LN
comp=E,180nm,16.6s
GTA LE
comp=E,260nm,14.3s
GTA LZ
comp=E,230nm,16.1s
H01W3 Cape Leeuwin H 40.13 157 T T 23 58 42.1
baz=333,slow=74
H01W2 Cape Leeuwin H 40.14 157 T T 23 58 42.5
baz=333,slow=74
H01W1 Cape Leeuwin H 40.15 157 T T 23 58 40.7
baz=333
HHC Hu-ho-hao-te 41.09 17 *e*P **P** **23 15 57.8 -1.1**
HHC pP **pP** **23 16 06.5 -0.8**
HHC S **S** **23 22 10.0 -0.2**
HHC sS **sS** **23 22 27.0 +3.0**
HHC PMZ
comp=E,18nm,1.0s
HHC PMZ
comp=E,98nm,5.8s
HHC LN
comp=E,320nm,13.1s
HHC LE
comp=E,430nm,13.3s
HHC LZ
comp=E,250nm,13.8s
KSH Kashi 41.88 336 P **P** **23 16 04.8 -0.6**
KSH pP **pP** **23 16 15.5 +1.7**
KSH sP **sP** **23 16 20.5 +3.3**
WMQ Urumqi 42.49 351 P **P** **23 16 10.0 -0.2**
WMQ pP **pP** **23 16 19.0 +0.3**
WMQ sP **sP** **23 16 20.8 -1.3**
WMQ PP **PP** **23 17 51.5 +2.4**
WMQ S **S** **23 22 31.8 +1.1**
WMQ ScS **ScS** **23 26 07.8 -2.3**
WMQ PMZ
comp=E,8.0nm,1.3s
WMQ PMZ
comp=E,140nm,4.4s
WMQ LN
comp=E,130nm,19.1s
WMQ LE
comp=E,230nm,20.1s
WMQ LZ
comp=E,180nm,21.6s
WRA Warramunga Arr 42.95 122 P **P** **23 16 13.8 -0.5**
comp=E,1.1nm,0.6s,baz=300,slow=9.3,SNR=6.7
ASAR Alice Springs 44.33 127 P **P** **23 16 25.6 +0.1**
comp=E,1.0nm,0.6s,baz=299,slow=8.0,SNR=21
JNU Nakatsue 44.73 42 P **P** **23 16 26.1 -2.3**
comp=E,4.4nm,0.8s,baz=210,slow=8.3,SNR=3.6
AAK Ala-Archa 45.11 337 P P 23 16 46.4 +15
comp=E,2.2nm,0.6s,baz=128,slow=9.7,SNR=5.3
KSRS Korea Array 45.66 35 P **P** **23 16 33.2 -2.5**
comp=E,2.5nm,0.8s,baz=229,slow=9.7,SNR=7.8
SONM Songino Array 46.55 9 P **P** **23 16 40.9 -1.8**
comp=E,3.8nm,0.7s,baz=192,slow=8.4,SNR=16
GUMO Guam 49.17 74 LR LR 23 37 24.0
comp=E,120nm,20.5s,baz=119,slow=36
GEYT Alibeck 50.27 320 P **P** **23 17 12.7 +1.2**
comp=E,1.3nm,0.5s,baz=143,slow=9.9,SNR=3.4
KURBB Kurchatov Arra 50.90 345 P **P** **23 17 15.9 0.0**
comp=E,3.0nm,0.6s,baz=165,slow=7.3,SNR=34
MAT Matsushiro 51.63 43 P **P** **23 17 20.4 -1.3**
MAT S **S** **23 24 43.2 +2.0**
MJAR Matsushiro Arr 51.63 43 P **P** **23 17 20.5 -1.3**
comp=E,1.2nm,0.6s,baz=200,slow=7.1,SNR=5.7
ZALV Zalesovo Beam 52.78 351 P **P** **23 17 28.8 -1.1**
comp=E,7.9nm,0.6s,baz=178,slow=7.1,SNR=50
STKA Stephens Creek 54.30 132 P **P** **23 17 42.4 +0.9**
comp=E,0.8nm,0.6s,baz=303,slow=8.2,SNR=3.8
AKTO Aktyubinsk 58.32 332 LR LR 23 45 24.1
comp=E,82nm,18.9s,slow=38
BRTR Keskin Array B 68.17 312 P P 23 19 20.6 +5.1
comp=E,0.7nm,0.6s,baz=131,slow=9.0,SNR=5.7
AKASG Malin Array Be 74.31 322 P **P** **23 19 52.6 +0.4**
comp=E,0.3nm,0.3s,baz=82,slow=5.1,SNR=3.0
FINES FINESS Array B 79.09 333 P **P** **23 20 18.7 -0.3**
comp=E,1.4nm,0.7s,baz=107,slow=5.7,SNR=10
ARCES ARCESS Array B 81.67 340 P **P** **23 20 32.4 -0.4**
comp=E,1.1nm,0.7s,baz=94,slow=7.3,SNR=8.0
GERES GERESS Array B 83.87 319 P **P** **23 20 45.5 +0.8**
comp=E,0.5nm,0.7s,baz=101,slow=5.6,SNR=5.3
TXAR Lajitas Array 143.42 30 PKP PKPbc 23 27 48.1 +0.7
comp=E,0.2nm,0.6s,baz=329,slow=1.6,SNR=2.7

*IDC **25** 23:09:11.0±0.7,2˙15N×96˙80E,h0km,mb4.6/24, mb1 4.6/25,mb1mx4.4/40,mbtmp4.6/25,ML4.8/1,MS4.1/2, Ms1 4.2/2,ms1mx3.5/16,Error ellipse: s-maj=21.1km s-min=12.5km az=42.0*
*BJI **25** 23:09:11.1,1˙82N×96˙84E,h31km,mb5.0/27,mB5.0/17, Ms4.5/15,Ms7 4.4/14*
*ISCJB **25** 23:09:13.7±1.0,2˙04N±0˙05×96˙79E±0˙05,h36km±8km, mb4.7/49,MS4.3/6, Error ellipse: s-maj=10.2km s-min=6.3km az=146.5*
*MOS **25** 23:09:13.5±0.8,2˙12N×96˙84E,h33km,mb4.9/29, MS4.3/4,Error ellipse: s-maj=12.4km s-min=6.7km az=104.7*
*NEIC **25** 23:09:16.0±1.4,2˙07N×96˙76E,h40km±2km,mb4.8/23,*

Error ellipse: s-maj=16.9km s-min=12.9km az=75.0
ISC 25 23:09:14.2±0.7,2˙10N±0˙06×96˙76E±0˙07,h24km±3km, h24km:pP-P,n153,o081/162,mb4.8/49,MS4.3/6,4C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKNI	**Bangkinang**	**4.62**	**112**	*e*Pn	**Pn**	**23 10 22.6**	**0.0**
IPM	**Ipoh**	**4.87**	**61**	*e*Pn	**Pn**	**23 10 26.8**	**+0.8**
KULM	**Kulim**	**5.01**	**51**	*e*Pn	**Pn**	**23 10 29.5**	**+1.5**
PKDT	**Phuket**	**5.96**	**15**	P	Pn	23 10 44.8	+3.7
	91nm,0.7s,2µm0.7nm						
SKLT	**Songkhla**	**6.34**	**37**	P	Pn	23 10 51.7	+5.5
	165nm,0.9s,2µm0.6nm						
TRTT	**Trang**	**6.40**	**27**	P	**Pn**	**23 10 47.8**	**+0.7**
	99nm,0.9s,2µm0.6nm						
MYKOM	**Kota Tinggi**	**7.09**	**92**	*e*Pn	**Pn**	**23 10 57.7**	**+1.2**
SURT	**Suratani**	**7.11**	**16**	P	**Pn**	**23 10 57.4**	**+0.6**
	44nm,0.8s,0.2nm						
MNAI	**Manna**	**8.91**	**136**	*e*Pn	**Pn**	**23 11 22.0**	**+0.4**
PBKT	**Sadao Pong**	**14.96**	**16**	P	**P**	**23 12 50.1**	**+0.4**
DLV	**T Lat**	**15.19**	**49**	*e*Pn	**Pn**	**23 12 48.7**	**+1.1**
SBUM	**Sibu**	**15.45**	**88**	*e*Pn	**Pn**	**23 12 51.2**	**+0.4**
	17nm,0.8s						
UBPT	**Khong Chiam**	**15.66**	**33**	P	**P**	**23 13 00.2**	**+2.8**
	22nm,1.4s						
UTTA	**Uttaradit**	**15.99**	**13**	P	**Pn**	**23 12 58.2**	**+0.5**
	15nm,0.8s,102nm						
MHMT	**Maesariang**	**16.02**	**4**	P	**P**	**23 13 00.9**	**-0.5**
	15nm,1.2s,379nm						
CM31	**Chiang Mai Arr**	**16.40**	**7**	*e*Pn	**Pn**	**23 13 02.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**16.40**	**7**	Pn	**Pn**	**23 13 02.9**	**-0.1**
	1.2nm,0.3s,baz=198,slow=12,SNR=37						
CMAR	**Chiang Mai Arr**	**16.40**	**7**	P	**Pn**	**23 13 02.9**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SKNT	**Sakolnakorn**	**16.40**	**25**	P	P	23 13 14.5	+8.9
LAMP	**Lampang**	**16.56**	**10**	P	**Pn**	**23 13 05.5**	**+0.4**
	comp=Z,12nm,0.9s,comp=Z,96nm						
CMMT	**Chiang Mai**	**16.75**	**7**	P	**P**	**23 13 09.7**	**+0.2**
	comp=Z,32nm,1.0s						
CHTO	**Chiang Mai**	**16.75**	**7**	P	**P**	**23 13 09.7**	**+0.2**
	comp=Z,110nm,1.1s						
CHTO	**Chiang Mai**	**16.75**	**7**	*e*P	**Pn**	**23 13 07.3**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,28nm,1.1s						
CHTO	**Chiang Mai**	**16.75**	**7**	*e*Pn	**Pn**	**23 13 07.3**	**-0.1**
	comp=Z,28nm,1.1s						
PALK	**Pallekele**	**16.81**	**288**	Sn	Sn	23 16 00.0	-14
	comp=Z,0.4nm,0.3s,baz=130,slow=17,SNR=3.1						
CMAI	**Chiengmai2**	**17.86**	**7**	P	**P**	**23 13 22.2**	**+0.2**
	comp=Z,181nm,1.3s						
KKM	**Kota Kinabalu**	**19.79**	**78**	*e*P	**P**	**23 13 43.3**	**+0.1**
	comp=Z,38nm,0.8s						
SLVN	**Son La**	**20.35**	**19**	*e*P	**P**	**23 13 49.0**	**-0.1**
KMI	**Kunming**	**23.61**	**14**	P	**P**	**23 14 24.5**	**+0.8**
KMI				pP	**pP**	**23 14 28.3**	**-2.4**
KMI				PMZ			
	comp=Z,25nm,1.1s						
KMI				LN			
	comp=Z,800nm,15.7s						
KMI				LE			
	comp=Z,390nm,14.4s						
KMI				LZ			
	comp=Z,990nm,16.0s						
KAPI	**Kappang**	**24.03**	**107**	P	**P**	**23 14 28.4**	**+0.8**
	comp=Z,3.3nm,0.3s,baz=304,slow=8.1,SNR=5.0						
KAPI	**Kappang**	**24.03**	**107**	*e*P	**P**	**23 14 27.8**	**+0.2**
	comp=Z,41nm,1.3s						
KAPI				*e*P	**P**	**23 14 28.4**	**+0.8**
LSA	**Lhasa**	**27.96**	**350**	*e*P	**P**	**23 15 03.5**	**-0.1**
LSA				pmax	pmax		
	comp=Z,24nm,1.0s						
LSA	**Lhasa**	**27.96**	**350**	*e*P	**P**	**23 15 03.5**	**-0.1**
	comp=Z,24nm,1.0s						
ENH	**Enshi**	**30.51**	**22**	*e*P	**P**	**23 15 24.2**	**-1.4**
	comp=Z,8.7nm,0.6s						
YULB	**Yu-li**	**31.83**	**46**	*e*P	**P**	**23 15 37.0**	**-0.4**
	comp=Z,19nm,0.9s						
XAN	**Xi'an**	**33.75**	**18**	P	**P**	**23 15 53.0**	**-1.1**
XAN				PMZ			
	comp=Z,5.0nm,0.7s						
SMLA	**Simla**	**34.30**	**329**	*e*S	**P**	**23 15 59.4**	**+0.5**
SIJI	**Sorong**	**34.62**	**95**	P	**P**	**23 16 02.6**	**+0.6**
	comp=Z,5.7nm,0.6s,baz=306,slow=3.9,SNR=5.5						
DHRM	**DHARAMSHALA**	**35.64**	**329**	*e*S	**P**	**23 16 12.1**	**+1.4**
GTA	**Gaotai**	**37.24**	**4**	P	**P**	**23 16 24.3**	**+0.1**
GTA				pP	**pP**	**23 16 29.8**	**-1.6**
GTA				sP	**sP**	**23 16 32.8**	**-1.6**
GTA				PMZ			
	comp=Z,48nm,1.3s						
TIA	**Tai'an**	**38.82**	**27**	*e*P	**P**	**23 16 37.5**	**+0.1**
TIA				PMZ			
	comp=Z,10.0nm,0.8s						
BJI	**Beijing**	**41.68**	**23**	P	**P**	**23 17 01.5**	**+0.5**
BJI				PMZ			
	comp=Z,34nm,0.8s						
BJI				PMZ			
	comp=Z,130nm,3.9s						
BJI				LN			
	comp=Z,230nm,17.4s						
BJI				LE			
	comp=Z,220nm,16.8s						
BJI				LZ			
	comp=Z,130nm,22.6s						
WRA	**Warramunga Arr**	**42.88**	**123**	P	**P**	**23 17 11.0**	**-0.1**
	comp=Z,6.5nm,0.9s,baz=301,slow=9.3,SNR=6.9						
WRAB	**Tennant Creek**	**42.88**	**123**	*i* P	**P**	**23 17 08.6**	**-2.6**
WRAB				pmax	pmax		
	comp=Z,16nm,1.0s						
FORT	**Forrest**	**44.24**	**140**	*e*P	**P**	**23 17 19.8**	**-2.1**
	comp=Z,34nm,0.8s						
AS12	**Alice Springs**	**44.28**	**128**	*e*P	**P**	**23 17 22.6**	**+0.2**
ASAR	**Alice Springs**	**44.28**	**128**	P	**P**	**23 17 22.6**	**+0.2**
	comp=Z,6.0nm,0.8s,baz=294,slow=7.2,SNR=16						
ASAR	**Alice Springs**	**44.28**	**128**	P	**P**	**23 17 22.7**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TJN	**Taejon**	**44.30**	**36**	*e*P	**P**	**23 17 22.1**	**-0.2**
JNU	**Nakatsue**	**44.43**	**42**	P	**P**	**23 17 23.1**	**-0.4**
	comp=Z,14nm,0.8s,baz=180,slow=7.9,SNR=7.4						
JNU	**Natsue**	**44.43**	**42**	*e*P	**P**	**23 17 23.1**	**-0.4**
	comp=Z,30nm,1.1s						
TKM2	**Tokmak 2**	**44.83**	**338**	*e*P	**P**	**23 17 27.5**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,13nm,1.0s						
TKM2	**Tokmak 2**	**44.83**	**338**	*e*P	**P**	**23 17 27.5**	**+0.8**
	comp=Z,13nm,1.0s						
AAK	**Ala-Archa**	**45.01**	**337**	*e*P	**P**	**23 17 27.0**	**-1.1**
AAK				pmax	pmax		
	comp=Z,18nm,1.4s						
AAK	**Ala-Archa**	**45.01**	**337**	*e*P	**P**	**23 17 27.0**	**-1.1**
	comp=Z,18nm,1.4s						
AAK				*e*P	pP	23 17 28.4	-7.0
EKS2	**Erkin-Say**	**45.32**	**336**	*e*P	**P**	**23 17 30.1**	**-0.4**
EKS2				pmax	pmax		
	comp=Z,11nm,1.0s						
EKS2	**Erkin-Say**	**45.32**	**336**	*e*P	**P**	**23 17 30.1**	**-0.4**
	comp=Z,11nm,1.0s						
KS15	**Wonju Array Si**	**45.34**	**35**	*e*P	**P**	**23 17 30.2**	**-0.3**
KSRS	**Korea Array**	**45.37**	**35**	P	**P**	**23 17 30.2**	**-0.6**
	comp=Z,12nm,0.8s,baz=224,slow=9.2,SNR=27						
KSRS	**Korea Array**	**45.37**	**35**	P	**P**	**23 17 30.2**	**-0.6**
KSRS				pmax	pmax		
	comp=Z,12nm,0.8s						
SONA0	**Songino Array**	**46.31**	**9**	*e*P	**P**	**23 17 38.3**	**+0.1**
SONA0				*e*PcP	**PcP**	**23 19 14.1**	**+0.8**
SONM	**Songino Array**	**46.31**	**9**	P	**P**	**23 17 38.3**	**0.0**
	comp=Z,14nm,0.8s,baz=189,slow=8.8,SNR=25						
SONM				PcP	**PcP**	**23 19 14.1**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=192,slow=4.3,SNR=3.5						
SONM				LR	LR	23 38 45.8	
	comp=Z,322nm,19.9s,baz=192,slow=38						
SONM	**Songino Array**	**46.31**	**9**	P	**P**	**23 17 38.3**	**0.0**
SONM						23 19 14.1	
SONM				pmax	pmax		
	comp=Z,14nm,0.8s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,323nm,19.9s						
KKAR	**Karatay Array**	**47.06**	**334**	*e*P	**P**	**23 17 44.2**	**+0.1**
KKAR	**Karatay Array**	**47.06**	**334**	*e*P	**P**	**23 17 44.2**	**+0.1**
ZAK	**Zakamensk**	**48.43**	**6**	*e*P	**P**	**23 17 55.0**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.6s						
CN2	**Changchun**	**48.71**	**28**	*e*P	**P**	**23 17 56.3**	**-0.5**
CN2				PMZ			
	comp=Z,20nm,0.8s						
TLY	**Talaya**	**49.75**	**6**	P	**P**	**23 18 05.5**	**+0.9**
	comp=Z,6.7nm,0.8s,baz=330,slow=11,SNR=5.7						
TLY	**Talaya**	**49.75**	**6**	*e*P	**P**	**23 18 05.0**	**+0.4**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TLY	**Talaya**	**49.75**	**6**	*e*P	**P**	**23 18 05.0**	**+0.4**
	comp=Z,7.1nm,0.7s						
TLY				*e*P	**P**	**23 18 05.5**	**+0.9**
JCJ	**Chichijima**	**50.08**	**56**	P	**P**	**23 18 06.8**	**-0.8**
	comp=Z,29nm,0.7s,baz=288,slow=19,SNR=3.2						
CBI	**Chichi jima**	**50.08**	**56**	*e*P	**P**	**23 18 06.8**	**-0.8**
GEYT	**Alibeck**	**50.25**	**320**	P	**P**	**23 18 09.9**	**+1.2**
	comp=Z,3.3nm,0.6s,baz=148,slow=8.5,SNR=2.7						
KURBB	**Kurchatov Arra**	**50.76**	**345**	P	**P**	**23 18 12.8**	**+0.5**
	comp=Z,9.4nm,0.8s,baz=167,slow=7.1,SNR=18						
KURK	**Kurchatov**	**50.82**	**345**	*e*P	**P**	**23 18 12.7**	**0.0**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KURK	**Kurchatov**	**50.82**	**345**	*e*P	**P**	**23 18 12.7**	**0.0**
	comp=Z,9.6nm,1.0s						
KURK				*e*P	**P**	**23 18 12.8**	**0.0**
HIA	**Hailar**	**50.94**	**19**	*e*P	**P**	**23 18 12.9**	**-0.8**
HIA				pmax	pmax		
	comp=Z,17nm,0.8s						
HIA	**Hailar**	**50.94**	**19**	*e*P	**P**	**23 18 13.3**	**-0.4**
	comp=Z,21nm,0.9s						
MDJ	**Mudanjiang**	**51.30**	**30**	*e*P	**P**	**23 18 15.9**	**-0.6**
	comp=Z,11nm,0.6s						
MAJO	**Matsushiro**	**51.33**	**43**	*e*P	**P**	**23 18 16.1**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,37nm,1.6s						
MAJO	**Matsushiro**	**51.33**	**43**	*e*P	**P**	**23 18 16.1**	**-0.7**
	comp=Z,37nm,1.6s						
MJAR	**Matsushiro Arr**	**51.33**	**43**	P	**P**	**23 18 16.8**	**-0.1**
	comp=Z,5.5nm,0.9s,baz=209,slow=7.2,SNR=19						
MJAR	**Matsushiro Arr**	**51.33**	**43**	P	**P**	**23 18 16.8**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VLA	**Vladivostok**	**51.44**	**33**	*e*P	**P**	**23 18 17.0**	**-0.5**
VLA				*i* S	**S**	**23 25 35.5**	**-0.6**
VLA				pmax	pmax		
	comp=Z,39nm,1.4s						
PMG	**Port Moresby**	**51.49**	**104**	*e*P	**P**	**23 18 16.8**	**-1.6**
PMG				pmax	pmax		
	comp=Z,108nm,0.7s						
USRK	**Ussuriysk Ar.**	**52.23**	**32**	P	**P**	**23 18 23.5**	**+0.1**
	comp=Z,9.9nm,0.9s,baz=232,slow=5.4,SNR=14						
ZALV	**Zalesovo Beam**	**52.61**	**351**	P	**P**	**23 18 26.5**	**+0.5**
	comp=Z,37nm,0.8s,baz=181,slow=5.7,SNR=23						
ZALV	**Zalesovo Beam**	**52.61**	**351**	P	**P**	**23 18 26.5**	**+0.5**
ZALV				pmax	pmax		
	comp=Z,37nm,0.8s						
ZAA1	**Zalesovo Array**	**52.61**	**351**	*e*P	**P**	**23 18 26.5**	**+0.4**
CTA	**Charters Tower**	**53.29**	**117**	P	**P**	**23 18 32.5**	**+0.7**
	comp=Z,8.9nm,0.8s,baz=302,slow=6.5,SNR=6.1						
STKA	**Stephens Creek**	**54.28**	**132**	P	**P**	**23 18 39.2**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=313,slow=6.1,SNR=6.7						
STKA	**Stephens Creek**	**54.28**	**132**	*e*P	**P**	**23 18 38.8**	**+0.1**
STKA				pmax	pmax		
	comp=Z,8.0nm,1.8s						
STKA	**Stephens Creek**	**54.28**	**132**	*e*P	**P**	**23 18 38.8**	**+0.1**
	comp=Z,8.2nm,1.8s						
BRVK	**Borovoye**	**55.33**	**341**	*c i*P	**P**	**23 18 45.8**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BOD	**Bodaibo**	**57.21**	**11**	*e*P	**P**	**23 18 59.7**	**+0.4**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GNI	**Garni**	**60.35**	**316**	*e*P	**P**	**23 19 21.7**	**0.0**
GNI				pmax	pmax		
	comp=Z,13nm,1.4s						
SVE	**Sverdlovsk**	**61.70**	**338**	*e*P	**P**	**23 19 30.6**	**+0.3**
SVE				pmax	pmax		
	comp=Z,14nm,1.0s						
ARU	**Arti**	**62.19**	**337**	*c i*P	**P**	**23 19 33.1**	**-0.5**
ARU						23 20 16.4	
ARU						23 21 48.1	
ARU				S	**S**	**23 27 58.1**	**+0.4**
ARU				SS	**SS**	**23 31 59.9**	**-1.1**
ARU				pmax	pmax		
	comp=Z,14nm,1.7s						
ARU				MLR	MLR		
	comp=Z,216nm,20.0s						
KBZ	**Khabaz**	**63.11**	**319**	P	**P**	**23 19 40.9**	**+0.9**
	comp=Z,3.1nm,0.8s,baz=138,slow=6.3,SNR=5.1						
KIV	**Kislovodsk**	**63.35**	**319**	*e*P	**P**	**23 19 40.9**	**-0.8**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KIV	**Kislovodsk**	**63.35**	**319**	*e*P	**P**	**23 19 40.9**	**-0.8**
	comp=Z,10nm,0.9s						
YAK	**Yakutsk**	**64.69**	**16**	P	**P**	**23 19 50.0**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=234,slow=19,SNR=4.9						
YAK	**Yakutsk**	**64.69**	**16**	*e*P	**P**	**23 19 48.6**	**-1.4**
YAK				*e**PP	**pP**	**23 19 59.1**	**+1.5**
YAK				*e*		23 20 22.6	
YAK				*e*		23 22 10.5	
YAK				*e*PPP	PPP	23 23 47.2	
YAK				*e*S	**S**	**23 28 28.0**	**-0.6**
YAK				*e*		23 29 40.7	
YAK				*e*SS	**SS**	**23 32 39.9**	**+0.2**
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,47nm,1.0s						
YAK				pmax	pmax		
	comp=Z,107nm,4.1s						
YAK				pmax	pmax		
	comp=N,16nm,2.7s						
YAK				pmax	pmax		
	comp=E,32nm,2.5s						
YAK				smax	smax		
	comp=E,28nm,3.0s						
YAK				smax	smax		
	comp=N,13nm,2.0s						
YAK				MLR	MLR		
	comp=Z,500nm,17.0s						
YAK				MLR	MLR		
	comp=N,284nm,17.0s						
YAK				MLR	MLR		
	comp=E,271nm,18.0s						
YAK	**Yakutsk**	**64.69**	**16**	*e*P	**P**	**23 19 49.4**	**-0.5**
	comp=E,44nm,0.8s						
YAK				*e*P	**P**	**23 19 50.0**	**+0.1**
VRHR	**Novokhopersk**	**67.14**	**326**	*e*P	P	23 20 11.3	+5.3
VRHR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BR101	**Keskin Array S**	**68.19**	**312**	*e*P	**P**	**23 20 13.0**	**-0.1**
BRTR	**Keskin Array B**	**68.19**	**312**	P	**P**	**23 20 13.0**	**-0.1**
	comp=Z,1.5nm,1.0s,baz=140,slow=8.2,SNR=2.7						
BRTR	**Keskin Array B**	**68.19**	**312**	P	**P**	**23 20 13.0**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
VSR	**Storozhevoye**	**68.59**	**325**	*e*P	**P**	**23 20 14.5**	**-0.6**
VSR				pmax	pmax		
	comp=E,9.0nm,1.2s						
VSR				pmax	pmax		
	comp=Z,8.0nm,1.2s						
VSR				pmax	pmax		
	comp=N,5.0nm,0.9s						
CASY	**Casey**	**68.94**	**174**	*e*P	**P**	**23 20 16.4**	**-0.5**
	comp=N,24nm,0.6s						
OBN	**Obninsk**	**71.63**	**328**	*i* P	**P**	**23 20 32.0**	**-1.7**
OBN				*i*		23 20 39.9	
OBN				pmax	pmax		
	comp=Z,12nm,1.7s						
OBN				MLR	MLR		
	comp=Z,136nm,20.0s						
TIXI	**Tiksi**	**72.38**	**10**	*i* P	**P**	**23 20 36.7**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,16nm,1.7s						
TIXI	**Tiksi**	**72.38**	**10**	*e*P	**P**	**23 20 36.9**	**-1.0**
	comp=Z,8.1nm,0.9s						
SEY	**Seymchan**	**73.11**	**23**	*i* P	**P**	**23 20 42.9**	**+0.5**
AKASG	**Malin Array Be**	**74.28**	**322**	P	**P**	**23 20 49.0**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=94,slow=4.2,SNR=6.4						
AKASG	**Malin Array Be**	**74.28**	**322**	P	**P**	**23 20 49.0**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKBB	**Malin Array Si**	**74.28**	**322**	*e*P	**P**	**23 20 49.0**	**-0.5**

AKBB	**Malin Array Si**	**74.28**	**322**	*e*P		**P**	**23**	**20**	**49.0** **-0.5**
TMCR	**Tamitsa**	**74.93**	**337**	*e*P		**P**	**23**	**20**	**53.5** **+0.5**
TMCR					pmax	pmax			
	comp=Z,9.0nm,0.7s								
FIA0	**FINESS Array S**	**79.00**	**332**	*e*P		**P**	**23**	**21**	**16.1** **+0.1**
FIA0	**FINESS Array S**	**79.00**	**332**	*e*P		**P**	**23**	**21**	**16.1** **+0.1**
FINES	**FINESS Array B**	**79.00**	**332**	P		**P**	**23**	**21**	**16.1** **+0.1**
	comp=Z,3.4nm,0.7s,baz=106,slow=6.2,SNR=9.5								
FINES	**FINESS Array B**	**79.00**	**332**	*ce*P		**P**	**23**	**21**	**16.2** **+0.2**
FINES					pmax	pmax			
	comp=Z,3.0nm,0.7s								
ARA0	**ARCESS Array S**	**81.55**	**340**	*e*P		**P**	**23**	**21**	**30.1** **+0.5**
ARCES	**ARCESS Array B**	**81.55**	**340**	P		**P**	**23**	**21**	**30.1** **+0.5**
	comp=Z,2.5nm,0.7s,baz=103,slow=4.2,SNR=5.8								
ARCES	**ARCESS Array B**	**81.55**	**340**	P		**P**	**23**	**21**	**30.1** **+0.5**
ARCES					pmax	pmax			
	comp=Z,3.0nm,0.7s								
KRLC	**Kraliky**	**81.96**	**320**	*e*P		**P**	**23**	**21**	**32.4** **+0.2**
KRLC				*e*pP		**pP**	**23**	**21**	**42.1** **+2.1**
KRLC	**Kraliky**	**81.96**	**320**	*e*P		**P**	**23**	**21**	**32.4** **+0.2**
KRLC				*e*			23	21	42.1
DPC	**Dobruska-Polom**	**82.28**	**320**	*e*P		**P**	**23**	**21**	**33.6** **-0.3**
DPC				*e*PCP		**PcP**	**23**	**21**	**39.8** **+0.7**
DPC				*e*pP		**pP**	**23**	**21**	**43.9** **+2.2**
DPC				*ex*		x	23	21	54.6
DPC	**Dobruska-Polom**	**82.28**	**320**	*e*P		**P**	**23**	**21**	**33.6** **-0.3**
DPC				*e*			23	21	43.9
GROS	**Grobnik**	**82.46**	**316**	*e*P		**P**	**23**	**21**	**35.3** **+0.4**
LJU	**Ljubljana**	**83.10**	**316**	*e*P		**P**	**23**	**21**	**38.7** **+0.5**
LJU				*e*			23	21	48.2
GEC2	**GERESS Array S**	**83.85**	**319**	*e*P		**P**	**23**	**21**	**42.3** **+0.2**
GEC2	**GERESS Array S**	**83.85**	**319**	*e*P		**P**	**23**	**21**	**42.3** **+0.2**
GERES	**GERESS Array B**	**83.85**	**319**	P		**P**	**23**	**21**	**43.0** **+0.9**
	comp=Z,2.0nm,0.8s,baz=91,slow=5.9,SNR=9.2								
GERES	**GERESS Array B**	**83.85**	**319**	P		**P**	**23**	**21**	**43.0** **+0.9**
GERES					pmax	pmax			
	comp=Z,2.0nm,0.8s								
KHC	**Kasperske Hory**	**83.95**	**319**	*e*P		**P**	**23**	**21**	**42.0** **-0.5**
KHC				*e*pP		**pP**	**23**	**21**	**51.9** **+1.5**
KHC				*ex*		x	23	21	54.8
KHC					AMS	AMS	00	07	30.0
	comp=Z,100nm,13.5s								
KHC	**Kasperske Hory**	**83.95**	**319**	*e*P		**P**	**23**	**21**	**42.0** **-0.5**
KHC				*e*			23	21	51.9
KHC				*e*			23	21	54.8
KHC					MLR	MLR			
	comp=Z,100nm,13.5s								
NB2	**NORSAR Subarra**	**86.01**	**331**	P		**P**	**23**	**21**	**52.9** **+0.3**
	comp=Z,0.6nm,0.7s,baz=95,slow=4.8								
NB200	**NORSAR Array S**	**86.01**	**331**	*e*P		**P**	**23**	**21**	**52.8** **+0.2**
NOA	**NORSAR Array B**	**86.01**	**331**	P		**P**	**23**	**21**	**52.8** **+0.2**
	comp=Z,1.3nm,0.8s,baz=95,slow=5.0,SNR=4.1								
NOA	**NORSAR Array B**	**86.01**	**331**	P		**P**	**23**	**21**	**52.8** **+0.2**
NOA					pmax	pmax			
	comp=Z,1.0nm,0.8s								
IM04	**Indian Mountai**	**95.92**	**23**	*e*P		**P**	**23**	**22**	**38.3** **-0.5**
ILAR	**Eielson Array**	**99.05**	**23**	LR		LR	00	11	51.0
	comp=Z,62nm,19.3s,baz=316,slow=38								
ULM	**Lac du Bonnet**	**126.74**	**10**	PKhKP		PKPpre	23	28	13.0
	comp=Z,1.2nm,0.5s,baz=343,slow=5.2,SNR=4.4								
PD31	**Pinedale Array**	**129.42**	**25**	*e*PKPdf		**PKPdf**	**23**	**28**	**20.0** **-1.6**
PDAR	**Pinedale Array**	**129.42**	**25**	PKP		**PKPdf**	**23**	**28**	**20.0** **-1.6**
	comp=Z,0.5nm,0.6s,baz=336,slow=2.0,SNR=2.6								
LTX	**Lajitas**	**143.13**	**31**	*e*PKIKP		PKPbc	23	28	44.0 0.0
LTX	**Lajitas**	**143.13**	**31**	*e*PKPdf		PKPbc	23	28	44.0 **+0.1**
TXAR	**Lajitas Array**	**143.13**	**31**	PKhKP		PKPbc	23	28	44.0 0.0
	comp=Z,0.6nm,0.8s,baz=274,slow=2.4,SNR=3.6								
CPUP	**Villa Florida**	**145.36**	**224**	PKPbc		**PKPdf**	**23**	**28**	**52.2** **+1.3**
	comp=Z,2.6nm,0.7s,baz=123,slow=3.5,SNR=5.0								
CPUP	**Villa Florida**	**145.36**	**224**	*e*PKIKP		**PKPbc**	**23**	**28**	**50.3** **-0.5**
CPUP	**Villa Florida**	**145.36**	**224**	*e*PKPbc		**PKPbc**	**23**	**28**	**50.3** **-0.5**

IDC ***25*** *23:12:19.3±1.6,2˚.02N×96˚.73E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.7/41, mbtmp3.9/9, Error ellipse: s-maj=55.0km s-min=20.4km az=58.0*

ISCJB ***25*** *23:12:22.1±1.2,2˚.1N±0˚.2×96˚.8E±0˚.3, h28km, mb3.8/8, Error ellipse: s-maj=39.7km s-min=16.1km az=152.9*

ISC 25 23:12:23.9±1.6,2˚.1N±0˚.2×96˚.8E±0˚.3, h28km, n12, σ0§50/9, mb3.9/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.40**	**7**	Pn	**Pn**	**23 16 11.9**	**-0.3**
	baz=199,slow=13,SNR=6.4						
H08S2	**Diego Garcia H**	**26.14**	**248**	T	T	23 45 07.7	
	baz=68						
H08S3	**Diego Garcia H**	**26.14**	**248**	T	T	23 45 05.4	
	baz=68						
H08S1	**Diego Garcia H**	**26.16**	**248**	T	T	23 45 01.8	
	baz=68						
WRA	**Warramunga Arr**	**42.81**	**123**	P	**P**	**23 20 19.5**	**-0.2**
	0.7nm,0.6s,baz=303,slow=8.9,SNR=3.5						
ASAR	**Alice Springs**	**44.22**	**128**	P	**P**	**23 20 31.3**	**+0.3**
	0.8nm,0.9s,baz=297,slow=8.1,SNR=3.4						
KSRS	**Korea Array**	**45.33**	**35**	P	**P**	**23 20 39.4**	**-0.3**
	0.5nm,0.4s,baz=243,slow=5.3,SNR=3.2						
SONM	**Songino Array**	**46.32**	**9**	P	**P**	**23 20 48.0**	**+0.6**
	0.8nm,0.5s,baz=188,slow=9.3,SNR=3.1						
KURBB	**Kurchatov Arra**	**50.79**	**345**	P	**P**	**23 21 22.1**	**+0.5**
	1.4nm,0.8s,baz=164,slow=6.9,SNR=4.9						
ZALV	**Zalesovo Beam**	**52.63**	**351**	P	**P**	**23 21 35.6**	**+0.3**
	1.4nm,0.4s,baz=176,slow=7.0,SNR=5.1						
FINES	**FINESS Array B**	**79.05**	**332**	P	**P**	**23 24 24.6**	**-0.7**
	1.7nm,0.9s,baz=106,slow=12,SNR=3.8						
ARCES	**ARCESS Array B**	**81.59**	**340**	P	**P**	**23 24 38.6**	**-0.2**
	1.0nm,0.8s,baz=79,slow=4.7,SNR=3.6						

SOF ***25*** *23:14:06.6,45˚.67N×26˚.45E, h160km, MD3.2*

SIGU ***25*** *23:14:07.6,45˚.76N×26˚.53E, h152km, mb3.1*

CSEM ***25*** *23:14:08.0±0.2,45˚.69N×26˚.47E, h150km±2km, MD4.3, Error ellipse: s-maj=4.1km s-min=3.5km az=176.0*

ISCJB ***25*** *23:14:09.0±0.2,45˚.68N±0˚.02×26˚.43E±0˚.03, h132km, Error ellipse: s-maj=3.3km s-min=2.8km az=44.3*

BEO ***25*** *23:14:08.2±1.6,45˚.65N×26˚.22E, h0km*

BUC ***25*** *23:14:08.3±0.5,45˚.70N×26˚.50E, h154km±5km, MD4.3/9, Error ellipse: s-maj=3.7km s-min=3.1km az=346.0*

ISC 25 23:14:09.4±1.1,45˚.70N±0˚.03×26˚.47E±0˚.03, h132km, n156, σ1§15/204, 66C-44D, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.20**	**38**	⇑*i*P	**Pn**	**23 14 28.6**	**+1.1**
PLOR	**Plostina**	**0.20**	**38**	⇑*i*P	**Pn**	**23 14 28.6**	**+1.1**
PLOR				*i* S	**Sn**	**23 14 43.5**	**+2.2**
PLOR	**Plostina**	**0.20**	**38**	⇑*i*P	**Pn**	**23 14 28.6**	**+1.1**
PLOR				*i* S	**Sn**	**23 14 43.5**	**+2.2**
VRI	**Vrincioaia**	**0.25**	**46**	⇑*i*P	**Pn**	**23 14 28.8**	**+1.2**
VRI	**Vrincioaia**	**0.25**	**46**	⇑*i*P	**Pn**	**23 14 28.8**	**+1.2**
VRI				*i* S	**Sn**	**23 14 43.5**	**+2.1**
VRI	**Vrincioaia**	**0.25**	**46**	⇑*i*P	**Pn**	**23 14 28.8**	**+1.2**
VRI				*i* S	**Sn**	**23 14 43.5**	**+2.1**
ODBI	**Odobesti**	**0.41**	**80**	⇓*i*P	**Pn**	**23 14 30.3**	**+2.1**
ODBI	**Odobesti**	**0.41**	**80**	⇓*i*P	**Pn**	**23 14 30.3**	**+2.1**
ODBI	**Odobesti**	**0.41**	**80**	⇓*i*P	**Pn**	**23 14 30.3**	**+2.1**
MLR	**Muntele Rosu**	**0.42**	**241**	⇑*i*P	**Pn**	**23 14 29.8**	**+1.4**
MLR	**Muntele Rosu**	**0.42**	**241**	⇑*i*P	**Pn**	**23 14 29.8**	**+1.4**
MLR				*i* S	**Sn**	**23 14 45.2**	**+2.4**
MLR	**Muntele Rosu**	**0.42**	**241**	⇑*i*P	**Pn**	**23 14 29.8**	**+1.4**
MLR				*i* S	**Sn**	**23 14 45.2**	**+2.4**
GRER		**0.47**	**132**	⇑*i*P	**Pn**	**23 14 30.6**	**+2.1**
GRER		**0.47**	**132**	⇑*i*P	**Pn**	**23 14 30.6**	**+2.1**
GRER		**0.47**	**132**	⇑*i*P	**Pn**	**23 14 30.6**	**+2.1**
PETR	**Petresti**	**0.53**	**87**	⇑*i*P	**Pn**	**23 14 30.3**	**+1.5**
PETR	**Petresti**	**0.53**	**87**	⇑*i*P	**Pn**	**23 14 30.3**	**+1.5**
PETR				*i* S	**Sn**	**23 14 46.7**	**+3.2**
PETR	**Petresti**	**0.53**	**87**	⇑*i*P	**Pn**	**23 14 30.3**	**+1.5**
PETR				*i* S	**Sn**	**23 14 46.7**	**+3.2**
ISR	**Istrita**	**0.58**	**175**	⇑*i*P	**Pn**	**23 14 30.3**	**+1.1**
ISR	**Istrita**	**0.58**	**175**	⇑*i*P	**Pn**	**23 14 30.3**	**+1.1**
ISR	**Istrita**	**0.58**	**175**	⇑*i*P	**Pn**	**23 14 30.3**	**+1.1**
SECR		**0.72**	**204**	⇓*i*P	**Pn**	**23 14 31.6**	**+1.5**
SECR		**0.72**	**204**	⇓*i*P	**Pn**	**23 14 31.6**	**+1.5**
SECR				*i* S	**Sn**	**23 14 48.8**	**+3.0**
SECR		**0.72**	**204**	⇓*i*P	**Pn**	**23 14 31.6**	**+1.5**
SECR				*i* S	**Sn**	**23 14 48.8**	**+3.0**
TESR	**Tescani**	**0.83**	**8**	⇑*i*P	**Pn**	**23 14 31.6**	**+0.7**
TESR	**Tescani**	**0.83**	**8**	⇑*i*P	**Pn**	**23 14 31.6**	**+0.7**
TESR				*i* S	**Sn**	**23 14 48.3**	**+1.0**
TESR	**Tescani**	**0.83**	**8**	⇑*i*P	**Pn**	**23 14 31.6**	**+0.7**
TESR				*i* S	**Sn**	**23 14 48.3**	**+1.0**
PLAR	**PLOIESTI**	**0.84**	**202**	⇑*i*P	**Pn**	**23 14 32.5**	**+1.5**
PLAR	**PLOIESTI**	**0.84**	**202**	⇑*i*P	**Pn**	**23 14 32.5**	**+1.5**
PLAR				*i* S	**Sn**	**23 14 50.7**	**+3.3**
PLAR	**PLOIESTI**	**0.84**	**202**	⇑*i*P	**Pn**	**23 14 32.5**	**+1.5**
PLAR				*i* S	**Sn**	**23 14 50.7**	**+3.3**
PGOR	**Pogoanele**	**0.87**	**155**	⇑*i*P	**Pn**	**23 14 32.4**	**+1.2**
PGOR	**Pogoanele**	**0.87**	**155**	⇑*i*P	**Pn**	**23 14 32.4**	**+1.2**
PGOR	**Pogoanele**	**0.87**	**155**	⇑*i*P	**Pn**	**23 14 32.4**	**+1.2**
SULR		**1.03**	**189**	⇓*i*P	**Pn**	**23 14 33.8**	**+1.1**
SULR		**1.03**	**189**	⇓*i*P	**Pn**	**23 14 33.8**	**+1.1**
SULR		**1.03**	**189**	⇓*i*P	**Pn**	**23 14 33.8**	**+1.1**
VOIR		**1.03**	**256**	⇓*i*P	**Pn**	**23 14 33.5**	**+0.7**
VOIR		**1.03**	**256**	⇓*i*P	**Pn**	**23 14 33.5**	**+0.7**
VOIR				*i* S	**Sn**	**23 14 51.7**	**+1.1**
VOIR		**1.03**	**256**	⇓*i*P	**Pn**	**23 14 33.5**	**+0.7**
VOIR				*i* S	**Sn**	**23 14 51.7**	**+1.1**
MTUR	**Matau**	**1.10**	**245**	⇑*i*P	**Pn**	**23 14 34.7**	**+1.2**
MTUR	**Matau**	**1.10**	**245**	⇑*i*P	**Pn**	**23 14 34.7**	**+1.2**
MTUR	**Matau**	**1.10**	**245**	⇑*i*P	**Pn**	**23 14 34.7**	**+1.2**
AMRR	**Amara**	**1.24**	**150**	⇑*i*P	**Pn**	**23 14 35.5**	**+0.7**
AMRR	**Amara**	**1.24**	**150**	⇑*i*P	**Pn**	**23 14 35.5**	**+0.7**
AMRR				*i* S	**Sn**	**23 14 55.5**	**+1.4**
AMRR	**Amara**	**1.24**	**150**	⇑*i*P	**Pn**	**23 14 35.5**	**+0.7**
AMRR				*i* S	**Sn**	**23 14 55.5**	**+1.4**
CFR	**Carcaliu**	**1.28**	**113**	⇑*i*P	**Pn**	**23 14 35.3**	**+0.1**
CFR	**Carcaliu**	**1.28**	**113**	⇑*i*P	**Pn**	**23 14 35.3**	**+0.1**
CFR				*i* S	**Sn**	**23 14 54.9**	**+0.1**
CFR	**Carcaliu**	**1.28**	**113**	⇑*i*P	**Pn**	**23 14 35.3**	**+0.1**
CFR				*i* S	**Sn**	**23 14 54.9**	**+0.1**
BUC1	**Bucharest**	**1.38**	**193**	⇓*i*P	**Pn**	**23 14 36.9**	**+0.6**
BUC1	**Bucharest**	**1.38**	**193**	⇓*i*P	**Pn**	**23 14 36.9**	**+0.6**
BUC1				*i* S	**Sn**	**23 14 57.8**	**+1.0**
BUC1	**Bucharest**	**1.38**	**193**	⇓*i*P	**Pn**	**23 14 36.9**	**+0.6**
BUC1				*i* S	**Sn**	**23 14 57.8**	**+1.0**
HARR	**Harsova**	**1.44**	**134**	⇑*i*P	**Pn**	**23 14 37.1**	**+0.2**
HARR	**Harsova**	**1.44**	**134**	⇑*i*P	**Pn**	**23 14 37.1**	**+0.2**
HARR	**Harsova**	**1.44**	**134**	⇑*i*P	**Pn**	**23 14 37.1**	**+0.2**
LEOM	**Leova**	**1.46**	**57**	⇑*i*P	**Pn**	**23 14 37.6**	**+0.5**
LEOM	**Leova**	**1.46**	**57**	⇑*i*P	**Pn**	**23 14 37.6**	**+0.5**
LEOM				*i* S	**Sn**	**23 14 58.0**	**-0.2**
LEOM	**Leova**	**1.46**	**57**	⇑*i*P	**Pn**	**23 14 37.6**	**+0.5**
LEOM				*i* S	**Sn**	**23 14 58.0**	**-0.2**
HUMR	**Humele**	**1.57**	**223**	⇓*i*P	**Pn**	**23 14 38.7**	**+0.3**
HUMR	**Humele**	**1.57**	**223**	⇓*i*P	**Pn**	**23 14 38.7**	**+0.3**
HUMR				*i* S	**Sn**	**23 15 01.0**	**+0.5**
HUMR	**Humele**	**1.57**	**223**	⇓*i*P	**Pn**	**23 14 38.7**	**+0.3**
HUMR				*i* S	**Sn**	**23 15 01.0**	**+0.5**
IAS	**Iasi**	**1.68**	**26**	⇑*i*P	**Pn**	**23 14 39.9**	**+0.4**
IAS	**Iasi**	**1.68**	**26**	⇑*i*P	**Pn**	**23 14 39.9**	**+0.4**
IAS				*i* S	**Sn**	**23 15 02.4**	**-0.3**
IAS	**Iasi**	**1.68**	**26**	⇑*i*P	**Pn**	**23 14 39.9**	**+0.4**
IAS				*i* S	**Sn**	**23 15 02.4**	**-0.3**
TLCR		**1.73**	**106**	⇑*i*P	**Pn**	**23 14 40.0**	**-0.1**
TLCR		**1.73**	**106**	⇑*i*P	**Pn**	**23 14 40.0**	**-0.1**
TLCR				*i* S	**Sn**	**23 15 03.7**	**+0.1**
TLCR		**1.73**	**106**	⇑*i*P	**Pn**	**23 14 40.0**	**-0.1**
TLCR				*i* S	**Sn**	**23 15 03.7**	**+0.1**
CVD	**Cernavoda**	**1.77**	**141**	⇑*i*P	**Pn**	**23 14 40.7**	**+0.1**
CVD	**Cernavoda**	**1.77**	**141**	⇑*i*P	**Pn**	**23 14 40.7**	**+0.1**
CVD				*i* S	**Sn**	**23 15 03.6**	**-0.9**
CVD	**Cernavoda**	**1.77**	**141**	⇑*i*P	**Pn**	**23 14 40.7**	**+0.1**
TIRR	**Tirgusor**	**1.85**	**131**	⇑*i*P	**Pn**	**23 14 41.5**	**-0.1**
TIRR	**Tirgusor**	**1.85**	**131**	⇑*i*P	**Pn**	**23 14 41.5**	**-0.1**
TIRR				*i* S	**Sn**	**23 15 05.3**	**-0.9**
TIRR	**Tirgusor**	**1.85**	**131**	⇑*i*P	**Pn**	**23 14 41.5**	**-0.1**
TIRR				*i* S	**Sn**	**23 15 05.3**	**-0.9**
MSAB	**Monastry St. A**	**1.87**	**149**	⇑*i*P	**Pn**	**23 14 42.0**	**+0.2**
MSAB	**Monastry St. A**	**1.87**	**149**	⇑*i*P	**Pn**	**23 14 42.0**	**+0.2**
MSAB				*i* S	**Sn**	**23 15 06.4**	**-0.3**
MSAB	**Monastry St. A**	**1.87**	**149**	⇑*i*P	**Pn**	**23 14 42.0**	**+0.2**
MSAB				*i* S	**Sn**	**23 15 06.4**	**-0.3**
LOT	**Lotru**	**1.92**	**264**	⇓*i*P	**Pn**	**23 14 43.3**	**+0.8**
LOT	**Lotru**	**1.92**	**264**	⇓*i*P	**Pn**	**23 14 43.3**	**+0.8**
LOT	**Lotru**	**1.92**	**264**	⇓*i*P	**Pn**	**23 14 43.3**	**+0.8**
KIS	**Kishinev**	**2.08**	**50**	*i* S	**Sn**	**23 15 10.0**	**-1.3**
	780nm,0.5s						
KIS	**Kishinev**	**2.08**	**50**	⇑*i*P	**Pn**	**23 14 44.6**	**+0.2**
KIS	**Kishinev**	**2.08**	**50**	⇑*i*P	**Pn**	**23 14 44.6**	**+0.2**
KIS				*i* S	**Sn**	**23 15 10.4**	**-0.9**
KIS	**Kishinev**	**2.08**	**50**	⇑*i*P	**Pn**	**23 14 44.6**	**+0.2**
KIS				*i* S	**Sn**	**23 15 10.4**	**-0.9**
KIS	**Kishinev**	**2.08**	**50**	*e*P	**Pn**	**23 14 44.6**	**+0.2**
KIS				*e*S	**Sn**	**23 15 10.4**	**-0.9**
KIS					Sm	23 15 10.5	
BURAR	**Bucovina Array**	**2.11**	**336**	⇑*i*P	**Pn**	**23 14 46.7**	**+1.9**
BURAR	**Bucovina Array**	**2.11**	**336**	⇑*i*P	**Pn**	**23 14 46.7**	**+1.9**
BURAR	**Bucovina Array**	**2.11**	**336**	⇑*i*P	**Pn**	**23 14 46.7**	**+1.9**
ZIMR		**2.19**	**202**	⇓*i*P	**Pn**	**23 14 45.6**	**-0.1**
ZIMR		**2.19**	**202**	⇓*i*P	**Pn**	**23 14 45.6**	**-0.1**
ZIMR				*i* S	**Sn**	**23 15 12.7**	**-0.8**
EFOR	**EFORIE**	**2.23**	**136**	⇓*i*P	**Pn**	**23 14 46.3**	**+0.1**
EFOR	**EFORIE**	**2.23**	**136**	⇓*i*P	**Pn**	**23 14 46.3**	**+0.1**
EFOR	**EFORIE**	**2.23**	**136**	⇓*i*P	**Pn**	**23 14 46.3**	**+0.1**
CRAR	**CRAIOVA**	**2.34**	**235**	⇓*i*P	**Pn**	**23 14 47.4**	**-0.2**
CRAR	**CRAIOVA**	**2.34**	**235**	⇓*i*P	**Pn**	**23 14 47.4**	**-0.2**
CRAR				*i* S	**Sn**	**23 15 16.8**	**-0.1**
CRAR	**CRAIOVA**	**2.34**	**235**	⇓*i*P	**Pn**	**23 14 47.4**	**-0.2**
CRAR				*i* S	**Sn**	**23 15 16.8**	**-0.1**
PSN	**Preselentsi**	**2.35**	**148**	*i* P	**Pn**	**23 14 48.0**	**+0.2**
PSN	**Preselentsi**	**2.35**	**148**	*i* P	**Pn**	**23 14 48.0**	**+0.2**
MANR	**Mangalia**	**2.41**	**141**	⇓*i*P	**Pn**	**23 14 48.3**	**-0.1**
MANR	**Mangalia**	**2.41**	**141**	⇓*i*P	**Pn**	**23 14 48.3**	**-0.1**
MANR	**Mangalia**	**2.41**	**141**	⇓*i*P	**Pn**	**23 14 48.3**	**-0.1**
SZH	**Strazhica**	**2.46**	**189**	*i* P	**Pn**	**23 14 48.8**	**-0.3**
SZH	**Strazhica**	**2.46**	**189**	*i* P	**Pn**	**23 14 48.8**	**-0.3**
SRE	**Strehaia**	**2.53**	**247**	⇓*i*P	**Pn**	**23 14 50.0**	**0.0**
SRE	**Strehaia**	**2.53**	**247**	⇓*i*P	**Pn**	**23 14 50.0**	**0.0**
SRE				*i* S	**Sn**	**23 15 21.4**	**+0.1**
SRE	**Strehaia**	**2.53**	**247**	⇓*i*P	**Pn**	**23 14 50.0**	**0.0**
SRE				*i* S	**Sn**	**23 15 21.4**	**+0.1**
PRD	**Provadia**	**2.58**	**165**	⇓*i*P	**Pn**	**23 14 51.2**	**+0.6**
PRD	**Provadia**	**2.58**	**165**	⇓*i*P	**Pn**	**23 14 51.2**	**+0.6**
PRD				*i* S	**Sn**	**23 15 22.7**	**+0.3**
PRD	**Provadia**	**2.58**	**165**	*i* P	**Pn**	**23 14 51.2**	**+0.6**
PRD	**Provadia**	**2.58**	**165**	⇓*i*P	**Pn**	**23 14 51.2**	**+0.6**
PRD				*i* S	**Sn**	**23 15 22.7**	**+0.3**
GZR	**Gura Zlata**	**2.62**	**265**	⇑*i*P	**Pn**	**23 14 51.8**	**+0.7**
GZR	**Gura Zlata**	**2.62**	**265**	⇑*i*P	**Pn**	**23 14 51.8**	**+0.7**
GZR	**Gura Zlata**	**2.62**	**265**	⇑*i*P	**Pn**	**23 14 51.8**	**+0.7**
CHRU	**Chernivtsi**	**2.63**	**352**	*e*P	**Pn**	**23 14 50.8**	**-0.4**
CHRU				*e*S	**Sn**	**23 15 23.4**	**-0.1**
ROIA	**ROIAK**	**2.68**	**166**	*i* P	**Pn**	**23 14 52.1**	**+0.2**
DRGR		**2.83**	**294**	*e*Pn	**Pn**	**23 14 53.4**	**-0.5**
DRGR		**2.83**	**294**	*e*Pn	**Pn**	**23 14 53.4**	**-0.5**
NSLU	**Nyzhne Selyshc**	**2.86**	**332**	*e*P	Pn	23 14 58.4	+4.2
NSLU				*e*S	Sn	23 15 36.8	+8.1
KMPD	**K-Podol'skiy**	**2.87**	**360**	*e*P	**Pn**	**23 14 53.1**	**-1.2**
KMPD				*e*S	**Sn**	**23 15 27.8**	**-1.2**
MPEP	**Malo Peshtene**	**3.05**	**221**	*i* P	**Pn**	**23 14 56.3**	**-0.3**
BZS	**Buzias**	**3.41**	**270**	*e*Pn	**Pn**	**23 15 00.9**	**-0.4**
BZS	**Buzias**	**3.41**	**270**	⇓*i*P	**Pn**	**23 15 01.1**	**-0.2**
BZS	**Buzias**	**3.41**	**270**	⇓*i*P	**Pn**	**23 15 01.1**	**-0.2**
BZS	**Buzias**	**3.41**	**270**	⇓*i*P	**Pn**	**23 15 01.1**	**-0.2**
ZAPS	**Zavoj**	**3.66**	**230**	*e*Pn	**Pn**	**23 15 04.2**	**-0.5**
ZAPS				*e*Sn	**Sn**	**23 15 45.8**	**-1.7**
ZAPS	**Zavoj**	**3.66**	**230**	*e*Pn	**Pn**	**23 15 04.2**	**-0.5**
ZAPS				*e*Sn	**Sn**	**23 15 45.8**	**-1.7**
BOLS	**Boljevac**	**3.72**	**242**	*e*Pn	**Pn**	**23 15 02.6**	**-2.8**
BOLS	**Boljevac**	**3.72**	**242**	*e*Pn	**Pn**	**23 15 02.6**	**-2.8**
VTS	**Vitosha**	**3.89**	**218**	*e*PN	**Pn**	**23 15 05.6**	**-2.3**
VTS	**Vitosha**	**3.89**	**218**	*e*Pn	**Pn**	**23 15 07.5**	**-0.4**
VTS	**Vitosha**	**3.89**	**218**	*i* P	**Pn**	**23 15 07.4**	**-0.4**
SVIS	**Svilajnac**	**4.00**	**251**	*e*Pn	**Pn**	**23 15 07.5**	**-1.5**
KDZ	**Kurdzhali**	**4.12**	**191**	*i* P	**Pn**	**23 15 10.3**	**-0.4**
KDZ	**Kurdzhali**	**4.12**	**191**	*i* P	**Pn**	**23 15 10.3**	**-0.4**
RZN	**Rozhen**	**4.20**	**198**	*i* P	**Pn**	**23 15 11.5**	**-0.5**
RZN	**Rozhen**	**4.20**	**198**	*i* P	**Pn**	**23 15 11.5**	**-0.5**
BARS	**Barje**	**4.41**	**231**	*e*Pn	**Pn**	**23 15 14.2**	**-0.4**
BARS	**Barje**	**4.41**	**231**	*e*Pn	**Pn**	**23 15 14.2**	**-0.4**
GRUS	**Gruza**	**4.48**	**248**	*e*Pn	**Pn**	**23 15 14.8**	**-0.7**
GRUS	**Gruza**	**4.48**	**248**	*e*Pn	**Pn**	**23 15 14.8**	**-0.7**
MMB	**Musomiste**	**4.56**	**207**	⇓*i*P	**Pn**	**23 15 16.5**	**-0.1**
MMB	**Musomiste**	**4.56**	**207**	⇓*i*P	**Pn**	**23 15 16.5**	**-0.1**
MMB	**Musomiste**	**4.56**	**207**	*i* P	**Pn**	**23 15 16.5**	**-0.1**
MMB	**Musomiste**	**4.56**	**207**	⇓*i*P	**Pn**	**23 15 16.5**	**-0.1**
SELS	**Selova**	**4.56**	**239**	*e*Pn	**Pn**	**23 15 15.7**	**-0.9**
NVR	**Nevrokopi**	**4.74**	**205**	*e*PN	**Pn**	**23 15 18.7**	**-0.3**
ALN	**Alexandroupoli**	**4.81**	**184**	*e*PN	**Pn**	**23 15 19.5**	**-0.3**
DIVS	**Divibare**	**4.87**	**253**	*e*Pn	**Pn**	**23 15 18.8**	**-2.0**
DIVS	**Divibare**	**4.87**	**253**	*e*Pn	**Pn**	**23 15 18.8**	**-2.0**
IVAS	**Ivanjica**	**4.98**	**247**	*e*Pn	**Pn**	**23 15 21.7**	**-0.6**
IVAS	**Ivanjica**	**4.98**	**247**	*e*Pn	**Pn**	**23 15 21.7**	**-0.6**
SRS	**Serrai**	**5.03**	**206**	*e*PN	**Pn**	**23 15 22.4**	**-0.5**
KNT	**Kendrikon**	**5.22**	**211**	*e*PN	**Pn**	**23 15 25.0**	**-0.5**
SJES	**Sjenica**	**5.25**	**245**	*e*Pn	**Pn**	**23 15 24.3**	**-1.6**
BBLS	**Lazići**	**5.35**	**253**	*e*Pn	**Pn**	**23 15 25.1**	**-2.1**
BBLS	**Lazići**	**5.35**	**253**	*e*Pn	**Pn**	**23 15 25.1**	**-2.1**
GRG	**

EDW2	Edwards Air Fo baz=4.1	4.10	332	Sb		Sb	23 25 17.2	-0.2
GSC	Goldstone, Bar baz=4.2	4.14	347	Sb		Sb	23 25 22.7	+4.2
GSC	Goldstone, Bar	4.14	347	*e*Pn		Pn	23 24 19.8	+1.0
OSI	Osito Audit: C	4.22	323	*e*Pn		Pn	23 24 23.8	+4.0
OSI				*e*Sn		Sn	23 25 12.8	+3.3
TUC	Tucson	4.28	75	*e*Pn		Pn	23 24 19.2	-1.5
ARVC	Arvin baz=4.7	4.68	326	Sb		Sb	23 25 38.3	+4.3
ISA	Isabella, Lake	4.98	333	*e*Pn		Pn	23 24 30.7	+0.4
SHPR	Sheep Range	5.24	4	*e*Pn		Pn	23 24 35.3	+1.3
DAC	Darwin (Calif)	5.25	343	*e*Pn		Pn	23 24 36.2	+2.0
DAC				*e*Sn		Sn	23 25 42.5	+7.3
WUAZ	Wupatki baz=5.6	5.55	39	P		Pn	23 24 38.9	+0.7
WUAZ	Wupatki	5.55	39	*e*Pn		Pn	23 24 39.3	+1.1
TPNV	Topopah Spring baz=5.7	5.69	355	P		Pn	23 24 42.2	+2.0
TPNV	Topopah Spring	5.69	355	*e*Pn		Pn	23 24 41.8	+1.6
RCTC	Rector, Farmer baz=5.9	5.85	330	P		Pn	23 24 45.1	+3.0
KNB	Kanab	6.20	22	*e*Pn		Pn	23 24 48.8	+1.6
W18A	Petrified Fore baz=6.3	6.28	51	P		Pn	23 24 49.4	+1.1
W18A	Petrified Fore	6.28	51	*e*Pn		Pn	23 24 49.6	+1.4
MTUM	Tungsten Hills	6.53	339	*e*Pn		Pn	23 24 51.6	-0.1
CCUT	Cedar City	6.55	16	*e*Pn		Pn	23 24 53.8	+1.7
121A	Cookes Peak, D baz=6.8	6.81	77	P		Pn	23 24 55.6	0.0
TPH	Tonopah	6.91	350	*e*Pn		Pn	23 24 58.8	+1.8
R11A	Troy Canyon, C baz=7.1	7.07	0	P		Pn	23 25 01.0	+1.9
R11A	Troy Canyon, C	7.07	0	*e*Pn		Pn	23 25 00.8	+1.7
NVAR	Mina Array Bea comp=N,0.2nm,0.3s,baz=168,slow=14,SNR=3.1	7.47	344	Pn		Pn	23 25 07.0	+2.3
NVAR	comp=N,0.5nm,0.3s,baz=163,slow=17,SNR=13			Pg		Pb	23 25 31.4	+6.3
NVAR	comp=N,0.1nm,0.3s,baz=162,slow=28,SNR=3.0			Lg		Lg	23 27 10.3	
MSU	Marysvale	7.77	21	*e*Pn		Pn	23 25 12.6	+3.7
CMB	Columbia Colle	7.79	331	*e*Pn		Pn	23 25 12.4	+3.5
LAZ	Ladron	7.82	64	*e*Pn		Pn	23 25 12.4	+2.9
WAKR	Walker	7.86	338	*e*Pn		Pn	23 25 18.1	+8.1
BNM	Barren Site	8.14	67	*e*Pn		Pn	23 25 15.2	+1.4
MVCO	Mesa Verde baz=8.4	8.38	43	P		Pn	23 25 20.3	+3.1
MVCO	Mesa Verde	8.38	43	*e*Pn		Pn	23 25 19.6	+2.3
ANMO	Albuquerque	8.55	62	*e*Pn		Pn	23 25 18.5	-1.0
PV05	Paradox Valley	8.68	37	*e*Pn		Pn	23 25 26.1	+4.8
TMUT	Trail Mountain	8.80	23	*e*Pn		Pn	23 25 24.2	+1.2
SRU	San Rafael Swe	8.88	27	*e*Pn		Pn	23 25 29.7	+5.7
PV10	Paradox Valley	8.94	36	*e*Pn		Pn	23 25 25.7	+0.8
PV09	Paradox Valley	8.99	35	*e*Pn		Pn	23 25 28.8	+3.2
PV01	Paradox Valley	9.00	38	*e*Pn		Pn	23 25 27.7	+2.0
PV04	Paradox Valley	9.02	36	*e*Pn		Pn	23 25 29.7	+3.9
NLU	North Lily Min	9.15	18	*e*Pn		Pn	23 25 26.4	-1.3
PV15	Paradox Valley	9.20	38	*e*Pn		Pn	23 25 24.6	-3.8
DUG	Dugway, Tooele	9.21	14	*e*Pn		Pn	23 25 30.5	+2.1
ELK	Elko	9.46	2	*e*Pn		Pn	23 25 32.5	+0.5
BGU	Big Grassy Mou	9.87	12	*e*Pn		Pn	23 25 36.8	-0.7
TXAR	Lajitas Array comp=N,0.1nm,0.3s,baz=278,slow=13,SNR=13	10.54	97	Pn		Pn	23 25 48.9	+2.1
TXAR	comp=N,0.0nm,0.3s,baz=269,slow=27,SNR=2.8			Lg		Lg	23 28 35.4	
O20A	White River Ci	10.70	32	*e*Pn		Pn	23 25 49.6	+0.6
HVU	Hansel Valley	10.75	12	*e*Pn		Pn	23 25 52.2	+2.7
HWUT	Hardware Ranch	10.83	17	*e*Pn		Pn	23 25 53.8	+3.0
WVOR	Wild Horse Val	11.40	349	*e*Pn		Pn	23 26 00.6	+2.2
ISCO	Idaho Springs	11.80	41	*e*Pn		Pn	23 26 05.7	+1.6
MFID	Camas Ranch	12.13	359	*e*Pn		Pn	23 26 10.3	+1.9
HLID	Hailey	12.31	4	*e*Pn		Pn	23 26 11.8	+0.8
PDAR	Pinedale Array comp=N,0.0nm,0.3s,baz=194,slow=11,SNR=4.8	12.47	21	Pn		Pn	23 26 17.2	+4.1
MCMT	McKenzie Canyo	13.72	8	*e*Pn		P	23 26 36.5	-2.6
YMR	Madison River	13.88	14	*e*Pn		Pn	23 26 34.3	+1.9
DLMT	Dillon	14.28	9	*e*Pn		Pn	23 26 36.6	-1.1
MSO	Missoula	15.60	4	*e*Pn		P	23 27 00.1	+0.3
CHMT	Chamberlain Mo	15.74	6	*e*Pn		P	23 26 59.8	-1.6
SLMT	Seeley Lake	16.04	5	*e*Pn		Pn	23 27 02.7	+1.4
JTMT	Jette	16.49	3	*e*Pn		Pn	23 27 06.6	-0.4
NEW	Newport	17.01	357	*e*Pn		Pn	23 27 14.0	+0.5
ARG				S		Sn	23 40 05.2	-0.6
ARG	Arkhangelos	1.65	65	*e*PN		Pn	23 39 43.7	-0.8
ARG				*e*SN		Sn	23 40 04.9	-0.9
ARG	Arkhangelos	1.65	65	*e*Pn		Pn	23 39 43.7	-0.8
ARG	Arkhangelos	1.65	65	P		Pn	23 39 44.0	-0.5
ARG				*e*Sn		Sn	23 40 04.9	-0.9
ARG				S		Sn	23 40 05.2	-0.6
VAM	Vamos	1.70	266	*e*PN		Pn	23 39 45.2	+0.1
VAM	Vamos	1.70	266	*e*Pn		Pn	23 39 45.2	+0.1
BODT	Bodrum	1.74	29	*e*PN		Pn	23 39 45.0	-0.7
BODT	Bodrum	1.74	29	*e*Pn		Pn	23 39 45.0	-0.7
MHLO	Agia Marina, M	1.90	308	*e*PN		Pn	23 39 47.2	-0.7
MHLO	Agia Marina, M	1.90	308	*e*Pn		Pn	23 39 47.2	-0.7
SMG	Samos	2.21	12	*e*PN		Pn	23 39 51.9	-0.4
SMG	Samos	2.21	12	*e*Pn		Pn	23 39 51.9	-0.4
YER	Yerkesik	2.27	45	*e*PN		Pn	23 39 53.1	0.0
YER	Yerkesik	2.27	45	*e*Pn		Pn	23 39 53.1	0.0
DALY	Dalyan (Mu˘la	2.31	56	*e*PN		Pn	23 39 54.8	+1.2
DALY	Dalyan (Mu˘la	2.31	56	*e*Pn		Pn	23 39 54.8	+1.2
ANKY	Antikythira Is	2.44	279	*e*PB		Pn	23 39 55.7	+0.4
ANKY	Antikythira Is	2.44	279	*e*Pb		Pn	23 39 55.7	+0.4
KYTH	Kithira	2.73	287	P		Pn	23 39 59.2	-0.2
KYTH	Kithira	2.73	287	P		Pn	23 39 59.2	-0.2
AYDB	Zeytinkoy-Aydi	2.73	28	*e*PN		Pn	23 39 59.0	-0.5
AYDB	Zeytinkoy-Aydi	2.73	28	*e*Pn		Pn	23 39 59.0	-0.5
CHOS	Chios island	2.85	357	*e*PN		Pn	23 40 00.4	-0.7
CHOS	Chios island	2.85	357	*e*Pn		Pn	23 40 00.4	-0.7
VLI	Veliai	2.94	295	P		Pn	23 40 02.3	0.0
VLI				S		Sn	23 40 36.5	-1.2
VLI	Veliai	2.94	295	*e*PN		Pn	23 40 02.7	+0.4
VLI	Veliai	2.94	295	P		Pn	23 40 02.3	0.0
VLI	Veliai	2.94	295	*e*Pn		Pn	23 40 02.7	+0.4
VLI				S		Sn	23 40 36.5	-1.2
ELL	Elmali	3.18	67	*e*PN		Pn	23 40 07.8	+2.1
ELL	Elmali	3.18	67	*e*Pn		Pn	23 40 07.8	+2.1
KULA	Kula-Manisa	3.53	32	*e*PN		Pn	23 40 10.6	+0.1
KULA	Kula-Manisa	3.53	32	*e*Pn		Pn	23 40 10.6	+0.1
SIGR	SIGRI	3.68	355	*e*PN		Pn	23 40 12.6	+0.2
SIGR	SIGRI	3.68	355	*e*Pn		Pn	23 40 12.6	+0.2
ANTB	Antalya	3.79	68	*e*PN		Pn	23 40 16.5	+2.5
ANTB	Antalya	3.79	68	*e*Pn		Pn	23 40 16.5	+2.5
SUTC	Sutluce-Ispart	4.27	62	*e*PN		Pn	23 40 23.3	+2.6
SUTC	Sutluce-Ispart	4.27	62	*e*Pn		Pn	23 40 23.3	+2.6
TVSB	Tavsanli	4.66	32	*e*PN		Pn	23 40 26.3	+0.4
TVSB	Tavsanli	4.66	32	*e*Pn		Pn	23 40 26.3	+0.4
AGG	Agios Georgios	4.69	319	*e*PN		Pn	23 40 29.2	+2.9
AGG	Agios Georgios	4.69	319	*e*Pn		Pn	23 40 29.2	+2.9
GELI	Tayfur-Gelibol	4.85	2	*e*PN		Pn	23 40 29.0	+0.5
GELI	Tayfur-Gelibol	4.85	2	*e*Pn		Pn	23 40 29.0	+0.5
HDMB	Hadim	5.22	72	*e*PN		Pn	23 40 37.2	+3.4
HDMB	Hadim	5.22	72	*e*Pn		Pn	23 40 37.2	+3.4
KIZT	Kizilcal	5.58	52	*e*PN		Pn	23 40 40.2	+1.6
KIZT	Kizilcal	5.58	52	*e*Pn		Pn	23 40 40.2	+1.6
CSS	Prodhromos	5.80	94	*e*PN		Pn	23 40 48.2	+6.6
BRTR	Keskin Array B 0.1nm,0.3s,baz=234,slow=14,SNR=3.3	7.18	52	Pn		Pn	23 41 01.9	+1.2
BRTR	0.1nm,0.3s,baz=216,slow=21,SNR=3.1			Sn		Sn	23 42 21.3	-1.1
AKASG	Malin Array Be 0.8nm,0.3s,baz=189,slow=11,SNR=3.2	15.31	7	Pn		Pn	23 42 53.8	+2.3
TORD	Torodi Ar. Bea 0.3nm,0.6s,baz=32,slow=8.8,SNR=5.2	31.43	231	P		P	23 45 36.6	-0.4
DBIC	Dimbokro comp=Z,131nm,18.1s,baz=85,slow=42	40.51	232	LR		LR	00 07 44.5	
ZALV	Zalesovo Beam 0.5nm,0.4s,baz=267,slow=8.1,SNR=2.7	44.09	46	P		P	23 47 23.4	-0.1
KSRS	Korea Array comp=Z,69nm,18.1s,baz=165,slow=41	77.33	53	LR		LR	00 31 52.1	
ULM	Lac du Bonnet comp=Z,52nm,18.2s,baz=342,slow=38	80.50	327	LR		LR	00 30 01.6	

*IDC **25** 23:39:13.5±1.7,35˚19N×26˚64E,h0km,mb3.6/2, mb1 3.4/4,mb1mx3.2/31,mbtmp3.4/4,ML3.4/2,MS3.9/3, Ms1 3.8/3,ms1mx2.9/28, Error ellipse: s-maj=70.6km s-min=22.4km az=135.0*

*ATH **25** 23:39:14.4,35˚50N×26˚30E,h28km±1km,MD3.2/12*

*CSEM **25** 23:39:15.4±0.2,35˚54N×26˚27E,h8km,ML3.2, Error ellipse: s-maj=4.7km s-min=3.2km az=159.0*

*ISCJB **25** 23:39:15.8±0.4,35˚48N±0˚03×26˚28E±0˚03,h26km±5km, mb3.5/2,MS3.9/3, Error ellipse: s-maj=5.6km s-min=3.3km az=167.0*

*THE **25** 23:39:15.3,35˚49N×26˚29E,h4km±1km,ML3.2/4, Error ellipse: s-maj=1.8km s-min=0.5km az=186.0*

*ISK **25** 23:39:21.0,35˚97N×26˚39E,h21km,ML3.3*

ISC 25 23:39:15.5±1.0,35˚54N±0˚03×26˚27E±0˚02,h10km±8km, n94,σ1$09/114,MS3.9/3,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	Zakros	0.42	186	P	Pg	23 39 22.9	-0.9
ZKR				S	Sg	23 39 29.3	-0.2
ZKR	Zakros	0.42	186	*e*PB	Pg	23 39 23.0	-0.9
ZKR				*e*SB	Sg	23 39 29.3	-0.2
ZKR	Zakros	0.42	186	*e*Pb	Pg	23 39 23.0	-0.9
ZKR				S	Sg	23 39 29.3	-0.2
NPS	Neapolis	0.60	243	P	Pg	23 39 27.3	0.0
NPS				S	Sg	23 39 35.8	+0.6
NPS	Neapolis	0.60	243	*e*PN	Pg	23 39 26.9	-0.4
NPS				*e*SN	Sg	23 39 35.2	0.0
NPS	Neapolis	0.60	243	*e*Pn	Pg	23 39 26.9	-0.4
NPS	Neapolis	0.60	243	P	Pg	23 39 27.3	0.0
NPS				*e*Sn	Sg	23 39 35.2	0.0
KARP	Karpathos	0.72	89	P	Pg	23 39 28.8	-0.8
KARP				S	Sg	23 39 39.9	+0.9
KARP	Karpathos	0.72	89	*e*PN	Pg	23 39 28.7	-0.8
KARP				*e*SN	Sg	23 39 39.0	0.0
KARP	Karpathos	0.72	89	P	Pg	23 39 28.8	-0.8
KARP				*e*Sn	Sg	23 39 39.0	0.0
LAST	Lasithi	0.75	240	P	Pg	23 39 29.7	-0.3
LAST				S	Sg	23 39 40.2	+0.4
LAST	Lasithi	0.75	240	*e*PN	Pg	23 39 29.8	-0.3
LAST	Lasithi	0.75	240	P	Pg	23 39 29.7	-0.3
LAST				S	Sg	23 39 40.2	+0.4
SANT	Santorini	1.06	322	P	Pb	23 39 36.0	0.0
SANT				S	Sn	23 39 51.5	+0.2
SANT	Santorini	1.06	322	P	Pb	23 39 36.0	0.0
SANT				S	Sn	23 39 51.5	+0.2
THR6	Thira Island,	1.08	319	P	Pg	23 39 36.2	-0.1
THR6	Thira Island,	1.08	319	P	Pg	23 39 36.2	-0.1
THR7	Fira-Santorini	1.12	322	P	Pb	23 39 36.7	-0.2
THR7	Fira-Santorini	1.12	322	P	Pb	23 39 36.7	-0.2
THR3	Thira Island,	1.12	321	P	Pb	23 39 36.5	-0.4
THR3	Thira Island,	1.12	321	P	Pb	23 39 36.5	-0.4
THR2	Thira island,	1.13	323	P	Pb	23 39 36.9	-0.3
THR2	Thira island,	1.13	323	P	Pb	23 39 36.9	-0.3
THR5	Thira Island,	1.15	320	*e*PG	Pn	23 39 39.7	+2.0
THR5	Thira Island,	1.15	320	P	Pb	23 39 37.0	-0.5
THR5	Thira Island,	1.15	320	P	Pb	23 39 37.0	-0.5
THR5	Thira Island,	1.15	320	*e*Pg	Pn	23 39 39.7	+2.0
NIS1	Nisyros Isl.	1.29	34	*e*PG	Pn	23 39 38.8	-0.8
NIS1	Nisyros Isl.	1.29	34	*e*Pg	Pn	23 39 38.8	-0.8
SIVA	Sivas	1.30	247	P	Pn	23 39 39.9	+0.2
SIVA				S	Sg	23 39 57.6	+0.1
SIVA	Sivas	1.30	247	*e*PN	Pn	23 39 39.2	-0.5
SIVA	Sivas	1.30	247	*e*Pn	Pn	23 39 39.2	-0.5
SIVA	Sivas	1.30	247	P	Pn	23 39 39.9	+0.2
SIVA				S	Sg	23 39 57.6	+0.1
APE	Apeiranthos	1.64	339	*e*PN	Pn	23 39 44.4	0.0
APE				*e*SN	Sn	23 40 01.7	-3.9
APE	Apeiranthos	1.64	339	P	Pn	23 39 43.8	-0.7
APE				S	Sb	23 40 06.9	+0.3
APE	Apeiranthos	1.64	339	*e*PB	Pn	23 39 43.7	-0.7
APE	Apeiranthos	1.64	339	P	Pn	23 39 43.8	-0.7
APE	Apeiranthos	1.64	339	*e*Pn	Pn	23 39 44.4	0.0
APE				*e*Sn	Sn	23 40 01.7	-3.9
APE				S	Sb	23 40 06.9	+0.3
ARG	Arkhangelos	1.65	65	P	Pn	23 39 44.0	-0.5

*IDC **25** 23:49:02.4±0.8,29˚01N×132˚07E,h0km,mb3.8/8, mb1 4.0/12,mb1mx3.8/29,mbtmp3.9/12,ML3.3/3,MS3.4/1, Ms1 3.6/1,ms1mx2.6/35, Error ellipse: s-maj=25.0km s-min=17.5km az=91.0*

*JMA **25** 23:49:05.8±0.2,28˚99N×132˚09E,h74km,M3.8*

ISC 25 23:49:02.9±3.0,29˚01N±0˚05×132˚05E±0˚06,h5km±20km, n26,σ1$03/35,mb3.8/8,Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYAK	Yakushimahirau	1.82	313	P	Pb	23 49 36.5	-0.1
JYAK				*e*S	Sn	23 49 58.1	-0.2
JTN	Tanegashima 3	1.89	331	P	Pb	23 49 37.0	-0.8
JTN				*e*S	Sn	23 50 00.2	+0.2
JZK	Kikaishima	1.95	250	P	Pn	23 49 37.6	+0.9
JZK				*e*S	Sn	23 50 01.9	+1.4
JNN	Nakanoshima	2.07	294	P	Pn	23 49 39.8	+1.4
JKC	Kuchinoerabu	2.17	312	P	Pb	23 49 41.5	-1.1
JAM	Amami Oshima	2.23	255	P	Pn	23 49 41.4	+0.9
JAM				*e*S	Sn	23 50 08.3	-0.1
JTSR	Tashiro 2	2.36	336	P	Pn	23 49 43.5	+1.1
JTSR				*e*S	Sn	23 50 10.6	-1.2
JTAJ	Takarajima	2.50	274	P	Pn	23 49 45.7	+1.5
JAMN	Amamínishikomi	2.64	254	P	Pn	23 49 47.0	+0.8
JTK	Tokunoshima	2.99	247	P	Pn	23 49 52.3	+1.3
JTK				*e*S	Sn	23 50 26.9	-0.4
JTZ	Takazaki	3.00	344	P	Pn	23 49 52.3	+1.2
JTZ				*e*S	Sn	23 50 27.5	0.0
JSJ	Shimokoshiki	3.34	323	P	Pn	23 49 56.6	+0.8
JSJ				*e*S	Sn	23 50 33.6	-2.3
JOW	Kunigami	3.98	238	P	Pn	23 50 05.3	+0.6
JOW	Kunigami 3.3nm,0.3s,baz=106,slow=23,SNR=8.9	3.98	238	Pn	Pn	23 50 05.0	+0.3
JOW				Sn	Sn	23 50 49.6	-2.2
JNU	2.0nm,0.3s,baz=92,slow=30,SNR=8.7 Nakatsue	4.22	347	Pn	Pn	23 50 09.3	+1.4
JNU	2.0nm,0.3s,baz=8.3,slow=8.5,SNR=11			Sn	Sn	23 50 56.4	-1.3
MJAR	6.5nm,0.3s,baz=42,slow=23,SNR=8.7 Matsushiro Arr	9.12	33	Pn	Pn	23 51 16.5	+1.2
JCJ	0.6nm,0.3s,baz=204,slow=15,SNR=4.4 Chichijima	9.15	100	Pn	Pn	23 51 15.0	-0.7
SONM	17nm,0.3s,baz=282,slow=18,SNR=17 Songino Array	27.32	321	P	P	23 54 48.6	-0.1
CMAR	0.8nm,0.8s,baz=148,slow=8.5,SNR=5.3 Chiang Mai Arr	31.98	258	LR	LR	00 10 25.4	
WRA	comp=Z,57nm,18.5s,baz=204,slow=40 Warramunga Arr	48.72	177	P	P	23 57 48.7	+0.1
ASAR	0.9nm,0.8s,baz=356,slow=8.4,SNR=4.4 Alice Springs	52.40	178	P	P	23 58 16.8	+0.4
ILAR	0.6nm,0.6s,baz=11,slow=13,SNR=19 Eielson Array	60.38	29	P	P	23 59 12.4	-0.4
FINES	0.5nm,0.8s,baz=281,slow=5.4,SNR=6.2 FINESS Array B	72.10	331	P	P	00 00 28.4	+0.3
YKA	0.9nm,0.5s,baz=90,slow=4.9,SNR=16 Yellowknife Ar	74.57	26	P	P	00 00 42.8	+0.3
NOA	0.6nm,0.6s,baz=304,slow=5.8,SNR=7.8 NORSAR Array B	78.29	335	P	P	00 01 03.8	0.0
NVAR	0.3nm,0.5s,baz=49,slow=5.3,SNR=3.3 Mina Array Bea	86.14	48	P	P	00 01 45.9	+0.3
	0.5nm,0.6s,baz=314,slow=6.0,SNR=3.9						

MEX 26 00:16:30.9±0.3,15˚69N×96˚48W,h10km,MD3.5,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	0.37	78	*i* P	Pg	00 16 37.8	-0.4
HUIG				*i* S	Sg	00 16 43.2	0.0
VHO	Vista Hermosa	1.40	350	*e*P	Pn	00 16 52.9	-3.8
VHO				*i* S	Sn	00 17 10.2	-5.3
PNIG	Pinotepa	1.73	294	*e*P	Pn	00 16 57.6	-3.5
PNIG				*i* S	Sn	00 17 19.4	-3.9
CMIG	Matias Romero	2.07	48	*e*P	Pn	00 17 01.9	-3.9
CMIG				*i* S	Sn	00 17 28.0	-3.7

*NIED **26** 00:18:00,26˚00N×129˚40E,h8km,Mw4.7 Best double couple: M0 1.33000×10^16 NP1:φs198.00000˚,δ46.00000˚, λ-118.00000˚. NP2:φs55.00000˚,δ51.00000˚, λ-64.00000˚.*

*IDC **26** 00:18:28.3±0.5,26˚09N×129˚48E,h0km,mb4.6/30, mb1 4.7/35,mb1mx4.6/48,mbtmp4.6/35,ML3.9/5,MS4.0/23, Ms1 4.0/23,ms1mx3.8/43, Error ellipse: s-maj=13.5km s-min=12.8km az=51.0*

*JMA **26** 00:18:30.3±0.1,26˚03N×129˚43E,h45km,M4.7*

*NEIC **26** 00:18:31.2±1.9,26˚11N×129˚39E,h15km±11km, mb5.2/107,MW4.7(NIED), Error ellipse: s-maj=5.9km s-min=3.6km az=147.0*

*GCMT **26** 00:18:31.2±0.3,26˚03N×129˚33E,h12km,MW4.9/59, Moment Tensor Solution. s22,c27; s59,c102; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.15±.08; Mθθ=0.54±.08; Mφφ=1.61±.08; Mrθ=0.34±.30; Mrφ=1.61±.06; Mθφ=0.97±.30; Best double couple: M0 2.67300×10^16 NP1:φs207.00000˚,δ57.00000˚,λ-101.00000˚. NP2: φs46.00000˚,δ35.00000˚,λ-75.00000˚. Principal axes: T 2.9610, Plg11.0000˚, Azm305.0000˚; N -0.5800, Plg9.0000˚, Azm213.0000˚; P -2.3850, Plg76.0000˚, Azm85.0000˚; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **26** 00:18:32.2,26˚04N×129˚33E,h35km,mb4.6/53,mB4.9/51, Ms4.5/72,Ms7 4.3/66*

*MOS **26** 00:18:33.6±1.3,26˚13N×129˚54E,h45km,mb5.0/44, MS4.3/12, Error ellipse: s-maj=9.9km s-min=5.0km az=99.5*

*ISCJB **26** 00:18:34.1±0.1,26˚20N±0˚02×129˚30E±0˚02,h39km, mb5.0/177,MS4.3/43,Error ellipse: s-maj=2.9km s-min=2.3km az=176.2*

ISC 26 00:18:34.9±0.4,26˚16N±0˚03×129˚39E±0˚03,h41km±2km, h41km:pP-P,n559,σ1$64/612,mb5.1/182,MS4.3/46, 36C-27D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	Kunigami	1.20	304	P	Pn	00 18 52.8	-2.4
JOW				S	Sn	00 19 08.1	-2.3
JOW	Kunigami 137nm,0.3s,baz=135,slow=15,SNR=1310	1.20	304	Pn	Pn	00 18 52.9	-2.4
JOW	118nm,0.3s,baz=108,slow=19,SNR=26			Sn	Sn	00 19 07.5	-2.8
JOW	comp=Z,974nm,21.8s,baz=152,slow=50			LR	LR	00 19 34.2	
JOW	Kunigami	1.20	304	*e*Pn	Pn	00 18 52.8	-2.4
JOW				*e*Sn	Sn	00 19 08.7	-1.7
JNTH	Nagotoyohara	1.27	286	P	Pn	00 18 53.1	-3.2
JNTH				S	Sn	00 19 09.8	-2.4
JOKE	Okinoerabujima	1.40	329	P	Pn	00 18 56.1	-1.9
JOKE				S	Sn	00 19 14.3	-1.0
JJT2	Tamagusuku 2	1.47	269	P	Pn	00 18 56.0	-3.0
JJT2				S	Sn	00 19 14.9	-2.2
JIH	Iheya	1.54	305	P	Pn	00 18 57.8	-2.1
JIH				S	Sn	00 19 16.9	-1.8
JTK	Tokunoshima	1.66	347	P	Pn	00 18 59.8	-1.8
JTK				S	Sn	00 19 20.8	-1.0
JMZ	Minamidaito 2	1.69	101	P	Pn	00 18 57.0	-4.9
JMZ				*e*S	Sn	00 19 15.8	-6.5
JAGN	Aguni-jima	1.97	283	P	Pn	00 19 03.2	-2.6
JAGN				S	Sn	00 19 27.4	-1.9
JAMN	Amaminishikomi	2.08	355	P	Pn	00 19 05.8	-1.5
JAMN				S	Sn	00 19 30.4	-1.6
JZK	Kikaishima	2.21	14	P	Pn	00 19 08.1	-1.0
JZK				*e*S	Sn	00 19 35.5	+0.4
JAM	Amami Oshima	2.25	5	P	Pn	00 19 07.8	-1.8
JAM				S	Sn	00 19 35.1	-1.1
JKE	Kume jima 2	2.34	275	P	Pn	00 19 07.3	-3.6
JKE				*e*S	Sn	00 19 35.0	-3.5
JTAJ	Takarajima	2.98	357	P	Pn	00 19 18.1	-1.7
JTAJ				S	Sn	00 19 52.2	-2.1
JNN	Nakanoshima	3.69	7	P	Pn	00 19 27.8	-1.7
JNN				S	Sn	00 20 09.5	-2.2
JOGS	Gusukube	3.86	250	P	Pn	00 19 28.3	-3.5
JOGS				*e*S	Sn	00 20 12.4	-3.5
JMJ	Miyako jima 2	3.94	251	P	Pn	00 19 28.8	-4.1
JMJ				*e*S	Sn	00 20 12.8	-5.0
JIKM	Ikemajima	3.94	253	P	Pn	00 19 27.5	-5.4
JIRB	Irabujima	4.03	252	P	Pn	00 19 30.0	-4.2
JIRB				*e*S	Sn	00 20 14.9	-5.3
JTJ	Tarama	4.50	251	P	Pn	00 19 36.5	-4.1
JTJ				*e*S	Sn	00 20 25.1	-6.6
JISG	Ishigakijimahi	4.85	252	P	Pn	00 19 40.5	-5.0
JISG				*e*S	Sn	00 20 34.3	-6.1
JIJ	Ishigaki jima	5.08	250	P	Pn	00 19 44.7	-3.8
JIJ				*e*S	Sn	00 20 37.8	-8.1
JKRS	Kuro-shima	5.24	250	P	Pn	00 19 46.5	-4.2
IRIF	Iriomote-Funau	5.44	252	P	Pn	00 19 48.7	-4.8
IRIF				*e*S	Sn	00 20 48.0	-6.8
YOJ	Yonaguni jima	6.01	255	P

TIA comp=Z,20nm,0.9s pmax pmax
TIA comp=Z,330nm,10.0s LR LR
TIA comp=N,800nm,15.0s LR LR
TIA comp=E,930nm,13.0s LR LR
TIA comp=Z,1μm,18.0s LR LR
SNY Shenyang 16.34 344 ⇓P **P 00 22 23.5 -0.3**
SNY S **Sn 00 25 20.8 -0.8**
SNY PMZ
SNY comp=Z,200nm,3.5s LN
SNY comp=Z,360nm,15.0s LE
SNY comp=Z,1μm,19.2s LZ
SNY comp=Z,700nm,14.4s
VLA Vladivostok 17.04 6⇑*e*P **Pn 00 22 29.6 -0.5**
VLA *e*S **Sn 00 25 38.1 -0.3**
VLA pmax pmax
BJT comp=Z,10.0nm,0.6s
BJT Baijiatuau 17.68 325 *e*Pn **Pn 00 22 38.2 +0.1**
BJI Beijing 17.69 325 P **Pn 00 22 38.3 +0.1**
BJI S **S 00 25 58.5 -1.7**
BJI PMZ
BJI comp=Z,71nm,0.9s PMZ
BJI comp=Z,450nm,4.0s LN
BJI comp=Z,930nm,16.9s LE
BJI comp=Z,870nm,16.1s LZ
BJI comp=Z,530nm,29.0s
CN2 Changchun 17.89 351 *e*P **P 00 22 41.3 +0.4**
CN2 *e*S **S 00 26 02.0 -2.1**
CN2 PMZ
CN2 comp=Z,10.0nm,0.6s PMZ
CN2 comp=Z,200nm,3.0s LN
CN2 comp=Z,700nm,11.0s LE
CN2 comp=Z,600nm,11.0s LZ
CN2 comp=Z,600nm,14.0s
ENH Enshi 18.01 288 *e*Pn **Pn 00 22 40.5 -1.7**
comp=Z,22nm,0.9s
USRK Ussuriysk Ar. 18.12 6 P **Pn 00 22 43.3 -0.1**
comp=Z,0.4nm,0.3s,baz=184,slow=10,SNR=30
TIY Taiyuan 18.40 313 *e*P **Pn 00 22 47.5 +0.6**
TIY S **Sn 00 26 08.5 -3.0**
TIY PMZ
TIY comp=Z,380nm,4.8s LN
TIY comp=Z,1μm,16.2s LE
TIY comp=Z,790nm,12.0s LZ
TIY comp=Z,1μm,14.4s
MDJ Mudanjiang 18.41 0 P **Pn 00 22 48.8 +1.8**
MDJ pP **pP 00 22 56.0 -0.7**
MDJ sP **sP 00 23 01.5 -0.4**
MDJ S **Sn 00 26 12.8 +1.1**
MDJ PMZ
MDJ comp=Z,10.0nm,0.9s PMZ
MDJ comp=Z,68nm,4.7s LN
MDJ comp=Z,320nm,14.8s LE
MDJ comp=Z,250nm,12.1s LZ
MDJ comp=Z,390nm,17.6s
GUMO Guam 19.17 128 LR LR 00 28 44.7
comp=Z,251nm,19.2s,baz=289,slow=32
XAN Xi'an 19.35 299 P **P 00 22 55.5 -1.6**
XAN pP **pP 00 23 03.0 -4.1**
XAN sP **sP 00 23 07.8 -4.5**
XAN S S 00 26 22.5 -11
XAN sS **Sn 00 26 37.5 +3.0**
XAN PMZ
XAN comp=Z,61nm,8.1s LN
XAN comp=Z,390nm,18.0s LE
XAN comp=Z,250nm,17.1s LZ
XAN comp=Z,290nm,18.0s
QIZ Qiongzhong 19.38 253 P **Pn 00 22 58.5 -0.3**
QIZ sP **sP 00 23 14.5 +1.8**
QIZ S **S 00 26 34.3 -0.3**
QIZ PMZ
QIZ comp=Z,240nm,7.1s LN
QIZ comp=Z,340nm,18.5s LE
QIZ comp=Z,270nm,14.7s LZ
QIZ comp=Z,590nm,18.2s
ERM Erimo 19.45 32 *i*P **P 00 22 57.0 -1.0**
ERM pmax pmax
ERM comp=Z,36nm,0.8s
ERM Erimo 19.45 32 *e*P **P 00 22 57.2 -0.8**
comp=Z,49nm,1.0s
GYA Guiyang 20.37 276 P **P 00 23 08.5 +0.2**
GYA pP **pP 00 23 18.0 -0.5**
GYA pP **PnPn 00 23 30.5 +4.2**
GYA S **S 00 26 50.5 -4.0**
GYA sS Sn 00 27 04.3 +4.9
GYA SS **SnSn 00 27 20.8 +6.6**
GYA PMZ
GYA comp=Z,30nm,0.8s PMZ
GYA comp=Z,140nm,5.2s LN
GYA comp=Z,820nm,16.8s LE
GYA comp=Z,740nm,17.0s LZ
GYA comp=Z,760nm,16.2s
HHC Hu-ho-hao-te 20.81 319 *e*P **P 00 23 11.5 -1.4**
HHC pP **pP 00 23 25.8 +2.7**
HHC sP **sP 00 23 31.5 +3.3**
HHC PP **PnPn 00 23 38.8 +6.6**
HHC S **S 00 27 01.0 -1.9**
HHC sS **sS 00 27 15.0 -4.2**
HHC SS **SnSn 00 27 31.5 +6.7**
HHC PMZ
HHC comp=Z,23nm,0.7s PMZ
HHC comp=Z,160nm,4.0s LN
HHC comp=Z,2μm,10.9s LE
HHC comp=Z,2μm,10.1s LZ
HHC comp=Z,2μm,10.8s
ASAJ Asahikawa 20.87 28 *e*P **P 00 23 12.1 -1.3**
comp=Z,28nm,0.8s
BTO Baotou 21.59 317 *e*P **P 00 23 21.3 0.0**
YUK Yuzh-Kuril'sk 22.28 33*c i*P **P 00 23 27.8 -0.7**
YUK *i* 00 23 51.3
YUK *i* S **S 00 27 29.4 -1.7**
YUK *i* SS SnSn 00 28 17.7 +17
YUK pmax pmax
YUK comp=Z,200nm,5.0s pmax pmax
YUK comp=N,58nm,1.4s pmax pmax
YUK comp=E,53nm,1.4s pmax pmax
YUK comp=Z,127nm,1.4s MLR MLR
YUK comp=N,280nm,17.0s MLR MLR
YUK comp=E,240nm,17.0s MLR MLR
YUK comp=Z,193nm,17.0s
HABR Khabarovsk 22.71 10 *e*P **P 00 23 31.6 -1.5**
HABR *e**PP **pP 00 23 43.2 -0.1**
HABR *e**SP **sP 00 23 49.8 +1.4**
HABR *e* 00 27 20.9
HABR *e*S **S 00 27 37.9 -0.7**
HABR *e*SS **SnSn 00 28 13.8 +2.7**
HABR pmax pmax
HABR comp=Z,30nm,1.4s MLR MLR
HABR comp=Z,341nm,18.0s
CD2 Chengdu 22.99 288 P **P 00 23 34.3 -1.9**
CD2 pP **pP 00 23 42.5 -4.0**
CD2 sP **sP 00 23 46.8 -4.8**
CD2 PcP **PcP 00 27 23.8 -1.3**
CD2 S S **00 27 42.8 -1.0**
CD2 sS Sn 00 27 57.0 -4.9
CD2 PMZ
CD2 comp=Z,50nm,0.5s PMZ
CD2 comp=Z,100nm,3.5s LN
CD2 comp=Z,1μm,15.6s LE
CD2 comp=Z,1μm,13.7s LZ
CD2 comp=Z,900nm,12.2s
KLR Kul'dur 23.10 4 *e*P **P 00 23 32.7 -4.4**
KLR *e*S **S 00 27 44.5 -0.8**
KLR pmax pmax
KLR comp=Z,120nm,1.6s
YSS Yuzh-Sakhalins 23.30 24⇓*i*P **P 00 23 39.0 -0.1**
YSS pmax pmax
YSS comp=Z,230nm,1.2s MLR MLR
YSS comp=E,500nm,16.0s MLR MLR
YSS comp=Z,500nm,16.0s
YSS Yuzh-Sakhalins 23.30 24 *e*P **P 00 23 39.8 +0.8**
comp=Z,288nm,1.3s
LZH Lanzhou 23.94 301 ⇑P **P 00 23 45.5 0.0**
LZH pP **pP 00 23 56.3 -0.2**
LZH sP **sP 00 24 02.0 +0.6**
LZH PP **PnPn 00 24 21.0 +5.9**
LZH S **S 00 27 55.0 -4.5**
LZH SS **SnSn 00 28 48.0 +6.4**
LZH PMZ
LZH comp=Z,58nm,1.5s PMZ
LZH comp=Z,200nm,4.0s LN
LZH comp=Z,700nm,13.8s LE
LZH comp=Z,470nm,12.1s LZ
LZH comp=Z,950nm,16.0s
KMI Kunming 24.03 273 ⇑P **P 00 23 47.0 +0.5**
KMI pP **pP 00 23 58.8 +1.2**
KMI PP **PnPn 00 24 22.3 +5.8**
KMI S **S 00 27 59.3 -2.0**
KMI sS **sS 00 28 17.0 -2.6**
KMI SS **SnSn 00 28 51.0 +6.9**
KMI PMZ
KMI comp=Z,16nm,0.7s PMZ
KMI comp=Z,220nm,4.0s LN
KMI comp=Z,920nm,14.4s LE
KMI comp=Z,750nm,13.5s LZ
KMI comp=Z,750nm,12.8s
HIA Hailar 24.25 345 *e*P **P 00 23 50.0 +1.9**
HIA pmax pmax
comp=Z,7.0nm,0.8s
UBPT Khong Chiam 24.81 249 P **P 00 23 56.7 +3.3**
comp=Z,20nm,1.5s,comp=Z,922nm
SKNT Sakolnakorn 25.30 254 P P 00 24 04.8 +7.0
comp=Z,28nm,1.0s
TNTI Ternate 25.32 185 P pP 00 24 11.3 +2.3
GTOI Gorontalo 26.11 195 P **P 00 24 07.2 +2.0**
MRSI Marisa 26.53 197 P **P 00 24 06.4 -2.5**
comp=Z,17nm,1.2s
TYV Tymovskoe 26.68 19 *e*P **P 00 24 12.8 +2.9**
TYV pmax pmax
comp=N,26nm,1.0s
SIJI Sorong 26.93 176 LR LR 00 34 10.8
comp=N,132nm,20.3s,baz=353,slow=35
MPSI Mapaga 27.26 201 P **P 00 24 20.1 +4.6**
comp=N,12nm,1.6s,comp=N,563nm
CRAI Chiangrai 27.28 264 P **P 00 24 16.0 +0.3**
comp=N,24nm,1.2s,comp=N,3μm
UTTA Uttaradit 27.98 258 P **P 00 24 24.8 +2.9**
comp=N,3.6nm,1.1s,comp=N,46nm
GTA Gaotai 28.01 306 *e*P **P 00 24 22.3 0.0**
GTA pP **pP 00 24 34.5 +1.1**
GTA sP **sP 00 24 40.3 +2.0**
GTA PcP **PcP 00 27 37.5 +1.1**
GTA S **S 00 29 03.0 -1.0**
GTA sS **sS 00 29 23.5 +0.9**
GTA SS **SnSn 00 30 28.8 +7.8**
GTA ScS **ScS 00 35 04.0 -2.7**
GTA PMZ
GTA comp=N,62nm,5.4s LN
GTA comp=N,610nm,13.9s LE
GTA comp=N,860nm,14.4s LZ
GTA comp=N,860nm,16.7s
PBKT Sadao Pong 28.08 256 P **P 00 24 25.8 +3.0**
comp=N,16nm,1.3s
SONM Songino Array 28.18 326 P **P 00 24 24.7 +1.1**
comp=N,3.6nm,0.9s,baz=138,slow=11,SNR=19
SONM LR LR 00 37 01.3
comp=N,338nm,18.6s,baz=130,slow=39
SONM Songino Array 28.18 326 P **P 00 24 24.7 +1.1**
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM MLR MLR
comp=Z,339nm,18.6s
SANI Sanana 28.24 187 P **P 00 24 23.5 -0.7**
comp=Z,30nm,0.8s
NKL Nikolayevsk 28.25 14 *e*P P 00 24 18.8 -5.2
NKL pmax pmax
comp=Z,50nm,1.0s
LAMP Lampang 28.50 261 P P 00 24 30.0 +3.3
comp=Z,5.6nm,1.0s
CMAI Chiengmai2 28.56 264 P P 00 24 33.6 +6.3
comp=Z,98nm,0.7s
CMMT Chiang Mai 29.01 262 P **P 00 24 33.8 +2.6**
comp=Z,24nm,1.4s
CHTO Chiang Mai 29.02 262 P **P 00 24 33.9 +2.7**
comp=Z,85nm,1.4s
CHTO Chiang Mai 29.02 262 *e*P **P 00 24 33.2 +2.0**
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 29.14 261 P **P 00 24 33.2 +0.9**
comp=Z,4.8nm,0.7s,baz=62,slow=7.8,SNR=21
CMAR LR LR 00 36 28.3
comp=Z,160nm,18.8s,baz=74,slow=37
CMAR Chiang Mai Arr 29.14 261 *i*P **P 00 24 35.0 +2.7**
CMAR pmax pmax
comp=Z,5.0nm,0.8s
JAY Jayapura 30.54 157 LR LR 00 36 40.4
comp=Z,159nm,18.0s,baz=274,slow=36
KSM Kuching 30.65 220 *e*P **P 00 24 45.5 -0.2**
comp=Z,36nm,1.2s
CLNS Chul'man 30.82 355 *e*P **P 00 24 47.0 +0.2**
CLNS pmax pmax
comp=Z,12nm,1.1s
CLNS pmax pmax
comp=N,12nm,1.1s
CLNS MLR MLR
comp=N,203nm,17.0s
CLNS MLR MLR
comp=Z,195nm,14.0s
TLY Talaya 32.09 329 LR LR 00 39 24.8
comp=Z,412nm,18.8s,baz=132,slow=39
BOD Bodaibo 33.47 345 *e*P **P 00 25 09.0 -1.0**
SHL Shillong 33.68 277 *e*P **P 00 25 14.0 +1.6**
LSA Lhasa 33.87 285 *e*P **P 00 25 13.3 -1.1**
comp=Z,9.2nm,0.8s
PETK Petropavlovsk- 34.22 31 P **P 00 25 13.8 -2.8**
comp=Z,15nm,0.9s,baz=218,slow=6.8,SNR=15
PETK LR LR 00 40 40.9
comp=Z,81nm,19.0s,baz=223,slow=39
PETK Petropavlovsk- 34.22 31 P **P 00 25 13.8 -2.8**
PETK pmax pmax
comp=Z,15nm,0.9s
PETK MLR MLR
comp=Z,81nm,19.0s
PET Petropavlovsk 34.61 31 *e*P **P 00 25 20.3 +0.4**
PET *e*S **S 00 30 47.2 +0.9**
PET pmax pmax
PET comp=Z,37nm,1.2s MLR MLR
PET comp=Z,100nm,16.0s
IPM Ipoh 34.67 236 *e*P **P 00 25 21.0 +0.1**
comp=Z,19nm,1.0s
YAK Yakutsk 35.86 0 *e*P **P 00 25 29.5 -1.0**
YAK *e**PP **pP 00 25 41.4 -0.4**
YAK *e* 00 26 49.7
YAK *e* 00 27 53.4
YAK *e*S **S 00 31 03.8 -1.5**
YAK *e*SS **SnSn 00 33 27.9 -2.9**
YAK *e* 00 35 44.3
YAK pmax pmax
YAK comp=Z,23nm,0.9s pmax pmax
YAK comp=N,18nm,1.1s pmax pmax
YAK comp=Z,73nm,3.5s pmax pmax
YAK comp=N,31nm,2.1s pmax pmax
YAK comp=E,31nm,3.2s smax smax
YAK comp=E,54nm,2.1s smax smax
YAK comp=N,96nm,2.8s
TAPN Taplejung 37.11 281 *e*P **P 00 25 41.7 -0.4**
comp=N,39nm,1.1s
PSI Prapat 37.34 237 *e*P **P 00 25 44.4 +0.5**
comp=N,16nm,1.1s
ODAN Odare 37.46 281 *e*P **P 00 25 44.8 -0.2**
comp=N,104nm,1.1s
WMQ Urumqi 37.97 309 P **P 00 25 49.5 +0.7**
WMQ pP **pP 00 25 59.5 -0.7**
WMQ sP **sP 00 26 03.3 -1.8**
WMQ PP **PnPn 00 27 20.0 +2.4**
WMQ S **S 00 31 37.8 -0.3**
WMQ ScP **ScP 00 31 49.0 +0.6**
WMQ sS **sS 00 31 54.3 -2.7**
WMQ ScS **ScS 00 35 55.8 -1.8**
WMQ PMZ
WMQ comp=N,5.0nm,0.8s PMZ
WMQ comp=N,120nm,5.6s LN
WMQ comp=N,150nm,18.9s LE
WMQ comp=N,480nm,19.6s LZ
WMQ comp=N,420nm,20.4s
RAMN Ramite 38.15 281 *e*P **P 00 25 50.2 -0.6**
comp=N,47nm,1.2s
GUN Gumba 38.64 283 *e*P **P 00 25 54.7 -0.3**
comp=N,59nm,0.9s
PKI Pulchoki 39.10 282 *e*P **P 00 25 58.3 -0.6**
comp=N,57nm,1.1s
PKIN Phulchoki 39.11 282 *e*P **P 00 25 58.4 -0.5**
KKN Kakani 39.19 283 *e*P **P 00 25 59.8 +0.4**
comp=N,40nm,0.9s
GSI Gunungsitoli 39.34 236 *e*P **P 00 26 00.8 +0.3**
comp=N,46nm,1.1s
DMN Daman 39.37 282 *e*P **P 00 26 00.5 -0.5**
comp=N,95nm,1.2s
GKN Gorkha 39.72 283 *e*P **P 00 26 03.7 -0.1**
comp=N,67nm,1.0s
SEY Seymchan 39.79 16 P **P 00 26 02.0 -1.6**
comp=N,11nm,0.8s,baz=208,slow=5.8,SNR=27
SEY LR LR 00 43 05.2
comp=N,205nm,20.2s,baz=197,slow=37
SEY Seymchan 39.79 16⇓*i*P **P 00 26 04.4 +0.7**
KOLN Koldanda 40.66 283 *e*P **P 00 26 12.1 +0.4**
comp=N,50nm,1.0s
MKAR Makanchi Array 42.35 312 *e*P **P 00 26 24.2 -0.9**
ZALV Zalesovo Beam 42.93 322 P **P 00 26 28.4 -1.2**
comp=N,2.8nm,0.6s,baz=112,slow=7.5,SNR=13
ZALV LR LR 00 46 20.8
comp=N,385nm,19.1s,baz=70,slow=39
ZALV Zalesovo Beam 42.93 322 *i*P **P 00 26 29.2 -0.4**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
NVS Novosibirsk 44.12 323 *e*P P 00 26 35.3 -3.9
TIXI Tiksi 45.52 360⇑*i*P **P 00 26 50.0 -0.1**
TIXI pmax pmax
comp=Z,15nm,1.2s
TIXI Tiksi 45.52 360 *e*P **P 00 26 49.8 -0.3**
comp=Z,13nm,1.1s
KURK Kurchatov 45.58 316 P **P 00 26 50.8 -0.1**
comp=Z,34nm,0.9s,SNR=5.2
KURK Kurchatov 45.58 316 P **P 00 26 50.8 -0.1**
KURK pmax pmax
comp=Z,2.0nm,0.5s
KURK Kurchatov 45.58 316 *e*P **P 00 26 50.5 -0.3**
comp=Z,7.4nm,0.8s
KURBB Kurchatov Arra 45.62 316 P **P 00 26 50.8 -0.3**
comp=Z,1.5nm,0.5s,baz=103,slow=8.9,SNR=20
WRAB Tennant Creek 46.07 174 P **P 00 26 53.9 -1.1**
comp=Z,79nm,0.9s,SNR=6.7
WRAB Tennant Creek 46.07 174 *i*P **P 00 26 52.7 -2.3**
WRAB pmax pmax
comp=Z,30nm,0.8s
NDI New Delhi 46.08 286 *e*P P 00 27 06.0 +11
WRA Warramunga Arr 46.08 174 P **P 00 26 52.7 -2.4**
comp=Z,12nm,1.0s,baz=349,slow=8.4,SNR=32
WRA Warramunga Arr 46.08 174 *i*P **P 00 26 53.5 -1.6**
WRA pmax pmax
comp=Z,13nm,1.0s
KSH Kashi 46.19 301 P P 00 27 01.5 +5.5
KSH pP pP 00 27 12.0 +4.4
KSH PcP PcP 00 28 37.0 +5.7
KSH PP PP 00 28 53.0 +8.2
KSH S **S 00 33 44.8 +5.2**
KSH PMZ
KSH comp=Z,140nm,4.4s LN
KSH comp=Z,75nm,5.6s LE
KSH comp=Z,99nm,6.0s
TKM2 Tokmak 2 46.56 305 *e*P **P 00 26 59.8 +0.8**
comp=Z,13nm,0.9s
BILL Bilibino 47.41 18*d i*P **P 00 27 05.4 +0.5**
BILL *i**PP **pP 00 27 17.0 +0.5**
BILL *e**SP sP 00 27 28.1 +6.7
BILL pmax pmax
BILL comp=Z,39nm,1.2s MLR MLR
BILL comp=Z,147nm,17.0s
BILL Bilibino 47.41 18 *e*P **P 00 27 05.8 +0.8**
EKS2 Erkin-Say 47.89 305 *e*P **P 00 27 09.6 +0.4**
comp=Z,5.7nm,1.1s
ASAR Alice Springs 49.73 175 P **P 00 27 21.6 -1.6**
comp=Z,4.5nm,0.9s,baz=356,slow=6.9,SNR=22
ASAR LR LR 00 49 25.7
comp=Z,51nm,19.0s,baz=7.5,slow=37
ASAR Alice Springs 49.73 175 P **P 00 27 21.7 -1.6**
ASAR pmax pmax
comp=Z,5.0nm,0.9s
ASAR MLR MLR
comp=Z,51nm,19.0s
KKAR Karatay Array 50.30 305 *e*P **P 00 27 27.5 0.0**
BVAR Borovoye Array 51.02 318 P **P 00 27 32.4 -0.3**
comp=Z,4.9nm,0.7s,baz=100,slow=8.1,SNR=18
BVAR Borovoye Array 51.02 318 P **P 00 27 32.4 -0.3**
BVAR pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 51.08 318 P **P 00 27 33.0 -0.2**
comp=Z,83nm,0.9s,SNR=8.7
BRVK Borovoye 51.08 318⇑*i*P **P 00 27 33.1 -0.2**
BRVK pmax pmax
comp=Z,19nm,1.2s
BRVK Borovoye 51.08 318 *e*P **P 00 27 33.1 -0.1**
comp=Z,14nm,0.8s
KBL Kabul 52.08 295 *e*P **P 00 27 41.8 +0.6**
comp=Z,24nm,0.8s
FORT Forrest 56.63 181 *e*P **P 00 28 13.5 -0.4**
comp=Z,46nm,0.9s
SVE Sverdlovsk 56.95 322⇑*e*P **P 00 28 17.4 +1.5**
SVE pmax pmax
SVE comp=Z,27nm,0.9s MLR MLR
SVE comp=Z,570nm,15.0s
ABKAR Akbulak array 57.45 313 *e*P **P 00 28 19.9 +0.4**
ARU Arti 58.09 322 P **P 00 28 24.2 +0.3**
comp=Z,76nm,0.9s,SNR=10

ARU Arti 58.09 322*c iP* **P** **00 28 24.3 +0.3**
ARU *PP **pP** **00 28 35.3 -0.5**
ARU 00 30 30.3
ARU S **S** **00 36 24.4 +2.5**
ARU pmax pmax
comp=Z,15nm,1.0s
ARU MLR MLR
comp=Z,603nm,16.0s
ARU Arti 58.09 322 *eP* **P** **00 28 23.5 -0.5**
comp=Z,29nm,1.0s
STKA Stephens Creek 58.88 168 P **P** **00 28 28.2 -1.4**
comp=Z,2.3nm,0.5s,baz=347,slow=7.7,SNR=6.9
STKA LR LR 00 52 14.1
comp=Z,50nm,21.5s,baz=18,slow=34
IMYA Miami 58.98 298 *eP* **P** **00 28 32.1 +1.4**
ISRO Mashad 59.48 298 *eP* **P** **00 28 36.7 +2.5**
IDAH Dahanechah 59.93 294 *eP* **P** **00 28 39.7 +2.2**
GEYT Alibeck 60.22 300 P **P** **00 28 40.2 +1.1**
comp=Z,13nm,1.1s,baz=38,slow=2.6,SNR=16
ISHV Shirvan 60.62 300 *eP* P 00 28 47.2 +5.1
ITEG Tejag 60.81 295 *eP* **P** **00 28 45.1 +1.7**
IM04 Indian Mountai 61.06 27 *eP* **P** **00 28 44.9 +0.6**
RSO Redoubt South 61.67 33 *eP* **P** **00 28 49.1 +0.4**
PPLA Purkeypile 61.81 31 *eP* **P** **00 28 50.0 +0.4**
comp=Z,39nm,1.6s
CAST Castle Rocks 61.83 30 *eP* **P** **00 28 50.4 +0.8**
comp=Z,16nm,1.0s
SPU Mount Spurr 61.97 33 *eP* **P** **00 28 51.0 +0.5**
BPAW Bear Paw Mtn. 62.29 29 *eP* **P** **00 28 53.6 +1.0**
comp=Z,3.3nm,1.2s
MLY Manley 62.34 28 *eP* **P** **00 28 53.7 +0.7**
comp=Z,21nm,1.1s
COLD Coldfoot 62.47 26 *eP* **P** **00 28 54.6 +0.9**
comp=Z,9.8nm,1.2s
BRLK Bradley Lake 62.66 34 *eP* **P** **00 28 56.4 +1.2**
comp=Z,14nm,1.0s
MCK McKinley 63.22 30 *eP* **P** **00 28 59.3 +0.5**
comp=Z,32nm,1.1s
RND Reindeer 63.28 30 *eP* **P** **00 28 59.4 +0.1**
comp=Z,31nm,1.0s
PMR Palmer 63.33 32 *eP* **P** **00 28 59.5 -0.1**
comp=Z,11nm,0.9s
MDM Murphy Dome 63.41 28 *eP* **P** **00 29 00.6 +0.5**
comp=Z,43nm,1.1s
WRH Wood River Hil 63.52 29 *eP* **P** **00 29 00.9 +0.2**
comp=Z,38nm,1.9s
COLA College 63.58 28 *d iP* **P** **00 29 02.0 +0.9**
COLA pmax pmax
comp=Z,39nm,1.3s
CCB Clear Creek Bu 63.62 28 *eP* **P** **00 29 02.2 +0.8**
comp=Z,7.0nm,1.1s
SML Sawmill 63.69 32 *eP* **P** **00 29 02.3 +0.4**
comp=Z,15nm,1.9s
IBAF Bafgh 63.75 294 *eP* **P** **00 29 04.6 +1.6**
IGLO Ghaloghah 63.87 300 *eP* **P** **00 29 06.5 +2.6**
ILAR Eielson Array 64.00 28 P **P** **00 29 03.8 -0.2**
comp=Z,1.4nm,0.8s,baz=268,slow=6.0,SNR=16
ILAR LR LR 00 58 04.4
comp=Z,26nm,20.7s,baz=306,slow=37
ILAR Eielson Array 64.00 28 P **P** **00 29 03.8 -0.2**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR MLR MLR
comp=Z,27nm,20.7s
HDA Harding Lake 64.02 29 *eP* **P** **00 29 04.0 -0.1**
comp=Z,24nm,1.0s
SCM Sheep Creek Mo 64.16 32 *eP* **P** **00 29 05.5 +0.4**
comp=Z,50nm,1.3s
MSVF Nonsavu 64.34 127 *eP* **P** **00 29 07.5 +0.6**
comp=Z,52nm,1.2s
FYU Fort Yukon 64.48 26 *eP* **P** **00 29 09.3 +2.4**
comp=Z,26nm,0.6s
IMEH Mehriz 64.59 294 *eP* **P** **00 29 08.7 0.0**
PAX Paxson 64.86 30 *eP* **P** **00 29 10.0 +0.3**
comp=Z,38nm,1.7s
DIV Divide 65.00 32 *eP* **P** **00 29 10.7 +0.1**
comp=Z,17nm,1.0s
ISAD Sadrabad 65.20 295 *eP* **P** **00 29 13.1 +0.4**
IDMV Damavand 65.52 299 *eP* **P** **00 29 16.1 +1.4**
BMRM Bremner River 65.58 32 *eP* **P** **00 29 14.8 +0.4**
comp=Z,39nm,1.2s
IZEF Zefreh 66.02 296 *eP* **P** **00 29 19.2 +1.3**
IR3 Iran Long-Peri 66.34 299 *eP* **P** **00 29 20.9 +1.2**
EGAK Eagle 66.43 28 *eP* **P** **00 29 19.7 +0.1**
IKLH Kolahrood 66.50 297 *eP* **P** **00 29 22.3 +1.3**
MAK Makhachkala 66.99 308 *eP* **P** **00 29 23.7 +0.1**
MAK *eS* **S** **00 38 12.7 -1.4**
MAK pmax pmax
comp=Z,104nm,1.5s
MAK MLR MLR
comp=Z,372nm,18.0s
IPIR Pirpir 67.24 296 *eP* **P** **00 29 25.5 -0.3**
DAWY Dawson 67.33 28 *eP* **P** **00 29 25.5 0.0**
IKAZ Kazeroun 67.34 293 *eP* **P** **00 29 26.7 +0.2**
TMCR Tamitsa 67.36 332 *eP* **P** **00 29 26.4 +0.8**
TMCR pmax pmax
comp=Z,29nm,0.5s
APA Apatity 68.34 336 *iP* **P** **00 29 32.3 +0.6**
APA *i* 00 29 44.0
APA *eS* S 00 38 23.0 -6.6
APA MLR MLR
comp=Z,200nm,18.0s
INK Inuvik 68.54 23 P **P** **00 29 32.8 -0.1**
comp=Z,3.4nm,0.3s,baz=314,slow=6.6,SNR=6.5
INK Inuvik 68.54 23 P **P** **00 29 32.8 -0.1**
INK pmax pmax
comp=Z,3.0nm,0.3s
INK Inuvik 68.54 23 *eP* **P** **00 29 33.8 +0.9**
IHRS Heris 68.60 303 *eP* P 00 29 26.4 -7.7
VRHR Novokhopersk 68.75 317 *eP* **P** **00 29 33.9 -0.6**
VRHR pmax pmax
comp=N,10.0nm,1.2s
VRHR pmax pmax
comp=Z,50nm,1.2s
VRHR pmax pmax
comp=E,40nm,0.9s
HYT Haines Junctio 69.00 32 *eP* **P** **00 29 37.0 +1.0**
NCK Nalchik 69.59 309 *eP* **P** **00 29 40.0 +0.1**
MOS Moscow 69.75 323 *eP* P 00 29 35.1 -5.5
MOS *e*PP pP 00 29 51.6 -1.2
MOS *eS* **S** **00 38 41.9 -4.7**
MOS pmax pmax
comp=Z,31nm,0.8s
MOS MLR MLR
comp=Z,700nm,18.0s
GNI Garni 69.76 306 *eP* **P** **00 29 40.7 -0.5**
GNI pmax pmax
comp=Z,7.0nm,1.4s
GNI Garni 69.76 306 *eP* **P** **00 29 41.8 +0.6**
comp=Z,47nm,1.3s
KBZ Khabaz 70.00 310 P **P** **00 29 43.5 +1.1**
comp=Z,11nm,0.9s,baz=131,slow=1.8,SNR=18
KBZ LR LR 01 04 28.6
comp=Z,180nm,18.5s,baz=63,slow=39
KBZ Khabaz 70.00 310 P **P** **00 29 43.5 +1.1**
KBZ pmax pmax
comp=Z,11nm,0.9s
KBZ MLR MLR
comp=Z,180nm,18.5s
KIV Kislovodsk 70.08 310 P **P** **00 29 44.4 +1.4**
comp=Z,122nm,1.1s,SNR=6.7
KIV Kislovodsk 70.08 310 *d iP* **P** **00 29 44.1 +1.1**
KIV *e*PP **pP** **00 29 55.5 +0.3**
KIV *e*SP **sP** **00 30 02.5 +2.6**
KIV *e* 00 30 05.4
KIV pmax pmax
comp=Z,53nm,1.7s
KIV MLR MLR
comp=Z,249nm,23.0s
KIV Kislovodsk 70.08 310 *eP* **P** **00 29 44.1 +1.1**
comp=Z,117nm,1.3s
VORD Divnogorie 70.20 318 *eP* **P** **00 29 43.4 0.0**
VORD pmax pmax
comp=E,10.0nm,1.1s
VORD pmax pmax
comp=Z,10.0nm,1.1s
VORD pmax pmax
comp=N,10.0nm,0.9s
VSR Storozhevoye 70.20 318 *eP* **P** **00 29 42.4 -1.1**
VSR pmax pmax
comp=E,10.0nm,1.3s
VSR pmax pmax
comp=Z,30nm,1.3s
VSR pmax pmax
comp=N,10.0nm,1.1s
NEY Neytrino 70.27 309 *eP* **P** **00 29 42.9 -1.4**
NEY pmax pmax
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 70.45 339 P **P** **00 29 45.1 +0.4**
comp=Z,13nm,1.0s,baz=41,slow=8.1,SNR=11
ARCES LR LR 01 08 18.8
comp=Z,92nm,18.6s,baz=54,slow=42
OBN Obninsk 70.52 323 *eP* **P** **00 29 46.4 +1.1**
OBN *e*PP **pP** **00 29 57.3 -0.1**
OBN *e* 00 30 05.8
OBN S **S** **00 38 54.0 -1.5**
OBN pmax pmax
comp=Z,22nm,1.7s
OBN MLR MLR
comp=Z,465nm,17.0s
ALE Alert 71.39 2 P **P** **00 29 50.2 0.0**
comp=Z,60nm,1.0s,SNR=5.1
ANN Anapa 73.37 312 *eP* **P** **00 30 00.0 -2.6**
ANN *e*PP **pP** **00 30 14.4 -0.4**
ANN *e* 00 30 17.0
ANN *e* 00 32 43.1
ANN *e*PPP PPP 00 34 27.2
ANN *e*S **S** **00 39 25.5 -3.2**
ANN *e*SS **SS** **00 44 09.8 -1.0**
ANN pmax pmax
comp=Z,65nm,1.0s
DLBC Dease Lake 73.37 33 P **P** **00 30 02.5 0.0**
comp=Z,6.8nm,1.1s,baz=3.6,slow=1.2,SNR=8.3
DLBC Dease Lake 73.37 33 *eP* **P** **00 30 03.9 +1.4**
comp=Z,22nm,1.4s
FINES FINESS Array B 73.43 331 P **P** **00 30 02.9 +0.2**
comp=Z,5.6nm,0.8s,baz=82,slow=4.8,SNR=24
FINES LR LR 01 06 12.5
comp=Z,364nm,19.2s,baz=71,slow=39
VSU Vasula 74.36 328 *eP* **P** **00 30 07.7 -0.4**
VSU pmax pmax
comp=Z,37nm,0.9s
RAYN Ar Rayn 74.82 289 P **P** **00 30 12.7 +1.2**
comp=Z,50nm,1.1s,SNR=5.9
RAYN Ar Rayn 74.82 289 *eP* **P** **00 30 11.6 0.0**
comp=Z,11nm,1.0s
MALT Malatya 75.00 305 *iP* **P** **00 30 13.8 +1.4**
MALT Malatya 75.00 305 *iP* **P** **00 30 13.8 +1.4**
RES Resolute Bay 75.42 11 P **P** **00 30 13.4 -0.6**
comp=Z,6.2nm,0.9s,baz=300,slow=6.6,SNR=5.0
RES Resolute Bay 75.42 11 P **P** **00 30 13.4 -0.6**
RES pmax pmax
comp=Z,6.0nm,0.9s
DAG Danmarks Havn 75.45 353 *i* P **P** **00 30 13.9 -0.3**
comp=Z,8.6nm,1.2s
DAG Danmarks Havn 75.45 353 *i* P **P** **00 30 13.9 -0.3**
DAG pmax pmax
comp=Z,13nm,1.2s
SIM Simferopol' 75.51 313 P **P** **00 30 16.3 +1.2**
SIM *e* 00 30 28.0
SIM pmax pmax
comp=Z,10.0nm,0.8s
SIM MLR MLR
comp=N,90nm,20.6s
NACGM Naroch 75.83 324 *e* **P** **00 30 14.0 -2.7**
AKASG Malin Array Be 76.25 320 P **P** **00 30 19.1 -0.1**
comp=N,2.1nm,0.6s,baz=54,slow=6.3,SNR=20
AKASG LR LR 01 06 38.2
comp=N,549nm,18.9s,baz=60,slow=38
KIEV Kiev 76.27 320 *eP* **P** **00 30 17.3 -2.0**
KIEV Kiev 76.27 320 *eP* **P** **00 30 18.6 -0.7**
comp=N,86nm,2.2s
BRTR Keskin Array B 77.89 308 P **P** **00 30 28.9 +0.1**
comp=N,5.7nm,1.0s,baz=102,slow=4.9,SNR=20
BRTR LR LR 01 09 39.2
comp=N,72nm,19.9s,baz=60,slow=39
BRTR Keskin Array B 77.89 308 *ceP* **P** **00 30 29.5 +0.7**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
SUW Suwalki 78.11 325 *eP* **P** **00 30 29.6 0.0**
SUW Suwalki 78.11 325 *eP* **P** **00 30 29.6 0.0**
YKA Yellowknife Ar 78.14 25 P **P** **00 30 29.6 0.0**
comp=Z,3.8nm,0.9s,baz=298,slow=5.3,SNR=32
YKA Yellowknife Ar 78.14 25 P **P** **00 30 29.6 0.0**
YKA pmax pmax
comp=Z,4.0nm,0.9s
CFR Carcaliu 79.28 315 *iP* P 00 30 46.3 +10
TESR Tescani 79.61 317 *iP* **P** **00 30 38.3 +0.3**
NB2 NORSAR Subarra 79.83 334 P **P** **00 30 38.5 -0.4**
comp=Z,0.7nm,0.8s,baz=58,slow=5.9
NOA NORSAR Array B 79.83 334 P **P** **00 30 38.0 -0.8**
comp=Z,6.1nm,0.9s,baz=50,slow=5.3,SNR=15
NOA LR LR 01 08 50.4
comp=Z,110nm,20.3s,baz=45,slow=38
NOA NORSAR Array B 79.83 334 P **P** **00 30 38.1 -0.8**
NOA pmax pmax
comp=Z,6.0nm,0.9s
NOA MLR MLR
comp=Z,110nm,20.3s
VRI Vrincioaia 79.86 316 *iP* **P** **00 30 40.7 +1.4**
VRI Vrincioaia 79.86 316 *iP* **P** **00 30 40.7 +1.4**
BURAR Bucovina Array 79.97 318 *iP* **P** **00 30 40.3 +0.2**
BURAR Bucovina Array 79.97 318 *iP* **P** **00 30 40.3 +0.2**
CSS Prodhromos 80.08 304 *eP* **P** **00 30 39.8 -0.9**
comp=Z,3.7nm,0.9s
KWP Kalwaria Pacla 80.48 321 *eP* **P** **00 30 43.4 +0.8**
KWP Kalwaria Pacla 80.48 321 *eP* **P** **00 30 43.4 +0.8**
MLR Muntele Rosu 80.52 316 *iP* **P** **00 30 44.7 +1.6**
MLR Muntele Rosu 80.52 316 *iP* **P** **00 30 44.7 +1.6**
SULR 80.70 315 *iP* **P** **00 30 45.2 +1.4**
EIL Elat 81.06 299 LR LR 01 12 49.0
comp=Z,106nm,18.3s,baz=62,slow=40
KOLS Kolonicke sedl 81.07 320 *eP* P 00 30 49.1 +3.3
KOLS pmax pmax
comp=Z,2.0nm,0.9s
KOLS Kolonicke sedl 81.07 320 *epP* P 00 30 49.1 +3.3
KOLS *e* 00 31 00.3
VOIR 81.10 316 *iP* P 00 30 52.4 +6.3
VOIR 81.10 316 *iP* P 00 30 52.4 +6.3
SUMG Summit 81.17 356 *iP* **P** **00 30 47.0 +0.6**
comp=Z,21nm,1.0s
SUMG Summit 81.17 356 *iP* **P** **00 30 47.0 +0.6**
SUMG pmax pmax
comp=Z,21nm,1.0s
SUMG Summit 81.17 356 *eP* **P** **00 30 46.8 +0.5**
comp=Z,23nm,1.0s
UZH Uzhgorod 81.20 320 *eP* P 00 30 42.2 -4.3
UZH *e* 00 30 58.0
CJR Cluj-Napoca 81.38 318 *iP* P 00 30 54.1 +6.6
CJR Cluj-Napoca 81.38 318 *iP* P 00 30 54.1 +6.6
STHS Stebnicka Huta 81.41 321 *eP* **P** **00 30 46.0 -1.6**
STHS *e* 00 30 58.1
STHS Stebnicka Huta 81.41 321 *eP* **P** **00 30 45.9 -1.6**
STHS *e* 00 30 58.1
GKP Gorka Klasztor 81.54 326 *eP* P 00 30 44.9 -3.2
GKP Gorka Klasztor 81.54 326 *eP* P 00 30 45.0 -3.2
HUMR Humele 81.57 316 *iP* **P** **00 30 48.8 +0.3**
NLWA Neilton Lookou 81.61 41 *eP* **P** **00 30 49.7 +0.9**
comp=Z,26nm,1.1s
OJC Ojcow 81.81 322 *eP* **P** **00 30 50.5 +0.9**
OJC Ojcow 81.81 322 *eP* **P** **00 30 50.6 +0.9**
OJC Ojcow 81.81 322 *eP* **P** **00 30 49.7 0.0**
comp=Z,20nm,1.1s
DRGR 81.87 318 *iP* **P** **00 30 50.3 +0.2**
DRGR 81.87 318 *iP* **P** **00 30 50.3 +0.2**
LOT Lotru 81.89 317 *iP* **P** **00 30 50.6 +0.3**
NIE Niedzica 81.93 321 *eP* **P** **00 30 51.6 +1.2**
NIE Niedzica 81.93 321 *eP* **P** **00 30 51.6 +1.2**
B06A Marblemount 82.43 39 *eP* **P** **00 30 52.8 -0.1**
comp=Z,26nm,1.0s
F03A Seaside 82.52 42 *eP* **P** **00 30 53.2 -0.3**
comp=Z,81nm,1.4s
D05A Enumclaw 82.82 41 *eP* **P** **00 30 55.4 +0.4**
PLD Plovdiv 82.91 313 *eP* **P** **00 30 56.0 +0.5**
OKC Ostrava-Krasne 82.91 323 *i* P **P** **00 30 56.7 +1.3**
OKC *ex* x 00 31 07.0
OKC AMS AMS 01 10 30.0
comp=Z,300nm,17.5s
OKC Ostrava-Krasne 82.91 323 *i* P **P** **00 30 56.7 +1.3**
OKC *e* 00 31 07.0
OKC MLR MLR
comp=Z,300nm,17.5s
MPEP Malo Peshtene 82.92 315 *eP* **P** **00 30 56.8 +1.2**
PSZ Piszkesteto 82.95 320 *iP* **P** **00 30 57.9 +2.2**
PSZ Piszkesteto 82.95 320 *iP* **P** **00 30 57.9 +2.2**
RZN Rozhen 83.10 313 *eP* **P** **00 30 55.6 -1.2**
BZS Buzias 83.11 318 *iP* **P** **00 30 57.1 +0.6**
BZS Buzias 83.11 318 *iP* **P** **00 30 57.1 +0.6**
F04A Amboy 83.21 42 *eP* **P** **00 30 57.8 +0.8**
comp=Z,39nm,1.3s
MORC Moravsky Berou 83.28 323 *iP* P 00 31 02.5 +5.1
MORC Moravsky Berou 83.28 323 *iP* P 00 31 02.5 +5.1
MORC Moravsky Berou 83.28 323 *eP* **P** **00 30 57.1 -0.2**
comp=Z,26nm,1.2s
COR Corvallis 83.35 43 *eP* **P** **00 30 58.8 +1.0**
comp=Z,36nm,1.0s
KRLC Kraliky 83.52 323 *i* P **P** **00 30 59.4 +0.8**
KRLC Kraliky 83.52 323 *i* P **P** **00 30 59.4 +0.8**
LTY Liberty 83.55 40 *eP* **P** **00 30 58.2 -0.7**
comp=Z,14nm,0.7s
DPC Dobruska-Polom 83.62 324 *i* P **P** **00 31 00.1 +1.0**
DPC *ex* x 00 31 11.6
DPC AMS AMS 01 11 30.0
comp=Z,400nm,16.9s
DPC Dobruska-Polom 83.62 324 *i* P **P** **00 31 00.1 +1.0**
DPC *e* 00 31 11.6
DPC MLR MLR
comp=Z,400nm,16.9s
VTS Vitosha 83.64 314 *iP* **P** **00 31 00.4 +0.9**
VTS Vitosha 83.64 314 *iP* **P** **00 31 00.4 +0.9**
VTS Vitosha 83.64 314 *eP* **P** **00 30 59.9 +0.4**
UPC Upice 83.69 324 *i* P **P** **00 31 00.7 +1.3**
UPC *ex* x 00 31 12.3
UPC *ex* x 00 31 21.2
UPC Upice 83.69 324 *i* P **P** **00 31 00.7 +1.3**
UPC *e* 00 31 12.3
UPC *e* 00 31 21.2
RUE Ruedersdorf 83.72 326 *eP* **P** **00 31 01.1 +1.6**
comp=Z,30nm,1.3s
B08A Colville Reser 83.73 39 *eP* **P** **00 30 60.0 +0.3**
I03D Drain, OR 83.77 44 P **P** **00 31 01.4 +1.5**
baz=84,SNR=7.6
MMB Musomiste 83.80 313 *iP* **P** **00 30 59.3 -0.9**
MMB Musomiste 83.80 313 *iP* **P** **00 30 59.3 -0.9**
MMB Musomiste 83.80 313 *eP* **P** **00 30 59.4 -0.8**
VRAC Vranov 84.05 323 *iP* **P** **00 31 02.5 +1.2**
VRAC Vranov 84.05 323 *iP* **P** **00 31 02.5 +1.2**
KKB Krupnik 84.08 314 *eP* **P** **00 31 01.8 +0.2**
EDM Edmonton 84.10 33 *eP* **P** **00 31 01.9 +0.4**
comp=Z,27nm,1.3s
G05D Wamic, OR 84.23 42 P **P** **00 31 04.2 +1.9**
baz=84
I04A Tendick Farm, 84.31 44 P **P** **00 31 04.3 +1.5**
baz=84,SNR=8.2
PVCC Panska Ves 84.44 324 *i* P **P** **00 31 04.4 +1.2**
PVCC *ex* x 00 31 16.2
PVCC AMS AMS 01 12 00.0
comp=Z,400nm,17.6s
PVCC Panska Ves 84.44 324 *i* P **P** **00 31 04.4 +1.2**
PVCC *e* 00 31 16.2
PVCC MLR MLR
comp=Z,400nm,17.6s
BSEG Bad Segeberg 84.52 329 *eP* **P** **00 31 04.9 +1.4**
comp=Z,14nm,1.0s
BRG Berggiesshubel 84.57 325 *eP* **P** **00 31 04.9 +1.0**
comp=Z,7.9nm,1.1s
BRG *e* 00 31 16.5
comp=Z,9.2nm,1.0s
comp=N,195nm,16.9s
comp=E,236nm,15.7s
comp=Z,411nm,17.1s
BRG Berggiesshubel 84.57 325 *eP* **P** **00 31 05.1 +1.2**
comp=Z,8.0nm,1.0s
BRG Berggiesshubel 84.57 325 *eP* **P** **00 31 04.9 +1.0**
BRG *e* 00 31 16.5
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG MLR MLR
comp=N,195nm,16.9s
BRG MLR MLR
comp=E,236nm,15.7s
BRG MLR MLR
comp=Z,411nm,17.1s
HUMO Hull Mountain 84.57 45 *eP* **P** **00 31 05.3 +1.2**
comp=Z,10nm,1.3s
PKSM Moragy 84.58 319 *iP* **P** **00 31 04.7 +0.7**
PKSM Moragy 84.58 319 *iP* **P** **00 31 04.7 +0.7**
C09A Chrisman Ranch 84.63 39 *eP* **P** **00 31 05.0 +0.7**
comp=Z,38nm,0.3s
G06A Carlson Farm, 84.64 42 *eP* **P** **00 31 05.7 +1.2**
comp=Z,32nm,1.2s
TREC Trest 84.66 323 *i* P **P** **00 31 05.4 +1.0**
TREC *ex* x 00 31 17.1
TREC AMS AMS 01 11 50.0
comp=Z,400nm,15.3s
TREC Trest 84.66 323 *i* P **P** **00 31 05.4 +1.0**
TREC *e* 00 31 17.1
TREC MLR MLR
comp=Z,400nm,15.3s
D08A Wollman Farm, 84.67 40 *eP* **P** **00 31 05.1 +0.6**
comp=Z,32nm,1.2s
HAWA Hanford 84.67 40 *eP* **P** **00 31 04.2 -0.3**
comp=Z,18nm,1.0s
GOPC GO Pecny, Ondr 84.68 324 *i* P **P** **00 31 05.6 +1.1**
GOPC *ex* x 00 31 17.2
GOPC AMS AMS 01 12 10.0
comp=Z,400nm,17.9s
I05D Terrebonne, OR 84.69 43 P **P** **00 31 05.9 +1.2**
baz=84,SNR=7.9
PRU Pruhonice 84.77 324 *i* P **P** **00 31 06.0 +1.1**
PRU *ex* x 00 31 17.7
PRU *eSKS* **S** **00 41 28.8 -1.0**
PRU AMS AMS 01 12 20.0
comp=Z,200nm,17.4s
PRU Pruhonice 84.77 324 *i* P **P** **00 31 06.0 +1.1**
PRU *e* 00 31 17.7
PRU *e* 00 41 28.8
PRU MLR MLR
comp=Z,200nm,17.4s
PRA Prague 84.78 324 *i* P **P** **00 31 06.2 +1.3**
PRA *ex* x 00 31 17.5
PRA AMS AMS 01 12 30.0
comp=Z,400nm,15.6s
PRA Prague 84.78 324 *i* P **P** **00 31 06.2 +1.3**
PRA *e* 00 31 17.5
PRA MLR MLR
comp=Z,400nm,15.6s
J04D Umpqua Nationa 84.78 44 P **P** **00 31 06.5 +1.1**
baz=85
CLL Collm 84.80 326 *eP* **P** **00 31 06.0 +0.9**
comp=Z,11nm,1.0s
CLL Collm 84.80 326 *iP* **P** **00 31 05.9 +0.9**
comp=Z,11nm,1.0s
CLL *i* pP **pP** **00 31 17.6 +0.2**
CLL *i* sP **sP** **00 31 23.2 +1.2**
CLL *eS* **S** **00 41 30.0 0.0**
CLL *e*(PS) 00 42 19.0
CLL *e*PPS PPS 00 42 48.0
CLL *eSS* SS 00 47 12.0 +10
CLL *e*SSSS 00 53 06.0
CLL LmH 01 06 00.0
comp=N,500nm,19.9s
CLL LmH 01 06 00.0
comp=E,400nm,20.7s
CLL Lmax 01 13 00.0
CLL Collm 84.80 326 *iP* **P** **00 31 05.9 +0.9**
CLL *i* *PP **pP** **00 31 17.6 +0.2**
CLL *i* *SP **sP** **00 31 23.2 +1.2**
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 84.80 326 *eP* **P** **00 31 04.8 -0.2**
comp=Z,10nm,0.9s
FBE Freiberg 84.84 325 *eP* **P** **00 31 06.9 +1.7**
comp=Z,12nm,1.0s
DIVS Divibare 84.89 317 *iP* **P** **00 31 06.2 +0.5**
NEW Newport 85.01 38 P **P** **00 31 06.4 +0.2**
comp=Z,9.6nm,1.1s,baz=294,slow=6.1,SNR=10
NEW Newport 85.01 38 P **P** **00 31 06.4 +0.2**
NEW pmax pmax
comp=Z,10.0nm,1.1s
NEW Newport 85.01 38 P **P** **00 31 07.5 +1.2**
baz=85
NEW Newport 85.01 38 *eP* **P** **00 31 06.8 +0.6**
comp=Z,19nm,1.3s
YBH Yreka Blue Hor 85.18 46 P **P** **00 31 07.2 -0.1**
comp=Z,5.7nm,0.9s,baz=269,slow=3.2,SNR=10
YBH Yreka Blue Hor 85.18 46 P **P** **00 31 07.2 -0.1**
YBH pmax pmax
comp=Z,6.0nm,0.9s
YBH Yreka Blue Hor 85.18 46 *eP* **P** **00 31 08.5 +1.2**
comp=Z,16nm,1.2s
CONA Conrad Observa 85.22 322 *iPcP* **PcP** **00 31 09.0 -1.5**
comp=Z,15nm,1.1s
M02C Callahan 85.26 46 P **P** **00 31 09.4 +1.8**
baz=85,SNR=6.3

J05D	**Fort Rock, OR**	**85.31**	**44**	P		**P**	**00 31 09.9**	**+1.9**
	baz=85,SNR=10							
E09A	**Wood Farm, Sta**	**85.41**	**40**	*e*P		**P**	**00 31 09.6**	**+1.4**
	comp=Z,30nm,1.1s							
NEUB	**Neuenburg**	**85.47**	**326**	*e*P		**P**	**00 31 09.8**	**+1.4**
	comp=Z,8.0nm,0.8s							
N02D	**Trinity Center**	**85.57**	**46**	P		**P**	**00 31 11.2**	**+2.0**
	baz=85							
TANN	**Tannenbergstha**	**85.60**	**325**	*e*P		**P**	**00 31 10.4**	**+1.3**
	comp=Z,28nm,2.6s							
G08A	**Pilot Rock**	**85.61**	**41**	*e*P		**P**	**00 31 10.2**	**+0.8**
	comp=Z,20nm,1.4s							
WERD	**Werda**	**85.66**	**325**	*e*P		**P**	**00 31 10.6**	**+1.2**
	comp=Z,4.0nm,1.4s							
GUNZ	**Gunzen**	**85.70**	**325**	*e*P		**P**	**00 31 10.9**	**+1.3**
	comp=Z,14nm,1.5s							
M04C	**Macdoel**	**85.71**	**45**	P		**P**	**00 31 10.9**	**+0.9**
	baz=86,SNR=10.0							
PLN	**Plauen**	**85.72**	**325**	*e*P		**P**	**00 31 11.0**	**+1.4**
	comp=Z,9.0nm,1.9s							
NKC	**Novy Kostel**	**85.72**	**325**	*i* P		**P**	**00 31 11.3**	**+1.6**
NKC	**Novy Kostel**	**85.72**	**325**	*i* P		**P**	**00 31 11.3**	**+1.6**
WERN	**Wernitzgruen**	**85.72**	**325**	*e*P		**P**	**00 31 11.2**	**+1.5**
	comp=Z,8.0nm,1.4s							
KHC	**Kasperske Hory**	**85.78**	**324**	*i* P		**P**	**00 31 10.9**	**+0.9**
KHC				*ex*		x	00 31 22.7	
KHC				*e*SKS		**SKSac**	**00 41 34.2**	**+1.8**
KHC				AMS		AMS	01 13 00.0	
	comp=Z,400nm,13.0s							
KHC	**Kasperske Hory**	**85.78**	**324**	*i* P		**P**	**00 31 10.9**	**+0.9**
KHC				*e*			00 31 22.7	
KHC				*e*			00 41 34.2	
KHC				MLR		MLR		
	comp=Z,400nm,13.0s							
KHC	**Kasperske Hory**	**85.78**	**324**	*e*P		**P**	**00 31 09.2**	**-0.8**
	comp=Z,2.1nm,1.0s							
ARSA	**Arzberg**	**85.79**	**321⇑**	*e*PcP		**P**	**00 31 11.1**	**+1.0**
	comp=Z,6.8nm,1.1s							
K05A	**Summer Lake**	**85.81**	**44**	*e*P		**P**	**00 31 11.4**	**+0.9**
	comp=Z,39nm,1.3s							
GEC2	**GERESS Array S**	**85.88**	**323**	*e*P		**P**	**00 31 11.7**	**+1.1**
	comp=Z,7.0nm,1.2s							
GEC2	**GERESS Array S**	**85.88**	**323**	*e*P		**P**	**00 31 10.4**	**-0.2**
GERES	**GERESS Array B**	**85.88**	**323**	P		**P**	**00 31 10.7**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=50,slow=4.4,SNR=16							
GERES				LR		LR	01 12 46.6	
	comp=Z,269nm,19.0s,baz=58,slow=38							
GERES	**GERESS Array B**	**85.88**	**323**	P		**P**	**00 31 10.7**	**+0.1**
GERES				pmax		pmax		
	comp=Z,2.0nm,0.8s							
GERES				MLR		MLR		
	comp=Z,269nm,19.0s							
WDC	**Whiskeytown Da**	**85.88**	**47**	*e*P		**P**	**00 31 10.0**	**-0.6**
	comp=Z,10nm,1.0s							
MOX	**Moxa**	**85.90**	**326**	*e*L		L	01 18 09.2	
	comp=Z,112nm,18.9s							
ROTZ	**Rotzenmuhle**	**86.12**	**325**	*e*P		**P**	**00 31 13.5**	**+1.8**
	comp=Z,7.0nm,1.1s							
WET	**Wettzell**	**86.14**	**324**	*e*P		**P**	**00 31 13.2**	**+1.4**
	comp=Z,7.0nm,1.5s							
MOA	**Molln**	**86.15**	**322⇑**	*e*PcP		**P**	**00 31 12.7**	**+0.8**
	comp=Z,4.4nm,0.8s							
F10A	**Beach Ranch, E**	**86.24**	**40**	*e*P		**P**	**00 31 12.3**	**-0.1**
	comp=Z,6.8nm,1.1s							
WALA	**Waterton Lakes**	**86.29**	**36**	*e*P		**P**	**00 31 11.2**	**-1.5**
	comp=Z,16nm,1.3s							
SOKA	**Soboth**	**86.40**	**321⇑**	*e*PcP		**P**	**00 31 14.0**	**+0.9**
	comp=Z,6.3nm,1.3s							
BSMT	**Bassoo Peak**	**86.53**	**37**	*e*P		**P**	**00 31 14.0**	**0.0**
BORG	**Borgarnes**	**86.56**	**348**	*i* P		P	00 31 17.1	+3.6
BLMT	**Blacktail Moun**	**86.67**	**37**	*e*P		**P**	**00 31 15.4**	**+0.8**
GRF	**Grafenberg Arr**	**86.68**	**325**	*e*L		L	01 14 06.3	
	comp=Z,296nm,18.2s							
GRFO	**Grafenberg**	**86.68**	**325**	*e*P		**P**	**00 31 14.2**	**-0.2**
	comp=Z,14nm,1.2s							
SWMT	**Swartz Lake**	**87.17**	**37**	*e*P		**P**	**00 31 16.3**	**-0.6**
WVOR	**Wild Horse Val**	**87.37**	**43**	*e*P		**P**	**00 31 18.6**	**+0.5**
	comp=Z,29nm,1.4s							
SLMT	**Seeley Lake**	**87.60**	**37**	*e*P		**P**	**00 31 19.2**	**0.0**
MSO	**Missoula**	**87.60**	**38**	P		**P**	**00 31 20.2**	**+1.1**
	baz=87,SNR=6.5							
MSO	**Missoula**	**87.60**	**38**	*e*P		**P**	**00 31 18.1**	**-1.0**
	comp=Z,9.9nm,1.1s							
ABTA	**Abfaltersbach**	**87.76**	**322⇑**	*e*PcP		**P**	**00 31 19.8**	**0.0**
	comp=Z,4.7nm,1.1s							
CHMT	**Chamberlain Mo**	**87.93**	**38**	*e*P		**P**	**00 31 20.5**	**-0.3**
FCC	**Fort Churchill**	**88.03**	**21**	*e*P		**P**	**00 31 20.2**	**-0.4**
	comp=Z,678nm,1.1s							
FFC	**Flin Flon**	**88.18**	**27**	P		**P**	**00 31 21.8**	**+0.3**
	comp=Z,114nm,1.0s,SNR=6.3							
FFC	**Flin Flon**	**88.18**	**27**	*e*P		**P**	**00 31 21.2**	**-0.3**
	comp=Z,20nm,1.0s							
MFID	**Camas Ranch**	**88.52**	**41**	*e*P		**P**	**00 31 24.1**	**+0.5**
	comp=Z,24nm,1.3s							
CMB	**Columbia Colle**	**88.64**	**48**	*e*P		**P**	**00 31 24.5**	**+0.4**
	comp=Z,12nm,1.0s							
MEM	**Membach**	**88.69**	**328**	P		P	00 31 27.5	+3.6
DAVA	**Damuels**	**88.86**	**324⇑**	*e*PcP		**P**	**00 31 26.3**	**+1.2**
	comp=Z,6.3nm,1.2s							
WAKR	**Walker**	**89.02**	**47**	*e*P		**P**	**00 31 25.2**	**-0.8**
LRM	**Limekiln Ridge**	**89.03**	**38**	*e*P		**P**	**00 31 25.9**	**-0.1**
A19A	**Klindworth Far**	**89.04**	**34**	P		**P**	**00 31 27.5**	**+1.7**
	baz=89							
FUORN	**Ofenpass-Fuorn**	**89.07**	**323**	*e*P		**P**	**00 31 24.5**	**-1.7**
	comp=Z,8.8nm,0.9s							
EGMT	**Eagleton**	**89.11**	**35**	P		**P**	**00 31 27.4**	**+1.3**
	baz=89,SNR=6.8							
EGMT	**Eagleton**	**89.11**	**35**	*e*P		**P**	**00 31 25.9**	**-0.2**
	comp=Z,15nm,1.0s							
DLMT	**Dillon**	**89.23**	**38**	*e*P		**P**	**00 31 27.1**	**+0.3**
	comp=Z,18nm,1.1s							
B19A	**Brinkman Farms**	**89.25**	**35**	P		**P**	**00 31 27.9**	**+1.2**
	baz=89,SNR=5.6							
HLID	**Hailey**	**89.27**	**41**	P		**P**	**00 31 29.0**	**+1.9**
	baz=89,SNR=15							
HLID	**Hailey**	**89.27**	**41**	*e*P		**P**	**00 31 26.6**	**-0.5**
	comp=Z,14nm,1.3s							
FRB	**Frobisher Bay**	**89.28**	**8**	P		**P**	**00 31 25.7**	**-0.8**
	comp=Z,3.9nm,0.9s,baz=61,slow=13,SNR=2.0							
FRB	**Frobisher Bay**	**89.28**	**8**	P		**P**	**00 31 25.7**	**-0.8**
FRB				pmax		pmax		
	comp=Z,4.0nm,0.9s							
BOZ	**Bozeman (W)**	**89.59**	**38**	P		**P**	**00 31 29.8**	**+1.3**
	baz=89,SNR=5.4							
DOU	**Dourbes**	**89.70**	**328**	P		**P**	**00 31 29.1**	**+0.4**
B20A	**Solberg Farm,**	**89.72**	**34**	P		**P**	**00 31 30.1**	**+1.2**
	baz=90,SNR=7.3							
NVAR	**Mina Array Bea**	**89.80**	**47**	P		**P**	**00 31 29.9**	**+0.1**
	comp=Z,2.6nm,0.9s,baz=271,slow=5.8,SNR=21							
AQU	**L'Aquila**	**89.86**	**318**	⇑P		**P**	**00 31 31.4**	**+1.7**
AQU	**L'Aquila**	**89.86**	**318**	⇑*i*P		**P**	**00 31 31.4**	**+1.7**
AQU	**L'Aquila**	**89.86**	**318**	*e*P		**P**	**00 31 29.2**	**-0.5**
	comp=Z,15nm,0.9s							
PPT	**Papeete**	**89.89**	**110**	LR		LR	01 04 00.3	
	comp=Z,60nm,21.1s,baz=312,slow=30							
C20A	**Veseth Ranch,**	**90.21**	**35**	P		**P**	**00 31 32.4**	**+1.2**
	baz=90,SNR=8.2							
B21A	**Ellsworth Farm**	**90.23**	**34**	P		**P**	**00 31 32.6**	**+1.3**
	baz=90							
A22A	**Carney Farms,**	**90.40**	**33**	P		**P**	**00 31 33.0**	**+0.8**
	baz=90							
ELK	**Elko**	**90.43**	**43**	P		**P**	**00 31 33.4**	**+0.8**
	comp=Z,4.2nm,1.0s,baz=327,slow=2.5,SNR=9.8							
ELK	**Elko**	**90.43**	**43**	P		**P**	**00 31 33.4**	**+0.8**
ELK				pmax		pmax		
	comp=Z,4.0nm,1.0s							
ELK	**Elko**	**90.43**	**43**	*e*P		**P**	**00 31 32.3**	**-0.4**
	comp=Z,6.0nm,1.0s							
C21A	**Desert Coulee**	**90.59**	**34**	P		**P**	**00 31 34.3**	**+1.2**
	baz=90							
TPH	**Tonopah**	**90.70**	**46**	*e*P		**P**	**00 31 33.7**	**-0.2**
	comp=Z,18nm,1.3s							
H17A	**Grant Village**	**90.96**	**38**	*e*P		**P**	**00 31 36.0**	**+0.9**
	comp=Z,18nm,1.0s							
SBC	**Santa Barbara**	**91.03**	**51**	P		**P**	**00 31 36.1**	**+0.8**
	baz=91							
IMW	**Indian Meadow**	**91.07**	**39**	*e*P		**P**	**00 31 35.8**	**+0.2**
	comp=Z,9.3nm,1.0s							
FLWY	**Flagg Ranch**	**91.09**	**39**	*e*P		**P**	**00 31 35.0**	**-0.6**
	comp=Z,15nm,1.1s							
D21A	**La Casta Ranch**	**91.15**	**35**	P		**P**	**00 31 36.6**	**+0.9**
	baz=91							
FXWY	**Fox Creek**	**91.18**	**39**	*e*P		**P**	**00 31 34.4**	**-1.7**
	comp=Z,56nm,2.8s							
B23A	**Brockton**	**91.21**	**33**	P		**P**	**00 31 37.5**	**+1.6**
	baz=91,SNR=5.4							
RLMT	**Red Lodge**	**91.22**	**37**	P		**P**	**00 31 37.8**	**+1.5**
	baz=91,SNR=5.1							
MOOW	**Moose Ponds**	**91.27**	**39**	*e*P		**P**	**00 31 35.3**	**-1.2**
	comp=Z,5.8nm,1.3s							
HVU	**Hansel Valley**	**91.31**	**41**	*e*P		**P**	**00 31 36.4**	**-0.2**
	comp=Z,10nm,1.0s							
TPAW	**Teton Pass**	**91.31**	**39**	*e*P		**P**	**00 31 36.9**	**+0.2**
	comp=Z,10nm,1.2s							
LOHW	**Long Hollow**	**91.44**	**39**	*e*P		**P**	**00 31 36.2**	**-1.1**
	comp=Z,19nm,2.0s							
REDW	**Red Top Meadow**	**91.45**	**39**	*e*P		**P**	**00 31 37.2**	**-0.1**
	comp=Z,16nm,1.5s							
E21A	**Keefer Ranch,**	**91.46**	**35**	P		**P**	**00 31 38.4**	**+1.3**
	baz=91							
DAC	**Darwin (Calif)**	**91.47**	**48**	*e*P		**P**	**00 31 36.2**	**-1.3**
	comp=Z,20nm,1.9s							
D22A	**Cohagen**	**91.51**	**34**	P		**P**	**00 31 38.9**	**+1.6**
	baz=91							
C23A	**Lambert**	**91.56**	**33**	P		**P**	**00 31 38.4**	**+0.9**
	baz=91							
DGMT	**Dagmar**	**91.59**	**32**	P		**P**	**00 31 38.4**	**+0.8**
	baz=91							
R11A	**Troy Canyon, C**	**91.60**	**45**	P		**P**	**00 31 39.6**	**+1.5**
	baz=91							
R11A	**Troy Canyon, C**	**91.60**	**45**	*e*P		**P**	**00 31 38.2**	**+0.1**
	comp=Z,8.9nm,0.9s							
MPMC	**Manual Prospec**	**91.66**	**48**	P		**P**	**00 31 38.8**	**+0.4**
	baz=92							
H19A	**Powell**	**91.66**	**37**	P		**P**	**00 31 39.6**	**+1.4**
	baz=92							
BLG	**Laguna Peak, P**	**91.67**	**51**	P		**P**	**00 31 39.0**	**+0.7**
	baz=92							
BGU	**Big Grassy Mou**	**91.67**	**42**	*e*P		**P**	**00 31 38.9**	**+0.6**
	comp=Z,22nm,1.3s							
G20A	**Bridger**	**91.72**	**37**	P		**P**	**00 31 39.4**	**+0.9**
	baz=92							
A25A	**Svangstu Ranch**	**91.78**	**32**	P		**P**	**00 31 39.1**	**+0.6**
	baz=92							
FURC	**Furnace Creek,**	**91.85**	**48**	P		**P**	**00 31 40.6**	**+1.7**
	baz=92							
TPNV	**Topopah Spring**	**91.98**	**47**	P		**P**	**00 31 41.0**	**+1.1**
	baz=92							
TPNV	**Topopah Spring**	**91.98**	**47**	*e*P		**P**	**00 31 38.6**	**-1.2**
	comp=Z,11nm,1.0s							
EDW2	**Edwards Air Fo**	**91.98**	**49**	P		**P**	**00 31 41.2**	**+1.4**
	baz=92							
I19A	**Meeteetse**	**92.06**	**38**	P		**P**	**00 31 40.2**	**+0.1**
	baz=92							
E22A	**Miles City**	**92.10**	**35**	P		**P**	**00 31 41.3**	**+1.2**
	baz=92							
C24A	**Savage**	**92.13**	**33**	P		**P**	**00 31 40.8**	**+0.7**
	baz=92							
HWUT	**Hardware Ranch**	**92.13**	**41**	*e*P		**P**	**00 31 40.3**	**-0.1**
	comp=Z,20nm,1.2s							
DUG	**Dugway, Tooele**	**92.24**	**43**	P		**P**	**00 31 42.8**	**+1.9**
	baz=92							
DUG	**Dugway, Tooele**	**92.24**	**43**	*e*P		**P**	**00 31 41.0**	**0.0**
	comp=Z,14nm,1.2s							
G21A	**Lodge Grass**	**92.26**	**36**	P		**P**	**00 31 42.0**	**+1.1**
	baz=92							
H20A	**Greybull**	**92.32**	**37**	P		**P**	**00 31 42.8**	**+1.7**
	baz=92							
F22A	**Rosebud**	**92.39**	**35**	P		**P**	**00 31 42.6**	**+1.2**
	baz=92							
J19A	**Crowheart**	**92.53**	**39**	P		**P**	**00 31 43.6**	**+1.3**
	baz=92							
GSC	**Goldstone, Bar**	**92.55**	**49**	P		**P**	**00 31 43.6**	**+1.2**
	baz=92							
GSC	**Goldstone, Bar**	**92.55**	**49**	*e*P		**P**	**00 31 41.6**	**-0.7**
	comp=Z,11nm,1.0s							
BW06	**Boulder Array**	**92.56**	**39**	*e*P		**P**	**00 31 42.0**	**-0.5**
	comp=Z,7.2nm,1.3s							
PDAR	**Pindale Array**	**92.56**	**39**	P		**P**	**00 31 42.2**	**-0.3**
	comp=Z,4.2nm,1.1s,baz=323,slow=3.9,SNR=13							
BFSC	**Mount Baldy Ra**	**92.56**	**50**	P		**P**	**00 31 42.1**	**-0.4**
	baz=92							
C25A	**Freed Ranch, W**	**92.57**	**33**	P		**P**	**00 31 43.7**	**+1.5**
	baz=92							
I20A	**Worland**	**92.60**	**38**	P		**P**	**00 31 43.8**	**+1.3**
	baz=92							
G22A	**Birney**	**92.75**	**36**	P		**P**	**00 31 43.7**	**+0.6**
	baz=92							
NLU	**North Lily Min**	**92.84**	**43**	*e*P		**P**	**00 31 44.1**	**+0.3**
	comp=Z,16nm,1.3s							
E24A	**Baker**	**92.85**	**34**	P		**P**	**00 31 43.8**	**+0.2**
	baz=93							
F23A	**Volborg**	**92.87**	**35**	P		**P**	**00 31 43.4**	**-0.2**
	baz=93							
SHPR	**Sheep Range**	**92.95**	**47**	*e*P		**P**	**00 31 44.5**	**+0.2**
J20A	**Shoshoni**	**93.01**	**38**	P		**P**	**00 31 45.8**	**+1.3**
	baz=93							
A28A	**Rue Farm, Bot**	**93.11**	**30**	P		**P**	**00 31 45.5**	**+0.9**
	baz=93							
HEC	**Hector,Ludlow**	**93.14**	**49**	P		**P**	**00 31 45.5**	**+0.4**
	baz=93							
I21A	**Big Trails, Te**	**93.14**	**37**	P		**P**	**00 31 44.9**	**-0.2**
	baz=93							
MURC	**Murrieta**	**93.24**	**50**	P		**P**	**00 31 46.1**	**+0.5**
	baz=93							
F24A	**Ekalaka**	**93.28**	**34**	P		**P**	**00 31 45.6**	**+0.1**
	baz=93							
E25A	**Miller Ranch,**	**93.34**	**33**	P		**P**	**00 31 46.9**	**+1.1**
	baz=93							
J21A	**Lysite**	**93.37**	**38**	P		**P**	**00 31 47.3**	**+1.1**
	baz=93							
B28A	**Dugan Ranch, T**	**93.41**	**31**	P		**P**	**00 31 47.6**	**+1.6**
	baz=93							
D26A	**Manning**	**93.45**	**33**	P		**P**	**00 31 47.6**	**+1.4**
	baz=93							
CCUT	**Cedar City**	**93.49**	**45**	*e*P		**P**	**00 31 47.0**	**+0.1**
	comp=Z,5.5nm,1.3s							
GMRC	**Granite Mounta**	**93.61**	**48**	P		**P**	**00 31 48.8**	**+1.4**
	baz=93							
MVU	**Marysvale**	**93.64**	**44**	*e*P		**P**	**00 31 48.9**	**+1.3**
	comp=Z,12nm,1.3s							
MSU	**Marysvale**	**93.66**	**44**	*e*P		**P**	**00 31 48.4**	**+0.8**
109C	**Camp Elliot, M**	**93.70**	**51**	P		**P**	**00 31 48.7**	**+1.0**
	baz=94							
F25A	**Bowman**	**93.72**	**34**	P		**P**	**00 31 49.0**	**+1.4**
	baz=94							
PFO	**Pinyon Flats O**	**93.75**	**50**	P		**P**	**00 31 49.2**	**+1.2**
	comp=Z,84nm,1.0s,SNR=5.4							
PFO	**Pinyon Flats O**	**93.75**	**50**	P		**P**	**00 31 49.1**	**+1.2**
	baz=94							
PFO	**Pinyon Flats O**	**93.75**	**50**	*e*P		**P**	**00 31 46.8**	**-1.2**
	comp=Z,16nm,1.0s							
E26A	**Carlson Angus**	**93.83**	**33**	P		**P**	**00 31 49.0**	**+1.0**
	baz=94							
BELC	**Bell Mtn. Jos**	**93.83**	**49**	P		**P**	**00 31 49.5**	**+1.1**
	baz=94							
B29A	**Wagenman Farm,**	**93.85**	**30**	P		**P**	**00 31 49.6**	**+1.6**
	baz=94							
J22A	**Midwest**	**93.85**	**37**	P		**P**	**00 31 49.3**	**+1.0**
	baz=94							
A30A	**Hoffart Farm,**	**93.97**	**29**	P		**P**	**00 31 50.0**	**+1.4**
	baz=94							
H24A	**Dirks Ranch, A**	**93.97**	**35**	P		**P**	**00 31 49.6**	**+0.8**
	baz=94							
ULM	**Lac du Bonnet**	**94.01**	**27**	P		**P**	**00 31 48.1**	**-0.6**
	comp=Z,4.7nm,0.8s,baz=300,slow=3.3,SNR=5.7							
ULM	**Lac du Bonnet**	**94.01**	**27**	P		**P**	**00 31 48.1**	**-0.6**
ULM				pmax		pmax		
	comp=Z,5.0nm,0.8s							
ULM	**Lac du Bonnet**	**94.01**	**27**	*e*P		**P**	**00 31 48.3**	**-0.4**
	comp=Z,100nm,2.8s							
KNB	**Kanab**	**94.16**	**45**	*e*P		**P**	**00 31 50.5**	**+0.6**
	comp=Z,22nm,1.2s							
MONP	**Monument Peak,**	**94.18**	**50**	P		**P**	**00 31 50.2**	**+0.1**
	baz=94							
MDND	**Maddock**	**94.19**	**31**	P		**P**	**00 31 51.3**	**+1.7**
	baz=94							
SRU	**San Rafael Swe**	**94.30**	**42**	*e*P		**P**	**00 31 50.0**	**-0.6**
	comp=Z,6.5nm,1.0s							
IRM	**Iron Mountain**	**94.32**	**49**	P		**P**	**00 31 52.3**	**+1.8**
	baz=94							
B30A	**Myrvik Farm, E**	**94.32**	**30**	P		**P**	**00 31 51.0**	**+0.9**
	baz=94							
BC3	**Big Chuckawall**	**94.40**	**49**	P		**P**	**00 31 52.4**	**+1.4**
	baz=94							
F27A	**Lemmon**	**94.47**	**33**	P		**P**	**00 31 52.7**	**+1.8**
	baz=94							
SWSC	**Sam W. Stewart**	**94.58**	**50**	P		**P**	**00 31 53.2**	**+1.6**
	baz=94							
C30A	**Mose, Pekin**	**94.81**	**30**	P		**P**	**00 31 52.9**	**+0.5**
	baz=95							
I25A	**Rochford**	**94.90**	**35**	P		**P**	**00 31 54.0**	**+0.9**
	baz=95							
Y12C	**Blythe**	**94.98**	**49**	P		**P**	**00 31 55.1**	**+1.6**
	baz=95							
D30A	**Buchanan**	**95.12**	**31**	P		**P**	**00 31 55.3**	**+1.4**
	baz=95							
GLA	**Glamis**	**95.18**	**49**	P		**P**	**00 31 55.8**	**+1.4**
	baz=95							
GLA	**Glamis**	**95.18**	**49**	*e*P		**P**	**00 31 54.1**	**-0.4**
PV09	**Paradox Valley**	**95.53**	**42**	*e*P		**P**	**00 31 56.2**	**-0.1**
PV10	**Paradox Valley**	**95.67**	**42**	*e*P		**P**	**00 31 57.3**	**+0.5**
J26A	**Sides Ranch, S**	**95.73**	**36**	P		**P**	**00 31 57.8**	**+1.0**
	baz=96							
N23A	**Red Feather La**	**95.83**	**39**	P		**P**	**00 31 58.2**	**+0.6**
	baz=96							
KEST	**Kesra**	**96.38**	**315**	LR		LR	01 20 59.3	
	comp=Z,51nm,18.1s,baz=304,slow=39							
ESDC	**Sonseca Array**	**101.38**	**325**	P		**Pdif**	**00 32 21.2**	**-1.0**
	comp=Z,0.1nm,0.2s,baz=34,slow=3.2,SNR=4.2							
TXAR	**Lajitas Array**	**104.95**	**46**	Pdiff		**Pdif**	**00 32 41.2**	**+2.9**
	comp=Z,0.4nm,0.8s,baz=235,slow=4.4,SNR=5.0							
TXAR				PP		PP	00 37 04.0	+5.8
	comp=Z,0.6nm,1.0s,baz=318,slow=1.2,SNR=4.5							
TXAR	**Lajitas Array**	**104.95**	**46**	P		**Pdif**	**00 32 41.2**	**+2.9**
TXAR							00 37 04.0	
TXAR				pmax		pmax		
	comp=Z,1.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**115.86**	**301**	PKP		**PKPdf**	**00 37 12.0**	**-2.0**
	comp=Z,0.9nm,1.1s,baz=34,slow=1.9,SNR=7.2							
TORD				PP		PP	00 38 20.8	+3.5
	comp=Z,1.6nm,1.2s,baz=38,slow=7.5,SNR=3.8							
SNAA	**Sanae**	**127.38**	**197**	P		**PKPdf**	**00 37 32.5**	**-1.9**
VNA1	**Neumayer--Stat**	**129.41**	**197**	P		**PKPdf**	**00 37 38.6**	**+0.4**
PTGA	**Pitinga**	**153.16**	**21**	*e*PKPbc		**PKPbc**	**00 38 28.4**	**-0.7**
SAML	**Samuel**	**159.13**	**37**	*e*PKPdf		**PKPdf**	**00 38 29.9**	**+0.4**
SAML				*e*PKPab		**PKPab**	**00 39 05.0**	**-1.3**
LPAZ	**La Paz**	**160.96**	**62**	PKP		**PKPdf**	**00 38 33.0**	**+0.7**
	comp=Z,2.7nm,1.1s,baz=229,slow=3.7,SNR=4.4							
LPAZ	**La Paz**	**160.96**	**62**	PKIKP		**PKPdf**	**00 38 33.0**	**+0.7**
LPAZ				pmax		pmax		
	comp=Z,3.0nm,1.2s							
SIV	**San Ignacio**	**165.95**	**46**	PKPab		**PKPab**	**00 39 35.5**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=314,slow=6.2,SNR=3.3							

ISCJB ***26*** *00:58:57.1±0.5, 28°.06N±0°.06×140°.4E±0°.1, h478km, mb3.4/11, Error ellipse: s-maj=14.1km s-min=6.9km az=161.4*

IDC ***26*** *00:58:57.5±0.6, 27°.99N×140°.03E, h445km±7km, mb3.2/11, mb1 3.3/14, mb1mx3.1/34, mbtmp3.9/14, Error ellipse: s-maj=17.7km s-min=12.2km az=80.0*

JMA ***26*** *00:58:59.2±0.1, 28°.24N×140°.43E, h454km, M3.9*

ISC 26 00:58:58.4±0.7, 28°.09N±0°.08×140°.3E±0°.1, h478km, n26, σ2°.15/29, mb3.6/11, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.92**	**121**	P	**P**	**P**	**00 59 59.9**	**-1.2**
CBIJ				S	**S**	**S**	**01 00 47.9**	**-4.0**
JCJ	**Chichijima**	**1.92**	**121**	P	**P**	**P**	**01 00 00.1**	**-1.1**
	59nm,0.3s,baz=63,slow=10,SNR=70							
JCJ				S		**S**	**01 00 47.4**	**-4.6**
	88nm,0.3s,baz=290,slow=22,SNR=18							
JHHJ	**Haha-jima-NKT**	**2.19**	**131**	P	**P**	**P**	**01 00 01.9**	**-0.7**
JHHJ				S	**S**	**S**	**01 00 51.8**	**-2.8**
BSO3	**Boso 3**	**6.69**	**1**	P	**P**	**P**	**01 00 40.9**	**+0.6**
JIE	**Ise**	**7.01**	**335**	P	**P**	**P**	**01 00 44.8**	**+1.0**
JOD2	**Odawara 2**	**7.23**	**352**	P	**P**	**P**	**01 00 47.8**	**+1.7**
JRY	**Ryogami san**	**7.99**	**352**	P	**P**	**P**	**01 00 53.8**	**-0.3**
JAG	**Ashikaga**	**8.34**	**355**	P	**P**	**P**	**01 00 57.1**	**-0.7**
JAG				S	**S**	**S**	**01 02 30.9**	**-4.9**
JHO	**Hitachi**	**8.50**	**1**	P	**P**	**P**	**01 01 00.3**	**+0.9**
JHO				S	**S**	**S**	**01 02 36.2**	**-2.6**
MJAR	**Matsushiro Arr**	**8.62**	**348**	P	**P**	**P**	**01 00 59.2**	**-1.4**
	1.2nm,0.3s,baz=169,slow=10,SNR=9.4							
JFK	**Kawauchi**	**9.26**	**3**	P	**P**	**P**	**01 01 09.2**	**+1.7**
JOW	**Kunigami**	**10.79**	**266**	P	**P**	**P**	**01 01 22.1**	**-1.9**
	0.2nm,0.3s,baz=299,slow=19,SNR=2.1							
JMK	**Ichinoseki**	**10.86**	**4**	P	**P**

NPS				S	Sb	01 14 25.1	-0.1	
NPS	**Neapolis**	**0.60**	**248**	*e*PN	Pg	01 14 16.2	-0.3	
NPS				*e*SN	Sg	01 14 24.4	-0.2	
NPS	**Neapolis**	**0.60**	**248**	P	Pg	01 14 16.1	-0.4	
NPS				*e*Sn	Sg	01 14 24.4	-0.2	
NPS				S	Sb	01 14 25.1	-0.1	
KARP	**Karpathos**	**0.71**	**85**	P	Pg	01 14 17.4	-1.2	
KARP				S	Sb	01 14 28.8	+0.4	
KARP	**Karpathos**	**0.71**	**85**	*e*PN	Pg	01 14 17.5	-1.2	
KARP				*e*SN	Sg	01 14 28.0	0.0	
KARP	**Karpathos**	**0.71**	**85**	P	Pg	01 14 17.4	-1.2	
KARP				*e*Sn	Sg	01 14 28.0	0.0	
LAST	**Lasithi**	**0.74**	**244**	P	Pg	01 14 18.5	-0.7	
LAST				S	Sb	01 14 29.5	+0.1	
LAST	**Lasithi**	**0.74**	**244**	*e*PN	Pg	01 14 18.8	-0.4	
LAST				*e*SN	Sg	01 14 29.2	+0.1	
LAST	**Lasithi**	**0.74**	**244**	P	Pg	01 14 18.5	-0.7	
LAST	**Lasithi**	**0.74**	**244**	*e*Pn	Pg	01 14 18.8	-0.4	
LAST				*e*Sn	Sg	01 14 29.2	+0.1	
SANT	**Santorini**	**1.11**	**323**	P	Pb	01 14 24.7	-0.9	
SANT				S	Sb	01 14 40.2	+0.4	
SANT	**Santorini**	**1.11**	**323**	*e*PN	Pb	01 14 24.5	-1.1	
SANT				*e*SN	Sb	01 14 39.4	-0.4	
SANT	**Santorini**	**1.11**	**323**	P	Pb	01 14 24.7	-0.9	
SANT				*e*Sn	Sb	01 14 39.4	-0.4	
SANT				S	Sb	01 14 40.2	+0.4	
THR6	**Thira Island,**	**1.13**	**320**	P	Pn	01 14 25.0	-0.9	
THR6	**Thira Island,**	**1.13**	**320**	P	Pn	01 14 25.0	-0.9	
THR7	**Fira-Santorini**	**1.16**	**323**	P	Pn	01 14 25.6	-0.8	
THR7	**Fira-Santorini**	**1.16**	**323**	P	Pn	01 14 25.6	-0.8	
IDI	**Anoyia**	**1.16**	**260**	Pg	Pn	01 14 26.3	-0.2	
	41nm,0.3s,baz=89,slow=13,SNR=9.5							
IDI				LR	LR	01 14 28.5		
	comp=Z,14nm,21.8s,baz=96,slow=21							
IDI				Lg	Lg	01 14 41.6		
	79nm,0.3s,baz=5.7,slow=16,SNR=12							
THR3	**Thira Island,**	**1.17**	**322**	P	Pn	01 14 25.4	-1.0	
THR3	**Thira Island,**	**1.17**	**322**	P	Pn	01 14 25.4	-1.0	
THR2	**Thira island,**	**1.18**	**324**	P	Pn	01 14 25.7	-0.9	
THR2	**Thira island,**	**1.18**	**324**	P	Pn	01 14 25.7	-0.9	
THR5	**Thira Island,**	**1.20**	**321**	*e*PN	Pn	01 14 26.9	0.0	
THR5				*e*SN	Sb	01 14 43.0	+0.6	
THR5	**Thira Island,**	**1.20**	**321**	P	Pn	01 14 25.8	-1.1	
THR5	**Thira Island,**	**1.20**	**321**	P	Pn	01 14 26.9	-1.1	
THR5	**Thira Island,**	**1.20**	**321**	*e*Pn	Pn	01 14 26.9	0.0	
THR5				*e*Sn	Sb	01 14 43.0	+0.6	
SIVA	**Sivas**	**1.30**	**249**	P	Pb	01 14 28.9	0.0	
SIVA				S	Sn	01 14 45.9	+0.5	
SIVA	**Sivas**	**1.30**	**249**	*e*PN	Pn	01 14 28.2	-0.1	
SIVA	**Sivas**	**1.30**	**249**	*e*Pn	Pn	01 14 28.2	-0.1	
SIVA	**Sivas**	**1.30**	**249**	P	Pb	01 14 28.9	0.0	
SIVA				S	Sn	01 14 45.9	+0.5	
NISR	**Nisiros**	**1.31**	**31**	P	Pn	01 14 27.3	-1.1	
NISR	**Nisiros**	**1.31**	**31**	*e*PN	Pn	01 14 27.6	-0.8	
NISR	**Nisiros**	**1.31**	**31**	P	Pn	01 14 27.3	-1.1	
NISR	**Nisiros**	**1.31**	**31**	*e*Pn	Pn	01 14 27.6	-0.8	
NIS1	**Nisyros Isl.**	**1.32**	**33**	*e*PN	Pn	01 14 28.9	+0.4	
NIS1	**Nisyros Isl.**	**1.32**	**33**	P	Pn	01 14 28.1	-0.5	
NIS1	**Nisyros Isl.**	**1.32**	**33**	*e*PN	Pn	01 14 27.5	-1.1	
NIS1	**Nisyros Isl.**	**1.32**	**33**	P	Pn	01 14 28.1	-0.5	
NIS1	**Nisyros Isl.**	**1.32**	**33**	*e*Pn	Pn	01 14 29.0	+0.4	
ARG	**Arkhangelos**	**1.66**	**64**	P	Pn	01 14 32.7	-0.5	
ARG				S	Sn	01 14 53.7	-0.4	
ARG	**Arkhangelos**	**1.66**	**64**	*e*PN	Pn	01 14 32.9	-0.3	
ARG				*e*SN	Sn	01 14 52.7	-1.4	
ARG	**Arkhangelos**	**1.66**	**64**	*e*Pn	Pn	01 14 32.9	-0.3	
ARG				S	Sn	01 14 53.7	-0.4	
APE	**Apeiranthos**	**1.69**	**339**	*e*PN	Pn	01 14 33.8	+0.1	
APE	**Apeiranthos**	**1.69**	**339**	P	Pn	01 14 32.5	-1.2	
APE				S	Sn	01 14 54.4	-0.7	
APE	**Apeiranthos**	**1.69**	**339**	*e*PB	Pn	01 14 32.8	-0.9	
APE	**Apeiranthos**	**1.69**	**339**	P	Pn	01 14 32.5	-1.2	
APE	**Apeiranthos**	**1.69**	**339**	*e*Pn	Pn	01 14 33.8	+0.1	
APE				S	Sn	01 14 54.4	-0.7	
VAM	**Vamos**	**1.71**	**268**	*e*PN	Pn	01 14 34.4	+0.5	
VAM	**Vamos**	**1.71**	**268**	*e*Pn	Pn	01 14 34.4	+0.5	
BODT	**Bodrum**	**1.77**	**27**	*e*PN	Pn	01 14 34.3	-0.5	
BODT	**Bodrum**	**1.77**	**27**	*e*Pn	Pn	01 14 34.3	-0.5	
GVD	**Gavdhos**	**1.94**	**309**	*e*PB	Pn	01 14 37.4	+0.3	
MHLO	**Agia Marina, M**	**1.94**	**309**	*e*PB	Pn	01 14 37.4	+0.3	
SMG	**Samos**	**2.25**	**11**	P	Pn	01 14 39.8	-1.6	
SMG				S	Sn	01 15 08.3	-0.7	
SMG	**Samos**	**2.25**	**11**	*e*PN	Pn	01 14 40.8	-0.6	
SMG	**Samos**	**2.25**	**11**	P	Pn	01 14 39.8	-1.6	
SMG	**Samos**	**2.25**	**11**	*e*Pn	Pn	01 14 40.8	-0.6	
SMG				S	Sn	01 15 08.3	-0.7	
YER	**Yerkesik**	**2.29**	**44**	*e*PN	Pn	01 14 43.2	+1.1	
YER	**Yerkesik**	**2.29**	**44**	*e*Pn	Pn	01 14 43.2	+1.1	
DALY	**Dalyan (Mu˘la**	**2.32**	**55**	*e*PN	Pn	01 14 43.7	+1.4	
DALY	**Dalyan (Mu˘la**	**2.32**	**55**	*e*Pn	Pn	01 14 43.7	+1.4	
ANKY	**Antikythira Is**	**2.46**	**280**	*e*PN	Pn	01 14 43.3	-1.0	
ANKY	**Antikythira Is**	**2.46**	**280**	*e*Pn	Pn	01 14 43.3	-1.0	
KYTH	**Kithira**	**2.76**	**288**	*e*PN	Pn	01 14 48.3	-0.1	
KYTH	**Kithira**	**2.76**	**288**	*e*Pn	Pn	01 14 48.3	-0.1	
AYDB	**Zeytinkoy-Aydi**	**2.77**	**27**	*e*PN	Pn	01 14 49.1	+0.6	
AYDB	**Zeytinkoy-Aydi**	**2.77**	**27**	*e*Pn	Pn	01 14 49.1	+0.6	
CHOS	**Chios island**	**2.90**	**356**	*e*PN	Pn	01 14 49.5	+0.6	
CHOS	**Chios island**	**2.90**	**356**	*e*PN	Pn	01 14 49.5	-0.8	
CHOS	**Chios island**	**2.90**	**356**	*e*Pn	Pn	01 14 50.9	+0.6	
VLI	**Veliai**	**2.98**	**295**	P	Pn	01 14 50.6	-0.8	
VLI				S	Sn	01 15 26.8	0.0	
VLI	**Veliai**	**2.98**	**295**	*e*PN	Pn	01 14 50.9	-0.5	
VLI	**Veliai**	**2.98**	**295**	P	Pn	01 14 50.6	-0.8	
VLI	**Veliai**	**2.98**	**295**	*e*Pn	Pn	01 14 50.9	-0.5	
VLI				S	Sn	01 15 26.8	0.0	
KRND	**KRANIDI**	**3.16**	**308**	*e*PN	Pn	01 14 53.9	+0.1	
KRND	**KRANIDI**	**3.16**	**308**	*e*Pn	Pn	01 14 53.9	+0.1	
DID	**Didima**	**3.18**	**310**	*e*PN	Pn	01 14 54.3	+0.1	
DID	**Didima**	**3.18**	**310**	*e*Pn	Pn	01 14 54.3	+0.1	
PTL	**Penteli**	**3.21**	**323**	*e*PN	Pn	01 14 55.0	+0.4	
PTL	**Penteli**	**3.21**	**323**	*e*Pn	Pn	01 14 55.0	+0.4	
ATH	**Athens Observa**	**3.23**	**321**	*e*PN	Pn	01 14 54.7	-0.1	
ATH	**Athens Observa**	**3.23**	**321**	*e*Pn	Pn	01 14 54.7	-0.1	
EREA	**Eretria**	**3.48**	**328**	*e*PN	Pn	01 14 58.8	+0.5	
EREA	**Eretria**	**3.48**	**328**	*e*Pn	Pn	01 14 58.8	+0.5	
KULA	**Kula-Manisa**	**3.56**	**31**	*e*PN	Pn	01 15 00.8	+1.3	
KULA	**Kula-Manisa**	**3.56**	**31**	*e*Pn	Pn	01 15 00.8	+1.3	
VILL	**Villia**	**3.58**	**319**	*e*PN	Pn	01 15 00.1	+0.4	
VIL2	**Platees**	**3.64**	**319**	*e*PN	Pn	01 15 00.1	-0.4	
LOUT	**Loutraki**	**3.65**	**314**	*e*PN	Pn	01 15 01.4	+0.8	
LOUT	**Loutraki**	**3.65**	**314**	*e*Pn	Pn	01 15 01.4	+0.8	
VLX	**Vlachokerasia**	**3.67**	**302**	*e*PN	Pn	01 15 01.5	+0.5	
VLX	**Vlachokerasia**	**3.67**	**302**	*e*Pn	Pn	01 15 01.5	+0.5	
LTK	**Loutraki**	**3.67**	**314**	*e*PN	Pn	01 15 01.3	+0.3	
LTK	**Loutraki**	**3.67**	**314**	*e*Pn	Pn	01 15 01.3	+0.3	
SIGR	**SIGRI**	**3.73**	**355**	*e*PN	Pn	01 15 01.8	+0.1	
SIGR	**SIGRI**	**3.73**	**355**	*e*PN	Pn	01 15 01.5	-0.2	
SIGR	**SIGRI**	**3.73**	**355**	*e*Pn	Pn	01 15 01.8	+0.1	
PRK	**Paraskevi**	**3.75**	**360**	*e*PN	Pn	01 15 01.5	-0.4	
PRK	**Paraskevi**	**3.75**	**360**	*e*Pn	Pn	01 15 01.5	-0.4	
ANTB	**Antalya**	**3.80**	**67**	*e*PN	Pn	01 15 04.9	+2.3	
ANTB	**Antalya**	**3.80**	**67**	*e*Pn	Pn	01 15 04.9	+2.3	
THAL	**Thalero**	**3.87**	**312**	*e*PN	Pn	01 15 04.5	+1.0	
THAL	**Thalero**	**3.87**	**312**	*e*Pn	Pn	01 15 04.5	+1.0	
ITM	**Ithomi**	**3.91**	**297**	*e*PN	Pn	01 15 04.9	+0.8	
ITM	**Ithomi**	**3.91**	**297**	*e*Pn	Pn	01 15 04.9	+0.8	
BCK	**Bucak**	**3.98**	**59**	*e*PN	Pn	01 15 07.4	+2.2	
BCK	**Bucak**	**3.98**	**59**	*e*Pn	Pn	01 15 07.4	+2.2	
GUR	**Goura**	**4.00**	**309**	*e*PN	Pn	01 15 05.8	+0.3	
GUR	**Goura**	**4.00**	**309**	*e*Pn	Pn	01 15 05.8	+0.3	
LKR	**Lokris**	**4.11**	**321**	*e*PN	Pn	01 15 06.9	0.0	
LKR	**Lokris**	**4.11**	**321**	*e*Pn	Pn	01 15 06.9	0.0	
SMIA	**Simia**	**4.18**	**325**	*e*PN	Pn	01 15 08.9	+1.0	
SMIA	**Simia**	**4.18**	**325**	*e*Pn	Pn	01 15 08.9	+1.0	
KLV	**Kalavryta, Ach**	**4.19**	**309**	*e*PN	Pn	01 15 08.5	+0.4	
KLV	**Kalavryta, Ach**	**4.19**	**309**	*e*Pn	Pn	01 15 08.5	+0.4	
DSF	**Desfina**	**4.19**	**315**	*e*PN	Pn	01 15 08.9	+0.8	
DSF	**Desfina**	**4.19**	**315**	*e*Pn	Pn	01 15 08.9	+0.8	
AMT	**Artemida-Makis**	**4.22**	**300**	*e*PN	Pn	01 15 09.4	+1.0	
AMT	**Artemida-Makis**	**4.22**	**300**	*e*Pn	Pn	01 15 09.4	+1.0	
SUTC	**Sutluce-Ispart**	**4.28**	**61**	*e*PN	Pn	01 15 12.1	+2.7	
SUTC	**Sutluce-Ispart**	**4.28**	**61**	*e*Pn	Pn	01 15 12.1	+2.7	
BALB	**Balikesir**	**4.33**	**16**	*e*PN	Pn	01 15 11.8	+1.9	
BALB	**Balikesir**	**4.33**	**16**	*e*Pn	Pn	01 15 11.8	+1.9	
AXAR	**Agios Charalam**	**4.37**	**319**	*e*PN	Pn	01 15 11.1	+0.6	
AXAR	**Agios Charalam**	**4.37**	**319**	*e*Pn	Pn	01 15 11.1	+0.6	
KALE	**Kalithea**	**4.41**	**312**	*e*PN	Pn	01 15 11.9	+0.8	
KALE	**Kalithea**	**4.41**	**312**	*e*Pn	Pn	01 15 11.9	+0.8	
DRO	**Drossia**	**4.42**	**305**	*e*PN	Pn	01 15 12.0	+0.7	
DRO	**Drossia**	**4.42**	**305**	*e*Pn	Pn	01 15 12.0	+0.7	
NEO	**Neokhori**	**4.52**	**328**	*e*PN	Pn	01 15 13.6	+1.0	
NEO	**Neokhori**	**4.52**	**328**	*e*Pn	Pn	01 15 13.6	+1.0	
TVSB	**Tavsanli**	**4.69**	**32**	*e*PN	Pn	01 15 16.8	+1.8	
TVSB	**Tavsanli**	**4.69**	**32**	*e*Pn	Pn	01 15 16.8	+1.8	
AGG	**Agios Georgios**	**4.73**	**319**	*e*PN	Pn	01 15 17.4	+1.9	
AGG	**Agios Georgios**	**4.73**	**319**	*e*Pn	Pn	01 15 16.7	+1.2	
AGG	**Agios Georgios**	**4.73**	**319**	*e*Pn	Pn	01 15 16.7	+1.2	
MAKR	**Makrakomi, Fth**	**4.83**	**318**	*e*PN	Pn	01 15 17.8	+0.9	
MAKR	**Makrakomi, Fth**	**4.83**	**318**	*e*Pn	Pn	01 15 17.8	+0.9	
EVR	**Evrytania**	**4.95**	**315**	*e*PN	Pn	01 15 19.0	+0.5	
EVR	**Evrytania**	**4.95**	**315**	*e*Pn	Pn	01 15 19.0	+0.5	
HDMB	**Hadim**	**5.22**	**72**	*e*PN	Pn	01 15 25.1	+2.8	
HDMB	**Hadim**	**5.22**	**72**	*e*Pn	Pn	01 15 25.1	+2.8	
THL	**Klokotos Trika**	**5.30**	**321**	*e*PN	Pn	01 15 24.9	+1.7	
THL	**Klokotos Trika**	**5.30**	**321**	*e*Pn	Pn	01 15 24.9	+1.7	
ALN	**Alexandroupoli**	**5.40**	**358**	*e*PN	Pn	01 15 26.4	+1.8	
ALN	**Alexandroupoli**	**5.40**	**358**	*e*PN	Pn	01 15 24.9	+0.3	
ALN	**Alexandroupoli**	**5.40**	**358**	*e*Pn	Pn	01 15 24.9	+0.3	
LEF	**Lefka**	**5.41**	**92**	*e*PN	Pn	01 15 28.1	+3.3	
LEF	**Lefka**	**5.41**	**92**	*e*Pn	Pn	01 15 28.1	+3.3	
LADK	**Ladik-KONYA**	**5.57**	**59**	*e*PN	Pn	01 15 30.1	+3.0	
LADK	**Ladik-KONYA**	**5.57**	**59**	*e*Pn	Pn	01 15 30.1	+3.0	
KIZT	**Kizilcal**	**5.60**	**51**	*e*PN	Pn	01 15 29.4	+1.9	
KIZT	**Kizilcal**	**5.60**	**51**	*e*Pn	Pn	01 15 29.4	+1.9	
CRLT	**Corlu**	**5.74**	**11**	*e*PN	Pn	01 15 31.5	+2.2	
CRLT	**Corlu**	**5.74**	**11**	*e*Pn	Pn	01 15 31.5	+2.2	
CSS	**Prodhromos**	**5.79**	**93**	*e*PN	Pn	01 15 34.0	+4.0	
CSS	**Prodhromos**	**5.79**	**93**	*e*Pn	Pn	01 15 34.0	+4.0	
LFK	**Lefkose**	**5.92**	**90**	*e*PN	Pn	01 15 36.0	+4.2	
LFK	**Lefkose**	**5.92**	**90**	*e*Pn	Pn	01 15 36.0	+4.2	
GULT	**Gulveren**	**5.95**	**33**	*e*PN	Pn	01 15 35.0	+2.7	
GULT	**Guveren**	**5.95**	**33**	*e*Pn	Pn	01 15 35.0	+2.7	
GRG	**Griva**	**6.26**	**332**	*e*PN	Pn	01 15 38.8	+2.3	
GRG	**Griva**	**6.26**	**332**	*e*PN	Pn	01 15 37.7	+1.3	
GRG	**Griva**	**6.26**	**332**	*e*Pn	Pn	01 15 37.7	+1.3	
FNA	**Florina**	**6.55**	**325**	*e*PN	Pn	01 15 43.2	+2.7	
FNA	**Florina**	**6.55**	**325**	*e*Pn	Pn	01 15 43.2	+2.7	
LOD	**Lodumlu**	**6.75**	**48**	*e*PN	Pn	01 15 46.3	+3.0	
LOD	**Lodumlu**	**6.75**	**48**	*e*Pn	Pn	01 15 46.3	+3.0	
BRTR	**Keskin Array B**	**7.20**	**52**	Pn	Pn	01 15 49.5	0.0	
	0.1nm,0.3s,baz=221,slow=14,SNR=3.8							
BRTR				Sn	Sn	01 17 08.9	-2.1	
	0.1nm,0.3s,baz=228,slow=17,SNR=3.7							
MMAI	**Mount Meron Ar**	**7.94**	**106**	Pn	Pn	01 15 56.0	-3.6	
	1.3nm,0.3s,baz=287,slow=11,SNR=9.9							
MMAI				Sn	Sn	01 17 25.5	-3.6	
	1.4nm,0.3s,baz=276,slow=20,SNR=4.2							
EIL	**Elat**	**9.33**	**126**	Pn	Pn	01 16 16.9	-1.8	
	0.3nm,0.3s,baz=339,slow=2.9,SNR=8.0							
EIL				Sn	Sn	01 17 58.3	-5.0	
	0.8nm,0.3s,baz=295,slow=17,SNR=6.1							
GERES	**GERESS Array B**	**16.25**	**329**	Pn	Pn	01 17 54.0	+1.6	
	0.1nm,0.3s,baz=191,slow=13,SNR=2.1							
ESDC	**Sonseca Array**	**24.28**	**289**	P	P	01 19 24.0	+2.6	
	0.2nm,0.6s,baz=83,slow=8.8,SNR=2.9							
GEYT	**Alibeck**	**25.57**	**75**	P	P	01 19 33.6	+0.5	
	0.4nm,0.3s,baz=298,slow=6.2,SNR=2.7							
EKA	**Eskdalemuir Ar**	**28.31**	**324**	P	P	01 19 58.5	+1.0	
	0.2nm,0.4s,baz=111,slow=10,SNR=3.2							
TORD	**Torodi Ar. Bea**	**31.41**	**231**	P	P	01 20 25.2	-0.2	
	0.2nm,0.5s,baz=34,slow=8.6,SNR=6.3							
ZALV	**Zalesovo Beam**	**44.10**	**46**	P	P	01 22 11.4	-0.7	
	0.3nm,0.3s,baz=285,slow=9.8,SNR=2.3							

ISCJB ***26*** *01:15:08.8±0.5,57°.42S±0°.07×23°.5W±0°.2,h10km, mb4.4/13,MS3.7/5,Error ellipse: s-maj=14.1km s-min=9.4km az=155.0*

IDC ***26*** *01:15:09.0±0.6,57°.37S×23°.64W,h0km,mb4.3/7, mb1 4.4/8,mb1mx4.1/30,mbtmp4.3/8,ML4.4/1,MS3.6/6, Ms1 3.6/6,ms1mx3.4/20,Error ellipse: s-maj=26.6km s-min=18.6km az=66.0*

NEIC ***26*** *01:15:10.3±4.7,57°.46S×23°.42W,h10km±28km,mb4.6/10, Error ellipse: s-maj=10.5km s-min=8.7km az=217.0*

ISC 26 01:15:10.4±0.4,57°.40S±0°.10×23°.5W±0°.1,h10km,n53, σ0°86/48,mb4.5/13,MS3.8/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.79**	**160**	P	**Pn**	**01 18 39.3**	**0.0**
VNA2	**Neumayer--Watz**	**15.19**	**160**	P	**Pn**	**01 18 43.8**	**-0.8**
	baz=325,slow=16						
VNA2	**Neumayer--Watz**	**15.19**	**160**	S	S	01 22 01.2	+12
SNAA	**Sanae**	**16.68**	**157**	P	**Pn**	**01 19 01.8**	**-2.2**
SNAA	**Sanae**	**16.68**	**157**	Pn	**Pn**	**01 19 04.5**	**+0.5**
	1.5nm,0.3s,baz=355,slow=22,SNR=84						
SNAA				LR	LR	01 23 54.2	
	comp=Z,40nm,20.3s,baz=20,slow=31						
SNAA	**Sanae**	**16.68**	**157**	*e*Pn	**Pn**	**01 19 01.3**	**-2.7**
	36nm,1.0s						
PMSA	**Palmer Station**	**20.62**	**232**	LR	LR	01 25 50.3	
	comp=Z,352nm,18.4s,baz=79,slow=31						
USHA	**Ushuaia**	**24.84**	**257**	LR	LR	01 27 51.7	
	comp=Z,368nm,21.2s,baz=105,slow=31						
QSPA	**South Pole Qui**	**32.84**	**180**	P	**P**	**01 21 44.4**	**+0.5**
	2.2nm,0.5s,baz=221,slow=0.9,SNR=20						
QSPA				PcP	**PcP**	**01 24 28.1**	**-0.1**
	3.3nm,0.9s,baz=206,slow=2.2,SNR=3.9						
CPUP	**Villa Florida**	**39.25**	**308**	P	**P**	**01 22 37.7**	**-1.1**
	3.2nm,0.9s,baz=183,slow=11,SNR=4.2						
CPUP				LR	LR	01 40 02.7	
	comp=Z,25nm,18.6s,baz=158,slow=38						
CPUP	**Villa Florida**	**39.25**	**308**	*e*P	**P**	**01 22 39.0**	**+0.2**
	0.5nm,1.3s						
BOSA	**Boshof**	**44.40**	**71**	LR	LR	01 37 36.4	
	comp=Z,119nm,19.1s,baz=164,slow=30						
BOSA	**Boshof**	**44.40**	**71**	*e*P	**P**	**01 23 22.0**	**+0.9**
	5.3nm,1.1s						
VNDA	**Vanda**	**45.30**	**182**	P	**P**	**01 23 28.1**	**+0.6**
	1.4nm,0.8s,baz=184,slow=8.5,SNR=7.3						
VNDA	**Vanda**	**45.30**	**182**	*e*P	**P**	**01 23 28.6**	**+1.1**
	2.9nm,1.1s						
LBTB	**Lobatse**	**47.52**	**68**	P	**P**	**01 23 47.0**	**+1.2**
	1.7nm,0.9s,baz=225,slow=9.6,SNR=3.9						
LBTB	**Lobatse**	**47.52**	**68**	*e*P	**P**	**01 23 47.3**	**+1.6**
	5.9nm,1.1s						
LVC	**Limon Verde**	**47.74**	**297**	*e*P	**P**	**01 23 48.6**	**+1.0**
	8.4nm,1.1s						
TSUM	**Tsumeb**	**48.66**	**56**	*e*P	**P**	**01 23 54.0**	**-0.6**
	6.4nm,1.3s						
H10S2	**ASCENSION HYDR**	**48.81**	**12**	T	T	02 16 39.1	
	baz=186,slow=75,SNR=11						
H10S3	**ASCENSION HYDR**	**48.82**	**12**	T	T	02 16 44.4	
	baz=186,slow=75,SNR=12						
H10S1	**ASCENSION HYDR**	**48.83**	**12**	T	T	02 16 38.5	
	baz=186,slow=75,SNR=13						
H10N1	**ASCENSION HYDR**	**49.93**	**12**	T	T	02 18 04.5	
	baz=180,slow=72,SNR=5.1						
H10N3	**ASCENSION HYDR**	**49.93**	**12**	T	T	02 18 05.7	
	baz=180,slow=72,SNR=7.3						
H10N2	**ASCENSION HYDR**	**49.95**	**12**	T	T	02 18 02.8	
	baz=180,slow=72,SNR=6.3						
LPAZ	**La Paz**	**52.83**	**302**	P	**P**	**01 24 26.4**	**-0.3**
	3.9nm,0.7s,baz=156,slow=5.7,SNR=16						
LPAZ	**La Paz**	**52.83**	**302**	*e*P	**P**	**01 24 28.0**	**+1.4**
	14nm,1.2s						
LSZ	**Lusaka**	**57.03**	**64**	*e*P	**P**	**01 24 56.3**	**-0.1**
	6.2nm,1.2s						
SAML	**Samuel**	**57.22**	**311**	*e*P	**P**	**01 24 57.9**	**+0.3**
	11nm,1.0s						
OTAV	**Otavalo**	**72.11**	**301**	*e*P	**P**	**01 26 36.3**	**+0.9**
	11nm,1.1s						
TOA0	**Torodi Ar. Sit**	**73.31**	**26**	*e*P	**P**	**01 26 42.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**73.31**	**26**	P	**P**	**01 26 42.1**	**+0.2**
	3.5nm,0.7s,baz=193,slow=6.6,SNR=18						
PCRV	**Puerto La Cruz**	**75.31**	**318**	P	**P**	**01 26 53.3**	**-0.3**
	11nm,0.9s,baz=247,slow=2.7,SNR=4.0						
PPT	**Papeete**	**92.98**	**231**	LR	LR	02 01 57.3	
	comp=Z,81nm,18.9s,baz=135,slow=30						
KULM	**Kulim**	**112.30**	**117**	*e*PKP	**PKiKP**	**01 33 46.2**	**-0.2**
PMG	**Port Moresby**	**112.98**	**170**	*e*PKP	**PKiKP**	**01 33 47.0**	**-0.7**
KIV	**Kislovodsk**	**115.06**	**47**	*e*PKP	**PKPdf**	**01 33 50.0**	**-0.7**
MSU	**Marysvale**	**120.78**	**294**	*e*PKPdf	**PKPdf**	**01 34 03.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**122.69**	**108**	PKP	**PKPdf**	**01 34 06.4**	**+0.2**
	1.1nm,0.5s,baz=235,slow=3.2,SNR=3.9						
NVAR	**Mina Array Bea**	**123.79**	**290**	PKP	**PKPdf**	**01 34 07.7**	**-0.2**
	0.8nm,0.8s,baz=188,slow=3.0,SNR=3.5						
MOOW	**Moose Ponds**	**124.10**	**299**	*e*PKPdf	**PKPdf**	**01 34 08.4**	**+0.1**
FINES	**FINESS Array B**	**124.66**	**26**	PKP	**PKPdf**	**01 34 08.3**	**-0.2**
	1.9nm,0.8s,baz=185,slow=5.0,SNR=4.0						
ABKAR	**Akbulak array**	**126.48**	**54**	*e*PKPdf	**PKPdf**	**01 34 12.2**	**-0.2**
EKS2	**Erkin-Say**	**128.18**	**69**	*e*PKPdf	**PKPdf**	**01 34 15.9**	**-0.1**
TKM2	**Tokmak 2**	**129.29**	**70**	*e*PKPdf	**PKPdf**	**01 34 18.4**	**+0.1**
KURK	**Kurchatov**	**136.15**	**64**	*e*PKPdf	**PKPdf**	**01 34 30.5**	**-0.1**
YKA	**Yellowknife Ar**	**138.56**	**315**	PKP	**PKPdf**	**01 34 33.5**	**-1.2**
	1.1nm,0.8s,baz=121,slow=1.8,SNR=9.6						
YKA				PP	**PP**	**01 37 24.9**	**-1.4**
	1.3nm,1.1s,baz=123,slow=6.5,SNR=4.9						
YKW3	**Yellowknife Ar**	**138.60**	**316**	*e*PKPdf	**PKPdf**	**01 34 34.9**	**+0.1**
SONM	**Songino Array**	**148.78**	**86**	PKPbc	**PKPbc**	**01 34 57.0**	**-0.2**
	3.4nm,0.9s,baz=228,slow=2.4,SNR=14						
ILAR	**Eielson Array**	**152.55**	**309**	PKPbc	**PKPbc**	**01 35 05.5**	**+0.1**
	4.1nm,0.9s,baz=131,slow=1.0,SNR=28						
ILAR				PKPab	**PKPab**	**01 35 15.8**	**-0.2**
	1.1nm,0.5s,baz=136,slow=1.8,SNR=10.0						
MCK	**McKinley**	**153.22**	**306**	*e*PKPdf	**PKPdf**	**01 34 59.2**	**-0.2**
MCK				*e*PKPbc	**PKiKP**	**01 35 07.5**	**+0.5**
MCK				*e*PKPab	**PKPab**	**01 35 17.3**	**-1.6**
BPAW	**Bear Paw Mtn.**	**154.18**	**307**	*e*PKPbc	**PK

KAPI Kappang 21.79 104 P **P** **01 22 53.1 -0.6**
comp=Z,3.2nm,0.4s,baz=252,slow=20,SNR=2.3
KAPI Kappang 21.79 104 *e*P **P** **01 22 55.1 +1.4**
comp=Z,3.2nm,0.8s
BKSI Bulukumba 22.22 105 P **P** **01 23 01.7 +3.3**
comp=Z,34nm,1.0s
VIS Vishakhapatnam 22.90 320 *e*P **P** **01 23 08.0 +2.5**
VIS AMB AMB 01 24 15.3
comp=Z,88nm,0.9s
APSI Ampana 23.09 93 P **P** **01 23 07.6 +0.1**
comp=Z,62nm,0.9s,comp=Z,814nm
MRSI Marisa 23.35 90 P **P** **01 23 09.4 -0.6**
comp=Z,57nm,0.7s
LUWI Luwuk 24.22 93 P **P** **01 23 19.3 +1.4**
comp=Z,155nm,1.0s,comp=Z,2µm
LUWI Luwuk 24.22 93 *e*P **P** **01 23 18.9 +0.9**
comp=Z,141nm,1.0s
KMI Kunming 24.98 9 P **P** **01 23 26.0 +1.0**
KMI pP **pP** **01 23 40.3 +0.6**
KMI PP **PnPn** **01 24 05.8 +4.8**
KMI S **S** **01 27 44.3 -0.5**
KMI sS **sS** **01 28 08.5 -1.4**
KMI SS **SnSn** **01 28 45.8 +7.0**
KMI PMZ
comp=Z,29nm,0.9s
KMI PMZ
comp=Z,100nm,3.1s
KMI LN
comp=Z,220nm,15.6s
KMI LE
comp=Z,240nm,13.9s
KMI LZ
comp=Z,230nm,16.7s
SHL Shillong 25.92 346 *e*P **P** **01 23 33.5 +0.1**
SHL AMB AMB 01 23 35.8
comp=Z,61nm,1.6s
SHL *ex* x 01 28 08.0
BOK Bokaro 26.39 333 *e*P **P** **01 23 39.0 +1.5**
BOK AMB AMB 01 23 40.3
comp=Z,43nm,0.2s
GYA Guiyang 27.12 16⇑*i*P **P** **01 23 44.0 -0.2**
GYA pP **pP** **01 24 01.3 +2.3**
GYA sP **sP** **01 24 09.0 +2.9**
GYA PP **PnPn** **01 24 33.8 +3.6**
GYA PcP **PcP** **01 27 05.5 +1.6**
GYA S **S** **01 28 18.5 0.0**
GYA sS **sS** **01 28 44.3 +0.6**
GYA SS **SnSn** **01 29 36.0 +5.1**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.8s
GYA LN
comp=Z,620nm,16.5s
GYA LE
comp=Z,580nm,17.2s
GYA LZ
comp=Z,650nm,16.8s
H08S2 Diego Garcia H 27.20 253 T T 01 51 13.6
baz=73,slow=75,SNR=1094
H08S3 Diego Garcia H 27.20 253 T T 01 51 08.5
baz=73,slow=75,SNR=1799
H08S1 Diego Garcia H 27.22 253 T T 01 51 25.8
baz=73,slow=75,SNR=1440
TAPN Taplejung 28.83 340 *e*P **P** **01 24 00.4 +0.7**
comp=Z,16nm,0.4s
RAMN Ramite 28.88 337 *e*P **P** **01 24 01.4 +1.4**
comp=Z,16nm,0.4s
MBWA Marble Bar 29.71 137 *e*P **P** **01 24 06.0 -1.1**
comp=Z,15nm,1.1s
PKI Pulchoki 29.90 336 *e*P **P** **01 24 09.4 +0.2**
comp=Z,14nm,0.7s
GUN Gumba 30.02 337 *e*P **P** **01 24 11.0 +0.8**
comp=Z,40nm,0.4s
LSA Lhasa 30.06 347 P **P** **01 24 11.5 +0.8**
LSA Lhasa 30.06 347 *e*P **P** **01 24 10.8 +0.1**
comp=Z,16nm,0.5s
KKN Kakani 30.15 336 *e*P **P** **01 24 11.9 +0.7**
comp=Z,17nm,0.5s
GKN Gorkha 30.60 335 *e*P **P** **01 24 15.7 +0.5**
comp=Z,18nm,0.4s
BHPL Bhopal 30.69 319 *e*P **P** **01 24 17.5 +1.6**
BHPL AMB AMB 01 24 39.7
comp=Z,20nm,1.4s
CD2 Chengdu 30.81 9 *e*P **P** **01 24 17.5 +0.7**
CD2 pP **pP** **01 24 31.8 +0.1**
CD2 PcP **PcP** **01 27 13.3 +0.3**
CD2 S **S** **01 29 17.5 +1.2**
CD2 sS **sS** **01 29 42.5 +0.9**
CD2 PMZ
comp=Z,30nm,0.5s
CD2 PMZ
comp=Z,140nm,5.2s
CD2 LN
comp=Z,320nm,17.1s
CD2 LZ
comp=Z,400nm,17.6s
KOLN Koldanda 30.85 333 *e*P **P** **01 24 18.4 +1.0**
comp=Z,61nm,0.6s
ENH Enshi 31.53 18 *e*P **P** **01 24 22.1 -1.1**
comp=Z,72nm,0.6s
SIJI Sorong 32.70 92 P **P** **01 24 32.2 -1.5**
comp=Z,5.4nm,0.4s,baz=343,slow=5.4,SNR=5.4
WHN Wuhan 33.58 25 P **P** **01 24 41.0 0.0**
FAKI Fak Fak 33.80 96 *e*P **P** **01 24 44.3 +1.0**
comp=Z,11nm,0.6s
XAN Xi'an 34.91 15 P **P** **01 24 52.0 -0.6**
XAN PMZ
comp=Z,38nm,0.6s
LZH Lanzhou 35.91 7 ⇑P **P** **01 25 01.5 +0.2**
LZH pP **pP** **01 25 16.3 -0.1**
LZH sP **sP** **01 25 24.0 +0.6**
LZH PMZ
comp=Z,58nm,1.1s
LZH PMZ
comp=Z,140nm,4.0s
SMLA Simla 36.76 328 *e*P **P** **01 25 09.2 +0.8**
SMLA AMB AMB 01 25 10.8
comp=Z,24nm,0.9s
SRPI Serui, Papua 37.71 93 P pP 01 25 28.7 -3.2
DHRM DHARAMSHALA 38.09 329 *e*P **P** **01 25 20.5 +0.6**
JOW Kunigami 38.85 45 P **P** **01 25 25.9 -0.3**
comp=Z,1.2nm,0.4s,baz=170,slow=19
GTA Gaotai 38.91 2 *e*P **P** **01 25 26.8 +0.2**
GTA pP **pP** **01 25 43.3 +1.5**
GTA sP **sP** **01 25 50.0 +1.1**
GTA PcP **PcP** **01 27 37.8 +1.4**
GTA S **ScP** **01 31 20.3 +0.5**
GTA sS **sS** **01 31 45.5 -1.1**
GTA SS **SS** **01 34 04.8 -10**
GTA ScS **ScS** **01 35 27.3 -3.7**
GTA PMZ
comp=Z,16nm,1.1s
GTA PMZ
comp=Z,98nm,5.2s
GTA LN
comp=Z,97nm,19.5s
GTA LE
comp=Z,95nm,17.1s
GTA LZ
comp=Z,160nm,17.6s
WRA Warramunga Arr 40.40 122 P **P** **01 25 37.5 -1.7**
comp=Z,2.8nm,0.5s,baz=303,slow=9.0,SNR=5.2
WRA PcP **PcP** **01 27 41.1 -0.3**
comp=Z,2.0nm,0.6s,baz=315,slow=2.7,SNR=4.6
WRA Warramunga Arr 40.40 122 P **P** **01 25 37.5 -1.7**
WRA 01 27 41.1
WRA pmax pmax
comp=Z,3.0nm,0.5s
WRA pmax pmax
comp=Z,2.0nm,0.6s
FORT Forrest 41.72 140 *e*P P 01 25 53.9 +4.1
comp=Z,53nm,0.7s
ASAR Alice Springs 41.76 127 P **P** **01 25 49.2 -1.1**
comp=Z,2.9nm,0.5s,baz=302,slow=7.6,SNR=9.4
ASAR PcP **PcP** **01 27 46.0 +0.2**
comp=Z,3.2nm,0.7s,baz=302,slow=3.2,SNR=7.2
ASAR S **S** **01 31 57.9 -5.7**
comp=Z,0.3nm,0.2s,baz=298,slow=16,SNR=2.9
ASAR Alice Springs 41.76 127 P **P** **01 25 49.2 -1.1**
ASAR 01 27 46.1
ASAR S **S** **01 31 57.9 -5.7**
ASAR pmax pmax
comp=Z,3.0nm,0.5s
ASAR pmax pmax
comp=Z,3.0nm,0.7s

HHC Hu-ho-hao-te 42.02 15 *e*P **P** **01 25 54.0 +1.7**
HHC pP **pP** **01 26 09.5 +1.9**
HHC sP **sP** **01 26 16.5 +1.9**
HHC PP **PP** **01 27 35.3 +4.7**
HHC S **S** **01 32 09.0 +1.9**
HHC sS **sS** **01 32 32.5 -0.5**
HHC ScS **ScS** **01 35 47.5 -1.9**
HHC PMZ
comp=Z,48nm,0.9s
HHC PMZ
comp=Z,160nm,5.6s
HHC LN
comp=Z,220nm,13.7s
HHC LE
comp=Z,140nm,13.1s
HHC LZ
comp=Z,220nm,13.2s
BJT Baijiatuau 42.63 20 *e*P **P** **01 25 58.0 +0.9**
comp=Z,119nm,0.8s
BJI Beijing 42.66 20 P **P** **01 25 58.3 +1.0**
BJI PMZ
comp=Z,140nm,0.8s
BJI PMZ
comp=Z,150nm,3.8s
KSH Kashi 44.14 335 P **P** **01 26 08.5 -1.0**
KSH pP **pP** **01 26 24.3 -0.6**
KSH sP **sP** **01 26 31.0 -0.8**
KSH PP **PcP** **01 27 54.8 +1.2**
KSH PcS **PcS** **01 31 46.5 -0.4**
KSH S **S** **01 32 37.0 -1.3**
KSH sS **sS** **01 33 05.0 +0.6**
KSH PMZ
comp=Z,8.0nm,0.7s
KSH PMZ
comp=Z,120nm,5.5s
KSH LN
comp=Z,91nm,5.8s
KSH LE
comp=Z,75nm,4.2s
WMQ Urumqi 44.38 349 P **P** **01 26 12.5 +1.3**
WMQ pP **pP** **01 26 26.3 -0.4**
WMQ sP **sP** **01 26 35.3 +1.7**
WMQ PP **PP** **01 27 56.8 +1.0**
WMQ PcS **PcS** **01 31 48.8 +1.2**
WMQ sS **sS** **01 33 07.5 -0.1**
WMQ PMZ
comp=Z,22nm,1.4s
WMQ PMZ
comp=Z,130nm,5.0s
WMQ LN
comp=Z,92nm,14.9s
WMQ LE
comp=Z,62nm,15.2s
WMQ LZ
comp=Z,69nm,24.0s
JNU Nakatsue 44.56 40 P **P** **01 26 10.2 -2.7**
comp=Z,5.1nm,0.4s,baz=231,slow=3.1,SNR=8.8
SFK Sufi-Kurgan 45.64 333 P **P** **01 26 22.6 +1.1**
SFK pmax pmax
comp=Z,5.0nm,0.5s
KSAR Wonju Array Be 45.77 33 P **P** **01 26 20.8 -1.4**
KSRS Korea Array 45.80 33 P **P** **01 26 20.8 -1.6**
comp=Z,17nm,0.6s,baz=221,slow=8.5,SNR=58
KSRS Korea Array 45.80 33 P **P** **01 26 20.8 -1.6**
KSRS pmax pmax
comp=Z,17nm,0.6s
PDGK Podgornoye 46.10 341 P **P** **01 26 25.7 +1.0**
PDGK pmax pmax
comp=Z,17nm,0.9s
COEN Coen 46.36 110 *e*P **P** **01 26 28.0 +0.7**
comp=Z,33nm,1.5s
UCH Uchtor 47.01 336 P **P** **01 26 33.7 +1.2**
SNR=8.1
TKM2 Tokmak 2 47.16 337 P **P** **01 26 34.5 +1.2**
SNR=14
TKM2 Tokmak 2 47.16 337 *e*P **P** **01 26 34.2 +0.9**
comp=Z,12nm,0.8s
KBK Karagaybulak 47.19 336 P **P** **01 26 35.3 +1.8**
SNR=10
AML Almayashu 47.27 335 P **P** **01 26 35.7 +1.3**
SNR=5.7
EKS2 Erkin-Say 47.67 335 P **P** **01 26 38.7 +1.4**
SNR=7.8
EKS2 Erkin-Say 47.67 335 *e*P **P** **01 26 38.4 +1.2**
comp=Z,6.4nm,0.6s
SONM Songino Array 47.80 7 P **P** **01 26 38.6 +0.5**
comp=Z,16nm,0.5s,baz=189,slow=8.7,SNR=94
SONM pP **pP** **01 26 50.7 -3.0**
comp=Z,13nm,0.5s,baz=182,slow=8.9,SNR=13
SONM PcP **PcP** **01 28 07.1 +0.9**
comp=Z,12nm,0.7s,baz=186,slow=3.8,SNR=9.4
SONM LR LR 01 48 59.9
comp=Z,169nm,19.0s,baz=210,slow=39
SONM Songino Array 47.80 7 P **P** **01 26 38.6 +0.5**
SONM *PP **pP** **01 26 50.7 -3.0**
SONM 01 28 07.1
SONM pmax pmax
comp=Z,16nm,0.5s
SONM pmax pmax
comp=Z,13nm,0.5s
SONM pmax pmax
comp=Z,12nm,0.7s
SONM MLR MLR
comp=Z,169nm,19.0s
USP Ospenovka 47.88 336 P **P** **01 26 39.7 +1.0**
SNR=16
MK31 Makanchi Array 48.43 345 P **P** **01 26 43.3 +0.4**
MK31 pmax pmax
comp=Z,14nm,0.5s
MK31 Makanchi Array 48.43 345 *e*P **P** **01 26 43.2 +0.4**
MKAR Makanchi Array 48.43 345 *e*P **P** **01 26 43.5 +0.7**
IDAH Dahanechah 48.66 315 *e*P **P** **01 26 45.8 +0.7**
KKAR Karatay Array 49.46 333 *e*P **P** **01 26 51.2 +0.4**
comp=Z,4.0nm,0.6s
CN2 Changchun 49.47 25 *e*P **P** **01 26 50.3 -0.5**
CN2 *e*S **S** **01 33 56.8 +2.9**
CN2 PMZ
comp=Z,40nm,0.5s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,200nm,20.0s
CN2 LE
comp=Z,200nm,20.0s
CN2 LZ
comp=Z,200nm,22.0s
ITEG Tejag 49.53 315 *e*P **P** **01 26 52.2 +0.4**
CBIJ Chichi jima 49.59 54 P **P** **01 26 49.1 -2.9**
JCJ Chichijima 49.59 54 P **P** **01 26 49.1 -2.9**
comp=Z,33nm,0.6s,baz=146,slow=22,SNR=5.3
ZAK Zakamensk 50.03 4 *e*P **P** **01 26 55.3 +0.2**
ZAK *e* 01 27 08.0
ZAK *e* 01 28 15.0
ZAK pmax pmax
comp=Z,3.0nm,0.8s
IMYA Miami 50.56 319 *e*P **P** **01 26 58.7 -0.8**
HVS Khovu-Aksy 50.79 356 *e*P **P** **01 27 01.7 +0.9**
HVS pmax pmax
comp=Z,12nm,0.6s
CTAO Charters Tower 50.87 116 *e*P **P** **01 27 01.1 -0.8**
comp=Z,17nm,1.1s
IBAF Bafgh 51.19 312 *e*P **P** **01 27 04.2 -0.1**
IPAY Payeh 51.35 319 *e*P **P** **01 27 04.8 -0.6**
TLY Talaya 51.35 4 P **P** **01 27 04.2 -0.7**
comp=Z,9.1nm,0.5s,baz=299,slow=4.9,SNR=7.6
TLY Talaya 51.35 4 P **P** **01 27 04.2 -0.7**
TLY pmax pmax
comp=Z,9.0nm,0.5s
TLY Talaya 51.35 4 *e*P **P** **01 27 05.4 +0.5**
comp=Z,13nm,0.6s
MAJO Matsushiro 51.41 41 *e*P P 01 27 01.6 -4.1
MAJO pmax pmax
comp=Z,31nm,1.0s
MAJO Matsushiro 51.41 41 *e*P **P** **01 27 05.0 -0.7**
comp=Z,6.6nm,0.5s
MAT Matsushiro 51.41 41 P **P** **01 27 03.6 -2.1**
MAT *e*S **S** **01 34 17.8 -3.4**
MJAR Matsushiro Arr 51.41 41 P **P** **01 27 04.3 -1.4**
comp=Z,4.1nm,0.5s,baz=227,slow=7.7,SNR=19
MJAR Matsushiro Arr 51.41 41 P **P** **01 27 04.3 -1.4**
MJAR pmax pmax
comp=Z,4.0nm,0.5s
STKA Stephens Creek 51.74 132 P **P** **01 27 08.2 0.0**
comp=Z,4.8nm,0.6s,baz=312,slow=7.4,SNR=8.9
STKA Stephens Creek 51.74 132 P **P** **01 27 08.2 0.0**
STKA pmax pmax
comp=Z,5.0nm,0.6s
STKA Stephens Creek 51.74 132 *e*P **P** **01 27 08.0 -0.2**
comp=Z,33nm,2.8s
IMEH Mehriz 51.81 311 *e*P **P** **01 27 08.0 -1.0**
MDJ Mudanjiang 51.97 28 P **P** **01 27 09.5 -0.1**
MDJ PP **PP** **01 29 09.3 +1.1**
MDJ S **S** **01 34 27.0 -1.5**
MDJ PMZ
comp=Z,8.0nm,0.7s
MDJ PMZ
comp=Z,67nm,3.5s
MDJ LN
comp=Z,49nm,18.4s
MDJ LE
comp=Z,38nm,17.3s
MDJ LZ
comp=Z,68nm,19.8s
HIA Hailar 52.03 17 *e*P **P** **01 27 09.8 -0.3**
HIA pmax pmax
comp=Z,14nm,0.9s
GEYT Alibeck 52.77 320 P **P** **01 27 15.8 0.0**
comp=Z,3.9nm,0.6s,baz=151,slow=9.4,SNR=11
USRK Ussuriysk Ar. 52.81 30 P **P** **01 27 15.8 0.0**
comp=Z,20nm,0.7s,baz=253,slow=2.9,SNR=68
KURK Kurchatov 53.00 344 P **P** **01 27 17.3 +0.2**
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURK Kurchatov 53.00 344 *e*P **P** **01 27 17.7 +0.6**
comp=Z,27nm,0.8s
ZAA0 Zalesovo Array 54.65 350 *e*P **P** **01 27 29.1 0.0**
ZALV Zalesovo Beam 54.65 350 P **P** **01 27 29.3 +0.2**
comp=Z,30nm,0.4s,baz=181,slow=7.1,SNR=88
ZALV Zalesovo Beam 54.65 350 P **P** **01 27 29.3 +0.2**
ZALV pmax pmax
comp=Z,30nm,0.4s
KRAR Krasnoyarsk 55.70 356 *e*P **P** **01 27 35.6 -1.1**
KRAR pmax pmax
comp=Z,24nm,1.4s
RAYN Ar Rayn 56.39 298 *e*P **P** **01 27 42.5 +0.3**
KLR Kul'dur 56.42 25 *e*P P 01 27 38.0 -4.0
KLR pmax pmax
comp=E,24nm,1.0s
KLR pmax pmax
comp=Z,44nm,1.0s
HABR Khabarovsk 57.36 28 *e*P P 01 27 44.9 -3.6
HABR *e**SP sP 01 27 59.0 -12
HABR *e* 01 28 39.4
HABR *e*S **S** **01 35 38.0 -2.6**
HABR *e**SS sS 01 35 55.1 -13
HABR *e* 01 37 32.1
HABR pmax pmax
comp=Z,30nm,2.3s
HABR MLR MLR
comp=Z,88nm,18.0s
BVA0 Borovoye Array 57.53 340 P **P** **01 27 49.3 -0.4**
BVA0 pmax pmax
comp=Z,13nm,0.7s
BRVK Borovoye 57.60 340*d i*P **P** **01 27 49.6 -0.6**
BRVK pmax pmax
comp=Z,12nm,0.6s
BRVK Borovoye 57.60 340 *e*P **P** **01 27 50.0 -0.2**
comp=Z,16nm,0.7s
ASAJ Asahikawa 58.54 36 P **P** **01 27 56.4 -0.5**
comp=Z,7.5nm,0.4s,baz=80,slow=4.4,SNR=4.6
ASAJ Asahikawa 58.54 36 P **P** **01 27 56.4 -0.5**
ASAJ pmax pmax
comp=Z,8.0nm,0.4s
BOD Bodaibo 58.62 10 *e*P **P** **01 27 57.4 +0.2**
BOD pmax pmax
comp=Z,17nm,0.9s
ABKAR Akbulak array 58.94 331 *e*P **P** **01 27 59.5 -0.2**
YSS Yuzh-Sakhalins 60.30 33⇓*e*P **P** **01 28 08.5 -0.5**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS Yuzh-Sakhalins 60.30 33 *e*P **P** **01 28 08.6 -0.3**
comp=Z,34nm,0.8s
AKTO Aktyubinsk 60.66 331 P **P** **01 28 10.8 -0.5**
comp=Z,4.1nm,0.6s,baz=124,slow=8.4,SNR=25
AKTO Aktyubinsk 60.66 331 P **P** **01 28 10.9 -0.5**
AKTO pmax pmax
comp=Z,4.0nm,0.6s
GNI Garni 62.88 316 *i*P **P** **01 28 26.1 -0.7**
GNI pmax pmax
comp=Z,9.0nm,1.2s
GNI Garni 62.88 316 *e*P **P** **01 28 27.9 +1.0**
comp=Z,8.1nm,0.8s
DGRG David-gareji 63.01 317 P **P** **01 28 28.9 +1.4**
DGRG David-gareji 63.01 317 P **P** **01 28 28.8 +1.4**
TBLG Delisi 63.56 318 P **P** **01 28 31.8 +0.7**
TBLG Delisi 63.56 318 P **P** **01 28 31.8 +0.7**
SVE Sverdlovsk 64.01 338⇓*i*P **P** **01 28 33.7 0.0**
SVE pmax pmax
comp=Z,17nm,0.9s
ARU Arti 64.53 337*c i*P **P** **01 28 36.6 -0.5**
ARU 01 29 09.6
ARU 01 30 55.3
ARU S **S** **01 37 13.9 +2.2**
ARU SS **SS** **01 41 20.5 -2.6**
ARU pmax pmax
comp=Z,19nm,1.7s
ARU Arti 64.53 337 *e*P **P** **01 28 36.7 -0.3**
comp=Z,7.9nm,0.7s
NCK Nalchik 65.08 319 *e*P **P** **01 28 40.6 -0.4**
NEY Neytrino 65.56 318 *e*P **P** **01 28 43.9 -0.4**
NEY pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 65.64 319 P **P** **01 28 44.3 -0.2**
comp=Z,8.3nm,0.7s,baz=128,slow=7.0,SNR=22
KBZ Khabaz 65.64 319 P **P** **01 28 44.3 -0.2**
KBZ pmax pmax
comp=Z,8.0nm,0.7s
KIV Kislovodsk 65.87 319⇓*e*P **P** **01 28 46.2 0.0**
KIV *PP **pP** **01 28 58.0 -4.5**
KIV pmax pmax
comp=Z,7.0nm,0.7s
KIV Kislovodsk 65.87 319 *e*P **P** **01 28 46.1 0.0**
comp=Z,7.7nm,0.8s
YAK Yakutsk 65.88 15 P **P** **01 28 44.9 -0.8**
comp=Z,2.0nm,0.2s,baz=204,slow=19,SNR=3.5
YAK Yakutsk 65.88 15 *e*P **P** **01 28 44.8 -0.8**
YAK *e* 01 29 14.8
YAK *e* 01 31 10.8
YAK *e*PPP PPP 01 32 45.1
YAK *e*S **S** **01 37 23.6 -4.4**
YAK *e**SS sS 01 38 08.1 +13
YAK *e* 01 38 32.2
YAK *e*SS **SS** **01 41 38.9 -5.0**
YAK pmax pmax
comp=Z,20nm,0.8s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,46nm,3.2s
YAK pmax pmax
comp=N,52nm,3.5s
YAK pmax pmax
comp=E,43nm,3.0s
YAK smax smax
comp=N,56nm,3.5s
YAK smax smax
comp=E,47nm,3.3s
YAK Yakutsk 65.88 15 *e*P **P** **01 28 44.8 -0.8**
comp=E,44nm,0.8s
MALT Malatya 66.74 312 ⇓P **P** **01 28 53.5 +1.6**
MALT Malatya 66.74 312⇓*i*P **P** **01 28 53.5 +1.6**
VRHR Novokhopersk 69.63 326 *e*P **P** **01 29 08.7 -0.8**
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,1.4s
CSS Prodhromos 69.70 307 *e*P **P** **01 29 10.9 +0.5**
comp=E,2.2nm,0.6s
BR131 Keskin Array S 70.72 312 *e*P **P** **01 29 16.1 -0.5**
comp=E,3.9nm,0.6s
BRTR Keskin Array B 70.72 312 P **P** **01 29 16.4 -0.3**
comp=E,5.0nm,0.6s,baz=133,slow=7.3,SNR=44
BRTR LR LR 02 01 40.3
comp=E,24nm,19.4s,baz=188,slow=37
BRTR Keskin Array B 70.72 312*ce*P **P** **01 29 16.3 -0.4**
BRTR pmax pmax
comp=Z,5.0nm,0.6s

VSR	**Storozhevoye**	**71.08**	**325**	*e*P		**P**	**01 29 17.5**	**-0.9**
VSR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
VSR				pmax	pmax				
	comp=N,8.0nm,1.5s								
VSR				pmax	pmax				
	comp=E,8.0nm,0.6s								
LSZ	**Lusaka**	**71.20**	**254**	*e*P		**P**	**01 29 20.4**	**+0.4**
	comp=E,5.5nm,1.3s								
PETK	**Petropavlovsk-**	**71.70**	**33**	P		**P**	**01 29 21.3**	**-0.8**
	comp=E,3.5nm,0.6s,baz=176,slow=3.2,SNR=17								
PETK	**Petropavlovsk-**	**71.70**	**33**	P		**P**	**01 29 21.3**	**-0.8**
PETK				pmax	pmax				
	comp=Z,4.0nm,0.6s								
SIM	**Simferopol'**	**71.94**	**318**	*e*P		**P**	**01 29 24.5**	**+0.8**
SIM				pmax	pmax				
	comp=Z,17nm,0.7s								
PET	**Petropavlovsk**	**72.18**	**33**	*e*P		**P**	**01 29 24.9**	**-0.1**
	comp=Z,29nm,0.5s								
MAW	**Mawson**	**72.19**	**194**	LR		LR	01 55 57.5		
	comp=Z,115nm,19.4s,baz=59,slow=31								
TIXI	**Tiksi**	**73.81**	**10**	⇑*i*P		**P**	**01 29 33.4**	**-0.8**
TIXI				pmax	pmax				
	comp=Z,12nm,1.0s								
TIXI	**Tiksi**	**73.81**	**10**	*e*P		**P**	**01 29 33.5**	**-0.7**
	comp=Z,9.6nm,0.5s								
SEY	**Seymchan**	**74.02**	**23**	P		**P**	**01 29 35.5**	**-0.2**
	comp=Z,6.2nm,0.6s,baz=231,slow=6.3,SNR=23								
SEY	**Seymchan**	**74.02**	**23**	*i* P		**P**	**01 29 34.5**	**-1.1**
OBN	**Obninsk**	**74.09**	**328**	⇓*i*P		**P**	**01 29 36.5**	**+0.3**
OBN				*e*			01 29 51.0		
OBN				*e*			01 39 35.0		
OBN				SS		SS	01 43 49.0	-1.4	
OBN				pmax	pmax				
	comp=Z,20nm,1.7s								
LBTB	**Lobatse**	**74.75**	**244**	*e*P		**P**	**01 29 40.5**	**-0.4**
	comp=Z,23nm,1.8s								
MANR	**Mangalia**	**75.44**	**315**	⇑*i*P		pP	01 29 59.3	-1.5	
BOSA	**Boshof**	**75.56**	**240**	P		**P**	**01 29 46.8**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=114,slow=5.7,SNR=3.6								
BOSA	**Boshof**	**75.56**	**240**	P		**P**	**01 29 46.8**	**+1.4**
BOSA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
AKASG	**Malin Array Be**	**76.80**	**322**	P		**P**	**01 29 51.3**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=88,slow=4.9,SNR=13								
AKASG				pP		**PcP**	**01 30 03.9**	**+1.1**	
	comp=Z,1.3nm,0.5s,baz=88,slow=4.9,SNR=4.6								
AKASG	**Malin Array Be**	**76.80**	**322**	*ce*P		**P**	**01 29 51.2**	**-0.6**
AKASG				pmax	pmax				
	comp=Z,4.0nm,0.6s								
AKBB	**Malin Array Si**	**76.80**	**322**	*e*P		**P**	**01 29 50.9**	**-0.9**
AK01	**Malin Array Si**	**76.80**	**322**	*e*P		**P**	**01 29 50.5**	**-1.3**
KIEV	**Kiev**	**76.80**	**322**	*c i*P		**P**	**01 29 51.3**	**-0.5**
KIEV	**Kiev**	**76.80**	**322**	*e*P		**P**	**01 29 51.4**	**-0.5**
	comp=Z,4.9nm,0.6s								
VRI	**Vrincioaia**	**77.20**	**317**	⇓P		**P**	**01 29 55.1**	**+0.9**
VRI	**Vrincioaia**	**77.20**	**317**	⇓*i*P		**P**	**01 29 55.1**	**+0.9**
TESR	**Tescani**	**77.40**	**318**	⇑*i*P		**P**	**01 29 55.8**	**+0.5**
RPZ	**Rata Peaks**	**77.61**	**135**	P		**P**	**01 29 57.5**	**+0.9**
	comp=Z,11nm,0.5s,baz=254,slow=4.9,SNR=7.9								
RPZ				pP		**pP**	**01 30 10.3**	**-3.0**	
	comp=Z,12nm,0.6s,baz=276,slow=8.7,SNR=3.3								
MLR	**Muntele Rosu**	**77.65**	**317**	⇑P		**P**	**01 29 57.7**	**+0.8**
MLR	**Muntele Rosu**	**77.65**	**317**	⇑*i*P		**P**	**01 29 57.7**	**+0.8**
VOIR		**78.26**	**316**	⇓P		**P**	**01 30 00.2**	**0.0**
VOIR		**78.26**	**316**	⇓*i*P		**P**	**01 30 00.2**	**0.0**
BURAR	**Bucovina Array**	**78.60**	**319**	⇑P		**P**	**01 30 02.9**	**+0.9**
BURAR	**Bucovina Array**	**78.60**	**319**	⇑*i*P		**P**	**01 30 02.9**	**+0.9**
BUR08	**Bucovina Ar. S**	**78.61**	**319**	*e*P		**P**	**01 30 03.2**	**+1.1**
VTS	**Vitosha**	**79.04**	**313**	⇑P		**P**	**01 30 05.0**	**+0.3**
VTS	**Vitosha**	**79.04**	**313**	⇑*i*P		**P**	**01 30 05.0**	**+0.3**
DRGR		**80.11**	**317**	⇓P		**P**	**01 30 11.5**	**+1.2**
DRGR		**80.11**	**317**	⇓*i*P		**P**	**01 30 11.5**	**+1.2**
VSU	**Vasula**	**80.30**	**330**	*e*P		**P**	**01 30 09.7**	**-1.2**
VSU				pmax	pmax				
	comp=Z,17nm,1.0s								
BZS	**Buzias**	**80.67**	**316**	⇑P		**P**	**01 30 13.6**	**+0.4**
BZS	**Buzias**	**80.67**	**316**	⇑*i*P		**P**	**01 30 13.6**	**+0.4**
KOLS	**Kolonicke sedl**	**80.78**	**320**	*e*P		**P**	**01 30 14.9**	**+1.1**
KOLS				pmax	pmax				
	comp=Z,7.0nm,0.9s								
KOLS	**Kolonicke sedl**	**80.78**	**320**	*e*P		**P**	**01 30 14.9**	**+1.1**
KOLS				*e*pP		**pP**	**01 30 29.1**	**-1.4**
FINES	**FINESS Array B**	**81.41**	**332**	P		**P**	**01 30 17.1**	**+0.3**
	comp=Z,3.3nm,0.5s,baz=115,slow=5.3,SNR=44								
FINES	**FINESS Array B**	**81.41**	**332**	*ce*P		**P**	**01 30 17.1**	**+0.3**
FINES				pmax	pmax				
	comp=Z,3.0nm,0.5s								
BILL	**Bilibino**	**81.48**	**21**	P		P	01 30 22.0	+4.9	
BILL				pmax	pmax				
	comp=Z,2.0nm,0.9s								
BILL				MLR		MLR			
	comp=Z,81nm,19.0s								
STHS	**Stebnicka Huta**	**81.53**	**320**	*e*P		**P**	**01 30 19.4**	**+1.7**
STHS				pmax	pmax				
	comp=Z,4.0nm,0.8s								
STHS	**Stebnicka Huta**	**81.53**	**320**	*e*P		**P**	**01 30 19.4**	**+1.7**
STHS				*e*pP		**pP**	**01 30 37.4**	**+2.9**
DIVS	**Divibare**	**81.59**	**314**	⇑P		**P**	**01 30 18.5**	**+0.3**
TSUM	**Tsumeb**	**81.61**	**251**	*e*P		**P**	**01 30 18.1**	**-0.9**
	comp=Z,5.1nm,1.3s								
KECS	**Kecovo**	**81.88**	**319**	*e*P		**P**	**01 30 20.5**	**+1.0**
KECS				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KECS	**Kecovo**	**81.88**	**319**	*e*P		**P**	**01 30 20.5**	**+1.0**
KECS				*e*pP		**pP**	**01 30 36.7**	**+0.3**
PSZ	**Piszkesteto**	**82.18**	**318**	⇑P		**P**	**01 30 20.7**	**-0.6**
PSZ	**Piszkesteto**	**82.18**	**318**	⇑*i*P		**P**	**01 30 20.7**	**-0.6**
PSZ	**Piszkesteto**	**82.18**	**318**	*e*P		**P**	**01 30 21.4**	**+0.1**
	comp=Z,3.3nm,0.8s								
PKSM	**Moragy**	**82.81**	**316**	⇓P		**P**	**01 30 25.3**	**+0.9**
PKSM	**Moragy**	**82.81**	**316**	⇓*i*P		**P**	**01 30 25.3**	**+0.9**
TIP	**Timpagrande**	**83.46**	**309**	*e*P		**P**	**01 30 28.2**	**+0.2**
	comp=Z,5.8nm,1.2s								
ARCES	**ARCESS Array B**	**83.82**	**340**	P		**P**	**01 30 29.6**	**+0.5**
	comp=Z,2.0nm,0.4s,baz=100,slow=4.8,SNR=32								
ARCES	**ARCESS Array B**	**83.82**	**340**	P		**P**	**01 30 29.7**	**+0.5**
ARCES				pmax	pmax				
	comp=Z,2.0nm,0.4s								
MORC	**Moravsky Berou**	**83.96**	**320**	*e*P		**P**	**01 30 30.6**	**+0.2**
	comp=Z,6.0nm,0.6s								
VNDA	**Vanda**	**84.70**	**169**	pP		**pP**	**01 30 46.4**	**-4.0**
	comp=Z,1.7nm,0.8s,baz=288,slow=6.0,SNR=5.2								
VNDA				LR		LR	02 01 21.2		
	comp=Z,79nm,21.2s,baz=286,slow=31								
VNDA	**Vanda**	**84.70**	**169**	*e*P		**P**	**01 30 35.4**	**+1.9**
	comp=Z,2.3nm,0.8s								
VNDA				pP		**pP**	**01 30 46.4**	**-4.0**
GERES	**GERESS Array B**	**86.38**	**319**	P		**P**	**01 30 43.2**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=94,slow=5.5,SNR=10.0								
GERES				pP		**pP**	**01 30 55.2**	**-4.3**	
	comp=Z,0.7nm,0.7s,baz=76,slow=5.6,SNR=4.4								
GERES	**GERESS Array B**	**86.38**	**319**	P		**P**	**01 30 43.2**	**+0.6**
GERES				*PP		**pP**	**01 30 55.2**	**-4.3**	
GERES				pmax	pmax				
	comp=Z,1.0nm,0.8s								
GERES				pmax	pmax				
	comp=Z,1.0nm,0.7s								
CLL	**Collm**	**86.98**	**321**	*e*P		pP	01 30 58.0	-4.2	
HFS	**Hagfors**	**87.17**	**330**	P		**P**	**01 30 46.7**	**+0.7**
	comp=Z,2.9nm,0.4s,baz=132,slow=4.4,SNR=34								
HFS	**Hagfors**	**87.17**	**330**	P		**P**	**01 30 46.7**	**+0.7**
HFS				pmax	pmax				
	comp=Z,3.0nm,0.4s								
KEST	**Kesra**	**89.20**	**306**	P		**P**	**01 30 57.6**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=110,slow=2.2,SNR=4.3								
BNI	**Bardonecchia**	**91.13**	**315**	*e*P		**P**	**01 31 05.7**	**+0.5**
	comp=Z,3.6nm,0.9s								
EKA	**Eskdalemuir Ar**	**96.42**	**326**	P		**P**	**01 31 29.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=78,slow=5.3,SNR=4.2								
TORD	**Torodi Ar. Bea**	**96.64**	**283**	P		**P**	**01 31 31.9**	**+0.9**
	comp=Z,0.5nm,1.1s,baz=72,slow=4.7,SNR=2.6								
IM04	**Indian Mountai**	**96.83**	**23**	*e*P		**P**	**01 31 30.3**	**-0.4**
BPAW	**Bear Paw Mtn.**	**98.52**	**25**	*e*P		**P**	**01 31 37.9**	**-0.5**
	comp=Z,0.8nm,0.8s								
BPAW				*e*pP		**pP**	**01 31 51.8**	**-3.7**	
ESDC	**Sonseca Array**	**99.45**	**310**	P		**Pdif**	**01 31 43.7**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=76,slow=4.2,SNR=3.0								
ILAR	**Eielson Array**	**99.95**	**23**	P		**Pdif**	**01 31 43.9**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=302,slow=3.8,SNR=3.2								
FFC	**Flin Flon**	**122.58**	**14**	*e*PKPdf		**PKPdf**	**01 36 55.1**	**-0.2**
HLID	**Hailey**	**127.28**	**30**	*e*PKPdf		**PKPdf**	**01 37 06.3**	**+1.4**
ULM	**Lac du Bonnet**	**128.12**	**12**	PKP		**PKPdf**	**01 37 06.5**	**+0.4**
	comp=Z,3.4nm,0.5s,baz=4.9,slow=2.9,SNR=8.7								
ULM	**Lac du Bonnet**	**128.12**	**12**	PKIKP		**PKPdf**	**01 37 06.5**	**+0.4**
ULM				pmax	pmax				
	comp=Z,3.0nm,0.5s								
ULM	**Lac du Bonnet**	**128.12**	**12**	*e*PKPdf		**PKPdf**	**01 37 06.2**	**+0.1**
ULM				PKP		**PKPdf**	**01 37 06.5**	**+0.4**
NVAR	**Mina Array Bea**	**128.65**	**37**	PKP		**PKPdf**	**01 37 08.4**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=262,slow=3.6,SNR=5.3								
MOOW	**Moose Ponds**	**128.89**	**27**	*e*PKPdf		**PKPdf**	**01 37 09.0**	**+0.9**
TPAW	**Teton Pass**	**129.00**	**28**	*e*PKPdf		**PKPdf**	**01 37 09.1**	**+0.7**
LOHW	**Long Hollow**	**129.06**	**27**	*e*PKPdf		**PKPdf**	**01 37 09.8**	**+1.4**
HWUT	**Hardware Ranch**	**130.14**	**30**	*e*PKPdf		**PKPdf**	**01 37 11.7**	**+1.2**
BW06	**Boulder Array**	**130.20**	**27**	*e*PKPdf		**PKPdf**	**01 37 10.8**	**+0.1**
PDAR	**Pinedale Array**	**130.20**	**27**	PKP		**PKPdf**	**01 37 10.6**	**0.0**
	comp=Z,0.9nm,0.7s,baz=101,slow=1.5,SNR=6.0								
ISA	**Isabella, Lake**	**130.28**	**40**	*e*PKPdf		**PKPdf**	**01 37 10.9**	**+0.1**
RSSD	**Black Hills**	**131.36**	**22**	*e*PKPdf		**PKPdf**	**01 37 13.9**	**+1.2**
MSU	**Marysvale**	**132.11**	**33**	*e*PKPdf		**PKPdf**	**01 37 15.4**	**+1.0**
SDCO	**Great Sand Dun**	**136.07**	**28**	*e*PKPdf		**PKPdf**	**01 37 21.4**	**-0.4**
TUC	**Tucson**	**137.30**	**38**	*e*PKPdf		**PKPdf**	**01 37 24.5**	**+0.5**
ANMO	**Albuquerque**	**137.82**	**31**	*e*PKPdf		**PKPdf**	**01 37 25.8**	**+0.7**
AMTX	**Amarillo**	**140.17**	**26**	*e*PKPdf		**PKPdf**	**01 37 29.9**	**+0.6**
WVT	**Waverly**	**143.24**	**9**	*e*PKPdf		PKPbc	01 37 31.4	-0.2	
MIAR	**Mount Ida**	**143.49**	**17**	*e*PKPdf		PKPbc	01 37 32.5	+0.1	
TXAR	**Lajitas Array**	**143.65**	**34**	PKP		PKPbc	01 37 33.8	+0.7	
	comp=Z,1.2nm,0.6s,baz=311,slow=1.3,SNR=18								
TXAR				PP		PP	01 41 02.4	+15	
	comp=Z,0.6nm,0.8s,baz=25,slow=4.1,SNR=3.4								
TXAR				SKPbc		**SKiKP**	**01 41 10.2**	**0.0**	
	comp=Z,0.7nm,0.8s,baz=357,slow=1.5,SNR=5.0								
BDFB	**Brasilia**	**143.69**	**244**	PKP		**PKPdf**	**01 37 35.1**	**-0.8**	
	comp=Z,1.4nm,0.4s,baz=239,slow=2.3,SNR=4.2								
BDFB	**Brasilia**	**143.69**	**244**	PKIKP		**PKPdf**	**01 37 35.2**	**-0.8**	
BDFB				pmax	pmax				
	comp=Z,1.0nm,0.4s								
JCT	**Junction City**	**144.72**	**28**	*e*PKPdf		**PKPab**	**01 37 36.1**	**-0.1**	
CPUP	**Villa Florida**	**145.27**	**220**	PKPbc		**PKPdf**	**01 37 39.5**	**+1.2**	
	comp=Z,3.1nm,0.6s,baz=140,slow=1.4,SNR=12								
CPUP	**Villa Florida**	**145.27**	**220**	PKIKP		**PKPdf**	**01 37 39.5**	**+1.2**	
CPUP				pmax	pmax				
	comp=Z,3.0nm,0.6s								
NATX	**Nacogdoches**	**145.71**	**20**	*e*PKPbc		**PKPab**	**01 37 40.4**	**+0.6**	
GOGA	**Godfrey**	**146.39**	**3**	*e*PKPbc		**PKPbc**	**01 37 41.6**	**+0.3**	
LRAL	**Lakeview Retre**	**146.40**	**9**	*e*PKPbc		**PKPbc**	**01 37 41.3**	**-0.1**	
HKT	**Hockley**	**146.90**	**23**	*e*PKPbc		**PKPdf**	**01 37 41.7**	**+0.7**	
LCO	**Las Campanas**	**149.70**	**199**	*e*PKPdf		**PKPdf**	**01 37 47.0**	**+1.0**	
LCO				*e*PKPbc		**PKiKP**	**01 37 51.3**	**-0.4**	
LCO				*e*PKPab		**PKPab**	**01 37 56.6**	**+0.7**	
LPAZ	**La Paz**	**159.43**	**219**	PKP		**PKPdf**	**01 38 01.6**	**+1.4**	
	comp=Z,0.7nm,0.7s,baz=224,slow=2.6,SNR=4.5								
LPAZ	**La Paz**	**159.43**	**219**	PKIKP		**PKPdf**	**01 38 01.6**	**+1.4**	
LPAZ				pmax	pmax				
	comp=Z,1.0nm,0.7s								

*CSEM **26** 01:19:36.3, 36.46N×24.35E, h11km, MD3.7*
ATH 26 01:19:36.3, 36.46N×24.35E, h11km±4km**, MD3.7**/10**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
DID	**Didima**	**1.37**	**320**	*e*PB		Pb	01 20 02.4	+0.3	
DID	**Didima**	**1.37**	**320**	*e*Pb		Pb	01 20 02.4	+0.3	
PTL	**Penteli**	**1.63**	**346**	*e*PG		Pb	01 20 06.7	+0.2	
PTL	**Penteli**	**1.63**	**346**	*e*Pg		Pb	01 20 06.7	+0.2	
VLX	**Vlachokerasia**	**1.82**	**300**	*e*PN		Pb	01 20 09.6	-0.2	
VLX	**Vlachokerasia**	**1.82**	**300**	*e*Pn		Pb	01 20 09.6	-0.2	
VILL	**Villia**	**1.89**	**334**	*e*Pn		Pb	01 20 10.6	-0.3	
LTK	**Loutraki**	**1.91**	**325**	*e*PN		Pb	01 20 11.4	+0.2	
LTK	**Loutraki**	**1.91**	**325**	*e*Pn		Pb	01 20 11.4	+0.2	
VIL2	**Platees**	**1.93**	**314**	*e*PN		Pn	01 20 10.6	+1.2	
EREA	**Eretria**	**1.98**	**350**	*e*PN		Pb	01 20 12.4	-0.1	
EREA	**Eretria**	**1.98**	**350**	*e*Pn		Pb	01 20 12.4	-0.1	
THAL	**Thalero**	**2.07**	**320**	*e*PN		Pb	01 20 13.4	-0.5	
THAL	**Thalero**	**2.07**	**320**	*e*Pn		Pb	01 20 13.4	-0.5	
GUR	**Goura**	**2.18**	**313**	*e*PN		Pb	01 20 14.3	-1.6	
GUR	**Goura**	**2.18**	**313**	*e*Pn		Pb	01 20 14.3	-1.6	
MRKA	**Markates**	**2.32**	**345**	*e*PN		Pb	01 20 16.6	-1.6	
MRKA	**Markates**	**2.32**	**345**	*e*Pn		Pb	01 20 16.6	-1.6	
KLV	**Kalavryta, Ach**	**2.36**	**313**	*e*PN		Pn	01 20 17.0	+1.9	
KLV	**Kalavryta, Ach**	**2.36**	**313**	*e*Pn		Pn	01 20 17.0	+1.9	
KALE	**Kalithea**	**2.61**	**318**	*e*PN		Pb	01 20 21.5	-1.7	
KALE	**Kalithea**	**2.61**	**318**	*e*Pn		Pb	01 20 21.5	-1.7	
AXAR	**Agios Charalam**	**2.67**	**330**	*e*PB		Pn	01 20 21.2	+2.0	
AXAR	**Agios Charalam**	**2.67**	**330**	*e*Pb		Pn	01 20 21.2	+2.0	
AGG	**Agios Georgios**	**3.02**	**329**	*e*PB		Pb	01 20 27.3	-2.8	
AGG	**Agios Georgios**	**3.02**	**329**	*e*Pb		Pb	01 20 27.3	-2.8	
MAKR	**Makrakomi, Fth**	**3.10**	**326**	*e*PN		Pn	01 20 27.6	+2.4	
MAKR	**Makrakomi, Fth**	**3.10**	**326**	*e*Pn		Pn	01 20 27.6	+2.4	

*ISCJB **26** 01:19:37.6±0.8, 6.18S±0.07×149.9E±0.1, h52km, mb4.2/13, MS3.7/8, Error ellipse: s-maj=20.6km s-min=8.4km az=13.2*
*NEIC **26** 01:19:39.5±1.7, 6.19S×149.94E, h58km±13km, mb4.5/7, Error ellipse: s-maj=18.2km s-min=8.9km az=83.0*
*IDC **26** 01:19:40.0±2.7, 6.15S×149.86E, h60km±22km, mb3.9/8, mb1 3.9/10, mb1mx3.8/33, mbtmp4.1/10, ML3.6/2, MS3.8/8, Ms1 3.8/8, ms1mx3.5/23, Error ellipse: s-maj=26.4km s-min=11.3km az=114.0*
ISC 26 01:19:39.1±0.7, 6.21S±0.08×149.9E±0.1, h52km**, n34,** σ1§**16**/34**, mb4.2**/13**, MS3.7**/8**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
PMG	**Port Moresby**	**4.19**	**221**	*e*Pn		**Pn**	**01 20 40.8**	**+0.2**	
PMG				*e*Sn		**Sn**	**01 21 24.4**	**-3.8**	
JAY	**Jayapura**	**9.89**	**291**	P		**Pn**	**01 21 59.6**	**+0.8**	
	0.5nm,0.3s,baz=175,slow=11,SNR=2.3								
COEN	**Coen**	**10.16**	**220**	*e*Pn		**Pn**	**01 22 02.4**	**0.0**	
CTA	**Charters Tower**	**14.25**	**194**	P		**Pn**	**01 23 00.9**	**+2.7**	
	0.2nm,0.3s,baz=345,slow=19,SNR=2.6								
CTAO	**Charters Tower**	**14.25**	**194**	*e*Pn		**Pn**	**01 22 58.0**	**-0.2**	
GUMO	**Guam**	**20.30**	**346**	LR		LR	01 30 27.4		
	comp=Z,247nm,21.9s,baz=142,slow=32								
WRAB	**Tennant Creek**	**20.37**	**227**	*e*P		**P**	**01 24 11.2**	**-0.4**	
	49nm,0.8s								
WRA	**Warramunga Arr**	**20.38**	**226**	P		**P**	**01 24 11.4**	**-0.3**	
	52nm,0.8s,baz=50,slow=11,SNR=18								
WRA				S		**S**	**01 27 57.4**	**-0.1**	
	2.2nm,1.0s,baz=61,slow=17,SNR=4.8								
WRA				LR		LR	01 32 41.4		
	comp=Z,327nm,21.1s,baz=55,slow=38								
AS31	**Alice Springs**	**23.20**	**220**	*e*P		**P**	**01 24 41.2**	**-0.5**	
ASAR	**Alice Springs**	**23.21**	**220**	P		**P**	**01 24 41.5**	**-0.3**	
	5.4nm,0.8s,baz=57,slow=9.1,SNR=35								
ASAR				S		**S**	**01 28 51.3**	**+1.4**	
	1.4nm,0.7s,baz=50,slow=20,SNR=4.7								
ASAR				LR		LR	01 33 46.2		
	comp=Z,220nm,21.9s,baz=32,slow=36								
SOEI	**Soe**	**25.64**	**260**	*e*P		**P**	**01 25 05.1**	**+0.8**	
	36nm,0.9s								
STKA	**Stephens Creek**	**26.70**	**196**	P		**P**	**01 25 14.2**	**+0.7**	
	16nm,0.8s,baz=0.7,slow=8.7,SNR=23								
STKA				LR		LR	01 36 11.6		
	comp=Z,271nm,20.1s,baz=34,slow=37								
STKA	**Stephens Creek**	**26.70**	**196**	*e*P		**P**	**01 25 14.7**	**+1.2**	
	4.5nm,1.0s								
MBWA	**Marble Bar**	**32.78**	**240**	*e*P		**P**	**01 26 08.4**	**+0.8**	
	12nm,0.8s								
JOW	**Kunigami**	**38.97**	**328**	P		**P**	**01 27 00.5**	**+0.1**	
	1.4nm,0.5s,baz=210,slow=26,SNR=6.2								
URZ	**Urewera**	**40.32**	**146**	LR		LR	01 41 37.7		
	comp=Z,168nm,19.3s,baz=266,slow=33								
MJAR	**Matsushiro Arr**	**43.92**	**346**	P		**P**	**01 27 40.1**	**-0.8**	
	1.7nm,0.7s,baz=166,slow=8.5,SNR=5.1								
KSRS	**Korea Array**	**48.04**	**336**	P		**P**	**01 28 12.9**	**-0.4**	
	1.8nm,0.7s,baz=154,slow=8.5,SNR=5.3								
KSAR	**Wonju Array Be**	**48.05**	**336**	P		**P**	**01 28 12.9**	**-0.4**	
PETK	**Petropavlovsk-**	**59.46**	**5**	LR		LR	01 51 04.8		
	comp=Z,52nm,20.9s,baz=201,slow=32								
SONM	**Songino Array**	**66.03**	**329**	P		**P**	**01 30 20.4**	**-0.1**	
	0.7nm,0.6s,baz=123,slow=5.5,SNR=4.0								
ZALV	**Zalesovo Beam**	**80.75**	**327**	P		**P**	**01 31 45.3**	**-1.5**	
	0.7nm,0.5s,baz=91,slow=7.4,SNR=3.3								
ZALV				LR		LR	02 06 41.7		
	comp=Z,44nm,21.1s,baz=68,slow=35								
TKM2	**Tokmak 2**	**82.85**	**315**	*e*P		**P**	**01 31 59.2**	**+0.7**	
	1.6nm,0.7s								
EKS2	**Erkin-Say**	**84.08**	**314**	*e*P		**P**	**01 32 06.8**	**+2.1**	
	2.5nm,0.8s								
ILAR	**Eielson Array**	**84.54**	**23**	P		**P**	**01 32 06.2**	**-0.2**	
	0.9nm,0.8s,baz=254,slow=5.0,SNR=9.1								
BRVK	**Borovoye**	**88.72**	**324**	*e*P		**P**	**01 32 26.7**	**-0.3**	
	1.1nm,0.6s								
GEYT	**Alibeck**	**95.19**	**307**	LR		LR	02 18 08.9		
	comp=Z,32nm,19.6s,baz=295,slow=37								
GERES	**GERESS Array B**	**123.70**	**327**	PKP		**PKPdf**	**01 38 30.9**	**-0.4**	
	1.0nm,0.7s,baz=78,slow=1.9,SNR=13								
NNA	**Nana**	**130.11**	**111**	*e*PKPdf		**PKPdf**	**01 38 43.3**	**-1.2**	
KEST	**Kesra**	**133.41**	**315**	*e*PKPdf		**PKPdf**	**01 38 50.8**	**+0.7**	
SAML	**Samuel**	**143.73**	**114**	*e*PKPdf		**PKPdf**	**01 39 08.7**	**-0.8**	
TOA0	**Torodi Ar. Sit**	**147.95**	**285**	*e*PKPbc		**PKPbc**	**01 39 18.7**	**-1.0**	
TORD	**Torodi Ar. Bea**	**147.95**	**285**	PKP		**PKPdf**	**01 39 15.7**	**-1.0**	
	6.6nm,0.8s,baz=38,slow=1.4,SNR=35								
TORD				PKPbc		**PKPbc**	**01 39 19.1**	**-0.7**	
	6.5nm,0.8s,baz=52,slow=2.5,SNR=34								
BDFB	**Brasilia**	**151.95**	**141**	PKPbc		**PKPbc**	**01 39 29.8**	**+0.2**	
	2.1nm,0.7s,baz=191,slow=5.2,SNR=3.3								

*ISCJB **26** 01:21:11.8±0.3, 24.50N±0.03×122.95E±0.01, h84km±3km, mb3.5/3, Error ellipse: s-maj=4.4km s-min=2.2km az=170.7*
*JMA **26** 01:21:11.9±0.1, 24.52N×122.92E, h83km±1km, M3.7*
*TAP **26** 01:21:12.7, 24.51N×122.90E, h78km, ML4.3, C*
*IDC **26** 01:21:18.9±5.5, 24.39N×123.72E, h137km±45km, mb3.2/4, mb1 3.5/5, mb1mx3.2/37, mbtmp3.7/5, Error ellipse: s-maj=58.2km s-min=21.6km az=93.0*
ISC 26 01:21:11.9±0.8, 24.49N±0.04×122.96E±0.02, h83km±6km**, n69,** σ1§**43**/116**, mb3.5**/4**, 1C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
JYNG	**Yonagunijimaku**	**0.04**	**200**	P		**Pn**	**01 21 23.9**	**+0.3**	
JYNG				S		**Sn**	**01 21 32.5**	**+0.3**	
YOJ	**Yonaguni jima**	**0.05**	**122**	P		**Pn**	**01 21 23.8**	**+0.2**	
YOJ				S		**Sn**	**01 21 32.6**	**+0.4**	
IRIF	**Iriomote-Funau**	**0.72**	**102**	P		**Pn**	**01 21 28.5**	**+0.6**	
IRIF				S	

JOGS				S		Sn	01 22 14.7	+0.8	
CHN5	**Tsauling**	**2.27**	**247**	*e*P		**Pn**	**01 21 49.2**	**+1.7**	
	baz=238								
CHN5				*e*S		**Sn**	**01 22 15.4**	**+0.7**	
	baz=238								
WGK	**Gukeng**	**2.33**	**250**	*e*S		**Sn**	**01 22 17.2**	**+1.0**	
	baz=248								
TTN	**Taitung**	**2.40**	**224**	*e*S		**Sn**	**01 22 17.7**	**0.0**	
	baz=222								
TWG	**Pinlang**	**2.40**	**227**	*e*P		**Pn**	**01 21 48.9**	**-0.3**	
	baz=233								
TWG				*e*S		**Sn**	**01 22 15.6**	**-2.1**	
	baz=233								
STYT	**Tauyuan**	**2.41**	**237**	P		**Pn**	**01 21 50.5**	**+1.2**	
	baz=235								
STYT				*e*S		**Sn**	**01 22 18.5**	**+0.3**	
	baz=235								
CHN4	**Tsaushan**	**2.44**	**243**	*e*P		**Pn**	**01 21 50.4**	**+0.6**	
	baz=236								
CHN4				*e*S		**Sn**	**01 22 20.8**	**+1.9**	
	baz=236								
CHN2	**Minshiung**	**2.46**	**248**	*e*S		**Sn**	**01 22 22.3**	**+3.0**	
	baz=238								
WTP	**Ta-pu**	**2.48**	**241**	P		**Pn**	**01 21 51.9**	**+1.6**	
	baz=238								
WTP				*e*S		**Sn**	**01 22 21.6**	**+1.8**	
	baz=238								
CHY	**Chiayi**	**2.52**	**247**	*e*S		**Sn**	**01 22 22.0**	**+1.3**	
	baz=236								
TWK	**Hsinying**	**2.57**	**242**	*e*P		**Pn**	**01 21 53.1**	**+1.6**	
	baz=240								
TWK				*e*S		**Sn**	**01 22 23.3**	**+1.4**	
	baz=240								
CHN1	**Nanshi**	**2.58**	**240**	P		**Pn**	**01 21 53.6**	**+2.0**	
	baz=238								
CHN1				*e*S		**Sn**	**01 22 23.8**	**+1.7**	
	baz=238								
SGST	**Jiashian**	**2.59**	**238**	*e*P		**Pn**	**01 21 53.4**	**+1.6**	
	baz=236								
SGST				*e*S		**Sn**	**01 22 24.3**	**+2.0**	
	baz=236								
WSF	**Szhu**	**2.64**	**252**	*e*S		**Sn**	**01 22 25.1**	**+1.5**	
	baz=260								
SSD	**Sandimen**	**2.75**	**231**	*e*P		**Pn**	**01 21 55.7**	**+1.8**	
	baz=227								
LAY	**Lan-yu**	**2.76**	**208**	*e*P		Pn	01 21 50.2	-3.8	
	baz=200								
LAY				*e*S		**Sn**	**01 22 21.2**	**-5.3**	
	baz=200								
EAST	**Anshuo**	**2.86**	**223**	*e*P		**Pn**	**01 21 56.2**	**+0.9**	
	baz=227								
EAST				*e*S		**Sn**	**01 22 27.6**	**-1.2**	
	baz=227								
TWM1	**Shoushan**	**2.86**	**235**	*e*S		**Sn**	**01 22 34.3**	**+5.5**	
	baz=233								
SCZT	**Fangliau**	**3.01**	**226**	*e*S		**Sn**	**01 22 34.6**	**+2.2**	
	baz=224								
TSEB	**Hengchuen, Pin**	**3.20**	**217**	*e*S		**Sn**	**01 22 37.6**	**+0.5**	
	baz=224								
TWK1	**Hengchun**	**3.22**	**218**	*e*P		**Pn**	**01 22 01.6**	**+1.4**	
	baz=217								
TWK1				*e*S		**Sn**	**01 22 37.7**	**+0.2**	
	baz=217								
JOW	**Kunigami**	**5.33**	**63**	P		**Pn**	**01 22 28.4**	**-0.6**	
	baz=120,slow=18,SNR=2.0								
JOW				*e*S		**Sn**	**01 23 24.6**	**-4.5**	
	0.1nm,0.3s,baz=127,slow=19,SNR=1.9								
KSRS	**Korea Array**	**13.60**	**17**	P		**P**	**01 24 26.4**	**-0.8**	
	0.8nm,0.3s,baz=198,slow=12,SNR=12								
USRK	**Ussuriysk Ar.**	**21.00**	**18**	P		**P**	**01 25 49.8**	**+1.2**	
	0.6nm,0.4s,baz=202,slow=7.9,SNR=4.4								
WRA	**Warramunga Arr**	**45.53**	**165**	P		**P**	**01 29 22.9**	**-0.6**	
	0.4nm,0.6s,baz=347,slow=8.7,SNR=3.5								
ILAR	**Eielson Array**	**68.20**	**27**	P		**P**	**01 32 03.1**	**0.0**	
	0.8nm,0.8s,baz=271,slow=5.6,SNR=8.8								
YKA	**Yellowknife Ar**	**82.06**	**23**	P		**P**	**01 33 22.3**	**-0.5**	
	0.5nm,0.7s,baz=311,slow=5.5,SNR=5.2								

*GCG **26** 01:22:10.7, 15°.14′N×89°.50′W, h2km, MD3.9*
*ISCJB **26** 01:22:11.4±1.1, 15°.10′N±0°.03×89°.57′W±0°.04, h1km±7km, mb3.3/2, MS3.4/2, Error ellipse: s-maj=7.7km s-min=4.7km az=148.1*
*CASC **26** 01:22:12.7±1.8, 14°.99′N×89°.59′W, h0km±4km, MD3.5, ML4.1*
*SSS **26** 01:22:12.5, 14°.99′N×89°.64′W, h1km, ML4.2*
*IDC **26** 01:22:15.2±4.1, 15°.22′N×89°.72′W, h0km, mb3.2/2, mb1 4.0/5, mb1mx3.6/32, mbtmp3.7/5, ML4.4/3, MS3.4/3, Ms1 3.4/3, ms1mx3.2/8, Error ellipse: s-maj=60.2km s-min=28.5km az=140.0*
ISC 26 01:22:13.4±1.1, 14°.98N±0°.03×89°.65W±0°.04, h5km±9km, n27, σ1§97/36, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRL	**Marmol**	**0.09**	**336**	*e*P	**Pg**	**01 22 14.9**	**-0.5**
MRL				*i*P	**Pg**	**01 22 15.8**	**+0.4**
MTO2	**Montecristo 2**	**0.64**	**154**	*e*P	**Pg**	**01 22 24.7**	**-1.0**
MTO2				*e*S	**Sb**	**01 22 36.8**	**+0.2**
NBG	**Las Nubes**	**0.78**	**240**	*e*P	**Pb**	**01 22 29.9**	**+0.3**
NBG				*e*S	**Sn**	**01 22 42.9**	**-0.6**
RBDL	**Robledal**	**0.86**	**182**	*e*P	**Pg**	**01 22 29.5**	**-0.4**
RTR	**El Retiro**	**1.08**	**180**	*e*P	**Pg**	**01 22 33.6**	**-0.5**
RTR				*e*S	**Sn**	**01 22 50.8**	**0.0**
PCG	**Pacaya**	**1.09**	**238**	*e*P	**Pn**	**01 22 36.1**	**+0.5**
SNJE	**San Jose**	**1.11**	**178**	*e*P	**Pg**	**01 22 33.9**	**-0.7**
IXG	**Ixpaco**	**1.12**	**224**	*e*P	**Pg**	**01 22 34.7**	**-0.1**
SBLS	**San Blas**	**1.13**	**179**	*e*P	**Pg**	**01 22 34.5**	**-0.7**
FUG	**Fuego 3**	**1.27**	**245**	*e*P	**Pb**	**01 22 38.5**	**+0.7**
BOQS	**Boqueron**	**1.29**	**164**	*e*P	**Pn**	**01 22 36.7**	**-1.6**
BOQS				*e*S	**Sn**	**01 22 56.9**	**+0.8**
LFU	**La Fuente**	**1.33**	**157**	*e*P	**Pn**	**01 22 37.5**	**-1.2**
LFU				*e*S	**Sg**	**01 22 56.2**	**+0.1**
SNET	**Serv Nac Est T**	**1.35**	**162**	*e*P	**Pn**	**01 22 37.6**	**-1.4**
SNET				*e*S	**Sb**	**01 22 56.5**	**-0.3**
SNET				AML	AML	01 23 02.6	
	comp=Z,4μm,0.6s						
LBRS	**Las Brisas**	**1.37**	**154**	*e*P	**Pn**	**01 22 37.8**	**-1.4**
LFRS	**El Faro**	**1.47**	**157**	*e*P	**Pn**	**01 22 39.6**	**-1.0**
SNVI	**San Vicente**	**1.57**	**150**	*e*P	**Pn**	**01 22 41.4**	**-0.7**
SNVI				*e*S	**Sg**	**01 23 04.2**	**+0.3**
CAHU	**Cacacuatique**	**1.84**	**131**	*e*P	**Pn**	**01 22 45.1**	**-0.8**
CAHU				*e*S	**Sb**	**01 23 11.3**	**+0.1**
CNCH	**Conchagua**	**2.44**	**134**	*e*P	**Pn**	**01 22 54.9**	**+0.7**
CNCH				*e*S	**Sn**	**01 23 24.9**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.48**	**111**	*e*P	**Pn**	**01 22 54.4**	**-0.1**
COPN	**Copaltepe**	**4.07**	**133**	*e*P	**Pn**	**01 23 16.7**	**+0.3**
TEIG	**Tepich**	**5.38**	**14**	Pn	**Pn**	**01 23 32.7**	**-1.7**
	comp=Z,33nm,0.3s,baz=201,slow=2.4,SNR=163						
TEIG				Lg	Lg	01 24 59.8	
	comp=Z,28nm,0.3s,baz=121,slow=23,SNR=4.2						
CMIG	**Matias Romero**	**5.45**	**293**	Pn	**Sn**	**01 23 33.8**	**-1.5**
	comp=Z,3.3nm,0.3s,baz=120,slow=9.0,SNR=15						
CMIG				Sn	**Sn**	**01 24 36.3**	**-2.2**
	comp=Z,5.6nm,0.3s,baz=83,slow=21,SNR=7.1						
CMIG				Lg	Lg	01 25 07.6	
	comp=Z,5.9nm,0.3s,baz=5.9,slow=20,SNR=3.8						
CMIG				LR	LR	01 25 49.4	
	comp=Z,220nm,20.4s,baz=165,slow=40						
TXAR	**Lajitas Array**	**19.27**	**320**	P	**Pn**	**01 26 40.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=143,slow=11,SNR=28						
NVAR	**Mina Array Bea**	**34.40**	**318**	P	**P**	**01 29 03.9**	**+1.9**
	comp=Z,0.2nm,0.4s,baz=134,slow=6.4,SNR=2.5						
ULM	**Lac du Bonnet**	**35.54**	**353**	LR	LR	01 46 08.8	
	comp=Z,52nm,18.0s,baz=206,slow=41						
LPAZ	**La Paz**	**37.64**	**145**	LR	LR	01 44 12.7	
	comp=Z,82nm,21.6s,baz=106,slow=35						
YKA	**Yellowknife Ar**	**50.63**	**345**	P	**P**	**01 31 13.0**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=140,slow=7.6,SNR=3.6						

*IDC **26** 01:43:15.9±0.6, 30°.18S×177°.70W, h0km, mb4.3/12, mb1 4.4/14, mb1mx4.2/28, mbtmp4.3/14, ML4.3/2, MS3.6/5, Ms1 3.6/5, ms1mx3.2/27, Error ellipse: s-maj=23.6km s-min=14.3km az=93.0*
*NEIC **26** 01:43:17.0±0.3, 30°.17S×177°.62W, h10km, mb4.7/16, Error ellipse: s-maj=13.1km s-min=9.0km az=115.0*
*ISCJB **26** 01:43:19.4±0.4, 30°.18S±0°.05×177°.72W±0°.10, h35km, mb4.5/24, MS3.5/4, Error ellipse: s-maj=12.1km s-min=7.3km az=3.5*
ISC 26 01:43:21.1±0.5, 30°.16S±0°.07×177°.7W±0°.1, h35km, n61, σ1§54/55, mb4.5/24, MS3.5/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.93**	**347**	Pn	**Pn**	**01 43 35.6**	**-2.1**
	1μm,0.3s,baz=220,slow=6.0,SNR=30						
RAO				Sn	**Sn**	**01 43 47.7**	**-2.1**
	4μm,0.3s,baz=107,slow=19,SNR=48						
OUZ	**Omahuta**	**8.91**	**233**	*e*Pn	Pn	01 45 33.9	+6.6
URZ	**Urewera**	**9.15**	**207**	Pn	**Pn**	**01 45 27.6**	**-3.0**
	1.9nm,0.3s,baz=251,slow=1.7,SNR=7.2						
MSVF	**Nonsavu**	**12.97**	**342**	*e*Pn	Pn	01 46 27.2	+4.1
RPZ	**Rata Peaks**	**16.23**	**210**	Pn	**Pn**	**01 47 04.2**	**-2.2**
	2.0nm,0.3s,baz=51,slow=6.4,SNR=6.5						
DZM	**Mont Dzumac**	**16.36**	**296**	*e*P	**P**	**01 47 13.8**	**+3.0**
	82nm,1.4s						
DZM				*e*LR	LR	01 51 04.2	
	556nm,25.6s						
DZM	**Mont Dzumac**	**16.36**	**296**	LR	LR	01 52 13.6	
	comp=Z,393nm,19.6s,baz=273,slow=33						
TBI	**Tubuai**	**26.05**	**82**	*e*T	T	02 15 19.2	
	14nm,0.4s						
PAE	**Paea**	**28.46**	**70**	*e*T	T	02 18 23.9	
	3.9nm,0.3s						
PPT2	**Papeete2**	**28.50**	**70**	*e*LR	LR	01 56 20.5	
	129nm,27.8s						
PPT2	**Papeete2**	**28.50**	**70**	*e*T	T	02 18 28.2	
	4.4nm,0.3s						
PMOR	**Pomariorio Ree**	**31.25**	**68**	*e*T	T	02 21 54.3	
	1.9nm,0.3s						
VAH	**Vaihoa**	**31.33**	**68**	*e*T	T	02 22 00.1	
	7.5nm,0.2s						
CTAO	**Charters Tower**	**34.03**	**279**	*e*P	**P**	**01 50 03.1**	**+1.1**
	11nm,0.7s						
STKA	**Stephens Creek**	**34.80**	**257**	P	**P**	**01 50 08.3**	**-0.2**
	3.0nm,0.4s,baz=99,slow=9.3,SNR=12						
STKA				LR	LR	02 03 52.9	
	comp=Z,118nm,18.2s,baz=63,slow=36						
STKA	**Stephens Creek**	**34.80**	**257**	*e*P	**P**	**01 50 10.4**	**+1.9**
	1.8nm,0.7s						
ASAR	**Alice Springs**	**43.40**	**267**	P	**P**	**01 51 19.8**	**-0.7**
	1.9nm,0.5s,baz=100,slow=7.6,SNR=24						
WRAB	**Tennant Creek**	**44.36**	**272**	*e*P	**P**	**01 51 28.6**	**+0.3**
	13nm,0.7s						
WRA	**Warramunga Arr**	**44.36**	**272**	P	**P**	**01 51 27.8**	**-0.5**
	13nm,0.7s,baz=110,slow=7.9,SNR=22						
FORT	**Forrest**	**46.37**	**255**	*e*P	**P**	**01 51 43.5**	**-0.5**
	12nm,0.8s						
JAY	**Jayapura**	**48.03**	**297**	LR	LR	02 09 57.4	
	comp=Z,74nm,19.0s,baz=31,slow=33						
VNDA	**Vanda**	**48.36**	**186**	P	**P**	**01 51 58.8**	**0.0**
	1.5nm,0.8s,baz=23,slow=5.7,SNR=8.2						
VNDA	**Vanda**	**48.36**	**186**	*e*P	**P**	**01 51 59.8**	**+0.9**
	2.5nm,0.9s						
CASY	**Casey**	**55.48**	**208**	*e*P	**P**	**01 52 51.0**	**-1.0**
	7.5nm,0.7s						
MBWA	**Marble Bar**	**56.52**	**263**	*e*P	**P**	**01 53 00.1**	**-0.1**
	18nm,1.1s						
QSPA	**South Pole Qui**	**59.95**	**180**	P	**P**	**01 53 24.4**	**+0.8**
	10nm,0.9s,baz=36,slow=1.5,SNR=30						
QSPA	**South Pole Qui**	**59.95**	**180**	*e*P	**P**	**01 53 24.3**	**+0.8**
	10nm,0.9s						
PMSA	**Palmer Station**	**72.36**	**156**	*e*P	**P**	**01 54 44.1**	**+1.1**
	17nm,0.5s						
MAW	**Mawson**	**72.62**	**200**	P	**P**	**01 54 45.0**	**+0.5**
	2.4nm,0.7s,baz=159,slow=9.5,SNR=7.2						
MJAR	**Matsushiro Arr**	**78.21**	**325**	P	**P**	**01 55 18.1**	**+1.1**
	2.1nm,0.8s,baz=166,slow=6.2,SNR=5.8						
MJAR				LR	LR	02 24 41.2	
	comp=Z,21nm,22.0s,baz=115,slow=32						
MAJO	**Matsushiro**	**78.21**	**325**	*e*P	**P**	**01 55 16.3**	**-0.7**
	6.0nm,0.9s						
SNAA	**Sanae**	**78.38**	**178**	P	**P**	**01 55 16.8**	**-0.8**
	0.5nm,0.9s,baz=184,slow=13,SNR=5.1						
SNAA				LR	LR	02 28 19.2	
	comp=Z,16nm,19.6s,baz=143,slow=34						
SNAA	**Sanae**	**78.38**	**178**	*e*P	P	01 55 13.0	-4.6
	3.3nm,1.0s						
PETK	**Petropavlovsk-**	**85.65**	**345**	P	**P**	**01 55 56.6**	**+1.0**
	2.4nm,0.7s,baz=123,slow=7.3,SNR=4.2						
CMB	**Columbia Colle**	**86.40**	**42**	*e*P	**P**	**01 55 59.3**	**-0.5**
	9.4nm,1.4s						
CMB				*e*pP	**pP**	**01 56 12.4**	**+1.4**
USRK	**Ussuriysk Ar.**	**87.12**	**326**	P	**P**	**01 56 04.3**	**+1.2**
	1.7nm,0.6s,baz=142,slow=4.0,SNR=6.1						
NVAR	**Mina Array Bea**	**87.88**	**43**	P	**P**	**01 56 06.9**	**-0.3**
	0.3nm,0.3s,baz=221,slow=8.9,SNR=6.0						
TUC	**Tucson**	**88.75**	**51**	*e*P	**P**	**01 56 10.8**	**-0.5**
	1.9nm,0.7s						
TXAR	**Lajitas Array**	**92.03**	**57**	P	**P**	**01 56 26.3**	**-0.4**
	0.5nm,1.0s,baz=179,slow=8.8,SNR=3.6						
DUG	**Dugway, Tooele**	**92.27**	**44**	*e*P	**P**	**01 56 26.3**	**-1.3**
	2.3nm,1.0s						
DUG				*e*pP	**pP**	**01 56 39.5**	**+0.8**
HLID	**Hailey**	**93.45**	**41**	*e*P	**P**	**01 56 31.9**	**-1.1**
	2.0nm,1.0s						
NEW	**Newport**	**95.02**	**36**	*e*P	**P**	**01 56 39.9**	**0.0**
	2.4nm,0.8s						
KURK	**Kurchatov**	**121.08**	**314**	*e*PKPdf	**PKPdf**	**02 02 08.7**	**-0.9**
BRVK	**Borovoye**	**126.49**	**316**	*e*PKPdf	**PKPdf**	**02 02 19.5**	**-0.4**
LSZ	**Lusaka**	**128.40**	**213**	*e*PKPdf	**PKPdf**	**02 02 24.1**	**-0.8**
GEYT	**Alibeck**	**133.71**	**295**	PKP	**PKPdf**	**02 02 36.9**	**+2.7**
	3.3nm,0.8s,baz=305,slow=5.2,SNR=5.9						
ARCES	**ARCESS Array B**	**138.42**	**348**	PKP	**PKPdf**	**02 02 43.7**	**+1.7**
	2.8nm,0.9s,baz=7.1,slow=3.6,SNR=3.8						
FIA1	**FINESS Array S**	**145.02**	**340**	*e*PKPdf	**PKPbc**	**02 02 51.7**	**-1.6**
FINES	**FINESS Array B**	**145.02**	**340**	PKPbc	**PKPbc**	**02 02 51.7**	**-1.6**
	4.3nm,0.5s,baz=64,slow=3.3,SNR=54						
KBZ	**Khabaz**	**145.21**	**304**	PKPbc	**PKPdf**	**02 02 56.2**	**+1.4**
	2.6nm,0.8s,baz=296,slow=7.7,SNR=3.7						
NB2	**NORSAR Subarra1**	**148.56**	**352**	PKP	**PKPab**	**02 03 08.9**	**+1.7**
	comp=Z,3.1nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.56**	**352**	PKPbc	**PKPab**	**02 03 05.6**	**-1.6**
	comp=Z,4.2nm,0.6s,baz=14,slow=4.4,SNR=18						
NAO01	**NORSAR Array S**	**148.79**	**352**	*e*PKPdf	**PKPdf**	**02 03 00.1**	**-0.2**
NAO01				*e*PKPbc	**PKPbc**	**02 03 03.8**	**-0.4**
NACGM	**Naroch**	**149.70**	**332**	*e*	**PKPab**	**02 03 09.0**	**-2.9**
AKASG	**Malin Array Be**	**151.28**	**323**	PKPbc	**PKPbc**	**02 03 09.0**	**-1.5**
	comp=Z,4.9nm,0.6s,baz=48,slow=3.1,SNR=7.3						
BR131	**Keskin Array S**	**152.73**	**299**	*e*PKPbc	**PKPbc**	**02 03 14.0**	**-0.3**
BRTR	**Keskin Array B**	**152.73**	**299**	PKPbc	**PKPbc**	**02 03 13.0**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=134,slow=4.8,SNR=7.0						
CSS	**Prodhromos**	**153.49**	**289**	*e*PKPbc	**PKPbc**	**02 03 15.6**	**-0.4**
CLL	**Collm**	**157.43**	**342**	*e*PKPab	**PKPab**	**02 03 48.0**	**+3.4**
	comp=Z,4.0nm,0.8s						
CLL				*i* pPKPab	**pPKPab**	**02 03 55.8**	**0.0**
	comp=Z,5.0nm,0.8s						
CLL				LmV		02 32 00.0	
	comp=Z,100nm,19.1s						
BRG	**Berggiesshubel**	**157.56**	**340**	*e*PKP	**PKPab**	**02 03 49.6**	**+4.4**
	comp=Z,3.7nm,0.9s						
BRG				*i*		02 03 57.6	
	comp=Z,5.1nm,0.8s						
GERES	**GERESS Array B**	**159.42**	**338**	PKPab	**PKPab**	**02 03 54.7**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=22,slow=4.6,SNR=7.0						

*ISCJB **26** 01:52:19.6±0.7, 57°.30S±0°.10×23°.3W±0°.3, h10km, mb4.4/11, MS3.1/1, Error ellipse: s-maj=20.8km s-min=12.1km az=156.4*
*IDC **26** 01:52:19.6±0.8, 57°.25S×23°.16W, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.9/25, mbtmp4.1/7, ML3.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.9/18, Error ellipse: s-maj=36.3km s-min=20.6km az=73.0*
*NEIC **26** 01:52:24.3±0.4, 57°.35S×23°.14W, h35km, mb4.6/9, Error ellipse: s-maj=17.1km s-min=11.4km az=64.0*
ISC 26 01:52:20.6±0.6, 57°.3S±0°.1×23°.1W±0°.2, h10km, n34, σ1§39/30, mb4.4/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**16.71**	**158**	Pn	**P**	**01 56 16.1**	**-0.7**
	0.4nm,0.3s,baz=327,slow=12,SNR=19						
SNAA	**Sanae**	**16.71**	**158**	*e*P	**Pn**	**01 56 12.9**	**-1.5**
	17nm,1.0s						
PMSA	**Palmer Station**	**20.86**	**232**	LR	LR	02 02 42.7	
	comp=Z,89nm,19.4s,baz=83,slow=30						
PMSA	**Palmer Station**	**20.86**	**232**	*e*P	**P**	**01 57 02.0**	**-0.2**
	71nm,0.8s						
QSPA	**South Pole Qui**	**32.95**	**180**	P	**P**	**01 58 55.3**	**+0.2**
	1.3nm,0.5s,baz=220,slow=1.3,SNR=16						
CPUP	**Villa Florida**	**39.35**	**307**	P	**P**	**01 59 49.6**	**-0.2**
	1.7nm,0.9s,baz=232,slow=6.1,SNR=3.0						
VNDA	**Vanda**	**45.41**	**182**	P	**P**	**02 00 40.8**	**+2.1**
	1.3nm,0.8s,baz=214,slow=4.7,SNR=4.5						
VNDA	**Vanda**	**45.41**	**182**	*e*P	**P**	**02 00 39.9**	**+1.3**
	1.9nm,0.9s						
LVC	**Limon Verde**	**47.88**	**297**	*e*P	**P**	**02 00 58.9**	**0.0**

*ISK **26** 01:52:45.4, 35°.44N×26°.21E, h15km, ML3.3*
*ISCJB **26** 01:52:46.8±0.7, 35°.48N±0°.02×26°.29E±0°.02, h15km±6km, Error ellipse: s-maj=3.7km s-min=2.6km az=159.4*
*ATH **26** 01:52:46.1, 35°.42N×26°.33E, h31km, MD3.3/18, ML3.3*
*CSEM **26** 01:52:46.7±0.1, 35°.52N×26°.29E, h2km, MD3.3, Error ellipse: s-maj=2.6km s-min=1.9km az=170.0*
*THE **26** 01:52:46.5, 35°.49N×26°.29E, h3km±1km, ML3.4/4, Error ellipse: s-maj=1.3km s-min=0.5km az=170.0*
ISC 26 01:52:46.7±1.0, 35°.49N±0°.02×26°.29E±0°.02, h11km±9km, n188, σ1§06/219, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.38**	**189**	P	**Pg**	**01 52 53.8**	**-0.6**
ZKR				S	**Sb**	**01 53 00.3**	**-1.1**
ZKR	**Zakros**	**0.38**	**189**	*e*PB	**Pg**	**01 52 54.2**	**-0.2**
ZKR				*e*SB	**Sg**	**01 52 59.8**	**+0.4**
ZKR	**Zakros**	**0.38**	**189**	P	**Pg**	**01 52 53.8**	**-0.6**
ZKR	**Zakros**	**0.38**	**189**	*e*Pb	**Pg**	**01 52 54.2**	**-0.2**
ZKR				*e*Sb	**Sg**	**01 52 59.8**	**+0.4**
ZKR				S	**Sb**	**01 53 00.3**	**-1.1**
NPS	**Neapolis**	**0.60**	**247**	P	**Pg**	**01 52 58.5**	**+0.2**
NPS				S	**Sb**	**01 53 07.4**	**-0.2**
NPS	**Neapolis**	**0.60**	**247**	*e*PN	**Pg**	**01 52 58.6**	**+0.2**
NPS				*e*SN	**Sb**	**01 53 07.1**	**-0.5**
NPS	**Neapolis**	**0.60**	**247**	P	**Pg**	**01 52 58.5**	**+0.2**
NPS				*e*Sn	**Sb**	**01 53 07.1**	**-0.5**
KARP	**Karpathos**	**0.72**	**85**	P	**Pg**	**01 53 00.1**	**-0.5**
KARP				S	**Sb**	**01 53 11.2**	**+0.1**
KARP	**Karpathos**	**0.72**	**85**	*e*PN	**Pg**	**01 53 00.1**	**-0.5**
KARP				*e*SN	**Sb**	**01 53 10.2**	**-0.9**
KARP	**Karpathos**	**0.72**	**85**	P	**Pg**	**01 53 00.1**	**-0.5**
KARP				*e*Sn	**Sb**	**01 53 10.2**	**-0.9**
KARP				S	**Sb**	**01 53 11.2**	**+0.1**
LAST	**Lasithi**	**0.74**	**244**	P	**Pg**	**01 53 00.9**	**-0.2**
LAST				S	**Sb**	**01 53 11.9**	**+0.1**
LAST	**Lasithi**	**0.74**	**244**	*e*PN	**Pg**	**01 53 00.8**	**-0.3**
LAST				*e*SN	**Sb**	**01 53 11.1**	**-0.7**
LAST	**Lasithi**	**0.74**	**244**	P	**Pg**	**01 53 00.9**	**-0.2**
LAST				*e*Sn	**Sb**	**01 53 11.1**	**-0.7**
SANT	**Santorini**	**1.10**	**323**	P	**Pb**	**01 53 07.1**	**-0.7**
SANT				S	**Sn**	**01 53 22.8**	**-0.6**
SANT	**Santorini**	**1.10**	**323**	*e*PB	**Pb**	**01 53 07.4**	**-0.4**
SANT	**Santorini**	**1.10**	**323**	P	**Pb**	**01 53 07.1**	**-0.7**
SANT	**Santorini**	**1.10**	**323**	*e*Pb	**Pb**	**01 53 07.4**	**-0.4**
SANT				S	**Sn**	**01 53 22.8**	**-0.6**
THR6	**Thira Island,**	**1.12**	**320**	P	**Pb**	**01 53 07.6**	**-0.6**
THR6	**Thira Island,**	**1.12**	**320**	P	**Pb**	**01 53 07.6**	**-0.6**
THR7	**Fira-Santorini**	**1.16**	**323**	P	**Pn**	**01 53 08.0**	**-0.9**
THR7	**Fira-Santorini**	**1.16**	**323**	P	**Pn**	**01 53 08.0**	**-0.9**
THR3	**Thira Island,**	**1.16**	**322**	P	**Pn**	**01 53 08.1**	**-0.8**
THR3	**Thira Island,**	**1.16**	**322**	P	**Pn**	**01 53 08.1**	**-0.8**
THR2	**Thira Island,**	**1.18**	**324**	P	**Pn**	**01 53 08.3**	**-0.8**
THR2	**Thira Island,**	**1.18**	**324**	P	**Pn**	**01 53 08.3**	**-0.8**
THR5	**Thira Island,**	**1.20**	**321**	*e*PN	**Pb**	**01 53 09.2**	**-0.2**
THR5				*e*SN	**Sn**	**01 53 25.0**	**-0.6**
THR5	**Thira Island,**	**1.20**	**321**	P	**Pn**	**01 53 08.6**	**-0.8**
THR5	**Thira Island,**	**1.20**	**321**	P	**Pn**	**01 53 08.6**	**-0.8**
THR5	**Thira Island,**	**1.20**	**321**	*e*Pn	**Pb**	**01 53 09.2**	**-0.2**
THR5				*e*Sn	**Sn**	**01 53 25.0**	**-0.6**
SIVA	**Sivas**	**1.30**	**249**	P	**Pb**	**01 53 10.9**	**-0.2**
SIVA				S	**Sn**	**01 53 27.8**	**-0.3**
SIVA	**Sivas**	**1.30**	**249**	*e*PN	**Pg**	**01 53 11.3**	**-0.4**
SIVA	**Sivas**	**1.30**	**249**	P	**Pb**	**01 53 10.9**	**-0.2**
SIVA	**Sivas**	**1.30**	**249**	*e*Pn	**Pg**	**01 53 11.3**	**-0.4**
SIVA				S	**Sn**	**01 53 27.8**	**-0.3**
NISR	**Nisiros**	**1.31**	**31**	P	**Pn**	**01 53 10.2**	**-0.7**
NISR				S	**Sg**	**01 53 28.2**	**-0.1**

VLI	**Veliai**	**2.98**	**295**	P	**Pn**	01 53 33.5	-0.3
VLI				S	**Sn**	01 54 10.0	+0.5
VLI	**Veliai**	**2.98**	**295**	*e*PN	**Pn**	01 53 33.6	-0.3
VLI	**Veliai**	**2.98**	**295**	*e*Pn	**Pn**	01 53 33.6	-0.3
VLI				S	**Sn**	01 54 10.0	+0.5
IZM	**Izmir**	**3.00**	**15**	*e*PN	**Pn**	01 53 34.8	+0.5
IZM	**Izmir**	**3.00**	**15**	*e*Pn	**Pn**	01 53 34.8	+0.5
KRND	**KRANIDI**	**3.15**	**308**	*e*PN	**Pn**	01 53 37.9	+1.6
KRND	**KRANIDI**	**3.15**	**308**	*e*Pn	**Pn**	01 53 37.9	+1.6
DIDY	**Didyma**	**3.17**	**310**	*e*PN	**Pn**	01 53 37.9	+1.3
DIDY	**Didyma**	**3.17**	**310**	*e*Pn	**Pn**	01 53 37.9	+1.3
DID	**Didima**	**3.17**	**310**	*e*PN	**Pn**	01 53 37.4	+0.8
DID	**Didima**	**3.17**	**310**	*e*Pn	**Pn**	01 53 37.4	+0.8
ELL	**Elmali**	**3.19**	**66**	*e*PN	**Pn**	01 53 37.7	+0.8
ELL	**Elmali**	**3.19**	**66**	*e*Pn	**Pn**	01 53 37.7	+0.8
NAIG	**Nisos Aigina**	**3.19**	**316**	*e*PN	**Pn**	01 53 38.3	+1.5
NAIG	**Nisos Aigina**	**3.19**	**316**	*e*Pn	**Pn**	01 53 38.3	+1.5
PTL	**Penteli**	**3.21**	**323**	*e*PN	**Pn**	01 53 37.6	+0.5
PTL	**Penteli**	**3.21**	**323**	*e*Pn	**Pn**	01 53 37.6	+0.5
ATH	**Athens Observa**	**3.22**	**321**	*e*PN	**Pn**	01 53 38.4	+1.2
ATH	**Athens Observa**	**3.22**	**321**	*e*Pn	**Pn**	01 53 38.4	+1.2
EREA	**Eretria**	**3.48**	**328**	*e*PN	**Pn**	01 53 41.7	+0.9
EREA	**Eretria**	**3.48**	**328**	*e*Pn	**Pn**	01 53 41.7	+0.9
KULA	**Kula-Manisa**	**3.56**	**32**	*e*PN	**Pn**	01 53 43.3	+1.3
KULA	**Kula-Manisa**	**3.56**	**32**	*e*Pn	**Pn**	01 53 43.3	+1.3
VILL	**Villia**	**3.58**	**319**	*e*PN	**Pn**	01 53 43.1	+0.9
VIL2	**Platees**	**3.64**	**319**	*e*PN	**Pn**	01 53 43.1	+0.2
LOUT	**Loutraki**	**3.64**	**314**	*e*PN	**Pn**	01 53 43.8	+0.8
LOUT	**Loutraki**	**3.64**	**314**	*e*Pn	**Pn**	01 53 43.8	+0.8
VLX	**Vlachokerasia**	**3.67**	**302**	*e*PN	**Pn**	01 53 44.6	+1.2
VLX	**Vlachokerasia**	**3.67**	**302**	*e*Pn	**Pn**	01 53 44.6	+1.2
LTK	**Loutraki**	**3.67**	**314**	*e*PN	**Pn**	01 53 44.4	+1.0
LTK	**Loutraki**	**3.67**	**314**	*e*Pn	**Pn**	01 53 44.4	+1.0
SIGR	**SIGRI**	**3.73**	**355**	*e*PN	**Pn**	01 53 44.3	+0.1
SIGR	**SIGRI**	**3.73**	**355**	*e*PN	**Pn**	01 53 45.2	+1.0
SIGR	**SIGRI**	**3.73**	**355**	*e*Pn	**Pn**	01 53 45.2	+1.0
PRK	**Paraskevi**	**3.75**	**360**	*e*PN	**Pn**	01 53 44.8	+0.4
PRK	**Paraskevi**	**3.75**	**360**	*e*Pn	**Pn**	01 53 44.8	+0.4
ANTB	**Antalya**	**3.80**	**67**	*e*PN	**Pn**	01 53 47.1	+1.9
ANTB	**Antalya**	**3.80**	**67**	*e*Pn	**Pn**	01 53 47.1	+1.9
THAL	**Thalero**	**3.86**	**312**	*e*PN	**Pn**	01 53 47.5	+1.5
THAL	**Thalero**	**3.86**	**312**	*e*Pn	**Pn**	01 53 47.5	+1.5
MRKA	**Markates**	**3.86**	**327**	*e*PN	**Pn**	01 53 47.2	+1.1
MRKA	**Markates**	**3.86**	**327**	*e*Pn	**Pn**	01 53 47.2	+1.1
ITM	**Ithomi**	**3.90**	**297**	*e*PN	**Pn**	01 53 48.2	+1.6
ITM	**Ithomi**	**3.90**	**297**	*e*Pn	**Pn**	01 53 48.2	+1.6
BCK	**Bucak**	**3.98**	**59**	*e*PN	**Pn**	01 53 48.9	+1.1
BCK	**Bucak**	**3.98**	**59**	*e*Pn	**Pn**	01 53 48.9	+1.1
GUR	**Goura**	**4.00**	**309**	*e*PN	**Pn**	01 53 49.3	+1.3
GUR	**Goura**	**4.00**	**309**	*e*Pn	**Pn**	01 53 49.3	+1.3
LKR	**Lokris**	**4.10**	**321**	*e*PN	**Pn**	01 53 50.8	+1.5
LKR	**Lokris**	**4.10**	**321**	*e*Pn	**Pn**	01 53 50.8	+1.5
SMIA	**Simia**	**4.18**	**325**	*e*PN	**Pn**	01 53 51.4	+1.0
SMIA	**Simia**	**4.18**	**325**	*e*Pn	**Pn**	01 53 51.4	+1.0
KLV	**Kalavryta, Ach**	**4.18**	**309**	*e*PN	**Pn**	01 53 52.1	+1.6
KLV	**Kalavryta, Ach**	**4.18**	**309**	*e*Pn	**Pn**	01 53 52.1	+1.6
DSF	**Desfina**	**4.19**	**315**	*e*PN	**Pn**	01 53 52.3	+1.7
DSF	**Desfina**	**4.19**	**315**	*e*Pn	**Pn**	01 53 52.3	+1.7
AMT	**Artemida-Makis**	**4.21**	**300**	*e*PN	**Pn**	01 53 51.8	+0.9
AMT	**Artemida-Makis**	**4.21**	**300**	*e*Pn	**Pn**	01 53 51.8	+0.9
SUTC	**Sutluce-Ispart**	**4.28**	**61**	*e*PN	**Pn**	01 53 53.0	+1.0
SUTC	**Sutluce-Ispart**	**4.28**	**61**	*e*Pn	**Pn**	01 53 53.0	+1.0
EZN	**Ezine**	**4.33**	**0**	*e*PN	**Pn**	01 53 53.0	+0.6
EZN	**Ezine**	**4.33**	**0**	*e*Pn	**Pn**	01 53 53.0	+0.6
BALB	**Balikesir**	**4.33**	**17**	*e*PN	**Pn**	01 53 54.1	+1.7
BALB	**Balikesir**	**4.33**	**17**	*e*Pn	**Pn**	01 53 54.1	+1.7
AXAR	**Agios Charalam**	**4.37**	**319**	*e*PN	**Pn**	01 53 54.5	+1.5
AXAR	**Agios Charalam**	**4.37**	**319**	*e*Pn	**Pn**	01 53 54.5	+1.5
KALE	**Kalithea**	**4.40**	**312**	*e*PN	**Pn**	01 53 55.2	+1.7
KALE	**Kalithea**	**4.40**	**312**	*e*Pn	**Pn**	01 53 55.2	+1.7
DRO	**Drossia**	**4.42**	**305**	*e*PN	**Pn**	01 53 55.1	+1.4
DRO	**Drossia**	**4.42**	**305**	*e*Pn	**Pn**	01 53 55.1	+1.4
EFP	**Efpalio**	**4.57**	**311**	*e*PN	**Pn**	01 53 56.5	+0.8
EFP	**Efpalio**	**4.57**	**311**	*e*Pn	**Pn**	01 53 56.5	+0.8
TVSB	**Tavsanli**	**4.69**	**32**	*e*PN	**Pn**	01 53 59.2	+1.7
TVSB	**Tavsanli**	**4.69**	**32**	*e*Pn	**Pn**	01 53 59.2	+1.7
GADA	**Gvkgeada**	**4.70**	**356**	*e*PN	**Pn**	01 53 58.8	+1.3
GADA	**Gvkgeada**	**4.70**	**356**	*e*Pn	**Pn**	01 53 58.8	+1.3
AGG	**Agios Georgios**	**4.73**	**319**	*e*PN	**Pn**	01 53 58.5	+0.5
AGG	**Agios Georgios**	**4.73**	**319**	*e*Pn	**Pn**	01 54 00.0	+2.0
AGG	**Agios Georgios**	**4.73**	**319**	*e*Pn	**Pn**	01 53 58.5	+0.5
MAKR	**Makrakomi, Fth**	**4.83**	**318**	*e*PN	**Pn**	01 54 01.0	+1.6
MAKR	**Makrakomi, Fth**	**4.83**	**318**	*e*Pn	**Pn**	01 54 01.0	+1.6
GELI	**Tayfur-Gelibol**	**4.90**	**2**	*e*PN	**Pn**	01 54 01.0	+0.7
GELI	**Tayfur-Gelibol**	**4.90**	**2**	*e*Pn	**Pn**	01 54 01.0	+0.7
EVR	**Evrytania**	**4.94**	**315**	*e*PN	**Pn**	01 54 02.7	+1.7
EVR	**Evrytania**	**4.94**	**315**	*e*Pn	**Pn**	01 54 02.7	+1.7
PDO	**Prodromos**	**5.12**	**309**	*e*PN	**Pn**	01 54 05.3	+1.9
PDO	**Prodromos**	**5.12**	**309**	*e*Pn	**Pn**	01 54 05.3	+1.9
HDMB	**Hadim**	**5.22**	**72**	*e*PN	**Pn**	01 54 06.5	+1.6
HDMB	**Hadim**	**5.22**	**72**	*e*Pn	**Pn**	01 54 06.6	+1.6
ALN	**Alexandroupoli**	**5.40**	**358**	*e*PN	**Pn**	01 54 08.0	+0.9
ALN	**Alexandroupoli**	**5.40**	**358**	*e*PN	**Pn**	01 54 07.8	+0.7
ALN	**Alexandroupoli**	**5.40**	**358**	*e*Pn	**Pn**	01 54 07.8	+0.7
LEF	**Lefka**	**5.41**	**92**	*e*PN	**Pn**	01 54 08.2	+0.9
LEF	**Lefka**	**5.41**	**92**	*e*Pn	**Pn**	01 54 08.2	+0.9
KONT	**Konya--Tatoy**	**5.46**	**62**	*e*PN	**Pn**	01 54 10.0	+2.0
KONT	**Konya--Tatoy**	**5.46**	**62**	*e*Pn	**Pn**	01 54 10.0	+2.0
DSL	**Palaion Diasel**	**5.50**	**313**	*e*PN	**Pn**	01 54 10.8	+2.2
DSL	**Palaion Diasel**	**5.50**	**313**	*e*Pn	**Pn**	01 54 10.8	+2.2
LADK	**Ladik-KONYA**	**5.57**	**59**	*e*PN	**Pn**	01 54 11.7	+2.0
LADK	**Ladik-KONYA**	**5.57**	**59**	*e*Pn	**Pn**	01 54 11.7	+2.0
KIZT	**Kizilcal**	**5.60**	**51**	*e*PN	**Pn**	01 54 11.6	+1.6
KIZT	**Kizilcal**	**5.60**	**51**	*e*Pn	**Pn**	01 54 11.6	+1.6
CSS	**Prodhromos**	**5.79**	**93**	*e*PN	**Pn**	01 54 14.3	+1.7
CSS	**Prodhromos**	**5.79**	**93**	*e*Pn	**Pn**	01 54 14.3	+1.7
GRG	**Griva**	**6.25**	**332**	*e*PN	**Pn**	01 54 20.8	+1.9
GRG	**Griva**	**6.25**	**332**	*e*PN	**Pn**	01 54 20.5	+1.6
GRG	**Griva**	**6.25**	**332**	*e*Pn	**Pn**	01 54 20.5	+1.6
KNT	**Kendrikon**	**6.25**	**336**	*e*PN	**Pn**	01 54 19.8	+0.9
KNT	**Kendrikon**	**6.25**	**336**	*e*Pn	**Pn**	01 54 19.8	+0.9
SGD	**Sagiada**	**6.33**	**312**	*e*PN	**Pn**	01 54 21.4	+1.5
SGD	**Sagiada**	**6.33**	**312**	*e*Pn	**Pn**	01 54 21.4	+1.5
NEST	**Nestorio**	**6.42**	**321**	*e*PN	**Pn**	01 54 23.6	+2.3
NEST	**Nestorio**	**6.42**	**321**	*e*Pn	**Pn**	01 54 23.6	+2.3

IDC 26 01:59:29.6±2.3, 6°33S×131°74E, h87km±29km, mb3.4/2, mb1 3.6/5, mb1mx3.3/36, mbtmp3.8/5, Error ellipse: s-maj=95.6km s-min=12.2km az=80.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.45**	**355**	P	Pn	02 00 50.3	+1.9
	2.0nm,0.3s,baz=221,slow=23,SNR=9.0						
SIJI				S	Sn	02 01 49.2	-0.5
	14nm,0.3s,baz=175,slow=22,SNR=15						
WRA	**Warramunga Arr**	**13.76**	**170**	P	Pn	02 02 42.5	+1.4
	0.4nm,0.3s,baz=351,slow=13,SNR=5.3						
WRA				S	Sn	02 05 12.0	-0.5
	0.9nm,0.3s,baz=347,slow=18,SNR=5.7						
ASAR	**Alice Springs**	**17.36**	**173**	P	Pn	02 03 26.4	0.0
	0.6nm,0.3s,baz=344,slow=9.3,SNR=30						
ASAR				S	Sn	02 06 38.3	-1.2
	0.2nm,0.3s,baz=0.0,slow=26,SNR=5.6						
STKA	**Stephens Creek**	**27.03**	**161**	P	P	02 05 04.1	+0.4
	0.6nm,0.4s,baz=348,slow=9.3,SNR=2.8						
KURBB	**Kurchatov Arra**	**72.86**	**328**	P	P	02 10 48.8	-0.2
	0.2nm,0.2s,baz=116,slow=5.3,SNR=2.6						

JMA 26 02:03:33.0±0.1, 29°51N×131°25E, h62km±4km, M3.5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAK	**Yakushimahirau**	**0.97**	**319**	P	Pn	02 03 50.9	+0.2
JYAK				*e*S	Sn	02 04 04.0	+0.2
JTN	**Tanegashima 3**	**1.16**	**348**	P	Pn	02 03 53.3	0.0
JNN	**Nakanoshima**	**1.24**	**286**	P	Pn	02 03 54.8	+0.5
JNN				*e*S	Sn	02 04 10.6	+0.4
JKC	**Kuchinoerabu**	**1.32**	**316**	P	Pn	02 03 56.0	+0.7
JZK	**Kikaishima**	**1.64**	**224**	P	Pn	02 04 00.5	+0.9
JTSR	**Tashiro 2**	**1.68**	**350**	P	Pn	02 04 00.9	+0.7
JTSR				*e*S	Sn	02 04 20.8	+0.1
JAM	**Amami Oshima**	**1.81**	**233**	P	Pn	02 04 02.0	+0.1
JAM				*e*S	Sn	02 04 23.5	-0.3
JTAJ	**Takarajima**	**1.82**	**259**	P	Pn	02 04 02.5	+0.4
JNAR	**Kushima--Naru**	**2.01**	**1**	P	Pn	02 04 05.7	+1.1
JNAR				S	Sn	02 04 29.7	+1.0
JSU	**Suzuyama**	**2.10**	**341**	P	Pn	02 04 06.4	+0.4
JSU				S	Sn	02 04 31.5	+0.4
JAMN	**Amaminishikomi**	**2.21**	**236**	P	Pn	02 04 07.7	+0.3
JAMN				S	Sn	02 04 33.9	+0.2
JTZ	**Takazaki**	**2.39**	**357**	P	Pn	02 04 10.8	+1.0
JTZ				S	Sn	02 04 38.7	+0.8
JSJ	**Shimokoshiki**	**2.53**	**329**	P	Pn	02 04 11.7	-0.1
JTK	**Tokunoshima**	**2.65**	**230**	P	Pn	02 04 13.6	+0.2
JTK				*e*S	Sn	02 04 44.5	+0.1

MAN 26 02:22:41, 13°.42N×120°.63E, h64km, mb4.0, ML2.8, MS2.5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.33**	**75**	↑*e*P	Pn	02 22 53.9	+2.1

*DJA **26** 02:24:04.7±1.6, 17°N±9°×9°E±°, h10km, M4.1/3, MLv4.1/3*

BKK 26 02:24:02.2±1.3, 20°N±13°×10°0E±°, h10km, M4.0/7, MLv4.0/7, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAI	**Chiangrai**	**0.58**	**104**	P	Pg	02 24 12.1	-1.5
CMAI	**Chiengmai2**	**0.81**	**238**	Pn	Pg	02 24 16.7	-1.4
CMMT	**Chiang Mai**	**1.73**	**207**	P	Pn	02 24 32.8	+0.4
CHTO	**Chiang Mai**	**1.73**	**207**	P	Pn	02 24 33.0	+0.6
LAMP	**Lampang**	**1.84**	**184**	P	Pb	02 24 35.2	-0.8
MHMT	**Maesarieng**	**2.79**	**219**	Pn	Pb	02 24 50.2	-2.0
PBKT	**Sadao Pong**	**3.95**	**163**	P	Pg	02 25 17.5	-0.4

BJI 26 02:37:39.8, 23°.46N×99°.44E, h5km, ML3.5/7, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.44**	**61**	Pg	Pg	02 38 43.8	-2.2
KMI				Sg	Sb	02 39 27.0	+3.2
KMI				SMN			
	300nm,0.9s						
KMI				SME			
	180nm,0.7s						
CD2	**Chengdu**	**8.36**	**26**	P	Pn	02 39 40.0	-1.7
CD2				S	Sn	02 41 16.3	-0.3
CD2				SME			
	10.0nm,0.5s						

*ISCJB **26** 02:47:36.9±0.2, 51°.58N±0°.01×16°.15E±0°.02, h0km, mb3.7/3, MS3.4/3, Error ellipse: s-maj=2.2km s-min=1.7km az=21.8*
*LDG **26** 02:47:38.6±0.1, 51°.57N×16°.22E, h1km, Ml4.0/38, Error ellipse: s-maj=2.5km s-min=1.4km az=176.0, Suspected Mining induced.*
*BNS **26** 02:47:39.6±0.8, 51°.46N×16°.39E, h5km, ML3.6*
*CSEM **26** 02:47:39.5±0.1, 51°.54N×16°.12E, h2km, ML4.2/12, Error ellipse: s-maj=3.1km s-min=2.4km az=21.0*
*STR **26** 02:47:40.2±1.1, 51°.56N×16°.08E, h5km, Ml3.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*BGR **26** 02:47:40.9±0.5, 51°.50N×16°.16E, h1km, ML3.7/15, Error ellipse: s-maj=5.6km s-min=2.2km az=18.0*
*IDC **26** 02:47:40.4±0.6, 51°.51N×16°.04E, h0km, mb3.8/3, mb1 3.6/11, mb1mx3.5/45, mbtmp3.5/11, ML3.3/8, MS3.4/3, Ms1 3.4/3, ms1mx2.4/54, Error ellipse: s-maj=9.9km s-min=5.7km az=102.0*
*PRU **26** 02:47:41.1, 51°.50N×16°.11E, h0km, Felt In Harrachov*
*VIE **26** 02:47:43.6±0.7, 51°.25N×16°.07E, h0km, mb3.1/10, ML3.3/12, Error ellipse: s-maj=6.2km s-min=3.4km az=25.0 68 km WNW of Wroclaw Suspected Mining induced.*
*UPP **26** 02:47:46.4, 51°.94N×15°.81E, h0km, ML2.5, Suspected Mining explosion.*

ISC 26 02:47:38.3±0.5, 51°54N±0°.02×16°.13E±0°.02, h0km, n234, σ1§80/321, mb3.7/3, MS3.5/3, 17C-10D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**172**	*e*Pg	**Pb**	02 47 53.9	+0.4
KSP				*e*Sg	**Sg**	02 48 01.8	+0.8
KSP	**Ksiaz**	**0.71**	**172**	*i* Pg	**Pb**	02 47 53.8	+0.3
KSP				*i* Sg	**Sb**	02 48 03.3	-0.5
KSP				*e*		02 48 07.0	
KSP	**Ksiaz**	**0.71**	**172**	Pg	**Pb**	02 47 53.9	+0.4
KSP				Sg	**Sg**	02 48 01.8	+0.8
UPC	**Upice**	**1.04**	**184**	*e*PG	**Pb**	02 47 59.9	+0.7
UPC				*e*SG	**Sb**	02 48 13.3	0.0
	comp=Z,173nm,0.3s						
UPC	**Upice**	**1.04**	**184**	Pg	**Pb**	02 47 59.9	+0.7
UPC				Sg	**Sb**	02 48 13.3	0.0
	173nm,0.3s						
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*Pg	**Pn**	02 48 02.7	+0.3
DPC	**Dobruska-Polom**	**1.20**	**174**	*e*PG	**Pn**	02 48 02.6	+0.2
DPC				*e*SG	**Sg**	02 48 17.6	+0.8
	comp=Z,278nm,0.4s						
DPC	**Dobruska-Polom**	**1.20**	**174**	Pg	**Pn**	02 48 02.7	+0.3
DPC				Sg	**Sg**	02 48 17.6	+0.8
	278nm,0.4s						
PVCC	**Panska Ves**	**1.42**	**225**	*e*PG	**Pb**	02 48 06.7	+1.1
PVCC				*e*SG	**Sn**	02 48 26.6	+1.9
	comp=Z,868nm,0.3s						
PVCC	**Panska Ves**	**1.42**	**225**	Pg	**Pb**	02 48 06.7	+1.1
PVCC				Sg	**Sn**	02 48 26.6	+1.9
	868nm,0.3s						
KRLC	**Kraliky**	**1.52**	**164**	*e*PG	**Pb**	02 48 07.8	+0.3
KRLC				*e*SG	**Sn**	02 48 28.1	+0.7
KRLC	**Kraliky**	**1.52**	**164**	Pg	**Pb**	02 48 07.8	+0.3
KRLC				Sg	**Sn**	02 48 28.1	+0.7
BRG	**Berggiesshubel**	**1.53**	**245**	PN	**Pn**	02 48 07.4	+0.5
BRG				PG	**Pg**	02 48 09.4	+1.7
BRG				SG	**Sg**	02 48 29.9	+2.4
	377nm,0.4s						
PRA	**Prague**	**1.82**	**217**	*e*PN	**Pb**	02 48 12.2	-0.4
PRA				*e*PG	**Pg**	02 48 14.3	+1.0
PRA				*e*SG	**Sg**	02 48 38.1	+1.2
	comp=Z,238nm,0.6s						
PRA	**Prague**	**1.82**	**217**	Pn	**Pb**	02 48 12.2	-0.4
PRA	**Prague**	**1.82**	**217**	Pg	**Pg**	02 48 14.3	+1.0
PRA				Sg	**Sg**	02 48 38.1	+1.2
	238nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.84**	**208**	*e*PN	**Pn**	02 48 12.1	+0.9
GOPC				*e*PG	**Pg**	02 48 14.8	+1.2
GOPC				*e*SG	**Sg**	02 48 38.6	+1.2
GOPC	**GO Pecny, Ondr**	**1.84**	**208**	Pn	**Pn**	02 48 12.1	+0.9
GOPC	**GO Pecny, Ondr**	**1.84**	**208**	Pg	**Pg**	02 48 14.8	+1.2
GOPC				Sg	**Sg**	02 48 38.6	+1.2
FBE	**Freiberg**	**1.85**	**252**	*e*Pn	**Pb**	02 48 12.5	-0.6
FBE				*e*Pg	**Pg**	02 48 15.5	+1.6
FBE				*e*Sg	**Sg**	02 48 39.8	+2.0
FBE	**Freiberg**	**1.85**	**252**	Pn	**Pb**	02 48 12.5	-0.6
PRU	**Pruhonice**	**1.85**	**214**	*e*PG	**Pg**	02 48 14.4	+0.6
PRU				*e*SG	**Sg**	02 48 39.1	+1.3
	comp=Z,100nm,0.4s						
PRU	**Pruhonice**	**1.85**	**214**	Pg	**Pg**	02 48 14.4	+0.6
PRU				Sg	**Sg**	02 48 39.1	+1.3
	100nm,0.4s						
GKP	**Gorka Klasztor**	**1.86**	**21**	*e*Pn	**Pg**	02 48 15.0	+1.1
GKP				*e*Pg	Pb	02 48 20.0	+6.8
GKP				*e*Sg	**Sg**	02 48 42.7	+4.7
GKP	**Gorka Klasztor**	**1.86**	**21**	*e*Pn	**Pg**	02 48 15.0	+1.1
GKP				*e*Sg	**Sg**	02 48 42.8	+4.7
RAC	**Raciborz**	**1.96**	**137**	*e*Pg	**Pg**	02 48 15.8	-0.1
RAC				*e*Sg	**Sg**	02 48 42.9	+1.7
CLL	**Collm**	**1.97**	**264**	*e*Pn	**Pn**	02 48 13.8	+0.8
CLL				*e*Pg	**Pg**	02 48 17.1	+0.9
CLL				*e*Sg	**Sg**	02 48 43.6	+1.9
CLL	**Collm**	**1.97**	**264**	*e*Pn	**Pn**	02 48 14.0	+1.0
CLL				*e*Pg	**Pg**	02 48 17.0	+0.9
CLL				*e*		02 48 20.0	
CLL				*e*Sg	**Sg**	02 48 43.0	+1.3
	comp=Z,175nm,0.8s						
CLL	**Collm**	**1.97**	**264**	Pn	**Pn**	02 48 13.8	+0.8
MORC	**Moravsky Berou**	**1.98**	**153**	↓*i*P	**Pn**	02 48 14.2	+1.1
MORC	**Moravsky Berou**	**1.98**	**153**	S	**Sg**	02 48 41.7	-0.2
MORC	**Moravsky Berou**	**1.98**	**153**	↓*i*P	**Pn**	02 48 14.2	+1.1
MORC				*e*Sg	**Sg**	02 48 42.1	+0.2
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*Pn	**Pn**	02 48 15.6	+0.4
OKC				*e*Sg	**Sg**	02 48 46.8	0.0
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*PG	**Pg**	02 48 19.7	+0.5
OKC				*e*SG	**Sg**	02 48 46.8	0.0
OKC	**Ostrava-Krasne**	**2.13**	**142**	Pn	**Pn**	02 48 15.6	+0.4
OKC	**Ostrava-Krasne**	**2.13**	**142**	Pg	**Pg**	02 48 19.7	+0.5
OKC				Sg	**Sg**	02 48 46.8	0.0
CHZP	**Chorzow**	**2.20**	**124**	*e*P	**Pn**	02 48 16.0	-0.1
VRAC	**Vranov**	**2.25**	**172**	Pn	**Pn**	02 48 17.9	+1.0
	comp=Z,6.9nm,0.3s,baz=341,slow=13,SNR=68						
VRAC				Lg	Lg	02 48 50.6	
	comp=Z,60nm,0.3s,baz=82,slow=22,SNR=19						
VRAC	**Vranov**	**2.25**	**172**	↑*i*P	**Pb**	02 48 18.8	-1.1
VRAC	**Vranov**	**2.25**	**172**	S	**Sb**	02 48 49.3	+1.0
VRAC	**Vranov**	**2.25**	**172**	*e*Pn	**Pb**	02 48 18.1	+1.2
VRAC	**Vranov**	**2.25**	**172**	*i*P	**Pb**	02 48 18.8	-1.1
VRAC				*e*Sg	**Sg**	02 48 51.3	+0.6
TREC	**Trest**	**2.29**	**191**	*e*PN	**Pn**	02 48 18.9	+1.6
TREC				*e*PG	**Pg**	02 48 22.6	+0.5
TREC	**Trest**	**2.29**	**191**	Pn	**Pn**	02 48 18.9	+1.6
TANN	**Tannenbergstha**	**2.58**	**246**	*e*Pn	**Pn**	02 48 23.1	+1.7
TANN				*e*Sg	**Sg**	02 49 02.5	+1.3
TANN	**Tannenbergstha**	**2.58**	**246**	Pn	**Pn**	02 48 23.1	+1.7
TANN				Sg	**Sg**	02 49 02.5	+1.3
OJC	**Ojcow**	**2.67**	**118**	*e*Sg	**Sg**	02 49 05.0	+0.9
OJC	**Ojcow**	**2.67**	**118**	*e*Pn	**Pn**	02 48 21.9	-0.7
OJC				*e*Pg	**Pg**	02 48 30.3	+0.8
OJC				*e*Sg	**Sg**	02 49 05.7	+1.6
OJC	**Ojcow**	**2.67**	**118**	*e*Pn	**Pn**	02 48 21.9	-0.7
NKC	**Novy Kostel**	**2.68**	**242**	*e*PN	**Pn**	02 48 24.5	+1.8
NKC				*e*PG	**Pg**	02 48 31.4	+1.8
NKC				*e*SG	**Sg**	02 49 07.3	+3.0
	comp=Z,271nm,0.4s						
NKC	**Novy Kostel**	**2.68**	**242**	Pn	**Pn**	02 48 24.5	+1.8
NKC	**Novy Kostel**	**2.68**	**242**	Pg	**Pg**	02 48 31.4	+1.8
NKC				Sg	**Sg**	02 49 07.3	+3.0
	comp=Z,271nm,0.4s						
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PN	**Pn**	02 48 27.0	+1.0
KHC				*e*PG	**Pg**	02 48 33.4	-0.8
KHC				*e*SG	**Sg**	02 49 12.3	+0.4
	comp=Z,94nm,0.4s						
KHC	**Kasperske Hory**	**2.92**	**215**	Pn	**Pn**	02 48 27.0	+1.0
KHC	**Kasperske Hory**	**2.92**	**215**	Pg	**Pg**	02 48 33.4	-0.8
KHC				Sg	**Sg**	02 49 12.3	+0.4
	comp=Z,94nm,0.4s						
MOX	**Moxa**	**2.99**	**254**	*e*Pn	**Pn**	02 48 28.2	+1.3
MOX				*e*Pg	**Pg**	02 48 37.0	+1.5
MOX				*e*Sg	**Sg**	02 49 16.6	+2.4
MOX	**Moxa**	**2.99**	**254**	Pn	**Pn**	02 48 28.2	+1.3
MANZ	**Manzenberg**	**2.99**	**240**	*e*Pn	**Pn**	02 48 28.7	+1.6
MANZ	**Manzenberg**	**2.99**	**240**	Pn	**Pn**	02 48 28.7	+1.6
ROTZ	**Rotzenmuhle**	**3.06

	comp=Z,5.8nm,0.5s,SNR=10							
MOTA	**Moosalm**	**5.33**	**220**	Pn		**Pn**	**02 49 00.6**	**+1.4**
	comp=Z,5.8nm,0.5s,SNR=10							
ABTA	**Abfaltersbach**	**5.35**	**208**	⇑*i*Pn		**Pn**	**02 49 02.0**	**+2.5**
	comp=Z,2.3nm,0.3s,SNR=11							
ABTA	**Abfaltersbach**	**5.35**	**208**	Pn		**Pn**	**02 49 02.0**	**+2.5**
	comp=Z,2.3nm,0.3s,SNR=11							
KOE	**Koeppel**	**5.42**	**261**	*e*Pn		**Pn**	**02 49 01.8**	**+1.4**
KOE	**Koeppel**	**5.42**	**261**	Pn		**Pn**	**02 49 01.8**	**+1.4**
PDKS	**Podkum**	**5.54**	**188**	*i* Pn		**Pn**	**02 49 04.5**	**+2.5**
PDKS	**Podkum**	**5.54**	**188**	*i* Pn		**Pn**	**02 49 04.5**	**+2.5**
HOBG	**Hohbusch**	**5.55**	**268**	*e*Pn		**Pn**	**02 49 04.6**	**+2.4**
HOBG	**Hohbusch**	**5.55**	**268**	Pn		**Pn**	**02 49 04.6**	**+2.4**
PKSM	**Moragy**	**5.58**	**162**	⇑*i*P		**Pn**	**02 49 04.5**	**+1.9**
PKSM	**Moragy**	**5.58**	**162**	*e*Pn		**Pn**	**02 49 04.4**	**+1.9**
PKSM	**Moragy**	**5.58**	**162**	*e*		**Pn**	**02 49 04.4**	**+1.9**
BNS	**Bensberg**	**5.66**	**268**	*e*Pn		**Pn**	**02 49 05.4**	**+1.8**
BNS	**Bensberg**	**5.66**	**268**	Pn		**Pn**	**02 49 05.4**	**+1.8**
FETA	**Feichten**	**5.74**	**220**	⇓*e*Pn		**Pn**	**02 49 07.2**	**+2.3**
	comp=Z,1.5nm,0.3s							
FETA	**Feichten**	**5.74**	**220**	Pn		**Pn**	**02 49 07.2**	**+2.3**
	comp=Z,1.5nm,0.3s							
LAUG	**Laupendahl**	**5.75**	**272**	*e*Pn		**Pn**	**02 49 06.2**	**+1.3**
LAUG	**Laupendahl**	**5.75**	**272**	Pn		**Pn**	**02 49 06.2**	**+1.3**
FABU	**Falkenberg**	**5.83**	**341**	P		**Pn**	**02 49 06.2**	**+0.4**
FABU	**Falkenberg**	**5.83**	**341**	P		**Pn**	**02 49 06.2**	**+0.4**
SPAK	**Spaichingen-Ko**	**5.87**	**237**	P		**Pn**	**02 49 07.2**	**+0.6**
LANF	**Langenberg**	**5.92**	**248**	P		**Pn**	**02 49 09.1**	**+1.8**
LANF	**Langenberg**	**5.92**	**248**	P		**Pn**	**02 49 09.1**	**+1.8**
STB	**Steinbach**	**5.94**	**264**	*e*Pn		**Pn**	**02 49 09.4**	**+2.0**
STB				*e*Sn		**Sn**	**02 50 16.8**	**+0.7**
	comp=Z,15nm,0.8s							
STB	**Steinbach**	**5.94**	**264**	Pn		**Pn**	**02 49 09.4**	**+2.0**
STB				Sn		**Sn**	**02 50 16.8**	**+0.7**
	comp=Z,15nm,0.8s							
RUP	**Ruppelstein**	**6.06**	**256**	P		**Pn**	**02 49 09.7**	**+0.5**
HILG	**Hillesheim**	**6.11**	**262**	*e*Pn		**Pn**	**02 49 11.4**	**+1.6**
HILG	**Hillesheim**	**6.11**	**262**	Pn		**Pn**	**02 49 11.4**	**+1.6**
KLL	**Kalltalsperre**	**6.25**	**266**	*e*Pn		**Pn**	**02 49 12.6**	**+0.8**
KLL	**Kalltalsperre**	**6.25**	**266**	Pn		**Pn**	**02 49 12.6**	**+0.8**
DAVOX	**Davos/Dischmat**	**6.29**	**223**	Pn		**Pn**	**02 49 13.2**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=19,slow=11,SNR=8.4							
DAVOX				Lg		Lg	02 50 57.7	
	comp=Z,0.7nm,0.3s,baz=176,slow=23,SNR=3.4							
GOTU	**Gotland**	**6.32**	**12**	P		**Pn**	**02 49 13.8**	**+1.2**
GOTU	**Gotland**	**6.32**	**12**	P		**Pn**	**02 49 13.8**	**+1.2**
DRGR		**6.42**	**135**	⇑*i*P		**Pn**	**02 49 16.0**	**+1.9**
DRGR		**6.42**	**135**	⇑*i*P		**Pn**	**02 49 16.0**	**+1.9**
FELD	**Feldberg im Sc**	**6.42**	**238**	P		**Pn**	**02 49 14.7**	**+0.5**
MEM	**Membach**	**6.45**	**266**	PN		**Pn**	**02 49 15.9**	**+1.4**
MEM				SN		**Sn**	**02 50 32.4**	**+3.7**
	comp=E,19nm,0.0s							
MEM	**Membach**	**6.45**	**266**	Pn		**Pn**	**02 49 15.8**	**+1.4**
CDF	**Champ du Feu**	**6.51**	**245**	*e*Pn		**Pn**	**02 49 14.4**	**-1.1**
CDF				*e*Sg		**Sg**	**02 51 04.2**	**-3.2**
	comp=E,258nm,1.6s							
CDF	**Champ du Feu**	**6.51**	**245**	*e*Pn		**Pn**	**02 49 14.4**	**-1.1**
WLF	**Walferdange**	**6.63**	**257**	PN		**Pn**	**02 49 19.1**	**+2.2**
WLF				SG		**Sg**	**02 51 13.3**	**+2.2**
	comp=E,22nm,0.0s							
WLF	**Walferdange**	**6.63**	**257**	Pn		**Pn**	**02 49 19.1**	**+2.2**
WLF				Sg		**Sg**	**02 51 13.2**	**+2.2**
BCLA	**Clavier**	**6.93**	**265**	PN		**Pn**	**02 49 23.7**	**+2.6**
BCLA	**Clavier**	**6.93**	**265**	Pn		**Pn**	**02 49 23.7**	**+2.6**
HINF	**Hinteralfeld**	**7.08**	**242**	*e*Pn		**Pn**	**02 49 22.3**	**-0.9**
HINF				*e*Sg		**Sg**	**02 51 21.6**	**-4.0**
	comp=E,34nm,0.7s							
HINF	**Hinteralfeld**	**7.08**	**242**	*e*Pn		**Pn**	**02 49 22.3**	**-0.9**
BURAR	**Bucovina Array**	**7.09**	**120**	⇑*i*P		**Pn**	**02 49 24.8**	**+1.4**
BURAR	**Bucovina Array**	**7.09**	**120**	⇑*i*P		**Pn**	**02 49 24.8**	**+1.4**
IIGN	**Ignalina**	**7.13**	**54**	*e*P		Sn	02 50 56.3	+11
ISAL	**Salakas**	**7.19**	**52**	*e*P		**Sn**	**02 50 52.2**	**+5.3**
NACGM	**Naroch**	**7.22**	**58**	*e*		Pg	02 50 10.0	+13
HAU	**Haudompre**	**7.26**	**245**	*e*Pn		**Pn**	**02 49 24.6**	**-1.0**
HAU				*e*Sg		**Sg**	**02 51 27.4**	**-3.8**
	comp=E,37nm,0.7s							
HAU	**Haudompre**	**7.26**	**245**	*e*Pn		**Pn**	**02 49 24.6**	**-1.0**
GIVF	**Givet**	**7.31**	**263**	*e*Pn		**Pn**	**02 49 25.3**	**-1.0**
GIVF				*e*Sg		**Sg**	**02 51 29.5**	**-3.4**
	comp=E,58nm,1.0s							
GIVF	**Givet**	**7.31**	**263**	*e*Pn		**Pn**	**02 49 25.3**	**-1.0**
PAGF	**Fort de Pagny**	**7.34**	**250**	*e*Pn		**Pn**	**02 49 25.6**	**-1.1**
	baz=72							
PAGF				*e*Sg		**Sg**	**02 51 30.3**	**-3.5**
	comp=E,32nm,1.2s							
PAGF	**Fort de Pagny**	**7.34**	**250**	*e*Pn		**Pn**	**02 49 25.6**	**-1.1**
IZAR	**Zarasai**	**7.34**	**51**	*e*P		**Sn**	**02 50 50.4**	**-0.1**
VANU	**Vaenersborg**	**7.35**	**343**	P		**Pn**	**02 49 28.2**	**+1.5**
VANU	**Vaenersborg**	**7.35**	**343**	P		**Pn**	**02 49 28.2**	**+1.5**
DOU	**Dourbes**	**7.45**	**263**	PN		**Pn**	**02 49 30.7**	**+2.5**
DOU	**Dourbes**	**7.45**	**263**	Pn		**Pn**	**02 49 30.7**	**+2.5**
NYNU	**Nynaeshamn**	**7.56**	**7**	P		**Pn**	**02 49 30.5**	**+0.9**
NYNU	**Nynaeshamn**	**7.56**	**7**	P		**Pn**	**02 49 30.5**	**+0.9**
BAIF	**Baives**	**7.70**	**264**	*e*Pn		**Pn**	**02 49 30.7**	**-1.0**
BAIF				*e*Sg		**Sg**	**02 51 41.8**	**-3.7**
	comp=E,46nm,1.1s							
BAIF	**Baives**	**7.70**	**264**	*e*Pn		**Pn**	**02 49 30.7**	**-1.0**
ESKU	**Eskilstuna**	**7.71**	**1**	P		**Pn**	**02 49 32.7**	**+1.0**
ESKU	**Eskilstuna**	**7.71**	**1**	P		**Pn**	**02 49 32.7**	**+1.0**
MEZF	**Maizieres J'vi**	**7.76**	**251**	*e*Pn		**Pn**	**02 49 30.8**	**-1.6**
	baz=74							
MEZF				*e*Sg		**Sg**	**02 51 43.3**	**-4.0**
	comp=E,111nm,1.3s							
SFTF	**Sexfontaines**	**7.91**	**249**	*e*Pn		**Pn**	**02 49 33.1**	**-1.4**
SFTF				*e*Sg		**Sg**	**02 51 47.5**	**-4.6**
	comp=E,71nm,1.1s							
SFTF	**Sexfontaines**	**7.91**	**249**	*e*Pn		**Pn**	**02 49 33.1**	**-1.4**
NRAU	**Nora**	**8.07**	**356**	P		**Pn**	**02 49 37.2**	**+0.5**
NRAU	**Nora**	**8.07**	**356**	P		**Pn**	**02 49 37.2**	**+0.5**
FINU	**Finntorp**	**8.15**	**347**	P		**Pn**	**02 49 38.0**	**+0.3**
FINU	**Finntorp**	**8.15**	**347**	P		**Pn**	**02 49 38.0**	**+0.3**
CABF	**La Chapelle**	**8.23**	**237**	*e*Pn		**Pn**	**02 49 37.9**	**-1.1**
CABF				*e*Sg		**Sg**	**02 51 57.5**	**-5.1**
	comp=E,106nm,1.1s							
CABF	**La Chapelle**	**8.23**	**237**	*e*Pn		**Pn**	**02 49 37.9**	**-1.1**
AKASG	**Malin Array Be**	**8.28**	**91**	Pn		**Pn**	**02 49 38.7**	**-0.9**
	comp=E,2.6nm,0.3s,baz=281,slow=12,SNR=9.3							
AKASG				Sn		**Sn**	**02 51 10.3**	**-3.4**
	comp=E,3.9nm,0.3s,baz=266,slow=26,SNR=7.2							
AKASG				Lg		Lg	02 52 04.9	
	comp=E,1.2nm,0.3s,baz=270,slow=29,SNR=6.0							
LPL	**La Plagne**	**8.67**	**230**	*e*Pn		**Pn**	**02 49 43.7**	**-1.5**
LPL				*e*Sg		**Sg**	**02 52 11.5**	**-5.1**
	comp=E,35nm,1.3s							
LPG	**La Plagne**	**8.68**	**229**	*e*Pn		**Pn**	**02 49 44.0**	**-1.3**
LPG				*e*Sg		**Sg**	**02 52 12.1**	**-4.7**
	comp=E,52nm,1.2s							
LPG	**La Plagne**	**8.68**	**229**	*e*Pn		**Pn**	**02 49 44.0**	**-1.3**
HFS	**Hagfors**	**8.72**	**352**	Pn		**Pn**	**02 49 44.5**	**-1.0**
	comp=E,0.2nm,0.3s,baz=171,slow=15,SNR=9.6							
HFS				Sn		**Sn**	**02 51 23.7**	**-0.8**
	comp=E,0.7nm,0.3s,baz=162,slow=25,SNR=4.4							
LOR	**Lormes**	**9.07**	**247**	*e*Pn		**Pn**	**02 49 49.0**	**-1.5**
	baz=57							
LOR				*e*Sg		Sn	02 52 23.8	+51
	comp=E,23nm,1.0s							
MBDF	**Montbardon**	**9.25**	**226**	*e*Pn		**Pn**	**02 49 51.3**	**-1.7**
MBDF				*e*Sg		Sn	02 52 29.6	+52
	comp=E,11nm,0.8s							
SSF	**Saint Saulge**	**9.39**	**246**	*e*Pn		**Pn**	**02 49 53.4**	**-1.3**
SSF				*e*Sg		Sn	02 52 34.0	+53
	comp=E,12nm,0.8s							
SSF	**Saint Saulge**	**9.39**	**246**	*e*Pn		**Pn**	**02 49 53.4**	**-1.3**
SMF	**Signal de Mont**	**9.43**	**244**	*e*Pn		**Pn**	**02 49 54.2**	**-1.2**
SMF				*e*Sg		Sn	02 52 35.2	+53
	comp=E,14nm,0.7s							
SMF	**Signal de Mont**	**9.43**	**244**	*e*Pn		**Pn**	**02 49 54.2**	**-1.2**
ORIF	**Oris-en-Rattie**	**9.52**	**230**	*e*Pn		**Pn**	**02 49 54.6**	**-2.1**
ORIF				*e*Sg		Sn	02 52 37.8	+53
	comp=E,52nm,1.4s							
AVF	**Avril sur Loir**	**9.62**	**245**	*e*Pn		**Pn**	**02 49 56.9**	**-1.1**
AVF				*e*Sg		Sn	02 52 41.4	+55
	comp=E,36nm,1.2s							
AVF	**Avril sur Loir**	**9.62**	**245**	*e*Pn		**Pn**	**02 49 56.9**	**-1.1**
SBF	**Sospel**	**9.66**	**221**	*e*Pn		**Pn**	**02 49 57.1**	**-1.4**
SBF				*e*Sg		Sn	02 52 42.1	+54
	comp=E,8.0nm,0.8s							
NOA	**NORSAR Array B**	**9.90**	**346**	Pn		**Pn**	**02 50 00.6**	**-1.3**
	comp=E,0.2nm,0.3s,baz=151,slow=11,SNR=5.7							
NOA				Sn		**Sn**	**02 51 49.0**	**-4.6**
	comp=E,0.3nm,0.3s,baz=20,slow=18,SNR=3.9							
FRF	**La Foret Royal**	**10.23**	**222**	*e*Pn		**Pn**	**02 50 04.9**	**-1.4**
FRF				*e*Sg		Sn	02 52 59.9	+58
	comp=E,18nm,1.3s							
SMRF	**Simiane la Rot**	**10.37**	**227**	*e*Pn		**Pn**	**02 50 06.8**	**-1.5**
SMRF				*e*Sg		Sn	02 53 04.5	+59
	comp=E,11nm,1.1s							
LMR	**La Mourre**	**10.47**	**222**	*e*Pn		**Pn**	**02 50 08.0**	**-1.7**
LMR				*e*Sg		Sn	02 53 07.4	+60
	comp=E,5.7nm,1.0s							
TCF	**Toulx Ste Croi**	**10.56**	**246**	*e*Pn		**Pn**	**02 50 09.5**	**-1.3**
TCF				*e*Sg			02 53 10.5	
	comp=E,26nm,1.2s							
TCF	**Toulx Ste Croi**	**10.56**	**246**	*e*Pn		**Pn**	**02 50 09.5**	**-1.3**
LDF	**La Druitiere**	**10.86**	**261**	*e*Pn		**Pn**	**02 50 13.8**	**-1.1**
LDF				*e*Sg			02 53 20.0	
	comp=E,28nm,1.3s							
LDF	**La Druitiere**	**10.86**	**261**	*e*Pn		**Pn**	**02 50 13.8**	**-1.1**
FLN	**La Foliniere**	**11.02**	**262**	*e*Pn		**Pn**	**02 50 15.7**	**-1.4**
FLN				*e*Sg			02 53 25.3	
	comp=E,18nm,1.1s							
LASF	**Ste Croix**	**11.12**	**233**	*e*Pn		**Pn**	**02 50 17.1**	**-1.4**
LASF				*e*Sg			02 53 28.0	
	comp=E,24nm,1.4s							
FINES	**FINESS Array B**	**11.33**	**25**	Pn		**Pn**	**02 50 19.1**	**-2.1**
	comp=E,0.3nm,0.3s,baz=208,slow=13,SNR=25							
FINES				Sn		**Sn**	**02 52 23.5**	**-4.9**
	comp=E,1.1nm,0.3s,baz=223,slow=20,SNR=9.0							
GRR	**Gorron**	**11.39**	**261**	*e*Pn		**Pn**	**02 50 20.7**	**-1.4**
GRR				*e*Sg			02 53 36.6	
	comp=E,20nm,1.2s							
CAF	**Calviac**	**11.47**	**240**	*e*Pn		**Pn**	**02 50 21.8**	**-1.5**
CAF				*e*Sg			02 53 38.8	
	comp=E,28nm,1.5s							
RJF	**Les Rejaudoux**	**11.53**	**243**	*e*Pn		**Pn**	**02 50 22.6**	**-1.6**
RJF				*e*Sg			02 53 40.8	
	comp=E,30nm,1.2s							
MFF	**Saint Martin d**	**11.76**	**252**	*e*Pn		**Pn**	**02 50 25.8**	**-1.4**
MFF				*e*Sg			02 53 48.1	
	comp=E,33nm,1.5s							
EKA	**Eskdalemuir Ar**	**12.11**	**296**	Pn		Pn	02 50 28.0	-3.9
	baz=101,slow=14,SNR=8.1							
EKA				Sn		Sn	02 52 41.3	-6.1
	baz=102,slow=25,SNR=3.8							
LFF	**La Frestale**	**12.19**	**243**	*e*Pn		**Pn**	**02 50 31.6**	**-1.5**
LFF				*e*Sg			02 54 01.2	
	comp=E,38nm,1.2s							
MTLF	**Montolieu**	**12.47**	**234**	*e*Pn		**Pn**	**02 50 35.4**	**-1.6**
MTLF				*e*Sg			02 54 10.2	
	comp=E,7.8nm,1.1s							
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn		**P**	**02 51 54.4**	**-2.2**
	comp=E,0.3nm,0.3s,baz=193,slow=13,SNR=8.5							
GNI	**Garni**	**22.80**	**109**	LR		LR	03 01 57.2	
	comp=E,46nm,21.6s,baz=312,slow=38							
ASF	**Jabal al Asfar**	**24.62**	**134**	LR		LR	03 04 13.6	
	comp=E,156nm,21.6s,baz=94,slow=40							
TORD	**Torodi Ar. Bea**	**40.03**	**202**	P		**P**	**02 55 15.7**	**+0.7**
	comp=E,0.6nm,0.9s,baz=2.9,slow=8.4,SNR=3.8							
INK	**Inuvik**	**58.35**	**347**	P		P	02 57 38.0	+3.5
	comp=E,1.6nm,0.4s,baz=287,slow=14,SNR=3.2							
YKA	**Yellowknife Ar**	**59.84**	**336**	P		**P**	**02 57 46.6**	**+1.7**
	comp=E,0.4nm,0.7s,baz=31,slow=6.8,SNR=6.3							
ELK	**Elko**	**78.80**	**324**	LR		LR	03 33 57.3	
	comp=E,36nm,18.2s,baz=246,slow=35							

*IDC **26** 02:52:32.2±0.8, 35°.38N×26°.30E, h0km, mb3.7/9, mb1 3.7/16, mb1mx3.6/46, mbtmp3.6/16, ML3.5/7, MS2.5/4, Ms1 2.6/4, ms1mx2.3/46, Error ellipse: s-maj=19.8km s-min=11.7km az=172.0*

*ATH **26** 02:52:34.5, 35°.46N×26°.30E, h30km, MD3.4/17, ML3.8*

*HLW **26** 02:52:34.5, 35°.79N×26°.17E, h14km±6km, Md3.6, Ml3.6*

*ISK **26** 02:52:35.0, 35°.56N×26°.22E, h13km, ML3.6*

*CSEM **26** 02:52:35.9±0.1, 35°.46N×26°.25E, h15km, MD3.4, Error ellipse: s-maj=2.8km s-min=2.4km az=12.0*

*THE **26** 02:52:35.8, 35°.47N×26°.29E, h10km±2km, ML3.9/6, Error ellipse: s-maj=3.2km s-min=0.8km az=166.0*

*ISCJB **26** 02:52:36.0±0.2, 35°.42N±0°.02×26°.28E±0°.02, h40km±4km, mb3.5/9, MS2.6/1, Error ellipse: s-maj=3.0km s-min=2.4km az=179.1*

ISC 26 02:52:36.2±0.8, **35°.42N**±0°.03×**26°.30E**±0°.02, **h27**km±7km, **n276**, σ**1**.**25**/321, **mb3.5**/9, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.32**	**192**	P		**Pb**	**02 52 42.4**	**-1.1**
ZKR				S		**Sb**	**02 52 49.3**	**+0.7**
ZKR	**Zakros**	**0.32**	**192**	*e*PB		**Pb**	**02 52 42.8**	**-0.7**
ZKR				*e*SB		**Sb**	**02 52 49.0**	**+0.4**
ZKR	**Zakros**	**0.32**	**192**	P		**Pb**	**02 52 42.4**	**-1.1**
ZKR	**Zakros**	**0.32**	**192**	*e*Pb		**Pb**	**02 52 42.8**	**-0.7**
ZKR				*e*Sb		**Sb**	**02 52 49.0**	**+0.4**
NPS	**Neapolis**	**0.58**	**254**	P		**Pb**	**02 52 47.2**	**-0.6**
NPS				S		**Sb**	**02 52 55.7**	**-0.1**
NPS	**Neapolis**	**0.58**	**254**	*e*PN		**Pb**	**02 52 47.2**	**-0.6**
NPS				*e*SN		**Sb**	**02 52 55.4**	**-0.4**
NPS	**Neapolis**	**0.58**	**254**	P		**Pb**	**02 52 47.2**	**-0.6**
NPS				*e*Sn		**Sb**	**02 52 55.4**	**-0.4**
KARP	**Karpathos**	**0.71**	**80**	P		**Pb**	**02 52 48.6**	**-1.4**
KARP				S		**Sb**	**02 53 00.2**	**+0.7**
KARP	**Karpathos**	**0.71**	**80**	*e*PN		**Pb**	**02 52 48.6**	**-1.5**
KARP				*e*SN		**Sb**	**02 52 59.3**	**-0.2**
KARP	**Karpathos**	**0.71**	**80**	P		**Pb**	**02 52 48.6**	**-1.5**
KARP				*e*Sn		**Sb**	**02 52 59.3**	**-0.2**
KARP				S		**Sb**	**02 53 00.2**	**+0.7**
LAST	**Lasithi**	**0.72**	**249**	P		**Pb**	**02 52 49.2**	**-1.0**
LAST				S		**Sb**	**02 52 59.9**	**+0.2**
LAST	**Lasithi**	**0.72**	**249**	*e*PN		**Pb**	**02 52 49.8**	**-0.4**
LAST				*e*SN		**Sb**	**02 52 59.7**	**0.0**
LAST	**Lasithi**	**0.72**	**249**	P		**Pb**	**02 52 49.2**	**-1.0**
LAST	**Lasithi**	**0.72**	**249**	*e*Pn		**Pb**	**02 52 49.8**	**-0.4**
LAST				S		**Sb**	**02 52 59.9**	**+0.2**
IDI	**Anoyia**	**1.16**	**264**	Pn		**Pn**	**02 52 56.6**	**-0.1**
	124nm,0.3s,baz=82,slow=5.4,SNR=354							
IDI				Sn		**Sn**	**02 53 12.2**	**+0.5**
	435nm,0.3s,baz=331,slow=18,SNR=21							
SANT	**Santorini**	**1.17**	**324**	P		**Pn**	**02 52 55.7**	**-1.0**
SANT				S		**Sb**	**02 53 11.4**	**-1.0**
SANT	**Santorini**	**1.17**	**324**	*e*PN		**Pn**	**02 52 55.8**	**-1.0**
SANT	**Santorini**	**1.17**	**324**	*e*Pn		**Pn**	**02 52 55.8**	**-1.0**
SANT				S		**Sb**	**02 53 11.4**	**-1.0**
THR6	**Thira Island,**	**1.18**	**322**	P		**Pn**	**02 52 56.1**	**-0.9**
THR6	**Thira Island,**	**1.18**	**322**	P		**Pn**	**02 52 56.1**	**-0.9**
THR7	**Fira-Santorini**	**1.22**	**325**	P		**Pn**	**02 52 56.7**	**-0.8**
THR7	**Fira-Santorini**	**1.22**	**325**	P		**Pn**	**02 52 56.7**	**-0.8**
THR3	**Thira Island,**	**1.22**	**324**	P		**Pn**	**02 52 56.6**	**-0.9**
THR3	**Thira Island,**	**1.22**	**324**	P		**Pn**	**02 52 56.6**	**-0.9**
THR2	**Thira island,**	**1.24**	**326**	P		**Pn**	**02 52 56.9**	**-0.8**
THR2	**Thira island,**	**1.24**	**326**	P		**Pn**	**02 52 56.9**	**-0.8**
THR5	**Thira Island,**	**1.26**	**322**	P		**Pn**	**02 52 57.1**	**-0.9**
THR5	**Thira Island,**	**1.26**	**322**	P		**Pn**	**02 52 57.1**	**-0.9**
SIVA	**Sivas**	**1.28**	**252**	P		**Pb**	**02 52 59.2**	**-0.4**
SIVA				S		**Sb**	**02 53 15.8**	**0.0**
SIVA	**Sivas**	**1.28**	**252**	*e*PN		**Pb**	**02 52 59.2**	**-0.4**
SIVA				*e*SN		**Sb**	**02 53 15.7**	**0.0**
SIVA	**Sivas**	**1.28**	**252**	P		**Pb**	**02 52 59.2**	**-0.4**
SIVA				S		**Sb**	**02 53 15.8**	**0.0**
NISR	**Nisiros**	**1.36**	**29**	P		**Pn**	**02 52 58.9**	**-0.5**
NISR				S		**Sn**	**02 53 16.4**	**-0.2**
NISR	**Nisiros**	**1.36**	**29**	*e*PN		**Pn**	**02 52 59.1**	**-0.3**
NISR				*e*SN		**Sn**	**02 53 16.5**	**-0.2**
NISR	**Nisiros**	**1.36**	**29**	*e*Pn		**Pn**	**02 52 59.1**	**-0.3**
NISR				*e*Sn		**Sn**	**02 53 16.5**	**-0.2**
NIS1	**Nisyros Isl.**	**1.38**	**31**	*e*PN		**Pn**	**02 52 60.0**	**+0.3**
NIS1	**Nisyros Isl.**	**1.38**	**31**	P		**Pn**	**02 52 59.2**	**-0.4**
NIS1				S		**Sn**	**02 53 17.0**	**0.0**
NIS1	**Nisyros Isl.**	**1.38**	**31**	P		**Pn**	**02 52 59.2**	**-0.4**
NIS1	**Nisyros Isl.**	**1.38**	**31**	*e*Pn		**Pn**	**02 53 00.0**	**+0.3**
NIS1				S		**Sn**	**02 53 17.0**	**0.0**
ARG	**Arkhangelos**	**1.68**	**61**	P		**Pn**	**02 53 03.9**	**+0.1**
ARG				S		**Sn**	**02 53 25.0**	**+0.5**
ARG	**Arkhangelos**	**1.68**	**61**	*e*PN		**Pn**	**02 53 04.1**	**+0.3**
ARG				*e*SN		**Sn**	**02 53 24.7**	**+0.2**
ARG	**Arkhangelos**	**1.68**	**61**	*e*Pn		**Pn**	**02 53 04.1**	**+0.3**
ARG				*e*Sn		**Sn**	**02 53 24.7**	**+0.2**
ARG				S		**Sn**	**02 53 25.0**	**+0.5**
VAM	**Vamos**	**1.71**	**270**	*e*PN		**Pn**	**02 53 04.8**	**+0.5**
VAM	**Vamos**	**1.71**	**270**	*e*Pn		**Pn**	**02 53 04.8**	**+0.5**
APE	**Apeiranthos**	**1.75**	**340**	*e*PN		**Pn**	**02 53 04.6**	**-0.3**
APE				*e*SN		**Sn**	**02 53 25.1**	**-1.3**
APE	**Apeiranthos**	**1.75**	**340**	P		**Pn**	**02 53 03.8**	**-1.1**
APE				S		**Sn**	**02 53 26.2**	**-0.2**
APE	**Apeiranthos**	**1.75**	**340**	*e*PN		**Pn**	**02 53 04.5**	**-0.4**
APE	**Apeiranthos**	**1.75**	**340**	P		**Pn**	**02 53 03.8**	**-1.1**
APE	**Apeiranthos**	**1.75**	**340**	*e*Pn		**Pn**	**02 53 04.6**	**-0.3**
APE				*e*Sn		**Sn**	**02 53 25.1**	**-1.3**
APE				S		**Sn**	**02 53 26.2**	**-0.2**
BODT	**Bodrum**	**1.83**	**26**	*e*PN		**Pn**	**02 53 06.2**	**+0.3**
BODT				*e*SN		**Sn**	**02 53 28.2**	**+0.1**
BODT	**Bodrum**	**1.83**	**26**	*e*Pn		**Pn**	**02 53 06.2**	**+0.3**
BODT				*e*Sn		**Sn**	**02 53 28.3**	**+0.1**
BDRM	**Kayabasi**	**1.88**	**29**	*e*P		**Pn**	**02 53 05.7**	**-0.9**
BDRM				*e*S		**Sn**	**02 53 28.9**	**-0.6**
BDRM	**Kayabasi**	**1.88**	**29**	*e*P		**Pn**	**02 53 05.7**	**-0.9**
BDRM				*e*S		**Sn**	**02 53 28.9**	**-0.6**
GVD	**Gavdhos**	**1.90**	**253**	*e*PB		**Pn**	**02 53 07.3**	**+0.4**
GVD	**Gavdhos**	**1.90**	**253**	*e*Pb		**Pn**	**02 53 07.3**	**+0.4**
MHLO	**Agia Marina, M**	**1.99**	**310**	P		**Pn**	**02 53 08.1**	**0.0**
MHLO	**Agia Marina, M**	**1.99**	**310**	*e*PB		**Pn**	**02 53 08.3**	**+0.2**
MHLO	**Agia Marina, M**	**1.99**	**310**	*e*Pb		**Pn**	**02 53 08.3**	**+0.2**
SMG	**Samos**	**2.32**	**11**	P		**Pn**	**02 53 11.5**	**-1.1**
SMG	**Samos**	**2.32**	**11**	*e*PN		**Pn**	**02 53 12.2**	**-0.4**
SMG	**Samos**	**2.32**	**11**	P		**Pn**	**02 53 11.5**	**-1.1**
SMG	**Samos**	**2.32**	**11**	*e*Pn		**Pn**	**02 53 12.2**	**-0.4**
YER	**Yerkesik**	**2.34**	**43**	*e*PN		**Pn**	**02 53 14.3**	**+1.3**
YER	**Yerkesik**	**2.34**	**43**	*e*Pn		**Pn**	**02 53 14.3**	**+1.3**
DALY	**Dalyan (Mu˘la**	**2.36**	**53**	*e*PN		**Pn**	**02 53 14.5**	**+1.4**
DALY	**Dalyan (Mu˘la**	**2.36**	**53**	*e*Pn		**Pn**	**02 53 14.5**	**+1.4**
TURN	**Turunc**	**2.36**	**52**	*e*Pn		Pn	02 53 09.0	-4.1
TURN				*e*Sn		Sn	02 53 32.6	-8.7
GCAM	**G?zelcaml?**	**2.39**	**18**	*e*Pn		**Pb**	**02 53 18.1**	**-0.4**
GCAM				*e*Sn		**Sb**	**02 53 48.1**	**+0.5**
ANKY	**Antikythira Is

THL	Klokotos Trika	5.36	322	ePN	Pn	02 53 55.2	+0.9
THL	Klokotos Trika	5.36	322	ePn	Pn	02 53 55.2	+0.9
LEF	Lefka	5.40	91	ePN	Pn	02 53 58.2	+3.2
LEF	Lefka	5.40	91	ePn	Pn	02 53 58.2	+3.2
PLG	Polygyros	5.43	336	ePN	Pn	02 53 56.4	+1.0
PLG	Polygyros	5.43	336	ePn	Pn	02 53 56.4	+1.0
ALN	Alexandroupoli	5.47	358	ePN	Pn	02 53 57.8	+1.9
ALN	Alexandroupoli	5.47	358	ePn	Pn	02 53 57.8	+1.9
KONT	Konya--Tatoy	5.48	61	ePN	Pn	02 53 58.8	+2.7
KONT	Konya--Tatoy	5.48	61	ePn	Pn	02 53 58.8	+2.7
LADK	Ladik-KONYA	5.60	59	ePN	Pn	02 54 00.5	+2.7
LADK	Ladik-KONYA	5.60	59	ePn	Pn	02 54 00.5	+2.7
KIZT	Kizilcal	5.64	51	ePN	Pn	02 54 00.1	+1.8
KIZT	Kizilcal	5.64	51	ePn	Pn	02 54 00.1	+1.8
HORT	Hortiatis	5.75	335	ePN	Pn	02 54 00.2	+0.4
HORT	Hortiatis	5.75	335	ePn	Pn	02 54 00.2	+0.4
CSS	Prodhromos	5.78	93	ePN	Pn	02 54 03.9	+3.8
SVRH	Sivrihisar-ESK	5.78	44	ePN	Pn	02 54 02.7	+2.5
SVRH	Sivrihisar-ESK	5.78	44	ePn	Pn	02 54 02.7	+2.5
GULT	Gulveren	6.01	32	ePN	Pn	02 54 05.3	+1.9
GULT	Gulveren	6.01	32	ePn	Pn	02 54 05.3	+1.9
JAN	Janina	6.05	316	ePN	Pn	02 54 05.5	+1.6
JAN	Janina	6.05	316	ePn	Pn	02 54 05.5	+1.6
SWA2		6.20	187	P	Pn	02 54 07.9	+1.9
	baz=186						
SWA2				S	Sn	02 55 14.1	-2.0
	baz=186						
SWA2		6.20	187	P	Pn	02 54 07.9	+1.9
NVR	Nevrokopi	6.22	343	ePN	Pn	02 54 06.3	+0.1
NVR	Nevrokopi	6.22	343	ePn	Pn	02 54 06.3	+0.1
RZN	Rozhen	6.38	349	eP	Pn	02 54 07.6	-0.9
RZN	Rozhen	6.38	349	eP	Pn	02 54 07.6	-0.9
SULT	Sultanhani-AKS	6.42	62	ePN	Pn	02 54 11.9	+2.9
SULT	Sultanhani-AKS	6.42	62	ePn	Pn	02 54 11.9	+2.9
MMB	Musomiste	6.48	343	eP	Pn	02 54 10.4	+0.6
MMB	Musomiste	6.48	343	eP	Pn	02 54 10.4	+0.6
AFSR	Af˙ar-Bala (A	6.72	51	ePN	Pn	02 54 15.6	+2.5
AFSR	Af˙ar-Bala (A	6.72	51	ePn	Pn	02 54 15.6	+2.5
HNAT	Natroun	6.83	147	P	Pn	02 54 15.9	+1.3
	baz=147						
HNAT	Natroun	6.83	147	P	Pn	02 54 15.9	+1.3
KKB	Krupnik	6.91	340	eP	Pn	02 54 16.5	+0.9
KKB	Krupnik	6.91	340	eP	Pn	02 54 16.5	+0.9
BRTR	Keskin Array B	7.24	51	Pn	Pn	02 54 21.6	+1.3
	0.3nm,0.3s,baz=220,slow=14,SNR=16						
BRTR				Sn	Sn	02 55 41.4	-0.3
	0.1nm,0.3s,baz=212,slow=22,SNR=4.0						
HHAG	Hagoal	7.32	137	S	Sn	02 55 38.8	-4.9
	baz=137						
GLL	Jalalah	7.41	140	P	Pn	02 54 23.7	+1.1
	baz=141						
GLL				S	Sn	02 55 41.4	-4.3
	baz=141						
GLL	Jalalah	7.41	140	P	Pn	02 54 23.7	+1.1
AWBH		7.42	162	P	Pn	02 54 24.2	+1.5
	baz=161						
AWBH				S	Sn	02 55 42.0	-4.0
	baz=161						
AWBH		7.42	162	P	Pn	02 54 24.2	+1.5
AMAG	Maghara	7.51	127	P	Pn	02 54 24.6	+0.7
	baz=129						
AMAG	Maghara	7.51	127	P	Pn	02 54 24.6	+0.7
VTS	Vitosha	7.55	342	eP	Pn	02 54 25.2	+0.6
VTS	Vitosha	7.55	342	ePn	Pn	02 54 24.7	+0.1
VTS	Vitosha	7.55	342	eP	Pn	02 54 25.2	+0.6
RSH		7.65	123	P	Pn	02 54 26.1	+0.2
	baz=125						
RSH		7.65	123	P	Pn	02 54 26.1	+0.2
SUZ		7.83	133	P	Pn	02 54 29.3	+0.9
	baz=134						
SUZ				S	Sn	02 55 51.0	-5.2
	baz=134						
SUZ		7.83	133	P	Pn	02 54 29.3	+0.9
MMAI	Mount Meron Ar	7.91	105	Pn	Pn	02 54 28.1	-1.5
	2.4nm,0.3s,baz=299,slow=12,SNR=14						
MMAI				Sn	Sn	02 55 57.4	-0.9
	6.4nm,0.3s,baz=316,slow=27,SNR=8.1						
MMAI				LR	LR	02 58 39.8	
	comp=Z,27nm,19.7s,baz=260,slow=46						
KOZT	Kozan	7.95	72	ePN	Pn	02 54 32.6	+2.7
KOZT	Kozan	7.95	72	ePn	Pn	02 54 32.6	+2.7
BARS	Barje	8.16	336	ePn	Pn	02 54 34.0	+1.2
HNKL	Nakhl	8.48	128	P	Pn	02 54 37.6	+0.3
	baz=129						
HNKL				AMP		02 56 00.0	
	comp=N,30µm,0.9s,logA/T=4.5,baz=129						
HNKL	Nakhl	8.48	128	P	Pn	02 54 37.6	+0.3
GRB	Gharib	9.01	140	P	Pn	02 54 45.4	+0.8
	baz=141						
GRB	Gharib	9.01	140	P	Pn	02 54 45.4	+0.8
EIL	Elat	9.28	126	Pn	Pn	02 54 48.0	-0.2
	comp=N,0.7nm,0.3s,baz=284,slow=2.6,SNR=16						
EIL				Sn	Sn	02 56 28.9	-3.0
	comp=N,2.1nm,0.3s,baz=323,slow=19,SNR=6.7						
ASF	Jabal al Asfar	9.40	107	Pn	Pn	02 54 49.5	-0.4
	comp=N,0.4nm,0.3s,baz=86,slow=0.6,SNR=5.4						
TR2		9.43	136	P	Pn	02 54 50.8	+0.4
	baz=137						
TR2		9.43	136	P	Pn	02 54 50.8	+0.4
STON	Ston	9.99	321	ePn	Pn	02 54 56.9	-1.0
STON				Sn	Sn	02 56 43.8	-5.3
STON	Ston	9.99	321	ePn	Pn	02 54 56.8	-1.0
MLR	Muntele Rosu	10.06	359	LR	LR	02 59 07.1	
	comp=N,13nm,20.3s,baz=212,slow=39						
UDBI	Udbina	12.15	322	*i* Pn	Pn	02 55 27.6	0.0
UDBI	Udbina	12.15	322	*i* Pn	Pn	02 55 27.5	0.0
STHS	Stebnicka Huta	14.47	347	ePn	Pn	02 56 01.4	+2.3
STHS	Stebnicka Huta	14.47	347	ePN	Pn	02 56 01.4	+2.3
KBZ	Khabaz	15.23	52	Pn	P	02 56 14.4	+0.4
	comp=N,0.1nm,0.3s,baz=243,slow=10,SNR=5.6						
AKASG	Malin Array Be	15.42	7	Pn	Pn	02 56 11.8	+0.1
	comp=N,0.7nm,0.3s,baz=199,slow=11,SNR=4.6						
VRAC	Vranov	15.60	336	LR	LR	03 03 28.1	
	comp=N,37nm,19.2s,baz=263,slow=42						
GERES	GERESS Array B	16.31	329	Pn	Pn	02 56 24.5	+1.1
	comp=N,0.1nm,0.3s,baz=197,slow=34,SNR=2.5						
ESDC	Sonseca Array	24.30	289	P	P	02 57 51.7	+0.2
	comp=N,0.4nm,0.5s,baz=75,slow=9.4,SNR=4.5						
GEYT	Ailbeck	25.58	75	P	P	02 58 03.6	+0.6
	comp=N,0.8nm,0.3s,baz=302,slow=46,SNR=2.6						
FINES	FINESS Array B	26.04	360	P	P	02 58 06.7	-0.2
	comp=N,0.9nm,0.7s,baz=164,slow=16,SNR=4.2						
NOA	NORSAR Array B	27.39	344	LR	LR	03 10 01.7	
	comp=N,17nm,20.4s,baz=90,slow=38						
EKA	Eskdalemuir Ar	28.37	324	P	P	02 58 29.3	+1.4
	comp=N,0.2nm,0.3s,baz=114,slow=9.0,SNR=5.6						
TORD	Torodi Ar. Bea	31.38	231	P	P	02 58 54.2	-0.6
	comp=N,1.1nm,0.6s,baz=32,slow=8.6,SNR=16						
ZALV	Zalesovo Beam	44.15	46	P	P	03 00 42.1	-0.2
	comp=N,0.5nm,0.3s,baz=281,slow=10,SNR=5.6						
SONM	Songino Array	58.60	51	P	P	03 02 30.9	+0.2
	comp=N,0.2nm,0.6s,baz=257,slow=5.8,SNR=2.4						
YKA	Yellowknife Ar	77.48	343	P	P	03 04 28.0	-0.8
	comp=N,0.3nm,0.7s,baz=30,slow=5.3,SNR=4.7						
PETK	Petropavlovsk-	82.26	27	P	P	03 04 56.0	+1.1
	comp=N,1.1nm,0.3s,baz=213,slow=5.9,SNR=4.5						

WEL 26 02:59:27.9±0.6, 36°99S×177°10E, h166km±4km, ML4.0/15, 8C-2D, Error ellipse: s-maj=4.7km s-min=4.1km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	Te Kaha	0.94	144	↑PN	Pn	02 59 53.7	+0.1
HAZ				SN	Sn	03 00 12.9	-0.6
MXZ	Matakaoa Point	1.12	121	↑PN	Pn	02 59 55.1	0.0
MXZ				SN	Sn	03 00 16.0	0.0
MXZ				AML	AML	03 00 16.7	
URZ	Urewera	1.26	179	PN	Pn	02 59 56.3	0.0
URZ				AML	AML	03 00 19.6	
URZ				AML	AML	03 00 20.3	
TARZ	Mount Tarawera	1.32	201	PN	Pn	02 59 58.2	+1.2
WMGZ	Waiomatatini S	1.33	128	↑PN	Pn	02 59 57.1	+0.1
WMGZ				SN	Sn	03 00 19.6	+0.1
TWGZ	Tauwhareparae	1.37	149	↑PN	Pn	02 59 57.9	+0.5
MWZ	Matawai	1.38	166	PN	Pn	02 59 57.4	-0.1
MWZ				AML	AML	03 00 21.2	
MWZ				AML	AML	03 00 21.2	
MWZ				AML	AML	03 00 22.1	
MWZ				AML	AML	03 00 22.2	
PUZ	Puketiti	1.42	140	↑PN	Pn	02 59 57.7	-0.2
PUZ				AML	AML	03 00 20.2	
PUZ				AML	AML	03 00 21.5	
RAGZ	Rawiri	1.52	170	PN	Pn	02 59 58.8	-0.1
TKGZ	Te Karaka	1.56	158	PN	Pn	02 59 59.1	-0.1
ALRZ	Allen Road	1.68	201	PN	Pn	03 00 01.0	+0.6
CNGZ	Carnagh Statio	1.73	150	PN	Pn	03 00 01.1	+0.1
RIGZ	Rimuhau	1.79	163	PN	Pn	03 00 01.4	-0.2
SNGZ	Shannon Statio	1.79	174	PN	Pn	03 00 01.3	-0.4
RAHZ	Arahi	1.92	180	PN	Pn	03 00 02.9	-0.2
KNZ	Kokohu	2.08	167	⇓PN	Pn	03 00 03.9	-0.8
WHHZ	Waihua	2.08	177	PN	Pn	03 00 04.4	-0.4
NMHZ	Naumai	2.11	186	PN	Pn	03 00 05.2	-0.1
BKZ	Black Stump Fm	2.22	192	PN	Pn	03 00 05.4	-1.1
BKZ				AML	AML	03 00 38.7	
BKZ				AML	AML	03 00 39.9	
MCHZ	McNeill Hill	2.47	187	PN	Pn	03 00 08.5	-0.8
NGZ	Ngauruhoe	2.48	208	PN	Pn	03 00 08.8	+0.1
KWHZ	Kaweka Forest	2.48	192	⇑PN	Pn	03 00 08.6	-1.0
WPVZ	Whakapapa	2.52	208	PN	Pn	03 00 10.1	-0.1
TUVZ	Tukino	2.54	206	PN	Pn	03 00 09.7	-0.7
FWVZ	Far West T-bar	2.57	208	PN	Pn	03 00 10.2	-0.6
WHVZ	Whangaehu Hut	2.58	207	PN	Pn	03 00 10.2	-0.7
WNVZ	Wahianoa	2.61	206	PN	Pn	03 00 10.4	-0.9
BHHZ	Black Hill Sta	2.62	198	PN	Pn	03 00 09.7	-1.5
MOVZ	Moawhango	2.63	203	PN	Pn	03 00 10.0	-1.4
KRHZ	Kereru	2.71	192	PN	Pn	03 00 10.7	-1.5
PNHZ	Pukenui	3.00	193	PN	Pn	03 00 13.7	-2.1
PXZ	Pawanui	3.04	183	PN	Pn	03 00 14.1	-2.1
PXZ				AML	AML	03 00 52.9	
PXZ				AML	AML	03 00 52.9	
PXZ				AML	AML	03 00 55.1	
PXZ				AML	AML	03 01 40.4	
TSZ	Takapari Road	3.19	196	⇑PN	Pn	03 00 15.9	-2.3
TSZ				AML	AML	03 00 55.4	
TSZ				AML	AML	03 00 56.0	
WAZ	Wanganui	3.22	210	PN	Pn	03 00 17.3	-1.3
DVHZ	Dannevirke	3.38	192	PN	Pn	03 00 17.8	-2.8
ANWZ	Angora Road	3.50	188	PN	Pn	03 00 19.5	-2.6
POWZ	Post Office Ro	3.55	197	PN	Pn	03 00 19.9	-2.8
PRWZ	Pori Road	3.66	194	PN	Pn	03 00 21.5	-2.7
BFZ	Birch Farm	3.74	190	PN	Pn	03 00 21.9	-3.2
MRZ	Mangatainoka R	3.85	197	⇓PN	Pn	03 00 23.2	-3.3
MRZ				AML	AML	03 01 08.8	
MRZ				AML	AML	03 01 09.0	
TIWZ	Tintock	3.90	194	PN	Pn	03 00 24.0	-3.2
TIWZ				AML	AML	03 01 10.4	
TIWZ				AML	AML	03 01 12.2	
HOWZ	Holdsworth Sta	4.09	197	PN	Pn	03 00 25.8	-3.8
OGWZ	Otaki Gorge	4.10	201	⇑PN	Pn	03 00 26.4	-3.4
KIW	Kapiti Island	4.22	203	PN	Pn	03 00 27.7	-3.7
KIW				AML	AML	03 01 17.8	
KIW				AML	AML	03 01 18.6	
MTW	Mount Morrison	4.34	196	PN	Pn	03 00 28.6	-4.3
CAW	Cannon Point	4.40	200	PN	Pn	03 00 29.6	-4.1
CAW				AML	AML	03 01 21.0	
CAW				AML	AML	03 01 23.3	
TRWZ	Traveller	4.53	194	PN	Pn	03 00 31.2	-4.2
TRWZ				AML	AML	03 01 23.5	
DUWZ	D'Urville Isla	4.54	212	PN	Pn	03 00 31.9	-3.6
MSWZ	Moikau Station	4.64	197	PN	Pn	03 00 32.3	-4.6
MSWZ				AML	AML	03 01 39.3	
MSWZ				AML	AML	03 01 51.9	
WEL	Wellington	4.65	202	PN	Pn	03 00 32.7	-4.2
TCW	Tory Channel	4.75	207	PN	Pn	03 00 34.0	-4.2
TCW				AML	AML	03 01 29.9	
TCW				AML	AML	03 01 31.5	
PLWZ	Palliser	4.79	197	PN	Pn	03 00 33.9	-4.9
TUWZ	Tuamarina	5.06	208	PN	Pn	03 00 37.8	-4.5
TUWZ				AML	AML	03 01 36.4	
TUWZ				AML	AML	03 01 37.4	
NNZ	Nelson	5.11	213	PN	Pn	03 00 38.8	-4.1
QRZ	Quartz Range	5.23	222	PN	Pn	03 00 40.2	-4.3
BSWZ	Blackbirch Sta	5.33	207	PN	Pn	03 00 41.7	-4.2
THZ	Tophouse	5.76	213	PN	Pn	03 00 47.8	-3.8
LTZ	Lake Taylor	6.87	211	PN	Pn	03 01 00.9	-5.3
OXZ	Oxford	7.41	210	PN	Pn	03 01 07.2	-6.2
MQZ	McQueen's Vall	7.51	205	PN	Pn	03 01 08.0	-6.6

*ISCJB **26** 03:16:17.6±0.6, 37°.47N±0°.05×35°.54E±0°.04, h10km±6km, Error ellipse: s-maj=7.6km s-min=5.3km az=2.1*
*CSEM **26** 03:16:17.7±0.2, 37°.50N×35°.56E, h12km, MD2.7, Error ellipse: s-maj=4.8km s-min=3.9km az=175.0*
*DDA **26** 03:16:17.7, 37°.56N×35°.56E, h7km, MD2.8*
*ISK **26** 03:16:17.3, 37°.51N×35°.59E, h18km, MD2.7*
ISC 26 03:16:17.9±0.9, 37°.50N±0°.03×35°.57E±0°.03, h15km±8km, n21, σ0°35/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	Kozan	0.20	95	ePG	Pg	03 16 22.3	-0.3
KOZT				eSG	Sg	03 16 26.0	+0.3
KOZT	Kozan	0.20	95	ePg	Pg	03 16 22.3	-0.3
KOZT				eSg	Sg	03 16 26.0	+0.3
KARA	Karaisali	0.48	240	ePG	Pg	03 16 27.3	-0.1
KARA	Karaisali	0.48	240	ePg	Pg	03 16 27.3	-0.1
CEYT	Ceyhan	0.51	164	ePG	Pb	03 16 28.7	+0.2
CEYT	Ceyhan	0.51	164	ePg	Pb	03 16 28.7	+0.2
ANDN	Andirin	0.62	82	*i* P	Pg	03 16 29.8	-0.3
ANDN				*i* S	Sb	03 16 39.5	+0.5
ANDN	Andirin	0.62	82	*i* P	Pg	03 16 29.8	-0.3
ANDN				*i* S	Sb	03 16 39.5	+0.5
NIG	Nigde	0.98	309	ePG	Pb	03 16 36.7	0.0
NIG	Nigde	0.98	309	ePg	Pb	03 16 36.7	0.0
MERS	Mersin	1.05	233	ePG	Pb	03 16 37.6	-0.2
MERS	Mersin	1.05	233	ePg	Pb	03 16 37.6	-0.2
KMRS	Kahramanmaras	1.05	89	ePG	Pb	03 16 37.6	-0.2
KMRS	Kahramanmaras	1.05	89	ePg	Pb	03 16 37.6	-0.2
HCB	Kahramanmara˙	1.07	98	eP	Pb	03 16 38.2	0.0
HCB				eS	Sg	03 16 52.7	+0.1
TAHT	Tahtakopru-Hat	1.22	156	ePN	Pn	03 16 40.0	-0.4
TAHT	Tahtakopru-Hat	1.22	156	ePn	Pn	03 16 40.0	-0.4
PINB	Pinarbasi	1.35	29	eP	Pn	03 16 42.2	-0.2
PINB				eS	Sg	03 17 02.1	+0.7
PINB	Pinarbasi	1.35	29	eP	Pn	03 16 42.2	-0.2
PINB				eS	Sg	03 17 02.1	+0.7
AVNT	Avonos	1.40	336	eP	Pb	03 16 43.4	-0.4
AVNT				eS	Sb	03 17 01.9	+0.4
AVNT	Avonos	1.40	336	eP	Pb	03 16 43.4	-0.4
AVNT				eS	Sb	03 17 01.9	+0.4

*IDC **26** 03:17:03.1±1.6, 35°.18N×26°.54E, h0km, mb3.4/2, mb1 3.2/4, mb1mx3.1/40, mbtmp3.2/4, ML3.3/2, Error ellipse: s-maj=71.6km s-min=23.6km az=135.0*
*ATH **26** 03:17:04.8, 35°.50N×26°.29E, h26km±1km, MD3.4/17, ML3.3*
*ISCJB **26** 03:17:05.0±0.6, 35°.54N±0°.02×26°.31E±0°.02, h11km±4km, mb3.4/2, Error ellipse: s-maj=3.9km s-min=2.9km az=165.7*
*CSEM **26** 03:17:05.7±0.1, 35°.53N×26°.30E, h8km, MD3.4, Error ellipse: s-maj=3.5km s-min=2.6km az=159.0*
*THE **26** 03:17:05.6, 35°.51N×26°.32E, h6km±2km, ML3.3/4, Error ellipse: s-maj=2.5km s-min=0.8km az=165.0*
*ISK **26** 03:17:11.0, 35°.98N×26°.36E, h22km, ML3.2*
ISC 26 03:17:05.7±1.0, 35°.53N±0°.02×26°.29E±0°.02, h11km±8km, n152, σ0°89/175, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	Zakros	0.42	188	P	Pg	03 17 12.9	-1.1
ZKR				S	Sg	03 17 20.0	+0.4
ZKR	Zakros	0.42	188	ePB	Pg	03 17 13.4	-0.6
ZKR	Zakros	0.42	188	P	Pg	03 17 12.9	-1.1
ZKR	Zakros	0.42	188	ePb	Pg	03 17 13.4	-0.6
ZKR				S	Sg	03 17 20.0	+0.4
NPS	Neapolis	0.61	244	P	Pg	03 17 17.8	+0.2
NPS				S	Sb	03 17 27.3	+0.2
NPS	Neapolis	0.61	244	ePN	Pg	03 17 17.8	+0.2
NPS				eSN	Sg	03 17 25.0	-0.7
NPS	Neapolis	0.61	244	P	Pg	03 17 17.8	+0.2
NPS				eSn	Sg	03 17 25.0	-0.7
NPS				S	Sb	03 17 27.3	+0.2
KARP	Karpathos	0.71	89	P	Pg	03 17 18.8	-0.7
KARP				S	Sg	03 17 29.1	+0.2
KARP	Karpathos	0.71	89	ePN	Pg	03 17 18.9	-0.6
KARP				eSN	Sg	03 17 29.2	+0.3
KARP	Karpathos	0.71	89	P	Pg	03 17 18.8	-0.7
KARP				S	Sg	03 17 29.1	+0.2
LAST	Lasithi	0.76	241	P	Pg	03 17 20.2	-0.2
LAST				S	Sb	03 17 32.0	+0.7
LAST	Lasithi	0.76	241	ePN	Pg	03 17 20.4	0.0
LAST				eSN	Sg	03 17 30.4	+0.1
LAST	Lasithi	0.76	241	P	Pg	03 17 20.2	-0.2
LAST				eSn	Sg	03 17 30.4	+0.1
LAST				S	Sb	03 17 32.0	+0.7
SANT	Santorini	1.07	322	P	Pg	03 17 26.1	-0.3
SANT				S	Sn	03 17 41.4	-0.3
SANT	Santorini	1.07	322	ePN	Pg	03 17 25.6	-0.8
SANT	Santorini	1.07	322	ePn	Pg	03 17 25.6	-0.8
SANT	Santorini	1.07	322	P	Pg	03 17 26.1	-0.3
SANT				S	Sn	03 17 41.4	-0.3
THR1	Thera Island	1.07	321	ePG	Pn	03 17 27.8	+1.1
THR1	Thera Island	1.07	321	ePg	Pn	03 17 27.8	+1.1
THR6	Thira Island,	1.09	319	P	Pb	03 17 26.6	-0.1
THR6	Thira Island,	1.09	319	P	Pb	03 17 26.6	-0.1
THR3	Thira Island,	1.13	321	P	Pb	03 17 26.9	-0.4
THR3	Thira Island,	1.13	321	P	Pb	03 17 26.9	-0.4
THR2	Thira island,	1.15	323	P	Pb	03 17 27.2	-0.3
THR2	Thira island,	1.15	323	P	Pb	03 17 27.2	-0.3
THR5	Thira Island,	1.17	320	ePG	Pg	03 17 28.9	+0.8
THR5				eSG	Sb	03 17 42.4	-0.6
THR5	Thira Island,	1.17	320	ePg	Pg	03 17 28.9	+0.8
THR5				eSg	Sb	03 17 42.4	-0.6
NISR	Nisiros	1.27	32	ePN	Pg	03 17 30.1	-0.1
NISR	Nisiros	1.27	32	ePn	Pg	03 17 30.1	-0.1
NIS1	Nisyros Isl.	1.29	34	ePG	Pn	03 17 29.0	-0.7
NIS1	Nisyros Isl.	1.29	34	ePN	Pn	03 17 29.2	-0.5
NIS1	Nisyros Isl.	1.29	34	ePn	Pn	03 17 29.2	-0.5
SIVA	Sivas	1.31	247	P	Pb	03 17 30.6	+0.2
SIVA				S	Sg	03 17 48.2	+0.2
SIVA	Sivas	1.31	247	ePN	Pb	03 17 30.3	-0.1
SIVA	Sivas	1.31	247	ePn	Pb	03 17 30.3	-0.1
SIVA	Sivas	1.31	247	P	Pb	03 17 30.6	+0.2
SIVA				S	Sg	03 17 48.2	+0.2
ARG	Arkhangelos	1.64	65	P	Pn	03 17 34.3	-0.2
ARG				S	Sn	03 17 54.3	-1.3
ARG	Arkhangelos	1.64	65	ePN	Pn	03 17 34.1	-0.4
ARG	Arkhangelos	1.64	65	P	Pn	03 17 34.3	-0.2
ARG				S	Sn	03 17 54.3	-1.3
APE	Apeiranthos	1.65	339	ePN	Pn	03 17 34.2	-0.5
APE	Apeiranthos	1.65	339	P	Pn	03 17 34.0	-0.8
APE				S	Sn	03 17 56.4	+0.4
APE	Apeiranthos	1.65	339	ePB	Pn	03 17 33.9	-0.8
APE	Apeiranthos	1.65	339	ePn	Pn	03 17 34.2	-0.5
APE				S	Sn	03 17 56.4	+0.4
VAM	Vamos	1.71	266	ePN	Pn	03 17 35.6	+0.2
VAM	Vamos	1.71	266	ePn	Pn	03 17 35.6	+0.2
BODT	Bodrum	1.74	28	ePN	Pn	03 17 34.6	-1.2
BODT	Bodrum	1.74	28	ePn	Pn	03 17 34.7	-1.2
MHLO	Agia Marina, M	1.91	308	ePN	Pn	03 17 38.3	0.0
MHLO	Agia Marina, M	1.91	308	ePn	Pn	03 17 38.3	0.0
GVD	Gavdhos	1.93	250	ePB	Pn	03 17 37.2	-1.3
GVD	Gavdhos	1.93	250	ePb	Pn	03 17 37.2	-1.3
SMG	Samos	2.22	11	P	Pn	03 17 41.7	-0.8
SMG	Samos	2.22	11	ePN	Pn	03 17 42.1	-0.4
SMG	Samos	2.22	11	P	Pn	03 17 41.7	-0.8
SMG	Samos	2.22	11	ePn	Pn	03 17 42.1	-0.4
YER	Yerkesik	2.27	45	ePN	Pn	03 17 43.4	+0.2
YER	Yerkesik	2.27	45	ePn	Pn	03 17 43.4	+0.2
DALY	Dalyan (Mu˙la	2.31	55	ePN	Pn	03 17 44.6	+1.0
DALY	Dalyan (Mu˙la	2.31	55	ePn	Pn	03 17 44.6	+1.0
ANKY	Antikythira Is	2.45	279	ePN	Pn	03 17 45.1	-0.6
ANKY	Antikythira Is	2.45	279	ePn	Pn	03 17 45.1	-0.6
AYDB	Zeytinkoy-Aydi	2.73	28	ePN	Pn	03 17 49.3	-0.3
AYDB	Zeytinkoy-Aydi	2.73	28	ePn	Pn	03 17 49.3	-0.3
KYTH	Kithira	2.74	287	ePN	Pn	03 17 49.3	-0.4
KYTH	Kithira	2.74	287	ePn	Pn	03 17 49.3	-0.4
CHOS	Chios island	2.86	356	ePN	Pn	03 17 50.1	-1.2
CHOS	Chios island	2.86	356	ePN	Pn	03 17 51.2	-0.1
CHOS	Chios island	2.86	356	ePn	Pn	03 17 51.2	-0.1
VLI	Veliai	2.96	295	P	Pn	03 17 52.8	+0.2
VLI				S	Sn	03 18 27.1	-1.0
VLI	Veliai	2.96	295	ePN	Pn	03 17 52.8	+0.2
VLI	Veliai	2.96	295	P	Pn	03 17 52.8	+0.2
VLI				S	Sn	03 18 27.1	-1.0
IZM	Izmir	2.96	15	ePN	Pn	03 17 51.

KURBB	**Kurchatov Arra**	**40.17**	**51**	P		**P**	**03 24 41.6**	**-0.1**	
	0.5nm,0.5s,baz=278,slow=8.3,SNR=6.4								

*IDC **26** 03:20:55.3±1.1,51°56N×179°53E,h0km,mb3.6/7, mb1 4.0/7,mb1mx3.6/46,mbtmp3.6/7,Error ellipse: s-maj=42.1km s-min=21.8km az=160.0*
*ISCJB **26** 03:21:07.6±0.6,51°5N±0°1×179°44E±0°06,h150km, mb3.5/8,Error ellipse: s-maj=18.0km s-min=5.5km az=3.3*
*NEIC **26** 03:21:10.4,51°82N×179°61E,h122km,MG3.2(AEIC), After AEIC.*

ISC 26 03:21:10.9±0.8,51°7N±0°1×179°54E±0°05,h150km,n40, σ2§49/39,mb3.5/8,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESW	**Semis' Southwe**	**0.21**	**4**	P	Pn	03 21 27.5	-3.6
CERAA	**Semis' Rag'd T**	**0.23**	**23**	P	Pn	03 21 27.7	-3.5
CERB	**Semis' Cerberu**	**0.24**	**13**	P	**Pn**	**03 21 28.4**	**-2.8**
CERB				S	**Sn**	**03 21 41.0**	**-5.8**
CEAP	**Semis' Anvil P**	**0.31**	**5**	P	Pn	03 21 28.0	-3.4
AMKA	**Amchitka**	**0.35**	**205**	P	**Pn**	**03 21 29.2**	**-2.3**
AMKA				S	**Sn**	**03 21 43.1**	**-4.2**
LSPA	**Little Sitkin**	**0.65**	**294**	P	**Pn**	**03 21 30.4**	**-2.6**
LSSA	**Little Sitkin**	**0.69**	**292**	P	**Pn**	**03 21 30.6**	**-2.7**
LSNW	**Little Sitkin**	**0.69**	**294**	P	**Pn**	**03 21 30.4**	**-2.9**
GALAA	**Gareloi Lava P**	**1.05**	**86**	P	**Pn**	**03 21 33.9**	**-2.2**
GANE	**Gareloi Northe**	**1.05**	**83**	P	**Pn**	**03 21 33.5**	**-2.5**
GAEA	**Gareloi East**	**1.07**	**85**	P	**Pn**	**03 21 33.7**	**-2.5**
TANO	**Tanaga North**	**1.47**	**80**	P	**Pn**	**03 21 38.0**	**-2.1**
TASE	**Tanaga Southea**	**1.51**	**84**	P	**Pn**	**03 21 38.4**	**-2.1**
TAFP	**Tanaga Falls P**	**1.55**	**81**	P	**Pn**	**03 21 38.6**	**-2.4**
TAFP				S	**Sn**	**03 21 59.2**	**-4.8**
KICM	**Kanaga Island**	**2.04**	**82**	P	**Pn**	**03 21 44.6**	**-1.8**
KIKV	**Kanaga Island**	**2.05**	**84**	P	**Pn**	**03 21 44.8**	**-1.8**
KIRH	**Kanaga Island**	**2.10**	**83**	P	**Pn**	**03 21 45.3**	**-1.8**
ADK	**Adak**	**2.35**	**84**	P	**Pn**	**03 21 48.0**	**-2.1**
ADK				S	**Sn**	**03 22 16.6**	**-3.7**
ADAG	**Mount Adagdak**	**2.41**	**82**	P	**Pn**	**03 21 49.1**	**-1.8**
GSCK	**Great Sitkin C**	**2.69**	**82**	P	**Pn**	**03 21 52.5**	**-1.7**
GSMY	**Great Sitkin M**	**2.75**	**81**	P	**Pn**	**03 21 53.8**	**-1.2**
GSTR	**Great Sitkin T**	**2.76**	**80**	*e*Pn	**Pn**	**03 21 53.1**	**-2.0**
SMY	**Shemya**	**3.50**	**289**	P	**Pn**	**03 22 03.3**	**-1.2**
SMY				S	**Sn**	**03 22 44.3**	**-1.8**
ATKA	**Atka Island**	**3.91**	**80**	P	**Pn**	**03 22 08.6**	**-1.2**
NIKH	**Nikolski High**	**7.23**	**75**	P	**Pn**	**03 22 54.3**	**+0.5**
SPIA	**Saint Paul Isl**	**8.10**	**43**	P	**Pn**	**03 23 05.8**	**+0.5**
MREP	**Makushin Rep't**	**8.59**	**70**	P	**Pn**	**03 23 13.5**	**+1.5**
UNV	**Unalaska Valle**	**8.73**	**70**	P	**Pn**	**03 23 15.5**	**+1.7**
TRF	**Thorofare Moun**	**19.78**	**42**	*e*Pn	**Pn**	**03 25 30.1**	**-2.2**
	3.0nm,0.6s						
ILAR	**Eielson Array**	**21.66**	**40**	P	**P**	**03 25 47.5**	**-1.6**
	0.5nm,0.6s,baz=238,slow=8.6,SNR=11						
EGAK	**Eagle**	**24.00**	**42**	*e*P	**P**	**03 26 12.0**	**+0.8**
	9.6nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**33.41**	**202**	T	T	04 03 16.8	
	baz=16,slow=76,SNR=4.4						
H11N3	**WAKE ISLAND Hy**	**33.42**	**202**	T	T	04 03 43.6	
	baz=16,slow=76,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**33.43**	**202**	T	T	04 03 45.1	
	baz=16,slow=76,SNR=3.8						
YKA	**Yellowknife Ar**	**35.77**	**46**	P	**P**	**03 27 56.3**	**+1.5**
	0.6nm,0.6s,baz=279,slow=8.0,SNR=9.3						
NVAR	**Mina Array Bea**	**44.54**	**82**	P	**P**	**03 29 09.6**	**+1.9**
	0.6nm,0.6s,baz=297,slow=7.0,SNR=4.2						
SONM	**Songino Array**	**45.57**	**295**	P	**P**	**03 29 17.5**	**+1.9**
	0.7nm,0.6s,baz=66,slow=8.6,SNR=5.2						
PDAR	**Pinedale Array**	**47.20**	**72**	P	**P**	**03 29 30.1**	**+1.7**
	0.9nm,0.5s,baz=342,slow=4.3,SNR=8.7						
TXAR	**Lajitas Array**	**59.63**	**80**	P	**P**	**03 31 01.1**	**+2.0**
	0.2nm,0.3s,baz=314,slow=6.3,SNR=9.1						
WRA	**Warramunga Arr**	**81.53**	**222**	P	**P**	**03 33 13.7**	**+2.3**
	0.3nm,0.6s,baz=31,slow=5.9,SNR=5.4						

*ISCJB **26** 03:38:20.4±0.3,51°51N±0°02×16°11E±0°03,h0km, mb3.1/2,MS3.2/1,Error ellipse: s-maj=2.5km s-min=2.3km az=146.9*
*CSEM **26** 03:38:22.5±0.2,51°49N×16°06E,h2km,ML3.3/9,Error ellipse: s-maj=3.6km s-min=2.9km az=88.0*
*IDC **26** 03:38:23.7±0.7,51°48N×15°91E,h0km,mb3.2/2, mb1 3.4/9,mb1mx3.2/44,mbtmp3.3/9,ML3.0/7,MS3.1/1, Ms1 3.1/1,ms1mx1.9/30,Error ellipse: s-maj=14.7km s-min=7.0km az=108.0*
*PRU **26** 03:38:24.8,51°42N×16°08E,h0km*
*VIE **26** 03:38:25.3±1.1,51°30N×16°09E,h0km,mb2.5/4,ML2.9/4, Error ellipse: s-maj=9.2km s-min=7.6km az=85.0 68 km WNW of Wroclaw Suspected Mining induced.*
*UPP **26** 03:38:28.6,51°84N×15°63E,h0km,ML2.1,Suspected Mining explosion.*

ISC 26 03:38:22.0±0.6,51°54N±0°03×16°09E±0°02,h0km,n76, σ1§14/120,4C-3D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**170**	*i* Pg	**Pg**	**03 38 35.8**	**+0.2**
KSP				*e*Sg	**Sg**	**03 38 44.9**	**+0.2**
UPC	**Upice**	**1.03**	**183**	*e*PG	**Pg**	**03 38 41.9**	**+0.1**
UPC	**Upice**	**1.03**	**183**	Pg	**Pg**	**03 38 41.9**	**+0.1**
DPC	**Dobruska-Polom**	**1.20**	**173**	*e*PG	**Pg**	**03 38 44.7**	**-0.3**
DPC				*e*SG	**Sg**	**03 38 59.5**	**-1.0**
	comp=Z,43nm,0.3s						
DPC	**Dobruska-Polom**	**1.20**	**173**	Pg	**Pg**	**03 38 44.7**	**-0.3**
DPC				Sg	**Sg**	**03 38 59.5**	**-1.0**
	43nm,0.3s						
PVCC	**Panska Ves**	**1.39**	**224**	*e*PG	**Pn**	**03 38 48.8**	**+0.1**
PVCC				*e*SG	**Sb**	**03 39 07.5**	**+0.2**
	comp=Z,176nm,0.4s						
PVCC	**Panska Ves**	**1.39**	**224**	Pg	**Pn**	**03 38 48.8**	**+0.1**
PVCC				Sg	**Sb**	**03 39 07.5**	**+0.2**
	176nm,0.4s						
BRG	**Berggiesshubel**	**1.51**	**245**	PN	**Pn**	**03 38 50.1**	**-0.2**
BRG				PG	**Pg**	**03 38 51.5**	**+0.6**
BRG				SG	**Sn**	**03 39 11.3**	**+0.7**
	66nm,0.4s						
BRG	**Berggiesshubel**	**1.51**	**245**	PG	Pg	03 38 56.7	+5.8
BRG				SG	**Sn**	**03 39 16.1**	**+5.5**
	63nm,0.4s						
KRLC	**Kraliky**	**1.53**	**163**	*e*PG	**Pn**	**03 38 50.3**	**-0.3**
KRLC				*e*SG	**Sg**	**03 39 09.3**	**-1.8**
KRLC	**Kraliky**	**1.53**	**163**	Pg	**Pn**	**03 38 50.3**	**-0.3**
KRLC				Sg	**Sg**	**03 39 09.3**	**-1.8**
PRA	**Prague**	**1.81**	**216**	*e*PG	**Pn**	**03 38 54.3**	**-0.1**
PRA				*e*SG	**Sb**	**03 39 19.4**	**+0.3**
	comp=Z,25nm,0.5s						
PRA	**Prague**	**1.81**	**216**	Pg	**Pn**	**03 38 54.3**	**-0.1**
PRA				Sg	**Sb**	**03 39 19.4**	**+0.3**
	25nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.82**	**208**	*e*PN	**Pn**	**03 38 54.4**	**-0.3**
GOPC				*e*PG	**Pb**	**03 38 56.2**	**-0.1**
GOPC				*e*SG	**Sb**	**03 39 20.2**	**+0.5**
	comp=Z,18nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.82**	**208**	Pn	**Pn**	**03 38 54.4**	**-0.3**
GOPC	**GO Pecny, Ondr**	**1.82**	**208**	Pg	**Pb**	**03 38 56.2**	**-0.1**
GOPC				Sg	**Sb**	**03 39 20.2**	**+0.5**
	18nm,0.4s						
PRU	**Pruhonice**	**1.84**	**213**	*e*PN	**Pn**	**03 38 54.5**	**-0.3**
PRU				*e*PG	**Pb**	**03 38 56.3**	**-0.2**
PRU				*e*SG	**Sn**	**03 39 18.2**	**-0.6**
	comp=Z,10nm,0.6s						
PRU	**Pruhonice**	**1.84**	**213**	Pn	**Pn**	**03 38 54.5**	**-0.3**
CLL	**Collm**	**1.95**	**264**	*e*Pn	**Pn**	**03 38 56.0**	**-0.3**
CLL				*e*Pg	**Pb**	**03 38 59.0**	**+0.6**
CLL				*i*		03 39 01.8	
CLL				*i*		03 39 03.7	
CLL				*e*Sg	**Sg**	**03 39 25.0**	**+0.4**
	comp=Z,25nm,0.9s						
RAC	**Raciborz**	**1.97**	**137**	*e*Pg	**Pg**	**03 38 59.5**	**-0.4**
RAC				*e*Sg	**Sb**	**03 39 24.0**	**0.0**
MORC	**Moravsky Berou**	**1.99**	**152**	*e*Pn	**Pn**	**03 38 56.6**	**-0.4**
MORC				*e*Sg	**Sb**	**03 39 23.7**	**-0.8**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG	**Pb**	**03 39 02.1**	**+0.3**
OKC				*e*SG	**Sb**	**03 39 28.4**	**-0.5**
	comp=Z,40nm,0.5s						
OKC	**Ostrava-Krasne**	**2.15**	**142**	Pg	**Pb**	**03 39 02.1**	**+0.3**
OKC				Sg	**Sb**	**03 39 28.4**	**-0.5**
	comp=Z,40nm,0.5s						
VRAC	**Vranov**	**2.25**	**172**	Pn	**Pn**	**03 39 01.0**	**+0.4**
	comp=Z,2.4nm,0.3s,baz=338,slow=14,SNR=16						
VRAC				Lg	Lg	03 39 32.7	
	comp=Z,3.4nm,0.3s,baz=27,slow=9.3,SNR=5.0						

VRAC	**Vranov**	**2.25**	**172**	*e*Pn	**Pn**	**03 39 00.5**	**-0.1**		
VRAC				*e*Sg	**Sb**	**03 39 32.6**	**+0.6**		
TREC	**Trest**	**2.28**	**190**	*e*PG	**Pb**	**03 39 04.6**	**+0.6**		
TREC	**Trest**	**2.28**	**190**	Pg	**Pb**	**03 39 04.6**	**+0.6**		
NKC	**Novy Kostel**	**2.65**	**242**	*e*PN	**Pn**	**03 39 06.8**	**+0.7**		
NKC				*e*PG	**Pg**	**03 39 12.5**	**-0.3**		
NKC				*e*SG	**Sg**	**03 39 48.7**	**+1.5**		
	comp=Z,47nm,0.3s								
NKC	**Novy Kostel**	**2.65**	**242**	Pn	**Pn**	**03 39 06.8**	**+0.7**		
NKC	**Novy Kostel**	**2.65**	**242**	Pg	**Pg**	**03 39 12.5**	**-0.3**		
NKC				Sg	**Sg**	**03 39 48.7**	**+1.5**		
	comp=Z,47nm,0.3s								
OJC	**Ojcow**	**2.69**	**118**	*e*Pn	**Pn**	**03 39 06.7**	**+0.1**		
OJC				*e*Pg	**Pg**	**03 39 14.7**	**+1.1**		
OJC				*e*Sg	**Sg**	**03 39 49.9**	**+1.4**		
OJC	**Ojcow**	**2.69**	**118**	*e*Pn	**Pn**	**03 39 06.7**	**+0.1**		
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN	**Pn**	**03 39 10.2**	**+0.7**		
KHC				*e*PG	**Pb**	**03 39 15.4**	**+0.8**		
KHC				*e*SN	**Sn**	**03 39 44.6**	**-0.4**		
KHC				*e*SG	**Sg**	**03 39 54.2**	**-0.9**		
	comp=Z,13nm,0.5s								
KHC	**Kasperske Hory**	**2.90**	**215**	Pn	**Pn**	**03 39 10.2**	**+0.7**		
GERES	**GERESS Array B**	**3.10**	**211**	Pn	**Pn**	**03 39 12.4**	**+0.1**		
	comp=Z,1.3nm,0.3s,baz=26,slow=12,SNR=38								
GERES				Pg	**Pb**	**03 39 18.6**	**+0.5**		
	comp=Z,3.9nm,0.3s,baz=31,slow=16,SNR=54								
GERES				Lg	Lg	03 40 00.7			
	comp=Z,5.2nm,0.3s,baz=31,slow=30,SNR=6.3								
SMOL	**Smolenice**	**3.15**	**164**	*e*Pg	**Pg**	**03 39 23.7**	**+1.4**		
SMOL	**Smolenice**	**3.15**	**164**	*e*PG	**Pg**	**03 39 23.7**	**+1.4**		
NIE	**Niedzica**	**3.43**	**127**	*e*P	**Pg**	**03 39 26.9**	**-0.9**		
NIE				*e*S	**Sg**	**03 40 11.5**	**-0.7**		
CONA	**Conrad Observa**	**3.62**	**182**	⇓*e*Pn	**Pn**	**03 39 20.3**	**+0.9**		
	comp=Z,6.1nm,0.4s								
CONA				⇑Sg	**Sg**	**03 40 17.6**	**-0.5**		
	comp=Z,14nm,0.4s								
CONA	**Conrad Observa**	**3.62**	**182**	Pn	**Pn**	**03 39 20.3**	**+0.9**		
	comp=Z,6.1nm,0.4s								
CONA				Sg	**Sg**	**03 40 17.6**	**-0.5**		
	comp=Z,14nm,0.4s								
BSD	**Bornholm Skovb**	**3.65**	**349**	⇑*i*P	**Pn**	**03 39 20.0**	**+0.3**		
BSD				*i*		03 39 25.6			
BSD				*i* S	**Sn**	**03 40 02.9**	**-0.6**		
BSD				*e*		03 40 08.5			
BSD	**Bornholm Skovb**	**3.65**	**349**	⇑*i*P	**Pn**	**03 39 20.0**	**+0.3**		
BSD				*i* S	**Sn**	**03 40 02.9**	**-0.6**		
MOA	**Molln**	**3.88**	**199**	⇓*e*Pn	**Pn**	**03 39 23.8**	**+0.9**		
	comp=Z,4.9nm,0.4s								
MOA				⇑Sg	**Sg**	**03 40 25.6**	**-0.9**		
MOA	**Molln**	**3.88**	**199**	Pn	**Pn**	**03 39 23.8**	**+0.9**		
	comp=Z,4.9nm,0.4s								
MOA				Sg	**Sg**	**03 40 25.6**	**-0.9**		
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*Pn	**Pn**	**03 39 23.6**	**+0.2**		
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PN	**Pn**	**03 39 23.6**	**+0.2**		
STHS				*e*PG	**Pg**	**03 39 38.6**	**+1.5**		
STHS				*e*SG	**Sg**	**03 40 31.7**	**+3.9**		
KECS	**Kecovo**	**4.17**	**135**	*e*Pn	**Pn**	**03 39 24.3**	**-2.6**		
KECS	**Kecovo**	**4.17**	**135**	*e*PN	**Pn**	**03 39 24.3**	**-2.6**		
KECS				*e*PG	**Pg**	**03 39 43.4**	**+1.5**		
KECS				*e*SG	**Sg**	**03 40 34.9**	**-1.0**		
KOLS	**Kolonicke sedl**	**4.75**	**121**	*e*Pn	**Pn**	**03 39 35.2**	**+0.4**		
KOLS	**Kolonicke sedl**	**4.75**	**121**	*e*PN	**Pn**	**03 39 35.1**	**+0.3**		
KOLS				*e*PG	**Pg**	**03 39 54.7**	**+1.7**		
KOLS				*e*SG	**Sg**	**03 40 56.9**	**+2.5**		
VXJU	**Vaexsjoe**	**5.44**	**353**	P	**Pn**	**03 39 45.1**	**+0.8**		
VXJU	**Vaexsjoe**	**5.44**	**353**	P	**Pn**	**03 39 45.1**	**+0.8**		
VXJU				S	**Sn**	**03 40 44.0**	**-3.5**		
OSKU	**Oskarshamn**	**5.67**	**0**	P	**Pn**	**03 39 48.2**	**+0.8**		
OSKU	**Oskarshamn**	**5.67**	**0**	P	**Pn**	**03 39 48.2**	**+0.8**		
ASPU	**Aespoe**	**5.90**	**3**	P	**Pn**	**03 39 52.1**	**+1.5**		
ASPU	**Aespoe**	**5.90**	**3**	P	**Pn**	**03 39 52.1**	**+1.5**		
GNOU	**Gnosjoe**	**5.92**	**348**	P	**Pn**	**03 39 51.5**	**+0.5**		
GNOU	**Gnosjoe**	**5.92**	**348**	P	**Pn**	**03 39 51.5**	**+0.5**		
EKSU	**Eksjoe**	**6.07**	**356**	P	**Pn**	**03 39 54.0**	**+1.1**		
EKSU	**Eksjoe**	**6.07**	**356**	P	**Pn**	**03 39 54.0**	**+1.1**		
VSTU	**Vaestervik**	**6.14**	**2**	P	**Pn**	**03 39 55.3**	**+1.4**		
VSTU	**Vaestervik**	**6.14**	**2**	P	**Pn**	**03 39 55.4**	**+1.4**		
DAVOX	**Davos/Dischmat**	**6.26**	**223**	Pn	**Pn**	**03 39 56.0**	**+0.2**		
	comp=Z,0.3nm,0.3s,baz=73,slow=11,SNR=3.0								
LNKU	**Linkoeping**	**6.71**	**357**	P	**Pn**	**03 40 02.2**	**+0.5**		
LNKU	**Linkoeping**	**6.71**	**357**	P	**Pn**	**03 40 02.2**	**+0.5**		
VIKU	**Vikbolandet**	**6.99**	**3**	P	**Pn**	**03 40 06.5**	**+1.0**		
VIKU	**Vikbolandet**	**6.99**	**3**	P	**Pn**	**03 40 06.5**	**+1.0**		
BURAR	**Bucovina Array**	**7.11**	**120**	⇓*i*P	**Pn**	**03 40 07.0**	**-0.4**		
BURAR				S	Px	03 40 18.8			
AKASG	**Malin Array Be**	**8.31**	**91**	Pn	**Pn**	**03 40 24.1**	**+0.5**		
	comp=Z,0.5nm,0.3s,baz=286,slow=10,SNR=2.2								
HFS	**Hagfors**	**8.72**	**352**	Pn	**Pn**	**03 40 29.4**	**+0.1**		
	comp=Z,0.1nm,0.3s,baz=170,slow=18,SNR=4.8								
FINES	**FINESS Array B**	**11.34**	**25**	Pn	**Pn**	**03 41 03.5**	**-1.6**		
	comp=Z,0.2nm,0.3s,baz=206,slow=13,SNR=12								
FINES				Sn	Sn	03 43 06.0	-6.5		
	comp=Z,0.2nm,0.3s,baz=211,slow=22,SNR=3.9								
EKA	**Eskdalemuir Ar**	**12.08**	**296**	Pn	Pn	03 41 10.3	-5.1		
	baz=98,slow=13,SNR=2.6								
ARCES	**ARCESS Array B**	**18.60**	**10**	Pn	**P**	**03 42 37.9**	**-2.6**		
	comp=Z,0.3nm,0.3s,baz=192,slow=11,SNR=9.9								
TORD	**Torodi Ar. Bea**	**40.02**	**202**	P	**P**	**03 45 58.6**	**0.0**		
	comp=Z,0.4nm,0.9s,baz=359,slow=10,SNR=2.1								
YAK	**Yakutsk**	**55.19**	**32**	LR	LR	04 14 27.1			
	comp=Z,20nm,21.9s,baz=272,slow=39								
YKA	**Yellowknife Ar**	**59.83**	**336**	P	**P**	**03 48 29.9**	**+1.3**		
	comp=Z,0.2nm,0.7s,baz=30,slow=6.9,SNR=3.5								

SJA 26 03:40:20.9±0.5,31°72S×69°52W,h105km±2km,ML2.1, MW3.7,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.20**	**112**	*e*P	Pn	03 40 37.1	+1.1
RTLS				*e*S	Sn	03 40 49.1	+1.8
AUSP	**Uspallata**	**0.51**	**167**	*e*P	Pn	03 40 38.7	+1.0
AUSP				*e*S	Sn	03 40 51.7	+1.5
RTCV	**Cerro Valdivia**	**0.84**	**100**	*e*S	Sn	03 40 55.6	+0.8
RTLL	**Cerro Villicun**	**0.97**	**66**	*e*P	Pn	03 40 42.1	+0.6
RTLL				*e*S	Sn	03 40 58.4	+1.4
ASAL	**Salagasta**	**1.04**	**146**	*e*P	Pn	03 40 43.2	+0.9
ASAL				*e*S	Sn	03 40 59.8	+1.4
CFAA	**Coronel Fontan**	**1.10**	**84**	*e*P	Pn	03 40 43.4	+0.6
CFAA				*e*S	Sn	03 41 00.5	+1.1
AMOG	**MOGNA**	**1.18**	**49**	*e*P	Pn	03 40 44.8	+1.0
ARCO	**CERRO ARCO**	**1.22**	**156**	*e*P	Pn	03 40 45.3	+0.9
ARCO				*e*S	Sn	03 41 03.3	+1.2
ARCO				IAML		03 41 05.5	
	comp=Z,27nm,0.5s						

IDC 26 03:48:04.7±3.2,8°99S×122°63E,h90km±35km,mb3.5/2, mb1 3.5/5,mb1mx3.2/37,mbtmp3.7/5,Error ellipse: s-maj=226.5km s-min=20.0km az=55.0,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.87**	**324**	P	Pn	03 49 15.8	+0.2
	1.7nm,0.3s,baz=186,slow=9.6,SNR=6.7						
WRA	**Warramunga Arr**	**15.71**	**135**	P	Pn	03 51 39.6	-1.4
	0.2nm,0.3s,baz=308,slow=14,SNR=9.1						
WRA				S	Sn	03 54 23.6	-11
	0.2nm,0.3s,baz=303,slow=29,SNR=4.5						
ASAR	**Alice Springs**	**18.15**	**145**	P	P	03 52 10.3	+0.2
	0.4nm,0.3s,baz=322,slow=12,SNR=28						
STKA	**Stephens Creek**	**28.79**	**145**	P	P	03 53 54.6	+0.4
	1.3nm,0.5s,baz=326,slow=12,SNR=3.8						
KURBB	**Kurchatov Arra**	**70.59**	**332**	P	P	03 59 10.0	-0.1
	0.2nm,0.4s,baz=128,slow=5.7,SNR=3.1						

JMA 26 03:58:20.4±0.3,28°09N×129°22E,h28km±3km,M1.9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.16**	**345**	P	Pb	03 58 25.7	-0.2
JAMN				S	Sb	03 58 29.4	-0.3
JTK	**Tokunoshima**	**0.39**	**218**	P	Pb	03 58 28.9	-0.1
JAM	**Amami Oshima**	**0.47**	**47**	P	Pb	03 58 29.8	-0.4
JAM				S	Sb	03 58 36.3	-0.6
JOKE	**Okinoerabujima**	**0.93**	**219**	*e*S	Sb	03 58 49.7	-0.2

*ISCJB **26** 04:06:11.3±0.8,73°1N±0°1×122°7E±0°3,h10km,mb3.5/8, Error ellipse: s-maj=21.8km s-min=14.3km az=169.6*

*IDC **26** 04:06:11.3±0.9,73°13N×122°65E,h0km,mb3.6/8, mb1 3.8/9,mb1mx3.4/49,mbtmp3.6/9,ML3.5/1,Error ellipse: s-maj=29.4km s-min=19.4km az=155.0*

ISC 26 04:06:12.8±0.9,73°1N±0°2×122°6E±0°1,h10km,n9, σ0§83/9,mb3.8/8,Near coast of northern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEY	**Seymchan**	**14.87**	**118**	Pn	**Pn**	**04 09 43.1**	**+0.3**
	0.2nm,0.3s,baz=319,slow=19,SNR=2.8						
ZALV	**Zalesovo Beam**	**24.79**	**240**	P	**P**	**04 11 35.4**	**+1.0**
	2.3nm,0.7s,baz=12,slow=7.6,SNR=7.9						
PETK	**Petropavlovsk-**	**24.87**	**125**	P	**P**	**04 11 35.8**	**+0.6**
	1.3nm,0.4s,baz=342,slow=9.1,SNR=3.1						
SONM	**Songino Array**	**26.39**	**205**	P	**P**	**04 11 49.3**	**+0.2**
	1.8nm,0.9s,baz=3.3,slow=10,SNR=9.7						
KURBB	**Kurchatov Arra**	**29.44**	**244**	P	**P**	**04 12 15.6**	**-0.5**
	0.1nm,0.3s,baz=26,slow=9.3,SNR=2.8						
ILAR	**Eielson Array**	**30.34**	**58**	P	**P**	**04 12 24.1**	**+0.1**
	0.4nm,0.8s,baz=316,slow=7.7,SNR=5.4						
TXAR	**Lajitas Array**	**73.16**	**41**	P	**P**	**04 17 42.9**	**-0.5**
	0.2nm,0.7s,baz=3.5,slow=2.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**86.00**	**303**	P	**P**	**04 18 53.9**	**+0.8**
	0.5nm,0.8s,baz=347,slow=4.9,SNR=2.3						
WRA	**Warramunga Arr**	**93.15**	**169**	P	**P**	**04 19 25.3**	**-1.2**
	0.4nm,0.7s,baz=355,slow=5.3,SNR=3.2						

*IDC **26** 04:06:27.4±15.0,8°02S×112°04E,h78km±145km, mb3.7/13,mb1 3.9/13,mb1mx3.7/36,mbtmp4.0/13,Error ellipse: s-maj=50.0km s-min=15.5km az=78.0*
*ISCJB **26** 04:06:33.0±0.5,8°07S±0°09×112°27E±0°04,h133km, mb3.9/14,Error ellipse: s-maj=12.2km s-min=5.7km az=10.1*
*DJA **26** 04:06:36.8±0.5,8°S±6°×11°2E±°,h98km±15km,M4.0/9, MLv4.0/9*

ISC 26 04:06:33.7±0.7,8°14S±0°09×112°24E±0°05,h133km,n24, σ1§44/26,mb3.9/14,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLJI	**Banyuglugur**	**1.40**	**74**	P	**Pn**	**04 07 01.8**	**+1.0**
BLJI				S	**Sn**	**04 07 22.8**	**+1.3**
UGM	**Wanagama**	**1.71**	**277**	P	**Pn**	**04 07 04.6**	**+0.2**
UGM				S	**Sn**	**04 07 28.0**	**+0.1**
JAGI	**Jajag, Banyuwa**	**1.92**	**100**	P	**Pn**	**04 07 07.4**	**+0.5**
ABJI	**Asem Bagus**	**2.00**	**80**	P	**Pn**	**04 07 09.5**	**+1.7**
KMMI	**Kalianget**	**2.03**	**58**	P	**Pn**	**04 07 09.5**	**+1.4**
SMRI	**Semarang**	**2.09**	**301**	P	**Pn**	**04 07 10.0**	**+1.1**
UWJI	**Ujung Watu**	**2.14**	**323**	P	**Pn**	**04 07 11.6**	**+2.1**
UWJI				S	**Sn**	**04 07 39.5**	**+2.6**
KPJI	**Karang Pucung**	**3.38**	**284**	P	Pn	04 07 28.9	+3.6
KPJI				S	**Sn**	**04 08 08.0**	**+2.8**
WRA	**Warramunga Arr**	**24.40**	**121**	P	**P**	**04 11 40.4**	**+0.4**
	1.4nm,0.9s,baz=295,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**25.87**	**129**	P	**P**	**04 11 54.2**	**+1.0**
	3.7nm,0.4s,baz=304,slow=8.9,SNR=56						
STKA	**Stephens Creek**	**36.09**	**135**	P	**P**	**04 13 24.0**	**+1.2**
	2.7nm,0.5s,baz=313,slow=9.0,SNR=14						
JNU	**Nakatsue**	**44.70**	**22**	P	**P**	**04 14 33.4**	**-0.2**
	42nm,0.3s,baz=169,slow=13,SNR=115						
KSRS	**Korea Array**	**47.67**	**17**	P	**P**	**04 14 56.6**	**0.0**
	1.1nm,0.5s,baz=199,slow=8.6,SNR=4.5						
MAT	**Matsushiro**	**50.70**	**27**	P	P	**04 15 18.

KIW	Kapiti Island	1.82	191	PN	Pn	04 31 34.0	-0.8
KIW				AML	AML	04 31 58.2	
KIW				AML	AML	04 31 58.4	
HOWZ	Holdsworth Sta	1.82	177	PN	Pn	04 31 34.1	-0.8
MWZ	Matawai	1.84	67	PN	Pn	04 31 34.2	-0.9
MWZ				AML	AML	04 31 57.3	
RIGZ	Rimuhau	1.90	80	PN	Pn	04 31 35.3	-0.6
CAW	Cannon Point	2.04	186	PN	Pn	04 31 36.7	-0.8
CAW				AML	AML	04 32 03.0	
CAW				AML	AML	04 32 03.7	
DUWZ	D'Urville Isla	2.05	212	PN	Pn	04 31 37.0	-0.7
TMWZ	Te Maipa	2.07	169	PN	Pn	04 31 37.1	-0.8
MTW	Mount Morrison	2.08	177	PN	Pn	04 31 36.9	-1.2
TCW	Tory Channel	2.29	201	PN	Pn	04 31 39.6	-1.0
TCW				AML	AML	04 32 08.5	
TCW				AML	AML	04 32 09.4	
HAZ	Te Kaha	2.31	56	PN	Pn	04 31 39.1	-1.8
MSWZ	Moikau Station	2.34	182	PN	Pn	04 31 39.9	-1.4
MSWZ				AML	AML	04 32 08.2	
MSWZ				AML	AML	04 32 39.7	
PLWZ	Palliser	2.49	182	PN	Pn	04 31 41.6	-1.6
TUWZ	Tuamarina	2.59	204	PN	Pn	04 31 42.9	-1.5
NNZ	Nelson	2.63	215	PN	Pn	04 31 43.5	-1.4
WMGZ	Waiomatatini S	2.70	63	PN	Pn	04 31 44.2	-1.6
QRZ	Quartz Range	2.80	230	PN	Pn	04 31 45.6	-1.5
BSWZ	Blackbirch Sta	2.87	203	PN	Pn	04 31 46.5	-1.6
THZ	Tophouse	3.28	214	⇑PN	Pn	04 31 51.6	-1.9
LTZ	Lake Taylor	4.38	211	PN	Pn	04 32 04.8	-3.3
OXZ	Oxford	4.93	210	PN	Pn	04 32 11.0	-4.4
MQZ	McQueen's Vall	5.06	203	⇓PN	Pn	04 32 13.1	-4.0

*ISCJB **26** 04:38:09.5±0.7, 6°.92N±0°.07×73°.13W±0°.10, h166km, mb3.2/1, Error ellipse: s-maj=15.5km s-min=6.7km az=31.6*

*FUNV **26** 04:38:11.6, 6°.82N×73°.10W, h155km, MW3.5*

*IDC **26** 04:38:14.9±5.1, 6°.72N×75°.11W, h160km±85km, mb2.9/1, mb1 3.2/2, mb1mx2.8/28, mbtmp3.3/2, Error ellipse: s-maj=302.3km s-min=42.8km az=85.0*

ISC 26 04:38:10.2±1.1, **6°.87N**±0°.07×**73°.08W**±0°.10, **h166**km, **n15,** σ1§**18**/19, **1C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	Capacho	1.24	37⇑	*i*P	Pn	04 38 39.3	+0.5
CAPV				*e*S	Sn	04 38 59.4	-1.6
ROSC	El Rosal	2.36	212	P	Pn	04 38 51.2	+0.3
	6.8nm,0.3s,baz=340,slow=3.2,SNR=4.7						
ROSC				S	Sn	04 39 19.8	-2.5
	4.2nm,0.3s,baz=95,slow=14,SNR=7.5						
VIGV	El Vigia	2.59	41	*e*P	Pn	04 38 54.0	+0.7
VIGV				*e*S	Sn	04 39 24.8	-1.9
SOCV	Socops	2.61	57	*e*P	Pn	04 38 54.3	+0.8
ELOV	Elorza	3.57	88	*e*P	Pn	04 39 05.6	+0.2
VIRV	Villa del Rosa	3.67	10	*e*P	Pn	04 39 06.5	-0.2
VIRV				*e*S	Sn	04 39 48.7	-2.0
QARV	Quebrada Arrib	4.17	37	*e*P	Pn	04 39 13.9	+0.8
SANV	Sanarito	4.37	53	*e*P	Pn	04 39 16.0	+0.2
CURV	Curarigua	4.39	44	*e*P	Pn	04 39 16.3	+0.3
DABV	Dabajuro	4.69	31	*e*P	Pn	04 39 20.6	+0.7
SIQV	Siquisique	4.95	40	*e*P	Pn	04 39 23.3	-0.1
MAPV	Macapo	5.43	57	*e*P	Pn	04 39 29.8	+0.1
MONV	Montecano	5.91	31	*e*P	Pn	04 39 35.6	-0.3
YKA	Yellowknife Ar	63.23	340	P	P	04 48 22.4	+1.8
	0.2nm,0.5s,baz=133,slow=6.7,SNR=5.9						
WRA	Warramunga Arr	150.48	21	PKPbc	PKPbc	04 57 43.2	+0.2
	0.5nm,0.9s,baz=107,slow=2.8,SNR=5.1						

*IDC **26** 04:39:28.9±1.9, 7°.95S×117°.94E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.7/31, mbtmp3.9/5, ML4.2/2, Error ellipse: s-maj=74.3km s-min=23.2km az=55.0*

*DJA **26** 04:40:01.1±1.1, 8°.58S×117°.9E±°, h273km±9km, M4.0/8, mb4.0/1, mB4.9/1, MLv4.0/8, Mw(mB)4.2/1*

ISC 26 04:39:58.9±1.1, **8°.1S**±0°.2×**119°.40E**±0°.09, **h300**km, **n10,** σ0§**88**/8, **Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	Maumere	2.85	101	P	Pn	04 40 53.6	+0.3
IGBI	Denpasar	4.27	260	P	Pn	04 41 08.9	+0.7
SOEI	Soe	5.08	109	P	Pn	04 41 17.2	-0.4
JAGI	Jajag, Banyuwa	5.21	266	P	Pn	04 41 19.2	+0.2
SWI	Sorong	13.82	59	P	P	04 43 04.5	+1.3
SIJI	Sorong	13.83	59	Pn	P	04 43 02.6	-0.6
	1.8nm,0.3s,baz=240,slow=20,SNR=7.7						
WRA	Warramunga Arr	18.65	131	P	P	04 44 00.9	+5.2
	0.5nm,0.3s,baz=302,slow=12,SNR=12						
WRA				S	S	04 47 36.9	+25
	0.3nm,0.3s,baz=322,slow=22,SNR=6.4						
ASAR	Alice Springs	20.81	140	P	P	04 44 24.4	+6.3
	1.1nm,0.3s,baz=314,slow=8.4,SNR=22						
SONM	Songino Array	15.86	350	P	P	04 49 13.4	+0.4
	0.4nm,0.4s,baz=163,slow=10,SNR=3.1						
ZALV	Zalesovo Beam	68.34	339	P	P	04 50 27.2	-0.9
	1.1nm,0.5s,baz=149,slow=5.9,SNR=4.5						

*ISK **26** 05:10:38.2, 35°.55N×26°.43E, h3km, ML3.1*

*ISCJB **26** 05:10:39.9±0.6, 35°.51N±0°.02×26°.32E±0°.02, h11km±5km, Error ellipse: s-maj=4.3km s-min=2.9km az=155.4*

*DDA **26** 05:10:39.8, 35°.75N×26°.42E, h1km, MD3.5*

*ATH **26** 05:10:40.0, 35°.48N×26°.30E, h29km±1km, MD3.5/17*

*CSEM **26** 05:10:40.3±0.2, 35°.51N×26°.32E, h10km, MD3.5, Error ellipse: s-maj=4.5km s-min=3.2km az=153.0*

*THE **26** 05:10:40.8, 35°.48N×26°.29E, h7km±2km, ML3.3/5, Error ellipse: s-maj=2.4km s-min=0.7km az=170.0*

ISC 26 05:10:40.4±1.0, **35°.52N**±0°.02×**26°.33E**±0°.02, **h13**km±8km, **n113,** σ1§**07**/147, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	Zakros	0.41	193	P	Pg	05 10 47.5	-1.1
ZKR				S	Sg	05 10 54.3	+0.2
ZKR	Zakros	0.41	193	*e*PB	Pg	05 10 48.2	-0.4
ZKR				*e*SB	Sg	05 10 54.6	+0.5
ZKR	Zakros	0.41	193	P	Pg	05 10 47.5	-1.1
ZKR	Zakros	0.41	193	*e*Pb	Pg	05 10 48.2	-0.4
ZKR				S	Sg	05 10 54.3	+0.2
NPS	Neapolis	0.64	247	P	Pg	05 10 52.6	-0.2
NPS				S	Sg	05 11 01.3	+0.1
NPS	Neapolis	0.64	247	*e*PN	Pg	05 10 52.6	-0.2
NPS				*e*SN	Sg	05 11 01.0	-0.2
NPS	Neapolis	0.64	247	*e*Pn	Pg	05 10 52.6	-0.2
NPS				*e*Sn	Sg	05 11 01.0	-0.2
KARP	Karpathos	0.68	87	P	Pb	05 10 54.1	0.0
KARP				S	Sb	05 11 05.2	+1.7
KARP	Karpathos	0.68	87	*e*PN	Pb	05 10 54.1	0.0
KARP				*e*SN	Sb	05 11 05.0	+1.5
KARP	Karpathos	0.68	87	P	Pb	05 10 54.1	0.0
KARP				*e*Sn	Sb	05 11 05.0	+1.5
LAST	Lasithi	0.78	243	P	Pg	05 10 55.0	-0.5
LAST				S	Sg	05 11 05.5	-0.3
LAST	Lasithi	0.78	243	*e*PN	Pg	05 10 55.0	-0.5
LAST	Lasithi	0.78	243	P	Pg	05 10 55.0	-0.5
LAST				S	Sg	05 11 05.5	-0.3
SANT	Santorini	1.11	321	P	Pb	05 11 01.3	-0.1
SANT				S	Sn	05 11 16.7	0.0
SANT	Santorini	1.11	321	*e*PN	Pb	05 11 00.8	-0.6
SANT				*e*SN	Sn	05 11 16.8	0.0
SANT	Santorini	1.11	321	*e*Pn	Pb	05 11 00.8	-0.6
SANT	Santorini	1.11	321	P	Pb	05 11 01.3	-0.1
SANT				*e*Sn	Sn	05 11 16.8	0.0
THR6	Thira Island,	1.13	318	P	Pb	05 11 01.7	0.0
THR6	Thira Island,	1.13	318	P	Pb	05 11 01.7	0.0
THR3	Thira Island,	1.17	320	P	Pb	05 11 02.0	-0.4
THR3	Thira Island,	1.17	320	P	Pb	05 11 02.0	-0.4
THR2	Thira Island,	1.18	322	P	Pb	05 11 02.4	-0.2
THR2	Thira Island,	1.18	322	P	Pb	05 11 02.4	-0.2
THR5	Thira Island,	1.20	319	*e*PN	Pb	05 11 02.4	-0.6
THR5	Thira Island,	1.20	319	*e*Pn	Pb	05 11 02.4	-0.6
NISR	Nisiros	1.27	30	*e*PN	Pg	05 11 05.9	+1.1
NISR	Nisiros	1.27	30	*e*Pn	Pg	05 11 05.9	+1.1
NIS1	Nisyros Isl.	1.28	32	P	Pg	05 11 04.8	-0.2
NIS1				S	Sg	05 11 22.4	+0.7
NIS1	Nisyros Isl.	1.28	32	*e*PN	Pb	05 11 04.6	+0.2
NIS1	Nisyros Isl.	1.28	32	*e*Pn	Pb	05 11 04.6	+0.2
NIS1				S	Sg	05 11 22.4	+0.7
SIVA	Sivas	1.34	249	P	Pb	05 11 05.5	+0.2
SIVA				S	Sb	05 11 21.6	-0.8
SIVA	Sivas	1.34	249	*e*PN	Pb	05 11 05.6	+0.2
SIVA				*e*SN	Sn	05 11 22.9	+0.4
SIVA	Sivas	1.34	249	*e*Pn	Pb	05 11 05.6	+0.2
SIVA				S	Sb	05 11 21.6	-0.8
SIVA				*e*Sn	Sn	05 11 22.9	+0.4
ARG	Arkhangelos	1.62	64	P	Pb	05 11 09.8	-0.3
ARG				S	Sb	05 11 30.4	0.0
ARG	Arkhangelos	1.62	64	*e*PN	Pn	05 11 09.6	+1.0
ARG				*e*SN	Sn	05 11 30.1	+0.7
ARG	Arkhangelos	1.62	64	*e*Pn	Pn	05 11 09.6	+1.0
ARG				*e*Sn	Sn	05 11 30.1	+0.7
APE	Apeiranthos	1.68	338	*e*PN	Pn	05 11 09.8	+0.3
APE				*e*SN	Sb	05 11 32.1	-0.1
APE	Apeiranthos	1.68	338	P	Pn	05 11 09.2	-0.3
APE				S	Sn	05 11 31.6	+0.7
APE	Apeiranthos	1.68	338	*e*PB	Pn	05 11 09.1	-0.4
APE	Apeiranthos	1.68	338	P	Pn	05 11 09.2	-0.3
APE	Apeiranthos	1.68	338	*e*Pn	Pn	05 11 09.2	+0.3
APE				S	Sn	05 11 31.6	+0.7
APE				*e*Sn	Sb	05 11 32.1	-0.1
BODT	Bodrum	1.73	27	*e*PN	Pn	05 11 09.2	-1.0
BODT	Bodrum	1.73	27	*e*Pn	Pn	05 11 09.2	-1.0
VAM	Vamos	1.74	267	*e*PN	Pn	05 11 10.6	+0.3
VAM	Vamos	1.74	267	*e*Pn	Pn	05 11 10.6	+0.3
BDRM	Kayabasi	1.79	30	*i* P	Pn	05 11 08.9	-2.1
BDRM				*i* S	Sg	05 11 38.6	+0.7
BDRM	Kayabasi	1.79	30	*i* P	Pn	05 11 08.9	-2.1
BDRM				*i* S	Sg	05 11 38.6	+0.7
MHLO	Agia Marina, M	1.95	307	*e*PB	Pn	05 11 13.7	+0.5
MHLO	Agia Marina, M	1.95	307	*e*Pb	Pn	05 11 13.7	+0.5
GVD	Gavdhos	1.96	250	*e*PB	Pn	05 11 14.5	+1.2
GVD	Gavdhos	1.96	250	*e*Pb	Pn	05 11 14.5	+1.2
SMG	Samos	2.23	10	*e*PN	Pn	05 11 17.3	+0.3
SMG	Samos	2.23	10	*e*Pn	Pn	05 11 17.3	+0.3
YER	Yerkesik	2.26	44	*e*PN	Pn	05 11 16.4	-1.1
YER	Yerkesik	2.26	44	*e*Pn	Pn	05 11 16.4	-1.1
TURN	Turunc	2.28	53	*i* P	Pn	05 11 13.8	-4.0
TURN				*i* S	Sn	05 11 41.1	-4.6
TURN	Turunc	2.28	53	*i* P	Pn	05 11 13.8	-4.0
TURN				*i* S	Sn	05 11 41.1	-4.6
DALY	Dalyan (Mu˘la	2.29	55	*e*PN	Pn	05 11 16.7	-1.1
DALY	Dalyan (Mu˘la	2.29	55	*e*Pn	Pn	05 11 16.7	-1.1
GCAM	G?zelcaml?	2.30	18	*i* P	Pg	05 11 23.9	-0.4
AYDN	Tasoluk	2.48	30	*i* P	Pn	05 11 21.1	+0.6
AYDN				*i* S	Sb	05 11 54.0	-1.2
AYDN	Tasoluk	2.48	30	*i* P	Pn	05 11 21.1	+0.6
AYDN				*i* S	Sb	05 11 54.0	-1.2
ZEY	˝zmir	2.72	3	*i* P	Pn	05 11 23.9	+0.1
AYDB	Zeytinkoy-Aydi	2.73	27	*e*PN	Pn	05 11 23.2	-0.8
AYDB	Zeytinkoy-Aydi	2.73	27	*e*Pn	Pn	05 11 23.2	-0.8
AKAS	Kas	2.75	74	*i* P	Pn	05 11 25.7	+1.3
AKAS	Kas	2.75	74	*i* P	Pn	05 11 25.7	+1.3
KYTH	Kithira	2.78	287	*e*PN	Pn	05 11 23.9	-0.7
KYTH	Kithira	2.78	287	*e*Pn	Pn	05 11 23.9	-0.7
URLA	Izmir	2.84	4	*i* P	Pn	05 11 25.4	-0.2
URLA	Izmir	2.84	4	*i* P	Pn	05 11 25.4	-0.2
CHOS	Chios island	2.87	356	*e*PN	Pn	05 11 26.1	+0.2
CHOS	Chios island	2.87	356	*e*PN	Pn	05 11 25.9	-0.1
CHOS	Chios island	2.87	356	*e*Pn	Pn	05 11 26.1	+0.2
VLI	Veliai	3.00	295	P	Pn	05 11 27.8	+0.2
VLI				S	Sn	05 12 02.6	-0.8
VLI	Veliai	3.00	295	*e*PN	Pn	05 11 27.5	-0.1
VLI	Veliai	3.00	295	*e*Pn	Pn	05 11 27.5	-0.1
VLI	Veliai	3.00	295	P	Pn	05 11 27.8	+0.2
VLI				S	Sn	05 12 02.6	-0.8
GOLH	Golhisar	3.12	56	*i* P	Pn	05 11 32.1	+2.7
GOLH				*i* S	Sb	05 12 12.4	-1.4
GOLH	Golhisar	3.12	56	*i* P	Pn	05 11 32.1	+2.7
ELL	Elmali	3.15	66	*e*PN	Pn	05 11 29.1	-0.6
ELL	Elmali	3.15	66	*e*Pn	Pn	05 11 29.2	-0.6
DIDY	Didyma	3.18	309	*e*PN	Pn	05 11 31.8	+1.6
DIDY	Didyma	3.18	309	*e*Pn	Pn	05 11 31.8	+1.6
DID	Didima	3.19	309	*e*PN	Pn	05 11 30.8	+0.6
DID	Didima	3.19	309	*e*Pn	Pn	05 11 30.8	+0.6
KULA	Kula-Manisa	3.52	31	*e*PN	Pn	05 11 34.6	-0.3
KULA	Kula-Manisa	3.52	31	*e*Pn	Pn	05 11 34.6	-0.3
VILL	Villia	3.58	318	*e*Pn	Pn	05 11 36.9	+1.2
VIL2	Platees	3.64	319	*e*PN	Pn	05 11 36.9	+0.4
LTK	Loutraki	3.68	314	*e*PN	Pn	05 11 38.5	+1.5
LTK	Loutraki	3.68	314	*e*Pn	Pn	05 11 38.5	+1.5
VLX	Vlachokerasia	3.68	301	*e*PN	Pn	05 11 38.3	+1.2
VLX	Vlachokerasia	3.68	301	*e*Pn	Pn	05 11 38.3	+1.2
SIGR	SIGRI	3.71	354	*e*PN	Pn	05 11 37.8	+0.5
SIGR	SIGRI	3.71	354	*e*Pn	Pn	05 11 37.8	+0.5
ITM	Ithomi	3.96	295	*e*PN	Pn	05 11 42.8	+2.5
GUR	Goura	4.01	308	*e*PN	Pn	05 11 43.6	+2.0
GUR	Goura	4.01	308	*e*Pn	Pn	05 11 43.6	+2.0
DSF	Desfina	4.20	315	*e*PN	Pn	05 11 45.8	+1.7
DSF	Desfina	4.20	315	*e*Pn	Pn	05 11 45.8	+1.7
AMT	Artemida-Makis	4.23	300	*e*PN	Pn	05 11 44.4	-0.2
AMT	Artemida-Makis	4.23	300	*e*Pn	Pn	05 11 44.4	-0.2
SUTC	Sutluce-Ispart	4.24	61	*e*PN	Pn	05 11 44.9	+0.1
SUTC	Sutluce-Ispart	4.24	61	*e*Pn	Pn	05 11 44.9	+0.1
TVSB	Tavsanli	4.65	31	*e*PN	Pn	05 11 50.8	+0.4
TVSB	Tavsanli	4.65	31	*e*Pn	Pn	05 11 50.8	+0.4
AGG	Agios Georgios	4.73	319	*e*PN	Pn	05 11 53.0	+1.6
AGG	Agios Georgios	4.73	319	*e*Pn	Pn	05 11 53.1	+1.6
GELI	Tayfur-Gelibol	4.87	1	*e*PN	Pn	05 11 54.2	+0.8
GELI	Tayfur-Gelibol	4.87	1	*e*Pn	Pn	05 11 54.2	+0.8
GRG	Griva	6.25	332	*e*PN	Pn	05 12 14.2	+1.9
GRG	Griva	6.25	332	*e*Pn	Pn	05 12 14.2	+1.9

*IDC **26** 05:17:46.5±4.9, 4°.62S×104°.02E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/22, mbtmp3.6/3, Error ellipse: s-maj=217.1km s-min=76.9km az=48.0*

*ISCJB **26** 05:18:10.4±0.9, 4°.7S±0°.1×105°.27E±0°.09, h150km, mb3.5/3, Error ellipse: s-maj=18.5km s-min=11.0km az=20.3*

*DJA **26** 05:18:12.4±0.9, 5°.5S±10°×10°.5E±1°.2, h164km±9km, M3.1/7, MLv3.1/7*

ISC 26 05:18:11.3±1.2, **4°.7S**±0°.1×**105°.1E**±0°.1, **h150**km, **n11,** σ1§**02**/10, **mb3.3/3, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLSI		0.40	276	P	Pn	05 18 35.7	+3.5
MDSI	Maura Dua	0.97	285	P	Pn	05 18 37.3	+1.5
KASI	Kota Agung	1.00	219	P	Pn	05 18 37.0	+0.9
KASI				S	Sn	05 18 55.5	+0.4
LWLI	Liwa	1.10	255	P	Pn	05 18 37.4	+0.3
LHSI	Lahat	1.83	299	P	Pn	05 18 45.7	+1.2
CGJI	Cibinong	1.95	163	P	Pn	05 18 46.7	+0.8
MNAI	Manna	2.19	280	P	Pn	05 18 47.7	-1.0
WRA	Warramunga Arr	32.21	121	P	P	05 24 25.1	-0.4
	0.4nm,0.7s,baz=294,slow=9.6,SNR=3.5						
ASAR	Alice Springs	33.52	127	P	P	05 24 36.3	-0.6
	0.3nm,0.5s,baz=297,slow=8.1,SNR=6.4						
STKA	Stephens Creek	43.54	133	P	P	05 25 59.7	-0.6
	1.6nm,0.6s,baz=317,slow=10,SNR=5.5						
TXAR	Lajitas Array	143.38	45	PKP	PKPab	05 37 24.3	-0.8
	0.1nm,0.4s,baz=293,slow=0.7,SNR=4.1						

*ISCJB **26** 05:19:43.4±0.5, 32°.50N±0°.04×105°.43E±0°.05, h11km, mb3.7/9, Error ellipse: s-maj=7.1km s-min=4.6km az=26.8*

*BJI **26** 05:19:44.5, 32°.63N×105°.38E, h11km, mb3.5/1, ML3.6/21, Ms3.3/5, Ms7 3.0/5*

*IDC **26** 05:19:52.1±8.1, 32°.53N×105°.24E, h66km±75km, mb3.4/9, mb1 3.6/11, mb1mx3.4/28, mbtmp3.7/11, ML3.8/2, Error ellipse: s-maj=45.0km s-min=15.4km az=52.0*

ISC 26 05:19:45.6±0.6, **32°.54N**±0°.04×**105°.47E**±0°.05, **h11**km, **n16,** σ1§**25**/24, **mb3.8/9, 1C, Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	Chengdu	2.18	222	Pn	Pn	05 20 22.5	+0.6
CD2				Pg	Pb	05 20 25.5	+0.3
CD2				Sn	Sn	05 20 46.5	-2.5
CD2				Sg	Sb	05 20 55.0	+2.8
CD2				SMN			
	2µm,0.6s						
CD2				SME			
	2µm,0.5s						
XAN	Xi'an	3.26	62	Pn	Pn	05 20 37.3	+0.6
XAN				Pg	Pb	05 20 43.5	0.0
XAN				Sn	Sn	05 21 15.3	-0.2
XAN				Sg	Sb	05 21 23.5	+0.3
XAN				SMN			
	270nm,0.6s						
XAN				SME			
	130nm,0.6s						
LZH	Lanzhou	3.78	340	⇑Pn	Pn	05 20 44.5	+0.5
LZH				Pg	Pb	05 20 52.3	-0.2
LZH				Sn	Sn	05 21 30.0	+1.4
LZH				Sg	Sb	05 21 40.8	+2.4
LZH				SMN			
	260nm,0.7s						
LZH				SME			
	430nm,0.5s						
LZH				LN			
	340nm,4.3s						
LZH				LE			
	470nm,4.0s						
LZH				LZ			
	480nm,5.7s						
GYA	Guiyang	6.15	170	Pn	Pn	05 21 13.8	-2.8
GYA				Sn	Sn	05 22 27.3	+0.3
GYA				Sg	Sb	05 22 53.5	+6.9
GYA				SMN			
	40nm,0.7s						
GYA				SME			
	40nm,0.7s						
GTA	Gaotai	8.24	328	*e*P	Pn	05 21 40.8	-4.4
GTA				sP		05 21 48.3	
GTA				PMZ			
	2.0nm,0.9s						
SONM	Songino Array	15.29	2	P	P	05 23 25.2	-1.1
	0.4nm,0.3s,baz=186,slow=10,SNR=2.4						
KSRS	Korea Array	19.03	69	P	Pn	05 24 10.1	+1.8
	0.3nm,0.3s,baz=258,slow=12,SNR=5.6						
ZALV	Zalesovo Beam	25.97	332	P	P	05 25 17.4	-0.7
	1.1nm,0.5s,baz=144,slow=11,SNR=5.0						
KURBB	Kurchatov Arra	26.83	320	P	P	05 25 25.3	-0.6
	0.5nm,0.6s,baz=126,slow=11,SNR=6.7						
ARCES	ARCESS Array B	56.43	335	P	P	05 29 25.9	-1.0
	1.9nm,0.9s,baz=63,slow=8.3,SNR=5.9						
FINES	FINESS Array B	57.03	326	P	P	05 29 30.2	-0.9
	0.4nm,0.4s,baz=101,slow=8.6,SNR=11						
AKASG	Malin Array Be	57.25	313	P	P	05 29 31.6	-1.3
	0.3nm,0.3s,baz=66,slow=7.6,SNR=4.7						
WRA	Warramunga Arr	59.05	148	P	P	05 29 45.9	+0.1
	0.9nm,0.6s,baz=341,slow=7.6,SNR=18						
ASAR	Alice Springs	62.14	150	P	P	05 30 07.2	+0.4
	0.9nm,0.7s,baz=340,slow=6.8,SNR=9.9						
NOA	NORSAR Array B	64.07	327	P	P	05 30 18.4	-0.9
	0.4nm,0.5s,baz=16,slow=9.8,SNR=3.0						
YKA	Yellowknife Ar	79.98	18	P	P	05 31 54.5	-0.1
	0.1nm,0.6s,baz=322,slow=5.2,SNR=3.3						

*BJI **26** 05:30:14.5, 10°.73S×162°.02E, h37km, mb6.1/50, mB6.4/58, Ms6.8/93, Ms7 6.7/85*

*ISCJB **26** 05:30:17.0±1.0, 10°.68S±0°.02×161°.43E±0°.02, h26km±6km, mb6.2/342, MS6.8/225, Error ellipse: s-maj=3.5km s-min=2.6km az=26.4*

*NOU **26** 05:30:17.9±1.7, 10°.44S×162°.11E, h11km±999km*

*GCMT **26** 05:30:19.5±0.1, 10°.54S×161°.43E, h41km, MW6.7/138, Moment Tensor Solution. s137,c367; s138,c594; Duration: 5s7 Moment tensor: Scale 10¹⁹Nm; Mrr1.23±.01; Mθθ-0.02±.01; Mφφ-1.21±.01; Mrθ-0.62±.01; Mθφ0.77±.01; Mφr-0.15±.01; Best double couple: Mo1.57600×10¹⁹ NP1:φs309.00000°, δ54.00000°, λ55.00000°. NP2:φs179.00000°, δ48.00000°, λ128.00000°. Principal axes: T 1.5580, Plg63.0000°, Azm159.0000°; N 0.0380, Plg27.0000°, Azm331.0000°; P -1.5940, Plg3.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **26** 05:30:19.0±0.0, 10°.64S×161°.44E, h35km, Moment Tensor Solution. s44 Moment tensor: Scale 10¹⁹Nm; Mrr1.28; Mθθ0.16; Mφφ-1.43; Mrθ-0.87; Mθφ0.61; Mφr-0.17; Best double couple: Mo1.70000×10¹⁹ NP1:φs313.00000°, δ55.00000°, λ51.00000°. NP2:φs188.00000°, δ50.00000°, λ132.00000°. Principal axes: T 1.8200, Plg58.0000°, Azm164.0000°; N -0.1700, Plg31.0000°, Azm338.0000°; P -1.6400, Plg2.0000°, Azm70.0000°;*

*MOS **26** 05:30:19.5±1.6, 10°.38S×161°.43E, h40km, mb6.2/57, MS7.0/38 Error ellipse: s-maj=9.7km s-min=6.8km az=122.3 Broadband fault plane solution: P waves. Mo1.60000×10¹⁹ NP1:φs318.00000°, δ60.00000°, λ69.00000°. NP2:φs175.00000°, δ36.00000°, λ121.00000°. Principal axes: T Plg68.0000°, Azm186.0000°; N Plg18.0000°, Azm329.0000°; P Plg12.0000°, Azm63.0000°;*

*NEIC **26** 05:30:19.5±0.1, 10°.63S×161°.45E, h35km, mb6.4/213, ME6.3, MS6.8/163, MW6.7, MW6.8, MW6.6 Error ellipse: s-maj=4.6km s-min=3.9km az=158.0, Moment Tensor Solution. s39 Moment tensor: Scale 10¹⁸Nm; Mrr8.31; Mθθ-0.33; Mφφ-7.98; Mrθ-2.43; Mθφ3.68; Mφr-1.65; Best double couple: Mo9.40000×10¹⁸ NP1:φs176.00000°, δ50.00000°, λ115.00000°. NP2:φs320.00000°, δ46.00000°, λ63.00000°. Principal axes: T 9.3400, Plg70.0000°, Azm152.0000°; N 0.1500, Plg19.0000°, Azm339.0000°; P -9.4900, Plg2.0000°, Azm248.0000°; Depth from synthetics of broadband displ

comp=N,3.0nm,0.3s
CTAO Charters Tower 17.46 235 *e*P **P** **05 34 24.3 +3.0**
comp=N,4µm,1.2s
MSVF Nonsavu 17.56 116 P **P** **05 34 23.0 +0.5**
comp=N,4µm,1.2s,SNR=24
MSVF Nonsavu 17.56 116 *e*P **P** **05 34 22.8 +0.4**
comp=N,2µm,1.4s
EIDS Eidsvold 17.72 212 *e*P **P** **05 34 25.4 +1.3**
comp=N,2µm,1.5s
COEN Coen 18.21 257 *e*P **Pn** **05 34 33.9 +4.3**
comp=N,343nm,1.3s
KWAJ Kwajalein Atol 20.19 18 *e*P Pn 05 34 52.9 -0.4
comp=N,2µm,1.1s
ARMA Armidale 21.77 203 *e*P **P** **05 35 09.3 +1.0**
comp=N,514nm,0.9s
JAY Jayapura 22.13 290 P **P** **05 35 14.5 +2.3**
comp=N,747nm,1.3s,comp=N,24µm
JAY Jayapura 22.13 290 P **P** **05 35 13.6 +1.4**
comp=N,246nm,0.7s,baz=135,slow=5.6,SNR=50
JAY Jayapura 22.13 290 P **P** **05 35 13.6 +1.4**
JAY pmax pmax
comp=Z,246nm,0.7s
GENI Genyem 22.60 289 P **P** **05 35 19.7 +2.5**
comp=Z,1µm,1.1s,comp=Z,29µmcomp=Z,186µm
SMPI Sarmi 24.17 289 P **P** **05 35 33.8 +1.2**
comp=Z,2µm,1.2s,comp=Z,33µm
AFI Afiamalu 26.33 100 *e*P **P** **05 35 55.8 +3.5**
comp=Z,92nm,1.2s
AFI LR LR
comp=Z,217µm,20.0s
SRPI Serui, Papua 26.52 287 P **P** **05 35 58.5 +4.6**
comp=Z,770nm,1.5s,comp=Z,21µmcomp=Z,78µm
RAO Raoul Island 26.75 137 P **P** **05 35 57.7 +1.8**
comp=Z,177nm,0.3s,baz=204,slow=16,SNR=12
RAO Raoul Island 26.75 137 P **P** **05 35 57.7 +1.8**
RAO pmax pmax
comp=Z,177nm,0.3s
RAO Raoul Island 26.75 137 *e*P **P** **05 35 56.4 +0.5**
comp=Z,2µm,1.0s
RAO LR LR
comp=Z,71µm,22.0s
BAKI Biak 26.88 289 P **P** **05 35 59.6 +2.4**
comp=Z,855nm,1.6s,comp=Z,30µm
OUZ Omahuta 26.90 158 *e*P **P** **05 35 58.3 +1.2**
comp=Z,1µm,2.8s
WRAB Tennant Creek 27.75 247 P **P** **05 36 05.0 +0.1**
comp=Z,3µm,1.0s
WRAB Tennant Creek 27.75 247*c i*P **P** **05 36 05.3 +0.4**
WRAB pmax pmax
comp=Z,1µm,1.7s
WRAB MLR MLR
comp=Z,818µm,18.0s
WRAB Tennant Creek 27.75 247 *e*P **P** **05 36 04.7 -0.2**
comp=Z,1µm,1.4s
WRAB LR LR
comp=Z,265µm,21.0s
WRA Warramunga Arr 27.76 247 P **P** **05 36 05.5 +0.4**
comp=Z,192nm,0.7s,baz=77,slow=9.0,SNR=152
WRA ScP **ScP** **05 42 57.5 -1.3**
comp=Z,34nm,1.0s,baz=72,slow=3.2,SNR=4.0
WRA LR LR 05 46 25.3
comp=Z,266µm,21.3s,baz=70,slow=35
WRA PKiKP **PKiKP** **05 46 55.1 -2.6**
comp=Z,2.3nm,0.7s,baz=351,slow=0.5,SNR=6.3
WRA P3KPbc 06 08 32.4
comp=Z,1.7nm,0.8s,baz=252,slow=2.9,SNR=8.4
WRA Warramunga Arr 27.76 247 *i* P **P** **05 36 05.5 +0.4**
WRA pmax pmax
comp=Z,189nm,0.7s
STKA Stephens Creek 28.07 218 P **P** **05 36 08.2 +0.6**
comp=Z,25nm,0.6s,baz=29,slow=11,SNR=33
STKA LR LR 05 47 30.6
comp=Z,413µm,18.2s,baz=39,slow=37
STKA P3KPbc 06 08 31.4
comp=Z,3.2nm,0.8s,baz=326,slow=3.2,SNR=4.7
STKA Stephens Creek 28.07 218 *e*P **P** **05 36 08.2 +0.6**
comp=Z,244nm,1.8s
RKPI Ransiki, Papua 28.58 287 P **P** **05 36 14.8 +2.4**
comp=Z,922nm,1.7s,comp=Z,20µmcomp=Z,65µm
KUZ Kuaotunu 29.06 156 PN **P** **05 36 16.8 +0.4**
GUMO Guam 29.12 325 P **P** **05 36 18.4 +1.3**
comp=Z,120nm,0.7s,baz=9.6,slow=22,SNR=5.0
GUMO LR LR 05 47 13.0
comp=Z,167µm,21.5s,baz=142,slow=35
GUMO Guam 29.12 325 P **P** **05 36 18.4 +1.3**
GUMO pmax pmax
comp=Z,120nm,0.7s
GUMO MLR MLR
comp=Z,167µm,21.5s
GUMO Guam 29.12 325 *e*P **P** **05 36 18.9 +1.7**
comp=Z,188nm,1.4s
MKAZ Moumakai 29.16 157 PN **P** **05 36 18.0 +0.7**
AS31 Alice Springs 29.33 240 *e*P **P** **05 36 18.7 -0.3**
ASAR Alice Springs 29.33 240 P **P** **05 36 18.6 -0.4**
comp=Z,26nm,0.7s,baz=67,slow=9.5,SNR=33
ASAR ScP **ScP** **05 43 02.1 -1.6**
comp=Z,12nm,0.9s,baz=72,slow=2.6,SNR=2.5
ASAR PKiKP **PKiKP** **05 46 56.1 -2.6**
comp=Z,1.6nm,0.8s,baz=64,slow=2.2,SNR=3.0
ASAR LR LR 05 48 07.6
comp=Z,416µm,18.4s,baz=66,slow=36
ASAR P3KPbc 06 08 26.1
comp=Z,5.0nm,1.0s,baz=240,slow=3.4,SNR=19
H11S2 WAKE ISLAND Hy 29.33 10 T T 06 07 11.2
baz=189,slow=76,SNR=18
H11S3 WAKE ISLAND Hy 29.33 10 T T 06 07 24.8
baz=189,slow=76,SNR=20
H11S1 WAKE ISLAND Hy 29.35 10 T T 06 07 18.8
baz=189,slow=76,SNR=23
FAKI Fak Fak 29.99 283 P **P** **05 36 26.9 +2.0**
comp=Z,170nm,1.1s,comp=Z,11µmcomp=Z,105µm
FAKI Fak Fak 29.99 283 *e*P **P** **05 36 25.9 +0.9**
comp=Z,612nm,1.5s
WAKE Wake Island 30.10 10 *e*P **P** **05 36 26.5 +0.8**
comp=Z,256nm,1.0s
WAKE LR LR
comp=Z,63µm,20.0s
HIZ Hauiti 30.29 159 PN **P** **05 36 28.6 +1.4**
H11N1 WAKE ISLAND Hy 30.56 10 T T 06 08 45.2
baz=188,slow=76,SNR=366
H11N3 WAKE ISLAND Hy 30.57 10 T T 06 08 45.8
baz=188,slow=76,SNR=466
H11N2 WAKE ISLAND Hy 30.58 10 T T 06 08 46.7
baz=188,slow=76,SNR=438
HAZ Te Kaha 30.78 154 PN **P** **05 36 31.4 -0.2**
HAZ *e*SN S 05 41 39.9 +7.8
URZ Urewera 30.93 156 P **P** **05 36 32.9 +0.1**
comp=Z,121nm,0.6s,baz=280,slow=3.7,SNR=50
URZ Urewera 30.93 156 PN **P** **05 36 32.4 -0.5**
URZ Urewera 30.93 156 *e*P **P** **05 36 33.0 +0.2**
comp=Z,1µm,1.5s
RATZ Rangitukua 30.93 158 PN **P** **05 36 33.7 +0.7**
WTVZ West Tongariro 31.09 158 *e*PN **P** **05 36 35.1 +0.7**
WMGZ Waiomatatini S 31.10 153 PN **P** **05 36 34.2 -0.3**
NGZ Ngauruhoe 31.14 159 PN **P** **05 36 36.1 +1.1**
MWZ Matawai 31.16 155 PN **P** **05 36 35.7 +0.8**
MWZ *e*SN S 05 41 46.5 +8.2
FWVZ Far West T-bar 31.20 159 *e*PN **P** **05 36 36.8 +1.3**
TWGZ Tauwhareparae 31.21 154 PN **P** **05 36 35.6 +0.1**
TRVZ Turoa 31.23 159 *e*PN **P** **05 36 37.0 +1.1**
PUZ Puketiti 31.25 154 PN **P** **05 36 35.1 -0.7**
BKZ Black Stump Fm 31.47 157 *e*PN **P** **05 36 37.5 -0.2**
BKZ Black Stump Fm 31.47 157 *e*P **P** **05 36 37.7 0.0**
comp=Z,749nm,1.3s
NMHZ Naumai 31.53 157 *e*PN **P** **05 36 38.8 +0.6**
SIJI Sorong 31.54 286 P **P** **05 36 39.0 +0.4**
comp=Z,31nm,0.6s,baz=102,slow=9.1,SNR=20
SWI Sorong 31.55 286 P **P** **05 36 40.5 +1.8**
comp=Z,173nm,1.2s,comp=Z,8µmcomp=Z,216µm
RIGZ Rimuhau 31.57 155 *e*PN **P** **05 36 37.0 -1.7**
BHHZ Black Hill Sta 31.59 158 PN **P** **05 36 38.5 -0.3**
QRZ Quartz Range 31.68 164 PN **P** **05 36 40.3 +0.8**
KRHZ Kereru 31.84 158 PN **P** **05 36 40.6 -0.3**
BNDI Bandanaira 31.86 278 P **P** **05 36 44.0 +2.6**
comp=Z,3µm,1.1s,comp=Z,43µm
BBOO Buckleboo 32.21 223 *e*P **P** **05 36 44.7 +0.4**
comp=Z,32nm,0.8s
NNZ Nelson 32.28 163 *e*PN **P** **05 36 44.6 -0.1**
DVHZ Dannevirke 32.34 159 PN **P** **05 36 44.5 -0.8**
MRZ Mangatainoka R 32.46 160 PN **P** **05 36 45.3 -1.0**
TCW Tory Channel 32.54 162 PN **P** **05 36 47.1 +0.1**
TUWZ Tuamarina 32.64 162 *e*PN **P** **05 36 48.1 +0.2**
HOWZ Holdsworth Sta 32.65 160 PN **P** **05 36 47.1 -0.9**
THZ Tophouse 32.65 164|| *e*PN **P** **05 36 47.9 -0.2**
BFZ Birch Farm 32.71 159 *e*P **P** **05 36 48.0 -0.5**
comp=Z,1µm,1.6s

SNZO South Karori 32.76 161 *e*P **P** **05 36 47.9 -1.0**
comp=Z,250nm,0.8s
SNZO LR LR
comp=Z,75µm,22.0s
BSWZ Blackbirch Sta 32.88 163 PN **P** **05 36 49.8 -0.1**
MTW Mount Morrison 32.88 160 PN **P** **05 36 49.1 -0.9**
MSAI Masohi 33.08 280 P **P** **05 36 54.1 +2.0**
comp=Z,146nm,0.8s,comp=Z,3µmcomp=Z,14µm
WVZ Waitaha Valley 33.37 168 PN **P** **05 36 54.7 +0.5**
KHZ Kahutara 33.43 164 *e*P **P** **05 36 54.4 -0.4**
comp=Z,5µm,2.2s
LTZ Lake Taylor 33.44 166 PN **P** **05 36 54.7 -0.3**
FOZ Fox Glacier 33.63 169 PN **P** **05 36 56.4 -0.1**
AAI Ambon 33.71 279 P **P** **05 36 59.9 +2.3**
comp=Z,649nm,1.0s,comp=Z,15µmcomp=Z,97µm
OXZ Oxford 33.90 166 PN **P** **05 36 58.0 -0.8**
RPZ Rata Peaks 34.05 168 P **P** **05 37 00.5 +0.3**
comp=Z,308nm,0.8s,baz=351,slow=1.6,SNR=35
RPZ Rata Peaks 34.05 168 *e*P **P** **05 36 59.9 -0.3**
comp=Z,567nm,1.0s
MQZ McQueen's Vall 34.41 166 PN **P** **05 37 02.6 -0.6**
TAU Tasmania Unive 34.51 199 P **P** **05 37 05.6 +1.5**
comp=Z,2µm,1.5s,SNR=6.7
TAU Tasmania Unive 34.51 199 *e*P **P** **05 37 04.9 +0.8**
comp=Z,717nm,1.4s
TAU LR LR
comp=Z,42µm,20.0s
LBZ Lake Benmore 34.52 169 PN **P** **05 37 03.2 -1.1**
NLAI Namlea 34.88 280 P **P** **05 37 08.8 +1.1**
comp=Z,660nm,2.0s,comp=Z,12µmcomp=Z,56µm
DCZ Deep Cove 35.12 173 PN **P** **05 37 08.8 -0.5**
DCZ Deep Cove 35.12 173 *e*P **P** **05 37 09.1 -0.3**
comp=Z,478nm,1.0s
LBMI Labuha 35.19 284 P **P** **05 37 12.6 +2.2**
comp=Z,974nm,1.3s,comp=Z,16µm
WHZ Wether Hill Ro 35.63 172 *e*P **P** **05 37 13.0 -0.8**
comp=Z,3µm,2.6s
TNTI Ternate 35.76 286 P **P** **05 37 18.1 +2.8**
comp=Z,451nm,1.4s,comp=Z,9µmcomp=Z,62µm
TNTI Ternate 35.76 286 *e*P **P** **05 37 17.2 +1.9**
comp=Z,967nm,1.4s
TUZ Tuapeka 35.94 170 PN **P** **05 37 15.8 -0.6**
SANI Sanana 36.25 281 P **P** **05 37 20.5 +1.0**
comp=Z,746nm,1.1s,comp=Z,14µmcomp=Z,79µm
APZ The Paps 36.56 173 *e*PN **P** **05 37 20.4 -1.4**
SOEI Soe 36.63 268 P **P** **05 37 25.1 +2.2**
comp=Z,538nm,1.1s,comp=Z,13µmcomp=Z,130µm
SOEI Soe 36.63 268 *e*P **P** **05 37 24.2 +1.4**
comp=Z,880nm,1.3s
FORT Forrest 36.96 232 *e*P **P** **05 37 25.2 -0.2**
comp=Z,413nm,0.9s
SGSI Sangihe 38.50 290 P P 05 37 49.1 +11
MMRI Maumere 38.73 269 P **P** **05 37 40.4 -0.1**
comp=Z,1µm,1.1s,comp=Z,16µmcomp=Z,75µm
MMRI Maumere 38.73 269 *e*P **P** **05 37 39.5 -1.0**
comp=Z,2µm,1.3s
BBSI Bau Bau 38.84 274 P P 05 37 46.5 +5.0
comp=Z,753nm,1.7s,comp=Z,17µm
KMSI Cibinong 38.91 284 P **P** **05 37 43.9 +1.9**
comp=Z,4µm,1.0s,comp=Z,33µmcomp=Z,51µm
KDI Kendari 39.08 277 P **P** **05 37 45.7 +2.2**
comp=Z,120nm,1.6s,comp=Z,7µmcomp=Z,85µm
LUWI Luwuk 39.61 281 P **P** **05 37 49.7 +1.8**
comp=Z,2µm,1.2s,comp=Z,21µmcomp=Z,68µm
LUWI Luwuk 39.61 281 *e*P **P** **05 37 47.7 -0.2**
comp=Z,1µm,1.0s
DAV Davao City (W) 39.81 295 PFAKE 05 38 00.0 +10
DAV LR LR
comp=Z,40µm,22.0s
BASI Baing, Sumba 40.22 267 P P 05 37 56.5 +3.6
comp=Z,1µm,1.2s,comp=Z,20µm
WSI Waingapu 40.54 267 P P 05 38 04.0 +8.4
APSI Ampana 40.73 281 P **P** **05 37 58.2 +1.0**
comp=Z,1µm,1.2s,comp=Z,17µmcomp=Z,47µm
BSSI Bau Bau, Buton 40.78 273 P **P** **05 37 57.9 +0.4**
comp=Z,1µm,0.9s,comp=Z,15µmcomp=Z,52µm
MRSI Marisa 40.83 283 P **P** **05 37 58.0 0.0**
comp=Z,400nm,1.2s,comp=Z,7µm
BKSI Bulukumba 41.27 274 P **P** **05 38 03.1 +1.5**
comp=Z,296nm,2.2s,comp=Z,6µmcomp=Z,47µm
MBWA Marble Bar 41.41 250 P **P** **05 38 03.8 +1.1**
SNR=22
MBWA mb 05 38 20.6
SNR=45
MBWA Marble Bar 41.41 250 *e*P **P** **05 38 03.1 +0.4**
comp=Z,253nm,0.7s
MBWA LR LR
comp=Z,90µm,21.0s
KAPI Kappang 41.69 274 P **P** **05 38 05.2 +0.2**
comp=Z,2µm,0.8s,SNR=15
KAPI Kappang 41.69 274 P **P** **05 38 06.1 +1.1**
SNR=42
KAPI mb 05 38 23.0
SNR=102
KAPI Kappang 41.69 274 *e*P **P** **05 38 05.5 +0.5**
comp=Z,2µm,1.4s
KAPI LR LR
comp=Z,35µm,20.0s
SPSI Sidrap Palu 41.87 276 P **P** **05 38 06.2 -0.3**
comp=Z,361nm,0.9s,comp=Z,8µm
JCJ Chichijima 41.87 334 P **P** **05 38 06.4 +0.1**
comp=Z,422nm,0.7s,baz=203,slow=2.5,SNR=34
JCJ LR LR 05 54 18.1
comp=Z,60µm,21.8s,baz=142,slow=34
CBIJ Chichi jima 41.87 334 *e*P **P** **05 38 05.7 -0.6**
comp=Z,574nm,1.1s
TOLI Toli-Toli 42.11 284 *e*P **P** **05 38 08.8 +0.2**
comp=Z,536nm,0.7s
PLP Palo 42.23 300|| *e*P **P** **05 38 08.6 -0.7**
PCI Palu 42.48 280 P **P** **05 38 14.2 +2.7**
comp=Z,1µm,1.2s,comp=Z,17µm
XMAS Kiritimati 42.74 75 *e*P **P** **05 38 14.9 +1.3**
comp=Z,621nm,1.1s
XMAS LR LR
comp=Z,36µm,20.0s
MPSI Mapaga 42.75 282 P **P** **05 38 13.3 -0.4**
comp=Z,317nm,1.0s,comp=Z,6µm
MIDW Midway 43.65 27 *e*P **P** **05 38 22.4 +1.7**
comp=Z,240nm,0.8s
MIDW LR LR
comp=Z,70µm,20.0s
MCQ Macquarie Isla 43.86 182 *e*P **P** **05 38 23.3 +1.3**
RCP Roxas 44.34 299|| *e*P **P** **05 38 29.2 +2.8**
BKB Balikpapan 45.25 279 P P 05 38 37.9 +4.2
comp=Z,1µm,1.3s,comp=Z,16µmcomp=Z,75µm
KBKI Kotabaru 45.52 276 P **P** **05 38 37.4 +1.5**
comp=Z,373nm,1.3s,comp=Z,7µmcomp=Z,43µm
DNP Denpasar 45.63 268 P **P** **05 38 38.5 +1.7**
comp=Z,3µm,1.2s,comp=Z,33µm
IGBI Denpasar 45.68 268 P **P** **05 38 37.4 +0.2**
comp=Z,2µm,1.1s,comp=Z,23µm
GQP Guinayangan 45.73 301|| *e*P **P** **05 38 40.0 +2.5**
TSM Tawau 45.87 287|| *e*P **P** **05 38 39.7 +1.1**
ABJI Asem Bagus 46.70 269 P **P** **05 38 47.0 +1.9**
comp=Z,750nm,1.3s,comp=Z,13µm
JAGI Jajag, Banyuwa 46.70 268 P **P** **05 38 44.1 -1.1**
comp=Z,2µm,1.1s,comp=Z,16µmcomp=Z,62µm
JAGI Jajag, Banyuwa 46.70 268 *e*P **P** **05 38 43.6 -1.6**
comp=Z,961nm,0.7s
BBKI Banjar Baru 46.79 275 P **P** **05 38 48.8 +2.9**
comp=Z,1µm,1.4s,comp=Z,19µm
SDKM Sandakan 46.95 288|| *e*P **P** **05 38 48.2 +1.0**
KMMI Kalianget 47.06 270 P **P** **05 38 50.5 +2.5**
comp=Z,403nm,1.4s,comp=Z,8µmcomp=Z,91µm
PPR Puerto Princes 47.09 294|| *i*P **P** **05 38 50.8 +2.6**
BLJI Banyuglugur 47.33 269 P **P** **05 38 50.1 0.0**
comp=Z,1µm,1.1s,comp=Z,11µm
KDM Kudat 47.73 289|| *e*P **P** **05 38 54.6 +1.4**
PAE Paea 47.87 104 *e*P **P** **05 38 53.5 -0.7**
comp=Z,17nm,1.0s
PPT Papeete 47.87 104 P **P** **05 38 54.3 +0.1**
comp=Z,92nm,0.9s,baz=200,slow=3.6,SNR=8.4
PPT LR LR 05 54 26.8
comp=Z,60µm,21.8s,baz=271,slow=30
PPT2 Papeete2 47.87 104 *e*P **P** **05 38 54.0 -0.3**
comp=Z,153nm,1.6s
PPT2 Papete2 47.87 104 *e*PP PP 05 40 43.2 -3.3
comp=Z,9µm,28.5s
PPT2 *e*S **S** **05 45 50.1 +1.0**
comp=Z,31µm,26.8s
PPT2 *e*SS **SS** **05 49 21.3 +3.1**
comp=Z,34µm,29.5s
PPT2 *e*LQ LQ 05 50 33.3
comp=Z,161µm,28.5s
PPT2 *e*LR LR 05 52 37.3
comp=Z,179µm,26.0s,baz=274
KKM Kota Kinabalu 48.00 288 *e*P **P** **05 38 55.2 -0.3**
comp=Z,416nm,0.8s
KKM LR LR
comp=Z,80µm,22.0s
TIAR Tiarei 48.09 104 *e*P **P** **05 38 55.6 -0.4**
comp=Z,40nm,1.1s
JHJ2 Mitsune 48.10 335 *e*P **P** **05 38 56.2 +0.5**
comp=Z,996nm,1.3s
TVO Taravao 48.18 104 *e*P **P** **05 38 56.4 -0.4**
comp=Z,35nm,0.9s
TBI Tubuai 48.39 112 *e*P **P** **05 38 57.9 -0.3**
comp=Z,409nm,1.2s
TBI Tubuai 48.39 112 *e*PP PP 05 40 47.9 -3.1
comp=Z,7µm,32.5s
TBI *e*S **S** **05 45 56.5 +0.3**
comp=Z,24µm,32.5s
TBI *e*SS **SS** **05 49 28.3 +2.0**
comp=Z,22µm,32.0s
TBI *e*LQ LQ 05 50 46.9
comp=Z,194µm,34.0s
TBI *e*LR LR 05 52 48.5
comp=Z,105µm,31.2s,baz=286
GRJI Gresik 48.54 270 P P 05 39 05.0 +5.6
comp=Z,192nm,1.1s,comp=Z,3µm
PWJI Pagerwojo 49.06 269 P **P** **05 39 04.0 +0.6**
comp=Z,699nm,0.8s,comp=Z,10µm
TBJI Tambak Boyo 49.17 270 P P 05 39 08.7 +4.4
comp=Z,320nm,1.4s,comp=Z,7µmcomp=Z,44µm
JOW Kunigami 49.22 320 P **P** **05 39 05.2 +0.8**
comp=Z,28nm,0.8s,baz=141,slow=7.4,SNR=18
JOW LR LR 05 57 13.8
comp=Z,5µm,22.0s,baz=158,slow=33
JOW Kunigami 49.22 320 *e*P **P** **05 39 06.2 +1.8**
comp=Z,465nm,1.3s
MEH Mehetia 49.32 104 *e*P **P** **05 39 04.9 -0.5**
comp=Z,28nm,1.1s
H01W1 Cape Leeuwin H 49.34 233 P **P** **05 39 07.1 +2.1**
baz=88,slow=6.3,SNR=22
H01W3 Cape Leeuwin H 49.35 233 P P 05 39 08.6 +3.5
baz=88,slow=6.3,SNR=22
H01W2 Cape Leeuwin H 49.36 233 P P 05 39 08.9 +3.7
baz=88,slow=6.3,SNR=17
PMOR Pomariorio Ree 49.48 101 *e*P **P** **05 39 06.5 -0.1**
comp=Z,371nm,1.3s
VAH Vaihoa 49.73 101 *e*P **P** **05 39 08.2 -0.3**
comp=Z,277nm,1.4s
PBKI Pangkalan Bun 50.04 275 P **P** **05 39 13.6 +2.7**
comp=Z,884nm,1.0s,comp=Z,11µmcomp=Z,53µm
BTM Bintulu 50.09 283|| P **P** **05 39 12.5 +1.2**
UWJI Ujung Watu 50.11 270 P **P** **05 39 12.8 +1.3**
comp=Z,908nm,1.4s,comp=Z,10µm
UGM Wanagama 50.33 268 P **P** **05 39 15.4 +2.2**
comp=Z,1µm,1.1s,comp=Z,13µm
SMRI Semarang 50.52 270 P **P** **05 39 15.5 +0.9**
comp=Z,1µm,0.9s,comp=Z,19µm
SMRI Semarang 50.52 270 *e*P **P** **05 39 15.5 +0.9**
comp=Z,812nm,0.8s
SBUM Sibu 50.71 282|| P **P** **05 39 17.6 +1.6**
SBUM Sibu 50.71 282 *e*P **P** **05 39 16.1 +0.1**
STKI Sintang 50.83 279 P **P** **05 39 18.3 +1.4**
comp=Z,408nm,1.0s
HON Honolulu 50.87 51 *e*P **P** **05 39 18.9 +1.9**
KIP Kipapa 50.92 51*d i*P P 05 39 14.0 -3.4
KIP pmax pmax
comp=Z,1µm,1.2s
KIP Kipapa 50.92 51 *e*P **P** **05 39 18.0 +0.6**
comp=Z,1µm,1.2s
KIP LR LR
comp=Z,77µm,21.0s
YOJ Yonaguni jima 51.22 313 *e*P **P** **05 39 21.8 +2.2**
comp=Z,641nm,1.0s
TWG Pinlang 51.65 310 *e*P **P** **05 39 24.6 +1.7**
comp=Z,1µm,1.4s
MJAR Matsushiro Arr 51.73 336 P **P** **05 39 22.5 -0.8**
comp=Z,135nm,0.8s,baz=169,slow=8.8,SNR=91
MJAR LR LR 06 00 39.7
comp=Z,47µm,20.9s,baz=150,slow=35
MJAR PKPPKP **P'P'df** **06 09 58.4 +0.7**
comp=Z,2.1nm,1.0s,baz=326,slow=2.1,SNR=4.2
MAJO Matsushiro 51.73 336*c i*P **P** **05 39 22.7 -0.6**
MAJO pmax pmax
comp=Z,928nm,1.1s
MAJO Matsushiro 51.73 336 *e*P **P** **05 39 22.6 -0.6**
comp=Z,303nm,0.8s
MAJO LR LR
comp=Z,66µm,21.0s
MAT Matsushiro 51.73 336 P **P** **05 39 22.6 -0.7**
MAT S **S** **05 46 40.4 -1.9**
YULB Yu-li 51.82 311 *e*P **P** **05 39 25.8 +1.7**
comp=Z,343nm,0.9s
POHA Pohakuloa 51.96 55 *e*P **P** **05 39 26.2 +0.8**
comp=Z,3µm,1.1s
POHA LR LR
comp=Z,89µm,20.0s
KPJI Karang Pucung 51.97 269 P **P** **05 39 27.0 +1.6**
comp=Z,662nm,0.8s,comp=Z,11µm
NACB Ninganchiao 52.06 312 *e*P **P** **05 39 27.1 +1.2**
comp=Z,2µm,1.3s
TPUB Ta-pu 52.26 310 *e*P **P** **05 39 27.7 +0.2**
comp=Z,835nm,1.0s
KSM Kuching 52.30 280 *e*P **P** **05 39 27.5 -0.4**
comp=Z,293nm,1.0s
KSM LR LR
comp=Z,25µm,22.0s
SSLB Suanglung 52.31 311 *e*P **P** **05 39 27.3 -0.5**
JNU Nakatsue 52.34 327 P **P** **05 39 28.4 +0.5**
comp=Z,165nm,0.8s,baz=112,slow=3.5,SNR=50
JNU LR LR 06 01 56.5
comp=Z,14µm,18.2s,baz=144,slow=36
JNU Nakatsue 52.34 327 *e*P **P** **05 39 29.7 +1.8**
comp=Z,546nm,1.1s
CMJI Cimerak 52.38 268 P **P** **05 39 29.2 +0.7**
comp=Z,769nm,0.8s,comp=Z,10µm
YHNB Yeheng 52.52 312 *e*P **P** **05 39 30.7 +1.3**
comp=Z,993nm,1.0s
YHNB LR LR
comp=Z,62µm,20.0s
TATO Taipei 52.62 313 *e*P **P** **05 39 31.2 +1.2**
comp=Z,942nm,1.0s
TATO LR LR
comp=Z,80µm,20.0s
CISI Cisompet, Garu 53.04 268 P **P** **05 39 34.0 +0.6**
comp=Z,1µm,1.1s,comp=Z,13µmcomp=Z,70µm
CISI Cisompet, Garu 53.04 268 *e*P **P** **05 39 32.8 -0.7**
comp=Z,1µm,0.8s
LEM Lembang 53.33 269 P **P** **05 39 36.6 +0.9**
comp=Z,1µm,0.9s,comp=Z,18µm
CNJI Cibinong 53.74 269 P **P** **05 39 39.9 +1.4**
comp=Z,763nm,1.1s,comp=Z,9µm
TPI Tanjungpandan 53.97 274 P **P** **05 39 41.1 +0.9**
comp=Z,337nm,1.1s,comp=Z,7µmcomp=Z,77µm
CBJI Citeko 54.14 270 P **P** **05 39 41.9 +0.4**
comp=Z,1µm,1.3s,comp=Z,15µm
SKJI Sukabumi 54.35 269 P **P** **05 39 44.7 +1.7**
comp=Z,1µm,0.8s,comp=Z,14µmcomp=Z,35µm
QZH Quanzhou 54.73 311|| *i*P **P** **05 39 46.3 +0.8**
QZH S **S** **05 47 22.5 -0.8**
QZH LN
comp=Z,92µm,25.6s
QZH LE
comp=Z,66µm,18.5s
QZH LZ
comp=Z,77µm,20.2s
XMIS Christmas Isla 54.83 265 *e*P **P** **05 39 47.9 +1.4**
comp=Z,125nm,1.1s
SBJI Serang 54.89 270 P P 05 39 58.3 +11
ERM Erimo 54.97 343 P **P** **05 39 49.1 +2.2**
comp=Z,998nm,0.7s,SNR=10
ERM Erimo 54.97 343*d i*P **P** **05 39 47.7 +0.8**
ERM pmax pmax
comp=Z,133nm,1.1s
ERM MLR MLR
comp=Z,121µm,20.0s
ERM Erimo 54.97 343 *e*P **P** **05 39 49.4 +2.5**
comp=Z,944nm,1.4s
ERM LR LR
comp=Z,120µm,20.0s
KSNAH Namhae 55.21 326 P **P** **05 39 51.8 +3.0**
SNR=18
KSNAH Namhae 55.21 326 P **P** **05 39 51.8 +3.0**
SNR=18
CGJI Cibinong 55.25 269 P **P** **05 39 48.7 -0.8**
comp=Z,2µm,0.7s,comp=Z,18µm
KSDAG Daegu 55.41 328 P **P** **05 39 52.9 +2.6**
SNR=17
KSDAG Daegu 55.41 328 P **P** **05 39 52.9 +2.6**
SNR=17
KSJIN Jinju 55.41 327 P **P** **05 39 52.7 +2.5**
SNR=13

KSJIN Jinju 55.41 327 P P 05 39 52.7 +2.5
SNR=13
KSKOH Goheung 55.42 326 P P 05 39 52.0 +1.8
SNR=9.6
KSPHA Pohang 55.49 329 P P 05 39 53.6 +2.8
SNR=34
KSYOC YEONGCHEON 55.54 328 P P 05 39 53.8 +2.7
SNR=20
KSYOC YEONGCHEON 55.54 328 P P 05 39 53.8 +2.7
SNR=20
PPBI Pangkal Pinang 55.57 275 P P 05 39 52.6 +0.8
comp=Z,303nm,1.0s,comp=Z,8μm
KSWAN Wando 55.57 325 P P 05 39 55.7 +4.3
SNR=5.3
KSULL Ulleungdo 55.74 331 P P 05 39 54.8 +2.3
SNR=6.8
KSULL Ulleungdo 55.74 331 P P 05 39 54.8 +2.3
SNR=6.8
KSULJ Uljin 55.87 329 P P 05 39 56.0 +2.5
SNR=32
KSEUS ULSEONG 55.97 328 P P 05 39 56.6 +2.4
SNR=16
KSEUS ULSEONG 55.97 328 P P 05 39 56.6 +2.4
SNR=16
KSKWJ Gwangju 55.98 326 P P 05 39 57.5 +3.2
SNR=6.4
KSGWJ Gwangju-acc 56.05 326 P P 05 39 58.5 +3.8
SNR=8.8
YUK Yuzh-Kuril'sk 56.17 346*c* *i*P P 05 39 53.2 -2.3
YUK *i* 05 40 51.7
YUK *i* 05 41 59.0
YUK *i* PPP PPP 05 43 21.7
YUK *i* S S 05 47 40.9 -1.1
YUK *i* SS ScS 05 49 35.9 -5.5
YUK *i* SSS SSS 05 53 36.5
YUK pmax pmax
comp=Z,3μm,7.0s
YUK pmax pmax
comp=N,274nm,1.3s
YUK pmax pmax
comp=E,260nm,1.3s
YUK pmax pmax
comp=Z,529nm,1.3s
KSCPR CHUPUNGNYEONG 56.24 328 P P 05 39 58.8 +2.6
SNR=29
KSCPR CHUPUNGNYEONG 56.24 328 P P 05 39 58.8 +2.6
SNR=17
KSJEU Jeongeup 56.26 326 P P 05 39 57.8 +1.5
SNR=13
KLI Kotabumi 56.34 271 P P 05 40 00.2 +2.9
comp=Z,204nm,1.4s
KSJEO Jeonju 56.39 327 P P 05 40 01.3 +4.1
SNR=48
KSTBA Taebaek 56.42 329 P P 05 40 00.8 +3.2
SNR=45
KLSI 56.49 271 P P 05 39 58.5 +0.1
comp=Z,188nm,1.6s,comp=Z,7μm
KSHUK Heuksando 56.50 324 P P 05 40 00.5 +2.5
SNR=6.8
KSHUK Heuksando 56.50 324 P P 05 40 00.5 +2.5
SNR=6.8
KSBON Boeun 56.55 328 P P 05 40 01.1 +2.7
SNR=22
KASI Kota Agung 56.59 270 P P 05 39 58.9 -0.2
comp=Z,528nm,0.8s,comp=Z,7μmcomp=Z,36μm
SSE Sheshan 56.66 318 ⇑P P 05 39 59.5 +0.3
SSE pP pP 05 40 10.8 -0.2
SSE S S 05 47 45.5 -3.4
SSE PMZ
comp=Z,41nm,0.7s
SSE PMZ
comp=Z,4μm,12.0s
SSE LN
comp=Z,28μm,21.9s
SSE LE
comp=Z,13μm,21.8s
SSE LZ
comp=Z,35μm,21.9s
KSTEJ Daejeon 56.67 327 P P 05 40 01.7 +2.4
SNR=12
TJN Taejon 56.68 327*c* *i*P P 05 39 59.8 +0.5
KSYOW Yeongwol 56.72 329 P P 05 40 02.1 +2.6
SNR=18
HKC Hong Kong Obse 56.73 305 *i* P P 05 40 04.0 +4.1
KSGUS GUNSAN 56.74 327 P P 05 40 02.1 +2.4
SNR=19
PMBI Palembang 56.76 273 P P 05 40 04.0 +3.7
comp=Z,936nm,1.0s,comp=Z,15μm
KSJES JEONGSEON 56.81 329 P P 05 40 02.9 +2.6
SNR=13
KSCEJ CHEONGJU 56.84 327 P P 05 40 02.3 +1.9
SNR=16
KSKOJ Gongju 56.87 327 P P 05 40 02.9 +2.3
SNR=59
KUR Kuril'sk 56.89 349 P P 05 39 57.4 -3.2
KUR *i* S S 05 47 47.2 -4.2
KUR pmax pmax
comp=Z,167nm,1.1s
KSDGY Daegwallycong 57.00 329 P P 05 40 02.7 +1.0
SNR=21
MDSI Maura Dua 57.07 271 P P 05 40 01.9 -0.6
comp=Z,330nm,1.4s,comp=Z,5μm
ASAJ Asahikawa 57.07 344 P P 05 40 03.2 +1.3
comp=Z,856nm,1.0s,baz=199,slow=8.2,SNR=54
ASAJ LR LR 06 01 58.0
comp=Z,146μm,21.9s,baz=185,slow=33
ASAJ Asahikawa 57.07 344 *e*P P 05 40 03.1 +1.3
comp=Z,397nm,1.0s
KSCEA Cheonan 57.08 327 P P 05 40 04.2 +2.1
SNR=21
KSWJU Wonju 57.10 328 P P 05 40 04.7 +2.4
SNR=24
LWLI Liwa 57.10 271 P P 05 40 03.1 +0.2
comp=Z,544nm,1.0s,comp=Z,8μm
KSJMJ Jumunjin 57.11 329 P P 05 40 03.6 +1.3
SNR=56
KSRS Korea Array 57.20 328 P P 05 40 03.4 +0.4
comp=Z,113nm,0.8s,baz=143,slow=7.3,SNR=70
KSRS LR LR 06 02 41.7
comp=Z,61μm,20.9s,baz=130,slow=34
KSRS PKP2bc 06 09 58.0
comp=Z,1.5nm,0.6s,baz=299,slow=3.0,SNR=4.8
DLV T Lat 57.21 292 *e*P P 05 40 03.9 +0.2
comp=Z,284nm,1.1s
KSAR Wonju Array Be 57.22 328 P P 05 40 03.4 +0.3
KSAR ⇑*e* 06 09 58.0
KSICN Icheon 57.34 328 P P 05 40 05.9 +1.9
SNR=14
KSSES Seosan 57.48 327 P P 05 40 07.4 +2.5
SNR=22
TAOE Nuku Hiva Isla 57.48 94 *e*P P 05 40 04.9 -0.6
comp=Z,409nm,1.3s
TAOE Nuku Hiva Isla 57.48 94 *e*PP PP 05 42 11.7 -1.8
comp=Z,10μm,30.4s
TAOE *e*S S 05 48 00.8 +0.2
comp=Z,20μm,27.1s
TAOE *e*SS SS 05 51 53.8 +2.8
comp=Z,25μm,32.4s
TAOE *e*LQ LQ 05 54 42.0
comp=Z,55μm,28.2s
TAOE *e*LR LR 05 57 06.0
comp=Z,122μm,24.9s,baz=270
KSCHC Chuncheon 57.51 329 P P 05 40 07.7 +2.6
SNR=34
KSIJA INJE 57.52 329 P P 05 40 07.7 +2.5
SNR=70
KSSKC Sokcho 57.54 330 P P 05 40 06.3 +0.9
SNR=28
KSSWO Suwon 57.56 328 P P 05 40 07.8 +2.3
SNR=12
SEHB SEOHWA 57.66 329 P P 05 40 07.1 +0.9
SNR=45
KSSEO Seoul 57.75 328 P P 05 40 09.1 +2.3
SNR=18
TPRI Tanjung Pinang 57.78 278 P P 05 40 08.9 +1.3
comp=Z,317nm,1.0s,comp=Z,27μm
GZH Guangzhou 57.78 306 P P 05 40 09.0 +1.7
GZH S S 05 48 06.0 +2.0
GZH SS SS 05 52 03.5 +8.2
GZH PMZ
comp=Z,6μm,7.8s
GZH LN
comp=Z,28μm,19.2s
GZH LE
comp=Z,43μm,20.5s
GZH LZ
comp=Z,102μm,23.5s

LHSI Lahat 57.83 272 P P 05 40 08.4 +0.6
comp=Z,349nm,1.0s,comp=Z,6μm
DRV Dumont d'Urvil 57.88 190 P P 05 39 47.0 -20
DRV S S 05 47 45.0 -19
DRV SS SS 05 51 43.0 -12
DRV L L 05 54 00.0
DRV R 05 56 00.0
KSCWO Cheorwon 57.89 329 P P 05 40 08.8 +1.0
SNR=37
INCN Inchon 57.90 328 P P 05 40 09.8 +1.9
SNR=77
INCN Inchon 57.90 328 *e*P P 05 40 08.3 +0.4
comp=Z,1μm,1.0s
INCN LR LR
comp=Z,56μm,22.0s
KSDDC Dongducheon 57.99 328 P P 05 40 11.0 +2.5
SNR=6.4
JMBI JAMBI 58.11 275 P P 05 40 14.2 +4.3
comp=Z,907nm,0.9s,comp=Z,21μmcomp=Z,85μm
KSMUS Musan 58.14 328 P P 05 40 11.9 +2.4
SNR=41
YNCB YEONCHEON 58.16 328 P P 05 40 12.2 +2.5
SNR=30
KSGAH Ganghwa 58.16 328 P P 05 40 10.6 +0.9
SNR=42
MNAI Manna 58.29 271 P P 05 40 17.0 +5.9
comp=Z,453nm,1.2s,comp=Z,9μm
MNAI Manna 58.29 271 *e*P P 05 40 11.4 +0.3
comp=Z,406nm,1.0s
QIZ Qiongzhong 58.79 300 P P 05 40 14.5 0.0
QIZ pP pP 05 40 23.3 -3.0
QIZ S S 05 48 09.8 -7.5
QIZ sS sS 05 48 34.5 -2.4
QIZ LN
comp=Z,25μm,20.6s
QIZ LE
comp=Z,20μm,24.5s
QIZ LZ
comp=Z,89μm,25.2s
QIZ Qiongzhong 58.79 300 *e*P P 05 40 16.5 +2.0
comp=Z,160nm,1.1s
QIZ LR LR
comp=Z,25μm,22.0s
NJ2 Nanjing 58.80 318 *e*P P 05 40 16.8 +2.5
NJ2 pP pP 05 40 25.8 -0.3
NJ2 sP sP 05 40 31.3 +0.6
NJ2 S S 05 48 18.0 +1.0
NJ2 sS sS 05 48 36.0 -0.5
NJ2 PMZ
comp=Z,80nm,0.8s
NJ2 LN
comp=Z,61μm,26.8s
NJ2 LE
comp=Z,81μm,25.0s
NJ2 LZ
comp=Z,81μm,24.8s
MASI Maura Aman, Be 59.21 273 P P 05 40 18.6 +1.1
comp=Z,670nm,1.2s,comp=Z,7μm
KSBAR Backryungdo 59.29 327 P P 05 40 20.2 +2.7
SNR=7.5
RGRI Rengat 59.65 276 P P 05 40 23.4 +2.8
comp=Z,828nm,1.1s,comp=Z,183μm
YSS Yuzh-Sakhalins 59.66 345⇑ *i*P P 05 40 20.0 +0.1
YSS *e**PP pP 05 40 32.0 +0.3
YSS *i* *SP sP 05 40 35.0 -1.4
YSS *e* 05 41 04.0
YSS *e* 05 42 37.0
YSS *e*S S 05 48 24.0 -3.5
YSS *e*PS PnS 05 48 44.0 -0.5
YSS pmax pmax
comp=Z,310nm,1.0s
YSS pmax pmax
comp=Z,4μm,8.0s
YSS smax smax
comp=N,14μm,14.0s
YSS smax smax
comp=E,4μm,12.0s
YSS Yuzh-Sakhalins 59.66 345 *e*P P 05 40 20.5 +0.6
comp=E,925nm,1.2s
YSS LR LR
comp=Z,26μm,21.0s
VLA Vladivostok 59.88 335⇓ *i*P P 05 40 22.5 +1.0
VLA 05 41 09.0
VLA *e*S S 05 48 33.9 +3.4
VLA pmax pmax
comp=Z,263nm,1.1s
SDSI Sungai Dareh 60.42 275 P P 05 40 28.9 +3.1
comp=Z,514nm,1.2s,comp=Z,10μm
USRK Ussuriysk Ar. 60.73 336 P P 05 40 28.0 +0.7
comp=Z,565nm,1.0s,baz=146,slow=6.7,SNR=101
USRK LR LR 06 05 17.4
comp=Z,35μm,20.6s,baz=126,slow=34
USRK PKPPKP P'P'df 06 09 43.5 -0.7
comp=Z,3.4nm,0.9s,baz=46,slow=8.2,SNR=6.0
WHN Wuhan 61.00 314⇓ P P 05 40 30.5 +1.1
WHN S S 05 48 44.0 -1.3
WHN LN
comp=Z,79μm,19.0s
WHN LE
comp=Z,62μm,18.6s
WHN LZ
comp=Z,135μm,21.5s
BKNI Bangkinang 61.06 276 P P 05 40 32.0 +1.9
comp=Z,1μm,1.1s,comp=Z,13μmcomp=Z,61μm
BKNI Bangkinang 61.06 276 *e*P P 05 40 32.1 +1.9
comp=Z,1μm,1.1s
UBPT Khong Chiam 61.14 294 P P 05 40 32.0 +1.4
comp=Z,124nm,0.7s,comp=Z,4μm
SKR Severo-Kuril's 61.18 356 *e*P P 05 40 22.0 -8.1
SKR *e* 05 42 41.0
SKR *e*S S 05 48 42.0 -4.8
SKR *e*PS PnS 05 49 02.0 -3.1
SKR *e*SS SS 05 52 44.0 -3.6
SKR *e*SSS SSS 05 55 30.0
SKR pmax pmax
comp=N,130nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s
SKR pmax pmax
comp=N,5μm,14.0s
SKR pmax pmax
comp=Z,9μm,14.0s
SKR pmax pmax
comp=E,3μm,10.0s
SKR smax smax
comp=N,19μm,20.0s
SKR smax smax
comp=E,7μm,20.0s
SKR MLR MLR
comp=N,32μm,18.0s
SKR MLR MLR
comp=E,29μm,18.0s
SKR MLR MLR
comp=Z,53μm,18.0s
PDSI Padang 61.37 275 P P 05 40 32.4 +0.1
comp=Z,134nm,1.0s,comp=Z,6μm
PPSI Pulau Pagai 61.47 273 P P 05 40 34.9 +2.0
comp=Z,978nm,0.9s,comp=Z,11μm
RKT Rikitea 61.67 111 *e*P P 05 40 33.5 -0.7
comp=Z,113nm,1.2s
RKT Rikitea 61.67 111 *e*PP PP 05 42 48.1 -2.2
comp=Z,4μm,31.2s
RKT *e*S S 05 48 54.9 +0.7
comp=Z,19μm,30.5s
RKT *e*SS SS 05 52 57.9 +1.6
comp=Z,21μm,34.0s
RKT *e*LQ LQ 05 56 22.6
comp=Z,81μm,39.2s
RKT *e*LR LR 05 58 59.9
comp=Z,170μm,27.0s,baz=278
IPM Ipoh 62.02 281 *e*P P 05 40 36.0 -0.7
comp=Z,424nm,1.1s
MDJ Mudanjiang 62.06 335 P P 05 40 37.0 +0.7
MDJ sP sP 05 40 50.0 -2.8
MDJ ScP ScP 05 45 17.3 +2.1
MDJ PcS PcS 05 45 21.5 +2.1
MDJ S S 05 49 01.3 +3.1
MDJ SS SS 05 53 00.5 -1.2
MDJ PMZ
comp=Z,86nm,1.1s
MDJ PMZ
comp=Z,7μm,7.0s
MDJ LN
comp=Z,58μm,22.5s
MDJ LE
comp=Z,65μm,24.2s
MDJ LZ
comp=Z,65μm,19.2s
MDJ Mudanjiang 62.06 335 *e*P P 05 40 37.2 +1.0
comp=Z,1μm,1.3s
MDJ LR LR
comp=Z,71μm,20.0s
TIA Tai'an 62.53 320 ⇑P P 05 40 39.0 -0.6
TIA S S 05 49 02.0 -2.5
TIA PMZ
comp=Z,100nm,0.9s
TIA PMZ
comp=Z,9μm,12.0s
TIA LN
comp=Z,42μm,24.0s
TIA LE
comp=Z,26μm,21.0s
TIA LZ
comp=Z,53μm,23.0s
MNSI Mandailing Nat 62.58 276 P P 05 40 39.3 -1.1
comp=Z,789nm,1.0s,comp=Z,7μm
KULM Kulim 62.59 282 *e*P P 05 40 39.9 -0.6
comp=Z,153nm,1.0s
KULM LR LR
comp=Z,16μm,20.0s
SISI Saibi 62.64 274 P P 05 40 43.1 +2.3
comp=Z,476nm,1.0s,comp=Z,6μmcomp=Z,43μm
SNY Shenyang 62.70 329 ⇑P P 05 40 40.8 +0.2
SNY S S 05 49 00.5 -5.8
SNY PMZ
comp=Z,39nm,0.6s
SNY PMZ
comp=Z,5μm,12.0s
SNY LN
comp=Z,52μm,24.6s
SNY LE
comp=Z,31μm,21.0s
SNY LZ
comp=Z,59μm,26.4s
SKNT Sakolnakorn 63.09 295 P P 05 40 43.5 -0.2
comp=Z,205nm,1.3s,comp=Z,4μm
SKLT Songkhla 63.10 284 P P 05 40 43.9 0.0
comp=Z,186nm,1.2s,comp=Z,4μm
CN2 Changchun 63.26 332 *e*P P 05 40 44.3 0.0
CN2 *e*pP pP 05 40 57.3 +1.1
CN2 *e*sP sP 05 41 02.5 +1.7
CN2 *e*S S 05 49 15.3 +2.0
CN2 SS SS 05 53 20.5 -0.1
CN2 PMZ
comp=Z,60nm,0.8s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,41μm,21.0s
CN2 LE
comp=Z,11μm,21.0s
CN2 LZ
comp=Z,33μm,22.0s
HABR Khabarovsk 63.27 341*c* *i*P P 05 40 44.3 +0.1
HABR *e**PP pP 05 40 54.5 -1.6
HABR *e**SP sP 05 40 58.6 -2.2
HABR *e* 05 41 20.9
HABR *e* 05 43 04.2
HABR PPP PPP 05 44 33.5
HABR *e*S S 05 49 15.3 +2.1
HABR *e* 05 49 27.6
HABR *e**SS sS 05 49 32.4 -0.5
HABR *e* 05 50 34.9
HABR *e*SS SS 05 53 22.3 +1.8
HABR pmax pmax
comp=E,40nm,2.2s
HABR pmax pmax
comp=Z,3μm,5.7s
HABR pmax pmax
comp=N,68nm,1.6s
HABR pmax pmax
comp=Z,319nm,1.6s
HABR MLR MLR
comp=E,22μm,18.0s
HABR MLR MLR
comp=N,29μm,20.0s
HABR MLR MLR
comp=Z,44μm,18.0s
COCO West Island 63.27 262 *i*P P 05 40 50.0 +5.1
COCO West Island 63.27 262 *e*P P 05 40 48.4 +3.5
comp=Z,326nm,1.1s
COCO LR LR
comp=Z,21μm,21.0s
TYV Tymovskoe 63.34 347 *e*P P 05 40 46.0 +1.4
TYV *e*S S 05 49 18.5 +4.5
TYV pmax pmax
comp=E,55nm,0.8s
TYV smax smax
comp=N,2μm,3.0s
PET Petropavlovsk 63.39 358*d* *i*P P 05 40 44.0 -0.9
PET *e*S S 05 49 12.6 -1.9
PET *e*SS SS 05 53 22.6 +0.4
PET pmax pmax
comp=Z,253nm,1.2s
PET pmax pmax
comp=Z,7μm,17.1s
PET pmax pmax
comp=Z,9μm,14.9s
PET smax smax
comp=N,9μm,14.2s
PET Petropavlovsk 63.39 358 *e*P P 05 40 45.9 +1.0
comp=N,1μm,1.8s
PET LR LR
comp=Z,61μm,22.0s
PEA0B Petropavlovsk- 63.51 357 *e*P P 05 40 47.5 +1.7
PETK Petropavlovsk- 63.51 357 P P 05 40 46.2 +0.4
comp=Z,44nm,0.7s,baz=155,slow=8.0,SNR=34
PETK LR LR 06 04 19.8
comp=Z,30μm,21.9s,baz=172,slow=32
PETK PKP2ab 06 09 57.2
comp=Z,4.5nm,0.9s,baz=116,slow=3.4,SNR=3.6
PBSI Pulau Batu 63.68 275 P P 05 40 50.9 +3.2
comp=Z,878nm,1.1s,comp=Z,10μm
TRTT Trang 64.17 284 P P 05 40 51.8 +0.9
comp=Z,273nm,1.6s,comp=Z,4μm
TSI Tuntungan 64.17 279 P P 05 40 53.2 +2.3
comp=Z,622nm,1.1s,comp=Z,7μm
ENH Enshi 64.39 311 *e*P P 05 40 53.1 +1.0
comp=Z,398nm,1.3s
ENH LR LR
comp=Z,970nm,21.0s
PATY Pattaya 64.55 290 P P 05 40 54.8 +1.5
comp=Z,101nm,1.1s,comp=Z,1μm
GSI Gunungsitoli 64.65 277 P P 05 40 53.7 -0.4
comp=Z,612nm,0.9s,comp=Z,8μm
GSI Gunungsitoli 64.65 277 *e*P P 05 40 53.4 -0.7
comp=Z,799nm,1.0s
GYA Guiyang 64.72 306⇑ *i*P P 05 40 54.0 -0.4
GYA pP pP 05 41 08.0 +1.6
GYA PcP PcP 05 41 30.5 +2.6
GYA PP PP 05 43 22.8 +5.5
GYA ScP 05 45 29.5
GYA S S 05 49 33.3 +0.9
GYA sS sS 05 49 52.5 +0.3
GYA SKS ScS 05 50 47.0 +0.6
GYA SS SS 05 53 47.5 +3.2
GYA PMZ
comp=Z,110nm,1.1s
GYA LN
comp=Z,29μm,25.4s
GYA LE
comp=Z,30μm,27.6s
GYA LZ
comp=Z,41μm,27.3s
SLVN Son La 64.82 300 *e*P P 05 40 55.2 +0.1
comp=Z,155nm,1.3s
ADK Adak 65.00 15 *e*P P 05 40 56.6 +1.1
comp=Z,1μm,1.3s
ADK LR LR
comp=Z,58μm,22.0s
KLR Kul'dur 65.04 339⇓ *i*P P 05 40 52.8 -3.1
KLR *e*S S 05 49 33.0 -2.2
KLR *e*SS SS 05 53 49.0 +0.9
KLR pmax pmax
comp=N,1μm,8.0s
KLR pmax pmax
comp=Z,4μm,8.0s
KLR smax smax
comp=N,9μm,10.0s
KLR smax smax
comp=E,6μm,10.0s
KLR MLR MLR

KLR MLR MLR
comp=E,6µm,18.0s
comp=Z,14µm,18.0s
SURT Suratani 65.33 285 P **P** **05 40 59.8 +1.4**
comp=Z,114nm,1.0s,comp=Z,2µm
CASY Casey 65.34 200 *e*P **P** **05 40 57.4 -0.2**
comp=Z,1µm,1.4s
CASY LR LR
comp=Z,29µm,20.0s
GSTR Great Sitkin T 65.34 15 *e*P **P** **05 40 59.0 +1.1**
comp=Z,62nm,0.4s
PKDT Phuket 65.48 284 P **P** **05 41 01.4 +2.0**
comp=Z,243nm,1.0s,comp=Z,14µm
BJT Baijiatuau 65.53 323 *e*P **P** **05 40 59.4 +0.1**
comp=Z,352nm,1.3s
BJT LR LR
comp=Z,31µm,20.0s
BJI Beijing 65.54 323 P **P** **05 41 01.0 +1.7**
BJI S **S** **05 49 40.0 -1.6**
BJI SS **SS** **05 54 01.8 +5.5**
BJI PMZ
comp=Z,100nm,1.3s
BJI PMZ
comp=Z,8µm,3.9s
BJI LN
comp=Z,36µm,26.2s
BJI LE
comp=Z,32µm,21.6s
BJI LZ
comp=Z,48µm,38.7s
PBKT Sadao Pong 65.64 294 P **P** **05 41 00.6 +0.2**
comp=Z,173nm,0.8s,comp=Z,5µm
NKL Nikolayevsk 65.92 346 *e*P P 05 40 56.7 -4.7
NKL *e* 05 41 08.0
NKL *e* 05 41 34.5
NKL *e* 05 49 42.0
NKL pmax pmax
comp=Z,150nm,0.9s
NKL pmax pmax
comp=N,800nm,6.0s
NKL pmax pmax
comp=E,2µm,6.0s
PTCN Pitcairn Islan 66.12 113 PFAKE 05 41 20.0 +17
PTCN LR LR
comp=Z,24µm,21.0s
LHMI Lhok Sumawe 66.14 281 P P 05 41 10.4 +6.7
comp=Z,380nm,1.3s,comp=Z,9µm
LHMI Lhok Sumawe 66.14 281 *e*P **P** **05 41 04.9 +1.2**
comp=Z,620nm,1.3s
UTTA Uttaradit 66.42 295 P **P** **05 41 05.4 0.0**
comp=Z,39nm,1.2s,comp=Z,371nm
TIY Taiyuan 66.42 319 *e*P **P** **05 41 05.3 +0.2**
TIY PP PP 05 43 38.8 +6.9
TIY S **S** **05 49 52.0 -0.7**
TIY SS **SS** **05 54 14.0 +3.7**
TIY PMZ
comp=Z,4µm,7.0s
TIY LN
comp=Z,16µm,17.4s
TIY LE
comp=Z,33µm,19.4s
TIY LZ
comp=Z,47µm,20.0s
SRDT SRDT 66.60 291 P **P** **05 41 08.4 +1.8**
comp=Z,620nm,1.2s,comp=Z,14µm
XAN Xi'an 66.75 314 P **P** **05 41 07.0 -0.3**
XAN pP **pP** **05 41 17.3 -1.9**
XAN sP **sP** **05 41 21.0 -2.9**
XAN PP **PP** **05 43 33.5 -1.3**
XAN S S 05 49 48.8 -8.0
XAN LN
comp=Z,13µm,21.1s
XAN LE
comp=Z,14µm,21.1s
XAN LZ
comp=Z,18µm,20.3s
VNDA Vanda 66.93 180 P **P** **05 41 08.2 +0.5**
comp=Z,165nm,0.8s,baz=344,slow=6.8,SNR=441
VNDA LR LR 06 04 52.3
comp=Z,25µm,21.6s,baz=5.0,slow=31
VNDA PKP2bc 06 09 37.5
comp=Z,1.3nm,0.9s,baz=198,slow=4.9,SNR=3.9
VNDA Vanda 66.93 180 *e*P **P** **05 41 08.2 +0.5**
comp=Z,1µm,1.5s
VNDA ⇑*e* 06 09 37.5
KHLT Khaolaem Dam 67.23 291 P P 05 41 13.9 +3.3
comp=Z,61nm,1.7s,comp=Z,2µm
SBA Scott Base 67.32 179 *e*P **P** **05 41 11.5 +1.4**
comp=Z,1µm,1.6s
SBA LR LR
comp=Z,21µm,20.0s
KMI Kunming 67.33 303 P **P** **05 41 12.8 +1.5**
KMI pP **pP** **05 41 23.3 0.0**
KMI sP **sP** **05 41 28.3 +0.3**
KMI PP **PP** **05 43 43.5 +3.3**
KMI S **S** **05 50 04.5 +0.1**
KMI SS **SS** **05 54 26.0 +1.0**
KMI PMZ
comp=Z,3µm,7.1s
KMI LN
comp=Z,19µm,17.3s
KMI LE
comp=Z,30µm,19.8s
KMI LZ
comp=Z,48µm,21.0s
CRAI Chiangrai 67.46 297 P P 05 41 07.9 -4.1
comp=Z,145nm,1.0s,comp=Z,2µm
LAMP Lampang 67.51 295 P **P** **05 41 12.7 +0.4**
comp=Z,103nm,0.8s,comp=Z,691nm
CM31 Chiang Mai Arr 68.10 295 *e*P **P** **05 41 16.4 +0.3**
comp=Z,628nm,0.9s
CMAR Chiang Mai Arr 68.10 295 P **P** **05 41 16.4 +0.3**
comp=Z,46nm,0.7s,baz=128,slow=5.0,SNR=94
CMAR PKPPKP **P'P'df** **06 09 35.0 -0.8**
comp=Z,11nm,0.9s,baz=294,slow=3.6,SNR=11
CMAR LR LR 06 10 46.7
comp=Z,11µm,20.8s,baz=109,slow=36
CMAR Chiang Mai Arr 68.10 295 *i*P **P** **05 41 16.3 +0.2**
CMAR pmax pmax
comp=Z,46nm,0.7s
CHTO Chiang Mai 68.22 295 P **P** **05 41 16.7 -0.1**
comp=Z,465nm,1.2s,comp=Z,14µm
CHTO Chiang Mai 68.22 295 P **P** **05 41 17.3 +0.4**
SNR=38
CHTO Chiang Mai 68.22 295 *e*P **P** **05 41 16.7 -0.1**
comp=Z,177nm,1.1s
CHTO LR LR
comp=Z,15µm,20.0s
CMAI Chiengmai2 68.52 296 P **P** **05 41 19.9 +1.0**
comp=Z,93nm,2.0s,comp=Z,3µm
HHC Hu-ho-hao-te 68.81 321 *e*P **P** **05 41 20.5 +0.3**
HHC pP **pP** **05 41 33.8 +1.6**
HHC sP **sP** **05 41 38.5 +1.7**
HHC PP PP 05 43 58.0 +5.3
HHC S **S** **05 50 24.5 +3.2**
HHC sS **sS** **05 50 42.8 +1.6**
HHC ScS **SKKSac** **05 51 17.0 +0.3**
HHC PMZ
comp=Z,74nm,1.2s
HHC PMZ
comp=Z,3µm,7.1s
HHC LN
comp=Z,21µm,17.8s
HHC LE
comp=Z,28µm,17.1s
HHC LZ
comp=Z,36µm,17.4s
MHMT Maesarieng 68.91 294 P **P** **05 41 23.2 +2.1**
comp=Z,85nm,0.9s,comp=Z,2µm
CD2 Chengdu 69.02 309 ⇑*i*P **P** **05 41 22.5 +0.9**
CD2 pP **pP** **05 41 33.3 -0.3**
CD2 PcP **PcP** **05 41 46.3 +0.7**
CD2 PP **PP** **05 43 55.5 +0.9**
CD2 S **S** **05 50 26.3 +2.3**
CD2 sS **sS** **05 50 44.5 +0.5**
CD2 SKS **ScS** **05 51 19.5 0.0**
CD2 SS **SS** **05 54 53.8 +3.1**
CD2 PMZ
comp=Z,260nm,0.9s
CD2 PMZ
comp=Z,7µm,7.6s
CD2 LN
comp=Z,25µm,19.1s
CD2 LE
comp=Z,23µm,20.6s
CD2 LZ
comp=Z,29µm,25.0s
CMBY CAMPBELL BAY 69.49 282 *e*P **P** **05 41 24.6 -0.2**
CMBY AMB AMB 05 41 41.1
comp=Z,365nm,0.5s
BTO Baotou 69.62 321 *e*P **P** **05 41 25.3 +0.1**
BTO S S 05 50 24.8 -6.1
UNV Unalaska Valle 69.69 20 *e*P **P** **05 41 25.1 0.0**
comp=Z,302nm,1.0s
HIA Hailar 69.95 332 *e*P **P** **05 41 27.4 +0.5**
comp=Z,950nm,1.1s
HIA *e* 05 41 41.4
HIA LR LR
comp=Z,89µm,22.0s
AKUT Akutan 70.17 20 *e*P **P** **05 41 28.2 +0.1**
comp=Z,195nm,0.7s
LZH Lanzhou 71.38 314 *e*P **P** **05 41 37.0 +0.9**
LZH pP **pP** **05 41 49.0 +0.8**
LZH sP **sP** **05 41 52.0 -0.8**
LZH PcP **PcP** **05 41 56.0 +0.4**
LZH PP **PP** **05 44 18.3 +3.3**
LZH S **S** **05 50 52.0 +0.4**
LZH sS **sS** **05 51 11.0 -0.7**
LZH SS **SS** **05 55 28.3 +1.3**
LZH PMZ
comp=Z,660nm,1.2s
LZH PMZ
comp=Z,2µm,4.6s
LZH LN
comp=Z,24µm,17.0s
LZH LE
comp=Z,49µm,18.4s
LZH LZ
comp=Z,73µm,18.8s
PBA Port Blair 71.78 286 *e*P P 05 41 38.0 -0.8
MIR Mirnyy 71.85 203 *e*P P 05 41 49.0 +11
MIR pmax pmax
comp=Z,2µm,1.5s
DGPR DIGLIPUR 72.01 288 *e*P **P** **05 41 40.7 +0.6**
SEY Seymchan 73.62 356 P **P** **05 41 48.9 +0.3**
comp=Z,48nm,0.8s,baz=182,slow=4.9,SNR=46
SEY Seymchan 73.62 356 *c i*P **P** **05 41 49.0 +0.3**
CLNS Chul'man 73.64 340 *e*P **P** **05 41 49.4 +0.4**
CLNS *e* 05 41 58.8
CLNS *e*'PP **PcP** **05 42 03.4 -1.2**
CLNS *e* 05 44 34.3
CLNS *e*PPP PPP 05 46 14.2
CLNS *e*S **SKiKP** **05 51 14.3 -1.5**
CLNS *e* 05 51 51.8
CLNS pmax pmax
comp=Z,224nm,1.0s
CLNS pmax pmax
comp=N,65nm,1.0s
CLNS pmax pmax
comp=E,31nm,0.8s
CLNS pmax pmax
comp=Z,78nm,1.4s
CLNS pmax pmax
comp=N,64nm,1.2s
CLNS pmax pmax
comp=E,66nm,1.2s
CLNS smax smax
comp=N,6µm,10.0s
CLNS smax smax
comp=E,3µm,14.0s
IMP Imphal 74.62 299 *e*P **P** **05 41 54.0 -1.4**
IMP *ex* x 05 42 22.0
CIT Chita 74.71 332 *e*P P 05 42 09.0 +14
CIT *e* 05 42 25.3
CIT *e*S **S** **05 51 31.6 +3.0**
CIT pmax pmax
comp=Z,2µm,1.9s
ULN Ulaanbaatar 75.50 326 PFAKE 05 42 10.0 +10
ULN LR LR
comp=Z,48µm,20.0s
GTA Gaotai 75.75 315 ⇑P **P** **05 42 02.0 +0.3**
GTA pP **pP** **05 42 12.5 -1.3**
GTA sP **sP** **05 42 16.8 -1.6**
GTA S **S** **05 51 41.5 +0.6**
GTA sS **sS** **05 51 58.8 -2.2**
GTA SKS **SKSac** **05 52 05.3 -3.8**
GTA ScS **SKKSac** **05 52 10.0 +0.5**
GTA SS **SS** **05 56 37.8 +4.3**
GTA PMZ
comp=Z,4µm,8.4s
GTA LN
comp=Z,16µm,21.4s
GTA LE
comp=Z,27µm,21.8s
GTA LZ
comp=Z,43µm,21.4s
SONM Songino Array 75.85 325 P **P** **05 42 02.5 +0.4**
comp=Z,252nm,0.7s,baz=141,slow=5.5,SNR=169
SONM PKPPKP **P'P'df** **06 09 22.2 +2.4**
comp=Z,2.6nm,1.0s,baz=5.7,slow=3.0,SNR=8.0
SONM LR LR 06 17 37.2
comp=Z,40µm,18.4s,baz=114,slow=37
YAK Yakutsk 76.52 345 P **P** **05 42 05.6 +0.3**
comp=Z,36nm,0.5s,baz=169,slow=23,SNR=41
YAK Yakutsk 76.52 345 *i*P **P** **05 42 05.0 -0.3**
YAK *e* 05 42 17.4
YAK *e* 05 44 55.8
YAK *e*PPP PPP 05 46 45.5
YAK *e*S **S** **05 51 43.3 -4.7**
YAK *e* 05 52 12.9
YAK *e*'SS ScS 05 52 28.4 +11
YAK *e*SS **SS** **05 56 40.1 -3.8**
YAK *e*SSS SSS 06 00 05.6
YAK pmax pmax
comp=Z,572nm,0.9s
YAK pmax pmax
comp=N,132nm,1.0s
YAK pmax pmax
comp=E,76nm,1.3s
YAK pmax pmax
comp=Z,440nm,2.2s
YAK pmax pmax
comp=N,446nm,3.5s
YAK pmax pmax
comp=E,388nm,2.7s
YAK smax smax
comp=N,8µm,6.1s
YAK smax smax
comp=E,494nm,2.2s
YAK Yakutsk 76.52 345 *e*P **P** **05 42 05.0 -0.3**
comp=E,603nm,0.8s
YAK LR LR
comp=Z,76µm,22.0s
SHL Shillong 76.63 300 *e*P **P** **05 42 06.9 -0.1**
SHL *i*S **S** **05 51 54.0 +2.8**
KDAK Kodiak Island 77.73 23 P **P** **05 42 13.0 +0.7**
comp=Z,2µm,0.8s,SNR=42
KDAK Kodiak Island 77.73 23 *i*P **P** **05 42 12.7 +0.4**
KDAK Kodiak Island 77.73 23 PFAKE 05 42 20.0 +7.7
KDAK LR LR
comp=Z,52µm,20.0s
BOD Bodaibo 78.37 336 *e*P **P** **05 42 15.0 -0.8**
BOD *e*S **S** **05 52 09.5 +1.2**
BOD pmax pmax
comp=Z,23nm,1.4s
BILL Bilibino 78.48 2 PFAKE 05 42 30.0 +14
BILL LR LR
comp=Z,17µm,19.0s
LSA Lhasa 78.58 303 P **P** **05 42 18.0 -0.2**
LSA pP **pP** **05 42 30.3 -0.1**
LSA sP **sP** **05 42 35.0 0.0**
LSA S **S** **05 52 08.5 -4.2**
LSA LN
comp=Z,8µm,22.9s
LSA LE
comp=Z,20µm,22.2s
LSA LZ
comp=Z,34µm,22.2s
LSA Lhasa 78.58 303 *e*P **P** **05 42 19.4 +1.2**
comp=Z,156nm,1.3s
LSA LR LR
comp=Z,38µm,22.0s
AIS Amsterdam Isla 78.83 233 P P 05 41 45.0 -34
AIS PP PP 05 45 07.0 -11
AIS S S 05 51 54.0 -20
AIS SS SS 05 56 59.0 -20
AIS L L 06 02 00.0
AIS R 06 07 00.0
ZAK Zakamensk 78.95 326 *e*P **P** **05 42 19.2 -0.2**
ZAK *e* 05 52 16.7
ZAK pmax pmax
comp=Z,298nm,1.5s
TNA Tin City 79.26 12 *e*P **P** **05 42 22.1 +1.6**
comp=Z,126nm,0.8s
IRK Irkutsk 79.42 328 *e*P **P** **05 42 20.5 -1.2**
IRK *e*S **S** **05 52 20.9 +1.1**
IRK pmax pmax
comp=Z,735nm,1.8s
QSPA South Pole Qui 79.43 180 P **P** **05 42 21.6 -0.1**
comp=Z,219nm,0.8s,baz=341,slow=0.8,SNR=290
QSPA LR LR 06 13 39.1
comp=Z,20µm,20.2s,baz=16,slow=33
QSPA South Pole Qui 79.43 180 *e*P **P** **05 42 21.7 -0.1**
comp=Z,2µm,1.8s
TLY Talaya 79.44 328 P **P** **05 42 22.6 +0.7**
comp=Z,1µm,1.1s,SNR=20
TLY Talaya 79.44 328 P **P** **05 42 22.1 +0.2**
comp=Z,108nm,0.8s,baz=160,slow=3.5,SNR=22
TLY Talaya 79.44 328 P **P** **05 42 22.7 +0.8**
TLY Talaya 79.44 328 P **P** **05 42 22.1 +0.2**
SNR=97
TLY Talaya 79.44 328 *e*P **P** **05 42 21.8 -0.1**
comp=Z,832nm,1.4s
TLY LR LR
comp=Z,38µm,20.0s
RSO Redoubt South 79.54 21 *e*P **P** **05 42 21.9 -0.5**
comp=Z,98nm,1.2s
TAPN Taplejung 80.73 300 *e*P **P** **05 42 30.3 +0.5**
comp=Z,284nm,1.3s
MOY Mondy 80.85 327 *e*P **P** **05 42 29.4 -0.2**
MOY pmax pmax
comp=Z,217nm,2.9s
ODAN Odare 80.86 300 *e*P **P** **05 42 30.1 -0.3**
comp=Z,262nm,1.1s
BOK Bokaro 81.33 296 *e*P **P** **05 42 34.4 +1.8**
PPLA Purkeypile 81.43 20 *e*P **P** **05 42 32.4 -0.1**
comp=Z,295nm,1.2s
RAMN Ramite 81.57 299 *e*P **P** **05 42 35.1 +1.0**
PMR Palmer 81.60 22 *e*P **P** **05 42 33.2 +0.1**
comp=Z,547nm,1.4s
CHLP Challavanipeta 81.63 291 *e*P **P** **05 42 34.4 +0.1**
CHLP IAmb IAmb 05 42 49.2
comp=Z,437nm,1.6s
CHLP *e* 05 45 34.5
CHLP *e*S **S** **05 52 44.1 -0.1**
CHLP *e*SS **SS** **05 58 02.6 +0.3**
CHLP IVMs_BB IVMs_BB 06 11 41.7
comp=Z,7µm,31.3s
VIS Vishakhapatnam 82.12 290 *e*P **P** **05 42 36.9 +0.1**
PALK Pallekele 82.34 279 P P **05 42 39.7 +1.5**
comp=Z,666nm,1.0s,SNR=7.5
PALK Pallekele 82.34 279 *i*P P 05 42 41.5 +3.3
PALK Pallekele 82.34 279 P **P** **05 42 41.2 +3.0**
SNR=6.4
PALK Pallekele 82.34 279 *e*P **P** **05 42 39.0 +0.8**
comp=Z,170nm,1.0s
GUN Gumba 82.45 300 *e*P **P** **05 42 38.3 -0.6**
comp=Z,332nm,1.1s
DIV Divide 82.56 23 *e*P **P** **05 42 39.3 +0.9**
comp=Z,437nm,1.3s
PKI Pulchoki 82.76 300 *e*P **P** **05 42 39.5 -1.0**
comp=Z,142nm,0.8s
PKIN Phulchoki 82.77 300 *e*P **P** **05 42 40.4 -0.1**
PAF Port-aux-Franc 82.90 221 P P 05 42 26.0 -14
PAF Port-aux-Franc 82.90 221 S S 05 52 37.0 -19
PAF SS SS 05 57 53.0 -26
PAF L L 06 04 00.0
PAF R 06 09 00.0
PAF Port-aux-Franc 82.90 221 *e*P **P** **05 42 40.6 +0.3**
comp=Z,1µm,1.3s
PAF LR LR
comp=Z,61µm,22.0s
BMRM Bremner River 82.91 23 *e*P **P** **05 42 40.7 +0.6**
comp=Z,542nm,1.3s
KKN Kakani 82.93 300 *e*P **P** **05 42 39.9 -1.3**
DMN Daman 83.03 300 *e*P **P** **05 42 41.1 -0.7**
comp=Z,398nm,1.0s
MCK McKinley 83.08 20 *e*P **P** **05 42 40.5 -0.5**
comp=Z,1µm,1.2s
IM04 Indian Mountai 83.12 17 *e*P **P** **05 42 41.7 +0.6**
GKN Gorkha 83.53 300 *e*P **P** **05 42 43.4 -0.9**
comp=Z,406nm,0.8s
MAW Mawson 83.57 202 P **P** **05 42 44.0 +0.6**
comp=Z,417nm,0.8s,baz=103,slow=6.5,SNR=242
MAW PKPPKP **P'P'df** **06 09 04.2 -4.2**
comp=Z,2.6nm,0.8s,baz=113,slow=15,SNR=4.2
MAW LR LR 06 14 36.3
comp=Z,21µm,21.5s,baz=86,slow=32
MAW Mawson 83.57 202 *e*P **P** **05 42 43.8 +0.3**
comp=Z,325nm,1.3s
MAW P'P' 06 09 04.2
PVM Polavaram 83.59 289 *e*P **P** **05 42 44.2 -0.3**
PVM IAmb IAmb 05 42 59.4
comp=Z,139nm,1.2s
PVM *e* 05 45 50.3
PVM *e*SKSac **S** **05 53 02.7 -1.5**
PVM IVMs_BB IVMs_BB 06 12 59.0
comp=Z,6µm,34.1s
PAX Paxson 83.80 22 *e*P **P** **05 42 44.5 -0.2**
comp=Z,174nm,1.3s
MDRS Chennai 83.98 284 *e*P **P** **05 42 46.5 -0.1**
COLA College 84.19 19 *e*P **P** **05 42 46.1 -0.4**
comp=Z,264nm,0.8s
COLA LR LR
comp=Z,69µm,21.0s
KOLN Koldanda 84.36 299 *e*P **P** **05 42 47.1 -1.4**
comp=Z,309nm,0.7s
ILAR Eielson Array 84.44 20 P **P** **05 42 47.2 -0.6**
comp=Z,84nm,0.8s,baz=244,slow=5.2,SNR=199
ILAR PKKPbc **PKKPbc** **06 00 59.3 -3.3**
comp=Z,1.5nm,0.7s,baz=349,slow=1.2,SNR=13
ILAR LR LR 06 16 54.1
comp=Z,60µm,19.9s,baz=220,slow=33
RPN Rapa Nui 84.53 116 PFAKE 05 43 00.0 +11
RPN LR LR
comp=Z,21µm,21.0s
SKHT Srikalahasti 84.63 285 *e*P **P** **05 42 49.4 -0.5**
SKHT IAmb IAmb 05 43 04.6
comp=Z,350nm,1.6s
SKHT *e*SKSac **SKSac** **05 53 09.9 -1.5**
SKHT *e*SS **SS** **05 58 46.0 -0.9**
SKHT IVMs_BB IVMs_BB 06 16 35.4
comp=Z,8µm,25.8s
HVS Khovu-Aksy 84.68 324 *c i*P **P** **05 42 49.1 -0.4**
HVS pmax pmax
comp=Z,312nm,0.9s
ADKI Addanki 84.83 287 *e*PcP **P** **05 42 51.9 +1.1**
ADKI IAmb IAmb 05 43 06.6
comp=Z,141nm,1.2s
ADKI *e*SKSac **SKSac** **05 53 11.1 -1.5**
ADKI IVMs_BB IVMs_BB 06 15 29.4
comp=Z,9µm,29.0s
TIXI Tiksi 84.87 350 *c i*P **P** **05 42 49.0 -0.9**
TIXI pmax pmax
comp=Z,187nm,1.7s
TIXI MLR MLR
comp=Z,28µm,18.0s
TIXI Tiksi 84.87 350 *e*P **P** **05 42 48.9 -0.9**
comp=Z,428nm,1.5s
TIXI LR LR
comp=Z,42µm,22.0s
COLD Coldfoot 85.03 17 *e*P **P** **05 42 51.6 +0.8**
comp=Z,306nm,1.6s
KCPM Cahto Peak 85.33 48 *e*P **P** **05 42 54.2 +1.1**
comp=Z,619nm,1.6s
MCCM Marconi Confer 85.40 50 *e*P **P** **05 42 55.7 +2.5**
comp=Z,852nm,1.5s
KIPM Iron Peak 85.45 48 *e*P **P** **05 42 54.8 +1.2**
comp=Z,966nm,1.6s
SAC San Andreas 85.58 51 *e*P P 05 42 57.4 +3.2
comp=Z,390nm,1.3s
KHMM Horse Mountain 85.59 47 *e*P **P** **05 42 55.8 +1.5**
comp=Z,3µm,1.1s
NJS Nagarjunasagar 85.60 288 *e*P **P** **05 42 54.1 -0.7**
NJS IAmb IAmb 05 43 09.5
comp=Z,171nm,0.9s
NJS *e*SKSac **SKSac** **05 53 14.6 -2.9**
NJS *e*SS **SS** **05 59 02.0 +0.7**
NJS IVMs_BB IVMs_BB 06 15 17.3
comp=Z,8µm,34.1s
KBO Bosley Butte 85.65 46 *e*P **P** **05 42 57.2 +2.6**
comp=Z,788nm,1.5s
RCLA Racherla 85.70 287 *e*P **P** **05 42 54.2 -1.0**
RCLA IAmb IAmb 05 43 08.5
comp=Z,46nm,0.8s
RCLA *e*SKSac **SKSac** **05 53 17.3 -0.9**
RCLA *e*SS **SS** **05 59 03.4 +0.7**

RCLA IVMs_BB IVMs_BB 06 16 08.2
comp=Z,10µm,25.2s
HYT Haines Junctio 85.72 25 *e*P **P 05 42 55.3 +0.8**
KEBM Edson Butte 85.78 45 *e*P **P 05 42 57.4 +2.2**
comp=Z,472nm,1.3s
WMQ Urumqi 85.82 316 P **P 05 42 55.0 -0.3**
WMQ pP **pP 05 43 05.5 -2.1**
WMQ PP **PP 05 46 17.0 +1.7**
WMQ SKS **SKSac 05 53 14.3 -3.7**
WMQ S **SKKSac 05 53 24.0 -1.2**
WMQ sS **sS 05 53 46.0 -0.2**
WMQ SS **SS 05 59 05.0 +1.4**
WMQ PMZ
comp=Z,63nm,1.0s
WMQ PMZ
comp=Z,3µm,10.0s
WMQ LN
comp=Z,22µm,21.2s
WMQ LE
comp=Z,14µm,20.1s
WMQ LZ
comp=Z,36µm,26.5s
SRLM Srisailam 85.90 287 *e*P **P 05 42 55.7 -0.6**
SRLM *e*P **PcP 05 42 56.6 -2.4**
SRLM IAmb IAmb 05 43 11.0
comp=Z,219nm,1.0s
SRLM *e*SKSac **SKSac 05 53 16.7 -2.8**
SRLM IVMs_BB IVMs_BB 06 17 54.7
comp=Z,8µm,28.5s
WRAK Wrangell Islan 86.03 31 *e*P **P 05 42 56.1 +0.2**
comp=Z,104nm,1.1s
WRAK LR LR
comp=Z,56µm,20.0s
L02D Cave Junction, 86.08 46 P **P 05 42 58.2 +1.7**
baz=86
RPR Rampur 86.11 290 *e*P **P 05 42 57.8 +0.6**
RPR IAmb IAmb 05 43 11.6
comp=Z,103nm,1.0s
RPR *e*SKSac **SKSac 05 53 16.6 -4.0**
RPR *e* 05 53 26.2
RPR IVMs_BB IVMs_BB 06 13 40.3
comp=Z,5µm,42.7s
TRD Trivandrum 86.22 279 *e*P **P 05 42 57.9 0.0**
N02D Trinity Center 86.36 47 P **P 05 42 59.2 +1.2**
baz=86
WDC Whiskeytown Da 86.36 48 *e*P **P 05 42 58.9 +0.9**
comp=Z,525nm,1.5s
M02C Callahan 86.38 47 P **P 05 43 00.0 +1.9**
baz=86,SNR=142
EGAK Eagle 86.41 21 *e*P **P 05 42 58.7 +1.1**
comp=Z,835nm,1.4s
EGAK LR LR
comp=Z,89µm,22.0s
HYB Hyderabad 86.49 288 *i*P **P 05 42 58.0 -1.1**
HYB *e*SKS **SKSac 05 53 18.0 -5.1**
HYB *e*S **SKKSac 05 53 32.0 +0.8**
HYB LR LR 06 14 48.0
comp=Z,36nm,30.0s
HYB Hyderabad 86.49 288 *e*P **P 05 42 58.9 -0.2**
HYBB Hyderabad (bro 86.49 288 *e*P **P 05 42 59.5 +0.4**
HYBB IAmb IAmb 05 43 13.4
comp=Z,99nm,1.3s
HYBB *e*SKSac **SKSac 05 53 21.6 -1.6**
HYBB *e* 05 53 31.8
HYBB *e* 05 59 09.5
HYBB IVMs_BB IVMs_BB 06 15 27.7
comp=Z,7µm,29.0s
RNO Roman Nose 86.52 44 P **P 05 43 00.3 +1.5**
YBH Yreka Blue Hor 86.58 47 LR LR 06 14 03.4
comp=Z,39µm,21.3s,baz=252,slow=30
YBH Yreka Blue Hor 86.58 47 *e*P **P 05 43 00.2 +1.0**
comp=Z,542nm,1.5s
DAWY Dawson 86.66 22 *e*P **P 05 42 59.9 +0.9**
HUMO Hull Mountain 86.67 46 *e*P **P 05 43 00.9 +1.4**
comp=Z,270nm,1.1s
I03D Drain, OR 86.72 45 P **P 05 43 01.0 +1.3**
baz=87,SNR=53
BSC Santa Cruz Isl 86.78 55 P **P 05 43 02.6 +2.3**
baz=87,SNR=7.2
NGP Nagpur 86.82 292 *e*P **P 05 42 59.9 -0.8**
NGP *ex* x 05 53 18.0
SBC Santa Barbara 86.83 54 P **P 05 43 03.3 +2.9**
baz=87
SMMC Simmler 86.83 53 P **P 05 43 02.3 +1.8**
baz=87,SNR=30
MPOR Mary's Peak 86.84 44 P **P 05 43 01.7 +1.3**
PKM Mcpherson Peak 86.87 54 P **P 05 43 02.3 +1.5**
baz=87,SNR=44
SRSP Sriramsagar 87.00 290 *e*P **P 05 43 01.4 -0.2**
SRSP IAmb IAmb 05 43 15.7
comp=Z,111nm,1.2s
SRSP *e*SKSac **SKSac 05 53 20.2 -5.9**
SRSP *e* 05 53 34.2
SRSP IVMs_BB IVMs_BB 06 17 03.4
comp=Z,5µm,25.4s
COR Corvallis 87.03 44 *e*P **P 05 43 02.7 +1.6**
comp=Z,302nm,1.2s
KRAR Krasnoyarsk 87.10 328 *i*P **P 05 43 02.2 +1.0**
KRAR pmax pmax
comp=Z,33nm,0.9s
URV Uravakonda 87.20 286 *e*P **P 05 43 02.0 -0.6**
URV IAmb IAmb 05 43 17.4
comp=Z,193nm,1.6s
URV *e*PP **PP 05 46 26.4 -0.6**
URV *e* 05 53 38.8
URV IVMs_BB IVMs_BB 06 18 04.2
comp=Z,8µm,25.4s
M04C Macdoel 87.22 47 P **P 05 43 03.8 +1.5**
baz=87,SNR=60
G03D McMinnville, O 87.25 43 P **P 05 43 03.9 +1.8**
baz=87,SNR=50
CMB Columbia Colle 87.25 51 *e*P **P 05 43 02.9 +0.5**
comp=Z,292nm,1.4s
BLG Laguna Peak, P 87.27 55 P **P 05 43 04.2 +1.6**
baz=87,SNR=8.8
I04A Tendick Farm, 87.40 45 P **P 05 43 03.9 +0.8**
baz=88,SNR=80
SCI San Clemente I 87.41 56 P **P 05 43 05.0 +1.7**
baz=88,SNR=5.5
J04D Umpqua Nationa 87.45 45 P **P 05 43 04.8 +1.3**
baz=88,SNR=65
HBO Huckleberry Mo 87.48 45 P **P 05 43 04.4 +0.8**
K04D Chiloquin, OR 87.52 46 P **P 05 43 05.0 +1.3**
baz=88,SNR=14
NLWA Neilton Lookou 87.53 41 *e*P **P 05 43 05.2 +1.7**
comp=Z,430nm,1.8s
NLWA LR LR
comp=Z,65µm,21.0s
CIS Catalina Islan 87.63 56 P **P 05 43 05.0 +0.6**
baz=88,SNR=21
BMW Boistfort Moun 87.66 42 P **P 05 43 05.1 +0.9**
OSI Osito Audit: C 87.67 54 P **P 05 43 05.7 +1.2**
baz=88,SNR=38
OSI Osito Audit: C 87.67 54 *e*P **P 05 43 06.2 +1.7**
comp=Z,1µm,1.6s
F04D Rainier, OR 87.68 42 P **P 05 43 05.3 +1.1**
baz=88
RCTC Rector, Farmer 87.69 53 P **P 05 43 07.6 +3.1**
baz=88,SNR=17
VES Vestal, Richgr 87.69 53 P **P 05 43 05.1 +0.6**
baz=88,SNR=100
ARVC Arvin 87.71 54 P **P 05 43 04.7 +0.1**
baz=88,SNR=50
DGAR Diego Garcia 87.72 263 PFAKE 05 43 20.0 +15
DGAR LR LR
comp=Z,18µm,20.0s
FMP Fort Macarthur 87.79 55 P **P 05 43 06.1 +1.0**
baz=88,SNR=5.8
H04A Detroit Lake 87.82 44 P **P 05 43 05.4 +0.4**
DECC Green Verdugo 87.89 55 P **P 05 43 06.8 +1.2**
baz=88,SNR=6.9
PASC Pasadena Art C 87.99 55 *e*P **P 05 43 06.9 +0.8**
comp=Z,977nm,1.6s
DLBC Dease Lake 88.02 29 *e*P **P 05 43 06.0 +0.4**
F04A Amboy 88.03 43 P **P 05 43 06.7 +0.7**
J05D Fort Rock, OR 88.08 45 P **P 05 43 07.4 +1.0**
baz=88,SNR=164
WAKR Walker 88.10 50 *e*P **P 05 43 07.8 +1.1**
comp=Z,857nm,1.7s
ISA Isabella, Lake 88.13 53 P **P 05 43 07.1 +0.4**
baz=88,SNR=149
ISA Isabella, Lake 88.13 53 *e*P **P 05 43 07.3 +0.6**
comp=Z,773nm,1.6s
PGC Sidney 88.19 40 *e*P **P 05 43 08.7 +2.1**
comp=Z,149nm,1.2s
STD Studebaker Rid 88.25 42 P **P 05 43 08.0 +0.9**

TDL Tradedollar La 88.29 42 P **P 05 43 08.2 +0.8**
I05D Terrebonne, OR 88.30 44 P **P 05 43 08.3 +1.0**
baz=88,SNR=122
EDW2 Edwards Air Fo 88.32 54 P **P 05 43 08.7 +1.0**
baz=88,SNR=160
MLAC Mammoth, Mammo 88.33 51 P **P 05 43 08.3 +0.4**
baz=88
MOD Modoc Plateau 88.36 47 *e*P **P 05 43 08.6 +0.8**
comp=Z,346nm,1.3s
BFSC Mount Baldy Ra 88.43 55 P **P 05 43 08.7 +0.4**
baz=89,SNR=130
KLRI Killari 88.45 289 *e*P **P 05 43 07.5 -1.1**
KLRI IAmb IAmb 05 43 22.3
comp=Z,109nm,1.8s
KLRI *e*SKSac **SKSac 05 53 29.4 -5.6**
KLRI *e* 05 53 47.3
KLRI *e*SS **SS 05 59 39.9 -3.1**
KLRI IVMs_BB IVMs_BB 06 16 35.8
comp=Z,10µm,30.5s
VFP Flag Point 88.49 43 P **P 05 43 08.9 +0.5**
109C Camp Elliot, M 88.56 56 P **P 05 43 09.7 +1.0**
baz=89,SNR=72
G05D Wamic, OR 88.57 44 P **P 05 43 09.8 +1.2**
baz=89
AKL Akola 88.59 291 *e*P **P 05 43 11.0 +1.8**
CWC Cottonwood Cre 88.63 53 P **P 05 43 10.7 +1.5**
baz=89,SNR=127
MURC Murrieta 88.65 56 P **P 05 43 10.1 +0.8**
baz=89,SNR=62
TIN Tinemaha, Big 88.66 52 P **P 05 43 10.4 +1.1**
baz=89
LON Longmire 88.67 42 *e*P **P 05 43 10.2 +1.1**
comp=Z,236nm,1.6s
LRMC Laurel Mtn Rad 88.70 54 P **P 05 43 10.8 +1.2**
baz=89,SNR=52
BHPL Bhopal 88.74 294 *e*P **P 05 43 08.9 -0.9**
WPW White Pass 88.83 42 P **P 05 43 10.8 +0.9**
BAR Barrett 88.87 57 *e*P **P 05 43 10.8 +0.5**
comp=Z,669nm,1.5s
BAR *e*PP **PP 05 46 40.4 +0.3**
NVAR Mina Array Bea 88.94 51 P **P 05 43 11.6 +0.9**
comp=Z,67nm,0.8s,baz=238,slow=6.9,SNR=141
NVAR PKPPKP **P'P'df 06 08 57.9 +0.4**
comp=Z,0.9nm,0.8s,baz=86,slow=3.1,SNR=4.1
DAC Darwin (Calif) 88.97 53 *e*P **P 05 43 11.7 +0.8**
comp=Z,874nm,1.5s
MPMC Manual Prospec 89.00 53 P **P 05 43 11.5 +0.5**
baz=89,SNR=80
BBRC Big Bear Solar 89.03 55 P **P 05 43 12.1 +0.9**
baz=89
RRX Edison Barstow 89.11 54 P **P 05 43 12.2 +0.9**
baz=89,SNR=17
MONP Monument Peak, 89.12 56 P **P 05 43 12.8 +1.1**
baz=89,SNR=164
PFO Pinyon Flats O 89.26 56 P **P 05 43 13.2 +1.0**
comp=Z,1000nm,1.4s,SNR=16
PFO Pinyon Flats O 89.26 56 P **P 05 43 13.0 +0.9**
baz=89,SNR=55
PFO Pinyon Flats O 89.26 56 *e*P **P 05 43 12.5 +0.4**
comp=Z,623nm,1.6s
PFO LR LR
comp=Z,77µm,21.0s
GRAC Grapevine Rang 89.31 52 P **P 05 43 13.0 +0.8**
baz=90,SNR=39
IBP Imperial Bould 89.34 57 P **P 05 43 13.8 +1.3**
baz=90,SNR=8.1
GSC Goldstone, Bar 89.36 54 P **P 05 43 13.8 +1.2**
baz=90,SNR=102
GSC Goldstone, Bar 89.36 54 *e*P **P 05 43 13.3 +0.7**
comp=Z,635nm,1.6s
GSC *e*PP **PP 05 46 47.1 +3.0**
FURC Furnace Creek, 89.59 53 P **P 05 43 14.4 +1.0**
baz=90,SNR=310
HEC Hector,Ludlow 89.63 55 P **P 05 43 14.6 +0.8**
baz=90,SNR=42
SWSC Sam W. Stewart 89.65 57 P **P 05 43 14.7 +0.8**
baz=90,SNR=95
TPH Tonopah 89.68 51 *e*P **P 05 43 14.9 +0.7**
comp=Z,759nm,1.6s
TPH *e*PP **PP 05 46 47.7 +1.0**
WVOR Wild Horse Val 89.69 47 *e*P **P 05 43 15.0 +1.0**
comp=Z,1µm,1.5s
WVOR LR LR
comp=Z,35µm,22.0s
BELC Belle Mtn. Jos 89.72 55 P **P 05 43 15.2 +0.8**
baz=90,SNR=171
SHOC Shoshone, Teco 89.92 54 P **P 05 43 16.0 +0.9**
baz=90,SNR=34
BC3 Big Chuckawall 90.08 56 P **P 05 43 16.9 +0.8**
baz=90,SNR=114
HAWA Hanford 90.08 43 *e*P **P 05 43 17.0 +1.5**
comp=Z,509nm,1.6s
HAWA LR LR
comp=Z,37µm,20.0s
TUQ Turquoise Moun 90.09 54 P **P 05 43 16.8 +0.7**
baz=90,SNR=63
WTV Waterville 90.15 41 P **P 05 43 16.2 +0.3**
GMRC Granite Mounta 90.16 55 P **P 05 43 16.9 +0.6**
baz=90,SNR=133
TPNV Topopah Spring 90.17 53 P **P 05 43 17.3 +0.9**
baz=90,SNR=316
BMN Battle Mountai 90.23 49 *e*P **P 05 43 17.7 +1.0**
comp=Z,674nm,1.5s
MK31 Makanchi Array 90.33 318 *i*P **P 05 43 15.6 -1.2**
MK31 pmax pmax
comp=Z,191nm,1.1s
MK31 Makanchi Array 90.33 318 *e*P **P 05 43 15.7 -1.0**
IRM Iron Mountain 90.44 55 P **P 05 43 18.4 +0.8**
baz=91,SNR=106
GLA Glamis 90.47 57 P **P 05 43 19.1 +1.3**
baz=91,SNR=102
GLA Glamis 90.47 57 *e*P **P 05 43 19.0 +1.3**
comp=Z,892nm,1.6s
SAW Saint Andrews 90.51 42 P **P 05 43 18.1 +0.5**
SMLA Simla 90.59 301 *i*P **P 05 43 17.2 -1.1**
SMLA AMB AMB 05 43 21.5
comp=Z,332nm,0.5s
SMLA *i* x x 05 53 37.2
LDFC Landfair 90.67 55 *e*P **P 05 43 20.1 +1.4**
comp=Z,2µm,1.4s
LDFC *e*PP **PP 05 46 54.9 +0.4**
ZAA0 Zalesovo Array 90.75 325 *e*P **P 05 43 16.4 -2.1**
ZALV Zalesovo Beam 90.75 325 P **P 05 43 16.6 -1.9**
comp=Z,25nm,0.8s,baz=112,slow=5.7,SNR=28
ZALV PKKP **PKKPdf 06 00 42.9 -0.3**
comp=Z,3.4nm,0.6s,baz=268,slow=2.5,SNR=3.7
ZALV PKPPKP **P'P'df 06 08 54.3 +1.7**
comp=Z,1.0nm,0.6s,baz=245,slow=3.1,SNR=3.9
ZALV LR LR 06 24 27.4
comp=Z,24µm,20.7s,baz=92,slow=36
INK Inuvik 90.84 20 P **P 05 43 18.8 +0.2**
comp=Z,26nm,0.8s,baz=288,slow=4.4,SNR=29
INK Inuvik 90.84 20 P **P 05 43 18.8 +0.2**
INK pmax pmax
comp=Z,26nm,0.8s
INK Inuvik 90.84 20 *e*P **P 05 43 19.1 +0.5**
comp=Z,178nm,1.5s
Y12C Blythe 90.86 56 P **P 05 43 20.5 +1.0**
baz=91,SNR=65
OD2 Odessa Site #2 90.89 42 P **P 05 43 20.0 +0.7**
SHPR Sheep Range 90.93 53 *e*P **P 05 43 21.1 +1.2**
comp=Z,4.4nm,0.5s
SHPR *e*PP **PP 05 46 57.1 +0.5**
SYO Syowa Base 90.98 198 *i*P **P 05 43 17.0 -2.3**
NEE2 Needles Airpor 91.00 55 P **P 05 43 21.4 +1.3**
baz=91,SNR=21
R11A Troy Canyon, C 91.00 51 P **P 05 43 20.7 +0.4**
baz=91,SNR=469
R11A Troy Canyon, C 91.00 51 *e*P **P 05 43 20.9 +0.7**
comp=Z,571nm,1.4s
R11A *e*PP **PP 05 46 57.5 +0.4**
H06N1 SOCORRO T-PHAS 91.05 71 T T 07 23 41.7
SNR=78
H06E1 SOCORRO T-PHAS 91.09 71 T T 07 23 50.8
SNR=18
POO Poona 91.10 289 *e*P **P 05 43 18.4 -2.6**
BMO Blue Mountains 91.22 45 *e*P **P 05 43 21.8 +0.8**
comp=Z,580nm,1.5s
BMO *e*PP **PP 05 46 59.0 +0.4**
BMO LR LR
comp=Z,40µm,22.0s
PDMCI Parker Dam,Lak 91.28 55 P **P 05 43 22.3 +0.8**
baz=91,SNR=84
PDGK Podgornoye 91.42 314 P **P 05 43 20.4 -1.4**
PDGK pmax pmax
comp=Z,123nm,1.2s
DHRM DHARAMSHALA 91.54 302 *e*P **P 05 43 21.7 -1.3**

ELK Elko 91.78 49 LR LR 06 16 54.0
comp=Z,39µm,21.6s,baz=230,slow=30
ELK Elko 91.78 49 *e*P **P 05 43 25.0 +1.1**
comp=Z,450nm,1.5s
NVS Novosibirsk 91.89 325 ⇑ *i*P **P 05 43 23.0 -0.7**
NVS *i* 05 47 04.8
NVS *e* 05 53 51.0
NVS pmax pmax
comp=Z,245nm,1.5s
NVS pmax pmax
comp=N,55nm,1.4s
NVS pmax pmax
comp=E,105nm,1.3s
NVS pmax pmax
comp=N,46nm,1.8s
NVS pmax pmax
comp=E,68nm,1.8s
NVS pmax pmax
comp=Z,107nm,1.8s
214A Organ Pipe Nat 91.91 58 P **P 05 43 25.6 +1.1**
baz=92
214A Organ Pipe Nat 91.91 58 *e*P **P 05 43 25.2 +0.8**
comp=Z,479nm,1.8s
214A *e*PP **PP 05 47 05.3 +1.0**
MFID Camas Ranch 91.93 46 *e*P **P 05 43 25.3 +1.0**
comp=Z,534nm,1.5s
NEW Newport 92.14 41 P **P 05 43 25.6 +0.5**
baz=92
NEW Newport 92.14 41 *e*P **P 05 43 25.4 +0.2**
comp=Z,346nm,1.4s
NEW LR LR
comp=Z,35µm,21.0s
CCUT Cedar City 92.55 52 *e*P **P 05 43 28.6 +1.1**
comp=Z,33nm,0.9s
HLID Hailey 92.96 46 P **P 05 43 29.9 +0.7**
baz=93,SNR=303
HLID Hailey 92.96 46 *e*P **P 05 43 30.4 +1.1**
comp=Z,354nm,1.3s
HLID *e*PP **PP 05 47 13.2 +0.8**
HLID LR LR
comp=Z,37µm,20.0s
KSH Kashi 93.21 309 P **P 05 43 31.0 +0.6**
KSH *e*pP **pP 05 43 41.8 -1.0**
KSH *e*sP **sP 05 43 45.0 -2.3**
KSH PP **PP 05 47 18.0 +3.5**
KSH SKS **SKSac 05 54 01.5 -0.2**
KSH S **S 05 54 34.5 -0.3**
KSH PMZ
comp=Z,1µm,5.9s
KSH LN
comp=Z,17µm,16.7s
KSH LE
comp=Z,18µm,17.1s
KSH LZ
comp=Z,21µm,21.7s
AAA Alma-Ata 93.22 313 *e*P **P 05 43 29.7 -0.6**
AAA *e*S **SKSac 05 53 56.5 -5.0**
AAA pmax pmax
comp=Z,2µm,6.1s
AAA smax smax
comp=E,10µm,19.7s
AAA MLR MLR
comp=Z,18µm,22.0s
BGU Big Grassy Mou 93.45 49 *e*P **P 05 43 33.2 +1.6**
comp=Z,266nm,1.5s
BGU *e*PP PP 05 47 23.7 +7.3
DUG Dugway, Tooele 93.48 50 P **P 05 43 32.0 +0.3**
baz=94,SNR=73
DUG Dugway, Tooele 93.48 50 *e*P **P 05 43 32.4 +0.7**
comp=Z,265nm,1.6s
DUG LR LR
comp=Z,24µm,21.0s
BSMT Bassoo Peak 93.58 42 *e*P **P 05 43 31.9 0.0**
comp=Z,218nm,1.5s
KURK Kurchatov 93.62 321 P **P 05 43 31.0 -0.8**
comp=Z,370nm,1.4s,SNR=19
KURK Kurchatov 93.62 321 P **P 05 43 30.1 -1.7**
KURK 05 47 16.8
KURK pmax pmax
comp=Z,38nm,0.8s
KURK pmax pmax
comp=Z,16nm,1.2s
KURK Kurchatov 93.62 321 P **P 05 43 30.5 -1.3**
SNR=103
KURK Kurchatov 93.62 321 *e*P **P 05 43 29.8 -2.0**
comp=Z,282nm,1.4s
KURK *e*PP **PP 05 47 16.0 -1.1**
KURK LR LR
comp=Z,43µm,22.0s
MVU Marysvale 93.62 52 *e*P **P 05 43 33.6 +1.1**
comp=Z,299nm,1.6s
KURBB Kurchatov Arra 93.65 321 P **P 05 43 30.1 -1.9**
comp=Z,38nm,0.8s,baz=105,slow=3.3,SNR=65
KURBB PP **PP 05 47 16.8 -0.6**
comp=Z,16nm,1.2s,baz=102,slow=8.5,SNR=3.3
MSU Marysvale 93.65 52 *e*P **P 05 43 33.9 +1.2**
comp=Z,1.8nm,0.7s
TUC Tucson 93.67 58 *e*P **P 05 43 33.4 +0.7**
comp=Z,78nm,1.3s
TUC *e*PP **PP 05 47 16.9 -1.2**
TUC LR LR
comp=Z,30µm,22.0s
WUAZ Wupatki 93.75 55 P **P 05 43 33.9 +0.9**
baz=94,SNR=30
WUAZ Wupatki 93.75 55 *e*P **P 05 43 33.9 +0.9**
comp=Z,185nm,1.7s
WUAZ *e*PP **PP 05 47 21.5 +2.6**
WUAZ LR LR
comp=Z,69µm,20.0s
HVU Hansel Valley 93.80 48 *e*P **P 05 43 33.9 +0.8**
comp=Z,558nm,1.8s
BLMT Blacktail Moun 93.89 42 *e*P **P 05 43 35.4 +2.0**
comp=Z,147nm,1.6s
JTMT Jette 93.89 42 *e*P **P 05 43 34.9 +1.5**
comp=Z,83nm,1.5s
MSO Missoula 93.94 43 P **P 05 43 34.5 +1.0**
baz=94
NLU North Lily Min 93.99 50 *e*P **P 05 43 34.9 +0.8**
comp=Z,192nm,1.5s
SWMT Swartz Lake 94.03 43 *e*P **P 05 43 34.7 +0.7**
comp=Z,99nm,1.5s
SWMT *e*PP **PP 05 47 21.3 +0.7**
YBMT Yellow Bay 94.09 42 *e*P **P 05 43 34.8 +0.6**
comp=Z,59nm,1.5s
TKM2 Tokmak 2 94.12 313 *i*P **P 05 43 32.8 -1.8**
TKM2 pmax pmax
comp=Z,52nm,1.3s
TKM2 Tokmak 2 94.12 313 *e*P **P 05 43 34.0 -0.6**
comp=Z,55nm,1.3s
TKM2 *e*PP PP 05 47 29.8 +8.2
TKM2 LR LR
comp=Z,16µm,20.0s
MCMT McKenzie Canyo 94.31 45 *e*P **P 05 43 36.1 +0.6**
comp=Z,8.8nm,0.4s
SLMT Seeley Lake 94.32 43 *e*P **P 05 43 36.1 +0.7**
comp=Z,160nm,1.6s
MPU Maple Canyon 94.34 50 *e*P **P 05 43 36.9 +1.2**
comp=Z,896nm,1.6s
CTU Camp Tracy 94.37 50 *e*P **P 05 43 37.2 +1.4**
comp=Z,100nm,1.2s
JLU Jordanelle 94.58 50 *e*P **P 05 43 38.2 +1.4**
comp=Z,257nm,1.6s
DLMT Dillon 94.58 45 *e*P **P 05 43 37.2 +0.6**
comp=Z,367nm,1.4s
CTU *e*PP **PP 05 47 23.3 -0.2**
WALA Waterton Lakes 94.38 41 *e*P **P 05 43 36.2 +0.7**
comp=Z,421nm,1.6s
CHMT Chamberlain Mo 94.42 43 *e*P **P 05 43 36.0 +0.1**
comp=Z,151nm,1.6s
TMUT Trail Mountain 94.54 51 *e*P **P 05 43 38.7 +1.9**
comp=Z,100nm,1.2s
JLU Jordanelle 94.58 50 *e*P **P 05 43 38.2 +1.4**
comp=Z,257nm,1.6s
DLMT Dillon 94.58 45 *e*P **P 05 43 37.2 +0.6**
comp=Z,367nm,1.4s
DLMT *e*PP **PP 05 47 25.2 +0.2**
HWUT Hardware Ranch 94.66 49 *e*P **P 05 43 37.8 +0.7**
comp=Z,50nm,1.1s
HWUT LR LR
comp=Z,29µm,20.0s
TCUT Toone Canyon 94.70 49 *e*P **P 05 43 40.2 +2.9**
comp=Z,154nm,1.4s
LRM Limekiln Ridge 94.77 44 *e*P **P 05 43 37.8 +0.3**
comp=Z,2µm,1.6s
FRU Bishkek 94.82 313 *e*P **P 05 43 37.0 -0.6**
FRU *e* 05 47 28.0
FRU *e* 05 54 08.0
FRU *e*SS SS 06 01 12.0 -1.8
FRU *e*SSS SSS 06 04 50.0
FRU pmax pmax
comp=Z,170nm,2.3s

FRU MLR MLR
comp=E,19µm,19.0s
AAK Ala-Archa 94.87 312 P P 05 43 54.2 +16
comp=E,4.7nm,0.6s,baz=93,slow=4.0,SNR=7.5
W18A Petrified Fore 95.00 55 P **P 05 43 39.6 +0.8**
baz=95,SNR=9.1
W18A Petrified Fore 95.00 55 *e*P **P 05 43 40.3 +1.5**
comp=E,73nm,1.0s
SRU San Rafael Swe 95.03 51 *e*P **P 05 43 40.3 +1.5**
comp=E,1µm,1.2s
SFK Sufi-Kurgan 95.17 310 P **P 05 43 38.4 -1.1**
SFK pmax pmax
comp=Z,70nm,1.3s
AHID Auburn Hatcher 95.20 48 *e*P **P 05 43 42.6 +3.0**
comp=Z,180nm,1.8s
AHID LR LR
comp=Z,31µm,21.0s
BOZ Bozeman (W) 95.30 45 P **P 05 43 40.7 +0.8**
baz=96
QLMT Earthquake Lak 95.31 46 *e*P **P 05 43 42.2 +2.2**
comp=Z,32nm,1.6s
HRY Holter Researc 95.34 44 *e*P **P 05 43 40.3 +0.3**
comp=Z,59nm,1.0s
EKS2 Erkin-Say 95.40 312 *e*P **P 05 43 40.3 -0.1**
comp=Z,56nm,1.4s
EKS2 LR LR
comp=Z,19µm,19.0s
TPAW Teton Pass 95.43 47 *e*P **P 05 43 42.0 +1.3**
comp=Z,97nm,1.4s
REDW Red Top Meadow 95.48 47 *e*P **P 05 43 41.4 +0.5**
comp=Z,233nm,1.8s
EDM Edmonton 95.50 37 *e*P **P 05 43 40.3 -0.2**
IMW Indian Meadow 95.50 47 *e*P **P 05 43 42.4 +1.3**
comp=Z,149nm,1.5s
CRZF Crozet Islands 95.55 221 P P 05 43 27.0 -14
CRZF PP PP 05 47 12.0 -20
CRZF SS SS 06 01 17.0 -6.1
CRZF L L 06 10 00.0
CRZF R 06 15 00.0
SNOW Snow King Moun 95.56 47 *e*P **P 05 43 41.6 +0.4**
comp=Z,353nm,2.1s
YMR Madison River 95.61 46 *e*P **P 05 43 43.4 +2.0**
comp=Z,239nm,1.3s
MOOW Moose Ponds 95.61 47 *e*P **P 05 43 43.2 +1.8**
comp=Z,184nm,1.9s
MOOW *e*PP **PP 05 47 32.7 -0.5**
YFT Old Faithful 95.66 46 *e*P **P 05 43 44.5 +2.8**
comp=Z,143nm,1.3s
LOHW Long Hollow 95.69 47 *e*P **P 05 43 42.9 +1.1**
comp=Z,180nm,1.8s
LOHW *e*PP **PP 05 47 30.2 -3.6**
FLWY Flagg Ranch 95.70 46 *e*P **P 05 43 43.9 +2.0**
comp=Z,320nm,1.9s
BHJ Bhuj 95.77 292 *e*P **P 05 43 42.2 -0.1**
BHJ AMB AMB 05 43 59.5
comp=Z,129nm,2.3s
YNR Norris Junctio 95.81 46 *e*P **P 05 43 45.5 +3.1**
comp=Z,64nm,1.1s
H17A Grant Village 95.84 46 P **P 05 43 44.9 +2.3**
baz=96,SNR=44
H17A Grant Village 95.84 46 *e*P **P 05 43 44.7 +2.2**
comp=Z,64nm,1.0s
LKWY Lake 95.99 46 *e*P P 05 43 47.2 +4.0
comp=Z,58nm,1.1s
LKWY LR LR
comp=Z,51µm,21.0s
PV10 Paradox Valley 96.06 52 *e*P **P 05 43 44.9 +1.3**
comp=Z,612nm,0.9s
PV04 Paradox Valley 96.17 52 *e*P **P 05 43 44.9 +0.8**
121A Cookes Peak, D 96.21 58 P **P 05 43 45.4 +1.0**
baz=96
121A Cookes Peak, D 96.21 58 *e*P **P 05 43 45.4 +1.0**
comp=Z,143nm,1.5s
121A *e*PP **PP 05 47 34.4 -3.6**
NVL N'lazarevskaya 96.27 190 *i*P **P 05 43 41.0 -2.6**
NVL *e**PP pP 05 43 50.8 -5.2
NVL pmax pmax
comp=Z,63nm,1.0s
MVCO Mesa Verde 96.31 53 P **P 05 43 45.2 +0.4**
baz=96,SNR=18
MVCO Mesa Verde 96.31 53 *e*P **P 05 43 45.4 +0.6**
comp=Z,73nm,1.5s
MVCO LR LR
comp=Z,75µm,20.0s
BW06 Boulder Array 96.32 48 *e*P **P 05 43 45.0 +0.2**
comp=Z,37nm,1.1s
BW06 LR LR
comp=Z,31µm,20.0s
PDAR Pinedale Array 96.32 48 P **P 05 43 45.3 +0.6**
comp=Z,10.0nm,0.8s,baz=299,slow=1.3,SNR=29
PDAR LR LR 06 22 12.4
comp=Z,26µm,20.1s,baz=292,slow=32
PV01 Paradox Valley 96.39 53 *e*P **P 05 43 45.1 -0.1**
comp=Z,8µm,1.5s
YKA Yellowknife Ar 96.49 28 P **P 05 43 43.8 -0.8**
comp=Z,25nm,0.8s,baz=260,slow=4.7,SNR=134
YKA PKIKP **PKiKP 05 48 20.3 -1.6**
comp=Z,1.3nm,0.5s,baz=263,slow=1.3,SNR=10
YKA PKKP **PKKPbc 06 00 27.3 -4.4**
comp=Z,0.6nm,0.5s,baz=83,slow=2.6,SNR=6.5
YKW3 Yellowknife Ar 96.50 28 *e*P **P 05 43 43.7 -0.9**
comp=Z,2.6nm,1.4s
GCMT Greycliff 96.68 45 *e*P **P 05 43 47.1 +0.9**
comp=Z,121nm,1.5s
J19A Crowheart 96.76 47 P **P 05 43 47.8 +1.2**
baz=97,SNR=16
RLMT Red Lodge 96.87 45 P **P 05 43 48.3 +1.2**
baz=97,SNR=36
RLMT Red Lodge 96.87 45 *e*P **P 05 43 49.0 +1.8**
comp=Z,115nm,1.4s
RLMT LR LR
comp=Z,29µm,22.0s
I19A Meeteetse 96.91 47 P **P 05 43 48.0 +0.7**
baz=97,SNR=26
O20A White River Ci 96.93 51 P **P 05 43 49.3 +1.8**
baz=97,SNR=16
O20A White River Ci 96.93 51 *e*P **P 05 43 48.9 +1.4**
comp=Z,75nm,1.3s
EGMT Eagleton 96.94 43 P **P 05 43 48.5 +1.3**
baz=97
EGMT Eagleton 96.94 43 *e*P **P 05 43 47.3 +0.1**
comp=Z,194nm,1.0s
EGMT LR LR
comp=Z,26µm,20.0s
H19A Powell 97.00 46 P **P 05 43 49.5 +1.8**
baz=97,SNR=54
LAZ Ladron 97.01 56 *e*P Pdif 05 43 49.2 +1.1
comp=Z,28nm,1.4s
LAZ *e*PP **PP 05 47 42.3 -1.9**
LENM Lemitar 97.11 57 *e*P Pdif 05 43 49.3 +0.8
comp=Z,28nm,1.2s
LENM *e*PP **PP 05 47 43.9 -1.1**
Y22D IRIS PASSCAL I 97.14 57 P Pdif 05 43 50.6 +2.0
baz=97
SNAA Sanae 97.27 185 P P 05 43 44.5 -3.8
SNAA Sanae 97.27 185*c i*P P 05 43 44.1 -4.2
SNAA pmax pmax
comp=Z,121nm,1.5s
SNAA Sanae 97.27 185 *e*P P 05 43 43.9 -4.4
comp=Z,230nm,1.5s
LPM Los Pinos Moun 97.41 57 *e*P Pdif 05 43 52.4 +2.5
comp=Z,26nm,1.3s
J20A Shoshoni 97.47 47 P Pdif 05 43 52.5 +2.6
baz=98,SNR=16
PMSA Palmer Station 97.50 162 PFAKE 05 44 00.0 +11
PMSA LR LR
comp=Z,12µm,21.0s
I20A Worland 97.52 47 P Pdif 05 43 52.1 +2.1
baz=98,SNR=12
B19A Brinkman Farms 97.53 42 P Pdif 05 43 51.8 +1.9
baz=98
G20A Bridger 97.62 45 P Pdif 05 43 52.4 +2.0
baz=98,SNR=34
ANMO Albuquerque 97.64 56*c i*P **P 05 43 47.8 -3.0**
ANMO pmax pmax
comp=Z,167nm,1.5s
ANMO Albuquerque 97.64 56 *e*P **P 05 43 50.5 -0.3**
comp=Z,34nm,1.0s
ANMO *e*PP **PP 05 47 48.0 -1.1**
ANMO LR LR
comp=Z,29µm,22.0s
H20A Greybull 97.68 46 P Pdif 05 43 52.4 +1.6
baz=98,SNR=8.5
S22A 4UR Ranch, Cre 97.70 53 P Pdif 05 43 52.2 +0.9
baz=98,SNR=36
A19A Klindworth Far 97.72 42 P Pdif 05 43 52.4 +1.7
baz=98
F20A Billings 97.74 45 P Pdif 05 43 53.2 +2.3
baz=98,SNR=7.6
SMCO Snowmass 97.77 52 *e*P Pdif 05 43 54.9 +3.3
comp=Z,32nm,1.1s
KKAR Karatay Array 97.84 312 *e*P Pdif 05 43 52.0 +0.7
comp=Z,49nm,1.3s
J21A Lysite 97.93 47 P Pdif 05 43 53.0 +1.0
baz=98,SNR=40
C20A Veseth Ranch, 98.07 43 P Pdif 05 43 52.9 +0.6
baz=98,SNR=59
I21A Big Trails, Te 98.10 47 P Pdif 05 43 53.8 +1.1
baz=98,SNR=27
B20A Solberg Farm, 98.14 42 P Pdif 05 43 53.5 +0.9
baz=98,SNR=24
A20A Cobblestone Ra 98.25 42 P Pdif 05 43 54.3 +1.2
baz=98
G21A Lodge Grass 98.33 46 P Pdif 05 43 56.0 +2.5
baz=98,SNR=28
VNA2 Neumayer--Watz 98.34 184 P **P 05 43 52.7 -0.3**
baz=180,slow=3.5
H21A Big Horn, Sher 98.37 46 P Pdif 05 43 57.3 +3.5
baz=98,SNR=5.9
F21A Absaloka Mine, 98.45 45 P Pdif 05 43 57.4 +3.4
baz=99
K22A Casper 98.52 48 P Pdif 05 43 57.6 +3.0
baz=99,SNR=9.1
K22A Casper 98.52 48 *e*P Pdif 05 43 56.0 +1.4
comp=Z,78nm,1.5s
E21A Keefer Ranch, 98.56 44 P Pdif 05 43 56.6 +2.0
baz=99,SNR=6.1
J22A Midwest 98.64 47 P Pdif 05 43 56.3 +1.2
baz=99,SNR=23
VNA1 Neumayer--Stat 98.67 183 P **P 05 43 53.8 -0.6**
D21A La Casta Ranch 98.68 44 P Pdif 05 43 57.5 +2.5
baz=99
C21A Desert Coulee 98.69 43 P Pdif 05 43 55.9 +0.9
baz=99,SNR=20
I22A 9 Mile Ranch, 98.69 47 P Pdif 05 43 57.7 +2.5
baz=99,SNR=19
SDCO Great Sand Dun 98.75 53 P Pdif 05 43 57.2 +1.4
baz=99,SNR=6.6
SDCO Great Sand Dun 98.75 53 *e*P Pdif 05 43 56.7 +0.9
comp=Z,9.7nm,0.9s
SDCO LR LR
comp=Z,64µm,22.0s
N23A Red Feather La 98.76 50 P Pdif 05 43 57.3 +1.5
baz=99,SNR=9.5
B21A Ellsworth Farm 98.80 42 P Pdif 05 43 57.8 +2.2
baz=99,SNR=46
H22A Clearmont 98.86 46 P Pdif 05 43 58.7 +2.7
baz=99
ISCO Idaho Springs 98.89 51 P Pdif 05 43 59.7 +3.2
baz=99,SNR=10.0
ISCO Idaho Springs 98.89 51 *e*P Pdif 05 43 59.2 +2.7
comp=Z,46nm,1.6s
ISCO *e*PP **PP 05 47 58.0 -0.6**
ISCO LR LR
comp=Z,55µm,21.0s
A21A Bergtoll Ranch 98.92 42 P Pdif 05 43 58.1 +2.0
baz=99,SNR=63
G22A Birney 98.97 46 P Pdif 05 43 59.2 +2.8
baz=99,SNR=9.2
BVA0 Borovoye Array 99.01 322 *i* P **Pdif 05 43 53.9 -2.4**
BVA0 pmax pmax
comp=Z,116nm,1.4s
BVAR Borovoye Array 99.01 322 P **Pdif 05 43 54.2 -2.1**
comp=Z,20nm,0.9s,baz=96,slow=4.8,SNR=32
BVAR PKKPbc **PKKPbc 06 00 21.9 -2.5**
comp=Z,2.3nm,0.6s,baz=248,slow=1.6,SNR=8.1
F22A Rosebud 99.05 45 P **Pdif 05 43 59.1 +2.4**
baz=99,SNR=30
BRVK Borovoye 99.08 322*c i*P **Pdif 05 43 54.6 -2.0**
BRVK pmax pmax
comp=Z,30nm,1.0s
BRVK Borovoye 99.08 322 P **Pdif 05 43 56.6 +0.1**
SNR=52
BRVK Borovoye 99.08 322 *e*P **Pdif 05 43 55.2 -1.3**
comp=Z,106nm,1.4s
BRVK LR LR
comp=Z,47µm,22.0s
Q24A Divide 99.16 52 P **Pdif 05 43 59.5 +1.8**
baz=99,SNR=10
PHWY Pilot Hill 99.17 50 *e*P **Pdif 05 44 00.4 +2.7**
comp=Z,32nm,1.5s
K23A Bowen Ranch, D 99.19 48 P **Pdif 05 43 59.5 +2.0**
baz=99,SNR=9.5
D22A Cohagen 99.24 44 P **Pdif 05 43 59.5 +2.0**
baz=99,SNR=28
TXAR Lajitas Array 99.29 62 P **Pdif 05 43 57.6 -0.5**
comp=Z,1.6nm,0.8s,baz=224,slow=4.5,SNR=20
TXAR PP **PP 05 48 01.8 +0.1**
comp=Z,89nm,1.3s,baz=238,slow=4.3,SNR=20
TXAR PKKP **PKKPdf 06 00 25.4 -1.7**
comp=Z,1.6nm,0.8s,baz=104,slow=3.9,SNR=6.8
TXAR LR LR 06 20 02.6
comp=Z,48µm,21.9s,baz=0.0,slow=30
J23A Dilts Ranch, B 99.31 48 P **Pdif 05 43 59.4 +1.4**
baz=99
E22A Miles City 99.33 44 P **Pdif 05 44 00.5 +2.5**
baz=100,SNR=6.9
I23A Meade Ranch, G 99.43 47 P **Pdif 05 43 60.0 +1.4**
baz=100
B22A Reddig Ranch S 99.47 43 P **Pdif 05 44 00.7 +2.2**
baz=100,SNR=26
C22A Vida 99.49 43 P **Pdif 05 44 00.6 +2.0**
baz=100,SNR=12
H23A Clabaugh Cattl 99.53 46 P **Pdif 05 44 01.8 +2.9**
baz=100
H23A P PP 05 48 13.7 +11
baz=100
T25A Trinidad 99.54 54 P **Pdif 05 44 01.2 +1.9**
baz=100
T25A P PP 05 48 13.9 +10
baz=100
A22A Carney Farms, 99.58 42 P **Pdif 05 44 01.1 +2.1**
baz=100,SNR=36
A22A P PP 05 48 13.0 +10
baz=100
G23A Biddle 99.60 46 P **Pdif 05 44 02.1 +2.9**
baz=100,SNR=6.8
F23A Volborg 99.64 45 P **Pdif 05 44 02.2 +2.9**
baz=100,SNR=17
E23A Ismay 99.78 44 P **Pdif 05 44 02.1 +2.2**
baz=100,SNR=27
E23A P PP 05 48 11.4 +6.6
baz=100
D23A Lindsay 99.90 44 P **Pdif 05 44 01.8 +1.3**
baz=100,SNR=42
D23A P PP 05 48 11.7 +5.9
baz=100
J24A Dixon Ranch, L 99.95 48 P **Pdif 05 44 02.9 +2.1**
baz=100
J24A P PP 05 48 12.2 +5.8
baz=100
C23A Lambert 99.97 43 P **Pdif 05 44 02.9 +2.1**
baz=100,SNR=36
C23A P PP 05 48 11.7 +5.4
baz=100
I24A Kuemmerle Ranc 100.02 47 P **Pdif 05 44 03.9 +2.8**
baz=100
I24A P **PP 05 48 11.6 +4.7**
baz=100
B23A Brockton 100.15 42 P **Pdif 05 44 03.7 +2.1**
baz=100,SNR=42
B23A P **PP 05 48 12.5 +4.9**
baz=100
H24A Dirks Ranch, A 100.15 46 P **Pdif 05 44 04.2 +2.5**
baz=100,SNR=22
H24A P **PP 05 48 11.8 +4.0**
baz=100
T26A Comanche Natio 100.20 54 P **Pdif 05 44 03.8 +1.7**
baz=100
T26A P **PP 05 48 10.7 +2.3**
baz=100
M25A Palm-Egli Farm 100.23 50 P **Pdif 05 44 04.3 +2.1**
baz=100
A23A Redstone 100.26 42 P **Pdif 05 44 04.4 +2.4**
baz=100,SNR=30
A23A P **PP 05 48 11.5 +3.1**
baz=100
G24A Alzada 100.30 46 P **Pdif 05 44 04.2 +1.9**
baz=100,SNR=7.5
G24A P **PP 05 48 11.0 +2.1**
baz=100
F24A Ekalaka 100.32 45 P **Pdif 05 44 04.1 +1.7**
baz=100,SNR=12
F24A P **PP 05 48 11.1 +2.1**
baz=100
S26A Kim 100.33 54 P **Pdif 05 44 04.0 +1.3**
baz=100
S26A P **PP 05 48 12.6 +3.1**
baz=100
L25A Engebretsen Ra 100.36 49 P **Pdif 05 44 03.9 +1.2**
baz=100
L25A P **PP 05 48 12.7 +3.2**
baz=100
Q26A Hugo 100.42 52 P **Pdif 05 44 04.2 +1.1**
baz=100,SNR=8.3
R26A Arlington 100.42 53 P **Pdif 05 44 04.4 +1.3**
baz=100,SNR=15
R26A P **PP 05 48 10.2 +0.2**
baz=100,SNR=5.6
C24A Savage 100.46 43 P **Pdif 05 44 05.8 +2.9**
baz=101,SNR=20
C24A P **PP 05 48 12.0 +2.1**
baz=101
E24A Baker 100.47 44 P **Pdif 05 44 05.3 +2.2**
baz=101,SNR=18
E24A P **PP 05 48 11.1 +1.1**
baz=101
K25A Mack Ranch, Ha 100.47 48 P **Pdif 05 44 05.4 +2.2**
baz=101
K25A P **PP 05 48 12.9 +2.6**
baz=101
RSSD Black Hills 100.47 47 *e*Pdif **Pdif 05 44 06.3 +3.1**
comp=Z,96nm,1.6s
RSSD *e*PP **PP 05 48 08.6 -1.8**
D24A Glendive 100.50 44 P **Pdif 05 44 05.3 +2.2**
baz=101,SNR=32
D24A P **PP 05 48 12.8 +2.5**
baz=101
228A UT Block 9, Go 100.52 59 P **Pdif 05 44 05.0 +1.4**
baz=101
228A P **PP 05 48 12.4 +1.5**
baz=101
MSTX Muleshoe 100.55 57 P **Pdif 05 44 04.9 +1.1**
baz=101,SNR=18
MSTX P **PP 05 48 14.7 +3.5**
baz=101
MSTX Muleshoe 100.55 57 *e*Pdif **Pdif 05 44 04.2 +0.5**
comp=Z,63nm,1.3s
MSTX *e*PP **PP 05 48 08.5 -2.7**
RER Riviere de l'E 100.58 246 PFAKE 05 44 20.0 +16
RER LR LR
comp=Z,23µm,21.0s
J25A Sunshine Ranch 100.58 48 P **Pdif 05 44 05.4 +1.7**
baz=101
J25A P **PP 05 48 13.7 +2.6**
baz=101
P26A Davis Ranch, A 100.61 52 P **Pdif 05 44 07.4 +3.5**
baz=101
P26A P **PP 05 48 15.6 +4.1**
baz=101
529A Stev Forest Ra 100.62 61 P **Pdif 05 44 05.7 +1.6**
baz=101
529A P **PP 05 48 15.0 +3.2**
baz=101
128A Castleberry Fa 100.66 59 P **Pdif 05 44 06.4 +2.2**
baz=101
128A P **PP 05 48 13.9 +2.0**
baz=101
V27A Dan Oppiter Fa 100.67 55 P **Pdif 05 44 06.5 +2.3**
baz=101
V27A P **PP 05 48 13.7 +1.7**
baz=101
DGMT Dagmar 100.68 42 P **Pdif 05 44 06.0 +2.1**
baz=101,SNR=19
DGMT P **PP 05 48 13.6 +2.0**
baz=101
DGMT Dagmar 100.68 42 *e*Pdif **Pdif 05 44 04.9 +1.0**
comp=Z,385nm,1.5s
DGMT LR LR
comp=Z,28µm,20.0s
I25A Rochford 100.68 47 P **Pdif 05 44 06.8 +2.6**
baz=101,SNR=13
I25A P **PP 05 48 14.2 +2.2**
baz=101
O26A Horse Wrangler 100.69 51 P **Pdif 05 44 05.3 +1.1**
baz=101
O26A P **PP 05 48 13.3 +1.2**
baz=101
U27A Thompson Grove 100.74 55 P **Pdif 05 44 05.4 +0.9**
baz=101
U27A P **PP 05 48 13.4 +0.9**
baz=101
S27A Las Animas 100.79 53 P **Pdif 05 44 07.7 +2.9**
baz=101
S27A P **PP 05 48 13.4 +0.5**
baz=101
Z28A Tucker Farm, M 100.81 58 P **Pdif 05 44 06.8 +1.9**
baz=101
Z28A P **PP 05 48 14.6 +1.5**
baz=101
N26A Koester Ranch, 100.81 50 P **Pdif 05 44 07.0 +2.3**
baz=101
N26A P **PP 05 48 12.9 0.0**
baz=101
H25A Fruitdale 100.82 46 P **Pdif 05 44 07.4 +2.8**
baz=101,SNR=15
H25A P **PP 05 48 13.0 +0.2**
baz=101
A24A Westby 100.84 42 P **Pdif 05 44 06.2 +1.7**
baz=101,SNR=11
A24A P **PP 05 48 14.0 +1.3**
baz=101
T27A Campo 100.88 54 P **Pdif 05 44 07.4 +2.2**
baz=101
T27A P **PP 05 48 13.8 +0.2**
baz=101
M26A McRoberts Ranc 100.92 50 P **Pdif 05 44 07.2 +2.0**
baz=101
M26A P **PP 05 48 14.9 +1.2**
baz=101
R27A Eads 100.92 53 P **Pdif 05 44 07.7 +2.4**
baz=101,SNR=6.6
R27A P **PP 05 48 13.4 -0.5**
baz=101
429A Davenport Ranc 100.96 61 P **Pdif 05 44 07.3 +1.7**
baz=101,SNR=8.5
429A P **PP 05 48 15.5 +1.3**
baz=101
329A Wagon Wheel Ra 100.97 60 P **Pdif 05 44 07.5 +1.9**
baz=101,SNR=5.3
329A P **PP 05 48 17.1 +2.8**
baz=101
Y28A McKinney Farm, 100.98 57 P **Pdif 05 44 06.9 +1.3**
baz=101
Y28A P **PP 05 48 17.2 +2.8**
baz=101
K26A Motz Farm, Whi 100.98 48 P **Pdif 05 44 08.2 +2.7**
baz=101
K26A P **PP 05 48 16.4 +2.3**
baz=101
G25A Newell 100.99 46 P **Pdif 05 44 07.5 +2.1**
baz=101,SNR=17
G25A P **PP 05 48 16.8 +2.7**
baz=101
L26A Underwood Farm 101.01 49 P **Pdif 05 44 07.6 +2.1**
baz=101
L26A P **PP 05 48 17.1 +2.7**
baz=101
F25A Bowman 101.01 45 P **Pdif 05 44 07.8 +2.4**
baz=101,SNR=15
F25A P **PP 05 48 17.5 +3.3**
baz=101
X28A Dimmitt 101.08 57 P **Pdif 05 44 07.4 +1.3**
baz=101
X28A P **PP 05 48 16.4 +1.3**
baz=101
E25A Miller Ranch, 101.09 45 P **Pdif 05 44 08.6 +2.8**
baz=101,SNR=17
E25A P **PP 05 48 16.3 +1.5**
baz=101
J26A Sides Ranch, S 101.11 48 P **Pdif 05 44 08.9 +3.0**
baz=101,SNR=22
J26A P **PP 05 48 17.0 +1.9**
baz=101
KSCO Kaye Shedlock' 101.12 52 P **Pdif 05 44 10.4 +4.3**
baz=101
KSCO P **PP 05 48 17.6 +2.2**
baz=101
KSCO Kaye Shedlock' 101.12 52 *e*Pdif **Pdif 05 44 10.1 +3.9**
comp=Z,56nm,1.4s
W28A Vega 101.14 56 P **Pdif 05 44 08.4 +2.1**
baz=101
W28A P **PP 05 48 15.5 -0.1**

	baz=101						
229A	**Bryant Ranch,**	**101.16**	**59**	P	**Pdif**	**05 44 06.9**	**+0.5**
	baz=101						
229A				P	**PP**	**05 48 15.5**	**-0.2**
	baz=101						
V28A	**Channing**	**101.17**	**56**	P	**Pdif**	**05 44 08.4**	**+2.0**
	baz=101						
V28A				P	**PP**	**05 48 15.3**	**-0.4**
	baz=101						
129A	**Stewart Farms,**	**101.18**	**59**	P	**Pdif**	**05 44 07.3**	**+0.8**
	baz=101						
129A				P	**PP**	**05 48 15.0**	**-0.9**
	baz=101						
D25A	**Fairfield**	**101.18**	**44**	P	**Pdif**	**05 44 07.1**	**+0.9**
	baz=101,SNR=9.1						
D25A				P	**PP**	**05 48 15.5**	**+0.1**
	baz=101						
P27A	**Ficken Ranch,**	**101.20**	**52**	P	**Pdif**	**05 44 08.1**	**+1.6**
	baz=101						
P27A				P	**PP**	**05 48 14.3**	**-1.6**
	baz=101						
U28A	**Mallet**	**101.22**	**55**	P	**Pdif**	**05 44 07.8**	**+1.2**
	baz=101						
U28A				P	**PP**	**05 48 15.2**	**-0.9**
	baz=101						
C25A	**Freed Ranch, W**	**101.26**	**43**	P	**Pdif**	**05 44 08.6**	**+2.1**
	baz=101,SNR=12						
C25A				P	**PP**	**05 48 15.3**	**-0.7**
	baz=101						
I26A	**New Underwood**	**101.31**	**47**	P	**Pdif**	**05 44 09.2**	**+2.3**
	baz=101,SNR=5.6						
I26A				P	**PP**	**05 48 18.2**	**+1.6**
	baz=101						
O27A	**Beecher Island**	**101.32**	**51**	P	**Pdif**	**05 44 08.8**	**+1.8**
	baz=101						
O27A				P	**PP**	**05 48 17.9**	**+1.1**
	baz=101						
N27A	**Anderson Farm,**	**101.33**	**50**	P	**Pdif**	**05 44 09.6**	**+2.6**
	baz=101						
N27A				P	**PP**	**05 48 18.5**	**+1.7**
	baz=101						
B25A	**Knox Farm, Ray**	**101.36**	**43**	P	**Pdif**	**05 44 09.1**	**+2.3**
	baz=102						
B25A				P	**PP**	**05 48 18.7**	**+2.0**
	baz=102						
T28A	**Walsh**	**101.37**	**54**	P	**Pdif**	**05 44 09.5**	**+2.2**
	baz=102,SNR=7.2						
T28A				P	**PP**	**05 48 19.3**	**+2.0**
	baz=102,SNR=7.0						
Z29A	**Hungry Hill Ra**	**101.37**	**58**	P	**Pdif**	**05 44 10.2**	**+2.8**
	baz=102						
Z29A				P	**PP**	**05 48 18.6**	**+1.3**
	baz=102						
530A	**J-C Ranch, Com**	**101.39**	**61**	P	**Pdif**	**05 44 09.9**	**+2.4**
	baz=102,SNR=6.4						
530A				P	**PP**	**05 48 19.3**	**+1.7**
	baz=102						
H26A	**Fairpoint**	**101.41**	**46**	P	**Pdif**	**05 44 09.5**	**+2.3**
	baz=102,SNR=12						
H26A				P	**PP**	**05 48 19.2**	**+2.0**
	baz=102						
A25A	**Svangstu Ranch**	**101.42**	**42**	P	**Pdif**	**05 44 09.3**	**+2.1**
	baz=102,SNR=17						
A25A				P	**PP**	**05 48 18.7**	**+1.6**
	baz=102						
Y29A	**Porterfield Fa**	**101.45**	**57**	P	**Pdif**	**05 44 09.4**	**+1.7**
	baz=102,SNR=14						
Y29A				P	**PP**	**05 48 19.9**	**+1.9**
	baz=102						
X29A	**Tulia**	**101.48**	**57**	P	**Pdif**	**05 44 10.3**	**+2.4**
	baz=102						
X29A				P	**PP**	**05 48 19.1**	**+1.0**
	baz=102,SNR=6.9						
M27A	**Reverse DX Ran**	**101.49**	**50**	P	**Pdif**	**05 44 10.0**	**+2.3**
	baz=102						
AMTX	**Amarillo**	**101.53**	**56**	P	**Pdif**	**05 44 09.5**	**+1.4**
	baz=102						
AMTX				P	**PP**	**05 48 21.5**	**+2.9**
	baz=102						
AMTX	**Amarillo**	**101.53**	**56**	*e*Pdif	**Pdif**	**05 44 09.3**	**+1.3**
	comp=Z,67nm,1.3s						
430A	**Baggett Ranch,**	**101.54**	**61**	P	**Pdif**	**05 44 09.8**	**+1.6**
	baz=102,SNR=6.6						
430A				P	**PP**	**05 48 18.4**	**-0.2**
	baz=102,SNR=14						
F26A	**Lodgepole**	**101.56**	**45**	P	**Pdif**	**05 44 09.9**	**+2.0**
	baz=102,SNR=21						
F26A				P	**PP**	**05 48 21.1**	**+2.8**
	baz=102						
G26A	**Maurine**	**101.57**	**46**	P	**Pdif**	**05 44 10.5**	**+2.5**
	baz=102,SNR=24						
G26A				P	**PP**	**05 48 20.6**	**+2.1**
	baz=102						
S28A	**Manter**	**101.58**	**54**	P	**Pdif**	**05 44 09.6**	**+1.4**
	baz=102						
S28A				P	**PP**	**05 48 21.7**	**+2.9**
	baz=102,SNR=8.3						
L27A	**T5 Ranch, Ells**	**101.58**	**49**	P	**Pdif**	**05 44 10.9**	**+2.8**
	baz=102						
W29A	**Amarillo**	**101.58**	**56**	P	**Pdif**	**05 44 10.5**	**+2.2**
	baz=102						
W29A				P	**PP**	**05 48 21.4**	**+2.5**
	baz=102						
330A	**Mertzon**	**101.65**	**60**	P	**Pdif**	**05 44 10.5**	**+1.9**
	baz=102						
330A				P	**PP**	**05 48 20.7**	**+1.3**
	baz=102						
K27A	**Flueckinger Fa**	**101.68**	**48**	P	**Pdif**	**05 44 10.9**	**+2.3**
	baz=102						
K27A				P	**PP**	**05 48 21.0**	**+1.6**
	baz=102						
R28A	**Tribune**	**101.70**	**53**	P	**Pdif**	**05 44 12.5**	**+3.8**
	baz=102						
R28A				P	**PP**	**05 48 22.6**	**+2.9**
	baz=102						
OGNE	**Ogallala**	**101.72**	**50**	P	**Pdif**	**05 44 11.8**	**+3.1**
	baz=102						
OGNE	**Ogallala**	**101.72**	**50**	PFAKE		05 44 20.0	+11
OGNE				LR	LR		
	comp=Z,46µm,19.0s						
E26A	**Carlson Angus**	**101.73**	**45**	P	**Pdif**	**05 44 10.9**	**+2.2**
	baz=102,SNR=23						
E26A				P	**PP**	**05 48 20.4**	**+0.8**
	baz=102						
Q28A	**Sharon Springs**	**101.74**	**52**	P	**Pdif**	**05 44 11.6**	**+2.7**
	baz=102						
Q28A				P	**PP**	**05 48 20.3**	**+0.3**
	baz=102						
230A	**Sterling City**	**101.75**	**59**	P	**Pdif**	**05 44 11.5**	**+2.5**
	baz=102						
230A				P	**PP**	**05 48 22.7**	**+2.5**
	baz=102						
V29A	**Stinnett**	**101.75**	**55**	P	**Pdif**	**05 44 11.6**	**+2.6**
	baz=102						
V29A				P	**PP**	**05 48 21.2**	**+1.1**
	baz=102						
D26A	**Manning**	**101.78**	**44**	P	**Pdif**	**05 44 11.7**	**+2.9**
	baz=102,SNR=16						
D26A				P	**PP**	**05 48 21.5**	**+1.6**
	baz=102						
P28A	**Saint Francis**	**101.83**	**52**	P	**Pdif**	**05 44 11.9**	**+2.6**
	baz=102						
Z30A	**Sanderson Ranc**	**101.85**	**58**	P	**Pdif**	**05 44 11.0**	**+1.5**
	baz=102,SNR=10						
Z30A				P	**PP**	**05 48 22.3**	**+1.3**
	baz=102						
O28A	**Krutsinger Ran**	**101.86**	**51**	P	**Pdif**	**05 44 11.2**	**+1.8**
	baz=102						
O28A				P	**PP**	**05 48 20.6**	**-0.3**
	baz=102,SNR=7.8						
J27A	**Elkhorn Farm,**	**101.88**	**48**	P	**Pdif**	**05 44 11.8**	**+2.4**
	baz=102						
J27A				P	**PP**	**05 48 20.7**	**-0.2**
	baz=102						
I27A	**Quinn**	**101.89**	**47**	P	**Pdif**	**05 44 11.7**	**+2.3**
	baz=102,SNR=10						
I27A				P	**PP**	**05 48 22.3**	**+1.4**
	baz=102						
H27A	**Howes**	**101.91**	**46**	P	**Pdif**	**05 44 11.2**	**+1.7**
	baz=102						
H27A				P	**PP**	**05 48 21.7**	**+0.8**
	baz=102						
130A	**Snyder**	**101.93**	**59**	P	**Pdif**	**05 44 11.9**	**+2.1**
	baz=102						
130A				P	**PP**	**05 48 22.6**	**+1.1**
	baz=102,SNR=8.6						
631A	**Perdido Creek**	**101.98**	**62**	P	**Pdif**	**05 44 12.0**	**+2.0**
	baz=102						
631A				P	**PP**	**05 48 23.4**	**+1.4**
	baz=102,SNR=9.7						
B26A	**Jensen Ranch,**	**101.98**	**43**	P	**Pdif**	**05 44 11.3**	**+1.7**
	baz=102						
B26A				P	**PP**	**05 48 23.9**	**+2.5**
	baz=102						
U29A	**Oasis Ranch, S**	**101.99**	**55**	P	**Pdif**	**05 44 11.8**	**+1.9**
	baz=102						
F27A	**Lemmon**	**102.01**	**45**	P	**Pdif**	**05 44 11.8**	**+1.9**
	baz=102,SNR=36						
F27A				P	**PP**	**05 48 22.8**	**+1.1**
	baz=102						
T29A	**Hugoton**	**102.03**	**54**	P	**Pdif**	**05 44 12.4**	**+2.3**
	baz=102						
T29A				P	**PP**	**05 48 23.4**	**+1.2**
	baz=102						
C26A	**Wahner Farm, P**	**102.05**	**43**	P	**Pdif**	**05 44 12.5**	**+2.5**
	baz=102,SNR=12						
C26A				P	**PP**	**05 48 24.5**	**+2.6**
	baz=102						
G27A	**Dupree**	**102.05**	**46**	P	**Pdif**	**05 44 11.9**	**+1.8**
	baz=102,SNR=32						
G27A				P	**PP**	**05 48 23.3**	**+1.3**
	baz=102						
431A	**Sonora**	**102.07**	**61**	P	**Pdif**	**05 44 12.3**	**+1.8**
	baz=102,SNR=5.5						
431A				P	**PP**	**05 48 23.2**	**+0.6**
	baz=102						
531A	**Rocksprings**	**102.07**	**61**	P	**Pdif**	**05 44 12.4**	**+1.9**
	baz=102						
531A				P	**PP**	**05 48 23.2**	**+0.5**
	baz=102,SNR=17						
N28A	**Pribbeno Ranch**	**102.07**	**51**	P	**Pdif**	**05 44 12.6**	**+2.3**
	baz=102						
N28A				P	**PP**	**05 48 23.9**	**+1.5**
	baz=102						
Y30A	**Stafford Cattl**	**102.09**	**57**	P	**Pdif**	**05 44 12.9**	**+2.4**
	baz=102						
Y30A				P	**PP**	**05 48 23.6**	**+0.9**
	baz=102,SNR=6.6						
A26A	**Wade Farm, Ken**	**102.13**	**42**	P	**Pdif**	**05 44 12.4**	**+2.1**
	baz=102,SNR=12						
A26A				P	**PP**	**05 48 25.8**	**+3.3**
	baz=102						
X30A	**Coker Ranch, T**	**102.16**	**57**	P	**Pdif**	**05 44 12.6**	**+1.8**
	baz=102						
X30A				P	**PP**	**05 48 23.6**	**+0.4**
	baz=102						
L28A	**Connealy Angus**	**102.17**	**49**	P	**Pdif**	**05 44 13.5**	**+2.8**
	baz=102						
L28A				P	**PP**	**05 48 25.0**	**+1.9**
	baz=102						
S29A	**Ulysses**	**102.20**	**54**	P	**Pdif**	**05 44 13.2**	**+2.2**
	baz=102						
S29A				P	**PP**	**05 48 25.1**	**+1.6**
	baz=102						
R29A	**Marienthal**	**102.24**	**53**	P	**Pdif**	**05 44 14.6**	**+3.5**
	baz=102						
R29A				P	**PP**	**05 48 25.8**	**+2.2**
	baz=102						
331A	**San Angelo**	**102.28**	**60**	P	**Pdif**	**05 44 13.7**	**+2.3**
	baz=102						
331A				P	**PP**	**05 48 23.5**	**-0.7**
	baz=102,SNR=9.6						
K28A	**Ten Mile Ranch**	**102.32**	**48**	P	**Pdif**	**05 44 14.1**	**+2.7**
	baz=102						
K28A				P	**PP**	**05 48 24.7**	**+0.6**
	baz=102						
FFC	**Flin Flon**	**102.32**	**36**	*e*Pdif	**Pdif**	**05 44 11.5**	**+0.6**
	comp=Z,73nm,1.8s						
FFC				LR	LR		
	comp=Z,27µm,20.0s						
E27A	**Carson**	**102.35**	**45**	P	**Pdif**	**05 44 14.1**	**+2.7**
	baz=102,SNR=11						
E27A				P	**PP**	**05 48 24.3**	**+0.1**
	baz=102						
Q29A	**Oakley**	**102.39**	**52**	P	**Pdif**	**05 44 14.3**	**+2.6**
	baz=102						
Q29A				P	**PP**	**05 48 23.8**	**-1.0**
	baz=102						
832A	**Faith Ranch, C**	**102.40**	**63**	P	**Pdif**	**05 44 13.8**	**+1.9**
	baz=102,SNR=15						
832A				P	**PP**	**05 48 23.7**	**-1.4**
	baz=102						
D27A	**Center**	**102.41**	**44**	P	**Pdif**	**05 44 13.9**	**+2.3**
	baz=102,SNR=8.7						
131A	**Roby**	**102.42**	**59**	P	**Pdif**	**05 44 13.7**	**+1.7**
	baz=102						
131A				P	**PP**	**05 48 25.7**	**+0.5**
	baz=102,SNR=8.4						
231A	**Bronte**	**102.42**	**60**	P	**Pdif**	**05 44 14.2**	**+2.2**
	baz=102,SNR=5.7						
231A				P	**PP**	**05 48 26.0**	**+0.7**
	baz=102						
732A	**Laxson Ranch,**	**102.44**	**63**	P	**Pdif**	**05 44 14.9**	**+2.8**
	baz=102						
732A				P	**PP**	**05 48 26.6**	**+1.2**
	baz=102,SNR=12						
C27A	**Sayler Ranch,**	**102.44**	**43**	P	**Pdif**	**05 44 13.8**	**+2.1**
	baz=102,SNR=12						
J28A	**Allard Ranch,**	**102.45**	**48**	P	**Pdif**	**05 44 14.6**	**+2.7**
	baz=103,SNR=10						
J28A				P	**PP**	**05 48 23.8**	**-1.3**
	baz=103						
P29A	**Atwood**	**102.47**	**52**	P	**Pdif**	**05 44 13.8**	**+1.7**
	baz=103						
U30A	**WK&E Inc. Balk**	**102.50**	**55**	P	**Pdif**	**05 44 15.2**	**+2.9**
	baz=103						
U30A				P	**PP**	**05 48 27.9**	**+2.2**
	baz=103						
I28A	**Midland**	**102.53**	**47**	P	**Pdif**	**05 44 14.7**	**+2.5**
	baz=103						
I28A				P	**PP**	**05 48 29.0**	**+3.4**
	baz=103						
O29A	**4D Ranch, Culb**	**102.60**	**51**	P	**Pdif**	**05 44 15.2**	**+2.6**
	baz=103						
532A	**Rocksprings**	**102.62**	**61**	P	**Pdif**	**05 44 14.8**	**+1.9**
	baz=103						
532A				P	**PP**	**05 48 27.8**	**+1.0**
	baz=103,SNR=13						
B27A	**Peters Farms,**	**102.63**	**43**	P	**Pdif**	**05 44 14.5**	**+2.0**
	baz=103,SNR=8.3						
Y31A	**Rekieta Farm,**	**102.63**	**57**	P	**Pdif**	**05 44 14.6**	**+1.7**
	baz=103						
Y31A				P	**PP**	**05 48 27.8**	**+1.1**
	baz=103,SNR=8.3						
H28A	**Mission Ridge**	**102.66**	**46**	P	**Pdif**	**05 44 15.8**	**+3.0**
	baz=103,SNR=15						
H28A				P	**PP**	**05 48 29.6**	**+3.0**
	baz=103						
632A	**Uvalde**	**102.67**	**62**	P	**Pdif**	**05 44 15.0**	**+1.8**
	baz=103,SNR=5.4						
632A				P	**PP**	**05 48 29.5**	**+2.3**
	baz=103						
Z31A	**Sharp Cattle R**	**102.68**	**58**	P	**Pdif**	**05 44 15.1**	**+2.0**
	baz=103,SNR=7.9						
Z31A				P	**PP**	**05 48 29.3**	**+2.1**
	baz=103						
JCT	**Junction City**	**102.74**	**61**	P	**Pdif**	**05 44 14.6**	**+1.1**
	baz=103						
JCT				P	**PP**	**05 48 29.2**	**+1.5**
	baz=103						
JCT	**Junction City**	**102.74**	**61**	*e*P	**Pdif**	**05 44 13.8**	**+0.4**
	comp=Z,35nm,1.4s						
JCT				*e*PP	**PP**	**05 48 26.6**	**-1.1**
JCT				LR	LR		
	comp=Z,61µm,22.0s						
G28A	**Parade**	**102.75**	**46**	P	**Pdif**	**05 44 15.4**	**+2.2**
	baz=103,SNR=11						
M29A	**Burnside Ranch**	**102.76**	**50**	P	**Pdif**	**05 44 15.7**	**+2.4**
	baz=103						
N29A	**Votaw Ranch, W**	**102.77**	**50**	P	**Pdif**	**05 44 15.7**	**+2.3**
	baz=103						
432A	**Menard**	**102.78**	**61**	P	**Pdif**	**05 44 15.3**	**+1.6**
	baz=103						
432A				P	**PP**	**05 48 29.4**	**+1.4**
	baz=103						
F28A	**McLaughlin**	**102.86**	**45**	P	**Pdif**	**05 44 16.1**	**+2.5**
	baz=103,SNR=5.7						
332A	**Millersview**	**102.87**	**60**	P	**Pdif**	**05 44 15.9**	**+1.9**
	baz=103						
332A				P	**PP**	**05 48 30.1**	**+1.5**
	baz=103						
R30A	**Dighton**	**102.90**	**53**	P	**Pdif**	**05 44 16.3**	**+2.3**
	baz=103						
R30A				P	**PP**	**05 48 29.4**	**+0.7**
	baz=103						
833A	**Chaparral WMA,**	**102.91**	**63**	P	**Pdif**	**05 44 16.8**	**+2.7**
	baz=103						
833A				P	**PP**	**05 48 30.5**	**+1.6**
	baz=103,SNR=8.4						
X31A	**McDonald Ranch**	**102.91**	**57**	P	**Pdif**	**05 44 16.4**	**+2.3**
	baz=103,SNR=9.1						
L29A	**Maesberg Ranch**	**102.94**	**49**	P	**Pdif**	**05 44 17.0**	**+2.9**
	baz=103						
L29A				P	**PP**	**05 48 30.8**	**+2.0**
	baz=103						
933A	**Laredo**	**102.95**	**64**	P	**Pdif**	**05 44 16.5**	**+2.1**
	baz=103						
933A				P	**PP**	**05 48 31.3**	**+2.0**
	baz=103,SNR=6.5						
E28A	**Huff**	**102.96**	**45**	P	**Pdif**	**05 44 16.8**	**+2.8**
	baz=103,SNR=15						
E28A				P	**PP**	**05 48 31.3**	**+2.5**
	baz=103						
W31A	**Holland Ranch,**	**102.98**	**56**	P	**Pdif**	**05 44 16.2**	**+1.7**
	baz=103						
W31A				P	**PP**	**05 48 30.6**	**+1.3**
	baz=103						
Q30A	**Quinter**	**102.99**	**52**	P	**Pdif**	**05 44 17.0**	**+2.6**
	baz=103,SNR=8.3						
Q30A				P	**PP**	**05 48 30.7**	**+1.4**
	baz=103						
232A	**Coleman**	**102.99**	**60**	P	**Pdif**	**05 44 16.2**	**+1.7**
	baz=103,SNR=7.6						
232A				P	**PP**	**05 48 30.9**	**+1.4**
	baz=103						
P30A	**Selden**	**103.00**	**52**	P	**Pdif**	**05 44 18.7**	**+4.3**
	baz=103						
P30A				P	**PKiKP**	**05 48 32.0**	**-2.4**
	baz=103						
733A	**Divot King Ran**	**103.03**	**63**	P	**Pdif**	**05 44 17.7**	**+3.0**
	baz=103						
733A				P	**PP**	**05 48 31.7**	**+1.9**
	baz=103,SNR=5.3						
ABTX	**Abilene, Hawle**	**103.05**	**59**	P	**Pdif**	**05 44 17.6**	**+2.9**
	baz=103						
ABTX				P	**PP**	**05 48 30.0**	**+0.1**
	baz=103,SNR=10.0						
ABTX	**Abilene, Hawle**	**103.05**	**59**	*e*Pdif	**Pdif**	**05 44 14.9**	**+0.1**
	comp=Z,39nm,1.4s						
ABTX				*e*PP	**PP**	**05 48 29.0**	**-0.9**
D28A	**Regan**	**103.06**	**44**	P	**Pdif**	**05 44 18.4**	**+3.9**
	baz=103						
D28A				P	**PP**	**05 48 31.4**	**+1.9**
	baz=103						
K29A	**Lazy Trails An**	**103.09**	**48**	P	**Pdif**	**05 44 18.4**	**+3.7**
	baz=103						
K29A				P	**PKiKP**	**05 48 32.7**	**-1.7**
	baz=103						
V31A	**Spring Creek L**	**103.10**	**56**	P	**Pdif**	**05 44 19.1**	**+4.2**
	baz=103,SNR=6.8						
V31A				P	**PP**	**05 48 32.4**	**+2.2**
	baz=103						
J29A	**Okreek**	**103.11**	**48**	P	**Pdif**	**05 44 18.6**	**+3.8**
	baz=103,SNR=8.6						
J29A				P	**PKiKP**	**05 48 32.8**	**-1.6**
	baz=103						
U31A	**Nine Bar Ranch**	**103.13**	**55**	P	**Pdif**	**05 44 19.0**	**+4.0**
	baz=103						
U31A				P	**PKiKP**	**05 48 32.8**	**-1.9**
	baz=103						
I29A	**Vivian Onida**	**103.15**	**47**	P	**Pdif**	**05 44 18.5**	**+3.5**
	baz=103						
I29A				P	**PP**	**05 48 32.1**	**+1.8**
	baz=103						
N30A	**Hueftle Ranch,**	**103.17**	**50**	P	**Pdif**	**05 44 19.6**	**+4.4**
	baz=103						
N30A				P	**PKiKP**	**05 48 33.0**	**-1.6**
	baz=103						
O30A	**MW Ranch, Wils**	**103.17**	**51**	P	**Pdif**	**05 44 19.4**	**+4.2**
	baz=103						
O30A				P	**PP**	**05 48 32.4**	**+1.8**
	baz=103						
C28A	**Hausauer Farms**	**103.20**	**43**	P	**Pdif**	**05 44 18.5**	**+3.5**
	baz=103,SNR=8.2						
C28A				P	**PP**	**05 48 30.8**	**+0.3**
	baz=103						
633A	**Saathoff Ranch**	**103.20**	**62**	P	**Pdif**	**05 44 18.9**	**+3.4**
	baz=103						
633A				P	**PP**	**05 48 32.7**	**+1.7**
	baz=103,SNR=6.8						
B28A	**Dugan Ranch, T**	**103.23**	**43**	P	**Pdif**	**05 44 18.6**	**+3.4**
	baz=103,SNR=12						
B28A				P	**PP**	**05 48 31.9**	**+1.2**
	baz=103						
Z32A	**Haskell**	**103.23**	**58**	P	**Pdif**	**05 44 17.9**	**+2.4**
	baz=103,SNR=19						
Z32A				P	**PP**	**05 48 31.1**	**-0.1**
	baz=103,SNR=12						
H29A	**Onida**	**103.24**	**47**	P	**Pdif**	**05 44 18.7**	**+3.3**
	baz=103						
H29A				P	**PP**	**05 48 31.6**	**+0.6**
	baz=103						
A28A	**Rude Farm, Bot**	**103.30**	**42**	P	**Pdif**	**05 44 18.2**	**+2.7**
	baz=103,SNR=15						
A28A				P	**PP**	**05 48 32.8**	**+1.5**
	baz=103						
T31A	**Randall Ranch,**	**103.31**	**54**	P	**Pdif**	**05 44 18.4**	**+2.6**
	baz=103						
T31A				P	**PP**	**05 48 32.1**	**+0.4**
	baz=103						
Y32A	**R-V Farms, Ver**	**103.31**	**57**	P	**Pdif**	**05 44 18.0**	**+2.1**
	baz=103,SNR=5.3						
Y32A				P	**PP**	**05 48 32.1**	**+0.3**
	baz=103						
CBKS	**Cedar Bluff**	**103.35**	**53**	P	**Pdif**	**05 44 18.7**	**+2.7**
	baz=104						
CBKS				P	**PP**	**05 48 32.6**	**+0.6**
	baz=104						
CBKS	**Cedar Bluff**	**103.35**	**53**	PFAKE		05 44 30.0	+14
CBKS				LR	LR		
	comp=Z,74µm,22.0s						
533A	**Kerrville**	**103.37**	**62**	P	**Pdif**	**05 44 18.8**	**+2.6**
	baz=104						
533A				P	**PP**	**05 48 32.0**	**-0.4**
	baz=104,SNR=11						
433A	**Art**	**103.37**	**61**	P	**Pdif**	**05 44 18.1**	**+1.9**
	baz=104,SNR=7.9						
433A				P	**PKiKP**	**05 48 34.4**	**-0.9**
	baz=104,SNR=12						
034A	**Hebbronville**	**103.42**	**65**	P	**Pdif**	**05 44 19.3**	**+2.8**
	baz=104						
034A				P	**PKiKP**	**05 48 34.3**	**-1.1**
	baz=104,SNR=9.2						
G29A	**Hoven**	**103.46**	**46**	P	**Pdif**	**05 44 18.9**	**+2.6**
	baz=104						
G29A				P	**PP**	**05 48 31.3**	**-1.2**
	baz=104						
X32A	**Elmer**	**103.47**	**57**	P	**Pdif**	**05 44 18.6**	**+2.0**
	baz=104						
X32A				P	**PKiKP**	**05 48 34.3**	**-1.1**
	baz=104						
S31A	**Mullinville**	**103.49**	**54**	P	**Pdif**	**05 44 19.6**	**+3.0**
	baz=104						
S31A				P	**PP**	**05 48 32.6**	**-0.5**
	baz=104						
R31A	**Burdett**	**103.49**	**53**	P	**Pdif**	**05 44 19.3**	**+2.7**
	baz=104						
R31A				P	**PP**	**05 48 32.6**	**-0.4**
	baz=104						
L30A	**Spencer Herefo**	**103.50**	**49**	P	**Pdif**	**05 44 19.1**	**+2.5**
	baz=104						
L30A				P	**PP**	**05 48 33.3**	**+0.3**
	baz=104						
333A	**Richland Sprin**	**103.51**	**60**	P	**Pdif**	**05 44 18.8**	**+2.0**
	baz=104						
333A				P	**PP**	**05 48 32.9**	**-0.5**
	baz=104,SNR=8.8						
F29A	**Eureka**	**103.54**	**45**	P	**Pdif**	**05 44 19.9**	**+3.3**
	baz=104,SNR=6.9						
F29A				P	**PP**	**05 48 33.2**	**+0.1**
	baz=104						
W32A	**Sentinel**	**103.54**	**56**	P	**Pdif**	**05 44 19.5**	**+2.6**
	baz=104						
W32A				P	**PKiKP**	**05 48 36.5**	**+1.0**
	baz=104,SNR=6.0						
K30A	**Basset**	**103.61**	**49**	P	**Pdif**	**05 44 20.2**	**+3.2**
	baz=104						
K30A				P	**PP**	**05 48 31.7**	**-2.1**
	baz=104						
934A	**Benavides**	**103.62**	**64**	P	**Pdif**	**05 44 20.0**	**+2.6**
	baz=104						
934A				P	**PP**	**05 48 34.9**	**+0.6**
	baz=104,SNR=11						
233A	**Rising Star**	**103.63**	**60**	P	**Pdif**	**05 44 20.2**	**+2.9**

baz=104,SNR=5.8
233A P PP 05 48 32.2 -2.0
baz=104,SNR=9.2
Q31A Ellis 103.63 52 P Pdif 05 44 20.9 +3.7
baz=104
Q31A P PP 05 48 33.2 -0.8
baz=104
834A Tilden 103.63 64 P Pdif 05 44 21.2 +3.8
baz=104
834A P PKiKP 05 48 35.2 -0.5
baz=104,SNR=9.7
133A Hamilton Ranch 103.66 59 P Pdif 05 44 20.0 +2.5
baz=104
133A P PP 05 48 32.7 -1.8
baz=104,SNR=7.4
P31A Stockton 103.67 52 P Pdif 05 44 21.2 +3.9
baz=104
P31A P PP 05 48 32.8 -1.5
baz=104
E29A Napoleon 103.68 45 P Pdif 05 44 19.9 +2.7
baz=104
E29A P PP 05 48 34.2 0.0
baz=104
734A La Parita Cree 103.69 63 P Pdif 05 44 21.4 +3.7
baz=104
734A P PP 05 48 34.0 -0.7
baz=104
J30A Dallas 103.72 48 P Pdif 05 44 20.4 +2.9
baz=104,SNR=7.9
J30A P PP 05 48 33.7 -0.9
baz=104
D29A Pettibone, Tap 103.72 44 P Pdif 05 44 20.7 +3.3
baz=104
MDND Maddock 103.73 43 P Pdif 05 44 21.0 +3.6
baz=104
MDND P PKiKP 05 48 35.3 -0.1
baz=104
O31A Woolen Ranch, 103.73 51 P Pdif 05 44 21.6 +4.0
baz=104
O31A P PP 05 48 34.6 -0.2
baz=104
V32A Arapaho 103.74 56 P Pdif 05 44 22.1 +4.3
baz=104
V32A P PKiKP 05 48 35.5 -0.3
baz=104
I30A Oacoma 103.78 47 P Pdif 05 44 21.2 +3.5
baz=104
I30A P PP 05 48 32.7 -2.3
baz=104
U32A Winter Ranch, 103.81 55 P Pdif 05 44 20.9 +2.9
baz=104
Z33A Whitaker Ranch 103.83 58 P Pdif 05 44 20.6 +2.4
baz=104
Z33A P PKiKP 05 48 35.9 -0.2
baz=104
534A Blanco 103.85 62 P Pdif 05 44 20.6 +2.2
baz=104
534A P PKiKP 05 48 36.2 0.0
baz=104,SNR=8.8
B29A Wagenman Farm,103.90 43 P Pdif 05 44 21.0 +2.8
baz=104,SNR=5.1
B29A P PP 05 48 35.4 -0.3
baz=104
WMOK Wichita Mounta 103.90 57 *e*P Pdif 05 44 19.6 +1.1
comp=Z,3.2nm,0.8s
WMOK LR LR
comp=Z,34µm,22.0s
634A China Grove, S 103.91 62 P Pdif 05 44 22.4 +3.8
baz=104
634A P PKiKP 05 48 35.9 -0.4
baz=104
T32A Huddler Ranch, 103.92 54 P Pdif 05 44 21.7 +3.1
baz=104
T32A P PKiKP 05 48 35.1 -1.0
baz=104
035Z Hargill 103.92 65 P Pdif 05 44 22.4 +3.7
baz=104
035Z P PKiKP 05 48 35.9 -0.5
baz=104
035A Encino 103.93 65 P Pdif 05 44 21.8 +3.1
baz=104
035A P PP 05 48 36.5 0.0
baz=104
S32A Newby Ranch, P 103.93 54 P Pdif 05 44 22.0 +3.4
baz=104
A29A Manning Farm, 103.98 42 P Pdif 05 44 21.2 +2.7
baz=104,SNR=23
A29A P PKiKP 05 48 35.2 -0.6
baz=104
Y33A Hilltop Ranch, 103.99 57 P Pdif 05 44 21.9 +3.0
baz=104
G30A Faulkton 104.01 46 P Pdif 05 44 22.9 +4.2
baz=104
G30A P PP 05 48 37.4 +0.8
baz=104
M31A Lambtecht Ranc 104.04 50 P Pdif 05 44 22.7 +3.7
baz=104
M31A P PP 05 48 37.8 +0.8
baz=104
N31A Bailey Ranch, 104.04 50 P Pdif 05 44 23.0 +4.0
baz=104
N31A P PP 05 48 37.2 +0.1
baz=104
434A Burnet 104.08 61 P Pdif 05 44 22.2 +2.8
baz=104,SNR=5.9
434A P PKiKP 05 48 36.4 -0.2
baz=104,SNR=7.7
F30A Leola 104.10 45 P Pdif 05 44 22.0 +2.9
baz=104
F30A P PP 05 48 38.1 +0.8
baz=104
X33A Lawton 104.12 57 P Pdif 05 44 21.3 +1.9
baz=104
X33A P PKiKP 05 48 36.3 -0.3
baz=104
R32A Long Quarter, 104.14 53 P Pdif 05 44 22.3 +2.8
baz=104
R32A P PKiKP 05 48 37.0 +0.5
baz=104
334A Lometa 104.15 60 P Pdif 05 44 21.5 +1.9
baz=104
334A P PKiKP 05 48 36.6 0.0
baz=104,SNR=9.0
W33A Caddo, Fort Co 104.18 56 P Pdif 05 44 22.6 +2.8
baz=104,SNR=7.2
W33A P PP 05 48 37.8 -0.5
baz=104
E30A Jud 104.19 45 P Pdif 05 44 22.2 +2.7
baz=104
E30A P PP 05 48 38.2 +0.3
baz=104
P32A Huiting Farm, 104.27 52 P Pdif 05 44 23.4 +3.4
baz=104
P32A P PP 05 48 40.3 +1.5
baz=104
234A Clairette 104.28 60 P Pdif 05 44 23.0 +2.8
baz=104
234A P PP 05 48 39.1 0.0
baz=104
Q32A Meitler Ranch, 104.28 52 P Pdif 05 44 22.8 +2.7
baz=104
Q32A P PP 05 48 38.8 0.0
baz=104
835A Beeville 104.28 63 P Pdif 05 44 24.3 +4.1
baz=104
835A P PP 05 48 39.9 +0.8
baz=104,SNR=8.5
D30A Buchanan 104.30 44 P Pdif 05 44 23.0 +3.0
baz=104
D30A P PP 05 48 38.4 -0.3
baz=104
735A Kenedy 104.34 63 P Pdif 05 44 24.1 +3.6
baz=104
735A P PP 05 48 41.1 +1.5
baz=104,SNR=8.5
134A White-Moore Ra 104.36 59 P Pdif 05 44 23.1 +2.5
baz=104,SNR=5.7
134A P PKiKP 05 48 35.2 -1.8
baz=104,SNR=12
V33A Lossen Ranch, 104.36 56 P Pdif 05 44 22.8 +2.2
baz=104
V33A P PKiKP 05 48 36.1 -0.8
baz=104
635A Leesville 104.41 62 P Pdif 05 44 23.7 +2.8
baz=104
635A P PP 05 48 40.2 +0.1
baz=104,SNR=12
T33A Patterson Ranc 104.45 54 P PP 05 48 40.2 0.0
baz=105
C30A Mose, Pekin 104.48 43 P Pdif 05 44 23.2 +2.4
baz=105,SNR=5.3
C30A P PP 05 48 39.5 -0.6
baz=105
U33A Lingo Farm, Me 104.53 55 P Pdif 05 44 24.8 +3.5
baz=105
U33A P PP 05 48 39.3 -1.5
baz=105
N32A Stulken Farm, 104.54 51 P PP 05 48 42.1 +1.4
baz=105
Z34A Collier Ranch, 104.54 58 P Pdif 05 44 24.2 +2.9
baz=105
B30A Myrvik Farm, E 104.58 43 P Pdif 05 44 23.3 +2.1
baz=105,SNR=9.2
B30A P PP 05 48 40.3 -0.5
baz=105
A30A Hoffart Farm, 104.59 42 P PP 05 48 39.4 -1.4
baz=105
535A Dale 104.63 62 P Pdif 05 44 25.2 +3.4
baz=105
BGNE Belgrade 104.66 50 P Pdif 05 44 24.8 +3.1
baz=105
BGNE P PP 05 48 41.5 -0.2
baz=105
S33A Kaszmaul Farm, 104.67 54 P Pdif 05 44 25.5 +3.6
baz=105
S33A P PP 05 48 39.6 -2.2
baz=105
435B Jarrell 104.67 61 P Pdif 05 44 24.8 +2.8
baz=105
435B P PP 05 48 42.6 +0.6
baz=105,SNR=7.3
X34A Smith Ranch, M 104.68 57 P Pdif 05 44 24.8 +2.9
baz=105
X34A P PP 05 48 40.2 -1.7
baz=105
R33A Olander Ranch, 104.71 53 P Pdif 05 44 25.0 +3.0
baz=105
R33A P PP 05 48 41.0 -1.0
baz=105,SNR=7.2
Y34A Reagan Ranch, 104.71 58 P Pdif 05 44 24.7 +2.6
baz=105
Y34A P PP 05 48 41.6 -0.6
baz=105,SNR=7.6
SVE Sverdlovsk 104.72 326↓ *e*P Pdif 05 44 21.7 +0.2
SVE *e* 05 48 40.2
SVE *e*PPP PPP 05 50 59.9
SVE *e*S **SKSac 05 54 58.6 +0.3**
SVE *e* 05 57 58.2
SVE pmax pmax
comp=Z,32nm,1.5s
SVE MLR MLR
comp=Z,39µm,21.0s
SVE MLR MLR
comp=E,24µm,20.0s
W34A Bridge Creek, 104.75 56 P Pdif 05 44 24.4 +2.1
baz=105
W34A P PP 05 48 41.8 -0.7
baz=105
MSEY Mahe Island 104.80 262 PFAKE 05 44 30.0 +7.0
MSEY LR LR
comp=Z,22µm,21.0s
335A Moody 104.83 60 P Pdif 05 44 25.3 +2.6
baz=105
335A P PP 05 48 40.6 -2.6
baz=105
Q33A Connelly Farm, 104.85 52 P Pdif 05 44 28.3 +5.7
baz=105
WHTX Lake Whitney, 104.85 60 P Pdif 05 44 26.6 +3.8
baz=105
WHTX P PP 05 48 41.6 -1.7
baz=105
135A Vickery Place, 104.92 59 P PP 05 48 43.1 -0.8
baz=105,SNR=7.9
V34A Guthrie 104.99 56 P PP 05 48 45.0 +0.8
baz=105
U34A Anderson Ranch 105.00 55 P PP 05 48 45.8 +1.6
baz=105
736A Circle Diamond 105.00 63 P PP 05 48 46.0 +1.5
baz=105,SNR=12
636A Smothers Creek 105.04 62 P PP 05 48 47.2 +2.4
baz=105,SNR=24
O33A Hebron 105.06 51 P PP 05 48 43.5 -1.2
baz=105
536A Bastrop 105.07 62 P PP 05 48 46.7 +1.7
baz=105
Z35A Perchaven, San 105.09 58 P PP 05 48 42.6 -2.4
baz=105,SNR=6.0
R34A Isabella, Hill 105.29 53 P PP 05 48 41.4 -4.9
baz=105
T34A McClaskey Farm 105.30 54 P PP 05 48 40.2 -6.2
baz=105
Y35A Marietta 105.30 58 P PP 05 48 41.6 -5.0
baz=105
336A Riesel 105.34 60 P PP 05 48 42.6 -4.4
baz=105
436A Wall Ranch, Ga 105.35 61 P PP 05 48 43.7 -3.2
baz=106
X35A Drake 105.38 57 P PP 05 48 43.6 -3.6
baz=106
S34A Willow Spring 105.38 54 P PP 05 48 43.3 -3.7
baz=106
M33A Taylor Creek F 105.38 50 P PP 05 48 43.4 -3.5
baz=106
AB31 Akbulak array 105.46 318 P Pdif 05 44 21.8 -3.2
AB31 pmax pmax
comp=Z,12nm,1.0s
ABKAR Akbulak array 105.46 318 *e*Pdif Pdif 05 44 23.1 -2.0
comp=Z,5.1nm,0.8s
W35A Tecumseh 105.49 56 P PP 05 48 43.7 -4.2
baz=106
737A Port Lavaca 105.53 63 P PP 05 48 42.5 -5.9
baz=106
V35A Meyer Ranch, C 105.54 56 P PP 05 48 44.0 -4.3
baz=106
Q34A Chapman 105.54 52 P PKiKP 05 48 41.2 +2.2
baz=106
236A Katherine and 105.64 60 P PKiKP 05 48 42.7 +3.3
baz=106
P34A Walnut Farm, R 105.64 52 P PKiKP 05 48 41.4 +2.2
baz=106
U35A Pawnee 105.64 55 P PKiKP 05 48 41.7 +2.5
baz=106
136A Ennis 105.66 59 P PKiKP 05 48 43.8 +4.4
baz=106
637A Eagle Lake 105.67 62 P PP 05 48 48.2 -1.2
baz=106,SNR=12
537A Green Hill Far 105.72 62 P PP 05 48 49.6 -0.1
baz=106,SNR=16
Z36A Blue Ridge 105.78 58 P PP 05 48 45.0 -5.2
baz=106
KSU1 Kansas State U 105.80 52 P PKiKP 05 48 41.5 +2.0
baz=106
KSU1 Kansas State U 105.80 52 PFAKE 05 48 50.0
KSU1 LR LR
comp=Z,87µm,22.0s
ECSD EROS Data Cent 105.81 47 P PKiKP 05 48 40.1 +0.8
baz=106
ECSD EROS Data Cent 105.81 47 *e*PKPdf PKiKP 05 48 40.5 +1.1
ECSD LR LR
comp=Z,42µm,20.0s
T35A Sooner Cattle 105.83 55 P PKiKP 05 48 41.1 +1.4
baz=106
M34A Aspy Farms, Fr 105.84 50 P PKiKP 05 48 43.6 +4.1
baz=106
ARU Arti 105.89 326 P Pdif 05 44 24.8 -2.0
ARU S **SKSac 05 55 01.6 -2.0**
ARU MLR MLR
comp=Z,31µm,19.0s
ARU Arti 105.89 326 *e*Pdif Pdif 05 44 27.1 +0.4
comp=Z,45nm,1.4s
ARU *e*PKKPbc **PKKPbc 06 00 01.6 -2.6**
ARU LR LR
comp=Z,32µm,20.0s
X36A Centrahoma 105.89 57 P PKiKP 05 48 44.1 +4.3
baz=106,SNR=8.1
N34A Lincoln 105.90 51 P PKiKP 05 48 45.1 +5.5
baz=106
Y36A Durant 105.93 58 P PKiKP 05 48 45.1 +5.2
baz=106
L34A Svendsen Farm, 106.00 49 P PKiKP 05 48 42.3 +2.5
baz=106
S35A Otter Creek Ra 106.00 54 P PKiKP 05 48 44.6 +4.7
baz=106
W36A Wetumka 106.02 56 P PKiKP 05 48 45.7 +5.7
baz=106
R35A Emporia Munici 106.11 53 P PP 05 48 49.0 -3.4
baz=106
HKT Hockley 106.13 62 *e*Pdif Pdif 05 44 31.2 +2.9
comp=Z,42nm,2.0s
HKT *e*PP PP 05 48 53.9 +1.1
ULM Lac du Bonnet 106.13 41 Pdiff Pdif 05 44 27.3 -0.7
comp=Z,15nm,1.0s,baz=279,slow=6.4,SNR=13
ULM PKiKP **PKiKP 05 48 38.4 -1.3**
comp=Z,13nm,0.8s,baz=267,slow=2.7,SNR=7.5
ULM Lac du Bonnet 106.13 41 *e*Pdif Pdif 05 44 28.8 +0.8
comp=Z,44nm,1.3s
ULM *e*PP PP 05 48 50.5 -1.6
337A Centerville 106.16 60 P PP 05 48 51.8 -1.1
baz=106
AGMN Agassiz Nation 106.23 43 PFAKE 05 48 50.0
AGMN LR LR
comp=Z,34µm,20.0s
Q35A Mercer Eighty, 106.24 53 P PP 05 48 51.7 -1.7
baz=106
237A Washetta, Mont 106.25 60 P PP 05 48 48.0 -5.6
baz=106
P35A Duane Minner, 106.26 52 P PKiKP 05 48 45.7 +5.4
baz=106
V36A Jenks 106.27 56 P PP 05 48 48.6 -5.1
baz=106
137A Heron Place, G 106.32 59 P PP 05 48 50.2 -3.9
baz=106
T36A Boggs Farm, Ca 106.34 54 P PP 05 48 47.2 -7.0
baz=106
O35A Humboldt 106.35 51 P PP 05 48 47.9 -6.2
baz=106
TUL1 Leonard 106.39 56 P PKiKP 05 48 46.6 +5.9
baz=106
538A Harpers Horsep 106.44 62 P PKiKP 05 48 46.6 +5.7
baz=106
U36A Oologah 106.45 55 P PP 05 48 55.3 +0.4
baz=107
FCC Fort Churchill 106.45 32 *e*Pdif Pdif 05 44 29.5 +0.3
comp=Z,66nm,1.5s
Z37A Pogue Cattle C 106.45 58 P PP 05 48 55.2 +0.1
baz=107
Y37A Hugo 106.48 58 P PP 05 48 54.2 -1.1
baz=107
438A Sam Houston St 106.48 61 P PP 05 48 54.1 -1.2
baz=107
S36A Lake Cedric, C 106.58 54 P PP 05 48 52.9 -3.0
baz=107
L35A Bielow Farm, R 106.62 49 P PP 05 48 52.7 -3.3
baz=107
338A Crockett 106.65 60 P PP 05 48 54.3 -2.3
baz=107
AKTO Aktyubinsk 106.66 320 Pdiff Pdif 05 44 29.8 -0.5
comp=Z,2.4nm,0.8s,baz=91,slow=4.1,SNR=7.1
AKTO Aktyubinsk 106.66 320 P Pdif 05 44 29.8 -0.5
AKTO pmax pmax
comp=Z,2.0nm,0.8s
R36A Gordon, Harris 106.66 53 P PP 05 48 53.1 -3.4
baz=107
W37A Quinton 106.67 56 P PP 05 48 54.8 -1.9
baz=107
Q36A Arnold C. Orve 106.69 52 P PP 05 48 52.9 -3.8
baz=107
X37A Clayton 106.70 57 P PP 05 48 57.6 +0.7
baz=107
238A Jacksonville 106.83 60 P PP 05 48 58.9 +0.9
baz=107
138A Matatall Enter 106.89 59 P PP 05 48 57.2 -1.1
baz=107
P36A Good Intent, A 106.89 52 P PP 05 48 57.0 -1.2
baz=107
V37A Hulbert 106.92 56 P PP 05 48 56.6 -1.8
baz=107
GEYT Alibeck 106.94 306 PP PP 05 49 00.8 +2.2
comp=Z,4.3nm,0.6s,baz=191,slow=0.8,SNR=4.2
GEYT PKKPbc **PKKPbc 05 59 59.6 -0.7**
comp=Z,3.1nm,0.7s,baz=349,slow=1.5,SNR=5.2
U37A Salina 106.95 55 P PP 05 48 57.8 -0.8
baz=107
Z38A Mt. Pleasant 106.99 58 P PP 05 48 58.6 -0.4
baz=107,SNR=7.5
O36A Bolckow 107.08 51 P PP 05 48 53.8 -5.6
baz=107
439A Center Grove, 107.09 61 P PP 05 49 01.4 +1.5
baz=107
539A Cross D Ranch, 107.10 62 P PP 05 49 00.9 +0.9
baz=107
T37A Cheneyville 18 107.11 54 P PP 05 48 59.4 -0.4
baz=107
X38A Whitesboro 107.15 57 P PP 05 48 56.2 -4.0
baz=107
R37A Teagarden Farm 107.19 53 P PP 05 48 59.0 -1.3
baz=107
S37A Fort Scott 107.19 54 P PP 05 48 59.0 -1.3
baz=107
NATX Nacogdoches 107.22 60 P PP 05 48 59.0 -1.7
baz=107
NATX Nacogdoches 107.22 60 PFAKE 05 48 50.0
NATX LR LR
comp=Z,53µm,20.0s
Y38A Idabel 107.22 58 P PP 05 49 00.3 -0.4
baz=107
339A Huntington 107.29 60 P PP 05 49 00.8 -0.5
baz=107
239A Gary 107.39 60 P PP 05 49 01.9 -0.1
baz=108
139A Bunkhouse Ranc 107.47 59 P PP 05 49 01.8 -0.8
baz=108,SNR=10
Q37A Longview Farm, 107.48 53 P PP 05 48 55.8 -6.7
baz=108
V38A Canehill 107.52 56 P PP 05 48 56.1 -6.7
baz=108
U38A Gravette 107.54 55 P PP 05 49 01.9 -1.1
baz=108
540A Vidor 107.75 62 P PP 05 49 06.8 +2.1
baz=108
Y39A Lockesburg 107.75 58 P PP 05 49 04.3 -0.2
baz=108
PAYG Puerto Ayora 107.78 94 PFAKE 05 49 00.0
PAYG LR LR
comp=Z,9µm,19.0s
440A Kirbyville 107.78 61 P PP 05 49 04.9 -0.1
baz=108
340A Bronson 107.86 60 P PP 05 49 03.4 -2.1
baz=108
MIAR Mount Ida 108.19 57 P PP 05 49 06.4 -1.4
baz=108
MIAR Mount Ida 108.19 57 PFAKE 05 49 00.0
MIAR LR LR
comp=Z,56µm,22.0s
SCIA State Center 108.36 49 PFAKE 05 49 00.0
SCIA LR LR
comp=Z,50µm,20.0s
SPMN Marine on St. 108.49 46 P PP 05 49 08.7 -0.9
baz=109
SPMN Marine on St. 108.49 46 *e*Pdif Pdif 05 44 42.6 +4.0
comp=Z,6.6nm,0.6s
SPMN *e*PP PP 05 49 08.6 -1.0
ABPO Ambohimpanom 108.86 246 PFAKE 05 49 00.0
ABPO LR LR
comp=Z,35µm,22.0s
EYMN Ely 109.17 43 PFAKE 05 49 00.0
EYMN LR LR
comp=Z,25µm,21.0s
EFI East Falkland 109.23 155 PFAKE 05 49 00.0
EFI LR LR
comp=Z,16µm,22.0s
KBS Kingsbay 110.04 354 *e*PP PP 05 49 20.4 +0.7
KBS *e*SKSac **SKSac 05 55 19.4 -1.3**
KBS *e* 05 58 41.1
KBS IVMs_BB IVMs_BB 06 25 39.1
comp=Z,36µm,27.1s
KBS Kingsbay 110.04 354 PFAKE 05 49 00.0
KBS LR LR
comp=Z,27µm,22.0s
HOPEN Hopen 110.16 350 *e*PP PP 05 49 21.1 +0.5
HOPEN IVMs_BB IVMs_BB 06 29 30.7
comp=Z,9µm,25.1s
SPA0 Spitsbergen Ar 110.16 353 *e*PP PP 05 49 24.4 +3.7
SPA0 IVMs_BB IVMs_BB 06 26 42.8
comp=Z,10µm,28.1s
SPITS Spitsbergen Ar 110.16 353 PKKPbc PKKPbc 05 59 47.3 -3.9
comp=Z,3.1nm,0.7s,baz=179,slow=3.3,SNR=11
JFWS Jewell Farm 110.49 48 PFAKE 05 49 00.0
JFWS LR LR
comp=Z,15µm,20.0s
HSPB Hornsund (broa 111.22 352 *e*PP PP 05 49 27.9 -0.4
HSPB *e* 05 58 56.7
HSPB IVMs_BB IVMs_BB 06 27 56.1
comp=Z,9µm,26.8s

HDIL	**Hopedale**	**111.39**	**51**	P	**PP**	05 49 27.2	**-3.5**		
	baz=112								
HDIL	**Hopedale**	**111.39**	**51**	*e*PKPdf	**PKiKP**	**05 48 51.5**	**+1.6**		
HDIL				LR	LR				
	comp=Z,51µm,20.0s								
KULLO	**Kullorsuaq**	**112.39**	**10**	*i* P	**Pdif**	**05 44 57.2**	**+1.9**		
	comp=Z,26µm,22.0s								
OLIL	**Olney**	**112.45**	**52**	*e*PKPdf	**PKiKP**	**05 48 50.5**	**-1.4**		
OLIL				*e*PP	**PP**	**05 49 37.9**	**-0.5**		
TEIG	**Tepich**	**112.46**	**72**	PFAKE		05 49 00.0			
TEIG				LR	LR				
	comp=Z,11µm,22.0s								
BJO	**Bjornoya**	**112.62**	**350**	*e*PP	PP	05 49 38.0	-0.3		
BJO				*e*SKSac	**SKSac**	**05 55 29.6**	**-1.7**		
BJO				IVMs_BB	IVMs_BB	06 29 53.2			
	comp=Z,8µm,23.3s								
LVZ	**Lovozero**	**113.07**	**341**	PFAKE		05 49 00.0			
LVZ				LR	LR				
	comp=Z,48µm,22.0s								
HOPE	**Hope Point**	**113.62**	**169**	PFAKE		05 49 10.0			
HOPE				LR	LR				
	comp=Z,15µm,20.0s								
APA	**Apatity**	**113.64**	**341**	⇓*i* P	**Pdif**	**05 44 56.0**	**-5.0**		
APA				*i*		05 48 56.0			
APA				*i*		05 49 44.0			
APA				*i*		05 55 40.0			
APA				*i*		05 59 20.0			
APA				MLR	MLR				
	comp=Z,48µm,22.0s								
LRAL	**Lakeview Retre**	**113.69**	**59**	*e*PKPdf	**PKiKP**	**05 48 53.1**	**-1.4**		
LRAL				*e*PP	**PP**	**05 49 46.9**	**-0.5**		
BRAL	**Brewton**	**113.72**	**61**	PFAKE		05 49 10.0			
BRAL				LR	LR				
	comp=Z,40µm,20.0s								
DAG	**Danmarks Havn**	**113.82**	**0**	*i* P	**Pdif**	**05 45 03.0**	**+1.4**		
	comp=Z,15µm,20.0s								
DAG	**Danmarks Havn**	**113.82**	**0**	*e*P	**Pdif**	**05 45 03.0**	**+1.4**		
DAG				MLR	MLR				
	comp=Z,16µm,20.0s								
WCI	**Wyandotte Cave**	**113.90**	**53**	*e*PKPdf	**PKiKP**	**05 48 54.3**	**-0.5**		
WCI				*e*PP	**PP**	**05 49 46.0**	**-2.7**		
KEV	**Kevo**	**114.25**	**344**	PFAKE		05 49 10.0	+16		
KEV				LR	LR				
	comp=Z,17µm,19.0s								
GLMI	**Grayling**	**114.30**	**46**	PFAKE		05 49 10.0	+15		
GLMI				LR	LR				
	comp=Z,29µm,20.0s								
HAMF	**Hammerfest**	**114.50**	**346**	*e*PP	**PP**	**05 49 51.9**	**+0.2**		
HAMF				*e*		05 59 17.6			
HAMF				IVMs_BB	IVMs_BB	06 35 11.1			
	comp=Z,11µm,22.5s								
MAK	**Makhachkala**	**114.66**	**312**	*i* P	**Pdif**	**05 45 00.5**	**-5.5**		
MAK				*i*		05 48 52.5			
MAK				*e*		05 49 51.1			
MAK				*e*		05 52 29.5			
MAK				*e*		05 55 39.7			
MAK				*e*		05 55 59.4			
MAK				*e*SP	SP	05 59 27.9	+0.3		
MAK				*e*PS	**PS**	**05 59 33.9**	**+0.9**		
MAK				*e*SS	**SS**	**06 05 45.0**	**-0.1**		
MAK				MLR	MLR				
	comp=Z,34µm,24.0s								
MAK				MLR	MLR				
	comp=E,32µm,21.0s								
JTS	**JuntasAbangare**	**114.78**	**83**	PFAKE		05 49 10.0	+13		
JTS				LR	LR				
	comp=Z,24µm,20.0s								
ARCES	**ARCESS Array B**	**114.79**	**344**	PKP	PKPdf	05 48 54.8	-0.7		
	comp=Z,4.1nm,0.4s,baz=79,slow=1.5,SNR=72								
ARCES				PKKPbc	PKKPbc	05 59 29.1	-6.4		
	comp=Z,5.2nm,0.6s,baz=238,slow=2.5,SNR=20								
ARE0	**ARCESS Array S**	**114.79**	**344**	*e*PP	**PP**	**05 49 54.8**	**+1.0**		
ARE0				*e*SKSac	**SKSac**	**05 55 38.3**	**-1.6**		
ARE0				IVMs_BB	IVMs_BB	06 33 40.3			
	comp=Z,8µm,23.8s								
ARE0	**ARCESS Array S**	**114.79**	**344**	*e*PKPdf	PKPdf	05 48 56.1	+0.5		
AAM	**Ann Arbor**	**115.39**	**48**	*e*PKPdf	**PKPdf**	**05 48 58.9**	**+1.4**		
AAM				LR	LR				
	comp=Z,51µm,20.0s								
LCO	**Las Campanas**	**116.11**	**130**	PFAKE		05 49 10.0	+10		
LCO				LR	LR				
	comp=Z,12µm,20.0s								
ACSO	**Alum Creek Sta**	**116.21**	**50**	*e*PKPdf	**PKPdf**	**05 48 57.9**	**-1.3**		
ACSO				*e*PP	**PP**	**05 50 04.4**	**-0.5**		
ACSO				LR	LR				
	comp=Z,56µm,20.0s								
TRO	**Tromso**	**116.36**	**346**	*e*PP	PP	05 50 03.5	-1.2		
TRO				*e*SKSac	**SKSac**	**05 55 45.0**	**-0.8**		
TRO				IVMs_BB	IVMs_BB	06 32 36.9			
	comp=Z,12µm,24.0s								
GOGA	**Godfrey**	**116.62**	**58**	*e*PKPdf	**PKPdf**	**05 48 58.8**	**-1.3**		
GOGA				*e*PP	**PP**	**05 50 07.8**	**-0.2**		
GOGA				LR	LR				
	comp=Z,42µm,21.0s								
TIGA	**Tifton**	**116.66**	**60**	*e*PKPdf	**PKPdf**	**05 49 01.0**	**+0.7**		
TIGA				*e*PP	**PP**	**05 50 08.4**	**0.0**		
VRHR	**Novokhopersk**	**116.76**	**322**	*i* PKIKP	**PKPdf**	**05 48 59.9**	**+0.1**		
VRHR				pmax	pmax				
	comp=Z,20nm,0.4s								
VRHR				pmax	pmax				
	comp=N,40nm,1.3s								
VRHR				pmax	pmax				
	comp=E,30nm,0.7s								
TRQA	**Tornquist**	**116.84**	**143**	PFAKE		05 49 10.0	+9.5		
TRQA				LR	LR				
	comp=Z,8µm,21.0s								
SUMG	**Summit**	**116.89**	**7**	*i* P	**Pdif**	**05 45 14.7**	**-1.2**		
	comp=Z,35µm,24.0s								
SUMG	**Summit**	**116.89**	**7**	*e*P	**Pdif**	**05 45 14.7**	**-1.2**		
SUMG				MLR	MLR				
	comp=Z,35µm,24.0s								
SUMG	**Summit**	**116.89**	**7**	*e*PKPdf	**PKPdf**	**05 49 00.5**	**+0.4**		
GNI	**Garni**	**117.14**	**310**	PKKPbc	PKKPbc	05 59 27.1	+0.4		
	comp=Z,7.6nm,0.4s,baz=186,slow=5.2,SNR=5.1								
GNI	**Garni**	**117.14**	**310**	*i* PKIKP	**PKPdf**	**05 49 00.4**	**-0.8**		
GNI	**Garni**	**117.14**	**310**	PKKPbc	PKKPbc	05 59 27.1	+0.4		
GNI				LR	LR				
	comp=Z,13µm,21.0s								
MOS	**Moscow**	**117.40**	**328**	*i* PKIKP	**PKPdf**	**05 49 02.0**	**+1.1**		
MOS				*e*PS	**PS**	**05 59 56.0**	**-1.4**		
MOS				*e*PPS	PPS	06 01 15.4			
MOS				*e*SS	SS	06 06 17.6	-2.3		
MOS				MLR	MLR				
	comp=Z,50µm,24.0s								
MOS				MLR	MLR				
	comp=E,41µm,23.0s								
MOS				MLR	MLR				
	comp=N,36µm,22.0s								
ILULI	**Ilulissat**	**117.78**	**13**	*i* P	**Pdif**	**05 45 23.6**	**+4.3**		
	comp=Z,43µm,26.0s								
KBZ	**Khabaz**	**117.82**	**314**	PKP	**PKPdf**	**05 49 01.1**	**-1.0**		
	comp=Z,3.0nm,0.7s,baz=136,slow=3.9,SNR=4.4								
KBZ				PKKPbc	**PKKPbc**	**05 59 22.7**	**-1.4**		
	comp=Z,3.0nm,0.7s,baz=289,slow=5.1,SNR=5.4								
NNA	**Nana**	**117.87**	**110**	PFAKE		05 49 20.0	+17		
NNA				LR	LR				
	comp=Z,9µm,22.0s								
RAYN	**Ar Rayn**	**117.89**	**291**	*e*PKPdf	**PKPdf**	**05 49 04.8**	**+1.9**		
EAK	**Akyaka**	**117.91**	**310**	*i* P	**PP**	**05 50 14.9**	**-2.0**		
KIV	**Kislovodsk**	**117.92**	**314**	*c* P	**Pdif**	**05 45 19.8**	**-0.9**		
KIV				*i*		05 49 03.1			
KIV				*e*		05 50 16.6			
KIV				*i*		05 55 53.6			
KIV				*e*PS	**PS**	**06 00 01.9**	**-1.0**		
KIV				pmax	pmax				
	comp=Z,320µm,17.2s								
KIV	**Kislovodsk**	**117.92**	**314**	PFAKE		05 49 10.0	+7.6		
KIV				LR	LR				
	comp=Z,24µm,21.0s								
NEY	**Neytrino**	**118.05**	**313**	*i* PKIKP	**PKPdf**	**05 49 02.7**	**-0.1**		
NEY				MLR	MLR				
	comp=Z,11µm,22.0s								
VSR	**Storozhevoye**	**118.19**	**323**	*i* PKIKP	**PKPdf**	**05 49 01.9**	**-0.7**		
VSR				*e*		05 50 14.9			
VSR				*e*SP	SP	05 59 55.3	-3.7		
VSR				pmax	pmax				
	comp=Z,990nm,8.0s								
VSR				pmax	pmax				
	comp=N,500nm,9.0s								
VSR				pmax	pmax				
	comp=E,560nm,9.0s								
VSR				MLR	MLR				
	comp=Z,30µm,21.0s								
VSR				MLR	MLR				
	comp=N,6µm,18.0s								
VSR				MLR	MLR				
	comp=E,9µm,20.0s								
VORD	**Divnogorie**	**118.19**	**323**	*i* PKIKP	**PKPdf**	**05 49 02.1**	**-0.5**		
VORD				*e*		05 59 56.2			
VORD				MLR	MLR				
	comp=Z,26µm,22.0s								
VORD				MLR	MLR				
	comp=N,12µm,21.0s								
VORD				MLR	MLR				
	comp=E,13µm,23.0s								
KMSC	**Kings Mountain**	**118.20**	**56**	*e*PKPdf	**PKPdf**	**05 49 01.9**	**-1.3**		
OBN	**Obninsk**	**118.20**	**328**	*c* P	**Pdif**	**05 45 17.9**	**-3.6**		
OBN				*i*		05 49 04.2			
OBN				*i*		05 50 16.2			
OBN				*e*		05 55 55.1			
OBN				*e*SS	SS	06 06 35.7	+5.4		
OBN				pmax	pmax				
	comp=Z,328µm,18.1s								
OBN	**Obninsk**	**118.20**	**328**	*e*PKPdf	**PKPdf**	**05 49 04.4**	**+1.9**		
OBN				LR	LR				
	comp=Z,41µm,21.0s								
HAKT	**HAKKARI**	**118.35**	**307**	*i* P	PP	05 50 37.2	+17		
TVAN	**Van**	**118.43**	**308**	*i* P	**PP**	**05 50 20.0**	**-0.7**		
BLA	**Blacksburg**	**118.65**	**53**	*e*PKPdf	**PKPdf**	**05 49 02.4**	**-1.5**		
BLA				LR	LR				
	comp=Z,30µm,20.0s								
GEVA	**Gevas**	**118.73**	**308**	*i* P	**PP**	**05 50 22.5**	**-0.2**		
TUTA	**Tutak**	**118.74**	**309**	*i* P	PP	05 50 32.2	+9.4		
LOF	**Lofoten**	**118.76**	**347**	*e*PP	PP	05 50 22.6	+1.2		
EATA	**Eleskirt**	**118.90**	**310**	*i* P	**PP**	**05 50 24.6**	**+0.6**		
VWCC	**Virginia Weste**	**118.99**	**53**	*e*PKPdf	**PKPdf**	**05 49 06.0**	**+1.4**		
VWCC				*e*PP	**PP**	**05 50 23.2**	**-1.1**		
ARTV	**Artvin**	**119.06**	**311**	*i* P	**PP**	**05 50 27.3**	**+2.4**		
DAGI	**Agillar**	**119.09**	**311**	*i* P	PP	05 50 18.4	-6.6		
DBOC	**Borcka**	**119.22**	**312**	*i* P	**PP**	**05 50 24.0**	**-1.7**		
DDEM	**Demirkent**	**119.25**	**311**	*i* P	**PP**	**05 50 28.8**	**+2.7**		
DBAD	**Bademkaya**	**119.26**	**311**	*i* P	**PP**	**05 50 29.2**	**+3.0**		
HOMI	**Horasan**	**119.30**	**310**	*i* P	**PP**	**05 50 26.4**	**-0.3**		
JMIC	**Jan Mayen**	**119.31**	**356**	*e*PP	PP	05 50 26.1	+1.0		
TATV	**Tatvan**	**119.31**	**308**	*i* P	**PP**	**05 50 30.2**	**+3.4**		
EKAR	**Karacoban**	**119.33**	**309**	*i* P	**PP**	**05 50 27.1**	**+0.2**		
NHSC	**New Hope**	**119.39**	**58**	PFAKE		05 49 20.0	+15		
NHSC				LR	LR				
	comp=Z,40nm,20.0s								
OTAV	**Otavalo**	**119.56**	**96**	*e*PKPdf	**PKPdf**	**05 49 08.5**	**+1.6**		
OTAV				LR	LR				
	comp=Z,16µm,19.0s								
BCIP	**Isla Barro Col**	**119.65**	**85**	PFAKE		05 49 20.0	+14		
BCIP				LR	LR				
	comp=Z,16µm,21.0s								
SFJD	**Kangerlussuaq**	**119.67**	**14**	*i* P	**Pdif**	**05 45 30.2**	**+2.4**		
	comp=Z,23µm,24.0s								
SFJD	**Kangerlussuaq**	**119.67**	**14**	*e*P	**Pdif**	**05 45 30.2**	**+2.4**		
SFJD				MLR	MLR				
	comp=Z,23µm,24.0s								
SFJD	**Kangerlussuaq**	**119.67**	**14**	*e*PKPdf	**PKPdf**	**05 49 04.6**	**-0.4**		
SFJD				LR	LR				
	comp=Z,23µm,22.0s								
FIA1	**FINESS Array S**	**119.75**	**337**	*e*PKPdf	**PKPdf**	**05 49 05.6**	**+0.3**		
FINES	**FINESS Array B**	**119.76**	**337**	PKP	**PKPdf**	**05 49 04.1**	**-1.2**		
	comp=Z,8.7nm,0.9s,baz=131,slow=5.3,SNR=9.6								
FINES				PKKPbc	**PKKPab**	**05 59 14.9**	**-2.0**		
	comp=Z,3.7nm,0.7s,baz=222,slow=2.3,SNR=9.1								
SSPA	**Standing Stone**	**119.96**	**49**	*e*PKPdf	**PKPdf**	**05 49 05.0**	**-1.4**		
SOC	**Sochi**	**120.09**	**314**	*e*P	**Pdif**	**05 45 23.1**	**-7.1**		
SOC				*e*SS	SS	06 07 00.7	+5.0		
SOC				*e*SSS	SSS	06 11 18.2			
STOK	**Stokkvaagen**	**120.34**	**346**	*e*PP	PP	05 50 32.5	+0.2		
KOPT	**Kop Dagi**	**120.37**	**310**	*i* P	**PP**	**05 50 35.3**	**+1.3**		
JSRW	**J. Sargeant Re**	**120.56**	**52**	*e*PKPdf	**PKPdf**	**05 49 06.0**	**-1.5**		
LVC	**Limon Verde**	**120.63**	**124**	*e*PKPdf	**PKPdf**	**05 49 08.9**	**+0.4**		
LVC				LR	LR				
	comp=Z,13µm,21.0s								
MARD	**Mardin**	**120.69**	**307**	*i* P	**PP**	**05 50 34.8**	**-1.4**		
CBN	**Corbin Frederi**	**120.85**	**52**	*e*PKPdf	**PKPdf**	**05 49 06.6**	**-1.5**		
CBN				LR	LR				
	comp=Z,74µm,21.0s								
CNNC	**Cliffs of the**	**120.98**	**55**	*e*PKPdf	**PKPdf**	**05 49 07.1**	**-1.3**		
CNNC				LR	LR				
	comp=Z,30µm,19.0s								
SDMD	**Soldier's Deli**	**121.01**	**50**	*e*PKPdf	**PKPdf**	**05 49 07.1**	**-1.3**		
KELT	**Kelkit**	**121.27**	**311**	*i* P	**PP**	**05 50 39.6**	**-0.5**		
LONY	**Lake Ozonia**	**121.30**	**44**	*e*PKPdf	**PKPdf**	**05 49 07.3**	**-1.5**		
LONY				LR	LR				
	comp=Z,25µm,20.0s								
ANN	**Anapa**	**121.33**	**316**	*i* PKIKP	PKPdf	05 49 00.4	-8.4		
NCB	**Newcomb**	**121.74**	**45**	*e*PKPdf	**PKPdf**	**05 49 08.2**	**-1.4**		
NCB				LR	LR				
	comp=Z,35µm,19.0s								
SCHQ	**Schefferville**	**121.80**	**31**	PKP	**PKPdf**	**05 49 07.2**	**-2.2**		
	comp=Z,14nm,0.7s,baz=210,slow=4.2,SNR=13								
SCHQ				PKKPbc	**PKKPbc**	**05 59 12.9**	**+3.1**		
	comp=Z,4.9nm,0.7s,baz=47,slow=7.5,SNR=5.9								
SCHQ	**Schefferville**	**121.80**	**31**	PKP	**PKPdf**	**05 49 07.2**	**-2.2**		
SCHQ				*e*PKPdf	**PKiKP**	**05 49 08.7**	**-0.9**		
SCHQ				PKKPbc	**PKKPbc**	**05 59 12.9**	**+3.1**		
SUSE	**Susehri**	**122.04**	**311**	*i* P	**PP**	**05 50 43.4**	**-1.8**		
KEMA	**Kemaliye**	**122.04**	**310**	*i* P	**PP**	**05 50 44.2**	**-1.1**		
NSS	**Namsos**	**122.06**	**345**	*e*PP	PP	05 50 36.1	-7.8		
NSS				IVMs_BB	IVMs_BB	06 38 06.5			
	comp=Z,17µm,25.2s								
ACCN	**Adirondack Com**	**122.30**	**45**	*e*PKPdf	**PKPdf**	**05 49 09.2**	**-1.5**		
ACCN				*e*PP	**PP**	**05 50 44.2**	**-2.4**		
MALT	**Malatya**	**122.31**	**309**	⇓PKIKP	**PKPdf**	**05 49 10.2**	**-0.9**		
MALT	**Malatya**	**122.31**	**309**	⇓*i* P	**PKPdf**	**05 49 10.2**	**-0.9**		
MDV	**Middlebury**	**122.45**	**44**	*e*PKPdf	**PKPdf**	**05 49 09.9**	**-1.1**		
TRY	**Troy**	**122.49**	**46**	*e*PKPdf	**PKPdf**	**05 49 10.1**	**-1.0**		
BOSA	**Boshof**	**122.51**	**226**	PKP	**PKPdf**	**05 49 11.3**	**-0.5**		
	comp=Z,13nm,0.8s,baz=141,slow=1.6,SNR=27								
BOSA				PKKPab	**PKKPab**	**05 59 07.3**	**-0.2**		
	comp=Z,4.2nm,0.6s,baz=300,slow=2.4,SNR=9.5								
BOSA	**Boshof**	**122.51**	**226**	*e*PKPdf	**PKPdf**	**05 49 10.9**	**-0.9**		
BOSA				PKP	**PKPdf**	**05 49 11.3**	**-0.5**		
BOSA				PKKPab	**PKKPab**	**05 59 07.3**	**-0.2**		
MTDJ	**Mount Denham**	**122.53**	**75**	PFAKE		05 49 20.0	+8.0		
MTDJ				LR	LR				
	comp=Z,6µm,21.0s								
ATAB	**Bozova**	**122.59**	**308**	*i* P	**PP**	**05 50 51.6**	**+2.7**		
AKCD	**Akcadag**	**122.70**	**309**	*i* P	**PP**	**05 50 46.4**	**-3.4**		
CPNY	**Central Park**	**122.82**	**48**	*e*PKPdf	**PKPdf**	**05 49 12.2**	**+0.5**		
MICGM	**Minsk**	**122.93**	**330**	*e*PKP	**PKPdf**	**05 49 12.0**	**+0.4**		
MNK	**Minsk**	**122.95**	**330**	*e*PKIKP	**PKPdf**	**05 49 12.0**	**+0.4**		
MNK				*e*		05 56 10.0			
MNK				*e*PS	**PS**	**06 00 38.0**	**-9.1**		
MNK				MLR	MLR				
	comp=E,47µm,22.0s								
MNK				MLR	MLR				
	comp=Z,76µm,22.0s								
MNK				MLR	MLR				
	comp=N,18µm,20.0s								
HNH	**Hanover**	**123.16**	**44**	*e*PKPdf	**PKPdf**	**05 49 11.5**	**-0.9**		
NACGM	**Naroch**	**123.25**	**331**	*e*P	**Pdif**	**05 45 45.0**	**+1.0**		
TOKA	**Tokat**	**123.28**	**311**	*i* P	**PP**	**05 50 51.1**	**-2.4**		
YLE	**Yale**	**123.42**	**47**	*e*PKPdf	**PKPdf**	**05 49 12.1**	**-0.8**		
SIM	**Simferopol'**	**123.51**	**317**	*e*P	**Pdif**	**05 45 49.3**	**+3.9**		
SIM				*i*		05 49 15.3			
SIM				*e*		05 51 00.0			
SIM				*e*		05 56 18.0			
SIM				*e*PPS	PPS	06 02 27.0			
SIM				pmax	pmax				
	comp=Z,400nm,9.4s								
SIM				MLR	MLR				
	comp=N,20µm,23.4s								
QUA2	**Belchertown**	**123.55**	**46**	*e*PKPdf	**PKPdf**	**05 49 12.4**	**-0.8**		
HAVZ	**Havza**	**123.63**	**313**	*i* P	**PP**	**05 50 55.0**	**-0.8**		
FFD	**Franklin Falls**	**123.67**	**44**	*e*PKPdf	**PKPdf**	**05 49 13.0**	**-0.3**		
KUZU	**Kuzuini**	**123.70**	**307**	*i* P	**PP**	**05 51 00.4**	**+4.0**		
HCB	**Kahramanmara˙**	**123.70**	**308**	*i* P	**PP**	**05 50 56.7**	**+0.2**		
PINB	**Pinarbasi**	**123.77**	**310**	*i* P	**PP**	**05 50 57.6**	**+0.5**		
KAMA	**Osmaniye**	**123.92**	**308**	*i* P	**PP**	**05 50 59.6**	**+1.6**		
HRV	**Adam Dziewonsk**	**124.04**	**45**	*e*PKPdf	**PKPdf**	**05 49 12.9**	**-1.2**		
ANDN	**Andirin**	**124.08**	**308**	*i* P	**PP**	**05 50 56.8**	**-2.3**		
LPAZ	**La Paz**	**124.12**	**118**	PKP	**PKPdf**	**05 49 15.2**	**-0.6**		
	comp=N,35nm,1.1s,baz=4.3,slow=1.7,SNR=43								
LPAZ	**La Paz**	**124.12**	**118**	*e*PKPdf	**PKPdf**	**05 49 15.0**	**-0.8**		
LPAZ				PKP	**PKPdf**	**05 49 15.2**	**-0.6**		
AKASG	**Malin Array Be**	**124.14**	**325**	PKP	**PKPdf**	**05 49 11.8**	**-2.2**		
	comp=N,16nm,0.7s,baz=50,slow=2.6,SNR=23								
AKASG				PP	**PP**	**05 51 00.4**	**+1.8**		
	comp=N,5.5nm,0.7s,baz=48,slow=7.1,SNR=4.6								
AKASG				PKKPab	**PKKPab**	**05 58 57.7**	**-0.6**		
	comp=N,3.1nm,0.5s,baz=257,slow=4.4,SNR=7.9								
AKBB	**Malin Array Si**	**124.14**	**325**	*e*PKPdf	**PKPdf**	**05 49 13.9**	**-0.1**		
AK01	**Malin Array Si**	**124.15**	**325**	*e*PKPdf	**PKPdf**	**05 49 13.2**	**-0.9**		
KIEV	**Kiev**	**124.15**	**325**	*i* PKIKP	**PKPdf**	**05 49 12.4**	**-1.6**		
KIEV	**Kiev**	**124.15**	**325**	*e*PKPdf	**PKPdf**	**05 49 13.4**	**-0.6**		
KIEV				LR	LR				
	comp=Z,31µm,20.0s								
AK02	**Malin Array Si**	**124.17**	**325**	*e*PKPdf	**PKPdf**	**05 49 12.7**	**-1.4**		
BRYW	**Bryant College**	**124.24**	**46**	*e*PKPdf	**PKPdf**	**05 49 13.7**	**-0.8**		
LBTB	**Lobatse**	**124.32**	**230**	PKKPbc	PKKPbc	05 58 59.2	-0.2		
	comp=Z,6.8nm,1.1s,baz=288,slow=11,SNR=4.9								
LBTB	**Lobatse**	**124.32**	**230**	*e*PKPdf	**PKPdf**	**05 49 14.3**	**-1.1**		
LBTB				PKKPbc	**PKKPbc**	**05 58 59.2**	**-0.2**		
MATP	**Matopo**	**124.44**	**236**	PKKPab	PKKPab	05 58 58.9	-0.4		
	comp=Z,9.6nm,0.7s,baz=280,slow=4.6,SNR=17								
ROSC	**El Rosal**	**124.46**	**91**	PKP	**PKPdf**	**05 49 15.4**	**-0.9**		
	comp=Z,17nm,0.6s,baz=61,slow=2.4,SNR=14								
ROSC	**El Rosal**	**124.46**	**91**	*e*PKPdf	**PKPdf**	**05 49 15.1**	**-1.2**		
ROSC				PKP	**PKPdf**	**05 49 15.4**	**-0.9**		
PKME	**Peaks-Kenny Pk**	**124.62**	**42**	*e*PKPdf	**PKPdf**	**05 49 14.5**	**-0.6**		
PKME				LR	LR				
	comp=Z,33µm,21.0s								
WVL	**Waterville**	**124.64**	**43**	*e*PKPdf	**PKPdf**	**05 49 14.3**	**-0.9**		
MOL	**Molde**	**124.79**	**346**	*e*	PP	05 51 12.2	+10		
GTBY	**Guantanamo Bay**	**124.82**	**73**	PFAKE		05 49 30.0	+14		
GTBY				LR	LR				
	comp=Z,8µm,22.0s								
PQI	**Presque Isle**	**124.88**	**40**	*e*PKPdf	**PKPdf**	**05 49 13.9**	**-1.6**		
CDAG	**Cicekdag**	**125.03**	**311**	*i* P	**PP**	**05 51 05.8**	**+0.4**		
HFS	**Hagfors**	**125.04**	**341**	PKKPab	PKKPab	05 58 53.1	-1.1		
	comp=Z,6.2nm,0.6s,baz=196,slow=10,SNR=26								
ILGA	**Ilgaz**	**125.08**	**313**	*i* P	**PP**	**05 51 04.4**	**-1.3**		
NB2	**NORSAR Subarra**	**125.08**	**343**	PKPdf	**PKPdf**	**05 49 14.0**	**-1.6**		
	comp=Z,6.8nm,1.0s,baz=39,slow=1.9								
NB2	**NORSAR Subarra**	**125.08**	**343**	PKPdf	**PKPdf**	**05 49 14.0**	**-1.6**		
	baz=39,slow=1.9								
NOA	**NORSAR Array B**	**125.08**	**343**	PKP	**PKPdf**	**05 49 14.2**	**-1.4**		
	comp=Z,3.5nm,0.7s,baz=32,slow=2.0,SNR=20								
NC602	**NORSAR Array S**	**125.23**	**342**	*e*PP	PP	05 51 06.4	+1.0		
NC602				*e*SKSac	**SKSac**	**05 56 14.6**	**-2.1**		
NC602				IVMs_BB	IVMs_BB	06 41 49.9			
	comp=Z,13µm,23.4s								
AKN	**Aaknes**	**125.26**	**346**	*e*PP	PP	05 51 07.2	+1.6		
AKN				IVMs_BB	IVMs_BB	06 39 39.5			
	comp=Z,11µm,26.1s								
NAO01	**NORSAR Array S**	**125.34**	**343**	*e*PKPdf	**PKPdf**	**05 49 16.4**	**+0.3**		
ELDT	**Eldivan**	**125.46**	**312**	*i* P	PP	05 51 02.5	-5.7		
SUW	**Suwalki**	**125.48**	**331**	*e*PKPdf	**PKPdf**	**05 49 18.8**	**+2.3**		
SUW				LMZ	LR	06 43 03.8			
SUW	**Suwalki**	**125.48**	**331**	*e*PKIKP	**PKPdf**	**05 49 18.8**	**+2.3**		
SUW				MLR	MLR				
	comp=Z,60µm,23.1s								
BR131	**Keskin Array S**	**125.54**	**312**	*e*PKPdf	**PKPdf**	**05 49 17.6**	**+0.3**		
BRTR	**Keskin Array B**	**125.54**	**312**	PKP	**PKPdf**	**05 49 16.1**	**-1.1**		
	comp=Z,4.8nm,0.7s,baz=138,slow=4.1,SNR=14								
BRTR				PKKPab	**PKKPbc**	**05 58 54.1**	**-0.7**		
	comp=Z,3.0nm,1.0s,baz=231,slow=4.0,SNR=6.0								
BRTR				SKKPbc	SKKPbc	06 02 38.4	-5.3		
	comp=Z,2.6nm,0.9s,baz=190,slow=5.0,SNR=5.4								
BORG	**Borgarnes**	**125.87**	**1**	*i* PKIKP	**P

BEL MLR MLR
comp=Z,54µm,21.7s
MSAB Monastry St. A 127.99 319 ⇓*i*P PKPdf 05 49 23.3 +1.7
AUKUT KUTAHYA 128.10 313 *i* P PP 05 51 28.7 +3.1
AUBOZ BOZOYUK 128.11 313 *i* P PP 05 51 23.1 -2.5
HOMB Homborsund 128.15 342 *e*PP PP 05 51 24.1 -0.6
KMY Karmoy 128.26 345 *e* PKPdf 05 49 20.5 -1.1
KMY *e*PP **PP 05 51 25.7 +0.4**
KWP Kalwaria Pacla 128.27 327 *e*PKPdf PKPdf 05 49 23.4 +1.4
KWP LMZ LR 06 40 53.8
KWP Kalwaria Pacla 128.27 327 *e*PKIKP PKPdf 05 49 23.4 +1.4
ALT Altintas 128.35 312 P PKPdf 05 49 21.1 -1.5
ALT Altintas 128.35 312 P PKPdf 05 49 21.1 -1.5
BSD Bornholm Skovb 128.36 336 *i* P Pdif 05 46 07.6 +0.9
comp=Z,34µm,22.0s
BSD Bornholm Skovb 128.36 336 *e*P Pdif 05 46 07.6 +0.9
BSD MLR MLR
comp=Z,34µm,22.0s
ISK Istanbul-Kandi 128.38 315 P PKPdf 05 49 23.2 +0.8
ISK Istanbul-Kandi 128.38 315 P PKPdf 05 49 23.2 +0.8
BUY Buyukada 128.42 314 *i* P PP 05 51 23.0 -4.4
ISP Isparta 128.45 310 P PKPdf 05 49 20.2 -2.6
ISP Isparta 128.45 310 P PKPdf 05 49 20.2 -2.6
ISP LR LR
comp=Z,9µm,21.0s
SDDR Presa de Saban 128.45 74 *e*PKPdf PKPdf 05 49 22.3 -1.0
SDDR LR LR
comp=Z,18µm,21.0s
SNART Snartemo 128.47 343 *e*PP PP 05 51 26.2 -0.6
GRTK Grand Turk 128.48 71 PFAKE 05 49 40.0 +17
GRTK LR LR
comp=Z,19µm,22.0s
MLR Muntele Rosu 128.55 321 ⇑PKIKP PKPdf 05 49 24.1 +1.3
MLR Muntele Rosu 128.55 321 ⇑*i*P PKPdf 05 49 24.1 +1.3
SDV Santo Domingo 128.65 87 *e*PKPdf PKPdf 05 49 22.8 -1.2
SDV LR LR
comp=Z,10µm,20.0s
PRD Provadia 128.65 318 ⇓PKIKP PKPdf 05 49 25.5 +2.6
PRD Provadia 128.65 318 ⇓*i*P PKPdf 05 49 25.5 +2.6
PRD Provadia 128.65 318 *e*P PKPdf 05 49 23.7 +0.8
GKP Gorka Klasztor 128.68 333 *e*PKPdf PKPdf 05 49 24.5 +1.9
GKP LMZ LR 06 46 20.2
GKP Gorka Klasztor 128.68 333 *e*PKIKP PKPdf 05 49 24.5 +1.9
GKP MLR MLR
comp=Z,68µm,22.5s
SECR 128.69 320 ⇑*i*P PKPdf 05 49 23.1 +0.1
ELBA Catalca 128.79 315 *i* P PP 05 51 40.0 +10
GDZ Gediz 128.80 312 *i* P PP 05 51 28.3 -1.9
COP Copenhagen 128.89 338 *i* P Pdif 05 46 08.5 -0.5
comp=Z,25µm,23.0s
COP Copenhagen 128.89 338 *e*P Pdif 05 46 08.5 -0.5
COP MLR MLR
comp=Z,25µm,23.0s
KOLS Kolonicke sedl 128.90 326 *e*PKIKP PKPdf 05 49 25.0 +1.8
KOLS Kolonicke sedl 128.90 326 *e*PKP PKPdf 05 49 25.0 +1.8
KHAL Karahalli 129.03 311 *i* P PP 05 51 25.2 -6.5
UZH Uzhgorod 129.06 326 *i* PKIKP PKPdf 05 49 26.0 +2.5
UZH *e* 05 49 35.2
UZH *i* 05 51 33.4
UZH *e*PPP PPP 05 54 24.6
UZH *e* 05 56 34.2
UZH *e*PS **PS 06 01 36.4 -4.5**
UZH MLR MLR
comp=N,15µm,22.0s
UZH MLR MLR
comp=E,26µm,22.0s
UZH MLR MLR
comp=Z,9µm,22.0s
VOIR 129.13 321 ⇓PKIKP PKPdf 05 49 30.2 +6.3
VOIR 129.13 321 ⇓*i*P PKPdf 05 49 30.2 +6.3
STHS Stebnicka Huta 129.18 327 *e*PKIKP PKPdf 05 49 26.3 +2.5
STHS Stebnicka Huta 129.18 327 *e*PKP PKPdf 05 49 26.3 +2.5
DURS Dursunbey 129.34 313 *i* P PP 05 51 26.1 -7.5
CJR Cluj-Napoca 129.36 323 ⇑PKIKP PKPdf 05 49 26.6 +2.4
CJR Cluj-Napoca 129.36 323 ⇑*i*P PKPdf 05 49 26.6 +2.4
DEMI Demirci 129.37 312 *i* P PP 05 51 25.0 -8.9
RGN Rugen 129.41 337 *e*PP PP 05 51 35.3 +2.2
MUD Monsted U'grnd 129.42 340 *i* P Pdif 05 46 12.8 +1.4
comp=Z,34µm,21.0s
MUD Monsted U'grnd 129.42 340 *e*P Pdif 05 46 12.8 +1.4
MUD MLR MLR
comp=Z,34µm,21.0s
OJC Ojcow 129.44 329 *e*PKPdf PKPdf 05 49 25.6 +1.4
OJC LMZ LR 06 42 04.8
OJC Ojcow 129.44 329 *e*PKIKP PKPdf 05 49 25.7 +1.5
SZH Strazhica 129.59 318 *e*P PKPdf 05 49 25.7 +1.0
KULA Kula-Manisa 129.60 312 P PKPdf 05 49 23.1 -1.9
KULA Kula-Manisa 129.60 312 P PKPdf 05 49 23.1 -1.9
AKAS Kas 129.64 309 *i* P PP 05 51 27.1 -8.8
NIE Niedzica 129.66 328 *e*PKPdf PKPdf 05 49 23.5 -1.2
NIE LMZ LR 06 41 08.6
NIE Niedzica 129.66 328 *e*PKIKP PKPdf 05 49 23.5 -1.2
DRGR 129.83 324 ⇑PKIKP PKPdf 05 49 29.2 +4.0
DRGR 129.83 324 ⇑*i*P PKPdf 05 49 29.2 +4.0
SART Tekirdag 129.84 315 *i* P PP 05 51 32.1 -4.7
LOT Lotru 129.91 322 ⇓*i*P PKPdf 05 49 25.0 -0.4
AKHS Akhisar 130.08 312 *i* P PP 05 51 28.6 -10
KECS Kecovo 130.13 327 *e*PKIKP PKPdf 05 49 26.4 +0.8
KECS Kecovo 130.13 327 *e*PKP PKPdf 05 49 26.4 +0.8
TURN Turunc 130.20 310 *i* P PP 05 51 37.3 -1.9
RAC Raciborz 130.33 330 *e*PKIKP PKPdf 05 49 26.5 +0.6
RAC MLR MLR
comp=Z,61µm,22.3s
AYDN Tasoluk 130.47 311 *i* P PP 05 51 36.3 -4.8
OKC Ostrava-Krasne 130.51 329 *e*PKPdf PKPdf 05 49 28.0 +1.8
OKC *ep*PKP **pPKPdf 05 49 37.7 -1.3**
OKC *e*PP **PP 05 51 36.8 -3.7**
OKC *e*SKP 05 52 47.0
OKC AMS AMS 06 47 20.0
comp=Z,40µm,21.7s
OKC Ostrava-Krasne 130.51 329 *e*PKIKP PKPdf 05 49 28.0 +1.8
OKC *e* 05 49 37.7
OKC *e* 05 51 36.8
OKC MLR MLR
comp=Z,40µm,21.7s
GZR Gura Zlata 130.53 322 ⇓PKIKP PKPdf 05 49 26.1 -0.4
GZR Gura Zlata 130.53 322 ⇓*i*P PKPdf 05 49 26.1 -0.4
ALN Alexandroupoli 130.54 316 P PKPdf 05 49 26.5 -0.1
ALN Alexandroupoli 130.54 316 P PKPdf 05 49 26.5 -0.1
KDZ Kurdzhali 130.65 317 ⇑PKIKP PKPdf 05 49 26.5 -0.3
KDZ Kurdzhali 130.65 317 ⇑*i*P PKPdf 05 49 26.5 -0.3
KDZ Kurdzhali 130.65 317 *e*P PKPdf 05 49 28.1 +1.3
SIRR Siria 130.73 324 ⇑*i*P PKPdf 05 49 27.3 +0.5
RUE Ruedersdorf 130.74 334 *e*PKPdf PKPdf 05 49 29.3 +2.8
RUE *ep*PKPdf **pPKPdf 05 49 42.5 +3.2**
RUE *e*PP **PP 05 51 43.6 +1.8**
KSP Ksiaz 130.75 331 *e*PKPdf PKPdf 05 49 28.5 +1.8
KSP LMZ LR 06 45 27.0
KSP Ksiaz 130.75 331 *e*PKIKP PKPdf 05 49 28.5 +1.8
KSP MLR MLR
comp=Z,66µm,23.9s
PSZ Piszkesteto 130.78 327 ⇑PKIKP PKPdf 05 49 29.3 +2.4
PSZ Piszkesteto 130.78 327 ⇑*i*P PKPdf 05 49 29.3 +2.4
PSZ Piszkesteto 130.78 327 *e*PKPdf PKPdf 05 49 28.7 +1.8
PSZ LR LR
comp=Z,57µm,22.0s
PSZ Piszkesteto 130.78 327 ⇓*e*PKPdf PKPdf 05 49 29.0 +2.1
MORC Moravsky Berou 130.85 330 ⇓PKIKP PKPdf 05 49 28.6 +1.6
MORC Moravsky Berou 130.85 330 ⇓*i*P PKPdf 05 49 28.5 +1.6
MORC Moravsky Berou 130.85 330 *e*PKPdf PKPdf 05 49 28.5 +1.6
PLD Plovdiv 130.92 318 P PKPdf 05 49 28.7 +1.5
PLD Plovdiv 130.92 318 *e*P PKPdf 05 49 28.6 +1.4
PLD Plovdiv 130.92 318 P PKPdf 05 49 28.7 +1.5
GCAM G?zelcaml? 130.94 311 *i* P PP 05 51 35.2 -8.8
MPEP Malo Peshtene 130.96 319 *e*P PKPdf 05 49 28.1 +0.8
BOZC Bozcaada 130.97 314 *i* P PP 05 51 42.5 -1.5
BDRM Kayabasi 131.01 310 *i* P PP 05 51 39.1 -5.4
BSEG Bad Segeberg 131.02 338 *e*PKPdf PKPdf 05 49 29.5 +2.5
BSEG *ep*PKPdf **pPKPdf 05 49 43.0 +3.2**
BSEG *e*PP **PP 05 51 46.0 +2.5**
KRLC Kraliky 131.03 330 *e*PKPdf PKPdf 05 49 28.8 +1.5
KRLC *e*PP **PP 05 51 42.6 -1.3**
KRLC Kraliky 131.03 330 *e*PKIKP PKPdf 05 49 28.8 +1.5
KRLC *e* 05 51 42.6
PRK Paraskevi 131.05 314 P PKPdf 05 49 28.5 +0.9
PRK Paraskevi 131.05 314 P PKPdf 05 49 28.5 +0.9
PGB Panagyurishte 131.07 318 *e*P PKPdf 05 49 29.1 +1.5
DPC Dobruska-Polom 131.07 331 *e*PKPdf PKPdf 05 49 29.0 +1.6
DPC *ep*PKP **pPKPdf 05 49 38.6 -1.5**
DPC *e*PP PP 05 51 38.1 -6.1
DPC *ex* x 05 51 54.2
DPC *e*SKP 05 52 48.9
DPC AMS AMS 06 45 50.0
comp=Z,70µm,23.8s
DPC Dobruska-Polom 131.07 331 *e*PKIKP PKPdf 05 49 29.0 +1.6
DPC *e* 05 49 38.6
DPC *e* 05 51 54.2
DPC MLR MLR
comp=Z,70µm,23.8s
SMTH Samothraki Isl 131.07 315 P PKPdf 05 49 25.0 -2.6
SMTH Samothraki Isl 131.07 315 P PKPdf 05 49 25.0 -2.6
BZS Buzias 131.11 323 ⇑PKIKP PKPdf 05 49 28.8 +1.3
BZS Buzias 131.11 323 ⇑*i*P PKPdf 05 49 28.8 +1.3
UPC Upice 131.11 331 *e*PKPdf PKPdf 05 49 29.4 +2.0
UPC *ep*PKP **pPKPdf 05 49 38.4 -1.7**
UPC *e*PP **PP 05 51 44.9 +0.5**
UPC Upice 131.11 331 *e*PKIKP PKPdf 05 49 29.4 +2.0
UPC *e* 05 49 38.4
UPC *e* 05 51 44.9
ZEY ¯zmir 131.28 312 *i* P PP 05 51 41.4 -4.7
SIGR SIGRI 131.36 314 P PKPdf 05 49 28.5 +0.3
SIGR SIGRI 131.36 314 P PKPdf 05 49 28.5 +0.3
PKSN Nyarlorinc 131.39 325 *e*PKPdf PKPdf 05 49 30.5 +2.5
SAML Samuel 131.50 112 *e*PKPdf PKPdf 05 49 27.9 -1.2
SAML LR LR
comp=Z,15µm,21.0s
BUD Budapest 131.51 327 ⇓*e*PKPdf PKPdf 05 49 30.7 +2.5
KAVA Kavala 131.54 316 P PKPdf 05 49 30.0 +1.5
KAVA Kavala 131.54 316 P PKPdf 05 49 30.0 +1.5
CHOS Chios island 131.54 313 P PKPdf 05 49 29.4 +0.7
CHOS Chios island 131.54 313 P PKPdf 05 49 29.4 +0.7
LIA Limnos Island 131.56 315 P PKPdf 05 49 29.7 +1.2
LIA Limnos Island 131.56 315 P PKPdf 05 49 29.7 +1.2
VRAC Vranov 131.63 330 ⇑PKIKP PKPdf 05 49 30.4 +2.0
VRAC Vranov 131.63 330 ⇑*i*P PKPdf 05 49 30.4 +2.0
VTS Vitosha 131.67 319 P PKPdf 05 49 27.1 -1.8
VTS Vitosha 131.67 319 *e*P PKPdf 05 49 28.8 -0.1
VTS Vitosha 131.67 319 ⇑PKIKP PKPdf 05 49 30.8 +1.9
VTS Vitosha 131.67 319 ⇑*i*P PKPdf 05 49 30.8 +1.9
VTS Vitosha 131.67 319 *e*P PKPdf 05 49 29.6 +0.7
VTS Vitosha 131.67 319 P PKPdf 05 49 27.1 -1.8
HLG Helgoland 131.69 340 *e*PP PP 05 51 50.3 +2.5
PKS7 Kunszentmiklos 131.70 326 *e*PKPdf PKPdf 05 49 30.2 +1.7
PVCC Panska Ves 131.77 332 *e*PKPdf PKPdf 05 49 30.7 +2.1
PVCC *e*SKP 05 52 48.4
PVCC *e*SP SP 06 01 58.8 +0.7
PVCC AMS AMS 06 44 50.0
comp=Z,52µm,23.9s
PVCC Panska Ves 131.77 332 *e*PKIKP PKPdf 05 49 30.7 +2.1
PVCC *e* 06 01 58.8
PVCC MLR MLR
comp=Z,52µm,23.9s
MMB Musomiste 131.80 317 ⇓PKIKP PKPdf 05 49 27.3 -1.7
MMB Musomiste 131.80 317 ⇓*i*P PKPdf 05 49 27.3 -1.7
MMB Musomiste 131.80 317 *e*P PKPdf 05 49 29.3 +0.3
BRG Berggiesshubel 131.81 333 PDIFF Pdif 05 46 22.0 -0.2
BRG Berggiesshubel 131.81 333 *i* PKP PKPdf 05 49 29.7 +1.0
comp=Z,144nm,1.9s
BRG PP PP 05 51 43.0 -5.8
BRG SS SS 06 09 08.0 -13
comp=N,40µm,23.4s
comp=E,30µm,22.3s
comp=Z,37µm,24.0s
BRG Berggiesshubel 131.81 333 *e*PKPdf PKPdf 05 49 31.1 +2.4
BRG *ep*PKPdf **pPKPdf 05 49 44.6 +3.2**
BRG *e*PP **PP 05 51 51.0 +2.2**
BRG Berggiesshubel 131.81 333 *i* PKIKP PKPdf 05 49 29.7 +1.0
BRG MLR MLR
comp=N,40µm,23.4s
BRG MLR MLR
comp=E,30µm,22.3s
BRG MLR MLR
comp=Z,37µm,24.0s
NVR Nevrokopi 131.82 317 P PKPdf 05 49 26.4 -2.7
NVR Nevrokopi 131.82 317 P PKPdf 05 49 26.4 -2.7
PKSG 131.91 327 *e*PKPdf PKPdf 05 49 24.5 -4.4
CLL Collm 131.92 334 *e*PKPdf PKPdf 05 49 31.1 +2.3
CLL *ep*PKPdf **pPKPdf 05 49 44.6 +3.0**
CLL *e*PP **PP 05 51 51.4 +2.0**
CLL Collm 131.92 334 *e*Pdif Pdif 05 46 24.0 +1.4
CLL *i* PKPdf **PKiKP 05 49 30.5 +0.6**
comp=Z,152nm,2.4s
CLL *i* sPKPdf **sPKPdf 05 49 43.8 -2.3**
CLL *e* 05 49 55.0
CLL *e* 05 51 43.0
CLL *e*PP **PP 05 51 54.0 +4.6**
CLL *i* PPmax 05 52 03.1
comp=Z,189nm,1.9s
CLL *i* SKPbc **SKPab 05 52 54.6 +2.0**
comp=Z,198nm,2.0s
CLL *i* SKPdf **SKPdf 05 52 58.9 -2.2**
comp=Z,200nm,2.1s
CLL *i* 05 53 32.9
CLL *e*SKSac SKSdf 05 56 45.0 +7.9
CLL *e*SKKSac **SKKSac 05 58 47.0 +4.1**
CLL *e* 05 59 48.0
CLL *e*PSKS 06 01 58.0
CLL *e*PPS PPS 06 03 41.0
CLL *e*PPPrev 06 05 38.0
CLL *e*SS **SS 06 09 24.0 +1.7**
CLL *e* 06 11 18.0
CLL *e* 06 15 00.0
CLL Lm MLR 06 50 00.0
comp=Z,27µm,21.9s
CLL Collm 131.92 334 *e*P Pdif 05 46 24.0 +1.4
CLL *i* 05 49 30.5
CLL *i* 05 49 43.8
CLL MLR MLR
comp=Z,27µm,21.9s
PKS2 Kecel 132.00 325 ⇓*e*PKPdf PKPdf 05 49 31.3 +2.2
CSKK Cs˘tkako 132.00 327 *e*PKPdf PKPdf 05 49 30.1 +1.0
FBE Freiberg 132.04 333 *e*PKPdf PKPdf 05 49 31.7 +2.6
FBE *ep*PKPdf **pPKPdf 05 49 45.2 +3.3**
SVIS Svilajnac 132.07 322 *e*P pPKPdf 05 49 43.8 +1.7
GOPC GO Pecny, Ondr 132.09 331 *e*PKPdf PKPdf 05 49 30.5 +1.2
GOPC *e*PP **PP 05 51 46.1 -4.6**
GOPC *ex* x 05 51 59.2
GOPC AMS AMS 06 48 00.0
comp=Z,43µm,21.5s
KKB Krupnik 132.10 318 *e*P PKPdf 05 49 30.9 +1.4
PRA Prague 132.15 332 *e*PKPdf PKPdf 05 49 31.6 +2.3
PRA *e*PP **PP 05 51 48.7 -2.3**
PRA *e*SP SP 06 01 58.3 -3.1
PRA AMS AMS 06 45 00.0
comp=Z,54µm,23.8s
PRA Prague 132.15 332 *e*PKIKP PKPdf 05 49 31.6 +2.3
PRA *e* 05 51 48.7
PRA *e* 06 01 58.3
PRA MLR MLR
comp=Z,54µm,23.8s
PRU Pruhonice 132.16 332 *e*PKPdf PKPdf 05 49 31.2 +1.9
PRU *e*PP **PP 05 51 46.6 -4.5**
PRU *ex* x 05 51 59.2
PRU *e*SKP 05 52 51.4
PRU AMS AMS 06 45 00.0
comp=Z,20µm,24.2s
PRU Pruhonice 132.16 332 *e*PKIKP PKPdf 05 49 31.2 +1.9
PRU *e* 05 51 59.2
PRU MLR MLR
comp=Z,20µm,24.2s
TREC Trest 132.18 330 *e*PKPdf PKPdf 05 49 30.5 +1.0
TREC *ep*PKP **pPKPdf 05 49 40.4 -1.8**
TREC *e*PP PP 05 51 45.8 -5.5
TREC AMS AMS 06 47 10.0
comp=Z,92µm,23.3s
TREC Trest 132.18 330 *e*PKIKP PKPdf 05 49 30.5 +1.0
TREC *e* 05 49 40.4
TREC MLR MLR
comp=Z,92µm,23.3s
PKST T˘'s 132.18 327 *e*PKPdf PKPdf 05 49 31.5 +2.0
OUR Ouranopolis 132.20 316 P PKPdf 05 49 30.1 +0.4
OUR Ouranopolis 132.20 316 P PKPdf 05 49 30.1 +0.4
BEO Beograd 132.23 323 *e*P PKPdf 05 49 29.5 -0.1
TRIS Tristan da Cun 132.26 187 PFAKE 05 49 40.0 +10
TRIS LR LR
comp=Z,11µm,21.0s
BBSR BB Station 132.31 56 PFAKE 05 49 40.0 +10
BBSR LR LR
comp=Z,16µm,20.0s
SOH Sokhos 132.41 317 P PKPdf 05 49 27.8 -2.4
SOH Sokhos 132.41 317 P PKPdf 05 49 27.8 -2.4
FRGS Fruska Gora 132.42 324 *e*P PKPdf 05 49 31.5 +1.5
APE Apeiranthos 132.43 311 ⇓PKHKP PKPpre 05 49 18.8
APE Apeiranthos 132.43 311 ⇓*i*P PKPpre 05 49 18.8
CRPR Cabo Rojo, PR 132.44 75 *e*PKPdf PKPdf 05 49 32.3 +1.6
CRPR *e*SKPab **SKPab 05 52 56.8 +1.0**
BARS Barje 132.45 320 *e*P PKPdf 05 49 30.8 +0.6
PKS9 Tamasi 132.46 326 *e*PKPdf PKPdf 05 49 30.4 +0.4
PKSM Moragy 132.48 325 ⇓PKIKP PKPdf 05 49 32.3 +2.2
PKSM Moragy 132.48 325 ⇓*i*P PKPdf 05 49 32.3 +2.2
PKSM Moragy 132.48 325 ⇓*e*PKPdf PKPdf 05 49 31.8 +1.7
NEUB Neuenburg 132.51 335 *e*PKPdf PKPdf 05 49 32.4 +2.4
NEUB *ep*PKPdf **pPKPdf 05 49 45.9 +3.2**
NEUB *e*PP **PP 05 51 55.1 +1.9**
GRUS Gruza 132.58 322 *e*P PKPdf 05 49 31.1 +0.8
PAIG Paliouri 132.59 315 P PKPdf 05 49 27.2 -3.3
PAIG Paliouri 132.59 315 P PKPdf 05 49 27.2 -3.3
CLZ Clausthal 132.62 336 *e*PKPdf PKPdf 05 49 33.0 +2.8
CLZ *ep*PKPdf **pPKPdf 05 49 46.3 +3.3**
CLZ *e*PP **PP 05 51 56.3 +2.4**
SELS Selova 132.68 321 *e*P PKPdf 05 49 32.4 +1.8
SOP Sopron 132.70 328 *e*PKPdf PKPdf 05 49 33.0 +2.6
VAY Valandovo 132.70 318 *i* PKP PKPdf 05 49 28.8 -1.9
SANT Santorini 132.75 310 PFAKE 05 49 40.0 +9.1
SANT LR LR
comp=Z,11µm,22.0s
TANN Tannenbergstha 132.80 333 *e*PKPdf PKPdf 05 49 33.0 +2.4
TANN *ep*PKPdf **pPKPdf 05 49 46.8 +3.4**
TANN *e*PP **PP 05 51 57.5 +2.3**
WERD Werda 132.84 333 *e*PKPdf PKPdf 05 49 33.1 +2.4
WERD *ep*PKPdf **pPKPdf 05 49 46.8 +3.4**
PLN Plauen 132.88 334 *e*PKPdf PKPdf 05 49 33.3 +2.6
PLN *ep*PKPdf **pPKPdf 05 49 46.9 +3.4**
GUNZ Gunzen 132.89 333 *e*PKPdf PKPdf 05 49 33.5 +2.7
GUNZ *ep*PKPdf **pPKPdf 05 49 47.0 +3.4**
CONA Conrad Observa 132.90 329 ⇑*i*PKPdf PKPdf 05 49 30.0 -0.9
comp=Z,34nm,1.1s,SNR=13
CONA ⇓*i*PP **PP 05 51 55.0 -1.1**
comp=Z,46nm,1.3s
DIVS Divibare 132.90 322 P PKPdf 05 49 29.5 -1.6
DIVS Divibare 132.90 322 *e*P PKPdf 05 49 32.6 +1.5
DIVS Divibare 132.90 322 ⇑*i*P PKPdf 05 49 32.9 +1.8
OBIP Obispado Ponce 132.92 75 *e*PKPdf PKPdf 05 49 29.7 -2.0
OBIP *e*SKPbc **SKPab 05 52 58.9 +0.9**
TEKS Tekeris 132.93 323 *e*P PKPdf 05 49 31.8 +0.8
WERN Wernitzgruen 132.93 333 *e*PKPdf PKPdf 05 49 33.5 +2.6
WERN *ep*PKPdf **pPKPdf 05 49 47.1 +3.5**
CELP Cerrillos 132.94 75 *e*PKPdf PKPdf 05 49 32.4 +0.7
GRG Griva 132.98 317 P PKPdf 05 49 32.7 +1.5
GRG Griva 132.98 317 P PKPdf 05 49 32.7 +1.5
ICMP Isla Caja de M 133.00 75 *e*PKPdf PKPdf 05 49 32.1 +0.2
MOX Moxa 133.00 334 *e*PKPdf PKPdf 05 49 33.3 +2.4
MOX *ep*PKPdf **pPKPdf 05 49 47.0 +3.3**
MOX *e*PP **PP 05 51 58.7 +2.3**
MOX *e*L L 06 51 04.4
comp=Z,20µm,21.9s
EREA Eretria 133.06 313 P PKPdf 05 49 29.1 -2.4
IVAS Ivanjica 133.09 322 *e*P PKPdf 05 49 32.4 +1.0
SKO Skopje 133.12 319 P PKPdf 05 49 33.2 +1.8
SKO Skopje 133.12 319 *e*PKP PKPdf 05 49 29.7 -1.7
SKO Skopje 133.12 319 P PKPdf 05 49 33.2 +1.8
LAST Lasithi 133.16 309 P PKPdf 05 49 33.3 +1.5
LAST Lasithi 133.16 309 P PKPdf 05 49 33.3 +1.5
XOR Xorichti 133.17 315 P PKPdf 05 49 32.8 +1.2
XOR Xorichti 133.17 315 P PKPdf 05 49 32.8 +1.2
NEO Neokhori 133.18 315 P PKPdf 05 49 30.6 -1.1
NEO Neokhori 133.18 315 P PKPdf 05 49 30.6 -1.1
MRKA Markates 133.18 314 P PKPdf 05 49 31.4 -0.3
KHC Kasperske Hory 133.20 331 *e*PKPpre PKPpre 05 49 23.0
KHC *e*PKPdf **PKiKP 05 49 32.4 -0.2**
KHC *ep*PKP pPKPdf 05 49 42.3 -1.9
KHC *es*PKP 05 49 47.5
KHC *e*PP **PP 05 51 59.8 +2.0**
KHC *e*SKP 05 52 57.6
KHC *ex* x 06 02 03.7
KHC AMS AMS 06 45 50.0
comp=Z,75µm,24.8s
KHC Kasperske Hory 133.20 331 *e*PKHKP PKPpre 05 49 23.0
KHC *e* 05 49 32.4
KHC *e* 05 49 42.3
KHC *e* 05 49 47.5
KHC *e* 05 51 59.8
KHC *e* 06 02 03.7
KHC MLR MLR
comp=Z,75µm,24.8s
IBBN Ibbenburen 133.25 338 *e*PKPdf PKPdf 05 49 33.5 +2.2
IBBN *ep*PKPdf **pPKPdf 05 49 47.4 +3.3**
IBBN *e*PP **PP 05 51 59.9 +2.0**
MANZ Manzenberg 133.27 333 *e*PKPdf PKPdf 05 49 33.9 +2.4
MANZ *ep*PKPdf **pPKPdf 05 49 47.8 +3.5**
MANZ *e*PP **PP 05 52 00.6 +2.4**
LIT Litokhoron 133.32 316 P PKPdf 05 49 32.4 +0.5
LIT Litokhoron 133.32 316 P PKPdf 05 49 32.4 +0.5
GEC2 GERESS Array S 133.34 331 *e*PKPdf PKPdf 05 49 34.1 +2.3
GEC2 *ep*PKPdf **pPKPdf 05 49 47.4 +2.9**
GEC2 *e*PP **PP 05 52 01.0 +2.2**
GEC2 GERESS Array S 133.34 331 *e*PKPdf PKPdf 05 49 33.5 +1.7
GERES GERESS Array B 133.34 331 PKHKP PKPpre 05 49 20.8
comp=Z,0.8nm,0.7s,baz=24,slow=4.5,SNR=3.8
GERES PKP **PKPdf 05 49 31.5 -0.3**
comp=Z,4.9nm,0.7s,baz=50,slow=2.4,SNR=20
GERES GERESS Array B 133.34 331 PKHKP PKPpre 05 49 20.8
GERES 05 49 31.5
GERES pmax pmax
comp=Z,1.0nm,0.7s
SJG San Juan 133.35 75 *e*PKPdf PKPdf 05 49 31.8 -0.6
SJG LR LR
comp=Z,9µm,22.0s
BEHE Becsehely 133.35 327 ⇓*e*PKPdf PKPdf 05 49 34.5 +2.8
ATHU Athens Univers 133.35 313 P PKPdf 05 49 31.7 -0.3
ATHU Athens Univers 133.35 313 P PKPdf 05 49 31.7 -0.3
SJES Sjenica 133.37 321 *e*P PKPdf 05 49 33.5 +1.5
SMIA Simia 133.37 314 P PKPdf 05 49 33.1 +1.1
ROTZ Rotzenmuhle 133.38 333 *e*PKPdf PKPdf 05 49 34.2 +2.5
ROTZ *ep*PKPdf **pPKPdf 05 49 47.9 +3.4**
ROTZ *e*PP **PP 05 52 01.5 +2.6**
BBLS Lazići 133.39 322 *e*P PKPdf 05 49 33.9 +1.9
ARSA Arzberg 133.51 328 ⇑*i*PKPdf PKPdf 05 49 31.3 -0.8
comp=Z,9.1nm,0.9s
ARSA ⇓*i*PP **PP 05 51 58.4 -1.5**
comp=Z,26nm,1.6s
WET Wettzell 133.52 332 *e*PKPdf PKPdf 05 49 34.6 +2.6
WET *ep*PKPdf **pPKPdf 05 49 48.1 +3.3**
WET *e*PP **PP 05 52 02.4 +2.6**
UBBA Unterbreizbach 133.55 335 *e*PKPdf PKPdf 05 49 34.3 +2.5
UBBA *ep*PKPdf **pPKPdf 05 49 47.8 +3.2**
UBBA *e*PP **PP 05 52 01.8 +2.1**
ATAL Atalanti 133.59 314 P PKPdf 05 49 29.4 -3.0
ATAL Atalanti 133.59 314 P PKPdf 05 49 29.4 -3.0
LKR Lokris 133.62 314 P PKPdf 05 49 33.2 +0.7
LKR Lokris 133.62 314 P PKPdf 05 49 33.2 +0.7
KZN Kozani 133.71 317 P PKPdf 05 49 30.7 -2.0
KZN Kozani 133.71 317 P PKPdf 05 49 30.7 -2.0
SIVA Sivas 133.73 309 P PKPdf 05 49 34.0 +1.2
SIVA Sivas 133.73 309 P PKPdf 05 49 34.0 +1.2
TSUM Tsumeb 133.73 230 *e*PKPdf PKPdf 05 49 33.3 -0.1
TSUM LR LR
comp=Z,54µm,20.0s
EKA Eskdalemuir Ar 133.74 348 SKP **PKSab 05 53 02.5 -2.0**
comp=Z,17nm,0.9s,baz=15,slow=3.3,SNR=5.3
FNA Florina 133.75 318 P PKPdf 05 49 32.9 +0.2
FNA Florina 133.75 318 P PKPdf 05 49 32.9 +0.2
MOA Molln 133.75 330 ⇑*i*PKPdf PKPdf 05 49 30.8 -1.7
comp=Z,14nm,1.0s
MOA ⇓*i*PP **PP 05 51 59.8 -1.6**
comp=Z,23nm,1.2s
ESK Eskdalemuir 133.76 348 PFAKE 05 49 40.0 +7.8
ESK LR LR
comp=Z,19µm,20.0s
AXAR Agios Charalam 133.81 315 P PKPdf 05 49 34.0 +1.2
AXAR Agios Charalam 133.81 315 P PKPdf 05 49 34.0 +1.2
GRF Grafenberg Arr 133.87 333 *e*PKPdf PKPdf 05 49 34.9 +2.3
GRF *e*PP **PP 05 52 04.5 +2.5**
GRF *e*L L 06 48 54.5
comp=Z,28µm,22.0s
GRFO Grafenberg 133.88 333 *e*PKPdf PKPdf 05 49 32.4 -0.2
GRFO *e*PP **PP 05 52 04.3 +2.3**
THL Klokotos Trika 133.90 316 P PKPdf 05 49 29.4 -3.5
PHP Peshkopia 133.91 319 P PKPdf 05 49 34.6 +1.6
PHP Peshkopia 133.91 319 P PKPdf 05 49 34.6 +1.6
LTK Loutraki 133.91 313 P PKPdf 05 49 31.0 -2.1
LTK Loutraki 133.91 313 P PKPdf 05 49 31.0 -2.1
AGG Agios Georgios 133.93 315 P PKPdf 05 49 33.9 +0.8
AGG Agios Georgios 133.93 315 P PKPdf 05 49 33.9 +0.8

DID	**Didima**	**133.94 313**	P	**PKPdf**	**05 49 30.3**	**-2.8**
DID	**Didima**	**133.94 313**	P	**PKPdf**	**05 49 30.3**	**-2.8**
OHR	**Ohrid**	**133.97 318**	*i* PKP	**PKPdf**	**05 49 29.1**	**-4.0**
ACOR	**Acrocorinthos**	**134.04 313**	P	**PKPdf**	**05 49 33.8**	**+0.5**
KRND	**KRANIDI**	**134.05 313**	P	**PKPdf**	**05 49 34.2**	**+0.9**
DSF	**Desfina**	**134.06 314**	P	**PKPdf**	**05 49 31.3**	**-2.1**
DSF	**Desfina**	**134.06 314**	P	**PKPdf**	**05 49 31.3**	**-2.1**
MAKR	**Makrakomi, Fth**	**134.07 315**	P	**PKPdf**	**05 49 35.0**	**+1.7**
MAKR	**Makrakomi, Fth**	**134.07 315**	P	**PKPdf**	**05 49 35.0**	**+1.7**
PERS	**Pernice**	**134.12 328**	*i* PKPdf	PKPpre	05 49 25.0	
PERS			*i*		05 49 35.1	
PERS			*e*PP	**PP**	**05 52 03.6**	**-0.2**
BUG	**Bochum--Univer**	**134.13 338**	*e*PKPdf	**PKPdf**	**05 49 35.3**	**+2.3**
BUG			*e*PP	**PP**	**05 52 05.6**	**+2.2**
SOKA	**Soboth**	**134.14 328**	⇑*i*PKPdf	**PKPdf**	**05 49 31.5**	**-1.8**
	comp=Z,17nm,1.1s,SNR=7.6					
SOKA			⇓*i*PP	**PP**	**05 52 03.9**	**-0.1**
	comp=Z,56nm,1.4s					
KBN	**Korca**	**134.22 318**	P	**PKPdf**	**05 49 35.7**	**+2.1**
KBN	**Korca**	**134.22 318**	P	**PKPdf**	**05 49 35.7**	**+2.1**
PDG	**Podgorica**	**134.26 321**	P	**PKPdf**	**05 49 32.6**	**-0.9**
TTG	**Podgorica**	**134.26 321**	P	**PKPdf**	**05 49 32.6**	**-0.9**
EVR	**Evrytania**	**134.34 315**	P	**PKPdf**	**05 49 34.0**	**+0.1**
EVR	**Evrytania**	**134.34 315**	P	**PKPdf**	**05 49 34.0**	**+0.1**
KALE	**Kalithea**	**134.34 314**	P	**PKPdf**	**05 49 30.6**	**-3.3**
KALE	**Kalithea**	**134.34 314**	P	**PKPdf**	**05 49 30.6**	**-3.3**
GUR	**Goura**	**134.40 314**	P	**PKPdf**	**05 49 33.4**	**-0.7**
GUR	**Goura**	**134.40 314**	P	**PKPdf**	**05 49 33.4**	**-0.7**
TIR	**Tirane**	**134.45 319**	PFAKE		05 49 50.0	+16
TIR			LR	LR		
	comp=Z,38µm,22.0s					
VLI	**Veliai**	**134.48 312**	P	**PKPdf**	**05 49 33.9**	**-0.2**
VLI	**Veliai**	**134.48 312**	P	**PKPdf**	**05 49 33.9**	**-0.2**
KLV	**Kalavryta, Ach**	**134.49 314**	P	**PKPdf**	**05 49 32.5**	**-1.7**
KLV	**Kalavryta, Ach**	**134.49 314**	P	**PKPdf**	**05 49 32.5**	**-1.7**
EFP	**Efpalio**	**134.49 314**	P	**PKPdf**	**05 49 35.7**	**+1.6**
OBKA	**Obir**	**134.50 328**	⇑*i*PKPdf	**PKPdf**	**05 49 32.2**	**-1.8**
	comp=Z,11nm,0.9s					
OBKA			⇑*i*PP	**PP**	**05 52 04.8**	**-1.5**
	comp=Z,36nm,1.2s					
RJOB	**Jochberg**	**134.55 331**	*e*PKPdf	**PKPdf**	**05 49 35.8**	**+1.8**
RJOB			*e*PP	**PP**	**05 52 09.2**	**+2.7**
ANKY	**Antikythira Is**	**134.55 311**	P	**PKPdf**	**05 49 34.7**	**+0.4**
ANKY	**Antikythira Is**	**134.55 311**	P	**PKPdf**	**05 49 34.7**	**+0.4**
VLX	**Vlachokerasia**	**134.61 313**	P	**PKPdf**	**05 49 35.0**	**+0.5**
VLX	**Vlachokerasia**	**134.61 313**	P	**PKPdf**	**05 49 35.0**	**+0.5**
TNS	**Taunus Mts**	**134.64 336**	*e*PKPdf	**PKPdf**	**05 49 36.1**	**+2.0**
TNS			*ep*PKPdf	**pPKPdf**	**05 50 00.4**	**+3.1**
TNS			*e*PP	**PP**	**05 52 09.2**	**+2.4**
VNDS	**Vrh nad Dolski**	**134.69 328**	*e*PKPdf	**PKPdf**	**05 49 31.1**	**-3.2**
DSL	**Palaion Diasel**	**134.73 316**	P	**PKPdf**	**05 49 35.4**	**+0.8**
DSL	**Palaion Diasel**	**134.73 316**	P	**PKPdf**	**05 49 35.4**	**+0.8**
KBA	**Koelnbreinsper**	**134.74 329**	⇑*i*PKPdf	**PKPdf**	**05 49 32.8**	**-1.8**
	comp=Z,7.6nm,0.7s					
BOJS	**Bojanci**	**134.78 327**	*i* PKPdf	PKPpre	05 49 24.8	
BOJS			*i*		05 49 35.9	
BOJS			*e*PP	**PP**	**05 52 07.3**	**-0.7**
LJU	**Ljubljana**	**134.82 328**	*i* PKPdf	PKPpre	05 49 25.3	
LJU			*i*		05 49 36.8	
LJU			*i* PP	**PP**	**05 52 05.7**	**-2.5**
DRO	**Drossia**	**134.84 314**	P	**PKPdf**	**05 49 33.0**	**-1.8**
MYKA	**Terra Mystica**	**134.89 329**	⇑*i*PKPdf	**PKPdf**	**05 49 33.1**	**-1.6**
	comp=Z,12nm,0.9s					
MYKA			⇓*i*PP	**PP**	**05 52 07.5**	**-1.2**
	comp=Z,52nm,1.6s					
PDO	**Prodromos**	**134.92 315**	P	**PKPdf**	**05 49 36.1**	**+1.2**
FUR	**Furstenfeldbru**	**134.97 332**	*e*PKPdf	**PKPdf**	**05 49 37.1**	**+2.4**
FUR			*ep*PKPdf	**pPKPdf**	**05 49 50.4**	**+2.9**
FUR			*e*PP	**PP**	**05 52 11.6**	**+2.6**
ITM	**Ithomi**	**135.02 313**	P	**PKPdf**	**05 49 34.8**	**-0.4**
ITM	**Ithomi**	**135.02 313**	P	**PKPdf**	**05 49 34.8**	**-0.4**
IGT	**Igoumenitsa**	**135.06 317**	P	**PKPdf**	**05 49 33.3**	**-1.8**
IGT	**Igoumenitsa**	**135.06 317**	P	**PKPdf**	**05 49 33.3**	**-1.8**
SGD	**Sagiada**	**135.08 317**	P	**PKPdf**	**05 49 33.7**	**-1.5**
JAVS	**Javornik**	**135.16 328**	*i* PKPdf	PKPpre	05 49 22.9	
JAVS			*i*		05 49 37.1	
JAVS			*i* PP	**PP**	**05 52 07.0**	**-3.4**
BEBN	**Eben Emael**	**135.24 338**	PKP	**PKPdf**	**05 49 37.8**	**+2.7**
MEM	**Membach**	**135.27 338**	PKP	**PKPdf**	**05 49 37.6**	**+2.4**
KEK	**Kerkira**	**135.32 317**	P	**PKPdf**	**05 49 34.0**	**-1.6**
KEK	**Kerkira**	**135.32 317**	P	**PKPdf**	**05 49 34.0**	**-1.6**
ABTA	**Abfaltersbach**	**135.38 330**	⇑*i*PKPdf	**PKPdf**	**05 49 33.6**	**-2.0**
	comp=Z,19nm,0.9s					
WATA	**Walderalm**	**135.42 331**	⇑*e*PKiKP	**PKiKP**	**05 49 36.7**	**-0.6**
	comp=Z,9.3nm,0.4s					
WTTA	**Wattenberg**	**135.44 331**	⇑*i*PKPdf	**PKPdf**	**05 49 34.5**	**-1.3**
	comp=Z,24nm,0.9s					
TRI	**Trieste**	**135.44 328**	*e*PKPdf	**PKPdf**	**05 49 36.5**	**+0.9**
STU	**Stuttgart**	**135.44 334**	*e*PKPdf	**PKPdf**	**05 49 37.9**	**+2.3**
STU			*e*PP	**PP**	**05 52 14.6**	**+2.7**
STU	**Stuttgart**	**135.44 334**	*e*PKPdf	**PKPdf**	**05 49 38.4**	**+2.9**
MOTA	**Moosalm**	**135.64 331**	⇓*i*PKiKP	**PKiKP**	**05 49 37.1**	**-0.7**
	comp=Z,30nm,1.2s					
RETA	**Reutte**	**135.69 332**	⇑*i*PKPdf	**PKPdf**	**05 49 35.2**	**-1.0**
	comp=Z,20nm,1.2s					
LANF	**Langenberg**	**135.87 335**	PKP	**PKPdf**	**05 49 38.6**	**+2.2**
SNF	**Seneffe**	**135.98 339**	PKP	**PKPdf**	**05 49 40.1**	**+3.6**
WLF	**Walferdange**	**135.99 337**	PKP	**PKPdf**	**05 49 38.7**	**+2.2**
WLF	**Walferdange**	**135.99 337**	*e*PP	PP	05 52 18.1	+2.9
WLF	**Walferdange**	**135.99 337**	PFAKE		05 49 50.0	+13
WLF			LR	LR		
	comp=Z,55µm,22.0s					
FETA	**Feichten**	**136.05 331**	⇑*i*PKPdf	**PKPdf**	**05 49 35.8**	**-1.2**
	comp=Z,33nm,1.1s					
FETA			⇑*i*PP	**PP**	**05 52 14.0**	**-2.0**
	comp=Z,41nm,1.3s					
BFO	**Black Forest**	**136.15 334**	*e*PP	PP	05 52 19.2	+2.8
BFO	**Black Forest**	**136.15 334**	PFAKE		05 49 50.0	+13
BFO			LR	LR		
	comp=Z,27µm,21.0s					
DOU	**Dourbes**	**136.21 339**	PKP	**PKPdf**	**05 49 39.5**	**+2.5**
DAVA	**Damuels**	**136.25 332**	⇑*i*PKPdf	**PKPdf**	**05 49 35.8**	**-1.5**
	comp=Z,14nm,0.8s					
ECH	**Echery**	**136.74 335**	PKP	**PKPdf**	**05 49 40.7**	**+2.7**
ECH	**Echery**	**136.74 335**	*e*PKPdf	**PKPdf**	**05 49 35.1**	**-2.9**
ECH			LR	LR		
	comp=Z,34µm,21.0s					
MOF	**Molkenrain**	**137.03 335**	PKP	**PKPdf**	**05 49 40.2**	**+1.5**
TUE	**Stuetta**	**137.10 332**	PFAKE		05 49 50.0	+11
TUE			LR	LR		
	comp=Z,57µm,22.0s					
THEF	**They Montfort**	**137.21 336**	PKP	**PKPdf**	**05 49 40.8**	**+1.9**
ANWB	**Willy Bob**	**137.52 75**	PFAKE		05 49 50.0	+10
ANWB			LR	LR		
	comp=Z,11µm,20.0s					
LOMF	**Lomont**	**137.55 334**	PKP	**PKPdf**	**05 49 40.9**	**+1.3**
TIP	**Timpagrande**	**137.62 318**	P	**PKPdf**	**05 49 38.6**	**-1.4**
TIP	**Timpagrande**	**137.62 318**	*e*PKPdf	**PKPdf**	**05 49 41.5**	**+1.5**
TIP			LR	LR		
	comp=Z,21µm,22.0s					
MLG	**Mont-d'or**	**137.67 78**	*e*P	**PKPdf**	**05 49 39.7**	**-1.0**
GRGR	**Grenville**	**137.71 84**	PFAKE		05 49 50.0	+9.3
GRGR			LR	LR		
	comp=Z,9µm,21.0s					
ECG	**Echelle**	**137.72 78**	*e*P	PKPpre	05 49 30.4	
PHG	**Guadaloupe-2**	**137.74 78**	*e*P	**PKPdf**	**05 49 38.3**	**-2.6**
CUC	**Castrocucco**	**137.77 320**	*e*PKPdf	**PKPdf**	**05 49 43.4**	**+3.2**
CUC			LR	LR		
	comp=Z,12µm,20.0s					
AQU	**L'Aquila**	**137.82 324**	⇑PKIKP	**PKPdf**	**05 49 39.6**	**-0.6**
AQU	**L'Aquila**	**137.82 324**	⇑*i*P	**PKPdf**	**05 49 39.6**	**-0.6**
AQU	**L'Aquila**	**137.82 324**	*e*PKPdf	**PKPdf**	**05 49 42.1**	**+1.9**
AQU			LR	LR		
	comp=Z,32µm,22.0s					
VAL	**Valentia**	**138.20 352**	*e*P	PKPpre	05 49 28.6	
FDF	**Fort de France**	**138.24 80**	*e*PKPdf	**PKPdf**	**05 49 41.6**	**-0.1**
FDF			LR	LR		
	comp=Z,13µm,22.0s					
VLC	**Villacollemand**	**138.25 329**	PFAKE		05 49 50.0	+9.0
VLC			LR	LR		
	comp=Z,48µm,22.0s					
CEL	**Celeste**	**138.68 318**	*e*PKPdf	**PKPdf**	**05 49 41.9**	**-0.1**
CEL			LR	LR		
	comp=Z,32µm,22.0s					
BNI	**Bardonecchia**	**139.40 332**	PFAKE		05 50 00.0	+17
BNI			LR	LR		
	comp=Z,30µm,20.0s					
GDM	**Grand'Maison**	**139.53 333**	PKP	**PKPdf**	**05 49 45.1**	**+1.7**
GRN	**Grenoble**	**139.67 333**	PKP	**PKPdf**	**05 49 45.5**	**+1.9**
SURF	**Saint Ours**	**139.77 332**	PKP	**PKPdf**	**05 49 47.3**	**+3.4**
BBGH	**Gun Hill**	**139.78 82**	PFAKE		05 50 00.0	+15
BBGH			LR	LR		
	comp=Z,16µm,22.0s					
SAOF	**Saorge**	**139.79 331**	PKP	**PKPdf**	**05 49 40.6**	**-3.2**
TOUF	**Mont Tournerai**	**139.92 331**	PKP	**PKPdf**	**05 49 41.0**	**-3.2**
PLDF	**La Plantade**	**139.98 336**	PKP	**PKPdf**	**05 49 39.2**	**-4.9**
MVIF	**Mont Vial**	**140.05 331**	PKP	**PKPdf**	**05 49 45.7**	**+1.3**
REVF	**Revere**	**140.06 330**	PKP	**PKPdf**	**05 49 45.2**	**+0.9**
SSB	**Saint Sauveur**	**140.16 334**	PKP	**PKPdf**	**05 49 46.1**	**+1.7**
SSB	**Saint Sauveur**	**140.16 334**	*e*PKPpre	PKPpre	05 49 38.8	
SSB			*e*PKPdf	**PKiKP**	**05 49 46.9**	**-0.1**
SSB			LR	LR		
	comp=Z,45µm,22.0s					
CALN	**Calern**	**140.28 331**	PKP	**PKPdf**	**05 49 46.4**	**+1.6**
COLF	**Collangettes**	**140.32 335**	PKP	**PKPdf**	**05 49 43.9**	**-0.8**
PYM	**Petit Puy Mans**	**140.41 336**	PKP	**PKPdf**	**05 49 42.8**	**-2.1**
LBL	**Lubilhac**	**140.74 336**	PKP	**PKPdf**	**05 49 41.4**	**-4.1**
CLTB	**Caltabellotta**	**140.82 319**	PFAKE		05 50 00.0	+14
CLTB			LR	LR		
	comp=Z,12µm,20.0s					
BDFB	**Brasilia**	**140.86 131**	PKhKP	PKPpre	05 49 37.3	
	comp=Z,19nm,0.7s,baz=267,slow=3.0,SNR=19					
BDFB	**Brasilia**	**140.86 131**	PKHKP	PKPpre	05 49 37.3	
BDFB			pmax	pmax		
	comp=Z,19nm,0.7s					
WDD	**Wield Dalam**	**140.88 315**	PFAKE		05 50 00.0	+14
WDD			LR	LR		
	comp=Z,19µm,22.0s					
VSL	**Villasalto**	**141.99 324**	*e*PKPpre	PKPpre	05 49 43.4	
VSL			*e*PKPdf	**PKiKP**	**05 49 50.3**	**-0.5**
VSL			LR	LR		
	comp=Z,13µm,20.0s					
LRDF	**Laroque-de-Fa**	**142.90 334**	PKP	**PKPdf**	**05 49 47.3**	**-2.1**
FILF	**Fillols**	**143.20 334**	PKP	PKPbc	05 49 47.1	+0.1
MLS	**Moulis**	**143.49 336**	PKP	**PKPdf**	**05 49 49.1**	**-1.3**
VALF	**Valcebollere**	**143.56 334**	PKP	PKPbc	05 49 48.6	+0.5
MELF	**Melles**	**143.70 336**	PKP	**PKPdf**	**05 49 50.3**	**-0.6**
LABF	**Labassere**	**143.82 337**	PKP	**PKPdf**	**05 49 52.4**	**+1.4**
RESF	**Ens**	**143.92 336**	PKP	**PKPdf**	**05 49 51.8**	**+0.5**
VIEF	**Viey**	**143.98 337**	PKP	**PKPdf**	**05 49 50.6**	**-0.8**
REYF	**Montagne du Re**	**143.98 337**	PKP	**PKPdf**	**05 49 51.8**	**+0.4**
ORDF	**Ordiarp**	**144.06 338**	PKP	**PKPdf**	**05 49 50.9**	**-0.5**
OSSF	**Osses**	**144.15 338**	PKP	**PKPdf**	**05 49 50.9**	**-0.6**
LARF	**Larrau**	**144.23 338**	PKP	**PKPdf**	**05 49 52.1**	**+0.3**
KEST	**Kesra**	**144.41 319**	PKP	**PKPab**	**05 49 50.0**	**-0.5**
	comp=Z,22nm,0.9s,baz=171,slow=1.2,SNR=22					
CMAH	**Djebel Manchou**	**145.05 322**	P	**PKPbc**	**05 49 51.7**	**-1.1**
ABSA	**Djebel Ababsia**	**145.24 322**	P	**PKPbc**	**05 49 52.5**	**-1.0**
CKFL	**Kef-Lekhel**	**145.62 322**	P	**PKPdf**	**05 49 53.6**	**-0.9**
CASM	**Ain Smara**	**145.85 323**	P	**PKPdf**	**05 49 54.3**	**-0.5**
DFRA	**Djebel Bou Aff**	**146.02 323**	P	**PKPbc**	**05 49 55.6**	**-0.3**
CTEI	**Djebel Teioual**	**146.03 322**	P	**PKPdf**	**05 49 55.1**	**-0.1**
CTEI			P	**PKPab**	**05 49 57.5**	**+0.9**
SETF	**Setif**	**146.53 324**	P	**PKPab**	**05 49 58.0**	**-0.5**
PBRG	**Braganca**	**147.22 344**	*e*PKPdf	**PKPdf**	**05 49 56.0**	**-0.9**
PBRG	**Braganca**	**147.22 344**	*e*PKPdf	**PKPdf**	**05 49 56.0**	**-0.9**
ABA	**Alger-Bouzarea**	**147.43 327**	P	**PKPab**	**05 50 03.0**	**+1.2**
PGAV	**Gavieira, Arco**	**147.46 346**	*e*PKPdf	**PKPdf**	**05 49 57.7**	**+0.3**
PGAV	**Gavieira, Arco**	**147.46 346**	*e*LQ	LQ	06 31 14.2	
PGAV	**Gavieira, Arco**	**147.46 346**	*e*LR	LR	06 42 02.0	
	comp=Z,20µm,20.0s					
PGAV	**Gavieira, Arco**	**147.46 346**	*e*PKPdf	**PKPdf**	**05 49 57.7**	**+0.3**
PGAV	**Gavieira, Arco**	**147.46 346**	*e*LQ	LQ	06 31 14.2	
PGAV	**Gavieira, Arco**	**147.46 346**	*e*LR	LR	06 42 02.0	
	comp=Z,20µm,20.0s					
PCAB	**Cabril**	**147.64 345**	*e*PKPbc	**PKPbc**	**05 49 59.2**	**-1.1**
PCAB	**Cabril**	**147.64 345**	*e*PKPbc	**PKPbc**	**05 49 59.2**	**-1.1**
MVO	**Moncorvo**	**147.89 344**	*e*PKPdf	**PKPdf**	**05 49 57.4**	**-0.7**
MVO	**Moncorvo**	**147.89 344**	*e*LQ	LQ	06 31 25.3	
MVO			*e*LR	LR	06 40 35.9	
	comp=Z,21µm,22.0s					
MVO	**Moncorvo**	**147.89 344**	*e*PKPdf	**PKPdf**	**05 49 57.4**	**-0.7**
MVO	**Moncorvo**	**147.89 344**	*e*LQ	LQ	06 31 25.3	
MVO			*e*LR	LR	06 40 35.9	
	comp=Z,21µm,22.0s					
POLO	**Lamas de Olo**	**147.90 345**	*e*PKPdf	**PKPdf**	**05 49 58.2**	**+0.1**
POLO	**Lamas de Olo**	**147.90 345**	*e*PKPdf	**PKPdf**	**05 49 58.2**	**+0.1**
ESDC	**Sonseca Array**	**148.26 338**	PKPbc	**PKPbc**	**05 50 00.7**	**-1.4**
	comp=Z,6.3nm,0.7s,baz=20,slow=2.8,SNR=38					
ESDC			SKPbc	**SKPbc**	**05 53 33.2**	**-3.7**
	comp=Z,8.0nm,1.0s,baz=25,slow=7.1,SNR=2.7					
PTO	**Porto**	**148.32 346**	*i* P	**PKPbc**	**05 50 03.0**	**+0.9**
PTO	**Porto**	**148.32 346**	*i* P	**PKPbc**	**05 50 03.0**	**+0.9**
PAB	**San Pablo**	**148.51 339**	*e*PKPbc	**PKPbc**	**05 50 02.9**	**+0.2**
PAB			LR	LR		
	comp=Z,21µm,21.0s					
EBNR	**Beni Rached**	**148.62 328**	P	**PKPab**	**05 50 05.4**	**-1.2**
ECHA	**Ech Chlef**	**148.81 328**	P	**PKPab**	**05 50 06.2**	**-1.1**
H07N1	**FLORES T-PHASE**	**148.91 19**	*e*PKP	**PKPbc**	**05 50 03.6**	**-0.1**
EANR	**`Ain N'Sour**	**149.10 328**	P	**PKPab**	**05 50 08.2**	**-0.4**
H07S1	**FLORES T-PHASE**	**149.16 19**	*e*PKP	**PKPbc**	**05 50 06.3**	**+2.0**
PCBR	**Castelo Branco**	**149.25 343**	*e*PKPdf	**PKPbc**	**05 50 02.5**	**-2.0**
PCBR	**Castelo Branco**	**149.25 343**	*e*PKPdf	**PKPbc**	**05 50 02.5**	**-2.0**
PCAS	**Casmilo, Conde**	**149.32 345**	*e*PKPdf	**PKPdf**	**05 50 04.4**	**+0.1**
PCAS	**Casmilo, Conde**	**149.32 345**	*e*PKPdf	**PKPdf**	**05 50 00.4**	**+0.1**
ETRT	**Tiaret**	**149.42 327**	P	**PKPab**	**05 50 11.3**	**+1.3**
PMRV	**Marv??o**	**149.60 343**	*e*PKPdf	**PKPdf**	**05 50 00.7**	**-0.1**
PMRV	**Marv??o**	**149.60 343**	*e*LQ	LQ	06 31 52.3	
PMRV			*e*LR	LR	06 41 45.2	
	comp=Z,22µm,22.0s					
PMRV	**Marv??o**	**149.60 343**	*e*PKPdf	**PKPdf**	**05 50 00.7**	**-0.1**
PMRV	**Marv??o**	**149.60 343**	*e*LQ	LQ	06 31 52.3	
PMRV			*e*LR	LR	06 41 45.2	
	comp=Z,22µm,22.0s					
OJGS	**Djebel Guires**	**149.62 328**	P	**PKPab**	**05 50 10.0**	**-0.8**
PTOM	**Tomar**	**149.71 344**	*e*PKPdf	**PKPdf**	**05 50 03.2**	**+2.3**
PTOM	**Tomar**	**149.71 344**	*e*PKPdf	**PKPdf**	**05 50 03.2**	**+2.3**
USTO	**Oran**	**150.11 330**	P	**PKPab**	**05 50 13.0**	**+0.4**
PESTR	**Estremoz**	**150.18 343**	*e*PKPdf	**PKPdf**	**05 50 01.9**	**+0.1**
PESTR	**Estremoz**	**150.18 343**	*e*PKPdf	**PKPdf**	**05 50 01.9**	**+0.1**
ODJA	**Bouhanifia**	**150.22 329**	P	**PKPab**	**05 50 12.0**	**-1.2**
PGRA	**Graciosa**	**150.43 15**	*e*PKP	**PKPbc**	**05 50 07.6**	**+0.2**
PMAFR	**Mafra**	**150.56 345**	*e*PKPdf	**PKPdf**	**05 50 02.1**	**-0.2**
PMAFR	**Mafra**	**150.56 345**	*e*PKPdf	**PKPdf**	**05 50 02.1**	**-0.2**
PCED	**Cedros**	**150.61 16**	*e*PKP	**PKPbc**	**05 50 08.9**	**+1.1**
EVO	**Evora**	**150.61 343**	*e*PKPdf	**PKPdf**	**05 50 01.9**	**-0.5**
EVO	**Evora**	**150.61 343**	*e*PKPdf	**PKPdf**	**05 50 01.9**	**-0.5**
PACT	**Alcochete**	**150.62 344**	*e*PKPdf	**PKPdf**	**05 50 02.9**	**+0.5**
PACT	**Alcochete**	**150.62 344**	*e*PKPdf	**PKPdf**	**05 50 02.9**	**+0.5**
PBAR	**Barrancos**	**150.65 341**	*e*PKPdf	**PKPdf**	**05 50 01.7**	**-0.8**
PBAR	**Barrancos**	**150.65 341**	*e*PKPdf	**PKPdf**	**05 50 01.7**	**-0.8**
ROSA	**Rosais**	**150.65 16**	*e*PKP	**PKPbc**	**05 50 07.6**	**-0.3**
PMST	**Lisbon--Monsan**	**150.74 345**	*e*PKPdf	**PKPdf**	**05 50 02.8**	**+0.2**
PMST	**Lisbon--Monsan**	**150.74 345**	*e*PKPdf	**PKPdf**	**05 50 02.8**	**+0.2**
LIS	**Lisbon**	**150.75 345**	*e*P	**PKPdf**	**05 50 01.9**	**-0.7**
LIS			AMS	AMS	07 00 04.0	
	comp=Z,24µm,22.5s					
LIS	**Lisbon**	**150.75 345**	*e*PKIKP	**PKPdf**	**05 50 01.9**	**-0.7**
SHEL	**Horse Pasture**	**150.77 206**	*i* PKIKP	**PKPab**	**05 50 12.6**	**-3.2**
SHEL	**Horse Pasture**	**150.77 206**	*e*PKPdf	**PKPdf**	**05 50 04.6**	**+1.2**
SHEL			LR	LR		
	comp=Z,14µm,21.0s					
PMAN	**Manadas**	**150.77 15**	*e*PKP	**PKPbc**	**05 50 10.1**	**+1.9**
PICO	**Pico**	**150.81 16**	*e*PKP	**PKPbc**	**05 50 09.6**	**+1.2**
PCAN	**Candelaria**	**150.82 16**	*e*PKP	**PKPbc**	**05 50 08.3**	**-0.1**
PPNO	**Prainha do Nor**	**150.88 16**	*e*PKP	**PKPbc**	**05 50 09.3**	**+0.7**
ADH	**Angra Heroismo**	**150.97 14**	*e*PKP	**PKPbc**	**05 50 06.5**	**-2.2**
PNCL	**Nicolau / Gran**	**151.15 344**	*e*PKPdf	**PKPdf**	**05 50 02.0**	**-1.2**
PNCL	**Nicolau / Gran**	**151.15 344**	*e*PKPdf	**PKPdf**	**05 50 02.0**	**-1.2**
MESJ	**Messejana**	**151.32 343**	*e*P	**PKPdf**	**05 50 02.3**	**-1.2**
MESJ			AMS	AMS	07 00 54.7	
	comp=Z,27µm,21.7s					
MESJ	**Messejana**	**151.32 343**	*e*PKIKP	**PKPdf**	**05 50 02.3**	**-1.2**
MESJ	**Messejana**	**151.32 343**	*e*PKPdf	**PKPdf**	**05 50 03.2**	**-0.3**
MESJ	**Messejana**	**151.32 343**	*e*PKPdf	**PKPdf**	**05 50 03.2**	**-0.3**
PCVE	**Castro Verde**	**151.46 342**	*e*PKPdf	**PKPdf**	**05 50 03.3**	**-0.4**
PCVE	**Castro Verde**	**151.46 342**	*e*PKPdf	**PKPdf**	**05 50 03.3**	**-0.4**
PVAQ	**Vaqueiros**	**151.57 342**	*e*PKPdf	**PKPdf**	**05 50 02.8**	**-1.1**
PVAQ	**Vaqueiros**	**151.57 342**	*e*LQ	LQ	06 33 18.1	
PVAQ			*e*LR	LR	06 43 04.3	
	comp=Z,29µm,22.0s					
PVAQ	**Vaqueiros**	**151.57 342**	*e*PKPdf	**PKPdf**	**05 50 02.8**	**-1.1**
PVAQ	**Vaqueiros**	**151.57 342**	*e*LQ	LQ	06 33 18.1	
PVAQ			*e*LR	LR	06 43 04.3	
	comp=Z,29µm,22.0s					
PTEO	**Sao Teotonio**	**151.73 343**	*e*PKPdf	**PKPdf**	**05 50 06.3**	**+2.2**
PTEO	**Sao Teotonio**	**151.73 343**	*e*PKPdf	**PKPdf**	**05 50 06.3**	**+2.2**
PBDV	**Barranco-do-Ve**	**151.78 342**	*e*PKPdf	**PKPdf**	**05 50 04.9**	**+0.6**
PBDV	**Barranco-do-Ve**	**151.78 342**	*e*PKPdf	**PKPdf**	**05 50 04.9**	**+0.6**
MORF	**Marmelete**	**151.94 343**	*e*P	**PKPdf**	**05 50 03.8**	**-0.7**
MORF			AMS	AMS	07 03 11.4	
	comp=Z,21µm,24.1s					
MORF	**Marmelete**	**151.94 343**	*e*PKIKP	**PKPdf**	**05 50 03.8**	**-0.7**
MORF	**Marmelete**	**151.94 343**	*e*PKPdf	**PKPdf**	**05 50 03.6**	**-0.9**
MORF	**Marmelete**	**151.94 343**	*e*PKPdf	**PKPdf**	**05 50 03.6**	**-0.9**
PSET	**Sete Cidades**	**152.10 12**	*e*PKP	**PKPdf**	**05 50 05.8**	**+1.1**
PFVI	**Vila Bisbo**	**152.15 343**	*e*PKPdf	**PKPdf**	**05 50 03.7**	**-1.1**
PFVI	**Vila Bisbo**	**152.15 343**	*e*PKPdf	**PKPdf**	**05 50 03.7**	**-1.1**
PDA	**Ponta Delgada**	**152.19 12**	*e*PKP	**PKPdf**	**05 50 07.5**	**+2.7**
BART	**Pico Bartolome**	**152.26 11**	*e*PKP	**PKPbc**	**05 50 08.8**	**-3.0**
PSMA	**Santa Maria**	**153.02 12**	*e*PKP	**PKPdf**	**05 50 09.2**	**+3.1**
PSMN	**Pico do Norte,**	**153.03 12**	*e*PKP	**PKPdf**	**05 50 05.7**	**-0.4**
TAM	**Tamanrasset**	**154.02 301**	*e*PKPdf	**PKPdf**	**05 50 09.4**	**+1.3**
TAM			LR	LR		
	comp=Z,24µm,22.0s					
MDT	**Midelt**	**154.43 332**	PKP	**PKPdf**	**05 50 08.5**	**+0.2**
	comp=Z,3.3nm,0.9s,baz=70,slow=1.6,SNR=14					
MDT			PKPab	**PKPab**	**05 50 32.1**	**+1.2**
	comp=Z,46nm,1.1s,baz=50,slow=6.1,SNR=19					
RCBR	**Riachuelo**	**156.23 132**	*e*PKPdf	**PKPdf**	**05 50 10.7**	**-0.5**
RCBR			LR	LR		
	comp=Z,18µm,21.0s					
PMPST	**Porto Santo, M**	**157.51 355**	*e*PKPdf	**PKPdf**	**05 50 11.8**	**-0.5**
PMPST	**Porto Santo, M**	**157.51 355**	*e*PKPdf	**PKPdf**	**05 50 11.8**	**-0.5**
PMOZ	**Porto Moniz, M**	**157.82 357**	*e*PKPdf	**PKPdf**	**05 50 13.1**	**+0.3**
PMOZ	**Porto Moniz, M**	**157.82 357**	*e*LQ	LQ	06 36 09.5	
PMOZ			*e*LR	LR	06 46 06.5	
	comp=Z,15µm,22.0s					
PMOZ	**Porto Moniz, M**	**157.82 357**	*e*PKPdf	**PKPdf**	**05 50 13.1**	**+0.3**
**PMOZ

comp=Z,8.4nm,0.6s,baz=52,slow=3.7,SNR=3.7

*ATH **26** 06:34:06.8, 34.°12N×26.°13E, h10km±3km, MD3.6/7*
*CSEM **26** 06:34:08.1±0.3, 34.°18N×26.°17E, h10km, MD3.6, Error ellipse: s-maj=8.7km s-min=5.7km az=63.0*
*HLW **26** 06:34:09.9, 34.°33N×25.°95E, h39km±17km, Md3.5*
*IDC **26** 06:34:09.4±4.0, 34.°30N×26.°24E, h33km±36km, mb3.5/5, mb1 3.5/9, mb1mx3.3/38, mbtmp3.5/9, ML3.3/4, Error ellipse: s-maj=23.5km s-min=18.2km az=5.0*

ISC 26 06:34:08.7±1.3, 34.°14N±0.°03×26.°17E±0.°03, h27km±12km, n47, σ1§72/62, mb3.5/5, Create

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.97**	**2**	*e*PG	**Pb**	**06 34 25.2**	**-1.7**
ZKR				*e*SB	**Sn**	**06 34 38.9**	**-0.6**
ZKR	**Zakros**	**0.97**	**2**	*e*Pg	**Pb**	**06 34 25.2**	**-1.7**
ZKR				*e*Sb	**Sn**	**06 34 38.9**	**-0.6**
LAST	**Lasithi**	**1.17**	**331**	*e*PN	**Pn**	**06 34 28.4**	**-1.0**
LAST				*e*SB	**Sn**	**06 34 45.7**	**+1.2**
LAST	**Lasithi**	**1.17**	**331**	*e*Pn	**Pn**	**06 34 28.4**	**-1.0**
LAST				*e*Sb	**Sn**	**06 34 45.7**	**+1.2**
NPS	**Neapolis**	**1.21**	**338**	*e*PN	**Pn**	**06 34 29.3**	**-0.6**
NPS	**Neapolis**	**1.21**	**338**	*e*Pn	**Pn**	**06 34 29.3**	**-0.6**
SIVA	**Sivas**	**1.43**	**308**	*e*PB	**Pb**	**06 34 33.7**	**-0.9**
SIVA	**Sivas**	**1.43**	**308**	*e*Pb	**Pb**	**06 34 33.7**	**-0.9**
IDI	**Anoyia**	**1.56**	**318**	Pn	**Pn**	**06 34 34.6**	**-0.1**
	1.7nm,0.3s,baz=116,slow=17,SNR=13						
KARP	**Karpathos**	**1.62**	**30**	*e*PB	**Pb**	**06 34 38.2**	**+0.2**
KARP				*e*SB	**Sb**	**06 35 01.2**	**+3.2**
KARP	**Karpathos**	**1.62**	**30**	*e*Pb	**Pb**	**06 34 38.2**	**+0.2**
KARP				*e*Sb	**Sb**	**06 35 01.2**	**+3.2**
VAM	**Vamos**	**2.06**	**308**	*e*PN	**Pb**	**06 34 43.9**	**-1.5**
VAM				*e*SN	**Sb**	**06 35 10.3**	**-0.2**
VAM	**Vamos**	**2.06**	**308**	*e*Pn	**Pb**	**06 34 43.9**	**-1.5**
ARG	**Arkhangelos**	**2.62**	**37**	*e*PN	**Pb**	**06 34 52.0**	**-2.9**
ARG	**Arkhangelos**	**2.62**	**37**	*e*Pn	**Pb**	**06 34 52.0**	**-2.9**
SLUM		**2.76**	**197**	P	**Pn**	**06 34 53.1**	**+1.9**
	baz=193						
SLUM				S	**Sn**	**06 35 23.3**	**-0.4**
	baz=193						
SLUM		**2.76**	**197**	P	**Pn**	**06 34 53.1**	**+1.9**
SLUM				S	**Sn**	**06 35 23.3**	**-0.4**
HMAT	**Matruh**	**3.14**	**165**	P	**Pn**	**06 34 58.9**	**+2.6**
	baz=163						
HMAT				S	**Sn**	**06 35 33.9**	**+1.0**
	baz=163						
HMAT	**Matruh**	**3.14**	**165**	P	**Pn**	**06 34 58.9**	**+2.6**
HMAT				S	**Sn**	**06 35 33.9**	**+1.0**
KYTH	**Kithira**	**3.34**	**311**	*e*PN	**Pn**	**06 35 01.0**	**+1.8**
KYTH	**Kithira**	**3.34**	**311**	*e*Pn	**Pn**	**06 35 01.0**	**+1.8**
TURN	**Turunc**	**3.37**	**35**	*i* P	**Pn**	**06 34 58.7**	**-0.8**
TURN				*i* S	Sn	06 35 29.7	-9.0
TURN	**Turunc**	**3.37**	**35**	*i* P	**Pn**	**06 34 58.7**	**-0.8**
AKAS	**Kas**	**3.50**	**52**	*i* P	**Pn**	**06 35 03.1**	**+1.6**
AKAS				*i* S	**Sn**	**06 35 43.6**	**+1.5**
AKAS	**Kas**	**3.50**	**52**	*i* P	**Pn**	**06 35 03.1**	**+1.6**
AKAS				*i* S	**Sn**	**06 35 43.6**	**+1.5**
GOLH	**Golhisar**	**4.14**	**41**	*i* P	**Pn**	**06 35 11.9**	**+1.6**
GOLH	**Golhisar**	**4.14**	**41**	*i* P	**Pn**	**06 35 11.9**	**+1.6**
HNAT	**Natroun**	**5.87**	**139**	P	**Pn**	**06 35 36.0**	**+2.1**
	baz=138						
HNAT	**Natroun**	**5.87**	**139**	P	**Pn**	**06 35 36.0**	**+2.1**
GLL	**Jalalah**	**6.55**	**133**	P	**Pn**	**06 35 45.2**	**+2.0**
	baz=132						
GLL				S	**Sn**	**06 36 52.3**	**-4.7**
	baz=132						
GLL	**Jalalah**	**6.55**	**133**	P	**Pn**	**06 35 45.2**	**+2.0**
AMAG	**Maghara**	**6.90**	**118**	P	**Pn**	**06 35 49.1**	**+1.0**
	baz=119						
AMAG	**Maghara**	**6.90**	**118**	P	**Pn**	**06 35 49.1**	**+1.0**
RSH		**7.12**	**114**	P	**Pn**	**06 35 51.9**	**+0.8**
	baz=115						
RSH		**7.12**	**114**	P	**Pn**	**06 35 51.9**	**+0.8**
MMAI	**Mount Meron Ar**	**7.78**	**96**	Pn	**Pn**	**06 35 57.7**	**-2.6**
	0.4nm,0.3s,baz=277,slow=12,SNR=2.3						
MMAI				Sn	**Sn**	**06 37 28.9**	**+1.3**
	1.6nm,0.3s,baz=263,slow=24,SNR=4.0						
HNKL	**Nakhl**	**7.84**	**120**	P	**Pn**	**06 36 01.9**	**+0.8**
	baz=120						
HNKL	**Nakhl**	**7.84**	**120**	P	**Pn**	**06 36 01.9**	**+0.8**
BRTR	**Keskin Array B**	**8.17**	**45**	Pn	**Pn**	**06 36 06.0**	**+0.4**
	0.1nm,0.3s,baz=224,slow=6.9,SNR=4.1						
EIL	**Elat**	**8.69**	**118**	Pn	**Pn**	**06 36 12.3**	**-0.3**
	0.5nm,0.3s,baz=330,slow=18,SNR=4.5						
EIL				Sn	**Sn**	**06 37 46.9**	**-2.8**
	0.7nm,0.3s,baz=281,slow=21,SNR=4.7						
ASF	**Jabal al Asfar**	**9.20**	**99**	Sn	**Sn**	**06 38 01.9**	**-0.6**
	0.2nm,0.3s,baz=43,slow=19,SNR=2.1						
AKASG	**Malin Array Be**	**16.70**	**7**	Pn	**Pn**	**06 37 59.3**	**-1.4**
	0.3nm,0.3s,baz=196,slow=11,SNR=2.6						
ESDC	**Sonseca Array**	**24.66**	**292**	P	**P**	**06 39 26.3**	**-0.9**
	0.2nm,0.3s,baz=81,slow=9.1,SNR=4.6						
FINES	**FINESS Array B**	**27.32**	**360**	P	**P**	**06 39 48.9**	**-2.0**
	0.8nm,0.7s,baz=178,slow=9.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**30.50**	**233**	P	**P**	**06 40 21.5**	**+1.8**
	0.3nm,0.4s,baz=38,slow=8.9,SNR=4.8						
ARCES	**ARCESS Array B**	**35.45**	**360**	P	P	06 40 59.0	-3.2
	1.0nm,0.8s,baz=189,slow=10.0,SNR=2.5						
ZALV	**Zalesovo Beam**	**45.11**	**45**	P	**P**	**06 42 22.6**	**+0.1**
	1.1nm,0.4s,baz=265,slow=9.6,SNR=6.3						

*NEIC **26** 06:35:26.4, 15.°58N×96.°44W, h8km, MD4.1(MEX), After MEX.*

MEX 26 06:35:26.4±0.8, 15.°58N×96.°44W, h8km±9km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.37**	**59**	*i* P	Pg	06 35 33.0	-0.7
HUIG				*i* S	Sg	06 35 39.3	+0.7
HUIG	**Huatulco**	**0.37**	**59**	*i* P	Pg	06 35 33.0	-0.7
HUIG				*i* S	Sg	06 35 39.3	+0.7
VHO	**Vista Hermosa**	**1.51**	**349**	*e*P	Pn	06 35 50.0	-4.1
VHO				*i* S	Sn	06 36 09.1	-5.1
VHO	**Vista Hermosa**	**1.51**	**349**	*e*P	Pn	06 35 50.0	-4.1
VHO				*i* S	Sn	06 36 09.1	-5.1
PNIG	**Pinotepa**	**1.81**	**297**	*e*P	Pn	06 35 54.6	-3.4
PNIG				*i* S	Sn	06 36 17.2	-4.2
PNIG	**Pinotepa**	**1.81**	**297**	*e*P	Pn	06 35 54.6	-3.4
PNIG				*i* S	Sn	06 36 17.2	-4.2
CMIG	**Matias Romero**	**2.12**	**45**	*e*P	Pn	06 35 58.6	-3.6
CMIG				*i* S	Sn	06 36 24.5	-4.3
CMIG	**Matias Romero**	**2.12**	**45**	*e*P	Pn	06 35 58.6	-3.6
CMIG				*i* S	Sn	06 36 24.5	-4.3

*IDC **26** 06:46:56.2±1.0, 37.°13N×142.°71E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/32, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=33.8km s-min=28.9km az=160.0*
*ISCJB **26** 06:47:03.9±1.0, 36.°26N±0.°05×142.°16E±0.°08, h15km, mb3.4/3, Error ellipse: s-maj=9.1km s-min=6.9km az=164.1*
*JMA **26** 06:47:07.7±0.2, 36.°27N×141.°85E, h78km±4km, M3.3*

ISC 26 06:47:00.5±1.4, 36.°38N±0.°07×142.°39E±0.°10, h15km, n23, σ1§76/19, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.42**	**242**	P	**Pb**	**06 47 26.7**	**+0.2**
CHOJ				S	**Sn**	**06 47 41.3**	**-2.7**
ONAJ	**Iwakimizuishiy**	**1.47**	**300**	P	**Pg**	**06 47 28.9**	**+0.2**
JHO	**Hitachi**	**1.49**	**279**	P	**Pb**	**06 47 27.4**	**-0.4**
JHO				S	**Sn**	**06 47 42.8**	**-3.0**
JFK	**Kawauchi**	**1.56**	**309**	P	**Pg**	**06 47 31.4**	**+0.9**
JYT	**Yasato**	**1.78**	**266**	P	**Pn**	**06 47 31.0**	**+0.3**
JMM	**Marumori**	**1.96**	**320**	P	**Pg**	**06 47 38.3**	**+0.3**
JMM				S	**Sb**	**06 48 00.1**	**+0.1**
JFT	**Otama**	**2.00**	**305**	P	**Pg**	**06 47 37.9**	**-0.9**
BSO1	**Boso 1**	**2.08**	**214**	P	**Pb**	**06 47 36.8**	**-0.7**
BSO3	**Boso 3**	**2.20**	**225**	P	**Pn**	**06 47 38.2**	**+2.0**
MJAR	**Matsushiro Arr**	**3.38**	**274**	Pn	**Pn**	**06 47 54.4**	**+1.8**
	6.8nm,0.3s,baz=77,slow=14,SNR=43						
MJAR				Sn	**Sn**	**06 48 33.1**	**+0.7**
	2.0nm,0.3s,baz=76,slow=24,SNR=4.9						
MAT	**Matsushiro**	**3.38**	**274**	P	**Pn**	**06 47 55.2**	**+2.5**
MAT				S	**Sn**	**06 48 32.7**	**+0.2**
JCJ	**Chichijima**	**9.26**	**181**	Pn	**Pn**	**06 49 15.6**	**+2.1**
	2.8nm,0.3s,baz=294,slow=20,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**27.14**	**121**	T	T	07 21 37.6	
	baz=339						
H11N1	**WAKE ISLAND Hy**	**27.15**	**121**	T	T	07 21 37.6	
	baz=339						
H11N3	**WAKE ISLAND Hy**	**27.16**	**121**	T	T	07 21 37.6	
	baz=339						
H11S1	**WAKE ISLAND Hy**	**27.85**	**123**	T	T	07 22 30.5	
	baz=339						
H11S3	**WAKE ISLAND Hy**	**27.85**	**123**	T	T	07 22 30.5	
	baz=339						
H11S2	**WAKE ISLAND Hy**	**27.86**	**123**	T	T	07 22 30.5	
	baz=339						
SONM	**Songino Array**	**28.80**	**305**	P	P	06 52 53.8	-4.1
	0.2nm,0.3s,baz=72,slow=9.3,SNR=1.9						
WRA	**Warramunga Arr**	**56.53**	**189**	P	P	06 56 45.7	+3.5
	0.3nm,0.6s,baz=4.3,slow=7.1,SNR=4.4						
PDAR	**Pinedale Array**	**77.56**	**46**	P	P	06 58 50.7	-5.4
	0.2nm,0.5s,baz=298,slow=3.8,SNR=2.3						
MAW	**Mawson**	**119.29**	**206**	PKP	**PKPdf**	**07 05 47.5**	**-0.5**
	3.1nm,0.3s,baz=37,slow=7.4,SNR=8.3						
LPAZ	**La Paz**	**146.33**	**62**	PKPbc	**PKPdf**	**07 06 37.1**	**-3.5**
	0.2nm,0.4s,baz=302,slow=3.8,SNR=5.7						

*ISCJB **26** 06:57:25.0±0.3, 2.°46N±0.°05×128.°54E±0.°07, h33km, mb4.2/21, Error ellipse: s-maj=11.1km s-min=5.6km az=149.6*
*IDC **26** 06:57:31.6±2.2, 2.°29N×128.°51E, h88km±22km, mb3.8/15, mb1 3.9/17, mb1mx3.8/29, mbtmp4.1/17, Error ellipse: s-maj=20.7km s-min=12.9km az=71.0*
*NEIC **26** 06:57:32.3±1.2, 2.°32N×128.°48E, h94km±12km, mb4.5/6, Error ellipse: s-maj=14.0km s-min=10.1km az=63.0*

ISC 26 06:57:27.0±0.5, 2.°52N±0.°07×128.°54E±0.°08, h35km, n45, σ1§62/40, mb4.4/23, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.10**	**214**	*e*Pn	**Pn**	**06 58 02.2**	**+2.5**
SIJI	**Sorong**	**4.33**	**141**	P	**Pn**	**06 58 33.5**	**+3.0**
	8.0nm,0.3s,baz=338,slow=24,SNR=16						
SIJI				S	**Sn**	**06 59 20.7**	**+0.9**
	47nm,0.3s,baz=30,slow=23,SNR=33						
FAKI	**Fak Fak**	**6.55**	**146**	*e*Pn	Pn	06 59 05.5	+4.5
FAKI				*e*Sn	**Sn**	**07 00 15.1**	**+0.5**
KAPI	**Kappang**	**11.54**	**230**	P	**Pn**	**07 00 09.2**	**-0.2**
	1.0nm,0.3s,baz=23,slow=15,SNR=2.6						
KAPI	**Kappang**	**11.54**	**230**	*e*Pn	**Pn**	**07 00 11.7**	**+2.3**
WRAB	**Tennant Creek**	**23.03**	**166**	*e*P	**P**	**07 02 28.1**	**-1.2**
	31nm,1.8s						
WRA	**Warramunga Arr**	**23.04**	**166**	P	**P**	**07 02 27.4**	**-1.9**
	2.2nm,0.4s,baz=343,slow=11,SNR=30						
ASAR	**Alice Springs**	**26.55**	**169**	P	**P**	**07 02 59.9**	**-2.0**
	1.0nm,0.5s,baz=347,slow=7.6,SNR=20						
GSI	**Gunungsitoli**	**30.97**	**268**	*e*P	**P**	**07 03 40.3**	**-1.1**
	10nm,0.4s						
CMAR	**Chiang Mai Arr**	**33.04**	**301**	P	**P**	**07 04 01.2**	**+1.8**
	1.0nm,0.4s,baz=123,slow=9.1,SNR=6.6						
KSAR	**Wonju Array Be**	**34.76**	**359**	P	**P**	**07 04 15.4**	**+1.3**
KSRS	**Korea Array**	**34.77**	**359**	P	**P**	**07 04 15.4**	**+1.3**
	2.7nm,0.5s,baz=172,slow=9.4,SNR=9.9						
MAJO	**Matsushiro**	**35.01**	**14**	*e*P	**P**	**07 04 16.4**	**+0.1**
	8.5nm,0.7s						
MAT	**Matsushiro**	**35.01**	**14**	P	**P**	**07 04 17.0**	**+0.7**
MJAR	**Matsushiro Arr**	**35.01**	**14**	P	**P**	**07 04 16.4**	**+0.1**
	4.7nm,0.8s,baz=187,slow=10.0,SNR=17						
STKA	**Stephens Creek**	**36.39**	**161**	P	**P**	**07 04 26.3**	**-1.9**
	1.1nm,0.4s,baz=337,slow=7.4,SNR=5.5						
STKA	**Stephens Creek**	**36.39**	**161**	*e*P	**P**	**07 04 27.0**	**-1.1**
	0.6nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**40.59**	**64**	T	T	07 48 30.0	
	baz=251,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**40.60**	**64**	T	T	07 48 29.4	
	baz=251,slow=75,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**40.61**	**64**	T	T	07 48 29.5	
	baz=251,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**41.17**	**63**	T	T	07 49 14.9	
	baz=250,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**41.18**	**63**	T	T	07 49 14.6	
	baz=250,slow=75,SNR=8.9						
H11N3	**WAKE ISLAND Hy**	**41.19**	**63**	T	T	07 49 18.9	
	baz=250,slow=75,SNR=13						
USRK	**Ussuriysk Ar.**	**41.62**	**4**	P	**P**	**07 05 14.3**	**+2.6**
	0.7nm,0.4s,baz=181,slow=7.7,SNR=4.1						
LSA	**Lhasa**	**44.59**	**311**	*e*P	**P**	**07 05 39.1**	**+2.5**
	4.1nm,0.6s						
TAPN	**Taejung**	**46.19**	**306**	*e*P	**P**	**07 05 48.3**	**-0.8**
ODAN	**Odarc**	**46.24**	**306**	*e*P	**P**	**07 05 50.7**	**+1.2**
RAMN	**Ramite**	**46.92**	**305**	*e*P	**P**	**07 05 56.4**	**+1.6**
GUN	**Gumba**	**47.89**	**306**	*e*P	**P**	**07 06 03.1**	**+0.6**
	18nm,0.4s						
PKI	**Pulchoki**	**48.14**	**305**	*e*P	**P**	**07 06 04.7**	**+0.3**
KKN	**Kakani**	**48.33**	**306**	*e*P	**P**	**07 06 06.5**	**+0.8**
	7.9nm,0.4s						
DMN	**Daman**	**48.40**	**305**	*e*P	**P**	**07 06 07.1**	**+0.8**
SONM	**Songino Array**	**49.02**	**340**	P	**P**	**07 06 11.7**	**+1.1**
	0.9nm,0.6s,baz=141,slow=8.4,SNR=2.4						
KOLN	**Kolkanda**	**49.69**	**305**	*e*P	**P**	**07 06 17.4**	**+1.2**
	18nm,0.5s						
PETK	**Petropavlovsk-**	**55.88**	**21**	P	**P**	**07 07 03.5**	**+2.3**
	3.8nm,0.7s,baz=164,slow=6.0,SNR=4.3						
ZALV	**Zalesovo Beam**	**62.48**	**333**	P	**P**	**07 07 46.3**	**-0.5**
	0.7nm,0.5s,baz=126,slow=9.1,SNR=3.0						
GEYT	**Alibeck**	**73.06**	**309**	P	**P**	**07 08 54.0**	**+0.1**
	2.1nm,0.5s,baz=107,slow=1.5,SNR=3.4						
ABKAR	**Akbulak array**	**74.22**	**321**	*e*P	**P**	**07 08 59.5**	**-0.9**
	5.1nm,1.1s						
ILAR	**Eielson Array**	**85.41**	**25**	P	**P**	**07 09 59.9**	**-0.8**
	0.2nm,0.4s,baz=246,slow=5.0,SNR=6.9						
BRTR	**Keskin Array B**	**92.18**	**310**	P	**P**	**07 10 31.5**	**-2.1**
	0.3nm,0.4s,baz=45,slow=6.3,SNR=2.8						
ARCES	**ARCESS Array B**	**92.20**	**340**	P	**P**	**07 10 31.2**	**-1.6**
	1.3nm,0.7s,baz=80,slow=6.5,SNR=10						
FINES	**FINESS Array B**	**93.74**	**332**	P	**P**	**07 10 37.7**	**-2.3**
	1.3nm,1.0s,baz=72,slow=8.9,SNR=3.1						
YKA	**Yellowknife Ar**	**99.84**	**25**	P	**Pdif**	**07 11 06.1**	**-1.5**
	0.2nm,0.7s,baz=295,slow=4.8,SNR=3.0						
TXAR	**Lajitas Array**	**120.88**	**54**	PKP	**PKPdf**	**07 16 14.9**	**-1.7**
	0.3nm,0.8s,baz=159,slow=2.8,SNR=2.4						
TORD	**Torodi Ar. Bea**	**125.01**	**288**	PKP	**PKPdf**	**07 16 22.0**	**-2.7**
	0.7nm,0.8s,baz=58,slow=1.7,SNR=4.7						

DJA 26 07:10:25.2±0.4, 2.°5±4.°3×13.°6E±.°, h10km, M4.0/5, MLv4.0/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.24**	**272**	P	Pg	07 10 31.0	+0.9
SRPI				S	Sg	07 10 34.3	+0.8
BAKI	**Biak**	**0.78**	**331**	P	Pg	07 10 39.9	-0.4
BAKI				S	Sg	07 10 50.7	+0.2
SMPI	**Sarmi**	**2.23**	**93**	P	Pg	07 11 08.0	0.0
RKPI	**Ransiki, Papua**	**2.33**	**279**	P	Pn	07 11 03.6	0.0
RKPI				S	Sn	07 11 33.8	+1.4
GENI	**Genyem**	**3.75**	**101**	P	Pn	07 11 22.3	-0.9
JAY	**Jayapura**	**4.27**	**99**	P	Pn	07 11 29.9	-0.5

*IDC **26** 07:29:00.9±1.1, 10.°56S×161.°56E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/34, mbtmp3.8/7, ML3.6/1, MS4.8/1, Ms1 4.8/1, ms1mx3.6/35, Error ellipse: s-maj=42.6km s-min=23.1km az=138.0*
*ISCJB **26** 07:29:01.0±0.8, 10.°7S±0.°1×161.°6E±0.°1, h10km, mb3.5/6, MS4.7/1, Error ellipse: s-maj=16.3km s-min=15.1km az=164.8*

ISC 26 07:29:02.4±0.9, 10.°6S±0.°1×161.°5E±0.°1, h10km, n10, σ0§62/9, mb3.6/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.88**	**306**	*e*P	**Pg**	**07 29 38.0**	**-0.4**
DZM	**Mont Dzumac**	**12.40**	**158**	Pn	**Pn**	**07 31 59.0**	**-0.2**
	43nm,0.3s,baz=323,slow=20,SNR=3.4						
CTA	**Charters Tower**	**17.46**	**235**	P	**P**	**07 33 07.0**	**-0.5**
	0.1nm,0.3s,baz=56,slow=13,SNR=2.8						
WRA	**Warrmunga Arr**	**27.76**	**247**	P	**P**	**07 34 52.4**	**+0.8**
	0.3nm,0.6s,baz=77,slow=9.2,SNR=6.1						
ASAR	**Alice Springs**	**29.33**	**240**	P	**P**	**07 35 05.9**	**+0.3**
	0.4nm,0.8s,baz=64,slow=10,SNR=4.1						
RPZ	**Rata Peaks**	**34.07**	**168**	LR	LR	07 47 19.3	
	comp=Z,1μm,21.6s,baz=116,slow=32						
SONM	**Songino Array**	**75.83**	**325**	P	**P**	**07 40 49.9**	**+0.9**
	0.8nm,0.6s,baz=130,slow=6.0,SNR=3.5						
ILAR	**Eielson Array**	**84.43**	**20**	P	**P**	**07 41 34.9**	**0.0**
	0.5nm,0.9s,baz=240,slow=5.3,SNR=6.7						
NVAR	**Mina Array Bea**	**88.94**	**51**	P	**P**	**07 41 57.8**	**0.0**
	0.4nm,0.8s,baz=220,slow=6.9,SNR=3.1						
YKA	**Yellowknife Ar**	**96.48**	**28**	P	**P**	**07 42 31.2**	**-0.5**
	0.1nm,0.6s,baz=266,slow=4.8,SNR=3.6						

*ISCJB **26** 07:30:22.4±0.6, 18.°23S±0.°06×168.°52E±0.°10, h35km, mb4.4/16, Error ellipse: s-maj=14.1km s-min=6.8km az=19.6*
*IDC **26** 07:30:25.5±5.1, 18.°15S×168.°59E, h55km±46km, mb4.0/10, mb1 4.2/10, mb1mx4.0/20, mbtmp4.3/10, ML5.4/1, Error ellipse: s-maj=28.9km s-min=25.6km az=175.0*
*NEIC **26** 07:30:26.6±2.5, 18.°11S×168.°52E, h61km±22km, mb4.6/11, Error ellipse: s-maj=16.4km s-min=13.4km az=188.0*
*NOU **26** 07:30:29.6±1.7, 18.°32S×168.°24E, h30km, MD3.5, ML4.8, MS7.1*

ISC 26 07:30:23.8±0.6, 18.°19S±0.°07×168.°6E±0.°1, h35km, n38, σ1§88/44, mb4.5/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**2.87**	**206**	*e*P	**Pn**	**07 31 07.9**	**+0.8**
LIFNC				*e*S	**Sn**	**07 31 36.9**	**-3.6**
LIFNC				AMP		07 31 40.7	
	comp=Z,24800μm,20.5s						
BAYA	**Yate Dam**	**4.26**	**202**	*e*P	**Pn**	**07 31 28.6**	**+2.5**
BAYA				*e*S	**Sn**	**07 32 11.3**	**-3.4**
DZM	**Mont Dzumac**	**4.36**	**207**	P	**Pn**	**07 31 29.6**	**+1.9**
	comp=Z,207nm,0.3s,baz=90,slow=20,SNR=783						
DZM				S	**Sn**	**07 32 15.6**	**-1.7**
	comp=Z,200nm,0.3s,baz=299,slow=18,SNR=6.6						
DZM	**Mont Dzumac**	**4.36**	**207**	*e*P	**Pn**	**07 31 30.0**	**+2.4**
DZM				*e*S	**Sn**	**07 32 14.7**	**-2.6**
DZM				AMP		07 32 21.9	
	comp=Z,24μm,0.8s						
DZM	**Mont Dzumac**	**4.36**	**207**	*e*Pn	**Pn**	**07 31 29.9**	**+2.3**
DZM				*e*S	**Sn**	**07 32 15.7**	**-1.7**
NOUC	**Port Laguerre**	**4.45**	**209**	*e*P	**Pn**	**07 31 29.9**	**+1.1**
NOUC				*e*S	**Sn**	**07 32 14.9**	**-4.4**
NOUC				AMP		07 32 20.4	
	comp=Z,834nm,2.7s						
MSVF	**Nonsavu**	**9.01**	**89**	*e*Pn	Pn	07 32 42.3	+11
	comp=Z,105nm,1.2s						
EIDS	**Eidsvold**	**17.75**	**243**	*e*P	**P**	**07 34 32.7**	**+3.9**
	comp=Z,12nm,0.8s						
ARMA	**Armidale**	**19.65**	**229**	*e*P	**Pn**	**07 34 52.4**	**+1.1**
	comp=Z,16nm,1.0s						
URZ	**Urewera**	**21.34**	**161**	P	**P**	**07 35 08.3**	**+0.5**
	comp=Z,4.8nm,0.7s,baz=3.6,slow=16,SNR=3.0						
URZ	**Urewera**	**21.34**	**161**	*e*P	**P**	**07 35 10.7**	**+2.9**
	comp=Z,109nm,1.8s						
COEN	**Coen**	**24.77**	**276**	*e*P	**P**	**07 35 42.1**	**-0.4**
STKA	**Stephens Creek**	**27.91**	**236**	P	**P**	**07 36 11.2**	**+0.6**
	comp=Z,6.8nm,0.7s,baz=67,slow=8.8,SNR=22						
STKA	**Stephens Creek**	**27.91**	**236**	*e*P	**P**	**07 36 11.3**	**+0.6**
	comp=Z,1.7nm,0.8s						
WRAB	**Tennant Creek**	**32.38**	**261**	*e*P	**P**	**07 36 49.9**	**-0.5**
	comp=Z,7.3nm,1.2s						
WRA	**Warramunga Arr**	**32.39**	**261**	P	**P**	**07 36 49.9**	**-0.6**
	comp=Z,2.9nm,1.0s,baz=85,slow=8.4,SNR=15						
AS31	**Alice Springs**	**32.80**	**254**	*e*P	**P**	**07 36 53.8**	**-0.3**
ASAR	**Alice Springs**	**32.80**	**254**	P	**P**	**07 36 53.8**	**-0.3**
	comp=Z,7.6nm,0.4s,baz=84,slow=8.4,SNR=119						
FORT	**Forrest**	**38.76**	**243**	*e*P	**P**	**07 37 45.3**	**+0.3**
	comp=Z,22nm,0.8s						
MBWA	**Marble Bar**	**45.96**	**258**	*e*P	**P**	**07 38 44.3**	**+0.5**
	comp=Z,10nm,0.7s						
VNDA	**Vanda**	**59.46**	**182**	P	**P**	**07 40 22.1**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=358,slow=6.5,SNR=5.4						
VNDA	**Vanda**	**59.46**	**182**	*e*P	**P**	**07 40 22.4**	**-0.3**
	comp=Z,3.9nm,1.1s						
SBA	**Scott Base**	**59.70**	**180**	*e*P	**P**	**07 40 25.0**	**+0.6**
	comp=Z,5.8nm,0.7s						
QSPA	**South Pole Qui**	**71.86**	**180**	*e*P	**P**	**07 41 42.5**	**-0.6**
	comp=Z,8.2nm,1.2s						
SEY	**Seymchan**	**81.85**	**353**	P	**P**	**

0.9nm,0.9s,baz=98,slow=8.1,SNR=11
ASAR Alice Springs 44.56 256 P P 08 13 35.6 +0.1
0.4nm,0.5s,baz=97,slow=7.5,SNR=10
ILAR Eielson Array 87.46 13 P P 08 18 10.0 -0.3
0.3nm,1.0s,baz=222,slow=4.9,SNR=4.0
PDAR Pinedale Array 88.42 43 P P 08 18 16.1 +0.2
0.2nm,0.4s,baz=217,slow=2.8,SNR=2.9

SJA 26 08:25:08.3±0.5,31°.36S×68°.74W,h97km±3km, MD2.7, ML1.4,MW4.6,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.23**	**81**	*e*P	Pn	08 25 22.9	+0.6
RTLL				*e*S	Sn	08 25 33.7	+0.9
AMOG	**MOGNA**	**0.47**	**27**	*e*P	Pn	08 25 24.2	+0.4
CFAA	**Coronel Fontan**	**0.49**	**119**	*e*P	Pn	08 25 24.6	+0.8
CFAA				*e*S	Sn	08 25 36.4	+1.0
RTLS	**Leoncito**	**0.64**	**227**	*e*P	Pn	08 25 26.5	+1.2
RTLS				*e*S	Sn	08 25 40.1	+2.1
RTLS				IAML		08 25 40.9	
AUSP	**Uspallata**	**1.02**	**212**	*e*P	Pn	08 25 30.3	+1.2
AUSP				*e*S	Sn	08 25 46.2	+1.5
ARCO	**CERRO ARCO**	**1.48**	**186**	IAML		08 26 00.2	
	comp=Z,4.3nm,0.3s						
ACAN	**Cantantal**	**1.60**	**125**	*e*P	Pn	08 25 36.9	+1.1

IDC ***26*** *08:56:19.4±0.4,32°.90S×177°.93W,h0km,mb4.8/15, mb1 4.9/18,mb1mx4.9/22,mbtmp4.8/18,ML5.0/3,MS4.4/4, Ms1 4.4/4,ms1mx3.7/33,Error ellipse: s-maj=17.4km s-min=13.9km az=103.0*
BJI ***26*** *08:56:22.8,32°.90S×177°.90W,h40km,mb5.4/18, mB5.7/11,Ms5.2/5,Ms7 4.9/5*
ISCJB ***26*** *08:56:23.6±0.1,33°.02S±0°.03×178°.01W±0°.05,h34km, mb5.0/47,MS4.3/3,Error ellipse: s-maj=6.7km s-min=2.5km az=34.2*
MOS ***26*** *08:56:24.6±1.4,32°.86S×178°.11W,h33km,mb5.1/17, Error ellipse: s-maj=16.5km s-min=11.7km az=100.6*
NEIC ***26*** *08:56:24.8±0.7,32°.92S×177°.93W,h35km±6km,mb5.2/39, Error ellipse: s-maj=7.5km s-min=5.2km az=117.0*

ISC 26 08:56:24.5±0.3,32°.96S±0°.04×177°.86W±0°.07,h34km, n356,σ18°26/371,mb5.1/47,MS4.4/3,20C-22D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.70**	**359**	Pn	**Pn**	**08 57 17.8**	**-1.5**
	313nm,0.3s,baz=100,slow=18,SNR=7.9						
RAO				Sn	**Sn**	**08 58 00.4**	**-1.2**
	1μm,0.3s,baz=98,slow=23,SNR=16						
RAO	**Raoul Island**	**3.70**	**359**	P	**Pn**	**08 57 17.8**	**-1.5**
RAO						08 58 00.4	
RAO				pmax	pmax		
	comp=Z,313nm,0.3s						
RAO	**Raoul Island**	**3.70**	**359**	*e*Pn	**Pn**	**08 57 17.6**	**-1.6**
RAO				*e*Sn	**Sn**	**08 58 03.0**	**+1.4**
MXZ	**Matakaoa Point**	**5.56**	**213**	PN	**Pn**	**08 57 46.3**	**+1.4**
MXZ				SN	**Sn**	**08 58 51.1**	**+3.5**
WMGZ	**Waiomatatini S**	**5.72**	**211**	PN	**Pn**	**08 57 48.6**	**+1.5**
WMGZ				SN	**Sn**	**08 58 54.8**	**+3.2**
HAZ	**Te Kaha**	**5.96**	**215**	PN	**Pn**	**08 57 52.5**	**+2.2**
HAZ				SN	**Sn**	**08 59 02.2**	**+4.8**
PUZ	**Puketiti**	**6.00**	**211**	PN	**Pn**	**08 57 51.7**	**+0.7**
TWGZ	**Tauwhareparae**	**6.21**	**212**	PN	**Pn**	**08 57 55.3**	**+1.5**
CNGZ	**Carnagh Static**	**6.37**	**209**	PN	**Pn**	**08 57 56.8**	**+0.8**
TKGZ	**Te Karaka**	**6.49**	**211**	PN	**Pn**	**08 57 58.2**	**+0.6**
MWZ	**Matawai**	**6.55**	**214**	PN	**Pn**	**08 57 58.9**	**+0.4**
OPRZ	**Ohinepanea**	**6.67**	**221**	PN	**Pn**	**08 58 02.0**	**+1.8**
URZ	**Urewera**	**6.69**	**216**	Pn	**Pn**	**08 57 59.5**	**-0.9**
	comp=Z,7.2nm,0.3s,baz=279,slow=5.1,SNR=50						
URZ				Sn	**Sn**	**08 59 15.9**	**+0.6**
	comp=Z,58nm,0.3s,baz=202,slow=18,SNR=12						
URZ	**Urewera**	**6.69**	**216**	PN	**Pn**	**08 58 00.9**	**+0.6**
URZ	**Urewera**	**6.69**	**216**	*e*Pn	**Pn**	**08 58 01.9**	**+1.6**
URZ				*e*Sn	**Sn**	**08 59 17.4**	**+2.1**
RAGZ	**Rawiri**	**6.73**	**213**	PN	**Pn**	**08 58 01.7**	**+0.7**
RIGZ	**Rimuhau**	**6.75**	**211**	PN	**Pn**	**08 58 01.9**	**+0.7**
PRGZ	**Paritu Road**	**6.88**	**209**	PN	**Pn**	**08 58 03.3**	**+0.3**
KNZ	**Kokohu**	**7.05**	**210**	*e*PN	**Pn**	**08 58 04.9**	**-0.4**
MKAZ	**Moumakai**	**7.06**	**232**	PN	Pn	08 58 10.7	+5.3
WCZ	**Waipu Caves**	**7.09**	**243**	PN	Pn	08 58 11.2	+5.3
RAHZ	**Arahi**	**7.22**	**213**	*e*PN	**Pn**	**08 58 08.7**	**+1.0**
OUZ	**Omahuta**	**7.43**	**250**	PN	Pn	08 58 15.5	+4.9
OUZ	**Omahuta**	**7.43**	**250**	*e*P	Pn	08 58 15.7	+5.1
NMHZ	**Naumai**	**7.49**	**214**	*e*PN	**Pn**	**08 58 11.9**	**+0.4**
BKZ	**Black Stump Fm**	**7.70**	**215**	PN	**Pn**	**08 58 14.8**	**+0.5**
BKZ	**Black Stump Fm**	**7.70**	**215**	*e*Pn	**Pn**	**08 58 15.2**	**+0.9**
BKZ				*e*Sn	**Sn**	**08 59 42.2**	**+1.9**
MCHZ	**McNeill Hill**	**7.82**	**213**	*e*PN	**Pn**	**08 58 17.5**	**+1.6**
OTVZ	**Oturere**	**8.11**	**218**	PN	**Pn**	**08 58 20.8**	**+0.7**
KRHZ	**Kereru**	**8.13**	**213**	PN	**Pn**	**08 58 20.8**	**+0.6**
BHHZ	**Black Hill Sta**	**8.16**	**215**	*e*PN	**Pn**	**08 58 20.6**	**0.0**
PXZ	**Pawanui**	**8.24**	**210**	*e*PN	**Pn**	**08 58 19.1**	**-2.4**
MOVZ	**Moawhango**	**8.25**	**217**	PN	**Pn**	**08 58 22.7**	**+0.9**
PNHZ	**Pukenui**	**8.43**	**213**	PN	**Pn**	**08 58 24.1**	**-0.2**
POWZ	**Post Office Ro**	**9.01**	**213**	PN	**Pn**	**08 58 30.8**	**-1.4**
MRZ	**Mangatainoka R**	**9.31**	**212**	PN	**Pn**	**08 58 34.1**	**-2.2**
OGWZ	**Otaki Gorge**	**9.62**	**213**	*e*PN	**Pn**	**08 58 39.1**	**-1.5**
KIW	**Kapiti Island**	**9.78**	**214**	PN	**Pn**	**08 58 42.1**	**-0.6**
CAW	**Cannon Point**	**9.90**	**213**	PN	**Pn**	**08 58 44.5**	**+0.1**
SNZO	**South Karori**	**10.23**	**213**	*e*Pn	**Pn**	**08 58 48.5**	**-0.4**
SNZO				*e*Sn	**Sn**	**09 00 37.7**	**-4.5**
TCW	**Tory Channel**	**10.35**	**215**	SN	Sn	09 00 37.5	-7.9
TUWZ	**Tuamarina**	**10.68**	**215**	PN	**Pn**	**08 58 53.2**	**-1.9**
CTZ	**Chatham Island**	**10.80**	**175**	PN	**Pn**	**08 58 56.2**	**-0.5**
NNZ	**Nelson**	**10.80**	**218**	PN	**Pn**	**08 58 55.2**	**-1.5**
THZ	**Tophouse**	**11.45**	**217**	*e*Pn	**Pn**	**08 59 03.0**	**-2.6**
THZ				*e*SN	Sn	09 01 04.5	-7.8
KHZ	**Kahutara**	**11.63**	**213**	*e*Pn	**Pn**	**08 59 08.5**	**+0.4**
KHZ				*e*Sn	Sn	09 01 10.9	-5.8
LTZ	**Lake Taylor**	**12.52**	**216**	PN	**Pn**	**08 59 19.2**	**-1.1**
LTZ				*e*SN	Sn	09 01 27.1	-11
OXZ	**Oxford**	**13.04**	**215**	*e*PN	Pn	08 59 24.0	-3.3
MQZ	**McQueen's Vall**	**13.05**	**212**	*e*PN	**Pn**	**08 59 24.8**	**-2.6**
MQZ				SN	Sn	09 01 37.9	-13
WVZ	**Waitaha Valley**	**13.51**	**218**	*e*PN	**Pn**	**08 59 31.8**	**-1.9**
RPZ	**Rata Peaks**	**13.80**	**216**	Pn	**Pn**	**08 59 35.2**	**-2.6**
	comp=Z,12nm,0.3s,baz=32,slow=1.2,SNR=58						
RPZ				Sn	Sn	09 01 57.3	-13
	comp=Z,7.3nm,0.3s,baz=8.4,slow=19,SNR=10						
RPZ	**Rata Peaks**	**13.80**	**216**	*e*Pn	Pn	08 59 34.4	-3.3
RPZ	**Rata Peaks**	**13.80**	**216**	*e*Pn	**Pn**	**08 59 36.3**	**-1.5**
RPZ				*e*Sn	Sn	09 02 01.1	-8.7
FOZ	**Fox Glacier**	**14.39**	**219**	*e*PN	Pn	08 59 41.9	-3.8
LBZ	**Lake Benmore**	**14.72**	**216**	PN	**Pn**	**08 59 48.1**	**-2.2**
ODZ	**Otahua Downs**	**15.00**	**213**	*e*PN	**Pn**	**08 59 51.4**	**-2.5**
MSVF	**Nonsavu**	**15.60**	**345**	Pn	**Pn**	**09 00 02.9**	**+0.9**
	comp=Z,1μm,1.4s,SNR=26						
MSVF	**Nonsavu**	**15.60**	**345**	*e*P	**Pn**	**09 00 02.4**	**+0.4**
MSVF	**Nonsavu**	**15.60**	**345**	*e*P	**Pn**	**09 00 01.8**	**-0.2**
	comp=Z,234nm,1.2s						
WHZ	**Wether Hill Ro**	**16.91**	**216**	PN	**Pn**	**09 00 16.4**	**-2.0**
WHZ	**Wether Hill Ro**	**16.91**	**216**	*e*P	**Pn**	**09 00 16.8**	**-1.6**
	comp=Z,39nm,0.6s						
DCZ	**Deep Cove**	**17.02**	**218**	*e*Pn	**Pn**	**09 00 19.1**	**-0.8**
	comp=Z,396nm,2.6s						
APZ	**The Paps**	**17.56**	**214**	PN	**Pn**	**09 00 26.2**	**-0.4**
DZM	**Mont Dzumac**	**17.62**	**304**	LR	LR	09 05 55.5	
	comp=Z,2μm,20.5s,baz=180,slow=33						
DZM	**Mont Dzumac**	**17.62**	**304**	*e*P	**P**	**09 00 30.4**	**+2.1**
NOUC	**Port Laguerre**	**17.70**	**304**	*e*P	**P**	**09 00 29.4**	**+0.3**
AFI	**Afiamalu**	**19.76**	**18**	*e*P	**P**	**09 00 51.6**	**-0.1**
	comp=Z,40nm,1.1s						
AFI				*e*S	S	09 04 19.7	-13
ARMA	**Armidale**	**26.04**	**267**	*e*P	**P**	**09 01 58.1**	**+3.3**
	comp=Z,16nm,1.0s						
EIDS	**Eidsvold**	**28.08**	**277**	*e*P	**P**	**09 02 14.7**	**+1.6**
	comp=Z,58nm,1.6s						
TAU	**Tasmania Unive**	**29.02**	**240**	*e*P	**P**	**09 02 23.0**	**+1.8**
	comp=Z,26nm,0.8s						
PPT	**Papeete**	**29.70**	**66**	LR	LR	09 13 03.9	
	comp=Z,387nm,19.8s,baz=258,slow=34						
STKA	**Stephens Creek**	**34.09**	**261**	P	**P**	**09 03 05.3**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=100,slow=9.6,SNR=7.9						
STKA				PcP	**PcP**	**09 05 43.0**	**0.0**
	comp=Z,6.0nm,0.7s,baz=97,slow=2.5,SNR=5.1						
STKA				LR	LR	09 16 02.3	
	comp=Z,744nm,18.2s,baz=55,slow=35						
STKA	**Stephens Creek**	**34.09**	**261**	P	**P**	**09 03 05.3**	**-0.7**
STKA						09 05 43.0	
STKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
STKA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
STKA				MLR	MLR		
	comp=Z,744nm,18.2s						
STKA	**Stephens Creek**	**34.09**	**261**	*e*P	**P**	**09 03 06.5**	**+0.5**
	comp=Z,2.5nm,1.3s						
STKA				PcP	**PcP**	**09 05 43.0**	**0.0**
CTA	**Charters Tower**	**34.40**	**283**	P	**P**	**09 03 08.2**	**-0.5**
	comp=Z,20nm,0.5s,baz=110,slow=10,SNR=50						
CTA	**Charters Tower**	**34.40**	**283**	P	**P**	**09 03 08.3**	**-0.5**
CTA				pmax	pmax		
	comp=Z,20nm,0.5s						
CTAO	**Charters Tower**	**34.40**	**283**	*e*P	**P**	**09 03 10.2**	**+1.4**
	comp=Z,22nm,0.6s						
COEN	**Coen**	**40.14**	**289**	*e*P	**P**	**09 03 58.5**	**+1.0**
	comp=Z,11nm,0.6s						
AS31	**Alice Springs**	**43.15**	**270**	*e*P	**P**	**09 04 21.4**	**-0.7**
ASAR	**Alice Springs**	**43.15**	**270**	P	**P**	**09 04 21.5**	**-0.6**
	comp=Z,8.7nm,0.7s,baz=108,slow=7.2,SNR=138						
ASAR				PcP	**PcP**	**09 06 11.3**	**0.0**
	comp=Z,5.4nm,0.5s,baz=117,slow=4.0,SNR=5.6						
ASAR				ScP	**ScP**	**09 10 01.1**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=118,slow=5.3,SNR=4.4						
ASAR	**Alice Springs**	**43.15**	**270**	P	**P**	**09 04 21.5**	**-0.6**
ASAR						09 06 11.3	
ASAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
WRAB	**Tennant Creek**	**44.36**	**275**	P	**P**	**09 04 31.0**	**-0.8**
	comp=Z,136nm,0.6s,SNR=39						
WRAB	**Tennant Creek**	**44.36**	**275**	*c iP*	**P**	**09 04 31.5**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,70nm,1.2s						
WRAB	**Tennant Creek**	**44.36**	**275**	*e*P	**P**	**09 04 31.4**	**-0.3**
	comp=Z,27nm,0.7s						
WRA	**Warramunga Arr**	**44.37**	**275**	P	**P**	**09 04 31.3**	**-0.6**
	comp=Z,10.0nm,0.4s,baz=113,slow=8.1,SNR=322						
WRA				PcP	**PcP**	**09 06 15.2**	**-0.4**
	comp=Z,7.7nm,0.8s,baz=118,slow=3.3,SNR=5.5						
WRA				ScP	**ScP**	**09 10 06.4**	**+1.4**
	comp=Z,5.4nm,1.1s,baz=117,slow=4.4,SNR=8.1						
WRA	**Warramunga Arr**	**44.37**	**275**	P	**P**	**09 04 31.3**	**-0.6**
WRA						09 06 15.2	
WRA				pmax	pmax		
	comp=Z,10.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WRA				pmax	pmax		
	comp=N,5.0nm,1.1s						
SBA	**Scott Base**	**45.50**	**185**	*e*P	P	09 04 43.9	+3.8
	comp=N,47nm,1.2s						
FORT	**Forrest**	**45.55**	**257**	*e*P	**P**	**09 04 40.6**	**-0.6**
	comp=N,45nm,0.8s						
VNDA	**Vanda**	**45.57**	**186**	P	**P**	**09 04 41.3**	**+0.6**
	comp=N,4.3nm,0.7s,baz=22,slow=8.4,SNR=12						
VNDA	**Vanda**	**45.57**	**186**	P	**P**	**09 04 41.3**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
VNDA	**Vanda**	**45.57**	**186**	*e*P	**P**	**09 04 42.7**	**+2.0**
	comp=Z,5.1nm,0.8s						
CASY	**Casey**	**52.95**	**209**	*e*P	**P**	**09 05 37.5**	**+0.4**
	comp=Z,31nm,0.9s						
MBWA	**Marble Bar**	**56.10**	**265**	*e*P	**P**	**09 05 59.4**	**-1.3**
	comp=Z,12nm,0.7s						
QSPA	**South Pole Qui**	**57.16**	**180**	P	**P**	**09 06 08.5**	**+0.7**
	comp=Z,25nm,0.7s,baz=35,slow=3.6,SNR=168						
QSPA				LR	LR	09 26 06.8	
	comp=Z,301nm,21.5s,baz=6.0,slow=31						
QSPA	**South Pole Qui**	**57.16**	**180**	*e*P	**P**	**09 06 09.6**	**+1.8**
	comp=Z,41nm,0.9s						
PMSA	**Palmer Station**	**69.89**	**155**	*e*P	**P**	**09 07 32.4**	**+0.7**
	comp=Z,41nm,0.8s						
MAW	**Mawson**	**69.96**	**201**	P	**P**	**09 07 32.9**	**+0.9**
	comp=Z,8.9nm,1.0s,baz=114,slow=7.8,SNR=9.8						
MAW	**Mawson**	**69.96**	**201**	P	**P**	**09 07 32.9**	**+0.9**
MAW				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MAW	**Mawson**	**69.96**	**201**	*e*P	**P**	**09 07 33.2**	**+1.2**
	comp=Z,3.3nm,0.8s						
MAW				*e*		09 07 45.0	
SYO	**Syowa Base**	**74.66**	**193**	*e*P	**P**	**09 07 59.0**	**-1.0**
SNAA	**Sanae**	**75.60**	**178**	P	**P**	**09 08 03.1**	**-2.4**
SNAA	**Sanae**	**75.60**	**178**	*c iP*	**P**	**09 08 03.0**	**-2.6**
SNAA				pmax	pmax		
	comp=Z,29nm,1.3s						
SNAA	**Sanae**	**75.60**	**178**	*e*P	**P**	**09 08 02.9**	**-2.6**
	comp=Z,22nm,1.0s						
VNA2	**Neumayer--Watz**	**76.19**	**177**	P	**P**	**09 08 09.3**	**+0.5**
	baz=175,slow=5.8						
VNA1	**Neumayer--Stat**	**76.42**	**176**	P	**P**	**09 08 10.8**	**+0.7**
MJAR	**Matsushiro Arr**	**80.41**	**325**	P	**P**	**09 08 32.0**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=161,slow=5.4,SNR=3.9						
MJAR	**Matsushiro Arr**	**80.41**	**325**	P	**P**	**09 08 32.0**	**-0.5**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
EFI	**East Falkland**	**80.59**	**147**	*e*P	**P**	**09 08 33.9**	**+0.5**
	comp=Z,62nm,0.8s						
ASAJ	**Asahikawa**	**84.76**	**333**	*e*P	**P**	**09 08 57.0**	**+2.1**
	comp=Z,12nm,1.2s						
GSI	**Gunungsitoli**	**86.13**	**274**	*e*P	**P**	**09 09 02.0**	**-0.6**
	comp=Z,30nm,0.6s						
KSRS	**Korea Array**	**86.37**	**320**	P	**P**	**09 09 03.7**	**+0.6**
	comp=Z,3.8nm,0.7s,baz=140,slow=5.8,SNR=15						
KSRS	**Korea Array**	**86.37**	**320**	P	**P**	**09 09 03.7**	**+0.6**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSAR	**Wonju Array Be**	**86.38**	**320**	P	**P**	**09 09 03.7**	**+0.5**
YSS	**Yuzh-Sakhalins**	**87.09**	**334**	*e*P	**P**	**09 09 07.5**	**+1.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
MURC	**Murrieta**	**87.39**	**47**	P	**P**	**09 09 09.6**	**+1.4**
	baz=88						
MONP	**Monument Peak,**	**87.39**	**48**	P	**P**	**09 09 09.7**	**+1.2**
	baz=88						
ARVC	**Arvin**	**87.45**	**45**	P	**P**	**09 09 09.7**	**+1.2**
	baz=88						
BFSC	**Mount Baldy Ra**	**87.55**	**46**	P	**P**	**09 09 10.0**	**+0.9**
	baz=88,SNR=6.8						
TRQA	**Tornquist**	**87.56**	**135**	*e*P	**P**	**09 09 09.7**	**+0.5**
	comp=Z,7.9nm,0.8s						
EDW2	**Edwards Air Fo**	**87.78**	**45**	P	**P**	**09 09 10.9**	**+0.7**
	baz=88,SNR=7.3						
VES	**Vestal, Richgr**	**87.80**	**44**	P	**P**	**09 09 10.7**	**+0.6**
	baz=88,SNR=10						
SWSC	**Sam W. Stewart**	**87.82**	**48**	P	**P**	**09 09 11.5**	**+1.3**
	baz=88						
PFO	**Pinyon Flats O**	**87.85**	**47**	*e*P	**P**	**09 09 12.5**	**+1.9**
PFO	**Pinyon Flats O**	**87.85**	**47**	P	**P**	**09 09 11.8**	**+1.2**
	baz=88						
NJ2	**Nanjing**	**87.99**	**311**	*e*P	P	09 09 06.3	-4.8
NJ2				PMZ			
	comp=Z,50nm,1.0s						
BBRC	**Big Bear Solar**	**88.01**	**46**	P	**P**	**09 09 13.2**	**+1.8**
	baz=88						
ISA	**Isabella, Lake**	**88.03**	**45**	P	**P**	**09 09 12.0**	**+0.6**
	baz=88,SNR=11						
ISA	**Isabella, Lake**	**88.03**	**45**	*e*P	**P**	**09 09 12.1**	**+0.8**
	comp=Z,30nm,1.2s						
PETK	**Petropavlovsk-**	**88.31**	**346**	P	**P**	**09 09 12.9**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=157,slow=9.4,SNR=2.8						
PETK	**Petropavlovsk-**	**88.31**	**346**	P	**P**	**09 09 12.9**	**+0.8**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
LRMC	**Laurel Mtn Rad**	**88.37**	**45**	P	**P**	**09 09 14.1**	**+1.1**
	baz=89,SNR=12						
BELC	**Belle Mtn. Jos**	**88.40**	**47**	P	**P**	**09 09 14.4**	**+1.2**
	baz=89,SNR=10						
GLA	**Glamis**	**88.50**	**48**	P	**P**	**09 09 15.0**	**+1.4**
	baz=89						
BC3	**Big Chuckawall**	**88.50**	**48**	P	**P**	**09 09 15.1**	**+1.5**
	baz=89,SNR=8.5						
CMB	**Columbia Colle**	**88.58**	**42**	*e*P	**P**	**09 09 14.2**	**+0.3**
	comp=Z,18nm,1.3s						
HEC	**Hector,Ludlow**	**88.75**	**46**	P	**P**	**09 09 16.2**	**+1.4**
	baz=89,SNR=6.6						
GSC	**Goldstone, Bar**	**88.78**	**46**	P	**P**	**09 09 16.1**	**+1.2**
	baz=89,SNR=12						
GSC	**Goldstone, Bar**	**88.78**	**46**	*e*P	**P**	**09 09 15.7**	**+0.8**
	comp=Z,28nm,1.4s						
CWC	**Cottonwood Cre**	**88.80**	**44**	P	**P**	**09 09 15.9**	**+0.9**
	baz=89						
MPMC	**Manual Prospec**	**88.89**	**45**	P	**P**	**09 09 16.8**	**+1.3**
	baz=89,SNR=12						
IRM	**Iron Mountain**	**89.03**	**47**	P	**P**	**09 09 17.8**	**+1.8**
	baz=89,SNR=9.1						
214A	**Organ Pipe Nat**	**89.07**	**50**	P	**P**	**09 09 17.6**	**+1.4**
	baz=89						
214A	**Organ Pipe Nat**	**89.07**	**50**	*e*P	**P**	**09 09 17.6**	**+1.4**
	comp=Z,8.4nm,0.9s						
GMRC	**Granite Mounta**	**89.13**	**47**	P	**P**	**09 09 18.1**	**+1.5**
	baz=89,SNR=7.4						
Y12C	**Blythe**	**89.15**	**48**	P	**P**	**09 09 18.3**	**+1.7**
	baz=89						
WDC	**Whiskeytown Da**	**89.23**	**39**	*e*P	**P**	**09 09 17.9**	**+1.2**
	comp=Z,9.5nm,1.0s						
USRK	**Ussuriysk Ar.**	**89.35**	**326**	P	**P**	**09 09 17.9**	**+0.6**
	comp=Z,9.8nm,0.8s,baz=137,slow=3.3,SNR=46						
TUQ	**Turquoise Moun**	**89.40**	**46**	P	**P**	**09 09 19.2**	**+1.4**
	baz=90						
N02D	**Trinity Center**	**89.43**	**38**	P	**P**	**09 09 19.7**	**+1.9**
	baz=90,SNR=5.6						
WAKR	**Walker**	**89.45**	**42**	*e*P	**P**	**09 09 18.1**	**0.0**
	comp=Z,17nm,1.3s						
SHOC	**Shoshone, Teco**	**89.50**	**46**	P	**P**	**09 09 19.6**	**+1.4**
	baz=90,SNR=7.6						
FURC	**Furnace Creek,**	**89.54**	**45**	P	**P**	**09 09 19.6**	**+1.4**
	baz=90,SNR=6.0						
GRAC	**Grapevine Rang**	**89.60**	**44**	P	**P**	**09 09 20.2**	**+1.5**
	baz=90,SNR=8.7						
M02C	**Callahan**	**89.65**	**38**	P	**P**	**09 09 20.1**	**+1.3**
	baz=90,SNR=6.2						
PDMCI	**Parker Dam,Lak**	**89.75**	**48**	P	**P**	**09 09 21.0**	**+1.6**
	baz=90,SNR=6.3						
YBH	**Yreka Blue Hor**	**89.97**	**38**	*e*P	**P**	**09 09 20.1**	**-0.2**
	comp=Z,5.6nm,1.0s						
NVAR	**Mina Array Bea**	**90.04**	**43**	P	**P**	**09 09 21.7**	**+0.8**
	comp=Z,7.6nm,0.8s,baz=222,slow=8.2,SNR=62						
TPNV	**Topopah Spring**	**90.22**	**45**	P	**P**	**09 09 23.2**	**+1.5**
	baz=90,SNR=16						
TPH	**Tonopah**	**90.41**	**43**	*e*P	**P**	**09 09 23.2**	**+0.6**
	comp=Z,21nm,1.0s						
M04C	**Macdoel**	**90.46**	**38**	P	**P**	**09 09 23.5**	**+0.9**
	baz=91,SNR=5.1						
SHPR	**Sheep Range**	**90.58**	**46**	*e*P	**P**	**09 09 24.4**	**+1.0**
	comp=Z,17nm,1.6s						
TUC	**Tucson**	**90.62**	**51**	*e*P	**P**	**09 09 25.0**	**+1.4**
	comp=Z,22nm,1.4s						
MDJ	**Mudanjiang**	**90.79**	**325**	P	**P**	**09 09 24.3**	**+0.4**
MDJ				PMZ			
	comp=Z,10.0nm,1.0s						
I03D	**Drain, OR**	**91.08**	**36**	P	**P**	**09 09 26.1**	**+0.9**
	baz=91						
J04D	**Umpqua Nationa**	**91.37**	**37**	P	**P**	**09 09 28.2**	**+1.3**
	baz=92,SNR=5.4						
R11A	**Troy Canyon, C**	**91.55**	**44**	P	**P**	**09 09 28.7**	**+0.9**
	baz=92						
I04A	**Tendick Farm,**	**91.61**	**37**	P	**P**	**09 09 29.0**	**+1.1**
	baz=92						
J05D	**Fort Rock, OR**	**91.85**	**38**	P	**P**	**09 09 30.4**	**+1.3**
	baz=92,SNR=7.5						
BMN	**Battle Mountai**	**92.02**	**42**	*e*P	**P**	**09 09 29.9**	**0.0**
	comp=Z,12nm,1.2s						
G03D	**McMinnville, O**	**92.22**	**35**	P	**P**	**09 09 31.9**	**+1.4**
	baz=92						
CN2	**Changchun**	**92.24**	**323**	*e*P	**P**	**09 09 31.3**	**+0.6**
CN2				PMZ			
	comp=Z,20nm,0.7s						
WUAZ	**Wupatki**	**92.27**	**48**	P	**P**	**09 09 33.0**	**+1.7**
	baz=92						
WUAZ	**Wupatki**	**92.27**	**48**	*e*P	**P**	**09 09 32.2**	**+0.9**
	comp=Z,14nm,1.4s						
I05D	**Terrebonne, OR**	**92.54**	**37**	P	**P**	**09 09 33.3**	**+1.1**
	baz=93,SNR=6.4						
WVOR	**Wild Horse Val**	**92.61**	**40**	*e*P	**P**	**09 09 32.7**	**+0.1**
	comp=Z,7.2nm,1.0s						
121A	**Cookes Peak, D**	**92.74**	**53**	P	**P**	**09 09 35.0**	**+1.4**
	baz=93						
GYA	**Guiyang**	**92.92**	**300**	P	**P**	**09 09 34.0**	**-0.4**
GYA				pP	pP	09 09 50.8	+5.5
GYA				PP	**PP**	**09 13 22.0**	**+4.4**
GYA				SKS	**SKSac**	**09 20 01.5**	**-4.5**
GYA				S	**S**	**09 20 34.5**	**-3.6**
GYA				PM

HHC					PMZ				
	comp=Z,20nm,1.4s								
HHC					PMZ				
	comp=Z,130nm,8.0s								
T26A	**Comanche Natio**	**98.26**	**51**	P		**P**	**09 09 58.5**	**-0.2**	
	baz=98								
Z31A	**Sharp Cattle R**	**98.41**	**56**	P		Pdif	09 10 00.3	+1.0	
	baz=99								
SEY	**Seymchan**	**98.49**	**347**	⇓	eP	Pdif	09 10 04.1	+5.4	
ISCO	**Idaho Springs**	**98.50**	**48**		P	Pdif	09 10 01.5	+1.7	
	baz=99								
J19A	**Crowheart**	**98.50**	**44**		P	Pdif	09 10 00.7	+1.2	
	baz=99								
BOZ	**Bozeman (W)**	**98.52**	**40**		P	Pdif	09 10 00.5	+0.9	
	baz=99								
737A	**Port Lavaca**	**98.58**	**61**		P	Pdif	09 10 00.4	+0.5	
	baz=99								
334A	**Lometa**	**98.66**	**58**		P	Pdif	09 10 01.6	+1.3	
	baz=99								
Y31A	**Rekieta Farm,**	**98.69**	**55**		P	Pdif	09 10 02.0	+1.6	
	baz=99								
COLA	**College**	**100.30**	**13**		P	**Pdif**	**09 10 08.0**	**+1.3**	
COLA					pmax	pmax			
	comp=Z,8.0nm,0.9s								
LZH	**Lanzhou**	**100.33**	**306**	*e*	P	**Pdif**	**09 10 07.5**	**-0.3**	
LZH					pP	pP	09 10 22.5	+3.7	
LZH					PMZ				
	comp=Z,17nm,1.0s								
LZH					PMZ				
	comp=Z,110nm,4.4s								
ILAR	**Eielson Array**	**100.39**	**13**		P	**Pdif**	**09 10 06.9**	**-0.3**	
	comp=Z,0.2nm,0.8s,baz=210,slow=5.2,SNR=2.8								
ILAR					PP	PP	09 14 20.0	+5.6	
	comp=Z,0.2nm,1.0s,baz=218,slow=8.6,SNR=2.5								
ILAR					PKiKP	**PKiKP**	**09 14 34.2**	**+0.4**	
	comp=Z,0.6nm,0.8s,baz=254,slow=1.4,SNR=5.9								
YKA	**Yellowknife Ar**	**107.69**	**26**		PKiKP	**PKiKP**	**09 14 46.3**	**-0.9**	
	comp=Z,0.4nm,0.6s,baz=246,slow=1.5,SNR=7.8								
YKA					PKKPbc	**PKKPbc**	**09 25 59.5**	**-3.4**	
	comp=Z,1.4nm,0.8s,baz=41,slow=3.3,SNR=14								
TIXI	**Tiksi**	**110.75**	**344**	⇓	*i* PKiKP	**PKiKP**	**09 14 51.6**	**-1.1**	
TIXI					pmax	pmax			
	comp=Z,6.0nm,2.5s								
WMQ	**Urumqi**	**114.88**	**307**		PKP	PKPdf	09 14 57.5	-4.0	
WMQ					PP	**PP**	**09 16 05.8**	**+4.8**	
WMQ					PPMZ				
	comp=Z,200nm,12.0s								
BOSA	**Boshof**	**114.95**	**202**		PKP	PKPdf	09 15 02.5	+0.1	
	comp=Z,6.0nm,0.9s,baz=175,slow=3.5,SNR=8.5								
BOSA	**Boshof**	**114.95**	**202**		PKIKP	PKPdf	09 15 02.5	+0.1	
BOSA					pmax	pmax			
	comp=Z,6.0nm,0.9s								
MK31	**Makanchi Array**	**119.48**	**309**	*e*	PKPdf	**PKPdf**	**09 15 09.5**	**-0.8**	
ZALV	**Zalesovo Beam**	**120.00**	**317**		PKP	**PKPdf**	**09 15 10.0**	**-1.0**	
	comp=Z,1.4nm,0.5s,baz=150,slow=3.0,SNR=5.8								
ZALV	**Zalesovo Beam**	**120.00**	**317**		PKIKP	**PKPdf**	**09 15 10.0**	**-1.0**	
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.5s								
NVS	**Novosibirsk**	**121.13**	**318**	*e*	PKIKP	**PKPdf**	**09 15 11.7**	**-1.4**	
KSH	**Kashi**	**121.61**	**299**	*e*	PKP	**PKPdf**	**09 15 14.8**	**+0.1**	
KURK	**Kurchatov**	**122.88**	**313**		PKIKP	**PKPdf**	**09 15 15.9**	**-0.7**	
KURK					pmax	pmax			
	comp=Z,7.0nm,0.7s								
KURK	**Kurchatov**	**122.88**	**313**	*e*	PKPdf	**PKPdf**	**09 15 15.2**	**-1.4**	
KURK					PKP	**PKPdf**	**09 15 15.9**	**-0.7**	
KURBB	**Kurchatov Arra**	**122.91**	**312**		PKP	**PKPdf**	**09 15 15.9**	**-0.7**	
	comp=Z,6.7nm,0.7s,baz=107,slow=1.9,SNR=44								
AAK	**Ala-Archa**	**123.60**	**302**		PKP	PKPdf	09 15 28.8	+10	
	comp=Z,1.7nm,0.3s,baz=122,slow=2.2,SNR=4.0								
AAK	**Ala-Archa**	**123.60**	**302**		PKIKP	PKPdf	09 15 28.8	+10	
AAK					pmax	pmax			
	comp=Z,2.0nm,0.3s								
KBL	**Kabul**	**125.30**	**292**	*e*	PKPdf	**PKPdf**	**09 15 22.7**	**+0.6**	
TSUM	**Tsumeb**	**126.07**	**198**	*e*	PKPdf	**PKPdf**	**09 15 24.1**	**+0.1**	
KKAR	**Karatay Array**	**126.55**	**302**	*e*	PKPdf	**PKPdf**	**09 15 24.1**	**+0.2**	
BVAR	**Borovoye Array**	**128.29**	**314**		PKP	**PKPdf**	**09 15 26.6**	**-0.3**	
	comp=Z,4.4nm,0.5s,baz=112,slow=1.6,SNR=24								
BVAR	**Borovoye Array**	**128.29**	**314**		PKIKP	**PKPdf**	**09 15 26.6**	**-0.3**	
BVAR					pmax	pmax			
	comp=Z,4.0nm,0.5s								
BRVK	**Borovoye**	**128.36**	**314**	⇓	*i* PKIKP	**PKPdf**	**09 15 25.6**	**-1.4**	
BRVK					pmax	pmax			
	comp=Z,8.0nm,1.0s								
BRVK	**Borovoye**	**128.36**	**314**	*e*	PKPdf	**PKPdf**	**09 15 27.1**	**+0.1**	
ABKAR	**Akbulak array**	**134.63**	**309**	*e*	PKPdf	**PKPdf**	**09 15 37.0**	**-1.9**	
GEYT	**Alibeck**	**134.70**	**293**		PKP	**PKPdf**	**09 15 39.7**	**+0.1**	
	comp=Z,3.7nm,0.6s,baz=129,slow=2.1,SNR=6.3								
GEYT					SKPbc	**SKPab**	**09 19 09.0**	**-1.7**	
	comp=Z,2.8nm,0.5s,baz=45,slow=0.2,SNR=10.0								
ARU	**Arti**	**135.11**	**319**	*i*	PKIKP	**PKPdf**	**09 15 39.6**	**-0.1**	
ARU							09 18 14.0		
ARU	**Arti**	**135.11**	**319**	*e*	PKPdf	**PKPdf**	**09 15 39.9**	**+0.3**	
AKTO	**Aktyubinsk**	**135.88**	**310**		PKP	**PKPdf**	**09 15 41.2**	**0.0**	
	comp=Z,2.3nm,0.6s,baz=93,slow=3.5,SNR=7.8								
AKTO					SKPbc	**SKPab**	**09 19 13.4**	**-2.0**	
	comp=Z,2.3nm,0.8s,baz=134,slow=3.2,SNR=4.3								
AKTO	**Aktyubinsk**	**135.88**	**310**		PKIKP	**PKPdf**	**09 15 41.3**	**0.0**	
AKTO					pmax	pmax			
	comp=Z,2.0nm,0.6s								
AKTO					pmax	pmax			
	comp=N,2.0nm,0.8s								
ARCES	**ARCESS Array B**	**141.10**	**347**		PKhKP	PKPpre	09 15 41.8		
	comp=N,3.1nm,0.7s,baz=28,slow=2.3,SNR=8.9								
ARCES	**ARCESS Array B**	**141.10**	**347**		PKHKP	PKPpre	09 15 41.8		
ARCES					pmax	pmax			
	comp=Z,3.0nm,0.7s								
DGRG	**David-gareji**	**144.84**	**297**		P	**PKPdf**	**09 15 57.8**	**-0.1**	
DGRG	**David-gareji**	**144.84**	**297**		PKIKP	**PKPdf**	**09 15 57.8**	**-0.1**	
GNI	**Garni**	**145.29**	**294**		PKPbc	**PKPab**	**09 15 58.7**	**-0.1**	
	comp=Z,11nm,0.6s,baz=39,slow=6.5,SNR=9.1								
GNI	**Garni**	**145.29**	**294**	⇑	*e* PKIKP	**PKPdf**	**09 15 58.9**	**+0.1**	
GNI					pmax	pmax			
	comp=Z,42nm,1.2s								
TBLG	**Delisi**	**145.31**	**297**		P	**PKPab**	**09 15 58.8**	**+0.1**	
TBLG	**Delisi**	**145.31**	**297**		PKIKP	**PKPab**	**09 15 58.8**	**+0.1**	
DUS	**Dusheti**	**145.33**	**298**		P	**PKPab**	**09 15 59.8**	**+0.9**	
DUS	**Dusheti**	**145.33**	**298**		PKIKP	**PKPab**	**09 15 59.7**	**+0.9**	
VRHR	**Novokhopersk**	**146.03**	**314**	*e*	PKIKP	**PKPdf**	**09 15 59.6**	**+0.1**	
VRHR					pmax	pmax			
	comp=Z,110nm,0.7s								
VRHR					pmax	pmax			
	comp=N,10.0nm,0.6s								
VRHR					pmax	pmax			
	comp=E,30nm,0.6s								
NCK	**Nalchik**	**146.09**	**300**	*i*	PKP2	**PKPbc**	**09 16 01.0**	**+0.1**	
ONI	**Oni**	**146.24**	**299**		P	**PKPab**	**09 16 02.0**	**-0.2**	
ONI	**Oni**	**146.24**	**299**		PKP2	**PKPab**	**09 16 02.0**	**-0.2**	
GOF	**Gofitskoye**	**146.34**	**303**	⇑	*i* PKP2	**PKPbc**	**09 16 01.7**	**+0.2**	
GOF					pmax	pmax			
	comp=Z,50nm,1.2s								
MOS	**Moscow**	**146.48**	**324**	*e*	PKIKP	**PKPdf**	**09 15 59.7**	**-0.4**	
MOS				*e*			09 16 16.2		
MOS					pmax	pmax			
	comp=Z,44nm,0.7s								
KBZ	**Khabaz**	**146.57**	**301**		PKPbc	**PKPbc**	**09 16 02.2**	**0.0**	
	comp=Z,18nm,0.9s,baz=148,slow=2.4,SNR=19								
KBZ	**Khabaz**	**146.57**	**301**		PKP2	**PKPbc**	**09 16 02.2**	**0.0**	
KBZ					pmax	pmax			
	comp=Z,18nm,0.9s								
KIV	**Kislovodsk**	**146.71**	**301**	*c*	*i* PKP2	**PKPbc**	**09 16 02.7**	**-0.1**	
KIV					pmax	pmax			
	comp=Z,41nm,1.7s								
KIV	**Kislovodsk**	**146.71**	**301**	*e*	PKPbc	**PKPbc**	**09 16 02.6**	**-0.2**	
NEY	**Neytrino**	**146.74**	**300**	*c*	*i* PKP2	**PKPab**	**09 16 05.0**	**+0.8**	
LPSR	**Galich'ya Gora**	**147.11**	**318**	*e*	PKIKP	**PKPdf**	**09 16 01.9**	**+0.6**	
LPSR					pmax	pmax			
	comp=Z,30nm,0.4s								
LPSR					pmax	pmax			
	comp=N,90nm,0.5s								
LPSR					pmax	pmax			
	comp=E,130nm,0.5s								
CHVG	**Ch'k'valeri**	**147.24**	**299**		P	**PKPab**	**09 16 05.8**	**-0.3**	
OBN	**Obninsk**	**147.31**	**323**		PKPbc	**PKPbc**	**09 16 03.1**	**-0.8**	
	comp=E,25nm,0.4s,baz=89,slow=4.3,SNR=11								
OBN	**Obninsk**	**147.31**	**323**	*c*	*i* PKP2	**PKPbc**	**09 16 03.5**	**-0.4**	
OBN					pmax	pmax			
	comp=Z,93nm,1.7s								
OBN	**Obninsk**	**147.31**	**323**	*e*	PKPbc	**PKPbc**	**09 16 03.5**	**-0.4**	
VSR	**Storozhevoye**	**147.47**	**315**	*e*	PKP2	**PKPbc**	**09 16 03.8**	**-0.7**	
VSR					pmax	pmax			
	comp=Z,30nm,0.7s								
VSR					pmax	pmax			
	comp=N,20nm,1.4s								
VSR					pmax	pmax			
	comp=E,20nm,0.9s								
VORD	**Divnogorie**	**147.48**	**315**	*e*	PKP2	**PKPbc**	**09 16 04.0**	**-0.5**	
VORD					pmax	pmax			
	comp=N,20nm,0.6s								
VORD					pmax	pmax			
	comp=Z,20nm,0.6s								
VORD					pmax	pmax			
	comp=E,20nm,1.2s								
FIA1	**FINESS Array S**	**147.57**	**339**	*e*	PKPbc	**PKPbc**	**09 16 03.8**	**-0.6**	
FINES	**FINESS Array B**	**147.57**	**339**		PKPbc	**PKPbc**	**09 16 04.0**	**-0.4**	
	comp=E,23nm,0.6s,baz=57,slow=3.2,SNR=167								
FINES	**FINESS Array B**	**147.57**	**339**		PKP2	**PKPbc**	**09 16 04.0**	**-0.4**	
FINES					pmax	pmax			
	comp=Z,23nm,0.6s								
VSU	**Vasula**	**149.59**	**334**	*i*	PKP2	**PKPbc**	**09 16 09.6**	**-0.1**	
MALT	**Malatya**	**150.15**	**291**	⇑	PKP2	**PKPbc**	**09 16 12.6**	**+0.7**	
MALT	**Malatya**	**150.15**	**291**	⇑	*i* P	**PKPbc**	**09 16 12.6**	**+0.7**	
ANN	**Anapa**	**150.31**	**304**	*i*	PKIKP	**PKPbc**	**09 16 09.7**	**-2.2**	
ANN					*e*		09 19 45.6		
ANN					*e*	PPP	PPP	09 23 07.5	
ANN					*e*	SS	SS	09 39 02.8	-1.4
ANN					*e*	SSS	SSS	09 44 44.0	
ANN					pmax	pmax			
	comp=Z,88nm,1.3s								
ASF	**Jabal al Asfar**	**150.77**	**278**		PKPbc	**PKPbc**	**09 16 13.4**	**-0.2**	
	comp=Z,24nm,0.8s,baz=94,slow=0.7,SNR=23								
ASF	**Jabal al Asfar**	**150.77**	**278**		PKIKP	**PKPbc**	**09 16 13.4**	**-0.2**	
ASF					pmax	pmax			
	comp=Z,24nm,0.8s								
NB2	**NORSAR Subarra**	**151.29**	**351**		PKP	**PKPbc**	**09 16 13.0**	**-0.8**	
	comp=Z,12nm,0.6s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**151.29**	**351**		PKPbc	**PKPbc**	**09 16 13.2**	**-0.6**	
	comp=Z,12nm,0.7s,baz=14,slow=4.1,SNR=43								
NOA	**NORSAR Array B**	**151.29**	**351**		PKIKP	**PKPbc**	**09 16 13.2**	**-0.6**	
NOA					pmax	pmax			
	comp=Z,12nm,0.7s								
NAO01	**NORSAR Array S**	**151.52**	**351**	*e*	PKPbc	**PKPbc**	**09 16 13.6**	**-0.7**	
IZAR	**Zarasai**	**151.70**	**331**	*e*	P	**PKPbc**	**09 16 13.5**	**-1.4**	
EIL	**Elat**	**151.84**	**272**		PKPbc	**PKPbc**	**09 16 16.4**	**+0.4**	
	comp=Z,35nm,0.7s,baz=108,slow=0.7,SNR=28								
ISAL	**Salakas**	**151.87**	**331**	*e*	P	**PKPdf**	**09 16 10.6**	**+1.8**	
IIGN	**Ignalina**	**151.99**	**330**	*e*	P	**PKPbc**	**09 16 15.6**	**+0.1**	
NACGM	**Naroch**	**152.05**	**329**	*e*		**PKPdf**	**09 16 12.0**	**+3.0**	
MMAI	**Mount Meron Ar**	**152.16**	**279**		PKPbc	**PKPbc**	**09 16 17.2**	**+0.5**	
	comp=Z,18nm,0.4s,baz=97,slow=3.3,SNR=41								
MMAI					PKPab	**PKPab**	**09 16 26.9**	**+0.3**	
	comp=Z,12nm,0.6s,baz=90,slow=5.8,SNR=6.9								
LIC	**Lamto**	**152.58**	**164**	*e*	P	**PKPbc**	**09 16 18.3**	**+0.2**	
	comp=Z,100nm,0.6s								
SIM	**Simferopol'**	**152.58**	**305**	*i*	PKIKP	**PKPab**	**09 16 25.7**	**-2.1**	
SIM				*i*			09 16 42.0		
SIM					pmax	pmax			
	comp=Z,16μm,0.8s								
KIC	**Kosan Boka**	**152.77**	**165**	*e*	P	**PKPbc**	**09 16 18.8**	**+0.2**	
	comp=Z,185nm,1.1s								
TIC	**Toumodi**	**152.99**	**164**	*e*	P	**PKPbc**	**09 16 19.1**	**+0.1**	
DBIC	**Dimbokro**	**153.05**	**165**		PKPbc	**PKPbc**	**09 16 19.3**	**+0.2**	
	comp=Z,27nm,0.6s,baz=169,slow=2.7,SNR=29								
DBIC	**Dimbokro**	**153.05**	**165**		PKIKP	**PKPbc**	**09 16 19.3**	**+0.2**	
DBIC					pmax	pmax			
	comp=Z,27nm,0.6s								
DBIC	**Dimbokro**	**153.05**	**165**	*e*	PKPbc	**PKPbc**	**09 16 19.2**	**+0.2**	
DBIC					*e* PKPab	**PKPab**	**09 16 30.9**	**+0.5**	
AKASG	**Malin Array Be**	**153.36**	**320**		PKP	**PKPdf**	**09 16 10.3**	**-0.7**	
	comp=Z,0.3nm,0.4s,baz=48,slow=1.4,SNR=3.2								
AKASG					PKPbc	**PKPbc**	**09 16 18.2**	**-0.4**	
	comp=Z,3.6nm,0.8s,baz=55,slow=2.3,SNR=12								
AKASG					PKPab	**PKPab**	**09 16 30.1**	**-0.8**	
	comp=Z,4.3nm,0.6s,baz=46,slow=4.6,SNR=14								
AKASG	**Malin Array Be**	**153.36**	**320**		PKIKP	**PKPdf**	**09 16 10.4**	**-0.7**	
AKASG							09 16 18.3		
AKASG							09 16 30.1		
AKASG					pmax	pmax			
	comp=Z,4.0nm,0.8s								
AKASG					pmax	pmax			
	comp=Z,4.0nm,0.6s								
AKBB	**Malin Array Si**	**153.36**	**320**	*e*	PKPbc	**PKPbc**	**09 16 17.8**	**-0.9**	
AKBB					*e* PKPab	**PKPab**	**09 16 29.8**	**-1.0**	
AK01	**Malin Array Si**	**153.37**	**320**	*e*	PKPbc	**PKPbc**	**09 16 16.7**	**-2.0**	
AK01					*e* PKPab	**PKPab**	**09 16 30.1**	**-0.8**	
KIEV	**Kiev**	**153.38**	**320**	*c*	*i* PKIKP	**PKPbc**	**09 16 18.0**	**-0.7**	
KIEV	**Kiev**	**153.38**	**320**	*e*	PKPbc	**PKPbc**	**09 16 17.7**	**-1.0**	
KIEV					*e* PKPab	**PKPab**	**09 16 30.3**	**-0.6**	
AK02	**Malin Array Si**	**153.40**	**320**	*e*	PKPbc	**PKPbc**	**09 16 16.6**	**-2.1**	
BR131	**Keskin Array S**	**153.83**	**294**	*e*	PKPbc	**PKPbc**	**09 16 19.6**	**-0.6**	
BR131					*e* PKPab	**PKPab**	**09 16 32.6**	**-0.9**	
BRTR	**Keskin Array B**	**153.83**	**294**		PKP	**PKPdf**	**09 16 11.8**	**-0.6**	
	comp=Z,0.7nm,0.7s,baz=346,slow=2.5,SNR=4.2								
BRTR					PKPbc	**PKPbc**	**09 16 20.0**	**-0.3**	
	comp=Z,4.9nm,0.8s,baz=137,slow=3.9,SNR=19								
BRTR					PKPab	**PKPab**	**09 16 32.6**	**-0.9**	
	comp=Z,5.6nm,0.8s,baz=107,slow=4.1,SNR=4.4								
BRTR	**Keskin Array B**	**153.83**	**294**		PKIKP	**PKPdf**	**09 16 11.8**	**-0.6**	
BRTR							09 16 20.0		
BRTR							09 16 32.6		
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
BRTR					pmax	pmax			
	comp=Z,5.0nm,0.8s								
BRTR					pmax	pmax			
	comp=Z,6.0nm,0.8s								
CSS	**Prodhromos**	**154.10**	**283**	*e*	PKPdf	**PKPdf**	**09 16 11.5**	**-1.3**	
CSS					*e* PKPbc	**PKPbc**	**09 16 20.0**	**-0.9**	
CFR	**Carcaliu**	**156.52**	**309**	⇓	PKP2	**PKPab**	**09 16 44.8**	**+0.2**	
CFR	**Carcaliu**	**156.52**	**309**	⇓	*i* P	**PKPab**	**09 16 44.8**	**+0.2**	
VRI	**Vrincioaia**	**157.15**	**312**	⇑	PKP2	**PKPab**	**09 16 48.8**	**+1.5**	
VRI	**Vrincioaia**	**157.15**	**312**	⇑	*i* P	**PKPab**	**09 16 48.8**	**+1.5**	
PLOR	**Plostina**	**157.20**	**312**	⇓	PKP2	**PKPab**	**09 16 48.2**	**+0.6**	
PLOR	**Plostina**	**157.20**	**312**	⇓	*i* P	**PKPab**	**09 16 48.2**	**+0.6**	
BUR08	**Bucovina Ar. S**	**157.22**	**317**	*e*	PKPab	**PKPab**	**09 16 48.1**	**+0.5**	
BURAR	**Bucovina Array**	**157.22**	**317**	⇓	PKP2	**PKPab**	**09 16 48.1**	**+0.5**	
BURAR	**Bucovina Array**	**157.22**	**317**	⇓	*i* P	**PKPab**	**09 16 48.1**	**+0.5**	
PRD	**Provadia**	**157.72**	**305**	⇓	PKP2	**PKPab**	**09 16 51.7**	**+1.9**	
PRD	**Provadia**	**157.72**	**305**	⇓	*i* P	**PKPab**	**09 16 51.7**	**+1.9**	
MLR	**Muntele Rosu**	**157.81**	**311**	⇓	PKP2	**PKPab**	**09 16 50.5**	**+0.2**	
MLR	**Muntele Rosu**	**157.81**	**311**	⇓	*i* P	**PKPab**	**09 16 50.5**	**+0.2**	
SECR		**157.92**	**310**	⇑	*i* P	**PKPab**	**09 16 51.9**	**+1.2**	
DOPR	**Dopca**	**157.94**	**313**	⇓	*i* P	**PKPab**	**09 16 54.6**	**+3.9**	
KOLS	**Kolonicke sedl**	**158.06**	**323**	*e*	PKP2	**PKPab**	**09 16 51.4**	**+0.3**	
KOLS	**Kolonicke sedl**	**158.06**	**323**	*e*	PKP	**PKPab**	**09 16 51.4**	**+0.3**	
UZH	**Uzhgorod**	**158.24**	**322**	*e*	PKP2	**PKPab**	**09 16 51.8**	**0.0**	
STHS	**Stebnicka Huta**	**158.26**	**325**	*e*	PKP2	**PKPab**	**09 16 52.7**	**+0.8**	
STHS	**Stebnicka Huta**	**158.26**	**325**	*e*	PKP	**PKPab**	**09 16 52.7**	**+0.8**	
DRGR		**159.10**	**317**	⇑	PKP2	**PKPab**	**09 16 55.7**	**-0.1**	
DRGR		**159.10**	**317**	⇑	*i* P	**PKPab**	**09 16 55.7**	**-0.1**	
KECS	**Kecovo**	**159.25**	**324**	*e*	PKP2	**PKPab**	**09 16 56.0**	**-0.2**	
KECS	**Kecovo**	**159.25**	**324**	*e*	PKP	**PKPab**	**09 16 56.0**	**-0.2**	
PSZ	**Piszkesteto**	**159.92**	**323**	⇑	PKP2	**PKPab**	**09 16 59.5**	**+0.2**	
PSZ	**Piszkesteto**	**159.92**	**323**	⇑	*i* P	**PKPab**	**09 16 59.5**	**+0.2**	
SIRR	**Siria**	**160.00**	**317**	⇓	*i* P	**PKPab**	**09 16 57.5**	**-2.1**	
CLL	**Collm**	**160.01**	**340**	⇓	*i* PKPab	**PKPab**	**09 16 59.1**	**-0.3**	
CLL					*i*		09 17 05.3		
CLL					*e*	pPKPab	**pPKPab**	**09 17 09.0**	**-1.3**
CLL					*i*		09 17 23.7		
	comp=Z,15nm,1.3s								
CLL	**Collm**	**160.01**	**340**	⇓	*i* PKP2	**PKPab**	**09 16 59.1**	**-0.3**	
BRG	**Berggiesshubel**	**160.10**	**338**	*i*	PKP	**PKPab**	**09 17 00.0**	**+0.2**	
	comp=Z,8.0nm,1.2s								
BRG	**Berggiesshubel**	**160.10**	**338**	*i*	PKP2	**PKPab**	**09 17 00.0**	**+0.2**	
BRG					pmax	pmax			
	comp=Z,8.0nm,1.2s								
TOA0	**Torodi Ar. Sit**	**160.28**	**179**	*e*	P	**PKPab**	**09 17 01.2**	**-0.2**	
TORD	**Torodi Ar. Bea**	**160.28**	**179**		PKP	**PKPdf**	**09 16 20.9**	**-0.2**	
	comp=Z,4.6nm,1.1s,baz=229,slow=0.1,SNR=14								
TORD					PKPab	**PKPab**	**09 17 01.6**	**+0.3**	
	comp=Z,12nm,0.8s,baz=182,slow=3.7,SNR=22								
MMB	**Musomiste**	**160.82**	**303**	⇓	PKP2	**PKPab**	**09 17 03.8**	**+0.4**	
MMB	**Musomiste**	**160.82**	**303**	⇓	*i* P	**PKPab**	**09 17 03.8**	**+0.4**	
PKSM	**Moragy**	**161.69**	**321**	⇑	PKIKP	**PKPdf**	**09 16 19.7**	**-1.9**	
PKSM	**Moragy**	**161.69**	**321**	⇑	*i* P	**PKPdf**	**09 16 19.7**	**-1.9**	
GERES	**GERESS Array B**	**161.92**	**335**		PKP	**PKPdf**	**09 16 21.4**	**-0.6**	
	comp=Z,1.0nm,0.9s,baz=101,slow=1.4,SNR=4.5								
GERES					PKPab	**PKPab**	**09 17 07.5**	**-0.4**	
	comp=Z,1.7nm,0.7s,baz=35,slow=4.9,SNR=8.0								
GERES	**GERESS Array B**	**161.92**	**335**		PKIKP	**PKPdf**	**09 16 21.4**	**-0.6**	
GERES							09 17 07.5		
GERES					pmax	pmax			
	comp=Z,1.0nm,0.9s								
GERES					pmax	pmax			
	comp=Z,2.0nm,0.7s								
DIVS	**Divibare**	**162.18**	**314**	⇓	*i* P	**PKPab**	**09 17 09.7**	**+0.4**	
ESDC	**Sonseca Array**	**171.69**	**35**		PKP	**PKPdf**	**09 16 30.1**	**+0.6**	
	comp=Z,0.3nm,0.5s,baz=343,slow=3.2,SNR=4.9								

*ISCJB **26** 09:06:08.8±0.6,34°.92N±0°.05×69°.19E±0°.08, h10km, mb3.4/4, Error ellipse: s-maj=10.0km s-min=6.0km az=144.8*

*IDC **26** 09:06:09.7±1.4,35°.04N×69°.33E, h0km, mb3.4/4, mb1 3.7/8, mb1mx3.5/30, mbtmp3.6/8, ML3.5/4, Error ellipse: s-maj=33.9km s-min=23.7km az=51.0*

*NNC **26** 09:06:15.2±4.3,35°.29N×69°.00E, h0km, mb4.1, mpv4.0, Error ellipse: s-maj=35.8km s-min=28.6km az=160.0*

ISC 26 09:06:11.0±0.9,35°.00N±0°.08×69°.26E±0°.09, h10km, n26,
σ1§60/25, mb3.4/4, 6C-7D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.82**	**355**	⇓	Pg	**Pb**	**Pb**	**09 07 19.2**	**+0.7**
	43nm,0.5s								
DZET				⇑	Lg	Lg	Lg	09 08 10.9	
	114nm,0.4s								
SFK	**Sufi-Kurgan**	**6.04**	**33**	⇑	Pn	Pn	Pn	09 07 45.6	+5.0
	4.8nm,0.3s								
SFK				⇓	Sn	Sn	Sn	09 08 56.1	+6.3
	9.1nm,0.4s								
KK31	**Karatay Array**	**8.15**	**6**	⇓	Pn	**Pn**	**Pn**	**09 08 10.5**	**+1.1**
	1.7nm,0.4s,baz=183,slow=13,SNR=6.2								
KK31				⇑	Sn	**Sn**	**Sn**	**09 09 38.8**	**-2.9**
	1.5nm,0.4s,baz=186,slow=23,SNR=4.3								
AAK	**Ala-Archa**	**8.65**	**27**	⇑	Pn	Pn	Pn	09 08 20.0	+3.6
	3.5nm,0.5s								
AAK				⇑	Sn	**Sn**	**Sn**	**09 09 53.8**	**-0.2**
	12nm,0.6s								
AAK	**Ala-Archa**	**8.65**	**27**		Pn	Pn	Pn	09 08 31.7	+15
	1.3nm,0.3s,baz=210,slow=8.1,SNR=4.3								
AAK					Sn	Sn	Sn	09 10 10.9	+17
	1.0nm,0.3s,baz=94,slow=16,SNR=5.5								
TKM2	**Tokmak 2**	**9.32**	**30**	⇑	Pn	Pn	Pn	09 08 29.5	+3.9
	2.7nm,0.5s								
TKM2				⇓	Sn	**Sn**	**Sn**	**09 10 15.0**	**+4.3**
	4.4nm,0.7s								
GEYT	**

0.9nm,0.3s,baz=114,slow=6.5,SNR=4.4
ZALV Zalesovo Beam 76.21 329 P **P** **09 51 58.6 -0.1**
0.7nm,0.6s,baz=103,slow=5.0,SNR=3.6
QSPA South Pole Qui 85.26 180 P **P** **09 52 46.5 -0.3**
1.3nm,1.0s,baz=33,slow=0.5,SNR=8.0
ILAR Eielson Array 85.58 24 P **P** **09 52 47.6 -0.5**
0.6nm,0.8s,baz=256,slow=5.1,SNR=8.7

IDC ***26*** *09:42:57.5±2.8,39˚.29N×138˚.63E,h0km,mb3.6/1, mb1 3.6/3,mb1mx3.3/26,mbtmp3.4/3,ML2.6/2, Error ellipse: s-maj=66.7km s-min=29.0km az=70.0*

ISCJB ***26*** *09:42:59.1±0.9,39˚.32N±0˚.03×138˚.65E±0˚.05,h25km±7km, mb3.6/1,Error ellipse: s-maj=7.5km s-min=4.2km az=34.1*

JMA ***26*** *09:42:59.6±0.1,39˚.29N×138˚.67E,h28km±2km,M3.4*

ISC 26 09:42:58.5±3.4,39˚.32N±0˚.04×138˚.67E±0˚.05,h13km±23km, n22,σ0°65/33,Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res ISC
JTB	**Tobi-shima**	**0.70**	**100**	P			**Pb**	**09 43 12.8**	**+0.4**
JTB				*e*S			**Sb**	**09 43 22.4**	**+0.5**
JAW	**Awa shima**	**0.97**	**152**	P			**Pb**	**09 43 16.7**	**-0.4**
JAW				S			**Sb**	**09 43 29.3**	**-0.4**
JOG2	**Oga 2**	**1.05**	**55**	P			**Pn**	**09 43 19.2**	**+0.3**
JOG2				*e*S			**Sn**	**09 43 32.9**	**-0.5**
JYA	**Atsumi**	**1.08**	**131**	P			**Pb**	**09 43 18.7**	**-0.4**
JYW	**Yuwa**	**1.21**	**79**	P			**Pn**	**09 43 20.6**	**-0.4**
JYW				*e*S			**Sb**	**09 43 36.1**	**-0.6**
JSD	**Sado**	**1.32**	**194**	P			**Pn**	**09 43 21.9**	**-0.6**
JYK	**Kaneyama**	**1.37**	**106**	P			**Pn**	**09 43 23.1**	**-0.2**
JRG	**Rokugo**	**1.52**	**86**	P			**Pn**	**09 43 25.6**	**+0.2**
JRG				S			**Sn**	**09 43 44.1**	**-0.9**
JYS	**Shirataka**	**1.54**	**135**	P			**Pn**	**09 43 25.7**	**+0.1**
JYS				S			**Sn**	**09 43 44.4**	**-1.1**
JNS	**Sasagawa**	**1.58**	**161**	P			**Pn**	**09 43 25.6**	**-0.5**
JNS				*e*S			**Sn**	**09 43 45.5**	**-0.9**
JIW	**Iwasaki**	**1.64**	**38**	P			**Pn**	**09 43 26.9**	**-0.1**
JIW				*e*S			**Sn**	**09 43 47.2**	**-0.7**
JAH	**Hinai**	**1.75**	**59**	P			**Pn**	**09 43 29.1**	**+0.7**
JAH				S			**Sb**	**09 43 51.3**	**-0.9**
JOU	**Okura**	**1.82**	**121**	P			**Pn**	**09 43 30.0**	**+0.5**
JHG	**Hegura jima**	**2.01**	**224**	S			**Sn**	**09 43 56.6**	**-0.4**
JMK	**Ichinoseki**	**2.01**	**100**	P			**Pn**	**09 43 33.2**	**+1.1**
JOM	**Ohasama**	**2.04**	**85**	P			**Pn**	**09 43 33.0**	**+0.6**
JSZ	**Suzu**	**2.13**	**209**	P			**Pn**	**09 43 33.7**	**0.0**
JFT	**Otama**	**2.22**	**143**	P			**Pn**	**09 43 35.7**	**+0.7**
MAT	**Matsushiro**	**2.79**	**188**	P			**Pn**	**09 43 43.3**	**+0.4**
MAT				S			**Sn**	**09 44 16.8**	**+0.4**
MJAR	**Matsushiro Arr**	**2.79**	**188**	Pn			**Pn**	**09 43 44.0**	**+1.1**
	1.7nm,0.3s,baz=11,slow=14,SNR=18								
MJAR				Sn			**Sn**	**09 44 17.1**	**+0.7**
	1.5nm,0.3s,baz=7.0,slow=20,SNR=6.5								
USRK	**Ussuriysk Ar.**	**6.98**	**316**	Pn			**Pn**	**09 44 40.6**	**+0.2**
	0.6nm,0.3s,baz=124,slow=14,SNR=8.2								
WRA	**Warramunga Arr**	**59.09**	**185**	P			**P**	**09 52 59.3**	**+0.9**
	0.3nm,0.5s,baz=0.8,slow=7.4,SNR=8.7								

KLM ***26*** *09:50:42.2,8˚.57S×107˚.86E,h116km,mb5.8,MS6.5*

BJI ***26*** *09:50:42.2,8˚.10S×108˚.10E,h75km,mb5.7/75,mB5.9/58, Ms5.4/85,Ms7 5.2/80*

NEIC ***26*** *09:50:43.1±0.1,8˚.07S×108˚.09E,h68km,mb5.9/125, ME6.1,MW5.8, Error ellipse: s-maj=4.3km s-min=3.5km az=32.0,Moment Tensor Solution. s40 Moment tensor: Scale 10^{17}Nm; M_{rr}1.88; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$-1.75; $M_{r\theta}$6.57; $M_{\theta\phi}$-0.47; $M_{\phi r}$-0.20; Best double couple: M_o6.80000×10^{17} NP1:ϕ_s90.00000°,δ86.00000°,λ94.00000°. NP2: ϕ_s225.00000°,δ6.00000°,λ46.00000°. Principal axes: T 7.5400, Plg49.0000°, Azm4.0000°; N -1.7600, Plg4.0000°, Azm269.0000°; P -5.7900, Plg40.0000°, Azm175.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [IV] at Ciamis, Pangandaran and Sidangbarang; [III] at Bandung; [II] at Bantul, Jakarta, Karangkates, Kebumen and Yogyakarta. Also felt at Bogor, Cianjur, Garut, Indramayu, Sleman and Wonosobo.

MOS ***26*** *09:50:45.3±0.9,7˚.94S×108˚.27E,h103km,mb6.2/64, MS4.9/23 Error ellipse: s-maj=8.4km s-min=4.8km az=112.5*

GCMT ***26*** *09:50:45.8±0.1,8˚.33S×108˚.03E,h100km±1km, MW5.9/127,Moment Tensor Solution. s127,c262; s118,c303; Duration: 2±1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.83±.10; $M_{\theta\theta}$1.05±.11; $M_{\phi\phi}$-1.88±.11; $M_{r\theta}$7.90±.06; $M_{\theta\phi}$-1.64±.09; $M_{\phi r}$-1.94±.07; Best double couple: M_o8.19000×10^{17} NP1:ϕ_s281.00000°,δ89.00000°, λ-97.00000°. NP2:ϕ_s181.00000°,δ7.00000°,λ-10.00000°. Principal axes: T 9.4070, Plg43.0000°, Azm18.0000°; N -2.4360, Plg7.0000°, Azm281.0000°; P -6.9730, Plg46.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISCJB ***26*** *09:50:45.6±0.2,8˚.02S±0˚.02×108˚.09E±0˚.01,h103km±1km, mb5.9/219 Error ellipse: s-maj=3.6km s-min=2.0km az=14.2*

DJA ***26*** *09:50:45.7±0.2,8˚.S±2˚×10˚8E±˚,h80km±2km,M6.0/128, mb6.1/128,mB6.3/112,MLv6.4/43,Mw(mB)6.0/112, Mwp5.9/22*

IDC ***26*** *09:50:46.8±0.9,7˚.98S×108˚.25E,h102km±7km,mb5.6/45, mb1 5.5/46,mb1mx5.5/47,mbtmp5.9/46,MS4.8/29, Ms1 4.8/29,ms1mx4.8/32,Error ellipse: s-maj=7.5km s-min=6.1km az=46.0*

ISC 26 09:50:44.9±0.2,8.02S±0˚.03×108˚.05E±0˚.02,h88km±1km, h88km:pP-P,n1865,σ1°56/2010,mb6.0/236,141C-65D, Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res ISC
CMJI	**Cimerak**	**0.46**	**60**	P			**Pn**	**09 51 00.0**	**+0.9**
CMJI				S			**Sn**	**09 51 10.8**	**+1.1**
CISI	**Cisompet, Garu**	**0.51**	**333**	P			**Pn**	**09 51 01.1**	**+1.4**
CISI				S			**Sn**	**09 51 13.5**	**+2.9**
CISI	**Cisompet, Garu**	**0.51**	**333**	*e*Pn			**Pn**	**09 51 00.5**	**+0.8**
CISI				*e*Sn			**Sn**	**09 51 16.1**	**+5.5**
KPJI	**Karang Pucung**	**1.11**	**52**	P			**Pn**	**09 51 08.3**	**+2.6**
KPJI				S			**Sn**	**09 51 25.9**	**+4.6**
CNJI	**Cibinong**	**1.15**	**308**	P			**Pn**	**09 51 08.0**	**+1.7**
CNJI				S			**Sn**	**09 51 25.1**	**+2.8**
LEM	**Lembang**	**1.26**	**340**	P			Pn	09 51 12.0	+4.3
LEM	**Lembang**	**1.26**	**340**	P			Pn	09 51 11.2	+3.4
	5µm,0.3s,baz=164,slow=6.4,SNR=951								
LEM				LR			LR	09 51 51.0	
	comp=Z,152µm,20.2s,baz=198,slow=49								
SKJI	**Sukabumi**	**1.79**	**304**	P			**Pn**	**09 51 16.3**	**+2.0**
SKJI				S			**Sn**	**09 51 39.6**	**+2.9**
TNG	**Tangerang**	**2.30**	**323**	P			Pn	09 51 25.9	+4.8
TNG				S			**Sn**	**09 51 52.2**	**+3.5**
TNG	**Tangerang**	**2.30**	**323**	P			Pn	09 51 25.5	+4.4
UGM	**Wanagama**	**2.45**	**88**	P			**Pn**	**09 51 23.6**	**+0.5**
UGM				S			**Sn**	**09 51 53.7**	**+1.3**
SMRI	**Semarang**	**2.56**	**68**	P			**Pn**	**09 51 27.6**	**+3.1**
SMRI				S			**Sn**	**09 51 58.2**	**+3.3**
SMRI	**Semarang**	**2.56**	**68**	*e*Pn			**Pn**	**09 51 27.5**	**+3.0**
SMRI				*e*Sn			**Sn**	**09 51 58.6**	**+3.7**
SBJI	**Serang**	**2.68**	**315**	P			Pn	09 51 29.7	+3.6
SBJI				S			**Sn**	**09 52 00.6**	**+2.8**
CGJI	**Cibinong**	**2.72**	**301**	P			**Pn**	**09 51 28.5**	**+1.8**
UWJI	**Ujung Watu**	**3.28**	**61**	P			**Pn**	**09 51 37.1**	**+2.8**
UWJI				S			**Sn**	**09 52 17.2**	**+4.8**
XMIS	**Christmas Isla**	**3.41**	**224**	*e*Pn			Pn	09 51 30.7	-5.2
XMIS				*e*Sn			Sn	09 52 04.2	-11
PWJI	**Pagerwojo**	**3.72**	**90**	P			**Pn**	**09 51 40.3**	**+0.2**
TBJI	**Tambak Boyo**	**3.95**	**73**	P			**Pn**	**09 51 45.2**	**+1.9**
TBJI				S			**Sn**	**09 52 32.5**	**+4.0**
KASI	**Kota Agung**	**4.31**	**305**	P			**Pn**	**09 51 50.3**	**+2.1**
KASI				S			**Sn**	**09 52 40.7**	**+3.4**
KLI	**Kotabumi**	**4.46**	**314**	P			Pn	09 51 54.0	+3.8
GRJI	**Gresik**	**4.53**	**76**	P			**Pn**	**09 51 53.5**	**+2.4**
GRJI				S			**Sn**	**09 52 45.4**	**+2.8**
KLSI		**4.67**	**315**	P			**Pn**	**09 51 55.8**	**+2.7**
LWLI	**Liwa**	**4.96**	**307**	P			**Pn**	**09 51 59.8**	**+2.7**
	5µm,0.8s,209µm55nm								
LWLI				S			**Sn**	**09 52 56.0**	**+2.7**
	5µm,0.8s,209µm55nm								
BWJI	**Bawean**	**5.05**	**65**	P			**Pn**	**09 52 01.3**	**+3.0**
	2µm,0.9s,32µm16nm								
MDSI	**Maura Dua 5.21 312**			P			**Pn**	**09 52 02.7**	**+2.3**
	3µm,1.0s,29µm37µm9.7nm								
MDSI				S			**Sn**	**09 53 03.7**	**+4.5**
	3µm,1.0s,29µm37µm9.7nm								
TPI	**Tanjungpandan 5.24 356**			P			Pn	09 52 04.9	+4.0
	2µm,1.1s,38µm13nm								
BLJI	**Banyuglugur 5.50 88**			P			**Pn**	**09 52 05.9**	**+1.5**
	3µm,0.7s,44µm15nm								
BLJI				S			**Sn**	**09 53 09.7**	**+3.4**
	3µm,0.7s,44µm15nm								
KMMI	**Kalianget 5.94 81**			P			**Pn**	**09 52 12.2**	**+1.8**
	1µm,0.9s,15µm11nm								
KMMI				S			**Sn**	**09 53 19.8**	**+2.6**
	1µm,0.9s,15µm11nm								
PMBI	**Palembang 6.02 327**			P			Pn	09 52 17.3	+5.9
	10µm,1.1s,76µm64µm28nm								
JAGI	**Jajag, Banyuwa 6.06 95**			P			**Pn**	**09 52 13.8**	**+1.8**
	3µm,0.8s,62µm57µm25nm								
JAGI				S			**Sn**	**09 53 21.6**	**+1.6**
	3µm,0.8s,62µm57µm25nm								
JAGI	**Jajag, Banyuwa 6.06 95**			*e*Pn			**Pn**	**09 52 12.7**	**+0.7**
	1µm,0.4s								
PPBI	**Pangkal Pinang 6.12 342**			P			Pn	09 52 17.7	+4.9
	4µm,1.1s,34µm12nm								
ABJI	**Asem Bagus 6.13 88**			P			**Pn**	**09 52 14.9**	**+1.9**
	5µm,0.9s,53µm17nm								
LHSI	**Lahat 6.13 312**			P			**Pn**	**09 52 15.6**	**+2.6**
	4µm,1.0s,32µm12nm								
MNAI	**Manna 6.23 305**			P			**Pn**	**09 52 17.0**	**+2.6**
	6µm,0.6s,118µm33nm								
MNAI	**Manna 6.23 305**			*e*Pn			**Pn**	**09 52 15.8**	**+1.4**
	4µm,0.5s								
MNAI				*e*Sn			**Sn**	**09 53 20.6**	**-3.6**
PBKI	**Pangkalan Bun 6.39 35**			P			Pn	09 52 21.0	+4.5
	16µm,1.1s,132µm45µm48nm								
IGBI	**Denpasar 7.07 97**			P			**Pn**	**09 52 27.7**	**+2.0**
	2µm,0.7s,52µm20nm								
DNP	**Denpasar 7.12 96**			P			Pn	09 52 30.2	+3.8
	5µm,0.9s,137µm62nm								
DNP				S			**Sn**	**09 53 48.3**	**+2.5**
	5µm,0.9s,137µm62nm								
MASI	**Maura Aman, Be 7.54 310**			P			**Pn**	**09 52 34.9**	**+2.6**
	6µm,1.1s,59µm18nm								
JMBI	**JAMBI 7.71 325**			P			Pn	09 52 41.9	+7.3
	4µm,1.3s,43µm46µm13nm								
DSRI	**Dabo 8.25 335**			P			Pn	09 52 46.0	+4.1
	3µm,1.3s,40µm514µm								
STKI	**Sintang 8.72 23**			P			Pn	09 52 53.5	+5.1
	1µm,1.2s,19µm								
KBKI	**Kotabaru 9.34 60**			P			Pn	09 53 00.4	+3.7
	610nm,1.2s,7µm32µm								
RGRI	**Rengat 9.51 323**			P			Pn	09 53 02.4	+3.3
	831nm,1.1s,91µm								
TPRI	**Tanjung Pinang 9.54 338**			P			Pn	09 53 03.0	+3.4
	863nm,0.9s,19µm								
PPSI	**Pulau Pagai 9.55 303**			P			**Pn**	**09 53 00.4**	**+0.7**
	5µm,1.0s,54µm								
SDSI	**Sungai Dareh 9.65 317**			P			**Pn**	**09 53 01.7**	**+0.8**
	652nm,0.9s,11µm								
KSM	**Kuching 9.69 14**			⇑P			Pn	09 53 06.0	+4.4
KSM	**Kuching 9.69 14**			*e*Pn			Pn	09 53 05.4	+3.9
	219nm,0.8s								
KSM				*e*Sn			Sn	09 54 57.5	+8.8
PDSI	**Padang 10.34 313**			P			**Pn**	**09 53 09.6**	**-0.9**
	618nm,1.2s,10µm								
MYKOM	**Kota Tinggi 10.60 337**			⇓P			Pn	09 53 17.6	+3.6
MYKOM	**Kota Tinggi 10.60 337**			*e*Pn			**Pn**	**09 53 16.1**	**+2.1**
BKNI	**Bangkinang 10.84 320**			P			**Pn**	**09 53 18.3**	**+1.1**
	1µm,1.0s,10µm31µm								
BKNI	**Bangkinang 10.84 320**			*e*Pn			**Pn**	**09 53 17.5**	**+0.2**
	1µm,0.9s								
KGM	**Kluang 11.03 334**			⇑P			**Pn**	**09 53 22.9**	**+3.1**
BKB	**Balikpapan 11.08 53**			P			Pn	09 53 25.0	+4.6
	2µm,1.2s,22µm51µm								
SISI	**Sabi 11.13 306**			P			**Pn**	**09 53 19.4**	**-1.7**
	3µm,0.9s,21µm								
SBUM	**Sibu 11.20 22**			⇓P			Pn	09 53 27.8	+5.8
SBUM	**Sibu 11.20 22**			*e*Pn			Pn	09 53 27.1	+5.0
COCO	**West Island 11.79 248**			*e*Pn			**Pn**	**09 53 29.4**	**-0.7**
	553nm,0.6s								
COCO				*e*Sn			Sn	09 55 26.4	-14
KAPI	**Kappang 12.00 76**			P			**Pn**	**09 53 33.6**	**+0.7**
	13nm,0.3s,baz=256,slow=8.9,SNR=55								
KAPI				S			**Sn**	**09 55 43.1**	**-1.9**
	1.9nm,0.3s,baz=217,slow=20,SNR=1.3								
KAPI				LR			LR	09 58 50.7	
	comp=Z,10µm,19.3s,baz=275,slow=41								
KAPI	**Kappang 12.00 76**			Pn			**Pn**	**09 53 35.1**	**+2.2**
	SNR=36								
MNSI	**Mandailing Nat 12.16 316**			P			**Pn**	**09 53 33.7**	**-1.4**
	642nm,0.9s,6µm								
WSI	**Waingapu 12.21 99**			P			**Pn**	**09 53 35.7**	**-0.1**
	2µm,0.6s,26µm								
BKSI	**Bulukumba 12.29 78**			P			**Pn**	**09 53 39.4**	**+2.6**
	962nm,1.1s,9µm								
SPSI	**Sidrap Palu 12.33 72**			P			Pn	09 53 41.5	+4.1
	371nm,1.1s,6µm								
BSSI	**Bau Bau, Buton 12.49 82**			P			**Pn**	**09 53 40.9**	**+1.4**
	2µm,1.1s,21µm								
PBSI	**Pulau Batu 12.54 309**			P			**Pn**	**09 53 38.4**	**-1.9**
	2µm,1.1s,17µm								
BASI	**Baing, Sumba 12.56 101**			P			**Pn**	**09 53 40.8**	**+0.3**
	2µm,0.7s,14µm								
FRIM	**Kepong 12.88 330**			⇓P			**Pn**	**09 53 46.6**	**+1.8**
PCI	**Palu 13.71 60**			P			**P**	**09 54 00.2**	**-1.1**
	4µm,1.2s,34µm49µm								
GSI	**Gunungsitoli 13.96 311**			P			Pn	09 53 54.7	-4.2
	1µm,0.8s,8µm								
GSI	**Gunungsitoli 13.96 311**			*e*Pn			Pn	09 53 54.6	-4.3
MMRI	**Maumere 14.05 94**			P			Pn	09 53 55.9	-4.2
	2µm,1.2s,13µm								
MMRI	**Maumere 14.05 94**			*e*Pn			Pn	09 53 56.2	-3.9
PSI	**Prapat 14.08 319**			P			Pn	09 53 56.5	-4.0
	10nm,0.3s,baz=152,slow=12,SNR=79								
PSI				LR			LR	10 00 31.1	
	comp=Z,8µm,19.6s,baz=136,slow=41								
PSI	**Prapat 14.08 319**			P			Pn	09 53 56.6	-4.0
PSI				pmax			pmax		
	comp=Z,10.0nm,0.3s								
PSI				MLR			MLR		
	comp=Z,8µm,19.6s								
KTGM	**Kuala Trenggan 14.13 340**			⇑P			**P**	**09 54 04.3**	**-1.7**
IPM	**Ipoh 14.25 330**			*e*Pn			**Pn**	**09 54 03.5**	**+0.8**
MPSI	**Mapaga 14.44 55**			P			**P**	**09 54 08.7**	**-0.7**
	comp=Z,2µm,1.2s,comp=Z,22µm								
TSI	**Tuntungan 14.85 320**			P			**Pn**	**09 54 10.6**	**+0.3**
	comp=Z,419nm,1.0s,comp=Z,6µm								
KDI	**Kendari 15.04 75**			P			**P**	**09 54 14.8**	**-1.3**
	comp=Z,638nm,1.0s,comp=Z,5µm								
KULM	**Kulim 15.14 331**			*e*Pn			**Pn**	**09 54 13.8**	**-0.3**
	comp=Z,191nm,0.9s								
APSI	**Ampana 15.28 63**			P			**P**	**09 54 18.3**	**-0.4**
	comp=Z,4µm,1.2s,comp=Z,35µm								
TOLI	**Toli-Toli 15.62 55**			*e*P			**P**	**09 54 22.9**	**+0.4**
	comp=Z,2µm,1.0s								
TOLI				*e*S			**S**	**09 57 25.9**	**+3.4**
TSM	**Tawau 15.67 39**			⇑P			**P**	**09 54 24.8**	**+1.8**
SOEI	**Soe 16.12 97**			P			**Pn**	**09 54 24.1**	**-2.4**
	comp=Z,2µm,1.0s,comp=Z,16µm								
SOEI	**Soe 16.12 97**			*e*Pn			**Pn**	**09 54 23.2**	**-3.3**
SOEI				*e*S			**S**	**09 57 34.3**	**+1.3**
KKM	**Kota Kinabalu 16.17 30**			⇓P			**P**	**09 54 29.9**	**+1.2**
KKM	**Kota Kinabalu 16.17 30**			*e*P			**P**	**09 54 29.5**	**+0.8**
	comp=Z,3µm,1.3s								
KKM				*e*S			**S**	**09 57 34.8**	**+0.8**
MRSI	**Marisa 16.22 59**			P			**P**	**09 54 30.3**	**+1.2**
	comp=Z,4µm,1.0s,comp=Z,38µm								
LUWI	**Luwuk 16.22 65**			P			**P**	**09 54 30.8**	**+1.6**
	comp=Z,4µm,1.2s,comp=Z,38µmcomp=Z,27µm								
LUWI	**Luwuk 16.22 65**			*e*Pn			**P**	**09 54 29.2**	**0.0**
SDKM	**Sandakan 16.35 34**			⇑P			**P**	**09 54 32.9**	**+2.3**
SKLT	**Songkhla 16.81 334**			P			**Pn**	**09 54 34.0**	**-0.9**
	comp=Z,152nm,1.1s,comp=Z,3µm								
LHMI	**Lhok Sumawe 17.20 320**			P			**Pn**	**09 54 39.7**	**0.0**
	comp=Z,436nm,1.2s,comp=Z,6µm								
LHMI	**Lhok Sumawe 17.20 320**			*e*P			**Pn**	**09 54 36.6**	**-3.1**
	comp=Z,434nm,0.9s								
MBWA	**Marble Bar 17.26 140**			Pn			**Pn**	**09 54 39.0**	**-1.4**
	SNR=19								
MBWA	**Marble Bar 17.26 140**			*e*P			**Pn**	**09 54 38.4**	**-2.0**
	comp=Z,204nm,1.0s								
MBWA				*e*S			Sn	09 57 28.0	-24
TRTT	**Trang 17.82 332**			P			**P**	**09 54 46.0**	**-0.8**
	comp=Z,440nm,1.1s,comp=Z,4µm								
KMSI	**Cibinong 18.03 62**			P			**Pn**	**09 54 50.4**	**+0.5**
	comp=Z,4µm,1.2s,comp=Z,40µmcomp=Z,22µm								
KRAB	**Krabi 18.39 331**			P			**P**	**09 54 52.4**	**-0.7**
	comp=Z,1µm,0.9s,comp=Z,7µm								
SRIT	**Nakonsritamara 18.52 333**			P			**P**	**09 54 55.2**	**+0.6**
	comp=Z,273nm,1.0s,comp=Z,3µm								
PKDT	**Phuket 18.53 328**			P			**P**	**09 54 53.4**	**-1.3**
	comp=Z,435nm,1.1s,comp=Z,13µm								
SANI	**Sanana 18.82 73**			P			**Pn**	**09 54 58.8**	**-0.5**
	comp=Z,1µm,1.5s,comp=Z,17µm								
SURA	**Surathani 19.02 334**			P			**Pn**	**09 55 01.4**	**-0.2**
	comp=Z,180nm,0.9s,comp=Z,4µm								
SURT	**Suratani 19.22 331**			P			**P**	**09 55 01.7**	**-0.5**
	comp=Z,210nm,1.0s,comp=Z,2µm								
NLAI	**Namlea 19.54 77**			P			**Pn**	**09 55 08.0**	**+0.2**
	comp=Z,2µm,0.9s,comp=Z,15µm								
DLV	**T Lat 19.83 1**			*e*P			**Pn**	**09 55 11.5**	**+0.1**
AAI	**Ambon 20.49 79**			P			**P**	**09 55 17.2**	**+1.2**
	comp=Z,4µm,1.0s,comp=Z,33µm								
CMBY	**CAMPBELL BAY 20.52 316**			*e*P			**P**	**09 55 17.5**	**+1.2**
CMBY				AMB			AMB	09 55 24.4	
	comp=Z,1µm,1.0s								
PPR	**Puerto Princes 20.63 31**			⇓*i*P			Pn	09 55 21.6	+1.1
SGSI	**Sangihe 20.96 57**			P			Pn	09 55 27.3	+2.9
TNTI	**Ternate 21.15 66**			P			**P**	**09 55 22.6**	**-0.4**
	comp=Z,7µm,1.0s,comp=Z,58µm								
TNTI	**Ternate 21.15 66**			*e*P			**P**	**09 55 22.9**	**-0.2**
	comp=Z,5µm,0.8s								
MSAI	**Masohi 21.28 79**			P			**P**	**09 55 22.2**	**-2.3**
	comp=Z,146nm,0.6s,comp=Z,2µm								
PATY	**Pattaya 21.99 341**			P			**P**	**09 55 33.9**	**+1.9**
	comp=Z,53nm,0.9s,comp=Z,2µm								
BNDI	**Bandanaira 22.00 82**			P			**P**	**09 55 31.2**	**-0.9**
	comp=Z,2µm,1.2s,comp=Z,15µm								
DCPH	**Dipolog City 22.46 43**			⇑*e*P			**P**	**09 55 41.0**	**+4.0**
DAV	**Davao City (W) 23.02 50**			*e*P			**P**	**09 55 44.5**	**+1.7**
	comp=Z,5µm,1.1s								
CGP	**Cagayan de Oro 23.30 46**			*e*P			**P**	**09 55 45.5**	**+0.1**
TBP	**Tagbilaran 23.61 42**			*e*P			**P**	**09 55 49.6**	**+1.4**
SRDT	**SRDT 23.92 338**			P			**P**	**09 55 52.3**	**+1.4**
	comp=Z,530nm,1.0s,comp=Z,6µm								
SIJI	**Sorong 24.20 74**			P			**P**	**09 55 52.4**	**-1.1**
	comp=Z,346nm,0.9s,baz=284,slow=6.3,SNR=76								
SIJI				S			**S**	**10 00 03.2**	**-2.6**
	comp=Z,14nm,0.8s,baz=229,slow=19,SNR=6.0								
SIJI				LR			LR	10 08 23.1	
	comp=Z,1µm,19.2s,baz=269,slow=44								
RCP	**Roxas 24.33 37**			⇑*e*P			**P**	**09 55 56.2**	**+1.6**
CHAI	**Chaiyaphum 24.51 346**			P			**P**	**09 55 56.6**	**+0.4**
	comp=Z,134nm,0.8s,comp=Z,1µm								
KHLT	**Khaolaem Dam 24.53 337**			P			**P**	**09 55 56.8**	**+0.4**
	comp=Z,250nm,1.1s,comp=Z,2µm								
FAKI	**Fak Fak 24.61 79**			P			**P**	**09 55 54.4**	**-1.8**
	comp=Z,459nm,1.0s,comp=Z,5µm								
FAKI	**Fak Fak 24.61 79**			*e*P			**P**	**09 55 55.0**	**-2.2**
FAKI				*e*PcP			**PcP**	**09 59 34.9**	**+1.8**
PBA	**Port Blair 24.77 322**			*e*P			P	09 55 59.1	+0.5
UTHA	**Uthaitani 24.93 340**			P			**P**	**09 56 00.2**	**+0.2**
	comp=Z,76nm,1.0s,comp=Z,511nm								
SKNT	**Sakolnakorn 25.15 351**			P			**P**	**09 56 02.4**	**+0.3**
	comp=Z,169nm,0.8s,comp=Z,3µm								
PBKT	**Sadao Pong 25.41 344**			P			**P**	**09 56 04.3**	**-0.1**
	comp=Z,204nm,0.8s,comp=Z,2µm								
TGY	**Tagaytay City 25.43 30**			P			**P**	**09 56 06.5**	**+1.8**
	comp=Z,312nm,0.5s								
TGY				LR			LR	10 06 44.8	
	comp=Z,105nm,19.6s,baz=270,slow=38								
PLP	**Palo 25.43 42**			⇑*e*P			**P**	**09 56 05.2**	**+0.5**
DGPR	**DIGLIPUR 25.86 324**			*e*P	

FORT Forrest 29.37 143 *e*P **P** **09 56 38.9 -0.9**
comp=Z,264nm,1.2s
SLVN Son La 29.45 352 *e*P **P** **09 56 41.6 +1.0**
comp=Z,61nm,1.0s
HKC Hong Kong Obse 30.72 11⇑*i*P P **P** 09 56 56.0 +4.3
WAMI Wamena 30.76 84 P **P** **09 56 54.1 +1.8**
SMPI Sarmi 31.11 81 P **P** **09 56 54.6 -0.8**
comp=Z,172nm,1.5s,comp=Z,4μm
PALK Pallekele 31.21 298 P P 09 56 59.5 +3.2
comp=Z,1μm,1.2s,SNR=21
PALK Pallekele 31.21 298 P **P** **09 56 58.1 +1.8**
comp=Z,202nm,1.0s,baz=122,slow=8.1,SNR=35
PALK S **S** **10 01 58.6 +2.2**
comp=Z,5.4nm,0.7s,baz=78,slow=20,SNR=2.1
PALK LR LR 10 08 01.7
comp=Z,1μm,20.6s,baz=118,slow=33
PALK Pallekele 31.21 298 P **P** **09 56 58.1 +1.8**
PALK S **S** **10 01 58.6 +2.2**
PALK pmax pmax
comp=Z,202nm,1.0s
PALK smax smax
comp=N,5.0nm,0.7s
PALK Pallekele 31.21 298 P P 09 57 00.8 +4.5
SNR=9.2
PALK Pallekele 31.21 298⇑*i*P **P** **09 56 58.8 +2.5**
SNR=31
PALK Pallekele 31.21 298⇑*i*P **P** **09 56 58.8 +2.5**
SNR=31
GZH Guangzhou 31.34 9 P P 09 57 03.8 +6.6
GZH sP sP 09 57 25.3 -2.3
GZH PMZ
comp=N,3μm,7.1s
GENI Genyem 32.42 82 P **P** **09 57 06.6 -0.2**
comp=N,346nm,1.2s,comp=N,3μm
JAY Jayapura 32.96 82 P **P** **09 57 10.8 -0.8**
comp=N,177nm,0.9s,comp=N,4μm
JAY Jayapura 32.96 82 P **P** **09 57 10.4 -1.2**
comp=N,48nm,0.7s,baz=232,slow=11,SNR=14
JAY Jayapura 32.96 82 P **P** **09 57 10.4 -1.2**
JAY pmax pmax
comp=Z,48nm,0.7s
TWG Pinlang 33.19 22 *e*P **P** **09 57 14.2 +0.8**
comp=Z,393nm,0.9s
KMI Kunming 33.34 351⇑P **P** **09 57 17.3 +2.3**
KMI pP **pP** **09 57 35.3 0.0**
KMI sP **sP** **09 57 44.5 -1.0**
KMI PP **PP** **09 58 34.8 +2.7**
KMI S **S** **10 02 33.5 +3.9**
KMI sS **sS** **10 03 04.5 -0.2**
KMI SS **SnSn** **10 04 43.8 +4.1**
KMI PMZ
comp=Z,110nm,0.9s
KMI PMZ
comp=Z,1μm,5.2s
KMI LN
comp=Z,7μm,12.9s
KMI LE
comp=Z,5μm,13.8s
KMI LZ
comp=Z,9μm,13.5s
TPUB Ta-pu 33.47 21 *e*P **P** **09 57 16.2 +0.3**
comp=Z,137nm,0.7s
YULB Yu-li 33.80 22 *e*P **P** **09 57 19.0 +0.3**
comp=Z,76nm,0.6s
SSLB Suanglung 34.03 21 *e*P **P** **09 57 21.4 +0.6**
comp=Z,323nm,0.9s
GYA Guiyang 34.30 358⇑*i*P **P** **09 57 23.8 +0.7**
GYA pP **pP** **09 57 45.0 +1.5**
GYA sP **sP** **09 57 53.5 -0.1**
GYA PP **PP** **09 58 44.0 +1.5**
GYA PcP **PcP** **10 00 00.3 +2.6**
GYA S **S** **10 02 44.8 +0.7**
GYA sS **sS** **10 03 21.5 +2.2**
GYA ScP **ScP** **10 03 37.8 +2.8**
GYA SS **SnSn** **10 05 05.0 +2.4**
GYA ScS **ScS** **10 07 39.3 +1.5**
GYA PMZ
comp=Z,190nm,0.9s
GYA PMZ
comp=Z,1μm,12.1s
GYA LN
comp=Z,4μm,20.5s
GYA LE
comp=Z,2μm,19.3s
GYA LZ
comp=Z,6μm,25.5s
QZH Quanzhou 34.33 17⇑*i*P **P** **09 57 24.3 +1.0**
QZH PP **PP** **09 58 45.0 +2.2**
QZH PMZ
comp=Z,2μm,5.2s
QZH LN
comp=Z,2μm,14.6s
QZH LE
comp=Z,1μm,10.3s
QZH LZ
comp=Z,16μm,30.9s
NACB Ninganchiao 34.62 22 *e*P **P** **09 57 26.0 +0.2**
comp=Z,53nm,0.4s
NACB *e*PP **PnPn** **09 58 44.8 +0.4**
MDRS Chennai 34.66 307 *e*P **P** **09 57 28.7 +2.4**
COEN Coen 34.95 103 *e*P **P** **09 57 28.6 -0.3**
comp=Z,211nm,0.6s
YHNB Yeheng 34.99 21 *e*P **P** **09 57 29.6 +0.6**
comp=Z,88nm,0.4s
TRD Trivandrum 35.06 297 *e*P **P** **09 57 32.0 +2.2**
TRD AMB AMB 09 57 36.0
comp=Z,182nm,0.9s
H08S2 Diego Garcia H 35.22 268 T T 10 34 56.9
baz=92,slow=76,SNR=173
H08S3 Diego Garcia H 35.23 268 T T 10 34 56.9
baz=92,slow=76,SNR=21
H08S1 Diego Carcia H 35.24 268 T T 10 34 54.3
baz=92,slow=76,SNR=22
TATO Taipei 35.31 21 *e*P **P** **09 57 32.2 +0.5**
comp=Z,94nm,0.5s
VIS Vishakhapatnam 35.36 316 *e*P **P** **09 57 34.5 +2.3**
VIS AMB AMB 09 57 35.3
comp=Z,480nm,1.2s
CHLP Challavanipeta 35.42 318 *e*P **P** **09 57 33.5 +0.7**
CHLP IAmb IAmb 09 57 35.5
comp=Z,312nm,0.7s
CHLP *e*S **S** **10 03 00.3 -1.1**
YOJ Yonaguni jima 35.43 24 *e*P **P** **09 57 33.2 +0.5**
comp=Z,230nm,0.9s
YOJ *e*PcP **PcP** **10 00 01.5 +0.7**
YOJ *e*ScP **ScP** **10 03 39.4 +0.5**
SKHT Srikalahasti 35.48 307 *e*P **P** **09 57 33.9 +0.6**
SKHT IAmb IAmb 09 57 36.9
comp=Z,1μm,1.0s
SKHT *e*S **S** **10 03 03.1 +0.7**
BBOO Buckleboo 35.80 137 *e*P **P** **09 57 34.7 -1.2**
comp=Z,84nm,0.8s
PVM Polavaram 36.23 314 *e*P **P** **09 57 40.1 +0.5**
PVM IAmb IAmb 09 57 43.1
comp=Z,1μm,1.0s
PVM *e*S **S** **10 03 13.8 0.0**
ADKI Addanki 36.54 310 *e*P **P** **09 57 42.7 +0.3**
ADKI IAmb IAmb 09 57 45.6
comp=Z,860nm,1.1s
ADKI *e*S **S** **10 03 18.7 +0.1**
SHL Shillong 36.90 335 *e*P **P** **09 57 44.6 -0.9**
SHL AMB AMB 09 57 47.9
comp=Z,249nm,0.7s
SHL *ex* x 10 03 24.5
RCLA Racherla 37.08 309 *e*P **P** **09 57 47.3 +0.3**
RCLA IAmb IAmb 09 57 49.8
comp=Z,1μm,1.0s
RCLA *e*S **S** **10 03 26.0 -0.9**
NJS Nagarjunasagar 37.48 311 *e*P **P** **09 57 50.6 +0.3**
NJS IAmb IAmb 09 57 53.2
comp=Z,1μm,1.1s
NJS *e*S **S** **10 03 32.0 -0.9**
SRLM Srisailam 37.52 310 *e*P **P** **09 57 50.5 -0.1**
SRLM IAmb IAmb 09 57 54.1
comp=Z,1μm,0.9s
SRLM *e*S **S** **10 03 32.5 -1.0**
ENH Enshi 38.09 2 *e*P **P** **09 57 55.8 +0.4**
comp=Z,120nm,0.8s
URV Uravakonda 38.11 307 *e*P **P** **09 57 55.9 +0.2**
URV IAmb IAmb 09 57 59.2
comp=Z,1μm,1.0s
URV *e*S **S** **10 03 41.4 -1.1**
BOK Bokaro 38.32 326 *e*P **P** **09 57 57.9 +0.5**
BOK AMB AMB 09 58 01.1
comp=Z,262nm,0.0s

HYB Hyderabad 38.58 311 *i*P **P** **09 58 00.0 +0.4**
HYB *e*S **S** **10 03 51.0 +1.4**
HYB Hyderabad 38.58 311 *e*P **P** **09 58 01.1 +1.5**
HYBB Hyderabad (bro 38.58 311 *e*P **P** **09 57 59.8 +0.1**
HYBB IAmb IAmb 09 58 01.9
comp=Z,774nm,0.7s
HYBB *e* 09 58 18.1
HYBB *e*S **S** **10 03 48.5 -1.1**
HYBB *e*SS **SnSn** **10 06 45.0 -1.1**
PMG Port Moresby 38.67 95*c i*P **P** **09 58 00.3 -0.1**
PMG pmax pmax
comp=Z,1μm,1.7s
PMG Port Moresby 38.67 95 *e*P **P** **09 58 00.2 -0.2**
comp=Z,355nm,1.0s
WHN Wuhan 38.81 9⇑*i*P **P** **09 58 01.8 +0.5**
WHN pP **pP** **09 58 19.3 -2.7**
WHN PP **PP** **09 59 33.5 +1.5**
WHN S **S** **10 03 48.3 -4.3**
WHN PMZ
comp=Z,2μm,5.4s
WHN LN
comp=Z,3μm,12.4s
WHN LE
comp=Z,3μm,11.3s
WHN LZ
comp=Z,8μm,20.1s
CTA Charters Tower 38.85 112 P **P** **09 58 01.8 -0.1**
comp=Z,28nm,0.9s,baz=281,slow=12,SNR=20
CTA Charters Tower 38.85 112 P **P** **09 58 01.8 -0.1**
CTA pmax pmax
comp=Z,28nm,0.9s
CTAO Charters Tower 38.85 112 *e*P **P** **09 58 02.6 +0.7**
comp=Z,217nm,1.0s
CTAO *e* 10 03 54.0
CD2 Chengdu 38.92 354 P **P** **09 58 02.8 +0.5**
CD2 pP **pP** **09 58 25.3 +2.3**
CD2 PP **PP** **09 59 34.5 +1.3**
CD2 PcP **PcP** **10 00 10.3 -1.1**
CD2 S **S** **10 03 56.3 +1.9**
CD2 PMZ
comp=Z,240nm,0.6s
CD2 PMZ
comp=Z,1μm,5.1s
CD2 LN
comp=Z,4μm,16.6s
CD2 LZ
comp=Z,6μm,15.6s
RPR Rampur 38.95 314 *e*P **P** **09 58 03.4 +0.7**
RPR IAmb IAmb 09 58 06.1
comp=Z,946nm,1.1s
RPR *e*ScP **S** **10 03 54.0 -1.0**
RPR *e*S **ScP** **10 03 55.6 +3.3**
STKA Stephens Creek 39.19 132 P **P** **09 58 04.2 -0.3**
comp=Z,151nm,0.6s,baz=307,slow=7.5,SNR=214
STKA S **S** **10 03 56.6 -1.8**
comp=Z,12nm,1.0s,baz=299,slow=13,SNR=3.4
STKA LR LR 10 15 53.9
comp=Z,2μm,21.1s,baz=294,slow=39
STKA Stephens Creek 39.19 132 P **P** **09 58 04.2 -0.3**
STKA S **S** **10 03 56.6 -1.8**
STKA pmax pmax
comp=Z,151nm,0.6s
STKA smax smax
comp=N,12nm,1.0s
STKA MLR MLR
comp=Z,2μm,21.1s
STKA Stephens Creek 39.19 132 *e*P **P** **09 58 04.3 -0.3**
comp=Z,54nm,0.8s
STKA S **S** **10 03 56.6 -1.8**
SRSP Sriramsagar 39.68 313 *e*P **P** **09 58 08.5 -0.3**
SRSP IAmb IAmb 09 58 11.5
comp=Z,1μm,1.0s
SRSP *e*ScP **ScP** **10 03 56.4 +1.2**
SRSP *e*S **S** **10 04 04.7 -1.4**
JOW Kunigami 39.81 29 P **P** **09 58 09.9 +0.1**
comp=Z,55nm,0.9s,baz=235,slow=6.1,SNR=27
JOW Kunigami 39.81 29 *e*P **P** **09 58 09.8 +0.1**
comp=Z,237nm,0.9s
ODAN Odare 40.04 331 *e*P **P** **09 58 11.4 -0.5**
comp=Z,738nm,0.9s
TAPN Taplejung 40.30 331 *e*P **P** **09 58 14.0 -0.1**
comp=Z,1μm,0.9s
KLRI Killari 40.45 310 *e*P **P** **09 58 15.4 +0.2**
KLRI IAmb IAmb 09 58 18.5
comp=Z,975nm,0.8s
KLRI *e*ScP **ScP** **10 03 59.4 +1.2**
KLRI *e*S **S** **10 04 16.2 -1.4**
AIS Amsterdam Isla 40.48 218 P **P** **09 58 14.0 -1.1**
AIS R 10 09 00.0
RAMN Ramite 40.51 330 *e*P **P** **09 58 15.4 -0.3**
NGP Nagpur 40.64 316 *e*P **P** **09 58 17.6 +1.0**
LSA Lhasa 40.87 337 P **P** **09 58 18.0 -1.0**
LSA S S 10 04 17.8 -6.6
LSA LN
comp=Z,1μm,29.0s
LSA LE
comp=Z,2μm,26.2s
LSA LZ
comp=Z,3μm,30.9s
LSA Lhasa 40.87 337 *e*P **P** **09 58 19.1 +0.1**
comp=Z,396nm,0.8s
SSE Sheshan 40.88 17⇑P **P** **09 58 20.0 +1.6**
SSE pP **pP** **09 58 37.5 -1.7**
SSE sP **sP** **09 58 48.8 -0.5**
SSE S **S** **10 04 26.3 +2.9**
SSE sS **sS** **10 04 59.5 +0.3**
SSE PMZ
comp=Z,94nm,0.8s
SSE PMZ
comp=Z,1μm,6.3s
SSE LN
comp=Z,1μm,21.2s
SSE LE
comp=Z,1μm,21.2s
SSE LZ
comp=Z,2μm,24.0s
NJ2 Nanjing 41.16 14 *e*P P 09 58 24.0 +3.3
NJ2 S **S** **10 04 29.0 +1.4**
NJ2 PMZ
comp=Z,230nm,0.7s
NJ2 LN
comp=Z,14μm,23.1s
NJ2 LE
comp=Z,16μm,25.4s
NJ2 LZ
comp=Z,16μm,25.3s
GOA Goa 41.17 305 *e*P **P** **09 58 23.5 +2.4**
GOA AMB AMB 09 58 24.6
comp=Z,135nm,0.8s
PKI Pulchoki 41.62 329 *e*P **P** **09 58 23.8 -1.1**
comp=Z,238nm,0.8s
PKIN Phulchoki 41.63 329 *e*P **P** **09 58 24.2 -0.8**
GUN Gumba 41.66 330 *e*P **P** **09 58 25.0 -0.3**
comp=Z,736nm,0.7s
AKL Akola 41.77 314 *e*P **P** **09 58 27.5 +1.5**
AKL AMB AMB 09 58 32.0
comp=Z,448nm,0.8s
DMN Daman 41.80 329 *e*P **P** **09 58 25.7 -0.7**
comp=Z,692nm,0.7s
XAN Xi'an 41.83 1 P **P** **09 58 26.5 +0.2**
XAN pP **pP** **09 58 45.0 -2.1**
XAN sP **sP** **09 58 54.0 -3.2**
XAN PP **PP** **10 00 07.0 +2.2**
XAN S **S** **10 04 36.5 -1.1**
XAN sS **sS** **10 05 09.5 -4.0**
XAN SS SS 10 07 39.5 -7.8
XAN PMZ
comp=Z,74nm,0.8s
XAN PMZ
comp=Z,330nm,7.5s
XAN LN
comp=Z,3μm,15.4s
XAN LE
comp=Z,590nm,16.5s
XAN LZ
comp=Z,1μm,14.2s
KKN Kakani 41.86 329 *e*P **P** **09 58 26.2 -0.6**
comp=Z,545nm,0.9s
GKN Gorkha 42.36 329 *e*P **P** **09 58 30.1 -0.7**
comp=Z,565nm,0.8s
GUMO Guam 42.39 60 P **P** **09 58 29.5 -1.5**
comp=Z,338nm,0.6s,baz=182,slow=11,SNR=21
GUMO Guam 42.39 60 P **P** **09 58 29.5 -1.5**
GUMO pmax pmax
comp=Z,338nm,0.6s

GUMO Guam 42.39 60 P **P** **09 58 29.5 -1.5**
comp=Z,117nm,0.7s
KOLN Koldanda 42.72 327 *e*P **P** **09 58 33.3 -0.5**
comp=Z,826nm,0.6s
POO Poona 42.83 308⇑*i*P **P** **09 58 35.0 +0.4**
comp=Z,85nm,1.0s
POO *e*P **P** **09 58 36.0 +1.5**
POO AMB AMB 09 58 39.1
comp=Z,884nm,1.8s
BHPL Bhopal 43.15 317 *e*P **P** **09 58 38.1 +0.9**
BHPL AMB AMB 09 58 39.4
comp=Z,770nm,1.5s
LZH Lanzhou 44.05 355⇑P **P** **09 58 45.5 +1.3**
LZH pP **pP** **09 59 04.0 -1.3**
LZH sP **sP** **09 59 12.3 -3.0**
LZH PP **PP** **10 00 31.0 +2.4**
LZH ScP **ScP** **10 04 14.0 +1.6**
LZH *e*S **S** **10 05 12.3 +2.1**
LZH sS **sS** **10 05 45.0 -1.3**
LZH SS **SS** **10 08 29.5 -1.2**
LZH PMZ
comp=Z,220nm,1.0s
LZH PMZ
comp=Z,1μm,4.2s
EIDS Eidsvold 44.44 118 *e*P **P** **09 58 48.6 +1.1**
comp=Z,84nm,1.3s
KSSGP Seogwipo 44.64 22 P **P** **09 58 50.7 +1.9**
SNR=14
KSSGP Seogwipo 44.64 22 P **P** **09 58 50.7 +1.9**
SNR=14
KSJJU Jeju 44.81 22 P **P** **09 58 51.8 +1.6**
SNR=26
KSJJU Jeju 44.81 22 P **P** **09 58 51.8 +1.6**
SNR=26
TIA Tai'an 44.81 10⇑P **P** **09 58 50.3 +0.1**
TIA PP **PP** **10 00 34.0 -2.6**
TIA ScP **ScP** **10 04 18.3 +3.0**
TIA S **S** **10 05 23.0 +2.0**
TIA SS **ScS** **10 08 39.0 -0.1**
TIA PMZ
comp=Z,260nm,1.0s
TIA PMZ
comp=Z,2μm,11.0s
TIA LN
comp=Z,3μm,28.0s
TIA LE
comp=Z,2μm,26.0s
TIA LZ
comp=Z,6μm,30.0s
KSHUK Heuksando 45.55 20 P **P** **09 58 57.4 +1.4**
SNR=5.2
KSHUK Heuksando 45.55 20 P **P** **09 58 57.4 +1.4**
SNR=5.2
KSJDO Jindo 45.66 21 P **P** **09 58 58.0 +1.1**
SNR=28
KSJDO Jindo 45.66 21 P **P** **09 58 58.0 +1.1**
SNR=28
TIY Taiyuan 45.67 5 *e*P **P** **09 58 57.5 +0.5**
TIY PP **PP** **10 00 49.5 +3.7**
TIY S **S** **10 05 33.0 -0.6**
TIY PMZ
comp=Z,1μm,6.7s
TIY LN
comp=Z,3μm,16.7s
TIY LE
comp=Z,640nm,9.6s
TIY LZ
comp=Z,2μm,16.9s
KSWAN Wando 45.73 22 P **P** **09 58 58.6 +1.2**
SNR=30
KSWAN Wando 45.73 22 P **P** **09 58 58.6 +1.2**
SNR=30
KSKOH Goheung 46.13 22 P **P** **09 59 01.5 +1.0**
SNR=9.6
KSKOH Goheung 46.13 22 P **P** **09 59 01.5 +1.0**
SNR=9.6
JNU Nakatsue 46.32 27 P **P** **09 59 01.9 -0.2**
comp=Z,142nm,0.8s,baz=209,slow=3.2,SNR=28
JNU PcP **PcP** **10 00 36.8 +0.7**
comp=Z,55nm,0.8s,baz=354,slow=2.2,SNR=6.6
JNU Nakatsue 46.32 27 *e*P **P** **09 59 02.1 -0.1**
comp=Z,136nm,1.1s
JNU PcP **PcP** **10 00 36.8 +0.7**
JNU *e*PcP **PcP** **10 00 37.1 +1.0**
ARMA Armidale 46.41 125 *e*P **P** **09 59 02.9 -0.2**
comp=Z,103nm,1.1s
KSKWJ Gwangju 46.52 22 P **P** **09 59 04.4 +0.8**
SNR=5.9
KSKWJ Gwangju 46.52 22 P **P** **09 59 04.3 +0.6**
SNR=9.7
KSNAH Namhae 46.56 23 P **P** **09 59 04.4 +0.5**
SNR=9.2
KSNAH Namhae 46.56 23 P **P** **09 59 04.4 +0.5**
SNR=9.2
KSJEU Jeongeup 46.80 21 P **P** **09 59 06.5 +0.7**
SNR=34
KSJEU Jeongeup 46.80 21 P **P** **09 59 06.5 +0.7**
SNR=34
KSJIN Jinju 46.91 23 P **P** **09 59 07.1 +0.5**
SNR=8.7
KSJIN Jinju 46.91 23 P **P** **09 59 07.1 +0.5**
SNR=8.7
NDI New Delhi 47.08 322 *e*P **P** **09 59 09.0 +0.9**
NDI *ex* x 10 05 55.0
KSGUS GUNSAN 47.23 21 P **P** **09 59 09.8 +0.6**
SNR=34
KSGUS GUNSAN 47.23 21 P **P** **09 59 09.5 +0.4**
SNR=15
KSTEJ Daejeon 47.74 21 P **P** **09 59 13.6 +0.6**
SNR=16
KSTEJ Daejeon 47.74 21 P **P** **09 59 13.6 +0.6**
SNR=16
TJN Taejon 47.74 21*c i*P **P** **09 59 13.2 +0.1**
KSKOJ Gongju 47.75 21 P **P** **09 59 13.7 +0.6**
SNR=9.4
DDI Dehra Dun 47.77 324 *e*P **P** **09 59 14.0 +0.5**
KSSES Seosan 47.80 20 P **P** **09 59 14.0 +0.5**
SNR=37
GTA Gaotai 47.80 351⇑P **P** **09 59 14.8 +1.1**
GTA pP **pP** **09 59 32.8 -2.2**
GTA sP **sP** **09 59 41.5 -3.4**
GTA PcP **PcP** **10 00 43.3 +2.0**
GTA PP **PP** **10 01 07.0 +0.6**
GTA ScP **ScP** **10 04 30.0 +2.1**
GTA PcS **PcS** **10 04 37.5 +0.4**
GTA S **S** **10 06 05.5 +1.6**
GTA sS **sS** **10 06 38.3 -2.1**
GTA ScS **ScS** **10 08 56.8 -1.9**
GTA SS **SS** **10 09 29.8 -4.0**
GTA PMZ
comp=Z,99nm,1.3s
GTA PMZ
comp=Z,2μm,4.9s
GTA LN
comp=Z,3μm,24.7s
GTA LE
comp=Z,4μm,22.8s
GTA LZ
comp=Z,4μm,24.2s
KSCPR CHUPUNGNYEONG 47.82 22 P **P** **09 59 14.4 +0.7**
SNR=30
KSBON Boeun 48.01 21 P **P** **09 59 16.3 +1.1**
SNR=50
KSBON Boeun 48.01 21 P **P** **09 59 16.6 +1.4**
SNR=5.7
CBIJ Chichi jima 48.09 42 P **P** **09 59 13.5 -2.4**
comp=Z,44nm,1.0s
JCJ Chichijima 48.09 42 P **P** **09 59 13.5 -2.4**
comp=Z,182nm,0.3s,baz=264,slow=11,SNR=42
JCJ LR LR 10 20 25.1
comp=Z,712nm,20.4s,baz=230,slow=37
KSCEA Cheonan 48.10 21 P **P** **09 59 18.3 +2.4**
SNR=11
KSBAR Backryungdo 48.33 18 P **P** **09 59 17.6 +0.1**
SNR=34
KSPHA Pohang 48.33 23 P **P** **09 59 18.8 +1.1**
SNR=8.6
KSPHA Pohang 48.33 23 P **P** **09 59 18.8 +1.1**
SNR=8.6
BJT Baijiatuau 48.38 8 *e*P **P** **09 59 18.5 +0.6**
comp=Z,169nm,0.4s
BJT *e*PcP **PcP** **10 00 44.8 +1.6**
BJI Beijing 48.40 8 P **P** **09 59 18.8 +0.7**
BJI PP **PP** **10 01 14.5 +2.9**
BJI S **S** **10 06 12.0 -0.1**
BJI PMZ

BJI PMZ
comp=Z,2µm,4.6s
BJI LN
comp=Z,2µm,29.2s
BJI LE
comp=Z,2µm,23.9s
BJI LZ
comp=Z,5µm,39.8s
KSSWO Suwon 48.40 20 P **P 09 59 18.8 +0.7**
SNR=46
KSSWO Suwon 48.40 20 P **P 09 59 19.3 +1.1**
SNR=12
KSCHJ Chungju 48.41 21 P **P 09 59 19.0 +0.8**
SNR=8.5
KSCHJ Chungju 48.41 21 P **P 09 59 19.0 +0.8**
SNR=8.5
BTO Baotou 48.41 2 *e*P **P 09 59 19.0 +0.7**
INCN Inchon 48.48 20 *e*P **P 09 59 18.7 -0.1**
comp=Z,131nm,0.8s
INCN *e*PcP **PcP 10 00 45.2 +1.5**
KSICN Icheon 58.58 21 P **P 09 59 20.5 +0.9**
SNR=28
KSICN Icheon 48.58 21 P **P 09 59 20.5 +0.9**
SNR=28
KSSEO Seoul 48.59 20 P **P 09 59 20.1 +0.6**
SNR=29
KSSEO Seoul 48.59 20 P **P 09 59 20.5 +1.0**
SNR=7.6
KSGAH Ganghwa 48.63 19 P **P 09 59 20.1 +0.2**
SNR=56
KSGAH Ganghwa 48.63 19 P **P 09 59 20.9 +1.1**
SNR=10
HHC Hu-ho-hao-te 48.73 4 *e*P **P 09 59 21.5 +0.7**
HHC pP **pP 09 59 45.3 +3.1**
HHC PP **PP 10 01 19.5 +4.7**
HHC S **S 10 06 16.5 -0.5**
HHC ScS **ScS 10 09 03.0 -1.8**
HHC PMZ
comp=Z,50nm,1.1s
HHC PMZ
comp=Z,1µm,7.8s
HHC LN
comp=Z,2µm,14.8s
HHC LE
comp=Z,980nm,13.5s
HHC LZ
comp=Z,2µm,14.4s
BHJ Bhuj 48.74 311 *e*P **P 09 59 22.5 +1.5**
BHJ AMB AMB 09 59 26.6
comp=Z,515nm,2.1s
KSULJ Uljin 48.79 23 P **P 09 59 23.6 +2.5**
SNR=11
KSULJ Uljin 48.79 23 P **P 09 59 22.4 +1.3**
SNR=12
KSYOW Yeongwol 48.85 22 P **P 09 59 22.6 +1.0**
SNR=7.8
KSYOW Yeongwol 48.85 22 P **P 09 59 22.6 +1.0**
SNR=7.8
KSAR Wonju Array Be 48.88 21 P **P 09 59 21.6 -0.2**
KSAR PcP **PcP 10 00 44.9 -0.2**
KSAR ScP **ScP 10 04 31.8 -0.6**
KSAR S **S 10 06 16.4 -2.5**
SMLA Simla 48.88 324 *i* P **P 09 59 21.6 -0.3**
SMLA *i* x x 10 06 13.1
KSMUS Musan 48.89 20 P **P 09 59 22.5 +0.6**
SNR=25
KSMUS Musan 48.89 20 P **P 09 59 22.8 +0.9**
SNR=13
KSRS Korea Array 48.91 21 P **P 09 59 21.6 -0.3**
comp=Z,103nm,1.0s,baz=204,slow=8.3,SNR=136
KSRS PcP **PcP 10 00 44.9 -0.3**
comp=Z,53nm,0.8s,baz=198,slow=3.5,SNR=12
KSRS ScP **ScP 10 04 31.8 -0.6**
comp=Z,8.9nm,1.0s,baz=214,slow=4.0,SNR=6.7
KSRS S **S 10 06 16.4 -2.8**
comp=Z,1.2nm,0.8s,baz=59,slow=34,SNR=2.9
KSRS LR LR 10 22 37.5
comp=Z,533nm,18.9s,baz=206,slow=39
KSRS Korea Array 48.91 21 P **P 09 59 21.7 -0.3**
KSRS 10 00 44.9
KSRS S **S 10 06 16.5 -2.8**
KSRS pmax pmax
comp=Z,103nm,1.0s
KSRS pmax pmax
comp=Z,53nm,0.9s
KSRS pmax pmax
comp=N,9.0nm,1.0s
KSRS smax smax
comp=N,1.0nm,0.8s
KSRS MLR MLR
comp=Z,533nm,18.9s
KSWJU Wonju 48.91 21 P **P 09 59 23.1 +1.0**
SNR=14
TAU Tasmania Unive 48.91 142 P **P 09 59 21.6 -0.5**
comp=Z,92nm,1.0s
KSTBA Taebaek 48.99 22 P **P 09 59 23.7 +0.9**
SNR=22
KSTBA Taebaek 48.99 22 P **P 09 59 23.7 +0.9**
SNR=22
KSDDC Dongducheon 49.01 20 P **P 09 59 23.5 +0.7**
SNR=19
YNCB YEONCHEON 49.09 20 P **P 09 59 24.0 +0.6**
SNR=18
KSJES JEONGSEON 49.15 22 P **P 09 59 25.0 +1.0**
SNR=21
KSCHC Chuncheon 49.16 21 P **P 09 59 25.0 +1.0**
SNR=46
KSCHC Chuncheon 49.16 21 P **P 09 59 25.0 +1.0**
SNR=46
SDNR Sundarnagar 49.27 324 *e*P **P 09 59 25.0 0.0**
SDNR *ex* x 10 01 25.0
KSCWO Cheorwon 49.33 20 P **P 09 59 26.2 +0.9**
SNR=79
KSDGY Daegwallycong 49.39 22 P **P 09 59 26.9 +1.1**
SNR=18
KSIJA INJE 49.45 21 P **P 09 59 27.7 +1.5**
SNR=16
BHK Bhakra 49.53 324 *e*P **P 09 59 26.8 -0.2**
BHK *ex* x 10 00 16.8
KSJMJ Jumunjin 49.59 22 P **P 09 59 28.7 +1.6**
SNR=12
SEHB SEOHWA 49.75 21 P **P 09 59 29.4 +0.9**
SNR=13
KSSKC Sokcho 49.86 21 P **P 09 59 30.8 +1.5**
SNR=9.0
KSULL Ulleungdo 50.05 24 P **P 09 59 32.4 +1.7**
SNR=7.7
DHRM DHARAMSHALA 50.21 325 *e*P **P 09 59 32.5 +0.2**
DLH Dalhousie 50.61 325 *e*P **P 09 59 34.0 -1.4**
DLH *ex* x 10 00 34.0
JHJ2 Mitsune 50.85 35 *e*P **P 09 59 34.5 -2.3**
comp=Z,180nm,1.1s
HNR Honiara 51.28 96 *e*P **P 09 59 39.0 -1.4**
HNR Honiara 51.28 96 *e*P **P 09 59 39.5 -1.0**
comp=Z,516nm,0.8s
SNY Shenyang 51.60 15 ⇑P **P 09 59 41.3 -1.0**
SNY PMZ
comp=Z,73nm,1.0s
SNY PMZ
comp=Z,180nm,3.9s
SNY LZ
comp=Z,3µm,35.4s
PAF Port-aux-Franc 51.95 211 P P 09 59 50.0 +5.1
PAF S S 10 06 54.0 -7.3
PAF R 10 14 00.0
RER Riviere de l'E 52.05 249 *e*P **P 09 59 47.7 +1.5**
comp=Z,208nm,0.8s
MAT Matsushiro 52.59 31 P **P 09 59 47.8 -2.0**
MAT S **S 10 07 13.0 +2.6**
MAJO Matsushiro 52.59 31 *c i*P **P 09 59 48.3 -1.5**
MAJO pmax pmax
comp=Z,1µm,1.0s
MAJO Matsushiro 52.59 31 *e*P **P 09 59 47.8 -2.0**
comp=Z,193nm,1.0s
MAJO *e*PcP **PcP 10 00 60.0 +1.1**
MJAR Matsushiro Arr 52.59 31 P **P 09 59 48.5 -1.3**
comp=Z,152nm,1.0s,baz=210,slow=8.9,SNR=287
MJAR PcP **PcP 10 00 58.5 -0.4**
comp=Z,86nm,0.8s,baz=208,slow=5.3,SNR=15
MJAR ScP **ScP 10 04 47.5 -0.9**
comp=Z,10nm,1.0s,baz=209,slow=5.9,SNR=5.9
MJAR S **S 10 07 06.6 -3.8**
comp=Z,1.6nm,1.0s,baz=227,slow=25,SNR=3.4
MJAR LR LR 10 23 00.4
comp=Z,1µm,20.6s,baz=220,slow=37
MJAR Matsushiro Arr 52.59 31 P **P 09 59 48.5 -1.3**
MJAR 10 00 58.5
MJAR S **S 10 07 06.6 -3.8**
MJAR pmax pmax
comp=Z,153nm,1.0s
MJAR pmax pmax
comp=Z,86nm,0.8s
MJAR pmax pmax
comp=N,10.0nm,1.0s
MJAR smax smax
comp=N,2.0nm,1.0s
MJAR MLR MLR
comp=Z,1µm,20.7s
CN2 Changchun 53.93 16 *e*P **P 09 59 57.5 -2.0**
CN2 *es*P sP 10 00 25.3 -5.7
CN2 PP **PP 10 01 59.5 -2.2**
CN2 *e*S **S 10 07 23.8 -4.5**
CN2 ScS **ScS 10 09 35.3 -5.1**
CN2 PMZ
comp=Z,50nm,1.0s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,1µm,23.0s
CN2 LE
comp=Z,700nm,23.0s
CN2 LZ
comp=Z,1µm,24.0s
WMQ Urumqi 54.80 342 P **P 10 00 06.3 +0.5**
WMQ pP **pP 10 00 30.0 +2.4**
WMQ sP **sP 10 00 41.3 +3.9**
WMQ PcP **PcP 10 01 08.8 +1.6**
WMQ PP **PP 10 02 12.3 +2.7**
WMQ ScP **ScP 10 04 58.8 +0.9**
WMQ S **S 10 07 37.5 -2.5**
WMQ sS **sS 10 08 19.0 +1.7**
WMQ ScS **ScS 10 09 42.3 -4.4**
WMQ SS **SS 10 11 27.0 +2.3**
WMQ PMZ
comp=Z,140nm,0.9s
WMQ PMZ
comp=Z,2µm,5.7s
WMQ LN
comp=Z,2µm,16.5s
WMQ LE
comp=Z,760nm,17.0s
WMQ LZ
comp=Z,3µm,20.1s
VLA Vladivostok 55.32 21 *c i*P **P 10 00 09.2 -0.3**
VLA pmax pmax
comp=Z,127nm,1.0s
SONM Songino Array 55.62 359 P **P 10 00 12.2 +0.4**
comp=Z,90nm,0.6s,baz=175,slow=7.8,SNR=128
SONM PcP **PcP 10 01 10.6 +0.2**
comp=Z,40nm,0.4s,baz=184,slow=4.0,SNR=25
SONM ScP **ScP 10 05 00.8 -0.7**
comp=Z,28nm,1.0s,baz=178,slow=4.0,SNR=8.4
SONM S **S 10 07 46.1 -5.0**
comp=Z,1.2nm,0.7s,baz=185,slow=14,SNR=2.2
SONM LR LR 10 24 58.4
comp=Z,5µm,22.0s,baz=174,slow=37
SONM PKP2ab 10 30 54.3
comp=Z,1.3nm,0.9s,baz=1.9,slow=4.5,SNR=3.9
SONM Songino Array 55.62 359 P **P 10 00 12.2 +0.4**
SONM 10 01 10.6
SONM S **S 10 07 46.1 -5.0**
SONM pmax pmax
comp=Z,91nm,0.6s
SONM pmax pmax
comp=Z,40nm,0.4s
SONM pmax pmax
comp=N,28nm,1.0s
SONM smax smax
comp=N,1.0nm,0.7s
SONM MLR MLR
comp=Z,5µm,22.0s
KSH Kashi 55.85 330 P **P 10 00 13.0 -0.6**
KSH sP **sP 10 00 41.8 -3.4**
KSH PcP **PcP 10 01 14.5 +3.0**
KSH PcS **PcS 10 05 13.0 +1.1**
KSH S **S 10 07 49.3 -5.1**
KSH sS **sS 10 08 33.0 +1.2**
KSH PMZ
comp=Z,280nm,0.8s
KSH PMZ
comp=Z,1µm,5.5s
KSH LN
comp=Z,490nm,12.7s
KSH LE
comp=Z,520nm,12.5s
KSH LZ
comp=Z,1µm,20.9s
MDJ Mudanjiang 55.88 18 P **P 10 00 12.9 -0.6**
MDJ PcP **PcP 10 01 11.8 +0.5**
MDJ PP **PP 10 02 17.0 -2.2**
MDJ ScP **ScP 10 05 04.5 +1.9**
MDJ PcS **PcS 10 05 12.5 +1.0**
MDJ S S 10 08 00.5 +6.2
MDJ SS **SS 10 11 40.5 -1.1**
MDJ PMZ
comp=Z,130nm,0.8s
MDJ PMZ
comp=Z,820nm,10.0s
MDJ LN
comp=Z,1µm,39.7s
MDJ LE
comp=Z,1µm,37.2s
MDJ LZ
comp=Z,2µm,40.4s
MDJ Mudanjiang 55.88 18 *e*P **P 10 00 12.9 -0.6**
comp=Z,95nm,0.8s
MDJ *e*PcP **PcP 10 01 12.0 +0.7**
MDJ *e*ScP **ScP 10 05 03.4 +0.8**
KBL Kabul 56.15 321 *e*P **P 10 00 15.8 0.0**
comp=Z,518nm,1.0s
USRK Ussuriysk Ar. 56.30 21 P **P 10 00 16.4 -0.1**
comp=Z,98nm,0.7s,baz=203,slow=6.6,SNR=342
USRK LR LR 10 25 58.5
comp=Z,680nm,19.9s,baz=217,slow=38
WBK Wadi Bani Khal 56.88 304 P **P 10 00 23.4 +2.3**
SNR=27
PDGK Podgornoye 57.31 336 P **P 10 00 23.3 -0.3**
PDGK pmax pmax
comp=Z,189nm,0.7s
SFK Sufi-Kurgan 57.47 329 P **P 10 00 25.4 +0.3**
SFK pmax pmax
comp=Z,1µm,1.1s
JMDO Jabal Madar 57.49 303 ⇓P **P 10 00 26.8 +1.4**
SNR=30
DZM Mont Dzumac 57.78 111 *e*P **P 10 00 28.7 +1.2**
comp=Z,142nm,1.3s
DZM Mont Dzumac 57.78 111 P **P 10 00 26.9 -0.6**
comp=Z,30nm,0.8s,baz=90,slow=20
DZM Mont Dzumac 57.78 111 *e*P **P 10 00 25.3 -2.2**
DZM Mont Dzumac 57.78 111 P **P 10 00 26.9 -0.6**
comp=Z,5.6nm,0.8s
DZM *ep*P **pP 10 00 44.6 -4.9**
SMDO Samad 57.83 304 P **P 10 00 29.6 +1.7**
SNR=56
ULHL Ulahol 57.85 332 P **P 10 00 28.4 +0.7**
SNR=8.8
HIA Hailar 57.95 9 ⇓*e*P **P 10 00 27.9 -0.2**
HIA pmax pmax
comp=Z,91nm,1.2s
HIA Hailar 57.95 9 *e*P **P 10 00 27.3 -0.8**
comp=Z,91nm,1.1s
HIA *e*ScP **ScP 10 05 13.6 +1.9**
KZA Kyzart 58.18 332 P **P 10 00 30.8 +0.5**
SNR=191
CASY Casey 58.20 179 *e*P **P 10 00 28.6 -1.0**
comp=Z,54nm,0.8s
CASY *e*PcP **PcP 10 01 20.7 +0.7**
ZAK Zakamensk 58.30 356 *e*P **P 10 00 30.4 -0.2**
ZAK *e* 10 01 17.8
ZAK pmax pmax
comp=Z,31nm,1.1s
AAA Alma-Ata 58.35 334 *e*P **P 10 00 30.6 -0.4**
AAA *e*S S 10 08 19.9 -7.1
AAA pmax pmax
comp=Z,2µm,4.2s
AAA smax smax
comp=E,2µm,9.2s
AAA MLR MLR
comp=Z,2µm,19.0s
BSY Bisya 58.40 303 ⇑P **P 10 00 33.4 +1.7**
SNR=27
UCH Uchtor 58.64 331 P **P 10 00 33.4 -0.2**
SNR=92
HOQ Hoqain 58.67 304 P **P 10 00 35.7 +2.1**
SNR=50
TKM2 Tokmak 2 58.68 333 P **P 10 00 33.5 0.0**
SNR=623
TKM2 Tokmak 2 58.68 333 *i* P **P 10 00 32.9 -0.6**
TKM2 pmax pmax
comp=Z,294nm,0.5s
TKM2 Tokmak 2 58.68 333 *e*P **P 10 00 33.2 -0.3**
comp=Z,410nm,0.4s
KBK Karagaybulak 58.77 332 P **P 10 00 34.3 +0.2**
SNR=232
RBK Rabkut 58.93 296 ⇑P **P 10 00 37.4 +2.0**
SNR=9.0
AAK Ala-Archa 58.96 332 P **P 10 00 35.6 +0.1**
SNR=83
AAK Ala-Archa 58.96 332 P P 10 00 49.6 +14
comp=Z,167nm,1.0s,baz=145,slow=5.5,SNR=102
AAK Ala-Archa 58.96 332 *i* P P 10 00 45.2 +10
AAK pmax pmax
comp=Z,217nm,1.1s
AAK Ala-Archa 58.96 332 P P 10 00 45.7 +10
SNR=115
AAK Ala-Archa 58.96 332 *e*P P 10 00 45.4 +10
comp=Z,274nm,1.1s
AML Almayashu 58.96 331 P **P 10 00 36.0 +0.3**
SNR=61
FRU Bishkek 59.06 332 ⇑*i*P **P 10 00 35.0 -0.9**
FRU *e* 10 01 25.0
FRU *e* 10 02 47.0
FRU *eS* **S 10 08 34.0 -2.2**
FRU *e* 10 10 15.0
FRU pmax pmax
comp=Z,480nm,1.4s
CHMS Chumysh 59.13 332 P **P 10 00 35.9 -0.5**
SNR=46
DZET Dzherino 59.14 325 P **P 10 00 35.6 -1.0**
DZET pmax pmax
comp=Z,434nm,0.6s
MK31 Makanchi Array 59.19 340 *i* P **P 10 00 36.7 -0.1**
MK31 pmax pmax
comp=Z,130nm,0.7s
MK31 Makanchi Array 59.19 340 *e*P **P 10 00 36.5 -0.2**
ARQ Araqi 59.22 303 ⇓P **P 10 00 38.8 +1.4**
SNR=35
ERM Erimo 59.24 30 *d i*P **P 10 00 36.9 -0.2**
ERM pmax pmax
comp=Z,269nm,1.0s
ERM Erimo 59.24 30 *e*P **P 10 00 36.4 -0.7**
comp=Z,274nm,1.0s
EKS2 Erkin-Say 59.33 331 P **P 10 00 38.1 +0.3**
SNR=214
EKS2 Erkin-Say 59.33 331 *e*P **P 10 00 37.8 -0.1**
comp=Z,342nm,1.0s
EKS2 *e*PcP **PcP 10 01 26.9 +1.9**
MIR Mirnyy 59.35 187 *e*P P 10 00 48.0 +10
MIR pmax pmax
comp=Z,130nm,1.0s
USP Ospenovka 59.45 332 P **P 10 00 38.3 -0.3**
SNR=125
TLY Talaya 59.58 357 P **P 10 00 40.8 +1.5**
comp=Z,222nm,1.1s,SNR=17
TLY Talaya 59.58 357 P **P 10 00 39.0 -0.3**
comp=Z,20nm,0.8s,baz=198,slow=6.1,SNR=28
TLY Talaya 59.58 357 P **P 10 00 37.7 -1.6**
TLY pmax pmax
comp=Z,35nm,0.1s
TLY Talaya 59.58 357 P **P 10 00 40.4 +1.1**
SNR=28
TLY Talaya 59.58 357 *e*P **P 10 00 39.7 +0.4**
comp=Z,88nm,1.3s
TLY *e*PcP **PcP 10 01 26.8 +1.0**
ABTO Aybut 59.68 295 P **P 10 00 42.7 +1.9**
SNR=11
ABPO Ambohimpanom 59.89 253 *e*P **P 10 00 43.8 +1.5**
comp=Z,86nm,1.1s
OPO Ambohidratompo 59.91 253 P **P 10 00 43.8 +1.4**
comp=Z,36nm,0.7s,baz=80,slow=7.1,SNR=32
CIT Chita 59.98 4 *e*P **P 10 00 42.8 +0.7**
CIT *e* 10 01 29.0
CIT pmax pmax
comp=Z,358nm,2.9s
IRK Irkutsk 60.11 357 *e*P **P 10 00 43.0 +0.1**
IRK *e* 10 01 28.6
IRK *eS* **S 10 08 51.1 +1.9**
IRK pmax pmax
comp=Z,103nm,1.3s
UOSS Wadi Hilu 60.18 305 P **P 10 00 45.6 +1.7**
comp=Z,1µm,1.0s,SNR=50
ASHO Ashiyiah 60.18 304 P **P 10 00 45.7 +1.7**
SNR=51
ASHO Ashiyiah 60.18 304 ⇓*i*P **P 10 00 45.1 +1.1**
SNR=12
ASHO Ashiyiah 60.18 304 ⇓*i*P **P 10 00 45.1 +1.1**
SNR=12
HATD Hatta, Dubai 60.18 304 ⇑P **P 10 00 45.3 +1.4**
SNR=46
HATD Hatta, Dubai 60.18 304 ⇓*i*P **P 10 00 45.2 +1.2**
SNR=85
HATD Hatta, Dubai 60.18 304 ⇓*i*P **P 10 00 45.2 +1.2**
SNR=85
HVS Khovu-Aksy 60.20 350 *ce*P **P 10 00 43.7 0.0**
HVS pmax pmax
comp=Z,200nm,0.6s
BANOM Banah 60.53 306 P **P 10 00 49.3 +2.9**
SNR=8.6
BANOM Banah 60.53 306 ⇓*i*P **P 10 00 46.8 +0.4**
SNR=19
BANOM Banah 60.53 306 ⇓*i*P **P 10 00 46.8 +0.4**
SNR=19
ASAJ Asahikawa 60.56 28 P **P 10 00 45.7 -0.5**
baz=246,slow=12
ASAJ Asahikawa 60.56 28 *e*P **P 10 00 45.9 -0.3**
comp=Z,71nm,0.8s
FAQ Al Faqa, Dubai 60.59 304 ⇑*i*P **P 10 00 47.6 +0.9**
SNR=23
FAQ Al Faqa, Dubai 60.59 304 ⇑*i*P **P 10 00 47.6 +0.9**
SNR=23
NAZ Nazwa, Dubai 60.64 304 P **P 10 00 48.7 +1.6**
SNR=26
NAZ Nazwa, Dubai 60.64 304 ⇑*i*P **P 10 00 48.2 +1.1**
SNR=45
NAZ Nazwa, Dubai 60.64 304 ⇑*i*P **P 10 00 48.2 +1.1**
SNR=45
KLR Kul'dur 60.67 18 ⇓*i*P P 10 00 42.6 -4.2
KLR *eS* S 10 08 44.5 -12
KLR *e* 10 10 23.3
KLR pmax pmax
comp=N,56nm,1.2s
KLR pmax pmax
comp=E,150nm,1.2s
KLR pmax pmax
comp=Z,480nm,1.2s
ASUD Al Ashush, Dub 60.76 304 P **P 10 00 50.0 +2.1**
SNR=22
ASUD Al Ashush, Dub 60.76 304 ⇑*i*P **P 10 00 49.1 +1.2**
SNR=23
ASUD Al Ashush, Dub 60.76 304 ⇑*i*P **P 10 00 49.1 +1.2**
SNR=23
HABR Khabarovsk 61.07 20 *ce*P **P 10 00 48.3 -1.1**
HABR *e**PP **pP 10 01 11.9 +0.3**
HABR *e**SP **sP 10 01 23.0 +1.7**
HABR *e* 10 01 29.5
HABR *e* 10 03 03.5
HABR *eS* **S 10 08 58.8 -2.7**
HABR *e* 10 10 28.1
HABR *eSS* **SS 10 13 00.1 -2.8**
HABR pmax pmax
comp=N,20nm,1.4s
HABR pmax pmax
comp=E,20nm,1.4s
HABR pmax pmax
comp=Z,85nm,1.4s
HABR pmax pmax
comp=Z,1µm,3.2s
HABR MLR MLR
comp=Z,574nm,17.0s
IDAH Dahanechah 61.19 314 *e*P **P 10 00 51.7 +0.8**
CRZF Crozet Islands 61.23 221 P P 10 00 45.0 -5.7
CRZF S S 10 08 56.0 -7.9
CRZF L L 10 15 00.0
CRZF R 10 18 00.0
KK31 Karatay Array 61.26 329 *i* P **P 10 00 50.5 -0.4**
KK31 pmax pmax
comp=Z,34nm,0.4s
KKAR Karatay Array 61.26 329 *e*P **P 10 00 50.6 -0.3**

comp=Z,46nm,0.5s
IKOO Kooshah 61.64 313 *e*P P 10 00 54.5 +0.5
ITEG Tejag 62.07 314 *e*P P 10 00 57.5 +0.7
YUK Yuzh-Kuril'sk 62.07 30*c* *i*P P 10 00 56.0 -0.3
YUK *i* 10 01 34.0
YUK *i* 10 03 09.9
YUK *i* PPP PPP 10 04 41.4
YUK *i* S S 10 09 08.2 -6.2
YUK *i* SSS SSS 10 16 04.4
YUK pmax pmax
comp=N,67nm,1.1s
YUK pmax pmax
comp=E,82nm,1.1s
YUK pmax pmax
comp=Z,430nm,1.1s
YUK pmax pmax
comp=Z,380nm,2.2s
YSS Yuzh-Sakhalins 62.82 26*α* *i*P P 10 01 01.2 0.0
YSS *e**PP **pP** 10 01 25.0 +1.5
YSS *e* 10 03 24.0
YSS *e*S S 10 09 22.0 -1.7
YSS *e* 10 10 44.0
YSS pmax pmax
comp=Z,2μm,2.0s
YSS pmax pmax
comp=Z,1μm,1.1s
YSS MLR MLR
comp=Z,500nm,19.0s
YSS Yuzh-Sakhalins 62.82 26 *e*P P 10 01 00.9 -0.4
comp=Z,1μm,1.1s
YSS *e*pP **pP** 10 01 21.5 -2.0
IMYA Miami 63.01 318 *e*P P 10 01 03.3 +0.3
IMOG Moghan 63.39 317 *e*P P 10 01 05.2 -0.4
ISRO Mashad 63.41 317 *e*P P 10 01 06.0 +0.4
IBAF Bafgh 63.74 311 *e*P P 10 01 08.4 +0.6
KURBB Kurchatov Arra 63.76 340 P P 10 01 07.5 +0.1
comp=Z,219nm,0.9s,baz=156,slow=5.9,SNR=233
KURBB PKP2bc 10 30 02.5
comp=Z,1.2nm,1.0s,baz=324,slow=3.0,SNR=4.5
WAKE Wake Island 63.78 64 *e*P P 10 01 07.6 -0.5
comp=Z,258nm,1.1s
KURK Kurchatov 63.81 340 P P 10 01 07.2 -0.5
comp=Z,3μm,1.1s
KURK Kurchatov 63.81 340 P P 10 01 07.5 -0.1
KURK pmax pmax
comp=Z,219nm,0.9s
KURK Kurchatov 63.81 340 P P 10 01 07.9 +0.2
SNR=177
KURK Kurchatov 63.81 340 *e*P P 10 01 07.6 -0.1
comp=Z,522nm,1.0s
KURK *e*S S 10 09 30.9 -5.0
KURK ⇑*e* 10 30 02.5
IPAY Payeh 63.81 317 *e*P P 10 01 09.7 +1.4
KUR Kuril'sk 63.93 30*c* *i*P P 10 01 08.7 +0.1
KUR *e*S S 10 09 38.2 +0.7
KUR pmax pmax
comp=Z,491nm,1.4s
KUR pmax pmax
comp=Z,324nm,1.0s
OTUK Ortayu 64.25 334 P P 10 01 10.9 +0.2
OTUK pmax pmax
comp=Z,210nm,0.6s
IKRD Kardeh 64.31 317 *e*P P 10 01 08.0 -3.6
IMEH Mehriz 64.36 310 *e*P P 10 01 11.6 -0.5
ZAA0 Zalesovo Array 64.77 345 *e*P P 10 01 13.2 -0.7
ZALV Zalesovo Beam 64.77 345 P P 10 01 13.5 -0.4
comp=Z,136nm,0.8s,baz=156,slow=4.0,SNR=208
ZALV PKP2bc 10 29 57.5
comp=Z,0.9nm,0.5s,baz=337,slow=3.4,SNR=3.7
ZALV LR LR 10 31 41.9
comp=Z,1μm,18.8s,baz=227,slow=38
IPAR Pars 64.85 308 *e*P P 10 01 16.6 +1.2
ICHK Chekchek 64.92 311 *e*P P 10 01 16.4 +0.8
KRAR Krasnoyarsk 65.03 351⇓ *i*P P 10 01 16.2 +0.7
KRAR pmax pmax
comp=Z,374nm,1.2s
RPZ Rata Peaks 65.08 135 LR LR 10 27 41.0
comp=Z,4μm,20.5s,baz=280,slow=34
GEYT Alibeck 65.21 318 P P 10 01 18.0 +0.8
comp=Z,275nm,0.6s,baz=157,slow=4.7,SNR=408
GEYT LR LR 10 31 42.3
comp=Z,490nm,21.9s,baz=325,slow=38
ISAD Sadrabad 65.30 310 *e*P P 10 01 18.6 +0.4
IKAZ Kazeroun 65.77 308 *e*P P 10 01 21.8 +0.4
BOD Bodaibo 65.79 3 *e*P P 10 01 20.2 -0.2
BOD *e*S SKSac 10 11 03.5 -4.3
BOD pmax pmax
comp=Z,113nm,1.4s
NVS Novosibirsk 65.99 345⇑ *i*P P 10 01 20.5 -1.2
NVS *e*S S 10 09 54.7 -7.7
NVS *e* 10 10 58.4
NVS pmax pmax
comp=Z,184nm,1.3s
NVS pmax pmax
comp=N,98nm,1.4s
NVS pmax pmax
comp=E,81nm,1.2s
NVS smax smax
comp=N,132nm,3.4s
NVS smax smax
comp=E,13nm,0.9s
CLNS Chul'man 66.09 10 *e*P P 10 01 22.4 -0.1
CLNS *e* 10 01 50.5
CLNS *e* 10 03 49.4
CLNS *e*PPP PPP 10 05 29.2
CLNS *e*S S 10 09 58.4 -5.4
CLNS *e* 10 10 34.8
CLNS *e*SSS SSS 10 17 12.5
CLNS pmax pmax
comp=Z,85nm,0.9s
CLNS pmax pmax
comp=E,33nm,0.9s
CLNS pmax pmax
comp=N,51nm,0.9s
CLNS pmax pmax
comp=N,11nm,0.7s
CLNS pmax pmax
comp=E,10.0nm,1.1s
CLNS pmax pmax
comp=Z,10.0nm,0.7s
CLNS smax smax
comp=E,216nm,9.4s
CLNS smax smax
comp=N,184nm,11.2s
MAW Mawson 66.70 197 P P 10 01 26.6 +0.4
comp=N,97nm,0.8s,baz=45,slow=6.7,SNR=166
MAW LR LR 10 27 50.2
comp=N,452nm,18.1s,baz=50,slow=33
MAW PKPPKP **P'P'df** 10 29 54.4 -1.8
comp=N,10nm,0.9s,baz=156,slow=3.4,SNR=5.0
IGAR Gharneh 66.77 310 *e*P P 10 01 28.6 +1.1
IZEF Zefreh 66.77 311 *e*P P 10 01 26.5 -1.1
NKL Nikolayevsk 66.94 21 *i*P P 10 01 22.8 -5.0
NKL *e*S S 10 10 06.0 -7.9
NKL *e* 10 10 42.0
NKL *e* 10 11 10.0
NKL pmax pmax
comp=E,50nm,0.7s
NKL pmax pmax
comp=Z,180nm,0.7s
NKL pmax pmax
comp=N,70nm,0.9s
NKL pmax pmax
comp=N,500nm,0.4s
NKL pmax pmax
comp=E,500nm,0.4s
NKL smax smax
comp=E,500nm,6.0s
DAMY Dhamar 66.99 289 *e*P P 10 01 31.6 +2.2
comp=E,197nm,1.0s
IKLH Kolahrood 67.52 311 *e*P P 10 01 33.5 +1.2
IFIR Firoozkooh 67.73 314 *e*P P 10 01 35.0 +1.4
IPIR Pirpir 67.76 310 *e*P P 10 01 33.5 -0.4
IVRN Varamin 68.17 313 *e*P P 10 01 37.6 +1.4
IDMV Damavand 68.22 313 *e*P P 10 01 37.7 +1.0
IAFJ Afjeh 68.58 313 *e*P P 10 01 40.0 +1.0
MSVF Nonsavu 68.61 106 P P 10 01 40.9 +1.7
comp=E,386nm,0.8s,SNR=8.4
MSVF Nonsavu 68.61 106 *e*P P 10 01 39.5 +0.3
comp=E,139nm,1.1s
MSVF *e*pP **pP** 10 01 59.7 -2.1
RAYN Ar Rayn 68.65 299 P P 10 01 39.2 -0.1
comp=E,480nm,0.6s,SNR=46
RAYN Ar Rayn 68.65 299 *e*P P 10 01 39.8 +0.5
comp=E,89nm,0.9s
RAYN *e*PP **PP** 10 04 12.6 +0.5
URZ Urewera 68.65 128 LR LR 10 30 31.9
comp=E,2μm,22.0s,baz=280,slow=35
URZ Urewera 68.65 128 *e*P P 10 01 38.3 -0.7
comp=E,41nm,0.8s
BVA0 Borovoye Array 68.70 337 P P 10 01 39.0 0.0
BVA0 pmax pmax
comp=Z,462nm,0.9s
BVAR Borovoye Array 68.70 337 P P 10 01 39.4 +0.4
comp=Z,390nm,0.8s,baz=144,slow=8.0,SNR=798
BVAR PKP2bc 10 29 49.2
comp=Z,0.3nm,0.4s,baz=278,slow=1.0,SNR=4.6
BVAR LR LR 10 35 50.1
comp=Z,1μm,21.5s,baz=128,slow=39
BRVK Borovoye 68.77 337 P P 10 01 39.9 +0.5
comp=Z,3μm,1.1s
BRVK Borovoye 68.77 337*c* *i*P P 10 01 39.5 +0.1
BRVK pmax pmax
comp=Z,617nm,1.2s
BRVK Borovoye 68.77 337 P P 10 01 39.8 +0.5
SNR=214
BRVK Borovoye 68.77 337 *e*P P 10 01 39.3 0.0
comp=Z,410nm,0.9s
IR3 Iran Long-Peri 68.91 313 *e*P P 10 01 41.7 +1.0
IR5 Iran Long-Peri 69.11 312 *e*P P 10 01 43.1 +1.0
IMHD Mahdasht 69.26 313 *e*P P 10 01 43.9 +1.0
IRAZ Razeghan 69.67 312 *e*P P 10 01 47.1 +1.4
IBZA Bozab 70.81 311 *e*P P 10 01 50.5 -2.2
AB31 Akbulak array 70.81 329 *i*P P 10 01 52.3 +0.3
AB31 pmax pmax
comp=Z,4μm,1.3s
ABKAR Akbulak array 70.81 329 *e*P P 10 01 52.5 +0.5
comp=Z,1μm,0.7s
IKOM Komasi 70.95 310 *e*P P 10 01 53.5 +0.1
SKR Severo-Kuril's 71.69 30 *e*P P 10 01 50.0 -7.2
SKR *e*S sS 10 11 45.0 -3.9
SKR *e* 10 11 57.0
SKR pmax pmax
comp=Z,670nm,1.0s
SKR pmax pmax
comp=N,70nm,0.7s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=E,2μm,4.0s
SKR pmax pmax
comp=Z,2μm,4.0s
SKR smax smax
comp=N,3μm,10.0s
SKR smax smax
comp=E,2μm,10.0s
SKR MLR MLR
comp=Z,2μm,14.0s
YAK Yakutsk 71.83 11 P P 10 01 57.7 -0.1
comp=Z,32nm,0.6s,baz=24,slow=19,SNR=90
YAK Yakutsk 71.83 11*c* *i*P P 10 01 57.1 -0.7
YAK *e* 10 02 15.4
YAK *e**PP pP 10 02 27.1 +6.5
YAK *e* 10 04 34.9
YAK *e*PPP PPP 10 06 19.8
YAK *e*S S 10 11 08.2 -3.0
YAK *e**SS **sS** 10 11 50.4 +0.4
YAK *e* 10 11 54.3
YAK pmax pmax
comp=Z,577nm,1.0s
YAK pmax pmax
comp=N,289nm,1.2s
YAK pmax pmax
comp=E,188nm,1.4s
YAK pmax pmax
comp=Z,310nm,5.6s
YAK pmax pmax
comp=N,304nm,6.4s
YAK pmax pmax
comp=E,115nm,4.1s
YAK smax smax
comp=N,246nm,3.1s
YAK smax smax
comp=E,43nm,1.3s
YAK Yakutsk 71.83 11 P P 10 01 57.7 -0.1
comp=E,48nm,0.8s
IDHR Dehrash 72.01 310 *e*P P 10 01 59.0 -0.8
ISRB Sarab 72.36 314 *e*P P 10 02 02.5 +0.7
AKTO Aktyubinsk 72.52 329 P P 10 02 02.9 +0.6
comp=E,612nm,1.1s,baz=124,slow=5.1,SNR=460
AKTO LR LR 10 38 16.3
comp=E,480nm,20.1s,baz=132,slow=39
AKTO Aktyubinsk 72.52 329 P P 10 02 02.9 +0.6
AKTO pmax pmax
comp=Z,612nm,1.1s
AKTO MLR MLR
comp=Z,480nm,20.1s
IBST Bostanabad 72.87 313 *e*P P 10 02 04.3 -0.5
IHRS Heris 73.02 314 *e*P P 10 02 05.3 -0.5
IAZR Azarshahr 73.52 313 *e*P P 10 02 09.8 +1.0
ITBZ Tabriz 73.62 314 *e*P P 10 02 09.5 +0.2
PEA0B Petropavlovsk- 73.97 29 *e*P P 10 02 10.7 0.0
PETK Petropavlovsk- 73.97 29 P P 10 02 10.7 -0.1
comp=Z,126nm,0.8s,baz=205,slow=4.3,SNR=162
PETK Petropavlovsk- 73.97 29 P P 10 02 10.7 -0.1
PETK pmax pmax
comp=Z,126nm,0.8s
IMRD Marand 74.14 314 *e*P P 10 02 13.1 +0.9
PET Petropavlovsk 74.38 29*α* *i*P P 10 02 13.0 0.0
PET *e**PP **pP** 10 02 35.0 -0.9
PET *e* 10 04 56.6
PET *i*S S 10 11 39.5 -0.9
PET *e**SS **sS** 10 12 17.8 -1.7
PET pmax pmax
comp=Z,2μm,4.2s
PET pmax pmax
comp=Z,1μm,16.3s
PET pmax pmax
comp=Z,301nm,0.6s
PET pmax pmax
comp=Z,400nm,13.4s
PET Petropavlovsk 74.38 29 *e*P P 10 02 13.0 0.0
comp=Z,679nm,1.1s
MAK Makhachkala 74.73 319 *e*P P 10 02 13.9 -1.4
MAK *e**PP **pP** 10 02 33.8 -4.4
MAK *e**SP sP 10 02 42.0 -5.7
MAK *e* 10 04 59.9
MAK *e*PPP PPP 10 06 54.5
MAK *e*S S 10 11 42.3 -2.4
MAK *e* 10 12 06.0
MAK *e**SS **SKKSac** 10 12 16.4 +0.2
MAK pmax pmax
comp=Z,664nm,1.0s
VNDA Vanda 74.78 170 P P 10 02 15.1 0.0
comp=Z,101nm,0.9s,baz=306,slow=6.0,SNR=272
VNDA LR LR 10 32 32.0
comp=Z,383nm,20.8s,baz=319,slow=34
VNDA Vanda 74.78 170 P P 10 02 15.1 0.0
comp=Z,61nm,0.9s
SYO Syowa Base 74.92 200⇑ *i*P P 10 02 14.8 -1.1
SYO Syowa Base 74.92 200⇑ *i*pP pP 10 02 39.2 +0.4
HAKT HAKKARI 75.13 312 *i*P P 10 02 18.0 -0.1
SVE Sverdlovsk 75.36 335*d* *i*P P 10 02 19.6 +1.0
SVE *e*PPP PPP 10 07 01.0
SVE *e*S S 10 11 50.9 -0.3
SVE *e* 10 12 15.9
SVE *e* 10 12 46.5
SVE *e*SS **SS** 10 16 46.0 +2.6
SVE pmax pmax
comp=Z,1μm,0.9s
GNI Garni 75.40 315 P P 10 02 20.5 +1.0
comp=Z,195nm,1.1s,baz=143,slow=4.8,SNR=55
GNI Garni 75.40 315*c* *i*P P 10 02 20.4 +0.9
GNI pmax pmax
comp=Z,324nm,1.2s
GNI Garni 75.40 315 P P 10 02 20.5 +1.0
SNR=65
GNI Garni 75.40 315⇓ *i*P P 10 02 20.1 +0.6
SNR=36
GNI Garni 75.40 315⇓ *i*P P 10 02 20.1 +0.6
SNR=36
GNI Garni 75.40 315 *e*P P 10 02 20.1 +0.6
comp=Z,296nm,1.0s
GNI *e*PP **PP** 10 05 11.9 +2.2
DGRG David-gareji 75.50 316 P P 10 02 21.5 +1.7
DGRG S S 10 11 53.5 0.0
DGRG David-gareji 75.50 316 P P 10 02 21.5 +1.7
DGRG 10 11 53.5
TVAN Van 75.72 313 *i*P P 10 02 21.3 0.0
SBA Scott Base 75.86 169 *e*P P 10 02 22.3 +1.1
comp=Z,88nm,0.9s
GEVA Gevas 75.89 313 *i*P P 10 02 22.9 +0.5
DYDN Diyadin 75.91 314 *i*P P 10 02 23.7 +1.3
MSNA Messina 75.96 249 P P 10 02 24.2 +1.2
comp=Z,39nm,0.9s
ARU Arti 75.98 334 P P 10 02 22.4 +0.2
comp=Z,6μm,0.9s
ARU Arti 75.98 334*c* *i*P P 10 02 22.4 +0.2
ARU *e**PP pP 10 02 51.5 +6.4
ARU 10 05 14.1
ARU *e*S S 10 11 57.3 -0.8
ARU 10 12 44.3
ARU pmax pmax
comp=Z,2μm,1.2s
ARU MLR MLR
comp=Z,2μm,25.0s
ARU Arti 75.98 334 *e*P P 10 02 22.7 +0.5
comp=Z,1μm,1.1s
SEAG Tbilisi Sea 76.02 316 P P 10 02 23.2 +0.4
TBLG Delisi 76.05 316 P P 10 02 24.4 +1.4
TBLG S S 10 11 58.2 -1.3
TBLG Delisi 76.05 316 P P 10 02 24.4 +1.4
TBLG 10 11 58.2
SIRN S¯–rnak 76.06 312 *i*P P 10 02 23.5 +0.3
KSD Kokstad 76.20 241 P P 10 02 25.8 +1.5
comp=Z,38nm,0.9s
DUS Dusheti 76.22 317 P P 10 02 26.0 +2.0
DUS Dusheti 76.22 317 P P 10 02 26.0 +2.0
EAK Akyaka 76.41 315 *i*P P 10 02 26.1 +0.9
DIGO Kars 76.47 315 *i*P P 10 02 26.3 +0.6
AKH Akhalkalaki 76.78 316 P P 10 02 28.6 +1.3
AKH S S 10 12 06.6 -1.2
AKH Akhalkalaki 76.78 316 P P 10 02 28.6 +1.3
AKH 10 12 06.6
EATA Eleskirt 76.88 314 *i*P P 10 02 28.1 +0.1
EKAR Karacoban 76.96 313 *i*P P 10 02 30.2 +1.7
BEST Besiri 77.04 312 *i*P P 10 02 29.9 +1.1
MARD Mardin 77.20 311 *i*P P 10 02 30.5 +0.7
ONI Oni 77.27 317 P P 10 02 31.1 +1.2
ONI S S 10 11 58.2 -15
ONI Oni 77.27 317 P P 10 02 31.1 +1.2
MBAR Mbarara 77.35 271 P P 10 02 32.8 +1.7
comp=Z,72nm,0.9s,SNR=8.0
MBAR Mbarara 77.35 271 P P 10 02 32.2 +1.1
HOMI Horasan 77.37 314 *i*P P 10 02 31.4 +0.7
SLR Silverton 77.38 245 P P 10 02 32.2 +1.2
comp=Z,103nm,0.9s
NCK Nalchik 77.54 318*c* *e*P P 10 02 32.9 +1.6
ERZM Erzurum 77.70 314 *i*P P 10 02 34.5 +1.9
DAGI Agillar 77.75 315 *i*P P 10 02 32.6 0.0
DDEM Demirkent 77.79 315 *i*P P 10 02 33.9 +1.1
DBAD Bademkaya 77.88 315 *i*P P 10 02 33.8 +0.4
DIYA Diyarbakir 77.91 311 *i*P P 10 02 34.9 +1.4
KLOF Kloof 77.95 245 P P 10 02 35.4 +1.2
comp=Z,40nm,0.8s
DBOC Borcka 78.02 315 *i*P P 10 02 33.9 -0.1
NEY Neytrino 78.03 317*c* *i*P P 10 02 36.0 +1.8
NEY pmax pmax
comp=Z,106nm,0.9s
KBZ Khabaz 78.10 318 P P 10 02 35.4 +1.1
comp=Z,580nm,0.9s,baz=125,slow=3.9,SNR=367
KBZ Khabaz 78.10 318 P P 10 02 35.4 +1.1
KBZ pmax pmax
comp=Z,580nm,0.9s
LSZ Lusaka 78.20 256 P P 10 02 37.1 +1.4
SNR=14
LSZ Lusaka 78.20 256 *e*P P 10 02 36.7 +1.0
comp=Z,70nm,0.9s
KIV Kislovodsk 78.33 318 P P 10 02 36.5 +0.8
comp=Z,2μm,0.9s,SNR=45
KIV Kislovodsk 78.33 318*c* *i*P P 10 02 36.7 +1.0
KIV *e* 10 02 49.4
KIV *e**SP **sP** 10 03 04.8 -3.5
KIV *e* 10 05 36.0
KIV *e*PPP PPP 10 07 29.9
KIV *i*S S 10 12 21.5 -2.7
KIV pmax pmax
comp=Z,432nm,1.0s
KIV MLR MLR
comp=Z,375nm,22.0s
KIV Kislovodsk 78.33 318 P P 10 02 36.9 +1.1
SNR=104
KIV Kislovodsk 78.33 318⇓ *i*P P 10 02 36.5 +0.8
SNR=53
KIV Kislovodsk 78.33 318⇓ *i*P P 10 02 36.5 +0.8
SNR=53
KIV Kislovodsk 78.33 318 *e*P P 10 02 36.3 +0.5
comp=Z,459nm,1.0s
SEY Seymchan 78.41 19 P P 10 02 35.7 +0.1
comp=Z,126nm,1.0s,baz=226,slow=4.7,SNR=180
SEY Seymchan 78.41 19*c* *i*P P 10 02 36.1 +0.5
GOF Gofitskoye 78.53 319⇑ *i*P P 10 02 37.3 +0.6
GOF *e*S S 10 12 23.7 -2.5
GOF pmax pmax
comp=Z,650nm,1.3s
GOF smax smax
comp=N,60nm,1.1s
GOF smax smax
comp=E,60nm,1.1s
ASF Jabal al Asfar 78.58 305 P P 10 02 38.9 +1.5
comp=E,222nm,1.0s,baz=62,slow=3.3,SNR=166
ASF Jabal al Asfar 78.58 305 P P 10 02 38.9 +1.5
ASF pmax pmax
comp=Z,222nm,1.0s
GRM Grahamstown 78.60 238 P P 10 02 39.1 +1.6
comp=Z,95nm,0.8s
KSR Koster 78.62 245 P P 10 02 38.9 +1.0
comp=Z,74nm,0.9s
ATAB Bozova 79.12 311 *i*P P 10 02 41.7 +1.5
MACK Trabzon 79.21 314 *i*P P 10 02 41.8 +1.2
MALT Malatya 79.30 311⇓ *i*P P 10 02 42.6 +1.4
KELT Kelkit 79.30 313 *i*P P 10 02 41.9 +0.6
SOE Somerset East 79.42 238 P P 10 02 43.8 +1.8
comp=Z,102nm,0.8s
EIL Elat 79.49 302 P P 10 02 43.5 +1.2
comp=Z,110nm,0.9s,baz=134,slow=3.0,SNR=50
KEMA Kemaliye 79.56 312 *i*P P 10 02 43.1 +0.5
GZT Gaziantep 79.64 310 *i*P P 10 02 44.8 +1.7
AKCD Akcadag 79.67 311 *i*P P 10 02 43.7 +0.5
RCY Rachaya 79.82 306 *e*P P 10 02 46.6 +2.4
KUZU Kuzuini 79.83 310 *i*P P 10 02 44.3 +0.3
LBTB Lobatse 79.85 246 *e*P P 10 02 45.5 +1.0
comp=Z,47nm,0.8s
BOSA Boshof 79.91 242 P P 10 02 45.6 +0.8
comp=Z,18nm,0.4s,baz=102,slow=4.2,SNR=66
BOSA LR LR 10 31 49.6
comp=Z,630nm,19.6s,baz=102,slow=31
BOSA Boshof 79.91 242 *e*P P 10 02 45.6 +0.8
comp=Z,73nm,1.2s
HWQ Hawqa 79.96 307 *e*P P 10 02 46.6 +1.7
MMAI Mount Meron Ar 80.03 305 P P 10 02 46.4 +1.1
comp=Z,288nm,1.0s,baz=95,slow=5.6,SNR=104
SUSE Susehri 80.08 313 *i*P P 10 02 46.0 +0.5
BHL Bhannes 80.08 306 *e*P P 10 02 47.6 +2.0
DQRL Deir Qamar 80.09 306 *e*P P 10 02 48.1 +2.5
SOC Sochi 80.18 317*c* *e*P P 10 02 45.9 +0.2
SOC *e**PP **pP** 10 03 11.1 +2.2
SOC *e**SP **sP** 10 03 21.8 +3.4
SOC *e* 10 05 47.6
SOC *e*PPP PPP 10 07 41.8
SOC *i*S S 10 12 45.7 +2.0
SOC pmax pmax
comp=Z,555nm,1.0s
SOC MLR MLR
comp=Z,483nm,21.0s
GRSN GIRESUNGRSN 80.27 314 *i*P P 10 02 46.8 +0.5
YAYL Yayladag 80.35 309 *i*P P 10 02 46.7 -0.2
ANDN Andirin 80.63 310 *i*P P 10 02 48.3 -0.1
TIXI Tiksi 80.69 7*c* *i*P P 10 02 47.2 -0.6
TIXI pmax pmax
comp=Z,608nm,1.0s
TIXI Tiksi 80.69 7 *e*P P 10 02 46.9 -0.9
comp=Z,518nm,0.9s
TIXI *e*PP **PP** 10 05 53.8 +1.0
SCER sogukcermik 80.75 313 *i*P P 10 02 51.3 +2.2
PINB Pinarbasi 80.92 311 *i*P P 10 02 51.0 +0.9
YURE YUREGIR 80.94 309 *i*P P 10 02 50.4 +0.4
TOKA Tokat 81.37 313 *i*P P 10 02 53.7 +1.5
VRHR Novokhopersk 81.82 324 *e*P P 10 02 54.9 +0.7
VRHR pmax pmax
comp=Z,840nm,0.8s
VRHR pmax pmax
comp=N,290nm,0.9s
VRHR pmax pmax

comp=E,530nm,1.5s
QSPA South Pole Qui 81.98 180 P **P** **10 02 55.2 +0.2**
comp=E,142nm,0.9s,baz=306,slow=2.7,SNR=242
QSPA LR LR 10 34 37.9
comp=E,1μm,21.7s,baz=324,slow=32
QSPA South Pole Qui 81.98 180 P **P** **10 02 55.2 +0.2**
comp=E,86nm,0.9s
KIZK Mersin 82.00 309 *i* P **P** **10 02 55.2 -0.3**
AVNT Avonos 82.10 311 *i* P **P** **10 02 57.0 +0.7**
ANN Anapa 82.14 317*c* *i* P **P** **10 02 54.5 -1.6**
ANN *i* *P **pP** **10 03 21.8 +2.5**
ANN *e* 10 06 05.2
ANN *e* PPP PPP 10 07 56.6
ANN *e* S **S** **10 13 01.4 -2.5**
ANN *e* SS **SS** **10 18 25.5 -0.1**
ANN pmax pmax
comp=Z,276nm,1.2s
ANN pmax pmax
comp=N,90nm,1.3s
ANN pmax pmax
comp=E,65nm,1.3s
ANN pmax pmax
comp=Z,418nm,1.3s
ANN pmax pmax
comp=N,128nm,1.4s
ANN pmax pmax
comp=E,88nm,1.4s
ANN smax smax
comp=E,733nm,4.9s
ANN smax smax
comp=N,616nm,4.9s
HAVZ Havza 82.15 313 *i* P **P** **10 02 57.3 +1.0**
CSS Prodhromos 82.22 307 P **P** **10 02 57.7 +0.9**
CSS Prodhromos 82.22 307 *e* P **P** **10 02 57.6 +0.8**
comp=N,117nm,0.9s
CTKT Corum 82.69 313 *i* P **P** **10 02 59.7 +0.4**
CDAG Cicekdag 82.70 312 *i* P **P** **10 03 00.5 +1.2**
ERMK Ermenek 82.99 308 *i* P **P** **10 03 02.5 +1.5**
VORD Divnogorie 83.13 324 *e* P **P** **10 03 01.2 +0.1**
VORD *e* S **S** **10 13 08.1 -5.6**
VORD pmax pmax
comp=E,200nm,0.9s
VORD pmax pmax
comp=Z,310nm,0.9s
VORD pmax pmax
comp=N,60nm,0.7s
VORD smax smax
comp=N,510nm,2.7s
VORD smax smax
comp=Z,70nm,1.9s
VORD smax smax
comp=E,230nm,1.7s
BRTR Keskin Array B 83.28 312 P **P** **10 03 03.0 +0.7**
comp=E,164nm,0.9s,baz=125,slow=6.5,SNR=468
BRTR PP **PP** **10 06 12.7 -2.4**
comp=E,44nm,1.1s,baz=111,slow=7.9,SNR=5.4
BRTR LR LR 10 44 48.4
comp=E,154nm,18.6s,baz=94,slow=39
BR131 Keskin Array S 83.28 312 *e* P **P** **10 03 02.5 +0.2**
comp=E,143nm,0.8s
BR131 *e* pP **pP** **10 03 24.0 -1.5**
BR131 *e* PP **PP** **10 06 13.5 -1.6**
VSR Storozhevoye 83.30 324 *e* P **P** **10 03 02.4 +0.5**
VSR *e* S **S** **10 13 10.7 -4.7**
VSR pmax pmax
comp=Z,790nm,0.9s
VSR pmax pmax
comp=N,140nm,0.8s
VSR pmax pmax
comp=E,390nm,0.7s
VSR smax smax
comp=N,730nm,3.7s
VSR smax smax
comp=Z,140nm,4.8s
VSR smax smax
comp=E,410nm,3.0s
GAZI Gazipasa 83.35 308 *i* P **P** **10 03 01.4 -1.2**
SUR Sutherland 83.44 238 P **P** **10 03 05.5 +2.1**
comp=E,897nm,0.8s,SNR=11
SUR Sutherland 83.44 238 *e* P **P** **10 03 05.2 +1.8**
comp=E,117nm,0.8s
VOR Voronezh 83.47 324 *e* P **P** **10 03 03.0 +0.2**
VOR pmax pmax
comp=Z,500nm,2.0s
ILGA Ilgaz 83.59 313 *i* P **P** **10 03 05.2 +1.2**
BBAL Bala 83.61 311 *i* P **P** **10 03 04.7 +0.7**
ELDT Eldivan 83.64 312 *i* P **P** **10 03 04.7 +0.6**
ANTO Ankara 83.94 312⇑ *i* P **P** **10 03 06.5 +0.9**
ANTO Ankara 83.94 312 P **P** **10 03 07.0 +1.4**
SNR=56
ANTO Ankara 83.94 312 *e* P **P** **10 03 06.2 +0.6**
comp=Z,185nm,1.0s
LPSR Galich'ya Gora 83.94 325 *e* P **P** **10 03 03.1 -2.1**
LPSR pmax pmax
comp=Z,330nm,0.8s
LPSR pmax pmax
comp=N,200nm,1.1s
LPSR pmax pmax
comp=E,260nm,1.1s
KDHN Kadinhani 84.09 310 *i* P **P** **10 03 06.1 -0.3**
SIM Simferopol' 84.43 317*c* *i* P **P** **10 03 09.5 +1.7**
SIM *i* 10 06 26.0
SIM *i* S **S** **10 13 22.1 -5.0**
SIM *e* PS **PnS** **10 14 24.0 -8.1**
SIM pmax pmax
comp=Z,337nm,0.9s
SIM pmax pmax
comp=Z,165nm,1.2s
SIM pmax pmax
comp=Z,150nm,9.8s
NVL N'lazarevskaya 84.54 199⇑ *i* P **P** **10 03 08.1 +0.2**
NVL *e* *PP **pP** **10 03 34.1 +2.8**
NVL pmax pmax
comp=Z,41nm,0.9s
CER Ceres 84.62 237 P **P** **10 03 10.8 +1.6**
comp=Z,29nm,0.8s
BCAM Yenicaga 84.73 312 *i* P **P** **10 03 10.2 +0.6**
AUSIV SIVRIHISAR 84.76 311 *i* P **P** **10 03 10.4 +0.6**
AUMIH MIHALICIK 84.92 311 *i* P **P** **10 03 10.7 +0.1**
BOLV Bolvadin 85.03 310 *i* P **P** **10 03 11.5 +0.4**
KORT Korkueli 85.07 308 *i* P **P** **10 03 11.6 +0.2**
ISP Isparta 85.14 309 P **P** **10 03 11.4 -0.3**
ISP Isparta 85.14 309⇓ *i* P **P** **10 03 11.8 +0.1**
ISP Isparta 85.14 309 *e* P **P** **10 03 11.5 -0.2**
comp=Z,85nm,1.0s
ISP *e* PP **PP** **10 06 30.3 0.0**
SEYT Eskypehyr 85.30 311 *i* P **P** **10 03 13.8 +1.3**
BTAS Taskesti 85.45 312 *i* P **P** **10 03 13.1 -0.1**
AKAS Kas 85.48 307 *i* P **P** **10 03 11.2 -2.3**
AUKIR K¨-rka- Seyitg 85.48 311 *i* P **P** **10 03 14.6 +1.2**
GOLH Golhisar 85.74 308 *i* P **P** **10 03 15.0 +0.2**
ALT Altintas 85.75 310 P **P** **10 03 15.6 +0.9**
ALT Altintas 85.75 310 P **P** **10 03 15.6 +0.9**
MOS Moscow 85.79 328*a* *i* P **P** **10 03 13.9 -0.5**
MOS *e* *PP **pP** **10 03 38.3 +0.5**
MOS *e* 10 06 33.5
MOS *e* S **SKSac** **10 13 28.8 -3.1**
MOS pmax pmax
comp=Z,458nm,1.1s
MOS pmax pmax
comp=Z,2μm,3.0s
MOS smax smax
comp=E,1μm,4.3s
AUBOZ BOZOYUK 86.01 311 *i* P **P** **10 03 17.1 +1.1**
AUKUT KUTAHYA 86.03 311 *i* P **P** **10 03 16.9 +0.8**
KHAL Karahalli 86.06 309 *i* P **P** **10 03 16.7 +0.4**
BILL Bilibino 86.11 19*c* *i* P **P** **10 03 15.4 -0.3**
BILL *e* *PP **pP** **10 03 40.5 +1.4**
BILL *e* 10 13 32.6
BILL pmax pmax
comp=Z,268nm,1.2s
OBN Obninsk 86.14 327 P **P** **10 03 16.8 +0.7**
comp=Z,338nm,0.7s,baz=56,slow=1.0,SNR=106
OBN Obninsk 86.14 327*c* *i* P **P** **10 03 16.7 +0.7**
OBN *e* *SP **sP** **10 03 47.5 -1.4**
OBN *e* 10 06 34.1
OBN PPP PPP 10 08 41.0
OBN *i* 10 13 31.5
OBN *i* 10 13 41.2
OBN SS **SS** **10 19 19.0 -5.0**
OBN SSS SSS 10 22 52.0
OBN pmax pmax
comp=Z,921nm,1.7s
OBN MLR MLR
comp=Z,865nm,27.0s
OBN Obninsk 86.14 327 P **P** **10 03 17.7 +1.6**
comp=Z,3μm,0.8s,SNR=19
OBN Obninsk 86.14 327 P **P** **10 03 16.8 +0.7**
comp=Z,50nm,0.9s
GDZ Gediz 86.23 310 *i* P **P** **10 03 17.6 +0.5**
TURN Turunc 86.41 308 *i* P **P** **10 03 19.4 +1.5**
ARG Arkhangelos 86.64 307 P **P** **10 03 20.0 +1.0**
ARG Arkhangelos 86.64 307 P **P** **10 03 20.0 +1.0**
KULA Kula-Manisa 86.72 309 P **P** **10 03 20.6 +1.1**
KULA Kula-Manisa 86.72 309 P **P** **10 03 20.6 +1.1**
DEMI Demirci 86.80 310 *i* P **P** **10 03 20.6 +0.8**
ISK Istanbul-Kandi 87.00 312 P **P** **10 03 21.2 +0.6**
ISK Istanbul-Kandi 87.00 312 P **P** **10 03 21.2 +0.6**
DURS Dursunbey 87.11 310 *i* P **P** **10 03 21.0 -0.3**
AYDN Tasoluk 87.14 308 *i* P **P** **10 03 22.6 +1.1**
KARP Karpathos 87.27 306 P **P** **10 03 24.0 +1.9**
KARP Karpathos 87.27 306 P **P** **10 03 24.0 +1.9**
BDRM Kayabasi 87.35 308 *i* P **P** **10 03 22.3 -0.2**
AKHS Akhisar 87.45 310 *i* P **P** **10 03 23.1 +0.2**
NIS1 Nisyros Isl. 87.47 307 *e* P **P** **10 03 24.9 +1.8**
GCAM G?zelcaml? 87.65 308 *i* P **P** **10 03 25.5 +1.6**
GSTR Great Sitkin T 87.71 37 *e* P **P** **10 03 24.2 +0.3**
comp=Z,34nm,0.4s
BALY Balya 87.78 310 *i* P **P** **10 03 24.4 -0.1**
TSUM Tsumeb 87.84 251 *e* P **P** **10 03 26.8 +1.4**
comp=Z,51nm,0.9s
ZKR Zakros 87.94 306 P **P** **10 03 26.3 +1.0**
ZKR Zakros 87.94 306 *e* P **P** **10 03 27.6 +2.3**
ZKR Zakros 87.94 306 P **P** **10 03 26.3 +1.0**
SMG Samos 87.96 308 P **P** **10 03 27.0 +1.6**
SMG Samos 87.96 308 P **P** **10 03 27.0 +1.6**
MANR Mangalia 87.96 315⇓ *i* P **P** **10 03 26.6 +1.4**
EFOR EFORIE 87.99 315⇓ *i* P **P** **10 03 27.3 +2.0**
TLCR 88.12 316⇓ *i* P **P** **10 03 27.4 +1.5**
TLCR 88.12 316⇓ *i* P **PP** **10 06 54.1 +0.1**
PSN Preselentsi 88.22 314⇓ *i* P **P** **10 03 27.8 +1.4**
PSN Preselentsi 88.22 314⇓ *i* P **PP** **10 06 54.9 +0.1**
PSN Preselentsi 88.22 314 *e* P **P** **10 03 27.9 +1.5**
TIRR Tirgusor 88.23 315⇑ *i* P **P** **10 03 27.6 +1.2**
TIRR Tirgusor 88.23 315⇓ *i* P **PP** **10 06 54.8 -0.1**
TIRR Tirgusor 88.23 315 *e* P **P** **10 03 27.0 +0.6**
comp=Z,202nm,0.9s
TIRR *e* pP **pP** **10 03 47.8 -2.2**
TIRR *e* PP **PP** **10 06 55.0 +0.2**
SART Tekirdag 88.31 311 *i* P **P** **10 03 27.5 +0.5**
AYVA Ayvalik 88.39 310 *i* P **P** **10 03 28.9 +1.6**
NPS Neapolis 88.45 306 P **P** **10 03 28.8 +1.1**
NPS Neapolis 88.45 306 P **P** **10 03 28.8 +1.1**
CVD Cernavoda 88.46 315⇓ *i* P **P** **10 03 29.6 +2.1**
KIS Kishinev 88.53 318⇑ *i* P **P** **10 03 28.0 +0.2**
comp=Z,500nm,1.5s
KIS *e* pP **pP** **10 03 56.0 +4.7**
KIS Kishinev 88.53 318 *e* PP PP 10 06 56.0 -1.2
KIS *i* SKS **SKSac** **10 13 46.0 -3.0**
KIS *i* S **S** **10 14 06.0 -0.7**
comp=Z,2μm,8.0s
KIS *i* sS sS 10 14 48.0 +1.0
KIS Kishinev 88.53 318 *e* PS PS 10 15 25.0 +3.3
KIS LRM MLR 10 51 20.0
comp=Z,700nm,20.0s
KIS Kishinev 88.53 318⇑ *i* P **P** **10 03 28.0 +0.2**
KIS *e* 10 03 56.0
KIS *e* 10 06 56.0
KIS *e* 10 09 04.0
KIS *i* 10 13 46.0
KIS *i* S **S** **10 14 06.0 -0.7**
KIS *e* 10 15 25.0
KIS pmax pmax
comp=Z,500nm,1.5s
KIS pmax pmax
comp=Z,1μm,6.0s
KIS smax smax
comp=N,2μm,8.0s
KIS smax smax
comp=E,2μm,8.0s
LAST Lasithi 88.54 306 P **P** **10 03 27.4 -0.9**
LAST Lasithi 88.54 306 *e* P **P** **10 03 29.9 +1.6**
LAST Lasithi 88.54 306 P **P** **10 03 27.4 -0.9**
MSAB Monastry St. A 88.56 315⇓ *i* P **P** **10 03 29.4 +1.4**
CFR Carcaliu 88.58 316⇑ *i* P **P** **10 03 29.2 +1.1**
CFR Carcaliu 88.58 316⇓ *i* P **PP** **10 06 54.9 -2.8**
HARR Harsova 88.62 315⇓ *i* P **P** **10 03 29.6 +1.3**
TMCR Tamitsa 88.64 336 *e* P **P** **10 03 29.1 +1.2**
TMCR *e* 10 06 55.5
TMCR *e* S **SKSac** **10 13 48.2 -0.7**
TMCR pmax pmax
comp=Z,583nm,1.1s
PRD Provadia 88.67 314⇑ *i* P **P** **10 03 29.9 +1.4**
PRD Provadia 88.67 314⇓ *i* P **PP** **10 06 56.9 -1.6**
PRD Provadia 88.67 314 *e* P **P** **10 03 29.8 +1.3**
CHOS Chios island 88.70 309 P **P** **10 03 30.2 +1.3**
CHOS Chios island 88.70 309 *e* P **P** **10 03 30.3 +1.3**
CHOS Chios island 88.70 309 P **P** **10 03 30.2 +1.3**
PRK Paraskevi 88.70 310 P **P** **10 03 31.3 +2.5**
PRK Paraskevi 88.70 310 P **P** **10 03 31.3 +2.5**
SANT Santorini 88.78 307 *e* P **P** **10 03 30.1 +0.8**
comp=Z,394nm,1.3s
SANT *e* pP **pP** **10 03 52.7 -0.1**
SANT *e* sP **sP** **10 04 01.6 -0.6**
LEOM Leova 88.79 317⇑ *i* P **PP** **10 06 59.5 +0.2**
APE Apeiranthos 88.86 308 P **P** **10 03 30.4 +0.7**
APE Apeiranthos 88.86 308*c* *i* P **P** **10 03 30.1 +0.4**
APE pmax pmax
comp=Z,162nm,1.1s
APE Apeiranthos 88.86 308⇑ *i* P **P** **10 03 30.3 +0.6**
APE Apeiranthos 88.86 308 P **P** **10 03 30.4 +0.7**
SNAA Sanae 88.87 197 P **P** **10 03 27.4 -1.7**
SNAA Sanae 88.87 197*d* *i* P **P** **10 03 27.1 -2.0**
SNAA Sanae 88.87 197 *e* P **P** **10 03 26.9 -2.2**
comp=Z,113nm,0.8s
SNAA *e* PP PP 10 06 52.8 -6.3
SNAA *e* S **S** **10 14 08.7 -0.6**
BOZC Bozcaada 88.98 310 *i* P **P** **10 03 30.3 +0.2**
SIGR SIGRI 89.01 310 P **P** **10 03 31.2 +1.0**
SIGR SIGRI 89.01 310 *e* P **P** **10 03 31.7 +1.5**
SIGR SIGRI 89.01 310 P **P** **10 03 31.2 +1.0**
IDI Anoyia 89.04 306 P **P** **10 03 31.6 +1.0**
comp=Z,58nm,0.6s,baz=115,slow=11,SNR=57
SIVA Sivas 89.05 305 P **P** **10 03 31.9 +1.4**
SIVA Sivas 89.05 305 *e* P **P** **10 03 32.7 +2.2**
SIVA Sivas 89.05 305 P **P** **10 03 31.9 +1.4**
SORM Soroca 89.10 319⇑ *i* P **P** **10 03 31.6 +1.2**
AKASG Malin Array Be 89.13 321 P **P** **10 03 30.7 +0.2**
comp=E,68nm,0.9s,baz=85,slow=4.6,SNR=110
AKASG PP **PP** **10 06 59.5 -2.5**
comp=Z,107nm,1.0s,baz=91,slow=6.6,SNR=21
AKASG LR LR 10 50 30.1
comp=Z,291nm,18.9s,baz=95,slow=40
AKASG Malin Array Be 89.13 321 P **P** **10 03 30.7 +0.2**
AKASG 10 06 59.5
AKASG pmax pmax
comp=Z,68nm,0.9s
AKASG pmax pmax
comp=Z,107nm,1.0s
AKBB Malin Array Si 89.13 321 *e* P **P** **10 03 30.5 0.0**
AKBB *e* PP **PP** **10 06 59.4 -2.5**
AK02 Malin Array Si 89.13 321 *e* P **P** **10 03 30.5 -0.1**
AK02 *e* PP **PP** **10 06 59.1 -2.8**
AK01 Malin Array Si 89.14 321 *e* P **P** **10 03 30.5 0.0**
AK01 *e* PP **PP** **10 06 58.7 -3.2**
KIEV Kiev 89.14 321*c* *i* P **P** **10 03 30.3 -0.3**
KIEV Kiev 89.14 321 *e* P **P** **10 03 30.6 0.0**
comp=Z,122nm,1.0s
KIEV *e* PcP **PcP** **10 03 32.7 +0.8**
KIEV *e* PP **PP** **10 06 59.2 -2.8**
RAR Rarotonga 89.16 111 LR LR 10 41 38.1
comp=Z,157nm,21.3s,baz=254,slow=34
ALN Alexandroupoli 89.19 311 P **P** **10 03 31.4 +0.3**
ALN Alexandroupoli 89.19 311 *e* P **P** **10 03 32.1 +1.0**
ALN Alexandroupoli 89.19 311 P **P** **10 03 31.4 +0.3**
PETR Petresti 89.32 316⇑ *i* P **P** **10 03 33.4 +1.9**
PGOR Pogoanele 89.32 315⇓ *i* P **P** **10 03 34.5 +2.9**
IAS Iasi 89.41 318⇑ *i* P **PP** **10 07 04.5 +0.3**
GRER 89.43 316⇑ *i* P P 10 03 35.4 +3.3
GVD Gavdhos 89.60 305 *e* P **P** **10 03 34.5 +1.3**
comp=Z,390nm,1.0s
LIA Limnos Island 89.65 310 P **P** **10 03 34.0 +0.8**
LIA Limnos Island 89.65 310 P **P** **10 03 34.0 +0.8**
ISR Istrita 89.67 316⇑ *i* P **P** **10 03 35.3 +2.0**
VRI Vrincioaia 89.70 316⇑ *i* P **P** **10 03 35.3 +2.0**
VRI Vrincioaia 89.70 316⇓ *i* P **PP** **10 07 08.4 +1.8**
SZH Strazhica 89.73 314 *e* P **P** **10 03 34.4 +0.8**
PLOR Plostina 89.75 316⇓ *i* P **P** **10 03 34.9 +1.3**
PLOR Plostina 89.75 316⇑ *i* P **PP** **10 07 07.1 +0.1**
SULR 89.78 315⇑ *i* P **P** **10 03 35.5 +1.8**
DIM Dimitrovgrad 89.79 312 *e* P **P** **10 03 34.6 +0.8**
KDZ Kurdzhali 89.80 312⇓ *i* P **P** **10 03 35.0 +1.1**
KDZ Kurdzhali 89.80 312 *e* P **P** **10 03 34.4 +0.5**
TESR Tescani 89.88 317⇑ *i* P **P** **10 03 35.3 +1.1**
TESR Tescani 89.88 317⇓ *i* P **PP** **10 07 05.5 -2.5**
SECR 89.98 315⇓ *i* P **P** **10 03 36.8 +2.1**
MLR Muntele Rosu 90.16 316 P **P** **10 03 36.4 +0.7**
comp=Z,15nm,0.7s,baz=48,slow=3.4,SNR=51
MLR Muntele Rosu 90.16 316 P **P** **10 03 36.4 +0.7**
MLR pmax pmax
comp=Z,15nm,0.7s
MLR Muntele Rosu 90.16 316⇑ *i* P **P** **10 03 36.8 +1.1**
MLR Muntele Rosu 90.16 316⇓ *i* P **PP** **10 07 15.0 +4.6**
ZIMR 90.22 314⇑ *i* P **P** **10 03 37.8 +2.0**
RZN Rozhen 90.33 312 *e* P **P** **10 03 37.2 +0.6**
PTL Penteli 90.33 308 P **P** **10 03 37.2 +0.7**
PTL Penteli 90.33 308 P **P** **10 03 37.2 +0.7**
PRAR RASCA 90.33 318⇓ *i* P **P** **10 03 37.3 +1.0**
EREA Eretria 90.34 309 P **P** **10 03 37.2 +0.6**
EREA Eretria 90.34 309 *e* P **P** **10 03 37.5 +0.9**
KAVA Kavala 90.35 311 P **P** **10 03 37.1 +0.6**
KAVA Kavala 90.35 311 *e* P **P** **10 03 38.1 +1.6**
KAVA Kavala 90.35 311 P **P** **10 03 37.1 +0.6**
ATHU Athens Univers 90.38 308 P **P** **10 03 37.1 +0.4**
ATHU Athens Univers 90.38 308 P **P** **10 03 37.1 +0.4**
PLD Plovdiv 90.41 312 P **P** **10 03 37.4 +0.7**
PLD Plovdiv 90.41 312 *e* P **P** **10 03 37.2 +0.5**
PLD Plovdiv 90.41 312 P **P** **10 03 37.4 +0.7**
ANKY Antikythira Is 90.41 306 P **P** **10 03 38.5 +1.6**
ANKY Antikythira Is 90.41 306 P **P** **10 03 38.5 +1.6**
ATH Athens Observa 90.44 308 P **P** **10 03 38.0 +1.1**
ATH Athens Observa 90.44 308 P **P** **10 03 38.0 +1.1**
AOS Alonnisos 90.51 309 P **P** **10 03 37.7 +0.4**
AOS Alonnisos 90.51 309 P **P** **10 03 37.7 +0.4**
VNA2 Neumayer--Watz 90.52 197 P **P** **10 03 38.2 +1.5**
baz=94,slow=4.2
DOPR Dopca 90.63 316⇑ *i* P P 10 03 41.7 +4.0
DOPR Dopca 90.63 316⇓ *i* P **PP** **10 07 14.6 +0.6**
OUR Ouranopolis 90.63 311 P **P** **10 03 38.3 +0.5**
OUR Ouranopolis 90.63 311 *e* P **P** **10 03 39.2 +1.4**
OUR Ouranopolis 90.63 311 P **P** **10 03 38.3 +0.5**
HUMR Humele 90.65 315⇓ *i* P **P** **10 03 39.1 +1.3**
HUMR Humele 90.65 315⇑ *i* P **PP** **10 07 16.5 +2.3**
MRKA Markates 90.66 309 P **P** **10 03 39.1 +1.1**
MRKA Markates 90.66 309 *e* P **P** **10 03 41.2 +3.2**
MTUR Matau 90.72 315⇓ *i* P **P** **10 03 39.2 +1.0**
DID Didima 90.73 308 P **P** **10 03 37.9 -0.5**
DID Didima 90.73 308 *e* P **P** **10 03 38.3 -0.1**
DID Didima 90.73 308 P **P** **10 03 37.9 -0.5**
PUL Pulkovo 90.75 330⇓ *e* P **P** **10 03 38.3 +0.5**
PUL pmax pmax
comp=Z,339nm,1.2s
DIDY Didyma 90.75 308 P **P** **10 03 37.8 -0.8**
DIDY Didyma 90.75 308 *e* P **P** **10 03 38.4 -0.2**
VOIR 90.77 316⇑ *i* P **P** **10 03 38.9 +0.5**
KRND KRANIDI 90.78 307 *e* P **P** **10 03 38.8 +0.2**
PAIG Paliouri 90.79 310 P **P** **10 03 38.6 0.0**
PAIG Paliouri 90.79 310 *e* P **P** **10 03 40.2 +1.6**
PAIG Paliouri 90.79 310 P **P** **10 03 38.6 0.0**
MICGM Minsk 90.80 325⇓ *i* P **P** **10 03 38.0 -0.2**
MICGM Minsk 90.80 325 P pP 10 04 02.0 +0.2
MICGM Minsk 90.80 325 *e* PP PP 10 07 14.0 -1.0
MNK Minsk 90.82 325⇓ *i* P **P** **10 03 38.0 -0.3**
MNK *e* *PP **pP** **10 04 02.0 +0.1**
MNK *e* 10 14 00.0
MNK *e* S **S** **10 14 26.0 -1.7**
MNK *e* SP **SP** **10 15 30.0 -5.4**
MNK pmax pmax
comp=Z,190nm,1.0s
VIL2 Platees 90.82 308 *e* P **P** **10 03 36.1 -2.7**
VLI Veliai 90.84 307 P **P** **10 03 39.0 +0.1**
VLI Veliai 90.84 307 P **P** **10 03 39.0 +0.1**
PGB Panagyurishte 90.88 313 *e* P **P** **10 03 39.3 +0.3**
NVR Nevrokopi 90.90 311 P **P** **10 03 39.3 +0.2**
NVR Nevrokopi 90.90 311 P **P** **10 03 39.3 +0.2**
VNA1 Neumayer--Stat 90.90 197 P **P** **10 03 39.9 +1.5**
SMIA Simia 90.98 309 P **P** **10 03 39.4 -0.1**
LOUT Loutraki 91.02 308 *e* P **P** **10 03 40.5 +0.8**
LTK Loutraki 91.03 308 P **P** **10 03 39.5 -0.2**
LTK Loutraki 91.03 308 *e* P **P** **10 03 39.9 +0.2**
LTK Loutraki 91.03 308 P **P** **10 03 39.5 -0.2**
MMB Musomiste 91.04 312⇑ *i* P **P** **10 03 40.1 +0.4**
MMB Musomiste 91.04 312⇓ *i* P **PP** **10 07 18.7 +1.3**
MMB Musomiste 91.04 312 *e* P **P** **10 03 39.3 -0.4**
PLG Polygyros 91.05 310 P **P** **10 03 40.2 +0.4**
PLG Polygyros 91.05 310 P **P** **10 03 40.2 +0.4**
BURAR Bucovina Array 91.06 318⇑ *i* P **P** **10 03 40.9 +1.2**
BURAR Bucovina Array 91.06 318⇓ *i* P **PP** **10 07 18.1 +0.7**
SRS Serrai 91.06 311 P **P** **10 03 39.5 -0.3**
SRS Serrai 91.06 311 *e* P **P** **10 03 40.1 +0.3**
SRS Serrai 91.06 311 P **P** **10 03 39.5 -0.3**
BUR08 Bucovina Ar. S 91.07 318 *e* P **P** **10 03 40.8 +1.0**
BUR08 *e* PP **PP** **10 07 16.8 -0.8**
XOR Xorichti 91.07 309 *e* P **P** **10 03 40.0 +0.1**
ATAL Atalanti 91.09 309 P **P** **10 03 39.2 -0.8**
ATAL Atalanti 91.09 309 P **P** **10 03 39.2 -0.8**
LKR Lokris 91.10 309 P **P** **10 03 39.9 -0.1**
LKR Lokris 91.10 309 P **P** **10 03 39.9 -0.1**
SOH Sokhos 91.19 311 P **P** **10 03 40.7 +0.2**
SOH Sokhos 91.19 311 *e* P **P** **10 03 41.2 +0.7**
SOH Sokhos 91.19 311 P **P** **10 03 40.7 +0.2**
LVZ Lovozero 91.21 339 P **P** **10 03 39.4 -0.5**
comp=Z,1μm,0.9s,SNR=39
LVZ Lovozero 91.21 339*c* *i* P **P** **10 03 39.8 -0.2**
LVZ pmax pmax
comp=Z,357nm,1.2s
LVZ Lovozero 91.21 339 *e* P **P** **10 03 39.7 -0.2**
comp=Z,244nm,0.9s
MPEP Malo Peshtene 91.33 313 *e* P **P** **10 03 42.9 +1.9**
HORT Hortiatis 91.34 311 *e* P **P** **10 03 41.7 +0.5**
VLX Vlachokerasia 91.38 307 P **P** **10 03 42.4 +0.9**
VLX Vlachokerasia 91.38 307 *e* P **P** **10 03 42.4 +0.9**
VLX Vlachokerasia 91.38 307 P **P** **10 03 42.4 +0.9**
AXAR Agios Charalam 91.39 309 P **P** **10 03 41.7 +0.3**
AXAR Agios Charalam 91.39 309 P **P** **10 03 41.7 +0.3**
DSF Desfina 91.43 308 P **P** **10 03 41.3 -0.3**
DSF Desfina 91.43 308 *e* P **P** **10 03 41.7 +0.1**
DSF Desfina 91.43 308 P **P** **10 03 41.3 -0.3**
GUR Goura 91.50 308 P **P** **10 03 42.0 -0.1**
GUR Goura 91.50 308 *e* P **P** **10 03 42.5 +0.5**
GUR Goura 91.50 308 P **P** **10 03 42.0 -0.1**
NACGM Naroch 91.50 325 *e* P P 10 03 38.0 -3.5
NACGM Naroch 91.50 325 *e* P **P** **10 03 39.0 -2.5**
NACGM Naroch 91.50 325 *e* PP PP 10 07 14.0 -6.6
NACGM Naroch 91.50 325 *e* PS pS 10 15 04.0 0.0
KKB Krupnik 91.56 312 *e* P **P** **10 03 42.4 +0.3**
APA Apatity 91.56 338⇓ *i* P **P** **10 03 41.2 -0.3**
APA *i* 10 07 26.0
APA *i* 10 14 06.0
APA *i* S **S** **10 14 38.0 +4.1**
APA pmax pmax
comp=Z,205nm,1.2s
KNT Kendrikon 91.58 311 *e* P **P** **10 03 43.0 +0.8**
VTS Vitosha 91.58 313 P **P** **10 03 42.6 +0.2**
VTS Vitosha 91.58 313⇑ *i* P **P** **10 03 43.5 +1.1**
VTS Vitosha 91.58 313⇓ *i* P **PP** **10 07 24.8 +3.0**
VTS Vitosha 91.58 313 *e* P **P** **10 03 42.4 0.0**
VTS Vitosha 91.58 313 P **P** **10 03 42.6 +0.2**
LOT Lotru 91.66 316⇓ *i* P **P** **10 03 43.9 +1.3**
KLV Kalavryta, Ach 91.67 308 P **P** **10 03 42.7 -0.1**
KLV Kalavryta, Ach 91.67 308 P **P** **10 03 42.7 -0.1**
AGG Agios Georgios 91.68 309 P **P** **10 03 42.1 -0.7**
AGG Agios Georgios 91.68 309 *e* P **P** **10 03 42.5 -0.3**
AGG Agios Georgios 91.68 309 P **P** **10 03 42.1 -0.7**
LIT Litokhoron 91.72 310 P **P** **10 03 42.1 -0.8**
LIT Litokhoron 91.72 310 *e* P **P** **10 03 43.3 +0.4**
LIT Litokhoron 91.72 310 P **P** **10 03 42.1 -0.8**
KALE Kalithea 91.73 308 P **P** **10 03 43.2 +0.2**
KALE Kalithea 91.73 308 *e* P **P** **10 03 43.5 +0.5**
KALE Kalithea 91.73 308 P **P** **10 03 43.2 +0.2**
PYL PYLOS 91.82 307 *e* P **P** **10 03 43.9 +0.5**
MAKR Makrakomi, Fth 91.83 309 P **P** **10 03 43.9 +0.4**
MAKR Makrakomi, Fth 91.83 309 *e* P **P** **10 03 44.1 +0.6**
MAKR Makrakomi, Fth 91.83 309 P **P** **10 03 43.9 +0.4**
VAY Valandovo 91.85 311 *i* P **P** **10 03 43.1 -0.4**
IIGN Ignalina 91.91 326 *e* P **P** **10 03 43.9 +0.5**
IIGN IAmb IAmb 10 03 46.9

comp=Z,131nm,1.1s
GRG Griva 91.92 311 P **P** **10 03 44.1 +0.3**
GRG Griva 91.92 311 *eP* **P** **10 03 44.2 +0.4**
GRG Griva 91.92 311 P **P** **10 03 44.1 +0.3**
IZAR Zarasai 91.97 326 *eP* **P** **10 03 44.2 +0.6**
IZAR IAmb IAmb 10 03 47.2
comp=Z,30nm,0.9s
CJR Cluj-Napoca 91.98 317⇑ *iP* **P** **10 03 45.5 +1.5**
CJR Cluj-Napoca 91.98 317⇓ *iP* **PP** **10 07 25.5 +0.8**
DRO Drossia 92.00 308 P **P** **10 03 45.1 +0.9**
DRO Drossia 92.00 308 *eP* **P** **10 03 46.6 +2.4**
THL Klokotos Trika 92.00 310 P **P** **10 03 43.8 -0.4**
ISAL Salakas 92.01 326 *eP* **P** **10 03 44.3 +0.5**
ISAL IAmb IAmb 10 03 47.3
comp=Z,58nm,1.1s
EVR Evrytania 92.06 309 P **P** **10 03 45.6 +1.0**
EVR Evrytania 92.06 309 P **P** **10 03 45.6 +1.0**
RLS Riolos of Patr 92.20 308 P **P** **10 03 46.4 +1.3**
RLS Riolos of Patr 92.20 308 P **P** **10 03 46.4 +1.3**
BMR Baia Mare 92.21 318⇓ *iP* **P** **10 03 46.3 +1.3**
BMR Baia Mare 92.21 318⇑ *iP* **PP** **10 07 24.3 -2.1**
LVV L'vov 92.22 320 *eP* **P** **10 03 45.0 +0.1**
LVV *e* 10 14 03.0
LVV *eS* **S** **10 14 36.0 -4.5**
VSU Vasula 92.25 329*c iP* **P** **10 03 45.6 +0.8**
VSU pmax pmax
comp=Z,550nm,1.2s
DEV Deva 92.33 316⇓ *iP* **P** **10 03 47.1 +1.6**
DEV Deva 92.33 316⇑ *iP* **PP** **10 07 28.8 +1.4**
GZR Gura Zlata 92.34 315⇓ *iP* **P** **10 03 46.7 +1.0**
GZR Gura Zlata 92.34 315⇓ *iP* PP 10 07 33.0 +5.4
DRGR 92.60 317⇑ *iP* **P** **10 03 48.1 +1.2**
DRGR 92.60 317⇑ *iP* **PP** **10 07 29.5 -0.1**
DSL Palaion Diasel 92.64 309 P **P** **10 03 48.0 +0.8**
DSL Palaion Diasel 92.64 309 *eP* **P** **10 03 48.4 +1.2**
DSL Palaion Diasel 92.64 309 P **P** **10 03 48.0 +0.8**
KFL Anninata 92.74 308 *eP* **P** **10 03 49.1 +1.5**
NEST Nestorio 92.86 310 *eP* **P** **10 03 48.8 +0.5**
KWP Kalwaria Pacla 93.03 320 *eP* **P** **10 03 49.4 +0.7**
KWP Kalwaria Pacla 93.03 320 *eP* **PP** **10 07 32.5 -0.3**
KWP Kalwaria Pacla 93.03 320 *eP* **P** **10 03 49.5 +0.7**
OHR Ohrid 93.14 311 *eP* **P** **10 03 46.4 -3.1**
FIA1 FINESS Array S 93.15 332 *eP* **P** **10 03 49.6 +0.7**
FIA1 *ePP* **PP** **10 07 37.0 +3.6**
FINES FINESS Array B 93.16 332 P **P** **10 03 49.6 +0.6**
comp=Z,78nm,0.9s,baz=104,slow=5.9,SNR=149
FINES PP **PP** **10 07 33.9 +0.5**
comp=Z,23nm,0.9s,baz=96,slow=9.8,SNR=4.2
FINES LR LR 10 50 55.2
comp=Z,798nm,21.3s,baz=94,slow=39
FINES FINESS Array B 93.16 332 *i P* **P** **10 03 49.7 +0.7**
FINES pmax pmax
comp=Z,78nm,0.9s
UZH Uzhgorod 93.16 319 *eP* **P** **10 03 50.0 +0.7**
UZH *e* 10 07 35.8
UZH *ePPP* PPP 10 09 41.4
UZH *e* 10 14 18.6
UZH *eS* **S** **10 14 50.4 +1.6**
UZH *ePS* **PS** **10 16 14.2 +1.3**
BZS Buzias 93.18 315⇑ *iP* **P** **10 03 50.1 +0.6**
BZS Buzias 93.18 315⇑ *iP* PP 10 07 28.9 -5.2
KOLS Kolonicke sedl 93.21 319 *eP* **P** **10 03 50.7 +1.1**
KOLS pmax pmax
comp=Z,90nm,1.2s
KOLS Kolonicke sedl 93.21 319 *eP* **P** **10 03 50.7 +1.1**
SIRR Siria 93.24 316⇑ *iP* **P** **10 03 50.7 +0.9**
SIRR Siria 93.24 316⇓ *iP* **PP** **10 07 30.7 -3.9**
IGT Igoumenitsa 93.29 309 P **P** **10 03 51.0 +0.9**
IGT Igoumenitsa 93.29 309 *eP* **P** **10 03 51.0 +0.9**
IGT Igoumenitsa 93.29 309 P **P** **10 03 51.0 +0.9**
SGD Sagiada 93.37 309 P **P** **10 03 51.5 +1.0**
SGD Sagiada 93.37 309 *eP* **P** **10 03 52.0 +1.5**
SUW Suwalki 93.41 324 *eP* **P** **10 03 50.4 +0.1**
SUW Suwalki 93.41 324 *eP* **P** **10 03 50.5 +0.1**
UNV Unalaska Valle 93.73 36 *eP* **P** **10 03 51.7 0.0**
comp=Z,260nm,1.0s
TIR Tirane 93.87 311 *eP* **P** **10 03 53.3 +0.5**
comp=Z,48nm,0.9s
STHS Stebnicka Huta 93.95 319 *eP* **P** **10 03 54.0 +1.0**
STHS pmax pmax
comp=Z,26nm,1.0s
STHS Stebnicka Huta 93.95 319 *eP* **P** **10 03 54.0 +1.0**
PVY Plav 93.96 312 *eP* **P** **10 03 53.2 -0.1**
IVA Berane 94.04 313⇑ *iP* **P** **10 03 54.3 +0.7**
DIVS Divibare 94.12 314 P **P** **10 03 54.1 +0.1**
DIVS Divibare 94.12 314⇑ *iP* **P** **10 03 54.6 +0.6**
DIVS Divibare 94.12 314⇓ *iP* **PP** **10 07 42.6 +1.0**
KECS Kecovo 94.33 318 *eP* **P** **10 03 55.1 +0.4**
KECS pmax pmax
comp=Z,11nm,1.2s
KECS Kecovo 94.33 318 *eP* **P** **10 03 55.1 +0.4**
KEV Kevo 94.37 340 *eP* **P** **10 03 54.2 -0.2**
comp=Z,62nm,1.1s
TTG Podgorica 94.46 312⇑ *iP* **P** **10 03 56.1 +0.7**
PLE Pljevlja 94.46 313 *eP* **P** **10 03 56.2 +0.6**
DRME Dracevica, Mon 94.48 312⇑ *iP* **P** **10 03 56.2 +0.7**
BEL Belsk 94.55 322 *eP* **P** **10 03 56.3 +0.7**
BEL Belsk 94.55 322 *eP* **PP** **10 07 42.7 -1.8**
BEL Belsk 94.55 322 *eP* **P** **10 03 56.3 +0.7**
PKSN Nyarlorinc 94.55 317 *e* **P** **10 03 57.5 +1.8**
PKSN *e* 10 07 45.5
NIE Niedzica 94.55 319 *eP* **P** **10 03 56.8 +1.0**
NIE Niedzica 94.55 319 *eP* **PP** **10 07 45.1 +0.4**
NIE Niedzica 94.55 319 *eP* **P** **10 03 56.9 +1.1**
PSZ Piszkesteto 94.65 318⇑ *iP* **P** **10 03 56.6 +0.3**
PSZ Piszkesteto 94.65 318⇑ *iP* **PP** **10 07 43.8 -1.8**
PSZ Piszkesteto 94.65 318 *eP* **P** **10 03 56.4 +0.1**
comp=Z,24nm,1.0s
PSZ *ePP* **PP** **10 07 45.7 +0.1**
PSZ Piszkesteto 94.65 318 *ePKiKP* **P** **10 03 57.1 +0.8**
NKY Niksic 94.69 312⇑ *iP* **P** **10 03 57.3 +0.7**
BUM Brajici-Budva 94.71 312 *eP* **P** **10 03 56.8 +0.1**
NKME Niksic 94.72 312 *eP* **P** **10 03 56.9 +0.2**
UPM Unac-Piva 94.80 313 *eP* **P** **10 03 57.2 0.0**
ARCES ARCESS Array B 94.85 340 P **P** **10 03 56.5 -0.1**
comp=Z,84nm,1.1s,baz=90,slow=3.6,SNR=78
ARCES PP **PP** **10 07 48.2 +1.7**
comp=Z,7.8nm,0.9s,baz=96,slow=8.3,SNR=2.1
ARCES ARCESS Array B 94.85 340 P **P** **10 03 56.5 -0.1**
ARCES 10 07 48.2
ARCES pmax pmax
comp=Z,84nm,1.0s
ARCES pmax pmax
comp=Z,8.0nm,0.9s
ARE0 ARCESS Array S 94.85 340 *eP* **P** **10 03 56.6 -0.1**
ARE0 IAmb IAmb 10 03 58.9
comp=Z,156nm,1.2s
ARE0 ARCESS Array S 94.85 340 *eP* **P** **10 03 56.5 -0.1**
PKS2 Kecel 94.95 316 *e* **P** **10 03 59.2 +1.6**
PKS2 *ePP* **PP** **10 07 48.9 +1.1**
OJC Ojcow 94.98 320 *eP* **P** **10 03 58.2 +0.6**
OJC Ojcow 94.98 320 *eP* **PP** **10 07 47.8 -0.2**
OJC Ojcow 94.98 320 *eP* **P** **10 03 58.2 +0.6**
HCY Herceg Novi 95.02 312⇑ *iP* **P** **10 03 58.2 +0.2**
PKS7 Kunszentmiklos 95.05 317 *ePKiKP* **P** **10 03 59.3 +1.3**
PKS7 *ePP* **PP** **10 07 49.3 +0.8**
BUD Budapest 95.19 317 *ePKiKP* **P** **10 03 59.4 +0.8**
PKSM Moragy 95.31 316⇑ *iP* **P** **10 03 59.5 +0.3**
PKSM Moragy 95.31 316⇓ *iP* **PP** **10 07 48.1 -2.5**
PKSM Moragy 95.31 316 *ePKiKP* **P** **10 03 59.9 +0.7**
PKSM *ePP* **PP** **10 07 47.4 -3.2**
KTK1 Kautokeino 95.56 339 *eP* **P** **10 03 59.9 0.0**
KTK1 IAmb IAmb 10 04 01.0
PKS9 Tamasi 95.60 316 *ePKiKP* **P** **10 04 01.7 +1.2**
PKS9 *ePP* **PP** **10 07 53.4 +0.5**
PKSG 95.60 317 *ePKiKP* **P** **10 04 01.8 +1.3**
HAMF Hammerfest 95.63 341 *eP* **P** **10 03 59.9 -0.2**
HAMF IAmb IAmb 10 04 01.0
comp=Z,62nm,0.8s
HAMF *eSKSac* **SKSac** **10 14 28.4 +0.5**
CSKK Cs˘‡kako 95.69 317 *ePKiKP* **P** **10 04 01.2 +0.3**
PKST T˘s 95.83 317 *ePKiKP* **P** **10 04 02.6 +1.0**
OKC Ostrava-Krasne 96.00 319 *eP* **P** **10 04 03.0 +0.7**
OKC *ePP* **PP** **10 07 56.4 +0.6**
OKC *eSKS* **SKSac** **10 14 30.0 -0.7**
OKC *ex* x 10 15 03.5
OKC AMS AMS 10 54 20.0
comp=Z,600nm,21.0s
OKC Ostrava-Krasne 96.00 319 *eP* **P** **10 04 03.0 +0.7**
OKC *e* 10 07 56.4
OKC *e* 10 14 30.0
OKC *e* 10 15 03.5
OKC MLR MLR
comp=Z,600nm,21.0s
MORC Moravsky Berou 96.38 319⇑ *iP* **P** **10 04 04.5 +0.4**
MORC Moravsky Berou 96.38 319⇑ *iP* **PP** **10 07 58.7 -0.2**
MORC Moravsky Berou 96.38 319 *eP* **P** **10 04 04.4 +0.3**
comp=Z,81nm,0.9s
CEL Celeste 96.59 308 *eP* **P** **10 04 06.3 +0.9**
comp=Z,47nm,1.1s
BEHE Becsehely 96.62 316 *e* **P** **10 04 06.7 +1.5**
BEHE *ePP* **PP** **10 07 58.3 -2.5**
CUC Castrocucco 96.80 309 P **P** **10 04 06.8 +0.6**
comp=Z,6.2nm,0.7s
GKP Gorka Klasztor 96.85 323 *eP* **P** **10 04 06.4 +0.4**
GKP Gorka Klasztor 96.85 323 *eP* **PP** **10 08 00.5 -1.8**
GKP Gorka Klasztor 96.85 323 *eP* **P** **10 04 06.4 +0.4**
SOP Sopron 96.86 317 *ePP* PP 10 08 02.8 +0.2
KRLC Kraliky 96.90 320 *eP* **P** **10 04 07.2 +0.8**
KRLC *ePP* **PP** **10 08 01.5 -1.3**
KRLC Kraliky 96.90 320 *eP* **P** **10 04 07.2 +0.8**
KRLC *e* 10 08 01.5
VRAC Vranov 96.96 319⇑ *iP* PP 10 07 50.5 -13
TRO Tromso 97.15 339 *eP* **P** **10 04 05.5 -1.5**
TRO IAmb IAmb 10 04 07.7
comp=Z,100nm,1.4s
TRO *eSKSac* **SKSac** **10 14 35.0 -0.8**
DPC Dobruska-Polom 97.21 320 *eP* Pdif 10 04 08.3 +0.4
DPC *ex* x 10 04 14.8
DPC *ePP* PP 10 07 59.2 -6.0
DPC *eSKS* **SKSac** **10 14 36.9 -0.2**
DPC *ex* x 10 21 56.8
DPC AMS AMS 10 55 20.0
comp=Z,1μm,20.1s
DPC Dobruska-Polom 97.21 320 *eP* Pdif 10 04 08.3 +0.4
DPC *e* 10 14 36.9
DPC *e* 10 21 56.8
DPC MLR MLR
comp=Z,1μm,20.1s
KSP Ksiaz 97.26 320 *eP* Pdif 10 04 08.7 +0.6
KSP Ksiaz 97.26 320 *eP* **PP** **10 08 04.3 -1.3**
KSP Ksiaz 97.26 320 *eP* Pdif 10 04 08.8 +0.7
CONA Conrad Observa 97.35 317⇑ *iP* **P** **10 04 08.0 -0.6**
comp=Z,6.1nm,1.0s
GCIS Gornji Cirnik 97.37 315 *eP* Pdif 10 04 09.2 +0.5
GCIS *e* 10 08 07.2
GCIS Gornji Cirnik 97.37 315 *eP* Pdif 10 04 09.2 +0.5
UPC Upice 97.42 320 *eP* Pdif 10 04 09.9 +1.1
UPC *ex* x 10 04 18.0
UPC *ePP* **PP** **10 08 04.7 -2.1**
UPC Upice 97.42 320 *eP* Pdif 10 04 09.9 +1.1
UPC *e* 10 08 04.7
ARSA Arzberg 97.54 317⇑ *iP* Pdif 10 04 09.8 +0.4
comp=Z,14nm,1.1s,SNR=7.6
ARSA ⇑ *ePP* **PP** **10 08 08.4 +0.6**
comp=Z,63nm,1.1s,SNR=6.9
BOJS Bojanci 97.61 315 *i P* Pdif 10 04 10.2 +0.5
BOJS *eSKSac* **SKSac** **10 14 37.7 -1.6**
BOJS Bojanci 97.61 315 *i P* Pdif 10 04 10.2 +0.5
TREC Trest 97.68 319 *eP* Pdif 10 04 10.9 +0.9
TREC *ePP* **PP** **10 08 09.9 +1.0**
TREC AMS AMS 10 57 40.0
comp=Z,700nm,18.6s
TREC Trest 97.68 319 *eP* Pdif 10 04 10.9 +0.9
TREC *e* 10 08 09.9
TREC MLR MLR
comp=Z,700nm,18.6s
PERS Pernice 97.78 316 *i P* Pdif 10 04 10.8 +0.3
PERS *i SKSac* **SKSac** **10 14 37.5 -2.7**
PERS Pernice 97.78 316 *i P* Pdif 10 04 10.8 +0.3
SOKA Soboth 97.84 316⇑ *eP* **P** **10 04 10.6 -0.2**
comp=Z,25nm,1.4s,SNR=16
SOKA ⇑ *iPP* **PP** **10 08 10.9 +0.7**
comp=Z,67nm,1.2s,SNR=7.8
SPA0 Spitsbergen Ar 98.14 348 *eP* **P** **10 04 11.0 -0.4**
SPA0 IAmb IAmb 10 04 12.3
comp=Z,220nm,0.9s
SPITS Spitsbergen Ar 98.14 348 P **P** **10 04 11.2 -0.2**
comp=Z,123nm,0.7s,baz=99,slow=6.4,SNR=126
SPITS Spitsbergen Ar 98.14 348 P **P** **10 04 11.2 -0.2**
SPITS pmax pmax
comp=Z,123nm,0.7s
LJU Ljubljana 98.15 315 *i P* Pdif 10 04 13.0 +0.8
LJU *i SKSac* **SKSac** **10 14 40.0 -2.0**
LJU Ljubljana 98.15 315 *i P* Pdif 10 04 13.0 +0.9
OBKA Obir 98.16 316⇑ *iPdiff* **P** **10 04 12.3 0.0**
comp=Z,9.5nm,1.2s
GOPC GO Pecny, Ondr 98.17 319 *eP* Pdif 10 04 12.7 +0.5
GOPC *ePP* **PP** **10 08 12.0 -0.6**
GOPC *eSKS* **SKSac** **10 14 39.0 -3.0**
GOPC *eSS* **SS** **10 22 12.2 -4.8**
GOPC AMS AMS 10 55 30.0
comp=Z,1μm,21.7s
TBI Tubuai 98.18 115 *eS* **S** **10 15 33.2 -0.2**
comp=Z,1μm,27.8s
TBI *eSS* SS 10 22 10.2 -7.8
comp=Z,1μm,31.2s
TBI *eLQ* LQ 10 32 08.1
comp=Z,1μm,37.0s
TBI *eLR* LR 10 36 17.4
comp=Z,1μm,34.0s
BSD Bornholm Skovb 98.31 325⇑ *iP* **PP** **10 08 11.8 -1.6**
PRU Pruhonice 98.33 319 *eP* Pdif 10 04 13.5 +0.7
PRU *ex* x 10 04 21.9
PRU *ePP* **PP** **10 08 14.1 +0.3**
PRU *eSKS* **SKSac** **10 14 42.3 -0.4**
PRU *ex* x 10 22 11.4
PRU AMS AMS 10 55 30.0
comp=Z,400nm,21.6s
PRU Pruhonice 98.33 319 *eP* Pdif 10 04 13.5 +0.7
PRU *e* 10 08 14.1
PRU *e* 10 14 42.3
PRU MLR MLR
comp=Z,400nm,21.6s
PRA Prague 98.41 319 *ePDIFF* Pdif 10 04 14.3 +1.1
PRA *ePP* **PP** **10 08 14.7 +0.4**
PRA *eSKS* **SKSac** **10 14 40.0 -3.1**
PRA AMS AMS 10 55 30.0
comp=Z,1μm,20.5s
PRA Prague 98.41 319 *eP* Pdif 10 04 14.3 +1.1
PRA *e* 10 08 14.7
PRA *e* 10 14 40.0
PRA MLR MLR
comp=Z,1μm,20.5s
MOA Molln 98.42 317⇑ *ePdiff* **P** **10 04 13.1 -0.2**
comp=Z,8.8nm,1.2s
MOA ⇑ *iPP* **PP** **10 08 14.7 +0.2**
comp=Z,88nm,1.1s,SNR=12
STEI Steigen 98.43 338 *eP* Pdif 10 04 12.9 +0.1
STEI IAmb IAmb 10 04 13.8
comp=Z,97nm,0.9s
JAVS Javornik 98.47 315 *i P* **P** **10 04 13.7 0.0**
JAVS *eSKSac* **SKSac** **10 14 42.4 -1.4**
JAVS Javornik 98.47 315 *i P* Pdif 10 04 13.7 0.0
BRG Berggiesshubel 98.75 320 PDIFF **P** **10 04 14.0 -0.7**
BRG PP **PP** **10 08 16.0 -0.9**
BRG SKS **SKSac** **10 14 43.0 -1.8**
BRG SDIFF **S** **10 15 35.0 -2.0**
BRG SS **SS** **10 22 19.0 -6.0**
comp=N,417nm,17.8s
comp=E,312nm,19.1s
comp=Z,687nm,22.1s
BRG Berggiesshubel 98.75 320 *ePdiff* Pdif 10 04 15.8 +1.1
BRG *ePP* **PP** **10 08 17.2 +0.3**
BRG Berggiesshubel 98.75 320 P **P** **10 04 14.0 -0.7**
BRG 10 08 16.0
BRG 10 14 43.0
BRG S **S** **10 15 35.0 -2.0**
BRG SS **SS** **10 22 19.0 -6.0**
BRG MLR MLR
comp=N,417nm,17.8s
BRG MLR MLR
comp=E,312nm,19.1s
BRG MLR MLR
comp=Z,687nm,22.1s
GEC2 GERESS Array S 98.84 318 *ePdiff* Pdif 10 04 16.3 +1.0
GEC2 *ePP* **PP** **10 08 17.3 -0.5**
GERES GERESS Array B 98.84 318 P Pdif 10 04 15.5 +0.2
comp=Z,5.1nm,0.9s,baz=76,slow=5.6,SNR=36
GERES PP **PP** **10 08 14.5 -3.3**
comp=Z,27nm,1.1s,baz=91,slow=6.7,SNR=8.8
GERES LR LR 10 58 09.0
comp=Z,702nm,19.1s,baz=67,slow=41
GERES GERESS Array B 98.84 318 P Pdif 10 04 15.5 +0.2
GERES 10 08 14.5
GERES pmax pmax
comp=Z,5.0nm,0.9s
GERES pmax pmax
comp=Z,27nm,1.1s
RUE Ruedersdorf 98.90 322 *ePP* PP 10 08 17.6 -0.4
KHC Kasperske Hory 98.93 318 *eP* Pdif 10 04 16.0 +0.4
KHC *ex* x 10 07 39.9
KHC *ePP* **PP** **10 08 15.7 -2.7**
KHC *eSKS* **SKSac** **10 14 43.3 -2.6**
KHC *ex* x 10 15 17.1
KHC AMS AMS 10 57 00.0
comp=Z,1μm,20.2s
KHC Kasperske Hory 98.93 318 *eP* Pdif 10 04 16.0 +0.4
KHC *e* 10 08 15.7
KHC *e* 10 14 43.3
KHC MLR MLR
comp=Z,1μm,20.2s
KHC Kasperske Hory 98.93 318 *eP* **P** **10 04 15.2 -0.4**
comp=Z,3.7nm,1.0s
KBS Kingsbay 98.99 349 *eP* **P** **10 04 14.6 -0.5**
KBS IAmb IAmb 10 04 16.6
comp=Z,77nm,1.0s
KBS *ePP* PP 10 08 05.7 -12
KBS *eSKSac* **SKSac** **10 14 47.3 +2.3**
KBS Kingsbay 98.99 349 *eP* Pdif 10 04 15.3 +0.1
comp=Z,70nm,1.0s
KBA Koelnbreinsper 99.01 316⇑ *iPP* PP 10 08 19.7 +0.3
comp=Z,104nm,1.1s,SNR=7.8
RGN Rugen 99.22 324 *ePP* PP 10 08 20.6 +0.3
PPT2 Papeete2 99.25 109 *eS* **S** **10 15 42.3 -0.5**
comp=Z,1μm,24.8s
PPT2 *eSS* SS 10 22 19.3 -14
comp=Z,1μm,26.8s
PPT2 Papeete2 99.25 109 *eLQ* LQ 10 32 35.6
comp=Z,2μm,34.2s
PPT2 *eLR* LR 10 36 47.9
comp=Z,876nm,24.2s
PPT Papeete 99.26 109 LR LR 10 49 15.8
comp=Z,232nm,18.5s,baz=260,slow=35
KONS Konsvik 99.27 336 *eP* **Pdif** **10 04 17.4 +0.9**
KONS IAmb IAmb 10 04 18.9
comp=Z,109nm,1.3s
CLL Collm 99.35 321 *ePdiff* **Pdif** **10 04 17.9 +0.6**
CLL *ePP* **PP** **10 08 21.2 -0.3**
CLL Collm 99.35 321 *i Pdif* **Pdif** **10 04 17.6 +0.3**
comp=Z,17nm,1.6s
CLL *i pPdif* **pP** **10 04 37.7 -3.3**
comp=Z,17nm,1.1s
CLL *i* 10 04 47.1
CLL *i* 10 05 01.1
CLL *i* 10 07 48.6
CLL *ePP* **PP** **10 08 20.0 -1.5**
CLL *ePKiKP* **PKiKP** **10 08 45.0 -1.6**
CLL *eSKSac* **SKSac** **10 14 47.0 -0.8**
CLL *eSdif* **ScS** **10 15 37.0 -5.0**
CLL *ePKiKPdf* **PKKPdf** **10 20 45.0 -1.6**
CLL *e*(SS) 10 22 27.0
CLL *eSSS* SSS 10 26 24.0
CLL *eSSSS* 10 29 42.0
CLL Lm MLR 10 56 00.0
comp=Z,700nm,20.6s
CLL Collm 99.35 321 *i P* **Pdif** **10 04 17.6 +0.3**
CLL *e* 10 14 47.0
CLL *eS* **ScS** **10 15 37.0 -5.0**
CLL pmax pmax
comp=Z,17nm,1.6s
CLL MLR MLR
comp=Z,700nm,20.6s
WET Wettzell 99.39 318 *ePdiff* **Pdif** **10 04 18.8 +1.2**
WET *ePP* **PP** **10 08 21.7 -0.2**
RJOB Jochberg 99.41 317 *ePP* PP 10 08 22.4 +0.3
ABTA Abfaltersbach 99.57 316⇑ *iPdiff* **Pdif** **10 04 18.1 -0.4**
comp=Z,9.2nm,1.2s
TANN Tannenbergstha 99.68 320 *ePdiff* **Pdif** **10 04 19.8 +0.9**
TANN *ePP* **PP** **10 08 24.6 +0.5**
NKC Novy Kostel 99.69 320 *ePP* PP 10 08 25.1 +1.0
NKC *eSKS* **SKSac** **10 14 50.7 +1.1**
NKC *eS* **ScS** **10 15 41.3 -3.6**
NKC *eSS* **SS** **10 22 32.3 -5.9**
NKC AMS AMS 10 56 10.0
comp=Z,600nm,20.3s
WERN Wernitzgruen 99.73 320 *ePdiff* **Pdif** **10 04 20.3 +1.2**
GUNZ Gunzen 99.76 320 *ePdiff* **Pdif** **10 04 20.4 +1.1**
WERD Werda 99.78 320 *ePdiff* **Pdif** **10 04 20.3 +1.0**
NSS Namsos 99.80 334 *eP* **Pdif** **10 04 20.1 +1.1**
ROTZ Rotzenmuhle 99.84 319 *ePdiff* **Pdif** **10 04 21.1 +1.5**
ROTZ *ePP* **PP** **10 08 26.0 +0.7**
PLN Plauen 99.88 320 *ePdiff* **Pdif** **10 04 20.8 +1.1**
MANZ Manzenberg 99.90 319 *ePdiff* **Pdif** **10 04 21.4 +1.5**
MANZ *ePP* **PP** **10 08 26.7 +0.9**
NEUB Neuenburg 100.12 321 *ePP* PP 10 08 27.2 -0.1
NC602 NORSAR Array S 100.13 330 *eP* **Pdif** **10 04 21.1 +0.6**
WTTA Wattenberg 100.18 317⇑ *ePdiff* **Pdif** **10 04 21.2 -0.2**
comp=Z,19nm,1.1s
WTTA ⇑ *iPP* **PP** **10 08 26.2 -1.9**
comp=Z,134nm,1.2s,SNR=7.9
MOX Moxa 100.22 320 *ePdiff* **Pdif** **10 04 22.1 +0.8**
MOX *ePP* **PP** **10 08 28.7 +0.5**
NB2 NORSAR Subarra 100.28 331 P **Pdif** **10 04 21.1 -0.2**
comp=Z,14nm,1.2s,baz=85,slow=4.4
NB2 NORSAR Subarra 100.28 331 P **Pdif** **10 04 21.1 -0.2**
baz=85,slow=4.4
NOA NORSAR Array B 100.28 331 P **Pdif** **10 04 21.5 +0.2**
comp=Z,4.6nm,0.9s,baz=80,slow=4.5,SNR=12
NOA PP **PP** **10 08 28.2 0.0**
comp=Z,11nm,0.9s,baz=101,slow=6.9,SNR=8.8
NOA NORSAR Array B 100.28 331 P **Pdif** **10 04 21.5 +0.2**
NOA 10 08 28.2
NOA pmax pmax
comp=Z,5.0nm,0.9s
NOA pmax pmax
comp=Z,11nm,0.9s
FUR Furstenfeldbru 100.43 317 *ePP* PP 10 08 30.4 +0.5
NAO01 NORSAR Array S 100.44 330 *ePdif* **Pdif** **10 04 23.7 +1.7**
comp=Z,8.4nm,0.9s
GRF Grafenberg Arr 100.47 319 *ePP* PP 10 08 31.2 +1.1
GRFO Grafenberg 100.48 319 *ePdif* **Pdif** **10 04 20.2 -2.2**
comp=Z,14nm,1.0s
MOTA Moosalm 100.55 317⇑ *ePdiff* **Pdif** **10 04 22.4 -0.5**
comp=Z,19nm,1.1s,SNR=7.5
MOTA ⇑ *iPP* **PP** **10 08 29.3 -1.6**
comp=Z,77nm,1.1s,SNR=5.8
IM04 Indian Mountai 100.60 24 *ePdif* **Pdif** **10 04 23.3 +0.7**
RETA Reutte 100.78 317⇑ *ePdiff* **Pdif** **10 04 24.0 +0.1**
comp=Z,13nm,1.1s,SNR=6.9
RETA ⇑ *iPP* **PP** **10 08 29.0 -3.5**
comp=Z,80nm,1.2s,SNR=9.6
FETA Feichten 100.80 316⇑ *ePdiff* **Pdif** **10 04 24.2 +0.1**
comp=Z,11nm,1.1s,SNR=6.6
FETA ⇑ *iPP* **PP** **10 08 32.0 -0.8**
comp=Z,102nm,1.3s,SNR=6.1
BSEG Bad Segeberg 100.98 323 *ePdiff* **Pdif** **10 04 25.9 +1.4**
BSEG *ePP* **PP** **10 08 33.7 0.0**
CLZ Clausthal 101.00 321 *ePdiff* **Pdif** **10 04 25.8 +1.1**
CLZ *ePP* **PP** **10 08 34.2 +0.2**
KONO Kongsberg 101.14 329 *ePP* PP 10 08 32.0 -2.7
KONO *eSKSac* **SKSac** **10 14 58.9 +2.7**
UBBA Unterbreizbach 101.25 320 *ePP* PP 10 08 35.9 +0.2
DAVA Damuels 101.38 317⇑ *ePdiff* **Pdif** **10 04 27.1 +0.4**
comp=Z,14nm,0.9s,SNR=7.0
RSO Redoubt South 101.46 30 *ePdif* **Pdif** **10 04 27.0 +0.2**
comp=Z,45nm,0.9s
RSO *e* 10 08 38.0
PPLA Purkeypile 101.54 27 *ePdif* **Pdif** **10 04 27.3 +0.3**
comp=Z,76nm,1.4s
KEST Kesra 101.68 305 P **Pdif** **10 04 29.4 +1.2**
comp=Z,3.7nm,1.1s,baz=90,slow=7.1,SNR=4.1
KEST Kesra 101.68 305 P **Pdif** **10 04 29.4 +1.2**
comp=Z,7.7nm,1.1s
VSL Villasalto 101.73 309 *ePdif* **Pdif** **10 04 28.6 +0.3**
comp=Z,7.5nm,1.0s
KDAK Kodiak Island 101.73 33 *i P* **Pdif** **10 04 28.7 +1.0**
KDAK Kodiak Island 101.73 33 *ePdif* **Pdif** **10 04 28.4 +0.7**
comp=Z,43nm,1.1s
STU Stuttgart 101.81 318 *ePP* PP 10 08 40.3 +0.1
COLD Coldfoot 101.89 23 *ePdif* **Pdif** **10 04 29.4 +1.1**
comp=Z,417nm,0.5s
BPAW Bear Paw Mtn. 101.96 26 *ePdif* **Pdif** **10 04 29.5 +0.8**
comp=Z,9.2nm,1.1s
TNS Taunus Mts 102.26 320 *ePdiff* **Pdif** **10 04 31.6 +1.2**
TNS *ePP* **PP** **10 08 44.1 +0.6**
TRF Thorofare Moun 102.34 27 *ePdif* **Pdif** **10 04 30.7 +0.1**
comp=Z,93nm,1.7s
BFO Black Forest 102.40 318 *ePP* PP 10 08 44.6 -0.1

BFO Black Forest 102.40 318 *i* P Pdif 10 04 31.9 +0.9
BFO Black Forest 102.40 318 *e*Pdif Pdif 10 04 30.3 -0.7
comp=Z,5.5nm,0.9s
IBBN Ibbenburen 102.59 322 *e*PP PP 10 08 46.0 +0.1
LANF Langenberg 102.72 318⇑ *e*P Pdif 10 04 33.2 +0.8
BLS5 Blasjo 102.76 329 *e*P Pdif 10 04 34.7 +2.4
RC01 Rabbit Creek A 102.88 29 *e*Pdif Pdif 10 04 32.9 +0.1
comp=Z,29nm,0.8s
MCK McKinley 102.90 26 *e*Pdif Pdif 10 04 33.4 +0.5
comp=Z,37nm,0.9s
BUG Bochum--Univer 102.94 321 *e*PP PP 10 08 49.0 +0.5
SEW Seward 103.14 30 *e*Pdif Pdif 10 04 33.9 0.0
comp=Z,50nm,1.1s
ECH Echery 103.19 318⇑ *e*P Pdif 10 04 35.7 +1.2
ECH Echery 103.19 318 *e*Pdif Pdif 10 04 35.3 +0.7
comp=Z,8.8nm,1.1s
COLA College 103.19 25 *c i*P Pdif 10 04 34.8 +0.7
COLA pmax pmax
comp=Z,56nm,1.2s
COLA College 103.19 25 *e*Pdif Pdif 10 04 34.5 +0.4
comp=Z,16nm,1.0s
CMAH Djebel Manchou 103.25 306 P PP 10 08 48.1 -3.4
SML Sawmill 103.45 28 *e*Pdif Pdif 10 04 36.2 +0.8
comp=Z,21nm,1.1s
ILAR Eielson Array 103.62 25 Pdiff Pdif 10 04 35.8 -0.3
comp=Z,4.5nm,1.0s,baz=298,slow=4.3,SNR=33
ILAR PP PP 10 08 44.3 -8.9
comp=Z,3.3nm,0.9s,baz=282,slow=7.1,SNR=2.9
ILAR PKiKP PKiKP 10 08 53.6 -0.3
comp=Z,7.3nm,1.0s,baz=262,slow=2.6,SNR=5.2
ILAR PKKPbc PKKPbc 10 20 28.1 -2.8
comp=Z,0.9nm,0.9s,baz=105,slow=1.9,SNR=5.2
BNI Bardonecchia 103.66 314 *e*Pdif Pdif 10 04 41.1 +4.3
comp=Z,6.9nm,0.9s
WLF Walferdange 103.77 319 *e*PP PP 10 08 55.2 +0.5
MEM Membach 103.79 320 PKP PKiKP 10 08 54.7 +0.1
THEF They Montfort 103.97 318⇑ *e*P Pdif 10 04 38.6 +0.6
BCLA Clavier 104.26 320 PKP PKiKP 10 08 56.8 +1.3
PAX Paxson 104.57 27 *e*Pdif Pdif 10 04 40.8 +0.4
comp=Z,34nm,1.3s
DOU Dourbes 104.74 320 PKP PKiKP 10 08 58.8 +2.4
DIV Divide 104.78 29 *e*Pdif Pdif 10 04 42.5 +1.2
SET Setif 104.89 305 P PP 10 08 56.0 -7.6
SNF Seneffe 104.90 320 PKP PKiKP 10 09 00.5 +3.8
MENT Mentasta 105.36 27 *e*Pdif Pdif 10 04 45.2 +1.3
BMRM Bremner River 105.36 29 *e*Pdif Pdif 10 04 44.6 +0.6
comp=Z,48nm,1.1s
DAG Danmarks Havn 105.73 349⇑ *i*P Pdif 10 04 44.5 -0.7
comp=Z,18nm,0.9s
DAG Danmarks Havn 105.73 349⇑ *i*P Pdif 10 04 44.5 -0.7
DAG pmax pmax
comp=Z,15nm,0.9s
EGAK Eagle 106.01 25 *e*Pdif Pdif 10 04 47.4 +0.8
comp=Z,7.5nm,0.9s
JMIC Jan Mayen 106.02 342 *e*PP PP 10 09 11.8 +1.1
JMIC *e*SKSac SKSac 10 15 20.6 +2.3
DAWY Dawson 106.95 25 *e*Pdif Pdif 10 04 50.7 -0.2
comp=Z,9.7nm,1.0s
TORD Torodi Ar. Bea 107.64 281 Pdiff Pdif 10 04 55.7 +0.7
comp=Z,0.8nm,1.0s,baz=114,slow=3.6,SNR=3.6
TORD PKiKP PKiKP 10 09 02.4 -0.4
comp=Z,1.7nm,0.6s,baz=75,slow=1.4,SNR=23
INK Inuvik 107.69 20 Pdiff Pdif 10 04 54.8 +0.8
comp=Z,3.1nm,0.3s,baz=289,slow=4.9,SNR=8.5
INK Inuvik 107.69 20 P Pdif 10 04 54.8 +0.8
INK pmax pmax
comp=Z,3.0nm,0.3s
INK Inuvik 107.69 20 *e*Pdif Pdif 10 04 54.4 +0.4
comp=Z,18nm,1.1s
HYT Haines Junctio 108.76 28 *e*Pdif Pdif 10 05 01.6 +2.4
comp=Z,22nm,1.1s
RKT Rikitea 111.07 118 *e*LR LR 10 42 17.6
comp=Z,988nm,29.2s
ESDC Sonseca Array 112.00 309 Pdiff Pdif 10 05 20.2 +6.2
comp=Z,0.3nm,0.5s,baz=52,slow=4.6,SNR=3.4
ESDC PKiKP PKiKP 10 09 11.0 +0.6
comp=Z,3.8nm,1.0s,baz=60,slow=3.0,SNR=7.9
ESDC PKKPbc PKKPbc 10 20 02.4 -1.3
comp=Z,0.2nm,0.3s,baz=282,slow=3.7,SNR=6.3
ESDC PKKPab PKKPab 10 20 11.9 +0.4
comp=Z,0.1nm,0.2s,baz=278,slow=3.7,SNR=4.2
RES Resolute Bay 112.08 6 PKiKP PKiKP 10 09 09.4 -0.1
comp=Z,7.8nm,0.8s,baz=22,slow=2.0,SNR=4.1
RES Resolute Bay 112.08 6 *i* PKiKP PKiKP 10 09 09.4 -0.1
RES pmax pmax
comp=Z,8.0nm,0.8s
RES Resolute Bay 112.08 6 *e*Pdif Pdif 10 05 17.1 +3.7
RES PKiKP PKiKP 10 09 09.4 -0.1
PAB San Pablo 112.31 309 *e*PKPdf PKiKP 10 09 12.4 +1.3
SUMG Summit 112.39 350 *i* P Pdif 10 05 20.2 +4.8
comp=Z,23nm,1.1s
SUMG Summit 112.39 350 *e*P Pdif 10 05 20.2 +4.8
SUMG pmax pmax
comp=Z,23nm,1.1s
SUMG Summit 112.39 350 *e*Pdif Pdif 10 05 17.0 +1.6
KULLO Kullorsuaq 112.94 356 *i* P Pdif 10 05 18.7 +1.4
comp=Z,46nm,1.2s
DLBC Dease Lake 113.16 29 Pdiff Pdif 10 05 19.2 +0.5
comp=Z,4.5nm,1.1s,baz=254,slow=5.4,SNR=2.5
DLBC PKiKP PKiKP 10 09 12.1 0.0
comp=Z,10nm,1.0s,baz=252,slow=1.6,SNR=8.1
POLO Lamas de Olo 114.59 312 *e*PKP PKPdf 10 09 16.5 +1.1
POLO Lamas de Olo 114.59 312 *e*PKP PKPdf 10 09 16.5 +1.1
PBAR Barrancos 114.60 308 *e*PKP PKPdf 10 09 16.5 +1.2
PBAR Barrancos 114.60 308 *e*PKP PKPdf 10 09 16.5 +1.2
PCBR Castelo Branco 114.64 310 *e*PKP PKPdf 10 09 16.6 +1.2
PCBR Castelo Branco 114.64 310 *e*PKP PKPdf 10 09 16.6 +1.2
PMRV Marv??o 114.65 310 *e*PKP PKPdf 10 09 17.2 +1.8
PMRV Marv??o 114.65 310 *e*PKP PKPdf 10 09 17.2 +1.8
PGAV Gavieira, Arco 114.82 313 *e*PKP PKPdf 10 09 16.4 +0.6
PGAV Gavieira, Arco 114.82 313 *e*PKP PKPdf 10 09 16.4 +0.6
PESTR Estremoz 114.91 309 *e*PKP PKPdf 10 09 17.6 +1.7
PESTR Estremoz 114.91 309 *e*PKP PKPdf 10 09 17.6 +1.7
PVAQ Vaqueiros 115.25 308 *e*PKP PKPdf 10 09 17.2 +0.6
PVAQ Vaqueiros 115.25 308 *e*PKP PKPdf 10 09 17.2 +0.6
PCAS Casmilo, Conde 115.38 311 *e*PKP PKPdf 10 09 18.2 +1.4
PCAS Casmilo, Conde 115.38 311 *e*PKP PKPdf 10 09 18.2 +1.4
PBDV Barranco-do-Ve 115.45 307 *e*PKP PKPdf 10 09 18.7 +1.6
PBDV Barranco-do-Ve 115.45 307 *e*PKP PKPdf 10 09 18.7 +1.6
PCVE Castro Verde 115.47 308 *e*PKP PKPdf 10 09 17.7 +0.7
PCVE Castro Verde 115.47 308 *e*PKP PKPdf 10 09 17.7 +0.7
MESJ Messejana 115.57 308 *e*P PKPdf 10 09 18.3 +1.1
MESJ Messejana 115.57 308 *e*PKP PKPdf 10 09 18.2 +1.0
MESJ Messejana 115.57 308 *e*PKP PKPdf 10 09 18.2 +1.0
PNCL Nicolau / Gran 115.77 308 *e*PKP PKPdf 10 09 18.8 +1.2
PNCL Nicolau / Gran 115.77 308 *e*PKP PKPdf 10 09 18.8 +1.2
MORF Marmelete 116.00 308 *e*P PKPdf 10 09 19.2 +1.1
MORF Marmelete 116.00 308 *e*PKP PKPdf 10 09 19.8 +1.6
MORF Marmelete 116.00 308 *e*PKP PKPdf 10 09 19.8 +1.6
PFVI Vila Bisbo 116.17 307 *e*PKP PKPdf 10 09 19.5 +1.1
PFVI Vila Bisbo 116.17 307 *e*PKP PKPdf 10 09 19.5 +1.1
BBB Bella Bella 116.66 35 PKP PKPdf 10 09 18.6 -0.2
comp=Z,11nm,0.8s,baz=247,slow=1.9,SNR=7.8
YKW3 Yellowknife Ar 117.39 21 *e*PKPdf PKPdf 10 09 19.9 -0.1
YKA Yellowknife Ar 117.44 21 Pdiff Pdif 10 05 37.6 +0.1
comp=Z,0.9nm,1.0s,baz=314,slow=4.2,SNR=6.0
YKA PKP PKPdf 10 09 20.0 -0.1
comp=Z,14nm,0.7s,baz=340,slow=2.0,SNR=76
YKA PKKPbc PKKPbc 10 19 43.4 -2.2
comp=Z,2.8nm,0.8s,baz=118,slow=4.3,SNR=12
YKA SKKPbc SKKPbc 10 23 22.8 -2.7
comp=Z,0.6nm,0.8s,baz=156,slow=2.1,SNR=3.8
YKA Yellowknife Ar 117.44 21 P Pdif 10 05 37.6 +0.1
YKA 10 09 20.0
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA pmax pmax
comp=Z,14nm,0.7s
YKA pmax pmax
comp=N,1.0nm,0.8s
SFJD Kangerlussuaq 119.34 351 PKP PKPdf 10 09 23.4 -0.2
comp=N,15nm,0.8s,baz=319,slow=3.9,SNR=5.6
SFJD Kangerlussuaq 119.34 351 PKiKP PKPdf 10 09 23.4 -0.2
SFJD pmax pmax
comp=Z,15nm,0.8s
NLWA Neilton Lookou 121.11 39 *e*PKPdf PKPdf 10 09 28.8 +1.2
BMW Boistfort Moun 121.89 39 P PKPdf 10 09 30.7 +1.5
JCW Jim Creek 121.94 37 P PKPdf 10 09 30.8 +1.6
F04D Rainier, OR 122.19 40 P PKPdf 10 09 33.2 +3.5
baz=122
G03D McMinnville, O 122.38 41 P PKPdf 10 09 32.1 +2.0
baz=122,SNR=6.2
GSM Grass Mountain 122.47 38 P PKPdf 10 09 31.8 +1.4
FL2 Flat Top 2 122.56 39 P PKPdf 10 09 32.6 +2.0
WPW White Pass 122.84 39 P PKPdf 10 09 32.8 +1.7

I03D Drain, OR 122.92 42 P PKPdf 10 09 32.4 +1.2
baz=123
NAC Naches 123.27 38 P PKPdf 10 09 33.5 +1.7
L02D Cave Junction, 123.33 44 P PKPdf 10 09 33.3 +1.3
baz=123
WTV Waterville 123.35 37 P PKPdf 10 09 32.9 +0.9
VFP Flag Point 123.49 40 P PKPdf 10 09 34.2 +1.7
I04A Tendick Farm, 123.51 42 P PKPdf 10 09 33.8 +1.4
baz=124
HUMO Hull Mountain 123.61 44 *e*PKPdf PKPdf 10 09 34.2 +1.6
HUMO *e*SKPdf SKiKP 10 13 03.2 +2.2
G05D Wamic, OR 123.62 40 P PKPdf 10 09 33.4 +0.9
baz=124
BPO Bald Peter 123.63 41 P PKPdf 10 09 34.6 +1.7
TRW Toppenish Ridg 123.64 39 P PKPdf 10 09 34.2 +1.7
SAW Saint Andrews 123.68 37 P PKPdf 10 09 33.7 +1.1
KHMM Horse Mountain 123.71 46 *e*PKPdf PKPdf 10 09 35.4 +2.4
EDM Edmonton 123.88 29 *e*PKPdf PKPdf 10 09 33.3 +0.5
J04D Umpqua Nationa 123.93 43 P PKPdf 10 09 34.9 +1.5
baz=124
CROR Criterion Ridg 123.94 40 P PKPdf 10 09 34.9 +1.6
I05D Terrebonne, OR 123.99 41 P PKPdf 10 09 35.2 +1.8
baz=124,SNR=18
YBH Yreka Blue Hor 124.11 44 PKP PKPdf 10 09 32.6 -1.1
comp=Z,8.0nm,1.0s,baz=30,slow=3.8,SNR=12
YBH Yreka Blue Hor 124.11 44 PKiKP PKPdf 10 09 32.6 -1.1
YBH pmax pmax
comp=Z,8.0nm,1.0s
YBH Yreka Blue Hor 124.11 44 PKP PKPdf 10 09 32.6 -1.1
YBH *e*PKPdf PKiKP 10 09 34.8 +0.8
M02C Callahan 124.14 45 P PKPdf 10 09 35.4 +1.7
baz=124,SNR=15
HAWA Hanford 124.22 38 *e*PKPdf PKPdf 10 09 35.3 +1.6
N02D Trinity Center 124.39 45 P PKPdf 10 09 35.8 +1.6
baz=124,SNR=9.3
K04D Chiloquin, OR 124.42 43 P PKPdf 10 09 35.3 +1.0
baz=124
J05D Fort Rock, OR 124.50 42 P PKPdf 10 09 36.1 +1.7
baz=124,SNR=25
WDC Whiskeytown Da 124.66 46 *e*PKPdf PKPdf 10 09 35.7 +1.1
WDC *e*PP PP 10 11 23.9 +1.5
M04C Macdoel 124.69 44 P PKPdf 10 09 36.1 +1.2
baz=125,SNR=7.1
NEW Newport 124.72 35 PKP PKPdf 10 09 34.0 -0.6
comp=Z,18nm,0.9s,baz=301,slow=1.6,SNR=23
NEW Newport 124.72 35 PKiKP PKPdf 10 09 34.0 -0.6
NEW pmax pmax
comp=Z,18nm,0.9s
NEW Newport 124.72 35 P PKPdf 10 09 35.8 +1.2
baz=125
NEW Newport 124.72 35 PKP PKPdf 10 09 34.0 -0.6
NEW *e*PKPdf PKiKP 10 09 35.6 +0.7
MOD Modoc Plateau 125.70 43 *e*PKPdf PKPdf 10 09 37.3 +0.5
WALA Waterton Lakes 126.07 33 *e*PKPdf PKPdf 10 09 37.9 +0.7
BSMT Bassoo Peak 126.27 35 *e*PKPdf PKPdf 10 09 38.7 +1.0
BSMT *e*PP PP 10 11 33.0 0.0
BMO Blue Mountains 126.33 39 *e*PKPdf PKPdf 10 09 38.6 +0.8
BMO *e*PP PP 10 11 32.2 -1.3
BLMT Blacktail Moun 126.42 34 *e*PKPdf PKPdf 10 09 38.8 +0.7
WVOR Wild Horse Val 126.59 42 *e*PKPdf PKPdf 10 09 39.6 +1.2
FCC Fort Churchill 126.61 14 *e*PKPdf PKPdf 10 09 38.3 +0.6
JTMT Jette 126.61 34 *e*PKPdf PKPdf 10 09 39.5 +1.2
YBMT Yellow Bay 126.69 34 *e*PKPdf PKPdf 10 09 39.6 +1.1
SWMT Swartz Lake 126.90 35 *e*PKPdf PKPdf 10 09 39.3 +0.5
CMB Columbia Colle 127.14 48 *e*PKPdf PKPdf 10 09 40.9 +1.4
MSO Missoula 127.31 35 P PKPdf 10 09 41.0 +1.3
baz=127
SLMT Seeley Lake 127.33 35 *e*PKPdf PKPdf 10 09 40.4 +0.6
FFC Flin Flon 127.61 21 *e*PKPdf PKPdf 10 09 40.7 +0.9
CHMT Chamberlain Mo 127.65 35 *e*PKPdf PKPdf 10 09 41.3 +0.8
CHMT epPKPdf pPKPdf 10 10 04.3 -0.7
WAKR Walker 127.66 47 *e*PKPdf PKPdf 10 09 42.3 +1.6
MFID Camas Ranch 127.96 40 *e*PKPdf PKPdf 10 09 41.7 +0.7
MFID *e*PP PP 10 11 41.4 -2.8
SMMC Simmler 128.40 51 P PKPdf 10 09 43.8 +1.8
baz=128
MLAC Mammoth, Mammt 128.43 48 P PKPdf 10 09 45.6 +3.3
baz=128
NVAR Mina Array Bea 128.51 47 PKhKP PKPpre 10 09 28.6
comp=Z,1.2nm,0.7s,baz=298,slow=4.0,SNR=3.9
NVAR PKP PKPdf 10 09 41.7 -0.6
comp=Z,14nm,1.0s,baz=264,slow=2.1,SNR=21
NVAR PP PP 10 11 37.9 -10
comp=Z,6.0nm,1.0s,baz=290,slow=5.4,SNR=3.3
NVAR SKKPbc SKKPbc 10 22 46.8 -1.3
comp=Z,1.3nm,0.8s,baz=137,slow=5.2,SNR=5.1
HRY Holter Researc 128.57 34 *e*PKPdf PKPdf 10 09 43.7 +1.6
PKM Mcpherson Peak 128.68 51 P PKPdf 10 09 45.4 +2.6
baz=129
LRM Limekiln Ridge 128.73 36 *e*PKPdf PKPdf 10 09 44.8 +2.2
HLID Hailey 128.77 39 P PKPdf 10 09 44.8 +2.1
baz=129
HLID Hailey 128.77 39 *e*PKPdf PKPdf 10 09 44.6 +1.9
A19A Klindworth Far 128.84 30 P PKPdf 10 09 43.4 +1.0
baz=129,SNR=14
EGMT Eagleton 128.90 32 P PKPdf 10 09 43.8 +1.2
baz=129
EGMT Eagleton 128.90 32 *e*PKPdf PKPdf 10 09 43.8 +1.2
DLMT Dillon 128.90 36 *e*PKPdf PKPdf 10 09 43.5 +0.7
SBC Santa Barbara 128.91 52 P PKPdf 10 09 45.2 +2.3
baz=129
VES Vestal, Richgr 128.91 50 P PKPdf 10 09 44.2 +1.3
baz=129
B19A Brinkman Farms 129.05 31 P PKPdf 10 09 44.3 +1.4
baz=129
MCMT McKenzie Canyo 129.05 37 *e*PKPdf PKPdf 10 09 44.5 +1.3
BSC Santa Cruz Isl 129.13 52 P PKPdf 10 09 45.6 +2.2
baz=129
A20A Cobblestone Ra 129.28 30 P PKPdf 10 09 44.3 +1.0
baz=129
BOZ Bozeman (W) 129.30 35 P PKPdf 10 09 44.6 +1.0
baz=129
ARVC Arvin 129.36 51 P PKPdf 10 09 45.8 +2.0
baz=129
TPH Tonopah 129.43 47 *e*PKPdf PKPdf 10 09 45.3 +1.2
ISA Isabella, Lake 129.44 50 P PKPdf 10 09 45.6 +1.6
baz=129
ISA Isabella, Lake 129.44 50 *e*PKPdf PKPdf 10 09 44.5 +0.5
B20A Solberg Farm, 129.53 31 P PKPdf 10 09 45.3 +1.5
baz=129
BLG Laguna Peak, P 129.53 52 P PKPdf 10 09 45.0 +0.8
baz=130
OSI Osito Audit: C 129.62 51 P PKPdf 10 09 45.7 +1.3
baz=130
ELK Elko 129.63 43 PKP PKPdf 10 09 44.3 -0.1
comp=Z,18nm,1.0s,baz=294,slow=3.1,SNR=26
ELK Elko 129.63 43 PKiKP PKPdf 10 09 44.3 -0.1
ELK pmax pmax
comp=Z,18nm,1.0s
ELK Elko 129.63 43 PKP PKPdf 10 09 44.3 -0.1
ELK *e*PKPdf PKiKP 10 09 45.6 +0.4
A21A Bergtoll Ranch 129.70 29 P PKPdf 10 09 44.9 +0.8
baz=130,SNR=7.6
A21A SKP 10 12 59.1
baz=130,SNR=9.3
GRAC Grapevine Rang 129.76 48 P PKPdf 10 09 45.5 +1.0
baz=130
DAC Darwin (Calif) 129.87 49 *e*PKPdf PKPdf 10 09 46.9 +1.9
C20A Veseth Ranch, 130.01 31 P PKPdf 10 09 46.1 +1.4
baz=130
C20A SKP 10 13 00.9
baz=130,SNR=15
B21A Ellsworth Farm 130.03 30 P PKPdf 10 09 46.4 +1.7
baz=130,SNR=7.3
B21A SKP 10 13 00.6
baz=130,SNR=5.9
MPMC Manual Prospec 130.03 49 P PKPdf 10 09 47.5 +2.2
baz=130
EDW2 Edwards Air Fo 130.09 51 P PKPdf 10 09 47.4 +2.2
baz=130
A22A Carney Farms, 130.18 29 P PKPdf 10 09 46.0 +1.0
baz=130,SNR=12
A22A SKP 10 13 01.5
baz=130,SNR=8.6
PASC Pasadena Art C 130.20 52 *e*PKPdf PKPdf 10 09 47.5 +2.1
PASC *e* 10 13 00.8
YMR Madison River 130.25 36 *e*PKPdf PKPdf 10 09 48.0 +2.5
YMR *e*SKPdf SKPdf 10 13 13.1 +0.1
MWC Mount Wilson 130.28 52 *e*PKPdf PKPdf 10 09 47.4 +1.6
MWC *e*SKPdf SKPdf 10 13 12.5 -0.9
CIS Catalina Islan 130.29 53 P PKPdf 10 09 47.2 +1.6
baz=130
GCMT Greycliff 130.32 34 *e*PKPdf PKPdf 10 09 46.0 +0.5
C21A Desert Coulee 130.39 31 P PKPdf 10 09 47.2 +1.8
baz=130,SNR=6.4

C21A SKP 10 13 02.2
baz=130,SNR=7.9
YFT Old Faithful 130.45 36 *e*PKPdf PKPdf 10 09 48.9 +3.0
R11A Troy Canyon, C 130.48 46 P PKPdf 10 09 48.3 +2.2
baz=130
R11A Troy Canyon, C 130.48 46 *e*PKPdf PKPdf 10 09 47.7 +1.6
R11A *e*SKPbc SKPbc 10 13 02.8 +0.9
BFSC Mount Baldy Ra 130.58 51 P PKPdf 10 09 48.2 +1.9
baz=130
TPNV Topopah Spring 130.60 47 P PKPdf 10 09 48.1 +1.8
baz=130
B22A Reddig Ranch S 130.62 30 P PKPdf 10 09 48.1 +2.2
baz=130
B22A SKP 10 13 02.9
baz=130,SNR=7.7
H17A Grant Village 130.63 36 *e*PKPdf PKPdf 10 09 47.1 +0.9
H17A *e*SKPdf SKiKP 10 13 15.6 +0.1
LKWY Lake 130.64 36 *e*PKPdf PKPdf 10 09 48.3 +2.1
A23A Redstone 130.70 28 P PKPdf 10 09 48.1 +2.1
baz=131
A23A SKP 10 13 03.7
baz=131,SNR=8.0
IMW Indian Meadow 130.71 37 *e*PKPdf PKPdf 10 09 47.4 +0.9
HVU Hansel Valley 130.73 40 *e*PKPdf PKPdf 10 09 47.8 +1.4
HVU *e*SKPdf SKPdf 10 13 14.4 +0.5
FLWY Flagg Ranch 130.74 37 PKPdf PKPdf 10 09 47.3 +0.9
GSC Goldstone, Bar 130.84 50 P PKPdf 10 09 50.4 +3.7
baz=131
GSC SKP 10 13 04.9
baz=131,SNR=11
GSC Goldstone, Bar 130.84 50 *e*PKPdf PKPdf 10 09 48.7 +2.0
GSC *e*SKPdf SKiKP 10 13 15.2 -0.7
MOOW Moose Ponds 130.91 37 *e*PKPdf PKPdf 10 09 47.5 +0.7
TPAW Teton Pass 130.93 37 *e*PKPdf PKPdf 10 09 49.6 +2.8
D21A La Casta Ranch 130.95 31 P PKPdf 10 09 47.8 +1.3
baz=131,SNR=7.8
D21A SKP 10 13 05.0
baz=131,SNR=14
RLMT Red Lodge 130.95 35 *e*PKPdf PKPdf 10 09 45.6 -1.2
B23A Brockton 130.99 29 P PKPdf 10 09 48.3 +1.8
baz=131,SNR=11
B23A SKP 10 13 05.1
baz=131,SNR=13
SHOC Shoshone, Teco 131.00 49 P PKPdf 10 09 48.6 +1.7
baz=131
SHOC SKP 10 13 05.5
baz=131,SNR=5.6
BGU Big Grassy Mou 131.00 41 *e*PKPdf PKPdf 10 09 48.2 +1.2
BGU *e*PP PP 10 12 07.8 +3.6
BGU *e*SKPdf SKPdf 10 13 14.6 +0.2
C22A Vida 131.05 30 P PKPdf 10 09 48.0 +1.3
baz=131,SNR=13
C22A SKP 10 13 04.6
baz=131,SNR=9.9
REDW Red Top Meadow 131.06 37 *e*PKPdf PKPdf 10 09 47.4 +0.3
REDW *e*PP PP 10 12 04.0 -0.6
SNOW Snow King Moun 131.06 37 *e*PKPdf PKPdf 10 09 48.6 +1.5
SNOW *e* 10 13 05.5
LOHW Long Hollow 131.07 37 *e*PKPdf PKPdf 10 09 48.2 +1.1
A24A Westby 131.13 28 P PKPdf 10 09 48.3 +1.5
baz=131
A24A SKP 10 13 05.7
baz=131,SNR=11
BBRC Big Bear Solar 131.14 51 P PKPdf 10 09 48.6 +1.1
baz=131
F20A Billings 131.15 33 P PKPdf 10 09 49.2 +2.2
baz=131
F20A SKP 10 13 04.5
baz=131,SNR=6.2
MURC Murrieta 131.16 52 P PKPdf 10 09 48.9 +1.6
baz=131
MURC SKP 10 13 05.8
baz=131,SNR=5.2
D22A Cohagen 131.31 31 P PKPdf 10 09 49.1 +1.9
baz=131
D22A SKP 10 13 06.0
baz=131,SNR=6.1
C23A Lambert 131.36 29 P PKPdf 10 09 48.9 +1.6
baz=131,SNR=12
C23A SKP 10 13 06.7
baz=131,SNR=6.0
DGMT Dagmar 131.36 28 P PKPdf 10 09 49.6 +2.4
baz=131
DGMT SKP 10 13 06.4
baz=131,SNR=8.0
DGMT Dagmar 131.36 28 *e*PKPdf PKPdf 10 09 49.1 +1.9
DGMT *e*PP PP 10 12 04.5 -1.4
DGMT *e*SKPdf SKPdf 10 13 15.4 +0.6
HEC Hector,Ludlow 131.38 50 P PKPdf 10 09 48.6 +0.8
baz=131
HEC SKP 10 13 07.7
baz=131,SNR=10.0
H19A Powell 131.39 35 P PKPdf 10 09 48.8 +1.3
baz=131
H19A SKP 10 13 06.8
baz=131,SNR=5.5
TUQ Turquoise Moun 131.45 49 SKP SKPbc 10 13 07.6 +2.1
baz=131,SNR=7.6
G20A Bridger 131.48 34 P PKPdf 10 09 49.3 +1.6
baz=131
109C Camp Elliot, M 131.49 53 P PKPdf 10 09 48.8 +0.9
baz=131
DUG Dugway, Tooele 131.51 42 P PKPdf 10 09 48.8 +0.9
baz=131
DUG Dugway, Tooele 131.51 42 *e*PKPdf PKPdf 10 09 48.0 +0.1
A25A Svangstu Ranch 131.52 27 P PKPdf 10 09 48.9 +1.4
baz=131
SHPR Sheep Range 131.58 48 *e*PKPdf PKPdf 10 09 49.9 +1.7
HWUT Hardware Ranch 131.59 40 *e*PKPdf PKPdf 10 09 46.8 -1.3
F21A Absaloka Mine, 131.69 33 P PKPdf 10 09 49.7 +1.7
baz=132
PFO Pinyon Flats O 131.74 52 P PKPdf 10 09 49.0 +0.4
baz=132
PFO SKP 10 13 08.7
baz=132,SNR=6.6
PFO Pinyon Flats O 131.74 52 *e*PKPdf PKPdf 10 09 48.0 -0.5
PFO *e*SKPdf SKiKP 10 13 17.9 +0.1
I19A Meeteetse 131.76 36 P PKPdf 10 09 49.4 +1.0
baz=132
I19A SKP 10 13 07.8
baz=132,SNR=7.2
D23A Lindsay 131.78 30 P PKPdf 10 09 49.5 +1.4
baz=132,SNR=17
E22A Miles City 131.90 31 P PKPdf 10 09 49.8 +1.4
baz=132,SNR=9.3
E22A SKP 10 13 08.6
baz=132,SNR=7.5
BAR Barrett 131.90 53 *e*PKPdf PKPdf 10 09 50.7 +2.0
GMRC Granite Mounta 131.91 50 P PKPdf 10 09 50.6 +1.7
baz=132
GMRC SKP 10 13 09.0
baz=132,SNR=15
C24A Savage 131.92 29 P PKPdf 10 09 49.3 +1.0
baz=132,SNR=6.7
BELC Belle Mtn. Jos 131.95 51 P PKPdf 10 09 50.4 +1.4
baz=132
BELC SKP 10 13 09.7
baz=132,SNR=6.3
CTU Camp Tracy 131.95 41 *e*PKPdf PKPdf 10 09 50.2 +1.4
B25A Knox Farm, Ray 131.99 28 P PKPdf 10 09 50.9 +2.5
baz=132
B25A SKP 10 13 09.1
baz=132,SNR=9.5
MONP Monument Peak, 132.03 53 P PKPdf 10 09 51.5 +2.3
baz=132
MONP SKP 10 13 09.2
baz=132,SNR=7.4
G21A Lodge Grass 132.03 33 P PKPdf 10 09 50.3 +1.6
baz=132
A26A Wade Farm, Ken 132.03 26 P PKPdf 10 09 49.6 +1.1
baz=132
H20A Greybull 132.06 35 P PKPdf 10 09 50.3 +1.6
baz=132
H20A SKP 10 13 08.3
baz=132,SNR=11
NLU North Lily Min 132.12 42 *e*PKPdf PKPdf 10 09 48.7 -0.5
NLU *e*SKPdf SKiKP 10 13 19.2 +0.6
F22A Rosebud 132.18 32 P PKPdf 10 09 50.4 +1.5
baz=132
F22A SKP 10 13 09.5
baz=132,SNR=5.8
PDAR Pinedale Array 132.18 37 PKhKP PKPpre 10 09 34.1
comp=Z,0.4nm,0.5s,baz=44,slow=2.7,SNR=4.0
PDAR SKPbc SKPbc 10 13 06.1 -1.9
comp=Z,12nm,1.0s,baz=347,slow=3.7,SNR=6.2
J19A Crowheart 132.19 36 P PKPdf 10 09 50.5 +1.3

	baz=132						
E23A	**Ismay**	**132.19**	**31**	P	**PKPdf**	**10 09 51.0**	**+2.1**
	baz=132,SNR=11						
JLU	**Jordanelle**	**132.20**	**41**	*e*PKPdf	**PKPdf**	**10 09 50.1**	**+0.8**
D24A	**Glendive**	**132.25**	**30**	P	**PKPdf**	**10 09 50.6**	**+1.6**
	baz=132						
D24A				SKP		10 13 09.3	
	baz=132,SNR=5.8						
I20A	**Worland**	**132.31**	**35**	P	**PKPdf**	**10 09 51.0**	**+1.7**
	baz=132						
I20A				SKP		10 13 10.3	
	baz=132,SNR=7.1						
B26A	**Jensen Ranch,**	**132.33**	**27**	P	**PKPdf**	**10 09 50.8**	**+1.8**
	baz=132						
A27A	**Ledoux Ranch,**	**132.34**	**26**	P	**PKPdf**	**10 09 51.3**	**+2.3**
	baz=132,SNR=7.5						
C25A	**Freed Ranch, W**	**132.35**	**28**	P	**PKPdf**	**10 09 50.7**	**+1.6**
	baz=132						
C25A				SKP		10 13 09.7	
	baz=132,SNR=8.6						
MPU	**Maple Canyon**	**132.38**	**42**	*e*PKPdf	**PKPdf**	**10 09 50.6**	**+0.9**
MPU				*e*SKPdf	**SKiKP**	**10 13 20.7**	**+1.7**
CCUT	**Cedar City**	**132.41**	**45**	*e*PKPdf	**PKPdf**	**10 09 52.2**	**+2.4**
BC3	**Big Chuckawall**	**132.50**	**51**	P	**PKPdf**	**10 09 52.5**	**+2.6**
	baz=132						
BC3				SKP		10 13 11.6	
	baz=132,SNR=9.9						
SWSC	**Sam W. Stewart**	**132.50**	**52**	P	**PKPdf**	**10 09 52.0**	**+2.2**
	baz=132						
H21A	**Big Horn, Sher**	**132.50**	**34**	P	**PKPdf**	**10 09 52.0**	**+2.4**
	baz=132						
G22A	**Birney**	**132.53**	**33**	P	**PKPdf**	**10 09 51.2**	**+1.6**
	baz=132						
IRM	**Iron Mountain**	**132.54**	**50**	P	**PKPdf**	**10 09 51.7**	**+1.9**
	baz=132						
IRM				SKP		10 13 11.4	
	baz=132,SNR=14						
E24A	**Baker**	**132.65**	**30**	P	**PKPdf**	**10 09 51.7**	**+2.0**
	baz=133,SNR=8.4						
E24A				SKP		10 13 10.7	
	baz=133,SNR=14						
F23A	**Volborg**	**132.66**	**32**	P	**PKPdf**	**10 09 51.6**	**+1.8**
	baz=133,SNR=7.4						
F23A				SKP		10 13 10.4	
	baz=133,SNR=12						
J20A	**Shoshoni**	**132.70**	**36**	P	**PKPdf**	**10 09 52.0**	**+1.9**
	baz=133						
D25A	**Fairfield**	**132.72**	**29**	P	**PKPdf**	**10 09 52.4**	**+2.6**
	baz=133						
B27A	**Peters Farms,**	**132.75**	**26**	P	**PKPdf**	**10 09 51.8**	**+2.0**
	baz=133						
MSU	**Marysvale**	**132.77**	**44**	*e*PKPdf	**PKPdf**	**10 09 53.5**	**+3.1**
MSU				*e*SKPbc	**SKPab**	**10 13 12.5**	**+0.8**
A28A	**Rude Farm, Bot**	**132.79**	**25**	P	**PKPdf**	**10 09 51.3**	**+1.4**
	baz=133						
C26A	**Wahner Farm, P**	**132.80**	**27**	P	**PKPdf**	**10 09 51.5**	**+1.5**
	baz=133						
I21A	**Big Trails, Te**	**132.88**	**35**	P	**PKPdf**	**10 09 52.3**	**+1.9**
	baz=133						
I21A				SKP		10 13 11.7	
	baz=133,SNR=5.9						
H22A	**Clearmont**	**132.90**	**33**	P	**PKPdf**	**10 09 51.9**	**+1.6**
	baz=133						
G23A	**Biddle**	**133.02**	**32**	P	**PKPdf**	**10 09 52.0**	**+1.5**
	baz=133,SNR=6.6						
G23A				SKP		10 13 11.9	
	baz=133,SNR=5.7						
TMUT	**Trail Mountain**	**133.03**	**42**	*e*PKPdf	**PKPdf**	**10 09 51.7**	**+0.7**
F24A	**Ekalaka**	**133.07**	**31**	P	**PKPdf**	**10 09 52.5**	**+1.9**
	baz=133,SNR=5.4						
F24A				SKP		10 13 13.5	
	baz=133,SNR=5.1						
J21A	**Lysite**	**133.08**	**35**	P	**PKPdf**	**10 09 52.7**	**+1.8**
	baz=133						
J21A				SKP		10 13 13.8	
	baz=133,SNR=7.3						
B28A	**Dugan Ranch, T**	**133.10**	**26**	P	**PKPdf**	**10 09 52.1**	**+1.6**
	baz=133,SNR=6.6						
SCHQ	**Schefferville**	**133.13**	**356**	PKP	**PKPdf**	**10 09 50.4**	**+0.1**
	comp=Z,21nm,0.7s,baz=24,slow=3.8,SNR=16						
SCHQ				SKPab	**SKPbc**	**10 13 11.2**	**+0.6**
	comp=Z,48nm,1.0s,baz=28,slow=5.9,SNR=7.6						
SCHQ	**Schefferville**	**133.13**	**356**	PKP	**PKPdf**	**10 09 50.4**	**+0.1**
SCHQ				*e*PKPdf	**PKiKP**	**10 09 51.7**	**+0.2**
SCHQ				SKPab	**SKPbc**	**10 13 11.2**	**+0.6**
E25A	**Miller Ranch,**	**133.14**	**30**	P	**PKPdf**	**10 09 52.8**	**+2.1**
	baz=133						
E25A				SKP		10 13 13.0	
	baz=133,SNR=7.9						
C27A	**Sayler Ranch,**	**133.15**	**27**	P	**PKPdf**	**10 09 52.4**	**+1.8**
	baz=133						
Y12C	**Blythe**	**133.18**	**51**	P	**PKPdf**	**10 09 53.5**	**+2.5**
	baz=133						
A29A	**Manning Farm,**	**133.21**	**25**	P	**PKPdf**	**10 09 52.2**	**+1.6**
	baz=133						
GLA	**Glamis**	**133.21**	**52**	P	**PKPdf**	**10 09 53.5**	**+2.3**
	baz=133						
GLA				SKP		10 13 14.2	
	baz=133,SNR=9.0						
D26A	**Manning**	**133.22**	**28**	P	**PKPdf**	**10 09 53.4**	**+2.6**
	baz=133						
PDMCI	**Parker Dam,Lak**	**133.25**	**50**	P	**PKPdf**	**10 09 53.7**	**+2.5**
	baz=133						
PDMCI				SKP		10 13 13.9	
	baz=133,SNR=8.4						
I22A	**9 Mile Ranch,**	**133.28**	**34**	P	**PKPdf**	**10 09 53.0**	**+1.9**
	baz=133						
ULM	**Lac du Bonnet**	**133.42**	**21**	PKP	**PKPdf**	**10 09 50.9**	**-0.1**
	comp=Z,31nm,0.8s,baz=334,slow=1.9,SNR=4.9						
ULM				SKPab	**SKPbc**	**10 13 11.8**	**+0.1**
	comp=Z,18nm,0.9s,baz=305,slow=3.1,SNR=6.6						
ULM	**Lac du Bonnet**	**133.42**	**21**	PKIKP	**PKPdf**	**10 09 50.9**	**-0.1**
ULM				pmax	pmax		
	comp=Z,31nm,0.8s						
ULM				pmax	pmax		
	comp=N,18nm,0.9s						
ULM	**Lac du Bonnet**	**133.42**	**21**	PKP	**PKPdf**	**10 09 50.9**	**-0.1**
ULM				*e*PKPdf	**PKiKP**	**10 09 51.3**	**-0.9**
ULM				SKPab	**SKPbc**	**10 13 11.8**	**+0.1**
H23A	**Clabaugh Cattl**	**133.44**	**33**	P	**PKPdf**	**10 09 53.3**	**+1.9**
	baz=133						
G24A	**Alzada**	**133.44**	**31**	P	**PKPdf**	**10 09 52.9**	**+1.6**
	baz=133						
F25A	**Bowman**	**133.52**	**30**	P	**PKPdf**	**10 09 52.5**	**+1.1**
	baz=133						
B29A	**Wagenman Farm,**	**133.52**	**25**	P	**PKPdf**	**10 09 53.1**	**+1.9**
	baz=133						
A30A	**Hoffart Farm,**	**133.57**	**24**	P	**PKPdf**	**10 09 52.7**	**+1.4**
	baz=134,SNR=5.9						
SRU	**San Rafael Swe**	**133.58**	**42**	PKPdf	**PKPdf**	**10 09 52.1**	**+0.2**
J22A	**Midwest**	**133.59**	**35**	P	**PKPdf**	**10 09 53.0**	**+1.3**
	baz=134						
J22A				SKP		10 13 13.3	
	baz=134,SNR=6.4						
D27A	**Center**	**133.59**	**28**	P	**PKPdf**	**10 09 53.2**	**+1.7**
	baz=134						
E26A	**Carlson Angus**	**133.62**	**29**	P	**PKPdf**	**10 09 53.3**	**+1.8**
	baz=134						
C28A	**Hausauer Farms**	**133.65**	**26**	P	**PKPdf**	**10 09 53.3**	**+1.8**
	baz=134						
H24A	**Dirks Ranch, A**	**133.76**	**32**	P	**PKPdf**	**10 09 53.6**	**+1.7**
	baz=134,SNR=7.2						
H24A				SKP		10 13 13.9	
	baz=134,SNR=8.0						
I23A	**Meade Ranch, G**	**133.80**	**34**	P	**PKPdf**	**10 09 53.4**	**+1.3**
	baz=134						
MDND	**Maddock**	**133.89**	**26**	P	**PKPdf**	**10 09 53.7**	**+1.8**
	baz=134,SNR=7.0						
MDND	**Maddock**	**133.89**	**26**	*e*PKPdf	**PKPdf**	**10 09 52.6**	**+0.6**
MDND				*e*SKPbc	**SKPbc**	**10 13 14.5**	**+1.2**
B30A	**Myrvik Farm, E**	**133.95**	**24**	P	**PKPdf**	**10 09 53.5**	**+1.4**
	baz=134,SNR=6.4						
D28A	**Regan**	**133.96**	**27**	P	**PKPdf**	**10 09 53.6**	**+1.5**
	baz=134						
K22A	**Casper**	**134.04**	**36**	P	**PKPdf**	**10 09 53.9**	**+1.2**
	baz=134						
K22A	**Casper**	**134.04**	**36**	*e*PKPdf	**PKPdf**	**10 09 52.6**	**0.0**
G25A	**Newell**	**134.05**	**31**	P	**PKPdf**	**10 09 53.5**	**+1.1**
	baz=134						
E27A	**Carson**	**134.07**	**28**	P	**PKPdf**	**10 09 53.7**	**+1.3**
	baz=134						
RWWY	**Rawlins**	**134.22**	**37**	*e*PKPdf	PKPdf	10 10 02.8	+10
F27A	**Lemmon**	**134.26**	**29**	P	**PKPdf**	**10 09 54.3**	**+1.5**
	baz=134						
I24A	**Kuemmerle Ranc**	**134.32**	**33**	P	**PKPdf**	**10 09 54.3**	**+1.2**
	baz=134						
H25A	**Fruitdale**	**134.35**	**32**	P	**PKPdf**	**10 09 54.5**	**+1.5**
	baz=134						
E28A	**Huff**	**134.37**	**28**	P	**PKPdf**	**10 09 54.0**	**+1.1**
	baz=134						
G26A	**Maurine**	**134.39**	**30**	P	**PKPdf**	**10 09 53.9**	**+0.9**
	baz=134						
RSSD	**Black Hills**	**134.46**	**32**	*e*PKPdf	**PKPdf**	**10 09 54.1**	**+0.7**
RSSD				*e*SKPbc	**SKPbc**	**10 13 16.0**	**+0.4**
C30A	**Mose, Pekin**	**134.48**	**25**	P	**PKPdf**	**10 09 54.5**	**+1.4**
	baz=134,SNR=8.7						
K23A	**Bowen Ranch, D**	**134.49**	**35**	P	**PKPdf**	**10 09 54.6**	**+1.2**
	baz=134						
D29A	**Pettibone, Tap**	**134.50**	**26**	P	**PKPdf**	**10 09 54.6**	**+1.5**
	baz=134						
O20A	**White River Ci**	**134.50**	**40**	P	**PKPdf**	**10 09 55.0**	**+1.4**
	baz=134						
O20A	**White River Ci**	**134.50**	**40**	*e*PKPdf	**PKPdf**	**10 09 55.0**	**+1.4**
O20A				*e*SKPbc	**SKPab**	**10 13 17.7**	**-1.4**
J24A	**Dixon Ranch, L**	**134.65**	**34**	P	**PKPdf**	**10 09 55.0**	**+1.3**
	baz=135						
G27A	**Dupree**	**134.66**	**30**	P	**PKPdf**	**10 09 55.1**	**+1.5**
	baz=135						
I25A	**Rochford**	**134.69**	**32**	P	**PKPdf**	**10 09 55.2**	**+1.3**
	baz=135,SNR=8.7						
WUAZ	**Wupatki**	**134.77**	**47**	P	**PKPdf**	**10 09 55.7**	**+1.5**
	baz=135						
WUAZ				SKP		10 13 18.8	
	baz=135,SNR=5.7						
WUAZ	**Wupatki**	**134.77**	**47**	PKPdf	**PKPdf**	**10 09 57.0**	**+2.8**
H26A	**Fairpoint**	**134.78**	**31**	P	**PKPdf**	**10 09 55.1**	**+1.2**
	baz=135						
D30A	**Buchanan**	**134.83**	**26**	P	**PKPdf**	**10 09 55.0**	**+1.3**
	baz=135,SNR=7.1						
F28A	**McLaughlin**	**134.86**	**28**	P	**PKPdf**	**10 09 54.2**	**+0.3**
	baz=135						
PV04	**Paradox Valley**	**135.04**	**42**	PKPdf	**PKPdf**	**10 09 57.6**	**+3.0**
AGMN	**Agassiz Nation**	**135.05**	**23**	P	**PKPdf**	**10 09 56.0**	**+1.9**
	baz=135						
AGMN	**Agassiz Nation**	**135.05**	**23**	*e*PKPdf	**PKPdf**	**10 09 52.8**	**-1.3**
AGMN				*e*SKPbc	**SKPbc**	**10 13 16.9**	**-0.1**
J25A	**Sunshine Ranch**	**135.08**	**33**	P	**PKPdf**	**10 09 56.0**	**+1.6**
	baz=135						
H27A	**Howes**	**135.12**	**31**	P	**PKPdf**	**10 09 55.9**	**+1.5**
	baz=135						
I26A	**New Underwood**	**135.14**	**32**	P	**PKPdf**	**10 09 56.4**	**+1.9**
	baz=135,SNR=6.3						
214A	**Organ Pipe Nat**	**135.21**	**52**	P	**PKPdf**	**10 09 56.5**	**+1.6**
	baz=135						
E30A	**Jud**	**135.23**	**26**	P	**PKPdf**	**10 09 55.9**	**+1.3**
	baz=135,SNR=6.3						
F29A	**Eureka**	**135.32**	**28**	P	**PKPdf**	**10 09 56.1**	**+1.4**
	baz=135						
G28A	**Parade**	**135.37**	**29**	P	**PKPdf**	**10 09 55.9**	**+1.0**
	baz=135						
PV01	**Paradox Valley**	**135.40**	**42**	*e*PKPdf	**PKPdf**	**10 09 58.4**	**+3.0**
N23A	**Red Feather La**	**135.46**	**37**	P	**PKPdf**	**10 09 56.5**	**+1.0**
	baz=135						
J26A	**Sides Ranch, S**	**135.52**	**33**	P	**PKPdf**	**10 09 57.7**	**+2.4**
	baz=135						
I27A	**Quinn**	**135.53**	**31**	P	**PKPdf**	**10 09 56.7**	**+1.5**
	baz=135						
K25A	**Mack Ranch, Ha**	**135.56**	**34**	P	**PKPdf**	**10 09 57.5**	**+2.0**
	baz=136						
H28A	**Mission Ridge**	**135.61**	**30**	P	**PKPdf**	**10 09 51.8**	**-3.5**
	baz=136						
F30A	**Leola**	**135.69**	**27**	P	**PKPdf**	**10 09 56.1**	**+0.7**
	baz=136						
G29A	**Hoven**	**135.76**	**28**	P	**PKPdf**	**10 09 54.0**	**-1.6**
	baz=136						
L25A	**Engebretsen Ra**	**135.81**	**34**	P	**PKPdf**	**10 09 51.3**	**-4.6**
	baz=136						
SMCO	**Snowmass**	**135.85**	**40**	*e*PKPdf	**PKPdf**	**10 09 57.9**	**+1.5**
K26A	**Motz Farm, Whi**	**135.88**	**33**	P	PKPpre	10 09 46.4	
	baz=136,SNR=6.7						
MVCO	**Mesa Verde**	**135.94**	**43**	P	PKPpre	10 09 49.6	
	baz=136						
MVCO	**Mesa Verde**	**135.94**	**43**	PKPdf	**PKPdf**	**10 09 58.3**	**+1.9**
MVCO				*e*SKPbc	**SKPbc**	**10 13 21.9**	**+1.4**
H29A	**Onida**	**136.04**	**29**	P	PKPpre	10 09 44.2	
	baz=136						
J27A	**Elkhorn Farm,**	**136.13**	**32**	P	PKPpre	10 09 46.1	
	baz=136						
W18A	**Petrified Fore**	**136.13**	**46**	P	PKPpre	10 09 46.5	
	baz=136						
W18A	**Petrified Fore**	**136.13**	**46**	*e*PKPdf	**PKPdf**	**10 09 58.5**	**+1.7**
G30A	**Faulkton**	**136.17**	**28**	P	PKPpre	10 09 44.2	
	baz=136,SNR=11						
M25A	**Palm-Egli Farm**	**136.23**	**35**	P	PKPpre	10 09 46.9	
	baz=136						
ISCO	**Idaho Springs**	**136.33**	**38**	P	PKPpre	10 09 49.8	
	baz=136						
ISCO	**Idaho Springs**	**136.33**	**38**	PKPdf	**PKPdf**	**10 09 58.9**	**+1.7**
ISCO				*e*PP	**PP**	**10 12 37.0**	**-1.1**
L26A	**Underwood Farm**	**136.38**	**34**	P	PKPpre	10 09 47.5	
	baz=136						
K27A	**Flueckinger Fa**	**136.39**	**33**	P	PKPpre	10 09 50.1	
	baz=136						
J28A	**Allard Ranch,**	**136.41**	**31**	P	PKPpre	10 09 49.1	
	baz=136						
I29A	**Vivian Onida**	**136.44**	**30**	P	PKPpre	10 09 47.8	
	baz=136,SNR=7.1						
TUC	**Tucson**	**136.63**	**51**	PKPdf	**PKPdf**	**10 09 57.6**	**-0.1**
S22A	**4UR Ranch, Cre**	**136.76**	**41**	P	PKPpre	10 09 52.2	
	baz=137						
L27A	**T5 Ranch, Ells**	**136.77**	**33**	P	PKPpre	10 09 53.1	
	baz=137						
K28A	**Ten Mile Ranch**	**136.84**	**32**	P	PKPpre	10 09 46.8	
	baz=137						
J29A	**Okreek**	**136.88**	**30**	P	PKPpre	10 09 48.6	
	baz=137						
EYMN	**Ely**	**136.89**	**19**	P	PKPpre	10 09 50.0	
	baz=137						
EYMN	**Ely**	**136.89**	**19**	*e*PKPdf	**PKPdf**	**10 09 58.9**	**+1.3**
I30A	**Oacoma**	**136.95**	**29**	P	PKPpre	10 09 47.3	
	baz=137,SNR=10						
N26A	**Koester Ranch,**	**137.10**	**35**	P	PKPpre	10 09 54.5	
	baz=137						
Q24A	**Divide**	**137.12**	**39**	P	PKPpre	10 09 52.9	
	baz=137						
L28A	**Connealy Angus**	**137.25**	**33**	P	PKPpre	10 09 54.5	
	baz=137						
K29A	**Lazy Trails An**	**137.35**	**31**	P	PKPpre	10 09 51.3	
	baz=137,SNR=8.9						
J30A	**Dallas**	**137.35**	**30**	P	PKPpre	10 09 52.5	
	baz=137,SNR=10						
O26A	**Horse Wrangler**	**137.43**	**36**	P	PKPpre	10 09 52.3	
	baz=137						
N27A	**Anderson Farm,**	**137.51**	**35**	P	PKPpre	10 09 51.9	
	baz=137						
SDCO	**Great Sand Dun**	**137.62**	**41**	P	PKPpre	10 09 55.5	
	baz=138						
SDCO	**Great Sand Dun**	**137.62**	**41**	*e*PKPdf	**PKPdf**	**10 10 01.1**	**+1.5**
OGNE	**Ogallala**	**137.70**	**34**	P	PKPpre	10 09 53.6	
	baz=138						
M28A	**Bar X Bar Ranc**	**137.75**	**33**	P	PKPpre	10 09 55.4	
	baz=138						
L29A	**Malmberg Ranch**	**137.76**	**32**	P	PKPpre	10 09 52.4	
	baz=138						
K30A	**Basset**	**137.77**	**31**	P	PKPpre	10 09 53.5	
	baz=138,SNR=6.8						
P26A	**Davis Ranch, A**	**137.85**	**37**	P	PKPpre	10 09 54.2	
	baz=138,SNR=5.2						
O27A	**Beecher Island**	**137.95**	**36**	P	PKPpre	10 09 53.8	
	baz=138,SNR=7.1						
M29A	**Burnside Ranch**	**138.09**	**33**	P	PKPpre	10 09 54.1	
	baz=138						
N28A	**Pribbeno Ranch**	**138.15**	**34**	P	PKPpre	10 09 55.0	
	baz=138						
Q26A	**Hugo**	**138.15**	**38**	P	PKPpre	10 09 55.6	
	baz=138						
L30A	**Spencer Herefo**	**138.24**	**31**	P	PKPpre	10 09 52.4	
	baz=138						
P27A	**Ficken Ranch,**	**138.31**	**36**	P	PKPpre	10 09 52.3	
	baz=138						
LAZ	**Ladron**	**138.34**	**46**	*e*PKPdf	PKPpre	10 09 54.0	
LAZ				*e*SKPbc	**SKiKP**	**10 13 29.6**	**-1.9**
LAZ				*e*SKPab	**SKPab**	**10 13 40.9**	**+4.6**
O28A	**Krutsinger Ran**	**138.39**	**35**	P	PKPpre	10 09 50.8	
	baz=138						
ECSD	**EROS Data Cent**	**138.40**	**27**	P	PKPpre	10 09 51.6	
	baz=138,SNR=12						
M30A	**Dale-Ortello V**	**138.46**	**32**	P	PKPpre	10 09 53.1	
	baz=138						
L31A	**Butterfield Fa**	**138.52**	**31**	P	PKPpre	10 09 54.3	
	baz=138,SNR=7.7						
ANMO	**Albuquerque**	**138.54**	**45**	PKhKP	PKPpre	10 09 52.8	
	comp=N,4.5nm,0.9s,baz=307,slow=2.6,SNR=17						
ANMO				SKPbc	**SKPbc**	**10 13 26.2**	**-1.9**
	comp=N,4.0nm,0.9s,baz=61,slow=1.6,SNR=3.1						
ANMO	**Albuquerque**	**138.54**	**45**	*i* PKIKP	**PKPdf**	**10 10 01.0**	**-0.3**
ANMO	**Albuquerque**	**138.54**	**45**	PKPpre	PKPpre	10 09 52.8	
ANMO				*e*PKPdf	**PKPdf**	**10 10 00.4**	**-0.9**
ANMO				SKPbc	**SKPbc**	**10 13 26.2**	**-1.9**
ANMO				*e*SKPbc	**SKiKP**	**10 13 30.0**	**-1.8**
ANMO				*e*SKPab	**SKPab**	**10 13 41.1**	**+4.0**
N29A	**Votaw Ranch, W**	**138.56**	**33**	P	PKPpre	10 09 53.8	
	baz=138						
LENM	**Lemitar**	**138.58**	**46**	*e*PKPdf	**PKPdf**	**10 10 00.7**	**-0.6**
R26A	**Arlington**	**138.58**	**38**	P	PKPpre	10 09 55.8	
	baz=138,SNR=6.4						
KSCO	**Kaye Shedlock'**	**138.63**	**37**	P	PKPpre	10 09 57.0	
	baz=138						
KSCO	**Kaye Shedlock'**	**138.63**	**37**	*e*PKPdf	**PKPdf**	**10 10 03.2**	**+2.0**
KSCO				*ep*PKPdf	**pPKPdf**	**10 10 27.1**	**+1.3**
T25A	**Trinidad**	**138.68**	**41**	P	PKPpre	10 09 55.2	
	baz=139						
LPM	**Los Pinos Moun**	**138.75**	**46**	*e*PKPdf	**PKPdf**	**10 09 59.7**	**-1.9**
SPMN	**Marine on St.**	**138.77**	**22**	P	PKPpre	10 09 55.8	
	baz=139						
SPMN	**Marine on St.**	**138.77**	**22**	PKPdf	**PKPdf**	**10 10 00.4**	**-0.7**
P28A	**Saint Francis**	**138.77**	**36**	P	PKPpre	10 09 54.8	
	baz=139						
121A	**Cookes Peak, D**	**138.79**	**49**	P	PKPpre	10 09 56.5	
	baz=139						
121A	**Cookes Peak, D**	**138.79**	**49**	*e*PKPdf	PKPpre	10 09 55.8	
121A				*e*PP	**PP**	**10 12 53.2**	**-0.5**
121A				*e*SKPbc	**SKiKP**	**10 13 30.9**	**-1.4**
121A				*e*SKPab	**SKPab**	**10 13 41.4**	**+3.1**
O29A	**4D Ranch, Culb**	**138.94**	**34**	P	PKPpre	10 09 54.5	
	baz=139						
S26A	**Kim**	**138.99**	**39**	P	PKPpre	10 09 57.7	
	baz=139						
R27A	**Eads**	**138.99**	**38**	P	PKPpre	10 09 56.6	
	baz=139						
M31A	**Lambtecht Ranc**	**139.06**	**31**	P	PKPpre	10 09 53.9	
	baz=139,SNR=11						
Q28A	**Sharon Springs**	**139.07**	**36**	P	PKPpre	10 09 56.7	
	baz=139						
T26A	**Comanche Natio**	**139.18**	**40**	P	PKPpre	10 09 57.0	
	baz=139						
P29A	**Atwood**	**139.22**	**35**	P	PKPpre	10 09 56.7	
	baz=139						
S27A	**Las Animas**	**139.31**	**39**	P	PKPpre	10 09 56.0	
	baz=139						
O30A	**MW Ranch, Wils**	**139.32**	**34**	P	PKPpre	10 09 56.1	
	baz=139						
BGNE	**Belgrade**	**139.44**	**31**	P	PKPpre	10 09 55.7	
	baz=139,SNR=9.4						
R28A	**Tribune**	**139.55**	**37**	P	PKPpre	10 09 56.0	
	baz=140						
P30A	**Selden**	**139.65**	**34**	P	PKPpre	10 09 57.5	
	baz=140						
Q29A	**Oakley**	**139.68**	**36**	P	PKPpre	10 09 55.3	
	baz=140,SNR=20						
O31A	**Woolen Ranch,**	**139.73**	**33**	P	PKPpre	10 09 57.9	
	baz=140						
M33A	**Taylor Creek F**	**139.79**	**30**	P	PKPpre	10 09 56.3	
	baz=140,SNR=7.3						
T27A	**Campo**	**139.80**	**39**	P	PKPpre	10 09 57.3	
	baz=140,SNR=6.9						
N32A	**Stulken Farm,**	**139.84**	**32**	P	PKPpre	10 09 57.1	
	baz=140						
L34A	**Svendsen Farm,**	**139.89**	**29**	P	PKPpre	10 09 57.2	
	baz=140						
R29A	**Marienthal**	**139.89**	**36**	P	PKPpre	10 09 56.8	
	baz=140						
S28A	**Manter**	**139.98**	**38**	P	PKPpre	10 09 58.6	
	baz=140,SNR=9.0						
Q30A	**Quinter**	**140.05**	**35**	P	PKPpre	10 09 57.9	
	baz=140,SNR=17						
U27A	**Thompson Grove**	**140.13**	**40**	P	PKPpre	10 10 01.4	
	baz=140,SNR=9.8						
M34A	**Aspy Farms, Fr**	**140.14**	**29**	P	PKPpre	10 10 00.8	
	baz=140,SNR=8.1						
T28A	**Walsh**	**140.15**	**39**	P	PKPpre	10 09 58.2	
	baz=140,SNR=11						
P31A	**Stockton**	**140.15**	**34**	P	PKPpre	10 09 57.0	
	baz=140,SNR=9.2						
L35A	**Bielow Farm, R**	**140.16**	**28**	P	PKPpre	10 09 57.5	
	baz=140						
O32A	**Brockman Farm,**	**140.21**	**32**	P	PKPpre	10 09 58.6	
	baz=140,SNR=32						
N33A	**J Bar K, Exete**	**140.29**	**31**	P	PKPpre	10 09 59.5	
	baz=140						
S29A	**Ulysses**	**140.43**	**37**	P	PKPpre	10 09 59.4	
	baz=140						
CBKS	**Cedar Bluff**	**140.44**	**35**	P	PKPpre	10 09 59.6	
	baz=140						
CFAA	**Coronel Fontan**	**140.44**	**185**	PKhKP	PKPpre	10 09 56.5	
	comp=N,1.0nm,0.8s,baz=216,slow=2.0,SNR=13						
R30A	**Dighton**	**140.49**	**36**	P	PKPpre	10 09 58.2	
	baz=140,SNR=12						
Q31A	**Ellis**	**140.50**	**34**	P	PKPpre	10 10 00.3	
	baz=140						
P32A	**Hulting Farm,**	**140.50**	**33**	P	PKPpre	10 09 57.7	
	baz=140,SNR=59						
V27A	**Dan Oppiter Fa**	**140.52**	**41**	P	PKPpre	10 10 00.9	
	baz=140						
U28A	**Mallet**	**140.54**	**40**	P	PKPpre	10 10 01.4	
	baz=140						
M35A	**Neola**	**140.59**	**28**	P	PKPpre	10 09 59.5	
	baz=140,SNR=11						
T29A	**Hugoton**	**140.63**	**38**	P	PKPpre	10 10 02.3	
	baz=140,SNR=7.5						
N34A	**Lincoln**	**140.69**	**30**	P	PKPpre	10 09 58.4	
	baz=141,SNR=14						
O33A	**Hebron**	**140.71**	**32**	P	PKPpre	10 09 59.7	
	baz=141,SNR=46						
S30A	**Montezuma**	**140.81**	**37**	P	PKPpre	10 09 60.0	
	baz=141,SNR=12						
R31A	**Burdett**	**140.92**	**35**	P	PKPpre

baz=142,SNR=9.3
Q34A Chapman 141.90 32 P PKPpre 10 10 02.6
baz=142,SNR=117
P35A Duane Minner, 141.92 31 P PKPpre 10 10 03.5
baz=142,SNR=16
KSU1 Kansas State U 141.94 32 P PKPpre 10 10 03.2
baz=142,SNR=66
KSU1 Kansas State U 141.94 32 ePKPdf PKPpre 10 10 02.2
O36A Bolckow 141.98 29 P PKPpre 10 10 02.8
baz=142,SNR=22
Y28A McKinney Farm, 142.00 43 P PKPdf 10 10 04.8 -2.7
baz=142,SNR=31
U31A Nine Bar Ranch 142.02 38 P PKPdf 10 10 04.3 -3.0
baz=142
T32A Huddler Ranch, 142.03 36 P PKPdf 10 10 03.5 -3.8
baz=142,SNR=14
X29A Tulia 142.05 42 P PKPdf 10 10 05.0 -2.5
baz=142,SNR=31
R34A Isabella, Hill 142.18 33 P PKPdf 10 10 03.7 -3.8
baz=142,SNR=99
P36A Good Intent, A 142.26 30 P PKPdf 10 10 03.7 -3.9
baz=142,SNR=62
Z28A Tucker Farm, M 142.27 44 P PKPdf 10 10 05.0 -2.9
baz=142,SNR=18
S33A Kaszmaul Farm, 142.27 35 P PKPdf 10 10 04.1 -3.6
baz=142,SNR=9.2
W30A Crocket Farms 142.33 40 P PKPdf 10 10 06.0 -1.9
baz=142
V31A Spring Creek L 142.41 39 P PKPdf 10 10 05.9 -2.2
baz=142,SNR=23
Q35A Mercer Eighty, 142.42 31 P PKPdf 10 10 04.3 -3.6
baz=142,SNR=80
Y29A Porterfield Fa 142.42 43 P PKPdf 10 10 05.4 -2.8
baz=142,SNR=32
T33A Patterson Ranc 142.49 36 P PKPdf 10 10 04.6 -3.5
baz=142,SNR=38
U32A Winter Ranch, 142.52 37 P PKPdf 10 10 05.7 -2.5
baz=142,SNR=13
128A Castleberry Fa 142.58 45 P PKPdf 10 10 05.4 -3.1
baz=142,SNR=28
X30A Coker Ranch, T 142.59 41 P PKPdf 10 10 06.3 -2.1
baz=142,SNR=17
Q36A Arnold C. Orve 142.63 31 P PKPdf 10 10 05.0 -3.2
baz=142,SNR=18
S34A Willow Spring 142.69 34 P PKPdf 10 10 05.4 -3.1
baz=143,SNR=16
W31A Holland Ranch, 142.73 39 P PKPdf 10 10 06.4 -2.2
baz=143,SNR=35
R35A Emporia Munici 142.73 32 P PKPdf 10 10 06.2 -2.3
baz=143,SNR=31
Z29A Hungry Hill Ra 142.75 43 P PKPdf 10 10 06.9 -1.9
baz=143,SNR=50
228A UT Block 9, Go 142.78 46 P PKPdf 10 10 06.7 -2.2
baz=143
PKME Peaks-Kenny Pk 142.82 357 ePKPdf PKPdf 10 10 05.4 -2.9
PKME ePP PP 10 13 14.7 -2.0
Y30A Stafford Cattl 142.93 42 P PKPdf 10 10 07.4 -1.7
baz=143,SNR=9.6
V32A Arapaho 142.94 38 P PKPdf 10 10 07.1 -1.9
baz=143,SNR=34
129A Stewart Farms, 143.00 44 P PKPdf 10 10 07.2 -2.0
baz=143
U33A Lingo Farm, Me 143.01 36 P PKPbc 10 10 06.9 +0.9
baz=143,SNR=31
CPUP Villa Florida 143.02 202 PKhKP PKPbc 10 10 06.0 -0.3
comp=N,13nm,0.9s,baz=165,slow=3.3,SNR=22
CPUP Villa Florida 143.02 202 PKIKP PKPbc 10 10 06.0 -0.3
CPUP pmax pmax
comp=Z,13nm,0.9s
CPUP Villa Florida 143.02 202 PKPpre PKPbc 10 10 06.0 -0.3
CPUP ePKPdf PKPab 10 10 06.3 +1.6
CPUP eSKPbc SKPbc 10 13 40.4 +0.5
X31A McDonald Ranch 143.06 40 P PKPbc 10 10 07.6 +1.4
baz=143,SNR=58
R36A Gordon, Harris 143.09 32 P PKPbc 10 10 06.7 +0.6
baz=143,SNR=39
Z30A Sanderson Ranc 143.13 43 P PKPbc 10 10 07.7 +1.2
baz=143,SNR=86
T34A McClaskey Farm 143.13 35 P PKPbc 10 10 06.6 +0.3
baz=143,SNR=50
S35A Otter Creek Ra 143.14 33 P PKPbc 10 10 06.8 +0.5
baz=143,SNR=122
Q37A Longview Farm, 143.20 30 P PKPbc 10 10 06.7 +0.3
baz=143
W32A Sentinel 143.20 39 P PKPbc 10 10 07.8 +1.2
baz=143,SNR=61
EMMW East Machias 143.24 355 ePKPdf PKPbc 10 10 06.3 0.0
Y31A Rekieta Farm, 143.29 41 P PKPbc 10 10 08.1 +1.2
baz=143,SNR=42
V33A Lossen Ranch, 143.33 37 P PKPdf 10 10 08.4 -1.3
baz=143,SNR=37
U34A Anderson Ranch 143.34 36 P PKPbc 10 10 07.8 +0.9
baz=143,SNR=96
U34A Anderson Ranch 143.34 36 ePKPdf PKPbc 10 10 07.7 +0.8
229A Bryant Ranch, 143.42 45 P PKPdf 10 10 09.3 -0.6
baz=143,SNR=18
TXAR Lajitas Array 143.43 50 PKP PKPbc 10 10 08.4 +0.9
comp=Z,22nm,0.7s,baz=255,slow=3.0,SNR=89
TXAR SKPbc SKPbc 10 13 39.7 -1.2
comp=Z,17nm,1.1s,baz=262,slow=1.8,SNR=3.4
TXAR SKKPbc SKKPab 10 21 49.0 -2.0
comp=Z,3.3nm,0.9s,baz=117,slow=7.2,SNR=9.6
R37A Teagarden Farm 143.45 31 P PKPbc 10 10 07.5 +0.3
baz=143,SNR=453
LONY Lake Ozonia 143.46 3 ePKPdf PKPbc 10 10 07.3 +0.3
LONY ePP PP 10 13 17.8 -2.9
S36A Lake Cedric, C 143.49 32 P PKPbc 10 10 07.6 +0.4
baz=143,SNR=106
WVL Waterville 143.54 357 ePKPdf PKPbc 10 10 07.4 +0.3
329A Wagon Wheel Ra 143.56 46 P PKPbc 10 10 08.4 +0.6
baz=144,SNR=106
T35A Sooner Cattle 143.59 34 P PKPbc 10 10 08.3 +0.7
baz=144,SNR=102
X32A Elmer 143.63 40 P PKPbc 10 10 09.0 +1.2
baz=144,SNR=187
130A Snyder 143.64 44 P PKPdf 10 10 09.2 -1.1
baz=144,SNR=20
W33A Caddo, Fort Co 143.66 38 P PKPdf 10 10 09.7 -0.5
baz=144,SNR=135
WMOK Wichita Mounta 143.74 39 ePKPdf PKPbc 10 10 09.0 +0.8
Z31A Sharp Cattle R 143.76 42 P PKPdf 10 10 09.6 -0.8
baz=144,SNR=122
V34A Guthrie 143.77 36 P PKPdf 10 10 09.7 -0.7
baz=144,SNR=32
V34A Guthrie 143.77 36 ePKPdf PKPbc 10 10 09.3 +1.1
V34A eSKPbc SKiKP 10 13 42.4 +0.1
Y32A R-V Farms, Ver 143.80 40 P PKPdf 10 10 09.5 -1.0
baz=144,SNR=157
T36A Boggs Farm, Ca 143.83 33 P PKPdf 10 10 09.5 -0.9
baz=144,SNR=473
U35A Pawnee 143.85 35 P PKPdf 10 10 09.6 -0.9
baz=144,SNR=218
230A Sterling City 143.95 45 P PKPdf 10 10 10.8 -0.1
baz=144,SNR=35
131A Roby 143.99 43 P PKPdf 10 10 10.7 -0.2
baz=144,SNR=18
W34A Bridge Creek, 144.03 37 P PKPdf 10 10 10.6 -0.3
baz=144,SNR=84
W34A Bridge Creek, 144.03 37 ePKPdf PKPbc 10 10 09.7 +0.7
X33A Lawton 144.05 39 P PKPdf 10 10 10.2 -0.7
baz=144,SNR=83
429A Davenport Ranc 144.09 47 P PKPdf 10 10 10.9 -0.3
baz=144,SNR=78
HDIL Hopedale 144.09 23 P PKPdf 10 10 10.0 -0.7
baz=144
HDIL Hopedale 144.09 23 ePKPdf PKPbc 10 10 09.1 +0.2
529A Stev Forest Ra 144.12 48 P PKPdf 10 10 11.3 0.0
baz=144,SNR=14
NCB Newcomb 144.13 3 ePKPdf PKPbc 10 10 09.6 +0.6
MDV Middlebury 144.14 2 ePKPdf PKPbc 10 10 09.5 +0.6
330A Mertzon 144.18 46 P PKPdf 10 10 10.5 -0.8
baz=144,SNR=54
Z32A Haskell 144.21 41 P PKPdf 10 10 11.1 -0.1
baz=144,SNR=292
V35A Meyer Ranch, C 144.22 36 P PKPdf 10 10 10.7 -0.5
baz=144,SNR=123
T37A Cheneyville 18 144.30 32 P PKPbc 10 10 10.4 +0.7
baz=144,SNR=314
Y33A Hilltop Ranch, 144.32 40 P PKPdf 10 10 10.7 -0.7
baz=144,SNR=164
AAM Ann Arbor 144.32 15 ePKPdf PKPbc 10 10 10.2 +0.6
X34A Smith Ranch, M 144.42 38 P PKPdf 10 10 11.2 -0.3
baz=144,SNR=94
HNH Hanover 144.45 0 ePKPdf PKPdf 10 10 10.9 -0.4
231A Bronte 144.47 44 P PKPdf 10 10 12.2 +0.4
baz=144,SNR=156
430A Baggett Ranch, 144.48 46 P PKPdf 10 10 11.9 +0.1
baz=144,SNR=65
ABTX Abilene, Hawle 144.52 43 P PKPdf 10 10 12.2 +0.4
baz=144,SNR=93
ABTX Abilene, Hawle 144.52 43 ePKPdf PKPdf 10 10 12.5 +0.7
W35A Tecumseh 144.62 37 P PKPdf 10 10 11.7 -0.2
baz=144,SNR=266
FFD Franklin Falls 144.68 360 ePKPdf PKPdf 10 10 11.9 +0.2
Z33A Whitaker Ranch 144.69 41 P PKPdf 10 10 12.9 +0.8
baz=145,SNR=222
TUL1 Leonard 144.71 35 P PKPdf 10 10 12.2 +0.2
baz=145,SNR=358
TUL1 Leonard 144.71 35 ePKPdf PKPdf 10 10 11.7 -0.3
V36A Jenks 144.72 35 P PKPdf 10 10 12.2 +0.2
baz=145,SNR=516
ACCN Adirondack Com 144.74 2 ePKPdf PKPdf 10 10 11.5 -0.3
530A J-C Ranch, Com 144.75 47 P PKPdf 10 10 13.1 +0.8
baz=145,SNR=632
331A San Angelo 144.76 45 P PKPdf 10 10 12.8 +0.6
baz=145,SNR=149
Y34A Reagan Ranch, 144.90 39 P PKPdf 10 10 13.3 +1.0
baz=145,SNR=420
232A Coleman 144.96 44 P PKPdf 10 10 13.8 +1.2
baz=145,SNR=333
431A Sonora 144.99 46 P PKPdf 10 10 13.4 +0.7
baz=145,SNR=222
W36A Wetumka 145.01 36 P PKPdf 10 10 12.9 +0.4
baz=145,SNR=288
133A Hamilton Ranch 145.01 42 P PKPdf 10 10 13.5 +0.9
baz=145,SNR=356
SFIN Lafayette 145.05 20 P PKPdf 10 10 12.8 +0.4
baz=145
SFIN Lafayette 145.05 20 ePKPdf PKPdf 10 10 12.5 +0.1
SFIN ePKPbc PKPab 10 10 13.2 +1.2
X35A Drake 145.08 38 P PKPdf 10 10 13.1 +0.4
baz=145,SNR=598
V37A Hulbert 145.09 34 P PKPdf 10 10 13.2 +0.5
baz=145,SNR=822
Z34A Collier Ranch, 145.18 40 P PKPdf 10 10 14.2 +1.3
baz=145,SNR=169
332A Millersview 145.19 44 P PKPdf 10 10 14.3 +1.3
baz=145
531A Rocksprings 145.32 47 P PKPab 10 10 14.7 +1.2
baz=145,SNR=398
X36A Centrahoma 145.34 37 P PKPab 10 10 14.4 +1.2
baz=145,SNR=325
SLM Saint Louis 145.34 26 ePKPdf PKPab 10 10 13.2 0.0
SLM ePKPbc PKPdf 10 10 13.7 +0.7
Y35A Marietta 145.37 38 P PKPab 10 10 14.5 +1.0
baz=145,SNR=125
233A Rising Star 145.39 43 P PKPab 10 10 15.0 +1.4
baz=145,SNR=550
TRY Troy 145.39 2 ePKPbc PKPab 10 10 14.3 +1.1
432A Menard 145.45 45 P PKPab 10 10 14.9 +1.0
baz=145,SNR=199
W37A Quinton 145.47 35 P PKPab 10 10 14.5 +0.7
baz=145,SNR=288
134A White-Moore Ra 145.59 41 P PKPab 10 10 15.5 +1.2
baz=146,SNR=338
Z35A Perciven, San 145.62 39 P PKPab 10 10 15.6 +1.2
baz=146,SNR=340
HRV Adam Dziewonsk 145.65 359 ePKPbc PKPab 10 10 14.7 +0.5
JCT Junction City 145.67 46 P PKPab 10 10 15.9 +1.1
baz=146,SNR=531
JCT Junction City 145.67 46 ePKPbc PKPab 10 10 15.9 +1.1
631A Perdido Creek 145.71 48 P PKPab 10 10 16.2 +1.4
baz=146,SNR=188
333A Richland Sprin 145.75 44 P PKPab 10 10 15.7 +0.7
baz=146,SNR=495
532A Rocksprings 145.80 46 P PKPab 10 10 15.9 +0.7
baz=146,SNR=159
Y36A Durant 145.84 38 P PKPab 10 10 15.7 +0.6
baz=146,SNR=873
QUA2 Belchertown 145.87 1 ePKPbc PKPab 10 10 15.2 +0.2
QUA2 ePP PP 10 13 34.0 -0.9
QUA2 eSKPbc SKiKP 10 13 46.8 +0.4
X37A Clayton 145.90 36 P PKPab 10 10 15.8 +0.5
baz=146,SNR=207
234A Clairette 145.91 42 P PKPab 10 10 16.2 +0.7
baz=146,SNR=279
433A Art 146.01 45 P PKPab 10 10 15.9 0.0
baz=146,SNR=368
135A Vickery Place, 146.03 41 P PKPab 10 10 16.8 +0.9
baz=146,SNR=31
W38A Poteau 146.03 34 P PKPab 10 10 16.2 +0.4
baz=146,SNR=143
OLIL Olney 146.13 23 ePKPbc PKPab 10 10 16.3 +0.2
X38A Whitesboro 146.15 35 P PKPab 10 10 16.4 +0.1
baz=146,SNR=232
Z36A Blue Ridge 146.17 39 P PKPab 10 10 16.5 0.0
baz=146,SNR=179
Y37A Hugo 146.18 37 P PKPab 10 10 16.3 -0.2
baz=146,SNR=111
632A Uvalde 146.23 47 P PKPab 10 10 17.3 +0.5
baz=146,SNR=174
BRYW Bryant College 146.23 359 ePKPbc PKPab 10 10 16.2 -0.2
334A Lometa 146.25 43 P PKPab 10 10 16.7 -0.1
baz=146,SNR=99
BLO Bloomington 146.33 21 ePKPbc PKPab 10 10 16.8 0.0
BLO ePKPab PKiKP 10 10 17.7 -1.2
WHTX Lake Whitney, 146.36 41 P PKPab 10 10 17.2 0.0
baz=146,SNR=104
WHTX Lake Whitney, 146.36 41 ePKPdf PKPbc 10 10 16.4 +0.1
WHTX ePKPbc PKPab 10 10 17.8 +0.5
WHTX epPKPdf pPKPdf 10 10 40.5 +1.0
ACSO Alum Creek Sta 146.44 15 ePKPbc PKPab 10 10 16.9 -0.3
533A Kerrville 146.45 46 P PKPab 10 10 17.5 -0.2
baz=146,SNR=124
732A Laxson Ranch, 146.52 48 P PKPbc 10 10 17.2 +0.4
baz=146,SNR=270
434A Buret 146.55 44 P PKPab 10 10 18.3 +0.3
baz=146,SNR=116
SIUC Southern Illin 146.55 25 ePKPdf PKPbc 10 10 16.2 -0.5
SIUC ePKPbc PKPab 10 10 17.9 +0.1
BDFB Brasilia 146.61 225 PKPbc PKPab 10 10 18.3 -0.4
comp=Z,61nm,0.7s,baz=154,slow=3.7,SNR=43
BDFB Brasilia 146.61 225 PKP2 PKPab 10 10 18.3 -0.4
BDFB pmax pmax
comp=Z,61nm,0.7s
136A Ennis 146.65 40 P PKPab 10 10 18.6 +0.3
baz=147,SNR=162
633A Saathoff Ranch 146.70 47 P PKPab 10 10 19.2 +0.5
baz=147,SNR=195
Z37A Pogue Cattle C 146.72 38 P PKPab 10 10 18.4 -0.2
baz=147,SNR=99
Y38A Idabel 146.74 36 P PKPab 10 10 18.8 +0.2
baz=147,SNR=120
832A Faith Ranch, C 146.75 49 P PKPab 10 10 19.1 +0.2
baz=147,SNR=283
YLE Yale 146.83 1 ePKPdf PKPdf 10 10 16.1 +0.7
YLE ePKPbc PKPab 10 10 18.0 -0.7
335A Moody 146.83 42 P PKPab 10 10 19.0 -0.1
baz=147,SNR=217
534A Blanco 146.87 45 P PKPab 10 10 19.1 -0.3
baz=147,SNR=587
MIAR Mount Ida 146.95 34 P PKPab 10 10 19.1 -0.3
baz=147
MIAR Mount Ida 146.95 34 ePKPbc PKPab 10 10 18.8 -0.6
236A Katherine and 146.96 40 P PKPab 10 10 19.3 -0.2
baz=147,SNR=30
USIN University of 146.97 23 ePKPbc PKPbc 10 10 18.4 +0.6
733A Divot King Ran 147.02 48 P PKPab 10 10 19.3 -0.6
baz=147,SNR=101
435B Jarrell 147.03 43 P PKPab 10 10 19.3 -0.6
baz=147,SNR=57
137A Heron Place, G 147.05 39 P PKPab 10 10 19.7 -0.1
baz=147,SNR=67
Z38A Mt. Pleasant 147.07 37 P PKPab 10 10 19.5 -0.5
baz=147,SNR=30
SSPA Standing Stone 147.09 8 ePKPdf PKPdf 10 10 16.7 +0.8
SSPA ePKPbc PKPab 10 10 19.0 -0.7
SSPA ePKPab PKiKP 10 10 20.6 +0.2
Y39A Lockesburg 147.10 35 P PKPab 10 10 19.5 -0.5
baz=147
336A Riesel 147.15 42 P PKPab 10 10 19.7 -0.6
baz=147,SNR=222
833A Chaparral WMA, 147.16 49 P PKPab 10 10 19.9 -0.6
baz=147,SNR=265
WCI Wyandotte Cave 147.25 21 ePKPdf PKPdf 10 10 16.7 +0.4
WCI ePKPbc PKPbc 10 10 19.3 +0.7
WCI ePKPab PKiKP 10 10 21.2 +0.3
CPNY Central Park 147.31 3 ePKPbc PKPbc 10 10 19.3 +0.7
634A China Grove, S 147.33 46 P PKPab 10 10 20.3 -0.8
baz=147,SNR=16
138A Matatall Enter 147.41 38 P PKPab 10 10 20.9 -0.4
baz=147,SNR=53
237A Washetta, Mont 147.41 40 P PKPab 10 10 20.9 -0.4
baz=147,SNR=107
PVMO Portageville 147.43 27 ePKPbc PKPab 10 10 20.5 -0.7
734A La Parita Cree 147.49 47 P PKPab 10 10 20.9 -0.9
baz=147,SNR=106
535A Dale 147.50 44 P PKPab 10 10 20.8 -1.0
baz=147,SNR=72
Z39A Irene McRaven, 147.55 36 P PKPab 10 10 21.0 -0.8
baz=148
436A Wall Ranch, Ga 147.57 42 P PKPab 10 10 21.0 -1.0
baz=148,SNR=70
933A Laredo 147.63 50 P PKPab 10 10 21.7 -0.6
baz=148,SNR=188
635A Leesville 147.74 45 P PKPab 10 10 21.5 -1.2
baz=148,SNR=108
337A Centerville 147.82 41 P PKPab 10 10 22.2 -0.8
baz=148
536A Bastrop 147.82 44 P PKPbc 10 10 21.4 +1.0
baz=148,SNR=18
139A Bunkhouse Ranc 147.82 37 P PKPab 10 10 21.8 -1.1
baz=148
238A Jacksonville 147.84 39 P PKPab 10 10 22.2 -0.8
baz=148,SNR=98
UTMT University of 147.86 26 ePKPbc PKPbc 10 10 21.4 +1.1
834A Tilden 147.90 48 P PKPab 10 10 22.3 -1.0
baz=148,SNR=68
437A Phantom Ranch, 147.97 42 P PKPab 10 10 22.7 -0.8
baz=148,SNR=22
735A Kenedy 148.03 46 P PKPab 10 10 22.7 -1.1
baz=148,SNR=155
338A Crockett 148.16 40 P PKPab 10 10 23.0 -1.3
baz=148
636A Smothers Creek 148.19 45 P PKPbc 10 10 22.9 +1.5
baz=148,SNR=90
934A Benavides 148.21 49 P PKPab 10 10 23.4 -1.2
baz=148,SNR=43
239A Gary 148.24 38 P PKPab 10 10 23.4 -1.2
baz=148
NATX Nacogdoches 148.30 39 P PKPab 10 10 23.6 -1.2
baz=148
NATX Nacogdoches 148.30 39 ePKPbc PKPbc 10 10 23.0 +1.4
NATX ePKPab PKPab 10 10 25.6 +0.7
537A Green Hill Far 148.33 43 P PKPab 10 10 24.0 -1.0
baz=148,SNR=36
835A Beeville 148.33 47 P PKPab 10 10 24.3 -0.8
baz=148,SNR=64
034A Hebbronville 148.37 50 P PKPab 10 10 24.2 -1.1
baz=148,SNR=94
MET Memphis--Engin 148.38 29 ePKPbc PKPbc 10 10 22.4 +0.7
SDMD Soldier's Deli 148.43 7 ePKPbc PKPbc 10 10 22.3 +0.5
438A Sam Houston St 148.46 41 P PKPab 10 10 24.2 -1.3
baz=148,SNR=94
WVT Waverly 148.48 25 ePKPbc PKPbc 10 10 22.6 +0.7
736A Circle Diamond 148.49 45 P PKPab 10 10 24.8 -0.9
baz=148,SNR=39
339A Huntington 148.65 39 P PKPbc 10 10 24.1 +1.6
baz=149
637A Eagle Lake 148.71 44 P PKPab 10 10 24.9 -1.7
baz=149,SNR=100
HKT Hockley 148.73 43 ePKPbc PKPbc 10 10 24.2 +1.5
538A Harpers Horsep 148.79 42 P PKPab 10 10 25.6 -1.2
baz=149,SNR=16
035A Encino 148.87 50 P PKPbc 10 10 25.2 +2.0
baz=149,SNR=25
439A Center Grove, 148.88 40 P PKPab 10 10 25.4 -1.9
baz=149
340A Bronson 149.01 38 P PKPbc 10 10 25.1 +1.7
baz=149
737A Port Lavaca 149.05 45 P PKPab 10 10 26.2 -1.8
baz=149,SNR=9.0
OXF Oxford 149.12 29 ePKPdf PKPdf 10 10 20.3 +0.9
OXF ePKPbc PKiKP 10 10 24.4 -0.5
035Z Hargill 149.15 50 P PKPbc 10 10 26.0 +2.1
baz=149,SNR=22
539A Cross D Ranch, 149.36 41 P PKPab 10 10 27.2 -2.0
baz=149
LVC Limon Verde 149.41 186 PKPbc PKPbc 10 10 25.8 +0.8
comp=Z,158nm,0.8s,baz=332,slow=1.3,SNR=21
LVC Limon Verde 149.41 186 PKPbc PKPbc 10 10 25.8 +0.8
LVC ePKPab PKPab 10 10 31.2 +1.4
440A Kirbyville 149.43 39 P PKPab 10 10 27.1 -2.3
baz=149
CBN Corbin Frederi 149.55 8 ePKPdf PKPdf 10 10 20.6 +0.7
CBN ePKPbc PKiKP 10 10 25.4 -0.2
CBN ePKPab PKPab 10 10 30.2 +0.6
540A Vidor 149.78 40 P PKPab 10 10 28.6 -2.3
baz=150
BLA Blacksburg 149.94 14 ePKPbc PKPbc 10 10 25.7 +0.1
BLA ePKPab PKPab 10 10 32.0 +0.6
JSRW J. Sargeant Re 149.97 9 ePKPdf PKPdf 10 10 21.9 +1.2
JSRW ePKPbc PKiKP 10 10 27.0 +0.5
VWCC Virginia Weste 150.00 13 ePKPdf PKPdf 10 10 21.4 +0.6
VWCC ePKPbc PKiKP 10 10 26.5 -0.1
VBMS Vicksburg 150.37 33 P PKPbc 10 10 28.8 +2.1
baz=150
LRAL Lakeview Retre 151.47 27 ePKPdf PKPdf 10 10 22.9 -0.3
LRAL ePKPbc PKiKP 10 10 29.9 +0.1
LRAL ePKPab PKPab 10 10 38.7 +1.0
KMSC Kings Mountain 151.66 16 P PKPbc 10 10 30.7 +1.1
baz=152
KMSC Kings Mountain 151.66 16 ePKPbc PKPbc 10 10 30.4 +0.8
KMSC ePKPab PKPab 10 10 39.2 +0.7
CNNC Cliffs of the 152.36 11 ePKPbc PKPbc 10 10 31.7 +0.5
CNNC ePKPab PKPab 10 10 42.4 +1.0
GOGA Godfrey 152.57 21 ePKPbc PKPbc 10 10 32.2 +0.4
GOGA ePKPab PKPab 10 10 43.5 +1.2
BRAL Brewton 153.12 30 ePKPdf PKPdf 10 10 27.2 +1.6
BRAL ePKPbc PKiKP 10 10 34.5 +1.3
BRAL ePKPab PKPab 10 10 45.5 +0.7
SIV San Ignacio 153.83 204 PKP PKPdf 10 10 27.5 +0.4
comp=Z,4.7nm,0.9s,baz=187,slow=2.2,SNR=6.5
SIV PKPbc PKiKP 10 10 35.6 +0.5
comp=Z,9.7nm,0.9s,baz=153,slow=2.8,SNR=16
SIV PKPab PKPab 10 10 48.5 +0.4
comp=Z,33nm,0.8s,baz=158,slow=5.9,SNR=23
NHSC New Hope 153.90 16 ePKPbc PKPbc 10 10 35.7 +1.1
NHSC ePKPab PKPab 10 10 48.5 +0.6
CSU Charleston Sou 154.04 16 ePKPbc PKPbc 10 10 36.0 +1.0
CSU ePKPab PKPab 10 10 49.9 +1.4
RGRS Roger Stewart 154.08 16 ePKPbc PKPbc 10 10 36.4 +1.4
RGRS ePKPab PKPab 10 10 49.8 +1.1
TIGA Tifton 154.29 23 P PKPbc 10 10 35.3 -0.3
baz=154
TIGA Tifton 154.29 23 ePKPdf PKPdf 10 10 28.3 +1.0
TIGA ePKPbc PKiKP 10 10 36.7 +1.1
TIGA ePKPab PKPab 10 10 51.2 +1.6
BBSR BB Station 154.84 345 ePKPdf PKPdf 10 10 27.1 -0.9
BBSR ePKPbc PKiKP 10 10 37.6 +0.9
BBSR ePKPab PKPab 10 10 53.2 +1.3
LPAZ La Paz 155.56 189 PKPbc PKPdf 10 10 39.7 +9.5
comp=Z,5.1nm,0.9s,baz=92,slow=3.0,SNR=6.1
LPAZ PKPab PKPab 10 10 57.0 +0.8
comp=Z,28nm,0.7s,baz=160,slow=4.7,SNR=38
LPAZ La Paz 155.56 189 ePKPdf PKPdf 10 10 31.4 +1.2
LPAZ PKPbc PKPbc 10 10 39.7
LPAZ PKPab PKPab 10 10 57.0 +0.8
LPAZ ePKPab PKPab 10 10 57.4 +1.3
LPAZ ePPP PP 10 14 33.4 +2.1
NNA Nana 159.54 166 PKPab PKPab 10 11 12.9 +0.2
comp=Z,36nm,1.0s,baz=264,slow=2.7,SNR=6.6
NNA Nana 159.54 166 PKP2 PKPab 10 11 12.9 +0.2
NNA pmax pmax
comp=Z,36nm,1.0s
SAML Samuel 161.02 208 ePKPdf PKPdf 10 10 37.8 +1.7
SAML ePKPab PKPab 10 11 19.6 +0.5
PTGA Pitinga 165.23 235 PKP PKPdf 10 10 39.5 -0.7
comp=Z,4.1nm,0.9s,baz=206,slow=2.3,SNR=4.9
PTGA PKPab PKPab 10 11 38.7 +0.9
comp=Z,28nm,0.8s,baz=144,slow=5.8,SNR=27
BBJ Bamboo Saint A 168.47 26 i P PKPab 10 11 53.3 +1.5
CVJ Coleyville 168.49 28 i P PKPab 10 11 53.0 +1.0
CELP Cerrillos 168.72 333 ePKPdf PKPdf 10 10 43.5 +1.0
CELP ePP PP 10 15 41.8 +0.8
STH Stony Hill 168.94 25 i P PKPab 10 11 54.9 +1.0
GWJ Greenwich 168.97 24 i P PKPab 10 11 55.2 +1.0
HOJ Hope 169.03 25 i P PKPab 10 11 55.0 +0.8
OTAV Otavalo 169.92 140 ePKPdf PKPdf 10 10 44.3 +0.2

NEIC ***26*** *09:52:13.3, 36°27S×178°07E, h171km, MG4.5(WEL), After WEL.*
WEL 26 09:52:13.1±0.4, 36°26S×178°08E, h172km±5km, ML4.4/17, 7C-4D, Error ellipse: s-maj=5.8km s-min=3.6km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.32**	**172**	PN	Pn	09 52 42.6	0.0
MXZ				SN	Sn	09 53 05.5	-0.1
MXZ				AML	AML	09 53 06.7	
MXZ				AML	AML	09 53 15.8	
MXZ				AML	AML	09 53 15.8	
MXZ	**Matakaoa Point**	**1.32**	**172**	Pn	Pn	09 52 42.6	0.0
WIZ	**White Island**	**1.45**	**209**	PN	Pn	09 52 44.2	+0.4
WIZ	**White Island**	**1.45**	**209**	Pn	Pn	09 52 44.2	+0.4
HAZ	**Te Kaha**	**1.52**	**189**	PN	Pn	09 52 44.2	-0.2
HAZ				SN	Sn	09 53 09.1	+0.2
WMGZ	**Waiomatatini S**	**1.58**	**170**	⇑PN	Pn	09 52 45.5	+0.4
PUZ	**Puketiti**	**1.82**	**175**	PN	Pn	09 52 47.3	-0.3
PUZ				SN	Sn	09 53 13.8	-0.7
PUZ				AML	AML	09 53 21.8	
PUZ	**Puketiti**	**1.82**	**175**	Pn	Pn	09 52 47.3	-0.3
TWGZ	**Tauwhareparae**	**1.92**	**182**	PN	Pn	09 52 49.1	+0.3
KUZ	**Kuaotunu**	**1.96**	**255**	PN	Pn	09 52 49.3	+0.2
KUZ	**Kuaotunu**	**1.96**	**255**	Pn	Pn	09 52 49.2	+0.1
OPRZ	**Ohinepanea**	**2.00**	**217**	⇓PN	Pn	09 52 49.9	+0.4
OPRZ	**Ohinepanea**	**2.00**	**217**	Pn	Pn	09 52 49.9	+0.4
MARZ	**Manawahe**	**2.06**	**213**	PN	Pn	09 52 50.6	+0.4
MARZ	**Manawahe**	**2.06**	**213**	Pn	Pn	09 52 50.8	+0.6
MWZ	**Matawai**	**2.12**	**192**	PN	Pn	09 52 50.7	-0.2
MWZ				SN	Sn	09 53 20.5	+0.1
MWZ				AML	AML	09 53 23.3	
MWZ				AML	AML	09 53 26.7	
MWZ				AML	AML	09 53 26.8	
MWZ	**Matawai**	**2.12**	**192**	Pn	Pn	09 52 50.8	-0.1
EDRZ	**Edgecumbe**	**2.13**	**210**	PN	Pn	09 52 51.7	+0.6
EDRZ	**Edgecumbe**	**2.13**	**210**	Pn	Pn	09 52 51.7	+0.6
URZ	**Urewera**	**2.14**	**201**	PN	Pn	09 52 50.9	-0.2
URZ				AML	AML	09 53 22.4	
URZ				AML	AML	09 53 22.5	
URZ	**Urewera**	**2.14**	**201**	Pn	Pn	09 52 50.9	-0.2
TKGZ	**Te Karaka**	**2.19**	**185**	PN	Pn	09 52 51.6	0.0
CNGZ	**Carnagh Statio**	**2.23**	**177**	⇑PN	Pn	09 52 52.3	+0.2
CNGZ	**Carnagh Statio**	**2.23**	**177**	Pn	Pn	09 52 52.3	+0.2
RAGZ	**Rawiri**	**2.30**	**193**	PN	Pn	09 52 53.2	+0.2
TARZ	**Mount Tarawera**	**2.34**	**212**	PN	Pn	09 52 54.4	+0.8
TARZ	**Mount Tarawera**	**2.34**	**212**	Pn	Pn	09 52 54.6	+1.0
RRRZ	**Republican Roa**	**2.42**	**210**	PN	Pn	09 52 54.7	+0.3
RRRZ	**Republican Roa**	**2.42**	**210**	Pn	Pn	09 52 55.0	+0.6
RIGZ	**Rimuhau**	**2.46**	**186**	⇑PN	Pn	09 52 54.5	-0.4
TOZ	**Tahuroa Road**	**2.53**	**234**	PN	Pn	09 52 56.8	+1.2
TOZ	**Tahuroa Road**	**2.53**	**234**	Pn	Pn	09 52 56.7	+1.1
HRRZ	**Handcock Road**	**2.56**	**213**	PN	Pn	09 52 57.0	+0.9
HRRZ	**Handcock Road**	**2.56**	**213**	Pn	Pn	09 52 57.0	+0.9
SNGZ	**Shannon Statio**	**2.59**	**193**	PN	Pn	09 52 56.2	-0.2
PRRZ	**Plateau Road**	**2.61**	**210**	⇑PN	Pn	09 52 57.0	+0.4
PRRZ	**Plateau Road**	**2.61**	**210**	Pn	Pn	09 52 57.0	+0.4
PRGZ	**Paritu Road**	**2.67**	**183**	PN	Pn	09 52 56.4	-0.8
PRGZ	**Paritu Road**	**2.67**	**183**	Pn	Pn	09 52 56.5	-0.8
ALRZ	**Allen Road**	**2.68**	**210**	PN	Pn	09 52 57.6	+0.2
ALRZ	**Allen Road**	**2.68**	**210**	Pn	Pn	09 52 57.9	+0.4
WPRZ	**Whakapapatarin**	**2.72**	**213**	PN	Pn	09 52 58.6	+0.7
RAHZ	**Arahi**	**2.77**	**196**	⇑PN	Pn	09 52 58.3	-0.2
RAHZ	**Arahi**	**2.77**	**196**	Pn	Pn	09 52 58.3	-0.2
KNZ	**Kokohu**	**2.78**	**186**	PN	Pn	09 52 57.6	-0.9
KNZ	**Kokohu**	**2.78**	**186**	Pn	Pn	09 52 57.6	-0.9
WHHZ	**Waihua**	**2.89**	**193**	PN	Pn	09 52 59.5	-0.4
NMHZ	**Naumai**	**3.01**	**199**	PN	Pn	09 53 01.4	-0.1
NMHZ	**Naumai**	**3.01**	**199**	Pn	Pn	09 53 01.4	-0.1
BKZ	**Black Stump Fm**	**3.17**	**203**	PN	Pn	09 53 02.5	-0.9
BKZ				AML	AML	09 53 45.5	
BKZ				AML	AML	09 54 01.4	
BKZ	**Black Stump Fm**	**3.17**	**203**	Pn	Pn	09 53 02.5	-0.9
RITZ	**Rihia Road**	**3.24**	**212**	PN	Pn	09 53 04.4	+0.1
RITZ	**Rihia Road**	**3.24**	**212**	Pn	Pn	09 53 04.4	+0.1
MCHZ	**McNeill Hill**	**3.36**	**199**	PN	Pn	09 53 05.0	-0.8
MCHZ	**McNeill Hill**	**3.36**	**199**	Pn	Pn	09 53 05.0	-0.8
HIZ	**Hauiti**	**3.41**	**228**	PN	Pn	09 53 08.1	+1.6
HIZ	**Hauiti**	**3.41**	**228**	Pn	Pn	09 53 08.1	+1.6
KWHZ	**Kaweka Forest**	**3.42**	**202**	PN	Pn	09 53 05.9	-0.7
KRVZ	**Karewarewa**	**3.43**	**214**	PN	Pn	09 53 06.8	+0.1
KRVZ	**Karewarewa**	**3.43**	**214**	Pn	Pn	09 53 00.8	-6.0
NGZ	**Ngauruhoe**	**3.51**	**213**	PN	Pn	09 53 07.4	-0.5
NGZ	**Ngauruhoe**	**3.51**	**213**	Pn	Pn	09 53 07.6	-0.3
WPVZ	**Whakapapa**	**3.56**	**214**	PN	Pn	09 53 07.9	-0.5
WPVZ	**Whakapapa**	**3.56**	**214**	Pn	Pn	09 53 07.9	-0.5
TUVZ	**Tukino**	**3.57**	**212**	PN	Pn	09 53 07.9	-0.7
TUVZ	**Tukino**	**3.57**	**212**	Pn	Pn	09 53 07.9	-0.7
BHHZ	**Black Hill Sta**	**3.60**	**206**	PN	Pn	09 53 07.3	-1.5
BHHZ	**Black Hill Sta**	**3.60**	**206**	Pn	Pn	09 53 07.3	-1.5
FWVZ	**Far West T-bar**	**3.60**	**213**	PN	Pn	09 53 08.5	-0.6
FWVZ	**Far West T-bar**	**3.60**	**213**	Pn	Pn	09 53 08.3	-0.8
WHVZ	**Whangaehu Hut**	**3.61**	**212**	PN	Pn	09 53 08.2	-0.9
TRVZ	**Turoa**	**3.64**	**213**	⇑PN	Pn	09 53 08.6	-0.9
TRVZ	**Turoa**	**3.64**	**213**	Pn	Pn	09 53 08.6	-0.9
KRHZ	**Kereru**	**3.64**	**201**	PN	Pn	09 53 07.5	-1.8
WNVZ	**Wahianoa**	**3.64**	**212**	PN	Pn	09 53 08.5	-1.0
WNVZ	**Wahianoa**	**3.64**	**212**	Pn	Pn	09 53 08.5	-1.0
MOVZ	**Moawhango**	**3.64**	**210**	PN	Pn	09 53 07.9	-1.5
MOVZ	**Moawhango**	**3.64**	**210**	Pn	Pn	09 53 07.9	-1.5
PKVZ	**Pokaka**	**3.72**	**215**	⇓PN	Pn	09 53 09.9	-0.5
PKVZ	**Pokaka**	**3.72**	**215**	Pn	Pn	09 53 09.9	-0.5
MTVZ	**Mangateitei**	**3.74**	**213**	PN	Pn	09 53 10.0	-0.7
MTVZ	**Mangateitei**	**3.74**	**213**	Pn	Pn	09 53 10.0	-0.7
PXZ	**Pawanui**	**3.89**	**194**	⇑PN	Pn	09 53 10.2	-2.2
PXZ				AML	AML	09 53 57.7	
PXZ				AML	AML	09 53 57.7	
PXZ				AML	AML	09 53 58.7	
PXZ				AML	AML	09 53 58.1	
PXZ	**Pawanui**	**3.89**	**194**	Pn	Pn	09 53 10.2	-2.2
VRZ	**Vera Road**	**3.89**	**222**	PN	Pn	09 53 13.2	+0.7
VRZ	**Vera Road**	**3.89**	**222**	Pn	Pn	09 53 11.6	-0.9
PNHZ	**Pukenui**	**3.94**	**201**	PN	Pn	09 53 10.8	-2.3
PNHZ	**Pukenui**	**3.94**	**201**	Pn	Pn	09 53 10.8	-2.3
TSZ	**Takapari Road**	**4.15**	**203**	⇓PN	Pn	09 53 13.2	-2.6
TSZ				AML	AML	09 54 07.2	
TSZ				AML	AML	09 54 07.9	
TSZ	**Takapari Road**	**4.15**	**203**	Pn	Pn	09 53 13.2	-2.6
WAZ	**Wanganui**	**4.26**	**214**	PN	Pn	09 53 16.3	-1.0
WAZ	**Wanganui**	**4.26**	**214**	Pn	Pn	09 53 16.3	-1.0
DVHZ	**Dannevirke**	**4.31**	**200**	PN	Pn	09 53 15.2	-2.6
DVHZ	**Dannevirke**	**4.31**	**200**	Pn	Pn	09 53 15.2	-2.6
NEZ	**North Egmont**	**4.36**	**225**	PN	Pn	09 53 20.1	+1.5
NEZ	**North Egmont**	**4.36**	**225**	Pn	Pn	09 53 20.1	+1.5
PRRZ	**Palmer Road**	**4.37**	**224**	PN	Pn	09 53 20.9	+1.4
ANWZ	**Angora Road**	**4.38**	**196**	PN	Pn	09 53 16.5	-2.2
NWEZ	**Newall Road**	**4.49**	**227**	PN	Pn	09 53 21.2	+1.0
NWEZ	**Newall Road**	**4.49**	**227**	Pn	Pn	09 53 21.2	+1.0
POWZ	**Post Office Ro**	**4.51**	**203**	PN	Pn	09 53 18.0	-2.4
POWZ	**Post Office Ro**	**4.51**	**203**	Pn	Pn	09 53 18.1	-2.4
PRWZ	**Pori Road**	**4.60**	**200**	PN	Pn	09 53 19.4	-2.2
BFZ	**Birch Farm**	**4.64**	**197**	PN	Pn	09 53 19.4	-2.8
BFZ	**Birch Farm**	**4.64**	**197**	Pn	Pn	09 53 19.4	-2.8
MRZ	**Mangatainoka R**	**4.81**	**203**	⇓PN	Pn	09 53 20.9	-3.5
MRZ				AML	AML	09 54 18.2	
MRZ				AML	AML	09 54 19.8	
MRZ	**Mangatainoka R**	**4.81**	**203**	Pn	Pn	09 53 20.9	-3.5
TIWZ	**Tintock**	**4.83**	**200**	PN	Pn	09 53 21.6	-3.0
TIWZ				AML	AML	09 54 18.9	
TIWZ				AML	AML	09 54 20.0	
TIWZ	**Tintock**	**4.83**	**200**	Pn	Pn	09 53 21.6	-3.0
CPWZ	**Castlepoint**	**4.87**	**197**	PN	Pn	09 53 23.0	-2.1
HOWZ	**Holdsworth Sta**	**5.05**	**205**	PN	Pn	09 53 23.7	-3.8
HOWZ	**Holdsworth Sta**	**5.05**	**203**	Pn	Pn	09 53 23.7	-3.8
OGWZ	**Otaki Gorge**	**5.09**	**206**	PN	Pn	09 53 24.7	-3.3
OGWZ	**Otaki Gorge**	**5.09**	**206**	Pn	Pn	09 53 24.7	-3.3
TMWZ	**Te Maipa**	**5.14**	**199**	PN	Pn	09 53 25.2	-3.4
TMWZ	**Te Maipa**	**5.14**	**199**	Pn	Pn	09 53 25.2	-3.4
KIW	**Kapiti Island**	**5.22**	**207**	PN	Pn	09 53 26.4	-3.4
KIW				AML	AML	09 54 27.3	
KIW				AML	AML	09 54 27.4	
KIW	**Kapiti Island**	**5.22**	**207**	Pn	Pn	09 53 26.4	-3.4
MTW	**Mount Morrison**	**5.29**	**202**	PN	Pn	09 53 26.9	-3.7
MTW				AML	AML	09 54 30.2	
MTW				AML	AML	09 54 34.2	
CAW	**Cannon Point**	**5.38**	**205**	PN	Pn	09 53 27.9	-4.0
CAW				AML	AML	09 54 32.5	
CAW				AML	AML	09 54 33.9	
CAW	**Cannon Point**	**5.38**	**205**	Pn	Pn	09 53 27.9	-4.0
TRWZ	**Traveller**	**5.46**	**199**	PN	Pn	09 53 29.0	-3.8
TRWZ				AML	AML	09 54 33.5	
TRWZ				AML	AML	09 54 33.6	
TRWZ	**Traveller**	**5.46**	**199**	Pn	Pn	09 53 29.0	-3.8
PAWZ	**Paruwai Farm**	**5.52**	**201**	PN	Pn	09 53 29.6	-4.0
PAWZ				AML	AML	09 54 33.5	
PAWZ				AML	AML	09 54 33.7	
PAWZ	**Paruwai Farm**	**5.52**	**201**	Pn	Pn	09 53 29.6	-4.0
DUWZ	**D'Urville Isla**	**5.59**	**214**	PN	Pn	09 53 30.8	-3.7
DUWZ	**D'Urville Isla**	**5.59**	**214**	Pn	Pn	09 53 30.8	-3.7
MSWZ	**Moikau Station**	**5.60**	**202**	PN	Pn	09 53 30.8	-3.9
MSWZ				AML	AML	09 54 36.9	
MSWZ	**Moikau Station**	**5.60**	**202**	Pn	Pn	09 53 30.8	-3.9
PLWZ	**Palliser**	**5.74**	**202**	PN	Pn	09 53 32.4	-4.2
PLWZ	**Palliser**	**5.74**	**202**	Pn	Pn	09 53 32.4	-4.2
TCW	**Tory Channel**	**5.77**	**210**	PN	Pn	09 53 32.8	-4.0
TCW				AML	AML	09 54 38.8	
TCW				AML	AML	09 54 42.1	
TCW	**Tory Channel**	**5.77**	**210**	Pn	Pn	09 53 32.8	-4.0
TUWZ	**Tuamarina**	**6.09**	**211**	PN	Pn	09 53 36.6	-4.4
TUWZ				AML	AML	09 54 46.2	
TUWZ				AML	AML	09 54 46.7	
TUWZ	**Tuamarina**	**6.09**	**211**	Pn	Pn	09 53 36.6	-4.4
NNZ	**Nelson**	**6.17**	**215**	PN	Pn	09 53 37.7	-4.3
NNZ	**Nelson**	**6.17**	**215**	Pn	Pn	09 53 37.8	-4.3
QRZ	**Quartz Range**	**6.30**	**222**	PN	Pn	09 53 39.6	-4.3
QRZ	**Quartz Range**	**6.30**	**222**	Pn	Pn	09 53 39.6	-4.3
BSWZ	**Blackbirch Sta**	**6.36**	**210**	PN	Pn	09 53 40.2	-4.4
BSWZ	**Blackbirch Sta**	**6.36**	**210**	Pn	Pn	09 53 40.2	-4.4
THZ	**Tophouse**	**6.81**	**215**	PN	Pn	09 53 46.2	-4.5
THZ	**Tophouse**	**6.81**	**215**	Pn	Pn	09 53 46.2	-4.5
KHZ	**Kahutara**	**7.08**	**208**	PN	Pn	09 53 49.4	-4.7
KHZ	**Kahutara**	**7.08**	**208**	Pn	Pn	09 53 49.4	-4.7
DSZ	**Denniston Nort**	**7.34**	**220**	Pn	Pn	09 53 52.5	-5.2
LTZ	**Lake Taylor**	**7.91**	**213**	PN	Pn	09 53 58.7	-6.5
LTZ	**Lake Taylor**	**7.91**	**213**	Pn	Pn	09 53 58.7	-6.5
OXZ	**Oxford**	**8.45**	**211**	PN	Pn	09 54 05.8	-6.4
MQZ	**McQueen's Vall**	**8.52**	**208**	PN	Pn	09 54 07.0	-6.2
MQZ	**McQueen's Vall**	**8.52**	**208**	Pn	Pn	09 54 07.0	-6.2
WVZ	**Waitaha Valley**	**8.85**	**217**	PN	Pn	09 54 12.7	-4.8
WVZ	**Waitaha Valley**	**8.85**	**217**	Pn	Pn	09 54 12.7	-4.8
RPZ	**Rata Peaks**	**9.19**	**214**	PN	Pn	09 54 16.8	-5.2
RPZ	**Rata Peaks**	**9.19**	**214**	Pn	Pn	09 54 16.8	-5.2
FOZ	**Fox Glacier**	**9.73**	**219**	PN	Pn	09 54 23.0	-6.0
FOZ	**Fox Glacier**	**9.73**	**219**	Pn	Pn	09 54 23.0	-6.0
ODZ	**Otahua Downs**	**10.43**	**210**	PN	Pn	09 54 32.9	-5.3
ODZ	**Otahua Downs**	**10.43**	**210**	Pn	Pn	09 54 32.9	-5.3
TUZ	**Tuapeka**	**11.59**	**211**	PN	Pn	09 54 49.3	-3.9
TUZ	**Tuapeka**	**11.59**	**211**	Pn	Pn	09 54 49.3	-3.9
WHZ	**Wether Hill Ro**	**12.28**	**215**	PN	Pn	09 54 56.9	-5.3
WHZ	**Wether Hill Ro**	**12.28**	**215**	Pn	Pn	09 54 56.9	-5.3

*ISCJB **26** 10:14:50.1±0.4, 67.°55N±0.°03×30.°50E±0.°06, h0km, Error ellipse: s-maj=4.0km s-min=3.4km az=3.9*
*CSEM **26** 10:14:51.4±0.2, 67.°54N×30.°48E, h1km, ML2.2, Error ellipse: s-maj=4.2km s-min=3.4km az=74.0, Mining explosion.*
*KOLA **26** 10:14:51.7, 67.°72N×30.°44E, h0km*
*UPP **26** 10:14:51.0±2.8, 67.°57N×30.°59E, h0km, ML1.6, Suspected explosion*
*HEL **26** 10:14:51.9±0.3, 67.°57N×30.°40E, h0km, ML2.0, ML1.6(UPP), Explosion*
*NAO **26** 10:14:51.0±0.8, 67.°61N×30.°45E, ML2.2*
*BER **26** 10:14:52.5±4.7, 67.°59N×30.°44E, h0km, ML2.2(NAO), Suspected explosion*
*IDC **26** 10:14:54.0±1.6, 67.°62N×30.°09E, h0km, mb1 3.4/5, mb1mx3.2/30, mbtmp3.4/5, ML2.4/5, Error ellipse: s-maj=22.7km s-min=8.0km az=81.0*

ISC 26 10:14:50.8±0.8, 67.°55N±0.°03×30.°49E±0.°04, h0km, n79, σ0.°74/103, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.96**	**86**	Pg	**Pg**	**10 15 09.4**	**+0.1**
	baz=271,slow=16						
APA0				Lg	Lg	10 15 21.6	
	baz=284,slow=28						
APA0				Rg	Rg	10 15 28.0	
APA0	**Apatity Array**	**0.96**	**86**	Pg	**Pg**	**10 15 09.4**	**+0.1**
	baz=271,slow=16						
APA0				Lg	Lg	10 15 21.6	
	baz=284,slow=28						
APA0				Rg	Rg	10 15 28.0	
APA0	**Apatity Array**	**0.96**	**86**	P	**Pg**	**10 15 09.2**	**-0.1**
APA0				S	**Sg**	**10 15 22.0**	**+0.3**
APA0	**Apatity Array**	**0.96**	**86**	Pg	**Pg**	**10 15 09.4**	**+0.1**
APA0				Lg	Lg	10 15 21.6	
	SNR=19						
APA	**Apatity**	**1.12**	**88**	P	**Pg**	**10 15 11.9**	**-0.4**
APA				S	**Sg**	**10 15 26.8**	**0.0**
SGF	**Sodankyl**	**1.53**	**268**	*eP*	**Pn**	**10 15 19.1**	**-0.2**
SGF				*eS*	**Sb**	**10 15 40.0**	**+0.2**
SGF	**Sodankyl**	**1.53**	**268**	P	**Pn**	**10 15 19.1**	**-0.2**
SGF				S	**Sb**	**10 15 40.0**	**+0.2**
KU6	**Riekki**	**1.55**	**189**	*eP*	**Pn**	**10 15 19.9**	**+0.2**
KU6				*eS*	**Sn**	**10 15 40.0**	**-0.5**
KU6	**Riekki**	**1.55**	**189**	P	**Pn**	**10 15 19.8**	**+0.2**
KU6				S	**Sn**	**10 15 39.9**	**-0.5**
MSF	**Maaselka**	**1.75**	**200**	*eP*	**Pn**	**10 15 23.2**	**+0.9**
MSF				*eS*	**Sn**	**10 15 45.8**	**+0.5**
MSF	**Maaselka**	**1.75**	**200**	P	**Pn**	**10 15 23.2**	**+0.9**
MSF				S	**Sn**	**10 15 45.7**	**+0.5**
RNF	**Rovaniemi**	**1.99**	**244**	*eP*	**Pn**	**10 15 26.8**	**+1.0**
RNF				*eS*	**Sb**	**10 15 52.6**	**-0.6**
RNF	**Rovaniemi**	**1.99**	**244**	P	**Pn**	**10 15 26.7**	**+1.0**
RNF				S	**Sb**	**10 15 52.6**	**-0.6**
KEV	**Kevo**	**2.55**	**332**	*eP*	**Pn**	**10 15 34.6**	**+1.2**
KEV				*eSg*	**Sb**	**10 16 08.2**	**-1.1**
KEV	**Kevo**	**2.55**	**332**	*eP*	**Pn**	**10 15 34.4**	**+1.0**
KEV				*eSB*	**Sb**	**10 16 08.6**	**-0.7**
KEV				MSG		10 16 11.2	
	comp=Z,11nm,0.2s						
KEV	**Kevo**	**2.55**	**332**	P	**Pn**	**10 15 34.4**	**+1.0**
KEV				*eSg*	**Sb**	**10 16 08.2**	**-1.1**
	SNR=90						
ARA0	**ARCESS Array S**	**2.71**	**320**	Pn	**Pn**	**10 15 36.1**	**+0.6**
	baz=139,slow=16						
ARA0				Sn	**Sn**	**10 16 08.4**	**-0.5**
	baz=138,slow=28						
ARA0				Lg	Lg	10 16 12.4	
	baz=136,slow=28						
ARA0	**ARCESS Array S**	**2.71**	**320**	Pn	**Pn**	**10 15 36.1**	**+0.6**
	baz=139,slow=16						
ARA0				Sn	**Sn**	**10 16 08.4**	**-0.5**
	baz=138,slow=28						
ARA0				Lg	Lg	10 16 12.4	
	baz=136,slow=28						
ARA0	**ARCESS Array S**	**2.71**	**320**	Pn	**Pn**	**10 15 36.2**	**+0.6**
	SNR=141						
ARA0				Sn	**Sn**	**10 16 08.4**	**-0.5**
	SNR=6.6						
ARA0				Lg	Lg	10 16 12.4	
	SNR=19						
ARCES	**ARCESS Array B**	**2.71**	**320**	Pn	**Pn**	**10 15 36.9**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=134,slow=16,SNR=46						
ARCES				Lg	Lg	10 16 12.8	
	comp=Z,1.7nm,0.3s,baz=135,slow=26,SNR=14						
ARE0	**ARCESS Array S**	**2.71**	**320**	*eP*	**Pn**	**10 15 37.2**	**+1.7**
ARE0	**ARCESS Array S**	**2.71**	**320**	*eP*	**Pn**	**10 15 37.2**	**+1.7**
	SNR=50						
HEF	**Hetta**	**2.71**	**292**	*eP*	**Pn**	**10 15 36.1**	**+0.5**
HEF				*eSg*	**Sb**	**10 16 12.8**	**-1.2**
HEF	**Hetta**	**2.71**	**292**	*eP*	**Pn**	**10 15 36.2**	**+0.5**
HEF				*eSB*	**Sb**	**10 16 12.8**	**-1.2**
HEF				MSG		10 16 14.8	
	comp=Z,5.7nm,0.2s						
HEF	**Hetta**	**2.71**	**292**	*eP*	**Pn**	**10 15 36.1**	**+0.5**
	SNR=50						
HEF				Sb	**Sb**	**10 16 12.7**	**-1.2**
PAJU	**Pajala**	**2.91**	**263**	*eP*	**Pn**	**10 15 38.8**	**+0.5**
PAJU	**Pajala**	**2.91**	**263**	P	**Pn**	**10 15 38.8**	**+0.5**
PAJU	**Pajala**	**2.91**	**263**	P	**Pn**	**10 15 38.8**	**+0.5**
KTK1	**Kautokeino**	**3.07**	**302**	*eP*	**Pn**	**10 15 41.8**	**+1.3**
KTK1	**Kautokeino**	**3.07**	**302**	*eP*	**Pn**	**10 15 41.8**	**+1.3**
	SNR=50						
OUL	**Oulu**	**3.09**	**219**	*eP*	**Pn**	**10 15 41.9**	**+1.1**
OUL	**Oulu**	**3.09**	**219**	P	**Pn**	**10 15 41.9**	**+1.1**
LANU	**Lannavaara**	**3.27**	**283**	*eP*	**Pn**	**10 15 43.5**	**+0.2**
LANU	**Lannavaara**	**3.27**	**283**	P	**Pn**	**10 15 43.5**	**+0.2**
LANU	**Lannavaara**	**3.27**	**283**	P	**Pn**	**10 15 43.5**	**+0.2**
MASU	**Masugnsbyn**	**3.27**	**272**	*eP*	**Pn**	**10 15 43.7**	**+0.5**
MASU	**Masugnsbyn**	**3.27**	**272**	P	**Pn**	**10 15 43.7**	**+0.5**
MASU	**Masugnsbyn**	**3.27**	**272**	P	**Pn**	**10 15 43.7**	**+0.5**
KALU	**Kalix**	**3.30**	**242**	*eP*	**Pn**	**10 15 44.3**	**+0.6**
KALU	**Kalix**	**3.30**	**242**	P	**Pn**	**10 15 44.3**	**+0.6**
ERTU	**Ertsjaerv**	**3.40**	**257**	*eP*	**Pn**	**10 15 46.0**	**+0.9**
ERTU				*eS*	**Sn**	**10 16 27.4**	**+1.4**
ERTU	**Ertsjaerv**	**3.40**	**257**	P	**Pn**	**10 15 45.9**	**+0.9**
ERTU				S	**Sn**	**10 16 27.4**	**+1.4**
ERTU	**Ertsjaerv**	**3.40**	**257**	P	**Pn**	**10 15 46.0**	**+0.9**
ERTU				S	**Sn**	**10 16 27.4**	**+1.4**
KJN	**Kajaani**	**3.66**	**199**	MSG		10 16 42.4	
	comp=Z,1.8nm,0.2s						
DUNU	**Dundret**	**3.86**	**268**	*eP*	**Pn**	**10 15 51.9**	**+0.4**
DUNU	**Dundret**	**3.86**	**268**	P	**Pn**	**10 15 51.8**	**+0.4**
DUNU	**Dundret**	**3.86**	**268**	P	**Pn**	**10 15 51.9**	**+0.4**
KUA	**Kurravaara**	**3.88**	**281**	*eP*	**Pn**	**10 15 52.1**	**+0.4**
KUA	**Kurravaara**	**3.88**	**281**	P	**Pn**	**10 15 52.1**	**+0.4**
KUA	**Kurravaara**	**3.88**	**281**	P	**Pn**	**10 15 52.1**	**+0.4**
HARU	**Harads**	**4.00**	**254**	*eP*	**Pn**	**10 15 53.4**	**0.0**
HARU	**Harads**	**4.00**	**254**	P	**Pn**	**10 15 53.4**	**0.0**
HARU	**Harads**	**4.00**	**254**	P	**Pn**	**10 15 53.4**	**0.0**
SJUU	**Sjulsmark**	**4.10**	**244**	*eP*	**Pn**	**10 15 54.8**	**+0.1**
SJUU	**Sjulsmark**	**4.10**	**244**	P	**Pn**	**10 15 54.8**	**+0.1**
SJUU	**Sjulsmark**	**4.10**	**244**	P	**Pn**	**10 15 54.8**	**+0.1**
SALU	**Saltoluokta**	**4.61**	**273**	*eP*	**Pn**	**10 16 02.7**	**+1.0**
SALU	**Saltoluokta**	**4.61**	**273**	P	**Pn**	**10 16 02.7**	**+1.0**
SALU	**Saltoluokta**	**4.61**	**273**	P	**Pn**	**10 16 02.7**	**+1.0**
BURU	**Burvik**	**4.76**	**235**	*eP*	**Pn**	**10 16 03.9**	**+0.2**
BURU	**Burvik**	**4.76**	**235**	P	**Pn**	**10 16 03.8**	**+0.2**
BURU	**Burvik**	**4.76**	**235**	P	**Pn**	**10 16 03.9**	**+0.2**
LILU	**Lilltraesk**	**4.84**	**247**	*eP*	**Pn**	**10 16 04.0**	**-0.8**
LILU	**Lilltraesk**	**4.84**	**247**	P	**Pn**	**10 16 04.0**	**-0.8**
LILU	**Lilltraesk**	**4.84**	**247**	P	**Pn**	**10 16 04.0**	**-0.8**
SVAU	**Svanoeiden**	**5.40**	**240**	*eP*	**Pn**	**10 16 12.2**	**-0.3**
SVAU	**Svanoeiden**	**5.40**	**240**	P	**Pn**	**10 16 12.2**	**-0.3**
SVAU	**Svanoeiden**	**5.40**	**240**	P	**Pn**	**10 16 12.2**	**-0.3**
UMAU	**Umeaa**	**5.47**	**232**	*eP*	**Pn**	**10 16 13.3**	**-0.1**
UMAU	**Umeaa**	**5.47**	**232**	P	**Pn**	**10 16 13.3**	**-0.1**
UMAU	**Umeaa**	**5.47**	**232**	P	**Pn**	**10 16 13.3**	**-0.1**
FIA0	**FINESS Array S**	**6.42**	**199**	Pn	**Pn**	**10 16 27.4**	**+0.9**
	baz=21,slow=14						
FIA0				Sn	**Sn**	**10 17 39.7**	**-0.7**
	baz=20,slow=22						
FIA0				Lg	Lg	10 18 07.0	
	baz=24,slow=28						
FIA0	**FINESS Array S**	**6.42**	**199**	Pn	**

LNV				*i* S		Sn	11 35 59.1	+1.6
CHCH	**Chadas Angostu**	**2.04**	**25**	*e*P		Pn	11 35 36.7	+0.3
CLCH	**Cerro Calan**	**2.57**	**22**	*e*P		Pn	11 35 43.9	+0.7
CLCH				AML		AML	11 36 36.7	
	comp=N,299nm,0.7s							
PEL	**Peldehue**	**2.77**	**18**	*e*P		Pn	11 35 46.2	+0.4
PEL				*i* S		Sn	11 36 19.0	+0.1
PEL				AML		AML	11 36 23.1	
	comp=N,335nm,0.4s							

IGQ 26 11:35:21±0.1, 0°.68S×79°.07W, h1km±164km, Mb4.1, 11C-26D, Error ellipse: s-maj=1.2km s-min=0.6km az=27.9, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAST	**Pastocalle**	**0.42**	**92**	⇓P	Pb	11 35 31.7	-0.2
CAMI	**Rancho Maria**	**0.56**	**90**	⇓P	Pb	11 35 34.5	+0.3
BNAS	**Cotopaxi Volca**	**0.58**	**89**	⇓P	Pb	11 35 35.0	+0.3
NAS2	**Nasa**	**0.60**	**87**	⇓P	Pb	11 35 34.4	-0.5
BMOR	**Cotopaxi Volca**	**0.61**	**95**	⇑P	Pg	11 35 34.2	+0.8
BREF	**Cotopaxi Volca**	**0.62**	**89**	⇓P	Pb	11 35 35.1	-0.5
MOV1	**Cotopaxi Vol s**	**0.62**	**93**	⇓P	Pg	11 35 34.5	+0.6
PITA	**Cotopaxi Volc**	**0.64**	**79**	⇑P	Pb	11 35 35.9	+0.3
JUA2	**San Juan 2**	**0.65**	**45**	⇓P	Pb	11 35 35.8	0.0
BVC2	**Cotopaxi Volca**	**0.65**	**88**	⇓P	Pb	11 35 35.4	-0.6
VC1	**Cotopaxi 1**	**0.66**	**87**	⇓P	Pb	11 35 35.5	-0.6
BTAM	**Cotopaxi Volca**	**0.67**	**90**	⇓P	Pb	11 35 36.5	+0.3
TERV	**Terraza Guagua**	**0.68**	**43**	⇓P	Pg	11 35 35.2	+0.4
GGP	**Refugio Guagua**	**0.69**	**43**	⇓P	Pg	11 35 35.3	+0.3
PINO	**Pino**	**0.69**	**41**	⇓P	Pg	11 35 35.2	+0.2
TAMB	**Tambo**	**0.70**	**91**	⇓P	Pb	11 35 36.8	+0.2
COV1	**Cotopaxi Volc**	**0.72**	**89**	⇓P	Pg	11 35 35.1	-0.6
YANA	**Yana**	**0.74**	**42**	⇓P	Pb	11 35 36.9	-0.5
PISA	**Pisayambo**	**0.78**	**119**	⇓P	Pg	11 35 37.2	+0.6
GOLV	**Golondrinas**	**0.88**	**355**	⇑P	Pg	11 35 38.1	0.0
IGUA	**Igualata**	**0.91**	**152**	P	Pg	11 35 39.3	+0.1
MAG1	**Magdalena**	**0.93**	**310**	⇓P	Pb	11 35 40.1	+0.2
ANTI	**Antisana**	**0.93**	**76**	⇓P	Pg	11 35 39.4	-0.3
JUI6	**Juive**	**0.95**	**141**	P	Pb	11 35 40.9	+0.2
BIL2	**Estacion Bilba**	**0.95**	**144**	P	Pg	11 35 40.1	+0.4
BBIL	**Ulba Tungurahu**	**0.96**	**143**	⇑S	Sg	11 35 52.1	-0.5
BBIL	**Ulba Tungurahu**	**0.96**	**143**	⇑P	Pb	11 35 40.7	-0.2
RUN5	**Runtun**	**0.97**	**139**	P	Pg	11 35 40.4	+0.3
BRUN	**Tungurahua Vol**	**0.98**	**138**	⇓P	Pg	11 35 40.4	0.0
BRUN	**Tungurahua Vol**	**0.98**	**138**	⇓S	Sg	11 35 53.1	-0.4
RETU	**Refugio**	**0.98**	**141**	⇑S	Sg	11 35 54.2	+0.3
RETU	**Refugio**	**0.98**	**141**	⇑P	Pg	11 35 41.0	+0.4
BULB	**Ulba Tungurahu**	**1.00**	**139**	S	Sg	11 35 54.0	0.0
BULB	**Ulba Tungurahu**	**1.00**	**139**	P	Pb	11 35 41.8	+0.2
BMAS	**Trigal station**	**1.01**	**144**	⇑P	Pb	11 35 41.9	+0.2
BMAS	**Trigal station**	**1.01**	**144**	⇑S	Sb	11 35 55.7	-0.1
ULBA	**Ulba**	**1.01**	**139**	P	Pb	11 35 41.6	-0.1
ARRY	**Arrayan**	**1.02**	**143**	⇑P	Pb	11 35 41.9	-0.1
PAT1	**Patacocha**	**1.03**	**143**	⇑P	Pg	11 35 41.4	-0.1
OTAV	**Otavalo**	**1.10**	**34**	⇓P	Pg	11 35 42.0	-0.7
OTAV	**Otavalo**	**1.10**	**34**	⇓S	Sg	11 35 57.0	-0.3
RIOE	**Riobamba**	**1.15**	**158**	P	Pg	11 35 43.3	-0.3
RIOE	**Riobamba**	**1.15**	**158**	S	Sg	11 35 58.2	-0.6
JAMA	**Jama**	**1.21**	**290**	P	Pg	11 35 43.8	-0.6
COTA	**Cotacachi**	**1.24**	**36**	P	Pg	11 35 45.0	-0.5
ELAGU	**Cayambe Volc**	**1.26**	**59**	P	Pg	11 35 45.7	-0.2
CAYR	**Refugio Cayamb**	**1.26**	**57**	⇓P	Pn	11 35 46.7	+0.1
URCU	**Urcuqui**	**1.37**	**36**	⇑P	Pb	11 35 48.5	+0.4
CONE	**Cono NE Rev Vo**	**1.55**	**67**	⇓P	Pg	11 35 51.7	+0.6
LITE	**Lita**	**1.63**	**25**	P	Pb	11 35 51.9	-0.3
LITE	**Lita**	**1.63**	**25**	S	Sn	11 36 11.5	-1.4
CHIS	**Cerro-Chispas-**	**1.70**	**258**	P	Pn	11 35 50.9	-0.9
MACE	**Macas**	**1.79**	**151**	P	Pg	11 35 55.8	+0.2

*LJU **26** 12:12:06.8, 46°.39N×15°.07E, h0km Rockburst*
CSEM 26 12:12:06.8±99.0, 46°.39N×15°.07E, h0km, Suspected Mining induced., Northwestern Balkan Peninsula

*ISCJB **26** 12:15:43.5±0.7, 33°.54N±0°.04×140°.40E±0°.08, h77km±7km, mb3.4/3, Error ellipse: s-maj=11.6km s-min=6.3km az=177.1*
*JMA **26** 12:15:44.8±0.1, 33°.58N×140°.45E, h53km±3km, M3.0*
*IDC **26** 12:15:49.9±6.4, 33°.95N×140°.28E, h142km±76km, mb3.1/3, mb1 3.2/4, mb1mx2.9/27, mbtmp3.4/4, Error ellipse: s-maj=88.2km s-min=25.6km az=116.0*
ISC 26 12:15:43.8±1.1, 33°.53N±0°.05×140°.46E±0°.08, h69km±11km, n15, σ1§22/24, mb3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.68**	**232**	P	**Pn**	**12 15 58.9**	**+0.5**
JHJ2				S	**Sn**	**12 16 09.1**	**-0.1**
JHCJ	**Hachijojimakas**	**0.72**	**230**	P	**Pn**	**12 15 59.2**	**+0.3**
JHCJ				S	**Sn**	**12 16 09.1**	**-0.8**
BSO1	**Boso 1**	**1.20**	**21**	P	**Pn**	**12 16 04.8**	**+0.5**
BSO3	**Boso 3**	**1.27**	**2**	P	**Pn**	**12 16 06.3**	**+0.9**
BSO3				S	**Sn**	**12 16 22.7**	**+1.1**
JKO	**Kozu shima**	**1.28**	**301**	P	**Pn**	**12 16 06.5**	**+0.7**
JKO				S	**Sn**	**12 16 22.4**	**+0.1**
JNIO	**Niijimaoohara**	**1.28**	**310**	S	**Sn**	**12 16 22.0**	**-0.3**
JIM2	**Oshima 3**	**1.46**	**325**	P	**Pn**	**12 16 08.4**	**+0.2**
JIM2				*e*S	**Sn**	**12 16 25.9**	**-0.6**
BSO4	**Boso 4**	**1.46**	**356**	P	**Pn**	**12 16 09.3**	**+1.2**
JIZS	**Izushimoda**	**1.76**	**313**	P	**Pn**	**12 16 13.2**	**+1.0**
JIZS				S	**Sn**	**12 16 33.9**	**+0.1**
KTJJ	**Kamata 2**	**1.81**	**321**	P	**Pn**	**12 16 13.6**	**+0.8**
KTJJ				S	**Sn**	**12 16 34.3**	**-0.5**
JOD2	**Odawara 2**	**2.06**	**327**	P	**Pn**	**12 16 17.0**	**+0.7**
JOD2				*e*S	**Sn**	**12 16 39.9**	**-1.2**
MJAR	**Matsushiro Arr**	**3.52**	**329**	P	**Pn**	**12 16 38.2**	**+2.0**
	1.5nm,0.3s,baz=157,slow=12,SNR=17						
MJAR				S	**Sn**	**12 17 15.0**	**-1.6**
	baz=140,slow=23,SNR=2.4						
PETK	**Petropavlovsk-**	**23.13**	**27**	P	**P**	**12 20 40.6**	**-3.4**
	2.3nm,0.9s,baz=199,slow=11,SNR=6.5						
WRA	**Warramunga Arr**	**53.49**	**187**	P	**P**	**12 24 58.1**	**+0.9**
	0.3nm,0.4s,baz=5.2,slow=7.7,SNR=5.0						
ASAR	**Alice Springs**	**57.22**	**187**	P	**P**	**12 25 25.3**	**+1.3**
	0.1nm,0.5s,baz=17,slow=13,SNR=4.9						

*IDC **26** 12:22:48.9±0.6, 4°.34N×78°.92W, h0km, mb3.9/14, mb1 4.2/17, mb1mx4.0/34, mbtmp4.0/17, ML4.3/3, MS3.3/5, Ms1 3.3/5, ms1mx2.9/26, Error ellipse: s-maj=29.0km s-min=13.4km az=59.0*
*ISCJB **26** 12:22:51.7±0.4, 4°.14N±0°.04×79°.15W±0°.06, h33km, mb4.0/17, MS3.5/2, Error ellipse: s-maj=8.3km s-min=6.1km az=159.9*
*NEIC **26** 12:22:52.9±0.5, 4°.13N×79°.13W, mb4.5/5, Error ellipse: s-maj=13.5km s-min=8.3km az=60.0*
ISC 26 12:22:53.3±0.6, 4°.19N±0°.05×79°.22W±0°.08, h35km, n30, σ1§44/34, mb4.0/17, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**4.00**	**169**	*e*Pn	**Pn**	**12 23 50.0**	**-2.7**
OTAV				*e*Sn	**Sn**	**12 24 37.1**	**-1.4**
ROSC	**El Rosal**	**4.92**	**82**	Pn	**Pn**	**12 24 05.8**	**+0.7**
	20nm,0.3s,baz=75,slow=23,SNR=13						
ROSC				Sn	**Sn**	**12 25 01.2**	**+0.2**
	11nm,0.3s,baz=106,slow=19,SNR=2.9						
ROSC				LR	LR	12 26 18.2	
	comp=Z,253nm,20.0s,baz=244,slow=45						
BCIP	**Isla Barro Col**	**4.98**	**353**	*e*Pn	**Pn**	**12 24 03.9**	**-1.7**
	35nm,0.4s						
BCIP				*e*Sn	**Sn**	**12 24 59.8**	**-2.2**
JTS	**JuntasAbangare**	**8.31**	**317**	LR	LR	12 27 49.9	
	comp=Z,209nm,21.1s,baz=146,slow=36						
SDV	**Santo Domingo**	**9.72**	**61**	*e*Pn	**Pn**	**12 25 12.2**	**+1.3**
	12nm,0.4s						
ATAH	**Atahualpa**	**11.28**	**176**	Pn	**Pn**	**12 25 33.1**	**+0.6**
	0.7nm,0.3s,baz=334,slow=5.3,SNR=5.3						
ATAH				LR	LR	12 30 19.0	
	comp=Z,76nm,21.1s,baz=2.1,slow=40						
NNA	**Nana**	**16.25**	**172**	Pn	**Pn**	**12 26 38.3**	**-0.8**
	1.6nm,0.3s,baz=343,slow=12,SNR=2.7						
NNA	**Nana**	**16.25**	**172**	Pn	**Pn**	**12 26 38.3**	**-0.8**
	6.6nm,0.8s						
PTGA	**Pitinga**	**19.85**	**104**	P	**P**	**12 27 19.9**	**-1.6**
	1.6nm,0.3s,baz=292,slow=16,SNR=9.7						
SAML	**Samuel**	**20.64**	**129**	*e*P	**P**	**12 27 27.6**	**-2.4**
	10nm,0.9s						
LPAZ	**La Paz**	**23.12**	**152**	P	**P**	**12 27 57.4**	**+0.3**
	2.6nm,0.7s,baz=342,slow=14,SNR=11						
SIV	**San Ignacio**	**26.92**	**139**	P	**P**	**12 28 31.4**	**-0.1**
	2.9nm,0.7s,baz=308,slow=10.0,SNR=5.7						
TXAR	**Lajitas Array**	**34.09**	**320**	P	**P**	**12 29 36.4**	**+1.6**
	1.1nm,1.0s,baz=141,slow=8.1,SNR=9.7						
TXAR				PcP	**PcP**	**12 32 13.2**	**+1.3**
	0.2nm,0.8s,baz=128,slow=4.1,SNR=2.9						
BDFB	**Brasilia**	**36.64**	**123**	LR	LR	12 45 12.9	
	comp=Z,123nm,18.1s,baz=254,slow=37						
CFAA	**Coronel Fontan**	**37.10**	**164**	P	**P**	**12 30 02.2**	**+1.6**
	0.3nm,0.7s,baz=334,slow=5.3,SNR=3.8						
121A	**Cookes Peak, D**	**38.85**	**320**	*e*P	P	12 30 19.2	+3.7
	18nm,0.9s						
121A				*e*pP	pP	12 30 27.0	+1.2
WUAZ	**Wupatki**	**43.05**	**320**	*e*P	**P**	**12 30 51.2**	**+1.2**
	7.2nm,1.1s						
WUAZ				*e*pP	**pP**	**12 31 01.2**	**+0.9**
SRU	**San Rafael Swe**	**44.88**	**325**	*e*P	**P**	**12 31 07.1**	**+2.4**
	5.0nm,0.7s						
PDAR	**Pinedale Array**	**46.92**	**329**	P	**P**	**12 31 22.1**	**+1.3**
	0.6nm,0.6s,baz=115,slow=10.0,SNR=6.2						
PDAR				PcP	**PcP**	**12 32 55.1**	**+2.0**
	0.2nm,0.3s,baz=75,slow=3.8,SNR=2.5						
PDAR				LR	LR	12 52 17.9	
	comp=Z,30nm,20.8s,baz=67,slow=38						
ULM	**Lac du Bonnet**	**48.00**	**346**	P	**P**	**12 31 27.4**	**-1.4**
	2.4nm,0.6s,baz=202,slow=7.2,SNR=3.5						
NVAR	**Mina Array Bea**	**49.23**	**319**	P	**P**	**12 31 40.2**	**+1.4**
	0.7nm,0.6s,baz=139,slow=7.9,SNR=6.3						
NVAR				PcP	**PcP**	**12 33 03.4**	**+1.8**
	0.7nm,0.5s,baz=134,slow=4.2,SNR=5.5						
YKA	**Yellowknife Ar**	**63.78**	**343**	P	**P**	**12 33 21.7**	**+0.2**
	0.9nm,0.7s,baz=133,slow=6.5,SNR=14						
INK	**Inuvik**	**73.51**	**342**	P	**P**	**12 34 22.8**	**+0.7**
	2.5nm,1.0s,baz=153,slow=7.1,SNR=2.3						
ESDC	**Sonseca Array**	**75.99**	**50**	P	**P**	**12 34 37.0**	**-0.1**
	0.5nm,0.6s,baz=275,slow=7.0,SNR=6.0						
ILAR	**Eielson Array**	**76.82**	**336**	P	**P**	**12 34 43.2**	**+1.9**
	1.4nm,1.0s,baz=96,slow=4.8,SNR=12						
TORD	**Torodi Ar. Bea**	**80.22**	**77**	P	**P**	**12 34 59.6**	**-1.4**
	0.4nm,0.6s,baz=272,slow=6.6,SNR=4.3						
NOA	**NORSAR Array B**	**86.57**	**29**	P	**P**	**12 35 33.0**	**+0.1**
	1.1nm,0.8s,baz=276,slow=4.7,SNR=3.2						
GERES	**GERESS Array B**	**88.80**	**41**	P	**P**	**12 35 42.8**	**-1.1**
	0.3nm,0.4s,baz=216,slow=4.3,SNR=6.1						
ASAR	**Alice Springs**	**142.65**	**236**	PKhKP	PKPpre	12 42 19.8	
	0.5nm,0.7s,baz=127,slow=3.5,SNR=7.7						
ASAR				PKP	**PKPdf**	**12 42 22.9**	**-0.8**
	0.5nm,0.7s,baz=121,slow=3.7,SNR=7.8						
WRA	**Warramunga Arr**	**143.76**	**242**	PKP	**PKPdf**	**12 42 26.0**	**+0.3**
	1.8nm,0.8s,baz=108,slow=3.3,SNR=13						

IDC 26 12:51:29.5±8.0, 14°.35S×167°.12E, h101km±82km, mb3.4/4, mb1 3.6/5, mb1mx3.3/36, mbtmp3.8/5, ML3.3/1, Error ellipse: s-maj=67.5km s-min=30.3km az=149.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.71**	**185**	P	Pn	12 53 20.6	+1.4
	0.5nm,0.3s,baz=90,slow=24,SNR=10						
DZM				S	Sn	12 54 42.8	-2.2
	0.3nm,0.3s,baz=93,slow=24,SNR=3.1						
STKA	**Stephens Creek**	**29.13**	**229**	P	P	12 57 22.1	+1.1
	3.2nm,0.7s,baz=32,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**31.78**	**255**	P	P	12 57 43.8	-0.7
	0.4nm,0.8s,baz=84,slow=8.5,SNR=4.1						
ASAR	**Alice Springs**	**32.67**	**248**	P	P	12 57 52.1	-0.2
	0.9nm,0.7s,baz=76,slow=8.9,SNR=18						
ILAR	**Eielson Array**	**86.21**	**18**	P	P	13 03 59.0	-0.2
	0.2nm,0.9s,baz=228,slow=4.7,SNR=3.7						

WEL 26 12:56:42.6±0.2, 36°.92S×177°.55E, h12km, ML3.8/8, 3C-2D, Error ellipse: s-maj=2.0km s-min=1.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.67**	**205**	P*	Pg	12 56 54.4	-1.2
WIZ				S*	Sg	12 57 03.3	-1.2
HAZ	**Te Kaha**	**0.86**	**167**	P*	Pg	12 56 56.7	-2.5
HAZ				S*	Sg	12 57 09.8	-0.6
MXZ	**Matakaoa Point**	**0.89**	**137**	⇑P*	Pg	12 56 57.7	-2.0
MXZ				S*	Sg	12 57 08.9	-2.3
MXZ				AML	AML	12 57 10.0	
MXZ				AML	AML	12 57 30.3	
MXZ				AML	AML	12 57 30.4	
WMGZ	**Waiomatatini S**	**1.13**	**143**	P*	Pb	12 57 03.1	-1.0
OPRZ	**Ohinepanea**	**1.22**	**220**	P*	Pn	12 57 02.9	-2.4
PUZ	**Puketiti**	**1.28**	**154**	PN	Pn	12 57 05.9	-0.5
PUZ				AML	AML	12 57 39.8	
PUZ				AML	AML	12 57 42.9	
TWGZ	**Tauwhareparae**	**1.30**	**165**	*e*PN	Pn	12 57 05.3	-1.4
TGRZ	**Tauranga**	**1.30**	**231**	P*	Pn	12 57 04.7	-1.9
TGRZ				AML	AML	12 57 39.3	
TGRZ				AML	AML	12 57 39.7	
URZ	**Urewera**	**1.38**	**194**	⇓P*	Pn	12 57 05.5	-2.2
URZ				AML	AML	12 57 22.9	
URZ				AML	AML	12 57 24.2	
MWZ	**Matawai**	**1.41**	**181**	P*	Pn	12 57 05.7	-2.5
MWZ				AML	AML	12 57 22.7	
MWZ				AML	AML	12 57 22.7	
MWZ				AML	AML	12 57 30.0	
MWZ				AML	AML	12 57 30.0	
KUZ	**Kuaotunu**	**1.47**	**276**	⇓PN	Pn	12 57 08.0	-0.9
KUZ				AML	AML	12 57 25.5	
KUZ				AML	AML	12 57 25.5	
KUZ				AML	AML	12 57 26.8	
KUZ				AML	AML	12 57 26.9	
TKGZ	**Te Karaka**	**1.54**	**171**	PN	Pn	12 57 09.5	-0.3
RAGZ	**Rawiri**	**1.58**	**184**	P*	Pn	12 57 08.8	-1.7
CNGZ	**Carnagh Statio**	**1.65**	**162**	PN	Pn	12 57 10.7	-0.6
RIGZ	**Rimuhau**	**1.79**	**175**	PN	Pn	12 57 13.4	0.0
GRZ	**Great Barrier**	**1.81**	**291**	PN	Pn	12 57 13.7	+0.2
TOZ	**Tahuroa Road**	**1.82**	**243**	P*	Pn	12 57 12.5	-1.2
MKAZ	**Moumakai**	**1.91**	**264**	PN	Pn	12 57 14.4	-0.6
ETAZ	**East Tamaki Re**	**2.10**	**268**	⇑PN	Pn	12 57 17.7	+0.1
KNZ	**Kokohu**	**2.10**	**177**	PN	Pn	12 57 17.0	-0.5
TLZ	**Tolley Road**	**2.13**	**228**	P*	Pn	12 57 16.8	-1.2
KBAZ	**Karaka Road Bo**	**2.13**	**264**	PN	Pn	12 57 18.3	+0.3
ABAZ	**Army Bay**	**2.20**	**277**	PN	Pn	12 57 19.3	+0.3
ABAZ				SN	Sn	12 57 42.9	-3.2
WTAZ	**Waiatarua**	**2.38**	**269**	PN	Pn	12 57 22.0	+0.6
RVAZ	**Riverhead Bore**	**2.38**	**273**	⇑PN	Pn	12 57 22.1	+0.7
BKZ	**Black Stump Fm**	**2.39**	**200**	P*	Pn	12 57 20.0	-1.6
BKZ				AML	AML	12 57 54.0	
BKZ				AML	AML	12 58 03.4	
HIZ	**Hauiti**	**2.66**	**232**	PN	Pn	12 57 24.7	-0.6
WCZ	**Waipu Caves**	**2.76**	**290**	PN	Pn	12 57 27.2	+0.6
BHHZ	**Black Hill Sta**	**2.82**	**204**	P*	Pn	12 57 26.4	-1.2
WNVZ	**Wahianoa**	**2.85**	**212**	*e*P*	Pn	12 57 28.4	+0.3
MRZ	**Mangatainoka R**	**4.04**	**202**	AML	AML	12 57 34.4	
MRZ				PN	Pn	12 57 42.2	-2.0
MRZ				AML	AML	12 58 03.7	

IDC 26 13:17:46.9±44.0, 18°.08S×174°.73W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.6/31, mbtmp4.2/3, Error ellipse: s-maj=825.5km s-min=170.1km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.63**	**242**	P	P	13 25 37.5	+0.4
	1.0nm,0.9s,baz=60,slow=9.5,SNR=3.5						
WRA	**Warramunga Arr**	**48.04**	**259**	P	P	13 26 28.0	-0.3
	1.3nm,0.4s,baz=97,slow=7.3,SNR=53						
ASAR	**Alice Springs**	**48.11**	**254**	P	P	13 26 28.6	-0.3
	5.6nm,0.5s,baz=91,slow=8.1,SNR=188						

KRSC 26 13:47:32.2±1.2, 51°.18N×158°.28E, h59km±20km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.96**	**288**	*e*P	Pn	13 47 51.6	+1.9
PAU				*e*S	Sn	13 48 02.9	+0.2
ASAK	**Asacha**	**1.23**	**349**	*e*P	Pn	13 47 55.4	+2.0
ASAK				*e*S	Sn	13 48 11.0	+1.8
RUS	**Russkaya**	**1.27**	**7**	*e*P	Pn	13 47 55.1	+1.3
RUS				*e*S	Sn	13 48 11.0	+1.2
MTVR	**Mutnovka**	**1.31**	**358**	*e*P	Pn	13 47 56.5	+1.9
MTVR				*e*S	Sn	13 48 13.1	+1.9
SKR	**Severo-Kuril's**	**1.45**	**251**	*e*P	Pn	13 47 57.6	+1.4
SKR				*e*S	Sn	13 48 14.9	+0.7
PET	**Petropavlovsk**	**1.87**	**7**	*e*P	Pn	13 48 04.1	+2.3
PET				*e*S	Sn	13 48 26.6	+2.3
APC	**Apacha**	**1.88**	**339**	*e*P	Pn	13 48 04.9	+2.9
APC				*e*S	Sn	13 48 27.0	+2.3
UGLR	**Uglovaya**	**2.06**	**9**	*e*P	Pn	13 48 07.4	+2.7
UGLR				*e*S	Sn	13 48 31.3	+1.9
AVH	**Avacha**	**2.11**	**8**	*e*P	Pn	13 48 08.5	+3.2
AVH				*e*S	Sn	13 48 33.1	+2.6
SMAR	**Somma**	**2.12**	**9**	*e*P	Pn	13 48 08.9	+3.4
KOK	**Koryaka**	**2.13**	**6**	*e*P	Pn	13 48 08.8	+3.2
SDLR	**Sedlovina**	**2.14**	**10**	*e*P	Pn	13 48 08.5	+2.8
SDLR				*e*S	Sn	13 48 33.5	+2.3
KRER	**Koryakskii**	**2.15**	**8**	*e*P	Pn	13 48 08.8	+2.8
KRER				*e*S	Sn	13 48 33.8	+2.1
KRX	**Arik**	**2.20**	**6**	*e*P	Pn	13 48 09.6	+3.0
KRX				*e*S	Sn	13 48 35.2	+2.4
SPN	**Mys Shipunski**	**2.21**	**29**	*e*P	Pn	13 48 08.9	+2.5
SPN				*e*S	Sn	13 48 34.0	+1.4
GNL	**Ganaly**	**2.53**	**355**	*e*P	Pn	13 48 14.1	+3.0
MKZ	**Mys Kozlova**	**3.98**	**30**	*e*P	Pn	13 48 32.2	+1.6
KBTR	**Krutoberegovo**	**5.72**	**26**	*e*P	Pn	13 48 57.3	+2.9

*IDC **26** 13:47:40.2±5.1, 1°.50S×101°.42E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/49, mbtmp3.7/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/26, Error ellipse: s-maj=214.2km s-min=83.6km az=49.0*
*ISCJB **26** 13:47:44.4±0.6, 2°.34S±0°.07×100°.58E±0°.05, h50km, mb3.7/3, MS3.3/2, Error ellipse: s-maj=10.9km s-min=6.1km az=30.7*
*DJA **26** 13:47:44.7±0.5, 3°.S±4°.×10°.0E±°, h80km±8km, M4.0/8, mb4.2/1, MLv3.8/8*
ISC 26 13:47:46.0±1.0, 2°.48S±0°.06×100°.44E±0°.06, h50km, n18, σ1§97/14, mb3.7/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPSI	**Pulau Pagai**	**0.51**	**237**	P	**Pn**	**13 47 58.1**	**+0.7**
PPSI				S	**Sn**	**13 48 09.1**	**+3.5**
SISI	**Saibi**	**1.77**	**310**	P	**Pn**	**13 48 13.4**	**-0.8**
SISI				S	**Sn**	**13 48 35.3**	**-0.2**
BKNI	**Bangkinang**	**2.85**	**12**	S	**Sn**	**13 49 06.7**	**+4.6**
MNAI	**Manna**	**3.13**	**127**	P	**Pn**	**13 48 32.8**	**-0.1**
LHSI	**Lahat**	**3.36**	**114**	P	**Pn**	**13 48 36.1**	**+0.1**
MNSI	**Mandailing Nat**	**3.36**	**345**	P	**Pn**	**13 48 36.3**	**+0.2**
MDSI	**Maura Dua**	**4.23**	**118**	P	**Pn**	**13 48 47.9**	**-0.1**
GSI	**Gunungsitoli**	**4.72**	**323**	P	**Pn**	**13 48 52.9**	**-1.9**
KASI	**Kota Agung**	**5.05**	**127**	P	**Pn**	**13 48 58.7**	**-0.5**
PALK	**Pallekele**	**21.95**	**296**	LR	LR	14 00 59.6	
	comp=Z,28nm,18.3s,baz=270,slow=36						
H08S2	**Diego Garcia H**	**28.30**	**259**	T	T	14 22 45.1	
	baz=81,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**28.30**	**259**	T	T	14 22 40.7	
	baz=81,slow=76,SNR=10						
H08S1	**Diego Carcia H**	**28.32**	**259**	T	T	14 22 41.3	
	baz=81,slow=76,SNR=11						
WRA	**Warramunga Arr**	**37.37**	**120**	P	**P**	**13 54 52.4**	**-1.9**
	0.6nm,0.6s,baz=300,slow=9.2,SNR=6.2						
ASAR	**Alice Springs**	**38.62**	**126**	P	**P**	**13 55 03.8**	**-0.9**
	0.5nm,0.7s,baz=302,slow=7.9,SNR=23						
STKA	**Stephens Creek**	**48.51**	**132**	P	**P**	**13 56 23.8**	**-0.3**
	1.4nm,0.7s,baz=303,slow=8.2,SNR=5.1						
MAW	**Mawson**	**69.93**	**194**	LR	LR	14 25 53.3	
	comp=Z,57nm,18.3s,baz=190,slow=32						
TXAR	**Lajitas Array**	**144.81**	**38**	PKP	PKPbc	14 07 17.4	+0.1
	0.6nm,0.7s,baz=295,slow=1.2,SNR=7.4						

*IDC **26** 13:50:18.2±1.1, 36°.13N×21°.35E, h0km, mb3.6/7, mb1 3.7/11, mb1mx3.5/45, mbtmp3.6/11

LTK	Loutraki	2.39	33	P	Pn	13 51 00.1	+1.5	
LTK	Loutraki	2.39	33	*e*PN	Pn	13 51 00.1	+1.5	
LTK	Loutraki	2.39	33	P	Pn	13 51 00.1	+1.5	
EFP	Efpalio	2.45	10	*e*PN	Pn	13 51 01.6	+2.2	
EFP	Efpalio	2.45	10	*e*PN	Pn	13 51 01.6	+2.2	
NAIG	Nisos Aigina	2.45	44	*e*PB	Pb	13 51 01.6	-2.3	
NAIG	Nisos Aigina	2.45	44	*e*Pb	Pb	13 51 01.6	-2.3	
KALE	Kalithea	2.45	15	*e*PB	Pb	13 51 02.3	-1.8	
KALE	Kalithea	2.45	15	*e*Pb	Pb	13 51 02.3	-1.8	
MHLO	Agia Marina, M	2.56	74	*e*PN	Pn	13 51 02.1	+1.1	
MHLO	Agia Marina, M	2.56	74	*e*Pn	Pn	13 51 02.1	+1.1	
DSF	Desfina	2.57	21	*e*PN	Pn	13 51 02.8	+1.6	
DSF	Desfina	2.57	21	*e*Pn	Pn	13 51 02.8	+1.6	
PDO	Prodromos	2.58	357	*e*PN	Pn	13 51 03.7	+2.5	
PDO	Prodromos	2.58	357	*e*Pn	Pn	13 51 03.7	+2.5	
VILL	Villia	2.66	36	*e*Pn	Pn	13 51 03.7	+1.3	
VIL2	Platees	2.68	35	*e*PN	Pn	13 51 03.7	+1.1	
ATH	Athens Observa	2.73	44	*e*PN	Pn	13 51 04.4	+1.2	
ATH	Athens Observa	2.73	44	*e*Pn	Pn	13 51 04.4	+1.2	
EVR	Evrytania	2.92	7	*e*PN	Pn	13 51 08.3	+2.3	
EVR	Evrytania	2.92	7	*e*Pn	Pn	13 51 08.3	+2.3	
LKR	Lokris	2.94	26	*e*PN	Pn	13 51 07.5	+1.3	
LKR	Lokris	2.94	26	*e*Pn	Pn	13 51 07.5	+1.3	
IDI	Anoyia	2.98	103	Pn	Pn	13 51 08.8	+1.9	
	1.1nm,0.3s,baz=307,slow=20,SNR=7.9							
IDI				Sn	Sb	13 51 45.0	-4.0	
	4.4nm,0.3s,baz=306,slow=23,SNR=7.0							
MAKR	Makrakomi, Fth	3.06	12	*e*PN	Pn	13 51 10.5	+2.7	
MAKR	Makrakomi, Fth	3.06	12	*e*Pn	Pn	13 51 10.5	+2.7	
AGG	Agios Georgios	3.10	14	*e*PN	Pn	13 51 10.7	+2.3	
AGG	Agios Georgios	3.10	14	*e*Pn	Pn	13 51 10.7	+2.3	
DSL	Palaion Diasel	3.12	357	*e*PN	Pn	13 51 11.0	+2.3	
DSL	Palaion Diasel	3.12	357	*e*Pn	Pn	13 51 11.0	+2.3	
EREA	Eretria	3.17	40	*e*PN	Pn	13 51 09.8	+0.5	
EREA	Eretria	3.17	40	*e*Pn	Pn	13 51 09.8	+0.5	
LAST	Lasithi	3.48	103	*e*PN	Pn	13 51 15.9	+2.2	
LAST	Lasithi	3.48	103	*e*Pn	Pn	13 51 15.9	+2.2	
THL	Klokotos Trika	3.58	8	*e*PN	Pn	13 51 16.8	+1.8	
THL	Klokotos Trika	3.58	8	*e*Pn	Pn	13 51 16.8	+1.8	
SGD	Sagiada	3.69	347	*e*PN	Pn	13 51 17.4	+0.9	
SGD	Sagiada	3.69	347	*e*Pn	Pn	13 51 17.4	+0.9	
BARS	Barje	6.80	3	*e*Pn	Pn	13 51 59.2	0.0	
STON	Ston	7.40	339	*e*Pn	Pn	13 52 04.5	-2.9	
STON				Sn	Sn	13 53 23.6	-7.1	
UDBI	Udbina	9.51	335	*i* Pn	Pn	13 52 36.8	+0.4	
UDBI				Sn	Sn	13 54 16.9	-5.7	
BRTR	Keskin Array B	10.40	65	Pn	Pn	13 52 51.2	+2.5	
	0.1nm,0.3s,baz=241,slow=15,SNR=2.5							
MMAI	Mount Meron Ar	11.98	100	Pn	Pn	13 53 09.1	-1.2	
	1.0nm,0.3s,baz=279,slow=11,SNR=4.4							
KBZ	Khabaz	18.22	58	P	P	13 54 33.6	+1.3	
	0.2nm,0.3s,baz=225,slow=10.0,SNR=3.0							
GNI	Garni	18.86	70	LR	LR	14 02 40.7		
	comp=Z,36nm,19.0s,baz=264,slow=40							
ESDC	Sonseca Array	20.29	288	P	Pn	13 54 56.5	-0.7	
	0.9nm,0.6s,baz=92,slow=3,SNR=4.5							
HFS	Hagfors	24.63	351	P	P	13 55 38.8	-0.7	
	1.9nm,0.8s,baz=161,slow=14,SNR=6.9							
FINES	FINESS Array B	25.62	5	P	P	13 55 47.5	-0.9	
	1.2nm,0.8s,baz=178,slow=11,SNR=4.7							
NOA	NORSAR Array B	25.86	349	P	P	13 55 50.9	+0.2	
	0.3nm,0.5s,baz=150,slow=9.7,SNR=2.6							
TORD	Torodi Ar. Bea	28.83	223	P	P	13 56 18.9	+1.3	
	0.6nm,1.0s,baz=32,slow=8.5,SNR=2.7							
GEYT	Alibeck	29.33	75	P	P	13 56 21.2	-0.7	
	0.6nm,0.3s,baz=252,slow=7.4,SNR=2.3							
AAK	Ala-Archa	41.08	64	LR	LR	14 15 47.5		
	comp=Z,19nm,20.9s,baz=174,slow=37							
ZALV	Zalesovo Beam	46.67	47	P	P	13 58 47.1	-0.5	
	0.6nm,0.3s,baz=265,slow=8.5,SNR=3.8							

WEL 26 13:51:40.9±0.3, 38°.68S×175°.45E, h172km±2km, ML4.5/21, 16C-12D, Error ellipse: s-maj=1.3km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WATZ	Wairara	0.22	97	⇓PN	Pn	13 52 03.9	0.0
WATZ				SN	Sn	13 52 21.7	+0.2
RATZ	Rangitukua	0.31	127	⇓PN	Pn	13 52 03.8	-0.3
KUTZ	Kaahu Road	0.35	57	⇓PN	Pn	13 52 04.3	+0.1
TLZ	Tolley Road	0.36	11	PN	Pn	13 52 04.1	-0.2
TWVZ	Taurewa	0.39	181	⇓PN	Pn	13 52 04.2	-0.3
RITZ	Rihia Road	0.44	133	PN	Pn	13 52 04.5	0.0
KRVZ	Karewarewa	0.44	160	PN	Pn	13 52 04.4	-0.2
KRVZ				SN	Sn	13 52 23.0	0.0
WTVZ	West Tongariro	0.45	166	⇓PN	Pn	13 52 04.5	-0.1
HIZ	Hauiti	0.49	290	⇑PN	Pn	13 52 04.5	-0.2
HIZ				SN	Sn	13 52 22.4	-0.6
NGZ	Ngauruhoe	0.51	167	⇓PN	Pn	13 52 04.8	-0.1
NGZ				SN	Sn	13 52 23.3	-0.3
OTVZ	Oturere	0.51	161	PN	Pn	13 52 04.9	-0.1
COVZ	Chateau Observ	0.52	172	PN	Pn	13 52 04.8	-0.2
COVZ				SN	Sn	13 52 22.5	-1.2
WPVZ	Whakapapa	0.53	172	PN	Pn	13 52 04.8	-0.2
HATZ	Hinemaiaia	0.55	113	PN	Pn	13 52 04.6	-0.4
FWVZ	Far West T-bar	0.58	172	⇓PN	Pn	13 52 05.1	-0.3
WPRZ	Whakapapataran	0.58	74	PN	Pn	13 52 04.9	-0.3
TUVZ	Tukino	0.61	165	PN	Pn	13 52 05.4	0.0
WHVZ	Whangaehu Hut	0.61	170	PN	Pn	13 52 05.5	0.0
PKVZ	Pokaka	0.61	187	⇓PN	Pn	13 52 05.1	-0.2
TRVZ	Turoa	0.62	173	PN	Pn	13 52 05.4	-0.2
WNVZ	Wahianoa	0.66	170	⇑PN	Pn	13 52 05.7	0.0
VRZ	Vera Road	0.70	230	PN	Pn	13 52 05.5	-0.3
MTVZ	Mangateitei	0.70	179	PN	Pn	13 52 05.7	-0.1
ALRZ	Allen Road	0.71	81	PN	Pn	13 52 05.4	-0.4
MOVZ	Moawhango	0.76	162	PN	Pn	13 52 05.8	-0.4
RRRZ	Republican Roa	0.90	68	⇓PN	Pn	13 52 06.9	-0.2
BHHZ	Black Hill Sta	0.94	150	⇑PN	Pn	13 52 07.1	-0.3
BKZ	Black Stump Fm	0.95	121	PN	Pn	13 52 07.2	-0.2
BKZ				AML	AML	13 52 27.5	
BKZ				AML	AML	13 52 33.9	
TOZ	Tahuroa Road	0.95	3	PN	Pn	13 52 07.5	+0.1
MHEZ	Mangahewa	0.96	245	PN	Pn	13 52 07.5	0.0
KWHZ	Kaweka Forest	1.06	135	PN	Pn	13 52 08.6	+0.3
DREZ	Durham Road	1.10	242	PN	Pn	13 52 08.5	0.0
LREZ	Lake Rotokare	1.13	226	PN	Pn	13 52 08.9	+0.2
WAZ	Wanganui	1.13	198	⇑PN	Pn	13 52 08.7	-0.1
NMHZ	Naumai	1.14	112	PN	Pn	13 52 09.7	+0.7
TGRZ	Tauranga	1.14	34	PN	Pn	13 52 09.0	0.0
KRHZ	Kereru	1.20	146	⇑PN	Pn	13 52 09.5	+0.1
PREZ	Palmer Road	1.20	296	PN	Pn	13 52 09.5	0.0
OPRZ	Ohinepanea	1.21	47	PN	Pn	13 52 09.1	-0.3
NEZ	North Egmont	1.21	240	PN	Pn	13 52 09.6	0.0
MCHZ	McNeill Hill	1.23	128	⇑PN	Pn	13 52 10.5	+0.8
KHEZ	Kahui Hut	1.27	241	PN	Pn	13 52 10.0	-0.1
RAHZ	Arahi	1.30	101	PN	Pn	13 52 10.8	+0.5
PNHZ	Pukenui	1.36	155	⇑PN	Pn	13 52 10.8	-0.2
URZ	Urewera	1.37	73	PN	Pn	13 52 10.2	-0.7
URZ				AML	AML	13 52 33.2	
URZ				AML	AML	13 52 33.5	
TSZ	Takapari Road	1.43	164	PN	Pn	13 52 11.3	-0.3
TSZ				AML	AML	13 52 34.9	
TSZ				AML	AML	13 52 37.6	
WHHZ	Waihua	1.45	106	PN	Pn	13 52 12.1	+0.4
SNGZ	Shannon Statio	1.48	94	⇑PN	Pn	13 52 12.3	+0.3
RAGZ	Rawiri	1.55	84	PN	Pn	13 52 12.7	-0.1
MKAZ	Moumakai	1.58	352	PN	Pn	13 52 13.2	+0.2
MWZ	Matawai	1.67	79	⇓PN	Pn	13 52 13.5	-0.4
MWZ				AML	AML	13 52 39.9	
MWZ				AML	AML	13 52 39.9	
MWZ				AML	AML	13 52 40.9	
MWZ				AML	AML	13 52 41.0	
DVHZ	Dannevirke	1.71	161	PN	Pn	13 52 13.6	-0.7
POWZ	Post Office Ro	1.73	172	PN	Pn	13 52 13.5	-0.9
PXZ	Pawanui	1.74	141	PN	Pn	13 52 14.4	-0.2
PXZ				AML	AML	13 52 42.7	
PXZ				AML	AML	13 52 42.7	
PXZ				AML	AML	13 52 42.8	
PXZ				AML	AML	13 52 42.8	
KNZ	Kokohu	1.77	102	PN	Pn	13 52 14.8	-0.1
ETAZ	East Tamaki Re	1.77	346	⇓PN	Pn	13 52 15.2	+0.2
RIGZ	Rimuhau	1.81	91	PN	Pn	13 52 15.5	+0.1
TKGZ	Te Karaka	1.90	83	⇑PN	Pn	13 52 16.5	+0.2
PRWZ	Pori Road	1.92	168	⇑PN	Pn	13 52 15.9	-0.6
PRGZ	Paritu Road	1.92	98	PN	Pn	13 52 16.4	-0.1
KUZ	Kuaotunu	1.94	6	PN	Pn	13 52 16.7	-0.1
ANWZ	Angora Road	1.95	156	⇑PN	Pn	13 52 16.5	-0.3
MRZ	Mangatainoka R	1.98	177	PN	Pn	13 52 16.0	-1.2
MRZ				AML	AML	13 52 41.6	
MRZ				AML	AML	13 52 41.8	
TWGZ	Tauwhareparae	2.05	77	PN	Pn	13 52 18.1	+0.1
HAZ	Te Kaha	2.06	64	⇓PN	Pn	13 52 16.9	-1.1
BFZ	Birch Farm	2.09	163	PN	Pn	13 52 17.5	-0.9
TIWZ	Tintock	2.12	171	PN	Pn	13 52 17.7	-1.1
TIWZ				AML	AML	13 52 47.8	
TIWZ				AML	AML	13 52 54.0	
OGWZ	Otaki Gorge	2.15	186	⇑PN	Pn	13 52 17.9	-1.1
CNGZ	Carnagh Statio	2.17	86	PN	Pn	13 52 19.5	+0.2
HOWZ	Holdsworth Sta	2.21	179	⇑PN	Pn	13 52 18.4	-1.4
KIW	Kapiti Island	2.22	191	PN	Pn	13 52 18.3	-1.5
KIW				AML	AML	13 52 46.2	
KIW				AML	AML	13 52 48.2	
PUZ	Puketiti	2.29	75	⇑PN	Pn	13 52 20.1	-0.6
PUZ				AML	AML	13 52 50.0	
PUZ				AML	AML	13 52 50.9	
CPWZ	Castlepoint	2.30	166	⇑PN	Pn	13 52 20.2	-0.6
DUWZ	D'Urville Isla	2.42	209	PN	Pn	13 52 20.5	-1.8
CAW	Cannon Point	2.44	187	PN	Pn	13 52 20.8	-1.6
CAW				AML	AML	13 52 52.2	
CAW				AML	AML	13 52 53.5	
TMWZ	Te Maipa	2.45	172	PN	Pn	13 52 21.0	-1.5
MTW	Mount Morrison	2.48	179	PN	Pn	13 52 21.1	-1.7
MTW				AML	AML	13 52 53.5	
MTW				AML	AML	13 52 53.8	
WMGZ	Waiomatatini S	2.49	71	PN	Pn	13 52 22.3	-0.7
MXZ	Matakaoa Point	2.51	65	PN	Pn	13 52 23.2	-0.1
MXZ				AML	AML	13 52 56.8	
MXZ				AML	AML	13 52 56.8	
MXZ				AML	AML	13 52 57.3	
MXZ				AML	AML	13 52 57.3	
WELZ	Wellington	2.65	191	PN	Pn	13 52 23.0	-1.9
WEL				AML	AML	13 52 56.5	
WEL				AML	AML	13 52 57.2	
TCW	Tory Channel	2.69	199	PN	Pn	13 52 23.5	-1.8
TCW				AML	AML	13 52 57.4	
TCW				AML	AML	13 52 57.9	
PAWZ	Paruwai Farm	2.70	180	⇑PN	Pn	13 52 23.6	-1.9
PAWZ				AML	AML	13 52 58.1	
PAWZ				AML	AML	13 53 00.0	
TRWZ	Traveller	2.72	176	PN	Pn	13 52 24.0	-1.8
TRWZ				AML	AML	13 52 59.0	
TRWZ				AML	AML	13 52 59.2	
MSWZ	Moikau Station	2.73	183	PN	Pn	13 52 23.9	-2.0
MSWZ				AML	AML	13 52 58.5	
MSWZ				AML	AML	13 52 59.6	
BHW	Baring Head	2.76	189	PN	Pn	13 52 24.2	-1.9
BHW				AML	AML	13 52 58.2	
BHW				AML	AML	13 52 58.5	
PLWZ	Palliser	2.89	183	PN	Pn	13 52 25.6	-2.2
TUWZ	Tuamarina	2.98	202	PN	Pn	13 52 26.6	-2.2
TUWZ				AML	AML	13 53 03.6	
TUWZ				AML	AML	13 53 03.8	
QRZ	Quartz Range	3.11	225	PN	Pn	13 52 27.6	-2.9
BSWZ	Blackbirch Sta	3.26	201	PN	Pn	13 52 30.3	-2.1
BSWZ				AML	AML	13 53 10.6	
BSWZ				AML	AML	13 53 10.7	
THZ	Tophouse	3.64	212	*e*PN	Pn	13 52 34.6	-2.7
KHZ	Kahutara	4.01	201	PN	Pn	13 52 39.5	-2.3
KHZ				AML	AML	13 53 25.6	
KHZ				AML	AML	13 53 25.8	
LTZ	Lake Taylor	4.76	210	PN	Pn	13 52 47.5	-4.1
OXZ	Oxford	5.31	208	PN	Pn	13 52 54.3	-4.4
MQZ	McQueen's Vall	5.45	202	PN	Pn	13 52 56.1	-4.3
WVZ	Waitaha Valley	5.66	218	PN	Pn	13 53 00.3	-2.9
RPZ	Rata Peaks	6.02	212	PN	Pn	13 53 04.9	-3.2
FOZ	Fox Glacier	6.53	220	PN	Pn	13 53 10.4	-4.4
LBZ	Lake Benmore	6.93	213	PN	Pn	13 53 16.6	-3.5

*IDC **26** 13:59:51.5±0.8, 55°.46S×29°.67W, h0km, mb4.3/8, mb1 4.4/9, mb1mx4.1/20, mbtmp4.3/9, ML3.4/1, MS3.5/4, Ms1 3.5/4, ms1mx3.2/16, Error ellipse: s-maj=24.8km s-min=19.0km az=64.0*
*ISCJB **26** 13:59:54.1±0.6, 55°.44S±0°.10×29°.6W±0°.2, h28km, mb4.3/8, MS3.5/3, Error ellipse: s-maj=19.5km s-min=12.0km az=154.5*

ISC 26 13:59:55.6±0.7, 55°.5S±0°.1×29°.7W±0°.2, h28km, n22, σ1§45/13, mb4.3/8, MS3.5/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	17.89	157	P	P	14 04 04.8	+2.4
VNA2	Neumayer--Watz	18.29	157	P	Pn	14 04 07.1	+0.2
	baz=320,slow=13						
PMSA	Palmer Station	19.23	227	LR	LR	14 10 07.6	
	comp=Z,140nm,19.5s,baz=73,slow=32						
SNAA	Sanae	19.87	155	P	P	14 04 20.9	-3.4
SNAA	Sanae	19.87	155	P	P	14 04 23.7	-0.5
	0.1nm,0.3s,baz=306,slow=10,SNR=33						
QSPA	South Pole Qui	34.79	180	P	P	14 06 43.4	-0.1
	18nm,1.1s,baz=199,slow=2.4,SNR=54						
CPUP	Villa Florida	35.37	314	P	P	14 06 47.2	-1.3
	1.9nm,0.8s,baz=135,slow=5.7,SNR=3.7						
CPUP				LR	LR	14 19 24.6	
	comp=Z,49nm,19.4s,baz=195,slow=33						
LVC	Limon Verde	43.78	302	P	P	14 08 00.0	+1.1
	17nm,0.7s,baz=170,slow=6.3,SNR=3.6						
VNDA	Vanda	47.09	183	P	P	14 08 24.5	+0.3
	2.6nm,1.0s,baz=181,slow=6.5,SNR=7.1						
BOSA	Boshof	47.23	79	LR	LR	14 23 57.9	
	comp=Z,60nm,20.8s,baz=144,slow=31						
H10S2	ASCENSION HYDR	47.89	20	T	T	15 00 16.8	
	baz=191,slow=75,SNR=15						
H10S3	ASCENSION HYDR	47.90	20	T	T	15 00 17.1	
	baz=191,slow=75,SNR=12						
H10S1	ASCENSION HYDR	47.91	20	T	T	15 00 18.1	
	baz=191,slow=75,SNR=13						
LPAZ	La Paz	48.88	308	P	P	14 08 40.1	+0.6
	2.1nm,0.6s,baz=172,slow=7.7,SNR=5.4						
H10N1	ASCENSION HYDR	49.01	20	T	T	15 01 40.9	
	baz=191,slow=75,SNR=9.8						
H10N3	ASCENSION HYDR	49.01	20	T	T	15 01 38.2	
	baz=191,slow=75,SNR=15						
H10N2	ASCENSION HYDR	49.02	20	T	T	15 01 41.1	
	baz=191,slow=75,SNR=14						
LBTB	Lobatse	50.22	76	P	P	14 08 48.8	-0.3
	2.3nm,0.6s,baz=215,slow=13,SNR=7.5						
TSUM	Tsumeb	50.67	64	P	P	14 08 52.8	+0.2
	0.7nm,0.3s,baz=25,slow=6.4,SNR=3.0						
TORD	Torodi Ar. Bea	73.28	32	P	P	14 11 24.8	+0.6
	1.3nm,0.8s,baz=204,slow=5.1,SNR=5.1						
STKA	Stephens Creek	92.69	173	LR	LR	14 51 23.2	
	comp=Z,32nm,20.9s,baz=200,slow=33						
ILAR	Eisson Array	148.67	313	PKPbc	PKPbc	14 19 38.1	-0.4
	1.5nm,0.8s,baz=122,slow=1.5,SNR=16						

*NEIC **26** 14:08:09.0, 6°.09S×78°.82W, h36km, ML4.0(ARE), After ARE.*
NEIC Felt [II] at Chiple.
*ISCJB **26** 14:08:10.9±1.1, 5°.91S±0°.09×78°.4W±0°.1, h33km, mb3.5/4, Error ellipse: s-maj=21.8km s-min=11.1km az=157.4*
*IDC **26** 14:08:13.4±2.3, 5°.31S×78°.82W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/26, mbtmp3.5/5, ML3.9/1, Error ellipse: s-maj=101.8km s-min=29.6km az=38.0*

ISC 26 14:08:12.5±1.2, 6°.0S±0°.1×78°.3W±0°.2, h35km, n11, σ1§35/8, mb3.5/4, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	Nana	6.16	166	*e*Pn	Pn	14 09 36.7	-4.4
	19nm,0.5s						
OTAV	Otavalo	6.16	359	*e*Pn	Pn	14 09 40.4	-1.1
	20nm,0.8s						
OTAV				*e*Sn	Sn	14 10 51.4	+0.4
LPAZ	La Paz	14.32	137	Pn	P	14 11 48.3	+8.2
	0.2nm,0.3s,baz=227,slow=7.0,SNR=4.0						
LPAZ	La Paz	14.32	137	Pn	Pn	14 11 32.6	-0.7
	1.9nm,0.7s						
SAML	Samuel	15.30	102	*e*Pn	Pn	14 11 48.1	+2.1
SDV	Santo Domingo	16.63	28	Pn	Pn	14 12 02.0	-1.2
TXAR	Lajitas Array	42.73	327	P	P	14 16 07.7	+1.2
	0.2nm,0.5s,baz=146,slow=7.2,SNR=3.2						
NVAR	Mina Array Bea	57.68	323	P	P	14 17 60.0	+0.1
	0.9nm,0.7s,baz=130,slow=7.2,SNR=8.4						
YKA	Yellowknife Ar	73.69	343	P	P	14 19 42.4	+0.1
	0.3nm,0.6s,baz=144,slow=5.9,SNR=6.7						
TORD	Torodi Ar. Bea	81.68	76	P	P	14 20 36.8	+8.9
	0.3nm,0.7s,baz=282,slow=6.8,SNR=2.6						
WRA	Warramunga Arr	138.83	230	PKP	PKPdf	14 27 42.6	+6.6
	0.2nm,0.6s,baz=128,slow=1.6,SNR=6.5						

NNC 26 14:23:52.8±3.9, 36°.65N×69°.66E, h0km, mb3.5, mpv3.1, 3C-3D, Error ellipse: s-maj=31.3km s-min=17.3km az=18.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	Dzherino	2.25	343	⇑PN	Pn	14 24 31.4	-0.1
	3.9nm,0.3s						
DZET				⇑Sn	Sn	14 25 01.4	+1.2
	29nm,0.4s						
SFK	Sufi-Kurgan	4.52	41	⇑Pn	Pn	14 25 02.9	0.0
	1.0nm,0.3s						
SFK				⇓Sn	Sn	14 25 58.3	+1.9
	14nm,0.3s						
KK31	Karatay Array	6.48	6	⇓Pn	Pn	14 25 28.6	-0.9
	0.5nm,0.3s,baz=182,slow=14,SNR=14						
KK31				⇓Sn	Sn	14 26 42.9	-1.4
	0.2nm,0.2s,baz=186,slow=22,SNR=5.0						

IDC 26 14:33:51.3±2.1, 4°.56S×151°.94E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.6/22, mbtmp4.1/4, Error ellipse: s-maj=41.9km s-min=36.0km az=4.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	22.37	142	P	P	14 38 51.6	+0.3
	7.1nm,1.0s,baz=270,slow=24,SNR=6.6						
WRA	Warramunga Arr	22.97	227	P	P	14 38 58.0	+0.3
	1.6nm,0.5s,baz=53,slow=10.0,SNR=19						
ASAR	Alice Springs	25.76	221	P	P	14 39 24.1	+0.2
	1.7nm,0.4s,baz=54,slow=8.9,SNR=40						
STKA	Stephens Creek	28.85	198	P	P	14 39 50.6	-1.0
	2.5nm,1.0s,baz=22,slow=11,SNR=4.5						
TORD	Torodi Ar. Bea	149.42	288	PKPbc	PKPbc	14 53 43.1	-0.4
	0.2nm,0.6s,baz=59,slow=1.9,SNR=2.6						

*JMA **26** 14:58:45.9±0.1, 24°.25N×121°.90E, h46km±3km, M2.9*
*ISCJB **26** 14:58:46.8±0.3, 24°.30N±0°.02×122°.02E±0°.02, h24km±3km, Error ellipse: s-maj=3.4km s-min=2.2km az=150.3*
*TAP **26** 14:58:46.5, 24°.31N×121°.94E, h34km, ML3.8, B*

ISC 26 14:58:46.9±0.9, 24°.31N±0°.02×121°.99E±0°.02, h31km±7km, n68, σ1§01/121, 6C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	Heping Village	0.22	269	P	Pn	14 58 53.7	-0.4
	baz=275						
EHP				*i* S	Sb	14 58 59.5	+1.4
	baz=275						
ENA	Nanau	0.25	297	⇑*i* P	Pb	14 58 53.5	-0.4
	baz=309						
ENA				S	Sb	14 58 58.4	-0.2
	baz=309						
TWC	Suao	0.32	337	⇑*i* P	Pn	14 58 54.7	-0.7
	baz=351						
TWC				*i* S	Sn	14 58 60.0	-1.1
	baz=351						
TWD	Chiawan	0.43	237	*i* P	Pb	14 58 55.4	-0.9
	baz=231						
TWD				S	Sb	14 59 02.4	-0.2
	baz=231						
HWA	Hwalien	0.48	226	*e*P	Pb	14 58 56.9	-0.2
	baz=219						
HWA				*e*S	Sn	14 59 05.8	+0.7
	baz=219						
ILA	Ilan	0.50	334	*i* P	Pn	14 58 57.5	-0.4
	baz=335						
ILA				*i* S	Sn	14 59 05.6	+0.2
	baz=335						
TWE	Neicheng	0.50	324	⇑*i* P	Pb	14 58 57.2	-0.3
	baz=330						
TWE				*i* S	Sn	14 59 04.7	-0.7
	baz=330						
ENTT	Nioudou	0.50	310	⇑*i* P	Pb	14 58 56.9	-0.6
	baz=308						
ENTT				S	Sn	14 59 04.9	-0.7
	baz=308						
EGS		0.53	355	⇑*i* P	Pn	14 58 58.2	-0.1
	baz=1.0						
EGS				*i* S	Sn	14 59 06.5	+0.3
	baz=1.0						
NNS	Nan Shan	0.57	283	P	Pb	14 58 57.7	-1.0
	baz=284						
NNS				S	Sb	14 59 05.7	-1.1
	baz=284						
NSK	Sanguang	0.68	302	⇑*i* P	Pb	14 58 59.5	-0.9
	baz=298						
NSK				S	Sb	14 59 08.7	-0.9
	baz=298						
WHF	Hehuan Shan	0.68	256	⇓*i* P	Pb	14 58 59.4	-1.3
	baz=254						
WHF				*i* S

TYC	**Yuchr**	**1.11**	**249**	⇓*i*P	**Pn**	**14 59 06.1**	**-0.2**
	baz=241							
NSY	**Sanyi**	**1.12**	**275**	*e*P	**Pb**	**14 59 07.3**	**-0.5**
	baz=274							
NSY				*e*S	**Sb**	**14 59 22.6**	**+0.5**
	baz=274							
TWF1	**Yuli**	**1.15**	**214**	*e*P	**Pn**	**14 59 05.5**	**-1.3**
	baz=223							
TCU	**Taichung**	**1.21**	**262**	⇓*e*P	**Pb**	**14 59 08.6**	**-0.6**
	baz=260							
TCU				*e*S	**Sb**	**14 59 25.8**	**+1.3**
	baz=260							
YUS	**Yu-Shan**	**1.25**	**229**	P	**Pn**	**14 59 09.0**	**+0.3**
	baz=212							
YUS				S	**Sn**	**14 59 25.1**	**+0.3**
	baz=212							
WNT	**Mingjian**	**1.27**	**250**	*e*P	**Pb**	**14 59 09.8**	**-0.4**
	baz=247							
WNT				*e*S	**Sb**	**14 59 27.3**	**+1.1**
	baz=247							
PCYT	**Pengchaiyu**	**1.31**	**3**	*e*P	**Pb**	**14 59 09.9**	**-1.0**
	baz=8.0							
CHKT	**Chengkung**	**1.34**	**205**	*e*P	**Pn**	**14 59 08.3**	**-1.1**
	baz=189							
ALS	**Alishan**	**1.35**	**234**	*e*P	**Pn**	**14 59 10.6**	**+0.8**
	baz=230							
CHN5	**Tsauling**	**1.39**	**239**	*e*P	**Pn**	**14 59 11.2**	**+0.9**
	baz=222							
CHN5				*e*S	**Sb**	**14 59 30.4**	**+0.5**
	baz=222							
WGK	**Gukeng**	**1.45**	**245**	*e*P	**Pb**	**14 59 12.2**	**-1.1**
	baz=241							
WGK				*e*S	**Sb**	**14 59 32.3**	**+1.0**
	baz=241							
CHN2	**Minshiung**	**1.59**	**241**	*e*P	**Pb**	**14 59 14.8**	**-0.8**
	baz=237							
CHN2				*e*S	**Sb**	**14 59 36.2**	**+0.9**
	baz=237							
IRIF	**Iriomote-Funau**	**1.59**	**89**	P	**Pn**	**14 59 13.1**	**+0.2**
IRIF				S	**Sn**	**14 59 32.5**	**+0.1**
CHN4	**Tsaushan**	**1.60**	**233**	*e*P	**Pb**	**14 59 14.6**	**-1.2**
	baz=229							
CHN4				*e*S	**Sb**	**14 59 36.1**	**+0.5**
	baz=229							
STYT	**Tauyuan**	**1.61**	**225**	P	**Pn**	**14 59 13.9**	**+0.7**
	baz=219							
STYT				S	**Sn**	**14 59 34.4**	**+1.5**
	baz=219							
CHY	**Chiayi**	**1.65**	**241**	*e*P	**Pb**	**14 59 15.5**	**-1.1**
	baz=225							
CHY				*e*S	**Sb**	**14 59 37.1**	**+0.2**
	baz=225							
WTP	**Ta-pu**	**1.65**	**230**	P	**Pn**	**14 59 15.0**	**+1.2**
	baz=212							
WTP				*e*S	**Sb**	**14 59 37.2**	**+0.2**
	baz=212							
HATJ	**Hateruma jima**	**1.68**	**98**	P	**Pn**	**14 59 14.5**	**+0.4**
HATJ				*e*S	**Sb**	**14 59 36.1**	**-1.9**
TWG	**Pinlang**	**1.71**	**210**	*e*P	**Pn**	**14 59 12.6**	**-1.9**
	baz=195							
TWK	**Hsinying**	**1.72**	**233**	*e*P	**Pn**	**14 59 16.1**	**+1.3**
	baz=228							
TWK				*e*S	**Sb**	**14 59 38.8**	**-0.5**
	baz=228							
CHN1	**Nanshi**	**1.75**	**230**	*e*P	**Pn**	**14 59 16.3**	**+1.2**
	baz=225							
CHN1				*e*S	**Sb**	**14 59 39.6**	**-0.3**
	baz=225							
WSF	**Szhu**	**1.75**	**248**	*e*P	**Pn**	**14 59 16.1**	**+1.1**
	baz=244							
WSF				*e*S	**Sb**	**14 59 39.5**	**-0.5**
	baz=244							
SGST	**Jiashian**	**1.78**	**227**	P	**Pn**	**14 59 16.9**	**+1.4**
	baz=209							
SGST				*e*S	**Sn**	**14 59 39.3**	**+2.3**
	baz=209							
JKRS	**Kuro-shima**	**1.85**	**92**	P	**Pn**	**14 59 17.2**	**+0.8**
JKRS				S	**Sb**	**14 59 40.6**	**-2.2**
CHN3	**Shinhua**	**1.93**	**231**	*e*P	**Pn**	**14 59 19.5**	**+1.9**
	baz=225							
CHN3				*e*S	**Sb**	**14 59 45.3**	**+0.2**
	baz=225							
ECL	**Taimali**	**1.96**	**209**	*e*P	**Pn**	**14 59 18.5**	**+0.6**
	baz=197							
JIJ	**Ishigaki jima**	**1.97**	**88**	P	**Pn**	**14 59 18.2**	**+0.1**
JIJ				S	**Sn**	**14 59 41.1**	**-0.6**
SCLT	**Jiali**	**2.00**	**236**	*e*P	**Pn**	**14 59 17.4**	**-1.0**
	baz=215							
SCLT				*e*S	**Sb**	**14 59 45.3**	**-1.8**
	baz=215							
SSD	**Sandimen**	**2.00**	**219**	*e*P	**Pn**	**14 59 20.2**	**+1.7**
	baz=212							
SSD				*e*S	**Sb**	**14 59 46.0**	**-1.0**
	baz=212							
JISG	**Ishigakijimahi**	**2.13**	**82**	P	**Pn**	**14 59 20.4**	**0.0**
JISG				S	**Sn**	**14 59 47.3**	**+1.5**
EAST	**Anshuo**	**2.19**	**209**	*e*P	**Pn**	**14 59 22.1**	**+0.9**
	baz=197							
TAW	**Tawu**	**2.19**	**207**	*e*P	**Pn**	**14 59 23.0**	**+1.8**
	baz=204							
SCZT	**Fangliau**	**2.31**	**213**	*e*P	**Pn**	**14 59 25.3**	**+2.5**
	baz=198							
PNG	**Penghu**	**2.35**	**252**	*e*P	**Pn**	**14 59 22.9**	**-0.4**
	baz=249							
WDGT	**Dungji**	**2.38**	**244**	*e*P	**Pn**	**14 59 23.8**	**+0.1**
	baz=241							
JTJ	**Tarama**	**2.50**	**82**	P	**Pn**	**14 59 24.7**	**-0.6**
KNM	**Kinmen**	**3.24**	**273**	*e*P	**Pn**	**14 59 36.0**	**+0.4**
	baz=270							

*IDC **26** 15:07:07.2±1.9,22.2°S×170.36E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/23, mbtmp3.8/9, ML4.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/17, Error ellipse: s-maj=55.2km s-min=24.5km az=146.0*

ISC 26 15:07:11.9±1.5, 22.3°S±0.3°×170.4°E±0.1°, h33km, n13, σ1§16/13, mb3.8/8, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.64**	**273**	Pn	**Pn**	**15 08 05.7**	**-0.4**
DZM	16nm,0.3s,baz=270,slow=24,SNR=752			Sn	**Sn**	**15 08 48.2**	**+0.2**
	21nm,0.3s,baz=326,slow=21,SNR=14						
URZ	**Urewera**	**16.94**	**162**	LR	LR	15 16 41.9	
	comp=Z,68nm,20.2s,baz=50,slow=34						
STKA	**Stephens Creek**	**27.27**	**243**	P	**P**	**15 12 54.2**	**+0.8**
	0.5nm,0.5s,baz=87,slow=10,SNR=3.9						
ASAR	**Alice Springs**	**33.54**	**260**	P	**P**	**15 13 48.2**	**-0.7**
	0.5nm,0.7s,baz=71,slow=9.0,SNR=14						
WRA	**Warramunga Arr**	**33.64**	**267**	P	**P**	**15 13 48.6**	**-1.2**
	0.3nm,0.5s,baz=96,slow=8.5,SNR=9.7						
MJAR	**Matsushiro Arr**	**65.93**	**332**	P	**P**	**15 17 53.1**	**-1.6**
	1.3nm,1.0s,baz=162,slow=6.7,SNR=5.3						
KSRS	**Korea Array**	**71.61**	**326**	P	**P**	**15 18 30.7**	**+0.7**
	0.4nm,0.4s,baz=146,slow=8.6,SNR=3.8						
USRK	**Uesuriysk Ar.**	**74.92**	**332**	P	**P**	**15 18 50.8**	**+1.3**
	0.7nm,0.6s,baz=162,slow=8.5,SNR=3.7						
CMAR	**Chiang Mai Arr**	**80.71**	**294**	P	**P**	**15 19 23.9**	**+1.5**
	1.0nm,0.6s,baz=138,slow=4.4,SNR=8.4						
SONM	**Songino Array**	**90.28**	**323**	P	**P**	**15 20 09.9**	**+0.5**
	0.4nm,0.6s,baz=152,slow=6.7,SNR=3.5						
VRAC	**Vranov**	**145.99**	**329**	PKPbc	**PKPab**	**15 26 47.5**	**-1.2**
	2.1nm,0.8s,baz=166,slow=16,SNR=3.3						
EKA	**Eskdalemuir Ar**	**146.65**	**353**	PKPbc	**PKPbc**	**15 26 48.6**	**-1.3**
	1.7nm,0.6s,baz=8.2,slow=2.7,SNR=7.4						
GERES	**GERESS Array B**	**147.66**	**331**	PKPbc	**PKPbc**	**15 26 52.9**	**-0.2**
	1.0nm,0.7s,baz=47,slow=2.4,SNR=7.0						

MEX 26 15:08:54.0±0.8, 15.61N×96.46W, h5km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PANG	**Puerto Angel**	**0.06**	**344**	*e*P	Pg	15 08 54.4	-1.0
PANG				*e*S	Sg	15 08 55.6	-0.7
HUIG	**Huatulco**	**0.37**	**65**	*e*P	Pg	15 09 00.4	-0.9
HUIG				*i* S	Sg	15 09 06.7	+0.6
VHO	**Vista Hermosa**	**1.48**	**350**	*e*P	Pn	15 09 17.8	-3.8
VHO				*i* S	Sn	15 09 36.7	-4.7
PNIG	**Pinotepa**	**1.78**	**296**	*e*P	Pn	15 09 22.6	-3.0
PNIG				*i* S	Sn	15 09 44.2	-4.4
CMIG	**Matias Romero**	**2.11**	**46**	*e*P	Pn	15 09 26.8	-3.2
CMIG				*e*S	Sn	15 09 52.4	-4.2

WEL 26 15:11:10.8±0.1, 42.71S×171.71E, h5km, ML3.5/13, 4C-2D, Error ellipse: s-maj=1.2km s-min=1.1km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LTZ	**Lake Taylor**	**0.42**	**101**	PG	Pg	15 11 19.5	+0.4
LTZ				SG	Sg	15 11 25.2	+0.6
LTZ				AML	AML	15 11 25.6	
OXZ	**Oxford**	**0.67**	**159**	⇓P*	Pg	15 11 24.0	+0.4
OXZ				SG	Sg	15 11 32.9	+0.6
WVZ	**Waitaha Valley**	**0.80**	**242**	⇑P*	Pg	15 11 25.3	-0.9
WVZ				AML	AML	15 11 42.2	
DSZ	**Denniston Nort**	**0.96**	**4**	⇑P*	Pg	15 11 29.0	-0.3
CRLZ	**Canterbury Las**	**1.10**	**143**	⇓P*	Pb	15 11 32.2	0.0
CRLZ				AML	AML	15 11 49.4	
CRLZ				AML	AML	15 11 50.1	
RPZ	**Rata Peaks**	**1.12**	**205**	⇑P*	Pg	15 11 31.7	-0.5
RPZ				AML	AML	15 11 33.0	
RPZ				AML	AML	15 11 52.6	
MOZ	**McQueen's Vall**	**1.22**	**146**	P*	Pg	15 11 32.8	-1.3
THZ	**Tophouse**	**1.30**	**44**	⇑P*	Pn	15 11 34.0	-1.7
THZ				AML	AML	15 11 35.3	
THZ				AML	AML	15 11 35.7	
KHZ	**Kahutara**	**1.39**	**79**	PN	Pn	15 11 36.6	-0.2
KHZ				AML	AML	15 11 37.4	
KHZ				AML	AML	15 12 00.2	
FOZ	**Fox Glacier**	**1.71**	**239**	PN	Pn	15 11 38.8	-2.4
FOZ				SN	Sn	15 12 01.9	-1.4
FOZ				AML	AML	15 12 02.4	
FOZ				AML	AML	15 12 05.1	
FOZ				AML	AML	15 12 05.2	
BSWZ	**Blackbirch Sta**	**1.89**	**59**	PN	Pn	15 11 44.7	+0.9
BSWZ				AML	AML	15 12 25.2	
NNZ	**Nelson**	**1.94**	**41**	PN	Pn	15 11 44.3	-0.1
QRZ	**Quartz Range**	**1.98**	**18**	PN	Pn	15 11 44.1	-0.8
LBZ	**Lake Benmore**	**2.01**	**213**	PN	Pn	15 11 44.1	-1.3
LBZ				AML	AML	15 12 19.5	
LBZ				AML	AML	15 12 21.6	
TUWZ	**Tuamarina**	**2.10**	**53**	PN	Pn	15 11 46.8	+0.3
TUWZ				AML	AML	15 12 18.1	
TCW	**Tory Channel**	**2.43**	**53**	PN	Pn	15 11 51.4	+0.3
TCW				AML	AML	15 12 28.1	
TCW				AML	AML	15 12 31.4	
DUWZ	**D'Urville Isla**	**2.52**	**42**	PN	Pn	15 11 53.2	+0.7
WKZ	**Wanaka**	**2.88**	**222**	PN	Pn	15 11 55.4	-2.0
CAW	**Cannon Point**	**2.97**	**59**	PN	Pn	15 11 57.6	-1.0
KIW	**Kapiti Island**	**3.02**	**54**	PN	Pn	15 11 59.0	-0.3
EAZ	**Earnscleugh**	**3.06**	**214**	PN	Pn	15 11 57.4	-2.4
EAZ				AML	AML	15 14 28.7	
OGWZ	**Otaki Gorge**	**3.21**	**55**	PN	Pn	15 12 01.0	-0.8
MRZ	**Mangatainoka R**	**3.55**	**56**	PN	Pn	15 12 05.0	-1.5
MRZ				AML	AML	15 13 22.8	
TUZ	**Tuapeka**	**3.57**	**204**	PN	Pn	15 12 04.4	-2.5
KHEZ	**Kahui Hut**	**3.83**	**28**	PN	Pn	15 12 11.4	+0.9
NEZ	**North Egmont**	**3.88**	**29**	PN	Pn	15 12 12.0	+0.8
WHZ	**Wether Hill Ro**	**4.17**	**219**	PN	Pn	15 12 13.4	-1.8
SYZ	**Scrubby Hill**	**4.25**	**205**	PN	Pn	15 12 14.5	-1.6
HIZ	**Hauiti**	**4.83**	**31**	PN	Pn	15 12 23.7	-0.4

*IDC **26** 15:16:46.3±1.2, 13.31N×50.52E, h0km, mb3.6/12, mb1 3.7/12, mb1mx3.5/46, mbtmp3.6/12, MS3.2/4, Ms1 3.2/4, ms1mx2.7/41, Error ellipse: s-maj=28.4km s-min=22.7km az=26.0*

*ISCJB **26** 15:16:47.9±1.0, 13.4N±0.2×50.5E±0.1, h21km, mb3.7/12, MS3.1/4, Error ellipse: s-maj=22.8km s-min=18.6km az=28.9*

ISC 26 15:16:49.7±1.2, 13.3N±0.2×50.5E±0.2, h21km, n18, σ0§70/12, mb3.8/12, MS3.0/4, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EIL	**Elat**	**21.72**	**321**	LR	LR	15 29 58.2	
	comp=Z,61nm,18.4s,baz=74,slow=36						
GEYT	**Alibeck**	**25.42**	**14**	P	**P**	**15 22 16.5**	**+0.6**
	1.9nm,0.7s,baz=195,slow=11,SNR=4.2						
GEYT				LR	LR	15 34 20.6	
	comp=Z,104nm,18.0s,baz=95,slow=42						
GNI	**Garni**	**27.19**	**350**	LR	LR	15 35 17.0	
	comp=Z,47nm,19.9s,baz=227,slow=41						
H08N2	**Diego Garcia H**	**28.21**	**133**	T	T	15 51 58.0	
	baz=313						
H08N3	**Diego Garcia H**	**28.22**	**133**	T	T	15 51 58.0	
	baz=313						
H08N1	**Diego Carcia H**	**28.23**	**133**	T	T	15 51 59.2	
	baz=313						
AKASG	**Malin Array Be**	**41.09**	**339**	P	**P**	**15 24 31.0**	**-0.9**
	0.8nm,0.4s,baz=147,slow=8.0,SNR=3.7						
BVAR	**Borovoye Array**	**42.65**	**18**	P	**P**	**15 24 43.8**	**-0.8**
	0.4nm,0.5s,baz=211,slow=9.8,SNR=2.8						
KURBB	**Kurchatov Arra**	**43.62**	**26**	P	**P**	**15 24 53.0**	**+0.6**
	0.3nm,0.5s,baz=228,slow=8.4,SNR=4.1						
CMAR	**Chiang Mai Arr**	**46.76**	**77**	P	**P**	**15 25 17.4**	**-0.5**
	0.4nm,0.7s,baz=265,slow=8.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**47.45**	**276**	P	**P**	**15 25 23.9**	**+0.6**
	0.5nm,0.8s,baz=85,slow=7.1,SNR=3.4						
ZALV	**Zalesovo Beam**	**48.69**	**26**	P	**P**	**15 25 31.8**	**-0.5**
	0.5nm,0.4s,baz=228,slow=8.1,SNR=3.7						
FINES	**FINESS Array B**	**51.18**	**345**	P	**P**	**15 25 51.4**	**+0.3**
	1.5nm,0.8s,baz=153,slow=14,SNR=3.8						
HFS	**Hagfors**	**53.95**	**338**	P	**P**	**15 26 11.3**	**-0.3**
	1.1nm,0.7s,baz=116,slow=10,SNR=3.3						
NOA	**NORSAR Array B**	**55.47**	**338**	LR	LR	15 52 28.2	
	comp=Z,6.9nm,18.6s,baz=275,slow=39						
SONM	**Songino Array**	**57.51**	**41**	P	**P**	**15 26 38.7**	**+1.1**
	0.3nm,0.5s,baz=239,slow=8.2,SNR=3.4						
WRA	**Warramunga Arr**	**88.81**	**111**	P	**P**	**15 29 42.5**	**-0.2**
	0.6nm,0.7s,baz=305,slow=3.5,SNR=4.8						
ASAR	**Alice Springs**	**89.36**	**114**	P	**P**	**15 29 45.0**	**-0.3**
	0.4nm,0.8s,baz=285,slow=4.7,SNR=3.7						

IDC 26 15:44:16.4±12.0, 6.32S×127.96E, h402km±204km, mb2.7/1, mb1 3.1/3, mb1mx2.6/25, mbtmp3.8/3, Error ellipse: s-maj=117.7km s-min=47.6km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.89**	**156**	P	P	15 47 27.7	0.0
	0.7nm,0.3s,baz=335,slow=10,SNR=28						
WRA				S	S	15 50 05.7	-0.4
	0.3nm,0.3s,baz=334,slow=21,SNR=8.3						
ASAR	**Alice Springs**	**18.17**	**162**	P	P	15 48 02.8	+0.1
	0.4nm,0.3s,baz=342,slow=12,SNR=41						
CMAR	**Chiang Mai Arr**	**37.76**	**311**	P	P	15 50 56.0	-0.2
	0.5nm,0.7s,baz=143,slow=7.1,SNR=5.1						

*NEIC **26** 15:54:46.1, 54.63N×164.45W, h3km, ML6.6(AEIC), After AEIC.*

*ISCJB **26** 15:54:47.4±0.4, 54.62N±0.07×164.45W±0.08, h9km±4km, mb3.6/5, MS2.9/4, Error ellipse: s-maj=13.5km s-min=3.4km az=149.9*

*IDC **26** 15:54:47.0±1.5, 54.29N×164.70W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.5/46, mbtmp3.6/6, ML3.3/1, MS2.9/4, Ms1 2.9/4, ms1mx2.6/34, Error ellipse: s-maj=35.0km s-min=20.6km az=9.0*

ISC 26 15:54:47.8±1.0, 54.60N±0.06×164.47W±0.04, h5km±8km, n41, σ1§23/37, mb3.5/5, MS3.0/4, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WESN	**West Dahl Nort**	**0.07**	**245**	P	**Pg**	**15 54 49.7**	**+0.2**
WESE	**West Dahl East**	**0.14**	**208**	P	**Pg**	**15 54 51.4**	**+0.6**
WESP	**Westdahl Peak**	**0.18**	**234**	P	**Pg**	**15 54 52.2**	**+0.8**
SSBA	**Shishaldin**	**0.27**	**49**	P	**Pg**	**15 54 52.3**	**-0.7**
SSBA				S	**Sg**	**15 54 58.0**	**+1.5**
SSLW	**Shishaldin Wes**	**0.27**	**49**	P	**Pg**	**15 54 52.4**	**-0.6**
SSLN	**Shishaldin Nor**	**0.35**	**52**	P	**Pg**	**15 54 54.2**	**-0.4**
BRPK	**Brown Peak**	**0.43**	**83**	P	**Pg**	**15 54 55.4**	**-0.7**
ISLZ	**Isanotski Laza**	**0.46**	**74**	P	**Pg**	**15 54 56.0**	**-0.6**
ISNN	**Isanotski Nort**	**0.46**	**59**	P	**Pg**	**15 54 56.5**	**-0.2**
FALS	**False Pass**	**0.66**	**67**	P	**Pg**	**15 54 59.8**	**-0.7**
FALS				S	**Sb**	**15 55 12.1**	**+0.8**
AKUT	**Akutan**	**0.89**	**239**	P	**Pb**	**15 55 04.3**	**-1.4**
AKUT				S	**Sn**	**15 55 17.6**	**-2.6**
AKGG	**Akutan Green G**	**0.98**	**246**	P	**Pb**	**15 55 05.9**	**-1.3**
AKGG				S	**Sn**	**15 55 21.9**	**-0.4**
ZRO	**Akutan Zero**	**1.02**	**241**	P	**Pb**	**15 55 06.5**	**-1.4**
AKRB	**Akutan Reef Bi**	**1.05**	**244**	P	**Pb**	**15 55 07.1**	**-1.3**
DTNA	**Dutton South F**	**1.40**	**66**	P	**Pn**	**15 55 11.8**	**-2.1**
UNV	**Unalaska Valle**	**1.41**	**239**	P	**Pb**	**15 55 12.8**	**-1.8**
UNV				S	**Sg**	**15 55 32.5**	**-0.6**
MSW	**Makushin Switc**	**1.52**	**244**	P	**Pn**	**15 55 14.2**	**-1.5**
MSW				S	**Sg**	**15 55 36.3**	**-0.3**
MREP	**Makushin Rep't**	**1.55**	**240**	P	**Pb**	**15 55 15.7**	**-1.4**
MCIR	**Makushin Cirqu**	**1.56**	**246**	P	**Pb**	**15 55 15.3**	**-1.9**
PVV	**Pavlof Volcano**	**1.73**	**62**	P	**Pn**	**15 55 16.9**	**-1.6**
OKFG	**Magazine Ridge**	**2.35**	**241**	P	**Pn**	**15 55 26.8**	**-0.3**
SDPT	**Sand Point**	**2.42**	**70**	P	**Pn**	**15 55 27.3**	**-0.7**
OKTU	**Okmok Mt. Tuli**	**2.44**	**241**	P	Pb	15 55 28.6	-3.5
NIKH	**Nikolski High**	**3.07**	**240**	P	**Pn**	**15 55 36.6**	**-0.3**
VNHG	**Veniaminof 1**	**3.43**	**60**	P	**Pn**	**15 55 41.7**	**-0.3**
SPIA	**Saint Paul Isl**	**4.15**	**311**	P	**Pn**	**15 55 51.1**	**-0.7**
ILAR	**Eielson Array**	**13.46**	**34**	Pn	**Pn**	**15 58 00.8**	**+1.6**
	0.1nm,0.3s,baz=235,slow=11,SNR=4.4						
PETK	**Petropavlovsk-**	**22.19**	**282**	P	**P**	**15 59 45.3**	**+0.7**
	4.2nm,0.9s,baz=99,slow=13,SNR=4.5						
PETK				LR	LR	16 08 38.8	
	comp=Z,10nm,20.6s,baz=92,slow=38						
SEY	**Seymchan**	**23.45**	**308**	P	**P**	**15 59 57.2**	**-0.4**
	1.3nm,0.8s,baz=180,slow=20						
YKA	**Yellowknife Ar**	**26.56**	**53**	P	**P**	**16 00 28.7**	**+2.5**
	0.6nm,0.6s,baz=273,slow=9.2,SNR=4.6						
NVAR	**Mina Array Bea**	**34.92**	**98**	P	**P**	**16 01 41.0**	**+0.5**
	0.2nm,0.4s,baz=282,slow=9.9,SNR=2.9						
PDAR	**Pinedale Array**	**37.20**	**85**	LR	LR	16 15 22.7	
	comp=Z,21nm,18.2s,baz=340,slow=33						
H11N2	**WAKE ISLAND Hy**	**41.06**	**223**	T	T	16 46 26.5	
	baz=26,slow=76,SNR=8.0						
H11N3	**WAKE ISLAND Hy**	**41.06**	**223**	T	T	16 46 30.5	
	baz=26,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**41.08**	**223**	T	T	16 46 19.0	
	baz=26,slow=76,SNR=6.5						
H11S1	**WAKE ISLAND Hy**	**42.24**	**223**	T	T	16 47 54.9	
	baz=26,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**42.25**	**223**	T	T	16 47 56.7	
	baz=26,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**42.26**	**223**	T	T	16 47 44.0	
	baz=26,slow=76,SNR=4.8						
JCJ	**Chichijima**	**47.30**	**257**	LR	LR	16 19 05.9	
	comp=Z,20nm,21.2s,baz=90,slow=31						
TXAR	**Lajitas Array**	**49.89**	**95**	P	**P**	**16 03 43.0**	**+0.8**
	1.1nm,0.6s,baz=304,slow=5.7,SNR=17						
ZALV	**Zalesovo Beam**	**57.70**	**319**	LR	LR	16 31 32.8	
	comp=Z,22nm,19.3s,baz=70,slow=38						

MAN 26 16:57:16, 13.57N×120.50E, h38km, mb4.5, ML3.3, MS3.2, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.44**	**98**	⇑*i*P	Pn	16 57 27.0	+1.2

*NNC **26** 16:57:29.3±3.6, 40.15N×78.10E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=29.4km s-min=16.4km az=143.0*

*KRNET **26** 16:57:31.7±0.1, 40.56N×77.59E, mb3.1*

ISC 26 16:57:29.5±1.6, 40.43N±0.06×77.66E±0.06, h10km, n25, σ1§59/38, 24C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.61**	**309**	⇑*i*P	**Pn**	**16 57 59.4**	**+1.2**
	baz=306						
NRN				⇑*i*S	**Sg**	**16 58 19.9**	**-1.3**
	baz=306						
ULHL	**Ulahol**	**2.10**	**330**	P	**Pb**	**16 58 08.5**	**+0.6**
	SNR=8.5						
ULHL	**Ulahol**	**2.10**	**330**	⇓*i*P	**Pb**	**16 58 08.0**	**+0.2**
	baz=329						
ULHL				⇓*i*S	**Sg**	**16 58 37.4**	**+0.3**
	baz=329						
ANVS	**Anan'yevo**	**2.35**	**0**	⇑*i*P	**Pb**	**16 58 11.6**	**-0.4**
	baz=1.0						
ANVS				⇑*i*S	**Sb**	**16 58 41.1**	**-0.1**
	baz=1.0						
KZA	**Kyzart**	**2.45**	**313**	P	**Pb**	**16 58 14.8**	**+0.9**
	SNR=145						
KZA	**Kyzart**	**2.45**	**313**	⇑*i*P	**Pb**	**16 58 14.5**	**+0.6**
	baz=312						
KZA				⇑*i*S	**Sg**	**16 58 48.8**	**+0.6**
	baz=312						
KNDC	**Almaty**	**2.83**	**350**	⇑Pn	**Pb**	**16 58 19.7**	**-0.5**
	40nm,0.5s						
KNDC				⇓Sn	**Sg**	**16 59 01.0**	**+0.5**
	125nm,0.6s						
TKM2	**Tokmak 2**	**2.93**	**329**	P	**Pb**	**16 58 19.8**	**-2.1**
	SNR=6.0						
TKM2	**Tokmak 2**	**2.93**	**329**	⇓Pn	**Pb**	**16 58 19.6**	**-2.3**
	16nm,0.8s						
TKM2				⇓Sn	**Sg**	**16 59 03.5**	**0.0**
	22nm,0.5s						
TKM2	**Tokmak 2**	**2.93**	**329**	⇑*i*P	**Pb**	**16 58 19.5**	**-2.3**
	baz=328						
TKM2				⇑*i*S	**Sg**	**16 59 02.2**	**-1.3**
	baz=328						
UCH	**Uchtor**	**2.97**	**308**	P	**Pb**	**16 58 24.1**	**+1.3**
	SNR=11						
UCH	**Uchtor**	**2.97**	**308**	⇑*i*P	**Pn**	**16 58 20.2**	**+3.1**
	baz=307						
UCH				⇑*i*S	**Sg**	**16 59 05.1**	**+0.2**
	baz=307						
KBK	**Karagaybulak**	**3.01**	**318**	P	**Pb**	**16 58 25.3**	**+1.9**
	SNR=11						
KBK	**Karagaybulak**	**3.01**	**318**	⇑*i*P	**Pb**	**16 58 23.4**	**+0

	0.3nm,0.3s,baz=338,slow=9.9,SNR=29						
LPAZ			Sn	**Sn**	17 29 07.5	**0.0**	
	5.8nm,0.3s,baz=186,slow=22,SNR=10						
LPAZ			Lg	Lg	17 29 38.8		
	7.0nm,0.3s,baz=193,slow=14,SNR=3.5						
LPAZ			LR	LR	17 30 53.3		
	comp=Z,52nm,20.8s,baz=318,slow=45						
LPAZ	**La Paz**	**5.30**	**153** *e*Pn	**Pn**	**17 28 08.6**	**+1.3**	
LPAZ			*e*Sn	**Sn**	**17 29 05.0**	**-2.5**	
LPAZ			Sn	Sn	17 29 07.5	-0.5	
LPAZ			Lg	Lg	17 29 38.8		
NNA	**Nana**	**6.11**	**265** Pn	Pn	17 28 22.9	+5.0	
	2.3nm,0.3s,baz=108,slow=13,SNR=2.8						
NNA			Sn	**Sn**	**17 29 27.6**	**+0.9**	
	3.8nm,0.3s,baz=133,slow=19,SNR=2.7						
NNA	**Nana**	**6.11**	**265** *e*Pn	Pn	17 28 15.6	-2.4	
NNA			Sn	**Sn**	**17 29 27.6**	**+0.9**	
SAML	**Samuel**	**7.76**	**71** *e*Pn	Pn	17 28 46.3	+5.6	
	13nm,0.6s						
SAML			*e*Sn	**Sn**	**17 30 13.0**	**+5.5**	
SIV	**San Ignacio**	**10.28**	**117** Pn	**Pn**	**17 29 17.8**	**+2.6**	
	1.2nm,0.3s,baz=312,slow=12,SNR=9.3						
SIV			Sn	**Sn**	**17 31 05.6**	**-3.7**	
	0.7nm,0.3s,baz=288,slow=18,SNR=1.9						
SIV			Lg	Lg	17 32 02.7		
	1.6nm,0.3s,baz=242,slow=16,SNR=3.6						
PTGA	**Pitinga**	**15.08**	**45** Pn	**Pn**	**17 30 19.3**	**-1.5**	
	1.3nm,0.3s,baz=237,slow=16,SNR=4.4						
PTGA			Sn	**Sn**	**17 33 04.0**	**-2.8**	
	0.8nm,0.3s,baz=315,slow=19,SNR=2.5						
CPUP	**Villa Florida**	**19.32**	**141** P	**P**	**17 31 12.3**	**-0.1**	
	0.2nm,0.3s,baz=328,slow=5.5,SNR=3.6						
SDV	**Santo Domingo**	**20.30**	**360** *e*P	Pn	17 31 26.1	+0.7	
	7.3nm,0.8s						
JTS	**JuntasAbangare**	**25.95**	**326** LR	LR	17 41 41.7		
	comp=Z,33nm,18.6s,baz=170,slow=35						
TXAR	**Lajitas Array**	**51.65**	**323** P	**P**	**17 35 53.0**	**-0.8**	
	0.3nm,0.6s,baz=138,slow=8.4,SNR=4.3						
DBIC	**Dimbokro**	**67.88**	**78** P	**P**	**17 37 46.0**	**+0.3**	
	5.1nm,1.0s,baz=236,slow=6.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**75.82**	**73** P	**P**	**17 38 33.9**	**+0.6**	
	1.5nm,0.8s,baz=250,slow=4.6,SNR=15						
YKA	**Yellowknife Ar**	**81.30**	**341** P	**P**	**17 39 00.7**	**-1.7**	
	0.9nm,0.6s,baz=136,slow=6.0,SNR=11						
ZALV	**Zalesovo Beam**	**133.42**	**20** PKP	**PKPdf**	**17 46 01.9**	**-0.7**	
	0.7nm,0.5s,baz=259,slow=3.4,SNR=4.3						
WRA	**Warramunga Arr**	**140.21**	**218** PKhKP	PKPpre	17 46 06.6		
	0.7nm,1.1s,baz=154,slow=2.5,SNR=4.7						
WRA			PKP	**PKPdf**	**17 46 14.8**	**-1.4**	
	0.2nm,0.4s,baz=138,slow=2.0,SNR=9.0						

NIED **26** *18:05:00,24.˚60N×121.˚50E,h74km,Mw4.5 Best double couple: M₀6.24000×10¹⁵ NP1:ϕ₈109.00000°,δ64.00000°, λ29.00000°. NP2:ϕ₈5.00000°,δ64.00000°,λ151.00000°.*

ISCJB **26** *18:05:50.8±0.1,24.˚70N±0.˚01×121.˚58E±0.˚01,h77km±1km, mb4.4/55,Error ellipse: s-maj=2.5km s-min=1.7km az=140.8*

JMA **26** *18:05:50.5±0.2,24.˚59N×121.˚50E,h70km±2km,M4.6*

NEIC **26** *18:05:51.2±0.4,24.˚64N×121.˚65E,h74km±4km,mb4.7/20, MW4.4,Error ellipse: s-maj=6.5km s-min=5.2km az=128.0, Moment Tensor Solution. s16 Moment tensor: Scale 10¹⁵Nm; M_rr3.24; M_θθ-0.04; M_φφ-3.20; M_rθ2.24; M_φφ2.17; M_θr2.52; Best double couple: M₀5.10000×10¹⁵ NP1: ϕ₈5.00000°,δ64.00000°,λ127.00000°. NP2:ϕ₈125.00000°, δ44.00000°,λ39.00000°. Principal axes: T 5.5800, Plg54.0000°, Azm322.0000°; N -1.0200, Plg32.0000°, Azm167.0000°; P -4.5500, Plg11.0000°, Azm69.0000°;*

NEIC Felt [II] at Taipei. Also felt at Chung-ho, Chung-li and Yung-ho. Recorded [3 TAP] in I-lan and T'ai-pei; [2 TAP] in Hsin-chu, Hua-lien, Miao-li, Nan-t'ou, T'ai-chung and T'ao-yuan; [1 TAP] in Chia-i, Chang-hua, T'ai-nan, T'ai-tung and Yun-lin.

TAP **26** *18:05:51.8,24.˚65N×121.˚56E,h68km,ML5.1,B*

BJI **26** *18:05:52.5,24.˚76N×121.˚32E,h86km,mb4.5/52,mB4.5/37, Ms4.2/29,Ms7 3.9/23*

MOS **26** *18:05:53.6±0.9,24.˚82N×121.˚78E,h106km,mb4.5/23, Error ellipse: s-maj=12.9km s-min=6.2km az=116.9*

IDC **26** *18:05:55.1±2.4,24.˚73N×121.˚74E,h108km±22km, mb3.9/20,mb1 4.0/25,mb1mx3.9/41,mbtmp4.2/25, MS3.3/15,Ms1 3.3/15,ms1mx3.2/33,Error ellipse: s-maj=15.0km s-min=11.4km az=66.0*

ISC 26 18:05:51.9±0.3,24.˚67N±0.˚02×121.˚58E±0.˚02,h76km±2km, h75km:pP-P,n291,σ1ŝ39/388,mb4.5/55,52C-43D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ENTT	**Nioudou**	**0.04**	**208**	⇓*iP*		**Pn**	**Pn**	**18 06 02.2**	**-0.6**
	baz=138								
TWE	**Neicheng**	**0.09**	**57**	⇑*iP*		**Pn**	**Pn**	**18 06 02.4**	**-0.5**
	baz=51								
ILA	**Ilan**	**0.18**	**58**	⇓*iP*		**Pn**	**Pn**	**18 06 02.7**	**-0.4**
	baz=52								
ILA				S		**Sn**	**Sn**	**18 06 10.9**	**-0.5**
	baz=52								
YHNB	**Yeheng**	**0.19**	**270**	*e*Pn		**Pn**	**Pn**	**18 06 01.7**	**-1.6**
NSK	**Sanguang**	**0.21**	**271**	⇓*iP*		**Pn**	**Pn**	**18 06 02.2**	**-1.1**
	baz=284								
TWC	**Suao**	**0.25**	**104**	⇓*iP*		**Pn**	**Pn**	**18 06 03.0**	**-0.5**
	baz=104								
ENA	**Nanau**	**0.28**	**149**	⇓*iP*		**Pn**	**Pn**	**18 06 02.7**	**-1.0**
	baz=151								
NNS	**Nan Shan**	**0.30**	**220**	⇓*iP*		**Pn**	**Pn**	**18 06 03.4**	**-0.5**
	baz=217								
NNS				*e*S		**Sn**	**Sn**	**18 06 12.0**	**-0.7**
	baz=217								
TWA	**Mucha**	**0.31**	**360**	⇓*iP*		**Pn**	**Pn**	**18 06 03.1**	**-0.8**
	baz=1.0								
TWA				S		**Sn**	**Sn**	**18 06 10.8**	**-1.7**
	baz=1.0								
TATO	**Taipei**	**0.32**	**344**	*e*Pn		**Pn**	**Pn**	**18 06 02.5**	**-1.4**
EGS		**0.36**	**61**	⇓*iP*		**Pn**	**Pn**	**18 06 04.2**	**+0.1**
	baz=55								
EGS				*e*S		**Sn**	**Sn**	**18 06 12.5**	**-0.6**
	baz=55								
TAP1	**Taipei**	**0.37**	**351**	*i* P		**Pn**	**Pn**	**18 06 03.2**	**-1.0**
	baz=357								
TAP1				*i* S		**Sn**	**Sn**	**18 06 11.5**	**-1.8**
	baz=357								
TAP	**Taipei**	**0.37**	**349**	*i* P		**Pn**	**Pn**	**18 06 03.3**	**-0.9**
	baz=357								
TAP				*i* S		**Sn**	**Sn**	**18 06 11.6**	**-1.7**
	baz=357								
EHP	**Heping Village**	**0.39**	**158**	*e*P		**Pn**	**Pn**	**18 06 03.8**	**-0.6**
	baz=160								
NWF	**Wu-fen Shan**	**0.44**	**24**	⇓*iP*		**Pn**	**Pn**	**18 06 04.3**	**-0.6**
	baz=20								
NWF				*e*S		**Sn**	**Sn**	**18 06 12.7**	**-1.7**
	baz=20								
TWS1	**Kuangyinshan**	**0.45**	**341**	⇓*iP*		**Pn**	**Pn**	**18 06 04.3**	**-0.5**
	baz=335								
TWS1				S		**Sn**	**Sn**	**18 06 13.5**	**-0.9**
	baz=335								
NCU	**National Centr**	**0.47**	**310**	⇑*iP*		**Pn**	**Pn**	**18 06 04.3**	**-0.7**
	baz=307								
NCU				*i* S		**Sn**	**Sn**	**18 06 13.4**	**-1.3**
	baz=307								
NACB	**Ninganchiao**	**0.49**	**179**	*e*Pn		**Pn**	**Pn**	**18 06 03.5**	**-1.8**
TWB1	**Santiao Chiao**	**0.50**	**47**	⇑*iP*		**Pn**	**Pn**	**18 06 05.1**	**-0.1**
	baz=43								
TWB1				*i* S		**Sn**	**Sn**	**18 06 13.9**	**-1.2**
	baz=43								
NSTT	**Nanjuang**	**0.53**	**266**	⇑*iP*		**Pn**	**Pn**	**18 06 04.8**	**-0.7**
	baz=267								
NSTT				*e*S		**Sn**	**Sn**	**18 06 13.9**	**-1.7**
	baz=267								
TWT	**Tachien**	**0.56**	**222**	⇑*iP*		**Pn**	**Pn**	**18 06 06.1**	**+0.1**
	baz=230								
HSN	**Hsinchu**	**0.57**	**283**	*i* P		**Pn**	**Pn**	**18 06 05.1**	**-0.9**
	baz=289								
HSN				*i* S		**Sn**	**Sn**	**18 06 14.6**	**-1.7**
	baz=289								
TWD	**Chiawan**	**0.59**	**179**	⇓*iP*		**Pn**	**Pn**	**18 06 04.8**	**-1.3**
	baz=167								
TWD				*i* S		**Sn**	**Sn**	**18 06 14.6**	**-2.0**
	baz=167								
WHF	**Hehuan Shan**	**0.60**	**209**	⇓*iP*		**Pn**	**Pn**	**18 06 06.8**	**+0.1**
	baz=200								
TWY	**Chenhua**	**0.60**	**1**	⇑*iP*		**Pn**	**Pn**	**18 06 05.8**	**-0.5**
	baz=4.0								
TWY				*e*S		**Sn**	**Sn**	**18 06 15.4**	**-1.5**
	baz=4.0								
HWA	**Hwalien**	**0.69**	**178**	⇓*iP*		**Pn**	**Pn**	**18 06 06.0**	**-1.2**
	baz=175								
HWA				*e*S		**Sn**	**Sn**	**18 06 16.9**	**-1.6**
	baz=175								
NSY	**Sanyi**	**0.79**	**251**	⇑*iP*		**Pn**	**Pn**	**18 06 08.1**	**-0.2**
	baz=251								
NSY				*i* S		**Sn**	**Sn**	**18 06 20.0**	**-0.4**
	baz=251								
ESF	**Shoufeng Towns**	**0.80**	**185**	*e*P		**Pn**	**Pn**	**18 06 07.6**	**-0.8**
	baz=175								
TWQ1	**Liyutan**	**0.81**	**247**	⇑*iP*		**Pn**	**Pn**	**18 06 08.1**	**-0.4**
	baz=246								
TWQ1				*i* S		**Sn**	**Sn**	**18 06 19.8**	**-0.9**
	baz=246								
ESL	**Shilin**	**0.86**	**189**	⇓*iP*		**Pn**	**Pn**	**18 06 07.5**	**-1.7**
	baz=179								
ESL				*e*S		**Sn**	**Sn**	**18 06 20.3**	**-1.6**
	baz=179								
TEGC	**Jichi Village**	**0.96**	**182**	*e*P		**Pn**	**Pn**	**18 06 10.0**	**-0.2**
	baz=180								
TEGC				*e*S		**Sn**	**Sn**	**18 06 25.5**	**+1.7**
	baz=180								
TCU	**Taichung**	**0.98**	**238**	⇑*iP*		**Pn**	**Pn**	**18 06 10.3**	**-0.1**
	baz=237								
TCU				*i* S		**Sn**	**Sn**	**18 06 23.4**	**-0.9**
	baz=237								
WDT	**Danda**	**1.00**	**204**	⇓*iP*		**Pn**	**Pn**	**18 06 11.2**	**+0.2**
	baz=210								
WDT				S		**Sn**	**Sn**	**18 06 25.6**	**+0.3**
	baz=210								
SMLT	**Sun Moon Lake**	**1.00**	**219**	⇑*iP*		**Pn**	**Pn**	**18 06 11.0**	**+0.2**
	baz=224								
SMLT				*i* S		**Sn**	**Sn**	**18 06 25.4**	**+0.4**
	baz=224								
TYC	**Yuchr**	**1.01**	**221**	⇑*iP*		**Pn**	**Pn**	**18 06 10.8**	**0.0**
	baz=230								
TYC				*i* S		**Sn**	**Sn**	**18 06 24.6**	**-0.4**
	baz=230								
SSLB	**Suanglung**	**1.05**	**213**	*e*Pn		**Pn**	**Pn**	**18 06 11.1**	**-0.3**
SSLB				*e*Sn		**Sn**	**Sn**	**18 06 26.0**	**+0.1**
PCYT	**Pengchaiyu**	**1.05**	**25**	*i* P		**Pn**	**Pn**	**18 06 11.2**	**-0.2**
	baz=26								
PCYT				*i* S		**Sn**	**Sn**	**18 06 25.8**	**0.0**
	baz=26								
WNT	**Mingjian**	**1.14**	**226**	⇑*iP*		**Pn**	**Pn**	**18 06 12.5**	**0.0**
	baz=234								
WNT				*e*S		**Sn**	**Sn**	**18 06 27.2**	**-0.6**
	baz=234								
EHY	**Hungye**	**1.18**	**192**	⇓*iP*		**Pn**	**Pn**	**18 06 11.0**	**-2.0**
	baz=181								
EHY				*e*S		**Sn**	**Sn**	**18 06 26.7**	**-2.2**
	baz=181								
JYNG	**Yonaqunijimaku**	**1.26**	**100**	P		**Pn**	**Pn**	**18 06 13.8**	**-0.1**
JYNG				S		**Sn**	**Sn**	**18 06 30.6**	**+0.1**
YULB	**Yu-li**	**1.30**	**192**	*e*Pn		**Pn**	**Pn**	**18 06 11.9**	**-2.6**
YUS	**Yu-Shan**	**1.31**	**206**	⇑*iP*		**Pn**	**Pn**	**18 06 15.9**	**+0.8**
	baz=215								
YUS				S		**Sn**	**Sn**	**18 06 33.8**	**+1.3**
	baz=215								
YOJ	**Yonaguni jima**	**1.32**	**99**	P		**Pn**	**Pn**	**18 06 14.6**	**-0.1**
YOJ				S		**Sn**	**Sn**	**18 06 31.5**	**-0.3**
YOJ	**Yonaguni jima**	**1.32**	**99**	⇑*iP*		**Pn**	**Pn**	**18 06 14.7**	**+0.1**
	baz=99								
YOJ				S		**Sn**	**Sn**	**18 06 31.8**	**0.0**
	baz=99								
YOJ	**Yonaguni jima**	**1.32**	**99**	*e*Pn		**Pn**	**Pn**	**18 06 14.4**	**-0.2**
YOJ				*e*Sn		**Sn**	**Sn**	**18 06 31.2**	**-0.6**
TWF1	**Yuli**	**1.34**	**191**	⇓*iP*		**Pn**	**Pn**	**18 06 13.0**	**-2.0**
	baz=182								
CHN5	**Tsauling**	**1.35**	**218**	⇑*iP*		**Pn**	**Pn**	**18 06 15.3**	**0.0**
	baz=216								
CHN5				*e*S		**Sn**	**Sn**	**18 06 32.2**	**-0.6**
	baz=216								
WGK	**Gukeng**	**1.35**	**224**	⇑*iP*		**Pn**	**Pn**	**18 06 15.5**	**+0.3**
	baz=232								
WGK				*e*S		**Sn**	**Sn**	**18 06 33.0**	**+0.4**
	baz=232								
ALS	**Alishan**	**1.36**	**212**	⇑*iP*		**Pn**	**Pn**	**18 06 15.9**	**+0.4**
	baz=210								
ALS				S		**Sn**	**Sn**	**18 06 33.8**	**+0.6**
	baz=210								
WTCT	**Ta-ch'eng**	**1.44**	**236**	⇑*iP*		**Pn**	**Pn**	**18 06 15.7**	**-0.5**
	baz=235								
WTCT				*e*S		**Sn**	**Sn**	**18 06 33.9**	**-0.7**
	baz=235								
CHN2	**Minshiung**	**1.52**	**222**	⇑*iP*		**Pn**	**Pn**	**18 06 17.7**	**+0.4**
	baz=229								
CHN2				S		**Sn**	**Sn**	**18 06 37.0**	**+0.5**
	baz=229								
CHKT	**Chengkung**	**1.58**	**187**	⇓*eP*		**Pn**	**Pn**	**18 06 16.8**	**-1.3**
	baz=175								
CHY	**Chiayi**	**1.58**	**222**	⇑*iP*		**Pn**	**Pn**	**18 06 18.3**	**+0.2**
	baz=229								
CHY				S		**Sn**	**Sn**	**18 06 37.9**	**0.0**
	baz=229								
CHN4	**Tsaushan**	**1.60**	**215**	⇑*iP*		**Pn**	**Pn**	**18 06 18.8**	**+0.4**
	baz=213								
CHN4				*e*S		**Sn**	**Sn**	**18 06 38.2**	**-0.1**
	baz=213								
WSF	**Szhu**	**1.61**	**231**	⇑*iP*		**Pn**	**Pn**	**18 06 18.2**	**-0.4**
	baz=229								
WSF				S		**Sn**	**Sn**	**18 06 38.3**	**-0.4**
	baz=229								
TPUB	**Ta-pu**	**1.62**	**213**	*e*Pn		**Pn**	**Pn**	**18 06 18.4**	**-0.3**
TPUB				*e*Sn		**Sn**	**Sn**	**18 06 37.4**	**-1.6**
WTP	**Ta-pu**	**1.67**	**212**	⇑*iP*		**Pn**	**Pn**	**18 06 19.6**	**+0.1**
	baz=210								
WTP				*e*S		**Sn**	**Sn**	**18 06 40.1**	**-0.1**
	baz=210								
STYT	**Tauyuan**	**1.68**	**207**	⇑*iP*		**Pn**	**Pn**	**18 06 20.1**	**+0.6**
	baz=215								
STYT				*e*S		**Sn**	**Sn**	**18 06 40.7**	**+0.3**
	baz=215								
TWK	**Hsinying**	**1.72**	**216**	⇑*iP*		**Pn**	**Pn**	**18 06 20.1**	**+0.1**
	baz=213								
CHN1	**Nanshi**	**1.77**	**213**	⇑*iP*		**Pn**	**Pn**	**18 06 20.7**	**+0.1**
	baz=211								
CHN1				*e*S		**Sn**	**Sn**	**18 06 42.6**	**+0.2**
	baz=211								
CHN8	**Yiju**	**1.82**	**224**	*e*P		**Pn**	**Pn**	**18 06 20.4**	**-0.9**
	baz=229								
CHN8				S		**Sn**	**Sn**	**18 06 43.8**	**+0.1**
	baz=229								
SGST	**Jiashian**	**1.83**	**210**	⇑*iP*		**Pn**	**Pn**	**18 06 21.9**	**+0.5**
	baz=208								
SGST				*e*S		**Sn**	**Sn**	**18 06 43.4**	**-0.4**
	baz=208								
TWG	**Pinlang**	**1.90**	**194**	*e*P		**Pn**	**Pn**	**18 06 20.2**	**-2.2**
	baz=182								
TWG	**Pinlang**	**1.90**	**194**	*e*Pn		**Pn**	**Pn**	**18 06 19.9**	**-2.5**
TWG				*e*Sn		**Sn**	**Sn**	**18 06 43.4**	**-2.1**
CHN3	**Shinhua**	**1.94**	**215**	⇑*iP*		**Pn**	**Pn**	**18 06 23.6**	**+0.7**
	baz=213								
CHN3				S		**Sn**	**Sn**	**18 06 47.8**	**+1.3**
	baz=213								
TTN	**Taitung**	**1.95**	**192**	*e*P		**Pn**	**Pn**	**18 06 21.3**	**-1.7**
	baz=181								
SCLT	**Jiali**	**1.96**	**221**	⇑*iP*		**Pn**	**Pn**	**18 06 23.1**	**0.0**
	baz=230								
SCLT				*e*S		**Sn**	**Sn**	**18 06 47.3**	**+0.4**
	baz=230								
IRIF	**Iriomote-Funau**	**1.98**	**99**	P		**Pn**	**Pn**	**18 06 23.2**	**-0.2**
IRIF				S		**Sn**	**Sn**	**18 06 46.9**	**-0.6**
TAI1	**Yung-k'ang**	**2.04**	**218**	⇑P		**Pn**	**Pn**	**18 06 24.6**	**+0.4**
	baz=215								
TAI1				S		**Sn**	**Sn**	**18 06 49.1**	**+0.2**
	baz=215								
SSD	**Sandimen**	**2.11**	**205**	⇑*iP*		**Pn**	**Pn**	**18 06 25.7**	**+0.6**
	baz=211								
SSD				*e*S		**Sn**	**Sn**	**18 06 50.7**	**+0.2**
	baz=211								
HATJ	**Hateruma jima**	**2.12**	**106**	P		**Pn**	**Pn**	**18 06 25.6**	**+0.4**
HATJ				S		**Sn**	**Sn**	**18 06 50.7**	**0.0**
TWM1	**Shoushan**	**2.12**	**210**	⇑*iP*		**Pn**	**Pn**	**18 06 26.6**	**+1.2**
	baz=207								
ECL	**Taimali**	**2.14**	**196**	*e*P		**Pn**	**Pn**	**18 06 23.7**	**-1.9**
	baz=185								
PNG	**Penghu**	**2.15**	**240**	⇑*iP*		**Pn**	**Pn**	**18 06 24.6**	**-1.2**
	baz=237								
PNG				*e*S		**Sn**	**Sn**	**18 06 49.7**	**-1.9**
	baz=237								
SGLT	**Jiouru**	**2.18**	**208**	*e*P		**Pn**	**Pn**	**18 06 27.4**	**+1.3**
	baz=214								
JKRS	**Kuro-shima**	**2.25**	**101**	P		**Pn**	**Pn**	**18 06 27.4**	**+0.3**
JKRS				S		**Sn**	**Sn**	**18 06 53.8**	**-0.1**
WDGT	**Dungji**	**2.25**	**232**	⇑*iP*		**Pn**	**Pn**	**18 06 25.9**	**-1.2**
	baz=229								
WDGT				S		**Sn**	**Sn**	**18 06 51.6**	**-2.3**
	baz=229								
JIJ	**Ishigaki jima**	**2.35**	**97**	P		**Pn**	**Pn**	**18 06 28.2**	**-0.2**
JIJ				S		**Sn**	**Sn**	**18 06 55.2**	**-1.1**
EAST	**Anshuo**	**2.38**	**197**	*e*P		**Pn**	**Pn**	**18 06 27.4**	**-1.4**
	baz=185								
TAW	**Tawu**	**2.39**	**195**	*e*P		**Pn**	**Pn**	**18 06 27.2**	**-1.7**
	baz=184								
SCZT	**Fangliau**	**2.45**	**201**	⇑*iP*		**Pn**	**Pn**	**18 06 30.3**	**+0.5**
	baz=209								
SCZT				*e*S		**Sn**	**Sn**	**18 07 00.7**	**+1.8**
	baz=209								
JISG	**Ishigakijimahi**	**2.48**	**91**	P		**Pn**	**Pn**	**18 06 30.3**	**+0.1**
JISG				S		**Sn**	**Sn**	**18 06 59.0**	**-0.5**
TWP	**Hsiaoliuchiu**	**2.57**	**206**	*e*P		**Pn**	**Pn**	**18 06 31.8**	**+0.4**
	baz=213								
LAY	**Lan-yu**	**2.62**	**181**	⇓P		**Pn**	**Pn**	**18 06 30.8**	**-1.3**
	baz=184								
QZH	**Quanzhou**	**2.73**	**276**	⇓*iP*		**Pn**	**Pn**	**18 06 32.3**	**-1.2**
QZH				S		**Sn**	**Sn**	**18 07 01.5**	**-4.1**
QZH				SMN					
	3μm,0.9s								
QZH				SME					
	1μm,0.6s								
HEN	**Hengchun**	**2.77**	**196**	*e*P		**Pn**	**Pn**	**18 06 33.7**	**-0.3**
	baz=193								
TWK1	**Hengchun**	**2.81**	**195**	*e*P		**Pn**	**Pn**	**18 06 34.0**	**-0.7**
	baz=183								
TSEB	**Hengchuen, Pin**	**2.83**	**193**	*e*P		**Pn**	**Pn**	**18 06 35.0**	**+0.1**
	baz=183								
JTJ	**Tarama**	**2.84**	**90**	P		**Pn**	**Pn**	**18 06 35.9**	**+0.9**
JTJ				S		**Sn**	**Sn**	**18 07 08.4**	**+0.3**
KNM	**Kinmen**	**2.88**	**266**	⇑*eP*		**Pn**	**Pn**	**18 06 36.0**	**+0.5**
	baz=264								
JIRB	**Irabujima**	**3.27**	**87**	P		**Pn**	**Pn**	**18 06 41.7**	**+0.9**
JIRB				*e*S		**Sn**	**Sn**	**18 07 19.4**	**+0.8**
JIKM	**Ikemajima**	**3.34**	**85**	P		**Pn**	**Pn**	**18 06 43.3**	**+1.5**
JIKM				S		**Sn**	**Sn**	**18 07 20.6**	**+0.3**
JMJ	**Miyako jima 2**	**3.38**	**87**	P		**Pn**	**Pn**	**18 06 43.6**	**+1.3**
JMJ				S		**Sn**	**Sn**	**18 07 21.4**	**+0.2**
JMJ	**Miyako jima 2**	**3.38**	**87**	*e*P		**Pn**	**Pn**	**18 06 43.3**	**+1.0**
	baz=90								
JOGS	**Gusukube**	**3.48**	**88**	P		**Pn**	**Pn**	**18 06 45.0**	**+1.3**
JOGS				*e*S		**Sn**	**Sn**	**18 07 24.1**	**+0.4**
JKE	**Kume jima 2**	**4.98**	**70**	P		**Pn**	**Pn**	**18 07 05.9**	**+1.7**
JKE				*e*S		**Sn**	**Sn**	**18 08 03.2**	**+2.7**
JAGN	**Aguni-jima**	**5.45**	**68**	P		**Pn**	**Pn**	**18 07 12.0**	**+1.4**
JJT2	**Tamagusuku 2**	**5.76**	**74**	P		**Pn**	**Pn**	**18 07 15.7**	**+0.9**
JNTH	**Nagotoyohara**	**6.10**	**71**	P		**Pn**	**Pn**	**18 07 19.8**	**+0.4**
JIH	**Iheya**	**6.21**	**66**	P		**Pn**	**Pn**	**18 07 21.7**	**+0.7**
JOW	**Kunigami**	**6.41**	**69**	P		**Pn**	**Pn**	**18 07 23.5**	**-0.1**
JOW	**Kunigami**	**6.41**	**69**	P		**Pn**	**Pn**	**18 07 23.7**	**0.0**
	2.4nm,0.3s,baz=128,slow=18,SNR=218								
JOW				S		**Sn**	**Sn**	**18 08 35.6**	**+0.3**
	0.2nm,0.3s,baz=114,slow=19,SNR=1.6								
JOW	**Kunigami**	**6.41**	**69**	*e*P		**Pn**	**Pn**	**18 07 23.6**	**-0.1**
	baz=74								
SSE	**Sheshan**	**6.41**	**357**	P		**Pn**	**Pn**	**18 07 22.5**	**-1.2**
SSE				S		**Sn**	**Sn**	**18 08 32.8**	**-2.6**
SSE				PMZ					
	57nm,0.6s								
SSE				PMZ					
	220nm,3.5s								
SSE				SMN					
	130nm,0.9s								
SSE				SME					
	220nm,0.9s								
JOKE	**Okinoerabujima**	**6.83**	**65**	P		**Pn**	**Pn**	**18 07 29.1**	**-0.4**
JTK	**Tokunoshima**	**7.31**	**63**	P		**Pn**	**Pn**	**18 07 35.4**	**-0.5**
JAMN	**Amaminishikomi**	**7.68**	**61**	P		**Pn**	**Pn**	**18 07 40.3**	**-0.7**
GZH	**Guangzhou**	**7.71**	**260**	P		Pn	18 07 35.3	-6.1	
GZH				S		Sn	18 08 50.5	-17	
GZH				smax		smax			
	comp=N,410nm,1.1s								
GZH				smax		smax			
	comp=E,440nm,1.1s								
NJ2	**Nanjing**	**7.74**	**343**	*e*P		**Pn**	**Pn**	**18 07 40.8**	**-1.0**
NJ2				S		**Sn**	**Sn**	**18 09 09.0**	**+1.2**
NJ2				PMZ					
	comp=E,50nm,0.7s								
NJ2				SMN					
	comp=E,360nm,0.9s								
NJ

HHC sS sS 18 13 38.0 -10
HHC PMZ
comp=Z,23nm,0.6s
HHC PMZ
comp=Z,140nm,3.6s
HHC LN
comp=Z,690nm,9.0s
HHC LE
comp=Z,690nm,8.5s
HHC LZ
comp=Z,660nm,8.1s
MAJO Matsushiro 18.54 46 *e*P **P 18 10 01.4 -1.0**
MJAR Matsushiro Arr 18.54 46 P **P 18 10 01.7 -0.8**
comp=Z,0.1nm,0.3s,baz=220,slow=9.6,SNR=5.5
MJAR LR LR 18 17 51.7
comp=Z,42nm,20.1s,baz=240,slow=39
BTO Baotou 18.61 331 *e*P **P 18 10 02.5 -0.7**
CBIJ Chichi jima 18.69 78 P **P 18 10 04.0 -0.2**
JCJ Chichijima 18.69 78 P **P 18 10 04.0 -0.2**
comp=Z,4.5nm,0.3s,baz=205,slow=6.3,SNR=7.1
LZH Lanzhou 19.04 311 ⇓P **Pn 18 10 11.0 +1.4**
LZH pP **pP 18 10 27.0 +3.6**
LZH PP **PnPn 18 10 30.5 +5.7**
LZH sP **sP 18 10 36.8 +3.8**
LZH *e*S **S 18 13 38.0 -2.3**
LZH sS Sn 18 13 54.0 +11
LZH PMZ
comp=Z,55nm,1.3s
LZH PMZ
comp=Z,160nm,5.4s
LZH LN
comp=Z,430nm,10.2s
LZH LE
comp=Z,250nm,11.8s
LZH LZ
comp=Z,480nm,12.6s
KKM Kota Kinabalu 19.22 196 *e*P **P 18 10 11.0 +0.8**
CN2 Changchun 19.34 8 *e*P **Pn 18 10 12.5 -0.4**
CN2 PMZ
comp=Z,10.0nm,0.6s
USRK Ussuriysk Ar. 21.25 21 P **P 18 10 32.6 +0.8**
comp=Z,2.9nm,0.5s,baz=215,slow=9.9,SNR=12
CHTO Chiang Mai 21.81 259 *e*P **P 18 10 39.5 +1.6**
comp=Z,4.2nm,1.0s
CM31 Chiang Mai Arr 21.93 258 P **P 18 10 38.1 -1.2**
CMAR Chiang Mai Arr 21.93 258 P **P 18 10 41.2 +2.0**
comp=Z,1.5nm,0.8s,baz=59,slow=8.0,SNR=9.8
CMAR LR LR 18 19 08.6
comp=Z,46nm,19.1s,baz=80,slow=36
CMAR Chiang Mai Arr 21.93 258 P **P 18 10 41.3 +2.0**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR MLR MLR
comp=Z,46nm,19.1s
GTA Gaotai 23.51 314 ⇑P **P 18 10 55.3 +0.1**
GTA pP **pP 18 11 12.8 +1.0**
GTA sP **sP 18 11 21.3 +0.1**
GTA PP **PnPn 18 11 32.3 +6.6**
GTA PcP **PcP 18 14 38.8 0.0**
GTA S **S 18 15 05.0 +1.7**
GTA PMZ
comp=Z,21nm,1.2s
GTA PMZ
comp=Z,130nm,4.5s
GTA LN
comp=Z,260nm,19.9s
GTA LE
comp=Z,330nm,19.5s
SBUM Sibu 23.87 204 *e*P **P 18 10 57.5 -1.0**
comp=Z,24nm,1.1s
GUMO Guam 24.56 112 LR LR 18 20 44.1
comp=Z,32nm,19.0s,baz=311,slow=36
HIA Hailar 24.59 357 P **P 18 11 04.4 -0.4**
APSI Ampana 25.43 180 P **P 18 11 09.6 -3.0**
comp=Z,27nm,1.1s
KSM Kuching 25.51 207 Pn **P 18 11 12.8 -0.6**
comp=Z,40nm,1.5s
KLR Kul'dur 25.78 15 *e*P **P 18 11 12.7 -2.8**
ASAJ Asahikawa 25.89 36 P **P 18 11 19.7 +3.1**
comp=Z,2.1nm,0.5s,baz=0.0,slow=20
ASAJ Asahikawa 25.89 36 P **P 18 11 19.7 +3.1**
ASAJ pmax pmax
comp=Z,2.0nm,0.5s
HABR Khabarovsk 26.02 21 *e*P **P 18 11 13.6 -4.1**
HABR *e**SP sP 18 11 38.6 -5.7
HABR *e* 18 11 53.7
HABR *e* 18 14 41.8
HABR S **S 18 15 37.4 -5.6**
HABR *e* 18 22 03.9
HABR pmax pmax
comp=Z,11nm,1.3s
HABR MLR MLR
comp=Z,44nm,18.0s
SONM Songino Array 26.07 336 P **P 18 11 19.0 +0.7**
comp=Z,8.9nm,1.0s,baz=152,slow=9.8,SNR=44
SONM LR LR 18 22 33.0
comp=Z,71nm,20.6s,baz=76,slow=38
SONM Songino Array 26.07 336 P **P 18 11 19.0 +0.7**
SONM pmax pmax
comp=Z,9.0nm,1.0s
SONM MLR MLR
comp=Z,71nm,20.6s
LSA Lhasa 27.49 287 *e*P **P 18 11 32.8 +1.1**
comp=Z,6.3nm,0.6s
YSS Yuzh-Sakhalins 27.92 32 P **P 18 11 30.8 -4.0**
TLY Talaya 30.26 338 *i*P **P 18 11 55.9 +0.4**
TLY pmax pmax
comp=Z,10.0nm,1.6s
JAY Jayapura 32.79 143 LR LR 18 23 56.5
comp=Z,52nm,21.8s,baz=325,slow=33
WMQ Urumqi 33.59 313 P **P 18 12 26.0 +1.2**
WMQ pP **pP 18 12 43.8 +1.0**
WMQ sP **sP 18 12 53.0 +1.3**
WMQ PP **PP 18 13 41.0 -1.1**
WMQ PMZ
comp=Z,12nm,0.9s
WMQ PMZ
comp=Z,100nm,5.0s
WMQ LN
comp=Z,66nm,17.6s
WMQ LE
comp=Z,71nm,18.4s
HVS Khovu-Aksy 34.00 328 ⇑*e*P **P 18 12 28.9 +0.5**
HVS pmax pmax
comp=Z,15nm,0.6s
YAK Yakutsk 37.75 6 P **P 18 12 58.8 -1.3**
comp=Z,0.8nm,0.3s,baz=22,slow=23,SNR=3.2
YAK Yakutsk 37.75 6 *e*P **P 18 12 57.1 -3.0**
YAK pmax pmax
comp=Z,14nm,1.1s
YAK Yakutsk 37.75 6 P **P 18 12 58.2 -1.9**
MK31 Makanchi Array 38.25 315 *e*P **P 18 13 04.7 +0.1**
MK31 pmax pmax
comp=Z,5.0nm,0.5s
MK31 Makanchi Array 38.25 315 *e*P **P 18 13 04.6 +0.1**
MKAR Makanchi Array 38.25 315 *e*P **P 18 13 05.0 +0.5**
PDGK Podgornoye 39.07 309 P **P 18 13 12.1 +0.7**
PDGK pmax pmax
comp=Z,36nm,1.1s
PETK Petropavlovsk- 39.26 34 LR LR 18 29 41.4
comp=Z,26nm,19.1s,baz=224,slow=36
ZAA0 Zalesovo Array 40.04 327 *e*P **P 18 13 18.0 -1.4**
ZALV Zalesovo Beam 40.04 327 P **P 18 13 18.7 -0.6**
comp=Z,7.0nm,0.7s,baz=115,slow=7.8,SNR=35
ZALV PcP **PcP 18 15 21.1 -1.8**
comp=Z,0.7nm,0.5s,baz=93,slow=4.9,SNR=2.6
ZALV Zalesovo Beam 40.04 327 P **P 18 13 18.7 -0.6**
ZALV 18 15 21.1
ZALV pmax pmax
comp=Z,7.0nm,0.7s
ZALV pmax pmax
comp=Z,1.0nm,0.5s
KSH Kashi 40.94 302 P P 18 13 31.3 +4.1
KSH pP pP 18 13 47.5 +1.9
KSH sP sP 18 13 56.5 +2.1
KSH PP **PnPn 18 15 11.5 +3.8**
KSH PcS **PcS 18 19 18.5 +1.1**
KSH S **S 18 19 39.3 +5.6**
KSH sS sS 18 20 06.5 +1.3
KSH PMZ
comp=Z,8.0nm,1.2s
KSH PMZ
comp=Z,61nm,4.3s
KSH LN
comp=Z,250nm,9.5s
KSH LE
comp=Z,170nm,7.7s
KSH LZ
comp=Z,160nm,5.8s
NVS Novosibirsk 41.30 327 *e*P **P 18 13 28.5 -1.2**
NVS pmax pmax
comp=Z,16nm,1.7s
NVS pmax pmax
comp=N,6.0nm,1.6s
NVS pmax pmax
comp=E,8.0nm,1.8s
TKM2 Tokmak 2 41.76 308 *i*P **P 18 13 34.9 +1.0**
TKM2 pmax pmax
comp=Z,12nm,1.0s
TKM2 Tokmak 2 41.76 308 *e*P **P 18 13 34.9 +1.0**
comp=Z,10nm,0.9s
KURK Kurchatov 41.96 320 *i*P **P 18 13 34.9 -0.2**
KURK pmax pmax
comp=Z,8.0nm,1.9s
KURK Kurchatov 41.96 320 *e*P **P 18 13 34.5 -0.6**
comp=Z,13nm,0.9s
AAK Ala-Archa 42.50 307 LR LR 18 32 34.6
comp=Z,67nm,19.2s,baz=124,slow=38
AAK Ala-Archa 42.50 307 ⇓*e*P P 18 13 51.4 +11
EKS2 Erkin-Say 43.03 307 *e*P **P 18 13 44.3 +0.2**
comp=Z,2.7nm,0.8s
SEY Seymchan 43.40 20 P **P 18 13 45.3 -1.3**
comp=Z,0.7nm,0.6s,baz=211,slow=18,SNR=3.3
SEY Seymchan 43.40 20 P **P 18 13 45.3 -1.3**
SEY pmax pmax
comp=Z,1.0nm,0.6s
KK31 Karatay Array 45.47 307 *i*P **P 18 14 04.3 +0.8**
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 45.47 307 *e*P **P 18 14 04.3 +0.8**
MBWA Marble Bar 45.59 182 P **P 18 14 02.5 -2.0**
WRAB Tennant Creek 46.05 163 ⇓*e*P P 18 14 11.6 +3.4
WRAB pmax pmax
comp=Z,35nm,2.3s
WRAB Tennant Creek 46.05 163 P **P 18 14 07.0 -1.2**
WRA Warramunga Arr 46.05 163 P **P 18 14 07.8 -0.4**
comp=Z,2.3nm,0.6s,baz=347,slow=8.7,SNR=14
WRA PcP **PcP 18 15 42.4 -1.1**
comp=Z,0.4nm,0.5s,baz=319,slow=4.9,SNR=3.5
WRA Warramunga Arr 46.05 163 P **P 18 14 07.8 -0.4**
WRA 18 15 42.4
WRA pmax pmax
comp=Z,2.0nm,0.6s
KBL Kabul 46.29 295 *e*P **P 18 14 11.6 +1.3**
comp=Z,7.3nm,0.6s
TIXI Tiksi 47.19 3 ⇓*i*P **P 18 14 15.5 -1.0**
TIXI pmax pmax
comp=Z,14nm,1.5s
TIXI Tiksi 47.19 3 *e*P **P 18 14 15.2 -1.3**
comp=Z,18nm,1.4s
BVA0 Borovoye Array 47.53 320 *i*P **P 18 14 19.0 -0.5**
BVA0 pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 47.60 320 *c i*P **P 18 14 19.7 -0.3**
BRVK pmax pmax
comp=Z,11nm,1.1s
BRVK Borovoye 47.60 320 *e*P **P 18 14 20.1 +0.1**
comp=Z,16nm,1.3s
ASAR Alice Springs 49.51 165 P **P 18 14 34.6 -0.3**
comp=Z,0.5nm,0.3s,baz=341,slow=6.7,SNR=14
ASAR PcP **PcP 18 15 55.2 -0.7**
comp=Z,0.4nm,0.5s,baz=341,slow=3.6,SNR=4.4
ASAR Alice Springs 49.51 165 P **P 18 14 34.7 -0.3**
ASAR 18 15 55.2
ASAR pmax pmax
comp=Z,1.0nm,0.3s
BILL Bilibino 51.10 20 ⇑*e*P **P 18 14 46.1 -0.3**
BILL *PP **pP 18 15 10.0 +4.5**
BILL S **S 18 22 04.0 +5.8**
BILL pmax pmax
comp=Z,14nm,2.1s
BILL Bilibino 51.10 20 *e*P **P 18 14 45.5 -0.9**
comp=Z,4.8nm,0.8s
AB31 Akbulak array 53.36 314 *i*P **P 18 15 03.4 -0.1**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 53.36 314 *e*P **P 18 15 04.0 +0.5**
AKTO Aktyubinsk 54.68 315 LR LR 18 40 51.4
comp=Z,56nm,19.0s,baz=122,slow=38
GEYT Alibeck 54.87 300 P **P 18 15 16.4 +1.7**
comp=Z,8.2nm,0.7s,baz=46,slow=4.3,SNR=21
ARU Arti 54.94 323 *c i*P **P 18 15 14.0 -0.8**
ARU *PP **pP 18 15 35.8 +1.8**
ARU 18 17 25.0
ARU S **S 18 22 50.8 +0.1**
ARU SS **SS 18 26 31.2 -3.6**
ARU pmax pmax
comp=Z,12nm,1.7s
ARU Arti 54.94 323 *e*P **P 18 15 12.7 -2.1**
comp=Z,4.7nm,0.7s
STKA Stephens Creek 59.39 160 P **P 18 15 47.5 +1.1**
comp=Z,1.4nm,0.5s,baz=344,slow=7.5,SNR=3.0
STKA Stephens Creek 59.39 160 P **P 18 15 47.6 +1.1**
STKA pmax pmax
comp=Z,1.0nm,0.5s
KBZ Khabaz 65.46 309 P **P 18 16 27.2 +0.3**
KBZ pmax pmax
comp=Z,3.0nm,0.9s,baz=159,slow=5.0,SNR=5.3
KBZ Khabaz 65.46 309 P **P 18 16 27.2 +0.3**
comp=Z,3.0nm,0.9s
KIV Kislovodsk 65.57 309 ⇓*i*P **P 18 16 28.9 +1.2**
KIV pmax pmax
comp=Z,21nm,1.5s
KIV MLR MLR
comp=Z,25nm,17.0s
NEY Neytrino 65.68 308 ⇓*e*P **P 18 16 31.0 +2.4**
NEY pmax pmax
comp=Z,2.0nm,1.2s
OBN Obninsk 67.35 322 ⇓*e*P **P 18 16 38.2 -0.5**
OBN pmax pmax
comp=Z,21nm,2.1s
OBN MLR MLR
comp=Z,45nm,22.0s
RAYN Ar Rayn 68.56 287 *e*P **P 18 16 47.3 +0.4**
SML Sawmill 68.61 31 P **P 18 16 44.2 -2.4**
ILAR Eielson Array 68.61 27 P **P 18 16 45.2 -1.3**
comp=Z,0.3nm,0.5s,baz=266,slow=6.2,SNR=4.1
ARCES ARCESS Array B 69.22 338 P **P 18 16 49.9 -0.3**
comp=Z,1.nm,0.7s,baz=66,slow=9.4,SNR=8.5
ARCES ARCESS Array B 69.22 338 P **P 18 16 49.9 -0.3**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
MALT Malatya 70.03 304 ⇓*i*P **P 18 16 57.3 +1.4**
FINES FINESS Array B 71.21 330 P **P 18 17 02.1 -0.4**
comp=Z,14nm,0.8s,baz=76,slow=5.4,SNR=80
FINES LR LR 18 52 11.7
comp=Z,51nm,18.3s,baz=87,slow=39
VSU Vasula 71.78 327 *c i*P **P 18 17 05.8 -0.1**
VSU pmax pmax
comp=Z,47nm,0.9s
AKASG Malin Array Be 72.75 318 P **P 18 17 11.1 -0.8**
comp=Z,3.4nm,0.8s,baz=59,slow=6.1,SNR=14
AKASG LR LR 18 52 37.7
comp=Z,46nm,19.5s,baz=105,slow=38
AKASG Malin Array Be 72.75 318 *i*P **P 18 17 11.5 -0.4**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 72.76 318 *d i*P **P 18 17 11.3 -0.6**
BR131 Keskin Array S 73.18 306 *e*P **P 18 17 14.7 -0.1**
comp=Z,1.4nm,0.5s
BRTR Keskin Array B 73.18 306 P **P 18 17 14.9 +0.1**
comp=Z,5.1nm,0.7s,baz=102,slow=5.7,SNR=36
BRTR LR LR 18 56 02.6
comp=Z,16nm,21.2s,baz=104,slow=41
BRTR Keskin Array B 73.18 306 *i*P **P 18 17 15.3 +0.5**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
CSS Prodhromos 74.96 302 *e*P **P 18 17 25.7 +0.6**
comp=Z,5.7nm,0.6s
SUW Suwalki 75.13 323 *e*P **P 18 17 24.9 -0.7**
SUW Suwalki 75.13 323 *e*P **P 18 17 25.0 -0.7**
CFR Carcaliu 75.24 313 ⇓P **P 18 17 26.3 -0.2**
CFR Carcaliu 75.24 313 ⇓*i*P **P 18 17 26.3 -0.2**
TIRR Tirgusor 75.30 312 ⇓P **P 18 17 27.0 +0.1**
TIRR Tirgusor 75.30 312 ⇓*i*P **P 18 17 27.0 +0.1**
TESR Tescani 75.75 315 ⇑*i*P **P 18 17 29.3 -0.1**
VRI Vrincioaia 75.93 314 ⇑P **P 18 17 31.8 +1.3**
VRI Vrincioaia 75.93 314 ⇑*i*P **P 18 17 31.8 +1.3**
MLR Muntele Rosu 76.58 314 ⇑P **P 18 17 34.9 +0.6**
MLR Muntele Rosu 76.58 314 ⇑*i*P **P 18 17 34.9 +0.6**
KWP Kalwaria Pacla 77.05 319 *e*P **P 18 17 37.2 +0.5**
KWP Kalwaria Pacla 77.05 319 *e*P **P 18 17 37.3 +0.5**
BEL Belsk 77.30 321 *e*P **P 18 17 38.5 +0.5**
BEL Belsk 77.30 321 *e*P **P 18 17 38.5 +0.5**
HUMR Humele 77.57 313 ⇑*i*P **P 18 17 39.5 -0.2**
KOLS Kolonicke sedl 77.58 318 *e*P **P 18 17 40.2 +0.5**
KOLS Kolonicke sedl 77.58 318 *e*P **P 18 17 40.2 +0.5**
NB2 NORSAR Subarra 77.97 332 P **P 18 17 40.8 -0.9**
comp=Z,2.2nm,0.6s,baz=59,slow=5.6
NOA NORSAR Array B 77.97 332 P **P 18 17 40.8 -0.9**
comp=Z,5.0nm,0.8s,baz=59,slow=5.7,SNR=16
NOA LR LR 18 57 18.2
comp=Z,20nm,18.1s,baz=295,slow=40
NOA NORSAR Array B 77.97 332 P **P 18 17 40.8 -0.9**
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA MLR MLR
comp=Z,20nm,18.1s
STHS Stebnicka Huta 78.01 319 *e*P **P 18 17 42.6 +0.5**
STHS Stebnicka Huta 78.01 319 *e*P **P 18 17 42.6 +0.5**
OJC Ojcow 78.54 320 *e*P **P 18 17 45.4 +0.4**
OJC Ojcow 78.54 320 *e*P **P 18 17 45.4 +0.4**
OJC Ojcow 78.54 320 *e*P **P 18 17 45.3 +0.3**
comp=Z,19nm,0.9s
NIE Niedzica 78.57 319 *e*P **P 18 17 46.0 +0.8**
NIE Niedzica 78.57 319 *e*P **P 18 17 46.0 +0.8**
KECS Kecovo 78.85 318 *e*P **P 18 17 46.7 0.0**
KECS Kecovo 78.85 318 *e*P **P 18 17 46.7 0.0**
PSZ Piszkesteto 79.45 318 *e*P **P 18 17 50.3 +0.2**
comp=Z,6.6nm,1.0s
VTS Vitosha 79.51 312 ⇑P **P 18 17 50.4 -0.2**
VTS Vitosha 79.51 312 ⇑*i*P **P 18 17 50.4 -0.2**
MMB Musomiste 79.56 311 ⇓P **P 18 17 50.0 -0.8**
MMB Musomiste 79.56 311 ⇓*i*P **P 18 17 50.0 -0.8**
OKC Ostrava-Krasne 79.66 320 *i*P **P 18 17 51.0 -0.1**
OKC Ostrava-Krasne 79.66 320 *i*P **P 18 17 51.0 -0.1**
MORC Moravsky Berou 80.04 320 ⇓P **P 18 17 53.5 +0.2**
MORC Moravsky Berou 80.04 320 ⇓*i*P **P 18 17 53.5 +0.2**
MORC Moravsky Berou 80.04 320 *e*P **P 18 17 53.4 +0.2**
comp=Z,13nm,0.9s
KSP Ksiaz 80.28 322 *e*P **P 18 17 55.1 +0.7**
KSP Ksiaz 80.28 322 *e*P **P 18 17 55.1 +0.7**
DPC Dobruska-Polom 80.48 321 *i*P **P 18 17 56.0 +0.4**
DPC Dobruska-Polom 80.48 321 *i*P **P 18 17 56.0 +0.4**
UPC Upice 80.59 321 *i*P **P 18 17 56.7 +0.6**
UPC Upice 80.59 321 *i*P **P 18 17 56.7 +0.6**
VRAC Vranov 80.80 320 ⇓P **P 18 17 57.8 +0.5**
VRAC Vranov 80.80 320 ⇓*i*P **P 18 17 57.8 +0.5**
PKSM Moragy 80.96 317 ⇓P **P 18 17 58.0 -0.1**
PKSM Moragy 80.96 317 ⇓*i*P **P 18 17 58.0 -0.1**
DIVS Divibare 81.02 314 ⇓*i*P **P 18 17 58.6 0.0**
GOPC GO Pecny, Ondr 81.56 321 *i*P **P 18 18 01.9 +0.6**
PRU Pruhonice 81.67 321 *i*P **P 18 18 01.7 -0.1**
PRU Pruhonice 81.67 321 *i*P **P 18 18 01.7 -0.1**
CLL Collm 81.89 323 ⇑*i*P **P 18 18 02.6 -0.3**
comp=Z,5.0nm,0.8s
CLL *ep*PcP 18 18 28.0
CLL Collm 81.89 323 ⇑*i*P **P 18 18 02.6 -0.3**
CLL *e**SP **sP 18 18 28.0 -3.6**
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 81.89 323 *e*P **P 18 18 02.9 0.0**
comp=Z,5.5nm,0.7s
YKA Yellowknife Ar 82.38 23 P **P 18 18 04.4 -0.9**
comp=Z,1.7nm,0.8s,baz=316,slow=4.8,SNR=19
YKA Yellowknife Ar 82.38 23 P **P 18 18 04.4 -0.9**
YKA pmax pmax
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 82.63 321 *i*P **P 18 18 07.2 +0.3**
KHC Kasperske Hory 82.63 321 *i*P **P 18 18 07.2 +0.3**
GERES GERESS Array B 82.70 321 P **P 18 18 07.6 +0.2**
comp=Z,2.9nm,0.8s,baz=62,slow=5.0,SNR=25
GERES LR LR 18 57 12.4
comp=Z,30nm,18.8s,baz=72,slow=37
GERES GERESS Array B 82.70 321 P **P 18 18 07.6 +0.2**
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES MLR MLR
comp=Z,31nm,18.8s
FUORN Ofenpass-Fuorn 85.83 320 *e*P **P 18 18 24.1 +0.7**
comp=Z,6.1nm,0.8s
CEL Celeste 86.43 311 *e*P **P 18 18 27.2 +0.9**
comp=Z,18nm,1.0s
NVAR Mina Array Bea 95.83 43 P **P 18 19 09.8 -0.5**
comp=Z,0.4nm,0.6s,baz=286,slow=4.8,SNR=4.0
PV04 Paradox Valley 101.43 38 *e*Pdif **Pdif 18 19 36.0 +0.5**
SDV Santo Domingo 144.58 21 *e*PKPdf **PKPab 18 25 18.7 -0.7**

*IDC **26** 18:22:42.1±2.4,31.62N×87.30E,h0km,mb3.4/4, mb1 3.6/5,mb1mx3.2/43,mbtmp3.5/5,MS3.3/5,Ms1 3.3/5, ms1mx2.9/32,Error ellipse: s-maj=76.3km s-min=23.8km az=70.0*

ISC 26 18:22:48.9±1.8,31.8N±0.2×88.1E±0.2,h35km,n9,σ2.99/6, mb3.3/3,MS3.2/5,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**13.43**	**90**	*e*P		**Pn**	**18 25 55.0**	**-2.1**
CMAR	**Chiang Mai Arr**	**16.53**	**141**	Pn		**P**	**18 26 41.1**	**+0.8**
	baz=329,slow=12,SNR=4.7							
KURBB	**Kurchatov Arra**	**20.08**	**342**	P		**P**	**18 27 16.0**	**-3.2**
	1.6nm,0.2s,baz=156,slow=9.6,SNR=8.4							
SONM	**Songino Array**	**21.22**	**36**	P		**P**	**18 27 35.0**	**+3.3**
	1.2nm,1.0s,baz=220,slow=15,SNR=3.9							
SONM				LR		LR	18 35 57.0	
	comp=Z,51nm,18.4s,baz=238,slow=36							
ZALV	**Zalesovo Beam**	**22.25**	**355**	P		**P**	**18 27 43.2**	**+0.7**
	0.4nm,0.4s,baz=181,slow=9.7,SNR=3.6							
ZALV				LR		LR	18 37 26.0	
	comp=Z,89nm,18.1s,baz=248,slow=40							
KSRS	**Korea Array**	**33.09**	**69**	LR		LR	18 44 16.5	
	comp=Z,41nm,18.9s,baz=258,slow=38							
USRK	**Ussuriysk Ar.**	**36.33**	**57**	LR		LR	18 45 32.3	
	comp=Z,73nm,18.8s,baz=261,slow=37							
MJAR	**Matsushiro Arr**	**41.37**	**69**	LR		LR	18 49 12.7	
	comp=Z,36nm,19.4s,baz=210,slow=38							
WRA	**Warramunga Arr**	**67.92**	**133**	P		**P**	**18 33 44.8**	**+0.5**
	0.2nm,0.6s,baz=327,slow=6.6,SNR=2.4							

*IDC **26** 18:34:37.0±1.3,29.57N×131.74E,h0km,mb3.3/3, mb1 3.5/5,mb1mx3.3/33,mbtmp3.5/5,ML3.4/2,Error ellipse: s-maj=40.9km s-min=21.1km az=87.0*
*JMA **26** 18:34:39.8±0.1,29.67N×131.74E,h50km,M3.3*

ISC 26 18:34:38.2±2.1,29.65N±0.05×131.67E±0.08,h12km±12km, n17,σ1.01/26,mb3.3/3,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JYAK	**Yakushimahirau**	**1.17**	**301**	P		**Pg**	**18 35 00.7**	**+0.1**
JYAK				S		**Sg**	**18 35 15.7**	**-0.1**
JTN	**Tanegashima 3**	**1.17**	**329**	P		**Pg**	**18 35 00.2**	**-0.5**
JTN				S		**Sg**	**18 35 15.5**	**-0.4**
JKC	**Kuchinoerabu**	**1.51**	**303**	P		**Pn**	**18 35 06.0**	**+0.9**
JKC				S		**Sn**	**18 35 25.0**	**+0.2**
JNN	**Nakanoshima**	**1.57**	**277**	P		**Pn**	**18 35 06.9**	**+0.9**
JTSR	**Tashiro 2**	**1.65**	**337**	P		**Pn**	**18 35 06.9**	**-0.1**
JTSR				S		**Sn**	**18 35 26.6**	**-1.6**
JNAR	**Kushima--Naru**	**1.90**	**350**	P		**Pn**	**18 35 10.7**	**+0.2**
JNAR				S		**Sn**	**18 35 33.1**	**-1.4**
JAM	**Amami Oshima**	**2.19**	**236**	P		**Pn**	**18 35 15.0**	**+0.6**
JAM				*e*S		**Sn**	**18 35 41.2**	**-0.2**
JTAJ	**Takarajima**	**2.21**	**258**	P		**Pn**	**18 35 15.6**	**+0.9**
JTZ	**Takazaki**	**2.30**	**348**	P		**Pn**	**18 35 16.5**	**+0.5**
JTZ				S		**Sn**	**18 35 43.1**	**-1.2**
JAMN	**Amaminishikomi**	**2.59**	**238**	P		**Pn**	**18 35 20.9**	**+0.9**
JAMN				S		**Sn**	**18 35 51.6**	**+0.1**
JSJ	**Shimokoshiki**	**2.63**	**321**	P		**Pn**	**18 35 20.1**	**-0.5**
JNU	**Nakatsue**	**3.53**	**349**	Pn		**Pn**	**18 35 33.9**	**+1.0**
	5.2nm,0.3s,baz=186,slow=14,SNR=16							
JNU				Sn		Sn	18 36 11.7	-3.0
	2.1nm,0.3s,baz=245,slow=11,SNR=4.4							
JOW	**Kunigami**	**4.10**	**228**	Pn		**Pn**	**18 35 40.9**	**+0.1**
	baz=272,slow=15							
JOW				Sn		**Sn**	**18 36 26.1**	**-2.6**
	0.5nm,0.3s,baz=183,slow=29,SNR=6.6							
MJAR	**Matsushiro Arr**	**8.79**	**37**	Pn		**Pn**	**18 36 46.3**	**+1.1**
	0.2nm,0.3s,baz=238,slow=14,SNR=4.4							
SONM	**Songino Array**	**26.61**	**320**	P		**P**	**18 40 18.2**	**+1.6**
	0.2nm,0.4s,baz=127,slow=9.6,SNR=2.6							
WRA	**Warramunga Arr**	**49.37**	**177**	P		**P**	**18 43 28.2**	**+0.4**
	0.3nm,0.6s,baz=354,slow=7.8,SNR=3.4							

ASAR **Alice Springs** 53.05 177 P **P** 18 43 54.6 -0.7
0.3nm,0.7s,baz=15,slow=12,SNR=4.9

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*IGQ **26** 18:40:11±0.9, 4.°96S×77.°45W, h24km±67km, Mb5.1, Error ellipse: s-maj=9.4km s-min=8.1km az=127.6*
*MOS **26** 18:40:12.8±0.9, 4.°73S×77.°21W, h112km, mb4.9/11, Error ellipse: s-maj=14.1km s-min=8.9km az=104.2*
*ISCJB **26** 18:40:14.7±0.3, 4.°74S±0.°02×77.°32W±0.°03, h135km±2km, mb4.8/189, Error ellipse: s-maj=5.1km s-min=3.4km az=145.5*
*IDC **26** 18:40:14.7±1.4, 4.°71S×77.°33W, h120km±13km, mb4.4/19, mb1 4.6/25, mb1mx4.5/32, mbtmp4.8/25, MS3.7/3, Ms1 3.8/3, ms1mx3.2/29, Error ellipse: s-maj=14.3km s-min=9.6km az=58.0*
*NEIC **26** 18:40:14.2±0.2, 4.°69S×77.°23W, mb5.1/141, Error ellipse: s-maj=6.1km s-min=3.8km az=58.0*
NEIC Felt [II] at Bagua Grande, Chachapoyas and Santa Maria Nieva. Also felt at Cutervo. Felt at La Mana and Loja, Ecuador.
*GCMT **26** 18:40:14.2±0.3, 4.°81S×77.°30W, h124km±2km, MW5.2/91, Moment Tensor Solution. s63,c79; s91,c128; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=5.21±.14; Mθθ=2.41±.18; Mφφ=7.63±.22; Mrθ=0.96±.11; Mrφ=-0.37±.20; Mθφ=1.94±.17; Best double couple: M0=6.84000×10^16^ NP1:φs=165.00000°, δ55.00000°, λ=-108.00000°. NP2: φs=14.00000°, δ39.00000°, λ=-66.00000°. Principal axes: T 7.9420, Plg9.0000°, Azm267.0000°; N -2.1930, Plg15.0000°, Azm175.0000°; P -5.7380, Plg73.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 26 18:40:14.0±0.3, 4.°78S±0.°04×77.°27W±0.°06, h117km±2km, h117km:pP-P, n940, σ1.914/1010, mb5.0/191, 19C-32D, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ATAH	**Atahualpa**	**2.60**	**205**	P		**Pn**	**18 40 57.4**	**+2.0**
	67nm,0.3s,baz=25,slow=7.6,SNR=416							
ATAH				S		**Sn**	**18 41 29.0**	**+1.9**
	284nm,0.3s,baz=180,slow=18,SNR=30							
MACE	**Macas**	**2.67**	**340**	↑P		**Pn**	**18 40 55.9**	**-0.2**
RIOE	**Riobamba**	**3.30**	**336**	P		**Pn**	**18 41 05.2**	**+0.7**
RIOE	**Riobamba**	**3.30**	**336**	S		**Sn**	**18 41 43.6**	**+0.3**
PAT1	**Patacocha**	**3.45**	**340**	P		**Pn**	**18 41 07.9**	**+1.2**
ARRY	**Arrayan**	**3.46**	**340**	↑P		**Pn**	**18 41 06.4**	**-0.2**
BMAS	**Trigal station**	**3.47**	**340**	P		**Pn**	**18 41 07.3**	**+0.6**
BMAS	**Trigal station**	**3.47**	**340**	S		**Sn**	**18 41 46.5**	**-1.1**
ULBA	**Ulba**	**3.49**	**341**	P		**Pn**	**18 41 08.5**	**+1.4**
RETU	**Refugio**	**3.50**	**340**	P		**Pn**	**18 41 08.3**	**+0.9**
BULB	**Ulba Tungurahu**	**3.51**	**341**	P		**Pn**	**18 41 07.5**	**+0.2**
BULB	**Ulba Tungurahu**	**3.51**	**341**	S		**Sn**	**18 41 48.0**	**-0.4**
BIL2	**Estacion Bilba**	**3.52**	**339**	↑P		**Pn**	**18 41 09.2**	**+1.8**
BRUN	**Tungurahua Vol**	**3.52**	**341**	P		**Pn**	**18 41 07.5**	**0.0**
RUN5	**Runtun**	**3.53**	**341**	P		**Pn**	**18 41 08.8**	**+1.2**
JUI6	**Juive**	**3.54**	**340**	P		**Pn**	**18 41 08.4**	**+0.7**
IGUA	**Igualata**	**3.54**	**337**	P		**Pn**	**18 41 10.0**	**+2.1**
PISA	**Pisayambo**	**3.86**	**343**	P		**Pn**	**18 41 13.5**	**+1.4**
BMOR	**Cotopaxi Volca**	**4.19**	**343**	↓P		**Pn**	**18 41 19.6**	**+3.0**
TAMB	**Tambo**	**4.20**	**345**	P		**Pn**	**18 41 18.6**	**+1.9**
MOV1	**Cotopaxi Vol s**	**4.20**	**344**	P		**Pn**	**18 41 18.2**	**+1.4**
COV1	**Cotopaxi Volc**	**4.22**	**345**	P		**Pn**	**18 41 19.1**	**+2.0**
BTAM	**Cotopaxi Volca**	**4.23**	**344**	P		**Pn**	**18 41 19.0**	**+1.9**
BREF	**Cotopaxi Volca**	**4.24**	**344**	↑↑P		**Pn**	**18 41 19.9**	**+2.6**
BVC2	**Cotopaxi Volca**	**4.25**	**344**	↑↑P		**Pn**	**18 41 19.7**	**+2.4**
BNAS	**Cotopaxi Volca**	**4.25**	**343**	↑↑P		**Pn**	**18 41 19.6**	**+2.2**
CAMI	**Rancho Maria**	**4.25**	**343**	P		**Pn**	**18 41 19.3**	**+1.9**
VC1	**Cotopaxi 1**	**4.26**	**345**	P		**Pn**	**18 41 18.1**	**+0.6**
NAS2	**Nasa**	**4.27**	**344**	P		**Pn**	**18 41 20.7**	**+3.1**
PITA	**Cotopaxi Volc**	**4.35**	**344**	P		**Pn**	**18 41 20.1**	**+1.5**
ANTI	**Antisana**	**4.39**	**348**	P		**Pn**	**18 41 19.1**	**-0.2**
CHAR	**Charly**	**4.67**	**355**	P		**Pn**	**18 41 23.8**	**+0.9**
CONE	**Cono NE Rev Vo**	**4.69**	**355**	↑↑P		**Pn**	**18 41 23.1**	**0.0**
JUA2	**San Juan 2**	**4.72**	**344**	P		**Pn**	**18 41 25.9**	**+2.3**
GGP	**Refugio Guagua**	**4.76**	**344**	P		**Pn**	**18 41 24.4**	**+0.2**
TERV	**Terraza Guagua**	**4.76**	**344**	P		**Pn**	**18 41 26.6**	**+2.4**
PINO	**Pino**	**4.78**	**344**	↑↑P		**Pn**	**18 41 26.5**	**+2.0**
YANA	**Yana**	**4.81**	**344**	P		**Pn**	**18 41 26.9**	**+2.1**
PECV	**Mancha de Ca P**	**4.85**	**325**	P		**Pn**	**18 41 26.2**	**+1.3**
CHIS	**Cerro-Chispas-**	**5.06**	**317**	P		**Pn**	**18 41 26.8**	**-1.0**
OTAV	**Otavalo**	**5.12**	**347**	↑↑P		**Pn**	**18 41 29.3**	**+0.4**
OTAV	**Otavalo**	**5.12**	**347**	*e*Pn		**Pn**	**18 41 29.2**	**+0.2**
COTA	**Cotacachi**	**5.19**	**348**	P		**Pn**	**18 41 32.6**	**+2.6**
URCU	**Urcuqui**	**5.27**	**349**	P		**Pn**	**18 41 33.5**	**+2.5**
GOLV	**Golondrinas**	**5.29**	**339**	P		**Pn**	**18 41 30.5**	**-0.4**
GOLV	**Golondrinas**	**5.29**	**339**	S		**Sn**	**18 42 28.4**	**-2.4**
MAG1	**Magdalena**	**5.30**	**339**	P		**Pn**	**18 41 30.1**	**-0.9**
JAMA	**Jama**	**5.36**	**322**	P		**Pn**	**18 41 30.7**	**-1.2**
NNA	**Nana**	**7.18**	**177**	Pn		**Pn**	**18 41 58.8**	**+2.4**
	902nm,0.3s,SNR=21							
NNA	**Nana**	**7.18**	**177**	P		**Pn**	**18 41 57.8**	**+1.4**
	32nm,0.3s,baz=341,slow=6.9,SNR=41							
NNA				S		**Sn**	**18 43 11.7**	**-4.8**
	95nm,0.3s,baz=27,slow=14,SNR=17							
NNA	**Nana**	**7.18**	**177**	P		**Pn**	**18 41 57.8**	**+1.4**
NNA				S		**Sn**	**18 43 11.7**	**-4.8**
NNA				pmax		pmax		
	comp=Z,32nm,0.3s							
NNA				smax		smax		
	comp=N,95nm,0.3s							
NNA	**Nana**	**7.18**	**177**	*e*Pn		**Pn**	**18 41 57.8**	**+1.4**
NNA				*e*Sn		**Sn**	**18 43 11.1**	**-5.5**
NNA				S		**Sn**	**18 43 11.7**	**-4.8**
ROSC	**El Rosal**	**10.01**	**17**	P		Pn	18 42 39.6	+4.5
	comp=N,2.7nm,0.3s,baz=81,slow=19,SNR=2.2							
ROSC				LR		LR	18 47 36.4	
	comp=N,286nm,19.0s,baz=200,slow=44							
ROSC	**El Rosal**	**10.01**	**17**	Pn		**Pn**	**18 42 34.2**	**-0.9**
PAYG	**Puerto Ayora**	**13.62**	**287**	*e*Pn		**Pn**	**18 43 21.5**	**-1.0**
	comp=N,224nm,1.4s							
BCIP	**Isla Barro Col**	**14.08**	**350**	*e*P		**Pn**	**18 43 27.6**	**-0.8**
	comp=N,29nm,0.9s							
LPAZ	**La Paz**	**14.54**	**143**	P		**Pn**	**18 43 33.1**	**-1.6**
	comp=N,0.7nm,0.3s,baz=319,slow=8.6,SNR=31							
LPAZ				LR		LR	18 50 03.5	
	comp=N,342nm,18.2s,baz=308,slow=40							
LPAZ	**La Paz**	**14.54**	**143**	P		**Pn**	**18 43 33.1**	**-1.6**
LPAZ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
LPAZ				MLR		MLR		
	comp=Z,342nm,18.2s							
LPAZ	**La Paz**	**14.54**	**143**	*e*Pn		**Pn**	**18 43 32.5**	**-2.3**
	comp=Z,2.8nm,1.2s							
SAML	**Samuel**	**14.58**	**107**	*e*Pn		Pn	18 43 30.5	-4.3
SDV	**Santo Domingo**	**15.10**	**26**	*e*Pn		**Pn**	**18 43 42.0**	**+0.5**
JTS	**JuntasAbangare**	**16.81**	**333**	P		**P**	**18 44 03.8**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=113,slow=8.6,SNR=3.9							
JTS	**JuntasAbangare**	**16.81**	**333**	P		**P**	**18 44 03.1**	**+0.4**
PTGA	**Pitinga**	**17.74**	**77**	P		**P**	**18 44 09.7**	**-3.2**
	comp=Z,12nm,0.3s,baz=258,slow=12,SNR=40							
PTGA				S		S	18 47 19.6	-12
	comp=Z,2.3nm,0.3s,baz=150,slow=20,SNR=2.8							
SIV	**San Ignacio**	**19.42**	**126**	P		**Pn**	**18 44 33.3**	**-0.3**
	comp=Z,2.7nm,0.3s,baz=313,slow=11,SNR=33							
PCRV	**Puerto La Cruz**	**19.47**	**40**	P		**Pn**	**18 44 33.7**	**-0.5**
	comp=Z,9.9nm,0.3s,baz=203,slow=7.5,SNR=32							
PCRV				S		**S**	**18 48 02.6**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=348,slow=20,SNR=2.7							
LVC	**Limon Verde**	**19.49**	**156**	P		**Pn**	**18 44 33.6**	**-0.9**
	comp=Z,24nm,0.3s,baz=317,slow=8.6,SNR=14							
LVC	**Limon Verde**	**19.49**	**156**	P		**Pn**	**18 44 33.6**	**-0.9**
LVC				*e*P		**P**	**18 44 35.7**	**+3.5**
HJA	**Humahuaca**	**21.61**	**149**	*e*P		**P**	**18 44 58.0**	**+2.9**
AZAP	**Zapla**	**22.63**	**150**	*e*P		**P**	**18 45 01.8**	**-3.6**
AZAP				IAML			18 45 15.8	
	comp=Z,33nm,0.5s							
AZAP				*e*S		**pP**	**18 45 23.9**	**-4.0**
ASTB	**Santa Barbara**	**22.70**	**148**	*e*P		**P**	**18 45 07.4**	**+1.3**
ASTB				*e*S		**pP**	**18 45 33.6**	**+5.0**
SLA	**San Lorenzo**	**22.83**	**151**	*e*P		P	18 45 00.9	-6.5
SLA				IAML			18 45 19.3	
	comp=Z,55nm,0.7s							
MTDJ	**Mount Denham**	**22.86**	**359**	*e*P		**P**	**18 45 09.0**	**+1.4**
	comp=Z,93nm,0.7s							
ALOL	**LOMAS DE OLMED**	**22.86**	**147**	*e*P		P	18 45 12.4	+4.9
GRGR	**Grenville**	**22.87**	**43**	*e*P		**P**	**18 45 05.7**	**-1.9**
FSA	**Cafayete**	**23.78**	**154**	*e*P		**P**	**18 45 13.6**	**-2.5**
FSA				IAML			18 45 30.3	
	comp=Z,45nm,0.6s							
FSA				*e*S		**pP**	**18 45 44.7**	**+4.5**
SDDR	**Presa de Saban**	**24.33**	**14**	*e*P		**P**	**18 45 22.1**	**+1.2**
	comp=Z,38nm,0.8s							
GTBY	**Guantanamo Bay**	**24.64**	**5**	P		**P**	**18 45 19.9**	**-3.8**
AHML	**Horco Molle**	**24.68**	**154**	*e*P		**P**	**18 45 23.9**	**-0.2**
AHML				IAML			18 45 43.8	
	comp=Z,16nm,0.7s							
AHML				*e*S		**sP**	**18 46 02.9**	**-0.2**
SMN1	**Samana, DR**	**25.08**	**18**	P		**P**	**18 45 25.4**	**-2.4**
SMN1				*e*pP		**pP**	**18 45 53.1**	**-0.1**
FDF	**Fort de France**	**25.12**	**39**	*e*P		**P**	**18 45 29.1**	**+0.9**
AGPR	**Aguadilla, PR**	**25.17**	**23**	P		**P**	**18 45 30.3**	**+1.7**
SJG	**San Juan**	**25.25**	**25**	*e*P		**P**	**18 45 28.9**	**-0.4**
	comp=Z,44nm,0.8s							
BBL	**Barber's Block**	**25.53**	**38**	*e*P		**P**	**18 45 31.4**	**-0.5**
HMG	**Houelmont**	**25.74**	**36**	*e*P		**P**	**18 45 33.1**	**-0.7**
ECG	**Echelle**	**25.82**	**36**	*e*P		**P**	**18 45 33.4**	**-1.3**
TEIG	**Tepich**	**27.10**	**337**	P		**P**	**18 45 45.6**	**-0.3**
	comp=Z,24nm,0.7s,baz=181,slow=9.5,SNR=9.5							
TEIG	**Tepich**	**27.10**	**337**	*e*P		**P**	**18 45 45.4**	**-0.5**
CMIG	**Matias Romero**	**27.84**	**322**	P		**P**	**18 45 51.5**	**-1.0**
	comp=Z,7.4nm,0.8s,baz=95,slow=8.2,SNR=6.3							
CMIG				PcP		**PcP**	**18 49 05.4**	**-0.5**
	comp=Z,3.6nm,0.7s,baz=28,slow=5.7,SNR=3.8							
CFAA	**Coronel Fontan**	**28.00**	**163**	P		**P**	**18 45 56.0**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=333,slow=9.7,SNR=3.9							
CFAA				PcP		**PcP**	**18 49 06.7**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=350,slow=4.0,SNR=5.1							
CPUP	**Villa Florida**	**28.69**	**140**	P		**P**	**18 46 00.7**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=318,slow=8.9,SNR=6.6							
CPUP				PcP		**PcP**	**18 49 08.2**	**+0.3**
	comp=Z,3.7nm,0.6s,baz=354,slow=4.1,SNR=4.4							
CPUP	**Villa Florida**	**28.69**	**140**	P		**P**	**18 46 00.7**	**+0.6**
CPUP							18 49 08.2	
CPUP				pmax		pmax		
	comp=Z,3.0nm,0.8s							
CPUP				pmax		pmax		
	comp=Z,4.0nm,0.6s							
CPUP	**Villa Florida**	**28.69**	**140**	*e*P		**P**	**18 46 00.5**	**+0.4**
	comp=Z,0.2nm,0.7s							
CPUP				PcP		**PcP**	**18 49 08.2**	**+0.3**
BDFB	**Brasilia**	**30.70**	**113**	P		**P**	**18 46 19.1**	**+1.0**
	comp=Z,5.0nm,0.6s,baz=279,slow=13,SNR=7.8							
BDFB	**Brasilia**	**30.70**	**113**	P		**P**	**18 46 19.2**	**+1.0**
BDFB				pmax		pmax		
	comp=Z,5.0nm,0.6s							
TRQA	**Tornquist**	**35.94**	**159**	*e*P		**P**	**18 47 03.7**	**+0.4**
TRQA				*e*			18 47 21.0	
035A	**Encino**	**37.42**	**328**	P		**P**	**18 47 17.1**	**+1.3**
	baz=38							
NHSC	**New Hope**	**37.77**	**356**	*e*P		**P**	**18 47 19.3**	**+0.5**
	comp=Z,94nm,1.0s							
034A	**Hebbronville**	**37.83**	**328**	P		**P**	**18 47 20.6**	**+1.3**
	baz=38,SNR=5.6							
934A	**Benavides**	**38.17**	**329**	P		**P**	**18 47 23.4**	**+1.2**
	baz=38,SNR=5.8							
835A	**Beeville**	**38.38**	**330**	P		**P**	**18 47 25.2**	**+1.3**
	baz=38							
GOGA	**Godfrey**	**38.43**	**352**	*e*P		**P**	**18 47 23.3**	**-1.0**
	comp=Z,22nm,0.8s							
736A	**Circle Diamond**	**38.56**	**332**	P		**P**	**18 47 26.7**	**+1.3**
	baz=39							
933A	**Laredo**	**38.58**	**328**	P		**P**	**18 47 26.4**	**+0.9**
	baz=39,SNR=5.6							
834A	**Tilden**	**38.61**	**329**	P		**P**	**18 47 27.1**	**+1.3**
	baz=39,SNR=9.6							
637A	**Eagle Lake**	**38.63**	**333**	P		**P**	**18 47 27.4**	**+1.4**
	baz=39,SNR=7.5							
LRAL	**Lakeview Retre**	**38.72**	**347**	*e*P		**P**	**18 47 25.7**	**-1.0**
	comp=Z,53nm,0.9s							
LRAL				*e*PcP		**PcP**	**18 49 35.8**	**-0.4**
735A	**Kenedy**	**38.84**	**331**	P		**P**	**18 47 29.0**	**+1.2**
	baz=39,SNR=9.4							
HKT	**Hockley**	**38.84**	**334**	*e*P		**P**	**18 47 28.1**	**+0.4**
HKT				pmax		pmax		
	comp=Z,23nm,2.1s							
HKT	**Hockley**	**38.84**	**334**	*e*P		**P**	**18 47 26.3**	**-1.4**
	comp=Z,104nm,2.5s							
636A	**Smothers Creek**	**39.00**	**332**	P		**P**	**18 47 30.1**	**+1.0**
	baz=39,SNR=5.9							
537A	**Green Hill Far**	**39.17**	**333**	P		**P**	**18 47 31.0**	**+0.5**
	baz=39							
734A	**La Parita Cree**	**39.20**	**330**	P		**P**	**18 47 31.6**	**+0.8**
	baz=39,SNR=6.8							
833A	**Chaparral WMA,**	**39.21**	**328**	P		**P**	**18 47 31.3**	**+0.5**
	baz=39							
635A	**Leesville**	**39.26**	**331**	P		**P**	**18 47 31.8**	**+0.5**
	baz=39							
340A	**Bronson**	**39.33**	**337**	P		**P**	**18 47 32.8**	**+1.1**
	baz=39							
438A	**Sam Houston St**	**39.38**	**335**	P		**P**	**18 47 33.3**	**+1.0**
	baz=40							
733A	**Divot King Ran**	**39.47**	**329**	P		**P**	**18 47 34.1**	**+1.0**
	baz=40							
832A	**Faith Ranch, C**	**39.48**	**328**	P		**P**	**18 47 33.6**	**+0.5**
	baz=40							
536A	**Bastrop**	**39.51**	**333**	P		**P**	**18 47 34.4**	**+1.1**
	baz=40							
339A	**Huntington**	**39.52**	**336**	P		**P**	**18 47 34.1**	**+0.8**
	baz=40							
634A	**China Grove, S**	**39.54**	**330**	P		**P**	**18 47 34.7**	**+1.1**
	baz=40							
535A	**Dale**	**39.70**	**332**	P		**P**	**18 47 36.3**	**+1.4**
	baz=40							
732A	**Laxson Ranch,**	**39.84**	**328**	P		**P**	**18 47 37.1**	**+1.0**
	baz=40							
338A	**Crockett**	**39.84**	**336**	P		**P**	**18 47 36.7**	**+0.6**
	baz=40							
KMSC	**Kings Mountain**	**39.89**	**355**	P		**P**	**18 47 36.9**	**+0.6**
	baz=40,SNR=17							
KMSC	**Kings Mountain**	**39.89**	**355**	*e*P		**P**	**18 47 36.6**	**+0.2**
	comp=Z,50nm,0.9s							
NATX	**Nacogdoches**	**39.93**	**337**	P		**P**	**18 47 37.5**	**+0.7**
	baz=40							
633A	**Saathoff Ranch**	**40.01**	**330**	P		**P**	**18 47 38.1**	**+0.6**
	baz=40,SNR=11							
337A	**Centerville**	**40.05**	**335**	P		**P**	**18 47 39.1**	**+1.4**
	baz=40							
239A	**Gary**	**40.09**	**337**	P		**P**	**18 47 38.9**	**+0.8**
	baz=40							
534A	**Blanco**	**40.13**	**331**	P		**P**	**18 47 38.8**	**+0.3**
	baz=40,SNR=12							
435B	**Jarrell**	**40.34**	**333**	P		**P**	**18 47 41.0**	**+0.8**
	baz=40,SNR=6.0							
632A	**Uvalde**	**40.36**	**329**	P		**P**	**18 47 41.5**	**+1.1**
	baz=40,SNR=20							
533A	**Kerrville**	**40.44**	**330**	P		**P**	**18 47 42.2**	**+1.1**
	baz=40							
336A	**Riesel**	**40.52**	**334**	P		**P**	**18 47 42.7**	**+1.0**
	baz=41,SNR=5.6							
237A	**Washetta, Mont**	**40.61**	**335**	P		**P**	**18 47 43.6**	**+1.2**
	baz=41							
434A	**Burnet**	**40.69**	**332**	P		**P**	**18 47 43.8**	**+0.7**
	baz=41,SNR=10							
335A	**Moody**	**40.69**	**333**	P		**P**	**18 47 44.3**	**+1.3**
	baz=41,SNR=16							
631A	**Perdido Creek**	**40.70**	**328**	P		**P**	**18 47 44.0**	**+0.9**
	baz=41,SNR=18							
OXF	**Oxford**	**40.72**	**345**	*e*P		**P**	**18 47 41.7**	**-1.5**
	comp=Z,32nm,0.7s							
138A	**Matatall Enter**	**40.90**	**337**	P		**P**	**18 47 46.0**	**+1.3**
	baz=41,SNR=5.9							
236A	**Katherine and**	**40.91**	**335**	P		**P**	**18 47 45.9**	**+1.1**
	baz=41							
532A	**Rocksprings**	**40.92**	**329**	P		**P**	**18 47 46.1**	**+1.1**
	baz=41,SNR=38							
433A	**Art**	**41.03**	**331**	P		**P**	**18 47 46.8**	**+0.9**
	baz=41,SNR=16							
334A	**Lometa**	**41.10**	**332**	P		**P**	**18 47 47.4**	**+0.9**
	baz=41,SNR=18							
137A	**Heron Place, G**	**41.11**	**336**	P		**P**	**18 47 48.1**	**+1.4**
	baz=41							
JCT	**Junction City**	**41.16**	**330**	P		**P**	**18 47 47.9**	**+0.9**
	baz=41							
JCT	**Junction City**	**41.16**	**330**	*e*P		**P**	**18 47 47.2**	**+0.3**
	comp=Z,8.4nm,0.8s							
531A	**Rocksprings**	**41.28**	**329**	P		**P**	**18 47 48.9**	**+0.9**
	baz=41,SNR=18							
WHTX	**Lake Whitney,**	**41.31**	**334**	P		**P**	**18 47 49.1**	**+1.0**
	baz=41							
WHTX	**Lake Whitney,**	**41.31**	**334**	*e*P		**P**	**18 47 48.2**	**+0.1**
	comp=Z,41nm,0.9s							
136A	**Ennis**	**41.32**	**335**	P		**P**	**18 47 49.3**	**+1.1**
	baz=41							
Z38A	**Mt. Pleasant**	**41.38**	**337**	P		**P**	**18 47 49.6**	**+1.0**
	baz=42							
333A	**Richland Sprin**	**41.45**	**331**	P		**P**	**18 47 49.8**	**+0.5**
	baz=42,SNR=20							
432A	**Menard**	**41.47**	**330**	P		**P**	**18 47 50.1**	**+0.5**
	baz=42,SNR=7.5							
TZTN	**Tazewell**	**41.52**	**352**	*e*P		**P**	**18 47 49.0**	**-0.7**
	comp=Z,44nm,0.8s							
Z37A	**Pogue Cattle C**	**41.58**	**337**	P		**P**	**18 47 51.2**	**+0.9**
	baz=42							
234A	**Clairette**	**41.62**	**333**	P		**P**	**18 47 51.8**	**+1.1**
	baz=42,SNR=15							
Y39A	**Lockesburg**	**41.66**	**339**	P		**P**	**18 47 51.5**	**+0.6**
	baz=42,SNR=8.5							
530A	**J-C Ranch, Com**	**41.68**	**328**	P		**P**	**18 47 52.3**	**+1.1**
	baz=42,SNR=7.9							
431A	**Sonora**	**41.73**	**329**	P		**P**	**18 47 52.5**	**+0.8**
	baz=42,SNR=10.0							
135A	**Vickery Place,**	**41.77**	**334**	P		**P**	**18 47 52.7**	**+0.9**
	baz=42							
UALR	**University of**	**41.83**	**341**	*e*P		**P**	**18 47 50.7**	**-1.6**
	comp=Z,34nm,0.8s							
332A	**Millersview**	**41.86**	**331**	P		**P**	**18 47 53.5**	**+0.8**
	baz=42							
BLA	**Blacksburg**	**41.87**	**356**	*e*P		**P**	**18 47 50.1**	**-2.5**
	comp=Z,34nm,0.7s							
WVT	**Waverly**	**41.88**	**347**	*e*P		**P**	**18 47 49.7**	**-3.0**
	comp=Z,17nm,0.7s							
VWCC	**Virginia Weste**	**41.88**	**357**	*e*P		**P**	**18 47 52.7**	**0.0**
Y38A	**Idabel**	**41.88**	**338**	P		**P**	**18 47 53.1**	**+0.4**
	baz=42							
Z36A	**Blue Ridge**	**41.97**	**336**	P		**P**	**18 47 54.1**	**+0.6**
	baz=42							
233A	**Rising Star**	**41.99**	**332**	P		**P**	**18 47 54.5**	**+0.8**
	baz=42,SNR=7.0							
MIAR	**Mount Ida**	**42.02**	**340**	P		**P**	**18 47 53.7**	**-0.2**
	baz=42,SNR=6.4							
MIAR	**Mount Ida**	**42.02**	**340**	*e*P		**P**	**18 47 52.7**	**-1.2**
	comp=Z,25nm,1.4s							
134A	**White-Moore Ra**	**42.08**	**333**	P		**P**	**18 47 55.6**	**+1.3**
	baz=42,SNR=7.9							
430A	**Baggett Ranch,**	**42.13**	**329**	P		**P**	**18 47 55.9**	**+1.0**
	baz=42							
529A	**Stev Forest Ra**	**42.14**	**327**	P		**P**	**18 47 56.3**	**+1.3**
	baz=42,SNR=10							
331A	**San Angelo**	**42.14**	**330**	P		**P**	**18 47 55.6**	**+0.6**
	baz=42,SNR=5.3							
232A	**Coleman**	**42.23**	**331**	P		**P**	**18 47 56.6**	**+0.9**
	baz=42,SNR=8.9							
JSRW	**J. Sargeant Re**	**42.26**	**359**	*e*P		**P**	**18 47 56.0**	**+0.4**
Y37A	**Hugo**	**42.27**	**337**	P		**P**	**18 47 57.2**	**+1.3**
	baz=42,SNR=13							
TXAR	**Lajitas Array**	**42.34**	**325**	P		**P**	**18 47 57.1**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=147,slow=9.3,SNR=52							
TXAR				PcP		**PcP**	**18 49 48.6**	**+0.5**
	comp=Z,3.7nm,0.7s,baz=152,slow=6.0,SNR=13							
TXAR	**Lajitas Array**	**42.34**	**325**	P		**P**	**18 47 57.2**	**+0.5**
TXAR							18 49 48.7	
TXAR				pmax		pmax		
	comp=Z,3.0nm,0.6s							
TXAR				pmax		pmax		
	comp=Z,4.0nm,0.7s							
429A	**Davenport Ranc**	**42.35**	**328**	P		**P**	**18 47 57.3**	**+0.6**
	baz=42,SNR=13							
Z35A	**Perchaven, San**	**42.37**	**335**	P		**P**	**18 47 58.1**	**+1.4**
	baz=42,SNR=11							
Y36A	**Durant**	**42.46**	**336**	P		**P**	**18 47 58.6**	**+1.2**
	baz=43,SNR=11							
X38A	**Whitesboro**	**42.58**	**338**	P		**P**	**18 47 59.1**	**+0.7**
	baz=43,SNR=15							
231A	**Bronte**	**42.59**	**331**	P		**P**	**18 47 59.0**	**+0.4**
	baz=43,SNR=9.6							
330A	**Mertzon**	**42.60**	**329**	P		**P**	**18 47 59.5**	**+0.8**
	baz=43							
Z34A	**Collier Ranch,**	**42.68**	**334**	P		**P**	**18 48 00.2**	**+0.9**
	baz=43							
X37A	**Clayton**	**42.71**	**338**	P		**P**	**18 48 00.3**	**+0.8**
	baz=43,SNR=17							
CBN	**Corbin Frederi**	**42.76**	**360**	*e*P		**P**	**18 48 00.2**	**+0.4**
	comp=Z,58nm,0.5s							
Y35A	**Marietta**	**42.77**	**336**	P		**P**	**18 48 01.2**	**+1.2**
	baz=43,SNR=13							
W38A	**Poteau**

baz=45,SNR=15
V34A **Guthrie** 44.64 336 *e*P P 18 48 14.5 -0.4
comp=Z,62nm,0.7s
V34A *e*PcP PcP 18 49 55.7 0.0
X31A **McDonald Ranch** 44.66 333 P P 18 48 16.0 +0.9
baz=45,SNR=14
CLNB **Carlsbad** 44.69 327 *e*P P 18 48 16.1 +0.7
comp=Z,1.5nm,0.8s
Z28A **Tucker Farm, M** 44.72 330 P P 18 48 16.0 +0.4
baz=45
W32A **Sentinel** 44.75 334 P P 18 48 16.5 +0.7
baz=45,SNR=27
U35A **Pawnee** 44.80 338 P P 18 48 16.4 +0.2
baz=45,SNR=10.0
T37A **Cheneyville 18** 44.82 340 P P 18 48 16.2 -0.1
baz=45,SNR=21
Y29A **Porterfield Fa** 44.82 331 P P 18 48 17.4 +0.9
baz=45,SNR=19
X30A **Coker Ranch, T** 44.92 332 P P 18 48 17.8 +0.6
baz=45,SNR=27
V33A **Lossen Ranch,** 44.94 336 P P 18 48 17.7 +0.4
baz=45,SNR=7.6
ACSO **Alum Creek Sta** 45.09 354 *e*P P 18 48 17.8 -0.6
comp=Z,38nm,0.8s
T36A **Boggs Farm, Ca** 45.10 339 P P 18 48 18.4 -0.1
baz=45,SNR=8.4
W31A **Holland Ranch,** 45.11 334 P P 18 48 19.3 +0.6
baz=45,SNR=5.7
Y28A **McKinney Farm,** 45.14 330 P P 18 48 19.7 +0.6
baz=45,SNR=10
V32A **Arapaho** 45.17 335 P P 18 48 20.3 +1.1
baz=45,SNR=12
U34A **Anderson Ranch** 45.17 337 P P 18 48 19.5 +0.4
baz=45,SNR=13
U34A **Anderson Ranch** 45.17 337 *e*P P 18 48 18.9 -0.2
comp=Z,73nm,0.7s
U34A *e*pP pP 18 48 44.3 -1.9
SSPA **Standing Stone** 45.19 359 *e*P P 18 48 19.4 +0.2
comp=Z,36nm,1.0s
T35A **Sooner Cattle** 45.20 338 P P 18 48 19.7 +0.3
baz=45,SNR=7.0
CPRX **Cap Rock** 45.27 328 *e*P P 18 48 21.3 +1.1
comp=Z,8.3nm,0.9s
X29A **Tulia** 45.31 331 P P 18 48 20.8 +0.5
baz=45,SNR=7.9
W30A **Crocket Farms** 45.39 333 P P 18 48 21.7 +0.8
baz=46
U33A **Lingo Farm, Me** 45.40 336 P P 18 48 21.1 +0.2
baz=46,SNR=9.4
MSTX **Muleshoe** 45.45 330 P P 18 48 22.0 +0.5
baz=46,SNR=8.2
MSTX **Muleshoe** 45.45 330 *e*P P 18 48 19.4 -2.1
comp=Z,44nm,1.1s
T34A **McClaskey Farm** 45.55 338 P P 18 48 22.7 +0.7
baz=46,SNR=12
V31A **Spring Creek L** 45.56 334 P P 18 48 23.8 +1.5
baz=46,SNR=14
S36A **Lake Cedric, C** 45.59 340 P P 18 48 22.2 -0.2
baz=46,SNR=7.7
X28A **Dimmitt** 45.61 331 P P 18 48 23.2 +0.5
baz=46
AMTX **Amarillo** 45.66 332 P P 18 48 23.6 +0.5
baz=46
AMTX **Amarillo** 45.66 332 *e*P P 18 48 22.2 -0.9
comp=Z,38nm,0.8s
U32A **Winter Ranch,** 45.71 335 P P 18 48 24.3 +0.8
baz=46,SNR=14
S35A **Otter Creek Ra** 45.81 339 P P 18 48 24.3 +0.2
baz=46,SNR=9.1
SFIN **Lafayette** 45.83 350 P P 18 48 25.7 +1.5
baz=46
SFIN **Lafayette** 45.83 350 *e*P P 18 48 21.3 -2.9
comp=Z,11nm,0.5s
W29A **Amarillo** 45.83 332 P P 18 48 24.9 +0.4
baz=46,SNR=7.0
R37A **Teagarden Farm** 45.86 341 P P 18 48 23.9 -0.7
baz=46
V30A **Spur Ranch, Mi** 45.92 333 P P 18 48 26.3 +1.2
baz=46
T33A **Patterson Ranc** 46.01 337 P P 18 48 26.1 +0.3
baz=46,SNR=7.5
U31A **Nine Bar Ranch** 46.06 335 P P 18 48 26.2 0.0
baz=46
R36A **Gordon, Harris** 46.10 340 P P 18 48 26.3 -0.1
baz=46,SNR=10
S34A **Willow Spring** 46.12 338 P P 18 48 26.8 +0.3
baz=46
W28A **Vega** 46.21 331 P P 18 48 28.2 +0.8
baz=46
Q37A **Longview Farm,** 46.25 341 P P 18 48 27.3 -0.2
baz=46
R35A **Emporia Munici** 46.34 339 P P 18 48 28.5 +0.3
baz=46
S33A **Kaszmaul Farm,** 46.36 337 P P 18 48 29.2 +0.7
baz=46,SNR=9.6
T32A **Huddler Ranch,** 46.37 336 P P 18 48 29.9 +1.3
baz=46
HDIL **Hopedale** 46.44 347 P P 18 48 27.7 -1.3
baz=47,SNR=8.7
HDIL **Hopedale** 46.44 347 *e*P P 18 48 27.2 -1.8
comp=Z,47nm,0.8s
U30A **WK&E Inc. Balk** 46.55 334 P P 18 48 31.1 +1.1
baz=47
T31A **Randall Ranch,** 46.61 335 P P 18 48 31.4 +1.0
baz=47
V28A **Channing** 46.62 332 P P 18 48 31.0 +0.4
baz=47
Q36A **Arnold C. Orve** 46.66 340 P P 18 48 30.5 -0.2
baz=47,SNR=8.9
R34A **Isabella, Hill** 46.70 338 P P 18 48 31.5 +0.4
baz=47,SNR=7.7
Q35A **Mercer Eighty,** 46.76 340 P P 18 48 31.8 +0.3
baz=47,SNR=20
S32A **Newby Ranch, P** 46.82 336 P P 18 48 32.8 +0.7
baz=47,SNR=8.3
V27A **Dan Oppiter Fa** 46.91 331 P P 18 48 34.0 +1.0
baz=47,SNR=5.3
T30A **Plains** 46.93 334 P P 18 48 34.1 +1.1
baz=47
S31A **Mullinville** 46.97 336 P P 18 48 34.4 +1.2
baz=47,SNR=12
R33A **Olander Ranch,** 46.98 338 P P 18 48 34.1 +0.8
baz=47,SNR=6.1
121A **Cookes Peak, D** 47.08 324 P P 18 48 35.4 +1.0
baz=47,SNR=10
121A **Cookes Peak, D** 47.08 324 *e*P P 18 48 35.3 +1.0
comp=Z,142nm,2.2s
U28A **Mallet** 47.13 332 P P 18 48 34.7 +0.1
baz=47
Q34A **Chapman** 47.13 339 P P 18 48 34.6 +0.1
baz=47,SNR=17
KSU1 **Kansas State U** 47.18 339 P P 18 48 34.7 -0.1
baz=47,SNR=6.1
KSU1 **Kansas State U** 47.18 339 *e*P P 18 48 34.0 -0.7
comp=Z,71nm,0.8s
MMNY **Mt. Morris Dam** 47.29 359 *e*P P 18 48 34.3 -1.2
comp=Z,52nm,0.8s
T29A **Hugoton** 47.35 334 P P 18 48 37.1 +0.9
baz=48,SNR=9.6
P35A **Duane Minner,** 47.36 340 P P 18 48 35.8 -0.3
baz=48,SNR=7.8
R32A **Long Quarter,** 47.36 337 P P 18 48 36.8 +0.6
baz=48,SNR=10
S30A **Montezuma** 47.40 335 P P 18 48 37.5 +0.9
baz=48
U27A **Thompson Grove** 47.45 332 P P 18 48 37.4 +0.3
baz=48,SNR=13
Q33A **Connelly Farm,** 47.53 338 P P 18 48 37.8 +0.3
baz=48,SNR=6.6
R31A **Burdett** 47.56 336 P P 18 48 38.7 +0.9
baz=48,SNR=13
P34A **Walnut Farm, R** 47.65 339 P P 18 48 38.7 +0.2
baz=48,SNR=13
S29A **Ulysses** 47.66 334 P P 18 48 39.8 +1.1
baz=48,SNR=10
T28A **Walsh** 47.69 333 P P 18 48 39.5 +0.6
baz=48,SNR=11
Q32A **Meitler Ranch,** 47.79 338 P P 18 48 39.8 +0.3
baz=48,SNR=6.8
P33A **Williams Farm,** 47.86 339 P P 18 48 40.6 +0.5
baz=48
R30A **Dighton** 47.87 335 P P 18 48 41.5 +1.3
baz=48,SNR=15
T27A **Campo** 47.92 332 P P 18 48 41.3 +0.6
baz=48,SNR=20
O35A **Humboldt** 47.99 341 P P 18 48 40.0 -1.0
baz=48
LAZ **Ladron** 48.08 326 *e*P P 18 48 42.8 +0.7
comp=Z,5.2nm,1.0s
CBKS **Cedar Bluff** 48.10 336 P P 18 48 42.9 +1.0
baz=48
CBKS **Cedar Bluff** 48.10 336 *e*P P 18 48 40.3 -1.6
comp=Z,59nm,0.8s
ANMO **Albuquerque** 48.12 327 *d i*P P 18 48 43.1 +0.7
ANMO pmax pmax
comp=Z,167nm,1.1s
ANMO **Albuquerque** 48.12 327 *e*P P 18 48 42.9 +0.5
comp=Z,30nm,0.8s
Q31A **Ellis** 48.13 337 P P 18 48 43.1 +0.9
baz=48,SNR=5.1
O34A **Beatrice** 48.17 340 P P 18 48 42.3 -0.1
baz=48,SNR=7.4
R29A **Marienthal** 48.35 335 P P 18 48 44.7 +0.8
baz=48,SNR=8.0
P32A **Huiting Farm,** 48.36 338 P P 18 48 44.3 +0.4
baz=48,SNR=5.7
O33A **Hebron** 48.39 339 P P 18 48 44.3 +0.2
baz=48,SNR=12
T26A **Comanche Natio** 48.42 332 P P 18 48 44.9 +0.3
baz=48,SNR=12
Q30A **Quinter** 48.43 336 P P 18 48 45.6 +1.0
baz=49,SNR=10
N35A **Tabor** 48.44 341 P P 18 48 43.8 -0.7
baz=49,SNR=9.6
HNH **Hanover** 48.47 5 *e*P P 18 48 45.5 +0.9
comp=Z,17nm,0.9s
S27A **Las Animas** 48.51 333 P P 18 48 45.7 +0.5
baz=49,SNR=15
R28A **Tribune** 48.57 334 P P 18 48 46.2 +0.6
baz=49
P31A **Stockton** 48.57 337 P P 18 48 46.3 +0.7
baz=49,SNR=6.4
NCB **Newcomb** 48.60 3 *e*P P 18 48 45.7 +0.1
comp=Z,16nm,0.7s
Q29A **Oakley** 48.67 335 P P 18 48 47.1 +0.7
baz=49,SNR=9.4
SCIA **State Center** 48.68 344 *e*P P 18 48 45.2 -1.1
comp=Z,57nm,0.6s
MDV **Middlebury** 48.69 4 *e*P P 18 48 46.6 +0.3
N34A **Lincoln** 48.70 341 P P 18 48 45.8 -0.6
baz=49
S26A **Kim** 48.72 332 P P 18 48 48.0 +1.1
baz=49,SNR=48
TUC **Tucson** 48.73 322 *e*P P 18 48 46.6 -0.4
comp=Z,9.3nm,0.8s
T25A **Trinidad** 48.78 331 P P 18 48 48.4 +1.0
baz=49,SNR=24
O32A **Brockman Farm,** 48.80 339 P P 18 48 47.6 +0.3
baz=49,SNR=5.7
JFWS **Jewell Farm** 48.90 347 *e*P P 18 48 45.8 -2.2
comp=Z,31nm,0.6s
N33A **J Bar K, Exete** 48.93 340 P P 18 48 48.6 +0.3
baz=49,SNR=6.0
P30A **Selden** 48.93 336 P P 18 48 49.2 +0.9
baz=49,SNR=7.2
R27A **Eads** 48.95 333 P P 18 48 49.1 +0.5
baz=49,SNR=21
M35A **Neola** 49.00 342 P P 18 48 48.4 -0.3
baz=49,SNR=6.8
O31A **Woolen Ranch,** 49.09 338 P P 18 48 49.5 0.0
baz=49
PTN **Potsdam (NY)** 49.16 2 *e*P P 18 48 49.1 -0.8
comp=Z,97nm,0.9s
Q28A **Sharon Springs** 49.17 335 P P 18 48 50.9 +0.6
baz=49,SNR=5.1
LONY **Lake Ozonia** 49.23 3 *e*P P 18 48 50.2 -0.2
comp=Z,28nm,0.8s
N32A **Stulken Farm,** 49.25 339 P P 18 48 51.0 +0.3
baz=49
P29A **Atwood** 49.26 336 P P 18 48 51.5 +0.7
baz=49,SNR=10
R26A **Arlington** 49.26 333 P P 18 48 51.5 +0.5
baz=49,SNR=5.4
M34A **Aspy Farms, Fr** 49.32 341 P P 18 48 50.8 -0.4
baz=50
O30A **MW Ranch, Wils** 49.40 337 P P 18 48 52.4 +0.5
baz=50,SNR=9.2
EFI **East Falkland** 49.40 164 *e*P P 18 48 53.4 +1.7
KSCO **Kaye Shedlock'** 49.48 334 P P 18 48 53.5 +0.9
baz=50
KSCO **Kaye Shedlock'** 49.48 334 *e*P P 18 48 51.7 -0.9
comp=Z,48nm,0.9s
N31A **Bailey Ranch,** 49.54 338 P P 18 48 53.3 +0.4
baz=50
L35A **Bielow Farm, R** 49.54 342 P P 18 48 52.3 -0.6
baz=50,SNR=6.2
P28A **Saint Francis** 49.57 335 P P 18 48 54.0 +0.7
baz=50
M33A **Taylor Creek F** 49.59 340 P P 18 48 52.8 -0.4
baz=50,SNR=6.5
O29A **4D Ranch, Culb** 49.65 336 P P 18 48 54.4 +0.6
baz=50,SNR=6.1
L34A **Svendsen Farm,** 49.67 341 P P 18 48 53.3 -0.5
baz=50,SNR=6.7
BGNE **Belgrade** 49.77 339 P P 18 48 54.8 +0.1
baz=50
BGNE **Belgrade** 49.77 339 *e*P P 18 48 54.6 -0.1
comp=Z,205nm,1.4s
214A **Orin Pipe Nat** 49.78 320 P P 18 48 55.7 +0.8
baz=50,SNR=6.3
SDCO **Great Sand Dun** 49.79 331 P P 18 48 55.9 +0.8
baz=50,SNR=51
SDCO **Great Sand Dun** 49.79 331 *e*P P 18 48 55.5 +0.4
comp=Z,32nm,0.9s
Q26A **Hugo** 49.80 333 P P 18 48 55.9 +0.8
baz=50,SNR=10
P27A **Ficken Ranch,** 49.91 334 P P 18 48 56.7 +0.9
baz=50,SNR=8.5
N30A **Hueftle Ranch,** 49.95 337 P P 18 48 57.2 +1.1
baz=50
M31A **Lambtecht Ranc** 50.00 339 P P 18 48 57.0 +0.5
baz=50
O28A **Krutsinger Ran** 50.04 335 P P 18 48 57.5 +0.7
baz=50,SNR=5.2
W18A **Petrified Fore** 50.06 325 P P 18 48 58.2 +1.0
baz=50
N29A **Votaw Ranch, W** 50.17 337 P P 18 48 58.4 +0.7
baz=50,SNR=11
P26A **Davis Ranch, A** 50.24 334 P P 18 48 59.2 +0.8
baz=50
O27A **Beecher Island** 50.39 335 P P 18 48 59.7 +0.3
baz=50
N28A **Pribbeno Ranch** 50.42 336 P P 18 49 00.3 +0.7
baz=50
S22A **4UR Ranch, Cre** 50.45 330 P P 18 49 00.8 +0.7
baz=51,SNR=19
Q24A **Divide** 50.58 332 P P 18 49 02.0 +0.8
baz=51,SNR=8.1
L31A **Butterfield Fa** 50.69 339 P P 18 49 01.9 +0.4
baz=51,SNR=9.8
M29A **Burnside Ranch** 50.73 337 P P 18 49 02.2 +0.2
baz=51
O26A **Horse Wrangler** 50.79 334 P P 18 49 03.3 +0.8
baz=51
L30A **Spencer Herefo** 50.80 338 P P 18 49 02.6 +0.1
baz=51
OGNE **Ogallala** 50.84 336 P P 18 49 03.6 +0.8
baz=51
OGNE **Ogallala** 50.84 336 *e*P P 18 49 02.3 -0.5
comp=Z,38nm,1.0s
OGNE *e*PcP PcP 18 50 18.3 +0.4
MVCO **Mesa Verde** 50.91 328 P P 18 49 04.2 +0.6
baz=51
MVCO **Mesa Verde** 50.91 328 *e*P P 18 49 02.7 -0.9
comp=Z,48nm,1.9s
N27A **Anderson Farm,** 50.93 335 P P 18 49 04.1 +0.6
baz=51
M28A **Bar X Bar Ranc** 50.95 337 P P 18 49 04.7 +1.0
baz=51,SNR=6.3
L29A **Maesberg Ranch** 51.18 338 P P 18 49 05.7 +0.3
baz=51
N26A **Koester Ranch,** 51.24 335 P P 18 49 06.5 +0.7
baz=51,SNR=5.0
WUAZ **Wupatki** 51.29 324 P P 18 49 07.5 +1.2
baz=51,SNR=20
WUAZ **Wupatki** 51.29 324 *e*P P 18 49 06.6 +0.2
comp=Z,42nm,1.0s
ECSD **EROS Data Cent** 51.34 342 P P 18 49 06.0 -0.4
baz=52,SNR=28
ECSD **EROS Data Cent** 51.34 342 *e*P P 18 49 04.7 -1.7
comp=Z,32nm,0.8s
K30A **Basset** 51.40 339 P P 18 49 07.4 +0.5
baz=52
ISCO **Idaho Springs** 51.47 332 P P 18 49 08.4 +0.6
baz=52,SNR=13
ISCO **Idaho Springs** 51.47 332 *e*P P 18 49 07.7 -0.1
comp=Z,137nm,2.6s
M27A **Reverse DX Ran** 51.47 336 P P 18 49 08.6 +1.1
baz=52
L28A **Connealy Angus** 51.53 337 P P 18 49 08.9 +0.9
baz=52,SNR=6.6
SMCO **Snowmass** 51.63 331 *e*P P 18 49 09.6 +0.5
comp=Z,6.2nm,0.9s
SMCO *e*PcP PcP 18 50 21.4 +0.1
PV01 **Paradox Valley** 51.64 328 *e*P P 18 49 09.5 +0.5
comp=Z,2µm,0.8s
PV01 *e*pP pP 18 49 35.2 -1.4
SPMN **Marine on St.** 51.68 346 P P 18 49 07.9 -1.0
baz=52,SNR=6.8
SPMN **Marine on St.** 51.68 346 *e*P P 18 49 07.2 -1.6
comp=Z,28nm,1.0s
K29A **Lazy Trails An** 51.73 338 P P 18 49 10.1 +0.8
baz=52
M26A **McRoberts Ranc** 51.73 335 P P 18 49 10.4 +1.0
baz=52
GLA **Glamis** 51.79 319 P P 18 49 10.9 +0.9
baz=52
GLA **Glamis** 51.79 319 *e*P P 18 49 10.1 +0.1
comp=Z,7.7nm,0.8s
L27A **T5 Ranch, Ells** 51.91 336 P P 18 49 10.5 -0.3
baz=52
J30A **Dallas** 51.92 339 P P 18 49 10.7 -0.1
baz=52,SNR=8.2
PV04 **Paradox Valley** 52.01 328 *e*P P 18 49 11.9 +0.2
Y12C **Blythe** 52.04 320 P P 18 49 12.7 +1.0
baz=52
K28A **Ten Mile Ranch** 52.08 338 P P 18 49 13.1 +1.1
baz=52,SNR=32
M25A **Palm-Egli Farm** 52.09 335 P P 18 49 13.3 +1.1
baz=52
L26A **Underwood Farm** 52.18 336 P P 18 49 13.7 +0.9
baz=52
J29A **Okreek** 52.29 339 P P 18 49 13.6 +0.1
baz=52,SNR=9.1
K27A **Flueckinger Fa** 52.41 337 P P 18 49 15.2 +0.8
baz=52,SNR=6.5
I30A **Oacoma** 52.42 340 P P 18 49 14.8 +0.4
baz=52
N23A **Red Feather La** 52.49 333 P P 18 49 15.7 +0.4
baz=53,SNR=6.4
BC3 **Big Chuckawall** 52.57 320 P P 18 49 16.7 +0.9
baz=53,SNR=7.6
J28A **Allard Ranch,** 52.64 338 P P 18 49 16.4 +0.4
baz=53,SNR=13
L25A **Engebretsen Ra** 52.65 335 P P 18 49 17.4 +1.1
baz=53
IRM **Iron Mountain** 52.70 320 P P 18 49 17.4 +0.8
baz=53,SNR=11
MONP **Monument Peak,** 52.73 318 P P 18 49 18.0 +0.8
baz=53
K26A **Motz Farm, Whi** 52.78 336 P P 18 49 17.6 +0.5
baz=53
J27A **Elkhorn Farm,** 52.78 337 P P 18 49 18.2 +1.0
baz=53
I29A **Vivian Onida** 52.82 339 P P 18 49 17.4 0.0
baz=53
K25A **Mack Ranch, Ha** 52.98 336 P P 18 49 19.5 +0.7
baz=53
O20A **White River Ci** 52.99 330 P P 18 49 19.8 +0.9
baz=53,SNR=5.3
O20A **White River Ci** 52.99 330 *e*P P 18 49 18.8 0.0
comp=Z,21nm,0.9s
I28A **Midland** 53.11 339 P P 18 49 20.1 +0.6
baz=53,SNR=17
BELC **Belle Mtn. Jos** 53.14 319 P P 18 49 21.2 +1.1
baz=53,SNR=5.5
PFO **Pinyon Flats O** 53.20 319 *i* P P 18 49 21.7 +1.3
PFO **Pinyon Flats O** 53.20 319 P P 18 49 21.2 +0.8
baz=53,SNR=5.9
PFO **Pinyon Flats O** 53.20 319 *e*P P 18 49 20.6 +0.1
comp=Z,3.0nm,0.6s
J26A **Sides Ranch, S** 53.25 337 P P 18 49 21.6 +1.0
baz=53,SNR=13
LDFC **Landfair** 53.26 321 *e*P P 18 49 22.6 +1.7
comp=Z,15nm,0.9s
H29A **Onida** 53.31 340 P P 18 49 21.4 +0.4
baz=53
SRU **San Rafael Swe** 53.39 328 *e*P P 18 49 21.3 -0.5
comp=Z,14nm,0.9s
G30A **Faulkton** 53.40 341 P P 18 49 21.5 -0.1
baz=54,SNR=15
GMRC **Granite Mounta** 53.42 320 P P 18 49 22.9 +0.9
baz=54,SNR=8.9
K24A **Anderson Ranch** 53.47 335 P P 18 49 23.3 +0.9
baz=54
I27A **Quinn** 53.50 338 P P 18 49 23.1 +0.8
baz=54,SNR=14
J25A **Sunshine Ranch** 53.60 336 P P 18 49 23.5 +0.3
baz=54,SNR=6.4
H28A **Mission Ridge** 53.64 339 P P 18 49 24.0 +0.7
baz=54
MURC **Murrieta** 53.68 318 P P 18 49 24.1 +0.2
baz=54
G29A **Hoven** 53.71 340 P P 18 49 24.0 +0.1
baz=54
P17A **Butcher Ranch,** 53.77 328 *e*P P 18 49 25.4 +0.8
I26A **New Underwood** 53.77 337 P P 18 49 25.4 +1.0
baz=54
K23A **Bowen Ranch, D** 53.84 334 P P 18 49 25.6 +0.6
baz=54
MSU **Marysvale** 53.85 326 *e*P P 18 49 25.5 +0.3
comp=Z,8.4nm,0.8s
MSU *e*PcP PcP 18 50 29.9 +0.4
CCUT **Cedar City** 53.85 325 *e*P P 18 49 26.0 +0.7
comp=Z,17nm,0.9s
CCUT *e*pP pP 18 49 54.9 +1.7
CCUT *e*PcP PcP 18 50 30.2 +0.7
MVU **Marysvale** 53.87 326 *e*P P 18 49 25.6 +0.2
comp=Z,32nm,1.5s
MVU *e*pP pP 18 49 54.7 +1.4
MVU *e*PcP PcP 18 50 30.1 +0.5
HEC **Hector,Ludlow** 53.88 320 P P 18 49 26.4 +1.1
baz=54,SNR=10
J24A **Dixon Ranch, L** 53.91 335 P P 18 49 26.5 +1.1
baz=54
G28A **Parade** 53.95 339 P P 18 49 25.7 +0.1
baz=54,SNR=6.2
EYMN **Ely** 53.97 348 P P 18 49 24.8 -0.8
baz=54,SNR=6.7
EYMN **Ely** 53.97 348 *e*P P 18 49 23.7 -1.9
comp=Z,17nm,1.0s
F30A **Leola** 53.99 341 P P 18 49 25.7 -0.2
baz=54,SNR=6.0
H27A **Howes** 53.99 338 P P 18 49 26.1 +0.2
baz=54
TUQ **Turquoise Moun** 54.00 321 P P 18 49 26.4 +0.1
baz=54
I25A **Rochford** 54.10 337 P P 18 49 27.9 +1.0
baz=54,SNR=23
K22A **Casper** 54.15 334 P P 18 49 27.6 +0.3
baz=54,SNR=5.5
K22A **Casper** 54.15 334 *e*P P 18 49 27.7 +0.3
comp=Z,15nm,0.9s
SCI **San Clemente I** 54.22 317 P P 18 49 28.0 +0.2
baz=54
SHPR **Sheep Range** 54.22 322 *e*P P 18 49 28.0 +0.1
H26A **Fairpoint** 54.23 338 P P 18 49 27.9 +0.1
baz=54
F29A **Eureka** 54.24 341 P P 18 49 27.6 -0.1
baz=54
RSSD **Black Hills** 54.31 336 *e*P P 18 49 27.2 -1.2
comp=Z,13nm,0.8s
I24A **Kuemmerle Ranc** 54.33 336 P P 18 49 29.2 +0.7
baz=54
J23A **Dilts Ranch, B** 54.34 335 P P 18 49 29.6 +1.0
baz=54
CIS **Catalina Islan** 54.37 317 P P 18 49 29.5 +0.7
baz=54
GSC **Goldstone, Bar** 54.47 320 P P 18 49 30.7 +1.0
baz=55,SNR=12
SHOC **Shoshone, Teco** 54.52 321 P P 18 49 30.8 +0.9
baz=55
E30A **Jud** 54.55 342 P P 18 49 29.9 +0.1
baz=55,SNR=22
H25A **Fruitdale** 54.55 337 P P 18 49 30.6 +0.5
baz=55,SNR=6.2
G27A **Dupree** 54.57 339 P P 18 49 30.3 +0.2
baz=55,SNR=6.6
F28A **McLaughlin** 54.59 340 P P 18 49 30.5 +0.3
baz=55
J22A **Midwest** 54.74 334 P P 18 49 31.8 +0.3
baz=55,SNR=33
G26A **Maurine** 54.74 338 P P 18 49 31.6 +0.2
baz=55,SNR=9.0

E29A **Napoleon** 54.84 341 P P 18 49 32.2 +0.2
baz=55,SNR=8.1
JLU **Jordanelle** 54.96 329 eP P 18 49 32.4 -0.9
comp=Z,12nm,0.7s
G25A **Newell** 54.97 338 P P 18 49 33.2 +0.2
baz=55,SNR=5.6
EDW2 **Edwards Air Fo** 54.98 319 P P 18 49 34.2 +0.9
baz=55,SNR=12
F27A **Lemmon** 55.03 339 P P 18 49 33.9 +0.5
baz=55,SNR=14
H24A **Dirks Ranch, A** 55.03 337 P P 18 49 33.8 +0.2
baz=55,SNR=9.8
D30A **Buchanan** 55.04 342 P P 18 49 33.5 +0.1
baz=55,SNR=30
J21A **Lysite** 55.12 333 P P 18 49 34.9 +0.6
baz=55,SNR=12
I22A **9 Mile Ranch,** 55.13 335 P P 18 49 34.8 +0.5
baz=55,SNR=22
LRMC **Laurel Mtn Rad** 55.15 320 P P 18 49 35.3 +0.8
baz=55,SNR=8.5
TPNV **Topopah Spring** 55.17 322 P P 18 49 35.6 +0.8
baz=55,SNR=9.5
E28A **Huff** 55.18 340 P P 18 49 35.3 +0.8
baz=55,SNR=25
CTU **Camp Tracy** 55.19 328 eP P 18 49 35.4 +0.6
comp=Z,6.3nm,0.8s
H23A **Clabaugh Cattl** 55.22 336 P P 18 49 35.5 +0.6
baz=55
BLG **Laguna Peak, P** 55.23 318 P P 18 49 35.9 +0.9
baz=55
FURC **Furnace Creek,** 55.24 321 P P 18 49 36.2 +1.2
baz=55,SNR=9.5
F26A **Lodgepole** 55.25 339 P P 18 49 35.2 +0.2
baz=55,SNR=24
D29A **Pettibone, Tap** 55.26 342 P P 18 49 35.5 +0.5
baz=55,SNR=5.9
AGMN **Agassiz Nation** 55.31 345 P P 18 49 35.0 -0.3
baz=55,SNR=47
AGMN **Agassiz Nation** 55.31 345 eP P 18 49 34.6 -0.7
comp=Z,62nm,0.7s
TCUT **Toone Canyon** 55.32 329 eP P 18 49 36.0 +0.1
comp=Z,27nm,0.6s
TCUT epP pP 18 50 05.3 +1.4
TCUT ePcP PcP 18 50 34.8 -0.3
E27A **Carson** 55.35 340 P P 18 49 36.2 +0.5
baz=56
MPMC **Manual Prospec** 55.38 321 P P 18 49 36.4 +0.1
baz=56,SNR=6.5
DUG **Dugway, Tooele** 55.39 327 P P 18 49 37.0 +0.7
baz=56,SNR=20
DUG **Dugway, Tooele** 55.39 327 eP P 18 49 36.8 +0.6
comp=Z,55nm,1.6s
J20A **Shoshoni** 55.41 333 P P 18 49 37.0 +0.7
baz=56,SNR=12
I21A **Big Trails, Te** 55.42 334 P P 18 49 36.4 0.0
baz=56,SNR=17
G24A **Alzada** 55.46 337 P P 18 49 36.7 +0.1
baz=56,SNR=9.4
C30A **Mose, Pekin** 55.49 343 P P 18 49 36.6 -0.1
baz=56,SNR=6.3
BSC **Santa Cruz Isl** 55.55 317 P P 18 49 36.8 -0.5
baz=56
F25A **Bowman** 55.60 338 P P 18 49 37.7 +0.2
baz=56
BW06 **Boulder Array** 55.64 332 eP P 18 49 37.4 -0.7
comp=Z,23nm,1.5s
BW06 epP pP 18 50 06.5 +0.4
BW06 ePcP PcP 18 50 35.0 -1.3
PDAR **Pinedale Array** 55.64 332 P P 18 49 37.7 -0.4
comp=Z,5.7nm,0.8s,baz=124,slow=7.9,SNR=40
PDAR PcP PcP 18 50 35.8 -0.5
comp=Z,7.0nm,0.9s,baz=118,slow=6.1,SNR=8.5
PDAR LR LR 19 13 30.6
comp=Z,86nm,21.2s,baz=172,slow=36
H22A **Clearmont** 55.64 335 P P 18 49 38.4 +0.5
baz=56
ARVC **Arvin** 55.68 319 P P 18 49 38.5 +0.3
baz=56
D28A **Regan** 55.69 341 P P 18 49 38.6 +0.5
baz=56,SNR=16
R11A **Troy Canyon, C** 55.69 324 P P 18 49 39.2 +0.8
baz=56,SNR=17
E26A **Carlson Angus** 55.70 339 P P 18 49 38.5 +0.3
baz=56,SNR=13
G23A **Biddle** 55.74 336 P P 18 49 38.9 +0.3
baz=56
HWUT **Hardware Ranch** 55.76 329 eP P 18 49 38.5 -0.4
comp=Z,19nm,0.8s
ISA **Isabella, Lake** 55.77 320 P P 18 49 39.1 +0.2
baz=56
J19A **Crowheart** 55.78 332 P P 18 49 39.3 +0.3
baz=56,SNR=15
SBC **Santa Barbara** 55.86 318 P P 18 49 39.6 +0.1
baz=56
GRAC **Grapevine Rang** 55.90 321 P P 18 49 40.0 +0.2
baz=56
I20A **Worland** 55.90 333 P P 18 49 39.9 +0.2
baz=56,SNR=14
F24A **Ekalaka** 55.91 337 P P 18 49 39.6 -0.1
baz=56,SNR=15
D27A **Center** 55.93 340 P P 18 49 40.1 +0.3
baz=56
MDND **Maddock** 55.96 342 P P 18 49 40.3 +0.3
baz=56,SNR=11
MDND **Maddock** 55.96 342 eP P 18 49 40.3 +0.3
comp=Z,697nm,1.1s
H21A **Big Horn, Sher** 55.96 335 P P 18 49 40.3 0.0
baz=56,SNR=6.3
BGU **Big Grassy Mou** 56.03 328 eP P 18 49 41.0 +0.2
comp=Z,12nm,1.1s
BGU ePcP PcP 18 50 37.0 -0.7
E25A **Miller Ranch,** 56.07 338 P P 18 49 41.4 +0.6
baz=56,SNR=7.6
C28A **Hausauer Farms** 56.09 341 P P 18 49 41.4 +0.5
baz=56
B30A **Myrvik Farm, E** 56.12 343 P P 18 49 41.2 0.0
baz=56,SNR=46
G22A **Birney** 56.12 336 P P 18 49 41.6 +0.2
baz=56,SNR=6.4
D26A **Manning** 56.17 340 P P 18 49 42.1 +0.5
baz=56,SNR=8.8
F23A **Volborg** 56.18 337 P P 18 49 41.9 +0.2
baz=56,SNR=12
PKM **Mcpherson Peak** 56.20 318 P P 18 49 42.0 -0.1
baz=56
H20A **Greybull** 56.26 334 P P 18 49 42.3 0.0
baz=56,SNR=14
VES **Vestal, Richgr** 56.27 319 P P 18 49 43.3 +0.9
baz=56,SNR=5.7
I19A **Meeteetse** 56.35 333 P P 18 49 43.4 +0.2
baz=56
B29A **Wagenman Farm,** 56.43 343 P P 18 49 43.8 +0.4
baz=57,SNR=52
C27A **Sayler Ranch,** 56.45 341 P P 18 49 43.7 +0.2
baz=57
E24A **Baker** 56.45 338 P P 18 49 44.0 +0.4
baz=57,SNR=5.0
TPH **Tonopah** 56.49 323 eP P 18 49 44.4 +0.2
comp=Z,4.1nm,0.7s
HVU **Hansel Valley** 56.50 329 eP P 18 49 44.0 -0.2
G21A **Lodge Grass** 56.51 335 P P 18 49 44.3 +0.2
baz=57,SNR=5.3
A30A **Hoffart Farm,** 56.55 344 P P 18 49 44.3 +0.1
baz=57,SNR=9.6
F22A **Rosebud** 56.57 336 P P 18 49 44.5 +0.1
baz=57,SNR=5.1
D25A **Fairfield** 56.59 339 P P 18 49 45.4 +0.9
baz=57,SNR=8.7
REDW **Red Top Meadow** 56.71 331 eP P 18 49 45.7 0.0
comp=Z,46nm,1.9s
B28A **Dugan Ranch, T** 56.73 342 P P 18 49 45.9 +0.5
baz=57
C26A **Wahner Farm, P** 56.74 340 P P 18 49 46.1 +0.5
baz=57
LOHW **Long Hollow** 56.78 332 eP P 18 49 45.7 -0.4
comp=Z,4.3nm,0.7s
LOHW ePcP PcP 18 50 40.7 0.0
E23A **Ismay** 56.78 337 P P 18 49 46.3 +0.4
baz=57
A29A **Manning Farm,** 56.81 343 P P 18 49 46.2 +0.2
baz=57,SNR=19
H19A **Powell** 56.84 333 P P 18 49 47.3 +0.8
baz=57
TPAW **Teton Pass** 56.85 331 eP P 18 49 46.4 -0.3
comp=Z,13nm,1.1s
TPAW epP pP 18 50 17.1 +2.2
TPAW ePcP PcP 18 50 40.9 -0.2
D24A **Glendive** 56.92 338 P P 18 49 47.5 +0.6
baz=57,SNR=15
G20A **Bridger** 56.94 334 P P 18 49 46.8 -0.3
baz=57,SNR=7.4
MOOW **Moose Ponds** 56.95 332 eP P 18 49 47.2 -0.1
comp=Z,4.2nm,0.6s
F21A **Absaloka Mine,** 56.96 335 P P 18 49 46.9 -0.3
baz=57
B27A **Peters Farms,** 56.97 341 P P 18 49 47.5 +0.3
baz=57
E22A **Miles City** 56.98 337 P P 18 49 47.3 0.0
baz=57
FXWY **Fox Creek** 57.00 331 eP P 18 49 47.7 0.0
comp=Z,4.6nm,0.9s
C25A **Freed Ranch, W** 57.05 339 P P 18 49 48.4 +0.7
baz=57,SNR=6.0
ELK **Elko** 57.10 326 eP P 18 49 48.7 +0.2
comp=Z,8.0nm,1.0s
ELK ePcP PcP 18 50 41.9 -0.2
A28A **Rude Farm, Bot** 57.11 342 P P 18 49 48.3 +0.2
baz=57
ULM **Lac du Bonnet** 57.12 346 P P 18 49 46.9 -1.2
comp=Z,42nm,0.8s,baz=155,slow=7.4,SNR=52
ULM **Lac du Bonnet** 57.12 346 P P 18 49 46.9 -1.2
ULM pmax pmax
comp=Z,42nm,0.8s
ULM **Lac du Bonnet** 57.12 346 eP P 18 49 46.8 -1.2
comp=Z,46nm,0.8s
IMW **Indian Meadow** 57.15 332 eP P 18 49 48.9 0.0
comp=Z,13nm,0.8s
B26A **Jensen Ranch,** 57.27 340 P P 18 49 50.1 +0.9
baz=57,SNR=5.8
D23A **Lindsay** 57.30 338 P P 18 49 50.4 +0.8
baz=57,SNR=12
C24A **Savage** 57.31 338 P P 18 49 50.1 +0.5
baz=57,SNR=10.0
RLMT **Red Lodge** 57.32 334 P P 18 49 50.0 +0.1
baz=57
RLMT **Red Lodge** 57.32 334 eP P 18 49 48.7 -1.2
comp=Z,7.0nm,0.8s
F20A **Billings** 57.37 335 P P 18 49 50.0 -0.1
baz=58,SNR=6.8
NVAR **Mina Array Bea** 57.37 322 P P 18 49 51.1 +0.7
comp=Z,7.6nm,0.7s,baz=129,slow=7.1,SNR=66
NVAR PcP PcP 18 50 43.5 +0.3
comp=Z,4.1nm,0.7s,baz=126,slow=4.6,SNR=7.6
A27A **Ledoux Ranch,** 57.45 341 P P 18 49 50.8 +0.3
baz=58,SNR=8.9
B25A **Knox Farm, Ray** 57.49 340 P P 18 49 51.7 +0.9
baz=58
E21A **Keefer Ranch,** 57.52 336 P P 18 49 51.5 +0.4
baz=58
A26A **Wade Farm, Ken** 57.66 341 P P 18 49 52.2 +0.3
baz=58,SNR=14
D22A **Cohagen** 57.66 337 P P 18 49 52.5 +0.4
baz=58,SNR=30
C23A **Lambert** 57.82 338 P P 18 49 53.5 +0.4
baz=58,SNR=13
D21A **La Casta Ranch** 57.91 336 P P 18 49 54.4 +0.6
baz=58,SNR=19
BMN **Battle Mountai** 58.01 325 eP P 18 49 55.3 +0.5
comp=Z,16nm,0.8s
DGMT **Dagmar** 58.02 339 P P 18 49 55.0 +0.5
baz=58,SNR=8.6
DGMT **Dagmar** 58.02 339 eP P 18 49 55.0 +0.5
comp=Z,34nm,0.8s
C22A **Vida** 58.03 338 P P 18 49 55.1 +0.4
baz=58,SNR=28
A25A **Svangstu Ranch** 58.05 340 P P 18 49 55.3 +0.6
baz=58,SNR=15
QLMT **Earthquake Lak** 58.09 332 eP P 18 49 56.4 +1.1
comp=Z,1.2nm,0.8s
WAKR **Walker** 58.11 322 eP P 18 49 56.6 +1.0
B23A **Broton** 58.30 339 P P 18 49 57.0 +0.5
baz=58,SNR=39
A24A **Westby** 58.34 340 P P 18 49 57.4 +0.6
baz=58,SNR=19
CMB **Columbia Colle** 58.42 321 eP P 18 49 58.0 +0.4
comp=Z,14nm,1.4s
B22A **Reddig Ranch S** 58.54 338 P P 18 49 58.8 +0.7
baz=59,SNR=11
C21A **Desert Coulee** 58.57 337 P P 18 49 59.0 +0.6
baz=59,SNR=26
HLID **Hailey** 58.62 329 P P 18 49 59.6 +0.6
baz=59,SNR=23
HLID **Hailey** 58.62 329 eP P 18 49 59.4 +0.4
comp=Z,11nm,0.9s
MCMT **McKenzie Canyo** 58.76 331 eP P 18 50 00.0 0.0
BOZ **Bozeman (W)** 58.79 332 P P 18 50 00.4 +0.2
baz=59,SNR=21
BOZ **Bozeman (W)** 58.79 332 eP P 18 49 59.8 -0.3
comp=Z,22nm,0.9s
C20A **Veseth Ranch,** 58.84 336 P P 18 50 00.6 +0.3
baz=59,SNR=8.0
B21A **Ellsworth Farm** 59.03 337 P P 18 50 02.3 +0.8
baz=59,SNR=9.8
A22A **Carney Farms,** 59.08 338 P P 18 50 02.7 +0.8
baz=59,SNR=16
MFID **Camas Ranch** 59.26 328 eP P 18 50 03.9 +0.6
comp=Z,52nm,0.8s
B20A **Solberg Farm,** 59.43 337 P P 18 50 04.8 +0.5
baz=60
A21A **Bergtoll Ranch** 59.45 338 P P 18 50 05.6 +1.1
baz=60,SNR=8.1
EGMT **Eagleton** 59.80 335 P P 18 50 07.1 +0.2
baz=60,SNR=12
EGMT **Eagleton** 59.80 335 eP P 18 50 06.6 -0.3
comp=Z,24nm,1.0s
B19A **Brinkman Farms** 59.81 336 P P 18 50 07.4 +0.5
baz=60,SNR=6.2
SCHQ **Scheffer Ville** 60.03 7 P P 18 50 07.9 -0.3
comp=Z,15nm,0.9s,baz=190,slow=4.9,SNR=8.4
A19A **Klindworth Far** 60.11 337 P P 18 50 09.5 +0.6
baz=60,SNR=17
WVOR **Wild Horse Val** 60.13 326 eP P 18 50 09.5 +0.1
comp=Z,13nm,0.9s
LBCM **Butte Creek Ri** 60.70 323 P P 18 50 13.6 +0.3
MOD **Modoc Plateau** 60.74 324 eP P 18 50 14.0 +0.5
comp=Z,17nm,1.3s
MSO **Missoula** 60.74 332 P P 18 50 14.2 +0.8
baz=61,SNR=15
MSO **Missoula** 60.74 332 eP P 18 50 13.9 +0.5
comp=Z,24nm,0.9s
BMO **Blue Mountains** 61.02 328 eP P 18 50 14.4 -0.8
comp=Z,3.5nm,0.6s
SWMT **Swartz Lake** 61.27 332 eP P 18 50 17.3 +0.4
comp=Z,4.0nm,0.7s
WDC **Whiskeytown Da** 61.28 322 eP P 18 50 15.7 -1.2
comp=Z,7.5nm,0.8s
YBMT **Yellow Bay** 61.54 333 eP P 18 50 19.3 +0.6
comp=Z,5.2nm,0.7s
M04C **Macdoel** 61.57 323 P P 18 50 19.4 +0.3
baz=62,SNR=8.2
JTMT **Jette** 61.58 332 eP P 18 50 19.4 +0.3
K05A **Summer Lake** 61.60 325 eP P 18 50 20.1 +0.8
N02D **Trinity Center** 61.61 322 P P 18 50 19.3 0.0
baz=62
BSMT **Bassoo Peak** 61.88 332 eP P 18 50 21.4 +0.3
M02C **Callahan** 61.95 322 P P 18 50 21.8 +0.2
baz=62
YBH **Yreka Blue Hor** 62.06 323 eP P 18 50 21.0 -1.3
comp=Z,12nm,0.8s
J05D **Fort Rock, OR** 62.14 325 P P 18 50 23.2 +0.3
baz=62,SNR=12
G08A **Pilot Rock** 62.18 328 eP P 18 50 23.4 +0.3
KHMM **Horse Mountain** 62.18 322 eP P 18 50 24.0 +0.7
WALA **Waterton Lakes** 62.37 334 eP P 18 50 24.2 -0.1
comp=Z,20nm,0.7s
J04D **Umpqua Nationa** 62.62 325 P P 18 50 26.2 +0.1
baz=63,SNR=10
HUMO **Hull Mountain** 62.73 324 eP P 18 50 26.0 -0.7
comp=Z,62nm,2.5s
FFC **Flin Flon** 62.75 344 P P 18 50 26.2 -0.3
comp=Z,126nm,1.0s,SNR=6.6
FFC **Flin Flon** 62.75 344 *i* P P 18 50 26.4 -0.2
FFC **Flin Flon** 62.75 344 eP P 18 50 26.2 -0.3
comp=Z,21nm,1.0s
L02D **Cave Junction,** 62.85 323 P P 18 50 27.9 +0.4
baz=63
I05D **Terrebonne, OR** 62.86 326 P P 18 50 27.9 +0.3
baz=63
VTHM **Trough** 62.96 327 P P 18 50 29.7 +1.5
CROR **Criterion Ridg** 63.07 327 P P 18 50 30.0 +1.1
I04A **Tendick Farm,** 63.13 325 P P 18 50 29.2 -0.1
baz=63,SNR=6.7
NEW **Newport** 63.28 331 P P 18 50 30.5 +0.2
baz=63,SNR=8.4
NEW **Newport** 63.28 331 eP P 18 50 30.2 0.0
comp=Z,16nm,0.9s
G05D **Wamic, OR** 63.41 327 P P 18 50 32.2 +1.1
baz=64
VBEM **Beaver Butte** 63.45 326 P P 18 50 32.5 +1.0
I03D **Drain, OR** 63.61 324 P P 18 50 32.9 +0.5
baz=64
SAW **Saint Andrews** 64.01 330 P P 18 50 35.9 +0.9
COR **Corvallis** 64.12 325 eP P 18 50 36.4 +0.6
B08A **Colville Reser** 64.42 330 eP P 18 50 38.0 +0.3
G03D **McMinnville, O** 64.48 326 P P 18 50 38.3 +0.2
baz=65
LON **Longmire** 64.64 328 eP P 18 50 39.2 +0.1
comp=Z,9.3nm,0.8s
FCC **Fort Churchill** 64.75 350 eP P 18 50 38.4 -1.1
comp=Z,18nm,0.7s
F04D **Rainier, OR** 64.87 327 P P 18 50 41.1 +0.5
baz=65
D05A **Enumclaw** 65.01 328 eP P 18 50 42.0 +0.5
BMW **Boistfort Moun** 65.23 327 P P 18 50 43.5 +0.5
EDM **Edmonton** 65.28 337 eP P 18 50 42.3 -0.9
B06A **Marblemount** 65.60 329 eP P 18 50 45.7 +0.4
JCW **Jim Creek** 65.62 329 P P 18 50 45.1 -0.3
NLWA **Neilton Lookou** 66.14 327 eP P 18 50 49.3 +0.5
comp=Z,4.4nm,0.5s
NLWA ePcP PcP 18 51 18.5 +0.3
YKA **Yellowknife Ar** 72.86 343 P P 18 51 29.2 -0.6
comp=Z,7.8nm,0.6s,baz=140,slow=6.1,SNR=129
YKA **Yellowknife Ar** 72.86 343 P P 18 51 29.2 -0.6
YKA pmax pmax
comp=Z,8.0nm,0.6s
TIC **Toumodi** 73.00 82 eP P 18 51 32.1 +0.5
DBIC **Dimbokro** 73.17 82 P P 18 51 33.3 +0.7
comp=Z,29nm,0.6s,baz=245,slow=5.4,SNR=56
DBIC **Dimbokro** 73.17 82 P P 18 51 33.3 +0.7
DBIC pmax pmax
comp=Z,29nm,0.6s
DBIC **Dimbokro** 73.17 82 eP P 18 51 33.0 +0.5
comp=Z,33nm,0.6s
DBIC epP pP 18 52 00.9 -1.1
KIC **Kosan Boka** 73.24 82 eP P 18 51 33.8 +0.8
comp=Z,64nm,0.6s
PFVI **Vila Bisbo** 75.94 50 eP P 18 51 49.6 +1.5
comp=Z,49nm,1.8s
PFVI **Vila Bisbo** 75.94 50 ePcP PcP 18 52 02.6 +2.5
PFVI **Vila Bisbo** 75.94 50 eP P 18 51 49.6 +1.5
comp=Z,49nm,1.8s
PFVI **Vila Bisbo** 75.94 50 ePcP PcP 18 52 02.6 +2.5
MORF **Marmelete** 76.12 50 eP P 18 51 48.5 -0.8
MORF AMb AMB 18 51 52.0
comp=Z,42nm,1.2s
MORF **Marmelete** 76.12 50 eP P 18 51 48.5 -0.8
MORF **Marmelete** 76.12 50 eP P 18 51 50.7 +1.4
comp=Z,43nm,1.1s
MORF **Marmelete** 76.12 50 ePcP PcP 18 52 03.1 +2.2
MORF **Marmelete** 76.12 50 eP P 18 51 50.7 +1.4
comp=Z,43nm,1.1s
MORF **Marmelete** 76.12 50 ePcP PcP 18 52 03.1 +2.2
PTEO **Sao Teotonio** 76.14 50 eP P 18 51 50.9 +1.6
PTEO **Sao Teotonio** 76.14 50 ePcP PcP 18 52 04.8 +3.9
PTEO **Sao Teotonio** 76.14 50 eP P 18 51 50.9 +1.6
PTEO **Sao Teotonio** 76.14 50 ePcP PcP 18 52 04.8 +3.9
PMAFR **Mafra** 76.14 48 eP P 18 51 48.4 -0.9
comp=Z,67nm,1.3s
PMAFR **Mafra** 76.14 48 eP P 18 51 48.4 -0.9
comp=Z,67nm,1.3s
PNCL **Nicolau / Gran** 76.45 49 eP P 18 51 52.0 +1.0
comp=Z,32nm,1.4s
PNCL **Nicolau / Gran** 76.45 49 eP P 18 51 52.0 +1.0
comp=Z,32nm,1.4s
MESJ **Messejana** 76.61 49 eP P 18 51 51.2 -0.7
MESJ AMb AMB 18 51 57.1
comp=Z,21nm,1.4s
MESJ **Messejana** 76.61 49 eP P 18 51 51.2 -0.7
PBDV **Barranco-do-Ve** 76.66 50 eP P 18 51 53.6 +1.4
comp=Z,28nm,1.8s
PBDV **Barranco-do-Ve** 76.66 50 ePcP PcP 18 52 06.5 +3.3
PBDV **Barranco-do-Ve** 76.66 50 eP P 18 51 53.6 +1.4
comp=Z,28nm,1.8s
PBDV **Barranco-do-Ve** 76.66 50 ePcP PcP 18 52 06.5 +3.3
PCVE **Castro Verde** 76.69 50 eP P 18 51 53.7 +1.3
comp=Z,4.2nm,1.7s
PCVE **Castro Verde** 76.69 50 ePcP PcP 18 52 06.8 +3.5
PCVE **Castro Verde** 76.69 50 eP P 18 51 53.7 +1.3
comp=Z,4.2nm,1.7s
PCVE **Castro Verde** 76.69 50 ePcP PcP 18 52 06.8 +3.5
PVAQ **Vaqueiros** 76.86 50 eP P 18 51 54.9 +1.5
comp=Z,24nm,1.2s
PVAQ **Vaqueiros** 76.86 50 eP P 18 51 54.9 +1.5
comp=Z,24nm,1.2s
EVO **Evora** 76.97 49 eP P 18 51 54.6 +0.7
comp=Z,33nm,1.6s
EVO **Evora** 76.97 49 eP P 18 51 54.6 +0.7
comp=Z,33nm,1.6s
PTOM **Tomar** 76.99 48 eP P 18 51 54.8 +0.8
comp=Z,20nm,1.0s
PTOM **Tomar** 76.99 48 eP P 18 51 54.8 +0.8
comp=Z,20nm,1.0s
PCAS **Casmilo, Conde** 77.06 47 eP P 18 51 55.0 +0.6
comp=Z,26nm,1.8s
PCAS **Casmilo, Conde** 77.06 47 ePcP PcP 18 52 01.7 -3.1
PCAS **Casmilo, Conde** 77.06 47 eP P 18 51 55.0 +0.6
comp=Z,26nm,1.8s
PCAS **Casmilo, Conde** 77.06 47 ePcP PcP 18 52 01.7 -3.1
PTO **Porto** 77.31 46 eP P 18 51 56.6 +0.8
comp=Z,39nm,0.9s
PTO **Porto** 77.31 46 eP P 18 51 56.6 +0.8
comp=Z,39nm,0.9s
PESTR **Estremoz** 77.38 49 eP P 18 51 56.8 +0.6
comp=Z,25nm,1.4s
PESTR **Estremoz** 77.38 49 ePcP PcP 18 52 09.8 +3.5
PESTR **Estremoz** 77.38 49 eP P 18 51 56.8 +0.6
comp=Z,25nm,1.4s
PESTR **Estremoz** 77.38 49 ePcP PcP 18 52 09.8 +3.5
PBAR **Barrancos** 77.60 49 eP P 18 51 58.5 +1.1
comp=Z,11nm,1.4s
PBAR **Barrancos** 77.60 49 ePcP PcP 18 52 10.9 +3.7
PBAR **Barrancos** 77.60 49 eP P 18 51 58.5 +1.1
comp=Z,11nm,1.4s
PBAR **Barrancos** 77.60 49 ePcP PcP 18 52 10.9 +3.7
PCBR **Castelo Branco** 77.74 48 eP P 18 51 58.5 +0.3
comp=Z,24nm,1.7s
PCBR **Castelo Branco** 77.74 48 ePcP PcP 18 52 08.6 +0.8
PCBR **Castelo Branco** 77.74 48 eP P 18 51 58.5 +0.3
comp=Z,24nm,1.7s
PCBR **Castelo Branco** 77.74 48 ePcP PcP 18 52 08.6 +0.8
PGAV **Gavieira, Arco** 77.80 45 eP P 18 51 57.5 -1.1
comp=Z,22nm,1.7s
PGAV **Gavieira, Arco** 77.80 45 eP P 18 51 57.5 -1.1
comp=Z,22nm,1.7s
BESE **Bessie Mountai** 77.91 333 eP P 18 51 60.0 +1.1
comp=Z,9.4nm,0.9s
POLO **Lamas de Olo** 77.96 46 eP P 18 51 59.9 +0.4
comp=Z,14nm,1.0s
POLO **Lamas de Olo** 77.96 46 eP P 18 51 59.9 +0.4
comp=Z,14nm,1.0s
MVO **Moncorvo** 78.45 46 eP P 18 52 02.5 +0.3
comp=Z,35nm,0.8s
MVO **Moncorvo** 78.45 46 eP P 18 52 02.5 +0.3
comp=Z,35nm,0.8s
VNA1 **Neumayer--Stat** 78.64 161 P P 18 52 04.2 +1.7
PBRG **Braganca** 78.84 46 eP P 18 52 04.9 +0.6
comp=Z,19nm,1.0s
PBRG **Braganca** 78.84 46 ePcP PcP 18 52 16.3 +3.7
PBRG **Braganca** 78.84 46 eP P 18 52 04.9 +0.6
comp=Z,19nm,1.0s
PBRG **Braganca** 78.84 46 ePcP PcP 18 52 16.3 +3.7
VNA2 **Neumayer--Watz** 79.00 162 P P 18 52 05.8 +1.3
baz=301,slow=6.2
PAB **San Pablo** 79.99 49 eP P 18 52 10.8 +0.1
comp=Z,10nm,0.8s
ESDC **Sonseca Array** 80.31 49 P P 18 52 12.9 +0.7
comp=Z,6.6nm,0.8s,baz=257,slow=6.0,SNR=43
TOA0 **Torodi Ar. Sit** 80.38 76 eP P 18 52 12.2 -0.9
TORD **Torodi Ar. Bea** 80.38 76 P P 18 52 13.2 +0.2
comp=Z,15nm,0.9s,baz=299,slow=6.5,SNR=74
BORG **Borgarnes** 80.52 21 P P 18 52 08.9 -3.9
comp=Z,252nm,0.7s,SNR=9.9
BORG **Borgarnes** 80.52 21 *i* P P 18 52 12.4 -0.4
BORG **Borgarnes** 80.52 21 eP P 18 52 08.8 -3.9
comp=Z,119nm,1.3s
SNAA **Sanae** 80.61 162 P P 18 52 11.7 -1.7
SNAA **Sanae** 80.61 162 eP P 18 52 11.2 -2.2
comp=Z,36nm,0.8s
SNAA epP pP 18 52 37.3 -5.9
SUMG **Summit** 81.08 11 eP P 18 52 16.2 +0.1
comp=Z,36nm,0.8s
OSSF **Osses** 83.13 46 eP P 18 52 27.1 +0.1

LARF	Larrau	83.28	46	⇓	*e*P		P		18 52 28.7	+0.9
BMRM	Bremner River	83.39	333		*e*P		P		18 52 28.6	+0.7
	comp=Z,21nm,0.8s									
EGAK	Eagle	83.50	337		*e*P		P		18 52 28.4	0.0
	comp=Z,34nm,0.9s									
REYF	Montagne du Re	83.71		46	⇓*e*P		P		18 52 30.5	+0.4
VIEF	Viey	83.97		46	⇓*e*P		P		18 52 32.1	+0.7
DIV	Divide	83.98	333		*e*P		P		18 52 30.4	-0.6
	comp=Z,17nm,0.7s									
LABF	Labassere	84.04		46	⇓*e*P		P		18 52 32.4	+0.7
RESF	Ens	84.18		46	⇓*e*P		P		18 52 33.5	+1.0
PAX	Paxson	84.52	335		*e*P		P		18 52 33.8	+0.1
	comp=Z,28nm,0.9s									
MLS	Moulis	84.75		46	⇓*e*P		P		18 52 35.9	+0.7
SALF	Salau	84.78		46	⇓*e*P		P		18 52 36.5	+1.0
ESK	Eskdalemuir	84.92		33	*i* P		P		18 52 36.5	+0.8
ESK	Eskdalemuir	84.92		33	*e*P		P		18 52 35.4	-0.3
NVL	N'lazarevskaya	85.23	161		*e*P		P		18 52 37.0	0.0
NVL						pmax	pmax			
	comp=Z,22nm,0.6s									
QSPA	South Pole Qui	85.31	180		*e*P		P		18 52 38.8	+1.1
	comp=Z,40nm,1.2s									
QSPA						*e*pP	pP		18 53 05.4	-2.5
VALF	Valcebollere	85.31		47	⇓*e*P		P		18 52 39.2	+1.0
SML	Sawmill	85.37	333		*e*P		P		18 52 37.4	-0.5
	comp=Z,4.3nm,0.8s									
HDA	Harding Lake	85.65	336		*e*P		P		18 52 38.9	-0.3
	comp=Z,17nm,0.8s									
FILF	Fillols	85.74		47	⇓*e*P		P		18 52 40.1	-0.1
ILAR	Eielson Array	85.75	336		P		P		18 52 39.2	-0.4
	comp=Z,7.5nm,0.9s,baz=131,slow=3.6,SNR=43									
ILAR						PP	PP		18 56 01.1	+0.5
	comp=Z,1.0nm,0.7s,baz=103,slow=6.0,SNR=5.5									
ILAR	Eielson Array	85.75	336		P		P		18 52 39.3	-0.4
ILAR									18 56 01.1	
ILAR						pmax	pmax			
	comp=Z,8.0nm,0.9s									
ILAR						pmax	pmax			
	comp=Z,1.0nm,0.7s									
CCB	Clear Creek Bu	86.08	336		*e*P		P		18 52 40.8	-0.5
	comp=Z,6.5nm,0.8s									
COLA	College	86.18	336		*d i*P		P		18 52 41.5	-0.2
COLA						pmax	pmax			
	comp=Z,135nm,2.3s									
COLA	College	86.18	336		*e*P		P		18 52 42.0	+0.3
	comp=Z,10nm,0.7s									
MCK	McKinley	86.25	335		*e*P		P		18 52 42.5	+0.3
	comp=Z,18nm,1.0s									
BWN	Browne	86.61	335		*e*P		P		18 52 43.9	0.0
	comp=Z,65nm,1.1s									
TRF	Thorofare Moun	86.74	335		*e*P		P		18 52 44.6	-0.2
	comp=Z,17nm,0.8s									
RSO	Redoubt South	87.02	331		*e*P		P		18 52 46.0	-0.2
	comp=Z,60nm,0.8s									
BPAW	Bear Paw Mtn.	87.22	335		*e*P		P		18 52 46.8	-0.1
	comp=Z,50nm,0.9s									
PPLA	Purkeypile	87.41	334		*e*P		P		18 52 47.8	-0.2
	comp=Z,43nm,0.8s									
ALE	Alert	87.45		2	P		P		18 52 47.0	-0.7
	comp=Z,126nm,0.9s,SNR=11									
CAST	Castle Rocks	87.50	334		*e*P		P		18 52 47.9	-0.3
	comp=Z,52nm,0.8s									
SSB	Saint Sauveur	87.61		44	*e*P		P		18 52 49.6	+0.3
	comp=Z,3.9nm,0.8s									
COLD	Coldfoot	87.84	338		*e*P		P		18 52 50.8	+1.0
	comp=Z,23nm,0.8s									
SNF	Seneffe	88.29	39		P		P		18 52 52.6	+0.4
DOU	Dourbes	88.42	40		P		P		18 52 53.0	+0.2
	comp=Z,6.0nm,1.1s									
IM04	Indian Mountai	88.87	337		*e*P		P		18 52 54.3	-0.4
THEF	They Montfort	89.04		42	⇓*e*P		P		18 52 55.9	0.0
CALN	Calern	89.05		46	⇓*e*P		P		18 52 56.3	+0.1
BNI	Bardonecchia	89.07	45		*e*P		P		18 52 56.0	-0.3
	comp=Z,6.4nm,0.8s									
MVIF	Mont Vial	89.26		46	⇓*e*P		P		18 52 56.6	-0.6
TOUF	Mont Tournerai	89.34		46	⇓*e*P		P		18 52 57.4	-0.2
WLF	Walferdange	89.35	40		P		P		18 52 57.8	+0.6
	comp=Z,12nm,1.0s									
WLF	Walferdange	89.35	40		*e*PcP		PcP		18 52 58.3	-0.3
WLF	Walferdange	89.35	40		*e*P		P		18 52 57.9	+0.6
	comp=Z,20nm,0.9s									
HGN	Heimansgroeve	89.37	39		*e*P		P		18 52 57.6	+0.3
	comp=Z,19nm,0.8s									
MEM	Membach	89.39	39		P		P		18 52 57.6	+0.1
	comp=Z,6.6nm,1.4s									
REVF	Revere	89.39		46	⇓*e*P		P		18 52 57.6	-0.1
LOMF	Lomont	89.48		43	⇓*e*P		P		18 52 57.9	-0.1
SAOF	Saorge	89.56		46	⇓*e*P		P		18 52 58.2	-0.2
MOF	Molkenrain	89.75		42	⇓*e*P		P		18 52 58.9	-0.4
ECH	Echery	89.81	42		*e*P		P		18 52 59.2	-0.3
	comp=Z,4.9nm,0.7s									
ECH						*e*pP	pP		18 53 30.0	0.0
KEST	Kesra	90.01	54		P		P		18 53 01.1	+0.3
	comp=Z,2.7nm,1.0s,baz=233,slow=6.2,SNR=4.6									
WTSB	Winterswijk	90.07	38		*e*P		P		18 53 01.3	+0.8
	comp=Z,23nm,0.8s									
BUG	Bochum--Univer	90.29	39		*e*PcP		PcP		18 53 02.6	-0.1
LANF	Langenberg	90.33		41	⇓*e*P		P		18 53 01.9	0.0
BFO	Black Forest	90.60	42		*i* P		P		18 53 04.0	+0.8
SBA	Scott Base	90.67	191		*e*P		P		18 53 04.0	+1.1
IBBN	Ibbenburen	90.70	38		*e*PcP		PcP		18 53 04.6	+0.1
TNS	Taunus Mts	90.89	40		*e*PcP		PcP		18 53 05.4	-0.1
STU	Stuttgart	91.22	41		*e*PcP		PcP		18 53 06.7	-0.2
DAVA	Damuels	91.54	43	⇑	*i*PcP		P		18 53 07.9	+0.2
	comp=Z,8.4nm,1.0s									
VNDA	Vanda	91.75	191		P		P		18 53 09.6	+1.7
	comp=Z,1.6nm,0.9s,baz=123,slow=6.4,SNR=5.2									
VNDA	Vanda	91.75	191		P		P		18 53 09.6	+1.7
VNDA						pmax	pmax			
	comp=Z,2.0nm,0.9s									
VNDA	Vanda	91.75	191		*e*P		P		18 53 08.9	+1.0
	comp=Z,2.2nm,1.0s									
FETA	Feichten	92.09	43	⇑	*i*PcP		PcP		18 53 10.9	-0.1
	comp=Z,7.9nm,1.0s									
RETA	Reutte	92.15	43	⇑	*i*PcP		PcP		18 53 11.0	-0.1
	comp=Z,3.8nm,1.0s									
CLZ	Clausthal	92.26	38		*e*PcP		PcP		18 53 12.2	+0.7
MOTA	Moosalm	92.37	43	⇑	*i*PcP		PcP		18 53 12.0	-0.2
	comp=Z,4.2nm,0.8s									
BSEG	Bad Segeberg	92.40	36		*e*PcP		PcP		18 53 12.8	+0.9
WATA	Walderalm	92.69	43	⇑	*i*P		P		18 53 12.4	-0.6
	comp=Z,1.4nm,0.5s									
WTTA	Wattenberg	92.73	43	⇑	*i*PcP		P		18 53 13.3	+0.1
	comp=Z,11nm,1.2s									
MOX	Moxa	92.95	40		*e*PcP		PcP		18 53 15.0	+0.5
TSUM	Tsumeb	93.02	109		*e*P		P		18 53 16.4	+1.2
	comp=Z,13nm,1.3s									
TSUM						*e*pP	pP		18 53 48.0	+2.4
NEUB	Neuenburg	93.08	39		*e*PcP		PcP		18 53 15.7	+0.6
MANZ	Manzenberg	93.22	40		*e*PcP		PcP		18 53 16.6	+0.8
ROTZ	Rotzenmuhle	93.27	41		*e*PcP		PcP		18 53 16.9	+0.9
PLN	Plauen	93.28	40		*e*PcP		PcP		18 53 16.7	+0.7
ABTA	Abfaltersbach	93.29	44	⇑	*i*PcP		PcP		18 53 16.5	+0.2
	comp=Z,4.2nm,0.8s									
WERD	Werda	93.37	40		*e*PcP		PcP		18 53 17.1	+0.7
GUNZ	Gunzen	93.39	40		*e*PcP		PcP		18 53 17.3	+0.8
NOA	NORSAR Array B	93.41	29		P		P		18 53 16.7	+0.8
	comp=Z,0.8nm,0.8s,baz=99,slow=10.0,SNR=3.2									
NOA	NORSAR Array B	93.41	29		P		P		18 53 16.7	+0.8
NOA						pmax	pmax			
	comp=Z,1.0nm,0.8s									
WERN	Wernitzgruen	93.41	40		*e*PcP		PcP		18 53 17.5	+0.9
TANN	Tannenbergstha	93.47	40		*e*PcP		PcP		18 53 17.7	+0.8
WET	Wettzell	93.67	41		*e*PcP		PcP		18 53 18.3	+0.5
CLL	Collm	93.86	39		*e*PcP		PcP		18 53 19.2	+0.7
CLL	Collm	93.86	39	⇓	*i*P		P		18 53 18.5	+0.4
	comp=Z,7.0nm,1.0s									
CLL						*e*pP	pP		18 53 49.0	+0.4
CLL						*e*sP	sP		18 54 01.0	0.0
CLL						*e*SS	SS		19 10 54.0	+14
CLL	Collm	93.86	39	⇓	*i*P		P		18 53 18.5	+0.4
CLL						*e**SP	sP		18 54 01.0	0.0
CLL						pmax	pmax			
	comp=Z,7.0nm,1.0s									
CLL	Collm	93.86	39		*e*P		P		18 53 18.7	+0.6
	comp=Z,5.2nm,0.8s									
MYKA	Terra Mystica	94.06	44	⇑	*i*PcP		PcP		18 53 19.7	0.0
	comp=Z,4.3nm,1.0s									
FBE	Freiberg	94.06	39		*e*PcP		PcP		18 53 20.6	+1.2
KHC	Kasperske Hory	94.13	41		*e*P		P		18 53 19.7	+0.2
KHC						*e*pP	pP		18 53 49.7	-0.3
KHC	Kasperske Hory	94.13	41		*e*P		P		18 53 19.7	+0.2
KHC						*e**PP	pP		18 53 49.7	-0.3
KHC	Kasperske Hory	94.13	41		*e*P		P		18 53 19.7	+0.2
	comp=Z,16nm,2.9s									
GEC2	GERESS Array S	94.20	41		*e*PcP		PcP		18 53 20.4	+0.2
GERES	GERESS Array B	94.20	41		P		P		18 53 20.1	+0.3
	comp=Z,1.3nm,0.7s,baz=282,slow=2.6,SNR=14									
GERES	GERESS Array B	94.20	41		P		P		18 53 20.2	+0.3
GERES						pmax	pmax			
	comp=Z,1.0nm,0.7s									
BRG	Berggiesshubel	94.44	39		*i* PKP		P		18 53 21.6	+0.8
	comp=Z,6.9nm,1.1s									
BRG	Berggiesshubel	94.44	39		*e*PcP		PcP		18 53 22.0	+0.9
BRG	Berggiesshubel	94.44	39		*i* P		P		18 53 21.6	+0.8
BRG						pmax	pmax			
	comp=Z,7.0nm,1.1s									
MOA	Molln	94.54	42	⇑	*i*PcP		PcP		18 53 21.9	+0.2
	comp=Z,13nm,2.2s									
PRU	Pruhonice	94.79	40		*e*P		P		18 53 22.9	+0.5
PRU	Pruhonice	94.79	40		*e*P		P		18 53 22.9	+0.5
PVCC	Panska Ves	94.82	40		*e*P		P		18 53 29.2	+6.7
SYO	Syowa Base	94.88	161	⇓	*e*P		P		18 53 21.4	-1.0
ARSA	Arzberg	95.37	43	⇑	*i*PcP		PcP		18 53 25.6	+0.2
	comp=Z,4.0nm,0.8s									
TREC	Trest	95.39	41		*e*P		P		18 53 25.8	+0.6
TREC	Trest	95.39	41		*e*P		P		18 53 25.8	+0.6
CONA	Conrad Observa	95.61	42	⇑	*i*PcP		PcP		18 53 27.1	+0.6
	comp=Z,5.2nm,0.7s									
UPC	Upice	95.74	40		*e*P		P		18 53 27.9	+1.1
UPC	Upice	95.74	40		*e*P		P		18 53 27.9	+1.1
DPC	Dobruska-Polom	95.94	40		*e*P		P		18 53 28.6	+0.9
DPC						*e*pP	pP		18 54 00.8	+2.6
DPC	Dobruska-Polom	95.94	40		*e*P		P		18 53 28.6	+0.9
DPC						*e**PP	pP		18 54 00.8	+2.6
KRLC	Kraliky	96.23	40		*e*P		P		18 53 30.0	+0.9
KRLC	Kraliky	96.23	40		*e*P		P		18 53 30.0	+0.9
MORC	Moravsky Berou	96.73	41		*e*P		P		18 53 32.2	+0.9
	comp=Z,47nm,1.7s									
KECS	Kecovo	98.70	42		*e*P		Pdif		18 53 41.6	+1.5
KECS	Kecovo	98.70	42		PDIF		Pdif		18 53 41.6	+1.5
ARCES	ARCESS Array B	98.91	20		P		P		18 53 40.0	-0.6
	comp=Z,1.6nm,0.6s,baz=266,slow=5.5,SNR=8.5									
ARCES	ARCESS Array B	98.91	20		P		P		18 53 40.0	-0.6
ARCES						pmax	pmax			
	comp=Z,2.0nm,0.6s									
KOLS	Kolonicke sedl	99.85	41		*e*P		Pdif		18 53 45.7	+0.4
KOLS	Kolonicke sedl	99.85	41		PDIF		Pdif		18 53 45.7	+0.4
FINES	FINESS Array B	100.55	28		P		Pdif		18 53 46.6	-1.4
	comp=Z,2.6nm,0.9s,baz=258,slow=5.3,SNR=4.7									
FINES	FINESS Array B	100.55	28		P		Pdif		18 53 46.6	-1.4
FINES						pmax	pmax			
	comp=Z,3.0nm,0.9s									
KBZ	Khabaz	114.83	44		PKP		PKPdf		18 58 41.9	+0.8
	comp=Z,1.8nm,0.7s,baz=207,slow=4.5,SNR=5.6									
KBZ	Khabaz	114.83	44		PKIKP		PKPdf		18 58 41.9	+0.9
KBZ						pmax	pmax			
	comp=Z,2.0nm,0.7s									
YAK	Yakutsk	119.45	346		*i* PKIKP		PKPdf		18 58 49.2	-0.2
ABKAR	Akbulak array	122.80	32		*e*PKPdf		PKPdf		18 58 56.7	+0.5
BRVK	Borovoye	125.00	23	*d*	*i*PKIKP		PKPdf		18 59 00.6	+0.3
YSS	Yuzh-Sakhalins	125.66	327		*e*PKIKP		PKPdf		18 59 01.0	-0.8
BOD	Bodaibo	126.36	353		*e*PKIKP		PKPdf		18 59 01.4	-1.4
BOD						pmax	pmax			
	comp=Z,3.0nm,0.7s									
NVS	Novosibirsk	127.65	14		*e*PKIKP		PKPdf		18 59 03.8	-1.5
NVS					*e*				18 59 35.3	
GEYT	Alibeck	127.70	45		PKP		PKPdf		18 59 06.6	+0.6
	comp=Z,3.9nm,0.7s,baz=260,slow=4.2,SNR=10									
STKA	Stephens Creek	128.08	223		PKP		PKPdf		18 59 07.2	+0.3
	comp=Z,2.8nm,0.7s,baz=112,slow=4.1,SNR=8.0									
STKA	Stephens Creek	128.08	223		PKIKP		PKPdf		18 59 07.2	+0.3
STKA						pmax	pmax			
	comp=Z,3.0nm,0.7s									
ZAA0	Zalesovo Array	128.84	13		*e*PKPdf		PKPdf		18 59 07.7	0.0
ZAA0					*ep*PKPdf		pPKPdf		18 59 36.2	-3.3
ZALV	Zalesovo Beam	128.84	13		PKP		PKPdf		18 59 07.6	-0.1
	comp=Z,11nm,0.8s,baz=266,slow=2.6,SNR=47									
ZALV	Zalesovo Beam	128.84	13		PKIKP		PKPdf		18 59 07.6	-0.1
ZALV						pmax	pmax			
	comp=Z,11nm,0.8s									
KURK	Kurchatov	129.95	20		*i* PKIKP		PKPdf		18 59 10.3	+0.5
KURK	Kurchatov	129.95	20		*e*PKPdf		PKPdf		18 59 09.9	+0.1
KURK					*ep*PKPdf		pPKPdf		18 59 42.3	+0.7
CTA	Charters Tower	130.61	238		PKP		PKPdf		18 59 12.1	+0.1
	comp=Z,3.5nm,0.8s,baz=37,slow=10,SNR=3.5									
CTA	Charters Tower	130.61	238		PKIKP		PKPdf		18 59 12.1	+0.1
CTA						pmax	pmax			
	comp=Z,4.0nm,0.8s									
USRK	Ussuriysk Ar.	133.06	331		PKP		PKPdf		18 59 15.6	-0.3
	comp=Z,2.3nm,0.7s,baz=21,slow=1.0,SNR=6.8									
TLY	Talaya	133.24	359		*i* PKIKP		PKPdf		18 59 16.3	+0.2
ZAK	Zakamensk	134.55	360		*e*PKIKP		PKPdf		18 59 18.6	-0.1
ZAK						pmax	pmax			
	comp=Z,3.0nm,1.5s									
MK31	Makanchi Array	134.56	20		*e*PKPdf		PKPdf		18 59 18.3	-0.4
MAJO	Matsushiro	134.64	319	⇓	*i*PKIKP		PKPdf		18 59 18.2	-1.0
MJAR	Matsushiro Arr	134.64	319		PKP		PKPdf		18 59 18.7	-0.5
	comp=Z,1.8nm,0.7s,baz=131,slow=1.2,SNR=11									
MJAR	Matsushiro Arr	134.64	319		PKIKP		PKPdf		18 59 18.7	-0.5
MJAR						pmax	pmax			
	comp=Z,2.0nm,0.7s									
MAT	Matsushiro	134.64	319		PKP		PKPdf		18 59 18.0	-1.2
AAK	Ala-Archa	134.73	29	⇓	*e*PKIKP		PKPdf		18 59 30.3	+11
SONM	Songino Array	136.99	356		PKhKP		PKPpre		18 59 13.7	
	comp=Z,0.7nm,0.7s,baz=333,slow=2.8,SNR=5.3									
SONM						PKP	PKPdf		18 59 23.9	+0.5
	comp=Z,4.8nm,0.8s,baz=327,slow=1.3,SNR=25									
KSH	Kashi	137.79	31		*e*PKP		PKPdf		18 59 26.8	+1.7
KSH						PKS	PKSdf		19 02 55.3	-6.1
KSH						SKS	SKSdf		19 06 21.8	-3.6
KSH						SS	SS		19 20 13.3	+0.7
KSH						PPMZ				
	comp=Z,190nm,6.1s									
KSH						LN				
	comp=Z,77nm,4.7s									
KSH						LE				
	comp=Z,67nm,4.8s									
KSH						LZ				
	comp=Z,97nm,5.6s									
ASAR	Alice Springs	138.49	226		PKhKP		PKPpre		18 59 19.1	
	comp=Z,1.2nm,0.6s,baz=120,slow=1.1,SNR=19									
ASAR						PKP	PKPdf		18 59 26.3	-0.4
	comp=Z,2.1nm,0.8s,baz=126,slow=2.5,SNR=9.3									
WMQ	Urumqi	138.91	17		PKP		PKPdf		18 59 26.8	-0.2
WMQ						PP	PP		19 02 23.0	+4.0
WMQ						PKS	PKSdf		19 03 01.3	-1.7
WMQ						SKKS			19 08 59.5	
WMQ						SS	SS		19 20 23.8	-1.1
WMQ						LN				
	comp=Z,66nm,8.4s									
WMQ						LE				
	comp=Z,84nm,9.2s									
WMQ						LZ				
	comp=Z,82nm,26.5s									
KSRS	Korea Array	140.15	328		PKP		PKPdf		18 59 29.4	+0.1
	comp=Z,5.9nm,0.8s,baz=14,slow=1.5,SNR=20									
KSRS	Korea Array	140.15	328		PKIKP		PKPdf		18 59 29.4	+0.1
KSRS						pmax	pmax			
	comp=Z,6.0nm,0.8s									
KSAR	Wonju Array Be	140.18	328		PKP		PKPdf		18 59 29.4	0.0
WRAB	Tennant Creek	140.39	231	⇓	PKIKP		PKPdf		18 59 29.3	-0.9
WRAB	Tennant Creek	140.39	231		*e*PKPpre		PKPpre		18 59 24.7	
WRAB					*e*PKPdf		PKiKP		18 59 32.1	-0.7
WRA	Warramunga Arr	140.39	231		PKhKP		PKPpre		18 59 22.2	
	comp=Z,1.9nm,0.6s,baz=110,slow=3.1,SNR=17									
WRA						PKP	PKiKP		18 59 32.5	-0.4
	comp=Z,4.9nm,0.6s,baz=126,slow=1.6,SNR=33									
HHC	Hu-ho-hao-te	143.22	349		*e*PKP		PKPab		18 59 30.8	+0.1
HHC						PP	PP		19 02 49.5	+4.4
HHC						PKS	PKSdf		19 03 05.3	-5.3
HHC						SS	SS		19 21 11.3	-3.6
HHC						PPMZ				
	comp=Z,32nm,9.8s									
GTA	Gaotai	145.42	4	⇓	PKPbc		PKPdf		18 59 38.5	-0.2
GTA						pPKP	pPKPdf		19 00 06.8	-3.8
GTA						sPKP			19 00 19.5	
GTA						PP	PP		19 02 58.3	+0.1
GTA						SKS	SKSdf		19 06 37.0	-0.4
GTA						SKKS	SKKSac		19 09 37.0	-3.7
GTA						PPMZ				
	comp=Z,60nm,9.5s									
GTA						LN				
	comp=Z,150nm,23.3s									
GTA						LE				
	comp=Z,230nm,23.8s									
GTA						LZ				
	comp=Z,120nm,22.8s									
TIA	Tai'an	146.03	339		PKPbc		PKPdf		18 59 39.5	-0.2
JOW	Kunigami	147.20	315		PKPbc		PKPdf		18 59 42.9	+1.0
	comp=Z,2.7nm,0.7s,baz=48,slow=3.7,SNR=6.9									
LZH	Lanzhou	148.82	358	⇓	PKPbc		PKPbc		18 59 49.3	+0.8
LZH						pPKP	pPKPdf		19 00 18.8	+2.4
LZH						sPKP			19 00 32.8	
LZH						PP	PP		19 03 27.0	+8.8
MBWA	Marble Bar	149.30	212		*e*PKPdf		PKPdf		18 59 45.0	-0.5
MBWA					*e*PKPbc		PKPbc		18 59 49.5	-0.4
MBWA					*e*PKPab		PKPab		18 59 54.6	-0.1
XAN	Xi'an	150.32	350		PKPbc		PKPdf		18 59 46.5	-0.3
KOLN	Koldanda	150.76	36		*e*P		PKPdf		18 59 47.7	-0.2
	comp=Z,54nm,0.7s									
SIJI	Sorong	150.95	260		PKPbc		PKPbc		18 59 53.5	-0.7
	comp=Z,15nm,0.7s,baz=87,slow=9.5,SNR=14									
GKN	Gorkha	151.19	35		*e*P		PKPdf		18 59 48.8	+0.3
	comp=Z,159nm,0.7s									
KKN	Kakani	151.72	34		*e*P		PKPdf		18 59 49.6	+0.2
	comp=Z,71nm,0.7s									
DMN	Daman	151.76	35		*e*P		PKPdf		18 59 49.5	0.0
	comp=Z,46nm,0.7s									
PKIN	Phulchoki	151.95	34		*e*P		PKPdf		18 59 49.1	-0.7
	comp=Z,11nm,0.6s									
GUN	Gumba	151.95	33		*e*P		PKPdf		18 59 50.7	+0.8
PKI	Pulchoki	151.96	34		*e*P		PKPdf		18 59 49.2	-0.7
	comp=Z,41nm,0.8s									
WHN	Wuhan	152.13	338		PKPbc		PKPbc		18 59 55.8	-0.5
LSA	Lhasa	152.90	23		*e*PKPdf		PKPdf		18 59 52.4	+1.0
LSA					*e*PKPbc		PKiKP		18 59 59.3	+0.4
LSA					*e*PKPab		PKPab		19 00 09.2	-0.8
RAMN	Ramite	153.10	33		*e*P		PKPdf		18 59 51.7	+0.2
	comp=Z,54nm,0.6s									
ODAN	Odare	153.60	32		*e*P		PKPdf		18 59 52.6	+0.4
	comp=Z,25nm,0.8s									
ENH	Enshi	153.85	347		*e*PKPdf		PKPdf		18 59 51.9	-0.3
ENH					*e*PKPbc		PKPbc		18 59 59.3	-0.8
CD2	Chengdu	153.99	358		PKPbc		PKPdf		18 59 51.0	-1.4
CD2					pPKP		pPKPdf		19 00 21.8	-2.5
CD2					sPKP				19 00 33.5	
CD2					PP		PP		19 03 47.3	-0.2
CD2					SKS		SKSdf		19 06 47.5	-1.3
CD2					SKKS		SKKSac		19 10 25.8	-2.3
CD2					SS		SS		19 23 15.5	+0.4
CD2					PPMZ					
	comp=Z,120nm,5.2s									
GYA	Guiyang	158.11	351		*e*PKP		PKPdf		18 59 56.0	-2.0
GYA					pPKP		pPKPdf		19 00 27.3	-2.7
GYA					PKPab		PKPab		19 00 31.8	-0.1
GYA					sPKP				19 00 40.0	
GYA					PKS		PKSdf		19 03 29.3	-2.7
GYA					PP		PP		19 04 13.0	+2.5
GYA					PPMZ					
	comp=Z,120nm,7.8s									
KMI	Kunming	159.77	360		PKP		PKPdf		18 59 58.

-1.4640, Plg71.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

BJI 26 19:01:19.9, 18°.90S×69°.10W, h106km, mB5.2/21

ISC 26 19:01:18.2±0.2,**19.04S**±0.03×**69.39W**±0.04,**h104**km±1km, **h104km:pP-P,n1090,**σ1**30**/1263,**mb5.4**/208,**26C-13D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNMC	**Minimini**	**0.21**	**245**	⇓*iP*	**Pn**		**19 01 32.0**	**-1.3**
MNMC				*e*S	**Sn**		**19 01 43.3**	**-1.3**
MNMC				AML	AML		19 01 45.9	
	comp=N,263μm,0.7s							
PB11	**IPOC Station P**	**0.76**	**199**	⇑*iP*	**Pn**		**19 01 35.2**	**-1.6**
PB11				*i*S	**Sn**		**19 01 48.8**	**-1.9**
PATCX	**Punta Patache**	**1.91**	**202**	⇑*iP*	**Pn**		**19 01 47.5**	**-2.5**
PB01	**IPOC Station P**	**1.99**	**183**	⇑*iP*	**Pn**		**19 01 49.8**	**-1.3**
PB01				*i*S	**Sn**		**19 02 14.1**	**-1.9**
PB01				AML	AML		19 02 16.9	
	comp=E,31μm,0.4s							
PB07	**IPOC Station P**	**2.71**	**190**	*e*P	**Pn**		**19 01 58.7**	**-1.8**
PB07				*i*S	**Sn**		**19 02 30.8**	**-2.1**
PB07				AML	AML		19 02 39.4	
	comp=E,26μm,0.5s							
PB09	**IPOC Station P**	**2.75**	**177**	⇑*iP*	**Pn**		**19 02 00.3**	**-0.6**
LPAZ	**La Paz**	**2.99**	**24**	P	**Pn**		**19 02 07.1**	**+2.5**
	comp=E,117nm,0.3s,baz=209,slow=4.4,SNR=2310							
LPAZ	**La Paz**	**2.99**	**24**	⇑*iP*	**Pn**		**19 02 07.2**	**+2.6**
ARE	**Arequipa**	**3.25**	**322**	⇑*iP*	**Pn**		**19 02 06.5**	**-1.3**
ARE				*i*S	**Sn**		**19 02 42.3**	**-3.6**
ARE	**Arequipa**	**3.25**	**322**	⇑*iP*	**Pn**		**19 02 06.5**	**-1.3**
ARE				*i*S	**Sn**		**19 02 42.3**	**-3.6**
LVC	**Limon Verde**	**3.58**	**173**	P	**Pn**		**19 02 12.0**	**-0.1**
	comp=E,3μm,0.3s,baz=1.3,slow=10.0,SNR=154							
LVC				S	**Sn**		**19 02 52.5**	**-1.2**
	comp=E,28μm,0.3s,baz=258,slow=19,SNR=15							
LVC	**Limon Verde**	**3.58**	**173**	*e*P	Pn		19 02 16.8	+4.6
LVC				*e*S	Sn		19 03 07.0	+13
HJA	**Humahuaca**	**5.57**	**139**	*e*P	**Pn**		**19 02 41.2**	**+2.1**
HJA				*e*S	Sn		19 03 48.1	+6.1
AZAP	**Zapla**	**6.54**	**143**	*e*P	**Pn**		**19 02 51.0**	**-1.1**
AZAP				IAML			19 02 56.8	
	comp=Z,130nm,0.4s							
AZAP				*e*S	**Sn**		**19 04 04.7**	**-0.8**
ASTB	**Santa Barbara**	**6.69**	**138**	*e*P	**Pn**		**19 02 53.7**	**-0.4**
ASTB				*e*S	**Sn**		**19 04 08.8**	**-0.2**
ALOL	**LOMAS DE OLMED**	**6.93**	**134**	*e*P	**Pn**		**19 02 55.9**	**-1.4**
ALOL				*e*S	**Sn**		**19 04 12.9**	**-1.7**
FSA	**Cafayete**	**7.68**	**157**	*e*P	Pn		19 03 03.3	-4.3
SIV	**San Ignacio**	**8.50**	**70**	P	**Pn**		**19 03 16.7**	**-1.9**
	comp=Z,166nm,0.3s,baz=271,slow=11,SNR=391							
AHML	**Horco Molle**	**8.57**	**155**	*e*P	Pn		19 03 12.2	-7.3
CYA	**Choya**	**9.92**	**161**	*e*P	**Pn**		**19 03 37.1**	**-0.7**
CYA				IAML			19 03 42.8	
	comp=Z,27nm,0.7s							
LCO	**Las Campanas**	**10.00**	**187**	*e*Pn	Pn		19 03 32.9	-6.2
LCO				*e*Sn	Sn		19 05 18.4	-11
NNA	**Nana**	**10.03**	**313**	P	**Pn**		**19 03 37.8**	**-1.7**
	comp=Z,4.5nm,0.3s,baz=129,slow=8.5,SNR=8.8							
NNA				S	**Sn**		**19 05 25.3**	**-4.9**
	comp=Z,13nm,0.3s,baz=242,slow=18,SNR=4.0							
NNA	**Nana**	**10.03**	**313**	*e*P	**Pn**		**19 03 37.3**	**-2.2**
NNA				S	**Sn**		**19 05 25.3**	**-4.9**
NNA	**Nana**	**10.03**	**313**	*e*Pn	**Pn**		**19 03 37.3**	**-2.2**
NNA				*e*Sn	Sn		19 05 18.1	-12
NNA				S	**Sn**		**19 05 25.3**	**-4.9**
SAML	**Samuel**	**11.70**	**32**	⇑*iP*n	Pn		19 03 58.5	-3.4
RTLL	**Cerro Villicun**	**12.26**	**176**	*e*P	Pn		19 03 58.9	-10
CFAA	**Coronel Fontan**	**12.55**	**175**	P	Pn		19 04 07.9	-5.3
	comp=Z,0.3nm,0.3s,baz=346,slow=12,SNR=26							
CFAA				LR	LR		19 10 13.3	
	comp=Z,38nm,21.8s,baz=332,slow=42							
CPUP	**Villa Florida**	**13.28**	**125**	P	**Pn**		**19 04 19.9**	**-2.9**
	comp=Z,3.9nm,0.3s,baz=305,slow=12,SNR=68							
CPUP	**Villa Florida**	**13.28**	**125**	*e*P	**Pn**		**19 04 20.8**	**-1.9**
CPUP	**Villa Florida**	**13.28**	**125**	*e*Pn	**Pn**		**19 04 20.8**	**-1.9**
ATAH	**Atahualpa**	**14.72**	**322**	P	**Pn**		**19 04 40.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=139,slow=18,SNR=2.9							
TRQA	**Tornquist**	**20.02**	**163**	⇓*iP*	**P**		**19 05 42.1**	**-0.7**
	comp=Z,118nm,0.8s							
TRQA				*e*S	**S**		**19 09 17.9**	**-4.3**
PTGA	**Pitinga**	**20.41**	**28**	P	**P**		**19 05 45.1**	**-2.1**
	comp=Z,132nm,0.3s,baz=217,slow=13,SNR=320							
PTGA				S	**S**		**19 09 23.3**	**-6.9**
	comp=Z,12nm,0.9s,baz=0.0,slow=20,SNR=4.9							
PTGA	**Pitinga**	**20.41**	**28**	*e*P	**P**		**19 05 45.1**	**-2.1**
	comp=Z,148nm,0.3s							
PTGA				S	**S**		**19 09 23.3**	**-6.9**
BDFB	**Brasilia**	**20.68**	**84**	P	**P**		**19 05 48.1**	**-2.2**
	comp=Z,146nm,0.4s,baz=255,slow=8.2,SNR=62							
OTAV	**Otavalo**	**21.12**	**334**	⇓*iP*	**P**		**19 05 55.6**	**+0.4**
	comp=Z,68nm,1.1s							
OTAV				*e*S	**S**		**19 09 44.1**	**-0.8**
ROSC	**El Rosal**	**24.24**	**348**	P	**P**		**19 06 25.7**	**-0.3**
	comp=Z,5.2nm,0.4s,baz=90,slow=20,SNR=3.5							
SDV	**Santo Domingo**	**27.78**	**357**	*e*P	**P**		**19 06 56.1**	**-1.6**
	comp=Z,32nm,1.1s							
PCRV	**Puerto La Cruz**	**29.41**	**10**	P	**P**		**19 07 11.3**	**-0.8**
	comp=Z,7.8nm,0.3s,baz=265,slow=1.5,SNR=14							
PCRV				LR	LR		19 20 09.9	
	comp=Z,1μm,19.1s,baz=184,slow=39							
BCIP	**Isla Barro Col**	**29.86**	**339**	*e*P	**P**		**19 07 17.1**	**+1.1**
	comp=Z,85nm,1.4s							
GRGR	**Grenville**	**31.90**	**14**	*e*P	**P**		**19 07 31.4**	**-2.6**
JTS	**JuntasAbangare**	**32.94**	**331**	P	**P**		**19 07 45.0**	**+2.0**
	comp=Z,27nm,0.8s,baz=141,slow=3.2,SNR=13							
JTS	**JuntasAbangare**	**32.94**	**331**	⇑*iP*	**P**		**19 07 45.3**	**+2.3**
JTS				pmax	pmax			
	comp=Z,206nm,2.4s							
JTS	**JuntasAbangare**	**32.94**	**331**	⇓*iP*	**P**		**19 07 44.7**	**+1.7**
	comp=Z,48nm,1.0s							
EFI	**East Falkland**	**33.77**	**167**	⇑*e*P	**P**		**19 07 50.5**	**+0.7**
EFI				pmax	pmax			
	comp=Z,433nm,1.4s							
EFI	**East Falkland**	**33.77**	**167**	*e*P	**P**		**19 07 49.7**	**-0.1**
	comp=Z,123nm,1.0s							
FDF	**Fort de France**	**34.53**	**14**	*e*P	**P**		**19 07 53.8**	**-3.0**
FDF				pmax	pmax			
	comp=Z,97nm,0.6s							
FDF	**Fort de France**	**34.53**	**14**	*e*P	**P**		**19 07 53.8**	**-3.0**
	comp=Z,97nm,0.6s							
RCBR	**Riachuelo**	**35.16**	**72**	P	**P**		**19 08 02.2**	**-0.1**
	comp=Z,57nm,0.5s,baz=224,slow=5.9,SNR=75							
RCBR	**Riachuelo**	**35.16**	**72**	*e*P	**P**		**19 08 02.4**	**+0.1**
	comp=Z,69nm,0.6s							
USHA	**Ushuaia**	**35.74**	**179**	P	**P**		**19 08 07.5**	**+0.8**
	comp=Z,25nm,0.7s,baz=344,slow=8.1,SNR=9.2							
ICMP	**Isla Caja de M**	**36.80**	**5**	*e*P	**P**		**19 08 15.5**	**-0.7**
CRPR	**Cabo Rojo, PR**	**36.88**	**4**	*e*P	**P**		**19 08 14.6**	**-2.3**
	comp=Z,64nm,0.9s							
SABA	**Saba**	**36.93**	**10**	*e*P	**P**		**19 08 14.7**	**-2.6**
	comp=Z,82nm,0.8s							
OBIP	**Obispado Ponce**	**36.95**	**4**	*e*P	**P**		**19 08 15.3**	**-2.1**
	comp=Z,100nm,0.8s							
CELP	**Cerrillos**	**36.99**	**4**	*e*P	**P**		**19 08 16.1**	**-1.7**
LSP	**Las Mesas**	**37.05**	**4**	P	**P**		**19 08 17.2**	**-1.1**
SJG	**San Juan**	**37.06**	**5**	*e*P	**P**		**19 08 15.6**	**-2.7**
SJG				pmax	pmax			
	comp=Z,71nm,0.8s							
SJG	**San Juan**	**37.06**	**5**	*e*P	**P**		**19 08 15.6**	**-2.7**
	comp=Z,71nm,0.8s							
ANWB	**Willy Bob**	**37.24**	**12**	*e*P	**P**		**19 08 17.4**	**-2.5**
AOPR	**Arecibo Observ**	**37.24**	**4**	*e*P	**P**		**19 08 17.7**	**-2.3**
	comp=Z,47nm,0.6s							
STVI	**Saint Thomas**	**37.41**	**7**	*e*P	**P**		**19 08 19.7**	**-1.6**
	comp=Z,36nm,0.8s							
SDDR	**Presa de Saban**	**37.83**	**357**	*e*P	**P**		**19 08 22.7**	**-2.2**
MTDJ	**Mount Denham**	**37.89**	**347**	P	**P**		**19 08 24.6**	**-0.8**
SMN1	**Samana, DR**	**37.99**	**0**	*e*P	**P**		**19 08 24.1**	**-2.2**
TEIG	**Tepich**	**43.19**	**334**	P	**P**		**19 09 09.1**	**+0.1**
	comp=Z,57nm,1.0s,baz=130,slow=15,SNR=9.5							
TEIG	**Tepich**	**43.19**	**334**	*e*P	**P**		**19 09 08.8**	**-0.2**
	comp=Z,93nm,1.1s							
CMIG	**Matias Romero**	**43.79**	**324**	P	**P**		**19 09 15.0**	**+1.1**
	comp=Z,48nm,1.1s,baz=105,slow=5.5,SNR=27							
PMSA	**Palmer Station**	**45.84**	**177**	P	**P**		**19 09 30.8**	**+1.2**
	comp=Z,115nm,1.1s,baz=360,slow=4.1,SNR=3.9							
PMSA	**Palmer Station**	**45.84**	**177**	*e*P	**P**		**19 09 31.3**	**+1.7**
	comp=Z,198nm,1.2s							
BBSR	**BB Station**	**51.32**	**5**	*e*P	**P**		**19 10 10.0**	**-1.8**
	comp=Z,46nm,1.2s							
TIGA	**Tifton**	**52.01**	**345**	P	**P**		**19 10 17.1**	**+0.1**
	baz=52,SNR=9.1							
TIGA	**Tifton**	**52.01**	**345**	*e*P	**P**		**19 10 16.9**	**-0.2**
	comp=Z,109nm,0.9s							
RGRS	**Roger Stewart**	**52.68**	**349**	*e*P	**P**		**19 10 22.3**	**+0.4**
CSU	**Charleston Sou**	**52.73**	**349**	*e*P	**P**		**19 10 22.2**	**-0.1**
CSU				*e*pP	**pP**		**19 10 47.0**	**-0.3**
NHSC	**New Hope**	**52.87**	**349**	*e*P	**P**		**19 10 23.1**	**-0.2**
	comp=Z,336nm,1.1s							
035Z	**Hargill**	**53.11**	**327**	P	**P**		**19 10 26.3**	**+1.0**
	baz=53							
035A	**Encino**	**53.52**	**328**	P	**P**		**19 10 29.4**	**+1.1**
	baz=54,SNR=8.9							
GOGA	**Godfrey**	**53.86**	**345**	*e*P	**P**		**19 10 29.6**	**-1.0**
GOGA				pmax	pmax			
	comp=Z,41nm,1.0s							
GOGA	**Godfrey**	**53.86**	**345**	*e*P	**P**		**19 10 29.6**	**-1.0**
	comp=Z,41nm,1.0s							
034A	**Hebbronville**	**53.92**	**327**	P	**P**		**19 10 32.2**	**+1.0**
	baz=54,SNR=25							
737A	**Port Lavaca**	**54.24**	**331**	P	**P**		**19 10 35.0**	**+1.6**
	baz=54							
934A	**Benavides**	**54.28**	**328**	P	**P**		**19 10 35.0**	**+1.3**
	baz=54							
LRAL	**Lakeview Retre**	**54.45**	**342**	*e*P	**P**		**19 10 34.0**	**-0.9**
	comp=Z,38nm,1.0s							
835A	**Beeville**	**54.50**	**329**	P	**P**		**19 10 36.5**	**+1.1**
	baz=55,SNR=16							
539A	**Cross D Ranch,**	**54.62**	**333**	P	**P**		**19 10 37.6**	**+1.5**
	baz=55							
933A	**Laredo**	**54.67**	**327**	P	**P**		**19 10 37.2**	**+0.6**
	baz=55,SNR=22							
736A	**Circle Diamond**	**54.69**	**330**	P	**P**		**19 10 38.1**	**+1.4**
	baz=55,SNR=40							
834A	**Tilden**	**54.72**	**328**	P	**P**		**19 10 37.7**	**+0.8**
	baz=55,SNR=42							
637A	**Eagle Lake**	**54.76**	**331**	P	**P**		**19 10 38.0**	**+0.8**
	baz=55							
VBMS	**Vicksburg**	**54.84**	**338**	P	**P**		**19 10 38.4**	**+0.7**
	baz=55							
440A	**Kirbyville**	**54.85**	**334**	P	**P**		**19 10 38.9**	**+1.1**
	baz=55							
735A	**Kenedy**	**54.96**	**329**	P	**P**		**19 10 39.4**	**+0.8**
	baz=55,SNR=7.4							
HKT	**Hockley**	**54.97**	**332**	*e*P	**P**		**19 10 38.5**	**-0.1**
HKT				pmax	pmax			
	comp=Z,124nm,1.3s							
HKT	**Hockley**	**54.97**	**332**	*e*P	**P**		**19 10 38.5**	**-0.1**
	comp=Z,124nm,1.3s							
538A	**Harpers Horsep**	**55.05**	**332**	P	**P**		**19 10 40.7**	**+1.5**
	baz=55							
KMSC	**Kings Mountain**	**55.06**	**348**	P	**P**		**19 10 39.6**	**+0.3**
	baz=55,SNR=33							
KMSC	**Kings Mountain**	**55.06**	**348**	*e*P	**P**		**19 10 39.1**	**-0.2**
	comp=Z,94nm,0.8s							
636A	**Smothers Creek**	**55.13**	**330**	P	**P**		**19 10 40.9**	**+1.0**
	baz=55,SNR=19							
439A	**Center Grove,**	**55.23**	**333**	P	**P**		**19 10 41.8**	**+1.3**
	baz=56							
537A	**Green Hill Far**	**55.30**	**331**	P	**P**		**19 10 42.2**	**+1.1**
	baz=56,SNR=15							
833A	**Chaparral WMA,**	**55.31**	**328**	P	**P**		**19 10 41.9**	**+0.7**
	baz=56,SNR=57							
734A	**La Parita Cree**	**55.32**	**329**	P	**P**		**19 10 42.0**	**+0.7**
	baz=56,SNR=28							
635A	**Leesville**	**55.39**	**330**	P	**P**		**19 10 42.1**	**+0.3**
	baz=56,SNR=7.3							
340A	**Bronson**	**55.41**	**334**	P	**P**		**19 10 42.6**	**+0.8**
	baz=56,SNR=8.3							
438A	**Sam Houston St**	**55.49**	**333**	P	**P**		**19 10 43.4**	**+0.9**
	baz=56,SNR=19							
832A	**Faith Ranch, C**	**55.57**	**327**	P	**P**		**19 10 43.5**	**+0.4**
	baz=56,SNR=15							
733A	**Divot King Ran**	**55.58**	**328**	P	**P**		**19 10 43.5**	**+0.4**
	baz=56,SNR=18							
339A	**Huntington**	**55.61**	**334**	P	**P**		**19 10 44.4**	**+1.1**
	baz=56,SNR=5.0							
536A	**Bastrop**	**55.63**	**331**	P	**P**		**19 10 44.3**	**+0.9**
	baz=56,SNR=10.0							
634A	**China Grove, S**	**55.66**	**329**	P	**P**		**19 10 44.3**	**+0.6**
	baz=56							
535A	**Dale**	**55.83**	**330**	P	**P**		**19 10 45.4**	**+0.6**
	baz=56,SNR=5.3							
437A	**Phantom Ranch,**	**55.85**	**332**	P	**P**		**19 10 46.1**	**+1.0**
	baz=56							
732A	**Laxson Ranch,**	**55.93**	**327**	P	**P**		**19 10 45.9**	**+0.3**
	baz=56,SNR=27							
338A	**Crockett**	**55.95**	**333**	P	**P**		**19 10 47.2**	**+1.5**
	baz=56,SNR=13							
NATX	**Nacogdoches**	**56.02**	**334**	P	**P**		**19 10 47.2**	**+0.9**
	baz=56,SNR=10							
NATX	**Nacogdoches**	**56.02**	**334**	⇓*iP*	**P**		**19 10 46.7**	**+0.4**
	comp=Z,237nm,1.3s							
CPCT	**Cooper Cave**	**56.06**	**345**	⇓*e*P	**P**		**19 10 45.6**	**-0.8**
TKL	**Tuckaleechee C**	**56.08**	**346**	P	**P**		**19 10 45.9**	**-0.7**
	comp=Z,51nm,0.8s,baz=160,slow=9.2,SNR=48							
TKL	**Tuckaleechee C**	**56.08**	**346**	*e*P	**P**		**19 10 45.7**	**-0.9**
TKL	**Tuckaleechee C**	**56.08**	**346**	*e*P	**P**		**19 10 45.7**	**-0.9**
436A	**Wall Ranch, Ga**	**56.10**	**331**	P	**P**		**19 10 47.7**	**+0.9**
	baz=56,SNR=7.2							
633A	**Saathoff Ranch**	**56.13**	**329**	P	**P**		**19 10 47.7**	**+0.7**
	baz=56,SNR=55							
337A	**Centerville**	**56.16**	**333**	P	**P**		**19 10 48.6**	**+1.4**
	baz=56							
239A	**Gary**	**56.17**	**334**	P	**P**		**19 10 48.7**	**+1.4**
	baz=56,SNR=7.7							
534A	**Blanco**	**56.26**	**330**	P	**P**		**19 10 47.8**	**-0.2**
	baz=56,SNR=16							
SACV	**Santiago Islan**	**56.34**	**56**	*e*P	**P**		**19 10 47.8**	**-1.0**
	comp=Z,62nm,1.0s							
238A	**Jacksonville**	**56.43**	**334**	P	**P**		**19 10 50.5**	**+1.4**
	baz=57,SNR=5.2							
435B	**Jarrell**	**56.47**	**331**	P	**P**		**19 10 49.9**	**+0.5**
	baz=57,SNR=8.7							
632A	**Uvalde**	**56.47**	**328**	P	**P**		**19 10 49.7**	**+0.2**
	baz=57,SNR=48							
OXF	**Oxford**	**56.56**	**340**	*e*P	**P**		**19 10 48.1**	**-1.9**
OXF				pmax	pmax			
	comp=Z,96nm,0.9s							
OXF	**Oxford**	**56.56**	**340**	*e*P	**P**		**19 10 48.1**	**-1.9**
	comp=Z,96nm,0.9s							
533A	**Kerrville**	**56.56**	**329**	P	**P**		**19 10 50.3**	**+0.2**
	baz=57,SNR=13							
336A	**Riesel**	**56.64**	**332**	P	**P**		**19 10 51.1**	**+0.5**
	baz=57,SNR=5.3							
237A	**Washetta, Mont**	**56.72**	**333**	P	**P**		**19 10 52.2**	**+1.0**
	baz=57,SNR=6.4							
139A	**Bunkhouse Ranc**	**56.72**	**335**	P	**P**		**19 10 52.3**	**+1.2**
	baz=57							
631A	**Perdido Creek**	**56.79**	**327**	P	**P**		**19 10 51.4**	**-0.4**
	baz=57,SNR=48							
434A	**Burnet**	**56.81**	**330**	P	**P**		**19 10 51.3**	**-0.6**
	baz=57,SNR=24							
335A	**Moody**	**56.82**	**331**	P	**P**		**19 10 51.9**	**0.0**
	baz=57,SNR=17							
URVA	**University of**	**56.83**	**352**	*e*P	**P**		**19 10 51.4**	**-0.4**
VWCC	**Virginia Weste**	**56.87**	**350**	*e*P	**P**		**19 10 52.2**	**+0.1**
TZTN	**Tazewell**	**56.88**	**346**	*e*P	**P**		**19 10 51.4**	**-0.8**
	comp=Z,40nm,1.0s							
BLA	**Blacksburg**	**56.91**	**349**	*e*P	**P**		**19 10 52.0**	**-0.4**
BLA				pmax	pmax			
	comp=Z,258nm,1.7s							
BLA	**Blacksburg**	**56.91**	**349**	*e*P	**P**		**19 10 52.0**	**-0.4**
	comp=Z,258nm,1.7s							
138A	**Matatall Enter**	**56.98**	**334**	P	**P**		**19 10 54.1**	**+1.0**
	baz=57,SNR=9.6							
JSRW	**J. Sargeant Re**	**56.99**	**352**	*e*P	**P**		**19 10 52.2**	**-0.7**
236A	**Katherine and**	**57.03**	**332**	P	**P**		**19 10 54.1**	**+0.8**
	baz=57,SNR=14							
532A	**Rocksprings**	**57.04**	**328**	P	**P**		**19 10 53.6**	**0.0**
	baz=57,SNR=54							
Z39A	**Irene McRaven,**	**57.13**	**335**	P	**P**		**19 10 55.1**	**+1.1**
	baz=57							
433A	**Art**	**57.15**	**329**	P	**P**		**19 10 54.5**	**+0.2**
	baz=57,SNR=59							
137A	**Heron Place, G**	**57.21**	**334**	P	**P**		**19 10 55.5**	**+0.9**
	baz=58,SNR=17							
334A	**Lometa**	**57.23**	**331**	P	**P**		**19 10 54.8**	**0.0**
	baz=58,SNR=14							
JCT	**Junction City**	**57.27**	**329**	⇓*iP*	**P**		**19 10 54.5**	**-0.7**
JCT				pmax	pmax			
	comp=Z,73nm,1.0s							
JCT	**Junction City**	**57.27**	**329**	P	**P**		**19 10 55.6**	**+0.4**
	baz=58,SNR=16							
JCT	**Junction City**	**57.27**	**329**	⇓*iP*	**P**		**19 10 54.5**	**-0.7**
	comp=Z,73nm,1.0s							
531A	**Rocksprings**	**57.39**	**328**	P	**P**		**19 10 56.7**	**+0.7**
	baz=58,SNR=65							
WHTX	**Lake Whitney,**	**57.43**	**332**	P	**P**		**19 10 56.5**	**+0.3**
	baz=58,SNR=15							
136A	**Ennis**	**57.43**	**333**	P	**P**		**19 10 56.9**	**+0.7**
	baz=58,SNR=9.8							
Z38A	**Mt. Pleasant**	**57.46**	**335**	P	**P**		**19 10 56.9**	**+0.6**
	baz=58							
333A	**Richland Sprin**	**57.58**	**330**	P	**P**		**19 10 57.0**	**-0.3**
	baz=58,SNR=41							
WVT	**Waverly**	**57.58**	**342**	*e*P	**P**		**19 10 55.6**	**-1.5**
WVT				pmax	pmax			
	comp=Z,77nm,1.0s							
WVT	**Waverly**	**57.58**	**342**	*e*P	**P**		**19 10 55.6**	**-1.5**
	comp=Z,77nm,1.0s							
432A	**Menard**	**57.59**	**329**	P	**P**		**19 10 57.3**	**-0.1**
	baz=58,SNR=66							
Z37A	**Pogue Cattle C**	**57.67**	**334**	P	**P**		**19 10 58.3**	**+0.5**
	baz=58,SNR=7.1							
Y39A	**Lockesburg**	**57.70**	**336**	P	**P**		**19 10 58.3**	**+0.3**
	baz=58,SNR=19							
234A	**Clairette**	**57.75**	**331**	P	**P**		**19 10 58.6**	**+0.2**
	baz=58,SNR=61							
530A	**J-C Ranch, Com**	**57.78**	**327**	P	**P**		**19 10 58.9**	**+0.2**
	baz=58,SNR=56							
UALR	**University of**	**57.80**	**338**	*e*P	**P**		**19 10 57.6**	**-1.1**
	comp=Z,90nm,1.4s							
UALR				*e*pP	**pP**		**19 11 23.1**	**-1.0**
431A	**Sonora**	**57.84**	**328**	P	**P**		**19 10 59.0**	**-0.1**
	baz=58,SNR=46							
135A	**Vickery Place,**	**57.89**	**332**	P	**P**		**19 10 59.7**	**+0.3**
	baz=58,SNR=8.8							
Y38A	**Idabel**	**57.95**	**335**	P	**P**		**19 10 59.9**	**+0.1**
	baz=58							
332A	**Millersview**	**57.99**	**329**	P	**P**		**19 11 00.2**	**+0.1**
	baz=58							
SLBS	**Sierra La Lagu**	**58.04**	**315**	*e*P	**P**		**19 11 01.7**	**+1.0**
	comp=Z,105nm,1.3s							
MIAR	**Mount Ida**	**58.04**	**337**	*e*P	**P**		**19 10 59.9**	**-0.5**
MIAR				pmax	pmax			
	comp=Z,77nm,1.1s							
MIAR	**Mount Ida**	**58.04**	**337**	P	**P**		**19 11 00.3**	**-0.1**
	baz=58,SNR=33							
MIAR	**Mount Ida**	**58.04**	**337**	*e*P	**P**		**19 10 59.9**	**-0.5**
	comp=Z,77nm,1.1s							
Z36A	**Blue Ridge**	**58.08**	**333**	P	**P**		**19 11 01.2**	**+0.5**
	baz=58,SNR=16							
233A	**Rising Star**	**58.11**	**330**	P	**P**		**19 11 01.3**	**+0.3**
	baz=58,SNR=50							
GLAT	**Glass**	**58.14**	**341**	*e*P	**P**		**19 11 00.3**	**-0.7**
134A	**White-Moore Ra**	**58.20**	**332**	P	**P**		**19 11 01.6**	**0.0**
	baz=58,SNR=20							
529A	**Stev Forest Ra**	**58.21**	**326**	P	**P**		**19 11 02.2**	**+0.4**
	baz=58,SNR=29							
430A	**Baggett Ranch,**	**58.24**	**328**	P	**P**		**19 11 01.7**	**-0.2**
	baz=58,SNR=41							
331A	**San Angelo**	**58.26**	**329**	P	**P**		**19 11 01.7**	**-0.4**
	baz=58,SNR=31							
Y37A	**Hugo**	**58.35**	**334**	P	**P**		**19 11 03.6**	**+1.0**
	baz=59,SNR=52							
232A	**Coleman**	**58.36**	**330**	P	**P**		**19 11 02.5**	**-0.2**
	baz=59,SNR=64							
TXAR	**Lajitas Array**	**58.37**	**325**	P	**P**		**19 11 03.0**	**+0.1**
	comp=Z,14nm,0.9s,baz=139,slow=8.2,SNR=85							
TXAR				PcP	**PcP**		**19 11 52.6**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=148,slow=7.4,SNR=3.9							
TXAR				PKP2bc			19 40 49.6	
	comp=Z,1.3nm,1.1s,baz=255,slow=1.9,SNR=5.6							
PVMO	**Portageville**	**58.40**	**341**	*e*P	**P**		**19 11 02.6**	**-0.3**
429A	**Davenport Ranc**	**58.44**	**327**	P	**P**		**19 11 03.3**	**0.0**
	baz=59,SNR=71							
Z35A	**Perchaven, San**	**58.48**	**333**	P	**P**		**19 11 03.7**	**+0.2**
	baz=59,SNR=20							
Y36A	**Durant**	**58.55**	**334**	P	**P**		**19 11 04.2**	**+0.2**
	baz=59							
133A	**Hamilton Ranch**	**58.61**	**331**	P	**P**		**19 11 04.8**	**+0.3**
	baz=59,SNR=24							
X38A	**Whitesboro**	**58.63**	**336**	P	**P**		**19 11 04.9**	**+0.4**
	baz=59,SNR=60	

OLIL Olney 60.09 343 eP P 19 11 13.1 -1.3
comp=Z,126nm,1.7s
OLIL eP cP PcP 19 11 59.2 -0.1
TUL1 Leonard 60.10 335 P P 19 11 14.4 -0.2
baz=60,SNR=21
TUL1 Leonard 60.10 335 eP P 19 11 14.0 -0.6
comp=Z,134nm,1.1s
YLE Yale 60.14 357 eP P 19 11 13.4 -1.3
comp=Z,43nm,0.9s
Z30A Sanderson Ranc 60.22 329 P P 19 11 15.4 -0.1
baz=60,SNR=72
X32A Elmer 60.30 332 P P 19 11 15.9 -0.2
baz=61,SNR=14
ACSO Alum Creek Sta 60.31 348 eP P 19 11 15.0 -0.9
comp=Z,111nm,1.0s
W34A Bridge Creek, 60.33 333 P P 19 11 16.4 +0.2
baz=61
W34A Bridge Creek, 60.33 333 eP P 19 11 16.0 -0.2
comp=Z,65nm,1.1s
WMOK Wichita Mounta 60.34 332 eP P 19 11 15.2 -1.1
WMOK pmax pmax
comp=Z,104nm,1.8s
WMOK Wichita Mounta 60.34 332 eP P 19 11 15.2 -1.1
comp=Z,104nm,1.8s
128A Castleberry Fa 60.34 328 P P 19 11 16.2 -0.2
baz=61,SNR=24
Y31A Rekieta Farm, 60.36 331 P P 19 11 16.5 0.0
baz=61,SNR=36
V35A Meyer Ranch, C 60.39 334 P P 19 11 16.3 -0.3
baz=61,SNR=15
Z29A Hungry Hill Ra 60.47 329 P P 19 11 16.9 -0.4
baz=61,SNR=34
SHEL Horse Pasture 60.49 98 eP P 19 11 19.8 +2.0
SHEL pmax pmax
comp=Z,63nm,0.7s
SHEL Horse Pasture 60.49 98 eP P 19 11 19.8 +2.0
comp=Z,63nm,0.7s
W33A Caddo, Fort Co 60.55 333 P P 19 11 18.2 +0.5
baz=61,SNR=24
Y30A Stafford Cattl 60.59 330 P P 19 11 17.9 -0.1
baz=61,SNR=8.0
SLM Saint Louis 60.61 341 eP P 19 11 17.0 -1.0
SLM pmax pmax
comp=Z,65nm,1.2s
SLM Saint Louis 60.61 341 eP P 19 11 17.0 -1.0
comp=Z,65nm,1.2s
BRYW Bryant College 60.68 358 eP P 19 11 18.4 0.0
comp=Z,108nm,0.8s
BRYW eP P 19 11 44.4 +0.3
V34A Guthrie 60.73 334 P P 19 11 18.5 -0.4
baz=61,SNR=16
V34A Guthrie 60.73 334 eP P 19 11 18.4 -0.6
comp=Z,128nm,1.0s
X31A McDonald Ranch 60.79 331 P P 19 11 19.2 -0.2
baz=61,SNR=19
T37A Cheneyville 18 60.83 337 P P 19 11 19.4 -0.2
baz=61,SNR=96
Z28A Tucker Farm, M 60.83 329 P P 19 11 19.1 -0.6
baz=61,SNR=27
W32A Sentinel 60.87 332 P P 19 11 19.8 -0.1
baz=61,SNR=30
U35A Pawnee 60.87 335 P P 19 11 20.0 +0.1
baz=61,SNR=23
RKT Rikitea 60.88 254 eS S 19 19 33.5 +3.2
comp=Z,614nm,25.0s
RKT Rikitea 60.88 254 eLR LR 19 29 41.2
comp=Z,740nm,36.5s
RKT Rikitea 60.88 254 eT T 20 16 13.4
comp=Z,4.3nm,0.2s
Y29A Porterfield Fa 60.94 329 P P 19 11 20.1 -0.4
baz=61,SNR=24
GDL2 Guadalupe Moun 60.97 326 eP P 19 11 20.8 0.0
comp=Z,63nm,1.0s
V33A Lossen Ranch, 61.04 333 P P 19 11 20.9 -0.2
baz=61,SNR=23
X30A Coker Ranch, T 61.05 330 P P 19 11 20.7 -0.5
baz=61,SNR=18
QUA2 Belchertown 61.07 357 eP P 19 11 20.9 -0.2
comp=Z,98nm,1.9s
T36A Boggs Farm, Ca 61.14 336 P P 19 11 21.3 -0.3
baz=61,SNR=45
W31A Holland Ranch, 61.23 332 P P 19 11 22.1 -0.3
baz=62,SNR=8.4
U34A Anderson Ranch 61.26 334 P P 19 11 22.4 -0.1
baz=62,SNR=16
U34A Anderson Ranch 61.26 334 eP P 19 11 22.1 -0.4
comp=Z,111nm,0.9s
T35A Sooner Cattle 61.26 335 P P 19 11 22.5 0.0
baz=62,SNR=28
Y28A McKinney Farm, 61.26 329 P P 19 11 22.6 -0.1
baz=62
HRV Adam Dziewonsk 61.27 358 eP P 19 11 22.2 -0.2
HRV e*PP pP 19 11 48.3 +0.3
HRV pmax pmax
comp=Z,55nm,0.9s
HRV Adam Dziewonsk 61.27 358 eP P 19 11 22.2 -0.2
comp=Z,55nm,0.9s
HRV epP pP 19 11 48.3 +0.3
V32A Arapaho 61.28 333 P P 19 11 23.3 +0.7
baz=62,SNR=12
CPRX Cap Rock 61.37 327 eP P 19 11 22.8 -0.7
SFIN Lafayette 61.37 345 P P 19 11 21.8 -1.3
baz=62,SNR=7.9
SFIN Lafayette 61.37 345 eP P 19 11 21.8 -1.3
comp=Z,203nm,1.5s
X29A Tulia 61.44 330 P P 19 11 23.5 -0.3
baz=62,SNR=8.9
U33A Lingo Farm, Me 61.49 334 P P 19 11 23.9 -0.2
baz=62,SNR=10
MSTX Muleshoe 61.57 329 P P 19 11 24.5 -0.3
baz=62,SNR=74
MSTX Muleshoe 61.57 329 eP P 19 11 23.9 -0.9
comp=Z,173nm,1.0s
TRY Troy 61.59 356 eP P 19 11 25.0 +0.5
comp=Z,48nm,0.9s
TRY epP pP 19 11 49.8 -0.4
S36A Lake Cedric, C 61.61 337 P P 19 11 24.8 0.0
baz=62,SNR=49
T34A McClaskey Farm 61.62 335 P P 19 11 25.0 +0.1
baz=62,SNR=30
V31A Spring Creek L 61.68 332 P P 19 11 25.7 +0.4
baz=62,SNR=8.1
X28A Dimmitt 61.73 329 P P 19 11 25.8 0.0
baz=62
AMTX Amarillo 61.78 330 P P 19 11 26.1 -0.1
baz=62
AMTX Amarillo 61.78 330 eP P 19 11 25.8 -0.4
comp=Z,43nm,1.1s
U32A Winter Ranch, 61.82 333 P P 19 11 26.5 +0.2
baz=62
R37A Teagarden Farm 61.85 337 P P 19 11 26.0 -0.4
baz=62,SNR=14
S35A Otter Creek Ra 61.85 336 P P 19 11 26.5 +0.1
baz=62,SNR=46
MMNY Mt. Morris Dam 61.96 353 eP P 19 11 26.8 -0.2
comp=Z,451nm,1.7s
MMNY epP pP 19 11 53.8 +1.0
W29A Amarillo 61.96 330 P P 19 11 26.9 -0.4
baz=62,SNR=11
V30A Spur Ranch, Mi 62.05 331 P P 19 11 28.9 +1.0
baz=62
T33A Patterson Ranc 62.10 334 P P 19 11 28.4 +0.2
baz=62,SNR=14
R36A Gordon, Harris 62.11 337 P P 19 11 27.9 -0.3
baz=62,SNR=33
HDIL Hopedale 62.12 343 P P 19 11 27.1 -1.1
baz=62,SNR=9.7
HDIL Hopedale 62.12 343 eP P 19 11 27.0 -1.1
comp=Z,380nm,1.8s
S34A Willow Spring 62.18 335 P P 19 11 28.6 0.0
baz=62,SNR=14
U31A Nine Bar Ranch 62.18 332 P P 19 11 29.3 +0.5
baz=62
Q37A Longview Farm, 62.21 338 P P 19 11 28.6 -0.3
baz=62,SNR=9.6
ACCN Adirondack Com 62.24 356 eP P 19 11 28.9 0.0
comp=Z,14nm,0.9s
W28A Vega 62.34 330 P P 19 11 30.2 +0.3
baz=63
R35A Emporia Munici 62.37 336 P P 19 11 30.5 +0.7
baz=63,SNR=11
AAM Ann Arbor 62.44 348 eP P 19 11 29.8 -0.4
AAM pmax pmax
comp=Z,63nm,1.2s
AAM Ann Arbor 62.44 348 eP P 19 11 29.8 -0.4
comp=Z,63nm,1.2s
S33A Kaszmaul Farm, 62.44 335 P P 19 11 30.6 +0.2
baz=63,SNR=12
T32A Huddler Ranch, 62.47 334 P P 19 11 31.1 +0.5
baz=63
HNH Hanover 62.49 358 eP P 19 11 31.1 +0.5
comp=Z,87nm,1.7s
V29A Stinnett 62.52 331 P P 19 11 31.5 +0.4
baz=63
Q36A Arnold C. Orve 62.65 337 P P 19 11 31.4 -0.3
baz=63,SNR=11
U30A WK&E Inc. Balk 62.67 332 P P 19 11 32.0 0.0
baz=63
T31A Randall Ranch, 62.72 333 P P 19 11 32.5 +0.2
baz=63,SNR=13
VNA1 Neumayer--Stat 62.74 161 P P 19 11 33.0 +1.1
V28A Channing 62.75 330 P P 19 11 32.8 +0.2
baz=63,SNR=11
R34A Isabella, Hill 62.75 336 P P 19 11 32.4 0.0
baz=63,SNR=26
Q35A Mercer Eighty, 62.77 337 P P 19 11 32.4 -0.2
baz=63,SNR=20
MDV Middlebury 62.83 357 eP P 19 11 32.6 -0.2
MDV epP pP 19 11 58.6 +0.1
U29A Oasis Ranch, S 62.88 331 P P 19 11 34.1 +0.7
baz=63
S32A Newby Ranch, P 62.91 334 P P 19 11 34.0 +0.5
baz=63
V27A Dan Oppiter Fa 63.04 330 P P 19 11 35.0 +0.5
baz=63
R33A Olander Ranch, 63.05 335 P P 19 11 34.5 +0.1
baz=63,SNR=10
T30A Plains 63.05 332 P P 19 11 34.6 +0.1
baz=63
S31A Mullinville 63.08 333 P P 19 11 35.4 +0.7
baz=63,SNR=5.6
121A Cookes Peak, D 63.08 324 P P 19 11 35.9 +1.0
baz=63,SNR=31
121A Cookes Peak, D 63.08 324 eP P 19 11 35.6 +0.7
comp=Z,113nm,1.3s
VNA2 Neumayer--Watz 63.11 161 P P 19 11 34.5 +0.1
baz=299,slow=7.9
P36A Good Intent, A 63.14 338 P P 19 11 34.5 -0.4
baz=63,SNR=23
Q34A Chapman 63.17 336 P P 19 11 35.1 -0.1
baz=63,SNR=18
KSU1 Kansas State U 63.20 337 P P 19 11 35.2 -0.1
baz=64,SNR=8.0
KSU1 Kansas State U 63.20 337 eP P 19 11 35.0 -0.3
comp=Z,115nm,0.9s
U28A Mallet 63.26 331 P P 19 11 36.0 0.0
baz=64,SNR=7.3
WVL Waterville 63.30 360 eP P 19 11 36.1 +0.3
comp=Z,23nm,0.8s
WVL epP pP 19 12 02.8 +1.2
P35A Duane Minner, 63.36 337 P P 19 11 36.1 -0.3
baz=64,SNR=13
R32A Long Quarter, 63.44 335 P P 19 11 37.4 +0.4
baz=64,SNR=14
EMMW East Machias 63.47 2 eP P 19 11 37.2 +0.2
comp=Z,24nm,0.8s
T29A Hugoton 63.48 332 P P 19 11 37.7 +0.3
baz=64,SNR=5.7
PTN Potsdam (NY) 63.51 356 eP P 19 11 37.1 -0.1
PTN pmax pmax
comp=Z,59nm,1.1s
PTN Potsdam (NY) 63.51 356 eP P 19 11 37.1 -0.1
comp=Z,59nm,1.1s
O36A Bolckow 63.51 338 P P 19 11 37.3 -0.1
baz=64
S30A Montezuma 63.51 333 P P 19 11 38.2 +0.6
baz=64
LONY Lake Ozonia 63.53 356 eP P 19 11 37.2 -0.2
comp=Z,30nm,0.9s
LONY epP pP 19 12 04.6 +1.3
U27A Thompson Grove 63.57 330 P P 19 11 38.5 +0.5
baz=64
Q33A Connelly Farm, 63.58 336 P P 19 11 38.0 +0.1
baz=64,SNR=6.8
R31A Burdett 63.66 334 P P 19 11 38.6 +0.1
baz=64
P34A Walnut Farm, R 63.67 337 P P 19 11 38.4 -0.1
baz=64,SNR=38
BNM Barren Site 63.68 326 eP P 19 11 39.2 +0.3
Y22D IRIS PASSCAL I 63.78 326 P P 19 11 40.3 +0.8
baz=64
S29A Ulysses 63.78 332 P P 19 11 39.7 +0.3
baz=64,SNR=5.9
T28A Walsh 63.81 331 P P 19 11 39.8 +0.2
baz=64
Q32A Meitler Ranch, 63.86 335 P P 19 11 39.9 +0.1
baz=64,SNR=12
LENM Lemitar 63.88 326 eP P 19 11 41.0 +0.9
P33A Williams Farm, 63.91 336 P P 19 11 40.3 +0.3
baz=64
O35A Humboldt 63.97 338 P P 19 11 39.9 -0.5
baz=64
R30A Dighton 63.97 333 P P 19 11 41.2 +0.6
baz=64,SNR=8.1
PKME Peaks-Kenny Pk 63.99 0 eP P 19 11 40.7 +0.3
comp=Z,16nm,0.8s
T27A Campo 64.05 331 P P 19 11 41.6 +0.5
baz=64,SNR=20
S28A Manter 64.10 332 P P 19 11 41.7 +0.2
baz=64
LAZ Ladron 64.14 326 eP P 19 11 42.7 +0.8
O34A Beatrice 64.18 337 P P 19 11 41.7 -0.1
baz=64,SNR=18
CBKS Cedar Bluff 64.19 334 eP P 19 11 42.1 +0.1
CBKS pmax pmax
comp=Z,147nm,1.2s
CBKS Cedar Bluff 64.19 334 P P 19 11 42.6 +0.7
baz=64,SNR=6.6
CBKS Cedar Bluff 64.19 334 eP P 19 11 42.1 +0.1
comp=Z,147nm,1.2s
ANMO Albuquerque 64.20 327 P P 19 11 42.5 +0.2
comp=Z,14nm,0.8s,baz=146,slow=8.0,SNR=43
ANMO pP pP 19 12 08.4 +0.2
comp=Z,5.3nm,0.7s,baz=136,slow=7.3,SNR=2.9
ANMO Albuquerque 64.20 327 d iP P 19 11 42.5 +0.2
ANMO pmax pmax
comp=Z,222nm,1.7s
ANMO Albuquerque 64.20 327 eP P 19 11 42.6 +0.2
comp=Z,312nm,2.5s
ANMO pP pP 19 12 08.4 +0.2
Q31A Ellis 64.21 334 P P 19 11 42.6 +0.5
baz=64
N35A Tabor 64.40 338 P P 19 11 42.7 -0.5
baz=65,SNR=14
O33A Hebron 64.42 336 P P 19 11 43.4 0.0
baz=65,SNR=29
P32A Huiting Farm, 64.42 335 P P 19 11 43.3 -0.1
baz=65,SNR=6.6
R29A Marienthal 64.46 333 P P 19 11 44.2 +0.4
baz=65
SCIA State Center 64.52 340 eP P 19 11 43.3 -0.6
comp=Z,100nm,0.9s
Q30A Quinter 64.53 334 P P 19 11 44.6 +0.5
baz=65,SNR=13
T26A Comanche Natio 64.55 330 P P 19 11 45.1 +0.6
baz=65,SNR=50
JFWS Jewell Farm 64.57 343 eP P 19 11 43.6 -0.7
JFWS pmax pmax
comp=Z,563nm,2.0s
JFWS Jewell Farm 64.57 343 eP P 19 11 43.6 -0.7
comp=Z,563nm,2.0s
TUC Tucson 64.63 322 eP P 19 11 45.4 +0.4
TUC pmax pmax
comp=Z,74nm,1.6s
TUC Tucson 64.63 322 eP P 19 11 45.4 +0.4
comp=Z,74nm,1.6s
S27A Las Animas 64.63 331 P P 19 11 45.5 +0.5
baz=65
P31A Stockton 64.65 335 P P 19 11 45.5 +0.6
baz=65,SNR=18
N34A Linn 64.68 338 P P 19 11 44.7 -0.3
baz=65,SNR=14
R28A Tribune 64.69 332 P P 19 11 45.8 +0.6
baz=65
SNAA Sanae 64.74 161 P P 19 11 42.7 -2.4
SNAA Sanae 64.74 161 P P 19 11 45.4 +0.3
comp=Z,13nm,0.7s,baz=286,slow=7.1,SNR=162
SNAA pP pP 19 12 11.9 +0.9
comp=Z,8.4nm,0.8s,baz=265,slow=4.8,SNR=6.6
SNAA Sanae 64.74 161 eP P 19 11 42.5 -2.7
SNAA e*PP pP 19 12 09.1 -1.9
SNAA pmax pmax
comp=Z,50nm,0.9s
SNAA Sanae 64.74 161 eP P 19 11 42.5 -2.7
comp=Z,50nm,0.9s
SNAA epP pP 19 12 09.1 -1.9
SNAA pP pP 19 12 11.9 +0.9
Q29A Oakley 64.78 333 P P 19 11 46.1 +0.3
baz=65,SNR=11
O32A Brockman Farm, 64.84 336 P P 19 11 46.0 -0.2
baz=65,SNR=11
S26A Kim 64.85 331 P P 19 11 46.9 +0.6
baz=65,SNR=64
T25A Trinidad 64.90 330 P P 19 11 47.7 +0.8
baz=65,SNR=29
T25A Trinidad 64.90 330 eP P 19 11 47.3 +0.5
comp=Z,91nm,1.4s
N33A J Bar K, Exete 64.94 337 P P 19 11 47.0 +0.2
baz=65,SNR=6.4
M35A Neola 64.95 338 P P 19 11 47.0 +0.2
baz=65,SNR=7.6
P30A Selden 65.02 334 P P 19 11 47.9 +0.5
baz=65,SNR=8.0
GLMI Grayling 65.06 348 eP P 19 11 46.8 -0.6
comp=Z,156nm,1.0s
R27A Eads 65.08 331 P P 19 11 48.1 +0.3
baz=65,SNR=12
O31A Woolen Ranch, 65.16 335 P P 19 11 48.9 +0.7
baz=65
N32A Stulken Farm, 65.28 336 P P 19 11 49.5 +0.5
baz=66
Q28A Sharon Springs 65.29 333 P P 19 11 49.3 +0.1
baz=66,SNR=8.6
M34A Aspy Farms, Fr 65.30 338 P P 19 11 49.2 +0.2
baz=66,SNR=6.0
P29A Atwood 65.36 334 P P 19 11 50.3 +0.8
baz=66
R26A Arlington 65.39 331 P P 19 11 50.4 +0.6
baz=66,SNR=8.8
PQI Presque Isle 65.41 1 eP P 19 11 49.8 +0.2
comp=Z,18nm,0.9s
L35A Bielow Farm, R 65.47 339 P P 19 11 49.9 -0.3
baz=66,SNR=14
M33A Taylor Creek F 65.58 337 P P 19 11 50.7 -0.2
baz=66,SNR=15
214A Organ Pipe Nat 65.59 320 P P 19 11 52.5 +1.3
baz=66,SNR=32
214A Organ Pipe Nat 65.59 320 eP P 19 11 52.1 +0.9
comp=Z,143nm,1.4s
214A epP pP 19 12 17.8 +0.7
N31A Bailey Ranch, 65.59 336 P P 19 11 51.6 +0.7
baz=66
KSCO Kaye Shedlock' 65.60 332 P P 19 11 51.5 +0.3
baz=66,SNR=18
KSCO Kaye Shedlock' 65.60 332 eP P 19 11 51.5 +0.3
comp=Z,102nm,0.9s
L34A Svendsen Farm, 65.63 338 P P 19 11 50.7 -0.4
baz=66,SNR=14
P28A Saint Francis 65.68 333 P P 19 11 52.6 +1.0
baz=66
O29A 4D Ranch, Culb 65.74 334 P P 19 11 52.8 +0.8
baz=66
BGNE Belgrade 65.79 337 P P 19 11 52.4 +0.2
baz=66,SNR=13
BGNE Belgrade 65.79 337 eP P 19 11 52.5 +0.2
comp=Z,212nm,0.4s
SDCO Great Sand Dun 65.91 329 P P 19 11 54.1 +0.6
baz=66,SNR=118
SDCO Great Sand Dun 65.91 329 eP P 19 11 53.8 +0.3
comp=Z,90nm,1.0s
Q26A Hugo 65.93 331 P P 19 11 54.1 +0.8
baz=66,SNR=14
N30A Hueftle Ranch, 66.02 335 P P 19 11 54.8 +1.0
baz=66
P27A Ficken Ranch, 66.02 332 P P 19 11 54.5 +0.6
baz=66,SNR=7.9
M31A Lambtecht Ranc 66.05 336 P P 19 11 54.7 +0.8
baz=66
W18A Petrified Fore 66.09 325 P P 19 11 55.5 +1.0
baz=66,SNR=6.6
W18A Petrified Fore 66.09 325 eP P 19 11 55.7 +1.2
comp=Z,76nm,1.1s
O28A Krutsinger Ran 66.15 333 P P 19 11 55.4 +0.8
baz=66,SNR=10
N29A Votaw Ranch, W 66.25 335 P P 19 11 55.9 +0.6
baz=66,SNR=8.6
O27A Beecher Island 66.50 333 P P 19 11 57.8 +0.9
baz=67,SNR=25
N28A Pribbeno Ranch 66.52 334 P P 19 11 57.7 +0.7
baz=67
M30A Dale-Ortello V 66.56 335 P P 19 11 58.0 +0.8
baz=67
S22A 4UR Ranch, Cre 66.56 328 P P 19 11 58.4 +0.8
baz=67,SNR=28
S22A 4UR Ranch, Cre 66.56 328 eP P 19 11 58.0 +0.5
comp=Z,31nm,1.0s
L31A Butterfield Fa 66.71 337 P P 19 11 58.8 +0.7
baz=67,SNR=21
Q24A Divide 66.71 330 P P 19 11 59.4 +0.9
baz=67,SNR=35
Q24A Divide 66.71 330 eP P 19 11 59.0 +0.5
comp=Z,74nm,1.0s
M29A Burnside Ranch 66.81 335 P P 19 11 59.8 +1.1
baz=67
L30A Spencer Herefo 66.85 336 P P 19 11 59.8 +0.7
baz=67,SNR=9.3
O26A Horse Wrangler 66.91 332 P P 19 12 00.6 +1.1
baz=67
OGNE Ogallala 66.94 334 P P 19 12 00.3 +0.6
baz=67,SNR=12
OGNE Ogallala 66.94 334 eP P 19 11 60.0 +0.3
comp=Z,18nm,0.4s
OGNE epP pP 19 12 24.4 -1.3
MVCO Mesa Verde 67.00 327 P P 19 12 01.2 +0.9
baz=67,SNR=24
MVCO Mesa Verde 67.00 327 eP P 19 12 00.8 +0.5
comp=Z,77nm,1.2s
N27A Anderson Farm, 67.04 333 P P 19 12 01.3 +0.9
baz=67
M28A Bar X Bar Ranc 67.04 334 P P 19 12 01.3 +1.1
baz=67
L29A Maesberg Ranch 67.25 335 P P 19 12 02.3 +0.8
baz=68,SNR=6.3
ECSD EROS Data Cent 67.27 339 P P 19 12 01.5 -0.1
baz=68,SNR=30
ECSD EROS Data Cent 67.27 339 eP P 19 12 01.0 -0.6
comp=Z,115nm,1.4s
WUAZ Wupatki 67.29 324 P P 19 12 03.0 +0.9
baz=68,SNR=22
WUAZ Wupatki 67.29 324 eP P 19 12 03.2 +1.1
comp=Z,79nm,1.1s
N26A Koester Ranch, 67.35 333 P P 19 12 03.0 +0.7
baz=68,SNR=8.6
SPMN Marine on St. 67.42 342 P P 19 12 01.9 -0.5
baz=68,SNR=17
SPMN Marine on St. 67.42 342 eP P 19 12 01.5 -0.9
comp=Z,79nm,1.1s
K30A Basset 67.43 336 P P 19 12 02.9 +0.3
baz=68,SNR=6.6
M27A Reverse DX Ran 67.57 334 P P 19 12 04.1 +0.4
baz=68,SNR=6.7
GLA Glamis 67.58 320 eP P 19 12 04.9 +1.1
GLA pmax pmax
comp=Z,48nm,1.3s
GLA Glamis 67.58 320 P P 19 12 05.1 +1.3
baz=68,SNR=7.5
GLA Glamis 67.58 320 eP P 19 12 04.9 +1.1
comp=Z,48nm,1.3s
ISCO Idaho Springs 67.59 331 eP P 19 12 04.4 +0.3
ISCO pmax pmax
comp=Z,54nm,1.0s
ISCO Idaho Springs 67.59 331 P P 19 12 04.5 +0.4
baz=68,SNR=50
ISCO Idaho Springs 67.59 331 eP P 19 12 04.4 +0.3
comp=Z,54nm,1.0s
L28A Connealy Angus 67.61 335 P P 19 12 04.5 +0.6
baz=68,SNR=11
PV01 Paradox Valley 67.74 327 eP P 19 12 05.7 +0.8
SMCO Snowmass 67.75 329 eP P 19 12 05.9 +0.7
comp=Z,42nm,0.9s
K29A Lazy Trails An 67.78 336 P P 19 12 05.4 +0.5
baz=68,SNR=18
M26A McRoberts Ranc 67.84 333 P P 19 12 06.7 +1.3
baz=68
Y12C Blythe 67.87 320 P P 19 12 06.7 +1.2
baz=68,SNR=17
J30A Dallas 67.94 337 P P 19 12 06.2 +0.4
baz=68,SNR=9.9
L27A T5 Ranch, Ells 68.00 334 P P 19 12 07.0 +0.7
baz=68,SNR=7.0
PDMC Parker Dam,Lak 68.02 321 P P 19 12 07.9 +1.4
baz=68
IBP Imperial Bould 68.09 319 P P 19 12 08.5 +1.4

baz=68,SNR=6.3
SWSC Sam W. Stewart 68.10 319 P **P** 19 12 08.6 +1.6
baz=68,SNR=8.9
PV04 Paradox Valley 68.11 327 *e*P **P** 19 12 07.3 +0.2
K28A Ten Mile Ranch 68.15 335 P **P** 19 12 08.4 +1.2
baz=68,SNR=24
PV10 Paradox Valley 68.16 327 *e*P **P** 19 12 07.9 +0.3
LIC Lamto 68.17 75 *e*P **P** 19 12 06.8 -1.0
comp=Z,110nm,1.0s
M25A Palm-Egli Farm 68.21 333 P **P** 19 12 08.5 +0.8
baz=68
L26A Underwood Farm 68.28 334 P **P** 19 12 09.0 +0.9
baz=68
PV09 Paradox Valley 68.30 327 *e*P **P** 19 12 09.6 +1.0
J29A Okreek 68.33 336 P **P** 19 12 08.7 +0.5
baz=69,SNR=16
TIC Toumodi 68.34 75 *e*P **P** 19 12 08.0 -0.9
BC3 Big Chuckawall 68.37 320 P **P** 19 12 10.3 +1.5
baz=69,SNR=23
I30A Oacoma 68.42 337 P **P** 19 12 09.1 +0.3
baz=69,SNR=8.7
MONP Monument Peak, 68.45 319 P **P** 19 12 10.7 +1.2
baz=69,SNR=10
BAR Barrett 68.47 318 *e*P **P** 19 12 10.7 +1.3
comp=Z,75nm,1.1s
BAR *e*pP **pP** 19 12 37.8 +2.2
KIC Kosan Boka 68.48 75 *e*P **P** 19 12 09.0 -0.8
comp=Z,102nm,0.4s
K27A Fluecklinger Fa 68.49 335 P **P** 19 12 10.6 +1.2
baz=69,SNR=9.2
DBIC Dimbokro 68.50 75 P **P** 19 12 09.3 -0.6
comp=Z,26nm,0.4s,baz=227,slow=6.2,SNR=41
DBIC pP **pP** 19 12 36.7 +0.7
comp=Z,40nm,0.9s,baz=224,slow=6.5,SNR=4.5
DBIC LR LR 19 40 53.4
comp=Z,246nm,19.8s,baz=220,slow=35
DBIC Dimbokro 68.50 75 P **P** 19 12 09.3 -0.6
DBIC *PP **pP** 19 12 36.7 +0.7
DBIC pmax pmax
comp=Z,26nm,0.4s
DBIC pmax pmax
comp=Z,41nm,0.9s
DBIC MLR MLR
comp=Z,247nm,19.8s
DBIC Dimbokro 68.50 75 *e*P **P** 19 12 07.6 -2.3
comp=Z,77nm,1.1s
DBIC pP **pP** 19 12 36.7 +0.7
IRM Iron Mountain 68.53 320 P **P** 19 12 11.2 +1.5
baz=69,SNR=60
N23A Red Feather La 68.62 331 P **P** 19 12 11.3 +0.8
baz=69,SNR=35
N23A Red Feather La 68.62 331 *e*P **P** 19 12 10.9 +0.4
comp=Z,71nm,1.1s
NEE2 Needles Airpor 68.63 321 P **P** 19 12 11.7 +1.4
baz=69
J28A Allard Ranch, 68.69 336 P **P** 19 12 11.5 +0.9
baz=69,SNR=32
PHWY Pilot Hill 68.72 332 *e*P **P** 19 12 11.0 0.0
comp=Z,76nm,1.3s
PHWY *e*pP **PcP** 19 12 35.5 +0.3
L25A Engebretsen Ra 68.76 333 P **P** 19 12 11.8 +0.7
baz=69,SNR=10
DRLN Deer Lake 68.81 8 *e*P **P** 19 12 10.2 -0.8
I29A Vivian Onida 68.84 337 P **P** 19 12 11.5 +0.1
baz=69,SNR=6.3
J27A Elkhorn Farm, 68.85 335 P **P** 19 12 12.4 +0.8
baz=69,SNR=34
K26A Motz Farm, Whi 68.87 334 P **P** 19 12 12.7 +1.0
baz=69,SNR=5.9
109C Camp Elliot, M 68.88 318 P **P** 19 12 13.5 +1.6
baz=69
BELC Belle Mtn. Jos 68.94 320 P **P** 19 12 13.5 +1.1
baz=69,SNR=20
PFO Pinyon Flats O 68.95 319 P **P** 19 12 13.5 +1.1
comp=Z,228nm,1.0s,SNR=8.7
PFO Pinyon Flats O 68.95 319 *e*P **P** 19 12 13.6 +1.1
PFO pmax pmax
comp=Z,46nm,1.0s
PFO Pinyon Flats O 68.95 319 P **P** 19 12 13.7 +1.2
baz=69,SNR=16
PFO Pinyon Flats O 68.95 319 *e*P **P** 19 12 13.6 +1.2
comp=Z,46nm,1.0s
TAOE Nuku Hiva Isla 69.04 268 *e*T T 20 26 42.1
comp=Z,116nm,0.3s
K25A Mack Ranch, Ha 69.09 333 P **P** 19 12 14.3 +1.2
baz=69,SNR=5.2
O20A White River Ci 69.11 329 P **P** 19 12 14.6 +1.2
baz=69,SNR=14
O20A White River Ci 69.11 329 *e*P **P** 19 12 14.1 +0.7
comp=Z,75nm,1.1s
I28A Midland 69.15 336 P **P** 19 12 13.7 +0.3
baz=69,SNR=9.5
KNB Kanab 69.18 324 *e*P **P** 19 12 15.5 +1.6
KNB pmax pmax
comp=Z,168nm,1.1s
KNB Kanab 69.18 324 *e*P **P** 19 12 15.5 +1.6
comp=Z,168nm,1.1s
GMRC Granite Mounta 69.26 321 P **P** 19 12 15.6 +1.2
baz=70,SNR=48
NVL N'lazarevskaya 69.28 160 *e*P **P** 19 12 12.0 -1.8
NVL *e**PP **pP** 19 12 40.1 +0.1
NVL pmax pmax
comp=Z,63nm,1.1s
H29A Onida 69.33 337 P **P** 19 12 14.5 +0.1
baz=70,SNR=11
J26A Sides Ranch, S 69.33 334 P **P** 19 12 15.5 +1.0
baz=70,SNR=16
G30A Faulkton 69.37 338 P **P** 19 12 15.3 +0.7
baz=70,SNR=13
MURC Murrieta 69.41 319 P **P** 19 12 16.9 +1.7
baz=70
SRU San Rafael Swe 69.48 327 *e*P **P** 19 12 15.9 +0.2
SRU pmax pmax
comp=Z,49nm,1.0s
SRU San Rafael Swe 69.48 327 *e*P **P** 19 12 15.9 +0.2
comp=Z,49nm,1.0s
I27A Quinn 69.56 335 P **P** 19 12 16.9 +1.0
baz=70,SNR=9.9
EYMN Ely 69.56 344 P **P** 19 12 15.1 -0.7
baz=70,SNR=13
EYMN Ely 69.56 344 *e*P **P** 19 12 14.9 -0.9
comp=Z,29nm,0.8s
K24A Anderson Ranch 69.58 333 P **P** 19 12 17.4 +1.2
baz=70
H28A Mission Ridge 69.67 336 P **P** 19 12 16.7 +0.2
baz=70,SNR=7.5
BBRC Big Bear Solar 69.68 319 P **P** 19 12 18.5 +1.4
baz=70
HEC Hector,Ludlow 69.70 320 P **P** 19 12 18.5 +1.5
baz=70,SNR=15
J25A Sunshine Ranch 69.70 334 P **P** 19 12 17.7 +0.9
baz=70,SNR=11
G29A Hoven 69.70 337 P **P** 19 12 16.9 +0.2
baz=70,SNR=7.2
I26A New Underwood 69.84 335 P **P** 19 12 18.5 +0.8
baz=70,SNR=5.8
SCI San Clemente I 69.86 317 P **P** 19 12 18.9 +1.0
baz=70
CCUT Cedar City 69.86 324 *e*P **P** 19 12 18.6 +0.5
comp=Z,82nm,1.0s
TUQ Turquoise Moun 69.86 321 P **P** 19 12 19.1 +1.1
baz=70,SNR=24
MSU Marysvale 69.91 325 *e*P **P** 19 12 19.5 +1.1
MSU Marysvale 69.91 325 *e*P **P** 19 12 19.4 +1.1
MVU Marysvale 69.92 325 *e*P **P** 19 12 19.6 +1.1
comp=Z,74nm,1.0s
F30A Leola 69.94 338 P **P** 19 12 18.6 +0.5
baz=70,SNR=5.8
K23A Bowen Ranch, D 69.96 332 P **P** 19 12 19.4 +0.9
baz=70,SNR=14
G28A Parade 69.97 337 P **P** 19 12 19.2 +0.8
baz=70,SNR=9.9
TMUT Trail Mountain 69.97 327 *e*P **P** 19 12 19.9 +1.1
comp=Z,25nm,1.1s
J24A Dixon Ranch, L 70.01 333 P **P** 19 12 19.9 +1.1
baz=70
H27A Howes 70.04 336 P **P** 19 12 19.3 +0.5
baz=70,SNR=8.3
BFSC Mount Baldy Ra 70.12 319 P **P** 19 12 21.1 +1.4
baz=70,SNR=9.9
RRX Edison Barstow 70.14 320 P **P** 19 12 21.3 +1.6
baz=70
SHPR Sheep Range 70.15 322 *e*P **P** 19 12 21.1 +1.2
I25A Rochford 70.19 334 P **P** 19 12 20.9 +0.9
baz=70,SNR=111
F29A Eureka 70.22 338 P **P** 19 12 20.4 +0.6
baz=70,SNR=9.3

K22A Casper 70.28 332 P **P** 19 12 21.2 +0.7
baz=70,SNR=14
K22A Casper 70.28 332 *e*P **P** 19 12 21.0 +0.5
comp=Z,50nm,1.0s
H26A Fairpoint 70.30 335 P **P** 19 12 20.9 +0.5
baz=71,SNR=7.1
GSC Goldstone, Bar 70.30 320 *e*P **P** 19 12 22.0 +1.3
GSC pmax pmax
comp=Z,126nm,1.6s
GSC Goldstone, Bar 70.30 320 P **P** 19 12 21.9 +1.3
baz=71,SNR=29
GSC Goldstone, Bar 70.30 320 *e*P **P** 19 12 22.0 +1.3
comp=Z,126nm,1.6s
MWC Mount Wilson 70.36 319 *e*P **P** 19 12 22.3 +1.1
MWC pmax pmax
comp=Z,155nm,1.5s
MWC Mount Wilson 70.36 319 *e*P **P** 19 12 22.3 +1.1
comp=Z,156nm,1.5s
SHOC Shoshone, Teco 70.39 321 P **P** 19 12 22.6 +1.5
baz=71,SNR=7.2
RSSD Black Hills 70.40 334 *e*P **P** 19 12 21.5 +0.3
RSSD pmax pmax
comp=Z,49nm,0.8s
RSSD Black Hills 70.40 334 *e*P **P** 19 12 21.5 +0.3
comp=Z,49nm,0.8s
PASC Pasadena Art C 70.40 319 *e*P **P** 19 12 23.0 +1.8
comp=Z,134nm,1.4s
I24A Kuemmerle Ranc 70.43 334 P **P** 19 12 22.0 +0.7
baz=71,SNR=16
E30A Jud 70.48 339 P **P** 19 12 21.6 +0.2
baz=71,SNR=11
DECC Green Verdugo 70.55 319 P **P** 19 12 23.4 +1.3
baz=71,SNR=6.0
F28A McLaughlin 70.59 337 P **P** 19 12 22.8 +0.7
baz=71,SNR=12
G27A Dupree 70.61 336 P **P** 19 12 22.4 +0.2
baz=71,SNR=20
H25A Fruitdale 70.63 335 P **P** 19 12 23.2 +0.8
baz=71,SNR=11
MPU Maple Canyon 70.72 327 *e*P **P** 19 12 24.2 +0.9
comp=Z,224nm,1.2s
MPU *e*pP **pP** 19 12 49.0 -0.6
EDW2 Edwards Air Fo 70.75 319 P **P** 19 12 24.3 +0.9
baz=71,SNR=16
E29A Napoleon 70.79 338 P **P** 19 12 23.6 +0.3
baz=71,SNR=8.3
G26A Maurine 70.79 336 P **P** 19 12 23.5 +0.1
baz=71,SNR=29
J22A Midwest 70.86 332 P **P** 19 12 24.1 +0.1
baz=71,SNR=51
NLU North Lily Min 70.91 327 *e*P **P** 19 12 26.0 +1.5
comp=Z,37nm,1.1s
BLG Laguna Peak, P 70.92 318 P **P** 19 12 25.7 +1.3
baz=71,SNR=5.3
D30A Buchanan 70.96 339 P **P** 19 12 24.5 +0.2
baz=71,SNR=16
LRMC Laurel Mtn Rad 70.96 320 P **P** 19 12 25.9 +1.2
baz=71,SNR=21
OSI Osito Audit: C 71.03 319 P **P** 19 12 26.1 +1.1
baz=71
OSI Osito Audit: C 71.03 319 *e*P **P** 19 12 26.6 +1.5
comp=Z,56nm,1.2s
G25A Newell 71.03 335 P **P** 19 12 25.3 +0.4
baz=71,SNR=20
F27A Lemmon 71.06 337 P **P** 19 12 25.2 +0.3
baz=71,SNR=36
JLU Jordanelle 71.06 327 *e*P **P** 19 12 26.4 +1.0
comp=Z,98nm,1.4s
JLU *e*pP **pP** 19 12 51.7 0.0
TPNV Topopah Spring 71.09 322 *e*P **P** 19 12 27.1 +1.6
TPNV pmax pmax
comp=Z,64nm,1.1s
TPNV Topopah Spring 71.09 322 P **P** 19 12 26.9 +1.4
baz=71,SNR=52
TPNV Topopah Spring 71.09 322 *e*P **P** 19 12 27.1 +1.6
comp=Z,64nm,1.1s
AGMN Agassiz Nation 71.09 342 P **P** 19 12 24.7 -0.4
baz=71,SNR=28
AGMN Agassiz Nation 71.09 342 *e*P **P** 19 12 23.9 -1.2
comp=Z,49nm,0.9s
H24A Dirks Ranch, A 71.12 334 P **P** 19 12 25.7 +0.2
baz=71,SNR=36
FURC Furnace Creek, 71.12 321 P **P** 19 12 26.8 +1.3
baz=71,SNR=38
QSPA South Pole Qui 71.14 180 *e*P **P** 19 12 25.9 +0.6
comp=Z,63nm,0.9s
E28A Huff 71.17 338 P **P** 19 12 26.4 +0.8
baz=71,SNR=26
D29A Pettibone, Tap 71.20 339 P **P** 19 12 25.9 +0.1
baz=71,SNR=6.7
BSC Santa Cruz Isl 71.20 318 P **P** 19 12 27.2 +1.1
baz=72
MPMC Manual Prospec 71.22 320 P **P** 19 12 27.2 +0.8
baz=72,SNR=17
J21A Lysite 71.24 332 P **P** 19 12 27.3 +1.0
baz=72,SNR=8.4
I22A 9 Mile Ranch, 71.25 333 P **P** 19 12 27.1 +0.8
baz=72,SNR=35
CTU Camp Tracy 71.28 327 *e*P **P** 19 12 27.6 +0.9
comp=Z,23nm,1.1s
F26A Lodgepole 71.29 336 P **P** 19 12 26.5 +0.2
baz=72,SNR=81
H23A Clabaugh Cattl 71.32 334 P **P** 19 12 26.8 +0.1
baz=72
E27A Carson 71.36 337 P **P** 19 12 27.4 +0.6
baz=72,SNR=7.8
C30A Mose, Pekin 71.38 340 P **P** 19 12 27.2 +0.4
baz=72,SNR=12
TCUT Toone Canyon 71.42 328 *e*P **P** 19 12 28.5 +0.9
comp=Z,53nm,1.1s
ARVC Arvin 71.43 319 P **P** 19 12 28.5 +1.1
baz=72
DAC Darwin (Calif) 71.43 321 *e*P **P** 19 12 28.5 +0.9
DAC pmax pmax
comp=Z,44nm,1.1s
DAC Darwin (Calif) 71.43 321 *e*P **P** 19 12 28.5 +0.9
comp=Z,44nm,1.1s
DUG Dugway, Tooele 71.47 326 *e*P **P** 19 12 28.6 +0.9
DUG pmax pmax
comp=Z,76nm,1.2s
DUG Dugway, Tooele 71.47 326 P **P** 19 12 29.0 +1.3
baz=72,SNR=53
DUG Dugway, Tooele 71.47 326 *e*P **P** 19 12 28.6 +0.9
comp=Z,76nm,1.2s
J20A Shoshoni 71.53 331 P **P** 19 12 29.3 +1.3
baz=72,SNR=7.4
I21A Big Trails, Te 71.54 332 P **P** 19 12 28.7 +0.6
baz=72,SNR=86
G24A Alzada 71.54 335 P **P** 19 12 28.6 +0.7
baz=72,SNR=14
SBC Santa Barbara 71.54 318 P **P** 19 12 29.4 +1.3
baz=72
ISA Isabella, Lake 71.56 320 *e*P **P** 19 12 29.6 +1.3
ISA pmax pmax
comp=Z,47nm,1.0s
ISA Isabella, Lake 71.56 320 P **P** 19 12 29.6 +1.3
baz=72,SNR=15
ISA Isabella, Lake 71.56 320 *e*P **P** 19 12 29.6 +1.3
comp=Z,46nm,1.0s
D28A Regan 71.65 338 P **P** 19 12 29.3 +0.8
baz=72,SNR=10
F25A Bowman 71.65 336 P **P** 19 12 29.5 +0.9
baz=72,SNR=31
R11A Troy Canyon, C 71.67 323 P **P** 19 12 30.9 +1.9
baz=72,SNR=56
R11A Troy Canyon, C 71.67 323 *e*P **P** 19 12 30.2 +1.2
E26A Carlson Angus 71.73 337 P **P** 19 12 29.6 +0.6
baz=72,SNR=18
MCU Monte Cristo P 71.73 328 *e*P **P** 19 12 28.8 -0.7
H22A Clearmont 71.75 333 P **P** 19 12 29.8 +0.6
baz=72
BW06 Boulder Array 71.76 330 *e*P **P** 19 12 29.2 -0.4
comp=Z,40nm,1.4s
PDAR Pinedale Array 71.76 330 P **P** 19 12 28.9 -0.6
comp=Z,12nm,1.0s,baz=131,slow=6.1,SNR=55
PDAR pP **pP** 19 12 56.5 +0.6
comp=Z,6.1nm,0.8s,baz=112,slow=9.0,SNR=5.8
GRAC Grapevine Rang 71.78 321 P **P** 19 12 30.7 +1.1
baz=72,SNR=16
G23A Biddle 71.84 334 P **P** 19 12 30.3 +0.6
baz=72,SNR=35
HWUT Hardware Ranch 71.87 328 *e*P **P** 19 12 30.3 +0.2
comp=Z,37nm,1.1s
MDND Maddock 71.88 339 P **P** 19 12 30.6 +0.8
baz=72,SNR=26
MDND Maddock 71.88 339 *e*P **P** 19 12 30.2 +0.4
comp=Z,1µm,1.0s
MDND *e*pP **pP** 19 12 57.0 +0.7

PKM Mcpherson Peak 71.90 318 P **P** 19 12 31.8 +1.3
baz=72,SNR=17
J19A Crowheart 71.91 331 P **P** 19 12 31.1 +0.8
baz=72,SNR=42
D27A Center 71.92 338 P **P** 19 12 30.8 +0.7
baz=72
F24A Ekalaka 71.98 335 P **P** 19 12 31.2 +0.6
baz=72,SNR=74
B30A Myrvik Farm, E 71.99 340 P **P** 19 12 30.5 +0.1
baz=72,SNR=22
I20A Worland 72.02 332 P **P** 19 12 31.7 +0.8
baz=72,SNR=23
C28A Hausauer Farms 72.04 339 P **P** 19 12 31.5 +0.7
baz=72
VES Vestal, Richgr 72.05 319 P **P** 19 12 32.3 +1.2
baz=72,SNR=13
H21A Big Horn, Sher 72.08 333 P **P** 19 12 31.5 +0.3
baz=72,SNR=12
E25A Miller Ranch, 72.11 336 P **P** 19 12 31.9 +0.6
baz=72,SNR=24
BGU Big Grassy Mou 72.11 327 *e*P **P** 19 12 32.3 +0.7
comp=Z,126nm,1.2s
D26A Manning 72.19 337 P **P** 19 12 32.5 +0.7
baz=72,SNR=11
G22A Birney 72.23 334 P **P** 19 12 32.6 +0.5
baz=72,SNR=14
F23A Volborg 72.26 334 P **P** 19 12 32.7 +0.4
baz=72,SNR=30
SMMC Simmler 72.28 318 P **P** 19 12 34.6 +2.1
baz=72,SNR=6.0
B29A Wagenman Farm, 72.33 340 P **P** 19 12 33.0 +0.5
baz=73,SNR=43
H20A Greybull 72.38 332 P **P** 19 12 33.2 +0.2
baz=73,SNR=27
A30A Hoffart Farm, 72.41 340 P **P** 19 12 33.5 +0.5
baz=73,SNR=20
TPH Tonopah 72.42 322 *e*P **P** 19 12 34.0 +0.5
TPH pmax pmax
comp=Z,53nm,1.1s
TPH Tonopah 72.42 322 *e*P **P** 19 12 34.0 +0.5
comp=Z,53nm,1.1s
C27A Sayler Ranch, 72.43 338 P **P** 19 12 33.9 +0.8
baz=73,SNR=6.8
RCTC Rector, Farmer 72.45 320 P **P** 19 12 34.4 +1.0
baz=73,SNR=6.1
MLI Malad Range 72.46 328 *e*P **P** 19 12 33.6 0.0
I19A Meeteetse 72.48 331 P **P** 19 12 34.6 +0.9
baz=73,SNR=32
AHID Auburn Hatcher 72.50 329 *e*P **P** 19 12 34.7 +0.8
E24A Baker 72.51 336 P **P** 19 12 34.6 +0.9
baz=73,SNR=31
HVU Hansel Valley 72.61 327 *e*P **P** 19 12 34.9 +0.4
HVU pmax pmax
comp=Z,63nm,1.3s
HVU Hansel Valley 72.61 327 *e*P **P** 19 12 34.9 +0.4
comp=Z,63nm,1.3s
D25A Fairfield 72.62 336 P **P** 19 12 35.6 +1.3
baz=73,SNR=20
G21A Lodge Grass 72.62 333 P **P** 19 12 35.1 +0.7
baz=73,SNR=23
B28A Dugan Ranch, T 72.66 339 P **P** 19 12 34.9 +0.4
baz=73,SNR=16
F22A Rosebud 72.66 334 P **P** 19 12 35.1 +0.5
baz=73,SNR=29
A29A Manning Farm, 72.69 340 P **P** 19 12 34.7 +0.1
baz=73,SNR=35
MTUM Tungsten Hills 72.73 321 *e*P **P** 19 12 36.5 +1.1
C26A Wahner Farm, P 72.73 338 P **P** 19 12 35.4 +0.5
baz=73,SNR=9.7
REDW Red Top Meadow 72.83 330 *e*P **P** 19 12 36.5 +0.6
comp=Z,80nm,1.4s
ULM Lac du Bonnet 72.85 343 P **P** 19 12 34.6 -0.9
comp=Z,30nm,0.7s,baz=153,slow=5.8,SNR=44
ULM pP **pP** 19 13 01.4 -0.5
comp=Z,16nm,0.7s,baz=132,slow=6.4,SNR=4.0
ULM LR LR 19 45 56.7
comp=Z,109nm,21.6s,baz=134,slow=37
ULM Lac du Bonnet 72.85 343 *e*P **P** 19 12 34.6 -0.9
ULM *PP **pP** 19 13 01.4 -0.5
ULM *e**SP **sP** 19 13 12.6 -0.6
ULM pmax pmax
comp=Z,99nm,1.3s
ULM Lac du Bonnet 72.85 343 *e*P **P** 19 12 34.6 -0.9
comp=Z,99nm,1.3s
ULM *e*pP **pP** 19 13 00.9 -1.0
ULM pP **pP** 19 13 01.4 -0.5
ULM *e*sP **sP** 19 13 12.6 -0.6
E23A Ismay 72.86 335 P **P** 19 12 36.3 +0.6
baz=73,SNR=7.2
SNOW Snow King Moun 72.86 330 *e*P **P** 19 12 33.7 -2.4
comp=Z,34nm,1.0s
LOHW Long Hollow 72.90 330 *e*P **P** 19 12 36.2 -0.1
comp=Z,32nm,1.1s
B27A Peters Farms, 72.93 338 P **P** 19 12 36.7 +0.7
baz=73,SNR=9.3
H19A Powell 72.97 332 P **P** 19 12 37.0 +0.4
baz=73,SNR=17
D24A Glendive 72.97 336 P **P** 19 12 37.2 +0.8
baz=73,SNR=25
TPAW Teton Pass 72.98 330 *e*P **P** 19 12 37.3 +0.5
comp=Z,42nm,1.0s
A28A Rude Farm, Bot 73.02 339 P **P** 19 12 36.8 +0.2
baz=73,SNR=5.2
G20A Bridger 73.05 332 P **P** 19 12 37.4 +0.3
baz=73,SNR=22
F21A Absaloka Mine, 73.06 333 P **P** 19 12 37.8 +0.8
baz=73,SNR=15
C25A Freed Ranch, W 73.06 337 P **P** 19 12 37.7 +0.8
baz=73,SNR=10
E22A Miles City 73.07 334 P **P** 19 12 37.3 +0.3
baz=73,SNR=24
MOOW Moose Ponds 73.07 330 *e*P **P** 19 12 37.7 +0.4
comp=Z,86nm,1.7s
FXWY Fox Creek 73.12 330 *e*P **P** 19 12 38.2 +0.6
comp=Z,33nm,1.1s
ELK Elko 73.15 325 *e*P **P** 19 12 38.7 +0.8
ELK pmax pmax
comp=Z,36nm,1.4s
ELK Elko 73.15 325 *e*P **P** 19 12 38.6 +0.8
comp=Z,36nm,1.4s
B26A Jensen Ranch, 73.25 338 P **P** 19 12 38.7 +0.7
baz=74,SNR=6.4
IMW Indian Meadow 73.28 330 *e*P **P** 19 12 39.1 +0.6
comp=Z,70nm,1.2s
NVAR Mina Array Bea 73.29 322 P **P** 19 12 39.6 +0.9
comp=Z,17nm,0.9s,baz=148,slow=6.4,SNR=108
NVAR PP **PP** 19 15 25.6 +2.1
comp=Z,3.0nm,1.0s,baz=152,slow=7.9,SNR=4.2
FLWY Flagg Ranch 73.31 330 *e*P **P** 19 12 39.8 +1.2
comp=Z,101nm,0.9s
C24A Savage 73.36 336 P **P** 19 12 39.7 +1.1
baz=74,SNR=24
D23A Lindsay 73.37 335 P **P** 19 12 39.5 +0.8
baz=74,SNR=37
A27A Ledoux Ranch, 73.39 339 P **P** 19 12 39.7 +0.9
baz=74,SNR=20
RLMT Red Lodge 73.44 332 P **P** 19 12 40.6 +1.2
baz=74,SNR=36
RLMT Red Lodge 73.44 332 *e*P **P** 19 12 40.0 +0.6
comp=Z,106nm,1.2s
F20A Billings 73.48 333 P **P** 19 12 40.3 +0.8
baz=74,SNR=13
H17A Grant Village 73.48 331 P **P** 19 12 40.6 +0.8
baz=74,SNR=7.6
H17A Grant Village 73.48 331 *e*P **P** 19 12 42.1 +2.4
B25A Knox Farm, Ray 73.50 337 P **P** 19 12 40.6 +1.2
baz=74,SNR=6.9
SCHQ Schefferville 73.61 2 P **P** 19 12 39.7 -0.2
comp=Z,24nm,1.0s,baz=157,slow=6.0,SNR=12
SCHQ LR LR 19 47 09.7
comp=Z,57nm,19.0s,baz=227,slow=37
SCHQ Schefferville 73.61 2 *e*P **P** 19 12 39.4 -0.5
E21A Keefer Ranch, 73.61 334 P **P** 19 12 41.2 +1.0
baz=74,SNR=35
A26A Wade Farm, Ken 73.62 338 P **P** 19 12 40.8 +0.6
baz=74,SNR=7.4
LRV Little Rabbit 73.62 319 *e*P **P** 19 12 42.5 +2.1
YFT Old Faithful 73.65 330 *e*P **P** 19 12 43.2 +2.5
comp=Z,52nm,1.1s
D22A Cohagen 73.73 335 P **P** 19 12 41.9 +1.0
baz=74,SNR=63
C23A Lambert 73.87 336 P **P** 19 12 42.7 +1.0
baz=74,SNR=14
YMR Madison River 73.87 330 *e*P **P** 19 12 43.2 +1.2
comp=Z,151nm,1.1s
TBI Tubuai 73.87 250 *e*S **S** 19 22 08.1 +2.1
comp=Z,288nm,33.5s
TBI Tubuai 73.87 250 *e*LR LR 19 35 41.5

comp=Z,836nm,32.0s
MEH Mehetia 73.99 256 *e*P **P** 19 12 44.0 +1.0
comp=Z,28nm,1.3s
D21A La Casta Ranch 74.00 334 P **P** 19 12 43.3 +0.9
baz=74,SNR=63
WAKR Walker 74.00 321 *e*P **P** 19 12 44.4 +1.6
BMN Battle Mountai 74.02 324 *e*P **P** 19 12 43.4 +0.6
BMN pmax pmax
comp=Z,17nm,1.3s
BMN Battle Mountai 74.02 324 *e*P **P** 19 12 43.4 +0.6
comp=Z,17nm,1.3s
A25A Svangstu Ranch 74.04 338 P **P** 19 12 43.6 +1.0
baz=74,SNR=22
DGMT Dagmar 74.05 337 P **P** 19 12 43.7 +1.1
baz=74,SNR=14
DGMT Dagmar 74.05 337 *e*P **P** 19 12 43.3 +0.7
comp=Z,118nm,1.0s
C22A Vida 74.10 335 P **P** 19 12 43.9 +0.9
baz=74,SNR=38
GCMT Greycliff 74.14 332 *e*P **P** 19 12 44.4 +1.0
QLMT Earthquake Lak 74.21 330 *e*P **P** 19 12 45.1 +1.1
comp=Z,3.3nm,1.0s
CMB Columbia Colle 74.27 320 *e*P **P** 19 12 45.2 +1.1
CMB Columbia Colle 74.27 320 *e*P **P** 19 12 45.2 +1.1
VAH Vaihoa 74.28 259 *e*P **P** 19 12 45.7 +1.0
comp=Z,146nm,1.1s
B23A Brockton 74.34 336 P **P** 19 12 45.5 +1.2
baz=75,SNR=30
A24A Westby 74.35 337 P **P** 19 12 45.6 +1.2
baz=75,SNR=21
B22A Reddig Ranch S 74.59 336 P **P** 19 12 46.9 +1.0
baz=75,SNR=10
PMOR Pomariorio Ree 74.59 259 *e*P **P** 19 12 47.5 +1.0
comp=Z,176nm,1.2s
C21A Desert Coulee 74.65 335 P **P** 19 12 47.0 +0.8
baz=75,SNR=29
A23A Redstone 74.70 337 P **P** 19 12 47.2 +0.8
baz=75
HLID Hailey 74.73 328 P **P** 19 12 48.1 +1.2
baz=75,SNR=91
HLID Hailey 74.73 328 *e*P **P** 19 12 48.0 +1.1
comp=Z,60nm,1.0s
MCMT McKenzie Canyo 74.88 330 *e*P **P** 19 12 49.0 +1.1
BOZ Bozeman (W) 74.92 331 P **P** 19 12 48.7 +0.8
baz=75,SNR=46
C20A Veseth Ranch, 74.93 334 P **P** 19 12 48.3 +0.5
baz=75,SNR=30
B21A Ellsworth Farm 75.10 335 P **P** 19 12 49.8 +1.1
baz=75,SNR=6.9
TVO Taravao 75.10 256 *e*P **P** 19 12 50.6 +1.1
comp=Z,29nm,1.2s
A22A Carney Farms, 75.12 336 P **P** 19 12 50.0 +1.1
baz=75,SNR=27
DLMT Dillon 75.16 330 *e*P **P** 19 12 50.2 +0.9
TIAR Tiarei 75.25 256 *e*T T 20 34 12.2
comp=Z,3.1nm,0.3s
MFID Camas Ranch 75.35 327 *e*P **P** 19 12 51.5 +1.1
comp=Z,103nm,1.1s
LRM Limekiln Ridge 75.43 330 *e*P **P** 19 12 51.6 +0.6
PAE Paea 75.43 256 *e*P **P** 19 12 52.2 +0.9
comp=Z,15nm,1.1s
PPT2 Papeete2 75.45 256 *e*P **P** 19 12 52.6 +1.1
comp=Z,108nm,1.4s
PPT2 *e*S **S** 19 22 24.4 +0.6
comp=Z,668nm,26.2s
PPT2 Papeete2 75.45 256 *e*LR LR 19 36 24.3
comp=Z,512nm,28.2s
PPT2 Papeete2 75.45 256 *e*LR LR 19 12 54.7
comp=Z,219nm,28.8s
PPT Papeete 75.45 256 P **P** 19 12 53.2 +1.8
comp=Z,42nm,0.9s,baz=132,slow=0.7,SNR=3.9
PPT LR LR 19 39 25.0
comp=Z,74nm,18.3s,baz=132,slow=30
B20A Solberg Farm, 75.51 335 P **P** 19 12 52.0 +0.8
baz=76,SNR=23
OHCM Honcut 75.76 321 *e*P **P** 19 12 54.1 +1.5
HRY Holter Researc 75.81 331 *e*P **P** 19 12 54.4 +1.4
A20A Cobblestone Ra 75.82 335 P **P** 19 12 53.7 +0.8
baz=76,SNR=9.6
B19A Brinkman Farms 75.90 334 P **P** 19 12 54.0 +0.7
baz=76,SNR=12
EGMT Eagleton 75.91 333 P **P** 19 12 53.9 +0.5
baz=76,SNR=33
EGMT Eagleton 75.91 333 *e*P **P** 19 12 53.5 +0.1
comp=Z,75nm,0.9s
NSHM Saint Helena R 75.92 320 *e*P **P** 19 12 55.1 +1.5
WVOR Wild Horse Val 76.16 325 *e*P **P** 19 12 55.9 +0.9
WVOR Wild Horse Val 76.16 325 *e*P **P** 19 12 55.9 +0.9
A19A Klindworth Far 76.19 334 P **P** 19 12 55.6 +0.6
baz=76,SNR=6.6
CHMT Chamberlain Mo 76.61 331 *e*P **P** 19 12 58.4 +0.8
MOD Modoc Plateau 76.73 323 *e*P **P** 19 12 59.0 +0.7
comp=Z,52nm,1.3s
MSO Missoula 76.87 330 P **P** 19 12 59.9 +1.0
baz=77,SNR=18
MSO Missoula 76.87 330 *e*P **P** 19 13 00.4 +1.5
SLMT Seeley Lake 76.97 331 *e*P **P** 19 13 00.3 +0.8
TOA0 Torodi Ar. Sit 76.97 71 *e*P **P** 19 12 58.7 -1.3
TORD Torodi Ar. Bea 76.97 71 P **P** 19 12 58.5 -1.5
comp=Z,19nm,0.4s,baz=252,slow=5.4,SNR=130
TORD pP **pP** 19 13 26.9 +0.2
comp=Z,15nm,0.6s,baz=252,slow=5.9,SNR=3.3
BMO Blue Mountains 77.11 327 *e*P **P** 19 13 00.7 +0.4
comp=Z,63nm,1.1s
BMO *e*pP **pP** 19 13 26.4 -0.6
WDC Whiskeytown Da 77.17 321 *e*P **P** 19 13 00.4 -0.2
WDC Whiskeytown Da 77.17 321 *e*P **P** 19 13 00.4 -0.2
SWMT Swartz Lake 77.40 331 *e*P **P** 19 13 03.2 +1.3
N02D Trinity Center 77.52 322 P **P** 19 13 02.9 +0.3
baz=78,SNR=11
M04C Macdoel 77.53 323 P **P** 19 13 03.7 +1.0
baz=78,SNR=7.5
K05A Summer Lake 77.60 324 *e*P **P** 19 13 05.0 +1.8
YBMT Yellow Bay 77.66 331 *e*P **P** 19 13 04.7 +1.3
JTMT Jette 77.70 331 *e*P **P** 19 13 05.0 +1.4
F10A Beach Ranch, E 77.85 328 *e*P **P** 19 13 05.4 +1.0
M02C Callahan 77.87 322 P **P** 19 13 05.1 +0.5
baz=78,SNR=9.4
BLMT Blacktail Moun 77.93 331 *e*P **P** 19 13 06.3 +1.3
YBH Yreka Blue Hor 78.00 322 *e*P **P** 19 13 05.2 -0.1
YBH Yreka Blue Hor 78.00 322 *e*P **P** 19 13 05.2 -0.1
BSMT Bassoo Peak 78.01 331 *e*P **P** 19 13 06.2 +0.8
K04D Chiloquin, OR 78.02 323 P **P** 19 13 06.5 +1.1
baz=78
KHMM Horse Mountain 78.06 321 *e*P **P** 19 13 07.4 +1.6
SBA Scott Base 78.15 190 *e*P **P** 19 13 07.2 +1.7
SBA Scott Base 78.15 190 *e*P **P** 19 13 07.2 +1.7
J05D Fort Rock, OR 78.16 324 P **P** 19 13 07.6 +1.3
baz=78,SNR=24
G08A Pilot Rock 78.27 327 *e*P **P** 19 13 07.7 +0.9
WALA Waterton Lakes 78.50 332 *e*P **P** 19 13 08.4 +0.4
FFC Flin Flon 78.57 341 P **P** 19 13 07.5 -0.5
comp=Z,133nm,1.1s,SNR=8.2
FFC Flin Flon 78.57 341 *e*P **P** 19 13 08.1 +0.1
FFC Flin Flon 78.57 341 *e*P **P** 19 13 08.1 +0.1
J04D Umpqua Nationa 78.62 324 P **P** 19 13 10.0 +1.2
baz=79,SNR=7.2
E09A Wood Farm, Sta 78.69 328 *e*P **P** 19 13 09.8 +1.0
HUMO Hull Mountain 78.69 323 *e*P **P** 19 13 09.2 +0.2
L02D Cave Junction, 78.78 322 P **P** 19 13 11.1 +1.6
baz=79,SNR=8.6
I05D Terrebonne, OR 78.90 325 P **P** 19 13 11.4 +1.3
baz=79,SNR=14
SYO Syowa Base 78.95 160⇑ *e*P **P** 19 13 08.8 -1.2
G06A Carlson Farm, 79.11 326 *e*P **P** 19 13 12.8 +1.5
CROR Criterion Ridg 79.13 326 P **P** 19 13 12.9 +1.5
I04A Tendick Farm, 79.14 324 P **P** 19 13 12.2 +0.7
baz=79,SNR=12
VNDA Vanda 79.18 190 P **P** 19 13 12.6 +1.4
comp=Z,20nm,1.1s,baz=132,slow=4.7,SNR=58
VNDA pP **pP** 19 13 39.0 +1.1
comp=Z,6.5nm,0.7s,baz=127,slow=6.4,SNR=5.0
VNDA LR LR 19 43 01.5
comp=Z,54nm,21.9s,baz=136,slow=32
VNDA Vanda 79.18 190 P **P** 19 13 12.6 +1.4
VNDA *PP **pP** 19 13 39.0 +1.1
VNDA pmax pmax
comp=Z,20nm,1.1s
VNDA pmax pmax
comp=Z,7.0nm,0.7s
VNDA MLR MLR
comp=Z,54nm,21.9s
KBO Bosley Butte 79.18 322 *e*P **P** 19 13 14.3 +2.5
HAWA Hanford 79.31 327 *e*P **P** 19 13 13.3 +1.1
NEW Newport 79.40 330 *e*P **P** 19 13 12.9 +0.1
NEW Newport 79.40 330 P **P** 19 13 13.5 +0.7
baz=80,SNR=8.2
NEW Newport 79.40 330 *e*P **P** 19 13 12.9 +0.1
D08A Wollman Farm, 79.45 328 *e*P **P** 19 13 13.9 +1.0
G05D Wamic, OR 79.48 326 P **P** 19 13 15.2 +1.9
baz=80,SNR=16
I03D Drain, OR 79.60 323 P **P** 19 13 15.5 +1.6
baz=80,SNR=8.5
C09A Chrisman Ranch 79.64 329 *e*P **P** 19 13 14.9 +0.9
KEBM Edson Butte 79.65 322 *e*P **P** 19 13 15.8 +1.5
TRW Toppenish Ridg 79.76 327 P **P** 19 13 16.5 +1.7
PFVI Vila Bisbo 79.83 45 *e*P **P** 19 13 16.4 +1.1
comp=Z,65nm,1.7s
PFVI *e*pP **pP** 19 13 44.9 +2.8
PFVI Vila Bisbo 79.83 45 *e*P **P** 19 13 16.4 +1.1
comp=Z,65nm,1.7s
PFVI *e*pP **pP** 19 13 44.9 +2.8
MORF Marmelete 80.04 45 *e*P **P** 19 13 17.3 +0.8
MORF AMb AMB 19 13 19.5
comp=Z,89nm,0.9s
MORF Marmelete 80.04 45 *e*P **P** 19 13 17.3 +0.8
MORF Marmelete 80.04 45 *e*P **P** 19 13 17.6 +1.1
comp=Z,80nm,1.0s
MORF *e*pP **pP** 19 13 48.2 +4.9
MORF *e*S **S** 19 23 18.4 +6.0
MORF Marmelete 80.04 45 *e*P **P** 19 13 17.6 +1.1
comp=Z,80nm,1.0s
MORF *e*pP **pP** 19 13 48.2 +4.9
MORF *e*S **S** 19 23 18.4 +6.0
PTEO Sao Teotonio 80.12 45 *e*P **P** 19 13 18.4 +1.6
comp=Z,95nm,1.0s
PTEO *e*pP **pP** 19 13 45.1 +1.4
PTEO Sao Teotonio 80.12 45 *e*P **P** 19 13 18.4 +1.6
comp=Z,95nm,1.0s
PTEO *e*pP **pP** 19 13 45.1 +1.4
COR Corvallis 80.14 324 *e*P **P** 19 13 18.5 +1.8
COR Corvallis 80.14 324 *e*P **P** 19 13 18.5 +1.8
FCC Fort Churchill 80.15 347 *e*P **P** 19 13 15.5 -0.9
FCC *e**PP **pP** 19 13 43.8 +0.5
FCC Fort Churchill 80.15 347 *e*P **P** 19 13 15.5 -0.9
FCC *e*pP **pP** 19 13 43.8 +0.5
WTV Waterville 80.40 328 P **P** 19 13 18.9 +0.8
MTMW Mount Mitchell 80.46 326 P **P** 19 13 19.8 +1.2
LTY Liberty 80.47 327 *e*P **P** 19 13 19.7 +1.2
PBDV Barranco-do-Ve 80.49 45 *e*P **P** 19 13 19.9 +1.0
comp=Z,56nm,1.2s
PBDV *e*pP **pP** 19 13 50.4 +4.7
PBDV *e*S **S** 19 23 21.9 +4.9
PBDV Barranco-do-Ve 80.49 45 *e*P **P** 19 13 19.9 +1.0
comp=Z,56nm,1.2s
PBDV *e*pP **pP** 19 13 50.4 +4.7
PBDV *e*S **S** 19 23 21.9 +4.9
G03D McMinnville, O 80.51 325 P **P** 19 13 20.6 +1.9
baz=81
MDT Midelt 80.53 51 P **P** 19 13 20.4 +1.1
comp=Z,17nm,0.8s,baz=250,slow=4.4,SNR=36
MDT pP **pP** 19 13 47.7 +1.6
comp=Z,16nm,1.0s,baz=225,slow=7.1,SNR=4.7
PMAFR Mafra 80.53 43 *e*S **S** 19 23 20.6 +3.2
PMAFR Mafra 80.53 43 *e*S **S** 19 23 20.6 +3.2
B08A Colville Reser 80.54 329 *e*P **P** 19 13 19.1 +0.3
PNCL Nicolau / Gran 80.56 44 *e*P **P** 19 13 20.1 +0.9
comp=Z,43nm,1.3s
PNCL *e*pP **pP** 19 13 47.1 +1.1
PNCL Nicolau / Gran 80.56 44 *e*P **P** 19 13 20.1 +0.9
comp=Z,43nm,1.3s
PNCL *e*pP **pP** 19 13 47.1 +1.1
MESJ Messejana 80.62 45 *e*P **P** 19 13 20.3 +0.8
MESJ AMb AMB 19 13 21.8
comp=Z,49nm,0.5s
MESJ Messejana 80.62 45 *e*P **P** 19 13 20.3 +0.8
MESJ Messejana 80.62 45 *e*P **P** 19 13 20.5 +1.0
comp=Z,47nm,1.0s
MESJ *e*pP **pP** 19 13 49.4 +3.0
MESJ Messejana 80.62 45 *e*P **P** 19 13 20.5 +1.0
comp=Z,47nm,1.0s
MESJ *e*pP **pP** 19 13 49.4 +3.0
PCVE Castro Verde 80.63 45 *e*P **P** 19 13 20.7 +1.1
comp=Z,11nm,1.1s
PCVE *e*pP **pP** 19 13 50.5 +4.1
PCVE *e*S **S** 19 23 21.3 +2.9
PCVE Castro Verde 80.63 45 *e*P **P** 19 13 20.7 +1.1
comp=Z,11nm,1.1s
PCVE *e*pP **pP** 19 13 50.5 +4.1
PCVE *e*S **S** 19 23 21.3 +2.9
LON Longmire 80.72 326 *e*P **P** 19 13 20.6 +0.7
LON Longmire 80.72 326 *e*P **P** 19 13 20.6 +0.7
PVAQ Vaqueiros 80.72 45 *e*P **P** 19 13 21.2 +1.1
comp=Z,36nm,0.9s
PVAQ *e*pP **pP** 19 13 51.0 +4.1
PVAQ *e*S **S** 19 23 23.6 +4.2
PVAQ Vaqueiros 80.72 45 *e*P **P** 19 13 21.2 +1.1
comp=Z,36nm,0.9s
PVAQ *e*pP **pP** 19 13 51.0 +4.1
PVAQ *e*S **S** 19 23 23.6 +4.2
F04D Rainier, OR 80.93 325 P **P** 19 13 22.9 +2.0
baz=81
D05A Enumclaw 81.10 327 *e*P **P** 19 13 22.5 +0.7
F03A Seaside 81.12 325 *e*P **P** 19 13 22.5 +0.5
EVO Evora 81.13 44 *e*P **P** 19 13 23.0 +0.8
comp=Z,29nm,1.7s
EVO *e*pP **pP** 19 13 51.4 +2.3
EVO Evora 81.13 44 *e*P **P** 19 13 23.0 +0.8
comp=Z,29nm,1.7s
EVO *e*pP **pP** 19 13 51.4 +2.3
TSUM Tsumeb 81.19 107 *e*P **P** 19 13 23.8 +0.5
EDM Edmonton 81.35 335 *e*P **P** 19 13 22.6 -0.5
EDM Edmonton 81.35 335 *e*P **P** 19 13 22.6 -0.5
PTOM Tomar 81.46 43 *e*P **P** 19 13 24.6 +0.7
comp=Z,52nm,1.2s
PTOM Tomar 81.46 43 *e*P **P** 19 13 24.6 +0.7
comp=Z,52nm,1.2s
PBAR Barrancos 81.58 45 *e*P **P** 19 13 25.1 +0.5
comp=Z,64nm,1.1s
PBAR *e*pP **pP** 19 13 53.1 +1.6
PBAR *e*S **S** 19 23 29.2 +0.9
PBAR Barrancos 81.58 45 *e*P **P** 19 13 25.1 +0.5
comp=Z,64nm,1.1s
PBAR *e*pP **pP** 19 13 53.1 +1.6
PBAR *e*S **S** 19 23 29.2 +0.9
PESTR Estremoz 81.59 44 *e*P **P** 19 13 25.3 +0.6
comp=Z,34nm,1.0s
PESTR *e*pP **pP** 19 13 53.9 +2.3
PESTR *e*S **S** 19 23 32.5 +4.1
PESTR Estremoz 81.59 44 *e*P **P** 19 13 25.3 +0.6
comp=Z,34nm,1.0s
PESTR *e*pP **pP** 19 13 53.9 +2.3
PESTR *e*S **S** 19 23 32.5 +4.1
PCAS Casmilo, Conde 81.64 43 *e*P **P** 19 13 24.9 0.0
comp=Z,44nm,1.6s
PCAS Casmilo, Conde 81.64 43 *e*S **S** 19 23 30.7 +1.8
PCAS Casmilo, Conde 81.64 43 *e*P **P** 19 13 24.9 0.0
comp=Z,44nm,1.6s
PCAS Casmilo, Conde 81.64 43 *e*S **S** 19 23 30.7 +1.8
RPW Rockport 81.68 328 P **P** 19 13 25.4 +0.4
B06A Marblemount 81.71 328 *e*P **P** 19 13 25.6 +0.6
PMRV Marv??o 82.02 44 *e*P **P** 19 13 27.1 +0.2
comp=Z,16nm,1.3s
PMRV *e*pP pP 19 13 43.9 -10
PMRV *e*S **S** 19 23 33.8 +1.0
PMRV Marv??o 82.02 44 *e*P **P** 19 13 27.1 +0.2
comp=Z,16nm,1.3s
PMRV *e*pP pP 19 13 43.9 -10
PMRV *e*S **S** 19 23 33.8 +1.0
PTO Porto 82.18 42 *e*P **P** 19 13 28.4 +0.8
PTO Porto 82.18 42 *e*P **P** 19 13 28.4 +0.8
PCBR Castelo Branco 82.19 43 *e*P **P** 19 13 27.8 +0.1
comp=Z,22nm,1.7s
PCBR Castelo Branco 82.19 43 *e*P **P** 19 13 27.8 +0.1
comp=Z,22nm,1.7s
NLWA Neilton Lookou 82.21 326 *e*P **P** 19 13 29.2 +1.4
PGC Sidney 82.79 327 *e*P **P** 19 13 32.0 +1.4
PGAV Gavieira, Arco 82.84 41 *e*P **P** 19 13 31.2 0.0
comp=Z,43nm,1.5s
PGAV Gavieira, Arco 82.84 41 *e*S **S** 19 23 43.1 +1.9
PGAV Gavieira, Arco 82.84 41 *e*P **P** 19 13 31.2 0.0
comp=Z,43nm,1.5s
PGAV Gavieira, Arco 82.84 41 *e*S **S** 19 23 43.1 +1.9
MVO Moncorvo 83.19 42 *e*P **P** 19 13 33.5 +0.5
comp=Z,57nm,1.3s
MVO *e*pP **pP** 19 14 03.4 +3.4
MVO *e*S **S** 19 23 44.5 -0.2
MVO Moncorvo 83.19 42 *e*P **P** 19 13 33.5 +0.5
comp=Z,57nm,1.3s
MVO *e*pP **pP** 19 14 03.4 +3.4
MVO *e*S **S** 19 23 44.5 -0.2
NLLB Nanaimo Lost L 83.43 327 P **P** 19 13 34.5 +0.5
PBRG Braganca 83.71 42 *e*P **P** 19 13 36.1 +0.5
comp=Z,58nm,1.3s
PBRG *e*pP **pP** 19 14 04.5 +1.8
PBRG Braganca 83.71 42 *e*P **P** 19 13 36.1 +0.5
comp=Z,58nm,1.3s
PBRG *e*pP **pP** 19 14 04.5 +1.8
PAB San Pablo 84.09 45 *e*P **P** 19 13 38.0 +0.3
PAB San Pablo 84.09 45 *e*P **P** 19 13 38.0 +0.3
TAM Tamanrasset 84.13 64 *e*P **P** 19 13 38.3 0.0
TAM pmax pmax
comp=Z,15nm,1.0s
TAM Tamanrasset 84.13 64 *e*P **P** 19 13 38.3 0.0
comp=Z,15nm,1.0s
ESDC Sonseca Array 84.41 45 P **P** 19 13 39.8 +0.5
comp=Z,18nm,0.8s,baz=249,slow=5.4,SNR=80
ESDC pP **pP** 19 14 07.8 +1.4
comp=Z,12nm,1.0s,baz=243,slow=5.7,SNR=4.9
ESDC LR LR 19 47 23.2
comp=Z,120nm,21.3s,baz=185,slow=33
BOSA Boshof 85.00 118 P **P** 19 13 42.3 -0.4
comp=Z,19nm,1.1s,baz=282,slow=2.9,SNR=10
BOSA pP **pP** 19 14 10.2 +0.4
comp=Z,10nm,1.0s,baz=243,slow=9.2,SNR=3.3
BOSA LR LR 19 49 31.8
comp=Z,198nm,18.2s,baz=251,slow=34
BOSA Boshof 85.00 118 *e*P **P** 19 13 42.0 -0.7
BOSA *e**PP **pP** 19 14 09.9 +0.1
BOSA pmax pmax
comp=Z,23nm,1.1s
BOSA Boshof 85.00 118 *e*P **P** 19 13 42.0 -0.7
comp=Z,23nm,1.1s
BOSA *e*pP **pP** 19 14 09.8 +0.1
LBTB Lobatse 86.46 115 *e*P **P** 19 13 50.1 +0.2
LBTB Lobatse 86.46 115 *e*P **P** 19 13 50.1 +0.2
MAW Mawson 86.81 163 P **P** 19 13 51.6 +1.0
comp=Z,22nm,1.0s,baz=225,slow=4.5,SNR=22
MAW Mawson 86.81 163 *e*P **P** 19 13 51.5 +0.9
MAW Mawson 86.81 163 *e*P **P** 19 13 51.5 +0.9
REYF Montagne du Re 88.41 43⇑ *e*P **P** 19 13 59.1 +0.4
YKA Yellowknife Ar 88.73 341 P **P** 19 13 59.5 -0.1
comp=Z,88nm,0.8s,baz=135,slow=4.8,SNR=596
YKA pP **pP** 19 14 27.0 +0.1
comp=Z,37nm,0.9s,baz=135,slow=4.8,SNR=6.1
YKA PKKP **PKKPdf** 19 31 37.7 +0.2
comp=Z,0.4nm,0.5s,baz=321,slow=3.6,SNR=6.1
YKW3 Yellowknife Ar 88.78 341 *e*P **P** 19 13 59.5 -0.4
comp=Z,2.8nm,0.9s
YKW3 *e*pP **pP** 19 14 27.0 -0.1
SALF Salau 89.30 44⇑ *e*P **P** 19 14 03.3 +0.4
FILF Fillols 90.12 45⇑ *e*P **P** 19 14 06.1 -0.6
BORG Borgarnes 91.25 19 *e*P **P** 19 14 12.7 +1.4
BORG Borgarnes 91.25 19 *e*P **P** 19 14 12.7 +1.4
LBL Lubilhac 91.72 42 *e*P **P** 19 14 14.0 -0.1
DRV Dumont d'Urvil 91.77 191 S S 19 24 47.0 -19
DRV SS **SS** 19 31 14.0 -0.2
DRV R 19 44 00.0
PYM Petit Puy Mans 91.79 42⇑ *e*P **P** 19 14 14.2 -0.2
DLBC Dease Lake 91.82 333 *e*P **P** 19 14 15.2 +0.9
AGO Saint Agoulin 92.00 42⇑ *e*P **P** 19 14 15.0 -0.3
LSZ Lusaka 92.04 107 *e*P **P** 19 14 17.4 +1.0
LSZ Lusaka 92.04 107 *e*P **P** 19 14 17.4 +1.0
COLF Collangettes 92.13 42⇑ *e*P **P** 19 14 16.0 0.0
KEST Kesra 92.19 53 P **P** 19 14 16.8 +0.3
comp=Z,2.2nm,0.9s,baz=284,slow=3.5,SNR=5.4
KEST LR LR 19 56 56.1
comp=Z,46nm,19.2s,baz=210,slow=36
PLDF La Plantade 92.27 42⇑ *e*P **P** 19 14 15.9 -0.8
SSB Saint Sauveur 92.57 43 *e*P **P** 19 14 16.8 -1.2
SSB *e**PP **pP** 19 14 46.0 +0.6
SSB pmax pmax
comp=Z,7.0nm,0.8s
SSB Saint Sauveur 92.57 43 *e*P **P** 19 14 16.8 -1.2
comp=Z,7.4nm,0.8s
SSB *e*pP **pP** 19 14 46.0 +0.6
ESK Eskdalemuir 92.74 32 *e*P **P** 19 14 17.3 -1.1
ESK pmax pmax
comp=Z,20nm,1.2s
ESK Eskdalemuir 92.74 32 *e*P **P** 19 14 17.3 -1.1
comp=Z,20nm,1.2s
SUMG Summit 93.71 9⇑ *i*P **P** 19 14 24.0 +0.9
comp=Z,41nm,1.1s
SUMG Summit 93.71 9⇑ *i*P **P** 19 14 24.0 +0.9
SUMG pmax pmax
comp=Z,41nm,1.1s
SUMG Summit 93.71 9 *e*P **P** 19 14 23.2 +0.1
DOU Dourbes 94.59 38 P **P** 19 14 26.3 -0.8
CASY Casey 94.94 180 *e*P **P** 19 14 29.8 +1.3
WLF Walferdange 95.34 39 P **P** 19 14 30.3 -0.2
comp=Z,8.7nm,1.4s
WLF Walferdange 95.34 39 *e*P **P** 19 14 30.8 +0.2
WLF Walferdange 95.34 39 *e*P **P** 19 14 30.8 +0.2
ECH Echery 95.39 41⇑ *e*P **P** 19 14 30.1 -0.8
ECH Echery 95.39 41 *e*P **P** 19 14 29.6 -1.3
ECH pmax pmax
comp=Z,6.0nm,1.2s
ECH Echery 95.39 41 *e*P **P** 19 14 29.6 -1.3
comp=Z,6.5nm,1.2s
URZ Urewera 95.56 226 LR LR 19 48 01.6
comp=Z,162nm,20.4s,baz=132,slow=29
MEM Membach 95.62 38 P **P** 19 14 31.0 -0.8
comp=Z,3.8nm,1.3s
RAO Raoul Island 96.03 236 LR LR 19 48 09.1
comp=Z,80nm,19.0s,baz=110,slow=29
LANF Langenberg 96.08 40⇑ *e*P **P** 19 14 33.5 -0.5
BFO Black Forest 96.16 41 *i* P **P** 19 14 34.0 -0.4
BFO Black Forest 96.16 41 *e*P **P** 19 14 33.3 -1.0
RPZ Rata Peaks 96.60 219 LR LR 19 47 50.3
comp=Z,109nm,22.0s,baz=114,slow=29
NKC Novy Kostel 99.34 40 *e*SKS **SKSac** 19 25 17.9 +0.6
EGAK Eagle 99.57 336 *e*P **Pdif** 19 14 48.4 -0.8
comp=Z,3.5nm,1.0s
GERES GERESS Array B 99.69 42 P **Pdif** 19 14 49.1 -1.2
comp=Z,0.7nm,0.8s,baz=137,slow=2.7,SNR=5.8
GERES PP PP 19 18 49.6 -6.4
comp=Z,0.3nm,0.6s,baz=261,slow=5.3,SNR=3.6
GERES PKKPbc **PKKPbc** 19 31 09.7 -3.2
comp=Z,0.4nm,0.5s,baz=85,slow=1.6,SNR=4.3
GERES LR LR 19 57 10.1
comp=Z,52nm,21.3s,baz=250,slow=34
KHC Kasperske Hory 99.70 41 *e*SKS **SKSac** 19 25 19.5 +0.3
KHC *e*SDIF ScS 19 26 06.6 -8.2
KHC *e*SP **SP** 19 27 42.2 -0.7
CLL Collm 100.01 39⇑ *i*Pdif **Pdif** 19 14 51.4 -0.1
comp=Z,6.0nm,1.1s
CLL Collm 100.01 39 *i* P **Pdif** 19 14 51.4 -0.1
CLL pmax pmax
comp=Z,6.0nm,1.1s
BRG Berggiesshubel 100.45 40 *e*P **Pdif** 19 14 53.5 0.0
comp=Z,4.9nm,1.4s
BRG Berggiesshubel 100.45 40 *e*P **Pdif** 19 14 53.5 0.0
BRG pmax pmax
comp=Z,5.0nm,1.4s
PRU Pruhonice 100.55 41 *e*PDIFF **Pdif** 19 14 53.5 -0.5
PRU *e*SKS 19 25 22.2
PRU *e*SP **SP** 19 27 46.3 -5.7
PRU Pruhonice 100.55 41 *e*P **Pdif** 19 14 53.5 -0.5
PRU *e* 19 25 22.2
PRU *e*SP SP 19 27 46.3 -5.7
GOPC GO Pecny, Ondr 100.69 41 *e*SKS **SKSac** 19 25 24.4 +0.5
GOPC *e*SP **SP** 19 27 52.5 -0.9
DPC Dobruska-Polom 101.75 41 *e*PDIFF **Pdif** 19 14 59.7 +0.3
DPC *e*SKS 19 25 29.5
DPC *e*SP **SP** 19 27 58.0 -6.8
DPC Dobruska-Polom 101.75 41 *e*P **Pdif** 19 14 59.7 +0.3
DPC *e* 19 25 29.5
DPC *e*SP SP 19 27 58.0 -6.8
ILAR Eielson Array 101.84 335 P **Pdif** 19 14 58.6 -0.7
comp=Z,1.2nm,1.1s,baz=126,slow=4.6,SNR=7.4
ILAR PP PP 19 19 01.8 -10
comp=Z,1.8nm,1.0s,baz=99,slow=7.1,SNR=9.3
KRLC Kraliky 101.97 41 *e*PDIFF **Pdif** 19 15 00.0 -0.3
KRLC Kraliky 101.97 41 *e*P **Pdif** 19 15 00.0 -0.3
NOA NORSAR Array B 102.01 29 P **Pdif** 19 14 59.7 -0.6
comp=Z,0.8nm,0.8s,baz=252,slow=4.4,SNR=2.6
OKC Ostrava-Krasne 102.76 42 *e*SKS **SKSac** 19 25 33.9 +0.2
OKC *e*SP **SP** 19 28 12.1 -3.3
KECS Kecovo 103.93 43 PDIF **Pdif** 19 15 09.4 +0.4
STHS Stebnicka Huta 104.62 42 PDIF **Pdif** 19 15 12.0 -0.1
FINES FINESS Array B 109.13 30 PP PP 19 20 03.4 -2.1
comp=Z,3.1nm,1.0s,baz=324,slow=6.9,SNR=4.3
FINES PKKPbc **PKKPbc** 19 30 42.7 -1.9
comp=Z,1.6nm,0.6s,baz=98,slow=4.9,SNR=13

ARCES ARCESS Array B 109.39 22 PKKPbc PKKPbc 19 30 41.4 -2.6
comp=Z,1.7nm,0.6s,baz=49,slow=5.5,SNR=6.1
ARCES PKKPab **PKKPab** **19 30 53.3 +1.0**
comp=Z,2.1nm,0.7s,baz=119,slow=4.3,SNR=5.6
AKASG Malin Array Be 109.90 42 PP PP 19 20 05.4 -6.0
comp=Z,0.3nm,0.4s,baz=264,slow=7.2,SNR=6.3
BRTR Keskin Array B 111.77 54 PP PP 19 20 23.4 -2.0
comp=Z,1.9nm,0.9s,baz=231,slow=5.5,SNR=6.4
BRTR PKKPab **PKKPab** **19 30 44.2 +1.3**
comp=Z,1.8nm,0.8s,baz=90,slow=4.8,SNR=12
OBN Obninsk 114.51 37⇑ *e*PKIKP PKPdf 19 19 46.6 +0.9
OBN *e* 19 20 15.0
OBN 19 20 41.0
OBN *e* 19 23 11.2
OBN *i* 19 30 26.4
OBN *e*SS SS 19 36 28.6 -0.4
OBN pmax pmax
comp=Z,19nm,1.8s
ANN Anapa 115.00 49 *i* PKIKP PKPpre 19 19 41.9
ANN *e*SP SP 19 30 04.9 -11
ANN pmax pmax
comp=Z,21nm,1.0s
KBZ Khabaz 118.91 50 PKP **PKPdf** **19 19 55.1 +0.6**
comp=Z,6.3nm,0.9s,baz=201,slow=0.3,SNR=12
KBZ pPKP **pPKPdf** **19 20 24.0 +0.9**
comp=Z,4.0nm,0.8s,baz=287,slow=1.0,SNR=4.0
NCK Nalchik 119.42 50 PKIKP **PKPdf** **19 19 56.0 +0.4**
STKA Stephens Creek 121.30 211 PKP **PKPdf** **19 19 59.6 -0.1**
comp=Z,7.9nm,0.6s,baz=127,slow=3.5,SNR=28
TIXI Tiksi 126.31 353⇓ *i* PKIKP **PKPdf** **19 20 06.6 -1.4**
TIXI Tiksi 126.31 353 *e*PKPdf **PKPdf** **19 20 06.5 -1.4**
TIXI *ep*PKPdf **pPKPdf** **19 20 34.6 -1.9**
ARU Arti 126.36 33 *i* PKIKP **PKPdf** **19 20 09.2 +0.7**
ARU 19 22 05.6
ARU 19 27 05.4
ARU Arti 126.36 33 *e*PKPdf **PKPdf** **19 20 09.1 +0.6**
ARU *ep*PKPdf **pPKPdf** **19 20 37.1 +0.1**
H11S2 WAKE ISLAND Hyl 27.08 279 T T 21 39 37.3
baz=100,slow=75,SNR=884
H11S1 WAKE ISLAND Hyl 27.09 279 T T 21 39 35.1
baz=100,slow=75,SNR=1298
H11N3 WAKE ISLAND Hyl 27.10 281 T T 21 39 42.7
baz=100,slow=75,SNR=346
H11S3 WAKE ISLAND Hyl 27.10 279 T T 21 39 47.8
baz=100,slow=75,SNR=869
H11N2 WAKE ISLAND Hyl 27.11 281 T T 21 39 43.8
baz=100,slow=75,SNR=109
H11N1 WAKE ISLAND Hyl 27.11 281 T T 21 39 44.1
baz=100,slow=75,SNR=74
SEY Seymchan 127.67 337 PKP **PKPdf** **19 20 12.2 +1.4**
comp=Z,22nm,1.0s,baz=79,slow=3.0,SNR=15
SEY pPKP **pPKPdf** **19 20 39.5 +0.2**
comp=Z,9.4nm,0.9s,baz=50,slow=2.5,SNR=5.4
SEY Seymchan 127.67 337⇑ *e*PKIKP **PKPdf** **19 20 11.9 +1.1**
CTAO Charters Tower 127.72 224 *e*PKIKP **PKPdf** **19 20 12.5 +0.2**
CTAO Charters Tower 127.72 224 *e*PKPdf **PKPdf** **19 20 12.5 +0.2**
ABKAR Akbulak array 129.63 41 *e*PKPdf **PKPdf** **19 20 15.6 +0.6**
ABKAR *ep*PKPdf **pPKPdf** **19 20 44.7 +1.2**
ABKAR *e*SKP 19 23 27.9
PETK Petropavlovsk- 130.32 325 PKP **PKPdf** **19 20 17.0 +0.8**
comp=Z,14nm,1.0s,baz=93,slow=5.9,SNR=9.1
PETK Petropavlovsk- 130.32 325 PKIKP **PKPdf** **19 20 17.0 +0.8**
GEYT Alibeck 130.84 56 PKP **PKPdf** **19 20 17.9 +0.1**
comp=Z,1.4nm,0.4s,baz=151,slow=3.4,SNR=7.5
GEYT pPKP **pPKPdf** **19 20 46.3 +0.1**
comp=Z,2.6nm,0.8s,baz=225,slow=4.0,SNR=3.7
GEYT PP PP **19 22 34.4 -0.7**
comp=Z,2.1nm,0.8s,baz=267,slow=10,SNR=4.6
AS31 Alice Springs 131.85 209 *e*PKPdf **PKPdf** **19 20 19.7 -0.4**
AS31 *e*SKP 19 23 35.5
ASAR Alice Springs 131.85 209 PKhKP PKPpre 19 20 01.4
comp=Z,0.6nm,0.5s,baz=142,slow=2.7,SNR=10.0
ASAR PKP **PKPdf** **19 20 19.9 -0.2**
comp=Z,9.0nm,0.5s,baz=130,slow=1.7,SNR=48
ASAR PP **PP** **19 22 37.6 -2.8**
comp=Z,4.6nm,1.1s,baz=143,slow=7.3,SNR=8.5
ASAR SKPbc **SKPbc** **19 23 35.0 -1.7**
comp=Z,2.4nm,0.8s,baz=152,slow=4.0,SNR=6.3
BRVK Borovoye 133.94 33*d* *i* PKIKP **PKPdf** **19 20 24.0 +1.0**
BRVK Borovoye 133.94 33 *e*PKPdf **PKPdf** **19 20 23.9 +1.0**
BRVK *ep*PKPdf **pPKPdf** **19 20 53.3 +1.7**
WRA Warramunga Arr 134.81 212 PKhKP PKPpre 19 20 13.5
comp=Z,1.6nm,0.7s,baz=142,slow=3.0,SNR=7.5
WRA PKP **PKPdf** **19 20 26.2 +0.5**
comp=Z,19nm,0.6s,baz=150,slow=1.7,SNR=47
WRA pPKP pPKPdf 19 20 55.2 +1.0
comp=Z,5.7nm,0.7s,baz=158,slow=1.7,SNR=3.8
WRA SKPbc **SKPbc** **19 23 46.8 +0.1**
comp=Z,4.0nm,1.1s,baz=150,slow=3.1,SNR=8.8
WRAB Tennant Creek 134.81 212*d* *i* PKIKP **PKPdf** **19 20 26.0 +0.3**
YAK Yakutsk 135.03 347 PKP **PKPdf** **19 20 25.4 +0.6**
comp=Z,2.6nm,0.5s,baz=231,slow=1.8,SNR=4.3
YAK Yakutsk 135.03 347 *e*PKIKP **PKPdf** **19 20 24.4 -0.3**
YAK *e* 19 23 00.3
YAK *e* 19 27 29.4
YAK *e*PS **PS** **19 33 23.3 -0.5**
YAK *e*SS SS 19 40 51.1 +5.7
YAK pmax pmax
comp=Z,9.0nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.3s
YAK pmax pmax
comp=Z,80nm,7.6s
YAK pmax pmax
comp=N,68nm,5.4s
YAK pmax pmax
comp=E,33nm,3.7s
NVS Novosibirsk 138.63 24 *e*PKIKP **PKPdf** **19 20 29.0 -2.6**
NVS *e* 19 21 00.1
NVS *e* 19 23 27.2
NVS pmax pmax
comp=Z,32nm,1.1s
NVS pmax pmax
comp=E,8.0nm,1.2s
NKL Nikolayevsk 138.76 333 *e*PKIKP **PKPdf** **19 20 27.8 -4.1**
KURK Kurchatov 139.50 31 *e*PKIKP **PKPdf** **19 20 32.9 -0.4**
KURK *e* 19 21 02.2
KURK Kurchatov 139.50 31 *e*PKPdf **PKPdf** **19 20 32.9 -0.4**
KURK *ep*PKPdf **pPKPdf** **19 21 02.2 +0.4**
ZAA0 Zalesovo Array 139.91 24 *e*PKPpre PKPpre 19 20 26.8
ZAA0 *e*PKPdf **PKPdf** **19 20 34.6 +0.6**
ZAA0 *ep*PKPdf pPKPdf 19 21 03.0 +0.5
ZAA0 *e*SKP 19 23 58.6
ZALV Zalesovo Beam 139.91 24 PKhKP PKPpre 19 20 29.8
comp=E,24nm,0.8s,baz=308,slow=1.9,SNR=21
ZALV PKP **PKPdf** **19 20 34.8 +0.8**
comp=E,24nm,0.8s,baz=289,slow=2.5,SNR=57
ZALV pPKP pPKPdf 19 21 03.1 +0.6
comp=E,8.3nm,0.6s,baz=299,slow=3.1,SNR=4.1
ZALV SKPbc **SKPbc** **19 23 58.4 -2.0**
comp=E,5.7nm,1.0s,baz=318,slow=4.0,SNR=5.5
EKS2 Erkin-Say 141.03 45 *e*PKIKP **PKPdf** **19 20 38.1 +1.5**
EKS2 *e* 19 21 06.9
EKS2 Erkin-Say 141.03 45 *e*PKPdf **PKPdf** **19 20 38.0 +1.5**
EKS2 *ep*PKPdf **pPKPdf** **19 21 06.9 +1.8**
EKS2 *e*SKP 19 24 03.7
BOD Bodaibo 141.20 357 *e*PKHKP PKPpre 19 20 28.6
BOD pmax pmax
comp=Z,6.0nm,1.7s
FRU Bishkek 141.51 44 *e*PKIKP **PKPdf** **19 20 38.0 +0.7**
FRU *e* 19 23 41.0
AAK Ala-Archa 141.52 44 PKIKP PKPdf 19 20 43.0 +5.5
YSS Yuzh-Sakhalins 141.71 324 *e*PKHKP PKPpre 19 20 33.0
TKM2 Tokmak 2 142.11 43 *e*PKIKP **PKPdf** **19 20 38.7 +0.1**
TKM2 Tokmak 2 142.11 43 *e*PKPdf **PKPdf** **19 20 38.7 +0.1**
ASAJ Asahikawa 143.40 320 PKhKP PKPpre 19 20 37.5
comp=Z,8.9nm,1.1s,baz=304,slow=3.6,SNR=3.8
JAY Jayapura 143.47 237 PKP PKPbc 19 20 39.8 +0.6
comp=Z,58nm,1.0s,baz=18,slow=1.0,SNR=12
KSH Kashi 143.86 48 PKP PKPbc 19 20 40.0 +0.3
KSH pPKP pPKPdf 19 21 08.0 -2.3
KSH PP **PP** **19 23 54.8 -1.2**
KSH PKS **PKSdf** **19 24 13.8 -3.7**
KSH SKS **SKSdf** **19 27 37.0 -5.0**
KSH SKKS **SKKSac** **19 30 37.3 -1.7**
KSH PPMZ
comp=Z,150nm,3.8s
KSH LN
comp=Z,78nm,4.0s
KSH LE
comp=Z,96nm,4.9s
KSH LZ
comp=Z,65nm,5.6s
MK31 Makanchi Array 143.88 34 *e*PKIKP PKPab 19 20 39.0 +0.3
MK31 *e* 19 21 10.5
MK31 Makanchi Array 143.88 34 *e*PKPdf PKPab 19 20 39.0 +0.3
MK31 *ep*PKPdf pPKPdf 19 21 10.5 +0.6
HABR Khabarovsk 144.60 332*de* PKIKP **PKPab** **19 20 41.2 -0.1**
HABR *e* 19 21 10.4
HABR *e* 19 23 58.4
HABR *e*SS SS 19 42 39.3 +1.1
HABR *e*SSS SSS 19 48 05.0
HABR pmax pmax
comp=E,11nm,1.5s
HABR pmax pmax
comp=Z,71nm,1.5s
HABR pmax pmax
comp=N,39nm,1.9s
POO Poona 145.24 85 *ex* **PKPbc** **19 20 43.0 -1.4**
KLR Kul'dur 145.41 335 *e*PKHKP PKPpre 19 20 41.0
KLR pmax pmax
comp=Z,250nm,1.8s
IRK Irkutsk 146.50 7⇑ *i*PKP2 **PKPbc** **19 20 46.7 -0.5**
IRK pmax pmax
comp=Z,162nm,1.6s
MOY Mondy 146.57 11 *e*PKP2 **PKPbc** **19 20 48.0 +0.4**
MOY pmax pmax
comp=Z,74nm,2.3s
GUMO Guam 146.71 266 PKPbc **PKPdf** **19 20 47.5 +0.4**
comp=Z,256nm,0.9s,baz=99,slow=4.7,SNR=8.4
TLY Talaya 146.97 8 PKPbc **PKPab** **19 20 49.9 -0.3**
comp=Z,51nm,0.9s,baz=319,slow=4.7,SNR=37
TLY Talaya 146.97 8 *e*PKP2 **PKPbc** **19 20 48.5 -0.1**
TLY Talaya 146.97 8 *e*PKPdf **PKPbc** **19 20 49.2 +0.6**
CIT Chita 147.01 357 *e*PKP2 **PKPbc** **19 20 47.8 -0.9**
CIT pmax pmax
comp=Z,122nm,1.6s
KLRI Killari 147.77 86 *e*PKiKP **PKPbc** **19 20 52.4 +0.6**
KLRI *ep*PKiKP **pPKiKP** **19 21 20.4 -1.8**
URV Uravakonda 147.88 92 *e*PKPbc **PKPdf** **19 20 50.4 +1.4**
URV *ep*PKPbc **pPKPbc** **19 21 17.7 -2.8**
NDI New Delhi 148.08 66 *e*P **PKPdf** **19 20 46.0 -3.0**
ZAK Zakamensk 148.19 9 *e*PKIKP **PKPdf** **19 20 49.3 +0.6**
ZAK pmax pmax
comp=Z,27nm,1.3s
SOEI Soe 148.37 206 *e*PKPdf **PKPbc** **19 20 54.6 +1.0**
WMQ Urumqi 148.70 33 PKPbc **PKPdf** **19 20 44.5 -5.2**
WMQ PP **PP** **19 24 22.0 -1.8**
WMQ SS SS 19 43 21.5 -3.5
WMQ LN
comp=Z,130nm,11.2s
WMQ LE
comp=Z,46nm,12.4s
WMQ LZ
comp=Z,86nm,20.4s
HIA Hailar 148.96 348 *e*PKP2 **PKPbc** **19 20 54.3 +0.3**
HIA Hailar 148.96 348 *e*PKPbc **PKPbc** **19 20 54.3 +0.3**
HIA *e*PKPab **PKPab** **19 20 59.2 +0.9**
USRK Ussuriysk Ar. 149.19 329 PKP **PKPdf** **19 20 51.2 +0.9**
comp=Z,66nm,1.0s,baz=17,slow=2.0,SNR=11
USRK PKPbc **PKiKP** **19 20 55.7 -0.1**
comp=Z,60nm,0.9s,baz=40,slow=2.5,SNR=80
USRK pPKPbc **pPKPbc** **19 21 23.9 +0.9**
comp=Z,11nm,0.7s,baz=34,slow=2.3,SNR=3.9
FAKI Fak Fak 149.51 227 *e*PKPdf **PKPdf** **19 20 52.2 +0.4**
FAKI *e*PKPbc **PKiKP** **19 20 57.0 -0.4**
FAKI *ep*PKPdf **pPKPdf** **19 21 24.1 +3.7**
SRSP Sriramsagar 149.51 85 *e*PKPbc **PKPbc** **19 20 54.6 -1.7**
SRSP *ep*PKPbc **pPKPbc** **19 21 23.7 -0.9**
HYBB Hyderabad (bro 149.53 88 *e*PKPbc **PKPbc** **19 20 54.3 -2.1**
HYBB *e*PKiKP **PKiKP** **19 20 56.2 -1.1**
HYBB *ep*PKiKP **pPKiKP** **19 21 25.0 -0.9**
HYB Hyderabad 149.53 88 *i* PKP **PKPbc** **19 20 55.0 -1.3**
RCLA Racherla 149.59 92 *e*PKiKP **PKPbc** **19 20 56.0 -0.5**
SRLM Srisailam 149.65 91 *e*PKPdf **PKPdf** **19 20 51.6 -0.3**
SRLM *e*PKiKP **PKPbc** **19 20 56.1 -0.5**
SRLM *ep*PKiKP **pPKiKP** **19 21 25.2 -0.9**
SKHT Srikalahasti 149.92 95 *e*PKiKP **PKPbc** **19 20 57.0 -0.3**
CBIJ Chichi jima 149.92 291 *e*PKPbc **PKPbc** **19 20 56.6 -0.4**
CBIJ *e*PKPab **PKPab** **19 21 03.4 +0.5**
JCJ Chichijima 149.92 291 PKPbc **PKPbc** **19 20 57.0 0.0**
comp=Z,102nm,1.0s,baz=214,slow=2.5,SNR=7.0
MDJ Mudanjiang 149.98 332 PKPbc **PKPdf** **19 20 51.5 -0.1**
MDJ PP **PP** **19 24 33.0 +2.1**
MDJ SKS **SKSdf** **19 27 46.5 -3.6**
MDJ SS **SS** **19 43 41.5 +2.7**
MDJ PPMZ
comp=Z,91nm,11.5s
MDJ LN
comp=Z,51nm,27.9s
MDJ LE
comp=Z,87nm,20.5s
MDJ LZ
comp=Z,77nm,22.0s
MDJ Mudanjiang 149.98 332 *e*PKPdf **PKPdf** **19 20 51.5 -0.1**
NJS Nagarjunasagar 150.11 90 *e*PKiKP **PKPbc** **19 20 56.9 -0.8**
NJS *e*PKPab **PKPab** **19 21 03.2 -0.8**
NJS *ep*PKiKP **pPKiKP** **19 21 25.9 -1.1**
MJAR Matsushiro Arr 150.15 311 PKP **PKPdf** **19 20 52.5 +0.4**
comp=Z,6.5nm,1.2s,baz=52,slow=0.5,SNR=6.5
MJAR PKPbc **PKPbc** **19 20 57.3 0.0**
comp=Z,24nm,0.9s,baz=115,slow=1.1,SNR=61
MJAR pPKPbc **pPKPbc** **19 21 25.6 0.0**
comp=Z,8.5nm,0.7s,baz=137,slow=0.8,SNR=4.2
MAJO Matsushiro 150.15 311 *e*PKPbc **PKPbc** **19 20 57.4 +0.1**
MAJO *ep*PKPdf **pPKPdf** **19 21 23.7 +3.0**
MMRI Maumere 150.20 204 *e*PKPbc **PKPbc** **19 20 58.1 0.0**
RPR Rampur 150.40 85 *e*PKPbc **PKPbc** **19 20 56.9 -1.4**
RPR *e*PKPab **PKPab** **19 21 02.7 -2.4**
ADKI Addanki 150.62 91 *e*PKiKP **PKPbc** **19 20 58.5 -0.4**
ADKI *ep*PKiKP **pPKiKP** **19 21 27.5 -0.6**
SONM Songino Array 151.07 6 PKP **PKPdf** **19 20 54.5 +1.1**
comp=Z,6.8nm,0.9s,baz=280,slow=0.3,SNR=33
SONM PKPbc **PKiKP** **19 21 00.0 +0.2**
comp=Z,59nm,0.8s,baz=316,slow=1.4,SNR=129
SONM pPKPbc **pPKPbc** **19 21 28.7 +1.0**
comp=Z,12nm,0.7s,baz=320,slow=1.3,SNR=4.3
SIJI Sorong 151.66 228 PKP **PKPdf** **19 20 55.5 +0.3**
comp=Z,5.8nm,0.7s,baz=34,slow=2.0,SNR=6.8
SIJI PKPbc **PKiKP** **19 21 01.8 -0.1**
comp=Z,70nm,0.7s,baz=20,slow=6.7,SNR=62
CN2 Changchun 152.34 336 *e*PKPbc **PKPbc** **19 21 01.0 -1.1**
PVM Polavaram 152.41 89 *e*PKiKP **PKiKP** **19 21 03.1 -0.1**
KOLN Koldanda 153.78 66 *e*P **PKPdf** **19 20 57.8 -0.3**
LEM Lembang 154.13 173 PKP **PKPdf** **19 21 00.4 +1.5**
comp=Z,19nm,0.9s,baz=162,slow=19,SNR=3.2
LEM PKPbc **PKiKP** **19 21 08.3 +1.2**
comp=Z,27nm,0.7s,baz=227,slow=19,SNR=8.5
KAPI Kappang 154.46 202 PKP **PKPdf** **19 20 59.8 +0.6**
comp=Z,4.4nm,0.3s,baz=304,slow=15,SNR=3.6
KAPI PKPbc **PKiKP** **19 21 07.9 +0.3**
comp=Z,6.2nm,0.3s,baz=226,slow=7.5,SNR=4.4
KAPI PKPab **PKPab** **19 21 23.5 +1.5**
comp=Z,89nm,0.9s,baz=187,slow=4.6,SNR=18
KAPI Kappang 154.46 202 *e*PKPdf **PKPdf** **19 20 59.7 +0.6**
KAPI PKP **PKPdf** **19 20 59.8 +0.6**
KAPI PKPbc **PKiKP** **19 21 07.9 +0.3**
KAPI *e*PKPbc **PKPbc** **19 21 08.5 +0.9**
KAPI *e*PKPab **PKPab** **19 21 23.1 +1.0**
KAPI PKPab **PKPab** **19 21 23.5 +1.5**
GKN Gorkha 154.61 65 *e*P **PKPdf** **19 20 59.4 +0.2**
CHLP Challavanipeta 154.86 87 *e*PKiKP **PKPbc** **19 21 07.7 -0.6**
DMN Daman 155.12 65 *e*P **PKPdf** **19 20 59.6 -0.4**
KKN Kakani 155.22 65 *e*P **PKPdf** **19 20 59.9 -0.2**
PKIN Phulchoki 155.37 65 *e*P **PKPdf** **19 20 59.8 -0.6**
PKI Pulchoki 155.39 65 *e*P **PKPdf** **19 21 00.0 -0.5**
GUN Gumba 155.70 64 *e*P **PKPdf** **19 21 01.1 +0.2**
KSRS Korea Array 156.21 324 PKP **PKPdf** **19 21 01.6 +0.9**
comp=Z,3.7nm,1.0s,baz=56,slow=0.9,SNR=13
KSRS PKPbc PKPbc 19 21 11.0
comp=Z,6.4nm,0.9s,baz=0.1,slow=0.9,SNR=13
KSRS PKPab **PKPab** **19 21 29.2 +0.1**
comp=Z,12nm,1.0s,baz=49,slow=4.0,SNR=14
KSRS PP **PP** **19 25 09.3 +2.9**
comp=Z,0.7nm,0.8s,baz=64,slow=5.7,SNR=4.4
KSRS Korea Array 156.21 324 PKIKP **PKPdf** **19 21 01.7 +0.9**
KSRS 19 21 29.2
KSRS 19 25 09.4
KSRS pmax pmax
comp=Z,4.0nm,1.0s
KSRS pmax pmax
comp=Z,12nm,1.0s
KSRS pmax pmax
comp=Z,1.0nm,0.8s
KSAR Wonju Array Be 156.24 324 PKIKP **PKPdf** **19 21 01.7 +0.8**
KSAR 19 21 29.2
KSAR 19 25 09.4
KSAR Wonju Array Be 156.24 324 PKP **PKPdf** **19 21 01.6 +0.8**
KSAR PKPbc PKPbc 19 21 11.0
KSAR PKPab **PKPab** **19 21 29.2 0.0**
KSAR PP **PP** **19 25 09.3 +2.7**
RAMN Ramite 156.57 66 *e*P **PKPdf** **19 21 01.8 -0.2**
ODAN Odare 157.27 66 *e*P **PKPdf** **19 21 02.4 -0.4**
TAPN Taplejung 157.41 64 *e*P **PKPdf** **19 21 02.9 -0.2**
GTA Gaotai 157.66 22 *e*PKP **PKPdf** **19 21 03.5 +0.7**
GTA pPKP **pPKPdf** **19 21 32.0 +0.5**
GTA sPKP 19 21 44.3
GTA PP **PP** **19 25 18.8 +4.6**
GTA SKS **SKSdf** **19 27 58.0 -1.4**
GTA SKKS **SKKSac** **19 31 56.0 +1.5**
GTA SS **SS** **19 45 05.0 +2.6**
GTA LN
comp=Z,230nm,22.3s
GTA LE
comp=Z,300nm,24.3s
GTA LZ
comp=Z,83nm,24.7s
HHC Hu-ho-hao-te 158.25 358 *e*PKP **PKPdf** **19 21 04.5 +1.0**
HHC pPKP **pPKPdf** **19 21 30.8 -1.3**
HHC PP **PP** **19 25 16.3 -0.7**
HHC SKS **SKSdf** **19 28 01.3 +1.4**
HHC SS **SS** **19 45 07.5 -0.5**
HHC LN
comp=Z,120nm,21.1s
HHC LE
comp=Z,81nm,21.6s
HHC LZ
comp=Z,95nm,21.4s
LSA Lhasa 159.37 55 *e*PKIKP **PKPdf** **19 21 06.5 +0.9**
LSA *e* 19 21 35.3
LSA Lhasa 159.37 55 *e*PKPdf **PKPdf** **19 21 06.5 +0.9**
LSA *ep*PKPdf **pPKPdf** **19 21 35.3 +1.0**
TIA Tai'an 161.96 343 PKP **PKPdf** **19 21 08.0 +0.4**
JOW Kunigami 161.99 299 PKPab **PKPab** **19 21 55.4 +0.8**
comp=Z,1.0nm,0.7s,baz=98,slow=7.1,SNR=3.2
LZH Lanzhou 162.00 18 *e*PKP **PKPdf** **19 21 09.0 +1.1**
LZH *e*SKKS 19 32 19.5
LZH *e*SS **SS** **19 45 51.5 +3.5**
LZH PPMZ
comp=Z,97nm,6.3s
KSM Kuching 162.54 179 *e*PKPdf **PKPdf** **19 21 08.5 -0.3**
KSM *e*PKPab **PKPab** **19 21 57.2 +0.2**
XAN Xi'an 164.99 5 PKP **PKPdf** **19 21 11.3 +0.7**
KKM Kota Kinabalu 165.97 204 *e*PKPdf **PKPdf** **19 21 12.3 +0.3**
KKM *e*PKPab **PKPab** **19 22 12.2 0.0**
CD2 Chengdu 166.66 26 PKP **PKPdf** **19 21 10.3 -1.7**
CD2 PP **PP** **19 26 01.0 -1.0**
CD2 SKS **SKSdf** **19 28 07.0 +0.2**
CD2 SKKS **SKKSac** **19 32 40.5 -0.2**
CD2 SS **SS** **19 46 37.8 +1.9**
CD2 PPMZ
comp=Z,180nm,5.6s
CD2 LN
comp=Z,250nm,29.4s
CD2 LZ
comp=Z,230nm,25.5s
WHN Wuhan 168.06 344 PKP **PKPdf** **19 21 14.5 +1.6**
ENH Enshi 168.77 5 *e*PKPdf **PKPdf** **19 21 13.6 +0.1**
ENH *e*PKPab **PKPab** **19 22 23.2 -0.9**
CMAR Chiang Mai Arr 168.93 91 PKP **PKPdf** **19 21 14.2 +0.3**
comp=Z,3.0nm,1.0s,baz=278,slow=1.4,SNR=21
CMAR pPKP **pPKPdf** **19 21 42.9 +0.3**
comp=Z,1.1nm,0.8s,baz=275,slow=2.1,SNR=3.3
CMAR PKPab **PKPab** **19 22 25.6 +0.1**
comp=Z,4.3nm,0.9s,baz=258,slow=6.3,SNR=15
CMAR PP **PP** **19 26 18.5 +3.0**
comp=Z,1.3nm,1.1s,baz=245,slow=7.1,SNR=4.6
CHTO Chiang Mai 168.96 89 *e*PKIKP **PKPdf** **19 21 14.0 +0.1**
CHTO *e* 19 21 42.5
CHTO *e* 19 22 25.4
CHTO Chiang Mai 168.96 89 *e*PKPdf **PKPdf** **19 21 13.9 +0.1**
CHTO *ep*PKPdf **pPKPdf** **19 21 42.5 -0.1**
CHTO *e*PKPab **PKPab** **19 22 25.4 -0.2**
SSLB Suanglung 169.27 298 *e*PKPdf **PKPdf** **19 21 14.0 0.0**
KMI Kunming 170.52 49 PKP **PKPdf** **19 21 14.0 -0.9**
KMI PP **PP** **19 26 21.8 -0.9**
KMI SS SS 19 47 17.0 +0.5
KMI LZ
comp=Z,29nm,20.4s
GYA Guiyang 171.77 26 PKP **PKPdf** **19 21 14.0 -1.4**
GYA PKPab **PKPab** **19 22 38.5 +0.8**
GYA PKS **PKSdf** **19 24 44.5 -3.4**
GYA PP **PP** **19 26 30.5 +2.7**
GYA SKKS 19 33 06.3
GYA SS **SS** **19 47 27.8 +1.0**
GYA PPMZ
comp=Z,190nm,8.0s
GYA LN
comp=Z,260nm,22.9s
GYA LE
comp=Z,190nm,24.5s
GYA LZ
comp=Z,220nm,25.0s
QIZ Qiongzhong 179.28 91 PKP **PKPdf** **19 21 16.8 -0.5**
QIZ PP **PP** **19 27 03.8 -1.8**
QIZ SS SS 19 48 40.0 -1.9

IDC ***26*** *19:22:34.4±3.5, 17°.99S×178°.17W, h561km±38km, mb3.7/16, mb1 3.8/16, mb1mx3.5/29, mbtmp4.6/16, Error ellipse: s-maj=20.4km s-min=16.2km az=126.0*
ISCJB ***26*** *19:22:36.6±0.6, 18°.0S±0°.1×178°.3W±0°.1, h600km, mb4.1/16, Error ellipse: s-maj=21.5km s-min=12.0km az=148.2*

ISC 26 19:22:37.7±0.7, 18°.0S±0°.2×178°.3W±0°.1, h600km, n20, σ0°.93/22, mb3.9/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.88**	**252**	P	**P**	**19 25 45.5**	**+0.6**
	0.3nm,0.3s,baz=90,slow=20,SNR=44						
CTA	**Charters Tower**	**33.52**	**261**	P	**P**	**19 28 29.8**	**+0.4**
	13nm,0.7s,baz=90,slow=9.4,SNR=16						
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**	**19 29 12.3**	**+0.9**
	18nm,0.8s,baz=93,slow=10,SNR=34						
JAY	**Jayapura**	**43.03**	**286**	P	**P**	**19 29 47.1**	**+0.8**
	8.9nm,0.5s,baz=162,slow=4.9,SNR=5.9						
WRA	**Warramunga Arr**	**44.71**	**260**	P	**P**	**19 29 58.4**	**-0.8**
	10.0nm,0.7s,baz=93,slow=7.5,SNR=132						
WRA				PcP	**PcP**	**19 31 27.3**	**-1.0**
	1.9nm,0.9s,baz=88,slow=3.7,SNR=5.1						
ASAR	**Alice Springs**	**44.85**	**254**	P	**P**	**19 30 00.1**	**-0.1**
	45nm,0.8s,baz=87,slow=8.6,SNR=450						
ASAR				PcP	**PcP**	**19 31 28.2**	**-0.5**
	2.0nm,0.7s,baz=106,slow=3.9,SNR=6.3						
ASAR				S	**S**	**19 35 53.2**	**-2.2**
	1.0nm,0.8s,baz=91,slow=15,SNR=8.6						
JCJ	**Chichijima**	**58.99**	**319**	P	**P**	**19 31 41.1**	**0.0**
	18nm,0.7s,baz=183,slow=18,SNR=2.7						
VNDA	**Vanda**	**60.34**	**185**	P	**P**	**19 31 49.9**	**+0.6**
	1.2nm,0.8s,baz=348,slow=7.6,SNR=6.9						
LEM	**Lembang**	**72.81**	**268**	P	**P**	**19 33 07.7**	**+0.4**
	12nm,0.6s,baz=104,slow=5.3,SNR=4.3						
PETK	**Petropavlovsk-**	**73.81**	**345**	P	**P**	**19 33 12.1**	**+0.2**
	3.9nm,0.9s,baz=75,slow=11,SNR=4.1						
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**19 33 43.6**	**+0.4**
	1.8nm,0.7s,baz=222,slow=9.5,SNR=13						
MAW	**Mawson**	**83.79**	**200**	P	**P**	**19 34 03.3**	**-1.2**
	1.8nm,0.8s,baz=120,slow=8.1,SNR=3.3						
TXAR	**Lajitas Array**	**85.97**	**58**	P	**P**	**19 34 17.1**	**+1.1**
	2.1nm,0.7s,baz=220,slow=6.1,SNR=26						
ILAR	**Eielson Array**	**85.97**	**13**	P	**P**	**19 34 13.6**	**-1.4**
	0.7nm,0.5s,baz=226,slow=4.7,SNR=8.4						
PDAR	**Pinedale Array**	**87.37**	**43**	P	**P**	**19 34 22.5**	**+0.1**
	1.2nm,0.7s,baz=239,slow=2.4,SNR=3.9						
CMAR	**Chiang Mai Arr**	**89.01**	**290**	P	**P**	**19 34 31.4**	**+1.1**
	1.3nm,0.9s,baz=109,slow=2.5,SNR=7.9						
YKA	**Yellowknife Ar**	**94.39**	**25**	P	**P**	**19 34 53.0**	**-0.9**
	0.3nm,0.8s,baz=243,slow=6.2,SNR=3.7						
GEYT	**Alibeck**	**127.18**	**304**	PKP	**PKPdf**	**19 40 35.1**	**-0.1**
	1.0nm,0.8s,baz=349,slow=5.9,SNR=3.3						
BRTR	**Keskin Array B**	**144.93**	**315**	PKPbc	PKPbc	19 41 08.1	-0.6
	1.8nm,0.9s,baz=140,slow=3.8,SNR=8.6						
GERES	**GERESS Array B**	**147.75**	**345**	PKPbc	**PKPbc**	**19 41 15.5**	**-0.5**
	0.5nm,0.5s,baz=20,slow=4.3,SNR=7.5						

DJA 26 19:23:11.9±0.8, 4°S±11°×12°8E±°, h172km±8km, M3.8/7, mb4.2/1, MLv3.6/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
MSAI	**Masohi**	**1.31**	**31**	P	P Pn	19 23 43.0	+1.6

MSAI				S	Sn	19 24 05.9	+1.7
BNDI	**Bandanaira**	**1.64**	**92**	P	Pn	19 23 44.8	+0.2
NLAI	**Namlea**	**1.69**	**317**	P	Pn	19 23 46.4	+1.3
SANI	**Sanana**	**3.31**	**317**	P	Pn	19 24 03.5	-0.6
APSI	**Ampana**	**7.50**	**298**	P	Pn	19 24 58.2	-0.4

DJA 26 19:38:13.9±1.2,5°S±8″×10°3E±1″2, h26km±20km, M3.0/5, MLv3.0/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.73**	**357**	P	Pb	19 38 27.9	-0.1
LWLI	**Liwa**	**1.06**	**86**	P	Pn	19 38 32.5	-0.7
MDSI	**Maura Dua**	**1.32**	**63**	P	Pn	19 38 36.4	-0.2
MDSI				S	Sn	19 38 53.6	+0.2
LHSI	**Lahat**	**1.36**	**23**	P	Sb	19 38 57.5	+1.8
KASI	**Kota Agung**	**1.55**	**106**	P	Pn	19 38 39.8	0.0
KLSI		**1.77**	**77**	P	Pn	19 38 42.9	0.0

*ISCJB **26** 19:43:18.1±0.7, 11°.06N±0°.06×62°.12W±0°.04, h54km±13km, Error ellipse: s-maj=9.7km s-min=6.1km az=159.4*
*FUNV **26** 19:43:18.5, 11°.01N×62°.05W, h55km, MW2.4*
*TRN **26** 19:43:20.8, 11°.11N×61°.87W, h29km, MD3.5*

ISC 26 19:43:17.9±1.4, 11°.02N±0°.06×62°.14W±0°.04, h60km±14km, n13, σ1s62/20, 2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.38**	**193**	*eP*	**Pn**	**19 43 29.0**	**+0.3**
GUIV				*eS*	**Sn**	**19 43 36.7**	**+0.1**
TCE	**Chacachacare**	**0.50**	**130**	*eP*	**Pn**	**19 43 29.6**	**-0.3**
TCE				*eS*	**Sn**	**19 43 37.9**	**-0.7**
TRN	**Trinidad (W)**	**0.81**	**117**	*eP*	**Pn**	**19 43 33.1**	**-0.4**
TRN	**Trinidad (W)**	**0.81**	**117**	*e*	Pn	19 43 37.0	+3.4
TRN				*eS*	**Sn**	**19 43 43.3**	**-1.8**
TPP	**Pointe-a-Pierr**	**0.97**	**136**	*eP*	**Pn**	**19 43 37.0**	**+1.4**
TPP				*eS*	**Sn**	**19 43 49.6**	**+0.9**
CRUV	**Carupano**	**1.13**	**252**	⇓*P*	**Pn**	**19 43 38.5**	**+0.8**
CRUV				*eS*	**Sn**	**19 43 53.4**	**+0.9**
GUNV	**Guanoco**	**1.17**	**223**	⇓*P*	**Pn**	**19 43 38.9**	**+0.8**
GUNV				*eS*	**Sn**	**19 43 54.4**	**+1.2**
TBH	**Brigand Hill**	**1.18**	**117**	*eP*	**Pn**	**19 43 40.1**	**+1.7**
GRW	**Mount Saint Ca**	**1.22**	**22**	*eP*	**Pn**	**19 43 39.5**	**+0.5**
TPR	**Prospect**	**1.34**	**83**	*eP*	**Pn**	**19 43 40.6**	**+0.1**
BOT	**Bacolet**	**1.40**	**84**	*eP*	**Pn**	**19 43 40.9**	**-0.4**
SVB	**Belmont**	**2.40**	**21**	*eP*	**Pn**	**19 43 57.3**	**+2.5**
SVB				*eS*	**Sn**	**19 44 21.5**	**-1.6**
BAUV	**El Baul**	**6.17**	**251**	*eP*	**Pn**	**19 44 46.5**	**0.0**
BAUV				*eS*	**Sn**	**19 45 51.4**	**-4.4**

*IDC **26** 19:43:24.9±2.1, 20°.71S×168°.47E, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.6/37, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=77.9km s-min=25.4km az=146.0*
*NOU **26** 19:43:25.8±0.8, 19°.55S×167°.02E, h30km, MD3.5, ML3.7, MS5.2*
*ISCJB **26** 19:43:28.3±1.1, 20°.6S±0°.1×168°.4E±0°.1, h33km, mb3.7/4, Error ellipse: s-maj=21.0km s-min=8.9km az=140.1*

ISC 26 19:43:30.5±1.4, 20°.6S±0°.1×168°.3E±0°.1, h35km, n8, σ1s28/12, mb3.7/4, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**0.99**	**259**	*eP*	**Pn**	**19 43 45.8**	**-2.0**
LIFNC				*eS*	**Sn**	**19 44 01.2**	**+0.7**
LIFNC				AMP		19 44 07.8	
	comp=Z,816μm,14.7s						
DZM	**Mont Dzumac**	**2.25**	**229**	Pn	**Pn**	**19 44 04.8**	**-0.5**
	comp=Z,9.4nm,0.3s,baz=360,slow=5.0,SNR=88						
DZM				Sn	**Sn**	**19 44 32.8**	**+0.8**
	comp=Z,24nm,0.3s,baz=360,slow=19,SNR=5.3						
DZM	**Mont Dzumac**	**2.25**	**229**	*eP*	**Pn**	**19 44 04.3**	**-1.1**
DZM				*eS*	**Sn**	**19 44 32.4**	**+0.4**
DZM				AMP		19 44 43.8	
	comp=Z,794nm,2.0s						
NOUC	**Port Laguerre**	**2.37**	**231**	*eP*	**Pn**	**19 44 05.4**	**-1.5**
NOUC				AMP		19 44 29.8	
	comp=Z,47nm,6.7s						
NOUC				*eS*	**Sn**	**19 44 34.4**	**-0.4**
WRA	**Warramunga Arr**	**31.81**	**265**	P	**P**	**19 49 51.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=95,slow=9.3,SNR=11						
ASAR	**Alice Springs**	**31.94**	**259**	P	**P**	**19 49 54.5**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=84,slow=8.7,SNR=13						
CMAR	**Chiang Mai Arr**	**78.24**	**295**	P	**P**	**19 55 28.9**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=123,slow=3.3,SNR=3.2						
NVAR	**Mina Array Bea**	**90.38**	**49**	P	**P**	**19 56 27.7**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=224,slow=7.6,SNR=5.3						

*IDC **26** 19:54:13.8±1.2, 7°.54N×91°.92E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.5/41, mbtmp3.7/8, ML3.8/2, Error ellipse: s-maj=37.6km s-min=20.4km az=58.0*
*ISCJB **26** 19:54:15.0±0.9, 7°.5N±0°.1×91°.9E±0°.1, h24km, mb3.7/6, Error ellipse: s-maj=17.5km s-min=16.0km az=5.6*

ISC 26 19:54:17.4±1.1, 7°.5N±0°.2×91°.9E±0°.1, h24km, n11, σ0s76/8, mb3.8/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.11**	**270**		**Pn**	**19 56 55.2**	**+0.4**
	2.5nm,0.3s,baz=87,slow=14,SNR=17						
PALK				Sn	Sn	19 58 42.9	-16
	1.8nm,0.3s,baz=178,slow=16,SNR=9.8						
CMAR	**Chiang Mai Arr**	**12.86**	**32**	Pn	**Pn**	**19 57 19.5**	**+0.7**
	0.1nm,0.3s,baz=228,slow=13,SNR=4.8						
H08S3	**Diego Garcia H**	**24.51**	**233**	T	T	20 25 44.1	
	baz=50,slow=74,SNR=3.3						
H08S2	**Diego Garcia H**	**24.52**	**233**	T	T	20 25 46.6	
	baz=50						
H08S1	**Diego Carcia H**	**24.53**	**233**	T	T	20 25 55.1	
	baz=50,slow=74,SNR=3.3						
SONM	**Songino Array**	**42.04**	**15**	P	**P**	**20 02 06.9**	**-0.3**
	1.3nm,0.7s,baz=189,slow=8.5,SNR=10						
KURBB	**Kurchatov Arra**	**44.39**	**348**	P	**P**	**20 02 25.8**	**-0.1**
	1.6nm,0.8s,baz=170,slow=7.3,SNR=20						
ZALV	**Zalesovo Beam**	**46.66**	**354**	P	**P**	**20 02 43.2**	**-0.6**
	0.4nm,0.3s,baz=164,slow=7.7,SNR=4.7						
BVAR	**Borovoye Array**	**48.65**	**343**	P	**P**	**20 02 58.5**	**-0.8**
	0.8nm,0.7s,baz=132,slow=8.8,SNR=6.2						
WRA	**Warramunga Arr**	**49.88**	**124**	P	**P**	**20 03 08.5**	**-0.8**
	0.5nm,0.7s,baz=310,slow=7.9,SNR=4.2						
ASAR	**Alice Springs**	**51.41**	**128**	P	**P**	**20 03 21.5**	**+0.7**
	0.4nm,0.8s,baz=319,slow=9.8,SNR=3.5						

WEL 26 19:56:19.0±0.4, 37°.19S×176°.41E, h209km±3km, ML3.7/10, 5C-1D, Error ellipse: s-maj=5.1km s-min=4.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.20**	**153**	⇑PN	Pn	19 56 51.4	+0.3
URZ				SN	S	19 57 16.0	-0.1
HAZ	**Te Kaha**	**1.23**	**118**	PN	Pn	19 56 51.4	+0.1
HAZ				SN	S	19 57 15.9	-0.3
MWZ	**Matawai**	**1.45**	**143**	PN	Pn	19 56 53.0	-0.1
TWGZ	**Tauwhareparae**	**1.59**	**129**	PN	Pn	19 56 54.6	+0.3
TWGZ				SN	S	19 57 22.4	+0.8
PUZ	**Puketiti**	**1.71**	**122**	⇑PN	Pn	19 56 55.0	-0.4
PUZ				SN	S	19 57 21.8	-1.7
WMGZ	**Waiomatatini S**	**1.71**	**112**	PN	Pn	19 56 55.6	+0.2
SNGZ	**Shannon Statio**	**1.75**	**156**	PN	Pn	19 56 55.7	-0.1
RAHZ	**Arahi**	**1.81**	**163**	PN	Pn	19 56 56.5	+0.2
RIGZ	**Rimuhau**	**1.85**	**145**	PN	Pn	19 56 56.6	-0.2
CNGZ	**Carnagh Statio**	**1.92**	**133**	PN	Pn	19 56 57.2	-0.2
NMHZ	**Naumai**	**1.93**	**171**	⇑PN	Pn	19 56 58.0	+0.4
BKZ	**Black Stump Fm**	**1.98**	**178**	⇑PN	Pn	19 56 57.6	-0.4
KNZ	**Kokohu**	**2.08**	**152**	PN	Pn	19 56 58.0	-1.0
TUVZ	**Tukino**	**2.16**	**196**	PN	Pn	19 57 00.3	+0.3
FWVZ	**Far West T-bar**	**2.17**	**198**	PN	Pn	19 57 00.8	+0.6
WNVZ	**Wahianoa**	**2.23**	**196**	PN	Pn	19 57 00.7	0.0
MCHZ	**McNeill Hill**	**2.26**	**174**	PN	Pn	19 57 00.5	-0.4
BHHZ	**Black Hill Sta**	**2.31**	**187**	⇑PN	Pn	19 57 00.9	-0.6
KRHZ	**Kereru**	**2.45**	**181**	PN	Pn	19 57 01.9	-1.1
PNHZ	**Pukenui**	**2.73**	**183**	PN	Pn	19 57 04.3	-1.7
PXZ	**Pawanui**	**2.86**	**173**	PN	Pn	19 57 05.5	-2.0
TSZ	**Takapari Road**	**2.89**	**187**	⇓PN	Pn	19 57 06.2	-1.6
MRZ	**Mangatainoka R**	**3.53**	**190**	PN	Pn	19 57 12.3	-3.0
MRZ				AML	AML	19 58 02.9	
MRZ				AML	AML	19 58 39.5	
OGWZ	**Otaki Gorge**	**3.75**	**195**	PN	Pn	19 57 15.1	-2.9
HOWZ	**Holdsworth Sta**	**3.77**	**190**	PN	Pn	19 57 15.1	-3.1
KIW	**Kapiti Island**	**3.85**	**197**	PN	Pn	19 57 16.2	-3.0
CAW	**Cannon Point**	**4.05**	**195**	PN	Pn	19 57 18.5	-3.2
TCW	**Tory Channel**	**4.35**	**202**	PN	Pn	19 57 22.0	-3.4
TUWZ	**Tuamarina**	**4.65**	**204**	PN	Pn	19 57 25.9	-3.2
THZ	**Tophouse**	**5.32**	**210**	PN	Pn	19 57 34.4	-3.2

*ISCJB **26** 20:01:28.5±1.3, 19°.01S±0°.07×69°.4W±0°.2, h103km, mb3.7/2, Error ellipse: s-maj=25.4km s-min=10.0km az=7.5*
*IDC **26** 20:01:28.8±3.5, 18°.79S×69°.57W, h91km±30km, mb3.6/4, mb1 3.8/6, mb1mx3.3/32, mbtmp4.1/6, Error ellipse: s-maj=41.6km s-min=27.1km az=125.0*

ISC 26 20:01:29.3±1.2, 19°.1S±0°.1×69°.4W±0°.2, h103km, n15, σ0s92/7, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.99**	**24**	P	Pn	20 02 19.3	+3.7
	2.6nm,0.3s,baz=214,slow=7.1,SNR=94						
LVC	**Limon Verde**	**3.58**	**173**	P	Pn	20 02 26.2	+3.1
	83nm,0.3s,baz=1.4,slow=13,SNR=16						
LVC				S	**Sn**	**20 03 04.2**	**-0.5**
	368nm,0.3s,baz=258,slow=22,SNR=11						
SIV	**San Ignacio**	**8.49**	**70**	P	**Pn**	**20 03 29.4**	**-0.2**
	1.5nm,0.3s,baz=278,slow=9.5,SNR=14						
PTGA	**Pitinga**	**20.41**	**28**	P	**P**	**20 05 57.3**	**-1.1**
	3.1nm,0.3s,baz=18,slow=20,SNR=10						
BDFB	**Brasilia**	**20.68**	**84**	P	Pn	20 06 04.4	-0.2
	1.6nm,0.5s,baz=241,slow=10,SNR=3.3						
TORD	**Torodi Ar. Bea**	**76.97**	**71**	P	**P**	**20 13 12.5**	**+1.3**
	0.5nm,0.4s,baz=253,slow=5.2,SNR=12						
YKA	**Yellowknife Ar**	**88.73**	**341**	P	**P**	**20 14 10.9**	**+0.1**
	0.7nm,0.7s,baz=134,slow=4.9,SNR=6.8						
H11S2	**WAKE ISLAND Hyd**	**27.09**	**279**	T	T	22 39 46.5	
	baz=100,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hyd**	**27.10**	**279**	T	T	22 39 47.1	
	baz=100,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hyd**	**27.11**	**281**	T	T	22 39 47.9	
	baz=100,slow=75,SNR=6.2						
H11S3	**WAKE ISLAND Hyd**	**27.11**	**279**	T	T	22 39 48.0	
	baz=100,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hyd**	**27.12**	**281**	T	T	22 39 54.2	
	baz=100,slow=75,SNR=5.6						
H11N1	**WAKE ISLAND Hyd**	**27.12**	**281**	T	T	22 39 48.0	
	baz=100,slow=75,SNR=5.2						
WRA	**Warramunga Arr**	**134.81**	**212**	PKP	**PKPdf**	**20 20 37.1**	**+0.1**
	0.4nm,0.8s,baz=153,slow=1.8,SNR=4.6						
SONM	**Songino Array**	**151.08**	**6**	PKPbc	**PKPbc**	**20 21 10.0**	**-0.5**
	0.4nm,0.6s,baz=338,slow=1.6,SNR=2.9						

*IDC **26** 20:11:49.7±2.5, 43°.70N×105°.23W, h0km, mb1 3.5/3, mb1mx3.2/31, mbtmp3.3/3, ML2.6/2, Error ellipse: s-maj=62.3km s-min=9.1km az=150.0*
*ISCJB **26** 20:11:52.8±0.2, 44°.02N±0°.01×105°.39W±0°.02, h0km, Error ellipse: s-maj=2.0km s-min=1.9km az=8.6*
*NEIC **26** 20:11:53.1±0.5, 44°.07N×105°.28W, h0km, ML3.0, Error ellipse: s-maj=7.6km s-min=5.6km az=172.0, Suspected Mining explosion.*
NEIC 30 km [20 miles] SE of Gillette.

ISC 26 20:11:52.5±0.7, 44°.01N±0°.02×105°.34W±0°.02, h0km, n101, σ1s08/121, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I24A	**Kuemmerle Ranc**	**0.54**	**106**	P	**Pb**	**20 12 04.2**	**-0.7**
	baz=0.5,SNR=64						
I24A				S	**Sb**	**20 12 12.9**	**-0.4**
	baz=0.5						
H23A	**Clabaugh Cattl**	**0.55**	**356**	P	**Pg**	**20 12 03.6**	**+0.5**
	baz=0.5						
J23A	**Dilts Ranch, B**	**0.62**	**194**	P	**Pb**	**20 12 05.9**	**-0.5**
	baz=0.7,SNR=42						
I22A	**9 Mile Ranch,**	**0.83**	**262**	P	**Pg**	**20 12 08.9**	**+0.5**
	baz=0.9,SNR=115						
I22A				S	**Sg**	**20 12 19.9**	**+0.7**
	baz=0.9						
J24A	**Dixon Ranch, L**	**0.84**	**144**	P	**Pb**	**20 12 10.1**	**0.0**
	baz=0.9						
H22A	**Clearmont**	**0.93**	**309**	P	**Pg**	**20 12 10.7**	**+0.3**
	baz=0.9						
H24A	**Dirks Ranch, A**	**0.93**	**37**	P	**Pg**	**20 12 10.2**	**-0.2**
	baz=0.9,SNR=157						
RSSD	**Black Hills**	**0.95**	**83**	*e*Pg	**Pb**	**20 12 11.2**	**-0.8**
J22A	**Midwest**	**1.02**	**234**	P	**Pg**	**20 12 12.2**	**+0.2**
	baz=1.1,SNR=422						
J22A				S	**Sb**	**20 12 26.5**	**-0.6**
	baz=1.1						
I25A	**Rochford**	**1.16**	**89**	P	**Pb**	**20 12 15.4**	**-0.2**
	baz=1.1,SNR=209						
I25A				S	**Sn**	**20 12 32.7**	**-0.2**
	baz=1.1						
G23A	**Biddle**	**1.19**	**358**	P	**Pg**	**20 12 14.9**	**-0.4**
	baz=1.1,SNR=18						
G23A				S	**Sg**	**20 12 31.5**	**+0.7**
	baz=1.1						
K23A	**Bowen Ranch, D**	**1.27**	**189**	P	**Pn**	**20 12 17.5**	**-0.2**
	baz=1.3,SNR=48						
K23A				S	**Sn**	**20 12 34.9**	**-0.6**
	baz=1.3						
J25A	**Sunshine Ranch**	**1.28**	**118**	P	**Pn**	**20 12 17.9**	**+0.2**
	baz=1.3,SNR=122						
J25A				S	**Sn**	**20 12 36.2**	**+0.6**
	baz=1.3						
K24A	**Anderson Ranch**	**1.34**	**163**	P	**Pn**	**20 12 19.0**	**+0.4**
	baz=1.4,SNR=49						
H21A	**Big Horn, Sher**	**1.37**	**297**	P	**Pn**	**20 12 18.2**	**-0.8**
	baz=1.4,SNR=41						
H21A				S	**Sg**	**20 12 36.4**	**0.0**
	baz=1.4						
G22A	**Birney**	**1.39**	**331**	P	**Pn**	**20 12 18.4**	**-0.8**
	baz=1.4,SNR=88						
G22A				S	**Sg**	**20 12 37.9**	**+0.9**
	baz=1.4						
H25A	**Fruitdale**	**1.39**	**63**	P	**Pb**	**20 12 19.3**	**-0.2**
	baz=1.3,SNR=51						
H25A				S	**Sn**	**20 12 39.9**	**+1.4**
	baz=1.3						
I21A	**Big Trails, Te**	**1.42**	**263**	P	**Pn**	**20 12 18.8**	**-0.9**
	baz=1.5,SNR=119						
I21A				S	**Sg**	**20 12 38.0**	**-0.2**
	baz=1.5						
G24A	**Alzada**	**1.48**	**26**	P	**Pn**	**20 12 20.2**	**-0.2**
	baz=1.4,SNR=19						
G24A				S	**Sn**	**20 12 41.5**	**+1.0**
	baz=1.4						
K22A	**Casper**	**1.61**	**213**	P	**Pb**	**20 12 22.7**	**-0.5**
	baz=1.7,SNR=62						
K22A				S	**Sg**	**20 12 44.2**	**0.0**
	baz=1.7						
K22A	**Casper**	**1.61**	**213**	*e*Pn	**Pb**	**20 12 22.7**	**-0.5**
K22A				*e*Sn	**Sg**	**20 12 44.9**	**+0.7**
J21A	**Lysite**	**1.66**	**247**	P	**Pn**	**20 12 23.1**	**0.0**
	baz=1.7,SNR=35						
J21A				S	**Sn**	**20 12 45.0**	**-0.2**
	baz=1.7						
F23A	**Volborg**	**1.71**	**359**	P	**Pn**	**20 12 23.7**	**+0.1**
	baz=1.7,SNR=217						
F23A				S	**Sn**	**20 12 46.9**	**+0.6**
	baz=1.7						
K25A	**Mack Ranch, Ha**	**1.76**	**142**	P	**Pg**	**20 12 26.1**	**-0.2**
	baz=1.8,SNR=56						
J26A	**Sides Ranch, S**	**1.79**	**112**	P	**Pg**	**20 12 26.4**	**-0.4**
	baz=1.8,SNR=16						
J26A				S	**Sg**	**20 12 50.3**	**+0.4**
	baz=1.8						
I26A	**New Underwood**	**1.79**	**88**	Pb	**Pg**	**20 12 27.2**	**+0.4**
	baz=1.7,SNR=8.7						
G21A	**Lodge Grass**	**1.80**	**313**	P	**Pn**	**20 12 25.1**	**+0.2**
	baz=1.8,SNR=46						
G25A	**Newell**	**1.81**	**49**	P	**Pb**	**20 12 26.3**	**-0.4**
	baz=1.7,SNR=75						
F22A	**Rosebud**	**1.89**	**340**	P	**Pn**	**20 12 25.9**	**-0.2**
	baz=1.8,SNR=34						
F22A				S	**Sn**	**20 12 50.9**	**+0.3**
	baz=1.8						
H26A	**Fairpoint**	**1.94**	**71**	P	**Pb**	**20 12 28.5**	**-0.3**
	baz=1.9,SNR=27						
F24A	**Ekalaka**	**1.94**	**19**	P	**Pn**	**20 12 27.4**	**+0.5**
	baz=1.9,SNR=39						
H20A	**Greybull**	**1.97**	**285**	P	**Pn**	**20 12 26.6**	**-0.6**
	baz=2.0,SNR=28						
I20A	**Worland**	**2.01**	**269**	P	**Pn**	**20 12 27.6**	**-0.2**
	baz=2.1,SNR=34						
K26A	**Motz Farm, Whi**	**2.05**	**129**	P	**Pb**	**20 12 30.3**	**-0.4**
	baz=2.0,SNR=34						
J20A	**Shoshoni**	**2.09**	**253**	Pb	**Pb**	**20 12 30.9**	**-0.5**
	baz=2.1,SNR=38						
L25A	**Engebretsen Ra**	**2.11**	**151**	P	**Pb**	**20 12 31.4**	**-0.3**
	baz=2.1,SNR=69						
F21A	**Absaloka Mine,**	**2.21**	**326**	P	**Pn**	**20 12 30.1**	**-0.4**
	baz=2.2						
F25A	**Bowman**	**2.34**	**34**	P	**Pb**	**20 12 34.2**	**-1.4**
	baz=2.3,SNR=16						
G26A	**Maurine**	**2.34**	**56**	P	**Pn**	**20 12 33.8**	**+1.5**
	baz=2.3,SNR=62						
I27A	**Quinn**	**2.37**	**87**	Pb	**Pg**	**20 12 36.8**	**-1.2**
	baz=2.3,SNR=13						
G20A	**Bridger**	**2.38**	**302**	P	**Pn**	**20 12 32.8**	**-0.1**
	baz=2.4,SNR=75						
E22A	**Miles City**	**2.47**	**350**	P	**Pn**	**20 12 34.0**	**0.0**
	baz=2.4,SNR=12						
E23A	**Ismay**	**2.49**	**1**	P	**Pn**	**20 12 34.6**	**+0.3**
	baz=2.4,SNR=49						
E23A				S	**Sn**	**20 13 06.4**	**+1.0**
	baz=2.4						
K27A	**Flueckinger Fa**	**2.62**	**119**	S	**Sb**	**20 13 10.2**	**-2.8**
	baz=2.6						
I19A	**Meeteetse**	**2.63**	**272**	P	**Pn**	**20 12 37.4**	**+1.0**
	baz=2.7,SNR=19						
F26A	**Lodgepole**	**2.65**	**45**	P	**Pn**	**20 12 38.6**	**+2.1**
	baz=2.6,SNR=17						
F26A				S	**Sb**	**20 13 12.9**	**-0.9**
	baz=2.6						
E24A	**Baker**	**2.65**	**16**	P	**Pn**	**20 12 37.5**	**+0.9**
	baz=2.6,SNR=15						
F20A	**Billings**	**2.68**	**313**	P	**Pn**	**20 12 36.7**	**-0.3**
	baz=2.7,SNR=9.1						
F20A				Sb	**Sb**	**20 13 15.5**	**+0.7**
	baz=2.7						
H19A	**Powell**	**2.69**	**285**	P	**Pn**	**20 12 37.9**	**+0.7**
	baz=2.7,SNR=12						
H19A				Sb	**Sb**	**20 13 15.4**	**0.0**
	baz=2.7						
M25A	**Palm-Egli Farm**	**2.74**	**159**	P	**Pb**	**20 12 40.4**	**-2.1**
	baz=2.8,SNR=5.6						
G27A	**Dupree**	**2.79**	**59**	P	**Pn**	**20 12 39.8**	**+1.3**
	baz=2.7,SNR=5.8						
J19A	**Crowheart**	**2.79**	**256**	P	**Pn**	**20 12 40.8**	**+2.2**
	baz=2.8,SNR=45						
E25A	**Miller Ranch,**	**2.84**	**28**	P	**Pn**	**20 12 41.3**	**+2.1**
	baz=2.8,SNR=11						
RLMT	**Red Lodge**	**3.02**	**293**	P	**Pn**	**20 12 42.4**	**+0.6**
	baz=3.0,SNR=21						
RLMT	**Red Lodge**	**3.02**	**293**	*e*Pn	**Pn**	**20 12 42.4**	**+0.6**
N23A	**Red Feather La**	**3.15**	**188**	P	**Pn**	**20 12 45.7**	**+2.1**
	baz=3.2,SNR=10						
D23A	**Lindsay**	**3.17**	**2**	P	**Pn**	**20 12 44.1**	**+0.5**
	baz=3.1,SNR=32						
E26A	**Carlson Angus**	**3.19**	**39**	P	**Pn**	**20 12 45.5**	**+1.5**
	baz=3.1,SNR=6.3						
D21A	**La Casta Ranch**	**3.27**	**340**	P	**Pn**	**20 12 44.8**	**-0.3**
	baz=3.2						
PDAR	**Pinedale Array**	**3.31**	**249**	Pn	**Pn**	**20 12 47.1**	**+1.3**
	3.2nm,0.3s,baz=67,slow=18,SNR=50						
PDAR				Pg	**Pb**	**20 12 51.3**	**-1.0**
	3.2nm,0.3s,baz=66,slow=20,SNR=64						
PDAR				Lg	Lg	20 13 33.2	
	5.1nm,0.3s,baz=65,slow=35,SNR=13						
BW06	**Boulder Array**	**3.31**	**249**	*e*Pn	**Pn**	**20 12 47.0**	**+1.2**
L28A	**Connealy Angus**	**3.45**	**124**	P	**Pn**	**20 12 49.5**	**+1.9**
	baz=3.4,SNR=5.9						
N26A	**Koester Ranch,**	**3.55**	**153**	P	**Pn**	**20 12 50.8**	**+1.8**
	baz=3.6,SNR=6.6						
GCMT	**Greycliff**	**3.55**	**302**	*e*Pn	**Pn**	**20 12 49.6**	**+0.6**
C24A	**Savage**	**3.58**	**10**	P	**Pn**	**20 12 50.7**	**+1.4**
	baz=3.5,SNR=6.5						
C22A	**Vida**	**3.75**	**354**	P	**Pn**	**20 12 53.1**	**+1.3**
	baz=3.7,SNR=9.0						
N27A	**Anderson Farm,**	**3.82**	**146**	P	**Pn**	**20 12 54.5**	**+1.9**
	baz=3.8,SNR=12						
LOHW	**Long Hollow**	**3.83**	**266**	*e*Pn	**Pn**	**20 12 53.9**	**+1.0**
FLWY	**Flagg Ranch**	**3.86**	**273**	*e*Pn	**Pn**	**20 12 53.5**	**+0.2**
MOOW	**Moose Ponds**	**3.91**	**268**	Pn	Pn	20 12 57.8	+3.7
OGNE	**Ogallala**	**3.92**	**140**	*e*Pn	**Pn**	**20 12 55.8**	**+1.7**
SNOW	**Snow King Moun**	**3.96**	**264**	*e*Pn	Pn	20 12 58.7	+4.0
IMW	**Indian Meadow**	**4.04**	**270**	*e*Pn	**Pn**	**20 12 58.2**	**+2.3**
REDW	**Red Top Meadow**	**4.05**	**263**	*e*Pn	**Pn**	**20 12 58.1**	**+2.2**
TPAW	**Tatoos Pass**	**4.10**	**265**	*e*Pn	**Pn**	**20 12 58.6**	**+2.0**
ISCO	**Idaho Springs**	**4.21**	**183**	*e*Pn	**Pn**	**20 12 58.2**	**-0.1**
O27A	**Beecher Island**	**4.37**	**150**	P	**Pn**	**20 13 02.0**	**+1.8**
	baz=4.4,SNR=9.6						
QLMT	**Earthquake Lak**	**4.44**	**283**	P	**Pn**	**20 13 03.0**	**+1.8**
DGMT	**Dagmar**	**4.53**	**10**	*e*Pn	**Pn**	**20 13 02.9**	**+0.5**
P27A	**Ficken Ranch,**	**4.91**	**154**	P	**Pn**	**20 13 08.8**	**+1.2**
	baz=4.9,SNR=8.3						
EGMT	**Eagleton**	**5.05**	**324**	*e*Pn	**Pn**	**20 13 08.0**	**-1.6**
	15nm,0.6s						
HWUT	**Hardware Ranch**	**5.17**	**244**	*e*Pn	**Pn**	**20 13 11.5**	**+0.2**
	11nm,0.

NW of Cividale
CSEM 26 21:15:02.2±0.1,46°11'N×13°37'E,h10km,ML2.4/14, 24C-21D,Error ellipse: s-maj=2.4km s-min=1.5km az=19.0,Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COLI	**Coloredo**	**0.03**	**16**	⇓*e*Pg	Pg	21 15 04.4	+0.4
COLI				*e*Sg	Sg	21 15 06.0	+0.6
COLI	**Coloredo**	**0.03**	**16**	⇓*e*Pg	Pg	21 15 04.4	+0.3
COLI				*e*Sg	Sg	21 15 06.0	+0.6
BAD	**Bernadia**	**0.15**	**326**	⇓*i*Pg	Pg	21 15 05.7	0.0
BAD				*i* Sg	Sg	21 15 08.3	+0.2
BAD	**Bernadia**	**0.15**	**326**	⇓*i*Pg	Pg	21 15 05.7	0.0
BAD				*i* Sg	Sg	21 15 08.3	+0.1
VINO	**Villanova**	**0.16**	**338**	⇓*i*Pg	Pg	21 15 05.7	-0.1
VINO				*i* Sg	Sg	21 15 08.4	+0.1
VINO	**Villanova**	**0.16**	**338**	Pg	Pg	21 15 05.7	-0.1
VINO				Sg	Sg	21 15 08.4	+0.1
	327nm,0.2s						
VINO	**Villanova**	**0.16**	**338**	⇓*i*Pg	Pg	21 15 05.7	-0.1
VINO				Sg	Sg	21 15 08.4	+0.1
	327nm,0.2s						
ROBS	**Robic**	**0.17**	**36**	⇓*i*Pg	Pg	21 15 05.8	-0.1
ROBS				*i* Sg	Sg	21 15 08.6	+0.1
	comp=Z,170nm,0.1s						
ROBS	**Robic**	**0.17**	**36**	⇓*i*Pg	Pg	21 15 05.8	-0.1
ROBS				*i* Sg	Sg	21 15 08.6	+0.2
	comp=Z,170nm,0.1s						
BUA	**Buia**	**0.20**	**303**	⇓*e*Pg	Pg	21 15 06.8	+0.3
BUA				*e*Sg	Sg	21 15 10.4	+1.0
BUA	**Buia**	**0.20**	**303**	⇓*e*Pg	Pg	21 15 06.8	+0.3
BUA				*e*Sg	Sg	21 15 10.4	+1.0
DRE	**Drenchia**	**0.20**	**71**	⇑*e*Pg	Pg	21 15 06.7	+0.1
DRE				*e*Sg	Sg	21 15 10.2	+0.6
DRE	**Drenchia**	**0.20**	**71**	⇑*e*Pg	Pg	21 15 06.7	+0.1
DRE				*e*Sg	Sg	21 15 10.2	+0.7
SABO	**M.te Sabotino**	**0.21**	**128**	⇑*i*Pg	Pg	21 15 07.2	+0.7
SABO				*i* Sg	Sg	21 15 11.2	+1.7
SABO	**M.te Sabotino**	**0.21**	**128**	Pg	Pg	21 15 07.2	+0.6
SABO				Sg	Sg	21 15 11.3	+1.7
	comp=Z,223nm,0.3s						
SABO	**M.te Sabotino**	**0.21**	**128**	⇑*i*Pg	Pg	21 15 07.2	+0.6
SABO				*i* Sg	Sg	21 15 11.2	+1.6
TLI	**Talmassons**	**0.26**	**225**	⇑*e*Pg	Pg	21 15 08.1	+0.6
TLI	**Talmassons**	**0.26**	**225**	⇑*e*Pg	Pg	21 15 08.1	+0.6
BOO	**Bordano**	**0.28**	**319**	⇓*i*Pg	Pg	21 15 07.6	-0.3
BOO				*i* Sg	Sg	21 15 11.9	+0.1
BOO	**Bordano**	**0.28**	**319**	⇓*i*Pg	Pg	21 15 07.6	-0.4
BOO				*i* Sg	Sg	21 15 11.9	+0.1
CADS	**Cadrg**	**0.28**	**65**	*i* Pg	Pg	21 15 07.8	-0.2
CADS				*i* Sg	Sg	21 15 12.4	+0.5
	comp=Z,23nm,0.1s						
CADS	**Cadrg**	**0.28**	**65**	*i* Pg	Pg	21 15 07.8	-0.2
CADS				*i* Sg	Sg	21 15 12.4	+0.5
	comp=Z,23nm,0.1s						
VOJS	**Vojsko**	**0.37**	**102**	⇑*i*Pg	Pg	21 15 09.4	-0.2
VOJS				*i* Sg	Sg	21 15 15.5	+0.8
	comp=Z,19nm,0.1s						
VOJS	**Vojsko**	**0.37**	**102**	⇑*i*Pg	Pg	21 15 09.4	-0.2
VOJS				*i* Sg	Sg	21 15 15.5	+0.9
	comp=Z,19nm,0.1s						
FUSE	**Fusea**	**0.40**	**320**	⇑*e*Pg	Pg	21 15 09.5	-0.6
FUSE	**Fusea**	**0.40**	**320**	⇑*e*Pg	Pg	21 15 09.5	-0.6
ACOM	**Acomizza, Ital**	**0.45**	**13**	⇓*e*Pg	Pg	21 15 10.6	-0.8
ACOM				*e*Sg	Sg	21 15 17.6	+0.1
ACOM	**Acomizza, Ital**	**0.45**	**13**	Pg	Pg	21 15 10.7	-0.6
ACOM				Sg	Sg	21 15 17.9	+0.4
	comp=Z,52nm,0.2s						
ACOM	**Acomizza, Ital**	**0.45**	**13**	Pg	Pg	21 15 10.7	-0.6
ACOM				*e*Sg	Sg	21 15 17.6	+0.1
PLRO	**Paularo**	**0.47**	**341**	*e*Pg	Pg	21 15 11.0	-0.6
PLRO				*e*Sg	Sg	21 15 18.1	+0.1
PLRO	**Paularo**	**0.47**	**341**	*e*Pg	Pg	21 15 11.0	-0.6
PLRO				*e*Sg	Sg	21 15 18.0	+0.1
STAL	**STALIGIAL**	**0.48**	**289**	Pg	Pg	21 15 11.5	-0.2
STAL				Sg	Sb	21 15 20.0	0.0
	comp=Z,58nm,0.2s						
STAL	**STALIGIAL**	**0.48**	**289**	Pg	Pg	21 15 11.5	-0.2
STAL				Sg	Sb	21 15 20.0	0.0
	comp=Z,58nm,0.2s						
GORS	**Gorjuse**	**0.48**	**64**	*i* Pg	Pg	21 15 11.4	-0.4
	comp=Z,8.0nm,0.1s						
GORS	**Gorjuse**	**0.48**	**64**	*i* Pg	Pg	21 15 11.4	-0.4
	comp=Z,8.0nm,0.1s						
TRI	**Trieste**	**0.49**	**145**	⇓*e*Pg	Pg	21 15 11.4	-0.3
TRI				*e*Sg	Sg	21 15 19.1	+1.0
TRI	**Trieste**	**0.49**	**145**	Pg	Pg	21 15 11.4	-0.3
TRI				Sg	Sb	21 15 19.1	-0.9
	comp=Z,41nm,0.1s						
TRI	**Trieste**	**0.49**	**145**	⇓*e*Pg	Pg	21 15 11.4	-0.3
TRI				Sg	Sb	21 15 19.1	-0.9
	comp=Z,41nm,0.1s						
ZOU	**Zoufplan**	**0.53**	**329**	⇑*e*Pg	Pg	21 15 12.1	-0.7
MLNI	**Malnisio**	**0.53**	**275**	*e*Pg	Pg	21 15 12.6	0.0
MLNI	**Malnisio**	**0.53**	**275**	*e*Pg	Pg	21 15 12.6	0.0
JAVS	**Javornik**	**0.53**	**114**	*i* Pg	Pg	21 15 12.3	-0.4
JAVS				*i* Sg	Sb	21 15 20.7	-0.9
	comp=Z,11nm,0.1s						
JAVS	**Javornik**	**0.53**	**114**	*i* Pg	Pg	21 15 12.3	-0.4
JAVS				*i* Sg	Sg	21 15 20.7	+0.9
	comp=Z,11nm,0.1s						
MYKA	**Terra Mystica**	**0.56**	**20**	⇑*e*Pg	Pg	21 15 12.7	-0.4
	comp=Z,1.9nm,0.1s,SNR=10						
MYKA				⇑*i*Sg	Sg	21 15 20.8	+0.2
	comp=Z,6.5nm,0.2s						
MYKA	**Terra Mystica**	**0.56**	**20**	Pg	Pg	21 15 12.7	-0.4
	comp=Z,1.9nm,0.1s,SNR=10						
MYKA				Sg	Sg	21 15 20.8	+0.2
	comp=Z,6.5nm,0.2s						
CRNS	**Crni Vrh**	**0.62**	**92**	*i* Pg	Pg	21 15 13.8	-0.6
CRNS				*i* Sg	Sb	21 15 24.2	+0.1
	comp=Z,8.0nm,0.1s						
FVI	**Forni Avoltri**	**0.64**	**320**	Pg	Pg	21 15 14.3	-0.4
	comp=Z,15nm,0.4s						
FVI	**Forni Avoltri**	**0.64**	**320**	Pg	Pg	21 15 14.3	-0.4
	comp=Z,15nm,0.4s						
CAE	**Caneva**	**0.66**	**261**	*e*Pg	Pb	21 15 16.1	+0.2
CAE	**Caneva**	**0.66**	**261**	*e*Pg	Pb	21 15 16.1	+0.2
CIMO	**Cimolais**	**0.68**	**288**	*e*Pg	Pg	21 15 15.4	0.0
CIMO	**Cimolais**	**0.68**	**288**	*e*Pg	Pg	21 15 15.4	0.0
SKDS	**Skadanscina**	**0.72**	**141**	*i* Pg	Pg	21 15 15.2	-1.0
SKDS	**Skadanscina**	**0.72**	**141**	*i* Pg	Pg	21 15 15.2	-1.0
CEY	**Cerknica**	**0.83**	**116**	*i* Pg	Pg	21 15 17.4	-0.8
CEY	**Cerknica**	**0.83**	**116**	*i* Pg	Pg	21 15 17.4	-0.8
ABTA	**Abfaltersbach**	**0.87**	**318**	⇑*e*Pg	Pb	21 15 19.5	-0.1
	comp=Z,1.0nm,0.1s,SNR=6.0						
ABTA				⇑*e*Sg	Sb	21 15 31.1	-0.3
	comp=Z,3.0nm,0.1s,SNR=6.1						
ABTA	**Abfaltersbach**	**0.87**	**318**	Pg	Pb	21 15 19.5	-0.1
	comp=Z,1.0nm,0.1s,SNR=6.0						
ABTA				Sg	Sb	21 15 31.1	-0.3
	comp=Z,3.0nm,0.1s,SNR=6.1						
OBKA	**Obir**	**0.91**	**63**	⇓*i*Pg	Pg	21 15 20.0	+0.1
	comp=Z,0.8nm,0.1s						
OBKA				⇑*e*Sg	Sn	21 15 33.7	-0.8
	comp=Z,7.3nm,0.3s,SNR=6.3						
OBKA	**Obir**	**0.91**	**63**	Pg	Pg	21 15 20.0	+0.1
	comp=Z,0.8nm,0.1s						
OBKA				Sg	Sn	21 15 33.7	-0.8
	comp=Z,7.3nm,0.3s,SNR=6.3						
KBA	**Koelnbreinsper**	**0.97**	**359**	⇓*e*Pg	Pb	21 15 21.5	+0.1
	comp=Z,1.5nm,0.1s,SNR=7.5						
KBA				⇑*e*Sg	Sg	21 15 34.1	+0.1
	comp=Z,6.8nm,0.3s						
KBA	**Koelnbreinsper**	**0.97**	**359**	Pg	Pb	21 15 21.5	+0.1
	comp=Z,1.5nm,0.1s,SNR=7.5						
KBA				Sg	Sg	21 15 34.1	+0.1
	comp=Z,6.8nm,0.3s						
VISS	**Visnje**	**1.07**	**106**	*e*Pg	Pg	21 15 22.4	-0.5
VISS				*i* Sg	Sn	21 15 38.1	-0.1
	comp=Z,5.0nm,0.1s						
VISS	**Visnje**	**1.07**	**106**	*e*Pg	Pg	21 15 22.4	-0.4
VISS				*i* Sg	Sn	21 15 38.2	0.0
	comp=Z,5.0nm,0.1s						
CGRP	**Cima Grappa**	**1.12**	**259**	*e*Pg	Pg	21 15 24.0	+0.1
CGRP				*e*Sg	Sn	21 15 40.2	+0.5
CGRP	**Cima Grappa**	**1.12**	**259**	*e*Pg	Pg	21 15 24.0	+0.1
CGRP				*e*Sg	Sn	21 15 40.2	+0.4
PDKS	**Podkum**	**1.14**	**92**	*i* Pg	Pb	21 15 23.5	-0.5
	comp=Z,6.0nm,0.1s						
PDKS	**Podkum**	**1.14**	**92**	*i* Pg	Pb	21 15 23.5	-0.5
	comp=Z,6.0nm,0.1s						
GBRS	**Gornja Briga**	**1.16**	**119**	*i* Pg	Pg	21 15 25.5	+0.9
SOKA	**Soboth**	**1.28**	**63**	⇓*e*Pg	Pg	21 15 26.9	-0.2
	comp=Z,0.3nm,0.1s						
SOKA				⇑*e*Sg	Sg	21 15 44.3	+0.5
	comp=Z,0.8nm,0.1s						
SOKA	**Soboth**	**1.28**	**63**	Pg	Pg	21 15 26.9	-0.1
	comp=Z,0.3nm,0.1s						
SOKA				Sg	Sg	21 15 44.3	+0.5
	comp=Z,0.8nm,0.1s						
KOSI	**Kohlern**	**1.43**	**285**	⇑*e*Pg	Pg	21 15 30.0	+0.2
KOSI				*e*Sg	Sg	21 15 50.1	+1.6
PANI	**Panarotta**	**1.44**	**268**	*e*Pg	Pb	21 15 29.1	-0.2
PANI	**Panarotta**	**1.44**	**268**	*e*Pg	Pb	21 15 29.1	-0.2
BOJS	**Bojanci**	**1.45**	**114**	⇓*i*Pg	Pg	21 15 29.7	-0.3
BOJS	**Bojanci**	**1.45**	**114**	⇓*i*Pg	Pg	21 15 29.7	-0.3
DDS	**Dosso del Somm**	**1.54**	**262**	⇑*e*Pg	Pb	21 15 30.7	-0.3
DDS	**Dosso del Somm**	**1.54**	**262**	⇑*e*Pg	Pb	21 15 30.7	-0.3
ABSI	**Aberstueckl**	**1.55**	**294**	⇑*e*Pg	Pb	21 15 31.6	+0.4
ABSI				*e*Sg	Sg	21 15 53.0	+0.6
MARN	**Marana (Italy)**	**1.58**	**253**	*e*Pg	Pb	21 15 31.0	-0.6
MARN	**Marana (Italy)**	**1.58**	**253**	*e*Pg	Pb	21 15 31.0	-0.6
WTTA	**Wattenberg**	**1.66**	**315**	⇓*e*Pg	Pg	21 15 34.2	-0.2
	comp=Z,2.2nm,0.2s,SNR=8.0						
WTTA				⇑*e*Sg	Sg	21 15 56.5	+0.4
	comp=Z,14nm,0.4s,SNR=7.5						
WTTA	**Wattenberg**	**1.66**	**315**	Pg	Pg	21 15 34.2	-0.1
	comp=Z,2.2nm,0.2s,SNR=8.0						
WTTA				Sg	Sg	21 15 56.5	+0.4
	comp=Z,14nm,0.4s,SNR=7.5						
NVLJ	**Novalja**	**1.87**	**145**	*e*Pn	Pn	21 15 34.8	+0.5
NVLJ					Sn	21 16 00.6	+0.7
NVLJ	**Novalja**	**1.87**	**145**	*e*Pn	Pn	21 15 34.7	+0.4
NVLJ					Sn	21 16 00.5	+0.6
MOTA	**Moosalm**	**1.99**	**309**	⇑*i*Pn	Pb	21 15 38.0	-0.7
	comp=Z,0.6nm,0.2s						
MOTA	**Moosalm**	**1.99**	**309**	Pn	Pb	21 15 38.0	-0.7
	comp=Z,0.6nm,0.2s						

*ISCJB **26** 21:33:24.8±0.7,21°.66S±0°.07×67°.80W±0°.10,h121km, mb3.7/2, Error ellipse: s-maj=14.4km s-min=7.0km az=30.4*
*IDC **26** 21:33:26.5±1.0,21°.68S×67°.98W,h127km±13km,mb3.5/2, mb1 3.5/4,mb1mx3.2/27,mbtmp3.7/4, Error ellipse: s-maj=35.6km s-min=18.8km az=117.0*
ISC 26 21:33:25.8±0.9,21°.65S±0°.07×67°.9W±0°.1,h121km,n7, σ1s35/10,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.37**	**225**	P	**Pn**	**21 33 52.8**	**+0.8**
	717nm,0.3s,baz=53,slow=6.7,SNR=89						
LVC				S	**Sn**	**21 34 11.5**	**-0.4**
	902nm,0.3s,baz=223,slow=18,SNR=7.4						
LPAZ	**La Paz**	**5.34**	**357**	P	**Pn**	**21 34 45.2**	**+1.2**
	0.7nm,0.3s,baz=174,slow=4.5,SNR=19						
LPAZ				S	**Sn**	**21 35 43.5**	**-1.2**
	baz=255,slow=17,SNR=2.0						
SIV	**San Ignacio**	**8.54**	**50**	P	**Pn**	**21 35 28.2**	**+1.5**
	0.8nm,0.3s,baz=236,slow=12,SNR=8.5						
SIV				S	**Sn**	**21 37 00.0**	**-1.4**
	0.2nm,0.3s,baz=300,slow=20,SNR=4.8						
CFAA	**Coronel Fontan**	**9.92**	**182**	P	**Pn**	**21 35 43.7**	**-1.5**
	0.1nm,0.3s,baz=354,slow=9.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**76.49**	**70**	P	**P**	**21 45 04.0**	**+1.1**
	0.4nm,0.4s,baz=254,slow=5.3,SNR=12						
YKA	**Yellowknife Ar**	**91.66**	**340**	P	**P**	**21 46 17.8**	**-1.0**
	0.4nm,0.4s,baz=135,slow=4.5,SNR=8.2						
WRA	**Warramunga Arr**	**133.31**	**209**	PKP	**PKPdf**	**21 52 28.8**	**+0.4**
	0.4nm,1.0s,baz=136,slow=2.2,SNR=3.2						

*IDC **26** 21:34:54.9±0.6,12°.89N×144°.48E,h0km,mb3.8/10, mb1 4.1/10,mb1mx3.8/37,mbtmp3.8/10,MS3.0/6, Ms1 3.0/6,ms1mx2.8/28,Error ellipse: s-maj=24.0km s-min=12.2km az=108.0*
*ISCJB **26** 21:34:59.7±0.6,12°.90N±0°.07×144°.5E±0°.1,h54km, mb3.8/12,MS2.9/6,Error ellipse: s-maj=17.8km s-min=7.7km az=20.3*
*NEIC **26** 21:34:59.8±0.4,12°.91N×144°.45E,h35km,mb4.1/3,Error ellipse: s-maj=15.0km s-min=8.8km az=98.0*
NEIC Felt at Hagatna Heights, Yigo and Yona.
ISC 26 21:35:01.4±0.6,12°.95N±0°.08×144°.6E±0°.1,h54km,n31, σ0s94/26,mb3.8/12,MS3.0/6,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.70**	**23**	Pn	**Pn**	**21 35 14.2**	**-1.1**
	1μm,0.3s,baz=51,slow=1.5,SNR=1380						
GUMO				Sn	**Sn**	**21 35 25.7**	**+0.3**
	2μm,0.3s,baz=30,slow=20,SNR=63						
GUMO	**Guam**	**0.70**	**23**	*e*Pn	**Pn**	**21 35 14.2**	**-1.1**
GUMO				*e*Sb	**Sn**	**21 35 24.2**	**-1.2**
SIJI	**Sorong**	**19.05**	**225**	P	**Pn**	**21 39 20.4**	**-0.3**
	0.2nm,0.3s,baz=66,slow=20,SNR=1.9						
H11S3	**WAKE ISLAND Hy**	**21.97**	**73**	T	T	22 02 49.7	
	baz=258,slow=75,SNR=432						
H11S1	**WAKE ISLAND Hy**	**21.99**	**73**	T	T	22 02 46.5	
	baz=258,slow=75,SNR=164						
H11S2	**WAKE ISLAND Hy**	**21.99**	**73**	T	T	22 02 47.8	
	baz=258,slow=75,SNR=127						
H11N1	**WAKE ISLAND Hy**	**22.43**	**70**	T	T	22 03 25.7	
	baz=255,slow=75,SNR=650						
H11N2	**WAKE ISLAND Hy**	**22.43**	**70**	T	T	22 03 19.9	
	baz=255,slow=75,SNR=443						
H11N3	**WAKE ISLAND Hy**	**22.44**	**70**	T	T	22 03 20.6	
	baz=255,slow=75,SNR=637						
JNU	**Nakatsue**	**23.67**	**330**	LR	LR	21 48 59.2	
	comp=Z,42nm,18.7s,baz=248,slow=36						
MJAR	**Matsushiro Arr**	**24.18**	**347**	P	**P**	**21 40 13.2**	**+0.4**
	1.6nm,0.7s,baz=168,slow=8.3,SNR=8.4						
MJAR				LR	LR	21 47 06.5	
	comp=Z,14nm,21.6s,baz=210,slow=30						
KSRS	**Korea Array**	**28.59**	**332**	P	**P**	**21 40 53.2**	**+0.7**
	0.6nm,0.8s,baz=140,slow=10.0,SNR=2.9						
KSAR	**Wonju Array Be**	**28.60**	**331**	P	**P**	**21 40 53.2**	**+0.7**
WRAB	**Tennant Creek**	**34.19**	**197**	*e*P	**P**	**21 41 41.5**	**-0.4**
	2.8nm,0.6s						
WRA	**Warramunga Arr**	**34.20**	**197**	P	**P**	**21 41 41.2**	**-0.8**
	3.2nm,0.8s,baz=22,slow=9.8,SNR=25						
WRA				PcP	**PcP**	**21 44 19.3**	**+1.3**
	0.4nm,0.6s,baz=9.1,slow=3.4,SNR=4.6						
ASAR	**Alice Springs**	**37.86**	**196**	P	**P**	**21 42 12.8**	**-0.4**
	1.4nm,0.8s,baz=16,slow=11,SNR=15						
ASAR				PcP	**PcP**	**21 44 30.1**	**+1.2**
	0.6nm,0.7s,baz=14,slow=4.1,SNR=4.4						
PETK	**Petropavlovsk-**	**41.41**	**12**	LR	LR	21 56 13.2	
	comp=Z,22nm,21.9s,baz=133,slow=31						
CMAR	**Chiang Mai Arr**	**44.19**	**283**	P	**P**	**21 43 05.1**	**-0.4**
	0.6nm,0.6s,baz=82,slow=6.5,SNR=7.7						
CMAR				LR	LR	22 01 40.7	
	comp=Z,22nm,19.2s,baz=105,slow=36						
STKA	**Stephens Creek**	**44.66**	**184**	P	**P**	**21 43 08.0**	**-1.0**
	2.8nm,0.8s,baz=359,slow=7.4,SNR=5.4						
STKA	**Stephens Creek**	**44.66**	**184**	*e*P	**P**	**21 43 07.9**	**-1.0**
	0.3nm,0.5s						
SONM	**Songino Array**	**47.10**	**325**	P	**P**	**21 43 28.8**	**+0.7**
	0.3nm,0.4s,baz=134,slow=4.2,SNR=4.1						
SONM				LR	LR	22 02 36.0	
	comp=Z,21nm,20.2s,baz=234,slow=35						
MK31	**Makanchi Array**	**61.76**	**316**	*e*P	**P**	**21 45 14.6**	**+0.1**
ZALV	**Zalesovo Beam**	**61.98**	**325**	LR	LR	22 12 05.7	
	comp=Z,14nm,19.7s,baz=70,slow=36						
KURK	**Kurchatov**	**64.89**	**320**	*e*P	**P**	**21 45 33.4**	**-1.7**
	1.6nm,0.7s						
ILAR	**Eielson Array**	**69.26**	**25**	P	**P**	**21 46 02.2**	**-0.4**
	0.5nm,0.4s,baz=243,slow=5.9,SNR=6.5						
YKA	**Yellowknife Ar**	**83.55**	**27**	P	**P**	**21 47 24.1**	**+0.6**
	0.5nm,0.4s,baz=286,slow=5.1,SNR=4.8						
NVAR	**Mina Array Bea**	**87.54**	**51**	P	**P**	**21 47 45.9**	**+1.7**
	0.7nm,0.8s,baz=289,slow=4.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**134.99**	**304**	PKP	**PKPdf**	**21 54 16.3**	**+0.7**
	0.2nm,0.5s,baz=39,slow=2.6,SNR=4.4						
CFAA	**Coronel Fontan**	**144.60**	**127**	PKP	**PKPdf**	**21 54 33.1**	**+0.4**
	0.6nm,0.8s,baz=248,slow=4.0,SNR=8.4						
LVC	**Limon Verde**	**146.76**	**112**	PKPbc	**PKPab**	**21 54 40.8**	**+0.9**
	15nm,0.7s,baz=225,slow=5.7,SNR=4.1						
LPAZ	**La Paz**	**148.19**	**100**	PKPbc	**PKPab**	**21 54 45.4**	**-0.8**
	2.4nm,0.6s,baz=278,slow=2.8,SNR=13						

*ISCJB **26** 21:43:24.3±0.3,34°.32N±0°.02×24°.64E±0°.02,h46km±3km, mb4.1/30,MS2.7/1,Error ellipse: s-maj=3.8km s-min=2.4km az=34.2*
*HLW **26** 21:43:24.1,34°.76N×24°.48E,h32km±19km,Md3.8,Ml4.6*
*DDA **26** 21:43:24.6,34°.59N×24°.55E,h27km,MD3.8*
*BJI **26** 21:43:25.9,33°.46N×25°.42E,h56km,mb4.4/3,mB4.8/3*
*CSEM **26** 21:43:26.1±0.1,34°.34N×24°.63E,h45km±2km,MD4.0, Error ellipse: s-maj=4.2km s-min=2.2km az=43.0*
*ATH **26** 21:43:26.7,34°.51N×24°.49E,h59km±1km,MD4.0/43, ML3.6*
*MOS **26** 21:43:27.5±1.3,34°.51N×24°.63E,h70km,mb4.3/14,Error ellipse: s-maj=10.5km s-min=5.5km az=83.5*
*THE **26** 21:43:28.7,34°.58N×24°.57E,h63km±2km,ML3.6/5,Error ellipse: s-maj=2.1km s-min=0.7km az=184.0*
*IDC **26** 21:43:28.2±1.3,34°.55N×24°.58E,h61km±8km,mb3.9/18, mb1 3.9/24,mb1mx3.8/46,mbtmp4.1/24,MS2.6/2, Ms1 2.6/2,ms1mx2.2/39,Error ellipse: s-maj=17.9km s-min=11.2km az=159.0*
*NIC **26** 21:43:33.7,35°.04N×25°.37E,h39km,mb4.7,ML4.2*
ISC 26 21:43:27.1±0.4,34°.45N±0°.03×24°.62E±0°.02,h51km±3km, n446,σ1s18/456,mb4.2/32,15C-9D,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.59**	**15**	P	**Pn**	**21 43 39.4**	**-0.1**
SIVA				S	**Sn**	**21 43 49.8**	**+1.3**
SIVA	**Sivas**	**0.59**	**15**	*e*P	**Pn**	**21 43 39.6**	**+0.1**
SIVA				*e*S	**Sn**	**21 43 49.5**	**+1.0**
SIVA	**Sivas**	**0.59**	**15**	P	**Pn**	**21 43 39.4**	**-0.1**
SIVA				*e*S	**Sn**	**21 43 49.5**	**+1.0**
GVD	**Gavdhos**	**0.59**	**312**	P	**Pn**	**21 43 39.8**	**+0.3**
GVD				S	**Sn**	**21 43 48.9**	**+0.4**
GVD	**Gavdhos**	**0.59**	**312**	*e*P	**Pn**	**21 43 39.8**	**+0.3**
GVD				*e*S	**Sn**	**21 43 47.2**	**-1.3**
GVD	**Gavdhos**	**0.59**	**312**	*e*P	**Pn**	**21 43 39.8**	**+0.3**
GVD				*e*S	**Sn**	**21 43 47.2**	**-1.3**
IDI	**Anoyia**	**0.86**	**15**	P	**Pn**	**21 43 43.8**	**+0.6**
	71nm,0.3s,baz=198,slow=13,SNR=305						
IDI				S	**Sn**	**21 43 56.4**	**+1.5**
	269nm,0.3s,baz=311,slow=20,SNR=34						
LAST	**Lasithi**	**1.00**	**45**	P	**Pn**	**21 43 45.7**	**+0.7**
LAST				S	**Sn**	**21 43 59.0**	**+0.9**
LAST	**Lasithi**	**1.00**	**45**	*e*P	**Pn**	**21 43 46.1**	**+1.1**
LAST				*e*S	**Sn**	**21 44 00.3**	**+2.2**
LAST	**Lasithi**	**1.00**	**45**	*e*P	**Pn**	**21 43 46.1**	**+1.1**
LAST				*e*S	**Sn**	**21 44 00.3**	**+2.2**
VAM	**Vamos**	**1.02**	**340**	*e*P	**Pn**	**21 43 45.1**	**0.0**
VAM				*e*S	**Sn**	**21 43 58.1**	**-0.3**
VAM	**Vamos**	**1.02**	**340**	*e*P	**Pn**	**21 43 45.1**	**0.0**
VAM				*e*S	**Sn**	**21 43 58.1**	**-0.3**
NPS	**Neapolis**	**1.15**	**45**	P	**Pn**	**21 43 48.4**	**+1.5**
NPS				S	**Sn**	**21 44 02.3**	**+0.7**
NPS	**Neapolis**	**1.15**	**45**	*e*P	**Pn**	**21 43 48.4**	**+1.5**
NPS				*e*S	**Sn**	**21 44 03.0**	**+1.4**
NPS	**Neapolis**	**1.15**	**45**	*e*P	**Pn**	**21 43 48.4**	**+1.5**
NPS				*e*S	**Sn**	**21 44 03.0**	**+1.4**
ZKR	**Zakros**	**1.47**	**63**	P	**Pn**	**21 43 52.5**	**+1.3**
ZKR				S	**Sn**	**21 44 10.8**	**+1.4**
ZKR	**Zakros**	**1.47**	**63**	*e*P	**Pn**	**21 43 52.6**	**+1.3**
ZKR				*e*S	**Sn**	**21 44 12.6**	**+3.2**
ZKR	**Zakros**	**1.47**	**63**	*e*P	**Pn**	**21 43 52.6**	**+1.3**
ZKR				*e*S	**Sn**	**21 44 12.6**	**+3.2**
THR6	**Thira Island,**	**2.00**	**18**	P	**Pn**	**21 43 58.6**	**0.0**
THR6	**Thira Island,**	**2.00**	**18**	P	**Pn**	**21 43 58.6**	**0.0**
SANT	**Santorini**	**2.04**	**19**	P	**Pn**	**21 43 58.8**	**-0.2**
SANT	**Santorini**	**2.04**	**19**	*e*P	**Pn**	**21 43 58.9**	**-0.1**
SANT	**Santorini**	**2.04**	**19**	*e*P	**Pn**	**21 43 58.9**	**-0.1**
THR5	**Thira Island,**	**2.05**	**17**	*e*PN	**Pn**	**21 43 59.8**	**+0.6**
THR5	**

TURN Turunc 4.04 52 *i* P Pn 21 44 23.0 -3.5
TURN *i* S Sn 21 45 03.4 -9.2
TURN Turunc 4.04 52 *i* P Pn 21 44 23.0 -3.5
DALY Dalyan (Mu˙la 4.04 53 *e*PN **Pn** **21 44 27.8 +1.3**
DALY Dalyan (Mu˙la 4.04 53 *e*Pn **Pn** **21 44 27.8 +1.3**
CHOS Chios island 4.10 16 *e*PN **Pn** **21 44 27.3 0.0**
CHOS Chios island 4.10 16 *e*P **Pn** **21 44 27.9 +0.6**
CHOS Chios island 4.10 16 *e*Pn **Pn** **21 44 27.3 0.0**
CHOS Chios island 4.10 16 *e*P **Pn** **21 44 27.9 +0.6**
KLV Kalavryta, Ach 4.11 332 *e*P **Pn** **21 44 27.3 -0.1**
KLV Kalavryta, Ach 4.11 332 *e*P **Pn** **21 44 27.3 -0.1**
AYDN Tasoluk 4.15 39 *i* P **Pn** **21 44 29.0 +1.0**
AYDN *i* S **Sn** **21 45 14.0 -1.3**
AYDN Tasoluk 4.15 39 *i* P **Pn** **21 44 29.0 +1.0**
AYDN *i* S **Sn** **21 45 14.0 -1.3**
DRO Drossia 4.21 327 *e*P **Pn** **21 44 29.2 +0.3**
DRO Drossia 4.21 327 *e*P **Pn** **21 44 29.2 +0.3**
URLA Izmir 4.21 22 *i* P **Pn** **21 44 28.5 -0.4**
URLA *i* S **Sn** **21 45 13.3 -3.6**
URLA Izmir 4.21 22 *i* P **Pn** **21 44 28.5 -0.4**
DSF Desfina 4.30 337 *e*P **Pn** **21 44 30.2 +0.1**
DSF Desfina 4.30 337 *e*P **Pn** **21 44 30.2 +0.1**
MRKA Markates 4.33 349 *e*P **Pn** **21 44 30.5 +0.1**
MRKA Markates 4.33 349 *e*P **Pn** **21 44 30.5 +0.1**
AYDB Zeytinkoy-Aydi 4.38 36 *e*PN **Pn** **21 44 32.5 +1.3**
AYDB Zeytinkoy-Aydi 4.38 36 *e*Pn **Pn** **21 44 32.5 +1.3**
LKR Lokris 4.39 343 *e*P **Pn** **21 44 31.3 0.0**
LKR Lokris 4.39 343 *e*P **Pn** **21 44 31.3 0.0**
RLS Riolos of Patr 4.41 326 *e*P **Pn** **21 44 32.1 +0.6**
RLS Riolos of Patr 4.41 326 *e*P **Pn** **21 44 32.1 +0.6**
KALE Kalithea 4.41 334 *e*P **Pn** **21 44 31.3 -0.3**
KALE Kalithea 4.41 334 *e*P **Pn** **21 44 31.3 -0.3**
AKAS Kas 4.45 65 *i* P **Pn** **21 44 31.9 -0.2**
AKAS *i* S **Sn** **21 45 18.2 -4.4**
AKAS Kas 4.45 65 *i* P **Pn** **21 44 31.9 -0.2**
IZM Izmir 4.48 28 *e*PN **Pn** **21 44 33.6 +1.1**
IZM Izmir 4.48 28 *e*Pn **Pn** **21 44 33.6 +1.1**
EFP Efpalio 4.53 332 *e*P **Pn** **21 44 33.3 +0.1**
EFP Efpalio 4.53 332 *e*P **Pn** **21 44 33.3 +0.1**
SMIA Simia 4.56 346 *e*P **Pn** **21 44 34.6 +0.9**
SMIA Simia 4.56 346 *e*P **Pn** **21 44 34.6 +0.9**
AXAR Agios Charalam 4.59 340 *e*P **Pn** **21 44 35.2 +1.2**
AXAR Agios Charalam 4.59 340 *e*P **Pn** **21 44 35.2 +1.2**
KFL Anninata 4.79 321 *e*P **Pn** **21 44 37.5 +0.8**
KFL Anninata 4.79 321 *e*P **Pn** **21 44 37.5 +0.8**
SIGR SIGRI 4.86 11 *e*PN **Pn** **21 44 39.6 +2.0**
SIGR SIGRI 4.86 11 *e*Pn **Pn** **21 44 39.6 +2.0**
ELL Elmali 4.88 60 *e*PN **Pn** **21 44 38.9 +0.8**
ELL Elmali 4.88 60 *e*Pn **Pn** **21 44 38.9 +0.8**
GOLH Golhisar 4.88 54 *i* P **Pn** **21 44 39.0 +0.9**
GOLH *i* S **Sn** **21 45 31.2 -2.1**
GOLH Golhisar 4.88 54 *i* P **Pn** **21 44 39.0 +0.9**
GOLH *i* S **Sn** **21 45 31.2 -2.1**
AGG Agios Georgios 4.92 339 *e*PN **Pn** **21 44 40.7 +2.1**
AGG Agios Georgios 4.92 339 *e*P **Pn** **21 44 39.2 +0.6**
AGG Agios Georgios 4.92 339 *e*P **Pn** **21 44 39.2 +0.6**
AGG Agios Georgios 4.92 339 *e*Pn **Pn** **21 44 40.7 +2.1**
VLS Valsamata 4.94 320 *e*P **Pn** **21 44 39.7 +0.9**
VLS Valsamata 4.94 320 *e*P **Pn** **21 44 39.7 +0.9**
NEO Neokhori 4.98 347 *e*P **Pn** **21 44 39.9 +0.6**
NEO Neokhori 4.98 347 *e*P **Pn** **21 44 39.9 +0.6**
PDO Prodromos 4.98 327 *e*P **Pn** **21 44 40.3 +1.0**
PDO Prodromos 4.98 327 *e*P **Pn** **21 44 40.3 +1.0**
AKHS Akhisar 5.11 29 *i* P **Pn** **21 44 42.1 +1.0**
AKHS Akhisar 5.11 29 *i* P **Pn** **21 44 42.1 +1.0**
AKS Akhisar 5.11 29 *e*PN **Pn** **21 44 42.3 +1.2**
AKS Akhisar 5.11 29 *e*Pn **Pn** **21 44 42.3 +1.2**
MANT Manisa 5.13 37 *i* P **Pn** **21 44 42.9 +1.3**
MANT *i* S **Sn** **21 45 36.2 -3.4**
MANT Manisa 5.13 37 *i* P **Pn** **21 44 42.9 +1.3**
MANT *i* S **Sn** **21 45 36.2 -3.4**
KULA Kula-Manisa 5.20 38 *e*PN **Pn** **21 44 43.9 +1.5**
KULA Kula-Manisa 5.20 38 *e*Pn **Pn** **21 44 43.9 +1.5**
SWA2 5.24 172 P **Pn** **21 44 42.2 -0.7**
baz=171
SWA2 5.24 172 P **Pn** **21 44 42.2 -0.7**
KORT Korkueli 5.31 60 *i* P **Pn** **21 44 44.6 +0.6**
KORT *i* S **Sn** **21 45 40.5 -3.4**
KORT Korkueli 5.31 60 *i* P **Pn** **21 44 44.6 +0.6**
DSL Palaion Diasel 5.46 330 *e*P **Pn** **21 44 46.2 +0.2**
DSL Palaion Diasel 5.46 330 *e*P **Pn** **21 44 46.2 +0.2**
ANTB Antalya 5.48 62 *e*PN **Pn** **21 44 48.2 +2.0**
THL Klokotos Trika 5.51 339 *e*P **Pn** **21 44 47.3 +0.6**
THL Klokotos Trika 5.51 339 *e*P **Pn** **21 44 47.3 +0.6**
KHL Karahalli 5.53 44 *e*PN **Pn** **21 44 47.6 +0.7**
KHAL Karahalli 5.54 44 *i* P **Pn** **21 44 47.8 +0.6**
KHAL *i* S Sn 21 45 43.3 -6.3
KHAL Karahalli 5.54 44 *i* P **Pn** **21 44 47.8 +0.6**
DEMI Demirci 5.64 34 *i* P **Pn** **21 44 49.4 +0.9**
DEMI Demirci 5.64 34 *i* P **Pn** **21 44 49.4 +0.9**
BCK Bucak 5.70 56 *e*PN **Pn** **21 44 50.4 +1.1**
BALY Balya 5.80 24 *i* P **Pn** **21 44 51.4 +0.8**
BALY Balya 5.80 24 *i* P **Pn** **21 44 51.4 +0.8**
ISP Isparta 5.84 53 *e*PN **Pn** **21 44 51.8 +0.5**
HBRG Burj al 'Arab 5.86 130 P **Pn** **21 44 50.3 -1.1**
baz=131
HBRG AMP 21 45 00.0
comp=E,940µm,0.3s,logA/T=6.5,baz=131
LIT Litokhoron 5.89 344 *e*P **Pn** **21 44 52.7 +0.8**
LIT Litokhoron 5.89 344 *e*P **Pn** **21 44 52.7 +0.8**
SUTC Sutluce-Ispart 5.99 58 *e*PN **Pn** **21 44 54.4 +1.1**
DURS Dursunbey 5.99 30 *i* P **Pn** **21 44 54.1 +0.8**
DURS Dursunbey 5.99 30 *i* P **Pn** **21 44 54.1 +0.8**
GDZ Gediz 6.05 39 *i* P **Pn** **21 44 55.2 +1.0**
GDZ *i* S **Sn** **21 45 56.8 -5.4**
GDZ Gediz 6.05 39 *i* P **Pn** **21 44 55.2 +1.0**
GELI Tayfur-Gelibol 6.12 13 *e*PN **Pn** **21 44 55.7 +0.8**
IGT Igoumenitsa 6.12 327 *e*PN **Pn** **21 44 56.6 +1.6**
IGT Igoumenitsa 6.12 327 *e*P **Pn** **21 44 55.0 0.0**
IGT Igoumenitsa 6.12 327 *e*P **Pn** **21 44 55.0 0.0**
SGD Sagiada 6.23 327 *e*P **Pn** **21 44 55.2 -1.3**
SGD Sagiada 6.23 327 *e*P **Pn** **21 44 55.2 -1.3**
HORT Hortiatis 6.26 349 *e*PN **Pn** **21 44 58.0 +1.1**
HORT Hortiatis 6.26 349 *e*P **Pn** **21 44 57.4 +0.5**
HORT Hortiatis 6.26 349 *e*P **Pn** **21 44 57.4 +0.5**
TVSB Tavsanli 6.32 36 *e*PN **Pn** **21 44 58.9 +1.1**
ALT Altintas 6.37 42 *e*PN **Pn** **21 44 58.9 +0.5**
AKMC Akamas 6.37 83 P Pn 21 44 55.9 -2.6
baz=272
AKMC Akamas 6.37 83 P Pn 21 44 55.9 -2.6
PPCY Paphos 6.38 84 ⇓P Pn 21 44 56.0 -2.5
baz=273
PPCY Paphos 6.38 84 ⇓P Pn 21 44 56.0 -2.5
ALFC Alevga 6.60 82 P **Pn** **21 44 59.1 -2.5**
baz=270
ALFC S Sn 21 46 06.1 -9.4
ALFC Alevga 6.60 82 P **Pn** **21 44 59.1 -2.5**
GRG Griva 6.73 345 *e*PN **Pn** **21 45 05.3 +1.9**
GRG Griva 6.73 345 *e*P **Pn** **21 45 04.3 +0.9**
GRG Griva 6.73 345 *e*P **Pn** **21 45 04.3 +0.9**
SZAC Souni-Zanaja 6.82 85 P Pn 21 45 02.1 -2.5
baz=274
SZAC S Sn 21 46 13.1 -7.8
SZAC Souni-Zanaja 6.82 85 P Pn 21 45 02.1 -2.5
FNA Florina 6.83 339 *e*PN **Pn** **21 45 05.2 +0.5**
FNA Florina 6.83 339 *e*P **Pn** **21 45 04.2 -0.5**
FNA Florina 6.83 339 *e*P **Pn** **21 45 04.2 -0.5**
LEF Lefka 6.84 82 *e*PN **Pn** **21 45 06.7 +1.9**
KNT Kendrikon 6.84 349 *e*PN **Pn** **21 45 06.7 +1.9**
KNT Kendrikon 6.84 349 *e*P **Pn** **21 45 05.6 +0.8**
KNT Kendrikon 6.84 349 *e*P **Pn** **21 45 05.6 +0.8**
AKDN Akdeniz- K˘–br 6.91 81 *e*PN **Pn** **21 45 08.0 +2.2**
ARMT Artmutlu 6.97 28 *e*PN **Pn** **21 45 06.9 +0.3**
HNAT Natroun 7.00 132 P **Pn** **21 45 05.6 -1.4**
baz=132
HNAT Natroun 7.00 132 P **Pn** **21 45 05.6 -1.4**
HMYD Mayadein 7.00 130 P **Pn** **21 45 05.6 -1.4**
baz=131
HMYD Mayadein 7.00 130 P **Pn** **21 45 05.6 -1.4**
MAMC Mammari 7.11 82 P **Pn** **21 45 06.3 -2.2**
baz=271
MAMC Mammari 7.11 82 P **Pn** **21 45 06.3 -2.2**
KONT Konya--Tatoy 7.16 59 *e*PN **Pn** **21 45 09.4 +0.2**
MMB Musomiste 7.16 355 ⇑*i*P **Pn** **21 45 08.8 -0.5**
CSS Prodhromos 7.19 83 P Pn 21 45 07.1 -2.6
baz=272
CSS S Sn 21 46 21.2 -8.8
CSS Prodhromos 7.19 83 *e*PN **Pn** **21 45 12.0 +2.3**
CSS Prodhromos 7.19 83 P Pn 21 45 07.1 -2.6
SQR 7.20 127 P Pn 21 45 07.8 -1.9
baz=128
SQR 7.20 127 P **Pn** 21 45 07.8 -1.9
KDZ Kurdzhali 7.22 5 ⇑*i*P **Pn** **21 45 09.0 -1.0**
FYM Al Fayyum 7.22 129 P **Pn** **21 45 08.8 -1.3**
baz=130
FYM Al Fayyum 7.22 129 P **Pn** **21 45 08.8 -1.3**
LADK Ladik-KONYA 7.28 57 *e*PN **Pn** **21 45 11.6 +0.6**
AYT Al 'Ayyat 7.29 129 P **Pn** **21 45 09.3 -1.7**
baz=129
AYT Al 'Ayyat 7.29 129 P **Pn** **21 45 09.3 -1.7**
KIZT Kizilcal 7.32 51 *e*PN **Pn** **21 45 11.7 +0.2**
LFK Lefkose 7.37 81 *e*PN **Pn** **21 45 14.3 +2.2**
CTKS Kestanelik-??a 7.44 23 *e*PN **Pn** **21 45 13.4 +0.4**
SVRH Sivrihisar-ESK 7.44 46 *e*PN **Pn** **21 45 13.5 +0.3**
GULT Gulveren 7.59 36 *e*PN **Pn** **21 45 15.6 +0.4**
KOT Kottamia 7.59 124 P Pn 21 45 13.2 -2.0
baz=125
KOT S Sn 21 46 30.6 -9.3
baz=125
KOT Kottamia 7.59 124 P Pn 21 45 13.2 -2.0
HSAF As Saff 7.60 127 P **Pn** **21 45 13.5 -1.9**
baz=128
HSAF As Saff 7.60 127 P **Pn** **21 45 13.5 -1.9**
GLL Jalalah 7.73 127 P **Pn** **21 45 15.6 -1.5**
baz=128
GLL Jalalah 7.73 127 P **Pn** **21 45 15.6 -1.5**
HHAG Hagoal 7.76 123 P **Pn** **21 45 15.8 -1.7**
baz=124
HHAG S Sn 21 46 34.4 -10
baz=124
HHAG Hagoal 7.76 123 P **Pn** **21 45 15.8 -1.7**
EREN Erenkoy 7.91 79 *e*PN **Pn** **21 45 20.2 +0.7**
HFRF Wahat Farafira 7.94 155 P **Pn** **21 45 18.4 -1.5**
baz=155
HFRF S Sn 21 46 39.8 -8.5
baz=155
HFRF Wahat Farafira 7.94 155 P **Pn** **21 45 18.4 -1.5**
MDUB Mudurnu 7.96 39 *e*PN **Pn** **21 45 20.6 +0.3**
SULT Sultanhani-AKS 8.09 60 *e*PN **Pn** **21 45 22.2 +0.1**
SUZ 8.34 121 P **Pn** **21 45 23.6 -1.8**
baz=122
SUZ 8.34 121 P **Pn** **21 45 23.6 -1.8**
AFSR Af˘ar-Bala (A 8.40 51 *e*PN **Pn** **21 45 26.4 +0.1**
ANTO Ankara 8.47 48 ⇓*i*P **Pn** **21 45 27.8 +0.5**
ZNM 8.65 124 P Pn 21 45 27.7 -1.9
baz=124
ZNM 8.65 124 P Pn 21 45 27.7 -1.9
KAMT Kaman 8.78 53 *e*PN **Pn** **21 45 31.6 0.0**
NIG Nigde 8.85 63 *e*PN **Pn** **21 45 32.9 +0.2**
BRTR Keskin Array B 8.92 51 P **Pn** **21 45 32.8 -0.7**
comp=E,0.7nm,0.3s,baz=223,slow=14,SNR=24
BRTR S **Sn** **21 47 08.6 -4.0**
comp=E,0.5nm,0.3s,baz=212,slow=26,SNR=5.8
BRTR Keskin Array B 8.92 51 *i* P **Pn** **21 45 33.2 -0.3**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BRTR Keskin Array B 8.92 51 *i* P **Pn** **21 45 33.2 -0.3**
comp=Z,3.0nm,0.6s
KARA Karaisali 8.92 69 *e*PN **Pn** **21 45 34.1 +0.7**
KRTS Karatas 9.02 73 *e*PN **Pn** **21 45 35.6 +0.9**
MMAI Mount Meron Ar 9.09 96 P Pn 21 45 32.2 -3.6
comp=Z,5.6nm,0.3s,baz=286,slow=12,SNR=27
MMAI S Sn 21 47 09.2 -7.5
comp=Z,38nm,0.3s,baz=264,slow=26,SNR=18
MMAI LR LR 21 50 58.3
comp=Z,22nm,20.7s,baz=240,slow=49
DQRL Deir Qamar 9.11 92 *e*P Pn 21 45 33.2 -2.9
DQRL Deir Qamar 9.11 92 *e*P Pn 21 45 33.2 -2.9
HNKL Nakhl 9.12 117 P Pn 21 45 33.2 -2.9
baz=118
HNKL S Sn 21 47 05.5 -12
baz=118
HNKL Nakhl 9.12 117 P Pn 21 45 33.2 -2.9
RCY Rachaya 9.36 93 *e*P Pn 21 45 36.1 -3.4
HWQ Hawqa 9.37 88 *e*P Pn 21 45 36.8 -2.8
HWQ Hawqa 9.37 88 *e*P Pn 21 45 36.8 -2.8
CEYT Ceyhan 9.40 71 *e*PN **Pn** **21 45 40.9 +1.0**
KOZT Kozan 9.57 68 *e*PN **Pn** **21 45 42.6 +0.3**
TAHT Tahtakopru-Hat 9.63 75 *e*PN **Pn** **21 45 44.1 +1.0**
HDK1 Dakhla 9.79 154 P Pn 21 45 43.2 -2.2
baz=153
HDK1 S Sn 21 47 21.9 -12
baz=153
HDK1 Dakhla 9.79 154 P Pn 21 45 43.2 -2.2
HKAT Jabal Katrina 9.94 124 P Pn 21 45 44.2 -3.3
baz=124
HKAT Jabal Katrina 9.94 124 P Pn 21 45 44.2 -3.3
EIL Elat 9.97 116 P Pn 21 45 45.4 -2.4
comp=Z,2.9nm,0.3s,baz=267,slow=2.7,SNR=43
EIL S Sn 21 47 23.8 -14
comp=Z,2.7nm,0.3s,baz=353,slow=16,SNR=4.6
STON Ston 10.00 329 *e*Pn Pn 21 45 43.6 -4.4
STON Sn Sn 21 47 23.9 -15
HBST Basata 10.06 118 P Pn 21 45 45.8 -3.1
baz=119
HBST S Sn 21 47 26.5 -14
baz=119
HBST Basata 10.06 118 P Pn 21 45 45.8 -3.1
HDHB Dhahab 10.26 121 P Pn 21 45 48.9 -2.7
baz=122
HDHB Dhahab 10.26 121 P Pn 21 45 48.9 -2.7
AKRG Al Kharijah 10.27 149 P Pn 21 45 49.3 -2.5
baz=149
DIVS Divibare 10.28 341 ⇑*i*P **Pn** **21 45 49.8 -2.2**
KMRS Kahramanmaras 10.41 69 *e*PN **Pn** **21 45 54.1 +0.4**
SHRM 10.44 126 P Pn 21 45 51.4 -2.8
baz=127
SHRM 10.44 126 P Pn 21 45 51.4 -2.8
ASF Jabal al Asfar 10.52 99 P Pn 21 45 52.2 -3.2
comp=Z,1.0nm,0.3s,baz=220,slow=1.9,SNR=10
ASF S Sn 21 47 43.1 -8.7
comp=Z,2.7nm,0.3s,baz=127,slow=20,SNR=6.1
LOT Lotru 11.01 357 ⇑*i*P **Pn** **21 46 00.3 -1.6**
DARE Darende-Malaty 11.14 65 *e*PN **Pn** **21 46 03.2 -0.5**
HSFG 11.22 132 P Pn 21 46 02.1 -2.8
baz=132
HSFG 11.22 132 P Pn 21 46 02.1 -2.8
DOPR Dopca 11.52 3 ⇑*i*P Pn 21 46 00.0 -8.9
MALT Malatya 11.78 67 ⇑*i*P **Pn** **21 46 11.6 -0.9**
UDBI Udbina 12.16 328 *e*Pn Pn 21 46 14.0 -3.7
UDBI Sn Sn 21 48 20.0 -12
KEST Kesra 12.58 280 P **Pn** **21 46 22.7 -0.8**
comp=Z,0.1nm,0.3s,baz=100,slow=18,SNR=5.9
KEST S Sn 21 48 34.4 -7.7
comp=Z,0.1nm,0.3s,baz=261,slow=22,SNR=8.9
NVLJ Novalja 12.59 326 *e*Pn **Pn** **21 46 20.4 -2.9**
NVLJ Sn Sn 21 48 28.8 -13
PKSM Moragy 12.60 341 ⇓*i*P Pn 21 46 20.3 -3.2
BURAR Bucovina Array 13.16 2 ⇑*i*P **Pn** **21 46 30.4 -0.9**
ANN Anapa 14.28 40 *e*P P 21 47 02.9 +11
ANN pmax pmax
comp=Z,35nm,1.2s
KOLS Kolonicke sedl 14.58 354 *e*P **Pn** **21 46 49.0 -1.3**
KOLS Kolonicke sedl 14.58 354 *e*P **Pn** **21 46 49.0 -1.3**
ABTA Abfaltersbach 15.32 327 ⇑*i*P **P** **21 47 05.2 +1.3**
comp=Z,5.5nm,0.7s
ABTA Abfaltersbach 15.32 327 P **P** **21 47 05.2 +1.3**
comp=Z,5.5nm,0.7s
MOA Molln 15.47 333 ⇓*i*P **P** **21 47 05.8 +0.3**
comp=Z,3.0nm,0.5s
MOA Molln 15.47 333 P **P** **21 47 05.8 +0.3**
comp=Z,3.0nm,0.5s
FETA Feichten 16.36 324 ⇑*i*P **P** **21 47 17.3 +1.8**
comp=Z,4.9nm,0.7s
FETA Feichten 16.36 324 P **P** **21 47 17.3 +1.8**
comp=Z,4.9nm,0.7s
GEC2 GERESS Array S 16.51 334 *e*P **P** **21 47 18.1 +1.0**
comp=Z,5.0nm,0.8s
GEC2 GERESS Array S 16.51 334 *e*P **P** **21 47 18.1 +1.0**
comp=Z,5.0nm,0.8s
GERES GERESS Array B 16.51 334 P **Pn** **21 47 14.4 -0.8**
comp=Z,0.4nm,0.3s,baz=144,slow=12,SNR=24
GERES ScP **ScP** **21 55 33.6 -0.5**
comp=Z,0.1nm,0.3s,baz=177,slow=2.0,SNR=5.5
KIEV Kiev 16.58 10 *i*P **P** **21 47 16.5 -1.2**
KIEV Kiev 16.58 10 *i*P **P** **21 47 16.5 -1.2**
AKASG Malin Array Be 16.59 10 P **Pn** **21 47 14.6 -1.4**
comp=Z,9.7nm,0.3s,baz=200,slow=10,SNR=34
AKASG Malin Array Be 16.59 10 P **Pn** **21 47 14.6 -1.4**
AKASG pmax pmax
comp=Z,10.0nm,0.3s
NEY Neytrino 16.59 53 ⇑*e*P **P** **21 47 17.9 -0.2**
NEY pmax pmax
comp=Z,6.0nm,0.9s
NEY Neytrino 16.59 53 *e*P **P** **21 47 17.9 -0.2**
comp=Z,6.0nm,0.9s
DAVOX Davos/Dischmat 16.61 322 P **P** **21 47 17.2 -1.1**
comp=Z,0.2nm,0.3s,baz=171,slow=14,SNR=8.0
RETA Reutte 16.67 326 ⇓*i*P **P** **21 47 20.0 +1.1**
comp=Z,3.7nm,0.5s
RETA Reutte 16.67 326 P **P** **21 47 20.0 +1.1**
comp=Z,3.7nm,0.5s
KHC Kasperske Hory 16.80 334 *e*P **P** **21 47 21.0 +0.8**
KHC Kasperske Hory 16.80 334 *e*P **P** **21 47 21.0 +0.8**
KHC Kasperske Hory 16.80 334 *e*P **P** **21 47 21.0 +0.8**
KIV Kislovodsk 16.89 50 P **P** **21 47 23.0 +1.7**
KIV pmax pmax
comp=Z,8.0nm,0.7s
KIV MLR MLR
comp=Z,17nm,16.0s
KIV Kislovodsk 16.89 50 P **P** **21 47 23.0 +1.7**
comp=Z,17nm,16.0s
KBZ Khabaz 16.92 51 P **P** **21 47 20.8 -0.7**
comp=Z,0.6nm,0.3s,baz=223,slow=9.0,SNR=13
KBZ Khabaz 16.92 51 P **P** **21 47 20.8 -0.7**
KBZ pmax pmax
comp=Z,1.0nm,0.3s
DAVA Damuels 16.95 324 ⇑*e*P **P** **21 47 23.5 +1.4**
comp=Z,2.6nm,0.4s
DAVA Damuels 16.95 324 P **P** **21 47 23.5 +1.4**
comp=Z,2.6nm,0.4s
GNI Garni 16.98 65 LR LR 21 54 53.8
comp=Z,29nm,18.0s,baz=270,slow=40
DPC Dobruska-Polom 17.01 342 *e*P **P** **21 47 23.4 +0.8**
DPC Dobruska-Polom 17.01 342 *e*P **P** **21 47 23.4 +0.8**
DPC Dobruska-Polom 17.01 342 *e*P **P** **21 47 23.4 +0.8**
GOPC GO Pecny, Ondr 17.06 338 *e*P **P** **21 47 23.3 +0.2**
GOPC GO Pecny, Ondr 17.06 338 P **P** **21 47 23.3 +0.2**
WET Wettzell 17.06 333 *e*P **P** **21 47 23.9 +0.8**
comp=Z,6.0nm,1.0s
WET Wettzell 17.06 333 *e*P **P** **21 47 23.9 +0.8**
comp=Z,6.0nm,1.0s
PRU Pruhonice 17.20 338 *e*P **P** **21 47 24.2 -0.4**
PRU Pruhonice 17.20 338 *e*P **P** **21 47 24.2 -0.4**
PRU Pruhonice 17.20 338 *e*P **P** **21 47 24.2 -0.4**
NCK Nalchik 17.27 53 ⇑*i*P **P** **21 47 26.3 +0.8**
NCK Nalchik 17.27 53 *i*P **P** **21 47 26.3 +0.8**
GOF Gofitskoye 17.65 48 *e*P **Pn** **21 47 28.5 -0.7**
GOF Gofitskoye 17.65 48 *e*P **Pn** **21 47 28.5 -0.7**
PVCC Panska Ves 17.67 338 *e*P **P** **21 47 30.2 +0.4**
PVCC Panska Ves 17.67 338 *e*P **P** **21 47 30.2 +0.4**
PVCC Panska Ves 17.67 338 *e*P **P** **21 47 30.2 +0.4**
MANZ Manzenberg 18.04 333 *e*P **Pn** **21 47 34.4 +0.4**
comp=Z,3.0nm,0.9s
MANZ Manzenberg 18.04 333 *e*P **Pn** **21 47 34.4 +0.4**
comp=Z,3.0nm,0.9s
BRG Berggiesshubel 18.16 338 *e*P **Pn** **21 47 35.5 0.0**
comp=Z,2.0nm,0.8s
BRG Berggiesshubel 18.16 338 *e*P **Pn** **21 47 35.5 0.0**
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG Berggiesshubel 18.16 338 *e*P **Pn** **21 47 35.5 0.0**
comp=Z,2.0nm,0.8s
WERN Wernitzgruen 18.19 334 *e*P **Pn** **21 47 37.8 +2.0**
comp=Z,3.0nm,0.7s
WERN Wernitzgruen 18.19 334 *e*P **Pn** **21 47 37.8 +2.0**
comp=Z,3.0nm,0.7s
TANN Tannenbergstha 18.27 335 *e*P **Pn** **21 47 38.4 +1.6**
comp=Z,2.0nm,0.8s
TANN Tannenbergstha 18.27 335 *e*P **Pn** **21 47 38.4 +1.6**
comp=Z,2.0nm,0.8s
BFO Black Forest 18.43 324 *e*P **Pn** **21 47 40.5 +1.7**
comp=Z,4.0nm,0.6s
BFO Black Forest 18.43 324 *e*P **Pn** **21 47 40.8 +2.0**
BFO Black Forest 18.43 324 *e*P **Pn** **21 47 40.5 +1.7**
comp=Z,4.0nm,0.6s
MOX Moxa 18.76 334 *e*P **Pn** **21 47 42.4 -0.3**
comp=Z,2.0nm,0.6s
MOX Moxa 18.76 334 *e*P **Pn** **21 47 42.4 -0.3**
comp=Z,2.0nm,0.6s
CLL Collm 18.84 337 *e*P **Pn** **21 47 43.0 -0.6**
comp=Z,4.0nm,1.0s
CLL Collm 18.84 337 *e*P **Pn** **21 47 43.0 -0.6**
CLL pmax pmax
comp=Z,4.0nm,1.0s
CLL Collm 18.84 337 *e*P **Pn** **21 47 43.0 -0.6**
comp=Z,4.0nm,1.0s
IBZA Bozab 19.16 83 *e*P **Pn** **21 47 47.4 -0.5**
IBZA Bozab 19.16 83 *e*P **Pn** **21 47 47.4 -0.5**
NEUB Neuenburg 19.17 335 *e*P **Pn** **21 47 47.4 -0.1**
comp=Z,10.0nm,1.0s
NEUB Neuenburg 19.17 335 *e*P **Pn** **21 47 47.4 -0.1**
comp=Z,10.0nm,1.0s
TNS Taunus Mts 19.71 328 *e*P **Pn** **21 47 55.5 +1.4**
comp=Z,6.0nm,0.8s
WLF Walferdange 20.39 324 *e*P Pn 21 48 03.9 +1.9
comp=Z,14nm,0.7s
IRAZ Razeghan 20.76 80 *e*P **P** **21 48 04.0 +0.1**
IRAZ Razeghan 20.76 80 *e*P **P** **21 48 04.0 +0.1**
IAFJ Afjeh 22.17 79 *e*P **P** **21 48 18.2 -1.0**
IAFJ Afjeh 22.17 79 *e*P **P** **21 48 18.2 -1.0**
OBN Obninsk 22.27 18 P **P** **21 48 21.0 +1.3**
OBN *SP **sP** **21 48 38.0 0.0**
OBN 21 48 48.0
OBN *e*S S 21 52 13.6 -7.8
OBN pmax pmax
comp=Z,19nm,1.5s
OBN MLR MLR
comp=Z,25nm,18.0s
OBN Obninsk 22.27 18 P **P** **21 48 21.0 +1.3**
comp=Z,19nm,1.5s
IDMV Damavand 22.45 79 *e*P **P** **21 48 22.1 -0.1**
IDMV Damavand 22.45 79 *e*P **P** **21 48 22.1 -0.1**
IFIR Firoozkooh 23.04 79 *e*P **P** **21 48 28.5 +0.3**
IFIR Firoozkooh 23.04 79 *e*P **P** **21 48 28.5 +0.3**
ESDC Sonseca Array 23.35 291 P **P** **21 48 30.7 -0.3**
comp=Z,4.9nm,0.7s,baz=84,slow=9.8,SNR=35
VSU Vasula 24.06 3 P **P** **21 48 36.9 -0.4**
VSU pmax pmax
comp=Z,56nm,1.6s
VSU Vasula 24.06 3 P **P** **21 48 36.9 -0.4**
comp=Z,56nm,1.6s
MDT Midelt 24.36 274 P **P** **21 48 41.2 +0.7**
comp=Z,4.6nm,0.8s,baz=98,slow=9.5,SNR=12
ISAD Sadrabad 24.42 88 *e*P **P** **21 48 42.6 +1.3**
IMEH Mehriz 25.32 88 *e*P **P** **21 48 50.2 +0.8**
PBRG Braganca 25.64 296 *e*P **P** **21 48 52.2 +0.2**
comp=Z,14nm,1.9s
PBRG Braganca 25.64 296 *e*P **P** **21 48 52.2 +0.2**
comp=Z,14nm,1.9s
PBAR Barrancos 25.72 288 *e*P **P** **21 48 52.9 +0.3**
comp=Z,19nm,1.8s
PBAR Barrancos 25.72 288 *e*P **P** **21 48 52.9 +0.3**
comp=Z,19nm,1.8s
MVO Moncorvo 25.80 294 *e*P **P** **21 48 53.4 0.0**
comp=Z,12nm,0.8s
MVO Moncorvo 25.80 294 *e*P **P** **21 48 53.4 0.0**
comp=Z,12nm,0.8s
PMRV Marv??o 25.99 290 *e*P **P** **21 48 53.5 -1.6**
comp=Z,14nm,1.5s
PMRV Marv??o 25.99 290 *e*P **P** **21 48 53.5 -1.6**
comp=Z,14nm,1.5s
PVAQ Vaqueiros 26.29 286 *e*P **P** **21 48 57.7 -0.1**
comp=Z,13nm,2.0s
PVAQ Vaqueiros 26.29 286 *e*P **P** **21 48 57.7 -0.1**
comp=Z,13nm,2.0s
PBDV Barranco-do-Ve 26.46 286 *e*P **P** **21 48 59.5 +0.1**
comp=Z,21nm,1.7s
PBDV Barranco-do-Ve 26.46 286 *e*P **P** **21 48 59.5 +0.1**
comp=Z,21nm,1.7s
HFS Hagfors 26.67 348 P **P** **21 49 00.2 -0.8**
comp=Z,6.6nm,0.3s,baz=150,slow=9.5,SNR=16
HFS Hagfors 26.67 348 P **P** **21 49 00.2 -0.8**
HFS pmax pmax
comp=Z,1.0nm,0.3s
PNCL Nicolau / Gran 26.89 288 *e*P **P** **21 49 06.7 +3.5**
comp=Z,16nm,1.4s
PNCL Nicolau / Gran 26.89 288 *e*P **P** **21 49 06.7 +3.5**
comp=Z,16nm,1.4s
FINES FINESS Array B 27.03 2 P **P** **21 49 02.4 -1.8**
comp=Z,1.2nm,0.4s,baz=169,slow=11,SNR=17
FINES PcP **PcP** **21 52 23.7 -0.5**
comp=Z,2.0nm,0.8s,baz=183,slow=5.6,SNR=3.2
GEYT Alibeck 27.17 73 P **P** **21 49 05.6 -0.2**
comp=Z,1.6nm,0.3s,baz=272,slow=11,SNR=6.4
IAKL Akhelmad 27.78 76 *e*P **P** **21 49 11.8 +0.2**
NB2 NORSAR Subarra 27.98 346 P **P** **21 49 12.0 -0.7**
comp=Z,1.2nm,1.0s,baz=156,slow=9.3
NB2 NORSAR Subarra 27.98 346 P **P** **21 49 12.0 -0.7**
comp=Z,1.2nm,1.0s,SNR=4.5
**N

comp=Z,0.4nm,0.4s,baz=149,slow=9.6,SNR=7.0
EKA Eskdalemuir Ar 28.37 326 P **P** **21 49 15.9 -0.4**
comp=Z,0.3nm,0.4s,baz=115,slow=10,SNR=6.0
AKTO Aktyubinsk 29.06 46 P **P** **21 49 21.8 -0.6**
comp=Z,1.9nm,0.5s,baz=245,slow=8.1,SNR=11
AKTO Aktyubinsk 29.06 46 P **P** **21 49 21.8 -0.6**
AKTO pmax pmax
comp=Z,2.0nm,0.5s
TORD Torodi Ar. Bea 29.69 230 P **P** **21 49 28.8 +0.4**
comp=Z,7.7nm,0.4s,baz=34,slow=8.7,SNR=221
ARU Arti 31.89 36*d iP* **P** **21 49 47.0 -0.3**
ARU *PP pP 21 50 06.3 +5.8
ARU S **S** **21 54 53.2 -1.2**
ARU SS **SnSn** **21 56 43.3 -3.0**
ARU pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 35.14 1 P **P** **21 50 13.8 -1.6**
comp=Z,0.6nm,0.4s,baz=188,slow=10,SNR=12
ARCES ARCESS Array B 35.14 1 P **P** **21 50 13.8 -1.6**
ARCES pmax pmax
comp=Z,1.0nm,0.4s
BRVK Borovoye 37.10 46↑ *eP* **P** **21 50 32.1 -0.3**
BRVK pmax pmax
comp=Z,3.0nm,1.6s
DBIC Dimbokro 38.78 231 P **P** **21 50 46.5 -0.4**
comp=Z,1.8nm,0.4s,baz=25,slow=8.9,SNR=6.6
DBIC Dimbokro 38.78 231 P **P** **21 50 46.5 -0.4**
DBIC pmax pmax
comp=Z,2.0nm,0.4s
AAK Ala-Archa 39.37 63 *i* P P 21 51 02.3 +10
NVS Novosibirsk 44.90 44 *eP* **P** **21 51 36.4 -0.1**
ZALV Zalesovo Beam 45.81 46 P **P** **21 51 43.0 -0.7**
comp=Z,3.7nm,0.5s,baz=270,slow=8.7,SNR=20
ZALV Zalesovo Beam 45.81 46 P **P** **21 51 43.0 -0.7**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
KOLN Koldanda 50.33 81 *eP* **P** **21 52 19.1 -0.1**
GKN Gorkha 51.08 80 *eP* **P** **21 52 24.7 -0.1**
HVS Khovu-Aksy 51.45 49↓ *eP* **P** **21 52 27.5 +0.4**
DMN Daman 51.62 80 *eP* **P** **21 52 28.5 -0.4**
KKN Kakani 51.69 80 *eP* **P** **21 52 29.5 +0.1**
comp=Z,3.2nm,0.2s
PKIN Phulchoki 51.87 80 *eP* **P** **21 52 30.9 +0.1**
comp=Z,3.5nm,0.5s
PKI Pulchoki 51.88 80 *eP* **P** **21 52 30.5 -0.5**
GUN Gumba 52.13 79 *eP* **P** **21 52 33.5 +0.7**
ZAK Zakamensk 57.55 48 *eP* **P** **21 53 11.5 +0.1**
ZAK pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 60.28 50 P **P** **21 53 30.9 +0.5**
comp=Z,2.5nm,0.5s,baz=285,slow=6.9,SNR=16
SONM Songino Array 60.28 50 P **P** **21 53 30.9 +0.5**
SONM pmax pmax
comp=Z,3.0nm,0.5s
SCHQ Schefferville 63.44 320 P **P** **21 53 51.6 +0.2**
comp=Z,1.1nm,0.4s,baz=65,slow=6.9,SNR=4.3
CMAR Chiang Mai Arr 67.10 83 P **P** **21 54 15.6 0.0**
comp=Z,0.9nm,0.8s,baz=295,slow=7.9,SNR=7.1
CMAR Chiang Mai Arr 67.10 83 *i* P **P** **21 54 15.6 0.0**
CMAR pmax pmax
comp=Z,1.0nm,0.9s
USRK Ussuriysk Ar. 77.66 45 P **P** **21 55 17.9 -0.1**
comp=Z,2.3nm,0.6s,baz=274,slow=6.4,SNR=6.8
KSRS Korea Array 79.07 52 P **P** **21 55 26.5 +0.5**
comp=Z,2.1nm,0.6s,baz=303,slow=4.3,SNR=11
KSRS Korea Array 79.07 52 P **P** **21 55 26.5 +0.5**
KSRS pmax pmax
comp=Z,2.0nm,0.6s
MJAR Matsushiro Arr 86.13 48 P **P** **21 56 03.5 +0.7**
comp=Z,1.0nm,0.8s,baz=285,slow=6.1,SNR=5.4
MJAR Matsushiro Arr 86.13 48 P **P** **21 56 03.5 +0.7**
MJAR pmax pmax
comp=Z,1.0nm,0.8s

NEIC 26 22:02:39.0, 14°.13S×74°.73W, h94km, MG4.3(ARE), **After ARE., Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.96**	**316**	*e*Pn	Pn	22 03 27.9	+3.7
NNA				*e*Sn	Sn	22 04 05.6	+6.6
LPAZ	**La Paz**	**6.72**	**109**	*e*Pn	Pn	22 04 18.1	+2.2
LVC	**Limon Verde**	**10.08**	**148**	*e*Pn	Pn	22 05 02.3	+1.1
SAML	**Samuel**	**12.43**	**67**	*e*Pn	Pn	22 05 29.6	-3.1

*IDC **26** 22:07:23.1±2.1, 9.°89S×79.°82W, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/30, mbtmp3.7/8, ML3.3/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/20, Error ellipse: s-maj=89.0km s-min=27.2km az=39.0*

ISC 26 22:07:26.4±1.6, 9.°9S±0.°4×79.°9W±0.°3, h22km, n11, σ0.°64/9, mb3.9/7, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**13.09**	**120**	Pn	Pn	**22 10 32.2**	**+0.5**
	0.1nm,0.3s,baz=328,slow=9.5,SNR=2.0						
LPAZ				LR	LR	22 16 34.1	
	comp=Z,75nm,20.1s,baz=308,slow=42						
ROSC	**El Rosal**	**15.70**	**21**	LR	LR	22 17 25.9	
	comp=Z,190nm,19.4s,baz=188,slow=39						
JTS	**JuntasAbangare**	**20.70**	**346**	LR	LR	22 18 07.0	
	comp=Z,68nm,19.8s,baz=214,slow=31						
TXAR	**Lajitas Array**	**45.26**	**330**	P	**P**	**22 15 43.2**	**+0.6**
	0.4nm,0.9s,baz=144,slow=7.8,SNR=3.6						
PDAR	**Pinedale Array**	**59.03**	**335**	P	**P**	**22 17 25.2**	**+0.2**
	0.8nm,0.7s,baz=113,slow=7.0,SNR=6.5						
NVAR	**Mina Array Bea**	**59.97**	**326**	P	**P**	**22 17 32.4**	**+0.8**
	0.4nm,0.5s,baz=132,slow=6.4,SNR=4.0						
ELK	**Elko**	**60.05**	**330**	P	**P**	**22 17 32.3**	**+0.3**
	1.4nm,0.8s,baz=104,slow=12,SNR=6.4						
ULM	**Lac du Bonnet**	**61.53**	**348**	P	**P**	**22 17 41.2**	**-0.4**
	2.6nm,0.6s,baz=101,slow=5.2,SNR=3.9						
YKA	**Yellowknife Ar**	**77.03**	**344**	P	**P**	**22 19 17.1**	**-0.3**
	0.5nm,0.8s,baz=146,slow=5.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**84.17**	**76**	P	**P**	**22 19 56.3**	**-0.4**
	0.7nm,0.9s,baz=252,slow=2.3,SNR=3.3						
WRA	**Warramunga Arr**	**135.08**	**229**	PKP	**PKPdf**	**22 26 44.3**	**-0.8**
	0.3nm,0.7s,baz=121,slow=1.9,SNR=2.5						

GUC 26 22:07:51.6±0.7, 34.°72S×72.°44W, h32km±3km, ML3.7, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.94**	**136**↓	*i*P	Pn	22 08 08.4	-0.3
TALC				*i* S	Sn	22 08 21.1	0.0
NICH	**Los Niches**	**1.03**	**106**↑	*i*P	Pn	22 08 10.2	+0.3
NICH				*i* S	Sb	22 08 24.2	-0.1
LNV	**Longovilo**	**1.15**	**48**↓	*i*P	Pn	22 08 11.5	+0.1
LNV				*i* S	Sb	22 08 26.8	-0.6
LNCH	**Linares**	**1.31**	**149**	*e*P	Pn	22 08 14.1	+0.3
LNCH				*e*S	Sb	22 08 32.2	0.0
CHCH	**Chadas Angostu**	**1.68**	**62**	*i* P	Pb	22 08 20.4	-1.5
CHCH				*i* S	Sb	22 08 42.2	-0.5
CLCH	**Cerro Calan**	**2.06**	**51**	*e*P	Pn	22 08 25.5	+1.3
CLCH				*i* S	Sb	22 08 51.4	-2.4
CLCH				AML	AML	22 09 03.7	
	comp=N,527nm,0.5s						
PEL	**Peldehue**	**2.15**	**43**	*e*P	Pn	22 08 26.9	+1.6
PEL				*e*S	Sn	22 08 53.1	+2.1
PEL				AML	AML	22 09 06.9	
	comp=E,616nm,0.5s						

*IDC **26** 22:13:20.3±1.4, 4.°80S×139.°27E, h0km, mb3.9/1, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, ML3.7/3, Error ellipse: s-maj=39.4km s-min=26.9km az=104.0*
*ISCJB **26** 22:13:22.6±0.8, 4.°97S±0.°05×139.°5E±0.°1, h38km, mb3.9/1, Error ellipse: s-maj=17.0km s-min=6.5km az=14.8*
*DJA **26** 22:13:23.0±1.1, 5.°5S±6.°×13.°9E±.°, h10km, M3.9/5, MLv3.9/3, MLv3.9/5*

ISC 26 22:13:23.6±0.9, 5.°00S±0.°06×139.°4E±0.°1, h38km, n9, σ1.°96/14, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**2.51**	**17**	P	**Pn**	**22 14 01.1**	**-0.8**
GENI				S	**Sn**	**22 14 30.8**	**-0.4**
JAY	**Jayapura**	**2.78**	**27**	P	**Pn**	**22 14 05.4**	**-0.3**
JAY	**Jayapura**	**2.78**	**27**	Pn	**Pn**	**22 14 04.0**	**-1.7**
	8.0nm,0.3s,baz=215,slow=15,SNR=32						
JAY				Sn	**Sn**	**22 14 36.0**	**-2.1**
	7.0nm,0.3s,baz=98,slow=14,SNR=3.5						
SMPI	**Sarmi**	**3.08**	**347**	P	**Pn**	**22 14 09.8**	**+0.1**
SMPI				S	**Sn**	**22 14 46.5**	**+1.2**
BAKI	**Biak**	**5.03**	**319**	P	**Pn**	**22 14 34.6**	**-2.0**
WRA	**Warramunga Arr**	**15.65**	**198**	Pn	**Pn**	**22 17 02.2**	**+0.6**
	0.2nm,0.3s,baz=18,slow=14,SNR=11						
WRA				Sn	**Sn**	**22 19 50.2**	**-3.8**
	0.1nm,0.3s,baz=7.1,slow=22,SNR=4.2						
WRA				Lg	Lg	22 21 46.0	
	0.2nm,0.3s,baz=13,slow=26,SNR=3.9						
ASAR	**Alice Springs**	**19.30**	**195**	P	**Pn**	**22 17 48.7**	**+1.9**
	0.6nm,0.3s,baz=25,slow=9.4,SNR=31						
ASAR				S	**S**	**22 21 21.9**	**-0.3**
	0.1nm,0.3s,baz=19,slow=19,SNR=3.1						
CMAR	**Chiang Mai Arr**	**46.22**	**301**	P	**P**	**22 21 45.7**	**+0.4**
	0.5nm,0.3s,baz=116,slow=6.1,SNR=4.5						
LPAZ	**La Paz**	**145.49**	**128**	PKPbc	**PKPab**	**22 33 02.9**	**+3.1**
	1.4nm,0.7s,baz=216,slow=1.7,SNR=7.6						

NNC 26 22:15:37.5±5.7, 36.°58N×70.°41E, h0km, mb3.5, mpv3.1, 6C, Error ellipse: s-maj=45.9km s-min=21.9km az=7.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.55**	**331**↑	Pn	Pn	22 16 20.3	0.0
	11nm,0.4s						
DZET				Sn	Sn	22 16 53.5	+1.3
	34nm,0.5s						
SFK	**Sufi-Kurgan**	**4.20**	**34**↑	Pn	Pn	22 16 43.0	-0.2
	1.7nm,0.3s						
SFK				Sn	Sn	22 17 35.1	+1.9
	24nm,0.4s						
KK31	**Karatay Array**	**6.51**	**1**↑	Pn	Pn	22 17 13.1	-1.6
	0.2nm,0.3s,baz=177,slow=12,SNR=5.2						
KK31				Sn	Sn	22 18 27.9	-1.8
	0.7nm,0.6s,baz=186,slow=23						

DJA 26 22:36:41.3±1.7, 2.°3S×13.°6E±1.°2, h17km±6km, M3.6/3, MLv3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**0.10**	**264**	P	Pg	22 36 45.5	+0.6
SRPI				S	Sg	22 36 48.9	+1.7
BAKI	**Biak**	**0.70**	**341**	P	Pb	22 36 54.7	-0.4
BAKI				S	Sb	22 37 05.0	+0.4
RKPI	**Ransiki, Papua**	**2.19**	**279**	P	Pn	22 37 17.0	0.0
RKPI				S	Sb	22 37 48.0	+0.6
FAKI	**Fak Fak**	**4.22**	**255**	P	Pn	22 37 43.0	-1.9

*BJI **26** 22:43:55.3, 6.°39S×130.°54E, h141km, mb5.2/63, mB4.9/37*
*MOS **26** 22:43:56.7±1.0, 6.°11S×130.°22E, h127km, mb5.2/34, Error ellipse: s-maj=10.1km s-min=6.0km az=112.0*
*ISCJB **26** 22:43:58.8±0.3, 6.°18S±0.°03×130.°40E±0.°02, h154km±3km, mb5.2/132, Error ellipse: s-maj=4.3km s-min=3.5km az=156.1*
*IDC **26** 22:43:59.7±0.7, 6.°14S×130.°29E, h140km±5km, mb4.7/27, mb1 4.7/31, mb1mx4.7/33, mbtmp5.2/31, MS3.5/8, Ms1 3.5/8, ms1mx3.3/25, Error ellipse: s-maj=12.5km s-min=8.1km az=85.0*
*GCMT **26** 22:43:59.6±0.3, 6.°17S×130.°17E, h153km±4km, MW5.0/67, Moment Tensor Solution. s13,c15; s67,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.85±.14; $M_{\theta\theta}$-3.26±.15; $M_{\phi\phi}$2.41±.16; $M_{r\theta}$1.71±.11; $M_{\theta\phi}$1.52±.15; $M_{\phi r}$1.24±.11; Best double couple: M_o3.91100×10^{16} NP1:ϕ63.00000°, δ81.00000°, λ35.00000°. NP2: ϕ326.00000°, δ55.00000°, λ169.00000°. Principal axes: T 3.7730, Plg31.0000°, Azm290.0000°; N 0.2800, Plg54.0000°, Azm76.0000°; P -4.0490, Plg17.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 22:43:59.6±0.5, 6.°13S×130.°29E, h144km±4km, mb5.2/61 Error ellipse: s-maj=4.9km s-min=4.1km az=54.0*
*DJA **26** 22:44:01.4±0.2, 6.°S±2.°×13.°0E±.°, h160km±3km, M5.1/96, mB5.6/55, mb5.3/96, MLv5.9/11, Mw(mB)5.0/55*

ISC 26 22:43:59.9±0.3, 6.°13S±0.°03×130.°31E±0.°04, h146km±1km, h146km:pP-P, n432, σ1.°50/517, mb5.2/144, 47C-27D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.65**	**346**	P	**Pn**	**22 44 32.0**	**+1.2**
SAUI	**Saumlaki**	**2.08**	**152**	P	**Pn**	**22 44 35.9**	**0.0**
SAUI	**Saumlaki**	**2.08**	**152**	*e*Pn	**Pn**	**22 44 35.8**	**0.0**
SAUI				*e*Sn	**Sn**	**22 44 59.7**	**-3.8**
FAKI	**Fak Fak**	**3.73**	**31**	P	**Pn**	**22 44 55.5**	**-1.1**
FAKI				S	**Sn**	**22 45 36.3**	**-4.2**
FAKI	**Fak Fak**	**3.73**	**31**	*e*Pn	**Pn**	**22 44 55.3**	**-1.3**
FAKI				*e*Sn	**Sn**	**22 45 38.6**	**-1.9**
NLAI	**Namlea**	**4.30**	**312**	P	**Pn**	**22 45 06.6**	**+2.5**
SIJI	**Sorong**	**5.31**	**10**	P	**Pn**	**22 45 16.1**	**-1.4**
	174nm,0.3s,baz=351,slow=1.0,SNR=499						
SIJI				S	**Sn**	**22 46 12.7**	**-5.3**
	180nm,0.3s,baz=261,slow=23,SNR=15						
SANI	**Sanana**	**5.92**	**313**	P	**Pn**	**22 45 26.7**	**+1.1**
	337nm,0.9s,5μm2.1nm						
RKPI	**Ransiki, Papua**	**5.99**	**40**	P	**Pn**	**22 45 26.5**	**-0.1**
	6μm,0.7s,84μm40nm						
RKPI				S	**Sn**	**22 46 30.4**	**-3.9**
	6μm,0.7s,84μm40nm						
SOEI	**Soe**	**6.99**	**239**	P	**Pn**	**22 45 39.4**	**-0.6**
	634nm,1.0s,7μm7.7nm						
SOEI				S	**Sn**	**22 46 58.7**	**+0.3**
	634nm,1.0s,7μm7.7nm						
SOEI	**Soe**	**6.99**	**239**	*e*Pn	**Pn**	**22 45 39.1**	**-0.8**
SOEI				*e*Sn	**Sn**	**22 46 59.0**	**+0.6**
SRPI	**Serui, Papua**	**7.27**	**55**	P	**Pn**	**22 45 43.4**	**-0.2**
	929nm,0.8s,25μm9.0nm						
SRPI				S	**Sn**	**22 47 01.4**	**-3.6**
	929nm,0.8s,25μm9.0nm						
TNTI	**Ternate**	**7.46**	**337**	P	**Pn**	**22 45 46.2**	**0.0**
	1μm,0.7s,9μm3.2nm						
TNTI	**Ternate**	**7.46**	**337**	*e*Pn	**Pn**	**22 45 45.6**	**-0.6**
TNTI				*e*Sn	**Sn**	**22 47 03.6**	**-6.0**
BAKI	**Biak**	**7.58**	**50**	P	**Pn**	**22 45 48.9**	**+1.1**
	7μm,0.9s,56μm20nm						
KDI	**Kendari**	**7.96**	**285**	P	**Pn**	**22 45 56.1**	**+3.2**
	532nm,1.3s,6μm						
MMRI	**Maumere**	**8.39**	**252**	P	**Pn**	22 46 01.9	+3.3
	128nm,0.8s,3μm						
MMRI	**Maumere**	**8.39**	**252**	*e*Pn	**Pn**	**22 45 56.8**	**-1.8**
LUWI	**Luwuk**	**9.06**	**304**	P	**Pn**	**22 46 09.5**	**+1.9**
	284nm,1.0s,3μm						
LUWI	**Luwuk**	**9.06**	**304**	*e*Pn	**Pn**	**22 46 09.1**	**+1.4**
KMSI	**Cibinong**	**9.18**	**316**	P	**Pn**	22 46 13.7	+4.5
	375nm,0.8s,5μm						
SMPI	**Sarmi**	**9.33**	**64**	P	**Pn**	**22 46 11.0**	**-0.2**
	108nm,0.9s,3μm						
BSSI	**Bau Bau, Buton**	**9.77**	**269**	P	**Pn**	**22 46 18.5**	**+1.5**
	213nm,1.4s,3μm						
APSI	**Ampana**	**10.08**	**301**	P	**Pn**	**22 46 24.0**	**+2.8**
	628nm,1.2s,6μm						
BKSI	**Bukukumba**	**10.17**	**274**	P	**Pn**	**22 46 24.0**	**+1.6**
	112nm,0.8s,933nm						
GENI	**Genyem**	**10.43**	**71**	P	**Pn**	**22 46 27.1**	**+1.3**
	241nm,0.6s,2μm						
WSI	**Waingapu**	**10.53**	**250**	P	**Pn**	**22 46 27.6**	**+0.5**
	410nm,0.5s,7μm						
KAPI	**Kappang**	**10.57**	**275**	Pn	**Pn**	**22 46 29.0**	**+1.4**
	583nm,0.6s,SNR=5.2						
KAPI	**Kappang**	**10.57**	**275**	P	**Pn**	**22 46 29.1**	**+1.4**
	0.4nm,0.3s,baz=84,slow=6.4,SNR=5.2						
KAPI	**Kappang**	**10.57**	**275**	*e*Pn	Pn	22 46 31.3	+3.6
MRSI	**Marisa**	**10.63**	**308**	P	**Pn**	**22 46 29.7**	**+1.3**
	376nm,0.9s,3μm						
SPSI	**Sidrap Palu**	**10.72**	**281**	P	**Pn**	**22 46 31.4**	**+1.7**
	141nm,0.8s,1μm						
JAY	**Jayapura**	**10.96**	**71**	P	**Pn**	**22 46 33.6**	**+0.7**
	81nm,0.7s,2μm						
JAY	**Jayapura**	**10.96**	**71**	Pn	**Pn**	**22 46 32.5**	**-0.4**
	3.5nm,0.3s,baz=229,slow=12,SNR=21						
JAY				S	**Sn**	**22 48 29.8**	**-4.4**
	3.8nm,0.3s,baz=137,slow=19,SNR=2.4						
PCI	**Palu**	**11.67**	**296**	P	Pn	22 46 45.7	+3.5
	736nm,1.1s,7μm						
TOLI	**Toli-Toli**	**11.93**	**307**	*e*Pn	**P**	**22 46 50.0**	**-2.4**
MPSI	**Mapaga**	**12.22**	**301**	P	**Pn**	**22 46 51.2**	**+1.9**
	138nm,0.9s,2μm						
DAV	**Davao City (W)**	**13.94**	**340**	P	**P**	**22 47 16.8**	**+2.0**
	SNR=11						
BKB	**Balikpapan**	**14.23**	**289**	P	**P**	**22 47 19.4**	**+1.4**
	362nm,1.4s,5μm						
WRAB	**Tennant Creek**	**14.27**	**164**	Pn	Pn	22 47 10.3	-5.2
	3μm,0.8s,SNR=86						
WRAB	**Tennant Creek**	**14.27**	**164**↓	*e*P	Pn	22 47 10.5	-5.0
WRAB				pmax	pmax		
	comp=Z,460nm,1.0s						
WRAB	**Tennant Creek**	**14.27**	**164**	*e*Pn	Pn	22 47 10.8	-4.7
WRAB				*e*Sn	Sn	22 49 37.8	-16
WRA	**Warramunga Arr**	**14.28**	**164**	P	Pn	22 47 10.4	-5.2
	comp=Z,13nm,0.3s,baz=335,slow=13,SNR=117						
WRA				S	Sn	22 49 38.3	-16
	comp=Z,12nm,0.3s,baz=353,slow=23,SNR=6.9						
KBKI	**Kotabaru**	**14.38**	**281**	P	**P**	**22 47 18.7**	**-0.9**
	comp=Z,156nm,1.0s,comp=Z,2μm						
COEN	**Coen**	**14.86**	**123**	*e*Pn	**Pn**	**22 47 23.0**	**+0.1**
COEN				*e*Sn	Sn	22 49 54.6	-13
BBKI	**Banjar Baru**	**15.64**	**279**	P	**P**	**22 47 36.4**	**+2.7**
	comp=Z,1μm,1.1s,comp=Z,22μm						
ABJI	**Asem Bagus**	**16.05**	**263**	P	**P**	**22 47 40.0**	**+1.9**
	comp=Z,120nm,1.1s						
TSM	**Tawau**	**16.17**	**310**↑	P	**P**	**22 47 39.8**	**+0.3**
BLJI	**Banyuglugur**	**16.67**	**264**	P	**Pn**	**22 47 46.3**	**+1.1**
	comp=Z,220nm,0.7s,comp=Z,3μm						
PMG	**Port Moresby**	**17.00**	**102**	*c iP*	**Pn**	**22 47 50.9**	**+1.7**
PMG				pmax	pmax		
	comp=Z,604nm,1.2s						
PMG	**Port Moresby**	**17.00**	**102**	*e*P	**Pn**	**22 47 51.4**	**+2.2**
	comp=Z,106nm,0.9s						
SDKM	**Sandakan**	**17.56**	**312**↓	P	**Pn**	**22 47 58.3**	**+2.4**
GRJI	**Gresik**	**17.74**	**266**	P	**Pn**	**22 47 59.1**	**+1.1**
	comp=Z,272nm,0.8s						
ASAR	**Alice Springs**	**17.78**	**169**	P	**P**	**22 47 56.4**	**-0.8**
	comp=Z,57nm,0.3s,baz=347,slow=11,SNR=792						
ASAR				S	S	22 51 02.9	-12
	comp=Z,11nm,0.3s,baz=353,slow=27,SNR=8.5						
ASAR				LR	LR	22 55 46.6	
	comp=Z,264nm,18.5s,baz=331,slow=40						
MBWA	**Marble Bar**	**18.12**	**213**	P	**P**	**22 48 01.1**	**+0.2**
	SNR=7.1						
MBWA	**Marble Bar**	**18.12**	**213**	*e*P	**P**	**22 48 00.2**	**-0.7**
	comp=Z,138nm,0.9s						
MBWA				*e*S	**S**	**22 51 15.5**	**-5.5**
TBJI	**Tambak Boyo**	**18.36**	**267**	P	**Pn**	**22 48 08.6**	**+3.2**
	comp=Z,329nm,1.2s						
PWJI	**Pagerwojo**	**18.46**	**263**	P	**P**	**22 48 03.1**	**-1.6**
	comp=Z,55nm,0.8s						
KKM	**Kota Kinabalu**	**18.55**	**310**↑	P	**Pn**	**22 48 07.3**	**-0.4**
KKM	**Kota Kinabalu**	**18.55**	**310**	*e*P	**P**	**22 48 05.2**	**-0.6**
	comp=Z,250nm,0.8s						
KKM				*e*S	**S**	**22 51 30.1**	**+0.2**
KDM	**Kudat**	**18.68**	**314**↑	P	**Pn**	**22 48 09.3**	**+0.2**
PBKI	**Pangkalan Bun**	**18.89**	**280**	P	**Pn**	**22 48 10.9**	**-0.8**
	comp=Z,496nm,1.0s,comp=Z,4μm						
RCP	**Roxas**	**19.12**	**337**↓	*e*P	**Pn**	**22 48 13.1**	**-1.1**
BTM	**Bintulu**	**19.54**	**298**↑	P	**P**	**22 48 17.7**	**+1.3**
SMRI	**Semarang**	**19.76**	**266**	P	**Pn**	**22 48 22.0**	**+0.2**
	comp=Z,94nm,0.8s						
SMRI	**Semarang**	**19.76**	**266**	*e*P	**Pn**	**22 48 21.9**	**0.0**
	comp=Z,68nm,0.8s						
STKI	**Sintang**	**19.78**	**287**	P	**P**	**22 48 19.9**	**+0.9**
	comp=Z,171nm,1.2s,comp=Z,26μm						
SBUM	**Sibu**	**19.98**	**295**↓	P	**P**	**22 48 22.0**	**+0.9**
SBUM	**Sibu**	**19.98**	**295**	*e*P	**P**	**22 48 21.0**	**-0.1**
	comp=Z,125nm,1.0s						
PVCP	**Virac**	**20.53**	**343**↓	*i*P	**P**	**22 48 28.3**	**+1.3**
CTA	**Charters Tower**	**20.79**	**133**	P	**P**	**22 48 30.9**	**+1.1**
	comp=Z,24nm,0.5s,baz=307,slow=12,SNR=48						
CTA				S	**S**	**22 52 17.9**	**+4.0**
	comp=Z,17nm,0.7s,baz=96,slow=18,SNR=3.3						
CTAO	**Charters Tower**	**20.79**	**133**	*e*P	**P**	**22 48 30.6**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,58nm,0.8s						
CTAO	**Charters Tower**	**20.79**	**133**	*e*P	**P**	**22 48 30.6**	**+0.8**
	comp=Z,58nm,0.8s						
KPJI	**Karang Pucung**	**21.27**	**266**	P	**P**	**22 48 35.8**	**+0.8**
	comp=Z,122nm,0.6s						
KSM	**Kuching**	**21.36**	**290**↓	P	**P**	**22 48 36.6**	**+0.7**
KSM	**Kuching**	**21.36**	**290**	*e*P	**P**	**22 48 35.2**	**-0.7**
	comp=Z,102nm,1.1s						
CMJI	**Cimerak**	**21.77**	**264**	P	**P**	**22 48 39.8**	**-0.5**
	comp=Z,274nm,1.1s						
CISI	**Cisompet, Garu**	**22.38**	**265**	P	**P**	**22 48 44.5**	**-2.0**
	comp=Z,422nm,0.9s,comp=Z,4μm						
CISI	**Cisompet, Garu**	**22.38**	**265**	*e*P	**P**	**22 48 45.1**	**-1.4**
	comp=Z,363nm,0.9s						
LEM	**Lembang**	**22.56**	**267**	P	**P**	**22 48 48.6**	**+0.2**
	comp=Z,223nm,1.4s						
LEM	**Lembang**	**22.56**	**267**	P	**P**	**22 48 47.4**	**-1.0**
	comp=Z,89nm,0.6s,baz=84,slow=11,SNR=10						
TPI	**Tanjungpandan**	**22.84**	**277**	P	**P**	**22 48 50.3**	**-0.5**
	comp=Z,63nm,1.1s,comp=Z,756nm						
CNJI	**Cibinong**	**23.05**	**266**	P	**P**	**22 48 51.0**	**-1.8**
	comp=Z,1μm,1.1s,comp=Z,9μm						
CBJI	**Citeko**	**23.32**	**268**	P	**P**	**22 48 55.3**	**0.0**
	comp=Z,286nm,1.0s						
SKJI	**Sukabumi**	**23.62**	**267**	P	**P**	**22 48 57.6**	**-0.3**
	comp=Z,254nm,1.1s,comp=Z,3μm						
PPBI	**Pangkal Pinang**	**24.43**	**278**	P	**P**	**22 49 07.0**	**+1.7**
	comp=Z,49nm,1.0s,comp=Z,3μm						
CGJI	**Cibinong**	**24.47**	**268**	P	**P**	**22 49 04.7**	**-1.0**
	comp=Z,291nm,1.3s,comp=Z,2μm						
FORT	**Forrest**	**24.61**	**185**	*e*P	**P**	**22 49 06.6**	**-0.2**
	comp=Z,319nm,0.6s						
KLSI		**25.51**	**272**	P	**P**	**22 49 16.4**	**+1.3**
	comp=Z,96nm,0.8s						
PMBI	**Palembang**	**25.66**	**276**	P	P	22 49 21.3	+4.9
	comp=Z,287nm,1.2s						
KASI	**Kota Agung**	**25.69**	**270**	P	**P**	**22 49 15.6**	**-1.1**
	comp=Z,70nm,1.1s						
MDSI	**Maura Dua**	**26.07**	**272**	P	**P**	**22 49 22.2**	**+2.0**
	comp=Z,31nm,

		comp=Z,63nm,0.9s								
PSI	**Prapat**		**32.58**	**285**	*e*P		**P**	**22 50 15.9**	**-1.9**	
	comp=Z,63nm,0.9s									
JOW	**Kunigami**		**32.83**	**357**	P		**P**	**22 50 21.1**	**+1.4**	
	comp=Z,5.5nm,0.7s,baz=189,slow=10,SNR=12									
JOW	**Kunigami**		**32.83**	**357**	*e*P		**P**	**22 50 19.6**	**-0.1**	
	comp=Z,58nm,0.7s									
QZH	**Quanzhou**		**32.93**	**340**	⇑*i*P		**P**	**22 50 20.5**	**-0.1**	
GSI	**Gunungsitoli**		**33.51**	**282**	P		**P**	**22 50 23.1**	**-2.8**	
	comp=Z,89nm,0.8s									
GSI	**Gunungsitoli**		**33.51**	**282**	*e*P		**P**	**22 50 23.2**	**-2.6**	
	comp=Z,51nm,0.7s									
TRTT	**Trang**		**33.55**	**294**	P		**P**	**22 50 26.2**	**0.0**	
	comp=Z,26nm,1.2s									
SRIT	**Nakonsritamara**		**33.94**	**295**	P		**P**	**22 50 29.2**	**-0.3**	
	comp=Z,110nm,0.9s									
KRAB	**Krabi**		**34.15**	**294**	P		**P**	**22 50 32.6**	**+1.2**	
	comp=Z,31nm,0.9s,comp=Z,269nm									
SURA	**Surathani**		**34.15**	**296**	P		**P**	**22 50 31.8**	**+0.4**	
	comp=Z,303nm,0.8s									
SKNT	**Sakolnakorn**		**34.71**	**312**	P		**P**	**22 50 35.9**	**-0.2**	
	comp=Z,151nm,0.8s,comp=Z,1µm									
CBIJ	**Chichi jima**		**34.97**	**19**	*e*P		**P**	**22 50 37.0**	**-1.2**	
	comp=Z,66nm,0.6s									
JCJ	**Chichijima**		**34.97**	**19**	P		**P**	**22 50 37.0**	**-1.3**	
	comp=Z,68nm,0.5s,baz=299,slow=22,SNR=30									
LHMI	**Lhok Sumawe**		**35.17**	**288**	P		**P**	**22 50 39.5**	**-0.7**	
	comp=Z,218nm,0.8s									
LHMI	**Lhok Sumawe**		**35.17**	**288**	*e*P		**P**	**22 50 39.2**	**-1.0**	
	comp=Z,146nm,0.7s									
NONG	**Nongkai**		**36.01**	**312**	P		**P**	**22 50 46.8**	**-0.5**	
	comp=Z,147nm,0.7s,comp=Z,6µm									
PBKT	**Sadao Pong**		**36.76**	**308**	P		**P**	**22 50 53.4**	**-0.2**	
	comp=Z,24nm,0.7s,comp=Z,1µm									
SRDT	**SRDT**		**37.03**	**304**	P		**P**	**22 50 56.7**	**+0.7**	
	comp=Z,148nm,0.9s									
LOEI	**Loei**		**37.08**	**310**	P		**P**	**22 50 53.7**	**-2.7**	
	comp=Z,141nm,1.5s,comp=Z,6µm									
UTHA	**Uthaitani**		**37.41**	**306**	P		**P**	**22 50 59.0**	**-0.1**	
	comp=Z,19nm,0.9s,comp=Z,157nm									
SLVN	**Son La**		**37.63**	**317**	*e*P		**P**	**22 51 01.1**	**0.0**	
	comp=Z,50nm,1.4s									
KHLT	**Khaolaem Dam**		**37.70**	**304**	P		**P**	**22 51 02.5**	**+0.9**	
	comp=Z,29nm,1.0s									
UTTA	**Uttaradit**		**37.77**	**309**	P		**P**	**22 51 02.2**	**+0.1**	
	comp=Z,54nm,0.8s,comp=Z,452nm									
LAMP	**Lampang**		**38.93**	**310**	P		**P**	**22 51 12.4**	**+0.6**	
	comp=Z,45nm,0.8s,comp=Z,386nm									
JNU	**Nakatsue**		**39.04**	**1**	P		**P**	**22 51 12.1**	**-0.5**	
	comp=Z,20nm,0.9s,baz=141,slow=4.1,SNR=7.0									
CRAI	**Chiangrai**		**39.40**	**312**	P		P	22 51 11.8	-4.0	
	comp=Z,36nm,0.9s									
CMAR	**Chiang Mai Arr**		**39.42**	**309**	P		**P**	**22 51 16.6**	**+0.7**	
	comp=Z,47nm,0.6s,baz=135,slow=7.1,SNR=353									
CMAR					PcP		**PcP**	**22 53 22.9**	**+1.6**	
	comp=Z,7.2nm,0.8s,baz=162,slow=2.9,SNR=7.9									
CMAR					LR		LR	23 07 34.7		
	comp=Z,31nm,21.0s,baz=260,slow=36									
NJ2	**Nanjing**		**39.51**	**345**	*e*P		**P**	**22 51 14.8**	**-1.6**	
NJ2					PMZ					
	comp=Z,30nm,0.9s									
WHN	**Wuhan**		**39.54**	**338**	⇑P		**P**	**22 51 17.8**	**+1.1**	
WHN					PMZ					
	comp=Z,150nm,1.0s									
CMMT	**Chiang Mai**		**39.62**	**309**	P		**P**	**22 51 17.7**	**+0.1**	
	comp=Z,213nm,0.8s,comp=Z,2µm									
CHTO	**Chiang Mai**		**39.63**	**309**	P		**P**	**22 51 17.8**	**+0.1**	
	comp=Z,725nm,1.1s,comp=Z,5µm									
CHTO	**Chiang Mai**		**39.63**	**309**	*e*P		**P**	**22 51 17.7**	**+0.1**	
CHTO					pmax		pmax			
	comp=Z,113nm,0.6s									
CHTO	**Chiang Mai**		**39.63**	**309**	P		**P**	**22 51 18.5**	**+0.9**	
SNR=28										
CHTO	**Chiang Mai**		**39.63**	**309**	*e*P		**P**	**22 51 17.7**	**+0.1**	
	comp=Z,113nm,0.6s									
GYA	**Guiyang**		**39.69**	**326**	⇑*i*P		**P**	**22 51 18.3**	**+0.1**	
GYA					pP		**pP**	**22 51 52.8**	**+2.5**	
GYA					sP		**sP**	**22 52 10.0**	**+3.2**	
GYA					PP		**PnPn**	**22 52 56.8**	**-0.3**	
GYA					PcP		**PcP**	**22 53 22.8**	**+0.7**	
GYA					ScP		**ScP**	**22 56 57.0**	**-0.5**	
GYA					S		**S**	**22 57 13.0**	**+2.0**	
GYA					sS		**sS**	**22 58 10.0**	**+3.0**	
GYA					PMZ					
	comp=Z,30nm,0.8s									
GYA					PMZ					
	comp=Z,120nm,4.9s									
MHMT	**Maesarieng**		**40.05**	**308**	P		**P**	**22 51 21.5**	**+0.4**	
	comp=Z,28nm,0.8s,comp=Z,280nm									
CMAI	**Chiengmai2**		**40.21**	**311**	P		**P**	**22 51 22.9**	**+0.3**	
	comp=Z,148nm,1.2s									
KMI	**Kunming**		**41.04**	**320**	⇑P		**P**	**22 51 30.8**	**+1.3**	
KMI					pP		**pP**	**22 52 04.0**	**+2.3**	
KMI					sP		**sP**	**22 52 20.5**	**+2.3**	
KMI					PP		**PnPn**	**22 53 11.8**	**-1.2**	
KMI					S		**S**	**22 57 32.8**	**+1.4**	
KMI					SS		**SS**	**23 00 32.8**	**-7.0**	
KMI					PMZ					
	comp=Z,41nm,0.7s									
KMI					PMZ					
	comp=Z,160nm,3.1s									
KMI					LN					
	comp=Z,96nm,16.0s									
KMI					LE					
	comp=Z,58nm,16.4s									
KMI					LZ					
	comp=Z,94nm,16.5s									
ENH	**Enshi**		**41.34**	**332**	*e*P		**P**	**22 51 31.5**	**-0.1**	
	comp=Z,31nm,0.9s									
TJN	**Taejon**		**42.37**	**356**	⇓*e*P		**P**	**22 51 40.3**	**+0.5**	
MAJO	**Matsushiro**		**43.09**	**9**	*c i*P		**P**	**22 51 45.0**	**-0.6**	
MAJO					pmax		pmax			
	comp=Z,243nm,0.7s									
MAJO	**Matsushiro**		**43.09**	**9**	*e*P		**P**	**22 51 45.1**	**-0.5**	
	comp=Z,39nm,0.7s									
MAT	**Matsushiro**		**43.09**	**9**	P		**P**	**22 51 44.9**	**-0.7**	
MJAR	**Matsushiro Arr**		**43.09**	**9**	P		**P**	**22 51 45.0**	**-0.6**	
	comp=Z,20nm,0.7s,baz=190,slow=10,SNR=93									
MJAR					pP		**pP**	**22 52 17.4**	**-0.7**	
	comp=Z,3.0nm,0.7s,baz=195,slow=8.8,SNR=1.6									
MJAR					LR		LR	23 08 09.1		
	comp=Z,59nm,21.3s,baz=195,slow=34									
KSAR	**Wonju Array Be**		**43.40**	**357**	P		**P**	**22 51 49.3**	**+1.2**	
KSAR								22 53 34.9		
KSAR	**Wonju Array Be**		**43.40**	**357**	P		**P**	**22 51 49.2**	**+1.2**	
KSAR					PcP		**PcP**	**22 53 34.9**	**+1.0**	
KSAR					ScP		**ScP**	**22 57 11.8**	**-0.1**	
KSRS	**Korea Array**		**43.41**	**357**	P		**P**	**22 51 49.2**	**+1.1**	
	comp=Z,6.7nm,0.6s,baz=173,slow=9.0,SNR=33									
KSRS					PcP		**PcP**	**22 53 34.9**	**+1.0**	
	comp=Z,3.6nm,0.8s,baz=192,slow=3.5,SNR=7.0									
KSRS					ScP		**ScP**	**22 57 11.8**	**-0.1**	
	comp=Z,2.4nm,0.7s,baz=181,slow=4.0,SNR=7.5									
KSRS	**Korea Array**		**43.41**	**357**	P		**P**	**22 51 49.3**	**+1.1**	
KSRS								22 53 34.9		
KSRS					pmax		pmax			
	comp=Z,7.0nm,0.6s									
KSRS					pmax		pmax			
	comp=Z,4.0nm,0.8s									
KSRS					pmax		pmax			
	comp=N,2.0nm,0.7s									
INCN	**Inchon**		**43.52**	**356**	*e*P		**P**	**22 51 49.7**	**+0.6**	
	comp=N,20nm,0.6s									
TIA	**Tai'an**		**43.90**	**345**	⇓P		**P**	**22 51 52.3**	**+0.2**	
TIA					PMZ					
	comp=N,20nm,0.8s									
CD2	**Chengdu**		**44.74**	**327**	P		**P**	**22 51 59.0**	**0.0**	
CD2					pP		**pP**	**22 52 31.3**	**-0.4**	
CD2					PcP		**PcP**	**22 53 38.0**	**-0.8**	
CD2					PP		**PP**	**22 53 46.8**	**+0.3**	
CD2					PcS		**PcS**	**22 57 31.8**	**-0.8**	
CD2					S		**S**	**22 58 26.5**	**+1.5**	
CD2					sS		**sS**	**22 59 23.3**	**+1.4**	
CD2					PMZ					
	comp=N,50nm,0.7s									
CD2					PMZ					
	comp=N,120nm,5.0s									
XAN	**Xi'an**		**44.79**	**335**	P		**P**	**22 51 59.0**	**-0.3**	
XAN					PMZ					
	comp=N,16nm,1.0s									
BJT	**Baijiatuau**		**47.74**	**345**	*e*P		**P**	**22 52 22.3**	**+0.2**	
BJT					*e*			22 53 50.3		
BJT					pmax		pmax			
	comp=Z,75nm,0.7s									
BJT	**Baijiatuau**		**47.74**	**345**	*e*P		**P**	**22 52 22.3**	**+0.2**	
	comp=Z,75nm,0.7s									
BJT					*e*PcP		**PcP**	**22 53 50.3**	**+1.3**	
BJI	**Beijing**		**47.76**	**345**	P		**P**	**22 52 22.5**	**+0.3**	
BJI					PMZ					
	comp=Z,100nm,0.7s									
BJI					PMZ					
	comp=Z,140nm,3.3s									
LZH	**Lanzhou**		**48.79**	**331**	⇑P		**P**	**22 52 32.0**	**+1.5**	
LZH					pP		**pP**	**22 53 01.5**	**-2.2**	
LZH					sP		**sP**	**22 53 22.8**	**+2.8**	
LZH					PP		**PP**	**22 54 28.0**	**+2.8**	
LZH					S		**S**	**22 59 22.0**	**-0.6**	
LZH					sS		**sS**	**23 00 18.0**	**-2.3**	
LZH					SS		**SS**	**23 02 51.0**	**-4.3**	
LZH					PMZ					
	comp=Z,88nm,1.2s									
LZH					PMZ					
	comp=Z,200nm,4.0s									
SHL	**Shillong**		**48.85**	**312**	*e*P		**P**	**22 52 30.8**	**-0.4**	
SHL					AMB		AMB	22 52 32.0		
	comp=Z,68nm,0.7s									
VLA	**Vladivostok**		**49.04**	**2**	⇓*i*P		**P**	**22 52 32.6**	**+0.6**	
VLA					S		**S**	**22 59 28.4**	**+3.0**	
VLA					pmax		pmax			
	comp=Z,34nm,0.9s									
HHC	**Hu-ho-hao-te**		**49.82**	**341**	*e*P		**P**	**22 52 39.0**	**+0.8**	
HHC					pP		**pP**	**22 53 11.5**	**0.0**	
HHC					sP		**sP**	**22 53 27.3**	**-0.5**	
HHC					PP		**PP**	**22 54 38.8**	**+4.4**	
HHC					S		**S**	**22 59 38.3**	**+1.6**	
HHC					sS		**sS**	**23 00 34.3**	**-0.2**	
HHC					ScS		**ScS**	**23 02 13.0**	**-1.9**	
HHC					PMZ					
	comp=Z,37nm,1.1s									
HHC					PMZ					
	comp=Z,130nm,6.4s									
CN2	**Changchun**		**49.89**	**355**	*e*P		**P**	**22 52 38.3**	**-0.2**	
CN2					PMZ					
	comp=Z,10.0nm,0.7s									
USRK	**Ussuriysk Ar.**		**50.12**	**2**	P		**P**	**22 52 41.0**	**+0.8**	
	comp=Z,20nm,0.7s,baz=183,slow=7.2,SNR=66									
MDJ	**Mudanjiang**		**50.52**	**359**	P		**P**	**22 52 44.0**	**+0.8**	
MDJ					sP		**sP**	**22 53 32.3**	**-0.5**	
MDJ					PcP		**PcP**	**22 54 02.0**	**+3.0**	
MDJ					PP		**PP**	**22 54 37.3**	**-3.2**	
MDJ					ScP		**ScP**	**22 57 41.8**	**+0.3**	
MDJ					S		**S**	**22 59 48.0**	**+2.0**	
MDJ					sS		**sS**	**23 00 46.0**	**+2.1**	
MDJ					PMZ					
	comp=Z,28nm,0.8s									
MDJ					PMZ					
	comp=Z,24nm,3.7s									
MDJ	**Mudanjiang**		**50.52**	**359**	*e*P		**P**	**22 52 42.6**	**-0.5**	
	comp=Z,23nm,0.6s									
ASAJ	**Asahikawa**		**51.23**	**11**	*e*P		**P**	**22 52 48.8**	**+0.3**	
	comp=Z,16nm,0.8s									
PALK	**Pallekele**		**51.26**	**284**	P		**P**	**22 52 47.0**	**-2.3**	
	comp=Z,197nm,0.7s,SNR=7.1									
PALK	**Pallekele**		**51.26**	**284**	P		**P**	**22 52 48.1**	**-1.2**	
	comp=Z,19nm,0.6s,baz=104,slow=8.9,SNR=21									
PALK	**Pallekele**		**51.26**	**284**	*e*P		**P**	**22 52 47.2**	**-2.1**	
	comp=Z,23nm,0.7s									
CHLP	**Challavanipeta**		**51.76**	**299**	*e*P		**P**	**22 52 52.5**	**-0.4**	
CHLP					IAmb		IAmb	22 52 54.2		
	comp=Z,88nm,0.8s									
LSA	**Lhasa**		**51.79**	**316**	P		**P**	**22 52 54.3**	**+0.8**	
LSA	**Lhasa**		**51.79**	**316**	*e*P		**P**	**22 52 54.4**	**+0.8**	
LSA					pmax		pmax			
	comp=Z,34nm,0.7s									
LSA	**Lhasa**		**51.79**	**316**	*e*P		**P**	**22 52 54.4**	**+0.8**	
	comp=Z,34nm,0.7s									
VIS	**Vishakhapatnam**		**52.09**	**298**	*e*P		**P**	**22 52 55.9**	**+0.6**	
VIS					AMB		AMB	22 52 56.3		
	comp=Z,106nm,1.4s									
BOK	**Bokaro**		**52.56**	**306**	*e*P		**P**	**22 52 59.1**	**+0.3**	
BOK					AMB		AMB	22 52 59.2		
	comp=Z,35nm,2.2s									
ODAN	**Odare**		**52.93**	**310**	*e*P		**P**	**22 53 01.9**	**+0.2**	
	comp=Z,272nm,0.7s									
TAPN	**Taplejung**		**52.95**	**311**	*e*P		**P**	**22 53 02.3**	**+0.4**	
	comp=Z,189nm,0.5s									
BKZ	**Black Stump Fm**		**52.99**	**135**	*e*P		**P**	**22 53 01.1**	**-0.6**	
	comp=Z,259nm,2.3s									
MDRS	**Chennai**		**53.27**	**291**	*e*P		**P**	**22 53 03.9**	**-0.1**	
MDRS					AMB		AMB	22 53 05.0		
	comp=Z,123nm,0.2s									
GTA	**Gaotai**		**53.37**	**331**	⇑P		**P**	**22 53 05.5**	**+0.9**	
GTA					pP		**pP**	**22 53 40.0**	**+1.6**	
GTA					sP		**sP**	**22 53 55.3**	**+0.8**	
GTA					PcP		**PcP**	**22 54 11.0**	**+0.9**	
GTA					ScP		**ScP**	**22 57 55.8**	**+1.6**	
GTA					PcS		**PcS**	**22 58 07.0**	**-2.3**	
GTA					S		**S**	**23 00 26.3**	**+0.9**	
GTA					sS		**sS**	**23 01 23.5**	**-0.4**	
GTA					SS		**SS**	**23 04 08.3**	**+0.6**	
GTA					PMZ					
	comp=Z,38nm,1.3s									
GTA					PMZ					
	comp=Z,130nm,6.0s									
GTA					LN					
	comp=Z,350nm,20.9s									
GTA					LE					
	comp=Z,450nm,22.8s									
GTA					LZ					
	comp=Z,65nm,18.1s									
PVM	**Polavaram**		**53.42**	**297**	*e*P		**P**	**22 53 04.0**	**-1.1**	
PVM					IAmb		IAmb	22 53 06.0		
	comp=Z,127nm,0.9s									
RAMN	**Ramite**		**53.58**	**310**	*e*P		**P**	**22 53 07.1**	**+0.6**	
	comp=Z,726nm,0.6s									
SKHT	**Srikalahasti**		**53.97**	**292**	*e*P		**P**	**22 53 08.5**	**-0.7**	
SKHT					IAmb		IAmb	22 53 09.5		
	comp=Z,77nm,0.7s									
YSS	**Yuzh-Sakhalins**		**53.99**	**11**	⇑*e*P		**P**	**22 53 09.0**	**+0.3**	
YSS					*e*			22 53 37.5		
YSS					pmax		pmax			
	comp=Z,40nm,0.8s									
YSS	**Yuzh-Sakhalins**		**53.99**	**11**	*e*P		**P**	**22 53 09.2**	**+0.5**	
	comp=Z,20nm,0.6s									
ADKI	**Addanki**		**54.41**	**294**	*e*P		**P**	**22 53 11.7**	**-0.7**	
ADKI					IAmb		IAmb	22 53 13.0		
	comp=Z,89nm,0.9s									
ADKI					*e*pP		**pP**	**22 53 44.1**	**-2.1**	
ADKI					*e*sP		**sP**	**22 53 59.2**	**-3.2**	
HABR	**Khabarovsk**		**54.53**	**4**	*de*P		**P**	**22 53 12.0**	**-0.6**	
HABR					*e**PP		**pP**	**22 53 44.5**	**-2.0**	
HABR					*e**SP		**sP**	**22 54 00.3**	**-2.3**	
HABR					*e*			22 54 12.7		
HABR					*e*PPP		PPP	22 56 29.8		
HABR					*e*S		**S**	**23 00 42.4**	**+2.0**	
HABR					*e*			23 00 45.6		
HABR					*e**SS		**sS**	**23 01 38.7**	**-0.4**	
HABR					*e*			23 02 46.4		
HABR					*e*SS		**SS**	**23 04 29.0**	**+3.7**	
HABR					pmax		pmax			
	comp=N,15nm,1.1s									
HABR					pmax		pmax			
	comp=Z,35nm,0.7s									
HABR					pmax		pmax			
	comp=E,9.0nm,0.7s									
HABR					MLR		MLR			
	comp=Z,45nm,18.0s									
GUN	**Gumba**		**54.62**	**311**	*e*P		**P**	**22 53 14.3**	**+0.1**	
	comp=Z,461nm,0.7s									
PKI	**Pulchoki**		**54.80**	**310**	*e*P		**P**	**22 53 15.4**	**-0.1**	
	comp=Z,142nm,0.7s									
PKIN	**Phulchoki**		**54.82**	**310**	*e*P		**P**	**22 53 15.3**	**-0.2**	
	comp=Z,31nm,0.5s									
KKN	**Kakani**		**55.02**	**310**	*e*P		**P**	**22 53 17.0**	**+0.2**	
	comp=Z,215nm,0.8s									
DMN	**Daman**		**55.05**	**310**	*e*P		**P**	**22 53 17.4**	**+0.2**	
	comp=Z,299nm,0.9s									
KLR	**Kul'dur**		**55.14**	**1**	*e*P		P	22 53 13.8	-3.2	
KLR					pmax		pmax			
	comp=Z,57nm,1.6s									
RCLA	**Racherla**		**55.20**	**293**	*e*P		**P**	**22 53 16.9**	**-1.2**	
RCLA					IAmb		IAmb	22 53 17.9		
	comp=Z,57nm,0.7s									
NJS	**Nagarjunasagar**		**55.25**	**295**	*e*P		**P**	**22 53 17.1**	**-1.3**	
NJS					IAmb		IAmb	22 53 18.4		
	comp=Z,66nm,1.1s									
SRLM	**Srisailam**		**55.47**	**294**	*e*P		**P**	**22 53 18.4**	**-1.6**	
SRLM					IAmb		IAmb	22 53 19.9		
	comp=Z,84nm,1.2s									
GKN	**Gorkha**		**55.61**	**310**	*e*P		**P**	**22 53 21.3**	**+0.3**	
	comp=Z,340nm,0.7s									
RPR	**Rampur**		**56.06**	**297**	*e*P		**P**	**22 53 23.2**	**-1.0**	
RPR					IAmb		IAmb	22 53 24.5		
	comp=Z,48nm,0.8s									
HYB	**Hyderabad**		**56.22**	**296**	*i*P		**P**	**22 53 23.5**	**-1.9**	
HYB	**Hyderabad**		**56.22**	**296**	*e*P		**P**	**22 53 24.8**	**-0.6**	
HYB					AMB		AMB	22 53 26.0		
	comp=Z,48nm,1.3s									
HYBB	**Hyderabad (bro**		**56.22**	**296**	*e*P		**P**	**22 53 24.4**	**-0.9**	
HYBB					IAmb		IAmb	22 53 25.2		
	comp=Z,133nm,1.4s									
KOLN	**Koldanda**		**56.29**	**309**	*e*P		**P**	**22 53 26.3**	**+0.4**	
	comp=Z,244nm,0.8s									
URV	**Uravakonda**		**56.60**	**292**	*e*P		**P**	**22 53 26.2**	**-1.8**	
URV					IAmb		IAmb	22 53 27.7		
	comp=Z,55nm,0.9s									
SRSP	**Sriramsagar**		**56.93**	**297**	*e*P		**P**	**22 53 28.6**	**-1.8**	
SRSP					IAmb		IAmb	22 53 30.1		
	comp=Z,53nm,0.8s									
NGP	**Nagpur**		**57.13**	**300**	*e*P		**P**	**22 53 31.3**	**-0.4**	
NGP					AMB		AMB	22 53 31.8		
	comp=Z,56nm,0.5s									
SONM	**Songino Array**		**57.72**	**341**	P		**P**	**22 53 36.8**	**+1.3**	
	comp=Z,18nm,0.6s,baz=161,slow=6.4,SNR=97									
SONM					PcP		**PcP**	**22 54 26.9**	**+0.2**	
	comp=Z,5.7nm,0.6s,baz=160,slow=5.1,SNR=4.2									
KLRI	**Killari**		**58.19**	**296**	*e*P		**P**	**22 53 37.5**	**-1.7**	
KLRI					IAmb		IAmb	22 53 38.7		
	comp=Z,49nm,0.8s									
AKL	**Akola**		**58.73**	**299**	*e*P		**P**	**22 53 45.2**	**+2.3**	
AKL					AMB		AMB	22 53 56.2		
	comp=Z,80nm,1.2s									
H08N1	**Diego Carcia H**		**58.92**	**266**	P		**P**	**22 53 44.9**	**+1.0**	
	baz=122,slow=3.8,SNR=9.8									
H08N2	**Diego Garcia H**		**58.94**	**266**	P		**P**	**22 53 45.1**	**+1.1**	
	baz=122,slow=3.8,SNR=11									
H08N3	**Diego Garcia H**		**58.94**	**266**	P		**P**	**22 53 45.1**	**+1.0**	
	baz=122,slow=3.8,SNR=9.6									
BHPL	**Bhopal**		**59.32**	**301**	*e*P		**P**	**22 53 46.2**	**-0.8**	
BHPL					AMB		AMB	22 53 46.8		
	comp=Z,54nm,1.0s									
NKL	**Nikolayevsk**		**59.70**	**7**	*i*P		P	22 53 44.5	-4.4	
NKL					pmax		pmax			
	comp=Z,13nm,0.6s									
GOA	**Goa**		**59.92**	**292**	*e*P		**P**	**22 53 50.8**	**-0.3**	
POO	**Poona**		**60.81**	**295**	*e*P		**P**	**22 53 56.1**	**-1.1**	
POO					AMB		AMB	22 53 56.9		
	comp=Z,49nm,0.6s									
ZAK	**Zakamensk**		**60.95**	**341**	*e*P		**P**	**22 53 57.7**	**+0.1**	
ZAK					pmax		pmax			
	comp=Z,11nm,1.2s									
DDI	**Dehra Dun**		**61.77**	**309**	*e*P		**P**	**22 54 02.5**	**-1.0**	
DDI					AMB		AMB	22 54 03.7		
	comp=Z,53nm,1.1s									
TLY	**Talaya**		**61.95**	**342**	P		**P**	**22 54 05.4**	**+1.2**	
	comp=Z,126nm,0.6s,SNR=7.8									
TLY	**Talaya**		**61.95**	**342**	P		**P**	**22 54 05.7**	**+1.5**	
	comp=Z,9.9nm,0.5s,baz=202,slow=4.3,SNR=22									
TLY	**Talaya**		**61.95**	**342**	*e*P		**P**	**22 54 05.3**	**+1.1**	
TLY					pmax		pmax			
	comp=Z,20nm,1.0s									
TLY	**Talaya**		**61.95**	**342**	P		**P**	**22 54 06.0**	**+1.8**	
SNR=8.6										
TLY	**Talaya**		**61.95**	**342**	*e*P		**P**	**22 54 05.2**	**+1.1**	
	comp=Z,20nm,1.0s									
MOY	**Mondy**		**62.81**	**340**	*e*P		**P**	**22 54 11.8**	**+1.8**	
MOY					pmax		pmax			
	comp=Z,57nm,2.5s									
SMLA	**Simla**		**62.82**	**310**	*e*P		**P**	**22 54 11.0**	**+0.7**	
WMQ	**Urumqi**		**62.84**	**327**	P		**P**	**22 54 11.5**	**+1.2**	
WMQ					pP		**pP**	**22 54 45.0**	**-0.2**	
WMQ					PcP		**PcP**	**22 54 46.5**	**-0.9**	
WMQ					sP		**sP**	**22 55 00.8**	**-0.2**	
WMQ					PP		**PP**	**22 56 33.0**	**+2.5**	
WMQ					ScP		**ScP**	**22 58 35.5**	**-0.4**	
WMQ					S		**S**	**23 02 27.5**	**-0.8**	
WMQ					sS		**sS**	**23 03 24.8**	**-3.6**	
WMQ					PMZ					
	comp=Z,63nm,0.8s									
WMQ					PMZ					
	comp=Z,41nm,4.2s									
WMQ					LN					
	comp=Z,88nm,9.6s									
WMQ					LE					
	comp=Z,98nm,8.4s									
WMQ					LZ					
	comp=Z,45nm,20.1s									
CLNS	**Chul'man**		**62.91**	**357**	*e*P		**P**	**22 54 11.0**	**+0.6**	
CLNS					pmax		pmax			
	comp=Z,19nm,0.6s									
CLNS					pmax		pmax			
	comp=N,12nm,0.8s						

SNR=19
FRU Bishkek 70.10 320 *i* P **P** **22 54 56.5 0.0**
FRU pmax pmax
comp=Z,45nm,2.0s
AML Almayashu 70.36 319 P **P** **22 55 00.2 +1.6**
SNR=38
USP Ospenovka 70.39 320 P **P** **22 54 59.4 +1.2**
SNR=46
KBL Kabul 70.45 310 *e*P **P** **22 54 59.0 0.0**
KBL pmax pmax
comp=Z,47nm,1.0s
KBL Kabul 70.45 310 *e*P **P** **22 54 59.0 0.0**
comp=Z,47nm,1.0s
EKS2 Erkin-Say 70.56 319 P **P** **22 55 01.0 +1.6**
SNR=57
EKS2 Erkin-Say 70.56 319 *e*P **P** **22 55 00.8 +1.4**
EKS2 pmax pmax
comp=Z,53nm,0.8s
EKS2 Erkin-Say 70.56 319 *e*P **P** **22 55 00.8 +1.4**
comp=Z,54nm,0.8s
SEY Seymchan 70.90 10*c i*P **P** **22 55 02.1 +1.3**
ZALV Zalesovo Beam 70.95 334 P **P** **22 55 01.2 -0.1**
comp=Z,29nm,0.6s,baz=137,slow=5.4,SNR=140
ZALV Zalesovo Beam 70.95 334 *i* P **P** **22 55 01.2 -0.1**
ZALV pmax pmax
comp=Z,29nm,0.6s
KURBB Kurchatov Arra 71.94 328 P **P** **22 55 08.0 +0.7**
comp=Z,30nm,0.5s,baz=128,slow=4.9,SNR=366
KURBB pP **pP** **22 55 41.2 -1.8**
comp=Z,10nm,0.8s,baz=126,slow=5.0,SNR=3.3
KURK Kurchatov 71.94 328 P **P** **22 55 08.0 +0.7**
comp=Z,377nm,0.5s,SNR=51
KURK Kurchatov 71.94 328 *e*P **P** **22 55 07.5 +0.2**
KURK *PP **pP** **22 55 41.2 -1.8**
KURK pmax pmax
comp=Z,39nm,0.6s
KURK Kurchatov 71.94 328 P **P** **22 55 08.2 +0.9**
SNR=30
KURK Kurchatov 71.94 328 *e*P **P** **22 55 07.5 +0.2**
comp=Z,39nm,0.6s
KURK pP **pP** **22 55 41.2 -1.8**
NVS Novosibirsk 72.23 334⇑ *i*P **P** **22 55 08.8 -0.1**
NVS *e**PP **pP** **22 55 49.7 +5.1**
NVS *e*S **S** **23 04 17.5 -2.2**
NVS pmax pmax
comp=Z,42nm,0.9s
NVS pmax pmax
comp=N,24nm,1.0s
NVS pmax pmax
comp=E,30nm,1.0s
NVS smax smax
comp=N,18nm,2.1s
KKAR Karatay Array 72.90 319 *e*P **P** **22 55 13.2 0.0**
KKAR Karatay Array 72.90 319 *e*P **P** **22 55 13.2 0.0**
VNDA Vanda 73.27 173 P **P** **22 55 15.3 +0.6**
comp=N,5.3nm,0.5s,baz=321,slow=6.6,SNR=52
VNDA LR LR 23 25 29.6
comp=N,77nm,21.7s,baz=300,slow=34
VNDA Vanda 73.27 173 *e*P **P** **22 55 15.1 +0.3**
VNDA pmax pmax
comp=Z,5.0nm,0.6s
VNDA Vanda 73.27 173 *e*P **P** **22 55 15.1 +0.3**
comp=Z,4.9nm,0.6s
SBA Scott Base 74.15 172 *e*P **P** **22 55 20.5 +0.6**
SBA pmax pmax
comp=Z,118nm,3.0s
SBA Scott Base 74.15 172 *e*P **P** **22 55 20.5 +0.6**
comp=Z,118nm,3.0s
WBK Wadi Bani Khal 75.32 295⇑P **P** **22 55 28.4 +0.7**
SNR=9.1
MAW Mawson 75.87 201 P **P** **22 55 30.9 +1.1**
comp=Z,4.6nm,0.7s,baz=86,slow=7.2,SNR=9.4
MAW Mawson 75.87 201 *e*P **P** **22 55 31.0 +1.1**
MAW pmax pmax
comp=Z,45nm,2.9s
MAW Mawson 75.87 201 *e*P **P** **22 55 31.0 +1.1**
comp=Z,45nm,2.9s
JMDO Jabal Madar 76.05 295⇑P **P** **22 55 32.5 +0.7**
SNR=5.6
SMDO Samad 76.25 295⇑P **P** **22 55 33.6 +0.5**
SNR=11
BSY Bisya 76.95 295⇑P **P** **22 55 37.7 +0.8**
SNR=7.4
HOQ Hoqain 77.03 296⇑P **P** **22 55 38.2 +0.9**
SNR=18
IDAH Dahanechah 77.09 305 *e*P **P** **22 55 39.2 +1.4**
BVAR Borovoye Array 77.50 328 P **P** **22 55 39.8 +0.5**
comp=Z,19nm,0.6s,baz=116,slow=8.3,SNR=102
BRVK Borovoye 77.57 328 P **P** **22 55 40.9 +1.2**
comp=Z,280nm,0.9s,SNR=21
BRVK Borovoye 77.57 328*c i*P **P** **22 55 40.0 +0.3**
BRVK pmax pmax
comp=Z,45nm,1.2s
BRVK Borovoye 77.57 328 P **P** **22 55 40.5 +0.8**
SNR=13
BRVK Borovoye 77.57 328 *e*P **P** **22 55 40.2 +0.5**
comp=Z,28nm,0.8s
TIXI Tiksi 77.63 360⇑ *e*P **P** **22 55 39.1 -0.5**
TIXI pmax pmax
comp=Z,28nm,1.0s
TIXI Tiksi 77.63 360 *e*P **P** **22 55 39.0 -0.5**
comp=Z,21nm,0.6s
IMYA Miami 77.92 309 *e*P **P** **22 55 43.2 +0.9**
ITEG Tejag 78.04 305 *e*P **P** **22 55 43.8 +0.8**
HATD Hatta, Dubai 78.35 297⇓ *i*P **P** **22 55 45.1 +0.4**
SNR=7.8
ASHO Ashiyiah 78.38 297⇑ *i*P **P** **22 55 45.3 +0.4**
SNR=9.8
ISRO Mashad 78.40 309 *e*P **P** **22 55 44.7 -0.1**
BANOM Banah 78.44 298⇑ *i*P **P** **22 55 45.7 +0.6**
SNR=11
NAZ Nazwa, Dubai 78.80 297⇑ *i*P **P** **22 55 47.7 +0.7**
SNR=6.0
FAQ Al Faqa, Dubai 78.81 297⇓ *i*P **P** **22 55 47.5 +0.4**
SNR=15
IPAY Payeh 78.81 309 *e*P **P** **22 55 48.2 +1.0**
ASUD Al Ashush, Dub 79.02 296⇑ *i*P **P** **22 55 49.1 +0.8**
SNR=14
IAKL Akhelmad 79.04 309 *e*P **P** **22 55 48.5 0.0**
IKRD Kardeh 79.27 309 *e*P P 22 55 46.4 -3.3
ISFR Sfrayin 79.75 309 *e*P **P** **22 55 52.8 +0.4**
GEYT Alibeck 79.89 310 P **P** **22 55 53.8 +1.0**
comp=Z,14nm,0.7s,baz=151,slow=3.4,SNR=41
ISHV Shirvan 80.10 310 *e*P **P** **22 55 54.8 +0.6**
IMEH Mehriz 81.08 303 *e*P **P** **22 55 58.9 -0.6**
OPO Ambohidratompo 81.58 252 P **P** **22 56 02.3 -0.1**
comp=Z,6.5nm,0.7s,baz=94,slow=4.3,SNR=13
ISAD Sadrabad 81.97 303 *e*P **P** **22 56 03.0 -1.2**
ABKAR Akbulak array 82.03 321 *e*P **P** **22 56 03.7 -0.1**
IGLO Ghaloghah 82.85 308 *e*P **P** **22 56 07.7 -1.0**
IKAZ Kazeroun 83.09 301 *e*P **P** **22 56 09.9 -0.3**
AKTO Aktyubinsk 83.58 322 P **P** **22 56 12.1 +0.3**
comp=Z,10nm,0.5s,baz=104,slow=7.0,SNR=43
IPRN Peran 83.97 307 *e*P **P** **22 56 14.2 -0.1**
IKLH Kolahrood 83.99 304 *e*P **P** **22 56 15.7 +1.0**
IDMV Damavand 84.08 307 *e*P **P** **22 56 14.9 -0.1**
SVE Sverdlovsk 84.19 329*de*P **P** **22 56 15.1 +0.4**
SVE pmax pmax
comp=Z,54nm,1.1s
IPIR Pirpir 84.44 304 *e*P **P** **22 56 15.8 -1.1**
SYO Syowa Base 84.58 201⇑ *e*P **P** **22 56 15.8 -0.7**
ARU Arti 85.14 328 P **P** **22 56 19.8 +0.3**
comp=Z,242nm,0.5s,SNR=14
ARU Arti 85.14 328*d i*P **P** **22 56 19.0 -0.5**
ARU 22 59 40.8
ARU S S 23 06 29.9 -6.9
ARU SS **SS** **23 12 13.8 -0.3**
ARU pmax pmax
comp=Z,23nm,0.7s
ARU Arti 85.14 328 *e*P **P** **22 56 18.8 -0.7**
comp=Z,44nm,1.1s
IRAZ Razeghan 85.73 306 *e*P **P** **22 56 23.8 +0.6**
DAMY Dhamar 87.60 285 *e*P **P** **22 56 31.1 -1.6**
comp=Z,102nm,1.7s
RAYN Ar Rayn 87.68 294 P **P** **22 56 33.0 +0.3**
comp=Z,159nm,0.9s,SNR=20
RAYN Ar Rayn 87.68 294 *e*P **P** **22 56 31.9 -0.8**
comp=Z,55nm,1.8s
ISRB Sarab 87.94 308 *e*P **P** **22 56 34.1 +0.3**
KDAK Kodiak Island 88.32 31 P **P** **22 56 36.0 +1.2**
comp=Z,103nm,1.7s,SNR=5.1
KDAK Kodiak Island 88.32 31 *i* P **P** **22 56 35.7 +0.9**
IBST Bostanabad 88.52 308 *e*P **P** **22 56 35.8 -0.8**
IAZR Azarshahr 89.24 308 *e*P **P** **22 56 39.2 -0.8**
IMRD Marand 89.60 309 *e*P **P** **22 56 42.1 +0.5**
PPLA Purkeypile 89.75 27 *e*P **P** **22 56 41.5 -0.1**
comp=Z,31nm,1.8s
CAST Castle Rocks 89.92 26 *e*P **P** **22 56 42.7 +0.4**
comp=Z,5.8nm,0.6s
GNI Garni 90.53 310 P **P** **22 56 46.0 +0.1**
GNI pmax pmax
comp=Z,13nm,1.2s
MLY Manley 90.87 25 *e*P **P** **22 56 46.4 -0.3**
comp=Z,6.6nm,0.8s
SML Sawmill 91.28 28 *e*P **P** **22 56 48.7 0.0**
SML pmax pmax
comp=Z,3.0nm,0.6s
SML Sawmill 91.28 28 *e*P **P** **22 56 48.6 0.0**
comp=Z,2.5nm,0.6s
RND Reindeer 91.34 26 *e*P **P** **22 56 47.8 -1.2**
RND pmax pmax
comp=Z,12nm,0.7s
RND Reindeer 91.34 26 *e*P **P** **22 56 47.8 -1.2**
comp=Z,12nm,0.7s
MCK McKinley 91.37 26 *e*P **P** **22 56 48.3 -0.7**
MCK pmax pmax
comp=Z,6.0nm,0.8s
MCK McKinley 91.37 26 *e*P **P** **22 56 48.2 -0.7**
comp=Z,5.5nm,0.8s
WRH Wood River Hil 91.87 25 *e*P **P** **22 56 50.2 -1.1**
comp=Z,8.6nm,0.8s
MDM Murphy Dome 91.90 25 *e*P **P** **22 56 50.7 -0.7**
comp=Z,4.1nm,0.6s
CCB Clear Creek Bu 92.02 25 *e*P **P** **22 56 51.0 -1.0**
comp=Z,12nm,0.8s
COLA College 92.04 25 P **P** **22 56 52.0 0.0**
COLA pmax pmax
comp=Z,68nm,2.1s
KBZ Khabaz 92.33 314 P **P** **22 56 53.2 -0.6**
comp=Z,1.7nm,0.6s,baz=136,slow=3.2,SNR=4.7
ILAR Eielson Array 92.43 25 P **P** **22 56 52.5 -1.4**
comp=Z,4.9nm,0.7s,baz=273,slow=4.3,SNR=41
ILAR LR LR 23 34 53.6
comp=Z,25nm,19.7s,baz=324,slow=33
EGAK Eagle 94.87 25 *e*P **P** **22 57 04.4 -0.7**
comp=Z,8.6nm,0.9s
HYT Haines Junctio 96.37 30 *e*P **P** **22 57 10.0 -2.2**
SNAA Sanae 96.58 193 P **P** **22 57 10.7 -2.1**
OBN Obninsk 97.13 325⇓ *e*P **P** **22 57 14.3 -1.2**
OBN pmax pmax
comp=Z,17nm,1.7s
BRTR Keskin Array B 99.01 309 P **Pdif** **22 57 23.4 -1.2**
comp=Z,1.2nm,0.8s,baz=123,slow=4.7,SNR=9.6
BRTR PP PP 23 01 20.9 -7.7
comp=Z,0.9nm,0.9s,baz=120,slow=8.5,SNR=4.3
BRTR LR LR 23 49 51.7
comp=Z,10.0nm,18.4s,baz=116,slow=40
BRTR Keskin Array B 99.01 309 *i* P **Pdif** **22 57 23.6 -1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 100.88 340 P **Pdif** **22 57 31.2 -0.8**
comp=Z,6.7nm,0.9s,baz=72,slow=6.2,SNR=11
ARCES PKiKP **PKiKP** **23 01 56.8 0.0**
comp=Z,1.7nm,0.8s,baz=121,slow=1.1,SNR=6.1
FINES FINESS Array B 102.15 332 P **Pdif** **22 57 36.6 -1.2**
comp=Z,2.1nm,0.6s,baz=67,slow=4.7,SNR=14
FINES PKiKP **PKiKP** **23 01 58.4 -0.8**
comp=Z,2.1nm,1.0s,baz=174,slow=3.5,SNR=4.2
VSU Vasula 102.30 328 P **Pdif** **22 57 36.0 -2.5**
VSU pmax pmax
comp=Z,31nm,1.1s
TIRR Tirgusor 102.76 314⇓ *i*P PP 23 01 47.0 -9.4
CFR Carcaliu 102.91 315⇓ *i*P **PP** **23 01 58.9 +1.5**
HARR Harsova 103.09 314⇓ *i*P Pdif 22 57 56.6 +14
MSAB Monastyr St. A 103.21 314⇑ *i*P **PP** **23 01 58.8 -0.9**
VRI Vrincioaia 103.83 316⇑ *i*P **PP** **23 02 07.2 +2.8**
PLOR Plostina 103.89 316⇓ *i*P **PP** **23 02 09.0 +4.2**
MLR Muntele Rosu 104.42 315⇓ *i*P Pdif 22 58 04.0 +16
MLR Muntele Rosu 104.42 315⇑ *i*P **PP** **23 02 10.1 +1.2**
BURAR Bucovina Array 104.67 318⇑ *i*P **Pdif** **22 57 50.3 +0.8**
BURAR Bucovina Array 104.67 318⇑ *i*P **PP** **23 02 14.6 +4.0**
VOIR 105.05 315⇑ *i*P **PKiKP** **23 02 02.8 -2.4**
APE Apeiranthos 105.46 307⇑ *i*P **PKiKP** **23 02 08.7 +2.6**
KOLS Kolonicke sedl 106.43 319 PDIF **Pdif** **22 57 57.8 +0.7**
DRGR 106.48 317⇑ *i*P PP 23 02 29.4 +5.5
VTS Vitosha 106.71 313⇑ *i*P **Pdif** **22 57 57.8 -0.9**
VTS Vitosha 106.71 313⇑ *i*P **PP** **23 02 21.4 -4.5**
YKA Yellowknife Ar 106.84 26 Pdiff **Pdif** **22 57 58.7 +0.1**
comp=Z,0.2nm,0.6s,baz=293,slow=5.0,SNR=2.7
YKA PKiKP **PKiKP** **23 02 07.8 0.0**
comp=Z,1.0nm,0.6s,baz=300,slow=1.7,SNR=12
DIVS Divibare 108.81 314⇓ *i*P **PKiKP** **23 02 12.6 +0.4**
NB2 NORSAR Subarra 109.15 333 P **Pdif** **22 58 07.8 -1.2**
comp=Z,1.3nm,0.8s,baz=68,slow=4.6
NOA NORSAR Array B 109.15 333 Pdiff **Pdif** **22 58 07.3 -1.7**
comp=Z,1.4nm,0.9s,baz=68,slow=4.6,SNR=4.6
PKSM Moragy 109.35 317⇓ *i*P **PP** **23 02 43.1 -1.6**
NVAR Mina Array Bea 110.51 51 Pdiff **Pdif** **22 58 18.7 +2.9**
comp=Z,0.3nm,0.6s,baz=270,slow=1.6,SNR=3.5
CLL Collm 111.65 323 *e*PKiKP **PKiKP** **23 02 16.0 -1.2**
CLL *e*PP **PP** **23 02 57.0 -4.0**
CLL Collm 111.65 323 *e*PKiKP 23 02 16.0
CLL *e* 23 02 57.0
CLL pmax pmax
comp=Z,2.0nm,1.0s
MOA Molln 111.87 319⇑ *i*PKiKP **PKiKP** **23 02 16.4 -1.4**
comp=Z,2.1nm,0.8s
GEC2 GERESS Array S 111.95 320 *e*PKiKP **PKiKP** **23 02 17.7 -0.3**
GEC2 GERESS Array S 111.95 320 *e*PKiKP **PKiKP** **23 02 17.7 -0.3**
GERES GERESS Array B 111.95 320 PKiKP **PKiKP** **23 02 17.9 -0.1**
comp=Z,2.2nm,0.6s,baz=67,slow=1.6,SNR=19
GERES PP **PP** **23 03 08.0 +4.6**
comp=Z,0.5nm,0.7s,baz=82,slow=7.0,SNR=4.4
ABTA Abfaltersbach 113.32 319⇑ *i*PKiKP **PKiKP** **23 02 19.8 -0.9**
comp=Z,2.7nm,0.7s
WTTA Wattenberg 113.74 319⇑ *i*PKiKP **PKiKP** **23 02 21.5 -0.1**
comp=Z,10nm,0.4s
WATA Walderalm 113.76 319⇑ *i*PKiKP **PKiKP** **23 02 21.2 -0.4**
comp=Z,2.9nm,0.3s
MOTA Moosalm 114.06 319⇑ *i*PKiKP PKPdf 23 02 21.7 -0.4
comp=Z,3.0nm,0.4s
RETA Reutte 114.24 320⇑ *i*PKiKP PKPdf 23 02 21.9 -0.5
comp=Z,1.6nm,0.6s
FETA Feichten 114.41 319⇑ *i*PKiKP PKPdf 23 02 22.2 -0.6
comp=Z,1.6nm,0.4s
FUORN Ofenpass-Fuorn 114.84 319 *e*PKiKP **PKiKP** **23 02 23.7 -0.1**
DAVA Damuels 114.87 320⇑ *i*PKiKP **PKiKP** **23 02 23.7 -0.1**
comp=Z,5.8nm,0.4s
PDAR Pinedale Array 116.06 45 PKP **PKPdf** **23 02 26.7 +0.4**
comp=Z,0.7nm,0.8s,baz=27,slow=3.6,SNR=5.3
BCLA Clavier 116.52 324 PKP **PKPdf** **23 02 27.2 +0.7**
DOU Dourbes 117.07 324 PKP **PKPdf** **23 02 28.1 +0.5**
SNF Seneffe 117.07 325 PKP **PKPdf** **23 02 28.2 +0.6**
BNI Bardonecchia 117.72 318 *e*PKiKP **PKPdf** **23 02 29.3 0.0**
BNI Bardonecchia 117.72 318 *e*PKPdf **PKPdf** **23 02 29.3 0.0**
O20A White River Ci 117.76 48 *e*PKPdf **PKPdf** **23 02 28.8 -0.8**
ULM Lac du Bonnet 121.55 33 PKP **PKPdf** **23 02 35.9 -0.4**
comp=Z,2.0nm,0.6s,baz=97,slow=2.1,SNR=3.7
TXAR Lajitas Array 124.21 59 PKP **PKPdf** **23 02 42.6 +0.4**
comp=Z,1.1nm,0.9s,baz=206,slow=0.9,SNR=7.6
ECSD EROS Data Cent 124.42 40 *e*PKPdf **PKPdf** **23 02 41.8 -0.2**
ESDC Sonseca Array 127.10 316 PKP **PKPdf** **23 02 47.8 +0.5**
comp=Z,0.5nm,0.6s,baz=325,slow=1.7,SNR=4.9
ESDC PP **PP** **23 04 48.9 +1.5**
comp=Z,3.3nm,1.0s,baz=66,slow=7.4,SNR=9.8
JCT Junction City 127.16 56 *e*PKPpre PKPpre 23 02 45.2
JCT *e*PKPdf **PKPdf** **23 02 45.8 -1.9**
TORD Torodi Ar. Bea 128.94 282 PKP **PKPdf** **23 02 51.5 +0.1**
comp=Z,3.1nm,0.6s,baz=72,slow=2.1,SNR=19
TORD PP PP 23 05 07.0 +6.5
comp=Z,1.0nm,0.9s,baz=35,slow=5.3,SNR=3.7
TORD SKPbc SKiKP 23 05 57.0 -18
comp=Z,4.4nm,0.8s,baz=66,slow=3.7,SNR=16
SCHQ Schefferville 129.51 13 PKP **PKPdf** **23 02 52.2 +0.8**
comp=Z,3.2nm,0.7s,baz=260,slow=6.1,SNR=4.6
SCHQ SKPbc SKPab 23 05 58.6 -0.6
comp=Z,5.6nm,0.7s,baz=23,slow=2.6,SNR=5.3
DBIC Dimbokro 135.46 273 PKhKP PKPpre 23 02 56.0
comp=Z,1.7nm,0.4s,baz=91,slow=4.1,SNR=3.6
DBIC SKPbc **SKPbc** **23 06 19.9 -1.6**
comp=Z,3.3nm,0.5s,baz=66,slow=3.4,SNR=10
DBIC Dimbokro 135.46 273 PKHKP PKPpre 23 02 56.0
LRAL Lakeview Retre 136.21 47 *e*SKPbc **SKPbc** **23 06 22.9 -0.4**
LRAL *e*SKPdf **SKPdf** **23 06 23.1 -3.1**
LVC Limon Verde 145.79 147 *e*PKPdf **PKPab** **23 03 24.9 +1.2**
CPUP Villa Florida 146.89 167 PKPbc **PKPbc** **23 03 25.1 -0.8**
comp=Z,7.4nm,0.7s,baz=194,slow=1.4,SNR=16
CPUP SKPbc **SKPbc** **23 06 50.5 -0.5**
comp=Z,4.6nm,1.0s,baz=32,slow=3.6,SNR=3.1
CPUP Villa Florida 146.89 167 PKP2 **PKPbc** **23 03 25.1 -0.8**
CPUP 23 06 50.5
CPUP pmax pmax
comp=Z,7.0nm,0.7s
CPUP pmax pmax
comp=N,5.0nm,1.0s
CPUP Villa Florida 146.89 167 *e*PKPdf **PKPdf** **23 03 23.5 -0.4**
CPUP SKPbc **SKPbc** **23 06 50.5 -0.5**
OTAV Otavalo 150.70 100 *e*PKPdf **PKPdf** **23 03 30.3 -0.6**
LPAZ La Paz 151.20 141 PKP **PKPdf** **23 03 32.9 +1.1**
comp=N,4.5nm,0.5s,baz=162,slow=4.8,SNR=4.7
LPAZ PKPbc **PKiKP** **23 03 39.2 +0.9**
comp=N,4.9nm,0.4s,baz=31,slow=2.9,SNR=40
LPAZ La Paz 151.20 141 *e*PKPdf **PKPdf** **23 03 32.5 +0.7**
LPAZ PKPbc **PKiKP** **23 03 39.2 +0.9**
SDV Santo Domingo 159.05 81 *e*PKPdf **PKPdf** **23 03 40.6 -1.4**

ISCJB ***26*** *23:15:31.7±0.4,26.45S±0.02×27.46E±0.04,h18km±3km, mb3.6/2,MS3.5/1,Error ellipse: s-maj=6.0km s-min=3.9km az=16.7*
PRE ***26*** *23:15:32.0±2.3,26.43S×27.35E,h2km,ML3.2*
IDC ***26*** *23:15:32.5±1.4,26.47S×27.35E,h0km,mb3.7/2, mb1 4.0/7,mb1mx3.6/31,mbtmp3.9/7,ML3.2/4,MS3.5/1, Ms1 3.4/1,ms1mx2.5/29,Error ellipse: s-maj=20.7km s-min=13.3km az=101.0*

ISC 26 23:15:32.5±0.8,26.42S±0.03×27.39E±0.04,h10km±5km, n24,σ1s54/43,2D,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WDLM	**Western Deep L**	**0.03**	**102**	*e*P		**Pg**	**23 15 34.5**	**0.0**
WDLM				*e*S		**Sg**	**23 15 34.8**	**-1.2**
WDLM				AML		AML	23 15 36.7	
	comp=Z,32μm,0.3s							
KLOF	**Kloof**	**0.21**	**72**	*e*P		**Pg**	**23 15 37.6**	**+0.7**
KLOF				*e*S		**Sg**	**23 15 39.7**	**-0.3**
KLOF				AML		AML	23 15 43.6	
	comp=Z,2μm,0.2s							
PRYS	**Parys**	**0.51**	**183**	*e*P		**Pg**	**23 15 43.0**	**+0.7**
PRYS				*e*S		**Sg**	**23 15 48.0**	**-1.1**
PRYS				AML		AML	23 15 54.6	
	comp=Z,1μm,0.5s							
BFSD	**Buffelsfontein**	**0.70**	**230**	*e*P		**Pg**	**23 15 46.3**	**+0.3**
BFSD				*e*S		**Sg**	**23 15 53.6**	**-1.5**
BFSD				AML		AML	23 16 02.2	
	comp=Z,359nm,0.2s							
KSR	**Koster**	**0.71**	**322**⇓	*i*P		**Pb**	**23 15 47.1**	**-0.1**
KSR				*e*S		**Sg**	**23 15 55.7**	**+0.1**
KSR				AML		AML	23 16 04.5	
	comp=Z,196nm,0.3s							
MOAB	**Moab Khotsong**	**0.77**	**223**	*e*P		**Pg**	**23 15 47.1**	**-0.3**
MOAB				*e*S		**Sg**	**23 15 56.3**	**-1.3**
MOAB				AML		AML	23 16 06.1	
	comp=Z,231nm,0.2s							
TLEK	**Tau Lekoa**	**0.84**	**229**	*e*P		**Pb**	**23 15 49.5**	**+0.2**
TLEK				*e*S		**Sg**	**23 15 58.9**	**-0.7**
TLEK				AML		AML	23 16 07.5	
	comp=Z,279nm,0.5s							
SWZ	**Schweizer**	**1.99**	**247**	*e*P		**Pn**	**23 16 06.7**	**+0.3**
SWZ				*e*P		**Pb**	**23 16 08.6**	**-0.2**
SWZ				AML		AML	23 16 35.9	
	comp=Z,248nm,0.2s							
LBTB	**Lobatse**	**2.13**	**310**	*e*P		**Pn**	**23 16 08.8**	**+0.5**
LBTB				*e*S		**Sn**	**23 16 35.9**	**+0.9**
LBTB				AML		AML	23 16 41.0	
	comp=Z,646nm,0.8s							
LBTB	**Lobatse**	**2.13**	**310**	Pn		**Pb**	**23 16 11.1**	**-0.2**
	comp=Z,37nm,0.3s,baz=135,slow=16,SNR=450							
LBTB				Pg		**Pg**	**23 16 12.4**	**-1.0**
	comp=Z,37nm,0.3s,baz=136,slow=18,SNR=457							
LBTB				Lg		Lg	23 16 40.2	
	comp=Z,184nm,0.3s,baz=234,slow=5.4,SNR=62							
BOSA	**Boshof**	**2.89**	**220**⇓	*i*P		**Pn**	**23 16 19.1**	**+0.4**
BOSA				*e*S		**Sn**	**23 16 53.5**	**-0.2**
BOSA				AML		AML	23 17 01.6	
	comp=Z,109nm,0.3s							
BOSA	**Boshof**	**2.89**	**220**	Pn		**Pn**	**23 16 20.1**	**+1.4**
	comp=Z,5.6nm,0.3s,baz=37,slow=15,SNR=152							
BOSA				Pg		**Pb**	**23 16 25.1**	**+0.8**
	comp=Z,6.7nm,0.3s,baz=41,slow=17,SNR=21							
BOSA				Sn		**Sn**	**23 16 55.4**	**+1.7**
	comp=Z,6.6nm,0.3s,baz=108,slow=19,SNR=4.3							
BOSA				Lg		Lg	23 17 00.9	
	comp=Z,38nm,0.3s,baz=321,slow=18,SNR=12							
KSD	**Kokstad**	**4.48**	**157**	*e*P		**Pn**	**23 16 41.2**	**+0.6**
KSD				*e*S		**Sn**	**23 17 30.5**	**-2.4**
KSD				AML		AML	23 18 00.5	
	comp=Z,20nm,0.6s							
MSNA	**Messina**	**4.71**	**31**	*e*P		**Pn**	**23 16 42.2**	**-1.5**
MSNA				*e*S		**Sn**	**23 17 34.8**	**-3.7**
MSNA				AML		AML	23 17 58.5	
	comp=Z,36nm,0.5s							
MATP	**Matopo**	**6.05**	**10**	Pn		**Pn**	**23 17 03.8**	**+1.6**
	comp=Z,2.1nm,0.3s,baz=189,slow=13,SNR=52							
MATP				Sn		**Sn**	**23 18 09.8**	**-1.9**
	comp=Z,2.2nm,0.3s,baz=276,slow=1.9,SNR=13							
MATP				Lg		Lg	23 18 40.2	
	comp=Z,5.6nm,0.3s,baz=125,slow=14,SNR=12							
SOE	**Somerset East**	**6.47**	**194**	*e*P		**Pn**	**23 17 08.6**	**+0.7**
SOE				*e*S		**Sn**	**23 18 19.5**	**-2.3**
SOE				AML		AML	23 18 55.3	
	comp=Z,11nm,0.4s							
GRM	**Grahamstown**	**6.92**	**186**	*e*P		**Pn**	**23 17 14.3**	**+0.4**
GRM				*e*S		**Sn**	**23 18 30.5**	**-2.2**
GRM				AML		AML	23 18 46.1	
	comp=Z,6.6nm,0.5s							
CER	**Ceres**	**9.86**	**223**	*e*P		**Pn**	**23 17 54.7**	**+0.4**
CER				*e*S		**Sn**	**23 19 41.1**	**-4.0**
CER				AML		AML	23 20 37.2	
	comp=Z,8.1nm,0.6s							
LSZ	**Lusaka**	**11.11**	**4**	Pn		**Pn**	**23 18 12.1**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=179,slow=16,SNR=7.8							
LSZ				Sn		**Sn**	**23 20 12.6**	**-3.5**
	comp=Z,0.5nm,0.3s,baz=54,slow=19,SNR=3.9							
LSZ				Lg		Lg	23 21 21.3	
	comp=Z,0.2nm,0.3s,baz=93,slow=18,SNR=3.6							
TSUM	**Tsumeb**	**11.54**	**306**	Pn		**Pn**	**23 18 18.7**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=123,slow=10,SNR=44							
TSUM				Sn		Sn	23 20 18.7	-7.9
	comp=Z,0.1nm,0.3s,baz=108,slow=11,SNR=3.0							
TSUM				Lg		Lg	23 21 32.9	
	comp=Z,0.2nm,0.3s,baz=136,slow=13,SNR=4.9							
MAW	**Mawson**	**46.48**	**162**	LR		LR	23 40 33.1	
	comp=Z,55nm,18.9s,baz=256,slow=32							
TORD	**Torodi Ar. Bea**	**46.59**	**324**	P		**P**	**23 24 02.2**	**+1.3**
	comp=Z,0.6nm,0.4s,baz=129,slow=6.0,SNR=19							
ESDC	**Sonseca Array**	**71.96**	**335**	P		**P**	**23 26 58.4**	**+2.2**
	comp=Z,0.2nm,0.4s,baz=152,slow=6.0,SNR=5.3							
NVAR	**Mina Array Bea**	**148.83**	**301**	PKPbc		**PKPbc**	**23 35 21.8**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=71,slow=3.2,SNR=2.6							

GUC 26 23:25:03.1±0.5,35.95S×73.80W,h27km±10km,ML4.2,1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LNCH	**Linares**	**1.79**	**87**⇑	*i*P		Pn	23 25 33.2	+1.0
LNCH				*i* S		Sb	23 25 56.2	-1.1
TALC	**Talca**	**1.85**	**73**	*e*P		Pn	23 25 34.3	+1.3
TALC				*i* S		Sb	23 25 57.8	-1.1
CLCH	**Cerro Calan**	**3.70**	**48**	*e*P		Pn	23 25 59.6	+0.9
PEL	**Peldehue**	**3.80**	**43**	*e*P		Pn	23 26 01.6	+1.6

IDC ***27*** *00:19:10.9±3.9,3.38S×103.10E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.6/29,mbtmp3.8/6,ML4.0/1,MS2.7/1, Ms1 2.7/1,ms1mx2.3/31,Error ellipse: s-maj=155.4km s-min=18.8km az=57.0*
ISCJB ***27*** *00:19:18.0±0.5,2.78S±0.04×103.94E±0.06,h33km, mb3.8/5,Error ellipse: s-maj=8.5km s-min=5.5km az=179.0*
DJA ***27*** *00:19:17.6±0.3,3.3°S±2.1°×10.4°E±1.1°,h10km,M4.4/17,mb4.3/1, ML4.4/17*

ISC 27 00:19:19.4±0.9,2.80S±0.05×103.91E±0.06,h35km,n21, σ1s29/21,mb3.8/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMBI	**Palembang**	**0.87**	**98**	P		**Pn**	**00 19 33.4**	**-1.8**
LHSI	**Lahat**	**1.09**	**201**	P		**Pn**	**00 19 35.9**	**-2.2**
LHSI				S		**Sn**	**00 19 52.5**	**+0.6**
JMBI	**JAMBI**	**1.19**	**347**	P		**Pn**	**00 19 38.0**	**-1.6**
MDSI	**

MNAI	**Manna**	**1.81**	**211**	P	**Pn**	**00 19 47.1**	**-1.0**
KLSI		**2.05**	**156**	P	**Pn**	**00 19 51.0**	**-0.3**
LWLI	**Liwa**	**2.21**	**176**	P	**Pn**	**00 19 54.6**	**+1.0**
LWLI				S	Sn	00 20 25.9	+6.2
KLI	**Kotabumi**	**2.26**	**155**	P	**Pn**	**00 19 53.5**	**-0.7**
PPBI	**Pangkal Pinang**	**2.32**	**74**	P	**Pn**	**00 19 55.4**	**+0.3**
KASI	**Kota Agung**	**2.77**	**168**	P	**Pn**	**00 20 01.5**	**+0.3**
SDSI	**Sungai Dareh**	**3.10**	**307**	P	Pn	00 20 09.3	+3.5
TPI	**Tanjungpandan**	**3.74**	**89**	P	**Pn**	**00 20 14.4**	**-0.3**
TPRI	**Tanjung Pinang**	**3.75**	**10**	P	Pn	00 20 21.3	+6.5
CGJI	**Cibinong**	**4.18**	**155**	P	**Pn**	**00 20 22.5**	**+1.8**
LEM	**Lembang**	**5.45**	**137**	Pn	**Pn**	**00 20 35.6**	**-2.6**
	4.1nm,0.3s,baz=307,slow=20,SNR=2.5						
LEM				Lg	Lg	00 22 07.6	
	3.9nm,0.3s,baz=131,slow=19,SNR=2.6						
LEM				LR	LR	00 23 07.1	
	comp=Z,77nm,20.2s,baz=296,slow=42						
MNSI	**Mandailing Nat**	**5.61**	**310**	P	**Pn**	**00 20 42.1**	**+1.7**
CMAR	**Chiang Mai Arr**	**21.68**	**347**	P	**P**	**00 24 07.5**	**+0.2**
	0.4nm,0.3s,baz=180,slow=8.6,SNR=3.7						
WRA	**Warramunga Arr**	**34.24**	**122**	P	**P**	**00 26 01.8**	**-0.5**
	0.6nm,1.0s,baz=294,slow=8.4,SNR=3.0						
ASAR	**Alice Springs**	**35.66**	**128**	P	**P**	**00 26 14.1**	**-0.4**
	0.6nm,0.5s,baz=300,slow=8.3,SNR=8.5						
SONM	**Songino Array**	**50.48**	**2**	P	**P**	**00 28 15.3**	**+1.4**
	0.7nm,0.5s,baz=187,slow=7.5,SNR=3.4						
ZALV	**Zalesovo Beam**	**58.75**	**347**	P	**P**	**00 29 13.3**	**-0.4**
	3.7nm,0.8s,baz=157,slow=5.7,SNR=13						

KRSC 27 00:32:54.4±0.1,**49°.50N**×**156°.73E**,**h4**km±5km, **ML3.9, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.25**	**342**	*e*P	Pg	00 33 18.0	-0.4
SKR				*e*S	Sb	00 33 35.0	0.0
PAU	**Pauzhetka**	**1.98**	**2**	*e*S	Sb	00 33 55.7	-0.1
RUS	**Russkaya**	**3.15**	**20**	*e*P	Pn	00 33 47.6	+2.9
RUS				*e*S	Sb	00 34 26.5	-3.2

*NEIC **27** 00:56:50.3, 17°.41N×94°.90W, h139km, MD4.2(MEX), After MEX.*

MEX 27 00:56:50.3±1.3,**17°.41N×94°.90W, h139**km±9km, **MD4.2, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.32**	**178**	*i* P	Pn	00 57 08.5	-1.1
CMIG				*i* S	Sn	00 57 22.3	-2.0
CMIG	**Matias Romero**	**0.32**	**178**	*i* P	Pn	00 57 08.5	-1.1
CMIG				*i* S	Sn	00 57 22.3	-2.0
TUIG	**Tuzandepetl**	**0.77**	**36**	*i* P	Pn	00 57 10.6	-1.5
TUIG				*i* S	Sn	00 57 26.2	-2.5
TUIG	**Tuzandepetl**	**0.77**	**36**	*i* P	Pn	00 57 10.6	-1.5
TUIG				*i* S	Sn	00 57 26.2	-2.5
VHO	**Vista Hermosa**	**1.79**	**259**	*i* P	Pn	00 57 22.2	-0.3
VHO				*i* S	Sn	00 57 45.9	-1.3
VHO	**Vista Hermosa**	**1.79**	**259**	*i* P	Pn	00 57 22.2	-0.3
VHO				*i* S	Sn	00 57 45.9	-1.3
TGIG		**1.81**	**110**	*e*P	Pn	00 57 21.2	-1.4
TGIG				*e*S	Sn	00 57 44.6	-2.8
TGIG		**1.81**	**110**	*e*P	Pn	00 57 21.2	-1.4
TGIG				*e*S	Sn	00 57 44.6	-2.8
HUIG	**Huatulco**	**2.00**	**216**	*e*P	Pn	00 57 22.4	-2.4
HUIG				*e*S	Sn	00 57 49.5	-1.8
HUIG	**Huatulco**	**2.00**	**216**	*e*P	Pn	00 57 22.4	-2.4
HUIG				*e*S	Sn	00 57 49.5	-1.8
PCIG		**2.34**	**136**	*e*P	Pn	00 57 28.0	-0.8
PCIG				*i* S	Sn	00 57 56.7	-1.8
PCIG		**2.34**	**136**	*e*P	Pn	00 57 28.0	-0.8
PCIG				*i* S	Sn	00 57 56.7	-1.8
PNIG	**Pinotepa**	**3.25**	**252**	*e*P	Pn	00 57 38.0	-2.6
PNIG				*e*S	Sn	00 58 17.0	-2.4
PNIG	**Pinotepa**	**3.25**	**252**	*e*P	Pn	00 57 38.0	-2.6
PNIG				*e*S	Sn	00 58 17.0	-2.4
TLIG	**Tlapa**	**3.50**	**273**	*e*P	Pn	00 57 43.1	-0.8
TLIG				*e*S	Sn	00 58 23.0	-2.5

IDC 27 01:22:43.3±31.0,**21°.38S×178°.38W, h520**km±301km, **mb3.1**/4,**mb1 3.2**/4,**mb1mx2.8**/24,**mbtmp4.0**/4,**Error ellipse: s-maj=192.4km s-min=56.5km az=86.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.09**	**245**	P	P	01 29 09.3	0.0
	1.2nm,0.5s,baz=83,slow=12,SNR=5.6						
ASAR	**Alice Springs**	**43.98**	**258**	P	P	01 30 04.7	+0.2
	1.4nm,0.6s,baz=94,slow=7.6,SNR=14						
JAY	**Jayapura**	**43.99**	**290**	P	P	01 30 04.6	-0.1
	3.9nm,0.6s,baz=94,slow=19,SNR=3.9						
WRA	**Warramunga Arr**	**44.13**	**263**	P	P	01 30 04.7	-1.0
	0.4nm,0.3s,baz=95,slow=7.8,SNR=6.1						
AKASG	**Malin Array Be**	**143.60**	**330**	PKP	PKPab	01 41 16.9	-0.3
	1.6nm,0.5s,baz=40,slow=4.1,SNR=10						
BRTR	**Keskin Array B**	**147.15**	**311**	PKPbc	PKPbc	01 41 28.2	-0.1
	0.7nm,0.7s,baz=152,slow=5.1,SNR=5.2						
GERES	**GERESS Array B**	**150.94**	**343**	PKPbc	PKPbc	01 41 37.0	-0.1
	0.1nm,0.3s,baz=343,slow=1.0,SNR=3.1						

*ISCJB **27** 01:36:59.3±0.8, 35°.66N±0°.04×25°.30E±0°.05, h62km±11km, Error ellipse: s-maj=6.9km s-min=5.7km az=141.1*
*ATH **27** 01:36:59.2, 35°.68N×25°.30E, h52km±5km, MD3.0/11*
*THE **27** 01:36:59.9, 35°.66N×25°.29E, h59km±3km, ML2.4/4, Error ellipse: s-maj=3.7km s-min=0.8km az=165.0*
*CSEM **27** 01:37:00.0±0.2, 35°.66N×25°.32E, h52km±4km, ML2.4, Error ellipse: s-maj=3.2km s-min=2.8km az=59.0*

ISC 27 01:37:00.0±1.4,**35°.66N**±0°.03×**25°.31E**±0°.03,**h56**km±12km, **n37**,σ0**°48/59, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.47**	**148**	P	**Pn**	**01 37 10.8**	**-0.5**
NPS				S	**Sn**	**01 37 19.6**	**+0.1**
NPS	**Neapolis**	**0.47**	**148**	P	**Pn**	**01 37 10.8**	**-0.5**
NPS				S	**Sn**	**01 37 19.6**	**+0.1**
LAST	**Lasithi**	**0.52**	**165**	P	**Pn**	**01 37 11.8**	**-0.2**
LAST				S	**Sn**	**01 37 20.4**	**-0.1**
LAST	**Lasithi**	**0.52**	**165**	*e*P	**Pn**	**01 37 11.8**	**-0.2**
LAST				*e*S	**Sn**	**01 37 20.5**	**-0.1**
LAST	**Lasithi**	**0.52**	**165**	P	**Pn**	**01 37 11.8**	**-0.2**
LAST				*e*S	**Sn**	**01 37 20.5**	**-0.1**
THR6	**Thira Island,**	**0.69**	**6**	P	**Pn**	**01 37 14.2**	**+0.2**
THR6	**Thira Island,**	**0.69**	**6**	P	**Pn**	**01 37 14.2**	**+0.2**
SANT	**Santorini**	**0.72**	**10**	P	**Pn**	**01 37 14.2**	**-0.1**
SANT				S	**Sn**	**01 37 24.9**	**+0.2**
SANT	**Santorini**	**0.72**	**10**	*e*P	**Pn**	**01 37 14.1**	**-0.2**
SANT				*e*S	**Sn**	**01 37 24.7**	**0.0**
SANT	**Santorini**	**0.72**	**10**	P	**Pn**	**01 37 14.2**	**-0.1**
SANT				*e*S	**Sn**	**01 37 24.7**	**0.0**
THR3	**Thira Island,**	**0.75**	**5**	P	**Pn**	**01 37 14.6**	**0.0**
THR3	**Thira Island,**	**0.75**	**5**	P	**Pn**	**01 37 14.6**	**0.0**
SIVA	**Sivas**	**0.76**	**213**	P	**Pn**	**01 37 14.6**	**-0.2**
SIVA				S	**Sn**	**01 37 26.1**	**+0.5**
SIVA	**Sivas**	**0.76**	**213**	*e*P	**Pn**	**01 37 15.1**	**+0.3**
SIVA				*e*S	**Sn**	**01 37 26.3**	**+0.7**
SIVA	**Sivas**	**0.76**	**213**	P	**Pn**	**01 37 14.6**	**-0.2**
SIVA				S	**Sn**	**01 37 26.1**	**+0.5**
ZKR	**Zakros**	**0.92**	**126**	P	**Pn**	**01 37 17.0**	**+0.2**
ZKR				S	**Sn**	**01 37 29.9**	**+0.7**
ZKR	**Zakros**	**0.92**	**126**	P	**Pn**	**01 37 17.0**	**+0.2**
ZKR				S	**Sn**	**01 37 29.9**	**+0.7**
VAM	**Vamos**	**0.94**	**255**	*e*P	**Pn**	**01 37 16.7**	**-0.4**
VAM	**Vamos**	**0.94**	**255**	*e*P	**Pn**	**01 37 16.7**	**-0.4**
MHLO	**Agia Marina, M**	**1.26**	**325**	*e*P	**Pn**	**01 37 21.5**	**+0.1**
MHLO				*e*S	**Sn**	**01 37 37.6**	**+0.3**
MHLO	**Agia Marina, M**	**1.26**	**325**	*e*P	**Pn**	**01 37 21.5**	**+0.1**
MHLO				*e*S	**Sn**	**01 37 37.6**	**+0.3**
APE	**Apeiranthos**	**1.41**	**7**	P	**Pn**	**01 37 23.3**	**-0.2**
APE				S	**Sn**	**01 37 41.6**	**+0.5**
APE	**Apeiranthos**	**1.41**	**7**	*e*P	**Pn**	**01 37 23.4**	**-0.1**
APE				*e*S	**Sn**	**01 37 40.6**	**-0.5**
APE	**Apeiranthos**	**1.41**	**7**	*e*P	**Pn**	**01 37 23.4**	**-0.1**
APE				*e*S	**Sn**	**01 37 40.6**	**-0.5**
KARP	**Karpathos**	**1.51**	**94**	P	**Pn**	**01 37 24.1**	**-0.7**
KARP				S	**Sn**	**01 37 43.5**	**+0.1**
KARP	**Karpathos**	**1.51**	**94**	P	**Pn**	**01 37 24.1**	**-0.7**
KARP				S	**Sn**	**01 37 43.5**	**+0.1**
VLI	**Veliai**	**2.19**	**299**	P	**Pn**	**01 37 33.7**	**-0.2**
VLI				S	**Sn**	**01 37 58.5**	**-1.5**
VLI	**Veliai**	**2.19**	**299**	*e*P	**Pn**	**01 37 33.8**	**-0.2**
VLI	**Veliai**	**2.19**	**299**	*e*P	**Pn**	**01 37 33.8**	**-0.2**
VLI				S	**Sn**	**01 37 58.5**	**-1.5**
KRND	**KRANIDI**	**2.44**	**315**	*e*P	**Pn**	**01 37 38.1**	**+0.6**
KRND	**KRANIDI**	**2.44**	**315**	*e*P	**Pn**	**01 37 38.1**	**+0.6**
DID	**Didima**	**2.48**	**318**	*e*P	**Pn**	**01 37 38.2**	**+0.1**
DID	**Didima**	**2.48**	**318**	*e*P	**Pn**	**01 37 38.2**	**+0.1**
VLX	**Vlachokerasia**	**2.91**	**307**	*e*P	**Pn**	**01 37 44.6**	**+0.6**
VLX	**Vlachokerasia**	**2.91**	**307**	*e*P	**Pn**	**01 37 44.6**	**+0.6**
GUR	**Goura**	**3.29**	**314**	*e*P	**Pn**	**01 37 49.9**	**+0.8**
GUR	**Goura**	**3.29**	**314**	*e*P	**Pn**	**01 37 49.9**	**+0.8**

*SJA **27** 02:00:03.6±0.7, 30°.25S×72°.33W, h10km, ML3.6, MW3.4*
*GUC **27** 02:00:13.6±0.4, 30°.48S×71°.61W, h34km±2km, ML3.9*

ISC 27 02:00:10.1±3.8,**30°.41S**±0°.04×**71°.95W**±0°.10,**h15**km±27km, **n19**,σ1**°75/31, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.78**	**51**	*i* P	**Pb**	**02 00 26.2**	**+0.8**
LSCH				*i* S	**Sb**	**02 00 35.3**	**-0.6**
TLL	**Tololo Astrono**	**1.01**	**77**	*i* P	**Pb**	**02 00 28.4**	**-1.1**
TLL				*i* S	**Sb**	**02 00 39.7**	**-3.1**
LCO	**Las Campanas**	**1.76**	**38**	*e*P	**Pn**	**02 00 39.9**	**-0.4**
LCO				*e*S	**Sb**	**02 01 04.3**	**0.0**
VACH	**Vallenar**	**2.10**	**30**	*i* P	**Pb**	**02 00 47.0**	**-0.9**
VACH				*i* S	**Sn**	**02 01 12.2**	**+1.6**
VACH				AML	AML	02 01 18.0	
	comp=E,933nm,0.2s						
RTLS	**Leoncito**	**2.66**	**122**	*e*P	**Pn**	**02 00 55.1**	**+2.4**
RTLS				*e*S	**Sb**	**02 01 33.2**	**+3.0**
AUSP	**Uspallata**	**2.84**	**130**	*e*P	**Pn**	**02 00 57.4**	**+2.2**
PEL	**Peldehue**	**2.93**	**159**	*e*P	**Pn**	**02 00 56.7**	**+0.5**
PEL				*i* S	**Sn**	**02 01 30.2**	**-1.0**
PEL				AML	AML	02 01 45.7	
	comp=E,484nm,0.4s						
AMOG	**MOGNA**	**3.02**	**101**	*e*P	**Pn**	**02 00 59.0**	**+1.5**
AMOG				*e*S	**Sb**	**02 01 40.2**	**-0.1**
RTLL	**Cerro Villicun**	**3.12**	**108**	*e*P	**Pn**	**02 01 00.5**	**+1.7**
RTLL				*e*S	**Sb**	**02 01 42.7**	**-0.6**
CLCH	**Cerro Calan**	**3.21**	**158**	*e*P	**Pn**	**02 01 01.3**	**+1.2**
CLCH				*e*S	**Sn**	**02 01 36.7**	**-1.4**
CLCH				AML	AML	02 01 53.7	
	comp=E,410nm,0.5s						
RTCV	**Cerro Valdivia**	**3.26**	**117**	*e*P	**Pn**	**02 01 02.7**	**+2.0**
RTCV				*e*S	**Sb**	**02 01 46.4**	**-0.8**
CFAA	**Coronel Fontan**	**3.40**	**112**	*e*P	**Pn**	**02 01 04.5**	**+1.9**
CFAA				*e*S	**Sb**	**02 01 49.8**	**-1.5**
ASAL	**Salagasta**	**3.44**	**130**	*e*P	**Pn**	**02 01 05.4**	**+2.3**
ASAL				*e*S	**Sb**	**02 01 50.9**	**-1.4**
ARCO	**CERRO ARCO**	**3.54**	**134**	IAML		02 01 17.2	
	comp=Z,95nm,0.6s						
ARCO				*e*S	**Sb**	**02 01 53.5**	**-1.8**
VCA	**Vinchina**	**3.66**	**64**	*e*P	Pn	02 01 10.0	+3.7
VCA				IAML		02 01 13.8	
	comp=Z,164nm,0.2s						
AAGR	**Agrelo**	**3.77**	**136**	*e*P	**Pn**	**02 01 10.0**	**+2.3**
AAGR				*e*S	**Sb**	**02 01 59.1**	**-2.7**
ACAN	**Cantantal**	**4.47**	**116**	*e*P	**Pn**	**02 01 19.4**	**+2.0**
CYA	**Choya**	**5.71**	**71**	*e*P	**Pn**	**02 01 35.0**	**+0.7**
CYA				IAML		02 02 54.5	
	comp=Z,14nm,0.7s						
TCA	**Tanti**	**6.39**	**100**	*e*P	**Pn**	**02 01 43.8**	**0.0**

*CSEM **27** 02:08:07.8±0.2, 35°.53N×26°.29E, h10km, ML2.4, Error ellipse: s-maj=5.1km s-min=4.4km az=140.0*

THE 27 02:08:07.9,**35°.50N×26°.31E**,**h8**km±3km,**ML2.4/3, Error ellipse: s-maj=3.7km s-min=0.6km az=166.0, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.39**	**191**	P	Pg	02 08 15.0	-0.6
ZKR				S	Sb	02 08 22.2	-1.1
ZKR	**Zakros**	**0.39**	**191**	P	Pg	02 08 15.0	-0.6
ZKR				S	Sb	02 08 22.2	-1.1
NPS	**Neapolis**	**0.62**	**248**	P	Pg	02 08 20.1	+0.2
NPS				S	Sb	02 08 29.3	-0.5
NPS	**Neapolis**	**0.62**	**248**	P	Pg	02 08 20.1	+0.2
NPS				S	Sb	02 08 29.3	-0.5
KARP	**Karpathos**	**0.70**	**86**	P	Pg	02 08 21.0	-0.4
KARP				S	Sb	02 08 32.1	0.0
KARP	**Karpathos**	**0.70**	**86**	P	Pg	02 08 21.0	-0.4
KARP				S	Sb	02 08 32.1	0.0
LAST	**Lasithi**	**0.76**	**244**	P	Pg	02 08 22.4	-0.3
LAST				S	Sb	02 08 33.8	-0.2
LAST	**Lasithi**	**0.76**	**244**	P	Pg	02 08 22.4	-0.3
LAST				S	Sb	02 08 33.8	-0.2
SANT	**Santorini**	**1.11**	**322**	P	Pg	02 08 28.3	-1.0
SANT				S	Sg	02 08 43.9	+0.1
SANT	**Santorini**	**1.11**	**322**	P	Pg	02 08 28.3	-1.0
SANT				S	Sg	02 08 43.9	+0.1
THR6	**Thira Island,**	**1.13**	**319**	P	Pg	02 08 28.7	-0.9
THR6	**Thira Island,**	**1.13**	**319**	P	Pg	02 08 28.7	-0.9
THR3	**Thira Island,**	**1.17**	**321**	P	Pb	02 08 29.2	-1.1
THR3	**Thira Island,**	**1.17**	**321**	P	Pb	02 08 29.2	-1.1
APE	**Apeiranthos**	**1.69**	**338**	P	Pn	02 08 36.3	-1.4
APE				S	Sn	02 08 58.0	-1.6
APE	**Apeiranthos**	**1.69**	**338**	P	Pn	02 08 36.3	-1.4
APE				S	Sn	02 08 58.0	-1.6
TURN	**Turunc**	**2.31**	**53**	*i* P	Pn	02 08 45.2	-1.0
TURN				*i* S	Sn	02 09 07.5	-7.1
TURN	**Turunc**	**2.31**	**53**	*i* P	Pn	02 08 45.2	-0.9
TURN				*i* S	Sn	02 09 07.5	-7.2
ZEY	**˜zmir**	**2.74**	**3**	*i* P	Pn	02 08 49.9	-2.2
ZEY				*i* S	Sn	02 09 23.6	-1.8
URLA	**Izmir**	**2.86**	**4**	*i* P	Pn	02 08 52.9	-1.0
URLA				*i* S	Sn	02 09 27.1	-1.5
URLA	**Izmir**	**2.86**	**4**	*i* P	Pn	02 08 52.9	-1.0
URLA				*i* S	Sn	02 09 27.1	-1.5
GOLH	**Golhisar**	**3.15**	**56**	*i* P	Pn	02 08 59.4	+1.5
GOLH				*i* S	Sb	02 09 39.4	-3.4
GOLH	**Golhisar**	**3.15**	**56**	*i* P	Pn	02 08 59.4	+1.5

*SJA **27** 02:16:00.3±0.8, 21°.05S×66°.74W, h331km±36km, ML3.7, MW3.2*
*ISCJB **27** 02:16:03.8±0.6, 21°.35S±0°.05×67°.78W±0°.08, h150km, mb3.6/3, Error ellipse: s-maj=10.1km s-min=6.6km az=163.8*
*IDC **27** 02:16:04.3±1.0, 21°.46S×67°.90W, h168km±14km, mb3.5/3, mb1 3.4/7, mb1mx3.2/35, mbtmp3.7/7, Error ellipse: s-maj=22.6km s-min=19.4km az=31.0*

ISC 27 02:16:03.8±0.9,**21°.34S**±0°.06×**67°.80W**±0°.08,**h150**km,**n13**, σ2**°36/17, mb3.8/3, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.63**	**219**	P	**Pn**	**02 16 36.1**	**+1.1**
	440nm,0.3s,baz=30,slow=9.1,SNR=98						
LVC				S	**Sn**	**02 16 59.4**	**+0.4**
	384nm,0.3s,baz=144,slow=7.7,SNR=3.9						
AZAP	**Zapla**	**3.82**	**139**	*e*P	**Pn**	**02 17 03.9**	**+2.0**
AZAP				IAML		02 17 06.0	
	comp=Z,42nm,0.4s						
AZAP				*e*S	**Sn**	**02 17 51.4**	**+4.4**
SLA	**San Lorenzo**	**3.97**	**148**	*e*P	**Pn**	**02 17 06.7**	**+3.0**
SLA				IAML		02 17 07.0	
	comp=Z,85nm,0.5s						
SLA				*e*S	Sn	02 17 56.9	+6.5
ASTB	**Santa Barbara**	**4.01**	**131**	*e*P	**Pn**	**02 17 05.1**	**+0.8**
ASTB				*e*S	**Sn**	**02 17 51.7**	**+0.4**
LPAZ	**La Paz**	**5.04**	**356**	P	**Pn**	**02 17 19.6**	**+1.2**
	comp=Z,2.5nm,0.3s,baz=170,slow=7.6,SNR=66						
LPAZ				S	**Sn**	**02 18 17.5**	**+1.1**
	baz=108,slow=20,SNR=1.9						
AHML	**Horco Molle**	**5.86**	**158**	*e*P	**Pn**	**02 17 29.6**	**+1.0**
CFAA	**Coronel Fontan**	**10.23**	**182**	P	**Pn**	**02 18 24.0**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=350,slow=15,SNR=4.4						
CFAA				S	Sn	02 20 11.4	-8.5
	comp=Z,0.1nm,0.3s,baz=239,slow=17,SNR=3.8						
TCA	**Tanti**	**10.36**	**165**	*e*P	Pn	02 18 25.2	-3.3
CPUP	**Villa Florida**	**10.79**	**119**	P	**Pn**	**02 18 33.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=293,slow=14,SNR=5.1						
CPUP				S	**Sn**	**02 20 28.6**	**-4.8**
	comp=Z,0.1nm,0.3s,baz=49,slow=19,SNR=1.7						
BDFB	**Brasilia**	**19.59**	**77**	P	**P**	**02 20 22.8**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=267,slow=9.4,SNR=4.9						
TXAR	**Lajitas Array**	**61.10**	**324**	P	**P**	**02 26 00.8**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=138,slow=9.5,SNR=2.6						
TORD	**Torodi Ar. Bea**	**76.33**	**70**	P	**P**	**02 27 35.9**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=255,slow=5.3,SNR=24						
YKA	**Yellowknife Ar**	**91.39**	**340**	P	**P**	**02 28 51.6**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=134,slow=4.8,SNR=24						

*SJA **27** 02:19:36.2±0.6, 34°.29S×73°.17W, h10km, ML3.8, MW3.2*
*IDC **27** 02:19:43.2±1.4, 34°.98S×71°.84W, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.7/28, mbtmp3.6/5, ML3.2/2, Error ellipse: s-maj=43.3km s-min=31.5km az=141.0*
*GUC **27** 02:19:45.3±0.3, 34°.61S×71°.78W, h37km±3km, ML4.1*

ISC 27 02:19:44.8±1.5,**34°.61S**±0°.03×**71°.88W**±0°.06,**h5**km±10km, **n32**,σ1**°87/49, mb3.8/3, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.66**	**127**	*i* P	**Pb**	**02 19 58.3**	**-0.5**
NICH				*i* S	**Sb**	**02 20 07.4**	**-1.0**
LNV	**Longovilo**	**0.75**	**31**	*e*P	**Pg**	**02 19 59.5**	**+0.3**
TALC	**Talca**	**0.82**	**166**	*i* P	**Pg**	**02 20 00.6**	**+0.2**
TALC				*e*S	**Sb**	**02 20 12.9**	**+0.1**
TACH	**Talagante**	**1.23**	**40**	*i* P	**Pn**	**02 20 07.0**	**-1.6**
TACH				*i* S	**Sb**	**02 20 23.2**	**-1.4**
LNCH	**Linares**	**1.26**	**170**	*i* P	**Pn**	**02 20 08.4**	**-0.7**
LNCH				*i* S	**Sn**	**02 20 25.4**	**-1.1**
PCH	**Pirque**	**1.50**	**49**	*e*P	**Pn**	**02 20 11.4**	**-1.0**
PCH				*e*S	**Sn**	**02 20 30.9**	**-1.4**
STL	**Santa Lucia**	**1.55**	**42**	*e*P	**Pn**	**02 20 12.1**	**-1.0**
STL				*i* S	**Sn**	**02 20 32.2**	**-1.4**
FSR	**Penalolen**	**1.58**	**45**	*e*P	**Pn**	**02 20 12.8**	**-0.8**
IHA	**Instituto Hidr**	**1.59**	**7**	*i* P	**Pn**	**02 20 13.1**	**-0.5**
IHA				*e*S	**Sn**	**02 20 33.7**	**-0.7**
LACH	**Col Las Americ**	**1.60**	**45**	*e*P	**Pn**	**02 20 12.5**	**-1.3**
LACH				*e*S	**Sn**	**02 20 33.2**	**-1.7**
CLCH	**Cerro Calan**	**1.64**	**43**	*i* P	**Pn**	**02 20 13.6**	**-0.8**
CLCH				*i* S	**Sn**	**02 20 34.7**	**-1.2**
CLCH				AML	AML	02 20 41.0	
	comp=N,3μm,0.8s						
COCH	**Cobquecura**	**1.70**	**206**	*i* P	**Pn**	**02 20 15.0**	**0.0**
COCH				*i* S	**Sn**	**02 20 37.5**	**+0.4**
PEL	**Peldehue**	**1.76**	**35**	*e*P	**Pn**	**02 20 15.5**	**-0.5**
PEL				*i* S	**Sn**	**02 20 38.1**	**-0.7**
PEL				AML	AML	02 20 47.3	
	comp=E,3μm,0.4s						
AAGR	**Agrelo**	**2.95**	**60**	*e*P	**Pb**	**02 20 37.6**	**-0.4**
AAGR				*e*S	**Sg**	**02 21 23.8**	**+4.1**
ARCO	**CERRO ARCO**	**3.02**	**55**	*e*P	**Pb**	**02 20 37.9**	**-1.2**
ARCO				IAML		02 20 46.2	
	comp=Z,141nm,0.6s						
ARCO				*e*S	**Sg**	**02 21 24.0**	**+2.3**
AUSP	**Uspallata**	**3.16**	**42**	*e*P	Pn	02 20 38.7	+3.2
AUSP				*e*S	**Sg**	**02 21 24.1**	**-2.1**
ASAL	**Salagasta**	**3.23**	**52**	*e*P	**Pb**	**02 20 40.3**	**-2.5**
ASAL				*e*S	**Sg**	**02 21 28.5**	**-3.2**
CANA	**Caviahue**	**3.34**	**169**	*e*P	**Pn**	**02 20 40.3**	**+2.4**
CANA				*e*S	**Sg**	**02 21 28.7**	**-3.5**
RTLS	**Leoncito**	**3.54**	**38**	*e*P	**Pn**	**02 20 42.6**	**+2.0**
RTLS				*e*S	**Sb**	**02 21 32.3**	**+1.0**
RTCV	**Cerro Valdivia**	**3.91**	**47**	*e*P	Pn	02 20 48.9	+3.3
RTCV				*e*S	**Sb**	**02 21 43.0**	**+1.1**
CFAA	**Coronel Fontan**	**4.27**	**47**	Pn	Pn	02 20 54.2	+3.6
	comp=Z,0.3nm,0.3s,baz=216,slow=14,SNR=15						
CFAA				Sn	**Sb**	**02 21 46.5**	**-5.9**
	comp=Z,0.4nm,0.3s,baz=122,slow=13,SNR=4.2						
CFAA	**Coronel Fontan**	**4.27**	**47**	*e*P	Pn	02 20 53.9	+3.4
CFAA				*e*S	**Sb**	**02 21 51.8**	**-0.6**
RTLL	**Cerro Villicun**	**4.34**	**42**	*e*P	**Pn**	**02 20 54.0**	**+2.5**
RTLL				*e*S	**Sb**	**02 21 51.5**	**-2.8**
ACAN	**Cantantal**	**4.55**	**61**	*e*P	Pn	02 20 57.8	+3.3
ACAN				*e*S	**Sb**	**02 22 02.6**	**+2.1**
AMOG	**MOGNA**	**4.63**	**39**	*e*P	**Pn**	**02 20 57.5**	**+2.0**
VCA	**Vinchina**	**6.63**	**29**	*e*P	**Pn**	**02 21 22.1**	**-1.0**
VCA				IAML		02 21 52.9	
	comp=Z,18nm,0.3s	

CPUP	**Villa Florida**	**68.25**	**105**	P	**P**	**02 34 32.7**	**-1.1**
	1.6nm,0.9s,baz=270,slow=2.0,SNR=2.6							
CPUP	**Villa Florida**	**68.25**	**105**	*e*P	**P**	**02 34 33.4**	**-0.4**
	0.3nm,1.2s							
LPAZ	**La Paz**	**70.66**	**90**	LR	LR	02 59 25.5		
	comp=Z,58nm,20.1s,baz=204,slow=30							
BDFB	**Brasilia**	**81.92**	**106**	LR	LR	03 09 12.8		
	comp=Z,116nm,18.3s,baz=211,slow=34							
ROSC	**El Rosal**	**85.06**	**73**	LR	LR	03 06 43.1		
	comp=Z,55nm,18.4s,baz=160,slow=30							
KAPI	**Kappang**	**87.35**	**265**	LR	LR	03 14 25.0		
	comp=Z,304nm,18.6s,baz=148,slow=35							
BOSA	**Boshof**	**94.04**	**174**	LR	LR	03 14 53.9		
	comp=Z,182nm,20.7s,baz=164,slow=33							
H10S3	**ASCENSION HYDR**	**103.43**	**132**	T	T	04 33 45.5		
	baz=204,slow=75,SNR=30							
H10S2	**ASCENSION HYDR**	**103.43**	**132**	T	T	04 33 45.6		
	baz=204,slow=75,SNR=32							
H10S1	**ASCENSION HYDR**	**103.44**	**132**	T	T	04 33 46.8		
	baz=204,slow=75,SNR=32							
H10N3	**ASCENSION HYDR**	**104.50**	**131**	T	T	04 35 03.7		
	baz=204,slow=75,SNR=38							
H10N1	**ASCENSION HYDR**	**104.51**	**131**	T	T	04 34 59.8		
	baz=204,slow=75,SNR=36							
H10N2	**ASCENSION HYDR**	**104.52**	**131**	T	T	04 35 10.2		
	baz=204,slow=75,SNR=39							
ILAR	**Eielson Array**	**121.91**	**0**	PKP	**PKPdf**	**02 42 27.4**	**+1.6**
	0.7nm,0.8s,baz=209,slow=3.0,SNR=4.7							
FCC	**Fort Churchill**	**123.35**	**30**	*e*PKPdf	**PKPdf**	**02 42 29.5**	**+0.8**
MK31	**Makanchi Array**	**148.38**	**272**	*e*PKPbc	**PKPbc**	**02 43 18.1**	**-0.6**
MK31				*e*PKPab	**PKPab**	**02 43 21.7**	**-0.3**
EKS2	**Erkin-Say**	**150.25**	**258**	*e*PKPdf	**PKPdf**	**02 43 18.9**	**+0.5**
ESDC	**Sonseca Array**	**150.46**	**111**	PKPbc	**PKPbc**	**02 43 25.5**	**+1.4**
	2.0nm,0.8s,baz=246,slow=2.1,SNR=11							
ESDC				PKPab	**PKPab**	**02 43 31.2**	**+0.5**
	2.1nm,0.8s,baz=231,slow=1.9,SNR=11							
ZALV	**Zalesovo Beam**	**150.97**	**286**	PKPab	**PKPab**	**02 43 34.9**	**+2.6**
	0.6nm,0.6s,baz=72,slow=0.5,SNR=3.0							
GERES	**GERESS Array B**	**165.79**	**119**	PKP	**PKPdf**	**02 43 37.7**	**+0.7**
	0.1nm,0.3s,baz=297,slow=0.9,SNR=2.3							

NIED ***27*** *03:09:00.26±0.00N×129.40E, h5km, Mw4.2 Best double couple: M₀2.12000×10¹⁵ NP1:φ=31.00000°, δ=36.00000°, λ=-85.00000°. NP2:φ=205.00000°, δ=54.00000°, λ=-94.00000°.*

NEIC ***27*** *03:09:50.9±2.1,25.99N×129.24E, h5km±13km, mb4.6/18, MW4.1(NIED), Error ellipse: s-maj=6.3km s-min=4.9km az=111.0*

IDC ***27*** *03:09:50.3±0.5,26.04N×129.34E, h0km, mb4.1/19, mb1 4.2/24, mb1mx4.1/37, mbtmp4.1/24, ML3.6/3, MS3.3/5, Ms1 3.3/5, ms1mx2.8/36, Error ellipse: s-maj=20.2km s-min=11.5km az=64.0*

ISCJB ***27*** *03:09:51.3±1.0,26.03N±0.03×129.32E±0.03, h19km±7km, mb4.3/35, MS3.3/4, Error ellipse: s-maj=5.2km s-min=4.3km az=40.7*

JMA ***27*** *03:09:52.4±0.1,26.04N×129.42E, h45km, M4.4*

ISC 27 03:09:51.3±3.6, 26.02N±0.04×129.36E±0.03, h10km±22km, n83, σ1=59/96, mb4.4/35, MS3.2/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**1.27**	**310**	P	**Pn**	**03 10 14.8**	**-0.3**
JOW				S	**Sb**	**03 10 29.7**	**-1.9**
JOW	**Kunigami**	**1.27**	**310**	Pn	**Pn**	**03 10 14.8**	**-0.3**
	86nm,0.3s,baz=127,slow=19,SNR=1284						
JOW				Sn	**Sb**	**03 10 29.1**	**-2.6**
	44nm,0.3s,baz=120,slow=16,SNR=38						
JNTH	**Nagotoyohara**	**1.30**	**293**	P	**Pn**	**03 10 15.1**	**-0.5**
JNTH				S	**Sb**	**03 10 30.4**	**-2.2**
JJT2	**Tamagusuku 2**	**1.46**	**275**	P	**Pn**	**03 10 18.0**	**+0.3**
JJT2				S	**Sn**	**03 10 36.4**	**-0.5**
JOKE	**Okinoerabujima**	**1.51**	**332**	P	**Pn**	**03 10 18.0**	**-0.4**
JOKE				S	**Sn**	**03 10 36.2**	**-2.0**
JIH	**Iheya**	**1.61**	**309**	P	**Pn**	**03 10 19.7**	**0.0**
JIH				S	**Sn**	**03 10 39.2**	**-1.4**
JMZ	**Minamidaito 2**	**1.69**	**97**	P	**Pn**	**03 10 19.2**	**-1.6**
JMZ				S	**Sn**	**03 10 37.5**	**-5.0**
JTK	**Tokunoshima**	**1.79**	**348**	P	**Pn**	**03 10 21.9**	**-0.4**
JTK				S	**Sn**	**03 10 42.4**	**-2.8**
JAGN	**Aguni-jima**	**1.99**	**287**	P	**Pn**	**03 10 25.3**	**+0.3**
JAGN				S	**Sn**	**03 10 48.3**	**-1.6**
JAMN	**Amaminishikomi**	**2.22**	**356**	P	**Pn**	**03 10 27.6**	**-0.5**
JAMN				S	**Sn**	**03 10 52.3**	**-3.3**
JKE	**Kume jima 2**	**2.34**	**278**	P	**Pn**	**03 10 29.2**	**-0.6**
JKE				S	**Sn**	**03 10 55.4**	**-3.2**
JZK	**Kikaishima**	**2.34**	**13**	P	**Pn**	**03 10 30.0**	**+0.1**
JZK				S	**Sn**	**03 10 56.5**	**-2.3**
JAM	**Amami Oshima**	**2.39**	**5**	P	**Pn**	**03 10 29.9**	**-0.6**
JAM				S	**Sn**	**03 10 56.2**	**-3.7**
JTAJ	**Takarajima**	**3.12**	**357**	P	**Pn**	**03 10 40.2**	**-0.4**
JTAJ				S	**Sn**	**03 11 13.6**	**-4.3**
JOGS	**Gusukube**	**3.79**	**251**	P	**Pn**	**03 10 50.1**	**+0.3**
JOGS				*e*S	**Sn**	**03 11 32.6**	**-2.0**
JMJ	**Miyako jima 2**	**3.87**	**253**	P	**Pn**	**03 10 51.0**	**+0.1**
JMJ				*e*S	**Sn**	**03 11 33.6**	**-2.9**
JIKM	**Ikemajima**	**3.88**	**254**	P	**Pn**	**03 10 50.9**	**-0.1**
JIRB	**Irabujima**	**3.97**	**253**	P	**Pn**	**03 10 51.8**	**-0.5**
JIRB				*e*S	Sn	03 11 33.7	-5.3
JTJ	**Tarama**	**4.44**	**253**	P	**Pn**	**03 10 58.1**	**-0.6**
JTJ				*e*S	**Sn**	**03 11 46.0**	**-4.4**
JISG	**Ishigakijimahi**	**4.79**	**254**	P	**Pn**	**03 11 02.2**	**-1.4**
JISG				*e*S	**Sn**	**03 11 54.1**	**-5.1**
YOJ	**Yonaguni jima**	**5.96**	**256**	*e*Pn	**Pn**	**03 11 17.5**	**-2.1**
JNU	**Nakatsue**	**7.20**	**10**	Pn	**Pn**	**03 11 37.2**	**+0.6**
	2.8nm,0.3s,baz=187,slow=12,SNR=13						
JNU				Sn	Sn	03 12 51.5	-6.9
	1.1nm,0.3s,baz=254,slow=20,SNR=3.4						
JNU	**Nakatsue**	**7.20**	**10**	*e*Pn	**Pn**	**03 11 37.9**	**+1.3**
	9.0nm,0.8s						
JNU				Sn	Sn	03 12 51.5	-6.9
NACB	**Ninganchiao**	**7.28**	**257**	*e*Pn	Pn	03 11 35.5	-2.3
	20nm,0.4s						
YHNB	**Yeheng**	**7.35**	**261**	*e*Pn	**Pn**	**03 11 39.0**	**+0.2**
	57nm,1.1s						
SSLB	**Suanglung**	**7.95**	**256**	*e*Pn	Pn	03 11 44.3	-2.7
	13nm,0.4s						
TPUB	**Ta-pu**	**8.39**	**253**	*e*Pn	**Pn**	**03 11 51.4**	**-1.7**
	17nm,0.8s						
KSAR	**Wonju Array Be**	**11.45**	**354**	Pn	**Pn**	**03 12 36.5**	**+1.6**
KSRS	**Korea Array**	**11.46**	**354**	Pn	**Pn**	**03 12 36.5**	**+1.5**
	0.1nm,0.3s,baz=167,slow=12,SNR=3.8						
CBIJ	**Chichi jima**	**11.53**	**82**	Pn	**Pn**	**03 12 34.6**	**-1.4**
JCJ	**Chichijima**	**11.53**	**82**	Pn	**Pn**	**03 12 34.6**	**-1.4**
	8.2nm,0.3s,baz=101,slow=23,SNR=9.5						
MJAR	**Matsushiro Arr**	**12.92**	**34**	Pn	**Pn**	**03 12 55.0**	**0.0**
	0.1nm,0.3s,baz=216,slow=11,SNR=2.8						
USRK	**Ussuriysk Ar.**	**18.26**	**6**	P	**P**	**03 14 06.2**	**+1.3**
	0.1nm,0.3s,baz=182,slow=12,SNR=5.7						
GUMO	**Guam**	**19.10**	**127**	LR	LR	03 21 31.1	
	comp=Z,59nm,18.3s,baz=119,slow=37						
YSS	**Yuzh-Sakhalins**	**23.43**	**24**	*e*P	**P**	**03 15 02.4**	**+1.8**
	17nm,1.0s						
SIJI	**Sorong**	**26.80**	**176**	LR	LR	03 25 53.1	
	comp=Z,28nm,19.8s,baz=264,slow=36						
SONM	**Songino Array**	**28.28**	**326**	P	**P**	**03 15 44.9**	**-0.1**
	0.3nm,0.7s,baz=142,slow=11,SNR=2.3						
CMAR	**Chiang Mai Arr**	**29.10**	**261**	LR	LR	03 28 27.1	
	comp=Z,23nm,18.3s,baz=170,slow=38						
KULM	**Kulim**	**34.33**	**238**	*e*P	**P**	**03 16 37.9**	**-0.5**
	14nm,1.1s						
MK31	**Makanchi Array**	**42.43**	**312**	*e*P	**P**	**03 17 47.0**	**+0.7**
ZALV	**Zalesovo Beam**	**43.03**	**323**	P	**P**	**03 17 50.3**	**-0.7**
	1.3nm,0.6s,baz=113,slow=7.7,SNR=6.5						
KURK	**Kurchatov**	**45.67**	**317**	*e*P	**P**	**03 18 12.7**	**+0.6**
	3.8nm,1.0s						
KURBB	**Kurchatov Arra**	**45.70**	**316**	P	**P**	**03 18 12.8**	**+0.3**
	0.5nm,0.4s,baz=103,slow=8.8,SNR=9.3						
WRAB	**Tennant Creek**	**45.94**	**173**	*e*P	**P**	**03 18 14.8**	**+0.3**
	7.9nm,1.0s						
WRA	**Warramunga Arr**	**45.95**	**173**	P	**P**	**03 18 15.1**	**+0.4**
	3.5nm,0.9s,baz=351,slow=8.3,SNR=12						
TKM2	**Tokmak 2**	**46.63**	**305**	*e*P	**P**	**03 18 20.5**	**+0.4**
	2.2nm,0.8s						
CTA	**Charters Tower**	**48.68**	**159**	P	**P**	**03 18 36.8**	**+0.8**
	3.3nm,0.6s,baz=327,slow=9.3,SNR=5.6						
CTAO	**Charters Tower**	**48.68**	**159**	*e*P	**P**	**03 18 36.5**	**+0.6**
	3.3nm,0.6s						
ASAR	**Alice Springs**	**49.59**	**175**	P	**P**	**03 18 43.5**	**+0.6**
	1.4nm,0.7s,baz=3.6,slow=14,SNR=15						
FORT	**Forrest**	**56.50**	**181**	*e*P	**P**	**03 19 34.0**	**+0.4**
	12nm,0.7s						
ABKAR	**Akbulak array**	**57.53**	**313**	*e*P	**P**	**03 19 41.8**	**+0.9**
ARU	**Arti**	**58.18**	**322**	*e*P	**P**	**03 19 44.8**	**-0.5**
	2.6nm,0.6s						
STKA	**Stephens Creek**	**58.75**	**168**	P	**P**	**03 19 49.8**	**+0.3**
	0.8nm,0.4s,baz=340,slow=12,SNR=2.6						
DZM	**Mont Dzumac**	**59.81**	**140**	P	**P**	**03 19 58.4**	**+1.2**
	6.1nm,1.0s,baz=270,slow=20,SNR=4.5						
GEYT	**Alibeck**	**60.27**	**300**	P	**P**	**03 20 01.1**	**+0.9**
	1.3nm,0.7s,baz=113,slow=3.3,SNR=3.2						
GEYT				LR	LR	03 49 49.9	
	comp=Z,40nm,18.2s,baz=50,slow=40						
MCK	**McKinley**	**63.35**	**30**	*e*P	**P**	**03 20 21.4**	**+1.0**
	5.4nm,0.8s						
ILAR	**Eielson Array**	**64.14**	**28**	P	**P**	**03 20 25.5**	**-0.1**
	0.5nm,0.8s,baz=273,slow=6.6,SNR=6.6						
KBZ	**Khabaz**	**70.08**	**310**	P	**P**	**03 21 05.2**	**+1.6**
	4.2nm,0.9s,baz=87,slow=2.3,SNR=8.0						
KIV	**Kislovodsk**	**70.15**	**310**	*e*P	**P**	**03 21 04.8**	**+0.5**
	14nm,1.1s						
ARCES	**ARCESS Array B**	**70.57**	**339**	P	**P**	**03 21 06.6**	**+0.3**
	6.4nm,1.0s,baz=74,slow=5.2,SNR=5.2						
FINES	**FINESS Array B**	**73.54**	**331**	P	**P**	**03 21 24.5**	**+0.4**
	1.3nm,0.5s,baz=90,slow=4.4,SNR=19						
FINES				LR	LR	03 57 59.4	
	comp=Z,74nm,18.2s,baz=20,slow=39						
AKASG	**Malin Array Be**	**76.35**	**320**	P	**P**	**03 21 40.5**	**-0.1**
	1.1nm,0.5s,baz=59,slow=6.4,SNR=6.1						
AKBB	**Malin Array Si**	**76.35**	**320**	*e*P	**P**	**03 21 40.6**	**0.0**
KIEV	**Kiev**	**76.36**	**320**	*e*P	**P**	**03 21 40.5**	**-0.1**
	1.8nm,0.4s						
BR131	**Keskin Array S**	**77.96**	**308**	*e*P	**P**	**03 21 51.0**	**+0.9**
	1.0nm,0.8s						
BRTR	**Keskin Array B**	**77.96**	**308**	P	**P**	**03 21 51.0**	**+0.9**
	1.6nm,0.8s,baz=101,slow=6.4,SNR=12						
YKA	**Yellowknife Ar**	**78.28**	**25**	P	**P**	**03 21 52.0**	**+0.8**
	0.9nm,0.7s,baz=304,slow=5.5,SNR=7.9						
YKA	**Yellowknife Ar**	**78.28**	**25**	P	**P**	**03 21 52.0**	**+0.8**
NB2	**NOAR Subarra**	**79.94**	**334**	P	**P**	**03 22 00.0**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=51,slow=5.6						
NOA	**NORSAR Array B**	**79.94**	**334**	P	**P**	**03 22 00.4**	**0.0**
	comp=Z,2.0nm,0.8s,baz=51,slow=5.5,SNR=7.3						
BUR08	**Bucovina Ar. S**	**80.06**	**318**	*e*P	**P**	**03 22 00.4**	**-1.0**
MORC	**Moravsky Berou**	**83.37**	**323**	*e*P	**P**	**03 22 17.7**	**-1.1**
	comp=Z,7.8nm,0.9s						
CLL	**Collm**	**84.90**	**326**	*e*P	**P**	**03 22 28.0**	**+1.6**
GERES	**GERESS Array B**	**85.97**	**323**	P	**P**	**03 22 32.6**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=55,slow=5.1,SNR=6.8						
WVOR	**Wild Horse Val**	**87.49**	**43**	*e*P	**P**	**03 22 41.0**	**+1.4**
	comp=Z,3.0nm,0.8s						
FCC	**Fort Churchill**	**88.17**	**21**	*e*P	**P**	**03 22 42.5**	**+0.2**
FFC	**Flin Flon**	**88.31**	**27**	*e*P	**P**	**03 22 43.5**	**+0.5**
	comp=Z,3.5nm,0.8s						
NVAR	**Mina Array Bea**	**89.91**	**47**	P	**P**	**03 22 52.8**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=293,slow=4.7,SNR=3.2						
ELK	**Elko**	**90.54**	**43**	*e*P	**P**	**03 22 54.8**	**+0.6**
	comp=Z,0.9nm,0.6s						
BNI	**Bardoneechia**	**92.10**	**323**	*e*P	**P**	**03 23 00.9**	**-0.3**
	comp=Z,1.5nm,0.7s						
RSSD	**Black Hills**	**94.80**	**35**	*e*P	**P**	**03 23 14.0**	**+0.3**
	comp=Z,1.5nm,0.8s						
KEST	**Kesra**	**96.46**	**315**	*e*P	**P**	**03 23 19.8**	**-1.4**
TORD	**Torodi Ar. Bea**	**115.91**	**301**	PKP	**PKPdf**	**03 28 34.3**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=28,slow=1.6,SNR=3.2						

IDC ***27*** *03:12:21.1±0.6,37.96S×75.29W, h0km, mb4.3/12, mb1 4.4/12, mb1mx4.3/24, mbtmp4.3/12, ML2.9/1, MS3.6/3, Ms1 3.5/3, ms1mx3.1/17, Error ellipse: s-maj=25.2km s-min=15.5km az=91.0*

ISCJB ***27*** *03:12:24.7±0.3,37.99S±0.05×75.07W±0.08, h33km, mb4.4/36, MS3.8/2, Error ellipse: s-maj=10.0km s-min=4.6km az=147.7*

GUC ***27*** *03:12:25.0±1.4,38.34S×75.28W, h10km±26km, ML4.4*

NEIC ***27*** *03:12:26.7±1.7,38.01S×75.09W, h38km±14km, mb4.6/29, Error ellipse: s-maj=13.4km s-min=7.0km az=70.0*

ISC 27 03:12:26.2±0.4, 38.00S±0.04×75.14W±0.07, h35km, n84, σ1=81/96, mb4.4/36, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**1.59**	**121**	*e*P	**Pn**	**03 12 50.3**	**-1.5**
PSCH				*e*S	**Sn**	**03 13 11.4**	**+0.4**
PSCH				AML	AML	03 13 14.3	
	comp=E,8μm,2.4s						
VLCH	**Valdivia**	**2.33**	**141**	*e*P	**Pn**	**03 13 00.9**	**-1.1**
VLCH				*e*S	**Sn**	**03 13 27.6**	**-1.8**
COCH	**Cobquecura**	**2.65**	**46**	*e*P	**Pn**	**03 13 05.1**	**-1.2**
COCH				*e*S	**Sn**	**03 13 34.6**	**-2.6**
OSCH	**Osorno**	**3.01**	**149**	*e*P	**Pn**	**03 13 10.1**	**-1.2**
OSCH				*e*S	**Sn**	**03 13 43.8**	**-2.3**
LNCH	**Linares**	**3.56**	**54**	*e*P	**Pn**	**03 13 19.7**	**+0.8**
LNCH				*e*S	**Sn**	**03 13 59.6**	**-0.1**
TALC	**Talca**	**3.83**	**48**	*e*P	**Pn**	**03 13 22.3**	**-0.3**
TALC				*e*S	**Sn**	**03 14 05.9**	**-0.5**
PLCA	**Paso Flores**	**4.48**	**129**	*e*P	**Pn**	**03 13 32.2**	**+0.6**
PLCA				*e*S	**Sn**	**03 14 22.2**	**-0.4**
CFAA	**Coronel Fontan**	**8.54**	**44**	Pn	**Pn**	**03 14 25.8**	**-1.5**
	comp=E,0.1nm,0.3s,baz=211,slow=15,SNR=19						
CFAA				Sn	**Sn**	**03 15 59.0**	**-3.5**
	comp=E,0.1nm,0.3s,baz=112,slow=19,SNR=2.3						
CFAA				LR	LR	03 17 41.9	
	comp=E,9.7nm,20.6s,baz=237,slow=37						
TRQA	**Tornquist**	**10.38**	**94**	*e*Pn	**Pn**	**03 14 53.1**	**+0.5**
	comp=E,9.0nm,0.8s						
LVC	**Limon Verde**	**16.24**	**21**	*e*Pn	**Pn**	**03 16 12.8**	**+0.9**
CPUP	**Villa Florida**	**19.01**	**57**	P	**Pn**	**03 16 48.2**	**+2.5**
	comp=E,0.1nm,0.3s,baz=226,slow=9.6,SNR=4.3						
CPUP				LR	LR	03 24 00.9	
	comp=E,95nm,21.0s,baz=234,slow=37						
CPUP	**Villa Florida**	**19.01**	**57**	*e*P	**Pn**	**03 16 46.4**	**+0.6**
	comp=E,0.1nm,0.8s						
LPAZ	**La Paz**	**22.49**	**18**	P	**P**	**03 17 24.2**	**+0.9**
	comp=E,7.5nm,0.9s,baz=162,slow=6.4,SNR=18						
LPAZ	**La Paz**	**22.49**	**18**	*e*P	**P**	**03 17 25.1**	**+1.8**
	comp=E,9.2nm,0.9s						
SIV	**San Ignacio**	**25.19**	**33**	P	**P**	**03 17 49.6**	**+1.1**
	comp=E,3.3nm,0.8s,baz=236,slow=7.9,SNR=6.8						
SAML	**Samuel**	**30.87**	**24**	*e*P	**P**	**03 18 38.9**	**-0.4**
	comp=E,1.6nm,0.9s						
OTAV	**Otavalo**	**38.17**	**355**	*e*P	**P**	**03 19 41.4**	**-1.4**
	comp=E,3.6nm,0.9s						
SDV	**Santo Domingo**	**46.83**	**6**	*e*P	**P**	**03 20 51.9**	**-1.0**
	comp=E,4.6nm,0.9s						
VNA1	**Neumayer--Stat**	**47.04**	**155**	P	**P**	**03 20 55.7**	**+2.0**
VNA2	**Neumayer--Watz**	**47.36**	**156**	P	**P**	**03 20 58.5**	**+2.3**
	baz=277,slow=8.9						
SNAA	**Sanae**	**48.88**	**156**	P	**P**	**03 21 05.8**	**-2.2**
SNAA	**Sanae**	**48.88**	**156**	P	**P**	**03 21 09.0**	**+0.9**
	comp=E,4.0nm,1.1s,baz=270,slow=6.3,SNR=17						
SNAA	**Sanae**	**48.88**	**156**	*e*P	**P**	**03 21 05.8**	**-2.2**
	comp=E,9.1nm,1.0s						
QSPA	**South Pole Qui**	**52.24**	**180**	P	**P**	**03 21 34.3**	**+0.8**
	comp=E,7.7nm,1.0s,baz=150,slow=1.5,SNR=29						
QSPA	**South Pole Qui**	**52.24**	**180**	*e*P	**P**	**03 21 33.8**	**+0.2**
	comp=E,10nm,1.1s						
OBIP	**Obispado Ponce**	**56.32**	**10**	*e*P	**P**	**03 22 04.0**	**+0.5**
VNDA	**Vanda**	**59.68**	**192**	P	**P**	**03 22 27.5**	**+1.1**
	comp=E,3.2nm,1.2s,baz=139,slow=6.0,SNR=5.0						
VNDA	**Vanda**	**59.68**	**192**	*e*P	**P**	**03 22 27.7**	**+1.3**
	comp=E,4.1nm,1.3s						
SYO	**Syowa Base**	**63.08**	**158**	*e*P	**P**	**03 22 48.8**	**-0.6**
MAW	**Mawson**	**70.04**	**164**	P	**P**	**03 23 34.8**	**+0.9**
	comp=E,2.5nm,0.8s,baz=163,slow=14,SNR=4.6						
MAW				LR	LR	03 53 04.3	
	comp=E,83nm,18.2s,baz=255,slow=35						
GOGA	**Godfrey**	**71.47**	**353**	*e*P	**P**	**03 23 43.1**	**+0.2**
	comp=E,4.0nm,1.0s						
LRAL	**Lakeview Retre**	**71.53**	**350**	*e*P	**P**	**03 23 42.9**	**-0.4**
	comp=E,2.2nm,0.7s						
JCT	**Junction City**	**71.92**	**338**	*e*P	**P**	**03 23 46.0**	**+0.3**
	comp=E,9.7nm,1.4s						
TXAR	**Lajitas Array**	**72.11**	**334**	P	**P**	**03 23 47.0**	**0.0**
	comp=E,1.6nm,0.7s,baz=154,slow=9.1,SNR=20						
KMSC	**Kings Mountain**	**73.00**	**355**	*e*P	**P**	**03 23 51.5**	**-0.6**
OXF	**Oxford**	**73.35**	**348**	*e*P	**P**	**03 23 54.0**	**-0.1**
	comp=E,14nm,1.0s						
ABTX	**Abilene, Hawle**	**73.88**	**339**	*e*P	**P**	**03 23 57.4**	**+0.1**
	comp=E,6.6nm,0.9s						
MIAR	**Mount Ida**	**74.18**	**344**	*e*P	**P**	**03 23 59.9**	**+0.9**
	comp=E,25nm,1.9s						
WMOK	**Wichita Mounta**	**75.63**	**340**	*e*P	**P**	**03 24 06.4**	**-1.0**
	comp=E,6.0nm,1.5s						
TUL1	**Leonard**	**75.99**	**343**	*e*P	**P**	**03 24 09.6**	**+0.2**
TUC	**Tucson**	**77.44**	**330**	*e*P	**P**	**03 24 18.7**	**+0.9**
LAZ	**Ladron**	**77.93**	**333**	*e*P	**P**	**03 24 20.9**	**+0.3**
ANMO	**Albuquerque**	**78.18**	**334**	*e*P	**P**	**03 24 22.0**	**0.0**
	comp=E,5.0nm,1.2s						
ACSO	**Alum Creek Sta**	**78.19**	**354**	*e*P	**P**	**03 24 21.3**	**-0.3**
	comp=E,8.0nm,0.8s						
DBIC	**Dimbokro**	**78.81**	**72**	P	**P**	**03 24 26.6**	**+0.9**
	comp=E,4.8nm,0.8s,baz=175,slow=7.1,SNR=5.3						
DBIC	**Dimbokro**	**78.81**	**72**	*e*P	**P**	**03 24 24.5**	**-1.2**
	comp=E,23nm,1.3s						
BOSA	**Boshof**	**80.40**	**119**	P	**P**	**03 24 35.8**	**+1.4**
	comp=E,3.4nm,0.8s,baz=243,slow=4.5,SNR=3.7						
BOSA				LR	LR	03 59 00.5	
	comp=E,20nm,18.3s,baz=117,slow=35						
SDCO	**Great Sand Dun**	**80.41**	**336**	*e*P	**P**	**03 24 35.4**	**+1.2**
	comp=E,3.2nm,1.2s						
WUAZ	**Wupatki**	**80.49**	**331**	*e*P	**P**	**03 24 36.4**	**+1.9**
	comp=E,4.2nm,0.8s						
MVCO	**Mesa Verde**	**80.93**	**334**	*e*P	**P**	**03 24 38.3**	**+1.4**
	comp=E,5.8nm,1.3s						
LDFC	**Landfair**	**81.62**	**328**	*e*P	**P**	**03 24 41.3**	**+0.9**
	comp=E,3.2nm,0.5s						
SMCO	**Snowmass**	**82.19**	**336**	*e*P	**P**	**03 24 44.3**	**+0.6**
	comp=E,7.5nm,1.3s						
ISCO	**Idaho Springs**	**82.32**	**337**	*e*P	**P**	**03 24 45.0**	**+0.7**
	comp=E,3.8nm,1.1s						
LBTB	**Lobatse**	**82.86**	**116**	*e*P	**P**	**03 24 47.4**	**0.0**
	comp=E,12nm,1.2s						
SRU	**San Rafael Swe**	**83.34**	**333**	*e*P	**P**	**03 24 50.5**	**+1.0**
	comp=E,3.9nm,1.1s						
ECSD	**EROS Data Cent**	**83.65**	**345**	*e*P	**P**	**03 24 50.5**	**-0.2**
	comp=E,7.7nm,0.9s						
TPH	**Tonopah**	**85.06**	**328**	*e*P	**P**	**03 24 59.3**	**+1.1**
	comp=E,9.7nm,1.3s						
DUG	**Dugway, Tooele**	**85.13**	**332**	*e*P	**P**	**03 24 58.8**	**+0.3**
	comp=E,6.4nm,1.1s						
K22A	**Casper**	**85.20**	**337**	*e*P	**P**	**03 24 59.4**	**+0.6**
NVAR	**Mina Array Bea**	**85.81**	**327**	P	**P**	**03 25 01.9**	**0.0**
	comp=E,0.3nm,0.3s,baz=154,slow=5.1,SNR=5.1						
HWUT	**Hardware Ranch**	**85.92**	**333**	*e*P	**P**	**03 25 02.9**	**+0.5**
PDAR	**Pinedale Array**	**86.27**	**335**	P	**P**	**03 25 04.0**	**-0.1**
	comp=E,2.9nm,1.0s,baz=123,slow=5.5,SNR=14						
HVU	**Hansel Valley**	**86.51**	**333**	*e*P	**P**	**03 25 05.8**	**+0.5**
AGMN	**Agassiz Nation**	**87.88**	**346**	*e*P	**P**	**03 25 11.1**	**-0.4**
	comp=E,5.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**87.89**	**72**	P	**P**	**03 25 12.6**	**+0.2**
	comp=E,1.4nm,0.9s,baz=238,slow=4.8,SNR=6.2						
HLID	**Hailey**	**88.65**	**333**	*e*P	**P**	**03 25 16.7**	**+1.2**
MCMT	**McKenzie Canyo**	**89.20**	**334**	*e*P	**P**	**03 25 19.9**	**+1.7**
ILAR	**Eielson Array**	**116.61**	**333**	PKP	**PKPdf**	**03 31 04.9**	**-0.5**
	comp=E,0.3nm,0.8s,baz=194,slow=2.7,SNR=3.8						
GERES	**GERESS Array B**	**116.72**	**48**	PKP	**PKPdf**	**03 31 06.0**	**-0.3**
	comp=E,0.4nm,0.7s,baz=288,slow=0.6,SNR=3.6						
BRTR	**Keskin Array B**	**125.90**	**64**	PKP	**PKPdf**	**03 31 24.5**	**+0.3**
	comp=E,0.5nm,0.8s,baz=190,slow=4.1,SNR=3.4		

WESP S Sb 03 35 09.7 -0.2
BRPK Brown Peak 0.66 21 P Pg 03 35 02.0 +0.2
SSLW Shishaldin Wes 0.74 1 P Pg 03 35 03.5 +0.1
SSBA Shishaldin 0.74 1 P Pg 03 35 03.5 +0.1
SSBA S Sg 03 35 13.4 +0.3
SSLN Shishaldin Nor 0.79 6 P Pb 03 35 04.5 -0.6
ISNN Isanotski Nort 0.83 15 P Pb 03 35 05.4 -0.5
FALS False Pass 0.93 27 P Pb 03 35 06.2 -1.3
FALS S Sb 03 35 18.0 -2.0
AKUT Akutan 0.96 277 P Pb 03 35 07.4 -0.7
AKUT S Sb 03 35 20.4 -0.5
ZRO Akutan Zero 1.08 274 P Pb 03 35 09.1 -1.0
AKGG Akutan Green G 1.10 280 P Pb 03 35 09.8 -0.6
AKGG S Sb 03 35 24.6 -0.3
AKRB Akutan Reef Bi 1.14 276 P Pn 03 35 10.6 -0.8
UNV Unalaska Valle 1.41 263 P Pn 03 35 13.1 -1.9
UNV S Sn 03 35 32.8 -0.9
DRIA Deer Island 1.44 49 P Pn 03 35 13.7 -1.9
MREP Makushin Rep't 1.55 263 P Pn 03 35 16.5 -0.7
MSW Makushin Switc 1.56 267 P Pn 03 35 16.0 -1.2
DTNA Dutton South F 1.57 44 P Pn 03 35 16.0 -1.3
MCIR Makushin Cirqu 1.62 268 P Pn 03 35 17.4 -0.7
HAG Hague Volcano 1.83 44 P Pn 03 35 20.7 -0.3
PN7A Pavlof North-7 1.88 41 P Pn 03 35 22.0 +0.4
OKFG Magazine Ridge 2.32 256 P Pn 03 35 28.1 +0.4
OKTU Okmok Mt. Tuli 2.41 256 P Pn 03 35 29.6 +0.8
SDPT Sand Point 2.51 57 P Pn 03 35 29.1 -1.1
NIKH Nikolski High 3.00 251 P Pn 03 35 36.1 -0.9
VNHG Veniaminof 1 3.60 50 P Pn 03 35 45.5 +0.1
ANPB Aniakchak Plen 4.34 48 P Pn 03 35 55.1 -0.4
SPIA Saint Paul Isl 4.68 315 P Pn 03 35 60.0 -0.1
ILAR Eielson Array 13.84 32 Pn Pn 03 38 06.7 +1.4
0.1nm,0.3s,baz=220,slow=10,SNR=3.5
DLBC Dease Lake 19.33 63 P P 03 39 14.8 +0.2
0.6nm,0.3s,baz=174,slow=19,SNR=5.6
YKA Yellowknife Ar 26.76 52 P P 03 40 28.6 -0.3
0.4nm,0.8s,baz=274,slow=9.5,SNR=3.1
NVAR Mina Array Bea 34.66 98 P P 03 41 40.6 +1.5
0.7nm,0.6s,baz=297,slow=7.9,SNR=6.0
H11N2 WAKE ISLAND Hy 40.78 224 T T 04 25 58.2
baz=26,slow=76,SNR=185
H11N3 WAKE ISLAND Hy 40.79 224 T T 04 25 58.7
baz=26,slow=76,SNR=163
H11N1 WAKE ISLAND Hy 40.80 224 T T 04 25 59.6
baz=26,slow=76,SNR=177
H11S1 WAKE ISLAND Hy 41.96 224 T T 04 27 27.3
baz=25,slow=76,SNR=366
H11S2 WAKE ISLAND Hy 41.97 224 T T 04 27 33.2
baz=25,slow=76,SNR=320
H11S3 WAKE ISLAND Hy 41.97 224 T T 04 27 34.0
baz=25,slow=76,SNR=232
TXAR Lajitas Array 49.66 95 P P 03 43 41.5 +0.1
0.2nm,0.5s,baz=294,slow=5.4,SNR=7.0

*IDC **27** 03:52:15.3±0.8,54.15N×164.65W,h0km,mb4.0/17,*
mb1 4.3/19,mb1mx4.0/41,mbtmp4.0/19,ML3.8/2,MS3.4/18,
Ms1 3.4/18,ms1mx3.3/40,Error ellipse: s-maj=22.0km
s-min=15.1km az=1.0
*ISCJB **27** 03:52:16.3±0.3,54.02N±0.03×164.13W±0.04,h10km,*
mb4.1/36,MS3.4/16,Error ellipse: s-maj=4.6km
s-min=2.8km az=161.4
*NEIC **27** 03:52:18.3,54.09N×164.15W,h26km,mb4.3/20,*
ML4.3(AEIC),After AEIC.
*BJI **27** 03:52:19.4,54.00N×164.50W,h46km,mb4.3/2,mB4.4/2,*
Ms4.0/1

ISC 27 03:52:17.5±0.4,54.07N±0.05×164.24W±0.03,h10km, n122,σ1§20/97,mb4.3/36,MS3.4/16,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WESE	**West Dahl East**	**0.45**	**333**	P	**Pb**	**03 52 28.4**	**+0.8**
WESP	**Westdahl Peak**	**0.51**	**326**	P	**Pb**	**03 52 29.5**	**+0.9**
BRPK	**Brown Peak**	**0.64**	**27**	P	**Pg**	**03 52 29.9**	**-0.1**
SSLS	**Shishaldin Sou**	**0.66**	**12**	P	**Pg**	**03 52 30.7**	**+0.5**
SSLW	**Shishaldin Wes**	**0.70**	**6**	P	**Pg**	**03 52 31.5**	**+0.4**
SSBA	**Shishaldin**	**0.70**	**5**	P	**Pg**	**03 52 31.4**	**+0.3**
SSBA				S	**Sg**	**03 52 41.2**	**+0.9**
SSLN	**Shishaldin Nor**	**0.75**	**11**	P	**Pg**	**03 52 32.5**	**+0.4**
ISNN	**Isanotski Nort**	**0.81**	**19**	P	**Pg**	**03 52 33.3**	**+0.2**
AKSA	**Akutan Strait**	**0.86**	**275**	P	**Pg**	**03 52 34.6**	**+0.6**
AKA	**Akutan**	**0.90**	**275**	P	**Pg**	**03 52 35.6**	**+0.8**
AKUT	**Akutan**	**0.90**	**275**	P	**Pg**	**03 52 35.4**	**+0.5**
AKUT				S	**Sg**	**03 52 48.2**	**+1.6**
FALS	**False Pass**	**0.92**	**31**	P	**Pg**	**03 52 34.1**	**-1.1**
FALS				S	**Sg**	**03 52 46.1**	**-1.2**
HSB	**Akutan Spr's B**	**0.99**	**277**	P	**Pg**	**03 52 37.0**	**+0.5**
ZRO	**Akutan Zero**	**1.02**	**272**	P	**Pg**	**03 52 37.0**	**-0.1**
AKGG	**Akutan Green G**	**1.04**	**278**	P	**Pb**	**03 52 37.5**	**0.0**
AKRB	**Akutan Reef Bi**	**1.08**	**274**	P	**Pb**	**03 52 38.0**	**-0.2**
UNV	**Unalaska Valle**	**1.36**	**261**	P	**Pn**	**03 52 41.6**	**-0.8**
MREP	**Makushin Rep't**	**1.50**	**261**	P	**Pn**	**03 52 44.4**	**-0.1**
MSW	**Makushin Switc**	**1.51**	**265**	P	**Pn**	**03 52 44.1**	**-0.5**
MCIR	**Makushin Cirqu**	**1.57**	**267**	P	**Pn**	**03 52 45.5**	**0.0**
DTNA	**Dutton South F**	**1.58**	**46**	P	**Pn**	**03 52 44.0**	**-1.5**
DOL	**Dolgoi Island**	**1.75**	**51**	P	**Pn**	**03 52 46.2**	**-1.8**
OKFG	**Magazine Ridge**	**2.28**	**255**	P	**Pn**	**03 52 55.9**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**2.36**	**255**	P	**Pn**	**03 52 57.6**	**+1.3**
SDPT	**Sand Point**	**2.53**	**58**	P	**Pn**	**03 52 57.4**	**-1.2**
OKSP	**Okmok Steeple**	**2.55**	**253**	P	**Pn**	**03 52 59.7**	**+0.8**
NIKH	**Nikolski High**	**2.97**	**250**	P	**Pn**	**03 53 04.5**	**-0.1**
VNHG	**Veniaminof 1**	**3.62**	**51**	P	**Pn**	**03 53 13.6**	**-0.1**
ANPB	**Aniakchak Plen**	**4.36**	**49**	P	**Pn**	**03 53 22.4**	**-1.3**
SPIA	**Saint Paul Isl**	**4.61**	**315**	P	**Pn**	**03 53 28.2**	**+1.1**
OHAK	**Old Harbor**	**6.96**	**59**	*e*Pn	**Pn**	**03 54 00.0**	**+0.7**
KDAK	**Kodiak Island**	**7.53**	**56**	*e*Pn	**Pn**	**03 54 05.9**	**-1.3**
ADK	**Adak**	**7.83**	**259**	*e*Pn	Pn	03 54 16.2	+4.9
SVW2	**Sparrevohn**	**8.43**	**30**	*e*Pn	**Pn**	**03 54 19.5**	**-0.1**
RSO	**Redoubt South**	**8.92**	**40**	*e*Pn	Pn	03 54 29.5	+3.0
112nm,0.8s							
BRLK	**Bradley Lake**	**9.26**	**47**	*e*Pn	**Pn**	**03 54 32.0**	**+1.1**
SEW	**Seward**	**10.05**	**47**	*e*Pn	**Pn**	**03 54 43.4**	**+1.7**
18nm,0.8s							
RC01	**Rabbit Creek A**	**10.47**	**42**	*e*Pn	**Pn**	**03 54 48.9**	**+1.4**
19nm,0.9s							
PPLA	**Purkeypile**	**10.85**	**31**	*e*Pn	Pn	03 54 56.6	+3.9
CAST	**Castle Rocks**	**11.28**	**29**	*e*Pn	**Pn**	**03 55 01.0**	**+2.5**
SML	**Sawmill**	**11.44**	**41**	*e*Pn	**Pn**	**03 55 01.4**	**+0.6**
2.9nm,1.1s							
TRF	**Thorofare Moun**	**11.84**	**32**	*e*Pn	Pn	03 55 10.9	+4.6
EYAK	**Cordova Ski Ar**	**11.89**	**50**	*e*Pn	Pn	03 55 10.0	+3.1
BPAW	**Bear Paw Mtn.**	**12.11**	**29**	*e*Pn	Pn	03 55 12.9	+2.9
MCK	**McKinley**	**12.46**	**33**	*e*Pn	Pn	03 55 19.4	+4.7
BMRM	**Bremner River**	**12.58**	**49**	*e*Pn	**Pn**	**03 55 18.0**	**+1.6**
IM04	**Indian Mountai**	**13.01**	**19**	*e*Pn	**Pn**	**03 55 23.6**	**+1.5**
HARP	**HAARP**	**13.02**	**43**	*e*Pn	Pn	03 55 26.2	+3.9
PAX	**Paxson**	**13.20**	**40**	*e*Pn	Pn	03 55 29.2	+4.3
COLA	**College**	**13.60**	**31**	*e*Pn	Pn	03 55 34.8	+4.6
ILAR	**Eielson Array**	**13.83**	**32**	Pn	**Pn**	**03 55 32.2**	**-1.1**
0.2nm,0.3s,baz=225,slow=13,SNR=10							
ILAR				Lg	Lg	03 59 38.6	
baz=202,slow=28,SNR=3.4							
ILAR				LR	LR	04 00 58.0	
comp=Z,148nm,21.5s,baz=206,slow=38							
COLD	**Coldfoot**	**14.82**	**22**	*e*Pn	**Pn**	**03 55 49.1**	**+2.2**
EGAK	**Eagle**	**15.79**	**38**	*e*Pn	**Pn**	**03 56 01.4**	**+1.8**
13nm,0.9s							
HYT	**Haines Junctio**	**15.81**	**54**	*e*Pn	**P**	**03 56 04.8**	**+0.8**
DAWY	**Dawson**	**16.11**	**42**	*e*Pn	**Pn**	**03 56 05.7**	**+1.9**
BESE	**Bessie Mountai**	**16.83**	**63**	*e*Pn	**P**	**03 56 17.4**	**+2.3**
15nm,1.0s							
DLBC	**Dease Lake**	**19.36**	**63**	P	**Pn**	**03 56 43.9**	**-0.3**
0.1nm,0.3s,baz=276,slow=8.5,SNR=9.0							
DLBC				LR	LR	04 03 42.9	
comp=Z,76nm,20.3s,baz=254,slow=35							
INK	**Inuvik**	**20.23**	**33**	LR	LR	04 05 23.0	
comp=Z,110nm,20.0s,slow=39							
BBB	**Bella Bella**	**21.61**	**80**	LR	LR	04 03 10.9	
comp=Z,422nm,20.8s,baz=3.5,slow=30							
PETK	**Petropavlovsk-**	**22.44**	**283**	LR	LR	04 05 34.6	
comp=Z,50nm,21.5s,baz=83,slow=36							
SEY	**Seymchan**	**23.89**	**309**	LR	LR	04 07 49.6	
comp=Z,93nm,18.5s,baz=168,slow=40							
YKW3	**Yellowknife Ar**	**26.77**	**52**	*e*P	**P**	**03 57 57.6**	**+0.6**
0.1nm,0.7s							
YKA	**Yellowknife Ar**	**26.78**	**52**	P	**P**	**03 57 56.6**	**-0.5**
2.5nm,0.9s,baz=273,slow=9.7,SNR=14							
EDM	**Edmonton**	**29.65**	**71**	*e*P	**P**	**03 58 23.4**	**+0.5**
NEW	**Newport**	**29.65**	**82**	P	**P**	**03 58 24.9**	**+1.9**
2.1nm,1.0s,baz=273,slow=19,SNR=2.2							
NEW				LR	LR	04 08 23.6	
comp=Z,57nm,20.0s,baz=297,slow=32							
YBH	**Yreka Blue Hor**	**30.01**	**97**	P	P	03 58 31.0	+4.7
2.4nm,0.9s,baz=297,slow=4.5,SNR=3.1							
YBH				LR	LR	04 07 34.5	
comp=Z,96nm,21.4s,baz=306,slow=30							
K05A	**Summer Lake**	**30.46**	**94**	*e*P	**P**	**03 58 32.8**	**+2.4**
NVAR	**Mina Array Bea**	**34.72**	**98**	P	**P**	**03 59 08.4**	**+0.7**
4.5nm,0.7s,baz=297,slow=8.7,SNR=36							
ELK	**Elko**	**35.01**	**92**	LR	LR	04 12 31.0	
comp=Z,62nm,18.2s,baz=334,slow=34							
FFC	**Flin Flon**	**35.20**	**63**	*e*P	**P**	**03 59 11.3**	**0.0**
4.0nm,0.8s							
H17A	**Grant Village**	**35.55**	**83**	*e*P	**P**	**03 59 13.6**	**-1.2**
TPH	**Tonopah**	**35.59**	**97**	*e*P	**P**	**03 59 16.0**	**+0.9**
3.5nm,0.8s							
R11A	**Troy Canyon, C**	**36.36**	**95**	*e*P	**P**	**03 59 22.7**	**+0.9**
5.7nm,1.1s							
DAC	**Darwin (Calif)**	**36.60**	**100**	*e*P	**P**	**03 59 24.6**	**+0.8**
2.0nm,0.6s							
PDAR	**Pinedale Array**	**37.11**	**85**	P	P	03 59 31.2	+3.1
0.4nm,0.6s,baz=322,slow=5.7,SNR=2.7							
FCC	**Fort Churchill**	**37.46**	**54**	*e*P	**P**	**03 59 30.1**	**-0.5**
GSC	**Goldstone, Bar**	**37.73**	**100**	*e*P	**P**	**03 59 34.5**	**+1.2**
5.5nm,0.9s							
LDFC	**Landfair**	**38.88**	**99**	*e*P	**P**	**03 59 43.8**	**+0.8**
13nm,0.7s							
RSSD	**Black Hills**	**39.52**	**79**	*e*P	**P**	**03 59 48.5**	**+0.1**
3.8nm,0.7s							
ULM	**Lac du Bonnet**	**40.63**	**66**	P	**P**	**03 59 59.2**	**+2.0**
4.4nm,0.9s,baz=268,slow=2.3,SNR=3.1							
ULM				LR	LR	04 15 50.4	
comp=Z,59nm,21.1s,baz=302,slow=35							
WUAZ	**Wupatki**	**40.76**	**95**	*e*P	**P**	**03 59 59.5**	**+0.8**
4.0nm,0.8s							
H11N2	**WAKE ISLAND Hy 40.77 224**			T	T	04 43 31.7	
baz=26,slow=76,SNR=5905							
H11N3	**WAKE ISLAND Hy 40.78 224**			T	T	04 43 32.2	
baz=26,slow=76,SNR=4336							
H11N1	**WAKE ISLAND Hy 40.79 224**			T	T	04 43 30.9	
baz=26,slow=76,SNR=3593							
AGMN	**Agassiz Nation**	**41.72**	**69**	*e*P	**P**	**04 00 06.1**	**-0.2**
H11S1	**WAKE ISLAND Hy 41.95 224**			T	T	04 44 59.7	
baz=26,slow=76,SNR=604							
H11S2	**WAKE ISLAND Hy 41.96 224**			T	T	04 44 59.6	
baz=26,slow=76,SNR=571							
H11S3	**WAKE ISLAND Hy 41.97 224**			T	T	04 44 58.1	
baz=26,slow=76,SNR=592							
214A	**Organ Pipe Nat**	**42.45**	**100**	*e*P	**P**	**04 00 12.5**	**+0.1**
4.2nm,0.8s							
MAJO	**Matsushiro**	**42.81**	**270**	*e*P	P	04 00 13.0	-2.3
ECSD	**EROS Data Cent**	**44.02**	**75**	*e*P	**P**	**04 00 26.5**	**+1.5**
CN2	**Changchun**	**45.49**	**287**	*e*P	**P**	**04 00 35.8**	**-0.9**
JCJ	**Chichijima**	**47.31**	**257**	LR	LR	04 18 11.8	
comp=Z,20nm,20.9s,slow=33							
SUMG	**Summit**	**48.20**	**19**	*i* P	**P**	**04 00 56.7**	**-1.3**
7.5nm,1.0s							
SUMG	**Summit**	**48.20**	**19**	*e*P	**P**	**04 00 56.3**	**-1.7**
4.6nm,0.9s							
WMOK	**Wichita Mounta**	**48.71**	**86**	*e*P	**P**	**04 01 01.3**	**-0.6**
3.7nm,0.7s							
TXAR	**Lajitas Array**	**49.72**	**94**	P	**P**	**04 01 09.9**	**+0.2**
2.3nm,0.6s,baz=300,slow=5.4,SNR=27							
TXAR				LR	LR	04 19 56.3	
comp=Z,31nm,20.6s,baz=0.0,slow=33							
HDIL	**Hopedale**	**50.22**	**73**	*e*P	**P**	**04 01 12.3**	**-1.0**
11nm,0.6s							
JCT	**Junction City**	**51.15**	**90**	*e*P	**P**	**04 01 19.5**	**-1.1**
3.2nm,0.6s							
SCHQ	**Schefferville**	**52.05**	**47**	P	**P**	**04 01 25.8**	**-1.1**
4.7nm,0.8s,baz=313,slow=3.4,SNR=3.6							
SCHQ				LR	LR	04 24 46.3	
comp=Z,80nm,21.6s,baz=48,slow=37							
SONM	**Songino Array**	**53.03**	**303**	P	**P**	**04 01 33.3**	**-1.1**
0.2nm,0.5s,baz=36,slow=5.4,SNR=2.5							
SONM				PcP	**PcP**	**04 02 42.2**	**-0.7**
0.9nm,0.8s,baz=62,slow=3.4,SNR=2.9							
BJI	**Beijing**	**53.17**	**289**	P	P	04 01 31.0	-4.3
BJI				PMZ			
6.0nm,0.8s							
BJI				LN			
94nm,27.8s							
BJI				LE			
93nm,24.9s							
HHC	**Hu-ho-hao-te**	**55.14**	**293**	*e*P	P	04 01 47.0	-2.9
HHC				S	S	04 09 18.8	-14
HHC				PMZ			
71nm,6.6s							
ARCES	**ARCESS Array B**	**56.50**	**356**	LR	LR	04 28 14.5	
comp=Z,36nm,18.2s,baz=278,slow=38							
ZALV	**Zalesovo Beam**	**58.19**	**319**	PcP	**PcP**	**04 03 04.1**	**+1.6**
0.6nm,0.5s,baz=35,slow=5.3,SNR=2.7							
ZALV				LR	LR	04 28 27.0	
comp=Z,56nm,20.7s,baz=68,slow=38							
ARU	**Arti**	**64.44**	**335**	*e*P	**P**	**04 02 52.3**	**-1.1**
2.9nm,0.7s							
FINES	**FINESS Array B**	**64.54**	**355**	P	**P**	**04 02 52.1**	**-1.9**
1.6nm,0.8s,baz=44,slow=6.1,SNR=9.4							
FINES				LR	LR	04 32 38.0	
comp=Z,35nm,18.2s,baz=22,slow=38							
WMQ	**Urumqi**	**64.84**	**311**	*e*P	**P**	**04 02 57.3**	**+0.9**
WMQ				pP	pP	04 03 10.3	+11
WMQ				sP	sP	04 03 15.5	+15
WMQ				PMZ			
2.0nm,0.8s							
WMQ				PMZ			
11nm,4.5s							
NB2	**NORSAR Subarra**	**65.18**	**2**	P	**P**	**04 02 56.4**	**-1.9**
comp=Z,1.7nm,0.8s,baz=358,slow=6.9							
NOA	**NORSAR Array B**	**65.18**	**2**	P	**P**	**04 02 55.8**	**-2.5**
comp=Z,0.8nm,0.8s,baz=358,slow=6.4,SNR=3.5							
NOA				LR	LR	04 32 49.6	
comp=Z,22nm,19.4s,baz=15,slow=37							
ABKAR	**Akbulak array**	**70.52**	**331**	*e*P	**P**	**04 03 31.0**	**-1.0**
comp=Z,2.3nm,0.7s							
AKASG	**Malin Array Be**	**74.99**	**351**	P	P	04 03 55.4	-3.1
comp=Z,0.6nm,0.5s,baz=11,slow=5.8,SNR=3.2							
KIEV	**Kiev**	**75.00**	**351**	*e*P	**P**	**04 03 57.0**	**-1.6**
comp=Z,1.6nm,0.5s							
GERES	**GERESS Array B**	**77.44**	**1**	P	**P**	**04 04 11.7**	**-1.0**
comp=Z,0.3nm,0.7s,baz=8.8,slow=7.0,SNR=3.0							
CMAR	**Chiang Mai Arr**	**79.17**	**286**	LR	LR	04 42 17.1	
comp=Z,18nm,18.6s,baz=186,slow=38							
KBZ	**Khabaz**	**79.85**	**340**	P	**P**	**04 04 25.0**	**-0.8**
comp=Z,1.7nm,0.9s,baz=359,slow=2.4,SNR=2.7							
BNI	**Bardonecchia**	**80.95**	**7**	*e*P	**P**	**04 04 32.4**	**+0.5**
comp=Z,3.8nm,1.1s							
ESDC	**Sonseca Array**	**85.09**	**15**	P	**P**	**04 04 52.7**	**-0.7**
comp=Z,1.5nm,0.8s,baz=343,slow=4.5,SNR=7.2							
BR131	**Keskin Array S**	**85.31**	**346**	*e*P	**P**	**04 04 53.9**	**-0.7**
comp=Z,2.9nm,0.8s							
BRTR	**Keskin Array B**	**85.31**	**346**	P	**P**	**04 04 53.9**	**-0.7**
comp=Z,3.2nm,0.8s,baz=48,slow=1.8,SNR=11							
WRA	**Warramunga Arr**	**90.53**	**236**	P	**P**	**04 05 17.2**	**-2.1**
comp=Z,0.6nm,1.0s,baz=36,slow=5.2,SNR=3.1							
ASAR	**Alice Springs**	**93.88**	**234**	P	**P**	**04 05 34.7**	**-0.2**
comp=Z,0.1nm,0.2s,baz=38,slow=4.7,SNR=3.6							

*IDC **27** 04:06:38.5±1.0,8.93S×160.96E,h0km,mb4.2/9,*
mb1 4.5/9,mb1mx4.1/35,mbtmp4.3/9,MS3.6/7,Ms1 3.6/7,
ms1mx3.3/21,Error ellipse: s-maj=30.2km s-min=20.6km
az=103.0
*ISCJB **27** 04:06:42.6±0.8,8.90S±0.10×161.0E±0.1,h43km,*
mb4.2/12,MS3.6/7,Error ellipse: s-maj=18.4km
s-min=10.0km az=40.0
*NEIC **27** 04:06:42.8±0.7,8.97S×161.07E,h35km,mb4.3/6,Error*
ellipse: s-maj=19.6km s-min=13.3km az=135.0

ISC 27 04:06:44.4±0.7,8.9S±0.1×161.0E±0.1,h43km,n34, σ1§65/34,mb4.2/12,MS3.5/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.19**	**242**	*i* P	**Pn**	**04 07 05.0**	**+0.4**
HNR				*i* S	**Sn**	**04 07 21.0**	**+1.4**
HNR	**Honiara**	**1.19**	**242**	*e*Pn	**Pn**	**04 07 04.5**	**-0.1**
HNR				*e*Sn	**Sn**	**04 07 18.9**	**-0.7**
CTA	**Charters Tower**	**18.11**	**230**	P	**Pn**	**04 10 55.6**	**+2.8**
0.5nm,0.3s,baz=43,slow=12,SNR=14							
CTAO	**Charters Tower**	**18.11**	**230**	*e*P	**Pn**	**04 10 55.1**	**+2.3**
17nm,0.9s							
COEN	**Coen**	**18.20**	**252**	*e*P	**P**	**04 10 53.0**	**-0.9**
EIDS	**Eidsvold**	**18.93**	**209**	*e*P	**Pn**	**04 11 04.5**	**+1.7**
17nm,1.1s							
JAY	**Jayapura**	**21.17**	**286**	P	**P**	**04 11 24.1**	**-2.1**
5.3nm,0.7s,baz=127,slow=5.1,SNR=3.1							
H11S2	**WAKE ISLAND Hy 27.77 12**			T	T	04 41 37.7	
baz=194,slow=75,SNR=110							
H11S3	**WAKE ISLAND Hy 27.77 12**			T	T	04 41 37.7	
baz=194,slow=75,SNR=148							
H11S1	**WAKE ISLAND Hy 27.78 12**			T	T	04 41 37.7	
baz=194,slow=75,SNR=130							
WRAB	**Tennant Creek**	**28.02**	**244**	*e*P	**P**	**04 12 30.3**	**-1.3**
9.3nm,0.7s							
WRAB				*e*		04 12 39.5	
WRA	**Warramunga Arr**	**28.04**	**244**	P	**P**	**04 12 31.1**	**-0.7**
9.2nm,0.7s,baz=70,slow=9.3,SNR=52							
WRA				PcP	**PcP**	**04 15 45.9**	**-0.1**
0.6nm,0.8s,baz=58,slow=2.7,SNR=3.2							
WRA				ScP	**ScP**	**04 19 27.6**	**+4.0**
0.6nm,1.1s,baz=72,slow=3.4,SNR=5.5							
STKA	**Stephens Creek**	**29.14**	**216**	P	**P**	**04 12 41.4**	**-0.1**
3.2nm,0.7s,baz=44,slow=10,SNR=9.7							
STKA				LR	LR	04 23 57.3	
comp=Z,89nm,18.6s,baz=26,slow=36							
AS31	**Alice Springs**	**29.81**	**237**	*e*P	**P**	**04 12 45.7**	**-1.8**
ASAR	**Alice Springs**	**29.81**	**237**	P	**P**	**04 12 46.2**	**-1.4**
3.8nm,0.7s,baz=69,slow=9.3,SNR=35							
ASAR				PcP	**PcP**	**04 15 50.7**	**+0.2**
0.4nm,0.5s,baz=81,slow=2.9,SNR=2.7							
ASAR				ScP	**ScP**	**04 19 32.2**	**+3.0**
1.4nm,0.7s,baz=63,slow=3.1,SNR=12							
ASAR				LR	LR	04 24 45.4	
comp=Z,112nm,18.0s,baz=70,slow=37							
SOEI	**Soe**	**36.26**	**266**	*e*P	**P**	**04 13 43.7**	**-0.3**
FORT	**Forrest**	**37.66**	**230**	*e*P	**P**	**04 13 55.8**	**+0.2**
26nm,1.0s							
MBWA	**Marble Bar**	**41.57**	**248**	*e*P	**P**	**04 14 26.4**	**-1.9**
6.1nm,0.8s							
PPT	**Papeete**	**48.75**	**106**	LR	LR	04 32 03.7	
comp=Z,38nm,18.6s,baz=307,slow=31							
KSRS	**Korea Array**	**55.53**	**328**	P	**P**	**04 16 17.3**	**+2.0**
0.6nm,0.6s,baz=134,slow=6.2,SNR=4.2							
KSAR	**Wonju Array Be**	**55.54**	**328**	P	**P**	**04 16 17.3**	**+1.9**
CMAR	**Chiang Mai Arr**	**66.98**	**294**	P	**P**	**04 17 33.7**	**+0.4**
1.8nm,0.3s,baz=105,slow=5.1,SNR=4.7							
VNDA	**Vanda**	**68.62**	**180**	P	**P**	**04 17 43.5**	**+1.0**
1.0nm,0.7s,baz=350,slow=6.6,SNR=8.4							
VNDA	**Vanda**	**68.62**	**180**	*e*P	**P**	**04 17 42.2**	**-0.4**
1.2nm,0.8s							
VNDA				*e*		04 17 56.7	
SEY	**Seymchan**	**71.91**	**356**	LR	LR	04 47 04.6	
comp=Z,45nm,20.9s,baz=284,slow=34							
SONM	**Songino Array**	**74.21**	**325**	P	**P**	**04 18 18.4**	**+1.5**
1.2nm,0.6s,baz=137,slow=5.1,SNR=6.9							
ILAR	**Eielson Array**	**83.01**	**20**	P	**P**	**04 19 04.7**	**-0.1**
0.7nm,0.5s,baz=250,slow=5.1,SNR=19							
ILAR				LR	LR	04 49 54.2	
comp=Z,24nm,21.7s,baz=240,slow=31							
MK31	**Makanchi Array**	**88.78**	**318**	*e*P	**P**	**04 19 33.6**	**-0.1**
MK31				*e*		04 19 40.6	
NEW	**Newport**	**91.18**	**41**	LR	LR	04 52 05.5	
comp=Z,26nm,21.6s,baz=284,slow=30							
TXAR	**Lajitas Array**	**98.90**	**62**	LR	LR	04 58 48.7	
comp=Z,31nm,19.4s,baz=0.0,slow=32							
LVC	**Limon Verde**	**121.95**	**124**	*e*PKPdf	**PKPdf**	**04 25 32.7**	**-2.6**
NAO01	**NORSAR Array S**	**123.59**	**343**	*e*PKPdf	**PKPdf**	**04 25 34.9**	**-2.1**
LBTB	**Lobatse**	**125.04**	**231**	*e*PKPdf	**PKPdf**	**04 25 40.3**	**-0.7**
TORD	**Torodi Ar. Bea**	**159.27**	**284**	PKP	**PKPdf**	**04 26 39.6**	**+0.5**
0.4nm,0.7s,baz=70,slow=1.7,SNR=2.7							
TORD				PKPab	**PKPab**	**04 27 15.4**	**-1.2**
1.1nm,1.0s,baz=89,slow=4.7,SNR=4.4							

MEX 27 04:20:14.6±0.4,16.01N×96.78W,h10km±4km,MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PANG	**Puerto Angel**	**0.45**	**138**	*i* P	Pg	04 20 23.0	-0.4
PANG				*e*S	Sg	04 20 29.7	+0.3
HUIG	**Huatulco**	**0.69**	**110**	*e*P	Pg	04 20 26.4	-1.6
HUIG				*e*S	Sg	04 20 35.8	-1.3
VHO	**Vista Hermosa**	**1.06**	**3**	*e*P	Pg	04 20 32.0	-3.3
VHO				*e*S	Sg	04 20 45.4	-4.0
PNIG	**Pinotepa**	**1.35**	**287**	*e*P	Pn	04 20 35.6	-4

comp=E,69nm,0.3s,baz=180,slow=7.5,SNR=15
LVC Sn **Sn** **04 37 43.6 -1.1**
comp=E,24nm,0.3s,baz=248,slow=19,SNR=1.9
LVC Lg Lg 04 38 32.2
comp=E,86nm,0.3s,baz=82,slow=11,SNR=4.1
LVC Limon Verde 7.91 357 *e*Pn **Pn** **04 36 14.4 -0.3**
LVC Sn **Sn** **04 37 43.6 -1.1**
LVC *e*Lg Lg 04 38 37.5
TRQA Tornquist 9.25 146 *e*Pn **Pn** **04 36 31.9 -0.9**
TRQA eLg Lg 04 39 13.8
CPUP Villa Florida 10.72 70 Pn Pn 04 36 50.7 -2.3
comp=E,0.4nm,0.3s,baz=228,slow=11,SNR=7.9
CPUP Sn **Sn** **04 38 57.5 +4.2**
comp=E,0.8nm,0.3s,baz=214,slow=10,SNR=3.1
CPUP Lg Lg 04 39 59.2
comp=E,1.2nm,0.3s,baz=6.0,slow=11,SNR=3.4
CPUP LR LR 04 41 16.1
comp=E,142nm,18.2s,baz=270,slow=40
CPUP Villa Florida 10.72 70 *e*Pn **Pn** **04 36 51.7 -1.3**
comp=E,0.1nm,0.4s
CPUP Sn **Sn** **04 38 57.5 +4.2**
CPUP Lg Lg 04 39 59.2
LPAZ La Paz 14.20 2 Pn **Pn** **04 37 40.5 -0.7**
comp=E,0.1nm,0.3s,baz=160,slow=4.5,SNR=3.7
LPAZ La Paz 14.20 2 *e*Pn **Pn** **04 37 40.6 -0.6**
comp=E,8.2nm,1.1s
SIV San Ignacio 16.02 27 Pn **Pn** **04 38 04.9 -0.1**
comp=E,0.2nm,0.3s,baz=210,slow=14,SNR=7.4
SAML Samuel 22.06 14 *e*P **P** **04 39 13.7 -0.9**
comp=E,11nm,1.3s
BDFB Brasilia 23.95 56 P **P** **04 39 31.9 -2.3**
comp=E,1.8nm,0.6s,baz=251,slow=5.0,SNR=3.1
BDFB LR LR 04 49 57.8
comp=E,152nm,18.4s,baz=216,slow=40
USHA Ushuaia 24.27 180 P **P** **04 39 35.9 -0.8**
comp=E,9.2nm,0.9s,baz=326,slow=3.6,SNR=5.4
PTGA Pitinga 30.75 17 P **P** **04 40 33.2 -1.9**
comp=E,1.6nm,0.6s,baz=252,slow=19,SNR=3.7
GTBY Guantanamo Bay 50.58 352 *e*P **P** **04 43 17.3 -1.2**
TXAR Lajitas Array 68.31 327 P **P** **04 45 19.6 -1.5**
comp=E,0.4nm,0.6s,baz=153,slow=7.5,SNR=6.5
DBIC Dimbokro 71.24 70 P **P** **04 45 37.6 -1.8**
comp=E,5.8nm,1.0s,baz=214,slow=8.2,SNR=4.1
WUAZ Wupatki 77.08 325 *e*P **P** **04 46 11.8 -1.5**
comp=E,2.4nm,0.8s
MVCO Mesa Verde 77.09 328 *e*P **P** **04 46 11.8 -1.5**
comp=E,2.1nm,0.8s
ISCO Idaho Springs 78.00 332 *e*P **P** **04 46 17.3 -1.2**
comp=E,1.5nm,0.9s
BOSA Boshof 79.00 117 P P 04 46 21.4 -2.8
comp=E,2.3nm,0.9s,baz=194,slow=8.3,SNR=3.4
BOSA Boshof 79.00 117 *e*P P 04 46 21.0 -3.2
comp=E,4.5nm,0.9s
TORD Torodi Ar. Bea 80.21 68 P **P** **04 46 28.5 -2.3**
comp=E,2.7nm,0.6s,baz=277,slow=6.2,SNR=58
LBTB Lobatse 81.01 114 P P 04 46 32.4 -2.7
comp=E,2.3nm,0.7s,baz=194,slow=4.2,SNR=3.0
DUG Dugway, Tooele 81.49 327 *e*P **P** **04 46 35.5 -1.7**
comp=E,0.8nm,0.6s
HWUT Hardware Ranch 82.04 329 *e*P **P** **04 46 38.2 -1.9**
comp=E,1.4nm,0.6s
PDAR Pinedale Array 82.11 331 P **P** **04 46 38.6 -1.9**
comp=E,0.6nm,0.6s,baz=117,slow=7.0,SNR=6.1
NVAR Mina Array Bea 82.84 323 P **P** **04 46 43.9 -0.6**
comp=E,0.6nm,0.8s,baz=153,slow=8.0,SNR=5.1
CASY Casey 83.48 180 *e*P **P** **04 46 47.5 +0.3**
comp=E,5.2nm,1.1s
KURBB Kurchatov Arra 148.32 41 PKPbc **PKPdf** **04 54 03.5 +1.2**
comp=E,1.4nm,0.7s,baz=298,slow=3.0,SNR=17
KURK Kurchatov 148.33 41 PKPbc **PKPdf** **04 54 03.5 +1.1**
TKM2 Tokmak 2 148.94 57 *e*PKPdf **PKPdf** **04 54 01.3 -2.7**
TKM2 *e*PKPbc **PKPbc** **04 54 05.2 -2.7**
ZAA0 Zalesovo Array 149.73 32 *e*PKPbc **PKPdf** **04 54 06.6 +2.1**
ZALV Zalesovo Beam 149.73 32 PKPbc **PKPdf** **04 54 06.9 +2.4**
comp=E,3.5nm,0.5s,baz=302,slow=3.7,SNR=16
MK31 Makanchi Array 152.25 46 *e*PKPbc **PKPdf** **04 54 12.7 +4.0**

IDC ***27*** *04:36:19.2±0.5, 58.°70S×25.°72W, h0km, mb4.2/10, mb1 4.2/11, mb1mx4.0/22, mbtmp4.2/11, ML4.0/1, MS3.4/7, Ms1 3.4/7, ms1mx3.2/19, Error ellipse: s-maj=22.3km s-min=17.5km az=94.0*
ISCJB ***27*** *04:36:23.1±0.4, 58.°74S±0.°07×25.°4W±0.°2, h35km, mb4.2/17, MS3.5/5, Error ellipse: s-maj=13.4km s-min=8.7km az=145.9*
NEIC ***27*** *04:36:24.6±2.1, 58.°83S×25.°42W, h38km±18km, mb4.2/9, Error ellipse: s-maj=12.4km s-min=9.2km az=217.0*
AWI ***27*** *04:36:25.4, 58.°97S×23.°04W*
ISC 27 04:36:24.7±0.4, 58.°75S±0.°09×25.°5W±0.°1, h35km, n64, σ1s03/53, mb4.2/17, MS3.4/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.94**	**156**	P	**Pn**	**04 39 40.3**	**+1.0**
VNA2	**Neumayer--Watz**	**14.33**	**156**	P	**Pn**	**04 39 45.0**	**+0.3**
	baz=317,slow=16						
VNA2	**Neumayer--Watz**	**14.33**	**156**	S	Sn	04 42 11.0	-11
	baz=321,slow=24						
SNAA	**Sanae**	**15.89**	**154**	P	**Pn**	**04 40 02.2**	**-3.2**
SNAA	**Sanae**	**15.89**	**154**	S	Sn	04 42 43.4	-17
SNAA	**Sanae**	**15.89**	**154**	Pn	**Pn**	**04 40 05.5**	**+0.2**
	0.6nm,0.3s,baz=324,slow=16,SNR=54						
SNAA				Sn	Sn	04 42 47.6	-12
	0.1nm,0.3s,baz=345,slow=20,SNR=4.4						
SNAA				LR	LR	04 44 58.6	
	comp=Z,56nm,19.9s,baz=339,slow=32						
SNAA	**Sanae**	**15.89**	**154**	*e*Pn	**Pn**	**04 40 01.9**	**-3.4**
	8.1nm,0.6s						
SNAA				*e*Sn	Sn	04 42 43.7	-16
PMSA	**Palmer Station**	**18.97**	**235**	LR	LR	04 46 17.6	
	comp=Z,344nm,20.9s,baz=96,slow=32						
USHA	**Ushuaia**	**23.54**	**261**	P	**P**	**04 41 32.6**	**+1.2**
	9.5nm,0.9s,baz=106,slow=12,SNR=3.9						
TRQA	**Tornquist**	**31.28**	**295**	*e*P	**P**	**04 42 40.7**	**-0.3**
	4.1nm,0.8s						
QSPA	**South Pole Qui**	**31.49**	**180**	P	**P**	**04 42 43.7**	**+0.9**
	2.0nm,0.6s,baz=213,slow=2.1,SNR=34						
QSPA				PcP	**PcP**	**04 45 34.7**	**0.0**
	2.4nm,0.8s,baz=300,slow=4.4,SNR=3.1						
QSPA	**South Pole Qui**	**31.49**	**180**	*e*P	**P**	**04 42 43.5**	**+0.7**
	2.8nm,0.8s						
QSPA				PcP	**PcP**	**04 45 34.8**	**0.0**
MAW	**Mawson**	**37.44**	**141**	LR	LR	04 57 37.8	
	comp=Z,54nm,18.6s,baz=203,slow=34						
CPUP	**Villa Florida**	**39.30**	**312**	LR	LR	05 01 13.4	
	comp=Z,26nm,18.7s,baz=164,slow=38						
CPUP	**Villa Florida**	**39.30**	**312**	*e*P	**P**	**04 43 50.0**	**+0.1**
	1.6nm,1.7s						
CFAA	**Coronel Fontan**	**39.50**	**294**	P	**P**	**04 43 51.2**	**-0.5**
	0.6nm,0.7s,baz=148,slow=8.3,SNR=5.6						
VNDA	**Vanda**	**43.90**	**182**	P	**P**	**04 44 28.4**	**+1.3**
	1.3nm,0.6s,baz=184,slow=7.5,SNR=14						
VNDA				PcP	**PcP**	**04 46 13.3**	**+0.9**
	0.4nm,0.5s,baz=254,slow=2.7,SNR=3.0						
VNDA	**Vanda**	**43.90**	**182**	*e*P	**P**	**04 44 28.4**	**+1.3**
	11nm,1.7s						
VNDA				PcP	**PcP**	**04 46 13.3**	**+0.9**
BOSA	**Boshof**	**45.84**	**72**	P	**P**	**04 44 44.2**	**+1.0**
	2.5nm,0.9s,baz=240,slow=8.1,SNR=3.0						
BOSA				LR	LR	04 58 20.3	
	comp=Z,37nm,21.9s,baz=194,slow=29						
BDFB	**Brasilia**	**46.17**	**329**	P	**P**	**04 44 47.5**	**+1.6**
	1.2nm,0.4s,baz=116,slow=8.7,SNR=5.4						
LVC	**Limon Verde**	**47.47**	**300**	*e*P	**P**	**04 44 57.3**	**+1.1**
	29nm,1.5s						
TSUM	**Tsumeb**	**50.29**	**57**	P	**P**	**04 45 18.5**	**+0.8**
	1.2nm,0.6s,baz=206,slow=7.0,SNR=4.7						
H10S2	**ASCENSION HYDR**	**50.37**	**14**	T	T	05 39 48.7	
	baz=188,slow=75,SNR=24						
H10S3	**ASCENSION HYDR**	**50.37**	**14**	T	T	05 39 49.0	
	baz=188,slow=75,SNR=25						
H10S1	**ASCENSION HYDR**	**50.39**	**14**	T	T	05 39 50.0	
	baz=188,slow=75,SNR=53						
H10N1	**ASCENSION HYDR**	**51.49**	**14**	T	T	05 41 06.5	
	baz=181,slow=72,SNR=15						
H10N3	**ASCENSION HYDR**	**51.49**	**14**	T	T	05 41 12.9	
	baz=181,slow=72,SNR=18						
H10N2	**ASCENSION HYDR**	**51.50**	**14**	T	T	05 41 13.6	
	baz=181,slow=72,SNR=15						
LPAZ	**La Paz**	**52.70**	**305**	P	**P**	**04 45 35.1**	**-1.2**
	1.0nm,0.5s,baz=130,slow=5.5,SNR=5.9						
LPAZ	**La Paz**	**52.70**	**305**	*e*P	**P**	**04 45 36.6**	**+0.3**
	1.9nm,0.7s						
SAML	**Samuel**	**57.36**	**314**	*e*P	**P**	**04 46 07.5**	**-1.7**
	1.5nm,0.8s						
LSZ	**Lusaka**	**58.56**	**66**	*e*P	**P**	**04 46 17.6**	**-0.3**
	2.2nm,0.7s						
DBIC	**Dimbokro**	**67.28**	**22**	P	**P**	**04 47 15.8**	**+0.3**
	3.1nm,0.7s,baz=193,slow=7.9,SNR=5.1						
DBIC	**Dimbokro**	**67.28**	**22**	*e*P	**P**	**04 47 15.7**	**+0.2**
	66nm,1.7s						
TORD	**Torodi Ar. Bea**	**75.00**	**27**	P	**P**	**04 48 02.9**	**+0.7**
	4.7nm,0.5s,baz=199,slow=6.4,SNR=78						
URZ	**Urewera**	**81.52**	**198**	LR	LR	05 21 57.8	
	comp=Z,32nm,18.7s,baz=262,slow=34						
STKA	**Stephens Creek**	**89.07**	**169**	P	**P**	**04 49 14.4**	**-1.5**
	1.5nm,0.7s,baz=207,slow=4.5,SNR=3.9						
ASAR	**Alice Springs**	**96.12**	**161**	P	**P**	**04 49 47.8**	**-0.8**
	0.8nm,0.7s,baz=184,slow=4.4,SNR=3.2						
WRA	**Warramunga Arr**	**99.84**	**161**	LR	LR	05 33 39.4	
	comp=Z,44nm,20.8s,baz=225,slow=34						
RSSD	**Black Hills**	**121.17**	**304**	*e*PKPdf	**PKPdf**	**04 55 12.2**	**-0.7**
DUG	**Dugway, Tooele**	**122.01**	**296**	*e*PKPdf	**PKPdf**	**04 55 14.6**	**0.0**
PDAR	**Pinedale Array**	**122.53**	**300**	PKP	**PKPdf**	**04 55 14.7**	**-1.0**
	0.4nm,0.5s,baz=96,slow=5.7,SNR=5.3						
HWUT	**Hardware Ranch**	**122.54**	**297**	*e*PKPdf	**PKPdf**	**04 55 15.2**	**-0.4**
ULM	**Lac du Bonnet**	**122.83**	**314**	PKP	**PKPdf**	**04 55 14.2**	**-1.4**
	2.4nm,0.6s,baz=157,slow=2.2,SNR=6.0						
ULM	**Lac du Bonnet**	**122.83**	**314**	*e*PKPdf	**PKPdf**	**04 55 14.4**	**-1.2**
CMAR	**Chiang Mai Arr**	**123.24**	**111**	PKP	**PKPdf**	**04 55 17.3**	**-0.1**
	1.2nm,0.4s,baz=242,slow=3.8,SNR=2.7						
NVAR	**Mina Array Bea**	**123.26**	**290**	PKP	**PKPdf**	**04 55 16.8**	**-0.4**
	0.5nm,0.7s,baz=157,slow=5.3,SNR=4.9						
LOHW	**Long Hollow**	**123.67**	**300**	*e*PKPdf	**PKPdf**	**04 55 17.6**	**-0.2**
TPAW	**Teton Pass**	**123.73**	**299**	*e*PKPdf	**PKPdf**	**04 55 18.2**	**+0.3**
MOOW	**Moose Ponds**	**123.84**	**300**	*e*PKPdf	**PKPdf**	**04 55 17.8**	**-0.3**
FINES	**FINESS Array B**	**126.35**	**28**	PKP	**PKPdf**	**04 55 21.4**	**-0.5**
	2.1nm,0.6s,baz=161,slow=2.7,SNR=23						
WVOR	**Wild Horse Val**	**126.51**	**293**	*e*PKPdf	**PKPdf**	**04 55 22.8**	**-0.3**
ABKAR	**Akbulak array**	**128.13**	**56**	*e*PKPdf	**PKPdf**	**04 55 25.3**	**-0.4**
TKM2	**Tokmak 2**	**130.74**	**72**	*e*PKPdf	**PKPdf**	**04 55 30.4**	**-0.8**
ARCES	**ARCESS Array B**	**133.11**	**22**	PKP	**PKPdf**	**04 55 34.1**	**-0.6**
	2.3nm,0.8s,baz=163,slow=1.3,SNR=5.4						
BVAR	**Borovoye Array**	**135.42**	**59**	PKP	**PKPdf**	**04 55 39.5**	**+0.1**
	1.6nm,0.7s,baz=211,slow=2.6,SNR=5.8						
KURBB	**Kurchatov Arra**	**137.58**	**66**	PKhKP	PKPpre	04 55 40.7	
	0.5nm,0.7s,baz=237,slow=2.5,SNR=2.9						
KURK	**Kurchatov**	**137.69**	**66**	PKPpre	PKPpre	04 55 40.7	
YKA	**Yellowknife Ar**	**138.78**	**315**	PKhKP	PKPpre	04 55 36.6	
	0.2nm,0.5s,baz=116,slow=3.3,SNR=4.6						
YKA				PKP	**PKPdf**	**04 55 45.0**	**-0.3**
	3.7nm,0.6s,baz=129,slow=2.3,SNR=63						
YKW3	**Yellowknife Ar**	**138.82**	**315**	*e*PKPdf	**PKPdf**	**04 55 45.1**	**-0.3**
SONM	**Songino Array**	**149.89**	**90**	PKPbc	**PKPbc**	**04 56 09.5**	**-0.6**
	0.9nm,0.6s,baz=239,slow=3.4,SNR=4.2						
ILAR	**Eielson Array**	**152.56**	**307**	PKPbc	**PKPbc**	**04 56 15.3**	**-0.3**
	1.6nm,0.6s,baz=163,slow=1.5,SNR=19						
MCK	**McKinley**	**153.14**	**305**	*e*PKPbc	**PKPbc**	**04 56 17.0**	**+0.1**
BPAW	**Bear Paw Mtn.**	**154.11**	**305**	*e*PKPbc	**PKPbc**	**04 56 18.6**	**-0.5**

IDC ***27*** *04:43:17.7±0.8, 1.°72S×136.°43E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.8/29, mbtmp3.9/9, ML3.5/2, MS3.4/12, Ms1 3.4/12, ms1mx3.2/27, Error ellipse: s-maj=28.8km s-min=18.5km az=57.0*
ISCJB ***27*** *04:43:20.3±0.5, 1.°80S±0.°07×136.°43E±0.°04, h33km, mb3.9/7, MS3.4/10, Error ellipse: s-maj=10.9km s-min=5.8km az=16.6*
NEIC ***27*** *04:43:21.5±3.9, 1.°77S×136.°31E, h25km±26km, mb4.1/4, Error ellipse: s-maj=17.3km s-min=7.3km az=220.0*
ISC 27 04:43:21.9±0.6, 1.°82S±0.°08×136.°45E±0.°06, h35km, n34, σ1s54/26, mb3.9/7, MS3.4/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**4.31**	**99**	Pn	**Pn**	**04 44 24.6**	**-0.4**
	3.2nm,0.3s,baz=232,slow=8.0,SNR=20						
JAY				Sn	**Sn**	**04 45 15.3**	**+1.3**
	1.5nm,0.3s,baz=184,slow=19,SNR=2.5						
FAKI	**Fak Fak**	**4.34**	**255**	*e*Pn	**Pn**	**04 44 24.2**	**-1.2**
SIJI	**Sorong**	**5.27**	**280**	Pn	**Pn**	**04 44 38.4**	**+0.1**
	1.4nm,0.3s,baz=127,slow=20,SNR=3.5						
SIJI				Sn	**Sn**	**04 45 39.8**	**+2.0**
	1.0nm,0.3s,baz=143,slow=20,SNR=2.6						
COEN	**Coen**	**13.77**	**151**	*e*Pn	**Pn**	**04 46 36.4**	**+1.7**
SOEI	**Soe**	**14.45**	**236**	*e*Pn	**Pn**	**04 46 43.7**	**-0.5**
GUMO	**Guam**	**17.44**	**28**	LR	LR	04 54 20.6	
	comp=Z,52nm,19.3s,baz=98,slow=38						
WRAB	**Tennant Creek**	**18.12**	**186**	*e*P	**P**	**04 47 31.4**	**+0.4**
	15nm,1.4s						
WRA	**Warramunga Arr**	**18.13**	**186**	P	**Pn**	**04 47 27.9**	**-3.2**
	0.4nm,0.3s,baz=9.3,slow=13,SNR=12						
WRA				S	Sn	04 50 42.2	-10
	0.3nm,0.3s,baz=4.4,slow=24,SNR=6.6						
WRA				LR	LR	04 55 27.7	
	comp=Z,252nm,20.5s,baz=5.0,slow=40						
CTA	**Charters Tower**	**20.53**	**153**	P	Pn	04 48 00.1	+0.4
	5.0nm,0.8s,baz=341,slow=10,SNR=2.4						
CTAO	**Charters Tower**	**20.53**	**153**	*e*P	Pn	04 48 00.4	+0.7
	7.7nm,0.9s						
AS31	**Alice Springs**	**21.85**	**186**	*e*P	**P**	**04 48 12.4**	**+0.7**
ASAR	**Alice Springs**	**21.86**	**186**	P	**P**	**04 48 12.0**	**+0.3**
	3.8nm,0.5s,baz=13,slow=12,SNR=31						
ASAR				S	**S**	**04 52 12.1**	**+0.6**
	0.8nm,0.8s,baz=0.3,slow=20,SNR=4.0						
ASAR				LR	LR	04 57 44.0	
	comp=Z,316nm,18.6s,baz=358,slow=40						
JCJ	**Chichijima**	**29.28**	**10**	LR	LR	04 58 33.4	
	comp=Z,42nm,19.4s,baz=36,slow=31						
STKA	**Stephens Creek**	**30.29**	**171**	P	**P**	**04 49 31.6**	**+1.8**
	1.3nm,0.6s,baz=349,slow=7.4,SNR=4.6						
JNU	**Nakatsue**	**35.15**	**352**	LR	LR	05 02 33.2	
	comp=Z,72nm,20.2s,baz=130,slow=33						
KULM	**Kulim**	**36.45**	**281**	*e*P	**P**	**04 50 23.3**	**-0.5**
	5.8nm,0.7s						
MJAR	**Matsushiro Arr**	**38.20**	**2**	LR	LR	05 03 49.1	
	comp=Z,45nm,19.4s,baz=220,slow=32						
KSRS	**Korea Array**	**39.87**	**349**	LR	LR	05 04 38.7	
	comp=Z,14nm,20.0s,baz=176,slow=32						
CMAR	**Chiang Mai Arr**	**42.04**	**300**	P	**P**	**04 51 10.8**	**+0.3**
	0.6nm,0.3s,baz=105,slow=6.9,SNR=4.5						
CMAR				LR	LR	05 09 04.0	
	comp=Z,16nm,18.9s,baz=280,slow=37						
USRK	**Ussuriysk Ar.**	**45.99**	**356**	LR	LR	05 08 45.6	
	comp=Z,86nm,22.0s,baz=176,slow=33						
SONM	**Songino Array**	**55.98**	**336**	LR	LR	05 15 49.7	
	comp=Z,54nm,21.7s,baz=52,slow=35						
ZALV	**Zalesovo Beam**	**70.05**	**330**	LR	LR	05 26 04.5	
	comp=Z,14nm,18.8s,baz=70,slow=37						
KURK	**Kurchatov**	**71.70**	**325**	P	**P**	**04 54 40.6**	**+0.4**
KURBB	**Kurchatov Arra**	**71.71**	**325**	P	**P**	**04 54 40.6**	**+0.3**
	0.4nm,0.6s,baz=107,slow=5.0,SNR=3.1						
VNDA	**Vanda**	**76.86**	**175**	P	**P**	**04 55 11.4**	**+1.5**
	0.6nm,0.6s,baz=310,slow=8.8,SNR=4.5						
VNDA	**Vanda**	**76.86**	**175**	*e*P	**P**	**04 55 11.1**	**+1.2**
	1.8nm,1.1s						
MAW	**Mawson**	**82.10**	**202**	LR	LR	05 29 36.6	
	comp=Z,46nm,19.5s,baz=318,slow=34						
ABKAR	**Akbulak array**	**82.59**	**320**	*e*P	**P**	**04 55 41.3**	**-0.2**
ILAR	**Eielson Array**	**85.97**	**25**	P	**P**	**04 55 58.5**	**+0.2**
	0.4nm,0.8s,baz=270,slow=4.2,SNR=4.7						
TORD	**Torodi Ar. Bea**	**133.84**	**286**	PKP	**PKPdf**	**05 02 37.9**	**+1.5**
	0.4nm,0.8s,baz=45,slow=0.8,SNR=2.9						
OTAV	**Otavalo**	**145.07**	**92**	*e*PKPdf	**PKPdf**	**05 02 57.7**	**+0.4**
CPUP	**Villa Florida**	**149.01**	**155**	PKPbc	**PKPab**	**05 03 08.4**	**-2.7**
	1.2nm,0.8s,baz=291,slow=5.8,SNR=3.0						
ROSC	**El Rosal**	**149.13**	**84**	PKPbc	**PKPab**	**05 03 10.2**	**-2.4**
	2.9nm,0.4s,baz=123,slow=6.1,SNR=5.8						
LPAZ	**La Paz**	**149.78**	**127**	PKPbc	**PKPab**	**05 03 12.2**	**-3.1**
	1.4nm,1.0s,baz=259,slow=2.3,SNR=3.9						

PDA 27 05:13:35.3±0.7, 38.°08N×26.°12W, h10km±5km, MD3.6, ML2.0, Error ellipse: s-maj=7.1km s-min=3.9km az=61.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSET	**Sete Cidades**	**0.41**	**128**	*e*P	Pg	05 13 42.3	-1.1
PSET				*e*S	Sg	05 13 47.7	-1.1
PSET				A	A	05 13 48.6	
	57nm,0.1s						
PDA	**Ponta Delgada**	**0.49**	**132**	*e*P	Pg	05 13 43.6	-1.3
PDA				*e*S	Sg	05 13 49.9	-1.4
PDA				A	A	05 13 51.2	
	37nm,0.1s						
BART	**Pico Bartolome**	**0.81**	**111**	*e*P	Pg	05 13 48.0	-3.1
BART				*e*S	Sg	05 13 57.8	-4.0
BART				A	A	05 14 03.4	
	15nm,0.3s						
PSMA	**Santa Maria**	**1.34**	**143**	*e*P	Pn	05 13 55.5	-4.5
PSMA				*e*S	Sb	05 14 10.5	-7.1
PSMA				A	A	05 14 12.7	
	7.9nm,0.2s						
PSMN	**Pico do Norte,**	**1.36**	**142**	*e*P	Pn	05 13 55.9	-4.4
PSMN				*e*S	Sb	05 14 10.7	-7.6
PSMN				A	A	05 14 13.5	
	5.0nm,0.3s						

IDC ***27*** *05:33:14.8±1.0, 14.°26N×53.°62E, h0km, mb3.9/15, mb1 4.0/15, mb1mx3.8/39, mbtmp3.9/15, MS3.3/12, Ms1 3.3/12, ms1mx3.0/39, Error ellipse: s-maj=26.5km s-min=18.9km az=21.0*
ISCJB ***27*** *05:33:16.3±0.9, 14.°3N±0.°1×53.°6E±0.°1, h22km, mb3.8/15, MS3.3/12, Error ellipse: s-maj=21.7km s-min=15.1km az=24.5*
ISC 27 05:33:18.2±1.1, 14.°3N±0.°2×53.°6E±0.°1, h22km, n28, σ0s67/16, mb3.9/15, MS3.2/12, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EIL	**Elat**	**23.07**	**315**	LR	LR	05 47 27.8	
	comp=Z,77nm,18.4s,baz=75,slow=37						
GEYT	**Alibeck**	**23.89**	**9**	P	**P**	**05 38 30.2**	**-0.1**
	1.9nm,0.5s,baz=160,slow=9.5,SNR=5.3						
GEYT				LR	LR	05 49 25.4	
	comp=Z,86nm,20.0s,baz=210,slow=41						
H08N2	**Diego Garcia H**	**26.76**	**139**	T	T	06 06 46.4	
	baz=320,slow=76,SNR=21						
H08N3	**Diego Garcia H**	**26.77**	**139**	T	T	06 06 46.9	
	baz=320,slow=76,SNR=22						
H08N1	**Diego Garcia H**	**26.78**	**139**	T	T	06 06 47.7	
	baz=320,slow=76,SNR=21						
GNI	**Garni**	**26.92**	**345**	LR	LR	05 51 39.2	
	comp=Z,82nm,18.1s,baz=124,slow=41						
KBZ	**Khabaz**	**30.75**	**345**	LR	LR	05 54 48.8	
	comp=Z,19nm,18.3s,baz=156,slow=42						
BRTR	**Keskin Array B**	**30.83**	**329**	P	**P**	**05 39 32.9**	**+0.1**
	1.2nm,1.1s,baz=156,slow=6.2,SNR=4.9						
BRTR				LR	LR	05 53 13.7	
	comp=Z,36nm,18.2s,baz=145,slow=39						
BVAR	**Borovoye Array**	**40.88**	**15**	P	**P**	**05 40 59.1**	**+0.6**
	0.8nm,0.5s,baz=204,slow=5.8,SNR=6.8						
AKASG	**Malin Array Be**	**41.36**	**337**	P	**P**	**05 41 03.1**	**+0.7**
	0.2nm,0.3s,baz=142,slow=7.8,SNR=5.0						
AKASG				LR	LR	06 01 53.1	
	comp=Z,35nm,19.5s,baz=140,slow=42						
KURBB	**Kurchatov Arra**	**41.48**	**24**	P	**P**	**05 41 04.5**	**+1.0**
	2.0nm,0.9s,baz=225,slow=8.3,SNR=16						
CMAR	**Chiang Mai Arr**	**43.59**	**78**	P	**P**	**05 41 20.4**	**-0.7**
	0.6nm,0.3s,baz=278,slow=9.0,SNR=5.6						
ZALV	**Zalesovo Beam**	**46.53**	**25**	P	**P**	**05 41 43.6**	**-0.3**
	1.9nm,0.6s,baz=236,slow=7.7,SNR=9.3						
ZALV				LR	LR	06 02 17.5	
	comp=Z,64nm,21.7s,baz=70,slow=37						
GERES	**GERESS Array B**	**47.53**	**325**	P	**P**	**05 41 51.1**	**-0.9**
	0.3nm,0.7s,baz=134,slow=7.6,SNR=4.4						
GERES				LR	LR	06 03 00.8	
	comp=Z,17nm,21.8s,baz=81,slow=38						
TORD	**Torodi Ar. Bea**	**50.39**	**275**	P	**P**	**05 42 14.1**	**-0.2**
	0.4nm,0.9s,baz=84,slow=6.4,SNR=2.5						
BOSA	**Boshof**	**50.72**	**213**	LR	LR	06 04 18.9	
	comp=Z,43nm,18.8s,baz=24,slow=37						
FINES	**FINESS Array B**	**51.10**	**343**	P	**P**	**05 42 18.6**	**-0.3**
	3.9nm,1.0s,baz=119,slow=7.4,SNR=6.3						
NOA	**NORSAR Array B**	**55.77**	**337**	LR	LR	06 09 26.4	
	comp=Z,12nm,18.4s,baz=135,slow=39						
ESDC	**Sonseca Array**	**56.16**	**308**	P	**P**	**05 42 56.2**	**-0.3**
	1.2nm,0.7s,baz=84,slow=6.6,SNR=9.5						
ARCES	**ARCESS Array B**	**57.98**	**349**	P	**P**	**05 43 08.8**	**+0.1**
	5.7nm,1.0s,baz=150,slow=7.3,SNR=3.8						
ARCES				LR	LR	06 10 40.9	
	comp=Z,24nm,20.5s,baz=42,slow=39						
KSRS	**Korea Array**	**69.06**	**55**	P	**P**	**05 44 22.0**	**-0.6**
	1.0nm,0.6s,baz=269,slow=7.1,SNR=5.7						
YAK	**Yakutsk**	**70.95**	**29**	LR	LR	06 17 19.6	
	comp=Z,35nm,20.8s,baz=255,slow=37						
H01W3	**Cape Leeuwin H**	**75.35**	**132**	T	T	07 07 25.2	
	baz=300,slow=75,SNR=7.4						
H01W2	**Cape Leeuwin H**	**75.36**	**132**	T	T	07 07 20.3	
	baz=300,slow=75,SNR=8.1						
H01W1	**Cape Leeuwin H**	**75.37**	**132**	T	T

Ms1 3.6/4,ms1mx3.1/21,Error ellipse: s-maj=32.1km s-min=14.4km az=53.0

ISCJB ***27*** *06:20:05.2±0.5, 4.27N±0.05×82.48W±0.06, h14km, mb3.9/22,MS3.6/2,Error ellipse: s-maj=9.5km s-min=5.8km az=141.6*

NEIC ***27*** *06:20:05.7±0.5, 4.14N×82.57W, h10km, mb4.2/13,Error ellipse: s-maj=12.3km s-min=7.1km az=222.0*

ISC 27 06:20:05.4±0.6, 4.22N±0.07×82.63W±0.09, h14km, n40, σ1§57/38, mb4.0/22, South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**5.65**	**29**	*eP*n		**Pn**	**06 21 29.7**	**+0.5**
BCIP				*eS*n		**Sn**	**06 22 31.4**	**-2.5**
OTAV	**Otavalo**	**5.75**	**133**	*eP*n		**Pn**	**06 21 29.5**	**-1.6**
OTAV				*eS*n		**Sn**	**06 22 37.3**	**+0.1**
JTS	**JuntasAbangare**	**6.46**	**339**	Pn		**Pn**	**06 21 39.4**	**-1.0**
	5.9nm,0.3s,baz=85,slow=8.4,SNR=27							
JTS					Sn	**Sn**	**06 22 50.5**	**-3.4**
	2.1nm,0.3s,baz=49,slow=21,SNR=5.3							
JTS					LR	LR	06 23 46.2	
	comp=Z,122nm,20.2s,baz=167,slow=34							
JTS	**JuntasAbangare**	**6.46**	**339**	*eP*n		**Pn**	**06 21 40.2**	**-0.2**
JTS				*eS*n		**Sn**	**06 22 52.9**	**-1.1**
ROSC	**El Rosal**	**8.30**	**85**	Pn		**Pn**	**06 22 08.4**	**+2.4**
	3.6nm,0.3s,baz=18,slow=3.2,SNR=17							
ROSC	**El Rosal**	**8.30**	**85**	*eP*n		**Pn**	**06 22 06.4**	**+0.3**
SDV	**Santo Domingo**	**12.79**	**68**	*eP*n		**Pn**	**06 23 08.1**	**+0.7**
TEIG	**Tepich**	**16.84**	**341**	LR		LR	06 30 35.6	
	comp=Z,403nm,18.2s,baz=8.0,slow=38							
PCRV	**Puerto La Cruz**	**18.80**	**71**	P		**P**	**06 24 25.1**	**+0.1**
	0.6nm,0.3s,baz=234,slow=6.5,SNR=8.6							
AOPR	**Arecibo Observ**	**20.94**	**47**	*eP*		Pn	06 24 49.9	-0.9
	57nm,0.7s							
PTGA	**Pitinga**	**23.18**	**102**	P		**P**	**06 25 11.9**	**-0.3**
	2.9nm,0.7s,baz=299,slow=14,SNR=7.6							
PTGA					LR	LR	06 33 15.9	
	comp=Z,42nm,19.0s,baz=248,slow=34							
PTGA	**Pitinga**	**23.18**	**102**	*eP*		**P**	**06 25 12.6**	**+0.4**
	4.9nm,0.8s							
SAML	**Samuel**	**23.39**	**124**	*eP*		**P**	**06 25 13.8**	**-0.4**
	5.2nm,1.0s							
LPAZ	**La Paz**	**24.92**	**145**	P		**P**	**06 25 29.4**	**+0.2**
	4.1nm,0.6s,baz=322,slow=4.8,SNR=29							
LPAZ	**La Paz**	**24.92**	**145**	*eP*		**P**	**06 25 31.1**	**+1.9**
	6.3nm,0.8s							
JCT	**Junction City**	**30.74**	**330**	*eP*		**P**	**06 26 22.7**	**+2.1**
	1.6nm,0.4s							
H06E1	**SOCORRO T-PHAS**	**31.20**	**300**	T		T	06 59 07.0	
	SNR=5.0							
TXAR	**Lajitas Array**	**31.96**	**324**	P		**P**	**06 26 31.9**	**+0.5**
	0.4nm,0.9s,baz=134,slow=10,SNR=3.6							
ANMO	**Albuquerque**	**37.71**	**327**	*eP*		**P**	**06 27 24.2**	**+3.0**
	5.2nm,1.1s							
CFAA	**Coronel Fontan**	**38.17**	**160**	P		**P**	**06 27 24.9**	**0.0**
	0.3nm,0.7s,baz=336,slow=7.7							
T25A	**Trinidad**	**38.37**	**331**	*eP*		**P**	**06 27 29.4**	**+2.7**
	8.6nm,1.1s							
CPUP	**Villa Florida**	**39.02**	**142**	P		**P**	**06 27 31.4**	**-0.7**
	2.6nm,0.9s,baz=328,slow=8.4,SNR=5.4							
SDCO	**Great Sand Dun**	**39.38**	**331**	*eP*		**P**	**06 27 38.0**	**+2.7**
	7.7nm,1.1s							
S22A	**4UR Ranch, Cre**	**40.03**	**330**	*eP*		P	06 27 45.1	+4.4
	4.8nm,1.4s							
MVCO	**Mesa Verde**	**40.49**	**328**	*eP*		**P**	**06 27 46.9**	**+2.4**
	7.3nm,1.3s							
WUAZ	**Wupatki**	**40.92**	**323**	*eP*		**P**	**06 27 50.4**	**+2.5**
	6.1nm,1.1s							
SMCO	**Snowmass**	**41.22**	**331**	*eP*		P	06 27 54.7	+4.0
	2.8nm,0.9s							
SRU	**San Rafael Swe**	**42.97**	**328**	*eP*		**P**	**06 28 06.6**	**+1.9**
	4.7nm,1.0s							
PDAR	**Pinedale Array**	**45.23**	**332**	P		**P**	**06 28 24.0**	**+1.1**
	0.5nm,0.9s,baz=126,slow=7.5,SNR=3.8							
NVAR	**Mina Array Bea**	**47.03**	**321**	P		**P**	**06 28 38.4**	**+1.3**
	0.4nm,0.6s,baz=142,slow=6.6,SNR=4.0							
YKA	**Yellowknife Ar**	**62.77**	**344**	P		**P**	**06 30 30.1**	**-0.3**
	1.6nm,0.9s,baz=138,slow=6.3,SNR=8.0							
SUMG	**Summit**	**73.43**	**13**	*i* P		**P**	**06 31 36.2**	**-1.4**
	9.3nm,1.0s							
SUMG	**Summit**	**73.43**	**13**	*eP*		**P**	**06 31 37.3**	**-0.3**
ILAR	**Eielson Array**	**75.42**	**336**	P		**P**	**06 31 48.7**	**-0.2**
	0.6nm,0.9s,baz=139,slow=4.0,SNR=7.4							
ESDC	**Sonseca Array**	**78.60**	**51**	P		**P**	**06 32 07.3**	**0.0**
	0.3nm,0.5s,baz=264,slow=6.1,SNR=5.5							
TORD	**Torodi Ar. Bea**	**83.54**	**77**	P		**P**	**06 32 33.6**	**-0.4**
	0.9nm,0.8s,baz=284,slow=6.0,SNR=9.1							
ARCES	**ARCESS Array B**	**92.34**	**20**	LR		LR	07 15 07.0	
	comp=Z,119nm,18.3s,baz=174,slow=36							
ZALV	**Zalesovo Beam**	**121.10**	**9**	PKP		**PKPdf**	**06 38 59.5**	**+1.4**
	1.2nm,0.3s,baz=270,slow=1.4,SNR=4.1							
ASAR	**Alice Springs**	**139.81**	**238**	PKP		**PKPdf**	**06 39 33.1**	**-1.2**
	0.5nm,0.6s,baz=105,slow=1.9,SNR=5.2							
WRA	**Warramunga Arr**	**140.75**	**243**	PKhKP		PKPpre	06 39 30.0	
	0.9nm,0.8s,baz=81,slow=0.0,SNR=4.5							
WRA				PKP		**PKPdf**	**06 39 35.9**	**-0.2**
	1.6nm,1.0s,baz=108,slow=1.9,SNR=7.1							

NIED ***27*** *06:24:00, 35.70N×140.70E, h53km, Mw4.0 Best double couple: M0 1.08000×10^15 NP1:φs199.00000°, δ15.00000°, λ100.00000°. NP2:φs9.00000°, δ75.00000°, λ87.00000°.*

ISCJB ***27*** *06:24:13.6±0.5, 35.70N±0.04×140.75E±0.07, h56km±4km, mb3.6/11,MS2.7/1,Error ellipse: s-maj=9.8km s-min=7.1km az=166.1*

IDC ***27*** *06:24:14.7±2.7, 35.53N×140.85E, h59km±23km, mb3.4/11, mb1 3.6/14,mb1mx3.5/28,mbtmp3.8/14,ML3.9/3,MS2.7/5, Ms1 2.7/5,ms1mx2.6/24,Error ellipse: s-maj=26.5km s-min=14.2km az=62.0*

JMA ***27*** *06:24:14.4±0.1, 35.71N×140.62E, h49km±1km,M3.5 Broadband fault plane solution: P waves. NP1: φs6.00000°,δ83.00000°,λ89.00000°. NP2:φs194.00000°, δ7.00000°,λ98.00000°. Principal axes: T Plg52.0000°, Azm275.0000°; N Plg1.0000°, Azm6.0000°; P Plg38.0000°, Azm97.0000°;*

JMA Felt II J1.

ISC 27 06:24:14.4±0.8, 35.67N±0.05×140.76E±0.07, h50km±6km, n32, σ1§25/30, mb3.7/11, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.08**	**67**	⇑P		**Pn**	**06 24 22.5**	**+0.4**
CHOJ					S	**Sn**	**06 24 28.5**	**+0.9**
I30JP	**ISUMI INFRASON**	**0.52**	**226**	P		**Pn**	**06 24 25.4**	**-0.4**
I30JP					S	**Sn**	**06 24 34.6**	**+0.7**
JCN	**Nagara**	**0.52**	**242**	⇓P		**Pn**	**06 24 25.6**	**-0.2**
JCN					S	**Sn**	**06 24 34.0**	**-0.1**
JYT	**Yasato**	**0.72**	**320**	⇓P		**Pn**	**06 24 27.2**	**-1.2**
JYT					S	**Sn**	**06 24 36.6**	**-2.0**
BSO4	**Boso 4**	**0.76**	**207**	P		**Pn**	**06 24 28.9**	**+0.1**
BSO3	**Boso 3**	**0.89**	**194**	P		**Pn**	**06 24 30.3**	**-0.1**
BSO3					S	**Sn**	**06 24 44.0**	**+1.9**
JHO	**Hitachi**	**0.95**	**351**	⇓P		**Pn**	**06 24 31.0**	**-0.5**
JAG	**Ashikaga**	**1.30**	**306**	⇓P		**Pn**	**06 24 34.7**	**-1.5**
MJAR	**Matsushiro Arr**	**2.25**	**294**	P		**Pn**	**06 24 49.0**	**-0.1**
	17nm,0.3s,baz=102,slow=14,SNR=117							
MJAR					S	**Sn**	**06 25 19.2**	**+3.6**
	12nm,0.3s,baz=135,slow=15,SNR=6.3							
MJAR					LR	LR	06 25 48.4	
	comp=Z,208nm,19.5s,baz=115,slow=40							
MAT	**Matsushiro**	**2.25**	**294**	P		**Pn**	**06 24 49.2**	**+0.1**
MAT					S	**Sn**	**06 25 14.6**	**-1.0**
JNU	**Nakatsue**	**8.56**	**256**	LR		LR	06 29 45.2	
	comp=Z,146nm,20.9s,baz=73,slow=38							
JCJ	**Chichijima**	**8.63**	**172**	P		**Pn**	**06 26 14.6**	**-2.1**
	11nm,0.3s,baz=295,slow=13,SNR=9.1							
JCJ					S	Sn	06 27 44.5	-8.2
	1.9nm,0.3s,baz=270,slow=20,SNR=2.6							
JCJ					LR	LR	06 28 47.5	
	comp=Z,15nm,20.5s,baz=84,slow=32							
KSRS	**Korea Array**	**10.48**	**284**	P		Pn	06 26 44.9	+3.0
	0.2nm,0.3s,baz=101,slow=13,SNR=5.0							
KSRS					LR	LR	06 30 57.7	
	comp=Z,34nm,19.2s,baz=78,slow=38							
YAK	**Yakutsk**	**27.29**	**349**	LR		LR	06 40 19.3	
	comp=Z,20nm,19.3s,baz=228,slow=35							
H11N2	**WAKE ISLAND Hy**	**27.94**	**118**	T		T	06 59 11.1	
	baz=310,slow=75,SNR=40							
H11N1	**WAKE ISLAND Hy**	**27.95**	**118**	T		T	06 59 14.4	
	baz=310,slow=75,SNR=34							
H11N3	**WAKE ISLAND Hy**	**27.96**	**118**	T		T	06 59 12.3	
	baz=310,slow=75,SNR=31							
SONM	**Songino Array**	**28.14**	**306**	P		**P**	**06 30 03.6**	**+1.8**
	1.1nm,0.7s,baz=114,slow=11,SNR=5.4							
H11S1	**WAKE ISLAND Hy**	**28.60**	**120**	T		T	06 59 58.3	
	baz=312,slow=75,SNR=41							
H11S3	**WAKE ISLAND Hy**	**28.60**	**120**	T		T	06 59 57.9	
	baz=312,slow=75,SNR=41							
H11S2	**WAKE ISLAND Hy**	**28.61**	**120**	T		T	07 00 07.8	
	baz=312,slow=75,SNR=29							
ZALV	**Zalesovo Beam**	**42.46**	**313**	P		**P**	**06 32 04.5**	**+0.3**
	0.5nm,0.3s,baz=90,slow=4.4,SNR=5.2							
ILAR	**Eielson Array**	**50.93**	**32**	P		**P**	**06 33 10.7**	**+0.4**
	0.5nm,0.8s,baz=266,slow=6.9,SNR=8.0							
WRA	**Warramunga Arr**	**55.64**	**187**	P		**P**	**06 33 43.6**	**-1.7**
	0.7nm,0.5s,baz=4.0,slow=7.5,SNR=15							
ASAR	**Alice Springs**	**59.37**	**187**	P		**P**	**06 34 10.3**	**-1.2**
	0.4nm,0.6s,baz=13,slow=10,SNR=5.3							
FINES	**FINESS Array B**	**59.78**	**332**	P		**P**	**06 35 19.0**	**0.0**
	0.8nm,0.4s,baz=46,slow=5.5,SNR=6.5							
AKASG	**Malin Array Be**	**75.05**	**322**	P		**P**	**06 35 50.7**	**+0.1**
	0.3nm,0.3s,baz=44,slow=4.1,SNR=5.3							
NB2	**NORSAR Subarra**	**75.24**	**337**	P		**P**	**06 35 51.8**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=41,slow=5.9							
NOA	**NORSAR Array B**	**75.24**	**337**	P		**P**	**06 35 51.6**	**0.0**
	comp=Z,0.5nm,0.4s,baz=43,slow=5.5,SNR=4.5							
PDAR	**Pinedale Array**	**79.00**	**45**	P		**P**	**06 36 13.3**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=316,slow=2.5,SNR=2.6							
BRTR	**Keskin Array B**	**79.36**	**311**	P		**P**	**06 36 15.0**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=131,slow=4.0,SNR=3.1							
GERES	**GERESS Array B**	**83.59**	**328**	P		**P**	**06 36 36.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=41,slow=7.9,SNR=2.5							

ISCJB ***27*** *06:28:21.3±0.6, 16.03S±0.08×73.68W±0.09, h63km, mb3.9/5, Error ellipse: s-maj=15.5km s-min=7.3km az=138.9*

IDC ***27*** *06:28:23.2±0.7, 16.05S×73.63W, h69km±5km, mb3.7/7, mb1 3.8/13,mb1mx3.5/26, mbtmp4.0/13,Error ellipse: s-maj=21.5km s-min=14.8km az=45.0*

ISC 27 06:28:22.5±0.6, 16.14S±0.08×73.7W±0.1, h63km, n22, σ1§43/23, mb3.8/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**5.14**	**323**	P		**Pn**	**06 29 38.4**	**+1.3**
	5.8nm,0.3s,baz=146,slow=14,SNR=20							
NNA					S	**Sn**	**06 30 31.9**	**-3.1**
	14nm,0.3s,baz=180,slow=19,SNR=3.8							
LPAZ	**La Paz**	**5.34**	**92**	P		**Pn**	**06 29 42.0**	**+1.7**
	3.7nm,0.3s,baz=272,slow=10.0,SNR=76							
LVC	**Limon Verde**	**7.86**	**146**	P		**Pn**	**06 30 15.7**	**+1.3**
	77nm,0.3s,baz=334,slow=11,SNR=15							
LVC					S	**Sn**	**06 31 40.0**	**-2.1**
	285nm,0.3s,baz=77,slow=18,SNR=13							
ATAH	**Atahualpa**	**10.06**	**332**	P		**Pn**	**06 30 44.9**	**+0.2**
	0.3nm,0.3s,baz=156,slow=20,SNR=2.5							
SIV	**San Ignacio**	**12.12**	**91**	P		**Pn**	**06 31 12.6**	**+0.1**
	0.3nm,0.3s,baz=285,slow=9.8,SNR=4.4							
CFAA	**Coronel Fontan**	**16.18**	**163**	P		**P**	**06 32 07.5**	**-0.5**
	0.0nm,0.3s,baz=329,slow=10,SNR=6.1							
PTGA	**Pitinga**	**20.43**	**43**	P		**P**	**06 32 53.2**	**-1.6**
	12nm,0.7s,baz=216,slow=13,SNR=31							
ROSC	**El Rosal**	**20.87**	**358**	P		**P**	**06 33 01.0**	**+1.1**
	2.1nm,0.5s,baz=93,slow=13,SNR=4.1							
BDFB	**Brasilia**	**24.69**	**92**	P		**P**	**06 33 39.3**	**+1.3**
	1.0nm,0.4s,baz=241,slow=13,SNR=3.0							
TXAR	**Lajitas Array**	**53.68**	**327**	P		**P**	**06 37 37.8**	**-0.4**
	0.3nm,0.8s,baz=133,slow=8.7,SNR=3.2							
TXAR					pP	**pP**	**06 37 55.0**	**+0.4**
	0.5nm,0.5s,baz=149,slow=8.9,SNR=8.0							
TXAR					sP	**sP**	**06 38 03.5**	**+1.8**
	0.9nm,0.6s,baz=154,slow=9.0,SNR=9.6							
TORD	**Torodi Ar. Bea**	**79.98**	**73**	P		**P**	**06 40 24.6**	**-1.0**
	0.6nm,0.5s,baz=260,slow=5.1,SNR=8.3							
TORD					pP	**pP**	**06 40 43.7**	**+0.6**
	1.3nm,0.8s,baz=250,slow=4.7,SNR=2.0							
VNDA	**Vanda**	**81.30**	**190**	P		**P**	**06 40 32.9**	**+1.3**
	0.4nm,0.3s,baz=90,slow=6.1,SNR=8.6							
MATP	**Matopo**	**95.42**	**113**	P		**P**	**06 41 39.1**	**-1.8**
	2.0nm,0.8s,baz=180,slow=1.0,SNR=3.4							
H11N3	**WAKE ISLAND Hy**	**122.49**	**283**	T		T	09 01 22.0	
	baz=98,slow=74,SNR=5.5							
H11N2	**WAKE ISLAND Hy**	**122.51**	**283**	T		T	09 01 17.8	
	baz=98,slow=74,SNR=4.4							
H11N1	**WAKE ISLAND Hy**	**122.51**	**283**	T		T	09 01 23.4	
	baz=98,slow=74,SNR=3.4							
H11S2	**WAKE ISLAND Hy**	**122.53**	**282**	T		T	09 01 23.4	
	baz=98,slow=75,SNR=17							
H11S1	**WAKE ISLAND Hy**	**122.54**	**282**	T		T	09 01 20.0	
	baz=98,slow=75,SNR=10							
H11S3	**WAKE ISLAND Hy**	**122.55**	**282**	T		T	09 01 24.6	
	baz=98,slow=75,SNR=12							
ASAR	**Alice Springs**	**132.13**	**215**	PKP		**PKPdf**	**06 47 30.0**	**-0.1**
	0.5nm,0.9s,baz=122,slow=1.8,SNR=4.8							
ASAR					pPKP	**pPKPdf**	**06 47 49.1**	**+0.7**
	0.2nm,0.5s,baz=127,slow=1.9,SNR=2.2							
WRA	**Warramunga Arr**	**134.79**	**219**	PKP		**PKPdf**	**06 47 34.4**	**-0.7**
	0.9nm,0.7s,baz=138,slow=1.9,SNR=4.9							
KSRS	**Korea Array**	**151.41**	**322**	PKPbc		**PKPbc**	**06 48 08.9**	**-0.7**
	0.7nm,0.7s,baz=24,slow=3.3,SNR=3.5							
KSRS					pPKPbc	**pPKPbc**	**06 48 29.8**	**+1.8**
	1.3nm,0.7s,baz=359,slow=1.6,SNR=4.6							

BJI ***27*** *06:31:55.4, 11.54N×45.87E, h8km, mb4.9/42, mB5.0/29, Ms4.8/24, Ms7 4.3/23*

IDC ***27*** *06:32:01.3±0.4, 12.10N×46.46E, h0km, mb4.6/34, mb1 4.7/34, mb1mx4.6/38, mbtmp4.6/34, MS4.1/23, Ms1 4.1/23, ms1mx4.0/34, Error ellipse: s-maj=12.9km s-min=10.3km az=93.0*

ISCJB ***27*** *06:32:02.3±0.9, 12.05N±0.03×46.46E±0.02, h14km±5km, mb4.8/122, MS4.2/37, Error ellipse: s-maj=5.9km s-min=3.8km az=15.4*

STR ***27*** *06:32:02.8±0.0, 12.74N×47.20E, Mb4.8, Error ellipse: s-maj=0.0km s-min=0.0km az=119.0*

CSEM ***27*** *06:32:03.5±0.2, 12.06N×46.47E, h10km, mb4.9/72, Error ellipse: s-maj=6.7km s-min=5.3km az=166.0*

NEIC ***27*** *06:32:03.1±0.3, 12.06N×46.49E, h10km, mb5.0/26, Error ellipse: s-maj=8.0km s-min=6.5km az=68.0*

GCMT ***27*** *06:32:03.1±0.2, 12.18N×46.52E, h13km, MW5.0/81, Moment Tensor Solution. s46,c65; s81,c136; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.62±.16; Mθθ=4.59±.11; Mϕϕ-0.96±.13; Mrθ-1.33±.23; Mϕθ-0.66±.09; Mϕr-1.27±.35; Best double couple: M=4.60500×10^16 NP1:φs76.00000°,δ57.00000°,λ-117.00000°. NP2: φs299.00000°,δ42.00000°,λ-55.00000°. Principal axes: T 4.8360, Plg8.0000°, Azm185.0000°; N -0.4580, Plg22.0000°, Azm91.0000°; P -4.3740, Plg66.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

OMAN ***27*** *06:32:04.5±99.0, 11.41N×46.98E, h43km±20km Error ellipse: s-maj=104.1km s-min=7.0km az=17.0*

MOS ***27*** *06:32:04.8±1.6, 12.05N×46.54E, h33km, mb5.0/43, MS4.2/22, Error ellipse: s-maj=10.2km s-min=4.2km az=101.1*

DHMR ***27*** *06:32:04.7±1.2, 12.44N×46.00E, h9km±15km, ML4.7*

SZGRF ***27*** *06:32:12.3, 12.95N×46.47E, h33km, mb5.1, Western Gulf of Aden*

ISC 27 06:32:04.1±0.5, 12.12N±0.04×46.40E±0.04, h16km±2km, h15km: pP-P, n605, σ1§44/603, mb4.9/132, MS4.2/40, 85C-31D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**2.01**	**336**	⇑*i*P		Pn	06 32 33.2	-4.4
BDHA					AML	AML	06 32 47.7	
	comp=N,27μm,0.7s							
BDHA				*i* S		Sn	06 32 55.5	-7.2
BDHA	**Al Bayda'**	**2.01**	**336**	⇑*i*P		Pn	06 32 33.2	-4.4
	comp=N,14μm,0.7s							
BDHA				*i* S		Sn	06 32 55.5	-7.2
LBOS		**2.07**	**327**	⇑*i*P		Pn	06 32 34.0	-4.4
LBOS				*i* S		Sn	06 32 56.9	-7.2
TRBA	**At Turbah**	**2.48**	**297**	⇑*i*P		Pn	06 32 40.1	-4.1
TRBA				*i* S		Sn	06 33 07.4	-6.9
DAMY	**Dhamar**	**3.12**	**322**	*e*Pn		**Pn**	**06 32 50.7**	**-2.3**
DAMY				*e*Sn		**Sn**	**06 33 28.1**	**-2.0**
DAMY	**Dhamar**	**3.12**	**322**	*e*Pn		**Pn**	**06 32 50.6**	**-2.3**
DAMY				*e*Sn		**Sn**	**06 33 28.1**	**-2.0**
DHBB	**Dhamar BB**	**3.12**	**321**	*i* P		**Pn**	**06 32 51.1**	**-1.9**
DHBB				*i* S		**Sn**	**06 33 26.2**	**-4.0**
DHBB	**Dhamar BB**	**3.12**	**321**	*i* P		**Pn**	**06 32 51.1**	**-1.9**
DHBB				*i* S		**Sn**	**06 33 26.2**	**-4.0**
HAJJ	**Hajjah**	**4.47**	**323**	*i* P		**Pn**	**06 33 08.3**	**-3.2**
HAJJ				*i* S		**Sn**	**06 33 59.0**	**-4.4**
HAJJ					AML	AML	06 34 29.5	
	comp=E,2μm,1.0s							
HAJJ	**Hajjah**	**4.47**	**323**	*i* P		**Pn**	**06 33 08.3**	**-3.2**
HAJJ				*i* S		**Sn**	**06 33 59.0**	**-4.4**
	comp=E,819nm,1.0s							
RAYN	**Ar Rayn**	**11.37**	**356**	*e*Pn		**Pn**	**06 34 46.3**	**+0.3**
RAYN	**Ar Rayn**	**11.37**	**356**	*e*Pn		**Pn**	**06 34 46.3**	**+0.3**
ARQ	**Araqi**	**14.73**	**39**	Pn		**Pn**	**06 35 34.1**	**+2.1**
	SNR=21							
ARQ	**Araqi**	**14.73**	**39**	⇓P		**Pn**	**06 35 34.1**	**+2.1**
	SNR=21							
BSY	**Bisya**	**14.75**	**43**	⇑P		**Pn**	**06 35 32.4**	**+0.2**
	SNR=9.1							
BSYO	**Bisya**	**14.77**	**43**	Pn		**Pn**	**06 35 32.4**	**-0.1**
	SNR=9.1							
ASUD	**Al Ashush, Dub**	**15.04**	**33**	⇑P		**P**	**06 35 40.8**	**-0.7**
JMDO	**Jabal Madar**	**15.12**	**46**	Pn		**Pn**	**06 35 36.9**	**-0.3**
	SNR=8.8							
JMDO	**Jabal Madar**	**15.12**	**46**	⇓P		**Pn**	**06 35 36.9**	**-0.3**
	SNR=8.8							
HOQ	**Hoqain**	**15.41**	**41**	Pn		**Pn**	**06 35 42.1**	**+1.1**
	SNR=56							
HOQ	**Hoqain**	**15.41**	**41**	⇓P		**Pn**	**06 35 42.1**	**+1.1**
	SNR=56							
ASHO	**Ashiyiah**	**15.49**	**35**	Pn		**Pn**	**06 35 41.7**	**-0.3**
	SNR=9.2							
ASHO	**Ashiyiah**	**15.49**	**35**	⇑P		**Pn**	**06 35 41.7**	**-0.3**
	SNR=9.2							
ASHO	**Ashiyiah**	**15.49**	**35**	⇑*e*P		**P**	**06 35 44.8**	**-1.6**
	SNR=6.4							
NAZ	**Nazwa, Dubai**	**15.51**	**33**	Pn		**Pn**	**06 35 43.3**	**+1.0**
	SNR=6.0							
NAZ	**Nazwa, Dubai**	**15.51**	**33**	⇓P		**Pn**	**06 35 43.3**	**+1.0**
	SNR=6.0							
SMDO	**Samad**	**15.54**	**44**	Pn		**Pn**	**06 35 44.3**	**+1.6**
	SNR=76							
SMDO	**Samad**	**15.54**	**44**	⇑P		**Pn**	**06 35 44.3**	**+1.6**
	SNR=76							
HATD	**Hatta, Dubai**	**15.64**	**35**	Pn		**Pn**	**06 35 45.3**	**+1.3**
	SNR=11							
HATD	**Hatta, Dubai**	**15.64**	**35**	⇑P		**Pn**	**06 35 45.3**	**+1.3**
	SNR=11							
HATD	**Hatta, Dubai**	**15.64**	**35**	*e*P		**P**	**06 35 49.0**	**+0.9**
	SNR=10							
UOSS	**Wadi Hilu**	**15.77**	**35**	*e*Pn		**Pn**	**06 35 46.1**	**+0.4**
	comp=E,252nm,1.1s							
UOSS	**Wadi Hilu**	**15.77**	**35**	*e*Pn		**Pn**	**06 35 46.1**	**+0.4**
	comp=E,252nm,1.1s							
WBK	**Wadi Bani Khal**	**15.89**	**47**	Pn		**Pn**	**06 35 46.5**	**-0.7**
	SNR=13							
WBK	**Wadi Bani Khal**	**15.89**	**47**	⇓P		**Pn**	**06 35 46.5**	**-0.7**
	SNR=13							
BANOM	**Banah**	**16.60**	**33**	P		**P**	**06 35 57.9**	**-0.9**
	SNR=6.5							
BANOM	**Banah**	**16.60**	**33**	⇓P		**P**	**06 35 57.9**	**-0.9**
	SNR=6.5							
BANOM	**Banah**	**16.60**	**33**	⇑*i*Pn		**Pn**	**06 35 57.6**	**+1.2**
	SNR=14							
IKAZ	**Kazeroun**	**18.29**	**15**	*e*P		**Pn**	**06 36 16.8**	**-0.8**
IKAZ	**Kazeroun**	**18.29**	**15**	*e*P		**Pn**	**06 36 16.8**	**-0.8**
NSR	**Nassriya**	**18.80**	**359**	*e*P		x	06 36 32.5	
NSR				*e*S		x	06 40 09.6	
MSEY	**Mahe Island**	**18.97**	**151**	*i* P		**Pn**	**06 36 29.5**	**+3.8**
EIL	**Elat**	**20.45**	**330**	P		**P**	**06 36 41.2**	**+0.2**
	comp=E,39nm,1.1s,baz=169,slow=6.5,SNR=13							
IMEH	**Mehriz**	**20.62**	**20**	*e*P		**P**	**06 36 43.5**	**+0.4**
IMEH	**Mehriz**	**20.62**	**20**	*e*P		**P**	**06 36 43.5**	**+0.4**
ISAD	**Sadrabad**	**20.81**	**18**	*e*P		**P**	**06 36 45.3**	**+0.1**
ISAD	**Sadrabad**	**20.81**	**18**	*e*P		**P**	**06 36 45.3**	**+0.1**
IBDR	**Badra**	**20.90**	**359**	*e*P		x	06 36 49.5	
IBDR				*e*S		x	06 40 40.9	
IBAF	**Bafgh**	**21.14**	**22**	*e*P		**P**	**06 36 48.5**	**-0.1**
IBAF	**Bafgh**	**21.14**	**

URV IAmb IAmb 06 38 20.0
comp=Z,51nm,1.4s
ANTO Ankara 30.14 339⇑*i*P P 06 38 17.1 +3.7
ANTO Ankara 30.14 339 *e*P P 06 38 15.1 +1.7
comp=Z,98nm,1.9s
ANTO Ankara 30.14 339 P P 06 38 17.6 +4.2
SNR=10
ANTO Ankara 30.14 339 *e*P P 06 38 15.1 +1.7
comp=Z,98nm,1.9s
ONI Oni 30.46 356 P P 06 38 19.4 +3.2
ONI Oni 30.46 356 P P 06 38 19.4 +3.2
OPO Ambohidratompo 30.51 179 P P 06 38 16.7 -0.2
comp=Z,7.7nm,1.0s,baz=343,slow=13,SNR=4.1
SANT Santorini 30.64 326 *e*P P 06 38 20.1 +2.3
comp=Z,47nm,1.2s
SANT Santorini 30.64 326 *e*P P 06 38 20.1 +2.3
comp=Z,47nm,1.2s
MAK Makhachkala 30.74 2 *e*P P 06 38 15.8 -2.7
MAK *e* 06 39 14.9
MAK S S 06 43 27.5 +6.5
MAK *e*SS **SnSn 06 45 00.6 +1.0**
MAK pmax pmax
comp=Z,125nm,1.5s
MAK MLR MLR
comp=Z,667nm,13.0s
SMG Samos 30.91 329 P P 06 38 23.4 +3.2
SMG Samos 30.91 329 P P 06 38 23.4 +3.2
SMG Samos 30.91 329 P P 06 38 23.4 +3.2
APE Apeiranthos 31.11 327⇓*i*P P 06 38 24.0 +2.0
APE Apeiranthos 31.11 327⇓*i*P P 06 38 24.0 +2.0
HYBB Hyderabad (bro 31.51 76 *e*P P 06 38 24.0 -1.7
HYBB IAmb IAmb 06 38 27.6
comp=Z,62nm,1.6s
HYB Hyderabad 31.51 76 *i*P P 06 38 24.0 -1.7
KBZ Khabaz 31.64 355 P P 06 38 27.5 +1.1
comp=Z,8.9nm,1.1s,baz=191,slow=5.3,SNR=12
KBZ LR LR 06 51 48.5
comp=Z,376nm,21.4s,baz=183,slow=38
KBZ Khabaz 31.64 355 P P 06 38 27.5 +1.1
KBZ pmax pmax
comp=Z,9.0nm,1.2s
KBZ MLR MLR
comp=Z,376nm,21.4s
SRLM Srisailam 31.74 79 *e*P P 06 38 27.8 0.0
SRLM IAmb IAmb 06 38 29.0
comp=Z,18nm,0.8s
RCLA Racherla 31.77 80 *e*P P 06 38 29.0 +0.9
RCLA IAmb IAmb 06 38 29.9
comp=Z,39nm,0.8s
CHOS Chios island 31.82 329 P P 06 38 31.7 +3.4
CHOS Chios island 31.82 329 P P 06 38 31.7 +3.4
CHOS Chios island 31.82 329 P P 06 38 31.7 +3.4
KIV Kislovodsk 31.88 355 *e*P P 06 38 28.9 +0.2
KIV *e* 06 39 34.7
KIV *e*S **S 06 43 37.2 -1.8**
KIV pmax pmax
comp=Z,51nm,1.1s
KIV MLR MLR
comp=Z,443nm,15.0s
KIV Kislovodsk 31.88 355 *e*P P 06 38 28.9 +0.2
comp=Z,51nm,1.1s
NJS Nagarjunasagar 32.16 78 *e*P P 06 38 31.1 -0.3
NJS IAmb IAmb 06 38 32.8
comp=Z,21nm,0.8s
PRK Paraskevi 32.38 330 P P 06 38 37.0 +4.0
PRK Paraskevi 32.38 330 P P 06 38 37.0 +4.0
SKHT Srikalahasti 32.49 83 *e*P P 06 38 35.0 +0.7
SKHT IAmb IAmb 06 38 35.9
comp=Z,23nm,0.8s
LSZ Lusaka 32.65 214 P P 06 38 35.5 -0.3
comp=Z,8.7nm,0.9s,baz=40,slow=10,SNR=12
LSZ Lusaka 32.65 214 P P 06 38 35.5 -0.3
LSZ pmax pmax
comp=Z,9.0nm,0.9s
ADKI Addanki 32.77 80 *e*P P 06 38 37.5 +0.8
ADKI IAmb IAmb 06 38 39.0
comp=Z,24nm,0.8s
GOF Gofitskoye 32.95 356 *e*P P 06 38 40.9 +2.9
GOF pmax pmax
comp=Z,60nm,1.3s
GOF Gofitskoye 32.95 356 *e*P P 06 38 40.9 +2.9
comp=Z,60nm,1.3s
ANN Anapa 33.46 348 *e*P P 06 38 42.7 +0.3
ANN *e*S **S 06 44 02.4 -0.9**
ANN pmax pmax
comp=Z,28nm,0.9s
ANN MLR MLR
comp=Z,675nm,13.0s
ANN Anapa 33.46 348 *e*P P 06 38 42.7 +0.3
comp=Z,28nm,0.9s
GUR Goura 33.50 324 P P 06 38 41.0 -2.0
GUR Goura 33.50 324 P P 06 38 41.0 -2.0
KLV Kalavryta, Ach 33.69 324 P P 06 38 35.0 -10
ALN Alexandroupoli 33.78 332 P P 06 38 48.7 +3.4
ALN Alexandroupoli 33.78 332 P P 06 38 48.7 +3.4
ALN Alexandroupoli 33.78 332 P P 06 38 48.7 +3.4
AGG Agios Georgios 34.27 326 *e*P P 06 38 51.9 +2.3
comp=Z,17nm,1.0s
AGG Agios Georgios 34.27 326 *e*P P 06 38 51.9 +2.3
comp=Z,17nm,1.0s
OUR Ouranopolis 34.35 329 P P 06 38 53.5 +3.3
OUR Ouranopolis 34.35 329 P P 06 38 53.5 +3.3
OUR Ouranopolis 34.35 329 P P 06 38 53.5 +3.3
SIM Simferopol' 34.36 344*ce*P P 06 38 53.4 +3.1
SIM *e*S S 06 44 24.0 +6.6
SIM pmax pmax
comp=Z,32nm,1.0s
SIM Simferopol' 34.36 344 *e*P P 06 38 53.4 +3.1
comp=Z,32nm,1.0s
PVM Polavaram 34.42 77 *e*P P 06 38 51.7 +0.6
PVM IAmb IAmb 06 38 53.1
comp=Z,15nm,0.8s
KDZ Kurdzhali 34.67 332⇓P P 06 39 01.0 +8.0
KDZ Kurdzhali 34.67 332⇓*i*P P 06 39 01.0 +8.0
LIT Litokhoron 34.95 327 P P 06 38 57.4 +1.9
LIT Litokhoron 34.95 327 P P 06 38 57.4 +1.9
LIT Litokhoron 34.95 327 P P 06 38 57.4 +1.9
RZN Rozhen 35.02 331 *e*P P 06 38 57.7 +1.4
RZN Rozhen 35.02 331 *e*P P 06 38 57.7 +1.4
PRD Provadia 35.06 336⇑P P 06 39 04.5 +8.2
PRD Provadia 35.06 336⇑*i*P P 06 39 04.5 +8.2
PRD Provadia 35.06 336 *e*P P 06 38 57.5 +1.2
PRD Provadia 35.06 336 *e*P P 06 38 57.5 +1.2
PSN Preselentsi 35.16 337 *e*P P 06 38 59.5 +2.3
PSN Preselentsi 35.16 337 *e*P P 06 38 59.5 +2.3
NVR Nevrokopi 35.17 330 P P 06 39 00.2 +2.8
NVR Nevrokopi 35.17 330 P P 06 39 00.2 +2.8
NVR Nevrokopi 35.17 330 P P 06 39 00.2 +2.8
PLD Plovdiv 35.35 332 P P 06 39 02.1 +3.2
PLD Plovdiv 35.35 332 P P 06 39 02.1 +3.2
PLD Plovdiv 35.35 332 P P 06 39 02.1 +3.2
MMB Musomiste 35.42 330⇑P P 06 38 58.8 -0.7
MMB Musomiste 35.42 330⇑*i*P P 06 38 58.8 -0.7
MMB Musomiste 35.42 330 *e*P P 06 39 00.2 +0.7
MMB Musomiste 35.42 330 P P 06 38 58.8 -0.7
SZH Strazhica 35.73 334 *e*P P 06 39 01.8 -0.3
SZH Strazhica 35.73 334 *e*P P 06 39 01.8 -0.3
TIRR Tirgusor 35.73 338⇓P P 06 39 00.8 -1.3
TIRR Tirgusor 35.73 338⇓*i*P P 06 39 00.8 -1.3
TIRR Tirgusor 35.73 338 *e*P P 06 39 02.4 +0.3
TIRR Tirgusor 35.73 338 *e*P P 06 39 02.4 +0.3
IGT Igoumenitsa 35.74 324 P P 06 39 04.5 +2.3
IGT Igoumenitsa 35.74 324 P P 06 39 04.5 +2.3
IGT Igoumenitsa 35.74 324 P P 06 39 04.5 +2.3
SGD Sagiada 35.85 324 P P 06 39 03.3 +0.1
SGD Sagiada 35.85 324 P P 06 39 03.3 +0.1
KKB Krupnik 35.95 330 *e*P P 06 39 05.6 +1.6
KKB Krupnik 35.95 330 *e*P P 06 39 05.6 +1.6
FNA Florina 36.03 327 P P 06 39 06.4 +1.6
FNA Florina 36.03 327 P P 06 39 06.4 +1.6
FNA Florina 36.03 327 P P 06 39 06.4 +1.6
VTS Vitosha 36.43 331 P P 06 39 09.2 +0.9
VTS Vitosha 36.43 331⇑P P 06 39 09.1 +0.8
VTS Vitosha 36.43 331⇑*i*P P 06 39 09.1 +0.8
VTS Vitosha 36.43 331 *e*P P 06 39 07.8 -0.5
VTS Vitosha 36.43 331 P P 06 39 09.1 +0.8
VTS Vitosha 36.43 331 P P 06 39 09.2 +0.9
CFR Carcaliu 36.45 338⇑P P 06 39 07.8 -0.4
CFR Carcaliu 36.45 338⇑*i*P P 06 39 07.8 -0.4
CFR Carcaliu 36.45 338 P P 06 39 07.8 -0.4
MPEP Malo Peshtene 36.77 332 *e*P P 06 39 13.3 +2.3
MPEP Malo Peshtene 36.77 332 *e*P P 06 39 13.3 +2.3
CHLP Challavanipeta 36.82 75 *e*P P 06 39 11.2 -0.6
CHLP IAmb IAmb 06 39 13.4
comp=Z,20nm,1.1s
MATP Matopo 36.83 209 P P 06 39 10.3 -1.5
comp=Z,5.3nm,0.9s,baz=34,slow=8.7,SNR=9.6
ISR Istrita 37.00 336⇑P P 06 39 17.2 +4.2
ISR Istrita 37.00 336⇑*i*P P 06 39 17.2 +4.2
KK31 Karatay Array 37.27 30 *i* P P 06 39 15.7 +0.4
KK31 pmax pmax
comp=Z,14nm,1.0s
KK31 Karatay Array 37.27 30 *i* P P 06 39 15.7 +0.4
comp=Z,14nm,1.0s
KKAR Karatay Array 37.27 30 *e*P P 06 39 15.9 +0.7
KKAR Karatay Array 37.27 30 *e*P P 06 39 15.9 +0.7
MLR Muntele Rosu 37.55 336⇑P P 06 39 19.5 +1.8
MLR Muntele Rosu 37.55 336⇑*i*P P 06 39 19.5 +1.8
MLR Muntele Rosu 37.55 336 P P 06 39 19.5 +1.8
VRI Vrincioaia 37.56 337⇑P P 06 39 24.0 +6.3
VRI Vrincioaia 37.56 337⇑*i*P P 06 39 24.0 +6.3
PLOR Plostina 37.57 337⇓P P 06 39 21.5 +3.7
PLOR Plostina 37.57 337⇓*i*P P 06 39 21.5 +3.7
KIS Kishinev 37.79 340 *e*P P 06 39 23.0 +3.4
KIS Kishinev 37.79 340 *e*PP PP 06 40 50.0 +4.0
KIS LRM MLR 06 56 30.0
comp=Z,600nm,20.0s
KIS Kishinev 37.79 340 *e*P P 06 39 23.0 +3.4
KIS *e* 06 40 50.0
KIS *e* 06 48 24.0
KIS MLR MLR
comp=N,600nm,20.0s
KIS MLR MLR
comp=E,400nm,15.0s
KIS MLR MLR
comp=Z,800nm,18.0s
KIS MLR MLR
comp=Z,700nm,16.0s
KSH Kashi 37.80 39 P P 06 39 20.5 +0.5
KSH sP **sP 06 39 27.5 +0.8**
KSH PP **PnPn 06 40 49.5 +2.0**
KSH PcP **PcP 06 41 36.5 -0.1**
KSH S **S 06 45 07.3 -3.1**
KSH PcS **PcS 06 45 24.0 -1.4**
KSH PMZ
comp=Z,23nm,2.0s
KSH LN
comp=Z,320nm,7.5s
KSH LE
comp=Z,350nm,12.4s
KSH LZ
comp=Z,150nm,6.1s
VOIR 37.86 335⇓P P 06 39 21.3 +1.0
VOIR 37.86 335⇓*i*P P 06 39 21.3 +1.0
VOIR 37.86 335 P P 06 39 21.3 +1.0
KOLN Koldanda 38.10 60 *e*P P 06 39 22.7 0.0
comp=Z,29nm,0.7s
DOPR Dopca 38.16 336⇑*i*P P 06 39 26.1 +3.3
LOT Lotru 38.40 334⇓P P 06 39 25.7 +0.7
LOT Lotru 38.40 334⇓*i*P P 06 39 25.7 +0.7
EKS2 Erkin-Say 38.60 33 *e*P P 06 39 27.7 +1.0
comp=Z,17nm,1.0s
EKS2 Erkin-Say 38.60 33 *e*P P 06 39 27.7 +1.0
comp=Z,17nm,1.0s
AB31 Akbulak array 38.69 14 *i* P P 06 39 27.2 +0.1
AB31 pmax pmax
comp=Z,1.0nm,0.4s
AB31 Akbulak array 38.69 14 *i* P P 06 39 27.2 +0.1
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 38.69 14 *e*P P 06 39 27.4 +0.3
ABKAR Akbulak array 38.69 14 *e*P P 06 39 27.4 +0.3
GZR Gura Zlata 38.79 333⇑P P 06 39 27.7 -0.4
GZR Gura Zlata 38.79 333⇑*i*P P 06 39 27.7 -0.4
GZR Gura Zlata 38.79 333 P P 06 39 27.7 -0.4
AAK Ala-Archa 38.97 34 *e*P P 06 39 30.0 +0.2
AAK Ala-Archa 38.97 34 *e*P P 06 39 30.0 +0.2
GKN Gorkha 39.05 60 *e*P P 06 39 30.2 -0.4
comp=Z,69nm,1.2s
VRHR Novokhopersk 39.06 355 *e*P P 06 39 32.9 +2.7
VRHR pmax pmax
comp=Z,70nm,1.1s
VRHR pmax pmax
comp=N,90nm,1.0s
VRHR pmax pmax
comp=E,50nm,1.6s
VRHR Novokhopersk 39.06 355 *e*P P 06 39 32.9 +2.7
comp=E,90nm,1.0s
DIVS Divibare 39.12 329⇑*i*P P 06 39 30.2 -0.8
DIVS Divibare 39.12 329⇑*i*P P 06 39 30.2 -0.8
VORD Divnogorie 39.17 353 *e*P P 06 39 32.9 +1.8
VORD pmax pmax
comp=Z,40nm,1.1s
VORD pmax pmax
comp=N,90nm,0.9s
VORD pmax pmax
comp=E,130nm,0.8s
VORD Divnogorie 39.17 353 *e*P P 06 39 32.9 +1.8
comp=E,90nm,0.9s
FRU Bishkek 39.17 33 *e*P P 06 39 32.0 +0.6
FRU pmax pmax
comp=Z,60nm,1.7s
FRU MLR MLR
comp=E,500nm,12.0s
FRU Bishkek 39.17 33 *e*P P 06 39 32.0 +0.6
comp=E,60nm,1.7s
DMN Daman 39.34 61 *e*P P 06 39 32.9 -0.3
comp=E,41nm,1.0s
VSR Storozhevoye 39.43 353 *e*P P 06 39 32.5 -0.8
VSR pmax pmax
comp=Z,40nm,0.8s
VSR pmax pmax
comp=N,30nm,0.7s
VSR pmax pmax
comp=E,20nm,1.0s
VSR Storozhevoye 39.43 353 *e*P P 06 39 32.5 -0.8
comp=E,30nm,0.7s
BZS Buzias 39.48 332⇓P P 06 39 32.8 -1.0
BZS Buzias 39.48 332⇓*i*P P 06 39 32.8 -1.0
BZS Buzias 39.48 332 P P 06 39 32.8 -1.0
KKN Kakani 39.53 61 *e*P P 06 39 34.6 -0.2
comp=E,75nm,1.2s
PKIN Phulchoki 39.58 61 *e*P P 06 39 34.3 -0.9
PKI Pulchoki 39.59 61 *e*P P 06 39 34.7 -0.7
comp=E,78nm,1.4s
BURAR Bucovina Array 39.59 337⇑P P 06 39 38.1 +3.3
BURAR Bucovina Array 39.59 337⇑*i*P P 06 39 38.1 +3.3
BUR08 Bucovina Ar. S 39.62 337 *e*P P 06 39 35.8 +0.7
BUR08 Bucovina Ar. S 39.62 337 *e*P P 06 39 35.8 +0.7
TKM2 Tokmak 2 39.76 34 *e*P P 06 39 36.7 +0.2
comp=E,21nm,1.5s
TKM2 Tokmak 2 39.76 34 *e*P P 06 39 36.7 +0.2
comp=E,21nm,1.5s
DRGR 39.92 335⇑P P 06 39 37.8 +0.3
DRGR 39.92 335⇑*i*P P 06 39 37.8 +0.3
DRGR 39.92 335 P P 06 39 37.8 +0.3
GUN Gumba 40.08 61 *e*P P 06 39 39.2 -0.3
comp=E,69nm,0.9s
TAM Tamanrasset 40.29 291 *e*P P 06 39 42.3 +1.3
comp=E,6.4nm,1.2s
TAM Tamanrasset 40.29 291 *e*P P 06 39 42.4 +1.3
comp=E,6.4nm,1.2s
RAMN Ramite 40.47 63 *e*P P 06 39 41.7 -0.9
comp=E,40nm,1.0s
KEST Kesra 40.85 311 P P 06 39 46.3 +0.8
comp=E,1.7nm,0.8s,baz=122,slow=9.5,SNR=2.2
KEST LR LR 06 57 05.5
comp=E,105nm,18.7s,baz=6.0,slow=37
AK02 Malin Array Si 40.92 343 *e*P P 06 39 45.6 -0.1
AK02 Malin Array Si 40.92 343 *e*PP PP 06 41 20.7 +0.6
AK02 Malin Array Si 40.92 343 *e*P P 06 39 45.6 -0.1
AK02 *e*PP **PP 06 41 20.7 +0.6**
AK01 Malin Array Si 40.95 343 *e*P P 06 39 46.2 +0.3
AK01 Malin Array Si 40.95 343 *e*P P 06 39 46.2 +0.3
KIEV Kiev 40.95 343*c i*P P 06 39 48.0 +2.1
KIEV Kiev 40.95 343 *e*P P 06 39 45.9 0.0
KIEV Kiev 40.95 343 *e*P P 06 39 45.9 0.0
AKASG Malin Array Be 40.96 343 P P 06 39 45.9 -0.1
comp=E,4.8nm,0.8s,baz=160,slow=7.6,SNR=28
AKASG PP **PnPn 06 41 25.3 +0.5**
comp=E,0.1nm,0.3s,baz=155,slow=9.9,SNR=9.6
AKASG LR LR 06 59 33.3
comp=E,252nm,18.7s,baz=130,slow=40
AKBB Malin Array Si 40.96 343 *e*P P 06 39 46.0 0.0
AKBB Malin Array Si 40.96 343 *e*P P 06 39 46.0 0.0
ODAN Odare 41.13 63 *e*P P 06 39 46.6 -1.5
PKSN Nyarlorinc 41.24 332 *e*P P 06 39 51.6 +3.2
PKSM Moragy 41.31 331⇓P P 06 39 49.3 +0.3
PKSM Moragy 41.31 331⇓*i*P P 06 39 49.3 +0.3
PKSM Moragy 41.31 331⇑*e*P P 06 39 51.9 +2.9
TAPN Taplejung 41.52 62 *e*P P 06 39 49.8 -1.5
comp=E,36nm,0.9s
UZH Uzhgorod 41.55 336 *e*P P 06 39 52.9 +2.0
UZH *e* 06 40 02.8
UZH Uzhgorod 41.55 336 *e*P P 06 39 52.9 +2.0
KOLS Kolonicke sedl 41.80 336 *e*P P 06 39 56.2 +3.2
KOLS pmax pmax
comp=Z,36nm,1.4s
KOLS Kolonicke sedl 41.80 336 *e*P P 06 39 56.2 +3.2
LVV L'vov 41.86 338 *e*P P 06 39 54.9 +1.5
LVV *e*S S 06 46 04.9 -5.8
LVV MLR MLR
comp=N,300nm,18.0s
LVV MLR MLR
comp=E,300nm,18.0s
LVV MLR MLR
comp=Z,300nm,18.0s
LVV L'vov 41.86 338 *e*P P 06 39 54.9 +1.5
PSZ Piszkesteto 42.00 333⇑P P 06 39 54.1 -0.6
PSZ Piszkesteto 42.00 333⇑*i*P P 06 39 54.1 -0.6
PSZ Piszkesteto 42.00 333 *e*P P 06 39 54.6 -0.1
PSZ Piszkesteto 42.00 333 *e*P P 06 39 54.6 -0.1
PSZ Piszkesteto 42.00 333⇑*e*P P 06 39 57.2 +2.5
LBTB Lobatse 42.12 209 P P 06 39 56.1 +0.2
comp=Z,10nm,1.0s,baz=36,slow=12,SNR=6.5
LBTB Lobatse 42.12 209 P P 06 39 56.1 +0.2
LBTB pmax pmax
comp=Z,11nm,1.0s
LBTB Lobatse 42.12 209 *e*PP PP 06 41 30.7 -3.0
LBTB Lobatse 42.12 209 P P 06 39 56.1 +0.2
LBTB *e*PP **PP 06 41 30.7 -3.0**
TSUM Tsumeb 42.13 223 P P 06 39 56.5 +0.3
comp=Z,4.0nm,1.0s,baz=46,slow=7.3,SNR=6.8
TSUM Tsumeb 42.13 223 *e*P P 06 39 56.4 +0.3
comp=Z,8.5nm,1.0s
TSUM Tsumeb 42.13 223 *e*P P 06 39 56.4 +0.3
comp=Z,8.5nm,1.0s
KECS Kecovo 42.18 334 *e*P P 06 39 59.2 +3.1
KECS pmax pmax
comp=Z,8.0nm,1.3s
KECS Kecovo 42.18 334 *e*P P 06 39 59.2 +3.1
comp=Z,8.0nm,1.3s
KECS Kecovo 42.18 334 *e*P P 06 39 59.2 +3.1
PDGK Podgornoye 42.22 36 P P 06 39 55.1 -1.3
PDGK pmax pmax
comp=Z,27nm,1.3s
PDGK Podgornoye 42.22 36 P P 06 39 55.1 -1.3
comp=Z,27nm,1.3s
BOJS Bojanci 42.53 327 *i* P P 06 39 59.4 +0.5
BOJS Bojanci 42.53 327 *i* P P 06 39 59.4 +0.5
VSL Villasalto 42.58 316 *e*P P 06 40 02.2 +2.8
comp=Z,22nm,1.3s
VSL Villasalto 42.58 316 *e*PP PP 06 41 41.0 +2.7
VSL Villasalto 42.58 316 *e*P P 06 40 02.2 +2.8
comp=Z,22nm,1.3s
VSL *e*PP **PP 06 41 41.0 +2.8**
STHS Stebnicka Huta 42.60 336 *e*P P 06 40 02.4 +2.9
STHS pmax pmax
comp=Z,12nm,1.1s
STHS Stebnicka Huta 42.60 336 *e*P P 06 40 02.4 +2.9
comp=Z,12nm,1.1s
STHS Stebnicka Huta 42.60 336 *e*P P 06 40 02.4 +2.9
SOP Sopron 43.36 331⇑*e*P P 06 40 08.3 +2.6
SOP Sopron 43.36 331⇑*e*P P 06 40 08.3 +2.6
JAVS Javornik 43.41 327 *i* P P 06 40 07.9 +1.7
JAVS Javornik 43.41 327 *i* P P 06 40 07.9 +1.7
SOKA Soboth 43.42 329⇑*i*P P 06 40 07.2 +0.9
comp=Z,31nm,0.9s,SNR=31
SOKA Soboth 43.42 329 P P 06 40 07.2 +0.9
comp=Z,31nm,0.9s,SNR=31
OBKA Obir 43.56 328⇑*i*pP P 06 40 10.3 +2.9
comp=Z,32nm,1.4s,SNR=12
OBKA Obir 43.56 328 P P 06 40 10.3 +2.9
comp=Z,32nm,1.4s,SNR=12
ARSA Arzberg 43.56 330⇑*i*P P 06 40 08.1 +0.8
comp=Z,15nm,1.1s
ARSA Arzberg 43.56 330 P P 06 40 08.1 +0.8
comp=Z,15nm,1.1s
OBN Obninsk 43.58 352*c i*P P 06 40 09.7 +2.5
OBN *e* 06 41 52.4
OBN pmax pmax
comp=Z,62nm,1.2s
OBN MLR MLR
comp=Z,492nm,19.0s
OBN Obninsk 43.58 352 *e*P P 06 40 07.6 +0.4
comp=Z,116nm,1.4s
OBN Obninsk 43.58 352 *e*P P 06 40 07.6 +0.4
comp=Z,116nm,1.4s
TORD Torodi Ar. Bea 43.59 276 P P 06 40 07.3 -0.6
comp=Z,4.0nm,0.9s,baz=95,slow=7.0,SNR=17
TORD PcP **PcP 06 41 55.7 +0.1**
comp=Z,0.9nm,0.7s,baz=77,slow=3.1,SNR=3.7
TORD LR LR 06 58 07.9
comp=Z,257nm,18.6s,baz=115,slow=36
OJC Ojcow 43.81 335 *e*P P 06 40 08.7 -0.5
OJC Ojcow 43.81 335 *e*P P 06 40 08.7 -0.5
OJC Ojcow 43.81 335 *e*P P 06 40 08.9 -0.3
OJC Ojcow 43.81 335 *e*P P 06 40 08.9 -0.3
CONA Conrad Observa 43.87 330⇑*i*P P 06 40 10.5 +0.6
comp=Z,33nm,1.6s,SNR=15
CONA Conrad Observa 43.87 330 P P 06 40 10.5 +0.6
comp=Z,33nm,1.6s,SNR=15
MOS Moscow 44.05 353 *e*P P 06 40 10.6 -0.4
MOS *e* 06 40 28.6
MOS *e* 06 41 54.8
MOS pmax pmax
comp=Z,200nm,1.6s
MOS pmax pmax
comp=Z,115nm,1.3s
MYKA Terra Mystica 44.11 328⇑*i*P P 06 40 12.2 +0.4
comp=Z,24nm,1.4s,SNR=8.6
MYKA Terra Mystica 44.11 328 P P 06 40 12.2 +0.4
comp=Z,24nm,1.4s,SNR=8.6
OKC Ostrava-Krasne 44.21 334 *e*P P 06 40 15.0 +2.6
OKC AMS AMS 07 01 10.0
comp=Z,300nm,15.3s
OKC Ostrava-Krasne 44.21 334 *e*P P 06 40 15.0 +2.6
OKC MLR MLR
comp=Z,300nm,15.3s
OKC Ostrava-Krasne 44.21 334 P P 06 40 15.0 +2.6
MORC Moravsky Berou 44.42 333⇓P P 06 40 14.0 -0.3
MORC Moravsky Berou 44.42 333⇓*i*P P 06 40 14.0 -0.3
MORC Moravsky Berou 44.42 333 *e*P P 06 40 13.9 -0.3
MORC Moravsky Berou 44.42 333 *e*P P 06 40 13.3 -1.0
comp=Z,50nm,1.1s
VRAC Vranov 44.51 332⇓P P 06 40 14.2 -0.6
VRAC Vranov 44.51 332⇓*i*P P 06 40 14.2 -0.6
VRAC Vranov 44.51 332⇓*i*P P 06 40 14.2 -0.6
KBA Koelnbreinsper 44.56 328⇓*i*P P 06 40 15.7 +0.2
comp=Z,18nm,1.3s
KBA Koelnbreinsper 44.56 328 P P 06 40 15.7 +0.2
comp=Z,18nm,1.3s
MOA Molln 44.60 329⇓*i*P P 06 40 15.6 0.0
comp=Z,16nm,0.9s,SNR=7.3
MOA Molln 44.60 329 P P 06 40 15.6 0.0
comp=Z,16nm,0.9s,SNR=7.3
ABTA Abfaltersbach 44.78 327⇑*i*P P 06 40 17.6 +0.4
comp=Z,13nm,1.4s
ABTA Abfaltersbach 44.78 327 P P 06 40 17.6 +0.4
comp=Z,13nm,1.4s
TREC Trest 45.00 332 *e*P P 06 40 20.7 +1.9
TREC Trest 45.00 332 *e*P P 06 40 20.7 +1.9
TREC Trest 45.00 332 P P 06 40 20.7 +1.9
BRVK Borovoye 45.08 20*d i*P P 06 40 19.0 -0.4
BRVK pmax pmax
comp=Z,21nm,1.2s
BRVK Borovoye 45.08 20 *e*P P 06 40 19.5 +0.1
comp=Z,16nm,1.0s
BRVK Borovoye 45.08 20 P P 06 40 19.5 +0.1
SNR=13
BRVK Borovoye 45.08 20 *e*P P 06 40 19.5 +0.1
comp=Z,16nm,1.0s
BVA0 Borovoye Array 45.09 20 *i* P P 06 40 18.1 -1.3
BVA0 pmax pmax
comp=Z,17nm,1.2s
ARU Arti 45.20 9*c i*P P 06 40 19.9 -0.3
ARU 06 42 10.8
ARU S **S 06 46 59.0 -0.4**
ARU SS **ScS 06 50 18.2 +1.7**
ARU pmax pmax
comp=Z,26nm,1.7s
ARU MLR MLR

comp=Z,858nm,19.0s
ARU Arti 45.20 9 *e*P **P** **06 40 20.1 -0.1**
comp=Z,16nm,1.1s
ARU Arti 45.20 9 *e*P **P** **06 40 20.1 -0.1**
comp=Z,16nm,1.1s
BOSA Boshof 45.37 206 P **P** **06 40 21.2 -0.8**
comp=Z,13nm,1.0s,baz=20,slow=7.4,SNR=11
BOSA LR LR 06 59 44.5
comp=Z,747nm,18.4s,baz=31,slow=37
BOSA Boshof 45.37 206 P **P** **06 40 21.2 -0.8**
BOSA pmax pmax
comp=Z,13nm,1.0s
BOSA MLR MLR
comp=Z,747nm,18.4s
BOSA Boshof 45.37 206 *e*P **P** **06 40 22.1 +0.1**
BOSA Boshof 45.37 206 *e*P **P** **06 40 22.1 +0.1**
DPC Dobruska-Polom 45.38 333 *e*P **P** **06 40 22.0 +0.2**
DPC AMS AMS 07 01 50.0
comp=Z,300nm,21.4s
DPC Dobruska-Polom 45.38 333 *e*P **P** **06 40 22.0 +0.2**
DPC MLR MLR
comp=Z,300nm,21.4s
DPC Dobruska-Polom 45.38 333 P **P** **06 40 22.0 +0.2**
GEC2 GERESS Array S 45.55 330 *e*P **P** **06 40 25.1 +1.9**
comp=Z,32nm,1.1s
GEC2 GERESS Array S 45.55 330 *e*P **P** **06 40 25.1 +1.9**
comp=Z,32nm,1.1s
GERES GERESS Array B 45.55 330 P **P** **06 40 22.8 -0.4**
comp=Z,16nm,0.9s,baz=132,slow=7.6,SNR=36
GERES LR LR 07 02 33.2
comp=Z,167nm,18.7s,baz=126,slow=40
GERES GERESS Array B 45.55 330 P **P** **06 40 22.8 -0.4**
GERES pmax pmax
comp=Z,16nm,0.9s
GERES MLR MLR
comp=Z,167nm,18.7s
WTTA Wattenberg 45.57 327⇑ *i*P **P** **06 40 24.9 +1.3**
comp=Z,26nm,1.4s,SNR=11
WTTA Wattenberg 45.57 327 P **P** **06 40 24.9 +1.3**
comp=Z,26nm,1.4s,SNR=11
UPC Upice 45.63 333 *e*P **P** **06 40 25.4 +1.6**
UPC Upice 45.63 333 *e*P **P** **06 40 25.4 +1.6**
UPC Upice 45.63 333 P **P** **06 40 25.4 +1.6**
SUW Suwalki 45.66 341 *e*P **P** **06 40 23.6 -0.3**
SUW Suwalki 45.66 341 *e*P **P** **06 40 23.7 -0.2**
SUW Suwalki 45.66 341 *e*P **P** **06 40 23.7 -0.2**
KSP Ksiaz 45.75 334 *e*P **P** **06 40 26.1 +1.4**
KSP Ksiaz 45.75 334 *e*P **P** **06 40 26.1 +1.4**
KSP Ksiaz 45.75 334 *e*P **P** **06 40 26.1 +1.4**
GOPC GO Pecny, Ondr 45.76 332 *e*P **P** **06 40 26.1 +1.3**
GOPC *e*S **S** **06 47 12.0 +4.2**
GOPC AMS AMS 06 58 50.0
comp=Z,300nm,24.8s
GOPC GO Pecny, Ondr 45.76 332 P **P** **06 40 26.1 +1.3**
KHC Kasperske Hory 45.80 330 *e*P **P** **06 40 24.1 -1.1**
KHC *e*S **S** **06 47 09.7 +1.3**
KHC AMS AMS 06 59 20.0
comp=Z,300nm,18.3s
KHC Kasperske Hory 45.80 330 *e*P **P** **06 40 24.1 -1.1**
KHC *e*S **S** **06 47 09.7 +1.3**
KHC MLR MLR
comp=Z,300nm,18.3s
KHC Kasperske Hory 45.80 330 P **P** **06 40 24.1 -1.1**
KHC S **S** **06 47 09.7 +1.3**
KHC Kasperske Hory 45.80 330 *e*P **P** **06 40 24.1 -1.1**
comp=Z,10nm,1.4s
MK31 Makanchi Array 45.90 34 *i* P **P** **06 40 25.2 -0.8**
MK31 pmax pmax
comp=Z,23nm,0.9s
MK31 Makanchi Array 45.90 34 *e*P **P** **06 40 25.7 -0.3**
MK31 Makanchi Array 45.90 34 *e*P **P** **06 40 25.7 -0.3**
MOTA Moosalm 45.91 327⇑ *e*P **P** **06 40 25.2 -1.0**
comp=Z,11nm,1.0s
MOTA Moosalm 45.91 327 P **P** **06 40 25.2 -1.0**
comp=Z,11nm,1.0s
FETA Feichten 45.91 326⇓ *i*P **P** **06 40 27.1 +0.9**
comp=Z,15nm,1.2s
FETA Feichten 45.91 326 P **P** **06 40 27.1 +0.9**
comp=Z,15nm,1.2s
PRU Pruhonice 45.93 332 *e*P **P** **06 40 26.1 0.0**
PRU *e*S **S** **06 47 08.7 -1.4**
PRU AMS AMS 07 02 20.0
comp=Z,200nm,14.7s
PRU Pruhonice 45.93 332 *e*P **P** **06 40 26.1 0.0**
PRU *e*S **S** **06 47 08.7 -1.4**
PRU MLR MLR
comp=Z,200nm,14.7s
PRU Pruhonice 45.93 332 P **P** **06 40 26.1 0.0**
SVE Sverdlovsk 45.94 11 *e*P **P** **06 40 26.5 +0.4**
SVE *e*S **S** **06 47 07.0 -3.1**
SVE pmax pmax
comp=Z,38nm,1.4s
SVE MLR MLR
comp=Z,826nm,17.0s
PRA Prague 46.04 332 *e*P **P** **06 40 29.3 +2.4**
PRA Prague 46.04 332 *e*P **P** **06 40 29.3 +2.4**
PRA Prague 46.04 332 P **P** **06 40 29.3 +2.4**
WET Wettzell 46.15 330 *e*P **P** **06 40 29.0 +1.1**
comp=Z,35nm,1.9s
WET Wettzell 46.15 330 *e*P **P** **06 40 29.0 +1.1**
comp=Z,35nm,1.9s
RETA Reutte 46.18 327⇑ *i*P **P** **06 40 28.2 0.0**
comp=Z,15nm,1.6s
RETA Reutte 46.18 327 P **P** **06 40 28.2 0.0**
comp=Z,15nm,1.6s
MVIF Mont Vial 46.23 321⇑ *e*P **P** **06 40 30.6 +1.8**
MVIF Mont Vial 46.23 321⇑ *e*P **P** **06 40 30.6 +1.8**
TOUF Mont Tournerai 46.24 321⇑ *e*P **P** **06 40 31.1 +2.2**
TOUF Mont Tournerai 46.24 321⇑ *e*P **P** **06 40 31.1 +2.2**
PVCC Panska Ves 46.29 332 *e*P **P** **06 40 31.1 +2.1**
PVCC Panska Ves 46.29 332 *e*P **P** **06 40 31.1 +2.1**
PVCC Panska Ves 46.29 332 P **P** **06 40 31.1 +2.1**
CALN Calern 46.32 320⇑ *e*P **P** **06 40 31.5 +2.0**
CALN Calern 46.32 320⇑ *e*P **P** **06 40 31.5 +2.0**
FUR Furstenfeldbru 46.33 328 *e*P **P** **06 40 31.0 +1.7**
comp=Z,23nm,0.9s
FUR Furstenfeldbru 46.33 328 *e*P **P** **06 40 31.0 +1.7**
comp=Z,23nm,0.9s
DAVA Damuels 46.53 326⇑ *e*P **P** **06 40 30.4 -0.7**
comp=Z,26nm,0.9s,SNR=9.5
DAVA Damuels 46.53 326 P **P** **06 40 30.4 -0.7**
comp=Z,26nm,0.9s,SNR=9.5
KURK Kurchatov 46.60 28 *e*P **P** **06 40 31.2 -0.2**
comp=Z,22nm,1.2s
KURK Kurchatov 46.60 28 P **P** **06 40 31.5 +0.1**
SNR=11
KURK Kurchatov 46.60 28 *e*P **P** **06 40 31.2 -0.2**
comp=Z,22nm,1.2s
BRG Berggiesshubel 46.82 332 P **P** **06 40 31.0 -2.1**
BRG PP **PP** **06 42 22.0 -1.3**
BRG S **S** **06 47 27.0 +4.1**
BRG SS **SS** **06 50 56.0 +6.5**
comp=N,174nm,12.7s
comp=E,97nm,12.0s
comp=Z,210nm,14.9s
BRG Berggiesshubel 46.82 332 *e*P **P** **06 40 34.8 +1.7**
comp=Z,11nm,1.0s
BRG Berggiesshubel 46.82 332 P **P** **06 40 31.0 -2.1**
BRG 06 42 22.0
BRG S **S** **06 47 27.0 +4.1**
BRG MLR MLR
comp=N,174nm,12.7s
BRG MLR MLR
comp=E,97nm,12.0s
BRG MLR MLR
comp=Z,210nm,14.9s
BRG Berggiesshubel 46.82 332 *e*P **P** **06 40 34.8 +1.7**
comp=Z,11nm,1.0s
ROTZ Rotzenmuhle 46.89 330 *e*P **P** **06 40 35.1 +1.4**
comp=Z,23nm,1.4s
ROTZ Rotzenmuhle 46.89 330 *e*P **P** **06 40 35.1 +1.4**
comp=Z,23nm,1.4s
MANZ Manzenberg 47.08 330 *e*P **P** **06 40 36.3 +1.1**
comp=Z,13nm,1.1s
MANZ Manzenberg 47.08 330 *e*P **P** **06 40 36.3 +1.1**
comp=Z,13nm,1.1s
NKC Novy Kostel 47.08 331 *e*P **P** **06 40 36.9 +1.7**
NKC Novy Kostel 47.08 331 *e*P **P** **06 40 36.9 +1.7**
NKC Novy Kostel 47.08 331 P **P** **06 40 36.9 +1.7**
FBE Freiberg 47.12 332 *e*P **P** **06 40 37.3 +1.8**
comp=Z,17nm,1.1s
FBE Freiberg 47.12 332 *e*P **P** **06 40 37.3 +1.8**
comp=Z,17nm,1.1s
BNI Bardonecchia 47.12 322 *e*P **P** **06 40 36.6 +0.9**
comp=Z,24nm,1.6s
BNI Bardonecchia 47.12 322 *e*P **P** **06 40 36.6 +0.9**
comp=Z,24nm,1.6s
WERN Wernitzgruen 47.15 331 *e*P **P** **06 40 37.6 +1.8**
comp=Z,18nm,1.4s
WERN Wernitzgruen 47.15 331 *e*P **P** **06 40 37.6 +1.8**
comp=Z,18nm,1.4s
GKP Gorka Klasztor 47.17 336 *e*P **P** **06 40 38.0 +2.3**
GKP Gorka Klasztor 47.17 336 *e*P **P** **06 40 38.1 +2.3**
GKP Gorka Klasztor 47.17 336 *e*P **P** **06 40 38.1 +2.3**
TANN Tannenbergstha 47.20 331 *e*P **P** **06 40 37.8 +1.7**
comp=Z,16nm,1.3s
TANN Tannenbergstha 47.20 331 *e*P **P** **06 40 37.8 +1.7**
comp=Z,16nm,1.3s
GUNZ Gunzen 47.23 331 *e*P **P** **06 40 38.0 +1.7**
comp=Z,26nm,1.2s
GUNZ Gunzen 47.23 331 *e*P **P** **06 40 38.0 +1.7**
comp=Z,26nm,1.2s
WERD Werda 47.29 331 *e*P **P** **06 40 38.4 +1.5**
comp=Z,28nm,1.0s
WERD Werda 47.29 331 *e*P **P** **06 40 38.4 +1.5**
comp=Z,28nm,1.0s
GRA1 Grafenberg Arr 47.33 329 *e*P **P** **06 40 38.3 +1.2**
comp=Z,21nm,1.3s
GRF Grafenberg Arr 47.33 329 *e*P **P** **06 40 38.3 +1.2**
comp=Z,21nm,1.3s
GRF *e*L L 07 01 54.3
comp=Z,137nm,19.6s
GRFO Grafenberg 47.33 329 *e*P **P** **06 40 37.5 +0.4**
comp=Z,17nm,1.3s
GRFO Grafenberg 47.33 329 *e*P **P** **06 40 37.5 +0.4**
comp=Z,17nm,1.3s
PLN Plauen 47.39 331 *e*P **P** **06 40 39.4 +1.8**
comp=Z,29nm,1.2s
PLN Plauen 47.39 331 *e*P **P** **06 40 39.4 +1.8**
comp=Z,29nm,1.2s
WMQ Urumqi 47.48 40 P **P** **06 40 39.0 +0.5**
WMQ pP **pP** **06 40 43.5 +0.1**
WMQ sP **sP** **06 40 46.0 +0.7**
WMQ PcP **PcP** **06 42 10.0 +1.3**
WMQ PP **PP** **06 42 29.8 -0.1**
WMQ PcS **PcS** **06 46 02.5 -1.5**
WMQ S **S** **06 47 35.3 +2.6**
WMQ PMZ
comp=Z,21nm,1.0s
WMQ PMZ
comp=Z,110nm,5.4s
WMQ LN
comp=Z,280nm,16.5s
WMQ LE
comp=Z,250nm,18.1s
WMQ LZ
comp=Z,230nm,24.0s
CLL Collm 47.55 332 *e*P **P** **06 40 40.4 +1.6**
comp=Z,16nm,1.1s
CLL Collm 47.55 332 *e*P **P** **06 40 38.0 -0.8**
comp=Z,5.0nm,0.9s
CLL *i* Pmax 06 40 40.2
comp=Z,16nm,1.2s
CLL *i* (sP) **sP** **06 40 42.1 -3.5**
CLL *e*S **S** **06 47 33.0 -0.2**
comp=N,100nm,29.2s
CLL *e*S **S** **06 47 33.0 -0.2**
comp=E,200nm,28.7s
CLL *e*SS SS 06 51 12.0 +11
CLL LmH 06 59 00.0
comp=N,200nm,20.5s
CLL LmH 06 59 00.0
comp=E,200nm,20.9s
CLL Collm 47.55 332 *e*P **P** **06 40 38.0 -0.8**
CLL *e*S **S** **06 47 33.0 -0.2**
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 47.55 332 *e*P **P** **06 40 40.4 +1.6**
comp=Z,16nm,1.1s
SPAK Spaichingen-Ko 47.61 326⇑ *e*P **P** **06 40 39.4 -0.1**
MOX Moxa 47.76 331 *e*P **P** **06 40 42.1 +1.7**
comp=Z,19nm,1.1s
MOX *e*L L 07 04 03.9
comp=Z,156nm,18.9s
MOX Moxa 47.76 331 *e*P **P** **06 40 42.1 +1.7**
comp=Z,19nm,1.1s
STU Stuttgart 47.79 327 *e*P **P** **06 40 42.3 +1.6**
comp=Z,26nm,1.3s
STU Stuttgart 47.79 327 *e*P **P** **06 40 42.3 +1.6**
comp=Z,26nm,1.3s
FELD Feldberg im Sc 47.91 326⇑ *e*P **P** **06 40 41.2 -0.6**
BBS Basel-Blauen 47.95 325⇑ *e*P **P** **06 40 41.3 -0.7**
BFO Black Forest 47.99 326 *e*P **P** **06 40 44.3 +2.0**
comp=Z,29nm,1.3s
BFO Black Forest 47.99 326 *i* P **P** **06 40 42.5 +0.2**
BFO Black Forest 47.99 326 *e*P **P** **06 40 44.3 +2.0**
comp=Z,29nm,1.3s
BFO Black Forest 47.99 326 *e*P **P** **06 40 43.6 +1.2**
comp=Z,24nm,1.2s
NEUB Neuenburg 48.05 331 *e*P **P** **06 40 44.2 +1.5**
comp=Z,22nm,1.2s
NEUB Neuenburg 48.05 331 *e*P **P** **06 40 44.2 +1.5**
comp=Z,22nm,1.2s
LOMF Lomont 48.27 325⇑ *e*P **P** **06 40 44.5 -0.1**
LOMF Lomont 48.27 325⇑ *e*P **P** **06 40 44.5 -0.1**
MOF Molkenrain 48.38 325⇑ *e*P **P** **06 40 47.1 +1.7**
MOF Molkenrain 48.38 325⇑ *e*P **P** **06 40 47.1 +1.7**
TOD Tromm 48.50 328⇑ *e*P **P** **06 40 47.4 +1.2**
SSB Saint Sauveur 48.54 321 *e*P **P** **06 40 47.7 +1.0**
comp=Z,3.3nm,0.7s
SSB Saint Sauveur 48.54 321 *e*P **P** **06 40 47.7 +1.0**
comp=Z,3.3nm,0.7s
ECH Echery 48.57 326⇑ *e*P **P** **06 40 47.5 +0.7**
ECH Echery 48.57 326⇑ *e*P **P** **06 40 47.5 +0.7**
ECH Echery 48.57 326 *e*P **P** **06 40 47.8 +1.0**
comp=Z,12nm,1.1s
LANF Langenberg 48.66 327⇑ *e*P **P** **06 40 47.1 -0.3**
LANF Langenberg 48.66 327⇑ *e*P **P** **06 40 47.1 -0.3**
CLZ Clausthal 49.13 331 *e*P **P** **06 40 52.6 +1.6**
comp=Z,17nm,1.2s
CLZ Clausthal 49.13 331 *e*P **P** **06 40 52.6 +1.6**
comp=Z,17nm,1.2s
LBL Lubilhac 49.32 320⇑ *e*P **P** **06 40 53.7 +1.0**
LBL Lubilhac 49.32 320⇑ *e*P **P** **06 40 53.7 +1.0**
PLDF La Plantade 49.44 321⇑ *e*P **P** **06 40 54.0 +0.4**
PLDF La Plantade 49.44 321⇑ *e*P **P** **06 40 54.0 +0.4**
RUP Ruppelstein 49.47 327⇑ *e*P **P** **06 40 53.2 -0.5**
PYM Petit Puy Mans 49.72 321⇑ *e*P **P** **06 40 57.4 +1.7**
PYM Petit Puy Mans 49.72 321⇑ *e*P **P** **06 40 57.4 +1.7**
WLF Walferdange 49.94 327 P **P** **06 40 56.7 -0.5**
comp=Z,16nm,1.2s
WLF Walferdange 49.94 327 *e*P **P** **06 40 59.4 +2.2**
comp=Z,27nm,1.0s
WLF Walferdange 49.94 327 *e*P **P** **06 40 59.4 +2.2**
comp=Z,27nm,1.0s
WLF Walferdange 49.94 327 *e*P **P** **06 40 56.6 -0.5**
comp=Z,29nm,1.1s
MEM Membach 50.55 328 P **P** **06 41 04.3 +2.5**
comp=Z,13nm,1.6s
MEM Membach 50.55 328 P **P** **06 41 04.3 +2.5**
comp=Z,13nm,1.6s
KHLT Khaolaem Dam 50.74 81 P **P** **06 41 05.6 +1.8**
comp=Z,17nm,1.4s
DBIC Dimbokro 50.80 269 LR LR 07 01 56.9
comp=Z,156nm,19.0s,baz=66,slow=35
BCLA Clavier 50.81 327 P P 06 41 07.1 +3.3
comp=Z,11nm,1.4s
CM31 Chiang Mai Arr 50.94 76 *e*P **P** **06 41 05.5 +0.2**
comp=Z,9.8nm,0.4s
CM31 Chiang Mai Arr 50.94 76 *e*P **P** **06 41 05.5 +0.2**
comp=Z,9.8nm,0.4s
CMAR Chiang Mai Arr 50.94 76 P **P** **06 41 04.8 -0.4**
comp=Z,4.5nm,0.6s,baz=274,slow=8.5,SNR=24
CMAR LR LR 07 00 49.0
comp=Z,50nm,21.7s,baz=300,slow=34
DOU Dourbes 51.01 326 P **P** **06 41 04.8 -0.5**
comp=Z,6.7nm,1.5s
DOU Dourbes 51.01 326 P **P** **06 41 04.8 -0.5**
comp=Z,6.7nm,1.5s
FINES FINESS Array B 51.42 348 P **P** **06 41 07.7 -0.4**
comp=Z,15nm,1.1s,baz=163,slow=15,SNR=9.3
FINES LR LR 07 05 28.8
comp=Z,259nm,18.3s,baz=183,slow=39
FINES FINESS Array B 51.42 348 P **P** **06 41 07.7 -0.4**
FINES pmax pmax
comp=Z,15nm,1.1s
FINES MLR MLR
comp=Z,259nm,18.3s
NVS Novosibirsk 51.47 26 *e*P **P** **06 41 07.4 -1.2**
NVS pmax pmax
comp=Z,41nm,1.8s
NVS pmax pmax
comp=N,27nm,1.9s
UTHA Uthaitani 51.52 80 P **P** **06 41 10.4 +0.8**
comp=N,7.5nm,0.9s,comp=N,66nm
SURT Suratani 51.55 88 P **P** **06 41 10.8 +0.9**
comp=N,18nm,0.9s
ZAA0 Zalesovo Array 51.60 28 *e*P **P** **06 41 07.8 -1.8**
ZAA0 Zalesovo Array 51.60 28 *e*P **P** **06 41 07.8 -1.8**
ZALV Zalesovo Beam 51.60 28 P **P** **06 41 08.3 -1.3**
comp=N,5.3nm,0.7s,baz=234,slow=7.7,SNR=15
ZALV LR LR 07 04 09.1
comp=N,166nm,20.7s,baz=250,slow=37
ZALV Zalesovo Beam 51.60 28 P **P** **06 41 08.3 -1.3**
ZALV pmax pmax
comp=Z,5.0nm,0.7s
ZALV MLR MLR
comp=Z,166nm,20.7s
ESDC Sonseca Array 52.11 311 P **P** **06 41 13.2 -0.5**
comp=Z,1.6nm,0.9s,baz=126,slow=7.6,SNR=4.0
SRIT Nakonsritamara 52.39 88 P **P** **06 41 16.5 +0.3**
comp=Z,35nm,1.0s,comp=Z,3µm
UTTA Uttaradit 52.48 77 P P 06 41 22.8 +6.0
comp=Z,1.9nm,1.2s
PSI Prapat 52.81 96 P **P** **06 41 18.2 -1.3**
comp=Z,5.6nm,0.7s,baz=248,slow=11,SNR=3.1
PSI Prapat 52.81 96 P **P** **06 41 18.2 -1.3**
PSI pmax pmax
comp=Z,6.0nm,0.7s
PBKT Sadao Pong 52.93 78 P P **06 41 20.4 +0.3**
comp=Z,16nm,1.5s
LOEI Loei 53.17 77 P **P** **06 41 24.2 +2.3**
comp=Z,14nm,1.0s
GTA Gaotai 54.30 50⇑ P **P** **06 41 30.5 +0.5**
GTA pP **pP** **06 41 35.5 +0.5**
GTA sP **sP** **06 41 38.0 +1.1**
GTA PP **PP** **06 43 33.5 +1.5**
GTA S **S** **06 49 06.3 -1.2**
GTA PMZ
comp=Z,12nm,1.2s
GTA PMZ
comp=Z,99nm,6.4s
GTA LN
comp=Z,140nm,16.6s
GTA LE
comp=Z,98nm,17.3s
GTA LZ
comp=Z,160nm,15.7s
KMI Kunming 54.59 68 P **P** **06 41 34.3 +1.8**
KMI pP **pP** **06 41 37.5 +0.1**
KMI S **S** **06 49 12.8 +0.8**
KMI PMZ
comp=Z,15nm,0.5s
KMI LN
comp=Z,220nm,14.4s
KMI LE
comp=Z,130nm,19.0s
KMI LZ
comp=Z,110nm,19.6s
NONG Nongkai 54.94 76 P **P** **06 41 35.5 +0.7**
comp=Z,13nm,1.6s,comp=Z,600nm
NAO01 NORSAR Array S 55.13 340 *e*P **P** **06 41 35.0 -0.5**
comp=Z,13nm,1.0s
NAO01 NORSAR Array S 55.13 340 *e*P **P** **06 41 35.0 -0.5**
comp=Z,13nm,1.0s
NB2 NORSAR Subarra 55.16 340 P **P** **06 41 34.1 -1.6**
comp=Z,9.1nm,1.1s,baz=135,slow=7.4
NB2 NORSAR Subarra 55.16 340 P **P** **06 41 34.1 -1.6**
comp=Z,9.1nm,1.1s,SNR=4.9
NOA NORSAR Array B 55.16 340 P **P** **06 41 34.6 -1.1**
comp=Z,3.0nm,0.8s,baz=135,slow=7.1,SNR=8.7
NOA LR LR 07 06 47.3
comp=Z,222nm,19.2s,baz=130,slow=38
NOA NORSAR Array B 55.16 340 P **P** **06 41 34.6 -1.1**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA MLR MLR
comp=Z,222nm,19.2s
SKNT Sakolnakorn 55.79 78 P **P** **06 41 41.2 +0.2**
comp=Z,20nm,1.1s
CD2 Chengdu 55.94 61 P **P** **06 41 41.5 -0.4**
CD2 pP **pP** **06 41 44.5 -2.4**
CD2 PcP **PcP** **06 42 40.0 -0.5**
CD2 PP **PP** **06 43 46.0 -0.7**
CD2 PcS **PcS** **06 46 40.3 -0.7**
CD2 S **S** **06 49 29.8 +0.2**
CD2 SS **SS** **06 53 17.0 +1.4**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
LZH Lanzhou 56.73 55 *e*P **P** **06 41 49.8 +2.2**
LZH pP **pP** **06 41 53.8 +1.2**
LZH sP **sP** **06 41 56.8 +2.3**
LZH PMZ
comp=Z,27nm,1.0s
LZH PMZ
comp=Z,140nm,5.5s
GYA Guiyang 58.18 66 *e*P **P** **06 42 00.8 +2.9**
GYA PP **PP** **06 44 10.3 +3.5**
GYA ScP **ScP** **06 46 50.0 +0.7**
GYA S **S** **06 49 58.5 -0.9**
GYA SS **SS** **06 53 51.3 +0.2**
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,90nm,5.0s
GYA LN
comp=Z,460nm,18.4s
GYA LE
comp=Z,390nm,19.5s
GYA LZ
comp=Z,480nm,18.0s
ARCES ARCESS Array B 58.89 352 P **P** **06 42 01.2 -0.8**
comp=Z,6.3nm,0.9s,baz=157,slow=4.9,SNR=3.7
ARCES ARCESS Array B 58.89 352 P **P** **06 42 01.2 -0.8**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ZAK Zakamensk 59.84 38 *e*P **P** **06 42 07.2 -1.8**
ZAK pmax pmax
comp=Z,2.0nm,1.6s
XAN Xi'an 60.60 58 P **P** **06 42 13.8 -0.6**
XAN PMZ
comp=Z,5.0nm,1.0s
XAN PMZ
comp=Z,27nm,6.2s
SONM Songino Array 61.08 42 P **P** **06 42 16.6 -0.9**
comp=Z,5.6nm,0.8s,baz=246,slow=7.4,SNR=17
SONM LR LR 07 12 17.7
comp=Z,75nm,20.4s,baz=250,slow=40
SONM Songino Array 61.08 42 P **P** **06 42 16.6 -0.9**
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM MLR MLR
comp=Z,75nm,20.4s
QIZ Qiongzhong 61.23 75 P **P** **06 42 19.0 +0.1**
QIZ S **S** **06 50 39.0 +0.3**
HHC Hu-ho-hao-te 63.41 50 *e*P **P** **06 42 34.5 +1.2**
HHC PP **PP** **06 44 55.3 +2.5**
HHC S **S** **06 51 04.8 -1.0**
HHC ScS **SKSac** **06 52 23.0 -3.4**
HHC PMZ
comp=Z,27nm,1.2s
HHC PMZ
comp=Z,93nm,6.6s
HHC LN
comp=Z,150nm,16.0s
HHC LE
comp=Z,250nm,16.2s
HHC LZ
comp=Z,140nm,16.4s
BJI Beijing 66.84 52 P **P** **06 42 55.8 +0.3**
BJI pP **pP** **06 42 59.0 -1.5**
BJI PP **PP** **06 45 21.5 -1.2**
BJI S **S** **06 51 49.5 +1.8**
BJI SS SS 06 56 17.0 +11
BJI PMZ
comp=Z,22nm,0.7s
BJI LN
comp=Z,150nm,18.0s
BJI LE
comp=Z,83nm,14.1s
BJI LZ
comp=Z,90nm,35.2s
BOD Bodaibo 67.94 32 *e*P **P** **06 43 00.2 -1.8**
BOD pmax pmax
comp=Z,7.0nm,1.2s

NJ2	**Nanjing**	**68.87**	**60**	*e*P		**P**	**06 43 07.5**	**-0.9**	
NJ2				PMZ					
	comp=Z,10.0nm,0.7s								
CN2	**Changchun**	**73.83**	**48**	*e*P		**P**	**06 43 39.3**	**+1.1**	
KAPI	**Kappang**	**74.87**	**99**	P		**P**	**06 43 44.1**	**-0.6**	
	comp=Z,8.5nm,0.6s,baz=274,slow=4.0,SNR=3.9								
KSAR	**Wonju Array Be**	**76.02**	**54**	P		**P**	**06 43 49.7**	**-1.2**	
KSAR	**Wonju Array Be**	**76.02**	**54**	P		**P**	**06 43 49.7**	**-1.2**	
KSRS	**Korea Array**	**76.05**	**54**	P		**P**	**06 43 49.7**	**-1.4**	
	comp=Z,4.3nm,1.1s,baz=272,slow=6.4,SNR=10								
KSRS				LR		LR	07 21 47.4		
	comp=Z,40nm,19.3s,baz=320,slow=39								
KSRS	**Korea Array**	**76.05**	**54**	P		**P**	**06 43 49.7**	**-1.4**	
KSRS				pmax	pmax				
	comp=Z,4.0nm,1.1s								
KSRS				MLR	MLR				
	comp=Z,40nm,19.3s								
TIXI	**Tiksi**	**76.20**	**19**	*ce*P		**P**	**06 43 50.5**	**-0.8**	
TIXI				pmax	pmax				
	comp=Z,15nm,1.7s								
TIXI	**Tiksi**	**76.20**	**19**	*e*P		**P**	**06 43 50.3**	**-1.0**	
	comp=Z,44nm,1.6s								
TIXI	**Tiksi**	**76.20**	**19**	*e*P		**P**	**06 43 50.3**	**-1.0**	
	comp=Z,44nm,1.6s								
YAK	**Yakutsk**	**76.24**	**29**	*e*P		**P**	**06 43 49.8**	**-1.8**	
YAK				pmax	pmax				
	comp=Z,26nm,1.2s								
YAK				pmax	pmax				
	comp=E,11nm,1.5s								
SUMG	**Summit**	**76.97**	**342**	*i* P		**P**	**06 43 56.3**	**+0.1**	
	comp=E,18nm,1.2s								
SUMG	**Summit**	**76.97**	**342**	*i* P		**P**	**06 43 56.3**	**+0.1**	
SUMG				pmax	pmax				
	comp=Z,18nm,1.2s								
SUMG	**Summit**	**76.97**	**342**	*e*P		**P**	**06 43 56.3**	**+0.1**	
	comp=Z,16nm,1.1s								
SUMG	**Summit**	**76.97**	**342**	*e*P		**P**	**06 43 56.3**	**+0.1**	
	comp=Z,16nm,1.1s								
KLR	**Kul'dur**	**77.91**	**42**	*e*P		P	06 43 57.0	-4.3	
USRK	**Ussuriysk Ar.**	**78.52**	**47**	P		**P**	**06 44 04.4**	**-0.4**	
	comp=Z,3.1nm,0.8s,baz=303,slow=4.9,SNR=9.6								
USRK				LR		LR	07 22 56.7		
	comp=Z,75nm,20.8s,baz=285,slow=39								
JNU	**Nakatsue**	**78.91**	**58**	P		**P**	**06 44 07.3**	**+0.1**	
	comp=Z,13nm,1.0s,baz=280,slow=6.1,SNR=3.9								
MAW	**Mawson**	**80.41**	**174**	P		**P**	**06 44 15.0**	**+0.6**	
	comp=Z,2.4nm,0.8s,baz=303,slow=15,SNR=3.9								
MAW				LR		LR	07 16 21.5		
	comp=Z,284nm,19.0s,baz=52,slow=33								
MAW	**Mawson**	**80.41**	**174**	P		**P**	**06 44 15.0**	**+0.6**	
MAW				pmax	pmax				
	comp=Z,2.0nm,0.8s								
MAW	**Mawson**	**80.41**	**174**	P		**P**	**06 44 15.0**	**+0.6**	
MAT	**Matsushiro**	**84.33**	**54**	P		**P**	**06 44 35.2**	**-0.6**	
MAT				*e*S		**S**	**06 55 01.8**	**+0.4**	
MJAR	**Matsushiro Arr**	**84.33**	**54**	P		**P**	**06 44 35.8**	**0.0**	
	comp=Z,9.4nm,0.9s,baz=274,slow=4.8,SNR=27								
MJAR				LR		LR	07 24 23.1		
	comp=Z,48nm,21.1s,baz=35,slow=37								
MJAR	**Matsushiro Arr**	**84.33**	**54**	P		**P**	**06 44 35.8**	**0.0**	
MJAR				pmax	pmax				
	comp=Z,9.0nm,0.9s								
MJAR				MLR	MLR				
	comp=Z,48nm,21.1s								
SIJI	**Sorong**	**85.16**	**92**	P		**P**	**06 44 39.9**	**-0.6**	
	comp=Z,7.9nm,0.9s,baz=183,slow=5.1,SNR=3.7								
YSS	**Yuzh-Sakhalins**	**85.54**	**43**	*e*P		**P**	**06 44 41.0**	**-0.6**	
SEY	**Seymchan**	**86.43**	**26**	*ce*P		**P**	**06 44 46.5**	**+0.8**	
BILL	**Bilibino**	**89.42**	**19**	*e*P		**P**	**06 45 02.5**	**+2.6**	
BILL				pmax	pmax				
	comp=Z,9.0nm,1.2s								
SNAA	**Sanae**	**89.76**	**194**	LR		LR	07 20 07.3		
	comp=Z,89nm,21.2s,baz=18,slow=32								
WRA	**Warramunga Arr**	**92.16**	**110**	P		**P**	**06 45 13.9**	**+0.3**	
	comp=Z,1.8nm,0.6s,baz=293,slow=3.6,SNR=16								
WRA	**Warramunga Arr**	**92.16**	**110**	P		**P**	**06 45 13.9**	**+0.3**	
WRA				pmax	pmax				
	comp=Z,2.0nm,0.6s								
ASAR	**Alice Springs**	**92.54**	**114**	P		**P**	**06 45 15.7**	**+0.3**	
	comp=Z,2.2nm,0.9s,baz=276,slow=4.4,SNR=12								
ASAR	**Alice Springs**	**92.54**	**114**	P		**P**	**06 45 15.7**	**+0.3**	
ASAR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
PETK	**Petropavlovsk-**	**92.74**	**34**	LR		LR	07 32 28.2		
	comp=Z,63nm,18.2s,baz=305,slow=39								
ILAR	**Eielson Array**	**102.67**	**6**	PP		PP	06 50 16.5	+3.6	
	comp=Z,1.3nm,1.1s,baz=346,slow=7.4,SNR=7.6								
YKA	**Yellowknife Ar**	**104.16**	**351**	PP		PP	06 50 23.3	-0.6	
	comp=Z,0.8nm,0.8s,baz=13,slow=7.4,SNR=4.8								
PDAR	**Pinedale Array**	**121.10**	**339**	PKP		**PKPdf**	**06 50 55.0**	**-1.8**	
	comp=Z,0.6nm,0.6s,baz=68,slow=5.1,SNR=4.9								
PDAR	**Pinedale Array**	**121.10**	**339**	PKIKP		**PKPdf**	**06 50 55.0**	**-1.8**	
TCUT	**Toone Canyon**	**123.19**	**340**	*e*PKIKP		**PKPdf**	**06 51 00.5**	**-0.4**	
TCUT	**Toone Canyon**	**123.19**	**340**	*e*PKPdf		**PKPdf**	**06 51 00.5**	**-0.4**	
CTU	**Camp Tracy**	**123.69**	**340**	*e*PKIKP		**PKPdf**	**06 51 01.4**	**-0.4**	
CTU	**Camp Tracy**	**123.69**	**340**	*e*PKPdf		**PKPdf**	**06 51 01.4**	**-0.4**	
NVAR	**Mina Array Bea**	**127.72**	**345**	PKP		**PKPdf**	**06 51 10.5**	**+0.9**	
	comp=Z,1.8nm,0.8s,baz=351,slow=0.3,SNR=13								
TXAR	**Lajitas Array**	**129.67**	**326**	PKP		**PKPdf**	**06 51 13.2**	**-0.1**	
	comp=Z,0.8nm,0.9s,baz=28,slow=2.1,SNR=9.1								
TXAR	**Lajitas Array**	**129.67**	**326**	PKIKP		**PKPdf**	**06 51 13.3**	**-0.1**	
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.9s								

*IDC **27** 07:08:56.7±2.8, 63°.81S×167°.55W, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/14, mbtmp3.6/5, ML3.6/1, MS3.9/10, Ms1 3.9/10, ms1mx3.7/22, Error ellipse: s-maj=92.1km s-min=26.5km az=60.0*

ISC 27 07:08:59.0±2.6, 64°.0S±0°.3×168°.0W±0°.5, h10km, n16, σ0556/6, mb3.7/4, MS4.0/9, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**16.51**	**203**	Pn		**P**	**P**	**07 12 53.1**	**+0.2**
	0.2nm,0.3s,baz=63,slow=16,SNR=15								
VNDA				LR			LR	07 17 39.2	
	comp=Z,337nm,20.2s,baz=354,slow=31								
RPZ	**Rata Peaks**	**23.53**	**319**	LR			LR	07 20 43.6	
	comp=Z,213nm,19.4s,baz=175,slow=30								
QSPA	**South Pole Qui**	**26.16**	**180**	P			**P**	**07 14 33.4**	**+0.2**
	3.1nm,0.9s,baz=53,slow=2.1,SNR=10								
URZ	**Urewera**	**27.23**	**334**	LR			LR	07 23 49.9	
	comp=Z,102nm,18.0s,baz=166,slow=33								
MAW	**Mawson**	**43.79**	**205**	LR			LR	07 34 11.5	
	comp=Z,177nm,19.9s,baz=233,slow=34								
SNAA	**Sanae**	**44.27**	**173**	P			**P**	**07 17 07.6**	**-0.5**
	0.7nm,0.9s,baz=178,slow=5.3,SNR=5.2								
STKA	**Stephens Creek**	**44.70**	**291**	LR			LR	07 32 25.6	
	comp=Z,178nm,20.9s,baz=201,slow=31								
H01W1	**Cape Leeuwin H**	**54.05**	**263**	T			T	08 17 02.3	
	baz=146,slow=76,SNR=30								
H01W2	**Cape Leeuwin H**	**54.05**	**263**	T			T	08 17 02.3	
	baz=146,slow=76,SNR=27								
H01W3	**Cape Leeuwin H**	**54.06**	**263**	T			T	08 17 02.9	
	baz=146,slow=76,SNR=25								
ASAR	**Alice Springs**	**55.12**	**288**	P			**P**	**07 18 30.9**	**-0.4**
	0.8nm,0.9s,baz=152,slow=6.8,SNR=5.5								
ASAR				LR			LR	07 39 04.3	
	comp=Z,62nm,19.4s,baz=135,slow=33								
WRA	**Warramunga Arr**	**58.25**	**291**	P			**P**	**07 18 53.5**	**0.0**
	0.5nm,0.7s,baz=153,slow=6.1,SNR=3.5								
WRA				LR			LR	07 41 47.0	
	comp=Z,150nm,18.5s,baz=155,slow=34								
JAY	**Jayapura**	**71.65**	**305**	LR			LR	07 49 09.3	
	comp=Z,52nm,18.5s,slow=34								
CPUP	**Villa Florida**	**75.16**	**120**	LR			LR	07 49 26.0	
	comp=Z,133nm,18.4s,baz=198,slow=32								
LEM	**Lembang**	**81.45**	**272**	LR			LR	07 50 11.4	
	comp=Z,77nm,19.6s,baz=173,slow=30								
BRTR	**Keskin Array B**	**152.60**	**218**	PKPbc			**PKPbc**	**07 28 55.6**	**+0.7**
	0.5nm,0.6s,baz=133,slow=3.5,SNR=2.8								

*IDC **27** 07:15:45.6±0.5, 36°.87S×73°.77W, h0km, mb4.7/15, mb1 4.7/19, mb1mx4.7/22, mbtmp4.6/19, ML3.9/3, MS4.2/7, Ms1 4.2/7, ms1mx4.0/14, Error ellipse: s-maj=20.5km s-min=12.7km az=96.0*

*ISCJB **27** 07:15:47.3±0.2, 36°.90S±0°.03×73°.69W±0°.04, h14km, mb4.8/35, MS4.3/5, Error ellipse: s-maj=4.9km s-min=3.8km az=36.5*

*NEIC **27** 07:15:51.5±0.2, 36°.88S×73°.48W, h35km, mb5.0/26, Error ellipse: s-maj=8.2km s-min=6.4km az=71.0*

NEIC Felt at Chillan, Curico, Rengo, Talca and Talcahuano.

*GCMT **27** 07:15:51.5±0.3, 37°.00S×74°.30W, h15km±1km, MW5.0/75, Moment Tensor Solution. s19,c21; s75,c95; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.53±.20; Mθθ-0.00±.10; Mϕϕ-2.53±.14; Mrθ-0.16±.19; Mθϕ-0.22±.07; Mϕr-2.63±.57; Best double couple: Mo3.65900×10^16^ NP1:ϕs184.00000°, δ68.00000°, λ89.00000°. NP2: ϕs6.00000°, δ22.00000°, λ92.00000°. Principal axes: T 3.6500, Plg67.0000°, Azm93.0000°; N 0.0140, Plg1.0000°, Azm184.0000°; P -3.6680, Plg23.0000°, Azm274.0000°; nsta1 refers to body wave waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*GUC **27** 07:15:52.2±0.5, 37°.39S×72°.55W, h131km±5km, ML5.0*

ISC 27 07:15:47.9±0.3, 36°.97S±0°.04×73°.69W±0°.06, h14km, n498, σ1935/519, mb4.9/35, MS4.2/6, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**1.84**	**173**	*e*S			**Sb**	**07 16 43.2**	**-0.9**
PSCH				AML			AML	07 17 01.6	
	comp=N,34μm,0.5s								
LNCH	**Linares**	**2.02**	**57**	*e*P			**Pn**	**07 16 23.0**	**+1.4**
LNCH				*e*S			**Sn**	**07 16 46.5**	**-0.2**
LNCH				AML			AML	07 17 17.0	
	comp=N,7μm,1.2s								
TALC	**Talca**	**2.29**	**47**	*e*P			**Pb**	**07 16 27.7**	**-1.2**
TALC				*e*S			**Sn**	**07 16 55.2**	**+2.0**
TALC				AML			AML	07 17 17.4	
	comp=N,7μm,0.2s								
NICH	**Los Niches**	**2.80**	**46**	*e*P			**Pn**	**07 16 33.9**	**+1.7**
NICH				*e*S			**Sn**	**07 17 06.2**	**+0.4**
NICH				AML			AML	07 17 37.2	
	comp=N,5μm,0.4s								
VLCH	**Valdivia**	**2.85**	**173**	*e*P			**Pn**	**07 16 32.6**	**-0.3**
VLCH				*e*S			**Sn**	**07 17 03.0**	**-4.0**
CLCH	**Cerro Calan**	**4.40**	**37**	*e*S			**Sn**	**07 17 46.1**	**+0.6**
CLCH				AML			AML	07 18 28.5	
	comp=N,2μm,1.0s								
PEL	**Peldehue**	**4.54**	**34**	*e*S			**Sn**	**07 17 50.8**	**+1.9**
PEL				AML			AML	07 18 22.7	
	comp=E,1μm,0.8s								
CFAA	**Coronel Fontan**	**7.00**	**42**	Pn			**Pn**	**07 17 29.8**	**-0.2**
	comp=E,0.9nm,0.3s,baz=213,slow=12,SNR=175								
CFAA				Sn			**Sn**	**07 18 50.8**	**+1.3**
	comp=E,0.4nm,0.3s,baz=20,slow=15,SNR=2.7								
CFAA				Lg			Lg	07 19 16.9	
	comp=E,0.1nm,0.3s,baz=137,slow=20,SNR=3.5								
CFAA				LR			LR	07 20 31.2	
	comp=E,339nm,19.8s,baz=228,slow=41								
CFAA	**Coronel Fontan**	**7.00**	**42**	Pn			**Pn**	**07 17 29.8**	**-0.2**
CFAA				Sn			**Sn**	**07 18 50.8**	**+1.3**
CFAA				Lg			Lg	07 19 16.9	
LCO	**Las Campanas**	**8.33**	**18**	*e*Pn			**Pn**	**07 17 46.1**	**-2.3**
TRQA	**Tornquist**	**9.37**	**100**	*e*Pn			**Pn**	**07 18 00.8**	**-1.6**
LVC	**Limon Verde**	**14.90**	**17**	Pn			**Pn**	**07 19 17.1**	**-1.3**
	comp=E,24nm,0.3s,baz=200,slow=3.7,SNR=11								
LVC	**Limon Verde**	**14.90**	**17**	*e*Pn			**Pn**	**07 19 17.4**	**-0.9**
CPUP	**Villa Florida**	**17.48**	**57**	P			**Pn**	**07 19 50.7**	**-0.5**
	comp=E,0.2nm,0.3s,baz=236,slow=11,SNR=12								
CPUP				LR			LR	07 27 48.2	
	comp=E,2μm,18.4s,baz=236,slow=41								
CPUP	**Villa Florida**	**17.48**	**57**	*e*Pn			**Pn**	**07 19 50.2**	**-1.1**
USHA	**Ushuaia**	**18.22**	**170**	P			**P**	**07 20 02.4**	**+2.0**
	comp=E,0.5nm,0.3s,baz=336,slow=5.6,SNR=5.1								
USHA	**Ushuaia**	**18.22**	**170**	P			**P**	**07 20 02.4**	**+2.0**
EFI	**East Falkland**	**18.41**	**148**	Pn			**Pn**	**07 20 05.2**	**+2.7**
	comp=E,676nm,0.6s,SNR=6.3								
EFI	**East Falkland**	**18.41**	**148**	*e*P			**Pn**	**07 20 04.8**	**+2.4**
	comp=E,87nm,0.8s								
LPAZ	**La Paz**	**21.18**	**15**	P			**P**	**07 20 33.5**	**-0.1**
	comp=E,29nm,1.1s,baz=182,slow=7.1,SNR=47								
LPAZ	**La Paz**	**21.18**	**15**	*e*P			**P**	**07 20 34.6**	**+1.1**
	comp=E,82nm,1.4s								
SIV	**San Ignacio**	**23.71**	**32**	P			**P**	**07 20 58.7**	**-0.8**
	comp=E,26nm,0.9s,baz=230,slow=13,SNR=53								
SIV	**San Ignacio**	**23.71**	**32**	P			**P**	**07 20 58.7**	**-0.8**
SAML	**Samuel**	**29.48**	**21**	*e*P			**P**	**07 21 51.4**	**-0.2**
	comp=E,38nm,1.6s								
BDFB	**Brasilia**	**31.15**	**54**	P			**P**	**07 22 05.6**	**-0.9**
	comp=E,12nm,1.0s,baz=216,slow=8.7,SNR=11								
BDFB				LR			LR	07 35 18.1	
	comp=E,282nm,19.2s,baz=226,slow=38								
BDFB	**Brasilia**	**31.15**	**54**	P			**P**	**07 22 05.6**	**-0.9**
OTAV	**Otavalo**	**37.29**	**352**	*e*P			**P**	**07 22 59.9**	**-0.1**
	comp=E,14nm,1.1s								
PTGA	**Pitinga**	**38.23**	**23**	*e*P			**P**	**07 23 06.9**	**-0.6**
	comp=E,48nm,1.3s								
ROSC	**El Rosal**	**41.62**	**359**	P			**P**	**07 23 35.8**	**-0.2**
	comp=E,2.6nm,0.4s,baz=280,slow=3.7,SNR=4.1								
ROSC	**El Rosal**	**41.62**	**359**	*e*P			**P**	**07 23 38.0**	**+1.9**
SDV	**Santo Domingo**	**45.70**	**4**	*e*P			**P**	**07 24 07.9**	**-0.8**
	comp=E,14nm,0.9s								
VNA1	**Neumayer--Stat**	**47.50**	**156**	P			**P**	**07 24 24.0**	**+2.0**
VNA2	**Neumayer--Watz**	**47.82**	**156**	P			**P**	**07 24 26.2**	**+1.7**
	baz=285,slow=8.2								
SNAA	**Sanae**	**49.37**	**157**	P			**P**	**07 24 34.1**	**-2.4**
SNAA	**Sanae**	**49.37**	**157**	P			**P**	**07 24 37.7**	**+1.2**
	comp=E,6.8nm,0.9s,baz=278,slow=6.9,SNR=52								
SNAA	**Sanae**	**49.37**	**157**	*e*P			**P**	**07 24 33.8**	**-2.7**
	comp=E,26nm,1.0s								
GRGR	**Grenville**	**50.14**	**15**	*e*P			**P**	**07 24 44.0**	**+1.1**
	comp=E,33nm,0.7s								
QSPA	**South Pole Qui**	**53.27**	**180**	P			**P**	**07 25 06.8**	**+0.9**
	comp=E,10.0nm,0.9s,baz=138,slow=2.4,SNR=25								
QSPA	**South Pole Qui**	**53.27**	**180**	*e*P			**P**	**07 25 06.8**	**+0.9**
	comp=E,16nm,0.9s								
RKT	**Rikitea**	**53.98**	**267**	*e*S			**S**	**07 32 48.3**	**+1.3**
	comp=E,211nm,27.8s								
RKT				eLR			LR	07 40 54.4	
	comp=E,484nm,28.8s								
RKT	**Rikitea**	**53.98**	**267**	*e*T			T	08 23 14.4	
	comp=E,1.6nm,0.3s								
OBIP	**Obispado Ponce**	**55.12**	**8**	*e*P			**P**	**07 25 18.5**	**-1.2**
	comp=E,20nm,0.8s								
CELP	**Cerrillos**	**55.16**	**8**	*e*P			**P**	**07 25 19.8**	**-0.1**
SJG	**San Juan**	**55.25**	**9**	*e*P			**P**	**07 25 18.7**	**-1.9**
	comp=E,64nm,0.8s								
SBA	**Scott Base**	**59.90**	**192**	*e*P			P	07 25 58.2	+5.5
	comp=E,12nm,1.3s								
VNDA	**Vanda**	**60.93**	**192**	P			**P**	**07 26 01.0**	**+1.3**
	comp=E,1.0nm,0.9s,baz=137,slow=5.6,SNR=5.5								
VNDA	**Vanda**	**60.93**	**192**	*e*P			**P**	**07 26 02.6**	**+2.9**
	comp=E,75nm,3.0s								
SYO	**Syowa Base**	**63.60**	**158**	‖*e*P			**P**	**07 26 16.6**	**-1.1**
SYO	**Syowa Base**	**63.60**	**158**	‖*e*pP			pP	07 26 26.5	+4.2
TBI	**Tubuai**	**65.36**	**259**	*e*S			**S**	**07 35 14.4**	**+0.6**
	comp=E,261nm,27.2s								
TBI	**Tubuai**	**65.36**	**259**	*e*LR			LR	07 46 07.9	
	comp=E,522nm,27.0s								
035A	**Encino**	**67.59**	**336**	P			**P**	**07 26 45.1**	**+1.2**
	baz=68								
034A	**Hebbronville**	**67.90**	**336**	P			**P**	**07 26 46.8**	**+0.9**
	baz=68								
934A	**Benavides**	**68.34**	**336**	P			**P**	**07 26 49.3**	**+0.7**
	baz=69								
PPT2	**Papeete2**	**68.52**	**264**	*e*S			**S**	**07 35 53.4**	**+1.1**
	comp=E,122nm,23.2s								
PPT2	**Papeete2**	**68.52**	**264**	*e*LR			LR	07 47 31.1	
	comp=E,527nm,24.8s								
933A	**Laredo**	**68.60**	**336**	P			**P**	**07 26 51.3**	**+1.0**
	baz=69								
835A	**Beeville**	**68.76**	**337**	P			**P**	**07 26 52.6**	**+1.3**
	baz=69								
834A	**Tilden**	**68.84**	**337**	P			**P**	**07 26 53.1**	**+1.3**
	baz=69								
736A	**Circle Diamond**	**69.16**	**338**	P			**P**	**07 26 55.7**	**+2.0**
	baz=70								
735A	**Kenedy**	**69.29**	**337**	P			**P**	**07 26 56.4**	**+1.9**
	baz=70								
833A	**Chaparral WMA,**	**69.30**	**336**	P			**P**	**07 26 55.3**	**+0.7**
	baz=70,SNR=13								
832A	**Faith Ranch, C**	**69.45**	**335**	P			**P**	**07 26 57.4**	**+1.8**
	baz=70								
539A	**Cross D Ranch,**	**69.58**	**341**	P			**P**	**07 26 58.2**	**+1.9**
	baz=70								
636A	**Smothers Creek**	**69.65**	**338**	P			**P**	**07 26 57.3**	**+0.6**
	baz=70								
635A	**Leesville**	**69.77**	**338**	P			**P**	**07 26 57.8**	**+0.3**
	baz=70								
732A	**Laxson Ranch,**	**69.86**	**336**	P			**P**	**07 26 58.0**	**-0.1**
	baz=70,SNR=16								
633A	**Saathoff Ranch**	**70.28**	**337**	P			**P**	**07 27 00.8**	**+0.2**
	baz=71								
632A	**Uvalde**	**70.52**	**336**	P			**P**	**07 27 02.8**	**+0.7**
	baz=71,SNR=6.5								
534A	**Blanco**	**70.59**	**337**	P			**P**	**07 27 04.0**	**+1.5**
	baz=71								
340A	**Bronson**	**70.61**	**342**	P			**P**	**07 27 02.7**	**+0.1**
	baz=71								
GOGA	**Godfrey**	**70.61**	**351**	*e*P			**P**	**07 27 01.5**	**-1.1**
631A	**Perdido Creek**	**70.69**	**335**	P			**P**	**07 27 03.3**	**+0.2**
	baz=71,SNR=8.4								
339A	**Huntington**	**70.70**	**341**	P			**P**	**07 27 04.0**	**+0.9**
	baz=71								
MAW	**Mawson**	**70.71**	**164**	P			**P**	**07 27 03.7**	**+0.8**
	comp=E,7.9nm,0.9s,baz=205,slow=5.6,SNR=13								
MAW				LR			LR	07 59 31.6	
	comp=E,568nm,18.0s,baz=236,slow=37								
MAW	**Mawson**	**70.71**	**164**	*e*P			**P**	**07 27 04.0**	**+1.2**
LRAL	**Lakeview Retre**	**70.75**	**348**	*e*P			**P**	**07 27 02.5**	**-0.9**
436A	**Wall Ranch, Ga**	**70.78**	**339**	P			**P**	**07 27 05.4**	**+1.8**
	baz=71								
533A	**Kerrville**	**70.80**	**337**	P			**P**	**07 27 04.1**	**+0.3**
	baz=71,SNR=5.6								
338A	**Crockett**	**70.92**	**341**	P			**P**	**07 27 04.9**	**+0.4**
	baz=71								
337A	**Centerville**	**71.04**	**340**	P			**P**	**07 27 05.6**	**+0.4**
	baz=71								
532A	**Rocksprings**	**71.13**	**336**	P			**P**	**07 27 05.7**	**-0.1**
	baz=71,SNR=19								
NATX	**Nacogdoches**	**71.14**	**341**	P			**P**	**07 27 05.7**	**-0.1**
	comp=E,8.2nm,0.5s								
434A	**Burnet**	**71.26**	**338**	P			**P**	**07 27 06.9**	**+0.3**
	baz=72,SNR=12								
239A	**Gary**	**71.33**	**341**	P			**P**	**07 27 07.5**	**+0.5**
	baz=72								
531A	**Rocksprings**	**71.38**	**336**	P			**P**	**07 27 07.2**	**-0.1**
	baz=72,SNR=11								
JCT	**Junction City**	**71.42**	**336**	P			**P**	**07 27 07.5**	**-0.1**
	baz=72,SNR=5.4								
JCT	**Junction City**	**71.42**	**336**	*e*P			**P**	**07 27 07.2**	**-0.5**
335A	**Moody**	**71.44**	**339**	P			**P**	**07 27 08.7**	**+1.0**
	baz=72								
433A	**Art**	**71.45**	**337**	P			**P**	**07 27 08.1**	**+0.3**
	baz=72,SNR=12								
530A	**J-C Ranch, Com**	**71.63**	**335**	P			**P**	**07 27 09.6**	**+0.8**
	baz=72,SNR=17								
TXAR	**Lajitas Array**	**71.71**	**333**	P			**P**	**07 27 09.0**	**-0.4**
	comp=E,5.1nm,0.7s,baz=153,slow=8.5,SNR=60								
TXAR				LR			LR	07 52 59.0	
	comp=E,126nm,20.7s,baz=0.0,slow=31								
TXAR	**Lajitas Array**	**71.71**	**333**	P			**P**	**07 27 09.0**	**-0.4**
334A	**Lometa**	**71.73**	**338**	P			**P**	**07 27 09.6**	**+0.2**
	baz=72,SNR=15								
432A	**Menard**	**71.79**	**337**	P			**P**	**07 27 10.0**	**+0.1**
	baz=72								
236A	**Katherine and**	**71.86**	**340**	P			**P**	**07 27 10.7**	**+0.5**
	baz=72								
431A	**Sonora**	**71.87**	**336**	P			**P**	**07 27 10.9**	**+0.5**
	baz=72,SNR=6.1								
529A	**Stev Forest Ra**	**71.91**	**334**	P			**P**	**07 27 10.9**	**+0.4**
	baz=72								
139A	**Bunkhouse Ranc**	**71.94**	**342**	P			**P**	**07 27 11.3**	**+0.7**
	baz=72								
333A	**Richland Sprin**	**71.95**	**337**	P			**P**	**07 27 12.1**	**+1.3**
	baz=72								
KMSC	**Kings Mountain**	**72.10**	**353**	*e*P			**P**	**07 27 10.7**	**-0.9**
138A	**Matatall Enter**	**72.10**	**341**	P			**P**	**07 27 12.7**	**+1.2**
	baz=72								
WHTX	**Lake Whitney,**	**72.12**	**339**	P			**P**	**07 27 12.6**	**+0.8**
	baz=72								
WHTX	**Lake Whitney,**	**72.12**	**339**	*e*P			**P**	**07 27 12.5**	**+0.8**
430A	**Baggett Ranch,**	**72.18**	**335**	P			**P**	**07 27 11.8**	**-0.4**
	baz=72,SNR=15								
137A	**Heron Place, G**	**72.22**	**341**	P			**P**	**07 27 12.7**	**+0.4**
	baz=72								
332A	**Millersview**	**72.24**	**337**	P			**P**	**07 27 13.7**	**+1.2**
	baz

Y31A Rekieta Farm, 74.79 337 P P 07 27 28.1 +0.6
baz=75
X33A Lawton 74.81 339 P P 07 27 28.3 +0.8
baz=75
Z28A Tucker Farm, M 74.86 335 P P 07 27 27.8 -0.2
baz=75
Y30A Stafford Cattl 74.91 337 P P 07 27 28.0 -0.2
baz=75
X32A Elmer 74.92 338 P P 07 27 27.9 -0.3
baz=75
W35A Tecumseh 74.93 340 P P 07 27 27.1 -1.1
baz=75
V38A Canehill 74.98 343 P P 07 27 27.6 -0.9
baz=75
PBMO Poplar Bluff 75.00 346 eP P 07 27 27.4 -1.1
WMOK Wichita Mounta 75.07 339 eP P 07 27 28.9 -0.1
Y29A Porterfield Fa 75.14 336 P P 07 27 29.6 0.0
baz=76
V37A Hulbert 75.18 342 P P 07 27 30.8 +1.2
baz=76
W34A Bridge Creek, 75.25 340 P P 07 27 31.2 +1.1
baz=76
W34A Bridge Creek, 75.25 340 eP P 07 27 31.7 +1.6
V36A Jenks 75.28 341 P P 07 27 31.0 +0.8
baz=76
X31A McDonald Ranch 75.33 338 P P 07 27 31.5 +0.9
baz=76
TUL1 Leonard 75.36 342 P P 07 27 31.4 +0.8
baz=76
TUL1 Leonard 75.36 342 eP P 07 27 29.7 -1.0
W33A Caddo, Fort Co 75.37 339 P P 07 27 31.6 +0.8
baz=76
Y28A McKinney Farm, 75.38 336 P P 07 27 31.9 +1.0
baz=76
X30A Coker Ranch, T 75.43 337 P P 07 27 32.8 +1.7
baz=76
V35A Meyer Ranch, C 75.50 341 P P 07 27 31.8 +0.4
baz=76
W32A Sentinel 75.57 339 P P 07 27 32.5 +0.7
baz=76,SNR=10
MSTX Muleshoe 75.61 335 P P 07 27 32.7 +0.5
baz=76
MSTX Muleshoe 75.61 335 eP P 07 27 31.8 -0.5
USIN University of 75.68 349 eP P 07 27 34.7 +2.3
X29A Tulia 75.69 336 P P 07 27 33.4 +0.7
baz=76
WCI Wyandotte Cave 75.73 350 eP P 07 27 34.8 +2.1
V34A Guthrie 75.75 340 P P 07 27 33.6 +0.7
baz=76
V34A Guthrie 75.75 340 eP P 07 27 33.1 +0.2
W31A Holland Ranch, 75.83 338 P P 07 27 34.5 +1.0
baz=76
X28A Dimmitt 75.92 336 P P 07 27 35.1 +1.1
baz=76
V33A Lossen Ranch, 75.94 340 P P 07 27 35.5 +1.4
baz=76
U35A Pawnee 76.04 341 P P 07 27 35.1 +0.6
baz=76
V32A Arapaho 76.06 339 P P 07 27 36.4 +1.7
baz=76
AMTX Amarillo 76.09 337 P P 07 27 35.9 +0.9
baz=76
AMTX Amarillo 76.09 337 eP P 07 27 36.0 +0.9
121A Cookes Peak, D 76.13 331 P P 07 27 36.6 +1.2
baz=76
121A Cookes Peak, D 76.13 331 eP P 07 27 36.0 +0.6
comp=E,5.2nm,0.8s
W29A Amarillo 76.30 337 P P 07 27 36.8 +0.7
baz=77
T37A Cheneyville 18 76.30 343 P P 07 27 37.0 +1.0
baz=77
U34A Anderson Ranch 76.32 340 P P 07 27 38.0 +1.9
baz=77
V31A Spring Creek L 76.35 338 P P 07 27 37.8 +1.5
baz=77
T36A Boggs Farm, Ca 76.48 342 P P 07 27 37.3 +0.3
baz=77
T35A Sooner Cattle 76.50 341 P P 07 27 38.4 +1.3
baz=77
V30A Spur Ranch, Mi 76.59 338 P P 07 27 38.6 +0.8
baz=77
U32A Winter Ranch, 76.67 339 P P 07 27 38.2 +0.1
baz=77
BLO Bloomington 76.69 350 eP P 07 27 36.7 -1.4
SLM Saint Louis 76.77 347 eP P 07 27 37.5 -1.0
comp=E,14nm,0.4s
T34A McClaskey Farm 76.78 341 P P 07 27 38.9 +0.2
baz=77
U31A Nine Bar Ranch 76.90 339 P P 07 27 39.8 +0.3
baz=77
V29A Stinnett 76.95 337 P P 07 27 39.1 -0.7
baz=77
S36A Lake Cedric, C 77.04 342 P P 07 27 40.0 -0.1
baz=77
V28A Channing 77.06 337 P P 07 27 39.6 -0.9
baz=77
BNM Barren Site 77.13 332 eP P 07 27 44.2 +3.1
TUC Tucson 77.15 328 eP P 07 27 41.7 +0.6
S35A Otter Creek Ra 77.18 342 P P 07 27 43.4 +2.4
baz=78
TIC Toumodi 77.26 72 eP P 07 27 42.9 +0.9
KIC Kosan Boka 77.29 72 eP P 07 27 42.8 +0.6
U30A WK&E Inc. Balk 77.29 338 P P 07 27 43.5 +1.8
baz=78
ACSO Alum Creek Sta 77.30 353 eP P 07 27 40.6 -1.0
SSPA Standing Stone 77.33 357 eP P 07 27 41.3 -0.4
DBIC Dimbokro 77.40 72 P P 07 27 43.8 +1.1
comp=E,18nm,0.7s,baz=200,slow=5.6,SNR=24
DBIC LR LR 07 58 49.2
comp=E,106nm,20.9s,baz=214,slow=33
DBIC Dimbokro 77.40 72 eP P 07 27 44.2 +1.4
DBIC ePcP PcP 07 27 50.8 -2.5
R37A Teagarden Farm 77.42 343 P P 07 27 44.5 +2.3
baz=78
LAZ Ladron 77.54 332 eP P 07 27 44.5 +1.1
R36A Gordon, Harris 77.58 343 P P 07 27 46.3 +3.1
baz=78
214A Organ Pipe Nat 77.72 327 P P 07 27 45.4 +1.2
baz=78
214A Organ Pipe Nat 77.72 327 eP P 07 27 44.2 0.0
comp=E,5.1nm,0.8s
ANMO Albuquerque 77.78 333 eP P 07 27 44.7 +0.1
U27A Thompson Grove 77.86 336 P P 07 27 45.4 +0.4
baz=78
S32A Newby Ranch, P 77.88 340 P P 07 27 46.0 +1.0
baz=78
SFIN Lafayette 77.95 350 P P 07 27 47.1 +1.9
baz=78
S31A Mullinville 77.96 339 P P 07 27 46.3 +0.9
baz=78
R34A Isabella, Hill 78.00 341 P P 07 27 46.6 +1.1
baz=78
Q36A Arnold C. Orve 78.18 343 P P 07 27 47.9 +1.4
baz=78
Q35A Mercer Eighty, 78.22 342 P P 07 27 47.9 +1.2
baz=78
S30A Montezuma 78.26 339 P P 07 27 47.8 +0.7
baz=79
T28A Walsh 78.28 337 P P 07 27 47.8 +0.6
baz=79,SNR=14
T27A Campo 78.42 337 P P 07 27 48.7 +0.6
baz=79
S29A Ulysses 78.44 338 P P 07 27 49.4 +1.3
baz=79
HDIL Hopedale 78.47 348 P P 07 27 49.3 +1.2
baz=79
HDIL Hopedale 78.47 348 eP P 07 27 47.1 -1.0
R32A Long Quarter, 78.50 340 P P 07 27 49.7 +1.4
baz=79
Q34A Chapman 78.50 342 P P 07 27 49.4 +1.1
baz=79
KSU1 Kansas State U 78.59 342 P P 07 27 49.9 +1.1
baz=79
R31A Burdett 78.60 340 P P 07 27 50.2 +1.3
baz=79
S28A Manter 78.65 337 P P 07 27 49.9 +0.7
baz=79
P36A Good Intent, A 78.75 343 P P 07 27 50.7 +1.1
baz=79
T26A Comanche Natio 78.80 336 P P 07 27 51.7 +1.5
baz=79,SNR=9.1
Q33A Connelly Farm, 78.81 341 P P 07 27 51.5 +1.5
baz=79
R30A Dighton 78.81 339 P P 07 27 51.6 +1.6
baz=79
P35A Duane Minner, 78.85 343 P P 07 27 51.0 +0.7
baz=79

QUA2 Belchertown 78.88 1 eP P 07 27 50.5 +0.2
T25A Trinidad 79.04 335 P P 07 27 52.7 +1.1
baz=79,SNR=18
T25A Trinidad 79.04 335 eP P 07 27 52.0 +0.5
S27A Las Animas 79.04 337 P P 07 27 53.2 +1.7
baz=79
P34A Walnut Farm, R 79.07 342 P P 07 27 53.0 +1.6
baz=79
HRV Adam Dziewonsk 79.13 2 eP P 07 27 52.7 +1.1
CBKS Cedar Bluff 79.15 340 P P 07 27 53.7 +1.8
baz=80
S26A Kim 79.17 336 P P 07 27 52.8 +0.6
baz=80,SNR=20
W18A Petrified Fore 79.17 331 P P 07 27 53.2 +0.9
baz=80
R29A Marienthal 79.19 338 P P 07 27 53.8 +1.6
baz=80
Q31A Ellis 79.23 340 P P 07 27 52.8 +0.4
baz=80
R28A Tribune 79.31 338 P P 07 27 53.8 +0.9
baz=80
TRY Troy 79.33 0 eP P 07 27 52.7 0.0
AAM Ann Arbor 79.42 352 eP P 07 27 51.7 -1.5
comp=E,10.0nm,0.6s
MMNY Mt. Morris Dam 79.42 357 eP P 07 27 52.8 -0.5
Q30A Quinter 79.44 339 P P 07 27 54.2 +0.7
baz=80,SNR=8.4
GLA Glamis 79.54 326 P P 07 27 55.6 +1.4
baz=80
R27A Eads 79.56 337 P P 07 27 53.9 -0.3
baz=80,SNR=12
O34A Beatrice 79.64 342 P P 07 27 56.3 +1.8
baz=80
TSUM Tsumeb 79.69 106 eP P 07 27 57.6 +2.0
P31A Stockton 79.71 340 P P 07 27 56.5 +1.6
baz=80
R26A Arlington 79.78 337 P P 07 27 56.9 +1.5
baz=80,SNR=12
BOSA Boshof 79.87 118 P P 07 27 57.1 +0.7
comp=E,16nm,1.1s,baz=137,slow=3.0,SNR=7.1
BOSA Boshof 79.87 118 eP P 07 27 57.1 +0.6
SDCO Great Sand Dun 79.95 335 P P 07 27 57.9 +1.3
baz=80,SNR=11
SDCO Great Sand Dun 79.95 335 eP P 07 27 56.6 0.0
P30A Selden 79.97 339 P P 07 27 58.4 +2.0
baz=80
ACCN Adirondack Com 79.98 0 eP P 07 27 56.3 0.0
Y12C Blythe 80.00 326 P P 07 27 58.5 +1.9
baz=80
WUAZ Wupatki 80.17 330 P P 07 27 59.4 +1.6
baz=80
WUAZ Wupatki 80.17 330 eP P 07 27 59.3 +1.6
P29A Atwood 80.22 339 P P 07 27 59.0 +1.2
baz=80
O31A Woolen Ranch, 80.28 340 P P 07 27 59.8 +1.8
baz=81
BC3 Big Chuckawall 80.33 326 P P 07 28 00.1 +1.6
baz=81
Q26A Hugo 80.37 337 P P 07 28 00.7 +2.0
baz=81
S22A 4UR Ranch, Cre 80.41 334 P P 07 28 00.6 +1.5
baz=81
S22A 4UR Ranch, Cre 80.41 334 eP P 07 27 59.5 +0.3
P28A Saint Francis 80.43 338 P P 07 28 01.2 +2.3
baz=81
109C Camp Elliot, M 80.45 324 P P 07 28 00.7 +1.6
baz=81
O30A MW Ranch, Wils 80.51 340 P P 07 28 00.9 +1.7
baz=81
MVCO Mesa Verde 80.54 332 P P 07 28 01.3 +1.6
baz=81
MVCO Mesa Verde 80.54 332 eP P 07 28 00.2 +0.5
MDV Middlebury 80.60 0 eP P 07 27 59.3 -0.3
IRM Iron Mountain 80.62 326 P P 07 28 01.4 +1.4
baz=81
P27A Ficken Ranch, 80.66 338 P P 07 28 02.3 +2.1
baz=81
O29A 4D Ranch, Culb 80.67 339 P P 07 28 02.2 +2.1
baz=81
PFO Pinyon Flats O 80.75 325 P P 07 28 02.7 +1.9
baz=81
PFO Pinyon Flats O 80.75 325 eP P 07 28 02.2 +1.4
BELC Belle Mtn. Jos 80.87 326 P P 07 28 03.4 +1.9
baz=81
P26A Davis Ranch, A 80.90 337 P P 07 28 03.1 +1.6
baz=81
JFWS Jewell Farm 80.93 348 eP P 07 28 04.3 +2.9
Q24A Divide 80.94 336 P P 07 28 03.6 +1.7
baz=81,SNR=7.7
Q24A Divide 80.94 336 eP P 07 28 02.1 +0.2
MURC Murrieta 81.09 324 P P 07 28 03.6 +1.1
baz=81
PTN Potsdam (NY) 81.17 359 eP P 07 28 02.9 +0.3
LONY Lake Ozonia 81.22 359 eP P 07 28 02.7 -0.2
M31A Lambtecht Ranc 81.31 341 P P 07 28 04.8 +1.3
baz=82
GMRC Granite Mounta 81.37 326 P P 07 28 05.2 +1.1
baz=82
PV01 Paradox Valley 81.38 333 eP P 07 28 04.8 +0.6
BBRC Big Bear Solar 81.51 325 P P 07 28 06.4 +1.4
baz=82
O26A Horse Wrangler 81.52 338 P P 07 28 05.4 +0.6
baz=82,SNR=6.5
PV05 Paradox Valley 81.53 332 eP P 07 28 06.0 +1.0
HEC Hector,Ludlow 81.71 326 P P 07 28 07.9 +2.0
baz=82
PV04 Paradox Valley 81.73 333 eP P 07 28 08.7 +2.7
SMCO Snowmass 81.75 334 eP P 07 28 06.8 +0.4
PV10 Paradox Valley 81.77 333 eP P 07 28 06.5 +0.3
N27A Anderson Farm, 81.80 338 P P 07 28 07.6 +1.4
baz=82
ISCO Idaho Springs 81.84 336 P P 07 28 08.4 +1.7
baz=82
ISCO Idaho Springs 81.84 336 eP P 07 28 06.8 +0.1
M29A Burnside Ranch 81.86 340 P P 07 28 08.3 +1.9
baz=82
PV09 Paradox Valley 81.91 333 eP P 07 28 08.0 +0.9
TUQ Turquoise Moun 82.04 326 P P 07 28 09.2 +1.6
baz=82
L31A Butterfield Fa 82.05 341 P P 07 28 09.4 +2.0
baz=82
KNB Kanab 82.05 329 eP P 07 28 08.8 +1.1
RRX Edison Barstow 82.06 325 P P 07 28 09.5 +2.0
baz=82
LBTB Lobatse 82.27 115 eP P 07 28 10.4 +1.1
GSC Goldstone, Bar 82.32 326 P P 07 28 10.7 +1.7
baz=83
EDW2 Edwards Air Fo 82.51 325 P P 07 28 11.5 +1.5
baz=83
SHPR Sheep Range 82.60 327 eP P 07 28 11.2 +0.6
K30A Basset 82.72 341 P P 07 28 12.5 +1.6
baz=83
CCUT Cedar City 82.73 329 eP P 07 28 12.4 +1.1
LRMC Laurel Mtn Rad 82.87 325 P P 07 28 13.4 +1.5
baz=83
N23A Red Feather La 82.94 336 P P 07 28 13.7 +1.3
baz=83
N23A Red Feather La 82.94 336 eP P 07 28 13.8 +1.5
SRU San Rafael Swe 82.97 332 eP P 07 28 12.7 +0.2
ECSD EROS Data Cent 82.98 343 P P 07 28 11.6 -0.6
baz=83,SNR=15
ECSD EROS Data Cent 82.98 343 eP P 07 28 11.3 -0.9
O20A White River Ci 83.04 334 P P 07 28 13.1 +0.3
baz=83
O20A White River Ci 83.04 334 eP P 07 28 12.8 0.0
MSU Marysvale 83.08 331 eP P 07 28 13.5 +0.4
MVU Marysvale 83.09 331 eP P 07 28 14.2 +1.0
PHWY Pilot Hill 83.15 336 eP P 07 28 17.2 +3.7
K28A Ten Mile Ranch 83.22 340 P P 07 28 14.4 +0.9
baz=84
MPMC Manual Prospec 83.26 326 P P 07 28 15.0 +1.0
baz=84
FURC Furnace Creek, 83.32 326 P P 07 28 15.3 +1.3
baz=84
ISA Isabella, Lake 83.38 325 P P 07 28 16.1 +1.6
baz=84
ISA Isabella, Lake 83.38 325 eP P 07 28 16.4 +1.8
PKM Mcpherson Peak 83.39 323 P P 07 28 15.7 +1.0
baz=84
TMUT Trail Mountain 83.39 332 eP P 07 28 17.8 +3.0
TPNV Topopah Spring 83.45 327 P P 07 28 16.2 +1.3
baz=84
TPNV Topopah Spring 83.45 327 eP P 07 28 16.0 +1.1
DAC Darwin (Calif) 83.48 326 eP P 07 28 16.2 +1.0
J29A Okreek 83.59 341 P P 07 28 16.3 +1.0
baz=84

SPMN Marine on St. 83.62 347 eP P 07 28 14.0 -1.4
K26A Motz Farm, Whi 83.73 339 P P 07 28 17.6 +1.5
baz=84
VES Vestal, Richgr 83.81 324 P P 07 28 17.7 +1.1
baz=84
I30A Oacoma 83.83 342 P P 07 28 18.5 +1.9
baz=84
J28A Allard Ranch, 83.85 340 P P 07 28 18.2 +1.5
baz=84
J27A Elkhorn Farm, 83.90 340 P P 07 28 18.5 +1.5
baz=84
RWWY Rawlins 84.07 335 P P 07 28 17.8 -0.4
comp=E,13nm,1.2s
MPU Maple Canyon 84.17 332 eP P 07 28 18.4 -0.3
comp=E,32nm,1.0s
J26A Sides Ranch, S 84.26 339 P P 07 28 20.3 +1.5
baz=85
NLU North Lily Min 84.29 331 eP P 07 28 20.9 +1.6
comp=E,2.3nm,0.8s
R11A Troy Canyon, C 84.34 328 P P 07 28 21.0 +1.5
baz=85
R11A Troy Canyon, C 84.34 328 eP P 07 28 19.6 +0.1
comp=E,4.7nm,1.0s
I28A Midland 84.36 340 P P 07 28 20.8 +1.5
baz=85
JLU Jordanelle 84.61 332 eP P 07 28 21.0 +0.1
comp=E,2.3nm,0.4s
H29A Onida 84.70 341 P P 07 28 22.8 +1.8
baz=85
K22A Casper 84.71 336 P P 07 28 22.4 +1.1
baz=85
K22A Casper 84.71 336 eP P 07 28 21.2 0.0
J24A Dixon Ranch, L 84.75 338 P P 07 28 22.7 +1.4
baz=85
DUG Dugway, Tooele 84.78 331 P P 07 28 22.8 +1.2
baz=85
DUG Dugway, Tooele 84.78 331 eP P 07 28 21.9 +0.3
TPH Tonopah 84.81 327 eP P 07 28 22.3 +0.4
H28A Mission Ridge 84.95 341 P P 07 28 23.8 +1.6
baz=85
J23A Dilts Ranch, B 85.08 337 P P 07 28 24.3 +1.2
baz=85
I25A Rochford 85.10 339 P P 07 28 24.0 +0.9
baz=85
RSSD Black Hills 85.28 339 eP P 07 28 23.6 -0.6
G28A Parade 85.30 341 P P 07 28 25.0 +1.1
baz=86
HWUT Hardware Ranch 85.53 332 eP P 07 28 25.2 -0.2
NVAR Mina Array Bea 85.58 326 P P 07 28 26.1 +0.3
comp=E,2.3nm,0.7s,baz=154,slow=6.1,SNR=22
NVAR Mina Array Bea 85.58 326 P P 07 28 26.1 +0.3
BW06 Boulder Array 85.83 334 eP P 07 28 27.8 +0.8
PDAR Pinedale Array 85.83 334 P P 07 28 26.3 -0.6
comp=E,3.5nm,1.0s,baz=143,slow=4.5,SNR=14
PDAR Pinedale Array 85.83 334 P P 07 28 26.3 -0.6
G27A Dupree 85.85 340 P P 07 28 27.4 +0.7
baz=86
J20A Shoshoni 85.85 336 P P 07 28 27.4 +0.5
baz=86
G26A Maurine 85.95 340 P P 07 28 27.9 +0.7
baz=86,SNR=6.9
I21A Big Trails, Te 86.00 336 P P 07 28 28.1 +0.4
baz=86
H24A Dirks Ranch, A 86.00 339 P P 07 28 28.2 +0.6
baz=86
G25A Newell 86.08 339 P P 07 28 28.6 +0.7
baz=86,SNR=8.9
J19A Crowheart 86.09 335 P P 07 28 29.6 +1.5
baz=86
HVU Hansel Valley 86.13 332 eP P 07 28 28.4 0.0
CMB Columbia Colle 86.20 325 eP P 07 28 33.2 +4.6
ELK Elko 86.21 330 eP P 07 28 30.4 +1.6
F27A Lemmon 86.33 341 P P 07 28 29.7 +0.6
baz=87,SNR=8.7
E29A Napoleon 86.37 342 P P 07 28 30.6 +1.4
baz=87
I20A Worland 86.39 336 P P 07 28 30.7 +1.1
baz=87
H22A Clearmont 86.41 337 P P 07 28 29.6 0.0
baz=87
TOA0 Torodi Ar. Sit 86.47 71 eP P 07 28 28.1 -2.4
TORD Torodi Ar. Bea 86.47 71 P P 07 28 30.4 0.0
comp=E,4.8nm,0.9s,baz=226,slow=4.0,SNR=22
TORD LR LR 08 04 23.4
comp=E,126nm,21.1s,baz=225,slow=34
TORD Torodi Ar. Bea 86.47 71 P P 07 28 30.4 0.0
F26A Lodgepole 86.48 340 P P 07 28 30.3 +0.4
baz=87
G24A Alzada 86.49 339 P P 07 28 30.5 +0.5
baz=87
E28A Huff 86.64 342 P P 07 28 31.5 +1.0
baz=87
D30A Buchanan 86.67 343 P P 07 28 31.8 +1.2
baz=87
F25A Bowman 86.77 340 P P 07 28 32.2 +1.0
baz=87
REDW Red Top Meadow 86.80 334 eP P 07 28 31.6 -0.1
H20A Greybull 86.83 336 P P 07 28 32.8 +1.2
baz=87
SNOW Snow King Moun 86.86 334 eP P 07 28 32.1 +0.1
LOHW Long Hollow 86.94 334 eP P 07 28 31.9 -0.4
TPAW Teton Pass 86.95 334 eP P 07 28 32.6 +0.1
G22A Birney 86.95 338 P P 07 28 33.1 +0.8
baz=87
F24A Ekalaka 86.97 339 P P 07 28 33.2 +0.9
baz=87
E26A Carlson Angus 87.00 341 P P 07 28 33.4 +1.1
baz=87,SNR=6.2
MOOW Moose Ponds 87.10 334 eP P 07 28 33.9 +0.8
FXWY Fox Creek 87.11 334 eP P 07 28 32.7 -0.5
F23A Volborg 87.14 338 P P 07 28 34.2 +1.1
baz=88
C30A Mose, Pekin 87.16 344 P P 07 28 34.3 +1.3
baz=88
AGMN Agassiz Nation 87.17 345 P P 07 28 34.1 +1.0
baz=88,SNR=6.7
AGMN Agassiz Nation 87.17 345 eP P 07 28 32.3 -0.7
D28A Regan 87.18 342 P P 07 28 34.3 +1.1
baz=88
G21A Lodge Grass 87.24 337 P P 07 28 34.7 +1.1
baz=88
E25A Miller Ranch, 87.28 340 P P 07 28 35.5 +1.8
baz=88
IMW Indian Meadow 87.30 334 eP P 07 28 35.4 +1.2
H19A Powell 87.32 336 P P 07 28 35.9 +1.8
baz=88
D27A Center 87.34 341 P P 07 28 35.6 +1.6
baz=88
FLWY Flagg Ranch 87.38 334 eP P 07 28 35.0 +0.5
F22A Rosebud 87.45 338 P P 07 28 36.3 +1.8
baz=88
D26A Manning 87.51 341 P P 07 28 36.3 +1.5
baz=88,SNR=7.0
MDND Maddock 87.56 343 P P 07 28 36.0 +1.1
baz=88
MDND Maddock 87.56 343 eP P 07 28 34.8 -0.2
E24A Baker 87.59 339 P P 07 28 36.8 +1.6
baz=88
C28A Hausauer Farms 87.62 342 P P 07 28 36.5 +1.2
baz=88
RLMT Red Lodge 87.81 336 P P 07 28 37.8 +1.3
baz=88
RLMT Red Lodge 87.81 336 eP P 07 28 34.4 -2.1
comp=E,9.7nm,1.2s
B30A Myrvik Farm, E 87.83 344 P P 07 28 37.7 +1.4
baz=88,SNR=14
B29A Wagenman Farm, 88.08 343 P P 07 28 39.1 +1.6
baz=88
D24A Glendive 88.10 340 P P 07 28 39.2 +1.6
baz=88
HLID Hailey 88.28 332 P P 07 28 40.1 +1.4
baz=89
HLID Hailey 88.28 332 eP P 07 28 39.2 +0.5
A29A Manning Farm, 88.48 343 P P 07 28 38.8 -0.5
baz=89,SNR=16
MFID Camas Ranch 88.70 331 eP P 07 28 42.2 +1.6
MCMT McKenzie Canyo 88.79 333 eP P 07 28 41.7 +0.5
WVOR Wild Horse Val 89.02 328 eP P 07 28 43.9 +1.7
ULM Lac du Bonnet 89.03 346 P P 07 28 39.9 -2.0
comp=E,7.7nm,1.0s,baz=170,slow=3.7,SNR=6.0
ULM Lac du Bonnet 89.03 346 eP P 07 28 39.7 -2.1
comp=E,14nm,1.2s
DLMT Dillon 89.16 334 eP P 07 28 45.6 +2.8
MOD Modoc Plateau 89.30 327 eP P 07 28 43.1 -0.4
comp=E,2.0nm,0.8s
GERES GERESS Array B 115.18 47 PKP PKPdf 07 34 27.3 -1.0
comp=E,0.1nm,0.3s,baz=42,slow=2.2,SNR=3.7

GERES	**GERESS Array B**	**115.18**	**47**	PKP		**PKPdf**	**07 34 27.3**	**-1.0**
CLL	**Collm**	**115.92**	**44**	*e*PS		PS	07 45 12.0	-3.1
CLL				Lm		MLR	08 22 00.0	
	comp=Z,100nm,19.1s							
ILAR	**Eielson Array**	**116.22**	**333**	PKP		**PKPdf**	**07 34 28.8**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=130,slow=1.7,SNR=4.1							
ILAR	**Eielson Array**	**116.22**	**333**	PKP		**PKPdf**	**07 34 28.8**	**-1.0**
WRA	**Warramunga Arr**	**117.52**	**210**	PKP		**PKPdf**	**07 34 32.4**	**-1.4**
	comp=Z,0.6nm,0.9s,baz=166,slow=1.6,SNR=4.2							
WRA	**Warramunga Arr**	**117.52**	**210**	PKP		**PKPdf**	**07 34 32.4**	**-1.4**
KECS	**Kecovo**	**119.07**	**49**	*e*		**PKPdf**	**07 34 33.5**	**-2.2**
STHS	**Stebnicka Huta**	**119.90**	**49**	*e*		**PKPdf**	**07 34 40.2**	**+2.9**
BRTR	**Keskin Array B**	**124.41**	**63**	PKP		**PKPdf**	**07 34 45.5**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=222,slow=1.7,SNR=3.8							
BRTR	**Keskin Array B**	**124.41**	**63**	PKP		**PKPdf**	**07 34 45.5**	**-1.0**
AKASG	**Malin Array Be**	**125.17**	**49**	PKP		**PKPdf**	**07 34 45.0**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=260,slow=2.5,SNR=4.1							
AKASG	**Malin Array Be**	**125.17**	**49**	PKP		**PKPdf**	**07 34 45.0**	**-2.3**
AKTO	**Aktyubinsk**	**143.24**	**53**	PKP		PKPbc	07 35 19.4	+1.3
	comp=Z,2.4nm,0.9s,baz=288,slow=7.6,SNR=4.4							
AKTO	**Aktyubinsk**	**143.24**	**53**	PKP		PKPbc	07 35 19.4	+1.3
TIXI	**Tiksi**	**143.35**	**348**	*e*PKPdf		PKPab	07 35 15.5	-1.1
KSM	**Kuching**	**144.48**	**187**	*e*PKPdf		**PKPab**	**07 35 22.6**	**0.0**
ABKAR	**Akbulak array**	**144.54**	**55**	*e*PKPdf		**PKPab**	**07 35 21.9**	**+0.1**
PSI	**Prapat**	**145.32**	**167**	PKPbc		**PKPbc**	**07 35 25.1**	**-0.7**
	comp=Z,20nm,1.0s,baz=181,slow=6.7,SNR=11							
PSI	**Prapat**	**145.32**	**167**	PKPbc		**PKPbc**	**07 35 25.1**	**-0.7**
URV	**Uravakonda**	**146.12**	**123**	*e*PKPbc		**PKPdf**	**07 35 26.8**	**-0.4**
RCLA	**Racherla**	**147.62**	**124**	*e*PKPbc		**PKPbc**	**07 35 32.1**	**-0.2**
KLRI	**Killari**	**147.81**	**118**	*e*PKPbc		**PKPbc**	**07 35 32.3**	**-0.6**
SRLM	**Srisailam**	**148.04**	**123**	*e*PKPbc		**PKPbc**	**07 35 33.1**	**-0.3**
NJS	**Nagarjunasagar**	**148.64**	**123**	*e*PKPbc		**PKPbc**	**07 35 34.5**	**-0.5**
HYB	**Hyderabad**	**148.73**	**121**	*i* PKP		**PKPbc**	**07 35 34.5**	**-0.7**
HYBB	**Hyderabad (bro**	**148.74**	**121**	*e*PKPbc		**PKPdf**	**07 35 33.4**	**+1.9**
SRSP	**Sriramsagar**	**149.62**	**119**	*e*PKPbc		**PKPbc**	**07 35 36.8**	**-0.6**
RPR	**Rampur**	**150.23**	**120**	*e*PKPbc		**PKPbc**	**07 35 38.4**	**-0.5**
PVM	**Polavaram**	**150.67**	**125**	*e*PKPbc		**PKPbc**	**07 35 39.6**	**-0.3**
YAK	**Yakutsk**	**151.01**	**337**	*e*PKPbc		**PKPbc**	**07 35 38.5**	**-0.8**
KKAR	**Karatay Array**	**152.06**	**66**	*e*PKPdf		**PKPbc**	**07 35 41.7**	**-0.8**
KKAR				*e*PKPab		**PKPab**	**07 35 55.6**	**+3.5**
MJAR	**Matsushiro Arr**	**154.50**	**279**	PKPab		**PKPab**	**07 36 02.2**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=133,slow=3.2,SNR=5.4							
MJAR	**Matsushiro Arr**	**154.50**	**279**	PKPab		**PKPab**	**07 36 02.2**	**-0.3**
KSH	**Kashi**	**156.09**	**75**	*e*PKP		**PKPdf**	**07 35 39.3**	**-2.5**
KSH				pPKP		**pPKPdf**	**07 35 51.0**	**+4.4**
KSH				sPKP			07 35 55.5	
KSH				PKS		**PKSdf**	**07 39 13.5**	**-2.3**
KSH				PP		**PP**	**07 39 46.0**	**-1.4**
KSH				SKKS			07 46 30.5	
KSH				PPMZ				
	comp=Z,130nm,6.2s							
KSH				LN				
	comp=Z,58nm,3.9s							
KSH				LE				
	comp=Z,170nm,8.4s							
KSH				LZ				
	comp=Z,120nm,4.7s							
ZAA0	**Zalesovo Array**	**157.44**	**34**	*e*PKPdf		**PKPdf**	**07 35 42.0**	**-0.9**
ZAA0				*e*PKPab		**PKPab**	**07 36 14.2**	**-0.4**
ZALV	**Zalesovo Beam**	**157.44**	**34**	PKP		**PKPdf**	**07 35 41.1**	**-1.8**
	comp=Z,3.3nm,0.8s,baz=276,slow=2.8,SNR=12							
ZALV				PKPab		**PKPab**	**07 36 14.1**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=305,slow=5.2,SNR=5.2							
ZALV	**Zalesovo Beam**	**157.44**	**34**	PKP		**PKPdf**	**07 35 41.1**	**-1.8**
ZALV				PKPab		**PKPab**	**07 36 14.1**	**-0.5**
MK31	**Makanchi Array**	**159.67**	**54**	*e*PKPdf		**PKPdf**	**07 35 45.4**	**-0.4**
MK31				*e*PKPab		**PKPab**	**07 36 23.6**	**-1.0**
CN2	**Changchun**	**163.92**	**301**	*e*PKP		**PKPdf**	**07 35 49.3**	**-1.0**
WMQ	**Urumqi**	**164.27**	**58**	PKP		**PKPdf**	**07 35 51.0**	**+0.3**
WMQ				PP		**PP**	**07 40 34.0**	**+2.8**
WMQ				PPMZ				
	comp=Z,25nm,9.8s							
WMQ				LN				
	comp=Z,120nm,18.4s							
WMQ				LE				
	comp=Z,170nm,19.8s							
WMQ				LZ				
	comp=Z,66nm,20.1s							
KMI	**Kunming**	**167.80**	**165**	PKP		**PKPdf**	**07 35 56.5**	**+2.2**
SONM	**Songino Array**	**169.14**	**360**	PKPab		**PKPab**	**07 37 06.4**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=318,slow=2.0,SNR=3.6							
SONM	**Songino Array**	**169.14**	**360**	PKPab		**PKPab**	**07 37 06.4**	**+0.3**
GYA	**Guiyang**	**169.51**	**182**	*e*PKP		**PKPdf**	**07 35 55.0**	**-0.2**
GYA				PKPab		**PKPab**	**07 37 11.0**	**+2.8**
GYA				PKS		**PKSdf**	**07 39 25.5**	**-2.4**
GYA				PP		**PP**	**07 41 01.3**	**+4.4**
GYA				PPMZ				
	comp=Z,120nm,7.9s							
BJI	**Beijing**	**171.68**	**295**	PKP		**PKPdf**	**07 35 56.0**	**+0.2**
CD2	**Chengdu**	**173.59**	**160**	PKP		**PKPdf**	**07 35 57.0**	**0.0**
CD2				pPKP		**pPKPdf**	**07 36 04.8**	**+3.0**
CD2				sPKP			07 36 07.8	
CD2				PP		**PP**	**07 41 19.0**	**+1.7**
CD2				SKS		**SKSdf**	**07 42 58.8**	**-1.0**
CD2				SKKS		**SKKSac**	**07 48 03.5**	**-0.6**
CD2				SS		**SS**	**08 02 35.5**	**+2.5**
CD2				PPMZ				
	comp=Z,140nm,5.2s							
HHC	**Hu-ho-hao-te**	**174.36**	**315**	*e*PKP		**PKPdf**	**07 35 54.0**	**-3.0**
HHC				PKS		**PKSdf**	**07 39 26.8**	**-2.5**
HHC				PP		**PP**	**07 41 21.5**	**-0.3**
HHC				SKS		**SKSdf**	**07 42 53.8**	**-5.9**
HHC				SKKS		**SKKSac**	**07 48 05.0**	**-2.8**
HHC				SS		**SS**	**08 02 38.0**	**-3.9**
HHC				PPMZ				
	comp=Z,52nm,9.6s							
HHC				LN				
	comp=Z,91nm,21.4s							
HHC				LE				
	comp=Z,180nm,21.9s							
HHC				LZ				
	comp=Z,78nm,22.1s							
LZH	**Lanzhou**	**177.83**	**113**	*e*PKP		**PKPdf**	**07 35 58.3**	**+0.3**
LZH				pPKP		**pPKPdf**	**07 36 06.0**	**+3.1**
LZH				sPKP			07 36 11.0	
LZH				*e*PP		**PP**	**07 41 41.0**	**+2.0**
LZH				*e*SKKS			07 48 23.0	
LZH				*e*SS		**SS**	**08 03 09.0**	**-7.1**
LZH				PPMZ				
	comp=Z,180nm,5.7s							

MEX 27 07:37:16.3±0.8, 16°09N×97°38W, h16km±10km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.77**	**293**	*i* P	Pb	07 37 28.6	-2.8
PNIG				*e*S	Sg	07 37 38.0	-3.8
VHO	**Vista Hermosa**	**1.16**	**33**	*i* P	Pn	07 37 35.0	-3.1
VHO				*e*S	Sb	07 37 47.9	-5.3
HUIG	**Huatulco**	**1.27**	**104**	*e*P	Pn	07 37 36.2	-3.1
HUIG				*i* S	Sb	07 37 50.2	-5.8
CMIG	**Matias Romero**	**2.59**	**67**	*e*P	Pn	07 37 54.7	-2.9
CMIG				*i* S	Sn	07 38 24.9	-4.0

*IDC **27** 07:41:59.5±0.9, 1°.58S×99°.49E, h0km, mb4.1/11, mb1 4.2/13, mb1mx4.0/26, mbtmp4.1/13, ML4.1/2, Error ellipse: s-maj=30.3km s-min=17.6km az=60.0*
*NEIC **27** 07:42:00.8±4.3, 1°.72S×99°.36E, h11km±25km, mb4.4/3, Error ellipse: s-maj=15.9km s-min=7.8km az=224.0*
*DJA **27** 07:42:03.5±0.5, 2°.5±3°.9×9°.9E±°, h20km±6km, M4.2/14, mb4.2/5, MLv4.3/14*

ISC 27 07:42:04.1±0.6, 1°.49S±0°.05×99°.42E±0°.04, h30km, n45, σ1°.25/42, mb4.2/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.36**	**296**	P	**Pb**	**07 42 11.7**	**-0.8**
PPSI	**Pulau Pagai**	**1.40**	**155**	P	**Pn**	**07 42 26.8**	**-0.8**
PPSI				S	**Sn**	**07 42 44.4**	**-0.7**
PBSI	**Pulau Batu**	**1.82**	**321**	P	**Pn**	**07 42 34.4**	**+0.9**
PBSI				S	**Sb**	**07 42 57.6**	**-1.7**
SDSI	**Sungai Dareh**	**2.08**	**75**	P	**Pb**	**07 42 40.4**	**-0.9**
SDSI				S	**Sb**	**07 43 08.9**	**+2.1**
MNSI	**Mandailing Nat**	**2.27**	**4**	P	**Pb**	**07 42 42.5**	**-2.1**
BKNI	**Bangkinang**	**2.42**	**42**	P	**Pb**	**07 42 45.5**	**-1.6**
BKNI	**Bangkinang**	**2.42**	**42**	*e*Pn	**Pb**	**07 42 44.9**	**-2.2**
BKNI				*e*Sn	**Sb**	**07 43 16.2**	**-0.4**
GSI	**Gunungsitoli**	**3.33**	**326**	P	**Pn**	**07 42 55.3**	**+1.1**
GSI	**Gunungsitoli**	**3.33**	**326**	*e*Pn	**Pn**	**07 42 55.4**	**+1.1**
PSI	**Prapat**	**4.29**	**353**	Pn	**Pn**	**07 43 06.7**	**-0.8**
	2.5nm,0.3s,baz=164,slow=12,SNR=7.2						
MNAI	**Manna**	**4.54**	**129**	P	**Pn**	**07 43 11.4**	**+0.5**
MDSI	**Maura Dua**	**5.61**	**122**	P	**Pn**	**07 43 25.5**	**-0.1**
	22nm,0.9s,0.1nm						
IPM	**Ipoh**	**6.14**	**15**	*e*Pn	Pn	07 43 36.2	+3.2
	16nm,0.6s						
KLSI		**6.18**	**121**	P	**Pn**	**07 43 34.7**	**+1.2**
	33nm,1.4s,0.2nm						
PPBI	**Pangkal Pinang**	**6.75**	**96**	P	**Pn**	**07 43 44.1**	**+2.9**
	11nm,1.1s,1.4nm						
CMAR	**Chiang Mai Arr**	**19.83**	**359**	P	**Pn**	**07 46 34.1**	**-0.2**
	0.6nm,0.3s,baz=188,slow=10,SNR=14						
H08S2	**Diego Garcia H**	**27.51**	**256**	T	T	08 16 04.7	
	baz=79,slow=76,SNR=282						
H08S3	**Diego Garcia H**	**27.52**	**256**	T	T	08 16 05.3	
	baz=79,slow=76,SNR=203						
H08S1	**Diego Garcia H**	**27.53**	**256**	T	T	08 16 06.4	
	baz=79,slow=76,SNR=165						
H01W3	**Cape Leeuwin H**	**35.95**	**159**	T	T	08 26 47.7	
	baz=335,slow=76,SNR=87						
H01W2	**Cape Leeuwin H**	**35.96**	**159**	T	T	08 26 48.7	
	baz=335,slow=76,SNR=123						
H01W1	**Cape Leeuwin H**	**35.96**	**159**	T	T	08 26 47.5	
	baz=335,slow=76,SNR=80						
WRA	**Warramunga Arr**	**38.75**	**121**	P	**P**	**07 49 24.0**	**-2.2**
	1.0nm,0.7s,baz=301,slow=9.1,SNR=4.8						
WRAB	**Tennant Creek**	**38.76**	**121**	*e*P	**P**	**07 49 24.6**	**-1.6**
	12nm,1.4s						
ASAR	**Alice Springs**	**40.02**	**126**	P	**P**	**07 49 35.7**	**-1.1**
	0.8nm,0.6s,baz=296,slow=7.5,SNR=13						
KSAR	**Wonju Array Be**	**46.85**	**31**	P	**P**	**07 50 31.8**	**+0.2**
KSRS	**Korea Array**	**46.88**	**31**	P	**P**	**07 50 31.8**	**0.0**
	1.8nm,0.7s,baz=228,slow=8.3,SNR=8.1						
SONM	**Songino Array**	**49.50**	**6**	P	**P**	**07 50 52.9**	**+0.9**
	1.9nm,0.5s,baz=183,slow=9.8,SNR=7.8						
MK31	**Makanchi Array**	**50.38**	**345**	*e*P	**P**	**07 51 00.1**	**+1.5**
USRK	**Ussuriysk Ar.**	**53.98**	**29**	P	**P**	**07 51 25.0**	**-0.4**
	3.6nm,0.7s,baz=231,slow=9.1,SNR=6.9						
KURK	**Kurchatov**	**54.96**	**344**	*e*P	**P**	**07 51 29.7**	**-2.6**
	4.8nm,0.6s						
ZAA0	**Zalesovo Array**	**56.56**	**350**	*e*P	**P**	**07 51 45.1**	**+1.4**
ZALV	**Zalesovo Beam**	**56.56**	**350**	P	**P**	**07 51 44.6**	**+0.9**
	5.2nm,0.7s,baz=179,slow=6.7,SNR=13						
ABKAR	**Akbulak array**	**60.92**	**332**	*e*P	**P**	**07 52 14.7**	**+0.5**
	0.4nm,0.5s						
AKTO	**Aktyubinsk**	**62.63**	**332**	P	**P**	**07 52 25.4**	**-0.3**
	0.6nm,0.5s,baz=98,slow=7.1,SNR=3.1						
KBZ	**Khabaz**	**67.54**	**319**	P	**P**	**07 52 57.9**	**+0.2**
	1.8nm,0.8s,baz=102,slow=7.3,SNR=4.9						
BRTR	**Keskin Array B**	**72.55**	**313**	P	**P**	**07 53 28.9**	**+0.2**
	0.3nm,0.5s,baz=108,slow=4.7,SNR=3.1						
SEY	**Seymchan**	**75.38**	**22**	P	**P**	**07 53 45.2**	**+0.7**
	1.5nm,0.5s,baz=263,slow=6.9,SNR=6.6						
BUR08	**Bucovina Ar. S**	**80.51**	**319**	*e*P	**P**	**07 54 14.8**	**+1.2**
FINES	**FINESS Array B**	**83.39**	**332**	P	**P**	**07 54 29.3**	**+1.0**
	2.8nm,1.0s,baz=134,slow=5.5,SNR=5.4						
CPUP	**Villa Florida**	**144.38**	**217**	PKP	**PKPdf**	**08 01 37.8**	**-0.4**
	1.8nm,0.9s,baz=191,slow=3.5,SNR=2.8						
TXAR	**Lajitas Array**	**144.64**	**36**	PKP	**PKPdf**	**08 01 38.7**	**-0.1**
	1.0nm,0.6s,baz=257,slow=1.1,SNR=19						
MIAR	**Mount Ida**	**144.95**	**19**	*e*PKPbc	**PKPdf**	**08 01 38.9**	**-0.2**
CFAA	**Coronel Fontan**	**145.06**	**199**	PKPbc	**PKPdf**	**08 01 39.4**	**0.0**
	0.4nm,0.6s,baz=155,slow=3.5,SNR=18						
JCT	**Junction City**	**145.89**	**30**	*e*PKPbc	**PKPab**	**08 01 42.1**	**+0.2**

*ISCJB **27** 08:03:03.2±1.0, 22°.9S±0°.1×68°.1W±0°.1, h125km, mb3.4/1, Error ellipse: s-maj=17.1km s-min=14.7km az=0.4*
*IDC **27** 08:03:03.8±1.4, 22°.89S×67°.94W, h97km±21km, mb3.4/1, mb1 3.7/3, mb1mx3.3/18, mbtmp4.0/3, Error ellipse: s-maj=36.8km s-min=24.6km az=115.0*

ISC 27 08:03:04.4±1.1, 22°.9S±0°.1×68°.1W±0°.1, h125km, n6, σ2°.28/7, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.76**	**288**	P	**Pn**	**08 03 24.5**	**-0.6**
	5μm,0.3s,baz=207,slow=6.5,SNR=2588						
LVC				S	**Sn**	**08 03 38.9**	**-1.8**
	baz=268,slow=16						
LPAZ	**La Paz**	**6.53**	**360**	P	**Pn**	**08 04 39.6**	**+0.9**
	0.8nm,0.3s,baz=187,slow=6.4,SNR=32						
CFAA	**Coronel Fontan**	**8.72**	**181**	P	**Pn**	**08 05 06.7**	**-0.9**
	0.0nm,0.3s,baz=356,slow=6.5,SNR=11						
SIV	**San Ignacio**	**9.53**	**46**	P	**Pn**	**08 05 16.4**	**-2.3**
	4.6nm,0.3s,baz=242,slow=12,SNR=53						
TORD	**Torodi Ar. Bea**	**77.13**	**70**	P	**P**	**08 14 46.3**	**+1.6**
	0.3nm,0.4s,baz=253,slow=5.5,SNR=9.6						
WRA	**Warramunga Arr**	**132.14**	**209**	PKP	**PKPdf**	**08 22 07.1**	**+2.8**
	0.4nm,1.0s,baz=165,slow=1.7,SNR=4.2						

*SJA **27** 08:03:52.6±0.4, 35°.75S×72°.67W, h173km±40km, ML4.6, MW4.4*
*ISCJB **27** 08:04:04.9±0.7, 35°.16S±0°.05×71°.9W±0°.1, h60km±5km, mb4.0/16, Error ellipse: s-maj=15.3km s-min=7.5km az=12.1*
*NEIC **27** 08:04:05.0, 35°.00S×71°.97W, h31km, mb4.1/5, ML4.7(GUC), After GUC.*
NEIC Felt [III] at Curico, Linares and Talca.
*GUC **27** 08:04:05.1±0.7, 35°.00S×71°.97W, h31km±4km, ML4.7*
*IDC **27** 08:04:07.9±1.0, 35°.14S×71°.75W, h70km±8km, mb3.8/12, mb1 3.9/15, mb1mx3.9/20, mbtmp4.1/15, MS3.6/2, Ms1 3.5/2, ms1mx3.1/19, Error ellipse: s-maj=19.0km s-min=13.5km az=110.0*

ISC 27 08:04:05.8±0.9, 35°.13S±0°.05×71°.95W±0°.10, h55km±7km, n49, σ1°.14/60, mb4.0/16, 2C-5D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.37**	**137**	*i*P	**Pn**	**08 04 15.5**	**-0.5**
TALC				*i* S	**Sn**	**08 04 22.2**	**-1.1**
NICH	**Los Niches**	**0.60**	**78**	*i*P	**Pn**	**08 04 17.1**	**-1.4**
NICH				*i* S	**Sn**	**08 04 26.1**	**-1.7**
CHCH	**Chadas Angostu**	**1.60**	**42**	*i*P	**Pn**	**08 04 31.1**	**-0.7**
TACH	**Talagante**	**1.69**	**30**	*i*P	**Pn**	**08 04 32.4**	**-0.6**
PCH	**Pirque**	**1.91**	**39**	*i*P	**Pn**	**08 04 35.8**	**-0.3**
PCH				*i* S	**Sn**	**08 04 59.7**	**+0.6**
SAN	**Santiago**	**1.98**	**33**	*i* P	**Pn**	**08 04 36.7**	**-0.2**
SAN				*i* S	**Sn**	**08 05 00.4**	**-0.2**
LACH	**Col Las Americ**	**2.04**	**35**	*e*P	**Pn**	**08 04 36.7**	**-1.0**
LACH				*i* S	**Sn**	**08 05 01.1**	**-1.0**
CLCH	**Cerro Calan**	**2.08**	**34**	*i*P	**Pn**	**08 04 37.9**	**-0.4**
CLCH				*i* S	**Sn**	**08 05 02.9**	**-0.3**
CLCH				AML	AML	08 05 16.6	
	comp=N,7μm,0.4s						
IHA	**Instituto Hidr**	**2.11**	**7**	*e*P	**Pn**	**08 04 37.6**	**-1.0**
PEL	**Peldehue**	**2.24**	**28**	*i*P	**Pn**	**08 04 40.1**	**-0.3**
PEL				*e*S	**Sn**	**08 05 07.3**	**+0.3**
PEL				AML	AML	08 05 13.3	
	comp=E,8μm,0.3s						
AUSP	**Uspallata**	**3.60**	**37**	*i* P	**Pn**	**08 05 00.7**	**+1.4**
AUSP				*i* S	Sn	08 05 51.1	+10
RTLS	**Leoncito**	**3.99**	**34**	*i* P	**Pn**	**08 05 06.2**	**+1.5**
RTLS				*i* S	Sn	08 05 59.8	+10
RTCV	**Cerro Valdivia**	**4.33**	**42**	*i* P	**Pn**	**08 05 09.3**	**+0.2**
RTCV				*i* S	Sn	08 06 06.8	+8.6
SJA	**San Juan**	**4.58**	**39**	*i* P	**Pn**	**08 05 12.7**	**+0.2**
SJA				*i* S	Sn	08 06 12.0	+7.6
SJA				IAML		08 06 28.6	
	comp=Z,224nm,0.7s						
CFAA	**Coronel Fontan**	**4.69**	**42**	P	**Pn**	**08 05 13.7**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=197,slow=7.8,SNR=83						
CFAA				S	**Sn**	**08 06 09.4**	**+2.3**
	comp=Z,0.7nm,0.3s,baz=285,slow=20,SNR=2.4						
RTLL	**Cerro Villicun**	**4.78**	**38**	*i* P	**Pn**	**08 05 15.4**	**+0.1**
RTLL				*i* S	Sn	08 06 16.8	+7.5
LCO	**Las Campanas**	**6.19**	**10**	*e*Pn	**Pn**	**08 05 32.2**	**-2.6**
	comp=Z,41nm,0.6s						
LCO				*e*Sn	**Sn**	**08 06 41.0**	**-3.4**
TRQA	**Tornquist**	**8.53**	**113**	*e*Pn	**Pn**	**08 06 06.8**	**+0.1**
	comp=Z,14nm,0.9s						
CPUP	**Villa Florida**	**15.31**	**59**	P	**Pn**	**08 07 39.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=240,slow=11,SNR=4.6						
CPUP				LR	LR	08 14 06.0	
	comp=Z,156nm,20.9s,baz=200,slow=39						
CPUP	**Villa Florida**	**15.31**	**59**	P	**Pn**	**08 07 39.0**	**+0.6**
	comp=Z,1.7nm,1.0s						
LPAZ	**La Paz**	**19.07**	**11**	P	**Pn**	**08 08 25.4**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=182,slow=5.3,SNR=9.3						
LPAZ	**La Paz**	**19.07**	**11**	*e*P	**Pn**	**08 08 25.6**	**-0.1**
SIV	**San Ignacio**	**21.40**	**30**	P	**P**	**08 08 47.8**	**-1.2**
	comp=Z,4.5nm,0.7s,baz=244,slow=14,SNR=7.0						
SIV				pP	**pP**	**08 09 04.6**	**+3.2**
	comp=Z,11nm,0.9s,baz=225,slow=13,SNR=11						
SAML	**Samuel**	**27.26**	**19**	*e*P	**P**	**08 09 43.9**	**-1.1**
	comp=Z,1.1nm,0.7s						
BDFB	**Brasilia**	**28.92**	**54**	P	**P**	**08 09 57.9**	**-2.0**
	comp=Z,2.1nm,0.7s,baz=175,slow=10,SNR=4.1						
BDFB				pP	**pP**	**08 10 14.8**	**+1.1**
	comp=Z,5.1nm,1.0s,baz=189,slow=10,SNR=4.2						
BDFB				LR	LR	08 22 34.9	
	comp=Z,168nm,21.0s,baz=232,slow=38						
SDV	**Santo Domingo**	**43.79**	**2**	*e*P	**P**	**08 12 05.8**	**-0.7**
	comp=Z,2.8nm,0.5s						
VNA2	**Neumayer--Watz**	**48.95**	**157**	P	**P**	**08 12 46.6**	**+0.5**
	baz=289,slow=8.6						
SNAA	**Sanae**	**50.52**	**157**	P	P	08 12 54.5	-3.5
SNAA	**Sanae**	**50.52**	**157**	P	**P**	**08 12 58.2**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=284,slow=4.9,SNR=11						
SNAA	**Sanae**	**50.52**	**157**	P	**P**	**08 12 58.2**	**+0.2**
	comp=Z,0.1nm,0.8s						
QSPA	**South Pole Qui**	**55.11**	**180**	P	**P**	**08 13 32.8**	**+0.7**
	comp=Z,5.2nm,1.1s,baz=163,slow=1.7,SNR=13						
TXAR	**Lajitas Array**	**70.75**	**331**	P	**P**	**08 15 17.2**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=153,slow=8.5,SNR=20						
TXAR				pP	**PcP**	**08 15 36.4**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=153,slow=9.5,SNR=4.2						
MAW	**Mawson**	**72.08**	**163**	P	**P**	**08 15 23.8**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=211,slow=7.2,SNR=4.8						
MIAR	**Mount Ida**	**72.20**	**341**	*e*P	**P**	**08 15 25.8**	**+1.0**
	comp=Z,0.4nm,0.4s						
WMOK	**Wichita Mounta**	**73.89**	**337**	*e*P	**P**	**08 15 34.5**	**-0.3**
	comp=Z,14nm,2.2s						
DBIC	**Dimbokro**	**75.47**	**71**	P	**P**	**08 15 43.7**	**-0.6**
	comp=Z,3.7nm,0.6s,baz=215,slow=7.7,SNR=5.2						
BOSA	**Boshof**	**79.48**	**117**	P	**P**	**08 16 06.6**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=262,slow=2.6,SNR=7.5						
TORD	**Torodi Ar. Bea**	**84.52**	**70**	P	**P**	**08 16 32.9**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=270,slow=5.2,SNR=23						
PDAR	**Pinedale Array**	**84.80**	**333**	P	**P**	**08 16 34.9**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=121,slow=3.5,SNR=3.2						
NVAR	**Mina Array Bea**	**84.85**	**325**	P	**P**	**08 16 36.3**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=153,slow=6.1,SNR=2.5						
ULM	**Lac du Bonnet**	**87.60**	**345**	P	**P**	**08 16 48.0**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=132,slow=3.6,SNR=3.4						
WRA	**Warramunga Arr**	**119.81**	**209**	PKP	**PKPdf**	**08 22 49.7**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=154,slow=1.8,SNR=6.4						
BRTR	**Keskin Array B**	**122.31**	**62**	PKP	**PKPdf**	**08 22 53.6**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=126,slow=3.7,SNR=3.3						
BVAR	**Borovoye Array**	**148.04**	**44**	PKPbc	**PKPbc**	**08 23 44.9**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=291,slow=6.2,SNR=7.9						
EKS2	**Erkin-Say**	**152.42**	**64**	*e*PKPbc	**PKPbc**	**08 23 56.3**	**+0.7**
AAK	**Ala-Archa**	**152.95**	**64**	PKPab	**PKPab**	**08 24 09.6**	**+1.2**
	comp=Z,4.4nm,0.7s,baz=203,slow=2.2,SNR=6.4						
KURBB	**Kurchatov Arra**	**153.62**	**45**	PKPab	**PKPab**	**08 24 10.1**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=290,slow=3.4,SNR=6.2						
KURK	**Kurchatov**	**153.64**	**45**	PKPab	**PKPab**	**08 24 10.1**	**-0.6**
ZALV	**Zalesovo Beam**	**155.13**	**34**	PKPab	**PKPab**	**08 24 15.4**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=306,slow=5.0,SNR=2.9						

*IDC **27**

ACAN	**Cantantal**	**4.64**	**70**	*eP*		Pb	08 14 22.9	-5.3

IDC ***27*** *08:13:06.0±2.6, 1°.11S×100°.24E, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.6/26, mbtmp3.7/8, ML4.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/37, Error ellipse: s-maj=117.6km s-min=18.5km az=57.0*

ISCJB ***27*** *08:13:09.3±2.0, 1°.0S±0°.3×100°.2E±0°.5, h35km, mb3.8/6, Error ellipse: s-maj=81.8km s-min=14.2km az=148.2*

ISC 27 08:13:11.5±2.8, 1°.1S±0°.4×100°.3E±0°.6, h35km, n16, σ0s37/7, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.09**	**340**	Pn		Pn		08 14 07.3	-4.4
	0.5nm,0.3s,baz=303,slow=16,SNR=5.4								
CMAR	**Chiang Mai Arr**	**19.45**	**356**	P		**P**		**08 17 35.6**	**+0.4**
	0.7nm,0.3s,baz=186,slow=9.9,SNR=5.2								
KAPI	**Kappang**	**19.77**	**102**	LR		LR		08 26 19.8	
	comp=Z,38nm,19.8s,baz=227,slow=40								
H08S2	**Diego Garcia H**	**28.51**	**256**	T		T		08 47 27.9	
	baz=79,slow=75,SNR=71								
H08S3	**Diego Garcia H**	**28.52**	**256**	T		T		08 47 00.6	
	baz=79,slow=75,SNR=60								
H08S1	**Diego Carcia H**	**28.53**	**256**	T		T		08 47 05.5	
	baz=79,slow=75,SNR=56								
H01W3	**Cape Leeuwin H**	**36.02**	**161**	T		T		08 57 53.7	
	baz=335,slow=76,SNR=7.0								
H01W2	**Cape Leeuwin H**	**36.04**	**161**	T		T		08 57 53.8	
	baz=335,slow=76,SNR=6.3								
H01W1	**Cape Leeuwin H**	**36.04**	**161**	T		T		08 57 57.1	
	baz=335,slow=76,SNR=8.5								
WRA	**Warramunga Arr**	**38.18**	**122**	P		**P**		**08 20 28.2**	**+0.2**
	1.2nm,0.9s,baz=303,slow=9.3,SNR=9.4								
ASAR	**Alice Springs**	**39.53**	**127**	P		**P**		**08 20 39.3**	**-0.1**
	0.5nm,0.5s,baz=302,slow=7.9,SNR=9.5								
SONM	**Songino Array**	**48.99**	**5**	P		**P**		**08 21 54.2**	**-0.5**
	0.4nm,0.4s,baz=183,slow=5.2,SNR=2.5								
KURBB	**Kurchatov Arra**	**54.76**	**343**	P		**P**		**08 22 37.6**	**+0.1**
	0.4nm,0.4s,baz=164,slow=6.7,SNR=4.0								
ZALV	**Zalesovo Beam**	**56.32**	**349**	P		**P**		**08 22 48.8**	**+0.2**
	1.9nm,0.6s,baz=179,slow=5.7,SNR=7.5								
BVAR	**Borovoye Array**	**59.43**	**339**	P		**P**		**08 23 10.6**	**0.0**
	0.3nm,0.4s,baz=121,slow=7.0,SNR=2.9								
TXAR	**Lajitas Array**	**143.76**	**37**	PKP		PKPab		08 32 42.7	+2.1
	0.3nm,0.4s,baz=226,slow=0.3,SNR=12								

IDC ***27*** *08:41:48.2±1.0, 13°.35N×95°.87E, h0km, mb3.9/10, mb1 1.4/0.11, mb1mx3.8/28, mbtmp3.8/11, ML3.8/1, MS3.6/2, Ms1 3.6/2, ms1mx3.1/39, Error ellipse: s-maj=42.3km s-min=18.5km az=52.0*

ISCJB ***27*** *08:41:51.4±0.8, 13°.4N±0°.1×96°.0E±0°.1, h33km, mb3.8/10, MS4.6/1, Error ellipse: s-maj=22.7km s-min=15.5km az=146.2*

ISC 27 08:41:53.5±1.1, 13°.4N±0°.2×96°.0E±0°.2, h35km, n13, σ0s48/12, mb3.9/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.73**	**29**	Pn		**Pn**		**08 43 16.0**	**-0.3**
	0.6nm,0.3s,baz=220,slow=15,SNR=6.6								
CMAR					Lg	Lg		08 45 04.5	
	0.5nm,0.3s,baz=211,slow=30,SNR=3.6								
CMAR					LR	LR		08 45 52.8	
	comp=Z,65nm,18.1s,baz=200,slow=42								
KURBB	**Kurchatov Arra**	**39.71**	**343**	P		**P**		**08 49 22.9**	**+0.5**
	4.2nm,1.1s,baz=156,slow=7.8,SNR=14								
ZALV	**Zalesovo Beam**	**41.36**	**350**	P		**P**		**08 49 36.8**	**+0.7**
	1.5nm,0.7s,baz=169,slow=6.7,SNR=7.2								
GEYT	**Ailibeck**	**41.52**	**313**	P		**P**		**08 49 38.4**	**+0.7**
	0.9nm,0.4s,baz=119,slow=5.1,SNR=3.3								
BVAR	**Borovoye Array**	**44.43**	**338**	P		**P**		**08 50 01.1**	**+0.2**
	0.7nm,0.6s,baz=132,slow=10.0,SNR=6.3								
WRA	**Warramunga Arr**	**50.24**	**131**	P		**P**		**08 50 46.7**	**+0.1**
	0.8nm,0.8s,baz=314,slow=8.3,SNR=10.0								
ASAR	**Alice Springs**	**52.29**	**135**	P		**P**		**08 51 02.1**	**+0.2**
	0.4nm,0.7s,baz=316,slow=7.1,SNR=5.1								
BRTR	**Keskin Array B**	**60.32**	**308**	P		**P**		**08 51 58.6**	**-0.6**
	0.7nm,0.7s,baz=122,slow=6.0,SNR=5.3								
SEY	**Seymchan**	**63.14**	**25**	LR		LR		09 19 50.0	
	comp=Z,420nm,22.0s,baz=58,slow=36								
FINES	**FINESS Array B**	**68.71**	**331**	P		**P**		**08 52 53.3**	**-0.1**
	1.8nm,0.7s,baz=98,slow=7.9,SNR=4.3								
GERES	**GERESS Array B**	**74.95**	**317**	P		**P**		**08 53 30.8**	**-0.5**
	0.5nm,0.7s,baz=50,slow=4.2,SNR=6.4								
NB2	**NORSAR Subarra**	**75.83**	**330**	P		**P**		**08 53 35.8**	**-0.2**
	comp=Z,2.6nm,1.0s,baz=89,slow=5.6								
NOA	**NORSAR Array B**	**75.83**	**330**	P		**P**		**08 53 35.7**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=90,slow=5.4,SNR=4.3								

BJI ***27*** *08:47:36.7, 4°.93S×101°.40E, h29km, mb5.5/80, mB5.6/64, Ms5.5/87, Ms7 5.3/78*

IDC ***27*** *08:47:37.6±0.4, 4°.47S×101°.42E, h0km, mb5.1/22, mb1 5.2/24, mb1mx5.1/25, mbtmp5.1/24, ML4.6/2, MS4.9/22, Ms1 4.9/22, ms1mx4.8/31, Error ellipse: s-maj=16.3km s-min=9.0km az=50.0*

ISCJB ***27*** *08:47:39.7±0.6, 4°.47S±0°.02×101°.32E±0°.02, h23km±3km, mb5.4/147, MS5.1/174, Error ellipse: s-maj=4.2km s-min=2.8km az=31.8*

DJA ***27*** *08:47:39.8±1.4, 5°.5S±3°×10°.1E±°, h13km±12km, M5.4/27, mB5.8/25, mb5.5/27, MLv5.9/8, Mw(mB)5.3/25, Mwp5.6/3*

KLM ***27*** *08:47:41.5, 4°.59S×101°.03E, h38km, mb5.4, MS6.1*

MOS ***27*** *08:47:41.7±1.1, 4°.32S×101°.45E, h33km, mb5.7/50, MS5.0/26, Error ellipse: s-maj=10.2km s-min=5.3km az=113.0*

GCMT ***27*** *08:47:42.1±0.2, 4°.84S×100°.99E, h31km, MW5.5/96, Moment Tensor Solution. s96,c155; s93,c148; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr 1.11±.03; Mθθ-0.65±.02; Mφφ-0.46±.03; Mrθ 1.18±.04; Mθφ 0.72±.02; Mφr-0.68±.04; Best double couple: M0 1.81600×10^17 NP1:φ122.00000°, δ70.00000°, λ83.00000°. NP2:φ322.00000°, δ22.00000°, λ109.00000°. Principal axes: T 1.7450, Plg65.0000°, Azm20.0000°; N 0.1390, Plg7.0000°, Azm125.0000°; P -1.8870, Plg24.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***27*** *08:47:42.1±0.1, 4°.49S×101°.34E, mb5.4/64, MS5.2/131, MW5.3 Error ellipse: s-maj=5.2km s-min=3.6km az=225.0 Best double couple: NP1:φ124.00000°, δ65.00000°, λ99.00000°. NP2:φ285.00000°, δ26.00000°, λ72.00000°. Principal axes: T 1.1900, Plg68.0000°, Azm51.0000°; N 0.1700, Plg7.0000°, Azm300.0000°; P -1.3700, Plg19.0000°, Azm207.0000°;*

NEIC Felt [III] at Kapahiang.

ISC 27 08:47:41.8±0.3, 4°.56S±0°.03×101°.27E±0°.03, h30km±1km, h29km:pP-P, n1247, σ1s41/1297, mb5.5/154, MS5.2/178, 96C-20D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.69**	**83**	P		**Pn**		**08 48 09.7**	**+0.4**
MNAI	**Manna**	**1.69**	**83**	*e*Pn		**Pn**		**08 48 09.6**	**+0.4**
MNAI				*e*Sn		**Sb**		**08 48 36.7**	**+3.6**
PPSI	**Pulau Pagai**	**2.19**	**325**	P		**Pn**		**08 48 15.7**	**-0.4**
LHSI	**Lahat**	**2.36**	**72**	P		**Pn**		**08 48 19.9**	**+1.4**
LWLI	**Liwa**	**2.81**	**99**	P		**Pn**		**08 48 25.6**	**+0.8**
MDSI	**Maura Dua**	**2.90**	**89**	P		**Pn**		**08 48 27.0**	**+1.1**
KASI	**Kota Agung**	**3.35**	**107**	P		**Pn**		**08 48 32.6**	**+0.5**
KLSI		**3.45**	**92**	P		**Pn**		**08 48 34.8**	**+1.3**
KLI	**Kotabumi**	**3.58**	**95**	P		**Pn**		**08 48 36.8**	**+1.4**
SDSI	**Sungai Dareh**	**3.61**	**2**	P		**Pn**		**08 48 36.2**	**+0.5**
JMBI	**JAMBI**	**3.75**	**39**	P		**Pn**		**08 48 39.0**	**+1.4**
PMBI	**Palembang**	**3.85**	**65**	P		**Pn**		**08 48 39.7**	**+0.7**
SISI	**Saibi**	**3.88**	**326**	P		**Pn**		**08 48 39.3**	**-0.2**
CGJI	**Cibinong**	**4.85**	**115**	P		**Pn**		**08 48 52.2**	**-0.5**
BKNI	**Bangkinang**	**4.86**	**357**	P		**Pn**		**08 48 53.4**	**+0.5**
BKNI	**Bangkinang**	**4.86**	**357**	*e*Pn		**Pn**		**08 48 53.0**	**0.0**
SBJI	**Serang**	**5.08**	**108**	P		**Pn**		**08 48 55.7**	**-0.2**
	1µm,1.0s,17µm15nn								
PBSI	**Pulau Batu**	**5.38**	**326**	P		**Pn**		**08 49 00.0**	**-0.1**
PPBI	**Pangkal Pinang**	**5.41**	**64**	P		**Pn**		**08 49 02.1**	**+1.6**
TNG	**Tangerang**	**5.58**	**107**	P		**Pn**		**08 49 03.9**	**+1.0**
TNG	**Tangerang**	**5.58**	**107**	P		**Pn**		**08 49 03.9**	**+1.0**
MNSI	**Mandailing Nat**	**5.58**	**342**	P		**Pn**		**08 49 03.0**	**+0.1**
SKJI	**Sukabumi**	**5.79**	**115**	P		**Pn**		**08 49 06.3**	**+0.6**
CBJI	**Citeko**	**5.85**	**109**	P		Pn		08 49 09.8	+3.3
CNJI	**Cibinong**	**6.43**	**115**	P		**Pn**		**08 49 13.4**	**-1.1**
TPI	**Tanjungpandan**	**6.62**	**74**	P		**Pn**		**08 49 18.7**	**+1.7**
	175nm,0.9s,4µm5.4nm								
LEM	**Lembang**	**6.70**	**110**	P		**Pn**		**08 49 19.2**	**+0.8**
	2µm,1.0s,23µm6.8nm								
LEM	**Lembang**	**6.70**	**110**	Pn		**Pn**		**08 49 20.2**	**+1.9**
	25nm,0.3s,baz=271,slow=2.1,SNR=62								
LEM					LR	LR		08 52 25.0	
	comp=Z,19µm,19.7s,baz=242,slow=44								
LEM	**Lembang**	**6.70**	**110**	P		**Pn**		**08 49 20.3**	**+1.9**
LEM					pmax	pmax			
	comp=Z,25nm,0.3s								
LEM					MLR	MLR			
	comp=Z,19µm,19.7s								
MYKOM	**Kota Tinggi**	**6.81**	**22**	⇑P		**Pn**		**08 49 21.3**	**+1.5**
MYKOM	**Kota Tinggi**	**6.81**	**22**	*e*Pn		**Pn**		**08 49 20.5**	**+0.7**
KGM	**Kluang**	**6.85**	**17**	⇑P		**Pn**		**08 49 21.2**	**+1.0**
GSI	**Gunungsitoli**	**6.90**	**328**	P		**Pn**		**08 49 20.6**	**-0.4**
GSI	**Gunungsitoli**	**6.90**	**328**	*e*Pn		**Pn**		**08 49 20.1**	**-0.9**
CISI	**Cisompet, Garu**	**7.15**	**115**	P		**Pn**		**08 49 22.9**	**-1.6**
CISI	**Cisompet, Garu**	**7.15**	**115**	*e*Pn		**Pn**		**08 49 22.9**	**-1.6**
	comp=Z,611nm,0.6s								
CISI					*e*Sn	Sn		08 50 36.0	-8.9
PSI	**Prapat**	**7.68**	**342**	Pn		**Pn**		**08 49 29.9**	**-1.9**
	comp=Z,13nm,0.3s,baz=151,slow=9.7,SNR=32								
PSI	**Prapat**	**7.68**	**342**	P		**Pn**		**08 49 29.9**	**-1.9**
PSI					pmax	pmax			
	comp=Z,13nm,0.3s								
FRIM	**Kepong**	**7.75**	**3**	⇑P		**Pn**		**08 49 32.7**	**0.0**
CMJI	**Cimerak**	**7.82**	**115**	P		**Pn**		**08 49 34.2**	**+0.6**
KPJI	**Karang Pucung**	**8.10**	**110**	P		**Pn**		**08 49 38.2**	**+0.8**
TSI	**Tuntungan**	**8.45**	**341**	P		**Pn**		**08 49 42.4**	**+0.1**
COCO	**West Island**	**8.76**	**210**	Pn		**Pn**		**08 49 43.4**	**-3.1**
	comp=Z,3µm,0.7s,SNR=72								
COCO	**West Island**	**8.76**	**210**	*i* P		**Pn**		**08 49 44.6**	**-1.9**
COCO	**West Island**	**8.76**	**210**	Pn		**Pn**		**08 49 43.8**	**-2.7**
	comp=Z,311nm,0.6s								
IPM	**Ipoh**	**8.98**	**358**	⇑P		**Pn**		**08 49 50.5**	**+0.9**
IPM	**Ipoh**	**8.98**	**358**	*e*Pn		**Pn**		**08 49 50.8**	**+1.2**
SMRI	**Semarang**	**9.45**	**106**	P		**Pn**		**08 49 57.0**	**+1.0**
SMRI	**Semarang**	**9.45**	**106**	*e*Pn		**Pn**		**08 49 56.4**	**+0.4**
	comp=Z,841nm,1.0s								
UGM	**Wanagama**	**9.78**	**110**	P		**Pn**		**08 50 01.4**	**+0.9**
UWJI	**Ujung Watu**	**9.80**	**101**	P		**Pn**		**08 50 02.0**	**+1.2**
KULM	**Kulim**	**9.81**	**356**	*e*Pn		**Pn**		**08 50 00.5**	**-0.4**
KTGM	**Kuala Trenggan**	**10.00**	**11**	⇑P		**Pn**		**08 50 03.8**	**+0.3**
PBKI	**Pangkalan Bun**	**10.54**	**80**	P		**Pn**		**08 50 12.4**	**+1.5**
LHMI	**Lhok Sumawe**	**10.64**	**336**	P		**Pn**		**08 50 12.2**	**-0.1**
LHMI	**Lhok Sumawe**	**10.64**	**336**	*e*Pn		**Pn**		**08 50 12.2**	**-0.1**
	comp=Z,231nm,0.9s								
KSM	**Kuching**	**10.84**	**57**	⇑P		**Pn**		**08 50 17.2**	**+2.2**
KSM	**Kuching**	**10.84**	**57**	*e*Pn		**Pn**		**08 50 15.8**	**+0.8**
	comp=Z,101nm,1.0s								
PWJI	**Pagerwojo**	**11.02**	**109**	P		**Pn**		**08 50 16.8**	**-0.6**
	comp=Z,348nm,0.8s,comp=Z,3µm								
STKI	**Sintang**	**11.18**	**66**	P		Pn		08 50 24.4	+4.7
GRJI	**Gresik**	**11.39**	**102**	P		**Pn**		**08 50 25.0**	**+2.4**
SKLT	**Songkhla**	**11.67**	**357**	P		**Pn**		**08 50 25.3**	**-1.1**
	comp=Z,135nm,1.1s,comp=Z,2µm								
BLJI	**Banyuglugur**	**12.65**	**105**	P		P		08 50 57.6	+6.8
KRAB	**Krabi**	**12.87**	**351**	P		**Pn**		**08 50 41.1**	**-1.7**
	comp=Z,86nm,1.0s								
SBUM	**Sibu**	**12.97**	**58**	*e*Pn		Pn		08 50 47.7	+3.5
SRIT	**Nakonsritamara**	**13.18**	**353**	P		**Pn**		**08 50 47.5**	**+0.5**
	comp=Z,34nm,1.1s,comp=Z,1µm								
ABJI	**Asem Bagus**	**13.28**	**105**	P		Pn		08 50 51.8	+3.4
JAGI	**Jajag, Banyuwa**	**13.37**	**108**	*e*Pn		**Pn**		**08 50 49.8**	**+0.2**
	comp=Z,327nm,0.9s								
JAGI					*e*Sn	**Sn**		**08 53 11.9**	**-5.4**
CMBY	**CAMPBELL BAY**	**13.64**	**327**	*e*P		**Pn**		**08 50 53.0**	**-0.2**
CMBY					AMB	AMB		08 51 08.4	
	comp=Z,148nm,1.2s								
SURT	**Suratani**	**13.66**	**350**	P		**P**		**08 51 04.6**	**+2.6**
SURA	**Surathani**	**13.74**	**353**	P		**Pn**		**08 50 55.5**	**+0.9**
	comp=Z,35nm,1.1s,comp=Z,1µm								
IGBI	**Denpasar**	**14.41**	**108**	P		P		08 51 14.0	+3.6
DNP	**Denpasar**	**14.43**	**107**	P		**P**		**08 51 13.0**	**+2.4**
KBKI	**Kotabaru**	**14.91**	**86**	P		**Pn**		**08 51 11.9**	**+1.3**
	comp=Z,221nm,1.1s,comp=Z,3µm								
BKB	**Balikpapan**	**15.94**	**79**	P		**P**		**08 51 29.8**	**+2.4**
PATY	**Pattaya**	**17.38**	**359**	P		**Pn**		**08 51 40.2**	**-2.0**
	comp=Z,25nm,1.1s,comp=Z,904nm								
DLV	**T Lat**	**17.90**	**24**	*e*Pn		**P**		**08 51 50.0**	**+0.7**
	comp=Z,78nm,0.9s								
PBA	**Port Blair**	**18.21**	**332**	*e*P		Pn		08 51 50.9	-1.6
KKM	**Kota Kinabalu**	**18.26**	**55**	*e*P		**P**		**08 51 53.3**	**0.0**
	comp=Z,423nm,1.4s								
KAPI	**Kappang**	**18.42**	**92**	P		**P**		**08 51 53.1**	**-1.8**
	comp=Z,655nm,1.2s,SNR=11								
KAPI	**Kappang**	**18.42**	**92**	P		**P**		**08 51 53.5**	**-1.3**
	comp=Z,1.2nm,0.3s,baz=283,slow=8.5,SNR=12								
KAPI					LR	LR		08 59 32.8	
	comp=Z,6µm,21.1s,baz=278,slow=39								
KAPI	**Kappang**	**18.42**	**92**	P		**P**		**08 51 54.4**	**-0.5**
	SNR=9.2								
KAPI	**Kappang**	**18.42**	**92**	P		**P**		**08 51 53.5**	**-1.3**
KAPI					*e*Pn	**Pn**		**08 51 53.8**	**-1.3**
SPSI	**Sidrap Palu**	**18.45**	**89**	P		**P**		**08 51 55.1**	**-0.1**
	comp=Z,279nm,1.3s,comp=Z,5µm								
TSM	**Tawau**	**18.77**	**62**	⇑P		**Pn**		**08 51 59.6**	**+0.3**
BKSI	**Bukkumba**	**18.79**	**93**	P		**P**		**08 51 58.3**	**-0.7**
	comp=Z,161nm,1.1s,comp=Z,2µm								
SDKM	**Sandakan**	**18.86**	**58**	⇑P		**Pn**		**08 52 00.4**	**0.0**
PCI	**Palu**	**18.89**	**79**	P		**Pn**		**08 52 01.7**	**+0.9**
	comp=Z,1µm,1.5s,comp=Z,16µm								
SRDT	**SRDT**	**18.91**	**354**	P		Pn		08 52 09.6	+8.6
MPSI	**Mapaga**	**19.23**	**76**	P		**Pn**		**08 52 04.7**	**-0.2**
	comp=Z,472nm,1.2s,comp=Z,5µm								
KDM	**Kudat**	**19.27**	**54**	⇑P		**Pn**		**08 52 05.0**	**-0.3**
KHLT	**Khaolaem Dam**	**19.42**	**352**	P		**Pn**		**08 52 09.5**	**+2.4**
	comp=Z,24nm,1.3s,comp=Z,504nm								
DGPR	**DIGLIPUR**	**19.48**	**335**	*e*P		**P**		**08 52 06.3**	**-0.1**
WSI	**Waingapu**	**19.54**	**106**	P		Pn		08 52 19.0	+10
MYLDM	**Lahad Datu**	**19.74**	**61**	⇑P		**Pn**		**08 52 11.5**	**+0.5**
UTHA	**Uthaitani**	**20.07**	**355**	P		Pn		08 52 13.9	-0.9
	comp=Z,38nm,1.0s,comp=Z,248nm								
UBPT	**Khong Chiam**	**20.15**	**12**	P		**P**		**08 52 12.7**	**-1.0**
	comp=Z,291nm,1.2s,comp=Z,3µm								
TOLI	**Toli-Toli**	**20.30**	**74**	*e*Pn		Pn		08 52 18.1	+0.5
CHAI	**Chaiyaphum**	**20.34**	**2**	P		**P**		**08 52 16.0**	**+0.1**
	comp=Z,38nm,1.1s,comp=Z,350nm								
APSI	**Ampana**	**20.67**	**80**	P		**P**		**08 52 20.5**	**+1.0**
	comp=Z,823nm,1.1s,comp=Z,10µm								
MMRI	**Maumere**	**21.21**	**102**	P		**P**		**08 52 26.4**	**+1.1**
	comp=Z,176nm,0.8s,comp=Z,3µm								
MMRI	**Maumere**	**21.21**	**102**	*e*P		**P**		**08 52 24.1**	**-1.2**
MRSI	**Marisa**	**21.25**	**77**	P		**P**		**08 52 25.3**	**-0.4**
	comp=Z,628nm,1.1s,comp=Z,5µm								
KDI	**Kendari**	**21.30**	**89**	P		**P**		**08 52 26.7**	**+0.5**
	comp=Z,369nm,1.2s,comp=Z,4µm								
SKNT	**Sakolnakorn**	**21.57**	**7**	P		**P**		**08 52 27.6**	**-1.4**
	comp=Z,131nm,0.9s,comp=Z,2µm								
LUWI	**Luwuk**	**21.75**	**81**	P		**P**		**08 52 32.5**	**+1.4**
LUWI	**Luwuk**	**21.75**	**81**	*e*P		**P**		**08 52 31.6**	**+0.5**
LOEI	**Loei**	**21.93**	**360**	P		**P**		**08 52 31.3**	**-1.7**
	comp=Z,101nm,1.3s,comp=Z,1µm								
SUKH	**Sukhothai**	**21.96**	**356**	P		**P**		**08 52 32.9**	**-0.4**
	comp=Z,37nm,1.0s,comp=Z,274nm								
UTTA	**Uttaradit**	**22.18**	**358**	P		**P**		**08 52 34.9**	**-0.7**
	comp=Z,18nm,0.9s,comp=Z,137nm								
NONG	**Nongkai**	**22.56**	**5**	P		**P**		**08 52 37.5**	**-2.2**
	comp=Z,321nm,1.0s,comp=Z,17µm								
MHMT	**Maesariang**	**22.83**	**352**	P		**P**		**08 52 42.9**	**+0.3**
	comp=Z,132nm,1.0s,comp=Z,2µm								
CM31	**Chiang Mai Arr**	**22.99**	**354**	*e*P		**P**		**08 52 44.5**	**+0.3**
	comp=Z,165nm,0.9s								
CMAR	**Chiang Mai Arr**	**22.99**	**354**	P		**P**		**08 52 42.4**	**-1.9**
	comp=Z,137nm,0.9s,baz=185,slow=8.1,SNR=111								
CMAR					PcP	**PcP**		**08 56 34.0**	**+0.3**
	comp=Z,8.2nm,1.0s,baz=213,slow=3.2,SNR=4.3								
CMAR					ScP	**ScP**		**09 00 11.1**	**+1.4**
	comp=Z,1.4nm,0.4s,baz=217,slow=3.7,SNR=4.9								
CMAR					LR	LR		09 02 54.1	
	comp=Z,5µm,19.2s,baz=187,slow=40								
LAMP	**Lampang**	**23.00**	**356**	P		**P**		**08 52 44.8**	**+0.5**
	comp=Z,68nm,1.0s,comp=Z,523nm								
CMMT	**Chiang Mai**	**23.34**	**354**	P		**P**		**08 52 47.2**	**-0.6**
	comp=Z,169nm,1.1s,comp=Z,3µm								
CHTO	**Chiang Mai**	**23.34**	**354**	P		**P**		**08 52 47.2**	**-0.6**
	comp=Z,591nm,1.1s,comp=Z,9µm								
CHTO	**Chiang Mai**	**23.34**	**354**	P		**P**		**08 52 47.4**	**-0.3**
	SNR=40								
CHTO	**Chiang Mai**	**23.34**	**354**	*e*P		**P**		**08 52 47.5**	**-0.2**
	comp=Z,117nm,1.0s								
CHTO					LR	LR			
	comp=Z,5µm,20.0s								
SOEI	**Soe**	**23.38**	**104**	*e*P		**P**		**08 52 46.3**	**-2.1**
	comp=Z,300nm,0.9s								
SOEI					*e*S	**S**		**08 56 53.2**	**-6.6**
PALK	**Pallekele**	**23.66**	**300**	LR		LR		09 01 37.5	
	comp=Z,4µm,18.6s,baz=114,slow=35								
MBWA	**Marble Bar**	**24.36**	**134**	*e*P		**P**		**08 52 58.4**	**+1.0**
	comp=Z,72nm,1.1s								
MBWA					LR	LR			
	comp=Z,5µm,21.0s								
QIZ	**Qiongzhong**	**24.92**	**20**	P		**P**		**08 53 00.3**	**-2.1**
QIZ					pP	**pP**		**08 53 11.0**	**-0.1**
QIZ					sP	**sP**		**08 53 13.3**	**-1.4**
QIZ					S	**S**		**08 57 27.5**	**+3.4**
QIZ					PMZ				
	comp=Z,1µm,9.0s								
QIZ					LN				
	comp=Z,3µm,14.2s								
QIZ					LE				
	comp=Z,2µm,12.8s								
QIZ					LZ				
	comp=Z,4µm,22.4s								
QIZ	**Qiongzhong**	**24.92**	**20**	*e*P		**P**		**08 53 02.1**	**-0.3**
	comp=Z,280nm,1.5s								
QIZ					LR	LR			
	comp=Z,4µm,22.0s								
SLVN	**Son La**	**25.86**	**6**	*e*P		**P**		**08 53 11.2**	**+0.1**
	comp=Z,175nm,1.1s								
TNTI	**Ternate**	**26.60**	**79**	*e*P		**P**		**08 53 14.8**	**-3.0**
	comp=Z,92nm,0.2s								
RCP	**Roxas**	**26.70**	**53**	⇑*e*P		**P**		**08 53 18.5**	**-0.1**
DAV	**Davao City (W)**	**26.87**	**65**	PFAKE				08 53 30.0	+10
DAV					LR	LR			
	comp=Z,3µm,19.0s								
TGY	**Tagaytay City**	**26.91**	**46**	LR		LR		09 05 39.7	
	comp=Z,114nm,19.4s,baz=296,slow=40								
SKHT	**Srikalahasti**	**28.08**	**311**	*e*P		**P**		**08 53 31.7**	**+0.7**
SKHT				*e*S		**S**		**08 58 17.5**	**+3.2**
SKHT				IVMs_BB		IVMs_BB		09 04 51.3	
	comp=Z,2µm,17.6s								
BCPH	**Baguio City Da**	**28.24**	**42**	⇓*e*P		P		08 53 28.7	-4.0
VIS	**Vishakhapatnam**	**28.35**	**322**	*e*P		**P**		**08 53 34.0**	**+0.6**
VIS					AMB	AMB		08 54 12.9	
	comp=Z,50nm,0.3s								
CHLP	**Challavanipeta**	**28.52**	**324**	*e*P		**P**		**08 53 34.4**	**-0.5**
CHLP					IAmb	IAmb		08 53 45.4	
	comp=Z,50nm,1.2s								
CHLP				*e*S		**S**		**08 58 20.4**	**-0.7**
CHLP				IVMs_BB		IVMs_BB		09 04 59.0	
	comp=Z,1µm,19.7s								
H08S2	**Diego Garcia H**	**28.78**	**262**	T		T		09 23 33.4	
	baz=85,slow=75,SNR=6894								
H08S3	**Diego Garcia H**	**28.78**	**263**	T		T		09 23 33.4	
	baz=85,slow=75,SNR=5958								
H08S1	**Diego Carcia H**	**28.79**	**262**	T		T		09 23 33.4	
	baz=85,slow=75,SNR=3339								
DGAR	**Diego Garcia**	**

TWG	**Pinlang**	**33.39**	**35**	*e*P		**P**	**08 54 17.3**	**-0.6**
	comp=Z,50nm,0.4s								
TPUB	**Ta-pu**	**33.52**	**33**	*e*P		**P**	**08 54 17.9**	**-1.1**
	comp=Z,72nm,1.1s								
TPUB				*e*PcP		**PcP**	**08 56 59.9**	**+0.4**
NGP	**Nagpur**	**33.59**	**320**	*e*P		**P**	**08 54 19.3**	**-0.3**
NGP				AMB		AMB	08 54 32.5		
	comp=Z,35nm,0.0s								
GOA	**Goa**	**33.70**	**307**	*e*P		**P**	**08 54 19.7**	**-0.9**
GOA				AMB		AMB	08 55 43.6		
	comp=Z,73nm,3.5s								
QZH	**Quanzhou**	**33.82**	**29**	⇑*i*P		**P**	**08 54 21.5**	**0.0**
QZH				S		**S**	**08 59 40.5**	**-3.3**
QZH				PMZ					
	comp=Z,70nm,1.0s								
QZH				PMZ					
	comp=Z,670nm,3.0s								
QZH				LN					
	comp=Z,5μm,13.0s								
QZH				LE					
	comp=Z,4μm,15.9s								
QZH				LZ					
	comp=Z,5μm,15.8s								
YULB	**Yu-li**	**33.97**	**34**	*e*P		**P**	**08 54 21.4**	**-1.5**
	comp=Z,12nm,0.7s								
YULB				*e*PcP		**PcP**	**08 57 00.8**	**0.0**
ODAN	**Odare**	**34.00**	**337**	*e*P		**P**	**08 54 24.6**	**+1.2**
SSLB	**Suanglung**	**34.09**	**33**	*e*P		**P**	**08 54 23.6**	**-0.3**
	comp=Z,34nm,1.1s								
TAPN	**Taplejung**	**34.33**	**338**	*e*P		**P**	**08 54 28.0**	**+1.8**
	comp=Z,527nm,1.1s								
RAMN	**Ramite**	**34.39**	**336**	*e*P		**P**	**08 54 28.4**	**+1.6**
AKL	**Akola**	**34.60**	**317**	*ex*		**pP**	**08 54 39.8**	**+2.6**
AKL				AMB		AMB	08 55 13.6		
	comp=Z,37nm,0.0s								
NACB	**Ninganchiao**	**34.75**	**34**	*e*P		**P**	**08 54 28.2**	**-1.4**
YHNB	**Yeheng**	**35.03**	**33**	*e*P		**P**	**08 54 30.8**	**-1.3**
	comp=Z,39nm,1.0s								
YHNB				LR		LR			
	comp=Z,2μm,19.0s								
TATO	**Taipei**	**35.33**	**33**	PFAKE			08 54 50.0	+15	
TATO				LR		LR			
	comp=Z,1μm,20.0s								
CD2	**Chengdu**	**35.35**	**4**	⇑P		**P**	**08 54 34.5**	**-0.3**
CD2				pP		**pP**	**08 54 43.5**	**0.0**
CD2				PP		**PP**	**08 55 55.5**	**+0.1**
CD2				PcP		**PcP**	**08 57 03.0**	**-1.7**
CD2				S		**S**	**09 00 08.8**	**+1.4**
CD2				sS		**sS**	**09 00 24.3**	**+2.4**
CD2				PMZ					
	comp=Z,160nm,0.7s								
CD2				PMZ					
	comp=Z,630nm,4.7s								
CD2				LN					
	comp=Z,8μm,18.1s								
CD2				LE					
	comp=Z,9μm,15.6s								
CD2				LZ					
	comp=Z,8μm,20.1s								
LSA	**Lhasa**	**35.42**	**345**	*e*P		**P**	**08 54 36.5**	**+0.6**
	comp=Z,96nm,1.0s								
LSA				*e*pP		**pP**	**08 54 45.7**	**+1.0**
LSA				*e*S		**S**	**09 00 08.8**	**-0.5**
LSA				LR		LR			
	comp=Z,2μm,20.0s								
PKI	**Pulchoki**	**35.43**	**335**	*e*P		**P**	**08 54 36.7**	**+0.9**
PKIN	**Phulchoki**	**35.44**	**335**	*e*P		**P**	**08 54 37.4**	**+1.6**
POO	**Poona**	**35.45**	**311**	*e*P		**P**	**08 54 35.2**	**-0.6**
POO				AMB		AMB	08 55 02.4		
	comp=Z,55nm,3.6s								
ENH	**Enshi**	**35.52**	**12**	*e*P		**P**	**08 54 35.5**	**-0.6**
	comp=Z,67nm,0.9s								
ENH				LR		LR			
	comp=Z,112nm,19.0s								
GUN	**Gumba**	**35.53**	**336**	*e*P		**P**	**08 54 38.4**	**+1.7**
DMN	**Daman**	**35.59**	**335**	*e*P		**P**	**08 54 38.4**	**+1.3**
	comp=Z,200nm,1.2s								
WRA	**Warramunga Arr**	**35.64**	**118**	P		**P**	**08 54 37.3**	**-0.1**
	comp=Z,39nm,0.9s,baz=291,slow=9.8,SNR=102								
WRA				S		**S**	**09 00 13.8**	**+1.7**
	comp=Z,8.7nm,1.1s,baz=298,slow=16,SNR=5.0								
WRA	**Warramunga Arr**	**35.64**	**118**	P		**P**	**08 54 37.3**	**-0.1**
WRA				S		**S**	**09 00 13.8**	**+1.7**
WRA				pmax		pmax			
	comp=Z,39nm,1.0s								
WRA				smax		smax			
	comp=N,9.0nm,1.1s								
WRAB	**Tennant Creek**	**35.64**	**118**	P		**P**	**08 54 37.0**	**-0.4**
	comp=N,365nm,1.0s,SNR=19								
WRAB	**Tennant Creek**	**35.64**	**118**	*c i*P		**P**	**08 54 37.5**	**+0.1**
WRAB				pmax		pmax			
	comp=Z,189nm,1.2s								
WRAB	**Tennant Creek**	**35.64**	**118**	*e*P		**P**	**08 54 37.5**	**+0.1**
	comp=Z,59nm,0.9s								
WRAB				*e*S		S	08 59 53.4	-19	
WRAB				LR		LR			
	comp=Z,2μm,19.0s								
KKN	**Kakani**	**35.67**	**335**	*e*P		**P**	**08 54 39.1**	**+1.3**
	comp=Z,468nm,1.3s								
GKN	**Gorkha**	**36.13**	**335**	*e*P		**P**	**08 54 43.0**	**+1.4**
	comp=Z,464nm,1.2s								
BHPL	**Bhopal**	**36.13**	**321**	*e*P		**P**	**08 54 42.4**	**+0.8**
BHPL				AMB		AMB	08 54 52.2		
	comp=Z,52nm,2.6s								
KOLN	**Koldanda**	**36.39**	**333**	*e*P		**P**	**08 54 45.3**	**+1.4**
	comp=Z,125nm,1.0s								
ASAR	**Alice Springs**	**36.75**	**124**	P		**P**	**08 54 47.3**	**+0.4**
	comp=Z,24nm,1.1s,baz=297,slow=8.1,SNR=65								
ASAR				S		**S**	**09 00 29.1**	**0.0**
	comp=Z,11nm,1.1s,baz=294,slow=16,SNR=8.0								
ASAR				LR		LR	09 11 36.2		
	comp=Z,2μm,21.3s,baz=297,slow=39								
ASAR	**Alice Springs**	**36.75**	**124**	P		**P**	**08 54 47.3**	**+0.4**
ASAR				S		**S**	**09 00 29.1**	**0.0**
ASAR				pmax		pmax			
	comp=Z,24nm,1.1s								
ASAR				smax		smax			
	comp=N,11nm,1.2s								
ASAR				MLR		MLR			
	comp=Z,2μm,21.3s								
AS31	**Alice Springs**	**36.75**	**124**	*e*P		**P**	**08 54 46.9**	**+0.1**
WHN	**Wuhan**	**37.08**	**19**	P		**P**	**08 54 49.8**	**+0.3**
WHN				pP		pP	08 55 03.5	+5.2	
WHN				PMZ					
	comp=Z,130nm,1.0s								
WHN				LN					
	comp=Z,4μm,12.6s								
WHN				LE					
	comp=Z,9μm,14.2s								
WHN				LZ					
	comp=Z,9μm,19.0s								
XAN	**Xi'an**	**39.07**	**10**	P		**P**	**08 55 05.8**	**-0.5**
XAN				pP		**pP**	**08 55 13.0**	**-2.1**
XAN				sP		**sP**	**08 55 16.3**	**-2.4**
XAN				PP		**PP**	**08 56 37.0**	**+0.8**
XAN				S		**ScP**	**09 01 00.3**	**-2.1**
XAN				PMZ					
	comp=Z,47nm,1.2s								
XAN				PMZ					
	comp=Z,120nm,6.2s								
XAN				LN					
	comp=Z,2μm,13.6s								
XAN				LE					
	comp=Z,2μm,17.8s								
XAN				LZ					
	comp=Z,2μm,14.2s								
NJ2	**Nanjing**	**40.07**	**23**	*e*P		**P**	**08 55 16.0**	**+1.4**
NJ2				pP		**pP**	**08 55 23.0**	**-0.4**
NJ2				sP		**sP**	**08 55 24.5**	**-2.5**
NJ2				S		**S**	**09 01 20.0**	**+1.1**
NJ2				sS		**sS**	**09 01 31.0**	**-2.5**
NJ2				PMZ					
	comp=Z,100nm,1.3s								
NJ2				PMZ					
	comp=Z,1μm,4.8s								
NJ2				LN					
	comp=Z,4μm,22.8s								
NJ2				LE					
	comp=Z,8μm,21.1s								
NJ2				LZ					
	comp=Z,8μm,22.2s								
SSE	**Sheshan**	**40.23**	**27**	⇑P		**P**	**08 55 16.5**	**+0.6**
SSE				pP		**pP**	**08 55 25.0**	**+0.2**
SSE				sP		**sP**	**08 55 28.5**	**+0.1**
SSE				S		**S**	**09 01 22.0**	**+0.7**
SSE				sS		**sS**	**09 01 36.0**	**+0.1**
SSE				PMZ					
	comp=Z,71nm,0.8s								
SSE				PMZ					
	comp=Z,400nm,6.1s								
SSE				LN					
	comp=Z,2μm,16.3s								
SSE				LE					
	comp=Z,1μm,16.2s								
SSE				LZ					
	comp=Z,2μm,16.7s								
NDI	**New Delhi**	**40.35**	**326**	*e*P		**P**	**08 55 14.0**	**-3.0**
NDI				*ex*		x	09 01 45.0		
LZH	**Lanzhou**	**40.51**	**3**	⇑P		**P**	**08 55 19.0**	**+0.7**
LZH				pP		**pP**	**08 55 27.5**	**+0.3**
LZH				sP		**sP**	**08 55 31.8**	**+1.0**
LZH				PP		**PnPn**	**08 56 56.0**	**0.0**
LZH				PcP		**PcP**	**08 57 23.0**	**+2.4**
LZH				*e*S		**S**	**09 01 26.0**	**+0.4**
LZH				sS		**sS**	**09 01 40.0**	**-0.2**
LZH				SS		**SS**	**09 04 22.8**	**-3.2**
LZH				PMZ					
	comp=Z,150nm,1.0s								
LZH				PMZ					
	comp=Z,920nm,4.0s								
LZH				LN					
	comp=Z,5μm,14.1s								
LZH				LE					
	comp=Z,5μm,14.4s								
LZH				LZ					
	comp=Z,9μm,17.7s								
JOW	**Kunigami**	**40.70**	**38**	P		**P**	**08 55 19.2**	**-0.6**
	comp=Z,6.3nm,0.9s,baz=252,slow=5.4,SNR=9.8								
JOW	**Kunigami**	**40.70**	**38**	*e*P		**P**	**08 55 19.9**	**0.0**
	comp=Z,33nm,1.0s								
DDI	**Dehra Dun**	**41.20**	**329**	*e*P		**P**	**08 55 23.5**	**-0.5**
DDI				AMB		AMB	08 55 25.5		
	comp=Z,94nm,1.4s								
SMLA	**Simla**	**42.30**	**329**	*e*P		**P**	**08 55 33.5**	**+0.6**
SMLA				AMB		AMB	08 55 46.0		
	comp=Z,106nm,2.0s								
COEN	**Coen**	**42.33**	**106**	*e*P		**P**	**08 55 32.1**	**-1.4**
	comp=Z,49nm,1.1s								
COEN				*e*PP		**PP**	**08 57 11.2**	**-0.7**
COEN				*e*PcP		**PcP**	**08 57 25.8**	**-1.1**
TIA	**Tai'an**	**43.19**	**19**	⇑P		**P**	**08 55 39.3**	**-0.8**
TIA				PP		**PcP**	**08 57 28.0**	**-1.3**
TIA				PMZ					
	comp=Z,90nm,1.1s								
TIA				PMZ					
	comp=Z,540nm,7.1s								
TIA				LN					
	comp=Z,4μm,17.0s								
TIA				LE					
	comp=Z,2μm,17.0s								
TIA				LZ					
	comp=Z,6μm,15.0s								
TIY	**Taiyuan**	**43.32**	**13**	*e*P		**P**	**08 55 41.5**	**+0.3**
TIY				sP		**sP**	**08 55 55.5**	**+1.8**
TIY				S		**S**	**09 02 06.5**	**-0.5**
TIY				LN					
	comp=Z,3μm,13.8s								
TIY				LE					
	comp=Z,1μm,14.0s								
TIY				LZ					
	comp=Z,3μm,20.0s								
DHRM	**DHARAMSHALA**	**43.63**	**329**	*e*P		**P**	**08 55 44.3**	**+0.2**
DHRM				AMB		AMB	08 55 59.8		
	comp=Z,120nm,0.4s								
GTA	**Gaotai**	**43.77**	**358**	⇑P		**P**	**08 55 45.5**	**+0.6**
GTA				pP		**pP**	**08 55 53.3**	**-0.5**
GTA				sP		**sP**	**08 55 56.5**	**-0.9**
GTA				PP		**PP**	**08 57 26.8**	**-0.4**
GTA				PcP		**PcP**	**08 57 32.5**	**+1.2**
GTA				ScP		**ScP**	**09 01 22.5**	**+1.4**
GTA				PcS		**PcS**	**09 01 25.0**	**+0.7**
GTA				S		**S**	**09 02 11.8**	**-1.9**
GTA				PMZ					
	comp=Z,97nm,1.3s								
GTA				PMZ					
	comp=Z,820nm,7.4s								
GTA				LN					
	comp=Z,4μm,20.0s								
GTA				LE					
	comp=Z,4μm,16.1s								
GTA				LZ					
	comp=Z,5μm,20.4s								
KSJJU	**Jeju**	**44.72**	**30**	P		**P**	**08 55 53.0**	**+0.5**
	SNR=8.5								
KSJJU	**Jeju**	**44.72**	**30**	P		**P**	**08 55 53.0**	**+0.5**
	SNR=8.5								
KSHUK	**Heuksando**	**45.20**	**28**	P		**P**	**08 55 56.3**	**+0.2**
	SNR=10								
KSHUK	**Heuksando**	**45.20**	**28**	P		**P**	**08 55 56.3**	**+0.2**
	SNR=10								
KSJDO	**Jindo**	**45.44**	**29**	P		**P**	**08 55 58.4**	**+0.2**
	SNR=11								
KSJDO	**Jindo**	**45.44**	**29**	P		**P**	**08 55 58.4**	**+0.2**
	SNR=11								
MSEY	**Mahe Island**	**45.64**	**268**	PFAKE			08 56 10.0	+10	
MSEY				LR		LR			
	comp=Z,2μm,19.0s								
BTO	**Baotou**	**45.66**	**9**	*e*P		**P**	**08 55 59.5**	**-0.4**
PMG	**Port Moresby**	**45.77**	**99**	*c i*P		**P**	**08 56 00.3**	**-0.8**
PMG	**Port Moresby**	**45.77**	**99**	*e*P		**P**	**08 56 00.7**	**-0.4**
	comp=Z,325nm,1.5s								
PMG				*e*pP		**pP**	**08 56 09.5**	**-0.6**
PMG				LR		LR			
	comp=Z,2μm,21.0s								
HHC	**Hu-ho-hao-te**	**46.16**	**11**	*e*P		**P**	**08 56 04.5**	**+0.6**
HHC				PP		**PP**	**08 57 53.3**	**+0.7**
HHC				S		**S**	**09 02 48.3**	**0.0**
HHC				sS		**sS**	**09 03 03.8**	**+0.8**
HHC				SS		**ScS**	**09 06 04.5**	**+7.0**
HHC				PMZ					
	comp=Z,140nm,1.0s								
HHC				PMZ					
	comp=Z,810nm,6.2s								
HHC				LN					
	comp=Z,2μm,14.1s								
HHC				LE					
	comp=Z,2μm,14.7s								
HHC				LZ					
	comp=Z,2μm,14.3s								
CTAO	**Charters Tower**	**46.39**	**113**	*e*P		**P**	**08 56 06.3**	**+0.4**
	comp=Z,272nm,1.5s								
CTAO				*e*pP		**pP**	**08 56 14.6**	**-0.3**
CTAO				LR		LR			
	comp=Z,2μm,21.0s								
BJT	**Baijiatuau**	**46.43**	**16**	*e*P		**P**	**08 56 06.3**	**+0.4**
	comp=Z,254nm,1.0s								
BJT				*e*pP		**pP**	**08 56 14.2**	**-0.6**
BJT				LR		LR			
	comp=Z,3μm,19.0s								
BJI	**Beijing**	**46.45**	**16**	P		**P**	**08 56 06.3**	**+0.3**
BJI				pP		**pP**	**08 56 15.0**	**0.0**
BJI				sP		**sP**	**08 56 18.5**	**0.0**
BJI				PP		**PP**	**08 57 57.0**	**+1.4**
BJI				PMZ					
	comp=Z,190nm,1.0s								
BJI				PMZ					
	comp=Z,740nm,4.4s								
BJI				LN					
	comp=Z,5μm,16.1s								
BJI				LE					
	comp=Z,2μm,15.5s								
BJI				LZ					
	comp=Z,2μm,18.8s								
STKA	**Stephens Creek**	**46.52**	**131**	P		**P**	**08 56 07.7**	**+0.9**
	comp=Z,24nm,1.0s,baz=309,slow=8.6,SNR=20								
STKA				LR		LR	09 17 16.8		
	comp=Z,3μm,21.0s,baz=296,slow=38								
STKA	**Stephens Creek**	**46.52**	**131**	P		**P**	**08 56 07.7**	**+0.9**
STKA				pmax		pmax			
	comp=Z,25nm,1.0s								
STKA				MLR		MLR			
	comp=Z,3μm,21.0s								
STKA	**Stephens Creek**	**46.52**	**131**	P		**P**	**08 56 07.7**	**+0.9**
STKA				*e*pP		**pP**	**08 56 16.4**	**+0.7**
STKA				*e*sP		**sP**	**08 56 20.3**	**+1.0**
KSJEU	**Jeongeup**	**46.56**	**29**	P		**P**	**08 56 06.8**	**-0.1**
	SNR=7.0								
KSJEU	**Jeongeup**	**46.56**	**29**	P		**P**	**08 56 06.8**	**-0.1**
	SNR=7.0								
JNU	**Nakatsue**	**46.81**	**35**	LR		LR	09 15 52.3		
	comp=Z,512nm,20.6s,slow=36								
JNU	**Nakatsue**	**46.81**	**35**	*e*P		**P**	**08 56 08.2**	**-0.8**
	comp=Z,86nm,1.4s								
JNU				*e*pP		**pP**	**08 56 15.9**	**-2.1**
GUMO	**Guam**	**46.88**	**67**	PFAKE			08 56 20.0	+10	
GUMO				LR		LR			
	comp=Z,74nm,19.0s								
KSGUS	**GUNSAN**	**46.93**	**29**	P		**P**	**08 56 09.7**	**-0.1**
	SNR=14								
KSGUS	**GUNSAN**	**46.93**	**29**	P		**P**	**08 56 09.7**	**-0.1**
	SNR=7.4								
DL2	**Dalian**	**47.17**	**22**	⇑*i*P		**P**	**08 56 11.5**	**-0.1**
DL2				PP		**PP**	**08 58 00.3**	**-2.6**
DL2				S		**S**	**09 03 02.8**	**+0.3**
DL2				PMZ					
	comp=Z,82nm,1.5s								
DL2				PMZ					
	comp=Z,380nm,3.9s								
DL2				LN					
	comp=Z,1μm,18.1s								
DL2				LZ					
	comp=Z,2μm,18.2s								
KSSES	**Seosan**	**47.38**	**28**	P		**P**	**08 56 12.9**	**-0.4**
	SNR=14								
KSSES	**Seosan**	**47.38**	**28**	P		**P**	**08 56 12.9**	**-0.4**
	SNR=14								
KSBAR	**Backryungdo**	**47.60**	**25**	P		**P**	**08 56 14.4**	**-0.5**
	SNR=8.1								
KSBAR	**Backryungdo**	**47.60**	**25**	P		**P**	**08 56 14.2**	**-0.8**
	SNR=17								
KSCPR	**CHUPUNGNYEONG**	**47.65**	**29**	P		**P**	**08 56 15.7**	**+0.3**
	SNR=8.4								
KSCPR	**CHUPUNGNYEONG**	**47.65**	**29**	P		**P**	**08 56 15.7**	**+0.3**
	SNR=8.4								
KSCEA	**Cheonan**	**47.79**	**28**	P		**P**	**08 56 16.1**	**-0.4**
	SNR=8.3								
KSCEA	**Cheonan**	**47.79**	**28**	P		**P**	**08 56 16.1**	**-0.4**
	SNR=8.3								
KSBON	**Boeun**	**47.79**	**29**	P		**P**	**08 56 16.7**	**+0.2**
	SNR=22								
KSBON	**Boeun**	**47.79**	**29**	P		**P**	**08 56 16.7**	**+0.2**
	SNR=22								
KSSAJ	**Sangju**	**47.89**	**29**	P		**P**	**08 56 17.3**	**0.0**
	SNR=8.1								
KSSAJ	**Sangju**	**47.89**	**29**	P		**P**	**08 56 17.3**	**0.0**
	SNR=8.1								
INCN	**Inchon**	**48.03**	**27**	PFAKE			08 56 30.0	+12	
INCN				LR		LR			
	comp=Z,1μm,20.0s								
KSGAH	**Ganghwa**	**48.13**	**27**	P		**P**	**08 56 19.5**	**+0.4**
	SNR=9.4								
KSCHJ	**Chungju**	**48.17**	**29**	P		**P**	**08 56 19.5**	**+0.1**
	SNR=16								
KSICN	**Icheon**	**48.24**	**28**	P		**P**	**08 56 19.7**	**-0.3**
	SNR=5.7								
KSMUS	**Musan**	**48.42**	**27**	P		**P**	**08 56 20.8**	**-0.5**
	SNR=18								
KSMUS	**Musan**	**48.42**	**27**	P		**P**	**08 56 20.8**	**-0.5**
	SNR=5.8								
KSYOD	**Yeongdeok**	**48.58**	**30**	P		**P**	**08 56 22.6**	**0.0**
	SNR=35								
KSYOD	**Yeongdeok**	**48.58**	**30**	P		**P**	**08 56 22.6**	**0.0**
	SNR=35								
KSAR	**Wonju Array Be**	**48.58**	**28**	P		**P**	**08 56 22.5**	**-0.1**
KSAR				PcP		**PcP**	**08 57 48.7**	**+0.7**
KSRS	**Korea Array**	**48.61**	**28**	P		**P**	**08 56 22.5**	**-0.3**
	comp=Z,76nm,0.9s,baz=215,slow=8.1,SNR=190								
KSRS				PcP		**PcP**	**08 57 48.7**	**+0.6**
	comp=Z,4.2nm,0.9s,baz=224,slow=2.3,SNR=4.4								
KSRS				LR		LR	09 18 57.0		
	comp=Z,522nm,18.5s,baz=248,slow=39								
KSRS	**Korea Array**	**48.61**	**28**	P		**P**	**08 56 22.5**	**-0.3**
KSRS							08 57 48.7		
KSRS				pmax		pmax			
	comp=Z,76nm,0.9s								
KSRS				pmax		pmax			
	comp=Z,4.0nm,1.0s								
KSRS				MLR		MLR			
	comp=Z,522nm,18.5s								
YNCB	**YEONCHEON**	**48.62**	**27**	P		**P**	**08 56 22.1**	**-0.8**
	SNR=16								
KSCHC	**Chuncheon**	**48.82**	**28**	P		**P**	**08 56 24.5**	**0.0**
	SNR=20								
KSTBA	**Taebaek**	**48.84**	**30**	P		**P**	**08 56 25.2**	**+0.5**
	SNR=8.5								
KSCWO	**Cheorwon**	**48.93**	**28**	P		**P**	**08 56 24.9**	**-0.4**
	SNR=6.1								
KSIJA	**INJE**	**49.12**	**28**	P		**P**	**08 56 26.8**	**0.0**
	SNR=23								
KSDGY	**Daegwallycong**	**49.16**	**29**	P		**P**	**08 56 27.3**	**+0.2**
	SNR=6.6								
KBL	**Kabul**	**49.34**	**325**	*e*P		**P**	**08 56 28.1**	**-0.7**
	comp=Z,52nm,1.2s								
KSJMJ	**Jumunjin**	**49.35**	**29**	P		**P**	**08 56 29.0**	**+0.5**
	SNR=8.4								
SEHB	**SEOHWA**	**49.42**	**28**	P		**P**	**08 56 28.7**	**-0.4**
	SNR=10								
KSH	**Kashi**	**49.68**	**334**	P		**P**	**08 56 30.3**	**-0.9**
KSH				pP		**pP**	**08 56 39.0**	**-1.2**
KSH				sP		**sP**	**08 56 42.5**	**-1.2**
KSH				PP		**PP**	**08 58 30.0**	**+4.1**
KSH				PcS		**PcS**	**09 01 49.8**	**+0.8**
KSH				S		**S**	**09 03 36.8**	**-1.4**
KSH				PMZ					
	comp=Z,48nm,1.2s								
KSH				PMZ					
	comp=Z,430nm,4.0s								
KSH				LN					
	comp=Z,2μm,18.6s								
KSH				LE					
	comp=Z,2μm,16.7s								
KSH				LZ					
	comp=Z,3μm,21.5s								
WMQ	**Urumqi**	**49.69**	**347**	P		**P**	**08 56 32.3**	**+1.2**
WMQ				pP		**pP**	**08 56 41.5**	**+1.4**
WMQ				sP		**sP**	**08 56 46.0**	**+2.3**
WMQ				PcP		**PcP**	**08 57 51.0**	**-1.0**
WMQ				PP		**PP**	**08 58 27.0**	**+1.1**
WMQ				ScP		**ScP**	**09 01 44.5**	**-1.2**
WMQ				PcS		**PcS**	**09 01 48.5**	**-0.3**
WMQ				S		**S**	**09 03 37.3**	**-0.8**
WMQ				sS		**sS**	**09 03 54.3**	**+1.3**
WMQ				ScS		**ScS**	**09 06 18.3**	**-2.4**
WMQ				PMZ					
	comp=Z,170nm,1.4s								
WMQ				PMZ					
	comp=Z,860nm,4.6s								
WMQ				LN					
	comp=Z,1μm,20.1s								
WMQ				LE					
	comp=Z,2μm,17.0s								
WMQ				LZ					
	comp=Z,2μm,23.6s								
SNY	**Shenyang**	**50.45**	**22**	⇑P		**P**	**08 56 35.5**	**-1.2**
SNY				PP		**PP**	**08 58 33.5**	**+0.8**
SNY				PMZ					
	comp=Z,66nm,1.2s								
SNY				PMZ					
	comp=Z,630nm,3.5s								
SNY				LN					
	comp=Z,3μm,15.7s								
SNY				LE					
	comp=Z,2μm,15.5s								
SNY				LZ					
	comp=Z,4μm,15.7s								
CBIJ	**Chichi jima**	**50.52**	**49**	*e*P		P	08 56 33.9	-3.6	
	comp=Z,87nm,1.0s								
PDGK	**Podgornoye**	**51.58**	**340**	P		**P**	**08 56 45.7**	**+0.5**
PDGK				pmax		pmax			
	comp=Z,194nm,1.1s								
PAF	**Port-aux-Franc**	**51.81**	**205**	P		P	08 56 37.0	-10	
PAF				S		S	09 03 59.0	-8.2	
PAF				R			09 11 00.0		
ULHL	**Ulahol**	**51.85**	**336**	P		**P**	**08 56 48.4**	**+0.8**
	SNR=33								
EIDS	**Eidsvold**	**52.00**	**119**	*e*P		**P**	**08 56 49.6**	**+0.9**
	comp=Z,135nm,1.5s								
EIDS				*e*pP		**pP**	**08 56 57.6**	**-0.2**
KZA	**Kyzart**	**52.11**	**336**	P		**P**	**08 56 50.8**	**+1.1**
	SNR=45								
SONM	**Songino Array**	**52.37**	**4**	P		**P**	**08 56 52.3**	**+1.1**
	comp=Z,199nm,1.0s,

comp=Z,800nm,5.4s
AAA smax smax
comp=E,2μm,7.5s
ULN Ulaanbaatar 52.45 5 PFAKE 08 57 00.0 +8.1
ULN LR LR
comp=Z,2μm,19.0s
UCH Uchtor 52.54 335 P **P** **08 56 53.7 +0.7**
SNR=28
TKM2 Tokmak 2 52.67 336 P **P** **08 56 54.5 +0.8**
SNR=64
TKM2 Tokmak 2 52.67 336 *e*P **P** **08 56 54.3 +0.6**
comp=Z,132nm,1.2s
TKM2 *e*pP **pP** **08 57 02.5 -0.3**
TKM2 LR LR
comp=Z,2μm,21.0s
KBK Karagaybulak 52.72 336 P **P** **08 56 55.4 +1.5**
SNR=23
AML Almayashu 52.81 334 P **P** **08 56 55.5 +0.6**
SNR=13
CN2 Changchun 52.84 22⇑ *i*P **P** **08 56 54.0 -0.6**
CN2 *e*pP **pP** **08 57 01.8 -1.9**
CN2 *e*S **S** **09 04 19.3 -2.2**
CN2 PMZ
comp=Z,20nm,1.0s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,3μm,16.0s
CN2 LE
comp=Z,2μm,16.0s
CN2 LZ
comp=Z,3μm,18.0s
AAK Ala-Archa 52.88 335 P **P** **08 56 56.4 +1.2**
SNR=8.0
AAK Ala-Archa 52.88 335*c i*P P 08 57 05.6 +10
AAK pmax pmax
comp=Z,54nm,1.2s
AAK Ala-Archa 52.88 335 *e*P P 08 57 05.8 +11
FRU Bishkek 53.00 336⇑ *i*P **P** **08 56 56.0 +0.1**
FRU *e* 09 04 24.0
FRU pmax pmax
comp=Z,150nm,1.8s
FRU MLR MLR
comp=E,2μm,18.0s
CHMS Chumysh 53.08 336 P **P** **08 56 57.0 +0.6**
SNR=19
EKS2 Erkin-Say 53.21 335 P **P** **08 56 58.8 +1.3**
SNR=52
EKS2 Erkin-Say 53.21 335 *e*P **P** **08 56 58.5 +1.0**
comp=E,6.9nm,0.6s
EKS2 LR LR
comp=Z,2μm,21.0s
USP Ospenovka 53.41 336 P **P** **08 56 59.5 +0.6**
SNR=29
MAJO Matsushiro 53.50 37 *e*P **P** **08 56 58.0 -1.7**
comp=Z,102nm,1.0s
MAJO *e*PcP **PcP** **08 58 06.7 +0.3**
MAJO LR LR
comp=Z,793nm,19.0s
MAT Matsushiro 53.50 37 P **P** **08 56 57.8 -1.8**
MAT S **S** **09 04 31.0 +0.3**
MJAR Matsushiro Arr 53.50 37 P **P** **08 56 58.2 -1.4**
comp=Z,80nm,0.9s,baz=218,slow=8.4,SNR=205
MJAR PcP **PcP** **08 58 07.6 +1.3**
comp=Z,15nm,1.0s,baz=219,slow=4.8,SNR=2.4
MJAR ScP **ScP** **09 02 03.4 +1.2**
comp=Z,2.9nm,1.0s,baz=191,slow=6.1,SNR=6.1
MJAR Matsushiro Arr 53.50 37 P **P** **08 56 58.2 -1.4**
MJAR 08 58 07.6
MJAR pmax pmax
comp=Z,80nm,0.9s
MJAR pmax pmax
comp=Z,15nm,1.0s
MJAR pmax pmax
comp=N,3.0nm,1.0s
MK31 Makanchi Array 53.83 344 *i* P **P** **08 57 01.1 -0.7**
MK31 pmax pmax
comp=Z,152nm,1.3s
MK31 Makanchi Array 53.83 344 *e*P **P** **08 57 02.2 +0.3**
ARMA Armidale 53.90 125 *e*P **P** **08 57 03.6 +0.8**
comp=Z,74nm,1.1s
ABPO Ambohimpanom 54.60 250 PFAKE 08 57 20.0 +12
ABPO LR LR
comp=Z,1μm,19.0s
ZAK Zakamensk 54.75 2⇓ *i*P **P** **08 57 08.8 +0.2**
ZAK pmax pmax
comp=Z,36nm,1.1s
VLA Vladivostok 54.94 27*j i*P **P** **08 57 10.1 +0.1**
VLA *i* *PP **pP** **08 57 18.6 -0.5**
VLA 08 58 11.2
VLA 08 59 13.4
VLA *e*S **S** **09 04 50.8 +0.9**
VLA pmax pmax
comp=Z,87nm,1.0s
KK31 Karatay Array 55.00 333 *i* P **P** **08 57 09.1 -1.4**
KK31 pmax pmax
comp=Z,17nm,0.9s
KKAR Karatay Array 55.00 333 *e*P **P** **08 57 10.2 -0.3**
comp=Z,14nm,0.8s
MDJ Mudanjiang 55.15 24 P **P** **08 57 11.5 0.0**
MDJ pP **pP** **08 57 19.5 -1.1**
MDJ sP **sP** **08 57 23.3 -0.8**
MDJ S **S** **09 04 57.0 +4.4**
MDJ PMZ
comp=Z,52nm,0.9s
MDJ PMZ
comp=Z,390nm,5.5s
MDJ LN
comp=Z,1μm,19.1s
MDJ LE
comp=Z,550nm,23.9s
MDJ LZ
comp=Z,2μm,14.7s
MDJ Mudanjiang 55.15 24 *e*P **P** **08 57 11.3 -0.2**
comp=Z,49nm,0.9s
MDJ LR LR
comp=Z,2μm,20.0s
TAU Tasmania Unive 55.81 140 PFAKE 08 57 30.0 +14
TAU LR LR
comp=Z,2μm,20.0s
USRK Ussuriysk Ar. 55.84 26 P **P** **08 57 16.4 0.0**
comp=Z,117nm,0.8s,baz=221,slow=6.6,SNR=264
USRK LR LR 09 22 58.9
comp=Z,2μm,19.1s,baz=215,slow=38
HIA Hailar 55.97 15 *e*P **P** **08 57 16.9 -0.4**
comp=Z,89nm,1.0s
HIA *e*pP **pP** **08 57 25.6 -0.9**
HIA LR LR
comp=Z,3μm,20.0s
MOY Mondy 56.01 360 *e*P **P** **08 57 18.2 +0.5**
MOY pmax pmax
comp=Z,124nm,2.5s
TLY Talaya 56.06 2 P **P** **08 57 19.4 +1.5**
comp=Z,503nm,1.0s,SNR=33
TLY Talaya 56.06 2 *e*P **P** **08 57 19.1 +1.1**
TLY pmax pmax
comp=Z,110nm,1.0s
TLY Talaya 56.06 2 P **P** **08 57 19.5 +1.6**
SNR=56
TLY Talaya 56.06 2 *e*P **P** **08 57 19.0 +1.1**
comp=Z,87nm,1.0s
TLY *e*pP **pP** **08 57 27.0 -0.1**
TLY LR LR
comp=Z,3μm,19.0s
IMOG Moghan 56.35 319 *e*P **P** **08 57 19.3 -1.3**
ISRO Mashad 56.38 320 *e*P **P** **08 57 17.7 -3.0**
IRK Irkutsk 56.65 2⇑ *i*P **P** **08 57 22.6 +0.5**
IRK *e*S **S** **09 05 17.5 +5.2**
IRK pmax pmax
comp=Z,207nm,2.7s
IAKL Akhelmad 57.02 320 *e*P **P** **08 57 25.2 -0.1**
IKRD Kardeh 57.28 320 *e*P P 08 57 23.3 -3.9
CIT Chita 57.33 9 *e*P **P** **08 57 27.6 +0.6**
CIT *e* 08 57 36.3
CIT *e* 08 57 40.6
CIT *e* 08 58 14.4
CIT pmax pmax
comp=Z,285nm,2.5s
ISAD Sadrabad 57.98 312 *e*P **P** **08 57 32.2 0.0**
GEYT Alibeck 58.22 320 P **P** **08 57 33.2 -0.3**
comp=Z,23nm,1.1s,baz=142,slow=5.6,SNR=32
ISHV Shirvan 58.25 320 *e*P **P** **08 57 34.7 +0.7**
IKAZ Kazeroun 58.36 309 *e*P **P** **08 57 35.7 +0.7**
HNR Honiara 58.38 98 PFAKE 08 57 50.0 +15
HNR LR LR
comp=Z,1μm,21.0s

KURK Kurchatov 58.41 343 P **P** **08 57 34.6 +0.2**
comp=Z,461nm,1.1s,SNR=20
KURK Kurchatov 58.41 343 P **P** **08 57 33.7 -0.8**
KURK pmax pmax
comp=Z,57nm,1.2s
KURK Kurchatov 58.41 343 P **P** **08 57 35.0 +0.5**
SNR=52
KURK Kurchatov 58.41 343 *e*P **P** **08 57 34.7 +0.2**
comp=Z,50nm,0.8s
KURK *e*pP **pP** **08 57 42.9 -0.7**
KURK LR LR
comp=Z,3μm,19.0s
DAMY Dhamar 59.49 290 P **P** **08 57 42.7 -0.4**
comp=Z,8.7nm,0.4s
CRZF Crozet Islands 59.62 218 P P 08 57 33.0 -10
CRZF S S 09 05 34.0 -17
CRZF R 09 14 00.0
KLR Kul'dur 59.77 23 *e*P P 08 57 40.2 -3.7
KLR *e*S **S** **09 05 50.5 -2.6**
KLR pmax pmax
comp=Z,500nm,7.5s
KLR MLR MLR
comp=Z,2μm,13.0s
ZAA0 Zalesovo Array 59.91 349 *e*P **P** **08 57 44.8 0.0**
ZAA0 *e*pP **pP** **08 57 53.1 -0.9**
ZALV Zalesovo Beam 59.91 349 P **P** **08 57 44.9 +0.1**
comp=Z,84nm,0.9s,baz=160,slow=4.7,SNR=158
ZALV S **S** **09 05 54.0 -0.8**
comp=Z,3.1nm,0.9s,baz=163,slow=12,SNR=4.8
ZALV LR LR 09 27 21.7
comp=Z,1μm,18.4s,baz=246,slow=40
ZALV Zalesovo Beam 59.91 349 *i* P **P** **08 57 44.9 +0.1**
ZALV pmax pmax
comp=Z,135nm,1.0s
ERM Erimo 59.98 35 P **P** **08 57 45.6 +0.1**
comp=Z,339nm,1.1s,SNR=12
ERM Erimo 59.98 35*ce*P **P** **08 57 45.7 +0.2**
ERM pmax pmax
comp=Z,65nm,1.0s
ERM Erimo 59.98 35 *e*P **P** **08 57 45.3 -0.2**
comp=Z,55nm,0.9s
ERM *e*pP **pP** **08 57 53.7 -1.0**
ERM LR LR
comp=Z,773nm,19.0s
IPIR Pirpir 60.42 312 *e*P **P** **08 57 47.9 -1.3**
HABR Khabarovsk 60.50 25 *e*P **P** **08 57 47.4 -1.5**
HABR *e**PP **pP** **08 57 57.4 -0.8**
HABR *e**SP **sP** **08 58 01.5 -0.2**
HABR 08 58 31.1
HABR *e* 09 00 01.0
HABR *e*PPP PPP 09 01 24.7
HABR *e*S **S** **09 06 01.7 -0.8**
HABR *e* 09 06 14.1
HABR *e**SS **sS** **09 06 18.9 +1.2**
HABR *e* 09 07 35.2
HABR pmax pmax
comp=N,24nm,1.2s
HABR pmax pmax
comp=E,36nm,1.2s
HABR pmax pmax
comp=Z,95nm,1.2s
HABR MLR MLR
comp=Z,2μm,21.0s
KRAR Krasnoyarsk 60.76 355*c i*P **P** **08 57 50.6 0.0**
KRAR pmax pmax
comp=Z,113nm,1.1s
IVRN Varamin 60.93 314 *e*P **P** **08 57 52.0 -0.3**
ASAJ Asahikawa 61.03 33 *e*P **P** **08 57 52.6 -0.1**
comp=Z,44nm,1.2s
ASAJ *e*pP **pP** **08 58 00.8 -1.1**
NVS Novosibirsk 61.06 348⇑ *i*P **P** **08 57 52.1 -0.6**
NVS *e*S **S** **09 06 07.9 -1.6**
NVS pmax pmax
comp=Z,79nm,1.6s
NVS pmax pmax
comp=N,39nm,1.4s
NVS smax smax
comp=E,101nm,2.8s
RAYN Ar Rayn 61.10 300 *e*P **P** **08 57 54.6 +1.0**
comp=E,36nm,1.5s
IR3 Iran Long-Peri 61.66 315 *e*P **P** **08 57 55.0 -2.3**
YUK Yuzh-Kuril'sk 62.79 35*c i*P **P** **08 58 03.9 -0.6**
YUK *i* 08 58 41.7
YUK *i* 09 00 22.5
YUK *i* S **S** **09 06 33.0 +1.3**
YUK *i* 09 07 54.3
YUK *e*SS **SS** **09 10 35.4 -1.7**
YUK pmax pmax
comp=Z,343nm,1.9s
YUK pmax pmax
comp=N,103nm,1.9s
YUK pmax pmax
comp=E,75nm,1.9s
YUK pmax pmax
comp=Z,180nm,1.9s
YSS Yuzh-Sakhalins 63.00 31α *i*P **P** **08 58 05.5 -0.3**
YSS *e* 08 58 13.0
YSS *e* 08 58 41.0
YSS *e* 09 00 26.0
YSS *e*S **S** **09 06 30.0 -4.2**
YSS *e*PS **PnS** **09 06 50.0 -2.8**
YSS pmax pmax
comp=Z,250nm,1.0s
YSS Yuzh-Sakhalins 63.00 31 *e*P **P** **08 58 05.5 -0.3**
comp=Z,226nm,0.9s
YSS LR LR
comp=Z,395nm,20.0s
BVA0 Borovoye Array 63.01 340 *i* P **P** **08 58 04.4 -1.4**
BVA0 pmax pmax
comp=Z,59nm,1.3s
BOD Bodaibo 63.02 8 *e*P **P** **08 58 05.6 -0.2**
BOD pmax pmax
comp=Z,92nm,1.1s
BRVK Borovoye 63.08 340 P **P** **08 58 06.8 +0.6**
comp=Z,210nm,1.0s,SNR=14
BRVK Borovoye 63.08 340*ce*P **P** **08 58 06.0 -0.3**
BRVK pmax pmax
comp=Z,60nm,1.2s
BRVK Borovoye 63.08 340 P **P** **08 58 06.3 +0.1**
SNR=21
BRVK Borovoye 63.08 340 *e*P **P** **08 58 05.9 -0.3**
comp=Z,54nm,1.1s
BRVK *e*PcP **PcP** **08 58 43.8 0.0**
BRVK LR LR
comp=Z,2μm,22.0s
CLNS Chul'man 64.15 14 *e*P **P** **08 58 12.5 -0.8**
CLNS *e**PP **pP** **08 58 21.6 -1.0**
CLNS *e* 08 58 44.7
CLNS *e* 09 00 32.9
CLNS *e*PPP PPP 09 02 03.2
CLNS *e*S **S** **09 06 44.2 -4.2**
CLNS pmax pmax
comp=Z,52nm,1.0s
CLNS pmax pmax
comp=N,31nm,1.0s
CLNS pmax pmax
comp=E,20nm,0.9s
CLNS pmax pmax
comp=Z,10.0nm,1.0s
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS smax smax
comp=E,145nm,17.3s
CLNS smax smax
comp=N,165nm,11.2s
CLNS MLR MLR
comp=N,1μm,11.0s
CLNS MLR MLR
comp=E,1μm,14.0s
CLNS MLR MLR
comp=Z,2μm,16.0s
AB31 Akbulak array 64.48 331 P **P** **08 58 14.7 -0.9**
AB31 pmax pmax
comp=Z,85nm,1.0s
ABKAR Akbulak array 64.48 331 *e*P **P** **08 58 15.6 0.0**
comp=Z,74nm,0.9s
KUR Kuril'sk 64.65 35*c i*P **P** **08 58 16.4 -0.3**
KUR *i* S **S** **09 07 00.6 +5.8**
KUR pmax pmax
comp=N,43nm,0.9s
KUR pmax pmax
comp=E,64nm,0.9s
KUR pmax pmax

comp=Z,70nm,0.9s
KUR pmax pmax
comp=Z,71nm,0.1s
TYV Tymovskoe 65.61 27 *e*P **P** **08 58 23.0 +0.1**
TYV *e*S S 09 07 31.0 +25
TYV pmax pmax
comp=Z,500nm,3.0s
TYV smax smax
comp=E,500nm,11.0s
TYV MLR MLR
comp=E,2μm,18.0s
TYV MLR MLR
comp=Z,2μm,18.0s
AKTO Aktyubinsk 66.20 331 P **P** **08 58 26.3 -0.4**
AKTO pmax pmax
comp=Z,60nm,1.4s
NKL Nikolayevsk 66.37 25 *i* P P 08 58 21.4 -6.3
NKL *e* 08 58 29.2
NKL *e* 09 07 15.0
NKL pmax pmax
comp=Z,13nm,1.0s
NKL MLR MLR
comp=E,500nm,16.0s
DRV Dumont d'Urvil 67.53 164 S S 09 07 09.0 -20
DRV L L 09 15 00.0
DRV R 09 17 00.0
MAK Makhachkala 67.74 320 *e*P P 08 58 30.2 -6.4
MAK *e* 08 59 00.6
MAK *e*PPP PPP 09 02 38.7
MAK *e* 09 08 22.8
MAK pmax pmax
comp=Z,132nm,1.1s
MAW Mawson 68.14 195 P **P** **08 58 39.8 +1.1**
comp=Z,4.1nm,0.8s,baz=63,slow=8.7,SNR=6.5
MAW LR LR 09 22 53.7
comp=Z,3μm,20.5s,baz=47,slow=31
MAW PKP2bc 09 26 58.4
comp=Z,1.4nm,0.7s,baz=270,slow=3.0,SNR=4.5
GNI Garni 68.25 316*ce*P **P** **08 58 41.6 +1.5**
GNI pmax pmax
comp=Z,19nm,1.2s
GNI Garni 68.25 316 P **P** **08 58 41.5 +1.5**
SNR=7.5
GNI Garni 68.25 316 *e*P **P** **08 58 41.4 +1.3**
comp=Z,25nm,0.9s
GNI *e*PcP **PcP** **08 59 03.4 -2.4**
GNI LR LR
comp=Z,402nm,21.0s
DGRG David-gareji 68.41 318 P **P** **08 58 42.6 +1.7**
DGRG S **S** **09 07 44.1 +3.4**
DGRG David-gareji 68.41 318 P **P** **08 58 42.6 +1.7**
DGRG 09 07 44.1
TBLG Delisi 68.96 318 P **P** **08 58 45.1 +0.7**
TBLG S **S** **09 07 47.9 +0.7**
TBLG Delisi 68.96 318 P **P** **08 58 45.1 +0.7**
TBLG 09 07 47.9
SVE Sverdlovsk 69.52 338*d i*P **P** **08 58 48.2 +0.8**
SVE *e* 09 01 21.4
SVE *e*PPP PPP 09 02 56.2
SVE *e*S **S** **09 07 50.2 -2.9**
SVE pmax pmax
comp=Z,196nm,1.3s
SVE MLR MLR
comp=Z,2μm,22.0s
AKH Akhalkalaki 69.65 317 P **P** **08 58 49.7 +0.9**
AKH Akhalkalaki 69.65 317 P **P** **08 58 49.7 +0.9**
YAK Yakutsk 69.90 14 *i* P **P** **08 58 48.5 -1.1**
YAK *e**PP **pP** **08 58 56.6 -2.4**
YAK *e* 08 59 09.4
YAK *e* 09 01 22.3
YAK *e*PPP PPP 09 03 06.1
YAK *e*S **S** **09 07 54.0 -3.3**
YAK *e* 09 08 46.3
YAK *e*SS **SS** **09 12 21.4 -5.4**
YAK pmax pmax
comp=E,52nm,1.3s
YAK pmax pmax
comp=Z,162nm,1.0s
YAK pmax pmax
comp=N,63nm,1.3s
YAK pmax pmax
comp=N,36nm,1.4s
YAK pmax pmax
comp=Z,95nm,3.3s
YAK pmax pmax
comp=E,92nm,3.9s
YAK smax smax
comp=E,21nm,1.6s
YAK smax smax
comp=N,137nm,5.6s
YAK MLR MLR
comp=E,1μm,14.0s
YAK MLR MLR
comp=Z,2μm,16.0s
YAK MLR MLR
comp=N,1μm,17.0s
YAK Yakutsk 69.90 14 *e*P **P** **08 58 48.7 -1.0**
comp=N,196nm,1.0s
YAK LR LR
comp=Z,1μm,20.0s
ARU Arti 70.05 336 P **P** **08 58 50.9 +0.2**
comp=Z,390nm,1.4s,SNR=24
ARU Arti 70.05 336*c i*P **P** **08 58 50.8 +0.1**
ARU 09 01 26.4
ARU PPP PPP 09 03 07.9
ARU S **S** **09 08 00.9 +1.6**
ARU SS **SS** **09 12 27.9 -1.5**
ARU pmax pmax
comp=Z,117nm,1.2s
ARU MLR MLR
comp=Z,2μm,22.0s
ARU Arti 70.05 336 *e*P **P** **08 58 50.8 +0.1**
comp=Z,208nm,1.5s
ARU LR LR
comp=Z,2μm,22.0s
ONI Oni 70.20 318 P **P** **08 58 53.3 +1.3**
ONI S **S** **09 08 03.6 +1.8**
ONI Oni 70.20 318 P **P** **08 58 53.3 +1.3**
ONI 09 08 03.6
KBZ Khabaz 71.06 319 P **P** **08 58 58.1 +0.9**
comp=Z,10nm,1.1s,baz=97,slow=4.0,SNR=21
KBZ Khabaz 71.06 319 P **P** **08 58 58.1 +0.9**
KBZ pmax pmax
comp=Z,10.0nm,1.1s
KIV Kislovodsk 71.30 319 P **P** **08 58 59.2 +0.5**
comp=Z,160nm,1.2s,SNR=6.0
KIV Kislovodsk 71.30 319 *e*P **P** **08 58 59.4 +0.6**
KIV *e* 08 59 18.9
KIV *e* 09 01 36.2
KIV *e*S **S** **09 08 15.1 +0.4**
KIV *e*SS **SS** **09 12 51.4 +2.0**
KIV pmax pmax
comp=Z,33nm,1.1s
KIV MLR MLR
comp=Z,487nm,17.0s
KIV Kislovodsk 71.30 319 P **P** **08 58 59.8 +1.0**
SNR=10
KIV Kislovodsk 71.30 319 *e*P **P** **08 58 59.3 +0.5**
comp=Z,8.1nm,0.8s
KIV LR LR
comp=Z,606nm,20.0s
GOF Gofitskoye 71.56 321⇑ *i*P **P** **08 59 00.7 +0.5**
GOF pmax pmax
comp=Z,70nm,1.4s
MALT Malatya 72.00 313⇓ *i*P **P** **08 59 04.6 +1.5**
SKR Severo-Kuril's 72.29 33 *e*P P 08 58 56.7 -7.7
SKR *e* 08 59 11.5
LSZ Lusaka 72.51 255 *e*P P 08 59 09.9 +3.3
comp=Z,20nm,1.4s
LSZ LR LR
comp=Z,2μm,21.0s
SOC Sochi 73.10 318*c i*P **P** **08 59 09.1 -0.3**
SOC *e*PPP PPP 09 03 38.0
SOC *i* S **S** **09 08 33.1 -1.9**
SOC *e*SS **SS** **09 13 18.7 +2.0**
SOC pmax pmax
comp=Z,10.0nm,0.4s
SOC MLR MLR
comp=Z,529nm,20.0s
PETK Petropavlovsk- 74.38 31 P **P** **08 59 16.4 -0.3**
comp=Z,22nm,0.9s,baz=198,slow=4.2,SNR=15
PETK Petropavlovsk- 74.38 31 P **P** **08 59 16.4 -0.3**
PETK pmax pmax
comp=Z,22nm,0.9s
SNZO South Karori 74.57 131 PFAKE 08 59 30.0 +12

SNZO LR LR

comp=Z,3μm,21.0s

CSS Prodhromos 74.79 308 *e*P **P 08 59 19.4 -0.1**

comp=Z,16nm,1.3s

CSS LR LR

comp=Z,367nm,19.0s

PET Petropavlovsk 74.83 32α *i*P **P 08 59 18.0 -1.3**

PET *e* 09 02 08.1

PET *e*S **S 09 08 53.5 -0.6**

PET *e*PS **PnS 09 09 28.3 -3.3**

PET *e*PPS PPS 09 09 43.6

PET pmax pmax

comp=Z,600nm,17.8s

PET pmax pmax

comp=Z,97nm,1.1s

PET pmax pmax

comp=Z,400nm,17.7s

PET MLR MLR

comp=Z,700nm,19.0s

PET MLR MLR

comp=Z,700nm,15.0s

PET Petropavlovsk 74.83 32 *e*P **P 08 59 18.1 -1.2**

comp=Z,71nm,0.9s

PET LR LR

comp=Z,888nm,22.0s

ANN Anapa 75.08 319 *e*P **P 08 59 19.9 -1.0**

ANN *e*S **S 09 08 54.2 -3.1**

ANN pmax pmax

comp=Z,190nm,4.3s

ANN MLR MLR

comp=Z,325nm,21.0s

VRHR Novokhopersk 75.15 326 *e*P **P 08 59 20.8 -0.4**

VRHR *e**PP **pP 08 59 28.8 -1.8**

VRHR pmax pmax

comp=Z,80nm,1.4s

VRHR pmax pmax

comp=N,10.0nm,0.6s

VRHR pmax pmax

comp=E,60nm,0.9s

BOSA Boshof 75.56 242 LR LR 09 28 24.8

comp=E,2μm,18.8s,baz=90,slow=32

SYO Syowa Base 75.87 199⇑ *e*P **P 08 59 25.0 0.0**

BR131 Keskin Array S 75.98 313 *e*P **P 08 59 25.9 -0.5**

comp=E,11nm,0.8s

BRTR Keskin Array B 75.98 313 P **P 08 59 26.1 -0.3**

comp=E,5.0nm,0.9s,baz=126,slow=6.3,SNR=30

BRTR LR LR 09 36 22.5

comp=E,628nm,18.5s,baz=110,slow=38

MSVF Nonsavu 76.04 107 PFAKE 08 59 40.0 +13

MSVF LR LR

comp=Z,1μm,19.0s

VORD Divnogorie 76.41 325 *e*P **P 08 59 28.1 -0.3**

VORD *e**PP **pP 08 59 36.1 -1.7**

VORD pmax pmax

comp=Z,20nm,0.9s

VORD pmax pmax

comp=N,10.0nm,0.4s

VORD pmax pmax

comp=E,20nm,0.6s

VSR Storozhevoye 76.59 325 *e*P **P 08 59 28.6 -0.8**

VSR *e**PP **pP 08 59 37.3 -1.5**

VSR pmax pmax

comp=Z,40nm,1.2s

VSR pmax pmax

comp=N,9.0nm,0.8s

VSR pmax pmax

comp=E,20nm,0.8s

ANTO Ankara 76.64 313 P **P 08 59 30.6 +0.5**

SNR=8.2

ANTO Ankara 76.64 313 *e*P **P 08 59 30.0 -0.1**

comp=E,32nm,1.3s

ANTO LR LR

comp=Z,993nm,19.0s

SIM Simferopol' 77.34 318c*e*P **P 08 59 34.2 +0.4**

SIM *e*S **S 09 09 18.0 -4.1**

SIM pmax pmax

comp=Z,15nm,1.0s

SEY Seymchan 77.52 21c*e*P **P 08 59 34.8 +0.4**

ISP Isparta 77.76 310⇓ *i*P P 08 59 45.1 +8.7

ISP Isparta 77.76 310 PFAKE 08 59 50.0 +14

ISP LR LR

comp=Z,646nm,21.0s

TIXI Tiksi 78.18 9c*e*P **P 08 59 36.6 -1.2**

TIXI pmax pmax

comp=Z,78nm,1.2s

TIXI Tiksi 78.18 9 *e*P **P 08 59 36.8 -1.0**

comp=Z,99nm,1.1s

TIXI LR LR

comp=Z,3μm,20.0s

MOS Moscow 79.33 329 *e*P **P 08 59 43.6 -0.9**

MOS *i* 08 59 52.0

MOS *i* 08 59 52.1

MOS *e*S **S 09 09 39.4 -3.6**

MOS *i*S **S 09 09 39.4 -3.6**

MOS *i* 09 09 56.6

MOS pmax pmax

comp=Z,300nm,2.2s

MOS pmax pmax

comp=Z,101nm,1.5s

VNDA Vanda 79.42 169 P **P 08 59 45.8 +1.1**

comp=Z,5.1nm,1.1s,baz=297,slow=5.4,SNR=15

VNDA LR LR 09 34 16.5

comp=Z,431nm,18.0s,baz=314,slow=35

VNDA Vanda 79.42 169 P **P 08 59 45.8 +1.1**

VNDA pmax pmax

comp=Z,5.0nm,1.1s

VNDA MLR MLR

comp=Z,431nm,18.0s

SUR Sutherland 79.52 238 PFAKE 09 00 00.0 +14

SUR LR LR

comp=Z,1μm,19.0s

OBN Obninsk 79.63 328c*e*P **P 08 59 47.0 +0.9**

OBN *i* 08 59 54.6

OBN *e* 09 02 52.0

OBN *e*S **S 09 09 43.9 -2.3**

OBN *e*SS **SS 09 14 50.8 -4.1**

OBN pmax pmax

comp=Z,169nm,2.5s

OBN MLR MLR

comp=Z,1μm,23.0s

OBN Obninsk 79.63 328 *e*P **P 08 59 47.0 +0.9**

comp=Z,11nm,0.5s

OBN LR LR

comp=Z,837nm,22.0s

SBA Scott Base 80.51 169 P **P 08 59 51.7 +1.1**

comp=Z,18nm,1.0s

SBA LR LR

comp=Z,778nm,19.0s

SMG Samos 80.56 309 *e*P P 09 00 01.5 +10

PSN Preselentsi 81.03 315⇑ *i*P **P 08 59 54.6 +0.7**

PSN Preselentsi 81.03 315 *e*P **P 08 59 53.9 0.0**

TIRR Tirgusor 81.07 316⇑ *i*P **P 08 59 54.5 +0.4**

TIRR Tirgusor 81.07 316 *e*P **P 08 59 54.1 0.0**

comp=Z,27nm,1.1s

CHOS Chios island 81.31 310 P **P 08 59 55.2 -0.5**

PRK Paraskevi 81.34 311 P P 09 00 04.8 +9.1

SANT Santorini 81.34 308 PFAKE 09 00 10.0 +14

SANT LR LR

comp=Z,587nm,20.0s

CFR Carcaliu 81.45 317⇑ *i*P **P 08 59 56.5 +0.4**

PRD Provadia 81.45 315⇑ *i*P **P 08 59 57.0 +0.8**

PRD Provadia 81.45 315 *e*P **P 08 59 56.2 0.0**

KIS Kishinev 81.48 319 *e*P **P 08 59 55.0 -1.3**

KIS *e*S **S 09 10 02.0 -4.0**

KIS LRM MLR 09 40 04.0

comp=Z,400nm,22.0s

KIS Kishinev 81.48 319 *e*P **P 08 59 55.0 -1.3**

KIS *e*S **S 09 10 02.0 -4.0**

KIS MLR MLR

comp=Z,400nm,22.0s

KIS MLR MLR

comp=Z,500nm,20.0s

ALN Alexandroupoli 81.89 312 P **P 08 59 58.3 -0.3**

ALN Alexandroupoli 81.89 312 *e*P P 09 00 08.0 +9.4

AK02 Malin Array Si 82.28 322 *e*P **P 09 00 00.4 0.0**

AKASG Malin Array Be 82.28 322 P **P 09 00 00.0 -0.3**

AKASG LR LR 09 41 52.8

comp=Z,1.3nm,0.5s,baz=88,slow=4.5,SNR=29

AKASG LR LR 09 41 52.8

comp=Z,320nm,20.2s,baz=90,slow=40

AKASG Malin Array Be 82.28 322 *i*P **P 09 00 00.7 +0.3**

AKASG pmax pmax

comp=Z,1.0nm,0.5s

AKBB Malin Array Si 82.28 322 *e*P **P 08 59 59.8 -0.5**

KIEV Kiev 82.28 322c *i*P **P 09 00 00.2 -0.2**

KIEV Kiev 82.28 322 *e*P **P 09 00 00.2 -0.2**

comp=Z,22nm,1.2s

KIEV LR LR

comp=Z,622nm,19.0s

SZH Strazhica 82.51 315 *e*P **P 09 00 01.8 0.0**

KDZ Kurdzhali 82.52 313⇑ *i*P **P 09 00 02.2 +0.3**

ISR Istrita 82.53 316⇓ *i*P **P 09 00 04.0 +2.1**

TSUM Tsumeb 82.57 251 PFAKE 09 00 20.0 +17

TSUM LR LR

comp=Z,1μm,20.0s

VRI Vrincioaia 82.58 317⇓ *i*P **P 09 00 03.8 +1.6**

SULR 82.62 316⇑ *i*P **P 09 00 04.4 +2.1**

PLOR Plostina 82.63 317⇑ *i*P **P 09 00 03.4 +1.0**

TMCR Tamitsa 82.78 337 *e*P **P 09 00 03.9 +1.2**

TMCR *e* 09 00 20.2

TMCR *e* 09 03 21.1

TMCR pmax pmax

comp=Z,92nm,1.1s

TESR Tescani 82.80 318⇓ *i*P **P 09 00 04.4 +1.2**

PTL Penteli 82.93 309 P **P 09 00 04.0 -0.2**

MLR Muntele Rosu 83.03 317⇑ *i*P **P 09 00 05.5 +0.9**

KAVA Kavala 83.04 312 *e*P P 09 00 12.0 +7.4

PLD Plovdiv 83.14 313 P **P 09 00 05.1 0.0**

OUR Ouranopolis 83.30 311 *e*P P 09 00 14.0 +8.1

DID Didima 83.31 308 P **P 09 00 04.9 -1.2**

DID Didima 83.31 308 *e*P **P 09 00 05.0 -1.2**

DIDY Didyma 83.33 308 P P 09 00 02.3 -4.0

DIDY Didyma 83.33 308 *e*P **P 09 00 06.0 -0.3**

KRND KRANIDI 83.36 308 *e*P P 09 00 14.5 +8.2

VIL2 Platees 83.42 309 *e*P **P 09 00 05.5 -1.2**

PAIG Paliouri 83.44 311 P **P 09 00 06.3 -0.4**

PAIG Paliouri 83.44 311 *e*P P 09 00 15.5 +8.8

DOPR Dopca 83.52 317⇓ *i*P **P 09 00 08.9 +1.9**

NVR Nevrokopi 83.59 312 P **P 09 00 07.6 +0.1**

NVR Nevrokopi 83.59 312 *e*P P 09 00 16.5 +9.0

LOUT Loutraki 83.61 309 *e*P P 09 00 11.5 +3.9

LTK Loutraki 83.62 309 *e*P P 09 00 12.5 +4.8

VOIR 83.62 317⇓ *i*P **P 09 00 08.4 +0.8**

XOR Xorichti 83.70 310 *e*P P 09 00 14.0 +5.9

ATAL Atalanti 83.70 310 P **P 09 00 07.4 -0.7**

PLG Polygyros 83.71 311 *e*P **P 09 00 09.0 +0.9**

LKR Lokris 83.71 310 P **P 09 00 07.0 -1.1**

MMB Musomiste 83.74 313⇑ *i*P **P 09 00 08.3 0.0**

SRS Serrai 83.75 312 *e*P P 09 00 17.0 +8.7

VLX Vlachokerasia 83.96 308 *e*P P 09 00 18.5 +8.9

HORT Hortiatis 84.01 311 *e*P **P 09 00 10.0 +0.3**

BURAR Bucovina Array 84.01 319⇑ *i*P **P 09 00 11.2 +1.6**

BUR08 Bucovina Ar. S 84.03 319 *e*P **P 09 00 11.0 +1.3**

DSF Desfina 84.03 309 *e*P P 09 00 16.5 +6.7

GUR Goura 84.09 309 P **P 09 00 09.8 -0.4**

GUR Goura 84.09 309 *e*P **P 09 00 10.5 +0.3**

MPEP Malo Peshtene 84.09 314 *e*P **P 09 00 10.2 +0.2**

KLV Kalavryta, Ach 84.26 309 P **P 09 00 10.8 -0.2**

KLV Kalavryta, Ach 84.26 309 *e*P P 09 00 17.0 +6.0

KKB Krupnik 84.27 313 *e*P **P 09 00 10.0 -0.9**

KNT Kendrikon 84.27 312 P **P 09 00 10.0 -0.9**

KNT Kendrikon 84.27 312 *e*P **P 09 00 12.0 +1.1**

ITM Ithomi 84.28 308 *e*P P 09 00 20.0 +8.9

AGG Agios Georgios 84.30 310 P **P 09 00 10.3 -0.8**

AGG Agios Georgios 84.30 310 *e*P P 09 00 19.0 +7.9

VTS Vitosha 84.32 313⇓ *i*P **P 09 00 12.1 +0.8**

VTS Vitosha 84.32 313 *e*P **P 09 00 10.1 -1.2**

KALE Kalithea 84.33 309 *e*P **P 09 00 14.0 +2.6**

LIT Litokhoron 84.37 311 P **P 09 00 11.2 -0.3**

LIT Litokhoron 84.37 311 *e*P **P 09 00 12.0 +0.5**

PYL PYLOS 84.38 308 *e*P P 09 00 15.0 +3.4

MAKR Makrakomi, Fth 84.45 310 *e*P P 09 00 23.0 +11

AMT Artemida-Makis 84.51 308 *e*P P 09 00 19.0 +6.7

EFP Efpalio 84.52 309 *e*P P 09 00 16.5 +4.3

MIDW Midway 84.55 61 PFAKE 09 00 20.0 +7.4

MIDW LR LR

comp=Z,579nm,20.0s

DRO Drossia 84.58 309 P **P 09 00 13.4 +0.8**

DRO Drossia 84.58 309 *e*P **P 09 00 14.0 +1.4**

GRG Griva 84.60 312 P **P 09 00 12.4 -0.2**

GRG Griva 84.60 312 *e*P P 09 00 21.5 +8.9

THL Klokotos Trika 84.64 310 *e*P P 09 00 21.0 +8.2

EVR Evrytania 84.68 310 P **P 09 00 11.8 -1.4**

RLS Riolos of Patr 84.79 309 *e*P **P 09 00 15.0 +1.4**

NACGM Naroch 84.87 326 *e* **P 09 00 11.0 -2.6**

CJR Cluj-Napoca 84.89 318⇓ *i*P **P 09 00 15.5 +1.5**

KZN Kozani 84.95 311 *e*P P 09 00 29.0 +15

PDO Prodromos 85.10 309 P **P 09 00 15.9 +0.7**

PDO Prodromos 85.10 309 *e*P **P 09 00 16.5 +1.3**

GZR Gura Zlata 85.18 316⇑ *i*P **P 09 00 17.3 +1.8**

DSL Palaion Diasel 85.26 310 *e*P P 09 00 25.0 +9.0

LVV L'vov 85.27 321 *e*P **P 09 00 16.3 +0.5**

LVV *e* 09 03 35.9

LVV *e*S **S 09 10 43.5 -0.8**

FNA Florina 85.33 311 P **P 09 00 15.8 -0.6**

FNA Florina 85.33 311 *e*P **P 09 00 15.0 -1.4**

QSPA South Pole Qui 85.42 180 LR LR 09 35 56.1

comp=Z,702nm,18.5s,baz=317,slow=34

QSPA South Pole Qui 85.42 180 *e*P **P 09 00 17.1 +0.8**

comp=Z,2.0nm,0.9s

VLS Valsamata 85.50 309 *e*P **P 09 00 18.0 +0.8**

DRGR 85.50 318⇑ *i*P **P 09 00 19.1 +2.0**

NEST Nestorio 85.52 311 *e*P **P 09 00 17.0 -0.3**

NVL N'lazarevskaya 85.54 199 *e*P P 09 00 27.7 +11

NVL pmax pmax

comp=Z,6.0nm,0.8s

LVZ Lovozero 85.61 340c*e*P **P 09 00 18.8 +1.7**

LVZ pmax pmax

comp=Z,90nm,2.5s

LVZ Lovozero 85.61 340 PFAKE 09 00 30.0 +13

LVZ LR LR

comp=Z,1μm,21.0s

IGT Igoumenitsa 85.91 310 P **P 09 00 19.5 +0.3**

IGT Igoumenitsa 85.91 310 *e*P **P 09 00 18.5 -0.7**

APA Apatity 85.92 339⇑ *i*P **P 09 00 19.5 +0.9**

APA *i*S **S 09 10 50.0 +0.1**

APA pmax pmax

comp=Z,43nm,1.2s

APA MLR MLR

comp=Z,2μm,20.0s

SGD Sagiada 86.00 310 P **P 09 00 19.1 -0.5**

SGD Sagiada 86.00 310 *e*P P 09 00 29.0 +9.4

BZS Buzias 86.02 316⇑ *i*P **P 09 00 20.3 +0.7**

UZH Uzhgorod 86.14 319 *e*P **P 09 00 20.8 +0.7**

UZH *e* 09 00 28.2

UZH *e*S **S 09 10 50.4 -2.4**

UZH *e*SS **SS 09 16 26.4 -5.5**

KOLS Kolonicke sedl 86.21 320 *e*P **P 09 00 22.1 +1.6**

KOLS pmax pmax

comp=Z,41nm,1.2s

KOLS Kolonicke sedl 86.21 320 *e*P **P 09 00 22.1 +1.6**

KOLS *e*pP **pP 09 00 30.0 0.0**

KEK Kerkira 86.35 310 P **P 09 00 21.6 +0.3**

TIR Tirane 86.55 312 PFAKE 09 00 30.0 +7.7

TIR LR LR

comp=Z,869nm,20.0s

SUW Suwalki 86.70 325 *e*P **P 09 00 23.1 +0.4**

SUW Suwalki 86.70 325 *e*P **P 09 00 23.1 +0.4**

DIVS Divibare 86.90 315 P **P 09 00 24.6 +0.5**

DIVS Divibare 86.90 315⇑ *i*P **P 09 00 24.9 +0.8**

FIA1 FINESS Array S 86.96 332 *e*P **P 09 00 23.9 +0.1**

FINES FINESS Array B 86.96 332 P **P 09 00 24.5 +0.7**

comp=Z,8.7nm,0.8s,baz=121,slow=6.0,SNR=25

FINES LR LR 09 44 53.3

comp=Z,458nm,19.7s,baz=106,slow=40

STHS Stebnicka Huta 86.97 320 *e*P **P 09 00 26.2 +2.0**

STHS pmax pmax

comp=Z,11nm,1.1s

STHS Stebnicka Huta 86.97 320 *e*P **P 09 00 26.2 +2.0**

STHS *e*pP **pP 09 00 35.0 +1.2**

KECS Kecovo 87.30 319 *e*P **P 09 00 26.5 +0.7**

KECS pmax pmax

comp=Z,5.0nm,1.1s

KECS Kecovo 87.30 319 *e*P **P 09 00 26.5 +0.7**

KECS *e*pP **pP 09 00 35.6 +0.3**

PKSN Nyarlorinc 87.44 317⇓ *e*P **P 09 00 28.6 +2.1**

NIE Niedzica 87.57 320 *e*P **P 09 00 28.5 +1.5**

NIE Niedzica 87.57 320 *e*P **P 09 00 28.6 +1.5**

PSZ Piszkesteto 87.59 318⇑ *i*P **P 09 00 28.0 +0.7**

PSZ Piszkesteto 87.59 318 *e*P **P 09 00 28.0 +0.7**

comp=Z,27nm,1.3s

PSZ LR LR

comp=Z,539nm,20.0s

PSZ Piszkesteto 87.59 318⇑ *e*P **P 09 00 28.6 +1.3**

BEL Belsk 87.69 322 *e*P **P 09 00 28.7 +1.2**

BEL Belsk 87.69 322 *e*P **P 09 00 28.7 +1.2**

PKS2 Kecel 87.82 317⇓ *e*P **P 09 00 30.4 +2.1**

PKS7 Kunszentmiklos 87.94 317⇓ *e*P **P 09 00 30.8 +1.9**

OJC Ojcow 88.03 321 *e*P **P 09 00 30.1 +0.9**

OJC Ojcow 88.03 321 *e*P **P 09 00 30.2 +1.0**

BUD Budapest 88.10 318⇑ *e*P **P 09 00 31.0 +1.4**

PKSM Moragy 88.17 316⇓ *i*P **P 09 00 30.7 +0.7**

PKSM Moragy 88.17 316⇑ *e*P **P 09 00 31.1 +1.1**

PKS9 Tamasi 88.47 317⇓ *e*P **P 09 00 30.9 -0.5**

PKSG 88.51 318⇓ *e*P **P 09 00 33.5 +1.9**

CSKK Cs^‡kako 88.60 318⇑ *e*P **P 09 00 32.3 +0.3**

TIP Timpagrande 88.61 309 *e*P **P 09 00 33.0 +0.7**

comp=Z,14nm,1.3s

TIP LR LR

comp=Z,215nm,22.0s

PKST T"s 88.73 317 *e*P **P 09 00 34.2 +1.5**

KEV Kevo 88.85 340 PFAKE 09 00 40.0 +7.3

KEV LR LR

comp=Z,2μm,22.0s

OKC Ostrava-Krasne 89.02 320⇑ *i*P **P 09 00 35.2 +1.3**

OKC *e*pP **pP 09 00 43.6 +0.1**

OKC *e*S **S 09 11 14.6 -5.8**

OKC AMS AMS 09 50 30.0

comp=Z,400nm,16.8s

OKC Ostrava-Krasne 89.02 320 *i*P **P 09 00 35.2 +1.3**

OKC *e* 09 00 43.6

OKC *e* 09 11 14.6

OKC MLR MLR

comp=Z,400nm,16.8s

CEL Celeste 89.17 308 *e*P **P 09 00 36.0 +1.0**

comp=Z,10nm,0.9s

CEL LR LR

comp=Z,333nm,20.0s

ARCES ARCESS Array B 89.30 340 P **P 09 00 36.0 +1.2**

comp=Z,26nm,1.0s,baz=92,slow=3.6,SNR=18

ARCES LR LR 09 45 56.7

comp=Z,1μm,20.5s,baz=97,slow=39

MORC Moravsky Berou 89.40 320⇑ *i*P **P 09 00 37.0 +1.2**

MORC Moravsky Berou 89.40 320 *e*P **P 09 00 36.9 +1.2**

comp=Z,104nm,1.1s

CUC Castrocucco 89.42 310 PFAKE 09 00 50.0 +14

CUC LR LR

comp=Z,433nm,21.0s

BEHE Becsehely 89.49 317⇓ *e*P **P 09 00 39.0 +2.8**

SOP Sopron 89.78 318⇓ *e*P **P 09 00 38.7 +1.2**

KRLC Kraliky 89.93 320⇑ *e*P **P 09 00 39.9 +1.7**

KRLC *e*pP **pP 09 00 47.8 0.0**

KRLC Kraliky 89.93 320 *e*P **P 09 00 39.9 +1.7**

KRLC *e* 09 00 47.8

VRAC Vranov 89.96 319⇑ *i*P **P 09 00 40.5 +2.2**

WDD Wield Dalam 90.01 306 PFAKE 09 00 50.0 +11

WDD LR LR

comp=Z,488nm,20.0s

GKP Gorka Klasztor 90.06 323 *e*P **P 09 00 39.8 +1.2**

GKP Gorka Klasztor 90.06 323 *e*P **P 09 00 39.8 +1.2**

SNAA Sanae 90.11 198 P **P 09 00 38.9 +0.1**

SNAA Sanae 90.11 198 LR LR 09 37 26.8

comp=Z,269nm,19.1s,baz=88,slow=33

SNAA Sanae 90.11 198 *e*P **P 09 00 38.4 -0.3**

comp=Z,18nm,1.1s

DPC Dobruska-Polom 90.26 320⇑ *e*P **P 09 00 41.5 +1.7**

DPC *e*S **S 09 11 28.1 -3.9**

DPC AMS AMS 09 50 10.0

comp=Z,700nm,19.3s

DPC Dobruska-Polom 90.26 320⇑ *e*P **P 09 00 41.5 +1.7**

DPC *e* 09 11 28.1

DPC MLR MLR

comp=Z,700nm,19.3s

CONA Conrad Observa 90.28 318⇑ *i*P **P 09 00 40.1 +0.1**

comp=Z,13nm,1.2s,SNR=5.4

KSP Ksiaz 90.33 321 *e*P **P 09 00 41.6 +1.6**

KSP Ksiaz 90.33 321 *e*P **P 09 00 41.7 +1.7**

ARSA Arzberg 90.43 317⇑ *i*PcP **PcP 09 00 41.8 0.0**

comp=Z,32nm,1.3s,SNR=11

BOJS Bojanci 90.43 315 *i*P **P 09 00 41.6 +1.0**

BOJS *e*S **S 09 11 29.5 -4.2**

UPC Upice 90.47 320⇑ *i*P **P 09 00 41.8 +1.1**

UPC *e*pP **pP 09 00 50.1 -0.2**

UPC Upice 90.47 320 *i*P **P 09 00 41.8 +1.1**

UPC *e* 09 00 50.1

PERS Pernice 90.64 317 *e*P P 09 00 51.0 +9.4

PERS *e*S **S 09 11 35.0 -0.7**

TREC Trest 90.67 319⇑ AMS AMS 09 51 20.0

comp=Z,500nm,18.5s

SOKA Soboth 90.70 317⇑ *i*PcP **PcP 09 00 43.2 +0.2**

comp=Z,39nm,1.3s,SNR=13

VISS Visnje 90.75 316 *i*P P 09 00 51.3 +9.2

VISS *e*S **S 09 11 36.2 -0.4**

LJU Ljubljana 90.99 316 *e*P **P 09 00 44.5 +1.3**

OBKA Obir 91.02 316⇑ *i*PcP **PcP 09 00 44.7 +0.2**

comp=Z,18nm,1.3s

GOPC GO Pecny, Ondr 91.19 320⇑ *i*P **P 09 00 45.7 +1.6**

GOPC *e*pP **pP 09 00 54.2 +0.5**

GOPC *e*x x 09 11 32.4

GOPC AMS AMS 09 50 40.0

comp=Z,700nm,20.8s

CLTB Caltabellotta 91.21 307 PFAKE 09 01 00.0 +15

CLTB LR LR

comp=Z,209nm,19.0s

JAVS Javornik 91.30 316 *i*P **P 09 00 44.7 0.0**

MOA Molln 91.34 318⇑ *i*P **P 09 00 45.2 +0.4**

comp=Z,14nm,1.4s

PRU Pruhonice 91.36 320⇑ *i*P **P 09 00 46.4 +1.6**

PRU *e*pP **pP 09 00 54.7 +0.3**

PRU *e*S **S 09 11 42.8 +0.9**

PRU AMS AMS 09 50 40.0

comp=Z,800nm,19.5s

PRU Pruhonice 91.36 320 *i*P **P 09 00 46.4 +1.6**

PRU *e* 09 00 54.7

PRU *e* 09 11 42.8

PRU MLR MLR

comp=Z,800nm,19.5s

PVCC Panska Ves 91.39 320⇑ AMS AMS 09 50 40.0

comp=Z,900nm,18.8s

PRA Prague 91.43 320⇑ *i*P **P 09 00 47.1 +1.9**

PRA *e*pP **pP 09 00 55.5 +0.7**

PRA Prague 91.43 320 *i*P **P 09 00 47.1 +1.9**

PRA *e* 09 00 55.5

AQU L'Aquila 91.47 312 PFAKE 09 01 00.0 +14

AQU LR LR

comp=Z,455nm,20.0s

MYKA Terra Mystica 91.65 316⇑ *i*PcP **PcP 09 00 47.2 -0.1**

comp=Z,16nm,1.3s

VNA2 Neumayer--Watz 91.73 198 P **P 09 00 49.2 +3.0**

baz=92,slow=5.0

GEC2 GERESS Array S 91.80 319 *e*PcP **PcP 09 00 48.6 +0.7**

GERES GERESS Array B 91.80 319 P **P 09 00 47.8 +0.8**

comp=Z,6.8nm,1.1s,baz=103,slow=4.2,SNR=34

GERES GERESS Array B 91.80 319 P **P 09 00 47.8 +0.8**

GERES pmax pmax

comp=Z,7.0nm,1.1s

BRG Berggiesshubel 91.82 321 *e*P **P 09 00 48.1 +1.2**

comp=Z,20nm,1.4s

BRG PP **PP 09 04 21.0 -5.1**

BRG S **S 09 11 46.0 -0.1**

comp=N,574nm,18.7s

comp=E,586nm,19.2s

comp=Z,668nm,20.2s

BRG Berggiesshubel 91.82 321 *e*PcP **PcP 09 00 48.7 +0.9**

BRG Berggiesshubel 91.82 321 *e*P **P 09 00 48.1 +1.2**

BRG S **S 09 11 46.0 -0.1**

BRG pmax pmax

comp=Z,21nm,1.4s

BRG MLR MLR

comp=N,574nm,18.7s

BRG MLR MLR

comp=E,586nm,19.2s

BRG MLR MLR

comp=Z,668nm,20.2s

KHC Kasperske Hory 91.91 319⇑ *e*P **P 09 00 48.1 +0.7**

KHC *e*pP **pP 09 00 57.1 +0.1**

KHC *e*S S 09 11 41.0 -6.0

KHC *e*x x 09 17 39.6

KHC AMS AMS 09 52 10.0

comp=Z,600nm,16.5s

KHC Kasperske Hory 91.91 319⇑ *e*P **P 09 00 48.1 +0.7**

KHC *e* 09 00 57.1

KHC *e* 09 11 41.0

KHC MLR MLR

comp=Z,600nm,16.5s

KHC Kasperske Hory 91.91 319 *e*P **P 09 00 47.8 +0.4**

comp=Z,3.0nm,1.4s

RUE Ruedersdorf 92.05 322 *e*PcP **PcP 09 00 49.6 +0.9**

VNA1 Neumayer--Stat 92.10 198 P P 09 00 52.0 +4.2

FBE Freiberg 92.19 321 *e*PcP **PcP 09 00 50.7 +1.3**

RJOB Jochberg 92.32 318 *e*PcP **PcP 09 00 50.3 +0.2**

WET Wettzell 92.36 319 ePcP PcP 09 00 51.2 +0.9
ABTA Abfaltersbach 92.44 317⇑ iP P 09 00 49.8 -0.2
comp=Z,8.8nm,1.3s
CLL Collm 92.44 321 ePcP PcP 09 00 51.3 +0.8
CLL Collm 92.44 321⇑ iP P 09 00 50.3 +0.5
comp=Z,20nm,1.7s
CLL e 09 00 55.0
CLL i pP pP 09 00 58.6 -0.8
comp=Z,18nm,1.4s
CLL ePP PP 09 04 31.0 0.0
CLL eS S 09 11 48.0 -3.6
CLL ePS PnS 09 13 07.0 -0.6
CLL eSS SS 09 18 06.0 +2.8
CLL e 09 19 12.0
CLL eSSS SSS 09 21 42.0
CLL eSSSS 09 24 54.0
CLL LmV 09 56 00.0
comp=Z,500nm,18.2s
CLL Collm 92.44 321⇑ iP P 09 00 50.3 +0.5
CLL i 09 00 58.6
CLL eS S 09 11 48.0 -3.6
CLL pmax pmax
comp=Z,20nm,1.7s
CLL MLR MLR
comp=Z,500nm,18.2s
TANN Tannenbergstha 92.72 320 ePcP PcP 09 00 52.8 +0.9
WERN Wernitzgruen 92.77 320 ePcP PcP 09 00 53.1 +1.0
GUNZ Gunzen 92.80 320 ePcP PcP 09 00 53.4 +1.2
WERD Werda 92.82 320 ePcP PcP 09 00 53.3 +1.0
ROTZ Rotzenmuhle 92.84 320 ePcP PcP 09 00 53.8 +1.4
PLN Plauen 92.92 320 ePcP PcP 09 00 53.8 +1.1
MANZ Manzenberg 92.92 320 ePcP PcP 09 00 54.2 +1.5
WTTA Wattenberg 93.07 317⇑ iP P 09 00 53.0 -0.1
comp=Z,15nm,1.4s
NEUB Neuenburg 93.21 321 ePcP PcP 09 00 54.8 +0.9
MOX Moxa 93.28 320 ePcP PcP 09 00 55.3 +1.0
MOX eL L 09 53 43.5
comp=Z,537nm,20.3s
GRF Grafenberg Arr 93.48 319 ePcP PcP 09 00 56.6 +1.4
GRF eL L 09 52 43.6
comp=Z,905nm,19.5s
GRFO Grafenberg 93.48 319 eP P 09 00 55.3 +0.7
comp=Z,31nm,1.4s
RETA Reutte 93.67 317⇑ iP P 09 00 56.0 +0.3
comp=Z,11nm,1.2s
VLC Villacollemand 93.78 314 PFAKE 09 01 10.0 +14
VLC LR LR
comp=Z,764nm,21.0s
NB2 NORSAR Subarra 93.99 331 P P 09 00 56.7 -0.1
comp=Z,21nm,1.4s,baz=83,slow=4.6
NB2 NORSAR Subarra 93.99 331 P P 09 00 56.7 -0.1
baz=83,slow=4.6
NOA NORSAR Array B 93.99 331 P P 09 00 56.9 +0.1
comp=Z,4.8nm,1.1s,baz=92,slow=4.5,SNR=5.7
NOA PP PP 09 04 57.1 +14
comp=Z,2.0nm,0.8s,baz=91,slow=7.6,SNR=5.1
NOA LR LR 09 46 48.1
comp=Z,387nm,20.4s,baz=70,slow=38
CLZ Clausthal 94.11 322 ePcP PcP 09 00 59.0 +1.0
KEST Kesra 94.20 305 P P 09 00 59.8 +1.4
comp=Z,1.3nm,1.0s,baz=107,slow=14,SNR=2.8
KEST LR LR 09 47 28.6
comp=Z,125nm,18.9s,baz=8.0,slow=38
KEST Kesra 94.20 305 eP P 09 00 59.6 +1.2
BSEG Bad Segeberg 94.22 324 ePcP PcP 09 00 59.5 +1.2
UBBA Unterbreizbach 94.31 321 ePcP PcP 09 00 59.7 +1.0
KBS Kingsbay 94.32 349 PFAKE 09 01 10.0 +12
KBS LR LR
comp=Z,1μm,21.0s
VSL Villasalto 94.33 309 PFAKE 09 01 10.0 +11
VSL LR LR
comp=Z,240nm,19.0s
TUE Stuetta 94.60 316 PFAKE 09 01 10.0 +10
TUE LR LR
comp=Z,703nm,20.0s
KONO Kongsberg 94.75 329 PFAKE 09 01 10.0 +10
KONO LR LR
comp=Z,843nm,19.0s
BFO Black Forest 95.34 318 PFAKE 09 01 20.0 +17
BFO LR LR
comp=Z,586nm,20.0s
ECH Echery 96.12 318 PFAKE 09 01 20.0 +13
ECH LR LR
comp=Z,530nm,20.0s
BNI Bardonecchia 96.45 315 PFAKE 09 01 20.0 +11
BNI LR LR
comp=Z,577nm,20.0s
WLF Walferdange 96.77 319 PFAKE 09 01 20.0 +10
WLF LR LR
comp=Z,584nm,21.0s
TAM Tamanrasset 97.04 292 PFAKE 09 01 20.0 +8.2
TAM LR LR
comp=Z,643nm,19.0s
SSB Saint Sauveur 97.96 315 PFAKE 09 01 30.0 +15
SSB LR LR
comp=Z,352nm,20.0s
IM04 Indian Mountai 100.22 24 ePdif Pdif 09 01 24.4 -0.3
TORD Torodi Ar. Bea 100.34 282 P Pdif 09 01 26.0 -0.4
comp=Z,0.8nm,1.1s,baz=82,slow=6.5,SNR=3.4
ESK Eskdalemuir 101.96 326 PFAKE 09 01 40.0 +7.2
ESK LR LR
comp=Z,786nm,21.0s
KDAK Kodiak Island 102.43 32 PFAKE 09 01 50.0 +15
KDAK LR LR
comp=Z,724nm,19.0s
COLA College 102.89 24 PFAKE 09 01 50.0 +13
COLA LR LR
comp=Z,571nm,20.0s
ILAR Eielson Array 103.32 24 Pdiff Pdif 09 01 38.8 +0.2
comp=Z,0.3nm,0.6s,baz=287,slow=3.9,SNR=5.3
ILAR PP PP 09 05 48.9 -5.1
comp=Z,3.7nm,1.2s,baz=290,slow=7.1,SNR=7.7
ILAR Eielson Array 103.32 24 P Pdif 09 01 38.8 +0.2
ILAR 09 05 48.9
ILAR pmax pmax
comp=Z,4.0nm,1.2s
ESDC Sonseca Array 104.62 310 PP PP 09 06 21.5 +17
comp=Z,0.4nm,0.6s,baz=72,slow=9.5,SNR=4.4
PAB San Pablo 104.93 310 PFAKE 09 02 00.0 +14
PAB LR LR
comp=Z,448nm,19.0s
EGAK Eagle 105.61 23 PFAKE 09 06 10.0
EGAK LR LR
comp=Z,653nm,20.0s
TBI Tubuai 105.73 116 ePP PP 09 06 13.3 +0.2
comp=Z,175nm,25.5s
TBI eSdif Sdif 09 13 40.4 -5.4
comp=Z,355nm,29.0s
TBI eSS SS 09 21 12.6 +2.1
comp=Z,619nm,28.8s
TBI Tubuai 105.73 116 eLR LR 09 36 37.7
comp=Z,2μm,23.0s
PPT2 Papeete2 106.75 110 ePP PP 09 06 23.6 +2.7
comp=Z,94nm,27.2s
PPT2 eSdif Sdif 09 13 49.7 -5.0
comp=Z,514nm,24.5s
PPT2 Papeete2 106.75 110 eLR LR 09 37 12.4
comp=Z,839nm,22.8s
BORG Borgarnes 107.56 338 PFAKE 09 06 20.0
BORG LR LR
comp=Z,650nm,21.0s
WRAK Wrangell Islan 113.22 29 PFAKE 09 06 30.0
WRAK LR LR
comp=Z,653nm,21.0s
SFJD Kangerlussuaq 114.72 348 PFAKE 09 06 30.0 +11
SFJD LR LR
comp=Z,852nm,22.0s
YKA Yellowknife Ar 116.42 18 PKP PKPdf 09 06 21.5 -0.8
comp=Z,1.7nm,0.9s,baz=306,slow=2.1,SNR=8.6
YKA PP PP 09 07 27.2 -1.3
comp=Z,2.3nm,1.0s,baz=326,slow=5.5,SNR=4.1
YKA Yellowknife Ar 116.42 18 PKIKP PKPdf 09 06 21.5 -0.8
YKA 09 07 27.2
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA pmax pmax
comp=Z,2.0nm,1.0s
RKT Rikitea 118.62 119 eSS SS 09 24 04.9 +3.1
comp=Z,504nm,28.5s
RKT Rikitea 118.62 119 eLR LR 09 42 45.3
comp=Z,1μm,32.2s
NLWA Neilton Lookou 122.39 35 PFAKE 09 06 50.0 +16
NLWA LR LR
comp=Z,486nm,20.0s
EDM Edmonton 123.81 24 ePKPdf PKPdf 09 06 37.3 +0.4
EDM ePKPdf PKPdf 09 06 45.9 -0.9
EDM ePP PP 09 08 17.8 -1.6
LON Longmire 123.92 34 ePKPdf PKPdf 09 06 37.9 +0.6
LON epPKPdf pPKPdf 09 06 46.8 -0.4
FL2 Flat Top 2 123.92 35 P PKPdf 09 06 39.2 +1.7
G03D McMinnville, O 123.93 37 P PKPdf 09 06 38.9 +1.6
baz=124
WTV Waterville 124.38 33 P PKPdf 09 06 39.0 +0.8
I03D Drain, OR 124.68 38 P PKPdf 09 06 40.3 +1.6
baz=124,SNR=8.6
SACV Santiago Islan 124.84 285 PFAKE 09 06 50.0 +10
SACV LR LR
comp=Z,545nm,21.0s
G05D Wamic, OR 125.06 36 P PKPdf 09 06 41.0 +1.4
baz=125
I04A Tendick Farm, 125.21 38 P PKPdf 09 06 40.5 +0.6
baz=125,SNR=7.4
CROR Criterion Ridg 125.40 36 P PKPdf 09 06 41.8 +1.5
HAWA Hanford 125.40 34 ePKPdf PKPdf 09 06 40.7 +0.6
HAWA epPKPdf pPKPdf 09 06 49.9 0.0
HAWA LR LR
comp=Z,420nm,20.0s
HUMO Hull Mountain 125.50 39 ePKPdf PKPdf 09 06 41.8 +1.4
HUMO epPKPdf pPKPdf 09 06 49.8 -0.5
NEW Newport 125.51 31 PKP PKPdf 09 06 41.8 +1.5
comp=Z,5.2nm,0.9s,baz=304,slow=1.2,SNR=7.4
NEW Newport 125.51 31 PKIKP PKPdf 09 06 41.8 +1.5
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW Newport 125.51 31 P PKPdf 09 06 41.8 +1.5
baz=125
NEW Newport 125.51 31 ePKPdf PKPdf 09 06 41.6 +1.3
NEW PKP PKPdf 09 06 41.8 +1.5
NEW epPKPdf pPKPdf 09 06 50.4 +0.2
NEW LR LR
comp=Z,635nm,22.0s
VTHM Trough 125.53 35 P PKPdf 09 06 42.0 +1.6
I05D Terrebonne, OR 125.55 37 P PKPdf 09 06 41.9 +1.4
baz=125
J04D Umpqua Nationa 125.69 38 P PKPdf 09 06 42.5 +1.5
baz=126,SNR=9.3
YBH Yreka Blue Hor 126.11 40 PKP PKPdf 09 06 42.9 +1.2
comp=Z,2.0nm,0.9s,baz=301,slow=5.9,SNR=3.1
YBH Yreka Blue Hor 126.11 40 PKIKP PKPdf 09 06 42.9 +1.2
YBH pmax pmax
comp=Z,2.0nm,0.9s
M02C Callahan 126.19 40 P PKPdf 09 06 43.8 +1.9
baz=126,SNR=7.3
J05D Fort Rock, OR 126.20 38 P PKPdf 09 06 43.9 +2.0
baz=126,SNR=11
K04D Chiloquin, OR 126.24 39 P PKPdf 09 06 43.4 +1.5
baz=126
N02D Trinity Center 126.50 41 P PKPdf 09 06 43.9 +1.5
baz=126
FFC Flin Flon 126.56 17 ePKPdf PKPdf 09 06 42.4 +0.3
FFC epPKPdf pPKPdf 09 06 51.3 -0.6
FFC LR LR
comp=Z,822nm,21.0s
M04C Macdoel 126.64 40 P PKPdf 09 06 44.1 +1.3
baz=126,SNR=7.0
BSMT Bassoo Peak 126.95 30 ePKPdf PKPdf 09 06 43.8 +0.5
BSMT epPKPdf pPKPdf 09 06 52.9 -0.2
LTIM Timbered Crate 127.18 40 P PKPdf 09 06 45.4 +1.6
YBMT Yellow Bay 127.33 29 ePKPdf PKPdf 09 06 43.1 -0.8
YBMT epPKPdf pPKPdf 09 06 53.0 -0.8
MOD Modoc Plateau 127.54 39 ePKPdf PKPdf 09 06 46.1 +1.6
MOD epPKPdf pPKPdf 09 06 55.2 +0.8
SWMT Swartz Lake 127.58 30 ePKPdf PKPdf 09 06 44.7 +0.3
SWMT epPKPdf pPKPdf 09 06 54.4 +0.1
BMO Blue Mountains 127.58 34 ePKPdf PKPdf 09 06 44.5 0.0
BMO epPKPdf pPKPdf 09 06 54.0 -0.3
BMO LR LR
comp=Z,509nm,21.0s
SLMT Seeley Lake 128.01 30 ePKPdf PKPdf 09 06 45.2 -0.1
SLMT epPKPdf pPKPdf 09 06 53.3 -1.8
MSO Missoula 128.07 30 P PKPdf 09 06 46.1 +0.7
baz=128,SNR=18
WVOR Wild Horse Val 128.26 37 ePKPdf PKPdf 09 06 47.5 +1.7
WVOR epPKPdf pPKPdf 09 06 56.6 +0.9
WVOR LR LR
comp=Z,461nm,19.0s
CHMT Chamberlain Mo 128.36 30 ePKPdf PKPdf 09 06 46.6 +0.6
CHMT epPKPdf pPKPdf 09 06 55.5 -0.3
A19A Klindworth Far 128.95 25 P PKPdf 09 06 47.9 +1.0
baz=129,SNR=6.6
SCHQ Schefferville 128.96 351 PKP PKPdf 09 06 48.4 +1.7
comp=Z,1.7nm,0.5s,baz=106,slow=2.8,SNR=5.2
EGMT Eagleton 129.20 27 P PKPdf 09 06 48.4 +1.0
baz=129,SNR=9.4
EGMT Eagleton 129.20 27 ePKPdf PKPdf 09 06 48.2 +0.8
EGMT epPKPdf pPKPdf 09 06 57.4 +0.2
EGMT LR LR
comp=Z,562nm,20.0s
B19A Brinkman Farms 129.23 26 P PKPdf 09 06 48.1 +0.7
baz=129
MFID Camas Ranch 129.31 35 ePKPdf PKPdf 09 06 49.6 +1.8
MFID epPKPdf pPKPdf 09 06 58.5 +0.9
A20A Cobblestone Ra 129.33 25 P PKPdf 09 06 48.4 +0.8
baz=129,SNR=5.1
LRM Limekiln Ridge 129.51 30 ePKPdf PKPdf 09 06 48.7 +0.4
LRM epPKPdf pPKPdf 09 06 57.5 -0.7
CMB Columbia Colle 129.54 43 ePKPdf PKPdf 09 06 49.4 +1.1
CMB epPKPdf pPKPdf 09 06 58.5 +0.3
B20A Solberg Farm, 129.63 25 P PKPdf 09 06 49.2 +1.0
baz=129,SNR=12
A21A Bergtoll Ranch 129.65 24 P PKPdf 09 06 49.6 +1.4
baz=129
DLMT Dillon 129.76 31 ePKPdf PKPdf 09 06 49.1 +0.5
DLMT epPKPdf pPKPdf 09 06 59.5 +1.0
DLMT ePP PP 09 09 00.6 +1.5
WAKR Walker 129.93 42 ePKPdf PKPdf 09 06 50.7 +1.4
WAKR epPKPdf pPKPdf 09 06 60.0 +0.9
MCMT McKenzie Canyo 130.00 31 ePKPdf PKPdf 09 06 51.1 +1.9
MCMT epPKPdf pPKPdf 09 06 59.2 +0.1
HLID Hailey 130.00 34 P PKPdf 09 06 50.4 +1.2
baz=130
HLID Hailey 130.00 34 ePKPdf PKPdf 09 06 51.1 +1.9
HLID epPKPdf pPKPdf 09 07 00.2 +1.1
HLID LR LR
comp=Z,572nm,20.0s
BOZ Bozeman (W) 130.05 30 P PKPdf 09 06 50.7 +1.5
baz=130,SNR=13
A22A Carney Farms, 130.05 23 P PKPdf 09 06 50.6 +1.6
baz=130,SNR=7.6
B21A Ellsworth Farm 130.06 24 P PKPdf 09 06 50.1 +1.2
baz=130
C20A Veseth Ranch, 130.20 26 P PKPdf 09 06 50.6 +1.4
baz=130
BMN Battle Mountai 130.29 39 ePKPdf PKPdf 09 06 51.6 +1.8
BMN epPKPdf pPKPdf 09 07 00.6 +0.9
A23A Redstone 130.48 22 P PKPdf 09 06 51.3 +1.5
baz=130
C21A Desert Coulee 130.50 25 P PKPdf 09 06 51.2 +1.4
baz=130
B22A Reddig Ranch S 130.58 24 P PKPdf 09 06 51.6 +1.6
baz=130,SNR=5.5
NVAR Mina Array Bea 130.72 41 PKP PKPdf 09 06 50.5 -0.3
comp=Z,2.2nm,0.7s,baz=247,slow=3.7,SNR=20
NVAR SKPbc SKPab 09 10 14.6 +1.8
comp=Z,7.1nm,1.0s,baz=267,slow=3.7,SNR=14
NVAR SKP 09 10 29.0
comp=Z,2.6nm,1.0s,baz=305,slow=3.2,SNR=3.6
QLMT Earthquake Lak 130.72 30 ePKPdf PKPdf 09 06 52.5 +1.9
QLMT epPKPdf pPKPdf 09 07 01.8 +1.3
QLMT eSKPbc SKPab 09 10 14.0 +1.4
A24A Westby 130.84 22 P PKPdf 09 06 52.4 +2.0
baz=131
B23A Brockton 130.84 23 P PKPdf 09 06 52.2 +1.7
baz=131
GCMT Greycliff 130.90 28 ePKPdf PKPdf 09 06 51.4 +0.6
GCMT epPKPdf pPKPdf 09 07 00.4 -0.3
GCMT eSKPbc SKPab 09 10 14.1 +0.9
C22A Vida 131.06 24 P PKPdf 09 06 52.5 +1.6
baz=131,SNR=9.6
YMR Madison River 131.07 30 ePKPdf PKPdf 09 06 51.9 +0.6
YMR epPKPdf pPKPdf 09 07 02.4 +1.3
D21A La Casta Ranch 131.14 25 P PKPdf 09 06 53.0 +1.9
baz=131,SNR=5.9
DGMT Dagmar 131.14 22 P PKPdf 09 06 52.7 +1.7
baz=131
DGMT Dagmar 131.14 22 ePKPdf PKPdf 09 06 51.8 +0.8
DGMT epPKPdf pPKPdf 09 07 01.4 +0.5
DGMT eSKPbc SKPab 09 10 14.5 +0.5
DGMT LR LR
comp=Z,749nm,21.0s
A25A Svangstu Ranch 131.15 21 P PKPdf 09 06 52.6 +1.6
baz=131
SMMC Simmler 131.16 46 P PKPdf 09 06 52.7 +1.2
baz=131
YFT Old Faithful 131.29 30 ePKPdf PKPdf 09 06 54.4 +2.7
YFT epPKPdf pPKPdf 09 07 04.0 +2.4
C23A Lambert 131.30 24 P PKPdf 09 06 52.7 +1.3
baz=131
ELK Elko 131.31 37 PKP PKPdf 09 06 53.5 +1.6
comp=Z,2.7nm,0.7s,baz=284,slow=2.5,SNR=17
ELK SKPbc SKPab 09 10 16.5 +1.3
comp=Z,3.1nm,1.0s,baz=338,slow=2.0,SNR=10
ELK Elko 131.31 37 PKIKP PKPdf 09 06 53.5 +1.6
ELK pmax pmax
comp=Z,3.0nm,0.7s
ELK pmax pmax
comp=N,3.0nm,1.0s
ELK Elko 131.31 37 ePKPdf PKPdf 09 06 53.0 +1.1
ELK PKP PKPdf 09 06 53.5 +1.6
ELK SKPbc SKPab 09 10 16.5 +1.3
D22A Cohagen 131.42 25 P PKPdf 09 06 53.0 +1.4
baz=131,SNR=8.4
LKWY Lake 131.43 30 PFAKE 09 07 00.0 +8.0
LKWY LR LR
comp=Z,1μm,20.0s
H17A Grant Village 131.46 30 P PKPdf 09 06 53.8 +1.8
baz=131
H17A Grant Village 131.46 30 ePKPdf PKPdf 09 06 52.7 +0.6
PKM Mcpherson Peak 131.50 46 P PKPdf 09 06 52.7 +0.4
baz=131
E21A Keefer Ranch, 131.51 26 P PKPdf 09 06 53.7 +1.9
baz=131
VES Vestal, Richgr 131.55 45 P PKPdf 09 06 53.3 +1.1
baz=131
A26A Wade Farm, Ken 131.57 20 P PKPdf 09 06 54.0 +2.2
baz=131
RLMT Red Lodge 131.58 29 P PKPdf 09 06 54.4 +2.2
baz=131
RLMT Red Lodge 131.58 29 ePKPdf PKPdf 09 06 52.9 +0.7
RLMT LR LR
comp=Z,728nm,20.0s
F20A Billings 131.60 27 P PKPdf 09 06 54.3 +2.2
baz=131
TPH Tonopah 131.63 41 ePKPdf PKPdf 09 06 54.4 +1.9
TPH epPKPdf pPKPdf 09 07 03.5 +1.2
IMW Indian Meadow 131.63 31 ePKPdf PKPdf 09 06 53.9 +1.5
IMW epPKPdf pPKPdf 09 07 03.3 +1.0
B25A Knox Farm, Ray 131.69 22 P PKPdf 09 06 54.0 +1.9
baz=132
A27A Ledoux Ranch, 131.79 20 P PKPdf 09 06 54.4 +2.2
baz=132
D23A Lindsay 131.80 24 P PKPdf 09 06 54.8 +2.4
baz=132,SNR=6.6
C24A Savage 131.82 23 P PKPdf 09 06 53.7 +1.3
baz=132
MOOW Moose Ponds 131.83 31 ePKPdf PKPdf 09 06 54.2 +1.4
TPAW Teton Pass 131.91 31 ePKPdf PKPdf 09 06 54.1 +1.1
TPAW epPKPdf pPKPdf 09 07 03.8 +1.0
TPAW ePP PP 09 09 15.4 +2.2
B26A Jensen Ranch, 131.94 21 P PKPdf 09 06 53.9 +1.3
baz=132
LOHW Long Hollow 132.00 31 ePKPdf PKPdf 09 06 53.5 +0.5
LOHW epPKPdf pPKPdf 09 07 03.0 +0.1
LOHW eSKPbc SKPab 09 10 18.8 +0.7
G20A Bridger 132.00 28 P PKPdf 09 06 55.0 +2.2
baz=132
SNOW Snow King Moun 132.03 31 ePKPdf PKPdf 09 06 53.7 +0.5
SNOW epPKPdf pPKPdf 09 07 03.1 +0.1
SNOW eSKPbc SKPab 09 10 18.6 +0.3
F21A Absaloka Mine, 132.04 27 P PKPdf 09 06 54.2 +1.3
baz=132
H19A Powell 132.05 29 P PKPdf 09 06 55.4 +2.4
baz=132,SNR=12
REDW Red Top Meadow 132.05 31 ePKPdf PKPdf 09 06 53.9 +0.8
REDW eSKPbc SKPab 09 10 18.8 +0.5
BSC Santa Cruz Isl 132.06 47 P PKPdf 09 06 54.7 +1.5
baz=132
ISA Isabella, Lake 132.07 45 P PKPdf 09 06 54.9 +1.7
baz=132
ISA Isabella, Lake 132.07 45 ePKPdf PKPdf 09 06 52.5 -0.8
ISA epPKPdf pPKPdf 09 07 02.4 -0.6
E22A Miles City 132.08 25 P PKPdf 09 06 54.7 +1.8
baz=132,SNR=6.6
HVU Hansel Valley 132.08 34 ePKPdf PKPdf 09 06 53.8 +0.7
HVU epPKPdf pPKPdf 09 07 03.8 +0.8
GRAC Grapevine Rang 132.12 42 P PKPdf 09 06 56.7 +3.5
baz=132
C25A Freed Ranch, W 132.12 22 P PKPdf 09 06 54.9 +2.0
baz=132
A28A Rude Farm, Bot 132.16 19 P PKPdf 09 06 54.7 +1.8
baz=132
D24A Glendive 132.20 23 P PKPdf 09 06 56.0 +2.9
baz=132
ULM Lac du Bonnet 132.23 15 PKP PKPdf 09 06 54.0 +1.0
comp=Z,6.9nm,0.9s,baz=4.3,slow=1.3,SNR=9.4
ULM Lac du Bonnet 132.23 15 PKIKP PKPdf 09 06 54.0 +1.0
ULM pmax pmax
comp=Z,7.0nm,1.0s
ULM Lac du Bonnet 132.23 15 ePKPdf PKPdf 09 06 53.6 +0.7
ULM PKP PKPdf 09 06 54.0 +1.0
ULM epPKPdf pPKPdf 09 07 02.6 -0.2
ULM eSKPbc SKPbc 09 10 17.6 +0.1
B27A Peters Farms, 132.26 20 P PKPdf 09 06 55.8 +2.7
baz=132
E23A Ismay 132.30 25 P PKPdf 09 06 55.6 +2.3
baz=132,SNR=5.9
AHID Auburn Hatcher 132.34 32 PFAKE 09 07 10.0 +16
AHID LR LR
comp=Z,505nm,20.0s
DAC Darwin (Calif) 132.36 43 PKPdf PKPdf 09 06 55.9 +2.0
DAC eSKPbc SKPab 09 10 20.0 +0.2
C26A Wahner Farm, P 132.46 21 P PKPdf 09 06 56.3 +2.8
baz=132
F22A Rosebud 132.46 26 P PKPdf 09 06 55.7 +2.0
baz=132
G21A Lodge Grass 132.47 27 P PKPdf 09 06 55.3 +1.6
baz=132
A29A Manning Farm, 132.47 18 P PKPdf 09 06 55.2 +1.7
baz=132
BGU Big Grassy Mou 132.50 35 ePKPdf PKPdf 09 06 55.0 +1.1
I19A Meeteetse 132.51 30 P PKPdf 09 06 55.3 +1.3
baz=132
R11A Troy Canyon, C 132.53 40 P PKPdf 09 06 56.8 +2.6
baz=132
R11A Troy Canyon, C 132.53 40 ePKPdf PKPdf 09 06 55.7 +1.5
MPMC Manual Prospec 132.54 44 P PKPdf 09 06 56.5 +2.2
baz=132
D25A Fairfield 132.56 23 P PKPdf 09 06 55.6 +1.8
baz=132
H20A Greybull 132.66 28 P PKPdf 09 06 55.7 +1.6
baz=132,SNR=8.4
E24A Baker 132.66 24 P PKPdf 09 06 57.4 +3.4
baz=132
LRMC Laurel Mtn Rad 132.71 44 P PKPdf 09 06 56.2 +1.7
baz=132
A30A Hoffart Farm, 132.74 18 P PKPdf 09 06 56.1 +2.1
baz=132
FURC Furnace Creek, 132.75 43 P PKPdf 09 06 56.5 +2.2
baz=133
C27A Sayler Ranch, 132.76 21 P PKPdf 09 06 56.1 +2.0
baz=132
EDW2 Edwards Air Fo 132.81 45 P PKPdf 09 06 56.5 +1.9
baz=133
B29A Wagenman Farm, 132.84 19 P PKPdf 09 06 55.9 +1.7
baz=133
F23A Volborg 132.87 25 P PKPdf 09 06 55.5 +1.1
baz=133,SNR=5.2
HWUT Hardware Ranch 132.87 34 ePKPdf PKPdf 09 06 55.5 +0.8
HWUT LR LR
comp=Z,521nm,21.0s
DECC Green Verdugo 132.88 46 P PKPdf 09 06 56.5 +1.8
baz=133
G22A Birney 132.88 27 P PKPdf 09 06 55.5 +1.0
baz=133
TPNV Topopah Spring 132.90 42 P PKPdf 09 06 57.0 +2.1
baz=133
I20A Worland 132.99 29 P PKPdf 09 06 56.6 +1.8
baz=133,SNR=8.1
H21A Big Horn, Sher 133.00 28 P PKPdf 09 06 56.8 +2.0
baz=133
D26A Manning 133.00 22 P PKPdf 09 06 57.5 +2.9
baz=133
J19A Crowheart 133.04 30 P PKPdf 09 06 57.7 +2.7
baz=133
E25A Miller Ranch, 133.07 23 P PKPdf 09 06 57.0 +2.3
baz=133,SNR=5.4

DUG	Dugway, Tooele	133.09	36	P	PKPdf	09 06 57.5	+2.3
	baz=133						
DUG	Dugway, Tooele	133.09	36	ePKPdf	PKPdf	09 06 56.2	+1.0
DUG				LR	LR		
	comp=Z,417nm,22.0s						
BW06	Boulder Array	133.14	31	ePKPdf	PKPdf	09 06 56.1	+0.8
BW06				LR	LR		
	comp=Z,517nm,20.0s						
PDAR	Pinedale Array	133.14	31	PKhKP	PKPpre	09 06 45.3	
	comp=Z,0.8nm,0.9s,baz=340,slow=3.9,SNR=4.9						
PDAR				PKP	PKPdf	09 06 55.8	+0.6
	comp=Z,1.6nm,0.9s,baz=0.0,slow=1.9,SNR=6.4						
C28A	Hausauer Farms	133.15	20	P	PKPdf	09 06 57.4	+2.6
	baz=133						
FMP	Fort Macarthur	133.17	47	P	PKPdf	09 06 56.6	+1.4
	baz=133						
F24A	Ekalaka	133.18	25	P	PKPdf	09 06 56.9	+1.9
	baz=133						
D27A	Center	133.27	21	P	PKPdf	09 06 56.9	+1.9
	baz=133						
TCUT	Toone Canyon	133.29	34	ePKPdf	PKPdf	09 06 57.2	+1.6
G23A	Biddle	133.29	26	P	PKPdf	09 06 56.8	+1.5
	baz=133						
MDND	Maddock	133.30	19	P	PKPdf	09 06 57.0	+1.9
	baz=133						
H22A	Clearmont	133.34	27	P	PKPdf	09 06 57.1	+1.7
	baz=133						
BFSC	Mount Baldy Ra	133.37	46	P	PKPdf	09 06 56.8	+1.0
	baz=133						
CTU	Camp Tracy	133.38	35	ePKPdf	PKPdf	09 06 57.2	+1.5
GSC	Goldstone, Bar	133.42	44	P	PKPdf	09 06 57.4	+1.6
	baz=133						
GSC	Goldstone, Bar	133.42	44	ePKPdf	PKPdf	09 06 58.4	+2.6
E26A	Carlson Angus	133.46	23	P	PKPdf	09 06 57.4	+1.9
	baz=133						
J20A	Shoshoni	133.46	30	P	PKPdf	09 06 57.4	+1.7
	baz=133,SNR=9.0						
I21A	Big Trails, Te	133.50	29	P	PKPdf	09 06 57.2	+1.4
	baz=133,SNR=5.4						
F25A	Bowman	133.52	24	P	PKPdf	09 06 56.3	+0.6
	baz=133						
G24A	Alzada	133.61	25	P	PKPdf	09 06 56.6	+0.7
	baz=133						
JLU	Jordanelle	133.61	35	ePKPdf	PKPdf	09 06 57.6	+1.4
J21A	Lysite	133.77	29	P	PKPdf	09 06 57.2	+0.9
	baz=134						
C30A	Mose, Pekin	133.79	18	P	PKPdf	09 06 57.2	+1.2
	baz=134						
I22A	9 Mile Ranch,	133.82	28	P	PKPdf	09 06 57.5	+1.2
	baz=134						
E27A	Carson	133.83	22	P	PKPdf	09 06 57.8	+1.6
	baz=134						
SHPR	Sheep Range	133.87	42	ePKPdf	PKPdf	09 06 58.2	+1.5
BBRC	Big Bear Solar	133.88	45	P	PKPdf	09 06 58.6	+1.8
	baz=134						
F26A	Lodgepole	133.89	23	P	PKPdf	09 06 58.6	+2.2
	baz=134,SNR=5.7						
MPU	Maple Canyon	133.90	35	ePKPdf	PKPdf	09 06 57.9	+1.2
MPU				eSKPbc	SKPbc	09 10 24.5	+0.7
TUQ	Turquoise Moun	133.95	43	P	PKPdf	09 06 58.9	+2.0
	baz=134						
HEC	Hector,Ludlow	134.00	44	P	PKPdf	09 06 59.3	+2.4
	baz=134						
H24A	Dirks Ranch, A	134.01	26	P	PKPdf	09 06 57.9	+1.2
	baz=134,SNR=6.5						
AGMN	Agassiz Nation	134.02	16	ePKPdf	PKPdf	09 06 55.8	-0.7
AGMN				LR	LR		
	comp=Z,980nm,22.0s						
E28A	Huff	134.02	21	P	PKPdf	09 06 58.1	+1.6
	baz=134						
F27A	Lemmon	134.13	23	P	PKPdf	09 06 57.4	+0.7
	baz=134						
G25A	Newell	134.13	24	P	PKPdf	09 06 58.1	+1.3
	baz=134						
J22A	Midwest	134.19	28	P	PKPdf	09 06 58.1	+1.0
	baz=134,SNR=9.7						
D30A	Buchanan	134.22	19	P	PKPdf	09 06 58.3	+1.4
	baz=134,SNR=6.2						
G26A	Maurine	134.38	24	P	PKPdf	09 06 58.0	+0.7
	baz=134						
GMRC	Granite Mounta	134.49	44	P	PKPdf	09 07 00.1	+2.2
	baz=134						
H25A	Fruitdale	134.52	25	P	PKPdf	09 06 59.6	+2.1
	baz=134						
MVU	Marysvale	134.53	37	ePKPdf	PKPdf	09 07 00.2	+2.2
MSU	Marysvale	134.55	37	ePKPdf	PKPdf	09 06 58.9	+0.9
PFO	Pinyon Flats O	134.55	46	P	PKPdf	09 06 59.6	+1.6
	baz=134						
PFO	Pinyon Flats O	134.55	46	ePKPdf	PKPdf	09 06 58.9	+0.9
PFO				LR	LR		
	comp=Z,459nm,21.0s						
G27A	Dupree	134.57	23	P	PKPdf	09 06 58.7	+1.1
	baz=134,SNR=5.6						
F28A	McLaughlin	134.60	22	P	PKPdf	09 06 60.0	+2.4
	baz=134						
TMUT	Trail Mountain	134.62	36	ePKPdf	PKPdf	09 06 58.3	+0.1
TMUT				eSKPbc	SKPab	09 10 28.1	-1.6
J23A	Dilts Ranch, B	134.62	28	P	PKPdf	09 06 59.2	+1.4
	baz=134						
BELC	Belle Mtn. Jos	134.67	45	P	PKPdf	09 06 60.0	+1.7
	baz=134						
I24A	Kuemmerle Ranc	134.69	26	P	PKPdf	09 06 59.1	+1.2
	baz=134						
E30A	Jud	134.70	20	P	PKPdf	09 06 59.1	+1.4
	baz=134						
LDFC	Landfair	134.70	43	ePKPdf	PKPdf	09 06 58.2	-0.1
RSSD	Black Hills	134.74	26	ePKPdf	PKPdf	09 06 58.6	+0.4
RSSD				epPKPdf	pPKPdf	09 07 08.0	0.0
K22A	Casper	134.74	29	P	PKPdf	09 06 58.8	+0.6
	baz=134						
K22A	Casper	134.74	29	ePKPdf	PKPdf	09 06 58.2	+0.1
TRQA	Tornquist	134.83	199	PFAKE		09 07 10.0	+12
TRQA				LR	LR		
	comp=Z,975nm,19.0s						
H26A	Fairpoint	134.87	24	P	PKPdf	09 06 58.4	+0.2
	baz=135						
I25A	Rochford	134.95	26	P	PKPdf	09 06 58.8	+0.3
	baz=135						
J24A	Dixon Ranch, L	135.09	27	P	PKPdf	09 06 59.3	+0.6
	baz=135						
K23A	Bowen Ranch, D	135.09	28	P	PKPdf	09 06 59.8	+1.0
	baz=135						
RWWY	Rawlins	135.12	30	ePKPdf	PKPdf	09 07 08.1	+9.0
H27A	Howes	135.13	24	P	PKPdf	09 07 00.1	+1.4
	baz=135,SNR=5.0						
SRU	San Rafael Swe	135.14	36	ePKPdf	PKPdf	09 06 59.6	+0.6
SRU				eSKPbc	SKPbc	09 10 29.1	+1.2
IRM	Iron Mountain	135.18	44	P	PKPdf	09 06 59.8	+0.7
	baz=135						
G28A	Parade	135.22	22	P	PKPdf	09 06 59.9	+1.1
	baz=135						
BC3	Big Chuckawall	135.24	45	P	PKPdf	09 07 01.4	+2.1
	baz=135						
I26A	New Underwood	135.31	25	P	PKPdf	09 07 01.1	+2.0
	baz=135						
SWSC	Sam W. Stewart	135.37	46	P	PKPdf	09 07 01.1	+1.7
	baz=135						
EYMN	Ely	135.41	12	P	PKPdf	09 07 00.9	+1.9
	baz=135						
EYMN	Ely	135.41	12	ePKPdf	PKPdf	09 06 60.0	+1.0
EYMN				eSKPbc	SKPbc	09 10 29.0	+0.8
EYMN				LR	LR		
	comp=Z,713nm,20.0s						
J25A	Sunshine Ranch	135.42	26	P	PKPdf	09 07 00.4	+1.0
	baz=135						
I27A	Quinn	135.61	24	P	PKPdf	09 07 01.3	+1.7
	baz=135						
O20A	White River Ci	135.71	33	P	PKPdf	09 07 02.2	+2.1
	baz=136						
O20A	White River Ci	135.71	33	ePKPdf	PKPdf	09 07 01.4	+1.3
PDMCI	Parker Dam,Lak	135.80	43	P	PKPdf	09 07 02.5	+2.4
	baz=136						
J26A	Sides Ranch, S	135.80	26	P	PKPdf	09 07 01.4	+1.4
	baz=136						
G30A	Faulkton	135.82	21	P	PKPdf	09 07 00.8	+0.9
	baz=136						
Y12C	Blythe	135.84	44	P	PKPdf	09 07 02.6	+2.4
	baz=136						
GLA	Glamis	136.00	45	P	PKPdf	09 07 03.7	+3.1
	baz=136						
RCBR	Riachuelo	136.01	257	PFAKE		09 07 10.0	+8.8
RCBR				LR	LR		
	comp=Z,835nm,22.0s						
K25A	Mack Ranch, Ha	136.01	27	P	PKPdf	09 07 02.4	+1.9
	baz=136						
I28A	Midland	136.02	23	P	PKPdf	09 07 01.0	+0.7
	baz=136						
K26A	Motz Farm, Whi	136.25	26	P	PKPdf	09 07 03.8	+3.0
	baz=136						
PHWY	Pilot Hill	136.28	29	ePKPdf	PKPdf	09 07 01.4	+0.2
PHWY				eSKPbc	SKPbc	09 10 32.5	+1.1
L25A	Engebretsen Ra	136.33	27	P	PKPdf	09 07 03.3	+2.2
	baz=136						
N23A	Red Feather La	136.35	30	P	PKPdf	09 07 02.1	+0.8
	baz=136						
J28A	Allard Ranch,	136.48	24	P	PKPdf	09 07 02.8	+1.5
	baz=136						
PV04	Paradox Valley	136.56	35	ePKPdf	PKPdf	09 07 03.8	+2.1
K27A	Flueckinger Fa	136.66	25	P	PKPdf	09 07 03.6	+1.9
	baz=136						
PV01	Paradox Valley	136.92	35	ePKPdf	PKPdf	09 07 02.6	+0.1
PV01				eSKPbc	SKPbc	09 10 35.1	+1.7
WUAZ	Wupatki	136.92	40	P	PKPdf	09 07 04.6	+2.1
	baz=137						
WUAZ	Wupatki	136.92	40	ePKPdf	PKPdf	09 07 04.6	+2.1
WUAZ				eSKPbc	SKPbc	09 10 34.8	+1.4
WUAZ				LR	LR		
	comp=Z,393nm,21.0s						
SMCO	Snowmass	137.08	33	ePKPdf	PKPdf	09 07 01.3	-1.7
J30A	Dallas	137.24	22	P	PKPdf	09 07 04.9	+2.2
	baz=137						
ISCO	Idaho Springs	137.34	31	P	PKPdf	09 07 04.3	+1.0
	baz=137						
ISCO	Idaho Springs	137.34	31	ePKPdf	PKPdf	09 07 04.3	+1.0
ISCO				ePP	PP	09 09 50.2	+2.6
ISCO				eSKPbc	SKPbc	09 10 35.7	+1.0
ISCO				LR	LR		
	comp=Z,471nm,20.0s						
MVCO	Mesa Verde	137.60	36	P	PKPdf	09 07 05.1	+1.4
	baz=137						
MVCO	Mesa Verde	137.60	36	ePKPdf	PKPdf	09 07 05.5	+1.8
MVCO				LR	LR		
	comp=Z,536nm,20.0s						
SPMN	Marine on St.	137.67	15	P	PKPdf	09 07 04.3	+1.0
	baz=137						
SPMN	Marine on St.	137.67	15	ePKPdf	PKPdf	09 07 03.4	+0.1
SPMN				eSKPbc	SKPbc	09 10 35.8	+0.7
K30A	Basset	137.75	23	P	PKPdf	09 07 04.1	+0.5
	baz=138						
ECSD	EROS Data Cent	137.91	19	P	PKPdf	09 07 03.5	-0.4
	baz=138						
ECSD	EROS Data Cent	137.91	19	ePKPdf	PKPdf	09 07 04.3	+0.5
ECSD				LR	LR		
	comp=Z,778nm,20.0s						
214A	Organ Pipe Nat	138.03	45	P	PKPdf	09 07 05.5	+1.1
	baz=138						
214A	Organ Pipe Nat	138.03	45	ePKPdf	PKPdf	09 07 06.0	+1.7
N27A	Anderson Farm,	138.05	27	P	PKPdf	09 07 04.3	0.0
	baz=138						
M28A	Bar X Bar Ranc	138.09	26	P	PKPdf	09 07 04.5	+0.2
	baz=138						
O26A	Horse Wrangler	138.13	29	P	PKPdf	09 07 04.8	+0.3
	baz=138						
OGNE	Ogallala	138.17	27	P	PKPdf	09 07 05.3	+0.8
	baz=138						
OGNE	Ogallala	138.17	27	PFAKE		09 07 20.0	+16
OGNE				LR	LR		
	comp=Z,627nm,20.0s						
S22A	4UR Ranch, Cre	138.18	34	P	PKPdf	09 07 06.6	+1.7
	baz=138						
W18A	Petrified Fore	138.22	39	P	PKPdf	09 07 07.0	+2.2
	baz=138						
W18A	Petrified Fore	138.22	39	ePKPdf	PKPdf	09 07 06.9	+2.1
L30A	Spencer Herefo	138.32	24	P	PKPdf	09 07 04.1	-0.6
	baz=138						
O27A	Beecher Island	138.57	28	P	PKPdf	09 07 05.0	-0.2
	baz=138						
N28A	Pribbeno Ranch	138.60	26	P	PKPdf	09 07 05.4	+0.1
	baz=138						
PKME	Peaks-Kenny Pk	138.63	350	PFAKE		09 07 20.0	+15
PKME				LR	LR		
	comp=Z,735nm,19.0s						
P26A	Davis Ranch, A	138.65	29	P	PKPdf	09 07 06.3	+0.8
	baz=138						
SDCO	Great Sand Dun	138.91	33	P	PKPdf	09 07 07.5	+1.2
	baz=139						
SDCO	Great Sand Dun	138.91	33	ePKPdf	PKPdf	09 07 07.4	+1.2
SDCO				LR	LR		
	comp=Z,666nm,21.0s						
P27A	Ficken Ranch,	139.02	28	P	PKPdf	09 07 06.9	+0.7
	baz=139						
Q26A	Hugo	139.06	30	P	PKPdf	09 07 07.4	+1.1
	baz=139						
TUC	Tucson	139.24	44	ePKPdf	PKPdf	09 07 07.8	+1.2
TUC				LR	LR		
	comp=Z,375nm,21.0s						
WVL	Waterville	139.37	350	ePKPdf	PKPdf	09 07 04.4	-1.9
BGNE	Belgrade	139.40	23	ePKPdf	PKPdf	09 07 07.0	+0.4
KSCO	Kaye Shedlock'	139.43	29	P	PKPdf	09 07 09.4	+2.5
	baz=139						
KSCO	Kaye Shedlock'	139.43	29	ePKPdf	PKPdf	09 07 07.6	+0.7
GLMI	Grayling	139.57	6	ePKPdf	PKPdf	09 07 07.5	+0.7
GLMI				LR	LR		
	comp=Z,746nm,20.0s						
M33A	Taylor Creek F	139.61	22	P	PKPdf	09 07 08.5	+1.5
	baz=139						
R27A	Eads	139.91	30	P	PKPdf	09 07 10.5	+2.7
	baz=140						
LONY	Lake Ozonia	139.94	355	PFAKE		09 07 20.0	+13
LONY				LR	LR		
	comp=Z,774nm,20.0s						
SADO	Sadowa	139.95	0	PKhKP	PKPpre	09 07 01.4	
	comp=Z,2.1nm,0.6s,baz=350,slow=3.6,SNR=2.6						
SADO				PKP	PKPdf	09 07 07.0	-0.4
	comp=Z,4.9nm,0.8s,baz=317,slow=4.0,SNR=5.7						
SADO				PP	PP	09 10 01.5	-1.2
	comp=Z,9.2nm,1.0s,baz=2.8,slow=6.9,SNR=10						
S26A	Kim	140.08	31	P	PKPdf	09 07 09.1	+1.0
	baz=140						
P30A	Selden	140.10	26	P	PKPpre	09 07 03.0	
	baz=140						
LAZ	Ladron	140.30	38	ePKPdf	PKPdf	09 07 10.3	+1.6
Q29A	Oakley	140.30	28	P	PKPpre	09 07 03.2	
	baz=140,SNR=9.6						
O32A	Brockman Farm,	140.33	24	P	PKPpre	09 07 04.3	
	baz=140						
ANMO	Albuquerque	140.35	37	PKhKP	PKPpre	09 07 00.8	
	comp=Z,2.1nm,1.0s,baz=241,slow=2.8,SNR=6.0						
ANMO				PKP	PKPdf	09 07 09.1	+0.3
	comp=Z,7.2nm,1.0s,baz=202,slow=2.8,SNR=11						
ANMO	Albuquerque	140.35	37	PKPpre	PKPpre	09 07 00.8	
ANMO				PKP	PKPdf	09 07 09.1	+0.3
ANMO				ePKPdf	PKiKP	09 07 10.5	-0.8
ANMO				LR	LR		
	comp=Z,504nm,22.0s						
MDV	Middlebury	140.42	354	ePKPdf	PKPdf	09 07 08.1	-0.2
JFWS	Jewell Farm	140.46	13	ePKPdf	PKPdf	09 07 08.5	+0.1
JFWS				LR	LR		
	comp=Z,735nm,22.0s						
P31A	Stockton	140.50	25	P	PKPpre	09 07 04.3	
	baz=140,SNR=7.7						
NCB	Newcomb	140.55	355	PFAKE		09 07 20.0	+11
NCB				LR	LR		
	comp=Z,878nm,22.0s						
LENM	Lemitar	140.56	38	PKPdf	PKPdf	09 07 11.0	+1.8
Q30A	Quinter	140.58	27	P	PKPpre	09 07 04.3	
	baz=140						
SCIA	State Center	140.63	17	PFAKE		09 07 20.0	+11
SCIA				LR	LR		
	comp=Z,980nm,22.0s						
Y22D	IRIS PASSCAL I	140.66	38	P	PKPpre	09 07 04.6	
	baz=140						
P32A	Huiting Farm,	140.74	25	P	PKPpre	09 07 05.5	
	baz=140,SNR=8.4						
N35A	Tabor	140.79	20	P	PKPpre	09 07 05.3	
	baz=141						
T27A	Campo	140.89	31	P	PKPpre	09 07 05.1	
	baz=141						
S28A	Manter	140.90	30	P	PKPpre	09 07 05.0	
	baz=141,SNR=6.7						
Q31A	Ellis	140.92	26	P	PKPpre	09 07 05.6	
	baz=141						
CBKS	Cedar Bluff	140.93	26	P	PKPpre	09 07 05.2	
	baz=141						
CBKS	Cedar Bluff	140.93	26	PFAKE		09 07 20.0	+10
CBKS				LR	LR		
	comp=Z,696nm,22.0s						
121A	Cookes Peak, D	141.11	41	PKPdf	PKPdf	09 07 12.4	+2.2
P33A	Williams Farm,	141.27	24	P	PKPpre	09 07 05.8	
	baz=141						
Q32A	Meitler Ranch,	141.29	25	P	PKPpre	09 07 06.4	
	baz=141,SNR=8.9						
R31A	Burdett	141.45	27	P	PKPpre	09 07 06.0	
	baz=141,SNR=18						
T29A	Hugoton	141.53	30	P	PKPpre	09 07 06.6	
	baz=141						
S30A	Montezuma	141.55	28	P	PKPpre	09 07 06.9	
	baz=141,SNR=5.1						
Q33A	Connelly Farm,	141.58	24	P	PKPpre	09 07 07.1	
	baz=141,SNR=5.7						
R32A	Long Quarter,	141.70	26	P	PKPpre	09 07 07.1	
	baz=142,SNR=12						
V27A	Dan Oppiter Fa	141.82	33	P	PKPpre	09 07 08.0	
	baz=142						
KSU1	Kansas State U	141.98	23	P	PKPpre	09 07 08.7	
	baz=142						
KSU1	Kansas State U	141.98	23	ePKPdf	PKPpre	09 07 08.1	
KSU1				LR	LR		
	comp=Z,775nm,22.0s						
T30A	Plains	141.99	29	P	PKPpre	09 07 08.5	
	baz=142						
Q34A	Chapman	142.01	23	P	PKPpre	09 07 08.1	
	baz=142						
S31A	Mullinville	142.02	27	P	PKPpre	09 07 08.1	
	baz=142,SNR=14						
P36A	Good Intent, A	142.05	21	P	PKPpre	09 07 08.1	
	baz=142						
R33A	Olander Ranch,	142.11	25	P	PKPpre	09 07 08.6	
	baz=142,SNR=5.2						
V28A	Channing	142.15	32	P	PKPpre	09 07 09.3	
	baz=142						
AAM	Ann Arbor	142.17	6	PFAKE		09 07 20.0	+8.5
AAM				LR	LR		
	comp=Z,1µm,19.0s						
S32A	Newby Ranch, P	142.20	27	P	PKPpre	09 07 08.5	
	baz=142,SNR=8.2						
U30A	WK&E Inc. Balk	142.34	29	P	PKPpre	09 07 09.5	
	baz=142,SNR=5.9						
T31A	Randall Ranch,	142.35	28	P	PKPpre	09 07 08.8	
	baz=142,SNR=6.9						
Q35A	Mercer Eighty,	142.41	22	P	PKPpre	09 07 09.5	
	baz=142						
R34A	Isabella, Hill	142.42	24	P	PKPpre	09 07 08.7	
	baz=142						
V29A	Stinnett	142.42	31	P	PKPpre	09 07 09.5	
	baz=142						
T32A	Huddler Ranch,	142.63	27	P	PKPpre	09 07 09.7	
	baz=142,SNR=9.1						
S33A	Kaszmaul Farm,	142.70	26	P	PKPpre	09 07 09.8	
	baz=142						
R35A	Emporia Munici	142.82	23	P	PKPpre	09 07 10.9	
	baz=143						
U31A	Nine Bar Ranch	142.86	29	P	PKPpre	09 07 10.3	
	baz=143						
HDIL	Hopedale	142.92	13	P	PKPpre	09 07 10.6	
	baz=143						
HDIL	Hopedale	142.92	13	ePKPdf	PKPpre	09 07 10.2	
HDIL				LR	LR		
	comp=Z,685nm,21.0s						
W29A	Amarillo	142.93	32	P	PKPdf	09 07 11.3	-1.9
	baz=143						
CPUP	Villa Florida	142.95	213	PKhKP	PKPpre	09 07 11.1	
	comp=Z,4.8nm,1.1s,baz=90,slow=7.9,SNR=3.7						
CPUP	Villa Florida	142.95	213	PKPpre	PKPpre	09 07 11.1	
CPUP				PKPdf	PKPdf	09 07 11.3	-2.1
Q37A	Longview Farm,	142.98	21	P	PKPdf	09 07 10.4	-2.7
	baz=143						
S34A	Willow Spring	142.99	25	P	PKPdf	09 07 10.2	-3.0
	baz=143,SNR=8.5						
T33A	Patterson Ranc	143.02	26	P	PKPbc	09 07 11.6	+1.6
	baz=143						
R36A	Gordon, Harris	143.08	22	P	PKPbc	09 07 11.4	+1.2
	baz=143,SNR=6.9						
X28A	Dimmitt	143.09	33	P	PKPbc	09 07 11.5	+1.1
	baz=143,SNR=10						
AMTX	Amarillo	143.09	32	P	PKPbc	09 07 12.0	+1.6
	baz=143						
AMTX	Amarillo	143.09	32	ePKPdf	PKPbc	09 07 11.2	+0.8
MSTX	Muleshoe	143.18	34	P	PKPbc	09 07 11.5	+0.8
	baz=143,SNR=10						
MSTX	Muleshoe	143.18	34	ePKPdf	PKPbc	09 07 11.9	+1.3
U32A	Winter Ranch,	143.25	28	P	PKPbc	09 07 11.4	+0.8
	baz=143,SNR=5.7						
S35A	Otter Creek Ra	143.32	24	P	PKPbc	09 07 10.9	+0.1
	baz=143,SNR=9.6						
V31A	Spring Creek L	143.34	29	P	PKPbc	09 07 11.9	+1.0
	baz=143,SNR=9.7						
R37A	Teagarden Farm	143.34	21	P	PKPbc	09 07 10.7	-0.1
	baz=143,SNR=9.6						
X29A	Tulia	143.42	33	P	PKPbc	09 07 12.2	+0.9
	baz=143,SNR=7.4						
Y28A	McKinney Farm,	143.52	34	P	PKPbc	09 07 12.9	+1.3
	baz=143,SNR=14						
T34A	McClaskey Farm	143.53	25	P	PKPbc	09 07 11.8	+0.4
	baz=143,SNR=12						
SFIN	Lafayette	143.55	11	P	PKPbc	09 07 12.0	+0.7
	baz=143						
SFIN	Lafayette	143.55	11	ePKPdf	PKPbc	09 07 12.0	+0.6
BDFB	Brasilia	143.57	236	PKP	PKPdf	09 07 14.2	-0.7
	comp=Z,3.1nm,0.5s,baz=120,slow=4.1,SNR=12						
BDFB	Brasilia	143.57	236	PKIKP	PKPdf	09 07 14.2	-0.7
BDFB				pmax	pmax		
	comp=Z,3.0nm,0.5s						
S36A	Lake Cedric, C	143.57	23	P	PKPbc	09 07 12.1	+0.6
	baz=143,SNR=9.1						
U33A	Lingo Farm, Me	143.62	27	P	PKPbc	09 07 12.6	+1.0
	baz=143,SNR=7.0						
W31A	Holland Ranch,	143.76	30	P	PKPbc	09 07 13.1	+0.9
	baz=144,SNR=12						
V32A	Arapaho	143.77	29	P	PKPbc	09 07 13.4	+1.2
	baz=144,SNR=9.7						
X30A	Coker Ranch, T	143.86	32	P	PKPbc	09 07 13.5	+1.0
	baz=144,SNR=8.1						
U34A	Anderson Ranch	143.87	26	P	PKPbc	09 07 13.4	+1.0
	baz=144,SNR=20						
U34A	Anderson Ranch	143.87	26	ePKPdf	PKPbc	09 07 13.0	+0.5
Y29A	Porterfield Fa	143.87	33	P	PKPbc	09 07 13.7	+1.0
	baz=144,SNR=13						
Z28A	Tucker Farm, M	143.90	35	P	PKPbc	09 07 13.3	+0.5
	baz=144,SNR=23						
T35A	Sooner Cattle	143.90	25	P	PKPbc	09 07 12.8	+0.3
	baz=144,SNR=32						
T36A	Boggs Farm, Ca	144.04	24	P	PKPbc	09 07 13.7	+0.8
	baz=144,SNR=46						
V33A	Lossen Ranch,	144.04	28	P	PKPbc	09 07 13.5	+0.5
	baz=144,SNR=21						
SSPA	Standing Stone	144.08	359	ePKPdf	PKPbc	09 07 12.9	0.0
W32A	Sentinel	144.15	29	P	PKPbc	09 07 14.0	+0.7
	baz=144,SNR=34						
X31A	McDonald Ranch	144.18	31	P	PKPbc	09 07 14.0	+0.5
	baz=144,SNR=20						
U35A	Pawnee	144.27	25	P	PKPbc	09 07 14.6	+0.9
	baz=144,SNR=66						
Y30A	Stafford Cattl	144.28	33	P	PKPbc	09 07 14.4	+0.5
	baz=144,SNR=29						
ACSO	Alum Creek Sta	144.28	6	ePKPdf	PKPbc	09 07 13.5	-0.1
ACSO				LR	LR		
	comp=Z,1µm,21.0s						
Z29A	Hungry Hill Ra

X33A	Lawton	144.98	29	P		PKPab	09 07 15.7	-0.3
	baz=145,SNR=35							
TUL1	Leonard	145.06	25	P		PKPab	09 07 16.5	+0.3
	baz=145,SNR=88							
TUL1	Leonard	145.06	25	ePKPdf		PKPab	09 07 16.5	+0.3
V36A	Jenks	145.10	25	P		PKPdf	09 07 16.7	-0.2
	baz=145,SNR=152							
Z31A	Sharp Cattle R	145.11	32	P		PKPdf	09 07 17.1	+0.1
	baz=145,SNR=155							
229A	Bryant Ranch,	145.19	36	P		PKPdf	09 07 17.7	+0.4
	baz=145,SNR=31							
130A	Snyder	145.21	34	P		PKPdf	09 07 17.5	+0.2
	baz=145,SNR=23							
W35A	Tecumseh	145.24	27	P		PKPdf	09 07 17.2	0.0
	baz=145,SNR=76							
X34A	Smith Ranch, M	145.25	28	P		PKPdf	09 07 17.5	+0.2
	baz=145,SNR=58							
SDMD	Soldier's Deli	145.27	357	ePKPbc		PKPab	09 07 16.8	0.0
Y33A	Hilltop Ranch,	145.35	30	P		PKPdf	09 07 17.4	+0.1
	baz=145,SNR=35							
V37A	Hulbert	145.35	24	P		PKPbc	09 07 17.2	+0.1
	baz=145,SNR=81							
329A	Wagon Wheel Ra	145.44	36	P		PKPab	09 07 18.3	+0.5
	baz=145							
131A	Roby	145.47	33	P		PKPab	09 07 18.4	+0.5
	baz=145,SNR=38							
Z32A	Haskell	145.47	32	P		PKPab	09 07 18.2	+0.3
	baz=145,SNR=76							
W36A	Wetumka	145.53	26	P		PKPab	09 07 17.9	-0.1
	baz=145,SNR=71							
SIUC	Southern Illin	145.64	15	ePKPbc		PKPbc	09 07 18.0	+0.1
230A	Sterling City	145.65	35	P		PKPab	09 07 19.2	+0.6
	baz=146,SNR=79							
V38A	Canehill	145.66	23	P		PKPab	09 07 18.4	0.0
	baz=145							
LCO	Las Campanas	145.74	193	PKPdf		PKPdf	09 07 18.0	-0.5
LCO				LR		LR		
	comp=Z,1µm,20.0s							
USIN	University of	145.77	13	ePKPbc		PKPdf	09 07 18.2	+0.2
WCI	Wyandotte Cave	145.79	11	ePKPbc		PKPbc	09 07 18.3	-0.2
WCI				ePP		PP	09 10 36.0	-2.1
Y34A	Reagan Ranch,	145.81	29	P		PKPab	09 07 19.3	+0.2
	baz=146,SNR=79							
X35A	Drake	145.82	27	P		PKPbc	09 07 18.8	+0.1
	baz=146,SNR=94							
Z33A	Whitaker Ranch	145.85	31	P		PKPab	09 07 19.2	0.0
	baz=146,SNR=42							
TXAR	Lajitas Array	145.87	41	PKPbc		PKPab	09 07 20.0	+0.4
	comp=Z,102nm,1.0s,baz=277,slow=1.4,SNR=399							
TXAR	Lajitas Array	145.87	41	PKP2		PKPab	09 07 20.0	+0.4
TXAR				pmax		pmax		
	comp=Z,102nm,1.0s							
W37A	Quinton	145.88	25	P		PKPab	09 07 19.6	+0.3
	baz=146,SNR=30							
ABTX	Abilene, Hawle	145.91	33	P		PKPab	09 07 19.5	0.0
	baz=146,SNR=41							
ABTX	Abilene, Hawle	145.91	33	ePKPbc		PKPbc	09 07 19.3	+0.2
X36A	Centrahoma	145.96	27	P		PKPab	09 07 19.5	-0.1
	baz=146,SNR=22							
330A	Mertzon	145.97	36	P		PKPab	09 07 19.8	0.0
	baz=146,SNR=89							
231A	Bronte	146.07	34	P		PKPab	09 07 20.3	+0.1
	baz=146,SNR=49							
429A	Davenport Ranc	146.11	37	P		PKPab	09 07 20.3	0.0
	baz=146,SNR=66							
Y35A	Marietta	146.20	28	P		PKPbc	09 07 20.0	+0.2
	baz=146							
Z34A	Collier Ranch,	146.21	30	P		PKPab	09 07 20.4	-0.2
	baz=146,SNR=32							
529A	Stev Forest Ra	146.26	38	P		PKPab	09 07 20.6	-0.3
	baz=146							
W38A	Poteau	146.31	24	P		PKPbc	09 07 20.4	+0.3
	baz=146,SNR=32							
133A	Hamilton Ranch	146.31	32	P		PKPab	09 07 20.8	-0.2
	baz=146,SNR=71							
X37A	Clayton	146.37	25	P		PKPbc	09 07 20.2	-0.1
	baz=146,SNR=34							
430A	Baggett Ranch,	146.38	37	P		PKPbc	09 07 20.6	0.0
	baz=146,SNR=34							
331A	San Angelo	146.47	35	P		PKPbc	09 07 20.5	-0.3
	baz=146,SNR=76							
232A	Coleman	146.47	33	P		PKPbc	09 07 21.1	+0.3
	baz=146,SNR=110							
PARMO	Parma	146.49	16	ePKPbc		PKPbc	09 07 21.0	+0.4
CBN	Corbin Frederi	146.49	358	ePKPbc		PKPbc	09 07 20.7	+0.2
CBN				LR		LR		
	comp=Z,965nm,22.0s							
X38A	Whitesboro	146.53	24	P		PKPbc	09 07 20.8	0.0
	baz=146,SNR=83							
Y36A	Durant	146.55	27	P		PKPbc	09 07 20.8	0.0
	baz=146,SNR=47							
Z35A	Perchaven, San	146.57	29	P		PKPbc	09 07 20.9	-0.1
	baz=146,SNR=20							
134A	White-Moore Ra	146.77	31	P		PKPbc	09 07 21.5	0.0
	baz=147,SNR=37							
233A	Rising Star	146.78	32	P		PKPbc	09 07 21.8	+0.1
	baz=147,SNR=210							
Y37A	Hugo	146.78	26	P		PKPbc	09 07 21.6	0.0
	baz=147,SNR=15							
530A	J-C Ranch, Com	146.78	37	P		PKPbc	09 07 21.5	-0.3
	baz=147,SNR=111							
332A	Millersview	146.81	34	P		PKPbc	09 07 21.4	-0.3
	baz=147,SNR=263							
431A	Sonora	146.83	36	P		PKPbc	09 07 21.8	-0.1
	baz=147,SNR=52							
Z36A	Blue Ridge	147.01	28	P		PKPbc	09 07 21.9	-0.3
	baz=147,SNR=25							
JSRW	J. Sargeant Re	147.01	359	ePKPdf		PKPdf	09 07 20.4	+0.3
JSRW				ePKPbc		PKPab	09 07 22.8	-0.7
UTMT	University of	147.03	15	ePKPbc		PKPbc	09 07 22.5	+0.4
135A	Vickery Place,	147.12	30	P		PKPbc	09 07 23.0	+0.5
	baz=147							
MIAR	Mount Ida	147.14	23	P		PKPbc	09 07 23.3	+0.7
	baz=147							
MIAR	Mount Ida	147.14	23	ePKPdf		PKPbc	09 07 21.5	-1.0
MIAR				ePKPbc		PKPab	09 07 23.0	-1.1
MIAR				ePP		PP	09 10 46.6	+0.2
MIAR				LR		LR		
	comp=Z,829nm,22.0s							
432A	Menard	147.16	35	P		PKPbc	09 07 22.3	-0.5
	baz=147,SNR=54							
234A	Clairette	147.19	31	P		PKPbc	09 07 22.6	-0.2
	baz=147,SNR=83							
Y38A	Idabel	147.21	25	P		PKPbc	09 07 22.6	-0.1
	baz=147,SNR=22							
531A	Rocksprings	147.25	37	P		PKPbc	09 07 22.6	-0.5
	baz=147,SNR=92							
HBAR	Harrisburg	147.25	18	ePKPdf		PKPdf	09 07 21.3	+0.8
HBAR				ePKPbc		PKPbc	09 07 23.4	+0.6
333A	Richland Sprin	147.27	33	P		PKPbc	09 07 21.9	-1.1
	baz=147,SNR=146							
UALR	University of	147.40	21	ePKPdf		PKPdf	09 07 21.7	+0.9
UALR				ePKPbc		PKPbc	09 07 23.8	+0.5
Z37A	Pogue Cattle C	147.44	27	P		PKPbc	09 07 23.6	+0.2
	baz=147,SNR=7.0							
JCT	Junction City	147.45	35	P		PKPdf	09 07 21.8	+0.7
	baz=147,SNR=171							
JCT	Junction City	147.45	35	ePKPdf		PKPdf	09 07 21.9	+0.8
JCT				ePKPbc		PKPab	09 07 24.7	-0.8
JCT				LR		LR		
	comp=Z,701nm,21.0s							
VWCC	Virginia Weste	147.45	2	ePKPbc		PKPbc	09 07 23.4	+0.1
VWCC				ePKPab		PKiKP	09 07 25.8	+0.2
Y39A	Lockesburg	147.46	24	P		PKPbc	09 07 23.0	-0.4
	baz=147,SNR=43							
BLA	Blacksburg	147.47	3	ePKPbc		PKPbc	09 07 23.7	+0.3
BLA				LR		LR		
	comp=Z,834nm,21.0s							
WHTX	Lake Whitney,	147.55	31	P		PKPbc	09 07 23.0	-0.8
	baz=147,SNR=9.3							
WHTX	Lake Whitney,	147.55	31	ePKPdf		PKPdf	09 07 21.5	+0.4
WHTX				ePKPbc		PKPbc	09 07 24.2	+0.4
136A	Ennis	147.62	29	P		PKPbc	09 07 22.7	-1.2
	baz=147,SNR=6.7							
433A	Art	147.65	34	P		PKPdf	09 07 22.4	+1.1
	baz=147,SNR=51							
532A	Rocksprings	147.65	36	P		PKPdf	09 07 22.7	+1.2
	baz=148,SNR=56							
334A	Lometa	147.66	32	P		PKPdf	09 07 22.6	+1.2
	baz=148,SNR=75							
Z38A	Mt. Pleasant	147.68	26	P		PKPbc	09 07 23.8	-0.2
	baz=148,SNR=14							
631A	Perdido Creek	147.77	38	P		PKPbc	09 07 23.1	-1.3
	baz=148,SNR=46							
137A	Heron Place, G	147.88	28	P		PKPbc	09 07 23.9	-0.7
	baz=148,SNR=9.1							
236A	Katherine and	148.00	29	P		PKPbc	09 07 25.3	+0.3
	baz=148							
Z39A	Irene McRaven,	148.03	25	P		PKPbc	09 07 26.0	+1.0
	baz=148							
434A	Burnet	148.05	33	P		PKPdf	09 07 22.9	+0.8
	baz=148,SNR=52							
335A	Moody	148.13	31	P		PKPbc	09 07 24.2	-1.1
	baz=148,SNR=37							
138A	Matatall Enter	148.13	27	P		PKPbc	09 07 25.0	-0.3
	baz=148,SNR=15							
632A	Uvalde	148.17	36	P		PKPbc	09 07 24.2	-1.3
	baz=148,SNR=66							
533A	Kerrville	148.19	35	P		PKPbc	09 07 24.0	-1.6
	baz=148,SNR=11							
336A	Riesel	148.34	30	P		PKPbc	09 07 26.4	+0.5
	baz=148,SNR=47							
237A	Washetta, Mont	148.35	28	P		PKPbc	09 07 26.2	+0.3
	baz=148,SNR=7.7							
139A	Bunkhouse Ranc	148.42	26	P		PKPbc	09 07 26.4	+0.4
	baz=148,SNR=5.9							
435B	Jarrell	148.44	32	P		PKPbc	09 07 25.0	-1.2
	baz=148,SNR=13							
534A	Blanco	148.54	34	P		PKPdf	09 07 24.7	+1.8
	baz=148,SNR=40							
633A	Saathoff Ranch	148.57	36	P		PKPdf	09 07 24.5	+1.6
	baz=148,SNR=37							
OXF	Oxford	148.59	17	ePKPdf		PKPdf	09 07 23.4	+0.6
OXF				ePKPbc		PKPbc	09 07 26.3	-0.1
732A	Laxson Ranch,	148.63	38	P		PKPbc	09 07 25.0	-1.7
	baz=148,SNR=20							
238A	Jacksonville	148.67	27	P		PKPbc	09 07 27.6	+0.9
	baz=148,SNR=5.9							
TKL	Tuckaleechee C	148.71	8	PKPbc		PKPbc	09 07 27.0	+0.3
	comp=Z,62nm,0.9s,baz=132,slow=1.5,SNR=45							
TKL	Tuckaleechee C	148.71	8	PKP2		PKPbc	09 07 27.0	+0.3
TKL				pmax		pmax		
	comp=Z,62nm,1.0s							
436A	Wall Ranch, Ga	148.86	31	P		PKPbc	09 07 28.5	+1.3
	baz=149							
337A	Centerville	148.88	29	P		PKPbc	09 07 28.8	+1.5
	baz=149,SNR=17							
832A	Faith Ranch, C	148.94	38	P		PKPdf	09 07 25.4	+1.8
	baz=149,SNR=128							
239A	Gary	148.95	27	P		PKPbc	09 07 28.2	+0.8
	baz=149,SNR=12							
535A	Dale	149.04	33	P		PKPbc	09 07 28.8	+1.1
	baz=149,SNR=21							
733A	Divot King Ran	149.04	37	P		PKPbc	09 07 27.1	-0.6
	baz=149,SNR=18							
NATX	Nacogdoches	149.09	27	P		PKPbc	09 07 28.7	+0.9
	baz=149,SNR=14							
NATX	Nacogdoches	149.09	27	ePKPdf		PKPdf	09 07 24.9	+1.2
NATX				ePKPbc		PKiKP	09 07 28.9	-0.2
634A	China Grove, S	149.10	35	P		PKPbc	09 07 29.0	+1.1
	baz=149							
338A	Crockett	149.12	28	P		PKPbc	09 07 29.1	+1.3
	baz=149,SNR=17							
437A	Phantom Ranch,	149.15	30	P		PKPbc	09 07 30.0	+2.0
	baz=149,SNR=6.3							
833A	Chaparral WMA,	149.27	38	P		PKPbc	09 07 26.6	-1.7
	baz=149,SNR=42							
536A	Bastrop	149.27	32	P		PKPbc	09 07 29.8	+1.5
	baz=149,SNR=6.9							
BBSR	BB Station	149.37	336	ePKPbc		PKPbc	09 07 29.4	+0.9
BBSR				LR		LR		
	comp=Z,760nm,20.0s							
734A	La Parita Cree	149.38	36	P		PKPbc	09 07 30.4	+1.7
	baz=149,SNR=15							
635A	Leesville	149.42	34	P		PKPbc	09 07 30.4	+1.7
	baz=149,SNR=24							
CNNC	Cliffs of the	149.46	359	ePKPdf		PKPdf	09 07 25.4	+1.3
CNNC				ePKPbc		PKiKP	09 07 29.7	0.0
CNNC				ePKPab		PKPab	09 07 33.8	+0.4
CNNC				LR		LR		
	comp=Z,978nm,21.0s							
KMSC	Kings Mountain	149.47	4	P		PKPbc	09 07 29.0	+0.4
	baz=149							
KMSC	Kings Mountain	149.47	4	ePKPdf		PKPdf	09 07 25.1	+0.9
KMSC				ePKPbc		PKPbc	09 07 28.7	+0.1
339A	Huntington	149.49	27	P		PKPbc	09 07 30.5	+1.7
	baz=149,SNR=11							
438A	Sam Houston St	149.54	29	P		PKPbc	09 07 30.2	+1.3
	baz=149,SNR=15							
537A	Green Hill Far	149.66	31	P		PKPbc	09 07 31.0	+1.7
	baz=150,SNR=17							
340A	Bronson	149.72	26	P		PKPbc	09 07 30.3	+1.0
	baz=150,SNR=15							
636A	Smothers Creek	149.74	33	P		PKPbc	09 07 31.3	+1.8
	baz=150,SNR=35							
735A	Kenedy	149.81	35	P		PKPbc	09 07 31.2	+1.6
	baz=150,SNR=29							
439A	Center Grove,	149.85	28	P		PKPbc	09 07 31.1	+1.4
	baz=150,SNR=19							
933A	Laredo	149.85	38	P		PKPbc	09 07 31.7	+1.9
	baz=150,SNR=67							
834A	Tilden	149.92	37	P		PKPbc	09 07 31.8	+1.8
	baz=150,SNR=21							
538A	Harpers Horsep	149.97	30	P		PKPbc	09 07 32.1	+2.1
	baz=150							
HKT	Hockley	150.02	31	ePKPdf		PKPdf	09 07 26.3	+1.2
HKT				ePKPbc		PKiKP	09 07 31.4	+0.5
736A	Circle Diamond	150.15	34	P		PKPbc	09 07 32.6	+2.2
	baz=150,SNR=34							
637A	Eagle Lake	150.17	32	P		PKPbc	09 07 32.1	+1.6
	baz=150,SNR=16							
835A	Beeville	150.22	36	P		PKPbc	09 07 32.9	+2.3
	baz=150,SNR=10							
440A	Kirbyville	150.26	27	P		PKPbc	09 07 32.1	+1.4
	baz=150,SNR=14							
934A	Benavides	150.32	37	P		PKPbc	09 07 33.2	+2.3
	baz=150,SNR=20							
VBMS	Vicksburg	150.35	20	P		PKPbc	09 07 32.1	+1.2
	baz=150							
539A	Cross D Ranch,	150.44	29	P		PKPbc	09 07 33.3	+2.2
	baz=150,SNR=10							
034A	Hebbronville	150.61	38	P		PKPbc	09 07 33.8	+2.1
	baz=150,SNR=26							
LRAL	Lakeview Retre	150.64	14	ePKPdf		PKPdf	09 07 26.7	+0.6
LRAL				ePKPbc		PKPbc	09 07 31.5	0.0
LRAL				ePKPab		PKPab	09 07 38.5	+0.3
737A	Port Lavaca	150.64	33	P		PKPbc	09 07 33.5	+1.8
	baz=150							
540A	Vidor	150.71	28	P		PKPbc	09 07 33.9	+2.1
	baz=150							
GOGA	Godfrey	150.96	8	ePKPdf		PKPdf	09 07 27.5	+0.9
GOGA				ePKPbc		PKiKP	09 07 33.1	+0.2
GOGA				ePKPab		PKPab	09 07 41.7	+2.2
GOGA				LR		LR		
	comp=Z,1µm,20.0s							
035A	Encino	151.06	38	P		PKPbc	09 07 34.7	+2.0
	baz=151,SNR=14							
LVC	Limon Verde	151.34	199	PFAKE			09 07 40.0	-1.7
LVC				LR		LR		
	comp=Z,538nm,21.0s							
035Z	Hargill	151.43	38	P		PKPbc	09 07 35.9	+2.3
	baz=151,SNR=18							
NHSC	New Hope	151.57	3	ePKPbc		PKPbc	09 07 35.3	+1.6
NHSC				ePKPab		PKPab	09 07 42.7	+0.6
NHSC				LR		LR		
	comp=Z,723nm,21.0s							
RGRS	Roger Stewart	151.77	3	ePKPdf		PKPdf	09 07 28.4	+0.6
RGRS				ePKPbc		PKiKP	09 07 35.1	+0.6
RGRS				ePKPab		PKPab	09 07 43.2	+0.4
BRAL	Brewton	152.55	16	ePKPbc		PKPbc	09 07 36.8	+0.9
BRAL				ePKPab		PKPab	09 07 46.0	-0.2
BRAL				LR		LR		
	comp=Z,1µm,20.0s							
TIGA	Tifton	152.88	9	P		PKPbc	09 07 37.3	+0.6
	baz=153							
TIGA	Tifton	152.88	9	ePKPbc		PKPbc	09 07 37.7	+1.0
TIGA				ePKPab		PKPab	09 07 47.1	-0.5
LPAZ	La Paz	156.78	207	PKPbc		PKPdf	09 07 44.9	+8.8
	comp=Z,3.8nm,1.1s,baz=207,slow=2.3,SNR=4.9							
LPAZ	La Paz	156.78	207	PKIKP		PKPdf	09 07 44.9	+8.8
LPAZ				pmax		pmax		
	comp=Z,4.0nm,1.1s							
ANWB	Willy Bob	158.91	309	PFAKE			09 07 50.0	+12
ANWB				LR		LR		
	comp=Z,608nm,20.0s							
SAML	Samuel	159.50	229	PFAKE			09 07 50.0	+11
SAML				LR		LR		
	comp=Z,871nm,19.0s							
FDF	Fort de France	159.96	302	PFAKE			09 07 50.0	+11
FDF				LR		LR		
	comp=Z,454nm,21.0s							
GRGR	Grenville	161.52	295	PFAKE			09 07 50.0	+9.2
GRGR				LR		LR		
	comp=Z,469nm,21.0s							
GRTK	Grand Turk	161.61	337	PFAKE			09 07 50.0	+9.3
GRTK				LR		LR		
	comp=Z,662nm,19.0s							
SJG	San Juan	161.76	319	PFAKE			09 07 50.0	+9.0
SJG				LR		LR		
	comp=Z,532nm,20.0s							
TEIG	Tepich	161.87	30	PFAKE			09 07 50.0	+9.0
TEIG				LR		LR		
	comp=Z,776nm,22.0s							
NNA	Nana	163.45	186	PFAKE			09 07 50.0	+7.2
NNA				LR		LR		
	comp=Z,683nm,19.0s							
SDDR	Presa de Saban	163.93	334	PFAKE			09 07 50.0	+6.8
SDDR				LR		LR		
	comp=Z,725nm,20.0s							
GTBY	Guantanamo Bay	164.33	347	PFAKE			09 07 50.0	+6.6
GTBY				LR		LR		
	comp=Z,636nm,20.0s							
MTDJ	Mount Denham	166.37	355	PFAKE			09 08 00.0	+15
MTDJ				LR		LR		
	comp=Z,783nm,22.0s							
PAYG	Puerto Ayora	167.33	114	PFAKE			09 08 00.0	+14
PAYG				LR		LR		
	comp=Z,1µm,22.0s							
SDV	Santo Domingo	170.89	299	PFAKE			09 08 00.0	+12
SDV				LR		LR		
	comp=Z,825nm,20.0s							
JTS	JuntasAbangare	171.60	47	PFAKE			09 08 00.0	+11
JTS				LR		LR		
	comp=Z,553nm,19.0s							
BCIP	Isla Barro Col	175.29	13	PFAKE			09 08 00.0	+10
BCIP				LR		LR		
	comp=Z,634nm,20.0s							
OTAV	Otavalo	175.69	184	ePKPdf		PKPdf	09 07 51.2	+0.4
OTAV				LR		LR		
	comp=Z,663nm,20.0s							

NNC 27 08:49:30.0±1.4, 42°.47N×80°.33E, h0km, mb3.7, mpv3.5, 9C-7D, Error ellipse: s-maj=8.9km s-min=7.9km az=71.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	Podgornoye	1.05	324	⇑P	Pg	08 49 49.9	-0.3
	51nm,0.3s						
PDGK				⇓S	Sb	08 50 05.1	-0.4
	25nm,0.3s						
KNDC	Almaty	2.58	288	⇑Pn	Pb	08 50 15.6	-1.8
	30nm,0.4s						
KNDC				⇑Lg	Lg	08 50 53.1	
	112nm,0.9s						
TKM2	Tokmak 2	3.52	279	⇓Pg	Pb	08 50 32.4	-1.0
	5.1nm,0.4s						
TKM2				⇓Lg	Lg	08 51 18.8	
	58nm,0.7s						
AAK	Ala-Archa	4.31	274	⇓Pg	Pb	08 50 47.6	+0.7
	3.6nm,0.3s						
AAK				⇓Lg	Lg	08 51 43.3	
	17nm,0.7s						
MK31	Makanchi Array	4.54	17	⇑Pn	Pn	08 50 40.4	+0.3
	0.6nm,0.2s,baz=202,slow=14,SNR=68						
MK31				⇑Sn	Sn	08 51 33.9	+0.3
	2.0nm,0.3s,baz=206,slow=21,SNR=5.1						
MK31				⇑Lg	Lg	08 51 53.8	
	7.9nm,0.5s,baz=193,slow=28,SNR=9.0						
SFK	Sufi-Kurgan	5.70	247	⇑Lg	Lg	08 52 30.5	
	11nm,0.8s						
KK31	Karatay Array	7.25	278	⇓Pg	Pb	08 51 40.5	+3.8
	0.9nm,0.5s,baz=91,slow=16,SNR=8.1						
KK31				⇑Lg	Lg	08 53 19.3	
	2.0nm,0.5s,baz=94,slow=28,SNR=7.7						
KURBB	Kurchatov Arra	8.25	352	⇑Lg	Lg	08 53 51.3	
	14nm,0.7s						
KURK	Kurchatov	8.33	352	⇓Lg	Lg	08 53 53.6	
	5.4nm,1.1s						

CSEM **27** *08:58:51.7, 43°.41N×12°.51E, h4km, MD1.4/4*
ROM 27 08:58:51.7±0.1, 43°.41N×12°.51E, h4km±3km, Md1.4/4, Ml0.6/2, Error ellipse: s-maj=1.4km s-min=0.4km az=115.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATVO	AVT- Monte Val	0.08	252	Pg	Pg	08 58 53.8	+0.3
ATVO				Sg	Sg	08 58 55.1	+0.4
	14nm,0.2s						
ATVO	AVT- Monte Val	0.08	252	Pg	Pg	08 58 53.8	+0.3
ATVO				Sg	Sg	08 58 55.1	+0.4
	14nm,0.2s						
ATPC	Poggio Castell	0.08	331	Pg	Pg	08 58 53.7	+0.1
ATPC				Sg	Sg	08 58 55.4	+0.6
	42nm,0.2s						
ATPC	Poggio Castell	0.08	331	Pg	Pg	08 58 53.7	+0.1
ATPC				Sg	Sg	08 58 55.4	+0.6
	42nm,0.2s						
ATPI	Pietralunga -	0.09	299	Pg	Pg	08 58 53.9	+0.2
ATPI				Sg	Sg	08 58 55.4	+0.4
	27nm,0.5s						
ATPI	Pietralunga -	0.09	299	Pg	Pg	08 58 53.9	+0.2
ATPI				Sg	Sg	08 58 55.4	+0.4
	27nm,0.5s						
PIEI	Pieia	0.13	7	Pg	Pg	08 58 54.7	+0.3
PIEI				Sg	Sg	08 58 56.8	+0.6
	16nm,0.2s						
PIEI	Pieia	0.13	7	Pg	Pg	08 58 54.7	+0.3
PIEI				Sg	Sg	08 58 56.8	+0.6
	16nm,0.2s						

IDC **27** *09:43:39.3±0.7, 13°.32N×95°.85E, h0km, mb4.0/21, mb1 4.1/23, mb1mx4.1/31, mbtmp4.0/23, ML3.8/2, MS4.1/19, Ms1 4.1/19, ms1mx3.8/39, Error ellipse: s-maj=19.9km s-min=15.2km az=38.0*
MOS **27** *09:43:44.5±3.4, 13°.32N×96°.23E, h33km, mb4.6/18, MS4.0/11, Error ellipse: s-maj=12.7km s-min=5.8km az=117.4*
BJI **27** *09:43:49.8, 14°.05N×95°.32E, h27km, mb4.6/37, mB4.7/30, Ms4.8/38, Ms7 4.5/35*
GCMT **27** *09:43:51.4±0.3, 13°.43N×95°.88E, h12km, MW5.0/66, Moment Tensor Solution. s24,c26; s66,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.30±.13; $M_{\theta\theta}$2.25±.11; $M_{\phi\phi}$1.05±.13; $M_{r\theta}$1.15±.42; $M_{r\phi}$1.91±.11; $M_{\theta\phi}$1.93±.50; Best double couple: M_{ϕ}4.14700×10^{16} NP1:ϕ_{s}221.00000°, δ

PBKT **Sadao Pong** 5.95 56 P **Pn** 09 45 07.4 -1.9
CHTO **Chiang Mai** 6.24 29 P Pn 09 45 15.9 +2.6
CHTO **Chiang Mai** 6.24 29 *e*Pn **Pn** **09 45 15.4 +2.0**
UTTA **Uttaradit** 6.35 46 P Pn 09 45 18.7 +3.9
7.9nm,1.0s,168nm0.1nm
KULM **Kulim** 9.30 149 *e*Pn Pn 09 46 16.0 +21
IPM **Ipoh** 10.19 149 *e*Pn Pn 09 46 23.8 +16
PSI **Prapat** 10.90 163 Pn **Pn** **09 46 19.1 +1.8**
0.2nm,0.3s,baz=357,slow=18,SNR=2.3
PSI Lg Lg 09 49 46.0
0.6nm,0.3s,baz=130,slow=14,SNR=3.2
PSI LR LR 09 50 58.3
comp=Z,1μm,20.9s,baz=328,slow=40
SHL **Shillong** 12.73 344 *e*P Pn 09 46 37.7 -4.7
KMI **Kunming** 13.44 28 P P 09 46 57.3 -4.5
KMI pP Pn 09 47 02.0 +10
KMI PP PnPn 09 47 07.0 +6.7
KMI S **Sn** **09 49 22.5 +0.1**
KMI sS S 09 49 31.8 -15
KMI SS **SnSn** **09 49 37.5 +2.3**
KMI PMZ
9.0nm,0.9s
KMI PMZ
120nm,3.1s
KMI LN
2μm,9.0s
KMI LE
4μm,8.2s
KMI LZ
2μm,8.0s
MYKOM **Kota Tinggi** 13.96 145 *e*Pn P 09 47 17.7 +10
BOK **Bokaro** 14.02 319 *e*P Pn 09 46 56.3 -3.7
BOK AMB AMB 09 47 17.5
comp=Z,44nm,2.6s
QIZ **Qiongzhong** 14.63 65 P **P** **09 47 16.3 +1.4**
QIZ S Sn 09 49 59.5 +8.3
QIZ LN
comp=Z,3μm,9.7s
QIZ LE
comp=Z,1μm,11.2s
QIZ LZ
comp=Z,2μm,9.2s
ODAN **Odare** 15.61 331 *e*P **P** **09 47 28.1 +2.2**
TAPN **Taplejung** 15.88 333 *e*P **P** **09 47 27.8 -1.2**
PALK **Pallekele** 16.02 249 LR LR 09 54 13.1
comp=Z,118nm,18.1s,baz=54,slow=40
RAMN **Ramite** 16.07 329 *e*P **P** **09 47 32.3 +1.3**
GYA **Guiyang** 16.58 36⇑ *i*P **P** **09 47 35.5 -1.1**
GYA pP Pn 09 47 43.8 +10
GYA PP PnPn 09 47 51.3 +8.1
GYA S **Sn** **09 50 40.3 +1.7**
GYA sS **S** **09 50 47.0 -3.6**
GYA SS **SnSn** **09 50 57.5 +5.5**
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,140nm,4.8s
GYA LN
comp=Z,2μm,9.1s
GYA LE
comp=Z,3μm,9.4s
GYA LZ
comp=Z,2μm,8.4s
LSA **Lhasa** 16.86 346 *e*P **Pn** **09 47 37.7 -0.1**
comp=Z,29nm,1.0s
PKI **Pulchoki** 17.18 327 *e*P **P** **09 47 42.7 -0.8**
comp=Z,134nm,1.2s
DMN **Daman** 17.37 327 *e*P **P** **09 47 46.1 +0.6**
GKN **Gorkha** 17.94 326 *e*P **Pn** **09 47 50.9 -0.1**
comp=Z,106nm,1.2s
KOLN **Koldanda** 18.34 323 *e*P **Pn** **09 47 54.5 -1.5**
comp=Z,46nm,0.8s
PMBI **Palembang** 18.44 150 P P 09 48 10.4 +13
comp=Z,428nm,0.5s,comp=Z,14μm
PPBI **Pangkal Pinang** 18.49 146 P P 09 48 26.1 +28
KSM **Kuching** 18.57 128 *e*P Pn 09 48 12.8 +14
comp=Z,48nm,1.3s
LHSI **Lahat** 18.68 155 P Pn 09 48 34.8 +35
CD2 **Chengdu** 18.98 21 P **Pn** **09 48 04.8 +1.2**
CD2 pP P 09 48 12.5 +9.5
CD2 sP sP 09 48 16.0 +12
CD2 S **Sn** **09 51 32.0 -4.8**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,180nm,3.7s
CD2 LN
comp=Z,1μm,8.6s
CD2 LE
comp=Z,3μm,9.2s
CD2 LZ
comp=Z,1μm,7.8s
MDSI **Maura Dua** 19.55 154 P **P** **09 48 07.9 -1.4**
LWLI **Liwa** 19.98 155 P Pn 09 48 31.6 +16
comp=Z,65nm,1.1s,comp=Z,7μm
BHPL **Bhopal** 20.02 302 *e*P **P** **09 48 13.3 -1.1**
BHPL AMB AMB 09 48 27.8
comp=Z,31nm,2.0s
STKI **Sintang** 20.37 129 P Pn 09 48 35.5 +15
comp=Z,33nm,0.7s,comp=Z,11μm
ENH **Enshi** 21.09 35 *e*P P 09 48 30.2 +4.2
comp=Z,35nm,1.1s
LEM **Lembang** 23.20 149 LR LR 09 59 01.2
comp=Z,789nm,18.3s,baz=336,slow=40
LZH **Lanzhou** 23.80 16 *e*P **P** **09 48 58.5 +4.0**
LZH pP pP 09 49 06.8 +12
LZH sP sP 09 49 10.8 +15
LZH *e*S **S** **09 53 05.0 -6.1**
LZH sS Sn 09 53 17.0 -16
LZH SS **SnSn** **09 53 50.0 +0.8**
LZH PMZ
comp=Z,82nm,1.1s
LZH PMZ
comp=Z,400nm,4.1s
LZH LN
comp=Z,620nm,10.7s
LZH LE
comp=Z,1μm,11.2s
LZH LZ
comp=Z,810nm,10.5s
XAN **Xi'an** 23.83 28 P P 09 49 00.5 +5.8
XAN pP pP 09 49 07.5 +12
XAN sP sP 09 49 11.0 +15
XAN S **S** **09 53 10.8 -0.6**
XAN sS Sn 09 53 21.0 -12
XAN PMZ
comp=Z,6.0nm,1.2s
XAN PMZ
comp=Z,32nm,10.5s
XAN LN
comp=Z,1μm,9.5s
XAN LE
comp=Z,620nm,9.6s
XAN LZ
comp=Z,280nm,8.7s
WHN **Wuhan** 24.23 42 P P 09 49 05.8 +7.4
WHN PMZ
comp=Z,48nm,1.0s
WHN LN
comp=Z,3μm,9.4s
WHN LE
comp=Z,6μm,8.9s
WHN LZ
comp=Z,6μm,8.8s
QZH **Quanzhou** 24.40 58 P P 09 49 08.3 +8.2
QZH S **S** **09 53 21.0 +0.4**
QZH PMZ
comp=Z,520nm,3.6s
QZH LN
comp=Z,2μm,9.2s
QZH LE
comp=Z,1μm,9.4s
QZH LZ
comp=Z,1μm,11.2s
SMLA **Simla** 24.66 319 *e*P **P** **09 49 02.8 +0.4**
SMLA AMB AMB 09 49 15.2
comp=Z,50nm,1.0s
SMRI **Semarang** 24.92 143 P P 09 49 36.6 +32
TPUB **Ta-pu** 25.54 64 *e*P P 09 49 17.1 +6.6
comp=Z,34nm,1.1s
DHRM **DHARAMSHALA** 25.96 320 *e*P **P** **09 49 16.1 +1.7**
DHRM AMB AMB 09 49 34.6
comp=Z,22nm,0.4s
SSLB **Suanglung** 25.98 63 *e*P P 09 49 21.6 +7.1
comp=Z,32nm,1.3s

YULB **Yu-li** 26.15 64 *e*P P 09 49 25.2 +9.2
comp=Z,19nm,1.1s
GTA **Gaotai** 26.23 7 *e*P **P** **09 49 18.8 +2.1**
GTA pP pP 09 49 26.0 +8.7
GTA sP sP 09 49 29.5 +12
GTA S **S** **09 53 45.8 -4.0**
GTA sS sS 09 53 57.0 +6.1
GTA SS **SnSn** **09 54 50.0 +1.4**
GTA PMZ
comp=Z,6.0nm,1.1s
GTA PMZ
comp=Z,250nm,5.9s
GTA LN
comp=Z,710nm,18.0s
GTA LE
comp=Z,600nm,17.6s
GTA LZ
comp=Z,810nm,17.6s
YHNB **Yeheng** 26.64 61 *e*P P 09 49 26.0 +5.5
comp=Z,51nm,1.2s
NJ2 **Nanjing** 28.18 45 *e*P P 09 49 39.3 +5.2
NJ2 S **S** **09 54 24.0 +3.5**
NJ2 PMZ
comp=Z,20nm,0.8s
NJ2 LN
comp=Z,1μm,21.4s
NJ2 LE
comp=Z,1μm,22.8s
NJ2 LZ
comp=Z,2μm,21.6s
MRSI **Marisa** 28.87 114 P P 09 49 49.7 +9.3
comp=Z,22nm,0.8s,comp=Z,601nm
SPSI **Sidrap Palu** 29.35 124 P P 09 49 54.7 +10
KAPI **Kappang** 29.96 126 LR LR 10 03 26.6
comp=Z,386nm,19.0s,baz=292,slow=40
KAPI **Kappang** 29.96 126 *e*P P 09 50 03.9 +14
comp=Z,23nm,1.1s
HHC **Hu-ho-hao-te** 30.70 24 *e*P P 09 50 03.3 +6.8
HHC PP **PP** **09 51 01.3 -4.5**
HHC S **S** **09 54 59.3 -0.9**
HHC sS sS 09 55 11.5 +10
HHC SS **ScP** **09 56 38.8 +0.4**
HHC ScS **ScS** **10 00 36.0 +1.2**
HHC PMZ
comp=Z,21nm,0.8s
HHC PMZ
comp=Z,170nm,5.7s
HHC LN
comp=Z,1μm,10.2s
HHC LE
comp=Z,1μm,10.5s
HHC LZ
comp=Z,590nm,10.8s
WMQ **Urumqi** 31.18 349 P **P** **09 50 02.5 +1.8**
WMQ pP pP 09 50 09.8 +8.5
WMQ sP sP 09 50 13.0 +11
WMQ PP **PnPn** **09 51 02.3 +0.1**
WMQ S S 09 55 00.5 -7.1
WMQ sS sS 09 55 14.5 +5.9
WMQ SS **ScP** **09 56 40.5 +0.6**
WMQ PMZ
comp=Z,3.0nm,0.6s
WMQ PMZ
comp=Z,230nm,6.6s
WMQ LN
comp=Z,110nm,14.0s
WMQ LE
comp=Z,190nm,15.4s
WMQ LZ
comp=Z,380nm,26.5s
KSH **Kashi** 31.41 330 P **P** **09 50 02.3 -0.5**
KSH pP pP 09 50 10.3 +6.8
KSH sP sP 09 50 14.0 +10
KSH PP **PnPn** **09 51 06.0 +0.7**
KSH PcP PcP 09 53 03.3 +6.8
KSH S S 09 55 02.8 -8.6
KSH sS sS 09 55 13.0 +0.6
KSH PcS PcS 09 56 47.5 +6.6
KSH PMZ
comp=Z,23nm,0.8s
KSH PMZ
comp=Z,39nm,2.7s
KSH LN
comp=Z,1μm,16.8s
KSH LE
comp=Z,530nm,13.4s
KSH LZ
comp=Z,510nm,23.9s
BJI **Beijing** 32.09 30 P P 09 50 11.8 +3.2
BJI PMZ
comp=Z,9.0nm,0.6s
BJI PMZ
comp=Z,75nm,3.8s
TKM2 **Tokmak 2** 34.27 333 *e*P **P** **09 50 28.9 +1.0**
comp=Z,9.1nm,1.0s
AAK **Ala-Archa** 34.54 332 P P 09 50 45.3 +15
comp=Z,1.3nm,0.3s,baz=146,slow=8.0,SNR=9.9
FRU **Bishkek** 34.64 332 *e*P **P** **09 50 31.0 +0.1**
FRU *e* 09 50 40.0
MK31 **Makanchi Array** 35.25 344 *e*P **P** **09 50 36.0 -0.1**
MKAR **Makanchi Array** 35.25 344 *e*P **P** **09 50 36.4 +0.3**
SONM **Songino Array** 35.53 12 P **P** **09 50 38.2 -0.4**
comp=Z,2.8nm,1.1s,baz=186,slow=8.9,SNR=3.9
SONM LR LR 10 06 07.2
comp=Z,147nm,21.5s,baz=218,slow=38
SONM **Songino Array** 35.53 12 P **P** **09 50 38.2 -0.4**
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM MLR MLR
comp=Z,147nm,21.5s
SOEI **Soe** 36.39 128 *e*P P 09 50 59.7 +13
comp=Z,42nm,1.1s
KSAR **Wonju Array Be** 37.34 44 P **P** **09 50 52.7 -1.4**
KSRS **Korea Array** 37.38 44 P **P** **09 50 52.7 -1.7**
comp=Z,1.3nm,1.0s,baz=240,slow=10.0,SNR=5.0
KSRS **Korea Array** 37.38 44 P **P** **09 50 52.7 -1.7**
KSRS pmax pmax
comp=Z,1.0nm,1.0s
ZAK **Zakamensk** 37.46 8 *e*P **P** **09 50 54.7 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
JNU **Nakatsue** 37.53 52 P **P** **09 50 53.4 -2.4**
comp=Z,3.4nm,0.5s,baz=172,slow=10,SNR=2.4
JNU **Nakatsue** 37.53 52 *e*P P 09 51 04.4 +8.6
comp=Z,15nm,1.2s
TLY **Talaya** 38.78 8 P **P** **09 51 07.0 +0.9**
comp=Z,1.4nm,0.6s,baz=180,slow=3.0,SNR=2.4
TLY **Talaya** 38.78 8 P **P** **09 51 07.0 +0.9**
TLY pmax pmax
comp=Z,1.0nm,0.6s
TLY **Talaya** 38.78 8 *e*P **P** **09 51 06.8 +0.7**
comp=Z,9.2nm,1.1s
CN2 **Changchun** 39.61 34 *e*P P 09 51 22.3 +9.2
KURBB **Kurchatov Arra** 39.77 343 P **P** **09 51 13.9 -0.4**
comp=Z,6.5nm,1.1s,baz=159,slow=7.9,SNR=25
KURK **Kurchatov** 39.83 343 P **P** **09 51 13.9 -0.9**
KURK pmax pmax
comp=Z,7.0nm,1.1s
KURK **Kurchatov** 39.83 343 *e*P **P** **09 51 14.7 -0.1**
comp=Z,20nm,0.9s
HIA **Hailar** 40.91 24 *e*P P 09 51 27.0 +3.2
comp=Z,56nm,1.2s
ZAA0 **Zalesovo Array** 41.45 350 *e*P **P** **09 51 28.0 -0.1**
ZALV **Zalesovo Beam** 41.45 350 P **P** **09 51 27.9 -0.2**
comp=Z,3.9nm,1.0s,baz=169,slow=8.9,SNR=8.6
ZALV LR LR 10 11 43.8
comp=Z,162nm,19.4s,baz=252,slow=41
ZALV **Zalesovo Beam** 41.45 350 P **P** **09 51 27.9 -0.2**
ZALV pmax pmax
comp=Z,4.0nm,1.0s
ZALV MLR MLR
comp=Z,162nm,19.4s
GEYT **Alibeck** 41.47 313 P **P** **09 51 29.4 +0.8**
comp=Z,2.9nm,0.7s,baz=113,slow=3.4,SNR=6.1
GEYT LR LR 10 10 58.0
comp=Z,340nm,19.8s,baz=130,slow=40
NVS **Novosibirsk** 42.58 349 *e*P **P** **09 51 36.5 -0.8**
NVS pmax pmax
comp=N,6.0nm,0.9s
NVS pmax pmax
comp=Z,8.0nm,0.9s
USRK **Ussuriysk Ar.** 43.61 38 P **P** **09 51 46.0 +0.1**
comp=Z,0.5nm,0.5s,baz=238,slow=9.7,SNR=2.7
MAT **Matsushiro** 44.40 51 P P 09 51 56.0 +3.6
MJAR **Matsushiro Arr** 44.40 51 P **P** **09 51 52.3 -0.1**
comp=Z,1.0nm,0.9s,baz=264,slow=12,SNR=3.5

MJAR PP PcP 09 53 41.0 +4.7
comp=Z,2.2nm,0.8s,baz=246,slow=8.8,SNR=4.2
MJAR **Matsushiro Arr** 44.40 51 P **P** **09 51 52.3 -0.1**
MJAR 09 53 41.0
MJAR pmax pmax
comp=Z,1.0nm,0.9s
MJAR pmax pmax
comp=Z,2.0nm,0.9s
BVAR **Borovoye Array** 44.47 338 P **P** **09 51 52.4 -0.3**
comp=Z,1.1nm,0.9s,baz=142,slow=7.5,SNR=4.7
BVAR **Borovoye Array** 44.47 338 P **P** **09 51 52.4 -0.3**
BVAR pmax pmax
comp=Z,1.0nm,0.9s
BRVK **Borovoye** 44.54 338 *ce*P P 09 51 59.9 +6.7
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK **Borovoye** 44.54 338 *e*P **P** **09 51 53.8 +0.6**
comp=Z,5.4nm,0.8s
ABKAR **Akbulak array** 46.38 328 *e*P **P** **09 52 08.7 +0.8**
comp=Z,13nm,1.1s
CLNS **Chul'man** 48.80 21 *e*P **P** **09 52 25.6 -1.0**
CLNS pmax pmax
comp=Z,11nm,1.4s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS pmax pmax
comp=N,4.0nm,0.9s
ASAJ **Asahikawa** 50.30 43 *e*P P 09 52 43.3 +5.1
comp=N,11nm,1.3s
WRA **Warramunga Arr** 50.31 130 P **P** **09 52 37.8 -0.8**
comp=N,2.0nm,0.9s,baz=311,slow=8.3,SNR=8.7
WRA LR LR 10 18 13.7
comp=N,146nm,18.2s,baz=120,slow=41
WRA **Warramunga Arr** 50.31 130 P **P** **09 52 37.8 -0.8**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA MLR MLR
comp=Z,146nm,18.2s
WRAB **Tennant Creek** 50.31 130 *ce*P **P** **09 52 39.0 +0.4**
WRAB pmax pmax
comp=Z,72nm,2.5s
WRAB **Tennant Creek** 50.31 130 *e*P P 09 52 50.7 +12
comp=Z,3.9nm,0.7s
SVE **Sverdlovsk** 51.04 336⇑ *i*P **P** **09 52 44.7 +1.1**
SVE pmax pmax
comp=Z,45nm,1.2s
ARU **Arti** 51.62 335 *d i*P **P** **09 52 48.8 +0.9**
ARU S **S** **10 00 07.2 -2.4**
ARU SS **SS** **10 03 43.0 -2.7**
ARU pmax pmax
comp=Z,11nm,1.7s
ARU **Arti** 51.62 335 *e*P **P** **09 52 48.2 +0.3**
comp=Z,21nm,1.2s
DGRG **David-gareji** 51.89 313 P P 09 52 59.3 +9.0
GNI **Garni** 51.97 311 *ce*P **P** **09 52 53.8 +2.7**
GNI pmax pmax
comp=Z,24nm,1.2s
GNI **Garni** 51.97 311 *e*P **P** **09 52 53.4 +2.3**
comp=Z,33nm,1.3s
ASAR **Alice Springs** 52.34 134 P **P** **09 52 53.0 -0.8**
comp=Z,1.5nm,1.0s,baz=312,slow=7.3,SNR=6.9
ASAR LR LR 10 18 32.0
comp=Z,192nm,18.7s,baz=309,slow=40
ASAR **Alice Springs** 52.34 134 P **P** **09 52 53.0 -0.8**
ASAR pmax pmax
comp=Z,2.0nm,1.0s
ASAR MLR MLR
comp=Z,192nm,18.7s
KBZ **Khabaz** 54.31 315 P **P** **09 53 09.1 +1.1**
comp=Z,0.7nm,0.4s,baz=37,slow=7.6,SNR=5.0
KBZ **Khabaz** 54.31 315 P **P** **09 53 09.1 +1.1**
KBZ pmax pmax
comp=Z,1.0nm,0.4s
YAK **Yakutsk** 54.35 19 *e*P P 09 53 14.1 +6.2
YAK pmax pmax
comp=Z,13nm,1.1s
KIV **Kislovodsk** 54.52 315 *e*P P 09 53 18.7 +9.0
KIV pmax pmax
comp=Z,25nm,0.9s
KIV MLR MLR
comp=Z,112nm,16.0s
KIV **Kislovodsk** 54.52 315 *e*P **P** **09 53 11.3 +1.6**
comp=Z,25nm,0.9s
GOF **Gofitskoye** 54.62 316 *e*P P 09 53 18.8 +8.6
GOF pmax pmax
comp=Z,20nm,0.9s
SOC **Sochi** 56.50 314 *e*P P 09 53 29.5 +5.7
SOC *e*PPP PPP 09 56 55.9
SOC *e*S S 10 01 22.7 +6.7
SOC *e*SSS SSS 10 07 15.6
SOC pmax pmax
comp=Z,15nm,0.6s
OPO **Ambohidratompo** 57.45 238 LR LR 10 12 44.6
comp=Z,134nm,18.1s,baz=354,slow=30
VRHR **Novokhopersk** 57.52 323 *e*P P 09 53 37.9 +7.0
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.6s
VORD **Divnogorie** 58.87 322 *e*P P 09 53 49.2 +8.9
VORD pmax pmax
comp=Z,7.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.4s
VORD pmax pmax
comp=E,30nm,0.4s
VSR **Storozhevoye** 59.02 322 *e*P P 09 53 48.2 +6.8
VSR pmax pmax
comp=Z,20nm,2.0s
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,8.0nm,0.6s
BR131 **Keskin Array S** 60.24 308 *e*P **P** **09 53 50.4 +0.1**
comp=E,5.4nm,0.9s
BRTR **Keskin Array B** 60.24 308 P **P** **09 53 49.2 -1.1**
comp=E,1.2nm,0.8s,baz=140,slow=7.8,SNR=7.2
BRTR LR LR 10 23 10.1
comp=E,87nm,18.8s,baz=90,slow=39
BRTR **Keskin Array B** 60.24 308 P **P** **09 53 49.2 -1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR MLR MLR
comp=Z,87nm,18.8s
MOS **Moscow** 61.37 327 *e*P P 09 54 05.0 +7.6
MOS pmax pmax
comp=Z,36nm,1.0s
TIXI **Tiksi** 61.61 11 *e*P P 09 54 05.4 +6.7
TIXI pmax pmax
comp=Z,12nm,1.2s
TIXI MLR MLR
comp=Z,107nm,16.0s
TIXI **Tiksi** 61.61 11 *e*P **P** **09 53 57.2 -1.6**
comp=Z,13nm,1.2s
OBN **Obninsk** 61.74 326 *c i*P P 09 54 09.1 +9.2
OBN *e* 09 56 21.9
OBN *i* PPP PPP 09 57 52.5
OBN pmax pmax
comp=Z,50nm,1.7s
OBN MLR MLR
comp=Z,188nm,23.0s
STKA **Stephens Creek** 62.80 137 LR LR 10 22 37.4
comp=Z,435nm,21.6s,baz=271,slow=37
STKA **Stephens Creek** 62.80 137 *e*P P 09 54 18.9 +12
comp=Z,1.2nm,0.9s
TMCR **Tamitsa** 64.32 336 *e*P P 09 54 24.2 +7.3
TMCR pmax pmax
comp=Z,49nm,1.5s
TIRR **Tirgusor** 64.67 313 ⇑P P 09 54 26.5 +6.9
TIRR **Tirgusor** 64.67 313 *i*P P 09 54 26.5 +6.9
TIRR **Tirgusor** 64.67 313 *e*P **P** **09 54 22.1 +2.5**
comp=Z,26nm,1.3s
PSN **Preselentsi** 64.75 312⇑ *i*P P 09 54 28.2 +8.0
CFR **Carcaliu** 64.94 314 ⇓P **P** **09 54 22.4 +1.1**
CFR **Carcaliu** 64.94 314⇓ *i*P **P** **09 54 22.4 +1.1**
AKASG **Malin Array Be** 64.99 320 P **P** **09 54 20.6 -1.0**
comp=Z,0.3nm,0.5s,baz=83,slow=4.6,SNR=6.9
AKASG LR LR 10 26 50.8
comp=Z,80nm,20.5s,baz=5.0,slow=40
AKBB **Malin Array Si** 64.99 320 *e*P P 09 54 25.6 +4.1
AK01 **Malin Array Si** 65.00 320 *e*P P 09 54 25.0 +3.4
KIEV **Kiev** 65.00 320 *e*P P 09 54 29.4 +7.8
KIEV **Kiev** 65.00 320 *e*P **P** **09 54 23.8 +2.2**
comp=Z,18nm,1.3s

MSAB	**Monastry St. A**	**65.05 313**	⇓*i*P	P	09 54 31.5	+9.4		
PRD	**Provadia**	**65.28 312**	⇑P	P	09 54 27.0	+3.4		
PRD	**Provadia**	**65.28 312**	⇑*i*P	P	09 54 27.0	+3.4		
VRI	**Vrincioaia**	**66.00 314**	⇑P	**P**	**09 54 28.4**	**+0.2**		
VRI	**Vrincioaia**	**66.00 314**	⇑*i*P	**P**	**09 54 28.4**	**+0.2**		
CHOS	**Chios island**	**66.02 306**	*e*P	P	09 54 36.0	+7.4		
PLOR	**Plostina**	**66.05 314**	⇑P	**P**	**09 54 28.9**	**+0.3**		
PLOR	**Plostina**	**66.05 314**	⇑*i*P	**P**	**09 54 28.9**	**+0.3**		
ISR	**Istrita**	**66.06 314**	⇓*i*P	P	09 54 40.9	+12		
TESR	**Tescani**	**66.12 315**	⇑*i*P	P	09 54 38.8	+10		
ALN	**Alexandroupoli**	**66.13 309**	*e*P	P	09 54 42.0	+13		
APE	**Apeiranthos**	**66.40 305**	*e*P	P	09 54 47.0	+16		
MLR	**Muntele Rosu**	**66.51 314**	⇓P	**P**	**09 54 31.7**	**0.0**		
MLR	**Muntele Rosu**	**66.51 314**	⇓*i*P	**P**	**09 54 31.7**	**0.0**		
KDZ	**Kurdzhali**	**66.64 310**	⇑P	**P**	**09 54 32.8**	**+0.4**		
KDZ	**Kurdzhali**	**66.64 310**	⇑*i*P	**P**	**09 54 32.8**	**+0.4**		
DOPR	**Dopca**	**66.94 314**	⇓*i*P	P	09 54 46.4	+12		
VOIR		**67.14 314**	⇑*i*P	P	09 54 46.9	+11		
BURAR	**Bucovina Array**	**67.20 316**	⇑*i*P	P	09 54 44.8	+8.8		
BUR08	**Bucovina Ar. S**	**67.21 316**	*e*P	P	09 54 39.8	+3.7		
APA	**Apatity**	**67.39 338**	⇓*i*P	P	09 54 41.0	+4.4		
APA			MLR	MLR				
	comp=Z,600nm,13.0s							
APA			pmax	pmax				
	comp=Z,16nm,0.8s							
MMB	**Musomiste**	**67.90 310**	⇑P	**P**	**09 54 37.9**	**-2.6**		
MMB	**Musomiste**	**67.90 310**	⇑*i*P	**P**	**09 54 37.9**	**-2.6**		
MRKA	**Markates**	**67.96 307**	*e*P	**P**	**09 54 42.0**	**+1.1**		
PLG	**Polygyros**	**68.09 308**	*e*P	P	09 54 53.0	+11		
SOH	**Sokhos**	**68.17 309**	*e*P	P	09 54 49.5	+7.3		
XOR	**Xorichti**	**68.27 307**	*e*P	P	09 54 55.0	+12		
VTS	**Vitosha**	**68.32 311**	⇓*i*P	P	09 54 52.9	+10		
HORT	**Hortiatis**	**68.36 309**	*e*P	P	09 54 54.0	+11		
LTK	**Loutraki**	**68.45 306**	*e*P	P	09 54 58.5	+15		
KNT	**Kendrikon**	**68.52 309**	*e*P	P	09 54 51.0	+6.7		
DEV	**Deva**	**68.67 314**	⇓*i*P	P	09 54 56.0	+11		
FINES	**FINESS Array B**	**68.72 331**	P	**P**	**09 54 43.8**	**-1.3**		
	comp=Z,2.1nm,0.8s,baz=119,slow=6.7,SNR=6.4							
FINES			LR	LR	10 28 03.5			
	comp=Z,276nm,21.5s,baz=90,slow=39							
FINES	**FINESS Array B**	**68.72 331**	P	**P**	**09 54 43.8**	**-1.3**		
FINES			pmax	pmax				
	comp=Z,2.0nm,0.8s							
FINES			MLR	MLR				
	comp=Z,276nm,21.5s							
DSF	**Desfina**	**68.79 306**	*e*P	P	09 54 55.0	+8.9		
LIT	**Litokhoron**	**68.82 308**	*e*P	P	09 54 55.5	+9.3		
DRGR		**68.84 315**	⇓P	**P**	**09 54 46.9**	**+0.6**		
DRGR		**68.84 315**	⇓*i*P	**P**	**09 54 46.9**	**+0.6**		
GRG	**Griva**	**68.89 309**	*e*P	**P**	**09 54 45.0**	**-1.7**		
VLX	**Vlachokerasia**	**68.92 305**	*e*P	P	09 54 54.5	+7.5		
GUR	**Goura**	**68.94 306**	*e*P	P	09 54 55.5	+8.4		
KALE	**Kalithea**	**69.09 306**	*e*P	P	09 54 52.5	+4.5		
THL	**Klokotos Trika**	**69.18 307**	*e*P	P	09 54 55.5	+7.1		
UZH	**Uzhgorod**	**69.23 317**	*e*P	**P**	**09 54 50.6**	**+2.1**		
UZH			*e*		09 55 06.8			
UZH			*e*		09 55 20.4			
KOLS	**Kolonicke sedl**	**69.26 317**	*e*P	**P**	**09 54 49.5**	**+0.7**		
KOLS			*e*		09 54 58.2			
KOLS	**Kolonicke sedl**	**69.26 317**	*e*P	**P**	**09 54 49.5**	**+0.7**		
KOLS			*e*pP	PcP	09 54 58.2	-14		
EFP	**Efpalio**	**69.28 306**	*e*P	P	09 54 55.0	+5.9		
KZN	**Kozani**	**69.37 308**	*e*P	**P**	**09 54 49.5**	**-0.2**		
PYL	**PYLOS**	**69.44 305**	*e*P	P	09 55 02.5	+12		
DRO	**Drossia**	**69.44 306**	*e*P	P	09 55 01.0	+11		
BZS	**Buzias**	**69.56 314**	⇓P	P	09 54 56.6	+6.0		
BZS	**Buzias**	**69.56 314**	⇓*i*P	P	09 54 56.6	+6.0		
DSL	**Palaion Diasel**	**69.90 307**	*e*P	P	09 55 04.5	+12		
NEST	**Nestorio**	**69.92 308**	*e*P	P	09 55 03.5	+10		
STHS	**Stebnicka Huta**	**69.96 318**	*e*P	**P**	**09 54 52.5**	**-0.6**		
STHS			pmax	pmax				
	comp=Z,5.0nm,1.1s							
STHS	**Stebnicka Huta**	**69.96 318**	*e*P	**P**	**09 54 52.5**	**-0.6**		
STHS			*e*		09 55 01.4			
KECS	**Kecovo**	**70.42 317**	*e*P	**P**	**09 54 57.4**	**+1.5**		
KECS			pmax	pmax				
	comp=Z,4.0nm,1.3s							
KECS	**Kecovo**	**70.42 317**	*e*P	**P**	**09 54 57.4**	**+1.5**		
KECS			*e*		09 55 00.8			
IGT	**Igoumenitsa**	**70.48 307**	*e*P	P	09 55 04.5	+8.0		
SGD	**Sagiada**	**70.56 308**	*e*P	P	09 55 01.0	+4.1		
DIVS	**Divibare**	**70.69 312**	⇓*i*P	P	09 54 51.5	-6.2		
ARCES	**ARCESS Array B**	**70.75 339**	LR	LR	10 29 53.5			
	comp=Z,259nm,20.4s,baz=88,slow=39							
PSZ	**Piszkesteto**	**70.80 316**	⇓P	P	09 55 03.7	+5.4		
PSZ	**Piszkesteto**	**70.80 316**	⇓*i*P	P	09 55 03.7	+5.4		
PSZ	**Piszkesteto**	**70.80 316**	*e*P	**P**	**09 54 58.4**	**0.0**		
	comp=Z,14nm,1.1s							
OJC	**Ojcow**	**70.93 319**	*e*P	**P**	**09 54 59.7**	**+0.7**		
OKC	**Ostrava-Krasne**	**71.98 318**	*e*pP	P	09 55 14.9	+10		
MORC	**Moravsky Berou**	**72.38 318**	⇑P	**P**	**09 55 08.7**	**+0.9**		
MORC	**Moravsky Berou**	**72.38 318**	⇑*i*P	**P**	**09 55 08.7**	**+0.9**		
MORC	**Moravsky Berou**	**72.38 318**	*e*P	**P**	**09 55 08.7**	**+0.9**		
	comp=Z,67nm,1.2s							
KRLC	**Kraliky**	**72.87 319**	*e*P	P	09 55 19.6	+8.9		
DPC	**Dobruska-Polom**	**73.16 319**	*e*P	P	09 55 20.1	+7.7		
DPC	**Dobruska-Polom**	**73.16 319**	*e*P	P	09 55 20.1	+7.7		
UPC	**Upice**	**73.36 319**	*e*pP	P	09 55 23.2	+10		
CEL	**Celeste**	**74.01 306**	*e*P	**P**	**09 55 18.2**	**+0.6**		
	comp=Z,30nm,1.0s							
PRU	**Pruhonice**	**74.31 318**	*e*P	P	09 55 26.7	+7.6		
PRU			*e*pP	**PcP**	**09 55 31.6**	**-2.4**		
PRU	**Pruhonice**	**74.31 318**	*e*P	P	09 55 26.7	+7.6		
PRU			*e*		09 55 31.6			
BRG	**Berggiesshubel**	**74.66 319**	*e*P	**P**	**09 55 22.0**	**+0.8**		
	comp=Z,4.1nm,2.0s							
BRG	**Berggiesshubel**	**74.66 319**	*e*P	P	09 55 33.9	+13		
	comp=Z,13nm,1.0s							
BRG	**Berggiesshubel**	**74.66 319**	*e*P	**P**	**09 55 22.0**	**+0.8**		
BRG			pmax	pmax				
	comp=Z,4.0nm,2.0s							
RUE	**Ruedersdorf**	**74.70 321**	*e*P	P	09 55 34.1	+13		
	comp=Z,20nm,0.7s							
GEC2	**GERESS Array S**	**74.91 317**	*e*P	P	09 55 35.4	+13		
	comp=Z,11nm,1.1s							
GEC2	**GERESS Array S**	**74.91 317**	*e*P	**P**	**09 55 23.0**	**+0.2**		
GERES	**GERESS Array B**	**74.91 317**	P	**P**	**09 55 22.6**	**-0.2**		
	comp=Z,2.4nm,0.9s,baz=97,slow=4.6,SNR=12							
GERES			LR	LR	10 35 18.7			
	comp=Z,76nm,19.1s,baz=78,slow=41							
KHC	**Kasperske Hory**	**74.98 318**	*e*P	P	09 55 30.5	+7.4		
KHC			*e*pP	**PcP**	**09 55 35.2**	**-1.7**		
KHC	**Kasperske Hory**	**74.98 318**	*e*P	P	09 55 30.5	+7.4		
KHC			*e*		09 55 35.2			
FBE	**Freiberg**	**75.03 319**	*e*P	P	09 55 36.3	+13		
	comp=Z,16nm,0.9s							
CLL	**Collm**	**75.24 320**	*i* pP	P	09 55 36.5	+12		
	comp=Z,14nm,1.5s							
CLL	**Collm**	**75.24 320**	*e*P	P	09 55 32.0	+7.6		
CLL			*i*		09 55 36.5			
WET	**Wettzell**	**75.44 318**	*e*P	P	09 55 38.4	+13		
	comp=Z,9.0nm,1.1s							
TANN	**Tannenbergstha**	**75.63 319**	*e*P	P	09 55 39.3	+12		
	comp=Z,8.0nm,1.2s							
WERN	**Wernitzgruen**	**75.69 319**	*e*P	P	09 55 39.8	+13		
	comp=Z,6.0nm,1.0s							
GUNZ	**Gunzen**	**75.71 319**	*e*P	P	09 55 40.0	+13		
	comp=Z,13nm,1.4s							
WERD	**Werda**	**75.72 319**	*e*P	P	09 55 39.8	+12		
	comp=Z,7.0nm,1.0s							
PLN	**Plauen**	**75.82 319**	*e*P	P	09 55 40.4	+13		
	comp=Z,6.0nm,0.9s							
ROTZ	**Rotzenmuhle**	**75.83 318**	*e*P	P	09 55 41.2	+13		
	comp=Z,16nm,1.2s							
NB2	**NORSAR Subarra**	**75.84 330**	P	**P**	**09 55 26.6**	**-1.2**		
	comp=Z,13nm,0.8s,baz=89,slow=5.9							
NOA	**NORSAR Array B**	**75.84 330**	P	**P**	**09 55 27.0**	**-0.8**		
	comp=Z,3.3nm,1.0s,baz=89,slow=5.7,SNR=6.4							
NOA			LR	LR	10 32 24.1			
	comp=Z,220nm,21.4s,baz=85,slow=39							
NOA	**NORSAR Array B**	**75.84 330**	P	**P**	**09 55 27.0**	**-0.8**		
NOA			pmax	pmax				
	comp=Z,3.0nm,1.0s							
NOA			MLR	MLR				
	comp=Z,220nm,21.4s							
MANZ	**Manzenberg**	**75.88 319**	*e*P	P	09 55 41.3	+13		
	comp=Z,14nm,1.3s							
NAO01	**NORSAR Array S**	**76.00 330**	*e*P	**P**	**09 55 31.5**	**+2.8**		
	comp=Z,11nm,0.9s							
MOX	**Moxa**	**76.15 319**	*e*P	P	09 55 42.1	+12		
	comp=Z,10.0nm,1.1s							
GRF	**Grafenberg Arr**	**76.48 318**	*e*P	P	09 55 44.6	+13		
	comp=Z,17nm,1.2s							
CLZ	**Clausthal**	**76.84 321**	*e*P	P	09 55 46.4	+13		
	comp=Z,19nm,1.3s							
UBBA	**Unterbreizbach**	**77.16 320**	*e*P	P	09 55 47.5	+12		
	comp=Z,50nm,2.3s							
IBBN	**Ibbenburen**	**78.40 321**	*e*P	P	09 55 54.9	+13		
	comp=Z,30nm,1.2s							
BFO	**Black Forest**	**78.51 317**	*i* P	P	09 55 48.2	+5.2		
KEST	**Kesra**	**79.51 304**	P	**P**	**09 55 48.8**	**-0.1**		
	comp=Z,1.8nm,1.0s,baz=18,slow=13,SNR=4.0							
BNI	**Bardonecchia**	**80.09 314**	*e*P	**P**	**09 55 54.2**	**+2.3**		
	comp=Z,6.9nm,1.0s							
COLD	**Coldfoot**	**86.75 21**	*e*P	P	09 56 30.1	+4.6		
	comp=Z,4.9nm,1.1s							
ESDC	**Sonseca Array**	**88.96 310**	P	**P**	**09 56 36.0**	**-0.7**		
	comp=Z,0.1nm,0.3s,baz=71,slow=4.7,SNR=3.2							
SUMG	**Summit**	**89.22 348**	*i* P	P	09 56 45.1	+7.4		
	comp=Z,10nm,1.1s							
TORD	**Torodi Ar. Bea**	**90.92 284**	P	**P**	**09 56 44.9**	**-1.4**		
	comp=Z,0.7nm,1.0s,baz=110,slow=1.7,SNR=3.0							
TORD			PP	**PP**	**10 00 27.2**	**+4.9**		
	comp=Z,0.3nm,0.9s,baz=92,slow=6.5,SNR=2.6							
BMRM	**Bremner River**	**91.99 25**	*e*P	P	09 56 55.8	+5.3		
	comp=Z,14nm,1.1s							
VNDA	**Vanda**	**97.90 168**	LR	LR	10 37 01.0			
	comp=Z,65nm,20.6s,baz=292,slow=33							
PDAR	**Pinedale Array**	**119.53 21**	PKP	**PKPdf**	**10 02 31.3**	**-0.9**		
	comp=Z,0.2nm,0.4s,baz=248,slow=3.8,SNR=2.4							
ANMO	**Albuquerque**	**127.56 23**	*e*PKPdf	PKPdf	10 02 54.4	+6.7		
TXAR	**Lajitas Array**	**133.62 24**	PKP	**PKPdf**	**10 03 00.4**	**+1.1**		
	comp=Z,0.2nm,0.8s,baz=200,slow=4.6,SNR=2.6							
BDFB	**Brasilia**	**144.91 262**	PKP	PKPbc	10 03 18.9	-0.3		
	comp=Z,3.3nm,0.9s,baz=148,slow=9.5,SNR=3.0							
BDFB	**Brasilia**	**144.91 262**	PKP2	PKPbc	10 03 18.9	-0.3		
BDFB			pmax	pmax				
	comp=Z,3.0nm,0.9s							

DJA ***27*** *10:02:05.2±2.4, 11°S±28°×11°E±°, h211km±32km, M4.6/9, mb4.4/4, mB5.1/1, MLv4.7/9, Mw(mB)4.5/1*

ISCJB ***27*** *10:02:20.8±0.9, 10°.14S±0°.10×110°.0E±0°.1, h35km, mb3.9/5, Error ellipse: s-maj=19.2km s-min=7.8km az=137.0*

IDC ***27*** *10:02:25.0±3.4, 9°.88S×110°.19E, h54km±32km, mb3.8/5, mb1 4.0/6, mb1mx3.5/34, mbtmp4.0/6, ML3.6/1, Error ellipse: s-maj=97.5km s-min=15.8km az=44.0*

ISC 27 10:02:23.0±0.9, 10°.1S±0°.1×110°.11E±0°.09, h35km, n22, σ2§12/17, mb4.1/5, South of Java

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**2.21**	**11**	P	Pn	10 03 00.5	+3.3
CMJI	**Cimerak**	**2.82**	**324**	P	**Pn**	**10 03 03.6**	**-2.0**
KPJI	**Karang Pucung**	**2.98**	**337**	P	**Pn**	**10 03 07.5**	**-0.3**
SMRI	**Semarang**	**3.05**	**6**	P	**Pn**	**10 03 11.2**	**+2.5**
CISI	**Cisompet, Garu**	**3.39**	**318**	P	Pn	10 03 09.2	-4.3
UWJI	**Ujung Watu**	**3.75**	**13**	P	**Pn**	**10 03 19.7**	**+1.4**
	123nm,0.9s						
CNJI	**Cibinong**	**4.04**	**313**	P	Pn	10 03 15.5	-6.9
LEM	**Lembang**	**4.08**	**323**	P	Pn	10 03 17.9	-5.1
LEM	**Lembang**	**4.08**	**323**	P	**Pn**	**10 03 23.6**	**+0.6**
	4.0nm,0.3s,baz=186,slow=18,SNR=2.3						
LEM				S	**Sn**	**10 04 09.3**	**-0.4**
	9.4nm,0.3s,baz=5.4,slow=22,SNR=1.7						
BLJI	**Banyuglugur**	**4.16**	**56**	P	**Pn**	**10 03 22.4**	**-1.7**
	63nm,0.7s,4µm						
ABJI	**Asem Bagus**	**4.67**	**61**	P	**Pn**	**10 03 28.4**	**-2.7**
	63nm,0.8s						
CGJI	**Cibinong**	**5.57**	**308**	P	Pn	10 03 33.6	-10
WRA	**Warramunga Arr**	**25.34**	**116**	P	**P**	**10 07 46.6**	**-0.2**
	1.0nm,0.9s,baz=287,slow=12,SNR=8.7						
WRA				pP	**pP**	**10 08 00.8**	**+4.0**
	1.7nm,0.7s,baz=288,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**26.41**	**124**	P	**P**	**10 07 58.2**	**+1.6**
	2.1nm,0.6s,baz=299,slow=9.3,SNR=42						
ASAR				pP	**pP**	**10 08 10.0**	**+3.4**
	1.1nm,0.6s,baz=299,slow=9.3,SNR=5.5						
ASAR				PcP	**PcP**	**10 11 21.9**	**+0.2**
	0.4nm,0.7s,baz=291,slow=1.6,SNR=5.7						
CMAR	**Chiang Mai Arr**	**30.44**	**339**	P	**P**	**10 08 31.3**	**-1.0**
	3.9nm,0.6s,baz=174,slow=8.2,SNR=18						
STKA	**Stephens Creek**	**36.30**	**131**	P	**P**	**10 09 23.6**	**+0.2**
	1.5nm,0.5s,baz=303,slow=6.3,SNR=4.6						
H08S2	**Diego Garcia H**	**37.23**	**271**	T	T	10 48 44.5	
	baz=96,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**37.24**	**271**	T	T	10 48 45.5	
	baz=96,slow=75,SNR=13						
H08S1	**Diego Garcia H**	**37.25**	**271**	T	T	10 48 45.3	
	baz=96,slow=75,SNR=9.4						
KSRS	**Korea Array**	**50.16**	**18**	pP	pP	10 11 27.1	+1.5
	0.9nm,1.0s,baz=205,slow=10,SNR=2.5						
BRTR	**Keskin Array B**	**86.17**	**311**	P	**P**	**10 15 00.1**	**-0.9**
	0.8nm,0.7s,baz=134,slow=5.3,SNR=5.5						
TXAR	**Lajitas Array**	**143.09**	**54**	PKP	**PKPdf**	**10 21 51.2**	**-2.9**
	0.1nm,0.5s,baz=192,slow=2.8,SNR=3.6						

ISCJB ***27*** *10:03:59.6±0.8, 57°.4N±0°.3×32°.9W±0°.2, h15km, mb3.6/6, Error ellipse: s-maj=36.5km s-min=14.9km az=8.9*

IDC ***27*** *10:03:59.2±1.0, 57°.47N×32°.87W, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/43, mbtmp3.6/7, ML2.5/1, Error ellipse: s-maj=43.3km s-min=18.8km az=10.0*

ISC 27 10:04:01.5±0.9, 57°.5N±0°.3×32°.9W±0°.1, h15km, n8, σ1§12/8, mb3.6/6, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.98**	**277**	P	**Pn**	**10 08 22.7**	**-0.1**
	0.1nm,0.3s,baz=52,slow=19,SNR=4.2						
AKASG	**Malin Array Be**	**35.88**	**73**	P	**P**	**10 10 59.9**	**-0.6**
	0.8nm,0.8s,baz=302,slow=8.5,SNR=2.7						
BRTR	**Keskin Array B**	**45.43**	**83**	P	**P**	**10 12 20.9**	**+1.4**
	0.4nm,0.7s,baz=310,slow=5.4,SNR=3.1						
ILAR	**Eielson Array**	**48.23**	**328**	P	**P**	**10 12 40.8**	**-0.2**
	0.6nm,0.9s,baz=33,slow=6.5,SNR=7.0						
PDAR	**Pinedale Array**	**48.63**	**287**	P	**P**	**10 12 43.6**	**-1.0**
	0.5nm,0.8s,baz=49,slow=9.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**51.42**	**135**	P	**P**	**10 13 05.0**	**-0.8**
	1.2nm,1.0s,baz=343,slow=5.1,SNR=5.0						
TXAR	**Lajitas Array**	**55.58**	**272**	P	**P**	**10 13 37.8**	**+1.5**
	0.9nm,1.2s,baz=333,slow=0.3,SNR=3.6						
ASAR	**Alice Springs**	**144.90**	**21**	PKP	**PKPab**	**10 23 36.4**	**-0.4**
	1.0nm,0.8s,baz=344,slow=2.7,SNR=10						

IDC ***27*** *10:09:23.9±4.7, 35°.79N×140°.48E, h54km±34km, mb2.9/2, mb1 3.4/3, mb1mx3.1/26, mbtmp3.6/3, ML4.3/1, Error ellipse: s-maj=73.2km s-min=21.9km az=42.0*

ISCJB ***27*** *10:09:25.2±0.8, 35°.69N±0°.06×140°.25E±0°.07, h75km±7km, mb3.3/2, Error ellipse: s-maj=11.6km s-min=8.2km az=41.6*

JMA ***27*** *10:09:26.5±0.2, 35°.73N×140°.20E, h63km±2km, M2.5*

ISC 27 10:09:26.0±1.2, 35°.67N±0°.07×140°.24E±0°.06, h65km±11km, n13, σ0§93/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.26**	**186**	P	**Pn**	**10 09 37.7**	**+1.3**
JYT	**Yasato**	**0.55**	**356**	P	**Pn**	**10 09 38.6**	**-0.4**
JYT				*e*S	**Sn**	**10 09 47.7**	**-0.7**
BSO3	**Boso 3**	**0.90**	**165**	P	**Pn**	**10 09 43.8**	**+1.1**
JAG	**Ashikaga**	**0.98**	**320**	P	**Pn**	**10 09 44.1**	**0.0**
JOD2	**Odawara 2**	**1.02**	**247**	P	**Pn**	**10 09 44.7**	**+0.1**
JOD2				*e*S	**Sn**	**10 09 57.8**	**-0.6**
JRY	**Ryogami san**	**1.14**	**288**	P	**Pn**	**10 09 46.8**	**+0.7**
BSO1	**Boso 1**	**1.19**	**149**	P	**Pn**	**10 09 47.1**	**+1.0**
JYN	**Shimob**	**1.39**	**263**	P	**Pn**	**10 09 49.7**	**+0.3**
JYN				*e*S	**Sn**	**10 10 07.1**	**+0.1**
MJAR	**Matsushiro Arr**	**1.86**	**298**	P	**Pn**	**10 09 56.5**	**+0.8**
	4.0nm,0.3s,baz=101,slow=15,SNR=43						
MJAR				S	**Sn**	**10 10 18.0**	**-0.1**
	3.2nm,0.3s,baz=272,slow=23,SNR=4.8						
MAT	**Matsushiro**	**1.86**	**298**	P	**Pn**	**10 09 56.4**	**+0.7**
MAT				S	**Sn**	**10 10 18.2**	**0.0**
JCJ	**Chichijima**	**8.71**	**168**	P	**Pn**	**10 11 26.9**	**-2.4**
	3.3nm,0.3s,baz=293,slow=21,SNR=5.4						
JCJ				S	Sn	10 13 00.5	-5.5
	1.2nm,0.3s,baz=287,slow=23,SNR=1.7						
WRA	**Warramunga Arr**	**55.59**	**187**	P	**P**	**10 18 54.9**	**-0.1**
	0.2nm,0.5s,baz=1.7,slow=7.6,SNR=6.4						
ASAR	**Alice Springs**	**59.32**	**187**	P	**P**	**10 19 21.3**	**+0.1**
	0.2nm,0.8s,baz=13,slow=8.6,SNR=3.3						

IDC ***27*** *10:51:41.1±0.5, 13°.40N×95°.83E, h0km, mb4.3/21, mb1 4.4/24, mb1mx4.3/28, mbtmp4.2/24, ML4.0/3, MS4.1/26, Ms1 4.1/26, ms1mx4.0/40, Error ellipse: s-maj=17.1km s-min=14.0km az=55.0*

ISCJB ***27*** *10:51:43.2±0.9, 13°.34N±0°.03×95°.74E±0°.02, h18km±6km, mb4.7/81, MS4.2/34, Error ellipse: s-maj=5.2km s-min=3.4km az=1.7*

MOS ***27*** *10:51:44.9±0.9, 13°.42N×96°.00E, h36km, mb4.7/22, MS4.3/14, Error ellipse: s-maj=10.8km s-min=6.0km az=116.8*

BJI ***27*** *10:51:44.9, 13°.32N×95°.67E, h32km, mb4.8/40, mB4.8/30, Ms4.8/45, Ms7 4.4/42*

NEIC ***27*** *10:51:47.7±0.9, 13°.42N×95°.77E, h40km±9km, mb4.8/35, Error ellipse: s-maj=8.3km s-min=6.0km az=54.0*

GCMT ***27*** *10:51:47.7±0.3, 13°.50N×96°.00E, h12km, MW5.0/77, Moment Tensor Solution. s31,c35; s77,c105; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-3.12±.11; Mθθ2.36±.10; Mϕϕ0.75±.10; Mrθ2.70±.35; Mϕr1.45±.10; Mϕr-0.86±.38; Best double couple: M◎4.20200×10^16 NP1:ϕ◎266.00000°, δ66.00000°, λ-67.00000°. NP2: ϕ◎40.00000°, δ33.00000°, λ-131.00000°. Principal axes: T 3.8280, Plg18.0000°, Azm339.0000°; N 0.7460, Plg21.0000°, Azm76.0000°; P -4.5760, Plg62.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BKK ***27*** *10:51:48.9±0.8, 13°N.3°×9°6E±°, h10km, M4.2/15, mb4.3/13, mB4.7/10, MLv4.5/15, Mw(mB)3.9/10*

ISC 27 10:51:46.5±0.4, 13°.27N±0°.04×95°.66E±0°.04, h31km±2km, h31km:pP-P, n284, σ1§75/311, mb4.7/81, MS4.2/37, 31C-12D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLT	**Khaolaem Dam**	**3.23**	**62**	P	Pn	10 52 31.4	-3.7
SRDT	**SRDT**	**3.54**	**72**	P	Pn	10 52 34.5	-4.8
UTHA	**Uthaitani**	**4.32**	**58**	P	Pn	10 52 45.3	-4.8
PATY	**Pattaya**	**5.09**	**93**	P	**Pn**	**10 52 59.7**	**-0.9**
SUKH	**Sukhothai**	**5.68**	**42**	P	**Pn**	**10 53 08.9**	**+0.1**
	8.6nm,0.8s,340nm0.2nm						
SRIT	**Nakonsritamara**	**6.04**	**140**	P	**Pn**	**10 53 12.5**	**-1.3**
	34nm,0.7s,1µm0.7nm						
CM31	**Chiang Mai Arr**	**6.05**	**31**	*e*Pn	**Pn**	**10 53 11.1**	**-2.9**
	43nm,0.7s						
CMAR	**Chiang Mai Arr**	**6.05**	**31**	Pn	Pn	10 53 08.1	-5.9
	1.7nm,0.3s,baz=222,slow=15,SNR=21						
CMAR				Pg	Pb	10 53 37.5	+6.2
	1.7nm,0.3s,baz=216,slow=18,SNR=10						
CMAR				Lg	Lg	10 54 55.3	
	0.5nm,0.3s,baz=222,slow=29,SNR=4.5						
CMAR				LR	LR	10 55 37.3	
	comp=Z,711nm,19.0s,baz=222,slow=40						
CMAR	**Chiang Mai Arr**	**6.05**	**31**	*i* P	Pn	10 53 08.3	-5.7
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
PBKT	**Sadao Pong**	**6.10**	**57**	P	Pn	10 53 10.1	-4.4
	comp=Z,40nm,0.7s						
KRAB	**Krabi**	**6.10**	**145**	P	**Pn**	**10 53 17.7**	**+3.1**
	comp=Z,195nm,1.0s,comp=Z,4µmcomp=Z,0.7nm						
CHTO	**Chiang Mai**	**6.36**	**29**	P	Pn	10 53 13.4	-4.7
	comp=Z,67nm,0.8s,comp=Z,3µmcomp=Z,1.0nm						
CHTO	**Chiang Mai**	**6.36**	**29**	*e*Pn	Pn	10 53 12.3	-5.8
CMMT	**Chiang Mai**	**6.36**	**29**	P	Pn	10 53 13.3	-4.9
	comp=Z,25nm,0.9s,comp=Z,892nmcomp=Z,0.3nm						
LAMP	**Lampang**	**6.48**	**36**	P	**Pn**	**10 53 19.4**	**-0.4**
	comp=Z,8.3nm,0.7s,comp=Z,158nmcomp=Z,0.1nm						
UTTA	**Uttarad

comp=Z,2µm,8.8s
LSA Lhasa 16.88 346 *e*P P **10 55 39.6 -1.4**
comp=Z,13nm,0.5s
HYB Hyderabad 17.00 286 *i* P P **10 55 45.0 +1.2**
HYBB Hyderabad (bro 17.00 286 *e*P P **10 55 44.2 +0.4**
HYBB IAmb IAmb 10 55 54.1
comp=Z,96nm,1.9s
HYBB *e*Sn **Sn 10 58 48.6 -1.8**
HYBB IVMs_BB IVMs_BB 11 01 03.9
comp=Z,744nm,4.6s
PKI Pulchoki 17.16 328 *e*P P **10 55 42.2 -2.1**
comp=Z,123nm,1.1s
PKIN Phulchoki 17.17 328 *e*P P **10 55 42.9 -1.5**
comp=Z,26nm,0.5s
GUN Gumba 17.19 329 *e*P P **10 55 41.7 -3.1**
comp=Z,89nm,1.0s
DMN Daman 17.34 327 *e*P P **10 55 46.1 -0.5**
comp=Z,57nm,0.7s
SRSP Sriramsagar 17.56 291 *e*P P **10 55 50.4 +0.5**
SRSP IAmb IAmb 10 55 53.9
comp=Z,113nm,1.9s
SRSP *e*S **S 10 59 09.6 -1.3**
SRSP IVMs_BB IVMs_BB 11 02 23.6
comp=Z,504nm,3.9s
GKN Gorkha 17.91 327 *e*P P **10 55 50.6 -2.9**
comp=Z,125nm,1.1s
KOLN Koldanda 18.30 324 *e*P P **10 55 56.6 -1.7**
comp=Z,36nm,0.6s
KSM Kuching 18.65 128 *e*P P **10 56 03.5 +1.1**
comp=Z,44nm,1.6s
KLRI Killari 18.96 287 *e*Pn Pn **10 56 07.2 +1.0**
KLRI IAmb IAmb 10 56 12.2
comp=Z,240nm,2.2s
KLRI *e*Sn **Sn 10 59 36.9 -0.9**
KLRI IVMs_BB IVMs_BB 11 01 45.4
comp=Z,1µm,4.7s
CD2 Chengdu 19.08 22 P P **10 56 06.5 -0.2**
CD2 pP **pP 10 56 14.8 -0.2**
CD2 sP **sP 10 56 19.0 0.0**
CD2 S **Sn 10 59 39.3 -1.3**
CD2 PMZ
comp=Z,30nm,0.6s
CD2 PMZ
comp=Z,210nm,5.4s
CD2 LE
comp=Z,3µm,9.2s
CD2 LZ
comp=Z,2µm,11.3s
SBUM Sibu 19.59 122 *e*P Pn **10 56 13.9 +0.1**
comp=Z,22nm,1.2s
POO Poona 21.61 287 *ex* P **10 56 35.0 +0.8**
NDI New Delhi 23.01 315 *e*P P **10 56 44.5 -4.4**
LEM Lembang 23.23 149 LR LR 11 05 26.6
comp=Z,1µm,18.3s,baz=312,slow=36
LZH Lanzhou 23.89 17 *e*P P **10 56 57.5 -0.1**
LZH pP **pP 10 57 05.0 -1.6**
LZH sP **sP 10 57 08.5 -1.9**
LZH PP **PnPn 10 57 31.8 +5.3**
LZH *e*S **S 11 01 12.0 0.0**
LZH sS **sS 11 01 25.0 -1.9**
LZH SS **SnSn 11 01 59.0 +6.1**
LZH PMZ
comp=Z,52nm,1.2s
LZH PMZ
comp=Z,200nm,4.0s
LZH LN
comp=Z,1µm,13.5s
LZH LE
comp=Z,2µm,12.8s
LZH LZ
comp=Z,2µm,14.0s
XAN Xi'an 23.94 28 P P **10 56 53.5 -4.5**
XAN pP **pP 10 57 02.5 -4.5**
XAN sP **sP 10 57 06.5 -4.3**
XAN PP **PnPn 10 57 32.0 +4.9**
XAN S **S 11 01 13.5 +0.8**
XAN PMZ
comp=Z,27nm,5.9s
XAN LN
comp=Z,700nm,10.8s
XAN LE
comp=Z,470nm,9.4s
XAN LZ
comp=Z,260nm,9.1s
WHN Wuhan 24.36 42 P P **10 56 57.3 -4.5**
WHN LN
comp=Z,3µm,11.6s
WHN LE
comp=Z,6µm,8.8s
WHN LZ
comp=Z,6µm,10.0s
QZH Quanzhou 24.55 58 P P **10 57 01.8 -1.8**
QZH S **S 11 01 19.8 -2.7**
QZH LN
comp=Z,1µm,7.2s
QZH LE
comp=Z,1µm,10.2s
QZH LZ
comp=Z,1µm,14.5s
TGY Tagaytay City 24.57 85 LR LR 11 05 38.9
comp=Z,42nm,18.8s,baz=50,slow=34
GTA Gaotai 26.30 7 *e*P P **10 57 19.5 0.0**
GTA pP **pP 10 57 29.3 +0.7**
GTA sP **sP 10 57 33.3 +0.9**
GTA S **S 11 01 49.0 -1.4**
GTA sS **sS 11 02 05.0 -0.4**
GTA SS **SnSn 11 02 58.8 +7.0**
GTA PMZ
comp=Z,9.0nm,0.9s
GTA PMZ
comp=Z,120nm,6.7s
GTA LN
comp=Z,830nm,17.6s
GTA LE
comp=Z,660nm,17.6s
GTA LZ
comp=Z,930nm,17.6s
YHNB Yeheng 26.79 61 *e*P P **10 57 23.6 -0.4**
comp=Z,30nm,1.1s
NJ2 Nanjing 28.31 45 *e*P P **10 57 37.3 -0.2**
NJ2 S **S 11 02 22.0 0.0**
NJ2 PMZ
comp=Z,30nm,0.9s
NJ2 LN
comp=Z,2µm,22.4s
NJ2 LE
comp=Z,2µm,23.0s
NJ2 LZ
comp=Z,1µm,23.2s
KAPI Kappang 30.04 126 LR LR 11 11 21.9
comp=Z,554nm,19.1s,baz=297,slow=39
DAV Davao City (W) 30.07 99 *e*P P **10 57 52.7 -0.6**
comp=Z,178nm,0.4s
HHC Hu-ho-hao-te 30.81 24 *e*P P **10 57 58.0 -1.6**
HHC PP **PnPn 10 59 03.5 +3.1**
HHC S **S 11 03 01.8 +0.5**
HHC sS **sS 11 03 17.8 +1.5**
HHC SS **SnSn 11 04 45.5 +4.0**
HHC ScS **ScS 11 08 32.8 -0.9**
HHC PMZ
comp=Z,27nm,0.8s
HHC PMZ
comp=Z,120nm,5.1s
HHC LN
comp=Z,1µm,8.8s
HHC LE
comp=Z,1µm,9.0s
HHC LZ
comp=Z,770nm,11.6s
WMQ Urumqi 31.21 349 P P **10 58 04.5 +1.4**
WMQ pP **pP 10 58 13.0 +0.8**
WMQ sP **sP 10 58 17.3 +1.3**
WMQ PP **PnPn 10 59 07.3 +1.7**
WMQ S **S 11 03 09.3 +1.9**
WMQ sS **sS 11 03 22.5 +0.1**
WMQ ScP **ScP 11 04 37.5 -0.8**
WMQ PcS **PcS 11 04 41.3 -0.2**
WMQ SS **SnSn 11 04 52.5 +1.3**
WMQ PMZ
comp=Z,12nm,1.2s
WMQ PMZ
comp=Z,95nm,5.2s
WMQ LN
comp=Z,370nm,19.2s
WMQ LE
comp=Z,420nm,18.5s
WMQ LZ
comp=Z,420nm,23.1s
KSH Kashi 31.39 330 P **P 10 58 04.0 -0.8**
KSH pP **pP 10 58 15.3 +1.4**
KSH sP **sP 10 58 19.3 +1.6**
KSH PP **PnPn 10 59 02.5 -5.5**
KSH PcP **PcP 11 01 03.0 +5.0**
KSH S **S 11 03 06.8 -3.6**
KSH sS **sS 11 03 25.0 -0.5**
KSH PcS **PcS 11 04 45.0 +2.6**
KSH PMZ
comp=Z,18nm,0.7s
KSH PMZ
comp=Z,58nm,3.2s
KSH LN
comp=Z,480nm,12.3s
KSH LE
comp=Z,220nm,9.6s
KSH LZ
comp=Z,170nm,8.5s
BJI Beijing 32.20 30 P **P 10 58 09.8 -2.0**
BJI sP **sP 10 58 21.8 -2.9**
BJI PP **PnPn 10 59 21.3 +2.9**
BJI S S 11 03 30.5 +7.7
BJI PMZ
comp=Z,10.0nm,0.7s
BJI LN
comp=Z,700nm,11.7s
BJI LE
comp=Z,700nm,13.4s
BJI LZ
comp=Z,400nm,20.0s
ULHL Ulahol 33.43 333 P **P 10 58 23.7 +0.9**
SNR=5.3
KZA Kyzart 33.74 332 P **P 10 58 26.7 +1.0**
SNR=12
UCH Uchtor 34.19 332 P **P 10 58 31.1 +1.4**
SNR=5.5
TKM2 Tokmak 2 34.26 333 P **P 10 58 29.6 -0.3**
SNR=7.8
TKM2 Tokmak 2 34.26 333 *e*P **P 10 58 30.7 +0.8**
comp=Z,23nm,1.4s
KBK Karagaybulak 34.33 332 P **P 10 58 32.1 +1.5**
SNR=11
AML Almayashu 34.51 331 P **P 10 58 33.5 +1.2**
SNR=9.6
AAK Ala-Archa 34.52 332 P **P 10 58 33.6 +1.4**
SNR=7.2
FRU Bishkek 34.62 332 *e*P **P 10 58 34.0 +1.1**
FRU pmax pmax
comp=Z,60nm,1.6s
FRU MLR MLR
comp=E,1µm,14.0s
CHMS Chumysh 34.69 333 P **P 10 58 34.7 +1.2**
SNR=12
EKS2 Erkin-Say 34.87 331 P **P 10 58 36.5 +1.3**
SNR=13
EKS2 Erkin-Say 34.87 331 *e*P **P 10 58 36.4 +1.3**
comp=E,16nm,0.9s
USP Ospenovka 35.02 333 P **P 10 58 36.8 +0.5**
SNR=16
MK31 Makanchi Array 35.26 344 *e*P **P 10 58 37.3 -1.0**
SONM Songino Array 35.61 12 P P 10 58 38.2 -3.3
comp=E,1.7nm,0.7s,baz=181,slow=7.0,SNR=4.0
SONM LR LR 11 15 00.4
comp=E,466nm,21.3s,baz=202,slow=40
SONM Songino Array 35.61 12 P P 10 58 38.2 -3.3
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM MLR MLR
comp=Z,466nm,21.3s
SOEI Soe 36.47 127 *e*P **P 10 58 50.6 +1.4**
comp=Z,32nm,1.0s
KKAR Karatay Array 36.80 329 *e*P **P 10 58 51.8 +0.2**
comp=Z,13nm,1.0s
KSAR Wonju Array Be 37.48 44 P P 10 58 53.7 -3.6
KSRS Korea Array 37.51 44 P P 10 58 53.7 -3.9
comp=Z,1.1nm,0.8s,baz=255,slow=9.0,SNR=5.2
KSRS Korea Array 37.51 44 P P 10 58 53.7 -3.9
KSRS pmax pmax
comp=Z,1.0nm,0.8s
ZAK Zakamensk 37.53 8 *e*P **P 10 58 55.4 -2.4**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
JNU Nakatsue 37.67 52 *e*P **P 10 59 00.9 +1.8**
comp=Z,5.0nm,0.9s
HVS Khovu-Aksy 37.80 358⇓ *i*P **P 10 58 59.4 -0.6**
HVS pmax pmax
comp=Z,61nm,1.2s
TLY Talaya 38.85 8 *e*P **P 10 59 10.1 +1.3**
comp=Z,11nm,0.8s
CN2 Changchun 39.73 34 *e*P **P 10 59 17.5 +1.3**
KURK Kurchatov 39.84 343 *e*P **P 10 59 16.4 -0.6**
comp=Z,30nm,1.0s
GEYT Alibeck 41.40 313 P **P 10 59 30.7 +0.5**
comp=Z,13nm,0.7s,baz=139,slow=7.0,SNR=29
GEYT LR LR 11 18 52.9
comp=Z,437nm,19.7s,baz=145,slow=39
ZAA0 Zalesovo Array 41.48 350 *e*P **P 10 59 29.5 -1.0**
ZALV Zalesovo Beam 41.48 350 P **P 10 59 29.2 -1.3**
comp=Z,12nm,0.9s,baz=168,slow=7.6,SNR=34
ZALV LR LR 11 19 38.2
comp=Z,134nm,18.9s,baz=250,slow=40
ZALV Zalesovo Beam 41.48 350 *i*P **P 10 59 29.8 -0.7**
ZALV pmax pmax
comp=Z,11nm,0.9s
NVS Novosibirsk 42.61 349 *e*P **P 10 59 38.3 -1.3**
NVS pmax pmax
comp=N,9.0nm,1.7s
NVS pmax pmax
comp=E,9.0nm,1.7s
NVS pmax pmax
comp=Z,16nm,1.7s
USRK Ussuriysk Ar. 43.73 38 P **P 10 59 48.4 -0.6**
comp=Z,1.5nm,0.7s,baz=246,slow=10,SNR=4.0
MAJO Matsushiro 44.54 51 *e*P **P 10 59 56.6 +1.0**
comp=Z,10nm,1.1s
MJAR Matsushiro Arr 44.54 51 P **P 10 59 54.5 -1.1**
comp=Z,0.7nm,0.6s,baz=247,slow=12,SNR=4.2
MJAR PP **PP 11 01 42.6 +2.9**
comp=Z,0.8nm,0.9s,baz=243,slow=11,SNR=5.4
MJAR Matsushiro Arr 44.54 51 P **P 10 59 54.5 -1.1**
MJAR 11 01 42.6
MJAR pmax pmax
comp=Z,1.0nm,0.6s
MJAR pmax pmax
comp=Z,1.0nm,0.9s
BRVK Borovoye 44.54 338 *e*P **P 10 59 55.1 -0.1**
BRVK pmax pmax
comp=Z,15nm,1.2s
BRVK Borovoye 44.54 338 *e*P **P 10 59 54.9 -0.3**
comp=Z,12nm,1.0s
JCJ Chichijima 45.53 65 LR LR 11 19 24.8
comp=Z,70nm,19.5s,baz=242,slow=37
ABKAR Akbulak array 46.35 328 *e*P **P 11 00 09.6 -0.1**
comp=Z,26nm,1.2s
BOD Bodaibo 46.59 13 *e*P **P 11 00 09.0 -2.4**
comp=Z,15nm,1.2s
GUMO Guam 47.80 84 LR LR 11 19 42.4
comp=Z,95nm,20.0s,baz=229,slow=35
WRA Warramunga Arr 50.38 130 P **P 11 00 39.6 -1.5**
comp=Z,2.4nm,0.8s,baz=312,slow=8.1,SNR=11
WRA LR LR 11 24 46.5
comp=Z,175nm,19.1s,baz=305,slow=39
WRA Warramunga Arr 50.38 130 *i*P **P 11 00 40.2 -0.9**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRAB Tennant Creek 50.38 130 *e*P **P 11 00 40.4 -0.7**
WRAB pmax pmax
comp=Z,12nm,1.0s
WRAB Tennant Creek 50.38 130 *e*P **P 11 00 43.3 +2.2**
comp=Z,15nm,1.2s
ASAJ Asahikawa 50.43 43 *e*P **P 11 00 40.2 -1.0**
comp=Z,15nm,1.6s
SVE Sverdlovsk 51.04 336⇓ *e*P **P 11 00 45.6 0.0**
SVE pmax pmax
comp=Z,57nm,1.1s
SVE MLR MLR
comp=Z,478nm,19.0s
ARU Arti 51.61 335 *c i*P **P 11 00 49.4 -0.4**
ARU 11 02 40.9
ARU S **S 11 08 10.0 +1.4**
ARU SS SS 11 11 36.3 -8.7
ARU pmax pmax
comp=Z,36nm,1.7s
ARU MLR MLR
comp=Z,474nm,24.0s
ARU Arti 51.61 335 *e*P **P 11 00 48.8 -1.0**
comp=Z,16nm,0.9s
GNI Garni 51.91 311 *e*P **P 11 00 55.4 +2.8**
GNI pmax pmax
comp=Z,31nm,1.2s
GNI Garni 51.91 311 *e*P **P 11 00 55.1 +2.5**
comp=Z,35nm,1.3s
ASAR Alice Springs 52.40 134 P **P 11 00 55.3 -1.0**
comp=Z,1.2nm,0.5s,baz=316,slow=7.2,SNR=15
ASAR PcP **PcP 11 02 07.2 +0.2**
comp=Z,1.2nm,0.8s,baz=330,slow=4.3,SNR=4.3
ASAR LR LR 11 26 17.4
comp=Z,337nm,18.7s,baz=297,slow=40
ASAR Alice Springs 52.40 134 P **P 11 00 55.3 -1.0**
ASAR 11 02 07.2
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR MLR MLR
comp=Z,337nm,18.7s
KBZ Khabaz 54.25 315 P **P 11 01 10.6 +1.0**
comp=Z,3.8nm,0.9s,baz=91,slow=2.2,SNR=7.8
KBZ LR LR 11 28 35.5
comp=Z,140nm,20.6s,baz=95,slow=41
KBZ Khabaz 54.25 315 P **P 11 01 10.6 +1.0**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KBZ MLR MLR
comp=Z,140nm,20.6s
YAK Yakutsk 54.44 19 *e*P P 11 01 07.2 -3.4
YAK pmax pmax
comp=Z,4.0nm,0.8s
KIV Kislovodsk 54.47 315 *e*P **P 11 01 12.3 +1.0**
KIV pmax pmax
comp=Z,41nm,1.1s
KIV MLR MLR
comp=Z,145nm,17.0s
KIV Kislovodsk 54.47 315 *e*P **P 11 01 12.2 +0.9**
comp=Z,67nm,1.3s
GOF Gofitskoye 54.56 316 *e*P **P 11 01 12.0 +0.2**
GOF pmax pmax
comp=Z,40nm,1.3s
BR131 Keskin Array S 60.17 308 *e*P **P 11 01 50.4 -1.3**
comp=Z,4.4nm,0.8s
BRTR Keskin Array B 60.17 308 P **P 11 01 50.9 -0.8**
comp=Z,4.2nm,0.8s,baz=121,slow=6.5,SNR=26
BRTR LR LR 11 31 26.0
comp=Z,91nm,20.9s,baz=96,slow=40
BRTR Keskin Array B 60.17 308 *ce*P P 11 01 57.2 +5.5
BRTR pmax pmax
comp=Z,3.0nm,0.7s
MOS Moscow 61.34 327 *e*P **P 11 01 56.4 -2.7**
MOS pmax pmax
comp=Z,49nm,1.0s
TIXI Tiksi 61.69 11 *e*P **P 11 02 00.5 -0.7**
TIXI pmax pmax
comp=Z,12nm,2.5s
TIXI MLR MLR
comp=Z,129nm,18.0s
TIXI Tiksi 61.69 11 *e*P **P 11 02 00.3 -0.9**
comp=Z,7.7nm,1.1s
OBN Obninsk 61.71 326 *e*P **P 11 02 03.3 +1.7**
OBN *e* 11 02 43.8
OBN pmax pmax
comp=Z,15nm,0.7s
OBN MLR MLR
comp=Z,219nm,23.0s
STKA Stephens Creek 62.85 137 LR LR 11 30 53.6
comp=Z,583nm,20.8s,baz=272,slow=37
TMCR Tamitsa 64.32 336 *e*P **P 11 02 18.8 0.0**
TMCR pmax pmax
comp=Z,34nm,1.4s
TIRR Tirgusor 64.61 313⇓ P **P 11 02 22.3 +1.3**
TIRR Tirgusor 64.61 313⇓ *i*P **P 11 02 22.3 +1.3**
TIRR Tirgusor 64.61 313 *e*P **P 11 02 20.5 -0.5**
comp=Z,14nm,0.9s
CFR Carcaliu 64.88 314⇓ P **P 11 02 22.9 +0.1**
CFR Carcaliu 64.88 314⇓ *i*P **P 11 02 22.9 +0.1**
AKASG Malin Array Be 64.94 320 P **P 11 02 21.8 -1.3**
comp=Z,3.1nm,0.7s,baz=85,slow=4.7,SNR=20
AKASG LR LR 11 34 35.6
comp=Z,126nm,21.0s,baz=90,slow=40
AKASG Malin Array Be 64.94 320 *ce*P P 11 02 27.5 +4.4
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AK02 Malin Array Si 64.95 320 *e*P **P 11 02 22.5 -0.7**
KIEV Kiev 64.95 320 *c i*P **P 11 02 23.0 -0.2**
KIEV Kiev 64.95 320 *e*P **P 11 02 22.7 -0.5**
comp=Z,6.5nm,0.9s
MSAB Monastry St. A 64.99 313⇑ *i*P **P 11 02 24.8 +1.3**
JMB Yambol 65.75 311⇑ P **P 11 02 30.2 +1.7**
JMB Yambol 65.75 311⇑ *i*P **P 11 02 30.2 +1.7**
VRI Vrincioaia 65.94 314⇑ P **P 11 02 30.4 +0.7**
VRI Vrincioaia 65.94 314⇑ *i*P **P 11 02 30.4 +0.7**
CHOS Chios island 65.94 306 *e*P **P 11 02 31.0 +1.1**
PLOR Plostina 65.99 314⇑ P **P 11 02 30.2 +0.1**
PLOR Plostina 65.99 314⇑ *i*P **P 11 02 30.1 0.0**
ISR Istrita 66.00 314⇑ P **P 11 02 31.4 +1.2**
ISR Istrita 66.00 314⇑ *i*P **P 11 02 31.4 +1.2**
ALN Alexandroupoli 66.06 309 *e*P **P 11 02 31.0 +0.5**
SMTH Samothraki Isl 66.43 308 *e*P P 11 02 41.0 +8.1
MLR Muntele Rosu 66.45 314⇑ P **P 11 02 33.7 +0.5**
MLR Muntele Rosu 66.45 314⇑ *i*P **P 11 02 33.7 +0.5**
KDZ Kurdzhali 66.57 310⇑ P **P 11 02 33.9 +0.1**
KDZ Kurdzhali 66.57 310⇑ *i*P **P 11 02 33.9 +0.1**
DOPR Dopca 66.88 314⇑ *i*P **P 11 02 38.6 +2.8**
BURAR Bucovina Array 67.14 316⇑ P **P 11 02 38.9 +1.4**
BURAR Bucovina Array 67.14 316⇑ *i*P **P 11 02 38.9 +1.4**
BUR08 Bucovina Ar. S 67.16 316 *e*P **P 11 02 38.1 +0.6**
VAM Vamos 67.39 303 *e*P **P 11 02 40.0 +0.8**
PTL Penteli 67.66 306 *e*P **P 11 02 41.0 +0.2**
NVR Nevrokopi 67.72 309 *e*P **P 11 02 40.5 -0.7**
ATH Athens Observa 67.78 306 *e*P **P 11 02 41.5 0.0**
MMB Musomiste 67.83 310⇑ P **P 11 02 48.0 +6.1**
MMB Musomiste 67.83 310⇑ *i*P P 11 02 48.0 +6.1
PLG Polygyros 68.01 308 *e*P **P 11 02 43.0 -0.1**
CJR Cluj-Napoca 68.17 315⇓ P **P 11 02 45.2 +1.3**
CJR Cluj-Napoca 68.17 315⇓ *i*P **P 11 02 45.2 +1.3**
VTS Vitosha 68.25 311⇑ P **P 11 02 45.3 +0.7**
VTS Vitosha 68.25 311⇑ *i*P **P 11 02 45.3 +0.7**
HORT Hortiatis 68.28 309 *e*P **P 11 02 43.5 -1.3**
LTK Loutraki 68.37 306 *e*P P 11 02 41.0 -4.3
VLI Veliai 68.40 304 *e*P P 11 02 40.0 -5.5
KNT Kendrikon 68.44 309 *e*P **P 11 02 46.0 +0.3**
DEV Deva 68.61 314⇓ P **P 11 02 48.7 +2.1**
DEV Deva 68.61 314⇓ *i*P **P 11 02 48.7 +2.1**
FINES FINESS Array B 68.70 331 P **P 11 02 46.1 -0.8**
comp=Z,6.0nm,0.7s,baz=105,slow=5.9,SNR=32
FINES LR LR 11 37 32.1
comp=Z,314nm,19.6s,baz=114,slow=40
FINES FINESS Array B 68.70 331 *i*P **P 11 02 46.2 -0.7**
FINES pmax pmax
comp=Z,6.0nm,0.7s
LIT Litokhoron 68.74 308 *e*P **P 11 02 46.0 -1.6**
DRGR 68.78 315⇑ P **P 11 02 48.4 +0.6**
DRGR 68.78 315⇑ *i*P **P 11 02 48.4 +0.6**
GRG Griva 68.82 309 *e*P **P 11 02 46.5 -1.6**
GUR Goura 68.86 306 *e*P **P 11 02 46.0 -2.5**
KOLS Kolonicke sedl 69.21 317 *e*P **P 11 02 51.4 +1.1**
KOLS pmax pmax
comp=Z,17nm,1.8s
KOLS Kolonicke sedl 69.21 317 *e*P **P 11 02 51.4 +1.1**
DRO Drossia 69.36 306 *e*P **P 11 02 49.0 -2.5**
FNA Florina 69.59 309 *e*P **P 11 02 51.5 -1.4**
STHS Stebnicka Huta 69.91 318 *e*P **P 11 02 54.7 +0.1**
STHS pmax pmax
comp=Z,4.0nm,1.2s
STHS Stebnicka Huta 69.91 318 *e*P **P 11 02 54.6 0.0**
KECS Kecovo 70.37 317 *e*P **P 11 02 58.3 +0.9**
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS Kecovo 70.37 317 *e*P **P 11 02 58.3 +0.9**
IGT Igoumenitsa 70.41 307 *e*P **P 11 02 57.0 -0.9**
SGD Sagiada 70.48 308 *e*P **P 11 02 58.5 +0.2**
BILL Bilibino 70.56 22 *e*P **P 11 02 55.7 -2.5**
BILL *e* 11 03 15.0
BILL pmax pmax
comp=Z,2.0nm,1.2s
BILL MLR MLR
comp=Z,225nm,17.0s
PSZ Piszkesteto 70.74 316⇑ P **P 11 02 59.7 -0.1**
PSZ Piszkesteto 70.74 316⇑ *i*P **P 11 02 59.7 -0.1**
PSZ Piszkesteto 70.74 316 *e*P **P 11 02 59.7 -0.1**

comp=Z,15nm,1.2s
ARCES ARCESS Array B 70.75 339 P **P** **11 02 58.8 -0.6**
comp=Z,2.4nm,0.6s,baz=76,slow=5.1,SNR=7.6
ARCES LR LR 11 38 52.9
comp=Z,314nm,18.2s,baz=89,slow=40
ARCES ARCESS Array B 70.75 339 P **P** **11 02 58.8 -0.6**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES MLR MLR
comp=Z,314nm,18.2s
OJC Ojcow 70.88 319 *e*P **P** **11 03 00.5 0.0**
PKSM Moragy 71.58 315 ⇑P **P** **11 03 04.7 -0.1**
PKSM Moragy 71.58 315 ⇑*i*P **P** **11 03 04.7 -0.1**
OKC Ostrava-Krasne 71.94 318 *e*P **P** **11 03 08.4 +1.5**
OKC Ostrava-Krasne 71.94 318 *e*P **P** **11 03 08.4 +1.5**
MORC Moravsky Berou 72.33 318 ⇓P **P** **11 03 09.3 0.0**
MORC Moravsky Berou 72.33 318 ⇓*i*P **P** **11 03 09.3 0.0**
MORC Moravsky Berou 72.33 318 *e*P **P** **11 03 09.2 -0.1**
comp=Z,59nm,1.3s
KRLC Kraliky 72.82 319 *e*P **P** **11 03 12.3 +0.1**
KRLC epP **pP** **11 03 20.2 -1.9**
KRLC Kraliky 72.82 319 *e*P **P** **11 03 12.3 +0.1**
KRLC *e* 11 03 20.2
DPC Dobruska-Polom 73.11 319 *e*P **P** **11 03 13.6 -0.4**
DPC epP **pP** **11 03 23.6 -0.2**
DPC AMS AMS 11 39 10.0
comp=Z,200nm,18.9s
DPC Dobruska-Polom 73.11 319 *e*P **P** **11 03 13.6 -0.4**
DPC *e* 11 03 23.6
DPC MLR MLR
comp=Z,200nm,18.9s
UPC Upice 73.31 319 *e*P **P** **11 03 14.5 -0.6**
UPC Upice 73.31 319 *e*P **P** **11 03 14.5 -0.6**
TREC Trest 73.67 318 AMS AMS 11 41 40.0
comp=Z,200nm,17.9s
CEL Celeste 73.93 306 *e*P **P** **11 03 19.0 -0.1**
comp=Z,22nm,1.1s
BOJS Bojanci 73.97 314 *i*P **P** **11 03 19.1 +0.1**
PERS Pernice 74.01 315 *i*P **P** **11 03 19.0 -0.3**
GOPC GO Pecny, Ondr 74.11 318 AMS AMS 11 40 00.0
PVCC Panska Ves 74.23 319 AMS AMS 11 41 20.0
PRU Pruhonice 74.26 319 *e*P **P** **11 03 20.6 -0.1**
PRU *ex* x 11 03 28.2
PRU AMS AMS 11 40 00.0
comp=Z,200nm,21.0s
PRU Pruhonice 74.26 319 *e*P **P** **11 03 20.6 -0.1**
PRU *e* 11 03 28.2
PRU MLR MLR
comp=Z,200nm,21.0s
BRG Berggiesshubel 74.61 319 *e*P **P** **11 03 22.9 +0.2**
comp=Z,1.9nm,0.7s
BRG Berggiesshubel 74.61 319 *e*P **P** **11 03 24.5 +1.8**
comp=Z,12nm,1.1s
BRG Berggiesshubel 74.61 319 *e*P **P** **11 03 22.9 +0.2**
BRG pmax pmax
comp=Z,2.0nm,0.7s
RUE Ruedersdorf 74.66 321 *e*P **P** **11 03 24.9 +2.0**
comp=Z,59nm,1.8s
RUE Ruedersdorf 74.66 321 *e*P **P** **11 03 24.7 +1.9**
comp=Z,49nm,1.5s
GEC2 GERESS Array S 74.86 317 *e*P **P** **11 03 25.9 +1.6**
comp=Z,14nm,1.2s
GEC2 GERESS Array S 74.86 317 *e*P **P** **11 03 24.7 +0.4**
GERES GERESS Array B 74.86 317 P **P** **11 03 24.0 -0.3**
comp=Z,4.1nm,0.9s,baz=90,slow=5.3,SNR=22
GERES LR LR 11 43 23.2
comp=Z,136nm,18.6s,baz=94,slow=41
KHC Kasperske Hory 74.93 318 *e*P **P** **11 03 23.9 -0.7**
KHC epP **pP** **11 03 33.7 -0.8**
KHC Kasperske Hory 74.93 318 *e*P **P** **11 03 23.9 -0.7**
KHC *e* 11 03 33.7
KHC Kasperske Hory 74.93 318 *e*P **P** **11 03 24.9 +0.3**
comp=Z,2.3nm,1.4s
FBE Freiberg 74.99 320 *e*P **P** **11 03 27.0 +2.2**
comp=Z,11nm,0.9s
TRI Trieste 75.00 314 *e*P **P** **11 03 25.9 +0.9**
comp=Z,23nm,1.0s
CLL Collm 75.19 320 *e*P **P** **11 03 27.4 +1.4**
comp=Z,9.0nm,1.3s
CLL Collm 75.19 320 *i*P **P** **11 03 26.9 +0.9**
comp=Z,9.0nm,1.4s
CLL LmH 11 40 00.0
comp=N,200nm,18.7s
CLL LmH 11 40 00.0
comp=E,100nm,21.0s
CLL LmV 11 42 00.0
comp=Z,100nm,20.5s
CLL Collm 75.19 320 *i*P **P** **11 03 26.9 +0.9**
CLL pmax pmax
comp=Z,9.0nm,1.4s
CLL Collm 75.19 320 *e*P **P** **11 03 27.0 +0.9**
comp=Z,11nm,1.3s
WET Wettzell 75.39 318 *e*P **P** **11 03 29.0 +1.8**
comp=Z,13nm,1.5s
TANN Tannenbergstha 75.58 319 *e*P **P** **11 03 30.0 +1.7**
comp=Z,6.0nm,1.3s
NKC Novy Kostel 75.60 319 *e*P **P** **11 03 27.6 -0.8**
NKC Novy Kostel 75.60 319 *e*P **P** **11 03 27.6 -0.8**
GUNZ Gunzen 75.67 319 *e*P **P** **11 03 30.5 +1.7**
comp=Z,10.0nm,1.3s
WERD Werda 75.68 319 *e*P **P** **11 03 30.7 +1.8**
comp=Z,5.0nm,1.0s
ROTZ Rotzenmuhle 75.78 318 *e*P **P** **11 03 31.9 +2.4**
comp=Z,11nm,1.2s
NB2 NORSAR Subarra 75.81 330 P **P** **11 03 28.4 -1.0**
comp=Z,11nm,1.0s,baz=87,slow=5.9
NOA NORSAR Array B 75.81 330 P **P** **11 03 28.1 -1.3**
comp=Z,5.0nm,0.8s,baz=88,slow=5.8,SNR=18
NOA LR LR 11 40 30.1
comp=Z,274nm,21.1s,baz=105,slow=39
NOA NORSAR Array B 75.81 330 P **P** **11 03 28.2 -1.3**
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA MLR MLR
comp=Z,274nm,21.1s
MANZ Manzenberg 75.83 319 *e*P **P** **11 03 31.9 +2.1**
comp=Z,7.0nm,1.1s
MOX Moxa 76.10 319 *e*P **P** **11 03 33.0 +1.7**
comp=Z,6.0nm,1.0s
MOX *e*L L 11 42 06.6
comp=Z,153nm,20.4s
GRF Grafenberg Arr 76.43 318 *e*L L 11 41 41.9
comp=Z,160nm,21.6s
BSEG Bad Segeberg 76.67 323 *e*P **P** **11 03 36.5 +2.2**
comp=Z,14nm,1.2s
CLZ Clausthal 76.79 321 *e*P **P** **11 03 37.1 +1.9**
comp=Z,17nm,1.4s
DZM Mont Dzumac 77.76 116 LR LR 11 39 16.1
comp=Z,92nm,21.4s,baz=180,slow=37
TNS Taunus Mts 78.16 319 *e*P **P** **11 03 44.6 +1.7**
comp=Z,7.0nm,0.9s
IBBN Ibbenburen 78.35 321 *e*P **P** **11 03 45.7 +1.9**
comp=Z,14nm,1.1s
BUG Bochum--Univer 78.76 320 *e*P **P** **11 03 47.8 +1.8**
comp=Z,14nm,1.3s
SENIN Lac Senin/Sane 79.41 315 *e*P **P** **11 03 50.6 +0.5**
KEST Kesra 79.42 304 P **P** **11 03 50.1 0.0**
comp=Z,2.1nm,0.9s,baz=63,slow=2.3,SNR=6.0
KEST LR LR 11 46 13.0
comp=Z,31nm,18.0s,baz=234,slow=41
KEST Kesra 79.42 304 *e*P **P** **11 03 50.3 +0.1**
WLF Walferdange 79.70 319 *e*P **P** **11 03 51.4 +0.1**
comp=Z,13nm,1.3s
BOSA Boshof 79.72 237 P **P** **11 03 52.9 +1.1**
comp=Z,4.4nm,0.7s,baz=64,slow=4.5,SNR=11
BOSA LR LR 11 34 26.5
comp=Z,90nm,18.4s,baz=20,slow=32
BOSA Boshof 79.72 237 *e*P **P** **11 03 52.8 +0.9**
comp=Z,5.7nm,0.8s
BNI Bardonecchia 80.03 314 *e*P **P** **11 03 53.5 +0.2**
comp=Z,5.1nm,1.0s
SSB Saint Sauveur 81.48 314 *e*P **P** **11 04 00.3 -0.7**
comp=Z,9.5nm,1.3s
MAW Mawson 84.08 192 P **P** **11 04 14.1 +0.4**
comp=Z,1.9nm,0.8s,baz=309,slow=7.2,SNR=4.3
MAW LR LR 11 37 12.1
comp=Z,101nm,19.2s,baz=259,slow=32
BPAW Bear Paw Mtn. 87.98 24 *e*P **P** **11 04 31.4 -1.9**
comp=Z,5.3nm,0.8s
ESDC Sonseca Array 88.89 310 P **P** **11 04 37.0 -1.2**
comp=Z,0.6nm,0.6s,baz=67,slow=3.8,SNR=5.3
ILAR Eielson Array 89.22 22 P **P** **11 04 36.9 -2.2**
comp=Z,0.4nm,0.8s,baz=294,slow=4.0,SNR=5.4
ILAR LR LR 11 49 25.2
comp=Z,96nm,19.2s,baz=305,slow=39
SML Sawmill 90.12 25 *e*P **P** **11 04 42.4 -1.1**
comp=Z,24nm,0.6s
TORD Torodi Ar. Bea 90.80 284 P **P** **11 04 47.3 -0.2**
comp=Z,0.6nm,0.6s,baz=96,slow=3.6,SNR=6.0
TORD LR LR 11 46 35.5
comp=Z,85nm,19.5s,baz=160,slow=36
VNDA Vanda 97.88 168 LR LR 11 47 02.2
comp=Z,88nm,18.0s,baz=319,slow=34
TXAR Lajitas Array 133.72 24 PKP **PKPdf** **11 11 00.7 -0.4**
comp=Z,0.1nm,0.7s,baz=72,slow=0.3,SNR=2.9
BDFB Brasilia 144.77 262 PKP PKPbc 11 11 20.6 +0.3
comp=Z,4.2nm,0.7s,baz=107,slow=4.8,SNR=6.7
BDFB Brasilia 144.77 262 PKIKP PKPbc 11 11 20.6 +0.2
BDFB pmax pmax
comp=Z,4.0nm,0.7s
CPUP Villa Florida 151.53 239 PKPbc **PKPbc** **11 11 35.8 -2.4**
comp=Z,2.0nm,0.8s,baz=81,slow=2.9,SNR=3.7
CPUP Villa Florida 151.53 239 PKIKP **PKPbc** **11 11 35.8 -2.4**
CPUP pmax pmax
comp=Z,2.0nm,0.8s

*IDC **27** 10:53:00.2±1.4, 10°.42S×161°.38E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/31, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=37.8km s-min=33.4km az=119.0*
ISC 27 10:53:05.7±1.2, 10.55S±0.1×161.7E±0.2, h35km, n14, σ1°37/9, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.98**	**302**	*e*P	**Pn**	**10 53 36.0**	**-0.8**
HNR				*e*S	**Sn**	**10 54 01.0**	**+0.6**
DZM	**Mont Dzumac**	**12.40**	**159**	Pn	**Pn**	**10 56 01.1**	**+1.2**
	0.3nm,0.3s,baz=90,slow=24,SNR=11						
DZM				Sn	**Sn**	**10 58 15.4**	**-1.6**
	0.1nm,0.3s,baz=270,slow=23,SNR=1.3						
CTA	**Charters Tower**	**17.64**	**235**	P	**P**	**10 57 11.3**	**+1.7**
	0.5nm,0.3s,baz=64,slow=14,SNR=7.7						
WRA	**Warramunga Arr**	**27.95**	**247**	P	**P**	**10 58 51.3**	**-1.8**
	0.8nm,1.1s,baz=77,slow=9.0,SNR=5.0						
H11S2	**WAKE ISLAND Hy**	**29.22**	**10**	T	T	11 29 58.0	
	baz=189,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**29.22**	**10**	T	T	11 29 56.8	
	baz=189,slow=76,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**29.24**	**10**	T	T	11 29 58.0	
	baz=189,slow=76,SNR=4.2						
ASAR	**Alice Springs**	**29.52**	**240**	P	P	10 59 04.1	-3.0
	0.1nm,0.4s,baz=64,slow=10,SNR=6.2						
H11N1	**WAKE ISLAND Hy**	**30.45**	**10**	T	T	11 31 29.1	
	baz=193						
H11N3	**WAKE ISLAND Hy**	**30.46**	**10**	T	T	11 31 29.8	
	baz=193,slow=74,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**30.47**	**10**	T	T	11 31 30.7	
	baz=193,slow=74,SNR=4.6						
VNDA	**Vanda**	**67.02**	**180**	P	**P**	**11 03 54.9**	**+0.1**
	0.6nm,0.6s,baz=344,slow=6.9,SNR=6.9						
MAW	**Mawson**	**83.72**	**202**	P	**P**	**11 05 30.7**	**0.0**
	1.3nm,0.5s,baz=80,slow=4.3,SNR=4.0						
ILAR	**Eielson Array**	**84.30**	**20**	P	**P**	**11 05 33.8**	**+0.1**
	0.2nm,0.5s,baz=242,slow=5.5,SNR=4.5						

IDC 27 10:55:48.8±2.8, 2°.06S×136°.35E, h0km, mb3.8/2, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, ML3.5/3, MS2.5/1, Ms1 2.5/1, ms1mx2.2/29, Error ellipse: s-maj=45.5km s-min=32.0km az=15.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**4.37**	**96**	Pn	Pn	10 56 56.8	+0.3
	0.8nm,0.3s,baz=240,slow=14,SNR=3.5						
JAY				LR	LR	10 59 22.3	
	comp=Z,56nm,18.5s,baz=125,slow=49						
SIJI	**Sorong**	**5.22**	**283**	Pn	Pn	10 57 08.6	+0.4
	1.0nm,0.3s,baz=153,slow=23,SNR=5.3						
WRA	**Warramunga Arr**	**17.88**	**186**	P	Pn	10 59 57.5	-1.7
	0.4nm,0.3s,baz=7.6,slow=12,SNR=15						
WRA				S	Sn	11 03 08.0	-11
	0.1nm,0.3s,baz=3.4,slow=23,SNR=3.8						
ASAR	**Alice Springs**	**21.61**	**186**	P	P	11 00 41.2	+0.6
	1.6nm,0.4s,baz=15,slow=12,SNR=31						
STKA	**Stephens Creek**	**30.07**	**171**	P	P	11 01 59.8	-0.1
	0.7nm,0.4s,baz=342,slow=7.6,SNR=5.8						

MEX 27 10:59:31.5±0.9, 16°.93N×100°.03W, h6km±13km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.17**	**111**	*i*P	Pg	10 59 31.2	-3.8
ACX				*i*S	Sg	10 59 33.6	-3.9
CAIG	**El Cayaco**	**0.26**	**297**	*i*P	Pg	10 59 35.9	-0.6
CAIG				*i*S	Sg	10 59 40.3	+0.4
MEIG	**Mezcala**	**1.06**	**22**	*e*P	Pg	10 59 48.5	-3.6
MEIG				*i*S	Sg	11 00 02.2	-3.7
ARIG	**Puente Sto Nin**	**1.37**	**347**	*e*P	Pn	10 59 54.1	-3.2
ARIG				*e*S	Sb	11 00 10.7	-4.8
ZIIG	**Zihuatanejo**	**1.53**	**296**	*e*P	Pn	10 59 55.6	-3.7
ZIIG				*e*S	Sn	11 00 14.4	-5.0
TLIG	**Tlapa**	**1.53**	**66**	*e*P	Pn	10 59 55.9	-3.7
TLIG				*i*S	Sn	11 00 15.0	-4.9
PLIG	**Platanillo**	**1.54**	**19**	*e*P	Pn	10 59 56.6	-3.0
PLIG				*e*S	Sn	11 00 15.5	-4.4

*CSEM **27** 11:00:08.5, 36°.28N×21°.94E, h23km, MD2.9*
ATH 27 11:00:08.5, 36°.28N×21°.94E, h23km±2km, MD2.9/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.64**	**346**	*e*PN	Pb	11 00 20.7	-0.3
PYL				*e*SN	Sn	11 00 31.3	-0.2
PYL	**PYLOS**	**0.64**	**346**	*e*Pn	Pb	11 00 20.7	-0.3
PYL				*e*Sn	Sn	11 00 31.3	-0.2
KYTH	**Kithira**	**0.89**	**90**	*e*PN	Pn	11 00 25.6	0.0
KYTH	**Kithira**	**0.89**	**90**	*e*Pn	Pn	11 00 25.6	0.0
ITM	**Ithomi**	**0.90**	**359**	*e*PN	Pb	11 00 25.5	0.0
ITM				*e*SN	Sn	11 00 38.2	+0.1
ITM	**Ithomi**	**0.90**	**359**	*e*Pn	Pb	11 00 25.5	0.0
ITM				*e*Sn	Sn	11 00 38.2	+0.1
VLI	**Veliai**	**0.92**	**61**	*e*PB	Pb	11 00 25.6	-0.1
VLI				*e*SN	Sn	11 00 39.6	+1.2
VLI	**Veliai**	**0.92**	**61**	*e*Pb	Pb	11 00 25.6	-0.1
VLI				*e*Sn	Sn	11 00 39.6	+1.2
VLX	**Vlachokerasia**	**1.14**	**18**	*e*PN	Pb	11 00 29.8	0.0
VLX	**Vlachokerasia**	**1.14**	**18**	*e*Pn	Pb	11 00 29.8	0.0
ANKY	**Antikythira Is**	**1.18**	**110**	*e*PN	Pb	11 00 31.3	+1.1
ANKY	**Antikythira Is**	**1.18**	**110**	*e*Pn	Pb	11 00 31.3	+1.1
AMT	**Artemida-Makis**	**1.26**	**352**	*e*PN	Pb	11 00 32.5	+0.8
AMT	**Artemida-Makis**	**1.26**	**352**	*e*Pn	Pb	11 00 32.5	+0.8
DID	**Didima**	**1.61**	**40**	*e*PN	Pb	11 00 37.2	-0.3
DID	**Didima**	**1.61**	**40**	*e*Pn	Pb	11 00 37.2	-0.3
DRO	**Drossia**	**1.68**	**354**	*e*PN	Pb	11 00 39.4	+0.6
DRO	**Drossia**	**1.68**	**354**	*e*Pn	Pb	11 00 39.4	+0.6
GUR	**Goura**	**1.68**	**11**	*e*PN	Pb	11 00 38.2	-0.8
GUR	**Goura**	**1.68**	**11**	*e*Pn	Pb	11 00 38.2	-0.8

IDC 27 11:03:13.1±1.9, 14°.77S×168°.23E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.7/4, Error ellipse: s-maj=123.4km s-min=34.8km az=154.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.68**	**230**	P	P	11 09 20.2	-0.6
	1.4nm,0.8s,baz=72,slow=8.6,SNR=4.0						
WRA	**Warramunga Arr**	**32.72**	**256**	P	P	11 09 48.3	+0.5
	0.2nm,0.3s,baz=85,slow=9.5,SNR=5.2						
ASAR	**Alice Springs**	**33.53**	**249**	P	P	11 09 54.7	-0.1
	0.7nm,0.6s,baz=76,slow=9.8,SNR=17						
TXAR	**Lajitas Array**	**95.48**	**61**	P	P	11 16 40.2	-0.2
	0.2nm,0.8s,baz=206,slow=3.9,SNR=3.7						

*JMA **27** 11:20:38.3±0.5, 45°.79N×151°.99E, h30km, M4.1*
*SKHL **27** 11:20:39.9±1.0, 45°.12N×152°.08E, h44km±5km, mb4.3/5*
ISC 27 11:20:38.1±1.9, 45.0N±0.1×152.2E±0.1, h30km, n21, σ2°24/34, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.06**	**275**	*i*P	**Pn**	**11 21 24.2**	**-0.1**
KUR				AMB	AMB	11 21 26.6	
	50nm,0.5s						
KUR				*i*S	**Sn**	**11 21 56.7**	**-3.1**
KUR				A	A	11 22 03.5	
	150nm,0.3s						
KUR				A	A	11 22 03.5	
	160nm,0.3s						
SHO	**Shikotan**	**4.00**	**255**	*e*P	**Pn**	**11 21 38.3**	**+1.0**
SHO				AMB	AMB	11 21 43.7	
	79nm,0.8s						
SHO				*e*S	**Sn**	**11 22 23.0**	**-0.1**
SHO				A	A	11 22 25.5	
	177nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**4.62**	**260**	*i*P	**Pn**	**11 21 48.7**	**+2.8**
YUK				AMB	AMB	11 21 51.6	
	7.0nm,0.2s						
YUK				AMB	AMB	11 21 51.6	
	14nm,0.2s						
YUK				AMB	AMB	11 21 51.6	
	37nm,0.2s						
YUK				*i*S	**Sn**	**11 22 41.2**	**+2.7**
YUK				A	A	11 22 49.4	
	126nm,0.7s						
YUK				A	A	11 22 49.4	
	36nm,0.7s						
NEM2	**Nemuro 2**	**4.92**	**252**	P	**Pn**	**11 21 51.5**	**+1.6**
NEM2				*e*S	**Sn**	**11 22 45.5**	**-0.2**
JRA	**Rausu**	**5.16**	**260**	P	**Pn**	**11 21 56.1**	**+2.8**
JNK	**Nakash**	**5.54**	**257**	P	**Pn**	**11 22 01.0**	**+2.5**
JAK	**Akkeshi**	**5.76**	**252**	P	**Pn**	**11 22 03.0**	**+1.5**
JAK				*e*S	**Sn**	**11 23 06.0**	**-0.6**
JTKR	**Abashiri--Toko**	**6.01**	**263**	P	**Pn**	**11 22 07.4**	**+2.5**
SKR	**Severo-Kuril's**	**6.25**	**24**	*e*P	**Pn**	**11 22 10.0**	**+1.9**
SKR				AMB	AMB	11 22 16.6	
	23nm,0.9s						
SKR				*e*S	**Sn**	**11 23 16.8**	**-1.6**
SKR				A	A	11 23 26.6	
	143nm,1.0s						
JAR	**Ashorobuto**	**6.29**	**257**	P	**Pn**	**11 22 11.3**	**+2.5**
JOB	**Onbets**	**6.38**	**253**	P	**Pn**	**11 22 12.3**	**+2.3**
JOB				*e*S	**Sn**	**11 23 21.1**	**-0.8**
JMP	**Maruseppu**	**6.38**	**264**	P	**Pn**	**11 22 13.2**	**+3.1**
JCH	**Churui**	**6.82**	**252**	P	**Pn**	**11 22 17.8**	**+1.8**
JCH				*e*S	**Sn**	**11 23 31.3**	**-1.2**
YSS	**Yuzh-Sakhalins**	**6.84**	**290**	*e*P	**Pn**	**11 22 17.7**	**+1.4**
YSS				AMB	AMB	11 22 26.2	
	4.0nm,0.2s						
YSS				*e*S	**Sn**	**11 23 30.4**	**-2.6**
YSS				A	A	11 23 37.0	
	9.0nm,0.3s						
MYR	**Moyori**	**7.00**	**250**	*e*P	**Pn**	**11 22 20.8**	**+2.2**
MYR				*e*S	**Sn**	**11 23 36.3**	**-0.9**
JNBK	**Urakawa-nobuka**	**7.37**	**251**	P	**Pn**	**11 22 25.2**	**+1.7**
JNBK				*e*S	**Sn**	**11 23 44.3**	**-1.7**
JBT2	**Biratori 2**	**7.43**	**256**	P	**Pn**	**11 22 26.4**	**+1.9**
JKB	**Kayabe**	**8.69**	**253**	P	**Pn**	**11 22 42.8**	**+1.1**
JKB				*e*S	**Sn**	**11 24 14.4**	**-4.2**
JYM2	**Yakumo 2**	**9.05**	**255**	P	**Pn**	**11 22 48.2**	**+1.6**
JANG	**Nango**	**9.12**	**243**	P	**Pn**	**11 22 48.4**	**+0.7**
JANG				*e*S	**Sn**	**11 24 25.1**	**-4.2**
JTH	**Tanohata**	**9.16**	**240**	*e*S	**Sn**	**11 24 27.3**	**-2.8**

IDC 27 11:26:54.8±27.0, 23°.09S×173°.81W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.6/31, mbtmp4.0/4, Error ellipse: s-maj=499.6km s-min=153.1km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.18**	**267**	P	P	11 34 07.9	0.0
	2.5nm,0.3s,baz=82,slow=7.1,SNR=8.4						
STKA	**Stephens Creek**	**40.29**	**247**	P	P	11 34 33.3	-0.6
	2.1nm,0.9s,baz=69,slow=8.6,SNR=3.5						
ASAR	**Alice Springs**	**47.77**	**258**	P	P	11 35 33.9	-0.2
	0.3nm,0.3s,baz=96,slow=7.4,SNR=22						
WRA	**Warramunga Arr**	**48.14**	**263**	P	P	11 35 37.1	+0.1
	0.9nm,0.3s,baz=102,slow=8.1,SNR=41						

DJA 27 11:29:15.5±0.8, 2°S±6°×13°6E±°, h10km, M3.7/4, MLv3.7/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**0.74**	**40**	P	Pg	11 29 29.1	-0.6
SRPI				S	Sg	11 29 39.0	-0.4
BAKI	**Biak**	**1.28**	**15**	P	Pn	11 29 39.1	-0.4
BAKI				S	Sb	11 29 56.1	-0.3
RKPI	**Ransiki, Papua**	**1.84**	**300**	P	Pn	11 29 46.7	-0.5
RKPI				S	Sn	11 30 13.3	-0.3
SMPI	**Sarmi**	**2.97**	**81**	P	Pn	11 30 02.7	0.0
SMPI				S	Pn	11 30 04.3	+1.6

*ISCJB **27** 11:36:23.7±1.0, 26°.21S±0.03×28°.10E±0.04, h8km±5km, mb3.7/3, Error ellipse: s-maj=6.9km s-min=4.9km az=37.5*
*IDC **27** 11:36:24.6±1.3, 26°.29S×27°.85E, h0km, mb3.7/3, mb1 3.9/7, mb1mx3.6/27, mbtmp3.8/7, ML2.4/2, Error ellipse: s-maj=18.0km s-min=13.9km az=113.0*
*PRE **27** 11:36:25.7±1.9, 26°.25S×27°.99E, h2km, ML2.9*
ISC 27 11:36:25.2±1.8, 26°.25S±0.04×27°.98E±0.05, h10km±12km, n21, σ1°35/37, mb3.9/3, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.35**	**253**	*e*P	**Pb**	**11 36 33.1**	**-0.5**
KLOF				*e*S	**Sb**	**11 36 38.6**	**-0.7**
KLOF				AML	AML	11 36 44.9	
	comp=Z,1μm,0.6s						
WDLM	**Western Deep L**	**0.53**	**251**	*e*P	**Pb**	**11 36 36.2**	**-0.6**
WDLM				*e*S	**Sb**	**11 36 44.3**	**-0.3**
WDLM				AML	AML	11 36 45.2	
	comp=Z,547nm,0.4s						
PRYS	**Parys**	**0.88**	**219**	*e*P	**Pb**	**11 36 41.9**	**-0.7**
PRYS				*e*S	**Sb**	**11 36 54.5**	**0.0**
PRYS				AML	AML	11 37 00.1	
	comp=Z,401nm,0.4s						
KSR	**Koster**	**1.05**	**292**	*e*P	**Pn**	**11 36 46.0**	**-0.2**
KSR				*e*S	**Sn**	**11 37 01.4**	**+0.3**
KSR				AML	AML	11 37 05.8	
	comp=Z,96nm,0.1s						
BFSD	**Buffelsfontein**	**1.24**	**240**	*e*P	**Pn**	**11 36 49.6**	**+0.9**
BFSD				*e*S	**Sn**	**11 37 05.8**	**+0.2**
BFSD				AML	AML	11 37 10.0	
	comp=Z,375nm,0.3s						
MOAB	**Moab Khotsong**	**1.29**	**235**	*e*P	**Pn**	**11 36 50.2**	**+0.8**
MOAB				*e*S	**Sn**	**11 37 08.2**	**+1.3**
MOAB				AML	AML	11 37 10.5	
	comp=Z,208nm,0.5s						
TLEK	**Tau Lekoa**	**1.37**	**238**	*e*P	**Pg**	**11 36 52.0**	**+0.4**
TLEK				*e*S	**Sn**	**11 37 11.3**	**+2.4**
TLEK				AML	AML	11 37 14.5	
	comp=Z,136nm,0.6s						
LBTB	**Lobatse**	**2.48**	**299**	*e*P	**Pn**	**11 37 07.3**	**+1.5**
LBTB				*e*S	**Sn**	**11 37 37.5**	**+1.4**
LBTB				AML	AML	11 37 49.1	
	comp=Z,88nm,0.5s						
LBTB	**Lobatse**	**2.48**	**299**	Pn	**Pn**	**11 37 07.2**	**+1.5**
	comp=Z,27nm,0.3s,baz=124,slow=16,SNR=274						
LBTB				Pg	**Pb**	**11 37 09.2**	**-0.7**
	comp=Z,27nm,0.3s,baz=131,slow=16,SNR=273						
LBTB				Lg	Lg	11 37 41.3	
	comp=Z,23nm,0.3s,baz=227,slow=21,SNR=21						
LBTB				Rg	Rg	11 37 55.2	
	comp=Z,352nm,1.0s,baz=175,slow=6.7,SNR=7.5						
SWZ	**Schweizer**	**2.55**	**248**	*e*P	**Pn**	**11 37 07.0**	**+0.3**
SWZ				*e*S	**Sn**	**11 37 39.1**	**+1.2**
SWZ				AML	AML	11 37 52.1	
	comp=Z,152nm,0.5s						
BOSA	**Boshof**	**3.38**	**225**	*e*P	Pb	11 37 21.8	-3.5
BOSA				*e*S	**Sn**	**11 37 59.5**	**+1.1**
BOSA				AML	AML	11 38 12.2	
	comp=Z,26nm,0.5s						
BOSA	**Boshof**	**3.38**	**225**	Pn	**Pn**	**11 37 18.0**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=48,slow=14,SNR=15						
BOSA				Pg	**Pb**	**11 37 23.4**	**-1.9**
	comp=Z,1.3nm,0.3s,baz=50,slow=

comp=Z,38nm,0.4s
KSD **Kokstad** 4.46 164 *e*P Pn 11 37 33.9 +0.8
KSD *e*S Sn 11 38 26.4 +1.3
KSD AML AML 11 38 44.8
comp=Z,14nm,0.5s
SUR **Sutherland** 8.75 224 Pn Pn 11 38 32.3 +0.4
SUR Sn Sn 11 40 06.7 -4.0
SUR Lg Lg 11 40 56.5
LSZ **Lusaka** 10.92 1 Pn Pn 11 39 02.0 +0.3
comp=Z,0.4nm,0.3s,baz=157,slow=8.4,SNR=4.5
LSZ Lg Lg 11 42 01.1
comp=Z,0.2nm,0.3s,baz=84,slow=23,SNR=2.1
TSUM **Tsumeb** 11.88 304 Pn Pn 11 39 14.4 -0.5
comp=Z,0.5nm,0.3s,baz=132,slow=13,SNR=15
TSUM Sn Sn 11 41 25.7 -1.9
comp=Z,0.2nm,0.3s,baz=253,slow=6.1,SNR=2.5
TSUM Lg Lg 11 42 36.0
comp=Z,0.2nm,0.3s,baz=256,slow=18,SNR=3.8
TORD **Torodi Ar. Bea** 46.77 324 P P 11 44 54.4 -0.7
comp=Z,0.6nm,0.5s,baz=145,slow=7.3,SNR=6.9
BRTR **Keskin Array B** 65.84 5 P P 11 47 12.2 +1.3
comp=Z,0.3nm,0.5s,baz=175,slow=8.5,SNR=2.9
ESDC **Sonseca Array** 72.03 335 P P 11 47 49.5 +0.1
comp=Z,0.5nm,0.5s,baz=149,slow=6.6,SNR=4.8
NVAR **Mina Array Bea** 149.20 302 PKPbc PKPbc 11 56 16.1 +1.7
comp=Z,0.7nm,0.6s,baz=79,slow=4.7,SNR=8.8

JMA 27 11:47:06.8, 36.53N×138.12E, h7km±1km, M0.0, 1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**0.07**	**80**	⇓P	Pg	11 47 08.6	-0.1
MAT				S	Sg	11 47 10.1	+0.1
MAT	**Matsushiro**	**0.07**	**80**	P	Pg	11 47 08.6	-0.1
MAT				S	Sg	11 47 10.1	+0.1
JNG	**Nsakai**	**0.12**	**187**	P	Pg	11 47 09.5	-0.1
JNG				S	Sg	11 47 11.5	0.0
JRY	**Ryogami san**	**0.81**	**129**	S	Sg	11 47 32.8	-0.3

IDC 27 11:50:49.7±1.1, 13.30N×95.86E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/31, mbtmp3.7/7, ML4.0/1, MS3.4/6, Ms1 3.5/6, ms1mx3.0/36, Error ellipse: s-maj=43.9km s-min=20.2km az=50.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**5.92**	**30**	Pn	Pn	11 52 18.1	-0.7
	1.1nm,0.3s,baz=213,slow=15,SNR=8.0						
CMAR				Pg	Pg	11 52 45.4	+2.0
	0.5nm,0.3s,baz=218,slow=17,SNR=7.5						
PSI	**Prapat**	**10.86**	**164**	LR	LR	11 57 25.2	
	comp=Z,146nm,21.2s,baz=346,slow=36						
LEM	**Lembang**	**23.15**	**149**	LR	LR	12 06 04.3	
	comp=Z,144nm,18.6s,baz=242,slow=40						
KAPI	**Kappang**	**29.90**	**126**	LR	LR	12 10 50.7	
	comp=Z,64nm,18.3s,baz=294,slow=40						
ZALV	**Zalesovo Beam**	**41.48**	**350**	P	P	11 58 38.8	+0.4
	0.4nm,0.4s,baz=145,slow=7.9,SNR=2.9						
GEYT	**Alibeck**	**41.53**	**313**	P	P	11 58 39.5	+0.5
	1.0nm,0.3s,baz=103,slow=6.4,SNR=2.8						
WRA	**Warramunga Arr**	**50.25**	**130**	P	P	11 59 48.5	+0.4
	0.5nm,0.8s,baz=311,slow=8.7,SNR=3.6						
ASAR	**Alice Springs**	**52.28**	**134**	P	P	12 00 02.7	-0.6
	0.4nm,0.8s,baz=309,slow=7.2,SNR=4.4						
BRTR	**Keskin Array B**	**60.30**	**308**	P	P	12 01 00.0	-0.6
	0.6nm,0.8s,baz=93,slow=7.2,SNR=3.0						
STKA	**Stephens Creek**	**62.74**	**137**	LR	LR	12 29 51.7	
	comp=Z,55nm,20.5s,baz=211,slow=37						
FINES	**FINESS Array B**	**68.77**	**331**	P	P	12 01 54.9	-0.4
	3.0nm,0.8s,baz=128,slow=11,SNR=3.5						
ARCES	**ARCESS Array B**	**70.79**	**339**	LR	LR	12 37 51.0	
	comp=Z,26nm,18.3s,baz=268,slow=40						
NOA	**NORSAR Array B**	**75.89**	**330**	LR	LR	12 38 53.8	
	comp=Z,20nm,21.9s,baz=285,slow=38						

*ISCJB **27** 12:01:45.0±0.9, 11.37S±0.07×117.70E±0.08, h35km, mb3.8/5, Error ellipse: s-maj=12.2km s-min=8.8km az=21.8*
*IDC **27** 12:01:49.9±1.0, 11.18S×117.87E, h54km±8km, mb3.5/5, mb1 3.7/8, mb1mx3.5/19, mbtmp3.9/8, Error ellipse: s-maj=27.8km s-min=14.7km az=81.0*
*DJA **27** 12:01:54.8±0.9, 11°S±7'×11°8E±', h10km, M4.7/10, mb5.1/4, mB5.1/4, MLv4.5/10, Mw(mB)4.4/4*
ISC 27 12:01:48.6±0.8, 11.29S±0.08×117.8E±0.1, h35km, n16, σ2s10/20, mb3.7/5, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**2.27**	**44**	P	**Pn**	**12 02 24.2**	**+0.4**
WBSI				S	**Sn**	**12 02 50.0**	**-0.6**
WSI	**Waingapu**	**2.95**	**57**	P	Pn	12 02 37.2	+4.2
WSI				S	**Sn**	**12 03 08.7**	**+1.5**
BSSI	**Bau Bau, Buton**	**5.77**	**28**	P	**Pn**	**12 03 13.8**	**+2.0**
	219nm,0.7s,4μm1.0nm						
BKSI	**Bulukumba**	**6.36**	**21**	P	**Pn**	**12 03 21.8**	**+1.8**
	211nm,0.6s,2μm0.7nm						
KAPI	**Kappang**	**6.53**	**17**	P	**Pn**	**12 03 23.1**	**+0.9**
	16nm,0.3s,baz=209,slow=7.8,SNR=38						
KAPI				S	**Sn**	**12 04 35.5**	**-0.1**
	15nm,0.3s,baz=105,slow=23,SNR=11						
SPSI	**Sidrap Palu**	**7.54**	**15**	P	**Pn**	**12 03 38.7**	**+2.6**
SIJI	**Sorong**	**16.92**	**53**	P	**Pn**	**12 05 40.2**	**-2.7**
	0.9nm,0.3s,baz=220,slow=16,SNR=3.5						
WRA	**Warramunga Arr**	**18.10**	**120**	P	**Pn**	**12 05 55.7**	**-1.8**
	0.3nm,0.3s,baz=291,slow=14,SNR=23						
WRA				S	Sn	12 09 03.0	-16
	0.3nm,0.3s,baz=292,slow=25,SNR=4.0						
ASAR	**Alice Springs**	**19.67**	**131**	P	**P**	**12 06 13.7**	**-1.1**
	0.3nm,0.3s,baz=307,slow=12,SNR=20						
ASAR				pP	**pP**	**12 06 28.5**	**+4.5**
	0.5nm,0.3s,baz=313,slow=14,SNR=8.6						
ASAR				S	S	12 09 39.9	-15
	0.3nm,0.3s,baz=306,slow=22,SNR=5.7						
KSRS	**Korea Array**	**49.41**	**11**	P	P	12 10 32.1	-2.9
	0.2nm,0.3s,baz=189,slow=6.3,SNR=2.5						
USRK	**Ussuriysk Ar.**	**56.71**	**12**	P	**P**	**12 11 27.3**	**-1.4**
	0.3nm,0.4s,baz=180,slow=5.8,SNR=2.6						
SONM	**Songino Array**	**59.73**	**351**	P	**P**	**12 11 47.7**	**-2.3**
	1.5nm,0.7s,baz=180,slow=5.8,SNR=2.9						
SONM				pP	**pP**	**12 12 03.7**	**+3.1**
	2.1nm,0.7s,baz=180,slow=8.7,SNR=3.6						
VNDA	**Vanda**	**69.93**	**171**	P	**P**	**12 12 56.5**	**+0.7**
	0.4nm,0.8s,baz=330,slow=6.7,SNR=2.5						
ZALV	**Zalesovo Beam**	**70.76**	**340**	P	**P**	**12 12 60.0**	**-1.2**
	2.2nm,0.6s,baz=148,slow=5.0,SNR=9.2						
ZALV				pP	**pP**	**12 13 14.0**	**+2.0**
	1.5nm,0.6s,baz=159,slow=6.7,SNR=4.9						
BDFB	**Brasilia**	**149.78**	**208**	PKPbc	**PKPbc**	**12 21 34.5**	**-1.6**
	1.2nm,0.5s,baz=155,slow=19,SNR=3.7						
LPAZ	**La Paz**	**151.98**	**168**	PKPbc	**PKPbc**	**12 21 42.3**	**+0.4**
	0.4nm,0.5s,baz=118,slow=4.9,SNR=3.5						

JMA 27 12:03:38.6, 36.45N×138.05E, h6km±1km, M0.5, 1C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNG	**Nsakai**	**0.06**	**137**	P	Pg	12 03 40.2	-0.1
JNG				S	Sg	12 03 41.6	0.0
MAT	**Matsushiro**	**0.16**	**54**	⇑P	Pg	12 03 41.6	-0.3
MAT				S	Sg	12 03 43.9	-0.1
MAT	**Matsushiro**	**0.16**	**54**	P	Pg	12 03 41.6	-0.3
MAT				S	Sg	12 03 43.9	-0.1
JRY	**Ryogami san**	**0.81**	**122**	P	Pg	12 03 53.4	-0.9
JRY				S	Sg	12 04 04.0	-0.9

*NEIC **27** 12:22:13.5, 35.20N×118.60W, h6km, ML3.8(PAS), After PAS.*
NEIC Felt [III] at Keene and [II] at Tehachapi. Also felt at Bakersfield, Burbank, Caliente, California City, Inyokern, Lebec, Mojave and Wrightwood.
ISC 27 12:22:12.6±1.0, 35.19N±0.01×118.59W±0.02, h10km±8km, n62, σ1s27/105, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARVC	**Arvin**	**0.21**	**251**	P	**Pg**	**12 22 17.3**	**+0.4**
	baz=0.2						
ISA	**Isabella, Lake**	**0.48**	**11**	P	**Pg**	**12 22 22.1**	**+0.1**
	baz=0.5						
ISA				S	**Sg**	**12 22 28.1**	**-0.2**
	baz=0.5						
ISA	**Isabella, Lake**	**0.48**	**11**	*e*Pg	**Pg**	**12 22 22.0**	**+0.1**
ISA				*e*Sg	**Sg**	**12 22 28.0**	**-0.2**
EDW2	**Edwards Air Fo**	**0.58**	**122**	P	**Pg**	**12 22 24.2**	**+0.2**
	baz=0.6						
EDW2				S	**Sg**	**12 22 32.0**	**+0.3**
	baz=0.6						
OSI	**Osito Audit: C**	**0.59**	**191**	P	**Pb**	**12 22 24.5**	**-0.5**
	baz=0.6						
OSI				S	**Sg**	**12 22 32.6**	**+0.8**
	baz=0.6						
OSI	**Osito Audit: C**	**0.59**	**191**	*e*Pg	**Pb**	**12 22 24.6**	**-0.5**
OSI				*e*Sg	**Sg**	**12 22 31.8**	**0.0**
VES	**Vestal, Richgr**	**0.76**	**328**	P	**Pg**	**12 22 26.9**	**-0.5**
	baz=0.8						
VES				S	**Sg**	**12 22 37.1**	**-0.1**
	baz=0.8						
LRMC	**Laurel Mtn Rad**	**0.79**	**69**	P	**Pg**	**12 22 28.1**	**+0.2**
	baz=0.8						
LRMC				S	**Sg**	**12 22 38.5**	**+0.4**
	baz=0.8						
DECC	**Green Verdugo**	**0.97**	**167**	P	**Pg**	**12 22 31.2**	**0.0**
	baz=1.0						
PKM	**Mcpherson Peak**	**1.05**	**254**	P	**Pg**	**12 22 31.9**	**-0.9**
	baz=1.0						
PKM				S	**Sg**	**12 22 46.0**	**-0.5**
	baz=1.0						
MWC	**Mount Wilson**	**1.06**	**155**	*e*Pn	**Pg**	**12 22 32.9**	**-0.1**
MWC				*e*Sn	**Sn**	**12 22 50.0**	**+1.3**
PASC	**Pasadena Art C**	**1.07**	**162**	*e*Pn	**Pg**	**12 22 33.0**	**-0.3**
PASC				*e*Sn	**Sn**	**12 22 48.6**	**-0.1**
BLG	**Laguna Peak, P**	**1.15**	**200**	P	**Pn**	**12 22 34.7**	**-0.1**
	baz=1.2						
BLG				S	**Sn**	**12 22 50.1**	**-0.5**
	baz=1.2						
SMMC	**Simmler**	**1.16**	**276**	P	**Pb**	**12 22 33.6**	**-1.2**
	baz=1.2						
SBC	**Santa Barbara**	**1.19**	**231**	Pg	**Pg**	**12 22 35.4**	**-0.1**
	baz=1.2						
BFSC	**Mount Baldy Ra**	**1.22**	**141**	P	**Pn**	**12 22 35.6**	**-0.3**
	baz=1.2						
BFSC				S	**Sb**	**12 22 52.0**	**+0.2**
	baz=1.2						
RCTC	**Rector, Farmer**	**1.23**	**335**	P	**Pn**	**12 22 34.9**	**-1.1**
	baz=1.2						
RCTC				S	**Sb**	**12 22 50.6**	**-1.3**
	baz=1.2						
MPMC	**Manual Prospec**	**1.25**	**46**	Pg	**Pn**	**12 22 36.0**	**-0.3**
	baz=1.2						
CWC	**Cottonwood Cre**	**1.31**	**18**	Pg	**Pn**	**12 22 37.1**	**-0.1**
	baz=1.3						
CWC				S	**Sb**	**12 22 54.0**	**-0.4**
	baz=1.3						
RRX	**Edison Barstow**	**1.34**	**103**	Sb	**Sg**	**12 22 56.2**	**+0.4**
	baz=1.3						
DAC	**Darwin (Calif)**	**1.35**	**37**	*e*Pn	**Pb**	**12 22 38.0**	**-0.2**
DAC				*e*Sg	**Sg**	**12 22 59.9**	**+3.7**
GSC	**Goldstone, Bar**	**1.47**	**85**	P	**Pn**	**12 22 39.0**	**-0.3**
	baz=1.5						
GSC				S	**Sn**	**12 22 58.5**	**0.0**
	baz=1.5						
GSC	**Goldstone, Bar**	**1.47**	**85**	*e*Pn	**Pn**	**12 22 38.8**	**-0.4**
GSC				*e*Sg	**Sg**	**12 23 00.6**	**+0.8**
BSC	**Santa Cruz Isl**	**1.47**	**216**	P	**Pn**	**12 22 39.0**	**-0.3**
	baz=1.5						
FMP	**Fort Macarthur**	**1.50**	**170**	Pb	**Pb**	**12 22 40.3**	**-0.2**
	baz=1.5						
FMP				Sb	**Sg**	**12 23 01.1**	**+0.3**
	baz=1.5						
BBRC	**Big Bear Solar**	**1.66**	**124**	P	**Pn**	**12 22 41.5**	**-0.5**
	baz=1.7						
BBRC				Sb	**Sb**	**12 23 05.4**	**+0.9**
	baz=1.7						
CIS	**Catalina Islan**	**1.79**	**175**	P	**Pn**	**12 22 43.3**	**-0.3**
	baz=1.8						
CIS				Sb	**Sg**	**12 23 10.0**	**-0.1**
	baz=1.8						
TIN	**Tinemaha, Big**	**1.88**	**9**	Sb	**Sg**	**12 23 12.2**	**-0.9**
	baz=1.9						
HEC	**Hector,Ludlow**	**1.89**	**100**	P	**Pn**	**12 22 44.6**	**-0.5**
	baz=1.9						
HEC				Sb	**Sg**	**12 23 12.7**	**-0.7**
	baz=1.9						
MURC	**Murrieta**	**1.96**	**144**	P	**Pn**	**12 22 45.8**	**-0.2**
	baz=2.0						
GRAC	**Grapevine Rang**	**2.06**	**28**	Pb	**Pb**	**12 22 48.7**	**-1.4**
	baz=2.0						
TUQ	**Turquoise Moun**	**2.19**	**83**	P	**Pn**	**12 22 48.9**	**-0.4**
	baz=2.2						
SCI	**San Clemente I**	**2.21**	**179**	Sb	**Sg**	**12 23 22.6**	**-1.0**
	baz=2.2						
PFO	**Pinyon Flats O**	**2.37**	**131**	P	**Pn**	**12 22 51.5**	**-0.2**
	baz=2.4						
PFO				Sb	**Sb**	**12 23 26.2**	**+1.4**
	baz=2.4						
PFO	**Pinyon Flats O**	**2.37**	**131**	*e*Pn	**Pn**	**12 22 51.7**	**0.0**
PFO				*e*Pg	**Pg**	**12 22 59.0**	**+1.0**
PFO				*e*Sg	**Sb**	**12 23 26.4**	**+1.6**
MLAC	**Mammoth, Mammo**	**2.44**	**355**	Sb	**Sb**	**12 23 28.5**	**+1.5**
	baz=2.4						
GMRC	**Granite Mounta**	**2.44**	**99**	P	**Pn**	**12 22 51.9**	**-0.8**
	baz=2.4						
GMRC				Sb	**Sb**	**12 23 28.9**	**+2.0**
	baz=2.4						
BELC	**Belle Mtn. Jos**	**2.45**	**118**	P	**Pn**	**12 22 52.6**	**-0.1**
	baz=2.5						
TPNV	**Topopah Spring**	**2.58**	**47**	P	**Pn**	**12 22 55.6**	**+1.0**
	baz=2.6						
109C	**Camp Elliot, M**	**2.61**	**151**	Sb	**Sb**	**12 23 33.1**	**+1.5**
	baz=2.6						
MONP	**Monument Peak,**	**2.92**	**141**	P	**Pn**	**12 22 59.7**	**+0.3**
	baz=2.9						
BAR	**Barrett**	**2.97**	**147**	*e*Pn	**Pn**	**12 23 00.3**	**+0.4**
BAR				*e*Pg	**Pg**	**12 23 07.7**	**-1.9**
BAR				*e*Sg	**Sb**	**12 23 44.4**	**+2.3**
BC3	**Big Chuckawall**	**3.01**	**120**	P	**Pn**	**12 23 00.0**	**-0.5**
	baz=3.0						
SHPR	**Sheep Range**	**3.08**	**64**	*e*Pn	**Pn**	**12 23 01.9**	**+0.4**
SHPR				*e*Pg	**Pg**	**12 23 09.8**	**-1.8**
SHPR				*e*Sg	**Sg**	**12 23 51.0**	**-0.5**
TPH	**Tonopah**	**3.08**	**21**	*e*Pn	**Pn**	**12 23 03.3**	**+1.8**
TPH				*e*Pg	**Pg**	**12 23 10.4**	**-1.3**
TPH				*e*Sg	**Sg**	**12 23 53.0**	**+1.5**
CMB	**Columbia Colle**	**3.18**	**334**	*e*Pn	**Pn**	**12 23 04.4**	**+1.6**
CMB				*e*Sg	**Sb**	**12 23 51.2**	**+3.0**
NEE2	**Needles Airpor**	**3.29**	**96**	P	**Pn**	**12 23 03.5**	**-0.7**
	baz=3.3						
WAKR	**Walker**	**3.37**	**349**	*e*Pn	**Pb**	**12 23 10.6**	**-2.0**
WAKR				*e*Sg	**Sb**	**12 23 56.9**	**+3.1**
Y12C	**Blythe**	**3.66**	**112**	P	**Pn**	**12 23 08.9**	**-0.4**
	baz=3.7						
GLA	**Glamis**	**3.78**	**123**	P	**Pn**	**12 23 10.3**	**-0.7**
	baz=3.8						
GLA	**Glamis**	**3.78**	**123**	*e*Pn	**Pn**	**12 23 10.3**	**-0.7**
GLA				*e*Pg	**Pg**	**12 23 23.7**	**-1.4**
GLA				*e*Sg	**Sg**	**12 24 14.1**	**0.0**
R11A	**Troy Canyon, C**	**3.97**	**37**	*e*Pn	**Pn**	**12 23 16.2**	**+2.5**
R11A				*e*Pg	**Pg**	**12 23 27.3**	**-1.3**
R11A				*e*Sg	**Sg**	**12 24 19.3**	**-0.7**
CCUT	**Cedar City**	**4.83**	**59**	*e*Pn	**Pn**	**12 23 27.5**	**+1.9**
CCUT				*e*Pg	**Pg**	**12 23 42.7**	**-2.5**
BMN	**Battle Mountai**	**5.34**	**11**	Pn	**Pn**	**12 23 38.0**	**+5.5**
BMN				*e*Pg	**Pg**	**12 23 53.9**	**-0.9**
BMN				*e*Sg	**Sg**	**12 25 03.1**	**-1.0**
WUAZ	**Wupatki**	**5.91**	**85**	*e*Pn	**Pn**	**12 23 42.9**	**+2.5**
	15nm,0.7s						
WUAZ				*e*Pg	**Pg**	**12 24 03.1**	**-2.7**
WUAZ				*e*Sg	**Sg**	**12 25 20.3**	**-1.9**
MVU	**Marysvale**	**6.09**	**55**	*e*Pn	**Pn**	**12 23 45.4**	**+2.5**
	5.3nm,0.5s						
MVU				*e*Pg	**Pg**	**12 24 08.0**	**-1.2**
MSU	**Marysvale**	**6.12**	**55**	*e*Pn	Pn	12 23 46.8	+3.5
	8.8nm,0.7s						
MSU				*e*Pg	Pg	12 24 06.5	-3.3
ELK	**Elko**	**6.14**	**25**	*e*Pn	**Pn**	**12 23 46.2**	**+2.6**
	3.2nm,0.5s						
ELK				*e*Pg	**Pg**	**12 24 09.1**	**-1.1**
ELK				*e*Sg	**Sg**	**12 25 29.5**	**-0.3**
DUG	**Dugway, Tooele**	**6.77**	**41**	*e*Pg	**Pg**	**12 24 19.5**	**-2.9**
	4.9nm,0.8s						
BGU	**Big Grassy Mou**	**7.21**	**36**	*e*Pg	**Pg**	**12 24 28.6**	**-2.0**
WVOR	**Wild Horse Val**	**7.23**	**360**	*e*Pg	Pg	12 24 35.0	+4.0
SRU	**San Rafael Swe**	**7.53**	**56**	*e*Pn	**Pn**	**12 24 04.5**	**+1.8**
	2.1nm,0.5s						
SRU				*e*Pg	**Pg**	**12 24 36.6**	**-0.2**

GUC 27 12:26:07.0±0.5, 34.98S×72.36W, h17km±4km, ML4.1, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.72**	**125**	*e*P	Pg	12 26 21.4	+0.2
TALC				*e*S	Sg	12 26 31.8	+1.0
TALC				AML	AML	12 26 32.9	
	comp=N,30μm,0.7s						
NICH	**Los Niches**	**0.92**	**92**	*e*P	Pb	12 26 24.7	+0.2
NICH				*e*S	Sn	12 26 38.0	0.0
NICH				AML	AML	12 26 43.6	
	comp=N,13μm,0.5s						
LNCH	**Linares**	**1.06**	**145**	*e*P	Pn	12 26 27.0	0.0
LNCH				AML	AML	12 26 49.3	
	comp=E,9μm,0.5s						
SAN	**Santiago**	**2.07**	**43**	*e*P	Pb	12 26 43.0	-1.2
SAN				*e*S	Sb	12 27 10.6	+0.9
CLCH	**Cerro Calan**	**2.19**	**44**	*e*P	Pb	12 26 44.9	-1.2
CLCH				*e*S	Sb	12 27 13.9	+0.8
CLCH				AML	AML	12 27 17.9	
	comp=E,1μm,0.3s						
PEL	**Peldehue**	**2.30**	**38**	*e*P	Pb	12 26 46.3	-1.8
PEL				*e*S	Sb	12 27 17.1	+0.8
PEL				AML	AML	12 27 22.5	
	comp=E,1μm,0.6s						

IDC 27 12:36:15.4±22.0, 16.40S×166.02E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=398.2km s-min=46.2km az=51.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.65**	**176**	Pn	Pn	12 37 40.9	0.0
	baz=270,slow=20						
STKA	**Stephens Creek**	**27.00**	**231**	P	P	12 41 58.6	-0.6
	0.7nm,0.5s,baz=64,slow=14,SNR=4.1						
WRA	**Warramunga Arr**	**30.28**	**258**	P	P	12 42 28.7	+0.1
	0.3nm,0.6s,baz=89,slow=8.7,SNR=2.9						
ASAR	**Alice Springs**	**30.98**	**251**	P	P	12 42 35.0	+0.3
	2.0nm,0.6s,baz=75,slow=9.6,SNR=43						

*IDC **27** 12:38:30.0±0.8, 17.15S×65.29W, h0km, mb4.0/8, mb1 4.2/12, mb1mx4.0/28, mbtmp4.1/12, ML4.3/4, MS3.0/4, Ms1 3.0/4, ms1mx2.8/32, Error ellipse: s-maj=23.5km s-min=20.4km az=31.0*
*ISCJB **27** 12:38:33.5±0.5, 17.13S±0.05×65.07W±0.08, h33km, mb4.1/13, MS3.1/1, Error ellipse: s-maj=11.1km s-min=7.4km az=6.8*
*NEIC **27** 12:38:36.5±0.9, 17.15S×65.15W, h43km±9km, mb4.1/5, Error ellipse: s-maj=11.0km s-min=9.6km az=86.0*
ISC 27 12:38:35.4±0.5, 17.18S±0.07×65.19W±0.08, h35km, n35, σ1s12/33, mb4.1/13, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.95**	**287**	Pn	**Pn**	**12 39 22.3**	**+1.8**
	6.3nm,0.3s,baz=85,slow=11,SNR=111						
LPAZ				Lg	Lg	12 40 02.4	
	215nm,0.3s,baz=243,slow=17,SNR=25						
LPAZ				LR	LR	12 40 25.2	
	comp=Z,131nm,21.4s,baz=124,slow=40						
LPAZ	**La Paz**	**2.95**	**287**	*e*Pn	**Pn**	**12 39 22.2**	**+1.8**
LPAZ				Lg	Lg	12 40 02.4	
LPAZ				*e*Sn	Sn	12 40 03.0	+8.1
SIV	**San Ignacio**	**4.12**	**74**	Pn	**Pn**	**12 39 37.6**	**+1.6**
	14nm,0.3s,baz=276,slow=8.5,SNR=122						
SIV				Lg	Lg	12 40 39.3	
	129nm,0.3s,baz=170,slow=19,SNR=12						
SIV				LR	LR	12 41 00.4	
	comp=Z,125nm,18.9s,baz=266,slow=36						
ARE	**Arequipa**	**6.07**	**276**	*e*P	Pn	12 39 58.0	-5.1
LVC	**Limon Verde**	**6.44**	**212**	Pn	**Pn**	**12 40 07.2**	**-0.8**
	5.9nm,0.3s,baz=341,slow=13,SNR=2.5						
LVC	**Limon Verde**	**6.44**	**212**	*e*Pn	Pn	12 40 11.8	+3.8
	15nm,0.8s						
SAML	**Samuel**	**8.41**	**14**	*e*Pn	**Pn**	**12 40 34.8**	**-0.1**
	2.0nm,0.4s						
SAML				*e*Sn	**Sn**	**12 42 07.8**	**-0.9**
CPUP	**Villa Florida**	**11.67**	**143**	Pn	**Pn**	**12 41 18.9**	**-0.6**
	0.4nm,0.3s,baz=324,slow=13,SNR=7.5						
CPUP				LR	LR	12 46 12.6	
	comp=Z,118nm,20.0s,baz=324,slow=39						
CPUP	**Villa Florida**	**11.67**	**143**	*e*Pn	**Pn**	**12 41 19.5**	**0.0**
CFAA	**Coronel Fontan**	**14.62**	**190**	Pn	**Pn**	**12 41 59.0**	**-0.9**
	baz=45,slow=20,SNR=1.7						
BDFB	**Brasilia**	**16.55**	**87**	Lg	Lg	12 47 11.3	
	0.5nm,0.3s,baz=188,slow=17,SNR=3.8						
PTGA	**Pitinga**	**17.14**	**18**	P	**Pn**	**12 42 30.5**	**-1.9**
	1.4nm,0.3s,baz=9.6,slow=23,SNR=9.2						
PTGA				Lg	Lg	12 47 29.7	
	2.2nm,0.3s,baz=110,slow=12,SNR=5.9						
OTAV	**Otavalo**	**21.68**	**322**	*e*P	**P**	**12 43 25.0**	**+1.2**
	4.3nm,1.0s						
ROSC	**El Rosal**	**23.68**	**337**	P	**P**	**12 43 45.1**	**+0.6**
	11nm,0.5s,baz=259,slow=22,SNR=5.0						
ROSC				LR	LR	12 53 21.9	
	comp=Z,69nm,19.9s,baz=200,slow=38						
ROSC	**El Rosal**	**23.68**	**337**	*e*P	**P**	**12 43 47.5**	**+3.0**
MIAR	**Mount Ida**	**58.09**	**332**	*e*P	**P**	**12 48 24.6**	**-0.8**
	4.8nm,1.0s						
TXAR	**Lajitas Array**	**59.31**	**321**	P	**P**	**12 48 32.5**	**-1.7**
	0.3nm,0.7s,baz=140,slow=6.6,SNR=3.8						
DBIC	**Dimbokro**	**64.15**	**74**	P	**P**	**12 49 06.2**	**-0.7**
	6.3nm,0.9s,baz=339,slow=2.4,SNR=3.7						
DBIC	**Dimbokro**	**64.15**	**74**	*e*P	**P**	**12 49 07.4**	**+0.5**
	45nm,1.6s						
SDCO	**Great Sand Dun**	**66.49**	**326**	*e*P	**P**	**12 49 22.4**	**+0.4**
	0.7nm,0.5s						
PDAR	**Pinedale Array**	**72.26**	**327**	P	**P**	**12 49 56.2**	**-1.3**
	0.3nm,0.6s,baz=130,slow=9.7,SNR=3.4		

ZIIG				*i* S	Sn	12 52 23.7	-4.8
MZVM		**1.75**	**15**	*e*P	Pn	12 52 06.5	-1.2
MZVM				*i* S	Sn	12 52 30.6	+0.2
PPM	**Popocatepetl**	**1.87**	**33**	*e*P	Pn	12 52 07.1	-3.1
PPM				*i* S	Sn	12 52 30.1	-4.5
PNIG	**Pinotepa**	**1.88**	**126**	*e*P	Pn	12 52 06.2	-3.3
PNIG				*i* S	Sn	12 52 29.8	-3.8

*IDC **27** 12:57:59.5±0.5, 8.86S×161.00E, h0km, mb4.5/17, mb1 4.7/17, mb1mx4.6/20, mbtmp4.5/17, Error ellipse: s-maj=20.9km s-min=15.3km az=104.0*
*ISCJB **27** 12:58:04.6±0.3, 8.91S±0.04×161.00E±0.06, h43km, mb4.5/29, Error ellipse: s-maj=8.1km s-min=6.0km az=2.9*
*NEIC **27** 12:58:05.3±0.3, 8.82S×160.98E, h35km, mb4.6/18, Error ellipse: s-maj=11.2km s-min=6.9km az=126.0*
*BJI **27** 12:58:06.7, 8.79S×160.63E, h42km, mb4.8/39, mB4.9/26, Ms4.8/19, Ms7 4.4/18*
ISC 27 12:58:06.7±0.4, 8.91S±0.05×161.05E±0.07, h43km, n78, σ1§70/84, mb4.5/29, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.20**	**244**	*e*Pn		**Pn**	**12 58 26.8**	**-0.3**
HNR				*e*Sn		**Sn**	**12 58 44.8**	**+2.5**
DZM	**Mont Dzumac**	**14.08**	**159**	Pn		**Pn**	**13 01 25.4**	**+1.7**
	0.2nm,0.3s,baz=270,slow=20,SNR=5.0							
DZM				Sn		**Sn**	**13 03 58.9**	**+0.1**
	0.0nm,0.3s,baz=270,slow=20,SNR=1.8							
TARA	**Tarawa**	**15.62**	**50**	*e*P		**Pn**	**13 01 44.8**	**+0.8**
	191nm,1.2s							
CTA	**Charters Tower**	**18.11**	**231**	P		**P**	**13 02 17.3**	**+2.1**
	1.4nm,0.3s,baz=46,slow=11,SNR=35							
CTAO	**Charters Tower**	**18.11**	**231**	*e*P		**P**	**13 02 16.3**	**+1.1**
	32nm,0.9s							
COEN	**Coen**	**18.22**	**252**	*e*P		**P**	**13 02 17.6**	**+1.2**
	32nm,2.1s							
EIDS	**Eidsvold**	**18.92**	**209**	*e*P		**P**	**13 02 25.4**	**+1.3**
	16nm,0.8s							
JAY	**Jayapura**	**21.20**	**286**	P		**P**	**13 02 45.9**	**-3.1**
	33nm,0.8s,baz=128,slow=2.3,SNR=8.5							
ARMA	**Armidale**	**23.14**	**201**	*e*P		**P**	**13 03 08.7**	**-0.8**
	16nm,0.8s							
H11S2	**WAKE ISLAND Hy**	**27.79**	**12**	T		T	13 32 47.4	
	baz=193,slow=76,SNR=118							
H11S3	**WAKE ISLAND Hy**	**27.79**	**12**	T		T	13 32 48.5	
	baz=193,slow=76,SNR=116							
H11S1	**WAKE ISLAND Hy**	**27.81**	**12**	T		T	13 32 48.5	
	baz=193,slow=76,SNR=110							
WRAB	**Tennant Creek**	**28.04**	**244**	*e*P		**P**	**13 03 52.8**	**-1.4**
	28nm,0.7s							
WRA	**Warramunga Arr**	**28.05**	**244**	P		**P**	**13 03 52.8**	**-1.5**
	26nm,0.7s,baz=73,slow=9.7,SNR=127							
WRA				PcP		**PcP**	**13 07 07.6**	**-0.8**
	1.4nm,0.8s,baz=67,slow=3.0,SNR=4.1							
H11N1	**WAKE ISLAND Hy**	**29.02**	**11**	T		T	13 34 21.0	
	baz=192,slow=76,SNR=503							
H11N3	**WAKE ISLAND Hy**	**29.02**	**11**	T		T	13 34 20.7	
	baz=192,slow=76,SNR=234							
H11N2	**WAKE ISLAND Hy**	**29.04**	**11**	T		T	13 34 20.7	
	baz=192,slow=76,SNR=905							
STKA	**Stephens Creek**	**29.13**	**216**	P		**P**	**13 04 02.5**	**-1.2**
	7.1nm,0.7s,baz=60,slow=13,SNR=16							
STKA	**Stephens Creek**	**29.13**	**216**	*e*P		**P**	**13 04 02.7**	**-1.0**
	2.5nm,0.9s							
AS31	**Alice Springs**	**29.82**	**237**	*e*P		P	13 04 07.6	-2.4
ASAR	**Alice Springs**	**29.82**	**237**	P		P	13 04 07.9	-2.1
	13nm,0.7s,baz=61,slow=10,SNR=350							
ASAR				PcP		**PcP**	**13 07 12.4**	**-0.5**
	0.9nm,0.6s,baz=64,slow=2.2,SNR=4.6							
BBOO	**Buckleboo**	**33.16**	**221**	*e*P		**P**	**13 04 37.8**	**-1.4**
	1.9nm,0.7s							
RPZ	**Rata Peaks**	**35.76**	**168**	P		**P**	**13 05 00.7**	**-0.9**
	16nm,1.1s,baz=34,slow=3.6,SNR=2.5							
TAU	**Tasmania Unive**	**35.95**	**197**	*e*P		**P**	**13 05 03.9**	**+0.8**
	30nm,1.0s							
FORT	**Forrest**	**37.66**	**230**	*e*P		**P**	**13 05 16.4**	**-1.5**
	19nm,0.7s							
MBWA	**Marble Bar**	**41.59**	**248**	*e*P		P	13 05 48.4	-2.4
	27nm,1.1s							
ASAJ	**Asahikawa**	**55.36**	**344**	*e*P		**P**	**13 07 36.2**	**-0.2**
	1.9nm,0.9s							
KSRS	**Korea Array**	**55.57**	**328**	P		**P**	**13 07 37.2**	**-0.7**
	2.1nm,0.9s,baz=130,slow=8.5,SNR=8.8							
KSAR	**Wonju Array Be**	**55.58**	**328**	P		**P**	**13 07 37.2**	**-0.8**
NJ2	**Nanjing**	**57.29**	**317**	*e*P		**P**	**13 07 50.3**	**0.0**
NJ2				PMZ				
	20nm,0.8s							
QIZ	**Qiongzhong**	**57.60**	**299**	P		**P**	**13 07 53.0**	**+0.2**
QIZ				S		**S**	**13 15 47.0**	**-1.2**
QIZ				PMZ				
	19nm,1.4s							
QIZ				LN				
	210nm,20.6s							
QIZ				LE				
	100nm,20.9s							
QIZ				LZ				
	400nm,17.8s							
USRK	**Ussuriysk Ar.**	**59.05**	**336**	P		P	13 07 59.6	-2.7
	2.2nm,0.7s,baz=165,slow=7.1,SNR=6.2							
CN2	**Changchun**	**61.60**	**331**	*e*P		**P**	**13 08 20.0**	**+0.2**
CN2				PMZ				
	10.0nm,0.8s							
PETK	**Petropavlovsk-**	**61.84**	**358**	P		P	13 08 18.9	-2.4
	2.0nm,0.7s,baz=169,slow=8.4,SNR=2.7							
GYA	**Guiyang**	**63.40**	**305**	*e*P		**P**	**13 08 33.0**	**+0.6**
GYA				PMZ				
	10.0nm,1.0s							
BJI	**Beijing**	**63.96**	**323**	P		**P**	**13 08 36.3**	**+0.7**
BJI				PMZ				
	11nm,0.4s							
KMI	**Kunming**	**66.07**	**302**	P		**P**	**13 08 50.5**	**+0.5**
KMI				PMZ				
	12nm,0.8s							
CMAR	**Chiang Mai Arr**	**67.02**	**294**	P		**P**	**13 08 55.5**	**-0.4**
	3.3nm,0.7s,baz=123,slow=4.9,SNR=25							
HHC	**Hu-ho-hao-te**	**67.25**	**321**	*e*P		**P**	**13 08 57.0**	**0.0**
HHC				PP		**PP**	**13 11 29.3**	**+3.5**
HHC				S		**S**	**13 17 47.5**	**-1.5**
HHC				ScS		**SKSac**	**13 18 47.5**	**-3.7**
HHC				SS		**SS**	**13 22 09.8**	**+0.3**
HHC				PMZ				
	22nm,1.2s							
HHC				PMZ				
	71nm,7.3s							
HHC				LN				
	220nm,16.8s							
HHC				LE				
	260nm,16.8s							
HHC				LZ				
	150nm,16.9s							
CD2	**Chengdu**	**67.65**	**309**	*e*P		**P**	**13 08 59.3**	**-0.4**
CD2				pP		**pP**	**13 09 15.5**	**+3.2**
CD2				PcP		**PcP**	**13 09 25.8**	**-0.7**
CD2				PP		**PP**	**13 11 29.0**	**-0.4**
CD2				S		**S**	**13 17 52.8**	**-1.3**
CD2				SS		**SS**	**13 22 15.8**	**-0.1**
CD2				PMZ				
	10.0nm,0.5s							
CD2				PMZ				
	120nm,5.2s							
VNDA	**Vanda**	**68.59**	**180**	P		**P**	**13 09 04.1**	**-0.6**
	2.2nm,0.7s,baz=331,slow=6.7,SNR=11							
VNDA	**Vanda**	**68.59**	**180**	*e*P		**P**	**13 09 03.8**	**-1.0**
	2.1nm,0.8s							
LZH	**Lanzhou**	**69.92**	**314**	*e*P		**P**	**13 09 15.0**	**+1.1**
LZH				pP		**pP**	**13 09 30.8**	**+4.3**
LZH				PMZ				
	68nm,1.5s							
LZH				PMZ				
	350nm,5.3s							
SONM	**Songino Array**	**74.25**	**325**	P		**P**	**13 09 39.0**	**-0.5**
	3.0nm,0.6s,baz=140,slow=5.9,SNR=8.3							
GTA	**Gaotai**	**74.27**	**315**	*e*P		**P**	**13 09 40.5**	**+0.7**
GTA				pP		**PcP**	**13 09 57.3**	**+2.8**
GTA				PP		**PP**	**13 12 27.8**	**+1.6**
GTA				S		**SKiKP**	**13 19 07.8**	**+4.0**
GTA				SKS		SKSac	13 19 38.5	-5.9
GTA				SS		**SS**	**13 23 57.3**	**-0.2**
GTA				PMZ				
	17nm,0.9s							
GTA				PMZ				
	120nm,7.6s							
GTA				LN				
	140nm,18.5s							
GTA				LE				
	160nm,20.0s							
GTA				LZ				
	140nm,19.0s							
CAST	**Castle Rocks**	**80.42**	**19**	*e*P		**P**	**13 10 12.8**	**-0.7**
	25nm,1.9s							
QSPA	**South Pole Qui**	**81.08**	**180**	*e*P		P	13 10 15.3	-2.0
	8.4nm,1.3s							
MCK	**McKinley**	**81.68**	**20**	*e*P		**P**	**13 10 18.9**	**-1.3**
	11nm,1.1s							
CCB	**Clear Creek Bu**	**82.64**	**20**	*e*P		**P**	**13 10 24.4**	**-0.9**
	27nm,2.4s							
ILAR	**Eielson Array**	**83.03**	**20**	P		**P**	**13 10 26.2**	**-1.1**
	0.9nm,0.6s,baz=250,slow=5.1,SNR=16							
H02N1	**VAN INLET T-PH**	**83.42**	**34**	T		T	14 42 28.7	
H02S1	**DAWSON INLET T**	**83.43**	**34**	T		T	14 42 29.1	
	SNR=15							
WMQ	**Urumqi**	**84.33**	**316**	P		**P**	**13 10 34.5**	**0.0**
WMQ				pP		**pP**	**13 10 51.5**	**+4.1**
WMQ				PMZ				
	15nm,1.6s							
WMQ				PMZ				
	120nm,5.0s							
WMQ				LN				
	220nm,11.4s							
WMQ				LE				
	64nm,8.0s							
WMQ				LZ				
	86nm,21.2s							
MAW	**Mawson**	**84.94**	**202**	P		**P**	**13 10 35.8**	**-1.2**
	1.9nm,0.8s,baz=91,slow=9.2,SNR=3.6							
NVAR	**Mina Array Bea**	**88.23**	**51**	P		**P**	**13 10 52.9**	**-1.1**
	1.1nm,0.8s,baz=232,slow=7.1,SNR=8.0							
MK31	**Makanchi Array**	**88.82**	**318**	*e*P		**P**	**13 10 55.7**	**-0.6**
MKAR	**Makanchi Array**	**88.82**	**318**	*e*P		**P**	**13 10 55.8**	**-0.5**
ZALV	**Zalesovo Beam**	**89.14**	**325**	P		P	13 10 54.6	-3.0
	1.0nm,0.8s,baz=99,slow=4.0,SNR=4.4							
R11A	**Troy Canyon, C**	**90.31**	**51**	*e*P		**P**	**13 11 04.8**	**+1.1**
	5.1nm,1.5s							
H06E1	**SOCORRO T-PHAS**	**90.97**	**71**	T		T	14 51 52.5	
	SNR=6.9							
KSH	**Kashi**	**91.83**	**310**	P		**P**	**13 11 10.3**	**-0.3**
KSH				pP		**pP**	**13 11 27.3**	**+3.6**
HVU	**Hansel Valley**	**93.03**	**48**	*e*P		**P**	**13 11 17.5**	**+1.3**
YKA	**Yellowknife Ar**	**95.22**	**28**	P		**P**	**13 11 24.5**	**-1.0**
	0.8nm,0.8s,baz=249,slow=5.2,SNR=3.8							
PDAR	**Pinedale Array**	**95.53**	**48**	P		**P**	**13 11 27.8**	**0.0**
	1.2nm,0.8s,baz=253,slow=1.5,SNR=9.8							
FINES	**FINESS Array B**	**118.06**	**337**	PKP		**PKPdf**	**13 16 47.5**	**-1.1**
	3.3nm,1.1s,baz=70,slow=12,SNR=2.3							
TRQA	**Tornquist**	**118.41**	**142**	*e*PKPdf		**PKPdf**	**13 16 50.2**	**0.0**
AKASG	**Malin Array Be**	**122.53**	**326**	PKP		**PKPdf**	**13 16 57.2**	**-0.4**
	1.0nm,0.7s,baz=78,slow=1.6,SNR=4.6							
BOSA	**Boshof**	**123.33**	**227**	PKP		**PKPdf**	**13 16 59.0**	**-0.9**
	2.7nm,0.5s,baz=138,slow=3.8,SNR=12							
BRTR	**Keskin Array B**	**124.11**	**312**	PKP		**PKPdf**	**13 17 00.4**	**-0.7**
	0.4nm,0.6s,baz=158,slow=1.6,SNR=3.3							
KOLS	**Kolonicke sedl**	**127.28**	**327**	*e*PKP		**PKPdf**	**13 17 07.9**	**+1.1**
STHS	**Stebnicka Huta**	**127.55**	**328**	*e*PKP		**PKPdf**	**13 17 09.3**	**+2.0**
CPUP	**Villa Florida**	**128.85**	**134**	PKP		**PKPdf**	**13 17 09.3**	**-1.1**
	2.4nm,0.9s,baz=266,slow=4.4,SNR=3.6							
BRG	**Berggiesshuebel**	**130.14**	**333**	*e*(P)		**Pdif**	**13 13 56.0**	**-5.4**
	1.5nm,0.7s							
GERES	**GERESS Array B**	**131.69**	**331**	PKP		**PKPdf**	**13 17 15.2**	**-0.1**
	0.8nm,0.7s,baz=0.0,slow=0.3,SNR=7.1							
BDFB	**Brasilia**	**142.27**	**130**	PKhKP		PKPpre	13 17 30.0	
	2.9nm,0.7s,baz=234,slow=19,SNR=3.2							
ESDC	**Sonseca Array**	**146.56**	**339**	PKPbc		**PKPdf**	**13 17 43.1**	**+0.6**
	0.8nm,0.7s,baz=48,slow=2.3,SNR=8.5							
MDT	**Midelt**	**152.76**	**333**	PKPbc		**PKPdf**	**13 17 55.7**	**+3.1**
	1.7nm,0.9s,baz=95,slow=12,SNR=2.3							
MDT				PKPab		**PKPab**	**13 18 08.9**	**-1.6**
	2.9nm,0.8s,baz=306,slow=2.4,SNR=5.7							
TORD	**Torodi Ar. Bea**	**159.30**	**284**	PKP		**PKPdf**	**13 18 00.8**	**-0.8**
	1.2nm,0.8s,baz=49,slow=1.5,SNR=8.7							
TORD				PKPab		**PKPab**	**13 18 36.8**	**-2.3**
	2.3nm,0.9s,baz=70,slow=3.7,SNR=7.4							

*ISCJB **27** 12:59:18.4±0.4, 32.53N±0.03×115.60W±0.03, h21km±4km, Error ellipse: s-maj=4.8km s-min=4.2km az=33.9*
*MEX **27** 12:59:18.5±0.8, 32.58N×115.50W, h5km±908km, MD3.6*
*NEIC **27** 12:59:18.7, 32.48N×115.61W, h12km, ML2.8(PAS), After PAS.*
*ECX **27** 12:59:19.8±0.6, 32.52N×115.64W, h4km, MD2.8, ML3.0*
ISC 27 12:59:18.1±0.9, 32.51N±0.02×115.62W±0.02, h17km±7km, n28, σ0§65/40, 5C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGL	**Mount Signal**	**0.17**	**329**	⇓*i*P		**Pg**	**12 59 22.5**	**0.0**
ERPC	**Ernies Place**	**0.24**	**351**	⇓*i*P		**Pb**	**12 59 24.2**	**+0.2**
WESC	**Westside Schoo**	**0.27**	**340**	*e*P		**Pb**	**12 59 24.6**	**+0.1**
WESC				*e*S		**Sb**	**12 59 28.7**	**-0.1**
CPBX	**Cerro Prieto**	**0.28**	**108**	*e*P		**Pb**	**12 59 25.0**	**+0.4**
CPBX				*e*S		**Sg**	**12 59 28.0**	**-0.4**
CPBX	**Cerro Prieto**	**0.28**	**108**	*e*Pn		**Pb**	**12 59 25.1**	**+0.4**
CPBX				*e*S		**Sb**	**12 59 29.9**	**+0.8**
CPBX				⇓*e*			12 59 32.5	
CPBX				IAML			12 59 32.5	
	comp=N,4μm,0.2s							
YUH	**Yuha Desert**	**0.29**	**299**	⇓*i*P		**Pg**	**12 59 24.6**	**+0.2**
DREC	**Desert Rsrch C**	**0.33**	**26**	*e*P		**Pb**	**12 59 26.0**	**+0.4**
COK	**Cook Ranch**	**0.35**	**345**	⇓*i*P		**Pb**	**12 59 26.2**	**+0.3**
RMX	**La Rumorosa**	**0.40**	**284**	*e*P		**Pg**	**12 59 26.6**	**+0.3**
RMX				*e*S		**Sg**	**12 59 32.1**	**+0.2**
CRR	**Carrizo Plain**	**0.48**	**322**	⇓*i*P		**Pg**	**12 59 28.1**	**+0.3**
EMSC	**East Mesa**	**0.58**	**66**	⇓*i*P		**Pb**	**12 59 30.2**	**+0.3**
RDX	**Rancho Dawling**	**0.64**	**205**	⇓*e*P		**Pg**	**12 59 30.9**	**+0.2**
RDX				IAML			12 59 42.5	
	comp=N,578nm,0.6s							
RDX				*e*			12 59 42.5	
GLA	**Glamis**	**0.86**	**51**	*e*Pg		**Pb**	**12 59 33.7**	**-1.0**
GLA				*e*Sg		**Sb**	**12 59 44.8**	**-1.1**
CBX	**Cerro Bola**	**0.90**	**258**	*e*P		**Pb**	**12 59 35.0**	**-0.4**
CBX	**Cerro Bola**	**0.90**	**258**	⇓*e*P		**Pb**	**12 59 35.7**	**+0.4**
CBX				*e*S		**Sb**	**12 59 47.7**	**+0.5**
CBX				IAML			12 59 51.2	
	comp=E,893nm,0.4s							
CBX				⇓*e*			12 59 51.2	
BAR	**Barrett**	**0.91**	**281**	⇓*i*P		**Pb**	**12 59 35.6**	**+0.3**
ZAX	**El Zacaton**	**1.13**	**209**	*e*P		**Pb**	**12 59 39.8**	**+0.5**
ZAX				*e*S		**Sn**	**12 59 54.8**	**+0.3**
ECBX	**El Chinero**	**1.14**	**155**	*e*Pn		**Pb**	**12 59 39.5**	**+0.2**
ECBX				*e*S		**Sg**	**12 59 55.0**	**+0.1**
SDRC	**San Diego Road**	**1.14**	**282**	*e*P		**Pb**	**12 59 39.5**	**+0.2**
ECNX	**Esteban Cantu**	**1.18**	**225**	*e*P		**Pg**	**12 59 40.8**	**-0.2**
PBX	**Punta Banda**	**1.21**	**231**	*e*P		**Pb**	**12 59 41.0**	**+0.5**
PFO	**Pinyon Flats O**	**1.31**	**328**	*e*Pn		**Pn**	**12 59 40.6**	**-1.1**
PFO				*e*Sg		**Sb**	**12 59 59.7**	**+0.9**
SPIG	**San Pedro Mart**	**1.46**	**175**	*e*P		**Pn**	**12 59 43.6**	**-0.3**
SPIG				*e*S		**Sn**	**13 00 02.3**	**-0.6**
SPIG	**San Pedro Mart**	**1.46**	**175**	*e*P		**Pn**	**12 59 43.6**	**-0.3**
SPIG				*e*S		**Sn**	**13 00 02.3**	**-0.6**
SPX	**San Pedro Mart**	**1.46**	**175**	*e*S		**Sg**	**13 00 05.5**	**+0.2**
SPX				IAML			13 00 07.8	
	comp=E,110nm,0.3s							
SPX				*e*			13 00 07.8	
214A	**Organ Pipe Nat**	**2.44**	**102**	*e*Pn		**Pn**	**12 59 56.2**	**-1.0**
214A				*e*Pg		**Pg**	**13 00 05.5**	**+0.6**
LDFC	**Landfair**	**2.60**	**9**	*e*Pg		**Pg**	**13 00 10.4**	**+2.4**
GSC	**Goldstone, Bar**	**2.96**	**341**	*e*Pg		**Pg**	**13 00 14.8**	**0.0**

*IDC **27** 13:01:33.6±0.4, 9.05S×160.82E, h0km, mb4.7/21, mb1 4.8/21, mb1mx4.8/25, mbtmp4.7/21, MS4.5/22, Ms1 4.5/22, ms1mx4.4/26, Error ellipse: s-maj=14.1km s-min=10.9km az=120.0*
*GCMT **27** 13:01:39.4±0.2, 8.69S×161.20E, h34km±1km, MW5.1/64, Moment Tensor Solution. s55,c68; s64,c83; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.72±.19; Mθθ-1.00±.12; Mϕϕ-2.72±.14; Mrθ-2.59±.21; Mθϕ1.65±.10; Mϕr2.60±.18; Best double couple: Mo5.22500×10^16 NP1:ϕs319.00000°, δ67.00000°, λ83.00000°. NP2: ϕs158.00000°, δ24.00000°, λ107.00000°. Principal axes: T 5.2760, Plg67.0000°, Azm216.0000°; N -0.1000, Plg7.0000°, Azm322.0000°; P -5.1730, Plg22.0000°, Azm55.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 13:01:39.4±0.2, 8.87S×160.86E, h35km, mb5.0/64 Error ellipse: s-maj=6.5km s-min=4.9km az=134.0*
NEIC Felt at Auki.
*MOS **27** 13:01:41.9±1.6, 8.81S×160.83E, h65km, mb5.1/22, MS4.7/12, Error ellipse: s-maj=11.6km s-min=9.6km az=102.8*
*BJI **27** 13:01:44.0, 8.67S×160.42E, h64km, mb4.9/55, mB5.0/39, Ms4.8/45, Ms7 4.5/45*
*ISCJB **27** 13:01:45.2±0.2, 9.03S±0.04×160.72E±0.03, h100km, mb4.8/97, Error ellipse: s-maj=5.7km s-min=4.2km az=161.0*
ISC 27 13:01:43.2±0.3, 9.00S±0.04×160.87E±0.05, h69km±2km, h68km:pP-P, n305, σ1§49/344, mb4.9/101, 4C-4D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.01**	**244**	*e*Pn		**Pn**	**13 02 00.4**	**-1.3**
HNR				*e*Sn		**Sn**	**13 02 17.4**	**+2.0**
PMG	**Port Moresby**	**13.54**	**267**	*e*P		**Pn**	**13 04 54.6**	**+2.3**
PMG				pmax		pmax		
	comp=Z,225nm,1.2s							
PMG	**Port Moresby**	**13.54**	**267**	Pn		**Pn**	**13 04 51.2**	**-1.1**
DZM	**Mont Dzumac**	**14.06**	**158**	Pn		**Pn**	**13 04 60.0**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=261,slow=13,SNR=12							
DZM				Sn		**Sn**	**13 07 30.0**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=270,slow=20,SNR=2.7							
DZM				LR		LR	13 09 53.7	
	comp=Z,3μm,20.0s,baz=0.0,slow=36							
TARA	**Tarawa**	**15.81**	**50**	*e*Pn		Pn	13 05 15.2	-6.6
	comp=Z,82nm,0.4s							
CTA	**Charters Tower**	**17.92**	**230**	P		**Pn**	**13 05 51.1**	**+3.3**
	comp=Z,2.9nm,0.3s,baz=51,slow=11,SNR=34							
CTA	**Charters Tower**	**17.92**	**230**	P		**Pn**	**13 05 51.1**	**+3.3**
CTA				pmax		pmax		
	comp=Z,3.0nm,0.3s							
CTAO	**Charters Tower**	**17.92**	**230**	*e*P		**Pn**	**13 05 49.8**	**+2.0**
COEN	**Coen**	**18.02**	**252**	*e*P		**Pn**	**13 05 50.3**	**+1.2**
	comp=Z,37nm,1.7s							
EIDS	**Eidsvold**	**18.76**	**209**	*e*P		**Pn**	**13 05 58.9**	**+1.0**
	comp=Z,42nm,0.9s							
MSVF	**Nonsavu**	**18.82**	**119**	*e*P		**Pn**	**13 05 58.8**	**0.0**
	comp=Z,84nm,1.2s							
KWAJ	**Kwajalein Atol**	**18.91**	**21**	*e*P		**P**	**13 05 58.7**	**+0.2**
JAY	**Jayapura**	**21.06**	**287**	P		**P**	**13 06 21.7**	**-0.2**
	comp=Z,112nm,1.0s							
JAY	**Jayapura**	**21.06**	**287**	P		**P**	**13 06 19.6**	**-2.2**
	comp=Z,90nm,0.9s,baz=50,slow=2.8,SNR=16							
JAY				LR		LR	13 16 10.3	
	comp=Z,2μm,18.3s,baz=74,slow=42							
JAY	**Jayapura**	**21.06**	**287**	P		**P**	**13 06 19.7**	**-2.2**
JAY				pmax		pmax		
	comp=Z,90nm,0.9s							
JAY				MLR		MLR		
	comp=Z,2μm,18.3s							
GENI	**Genyem**	**21.54**	**286**	P		**P**	**13 06 26.8**	**-0.2**
	comp=Z,111nm,1.2s,comp=Z,6μm							
ARMA	**Armidale**	**23.00**	**201**	*e*P		**P**	**13 06 40.4**	**-2.0**
	comp=Z,68nm,1.2s							
SMPI	**Sarmi**	**23.11**	**286**	P		**P**	**13 06 43.3**	**-0.3**
	comp=Z,55nm,1.2s							
SRPI	**Serui, Papua**	**25.50**	**285**	P		**P**	**13 07 05.9**	**+0.5**
	comp=Z,106nm,0.8s							
GUMO	**Guam**	**27.49**	**325**	LR		LR	13 19 33.2	
	comp=Z,462nm,18.1s,baz=151,slow=39							
RKPI	**Ransiki, Papua**	**27.58**	**284**	P		**P**	**13 07 25.9**	**+1.8**
	comp=Z,34nm,1.0s,comp=Z,2μm							
WRAB	**Tennant Creek**	**27.84**	**244**	P		**P**	**13 07 26.8**	**+0.4**
	comp=Z,508nm,0.8s,SNR=19							
WRAB	**Tennant Creek**	**27.84**	**244**	*c i*P		**P**	**13 07 26.1**	**-0.3**
WRAB				pmax		pmax		
	comp=Z,181nm,1.4s							
WRAB	**Tennant Creek**	**27.84**	**244**	*e*P		**P**	**13 07 25.8**	**-0.6**
	comp=Z,63nm,0.8s							
WRA	**Warramunga Arr**	**27.85**	**244**	P		**P**	**13 07 26.3**	**-0.2**
	comp=Z,55nm,0.8s,baz=70,slow=9.3,SNR=62							
WRA				PcP		**PcP**	**13 10 41.5**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=66,slow=3.2,SNR=4.0							
WRA				S		**S**	**13 12 07.4**	**+2.3**
	comp=Z,13nm,1.1s,baz=70,slow=14,SNR=8.8							
WRA				ScP		**ScP**	**13 14 21.6**	**+5.4**
	comp=Z,1.6nm,0.5s,baz=73,slow=3.6,SNR=14							
WRA				LR		LR	13 18 54.5	
	comp=Z,2μm,18.3s,baz=70,slow=38							
WRA	**Warramunga Arr**	**27.85**	**244**	*i* P		**P**	**13 07 23.1**	**-3.4**
WRA				pmax		pmax		
	comp=Z,55nm,0.7s							
H11S2	**WAKE ISLAND Hy**	**27.91**	**12**	T		T	13 36 22.8	
	baz=194,slow=76,SNR=93							
H11S3	**WAKE ISLAND Hy**	**27.91**	**12**	T		T	13 36 20.8	
	baz=194,slow=76,SNR=110							
H11S1	**WAKE ISLAND Hy**	**27.93**	**12**	T		T	13 36 24.6	
	baz=194,slow=76,SNR=68							
STKA	**Stephens Creek**	**28.96**	**215**	P		**P**	**13 07 36.2**	**0.0**
	comp=Z,17nm,0.6s,baz=53,slow=12,SNR=19							
STKA				ScP		**ScP**	**13 14 24.0**	**+4.7**
	comp=Z,4.4nm,0.9s,baz=326,slow=7.9,SNR=4.0							
STKA				LR	

	comp=Z,85nm,2.1s								
PPT	**Papeete**	**48.86**	**105**	LR	LR	13 27 46.0			
	comp=Z,253nm,18.5s,baz=292,slow=32								
PPT2	**Papeete2**	**48.86**	**105**	*e*S	S	13 17 29.9	+8.6		
	comp=Z,319nm,25.2s								
PPT2				*e*LQ	LQ	13 22 17.6			
	comp=Z,679nm,23.5s								
PPT2				*e*LR	LR	13 24 24.8			
	comp=Z,798nm,25.5s,baz=274								
TBI	**Tubuai**	**49.55**	**113**	*e*S	**S**	**13 17 36.5**	**+5.9**		
	comp=Z,249nm,26.5s								
TBI				*e*LQ	LQ	13 22 35.0			
	comp=Z,2µm,30.0s								
TBI				*e*LR	LR	13 24 43.6			
	comp=Z,767nm,28.5s,baz=280								
SBUM	**Sibu**	**49.80**	**281**	*e*P	**P**	**13 10 28.6**	**-0.9**		
	comp=Z,6.5nm,0.9s								
MJAR	**Matsushiro Arr**	**50.05**	**336**	P	**P**	**13 10 29.8**	**-1.3**		
	comp=Z,1.6nm,0.6s,baz=173,slow=9.3,SNR=7.6								
MJAR				LR	LR	13 30 18.5			
	comp=Z,176nm,21.6s,baz=175,slow=34								
MAJO	**Matsushiro**	**50.06**	**336**	*e*P	**P**	**13 10 29.4**	**-1.6**		
MAJO				pmax	pmax				
	comp=Z,73nm,1.8s								
MAJO	**Matsushiro**	**50.06**	**336**	*e*P	**P**	**13 10 29.5**	**-1.6**		
	comp=Z,10nm,0.9s								
MAT	**Matsushiro**	**50.06**	**336**	P	**P**	**13 10 29.1**	**-2.0**		
MAT				S	**S**	**13 17 37.2**	**0.0**		
YULB	**Yu-li**	**50.33**	**311**	*e*P	**P**	**13 10 33.0**	**-0.4**		
	comp=Z,12nm,0.8s								
SSLB	**Suanglung**	**50.82**	**311**	*e*P	**P**	**13 10 35.3**	**-1.7**		
	comp=Z,20nm,1.0s								
YHNB	**Yeheng**	**51.02**	**312**	*e*P	**P**	**13 10 38.6**	**0.0**		
	comp=Z,25nm,0.9s								
KSM	**Kuching**	**51.44**	**279**	*e*P	P	13 10 37.8	-4.1		
	comp=Z,11nm,0.9s								
QZH	**Quanzhou**	**53.24**	**310**	⇓P	**P**	**13 10 53.5**	**-1.5**		
QZH				LZ					
	comp=Z,720nm,16.7s								
YUK	**Yuzh-Kuril'sk**	**54.51**	**347**	*e*P	**P**	**13 11 04.2**	**+0.3**		
YUK				*e**PP	**pP**	**13 11 21.8**	**+0.2**		
YUK				*i*		13 13 02.3			
YUK				*e*PPP	PPP	13 14 16.3			
YUK				*e*S	**S**	**13 18 37.3**	**-0.5**		
YUK				*i **SS	**sS**	**13 19 08.6**	**+0.8**		
ASAJ	**Asahikawa**	**55.40**	**344**	LR	LR	13 32 15.7			
	comp=Z,1µm,21.9s,slow=33								
ASAJ	**Asahikawa**	**55.40**	**344**	*e*P	**P**	**13 11 09.9**	**-0.4**		
	comp=Z,6.3nm,1.0s								
KSRS	**Korea Array**	**55.55**	**328**	P	**P**	**13 11 11.4**	**-0.2**		
	comp=Z,5.4nm,1.0s,baz=142,slow=7.9,SNR=20								
KSRS				LR	LR	13 32 56.3			
	comp=Z,255nm,21.2s,baz=128,slow=34								
KSAR	**Wonju Array Be**	**55.56**	**328**	P	**P**	**13 11 11.4**	**-0.2**		
NJ2	**Nanjing**	**57.23**	**317**	*e*P	**P**	**13 11 23.5**	**-0.1**		
NJ2				PMZ					
	comp=Z,20nm,1.0s								
QIZ	**Qiongzhong**	**57.49**	**299**	P	**P**	**13 11 25.5**	**-0.2**		
QIZ				pP	**pP**	**13 11 41.3**	**-2.2**		
QIZ				sP	**sP**	**13 11 48.5**	**-2.7**		
QIZ				S	**S**	**13 19 18.0**	**-0.3**		
QIZ				sS	**sS**	**13 19 46.3**	**-2.2**		
QIZ				ScS	**ScS**	**13 21 09.0**	**-0.4**		
QIZ				LN					
	comp=Z,210nm,19.6s								
QIZ				LZ					
	comp=Z,400nm,17.9s								
YSS	**Yuzh-Sakhalins**	**57.99**	**345**	*e*P	**P**	**13 11 28.0**	**-0.6**		
YSS				*e*S	**S**	**13 19 28.0**	**+4.1**		
YSS				MLR	MLR				
	comp=N,1µm,18.0s								
YSS				MLR	MLR				
	comp=Z,1µm,18.0s								
YSS				MLR	MLR				
	comp=E,800nm,16.0s								
YSS	**Yuzh-Sakhalins**	**57.99**	**345**	*e*P	**P**	**13 11 28.2**	**-0.4**		
	comp=E,13nm,0.8s								
TAOE	**Nuku Hiva Isla**	**58.21**	**95**	*e*T	T	14 14 09.7			
	comp=E,442nm,0.3s								
USRK	**Ussuriysk Ar.**	**59.05**	**336**	P	**P**	**13 11 36.2**	**+0.1**		
	comp=E,14nm,0.8s,baz=158,slow=6.5,SNR=14								
USRK				LR	LR	13 34 45.8			
	comp=E,247nm,21.3s,baz=131,slow=34								
MDJ	**Mudanjiang**	**60.38**	**335**	P	**P**	**13 11 46.8**	**+1.6**		
MDJ				pP	**pP**	**13 12 04.0**	**+0.8**		
MDJ				sP	**sP**	**13 12 10.3**	**-0.6**		
MDJ				S	**S**	**13 19 58.5**	**+3.7**		
MDJ				PMZ					
	comp=E,20nm,1.0s								
MDJ				PMZ					
	comp=E,42nm,6.2s								
MDJ				LN					
	comp=E,300nm,25.2s								
MDJ				LE					
	comp=E,280nm,21.9s								
MDJ				LZ					
	comp=E,300nm,18.6s								
MDJ	**Mudanjiang**	**60.38**	**335**	*e*P	**P**	**13 11 42.7**	**-2.5**		
	comp=E,52nm,1.5s								
HABR	**Khabarovsk**	**61.59**	**341**	*e*P	**P**	**13 11 51.2**	**-2.1**		
HABR				*e**PP	**pP**	**13 12 09.6**	**-1.7**		
HABR				*e**SP	**sP**	**13 12 17.5**	**-1.5**		
HABR				*e*		13 12 31.9			
HABR						13 14 07.9			
HABR				*e*PPP	PPP	13 15 33.7			
HABR				*e*S	**S**	**13 20 08.1**	**-1.9**		
HABR				*e*		13 20 29.8			
HABR				*e**SS	**sS**	**13 20 40.0**	**-0.6**		
HABR				*e*		13 21 35.3			
HABR				*e*SS	**SS**	**13 24 11.7**	**-0.9**		
HABR				pmax	pmax				
	comp=Z,39nm,2.0s								
HABR				MLR	MLR				
	comp=Z,374nm,17.0s								
CN2	**Changchun**	**61.59**	**332**	⇓P	**P**	**13 11 56.0**	**+2.6**		
CN2				*e*pP	**pP**	**13 12 13.8**	**+2.3**		
CN2				*e*S	**S**	**13 20 13.0**	**+2.7**		
CN2				PMZ					
	comp=Z,30nm,1.0s								
CN2				PMZ					
	comp=Z,200nm,3.0s								
CN2				LN					
	comp=Z,200nm,20.0s								
CN2				LE					
	comp=Z,200nm,20.0s								
CN2				LZ					
	comp=Z,200nm,20.0s								
PET	**Petropavlovsk**	**61.80**	**358**	*e*P	**P**	**13 11 53.2**	**-1.4**		
PET				*e*S	**S**	**13 20 14.3**	**+1.7**		
PET				pmax	pmax				
	comp=Z,33nm,1.5s								
SKNT	**Sakolnakorn**	**61.88**	**295**	P	**P**	**13 11 56.6**	**+0.7**		
	comp=Z,26nm,1.7s								
PETK	**Petropavlovsk-**	**61.92**	**358**	P	**P**	**13 11 54.6**	**-0.8**		
	comp=Z,6.1nm,0.7s,baz=162,slow=6.1,SNR=6.4								
PETK				LR	LR	13 34 30.3			
	comp=Z,509nm,21.6s,baz=165,slow=32								
RKT	**Rikitea**	**62.80**	**111**	*e*LR	LR	13 30 47.9			
	comp=Z,842nm,26.2s								
ENH	**Enshi**	**62.90**	**311**	*e*P	**P**	**13 12 02.4**	**-0.1**		
NONG	**Nongkai**	**63.00**	**295**	P	**P**	**13 12 03.9**	**+0.6**		
	comp=Z,16nm,0.9s								
GYA	**Guiyang**	**63.31**	**306**	*e*P	**P**	**13 12 06.0**	**+0.6**		
GYA				pP	**pP**	**13 12 24.8**	**+1.3**		
GYA				sP	**sP**	**13 12 33.3**	**+2.1**		
GYA				PP	**PP**	**13 14 28.5**	**+3.0**		
GYA				S	**S**	**13 20 31.5**	**-1.3**		
GYA				sS	**sS**	**13 21 02.0**	**-1.5**		
GYA				PMZ					
	comp=Z,20nm,1.0s								
GYA				PMZ					
	comp=Z,120nm,5.0s								
GYA				LN					
	comp=Z,480nm,19.6s								
GYA				LE					
	comp=Z,430nm,20.2s								
GYA				LZ					
	comp=Z,460nm,19.8s								
KLR	**Kul'dur**	**63.36**	**339**	*e*P	P	13 12 00.0	-5.1		
KLR				pmax	pmax				
	comp=E,28nm,1.6s								
KLR				pmax	pmax				
	comp=Z,68nm,1.6s								
BJI	**Beijing**	**63.92**	**323**	P	**P**	**13 12 08.8**	**-0.2**		
BJI				pP	**pP**	**13 12 25.5**	**-1.6**		
BJI				sP	**sP**	**13 12 32.5**	**-2.3**		
BJI				S	**S**	**13 20 41.0**	**+1.4**		
BJI				PMZ					
	comp=Z,15nm,0.5s								
BJI				PMZ					
	comp=Z,54nm,3.2s								
BJI				LN					
	comp=Z,370nm,18.1s								
BJI				LE					
	comp=Z,230nm,20.1s								
BJI				LZ					
	comp=Z,260nm,20.1s								
PBKT	**Sadao Pong**	**64.46**	**293**	P	**P**	**13 12 14.7**	**+1.7**		
	comp=Z,8.9nm,1.6s								
LOEI	**Loei**	**64.50**	**294**	P	**P**	**13 12 11.4**	**-1.8**		
	comp=Z,9.7nm,1.4s								
UTTA	**Uttaradit**	**65.22**	**294**	P	**P**	**13 12 20.7**	**+2.8**		
	comp=Z,3.0nm,1.1s								
XAN	**Xi'an**	**65.22**	**314**	P	**P**	**13 12 17.3**	**-0.4**		
XAN				PMZ					
	comp=Z,3.0nm,1.0s								
XAN				PMZ					
	comp=Z,27nm,7.0s								
UTHA	**Uthaitani**	**65.54**	**292**	P	P	13 12 25.8	+5.8		
KMI	**Kunming**	**65.97**	**303**	⇑P	**P**	**13 12 23.8**	**+0.9**		
KMI				pP	**pP**	**13 12 41.3**	**+0.2**		
KMI				sP	**sP**	**13 12 50.3**	**+1.6**		
KMI				PP	**PP**	**13 14 49.3**	**+0.3**		
KMI				S	**S**	**13 21 05.0**	**-0.8**		
KMI				PMZ					
	comp=Z,25nm,1.0s								
KMI				PMZ					
	comp=Z,120nm,3.1s								
KMI				LN					
	comp=Z,160nm,17.6s								
KMI				LE					
	comp=Z,170nm,17.6s								
KMI				LZ					
	comp=Z,170nm,20.4s								
LAMP	**Lampang**	**66.30**	**295**	P	**P**	**13 12 27.3**	**+2.5**		
	comp=Z,6.3nm,0.7s								
CM31	**Chiang Mai Arr**	**66.89**	**294**	*e*P	**P**	**13 12 29.0**	**+0.3**		
	comp=Z,2.5nm,0.5s								
CMAR	**Chiang Mai Arr**	**66.89**	**294**	P	**P**	**13 12 29.2**	**+0.6**		
	comp=Z,5.5nm,0.7s,baz=122,slow=4.9,SNR=28								
CMAR				LR	LR	13 40 33.1			
	comp=Z,102nm,20.7s,baz=108,slow=35								
CMAR	**Chiang Mai Arr**	**66.89**	**294**	*ce*P	**P**	**13 12 29.1**	**+0.4**		
CMAR				pmax	pmax				
	comp=Z,6.0nm,0.7s								
CMMT	**Chiang Mai**	**67.00**	**295**	P	**P**	**13 12 29.8**	**+0.4**		
	comp=Z,19nm,1.8s								
CHTO	**Chiang Mai**	**67.01**	**295**	P	**P**	**13 12 29.9**	**+0.5**		
	comp=Z,64nm,1.9s								
CHTO	**Chiang Mai**	**67.01**	**295**	*e*P	**P**	**13 12 28.0**	**-1.4**		
	comp=Z,33nm,1.5s								
HHC	**Hu-ho-hao-te**	**67.21**	**321**	*e*P	P	13 12 34.0	+3.7		
HHC				PP	**PP**	**13 15 02.3**	**+2.9**		
HHC				S	**S**	**13 21 20.5**	**+0.5**		
HHC				sS	sS	13 21 48.3	-2.6		
HHC				ScS	**SKSac**	**13 22 20.5**	**-1.4**		
HHC				PMZ					
	comp=Z,17nm,1.2s								
HHC				PMZ					
	comp=Z,82nm,6.5s								
HHC				LN					
	comp=Z,240nm,16.8s								
HHC				LE					
	comp=Z,250nm,16.4s								
HHC				LZ					
	comp=Z,260nm,16.5s								
CD2	**Chengdu**	**67.56**	**309**	*e*P	**P**	**13 12 31.0**	**-1.7**		
CD2				pP	**pP**	**13 12 49.3**	**-1.7**		
CD2				PcP	**PcP**	**13 12 57.5**	**-2.0**		
CD2				PP	**PP**	**13 15 00.5**	**-2.1**		
CD2				S	**S**	**13 21 22.8**	**-1.7**		
CD2				SKS	**SKiKP**	**13 22 22.3**	**-2.4**		
CD2				SS	**SS**	**13 25 45.5**	**-1.1**		
CD2				PMZ					
	comp=Z,20nm,0.5s								
CD2				PMZ					
	comp=Z,150nm,5.2s								
CD2				LN					
	comp=Z,320nm,14.7s								
CD2				LE					
	comp=Z,220nm,19.1s								
CD2				LZ					
	comp=Z,260nm,22.5s								
HIA	**Hailar**	**68.28**	**332**	*e*P	**P**	**13 12 38.5**	**+1.7**		
HIA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
HIA	**Hailar**	**68.28**	**332**	P	**P**	**13 12 36.3**	**-0.6**		
	comp=Z,6.4nm,0.4s								
VNDA	**Vanda**	**68.50**	**180**	P	**P**	**13 12 37.5**	**-0.3**		
	comp=Z,2.7nm,0.7s,baz=338,slow=5.8,SNR=12								
VNDA				LR	LR	13 37 45.9			
	comp=Z,384nm,20.4s,baz=0.5,slow=32								
VNDA	**Vanda**	**68.50**	**180**	*e*P	**P**	**13 12 37.4**	**-0.3**		
	comp=Z,3.6nm,0.8s								
SBA	**Scott Base**	**68.90**	**179**	*e*P	**P**	**13 12 40.8**	**+0.6**		
	comp=Z,43nm,2.1s								
LZH	**Lanzhou**	**69.85**	**314**	*e*P	**P**	**13 12 48.8**	**+1.8**		
LZH				pP	**pP**	**13 13 06.0**	**+0.6**		
LZH				sP	**sP**	**13 13 12.8**	**-0.2**		
LZH				*e*S	**S**	**13 21 54.5**	**+2.8**		
LZH				PMZ					
	comp=Z,43nm,1.0s								
LZH				PMZ					
	comp=Z,92nm,4.0s								
LZH				LN					
	comp=Z,380nm,15.5s								
LZH				LE					
	comp=Z,270nm,18.9s								
LZH				LZ					
	comp=Z,580nm,19.8s								
SEY	**Seymchan**	**72.01**	**356**	*e*P	**P**	**13 12 57.4**	**-1.9**		
GTA	**Gaotai**	**74.21**	**315**	⇑P	**P**	**13 13 14.0**	**+1.0**		
GTA				pP	**pP**	**13 13 32.3**	**+0.8**		
GTA				sP	**sP**	**13 13 41.8**	**+2.7**		
GTA				S	**S**	**13 22 43.5**	**+2.1**		
GTA				SKS	**SKSac**	**13 23 10.8**	**-4.1**		
GTA				PMZ					
	comp=Z,20nm,1.3s								
GTA				PMZ					
	comp=Z,91nm,6.7s								
GTA				LN					
	comp=Z,120nm,19.5s								
GTA				LE					
	comp=Z,270nm,17.6s								
GTA				LZ					
	comp=Z,300nm,17.1s								
SONM	**Songino Array**	**74.22**	**325**	P	**P**	**13 13 13.5**	**+0.7**		
	comp=Z,7.1nm,0.8s,baz=143,slow=5.9,SNR=13								
SONM				LR	LR	13 46 52.5			
	comp=Z,156nm,18.7s,baz=100,slow=37								
SONM	**Songino Array**	**74.22**	**325**	P	**P**	**13 13 13.5**	**+0.7**		
SONM				pmax	pmax				
	comp=Z,7.0nm,0.8s								
SONM				MLR	MLR				
	comp=Z,156nm,18.7s								
YAK	**Yakutsk**	**74.85**	**345**	*e*P	**P**	**13 13 15.2**	**-0.7**		
YAK				pmax	pmax				
	comp=Z,15nm,1.0s								
YAK	**Yakutsk**	**74.85**	**345**	*e*P	**P**	**13 13 14.5**	**-1.5**		
	comp=Z,24nm,0.9s								
SHL	**Shillong**	**75.33**	**299**	*e*P	**P**	**13 13 19.0**	**-0.8**		
BOD	**Bodaibo**	**76.69**	**336**	*e*P	**P**	**13 13 27.1**	**+0.5**		
BOD				pmax	pmax				
	comp=Z,14nm,1.3s								
BILL	**Bilibino**	**76.94**	**2d**	*i*P	**P**	**13 13 27.0**	**-0.8**		
BILL				*e*		13 13 36.9			
BILL				pmax	pmax				
	comp=Z,28nm,1.7s								
BILL				MLR	MLR				
	comp=Z,295nm,20.0s								
BILL	**Bilibino**	**76.94**	**2**	*e*P	**P**	**13 13 27.0**	**-0.8**		
LSA	**Lhasa**	**77.21**	**303**	P	**P**	**13 13 30.3**	**-0.4**		
LSA	**Lhasa**	**77.21**	**303**	*e*P	**P**	**13 13 31.9**	**+1.2**		
	comp=Z,8.4nm,0.8s								
ZAK	**Zakamensk**	**77.31**	**326**	*e*P	**P**	**13 13 30.2**	**-0.2**		
ZAK				pmax	pmax				
	comp=Z,16nm,1.2s								
SVW2	**Sparrevohn**	**77.76**	**20**	*e*P	**P**	**13 13 33.1**	**+0.6**		
	comp=Z,18nm,0.8s								
IRK	**Irkutsk**	**77.77**	**328**	*e*P	**P**	**13 13 34.9**	**+2.1**		
IRK				pmax	pmax				
	comp=Z,34nm,1.2s								
TLY	**Talaya**	**77.80**	**328**	*e*P	**P**	**13 13 33.3**	**+0.3**		
TLY				pmax	pmax				
	comp=Z,15nm,1.7s								
TLY	**Talaya**	**77.80**	**328**	*e*P	**P**	**13 13 31.8**	**-1.1**		
	comp=Z,20nm,1.0s								
MOY	**Mondy**	**79.21**	**327**	*e*P	P	13 13 47.9	+7.0		
SEW	**Seward**	**79.30**	**23**	*e*P	**P**	**13 13 39.8**	**-1.2**		
	comp=Z,18nm,1.0s								
CHLP	**Challavanipeta**	**80.51**	**290**	*e*P	**P**	**13 13 48.1**	**-0.4**		
CAST	**Castle Rocks**	**80.56**	**20**	*e*P	**P**	**13 13 46.9**	**-0.9**		
	comp=Z,15nm,0.7s								
SML	**Sawmill**	**80.81**	**22**	*e*P	**P**	**13 13 48.7**	**-0.4**		
	comp=Z,2.6nm,0.9s								
QSPA	**South Pole Qui**	**80.99**	**180**	*e*P	**P**	**13 13 49.5**	**-0.8**		
	comp=Z,115nm,2.5s								
TRF	**Thorofare Moun**	**81.18**	**20**	*e*P	**P**	**13 13 49.8**	**-1.5**		
	comp=Z,14nm,0.8s								
BPAW	**Bear Paw Mtn.**	**81.38**	**19**	*e*P	**P**	**13 13 49.9**	**-2.2**		
	comp=Z,19nm,1.7s								
PALK	**Pallekele**	**81.50**	**279**	*i*P	**P**	**13 13 56.0**	**+2.1**		
BMRM	**Bremner River**	**81.72**	**24**	*e*P	**P**	**13 13 52.8**	**-1.2**		
	comp=Z,38nm,1.7s								
IM04	**Indian Mountai**	**81.81**	**17**	*e*P	**P**	**13 13 53.7**	**-0.6**		
MCK	**McKinley**	**81.82**	**20**	*e*P	**P**	**13 13 53.4**	**-1.1**		
	comp=Z,31nm,0.9s								
PVM	**Polavaram**	**82.51**	**289**	*e*P	**P**	**13 13 59.1**	**+0.1**		
PVM				IAmb	IAmb	13 13 59.8			
	comp=Z,66nm,1.8s								
PAX	**Paxson**	**82.58**	**22**	*e*P	**P**	**13 13 59.5**	**+1.0**		
	comp=Z,17nm,1.8s								
CCB	**Clear Creek Bu**	**82.79**	**20**	*e*P	**P**	**13 13 58.0**	**-1.4**		
	comp=Z,9.7nm,0.8s								
COLA	**College**	**82.92**	**20**	*e*P	**P**	**13 13 58.8**	**-1.3**		
HDA	**Harding Lake**	**82.92**	**20**	*e*P	**P**	**13 13 59.6**	**-0.6**		
	comp=Z,17nm,0.9s								
ILAR	**Eielson Array**	**83.17**	**20**	P	**P**	**13 14 00.1**	**-1.4**		
	comp=Z,6.3nm,0.7s,baz=248,slow=4.9,SNR=74								
ILAR				LR	LR	13 46 46.0			
	comp=Z,325nm,19.7s,baz=236,slow=33								
TIXI	**Tiksi**	**83.22**	**350**	*e*P	**P**	**13 14 00.7**	**-0.8**		
TIXI				pmax	pmax				
	comp=Z,9.0nm,1.7s								
TIXI				MLR	MLR				
	comp=Z,297nm,18.0s								
TIXI	**Tiksi**	**83.22**	**350**	*e*P	**P**	**13 14 00.2**	**-1.4**		
	comp=Z,4.9nm,0.7s								
H02N1	**VAN INLET T-PH**	**83.59**	**34**	T	T	14 46 01.0			
	SNR=2.9								
H02S1	**DAWSON INLET T**	**83.61**	**34**	T	T	14 46 03.6			
	SNR=51								
COLD	**Coldfoot**	**83.71**	**17**	*e*P	**P**	**13 14 04.3**	**+0.1**		
	comp=Z,4.5nm,1.0s								
WMQ	**Urumqi**	**84.27**	**316**	P	**P**	**13 14 07.5**	**-0.1**		
WMQ				pP	**pP**	**13 14 28.0**	**+1.5**		
WMQ				sP	**sP**	**13 14 36.5**	**+2.5**		
WMQ				PP	**PP**	**13 17 24.0**	**+0.8**		
WMQ				S	**SKSac**	**13 24 23.8**	**-1.6**		
WMQ				PMZ					
	comp=Z,19nm,1.8s								
WMQ				PMZ					
	comp=Z,140nm,4.2s								
WMQ				LN					
	comp=Z,220nm,10.4s								
WMQ				LE					
	comp=Z,78nm,7.6s								
WMQ				LZ					
	comp=Z,96nm,19.5s								
NJS	**Nagarjunasagar**	**84.55**	**288**	*e*P	**P**	**13 14 08.7**	**-0.8**		
NJS				IAmb	IAmb	13 14 10.1			
	comp=Z,33nm,0.9s								
RCLA	**Racherla**	**84.67**	**286**	*e*P	**P**	**13 14 09.2**	**-0.9**		
MAW	**Mawson**	**84.79**	**202**	P	**P**	**13 14 09.5**	**-0.1**		
	comp=Z,3.8nm,0.8s,baz=94,slow=7.3,SNR=5.7								
MAW				LR	LR	13 47 09.6			
	comp=Z,348nm,22.0s,baz=62,slow=32								
SRLM	**Srisailam**	**84.85**	**287**	*e*P	**P**	**13 14 09.6**	**-1.4**		
SRLM				IAmb	IAmb	13 14 11.7			
	comp=Z,51nm,1.0s								
SKAG	**Skagway**	**84.89**	**27**	*e*P	**P**	**13 14 09.8**	**-0.5**		
	comp=Z,24nm,1.2s								
RPR	**Rampur**	**85.00**	**290**	*e*P	**P**	**13 14 11.0**	**-0.7**		
EGAK	**Eagle**	**85.18**	**21**	*e*P	**P**	**13 14 11.8**	**+0.2**		
HYB	**Hyderabad**	**85.42**	**288**	*i*P	**P**	**13 14 12.0**	**-1.9**		
HYBB	**Hyderabad (bro**	**85.42**	**288**	*e*P	**P**	**13 14 12.7**	**-1.2**		
DAWY	**Dawson**	**85.45**	**22**	*e*P	**P**	**13 14 13.8**	**+0.7**		
N02D	**Trinity Center**	**85.75**	**48**	P	**P**	**13 14 15.9**	**+0.8**		
	baz=86								
M02C	**Callahan**	**85.76**	**47**	P	**P**	**13 14 15.9**	**+0.8**		
	baz=86								
SRSP	**Sriramsagar**	**85.89**	**290**	*e*P	**P**	**13 14 15.1**	**-1.1**		
SRSP				IAmb	IAmb	13 14 16.3			
	comp=Z,33nm,1.0s								
YBH	**Yreka Blue Hor**	**85.95**	**47**	*e*P	**P**	**13 14 15.2**	**-0.9**		
	comp=Z,7.6nm,0.9s								
HUMO	**Hull Mountain**	**86.02**	**46**	*e*P	**P**	**13 14 17.1**	**+0.8**		
	comp=Z,9.6nm,0.9s								
I03D	**Drain, OR**	**86.04**	**45**	P	**P**	**13 14 17.2**	**+0.8**		
	baz=86								
URV	**Uravakonda**	**86.19**	**286**	*e*P	**P**	**13 14 17.4**	**-0.3**		
G03D	**McMinnville, O**	**86.53**	**43**	P	**P**	**13 14 19.6**	**+0.9**		
	baz=87								
M04C	**Macdoel**	**86.60**	**47**	P	**P**	**13 14 20.1**	**+0.8**		
	baz=87								
I04A	**Tendick Farm,**	**86.72**	**45**	P	**P**	**13 14 20.3**	**+0.5**		
	baz=87								
J04D	**Umpqua Nationa**	**86.79**	**45**	P	**P**	**13 14 20.8**	**+0.5**		
	baz=87								
DLBC	**Dease Lake**	**86.95**	**29**	*e*P	**P**	**13 14 19.7**	**-0.9**		
VES	**Vestal, Richgr**	**87.24**	**53**	P	**P**	**13 14 22.7**	**+0.3**		
	baz=87								
ARVC	**Arvin**	**87.28**	**54**	P	**P**	**13 14 22.8**	**+0.2**		
	baz=87								
J05D	**Fort Rock, OR**	**87.42**	**46**	P	**P**	**13 14 23.9**	**+0.6**		
	baz=88								
K05A	**Summer Lake**	**87.52**	**46**	*e*P	**P**	**13 14 24.8**	**+1.0**		
ISA	**Isabella, Lake**	**87.69**	**54**	P	**P**	**13 14 24.8**	**+0.1**		
	baz=88								
ISA	**Isabella, Lake**	**87.69**	**54**	*e*P	**P**	**13 14 24.8**	**+0.1**		
	comp=Z,43nm,2.5s								
MWC	**Mount Wilson**	**87.71**	**55**	*e*P	**P**	**13 14 25.0**	**0.0**		
	comp=Z,15nm,0.9s								
MOD	**Modoc Plateau**	**87.74**	**47**	*e*P	**P**	**13 14 23.4**	**-1.5**		
	comp=Z,6.9nm,1.0s								
EDW2	**Edwards Air Fo**	**87.90**	**54**	P	**P**	**13 14 26.1**	**+0.4**		
	baz=88				

baz=90
LDFC Landfair 90.26 55 *e*P **P** 13 14 36.3 -0.5
comp=Z,22nm,1.0s
SHPR Sheep Range 90.48 53 *e*P **P** 13 14 37.5 -0.5
Y12C Blythe 90.49 56 P **P** 13 14 38.6 +0.8
baz=91
R11A Troy Canyon, C 90.50 51 P **P** 13 14 38.7 +0.8
baz=91
R11A Troy Canyon, C 90.50 51 *e*P **P** 13 14 38.4 +0.4
PDMCI Parker Dam,Lak 90.90 56 P **P** 13 14 40.6 +0.9
baz=91
H06E1 SOCORRO T-PHAS 91.17 71 T T 14 55 25.2
SNR=12
NEW Newport 91.37 41 P **P** 13 14 41.5 -0.1
baz=91
NEW Newport 91.37 41 *e*P **P** 13 14 41.1 -0.4
comp=Z,4.2nm,0.8s
KSH Kashi 91.75 310 P **P** 13 14 46.3 +2.6
KSH pP **pP** 13 15 02.5 -0.2
KSH sP **sP** 13 15 14.5 +4.3
KSH S **S** 13 25 39.0 -0.2
KSH SS **SS** 13 31 48.5 +0.2
KSH PMZ
comp=Z,63nm,4.2s
KSH LN
comp=Z,70nm,6.3s
KSH LE
comp=Z,98nm,5.2s
KURK Kurchatov 92.02 321 *d* P P 13 14 51.4 +7.0
CCUT Cedar City 92.08 52 *e*P **P** 13 14 46.5 +1.1
comp=Z,8.3nm,1.1s
HLID Hailey 92.33 46 P **P** 13 14 47.0 +0.6
baz=92
DUG Dugway, Tooele 92.94 50 P **P** 13 14 49.8 +0.6
baz=93
MVU Marysvale 93.14 52 *e*P **P** 13 14 51.1 +0.8
comp=Z,6.2nm,1.2s
MSU Marysvale 93.16 52 *e*P **P** 13 14 51.6 +1.2
comp=Z,8.4nm,1.2s
HVU Hansel Valley 93.22 48 *e*P **P** 13 14 51.0 +0.5
WUAZ Wupatki 93.34 55 P **P** 13 14 52.7 +1.5
baz=93
TUC Tucson 93.36 58 *e*P **P** 13 14 51.4 +0.2
comp=Z,29nm,2.6s
DLMT Dillon 93.91 45 *e*P **P** 13 14 53.8 +0.3
comp=Z,6.0nm,1.1s
HWUT Hardware Ranch 94.09 49 *e*P **P** 13 14 54.4 -0.2
comp=Z,3.2nm,0.6s
BOZ Bozeman (W) 94.62 45 P **P** 13 14 57.3 +0.5
baz=95
BOZ Bozeman (W) 94.62 45 *e*P **P** 13 14 57.4 +0.5
comp=Z,6.5nm,1.3s
FXWY Fox Creek 94.77 47 *e*P **P** 13 14 58.5 +0.9
comp=Z,3.2nm,0.8s
MOOW Moose Ponds 94.99 47 *e*P **P** 13 14 59.0 +0.4
comp=Z,2.1nm,0.8s
H17A Grant Village 95.19 46 *e*P **P** 13 15 01.6 +2.0
comp=Z,3.4nm,0.9s
YKA Yellowknife Ar 95.39 28 P **P** 13 14 58.7 -1.0
comp=Z,3.3nm,0.9s,baz=256,slow=4.8,SNR=12
YKA Yellowknife Ar 95.39 28 P **P** 13 14 58.7 -1.0
YKA pmax pmax
comp=Z,3.0nm,0.9s
BW06 Boulder Array 95.72 48 *e*P **P** 13 15 00.9 -1.1
comp=Z,4.1nm,0.9s
PDAR Pinedale Array 95.72 48 P **P** 13 15 01.9 -0.1
comp=Z,4.0nm,0.9s,baz=282,slow=1.1,SNR=25
PDAR LR LR 13 56 55.5
comp=Z,209nm,18.0s,baz=294,slow=35
EGMT Eagleton 96.20 42 P **P** 13 15 04.3 +0.4
baz=96
J21A Lysite 97.32 47 P **P** 13 15 09.3 +0.1
baz=97
J22A Midwest 98.03 47 P Pdif 13 15 13.0 +0.6
baz=98
E23A Ismay 99.08 44 P **Pdif** 13 15 17.7 +0.8
baz=99
TXAR Lajitas Array 99.08 62 P **Pdif** 13 15 17.4 +0.1
comp=Z,0.2nm,0.8s,baz=223,slow=8.7,SNR=3.0
TXAR LR LR 13 54 32.7
comp=Z,424nm,18.9s,baz=0.0,slow=32
B23A Brockton 99.41 42 P **Pdif** 13 15 18.6 +0.4
baz=100
H24A Dirks Ranch, A 99.51 46 P **Pdif** 13 15 18.8 0.0
baz=100
I25A Rochford 100.06 47 P **Pdif** 13 15 21.2 -0.2
baz=100
OBN Obninsk 116.55 328 *e*PKIKP **PKPdf** 13 20 20.0 +0.9
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN MLR MLR
comp=Z,234nm,22.0s
FINES FINESS Array B 118.08 337 PKP **PKPdf** 13 20 21.9 0.0
comp=Z,17nm,1.4s,baz=120,slow=3.1,SNR=4.9
FINES FINESS Array B 118.08 337 PKIKP **PKPdf** 13 20 21.9 0.0
FINES pmax pmax
comp=Z,17nm,1.4s
AKASG Malin Array Be 122.50 326 PKP **PKPdf** 13 20 30.8 +0.1
comp=Z,1.0nm,0.6s,baz=59,slow=2.1,SNR=4.3
AKASG Malin Array Be 122.50 326 PKIKP **PKPdf** 13 20 30.8 +0.1
AKASG pmax pmax
comp=Z,1.0nm,0.6s
BOSA Boshof 123.14 227 PKP **PKPdf** 13 20 33.0 +0.1
comp=Z,2.6nm,0.5s,baz=102,slow=2.7,SNR=11
BOSA Boshof 123.14 227 PKIKP **PKPdf** 13 20 33.0 +0.1
BOSA pmax pmax
comp=Z,3.0nm,0.5s
NB2 NORSAR Subarra 123.41 343 PKPdf **PKPdf** 13 20 31.8 -0.5
comp=Z,1.8nm,0.8s,baz=33,slow=1.8
NOA NORSAR Array B 123.41 343 PKP **PKPdf** 13 20 30.7 -1.6
comp=Z,1.5nm,0.9s,baz=49,slow=2.0,SNR=3.7
NOA NORSAR Array B 123.41 343 PKIKP **PKPdf** 13 20 30.7 -1.6
NOA pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 124.04 312 PKP **PKPdf** 13 20 34.0 -0.3
comp=Z,0.7nm,0.8s,baz=21,slow=2.0,SNR=4.0
BRTR PP **PP** 13 22 16.8 -2.2
comp=Z,0.4nm,0.5s,baz=112,slow=3.4,SNR=3.1
BRTR Keskin Array B 124.04 312 PKIKP **PKPdf** 13 20 34.0 -0.3
BRTR 13 22 16.8
BRTR pmax pmax
comp=Z,1.0nm,0.8s
LPAZ La Paz 125.39 117 PKP **PKPdf** 13 20 38.8 +0.7
comp=Z,0.8nm,0.5s,baz=302,slow=1.3,SNR=3.6
LPAZ La Paz 125.39 117 PKIKP **PKPdf** 13 20 38.8 +0.7
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
KOLS Kolonicke sedl 127.26 327 *e*PKIKP **PKPdf** 13 20 41.5 +1.5
KOLS Kolonicke sedl 127.26 327 *e*PKP **PKPdf** 13 20 41.5 +1.5
STHS Stebnicka Huta 127.53 328 *e*PKIKP **PKPdf** 13 20 41.8 +1.3
STHS Stebnicka Huta 127.53 328 *e*PKP **PKPdf** 13 20 41.8 +1.3
OKC Ostrava-Krasne 128.85 330 AMS AMS 14 19 00.0
comp=Z,200nm,19.0s
CPUP Villa Florida 128.92 135 PKP **PKPdf** 13 20 44.0 +0.2
comp=Z,3.6nm,1.0s,baz=203,slow=7.6,SNR=3.4
CPUP Villa Florida 128.92 135 PKIKP **PKPdf** 13 20 44.0 +0.2
CPUP pmax pmax
comp=Z,4.0nm,1.0s
DPC Dobruska-Polom 129.41 331 *e*PKPdf **PKPdf** 13 20 45.0 +0.9
DPC *ex* x 13 20 51.0
DPC *ep*PKP pPKPdf 13 20 54.4 -9.4
DPC *ex* x 13 21 10.1
DPC AMS AMS 14 16 50.0
comp=Z,300nm,18.1s
DPC Dobruska-Polom 129.41 331 *e*PKIKP **PKPdf** 13 20 45.0 +0.9
DPC *e* 13 21 10.1
DPC MLR MLR
comp=Z,300nm,18.1s
UPC Upice 129.44 332 *e*PKPdf **PKPdf** 13 20 43.1 -1.0
UPC *ex* x 13 20 50.4
UPC Upice 129.44 332 *e*PKIKP **PKPdf** 13 20 43.1 -1.0
PVCC Panska Ves 130.10 332 AMS AMS 14 21 30.0
comp=Z,500nm,18.4s
BRG Berggiesshubel 130.14 333 *e*PKP **PKPdf** 13 20 45.9 +0.5
comp=Z,4.4nm,1.2s
BRG *e* 13 20 51.4
comp=Z,6.2nm,1.2s
comp=N,205nm,15.8s
comp=E,163nm,24.3s
comp=Z,299nm,17.5s
BRG Berggiesshubel 130.14 333 *e*PKIKP **PKPdf** 13 20 45.9 +0.5
BRG pmax pmax
comp=Z,4.0nm,1.2s
BRG MLR MLR
comp=N,205nm,15.8s
BRG MLR MLR
comp=E,163nm,24.3s
BRG MLR MLR
comp=Z,299nm,17.5s
CLL Collm 130.24 334 *e*(PKPdf) **PKPdf** 13 20 44.0 -1.5
CLL Collm 130.24 334 *e*PKIKP **PKPdf** 13 20 44.0 -1.5
GOPC GO Pecny, Ondr 130.43 332 *e*SS SS 13 40 22.2 +0.1
GOPC AMS AMS 14 20 20.0
comp=Z,300nm,18.5s
PRU Pruhonice 130.49 332 *e*SS SS 13 40 21.8 -1.0
PRU AMS AMS 14 20 00.0
comp=Z,300nm,19.6s
TREC Trest 130.52 331 AMS AMS 14 19 40.0
comp=Z,400nm,20.0s
KHC Kasperske Hory 131.54 332 *e*PKPdf **PKPdf** 13 20 45.6 -2.5
KHC *ex* x 13 20 49.3
KHC *ex* x 13 20 53.8
KHC *e*SS SS 13 40 37.4 +1.6
KHC AMS AMS 14 19 20.0
comp=Z,400nm,19.3s
KHC Kasperske Hory 131.54 332 *e*PKIKP **PKPdf** 13 20 45.6 -2.5
KHC *e*SS SS 13 40 37.4 +1.6
KHC MLR MLR
comp=Z,400nm,19.3s
GERES GERESS Array B 131.68 331 PKP **PKPdf** 13 20 48.4 -0.1
comp=Z,0.3nm,0.5s,baz=98,slow=2.7,SNR=5.1
GERES SKPbc **SKiKP** 13 24 14.6 -5.1
comp=Z,1.3nm,0.9s,baz=46,slow=3.9,SNR=6.0
BDFB Brasilia 142.35 130 PKP **PKPdf** 13 21 09.2 0.0
comp=Z,3.0nm,0.6s,baz=160,slow=14,SNR=4.0
BDFB Brasilia 142.35 130 PKIKP **PKPdf** 13 21 09.2 0.0
BDFB pmax pmax
comp=Z,3.0nm,0.6s
KEST Kesra 142.83 320 PKP **PKPdf** 13 21 08.8 -0.6
comp=Z,1.0nm,1.0s,baz=43,slow=18,SNR=2.7
PBRG Braganca 145.54 344 *e*PKPdf **PKPbc** 13 21 14.3 +0.2
PBRG Braganca 145.54 344 *e*PKiKP **PKiKP** 13 21 21.4 +3.5
PBRG Braganca 145.54 344 *e*PKPdf **PKPbc** 13 21 14.3 +0.2
PBRG Braganca 145.54 344 *e*PKiKP **PKiKP** 13 21 21.4 +3.5
PGAV Gavieira, Arco 145.79 346 *e*PKiKP **PKPab** 13 21 16.4 +1.0
PGAV Gavieira, Arco 145.79 346 *e*PKiKP **PKPab** 13 21 16.4 +1.0
MVO Moncorvo 146.22 343 *e*PKPdf **PKPdf** 13 21 12.5 -2.6
MVO Moncorvo 146.22 343 *e*PKiKP **PKPab** 13 21 17.9 +0.9
MVO Moncorvo 146.22 343 *e*PKPdf **PKPdf** 13 21 12.5 -2.6
MVO Moncorvo 146.22 343 *e*PKiKP **PKPab** 13 21 17.9 +0.9
POLO Lamas de Olo 146.23 345 *e*PKiKP **PKPab** 13 21 18.1 +1.1
POLO Lamas de Olo 146.23 345 *e*PKiKP **PKPab** 13 21 18.1 +1.1
ESDC Sonseca Array 146.58 338 PKPbc **PKPdf** 13 21 15.4 -0.3
comp=Z,3.0nm,1.0s,baz=2,slow=3.4,SNR=12
PMRV Marv??o 147.93 343 *e*PKiKP **PKiKP** 13 21 22.7 -0.2
PMRV Marv??o 147.93 343 *e*PKiKP **PKiKP** 13 21 22.7 -0.2
PESTR Estremoz 148.50 343 *i* P PKPab 13 21 32.9 +6.9
PESTR Estremoz 148.50 343 *i* P PKPab 13 21 32.9 +6.9
MESJ Messejana 149.64 343 *e*PKPdf **PKPdf** 13 21 20.4 -0.3
MESJ Messejana 149.64 343 *e*PKiKP **PKiKP** 13 21 26.3 -0.1
MESJ Messejana 149.64 343 *e*PKPdf **PKPdf** 13 21 20.4 -0.3
MESJ Messejana 149.64 343 *e*PKiKP **PKiKP** 13 21 26.3 -0.1
PBDV Barranco-do-Ve 150.10 342 *i* P **PKPab** 13 21 35.3 +2.7
PBDV Barranco-do-Ve 150.10 342 *i* P **PKPab** 13 21 35.3 +2.7
TAM Tamanrasset 152.67 303 *e*PKPbc **PKPbc** 13 21 34.0 +0.9
MDT Midelt 152.76 333 PKPbc **PKPbc** 13 21 33.1 +0.1
baz=75,slow=5.0
TORD Torodi Ar. Bea 159.15 283 PKP **PKPdf** 13 21 34.5 0.0
comp=Z,2.3nm,0.9s,baz=34,slow=1.8,SNR=9.5
TORD PKPab **PKPab** 13 22 11.4 -0.3
comp=Z,4.9nm,1.0s,baz=87,slow=4.4,SNR=11

*HLW **27** 13:10:09.0,37.°57N×22.°71E,h34km±16km,Md4.2*
*ISCJB **27** 13:10:09.2±0.2,37.°53N±0.°02×22.°88E±0.°02,h90km±2km, mb3.7/13,Error ellipse: s-maj=2.8km s-min=2.2km az=29.7*
*ATH **27** 13:10:09.8,37.°52N×22.°94E,h79km,ML4.1*
*THE **27** 13:10:10.9,37.°53N×22.°94E,h74km±1km,ML4.1/23,Error ellipse: s-maj=1.1km s-min=0.6km az=165.0*
*PDG **27** 13:10:10.5±0.5,37.°73N×22.°52E,h22km±4km,ML4.0/11, Error ellipse: s-maj=4.7km s-min=2.5km az=90.0*
*NEIC **27** 13:10:10.9,37.°53N×22.°94E,h74km,MG4.1(THE),After THE.*
NEIC Felt at Argos.
*IDC **27** 13:10:10.1±1.3,37.°38N×22.°88E,h96km±15km,mb3.5/13, mb1 3.6/19,mb1mx3.5/34,mbtmp3.8/19,Error ellipse: s-maj=13.9km s-min=11.5km az=79.0*
*CSEM **27** 13:10:10.5±0.1,37.°52N×22.°86E,h80km,ML4.1,Error ellipse: s-maj=3.0km s-min=2.2km az=33.0*
*BEO **27** 13:10:12.4±3.9,37.°13N×22.°39E,h0km,ML3.6/6*
*DDA **27** 13:10:29.4,37.°67N×24.°83E,h36km,ML4.1*
ISC 27 13:10:09.5±0.6,37.°54N±0.°03×22.°91E±0.°02,h82km±4km, n465,σ1°53/578,mb3.8/13,24C-18D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
KRND	**KRANIDI**	**0.24**	**130**	P	**Pn**	**13 10 22.3**	**+0.5**
KRND				*S*	**Sn**	13 10 30.9	+0.1
KRND	**KRANIDI**	**0.24**	**130**	*e*P	**Pn**	13 10 22.4	+0.6
KRND				*e*S	**Sn**	13 10 31.1	+0.3
KRND	**KRANIDI**	**0.24**	**130**	*e*P	**Pn**	13 10 22.4	+0.6
KRND				*e*S	**Sn**	13 10 31.1	+0.3
DIDY	**Didyma**	**0.24**	**105**	P	**Pn**	13 10 22.1	+0.2
DIDY				S	**Sn**	13 10 31.2	+0.1
DIDY	**Didyma**	**0.24**	**105**	P	**Pn**	13 10 22.1	+0.2
DIDY				S	**Sn**	13 10 31.2	+0.1
DID	**Didima**	**0.26**	**97**	P	**Pn**	13 10 22.2	+0.3
DID				S	**Sn**	13 10 31.1	0.0
DID	**Didima**	**0.26**	**97**	*e*P	**Pn**	13 10 22.3	+0.3
DID				*e*S	**Sn**	13 10 30.7	-0.4
DID	**Didima**	**0.26**	**97**	*e*P	**Pn**	13 10 22.3	+0.3
DID				S	**Sn**	13 10 31.1	0.0
DID	**Didima**	**0.26**	**97**	P	**Pn**	13 10 22.2	+0.3
DID				S	**Sn**	13 10 31.1	0.0
ACOR	**Acrocorinthos**	**0.35**	**354**	P	**Pn**	13 10 22.8	+0.3
ACOR				S	**Sn**	13 10 31.2	-0.8
ACOR	**Acrocorinthos**	**0.35**	**354**	P	**Pn**	13 10 22.8	+0.3
ACOR				S	**Sn**	13 10 31.2	-0.8
LOUT	**Loutraki**	**0.45**	**6**	P	**Pn**	13 10 23.6	+0.5
LOUT				S	**Sn**	13 10 33.4	+0.2
LOUT	**Loutraki**	**0.45**	**6**	*e*P	**Pn**	13 10 23.7	+0.6
LOUT				*e*S	**Sn**	13 10 33.4	+0.2
LOUT	**Loutraki**	**0.45**	**6**	*e*P	**Pn**	13 10 23.7	+0.6
LOUT				*e*S	**Sn**	13 10 33.4	+0.2
VLX	**Vlachokerasia**	**0.46**	**249**	P	**Pn**	13 10 23.7	+0.5
VLX				S	**Sn**	13 10 32.9	-0.6
VLX	**Vlachokerasia**	**0.46**	**249**	*e*P	**Pn**	13 10 23.8	+0.5
VLX				*e*S	**Sn**	13 10 33.5	0.0
VLX	**Vlachokerasia**	**0.46**	**249**	*e*P	**Pn**	13 10 23.8	+0.5
VLX				*e*S	**Sn**	13 10 33.5	0.0
VLX	**Vlachokerasia**	**0.46**	**249**	P	**Pn**	13 10 23.7	+0.5
VLX				S	**Sn**	13 10 32.9	-0.6
LTK	**Loutraki**	**0.48**	**5**	P	**Pn**	13 10 24.1	+0.7
LTK				S	**Sn**	13 10 33.6	-0.1
LTK	**Loutraki**	**0.48**	**5**	*e*P	**Pn**	13 10 24.1	+0.7
LTK				*e*S	**Sn**	13 10 33.9	+0.2
LTK	**Loutraki**	**0.48**	**5**	*e*P	**Pn**	13 10 24.1	+0.7
LTK				*e*S	**Sn**	13 10 33.9	+0.2
LTK	**Loutraki**	**0.48**	**5**	P	**Pn**	13 10 24.1	+0.7
LTK				S	**Sn**	13 10 33.6	-0.1
NAIG	**Nisos Aigina**	**0.51**	**64**	*e*P	**Pn**	13 10 24.4	+0.8
NAIG	**Nisos Aigina**	**0.51**	**64**	*e*P	**Pn**	13 10 24.4	+0.8
THAL	**Thalero**	**0.54**	**338**	P	**Pn**	13 10 24.5	+0.7
THAL				S	**Sn**	13 10 34.7	+0.3
THAL	**Thalero**	**0.54**	**338**	*e*P	**Pn**	13 10 24.5	+0.7
THAL				*e*S	**Sn**	13 10 34.9	+0.5
THAL	**Thalero**	**0.54**	**338**	*e*P	**Pn**	13 10 24.5	+0.7
THAL				*e*S	**Sn**	13 10 34.9	+0.5
GUR	**Goura**	**0.60**	**311**	P	**Pn**	13 10 25.3	+0.8
GUR				S	**Sn**	13 10 35.4	-0.3
GUR	**Goura**	**0.60**	**311**	*e*P	**Pn**	13 10 25.4	+0.9
GUR				*e*S	**Sn**	13 10 36.0	+0.3
GUR	**Goura**	**0.60**	**311**	*e*P	**Pn**	13 10 25.4	+0.9
GUR				*e*S	**Sn**	13 10 36.0	+0.3
GUR	**Goura**	**0.60**	**311**	P	**Pn**	13 10 25.3	+0.8
GUR				S	**Sn**	13 10 35.4	-0.3
VILL	**Villia**	**0.70**	**27**	P	**Pn**	13 10 26.3	+0.9
VILL				S	**Sn**	13 10 37.7	+0.4
VILL	**Villia**	**0.70**	**27**	*e*P	**Pn**	13 10 26.3	+0.9
VILL				*e*S	**Sn**	13 10 37.7	+0.4
VIL2	**Platees**	**0.73**	**23**	*e*P	**Pn**	13 10 26.3	+0.6
VIL2				*e*S	**Sn**	13 10 37.7	0.0
ATH	**Athens Observa**	**0.77**	**56**	P	**Pn**	13 10 27.2	+1.1
ATH				S	**Sn**	13 10 38.5	+0.1
ATH	**Athens Observa**	**0.77**	**56**	*e*P	**Pn**	13 10 27.3	+1.1
ATH				*e*S	**Sn**	13 10 38.5	+0.1
ATH	**Athens Observa**	**0.77**	**56**	P	**Pn**	13 10 27.2	+1.1
ATH				S	**Sn**	13 10 38.5	+0.1
KLV	**Kalavryta, Ach**	**0.79**	**310**	P	**Pn**	13 10 27.2	+0.9
KLV				S	**Sn**	13 10 39.5	+0.6
KLV	**Kalavryta, Ach**	**0.79**	**310**	*e*P	**Pn**	13 10 27.3	+0.9
KLV				*e*S	**Sn**	13 10 39.4	+0.6
KLV	**Kalavryta, Ach**	**0.79**	**310**	*e*P	**Pn**	13 10 27.3	+0.9
KLV				S	**Sn**	13 10 39.5	+0.6
KLV	**Kalavryta, Ach**	**0.79**	**310**	P	**Pn**	13 10 27.2	+0.9
KLV				S	**Sn**	13 10 39.5	+0.6
ATHU	**Athens Univers**	**0.81**	**58**	P	**Pn**	13 10 27.6	+1.0
ATHU				S	**Sn**	13 10 39.5	+0.2
ATHU	**Athens Univers**	**0.81**	**58**	P	**Pn**	13 10 27.6	+1.0
ATHU				S	**Sn**	13 10 39.5	+0.2
ATHU	**Athens Univers**	**0.81**	**58**	P	**Pn**	13 10 27.6	+1.0
ATHU				S	**Sn**	13 10 39.5	+0.2
VLI	**Veliai**	**0.82**	**179**	P	**Pn**	13 10 26.8	+0.1
VLI				S	**Sn**	13 10 38.2	-1.2
VLI	**Veliai**	**0.82**	**179**	*e*P	**Pn**	13 10 26.9	+0.2
VLI				*e*S	**Sn**	13 10 39.3	-0.1
VLI	**Veliai**	**0.82**	**179**	*e*P	**Pn**	13 10 26.9	+0.2
VLI				*e*S	**Sn**	13 10 39.3	-0.1
VLI	**Veliai**	**0.82**	**179**	P	**Pn**	13 10 26.8	+0.1
VLI				S	**Sn**	13 10 38.2	-1.2
ITM	**Ithomi**	**0.86**	**246**	P	**Pn**	13 10 28.7	+1.5
ITM				S	**Sn**	13 10 42.1	+1.8
ITM	**Ithomi**	**0.86**	**246**	*e*P	**Pn**	13 10 28.6	+1.4
ITM				*e*S	**Sn**	13 10 41.7	+1.4
ITM	**Ithomi**	**0.86**	**246**	*e*P	**Pn**	13 10 28.6	+1.4
ITM				*e*S	**Sn**	13 10 41.7	+1.4
ITM	**Ithomi**	**0.86**	**246**	P	**Pn**	13 10 28.7	+1.5
ITM				S	**Sn**	13 10 42.1	+1.8
PTL	**Penteli**	**0.91**	**56**	P	**Pn**	13 10 28.8	+1.1
PTL				S	**Sn**	13 10 41.7	+0.5
PTL	**Penteli**	**0.91**	**56**	*e*P	**Pn**	13 10 28.5	+0.8
PTL				*e*S	**Sn**	13 10 41.8	+0.5
PTL	**Penteli**	**0.91**	**56**	P	**Pn**	13 10 28.8	+1.1
PTL				*e*S	**Sn**	13 10 41.8	+0.5
PTL	**Penteli**	**0.91**	**56**	P	**Pn**	13 10 28.8	+1.1
PTL				S	**Sn**	13 10 41.7	+0.5
DSF	**Desfina**	**0.92**	**341**	P	**Pn**	13 10 28.8	+0.9
DSF				S	**Sn**	13 10 42.1	+0.5
DSF	**Desfina**	**0.92**	**341**	*e*P	**Pn**	13 10 28.8	+0.9
DSF				*e*S	**Sn**	13 10 42.3	+0.7
DSF	**Desfina**	**0.92**	**341**	*e*P	**Pn**	13 10 28.8	+0.9
DSF				*e*S	**Sn**	13 10 42.3	+0.7
DSF	**Desfina**	**0.92**	**341**	P	**Pn**	13 10 28.8	+0.9
DSF				S	**Sn**	13 10 42.1	+0.5
AMT	**Artemida-Makis**	**0.96**	**270**	P	**Pn**	13 10 30.3	+2.1
AMT				S	**Sn**	13 10 43.6	+1.4
AMT	**Artemida-Makis**	**0.96**	**270**	*e*P	**Pn**	13 10 29.9	+1.7
AMT				*e*S	**Sn**	13 10 43.8	+1.6
AMT	**Artemida-Makis**	**0.96**	**270**	*e*P	**Pn**	13 10 29.9	+1.7
AMT				S	**Sn**	13 10 43.6	+1.4
DRO	**Drossia**	**1.04**	**294**	P	**Pn**	13 10 30.7	+1.5
DRO				S	**Sn**	13 10 45.8	+1.9
DRO	**Drossia**	**1.04**	**294**	*e*P	**Pn**	13 10 30.7	+1.5
DRO	**Drossia**	**1.04**	**294**	*e*P	**Pn**	13 10 30.7	+1.5
DRO				S	**Sn**	13 10 45.8	+1.9
KALE	**Kalithea**	**1.05**	**324**	P	**Pn**	13 10 30.0	+0.6
KALE				S	**Sn**	13 10 45.5	+1.3
KALE	**Kalithea**	**1.05**	**324**	*e*P	**Pn**	13 10 30.2	+0.8
KALE				*e*S	**Sn**	13 10 46.2	+2.0
KALE	**Kalithea**	**1.05**	**324**	*e*P	**Pn**	13 10 30.2	+0.8
KALE				S	**Sn**	13 10 45.5	+1.3
KALE	**Kalithea**	**1.05**	**324**	P	**Pn**	13 10 30.0	+0.6
KALE				S	**Sn**	13 10 45.5	+1.3
LKR	**Lokris**	**1.11**	**3**	P	**Pn**	13 10 31.3	+1.2
LKR				S	**Sn**	13 10 46.5	+1.1
LKR	**Lokris**	**1.11**	**3**	*e*P	**Pn**	13 10 31.3	+1.2
LKR				*e*S	**Sn**	13 10 46.5	+1.1
LKR	**Lokris**	**1.11**	**3**	*e*P	**Pn**	13 10 31.3	+1.2
LKR				*e*S	**Sn**	13 10 46.5	+1.1
LKR	**Lokris**	**1.11**	**3**	P	**Pn**	13 10 31.3	+1.2
LKR				S	**Sn**	13 10 46.5	+1.1
PYL	**PYLOS**	**1.14**	**236**	P	**Pn**	13 10 30.9	+0.6
PYL				S	**Sn**	13 10 46.1	+0.2
PYL	**PYLOS**	**1.14**	**236**	*e*P	**Pn**	13 10 31.0	+0.6
PYL	**PYLOS**	**1.14**	**236**	P	**Pn**	13 10 30.9	+0.6
PYL				S	**Sn**	13 10 46.1	+0.2
PYL	**PYLOS**	**1.14**	**236**	P	**Pn**	13 10 30.9	+0.6
PYL				S	**Sn**	13 10 46.1	+0.2
ATAL	**Atalanti**	**1.15**	**4**	P	**Pn**	13 10 31.8	+1.2
ATAL				S	**Sn**	13 10 47.3	+0.9
ATAL	**Atalanti**	**1.15**	**4**	P	**Pn**	13 10 31.8	+1.2
ATAL				S	**Sn**	13 10 47.3	+0.9
ATAL	**Atalanti**	**1.15**	**4**	P	**Pn**	13 10 31.8	+1.2
ATAL				S	**Sn**	13 10 47.3	+0.9
UPR	**University Cam**	**1.16**	**310**	P	**Pn**	13 10 32.1	+1.5
UPR	**University Cam**	**1.16**	**310**	P	**Pn**	13 10 32.1	+1.5
EFP	**Efpalio**	**1.19**	**318**	P	**Pn**	13 10 32.3	+1.3
EFP				S	**Sn**	13 10 48.7	+1.5
EFP	**Efpalio**	**1.19**	**318**	*e*P	**Pn**	13 10 32.4	+1.4
EFP				*e*S	**Sn**	13 10 48.5	+1.3
EFP	**Efpalio**	**1.19**	**318**	P	**Pn**	13 10 32.3	+1.3
EFP				*e*S	**Sn**	13 10 48.5	+1.3
EREA	**Eretria**	**1.19**	**42**	P	**Pn**	13 10 32.5	+1.4
EREA				S	**Sn**	13 10 48.2	+1.0
EREA	**Eretria**	**1.19**	**42**	*e*P	**Pn**	13 10 32.5	+1.4
EREA				*e*S	**Sn**	13 10 48.2	+1.0
EREA	**Eretria**	**1.19**	**42**	*e*P	**Pn**	13 10 32.5	+1.4
EREA				*e*S	**Sn**	13 10 48.2	+1.0
AXAR	**Agios Charalam**	**1.24**	**351**	P	**Pn**	13 10 33.0	+1.3
AXAR				S	**Sn**	13 10 50.2	+1.9
AXAR	**Agios Charalam**	**1.24**	**351**	*e*P	**Pn**	13 10 33.0	+1.3
AXAR	**Agios Charalam**	**1.24**	**351**	*e*P	**Pn**	13 10 33.0	+1.3
AXAR				S	**Sn**	13 10 50.2	+1.9
AXAR	**Agios Charalam**	**1.24**	**351**	P	**Pn**	13 10 33.0	+1.3
AXAR				S	**Sn**	13 10 50.2	+1.9
RLS	**Riolos of Patr**	**1.26**	**295**	P	**Pn**	13 10 33.8	+1.9
RLS				S	**Sn**	13 10 50.4	+1.8
RLS	**Riolos of Patr**	**1.26**	**295**	*e*P	**Pn**	13 10 33.7	+1.9
RLS				*e*S	**Sn**	13 10 51.3	+2.7
RLS	**Riolos of Patr**	**1.26**	**295**	*e*P	**Pn**	13 10 33.7	+1.9
RLS				S	**Sn**	13 10 50.4	+1.8
RLS	**Riolos of Patr**	**1.26**	**295**	P	**Pn**	13 10 33.8	+1.9
RLS				S	**Sn**	13 10 50.4	+1.8
KYTH	**Kithira**	**1.26**	**176**	*e*P	**Pn**	13 10 32.8	+0.9
KYTH	**Kithira**	**1.26**	**176**	*e*P	**Pn**	13 10 32.8	+0.9
MRKA	**Markates**	**1.28**	**24**	P	**Pn**	13 10 33.5	+1.4
MRKA				S	**Sn**	13 10 50.1	+0.9
MRKA	**Markates**	**1.28**	**24**	*e*P	**Pn**	13 10 33.6	+1.4
MRKA				*e*S	**Sn**	13 10 49.8	+0.6
MRKA	**Markates**	**1.28**	**24**	P	**Pn**	13 10 33.5	+1.4
MRKA				S	**Sn**	13 10 50.1	+0.9
SMIA	**Simia**	**1.36**	**10**	P	**Pn**	13 10 34.8	+1.7
SMIA				S	**Sn**	13 10 51.7	+0.8
SMIA	**Simia**	**1.36**	**10**	*e*P	**Pn**	13 10 34.8	+1.7
SMIA	**Simia**	**1.36**	**10**	*e

EVR	Evrytania	1.63	328	P	Pn	13 10 38.2	+1.5		
EVR	Evrytania	1.63	328	*e*P	Pn	13 10 38.2	+1.5		
EVR	Evrytania	1.63	328	*e*P	Pn	13 10 38.2	+1.5		
EVR	Evrytania	1.63	328	P	Pn	13 10 38.2	+1.5		
ANKY	Antikythira Is	1.70	169	P	Pn	13 10 38.0	+0.5		
ANKY	Antikythira Is	1.70	169	*e*P	Pn	13 10 38.1	+0.5		
ANKY	Antikythira Is	1.70	169	P	Pn	13 10 38.0	+0.5		
ANKY	Antikythira Is	1.70	169	P	Pn	13 10 38.0	+0.5		
PDO	Prodromos	1.73	308	P	Pn	13 10 40.4	+2.5		
PDO				S	Sn	13 11 01.7	+2.3		
PDO	Prodromos	1.73	308	P	Pn	13 10 40.4	+2.5		
PDO				S	Sn	13 11 01.7	+2.3		
KFL	Anninata	1.78	289	P	Pn	13 10 39.8	+1.3		
KFL				S	Sn	13 11 02.7	+2.1		
KFL	Anninata	1.78	289	P	Pn	13 10 39.8	+1.3		
KFL				S	Sn	13 11 02.7	+2.1		
NEO	Neokhori	1.78	8	P	Pn	13 10 40.1	+1.5		
NEO	Neokhori	1.78	8	*e*P	Pn	13 10 40.1	+1.5		
NEO	Neokhori	1.78	8	*e*P	Pn	13 10 40.1	+1.5		
NEO	Neokhori	1.78	8	P	Pn	13 10 40.1	+1.5		
AOS	Alonnisos	1.80	25	P	Pn	13 10 40.0	+1.2		
AOS				S	Sn	13 11 01.4	+0.4		
AOS	Alonnisos	1.80	25	*e*P	Pn	13 10 40.0	+1.2		
AOS	Alonnisos	1.80	25	*e*P	Pn	13 10 40.0	+1.2		
AOS				S	Sn	13 11 01.4	+0.4		
AOS	Alonnisos	1.80	25	P	Pn	13 10 40.0	+1.2		
XOR	Xorichti	1.84	7	P	Pn	13 10 40.7	+1.3		
XOR	Xorichti	1.84	7	*e*P	Pn	13 10 40.7	+1.3		
XOR	Xorichti	1.84	7	*e*P	Pn	13 10 40.7	+1.3		
XOR	Xorichti	1.84	7	P	Pn	13 10 40.7	+1.3		
FYTO	Fytoko, Volos	1.87	1	P	Pn	13 10 41.0	+1.3		
FYTO	Fytoko, Volos	1.87	1	P	Pn	13 10 41.0	+1.3		
FYTO	Fytoko, Volos	1.87	1	P	Pn	13 10 41.0	+1.3		
VLS	Valsamata	1.95	290	P	Pn	13 10 41.2	+0.4		
VLS	Valsamata	1.95	290	*e*P	Pn	13 10 42.0	+1.2		
VLS	Valsamata	1.95	290	*e*P	Pn	13 10 42.0	+1.2		
VLS	Valsamata	1.95	290	P	Pn	13 10 41.2	+0.4		
EXG	Exogi	2.02	298	P	Pn	13 10 43.5	+1.7		
EXG				S	Sn	13 11 09.9	+3.5		
EXG	Exogi	2.02	298	P	Pn	13 10 43.5	+1.7		
EXG				S	Sn	13 11 09.9	+3.5		
APE	Apeiranthos	2.14	102	*e*PN	Pn	13 10 44.6	+1.3		
APE				*e*SN	Sn	13 11 10.4	+1.2		
APE	Apeiranthos	2.14	102	P	Pn	13 10 44.5	+1.1		
APE				S	Sn	13 11 09.4	+0.2		
APE	Apeiranthos	2.14	102	*e*P	Pn	13 10 44.7	+1.3		
APE	Apeiranthos	2.14	102	*j*P	Pn	13 10 44.5	+1.1		
APE	Apeiranthos	2.14	102	*e*Pn	Pn	13 10 44.6	+1.3		
APE				S	Sn	13 11 09.4	+0.2		
APE				*e*Sn	Sn	13 11 10.4	+1.1		
APE	Apeiranthos	2.14	102	P	Pn	13 10 44.5	+1.1		
DSL	Palaion Diasel	2.14	319	P	Pn	13 10 45.7	+2.4		
DSL	Palaion Diasel	2.14	319	*e*P	Pn	13 10 45.8	+2.4		
DSL	Palaion Diasel	2.14	319	P	Pn	13 10 45.7	+2.4		
DSL	Palaion Diasel	2.14	319	P	Pn	13 10 45.7	+2.4		
THL	Klokotos Trika	2.14	341	P	Pn	13 10 44.7	+1.4		
THL	Klokotos Trika	2.14	341	*e*P	Pn	13 10 44.6	+1.3		
THL	Klokotos Trika	2.14	341	*e*P	Pn	13 10 44.6	+1.3		
THR5	Thira Island,	2.25	119	*e*PN	Pn	13 10 46.5	+1.7		
THR5	Thira Island,	2.25	119	*e*Pn	Pn	13 10 46.5	+1.7		
SANT	Santorini	2.35	119	*e*P	Pn	13 10 47.7	+1.5		
SANT	Santorini	2.35	119	*e*Pn	Pn	13 10 47.3	+1.1		
SANT	Santorini	2.35	119	*e*P	Pn	13 10 47.7	+1.5		
SANT	Santorini	2.35	119	*e*Pn	Pn	13 10 47.3	+1.1		
THR1	Thera Island	2.35	119	*e*PN	Pn	13 10 47.8	+1.6		
THR1	Thera Island	2.35	119	*e*Pn	Pn	13 10 47.8	+1.6		
VAM	Vamos	2.37	154	*e*P	Pn	13 10 47.7	+0.6		
VAM	Vamos	2.37	154	*e*P	Pn	13 10 47.0	+0.6		
PAIG	Paliouri	2.46	14	P	Pn	13 10 48.9	+1.3		
PAIG	Paliouri	2.46	14	*e*P	Pn	13 10 48.8	+1.2		
PAIG	Paliouri	2.46	14	P	Pn	13 10 48.9	+1.3		
PAIG	Paliouri	2.46	14	P	Pn	13 10 48.9	+1.3		
LIT	Litokhoron	2.58	353	P	Pn	13 10 50.6	+1.4		
LIT	Litokhoron	2.58	353	*e*P	Pn	13 10 50.6	+1.4		
LIT	Litokhoron	2.58	353	*e*P	Pn	13 10 50.6	+1.4		
LIT	Litokhoron	2.58	353	P	Pn	13 10 50.6	+1.4		
CHOS	Chios island	2.62	70	*e*PN	Pn	13 10 51.6	+1.7		
CHOS	Chios island	2.62	70	P	Pn	13 10 51.6	+1.7		
CHOS	Chios island	2.62	70	*e*P	Pn	13 10 51.6	+1.7		
CHOS	Chios island	2.62	70	*e*P	Pn	13 10 51.6	+1.7		
CHOS	Chios island	2.62	70	P	Pn	13 10 51.6	+1.7		
JAN	Janina	2.66	323	P	Pn	13 10 53.0	+2.7		
JAN	Janina	2.66	323	*e*P	Pn	13 10 52.5	+2.2		
JAN	Janina	2.66	323	*e*P	Pn	13 10 52.5	+2.2		
JAN	Janina	2.66	323	P	Pn	13 10 53.0	+2.7		
IDI	Anoyia	2.75	144	P	Pn	13 10 51.6	-0.1		
IDI	17nm,0.3s,baz=262,slow=17,SNR=142			S	Sn	13 11 22.8	-1.2		
IGT	45nm,0.3s,baz=263,slow=12,SNR=7.7	2.84	315	*e*PN	Pn	13 10 54.5	+1.8		
IGT	Igoumenitsa	2.84	315	P	Pn	13 10 53.7	+1.0		
IGT	Igoumenitsa	2.84	315	*e*P	Pn	13 10 54.4	+1.7		
IGT	Igoumenitsa	2.84	315	P	Pn	13 10 53.7	+1.0		
IGT	Igoumenitsa	2.84	315	*e*Pn	Pn	13 10 54.5	+1.8		
IGT	Igoumenitsa	2.84	315	P	Pn	13 10 53.7	+1.0		
SIGR	SIGRI	2.85	53	*e*PN	Pn	13 10 54.0	+1.2		
SIGR	SIGRI	2.85	53	*e*P	Pn	13 10 54.1	+1.2		
SIGR	SIGRI	2.85	53	*e*P	Pn	13 10 54.1	+1.2		
GVD	Gavdhos	2.86	160	*e*P	Pn	13 10 54.3	+1.3		
GVD	Gavdhos	2.86	160	*e*PN	Pn	13 10 54.1	+1.1		
GVD	Gavdhos	2.86	160	*e*Pn	Pn	13 10 54.1	+1.1		
PLG	Polygyros	2.86	8	P	Pn	13 10 54.3	+1.2		
PLG	Polygyros	2.86	8	*e*P	Pn	13 10 54.2	+1.2		
PLG	Polygyros	2.86	8	P	Pn	13 10 54.3	+1.2		
PLG	Polygyros	2.86	8	P	Pn	13 10 54.3	+1.2		
KZN	Kozani	2.90	342	P	Pn	13 10 55.7	+2.1		
KZN	Kozani	2.90	342	*e*P	Pn	13 10 55.8	+2.1		
KZN	Kozani	2.90	342	P	Pn	13 10 55.7	+2.1		
KZN	Kozani	2.90	342	P	Pn	13 10 55.7	+2.1		
OUR	Ouranopolis	2.91	16	*e*PN	Pn	13 10 55.0	+1.3		
OUR	Ouranopolis	2.91	16	P	Pn	13 10 55.1	+1.4		
OUR	Ouranopolis	2.91	16	*e*P	Pn	13 10 55.1	+1.4		
OUR	Ouranopolis	2.91	16	*e*Pn	Pn	13 10 55.0	+1.3		
OUR	Ouranopolis	2.91	16	P	Pn	13 10 55.1	+1.4		
ZEY	`zmir	2.92	75	*i*P	Pn	13 10 55.4	+1.6		
SIVA	Sivas	2.95	148	P	Pn	13 10 55.7	+1.6		
SIVA	Sivas	2.95	148	*e*P	Pn	13 10 55.8	+1.6		
SIVA	Sivas	2.95	148	P	Pn	13 10 55.7	+1.6		
SIVA	Sivas	2.95	148	P	Pn	13 10 55.7	+1.6		
LIA	Limnos Island	2.95	36	P	Pn	13 10 55.0	+0.8		
LIA	Limnos Island	2.95	36	*e*P	Pn	13 10 55.4	+1.2		
LIA	Limnos Island	2.95	36	*e*P	Pn	13 10 55.4	+1.2		
LIA	Limnos Island	2.95	36	P	Pn	13 10 55.0	+0.8		
SGD	Sagiada	2.95	315	P	Pn	13 10 55.5	+1.3		
SGD	Sagiada	2.95	315	*e*P	Pn	13 10 55.5	+1.3		
SGD	Sagiada	2.95	315	*e*P	Pn	13 10 55.5	+1.3		
URLA	Izmir	3.02	73	*i*P	Pn	13 10 57.2	+2.0		
URLA				*i*S	Sn	13 11 28.5	-2.0		
URLA	Izmir	3.02	73	*i*P	Pn	13 10 57.2	+2.0		
URLA				*i*S	Sn	13 11 28.5	-2.0		
HORT	Hortiatis	3.06	3	*e*PN	Pn	13 10 57.1	+1.4		
HORT	Hortiatis	3.06	3	P	Pn	13 10 57.2	+1.4		
HORT	Hortiatis	3.06	3	*e*P	Pn	13 10 57.1	+1.4		
HORT	Hortiatis	3.06	3	P	Pn	13 10 57.1	+1.4		
HORT	Hortiatis	3.06	3	P	Pn	13 10 57.2	+1.4		
THE	Thessaloniki	3.09	1	*e*P	Pn	13 10 57.6	+1.5		
THE	Thessaloniki	3.09	1	P	Pn	13 10 57.6	+1.5		
SMG	Samos	3.12	86	*e*P	Pn	13 10 58.4	+1.9		
SMG	Samos	3.12	86	*e*P	Pn	13 10 58.4	+1.9		
PRK	Paraskevi	3.14	56	P	Pn	13 10 58.2	+1.4		
PRK	Paraskevi	3.14	56	*e*P	Pn	13 10 57.8	+1.0		
PRK	Paraskevi	3.14	56	*e*P	Pn	13 10 57.8	+1.0		
PRK	Paraskevi	3.14	56	P	Pn	13 10 58.2	+1.4		
NPS	Neapolis	3.15	135	P	Pn	13 10 57.6	+0.7		
NPS	Neapolis	3.15	135	*e*P	Pn	13 10 57.8	+0.9		
NPS	Neapolis	3.15	135	P	Pn	13 10 57.6	+0.7		
NPS	Neapolis	3.15	135	P	Pn	13 10 57.6	+0.7		
LAST	Lasithi	3.15	138	P	Pn	13 10 57.9	+0.9		
LAST	Lasithi	3.15	138	*e*P	Pn	13 10 57.8	+0.8		
LAST	Lasithi	3.15	138	*e*P	Pn	13 10 57.8	+0.8		
LAST	Lasithi	3.15	138	P	Pn	13 10 57.9	+0.9		
SRN	Sarande	3.26	317	*i*PN	Pn	13 10 58.1	-0.3		
SRN				*i*SN	Sn	13 11 36.5	+0.3		
SRN	Sarande	3.26	317	P	Pn	13 10 59.2	+0.8		
SRN	Sarande	3.26	317	P	Pn	13 10 59.2	+0.8		
SRN	Sarande	3.26	317	P	Pn	13 10 59.2	+0.8		
KEK	Kerkira	3.27	313	P	Pn	13 10 59.2	+0.7		
KEK	Kerkira	3.27	313	*e*P	Pn	13 11 01.9	+3.4		
KEK	Kerkira	3.27	313	P	Pn	13 10 59.2	+0.7		
KEK	Kerkira	3.27	313	P	Pn	13 10 59.2	+0.7		
SOH	Sokhos	3.29	6	P	Pn	13 11 00.9	+2.0		
SOH	Sokhos	3.29	6	*e*P	Pn	13 11 00.9	+2.0		
SOH	Sokhos	3.29	6	*e*P	Pn	13 11 00.9	+2.0		
SOH	Sokhos	3.29	6	P	Pn	13 11 00.9	+2.0		
BOZC	Bozcaada	3.36	46	*i*P	Pn	13 11 00.8	+1.0		
BOZC				*i*S	Sn	13 11 39.0	+0.4		
GCAM	G?zlcaml?	3.43	86	*i*P	Pn	13 11 02.9	+2.2		
GCAM	G?zlcaml?	3.43	86	*i*P	Pn	13 11 02.9	+2.2		
GRG	Griva	3.44	354	P	Pn	13 11 02.4	+1.6		
GRG	Griva	3.44	354	*e*P	Pn	13 11 02.3	+1.5		
GRG	Griva	3.44	354	*e*P	Pn	13 11 02.3	+1.5		
GRG	Griva	3.44	354	P	Pn	13 11 02.4	+1.6		
AYVA	Ayvalik	3.45	58	*i*P	Pn	13 11 00.5	-0.5		
AYVA	Ayvalik	3.45	58	*i*P	Pn	13 11 00.5	-0.5		
FNA	Florina	3.45	340	P	Pn	13 11 02.7	+1.6		
FNA	Florina	3.45	340	*e*P	Pn	13 11 03.0	+1.9		
FNA	Florina	3.45	340	P	Pn	13 11 02.7	+1.6		
FNA	Florina	3.45	340	P	Pn	13 11 02.7	+1.6		
KBN	Korca	3.50	332	*i*PN	Pn	13 11 01.8	+0.1		
KBN				*i*SN	Sn	13 11 41.5	-0.5		
EZN	Ezine	3.51	48	*e*PN	Pn	13 11 03.4	+1.6		
EZN	Ezine	3.51	48	*e*Pn	Pn	13 11 03.4	+1.6		
GADA	Gvkgeada	3.53	40	*e*PN	Pn	13 11 03.4	+1.4		
GADA	Gvkgeada	3.53	40	*e*Pn	Pn	13 11 03.4	+1.4		
BODT	Bodrum	3.54	96	*e*PN	Pn	13 11 04.6	+2.4		
BODT	Bodrum	3.54	96	*e*Pn	Pn	13 11 04.6	+2.4		
IZM	Izmir	3.54	75	*e*PN	Pn	13 11 04.8	+2.5		
IZM	Izmir	3.54	75	*e*Pn	Pn	13 11 04.8	+2.5		
ZKR	Zakros	3.60	131	P	Pn	13 11 04.5	+1.4		
ZKR	Zakros	3.60	131	*e*P	Pn	13 11 05.0	+1.9		
ZKR	Zakros	3.60	131	P	Pn	13 11 04.5	+1.4		
ZKR	Zakros	3.60	131	P	Pn	13 11 04.5	+1.4		
SRS	Serrai	3.61	8	P	Pn	13 11 04.9	+1.7		
SRS	Serrai	3.61	8	P	Pn	13 11 04.9	+1.7		
SRS	Serrai	3.61	8	P	Pn	13 11 04.9	+1.7		
BDRM	Kayabasi	3.64	96	*i*P	Pn	13 11 05.4	+1.8		
BDRM	Kayabasi	3.64	96	*i*P	Pn	13 11 05.4	+1.8		
KAVA	Kavala	3.67	19	*e*P	Pn	13 11 05.2	+1.3		
KAVA	Kavala	3.67	19	*e*P	Pn	13 11 05.2	+1.3		
VAY	Valandovo	3.79	356	*i*Pn	Pn	13 11 08.5	+3.0		
VAY	Valandovo	3.79	356	*e*Pn	Pn	13 11 08.0	+2.5		
VAY	Valandovo	3.79	356	*e*Pn	Pn	13 11 08.0	+2.5		
NVR	Nevrokopi	3.88	11	P	Pn	13 11 08.3	+1.5		
NVR	Nevrokopi	3.88	11	*e*P	Pn	13 11 08.4	+1.6		
NVR	Nevrokopi	3.88	11	P	Pn	13 11 08.3	+1.5		
NVR	Nevrokopi	3.88	11	P	Pn	13 11 08.3	+1.5		
OHR	Ohrid	3.93	336	*i*Pn	Pn	13 11 08.3	+0.7		
OHR	Ohrid	3.93	336	*i*Pn	Pn	13 11 08.2	+0.7		
AYDN	Tasoluk	3.94	87	*i*P	Pn	13 11 10.4	+2.7		
AYDN	Tasoluk	3.94	87	*i*P	Pn	13 11 10.4	+2.7		
KARP	Karpathos	3.96	119	P	Pn	13 11 09.9	+2.0		
KARP	Karpathos	3.96	119	*e*P	Pn	13 11 10.3	+2.4		
KARP	Karpathos	3.96	119	P	Pn	13 11 09.9	+2.0		
KARP	Karpathos	3.96	119	P	Pn	13 11 09.9	+2.0		
GELI	Tayfur-Gelibol	3.98	43	*e*PN	Pn	13 11 09.8	+1.7		
GELI	Tayfur-Gelibol	3.98	43	*e*Pn	Pn	13 11 09.8	+1.7		
MMB	Musomiste	4.09	9	*j*P	Pn	13 11 11.3	+1.6		
MMB	Musomiste	4.09	9	*j*P	Pn	13 11 11.3	+1.6		
LPK	Lapseki	4.12	45	*e*PN	Pn	13 11 12.3	+2.2		
LPK	Lapseki	4.12	45	*e*Pn	Pn	13 11 12.3	+2.2		
YER	Yerkesik	4.30	94	*e*PN	Pn	13 11 15.5	+3.0		
YER	Yerkesik	4.30	94	*e*Pn	Pn	13 11 15.5	+3.0		
ARG	Arkhangelos	4.38	106	*e*P	Pn	13 11 17.0	+3.3		
ARG	Arkhangelos	4.38	106	*e*P	Pn	13 11 17.0	+3.3		
KDZ	Kurdzhali	4.54	24	*j*P	Pn	13 11 16.8	+1.0		
KDZ	Kurdzhali	4.54	24	*j*P	Pn	13 11 16.8	+1.0		
MANT	Manisa	4.56	76	*i*P	Pn	13 11 18.2	+2.0		
MANT	Manisa	4.56	76	*i*P	Pn	13 11 18.2	+2.0		
PHP	Peshkopia	4.56	336	*i*PN	Pn	13 11 18.4	+2.3		
SART	Tekirdag	4.57	45	*i*P	Pn	13 11 17.6	+1.3		
SART	Tekirdag	4.57	45	*i*P	Pn	13 11 17.6	+1.3		
TURN	Turunc	4.59	97	*i*P	Pn	13 11 16.0	-0.5		
TURN	Turunc	4.59	97	*i*P	Pn	13 11 16.0	-0.5		
DALY	Dalyan (Mu˘la	4.64	97	*e*PN	Pn	13 11 21.1	+4.0		
DALY	Dalyan (Mu˘la	4.64	97	*e*Pn	Pn	13 11 21.1	+4.0		
KULA	Kula-Manisa	4.64	76	*e*PN	Pn	13 11 19.5	+2.3		
KULA	Kula-Manisa	4.64	76	*e*Pn	Pn	13 11 19.5	+2.3		
PLD	Plovdiv	4.76	16	*e*Pn	Pn	13 11 21.2	+2.4		
PLD	Plovdiv	4.76	16	*e*Pn	Pn	13 11 21.2	+2.4		
DURS	Dursunbey	4.82	63	*i*P	Pn	13 11 22.0	+2.3		
DURS	Dursunbey	4.82	63	*i*P	Pn	13 11 22.0	+2.3		
VTS	Vitosha	5.05	2	*e*Pn	Pn	13 11 25.6	+2.7		
VTS	Vitosha	5.05	2	*i*P	Pn	13 11 25.9	+3.0		
VTS	Vitosha	5.05	2	*e*Pn	Pn	13 11 25.6	+2.7		
VTS	Vitosha	5.05	2	*i*P	Pn	13 11 25.9	+3.0		
TIP	Timpagrande	5.11	291	*e*Pn	Pn	13 11 23.1	-0.5		
TIP	Timpagrande	5.11	291	*e*Pn	Pn	13 11 23.1	-0.5		
ULC	Ulcinj	5.25	329	*e*Pn	Pn	13 11 25.1	-0.3		
ULC	Ulcinj	5.25	329	*e*Pn	Pn	13 11 25.1	-0.3		
ULC				*e*Sn	Sn	13 12 20.8	-3.7		
TAR1	Taranto	5.30	306	*e*Pn	Pn	13 11 26.5	+0.4		
TAR1				Sn	Sn	13 12 23.3	-2.5		
GOLH	Golhisar	5.30	91	*i*P	Pn	13 11 30.8	+4.5		
GOLH	Golhisar	5.30	91	*i*P	Pn	13 11 30.8	+4.5		
BARS	Barje	5.34	351	*e*Pn	Pn	13 11 28.0	+1.3		
BARS	Barje	5.34	351	*e*Pn	Pn	13 11 28.0	+1.3		
DRME	Dracevica, Mon	5.46	329	*i*Pn	Pn	13 11 28.1	-0.2		
DRME	Dracevica, Mon	5.46	329	*i*Pn	Pn	13 11 28.1	-0.2		
DRME				*e*Sn	Sn	13 12 25.7	-3.9		
AKAS	Kas	5.52	102	*i*P	Pn	13 11 33.3	+4.0		
PVY	Plav	5.53	337	*i*Pn	Pn	13 11 30.1	+0.7		
PVY	Plav	5.53	337	*i*Pn	Pn	13 11 30.1	+0.7		
PVY				*e*Sn	Sn	13 12 27.8	-3.9		
CEL	Celeste	5.60	280	*e*Pn	Pn	13 11 29.7	-0.6		
CEL	Celeste	5.60	280	*e*Pn	Pn	13 11 29.7	-0.6		
PDG	Podgorica	5.63	331	*e*Pn	Pn	13 11 30.6	-0.1		
PDG	Podgorica	5.63	331	*e*Pn	Pn	13 11 30.6	-0.1		
TTG	Podgorica	5.63	331	*i*Pn	Pn	13 11 30.2	-0.5		
TTG				*e*Sn	Sn	13 12 30.9	-3.1		
BUM	Brajici-Budva	5.67	328	*j*Pn	Pn	13 11 30.1	-1.1		
BUM	Brajici-Budva	5.67	328	*j*Pn	Pn	13 11 30.1	-1.1		
BUM				*e*Sn	Sn	13 12 30.4	-4.6		
ZAPS	Zavoj	5.73	358	*e*Pn	Pn	13 11 35.3	+3.2		
BEY	Berane	5.81	337	*j*Pn	Pn	13 11 32.9	-0.2		
IVA	Berane	5.81	337	*j*Pn	Pn	13 11 32.9	-0.2		
IVA				*e*Sn	Sn	13 12 34.4	-3.9		
SELS	Selova	5.84	347	*e*Pn	Pn	13 11 33.3	-0.2		
SG1	Sgolgore (BA)	5.86	306	*e*Pn	Pn	13 11 33.7	-0.1		
BAI	Bari	5.88	308	*e*Pn	Pn	13 11 33.5	-0.5		
HCY	Herceg Novi	5.96	327	*i*Pn	Pn	13 11 34.0	-1.1		
HCY	Herceg Novi	5.96	327	*j*Pn	Pn	13 11 34.0	-1.1		
HCY				*e*Sn	Sn	13 12 36.9	-5.1		
NKME	Niksic	6.04	331	*i*Pn	Pn	13 11 35.5	-0.7		
NKME	Niksic	6.04	331	*i*Pn	Pn	13 11 35.5	-0.7		
NKME				*e*Sn	Sn	13 12 39.8	-4.1		
ISP	Isparta	6.04	85	*i*P	Pn	13 11 40.1	+3.8		
ISP	Isparta	6.04	85	*e*Pn	Pn	13 11 40.2	+3.8		
NKY	Níksic	6.06	332	*j*Pn	Pn	13 11 36.4	-0.2		
NKY	Niksic	6.06	332	*j*Pn	Pn	13 11 36.4	-0.2		
NKY				*e*Sn	Sn	13 12 40.9	-3.7		
CUC	Castrocucco	6.06	296	*e*Pn	Pn	13 11 37.3	+0.7		
CUC	Castrocucco	6.06	296	*e*Pn	Pn	13 11 37.3	+0.7		
SJES	Sjenica	6.14	339	*e*Pn	Pn	13 11 37.8	+0.1		
CDT	Castel del Mon	6.25	307	*e*Pn	Pn	13 11 38.9	-0.2		
BRY	Bratogost	6.32	329	*j*Pn	Pn	13 11 39.6	-0.5		
BRY	Bratogost	6.32	329	*j*Pn	Pn	13 11 39.6	-0.5		
BRY				*e*Sn	Sn	13 12 46.1	-4.7		
SLUM	baz=160	6.32	162	P	Pn	13 11 38.5	-1.6		
SLUM		6.32	162	P	Pn	13 11 38.5	-1.6		
BOLS	Boljevac	6.33	354	*e*Pn	Pn	13 11 41.4	+1.3		
BOLS	Boljevac	6.33	354	*e*Pn	Pn	13 11 41.4	+1.3		
PLE	Pljevlja	6.38	336	*i*Pn	Pn	13 11 40.2	-0.7		
PLE	Pljevlja	6.38	336	*i*Pn	Pn	13 11 40.2	-0.7		
PLE				*e*Sn	Sn	13 12 48.6	-3.7		
IVAS	Ivanjica	6.39	342	*e*Pn	Pn	13 11 40.7	-0.3		
IVAS	Ivanjica	6.39	342	*e*Pn	Pn	13 11 40.7	-0.3		
UPM	Unac-Piva	6.43	333	*i*Pn	Pn	13 11 41.6	-0.1		
UPM	Unac-Piva	6.43	333	*i*Pn	Pn	13 11 41.6	-0.1		
UPM				*e*Sn	Sn	13 12 50.1	-3.6		
PRD	Provadia	6.61	30	*i*P	Pn	13 11 46.8	+2.8		
PRD	Provadia	6.61	30	*i*P	Pn	13 11 46.8	+2.8		
STON	Ston	6.65	325	*e*Pn	Pn	13 11 42.7	-1.8		
STON				Sn	Sn	13 12 51.7	-7.1		
STON	Ston	6.65	325	*e*Pn	Pn	13 11 42.9	-1.7		
BBLS	Lazići	6.86	338	*e*Pn	Pn	13 11 45.2	-2.2		
DIVS	Divibare	6.92	342	*e*Pn	Pn	13 11 47.5	-0.7		
DIVS	Divibare	6.92	342	*i*P	Pn	13 11 48.3	+0.1		
DIVS	Divibare	6.92	342	*i*P	Pn	13 11 48.3	+0.1		
HMAT	Matruh	7.30	151	S	Sn	13 13 05.3	-10		
CLTB	baz=149 Caltabellotta	7.70	273	*e*Pn	Pn	13 11 58.1	-0.9		
CLTB	Caltabellotta	7.70	273	*e*Pn	Pn	13 11 58.1	-0.9		
FRGS	Fruska Gora	7.96	344	*e*Pn	Pn	13 12 00.8	-1.6		
BZS	Buzias	8.13	354	*e*Pn	Pn	13 12 06.5	+1.8		
BZS	Buzias	8.13	354	*i*P	Pn	13 12 06.2	+1.5		
BZS	Buzias	8.13	354	*i*P	Pn	13 12 06.2	+1.5		
BZS	Buzias	8.13	354	*e*Pn	Pn	13 12 06.5	+1.8		
MLR	Muntele Rosu	8.26	15	P	Pn	13 12 10.8	+4.2		
MLR	0.2nm,0.3s,baz=204,slow=20,SNR=8.1			S	Sn	13 13 42.6	+4.2		
MLR	0.1nm,0.3s,baz=283,slow=14,SNR=1.7 Muntele Rosu	8.26	15	*i*P	Pn	13 12 09.4	+2.8		
MLR	Muntele Rosu	8.26	15	*i*P	Pn	13 12 09.4	+2.8		
SWA2	baz=163	8.54	165	P	Pn	13 12 08.0	-2.4		
SWA2	baz=163			S	Sn	13 13 32.2	-13		
BR131	Keskin Array S	8.67	72

	2.1nm,0.6s,baz=130,slow=1.9,SNR=3.9							
KSRS	**Korea Array**	**55.56**	**328**	P		**P**	**13 30 41.2**	**-0.3**
	0.7nm,0.6s,baz=129,slow=6.9,SNR=4.4							
KSAR	**Wonju Array Be**	**55.57**	**328**	P		**P**	**13 30 41.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**67.01**	**294**	P		**P**	**13 31 59.4**	**-0.2**
	2.0nm,0.7s,baz=125,slow=4.9,SNR=14							
VNDA	**Vanda**	**68.60**	**180**	P		**P**	**13 32 08.0**	**-0.5**
	1.4nm,0.7s,baz=354,slow=6.0,SNR=10							
VNDA	**Vanda**	**68.60**	**180**	*e*P		**P**	**13 32 08.3**	**-0.2**
SONM	**Songino Array**	**74.23**	**325**	P		**P**	**13 32 43.3**	**+0.2**
	1.9nm,0.6s,baz=144,slow=6.7,SNR=5.6							
GTA	**Gaotai**	**74.25**	**315**	*e*P		**P**	**13 32 44.5**	**+1.0**
GTA				pP		**pP**	**13 32 56.0**	**-0.2**
GTA				sP		**sP**	**13 33 01.5**	**+0.4**
GTA				PMZ				
	9.0nm,0.9s							
MCK	**McKinley**	**81.67**	**20**	*e*P		**P**	**13 33 23.8**	**-0.2**
	5.1nm,0.9s							
ILAR	**Eielson Array**	**83.02**	**20**	P		**P**	**13 33 30.1**	**-0.8**
	0.9nm,0.5s,baz=248,slow=4.8,SNR=21							
H02N1	**VAN INLET T-PH**	**83.41**	**34**	T		T	15 05 30.0	
H02S1	**DAWSON INLET T**	**83.43**	**34**	T		T	15 05 31.3	
	SNR=8.4							
MAW	**Mawson**	**84.95**	**202**	P		**P**	**13 33 39.8**	**-1.0**
	1.3nm,0.6s,baz=81,slow=10.0,SNR=3.7							
YBH	**Yreka Blue Hor**	**85.76**	**47**	P		**P**	**13 33 47.0**	**+1.5**
	2.2nm,0.9s,baz=233,slow=10,SNR=3.3							
NVAR	**Mina Array Bea**	**88.23**	**51**	P		**P**	**13 33 58.9**	**+1.2**
	0.8nm,0.8s,baz=238,slow=7.5,SNR=5.0							
MK31	**Makanchi Array**	**88.81**	**318**	*e*P		**P**	**13 33 59.6**	**-0.4**
ZALV	**Zalesovo Beam**	**89.13**	**325**	P		**P**	**13 34 02.4**	**+1.1**
	0.9nm,0.6s,baz=101,slow=2.9,SNR=4.1							
H06E1	**SOCORRO T-PHAS**	**90.98**	**71**	T		T	15 14 53.3	
AAK	**Ala-Archa**	**93.42**	**312**	P		**P**	**13 34 23.7**	**+2.0**
	4.5nm,0.8s,baz=172,slow=5.0,SNR=4.9							
AAK	**Ala-Archa**	**93.42**	**312**	P		**P**	**13 34 23.7**	**+2.0**
YKA	**Yellowknife Ar**	**95.22**	**28**	P		**P**	**13 34 28.4**	**-0.8**
	0.9nm,0.8s,baz=256,slow=5.0,SNR=3.2							
PDAR	**Pinedale Array**	**95.53**	**48**	P		**P**	**13 34 30.9**	**-0.6**
	0.9nm,0.9s,baz=239,slow=0.9,SNR=4.6							
FINES	**FINESS Array B**	**118.05**	**337**	PKP		**PKPdf**	**13 39 53.4**	**+1.1**
	2.1nm,0.9s,baz=140,slow=6.7,SNR=2.8							
AKASG	**Malin Array Be**	**122.51**	**326**	PKP		**PKPdf**	**13 40 00.4**	**-0.8**
	0.2nm,0.3s,baz=51,slow=1.9,SNR=2.8							
BOSA	**Boshof**	**123.33**	**227**	PKP		**PKPdf**	**13 40 03.3**	**-0.5**
	2.5nm,0.5s,baz=135,slow=2.0,SNR=11							
BRTR	**Keskin Array B**	**124.10**	**312**	PKP		**PKPdf**	**13 40 04.2**	**-0.7**
	0.4nm,0.6s,baz=134,slow=6.2,SNR=2.6							
LPAZ	**La Paz**	**125.28**	**117**	PKP		**PKPdf**	**13 40 08.2**	**-0.2**
	0.6nm,0.8s,baz=235,slow=6.4,SNR=2.6							
GERES	**GERESS Array B**	**131.67**	**331**	PKP		**PKPdf**	**13 40 18.2**	**-0.7**
	0.3nm,0.6s,baz=25,slow=3.2,SNR=3.7							
ESDC	**Sonseca Array**	**146.55**	**339**	PKPbc		**PKPbc**	**13 40 46.9**	**-0.8**
	0.6nm,0.7s,baz=39,slow=3.3,SNR=5.0							
TORD	**Torodi Ar. Bea**	**159.29**	**284**	PKP		**PKPdf**	**13 41 04.9**	**-0.4**
	0.9nm,0.8s,baz=45,slow=0.7,SNR=6.4							
TORD				PKPab		**PKPab**	**13 41 40.2**	**-2.5**
	1.4nm,0.9s,baz=75,slow=5.2,SNR=6.2							

*IDC **27** 13:23:03.4±0.7,51.56N×173.47W,h0km,mb4.0/27, mb1 4.2/29,mb1mx4.0/61,mbtmp4.0/29,ML4.8/1,Error ellipse: s-maj=20.6km s-min=11.5km az=174.0*
*ISCJB **27** 13:23:07.5±0.5,51.59N±0.08×173.41W±0.04,h37km, mb4.0/28,Error ellipse: s-maj=12.3km s-min=3.4km az=171.0*
*NEIC **27** 13:23:09.7±0.5,51.64N×173.51W,h43km±4km,mb4.1/8, ML3.7(AEIC),Error ellipse: s-maj=10.1km s-min=3.3km az=167.0*

ISC 27 13:23:09.1±0.7,51.6N±0.1×173.49W±0.04,h37km,n65, σ0.997/65,mb4.1/28,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GSMY	**Great Sitkin M**	**1.66**	**287**	P		**Pn**	**13 23 35.3**	**-0.3**
GSTR	**Great Sitkin T**	**1.68**	**289**	*e*P		**Pn**	**13 23 35.6**	**-0.2**
GSCK	**Great Sitkin C**	**1.72**	**286**	P		**Pn**	**13 23 36.3**	**-0.1**
GSTD	**Great Sitkin T**	**1.72**	**287**	P		**Pn**	**13 23 36.1**	**-0.4**
GSTD				S		**Sn**	**13 23 59.0**	**+1.8**
ETKA	**Kagalaska Isla**	**1.84**	**280**	P		**Pn**	**13 23 37.8**	**-0.2**
ETKA				S		**Sn**	**13 24 00.3**	**+0.3**
ADAG	**Mount Adagdak**	**1.98**	**283**	P		**Pn**	**13 23 40.6**	**+0.7**
KIKV	**Kanaga Island**	**2.31**	**279**	P		**Pn**	**13 23 44.6**	**0.0**
KICM	**Kanaga Island**	**2.33**	**280**	P		**Pn**	**13 23 45.0**	**+0.2**
TAFP	**Tanaga Falls P**	**2.81**	**278**	P		**Pn**	**13 23 52.2**	**+0.7**
TAFP				S		**Sn**	**13 24 27.4**	**+3.3**
TASE	**Tanaga Southea**	**2.84**	**277**	P		**Pn**	**13 23 52.5**	**+0.6**
NIKH	**Nikolski High**	**3.17**	**62**	P		**Pn**	**13 23 56.6**	**+0.3**
NIKH				S		**Sn**	**13 24 33.3**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**3.79**	**59**	P		**Pn**	**13 24 07.0**	**+2.1**
OKFG	**Magazine Ridge**	**3.87**	**60**	P		**Pn**	**13 24 07.8**	**+1.9**
MREP	**Makushin Rep't**	**4.67**	**59**	P		**Pn**	**13 24 18.8**	**+1.9**
UNV	**Unalaska Valle**	**4.81**	**59**	P		**Pn**	**13 24 20.0**	**+1.1**
SPIA	**Saint Paul Isl**	**5.92**	**17**	P		Pn	13 24 37.4	+3.4
CAST	**Castle Rocks**	**16.41**	**36**	*e*Pn		**Pn**	**13 26 52.9**	**-3.4**
	14nm,1.4s							
BPAW	**Bear Paw Mtn.**	**17.21**	**35**	*e*Pn		**Pn**	**13 27 04.5**	**-1.8**
	40nm,2.1s							
PETK	**Petropavlovsk-**	**17.62**	**286**	P		**Pn**	**13 27 11.4**	**0.0**
	0.3nm,0.3s,baz=93,slow=13,SNR=6.5							
CCB	**Clear Creek Bu**	**18.66**	**36**	*e*Pn		**P**	**13 27 22.8**	**-0.7**
	5.6nm,0.5s							
PAX	**Paxson**	**18.77**	**42**	*e*Pn		**P**	**13 27 24.8**	**-0.1**
	19nm,2.0s							
HDA	**Harding Lake**	**18.85**	**37**	*e*Pn		**P**	**13 27 24.8**	**-0.7**
	9.6nm,0.5s							
ILAR	**Eielson Array**	**19.06**	**36**	P		**P**	**13 27 26.7**	**-1.2**
	1.3nm,0.3s,baz=232,slow=10.0,SNR=110							
BILL	**Bilibino**	**19.22**	**337**	*e*Pn		**Pn**	**13 27 31.3**	**+0.6**
	43nm,2.0s							
COLD	**Coldfoot**	**19.45**	**28**	*e*Pn		**P**	**13 27 32.0**	**-0.1**
	2.7nm,0.8s							
EGAK	**Eagle**	**21.25**	**39**	*e*P		**P**	**13 27 51.8**	**+0.2**
	25nm,0.6s							
SEY	**Seymchan**	**21.38**	**315**	P		**P**	**13 27 54.2**	**+1.2**
	1.2nm,0.7s,baz=121,slow=18,SNR=3.8							
DAWY	**Dawson**	**21.71**	**42**	*e*P		**P**	**13 27 55.8**	**-0.8**
HYT	**Haines Junctio**	**21.78**	**51**	*e*P		**P**	**13 27 57.7**	**+0.2**
INK	**Inuvik**	**25.41**	**34**	P		**P**	**13 28 32.0**	**-0.6**
	2.4nm,0.5s,baz=233,slow=9.2,SNR=9.0							
DLBC	**Dease Lake**	**25.46**	**57**	P		**P**	**13 28 33.3**	**0.0**
	5.6nm,0.8s,baz=273,slow=8.8,SNR=11							
YKA	**Yellowknife Ar**	**32.66**	**47**	P		**P**	**13 29 37.1**	**-0.1**
	0.9nm,0.5s,baz=273,slow=7.9,SNR=7.9							
H11N2	**WAKE ISLAND Hy**	**35.32**	**213**	T		T	14 08 02.6	
	baz=21,slow=76,SNR=7.3							
H11N3	**WAKE ISLAND Hy**	**35.33**	**213**	T		T	14 08 02.0	
	baz=21,slow=76,SNR=7.0							
H11N1	**WAKE ISLAND Hy**	**35.34**	**213**	T		T	14 08 03.7	
	baz=21,slow=76,SNR=6.8							
NEW	**Newport**	**35.67**	**73**	P		**P**	**13 30 02.6**	**-0.9**
	2.0nm,0.6s,baz=346,slow=8.3,SNR=3.4							
H11S1	**WAKE ISLAND Hy**	**36.52**	**213**	T		T	14 09 22.3	
	baz=20,slow=76,SNR=10							
H11S2	**WAKE ISLAND Hy**	**36.54**	**213**	T		T	14 09 20.9	
	baz=20,slow=76,SNR=6.5							
H11S3	**WAKE ISLAND Hy**	**36.54**	**213**	T		T	14 09 20.9	
	baz=20,slow=76,SNR=5.6							
USRK	**Ussuriysk Ar.**	**36.55**	**280**	P		**P**	**13 30 10.6**	**-0.3**
	3.8nm,0.7s,baz=48,slow=9.7,SNR=7.8							
NVAR	**Mina Array Bea**	**40.22**	**87**	P		**P**	**13 30 42.2**	**+0.1**
	0.9nm,0.8s,baz=297,slow=9.1,SNR=6.5							
KSRS	**Korea Array**	**42.95**	**275**	P		**P**	**13 31 05.3**	**+1.2**
	2.4nm,0.9s,baz=54,slow=7.7,SNR=10.0							
KSAR	**Wonju Array Be**	**42.98**	**275**	P		**P**	**13 31 05.3**	**+0.9**
PDAR	**Pinedale Array**	**43.06**	**76**	P		**P**	**13 31 06.1**	**+0.8**
	1.2nm,0.5s,baz=327,slow=5.1,SNR=14							
ULM	**Lac du Bonnet**	**46.76**	**59**	P		**P**	**13 31 34.2**	**-0.1**
	1.7nm,0.6s,baz=303,slow=10.0,SNR=4.7							
SONM	**Songino Array**	**49.49**	**299**	P		**P**	**13 31 55.5**	**-0.1**
	2.7nm,0.7s,baz=47,slow=7.7,SNR=6.0							
TXAR	**Lajitas Array**	**55.33**	**85**	P		**P**	**13 32 38.5**	**-0.6**
	0.4nm,0.7s,baz=303,slow=5.8,SNR=4.5							
SCHQ	**Schefferville**	**57.73**	**41**	P		**P**	**13 32 55.3**	**-0.4**
	1.2nm,0.5s,baz=317,slow=7.9,SNR=3.5							
ARCES	**ARCESS Array B**	**58.40**	**352**	P		**P**	**13 32 59.7**	**-0.4**
	3.3nm,0.7s,baz=14,slow=6.4,SNR=6.0							
ARCES				PcP		**PcP**	**13 33 50.6**	**0.0**
	3.3nm,0.9s,baz=15,slow=5.0,SNR=5.9							
KURK	**Kurchatov**	**61.23**	**316**	P		**P**	**13 33 20.4**	**+0.6**
KURK				PcP		**PcP**	**13 34 02.6**	**+0.5**
KURBB	**Kurchatov Arra**	**61.33**	**316**	P		**P**	**13 33 20.4**	**-0.2**
	1.5nm,0.5s,baz=45,slow=6.6,SNR=18							
KURBB				PcP		**PcP**	**13 34 02.6**	**0.0**
	0.2nm,0.3s,baz=44,slow=4.1,SNR=2.8							
BVAR	**Borovoye Array**	**62.82**	**322**	P		**P**	**13 33 30.9**	**+0.4**
	2.7nm,0.5s,baz=53,slow=6.4,SNR=22							
FINES	**FINESS Array B**	**66.24**	**350**	P		**P**	**13 33 52.1**	**-0.6**
	0.9nm,0.7s,baz=0.0,slow=7.6,SNR=3.8							
NOA	**NORSAR Array B**	**67.67**	**358**	P		**P**	**13 34 01.3**	**-0.5**
	0.3nm,0.5s,baz=0.9,slow=6.3,SNR=3.1							
AKTO	**Aktyubinsk**	**69.37**	**328**	P		**P**	**13 34 12.5**	**0.0**
	4.9nm,0.6s,baz=52,slow=7.8,SNR=13							
CMAR	**Chiang Mai Arr**	**74.28**	**280**	P		**P**	**13 34 43.0**	**+0.6**
	0.6nm,0.6s,baz=17,slow=7.7,SNR=5.0							
AKASG	**Malin Array Be**	**76.28**	**345**	P		**P**	**13 34 52.8**	**-0.7**
	1.4nm,0.4s,baz=17,slow=6.1,SNR=3.7							
GERES	**GERESS Array B**	**79.76**	**355**	P		**P**	**13 35 13.2**	**+0.2**
	0.5nm,0.6s,baz=17,slow=4.9,SNR=5.6							
GEYT	**Alibeck**	**80.10**	**321**	P		**P**	**13 35 14.9**	**-0.1**
	1.2nm,0.5s,baz=350,slow=7.5,SNR=4.4							
WRA	**Warramunga Arr**	**84.55**	**228**	P		**P**	**13 35 37.2**	**-0.9**
	0.4nm,0.8s,baz=34,slow=5.1,SNR=3.6							
BRTR	**Keskin Array B**	**86.03**	**339**	P		**P**	**13 35 45.9**	**+0.2**
	1.0nm,0.6s,baz=52,slow=2.2,SNR=7.0							
ASAR	**Alice Springs**	**87.97**	**227**	P		**P**	**13 35 54.5**	**-0.4**
	0.5nm,0.8s,baz=30,slow=3.9,SNR=6.4							
ESDC	**Sonseca Array**	**88.66**	**8**	P		**P**	**13 35 58.6**	**+0.4**
	0.3nm,0.6s,baz=354,slow=4.8,SNR=2.8							
MAW	**Mawson**	**148.68**	**218**	PKPbc		**PKPbc**	**13 42 49.9**	**-0.8**
	1.5nm,0.8s,baz=51,slow=6.5,SNR=3.2							
BOSA	**Boshof**	**153.10**	**321**	PKPbc		**PKPbc**	**13 43 03.4**	**+0.8**
	1.2nm,0.5s,baz=56,slow=8.6,SNR=3.2							

*IDC **27** 13:24:05.7±0.8,8.98S×160.96E,h0km,mb4.0/8, mb1 4.3/8,mb1mx3.9/39,mbtmp4.0/8,Error ellipse: s-maj=40.6km s-min=20.8km az=132.0*
*ISCJB **27** 13:24:10.7±0.6,8.885±0.09×161.05E±0.08,h43km, mb4.0/11,Error ellipse: s-maj=15.1km s-min=8.6km az=141.5*
*NEIC **27** 13:24:13.1±2.3,8.85S×160.94E,h50km±20km,mb4.2/3, Error ellipse: s-maj=20.0km s-min=16.3km az=147.0*

ISC 27 13:24:12.1±0.7,8.9S±0.1×161.0E±0.1,h43km,n30, σ1.934/24,mb4.0/11,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.20**	**242**	*e*Pg		**Pn**	**13 24 32.2**	**-0.2**
HNR				*e*Sg		**Sn**	**13 24 48.9**	**+1.4**
DZM	**Mont Dzumac**	**14.13**	**159**	Pn		**Pn**	**13 27 30.5**	**+0.7**
	0.1nm,0.0s,baz=270,slow=24,SNR=155							
CTA	**Charters Tower**	**18.11**	**230**	P		**Pn**	**13 28 23.2**	**+2.6**
	0.4nm,0.3s,baz=48,slow=10,SNR=3.6							
CTAO	**Charters Tower**	**18.11**	**230**	*e*P		**Pn**	**13 28 22.8**	**+2.2**
EIDS	**Eidsvold**	**18.94**	**209**	P		**Pn**	**13 28 32.1**	**+1.5**
H11S2	**WAKE ISLAND Hy**	**27.75**	**12**	T		T	13 58 47.6	
	baz=193,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy**	**27.75**	**12**	T		T	13 58 46.8	
	baz=193,slow=76,SNR=23							
H11S1	**WAKE ISLAND Hy**	**27.77**	**12**	T		T	13 58 48.0	
	baz=193,slow=76,SNR=16							
WRAB	**Tennant Creek**	**28.03**	**244**	*e*P		**P**	**13 29 58.7**	**-0.8**
	4.5nm,0.7s							
WRA	**Warramunga Arr**	**28.04**	**244**	P		**P**	**13 29 58.8**	**-0.8**
	4.2nm,0.7s,baz=70,slow=9.4,SNR=15							
H11N1	**WAKE ISLAND Hy**	**28.98**	**11**	T		T	14 00 18.7	
	baz=192,slow=76,SNR=318							
H11N3	**WAKE ISLAND Hy**	**28.99**	**12**	T		T	14 00 19.3	
	baz=192,slow=76,SNR=230							
H11N2	**WAKE ISLAND Hy**	**29.00**	**11**	T		T	14 00 20.1	
	baz=192,slow=76,SNR=208							
STKA	**Stephens Creek**	**29.15**	**216**	P		**P**	**13 30 07.7**	**-1.6**
	1.7nm,0.5s,baz=45,slow=13,SNR=4.5							
STKA	**Stephens Creek**	**29.15**	**216**	*e*P		**P**	**13 30 07.8**	**-1.5**
AS31	**Alice Springs**	**29.82**	**237**	*e*P		**P**	**13 30 13.0**	**-2.4**
ASAR	**Alice Springs**	**29.82**	**237**	P		**P**	**13 30 14.1**	**-1.3**
	1.8nm,0.5s,baz=63,slow=10,SNR=16							
ASAR				PcP		**PcP**	**13 33 17.7**	**-0.5**
	0.2nm,0.4s,baz=77,slow=2.8,SNR=4.0							
VNDA	**Vanda**	**68.63**	**180**	P		**P**	**13 35 08.8**	**-1.6**
	0.6nm,0.7s,baz=344,slow=6.9,SNR=3.6							
VNDA	**Vanda**	**68.63**	**180**	*e*P		**P**	**13 35 10.5**	**+0.2**
SONM	**Songino Array**	**74.19**	**325**	P		**P**	**13 35 44.8**	**+0.3**
	0.4nm,0.3s,baz=116,slow=6.7,SNR=3.9							
COLA	**College**	**82.74**	**20**	*e*P		**P**	**13 36 30.9**	**-0.2**
	1.6nm,0.7s							
ILAR	**Eielson Array**	**83.00**	**20**	P		**P**	**13 36 32.3**	**-0.2**
	0.4nm,0.7s,baz=250,slow=4.5,SNR=4.6							
H02N1	**VAN INLET T-PH**	**83.40**	**34**	T		T	15 08 33.2	
H02S1	**DAWSON INLET T**	**83.42**	**34**	T		T	15 08 35.7	
	SNR=10							
NVAR	**Mina Array Bea**	**88.23**	**51**	P		**P**	**13 37 00.4**	**+1.1**
	0.4nm,0.7s,baz=235,slow=6.4,SNR=3.4							
MK31	**Makanchi Array**	**88.77**	**318**	*e*P		**P**	**13 37 01.8**	**+0.4**
H06E1	**SOCORRO T-PHAS**	**90.99**	**71**	T		T	15 17 56.7	
KURK	**Kurchatov**	**92.01**	**321**	*e*P		**P**	**13 37 16.5**	**+0.2**
	2.0nm,0.6s							
PDAR	**Pinedale Array**	**95.53**	**48**	P		**P**	**13 37 34.7**	**+1.6**
	0.4nm,0.8s,baz=46,slow=2.6,SNR=2.8							
TORD	**Torodi Ar. Bea**	**159.26**	**284**	PKP		**PKPdf**	**13 44 06.6**	**-0.2**
	0.4nm,0.8s,baz=5.7,slow=1.4,SNR=3.1							
TORD				PKPab		**PKPab**	**13 44 43.1**	**-1.2**
	0.4nm,0.8s,baz=134,slow=4.2,SNR=3.3							

*IDC **27** 13:27:30.7±1.2,37.98N×41.51E,h0km,mb3.5/4, mb1 3.5/11,mb1mx3.4/29,mbtmp3.3/11,ML3.0/5,MS3.5/2, Ms1 3.5/2,ms1mx2.3/31,Error ellipse: s-maj=22.9km s-min=10.5km az=143.0*
*ISK **27** 13:27:37.1,38.31N×41.02E,h5km,ML3.8*
*CSEM **27** 13:27:37.60.1,38.32N×41.04E,h2km,ML3.8,Error ellipse: s-maj=3.8km s-min=2.8km az=168.0*
*ISCJB **27** 13:27:37.30.5,38.33N±0.02×41.01E±0.02,h4km±4km, mb3.4/4,MS3.5/2,Error ellipse: s-maj=3.5km s-min=2.9km az=13.9*
*TEH **27** 13:27:37.9,38.31N×41.03E,h5km,ML3.8*
*DDA **27** 13:27:37.0,38.30N×41.01E,h23km,ML3.8*

ISC 27 13:27:37.81.0,38.33N±0.02×41.01E±0.02,h10km±8km, n118,σ1.911/134,mb3.4/4,Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SVAN	**Silvan-Diyarba**	**0.23**	**140**	PG		**Pg**	**13 27 42.2**	**-0.3**
SVAN				*e*SG		**Sg**	**13 27 45.8**	**+0.1**
BTMT	**Batman**	**0.40**	**109**	PG		**Pg**	**13 27 45.1**	**-0.5**
BTMT	**Batman**	**0.40**	**109**	*i* Pg		**Pg**	**13 27 45.2**	**-0.5**
BEST	**Besiri**	**0.48**	**155**	*i* P		**Pg**	**13 27 47.1**	**-0.1**
BEST				*i* S		**Sg**	**13 27 54.1**	**+0.6**
BINT	**Bingol**	**0.69**	**323**	*i* Pg		**Pg**	**13 27 51.1**	**0.0**
BNGB	**Bingˆ¶l**	**0.71**	**339**	PG		**Pg**	**13 27 51.1**	**-0.6**
DIY	**Diyarbakir**	**0.75**	**236**	*i* Pg		**Pb**	**13 27 53.1**	**0.0**
DYBB	**Diyarbakir**	**0.78**	**242**	PG		**Pg**	**13 27 53.1**	**+0.2**
DIYA	**Diyarbakir**	**0.81**	**241**	*i* P		**Pg**	**13 27 53.5**	**+0.1**
DIYA				*i* S		**Sb**	**13 28 04.7**	**-0.4**
DIYA	**Diyarbakir**	**0.81**	**241**	*i* P		**Pg**	**13 27 53.5**	**+0.1**
DIYA				*i* S		**Sb**	**13 28 04.7**	**-0.4**
VRTB	**Varto-Mus**	**0.90**	**22**	PG		**Pg**	**13 27 54.2**	**-1.0**
VRTB	**Varto-Mus**	**0.90**	**22**	*i* Pg		**Pg**	**13 27 54.2**	**-1.0**
MAZI	**Mazidag**	**0.97**	**208**	PG		**Pg**	**13 27 55.9**	**-0.6**
MAZI				*e*SG		**Sg**	**13 28 09.4**	**+0.2**
MAZI	**Mazidag**	**0.97**	**208**	*i* Pg		**Pg**	**13 27 55.9**	**-0.6**
MAZI				*e*Sg		**Sg**	**13 28 09.4**	**+0.2**
TATV	**Tatvan**	**1.00**	**79**	*i* P		**Pg**	**13 27 55.7**	**-1.4**
TATV				*i* S		**Sg**	**13 28 10.2**	**0.0**
TATV	**Tatvan**	**1.00**	**79**	*i* P		**Pg**	**13 27 55.7**	**-1.4**
TATV				*i* S		**Sg**	**13 28 10.2**	**0.0**
MARD	**Mardin**	**1.03**	**190**	*i* P		**Pg**	**13 27 57.2**	**-0.3**
MARD				*i* S		**Sg**	**13 28 09.9**	**-1.0**
EKAR	**Karacoban**	**1.24**	**41**	*i* P		**Pn**	**13 28 00.7**	**-0.8**
EKAR	**Karacoban**	**1.24**	**41**	*i* P		**Pn**	**13 28 00.7**	**-0.8**
SIRN	**S¨¬rnak**	**1.38**	**126**	*i* P		**Pn**	**13 28 02.3**	**-1.0**
SIRN				*i* S		**Sn**	**13 28 21.6**	**0.0**
SIRN	**S¨¬rnak**	**1.38**	**126**	*i* P		**Pn**	**13 28 02.3**	**-1.0**
SIRN				*i* S		**Sn**	**13 28 21.6**	**0.0**
PTK	**Pertek**	**1.39**	**295**	*e*PN		**Pn**	**13 28 02.9**	**-0.6**
PTK	**Pertek**	**1.39**	**295**	*e*Pn		**Pn**	**13 28 02.9**	**-0.6**
SIRT	**Sirnak**	**1.40**	**126**	*e*Pn		**Pn**	**13 28 03.1**	**-0.4**
SIRT				*e*SN		**Sg**	**13 28 22.4**	**-0.3**
SIRT	**Sirnak**	**1.40**	**126**	*e*Pn		**Pn**	**13 28 03.1**	**-0.4**
SIRT				*e*Sn		**Sg**	**13 28 22.4**	**-0.3**
ERZM	**Erzurum**	**1.60**	**10**	*i* P		**Pn**	**13 28 06.9**	**+0.4**
ERZM	**Erzurum**	**1.60**	**10**	*i* P		**Pn**	**13 28 06.9**	**+0.4**
EZM	**Erzurum**	**1.60**	**10**	*e*PN		**Pn**	**13 28 07.2**	**+0.8**
ELZG	**Elazig**	**1.60**	**277**	*i* P		**Pn**	**13 28 06.1**	**-0.3**
ELZG				*i* S		**Sg**	**13 28 29.4**	**0.0**
GEVA	**Gevas**	**1.61**	**90**	*i* P		**Pn**	**13 28 06.3**	**-0.2**
GEVA				*i* S		**Sg**	**13 28 29.7**	**+0.1**
GEVA	**Gevas**	**1.61**	**90**	*i* P		**Pn**	**13 28 06.3**	**-0.2**
GEVA				*i* S		**Sg**	**13 28 29.7**	**+0.1**
ERZN	**Erzincan**	**1.61**	**322**	*e*PN		**Pb**	**13 28 07.4**	**-0.4**
HOMI	**Horasan**	**1.85**	**22**	*i* P		**Pn**	**13 28 10.3**	**+0.4**
HOMI				*i* S		**Sg**	**13 28 37.9**	**+0.4**
VANB	**Van**	**1.88**	**81**	*e*PN		**Pb**	**13 28 11.5**	**-0.9**
VANB	**Van**	**1.88**	**81**	*e*Pn		**Pb**	**13 28 11.5**	**-0.9**
TVAN	**Van**	**1.89**	**83**	*i* P		**Pn**	**13 28 10.7**	**+0.3**
TVAN	**Van**	**1.89**	**83**	*i* P		**Pn**	**13 28 10.7**	**+0.3**
EATA	**Eleskirt**	**1.92**	**36**	*i* P		**Pn**	**13 28 11.8**	**+0.9**
EATA				*i* S		**Sb**	**13 28 37.0**	**-0.3**
EATA	**Eleskirt**	**1.92**	**36**	*i* P		**Pn**	**13 28 11.8**	**+0.9**
EATA				*i* S		**Sb**	**13 28 37.0**	**-0.3**
URFA	**Urfa**	**1.95**	**244**	*e*PN		**Pn**	**13 28 11.5**	**+0.5**
URFA	**Urfa**	**1.95**	**244**	*e*Pn		**Pn**	**13 28 11.5**	**+0.5**
AGRB	**Hanur-Agry**	**1.98**	**50**	*e*PN		**Pn**	**13 28 12.2**	**+0.5**
AGRB	**Hanur-Agry**	**1.98**	**50**	*e*Pn		**Pn**	**13 28 12.2**	**+0.5**
MALT	**Malatya**	**2.03**	**270**	*e*PN		**Pn**	**13 28 12.1**	**-0.2**
MALT	**Malatya**	**2.03**	**270**	*e*Pn		**Pn**	**13 28 12.1**	**-0.2**
BAYT	**Ayd¨¬ntepe-Bay**	**2.17**	**342**	*e*PN		**Pn**	**13 28 15.4**	**+1.1**
BAYT	**Ayd¨¬ntepe-Bay**	**2.17**	**342**	*e*Pn		**Pn**	**13 28 15.4**	**+1.1**
KEMA	**Kemaliye**	**2.18**	**296**	*i* P		**Pn**	**13 28 15.1**	**+0.8**
KEMA	**Kemaliye**	**2.18**	**296**	*i* P		**Pn**	**13 28 15.1**	**+0.8**
HAKT	**HAKKARI**	**2.26**	**109**	*i* P		**Pn**	**13 28 14.9**	**-0.7**
HAKT				*i* S		**Sg**	**13 28 51.3**	**+0.7**
HAKT	**HAKKARI**	**2.26**	**109**	*i* P		**Pn**	**13 28 14.9**	**-0.7**
KELT	**Kelkit**	**2.28**	**324**	*i* P		**Pn**	**13 28 15.7**	**0.0**
KELT	**Kelkit**	**2.28**	**324**	*i* P		**Pn**	**13 28 15.7**	**0.0**
HKR	**Hakkari**	**2.28**	**108**	*e*PN		**Pn**	**13 28 16.6**	**+0.8**
HKR	**Hakkari**	**2.28**	**108**	*e*Pn		**Pn**	**13 28 16.6**	**+0.8**
ATAB	**Bozova**	**2.31**	**249**	*i* P		**Pb**	**13 28 18.8**	**-0.9**
ATAB	**Bozova**	**2.31**	**249**	*i* P		**Pb**	**13 28 18.8**	**-0.9**
CUKT	**Cukurca**	**2.32**	**117**	*e*PN		**Pn**	**13 28 17.4**	**+1.2**
CUKT	**Cukurca**	**2.32**	**117**	*e*Pn		**Pn**	**13 28 17.4**	**+1.2**
CLDR	**Caldiran**	**2.41**	**69**	*e*PN		**Pn**	**13 28 18.5**	**+0.9**
CLDR	**Ca

*IDC **27** 14:03:49.3±7.4, 4.76N×76.77W, h84km±77km, mb2.8/1, mb1 3.3/2, mb1mx2.9/22, mbtmp3.2/2, ML2.1/1, Error ellipse: s-maj=95.8km s-min=39.0km az=35.0*

ISC 27 14:03:46.5±1.1, 6.91N±0.07×73.09W±0.08, h166km, n15, σ1§12/20, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**39**	⇓*iP*		**Pn**		**14 04 15.7**	**+0.7**
CAPV				*eS*		**Sn**		**14 04 36.6**	**-0.3**
ROSC	**El Rosal**	**2.38**	**211**	P		**Pn**		**14 04 27.4**	**-0.1**
	9.3nm,0.3s,baz=269,slow=23,SNR=18								
ROSC				S		**Sn**		**14 04 57.6**	**-1.5**
	17nm,0.3s,baz=73,slow=22,SNR=11								
VIGV	**El Vigia**	**2.57**	**42**	*eP*		**Pn**		**14 04 30.0**	**+0.7**
VIGV				*eS*		**Sn**		**14 05 00.6**	**-2.0**
SOCV	**Socops**	**2.60**	**58**	*eP*		**Pn**		**14 04 30.5**	**+0.8**
SOCV				*eS*		**Sn**		**14 05 01.9**	**-1.3**
ELOV	**Elorza**	**3.58**	**88**	*eP*		**Pn**		**14 04 41.9**	**0.0**
VIRV	**Villa del Rosa**	**3.63**	**11**	*eP*		**Pn**		**14 04 42.8**	**+0.2**
VIRV				*eS*		**Sn**		**14 05 23.5**	**-2.8**
SANV	**Sanarito**	**4.36**	**54**	*eP*		**Pn**		**14 04 52.2**	**+0.2**
CURV	**Curarigua**	**4.37**	**45**	*eP*		**Pn**		**14 04 52.6**	**+0.5**
DABV	**Dabajuro**	**4.67**	**31**	*eP*		**Pn**		**14 04 57.1**	**+1.2**
BAUV	**El Baul**	**5.39**	**68**	*eP*		**Pn**		**14 05 05.8**	**+0.3**
MAPV	**Macapo**	**5.43**	**57**	*eP*		**Pn**		**14 05 06.1**	**+0.2**
MONV	**Montecano**	**5.88**	**31**	*eP*		**Pn**		**14 05 11.7**	**-0.2**
TURV	**Turiamo**	**6.27**	**55**	*eP*		**Pn**		**14 05 17.8**	**+0.8**
TXAR	**Lajitas Array**	**36.43**	**312**	P		**P**		**14 10 36.4**	**+0.9**
	0.2nm,0.5s,baz=128,slow=10,SNR=5.2								
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc		**PKPbc**		**14 23 20.1**	**+0.7**
	0.5nm,0.9s,baz=108,slow=2.9,SNR=6.3								

*IDC **27** 14:19:09.5±0.4, 8.95S×160.96E, h0km, mb4.9/24, mb1 5.0/24, mb1mx4.9/31, mbtmp4.8/24, MS4.5/26, Ms1 4.5/26, ms1mx4.4/30, Error ellipse: s-maj=17.0km s-min=12.0km az=89.0*

*ISCJB **27** 14:19:13.0±0.1, 8.96S±0.03×160.79E±0.03, h30km, mb5.0/125, MS4.6/34, Error ellipse: s-maj=4.5km s-min=4.0km az=173.2*

*BJI **27** 14:19:13.2, 8.86S×160.95E, h30km, mb5.2/62, mB5.1/43, Ms4.8/54, Ms7 4.5/53*

*NEIC **27** 14:19:14.8±0.5, 8.95S×160.88E, h33km±3km, mb5.1/81, Error ellipse: s-maj=5.0km s-min=3.9km az=141.0*

NEIC Felt at Honiara.

*GCMT **27** 14:19:14.8±0.2, 8.64S×161.18E, h32km±1km, MW5.1/66, Moment Tensor Solution. s57,c78; s66,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r4.36±.19; $M_{\theta\theta}$-2.16±.13; $M_{\phi\phi}$-2.21±.14; $M_{r\theta}$-3.04±.23; $M_{\theta\phi}$2.69±.10; $M_{r\phi}$2.72±.21; Best double couple: $M_0$6.16200×10^{16} NP1:ϕ_s313.00000°,δ66.00000°,λ88.00000°. NP2: ϕ_s138.00000°,δ24.00000°,λ95.00000°. Principal axes: T 5.9090, Plg69.000°, Azm218.0000°; N 0.4960, Plg2.0000°, Azm314.0000°; P -6.4150, Plg21.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **27** 14:19:21.2±1.4, 8.79S×160.67E, h89km, mb4.9/25, MS4.8/13 Error ellipse: s-maj=10.4km s-min=9.1km az=99.6*

ISC 27 14:19:15.0±0.3, 8.97S±0.04×160.97E±0.05, h33km±1km, h33km:pP-P, n468, σ1§24/512, mb5.1/147, MS4.7/36, 16C-5D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.11**	**245**	*e*Pn		**Pb**		**14 19 36.6**	**+1.0**
PMG	**Port Moresby**	**13.64**	**267**	*c iP*		P		14 22 30.8	-3.8
PMG					pmax	pmax			
	comp=Z,234nm,1.0s								
PMG	**Port Moresby**	**13.64**	**267**	P		**Pn**		**14 22 26.7**	**+0.5**
DZM	**Mont Dzumac**	**14.05**	**159**	Pn		Pn		14 22 36.4	+4.5
	comp=Z,3.3nm,0.3s,baz=270,slow=20,SNR=34								
DZM					Sn		**Sn**	**14 25 09.6**	**+2.8**
	comp=Z,0.4nm,0.3s,baz=270,slow=20,SNR=3.0								
DZM					LR	LR		14 27 39.1	
	comp=Z,4μm,19.6s,baz=0.0,slow=36								
TARA	**Tarawa**	**15.72**	**50**	*e*Pn		**Pn**		**14 22 51.6**	**-2.5**
	comp=Z,222nm,0.9s								
CTA	**Charters Tower**	**18.01**	**231**	P		**P**		**14 23 26.6**	**+3.5**
	comp=Z,4.9nm,0.3s,baz=43,slow=11,SNR=96								
CTA					LR	LR		14 30 14.0	
	comp=Z,4μm,18.5s,baz=48,slow=37								
CTA	**Charters Tower**	**18.01**	**231**	P		**P**		**14 23 26.6**	**+3.5**
CTA					pmax	pmax			
	comp=Z,5.0nm,0.3s								
CTA					MLR	MLR			
	comp=Z,4μm,18.5s								
CTAO	**Charters Tower**	**18.01**	**231**	*e*Pn		**P**		**14 23 26.0**	**+2.9**
	comp=Z,132nm,0.8s								
COEN	**Coen**	**18.12**	**252**	P		**Pn**		**14 23 23.4**	**-0.9**
MSVF	**Nonsavu**	**18.75**	**119**	*e*P		P		14 23 27.6	-3.7
MSVF				*e*Pn		**Pn**		**14 23 34.5**	**+2.6**
EIDS	**Eidsvold**	**18.83**	**209**	*e*P		**Pn**		**14 23 34.4**	**+1.7**
	comp=Z,94nm,0.8s								
KWAJ	**Kwajalein Atol**	**18.85**	**21**	*e*P		**Pn**		**14 23 34.6**	**+1.5**
JAY	**Jayapura**	**21.14**	**286**	P		**P**		**14 23 58.3**	**+0.9**
	comp=Z,186nm,0.9s,comp=Z,2μm								
JAY	**Jayapura**	**21.14**	**286**	P		**P**		**14 23 55.6**	**-1.8**
	comp=Z,180nm,1.0s,baz=50,slow=3.7,SNR=12								
JAY					LR	LR		14 33 45.0	
	comp=Z,2μm,18.3s,baz=74,slow=41								
JAY	**Jayapura**	**21.14**	**286**	P		**P**		**14 23 55.6**	**-1.8**
JAY					pmax	pmax			
	comp=Z,181nm,1.0s								
JAY					MLR	MLR			
	comp=Z,2μm,18.3s								
GENI	**Genyem**	**21.63**	**286**	P		**P**		**14 24 03.5**	**+0.9**
	comp=Z,126nm,1.3s,comp=Z,2μm								
ARMA	**Armidale**	**23.06**	**201**	*e*P		**P**		**14 24 17.7**	**0.0**
	comp=Z,123nm,1.1s								
SMPI	**Sarmi**	**23.20**	**286**	P		**P**		**14 24 17.3**	**-1.9**
	comp=Z,88nm,0.8s								
AFI	**Afiamalu**	**27.15**	**103**	*e*P		**P**		**14 24 55.6**	**+0.1**
GUMO	**Guam**	**27.52**	**324**	LR		LR		14 35 51.0	
	comp=Z,412nm,18.1s,baz=157,slow=36								
RKPI	**Ransiki, Papua**	**27.67**	**284**	P		**P**		**14 24 58.7**	**-1.4**
	comp=Z,33nm,1.2s,comp=Z,720nm								
H11S2	**WAKE ISLAND Hy**	**27.86**	**12**	T		T		14 54 02.7	
	baz=193,slow=76,SNR=322								
H11S3	**WAKE ISLAND Hy**	**27.87**	**12**	T		T		14 54 02.3	
	baz=193,slow=76,SNR=280								
H11S1	**WAKE ISLAND Hy**	**27.88**	**12**	T		T		14 54 01.2	
	baz=193,slow=76,SNR=204								
WRAB	**Tennant Creek**	**27.94**	**244**	P		**P**		**14 25 02.3**	**-0.2**
	comp=Z,1μm,0.8s,SNR=54								
WRAB	**Tennant Creek**	**27.94**	**244**	*c iP*		**P**		**14 25 02.3**	**-0.2**
WRAB	**Tennant Creek**	**27.94**	**244**	*eP*		**P**		**14 25 02.3**	**-0.2**
	comp=Z,155nm,0.8s								
WRA	**Warramunga Arr**	**27.95**	**244**	P		**P**		**14 25 02.3**	**-0.3**
	comp=Z,127nm,0.7s,baz=70,slow=9.3,SNR=570								
WRA					PcP	**PcP**		**14 28 17.4**	**-0.2**
	comp=Z,6.1nm,0.8s,baz=59,slow=3.2,SNR=4.5								
WRA					S	**S**		**14 29 42.4**	**-2.3**
	comp=Z,17nm,1.0s,baz=70,slow=15,SNR=6.0								
WRA					ScP	**ScP**		**14 31 57.1**	**+0.9**
	comp=Z,2.6nm,0.6s,baz=73,slow=3.6,SNR=10								
WRA					PKiKP	**PKiKP**		**14 35 52.6**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=350,slow=0.8,SNR=6.6								
WRA					LR	LR		14 36 29.6	
	comp=Z,2μm,18.6s,baz=65,slow=37								
WRA	**Warramunga Arr**	**27.95**	**244**	P		**P**		**14 25 02.3**	**-0.3**
WRA								14 28 17.4	
WRA					S	**S**		**14 29 42.4**	**-2.3**
WRA					pmax	pmax			
	comp=Z,127nm,0.7s								
WRA					pmax	pmax			
	comp=Z,6.0nm,0.8s								
WRA					smax	smax			
	comp=N,17nm,1.0s								
WRA					pmax	pmax			
	comp=N,3.0nm,0.6s								
RAO	**Raoul Island**	**28.28**	**138**	LR		LR		14 34 57.2	
	comp=N,662nm,19.6s,baz=312,slow=34								
STKA	**Stephens Creek**	**29.04**	**216**	P		**P**		**14 25 12.5**	**+0.4**
	comp=N,37nm,0.7s,baz=24,slow=7.7,SNR=50								
STKA					LR	LR		14 37 08.9	
	comp=N,1μm,18.2s,baz=31,slow=37								
STKA	**Stephens Creek**	**29.04**	**216**	P		**P**		**14 25 12.5**	**+0.4**
STKA					pmax	pmax			
	comp=Z,37nm,0.7s								
STKA					MLR	MLR			
	comp=Z,1μm,18.2s								
STKA	**Stephens Creek**	**29.04**	**216**	*e*P		**P**		**14 25 12.6**	**+0.4**
	comp=Z,15nm,1.0s								
H11N1	**WAKE ISLAND Hy**	**29.09**	**12**	T		T		14 55 27.8	
	baz=192,slow=76,SNR=2102								
H11N3	**WAKE ISLAND Hy**	**29.10**	**12**	T		T		14 55 32.2	
	baz=192,slow=76,SNR=790								
H11N2	**WAKE ISLAND Hy**	**29.11**	**12**	T		T		14 55 32.9	
	baz=192,slow=76,SNR=1287								
AS31	**Alice Springs**	**29.72**	**237**	*e*P		**P**		**14 25 17.4**	**-0.9**
ASAR	**Alice Springs**	**29.72**	**237**	P		**P**		**14 25 17.6**	**-0.8**
	comp=Z,56nm,0.7s,baz=61,slow=10,SNR=962								
ASAR					PcP	**PcP**		**14 28 21.7**	**-0.3**
	comp=Z,6.6nm,0.9s,baz=66,slow=5.2,SNR=4.1								
ASAR					ScP	**ScP**		**14 32 03.2**	**+1.5**
	comp=Z,14nm,0.9s,baz=62,slow=3.2,SNR=22								
ASAR					LR	LR		14 37 07.2	
	comp=Z,1μm,18.3s,baz=57,slow=36								
ASAR	**Alice Springs**	**29.72**	**237**	P		**P**		**14 25 17.6**	**-0.8**
ASAR								14 28 21.7	
ASAR								14 32 03.2	
ASAR					pmax	pmax			
	comp=Z,56nm,0.7s								
ASAR					pmax	pmax			
	comp=Z,7.0nm,1.0s								
ASAR					pmax	pmax			
	comp=N,14nm,0.9s								
ASAR					MLR	MLR			
	comp=Z,1μm,18.3s								
URZ	**Urewera**	**32.59**	**156**	P		**P**		**14 25 43.0**	**-0.4**
	comp=Z,7.4nm,0.8s,baz=239,slow=19,SNR=3.6								
URZ					LR	LR		14 37 37.7	
	comp=Z,773nm,18.4s,baz=332,slow=34								
URZ	**Urewera**	**32.59**	**156**	*eP*		**P**		**14 25 44.7**	**+1.4**
BBOO	**Buckleboo**	**33.06**	**221**	*eP*		**P**		**14 25 47.3**	**-0.3**
	comp=Z,9.5nm,0.8s								
BKZ	**Black Stump Fm**	**33.13**	**158**	*eP*		**P**		**14 25 48.7**	**+0.5**
	comp=Z,195nm,2.2s								
NLAI	**Namlea**	**34.14**	**277**	P		P		14 25 53.0	-4.2
	comp=Z,32nm,1.5s								
RPZ	**Rata Peaks**	**35.72**	**167**	P		**P**		**14 26 09.7**	**-0.7**
	comp=Z,40nm,0.8s,baz=314,slow=0.6,SNR=14								
RPZ					LR	LR		14 39 45.9	
	comp=Z,526nm,20.9s,baz=328,slow=35								
RPZ	**Rata Peaks**	**35.72**	**167**	*eP*		**P**		**14 26 09.8**	**-0.7**
	comp=Z,64nm,1.0s								
TAU	**Tasmania Unive**	**35.87**	**197**	*eP*		**P**		**14 26 10.1**	**-1.6**
	comp=Z,93nm,1.3s								
SOEI	**Soe**	**36.21**	**266**	P		**P**		**14 26 15.1**	**-0.1**
	comp=Z,65nm,1.4s,comp=Z,2μm								
SOEI	**Soe**	**36.21**	**266**	*eP*		**P**		**14 26 13.7**	**-1.5**
	comp=Z,176nm,1.5s								
DCZ	**Deep Cove**	**36.77**	**173**	*eP*		**P**		**14 26 17.9**	**-1.4**
	comp=Z,63nm,1.0s								
WHZ	**Wether Hill Ro**	**37.28**	**172**	*eP*		**P**		**14 26 22.9**	**-0.9**
	comp=Z,47nm,1.1s								
FORT	**Forrest**	**37.56**	**230**	*eP*		**P**		**14 26 26.2**	**-0.2**
	comp=Z,142nm,0.9s								
MMRI	**Maumere**	**38.26**	**267**	P		**P**		**14 26 31.1**	**-1.4**
	comp=Z,292nm,1.2s,comp=Z,3μm								
MMRI	**Maumere**	**38.26**	**267**	*eP*		**P**		**14 26 30.8**	**-1.7**
	comp=Z,261nm,1.0s								
LUWI	**Luwuk**	**38.82**	**280**	P		**P**		**14 26 35.9**	**-1.3**
	comp=Z,72nm,1.3s,comp=Z,1μm								
LUWI	**Luwuk**	**38.82**	**280**	*eP*		**P**		**14 26 35.0**	**-2.1**
	comp=Z,80nm,1.1s								
RAR	**Rarotonga**	**39.70**	**112**	LR		LR		14 39 46.2	
	comp=Z,246nm,21.3s,baz=280,slow=31								
BSSI	**Bau Bau, Buton**	**40.21**	**271**	P		**P**		**14 26 46.6**	**-2.2**
	comp=Z,110nm,1.0s,comp=Z,1μm								
KAPI	**Kappang**	**41.08**	**273**	*eP*		**P**		**14 26 53.8**	**-2.1**
	comp=Z,11nm,1.1s								
MBWA	**Marble Bar**	**41.49**	**248**	*eP*		**P**		**14 26 58.1**	**-1.2**
	comp=Z,112nm,0.9s								
TSM	**Tawau**	**44.94**	**285**	⇑P		**P**		**14 27 24.9**	**-2.2**
SDKM	**Sandakan**	**45.98**	**287**	⇑P		**P**		**14 27 33.2**	**-2.4**
KDM	**Kudat**	**46.73**	**288**	⇑P		**P**		**14 27 38.3**	**-3.0**
KKM	**Kota Kinabalu**	**47.04**	**287**	⇑P		**P**		**14 27 40.8**	**-3.1**
KKM	**Kota Kinabalu**	**47.04**	**287**	*eP*		**P**		**14 27 42.8**	**-1.1**
	comp=Z,68nm,1.0s								
JOW	**Kunigami**	**47.67**	**319**	*e*pP		pP		14 27 58.0	-0.4
PPT	**Papeete**	**48.77**	**105**	LR		LR		14 44 46.2	
	comp=Z,227nm,19.2s,baz=287,slow=32								
PPT2	**Papeete2**	**48.77**	**105**	*e*S		**S**		**14 34 56.8**	**-1.6**
	comp=Z,415nm,24.8s								
PPT2				*e*LQ		LQ		14 39 45.7	
	comp=Z,617nm,23.8s								
PPT2				*e*LR		LR		14 41 51.4	
	comp=Z,556nm,25.0s,baz=270								
TBI	**Tubuai**	**49.47**	**113**	*e*S		**S**		**14 35 09.0**	**+1.1**
	comp=Z,378nm,25.5s								
TBI				*e*LQ		LQ		14 40 06.5	
	comp=Z,2μm,30.0s								
TBI				*e*LR		LR		14 42 10.8	
	comp=Z,309nm,25.2s								
SBUM	**Sibu**	**49.89**	**281**	⇑P		**P**		**14 28 02.8**	**-2.9**
SBUM	**Sibu**	**49.89**	**281**	*eP*		**P**		**14 28 04.9**	**-0.9**
	comp=Z,16nm,1.0s								
MJAR	**Matsushiro Arr**	**50.07**	**336**	P		**P**		**14 28 05.4**	**-1.3**
	comp=Z,3.9nm,1.0s,baz=170,slow=8.8,SNR=12								
MJAR					LR	LR		14 48 25.2	
	comp=Z,165nm,20.4s,baz=180,slow=35								
MAJO	**Matsushiro**	**50.07**	**336**	*eP*		**P**		**14 28 06.9**	**+0.2**
MAJO					pmax	pmax			
	comp=Z,34nm,1.2s								
MAJO	**Matsushiro**	**50.07**	**336**	*eP*		**P**		**14 28 06.6**	**-0.1**
	comp=Z,76nm,2.1s								
MAT	**Matsushiro**	**50.07**	**336**	P		**P**		**14 28 04.8**	**-1.9**
MAT					S	**S**		**14 35 14.6**	**-1.2**
YULB	**Yu-li**	**50.39**	**310**	*eP*		**P**		**14 28 08.7**	**-0.7**
	comp=Z,15nm,0.8s								
NACB	**Ninganchiao**	**50.62**	**311**	*eP*		**P**		**14 28 11.5**	**+0.5**
	comp=Z,36nm,1.0s								
JNU	**Nakatsue**	**50.72**	**327**	*eP*		**P**		**14 28 11.9**	**+0.2**
	comp=Z,23nm,0.6s								
TPUB	**Tau**	**50.84**	**310**	*eP*		**P**		**14 28 11.2**	**-1.5**
	comp=Z,38nm,1.2s								
SSLB	**Suanglung**	**50.87**	**311**	*eP*		**P**		**14 28 12.2**	**-0.9**
	comp=Z,22nm,0.9s								
YHNB	**Yeheng**	**51.07**	**312**	*eP*		**P**		**14 28 14.2**	**-0.3**
	comp=Z,294nm,2.2s								
KSM	**Kuching**	**51.53**	**279**	⇑P		P		14 28 14.1	-4.0
KSM	**Kuching**	**51.53**	**279**	*eP*		**P**		**14 28 16.1**	**-2.0**
	comp=Z,21nm,0.8s								
QZH	**Quanzhou**	**53.30**	**310**	P		**P**		**14 28 31.5**	**+0.5**
QZH					S	**S**		**14 36 04.3**	**+3.7**
QZH					PMZ				
	comp=Z,140nm,1.0s								
ASAJ	**Asahikawa**	**55.40**	**344**	*eP*		**P**		**14 28 46.2**	**+0.3**
	comp=Z,34nm,0.9s								
KSRS	**Korea Array**	**55.58**	**328**	P		**P**		**14 28 46.9**	**-0.4**
	comp=Z,4.5nm,1.0s,baz=147,slow=7.5,SNR=16								
KSRS					LR	LR		14 50 44.2	
	comp=Z,352nm,20.8s,baz=124,slow=34								
KSAR	**Wonju Array Be**	**55.59**	**328**	P		**P**		**14 28 46.9**	**-0.5**
QIZ	**Qiongzhong**	**57.56**	**299**	P		**P**		**14 29 02.3**	**+0.5**
QIZ					S	**S**		**14 36 58.5**	**+0.7**
QIZ					LN				
	comp=Z,190nm,29.9s								
QIZ					LZ				
	comp=Z,230nm,17.3s								
MYKOM	**Kota Tinggi**	**57.91**	**278**	⇑P		P		14 28 59.9	-4.5
MYKOM	**Kota Tinggi**	**57.91**	**278**	*eP*		**P**		**14 29 03.8**	**-0.5**
	comp=Z,18nm,1.1s								
YSS	**Yuzh-Sakhalins**	**57.99**	**345**	*eP*		**P**		**14 29 04.0**	**-0.3**
YSS					MLR	MLR			
	comp=N,1μm,18.0s								
YSS					MLR	MLR			
	comp=Z,1μm,18.0s								
YSS	**Yuzh-Sakhalins**	**57.99**	**345**	*eP*		**P**		**14 29 04.7**	**+0.4**
TAOE	**Nuku Hiva Isla**	**58.12**	**95**	*eT*		T		15 31 38.8	
	comp=Z,754nm,0.3s								
KGM	**Kluang**	**58.47**	**278**	⇑P		P		14 29 03.2	-5.1
USRK	**Ussuriysk Ar.**	**59.07**	**336**	P		**P**		**14 29 12.2**	**+0.4**
	comp=Z,15nm,1.0s,baz=151,slow=6.0,SNR=24								
USRK					LR	LR		14 52 22.9	
	comp=Z,203nm,20.8s,baz=135,slow=34								
DRV	**Dumont d'Urvil**	**59.37**	**190**	S		**S**		**14 37 22.0**	**+2.2**
DRV				SS		**SS**		**14 41 16.0**	**+1.1**
DRV				L		L		14 43 00.0	
DRV				R				14 46 00.0	
MDJ	**Mudanjiang**	**60.40**	**335**	P		**P**		**14 29 22.5**	**+1.5**
MDJ				*e*P		**P**		**14 29 31.5**	**+0.3**
MDJ				*e*P		**P**		**14 29 36.3**	**+1.2**
MDJ				S		**S**		**14 37 37.0**	**+3.3**
MDJ				SS		**SS**		**14 41 34.5**	**+2.4**
MDJ				PMZ					
	comp=Z,12nm,1.0s								
MDJ				PMZ					
	comp=Z,65nm,6.0s								
MDJ				LN					
	comp=Z,290nm,24.1s								
MDJ				LE					
	comp=Z,280nm,21.3s								
MDJ				LZ					
	comp=Z,360nm,25.5s								
MDJ	**Mudanjiang**	**60.40**	**335**	*eP*		**P**		**14 29 21.8**	**+0.8**
	comp=Z,15nm,1.0s								
TIA	**Tai'an**	**60.98**	**320**	*eP*		**P**		**14 29 25.0**	**-0.1**
TIA					PMZ				
	comp=Z,20nm,1.0s								
TIA					LN				
	comp=Z,290nm,24.0s								
TIA					LE				
	comp=Z,420nm,28.0s								
TIA					LZ				
	comp=Z,390nm,17.0s								
IPM	**Ipoh**	**61.23**	**280**	*eP*		**P**		**14 29 27.1**	**-0.2**
	comp=Z,16nm,1.0s								
CN2	**Changchun**	**61.61**	**331**	*eP*		**P**		**14 29 29.5**	**+0.2**
CN2				*e*pP		**pP**		**14 29 35.5**	**-4.0**
CN2				*eS*		**S**		**14 37 49.5**	**+0.3**
CN2				PMZ					
	comp=Z,20nm,1.0s								
CN2				LN					
	comp=Z,400nm,18.0s								
CN2				LE					
	comp=Z,300nm,18.0s								
CN2				LZ					
	comp=Z,300nm,20.0s								
PET	**Petropavlovsk**	**61.78**	**358**	*eP*		**P**		**14 29 29.6**	**-0.6**
PET				*eS*		**S**		**14 37 52.1**	**+1.2**
PET				pmax		pmax			
	comp=Z,32nm,1.4s								
PETK	**Petropavlovsk-**	**61.90**	**358**	P		**P**		**14 29 30.9**	**-0.1**
	comp=Z,18nm,0.9s,baz=162,slow=6.7,SNR=10								
PETK					LR	LR		14 51 56.3	
	comp=Z,552nm,22.0s,baz=164,slow=32								
SKNT	**Sakolnakorn**	**61.95**	**295**	P		**P**		**14 29 31.9**	**-0.2**
	comp=Z,33nm,1.2s,comp=Z,2μm								
PSI	**Prapat**	**62.93**	**278**	*eP*		**P**		**14 29 36.8**	**-2.1**
ENH	**Enshi**	**62.96**	**311**	*eP*		**P**		**14 29 38.5**	**-0.1**
	comp=Z,5.7nm,0.5s								
KLR	**Kul'dur**	**63.37**	**339**	*eP*		P		14 29 37.0	-3.9
KLR					pmax	pmax			
	comp=Z,50nm,1.6s								
GYA	**Guiyang**	**63.38**	**305**	⇑*iP*		**P**		**14 29 42.0**	**+0.4**
GYA					pP	**pP**		**14 29 53.3**	**+1.5**
GYA					sP	**sP**		**14 29 57.0**	**+1.3**
GYA					PP	PP		14 32 06.8	+5.5
GYA					S	**S**		**14 38 13.0**	**+0.7**
GYA					sS	**sS**		**14 38 29.5**	**+0.3**
GYA					SS	**SS**		**14 42 22.3**	**+2.6**
GYA					PMZ				
	comp=Z,30nm,1.0s								
GYA					PMZ				
	comp=Z,140nm,5.4s								
GYA					LN				
	comp=Z,680nm,19.8s								
GYA					LE				
	comp=Z,590nm,20.4s								
GYA					LZ				
	comp=Z,620nm,19.9s								
CHAI	**Chaiyaphum**	**63.40**	**293**	P		**P**		**14 29 41.7**	**-0.1**
	comp=Z,6.4nm,0.8s								
SLVN	**Son La**	**63.59**	**299**	*eP*		**P**		**14 29 43.1**	**+0.1**
	comp=Z,25nm,1.1s								
BJI	**Beijing**	**63.96**	**323**	P		**P**		**14 29 45.3**	**+0.3**
BJI				pP		**pP**		**14 29 55.0**	**-0.2**
BJI				S		**S**		**14 38 18.0**	**-0.8**
BJI				SS		**SS**		**14 42 29.0**	**+1.0**
BJI				PMZ					
	comp=Z,16nm,1.2s								
BJI				PMZ					
	comp=Z,95nm,4.3s								
BJI				LN					
	comp=Z,310nm,19.4s								
BJI				LE					
	comp=Z,250nm,20.0s								
BJI				LZ					
	comp=Z,250nm,21.3s								
GSI	**Gunungsitoli**	**63.97**	**276**	*eP*		**P**		**14 29 43.7**	**-1.9**
	comp=Z,53nm,1.0s								
PBKT	**Sadao Pong**	**64.54**	**293**	P		**P**		**14 29 49.4**	**+0.2**
	comp=Z,21nm,1.4s								
XAN	**Xi'an**	**65.27**	**314**	P		**P**		**14 29 53.5**	**-0.3**
XAN					PMZ				
	comp=Z,5.0nm,1.0s								
XAN					PMZ				
	comp=Z,24nm,6.2s								
SRDT	**SRDT**	**65.56**	**290**	P		**P**		**14 29 56.7**	**+0.8**
	comp=Z,83nm,1.2s								
UTHA	**Uthaitani**	**65.62**	**292**	P		**P**		**14 29 56.7**	**+0.4**
	comp=Z,7.7nm,0.8s,comp=Z,81nm								
KMI	**Kunming**	**66.03**	**303**	⇑P		**P**		**14 30 00.3**	**+1.2**
KMI				pP		**pP**		**14 30 11.0**	**+1.6**

comp=Z,16nm,0.8s
VNDA Vanda 68.53 180 P **P** **14 30 13.9 +0.2**
comp=Z,8.2nm,0.8s,baz=344,slow=7.0,SNR=44
VNDA LR LR 14 55 10.0
comp=Z,432nm,21.1s,baz=358,slow=32
VNDA Vanda 68.53 180 *e*P **P** **14 30 13.1 -0.6**
comp=Z,8.5nm,0.8s
SBA Scott Base 68.93 179 *e*P **P** **14 30 17.1 +0.9**
comp=Z,12nm,1.0s
LZH Lanzhou 69.91 314 *e*P **P** **14 30 24.3 +1.2**
LZH pP **pP** **14 30 35.0 +1.5**
LZH sP **sP** **14 30 39.8 +2.4**
LZH PP **PP** **14 33 01.5 +3.3**
LZH *e*S S 14 39 25.0 -6.1
LZH SS **SS** **14 43 59.3 -1.5**
LZH PMZ
comp=Z,74nm,1.1s
LZH PMZ
comp=Z,200nm,4.0s
LZH LN
comp=Z,320nm,17.0s
LZH LE
comp=Z,430nm,18.8s
LZH LZ
comp=Z,480nm,18.5s
CLNS Chul'man 71.97 340 *e*P **P** **14 30 34.2 -0.9**
CLNS pmax pmax
comp=Z,15nm,1.0s
CLNS pmax pmax
comp=N,8.0nm,1.1s
CLNS pmax pmax
comp=E,6.0nm,0.9s
SEY Seymchan 71.99 356 P **P** **14 30 34.6 -0.4**
comp=E,5.3nm,0.9s,baz=165,slow=4.5,SNR=11
SEY LR LR 14 59 36.8
comp=E,490nm,20.8s,baz=174,slow=34
SEY Seymchan 71.99 356 *ce*P **P** **14 30 34.0 -1.0**
SONM Songino Array 74.25 325 P **P** **14 30 49.6 +0.8**
comp=E,21nm,0.9s,baz=137,slow=5.9,SNR=38
SONM LR LR 15 02 46.8
comp=E,197nm,20.5s,baz=101,slow=35
GTA Gaotai 74.26 315 ⇑P **P** **14 30 50.3 +1.2**
GTA pP **pP** **14 31 00.0 +0.5**
GTA sP **sP** **14 31 04.0 +0.6**
GTA PP **PP** **14 33 38.5 +3.1**
GTA S **S** **14 40 22.8 +1.9**
GTA sS **sS** **14 40 37.8 -0.3**
GTA SKS **SKSac** **14 40 50.3 -4.4**
GTA SS **SS** **14 45 10.5 +3.2**
GTA PMZ
comp=E,40nm,1.2s
GTA PMZ
comp=E,190nm,6.7s
GTA LN
comp=E,200nm,19.9s
GTA LE
comp=E,190nm,17.6s
GTA LZ
comp=E,170nm,17.6s
YAK Yakutsk 74.84 345 P **P** **14 30 51.2 -0.6**
comp=E,1.4nm,0.4s,baz=339,slow=23,SNR=4.7
YAK LR LR 15 00 38.9
comp=E,528nm,21.9s,baz=154,slow=33
YAK Yakutsk 74.84 345 *e*P **P** **14 30 52.3 +0.5**
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,34nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK Yakutsk 74.84 345 *e*P **P** **14 30 51.9 +0.2**
SHL Shillong 75.40 299 *i*P **P** **14 30 55.0 -1.1**
KDAK Kodiak Island 76.47 24 *i*P **P** **14 31 01.8 +0.6**
BOD Bodaibo 76.70 336 *e*P **P** **14 31 01.8 -0.7**
BOD pmax pmax
comp=Z,11nm,1.4s
BILL Bilibino 76.91 2 *e*P **P** **14 31 03.2 -0.3**
BILL *e* 14 33 53.5
BILL pmax pmax
comp=Z,13nm,1.0s
BILL Bilibino 76.91 2 *e*P **P** **14 31 03.7 +0.2**
LSA Lhasa 77.28 303 P **P** **14 31 07.5 +0.5**
LSA Lhasa 77.28 303 *e*P **P** **14 31 07.6 +0.5**
comp=Z,52nm,1.4s
ZAK Zakamensk 77.34 326 *e*P **P** **14 31 06.7 +0.3**
ZAK pmax pmax
comp=Z,13nm,1.2s
SVW2 Sparrevohn 77.70 20 *e*P **P** **14 31 07.8 -0.3**
IRK Irkutsk 77.79 328 *e*P **P** **14 31 08.2 -0.6**
IRK pmax pmax
comp=Z,34nm,2.1s
TLY Talaya 77.82 328 P **P** **14 31 08.9 -0.1**
comp=Z,6.5nm,0.7s,baz=214,slow=21,SNR=4.5
TLY Talaya 77.82 328 P **P** **14 31 09.1 +0.1**
TLY pmax pmax
comp=Z,27nm,0.2s
TLY Talaya 77.82 328 *e*P **P** **14 31 09.6 +0.6**
BRLK Bradley Lake 78.46 23 *e*P **P** **14 31 12.7 +0.3**
comp=Z,23nm,1.1s
SEW Seward 79.23 23 *e*P **P** **14 31 16.0 -0.5**
comp=Z,18nm,1.0s
MOY Mondy 79.24 327 *e*P **P** **14 31 17.7 +0.8**
TAPN Taplejung 79.49 300 *e*P **P** **14 31 19.4 +0.3**
comp=Z,118nm,1.2s
ODAN Odare 79.63 299 *e*P **P** **14 31 19.9 +0.1**
comp=Z,185nm,1.2s
RC01 Rabbit Creek A 79.76 22 *e*P **P** **14 31 19.2 -0.2**
RAMN Ramite 80.34 299 *e*P **P** **14 31 23.6 0.0**
comp=Z,53nm,1.2s
CAST Castle Rocks 80.50 19 *e*P **P** **14 31 21.9 -1.5**
comp=Z,12nm,0.9s
CHLP Challavanipeta 80.59 290 *e*P **P** **14 31 24.4 -0.3**
CHLP IAmb IAmb 14 31 26.1
comp=Z,66nm,1.1s
SML Sawmill 80.74 22 *e*P **P** **14 31 25.3 +0.6**
comp=Z,14nm,1.7s
QSPA South Pole Qui 81.02 180 *e*P **P** **14 31 25.1 -1.3**
comp=Z,16nm,0.9s
TRF Thorofare Moun 81.12 20 *e*P **P** **14 31 26.0 -0.9**
comp=Z,11nm,0.8s
SCM Sheep Creek Mo 81.13 22 *e*P **P** **14 31 26.1 -0.8**
comp=Z,11nm,0.9s
GUN Gumba 81.21 300 *e*P **P** **14 31 28.6 +0.2**
comp=Z,143nm,1.2s
BPAW Bear Paw Mtn. 81.32 19 *e*P **P** **14 31 26.6 -1.2**
comp=Z,1.6nm,1.1s
PKI Pulchoki 81.52 300 *e*P **P** **14 31 29.9 -0.1**
comp=Z,106nm,1.1s
RND Reindeer 81.58 20 *e*P **P** **14 31 27.3 -1.9**
comp=Z,10nm,0.8s
PALK Pallekele 81.59 279 *i*P **P** **14 31 31.7 +1.4**
PALK Pallekele 81.59 279 *e*P **P** **14 31 28.0 -2.3**
comp=Z,47nm,1.3s
BMRM Bremner River 81.66 24 *e*P P 14 31 33.0 +3.4
KKN Kakani 81.69 300 *e*P **P** **14 31 30.6 -0.2**
comp=Z,60nm,1.0s
IM04 Indian Mountai 81.75 17 *e*P **P** **14 31 29.9 -0.1**
MCK McKinley 81.76 20 *e*P **P** **14 31 29.6 -0.5**
comp=Z,32nm,1.0s
DMN Daman 81.79 300 *e*P **P** **14 31 31.5 +0.1**
comp=Z,175nm,1.1s
MLY Manley 82.02 19 *e*P **P** **14 31 31.1 -0.3**
GKN Gorkha 82.29 300 *e*P **P** **14 31 33.8 0.0**
comp=Z,315nm,1.3s
PAX Paxson 82.51 22 P **P** **14 31 34.5 +0.4**
WRH Wood River Hil 82.52 20 *e*P **P** **14 31 32.5 -1.5**
comp=Z,9.6nm,0.8s
PVM Polavaram 82.59 289 *e*P **P** **14 31 34.3 -1.1**
PVM IAmb IAmb 14 31 35.9
comp=Z,20nm,0.8s
CCB Clear Creek Bu 82.73 20 *e*P **P** **14 31 34.2 -0.8**
comp=Z,8.2nm,0.9s
MDM Murphy Dome 82.78 19 *e*P **P** **14 31 34.9 -0.5**
comp=Z,12nm,0.9s
COLA College 82.86 20 *d i*P **P** **14 31 35.1 -0.6**
COLA pmax pmax
comp=Z,93nm,1.0s
COLA College 82.86 20 *e*P **P** **14 31 34.8 -0.9**
comp=Z,23nm,0.8s
HDA Harding Lake 82.86 20 *e*P **P** **14 31 35.0 -0.8**
comp=Z,13nm,0.9s
ILAR Eielson Array 83.11 20 P **P** **14 31 36.2 -0.9**
comp=Z,9.0nm,1.0s,baz=249,slow=5.1,SNR=99
ILAR PKKPbc **PKKPdf** **14 49 56.6 +3.8**
comp=Z,0.3nm,0.5s,baz=341,slow=1.8,SNR=8.8
ILAR LR LR 15 05 13.0
comp=Z,248nm,19.9s,baz=239,slow=33
KOLN Koldanda 83.13 299 *e*P **P** **14 31 37.7 -0.6**
comp=Z,95nm,1.0s
TIXI Tiksi 83.21 350 *e*P **P** **14 31 36.7 -0.7**
TIXI pmax pmax
comp=Z,8.0nm,1.2s
TIXI MLR MLR
comp=Z,317nm,19.0s
TIXI Tiksi 83.21 350 *e*P **P** **14 31 37.1 -0.3**
comp=Z,8.8nm,1.1s
H02N1 VAN INLET T-PH 83.51 34 T T 16 03 37.8
SNR=24
H02S1 DAWSON INLET T 83.53 34 T T 16 03 37.6
SNR=60
COLD Coldfoot 83.65 17 *e*P **P** **14 31 40.8 +1.0**
comp=Z,11nm,1.4s
SKHT Srikalahasti 83.72 285 *e*P **P** **14 31 40.7 -0.5**
SKHT IAmb IAmb 14 31 42.1
comp=Z,53nm,1.3s
PAF Port-aux-Franc 83.76 221 SS SS 14 47 18.0 -11
PAF L L 14 53 00.0
PAF R 15 00 00.0
ADKI Addanki 83.87 287 *e*P **P** **14 31 41.0 -1.0**
ADKI IAmb IAmb 14 31 42.6
comp=Z,57nm,1.3s
WMQ Urumqi 84.32 316 P **P** **14 31 43.0 -0.8**
WMQ pP **pP** **14 31 53.5 -0.9**
WMQ sP **sP** **14 31 57.3 -0.9**
WMQ PP **PP** **14 34 59.3 +0.3**
WMQ SKS **SKSac** **14 42 03.5 -1.7**
WMQ S **S** **14 42 04.8 -2.7**
WMQ sS **sS** **14 42 22.0 -2.9**
WMQ SS **SS** **14 47 36.5 -1.5**
WMQ PMZ
comp=Z,32nm,1.4s
WMQ PMZ
comp=Z,140nm,4.0s
WMQ LN
comp=Z,180nm,12.3s
WMQ LE
comp=Z,73nm,11.0s
WMQ LZ
comp=Z,120nm,21.0s
HYT Haines Junctio 84.50 26 *e*P **P** **14 31 45.4 +0.9**
NJS Nagarjunasagar 84.63 288 *e*P **P** **14 31 44.2 -1.6**
NJS IAmb IAmb 14 31 46.3
comp=Z,85nm,0.9s
RCLA Racherla 84.76 286 *e*P **P** **14 31 45.3 -1.3**
RCLA IAmb IAmb 14 31 46.7
comp=Z,63nm,1.5s
MAW Mawson 84.85 202 P **P** **14 31 45.5 -0.5**
comp=Z,11nm,0.9s,baz=87,slow=6.3,SNR=9.7
MAW LR LR 15 04 44.2
comp=Z,337nm,21.5s,baz=62,slow=32
MAW Mawson 84.85 202 *e*P **P** **14 31 45.7 -0.2**
SRLM Srisailam 84.94 287 *e*P **P** **14 31 46.3 -1.2**
SRLM IAmb IAmb 14 31 47.9
comp=Z,107nm,0.9s
RPR Rampur 85.08 290 *e*P **P** **14 31 47.0 -1.1**
RPR IAmb IAmb 14 31 48.3
comp=Z,91nm,0.8s
EGAK Eagle 85.11 21 *e*P **P** **14 31 47.9 +0.7**
comp=Z,24nm,1.4s
DAWY Dawson 85.38 22 *e*P **P** **14 31 50.5 +1.8**
KRAR Krasnoyarsk 85.48 328 *e*P **P** **14 31 49.3 +0.1**
KRAR pmax pmax
comp=Z,12nm,1.2s
HYB Hyderabad 85.50 288 *i*P **P** **14 31 48.5 -1.8**
HYBB Hyderabad (bro 85.50 288 *e*P **P** **14 31 49.2 -1.1**
HYBB IAmb IAmb 14 31 50.2
comp=Z,45nm,1.0s
M02C Callahan 85.67 47 P **P** **14 31 51.9 +1.2**
baz=86
YBH Yreka Blue Hor 85.86 47 P **P** **14 31 51.9 +0.3**
comp=Z,2.8nm,0.9s,baz=253,slow=1.6,SNR=4.4
YBH Yreka Blue Hor 85.86 47 P **P** **14 31 51.9 +0.3**
YBH pmax pmax
comp=Z,3.0nm,0.9s
HUMO Hull Mountain 85.92 46 *e*P **P** **14 31 53.3 +1.4**
comp=Z,7.6nm,0.9s
SRSP Sriramsagar 85.98 290 *e*P **P** **14 31 50.7 -1.9**
SRSP IAmb IAmb 14 31 52.5
comp=Z,76nm,0.9s
URV Uravakonda 86.28 286 *e*P **P** **14 31 53.3 -0.9**
URV IAmb IAmb 14 31 54.5
comp=Z,32nm,0.9s
M04C Macdoel 86.50 47 P **P** **14 31 56.0 +1.1**
baz=87
I04A Tendick Farm, 86.63 45 P **P** **14 31 56.2 +0.9**
baz=87
DLBC Dease Lake 86.88 29 *e*P **P** **14 31 56.8 +0.5**
J05D Fort Rock, OR 87.32 46 P **P** **14 32 00.2 +1.3**
baz=88
K05A Summer Lake 87.42 46 *e*P **P** **14 32 00.3 +0.9**
KLRI Killari 87.45 289 *e*P **P** **14 31 58.0 -1.8**
KLRI IAmb IAmb 14 31 58.4
comp=Z,123nm,2.1s
ISA Isabella, Lake 87.59 54 P **P** **14 32 01.6 +1.4**
baz=88
ISA Isabella, Lake 87.59 54 *e*P **P** **14 32 01.8 +1.6**
comp=Z,14nm,1.5s
MWC Mount Wilson 87.61 55 *e*P **P** **14 32 00.8 +0.3**
MOD Modoc Plateau 87.64 47 *e*P **P** **14 32 00.4 0.0**
comp=Z,7.9nm,1.1s
EDW2 Edwards Air Fo 87.81 54 P **P** **14 32 02.1 +0.8**
baz=88
BFSC Mount Baldy Ra 87.94 55 P **P** **14 32 02.1 +0.1**
baz=88
LRMC Laurel Mtn Rad 88.17 54 P **P** **14 32 04.0 +0.9**
baz=88
NVAR Mina Array Bea 88.33 51 P **P** **14 32 03.1 -0.8**
comp=Z,2.6nm,0.8s,baz=241,slow=6.0,SNR=24
NVAR PKPPKP **P'P'df** **14 57 54.2 -0.6**
comp=Z,0.6nm,0.7s,baz=64,slow=3.4,SNR=4.9
MPMC Manual Prospec 88.45 53 P **P** **14 32 05.4 +0.9**
baz=89
MONP Monument Peak, 88.67 57 P **P** **14 32 06.5 +0.9**
baz=89
GRAC Grapevine Rang 88.75 52 P **P** **14 32 06.8 +1.1**
baz=89
MK31 Makanchi Array 88.81 318 *e*P **P** **14 32 05.6 -0.1**
GSC Goldstone, Bar 88.84 54 P **P** **14 32 07.4 +1.2**
baz=89
WVOR Wild Horse Val 88.97 47 *e*P **P** **14 32 08.1 +1.4**
WVOR *ep*P **pP** **14 32 15.4 -1.9**
FURC Furnace Creek, 89.04 53 P **P** **14 32 08.3 +1.4**
baz=89
TPH Tonopah 89.08 51 P **P** **14 32 07.9 +0.5**
comp=Z,4.4nm,1.0s
ZAA0 Zalesovo Array 89.15 325 *e*P **P** **14 32 05.7 -1.3**
ZALV Zalesovo Beam 89.15 325 P **P** **14 32 05.6 -1.4**
comp=Z,3.0nm,0.7s,baz=107,slow=5.0,SNR=16
ZALV LR LR 15 12 22.7
comp=Z,122nm,19.3s,baz=68,slow=36
ZALV Zalesovo Beam 89.15 325 P **P** **14 32 05.6 -1.4**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV MLR MLR
comp=Z,122nm,19.3s
BELC Belle Mtn. Jos 89.24 56 P **P** **14 32 10.2 +2.1**
baz=89
TUQ Turquoise Moun 89.58 54 P **P** **14 32 10.6 +0.9**
baz=90
BC3 Big Chuckawall 89.61 56 P **P** **14 32 11.2 +1.3**
baz=90
TPNV Topopah Spring 89.61 53 P **P** **14 32 10.5 +0.6**
baz=90
TPNV Topopah Spring 89.61 53 *e*P **P** **14 32 10.3 +0.4**
comp=Z,11nm,1.3s
GMRC Granite Mounta 89.66 55 P **P** **14 32 11.2 +1.1**
baz=90
D08A Wollman Farm, 89.83 42 *e*P P 14 32 13.8 +3.4
comp=Z,99nm,3.0s
IRM Iron Mountain 89.96 56 P **P** **14 32 12.7 +1.3**
baz=90
GLA Glamis 90.02 57 P **P** **14 32 14.0 +2.4**
baz=90
LDFC Landfair 90.16 55 *e*P **P** **14 32 14.1 +1.7**
comp=Z,89nm,1.5s
NVS Novosibirsk 90.28 326 *e*P **P** **14 32 10.5 -1.8**
NVS pmax pmax
comp=N,5.0nm,1.3s
NVS pmax pmax
comp=E,9.0nm,1.3s
NVS pmax pmax
comp=Z,22nm,1.3s
SHPR Sheep Range 90.39 53 *e*P **P** **14 32 14.5 +1.0**
comp=Z,6.6nm,1.0s
Y12C Blythe 90.39 56 P **P** **14 32 15.1 +1.7**
baz=90
R11A Troy Canyon, C 90.40 51 P **P** **14 32 14.8 +1.2**
baz=90
R11A Troy Canyon, C 90.40 51 *e*P **P** **14 32 14.6 +1.1**
comp=Z,5.4nm,1.1s
F10A Beach Ranch, E 90.73 44 *ep*P pP 14 32 24.0 -1.4
H06S1 SOCORRO T 91.03 71 T T 16 13 02.9
SNR=7.6
H06E1 SOCORRO T-PHAS 91.07 71 T T 16 12 58.8
SNR=8.8
ELK Elko 91.12 49 *e*P **P** **14 32 17.3 +0.4**
comp=Z,5.4nm,1.0s
MFID Camas Ranch 91.20 46 *e*P **P** **14 32 18.6 +1.6**
comp=Z,28nm,1.9s
KSH Kashi 91.80 310 P **P** **14 32 22.0 +2.1**
KSH pP **pP** **14 32 32.8 +2.2**
KSH sP **sP** **14 32 38.3 +3.9**
KSH PP PP 14 36 05.3 +6.0
KSH SKS **SKSac** **14 42 52.3 +1.6**
KSH S **ScS** **14 43 20.5 -1.0**
KSH sS sS 14 43 41.3 +4.7
KSH PMZ
comp=Z,9.0nm,1.0s
KSH PMZ
comp=Z,120nm,5.6s
KSH LN
comp=Z,570nm,9.4s
KSH LE
comp=Z,480nm,9.5s
KSH LZ
comp=Z,120nm,5.4s
CCUT Cedar City 91.99 52 *e*P **P** **14 32 21.9 +0.9**
comp=Z,8.2nm,1.1s
KURK Kurchatov 92.06 321 P **P** **14 32 19.8 -0.8**
comp=Z,70nm,1.1s,SNR=6.8
KURK Kurchatov 92.06 321 P **P** **14 32 19.8 -0.8**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 92.06 321 *e*P **P** **14 32 19.5 -1.1**
KURK PP PP 14 35 53.8 -7.0
KURBB Kurchatov Arra 92.09 321 P **P** **14 32 19.8 -1.0**
comp=Z,5.3nm,1.0s,baz=106,slow=3.4,SNR=29
KURBB PP PP 14 35 53.8 -7.3
comp=Z,1.9nm,1.1s,baz=101,slow=8.6,SNR=4.6
HLID Hailey 92.23 46 P **P** **14 32 23.3 +1.4**
baz=92
HLID Hailey 92.23 46 *e*P **P** **14 32 22.9 +0.9**
comp=Z,4.8nm,0.9s
KNB Kanab 92.33 53 *e*P **P** **14 32 22.0 -0.4**
comp=Z,32nm,1.6s
TKM2 Tokmak 2 92.67 313 *e*P **P** **14 32 23.3 -0.7**
comp=Z,7.3nm,0.9s
BGU Big Grassy Mou 92.80 49 *e*P **P** **14 32 24.7 +0.1**
BGU *ep*P **pP** **14 32 32.9 -2.3**
DUG Dugway, Tooele 92.85 50 P **P** **14 32 26.0 +1.2**
baz=93
DUG Dugway, Tooele 92.85 50 *e*P **P** **14 32 26.0 +1.2**
comp=Z,19nm,1.9s
MVU Marysvale 93.04 52 *e*P **P** **14 32 27.1 +1.3**
MSU Marysvale 93.07 52 *e*P **P** **14 32 27.4 +1.4**
HVU Hansel Valley 93.13 48 *e*P **P** **14 32 26.9 +0.8**
comp=Z,11nm,1.1s
TUC Tucson 93.26 58 *e*P **P** **14 32 27.7 +1.0**
comp=Z,1.1nm,0.8s
AAK Ala-Archa 93.42 312 P P 14 32 41.1 +14
comp=Z,1.8nm,0.3s,baz=108,slow=3.3,SNR=7.0
MCMT McKenzie Canyo 93.56 45 P **P** **14 32 26.1 -1.9**
DLMT Dillon 93.81 45 P **P** **14 32 28.3 -0.8**
comp=Z,5.9nm,1.4s
EKS2 Erkin-Say 93.95 312 *e*P **P** **14 32 29.3 -0.4**
HWUT Hardware Ranch 94.00 49 *e*P **P** **14 32 30.7 +0.6**
comp=Z,3.6nm,0.9s
HWUT *e* 14 32 38.5
BOZ Bozeman (W) 94.53 45 P **P** **14 32 33.8 +1.4**
baz=95
FXWY Fox Creek 94.68 47 *e*P **P** **14 32 34.7 +1.4**
comp=Z,2.1nm,0.8s
YKA Yellowknife Ar 95.31 28 P **P** **14 32 34.8 -0.5**
comp=Z,1.3nm,0.7s,baz=256,slow=4.8,SNR=6.3
YKA Yellowknife Ar 95.31 28 P **P** **14 32 34.8 -0.5**
YKA pmax pmax
comp=Z,1.0nm,0.7s
BW06 Boulder Array 95.63 48 *e*P **P** **14 32 37.1 -0.5**
comp=Z,12nm,1.6s
PDAR Pinedale Array 95.63 48 P **P** **14 32 37.9 +0.2**
comp=Z,2.2nm,0.9s,baz=288,slow=1.8,SNR=15
PDAR PKPPKP **P'P'df** **14 57 40.7 -0.3**
comp=Z,0.4nm,1.0s,baz=64,slow=3.4,SNR=3.7
PDAR LR LR 15 14 05.8
comp=Z,174nm,18.0s,baz=304,slow=34
KKAR Karatay Array 96.38 313 *e*P **P** **14 32 39.9 -0.8**
CRZF Crozet Islands 96.42 221 SS SS 14 50 35.0 +3.1
CRZF R 15 05 00.0
J21A Lysite 97.23 47 P Pdif 14 32 45.4 +0.5
baz=97
BVAR Borovoye Array 97.44 322 P **P** **14 32 44.2 -1.1**
comp=Z,8.6nm,1.0s,baz=106,slow=4.8,SNR=29
BVAR Borovoye Array 97.44 322 P **P** **14 32 44.2 -1.1**
BVAR pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 97.50 323 *e*P **P** **14 32 44.7 -0.8**
BRVK pmax pmax
comp=Z,19nm,1.7s
BRVK Borovoye 97.50 323 *e*P **P** **14 32 44.2 -1.3**
SNAA Sanae 98.82 185 P **P** **14 32 50.6 -0.6**
TXAR Lajitas Array 98.98 62 P **Pdif** **14 32 53.5 +0.6**
comp=Z,0.2nm,0.6s,baz=231,slow=5.7,SNR=3.0
TXAR PP **PP** **14 36 54.6 -0.7**
comp=Z,0.2nm,0.8s,baz=198,slow=8.4,SNR=2.9
TXAR PKKPbc **PKKPbc** **14 49 19.9 +0.1**
comp=Z,0.1nm,0.6s,baz=110,slow=4.9,SNR=3.0
TXAR LR LR 15 11 50.8
comp=Z,282nm,19.0s,baz=0.0,slow=32
VNA2 Neumayer--Watz 99.90 184 P **Pdif** **14 32 58.8 +2.8**
baz=153,slow=2.0
ABKAR Akbulak array 103.93 319 *e*Pdif **Pdif** **14 33 12.2 -2.1**
KIV Kislovodsk 116.43 315 *i*PKIKP **PKPdf** **14 37 54.7 -1.0**
KIV pmax pmax
comp=Z,4.0nm,1.0s
OBN Obninsk 116.58 328 *e*PKIKP **PKPdf** **14 37 53.4 -2.0**
OBN *e* 14 39 01.4
OBN pmax pmax
comp=Z,2.0nm,0.7s
OBN MLR MLR
comp=Z,232nm,21.0s
RAYN Ar Rayn 116.83 292 *e*PKPdf **PKPdf** **14 37 57.2 +0.3**
FINES FINESS Array B 118.09 337 PKP **PKPdf** **14 37 57.6 -0.5**
comp=Z,1.5nm,0.8s,baz=49,slow=9.4,SNR=6.6
FINES FINESS Array B 118.09 337 PKIKP **PKPdf** **14 37 57.6 -0.5**
FINES pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 122.53 326 PKP **PKPdf** **14 38 06.5 -0.5**
comp=Z,3.7nm,0.7s,baz=57,slow=2.2,SNR=15
AKASG Malin Array Be 122.53 326 PKIKP **PKPdf** **14 38 06.5 -0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 122.53 326 *e*PKPdf **PKPdf** **14 38 06.1 -0.9**
AK01 Malin Array Si 122.54 326 *e*PKPdf **PKPdf** **14 38 06.5 -0.5**
KIEV Kiev 122.55 326 *e*PKPdf **PKPdf** **14 38 06.2 -0.8**
AK02 Malin Array Si 122.56 326 *e*PKPdf **PKPdf** **14 38 06.4 -0.7**
BOSA Boshof 123.23 227 PKP **PKPdf** **14 38 09.3 0.0**
comp=Z,8.1nm,0.6s,baz=118,slow=2.1,SNR=26
BOSA Boshof 123.23 227 PKIKP **PKPdf** **14 38 09.3 0.0**
BOSA pmax pmax
comp=Z,8.0nm,0.6s
HFS Hagfors 123.37 341 PKP **PKPdf** **14 38 07.7 -0.7**
comp=Z,5.9nm,0.8s,baz=111,slow=3.3,SNR=12
HFS Hagfors 123.37 341 PKIKP **PKPdf** **14 38 07.7 -0.7**
HFS pmax pmax
comp=Z,6.0nm,0.8s
NB2 NORSAR Subarra 123.41 343 PKPdf **PKPdf** **14 38 07.8 -0.7**
comp=Z,2.8nm,0.7s,baz=36,slow=1.8
NOA NORSAR Array B 123.41 343 PKP **PKPdf** **14 38 07.5 -1.0**
comp=Z,4.5nm,0.8s,baz=38,slow=1.9,SNR=16
NOA NORSAR Array B 123.41 343 PKIKP **PKPdf** **14 38 07.5 -1.0**
NOA pmax pmax
comp=Z,5.0nm,0.8s
BR131 Keskin Array S 124.10 312 *e*PKPdf **PKPdf** **14 38 10.1 -0.4**
BRTR Keskin Array B 124.10 312 PKP **PKPdf** **14 38 10.2 -0.4**
comp=Z,1.4nm,0.8s,baz=137,slow=3.2,SNR=6.8
BRTR PP **PP** **14 39 53.1 -1.9**
comp=Z,0.8nm,0.8s,baz=76,slow=5.2,SNR=3.8
BRTR PKKPbc **PKKPbc** **14 47 57.5 +0.9**

comp=Z,0.5nm,0.7s,baz=210,slow=7.0,SNR=3.6
BRTR Keskin Array B 124.10 312 PKIKP **PKPdf** 14 38 10.2 -0.4
BRTR 14 39 53.1
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR pmax pmax
comp=Z,1.0nm,0.8s
LPAZ La Paz 125.31 117 PKP **PKPdf** 14 38 14.3 +0.2
comp=Z,3.1nm,0.7s,baz=220,slow=2.5,SNR=11
LPAZ La Paz 125.31 117 PKIKP **PKPdf** 14 38 14.4 +0.2
LPAZ pmax pmax
comp=Z,3.0nm,0.7s
BUR08 Bucovina Ar. S 126.35 324 *e*PKPdf **PKPdf** 14 38 15.6 +1.0
MLR Muntele Rosu 126.99 322 PKP **PKPdf** 14 38 15.7 -0.3
comp=Z,0.4nm,0.5s,baz=39,slow=5.2,SNR=4.0
KOLS Kolonicke sedl 127.29 327 *e*PKIKP **PKPdf** 14 38 17.1 +0.9
KOLS Kolonicke sedl 127.29 327 *e*PKP **PKPdf** 14 38 17.1 +0.9
LSZ Lusaka 127.37 243 *e*PKPdf **PKPdf** 14 38 17.7 +0.2
STHS Stebnicka Huta 127.55 328 *e*PKIKP **PKPdf** 14 38 18.1 +1.4
STHS Stebnicka Huta 127.55 328 *e*PKP **PKPdf** 14 38 18.1 +1.4
NIE Niedzica 128.04 328 *e*PKP **PKPdf** 14 38 17.7 0.0
NIE Niedzica 128.04 328 *e*PKIKP **PKPdf** 14 38 17.7 0.0
CPUP Villa Florida 128.87 134 PKP **PKPdf** 14 38 19.5 -0.4
comp=Z,10nm,1.0s,baz=262,slow=2.1,SNR=11
CPUP Villa Florida 128.87 134 PKIKP **PKPdf** 14 38 19.5 -0.4
CPUP pmax pmax
comp=Z,10.0nm,1.0s
CPUP Villa Florida 128.87 134 PKP **PKPdf** 14 38 19.5 -0.4
CPUP *e*PKPdf **PKiKP** 14 38 19.8 -0.8
OKC Ostrava-Krasne 128.88 330 *e*PKPdf **PKPdf** 14 38 19.4 +0.2
OKC AMS AMS 15 36 50.0
comp=Z,200nm,16.4s
OKC Ostrava-Krasne 128.88 330 *e*PKIKP **PKPdf** 14 38 19.4 +0.2
OKC MLR MLR
comp=Z,200nm,16.4s
SDV Santo Domingo 129.06 86 *e*PKPdf **PKPdf** 14 38 20.2 -0.7
BSEG Bad Segeberg 129.35 338 *e*PKPdf **PKPdf** 14 38 20.9 +1.0
KRLC Kraliky 129.39 331 *e*PKPdf **PKPdf** 14 38 20.7 +0.4
KRLC Kraliky 129.39 331 *e*PKIKP **PKPdf** 14 38 20.7 +0.4
DPC Dobruska-Polom 129.43 331 *e*PKPdf **PKPdf** 14 38 20.0 -0.3
DPC *ep*PKP **pPKPdf** 14 38 27.1 -4.2
DPC *ex* x 14 38 42.3
DPC AMS AMS 15 35 10.0
comp=Z,300nm,18.2s
DPC Dobruska-Polom 129.43 331 *e*PKIKP **PKPdf** 14 38 20.0 -0.3
DPC *e* 14 38 42.3
DPC MLR MLR
comp=Z,300nm,18.2s
UPC Upice 129.47 332 *e*PKPdf **PKPdf** 14 38 20.6 +0.3
UPC Upice 129.47 332 *e*PKIKP **PKPdf** 14 38 20.6 +0.3
PVCC Panska Ves 130.12 332 *e*PKPdf **PKPdf** 14 38 22.5 +0.9
PVCC AMS AMS 15 38 30.0
comp=Z,500nm,15.7s
PVCC Panska Ves 130.12 332 *e*PKIKP **PKPdf** 14 38 22.5 +0.9
PVCC MLR MLR
comp=Z,500nm,15.7s
BRG Berggiesshubel 130.16 333 *e*PKP **PKPdf** 14 38 22.1 +0.5
comp=Z,11nm,1.3s
BRG *e* 14 41 46.1
comp=Z,5.7nm,1.2s
comp=N,222nm,23.6s
comp=E,166nm,15.1s
comp=Z,304nm,17.2s
BRG Berggiesshubel 130.16 333 *e*PKPdf **PKPdf** 14 38 22.4 +0.8
BRG Berggiesshubel 130.16 333 *e*PKIKP **PKPdf** 14 38 22.1 +0.5
BRG pmax pmax
comp=Z,11nm,1.3s
BRG MLR MLR
comp=N,222nm,23.6s
BRG MLR MLR
comp=E,166nm,15.1s
BRG MLR MLR
comp=Z,304nm,17.2s
CLL Collm 130.26 334 *e*PKPdf **PKPdf** 14 38 22.3 +0.5
CLL Collm 130.26 334 *e*PKPdf **PKPdf** 14 38 23.0 +1.2
comp=Z,4.0nm,0.9s
CLL Lm MLR 15 37 00.0
comp=N,200nm,21.0s
CLL Lm MLR 15 37 00.0
comp=E,100nm,19.1s
CLL Collm 130.26 334 *e*PKIKP **PKPdf** 14 38 23.0 +1.2
CLL pmax pmax
comp=Z,4.0nm,0.9s
FBE Freiberg 130.38 334 *e*PKPdf **PKPdf** 14 38 23.1 +1.1
GOPC GO Pecny, Ondr 130.45 332 *e*PKPdf **PKPdf** 14 38 23.1 +0.9
GOPC AMS AMS 15 38 00.0
comp=Z,300nm,18.0s
PRA Prague 130.50 332 *e*PKPdf **PKPdf** 14 38 23.2 +0.9
PRA Prague 130.50 332 *e*PKIKP **PKPdf** 14 38 23.2 +0.9
PRU Pruhonice 130.51 332 *e*PKPdf **PKPdf** 14 38 22.1 -0.2
PRU AMS AMS 15 36 10.0
comp=Z,400nm,21.5s
PRU Pruhonice 130.51 332 *e*PKIKP **PKPdf** 14 38 22.1 -0.2
PRU MLR MLR
comp=Z,400nm,21.5s
TREC Trest 130.54 331 AMS AMS 15 36 40.0
comp=Z,400nm,19.4s
CLZ Clausthal 130.95 336 *e*PKPdf **PKPdf** 14 38 24.2 +1.0
TANN Tannenbergstha 131.14 334 *e*PKPdf **PKPdf** 14 38 24.3 +0.7
WERD Werda 131.19 334 *e*PKPdf **PKPdf** 14 38 24.5 +0.9
PLN Plauen 131.23 334 *e*PKPdf **PKPdf** 14 38 24.5 +0.8
GUNZ Gunzen 131.24 334 *e*PKPdf **PKPdf** 14 38 24.6 +0.9
CONA Conrad Observa 131.27 329 ⇑ *i*PKiKP **PKPdf** 14 38 24.3 +0.4
comp=Z,5.0nm,0.8s
WERN Wernitzgruen 131.28 334 *e*PKPdf **PKPdf** 14 38 24.7 +0.9
NKC Novy Kostel 131.28 333 *e*PKPdf **PKPdf** 14 38 24.6 +0.8
NKC *e*PKS PKSdf 14 41 50.0 -10
NKC Novy Kostel 131.28 333 *e*PKIKP **PKPdf** 14 38 24.6 +0.8
KHC Kasperske Hory 131.56 332 *e*PKPdf **PKPdf** 14 38 23.9 -0.5
KHC *ep*PKP **pPKPdf** 14 38 35.5 +0.2
KHC *ex* x 14 38 46.0
KHC *e*PKS PKSdf 14 41 50.9 -10
KHC *ex* x 14 42 02.9
KHC AMS AMS 15 36 30.0
comp=Z,400nm,17.9s
KHC Kasperske Hory 131.56 332 *e*PKPdf **PKPdf** 14 38 24.9 +0.5
MANZ Manzenberg 131.61 333 *e*PKPdf **PKPdf** 14 38 25.2 +0.7
GEC2 GERESS Array S 131.70 331 *e*PKPdf **PKPdf** 14 38 25.2 +0.4
GERES GERESS Array B 131.70 331 PKP **PKPdf** 14 38 24.6 -0.1
comp=Z,3.2nm,0.8s,baz=48,slow=2.0,SNR=25
GERES SKPbc **SKPab** 14 41 51.1 +2.4
comp=Z,2.2nm,0.9s,baz=44,slow=4.4,SNR=8.9
GERES GERESS Array B 131.70 331 PKIKP **PKPdf** 14 38 24.6 -0.1
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES pmax pmax
comp=N,2.0nm,0.9s
WET Wettzell 131.87 332 *e*PKPdf **PKPdf** 14 38 25.7 +0.7
ARSA Arzberg 131.89 329 ⇓ *i*PKiKP **PKPdf** 14 38 24.9 -0.1
comp=N,4.1nm,1.2s
EKA Eskdalemuir Ar 132.07 348 PKP **PKPdf** 14 38 25.4 +0.3
comp=N,2.3nm,0.8s,baz=23,slow=2.7,SNR=5.1
EKA Eskdalemuir Ar 132.07 348 PKIKP **PKPdf** 14 38 25.4 +0.3
EKA pmax pmax
comp=Z,2.0nm,0.8s
MOA Molln 132.12 330 ⇓ *i*PKiKP **PKPdf** 14 38 26.1 +0.7
comp=Z,2.4nm,0.7s
IDI Anoyia 132.16 310 PKP **PKPdf** 14 38 26.4 +0.4
comp=Z,4.0nm,0.9s,baz=149,slow=12,SNR=2.9
IDI SKPbc **SKPab** 14 41 53.2 +2.1
comp=Z,6.6nm,0.9s,baz=357,slow=18,SNR=3.0
GRF Grafenberg Arr 132.22 334 *e*PKPdf **PKPdf** 14 38 26.2 +0.6
PERS Pernice 132.50 328 *i* PKPbc **PKPdf** 14 38 25.9 -0.4
SOKA Soboth 132.52 328 ⇓ *i*PKiKP **PKPdf** 14 38 26.3 0.0
comp=Z,4.6nm,0.9s
SAML Samuel 132.56 111 *e*PKPdf **PKPdf** 14 38 27.3 +0.1
OBKA Obir 132.88 329 ⇑ *i*PKiKP **PKPdf** 14 38 26.9 -0.2
comp=Z,2.8nm,1.0s
BOJS Bojanci 133.17 327 *i* PKPbc **PKPdf** 14 38 28.1 +0.7
VISS Visnje 133.19 328 *i* PKPbc **PKPdf** 14 38 28.0 +0.5
SJG San Juan 133.41 74 *e*PKPdf **PKPdf** 14 38 29.5 +0.9
MEM Membach 133.60 338 PKP **PKPdf** 14 38 28.2 +0.1
STU Stuttgart 133.79 334 *e*PKPdf **PKPdf** 14 38 29.3 +0.7
SNF Seneffe 134.30 339 PKP **PKPdf** 14 38 31.1 +1.7
WLF Walferdange 134.32 337 PKP **PKPdf** 14 38 32.2 +2.7
TSUM Tsumeb 134.33 232 *e*PKPdf **PKPdf** 14 38 30.1 -0.6
FETA Feichten 134.40 332 ⇓ *i*PKiKP **PKPdf** 14 38 30.3 +0.3
comp=Z,7.5nm,0.9s
DOU Dourbes 134.54 339 PKP **PKPdf** 14 38 31.8 +1.9
DAVOX Davos/Dischmat 134.98 332 PKP **PKPdf** 14 38 29.5 -1.6
comp=Z,7.5nm,0.9s,baz=61,slow=4.1,SNR=10
DAVOX SKPbc **SKPab** 14 42 02.1 -1.0
comp=Z,2.1nm,0.7s,baz=0.0,slow=7.1,SNR=3.7
DAVOX Davos/Dischmat 134.98 332 PKIKP **PKPdf** 14 38 29.5 -1.6
DAVOX pmax pmax
comp=Z,8.0nm,0.9s
DAVOX pmax pmax
comp=N,2.0nm,0.7s
TUE Stuetta 135.45 332 *e*PKPdf **PKPdf** 14 38 32.3 +0.2
BDFB Brasilia 142.29 130 PKhKP PKPpre 14 38 40.1
comp=N,9.5nm,0.9s,baz=182,slow=3.1,SNR=11
KEST Kesra 142.87 320 PKhKP PKPpre 14 38 41.0
comp=N,2.6nm,1.1s,baz=1.5,slow=4.4,SNR=5.2
CMAH Djebel Manchou 143.47 323 P PKPab 14 38 43.0 0.0
ABSA Djebel Ababsia 143.67 322 P PKPab 14 38 43.2 -0.6
CKFL Kef-Lekhel 144.04 323 P PKPab 14 38 44.4 -0.8
CASM Ain Smara 144.27 323 P **PKPab** 14 38 44.6 -1.4
DFRA Djebel Bou Aff 144.43 324 P **PKPab** 14 38 45.8 -0.9
CTEI Djebel Teioual 144.45 323 P **PKPab** 14 38 45.6 -1.2
CKHR Kef el Ahmar 145.01 324 P **PKPab** 14 38 47.2 -1.6
PBRG Braganca 145.54 344 *e*PKPdf **PKPab** 14 38 50.8 +0.3
PBRG Braganca 145.54 344 *e*PKPdf **PKPab** 14 38 50.8 +0.3
PGAV Gavieira, Arco 145.79 346 *e*PKPdf **PKPab** 14 38 51.4 -0.1
PGAV Gavieira, Arco 145.79 346 *e*PKPdf **PKPab** 14 38 51.4 -0.1
ATAF Djebel Tarf 145.81 325 P **PKPab** 14 38 52.2 +0.4
AKET Djebel Ketaf 145.91 326 P **PKPab** 14 38 53.2 +1.0
PCAB Cabril 145.97 345 *e*PKPdf **PKPab** 14 38 52.3 +0.2
PCAB Cabril 145.97 345 *e*PKPdf **PKPab** 14 38 52.3 +0.2
ADJB Djebel Djouab 146.08 326 P **PKPab** 14 38 53.0 +0.2
MVO Moncorvo 146.22 344 *e*PKPdf **PKPab** 14 38 53.1 0.0
MVO Moncorvo 146.22 344 *e*PKPdf **PKPab** 14 38 53.1 0.0
POLO Lamas de Olo 146.23 345 *e*PKPdf **PKPdf** 14 38 52.0 +0.6
POLO Lamas de Olo 146.23 345 *e*PKiKP **PKPab** 14 38 53.9 +0.8
POLO Lamas de Olo 146.23 345 *e*PKPdf **PKPdf** 14 38 52.0 +0.6
POLO Lamas de Olo 146.23 345 *e*PKiKP **PKPab** 14 38 53.9 +0.8
ESDC Sonseca Array 146.59 339 PKPbc **PKPdf** 14 38 52.9 +0.9
comp=N,9.9nm,0.9s,baz=24,slow=2.7,SNR=38
PAB San Pablo 146.84 339 *e*PKPbc **PKPbc** 14 38 54.7 +0.4
PCBR Castelo Branco 147.57 343 *e*PKPdf **PKPbc** 14 38 57.2 +1.0
PCBR Castelo Branco 147.57 343 *e*PKPdf **PKPbc** 14 38 57.2 +1.0
PCAS Casmilo, Conde 147.65 345 *e*PKPdf **PKPdf** 14 38 54.5 +0.8
PCAS Casmilo, Conde 147.65 345 *e*PKPdf **PKPdf** 14 38 54.5 +0.8
PMRV Marv??o 147.93 343 *e*PKPdf **PKPdf** 14 38 55.4 +1.2
PMRV Marv??o 147.93 343 *e*PKiKP **PKPab** 14 38 53.1 +0.9
PMRV Marv??o 147.93 343 *e*PKPdf **PKPdf** 14 38 55.4 +1.2
PMRV Marv??o 147.93 343 *e*PKiKP **PKPbc** 14 38 58.1 +0.9
PTOM Tomar 148.03 344 *e*PKPdf **PKPbc** 14 38 58.4 +1.0
PTOM Tomar 148.03 344 *e*PKPdf **PKPbc** 14 38 58.4 +1.0
PESTR Estremoz 148.50 343 *e*PKPdf **PKPbc** 14 38 59.7 +1.0
PESTR Estremoz 148.50 343 *e*PKPdf **PKPbc** 14 38 59.7 +1.0
EVO Evora 148.94 343 *e*PKPdf **PKPbc** 14 39 00.4 +0.6
EVO Evora 148.94 343 *e*PKPdf **PKPbc** 14 39 00.4 +0.6
PBAR Barrancos 148.97 341 *e*PKPdf **PKPdf** 14 38 56.9 +1.0
PBAR Barrancos 148.97 341 *e*PKPdf **PKPdf** 14 38 56.9 +1.0
PNCL Nicolau / Gran 149.48 344 *e*PKPdf **PKPdf** 14 38 56.8 +0.1
PNCL Nicolau / Gran 149.48 344 *e*PKiKP **PKPbc** 14 39 01.8 +0.6
PNCL Nicolau / Gran 149.48 344 *e*PKPdf **PKPdf** 14 38 56.8 +0.1
PNCL Nicolau / Gran 149.48 344 *e*PKiKP **PKPbc** 14 39 01.8 +0.6
MESJ Messejana 149.64 343 *e*PKPdf **PKPbc** 14 39 02.7 +1.1
MESJ Messejana 149.64 343 *e*PKPdf **PKPbc** 14 39 02.7 +1.1
PCVE Castro Verde 149.78 342 *e*PKPdf **PKPdf** 14 38 59.0 +1.8
PCVE Castro Verde 149.78 342 *e*PKiKP **PKiKP** 14 39 03.3 +0.4
PCVE Castro Verde 149.78 342 *e*PKPdf **PKPdf** 14 38 59.0 +1.8
PCVE Castro Verde 149.78 342 *e*PKiKP **PKiKP** 14 39 03.3 +0.4
PVAQ Vaqueiros 149.90 342 *e*PKPdf **PKPbc** 14 39 03.3 +1.1
PVAQ Vaqueiros 149.90 342 *e*PKPdf **PKPbc** 14 39 03.3 +1.1
PTEO Sao Teotonio 150.06 343 *e*PKPdf **PKPbc** 14 39 02.4 -0.2
PTEO Sao Teotonio 150.06 343 *e*PKPdf **PKPbc** 14 39 02.4 -0.2
PBDV Barranco-do-Ve 150.11 342 *e*PKPdf **PKPdf** 14 38 58.2 +0.4
PBDV Barranco-do-Ve 150.11 342 *e*PKPdf **PKPdf** 14 38 58.2 +0.4
MORF Marmelete 150.26 343 *e*PKPdf **PKPbc** 14 39 01.6 -1.6
MORF Marmelete 150.26 343 *e*PKiKP **PKiKP** 14 39 04.3 +0.3
MORF Marmelete 150.26 343 *e*PKPdf **PKPbc** 14 39 01.6 -1.6
MORF Marmelete 150.26 343 *e*PKiKP **PKiKP** 14 39 04.3 +0.3
PFVI Vila Bisbo 150.47 343 *e*PKiKP **PKiKP** 14 39 04.4 0.0
PFVI Vila Bisbo 150.47 343 *e*PKiKP **PKiKP** 14 39 04.4 0.0
TAM Tamanrasset 152.74 303 *e*PKPbc **PKPbc** 14 39 10.5 +1.0
MDT Midelt 152.78 333 PKPbc **PKPbc** 14 39 09.8 +0.5
comp=N,8.1nm,0.8s,baz=49,slow=2.7,SNR=20
TOA0 Torodi Ar. Sit 159.24 283 *e*PKPdf **PKPdf** 14 39 11.0 0.0
TORD Torodi Ar. Bea 159.24 283 PKP **PKPdf** 14 39 10.2 -0.8
comp=N,5.9nm,0.8s,baz=353,slow=0.4,SNR=35
TORD PKPab **PKPab** 14 39 47.1 -1.1
comp=N,14nm,1.0s,baz=74,slow=3.6,SNR=18

*IDC **27** 14:21:52.8±0.7,9.°07S×161.°08E,h0km,mb4.5/11, mb1 4.7/11,mb1mx4.3/34,mbtmp4.5/11,Error ellipse: s-maj=35.9km s-min=22.0km az=150.0*
*ISCJB **27** 14:21:58.7±0.8,8.°8S±0.°2×161.°0E±0.°2,h43km,mb4.4/12, Error ellipse: s-maj=36.8km s-min=8.4km az=142.5*
*NEIC **27** 14:22:00.4±2.2,8.°95S×161.°03E,h51km±18km,mb4.7/1, Error ellipse: s-maj=28.0km s-min=15.4km az=136.0*
ISC 27 14:21:59.6±0.8,8.°9S±0.°2×161.°1E±0.°2,h43km,n33, σ1®25/27,mb4.4/12,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.26**	**246**	*e*Pg	**Pn**	**14 22 19.8**	**-0.9**
HNR				*e*Sg	**Sn**	**14 22 38.0**	**+1.5**
CTA	**Charters Tower**	**18.16**	**231**	P	**Pn**	**14 26 10.8**	**+2.2**
	0.4nm,0.3s,baz=58,slow=17,SNR=2.5						
H11S2	**WAKE ISLAND Hy**	**27.78**	**11**	T	T	14 56 29.4	
	baz=193,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**27.78**	**11**	T	T	14 56 29.1	
	baz=193,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**27.80**	**11**	T	T	14 56 30.2	
	baz=193,slow=76,SNR=13						
WRA	**Warramunga Arr**	**28.10**	**244**	P	**P**	**14 27 46.4**	**-1.2**
	15nm,0.7s,baz=70,slow=9.3,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**29.01**	**11**	T	T	14 57 58.8	
	baz=192,slow=76,SNR=271						
H11N3	**WAKE ISLAND Hy**	**29.02**	**11**	T	T	14 58 00.5	
	baz=192,slow=76,SNR=106						
H11N2	**WAKE ISLAND Hy**	**29.03**	**11**	T	T	14 58 00.5	
	baz=192,slow=76,SNR=195						
AS31	**Alice Springs**	**29.87**	**237**	*e*P	**P**	**14 28 01.8**	**-1.5**
ASAR	**Alice Springs**	**29.87**	**237**	P	**P**	**14 28 01.4**	**-2.0**
	5.9nm,0.5s,baz=62,slow=10.0,SNR=4.6						
ASAR				ScP	**ScP**	**14 34 47.3**	**+2.6**
	0.7nm,0.8s,baz=56,slow=3.8,SNR=4.7						
CMAR	**Chiang Mai Arr**	**67.08**	**294**	P	**P**	**14 32 49.4**	**+0.3**
	2.2nm,0.7s,baz=122,slow=5.1,SNR=4.6						
SONM	**Songino Array**	**74.28**	**325**	P	**P**	**14 33 33.0**	**+0.5**
	3.5nm,0.7s,baz=130,slow=5.9,SNR=4.5						
COLA	**College**	**82.75**	**20**	*e*P	**P**	**14 34 18.8**	**+0.1**
	6.5nm,0.8s						
ILAR	**Eielson Array**	**83.01**	**20**	P	**P**	**14 34 20.2**	**+0.2**
	1.6nm,0.8s,baz=244,slow=5.2,SNR=9.1						
H02N1	**VAN INLET T-PH**	**83.39**	**34**	T	T	16 06 19.2	
	SNR=3.9						
H02S1	**DAWSON INLET T**	**83.40**	**34**	T	T	16 06 23.0	
	SNR=16						
YBH	**Yreka Blue Hor**	**85.72**	**47**	P	**P**	**14 34 33.6**	**-0.8**
	4.0nm,1.0s,baz=65,slow=2.8,SNR=3.0						
NVAR	**Mina Array Bea**	**88.19**	**51**	P	**P**	**14 34 48.2**	**+1.6**
	2.3nm,0.9s,baz=236,slow=6.9,SNR=4.5						
ZALV	**Zalesovo Beam**	**89.18**	**325**	P	**P**	**14 34 50.3**	**-0.3**
	0.5nm,0.5s,baz=107,slow=4.4,SNR=2.8						
H06E1	**SOCORRO T-PHAS**	**90.92**	**71**	T	T	16 15 47.0	
	SNR=8.9						
YKA	**Yellowknife Ar**	**95.20**	**28**	P	**P**	**14 35 18.5**	**+0.3**
	0.9nm,0.7s,baz=267,slow=5.3,SNR=4.0						
PDAR	**Pinedale Array**	**95.49**	**48**	P	**P**	**14 35 22.1**	**+1.6**
	1.6nm,0.9s,baz=309,slow=0.3,SNR=5.7						
BVAR	**Borovoye Array**	**97.48**	**322**	P	**P**	**14 35 27.8**	**-1.1**
	0.6nm,0.5s,baz=94,slow=5.8,SNR=4.0						
FINES	**FINESS Array B**	**118.09**	**337**	PKP	**PKPdf**	**14 40 40.2**	**-1.4**
	2.4nm,0.8s,baz=42,slow=11,SNR=4.2						
AKASG	**Malin Array Be**	**122.56**	**326**	PKP	**PKPdf**	**14 40 51.0**	**+0.6**
	1.3nm,0.7s,baz=61,slow=2.1,SNR=4.2						
BOSA	**Boshof**	**123.37**	**227**	PKP	**PKPdf**	**14 40 52.8**	**-0.2**
	4.1nm,1.0s,baz=122,slow=9.5,SNR=3.4						
NOA	**NORSAR Array B**	**123.40**	**343**	PKP	**PKPdf**	**14 40 51.4**	**-0.5**
	0.9nm,0.8s,baz=50,slow=2.3,SNR=2.9						
LPAZ	**La Paz**	**125.22**	**117**	PKP	**PKPdf**	**14 40 55.7**	**-1.7**
	0.8nm,0.7s,baz=282,slow=9.3,SNR=3.0						
CPUP	**Villa Florida**	**128.81**	**134**	PKP	**PKPdf**	**14 41 03.4**	**+0.2**
	3.6nm,1.1s,baz=153,slow=2.3,SNR=2.8						
GERES	**GERESS Array B**	**131.72**	**332**	PKP	**PKPdf**	**14 41 09.0**	**+0.8**
	0.9nm,0.8s,baz=93,slow=3.9,SNR=3.8						
ESDC	**Sonseca Array**	**146.58**	**339**	PKPbc	**PKPbc**	**14 41 36.9**	**0.0**
	1.9nm,1.0s,baz=56,slow=2.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**159.36**	**284**	PKP	**PKPdf**	**14 41 53.8**	**-0.6**
	1.2nm,0.9s,baz=54,slow=0.5,SNR=3.4						
TORD				PKPab	**PKPab**	**14 42 31.0**	**-1.2**
	2.3nm,1.1s,baz=67,slow=4.7,SNR=3.6						

*IDC **27** 14:25:03.2±1.1,8.°90S×161.°04E,h0km,mb4.0/7, mb1 4.3/7,mb1mx3.8/33,mbtmp4.0/7,Error ellipse: s-maj=37.4km s-min=23.6km az=108.0*
*ISCJB **27** 14:25:06.8±0.9,9.°0S±0.°2×161.°3E±0.°1,h43km,mb3.9/8, Error ellipse: s-maj=24.2km s-min=12.0km az=149.7*
*NEIC **27** 14:25:09.4±0.9,8.°69S×160.°86E,h35km,mb4.3/1,Error ellipse: s-maj=18.1km s-min=15.3km az=112.0*
ISC 27 14:25:09.4±0.9,9.°0S±0.°1×161.°2E±0.°1,h43km,n20, σ1®44/18,mb4.0/8,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.29**	**249**	*e*Pg	**Pn**	**14 25 30.5**	**-0.5**
HNR				*e*Sg	**Sn**	**14 25 48.2**	**+1.0**
DZM	**Mont Dzumac**	**13.99**	**159**	Pn	**P**	**14 28 31.6**	**-0.7**
	0.2nm,0.3s,baz=90,slow=24,SNR=144						
CTA	**Charters Tower**	**18.17**	**231**	P	**Pn**	**14 29 19.1**	**+0.5**
	0.4nm,0.3s,baz=41,slow=11,SNR=3.7						
CTAO	**Charters Tower**	**18.17**	**231**	*e*P	**Pn**	**14 29 19.2**	**+0.5**
H11S2	**WAKE ISLAND Hy**	**27.82**	**11**	T	T	14 59 56.3	
	baz=192						
H11S3	**WAKE ISLAND Hy**	**27.82**	**11**	T	T	14 59 56.9	
	baz=192						
H11S1	**WAKE ISLAND Hy**	**27.83**	**11**	T	T	14 59 56.9	
	baz=192						
WRAB	**Tennant Creek**	**28.12**	**244**	*e*P	**P**	**14 30 56.6**	**-1.0**
	4.0nm,0.6s						
WRA	**Warramunga Arr**	**28.13**	**244**	P	**P**	**14 30 56.7**	**-1.0**
	2.5nm,0.5s,baz=61,slow=7.9,SNR=9.4						
WRA				PcP	**PcP**	**14 34 11.2**	**-0.1**
	0.7nm,1.0s,baz=66,slow=3.4,SNR=2.9						
WRA				ScP	**ScP**	**14 37 52.1**	**+3.1**
	0.4nm,0.8s,baz=78,slow=3.5,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**29.04**	**11**	T	T	15 01 25.2	
	baz=192,slow=76,SNR=40						
H11N3	**WAKE ISLAND Hy**	**29.05**	**11**	T	T	15 01 25.8	
	baz=192,slow=76,SNR=20						
H11N2	**WAKE ISLAND Hy**	**29.06**	**11**	T	T	15 01 27.8	
	baz=192,slow=76,SNR=39						
STKA	**Stephens Creek**	**29.16**	**216**	P	**P**	**14 31 06.7**	**0.0**
	2.5nm,0.7s,baz=54,slow=17,SNR=2.8						
STKA	**Stephens Creek**	**29.16**	**216**	*e*P	**P**	**14 31 06.9**	**+0.2**
AS31	**Alice Springs**	**29.89**	**237**	*e*P	**P**	**14 31 11.7**	**-1.7**
ASAR	**Alice Springs**	**29.89**	**237**	P	**P**	**14 31 11.8**	**-1.6**
	2.1nm,0.5s,baz=61,slow=10,SNR=10.0						
ASAR				ScP	**ScP**	**14 37 57.9**	**+3.3**
	0.6nm,0.7s,baz=73,slow=3.0,SNR=5.5						
CMAR	**Chiang Mai Arr**	**67.15**	**294**	P	**P**	**14 35 58.7**	**-0.7**
	0.6nm,0.6s,baz=114,slow=4.4,SNR=3.7						
VNDA	**Vanda**	**68.54**	**180**	P	**P**	**14 36 07.8**	**+0.7**
	0.6nm,0.8s,baz=333,slow=4.1,SNR=2.6						
SONM	**Songino Array**	**74.36**	**325**	P	**P**	**14 36 42.6**	**-0.2**
	1.1nm,0.6s,baz=134,slow=6.2,SNR=2.2						
ILAR	**Eielson Array**	**83.04**	**20**	P	**P**	**14 37 30.1**	**+0.1**
	0.3nm,0.5s,baz=258,slow=5.0,SNR=5.6						

WEL 27 14:30:59.9±1.3,46.°21S×166.°05E,h22km±5km,ML3.5/4, 2D,Error ellipse: s-maj=12.4km s-min=5.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.44**	**85**	⇓P*	Pb	14 31 09.1	+0.1
PYZ				S*	Sb	14 31 14.1	-1.2
DCZ	**Deep Cove**	**1.06**	**47**	PN	Pn	14 31 18.1	-1.3
DCZ				*e*SN	Sb	14 31 32.9	-0.1
DCZ				AML	AML	14 31 34.5	
WHZ	**Wether Hill Ro**	**1.36**	**77**	⇓PN	Pn	14 31 23.3	-0.3
WHZ				SN	Sn	14 31 40.3	-0.5
WHZ				AML	AML	14 31 44.4	
APZ	**The Paps**	**1.48**	**116**	PN	Pn	14 31 23.8	-1.4
APZ				SN	Sn	14 31 41.9	-2.0
MLZ	**Mavora Lakes**	**1.71**	**61**	PN	Pn	14 31 29.3	+0.8
MLZ				AML	AML	14 31 55.5	
MLZ				AML	AML	14 32 01.0	
SYZ	**Scrubby Hill**	**2.16**	**100**	PN	Pn	14 31 34.2	-0.4
EAZ	**Earnscleugh**	**2.48**	**68**	PN	Pn	14 31 40.2	+1.2
WKZ	**Wanaka**	**2.50**	**58**	PN	Pb	14 31 42.2	-1.9
TUZ	**Tuapeka**	**2.50**	**86**	PN	Pn	14 31 39.4	+0.1
JCZ	**Jackson Bay**	**2.87**	**43**	*e*PN	Pn	14 31 47.0	+2.6
JCZ				AML	AML	14 32 37.7	
JCZ				AML	AML	14 32 38.3	

*SJA **27** 14:38:05.6±0.8,32.°84S×72.°96W,h112km±126km,ML3.3, MW3.3*
*GUC **27** 14:38:06.0±0.4,33.°42S×72.°27W,h38km±7km,ML3.5*
ISC 27 14:38:07.3±3.7,33.°57S±0.°08×72.°3W±0.°2,h23km±19km, n16,σ1®67/19,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.78**	**46**	*e*P	Pn	14 38 19.3	-3.6
IHA				*e*S	**Sn**	**14 38 29.5**	**-4.3**
LNV	**Longovilo**	**0.84**	**118**	*e*P	**Pn**	**14 38 22.9**	**-0.8**
LNV				*e*S	**Sn**	**14 38 35.8**	**+0.4**
TACH	**Talagante**	**1.15**	**95**	*e*P	**Pn**	**14 38 26.7**	**-1.2**
TACH				*e*S	**Sn**	**14 38 42.6**	**-0.4**
SAN	**Santiago**	**1.38**	**86**	*e*P	**Pn**	**14 38 29.9**	**-1.3**
SAN				*e*S	**Sn**	**14 38 48.3**	**-0.4**
SAN				AML	AML	14 38 56.3	
comp=N,842nm,0.5s							
CHCH

ZALV	**Zalesovo Beam**	**5.07**	**314**	*i* PN	Pb	14 48 06.8	-5.3		
ZALV				pmax	pmax				
	comp=Z,5.0nm,0.3s								
KRAR	**Krasnoyarsk**	**5.57**	**11**	*e*PN	Pn	14 48 10.4	+4.3		
NVS	**Novosibirsk**	**6.35**	**315**	*e*Pn	**Pn**	**14 48 14.0**	**-2.7**		
NVS				*e*Pg	Pb	14 48 38.6	+4.6		
NVS				*e*Sn	**Sn**	**14 49 32.6**	**+3.8**		
NVS				*e*Sg	**Sg**	**14 50 02.9**	**-4.7**		
NVS	**Novosibirsk**	**6.35**	**315**	*e*PN	**Pn**	**14 48 14.0**	**-2.7**		
NVS				*e*		14 48 38.6			
NVS				*e*		14 49 39.4			
MOY	**Mondy**	**6.42**	**76**	*e*PN	**Pb**	**14 48 33.0**	**-2.3**		
MOY				pmax	pmax				
	comp=Z,23nm,0.7s								
MK31	**Makanchi Array**	**6.87**	**240**	⇑Pn	**Pn**	**14 48 25.3**	**+1.4**		
	comp=Z,1.6nm,0.3s,baz=50,slow=16,SNR=46								
MK31				⇓Pg	Pg	14 48 50.4	-5.0		
	comp=Z,4.9nm,0.3s,baz=71,slow=16,SNR=10								
MK31				⇑Sn	Sn	14 49 50.4	+8.7		
	comp=Z,11nm,0.5s								
MK31				⇓Lg	Lg	14 50 22.4			
	comp=Z,34nm,0.5s,baz=57,slow=31,SNR=5.8								
KURK	**Kurchatov**	**7.85**	**276**	⇑Pn	**Pn**	**14 48 37.7**	**+0.4**		
	comp=Z,3.5nm,0.6s								
KURK				⇓Lg	Lg	14 50 51.7			
	comp=Z,52nm,0.9s								
KURK	**Kurchatov**	**7.85**	**276**	P	**Pn**	**14 48 39.0**	**+1.7**		
KURK				pmax	pmax				
	comp=Z,1.0nm,0.3s								
KURBB	**Kurchatov Arra**	**7.91**	**275**	⇑Pn	**Pn**	**14 48 39.0**	**+0.8**		
	comp=Z,8.1nm,0.4s								
KURBB				⇑Lg	Lg	14 50 51.1			
	comp=Z,106nm,0.7s								
KURBB	**Kurchatov Arra**	**7.91**	**275**	Pn	**Pn**	**14 48 39.0**	**+0.8**		
	comp=Z,0.5nm,0.3s,baz=90,slow=15,SNR=19								
KURBB				Lg	Lg	14 50 52.9			
	comp=Z,1.1nm,0.3s,baz=85,slow=29,SNR=8.8								
TLY	**Talaya**	**8.06**	**77**	Lg	Lg	14 50 51.8			
	comp=Z,0.0nm,0.3s,baz=315,slow=8.0,SNR=6.1								
SONM	**Songino Array**	**10.47**	**99**	Lg	Lg	14 52 11.2			
	comp=Z,0.9nm,0.3s,baz=291,slow=28,SNR=5.2								
BVAR	**Borovoye Array**	**12.96**	**289**	Pn	**Pn**	**14 49 47.2**	**-0.1**		
	comp=Z,0.6nm,0.3s,baz=81,slow=13,SNR=9.9								
BVAR				Sn	**Sn**	**14 52 06.5**	**-4.5**		
	comp=Z,0.2nm,0.3s,baz=108,slow=22,SNR=3.0								
BVAR	**Borovoye Array**	**12.96**	**289**	P	**Pn**	**14 49 47.2**	**-0.1**		
BVAR						14 52 06.5			
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
BRVK	**Borovoye**	**13.03**	**289**	*e*P	**Pn**	**14 49 48.4**	**+0.2**		
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.5s								
AAK	**Ala-Archa**	**13.80**	**241**	Lg	Lg	14 54 18.6			
	comp=Z,0.5nm,0.3s,baz=126,slow=19,SNR=6.9								
KK31	**Karatay Array**	**15.82**	**250**	⇑P	**P**	**14 50 29.1**	**-0.5**		
	comp=Z,1.7nm,0.5s,baz=55,slow=13,SNR=14								
AB31	**Akbulak array**	**19.95**	**278**	P	**Pn**	**14 51 16.5**	**-0.2**		
	comp=Z,1.4nm,0.8s,baz=74,slow=11,SNR=16								
ARU	**Arti**	**20.01**	**300**	*d i* P	Pn	14 51 19.1	+1.7		
ARU						14 51 32.6			
ARU				SS	SS	14 55 26.7			
ARU				pmax	pmax				
	comp=Z,12nm,2.5s								
AKTO	**Aktyubinsk**	**20.86**	**282**	⇑P	**P**	**14 51 25.1**	**+0.1**		
	comp=Z,3.4nm,0.7s								
AKTO	**Aktyubinsk**	**20.86**	**282**	P	**P**	**14 51 26.1**	**+1.2**		
	comp=Z,2.6nm,0.5s,baz=90,slow=19,SNR=8.0								
AKTO	**Aktyubinsk**	**20.86**	**282**	P	**P**	**14 51 26.1**	**+1.2**		
AKTO				pmax	pmax				
	comp=Z,3.0nm,0.5s								
TIXI	**Tiksi**	**27.13**	**25**	*e*P	**P**	**14 52 27.2**	**+1.5**		
TIXI				pmax	pmax				
	comp=Z,1.0nm,0.8s								
TIXI				MLR	MLR				
	comp=Z,249nm,25.0s								
TMCR	**Tamitsa**	**30.59**	**317**	*e*P	**P**	**14 52 58.2**	**+1.7**		
FINES	**FINESS Array B**	**36.33**	**313**	P	**P**	**14 53 46.2**	**-0.3**		
	comp=Z,3.2nm,1.0s,baz=163,slow=6.6,SNR=4.3								
FINES	**FINESS Array B**	**36.33**	**313**	P	**P**	**14 53 46.2**	**-0.3**		
FINES				pmax	pmax				
	comp=Z,3.0nm,1.0s								
AKASG	**Malin Array Be**	**38.14**	**295**	P	**P**	**14 54 01.2**	**-0.8**		
	comp=Z,0.3nm,0.3s,baz=58,slow=8.6,SNR=3.2								
BRTR	**Keskin Array B**	**40.89**	**277**	P	**P**	**14 54 26.3**	**+1.0**		
	comp=Z,1.1nm,0.9s,baz=79,slow=6.7,SNR=5.6								
BRTR	**Keskin Array B**	**40.89**	**277**	*e*P	**P**	**14 54 27.3**	**+2.0**		
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
HFS	**Hagfors**	**42.50**	**314**	P	**P**	**14 54 38.5**	**+0.5**		
	comp=Z,2.2nm,0.6s,baz=71,slow=5.3,SNR=12								
HFS	**Hagfors**	**42.50**	**314**	P	**P**	**14 54 38.5**	**+0.5**		
HFS				pmax	pmax				
	comp=Z,2.0nm,0.6s								
NB2	**NORSAR Subarra**	**43.27**	**316**	P	**P**	**14 54 44.7**	**+0.5**		
	comp=Z,0.6nm,0.4s,baz=61,slow=7.9								
NOA	**NORSAR Array B**	**43.27**	**316**	P	**P**	**14 54 44.5**	**+0.3**		
	comp=Z,0.2nm,0.3s,baz=68,slow=9.3,SNR=10								
NOA	**NORSAR Array B**	**43.27**	**316**	*e*P	**P**	**14 54 45.5**	**+1.3**		
CLL	**Collm**	**46.91**	**303**	*i* P	**P**	**14 55 14.8**	**+1.6**		
	comp=Z,3.0nm,0.6s								
CLL	**Collm**	**46.91**	**303**	*i* P	**P**	**14 55 14.8**	**+1.6**		
CLL				*e*		14 55 19.0			
CLL				pmax	pmax				
	comp=Z,3.0nm,0.6s								
ILAR	**Eielson Array**	**56.60**	**26**	P	**P**	**14 56 25.5**	**+0.1**		
	comp=Z,0.3nm,0.6s,baz=316,slow=4.5,SNR=9.5								
ILAR	**Eielson Array**	**56.60**	**26**	*e*P	**P**	**14 56 25.9**	**+0.5**		
SFJD	**Kangerlussuaq**	**59.21**	**343**	LR	LR	15 27 43.6			
	comp=Z,158nm,18.0s,baz=336,slow=42								
MSEY	**Mahe Island**	**62.92**	**221**	*i* P	**P**	**14 57 08.7**	**-0.7**		
ESDC	**Sonseca Array**	**63.41**	**301**	P	**P**	**14 57 12.1**	**-0.4**		
	comp=Z,0.2nm,0.4s,baz=22,slow=4.7,SNR=3.2								
TORD	**Torodi Ar. Bea**	**79.51**	**279**	P	**P**	**14 58 50.1**	**+0.2**		
	comp=Z,0.6nm,0.8s,baz=55,slow=4.8,SNR=4.2								
WRA	**Warramunga Arr**	**79.93**	**139**	P	**P**	**14 58 50.8**	**-1.2**		
	comp=Z,0.5nm,0.6s,baz=341,slow=5.8,SNR=8.9								
WRA	**Warramunga Arr**	**79.93**	**139**	*e*P	**P**	**14 58 50.7**	**-1.2**		
WRA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
ASAR	**Alice Springs**	**83.08**	**141**	P	**P**	**14 59 07.5**	**-1.0**		
	comp=Z,0.4nm,0.5s,baz=334,slow=4.9,SNR=15								

*IDC **27** 14:55:50.8±1.1, 8.°17S×106.°48E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/35, mbtmp3.7/6, Error ellipse: s-maj=37.9km s-min=17.7km az=50.0*
*DJA **27** 14:55:57.8±0.6, 8.°5S±3.°×10.°7E±.°, h24km±6km, M4.1/12, MLv4.1/12*

ISC 27 14:55:55.9±1.9, 8.°08S±0.°08×106.°83E±0.°06, h28km±13km, n22, σ1°58/24, mb3.6/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.82**	**21**	P	**Pn**	**14 56 12.4**	**+0.7**
CNJI				S	**Sb**	**14 56 20.6**	**-1.9**
SKJI	**Sukabumi**	**1.10**	**346**	P	**Pb**	**14 56 17.8**	**+1.4**
CISI	**Cisompet, Garu**	**1.11**	**62**	P	**Pn**	**14 56 15.6**	**0.0**
CISI				S	**Sn**	**14 56 27.6**	**-2.5**
LEM	**Lembang**	**1.47**	**32**	P	**Pn**	**14 56 22.5**	**+1.8**
LEM				S	**Sn**	**14 56 41.1**	**+1.9**
LEM	**Lembang**	**1.47**	**32**	Pn	**Pb**	**14 56 23.0**	**+0.2**
	196nm,0.3s,baz=268,slow=8.8,SNR=52						
LEM				Sn	**Sn**	**14 56 41.4**	**+2.2**
	273nm,0.3s,baz=142,slow=19,SNR=21						
LEM				LR	LR	14 57 08.9	
	comp=Z,220nm,18.4s,baz=155,slow=45						
CMJI	**Cimerak**	**1.63**	**80**	P	**Pn**	**14 56 23.2**	**+0.4**
CMJI				S	**Sn**	**14 56 40.5**	**-2.4**
CGJI	**Cibinong**	**1.84**	**322**	P	**Pb**	**14 56 28.4**	**-0.6**
CGJI				S	**Sn**	**14 56 48.5**	**+0.5**
SBJI	**Serang**	**2.07**	**340**	P	**Pb**	**14 56 32.7**	**-0.1**
KPJI	**Karang Pucung**	**2.21**	**70**	P	**Pn**	**14 56 32.5**	**+1.7**
KASI	**Kota Agung**	**3.44**	**318**	P	Pb	14 56 52.0	-4.2
UGM	**Wanagama**	**3.67**	**88**	P	**Pn**	**14 56 52.5**	**+1.7**
CMAR	**Chiang Mai Arr**	**27.50**	**344**	P	**P**	**15 01 37.5**	**-2.6**
	0.4nm,0.4s,baz=179,slow=8.8,SNR=5.2						
WRA	**Warramunga Arr**	**29.12**	**117**	P	**P**	**15 01 55.9**	**+1.2**
	0.8nm,0.9s,baz=288,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**30.22**	**124**	P	**P**	**15 02 05.2**	**+0.8**
	0.7nm,0.6s,baz=300,slow=8.5,SNR=19						
H08S2	**Diego Garcia H**	**34.01**	**268**	T	T	15 38 17.4	
	baz=91,slow=76,SNR=23						
H08S3	**Diego Garcia H**	**34.02**	**268**	T	T	15 38 19.1	
	baz=91,slow=76,SNR=20						
H08S1	**Diego Carcia H**	**34.03**	**268**	T	T	15 38 18.0	
	baz=91,slow=76,SNR=22						
STKA	**Stephens Creek**	**40.05**	**131**	P	**P**	**15 03 30.3**	**+1.4**
	1.4nm,0.6s,baz=327,slow=8.1,SNR=5.6						
KURBB	**Kurchatov Arra**	**63.41**	**340**	P	**P**	**15 06 21.6**	**-1.2**
	baz=149,slow=6.8						
ZALV	**Zalesovo Beam**	**64.53**	**346**	P	**P**	**15 06 30.6**	**+0.5**
	0.4nm,0.3s,baz=124,slow=7.5,SNR=2.5						
BRTR	**Keskin Array B**	**82.42**	**312**	P	**P**	**15 08 14.7**	**-1.3**
	0.4nm,0.8s,baz=132,slow=2.1,SNR=2.7						
TXAR	**Lajitas Array**	**144.40**	**50**	PKP	**PKPab**	**15 15 28.2**	**-0.3**
	0.2nm,0.9s,baz=64,slow=2.1,SNR=2.6						

*IDC **27** 14:57:56.5±1.0, 36.°46N×71.°37E, h0km, mb3.9/7, mb1 4.0/12, mb1mx3.7/41, mbtmp3.9/12, ML3.9/5, Error ellipse: s-maj=22.9km s-min=19.4km az=55.0*
*ISCJB **27** 14:58:07.4±0.3, 36.°77N±0.°02×71.°47E±0.°05, h106km, mb3.7/8, Error ellipse: s-maj=5.7km s-min=3.3km az=165.0*
*NEIC **27** 14:58:09.2±1.0, 36.°87N×71.°32E, h102km±10km, mb4.5/5, Error ellipse: s-maj=15.1km s-min=9.1km az=123.0*
*NNC **27** 14:58:12.1±4.1, 37.°18N×70.°93E, h120km, mb3.6, mpv4.3, Error ellipse: s-maj=36.8km s-min=14.7km az=176.0*

ISC 27 14:58:08.2±0.6, 36.°84N±0.°04×71.°37E±0.°05, h106km, n65, σ2°18/68, mb3.8/8, 10C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.82**	**315**	⇑P	**Pn**	**14 58 49.5**	**-2.2**
	140nm,0.4s						
DZET				⇑S	**Sn**	**14 59 19.8**	**-5.5**
	211nm,0.4s						
KBL	**Kabul**	**2.97**	**220**	*e*Pn	**Pn**	**14 58 55.2**	**+1.3**
KBL				*e*Sn	**Sn**	**14 59 30.4**	**+1.3**
CEP	**Cherat**	**3.04**	**172**	P	**Pn**	**14 58 57.1**	**+2.4**
CEP				S	**Sn**	**14 59 35.0**	**+4.5**
CHCP	**Chirah Chowk**	**3.53**	**153**	P	Pn	14 59 04.5	+3.3
SFK	**Sufi-Kurgan**	**3.59**	**27**	⇑P	Pn	14 59 05.5	+3.4
	21nm,0.3s						
SFK				⇑S	**Sn**	**14 59 47.0**	**+3.2**
	60nm,0.3s						
THW	**Thamme Wali**	**4.04**	**176**	P	**Pn**	**14 59 09.9**	**+1.8**
AML	**Almayashu**	**5.58**	**18**	P	**Pn**	**14 59 30.4**	**+1.2**
	SNR=64						
DLH	**Dalhousie**	**5.72**	**137**	*e*P	**Pn**	**14 59 31.0**	**+0.1**
DLH				*e*S	**Sn**	**15 00 34.0**	**-1.3**
UCH	**Uchtor**	**5.91**	**23**	P	**Pn**	**14 59 35.2**	**+1.6**
	SNR=21						
KZA	**Kyzart**	**6.03**	**29**	P	**Pn**	**14 59 37.2**	**+1.9**
	SNR=29						
EKS2	**Erkin-Say**	**6.11**	**17**	P	**Pn**	**14 59 37.5**	**+1.5**
	SNR=19						
EKS2	**Erkin-Say**	**6.11**	**17**	*e*Pn	**Pn**	**14 59 37.2**	**+1.2**
	16nm,0.6s						
AAK	**Ala-Archa**	**6.27**	**22**	P	**Pn**	**14 59 40.5**	**+2.3**
	SNR=19						
AAK	**Ala-Archa**	**6.27**	**22**	⇓P	**Pn**	**14 59 40.0**	**+1.8**
	15nm,0.5s						
AAK				⇓S	**Sn**	**15 00 47.5**	**-1.0**
	17nm,0.8s						
AAK	**Ala-Archa**	**6.27**	**22**	Pn	Pn	14 59 54.3	+16
	10.0nm,0.3s,baz=175,slow=5.8,SNR=29						
AAK				Sn	Sn	15 01 03.2	+14
	3.5nm,0.3s,baz=136,slow=20,SNR=5.7						
AAK				Lg	Lg	15 01 52.1	
	3.3nm,0.3s,baz=280,slow=6.0,SNR=3.6						
AAK	**Ala-Archa**	**6.27**	**22**	*e*P	Pn	14 59 49.8	+11
AAK					Sn	15 01 03.2	+14
AAK					Lg	15 01 52.1	
KK31	**Karatay Array**	**6.29**	**354**	⇓P	**Pn**	**14 59 38.3**	**-0.2**
	23nm,0.3s,baz=178,slow=16,SNR=557						
KK31				⇑S	**Sn**	**15 00 45.4**	**-3.5**
	17nm,0.3s,baz=189,slow=25,SNR=6.0						
KKAR	**Karatay Array**	**6.29**	**354**	*e*P	**Pn**	**14 59 38.0**	**-0.4**
	54nm,0.3s						
KBK	**Karagaybulak**	**6.43**	**24**	P	Pn	14 59 43.6	+3.1
	SNR=13						
ULHL	**Ulahol**	**6.58**	**33**	P	**Pn**	**14 59 45.3**	**+2.8**
	SNR=6.5						
CHMS	**Chumysh**	**6.68**	**22**	P	**Pn**	**14 59 45.4**	**+1.7**
	SNR=46						
USP	**Ospenovka**	**6.86**	**20**	P	**Pn**	**14 59 47.1**	**+1.0**
	SNR=12						
TKM2	**Tokmak 2**	**6.89**	**27**	P	**Pn**	**14 59 48.6**	**+1.9**
	SNR=19						
TKM2	**Tokmak 2**	**6.89**	**27**	⇑P	**Pn**	**14 59 48.2**	**+1.4**
	12nm,0.6s						
TKM2				⇓S	**Sn**	**15 01 01.0**	**-2.6**
	13nm,0.7s						
TKM2	**Tokmak 2**	**6.89**	**27**	*e*P	**Pn**	**14 59 48.4**	**+1.7**
	17nm,0.8s						
SDNR	**Sundarnagar**	**7.06**	**137**	*e*P	**Pn**	**14 59 51.0**	**+2.1**
SDNR				*e*S	**Sn**	**15 01 06.0**	**-1.6**
SMLA	**Simla**	**7.45**	**138**	*i* P	**Pn**	**14 59 54.7**	**+0.5**
SMLA				*i* S	**Sn**	**15 01 14.8**	**-2.3**
SMLA				*i* S	**Sn**	**15 01 15.2**	**-1.9**
SMLA				AML	AML	15 01 19.9	
	comp=N,1μm,0.2s						
SMLA				AML	AML	15 01 20.6	
	comp=E,957nm,0.3s						
PDGK	**Podgornoye**	**8.98**	**41**	⇓P	**Pn**	**15 00 16.4**	**+1.6**
	comp=E,5.1nm,0.6s						
KHET	**Khetri**	**9.50**	**156**	*e*P	**Pn**	**15 00 21.4**	**-0.7**
KHET				*e*S	**Sn**	**15 02 01.7**	**-5.4**
KHET				AML	AML	15 02 11.8	
	comp=N,56nm,0.1s						
KHET				AML	AML	15 02 12.3	
	comp=E,75nm,0.1s						
AYAN	**Aya Nagar**	**9.64**	**148**	*e*S	**Sn**	**15 02 06.6**	**-3.7**
KUDL	**Kundal**	**9.68**	**152**	*e*P	**Pn**	**15 00 23.7**	**-0.8**
KUDL				*e*S	**Sn**	**15 02 07.3**	**-4.0**
GEYT	**Alibeck**	**10.61**	**280**	Pn	Pn	15 00 30.3	-6.7
	comp=E,2.4nm,0.3s,baz=100,slow=7.4,SNR=19						
GEYT				Sn	Sn	15 02 21.0	-13
	comp=E,3.9nm,0.3s,baz=118,slow=21,SNR=9.1						
MK31	**Makanchi Array**	**12.84**	**36**	P	**Pn**	**15 01 07.3**	**+0.6**
	comp=E,2.3nm,0.6s,baz=224,slow=15,SNR=23						
MK31	**Makanchi Array**	**12.84**	**36**	*e*P	**Pn**	**15 01 07.8**	**+1.0**
KOLN	**Koldanda**	**13.72**	**128**	*e*P	**Pn**	**15 01 17.0**	**-1.5**
	comp=E,21nm,0.3s						
GKN	**Gorkha**	**14.24**	**124**	*e*P	**Pn**	**15 01 23.5**	**-1.6**
	comp=E,28nm,0.4s						
KURBB	**Kurchatov Arra**	**14.71**	**18**	Pn	**Pn**	**15 01 28.6**	**-2.1**
	comp=E,0.1nm,0.3s,baz=213,slow=12,SNR=7.4						
KKN	**Kakani**	**14.81**	**124**	*e*P	**Pn**	**15 01 29.9**	**-2.5**
	comp=E,14nm,0.5s						
DMN	**Daman**	**14.81**	**124**	*e*P	**Pn**	**15 01 30.5**	**-2.0**
	comp=E,15nm,0.4s						
KURK	**Kurchatov**	**14.82**	**18**	Pn	Pn	15 01 28.6	-3.5
AB31	**Akbulak array**	**14.94**	**330**	⇑P	**Pn**	**15 01 30.5**	**-3.2**
	comp=E,4.2nm,0.4s,baz=133,slow=13,SNR=137						
AB31				⇓S	Sn	15 04 07.1	-11
	comp=E,2.1nm,0.5s,baz=150,slow=23,SNR=5.5						
ABKAR	**Akbulak array**	**14.94**	**330**	*e*Pn	Pn	15 01 30.4	-3.3
	comp=E,8.7nm,0.4s						
PKIN	**Phulchoki**	**15.02**	**124**	*e*P	**Pn**	**15 01 33.1**	**-2.1**
	comp=E,16nm,0.4s						
PKI	**Pulchoki**	**15.04**	**124**	*e*P	**Pn**	**15 01 33.2**	**-2.2**
	comp=E,15nm,0.4s						
GUN	**Gumba**	**15.13**	**122**	*e*P	**Pn**	**15 01 34.5**	**-2.1**
	comp=E,37nm,0.4s						
BVA0	**Borovoye Array**	**16.20**	**358**	⇑P	**Pn**	**15 01 49.3**	**-0.1**
	comp=E,1.7nm,0.6s,baz=163,slow=11,SNR=11						
BVAR	**Borovoye Array**	**16.20**	**358**	Pn	**Pn**	**15 01 46.0**	**-3.4**
	comp=E,0.4nm,0.3s,baz=164,slow=11,SNR=9.3						
BRVK	**Borovoye**	**16.24**	**358**	⇑P	**Pn**	**15 01 49.7**	**-0.1**
	comp=E,12nm,1.4s						
BRVK	**Borovoye**	**16.24**	**358**	*e*P	**P**	**15 01 50.4**	**-0.6**
RAMN	**Ramite**	**16.24**	**123**	*e*P	**Pn**	**15 01 48.3**	**-2.1**
	comp=E,27nm,0.5s						
AKTO	**Aktyubinsk**	**16.64**	**329**	⇓P	**Pn**	**15 01 55.0**	**+0.1**
	comp=E,5.9nm,0.4s						
AKTO				⇑S	Sn	15 04 49.7	-10
	comp=E,6.9nm,1.2s						
AKTO	**Aktyubinsk**	**16.64**	**329**	Pn	**Pn**	**15 01 53.2**	**-1.6**
	comp=E,2.7nm,0.3s,baz=137,slow=8.0,SNR=29						
AKTO				Sn	Sn	15 04 45.6	-14
	comp=E,0.2nm,0.3s,baz=150,slow=20,SNR=2.8						
TAPN	**Taplejung**	**16.75**	**120**	*e*P	**Pn**	**15 01 54.7**	**-1.9**
	comp=E,29nm,0.7s						
ODAN	**Odare**	**16.84**	**122**	*e*P	**Pn**	**15 01 56.1**	**-1.6**
	comp=E,22nm,0.5s						
ZAA0	**Zalesovo Array**	**19.49**	**24**	*e*P	**Pn**	**15 02 28.2**	**-0.7**
ZALV	**Zalesovo Beam**	**19.49**	**24**	P	**P**	**15 02 26.9**	**+0.4**
	comp=E,0.7nm,0.3s,baz=218,slow=10,SNR=13						
RAYN	**Ar Rayn**	**25.91**	**246**	*e*P	**P**	**15 03 31.0**	**+0.6**
	comp=E,1.7nm,0.5s						
BRTR	**Keskin Array B**	**29.62**	**287**	P	**P**	**15 04 05.5**	**+2.0**
	comp=E,0.8nm,0.6s,baz=109,slow=9.4,SNR=5.9						
FINES	**FINESS Array B**	**37.37**	**326**	P	**P**	**15 05 12.8**	**+2.6**
	comp=E,1.9nm,0.9s,baz=128,slow=5.8,SNR=4.2						
ARCES	**ARCESS Array B**	**40.95**	**337**	P	**P**	**15 05 42.5**	**+2.7**
	comp=E,18nm,1.2s,baz=108,slow=8.6,SNR=5.0						
NB2	**NORSAR Subarra**	**44.29**	**323**	P	P	15 06 11.3	+4.2
	comp=Z,0.9nm,0.6s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.29**	**323**	P	P	15 06 11.4	+4.4
	comp=Z,0.7nm,0.5s,baz=96,slow=7.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**66.02**	**269**	P	**P**	**15 08 44.3**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=50,slow=5.9,SNR=9.2						
WRA	**Warramunga Arr**	**81.92**	**122**	P	**P**	**15 10 17.6**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=325,slow=4.9,SNR=6.7						
ASAR	**Alice Springs**	**84.20**	**125**	P	**P**	**15 10 29.0**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=316,slow=5.1,SNR=6.5						

IDC 27 15:25:52.2±1.3, 2.°40S×136.°80E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.5/18, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=30.3km s-min=24.2km az=54.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.91**	**92**	Pn	Pn	15 26 55.1	+1.5
	2.7nm,0.3s,baz=252,slow=12,SNR=33						
JAY				Sn	Sn	15 27 41.2	+0.9
	2.5nm,0.3s,baz=336,slow=20,SNR=4.2						
WRA	**Warramunga Arr**	**17.60**	**188**	P	Pn	15 29 58.5	-0.7
	0.1nm,0.3s,baz=12,slow=13,SNR=7.2						
WRA				S	Sn	15 33 04.3	-12
	0.0nm,0.3s,baz=11,slow=22,SNR=2.9						
ASAR	**Alice Springs**	**21.33**	**187**	P	P	15 30 40.7	-0.3
	0.8nm,0.6s,baz=14,slow=10,SNR=24						
ASAR				S	S	15 34 34.0	-4.9
	0.2nm,0.7s,baz=14,slow=24,SNR=4.4						
CMAR	**Chiang Mai Arr**	**42.63**	**301**	P	P	15 33 52.4	+1.6
	0.5nm,0.7s,baz=112,slow=7.1,SNR=4.6						
SONM	**Songino Array**	**56.64**	**336**	P	P	15 35 35.9	-1.5
	0.3nm,0.3s,baz=126,slow=7.3,SNR=3.3						

IDC 27 15:46:55.8±7.7, 2.°53N×126.°51E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/29, mbtmp3.5/3, Error ellipse: s-maj=165.2km s-min=121.7km az=74.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.62**	**161**	P	P	15 52 08.2	-0.6
	0.5nm,0.5s,baz=340,slow=10,SNR=13						
ASAR	**Alice Springs**	**27.02**	**165**	P	P	15 52 40.1	+0.2
	0.2nm,0.5s,baz=345,slow=7.2,SNR=15						
STKA	**Stephens Creek**	**37.10**	**158**	P	P	15 54 08.2	+0.1
	1.4nm,0.8s,baz=330,slow=8.4,SNR=2.3						

*IDC **27** 16:32:33.4±1.5, 17.°83S×178.°82W, h535km±16km, mb3.5/17, mb1 3.7/18, mb1mx3.5/33, mbtmp4.3/18, Error ellipse: s-maj=13.9km s-min=9.5km az=137.0*
*ISCJB **27** 16:32:34.2±0.4, 17.°92S±0.°07×178.°82W±0.°10, h562km, mb3.8/16, Error ellipse: s-maj=12.3km s-min=8.1km az=19.7*

ISC 27 16:32:35.7±0.6, 17.°8S±0.°1×178.°9W±0.°1, h562km, n50, σ1°17/53, mb3.7/16, 8C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.46**	**251**	P	**P**	**16 35 37.6**	**-2.0**
	0.5nm,0.3s,baz=90,slow=24,SNR=7.8						
URZ	**Urewera**	**20.68**	**189**	P	**P**	**16 36 34.2**	**-2.9**
	8.4nm,0.3s,baz=334,slow=6.1,SNR=25						
QRZ	**Quartz Range**	**24.11**	**196**	PN	**P**	**16 37 08.0**	**+0.3**
THZ	**Tophouse**	**24.89**	**195**	PN	**P**	**

comp=Z,0.8nm,0.8s,baz=187,slow=5.3,SNR=3.7

IDC 27 17:15:24.0±1.6, 8.70S×160.86E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.8/29, mbtmp4.1/5, Error ellipse: s-maj=60.3km s-min=27.8km az=127.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**18.10**	**230**	P	P	17 19 41.2	+3.7
	0.2nm,0.3s,baz=57,slow=9.7,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**27.63**	**12**	T	T	17 50 09.6	
	baz=193,slow=76,SNR=81						
H11S3	**WAKE ISLAND Hy**	**27.63**	**12**	T	T	17 50 09.0	
	baz=193,slow=76,SNR=84						
H11S1	**WAKE ISLAND Hy**	**27.64**	**12**	T	T	17 50 14.0	
	baz=193,slow=76,SNR=62						
WRA	**Warramunga Arr**	**27.97**	**244**	P	P	17 21 16.6	-0.1
	3.8nm,0.6s,baz=69,slow=9.4,SNR=48						
WRA				PcP	PcP	17 24 31.5	-0.6
	0.2nm,0.6s,baz=80,slow=3.4,SNR=3.4						
H11N1	**WAKE ISLAND Hy**	**28.85**	**12**	T	T	17 51 40.9	
	baz=192,slow=76,SNR=333						
H11N3	**WAKE ISLAND Hy**	**28.86**	**12**	T	T	17 51 41.5	
	baz=192,slow=76,SNR=182						
H11N2	**WAKE ISLAND Hy**	**28.87**	**12**	T	T	17 51 41.9	
	baz=192,slow=76,SNR=306						
STKA	**Stephens Creek**	**29.19**	**215**	P	P	17 21 27.8	+0.5
	1.9nm,0.6s,baz=63,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**29.78**	**237**	P	P	17 21 31.8	-0.9
	1.9nm,0.4s,baz=62,slow=10,SNR=84						
ASAR				PcP	PcP	17 24 35.8	-0.9
	0.2nm,0.4s,baz=76,slow=3.1,SNR=4.5						
CMAR	**Chiang Mai Arr**	**66.77**	**294**	P	P	17 26 19.1	+1.3
	0.5nm,0.8s,baz=111,slow=4.8,SNR=4.1						
ILAR	**Eielson Array**	**82.90**	**20**	P	P	17 27 50.1	-0.2
	0.3nm,0.5s,baz=244,slow=4.9,SNR=5.6						

MEX 27 17:15:55.9±0.5, 15.59N×96.47W, h2km±6km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.08**	**360**	*i* P	Pg	17 15 57.2	-0.3
PANG				*i* S	Sg	17 15 58.9	+0.4
HUIG	**Huatulco**	**0.40**	**63**	*i* P	Pg	17 16 03.2	-0.3
HUIG				*e*S	Sg	17 16 09.1	+0.5
VHO	**Vista Hermosa**	**1.50**	**350**	*e*P	Pn	17 16 20.2	-4.0
VHO				*i* S	Sb	17 16 38.8	-5.7
PNIG	**Pinotepa**	**1.78**	**297**	*i* P	Pn	17 16 24.8	-3.0
PNIG				*i* S	Sn	17 16 46.6	-4.5
CMIG	**Matias Romero**	**2.14**	**45**	*e*P	Pn	17 16 29.6	-3.1
CMIG				*i* S	Sn	17 16 55.6	-4.2

TAP 27 17:34:21.3, 21.99N×120.51E, h36km±1km, ML2.6, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	**Hengchun**	**0.21**	**85**	*i* P	Pn	17 34 28.2	-1.9
	baz=85						
TWK1	**Hengchun**	**0.28**	**99**	P	Pn	17 34 29.0	-0.4
	baz=99						
TWK1				S	Sn	17 34 34.6	-2.1
	baz=99						
TSEB	**Hengchuen, Pin**	**0.38**	**103**	*e*P	Pn	17 34 29.8	-0.1
	baz=104						
TSEB				*e*S	Sn	17 34 36.6	-0.1
	baz=104						
SCZT	**Fangliau**	**0.40**	**15**	*e*P	Pn	17 34 30.9	+0.7
	baz=16						
SCZT				*e*S	Sn	17 34 37.1	+0.1
	baz=16						
SSD	**Sandimen**	**0.77**	**9**	*e*P	Pn	17 34 35.9	+0.4
	baz=9.0						
SSD				*e*S	Sn	17 34 46.3	+0.5
	baz=9.0						

*ISCJB **27** 17:54:29.9±0.6, 7.40N±0.07×91.67E±0.05, h24km, mb3.9/12, MS3.0/4, Error ellipse: s-maj=11.1km s-min=7.0km az=22.9*
*IDC **27** 17:54:29.0±0.9, 7.66N×91.89E, h0km, mb3.9/11, mb1 4.0/14, mb1mx3.8/42, mbtmp4.0/14, ML4.2/3, MS3.0/7, Ms1 3.0/7, ms1mx2.9/29, Error ellipse: s-maj=33.2km s-min=16.6km az=47.0*
ISC 27 17:54:32.4±0.7, 7.54N±0.09×91.81E±0.08, h24km, n41, σ0.97/30, mb3.9/15, MS3.0/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURT	**Suratani**	**7.05**	**78**	P	**Pn**	**17 56 16.1**	**+1.9**
	18nm,0.7s,0.1nm						
SRIT	**Nakonsritamara**	**7.79**	**82**	P	Pn	17 56 27.3	+3.0
	242nm,0.8s						
SURA	**Surathani**	**7.90**	**78**	P	**Pn**	**17 56 27.8**	**+1.9**
	30nm,0.9s						
PSI	**Prapat**	**8.51**	**123**	Pn	**Pn**	**17 56 34.5**	**+0.2**
	2.0nm,0.3s,baz=333,slow=9.3,SNR=8.6						
PSI				Sn	**Sn**	**17 58 08.5**	**-1.2**
	1.7nm,0.3s,baz=224,slow=13,SNR=7.3						
PSI				LR	LR	18 00 14.4	
	comp=Z,141nm,22.0s,baz=229,slow=40						
UTHA	**Uthaitani**	**10.92**	**43**	P	Pn	17 57 10.9	+3.6
	4.4nm,0.8s						
PALK	**Pallekele**	**11.02**	**269**	Pn	**Pn**	**17 57 09.2**	**+0.5**
	3.4nm,0.3s,baz=89,slow=13,SNR=30						
PALK				Sn	Sn	17 58 59.2	-12
	15nm,0.3s,baz=161,slow=14,SNR=13						
PALK				LR	LR	18 00 48.0	
	comp=Z,70nm,21.6s,baz=95,slow=34						
MHMT	**Maesarieng**	**12.13**	**29**	P	**P**	**17 57 37.2**	**+0.9**
PBKT	**Sadao Pong**	**12.67**	**44**	P	**P**	**17 57 43.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**12.88**	**32**	Pn	**Pn**	**17 57 32.4**	**-1.7**
	0.4nm,0.3s,baz=226,slow=14,SNR=22						
CMAR				LR	LR	18 02 38.3	
	comp=Z,35nm,20.1s,baz=225,slow=38						
CHTO	**Chiang Mai**	**13.18**	**31**	P	P	17 57 43.2	-4.8
	28nm,1.1s						
CMMT	**Chiang Mai**	**13.18**	**31**	P	P	17 57 43.2	-4.8
	19nm,1.0s						
UTTA	**Uttaradit**	**13.24**	**39**	P	**P**	**17 57 49.0**	**+0.3**
CRAI	**Chiangrai**	**15.09**	**32**	P	**Pn**	**17 58 04.9**	**+0.6**
	147nm,0.9s						
NONG	**Nongkai**	**15.21**	**45**	P	**P**	**17 58 10.2**	**-0.3**
	43nm,1.1s						
UBPT	**Khong Chiam**	**15.43**	**59**	P	**P**	**17 58 13.1**	**0.0**
ODAN	**Odare**	**19.66**	**348**	*e*P	**P**	**17 58 59.3**	**-0.7**
TAPN	**Taplejung**	**20.08**	**349**	*e*P	**Pn**	**17 59 05.4**	**-1.1**
	33nm,0.9s						
PKI	**Pulchoki**	**20.82**	**344**	*e*P	**P**	**17 59 12.8**	**+0.1**
PKIN	**Phulchoki**	**20.83**	**344**	*e*P	Pn	17 59 13.6	-1.7
DMN	**Daman**	**20.94**	**343**	*e*P	**P**	**17 59 14.2**	**+0.3**
KKN	**Kakani**	**21.07**	**344**	*e*P	**P**	**17 59 15.2**	**0.0**
	13nm,0.9s						
LEM	**Lembang**	**21.27**	**132**	LR	LR	18 08 19.3	
	comp=Z,43nm,21.8s,baz=178,slow=39						
GKN	**Gorkha**	**21.45**	**342**	*e*P	**P**	**17 59 19.5**	**+0.2**
	18nm,0.5s						
KOLN	**Koldanda**	**21.57**	**340**	*e*P	**P**	**17 59 20.8**	**+0.2**
	32nm,0.7s						
H08S3	**Diego Garcia H**	**24.46**	**232**	T	T	18 26 04.1	
	baz=52,slow=76,SNR=110						
H08S2	**Diego Garcia H**	**24.47**	**232**	T	T	18 26 04.1	
	baz=52,slow=76,SNR=59						
H08S1	**Diego Garcia H**	**24.48**	**232**	T	T	18 26 04.1	
	baz=52,slow=76,SNR=61						
AAK	**Ala-Archa**	**38.14**	**339**	P	P	18 02 04.0	+14
	1.9nm,0.4s,baz=130,slow=8.0,SNR=4.3						
SONM	**Songino Array**	**42.03**	**15**	P	**P**	**18 02 20.5**	**-1.6**
	1.5nm,0.7s,baz=195,slow=9.7,SNR=4.4						
GEYT	**Alibeck**	**42.93**	**320**	P	**P**	**18 02 31.1**	**+1.6**
	2.8nm,0.7s,baz=134,slow=6.4,SNR=5.8						
KSRS	**Korea Array**	**44.24**	**42**	LR	LR	18 22 07.4	
	comp=Z,29nm,18.4s,baz=230,slow=38						
KURBB	**Kurchatov Arra**	**44.34**	**348**	P	**P**	**18 02 40.5**	**0.0**
	1.7nm,0.9s,baz=171,slow=7.2,SNR=19						
ZALV	**Zalesovo Beam**	**46.62**	**354**	P	**P**	**18 02 58.1**	**-0.5**
	0.5nm,0.3s,baz=174,slow=8.0,SNR=4.6						
ZALV				LR	LR	18 25 53.9	
	comp=Z,18nm,21.7s,baz=248,slow=40						
BVAR	**Borovoye Array**	**48.59**	**343**	P	**P**	**18 03 13.4**	**-0.5**
	0.8nm,0.5s,baz=139,slow=8.8,SNR=9.6						
WRA	**Warramunga Arr**	**49.97**	**124**	P	**P**	**18 03 25.4**	**+0.4**
	0.8nm,0.8s,baz=304,slow=8.6,SNR=9.7						
MJAR	**Matsushiro Arr**	**51.10**	**49**	LR	LR	18 26 40.4	
	comp=Z,17nm,18.5s,baz=215,slow=38						
AKTO	**Aktyubinsk**	**51.16**	**333**	P	**P**	**18 03 34.2**	**+0.7**
	0.3nm,0.3s,baz=107,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**51.50**	**128**	P	**P**	**18 03 37.1**	**+0.6**
	0.5nm,0.7s,baz=304,slow=7.6,SNR=7.3						
FINES	**FINESS Array B**	**71.93**	**333**	P	**P**	**18 05 52.2**	**-1.4**
	2.4nm,0.9s,baz=157,slow=8.5,SNR=2.8						
GERES	**GERESS Array B**	**76.53**	**318**	P	**P**	**18 06 20.8**	**0.0**
	0.5nm,0.8s,baz=104,slow=5.6,SNR=4.6						
HFS	**Hagfors**	**77.58**	**330**	P	**P**	**18 06 25.8**	**-0.5**
	1.1nm,0.9s,baz=69,slow=7.9,SNR=2.5						

*MEX **27** 18:13:25.8±0.5, 15.52N×89.09W, h4km±128km, MD4.3*
*IDC **27** 18:13:27.3±1.6, 14.97N×89.31W, h0km, mb3.8/6, mb1 4.3/8, mb1mx3.9/29, mbtmp4.0/8, ML4.7/2, MS3.6/13, Ms1 3.6/13, ms1mx3.3/26, Error ellipse: s-maj=43.2km s-min=28.5km az=30.0*
*CASC **27** 18:13:27.3±1.9, 15.01N×89.55W, h0km±5km, MD4.0, ML4.4*
*ISCJB **27** 18:13:28.0±1.1, 14.97N±0.02×89.50W±0.03, h7km±8km, mb4.2/18, MS3.6/11, Error ellipse: s-maj=5.6km s-min=3.8km az=161.1*
*NEIC **27** 18:13:28.9±0.6, 15.05N×89.58W, h10km, mb4.4/18, MD4.3(MEX), Error ellipse: s-maj=10.5km s-min=7.9km az=205.0*
NEIC Felt at Chiquimula and Zacapa.
ISC 27 18:13:27.8±1.3, 15.00N±0.04×89.54W±0.03, h2km±9km, n171, σ2.03/154, mb4.1/18, MS3.5/11, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**0.16**	**294**	*i* P	**Pg**	**18 13 30.6**	**-0.3**
NBG	**Las Nubes**	**0.88**	**242**	*e*P	**Pg**	**18 13 44.8**	**+0.1**
NBG				*e*S	**Sn**	**18 14 02.6**	**+1.7**
RBDL	**Robledal**	**0.89**	**189**	*e*P	**Pg**	**18 13 44.4**	**-0.5**
RTR	**El Retiro**	**1.10**	**185**	*e*P	**Pg**	**18 13 48.3**	**-0.6**
RTR				*e*S	**Sn**	**18 14 06.0**	**-0.3**
SNJE	**San Jose**	**1.13**	**183**	*e*P	**Pg**	**18 13 48.8**	**-0.6**
PCG	**Pacaya**	**1.20**	**240**	*e*P	**Pb**	**18 13 51.0**	**-0.3**
PCG				*e*S	**Sn**	**18 14 08.9**	**+0.2**
IXG	**Ixpaco**	**1.21**	**227**	*e*P	**Pg**	**18 13 49.4**	**-1.5**
BOQS	**Boqueron**	**1.28**	**169**	*e*P	**Pg**	**18 13 51.8**	**-0.6**
BOQS				*e*S	**Sb**	**18 14 10.4**	**+0.6**
LFU	**La Fuente**	**1.31**	**162**	*e*P	**Pg**	**18 13 52.0**	**-1.0**
SNET	**Serv Nac Est T**	**1.34**	**167**	*e*P	**Pg**	**18 13 52.5**	**-1.0**
SNET				AML	AML	18 14 20.5	
	comp=Z,8μm,0.3s						
LBRS	**Las Brisas**	**1.34**	**159**	*e*P	**Pg**	**18 13 52.6**	**-1.0**
FUG	**Fuego 3**	**1.37**	**247**	*e*P	**Pg**	**18 13 53.4**	**-0.7**
LFRS	**El Faro**	**1.45**	**161**	*e*P	**Pn**	**18 13 54.0**	**-1.0**
SNVI	**San Vicente**	**1.54**	**154**	*e*P	**Pn**	**18 13 56.4**	**0.0**
CAHU	**Cacacuatique**	**1.78**	**133**	*e*P	**Pb**	**18 14 00.6**	**-0.6**
CAHU				*e*S	**Sg**	**18 14 26.2**	**+1.3**
VSM	**San Miguel**	**1.99**	**142**	*e*P	**Pn**	**18 14 02.5**	**-0.1**
JAT	**Jato**	**2.14**	**252**	*e*P	**Pb**	**18 14 05.6**	**-1.6**
CNCH	**Conchagua**	**2.38**	**136**	*e*P	**Pb**	**18 14 10.2**	**-1.3**
CNCH				*e*S	**Sg**	**18 14 43.9**	**-0.5**
CCIG	**Comitan**	**2.81**	**297**	*e*P	**Pn**	**18 14 12.4**	**-1.5**
CCIG				*e*S	**Sn**	**18 14 47.8**	**-0.6**
CCIG	**Comitan**	**2.81**	**297**	*e*P	**Pn**	**18 14 12.4**	**-1.5**
CCIG				*e*S	**Sn**	**18 14 47.8**	**-0.6**
PCIG		**3.62**	**282**	*e*P	**Pn**	**18 14 24.6**	**-0.2**
PCIG				*i* S	**Sn**	**18 15 10.9**	**+2.8**
PCIG		**3.62**	**282**	*e*P	**Pn**	**18 14 24.6**	**-0.2**
PCIG				*i* S	**Sn**	**18 15 10.9**	**+2.8**
TGIG		**3.87**	**298**	*e*P	**Pn**	**18 14 26.8**	**-1.6**
TGIG				*i* S	**Sn**	**18 15 12.7**	**-1.9**
TGIG		**3.87**	**298**	*e*P	**Pn**	**18 14 26.8**	**-1.6**
TGIG				*i* S	**Sn**	**18 15 12.7**	**-1.9**
TEIG	**Tepich**	**5.33**	**13**	Pn	**Pn**	**18 14 47.5**	**-0.9**
	comp=Z,66nm,0.3s,baz=205,slow=2.2,SNR=334						
TEIG				Sn	**Sn**	**18 15 48.2**	**-2.4**
	comp=Z,31nm,0.3s,baz=230,slow=23,SNR=4.8						
TEIG				Lg	Lg	18 16 14.3	
	comp=Z,36nm,0.3s,baz=301,slow=21,SNR=3.5						
CMIG	**Matias Romero**	**5.54**	**293**	Pn	**Pn**	**18 14 48.9**	**-2.5**
	comp=Z,3.1nm,0.3s,baz=82,slow=12,SNR=16						
CMIG				Sn	**Sn**	**18 15 50.3**	**-5.4**
	comp=Z,5.4nm,0.3s,baz=288,slow=20,SNR=4.4						
CMIG				Lg	Lg	18 16 20.9	
	comp=Z,9.6nm,0.3s,baz=29,slow=19,SNR=4.0						
JTS	**JuntasAbangare**	**6.48**	**136**	Pn	Pn	18 15 07.4	+3.2
	comp=Z,1.1nm,0.3s,baz=1.8,slow=3.5,SNR=5.9						
JTS				Lg	Lg	18 16 45.3	
	comp=Z,0.6nm,0.3s,baz=155,slow=19,SNR=2.8						
JTS	**JuntasAbangare**	**6.48**	**136**	*e*Pn	**Pn**	**18 15 06.7**	**+2.4**
JTS				*e*Sn	**Sn**	**18 16 15.7**	**-3.1**
JTS				Lg	Lg	18 16 45.3	
VHO	**Vista Hermosa**	**7.21**	**288**	*e*P	**Pn**	**18 15 13.1**	**-1.4**
VHO	**Vista Hermosa**	**7.21**	**288**	*e*P	**Pn**	**18 15 13.1**	**-1.4**
035Z	**Hargill**	**13.91**	**326**	P	P	18 16 58.5	+4.1
	baz=14						
034A	**Hebbronville**	**14.72**	**326**	P	P	18 17 06.4	+3.0
	baz=15,SNR=5.5						
835A	**Beeville**	**15.29**	**331**	P	**P**	**18 17 12.7**	**+3.0**
	baz=15						
933A	**Laredo**	**15.47**	**326**	P	**P**	**18 17 14.1**	**+2.3**
	baz=15						
834A	**Tilden**	**15.51**	**329**	P	**P**	**18 17 15.5**	**+3.3**
	baz=16						
736A	**Circle Diamond**	**15.53**	**335**	P	**P**	**18 17 15.8**	**+3.4**
	baz=16						
540A	**Vidor**	**15.68**	**346**	P	P	18 17 19.3	+5.3
	baz=16						
636A	**Smothers Creek**	**15.99**	**336**	P	**P**	**18 17 20.7**	**+3.1**
	baz=16						
833A	**Chaparral WMA,**	**16.10**	**327**	P	**P**	**18 17 21.1**	**+2.3**
	baz=16,SNR=5.2						
733A	**Divot King Ran**	**16.37**	**328**	P	**P**	**18 17 24.0**	**+2.3**
	baz=16						
832A	**Faith Ranch, C**	**16.38**	**326**	P	**P**	**18 17 23.7**	**+1.8**
	baz=16						
732A	**Laxson Ranch,**	**16.73**	**326**	P	**P**	**18 17 27.8**	**+2.1**
	baz=17						
534A	**Blanco**	**17.07**	**333**	P	**P**	**18 17 31.4**	**+1.9**
	baz=17,SNR=10						
632A	**Uvalde**	**17.26**	**328**	P	**P**	**18 17 33.0**	**+1.4**
	baz=17						
533A	**Kerrville**	**17.36**	**331**	P	**P**	**18 17 34.8**	**+2.0**
	baz=17						
239A	**Gary**	**17.53**	**346**	P	**P**	**18 17 38.7**	**+4.1**
	baz=18						
631A	**Perdido Creek**	**17.59**	**326**	P	**P**	**18 17 36.1**	**+0.8**
	baz=18						
434A	**Burnet**	**17.66**	**335**	P	**P**	**18 17 38.1**	**+2.0**
	baz=18						
532A	**Rocksprings**	**17.82**	**329**	P	**P**	**18 17 40.0**	**+2.1**
	baz=18,SNR=6.6						
237A	**Washetta, Mont**	**17.86**	**342**	P	**P**	**18 17 41.7**	**+3.4**
	baz=18						
433A	**Art**	**17.96**	**332**	P	**P**	**18 17 40.7**	**+1.3**
	baz=18,SNR=9.0						
ROSC	**El Rosal**	**18.04**	**122**	P	**P**	**18 17 45.4**	**+4.6**
	comp=Z,0.4nm,0.3s,baz=266,slow=19,SNR=4.6						
ROSC				LR	LR	18 25 00.9	
	comp=Z,246nm,21.0s,baz=354,slow=39						
LRAL	**Lakeview Retre**	**18.10**	**7**	*e*Pn	**Pn**	**18 17 40.1**	**-0.4**
	comp=Z,11nm,1.1s						
531A	**Rocksprings**	**18.17**	**328**	P	**P**	**18 17 45.0**	**+3.3**
	baz=18						
WHTX	**Lake Whitney,**	**18.39**	**338**	P	**P**	**18 17 47.7**	**+3.6**
	baz=18						
WHTX	**Lake Whitney,**	**18.39**	**338**	*e*P	**P**	**18 17 45.2**	**+1.1**
	comp=Z,16nm,0.4s						
136A	**Ennis**	**18.52**	**341**	P	**Pn**	**18 17 48.7**	**+3.1**
	baz=18						
530A	**J-C Ranch, Com**	**18.58**	**326**	P	**Pn**	**18 17 48.5**	**+2.1**
	baz=18,SNR=7.4						
431A	**Sonora**	**18.62**	**329**	P	**Pn**	**18 17 49.3**	**+2.4**
	baz=19						
Z39A	**Irene McRaven,**	**18.64**	**348**	P	**Pn**	**18 17 51.3**	**+4.2**
	baz=19						
234A	**Clairette**	**18.66**	**337**	P	**Pn**	**18 17 49.5**	**+2.3**
	baz=19						
332A	**Millersview**	**18.79**	**332**	P	**Pn**	**18 17 50.4**	**+1.5**
	baz=19,SNR=12						
Z38A	**Mt. Pleasant**	**18.83**	**346**	P	**Pn**	**18 17 52.7**	**+3.4**
	baz=19						
233A	**Rising Star**	**18.97**	**335**	P	**Pn**	**18 17 52.7**	**+1.6**
	baz=19						
430A	**Baggett Ranch,**	**19.03**	**328**	P	**Pn**	**18 17 53.6**	**+1.7**
	baz=19,SNR=6.3						
529A	**Stev Forest Ra**	**19.04**	**324**	P	**Pn**	**18 17 52.9**	**+0.9**
	baz=19,SNR=6.7						
331A	**San Angelo**	**19.05**	**330**	P	**Pn**	**18 17 53.4**	**+1.3**
	baz=19						
GOGA	**Godfrey**	**19.14**	**16**	*e*P	**P**	**18 17 51.4**	**-0.9**
	comp=Z,6.3nm,0.8s						
134A	**White-Moore Ra**	**19.14**	**338**	P	**Pn**	**18 17 55.2**	**+2.0**
	baz=19						
232A	**Coleman**	**19.18**	**333**	P	**Pn**	**18 17 54.8**	**+1.2**
	baz=19						
Z36A	**Blue Ridge**	**19.23**	**342**	P	**Pn**	**18 17 57.0**	**+2.7**
	baz=19						
429A	**Davenport Ranc**	**19.25**	**326**	P	**Pn**	**18 17 56.3**	**+1.8**
	baz=19,SNR=9.1						
Y39A	**Lockesburg**	**19.30**	**348**	P	**Pn**	**18 17 58.6**	**+3.6**
	baz=19						
TXAR	**Lajitas Array**	**19.32**	**320**	P	**Pn**	**18 17 55.2**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=144,slow=10,SNR=56						
TXAR				S	**S**	**18 21 33.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=148,slow=26,SNR=2.6						
TXAR				LR	LR	18 26 49.7	
	comp=Z,62nm,21.8s,baz=0.0,slow=41						
Y38A	**Idabel**	**19.42**	**347**	P	**Pn**	**18 17 58.7**	**+2.2**
	baz=19,SNR=7.9						
OXF	**Oxford**	**19.43**	**0**	*e*P	**P**	**18 17 54.9**	**-0.5**
	comp=Z,36nm,0.9s						
SDV	**Santo Domingo**	**19.46**	**106**	P	**P**	**18 17 55.6**	**-0.6**
	comp=Z,49nm,1.0s						
330A	**Mertzon**	**19.49**	**329**	P	**Pn**	**18 17 57.8**	**+0.4**
	baz=19						
133A	**Hamilton Ranch**	**19.50**	**336**	P	**Pn**	**18 17 58.3**	**+0.9**
	baz=20,SNR=8.1						
231A	**Bronte**	**19.52**	**332**	P	**Pn**	**18 17 58.3**	**+0.6**
	baz=20,SNR=10						
Y37A	**Hugo**	**19.68**	**345**	P	**Pn**	**18 18 01.6**	**+2.0**
	baz=20						
Y36A	**Durant**	**19.78**	**343**	P	**Pn**	**18 18 03.0**	**+2.2**
	baz=20						
MIAR	**Mount Ida**	**19.80**	**350**	P	**Pn**	**18 18 01.1**	**+0.1**
	baz=20,SNR=16						
MIAR	**Mount Ida**	**19.80**	**350**	*e*P	**P**	**18 17 59.5**	**0.0**
	comp=Z,23nm,0.9s						
Z34A	**Collier Ranch,**	**19.80**	**339**	P	**Pn**	**18 18 02.3**	**+1.2**
	baz=20						
ABTX	**Abilene, Hawle**	**19.81**	**334**	P	**Pn**	**18 18 01.5**	**+0.4**
	baz=20						
ABTX	**Abilene, Hawle**	**19.81**	**334**	*e*Pn	**P**	**18 17 59.1**	**-0.6**
	comp=Z,7.4nm,0.4s						
230A	**Sterling City**	**19.85**	**330**	P	**Pn**	**18 18 01.1**	**-0.6**
	baz=20						
329A	**Wagon Wheel Ra**	**19.97**	**327**	P	**Pn**	**18 18 02.9**	**-0.2**
	baz=20						
Y35A	**Marietta**	**20.01**	**342**	P	**Pn**	**18 18 05.2**	**+1.8**
	baz=20						
Z33A	**Whitaker Ranch**	**20.04**	**337**	P	Pn	18 18 04.2	+0.4
	baz=20,SNR=6.5						
X38A	**Whitesboro**	**20.16**	**347**	P	Pn	18 18 07.0	+1.8
	baz=20,SNR=11						
131A	**Roby**	**20.17**	**333**	P	Pn	18 18 05.9	+0.4
	baz=20						
X37A	**Clayton**	**20.20**	**346**	P	Pn	18 18 07.0	+1.3
	baz=20,SNR=11						
229A	**Bryant Ranch,**	**20.26**	**329**	P	Pn	18 18 09.0	+2.4
	baz=20						
Y34A	**Reagan Ranch,**	**20.28**	**340**	P	Pn	18 18 07.5	+0.8
	baz=20						
Z32A	**Haskell**	**20.33**	**335**	P	Pn	18 18 06.5	-0.8
	baz=20,SNR=12						
130A	**Snyder**	**20.37**	**331**	P	Pn	18 18 07.2	-0.6
	baz=20						
X36A	**Centrahoma**	**20.43**	**344**	P	Pn	18 18 09.7	+1.2
	baz=20,SNR=5.2						
X35A	**Drake**	**20.45**	**342**	P	Pn	18 18 09.7	+1.0
	baz=20						
W38A	**Poteau**	**20.48**	**348**	P	Pn	18 18 10.3	+1.3
	baz=20						
Z31A	**Sharp Cattle R**	**20.62**	**334**	P	Pn	18 18 09.7	-1.0
	baz=21,SNR=9.5						
Y33A	**Hilltop Ranch,**	**20.63**	**338**	P	Pn	18 18 10.8	-0.1
	baz=21						
W37A	**Quinton**	**20.74**	**346**	P	Pn	18 18 13.4	+1.3
	baz=21						
228A	**UT Block 9, Go**	**20.78**	**327**	P	Pn	18 18 11.7	-1.1
	baz=21						
X34A	**Smith Ranch, M**	**20.90**	**341**	P	Pn	18 18 16.6	+2.7
	baz=21,SNR=7.8						
Y32A	**R-V Farms, Ver**	**20.93**	**336**	P	Pn	18 18 14.1	-0.2
	baz=21						
W36A	**Wetumka**	**20.93**	**345**	P	Pn	18 18 16.1	+1.8
	baz=21						
Z30A	**Sanderson Ranc**	**21.02**	**332**	P	**P**	**18 18 16.8**	**+4.0**
	baz=21,SNR=16						
X33A	**Lawton**	**21.07**	**339**	P	**P**	**18 18 16.3**	**+3.0**
	baz=21						
W35A	**Tecumseh**	**21.12**	**343**	P	**P**	**18 18 16.9**	**+3.0**
	baz=21						
128A	**Castleberry Fa**	**21.13**	**328**	P	**P**	**18 18 15.6**	**+1.5**
	baz=21						
TKL	**Tuckaleechee C**	**21.21**	**13**	P	**P**	**18 18 15.3**	**+0.5**
	comp=Z,10nm,1.2s,baz=207,slow=4.5,SNR=4.2						
TKL				LR	LR	18 26 51.5	
	comp=Z,213nm,21.2s,baz=182,slow=38						
Y31A	**Rekieta Farm,**	**21.22**	**335**	P	**P**	**18 18 16.0**	**+1.0**
	baz=21,SNR=16						
V38A	**Canehill**	**21.23**	**349**	P	**P**	**18 18 16.9**	**+1.8**
	baz=21						
X32A	**Elmer**	**21.24**	**337**	P	**P**	**18 18 17.3**	**+2.1**
	baz=21

WCI	**Wyandotte Cave**	**23.32**	**6**	*e*P	**P**	**18 18 34.9**	**-2.3**
	comp=Z,9.7nm,0.6s							
S35A	**Otter Creek Ra**	**23.38**	**346**	P	**P**	**18 18 39.3**	**+1.5**
	baz=23,SNR=5.0							
R35A	**Emporia Munici**	**23.96**	**347**	P	**P**	**18 18 45.7**	**+2.1**
	baz=24							
121A	**Cookes Peak, D**	**24.09**	**320**	P	**P**	**18 18 46.8**	**+1.8**
	baz=24							
121A	**Cookes Peak, D**	**24.09**	**320**	*e*P	**P**	**18 18 45.8**	**+0.8**
	comp=Z,5.3nm,0.9s							
R34A	**Isabella, Hill**	**24.19**	**345**	P	**P**	**18 18 48.2**	**+2.5**
	baz=24							
U27A	**Thompson Grove**	**24.41**	**333**	P	**P**	**18 18 49.0**	**+1.1**
	baz=24							
PCRV	**Puerto La Cruz**	**24.77**	**98**	LR	LR	18 30 20.5		
	comp=Z,88nm,18.8s,baz=288,slow=41							
NVAR	**Mina Array Bea**	**24.46**	**318**	P	**P**	**18 20 18.7**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=135,slow=8.1,SNR=6.4							
MCMT	**McKenzie Canyo**	**35.68**	**331**	*e*P	**P**	**18 20 27.1**	**-0.7**
	comp=Z,1.8nm,1.1s							
LPAZ	**La Paz**	**37.60**	**145**	LR	LR	18 36 20.6		
	comp=Z,64nm,18.5s,baz=312,slow=37							
SCHQ	**Schefferville**	**43.48**	**19**	LR	LR	18 40 27.5		
	comp=Z,91nm,18.4s,baz=246,slow=37							
BDFB	**Brasilia**	**51.09**	**125**	LR	LR	18 46 14.2		
	comp=Z,129nm,19.1s,baz=254,slow=39							
ILAR	**Eielson Array**	**52.88**	**336**	P	**P**	**18 23 55.5**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=172,slow=5.0,SNR=4.4							
PPT	**Papeete**	**67.46**	**243**	LR	LR	18 48 09.1		
	comp=Z,68nm,20.2s,baz=200,slow=31							
ESDC	**Sonseca Array**	**77.23**	**52**	P	**P**	**18 25 22.5**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=279,slow=4.9,SNR=5.0							
NOA	**NORSAR Array B**	**82.13**	**29**	LR	LR	19 00 59.2		
	comp=Z,17nm,19.6s,baz=50,slow=35							
ARCES	**ARCESS Array B**	**84.44**	**19**	LR	LR	19 03 07.0		
	comp=Z,26nm,19.6s,baz=50,slow=35							
CLL	**Collm**	**86.07**	**38**	*e*(P)	**P**	**18 26 10.0**	**-0.2**
	comp=Z,7.0nm,1.4s							
GERES	**GERESS Array B**	**87.31**	**40**	P	**P**	**18 26 16.4**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=224,slow=2.7,SNR=7.2							
GERES				LR	LR	19 02 20.8		
	comp=Z,20nm,20.8s,baz=289,slow=34							
TORD	**Torodi Ar. Bea**	**87.83**	**77**	P	**P**	**18 26 17.6**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=293,slow=4.9,SNR=2.5							
FINES	**FINESS Array B**	**88.58**	**26**	LR	LR	19 03 30.9		
	comp=Z,20nm,21.6s,baz=1.0,slow=34							
WRA	**Warramunga Arr**	**137.94**	**257**	PKP	**PKPdf**	**18 32 55.2**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=85,slow=2.5,SNR=4.6							
ASAR	**Alice Springs**	**138.24**	**251**	PKP	**PKPdf**	**18 32 54.9**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=88,slow=2.2,SNR=3.4							
CMAR	**Chiang Mai Arr**	**145.72**	**346**	PKPbc	**PKPab**	**18 33 09.6**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=336,slow=3.5,SNR=14							

IDC 27 18:38:55.4±2.8, 28°31N×52°43E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.3/32, mbtmp3.5/6, ML3.4/2, Error ellipse: s-maj=60.2km s-min=28.2km az=146.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**10.71**	**25**	Pn	Pn	18 41 29.6	-0.4
	0.3nm,0.3s,baz=232,slow=7.1,SNR=2.3						
BRTR	**Keskin Array B**	**19.25**	**311**	P	Pn	18 43 22.6	+0.1
	0.1nm,0.3s,baz=130,slow=15,SNR=4.6						
ZALV	**Zalesovo Beam**	**34.85**	**34**	P	P	18 45 48.3	+0.2
	0.5nm,0.4s,baz=246,slow=10,SNR=3.1						
FINES	**FINESS Array B**	**37.50**	**339**	P	P	18 46 10.3	-0.2
	0.8nm,0.5s,baz=150,slow=9.7,SNR=7.9						
NOA	**NORSAR Array B**	**42.70**	**332**	P	P	18 46 53.3	-0.5
	0.2nm,0.5s,baz=122,slow=8.4,SNR=2.6						
TORD	**Torodi Ar. Bea**	**49.44**	**263**	P	P	18 47 47.4	-0.2
	0.4nm,0.6s,baz=63,slow=8.2,SNR=8.5						

DJA 27 18:43:59.0±1.2, 3°S±4°×13°0E±°, h28km±17km, M3.6/7, MLv3.6/7, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.40**	**172**	P	Pn	18 44 22.0	-0.7
BNDI				S	Sn	18 44 40.8	+0.6
FAKI	**Fak Fak**	**2.55**	**85**	P	Pn	18 44 38.8	+0.2
NLAI	**Namlea**	**2.60**	**268**	P	Pn	18 44 40.7	+1.5
SANI	**Sanana**	**3.86**	**286**	P	Pn	18 44 55.2	-1.4

IDC 27 18:56:19.3±0.9, 38°03S×73°53W, h0km, mb4.0/7, mb1 4.1/10, mb1mx4.0/24, mbtmp4.0/10, ML3.7/3, MS3.9/7, Ms1 3.8/7, ms1mx3.4/24, Error ellipse: s-maj=37.5km s-min=18.0km az=98.0
ISCJB 27 18:56:21.4±0.7, 37°99S±0°04×73°3W±0°2, h22km, mb4.2/10, MS3.8/5, Error ellipse: s-maj=18.2km s-min=5.0km az=13.5
GUC 27 18:56:21.5±0.7, 38°05S×73°65W, h41km±8km, ML5.1
NEIC 27 18:56:21.0, 38°04S×73°65W, h41km, mb4.3/3, After GUC.
NEIC Felt [III] at Contulmo, Curacautin, La Laja, Puerto Saavedra, Temuco and Tirua; [II] at Carahue and Los Alamos.

ISC 27 18:56:22.2±0.7, 38°06S±0°06×73°4W±0°1, h22km, n39, σ1¶13/38, mb4.2/10, MS3.8/5, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**0.74**	**177**	*i*P	**Pn**	**18 56 36.7**	**-0.6**
PSCH				*i* S	**Sn**	**18 56 47.2**	**-0.6**
VLCH	**Valdivia**	**1.75**	**175**	*i*P	**Pn**	**18 56 50.8**	**-0.4**
VLCH				AML	AML	18 57 21.9	
	comp=E,29μm,0.7s						
OSCH	**Osorno**	**2.52**	**175**	AML	AML	18 57 51.3	
	comp=E,10μm,0.5s						
LNCH	**Linares**	**2.66**	**34**	*i*P	**Pn**	**18 57 04.7**	**+1.0**
TALC	**Talca**	**3.03**	**29**	*e*P	**Pn**	**18 57 09.3**	**+0.5**
LNV	**Longovilo**	**4.42**	**23**	*e*P	**Pn**	**18 57 27.2**	**-0.7**
CLCH	**Cerro Calan**	**5.22**	**28**	*i*P	**Pn**	**18 57 38.9**	**-0.2**
PEL	**Peldehue**	**5.40**	**25**	*i*P	**Pn**	**18 57 41.2**	**-0.3**
CFAA	**Coronel Fontan**	**7.73**	**35**	Pn	**Pn**	**18 58 12.8**	**-0.7**
	comp=E,0.3nm,0.3s,baz=206,slow=13,SNR=22						
CFAA				Sn	**Sn**	**18 59 40.1**	**-0.3**
	comp=E,0.2nm,0.3s,baz=119,slow=19,SNR=2.8						
CFAA				LR	LR	19 01 30.7	
	comp=E,37nm,21.9s,baz=228,slow=40						
TRQA	**Tornquist**	**9.04**	**93**	*e*Pn	**Pn**	**18 58 31.1**	**-0.4**
	comp=E,11nm,0.6s						
LCO	**Las Campanas**	**9.31**	**15**	*e*Pn	**Pn**	**18 58 33.5**	**-1.9**
	comp=E,33nm,0.4s						
LVC	**Limon Verde**	**15.88**	**15**	LR	LR	19 05 43.9	
	comp=E,597nm,20.3s,baz=210,slow=36						
USHA	**Ushuaia**	**17.12**	**170**	P	**P**	**19 00 22.2**	**+0.8**
	comp=E,0.1nm,0.3s,baz=324,slow=12,SNR=3.2						
EFI	**East Falkland**	**17.39**	**146**	Pn	**Pn**	**19 00 20.8**	**-2.4**
CPUP	**Villa Florida**	**17.94**	**54**	P	**P**	**19 00 31.1**	**+0.5**
	comp=E,0.2nm,0.3s,baz=281,slow=7.9,SNR=5.7						
CPUP				LR	LR	19 08 11.2	
	comp=E,371nm,19.9s,baz=228,slow=40						
LPAZ	**La Paz**	**22.19**	**14**	P	**P**	**19 01 18.6**	**+1.0**
	comp=E,4.8nm,1.2s,baz=161,slow=6.3,SNR=7.9						
LPAZ	**La Paz**	**22.19**	**14**	P	**P**	**19 01 14.1**	**-3.6**
	comp=E,9.4nm,1.2s						
SIV	**San Ignacio**	**24.54**	**30**	P	**P**	**19 01 40.9**	**+0.5**
	comp=E,1.7nm,0.6s,baz=225,slow=11,SNR=7.6						
SIV				LR	LR	19 13 07.3	
	comp=E,128nm,21.3s,baz=185,slow=41						
BDFB	**Brasilia**	**31.65**	**52**	P	P	19 02 49.4	+5.4
	comp=E,3.7nm,0.8s,baz=219,slow=9.7,SNR=5.0						
BDFB				LR	LR	19 16 55.6	
	comp=E,250nm,19.4s,baz=215,slow=39						
OTAV	**Otavalo**	**38.39**	**352**	*e*P	P	19 03 37.6	-4.9
	comp=E,5.6nm,1.3s						
SNAA	**Sanae**	**48.29**	**156**	P	**P**	**19 05 02.4**	**+1.0**
	comp=E,1.1nm,0.8s,baz=276,slow=7.0,SNR=14						
SNAA	**Sanae**	**48.29**	**156**	*e*P	**P**	**19 04 58.6**	**-2.8**
	comp=E,5.8nm,0.9s						
QSPA	**South Pole Qui**	**52.18**	**180**	P	**P**	**19 05 31.6**	**+0.7**
	comp=E,1.7nm,0.8s,baz=147,slow=1.8,SNR=6.5						
QSPA	**South Pole Qui**	**52.18**	**180**	*e*P	P	19 05 26.8	-4.1
PPT	**Papeete**	**68.61**	**264**	LR	LR	19 29 42.9	
	comp=E,129nm,18.3s,baz=148,slow=29						
TXAR	**Lajitas Array**	**72.76**	**333**	P	**P**	**19 07 49.3**	**+0.5**
	comp=E,0.2nm,0.5s,baz=157,slow=8.4,SNR=5.5						
TXAR				LR	LR	19 35 03.3	
	comp=E,51nm,18.5s,baz=0.0,slow=32						
TIC	**Toumodi**	**77.42**	**71**	*e*P	**P**	**19 08 17.7**	**+1.7**
KIC	**Kosan Boka**	**77.44**	**72**	*e*P	**P**	**19 08 16.8**	**+0.7**
	comp=E,28nm,0.8s						
DBIC	**Dimbokro**	**77.56**	**71**	P	**P**	**19 08 18.0**	**+1.3**
	comp=E,6.1nm,0.7s,baz=193,slow=6.3,SNR=5.8						
URZ	**Urewera**	**80.11**	**229**	LR	LR	19 35 35.7	
	comp=E,40nm,20.9s,baz=308,slow=29						
TOA0	**Torodi Ar. Sit**	**86.65**	**71**	*e*P	**P**	**19 09 04.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**86.65**	**71**	P	**P**	**19 09 04.5**	**+0.2**
	comp=E,1.9nm,0.9s,baz=216,slow=4.4,SNR=11						
GERES	**GERESS Array B**	**115.78**	**47**	PKP	**PKPdf**	**19 15 02.1**	**-0.4**
	comp=E,0.3nm,0.7s,baz=198,slow=2.0,SNR=5.1						
BRTR	**Keskin Array B**	**124.73**	**64**	PKP	**PKPdf**	**19 15 20.2**	**+0.2**
	comp=E,0.8nm,0.8s,baz=167,slow=2.2,SNR=5.0						
AKTO	**Aktyubinsk**	**143.73**	**54**	PKP	PKPbc	19 15 52.7	+0.2
	comp=E,0.9nm,0.6s,baz=222,slow=4.0,SNR=6.5						
BVAR	**Borovoye Array**	**150.95**	**47**	PKP	**PKPdf**	**19 16 07.5**	**+0.7**
	comp=E,0.2nm,0.4s,baz=346,slow=3.0,SNR=3.1						
BVAR				PKPbc	**PKiKP**	**19 16 13.7**	**+0.6**
	comp=E,3.5nm,0.7s,baz=284,slow=4.1,SNR=24						
BVAR				PKPab	**PKPab**	**19 16 20.5**	**+0.5**
	comp=E,1.9nm,0.6s,baz=331,slow=2.6,SNR=8.4						
KURBB	**Kurchatov Arra**	**156.51**	**49**	PKP	**PKPdf**	**19 16 14.3**	**-0.4**
	comp=E,0.2nm,0.6s,baz=219,slow=0.2,SNR=3.3						
KURBB				PKPab	**PKPab**	**19 16 43.7**	**0.0**
	comp=E,0.8nm,0.8s,baz=283,slow=4.8,SNR=8.9						
KURK	**Kurchatov**	**156.53**	**48**	PKP	**PKPdf**	**19 16 14.3**	**-0.5**
KURK				PKPab	**PKPab**	**19 16 43.7**	**0.0**
ZALV	**Zalesovo Beam**	**158.22**	**36**	PKP	**PKPdf**	**19 16 16.6**	**-0.1**
	comp=E,0.3nm,0.4s,baz=270,slow=1.4,SNR=3.6						
ZALV				PKPab	**PKPab**	**19 16 51.6**	**+0.8**
	comp=E,0.2nm,0.3s,baz=291,slow=4.1,SNR=4.3						

ISCJB 27 19:01:33.3±0.4, 5°06S±0°05×129°83E±0°07, h200km, mb3.7/12, Error ellipse: s-maj=10.0km s-min=6.2km az=161.7
IDC 27 19:01:34.6±2.4, 5°09S×129°82E, h201km±23km, mb3.6/12, mb1 3.7/12, mb1mx3.5/28, mbtmp4.1/12, Error ellipse: s-maj=26.0km s-min=10.0km az=74.0
DJA 27 19:01:35.7±0.6, 5°S±6°×13°0E±°, h184km±10km, M4.6/9, mb4.7/6, mB5.0/3, MLv4.6/9, Mw(mB)4.4/3

ISC 27 19:01:34.3±0.6, 5°06S±0°06×129°86E±0°09, h200km, n25, σ1¶19/26, mb3.8/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.54**	**5**	P	**Pn**	**19 02 01.7**	**+0.1**
FAKI	**Fak Fak**	**3.20**	**48**	P	**Pn**	**19 02 26.6**	**+0.3**
SAUI	**Saumlaki**	**3.24**	**154**	P	**Pn**	**19 02 27.6**	**+0.8**
NLAI	**Namlea**	**3.29**	**303**	P	**Pn**	**19 02 27.3**	**-0.1**
SIJI	**Sorong**	**4.39**	**19**	P	**Pn**	**19 02 41.0**	**0.0**
	80nm,0.3s,baz=224,slow=22,SNR=373						
SIJI				S	**Sn**	**19 03 30.5**	**-3.1**
	108nm,0.3s,baz=98,slow=23,SNR=55						
SANI	**Sanana**	**4.88**	**308**	P	**Pn**	**19 02 46.2**	**-1.0**
RKPI	**Ransiki, Papua**	**5.57**	**51**	P	**Pn**	**19 02 57.4**	**+1.3**
	127nm,0.5s,7μm3.5nm						
TNTI	**Ternate**	**6.30**	**337**	P	**Pn**	**19 03 05.4**	**-0.1**
	10nm,0.8s,1μm0.5nm						
KMSI	**Cibinong**	**8.11**	**313**	P	**Pn**	**19 03 29.6**	**+0.6**
	99nm,0.9s						
MRSI	**Marisa**	**9.63**	**305**	P	**Pn**	**19 03 48.7**	**-0.1**
WRA	**Warramunga Arr**	**15.42**	**164**	P	Pn	19 04 58.6	-3.2
	2.6nm,0.3s,baz=339,slow=13,SNR=96						
WRA				S	S	19 07 40.9	-12
	3.3nm,0.3s,baz=337,slow=22,SNR=12						
ASAR	**Alice Springs**	**18.91**	**168**	P	**P**	**19 05 40.4**	**+0.4**
	9.1nm,0.3s,baz=348,slow=12,SNR=1099						
ASAR				S	**S**	**19 09 00.8**	**-3.5**
	0.3nm,0.3s,baz=347,slow=21,SNR=8.8						
CTA	**Charters Tower**	**21.86**	**135**	P	**P**	**19 06 12.2**	**+1.0**
	6.5nm,0.8s,baz=300,slow=13,SNR=9.7						
STKA	**Stephens Creek**	**28.86**	**159**	P	**P**	**19 07 14.4**	**+0.2**
	2.3nm,0.3s,baz=349,slow=11,SNR=26						
CMAR	**Chiang Mai Arr**	**38.40**	**308**	P	**P**	**19 08 37.0**	**+0.3**
	0.9nm,0.7s,baz=132,slow=6.8,SNR=8.0						
MJAR	**Matsushiro Arr**	**42.12**	**10**	P	**P**	**19 09 06.6**	**-0.3**
	1.9nm,0.6s,baz=192,slow=11,SNR=9.6						
KSRS	**Korea Array**	**42.33**	**358**	P	**P**	**19 09 09.9**	**+1.3**
	1.1nm,0.6s,baz=176,slow=9.1,SNR=8.6						
USRK	**Ussuriysk Ar.**	**49.07**	**2**	P	**P**	**19 10 02.0**	**+0.9**
	2.1nm,0.7s,baz=197,slow=7.0,SNR=5.5						
PETK	**Petropavlovsk-**	**62.54**	**19**	P	**P**	**19 11 37.8**	**+1.1**
	4.7nm,0.8s,baz=235,slow=9.9,SNR=3.5						
ZALV	**Zalesovo Beam**	**69.79**	**334**	P	**P**	**19 12 22.7**	**0.0**
	1.6nm,0.6s,baz=127,slow=5.8,SNR=7.7						
KURBB	**Kurchatov Arra**	**70.79**	**328**	P	**P**	**19 12 29.4**	**+0.5**
	2.8nm,0.7s,baz=129,slow=5.2,SNR=42						
VNDA	**Vanda**	**74.38**	**173**	P	**P**	**19 12 49.2**	**-0.4**
	0.6nm,0.7s,baz=317,slow=9.0,SNR=3.4						
BVAR	**Borovoye Array**	**76.36**	**328**	P	**P**	**19 13 01.3**	**0.0**
	0.6nm,0.5s,baz=126,slow=7.5,SNR=6.1						
ILAR	**Eielson Array**	**91.66**	**25**	P	**P**	**19 14 17.7**	**-0.8**
	0.3nm,0.8s,baz=275,slow=4.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**128.27**	**283**	PKP	**PKPdf**	**19 20 17.9**	**0.0**
	0.3nm,0.7s,baz=339,slow=2.1,SNR=2.8						

IDC 27 19:13:20.9±0.8, 7°68N×91°88E, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.7/46, mbtmp3.9/13, ML3.7/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/32, Error ellipse: s-maj=32.5km s-min=16.5km az=52.0
ISCJB 27 19:13:21.6±0.6, 7°54N±0°09×91°89E±0°09, h24km, mb3.9/17, Error ellipse: s-maj=15.1km s-min=10.0km az=139.8
NEIC 27 19:13:25.0±0.5, 7°56N×91°89E, h35km, mb4.3/5, Error ellipse: s-maj=13.8km s-min=9.3km az=52.0

ISC 27 19:13:23.7±0.7, 7°6N±0°1×91°9E±0°1, h24km, n25, σ1¶09/24, mb4.1/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.13**	**269**	Pn	**Pn**	**19 16 02.2**	**+0.6**
	1.5nm,0.3s,baz=86,slow=15,SNR=16						
PALK				Sn	Sn	19 17 50.9	-15
	3.0nm,0.3s,baz=167,slow=19,SNR=9.9						
PALK				LR	LR	19 19 38.6	
	comp=Z,81nm,19.0s,baz=107,slow=34						
CMAR	**Chiang Mai Arr**	**12.82**	**32**	Pn	**Pn**	**19 16 25.3**	**+0.8**
	0.1nm,0.3s,baz=233,slow=15,SNR=3.8						
LSA	**Lhasa**	**22.05**	**358**	*e*P	**P**	**19 18 18.3**	**+1.0**
	6.1nm,0.6s						
H08S3	**Diego Garcia H**	**24.55**	**233**	T	T	19 44 57.3	
	baz=52,slow=75,SNR=13						
H08S2	**Diego Garcia H**	**24.56**	**233**	T	T	19 44 59.6	
	baz=52,slow=75,SNR=12						
H08S1	**Diego Garcia H**	**24.57**	**233**	T	T	19 44 59.6	
	baz=52,slow=75,SNR=11						
AAK	**Ala-Archa**	**38.18**	**339**	P	P	19 20 57.0	+15
	1.2nm,0.3s,baz=158,slow=6.9,SNR=3.7						
MBWA	**Marble Bar**	**39.49**	**137**	P	**P**	**19 20 50.7**	**-2.0**
	6.1nm,1.1s						
MK31	**Makanchi Array**	**39.97**	**350**	*e*P	P	19 20 52.5	-3.9
KKAR	**Karatay Array**	**40.11**	**335**	*e*P	**P**	**19 20 56.0**	**-1.6**
	1.5nm,0.5s						
SONM	**Songino Array**	**42.00**	**15**	P	**P**	**19 21 13.0**	**-0.2**
	0.8nm,0.7s,baz=194,slow=8.7,SNR=3.2						
GEYT	**Alibeck**	**43.00**	**320**	P	**P**	**19 21 22.5**	**+1.1**
	3.7nm,0.9s,baz=148,slow=8.7,SNR=5.9						
KURBB	**Kurchatov Arra**	**44.36**	**348**	P	**P**	**19 21 32.0**	**-0.1**
	1.5nm,0.8s,baz=169,slow=6.9,SNR=19						
KURBB				PcP	**PcP**	**19 23 16.4**	**+0.6**
	0.4nm,0.8s,baz=161,slow=2.5,SNR=8.2						
KURK	**Kurchatov**	**44.43**	**348**	P	**P**	**19 21 32.0**	**-0.6**
KURK				PcP	**PP**	**19 23 16.4**	**-0.1**
ZALV	**Zalesovo Beam**	**46.62**	**354**	P	**P**	**19 21 49.5**	**-0.4**
	0.5nm,0.3s,baz=191,slow=6.0,SNR=3.9						
BVAR	**Borovoye Array**	**48.62**	**343**	P	**P**	**19 22 05.0**	**-0.5**
	1.6nm,0.7s,baz=159,slow=9.5,SNR=9.6						
ABKAR	**Akbulak array**	**49.49**	**333**	*e*P	**P**	**19 22 11.2**	**-1.0**
	1.8nm,0.6s						
WRA	**Warramunga Arr**	**49.88**	**124**	P	**P**	**19 22 16.8**	**+1.1**
	0.3nm,0.4s,baz=302,slow=9.0,SNR=7.7						
WRA				PcP	**PcP**	**19 23 37.5**	**+1.5**
	0.6nm,0.8s,baz=310,slow=2.7,SNR=5.7						
WRAB	**Tennant Creek**	**49.89**	**124**	P	**P**	**19 22 14.4**	**-1.2**
	4.2nm,1.3s						
AKTO	**Aktyubinsk**	**51.21**	**333**	P	**P**	**19 22 24.8**	**-0.4**
	0.6nm,0.6s,baz=131,slow=15,SNR=4.5						
AS31	**Alice Springs**	**51.41**	**128**	P	**P**	**19 22 27.9**	**+0.7**
ASAR	**Alice Springs**	**51.41**	**128**	P	**P**	**19 22 29.2**	**+2.0**
	0.4nm,0.8s,baz=295,slow=9.1,SNR=3.5						
ASAR				PcP	**PcP**	**19 23 43.2**	**+1.6**
	0.5nm,0.6s,baz=305,slow=3.3,SNR=6.2						
FINES	**FINESS Array B**	**71.98**	**333**	P	**P**	**19 24 44.2**	**-1.0**
	2.9nm,0.8s,baz=109,slow=11,SNR=4.5						
ARCES	**ARCESS Array B**	**74.83**	**340**	P	**P**	**19 25 01.4**	**-0.5**
	3.3nm,1.0s,baz=96,slow=4.0,SNR=3.5						
GERES	**GERESS Array B**	**76.61**	**318**	P	**P**	**19 25 12.5**	**-0.1**
	0.2nm,0.6s,baz=87,slow=5.5,SNR=6.7						

ISCJB 27 19:19:52.9±0.5, 50°91S±0°07×28°9E±0°2, h10km, mb4.2/16, MS3.4/5, Error ellipse: s-maj=20.0km s-min=9.5km az=167.7
IDC 27 19:19:53.1±0.6, 50°93S×29°00E, h0km, mb4.1/13, mb1 4.3/14, mb1mx4.0/40, mbtmp4.2/14, MS3.5/6, Ms1 3.4/6, ms1mx3.2/20, Error ellipse: s-maj=23.7km s-min=14.2km az=72.0
NEIC 27 19:19:54.3±0.4, 51°01S×28°91E, h10km, mb4.5/6, Error ellipse: s-maj=19.2km s-min=9.0km az=75.0

ISC 27 19:19:54.3±0.6, 50°87S±0°09×29°0E±0°2, h10km, n29, σ1¶51/27, mb4.2/16, MS3.4/5, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**19.43**	**339**	P	**Pn**	**19 24 23.3**	**+1.3**
SUR				LR	LR	19 31 08.5	
	comp=Z,171nm,18.2s,slow=35						
BOSA	**Boshof**	**22.40**	**351**	P	**P**	**19 24 54.3**	**+1.4**
	6.9nm,0.9s,baz=159,slow=13,SNR=7.7						
BOSA				LR	LR	19 32 07.3	
	comp=Z,135nm,20.8s,baz=169,slow=33						
MAW	**Mawson**	**23.64**	**148**	P	**P**	**19 25 05.5**	**+0.2**
	1.2nm,0.4s,baz=286,slow=7.4,SNR=3.1						
MAW				S	**S**	**19 29 23.5**	**+4.0**
	2.4nm,0.5s,baz=142,slow=9.5,SNR=4.2						
MAW				LR	LR	19 32 00.0	
	comp=Z,91nm,20.7s,baz=238,slow=31						
SNAA	**Sanae**	**25.28**	**203**	P	**P**	**19 25 19.0**	**-1.4**
SNAA	**Sanae**	**25.28**	**203**	P	**P**	**19 25 20.9**	**+0.5**
	3.2nm,0.9s,baz=84,slow=9.8,SNR=34						
SNAA	**Sanae**	**25.28**	**203**	*e*P	**P**	**19 25 17.2**	**-3.2**
	19nm,1.1s						
LBTB	**Lobatse**	**25.94**	**353**	P	**P**	**19 25 27.1**	**+0.3**
	4.1nm,0.7s,baz=176,slow=7.9,SNR=7.8						
LBTB				LR	LR	19 34 23.4	
	comp=Z,113nm,19.2s,baz=184,slow=34						
VNA1	**Neumayer--Stat**	**26.16**	**207**	P	**P**	**19 25 30.3**	**+1.9**
TSUM	**Tsumeb**	**32.86**	**340**	*e*P	**P**	**19 26 27.4**	**-0.9**
	6.2nm,0.8s						
LSZ	**Lusaka**	**35.50**	**359**	*e*P	**P**	**19 26 48.6**	**-2.7**
	3.3nm,0.8s						
QSPA	**South Pole Qui**	**39.35**	**180**	P	**P**	**19 27 23.2**	**-0.4**
	9.8nm,0.8s,baz=254,slow=3.4,SNR=28						
QSPA	**South Pole Qui**	**39.35**	**180**	*e*P	**P**	**19 27 22.4**	**-1.1**
	10nm,0.8s						
VNDA	**Vanda**	**48.61**	**168**	P	**P**	**19 28 37.4**	**0.0**
	2.5nm,0.7s,baz=236,slow=7.0,SNR=17						
VNDA				LR	LR	19 49 43.0	
	comp=Z,34nm,18.1s,baz=227,slow=37						
VNDA	**Vanda**	**48.61**	**168**	*e*P	**P**	**19 28 36.2**	**-1.2**
	2.7nm,0.7s						
SBA	**Scott Base**	**48.96**	**169**	*e*P	**P**	**19 28 38.9**	**-1.2**
	5.5nm,0.8s						
H10S2	**ASCENSION HYDR**	**55.04**	**304**	T	T	20 28 51.0	
	baz=147,slow=75,SNR=10						
H10S3	**ASCENSION HYDR**	**55.05**	**304**	T	T	20 28 55.6	
	baz=147,slow=75,SNR=11						
H10S1	**ASCENSION HYDR**	**55.05**	**304**	T	T	20 28 54.2	
	baz=147,slow=75,SNR=12						
DBIC	**Dimbokro**	**64.30**	**322**	P	**P**	**19 30 30.5**	**+0.7**
	3.4nm,1.0s,baz=170,slow=17,SNR=2.3						
CPUP	**Villa Florida**	**67.78**	**255**	P	**P**	**19 30 52.7**	**+0.4**
	7.6nm,0.7s,baz=127,slow=5.5,SNR=20						
TORD	**Torodi Ar. Bea**	**68.05**	**331**	P	**P**	**19 30 55.7**	**+1.8**
	1.0nm,0.8s,baz=170,slow=6.7,SNR=3.6						
CFAA	**Coronel Fontan**	**70.39**	**244**	P	**P**	**19 31 08.3**	**-0.1**
	0.4nm,0.6s,baz=137,slow=4.5,SNR=6.2				

ISCJB ***27*** *20:22:15.2±0.9, 18.4S±0.2, 178.2W±0.2, h600km, mb3.9/8, Error ellipse: s-maj=24.9km s-min=18.2km az=142.0*

ISC 27 20:22:16.9±0.9, 18.4S±0.2, 178.1W±0.2, h600km, n11, σ1§58/13, mb4.0/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.26**	**191**	P	**P**	**P**	**20 26 11.1**	**-1.7**
	5.3nm,0.6s,baz=93,slow=5.2,SNR=5.5							
STKA	**Stephens Creek**	**38.65**	**242**	P	**P**	**P**	**20 28 51.4**	**+0.8**
	6.8nm,0.7s,baz=96,slow=9.4,SNR=16							
JAY	**Jayapura**	**43.28**	**286**	P	**P**	**P**	**20 29 26.1**	**-1.4**
	5.5nm,0.5s,baz=140,slow=6.9,SNR=8.9							
WRA	**Warramunga Arr**	**44.81**	**260**	P	**P**	**P**	**20 29 37.8**	**-1.4**
	4.3nm,0.5s,baz=95,slow=7.0,SNR=134							
WRA				PcP	**PcP**	**PcP**	**20 31 10.0**	**+2.1**
	0.7nm,0.5s,baz=93,slow=3.2,SNR=4.2							
ASAR	**Alice Springs**	**44.92**	**255**	P	**P**	**P**	**20 29 39.9**	**-0.1**
	34nm,0.6s,baz=88,slow=8.4,SNR=546							
ASAR				PcP	**PcP**	**PcP**	**20 31 10.3**	**+2.0**
	0.7nm,0.5s,baz=100,slow=3.8,SNR=4.5							
MJAR	**Matsushiro Arr**	**68.42**	**323**	P	**P**	**P**	**20 32 18.7**	**-1.4**
	0.6nm,0.5s,baz=157,slow=6.8,SNR=3.6							
NVAR	**Mina Array Bea**	**79.56**	**44**	P	**P**	**P**	**20 33 22.6**	**-0.5**
	0.7nm,0.7s,baz=223,slow=9.2,SNR=5.0							
TXAR	**Lajitas Array**	**86.01**	**57**	P	**P**	**P**	**20 33 55.2**	**-0.2**
	0.7nm,0.8s,baz=225,slow=6.7,SNR=6.2							
CMAR	**Chiang Mai Arr**	**89.28**	**290**	P	**P**	**P**	**20 34 13.0**	**+2.2**
	0.9nm,0.9s,baz=102,slow=2.9,SNR=6.6							
BRTR	**Keskin Array B**	**145.28**	**315**	PKPbc	**PKPab**	**PKPab**	**20 40 50.1**	**-0.2**
	0.4nm,0.4s,baz=84,slow=3.8,SNR=3.6							
GERES	**GERESS Array B**	**148.11**	**345**	PKPbc	**PKPbc**	**PKPbc**	**20 40 57.5**	**+1.4**
	0.2nm,0.5s,baz=11,slow=7.5,SNR=3.6							

GUC 27 20:32:31.5±0.5, 36.51S×73.28W, h15km±8km, ML3.8, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.37**	**157**	*eP*		Pg	20 32 38.0	-1.0
CCSP				*i* S		Sg	20 32 42.1	-1.9
CCSP				AML		AML	20 32 42.6	
	comp=N,17μm,0.3s							
LNCH	**Linares**	**1.51**	**65**	⇑*i*P		Pb	20 32 59.7	+0.4
LNCH				*e*S		Sb	20 33 18.4	+0.2
TALC	**Talca**	**1.74**	**51**	*e*P		Pn	20 32 59.2	-1.9
TALC				*e*S		Sn	20 33 20.5	-2.5

NIED ***27*** *20:33:00, 25.00N×122.40E, h5km, Mw4.8 Best double couple: M0 1.61000×10^16 NP1:φ=255.00000°, δ=24.00000°, λ=-66.00000°. NP2:φ=49.00000°, δ=68.00000°, λ=-100.00000°.*

IDC ***27*** *20:33:25.2±0.4, 24.97N×122.26E, h0km, mb4.6/29, mb1 4.7/30, mb1mx4.6/44, mbtmp4.6/30, ML3.2/3, MS3.9/18, Ms1 3.9/18, ms1mx3.7/35, Error ellipse: s-maj=16.1km s-min=10.2km az=61.0*

BJI ***27*** *20:33:25.0, 25.03N×122.34E, h8km, mb4.6/58, mB4.9/41, ML5.1/12, Ms4.8/68, Ms7 4.5/60*

TAP ***27*** *20:33:26.9, 25.04N×122.38E, h15km, ML4.9, C*

NEIC ***27*** *20:33:26.8±0.2, 25.04N×122.36E, h10km, mb4.8/24, MW4.6, ML4.9(TAP), Error ellipse: s-maj=8.4km s-min=4.1km az=125.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^15Nm; Mrr-8.24; Mθθ 7.24; Mφφ 1.00; Mrθ-3.31; Mθφ 4.20; Mφr-0.91; Best double couple: M0 9.50000×10^15 NP1:φ=238.00000°, δ=35.00000°, λ=-98.00000°. NP2:φ=68.00000°, δ=56.00000°, λ=-84.00000°. Principal axes: T 9.9700, Plg10.0000°, Azm153.0000°; N -1.0600, Plg4.0000°, Azm244.0000°; P -8.9200, Plg78.0000°, Azm358.0000°;*

NEIC Felt [II] at Taipei. Recorded [2 TAP] in Hua-lien, I-lan and T'ai-pei; [1 TAP] in Hsin-chu, Nan-t'ou and T'ao-yuan.

GCMT ***27*** *20:33:26.8±0.4, 25.02N×122.37E, h18km±1km, MW4.9/59, Moment Tensor Solution. s19,c21; s59,c92; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.06±.20; Mθθ 1.61±.12; Mφφ 0.44±.12; Mrθ-0.50±.23; Mθφ 1.00±.06; Mφr-0.94±.31; Best double couple: M0 2.37600×10^16 NP1:φ=46.00000°, δ=58.00000°, λ=-105.00000°. NP2: φ=254.00000°, δ=35.00000°, λ=-67.00000°. Principal axes: T 2.3740, Plg12.0000°, Azm147.0000°; N 0.0010, Plg13.0000°, Azm55.0000°; P -2.3790, Plg72.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

JMA ***27*** *20:33:27.2±0.1, 25.03N×122.42E, h35km±3km, M4.9*

ISCJB ***27*** *20:33:27.3±0.3, 25.05N±0.01×122.44E±0.01, h20km±2km, mb4.7/84, MS4.2/29, Error ellipse: s-maj=2.5km s-min=2.1km az=44.7*

MOS ***27*** *20:33:28.8±1.2, 25.02N×122.25E, h33km, mb4.8/34, MS4.2/14, Error ellipse: s-maj=9.8km s-min=5.6km az=108.2*

BKK ***27*** *20:33:29.5±1.0, 25°N±13°×12°2E±°, h10km, M4.7/18, mB4.9/10, mb4.7/18, MLv5.6/1, Mw(mB)4.2/10*

ISC 27 20:33:27.8±0.3, 24.98N±0.02×122.39E±0.02, h16km±1km, h16km:pP-P, n346, σ1§57/420, mb4.7/84, MS4.3/29, 40C-18D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.36**	**275**	⇓*i*P		**Pg**	**20 33 34.5**	**-0.7**
	baz=265							
EGS		**0.43**	**252**	⇑*i*P		**Pg**	**20 33 36.7**	**+0.2**
	baz=237							
NWF	**Wu-fen Shan**	**0.56**	**280**	⇓*i*P		**Pg**	**20 33 38.5**	**-0.4**
	baz=274							
TWC	**Suao**	**0.61**	**233**	P		**Pg**	**20 33 39.8**	**-0.1**
	baz=227							
ILA	**Ilan**	**0.62**	**250**	P		**Pg**	**20 33 40.0**	**+0.1**
	baz=244							
ILA				S		**Sn**	**20 33 50.3**	**-1.2**
	baz=244							
TWE	**Neicheng**	**0.70**	**249**	*e*P		**Pg**	**20 33 41.2**	**-0.4**
	baz=243							
TWE				*i* S		**Sb**	**20 33 51.5**	**+0.4**
	baz=243							
PCYT	**Pengchaiyu**	**0.71**	**336**	⇑*i*P		**Pb**	**20 33 41.2**	**-0.6**
	baz=316							
PCYT				S		**Sb**	**20 33 51.5**	**+0.2**
	baz=316							
TWA	**Mucha**	**0.73**	**270**	⇓P		**Pg**	**20 33 41.8**	**-0.2**
	baz=265							
TWA				*i* S		**Sb**	**20 33 52.0**	**+0.1**
	baz=265							
JYNG	**Yonagunijimaku**	**0.73**	**136**	P		**Pg**	**20 33 41.1**	**-1.0**
JYNG				*e*S		**Sg**	**20 33 52.0**	**+0.3**
YOJ	**Yonaguni jima**	**0.77**	**132**	P		**Pg**	**20 33 41.7**	**-1.0**
YOJ				*e*S		**Sg**	**20 33 52.4**	**-0.5**
YOJ	**Yonaguni jima**	**0.77**	**132**	⇑*i*P		**Pg**	**20 33 42.1**	**-0.6**
	baz=124							
YOJ				S		**Sb**	**20 33 53.5**	**+0.6**
	baz=124							
YOJ	**Yonaguni jima**	**0.77**	**132**	*e*Pg		**Pg**	**20 33 42.0**	**-0.7**
YOJ				*e*Sg		**Sg**	**20 33 53.0**	**+0.2**
TWY	**Chenhua**	**0.77**	**293**	⇑*i*P		**Pg**	**20 33 42.4**	**-0.5**
	baz=288							
TWY				*i* S		**Sb**	**20 33 53.7**	**+0.5**
	baz=288							
TAP1	**Taipei**	**0.79**	**275**	⇑*i*P		**Pb**	**20 33 42.9**	**-0.1**
	baz=270							
TAP	**Taipei**	**0.80**	**275**	⇑*i*P		**Pg**	**20 33 43.0**	**-0.5**
	baz=270							
TAP				S		**Sb**	**20 33 53.8**	**-0.2**
	baz=270							
ENA	**Nanau**	**0.80**	**227**	*e*P		**Pb**	**20 33 42.9**	**-0.5**
	baz=217							
TATO	**Taipei**	**0.82**	**270**	*e*Pg		**Pg**	**20 33 43.0**	**-0.7**
TATO				*e*Sg		**Sg**	**20 33 52.3**	**-2.2**
ENTT	**Nioudou**	**0.82**	**246**	P		**Pb**	**20 33 43.2**	**-0.5**
	baz=254							
ENTT				S		**Sb**	**20 33 55.7**	**+1.3**
	baz=254							
EHP	**Heping Village**	**0.89**	**222**	*e*P		**Pn**	**20 33 46.3**	**+0.6**
	baz=217							
EHP				*e*S		**Sg**	**20 33 57.8**	**+1.1**
	baz=217							
TWS1	**Kuangyinshan**	**0.89**	**278**	⇑*i*P		**Pb**	**20 33 44.7**	**-0.1**
	baz=274							
TWS1				*i* S		**Sn**	**20 33 57.5**	**-0.6**
	baz=274							
YHNB	**Yeheng**	**0.97**	**252**	*e*Pg		**Pb**	**20 33 45.5**	**-0.8**
YHNB				*e*Sg		**Sb**	**20 33 58.0**	**-0.8**
NSK	**Sanguang**	**0.98**	**252**	⇑*i*P		**Pb**	**20 33 45.9**	**-0.6**
	baz=262							
NSK				S		**Sb**	**20 33 59.3**	**+0.1**
	baz=262							
NNS	**Nan Shan**	**1.07**	**240**	*e*P		**Pb**	**20 33 47.5**	**-0.4**
	baz=220							
NNS				*e*S		**Sb**	**20 34 02.0**	**+0.2**
	baz=220							
NACB	**Ninganchiao**	**1.08**	**222**	*e*Pg		**Pb**	**20 33 47.5**	**-0.6**
NACB				*e*Sg		**Sb**	**20 34 02.0**	**+0.1**
NCU	**National Centr**	**1.09**	**270**	*e*P		**Pb**	**20 33 47.7**	**-0.6**
	baz=267							
NCU				*e*S		**Sn**	**20 34 04.5**	**+1.3**
	baz=267							
TWD	**Chiawan**	**1.15**	**219**	P		**Pn**	**20 33 49.1**	**-0.1**
	baz=216							
TWD				S		**Sb**	**20 34 04.2**	**+0.3**
	baz=216							
HWA	**Hwalien**	**1.23**	**216**	⇓*e*P		**Pg**	**20 33 51.9**	**+0.4**
	baz=212							
HSN	**Hsinchu**	**1.30**	**263**	*e*P		**Pn**	**20 33 50.3**	**-1.0**
	baz=262							
NSTT	**Nanjuang**	**1.31**	**255**	⇑*i*P		**Pn**	**20 33 51.0**	**-0.4**
	baz=269							
WHF	**Hehuan Shan**	**1.32**	**231**	⇑P		**Pn**	**20 33 52.1**	**+0.2**
	baz=230							
WHF				*e*S		**Sb**	**20 34 10.6**	**+1.4**
	baz=230							
TWT	**Tachien**	**1.32**	**237**	⇑P		**Pn**	**20 33 52.1**	**+0.4**
	baz=222							
TWT				*e*S		**Sg**	**20 34 11.1**	**+0.6**
	baz=222							
ESF	**Shoufeng Towns**	**1.36**	**216**	*e*P		**Pb**	**20 33 53.2**	**+0.3**
	baz=194							
IRIF	**Iriomote-Funau**	**1.38**	**117**	P		**Pn**	**20 33 50.6**	**-1.8**
IRIF				*e*S		**Sn**	**20 34 08.1**	**-2.2**
ESL	**Shilin**	**1.45**	**217**	*e*P		**Pn**	**20 33 53.4**	**+0.1**
	baz=212							
ESL				*e*S		**Sg**	**20 34 14.9**	**+0.3**
	baz=212							
NSY	**Sanyi**	**1.58**	**250**	*e*P		**Pn**	**20 33 55.4**	**+0.2**
	baz=263							
HATJ	**Hateruma jima**	**1.58**	**125**	P		**Pn**	**20 33 54.3**	**-0.9**
TWQ1	**Liyutan**	**1.60**	**247**	*e*P		**Pn**	**20 33 55.4**	**0.0**
	baz=261							
JKRS	**Kuro-shima**	**1.65**	**116**	P		**Pn**	**20 33 55.0**	**-1.1**
WDT	**Danda**	**1.67**	**223**	⇑P		**Pn**	**20 33 57.7**	**+1.0**
	baz=222							
WDT				S		**Sb**	**20 34 19.8**	**+0.5**
	baz=222							
JIJ	**Ishigaki jima**	**1.71**	**111**	P		**Pn**	**20 33 55.6**	**-1.4**
SMLT	**Sun Moon Lake**	**1.74**	**231**	⇑P		**Pb**	**20 33 59.1**	**-0.3**
	baz=231							
SMLT				*e*S		**Sb**	**20 34 22.1**	**+1.0**
	baz=231							
TYC	**Yuchr**	**1.76**	**233**	⇑*i*P		**Pb**	**20 33 59.4**	**-0.3**
	baz=233							
TYC				*e*S		**Sb**	**20 34 22.2**	**+0.7**
	baz=233							
EHY	**Hungye**	**1.76**	**214**	*e*P		**Pn**	**20 33 57.5**	**-0.2**
	baz=210							
SSLB	**Suanglung**	**1.76**	**228**	*e*Pn		**Pb**	**20 33 59.1**	**-0.7**
SSLB				*e*Sn		**Sn**	**20 34 20.2**	**+0.3**
TCU	**Taichung**	**1.76**	**242**	⇓*e*P		**Pn**	**20 33 58.4**	**+0.8**
	baz=242							
JISG	**Ishigakijimahi**	**1.79**	**102**	P		**Pn**	**20 33 56.3**	**-1.8**
YULB	**Yu-li**	**1.87**	**212**	*e*Pn		**Pn**	**20 33 58.8**	**-0.3**
YULB				*e*Sn		**Sn**	**20 34 23.1**	**+0.7**
WNT	**Mingjian**	**1.90**	**235**	*e*P		**Pn**	**20 34 00.6**	**+1.0**
	baz=235							
TWF1	**Yuli**	**1.90**	**212**	P		**Pn**	**20 33 59.6**	**0.0**
	baz=207							
YUS	**Yu-Shan**	**1.98**	**222**	⇑*i*P		**Pn**	**20 34 02.6**	**+1.5**
	baz=221							
ALS	**Alishan**	**2.06**	**225**	⇑P		**Pb**	**20 34 04.2**	**-0.8**
	baz=203							
CHN5	**Tsauling**	**2.08**	**229**	⇑*i*P		**Pb**	**20 34 04.3**	**-0.9**
	baz=230							
CHKT	**Chengkung**	**2.09**	**207**	*e*P		**Pn**	**20 34 01.9**	**-0.3**
	baz=188							
WGK	**Gukeng**	**2.10**	**233**	*e*P		**Pb**	**20 34 04.3**	**-1.3**
	baz=233							
JTJ	**Tarama**	**2.13**	**99**	P		**Pn**	**20 34 01.1**	**-1.6**
WTCT	**Ta-ch'eng**	**2.22**	**240**	*e*P		**Pn**	**20 34 03.7**	**-0.3**
	baz=257							
CHN4	**Tsaushan**	**2.30**	**226**	⇑*i*P		**Pb**	**20 34 07.9**	**-1.1**
	baz=204							
CHN4				*e*S		**Sb**	**20 34 36.7**	**-0.6**
	baz=204							
TPUB	**Ta-pu**	**2.32**	**224**	*e*Pn		**Pn**	**20 34 07.5**	**+2.1**
TPUB				*e*Sn		**Sn**	**20 34 34.3**	**+0.8**
CHY	**Chiayi**	**2.32**	**231**	*e*P		**Pn**	**20 34 06.4**	**+1.1**
	baz=250							
CHY				*e*S		**Sn**	**20 34 36.0**	**+2.4**
	baz=250							
STYT	**Tauyuan**	**2.34**	**220**	P		**Pn**	**20 34 07.4**	**+1.7**
	baz=201							
STYT				*e*S		**Sb**	**20 34 38.1**	**-0.3**
	baz=201							
WTP	**Ta-pu**	**2.37**	**224**	⇑*i*P		**Pn**	**20 34 08.2**	**+2.2**
	baz=203							
WTP				*e*S		**Sb**	**20 34 39.6**	**+0.5**
	baz=203							
WSF	**Szhu**	**2.38**	**236**	*e*P		**Pn**	**20 34 05.8**	**-0.4**
	baz=253							
WSF				*e*S		**Sb**	**20 34 38.1**	**-1.4**
	baz=253							
TWK	**Hsinying**	**2.43**	**226**	⇑*e*P		**Pn**	**20 34 09.3**	**+2.3**
	baz=226							
TWG	**Pinlang**	**2.46**	**210**	*e*P		**Pn**	**20 34 06.9**	**-0.4**
	baz=205							
TWG	**Pinlang**	**2.46**	**210**	*e*Pn		**Pn**	**20 34 06.7**	**-0.7**
TWG				*e*Sn		**Sn**	**20 34 37.5**	**+0.4**
CHN1	**Nanshi**	**2.46**	**224**	⇑*i*P		**Pb**	**20 34 09.9**	**-1.9**
	baz=225							
TTN	**Taitung**	**2.49**	**207**	*e*P		**Pn**	**20 34 08.0**	**+0.4**
	baz=203							
SGST	**Jiashian**	**2.51**	**222**	⇑P		**Pb**	**20 34 10.5**	**-2.0**
	baz=219							
JIRB	**Irabujima**	**2.53**	**93**	P		**Pn**	**20 34 08.5**	**+0.2**
CHN8	**Yiju**	**2.57**	**231**	*e*P		**Pn**	**20 34 09.6**	**+0.8**
	baz=232							
JIKM	**Ikemajima**	**2.60**	**91**	P		**Pn**	**20 34 09.8**	**+0.7**
JMJ	**Miyako jima 2**	**2.64**	**93**	P		**Pn**	**20 34 10.6**	**+0.8**
JMJ	**Miyako jima 2**	**2.64**	**93**	*e*P		**Pn**	**20 34 08.8**	**-1.0**
	baz=96							
CHN3	**Shinhua**	**2.65**	**225**	*e*P		**Pb**	**20 34 12.7**	**-2.1**
	baz=225							
SCLT	**Jiali**	**2.69**	**229**	*e*P		**Pn**	**20 34 12.1**	**+1.6**
	baz=229							
ECL	**Taimali**	**2.71**	**209**	*e*P		**Pn**	**20 34 10.6**	**-0.1**
	baz=205							
SSD	**Sandimen**	**2.74**	**216**	*e*P		**Pn**	**20 34 13.0**	**+1.8**
	baz=198							
SSD				*e*S		**Sb**	**20 34 47.8**	**-2.1**
	baz=198							
JOGS	**Gusukube**	**2.75**	**94**	P		**Pn**	**20 34 11.9**	**+0.6**
TAI1	**Yung-k'ang**	**2.76**	**226**	*e*P		**Pn**	**20 34 13.8**	**+2.4**
	baz=227							
TWM1	**Shoushan**	**2.80**	**220**	*e*P		**Pb**	**20 34 15.9**	**-1.6**
	baz=218							
SGLT	**Jiouru**	**2.84**	**218**	*e*P		**Pb**	**20 34 16.5**	**-1.6**
	baz=216							
PNG	**Penghu**	**2.94**	**242**	*e*P		**Pn**	**20 34 13.3**	**-0.6**
	baz=246							
EAST	**Anshuo**	**2.94**	**209**	*e*P		**Pn**	**20 34 14.4**	**+0.4**
	baz=194							
TAW	**Tawu**	**2.94**	**208**	*e*P		**Pn**	**20 34 16.3**	**+2.4**
	baz=194							
WDGT	**Dungji**	**3.02**	**236**	*e*P		**Pn**	**20 34 15.5**	**+0.5**
	baz=235							
WDGT				*e*S		**Sn**	**20 34 53.2**	**+2.4**
	baz=235							
LAY	**Lan-yu**	**3.02**	**195**	*e*P		**Pn**	**20 34 13.8**	**-1.3**
	baz=192							
SCZT	**Fangliau**	**3.06**	**212**	*e*P		**Pn**	**20 34 17.9**	**+2.4**
	baz=195							
TWP	**Hsiaoliuchiu**	**3.21**	**216**	*e*P		**Pn**	**20 34 18.4**	**+0.8**
	baz=211							
HEN	**Hengchun**	**3.32**	**207**	*e*P		**Pn**	**20 34 20.8**	**+1.7**
	baz=192							
TWK1	**Hengchun**	**3.35**	**206**	*e*P		**Pn**	**20 34 19.5**	**0.0**
	baz=192							
TSEB	**Hengchuen, Pin**	**3.35**	**204**	*e*P		**Pn**	**20 34 22.7**	**+3.1**
	baz=201							
TSEB				*e*S		**Sn**	**20 35 00.9**	**+1.9**
	baz=201							
QZH	**Quanzhou**	**3.44**	**270**	⇓Pn		**Pn**	**20 34 19.5**	**-1.3**
QZH				Sn		**Sn**	**20 34 56.3**	**-5.0**
QZH				SMN				
	4μm,0.8s							
QZH				SME				
	2μm,0.8s							
QZH				LN				
	15μm,10.8s							
QZH				LE				
	10μm,7.6s							
QZH				LZ				
	10μm,8.0s							
KNM	**Kinmen**	**3.64**	**262**	⇑*e*P		**Pn**	**20 34 23.8**	**+0.3**
	baz=263							
JKE	**Kume jima 2**	**4.19**	**70**	P		Pn	20 34 34.7	+3.6
JAGN	**Aguni-jima**	**4.66**	**69**	P		Pn	20 34 40.8	+3.3
JIH	**Iheya**	**5.42**	**67**	P		**Pn**	**20 34 50.6**	**+2.6**
JOW	**Kunigami**	**5.61**	**70**	P		**Pn**	**20 34 53.1**	**+2.4**
JOW	**Kunigami**	**5.61**	**70**	Pn		**Pn**	**20 34 53.5**	**+2.8**
	0.6nm,0.3s,baz=224,slow=11,SNR=17							
JOW	**Kunigami**	**5.61**	**70**	*e*P		Pn	20 34 54.3	+3.7
	baz=75							
JOW	**Kunigami**	**5.61**	**70**	*e*Pn		**Pn**	**20 34 52.3**	**+1.6**
JOKE	**Okinoerabujima**	**6.04**	**66**	P		Pn	20 35 03.4	+6.9
SSE	**Sheshan**	**6.19**	**350**	*e*P		**Pn**	**20 34 56.8**	**-1.7**
SSE				S		**Sn**	**20 36 09.0**	**+0.1**
SSE				PMZ				
	41nm,0.6s							
SSE				SMN				
	880nm,1.5s							
SSE				SME				
	1μm,0.9s							
SSE				LN				
	1μm,16.0s							
SSE				LE				
	3μm,16.0s							
SSE				LZ				
	2μm,20.3s							
JTK	**Tokunoshima**	**6.52**	**63**	P		**Pn**	**20 35 05.1**	**+2.1**
JAMN	**Amaminishikomi**	**6.89**	**60**	P		**Pn**	**20 35 10.2**	**+2.0**
NJ2	**Nanjing**	**7.70**	**337**	*e*P		**Pn**	**20 35 18.5**	**-0.8**
NJ2				S		**Sn**	**20 36 47.8**	**+1.6**
NJ2				PMZ				
	50nm,0.8s							
NJ2				SMN				
	3μm,1.2s							
NJ2				SME				
	2μm,1.2s							
NJ2				LN				
	4μm,10.6s							
NJ2				LE				
	2μm,11.1s							
NJ2				LZ				
	1μm,10.9s							
GZH	**Guangzhou**	**8.48**	**259**	P		Pn	20 35 24.0	-6.0
GZH				S		Sn	20 36 46.0	-19
GZH				smax		smax		
	comp=N,760nm,1.3s							
GZH				smax		smax		
	comp=E,560nm,1.0s							
WHN	**Wuhan**	**9.02**	**310**	P		**Pn**	**20 35 36.0**	**-1.4**
WHN				S		**Sn**	**20 37 14.0**	**-4.7**
WHN				LE				
	comp=E,9μm,9.9s							
WHN				LZ				
	comp=E,10μm,9.9s							
TIA	**Tai'an**	**12.08**	**339**	*e*P		P	20 36 27.0	-5.0
TIA				S		Sn	20 38 39.0	+5.4
TIA				LR		LR		
	comp=N,2μm,9.2s							
TIA				LR		LR		
	comp=E,3μm,9.2s							
TIA				LR		LR		
	comp=Z,2μm,10.0s							
ENH	**Enshi**	**12.59**	**298**	*e*Pn		**Pn**	**20 36 25.3**	**-1.1**
	comp=Z,4.9nm,0.6s							
QIZ	**Qiongzhong**	**13.05**	**245**	P		**Pn**	**20 36 32.8**	**+0.2**
QIZ				S		**Sn**	**20 38 58.3**	**+0.7**
QIZ				LN				
	comp=Z,2μm,10.3s							
QIZ				LE				
	comp=Z,520nm,10.3s							
QIZ				LZ				
	comp=Z,2μm,9.4s							
KSAR	**Wonju Array Be**	**13.28**	**19**	Pn		**Pn**	**20 36 34.9**	**-0.8**
KSAR				Sn		Sn	20 39 09.3	+6.2
KSAR				Lg		Lg	20 40 27.8	
KSRS	**Korea Array**	**13.30**	**19**	Pn		**Pn**	**20 36 34.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=203,slow=14,SNR=6.2							
KSRS				Sn		Sn	20 39 09.3	+5.7
	comp=Z,0.1nm,0.3s,baz=217,slow=24,SNR=2.4							
KSRS				Lg		Lg	20 40 27.8	
	comp=Z,0.2nm,0.3s,baz=200,slow=28,SNR=4.3							
KSRS				LR		LR	20 42 24.3	
	comp=Z,556nm,20.1s,baz=203,slow=40							
GYA	**Guiyang**	**14.25**	**279**	⇓*i*P		**Pn**	**20 36 51.5**	**+2.4**
GYA				PP		**PnPn**	**20 37 01.3**	**+4.2**
GYA				SS		**S**	**20 39 45.5**	**-2.0**
GYA				PMZ				
	comp=Z,20nm,0.8s							
GYA				PMZ				
	comp=Z,100nm,5.6s							
GYA				LN				
	comp=Z,3μm,11.5s							
GYA				LE				
	comp=Z,1μm,9.6s							
GYA				LZ				
	comp=Z,2μm,10.9s							
XAN	**Xi'an**	**14.79**	**311**	P		**Pn**	**20 36 55.3**	**-1.0**
XAN				S		**Sn**	**20 39 37.3**	**-2.6**
XAN				PMZ				
	comp=Z,2.0nm,0.5s							
XAN				LN				
	comp=Z,2μm,13.3s							
XAN				LE				
	comp=Z,600nm,14.2s							
XAN				LZ				
	comp=Z,750nm,11.6s							
BJI	**Beijing**	**15.90**	**342**	P		**Pn**	**20 37 11.3**	**+0.4**
BJI				S		**Sn**	**20 40 11.8**	**+5.0**
BJI				PMZ				
	comp=Z,15nm,1.4s							
BJI				PMZ				
	comp=Z,330nm,3.4s							
BJI				LN				
	comp=Z,830nm,23.2s							
BJI				LE				
	comp=Z,1μm,18.7s							
SNY	**Shenyang**	**16.83**	**3**	⇓P		**Pn**	**20 37 23.0**	**+0.2**
SNY				PMZ				
	comp=Z,7.0nm,0.6s							
SNY				PMZ				
	comp=Z,270nm,12.0s							
SNY				LN				
	comp=Z,2μm,10.3s							
SNY				LE				
	comp=Z,1μm,12.9s							
SNY				LZ				
	comp=Z,1μm,10.2s							
CD2	**Chengdu**	**17.48**	**294**	P		**Pn**	**20 37 30.5**	**-0.5**
CD2				pP		**pP**	**20 37 34.5**	**-2.2**
CD2				sP		**sP**	**20 37 36.0**	**-2.7**

KMI S **Sn** **20 40 52.0 -1.6**
KMI sS **S** **20 40 56.8 -3.6**
KMI SS **SnSn** **20 41 13.5 +6.4**
KMI PMZ
comp=Z,10.0nm,0.5s
KMI PMZ
comp=Z,240nm,3.6s
KMI LN
comp=Z,4μm,12.3s
KMI LE
comp=Z,1μm,8.1s
KMI LZ
comp=Z,1μm,9.9s
JCJ Chichijima 17.92 79 LR LR 20 43 49.7
comp=Z,185nm,19.9s,baz=256,slow=35
HHC Hu-ho-hao-te 18.22 333 *e*P **P** **20 37 42.0 +1.7**
HHC PP **PnPn** **20 37 56.0 +4.4**
HHC S **Sn** **20 41 01.0 -2.4**
HHC sS **S** **20 41 06.5 -2.0**
HHC SS **SnSn** **20 41 24.3 +7.0**
HHC PMZ
comp=Z,22nm,0.5s
HHC PMZ
comp=Z,580nm,4.1s
HHC LN
comp=Z,1μm,7.4s
HHC LE
comp=Z,630nm,7.4s
HHC LZ
comp=Z,600nm,8.9s
UBPT Khong Chiam 18.57 242 P Pn 20 37 50.2 +5.8
BTO Baotou 18.70 329 *e*P **Pn** **20 37 46.3 +0.3**
CN2 Changchun 18.94 7 *e*P **Pn** **20 37 49.8 +1.0**
CN2 *es*P **sP** **20 37 54.5 -0.2**
CN2 *e*S **Sn** **20 41 18.0 -2.5**
CN2 PMZ
comp=Z,20nm,1.2s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,1μm,11.0s
CN2 LE
comp=Z,800nm,11.0s
CN2 LZ
comp=Z,1μm,11.0s
NONG Nongkai 19.17 253 P Pn 20 37 59.5 +7.8
LZH Lanzhou 19.40 309 *e*P **Pn** **20 37 55.5 +1.0**
LZH pP **pP** **20 37 59.0 +1.1**
LZH sP **sP** **20 38 00.8 +0.8**
LZH PP **PnPn** **20 38 13.0 +5.3**
LZH *e*S **Sn** **20 41 28.0 -3.9**
LZH sS **S** **20 41 34.5 +2.1**
LZH SS **SnSn** **20 41 55.0 +8.8**
LZH PMZ
comp=Z,78nm,1.2s
LZH PMZ
comp=Z,260nm,4.2s
LZH LN
comp=Z,2μm,13.7s
LZH LE
comp=Z,1μm,14.5s
LZH LZ
comp=Z,2μm,15.4s
VLA Vladivostok 19.71 21 ⇑*i*P **Pn** **20 37 59.4 +1.5**
VLA *e*S **Sn** **20 41 40.5 +1.6**
VLA pmax pmax
comp=Z,109nm,1.2s
MDJ Mudanjiang 20.45 15 P Pn 20 38 06.3 -0.4
MDJ pP pP 20 38 09.5 +0.4
MDJ sP sP 20 38 11.3 +0.2
MDJ S Sn 20 41 54.5 -2.3
MDJ ScS **ScS** **20 49 34.5 -0.6**
MDJ PMZ
comp=Z,21nm,1.0s
MDJ PMZ
comp=Z,190nm,5.6s
MDJ LN
comp=Z,1μm,20.7s
MDJ LE
comp=Z,2μm,17.6s
MDJ LZ
comp=Z,1μm,13.5s
MDJ Mudanjiang 20.45 15 P **P** **20 38 04.7 +0.2**
comp=Z,64nm,1.4s
USRK Ussuriysk Ar. 20.71 20 P Pn 20 38 09.2 -0.5
comp=Z,17nm,0.8s,baz=204,slow=9.4,SNR=73
USRK LR LR 20 47 19.8
comp=Z,228nm,18.4s,baz=184,slow=40
CRAI Chiangrai 20.86 261 P **P** **20 38 08.2 -1.0**
comp=Z,111nm,1.0s
LOEI Loei 21.03 253 P **P** **20 38 10.0 -1.0**
comp=Z,109nm,0.8s
CHAI Chaiyaphum 21.12 249 P **P** **20 38 13.8 +1.8**
comp=Z,14nm,1.0s,comp=Z,137nm
SGSI Sangihe 21.39 171 P P 20 38 22.9 +8.1
comp=Z,217nm,0.8s,comp=Z,11μm
UTTA Uttaradit 21.55 255 P **P** **20 38 19.0 +2.4**
comp=Z,5.9nm,1.1s,comp=Z,61nm
PBKT Sadao Pong 21.68 251 P **P** **20 38 20.2 +2.2**
comp=Z,60nm,1.3s,comp=Z,735nm
LAMP Lampang 22.07 258 P **P** **20 38 24.9 +2.6**
comp=Z,18nm,0.9s,comp=Z,142nm
CMMT Chiang Mai 22.58 259 P **P** **20 38 29.3 +1.6**
comp=Z,46nm,1.6s,comp=Z,590nm
CHTO Chiang Mai 22.59 259 P **P** **20 38 29.4 +1.6**
comp=Z,158nm,1.6s,comp=Z,2μm
CHTO Chiang Mai 22.59 259 *e*P **P** **20 38 28.7 +0.9**
comp=Z,34nm,1.0s
CM31 Chiang Mai Arr 22.71 258 P **P** **20 38 29.9 +0.8**
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 22.71 258 P **P** **20 38 30.1 +1.1**
comp=Z,12nm,0.8s,baz=62,slow=8.5,SNR=70
CMAR PcP **PcP** **20 42 21.6 +0.4**
comp=Z,2.0nm,0.7s,baz=69,slow=0.5,SNR=14
CMAR LR LR 20 48 55.7
comp=Z,167nm,19.4s,baz=60,slow=41
CMAR Chiang Mai Arr 22.71 258 *ce*P **P** **20 38 31.0 +1.9**
CMAR pmax pmax
comp=Z,12nm,0.8s
UTHA Uthaitani 23.44 251 P **P** **20 38 39.9 +3.3**
comp=Z,5.3nm,1.4s,comp=Z,76nm
MHMT Maesarieng 23.71 258 P **P** **20 38 41.8 +2.6**
comp=Z,10nm,1.7s
GTA Gaotai 23.83 313 ⇓P **P** **20 38 40.3 0.0**
GTA pP **pP** **20 38 44.5 -0.6**
GTA sP **sP** **20 38 47.5 +0.4**
GTA PcP **PcP** **20 42 23.5 +0.1**
GTA S **S** **20 42 58.0 +2.4**
GTA sS **sS** **20 43 04.8 +1.2**
GTA PMZ
comp=Z,22nm,1.6s
GTA PMZ
comp=Z,190nm,5.7s
GTA LN
comp=Z,1μm,13.3s
GTA LE
comp=Z,850nm,14.2s
GTA LZ
comp=Z,840nm,15.2s
GUMO Guam 24.01 114 P **P** **20 38 44.5 +2.4**
comp=Z,79nm,0.8s,baz=17,slow=7.2,SNR=3.9
GUMO LR LR 20 46 21.2
comp=Z,117nm,21.2s,baz=304,slow=32
GUMO Guam 24.01 114 P **P** **20 38 44.5 +2.4**
GUMO pmax pmax
comp=Z,79nm,0.9s
GUMO MLR MLR
comp=Z,117nm,21.2s
ERM Erimo 24.16 40 *e*P **P** **20 38 42.1 -1.1**
ERM pmax pmax
comp=Z,9.0nm,0.8s
ERM Erimo 24.16 40 *e*P **P** **20 38 40.8 -2.4**
comp=Z,9.9nm,0.6s
GTOI Gorontalo 24.21 178 P P 20 38 49.6 +5.8
comp=Z,1.1nm,1.4s,comp=Z,100nm
SRDT SRDT 24.29 249 P **P** **20 38 47.9 +3.3**
comp=Z,79nm,1.7s
HIA Hailar 24.33 356 *c*i**P** **P** **20 38 45.0 +0.2**
HIA pmax pmax
comp=Z,33nm,1.6s
KHLT Khaolaem Dam 24.53 250 P P 20 38 52.1 +5.3
comp=Z,9.4nm,1.3s
TNTI Ternate 24.54 168 P **P** **20 38 50.2 +3.3**
comp=Z,185nm,1.4s,comp=Z,3μm
TNTI Ternate 24.54 168 *e*P **P** **20 38 49.1 +2.2**
comp=Z,283nm,1.3s

ASAJ Asahikawa 25.21 36 *e*P **P** **20 38 50.8 -1.9**
comp=Z,17nm,0.8s
KLR Kul'dur 25.29 14 *e*P **P** **20 38 49.8 -3.6**
KLR *e*S **S** **20 43 20.0 +1.3**
KLR MLR MLR
comp=E,900nm,12.5s
KLR MLR MLR
comp=Z,3μm,12.5s
SONM Songino Array 26.09 335 P **P** **20 39 01.0 +0.2**
comp=Z,13nm,1.0s,baz=147,slow=9.4,SNR=42
SONM PcP **PcP** **20 42 28.3 0.0**
comp=Z,1.3nm,1.0s,baz=134,slow=4.2,SNR=2.9
SONM LR LR 20 50 23.8
comp=Z,874nm,18.9s,baz=150,slow=39
SONM Songino Array 26.09 335 P **P** **20 39 01.0 +0.2**
SONM 20 42 28.3
SONM pmax pmax
comp=Z,13nm,1.0s
SONM pmax pmax
comp=Z,1.0nm,1.0s
SONM MLR MLR
comp=Z,875nm,18.9s
KSM Kuching 26.12 208 *e*P **P** **20 38 59.1 -2.1**
comp=Z,14nm,1.1s
YUK Yuzh-Kuril'sk 26.96 39 *c*i**P** **P** **20 39 08.3 -0.3**
YUK *i*S **S** **20 43 43.0 -2.2**
YUK MLR MLR
comp=Z,282nm,18.0s
SANI Sanana 27.09 172 P P 20 39 18.2 +8.2
comp=Z,52nm,1.2s,comp=Z,693nm
SIJI Sorong 27.10 160 LR LR 20 47 54.6
comp=Z,151nm,19.6s,baz=35,slow=32
YSS Yuzh-Sakhalins 27.28 31 *e*P **P** **20 39 12.0 +0.6**
YSS *e* 20 50 00.0
YSS Yuzh-Sakhalins 27.28 31 *e*P **P** **20 39 11.0 -0.4**
comp=Z,64nm,1.2s
LSA Lhasa 28.10 287 P **P** **20 39 19.5 0.0**
LSA Lhasa 28.10 287 *e*P **P** **20 39 19.5 0.0**
comp=Z,25nm,1.4s
FAKI Fak Fak 29.34 160 P P 20 39 39.3 +9.3
KAPI Kappang 29.92 185 LR LR 20 53 53.0
comp=Z,64nm,19.4s,baz=358,slow=41
TLY Talaya 30.27 337 P **P** **20 39 38.0 +0.1**
comp=Z,4.9nm,0.6s,baz=338,slow=1.1,SNR=12
TLY Talaya 30.27 337 *e*P **P** **20 39 38.3 +0.3**
TLY pmax pmax
comp=Z,19nm,0.2s
TLY Talaya 30.27 337 *e*P **P** **20 39 37.9 -0.1**
comp=Z,7.9nm,0.8s
MOY Mondy 31.26 334 *e*P **P** **20 39 47.4 +0.6**
PSI Prapat 31.58 229 P **P** **20 39 50.0 0.0**
comp=Z,3.0nm,0.5s,baz=43,slow=2.9,SNR=6.3
PSI Prapat 31.58 229 P **P** **20 39 50.0 0.0**
PSI pmax pmax
comp=Z,3.0nm,0.5s
JAY Jayapura 32.60 144 LR LR 20 51 03.6
comp=Z,312nm,21.9s,baz=254,slow=32
WMQ Urumqi 33.91 312 P **P** **20 40 11.0 +0.9**
WMQ pP **pP** **20 40 15.5 +0.4**
WMQ sP **sP** **20 40 18.0 +1.0**
WMQ PP **PnPn** **20 41 24.3 +1.3**
WMQ PcP **PcP** **20 42 50.0 +1.5**
WMQ sS **sS** **20 45 40.5 -1.8**
WMQ ScS **ScS** **20 50 33.3 -1.2**
WMQ PMZ
comp=Z,8.0nm,0.7s
WMQ PMZ
comp=Z,85nm,4.2s
WMQ LN
comp=Z,710nm,15.8s
WMQ LE
comp=Z,510nm,16.4s
WMQ LZ
comp=Z,190nm,19.5s
YAK Yakutsk 37.37 6 *e*P **P** **20 40 38.7 -0.7**
YAK pmax pmax
comp=Z,12nm,0.9s
YAK MLR MLR
comp=Z,533nm,15.0s
YAK Yakutsk 37.37 6 *e*P **P** **20 40 38.5 -1.0**
comp=Z,17nm,0.6s
KRAR Krasnoyarsk 37.72 333 *e*P **P** **20 40 42.6 +0.1**
KRAR pmax pmax
comp=Z,15nm,1.0s
ZAA0 Zalesovo Array 40.19 326 *e*P **P** **20 41 00.6 -2.6**
ZALV Zalesovo Beam 40.19 326 P **P** **20 41 02.6 -0.6**
comp=Z,8.7nm,0.7s,baz=111,slow=8.1,SNR=33
ZALV LR LR 20 58 44.3
comp=Z,596nm,19.1s,baz=70,slow=38
KSH Kashi 41.40 302 P P 20 41 17.5 +3.9
KSH pP pP 20 41 22.5 +4.0
KSH sP sP 20 41 24.5 +4.0
KSH PP **PnPn** **20 42 55.8 +2.0**
KSH PcP **PcP** **20 43 16.3 +4.7**
KSH PcS **PcS** **20 47 04.0 +1.1**
KSH S **S** **20 47 32.5 +4.5**
KSH sS sS 20 47 38.8 +2.6
KSH PMZ
comp=Z,22nm,1.2s
KSH PMZ
comp=Z,94nm,4.8s
KSH LN
comp=Z,300nm,8.5s
KSH LE
comp=Z,590nm,13.8s
KSH LZ
comp=Z,570nm,12.2s
NVS Novosibirsk 41.44 327 *e*P **P** **20 41 10.8 -2.7**
NVS *e* 20 42 57.2
NVS pmax pmax
comp=N,37nm,2.5s
NVS pmax pmax
comp=E,46nm,2.5s
NVS pmax pmax
comp=Z,78nm,2.5s
ULHL Ulahol 41.57 306 P **P** **20 41 16.4 +1.4**
SNR=12
TKM2 Tokmak 2 42.15 307 P **P** **20 41 21.1 +1.3**
SNR=12
TKM2 Tokmak 2 42.15 307 *e*P **P** **20 41 20.2 +0.4**
KURK Kurchatov 42.20 319 P **P** **20 41 19.5 -0.3**
KURK pmax pmax
comp=Z,12nm,0.9s
KURK Kurchatov 42.20 319 P **P** **20 41 19.5 -0.3**
KURBB Kurchatov Arra 42.22 319 P **P** **20 41 19.5 -0.4**
comp=Z,12nm,0.9s,baz=115,slow=7.8,SNR=26
KZA Kyzart 42.27 306 P **P** **20 41 22.8 +1.7**
SNR=7.0
KBK Karagaybulak 42.58 307 P **P** **20 41 24.9 +1.7**
SNR=6.5
CHMS Chumysh 42.77 307 P **P** **20 41 25.7 +1.0**
SNR=9.0
UCH Uchtor 42.83 306 P **P** **20 41 27.8 +2.1**
SNR=14
FRU Bishkek 42.85 307 *e*P **P** **20 41 24.0 -1.3**
FRU *e* 20 41 30.0
SEY Seymchan 42.86 20 ⇑*i*P **P** **20 41 24.8 -0.2**
AAK Ala-Archa 42.91 306 P **P** 20 41 41.0 +15
comp=Z,5.0nm,0.7s,baz=107,slow=5.7,SNR=4.8
AML Almayashu 43.42 306 P **P** **20 41 32.0 +1.6**
SNR=6.7
EKS2 Erkin-Say 43.43 306 P **P** **20 41 31.4 +1.3**
SNR=5.5
EKS2 Erkin-Say 43.43 306 *e*P **P** **20 41 29.9 -0.2**
comp=Z,14nm,1.2s
COEN Coen 43.69 150 *e*P **P** **20 41 33.1 +0.8**
comp=Z,3.1nm,0.7s
WRAB Tennant Creek 46.13 164 *e*P **P** **20 41 52.1 +0.5**
WRAB pmax pmax
comp=Z,120nm,1.7s
WRAB Tennant Creek 46.13 164 *e*P **P** **20 41 51.0 -0.6**
comp=Z,54nm,1.0s
WRA Warramunga Arr 46.14 164 P **P** **20 41 51.6 -0.1**
comp=Z,11nm,0.7s,baz=346,slow=8.6,SNR=65
WRA PcP **PcP** **20 43 27.0 -0.7**
comp=Z,4.3nm,0.8s,baz=349,slow=3.8,SNR=7.1
KBL Kabul 46.82 295 *e*P **P** **20 41 58.2 +1.0**
TIXI Tiksi 46.85 3 *e*P **P** **20 41 56.3 -0.3**
TIXI pmax pmax
comp=Z,15nm,0.8s
TIXI MLR MLR
comp=Z,671nm,19.0s
TIXI Tiksi 46.85 3 *e*P **P** **20 41 55.8 -0.8**
BVAR Borovoye Array 47.76 320 P **P** **20 42 03.6 -0.5**
comp=Z,7.9nm,0.5s,baz=106,slow=8.2,SNR=49
BVAR Borovoye Array 47.76 320 P **P** **20 42 03.6 -0.5**

BVAR pmax pmax
comp=Z,8.0nm,0.5s
BRVK Borovoye 47.83 320 *e*P **P** **20 42 04.8 +0.2**
BRVK pmax pmax
comp=Z,42nm,1.7s
BRVK Borovoye 47.83 320 *e*P **P** **20 42 04.3 -0.3**
AS31 Alice Springs 49.63 166 *e*P **P** **20 42 19.7 +1.0**
ASAR Alice Springs 49.63 166 P **P** **20 42 19.1 +0.4**
comp=Z,3.4nm,0.7s,baz=343,slow=8.7,SNR=44
ASAR PcP **PcP** **20 43 39.0 -1.1**
comp=Z,2.4nm,0.6s,baz=345,slow=3.6,SNR=6.4
ASAR LR LR 21 05 10.0
comp=Z,60nm,18.1s,baz=318,slow=38
ASAR Alice Springs 49.63 166 P **P** **20 42 19.1 +0.4**
ASAR 20 43 39.0
ASAR pmax pmax
comp=Z,3.0nm,0.7s
ASAR pmax pmax
comp=Z,2.0nm,0.6s
ASAR MLR MLR
comp=Z,60nm,18.1s
CTA Charters Tower 50.45 150 P **P** **20 42 26.0 +1.0**
comp=Z,4.6nm,0.7s,baz=336,slow=8.7,SNR=5.4
CTA PcP **PcP** **20 43 44.0 +0.8**
comp=Z,8.1nm,0.9s,baz=300,slow=8.1,SNR=5.0
CTA Charters Tower 50.45 150 P **P** **20 42 26.0 +1.0**
CTA 20 43 44.0
CTA pmax pmax
comp=Z,5.0nm,0.7s
CTA pmax pmax
comp=Z,8.0nm,0.9s
BILL Bilibino 50.57 20 *e*P **P** **20 42 24.7 -0.6**
BILL *e* 20 43 45.2
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,215nm,22.0s
ABKAR Akbulak array 53.68 314 *e*P **P** **20 42 48.8 +0.1**
SVE Sverdlovsk 54.06 323 ⇓*i*P **P** **20 42 51.5 +0.1**
SVE pmax pmax
comp=Z,43nm,1.4s
SVE MLR MLR
comp=Z,308nm,17.0s
AKTO Aktyubinsk 54.98 315 P **P** **20 42 57.9 -0.3**
comp=Z,2.7nm,0.7s,baz=77,slow=9.2,SNR=10
AKTO Aktyubinsk 54.98 315 P **P** **20 42 57.9 -0.3**
AKTO pmax pmax
comp=Z,3.0nm,0.7s
ARU Arti 55.14 323 *d*i**P** **P** **20 42 58.4 -0.8**
ARU 20 45 00.5
ARU S **S** **20 50 40.8 -0.6**
ARU SS **SS** **20 54 18.3 -6.8**
ARU pmax pmax
comp=Z,40nm,1.7s
ARU Arti 55.14 323 *e*P **P** **20 42 58.8 -0.4**
GEYT Alibeck 55.35 300 P **P** **20 43 01.7 +0.6**
comp=Z,6.6nm,0.8s,baz=60,slow=3.6,SNR=16
GEYT LR LR 21 10 46.9
comp=Z,188nm,18.8s,baz=235,slow=41
STKA Stephens Creek 59.44 161 P **P** **20 43 30.2 +0.5**
comp=Z,3.2nm,0.9s,baz=346,slow=4.1,SNR=4.5
STKA LR LR 21 10 02.5
comp=Z,79nm,20.2s,baz=25,slow=37
STKA Stephens Creek 59.44 161 P **P** **20 43 30.3 +0.5**
STKA pmax pmax
comp=Z,3.0nm,0.9s
STKA MLR MLR
comp=Z,79nm,20.2s
MAK Makhachkala 62.68 307 *e*P P 20 43 43.2 -8.6
MAK MLR MLR
comp=Z,419nm,22.0s
DGRG David-gareji 64.52 306 P **P** **20 44 04.9 +0.8**
DGRG David-gareji 64.52 306 P **P** **20 44 04.9 +0.8**
TBLG Delisi 64.93 306 P **P** **20 44 04.7 -2.0**
TBLG Delisi 64.93 306 P **P** **20 44 04.7 -2.0**
VRHR Novokhopersk 65.30 317 *e*P **P** **20 44 07.2 -1.7**
VRHR pmax pmax
comp=N,9.0nm,0.6s
TMCR Tamitsa 65.38 331 *e*P **P** **20 44 09.1 -0.1**
TMCR pmax pmax
comp=Z,20nm,0.3s
GOF Gofitskoye 65.47 310 *e*P **P** **20 44 10.6 +0.5**
GOF pmax pmax
comp=Z,40nm,1.3s
ONI Oni 65.68 307 P **P** **20 44 10.7 -0.9**
ONI Oni 65.68 307 P **P** **20 44 10.7 -0.9**
KBZ Khabaz 65.84 309 P **P** **20 44 12.8 +0.4**
comp=Z,15nm,1.0s,baz=84,slow=5.6,SNR=23
KBZ LR LR 21 16 16.4
comp=Z,153nm,19.7s,baz=70,slow=39
KBZ Khabaz 65.84 309 P **P** **20 44 12.9 +0.4**
KBZ pmax pmax
comp=Z,15nm,1.0s
KBZ MLR MLR
comp=Z,153nm,19.7s
AKH Akhalkalaki 65.91 306 P **P** **20 44 14.2 +0.9**
AKH Akhalkalaki 65.91 306 P **P** **20 44 14.2 +0.9**
KIV Kislovodsk 65.94 309 *e*P **P** **20 44 14.0 +0.7**
KIV pmax pmax
comp=Z,53nm,1.1s
KIV MLR MLR
comp=Z,130nm,17.0s
BPAW Bear Paw Mtn. 66.38 29 *e*P **P** **20 44 14.8 -0.9**
comp=Z,1.0nm,0.9s
VORD Divnogorie 66.78 317 *e*P **P** **20 44 16.4 -2.0**
VORD pmax pmax
comp=Z,20nm,0.7s
VSR Storozhevoye 66.80 317 *e*P **P** **20 44 17.5 -1.1**
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=Z,50nm,1.1s
VSR pmax pmax
comp=E,40nm,0.9s
MOS Moscow 66.85 322 *e*P **P** **20 44 17.2 -1.6**
OBN Obninsk 67.56 322 ⇑*i*P **P** **20 44 22.5 -0.8**
OBN *e* 20 46 52.0
OBN pmax pmax
comp=Z,42nm,1.2s
OBN MLR MLR
comp=Z,236nm,23.0s
OBN Obninsk 67.56 322 *e*P **P** **20 44 22.4 -0.8**
comp=Z,68nm,1.4s
ILAR Eielson Array 68.01 28 P **P** **20 44 25.1 -0.8**
comp=Z,0.7nm,0.7s,baz=294,slow=8.1,SNR=11
ILAR Eielson Array 68.01 28 P **P** **20 44 25.2 -0.8**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
RAYN Ar Rayn 69.16 287 *e*P **P** **20 44 33.3 -0.7**
comp=Z,22nm,1.4s
ARCES ARCESS Array B 69.21 338 P **P** **20 44 32.9 -0.5**
comp=Z,12nm,0.9s,baz=66,slow=7.5,SNR=15
ARCES ARCESS Array B 69.21 338 P **P** **20 44 32.9 -0.5**
ARCES pmax pmax
comp=Z,13nm,0.9s
ANN Anapa 69.41 311 *d*i**P** **P** **20 44 34.2 -0.8**
ANN *e*PP **pP** **20 44 43.8 +3.6**
ANN *e*S **S** **20 53 38.8 -2.7**
ANN pmax pmax
comp=Z,45nm,1.0s
BMRM Bremner River 69.92 31 *e*P **P** **20 44 38.5 +0.5**
comp=Z,7.0nm,0.8s
FINES FINESS Array B 71.31 330 P **P** **20 44 45.9 -0.5**
comp=Z,18nm,0.8s,baz=76,slow=5.6,SNR=72
FINES LR LR 21 19 24.6
comp=Z,375nm,19.3s,baz=54,slow=39
FINES FINESS Array B 71.31 330 *ce*P **P** **20 44 46.0 -0.4**
FINES pmax pmax
comp=Z,18nm,0.8s
DAWY Dawson 71.33 27 *e*P **P** **20 44 46.5 -0.1**
comp=Z,7.5nm,0.8s
AKASG Malin Array Be 73.01 318 P **P** **20 44 55.6 -1.1**
comp=Z,6.2nm,0.6s,baz=58,slow=5.9,SNR=34
AKASG Malin Array Be 73.01 318 *ce*P **P** **20 44 56.0 -0.7**
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKBB Malin Array Si 73.01 318 *e*P **P** **20 44 55.5 -1.2**
AK01 Malin Array Si 73.02 318 *e*P **P** **20 44 55.9 -0.9**
KIEV Kiev 73.02 318 *c*i**P** **P** **20 44 55.9 -0.9**
KIEV Kiev 73.02 318 *e*P **P** **20 44 55.9 -0.9**
comp=Z,14nm,1.0s
AK02 Malin Array Si 73.03 318 *e*P **P** **20 44 55.8 -1.0**
HYT Haines Junctio 73.26 30 *e*P **P** **20 44 58.6 +0.3**
comp=Z,3.0nm,0.8s
BR131 Keskin Array S 73.58 307 *e*P **P** **20 44 59.9 -0.6**
comp=Z,7.6nm,0.9s

BRTR	**Keskin Array B**	**73.58**	**307**	P		**P**	**20 45 00.4**	**-0.2**
	comp=Z,9.1nm,0.9s,baz=101,slow=6.4,SNR=49							
BRTR				LR		LR	21 22 44.3	
	comp=Z,58nm,19.4s,baz=54,slow=40							
ANTO	**Ankara**	**74.15**	**307**	*e*P		**P**	**20 45 02.7**	**-1.1**
	comp=Z,6.7nm,0.7s							
SUW	**Suwalki**	**75.33**	**323**	*e*P		**P**	**20 45 09.8**	**-0.4**
SUW	**Suwalki**	**75.33**	**323**	*e*P		**P**	**20 45 09.9**	**-0.3**
CFR	**Carcaliu**	**75.56**	**313**	⇓*i*P		**P**	**20 45 11.9**	**+0.2**
DAG	**Danmarks Havn**	**75.75**	**351**	*i* P		**P**	**20 45 10.9**	**-1.3**
	comp=Z,4.6nm,0.9s							
DAG	**Danmarks Havn**	**75.75**	**351**	*i* P		**P**	**20 45 10.9**	**-1.3**
DAG				pmax		pmax		
	comp=Z,4.0nm,0.9s							
MSAB	**Monastry St. A**	**76.16**	**312**	⇓*i*P		**P**	**20 45 15.9**	**+0.7**
ISP	**Isparta**	**76.52**	**306**	⇑*i*P		**P**	**20 45 17.0**	**-0.5**
BUR08	**Bucovina Ar. S**	**76.55**	**316**	*e*P		**P**	**20 45 17.0**	**-0.5**
BURAR	**Bucovina Array**	**76.55**	**316**	⇑*i*P		**P**	**20 45 17.4**	**-0.1**
MLR	**Muntele Rosu**	**76.89**	**314**	⇑*i*P		**P**	**20 45 20.0**	**+0.5**
KWP	**Kalwaria Pacla**	**77.30**	**319**	*e*P		**P**	**20 45 22.0**	**+0.5**
KWP	**Kalwaria Pacla**	**77.30**	**319**	*e*P		**P**	**20 45 22.1**	**+0.5**
DLBC	**Dease Lake**	**77.70**	**31**	*e*P		**P**	**20 45 23.7**	**0.0**
	comp=Z,6.6nm,1.0s							
KOLS	**Kolonicke sedl**	**77.84**	**318**	*e*P		**P**	**20 45 24.7**	**+0.1**
KOLS				pmax		pmax		
	comp=Z,2.0nm,0.7s							
KOLS	**Kolonicke sedl**	**77.84**	**318**	*e*P		**P**	**20 45 24.7**	**+0.1**
NB2	**NORSAR Subarra**	**78.03**	**332**	P		**P**	**20 45 24.5**	**-1.0**
	comp=Z,8.2nm,0.9s,baz=58,slow=5.6							
NOA	**NORSAR Array B**	**78.03**	**332**	P		**P**	**20 45 24.4**	**-1.0**
	comp=Z,4.7nm,1.0s,baz=58,slow=5.3,SNR=9.7							
NOA	**NORSAR Array B**	**78.03**	**332**	P		**P**	**20 45 24.4**	**-1.0**
NOA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
STHS	**Stebnicka Huta**	**78.26**	**319**	*e*P		**P**	**20 45 27.9**	**+1.0**
STHS				pmax		pmax		
	comp=Z,3.0nm,1.0s							
STHS	**Stebnicka Huta**	**78.26**	**319**	*e*P		**P**	**20 45 27.9**	**+1.0**
DRGR		**78.44**	**316**	⇑*i*P		**P**	**20 45 28.8**	**+0.8**
DEV	**Deva**	**78.69**	**315**	⇓*i*P		**P**	**20 45 30.9**	**+1.6**
OJC	**Ojcow**	**78.77**	**320**	*e*P		**P**	**20 45 29.9**	**+0.3**
OJC	**Ojcow**	**78.77**	**320**	*e*P		**P**	**20 45 30.0**	**+0.3**
NIE	**Niedzica**	**78.81**	**319**	*e*P		**P**	**20 45 30.7**	**+0.8**
NIE	**Niedzica**	**78.81**	**319**	*e*P		**P**	**20 45 30.8**	**+0.8**
KECS	**Kecovo**	**79.11**	**318**	*e*P		**P**	**20 45 31.2**	**-0.4**
KECS				pmax		pmax		
	comp=Z,3.0nm,1.3s							
KECS	**Kecovo**	**79.11**	**318**	*e*P		**P**	**20 45 31.2**	**-0.4**
VTS	**Vitosha**	**79.85**	**312**	⇓*i*P		**P**	**20 45 36.9**	**+1.0**
OKC	**Ostrava-Krasne**	**79.89**	**320**	*e*P		**P**	**20 45 36.9**	**+1.1**
OKC				*e*pP		**pP**	**20 45 40.4**	**-0.7**
OKC				AMS		AMS	21 24 40.0	
	comp=Z,100nm,15.6s							
OKC	**Ostrava-Krasne**	**79.89**	**320**	*e*P		**P**	**20 45 36.9**	**+1.1**
OKC				*e*			20 45 40.4	
OKC				MLR		MLR		
	comp=Z,100nm,15.6s							
MORC	**Moravsky Berou**	**80.27**	**321**	⇑*i*P		**P**	**20 45 38.6**	**+0.7**
KRLC	**Kraliky**	**80.57**	**321**	*e*P		**P**	**20 45 39.5**	**0.0**
KRLC				*e*pP		**pP**	**20 45 44.6**	**-0.2**
KRLC	**Kraliky**	**80.57**	**321**	*e*P		**P**	**20 45 39.5**	**0.0**
KRLC				*e*			20 45 44.6	
DPC	**Dobruska-Polom**	**80.70**	**321**	*e*P		**P**	**20 45 40.9**	**+0.7**
DPC				*e*pP		**pP**	**20 45 44.6**	**-0.9**
DPC	**Dobruska-Polom**	**80.70**	**321**	*e*P		**P**	**20 45 40.9**	**+0.7**
UPC	**Upice**	**80.80**	**322**	*e*P		P	20 45 37.7	-3.0
UPC	**Upice**	**80.80**	**322**	*e*P		P	20 45 37.7	-3.0
VRAC	**Vranov**	**81.03**	**320**	⇑*i*P		**P**	**20 45 43.0**	**+1.0**
URZ	**Urewera**	**81.16**	**139**	P		**P**	**20 45 42.7**	**+0.1**
	comp=Z,10nm,1.0s,baz=350,slow=17,SNR=2.7							
PKSM	**Moragy**	**81.23**	**317**	⇑*i*P		**P**	**20 45 43.3**	**+0.3**
DIVS	**Divibare**	**81.32**	**315**	⇑*i*P		**P**	**20 45 44.5**	**+0.8**
PVCC	**Panska Ves**	**81.60**	**322**	AMS		AMS	21 25 30.0	
	comp=Z,200nm,16.1s							
RPZ	**Rata Peaks**	**81.64**	**147**	P		**P**	**20 45 44.4**	**-0.6**
	comp=Z,11nm,0.8s,baz=270,slow=3.0,SNR=5.3							
TREC	**Trest**	**81.68**	**321**	*e*P		**P**	**20 45 45.4**	**0.0**
TREC				*e*pP		**PcP**	**20 45 50.8**	**-0.4**
TREC				AMS		AMS	21 25 50.0	
	comp=Z,200nm,15.3s							
TREC	**Trest**	**81.68**	**321**	*e*P		**P**	**20 45 45.4**	**0.0**
TREC				*e*			20 45 50.8	
TREC				MLR		MLR		
	comp=Z,200nm,15.3s							
GOPC	**GO Pecny, Ondr**	**81.78**	**321**	AMS		AMS	21 27 20.0	
	comp=Z,200nm,16.4s							
BRG	**Berggiesshubel**	**81.78**	**323**	*e*P		**P**	**20 45 46.0**	**+0.1**
	comp=Z,3.2nm,0.9s							
BRG	**Berggiesshubel**	**81.78**	**323**	*e*P		**P**	**20 45 46.0**	**+0.1**
BRG				pmax		pmax		
	comp=Z,3.0nm,0.9s							
YKA	**Yellowknife Ar**	**81.81**	**23**	P		**P**	**20 45 45.0**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=311,slow=4.9,SNR=5.0							
YKA	**Yellowknife Ar**	**81.81**	**23**	P		**P**	**20 45 45.0**	**-0.8**
YKA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
SUMG	**Summit**	**81.83**	**354**	*i* P		**P**	**20 45 47.2**	**+1.0**
	comp=Z,4.1nm,0.7s							
SUMG	**Summit**	**81.83**	**354**	*e*P		**P**	**20 45 47.2**	**+1.0**
SUMG				pmax		pmax		
	comp=Z,4.0nm,0.7s							
PRU	**Pruhonice**	**81.88**	**322**	*e*P		P	20 45 43.4	-3.0
PRU				AMS		AMS	21 25 30.0	
	comp=Z,200nm,19.9s							
PRU	**Pruhonice**	**81.88**	**322**	*e*P		P	20 45 43.4	-3.0
PRU				MLR		MLR		
	comp=Z,200nm,19.9s							
CLL	**Collm**	**82.08**	**323**	⇓*i*P		**P**	**20 45 47.8**	**+0.4**
CLL				*e*			20 46 09.0	
CLL				*e*PP		PP	20 49 00.0	+5.1
CLL				*e*PS		**PnS**	**20 56 54.0**	**+3.7**
CLL				*e*(SSS)			21 05 24.0	
CLL	**Collm**	**82.08**	**323**	⇓*i*P		**P**	**20 45 47.8**	**+0.4**
CLL				*e*			20 49 00.0	
KHC	**Kasperske Hory**	**82.85**	**321**	*e*P		**P**	**20 45 51.3**	**-0.3**
KHC				*e*pP		**pP**	**20 45 57.0**	**+0.1**
KHC	**Kasperske Hory**	**82.85**	**321**	*e*P		**P**	**20 45 51.3**	**-0.3**
KHC				*e*			20 45 57.0	
GERES	**GERESS Array B**	**82.92**	**321**	P		**P**	**20 45 51.5**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=57,slow=4.9,SNR=11							
GERES				LR		LR	21 26 36.7	
	comp=Z,132nm,18.5s,baz=40,slow=38							
GERES	**GERESS Array B**	**82.92**	**321**	P		**P**	**20 45 51.5**	**-0.5**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
GERES				MLR		MLR		
	comp=Z,132nm,18.5s							
PERS	**Pernice**	**83.18**	**318**	*i* P		**P**	**20 45 53.7**	**+0.3**
BOJS	**Bojanci**	**83.66**	**317**	*i* P		P	20 45 52.6	-3.1
JAVS	**Javornik**	**84.19**	**318**	*i* P		**P**	**20 45 57.5**	**-1.1**
OPO	**Ambohidratompo**	**85.01**	**247**	P		**P**	**20 46 02.7**	**-0.4**
	comp=Z,17nm,1.0s,baz=77,slow=4.3,SNR=13							
NEW	**Newport**	**89.73**	**35**	P		**P**	**20 46 26.6**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=45,slow=10.0,SNR=2.8							
NEW	**Newport**	**89.73**	**35**	P		**P**	**20 46 26.6**	**+1.2**
NEW				pmax		pmax		
	comp=Z,2.0nm,0.8s							
NVAR	**Mina Array Bea**	**95.11**	**43**	P		**P**	**20 46 50.1**	**-0.7**
	comp=Z,0.3nm,0.2s,baz=252,slow=8.4,SNR=2.2							
ELK	**Elko**	**95.52**	**40**	P		**P**	**20 46 54.7**	**+2.1**
	comp=Z,0.5nm,0.5s,baz=324,slow=6.1,SNR=3.1							
ELK	**Elko**	**95.52**	**40**	P		**P**	**20 46 54.7**	**+2.1**
ELK				pmax		pmax		
	comp=Z,1.0nm,0.5s							
TORD	**Torodi Ar. Bea**	**110.88**	**296**	PKiKP		**PKiKP**	**20 51 59.1**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=18,slow=2.6,SNR=7.3							
TORD				PP		PP	20 52 31.8	-6.5
	comp=Z,0.8nm,1.1s,baz=65,slow=6.5,SNR=3.6							
LPAZ	**La Paz**	**166.90**	**51**	PKP		**PKPdf**	**20 53 34.1**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=45,slow=2.9,SNR=3.5							
LPAZ	**La Paz**	**166.90**	**51**	PKIKP		**PKPdf**	**20 53 34.1**	**-0.2**
LPAZ				pmax		pmax		
	comp=Z,1.0nm,0.8s							
BDFB	**Brasilia**	**167.07**	**314**	PKP		**PKPdf**	**20 53 32.8**	**-1.0**
	comp=Z,2.9nm,0.7s,baz=58,slow=9.5,SNR=4.8							
BDFB	**Brasilia**	**167.07**	**314**	PKIKP		**PKPdf**	**20 53 32.8**	**-1.0**
BDFB				pmax		pmax		
	comp=Z,3.0nm,0.7s							

*ISCJB **27** 20:35:50.6±0.6, 24°.99N±0°.03×122°.40E±0°.03, h3km±4km, Error ellipse: s-maj=5.1km s-min=3.8km az=26.2 TAP **27** 20:35:51.0, 25°.03N×122°.35E, h18km, ML4.0, C*

*JMA **27** 20:35:50.9±0.2, 25°.01N×122°.40E, h15km*
ISC 27 20:35:50.0±1.2, 25°.03N±0°.04×122°.41E±0°.03, h17km±8km, n35, σ0°45/55, 3C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.38**	**268**	*i* P			**Pb**	**20 35 58.2**	**0.0**
	baz=267								
TWB1				*i* S			**Sg**	**20 36 02.3**	**-0.8**
	baz=267								
EGS		**0.47**	**247**	*i* P			**Pb**	**20 36 00.1**	**+0.3**
	baz=245								
EGS				*e*S			**Sg**	**20 36 05.3**	**-0.4**
	baz=245								
NWF	**Wu-fen Shan**	**0.57**	**275**	*i* P			**Pb**	**20 36 02.3**	**+0.7**
	baz=275								
NWF				*i* S			**Sb**	**20 36 09.7**	**+0.3**
	baz=275								
TWC	**Suao**	**0.65**	**231**	*e*P			**Pb**	**20 36 03.0**	**0.0**
	baz=221								
TWC				S			**Sg**	**20 36 11.2**	**-0.3**
	baz=221								
PCYT	**Pengchaiyu**	**0.67**	**333**	⇑*i*P			**Pn**	**20 36 04.6**	**-0.1**
	baz=319								
PCYT				*i* S			**Sn**	**20 36 14.6**	**-0.3**
	baz=319								
TWE	**Neicheng**	**0.73**	**246**	*e*P			**Pg**	**20 36 04.7**	**+0.3**
	baz=244								
TWE				*e*S			**Sg**	**20 36 14.3**	**+0.1**
	baz=244								
TWA	**Mucha**	**0.75**	**267**	⇑*i*P			**Pn**	**20 36 05.5**	**-0.3**
	baz=266								
TWA				*i* S			**Sg**	**20 36 15.3**	**+0.8**
	baz=266								
JYNG	**Yonaguni jima**	**0.75**	**139**	P			**Pg**	**20 36 05.1**	**+0.4**
JYNG				*e*S			**Sb**	**20 36 14.7**	**+0.1**
TWY	**Chenhua**	**0.77**	**289**	⇑*i*P			**Pn**	**20 36 05.7**	**-0.4**
	baz=289								
TWY				*i* S			**Sn**	**20 36 16.6**	**-0.7**
	baz=289								
YOJ	**Yonaguni jima**	**0.79**	**135**	P			**Pg**	**20 36 05.5**	**+0.2**
YOJ	**Yonaguni jima**	**0.79**	**135**	*i* P			**Pg**	**20 36 05.5**	**+0.2**
	baz=135								
TAP1	**Taipei**	**0.80**	**271**	*i* P			**Pn**	**20 36 06.4**	**-0.1**
	baz=271								
TAP1				*e*S			**Sn**	**20 36 18.1**	**+0.1**
	baz=271								
TAP	**Taipei**	**0.82**	**271**	P			**Pg**	**20 36 05.9**	**0.0**
	baz=271								
TAP				S			**Sn**	**20 36 17.9**	**-0.5**
	baz=271								
ENA	**Nanau**	**0.85**	**226**	*e*P			**Pg**	**20 36 06.7**	**+0.2**
	baz=211								
ENA				*e*S			**Sg**	**20 36 17.8**	**+0.1**
	baz=211								
ENTT	**Nioudou**	**0.85**	**243**	P			**Pg**	**20 36 06.6**	**-0.1**
	baz=253								
ENTT				*e*S			**Sn**	**20 36 19.1**	**-0.2**
	baz=253								
TWS1	**Kuangyinshan**	**0.90**	**275**	P			**Pn**	**20 36 08.0**	**+0.2**
	baz=275								
TWS1				S			**Sn**	**20 36 20.2**	**-0.2**
	baz=275								
NSK	**Sanguang**	**1.01**	**250**	*i* P			**Pn**	**20 36 09.3**	**-0.1**
	baz=263								
NSK				S			**Sb**	**20 36 22.0**	**-0.1**
	baz=263								
NNS	**Nan Shan**	**1.10**	**238**	P			**Pn**	**20 36 11.1**	**+0.3**
	baz=225								
NNS				S			**Sb**	**20 36 25.3**	**+0.4**
	baz=225								
NCU	**National Centr**	**1.11**	**267**	*e*P			**Pn**	**20 36 10.9**	**+0.2**
	baz=268								
TWD	**Chiawan**	**1.20**	**218**	P			**Pg**	**20 36 12.8**	**-0.3**
	baz=219								
TWD				S			**Sb**	**20 36 27.2**	**-0.1**
	baz=219								
NSTT	**Nanjuang**	**1.33**	**253**	*i* P			**Pb**	**20 36 14.4**	**-0.2**
	baz=270								
TWT	**Tachien**	**1.36**	**236**	*e*P			**Pb**	**20 36 15.5**	**+0.4**
	baz=225								
TWT				*e*S			**Sg**	**20 36 34.5**	**+0.5**
	baz=225								
WHF	**Hehuan Shan**	**1.36**	**230**	*e*P			**Pb**	**20 36 15.7**	**+0.4**
	baz=231								
WHF				S			**Sb**	**20 36 33.4**	**+0.9**
	baz=231								
ESL	**Shilin**	**1.50**	**217**	*e*P			**Pb**	**20 36 17.3**	**0.0**
	baz=219								
ESL				*e*S			**Sg**	**20 36 37.4**	**-0.9**
	baz=219								
NSY	**Sanyi**	**1.61**	**248**	*e*P			**Pb**	**20 36 18.7**	**-0.6**
	baz=263								
TWQ1	**Liyutan**	**1.63**	**246**	*e*P			**Pb**	**20 36 19.4**	**-0.2**
	baz=260								
WDT	**Danda**	**1.71**	**223**	*e*P			**Pb**	**20 36 21.7**	**+0.5**
	baz=225								
SMLT	**Sun Moon Lake**	**1.78**	**231**	*e*P			**Pb**	**20 36 23.2**	**+1.0**
	baz=216								
TYC	**Yuchr**	**1.80**	**232**	*e*P			**Pb**	**20 36 23.3**	**+0.8**
	baz=234								
EHY	**Hungye**	**1.81**	**213**	*e*P			**Pb**	**20 36 21.8**	**-0.8**
	baz=214								
YUS	**Yu-Shan**	**2.02**	**221**	*e*P			**Pb**	**20 36 26.9**	**+0.3**
	baz=223								
ALS	**Alishan**	**2.10**	**224**	*e*P			**Pb**	**20 36 28.0**	**+0.2**
	baz=211								
CHN5	**Tsauling**	**2.12**	**228**	*e*P			**Pb**	**20 36 28.4**	**+0.3**
	baz=231								
CHN4	**Tsaushan**	**2.35**	**225**	*e*P			**Pb**	**20 36 31.9**	**+0.1**
	baz=228								
STYT	**Tauyuan**	**2.39**	**219**	*e*P			**Pb**	**20 36 31.9**	**-0.7**
	baz=208								

*IDC **27** 20:37:24.7±0.8, 16°.10S×173°.18W, h0km, mb4.1/10, mb1 4.4/10, mb1mx4.0/36, mbtmp4.1/10, MS3.4/3, Ms1 3.4/3, ms1mx3.0/30, Error ellipse: s-maj=45.5km s-min=17.4km az=140.0*
*ISCJB **27** 20:37:27.1±0.7, 16°.05S±0°.2×173°.3W±0°.2, h26km, mb4.1/10, MS3.3/3, Error ellipse: s-maj=36.3km s-min=14.3km az=137.5*
ISC 27 20:37:28.7±0.8, 16°.1S±0°.2×173°.2W±0°.2, h26km, n36, σ0°65/25, mb4.2/10, MS3.3/3, 4C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PAE	**Paea**	**22.65**	**97**	*e*T			T	21 04 37.1	
	1.5nm,0.2s								
PPT	**Papeete**	**22.65**	**97**	LR			LR	20 49 29.2	
	comp=Z,51nm,19.0s,baz=189,slow=32								
PPT2	**Papeete2**	**22.65**	**97**	*e*LR			LR	20 47 33.8	
	95nm,23.2s								
TBI	**Tubuai**	**23.46**	**112**	*e*T			T	21 05 53.1	
	4.5nm,0.3s								
URZ	**Urewera**	**23.66**	**199**	P			**P**	**20 42 38.3**	**+0.2**
	6.2nm,0.7s,baz=18,slow=3.2,SNR=2.5								
URZ				LR			LR	20 50 42.2	
	comp=Z,101nm,21.2s,baz=24,slow=34								
H11S2	**WAKE ISLAND Hy**	**39.66**	**329**	T			T	21 27 10.6	
	baz=145								
H11S3	**WAKE ISLAND Hy**	**39.68**	**329**	T			T	21 27 05.1	
	baz=145								
H11S1	**WAKE ISLAND Hy**	**39.68**	**329**	T			T	21 27 08.9	
	baz=145								
H11N3	**WAKE ISLAND Hy**	**40.62**	**330**	T			T	21 28 16.2	
	baz=154								
H11N1	**WAKE ISLAND Hy**	**40.62**	**330**	T			T	21 28 12.2	
	baz=154								
H11N2	**WAKE ISLAND Hy**	**40.63**	**330**	T			T	21 28 16.2	
	baz=154								
STKA	**Stephens Creek**	**43.86**	**241**	P			**P**	**20 45 32.9**	**-0.1**
	4.2nm,0.8s,baz=79,slow=7.1,SNR=4.5								
WRA	**Warramunga Arr**	**49.88**	**257**	P			**P**	**20 46 19.1**	**-1.2**
	0.6nm,0.6s,baz=95,slow=6.7,SNR=9.4								
ASAR	**Alice Springs**	**50.08**	**252**	P			**P**	**20 46 21.2**	**-0.6**
	3.3nm,0.6s,baz=88,slow=8.2,SNR=31								
QSPA	**South Pole Qui**	**73.94**	**180**	LR			LR	21 15 00.9	
	comp=Z,35nm,20.9s,baz=48,slow=30								
YBH	**Yreka Blue Hor**	**74.04**	**37**	P			**P**	**20 49 02.4**	**0.0**
	2.1nm,0.8s,baz=280,slow=6.1,SNR=4.5								
NVAR	**Mina Array Bea**	**74.72**	**42**	P			**P**	**20 49 06.8**	**+0.2**
	0.7nm,0.6s,baz=229,slow=9.8,SNR=4.4								
TXAR	**Lajitas Array**	**80.84**	**56**	P			**P**	**20 49 40.8**	**+0.1**
	0.5nm,0.8s,baz=208,slow=7.1,SNR=4.2								
PDAR	**Pinedale Array**	**82.66**	**42**	P			**P**	**20 49 49.6**	**-0.5**
	1.1nm,0.8s,baz=183,slow=2.6,SNR=8.1								
ILAR	**Eielson Array**	**83.09**	**11**	P			**P**	**20 49 50.9**	**-0.8**
	2.2nm,0.6s,baz=228,slow=6.0,SNR=43								
CMAR	**Chiang Mai Arr**	**93.02**	**288**	P			**P**	**20 50 42.5**	**+2.0**
	1.0nm,0.9s,baz=82,slow=2.4,SNR=7.5								
BRG	**Berggiesshubel**	**144.84**	**352**	*e*PKP			**PKPdf**	**20 57 03.1**	**-0.1**
	1.8nm,0.8s								
DPC	**Dobruska-Polom**	**144.98**	**349**	*e*PKP			**PKPdf**	**20 57 03.9**	**+0.3**
OKC	**Ostrava-Krasne**	**145.12**	**347**	*e*PKP			**PKPab**	**20 57 03.3**	**0.0**
OKC				*ex*			x	20 57 09.1	
KRLC	**Kraliky**	**145.16**	**349**	*e*PKP			**PKPbc**	**20 57 03.2**	**-0.3**
PRU	**Pruhonice**	**145.62**	**351**	*e*PKP			**PKPab**	**20 57 05.0**	**-0.2**
GOPC	**GO Pecny, Ondr**	**145.66**	**351**	*e*PKP			**PKPab**	**20 57 06.2**	**+0.9**
TREC	**Trest**	**146.15**	**350**	*e*PKP			**PKPdf**	**20 57 05.7**	**+0.1**
KHC	**Kasperske Hory**	**146.60**	**352**	*e*PKP			**PKPab**	**20 57 08.6**	**-0.3**
KHC				*ex*			x	20 57 17.3	
KHC				*ex*			x	20 57 21.1	
BRTR	**Keskin Array B**	**146.82**	**320**	PKPbc			**PKPab**	**20 57 10.0**	**-0.3**
	3.6nm,0.8s,baz=116,slow=2.1,SNR=25								
GERES	**GERESS Array B**	**146.86**	**352**	PKPbc			**PKPbc**	**20 57 09.2**	**+0.5**
	1.1nm,0.8s,baz=8.5,slow=2.7,SNR=12								
CONA	**Conrad Observa**	**147.40**	**349**	⇓*i*PKPab			**PKPbc**	**20 57 11.1**	**+0.8**
	11nm,1.8s								
ARSA	**Arzberg**	**148.11**	**349**	⇑*i*PKPbc			**PKPbc**	**20 57 12.4**	**+0.3**
	3.2nm,1.0s								
RETA	**Reutte**	**148.53**	**355**	⇑*e*PKPbc			**PKPbc**	**20 57 12.9**	**-0.5**
	4.1nm,1.1s								
WTTA	**Wattenberg**	**148.67**	**354**	⇑*i*PKPbc			**PKPbc**	**20 57 13.8**	**0.0**
	3.7nm,0.8s								
SOKA	**Soboth**	**148.75**	**349**	⇑*e*PKPbc			**PKPbc**	**20 57 13.5**	**-0.4**
	3.2nm,1.0s								

*NIED **27** 21:03:00, 41°.60N×141°.80E, h47km, Mw5.0 Best double couple: M0 4.07000×10^16 NP1:φ325.00000°, δ68.00000°, λ162.00000°. NP2:φ62.00000°, δ73.00000°, λ23.00000°.*
*BJI **27** 21:03:22.3, 41°.61N×142°.08E, h67km, mb5.2/70, mB4.9/40, Ms4.3/71, Ms7 4.1/65*
*ISCJB **27** 21:03:25.3±0.2, 41°.65N±0°.02×141°.72E±0°.02, h62km±1km, mb5.1/293, Error ellipse: s-maj=2.9km s-min=1.9km az=154.9*
*JMA **27** 21:03:25.3±0.1, 41°.63N×141°.83E, h57km±2km, M5.1 JMA Felt IV J1.*
*MOS **27** 21:03:25.3±0.9, 41°.71N×141°.80E, h65km, mb5.4/47, MS4.0/22, Error ellipse: s-maj=7.7km s-min=4.6km az=102.7*
*IDC **27** 21:03:26.8±0.5, 41°.63N×141°.77E, h66km±4km, mb4.7/32, mb1 4.8/35, mb1mx4.8/41, mbtmp5.0/35, MS3.9/32, Ms1 3.9/32, ms1mx3.9/35, Error ellipse: s-maj=10.6km s-min=8.6km az=108.0*
*NEIC **27** 21:03:27.2±0.1, 41°.66N×141°.66E, mb5.0/184, MW5.0(NIED), Error ellipse: s-maj=4.0km s-min=2.5km az=153.0*
NEIC Felt [II] at Sapporo. Also felt at Chitose, Date and Hakodate. Felt [III] at Misawa, Honshu. Also felt at Aomori and Hachinohe. Recorded [4 JMA] in southwestern Hokkaido and [2 JMA] in southern Hokkaido. Also recorded [4 JMA] in Aomori, [3 JMA] in Iwate and [1 JMA] in Akita and Miyagi, Honshu.
*GCMT **27** 21:03:27.2±0.2, 41°.77N×141°.73E, h72km±2km, MW5.3/58, Moment Tensor Solution. s43,c60; s58,c79; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.11±.03; Mθθ-0.65±.03; Mφφ0.54±.03; Mrθ0.20±.03; Mφθ0.73±.03; Mφr0.14±.02; Best double couple: M0 0.97600×10^17 NP1:φ71.00000°, δ84.00000°, λ15.00000°. NP2: φ340.00000°, δ75.00000°, λ174.00000°. Principal axes: T 0.9420, Plg14.0000°, Azm296.0000°; N 0.0680, Plg74.0000°, Azm91.0000°; P -1.0100, Plg6.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **27** 21:03:30.3, 42°.77N×141°.90E, h33km, mb5.1, Hokkaido, Japan, region*
ISC 27 21:03:26.3±0.3, 41°.64N±0°.03×141°.87E±0°.02, h63km±2km, h62km:pP-P, n1210, σ1°24/1249, mb5.0/318, 99C-39D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.67**	**248**	⇓P			**Pn**	**21 03 38.6**	**-1.7**
JOT				*e*S			**Sn**	**21 03 48.4**	**-2.2**
JKB	**Kayabe**	**0.68**	**292**	⇑P			**Pn**	**21 03 38.5**	**-1.9**
JKB				*e*S			**Sn**	**21 03 48.5**	**-2.2**
JNBK	**Urakawa-nobuka**	**0.92**	**45**	⇓P			**Pn**	**21 03 42.1**	**-1.3**
JNBK				*e*S			**Sn**	**21 03 54.8**	**-1.3**
ERM	**Erimo**	**1.03**	**68**	Pn			**Pn**	**21 03 44.1**	**-0.8**
	21μm,0.7s								
ERM	**Erimo**	**1.03**	**68**	*c i*P			**Pn**	**21 03 44.0**	**-0.8**
ERM				pmax		pmax			
	comp=Z,2μm,0.8s								
ERM	**Erimo

YSS pmax pmax
comp=Z,490nm,1.0s
YSS pmax pmax
comp=Z,2µm,4.0s
YSS MLR MLR
comp=E,2µm,18.0s
YSS MLR MLR
comp=Z,2µm,18.0s
YSS MLR MLR
comp=N,2µm,20.0s
YSS Yuzh-Sakhalins 5.36 7 *e*Pn **Pn 21 04 44.0 +0.5**
KUR Kuril'sk 5.66 49⇑*i*P **Pn 21 04 48.5 +0.8**
KUR *i* S **Sn 21 05 51.2 0.0**
KUR pmax pmax
comp=Z,154nm,1.0s
KUR pmax pmax
comp=N,92nm,0.5s
KUR pmax pmax
comp=E,86nm,0.5s
KUR smax smax
comp=N,568nm,0.7s
KUR smax smax
comp=E,268nm,0.7s
KUR pmax pmax
comp=N,2µm,2.6s
KUR pmax pmax
comp=E,774nm,2.6s
MAJO Matsushiro 5.83 210 *d i*P **Pn 21 04 51.6 +1.5**
MAJO Matsushiro 5.83 210 *e*Pn **Pn 21 04 51.4 +1.3**
MAT Matsushiro 5.83 210 P **Pn 21 04 51.6 +1.5**
MAT S **Sn 21 06 00.1 +4.5**
MJAR Matsushiro Arr 5.83 210 P **Pn 21 04 51.8 +1.7**
comp=E,53nm,0.3s,baz=19,slow=14,SNR=1303
MJAR LR LR 21 07 26.9
comp=E,3µm,20.2s,baz=30,slow=42
MJAR Matsushiro Arr 5.83 210 P **Pn 21 04 51.8 +1.7**
MJAR pmax pmax
comp=Z,53nm,0.3s
MJAR MLR MLR
comp=Z,3µm,20.2s
UGL Uglegorsk 7.45 1 *e*P **Pn 21 05 13.3 +1.2**
UGL S Sn 21 06 44.0 +9.0
UGL pmax pmax
comp=Z,112nm,1.0s
UGL pmax pmax
comp=Z,800nm,3.0s
UGL smax smax
comp=E,1µm,9.0s
UGL MLR MLR
comp=N,2µm,20.0s
UGL MLR MLR
comp=E,2µm,20.0s
UGL MLR MLR
comp=Z,1µm,20.0s
VLA Vladivostok 7.54 285 *e*P **Pn 21 05 13.6 +0.1**
USRK Ussuriysk Ar. 7.69 293 P **Pn 21 05 15.4 -0.1**
comp=Z,4.7nm,0.3s,baz=96,slow=18,SNR=150
USRK LR LR 21 08 07.8
comp=Z,1µm,20.0s,baz=93,slow=37
HABR Khabarovsk 8.37 327 *e*P **Pn 21 05 24.6 -0.1**
HABR *e*S **Sn 21 06 55.5 -2.1**
HABR pmax pmax
comp=N,47nm,1.1s
HABR pmax pmax
comp=E,48nm,1.1s
HABR pmax pmax
comp=Z,116nm,1.1s
HABR MLR MLR
comp=Z,805nm,14.0s
JHJ2 Mitsune 8.66 192 *e*Pn Pn 21 05 24.8 -4.0
JHJ2 *e*Sn **Sn 21 06 59.0 -6.0**
TYV Tymovskoe 9.25 3 *e*P Pn 21 05 31.0 -5.7
TYV *e*S **Sn 21 07 22.0 +2.9**
TYV pmax pmax
comp=Z,500nm,3.0s
TYV pmax pmax
comp=N,1µm,4.0s
TYV smax smax
comp=E,2µm,10.0s
TYV MLR MLR
comp=Z,2µm,18.0s
TYV MLR MLR
comp=N,2µm,20.0s
TYV MLR MLR
comp=E,2µm,20.0s
MDJ Mudanjiang 9.46 292 P Pn 21 05 42.0 +2.3
MDJ S **Sn 21 07 27.8 +3.4**
MDJ PMZ
comp=E,96nm,1.4s
MDJ PMZ
comp=E,400nm,7.5s
MDJ LN
comp=E,560nm,14.5s
MDJ LE
comp=E,750nm,22.2s
MDJ LZ
comp=E,1µm,19.3s
MDJ Mudanjiang 9.46 292 *e*Pn Pn 21 05 42.2 +2.5
KLR Kul'dur 10.40 320 *e*P **Pn 21 05 50.6 -1.9**
KLR *e*S **Sn 21 07 47.0 -0.3**
KLR pmax pmax
comp=N,36nm,1.4s
KLR pmax pmax
comp=E,76nm,1.4s
KLR pmax pmax
comp=Z,120nm,1.4s
KSJMJ Jumunjin 10.77 254 P Pn 21 06 01.7 +4.1
SNR=21
KSJMJ Jumunjin 10.77 254 P Pn 21 06 01.7 +4.1
SNR=21
KSSKC Sokcho 10.78 256 P Pn 21 06 00.8 +3.1
SNR=10
KSSKC Sokcho 10.78 256 P Pn 21 06 00.8 +3.1
SNR=10
KSULJ Uljin 10.85 247 P Pn 21 06 03.6 +4.9
SNR=7.7
KSULJ Uljin 10.85 247 P Pn 21 06 03.6 +4.9
SNR=7.7
KSDGY Daegwallycong 10.91 253 P Pn 21 06 03.8 +4.2
SNR=13
KSDGY Daegwallycong 10.91 253 P Pn 21 06 03.8 +4.2
SNR=13
KSTBA Taebaek 10.96 250 P Pn 21 06 03.6 +3.3
SNR=40
KSTBA Taebaek 10.96 250 P Pn 21 06 03.6 +3.3
SNR=40
SEHB SEOHWA 10.98 257 P Pn 21 06 04.6 +4.1
SNR=87
SEHB SEOHWA 10.98 257 P Pn 21 06 04.6 +4.1
SNR=87
KSJES JEONGSEON 11.03 252 P Pn 21 06 05.2 +4.1
SNR=54
KSJES JEONGSEON 11.03 252 P Pn 21 06 05.2 +4.1
SNR=54
KSPHA Pohang 11.15 245 P Pn 21 06 08.3 +5.5
SNR=14
KSIJA INJE 11.19 256 P Pn 21 06 06.4 +3.0
SNR=75
KSIJA INJE 11.19 256 P Pn 21 06 06.7 +3.3
SNR=12
KSYOW Yeongwol 11.29 251 P Pn 21 06 09.7 +5.0
SNR=5.7
KSYOW Yeongwol 11.29 251 P Pn 21 06 09.7 +5.0
SNR=5.7
KSWJU Wonju 11.48 253 P Pn 21 06 12.3 +5.0
SNR=16
KSWJU Wonju 11.48 253 P Pn 21 06 12.3 +5.0
SNR=16
KSCHC Chuncheon 11.49 255 P Pn 21 06 12.4 +4.9
SNR=32
KSCHC Chuncheon 11.49 255 P Pn 21 06 12.4 +4.9
SNR=32
KSEUS ULSEONG 11.53 247 P Pn 21 06 12.9 +4.9
SNR=40
KSRS Korea Array 11.55 253 P Pn 21 06 10.6 +2.4
comp=Z,8.1nm,0.3s,baz=62,slow=14,SNR=112
KSRS S **Sn 21 08 19.1 +3.6**
comp=Z,18nm,0.3s,baz=65,slow=25,SNR=24
KSRS LR LR 21 10 08.1
comp=Z,543nm,19.6s,baz=64,slow=35
KSRS Korea Array 11.55 253 P Pn 21 06 10.6 +2.4
KSRS S **Sn 21 08 19.1 +3.6**
KSRS pmax pmax
comp=Z,8.0nm,0.3s
KSRS smax smax
comp=N,18nm,0.3s
KSRS MLR MLR
comp=Z,543nm,19.6s
NKL Nikolayevsk 11.55 356 *e*P Pn 21 06 02.2 -5.9
NKL *e*S **Sn 21 08 10.0 -5.3**
NKL pmax pmax
comp=N,50nm,1.0s
NKL pmax pmax
comp=E,30nm,1.0s
NKL pmax pmax
comp=Z,90nm,1.0s
NKL pmax pmax
comp=N,550nm,4.0s
NKL MLR MLR
comp=N,500nm,10.0s
NKL MLR MLR
comp=E,1µm,10.0s
KSYOC YEONGCHEON 11.55 245 P Pn 21 06 13.8 +5.5
SNR=12
KS15 Wonju Array Si 11.58 253 *e*Pn Pn 21 06 10.6 +1.9
KS15 *e*Sn **Sn 21 08 19.1 +2.8**
KSAR Wonju Array Be 11.58 253 P Pn 21 06 10.6 +1.9
KSCWO Cheorwon 11.59 257 P Pn 21 06 13.7 +4.9
SNR=5.5
KSCWO Cheorwon 11.59 257 P Pn 21 06 13.7 +4.9
SNR=5.5
KSDAG Daegu 11.70 244 P Pn 21 06 15.3 +4.9
SNR=21
KSDAG Daegu 11.70 244 P Pn 21 06 15.9 +5.5
SNR=11
KSCHJ Chungju 11.77 251 P Pn 21 06 16.2 +4.9
SNR=29
KSSAJ Sangju 11.87 248 P Pn 21 06 17.9 +5.2
SNR=21
KSICN Icheon 11.98 254 P Pn 21 06 19.4 +5.2
SNR=15
YNCB YEONCHEON 12.04 258 P P 21 06 19.8 -5.8
SNR=17
KSBON Boeun 12.07 249 P P 21 06 20.6 -5.5
SNR=35
KSCPR CHUPUNGNYEONG 12.09 248 P P 21 06 20.8 -5.6
SNR=13
KSMUS Musan 12.21 257 P P 21 06 21.9 -5.7
SNR=16
CN2 Changchun 12.27 286 *e*P **Pn 21 06 19.0 +0.9**
CN2 *e*S **Sn 21 08 34.0 +0.9**
CN2 PMZ
comp=E,50nm,1.2s
CN2 PMZ
comp=E,200nm,5.0s
CN2 LN
comp=E,800nm,18.0s
CN2 LE
comp=E,900nm,18.0s
CN2 LZ
comp=E,800nm,16.0s
KSCEA Cheonan 12.30 252 P P 21 06 23.5 -5.1
SNR=34
KSSWO Suwon 12.32 254 P P 21 06 23.7 -5.1
SNR=7.6
TJN Taejon 12.44 250 *e*P Pn 21 06 23.2 +2.8
INCN Inchon 12.47 256 *e*Pn P 21 06 25.9 -4.5
INCN *e*Sn Sn 21 08 44.2 +6.2
KSGAH Ganghwa 12.51 257 P P 21 06 26.4 -4.5
SNR=7.6
KSJIN Jinju 12.63 244 P **P 21 06 29.2 -3.0**
SNR=9.0
KSSES Seosan 12.89 253 P P 21 06 31.7 -3.5
SNR=14
KSNAH Namhae 12.90 243 P **P 21 06 33.1 -2.1**
SNR=7.2
SKR Severo-Kuril's 13.37 43 *e*P Pn 21 06 23.6 -9.4
SKR pmax pmax
comp=N,220nm,1.0s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,270nm,1.0s
SKR pmax pmax
comp=E,2µm,3.0s
SKR pmax pmax
comp=Z,2µm,3.0s
SKR MLR MLR
comp=N,2µm,18.0s
SKR MLR MLR
comp=E,2µm,18.0s
SKR MLR MLR
comp=Z,3µm,18.0s
SNY Shenyang 13.67 277 ⇑P **Pn 21 06 37.8 +0.8**
SNY S Sn 21 09 14.5 +7.5
SNY PMZ
comp=Z,210nm,1.0s
SNY PMZ
comp=Z,440nm,11.2s
SNY LN
comp=Z,640nm,13.3s
SNY LE
comp=Z,530nm,15.7s
SNY LZ
comp=Z,570nm,26.0s
CBIJ Chichi jima 14.51 179 *e*Pn Pn 21 06 42.5 -5.6
CBIJ *e*Sn Sn 21 09 15.8 -12
JCJ Chichijima 14.51 179 P Pn 21 06 42.4 -5.8
comp=Z,25nm,0.3s,baz=349,slow=7.3,SNR=24
JCJ S Sn 21 09 13.2 -15
comp=Z,6.8nm,0.3s,baz=252,slow=20,SNR=4.8
CBI Chichi jima 14.51 179 *e*Pn Pn 21 06 42.4 -5.8
CBI *e*Sn Sn 21 09 13.2 -15
PETK Petropavlovsk- 15.66 38 P **Pn 21 06 58.3 -4.6**
comp=Z,1.9nm,0.3s,baz=214,slow=9.6,SNR=30
PETK Petropavlovsk- 15.66 38 P **Pn 21 06 58.3 -4.6**
PETK pmax pmax
comp=Z,2.0nm,0.3s
PEA2 Petropavlovsk- 15.67 38 *e*Pn **Pn 21 06 58.3 -4.7**
PET Petropavlovsk 16.05 39 *e*P **P 21 07 09.1 -1.0**
PET *e*S **Sn 21 10 00.0 -4.8**
PET pmax pmax
comp=Z,21nm,0.8s
PET pmax pmax
comp=Z,200nm,11.9s
PET MLR MLR
comp=Z,1µm,18.0s
PET MLR MLR
comp=Z,1µm,19.0s
HIA Hailar 17.26 304 *e*Pn **Pn 21 07 20.9 -2.0**
comp=Z,28nm,0.8s
JOW Kunigami 18.52 221 P **P 21 07 36.4 -1.2**
comp=Z,0.2nm,0.3s,baz=140,slow=20,SNR=8.1
JOW Kunigami 18.52 221 *e*P **P 21 07 35.8 -1.8**
comp=Z,44nm,0.8s
BJI Beijing 19.49 274 P **P 21 07 46.0 -2.0**
BJI sP **sP 21 08 11.0 +1.6**
BJI PMZ
comp=Z,110nm,1.4s
BJI PMZ
comp=Z,400nm,3.0s
BJI LN
comp=Z,680nm,14.8s
BJI LE
comp=Z,430nm,16.0s
BJI LZ
comp=Z,370nm,27.2s
BJT Baijiatuan 19.50 274 *e*P **P 21 07 46.2 -2.0**
comp=Z,94nm,0.7s
SSE Sheshan 19.65 244 *e*P **Pn 21 07 52.3 +0.5**
SSE pP **pP 21 08 05.0 +1.7**
SSE sP **sP 21 08 13.0 +1.8**
SSE S **Sn 21 11 31.8 -0.1**
SSE PMZ
comp=Z,38nm,0.8s
SSE PMZ
comp=Z,39nm,3.5s
SSE LN
comp=Z,620nm,13.8s
SSE LE
comp=Z,480nm,13.8s
SSE LZ
comp=Z,400nm,18.1s
TIA Tai'an 19.97 262 ⇑P **P 21 07 51.3 -2.0**
TIA S S 21 11 27.0 -7.5
TIA PMZ
comp=Z,60nm,1.0s
TIA PMZ
comp=Z,300nm,3.0s
TIA LN
comp=Z,300nm,20.0s
TIA LE
comp=Z,500nm,14.0s
TIA LZ
comp=Z,350nm,10.7s
NJ2 Nanjing 20.70 250 *e*P Pn 21 08 04.3 +0.1
NJ2 S Sn 21 11 54.0 -3.1
NJ2 PMZ
comp=Z,20nm,0.6s
NJ2 LN
comp=Z,1µm,26.4s
NJ2 LE
comp=Z,1µm,25.0s
NJ2 LZ
comp=Z,1µm,24.2s
YAK Yakutsk 21.70 344 P **P 21 08 07.9 -3.7**
comp=Z,4.1nm,0.3s,baz=138,slow=16,SNR=8.2
YAK S S 21 11 59.8 -8.3
comp=Z,1.5nm,0.3s,baz=294,slow=24,SNR=11
YAK Yakutsk 21.70 344 *e*P **P 21 08 08.1 -3.5**
YAK *e**PP **pP 21 08 27.5 +2.2**
YAK *e*S S 21 11 58.9 -9.2
YAK *e* 21 12 09.9
YAK *e* 21 19 21.8
YAK pmax pmax
comp=N,9.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,32nm,0.9s
YAK smax smax
comp=E,576nm,2.0s
YAK smax smax
comp=N,671nm,2.2s
SEY Seymchan 22.22 13 P **P 21 08 15.0 -2.3**
comp=N,32nm,0.6s,baz=200,slow=7.9,SNR=77
SEY S **S 21 12 13.0 -4.7**
comp=N,7.0nm,1.0s,baz=82,slow=22,SNR=13
SEY Seymchan 22.22 13 *d i*P **P 21 08 13.4 -3.9**
HHC Hu-ho-hao-te 22.75 278 *e*P **P 21 08 20.0 -3.3**
HHC PP **PnPn 21 08 52.0 +2.4**
HHC S **S 21 12 21.3 -6.1**
HHC sS Sn 21 12 45.0 -1.2
HHC SS **SnSn 21 13 08.3 +5.5**
HHC PMZ
comp=N,31nm,0.9s
HHC PMZ
comp=N,200nm,5.0s
HHC LN
comp=N,2µm,10.3s
HHC LE
comp=N,2µm,10.4s
HHC LZ
comp=N,2µm,10.7s
YOJ Yonaguni jima 23.22 228 *e*P **P 21 08 24.9 -3.0**
comp=N,204nm,1.5s
TATO Taipei 23.70 232 *e*P **P 21 08 31.5 -0.9**
comp=N,62nm,0.9s
BTO Baotou 23.95 278 *e*P P 21 08 28.5 -6.1
BOD Bodaibo 23.97 322 *e*P **P 21 08 31.7 -2.8**
BOD pmax pmax
comp=Z,14nm,1.4s
YHNB Yeheng 24.00 232 *e*P **P 21 08 34.9 -0.3**
comp=Z,60nm,0.9s
NACB Ninganchiao 24.25 230 *e*P **P 21 08 33.8 -3.6**
comp=Z,80nm,0.3s
WHN Wuhan 24.74 252⇑*i*P **P 21 08 39.5 -2.3**
WHN S S 21 12 51.5 -7.9
WHN LN
comp=Z,2µm,16.9s
WHN LE
comp=Z,2µm,20.3s
WHN LZ
comp=Z,840nm,16.2s
SSLB Suanglung 24.92 231 *e*P **P 21 08 42.6 -0.9**
comp=Z,17nm,0.7s
YULB Yu-li 25.03 230 *e*P **P 21 08 41.8 -2.7**
comp=Z,11nm,0.7s
TPUB Ta-pu 25.48 231 *e*P **P 21 08 48.8 +0.2**
comp=Z,71nm,1.5s
QZH Quanzhou 25.49 236 P **P 21 08 49.0 +0.4**
QZH S **S 21 13 08.3 -3.0**
QZH LZ
comp=Z,1µm,33.6s
SONA0 Songino Array 25.79 296 *e*P **P 21 08 50.2 -1.1**
SONA0 *e*ScS ScS 21 19 52.5 +10
SONM Songino Array 25.79 296 P **P 21 08 50.2 -1.1**
comp=Z,18nm,0.8s,baz=94,slow=8.1,SNR=55
SONM ScP **ScP 21 15 53.1 -0.2**
comp=Z,0.4nm,0.3s,baz=117,slow=1.7,SNR=4.0
SONM LR LR 21 19 52.5
comp=Z,316nm,18.1s,baz=85,slow=38
IRK Irkutsk 27.48 306⇓*i*P **P 21 09 05.8 -0.5**
IRK *e* 21 09 25.8
IRK pmax pmax
comp=Z,119nm,1.6s
TLY Talaya 27.80 304 P **P 21 09 09.8 +0.6**
comp=Z,224nm,0.8s,SNR=8.6
TLY Talaya 27.80 304 P **P 21 09 09.5 +0.3**
comp=Z,20nm,0.7s,baz=107,slow=6.1,SNR=26
TLY Talaya 27.80 304 P **P 21 09 08.6 -0.6**
TLY pmax pmax
comp=Z,81nm,0.2s
TLY Talaya 27.80 304 P **P 21 09 09.0 -0.2**
SNR=18
TLY Talaya 27.80 304 *e*P **P 21 09 09.7 +0.4**
GUMO Guam 28.06 174 LR LR 21 20 06.4
comp=Z,274nm,21.9s,baz=12,slow=36
ENH Enshi 28.40 257 *e*P **P 21 09 12.8 -2.0**
comp=Z,27nm,0.7s
MOY Mondy 29.44 304 *e*P **P 21 09 23.4 -0.5**
MOY pmax pmax
comp=Z,127nm,1.9s
BILL Bilibino 29.54 18 *e*P **P 21 09 22.7 -1.7**
BILL *e* 21 10 23.1
BILL pmax pmax
comp=Z,14nm,1.7s
BILL MLR MLR
comp=Z,259nm,21.0s
BILL Bilibino 29.54 18 *e*P **P 21 09 23.6 -0.8**
comp=Z,50nm,1.9s
LZH Lanzhou 29.95 272 *e*P **P 21 09 28.0 -0.6**
LZH pP **pP 21 09 45.5 +1.5**
LZH sP **sP 21 09 52.3 +0.9**
LZH *e*S **S 21 14 17.3 -4.6**
LZH *e*SS **ScP 21 16 02.5 -3.8**
LZH PMZ
comp=Z,32nm,1.0s
LZH PMZ
comp=Z,120nm,4.0s
LZH LN
comp=Z,350nm,14.2s
LZH LE
comp=Z,410nm,16.0s
LZH LZ
comp=Z,390nm,15.1s
H11N2 WAKE ISLAND Hy 30.46 128 T T 21 41 40.8
baz=321,slow=76,SNR=1396
H11N1 WAKE ISLAND Hy 30.47 128 T T 21 41 41.1
baz=321,slow=76,SNR=1984
H11N3 WAKE ISLAND Hy 30.48 128 T T 21 42 00.6
baz=321,slow=76,SNR=1462
WAKE Wake Island 30.67 129 *e*P **P 21 09 32.0 -2.9**
comp=Z,291nm,1.6s
TIXI Tiksi 30.78 352 *e*P **P 21 09 33.0 -2.3**
TIXI pmax pmax
comp=Z,9.0nm,1.7s
TIXI MLR MLR
comp=Z,234nm,17.0s
TIXI Tiksi 30.78 352 *e*P **P 21 09 32.7 -2.6**
comp=Z,7.7nm,1.1s
H11S1 WAKE ISLAND Hy 31.31 130 T T 21 42 45.3
baz=320,slow=74
H11S3 WAKE ISLAND Hy 31.31 130 T T 21 42 29.8
baz=320
H11S2 WAKE ISLAND Hy 31.32 130 T T 21 43 04.8
baz=320,slow=74
ATKA Atka Island 31.36 55 *e*P P 21 09 34.2 -6.4
comp=Z,22nm,1.1s
GTA Gaotai 31.82 280⇑P **P 21 09 43.8 -1.2**
GTA pP **pP 21 09 58.8 -1.7**
GTA sP **sP 21 10 06.0 -1.9**
GTA PcP **PcP 21 12 35.8 +1.1**
GTA S S 21 14 45.3 -5.7
GTA ScP **ScP 21 16 12.5 +0.1**
GTA PcS **PcS 21 16 20.3 +0.9**
GTA ScS **ScS 21 20 10.0 -0.9**
GTA PMZ
comp=Z,23nm,1.1s
GTA PMZ

comp=Z,69nm,5.5s
GTA LN
comp=Z,370nm,19.5s
GTA LE
comp=Z,440nm,18.1s
GTA LZ
comp=Z,510nm,17.6s
CD2 Chengdu 32.30 263 P **P** **21 09 51.3 +2.1**
CD2 pP **pP** **21 10 06.8 +2.1**
CD2 sP **sP** **21 10 14.5 +2.4**
CD2 S **S** **21 15 01.5 +3.0**
CD2 sS sS 21 15 28.5 +3.7
CD2 PMZ
comp=Z,30nm,0.6s
CD2 PMZ
comp=Z,240nm,5.2s
CD2 LN
comp=Z,340nm,13.9s
CD2 LZ
comp=Z,290nm,12.7s
GYA Guiyang 32.61 254⇑*iP* P 21 09 55.8 +3.8
GYA pP pP 21 10 11.8 +4.3
GYA sP sP 21 10 20.3 +5.4
GYA PcP **PcP** **21 12 37.3 +0.3**
GYA S **S** **21 15 06.5 +3.1**
GYA sS sS 21 15 34.3 +4.6
GYA SS **SnSn** **21 17 07.8 +4.6**
GYA PMZ
comp=Z,30nm,0.7s
GYA PMZ
comp=Z,130nm,4.9s
GYA LN
comp=Z,620nm,17.5s
GYA LE
comp=Z,580nm,18.6s
GYA LZ
comp=Z,640nm,18.0s
KRAR Krasnoyarsk 34.53 312*c iP* **P** **21 10 07.8 -0.4**
KRAR pmax pmax
comp=Z,63nm,1.2s
QIZ Qiongzhong 35.34 240 P P 21 10 18.5 +2.9
QIZ S **S** **21 15 50.3 +4.8**
QIZ LN
comp=Z,370nm,13.3s
QIZ LE
comp=Z,220nm,14.8s
QIZ LZ
comp=Z,310nm,21.3s
KMI Kunming 36.24 255 ⇑P **P** **21 10 23.3 -0.2**
KMI pP **pP** **21 10 39.5 +0.4**
KMI S **S** **21 15 57.8 -1.8**
KMI SS **SnSn** **21 18 27.0 -4.2**
KMI PMZ
comp=Z,46nm,0.5s
KMI PMZ
comp=Z,130nm,3.1s
KMI LN
comp=Z,370nm,15.0s
KMI LE
comp=Z,210nm,15.0s
KMI LZ
comp=Z,300nm,15.3s
SLVN Son La 37.78 249 *eP* **P** **21 10 37.1 +0.7**
comp=Z,51nm,1.0s
ZAA1 Zalesovo Array 39.21 308 *eP* **P** **21 10 47.4 -0.6**
ZAA1 *e*PcP **PcP** **21 12 56.4 +0.5**
ZALV Zalesovo Beam 39.21 308 P **P** **21 10 47.4 -0.6**
comp=Z,108nm,0.8s,baz=91,slow=7.3,SNR=136
ZALV PcP **PcP** **21 12 56.4 +0.5**
comp=Z,16nm,0.6s,baz=87,slow=2.6,SNR=11
ZALV LR LR 21 27 40.3
comp=Z,118nm,18.4s,baz=70,slow=37
ZALV Zalesovo Beam 39.21 308 *iP* **P** **21 10 47.4 -0.6**
ZALV pmax pmax
comp=Z,107nm,0.8s
WMQ Urumqi 39.26 292 P **P** **21 10 49.5 +0.8**
WMQ pP **pP** **21 11 06.5 +2.1**
WMQ sP **sP** **21 11 12.0 +0.3**
WMQ PP **PnPn** **21 12 24.8 +2.0**
WMQ PcP **PcP** **21 12 58.0 +1.6**
WMQ S **S** **21 16 45.8 +1.1**
WMQ PcS **PcS** **21 16 47.0 +0.8**
WMQ sS **sS** **21 17 11.3 -0.2**
WMQ PMZ
comp=Z,80nm,1.0s
WMQ PMZ
comp=Z,350nm,4.0s
WMQ LN
comp=Z,160nm,9.4s
WMQ LE
comp=Z,500nm,12.6s
WMQ LZ
comp=Z,330nm,13.7s
NVS Novosibirsk 40.04 310⇑*iP* **P** **21 10 53.9 -1.0**
NVS *e* 21 12 27.3
NVS *e*PPP PPP 21 12 51.5
NVS *e*S S 21 16 48.0 -7.9
NVS pmax pmax
comp=N,9.0nm,0.8s
NVS pmax pmax
comp=E,12nm,0.8s
NVS pmax pmax
comp=Z,24nm,0.8s
NVS pmax pmax
comp=E,13nm,1.4s
NVS pmax pmax
comp=Z,13nm,1.4s
NVS pmax pmax
comp=N,4.0nm,1.3s
NVS smax smax
comp=N,11nm,1.7s
NVS smax smax
comp=E,12nm,1.7s
NONG Nongkai 40.51 246 P **P** **21 10 59.6 +0.5**
comp=E,78nm,0.9s
SKNT Sakolnakorn 40.70 244 P **P** **21 11 01.1 +0.4**
comp=E,41nm,1.0s
CRAI Chiangrai 41.00 252 P P 21 10 59.8 -3.4
comp=E,128nm,1.1s,comp=E,6µm
DLV T Lat 41.53 234 *eP* **P** **21 11 08.8 +1.1**
SVW2 Sparrevohn 41.72 40 *eP* **P** **21 11 10.6 +2.0**
comp=E,12nm,0.8s
MKAR Makanchi Array 42.12 298 *eP* **P** **21 11 11.8 -0.3**
CMAI Chiengmai2 42.13 252 P **P** **21 11 14.1 +1.4**
comp=E,60nm,1.3s,comp=E,13µm
KKM Kota Kinabalu 42.16 220 *eP* **P** **21 11 13.6 +0.7**
comp=E,32nm,1.2s
LOEI Loei 42.19 248 P **P** **21 11 10.4 -2.5**
comp=E,36nm,0.8s
LSA Lhasa 42.34 270 P **P** **21 11 15.3 +0.6**
LSA Lhasa 42.34 270 *eP* **P** **21 11 15.2 +0.6**
comp=E,93nm,1.2s
UTTA Uttaradit 42.52 249 P **P** **21 11 15.9 +0.3**
comp=E,9.6nm,0.9s,comp=E,76nm
IM04 Indian Mountai 42.55 33 *eP* **P** **21 11 15.2 -0.1**
LAMP Lampang 42.64 250 P **P** **21 11 17.7 +1.1**
comp=E,18nm,0.7s,comp=E,127nm
CHAI Chaiyaphum 42.80 245 P **P** **21 11 17.6 -0.3**
comp=E,16nm,0.7s,comp=E,162nm
CMMT Chiang Mai 42.94 251 P **P** **21 11 19.1 +0.1**
comp=E,45nm,0.8s,comp=E,715nm
CHTO Chiang Mai 42.94 251 P **P** **21 11 19.2 +0.1**
comp=E,152nm,0.8s,comp=E,2µm
CHTO Chiang Mai 42.94 251 P **P** **21 11 19.5 +0.5**
SNR=9.5
CHTO Chiang Mai 42.94 251 *eP* **P** **21 11 19.1 +0.1**
comp=E,21nm,0.6s
PBKT Sadao Pong 43.03 247 P **P** **21 11 20.1 +0.3**
comp=E,14nm,0.8s
CM31 Chiang Mai Arr 43.17 251 *eP* **P** **21 11 21.1 +0.2**
CMAR Chiang Mai Arr 43.17 251 P **P** **21 11 21.1 +0.2**
comp=E,6.0nm,0.6s,baz=44,slow=7.2,SNR=50
CMAR Chiang Mai Arr 43.17 251 P **P** **21 11 21.2 +0.2**
CMAR pmax pmax
comp=Z,6.0nm,0.6s
OHAK Old Harbor 43.22 46 *eP* **P** **21 11 21.6 +0.8**
PPLA Purkeypile 43.25 38 *eP* **P** **21 11 23.4 +2.2**
comp=Z,163nm,1.8s
SUKH Sukhothai 43.34 249 P **P** **21 11 22.8 +0.5**
comp=Z,8.7nm,0.8s,comp=Z,71nm
SIJI Sorong 43.39 196 P **P** **21 11 23.0 +0.4**
comp=Z,49nm,0.6s,baz=9.9,slow=12,SNR=25
SIJI LR LR 21 27 31.6
comp=Z,104nm,20.4s,slow=33
SPU Mount Spurr 43.42 40 *eP* P 21 11 19.3 -3.2
KURK Kurchatov 43.50 304 P **P** **21 11 22.5 -0.6**
comp=Z,589nm,0.9s
KURK Kurchatov 43.50 304 P **P** **21 11 23.2 +0.1**
KURK pmax pmax
comp=Z,68nm,0.8s
KURK Kurchatov 43.50 304 *eP* **P** **21 11 22.4 -0.8**
comp=Z,62nm,1.1s
KDAK Kodiak Island 43.52 45 P **P** **21 11 23.3 +0.1**
comp=Z,311nm,0.9s,SNR=16
KDAK Kodiak Island 43.52 45*ceP* **P** **21 11 23.7 +0.5**
KURBB Kurchatov Arra 43.57 304 *eP* **P** **21 11 23.2 -0.5**
comp=E,68nm,0.8s,baz=79,slow=8.7,SNR=359
BPAW Bear Paw Mtn. 43.74 36 *eP* **P** **21 11 25.9 +1.0**
comp=Z,3.3nm,0.8s
MLY Manley 43.81 34 *eP* **P** **21 11 26.8 +1.3**
comp=Z,13nm,0.9s
JAY Jayapura 43.95 182 P **P** **21 11 27.8 +0.6**
comp=Z,8.6nm,0.9s,baz=300,slow=6.9,SNR=4.0
JAY LR LR 21 29 23.5
comp=Z,116nm,20.4s,baz=120,slow=35
JAY Jayapura 43.95 182 P **P** **21 11 27.8 +0.6**
JAY pmax pmax
comp=Z,9.0nm,0.9s
JAY MLR MLR
comp=Z,116nm,20.5s
SHL Shillong 43.99 265 *eP* **P** **21 11 27.0 -0.7**
COLD Coldfoot 44.00 31 *eP* **P** **21 11 25.1 -1.9**
comp=Z,17nm,1.3s
SUA Susitna One 44.03 40 *eP* **P** **21 11 28.4 +1.0**
comp=Z,24nm,0.9s
MHMT Maesarieng 44.08 252 P **P** **21 11 29.4 +1.2**
comp=Z,15nm,0.7s,comp=Z,359nm
TRF Thorofare Moun 44.08 37 *eP* **P** **21 11 29.0 +1.1**
comp=Z,27nm,0.9s
BRLK Bradley Lake 44.14 42 *eP* **P** **21 11 29.5 +1.3**
comp=Z,24nm,0.8s
BWN Browne 44.40 36 *eP* **P** **21 11 32.2 +2.0**
comp=Z,79nm,0.8s
RC01 Rabbit Creek A 44.55 40 *eP* **P** **21 11 32.0 +0.5**
comp=Z,18nm,0.8s
MCK McKinley 44.66 36 *eP* **P** **21 11 33.0 +0.6**
comp=Z,25nm,0.8s
RND Reindeer 44.73 37 *eP* **P** **21 11 33.1 +0.2**
comp=Z,22nm,0.8s
MRSI Marisa 44.75 209 P **P** **21 11 33.7 +0.2**
comp=Z,58nm,1.1s
UTHA Uthaitani 44.79 247 P **P** **21 11 35.7 +1.9**
comp=Z,7.9nm,1.0s,comp=Z,66nm
SEW Seward 44.82 41 *eP* **P** **21 11 35.6 +2.1**
comp=Z,38nm,1.0s
MDM Murphy Dome 44.88 35 *eP* **P** **21 11 34.9 +0.8**
comp=Z,24nm,0.8s
WRH Wood River Hil 44.98 35 *eP* **P** **21 11 35.4 +0.6**
comp=Z,13nm,0.9s
COLA College 45.05 35*d iP* **P** **21 11 36.2 +0.9**
COLA College 45.05 35 *eP* **P** **21 11 36.5 +1.2**
comp=Z,50nm,0.8s
CCB Clear Creek Bu 45.09 35 *eP* **P** **21 11 36.1 +0.5**
comp=Z,15nm,1.1s
SML Sawmill 45.14 39 *eP* **P** **21 11 37.3 +1.1**
comp=Z,7.6nm,0.9s
FAKI Fak Fak 45.20 194 P **P** **21 11 37.4 +0.3**
comp=Z,98nm,0.8s,comp=Z,968nm
FAKI Fak Fak 45.20 194 *eP* **P** **21 11 37.1 +0.1**
comp=Z,66nm,0.7s
ILAR Eielson Array 45.47 35 P **P** **21 11 38.8 +0.1**
comp=Z,20nm,0.9s,baz=265,slow=5.7,SNR=180
ILAR LR LR 21 32 19.5
comp=Z,170nm,19.5s,baz=282,slow=38
ILAR Eielson Array 45.47 35 P **P** **21 11 38.8 +0.1**
ILAR pmax pmax
comp=Z,20nm,0.9s
ILAR MLR MLR
comp=Z,170nm,19.5s
ILB Eielson Array 45.47 35 *eP* **P** **21 11 38.8 +0.1**
HDA Harding Lake 45.47 35 *eP* **P** **21 11 39.1 +0.3**
comp=Z,16nm,0.8s
SCM Sheep Creek Mo 45.61 39 *eP* **P** **21 11 41.2 +1.3**
comp=Z,33nm,0.8s
SANI Sanana 45.81 202 P **P** **21 11 41.5 -0.4**
comp=Z,59nm,0.9s,comp=Z,510nm
TAPN Taplejung 46.14 270 *eP* **P** **21 11 45.1 +0.2**
comp=Z,132nm,0.6s
PAX Paxson 46.30 37 *eP* **P** **21 11 47.9 +2.5**
comp=Z,27nm,1.4s
DIV Divide 46.45 40 *eP* **P** **21 11 48.1 +1.6**
comp=Z,33nm,0.9s
ODAN Odare 46.65 269 *eP* **P** **21 11 48.7 0.0**
comp=Z,157nm,0.8s
BMRM Bremner River 47.04 40 *eP* **P** **21 11 52.4 +1.2**
comp=Z,24nm,0.8s
RAGM Ragged Mountai 47.12 41 *eP* **P** **21 11 53.3 +1.5**
comp=Z,152nm,2.0s
RAMN Ramite 47.19 270 *eP* **P** **21 11 52.7 -0.3**
comp=Z,170nm,0.6s
GUN Gumba 47.22 272 *eP* **P** **21 11 53.3 0.0**
comp=Z,455nm,0.4s
ULHL Ulahol 47.70 294 P **P** **21 11 56.4 -0.3**
SNR=23
KKN Kakani 47.73 272 *eP* **P** **21 11 57.1 0.0**
comp=Z,220nm,0.8s
PKI Pulchoki 47.75 272 *eP* **P** **21 11 57.0 -0.4**
comp=Z,73nm,0.5s
PKIN Phulchoki 47.75 272 *eP* **P** **21 11 57.4 0.0**
comp=Z,100nm,0.6s
BVAR Borovoye Array 47.83 309 P **P** **21 11 57.2 -0.1**
comp=Z,35nm,0.6s,baz=78,slow=8.0,SNR=148
BVAR PcP **PcP** **21 13 25.6 +0.5**
comp=Z,14nm,0.7s,baz=78,slow=4.2,SNR=5.6
BVAR Borovoye Array 47.83 309 P **P** **21 11 57.2 -0.1**
BVAR 21 13 25.6
BVAR pmax pmax
comp=Z,35nm,0.6s
BVAR pmax pmax
comp=Z,14nm,0.7s
TKM2 Tokmak 2 47.88 295 P **P** **21 11 58.5 +0.3**
SNR=86
TKM2 Tokmak 2 47.88 295 *eP* **P** **21 11 58.4 +0.3**
comp=Z,225nm,1.4s
BRVK Borovoye 47.88 309 P **P** **21 11 57.5 -0.2**
comp=Z,296nm,0.7s,SNR=45
BRVK Borovoye 47.88 309*ceP* **P** **21 11 57.6 -0.2**
BRVK pmax pmax
comp=Z,56nm,1.0s
BRVK Borovoye 47.88 309 P **P** **21 11 57.9 +0.2**
SNR=30
BRVK Borovoye 47.88 309 *eP* **P** **21 11 58.2 +0.5**
EGAK Eagle 47.90 34 *eP* **P** **21 11 58.5 +0.8**
comp=Z,24nm,0.8s
DMN Daman 47.95 272 *eP* **P** **21 11 58.6 -0.3**
comp=Z,124nm,0.7s
GKN Gorkha 48.10 273 *eP* **P** **21 11 59.6 -0.3**
comp=Z,163nm,0.6s
KBK Kongaybulak 48.42 295 P **P** **21 12 02.5 +0.2**
SNR=54
CHMS Chumysh 48.42 295 P **P** **21 12 01.8 -0.3**
SNR=8.8
KZA Kyzart 48.44 294 P **P** **21 12 03.5 +0.8**
SNR=39
USP Ospenovka 48.49 296 P **P** **21 12 02.4 -0.2**
SNR=22
FRU Bishkek 48.58 295 *eP* **P** **21 12 03.0 -0.3**
FRU pmax pmax
comp=Z,100nm,1.4s
AAK Ala-Archa 48.74 295 P **P** **21 12 04.5 -0.2**
SNR=14
AAK Ala-Archa 48.74 295 LR LR 21 34 42.2
comp=Z,263nm,18.5s,baz=67,slow=38
AAK Ala-Archa 48.74 295 *eP* **P** **21 12 04.5 -0.2**
comp=Z,73nm,1.5s
DAWY Dawson 48.79 35 *eP* **P** **21 12 05.7 +1.1**
comp=Z,6.7nm,0.9s
UCH Uchtor 48.89 295 P **P** **21 12 06.8 +0.6**
SNR=12
KSH Kashi 48.98 291 P P 21 12 10.3 +3.8
KSH pP pP 21 12 24.0 +1.3
KSH PcP **PcP** **21 13 32.0 +2.3**
KSH PP PP 21 14 08.5 +8.2
KSH PcS **PcS** **21 17 28.5 +2.3**
KSH S **S** **21 19 11.8 +5.6**
KSH sS sS 21 19 37.5 +3.8
KSH PMZ
comp=Z,37nm,1.1s
KSH PMZ
comp=Z,190nm,3.3s
KSH LN
comp=Z,66nm,3.9s
KSH LE
comp=Z,140nm,6.3s
KSH LZ
comp=Z,120nm,5.9s
KOLN Koldanda 49.00 273 *eP* **P** **21 12 06.7 -0.2**
comp=Z,139nm,0.6s
KSM Kuching 49.05 224 *eP* **P** **21 12 07.8 +0.7**
comp=Z,17nm,0.9s
EKS2 Erkin-Say 49.22 295 P **P** **21 12 08.2 -0.1**
SNR=29
EKS2 Erkin-Say 49.22 295 *eP* **P** **21 12 07.3 -0.9**
comp=Z,19nm,0.8s
AML Almayashu 49.48 295 P **P** **21 12 11.0 +0.4**
SNR=16
INK Inuvik 50.16 29 P **P** **21 12 15.6 +0.7**
comp=Z,15nm,0.5s,baz=294,slow=8.6,SNR=14
INK Inuvik 50.16 29 P **P** **21 12 15.6 +0.7**
INK pmax pmax
comp=Z,15nm,0.5s
INK Inuvik 50.16 29 *eP* **P** **21 12 15.8 +1.0**
comp=Z,18nm,0.6s
HYT Haines Junctio 50.45 39 *eP* **P** **21 12 19.5 +2.2**
KAPI Kappang 50.63 209 LR LR 21 31 41.3
comp=Z,69nm,21.9s,baz=357,slow=34
KKAR Karatay Array 51.23 297 *eP* **P** **21 12 22.7 -0.7**
KULM Kulim 51.53 237 *eP* **P** **21 12 26.9 +1.0**
comp=Z,26nm,1.1s
SVE Sverdlovsk 52.00 316*d iP* **P** **21 12 29.1 +0.3**
SVE pmax pmax
comp=Z,69nm,1.2s
SVE MLR MLR
comp=Z,299nm,15.0s
SMLA Simla 52.04 280 *i* x **P** **21 12 29.5 0.0**
baz=184,slow=18
SMLA *i* P **P** **21 12 29.5 0.0**
BESE Bessie Mountai 52.43 41 *eP* P 21 12 35.3 +3.2
comp=Z,11nm,1.2s
ARU Arti 53.21 316 P **P** **21 12 37.1 -0.7**
comp=Z,223nm,1.0s,SNR=18
ARU Arti 53.21 316*c iP* **P** **21 12 37.5 -0.2**
ARU 21 14 39.9
ARU PPP PPP 21 15 40.9
ARU S **S** **21 20 05.0 +1.2**
ARU SS **SS** **21 23 42.5 -1.0**
ARU pmax pmax
comp=Z,79nm,1.7s
ARU MLR MLR
comp=Z,290nm,17.0s
ARU Arti 53.21 316 *eP* **P** **21 12 37.6 -0.2**
comp=Z,80nm,1.4s
NDI New Delhi 53.27 278 *eP* P 21 12 34.0 -4.7
SOEI Soe 53.64 202 P **P** **21 12 40.6 -0.9**
comp=Z,90nm,0.8s
SOEI Soe 53.64 202 *eP* **P** **21 12 40.7 -0.8**
comp=Z,76nm,0.9s
CHLP Challavanipeta 54.00 263 *eP* **P** **21 12 43.9 -0.2**
CHLP IAmb IAmb 21 12 54.6
comp=Z,31nm,1.2s
PSI Prapat 54.54 237 LR LR 21 37 27.0
comp=Z,113nm,19.6s,baz=36,slow=37
PSI Prapat 54.54 237 *eP* **P** **21 12 48.4 +0.3**
comp=Z,13nm,0.9s
DLBC Dease Lake 54.83 40 P **P** **21 12 50.5 +0.9**
comp=Z,5.5nm,0.6s,baz=271,slow=2.9,SNR=16
DLBC Dease Lake 54.83 40 *eP* **P** **21 12 52.3 +2.6**
comp=Z,10nm,0.9s
BKNI Bangkinang 55.19 233 P P 21 12 57.9 +5.3
BKNI Bangkinang 55.19 233 *eP* **P** **21 12 52.7 0.0**
comp=Z,45nm,0.6s
ABKAR Akbulak array 55.32 308 *eP* **P** **21 12 53.0 -0.3**
COEN Coen 55.33 178 *eP* **P** **21 12 53.7 +0.2**
comp=Z,24nm,1.0s
SPA0 Spitsbergen Ar 56.09 348 *eP* **P** **21 12 58.2 -0.2**
KBS Kingsbay 56.19 350 *eP* **P** **21 13 00.1 +1.1**
comp=Z,86nm,0.8s
KBL Kabul 56.20 288 *eP* **P** **21 12 58.9 -1.1**
comp=Z,34nm,0.9s
GSI Gunungsitoli 56.54 237 *eP* **P** **21 13 02.6 +0.3**
comp=Z,43nm,1.1s
PVM Polavaram 56.59 264 *eP* **P** **21 13 03.3 +0.6**
PVM IAmb IAmb 21 13 06.0
comp=Z,23nm,1.2s
HSPB Hornsund (broa 57.03 347 *eP* **P** **21 13 05.7 +0.7**
RPR Rampur 57.34 267 *eP* **P** **21 13 07.9 -0.2**
RPR IAmb IAmb 21 13 11.6
comp=Z,33nm,1.1s
LEM Lembang 57.51 221 LR LR 21 38 12.2
comp=Z,106nm,21.1s,slow=36
SRSP Sriramsagar 58.01 267 *eP* **P** **21 13 11.7 -1.1**
SRSP IAmb IAmb 21 13 12.9
comp=Z,45nm,1.2s
RES Resolute Bay 58.07 15 P **P** **21 13 12.2 -0.1**
comp=Z,14nm,0.5s,baz=305,slow=4.0,SNR=34
RES Resolute Bay 58.07 15 P **P** **21 13 12.2 -0.1**
RES pmax pmax
comp=Z,14nm,0.5s
RES Resolute Bay 58.07 15 *eP* **P** **21 13 12.4 +0.1**
comp=Z,20nm,0.8s
LVZ Lovozero 58.08 335 *eP* **P** **21 13 11.7 -0.9**
comp=Z,426nm,2.3s
ADKI Addanki 58.71 264 *eP* **P** **21 13 17.1 -0.5**
ADKI IAmb IAmb 21 13 18.7
comp=Z,49nm,1.5s
NJS Nagarjunasagar 58.76 265 *eP* **P** **21 13 17.2 -0.7**
NJS IAmb IAmb 21 13 22.0
comp=Z,14nm,1.0s
HYB Hyderabad 58.78 266 *i* P **P** **21 13 16.5 -1.7**
HYBB Hyderabad (bro 58.78 266 *eP* **P** **21 13 17.4 -0.7**
HYBB IAmb IAmb 21 13 17.7
comp=Z,19nm,1.0s
TMCR Tamitsa 58.91 330 *eP* **P** **21 13 17.8 -0.5**
TMCR pmax pmax
comp=Z,33nm,0.7s
KEV Kevo 59.28 338 *eP* **P** **21 13 20.6 -0.1**
comp=Z,716nm,2.6s
SRLM Srisailam 59.35 264 *eP* **P** **21 13 20.9 -1.1**
SRLM IAmb IAmb 21 13 26.2
comp=Z,215nm,2.8s
YKA Yellowknife Ar 59.68 32 P **P** **21 13 24.0 +0.4**
comp=Z,3.3nm,0.5s,baz=316,slow=7.0,SNR=20
YKA pP **pP** **21 13 42.4 +2.1**
comp=Z,5.9nm,0.6s,baz=307,slow=6.6,SNR=8.0
YKA Yellowknife Ar 59.68 32 P **P** **21 13 24.0 +0.4**
YKA *PP **pP** **21 13 42.4 +2.1**
YKA pmax pmax
comp=Z,3.0nm,0.5s
YKA pmax pmax
comp=Z,6.0nm,0.6s
YKB5 Yellowknife Ar 59.68 32 *eP* **P** **21 13 24.1 +0.4**
YKB5 *ep*P **pP** **21 13 42.4 +2.1**
RCLA Racherla 59.71 264 *eP* **P** **21 13 23.6 -0.9**
RCLA IAmb IAmb 21 13 24.5
comp=Z,10nm,0.9s
ARA0 ARCESS Array S 59.83 339 *eP* **P** **21 13 24.6 0.0**
ARCES ARCESS Array B 59.83 339 P **P** **21 13 24.6 0.0**
comp=Z,5.6nm,0.6s,baz=53,slow=8.2,SNR=33
ARCES LR LR 21 43 27.0
comp=Z,107nm,18.8s,baz=47,slow=40
ARCES ARCESS Array B 59.83 339 P **P** **21 13 24.6 0.0**
ARCES pmax pmax
comp=Z,6.0nm,0.6s
ARCES MLR MLR
comp=Z,107nm,18.8s
ARE0 ARCESS Array S 59.83 339 *eP* **P** **21 13 24.5 -0.1**
KLRI Killari 59.84 268 *eP* **P** **21 13 24.2 -1.3**
KLRI IAmb IAmb 21 13 25.3
comp=Z,45nm,0.8s
SKHT Srikalahasti 60.24 262 *eP* **P** **21 13 27.8 -0.4**
SKHT IAmb IAmb 21 13 28.9
comp=Z,16nm,1.0s
KTK1 Kautokeino 60.79 339 *eP* **P** **21 13 31.2 +0.1**
DAG Danmarks Havn 61.23 355 *iP* **P** **21 13 33.6 -0.4**
comp=Z,20nm,1.0s
DAG Danmarks Havn 61.23 355 *iP* **P** **21 13 33.6 -0.4**
DAG pmax pmax
comp=Z,20nm,1.0s
URV Uravakonda 61.29 265 *eP* **P** **21 13 34.9 -0.5**
URV IAmb IAmb 21 13 35.0
comp=Z,17nm,1.0s
TRO Tromso 61.49 340 *eP* **P** **21 13 34.7 -1.1**
IMYA Miami 61.50 295 *eP* **P** **21 13 35.7 -1.0**
WRAB Tennant Creek 61.65 188 P **P** **21 13 36.0 -1.5**
comp=Z,86nm,1.0s,SNR=15
WRAB Tennant Creek 61.65 188 *eP* **P** **21 13 36.9 -0.6**
WRAB pmax pmax
comp=Z,19nm,0.7s
WRA Warramunga Arr 61.66 188 P **P** **21 13 36.6 -0.9**

comp=Z,9,8nm,0.7s,baz=5.3,slow=6.7,SNR=132
WRA LR LR 21 39 46.4
comp=Z,137nm,21.4s,baz=330,slow=35
WRA Warramunga Arr 61.66 188 P **P 21 13 36.6 -0.9**
WRA pmax pmax
comp=Z,10.0nm,0.7s
WRA MLR MLR
comp=Z,137nm,21.4s
GEYT Alibeck 61.99 297 P **P 21 13 39.5 -0.3**
comp=Z,19nm,0.6s,baz=29,slow=3.4,SNR=45
GEYT LR LR 21 42 15.2
comp=Z,140nm,18.8s,baz=35,slow=38
IMOG Moghan 62.14 295 *eP* **P 21 13 40.1 -1.1**
IPAY Payeh 62.19 295 *eP* **P 21 13 40.9 -0.5**
IAKL Akhelmad 62.27 296 *eP* **P 21 13 41.7 -0.3**
IKRD Kardeh 62.34 296 *eP* P 21 13 37.8 -4.7
ISHV Shirvan 62.48 297 *eP* **P 21 13 42.9 -0.4**
ISFR Sfrayin 62.54 296 *eP* **P 21 13 43.5 -0.3**
NLWA Neilton Lookou 63.40 49 *eP* **P 21 13 51.0 +2.0**
comp=Z,23nm,1.0s
IDAH Dahanechah 63.63 291 *eP* **P 21 13 50.7 -0.4**
PALK Pallekele 63.78 256 LR LR 21 43 53.3
comp=Z,58nm,19.9s,baz=49,slow=38
MOS Moscow 63.80 322 *eP* **P 21 13 50.3 -1.1**
MOS pmax pmax
comp=Z,78nm,1.2s
B06A Marblemount 64.11 47 *eP* **P 21 13 55.3 +1.7**
comp=Z,174nm,2.3s
PIER Pier 30 Seattl 64.15 48 *eP* **P 21 13 52.5 -1.4**
ITEG Tejag 64.32 292 *eP* **P 21 13 54.0 -1.5**
VRHR Novokhopersk 64.56 317 *eP* **P 21 13 54.9 -1.6**
VRHR pmax pmax
comp=Z,30nm,0.8s
VRHR pmax pmax
comp=N,20nm,1.3s
VRHR pmax pmax
comp=E,60nm,1.3s
OBN Obninsk 64.65 322 *ce*P **P 21 13 56.7 -0.3**
OBN *e* 21 14 33.6
OBN *e* 21 16 16.5
OBN pmax pmax
comp=Z,60nm,1.2s
OBN MLR MLR
comp=Z,225nm,16.0s
OBN Obninsk 64.65 322 *eP* **P 21 13 56.1 -0.9**
comp=Z,50nm,1.1s
LON Longmire 64.92 49 *eP* **P 21 14 00.9 +1.9**
comp=Z,8.4nm,0.9s
FIA0 FINESS Array S 64.93 331 *eP* **P 21 13 58.3 -0.4**
FINES FINESS Array B 64.93 331 P **P 21 13 58.3 -0.4**
comp=Z,30nm,0.5s,baz=51,slow=7.1,SNR=314
FINES LR LR 21 44 01.6
comp=Z,132nm,19.3s,baz=48,slow=38
G03D McMinnville, O 64.96 51 P **P 21 14 01.2 +2.0**
baz=65
MOR8 Moi Rana 65.18 339 *eP* **P 21 13 58.7 -1.6**
MOR8 IAmb IAmb 21 13 59.4
comp=Z,36nm,0.9s
B08A Colville Reser 65.37 46 *eP* **P 21 14 02.7 +0.8**
comp=Z,38nm,1.8s
AS12 Alice Springs 65.39 188 *eP* **P 21 14 01.9 -0.2**
ASAR Alice Springs 65.39 188 P **P 21 14 01.9 -0.2**
comp=Z,6.6nm,0.8s,baz=7.6,slow=8.2,SNR=62
ASAR pP **pP 21 14 18.6 -0.4**
comp=Z,9.7nm,0.7s,baz=5.2,slow=6.0,SNR=11
ASAR LR LR 21 41 37.4
comp=Z,163nm,21.6s,baz=26,slow=35
ASAR Alice Springs 65.39 188 P **P 21 14 01.9 -0.2**
ASAR *PP **pP 21 14 18.6 -0.4**
ASAR pmax pmax
comp=Z,7.0nm,0.8s
ASAR pmax pmax
comp=Z,10.0nm,0.7s
ASAR MLR MLR
comp=Z,163nm,21.6s
EDM Edmonton 65.55 40 *eP* **P 21 14 03.9 +0.9**
comp=Z,24nm,1.0s
IGLO Ghaloghah 65.63 298 *eP* **P 21 14 02.2 -1.8**
VSR Storozhevoye 65.74 318 *eP* **P 21 14 03.3 -0.8**
VSR pmax pmax
comp=Z,80nm,1.4s
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,30nm,0.9s
MBWA Marble Bar 65.76 203 *eP* **P 21 14 05.6 +1.1**
comp=E,38nm,1.4s
I03D Drain, OR 65.77 52 P **P 21 14 06.5 +2.0**
baz=66
VORD Divnogorie 65.82 317 *eP* **P 21 14 02.7 -2.0**
VORD pmax pmax
comp=Z,20nm,1.0s
VORD pmax pmax
comp=N,70nm,0.6s
VORD pmax pmax
comp=E,80nm,0.7s
G05D Wamic, OR 66.07 50 P **P 21 14 08.4 +2.0**
baz=66
SUMG Summit 66.09 0 *i* P **P 21 14 07.1 +0.6**
comp=E,11nm,0.7s
SUMG Summit 66.09 0 *i* P **P 21 14 07.1 +0.6**
SUMG pmax pmax
comp=Z,11nm,0.7s
SUMG Summit 66.09 0 *eP* **P 21 14 07.3 +0.8**
comp=Z,17nm,0.7s
I04A Tendick Farm, 66.27 52 P **P 21 14 09.6 +1.8**
baz=66,SNR=5.6
C09A Chrisman Ranch 66.28 47 *eP* **P 21 14 08.9 +1.2**
comp=Z,11nm,0.8s
D08A Wollman Farm, 66.36 47 *eP* **P 21 14 09.2 +1.0**
comp=Z,20nm,1.3s
HAWA Hanford 66.41 48 *eP* **P 21 14 10.0 +1.4**
comp=Z,16nm,1.0s
NEW Newport 66.62 46 P **P 21 14 10.9 +0.9**
baz=66
NEW Newport 66.62 46 *eP* **P 21 14 11.1 +1.1**
comp=Z,5.7nm,0.7s
J04D Umpqua Nationa 66.77 52 P **P 21 14 12.5 +1.3**
baz=67
E09A Wood Farm, Sta 67.11 48 *eP* **P 21 14 14.5 +1.5**
comp=Z,27nm,1.1s
NSS Namsos 67.11 339 *eP* **P 21 14 12.9 +0.2**
EIDS Eidsvold 67.21 171 *eP* **P 21 14 14.7 +1.1**
comp=Z,17nm,0.8s
J05D Fort Rock, OR 67.27 52 P **P 21 14 15.9 +1.7**
baz=67
GOF Gofitskoye 67.33 311⇑ *iP* **P 21 14 14.9 +0.5**
GOF pmax pmax
comp=Z,110nm,1.3s
IAFJ Afjeh 67.40 298 *eP* **P 21 14 15.5 +0.1**
M02C Callahan 67.41 54 P **P 21 14 17.2 +2.1**
baz=67
N02D Trinity Center 67.75 55 P **P 21 14 19.3 +2.1**
baz=68
M04C Macdoel 67.79 53 P **P 21 14 19.0 +1.5**
baz=68
K05A Summer Lake 67.80 52 *eP* **P 21 14 19.8 +2.1**
comp=Z,37nm,1.3s
WALA Waterton Lakes 67.83 44 *eP* **P 21 14 17.3 -0.4**
comp=Z,6.3nm,0.7s
WALA *ep*P pP 21 14 29.0 -5.6
F10A Beach Ranch, E 67.94 48 *eP* **P 21 14 18.9 +0.5**
NCK Nalchik 67.95 309⇑ *iP* **P 21 14 18.5 +0.1**
IMEH Mehriz 68.05 293 *eP* **P 21 14 17.9 -1.6**
IGZV Ghazvin 68.07 300 *eP* **P 21 14 18.7 -0.8**
IR3 Iran Long-Peri 68.08 298 *eP* **P 21 14 18.9 -0.4**
WDC Whiskeytown Da 68.08 55 *eP* **P 21 14 20.9 +1.7**
comp=Z,9.9nm,0.9s
DGRG David-gareji 68.11 306 P **P 21 14 18.4 -1.1**
DGRG David-gareji 68.11 306 P **P 21 14 18.3 -1.1**
DUS Dusheti 68.14 307 P **P 21 14 20.9 +1.3**
DUS Dusheti 68.14 307 P **P 21 14 20.9 +1.3**
KIV Kislovodsk 68.20 310 *eP* **P 21 14 20.4 +0.4**
KIV Kislovodsk 68.20 310 P **P 21 14 20.4 +0.4**
comp=Z,624nm,1.0s,SNR=43
KIV Kislovodsk 68.20 310 *eP* **P 21 14 20.4 +0.4**
KIV *e* 21 14 46.5
KIV *eS* **S 21 23 15.1 -0.3**
KIV pmax pmax
comp=Z,118nm,1.1s
KIV pmax pmax
comp=Z,30nm,3.5s
KIV Kislovodsk 68.20 310 P **P 21 14 20.7 +0.7**
SNR=41
KIV Kislovodsk 68.20 310⇑ *iP* **P 21 14 20.2 +0.2**
SNR=64
KIV Kislovodsk 68.20 310 *eP* **P 21 14 20.2 +0.2**
comp=Z,107nm,1.0s
KBZ Khabaz 68.21 310 P **P 21 14 20.4 +0.4**
comp=Z,27nm,0.9s,baz=42,slow=4.5,SNR=59
KBZ LR LR 21 49 47.5
comp=Z,115nm,18.6s,baz=33,slow=41
KBZ Khabaz 68.21 310 P **P 21 14 20.4 +0.4**
KBZ pmax pmax
comp=Z,27nm,0.9s
KBZ MLR MLR
comp=Z,115nm,18.6s
TBLG Delisi 68.33 307 P **P 21 14 20.9 +0.1**
TBLG Delisi 68.33 307 P **P 21 14 20.9 +0.1**
ISAD Sadrabad 68.38 294 *eP* **P 21 14 20.3 -1.3**
JTMT Jette 68.45 45 *eP* **P 21 14 23.2 +1.6**
ONI Oni 68.58 308 P **P 21 14 23.1 +0.7**
ONI Oni 68.58 308 P **P 21 14 23.1 +0.7**
IZEF Zefreh 68.73 295 *eP* **P 21 14 22.9 -0.8**
SWMT Swartz Lake 68.75 45 *eP* **P 21 14 24.7 +1.3**
IRAZ Razeghan 68.84 299 *eP* **P 21 14 23.2 -1.1**
ISRB Sarab 68.86 302 *eP* **P 21 14 23.8 -0.6**
IHRS Heris 68.96 303 *eP* P 21 14 18.7 -6.3
IKLH Kolahrood 68.98 296 *eP* **P 21 14 24.6 -0.7**
NACGM Naroch 69.10 326 *e* P 21 14 22.0 -3.3
SLMT Seeley Lake 69.18 45 *eP* **P 21 14 27.2 +1.1**
MSO Missoula 69.20 45 P **P 21 14 26.8 +0.6**
baz=69
MSO Missoula 69.20 45 *eP* **P 21 14 27.2 +1.0**
comp=Z,14nm,1.2s
AKH Akhalkalaki 69.27 307 P **P 21 14 25.9 -1.0**
AKH Akhalkalaki 69.27 307 P **P 21 14 25.8 -1.0**
GNI Garni 69.28 306 *c iP* **P 21 14 27.6 +0.7**
GNI pmax pmax
comp=Z,34nm,1.2s
GNI Garni 69.28 306 P **P 21 14 28.3 +1.4**
SNR=9
GNI Garni 69.28 306 *eP* **P 21 14 27.9 +1.0**
comp=Z,34nm,1.2s
CHVG Ch'k'valeri 69.30 309 P P 21 14 33.6 +6.8
WVOR Wild Horse Val 69.30 51 *eP* **P 21 14 28.4 +1.5**
comp=Z,9.4nm,1.0s
WVOR *ep*P **PcP 21 14 48.4 -1.8**
CHMT Chamberlain Mo 69.52 45 *eP* **P 21 14 29.0 +0.7**
IMRD Marand 69.56 304 *eP* **P 21 14 28.3 -0.3**
FFC Flin Flon 69.67 34 P **P 21 14 29.0 +0.2**
comp=Z,124nm,0.9s,SNR=8.7
FFC Flin Flon 69.67 34 *eP* **P 21 14 29.5 +0.7**
comp=Z,18nm,0.9s
IPIR Pirpir 69.82 296 *eP* **P 21 14 28.4 -2.1**
NB2 NORSAR Subarra 70.09 337 P **P 21 14 30.9 -0.4**
comp=Z,43nm,1.2s,baz=36,slow=6.5
NB2 NORSAR Subarra 70.09 337 P **P 21 14 30.9 -0.4**
baz=36,slow=6.5
NB200 NORSAR Array S 70.09 337 *eP* **P 21 14 30.9 -0.4**
NOA NORSAR Array B 70.09 337 P **P 21 14 30.9 -0.4**
comp=Z,15nm,0.8s,baz=37,slow=6.1,SNR=58
NOA LR LR 21 51 47.2
comp=Z,78nm,18.4s,baz=35,slow=41
NOA NORSAR Array B 70.09 337 P **P 21 14 31.0 -0.4**
NOA pmax pmax
comp=Z,15nm,0.8s
NOA MLR MLR
comp=Z,78nm,18.5s
SOC Sochi 70.12 311 *c iP* **P 21 14 31.7 -0.1**
SOC *e**PP **pP 21 14 45.2 -3.6**
SOC *eS* S 21 23 36.4 -1.5
SOC *e*SSS SSS 21 31 11.0
SOC pmax pmax
comp=Z,28nm,0.8s
SOC MLR MLR
comp=Z,122nm,15.0s
BANOM Banah 70.13 287⇑ *iP* **P 21 14 32.1 -0.1**
SNR=8.8
NC602 NORSAR Array S 70.24 337 *eP* **P 21 14 31.6 -0.5**
MFID Camas Ranch 70.31 49 *eP* **P 21 14 34.3 +1.1**
comp=Z,14nm,1.3s
MFID *ep*P **pP 21 14 49.0 -1.2**
BCA Borcka 70.36 308 *eP* **P 21 14 32.9 -0.4**
HRY Holter Researc 70.40 45 *eP* **P 21 14 32.2 -1.4**
CLDR Caldiran 70.40 305 *eP* **P 21 14 34.2 +0.3**
A19A Klindworth Far 70.52 41 P **P 21 14 35.8 +1.5**
baz=70
EGMT Eagleton 70.61 42 P **P 21 14 36.3 +1.5**
baz=70,SNR=10
EGMT Eagleton 70.61 42 *eP* **P 21 14 35.6 +0.8**
comp=Z,18nm,0.9s
ANN Anapa 70.62 313 *eP* **P 21 14 34.3 -0.5**
ANN pmax pmax
comp=Z,50nm,1.1s
LRM Limekiln Ridge 70.64 46 *eP* **P 21 14 36.2 +0.9**
B19A Brinkman Farms 70.74 42 P **P 21 14 36.5 +0.9**
baz=71
IBZA Bozab 70.76 299 *eP* **P 21 14 35.0 -1.1**
UOSS Wadi Hilu 70.79 287 P **P 21 14 35.9 -0.3**
comp=Z,342nm,0.7s,SNR=12
HOQ Hoqain 70.82 285⇓ P **P 21 14 36.2 -0.2**
SNR=7.7
DLMT Dillon 70.86 46 *eP* **P 21 14 37.3 +0.9**
comp=Z,22nm,1.1s
AKASG Malin Array Be 70.90 322 P **P 21 14 35.9 -0.5**
comp=Z,19nm,0.5s,baz=44,slow=6.4,SNR=136
AKASG pP **pP 21 14 53.7 +0.3**
comp=Z,2.6nm,0.4s,baz=43,slow=6.3,SNR=3.6
AKASG LR LR 21 48 27.0
comp=Z,85nm,20.8s,baz=50,slow=38
AKASG Malin Array Be 70.90 322 *ce*P **P 21 14 35.9 -0.5**
AKASG pmax pmax
comp=Z,21nm,0.5s
AKBB Malin Array Si 70.90 322 *eP* **P 21 14 35.9 -0.5**
KIEV Kiev 70.91 322 *c iP* **P 21 14 35.8 -0.7**
KIEV Kiev 70.91 322 *eP* **P 21 14 35.7 -0.7**
comp=Z,50nm,1.3s
HATD Hatta, Dubai 70.91 286⇑ P **P 21 14 37.0 +0.1**
SNR=7.9
HATD Hatta, Dubai 70.91 286 *i* P **P 21 14 36.9 0.0**
SNR=29
IKAZ Kazeroun 70.93 293 *eP* **P 21 14 36.3 -1.0**
CMB Columbia Colle 70.95 56 *eP* **P 21 14 38.1 +1.0**
comp=Z,17nm,1.1s
HLID Hailey 71.02 48 P **P 21 14 39.1 +1.7**
baz=71,SNR=13
HLID Hailey 71.02 48 *eP* **P 21 14 38.8 +1.3**
comp=Z,7.7nm,1.0s
ASHO Ashiyiah 71.05 286 P **P 21 14 37.7 -0.1**
SNR=8.3
ASHO Ashiyiah 71.05 286⇓ *iP* **P 21 14 37.7 -0.1**
SNR=24
MCMT McKenzie Canyo 71.07 47 *eP* **P 21 14 39.0 +1.2**
OSL Oslo 71.12 336 *eP* **P 21 14 38.3 +0.8**
IKOM Komasi 71.17 299 *eP* **P 21 14 36.9 -1.6**
BOZ Bozeman (W) 71.19 45 P **P 21 14 39.9 +1.4**
baz=71,SNR=18
B20A Solberg Farm, 71.21 41 P **P 21 14 39.6 +1.2**
baz=71
SUW Suwalki 71.22 327 *eP* **P 21 14 38.0 -0.2**
SUW Suwalki 71.22 327 *eP* **P 21 14 38.1 -0.2**
WAKR Walker 71.25 55 *eP* **P 21 14 40.8 +1.8**
FAQ Al Faqa, Dubai 71.35 287⇑ *iP* **P 21 14 39.0 -0.6**
SNR=8.7
BMN Battle Mountai 71.38 52 *eP* **P 21 14 41.1 +1.4**
comp=Z,11nm,1.1s
HYA Hoyanger 71.40 339 *eP* **P 21 14 39.5 +0.3**
ARQ Araqi 71.54 285⇓ P **P 21 14 40.8 +0.1**
SNR=6.6
IDHR Dehrash 71.58 300 *eP* **P 21 14 39.4 -1.6**
ASUD Al Ashush, Dub 71.61 287⇑ *iP* **P 21 14 41.2 +0.1**
SNR=18
C20A Veseth Ranch, 71.70 42 P **P 21 14 42.7 +1.3**
baz=72,SNR=11
B21A Ellsworth Farm 71.71 41 P **P 21 14 42.5 +1.1**
baz=72
CUKT Cukurca 71.76 304 *eP* **P 21 14 41.5 -0.5**
QLMT Earthquake Lak 71.83 46 *eP* **P 21 14 43.3 +0.8**
A22A Carney Farms, 71.86 40 P **P 21 14 43.4 +1.1**
baz=72,SNR=12
SUE Sulen 71.87 340 *eP* **P 21 14 42.4 +0.3**
BAYT Ayd¯-ntepe-Bay 71.89 308 *eP* **P 21 14 43.4 +0.7**
NV01 Mina Array Sit 71.99 54 *eP* **P 21 14 44.8 +1.3**
NVAR Mina Array Bea 71.99 54 P **P 21 14 44.8 +1.3**
comp=Z,8.7nm,0.8s,baz=291,slow=5.9,SNR=47
NVAR pP **PcP 21 15 01.7 -0.1**
comp=Z,4.5nm,0.6s,baz=286,slow=6.4,SNR=6.4
C21A Desert Coulee 72.08 41 P **P 21 14 44.8 +1.2**
baz=72
GCMT Greycliff 72.13 44 *eP* **P 21 14 45.4 +1.2**
GCMT *ep*P **PcP 21 15 02.5 +0.4**
MLAC Mammoth, Mammo 72.16 55 P **P 21 14 45.6 +1.1**
baz=72
GUMT Gumushane 72.23 309 *eP* **P 21 14 45.3 +0.5**
RUND Rundenannen 72.25 339 *eP* **P 21 14 44.1 -0.3**
B22A Reddig Ranch S 72.29 40 P **P 21 14 45.7 +0.8**
baz=72
ELK Elko 72.34 51 *eP* **P 21 14 47.0 +1.4**
comp=Z,6.6nm,1.2s
A23A Redstone 72.38 39 P **P 21 14 46.0 +0.6**
baz=72
ESPY Espiye-Giresun 72.38 309 *eP* **P 21 14 44.5 -1.0**
YFT Old Faithful 72.40 46 *eP* P 21 14 49.7 +3.8
comp=Z,14nm,0.8s
H17A Grant Village 72.58 46 *eP* P 21 14 50.1 +3.2
comp=Z,16nm,0.8s
D21A La Casta Ranch 72.64 42 P **P 21 14 48.5 +1.5**
baz=72,SNR=7.3
B23A Brockton 72.67 40 P **P 21 14 48.4 +1.2**
baz=72,SNR=11
IMW Indian Meadow 72.71 46 *eP* **P 21 14 49.9 +2.2**
comp=Z,9.6nm,0.9s
FLWY Flagg Ranch 72.72 46 *eP* **P 21 14 46.3 -1.4**
comp=Z,12nm,0.9s
C22A Vida 72.73 41 P **P 21 14 48.1 +0.6**
baz=72
BLS5 Blasjo 72.79 338 *eP* **P 21 14 48.1 +0.5**
RLMT Red Lodge 72.79 45 P **P 21 14 49.3 +1.1**
baz=73
A24A Westby 72.82 39 P **P 21 14 49.6 +1.6**
baz=73
FXWY Fox Creek 72.84 47 *eP* **P 21 14 50.2 +1.8**
comp=Z,11nm,1.1s
TPH Tonopah 72.87 54 *eP* **P 21 14 50.0 +1.3**
comp=Z,17nm,1.1s
F20A Billings 72.92 43 P **P 21 14 49.2 +0.5**
baz=73
MOOW Moose Ponds 72.92 46 *eP* **P 21 14 50.9 +2.0**
comp=Z,9.1nm,0.9s
TPAW Teton Pass 72.97 47 *eP* **P 21 14 51.2 +1.9**
comp=Z,10nm,0.9s
D22A Cohagen 72.99 41 P **P 21 14 49.8 +0.7**
baz=73
C23A Lambert 73.03 40 P **P 21 14 50.2 +1.0**
baz=73
DGMT Dagmar 73.04 39 P **P 21 14 50.3 +0.9**
baz=73
DGMT Dagmar 73.04 39 *eP* **P 21 14 50.2 +0.9**
comp=Z,18nm,0.8s
LOHW Long Hollow 73.08 46 *eP* **P 21 14 51.5 +1.6**
comp=Z,27nm,1.9s
HVU Hansel Valley 73.09 49 *eP* **P 21 14 51.3 +1.4**
comp=Z,9.2nm,0.9s
SNOW Snow King Moun 73.10 47 *eP* **P 21 14 52.5 +2.5**
comp=Z,8.3nm,0.9s
REDW Red Top Meadow 73.11 47 *eP* **P 21 14 51.8 +1.7**
comp=Z,11nm,1.0s
VES Vestal, Richgr 73.14 57 P **P 21 14 50.9 +0.8**
baz=73
STKA Stephens Creek 73.15 180 P **P 21 14 50.6 +0.7**
comp=Z,5.2nm,0.9s,baz=342,slow=5.5,SNR=8.0
STKA LR LR 21 47 00.2
comp=Z,66nm,21.6s,baz=18,slow=36
STKA Stephens Creek 73.15 180 P **P 21 14 50.6 +0.7**
STKA pmax pmax
comp=Z,5.0nm,0.9s
STKA MLR MLR
comp=Z,66nm,21.6s
STKA Stephens Creek 73.15 180 *eP* **P 21 14 50.6 +0.7**
comp=Z,24nm,2.3s
A25A Svangstu Ranch 73.23 39 P **P 21 14 51.4 +1.0**
baz=73
H19A Powell 73.24 45 P **P 21 14 51.9 +1.2**
baz=73
PKM Mcpherson Peak 73.27 58 P **P 21 14 52.5 +1.4**
baz=73
G20A Bridger 73.28 44 P **P 21 14 51.6 +0.7**
baz=73
PTK Pertek 73.29 307 *eP* **P 21 14 52.2 +1.0**
KMY Karmoy 73.30 338 *eP* **P 21 14 50.2 -0.4**
KMY IAmb IAmb 21 14 51.7
comp=Z,17nm,0.9s
AHID Auburn Hatcher 73.37 47 *eP* **P 21 14 52.2 +0.6**
D23A Lindsay 73.46 41 P **P 21 14 53.5 +1.7**
baz=73
GRAC Grapevine Rang 73.47 55 P **P 21 14 53.7 +1.6**
baz=73,SNR=5.6
SNART Snartemo 73.48 337 *eP* **P 21 14 51.9 +0.3**
BGU Big Grassy Mou 73.50 50 *eP* **P 21 14 54.0 +1.7**
comp=Z,7.9nm,1.0s
RSDY Resadiye-TOKAT 73.53 310 *eP* **P 21 14 52.7 +0.4**
BSD Bornholm Skovb 73.57 331⇑ *iP* **P 21 14 51.7 -0.5**
comp=Z,34nm,1.0s
BSD Bornholm Skovb 73.57 331⇑ *iP* **P 21 14 51.7 -0.5**
BSD pmax pmax
comp=Z,34nm,1.0s
E22A Miles City 73.60 42 P **P 21 14 53.4 +0.7**
baz=73
I19A Meeteetse 73.66 45 P **P 21 14 54.8 +1.5**
baz=74
R11A Troy Canyon, C 73.68 53 P **P 21 14 55.1 +1.6**
baz=74,SNR=16
R11A Troy Canyon, C 73.68 53 *eP* **P 21 14 54.6 +1.1**
comp=Z,15nm,1.5s
ARVC Arvin 73.75 57 P **P 21 14 55.4 +1.7**
baz=74
A26A Wade Farm, Ken 73.75 38 P **P 21 14 54.6 +1.1**
baz=74
DAC Darwin (Calif) 73.79 56 *eP* **P 21 14 55.3 +1.2**
comp=Z,12nm,1.3s
G21A Lodge Grass 73.79 43 P **P 21 14 54.7 +0.8**
baz=74
BEL Belsk 73.80 326 *eP* **P 21 14 54.2 +0.6**
BEL Belsk 73.80 326 *eP* **P 21 14 54.2 +0.6**
E23A Ismay 73.88 42 P **P 21 14 55.9 +1.6**
baz=74,SNR=13
DIKM Dikmen 73.88 312 *eP* **P 21 14 54.6 +0.3**
HWUT Hardware Ranch 73.88 48 *eP* **P 21 14 55.9 +1.3**
comp=Z,21nm,1.1s
H20A Greybull 73.89 44 P **P 21 14 55.6 +1.2**
baz=74
LVV L'vov 73.89 323 *eP* **P 21 14 54.4 +0.2**
LVV MLR MLR
comp=Z,100nm,17.0s
LVV MLR MLR
comp=E,100nm,15.0s
LVV MLR MLR
comp=N,40nm,16.0s
F22A Rosebud 73.90 43 P **P 21 14 55.5 +1.1**
baz=74
D24A Glendive 73.93 41 P **P 21 14 56.0 +1.5**
baz=74
COP Copenhagen 73.99 333⇑ *iP* **P 21 14 54.8 +0.2**
comp=N,15nm,0.9s
COP Copenhagen 73.99 333⇑ *iP* **P 21 14 54.8 +0.2**
COP pmax pmax
comp=Z,15nm,0.9s
MPMC Manual Prospec 73.99 56 P **P 21 14 56.6 +1.3**
baz=74,SNR=6.8
TOKT Tokat 74.03 310 *eP* **P 21 14 55.9 +0.6**
SVSK Karacayir 74.03 309 *eP* **P 21 14 55.7 +0.5**
DUG Dugway, Tooele 74.11 50 P **P 21 14 57.4 +1.5**
baz=74,SNR=18
DUG Dugway, Tooele 74.11 50 *eP* **P 21 14 57.2 +1.3**
comp=Z,12nm,0.8s
FURC Furnace Creek, 74.12 55 P **P 21 14 57.5 +1.7**
baz=74,SNR=21
GKP Gorka Klasztor 74.14 329 *eP* **P 21 14 55.5 -0.1**
GKP Gorka Klasztor 74.14 329 *eP* **P 21 14 55.5 -0.1**
J19A Crowheart 74.15 46 P **P 21 14 57.7 +1.6**
baz=74,SNR=11
I20A Worland 74.18 45 P **P 21 14 57.8 +1.6**
baz=74,SNR=12
TPNV Topopah Spring 74.19 55 P **P 21 14 57.8 +1.4**
baz=74,SNR=25
TPNV Topopah Spring 74.19 55 *eP* **P 21 14 57.6 +1.2**
comp=Z,19nm,1.0s
BW06 Boulder Array 74.22 47 *eP* **P 21 14 57.3 +0.7**
comp=Z,9.9nm,0.8s
PD31 Pinedale Array 74.22 47 *eP* **P 21 14 57.2 +0.7**
PDAR Pinedale Array 74.22 47 P **P 21 14 57.2 +0.7**
comp=Z,13nm,1.0s,baz=331,slow=1.7,SNR=50
PDAR pP **pP 21 15 14.7 +0.9**
comp=Z,7.5nm,0.7s,baz=0.4,slow=1.6,SNR=8.1
PDAR LR LR 21 48 50.1
comp=Z,41nm,20.0s,baz=348,slow=37
LRMC Laurel Mtn Rad 74.24 57 P **P 21 14 57.6 +0.9**

baz=74
MALT Malatya 74.24 307 eP P 21 14 57.9 +1.2
MALT Malatya 74.24 307 ⇑iP P 21 14 58.1 +1.5
G22A Birney 74.27 43 P P 21 14 57.4 +0.8
baz=74
H21A Big Horn, Sher 74.29 44 P P 21 14 57.7 +0.9
baz=74
F23A Volborg 74.37 42 P P 21 14 58.4 +1.2
baz=74,SNR=9.1
BZK Bozkurt 74.37 313 eP P 21 14 57.1 -0.1
CTU Camp Tracy 74.39 49 eP P 21 14 59.4 +1.8
comp=Z,18nm,1.2s
D25A Fairfield 74.39 40 P P 21 14 58.9 +1.6
baz=74
MUD Monsted U'grnd 74.44 335 iP P 21 14 57.3 +0.1
comp=Z,13nm,0.9s
MUD Monsted U'grnd 74.44 335 iP P 21 14 57.3 +0.1
MUD pmax pmax
comp=Z,13nm,0.9s
EDW2 Edwards Air Fo 74.44 57 P P 21 14 59.1 +1.4
baz=74,SNR=5.9
RGN Rugen 74.59 332 eP P 21 14 59.1 +1.0
comp=Z,53nm,1.3s
KWP Kalwaria Pacla 74.61 324 eP P 21 14 59.1 +0.7
KWP Kalwaria Pacla 74.61 324 eP P 21 14 59.1 +0.7
J20A Shoshoni 74.61 45 P P 21 14 59.9 +1.1
baz=74,SNR=10
DARE Darende-Malaty 74.63 308 eP P 21 15 00.0 +1.1
H22A Clearmont 74.67 43 P P 21 14 59.8 +0.8
baz=74
NLU North Lily Min 74.69 50 eP P 21 15 00.9 +1.6
comp=Z,9.8nm,0.8s
NLU epP pP 21 15 18.8 +2.2
I21A Big Trails, Te 74.72 45 P P 21 15 00.6 +1.2
baz=74,SNR=21
G23A Biddle 74.74 43 P P 21 15 00.4 +1.1
baz=74
F24A Ekalaka 74.76 42 P P 21 15 00.5 +1.0
baz=75,SNR=6.8
E25A Miller Ranch, 74.81 41 P P 21 15 00.8 +1.1
baz=75
MWC Mount Wilson 74.81 58 eP P 21 15 01.7 +1.6
SHOC Shoshone, Teco 74.84 55 P P 21 15 00.6 +0.6
baz=75
B28A Dugan Ranch, T 74.85 38 P P 21 15 01.2 +1.4
baz=75
D26A Manning 74.90 40 P P 21 15 00.8 +0.6
baz=75
GSC Goldstone, Bar 74.91 56 P P 21 15 02.1 +1.6
baz=75,SNR=6.3
GSC Goldstone, Bar 74.91 56 eP P 21 15 01.4 +0.9
comp=Z,6.9nm,1.0s
BURAR Bucovina Array 74.94 321 ⇑iP P 21 15 00.4 -0.1
J21A Lysite 74.96 45 P P 21 15 02.0 +1.2
baz=75,SNR=5.4
A29A Manning Farm, 75.02 37 P P 21 15 02.5 +1.8
baz=75,SNR=6.8
TESR Tescani 75.04 320 ⇑iP P 21 15 01.2 +0.2
BFSC Mount Baldy Ra 75.06 57 P P 21 15 02.4 +0.9
baz=75
I22A 9 Mile Ranch, 75.08 44 P P 21 15 02.5 +1.0
baz=75,SNR=6.6
CIS Catalina Islan 75.12 59 P P 21 15 03.5 +1.8
baz=75
SHPR Sheep Range 75.14 54 eP P 21 15 03.4 +1.5
F25A Bowman 75.19 41 P P 21 15 02.6 +0.7
baz=75
CFR Carcaliu 75.25 318 ⇑iP P 21 15 01.9 -0.3
E26A Carlson Angus 75.29 40 P P 21 15 02.7 +0.2
baz=75
B29A Wagenman Farm, 75.30 37 P P 21 15 02.9 +0.5
baz=75
KOLS Kolonicke sedl 75.32 324 eP P 21 15 02.8 +0.3
KOLS pmax pmax
comp=Z,12nm,1.3s
KOLS Kolonicke sedl 75.32 324 eP P 21 15 02.8 +0.3
KOLS ePP PP 21 17 52.7 +1.5
TUQ Turquoise Moun 75.37 56 P P 21 15 04.9 +1.6
baz=75,SNR=12
STHS Stebnicka Huta 75.41 325 eP P 21 15 03.8 +0.7
STHS pmax pmax
comp=Z,24nm,1.6s
STHS Stebnicka Huta 75.41 325 eP P 21 15 03.8 +0.7
J22A Midwest 75.42 44 P P 21 15 04.4 +1.0
baz=75,SNR=14
OJC Ojcow 75.43 326 eP P 21 15 03.6 +0.5
OJC Ojcow 75.43 326 eP P 21 15 03.7 +0.6
OJC Ojcow 75.43 326 eP P 21 15 03.6 +0.5
comp=Z,36nm,0.8s
VRI Vrincioaia 75.47 319 eP P 21 15 04.0 +0.5
VRI Vrincioaia 75.47 319 ⇑iP P 21 15 04.1 +0.7
H24A Dirks Ranch, A 75.48 42 P P 21 15 04.3 +0.7
baz=75,SNR=5.0
ULM Lac du Bonnet 75.48 34 P P 21 15 03.3 -0.1
comp=Z,4.7nm,0.5s,baz=316,slow=4.9,SNR=11
ULM LR LR 21 51 14.7
comp=Z,105nm,19.3s,baz=342,slow=38
ULM Lac du Bonnet 75.48 34 P P 21 15 03.3 -0.1
ULM pmax pmax
comp=Z,5.0nm,0.5s
ULM MLR MLR
comp=Z,105nm,19.3s
ULM Lac du Bonnet 75.48 34 eP P 21 15 03.3 -0.1
comp=Z,9.4nm,1.0s
HEC Hector,Ludlow 75.51 56 P P 21 15 05.9 +2.0
baz=75
CCUT Cedar City 75.53 53 eP P 21 15 06.0 +1.7
comp=Z,5.8nm,1.0s
UZH Uzhgorod 75.53 323 eP P 21 15 03.8 +0.1
UZH e 21 15 20.5
MSU Marysvale 75.59 51 eP P 21 15 06.3 +1.7
TIRR Tirgusor 75.62 317 ⇑iP P 21 15 04.3 0.0
TIRR Tirgusor 75.62 317 eP P 21 15 04.1 -0.2
comp=Z,15nm,1.2s
TMUT Trail Mountain 75.63 50 eP P 21 15 06.8 +1.9
comp=Z,11nm,0.8s
KMRS Kahramanmaras 75.68 308 eP P 21 15 05.2 +0.4
E27A Carson 75.75 40 P P 21 15 06.2 +1.1
baz=76
B30A Myrvik Farm, E 75.77 37 P P 21 15 06.4 +1.3
baz=76,SNR=12
NIE Niedzica 75.81 325 eP P 21 15 06.1 +0.7
NIE Niedzica 75.81 325 eP P 21 15 06.1 +0.7
K22A Casper 75.93 45 P P 21 15 06.7 +0.4
baz=76
K22A Casper 75.93 45 eP P 21 15 07.8 +1.4
comp=Z,21nm,1.1s
K22A epP pP 21 15 25.3 +1.7
F27A Lemmon 75.93 40 P P 21 15 07.4 +1.2
baz=76
GMRC Granite Mounta 75.96 56 P P 21 15 08.1 +1.5
baz=76,SNR=8.7
DOPR Dopca 76.04 320 ⇑iP P 21 15 10.4 +3.7
RUE Ruedersdorf 76.06 330 eP P 21 15 07.4 +0.8
comp=Z,45nm,1.2s
G26A Maurine 76.07 41 P P 21 15 07.3 +0.4
baz=76,SNR=6.1
I24A Kuemmerle Ranc 76.07 43 P P 21 15 07.5 +0.4
baz=76
BR101 Keskin Array S 76.08 311 eP P 21 15 07.4 +0.2
BR101 ePP PP 21 17 59.1 +0.9
BRTR Keskin Array B 76.09 311 P P 21 15 07.4 +0.2
comp=Z,8.0nm,0.7s,baz=82,slow=4.0,SNR=51
BRTR PP PP 21 17 59.1 +0.9
comp=Z,5.8nm,1.0s,baz=67,slow=7.0,SNR=7.4
BRTR LR LR 21 54 46.1
comp=Z,44nm,19.0s,baz=23,slow=40
ISR Istrita 76.09 319 ⇑iP P 21 15 08.2 +1.1
LDFC Landfair 76.10 55 eP P 21 15 08.5 +1.1
MLR Muntele Rosu 76.12 319 ⇑iP P 21 15 07.5 +0.2
BSEG Bad Segeberg 76.13 333 eP P 21 15 07.9 +0.9
comp=Z,36nm,1.1s
SRU San Rafael Swe 76.15 50 eP P 21 15 09.0 +1.3
comp=Z,17nm,0.8s
MSAB Monastry St. A 76.18 317 ⇑iP P 21 15 08.2 +0.7
RSSD Black Hills 76.18 43 eP P 21 15 07.8 0.0
comp=Z,7.7nm,0.8s
KNB Kanab 76.21 53 eP P 21 15 10.0 +2.0
comp=Z,10nm,1.1s
PFO Pinyon Flats O 76.23 57 P P 21 15 08.6 +0.4
baz=76
PFO Pinyon Flats O 76.23 57 eP P 21 15 09.2 +1.1
comp=Z,6.7nm,0.9s
BELC Belle Mtn. Jos 76.26 57 P P 21 15 08.8 +0.4
baz=76
KAMT Kaman 76.29 311 eP P 21 15 08.2 -0.2
PSN Preselentsi 76.29 317 ⇓iP P 21 15 09.3 +1.2
PSN Preselentsi 76.29 317 P P 21 15 08.9 +0.8
K23A Bowen Ranch, D 76.33 44 P P 21 15 08.8 +0.3
baz=76
KOZT Kozan 76.33 308 eP P 21 15 09.1 +0.6
CJR Cluj-Napoca 76.35 321 ⇓iP P 21 15 08.4 -0.1
KSP Ksiaz 76.39 328 eP P 21 15 09.0 +0.4
KSP Ksiaz 76.39 328 eP P 21 15 09.0 +0.4
I25A Rochford 76.41 43 P P 21 15 09.4 +0.3
baz=76,SNR=7.1
OKC Ostrava-Krasne 76.41 326 ⇑eP P 21 15 09.0 +0.3
OKC epP pP 21 15 29.4 +3.4
OKC Ostrava-Krasne 76.41 326 eP P 21 15 09.0 +0.3
OKC e 21 15 29.4
J24A Dixon Ranch, L 76.42 44 P P 21 15 09.1 0.0
baz=76
KECS Kecovo 76.44 324 eP P 21 15 09.3 +0.4
KECS pmax pmax
comp=Z,5.0nm,1.1s
KECS Kecovo 76.44 324 eP P 21 15 09.3 +0.4
ANTO Ankara 76.46 312 ⇑iP P 21 15 10.2 +0.9
ANTO Ankara 76.46 312 P P 21 15 10.1 +0.9
SNR=8.7
ANTO Ankara 76.46 312 eP P 21 15 10.1 +0.8
H26A Fairpoint 76.47 42 P P 21 15 10.4 +1.2
baz=76
D30A Buchanan 76.57 38 P P 21 15 10.3 +0.7
baz=76
VOIR 76.59 320 ⇑iP P 21 15 11.2 +1.3
AFSR Af˙ar-Bala (A 76.60 311 eP P 21 15 10.3 +0.2
NIG Nigde 76.62 309 eP P 21 15 11.4 +0.9
IRM Iron Mountain 76.68 56 P P 21 15 11.9 +1.3
baz=77,SNR=6.6
DRGR 76.70 322 ⇑iP P 21 15 11.1 +0.6
MORC Moravsky Berou 76.71 327 ⇑iP P 21 15 11.0 +0.5
MORC Moravsky Berou 76.71 327 eP P 21 15 10.6 +0.2
comp=Z,80nm,0.9s
MONP Monument Peak, 76.72 58 P P 21 15 11.5 +0.5
baz=77
HLG Helgoland 76.73 334 eP P 21 15 11.2 +0.8
comp=Z,28nm,0.8s
O20A White River Ci 76.73 48 P P 21 15 12.3 +1.4
baz=77,SNR=11
O20A White River Ci 76.73 48 eP P 21 15 12.0 +1.0
comp=Z,14nm,1.0s
O20A epP pP 21 15 29.9 +1.6
DPC Dobruska-Polom 76.76 328 eP P 21 15 11.5 +0.8
DPC ePCP PcP 21 15 19.8 -2.0
DPC epP pP 21 15 28.9 +0.9
DPC AMS AMS 21 53 40.0
comp=Z,200nm,11.6s
DPC Dobruska-Polom 76.76 328 eP P 21 15 11.5 +0.8
DPC e 21 15 19.8
DPC e 21 15 28.9
DPC MLR MLR
comp=Z,200nm,11.6s
UPC Upice 76.76 328 ⇑eP P 21 15 11.1 +0.4
UPC epP pP 21 15 27.6 -0.4
UPC Upice 76.76 328 eP P 21 15 11.1 +0.4
UPC e 21 15 27.6
KRLC Kraliky 76.79 327 ⇑eP P 21 15 11.6 +0.7
KRLC ePCP PcP 21 15 20.3 -1.7
KRLC epP pP 21 15 27.6 -0.6
KRLC Kraliky 76.79 327 eP P 21 15 11.6 +0.7
KRLC e 21 15 20.3
KRLC e 21 15 30.7
H27A Howes 76.80 41 P P 21 15 11.9 +0.9
baz=77
J25A Sunshine Ranch 76.82 43 P P 21 15 11.2 -0.1
baz=77
BC3 Big Chuckawall 76.83 57 P P 21 15 12.8 +1.3
baz=77,SNR=7.5
I26A New Underwood 76.84 42 P P 21 15 12.3 +1.0
baz=77
MDUB Mudurnu 76.94 313 eP P 21 15 11.9 0.0
KARA Karaisali 76.94 308 eP P 21 15 12.8 +0.9
E30A Jud 76.95 38 P P 21 15 12.6 +0.8
baz=77
AGMN Agassiz Nation 76.97 35 P P 21 15 12.7 +0.8
baz=77
AGMN Agassiz Nation 76.97 35 eP P 21 15 11.9 0.0
comp=Z,9.9nm,0.8s
AGMN epP pP 21 15 30.4 +1.2
PRD Provadia 77.03 317 ⇑iP P 21 15 13.2 +0.9
G28A Parade 77.05 40 P P 21 15 13.8 +1.4
baz=77
IBP Imperial Bould 77.08 58 P P 21 15 13.8 +0.9
baz=77
SWSC Sam W. Stewart 77.08 57 P P 21 15 13.7 +0.9
baz=77
PSZ Piszkesteto 77.13 324 ⇓iP P 21 15 13.9 +1.0
PSZ Piszkesteto 77.13 324 eP P 21 15 13.5 +0.6
comp=Z,21nm,1.1s
LOT Lotru 77.20 320 ⇑iP P 21 15 13.5 +0.1
PDMCI Parker Dam,Lak 77.22 55 P P 21 15 15.1 +1.6
baz=77
I27A Quinn 77.22 42 P P 21 15 14.6 +1.1
baz=77
J26A Sides Ranch, S 77.25 43 P P 21 15 14.9 +1.2
baz=77
BRG Berggiesshubel 77.28 329 eP P 21 15 13.6 0.0
comp=Z,10nm,1.0s
BRG Berggiesshubel 77.28 329 eP P 21 15 14.2 +0.6
comp=Z,10.0nm,1.0s
BRG Berggiesshubel 77.28 329 eP P 21 15 13.6 0.0
BRG pmax pmax
comp=Z,10.0nm,1.0s
H28A Mission Ridge 77.29 41 P P 21 15 15.1 +1.3
baz=77
DEV Deva 77.29 321 ⇑iP P 21 15 15.0 +1.3
CLL Collm 77.29 330 eP P 21 15 14.0 +0.4
comp=Z,21nm,1.0s
CLL Collm 77.29 330 ⇑iP P 21 15 13.5 -0.1
comp=Z,17nm,0.8s
CLL iPcP PcP 21 15 24.3 +0.3
CLL epP sP 21 15 33.0 -4.9
CLL ePP PP 21 18 06.0 -1.7
CLL eS S 21 25 03.0 +4.6
CLL Lm MLR 21 53 00.0
comp=N,100nm,20.0s
CLL Lm MLR 21 53 00.0
comp=E,100nm,19.2s
CLL Lm MLR 21 53 00.0
comp=Z,100nm,19.9s
CLL Collm 77.29 330 ⇑iP P 21 15 13.5 -0.1
CLL e*SP sP 21 15 33.0 -4.9
CLL pmax pmax
comp=Z,17nm,0.8s
CLL Collm 77.29 330 eP P 21 15 13.5 -0.1
comp=Z,24nm,1.0s
PVCC Panska Ves 77.31 329 ⇑eP P 21 15 14.2 +0.4
PVCC epP pP 21 15 30.1 -1.0
PVCC Panska Ves 77.31 329 eP P 21 15 14.2 +0.4
PVCC e 21 15 30.1
GULT Gulveren 77.34 313 eP P 21 15 13.9 -0.3
K25A Mack Ranch, Ha 77.34 44 P P 21 15 15.4 +1.2
baz=77
Y12C Blythe 77.34 56 P P 21 15 15.6 +1.4
baz=77,SNR=5.7
PV09 Paradox Valley 77.36 49 eP P 21 15 16.2 +1.6
PHWY Pilot Hill 77.44 45 eP P 21 15 16.1 +1.0
comp=Z,5.7nm,0.8s
G29A Hoven 77.44 40 P P 21 15 15.9 +1.3
baz=77
VRAC Vranov 77.46 327 ⇑iP P 21 15 15.5 +0.8
N23A Red Feather La 77.46 46 P P 21 15 16.5 +1.4
baz=77,SNR=8.2
N23A Red Feather La 77.46 46 eP P 21 15 16.7 +1.6
comp=Z,12nm,1.0s
FBE Freiberg 77.47 330 eP P 21 15 15.5 +0.9
comp=Z,20nm,1.1s
PV10 Paradox Valley 77.50 50 eP P 21 15 17.1 +1.7
MERS Mersin 77.52 308 eP P 21 15 15.2 -0.1
PV04 Paradox Valley 77.56 49 eP P 21 15 17.3 +1.6
NWAO Narrogin (SRO) 77.59 201 P P 21 15 15.8 +0.5
comp=Z,12nm,0.9s,baz=330,slow=6.9,SNR=6.7
NWAO Narrogin (SRO) 77.59 201 P P 21 15 15.8 +0.5
NWAO pmax pmax
comp=Z,12nm,0.9s
GLA Glamis 77.62 57 P P 21 15 17.3 +1.4
baz=78,SNR=5.3
GLA Glamis 77.62 57 eP P 21 15 17.6 +1.7
comp=Z,14nm,0.9s
K26A Motz Farm, Whi 77.64 43 P P 21 15 16.6 +0.7
baz=77
KIZT Kizilcal 77.66 311 eP P 21 15 15.9 -0.1
PV05 Paradox Valley 77.67 50 eP P 21 15 17.8 +1.5
I28A Midland 77.71 41 P P 21 15 17.3 +1.1
baz=78,SNR=5.7
GZR Gura Zlata 77.71 321 ⇑iP P 21 15 16.4 +0.2
GOPC GO Pecny, Ondr 77.71 328 eP P 21 15 16.5 +0.4
GOPC ePCP PcP 21 15 25.1 -0.8
GOPC epP pP 21 15 34.0 +0.6
GOPC AMS AMS 21 52 40.0
comp=Z,200nm,19.4s
H29A Onida 77.72 40 P P 21 15 16.7 +0.5
baz=78
SZH Strazhica 77.73 318 P P 21 15 16.4 +0.2
PRA Prague 77.73 328 ⇑eP P 21 15 16.6 +0.5
PRA epP pP 21 15 33.9 +0.5
PRA Prague 77.73 328 eP P 21 15 16.6 +0.5
PRA e 21 15 33.9
PRU Pruhonice 77.75 328 ⇑eP P 21 15 16.6 +0.4
PRU ePCP PcP 21 15 27.9 +1.8
PRU epP pP 21 15 32.6 -0.9
PRU AMS AMS 21 52 50.0
comp=Z,200nm,17.9s
PRU Pruhonice 77.75 328 eP P 21 15 16.6 +0.4
PRU e 21 15 27.9
PRU e 21 15 32.6
PRU MLR MLR
comp=Z,200nm,17.9s
ADVT Abdulvahap 77.76 314 eP P 21 15 16.1 -0.3
CLZ Clausthal 77.82 332 eP P 21 15 17.5 +0.9
comp=Z,25nm,1.0s
NEUB Neuenburg 77.83 331 eP P 21 15 17.1 +0.5
comp=Z,26nm,0.9s
LADK Ladik-KONYA 77.85 311 eP P 21 15 16.6 -0.5
G30A Faulkton 77.86 39 P P 21 15 17.7 +0.8
baz=78,SNR=7.4
TREC Trest 77.92 327 ⇑eP P 21 15 17.6 +0.4
TREC ePCP PcP 21 15 26.1 -0.8
TREC epP pP 21 15 34.3 -0.3
TREC AMS AMS 21 53 40.0
comp=Z,100nm,15.1s
TREC Trest 77.92 327 eP P 21 15 17.6 +0.4
TREC e 21 15 26.1
TREC e 21 15 34.3
TREC MLR MLR
comp=Z,100nm,15.1s
PV01 Paradox Valley 77.93 49 eP P 21 15 19.0 +1.3
JMB Yambol 77.98 317 P P 21 15 17.8 +0.2
WUAZ Wupatki 78.08 53 P P 21 15 19.9 +1.4
baz=78,SNR=15
WUAZ Wupatki 78.08 53 eP P 21 15 20.0 +1.5
comp=Z,14nm,0.9s
WUAZ epP pP 21 15 35.8 -0.1
BZS Buzias 78.09 322 eP P 21 15 16.7 -1.5
BZS Buzias 78.09 322 ⇓iP P 21 15 18.5 +0.3
J28A Allard Ranch, 78.09 42 P P 21 15 19.8 +1.5
baz=78,SNR=6.6
SMCO Snowmass 78.10 48 eP P 21 15 19.1 +0.2
comp=Z,11nm,0.9s
SMCO epP pP 21 15 40.1 +3.9
SMCO eS S 21 25 10.4 +1.9
I29A Vivian Onida 78.12 41 P P 21 15 18.7 +0.3
baz=78
ARMT Armutlu 78.14 314 eP P 21 15 18.1 -0.4
TANN Tannenbergstha 78.21 330 eP P 21 15 19.5 +0.6
comp=Z,8.0nm,1.1s
WERD Werda 78.25 330 eP P 21 15 19.6 +0.6
comp=Z,12nm,1.2s
PLN Plauen 78.27 330 eP P 21 15 19.8 +0.7
comp=Z,10.0nm,1.2s
GUNZ Gunzen 78.31 330 eP P 21 15 20.1 +0.8
comp=Z,12nm,1.1s
IBBN Ibbenburen 78.34 333 eP P 21 15 20.0 +0.6
comp=Z,24nm,0.8s
MOX Moxa 78.34 330 eP P 21 15 20.1 +0.6
comp=Z,15nm,1.2s
WERN Wernitzgruen 78.35 330 eP P 21 15 20.4 +0.8
comp=Z,18nm,1.1s
ISCO Idaho Springs 78.41 47 P P 21 15 21.6 +1.1
baz=78,SNR=7.4
ISCO Idaho Springs 78.41 47 eP P 21 15 21.7 +1.2
comp=Z,14nm,1.1s
ALT Altintas 78.52 312 P P 21 15 20.9 +0.1
ALT Altintas 78.52 312 P P 21 15 20.9 +0.1
L27A T5 Ranch, Ells 78.52 43 P P 21 15 21.9 +1.1
baz=78
M26A McRoberts Ranc 78.54 44 P P 21 15 22.2 +1.3
baz=78
K28A Ten Mile Ranch 78.55 42 P P 21 15 22.1 +1.2
baz=78
J29A Okreek 78.56 41 P P 21 15 21.5 +0.7
baz=78
TVSB Tavsanli 78.60 313 eP P 21 15 21.0 -0.3
MVCO Mesa Verde 78.61 50 P P 21 15 23.0 +1.4
baz=78,SNR=6.0
MVCO Mesa Verde 78.61 50 eP P 21 15 22.9 +1.4
comp=Z,12nm,1.1s
MVCO epP pP 21 15 41.1 +2.2
HDMB Hadim 78.64 310 eP P 21 15 20.8 -0.9
MANZ Manzenberg 78.69 330 eP P 21 15 22.2 +0.7
comp=Z,8.0nm,1.0s
MPEP Malo Peshtene 78.75 319 P P 21 15 22.5 +0.6
UBBA Unterbreizbach 78.80 331 eP P 21 15 22.2 +0.4
comp=Z,13nm,1.5s
KHC Kasperske Hory 78.81 328 ⇑iP P 21 15 22.5 +0.3
KHC ePCP PcP 21 15 31.4 +0.6
KHC epP pP 21 15 37.1 -2.4
KHC ex x 21 15 41.8
KHC AMS AMS 21 54 30.0
comp=Z,100nm,12.9s
KHC Kasperske Hory 78.81 328 ⇑iP P 21 15 22.5 +0.3
KHC e 21 15 31.4
KHC e 21 15 41.8
KHC MLR MLR
comp=Z,100nm,12.9s
KHC Kasperske Hory 78.81 328 eP P 21 15 22.6 +0.3
comp=Z,7.3nm,0.9s
ROTZ Rotzenmuhle 78.83 329 eP P 21 15 23.4 +1.2
comp=Z,16nm,1.2s
CONA Conrad Observa 78.84 326 ⇑iP P 21 15 23.1 +0.7
comp=Z,17nm,1.2s,SNR=11
M27A Reverse DX Ran 78.89 44 P P 21 15 23.7 +0.8
baz=79
WTSB Winterswijk 78.95 334 eP P 21 15 22.7 -0.1
comp=Z,31nm,1.0s
N26A Koester Ranch, 78.96 45 P P 21 15 25.3 +2.1
baz=79
PKSM Moragy 78.99 324 ⇑iP P 21 15 23.0 -0.1
GEC2 GERESS Array S 79.00 328 eP P 21 15 23.8 +0.6
comp=Z,9.0nm,1.0s
GEC2 GERESS Array S 79.00 328 eP P 21 15 23.3 +0.1
GERES GERESS Array B 79.00 328 P P 21 15 23.3 +0.1
comp=Z,3.0nm,0.6s,baz=32,slow=5.3,SNR=43
GERES pP pP 21 15 42.4 +1.8
comp=Z,1.5nm,0.6s,baz=32,slow=5.3,SNR=3.5
GERES LR LR 21 52 45.9
comp=Z,96nm,19.2s,baz=30,slow=38
GERES GERESS Array B 79.00 328 P P 21 15 23.3 +0.1
GERES *PP pP 21 15 42.4 +1.8
GERES pmax pmax
comp=Z,3.0nm,0.6s
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES MLR MLR
comp=Z,96nm,19.2s
J30A Dallas 79.03 41 P P 21 15 24.6 +1.2
baz=79,SNR=5.2
K29A Lazy Trails An 79.04 42 P P 21 15 24.4 +0.9
baz=79
WET Wettzell 79.08 329 eP P 21 15 24.6 +1.0
comp=Z,17nm,1.1s
EYMN Ely 79.09 33 P P 21 15 24.2 +0.5
baz=79,SNR=6.0
EYMN Ely 79.09 33 eP P 21 15 23.5 -0.2
comp=Z,20nm,0.9s
SUTC Sutluce-Ispart 79.13 311 eP P 21 15 23.7 -0.6
PGB Panagyurishte 79.14 318 P P 21 15 24.5 +0.4
ISP Isparta 79.16 311 ⇑iP P 21 15 23.9 -0.5
ISP Isparta 79.16 311 eP P 21 15 23.8 -0.5
KDZ Kurdzhali 79.17 317 ⇑iP P 21 15 25.4 +1.2
KDZ Kurdzhali 79.17 317 P P 21 15 25.9 +1.7
S22A 4UR Ranch, Cre 79.19 49 P P 21 15 26.0 +1.3
baz=79
PLD Plovdiv 79.20 318 P P 21 15 24.8 +0.5
PLD Plovdiv 79.20 318 P P 21 15 24.8 +0.5
BUG Bochum--Univer 79.23 333 eP P 21 15 24.8 +0.5

comp=Z,21nm,1.1s
Q24A **Divide** 79.26 47 P P 21 15 25.9 +0.7
baz=79
RAYN **Ar Rayn** 79.26 292 P P 21 15 24.0 -1.0
comp=Z,309nm,0.8s,SNR=26
RAYN **Ar Rayn** 79.26 292 eP P 21 15 24.8 -0.2
comp=Z,38nm,0.8s
GRF **Grafenberg Arr** 79.27 330 eP P 21 15 25.7 +1.1
comp=Z,32nm,1.0s
GRFO **Grafenberg** 79.27 330 eP P 21 15 25.2 +0.6
comp=Z,24nm,0.9s
N27A **Anderson Farm,** 79.33 44 P P 21 15 26.1 +0.8
baz=79
O26A **Horse Wrangler** 79.33 45 P P 21 15 25.9 +0.6
baz=79
ALN **Alexandroupoli** 79.39 316 eP P 21 15 25.9 +0.5
ALN **Alexandroupoli** 79.39 316 P P 21 15 21.1 -4.3
ALN **Alexandroupoli** 79.39 316 P P 21 15 21.1 -4.3
K30A **Basset** 79.45 41 P P 21 15 26.4 +0.7
baz=79
OGNE **Ogallala** 79.50 44 P P 21 15 27.5 +1.4
baz=79
M28A **Bar X Bar Ranc** 79.51 43 P P 21 15 27.2 +1.0
baz=79
ARSA **Arzberg** 79.52 326⇑ iP P 21 15 26.6 +0.6
comp=Z,11nm,1.1s,SNR=6.1
CSS **Prodhromos** 79.52 308 eP P 21 15 25.8 -0.5
CSS **Prodhromos** 79.52 308 P P 21 15 25.8 -0.5
CSS **Prodhromos** 79.52 308 eP P 21 15 26.7 +0.4
comp=Z,12nm,1.5s
GELI **Tayfur-Gelibol** 79.53 315 eP P 21 15 26.0 -0.2
MOA **Molln** 79.56 327⇑ iP P 21 15 26.9 +0.6
comp=Z,5.1nm,0.8s
VTS **Vitosha** 79.58 319 P P 21 15 27.0 +0.4
VTS **Vitosha** 79.58 319⇑ iP P 21 15 27.5 +0.9
VTS **Vitosha** 79.58 319 P P 21 15 27.1 +0.4
VTS **Vitosha** 79.58 319 P P 21 15 27.0 +0.4
214A **Organ Pipe Nat** 79.61 56 P P 21 15 28.3 +1.5
baz=80
O27A **Beecher Island** 79.81 45 P P 21 15 28.5 +0.6
baz=80
TNS **Taunus Mts** 79.84 332 eP P 21 15 28.4 +0.6
comp=Z,9.0nm,1.0s
SDCO **Great Sand Dun** 79.93 48 P P 21 15 29.8 +1.0
baz=80
SDCO **Great Sand Dun** 79.93 48 eP P 21 15 30.2 +1.5
DIVS **Divibare** 79.99 322 P P 21 15 28.4 -0.3
DIVS **Divibare** 79.99 322⇑ iP P 21 15 28.6 -0.1
MMB **Musomiste** 80.07 318⇓ iP P 21 15 29.8 +0.6
MMB **Musomiste** 80.07 318 P P 21 15 29.7 +0.6
ECSD **EROS Data Cent** 80.10 39 P P 21 15 29.6 +0.3
baz=80,SNR=17
ECSD **EROS Data Cent** 80.10 39 eP P 21 15 29.2 0.0
comp=Z,21nm,1.1s
KAVA **Kavala** 80.11 317 P P 21 15 29.4 +0.1
KAVA **Kavala** 80.11 317 P P 21 15 29.4 +0.1
Q26A **Hugo** 80.17 46 P P 21 15 31.1 +1.2
baz=80
NVR **Nevrokopi** 80.18 318 P P 21 15 29.9 +0.2
NVR **Nevrokopi** 80.18 318 P P 21 15 29.9 +0.2
PERS **Pernice** 80.18 326 iP P 21 15 29.7 0.0
SOKA **Soboth** 80.18 326⇑ iP P 21 15 30.0 +0.3
comp=Z,19nm,0.7s,SNR=24
KKB **Krupnik** 80.18 318 P P 21 15 30.4 +0.7
L31A **Butterfield Fa** 80.20 41 P P 21 15 30.6 +0.8
baz=80
RJOB **Jochberg** 80.25 328 eP P 21 15 31.2 +1.2
comp=Z,20nm,0.9s
HGN **Heimansgroeve** 80.26 333 eP P 21 15 29.6 -0.3
comp=Z,28nm,1.4s
N29A **Votaw Ranch, W** 80.31 43 P P 21 15 31.3 +0.8
baz=80
BEBN **Eben Emael** 80.32 334 P P 21 15 30.0 -0.2
MEM **Membach** 80.36 333 P P 21 15 30.2 -0.3
comp=Z,11nm,1.3s
MEM **Membach** 80.36 333 eP P 21 15 30.6 +0.2
comp=Z,16nm,1.0s
SRS **Serrai** 80.49 318 P P 21 15 31.2 -0.1
SRS **Serrai** 80.49 318 P P 21 15 31.2 -0.1
FUR **Furstenfeldbru** 80.50 329 eP P 21 15 32.3 +1.0
comp=Z,32nm,0.9s
OBKA **Obir** 80.52 326⇑ iP P 21 15 31.6 0.0
comp=Z,12nm,0.7s,SNR=9.8
AYDB **Zeytinkoy-Aydi** 80.53 313 eP P 21 15 31.7 -0.1
KBA **Koelnbreinsper** 80.56 327⇑ iP P 21 15 31.9 +0.1
comp=Z,29nm,1.0s,SNR=16
KSCO **Kaye Shedlock'** 80.59 45 P P 21 15 33.6 +1.5
baz=80
N30A **Hueftle Ranch,** 80.60 43 P P 21 15 32.4 +0.4
baz=80
TUC **Tucson** 80.63 55 eP P 21 15 33.8 +1.4
TUC epP pP 21 15 52.0 +2.2
P28A **Saint Francis** 80.64 45 P P 21 15 33.0 +0.6
baz=80
R26A **Arlington** 80.66 46 P P 21 15 33.5 +1.0
baz=80,SNR=5.1
SPMN **Marine on St.** 80.68 36 P P 21 15 33.6 +1.3
baz=80
SPMN **Marine on St.** 80.68 36 eP P 21 15 32.3 0.0
comp=Z,13nm,0.3s
SIGR **SIGRI** 80.72 315 P P 21 15 32.5 -0.1
SIGR **SIGRI** 80.72 315 P P 21 15 32.5 -0.1
O29A **4D Ranch, Culb** 80.74 44 P P 21 15 33.6 +0.8
baz=80
BCLA **Clavier** 80.76 334 P P 21 15 32.4 -0.2
MYKA **Terra Mystica** 80.80 327⇑ iP P 21 15 32.7 -0.3
comp=Z,8.7nm,0.7s,SNR=7.9
KNT **Kendrikon** 80.80 318 P P 21 15 33.0 0.0
KNT **Kendrikon** 80.80 318 P P 21 15 33.0 0.0
SCHQ **Schefferville** 80.82 16 P P 21 15 33.1 +0.2
comp=Z,7.3nm,0.8s,baz=328,slow=5.7,SNR=6.2
SCHQ LR LR 21 56 08.0
comp=Z,68nm,18.4s,baz=301,slow=39
SCHQ **Schefferville** 80.82 16 eP P 21 15 33.5 +0.6
comp=Z,126nm,2.3s
VAY **Valandovo** 80.85 318 P P 21 15 32.8 -0.4
VAY **Valandovo** 80.85 318 iP P 21 15 34.2 +1.0
VAY **Valandovo** 80.85 318 P P 21 15 32.8 -0.4
OUR **Ouranopolis** 80.87 317 P P 21 15 33.2 -0.1
OUR **Ouranopolis** 80.87 317 P P 21 15 33.2 -0.1
SKO **Skopje** 80.92 319 P P 21 15 34.4 +0.8
SKO **Skopje** 80.92 319 iP P 21 15 34.9 +1.3
SKO **Skopje** 80.92 319 P P 21 15 34.4 +0.8
DALY **Dalyan (Mu˘la** 80.92 312 eP P 21 15 33.6 -0.1
VISS **Visnje** 80.96 326 iP P 21 15 33.4 -0.4
T25A **Trinidad** 80.97 48 P P 21 15 35.5 +1.2
baz=81,SNR=8.2
T25A **Trinidad** 80.97 48 eP P 21 15 35.5 +1.2
comp=Z,16nm,0.9s
T25A epP pP 21 15 54.8 +3.1
Q28A **Sharon Springs** 80.98 45 P P 21 15 34.9 +0.8
baz=81
BOJS **Bojanci** 81.02 325 iP P 21 15 33.9 -0.2
R27A **Eads** 81.03 46 P P 21 15 35.3 +0.9
baz=81
P29A **Atwood** 81.05 44 P P 21 15 34.8 +0.3
baz=81
WATA **Walderalm** 81.06 328⇑ iP P 21 15 34.7 +0.3
comp=Z,6.7nm,0.5s,SNR=13
O30A **MW Ranch, Wils** 81.08 43 P P 21 15 35.4 +0.8
baz=81
WTTA **Wattenberg** 81.09 328⇑ iP P 21 15 35.1 +0.4
comp=Z,14nm,0.8s,SNR=8.3
PLG **Polygyros** 81.11 317 P P 21 15 34.5 -0.2
PLG **Polygyros** 81.11 317 P P 21 15 34.5 -0.2
LANF **Langenberg** 81.11 331⇑ eP P 21 15 34.5 -0.1
WLF **Walferdange** 81.12 333 P P 21 15 35.0 +0.4
BGNE **Belgrade** 81.12 41 P P 21 15 35.2 +0.4
baz=81
HORT **Hortiatis** 81.12 318 eP P 21 15 33.6 -1.2
S26A **Kim** 81.14 47 P P 21 15 35.4 +0.4
baz=81
N31A **Bailey Ranch,** 81.16 42 P P 21 15 35.5 +0.6
baz=81
ABTA **Abfaltersbach** 81.16 327⇑ iP P 21 15 34.3 -0.6
comp=Z,6.9nm,0.8s,SNR=5.4
GRG **Griva** 81.20 318 eP P 21 15 34.3 -0.9
GRG **Griva** 81.20 318 P P 21 15 35.0 -0.2
GRG **Griva** 81.20 318 P P 21 15 35.0 -0.2
JAVS **Javornik** 81.21 326 iP P 21 15 34.4 -0.8
CHOS **Chios island** 81.21 314 P P 21 15 32.5 -2.8
CHOS **Chios island** 81.21 314 P P 21 15 32.5 -2.8
MOTA **Moosalm** 81.23 329⇑ iP P 21 15 35.6 +0.2
comp=Z,33nm,1.0s,SNR=38
RETA **Reutte** 81.25 329⇑ iP P 21 15 35.8 +0.4
comp=Z,29nm,1.1s,SNR=16
DOU **Dourbes** 81.28 334 P P 21 15 34.8 -0.6
PAIG **Paliouri** 81.33 317 P P 21 15 35.6 -0.2
PAIG **Paliouri** 81.33 317 P P 21 15 35.6 -0.2
LAZ **Ladron** 81.36 51 eP P 21 15 38.4 +2.0
LAZ epP pP 21 15 57.5 +3.7
ANMO **Albuquerque** 81.37 51 eP P 21 15 37.2 +0.8
ANMO pmax pmax
comp=Z,40nm,1.2s
ANMO **Albuquerque** 81.37 51 eP P 21 15 37.8 +1.4
comp=Z,13nm,1.2s
ANMO epP pP 21 15 53.2 -0.7
T26A **Comanche Natio** 81.40 47 P P 21 15 37.4 +0.9
baz=81,SNR=14
S27A **Las Animas** 81.41 47 P P 21 15 37.1 +0.6
baz=81
P30A **Selden** 81.45 44 P P 21 15 37.1 +0.6
baz=81
BFO **Black Forest** 81.47 331 eP P 21 15 37.0 +0.5
comp=Z,23nm,1.3s
BFO **Black Forest** 81.47 331 P P 21 15 36.6 +0.1
comp=Z,70nm,1.3s,SNR=9.7
BFO **Black Forest** 81.47 331 iP P 21 15 36.7 +0.3
BFO **Black Forest** 81.47 331 eP P 21 15 36.8 +0.3
comp=Z,23nm,1.3s
O31A **Woolen Ranch,** 81.47 43 P P 21 15 37.7 +1.1
baz=81
TRI **Trieste** 81.48 326 eP P 21 15 35.5 -1.0
comp=Z,19nm,0.8s
Q29A **Oxley** 81.55 45 P P 21 15 37.4 +0.3
baz=81,SNR=6.3
UDBI **Udbina** 81.57 324 P P 21 15 36.5 -0.6
FETA **Feichten** 81.64 329⇑ iP P 21 15 37.9 +0.3
comp=Z,18nm,1.0s,SNR=11
MENF **Mencas** 81.66 335⇑ eP P 21 15 37.0 -0.3
MENF **Mencas** 81.66 335⇑ eP P 21 15 37.1 -0.3
DAVA **Damuels** 81.75 329⇑ iP P 21 15 38.3 +0.2
comp=Z,30nm,0.9s,SNR=16
AOS **Alonnisos** 81.78 316 P P 21 15 37.9 -0.3
AOS **Alonnisos** 81.78 316 P P 21 15 37.9 -0.3
LIT **Litokhoron** 81.80 318 P P 21 15 36.3 -2.1
LIT **Litokhoron** 81.80 318 P P 21 15 36.3 -2.1
M34A **Aspy Farms, Fr** 81.81 40 P P 21 15 39.1 +0.7
baz=82
BNM **Barren Site** 81.84 51 eP P 21 15 40.4 +1.4
BNM epP pP 21 15 59.5 +3.2
FNA **Florina** 81.85 319 eP P 21 15 38.4 -0.3
FNA **Florina** 81.85 319 P P 21 15 37.9 -0.7
FNA **Florina** 81.85 319 P P 21 15 37.9 -0.7
OHR **Ohrid** 81.88 319 iP P 21 15 37.6 -1.2
Q30A **Quinter** 81.89 44 P P 21 15 39.2 +0.3
baz=82
P31A **Stockton** 81.92 43 P P 21 15 39.2 +0.2
baz=82
NVLJ **Novalja** 81.93 325 P P 21 15 37.2 -1.6
ECH **Echery** 81.99 331⇑ eP P 21 15 38.9 -0.3
STON **Ston** 82.00 322 P P 21 15 37.9 -1.4
FUORN **Ofenpass-Fuorn** 82.16 329 eP P 21 15 40.8 +0.4
comp=Z,42nm,0.9s
EIL **Elat** 82.18 303 eP P 21 15 41.0 +0.5
P32A **Huiting Farm,** 82.24 43 P P 21 15 40.6 0.0
baz=82
M35A **Neola** 82.27 40 P P 21 15 41.5 +0.7
baz=82
NEST **Nestorio** 82.29 319 P P 21 15 40.7 -0.3
121A **Cookes Peak, D** 82.29 53 P P 21 15 43.0 +1.8
baz=82,SNR=12
MOF **Molkenrain** 82.31 331⇑ eP P 21 15 40.5 -0.5
U27A **Thompson Grove** 82.37 47 P P 21 15 42.5 +1.0
baz=82
R30A **Dighton** 82.37 45 P P 21 15 41.5 +0.1
baz=82
THEF **They Montfort** 82.40 332⇑ eP P 21 15 41.1 -0.2
APE **Apeiranthos** 82.46 314 P P 21 15 40.4 -1.5
APE **Apeiranthos** 82.46 314 P P 21 15 40.4 -1.5
ATAL **Atalanti** 82.59 316 P P 21 15 41.7 -0.8
ATAL **Atalanti** 82.59 316 P P 21 15 41.7 -0.8
LKR **Lokris** 82.63 316 P P 21 15 41.6 -1.1
LKR **Lokris** 82.63 316 P P 21 15 41.6 -1.1
TUE **Stuetta** 82.63 329 eP P 21 15 42.9 +0.1
TUE ePP PP 21 18 48.5 -3.8
KARP **Karpathos** 82.67 312 P P 21 15 43.0 0.0
KARP **Karpathos** 82.67 312 P P 21 15 43.0 0.0
AGG **Agios Georgios** 82.69 317 eP P 21 15 42.3 -0.8
AGG **Agios Georgios** 82.69 317 eP P 21 15 42.3 -0.8
comp=Z,16nm,1.1s
Q32A **Meitler Ranch,** 82.73 43 P P 21 15 43.6 +0.4
baz=82
S30A **Montezuma** 82.75 45 P P 21 15 43.9 +0.4
baz=83
O34A **Beatrice** 82.77 41 P P 21 15 43.1 -0.3
baz=83,SNR=5.0
LOMF **Lomont** 82.84 331⇑ eP P 21 15 43.7 0.0
JAN **Janina** 82.96 318 P P 21 15 44.6 +0.2
JAN **Janina** 82.96 318 P P 21 15 44.6 +0.2
SANT **Santorini** 83.01 313 eP P 21 15 42.7 -2.0
comp=Z,15nm,1.0s
DSF **Desfina** 83.05 316 P P 21 15 43.4 -1.6
DSF **Desfina** 83.05 316 P P 21 15 43.4 -1.6
SCIA **State Center** 83.10 38 eP P 21 15 46.1 +1.0
comp=Z,35nm,1.1s
Q33A **Connelly Farm,** 83.10 43 P P 21 15 45.3 +0.1
baz=83,SNR=7.1
P34A **Walnut Farm, R** 83.19 42 P P 21 15 45.6 0.0
baz=83,SNR=5.3
KALE **Kalithea** 83.27 317 P P 21 15 44.8 -1.3
KALE **Kalithea** 83.27 317 P P 21 15 44.8 -1.3
S31A **Mullinville** 83.28 45 P P 21 15 46.3 +0.1
baz=83
SGD **Sagiada** 83.30 319 P P 21 15 46.0 -0.1
IGT **Igoumenitsa** 83.32 318 eP P 21 15 45.3 -0.9
IGT **Igoumenitsa** 83.32 318 P P 21 15 45.7 -0.5
IGT **Igoumenitsa** 83.32 318 P P 21 15 45.7 -0.5
EFP **Efpalio** 83.36 317 P P 21 15 45.8 -0.6
SENIN **Lac Senin/Sane** 83.50 330 eP P 21 15 47.2 -0.1
GUR **Goura** 83.51 316 P P 21 15 45.8 -1.6
GUR **Goura** 83.51 316 P P 21 15 45.8 -1.6
R33A **Olander Ranch,** 83.54 43 P P 21 15 47.7 +0.2
baz=83
W28A **Vega** 83.56 48 P P 21 15 47.7 0.0
baz=83
T31A **Randall Ranch,** 83.57 45 P P 21 15 48.0 +0.4
baz=83
Q34A **Chapman** 83.61 42 P P 21 15 47.8 +0.1
baz=83
JFWS **Jewell Farm** 83.63 36 eP P 21 15 47.7 -0.1
comp=Z,16nm,1.1s
KSU1 **Kansas State U** 83.64 42 P P 21 15 48.1 +0.2
baz=83
O36A **Bolckow** 83.65 40 P P 21 15 48.8 +0.9
baz=83,SNR=5.5
RLS **Riolos of Patr** 83.87 317 P P 21 15 48.9 -0.1
RLS **Riolos of Patr** 83.87 317 P P 21 15 48.9 -0.1
LAST **Lasithi** 83.89 312 P P 21 15 49.3 0.0
LAST **Lasithi** 83.89 312 P P 21 15 49.3 0.0
P36A **Good Intent, A** 83.93 41 P P 21 15 49.6 +0.2
baz=84,SNR=10
Q35A **Mercer Eighty,** 84.11 42 P P 21 15 50.7 +0.4
baz=84,SNR=6.3
AMTX **Amarillo** 84.12 48 eP P 21 15 52.3 +1.7
comp=Z,11nm,0.8s
VLC **Villacollemand** 84.14 327 eP P 21 15 51.6 +1.2
comp=Z,18nm,1.0s
MSTX **Muleshoe** 84.18 49 P P 21 15 51.7 +0.8
baz=84
MSTX **Muleshoe** 84.18 49 eP P 21 15 51.7 +0.8
comp=Z,17nm,1.3s
ITM **Ithomi** 84.29 316 P P 21 15 50.3 -1.0
ITM **Ithomi** 84.29 316 P P 21 15 50.3 -1.0
AQU **L'Aquila** 84.34 324 eP P 21 15 52.3 +0.9
comp=Z,15nm,0.8s
SIVA **Sivas** 84.36 313 P P 21 15 51.6 0.0
SIVA **Sivas** 84.36 313 P P 21 15 51.6 0.0
GLMI **Grayling** 84.39 31 eP P 21 15 52.4 +0.7
comp=Z,43nm,0.9s
GLMI epP pP 21 16 12.1 +2.9
S34A **Willow Spring** 84.45 43 P P 21 15 52.6 +0.6
baz=84
Y28A **McKinney Farm,** 84.53 49 P P 21 15 53.1 +0.5
baz=84
PYL **PYLOS** 84.60 316 P P 21 15 51.6 -1.2
PYL **PYLOS** 84.60 316 P P 21 15 51.6 -1.2
R36A **Gordon, Harris** 84.79 42 P P 21 15 54.2 +0.5
baz=85,SNR=8.9
BNI **Bardonecchia** 84.84 330 eP P 21 15 53.6 -0.4
comp=Z,9.6nm,0.8s
W31A **Holland Ranch,** 84.86 46 P P 21 15 55.5 +1.3
baz=85
S35A **Otter Creek Ra** 84.87 43 P P 21 15 54.8 +0.6
baz=85,SNR=16
Y29A **Porterfield Fa** 84.89 48 P P 21 15 55.5 +1.1
baz=85
GVD **Gavdhos** 84.89 313 eP P 21 15 54.2 -0.1
comp=Z,93nm,0.7s
U33A **Lingo Farm, Me** 84.90 45 P P 21 15 55.5 +1.2
baz=85
X30A **Coker Ranch, T** 84.90 48 P P 21 15 55.1 +0.7
baz=85
Z28A **Tucker Farm, M** 84.90 49 P P 21 15 55.5 +0.9
baz=85
T34A **McClaskey Farm** 84.93 44 P P 21 15 55.2 +0.8
baz=85,SNR=5.2
R37A **Teagarden Farm** 85.13 41 P P 21 15 55.9 +0.5
baz=85
CUC **Castrocucco** 85.14 321 eP P 21 15 54.5 -1.0
comp=Z,4.4nm,0.9s
PLDF **La Plantade** 85.17 332⇑ eP P 21 15 54.8 -0.8
U34A **Anderson Ranch** 85.20 44 P P 21 15 56.5 +0.7
baz=85
U34A **Anderson Ranch** 85.20 44 eP P 21 15 57.0 +1.2
comp=Z,27nm,1.0s
S36A **Lake Cedric, C** 85.21 42 P P 21 15 56.6 +0.8
baz=85
X31A **McDonald Ranch** 85.25 47 P P 21 15 57.2 +1.0
baz=85,SNR=6.8
AGO **Saint Agoulin** 85.26 333⇑ eP P 21 15 56.6 +0.6
V33A **Lossen Ranch,** 85.27 45 P P 21 15 57.0 +0.8
baz=85
W32A **Sentinel** 85.28 46 P P 21 15 57.5 +1.2
baz=85
Y30A **Stafford Cattl** 85.31 48 P P 21 15 57.3 +0.8
baz=85
Z29A **Hungry Hill Ra** 85.31 49 P P 21 15 57.7 +1.2
baz=85
128A **Castleberry Fa** 85.33 50 P P 21 15 57.7 +1.0
baz=85
TIP **Timpagrande** 85.33 320 eP P 21 15 56.6 +0.1
comp=Z,13nm,1.3s
T35A **Sooner Cattle** 85.36 43 P P 21 15 57.7 +1.1
baz=85,SNR=6.9
SAOF **Saorge** 85.41 329⇑ eP P 21 15 56.0 -0.8
TOUF **Mont Tournerai** 85.50 329⇑ eP P 21 15 56.7 -0.7
COLF **Collangettes** 85.53 332⇑ eP P 21 15 57.8 +0.4
PYM **Petit Puy Mans** 85.57 332⇑ eP P 21 15 58.0 +0.4
T36A **Boggs Farm, Ca** 85.57 43 P P 21 15 58.3 +0.6
baz=85,SNR=5.4
Y31A **Rekieta Farm,** 85.59 47 P P 21 15 58.5 +0.6
baz=85
Z30A **Sanderson Ranc** 85.61 48 P P 21 15 58.8 +0.8
baz=86,SNR=8.9
MVIF **Mont Vial** 85.64 329⇑ eP P 21 15 57.3 -0.8
228A **UT Block 9, Go** 85.64 50 P P 21 15 59.3 +1.0
baz=86
V34A **Guthrie** 85.66 45 P P 21 15 59.2 +1.0
baz=86
U35A **Pawnee** 85.66 44 P P 21 15 59.0 +0.8
baz=86
REVF **Revere** 85.69 329⇑ eP P 21 15 57.3 -0.9
PMOR **Pomariorio Ree** 85.72 114 eT T 22 49 35.7
comp=Z,33nm,0.2s
X32A **Elmer** 85.79 47 P P 21 15 59.8 +1.0
baz=86,SNR=8.7
WMOK **Wichita Mounta** 85.82 46 eP P 21 15 59.3 +0.3
comp=Z,11nm,1.1s
WMOK epP pP 21 16 19.1 +2.6
CALN **Calern** 85.86 329⇑ eP P 21 15 58.7 -0.5
DAMY **Dhamar** 85.93 286 eP P 21 16 01.0 +0.9
comp=Z,64nm,1.1s
LBL **Lubilhac** 85.94 332 eP P 21 15 59.5 +0.1
HDIL **Hopedale** 85.96 37 P P 21 15 60.0 +0.5
baz=86
HDIL **Hopedale** 85.96 37 eP P 21 16 00.0 +0.5
comp=Z,1.5nm,0.8s
W34A **Bridge Creek,** 85.98 45 P P 21 16 00.7 +0.9
baz=86
T37A **Cheneyville 18** 86.01 42 P P 21 16 00.5 +0.7
baz=86
Y32A **R-V Farms, Ver** 86.01 47 P P 21 16 00.8 +0.9
baz=86
V35A **Meyer Ranch, C** 86.07 44 P P 21 16 01.2 +1.0
baz=86
X33A **Lawton** 86.12 46 P P 21 16 01.4 +0.9
baz=86
Z31A **Sharp Cattle R** 86.14 48 P P 21 16 01.7 +1.1
baz=86
229A **Bryant Ranch,** 86.20 50 P P 21 16 02.3 +1.3
baz=86
PPT **Papeete** 86.39 117 LR LR 21 47 43.2
comp=Z,89nm,21.9s,baz=344,slow=31
PPT2 **Papeete2** 86.41 117 eLR LR 21 42 53.1
comp=Z,195nm,23.0s
PPT2 **Papeete2** 86.41 117 eT T 22 50 27.1
comp=Z,11nm,0.3s
X34A **Smith Ranch, M** 86.43 46 P P 21 16 03.3 +1.3
baz=86
Y33A **Hilltop Ranch,** 86.45 46 P P 21 16 03.2 +1.1
baz=86
329A **Wagon Wheel Ra** 86.46 50 P P 21 16 03.5 +1.2
baz=86
131A **Roby** 86.48 48 P P 21 16 02.9 +0.6
baz=86
TUL1 **Leonard** 86.50 43 P P 21 16 02.8 +0.5
baz=86
LEPF **PUYLOUBIER** 86.51 330⇑ eP P 21 16 01.5 -0.7
Z32A **Haskell** 86.52 47 P P 21 16 02.8 +0.4
baz=86
V36A **Jenks** 86.52 44 P P 21 16 03.0 +0.6
baz=86
W35A **Tecumseh** 86.52 45 P P 21 16 03.0 +0.6
baz=86
TIAR **Tiarei** 86.54 117 eT T 22 50 36.9
comp=Z,5.2nm,0.3s
230A **Sterling City** 86.66 49 P P 21 16 03.8 +0.6
baz=86,SNR=5.2
V37A **Hulbert** 86.86 43 P P 21 16 04.3 +0.2
baz=87,SNR=6.3
W36A **Wetumka** 86.87 44 P P 21 16 04.6 +0.5
baz=87
Z33A **Whitaker Ranch** 86.92 47 P P 21 16 04.7 +0.3
baz=87
ABTX **Abilene, Hawle** 86.94 48 P P 21 16 05.1 +0.6
baz=87
TAOE **Nuku Hiva Isla** 86.96 105 eT T 22 51 14.7
comp=Z,104nm,0.2s
Y34A **Reagan Ranch,** 86.96 46 P P 21 16 05.3 +0.8
baz=87
330A **Mertzon** 86.98 50 P P 21 16 05.4 +0.6
baz=87
LTX **Lajitas** 87.05 53 eP P 21 16 06.0 +0.9
TXAR **Lajitas Array** 87.05 53 P P 21 16 06.0 +0.9
comp=Z,4.9nm,0.9s,baz=288,slow=3.6,SNR=37
TXAR PKKPbc PKKPbc 21 33 56.9 +1.5
comp=Z,0.3nm,0.9s,baz=144,slow=4.5,SNR=4.2
X35A **Drake** 87.05 45 P P 21 16 05.3 +0.4
baz=87
SFIN **Lafayette** 87.07 35 P P 21 16 05.4 +0.4
baz=87
231A **Bronte** 87.07 49 P P 21 16 05.7 +0.6
baz=87
SLBS **Sierra La Lagu** 87.14 61 eP P 21 15 59.6 -6.1
comp=Z,372nm,3.0s
429A **Davenport Ranc** 87.14 51 P P 21 16 06.1 +0.5
baz=87
X36A **Centrahoma** 87.24 45 P P 21 16 06.6 +0.7
baz=87,SNR=8.6
V38A **Canehill** 87.25 43 P P 21 16 06.3 +0.4
baz=87
W37A **Quinton** 87.29 44 P P 21 16 06.9 +0.8
baz=87
529A **Stev Forest Ra** 87.32 51 P P 21 16 07.6 +1.1
baz=87,SNR=7.1
Z34A **Collier Ranch,** 87.32 46 P P 21 16 06.8 +0.5
baz=87
133A **Hamilton Ranch** 87.35 48 P P 21 16 07.3 +0.8
baz=87
Y35A **Marietta** 87.39 45 P P 21 16 07.4 +0.8
baz=87
430A **Baggett Ranch,** 87.40 50 P P 21 16 07.5 +0.7
baz=87
331A **San Angelo** 87.48 49 P P 21 16 08.0 +0.8
baz=87
232A **Coleman** 87.49 48 P P 21 16 08.2 +1.0
baz=87

MEH	**Mehetia**	**87.62**	**116**	*e*T		T	22 51 57.8	
	comp=Z,62nm,0.3s							
BFZ	**Birch Farm**	**87.67**	**155**	*e*P		**P**	**21 16 05.9**	**-1.5**
	comp=Z,345nm,2.3s							
Z35A	**Perchaven, San**	**87.71**	**46**	P		**P**	**21 16 08.7**	**+0.5**
	baz=88							
X37A	**Clayton**	**87.74**	**44**	P		**P**	**21 16 09.0**	**+0.7**
	baz=88							
Y36A	**Durant**	**87.79**	**45**	P		**P**	**21 16 09.4**	**+0.9**
	baz=88							
233A	**Rising Star**	**87.81**	**48**	P		**P**	**21 16 09.3**	**+0.6**
	baz=88							
W38A	**Poteau**	**87.81**	**43**	P		**P**	**21 16 09.4**	**+0.8**
	baz=88,SNR=5.8							
332A	**Millersview**	**87.81**	**49**	P		**P**	**21 16 09.7**	**+0.9**
	baz=88,SNR=7.8							
530A	**J-C Ranch, Com**	**87.82**	**51**	P		**P**	**21 16 09.5**	**+0.7**
	baz=88,SNR=6.1							
431A	**Sonora**	**87.84**	**50**	P		**P**	**21 16 09.5**	**+0.6**
	baz=88							
X38A	**Whitesboro**	**87.96**	**44**	P		**P**	**21 16 10.1**	**+0.8**
	baz=88,SNR=6.2							
OLIL	**Olney**	**87.97**	**37**	*e*P		**P**	**21 16 10.0**	**+0.7**
	comp=Z,23nm,1.0s							
Y37A	**Hugo**	**88.08**	**45**	P		**P**	**21 16 10.7**	**+0.8**
	baz=88							
432A	**Menard**	**88.16**	**49**	P		**P**	**21 16 11.0**	**+0.6**
	baz=88							
Z36A	**Blue Ridge**	**88.20**	**45**	P		**P**	**21 16 11.0**	**+0.5**
	baz=88							
234A	**Clairette**	**88.24**	**47**	P		**P**	**21 16 11.3**	**+0.5**
	baz=88							
531A	**Rocksprings**	**88.26**	**50**	P		**P**	**21 16 11.6**	**+0.7**
	baz=88							
333A	**Richland Sprin**	**88.28**	**48**	P		**P**	**21 16 11.4**	**+0.4**
	baz=88,SNR=6.4							
SIUC	**Southern Illin**	**88.29**	**38**	*e*P		**P**	**21 16 11.7**	**+0.8**
JCT	**Junction City**	**88.45**	**49**	P		**P**	**21 16 12.4**	**+0.6**
	baz=88							
JCT	**Junction City**	**88.45**	**49**	*e*P		**P**	**21 16 11.6**	**-0.2**
PBMO	**Poplar Bluff**	**88.48**	**39**	*e*P		**P**	**21 16 12.5**	**+0.7**
	comp=Z,35nm,1.2s							
Y38A	**Idabel**	**88.59**	**44**	P		**P**	**21 16 12.8**	**+0.5**
	baz=88							
WHTX	**Lake Whitney,**	**88.62**	**47**	P		**P**	**21 16 13.3**	**+0.8**
	baz=88							
433A	**Art**	**88.65**	**49**	P		**P**	**21 16 13.1**	**+0.4**
	baz=88							
532A	**Rocksprings**	**88.66**	**50**	P		**P**	**21 16 13.4**	**+0.6**
	baz=88							
MMNY	**Mt. Morris Dam**	**88.68**	**28**	*e*P		**P**	**21 16 12.6**	**0.0**
	comp=Z,59nm,1.4s							
Z37A	**Pogue Cattle C**	**88.69**	**45**	P		**P**	**21 16 13.7**	**+1.0**
	baz=88							
334A	**Lometa**	**88.69**	**48**	P		**P**	**21 16 13.5**	**+0.6**
	baz=88							
MIAR	**Mount Ida**	**88.70**	**43**	P		**P**	**21 16 13.4**	**+0.6**
	baz=88,SNR=11							
MIAR	**Mount Ida**	**88.70**	**43**	*e*P		**P**	**21 16 13.8**	**+0.9**
	comp=Z,18nm,1.0s							
136A	**Ennis**	**88.76**	**46**	P		**P**	**21 16 13.7**	**+0.6**
	baz=89							
631A	**Perdido Creek**	**88.81**	**51**	P		**P**	**21 16 14.2**	**+0.8**
	baz=89							
Y39A	**Lockesburg**	**88.91**	**44**	P		**P**	**21 16 14.6**	**+0.8**
	baz=89,SNR=7.0							
ACSO	**Alum Creek Sta**	**88.91**	**33**	*e*P		**P**	**21 16 14.6**	**+0.9**
	comp=Z,28nm,1.1s							
434A	**Burnet**	**89.07**	**48**	P		**P**	**21 16 15.5**	**+0.8**
	baz=89							
632A	**Uvalde**	**89.19**	**50**	P		**P**	**21 16 15.9**	**+0.7**
	baz=89							
WCI	**Wyandotte Cave**	**89.19**	**36**	*e*P		**P**	**21 16 15.5**	**+0.4**
	comp=Z,20nm,1.2s							
Z39A	**Irene McRaven,**	**89.41**	**44**	P		**P**	**21 16 17.3**	**+1.1**
	baz=89							
ACCN	**Adirondack Com**	**89.52**	**25**	*e*P		**P**	**21 16 16.1**	**-0.5**
	comp=Z,12nm,1.3s							
633A	**Saathoff Ranch**	**89.58**	**50**	P		**P**	**21 16 17.6**	**+0.6**
	baz=89							
833A	**Chaparral WMA,**	**90.31**	**51**	P		**P**	**21 16 21.3**	**+0.8**
	baz=90							
KSPA	**Keystone Colle**	**90.46**	**27**	*e*P		**P**	**21 16 21.6**	**+0.6**
	comp=Z,100nm,2.4s							
SSPA	**Standing Stone**	**90.53**	**29**	*e*P		**P**	**21 16 20.4**	**-0.8**
	comp=Z,15nm,1.0s							
TBI	**Tubuai**	**90.59**	**121**	*e*T		T	22 55 37.9	
	comp=Z,32nm,0.2s							
636A	**Smothers Creek**	**90.76**	**48**	P		**P**	**21 16 24.4**	**+1.9**
	baz=91							
933A	**Laredo**	**90.91**	**51**	P		**P**	**21 16 25.4**	**+2.1**
	baz=91,SNR=6.0							
ODNJ	**Ogdensburg**	**91.28**	**27**	*e*P		**P**	**21 16 23.9**	**-0.9**
	comp=Z,24nm,1.5s							
KEST	**Kesra**	**91.57**	**323**	P		**P**	**21 16 25.8**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=324,slow=2.1,SNR=8.3							
KEST					LR	LR	22 01 15.7	
	comp=Z,35nm,19.8s,baz=274,slow=38							
KEST	**Kesra**	**91.57**	**323**	*e*P		**P**	**21 16 26.2**	**-0.1**
TZTN	**Tazewell**	**91.79**	**35**	*e*P		**P**	**21 16 27.6**	**+0.4**
	comp=Z,10nm,1.1s							
CPCT	**Cooper Cave**	**92.29**	**36**	*e*P		**P**	**21 16 30.5**	**+0.9**
TKL	**Tuckaleechee C**	**92.44**	**36**	*e*P		**P**	**21 16 30.4**	**+0.2**
ESDC	**Sonseca Array**	**93.31**	**334**	P		**P**	**21 16 34.4**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=21,slow=4.0,SNR=13							
ESDC					PP	**PP**	**21 20 19.1**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=22,slow=6.6,SNR=5.1							
ESDC					LR	LR	22 02 33.2	
	comp=Z,94nm,19.8s,baz=5.0,slow=38							
PAB	**San Pablo**	**93.56**	**334**	*e*P		**P**	**21 16 35.4**	**0.0**
	comp=Z,72nm,2.6s							
FURI	**Furi**	**93.86**	**285**	*e*P		**P**	**21 16 39.7**	**+2.2**
	comp=Z,19nm,1.0s							
TOA0	**Torodi Ar. Sit**	**114.28**	**317**	*e*PKiKP		**PKiKP**	**21 21 58.3**	**-0.8**
TOA0				*e*PP		**PP**	**21 22 52.7**	**-1.7**
TORD	**Torodi Ar. Bea**	**114.28**	**317**	PKP		PKPdf	21 21 58.3	-0.8
	comp=Z,0.8nm,0.5s,baz=22,slow=1.7,SNR=18							
TORD					PP	**PP**	**21 22 52.7**	**-1.7**
	comp=Z,6.2nm,1.1s,baz=19,slow=6.5,SNR=14							
TORD					PKKP	**PKKPdf**	**21 32 57.5**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=189,slow=2.4,SNR=4.3							
VNDA	**Vanda**	**119.52**	**175**	PKP		**PKPdf**	**21 22 06.5**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=312,slow=5.5,SNR=4.3							
VNDA	**Vanda**	**119.52**	**175**	PKIKP		**PKPdf**	**21 22 06.6**	**-0.7**
VNDA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
DBIC	**Dimbokro**	**123.10**	**319**	PKP		**PKPdf**	**21 22 15.7**	**-0.4**
	comp=Z,5.3nm,0.7s,baz=75,slow=4.0,SNR=8.9							
DBIC	**Dimbokro**	**123.10**	**319**	PKIKP		**PKPdf**	**21 22 15.7**	**-0.4**
DBIC				pmax		pmax		
	comp=Z,5.0nm,0.7s							
MAW	**Mawson**	**123.82**	**207**	PKP		**PKPdf**	**21 22 15.2**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=54,slow=9.1,SNR=4.0							
MAW	**Mawson**	**123.82**	**207**	PKIKP		**PKPdf**	**21 22 15.2**	**-0.5**
MAW				pmax		pmax		
	comp=Z,1.0nm,0.4s							
LPAZ	**La Paz**	**143.89**	**55**	PKP		**PKPdf**	**21 22 55.2**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=355,slow=6.9,SNR=5.2							
LPAZ	**La Paz**	**143.89**	**55**	PKIKP		**PKPdf**	**21 22 55.2**	**-0.3**
LPAZ				pmax		pmax		
	comp=Z,1.0nm,0.6s							
SNAA	**Sanae**	**145.23**	**199**	P		**PKPbc**	**21 22 51.7**	**-3.6**
SNAA	**Sanae**	**145.23**	**199**	PKPbc		**PKPab**	**21 22 55.1**	**-0.4**
	comp=Z,6.6nm,0.6s,baz=191,slow=4.6,SNR=84							
SNAA	**Sanae**	**145.23**	**199**	PKIKP		**PKPab**	**21 22 55.1**	**-0.4**
SNAA				pmax		pmax		
	comp=Z,7.0nm,0.6s							
VNA1	**Neumayer--Stat**	**147.22**	**198**	P		**PKPbc**	**21 23 00.8**	**-0.3**
SIV	**San Ignacio**	**147.69**	**45**	PKPbc		**PKPbc**	**21 23 04.4**	**+0.3**
	comp=Z,23nm,0.9s,baz=306,slow=1.6,SNR=28							
LVC	**Limon Verde**	**148.01**	**63**	PKPbc		**PKPdf**	**21 23 02.9**	**+1.0**
	comp=Z,14nm,0.3s,baz=227,slow=9.3,SNR=7.6							
BDFB	**Brasilia**	**152.72**	**21**	PKPbc		**PKPbc**	**21 23 16.4**	**0.0**
	comp=Z,3.9nm,1.0s,baz=145,slow=3.8,SNR=5.0							
BDFB				PKPab		**PKPab**	**21 23 27.9**	**+0.7**
	comp=Z,5.2nm,0.8s,baz=42,slow=6.6,SNR=5.5							

*CSEM **27** 21:04:51.2, 13.75N×45.55E, h14km, ML3.5*

DHMR 27 21:04:51.2±1.5, 13.75N×45.55E, h14km±7km, ML3.5, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDHA	**Al Bayda'**	**0.23**	**4**	*i* P	Pg	21 04 56.0	-0.5
BDHA				*i* S	Sg	21 04 59.3	-0.9
BDHA				AML	AML	21 04 59.5	
	comp=E,19μm,0.1s						
BDHA	**Al Bayda'**	**0.23**	**4**	*i* P	Pg	21 04 56.0	-0.6
BDHA				*i* S	Sg	21 04 59.3	-0.9
LBOS		**0.32**	**293**	*i* P	Pg	21 04 58.2	0.0
LBOS				*i* S	Sg	21 05 02.7	-0.2
DHBB	**Dhamar BB**	**1.39**	**306**	*i* P	Pb	21 05 17.6	+0.2
DHBB				*i* S	Sg	21 05 36.5	-0.4
DHBB	**Dhamar BB**	**1.39**	**306**	*i* P	Pb	21 05 17.6	+0.2
DHBB				*i* S	Sg	21 05 36.5	-0.4
TRBA	**At Turbah**	**1.49**	**250**	*i* P	Pn	21 05 18.1	+0.3
TRBA				*i* S	Sb	21 05 38.2	+0.3
TRBA				AML	AML	21 05 41.8	
	comp=Z,184nm,0.4s						
TRBA	**At Turbah**	**1.49**	**250**	*i* P	Pn	21 05 18.1	+0.3
TRBA				*i* S	Sb	21 05 38.2	+0.3

MEX 27 21:12:27.2±0.6, 14.70N×93.31W, h14km±56km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.00**	**5**	*i* P	Pb	21 12 43.1	-3.2
PCIG				*i* S	Sb	21 12 55.3	-4.1
CCIG	**Comitan**	**1.94**	**36**	*i* P	Pn	21 12 55.7	-4.2
CCIG				*i* S	Sn	21 13 19.9	-4.4
TGIG		**2.07**	**5**	*i* P	Pn	21 12 58.9	-2.8
TGIG				*e*S	Sn	21 13 23.1	-4.2

*IDC **27** 21:12:58.9±0.9, 38.03S×74.04W, h0km, mb3.9/8, mb1 4.1/10, mb1mx4.0/28, mbtmp3.8/10, ML3.6/2, MS3.3/3, Ms1 3.3/3, ms1mx3.1/19, Error ellipse: s-maj=32.0km s-min=19.6km az=95.0*

*ISCJB **27** 21:12:59.7±0.5, 38.08S±0.04×74.18W±0.08, h18km, mb4.3/11, MS3.8/1, Error ellipse: s-maj=9.0km s-min=4.9km az=167.6*

*GUC **27** 21:13:02.1±0.5, 38.14S×74.01W, h63km±4km, ML4.7*

*NEIC **27** 21:13:03.5±0.5, 38.10S×74.07W, h35km, mb4.5/5, Error ellipse: s-maj=12.4km s-min=8.8km az=61.0*

ISC 27 21:13:00.9±0.6, 38.06S±0.05×74.08W±0.09, h18km, n26, σ1s37/32, mb4.1/11, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**0.92**	**144**	*e*P	**Pg**	**21 13 18.5**	**-0.2**
PSCH				*e*S	**Sn**	**21 13 31.5**	**-0.1**
PSCH				AML	AML	21 13 42.4	
	comp=N,57μm,0.3s						
VLCH	**Valdivia**	**1.86**	**160**	*e*P	**Pn**	**21 13 31.9**	**+0.1**
VLCH				*e*S	**Sn**	**21 13 54.2**	**-0.7**
OSCH	**Osorno**	**2.62**	**164**	*e*P	**Pn**	**21 13 40.1**	**-2.2**
OSCH				*e*S	**Sn**	**21 14 12.4**	**-1.3**
LNCH	**Linares**	**2.97**	**43**	*e*P	**Pn**	**21 13 48.5**	**+1.4**
LNCH				*e*S	**Sn**	**21 14 23.6**	**+1.4**
PLCA	**Paso Flores**	**3.82**	**135**	*e*Pn	**Pn**	**21 13 57.4**	**-1.5**
CFAA	**Coronel Fontan**	**8.03**	**38**	Pn	**Pn**	**21 14 54.5**	**-2.2**
	comp=N,0.3nm,0.3s,baz=0.1,slow=4.1,SNR=18						
CFAA				Sn	**Sn**	**21 16 25.2**	**-1.9**
	comp=N,0.2nm,0.3s,baz=306,slow=19,SNR=3.4						
CFAA				LR	LR	21 18 31.4	
	comp=N,53nm,19.0s,baz=226,slow=42						
LCO	**Las Campanas**	**9.45**	**18**	*e*Pn	**Pn**	**21 15 13.6**	**-2.9**
LCO				*e*Sn	**Sn**	**21 16 59.3**	**-3.1**
TRQA	**Tornquist**	**9.54**	**94**	*e*Pn	**Pn**	**21 15 19.1**	**+1.6**
LVC	**Limon Verde**	**16.02**	**18**	Pn	**Pn**	**21 16 46.1**	**+0.4**
EFI	**East Falkland**	**17.67**	**146**	*e*Pn	**P**	**21 17 07.0**	**+0.2**
	comp=N,5.1nm,0.5s						
CPUP	**Villa Florida**	**18.34**	**55**	P	**P**	**21 17 15.9**	**+1.5**
	comp=N,0.1nm,0.3s,baz=234,slow=14,SNR=2.5						
CPUP				LR	LR	21 23 45.4	
	comp=N,79nm,19.4s,baz=228,slow=35						
LPAZ	**La Paz**	**22.31**	**15**	P	**P**	**21 17 59.5**	**+1.3**
	comp=N,2.5nm,0.7s,baz=123,slow=4.3,SNR=3.6						
LPAZ	**La Paz**	**22.31**	**15**	*e*P	**P**	**21 17 58.1**	**0.0**
	comp=N,30nm,1.8s						
SIV	**San Ignacio**	**24.79**	**31**	P	**P**	**21 18 22.4**	**+0.5**
	comp=N,0.9nm,0.6s,baz=281,slow=9.8,SNR=2.5						
SIV				LR	LR	21 30 12.7	
	comp=N,315nm,19.4s,baz=204,slow=42						
RPN	**Rapa Nui**	**31.47**	**280**	*e*P	**P**	**21 19 20.6**	**-0.9**
	comp=N,1,773nm,2.0s						
SNAA	**Sanae**	**48.50**	**156**	P	**P**	**21 21 43.0**	**+0.8**
	comp=N,1.1nm,1.0s,baz=277,slow=5.3,SNR=6.3						
SNAA	**Sanae**	**48.50**	**156**	*e*P	**P**	**21 21 41.0**	**-1.2**
	comp=N,2.8nm,0.9s						
QSPA	**South Pole Qui**	**52.19**	**180**	P	**P**	**21 22 11.6**	**+1.3**
	comp=N,3.7nm,0.9s,baz=146,slow=3.1,SNR=9.9						
LTX	**Lajitas**	**72.53**	**333**	*e*P	**P**	**21 24 27.6**	**+0.9**
TXAR	**Lajitas Array**	**72.53**	**333**	P	**P**	**21 24 27.6**	**+0.9**
	comp=N,1.1nm,0.8s,baz=150,slow=7.8,SNR=12						
WMOK	**Wichita Mounta**	**75.97**	**339**	*e*P	**P**	**21 24 46.8**	**+0.2**
	comp=N,13nm,1.8s						
ECSD	**EROS Data Cent**	**83.94**	**344**	*e*P	**P**	**21 25 29.5**	**+0.1**
	comp=N,8.6nm,1.0s						
NVAR	**Mina Array Bea**	**86.31**	**327**	P	**P**	**21 25 43.0**	**+1.3**
	comp=N,0.7nm,0.9s,baz=176,slow=5.9,SNR=4.4						
PDAR	**Pinedale Array**	**86.67**	**335**	P	**P**	**21 25 43.9**	**+0.4**
	comp=N,0.9nm,0.9s,baz=108,slow=4.8,SNR=5.9						
TORD	**Torodi Ar. Bea**	**87.12**	**71**	P	**P**	**21 25 45.9**	**-0.1**
	comp=N,0.5nm,0.7s,baz=226,slow=5.3,SNR=4.5						
ZALV	**Zalesovo Beam**	**158.51**	**36**	PKPab	**PKPab**	**21 33 31.7**	**+0.2**
	comp=N,0.3nm,0.3s,baz=304,slow=3.3,SNR=3.3						

*IDC **27** 21:20:48.4±1.7, 18.51S×168.17E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.9/36, mbtmp4.0/10, ML3.3/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/31, Error ellipse: s-maj=50.2km s-min=20.1km az=123.0*

*ISCJB **27** 21:20:52.5±1.2, 18.46S±0.09×168.2E±0.2, h35km, mb3.9/8, MS3.3/1, Error ellipse: s-maj=31.3km s-min=9.9km az=16.4*

ISC 27 21:20:53.7±1.4, 18.5S±0.1×168.2E±0.3, h35km, n11, σ1s28/11, mb4.0/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.90**	**204**	Pn	**Pn**	**21 21 50.4**	**-0.9**
	2.0nm,0.3s,baz=92,slow=24,SNR=15						
DZM				Sn	**Sn**	**21 22 37.6**	**+1.7**
	19nm,0.3s,baz=124,slow=23,SNR=9.0						
CTA	**Charters Tower**	**20.75**	**262**	P	**P**	**21 25 32.2**	**+0.6**
	5.9nm,0.9s,baz=99,slow=12,SNR=5.4						
URZ	**Urewera**	**21.17**	**160**	LR	LR	21 32 49.6	
	comp=Z,130nm,20.5s,baz=346,slow=34						
STKA	**Stephens Creek**	**27.40**	**236**	P	**P**	**21 26 36.7**	**+0.6**
	2.5nm,0.8s,baz=79,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**31.95**	**262**	P	**P**	**21 27 15.4**	**-1.2**
	1.1nm,1.1s,baz=93,slow=8.9,SNR=5.7						
ASAR	**Alice Springs**	**32.34**	**255**	P	**P**	**21 27 17.6**	**-2.3**
	1.2nm,0.5s,baz=84,slow=8.9,SNR=14						
USRK	**Ussuriysk Ar.**	**70.63**	**333**	P	**P**	**21 32 06.2**	**+0.7**
	2.5nm,0.8s,baz=152,slow=4.4,SNR=11						
CMAR	**Chiang Mai Arr**	**77.28**	**295**	P	**P**	**21 32 45.6**	**+0.6**
	1.4nm,0.9s,baz=137,slow=4.9,SNR=8.6						
SEY	**Seymchan**	**82.11**	**353**	P	**P**	**21 33 10.5**	**+0.2**
	0.9nm,0.4s,baz=138,slow=5.2,SNR=5.0						
SONM	**Songino Array**	**86.03**	**323**	P	**P**	**21 33 31.5**	**+0.8**
	1.3nm,0.9s,baz=137,slow=4.7,SNR=7.8						
ILAR	**Eielson Array**	**89.84**	**18**	P	**P**	**21 33 47.6**	**-0.8**
	0.3nm,0.5s,baz=240,slow=4.7,SNR=4.7						

*ISCJB **27** 21:33:33.8±0.6, 9.15S±0.04×119.03E±0.04, h102km, mb3.8/3, Error ellipse: s-maj=6.4km s-min=5.6km az=16.4*

*DJA **27** 21:33:35.5±0.6, 9°S±3'×11°9E±°, h101km±6km, M4.6/5, mb4.7/1, mB5.1/1, MLv4.5/5, Mw(mB)4.4/1*

*IDC **27** 21:33:37.9±5.0, 8.97S×119.22E, h132km±44km, mb3.3/4, mb1 3.3/6, mb1mx3.1/35, mbtmp3.7/6, Error ellipse: s-maj=74.3km s-min=16.2km az=63.0*

ISC 27 21:33:34.4±0.8, 9.19S±0.06×119.04E±0.05, h102km, n13, σ1s18/20, mb3.8/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.33**	**111**	P	**Pn**	**21 33 59.0**	**+0.3**
WSI				S	**Sn**	**21 34 17.8**	**+0.7**
MMRI	**Maumere**	**3.21**	**80**	P	**Pn**	**21 34 24.1**	**+1.1**
MMRI				S	**Sn**	**21 35 00.5**	**0.0**
BSSI	**Bau Bau, Buton**	**3.35**	**26**	P	**Pn**	**21 34 26.0**	**+1.1**
BSSI				S	**Sn**	**21 35 03.8**	**-0.2**
IGBI	**Denpasar**	**3.86**	**275**	P	**Pn**	**21 34 32.5**	**+0.8**
IGBI				S	**Sn**	**21 35 16.5**	**+0.3**
BKSI	**Bulukumba**	**3.99**	**16**	P	**Pn**	**21 34 35.0**	**+1.5**
BKSI				S	**Sn**	**21 35 19.1**	**-0.3**
KAPI	**Kappang**	**4.21**	**10**	P	**Pn**	**21 34 38.3**	**+1.8**
	1.9nm,0.3s,baz=206,slow=4.9,SNR=10						
KAPI				S	**Sn**	**21 35 23.6**	**-1.1**
	18nm,0.3s,baz=85,slow=23,SNR=23						
BLJI	**Banyuglugur**	**5.57**	**285**	P	**Pn**	**21 34 56.1**	**+1.2**
WRA	**Warramunga Arr**	**18.25**	**128**	P	**P**	**21 37 40.6**	**+0.6**
	0.1nm,0.3s,baz=304,slow=12,SNR=7.1						
WRA				S		21 40 52.5	-11
	0.2nm,0.3s,baz=305,slow=25,SNR=6.4						
ASAR	**Alice Springs**	**20.23**	**137**	P	**P**	**21 38 03.3**	**+1.8**
	1.0nm,0.6s,baz=313,slow=10,SNR=18						
ASAR				S	**S**	**21 41 41.3**	**-1.8**
	0.2nm,0.3s,baz=304,slow=22,SNR=3.2						
CMAR	**Chiang Mai Arr**	**33.88**	**324**	P	**P**	**21 40 07.3**	**-0.2**
	0.6nm,0.7s,baz=156,slow=7.2,SNR=4.6						
SONM	**Songino Array**	**57.87**	**350**	P	**P**	**21 43 15.6**	**-0.1**
	1.2nm,0.5s,baz=166,slow=8.0,SNR=9.9						
ZALV	**Zalesovo Beam**	**69.23**	**339**	P	**P**	**21 44 27.9**	**-2.2**
	0.6nm,0.4s,baz=128,slow=3.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**118.53**	**280**	PKP	**PKPdf**	**21 52 11.5**	**+0.2**
	0.4nm,0.7s,baz=44,slow=2.2,SNR=4.9						

*ISCJB **27** 22:01:16.9±0.7, 60.2S±0.1×27.0W±0.3, h100km, mb3.9/7, Error ellipse: s-maj=24.9km s-min=12.7km az=142.4*

*IDC **27** 22:01:23.7±7.5, 59.86S×27.09W, h134km±68km, mb3.6/7, mb1 3.7/7, mb1mx3.5/22, mbtmp4.0/7, MS3.0/2, Ms1 3.1/2, ms1mx2.8/14, Error ellipse: s-maj=23.3km s-min=19.8km az=36.0*

ISC 27 22:01:18.3±0.8, 60.3S±0.2×27.1W±0.2, h100km, n14, σ1s32/12, mb4.0/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.95**	**151**	P	**Pn**	**22 04 18.4**	**+0.3**
VNA1				S	S	22 07 06.3	+7.6
SNAA	**Sanae**	**14.95**	**150**	P	**Pn**	**22 04 41.2**	**-2.9**
SNAA				S	Sn	22 07 19.2	-10
SNAA	**Sanae**	**14.95**	**150**	P	**Pn**	**22 04 44.8**	**+0.8**
	3.6nm,0.3s,baz=306,slow=13,SNR=202						
SNAA				S	Sn	22 07 19.1	-10
	0.1nm,0.3s,baz=279,slow=18,SNR=3.5						
SNAA				LR	LR	22 10 13.2	
	comp=Z,29nm,18.7s,baz=276,slow=35						
CFAA	**Coronel Fontan**	**39.44**	**298**	P	**P**	**22 08 39.6**	**+1.2**
	0.2nm,0.5s,baz=153,slow=7.7,SNR=4.7						
CPUP	**Villa Florida**	**39.74**	**315**	P	**P**	**22 08 39.8**	**-1.1**
	1.7nm,0.5s,baz=159,slow=5.3,SNR=6.7						
VNDA	**Vanda**	**42.36**	**183**	P	P	22 09 07.1	+5.4
	0.6nm,0.7s,baz=198,slow=6.7,SNR=8.0						
VNDA				LR	LR	22 24 36.6	
	comp=Z,40nm,21.7s,baz=223,slow=33						
BOSA	**Boshof**	**47.09**	**72**	P	**P**	**22 09 40.3**	**+0.3**
	1.8nm,0.8s,baz=238,slow=9.5,SNR=3.0						
LPAZ	**La Paz**	**52.94**	**308**	P	**P**	**22 10 24.7**	**-0.2**
	1.0nm,0.5s,baz=92,slow=5.4,SNR=11						
DBIC	**Dimbokro**	**69.00**	**24**	P	**P**	**22 12 12.1**	**-0.7**
	1.4nm,0.5s,baz=180,slow=7.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**76.72**	**29**	P	**P**	**22 12 58.5**	**+0.2**
	4.4nm,0.6s,baz=198,slow=6.3,SNR=116						
FINES	**FINESS Array B**	**128.07**	**29**	PKP	**PKPdf**	**22 20 11.5**	**+0.6**
	1.5nm,0.9s,baz=191,slow=1.9,SNR=7.4						
ZALV	**Zalesovo Beam**	**144.01**	**69**	PKP	PKPbc	22 20 39.1	+0.2
	0.9nm,0.4s,baz=221,slow=4.4,SNR=6.3						
SONM	**Songino Array**	**150.65**	**94**	PKPbc	**PKPbc**	**22 20 59.1**	**+1.4**
	0.6nm,0.4s,baz=202,slow=3.1,SNR=3.5						
ILAR	**Eielson Array**	**152.80**	**306**	PKPbc	**PKPbc**	**22 21 00.8**	**-1.0**
	0.2nm,0.6s,baz=344,slow=1.8,SNR=4.7						

IDC 27 22:18:18.4±10.0, 8.98S×114.00E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/31, mbtmp3.6/3, Error ellipse: s-maj=173.1km s-min=134.5km az=164.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.48**	**121**	P	P	22 23 19.1	-0.6
	0.7nm,0.6s,baz=296,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**24.00**	**130**	P	P	22 23 35.8	+0.8
	0.2nm,0.3s,baz=299,slow=9.6,SNR=3.3						
**STK

	80nm,0.1s							
PSMA	**Santa Maria**	**0.52**	**219**	*i* P	Pg	22 27 31.0	-1.2
PSMA				*e*S	Sg	22 27 37.5	-1.5
PSMA				A	A	22 27 40.5	
	60nm,0.4s						
GRON	**Grota Negra**	**0.74**	**300**	*e*S	Sg	22 27 41.1	-5.0
GRON				A	A	22 27 42.1	
	50nm,0.2s						
PDA	**Ponta Delgada**	**0.82**	**295**	*e*P	Pg	22 27 35.6	-2.3
PDA				*e*S	Sg	22 27 45.5	-3.1
PDA				A	A	22 27 47.4	
	104nm,0.3s						
PSET	**Sete Cidades**	**0.90**	**298**	*e*P	Pg	22 27 36.9	-2.5
PSET				*e*S	Sg	22 27 47.2	-3.9
PSET				A	A	22 27 53.3	
	94nm,0.3s						
ROSA	**Rosais**	**3.07**	**296**	*e*P	Pn	22 28 07.8	-3.5
ROSA				*e*S	Sn	22 28 40.5	-8.0
ROSA				A	A	22 28 42.2	
	3.2nm,0.1s						
PICO	**Pico**	**3.13**	**292**	*e*P	Pn	22 28 08.7	-3.5

KLM ***27*** *22:34:34.2,2°.64N×99°.00E,h239km,mb4.0,ML3.3*
ISCJB ***27*** *22:34:35.8±1.0,2°.5N±0°.1×98°.9E±0°.1,h162km±6km, mb3.5/7,Error ellipse: s-maj=25.5km s-min=18.5km az=28.6*
IDC ***27*** *22:34:36.9±0.6,2°.65N×99°.06E,h155km±8km,mb3.4/7, mb1 3.5/7,mb1mx3.2/29,mbtmp3.8/7,Error ellipse: s-maj=89.4km s-min=17.1km az=46.0*

ISC 27 22:34:36.9±1.1,2°.6N±0°.1×98°.9E±0°.1,h158km±7km,n11, σ0§51/12,mb3.6/7,1C-2D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.23**	**359**	P	**Pn**	**22 34 58.8**	**+0.4**
	50nm,0.3s,baz=344,slow=9.1,SNR=121						
PSI				S	**Sn**	**22 35 14.4**	**-0.5**
	74nm,0.3s,baz=143,slow=20,SNR=96						
FRIM	**Kepong**	**2.77**	**76**	||P	**Pn**	**22 35 22.3**	**+0.5**
IPM	**Ipoh**	**2.83**	**48**	||P	**Pn**	**22 35 22.9**	**+0.5**
KULM	**Kulim**	**3.20**	**32**	⇑P	**Pn**	**22 35 27.0**	**-0.2**
WRA	**Warramunga Arr**	**41.33**	**124**	P	**P**	**22 42 06.8**	**-0.7**
	0.6nm,0.3s,baz=322,slow=11,SNR=9.8						
ASAR	**Alice Springs**	**42.88**	**129**	P	**P**	**22 42 19.7**	**-0.3**
	0.3nm,0.4s,baz=304,slow=8.0,SNR=4.1						
ZALV	**Zalesovo Beam**	**52.51**	**350**	P	**P**	**22 43 33.5**	**-0.1**
	0.6nm,0.4s,baz=166,slow=5.9,SNR=3.9						
BRTR	**Keskin Array B**	**69.49**	**312**	P	**P**	**22 45 28.6**	**0.0**
	0.4nm,0.7s,baz=133,slow=9.0,SNR=4.1						
FINES	**FINESS Array B**	**79.60**	**332**	P	**P**	**22 46 26.2**	**0.0**
	1.8nm,0.8s,baz=120,slow=6.8,SNR=6.0						
HFS	**Hagfors**	**85.41**	**330**	P	**P**	**22 46 57.1**	**+0.7**
	1.0nm,0.6s,baz=116,slow=3.4,SNR=7.1						
NOA	**NORSAR Array B**	**86.66**	**331**	P	**P**	**22 47 03.0**	**+0.4**
	0.3nm,0.6s,baz=46,slow=4.3,SNR=2.6						

IDC ***27*** *22:43:10.3±1.9,12°.97N×92°.54E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.5/32,mbtmp3.7/6,ML4.1/1,MS2.8/1, Ms1 3.0/1,ms1mx2.5/28,Error ellipse: s-maj=47.6km s-min=23.3km az=80.0*
ISCJB ***27*** *22:43:12.8±0.9,13°.02N±0°.09×92°.56E±0°.08,h31km, mb3.6/5,Error ellipse: s-maj=13.3km s-min=10.6km az=21.0*

ISC 27 22:43:14.2±1.3,13°.1N±0°.1×92°.4E±0°.1,h31km,n16, σ1§24/13,mb3.7/5,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.28**	**49**	Pn	**Pn**	**22 45 12.0**	**-0.2**
	0.7nm,0.3s,baz=235,slow=15,SNR=6.4						
CMAR				Sn	**Sn**	**22 46 44.9**	**+0.1**
	0.3nm,0.3s,baz=219,slow=24,SNR=2.5						
CMAR				LR	LR	22 49 02.9	
	comp=Z,55nm,18.3s,baz=209,slow=43						
ODAN	**Odare**	**14.52**	**342**	*e*P	**Pn**	**22 46 35.8**	**-2.0**
RAMN	**Ramite**	**14.86**	**339**	*e*P	**Pn**	**22 46 42.9**	**+0.5**
	7.3nm,0.4s						
TAPN	**Taplejung**	**14.89**	**344**	*e*P	Pn	22 46 36.4	-6.4
PKIN	**Phulchoki**	**15.87**	**337**	*e*P	**Pn**	**22 46 57.0**	**+1.4**
	9.0nm,0.6s						
DMN	**Daman**	**16.01**	**336**	*e*P	**P**	**22 46 58.8**	**-1.9**
	4.8nm,0.3s						
GKN	**Gorkha**	**16.55**	**335**	*e*P	**P**	**22 47 05.1**	**-1.4**
	9.1nm,0.3s						
KOLN	**Koldanda**	**16.80**	**332**	*e*P	**P**	**22 47 09.7**	**+0.4**
	17nm,0.5s						
H08S3	**Diego Garcia H**	**28.52**	**225**	T	T	23 18 58.8	
	baz=43,slow=76,SNR=23						
H08S2	**Diego Garcia H**	**28.53**	**225**	T	T	23 18 47.0	
	baz=43,slow=76,SNR=22						
H08S1	**Diego Carcia H**	**28.54**	**225**	T	T	23 18 59.9	
	baz=43,slow=76,SNR=37						
SONM	**Songino Array**	**36.59**	**16**	P	**P**	**22 50 18.8**	**+1.2**
	0.8nm,0.7s,baz=204,slow=7.1,SNR=7.0						
KSRS	**Korea Array**	**39.91**	**46**	P	**P**	**22 50 45.2**	**-0.3**
	0.9nm,0.6s,baz=244,slow=8.6,SNR=5.3						
ZALV	**Zalesovo Beam**	**41.24**	**353**	P	**P**	**22 50 57.4**	**+1.2**
	0.9nm,0.7s,baz=160,slow=9.0,SNR=4.6						
WRA	**Warramunga Arr**	**52.71**	**128**	P	**P**	**22 52 25.5**	**-0.7**
	1.0nm,0.8s,baz=312,slow=7.8,SNR=3.6						
ASAR	**Alice Springs**	**54.58**	**132**	P	**P**	**22 52 40.0**	**+0.1**
	0.2nm,0.3s,baz=310,slow=7.5,SNR=3.4						

SJA 27 22:51:57.1±0.6,31°.69S×69°.80W,h100km±5km,MD2.7, MW4.4,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.44**	**104**	*e*P	Pn	22 52 14.1	+1.3
RTLS				*e*S	Sn	22 52 26.6	+2.0
AUSP	**Uspallata**	**0.63**	**146**	*e*P	Pn	22 52 15.7	+1.3
AUSP				*e*S	Sn	22 52 28.6	+1.4
RTLL	**Cerro Villicun**	**1.19**	**73**	*e*P	Pn	22 52 20.5	+0.8
ASAL	**Salagasta**	**1.21**	**138**	*e*P	Pn	22 52 21.0	+0.9
ASAL				*e*S	Sn	22 52 39.0	+1.6

ISCJB ***27*** *22:55:03.0±0.9,34°.82S±0°.05×71°.9W±0°.2,h70km±8km, mb4.8/3,Error ellipse: s-maj=21.7km s-min=6.4km az=10.8*
GUC ***27*** *22:55:03.4±0.7,34°.75S×71°.82W,h39km±4km,ML4.3*
NEIC ***27*** *22:55:03.0,34°.75S×71°.82W,h39km,mb4.6/4,After GUC.*
NEIC Felt [IV] at Pencahue; [III] at Paredones, Pichilemu and San Fernando; [II] at Curico, Rancagua and Talca.

ISC 27 22:55:03.4±1.4,34°.77S±0°.04×72°.0W±0°.1,h51km±15km, n16,σ1§37/25,mb4.8/3,8C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.65**	**111**	||*i*P	**Pn**	**22 55 15.6**	**-0.9**
NICH				*i* S	**Sn**	**22 55 24.2**	**-1.8**
TALC	**Talca**	**0.68**	**157**	||*i*P	**Pn**	**22 55 17.3**	**+0.3**
TALC				*i* S	**Sn**	**22 55 27.1**	**+0.3**
LNV	**Longovilo**	**0.93**	**30**	⇑*i*P	**Pn**	**22 55 19.9**	**-0.4**
LNCH	**Linares**	**1.12**	**165**	⇑*i*P	**Pn**	**22 55 23.6**	**+0.9**
LNCH				*i* S	**Sn**	**22 55 39.2**	**+2.2**
CHCH	**Chadas Angostu**	**1.37**	**53**	⇑*i*P	**Pn**	**22 55 26.4**	**+0.2**
TACH	**Talagante**	**1.40**	**38**	⇑*i*P	**Pn**	**22 55 27.1**	**+0.4**
TACH				*i* S	**Sn**	**22 55 44.6**	**+0.5**
PCH	**Pirque**	**1.66**	**47**	⇑*i*P	**Pn**	**22 55 30.7**	**+0.5**
PCH				*i* S	**Sn**	**22 55 51.7**	**+1.2**
SAN	**Santiago**	**1.70**	**40**	⇑*i*P	**Pn**	**22 55 31.2**	**+0.5**
SAN				*e*S	**Sn**	**22 55 52.7**	**+1.3**
CLCH	**Cerro Calan**	**1.81**	**41**	⇑*i*P	**Pn**	**22 55 32.7**	**+0.4**
CLCH				*i* S	**Sn**	**22 55 55.6**	**+1.5**
CLCH				AML	AML	22 55 59.2	
	comp=N,5μm,0.5s						
PEL	**Peldehue**	**1.94**	**34**	⇑*i*P	**Pn**	**22 55 35.0**	**+0.9**
PEL				*i* S	**Sn**	**22 55 59.8**	**+2.5**
PEL				AML	AML	22 56 09.1	
	comp=N,4μm,0.8s						
LCO	**Las Campanas**	**5.84**	**11**	*e*Pn	**Pn**	**22 56 27.8**	**0.0**
LCO				*e*Sn	**Sn**	**22 57 29.9**	**-3.6**
TRQA	**Tornquist**	**8.69**	**115**	*e*Pn	**Pn**	**22 57 06.5**	**0.0**
LPAZ	**La Paz**	**18.72**	**12**	*e*P	**P**	**22 59 18.8**	**+0.3**
	comp=N,18nm,1.9s						
PTGA	**Pitinga**	**35.67**	**21**	*e*P	**P**	**23 01 57.2**	**+0.4**
	comp=N,7.4nm,1.1s						
SNAA	**Sanae**	**50.85**	**158**	*e*P	**P**	**23 03 57.1**	**-1.5**
	comp=N,19nm,1.8s						
MPR	**Mayaguez**	**52.89**	**6**	*e*P	**P**	**23 04 14.1**	**-0.1**
	comp=N,29nm,1.3s						

ISCJB ***27*** *23:00:08.6±0.2,43°.48N±0°.02×105°.34W±0°.02,h0km,Error ellipse: s-maj=2.7km s-min=2.3km az=160.9*
IDC ***27*** *23:00:08.2±2.3,43°.51N×105°.43W,h0km,mb1 3.9/2, mb1mx3.3/35,mbtmp3.7/2,ML3.4/2,Error ellipse: s-maj=56.5km s-min=8.9km az=153.0*
NEIC ***27*** *23:00:08.8±0.5,43°.59N×105°.40W,h0km,ML3.2,Error ellipse: s-maj=6.5km s-min=5.5km az=188.0,Suspected Mining explosion.*
NEIC 75 km [45 miles] ENE of Midwest.

ISC 27 23:00:08.9±0.7,43°.53N±0°.02×105°.36W±0°.02,h0km,n80, σ1§30/96,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J23A	**Dilts Ranch, B**	**0.19**	**227**	P	**Pg**	**23 00 14.4**	**+1.9**
	baz=0.2,SNR=686						
I23A	**Meade Ranch, G**	**0.43**	**350**	P	**Pb**	**23 00 18.9**	**-0.6**
	baz=0.4,SNR=29						
J24A	**Dixon Ranch, L**	**0.55**	**111**	P	**Pg**	**23 00 19.5**	**+0.1**
	baz=0.6,SNR=150						
I24A	**Kuemmerle Ranc**	**0.63**	**58**	P	**Pg**	**23 00 20.9**	**+0.1**
	baz=0.6,SNR=227						
K23A	**Bowen Ranch, D**	**0.80**	**194**	S	**Sg**	**23 00 36.2**	**+1.6**
	baz=0.9						
J22A	**Midwest**	**0.82**	**262**	P	**Pb**	**23 00 25.7**	**-0.4**
	baz=0.8,SNR=193						
J22A				Sb	**Sn**	**23 00 39.8**	**-1.0**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.89**	**294**	P	**Pb**	**23 00 27.3**	**0.0**
	baz=0.8,SNR=326						
K24A	**Anderson Ranch**	**0.91**	**153**	P	**Pg**	**23 00 25.9**	**-0.3**
	baz=1.0,SNR=89						
H23A	**Clabaugh Catl**	**1.03**	**359**	P	**Pb**	**23 00 29.2**	**-0.5**
	baz=1.0,SNR=45						
RSSD	**Black Hills**	**1.13**	**58**	*e*Pg	**Pg**	**23 00 29.4**	**-1.1**
RSSD				*e*Sg	**Sb**	**23 00 45.9**	**-0.7**
J25A	**Sunshine Ranch**	**1.15**	**97**	P	**Pg**	**23 00 30.1**	**-0.7**
	baz=1.2,SNR=68						
J25A				Sb	**Sg**	**23 00 46.6**	**+0.9**
	baz=1.2						
K22A	**Casper**	**1.23**	**224**	P	**Pg**	**23 00 32.5**	**+0.2**
	baz=1.2,SNR=68						
K22A				Sn	**Sn**	**23 00 52.8**	**+2.0**
	baz=1.2						
K22A	**Casper**	**1.23**	**224**	*e*Pn	**Pg**	**23 00 32.3**	**0.0**
I25A	**Rochford**	**1.28**	**67**	P	**Pg**	**23 00 32.5**	**-0.9**
	baz=1.3						
I25A				S	**Sg**	**23 00 50.0**	**+0.1**
	baz=1.3						
H22A	**Clearmont**	**1.28**	**326**	P	**Pn**	**23 00 34.3**	**+0.2**
	baz=1.2,SNR=158						
H24A	**Dirks Ranch, A**	**1.35**	**25**	P	**Pg**	**23 00 34.4**	**-0.3**
	baz=1.3						
H24A				Sn	**Sn**	**23 00 54.6**	**+0.9**
	baz=1.3						
I21A	**Big Trails, Te**	**1.43**	**282**	P	**Pb**	**23 00 36.4**	**-0.1**
	baz=1.4,SNR=404						
I21A				S	**Sn**	**23 00 57.2**	**+1.5**
	baz=1.4						
K25A	**Mack Ranch, Ha**	**1.43**	**130**	Pb	**Pn**	**23 00 36.1**	**-0.1**
	baz=1.5,SNR=56						
J21A	**Lysite**	**1.53**	**264**	P	**Pb**	**23 00 37.9**	**-0.3**
	baz=1.5,SNR=37						
J21A				Sb	**Sn**	**23 01 00.7**	**+2.4**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.63**	**313**	Pb	**Pg**	**23 00 40.5**	**+0.4**
	baz=1.6,SNR=64						
G23A	**Biddle**	**1.67**	**359**	P	**Pg**	**23 00 40.6**	**-0.2**
	baz=1.6,SNR=107						
H25A	**Fruitdale**	**1.67**	**49**	Pb	**Pb**	**23 00 40.1**	**-0.6**
	baz=1.7,SNR=31						
J26A	**Sides Ranch, S**	**1.68**	**97**	Pb	**Pn**	**23 00 39.7**	**+0.1**
	baz=1.7,SNR=67						
L25A	**Engebretsen Ra**	**1.72**	**143**	Pb	**Pn**	**23 00 40.8**	**+0.6**
	baz=1.8						
K26A	**Motz Farm, Whi**	**1.80**	**117**	Pb	**Pn**	**23 00 42.1**	**+0.8**
	baz=1.9,SNR=44						
G22A	**Birney**	**1.81**	**339**	P	**Pb**	**23 00 42.8**	**-0.2**
	baz=1.7,SNR=130						
I26A	**New Underwood**	**1.88**	**74**	Sb	**Sg**	**23 01 09.6**	**+0.3**
	baz=1.9						
G24A	**Alzada**	**1.92**	**20**	Pb	**Pb**	**23 00 44.6**	**-0.2**
	baz=1.9,SNR=33						
G24A				Sb	**Sg**	**23 01 12.0**	**+1.5**
	baz=1.9						
J20A	**Shoshoni**	**1.99**	**266**	Pb	**Pg**	**23 00 46.8**	**-0.2**
	baz=2.0						
I20A	**Worland**	**2.05**	**283**	Pb	**Pb**	**23 00 47.4**	**+0.3**
	baz=2.0,SNR=105						
I20A				Sb	**Sg**	**23 01 15.2**	**+0.5**
	baz=2.0						
H20A	**Greybull**	**2.13**	**298**	Pb	**Pb**	**23 00 48.6**	**+0.3**
	baz=2.1,SNR=25						
G21A	**Lodge Grass**	**2.15**	**323**	P	**Pb**	**23 00 47.6**	**-1.1**
	baz=2.1,SNR=31						
F23A	**Volborg**	**2.19**	**359**	P	**Pn**	**23 00 47.2**	**+0.6**
	baz=2.1,SNR=74						
PHWY	**Pilot Hill**	**2.23**	**182**	*e*Pb	**Pn**	**23 00 48.6**	**+1.2**
PHWY				*e*Sg	**Sn**	**23 01 18.0**	**+2.2**
RWWY	**Rawlins**	**2.29**	**217**	*e*Pn	Pg	23 00 58.6	+5.8
RWWY				*e*Sg	Sg	23 01 30.5	+8.0
F22A	**Rosebud**	**2.33**	**344**	P	**Pn**	**23 00 49.4**	**+0.8**
	baz=2.3,SNR=35						
F24A	**Ekalaka**	**2.40**	**16**	P	**Pn**	**23 00 51.0**	**+1.4**
	baz=2.4,SNR=26						
G20A	**Bridger**	**2.65**	**311**	P	**Pn**	**23 00 54.0**	**+1.0**
	baz=2.6,SNR=57						
F25A	**Bowman**	**2.75**	**29**	P	**Pn**	**23 00 56.0**	**+1.7**
	baz=2.7,SNR=34						
E23A	**Ismay**	**2.96**	**1**	P	**Pn**	**23 00 58.0**	**+0.7**
	baz=2.9,SNR=6.9						
F20A	**Billings**	**3.01**	**320**	P	**Pn**	**23 00 58.8**	**+0.8**
	baz=2.9,SNR=15						
E24A	**Baker**	**3.12**	**14**	P	**Pn**	**23 01 00.6**	**+1.2**
	baz=3.1,SNR=12						
BW06	**Boulder Array**	**3.16**	**257**	*e*Pn	**Pn**	**23 01 01.4**	**+1.2**
BW06				*e*Sg	**Sg**	**23 01 49.7**	**-0.8**
PDAR	**Pinedale Array**	**3.16**	**257**	Pn	**Pn**	**23 01 01.6**	**+1.4**
	1.7nm,0.3s,baz=70,slow=17,SNR=33						
PDAR				Lg	Lg	23 01 45.7	
	3.7nm,0.3s,baz=77,slow=31,SNR=4.9						
RLMT	**Red Lodge**	**3.22**	**301**	*e*Pn	**Pn**	**23 01 00.3**	**-0.6**
RLMT				*e*Sg	**Sb**	**23 01 47.4**	**+0.4**
OGNE	**Ogallala**	**3.58**	**135**	*e*Pn	**Pn**	**23 01 06.3**	**+0.6**
OGNE				*e*Pg	**Pg**	**23 01 16.1**	**-1.3**
OGNE				*e*Sg	**Sg**	**23 02 03.5**	**-0.3**
ISCO	**Idaho Springs**	**3.74**	**183**	*e*Pn	**Pn**	**23 01 07.3**	**-0.8**
ISCO				*e*Sn	**Sn**	**23 01 52.0**	**-0.9**
LOHW	**Long Hollow**	**3.81**	**273**	*e*Pb	**Pb**	**23 01 14.3**	**-2.8**
GCMT	**Greycliff**	**3.81**	**308**	*e*Pn	**Pn**	**23 01 11.1**	**+2.1**
GCMT				*e*Sg	**Sg**	**23 02 13.7**	**+2.4**
FLWY	**Flagg Ranch**	**3.90**	**280**	*e*Pg	**Pg**	**23 01 22.6**	**-1.0**
MOOW	**Moose Ponds**	**3.91**	**275**	*e*Pg	**Pg**	**23 01 21.8**	**-2.1**
SNOW	**Snow King Moun**	**3.92**	**271**	*e*Pn	**Pn**	**23 01 10.0**	**-0.6**
REDW	**Red Top Meadow**	**4.00**	**269**	*e*Pn	**Pn**	**23 01 12.2**	**+0.5**
YNR	**Norris Junctio**	**4.01**	**289**	*e*Pg	**Pg**	**23 01 23.8**	**-1.9**
O20A	**White River Ci**	**4.02**	**213**	*e*Pn	**Pn**	**23 01 11.4**	**-0.4**
YFT	**Old Faithful**	**4.05**	**285**	*e*Pg	**Pg**	**23 01 25.1**	**-1.5**
IMW	**Indian Meadow**	**4.06**	**277**	*e*Pg	**Pg**	**23 01 25.4**	**-1.3**
TPAW	**Teton Pass**	**4.07**	**271**	*e*Pg	**Pg**	**23 01 25.8**	**-1.0**
AHID	**Auburn Hatcher**	**4.27**	**262**	*e*Pg	**Pg**	**23 01 29.3**	**-1.4**
SMCO	**Snowmass**	**4.52**	**196**	*e*Pg	Pb	23 01 32.7	+3.4
SMCO				*e*Sg	**Sg**	**23 02 32.7**	**-1.4**
QLMT	**Earthquake Lak**	**4.55**	**289**	*e*Pg	**Pg**	**23 01 33.6**	**-2.5**
QLMT				*e*Sg	**Sg**	**23 02 35.2**	**+0.1**
HWUT	**Hardware Ranch**	**4.97**	**249**	*e*Pn	**Pn**	**23 01 23.7**	**-1.2**
DGMT	**Dagmar**	**5.00**	**9**	*e*Pb	**Pb**	**23 01 38.6**	**+1.2**
TCUT	**Toone Canyon**	**5.09**	**244**	*e*Pn	**Pn**	**23 01 27.2**	**+0.6**
EGMT	**Eagleton**	**5.44**	**327**	*e*Pn	**Pn**	**23 01 31.9**	**+0.6**
DLMT	**Dillon**	**5.49**	**292**	*e*Pg	**Pg**	**23 01 51.0**	**-3.1**
MCMT	**McKenzie Canyo**	**5.54**	**286**	*e*Pg	**Pg**	**23 01 55.6**	**+0.7**
LRM	**Limekiln Ridge**	**5.55**	**297**	*e*Pg	**Pg**	**23 01 53.0**	**-2.1**
HVU	**Hansel Valley**	**5.74**	**255**	*e*Pn	**Pn**	**23 01 37.4**	**+1.9**
PV04	**Paradox Valley**	**5.79**	**209**	*e*Pb	**Pb**	**23 01 52.9**	**+2.0**
SRU	**San Rafael Swe**	**5.88**	**223**	*e*Pn	**Pn**	**23 01 38.0**	**+0.5**
SRU				*e*Sg	**Sg**	**23 03 13.4**	**-4.5**
PV01	**Paradox Valley**	**5.92**	**205**	*e*Pn	**Pn**	**23 01 38.8**	**+0.8**
BGU	**Big Grassy Mou**	**6.26**	**248**	*e*Pn	**Pn**	**23 01 44.5**	**+1.9**
ECSD	**EROS Data Cent**	**6.35**	**85**	*e*Pb	**Pb**	**23 02 00.6**	**+0.3**
DUG	**Dugway, Tooele**	**6.48**	**242**	*e*Pn	**Pn**	**23 01 46.8**	**+1.1**
CHMT	**Chamberlain Mo**	**6.51**	**304**	*e*Pn	**Pn**	**23 01 45.1**	**-1.1**
MSU	**Marysvale**	**7.19**	**228**	*e*Pn	**Pn**	**23 01 57.0**	**+1.5**
YBMT	**Yellow Bay**	**7.44**	**309**	*e*Pn	Pn	23 02 01.9	+3.1
ULM	**Lac du Bonnet**	**9.34**	**41**	Pn	**Pn**	**23 02 22.6**	**-2.0**
	2.0nm,0.3s,baz=227,slow=12,SNR=14						
ULM				Lg	Lg	23 04 55.8	
	0.5nm,0.3s,baz=162,slow=19,SNR=2.0						
I56US	**NEWPORT INFRAS**	**9.46**	**304**	*i*		23 56 40.0	
	baz=116,slow=313,SNR=1.6						

IDC ***27*** *23:08:47.6±2.1,36°.21N×142°.08E,h0km,mb3.8/3, mb1 3.8/4,mb1mx3.5/27,mbtmp3.7/4,ML3.6/1,MS2.5/3, Ms1 2.5/3,ms1mx2.4/25,Error ellipse: s-maj=52.0km s-min=26.9km az=56.0*
ISCJB ***27*** *23:08:49.5±0.9,36°.32N±0°.04×142°.03E±0°.08,h19km, mb3.7/3,MS2.3/1,Error ellipse: s-maj=9.2km s-min=5.9km az=4.0*
JMA ***27*** *23:08:51.8±0.2,36°.35N×141°.86E,h68km±5km,M3.3*

ISC 27 23:08:50.6±1.2,36°.30N±0°.05×141°.93E±0°.08,h19km,n25, σ1§07/23,mb3.6/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.05**	**236**	P	**Pg**	**23 09 11.1**	**0.0**
CHOJ				*e*S	**Sg**	**23 09 25.5**	**+0.6**
JHO	**Hitachi**	**1.14**	**286**	P	**Pn**	**23 09 10.9**	**-0.6**
ONAJ	**Iwakimizuishiy**	**1.21**	**312**	P	**Pn**	**23 09 12.1**	**-0.5**
JFK	**Kawauchi**	**1.36**	**322**	P	**Pn**	**23 09 14.4**	**-0.2**
JFT	**Otama**	**1.76**	**314**	P	**Pn**	**23 09 21.2**	**+1.1**
JFT				*e*S	**Sn**	**23 09 42.4**	**+0.4**
JMM	**Marumori**	**1.81**	**330**	P	**Pn**	**23 09 20.4**	**-0.3**
BSO1	**Boso 1**	**1.82**	**205**	P	**Pb**	**23 09 21.9**	**-1.0**
BSO1				*e*S	**Sb**	**23 09 43.5**	**-1.6**
BSO3	**Boso 3**	**1.89**	**218**	P	**Pn**	**23 09 22.5**	**+0.9**
JAG	**Ashikaga**	**2.00**	**274**	P	**Pn**	**23 09 23.6**	**+0.2**
JFY	**Yanaizu**	**2.10**	**302**	P	**Pn**	**23 09 25.9**	**+1.2**
JIO	**Ouri**	**2.20**	**348**	P	**Pn**	**23 09 25.7**	**-0.4**
JKT	**Katashina**	**2.21**	**283**	P	**Pn**	**23 09 27.2**	**+0.9**
JKT				*e*S	**Sn**	**23 09 53.2**	**+0.1**
MJAR	**Matsushiro Arr**	**3.01**	**276**	Pn	**Pn**	**23 09 38.2**	**+0.9**
	7.1nm,0.3s,baz=99,slow=18,SNR=52						
MJAR				Sn	**Sb**	**23 10 17.4**	**-2.6**
	3.4nm,0.3s,baz=202,slow=20,SNR=4.8						
MJAR				LR	LR	23 11 02.5	
	comp=Z,80nm,18.8s,baz=140,slow=43						
MAT	**Matsushiro**	**3.01**	**276**	P	**Pn**	**23 09 39.0**	**+1.7**
MAT				S	**Sn**	**23 10 12.4**	**-0.4**
KSRS	**Korea Array**	**11.28**	**280**	LR	LR	23 15 00.9	
	comp=Z,20nm,20.1s,baz=70,slow=33						
PETK	**Petropavlovsk-**	**20.12**	**28**	LR	LR	23 20 59.7	
	comp=Z,16nm,21.2s,baz=353,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.42**	**120**	T	T	23 43 17.7	
	baz=313,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**27.43**	**120**	T	T	23 43 17.1	
	baz=313,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**27.44**	**120**	T	T	23 43 13.1	
	baz=313,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**28.12**	**122**	T	T	23 44 09.9	
	baz=314,slow=75,SNR=9.0						
H11S3	**WAKE ISLAND Hy**	**28.12**	**123**	T	T	23 44 08.5	
	baz=314,slow=75,SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**28.13**	**122**	T	T	23 44 09.7	
	baz=314,slow=75,SNR=6.6						
SONM	**Songino Array**	**28.54**	**305**	P	**P**	**23 14 46.6**	**+1.5**
	1.9nm,0.9s,baz=112,slow=9.1,SNR=9.6						
ZALV	**Zalesovo Beam**	**42.71**	**313**	P	**P**	**23 16 46.8**	**+0.7**
	0.6nm,0.5s,baz=94,slow=7.5,SNR=2.9						
WRA	**Warramunga Arr**	**56.40**	**189**	P	**P**	**23 18 30.3**	**-0.5**
	0.6nm,0.8s,baz=5.3,slow=7.3,SNR=3.0						

MAN ***27*** *23:47:23,4°.55N×127°.22E,h51km,mb5.9,ML4.9,MS5.4*
MAN INTENSITY II - GENERAL SANTOS CITY.
NEIC ***27*** *23:47:29.4±0.1,5°.28N×126°.98E,h31km,mb5.4/101, MW5.2,Error ellipse: s-maj=4.3km s-min=3.7km az=89.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{16}Nm; M_{rr}4.44; $M_{\theta\theta}$1.34; $M_{\phi\phi}$-5.78; $M_{r\theta}$-3.22; $M_{\theta\phi}$-3.32; $M_{\phi r}$3.13; Best double couple: $M_0$7.70000×10^{16} NP1: ϕ_s349.00000°,δ64.00000°,λ48.00000°. NP2: ϕ_s233.00000°,δ48.00000°,λ144.00000°. Principal axes: T 7.9100, Plg51.0000°, Azm209.0000°; N -0.5200, Plg36.0000°, Azm10.0000°; P -7.3800, Plg9.0000°, Azm107.0000°;*
NEIC Felt [II PIVS] at General Santos.
GCMT ***27*** *23:47:

FAKI	**Fak Fak**	**9.64**	**147**	*e*Pn		**Pn**	**23 49 50.0**	**+0.5**
GQP	**Guinayangan**	**9.73**	**333**	⇓*e*P		Pn	23 49 55.3	+4.5
SDKM	**Sandakan**	**9.75**	**273**	⇑P		**Pn**	**23 49 53.3**	**+2.2**
RKPI	**Ransiki, Papua**	**9.81**	**133**	P		Pn	23 49 55.2	+3.3
	364nm,1.0s,16µm							
KDI	**Kendari**	**10.10**	**206**	P		**Pn**	**23 49 54.3**	**-1.5**
	282nm,0.5s,4µm							
BNDI	**Bandanaira**	**10.10**	**163**	P		**Pn**	**23 49 56.9**	**+1.1**
	806nm,1.3s,13µm							
KDM	**Kudat**	**10.23**	**280**	⇑P		**Pn**	**23 49 59.7**	**+2.0**
TGY	**Tagaytay City**	**10.66**	**326**	P		**Pn**	**23 50 02.6**	**-0.9**
	baz=90,slow=12							
TGY				LR		LR	23 54 30.4	
	comp=Z,101nm,20.7s,baz=90,slow=40							
KKM	**Kota Kinabalu**	**10.75**	**275**	⇑P		Pn	23 50 08.0	+3.2
KKM	**Kota Kinabalu**	**10.75**	**275**	*e*Pn		**Pn**	**23 50 07.4**	**+2.6**
KKM				*e*Sn		**Sn**	**23 52 05.9**	**+2.3**
SPSI	**Sidrap Palu**	**11.62**	**218**	P		**Pn**	**23 50 16.8**	**+0.2**
	341nm,0.8s,3µm							
BKB	**Balikpapan**	**11.95**	**238**	P		**Pn**	**23 50 23.8**	**+2.7**
	867nm,0.9s,8µm							
KAPI	**Kappang**	**12.46**	**216**	Pn		**Pn**	**23 50 28.9**	**+0.8**
	2µm,0.8s,SNR=24							
KAPI	**Kappang**	**12.46**	**216**	P		**Pn**	**23 50 28.4**	**+0.4**
	19nm,0.3s,baz=21,slow=8.6,SNR=78							
KAPI	**Kappang**	**12.46**	**216**	Pn		**Pn**	**23 50 28.8**	**+0.7**
	SNR=19							
KAPI	**Kappang**	**12.46**	**216**	*e*Pn		**Pn**	**23 50 28.1**	**0.0**
BKSI	**Bulukumba**	**12.51**	**213**	P		**Pn**	**23 50 28.4**	**-0.3**
	139nm,1.3s,2µm							
BSSI	**Bau Bau, Buton**	**13.01**	**210**	P		**Pn**	**23 50 33.5**	**-2.0**
	298nm,1.2s,3µm							
KBKI	**Kotabaru**	**13.72**	**232**	P		**Pn**	**23 50 47.0**	**+1.9**
	332nm,0.9s,4µm							
SMPI	**Sarmi**	**13.72**	**121**	P		**Pn**	**23 50 45.8**	**+0.6**
	226nm,1.7s,27µm							
SZP	**Santa**	**13.83**	**333**	*e*Pn		**P**	**23 50 50.0**	**-2.8**
MMRI	**Maumere**	**14.54**	**199**	P		**Pn**	**23 50 57.2**	**+1.2**
	831nm,0.9s							
MMRI	**Maumere**	**14.54**	**199**	*e*Pn		**Pn**	**23 50 55.3**	**-0.7**
BBKI	**Banjar Baru**	**14.88**	**235**	P		**P**	**23 51 02.5**	**-2.1**
	1µm,1.1s,19µm							
SBUM	**Sibu**	**14.98**	**260**	*e*Pn		**Pn**	**23 51 00.5**	**-1.1**
SOEI	**Soe**	**15.11**	**190**	P		**Pn**	**23 51 04.4**	**+1.0**
	328nm,1.1s,5µm							
SOEI	**Soe**	**15.11**	**190**	*e*Pn		**Pn**	**23 51 03.1**	**-0.3**
	389nm,0.9s							
GENI	**Genyem**	**15.28**	**120**	P		**P**	**23 51 08.7**	**-0.4**
	430nm,1.0s,6µm							
JAY	**Jayapura**	**15.71**	**119**	P		**Pn**	**23 51 10.9**	**-0.1**
	0.9nm,0.3s,baz=304,slow=9.6,SNR=14							
JAY				LR		LR	23 56 11.7	
	comp=Z,1µm,19.7s,baz=346,slow=33							
JAY	**Jayapura**	**15.71**	**119**	P		**Pn**	**23 51 10.9**	**-0.1**
JAY				pmax		pmax		
	comp=Z,1.0nm,0.3s							
JAY				MLR		MLR		
	comp=Z,1µm,19.7s							
WSI	**Waingapu**	**16.21**	**204**	P		**Pn**	**23 51 17.2**	**-0.1**
	comp=Z,1µm,0.9s,comp=Z,15µm							
KSM	**Kuching**	**17.05**	**258**	⇑P		**P**	**23 51 29.6**	**+0.9**
KSM	**Kuching**	**17.05**	**258**	*e*Pn		**Pn**	**23 51 28.1**	**+0.3**
	comp=Z,3µm,2.3s							
KSM				*e*ScP		**ScP**	**23 59 42.2**	**+2.4**
PBKI	**Pangkalan Bun**	**17.20**	**243**	P		**P**	**23 51 30.4**	**+0.1**
	comp=Z,1µm,1.0s,comp=Z,10µm							
IGBI	**Denpasar**	**18.26**	**220**	P		**P**	**23 51 38.3**	**-3.7**
	comp=Z,458nm,1.2s,comp=Z,6µm							
YULB	**Yu-li**	**18.89**	**344**	*e*P		**P**	**23 51 48.1**	**-0.8**
	comp=Z,29nm,0.5s							
YULB				*e*S		**Sn**	**23 55 22.7**	**+1.6**
TPUB	**Ta-pu**	**19.00**	**342**	*e*P		**P**	**23 51 49.9**	**-0.2**
	comp=Z,82nm,0.7s							
TPUB				*e*S		**Sn**	**23 55 24.6**	**+0.9**
GMJI	**Gumukmas**	**19.02**	**225**	P		**P**	**23 51 50.2**	**-0.1**
TBJI	**Tambak Boyo**	**19.26**	**232**	P		**P**	**23 51 53.2**	**+0.2**
SSLB	**Suanglung**	**19.36**	**343**	*e*P		**P**	**23 51 54.6**	**+0.5**
	comp=Z,90nm,0.8s							
SSLB				*e*S		**S**	**23 55 29.4**	**-0.5**
DLV	**T Lat**	**19.46**	**291**	*e*P		**P**	**23 51 55.6**	**+0.2**
GUMO	**Guam**	**19.50**	**63**	P		**P**	**23 51 56.0**	**+0.4**
	comp=Z,4.4nm,0.3s,baz=108,slow=3.2,SNR=3.3							
GUMO				LR		LR	23 59 16.5	
	comp=Z,426nm,19.6s,baz=226,slow=36							
GUMO	**Guam**	**19.50**	**63**	P		**P**	**23 51 56.0**	**+0.4**
GUMO				pmax		pmax		
	comp=Z,4.0nm,0.3s							
GUMO				MLR		MLR		
	comp=Z,427nm,19.6s							
NACB	**Ninganchiao**	**19.55**	**345**	*e*P		**P**	**23 51 56.5**	**+0.4**
	comp=Z,26nm,0.6s							
NACB				*e*S		**Sn**	**23 55 40.2**	**+3.1**
PWJI	**Pagerwojo**	**20.05**	**229**	P		**P**	**23 52 00.9**	**-0.7**
	comp=Z,222nm,0.7s,comp=Z,2µm							
YHNB	**Yeheng**	**20.09**	**345**	*e*P		**P**	**23 52 02.5**	**+0.6**
	comp=Z,58nm,0.7s							
YHNB				*e*S		Sn	23 55 49.8	-0.2
SMRI	**Semarang**	**20.51**	**234**	P		**P**	**23 52 05.7**	**-0.9**
	comp=Z,393nm,1.3s,comp=Z,6µm							
SMRI	**Semarang**	**20.51**	**234**	*e*P		**P**	**23 52 06.1**	**-0.5**
	comp=Z,352nm,1.0s							
SMRI				*e*S		**S**	**23 55 49.5**	**-3.3**
TPI	**Tanjungpandan**	**20.87**	**248**	P		**P**	**23 52 10.2**	**-0.2**
	comp=Z,130nm,1.3s,comp=Z,1µm							
UGM	**Wanagama**	**20.96**	**232**	P		**P**	**23 52 10.3**	**-1.2**
	comp=Z,345nm,1.5s							
UGM	**Wanagama**	**20.96**	**232**	*e*P		**P**	**23 52 10.1**	**-1.4**
	comp=Z,570nm,1.3s							
QZH	**Quanzhou**	**21.21**	**339**	⇓P		**P**	**23 52 12.5**	**-1.5**
QZH				S		S	23 55 56.0	-10
QZH				PMZ				
	comp=Z,180nm,0.8s							
QZH				PMZ				
	comp=Z,690nm,3.0s							
QZH				LN				
	comp=Z,3µm,18.0s							
QZH				LZ				
	comp=Z,4µm,22.2s							
JOW	**Kunigami**	**21.54**	**3**	P		**P**	**23 52 17.8**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=208,slow=7.5,SNR=10							
JOW				LR		LR	00 02 57.5	
	comp=Z,75nm,18.7s,baz=287,slow=43							
JOW	**Kunigami**	**21.54**	**3**	*e*P		**P**	**23 52 17.8**	**+0.3**
	comp=Z,312nm,1.6s							
QIZ	**Qiongzhong**	**21.63**	**311**	P		**P**	**23 52 17.5**	**-1.1**
QIZ				S		**S**	**23 56 12.0**	**-2.9**
QIZ				LN				
	comp=Z,1µm,22.2s							
QIZ				LE				
	comp=Z,4µm,18.1s							
QIZ				LZ				
	comp=Z,2µm,25.8s							
QIZ	**Qiongzhong**	**21.63**	**311**	*e*P		**P**	**23 52 18.6**	**0.0**
	comp=Z,93nm,1.2s							
KPJI	**Karang Pucung**	**21.90**	**235**	P		**P**	**23 52 19.7**	**-1.8**
	comp=Z,170nm,1.0s,comp=Z,3µm							
PPBI	**Pangkal Pinang**	**22.07**	**251**	P		**P**	**23 52 20.6**	**-2.8**
	comp=Z,93nm,1.6s,comp=Z,3µm							
GZH	**Guangzhou**	**22.12**	**325**	P		**P**	**23 52 26.3**	**+2.6**
GZH				S		**S**	**23 56 25.8**	**+2.0**
GZH				sS		**sS**	**23 56 51.5**	**+4.6**
GZH				LN				
	comp=Z,2µm,19.0s							
GZH				LE				
	comp=Z,2µm,19.0s							
GZH				LZ				
	comp=Z,4µm,20.0s							
LEM	**Lembang**	**22.73**	**238**	P		**P**	**23 52 30.4**	**-0.1**
	comp=Z,490nm,1.0s,comp=Z,5µm							
LEM	**Lembang**	**22.73**	**238**	P		**P**	**23 52 30.6**	**+0.1**
	comp=Z,427nm,0.8s,baz=57,slow=8.3,SNR=57							
LEM				LR		LR	00 01 46.9	
	comp=Z,766nm,20.5s,baz=28,slow=38							
LEM	**Lembang**	**22.73**	**238**	P		**P**	**23 52 30.6**	**+0.1**
LEM				pmax		pmax		
	comp=Z,427nm,0.9s							
LEM				MLR		MLR		
	comp=Z,766nm,20.5s							
CISI	**Cisompet, Garu**	**22.95**	**237**	P		**P**	**23 52 29.8**	**-2.9**
	comp=Z,301nm,0.8s,comp=Z,2µm							
CISI	**Cisompet, Garu**	**22.95**	**237**	*e*P		**P**	**23 52 30.1**	**-2.6**
	comp=Z,214nm,0.7s							
MYKOM	**Kota Tinggi**	**23.34**	**262**	⇑P		**P**	**23 52 36.5**	**+0.1**
MYKOM	**Kota Tinggi**	**23.34**	**262**	*e*P		**P**	**23 52 35.7**	**-0.7**
	comp=Z,275nm,0.9s							
CNJI	**Cibinong**	**23.39**	**238**	P		**P**	**23 52 34.3**	**-2.6**
	comp=Z,288nm,1.0s,comp=Z,2µm							
UBPT	**Khong Chiam**	**23.39**	**297**	P		**P**	**23 52 35.4**	**-1.5**
	comp=Z,52nm,1.4s,comp=Z,1µm							
KTGM	**Kuala Trenggan**	**23.75**	**271**	⇑P		**P**	**23 52 40.4**	**+0.3**
KGM	**Kluang**	**23.83**	**263**	⇑P		**P**	**23 52 41.5**	**+0.6**
CGJI	**Cibinong**	**24.28**	**241**	P		**P**	**23 52 42.4**	**-2.6**
	comp=Z,181nm,0.8s,comp=Z,2µm							
KLSI		**24.30**	**247**	P		**P**	**23 52 43.9**	**-1.3**
	comp=Z,247nm,0.9s,comp=Z,4µm							
MDSI	**Maura Dua**	**24.73**	**247**	P		**P**	**23 52 47.8**	**-1.3**
	comp=Z,113nm,1.2s,comp=Z,2µm							
PMG	**Port Moresby**	**24.80**	**126**	*e*P		**P**	**23 52 49.9**	**+0.2**
PMG				pmax		pmax		
	comp=Z,86nm,1.0s							
KASI	**Kota Agung**	**24.86**	**245**	P		**P**	**23 52 49.4**	**-0.8**
	comp=Z,134nm,1.0s,comp=Z,1µm							
COEN	**Coen**	**24.92**	**140**	*e*P		**P**	**23 52 50.4**	**-0.3**
	comp=Z,94nm,1.4s							
LWLI	**Liwa**	**25.05**	**246**	P		**P**	**23 52 49.7**	**-2.4**
	comp=Z,148nm,0.9s,comp=Z,4µm							
LHSI	**Lahat**	**25.09**	**249**	P		**P**	**23 52 50.7**	**-1.7**
	comp=Z,168nm,1.1s,comp=Z,2µm							
FRIM	**Kepong**	**25.36**	**267**	⇑P		**P**	**23 52 54.4**	**-0.5**
SKNT	**Sakolnakorn**	**25.38**	**299**	P		**P**	**23 52 55.1**	**+0.1**
	comp=Z,67nm,1.2s,comp=Z,4µm							
IPM	**Ipoh**	**25.87**	**270**	*e*P		**P**	**23 52 58.3**	**-1.2**
	comp=Z,75nm,0.7s							
IPM				*e*PcP		**PcP**	**23 56 28.0**	**+0.5**
WRAB	**Tennant Creek**	**26.02**	**164**	P		**P**	**23 53 00.8**	**+0.1**
	comp=Z,1µm,0.6s,SNR=68							
WRAB	**Tennant Creek**	**26.02**	**164**	*d*P		**P**	**23 53 00.7**	**+0.1**
WRAB				pmax		pmax		
	comp=Z,353nm,0.7s							
WRAB	**Tennant Creek**	**26.02**	**164**	*e*P		**P**	**23 53 00.1**	**-0.6**
	comp=Z,187nm,0.6s							
WRA	**Warramunga Arr**	**26.02**	**164**	P		**P**	**23 53 00.7**	**0.0**
	comp=Z,117nm,0.7s,baz=342,slow=10,SNR=87							
WRA				S		**S**	**23 57 27.8**	**+0.6**
	comp=Z,6.4nm,0.9s,baz=344,slow=14,SNR=5.9							
WRA				ScP		**ScP**	**00 00 02.4**	**+0.5**
	comp=Z,11nm,0.8s,baz=342,slow=3.2,SNR=13							
WRA				LR		LR	00 04 56.2	
	comp=Z,659nm,19.0s,baz=325,slow=40							
WRA	**Warramunga Arr**	**26.02**	**164**	P		**P**	**23 53 00.7**	**0.0**
WRA				S		**S**	**23 57 27.8**	**+0.6**
WRA				pmax		pmax		
	comp=Z,117nm,0.7s							
WRA				pmax		pmax		
	comp=N,11nm,0.9s							
WRA				MLR		MLR		
	comp=Z,659nm,19.0s							
CBI	**Chichi jima**	**26.15**	**32**	*e*P		**P**	**23 52 59.5**	**-2.3**
CBIJ	**Chichi jima**	**26.15**	**32**	*e*P		**P**	**23 52 59.7**	**-2.2**
	comp=Z,236nm,0.7s							
JCJ	**Chichijima**	**26.15**	**32**	P		**P**	**23 52 59.5**	**-2.3**
	comp=Z,124nm,0.5s,baz=243,slow=4.8,SNR=32							
JCJ				LR		LR	00 01 22.8	
	comp=Z,968nm,21.9s,baz=215,slow=32							
KULM	**Kulim**	**26.22**	**271**	⇑P		**P**	**23 53 02.1**	**-0.6**
KULM	**Kulim**	**26.22**	**271**	*e*P		**P**	**23 53 01.6**	**-1.1**
	comp=Z,69nm,0.9s							
SDSI	**Sungai Dareh**	**26.24**	**257**	P		**P**	**23 53 01.3**	**-1.5**
	comp=Z,145nm,1.1s,comp=Z,31µm							
SKLT	**Songkhla**	**26.28**	**276**	P		**P**	**23 53 03.4**	**+0.2**
	comp=Z,63nm,0.9s,comp=Z,753nm							
SSE	**Sheshan**	**26.32**	**349**	*e*P		**P**	**23 53 04.0**	**+0.7**
SSE				pP		**pP**	**23 53 18.0**	**-0.8**
SSE				S		**S**	**23 57 33.0**	**+1.3**
SSE				sS		**sS**	**23 57 57.8**	**-0.5**
SSE				PMZ				
	comp=Z,14nm,0.6s							
SSE				PMZ				
	comp=Z,140nm,9.0s							
SSE				LN				
	comp=Z,630nm,21.2s							
SSE				LE				
	comp=Z,330nm,21.1s							
SSE				LZ				
	comp=Z,840nm,21.8s							
BKNI	**Bangkinang**	**26.36**	**260**	*e*P		**P**	**23 53 02.4**	**-1.5**
	comp=Z,146nm,0.9s							
CHAI	**Chaiyaphum**	**26.73**	**295**	P		**P**	**23 53 07.0**	**-0.3**
	comp=Z,12nm,0.7s,comp=Z,172nm							
PATY	**Pattaya**	**26.88**	**288**	P		**P**	**23 53 10.6**	**+2.0**
	comp=Z,17nm,0.8s,comp=Z,677nm							
MBWA	**Marble Bar**	**27.15**	**195**	P		**P**	**23 53 11.9**	**+1.0**
	SNR=10							
MBWA	**Marble Bar**	**27.15**	**195**	*e*P		**P**	**23 53 11.1**	**+0.2**
	comp=Z,325nm,1.4s							
TRTT	**Trang**	**27.24**	**277**	P		**P**	**23 53 12.5**	**+0.7**
	comp=Z,31nm,1.0s							
SRIT	**Nakonsritamara**	**27.38**	**279**	P		**P**	**23 53 13.9**	**+0.8**
	comp=Z,27nm,1.1s							
SLVN	**Son La**	**27.52**	**308**	*e*P		**P**	**23 53 12.8**	**-1.5**
	comp=Z,135nm,2.3s							
NJ2	**Nanjing**	**27.77**	**345**	*e*P		**P**	**23 53 19.0**	**+2.7**
NJ2				pP		**pP**	**23 53 33.5**	**+1.7**
NJ2				sP		**sP**	**23 53 40.5**	**+1.1**
NJ2				S		**S**	**23 57 58.0**	**+3.5**
NJ2				sS		**sS**	**23 58 24.0**	**+2.9**
NJ2				PMZ				
	comp=Z,30nm,0.8s							
NJ2				PMZ				
	comp=Z,2µm,6.8s							
NJ2				LN				
	comp=Z,4µm,18.0s							
NJ2				LE				
	comp=Z,8µm,16.5s							
NJ2				LZ				
	comp=Z,8µm,19.4s							
WHN	**Wuhan**	**27.87**	**336**	P		**P**	**23 53 18.3**	**+1.1**
WHN				S		S	23 57 47.8	-8.3
WHN				LN				
	comp=Z,3µm,21.8s							
WHN				LE				
	comp=Z,3µm,22.3s							
WHN				LZ				
	comp=Z,3µm,22.5s							
LOEI	**Loei**	**27.97**	**298**	P		**P**	**23 53 14.3**	**-4.0**
	comp=Z,50nm,0.8s,comp=Z,2µm							
PSI	**Prapat**	**28.09**	**266**	P		**P**	**23 53 18.6**	**-1.0**
	comp=Z,46nm,0.8s,baz=82,slow=3.4,SNR=36							
PSI				PcP		**PcP**	**23 56 33.2**	**+0.3**
	comp=Z,6.2nm,0.7s,baz=130,slow=1.0,SNR=3.9							
PSI				ScP		**ScP**	**00 00 08.2**	**-0.3**
	comp=Z,7.0nm,0.9s,baz=90,slow=4.0,SNR=3.5							
PSI	**Prapat**	**28.09**	**266**	P		**P**	**23 53 18.6**	**-1.0**
PSI							23 56 33.2	
PSI				pmax		pmax		
	comp=Z,46nm,0.8s							
PSI				pmax		pmax		
	comp=Z,6.0nm,0.7s							
PSI				pmax		pmax		
	comp=N,7.0nm,0.9s							
PSI	**Prapat**	**28.09**	**266**	*e*P		**P**	**23 53 17.7**	**-1.8**
	comp=N,91nm,1.1s							
PSI				*e*PcP		**PcP**	**23 56 33.2**	**+0.3**
PKDT	**Phuket**	**28.58**	**277**	P		**P**	**23 53 25.0**	**+1.2**
	comp=N,82nm,0.9s							
UTTA	**Uttaradit**	**28.69**	**298**	P		**P**	**23 53 24.2**	**-0.5**
	comp=N,5.8nm,0.8s,comp=N,71nm							
GYA	**Guiyang**	**28.69**	**320**	*i*P		**P**	**23 53 25.5**	**+0.7**
GYA				pP		**pP**	**23 53 41.8**	**+1.4**
GYA				sP		**sP**	**23 53 50.0**	**+2.1**
GYA				PcP		**PcP**	**23 56 35.0**	**+0.9**
GYA				S		**S**	**23 58 11.3**	**+1.8**
GYA				sS		**sS**	**23 58 35.5**	**-0.7**
GYA				SS		**SnSn**	**23 59 40.8**	**+4.9**
GYA				PMZ				
	comp=N,30nm,0.8s							
GYA				PMZ				
	comp=N,150nm,5.0s							
GYA				LN				
	comp=N,820nm,17.9s							
GYA				LE				
	comp=N,780nm,18.2s							
GYA				LZ				
	comp=N,940nm,18.4s							
SRDT	**SRDT**	**28.89**	**290**	P		**P**	**23 53 27.1**	**+0.6**
	comp=N,170nm,1.3s,comp=N,3µm							
UTHA	**Uthaitani**	**28.93**	**293**	P		**P**	**23 53 27.3**	**+0.4**
	comp=N,10nm,0.8s,comp=N,126nm							
AS12	**Alice Springs**	**29.48**	**167**	*e*P		**P**	**23 53 31.4**	**-0.3**
AS12				*e*PcP		**PcP**	**23 56 36.4**	**+0.4**
AS12				*e*S		**S**	**23 58 23.2**	**+1.5**
AS12				*e*ScP		**ScP**	**00 00 14.1**	**+1.6**
ASAR	**Alice Springs**	**29.48**	**167**	P		**P**	**23 53 31.4**	**-0.3**
	comp=N,26nm,0.7s,baz=352,slow=7.7,SNR=134							
ASAR				PcP		**PcP**	**23 56 36.4**	**+0.4**
	comp=N,8.1nm,0.5s,baz=347,slow=2.5,SNR=6.2							
ASAR				S		**S**	**23 58 23.2**	**+1.5**
	comp=N,4.7nm,1.0s,baz=357,slow=21,SNR=4.3							
ASAR				ScP		**ScP**	**00 00 14.1**	**+1.6**
	comp=N,7.5nm,0.7s,baz=4.3,slow=2.6,SNR=13							
ASAR				LR		LR	00 06 34.4	
	comp=N,451nm,20.5s,baz=340,slow=39							
ASAR	**Alice Springs**	**29.48**	**167**	P		**P**	**23 53 31.4**	**-0.3**
ASAR							23 56 36.4	
ASAR				S		**S**	**23 58 23.3**	**+1.5**
ASAR							00 00 14.1	
ASAR				pmax		pmax		
	comp=Z,26nm,0.7s							
ASAR				pmax		pmax		
	comp=Z,8.0nm,0.5s							
ASAR				smax		smax		
	comp=N,5.0nm,1.0s							
ASAR				pmax		pmax		
	comp=N,8.0nm,0.7s							
ASAR				MLR		MLR		
	comp=Z,451nm,20.5s							
GSI	**Gunungsitoli**	**29.61**	**263**	*e*P		**P**	**23 53 30.0**	**-2.9**
	comp=Z,134nm,1.1s							
LAMP	**Lampang**	**29.79**	**299**	P		**P**	**23 53 34.7**	**+0.2**
	comp=Z,6.4nm,1.0s,comp=Z,81nm							
CRAI	**Chiangrai**	**29.87**	**302**	P		P	23 53 30.5	-4.6
	comp=Z,146nm,0.8s,comp=Z,13µm							
ENH	**Enshi**	**29.89**	**329**	*e*P		**P**	**23 53 34.9**	**-0.3**
	comp=Z,42nm,1.0s							
ENH				*e*PcP		**PcP**	**23 56 38.0**	**+1.0**
LHMI	**Lhok Sumawe**	**29.91**	**271**	*e*P		**P**	**23 53 35.2**	**-0.4**
	comp=Z,100nm,0.7s							
CM31	**Chiang Mai Arr**	**30.37**	**298**	*e*P		**P**	**23 53 38.6**	**-1.0**
CM31				*e*PcP		**PcP**	**23 56 39.8**	**+1.4**
CM31				*e*ScP		**ScP**	**00 00 17.8**	**+2.2**
CMAR	**Chiang Mai Arr**	**30.37**	**298**	P		**P**	**23 53 38.6**	**-1.0**
	comp=Z,5.8nm,0.7s,baz=113,slow=7.2,SNR=26							
CMAR				PcP		**PcP**	**23 56 39.9**	**+1.4**
	comp=Z,3.4nm,0.6s,baz=102,slow=2.0,SNR=6.3							
CMAR				ScP		**ScP**	**00 00 17.8**	**+2.2**
	comp=Z,4.3nm,1.0s,baz=103,slow=1.4,SNR=9.3							
CMAR				LR		LR	00 07 13.1	
	comp=Z,531nm,19.6s,baz=109,slow=39							
CMAR	**Chiang Mai Arr**	**30.37**	**298**	P		**P**	**23 53 38.6**	**-1.0**
CMAR							23 56 39.9	
CMAR							00 00 17.8	
CMAR				pmax		pmax		
	comp=Z,6.0nm,0.7s							
CMAR				pmax		pmax		
	comp=Z,3.0nm,0.6s							
CMAR				pmax		pmax		
	comp=N,4.0nm,1.0s							
CMAR				MLR		MLR		
	comp=Z,531nm,19.6s							
CMMT	**Chiang Mai**	**30.50**	**299**	P		**P**	**23 53 40.2**	**-0.6**
	comp=Z,26nm,0.7s,comp=Z,409nm							
CHTO	**Chiang Mai**	**30.51**	**299**	P		**P**	**23 53 40.3**	**-0.5**
	comp=Z,88nm,0.8s							
CHTO	**Chiang Mai**	**30.51**	**299**	*e*P		**P**	**23 53 39.2**	**-1.6**
	comp=Z,18nm,1.0s							
CHTO				*e*PcP		**PcP**	**23 56 39.0**	**+0.2**
CHTO				*e*ScP		**ScP**	**00 00 17.6**	**+1.6**
KMI	**Kunming**	**30.54**	**313**	⇑P		**P**	**23 53 42.5**	**+1.2**
KMI				pP		**pP**	**23 53 59.8**	**+2.9**
KMI				sP		**sP**	**23 54 05.3**	**+0.8**
KMI				PP		**PnPn**	**23 54 46.3**	**+3.6**
KMI				PcP		**PcP**	**23 56 40.8**	**+1.8**
KMI				S		**S**	**23 58 40.0**	**+1.2**
KMI				sS		**sS**	**23 59 05.5**	**0.0**
KMI				SS		**SnSn**	**00 00 24.5**	**+3.5**
KMI				PMZ				
	comp=Z,16nm,1.3s							
KMI				LN				
	comp=Z,860nm,18.9s							
KMI				LE				
	comp=Z,700nm,19.6s							
KMI				LZ				
	comp=Z,1µm,29.1s							
MHMT	**Maesarieng**	**31.16**	**297**	P		**P**	**23 53 47.0**	**+0.4**
	comp=Z,25nm,1.1s							
CTA	**Charters Tower**	**31.48**	**144**	P		**P**	**23 53 51.2**	**+1.9**
	comp=Z,18nm,0.7s,baz=326,slow=13,SNR=19							
CTA				LR		LR	00 07 39.4	
	comp=Z,883nm,19.4s,baz=332,slow=38							
CTA	**Charters Tower**	**31.48**	**144**	P		**P**	**23 53 51.2**	**+1.9**
CTA				pmax		pmax		
	comp=Z,19nm,0.7s							
CTA				MLR		MLR		
	comp=Z,883nm,19.4s							
CTAO	**Charters Tower**	**31.48**	**144**	*e*P		**P**	**23 53 49.4**	**0.0**
	comp=Z,39nm,1.0s							
KS15	**Wonju Array Si**	**32.09**	**1**	*e*P		**P**	**23 53 55.3**	**+0.8**
KS15				*e*PcP		**PcP**	**23 56 43.6**	**+1.0**
KS15				*e*ScP		**ScP**	**00 00 22.4**	**+1.5**
KSRS	**Korea Array**	**32.10**	**1**	P		**P**	**23 53 55.3**	**+0.7**
	comp=Z,6.9nm,0.6s,baz=177,slow=10.0,SNR=34							
KSRS				PcP		**PcP**	**23 56 43.6**	**+1.0**
	comp=Z,6.2nm,0.7s,baz=184,slow=2.4,SNR=12							
KSRS				ScP		**ScP**	**00 00 22.4**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=178,slow=3.7,SNR=5.7							
KSRS				LR		LR	00 05 44.2	
	comp=Z,358nm,21.5s,baz=184,slow=34							
KSRS	**Korea Array**	**32.10**	**1**	P

XAN LZ
comp=Z,290nm,25.5s
CD2 Chengdu 33.62 322 P **P** **23 54 08.5 +0.5**
CD2 pP **pP** **23 54 23.5 -0.3**
CD2 PP **PP** **23 55 25.8 +0.6**
CD2 PcP **PcP** **23 56 46.8 -0.3**
CD2 S **S** **23 59 28.3 +2.0**
CD2 PcS **PcS** **00 00 33.0 -0.1**
CD2 PMZ
comp=Z,30nm,0.7s
CD2 PMZ
comp=Z,170nm,5.0s
CD2 LN
comp=Z,1μm,20.1s
CD2 LZ
comp=Z,1μm,19.0s
FORT Forrest 35.80 178 *e*P **P** **23 54 26.5 -0.2**
comp=Z,150nm,1.1s
BJT Baijiatuan 36.00 346 *e*P **P** **23 54 28.4 +0.1**
comp=Z,125nm,0.5s
BJT *e*PcP **PcP** **23 56 53.6 -0.1**
BJI Beijing 36.02 346 P **P** **23 54 28.8 +0.3**
BJI pP **pP** **23 54 44.0 -0.3**
BJI sP **sP** **23 54 49.5 -2.3**
BJI S **S** **00 00 05.3 +2.5**
BJI sS **sS** **00 00 31.8 +2.0**
BJI PMZ
comp=Z,150nm,0.6s
BJI LN
comp=Z,600nm,22.9s
BJI LE
comp=Z,380nm,24.2s
BJI LZ
comp=Z,630nm,22.7s
SNY Shenyang 36.59 356 ⇑P **P** **23 54 33.8 +0.5**
SNY S **S** **00 00 11.0 -0.4**
LZH Lanzhou 37.37 328 ⇑P **P** **23 54 42.0 +1.7**
LZH pP **pP** **23 54 57.5 +1.3**
LZH sP **sP** **23 55 04.0 +0.3**
LZH PP **PnPn** **23 56 13.0 +5.1**
LZH PcP **PcP** **23 57 00.0 +1.8**
LZH *e*S **S** **00 00 25.0 +1.1**
LZH sS **sS** **00 00 50.3 -0.7**
LZH SS **SnSn** **00 03 01.3 -4.9**
LZH PMZ
comp=Z,230nm,1.2s
LZH PMZ
comp=Z,730nm,4.0s
LZH LN
comp=Z,640nm,14.9s
LZH LE
comp=Z,1μm,16.0s
LZH LZ
comp=Z,2μm,17.2s
VLA Vladivostok 38.00 6 ⇑*i*P **P** **23 54 44.3 -0.9**
VLA *e* 23 56 57.5
VLA pmax pmax
comp=Z,52nm,1.3s
HHC Hu-ho-hao-te 38.09 341 *e*P **P** **23 54 46.5 +0.3**
HHC PP **PnPn** **23 56 19.8 +3.4**
HHC S **S** **00 00 36.5 +2.0**
HHC sS **sS** **00 01 02.5 +0.9**
HHC SS **SnSn** **00 03 17.5 -5.7**
HHC ScS **ScS** **00 04 51.3 -0.8**
HHC PMZ
comp=Z,40nm,0.9s
HHC PMZ
comp=Z,220nm,6.0s
HHC LN
comp=Z,2μm,13.1s
HHC LE
comp=Z,2μm,13.3s
HHC LZ
comp=Z,3μm,13.4s
EIDS Eidsvold 38.37 143 *e*P **P** **23 54 48.6 0.0**
comp=Z,75nm,0.8s
CN2 Changchun 38.46 358 *e*P P 23 54 55.0 +5.9
BBOO Buckleboo 38.78 168 *e*P **P** **23 54 51.8 -0.1**
comp=Z,87nm,0.8s
USRK Ussuriysk Ar. 39.08 6 P **P** **23 54 53.3 -1.0**
comp=Z,5.4nm,0.5s,baz=161,slow=7.0,SNR=19
USRK ScP **ScP** **00 00 46.9 +0.8**
comp=Z,1.5nm,0.8s,baz=242,slow=4.1,SNR=6.0
SHL Shillong 39.23 305 *e*P P 23 54 52.4 -3.6
SHL AMB AMB 23 54 56.0
comp=Z,56nm,0.3s
MDJ Mudanjiang 39.32 3 P **P** **23 54 57.0 +0.7**
MDJ PcP **PcP** **23 57 05.0 +1.2**
MDJ S **S** **00 00 57.5 +4.8**
MDJ PMZ
comp=Z,34nm,1.0s
MDJ PMZ
comp=Z,110nm,9.9s
MDJ LN
comp=Z,390nm,25.7s
MDJ LE
comp=Z,250nm,26.6s
MDJ LZ
comp=Z,580nm,27.4s
MDJ Mudanjiang 39.32 3 *e*P **P** **23 54 56.2 -0.1**
comp=Z,31nm,0.9s
ERM Erimo 39.38 19 *e*P **P** **23 54 57.8 +1.0**
comp=Z,24nm,1.0s
STKA Stephens Creek 39.42 160 P **P** **23 54 57.2 0.0**
comp=Z,97nm,0.7s,baz=335,slow=8.0,SNR=157
STKA Stephens Creek 39.42 160 P **P** **23 54 57.3 0.0**
STKA pmax pmax
comp=Z,97nm,0.7s
STKA Stephens Creek 39.42 160 *e*P **P** **23 54 57.2 0.0**
comp=Z,22nm,0.9s
ASAJ Asahikawa 41.11 17 *e*P **P** **23 55 10.9 -0.2**
comp=Z,28nm,0.9s
H11N1 WAKE ISLAND Hy 41.41 66 T T 00 40 22.8
baz=264,slow=75,SNR=20
H11N2 WAKE ISLAND Hy 41.42 66 T T 00 40 31.5
baz=264,slow=75,SNR=12
H11N3 WAKE ISLAND Hy 41.43 66 T T 00 40 10.9
baz=264,slow=75,SNR=17
LSA Lhasa 41.67 310 P **P** **23 55 15.8 -0.7**
LSA Lhasa 41.67 310 *e*P **P** **23 55 16.0 -0.5**
comp=Z,60nm,1.4s
LSA *e*PcP **PcP** **23 57 12.9 +0.5**
LSA *e*ScP **ScP** **00 01 01.3 +4.1**
LSA *e*S **S** **00 01 27.6 -1.5**
H01W3 Cape Leeuwin H 41.68 196 P **P** **23 55 18.5 +3.0**
baz=25,slow=4.3,SNR=3.1
H01W1 Cape Leeuwin H 41.68 196 P **P** **23 55 18.2 +2.6**
baz=25,slow=4.3,SNR=3.3
H01W2 Cape Leeuwin H 41.69 196 P P 23 55 19.8 +4.2
baz=25,slow=4.3,SNR=3.0
GTA Gaotai 41.97 328 *e*P **P** **23 55 19.0 +0.6**
GTA pP **pP** **23 55 34.5 -0.1**
GTA sP **sP** **23 55 41.5 -0.5**
GTA PP **PnPn** **23 57 00.0 -2.3**
GTA PcP **PcP** **23 57 12.5 -0.3**
GTA ScP **ScP** **00 00 57.5 -0.3**
GTA S **S** **00 01 33.0 +0.3**
GTA sS **sS** **00 01 59.8 -0.3**
GTA SS **SS** **00 04 36.5 -5.3**
GTA ScS **ScS** **00 05 16.5 +1.2**
GTA PMZ
comp=Z,27nm,1.1s
GTA PMZ
comp=Z,92nm,5.5s
GTA LN
comp=Z,730nm,22.3s
GTA LE
comp=Z,980nm,22.8s
GTA LZ
comp=Z,2μm,22.8s
YUK Yuzh-Kuril'sk 42.09 20*d* *i*P P 23 55 26.4 +7.3
YUK pmax pmax
comp=Z,134nm,7.9s
ARMA Armidale 42.57 148 *e*P **P** **23 55 24.7 +1.4**
comp=Z,82nm,0.8s
TAPN Taplejung 43.37 305 *e*P **P** **23 55 29.2 -0.9**
comp=Z,89nm,0.6s
ODAN Odare 43.44 304 *e*P **P** **23 55 29.7 -0.9**
comp=Z,125nm,0.7s
BOK Bokaro 43.64 299 *e*P **P** **23 55 31.6 -0.4**
BOK AML AML 23 55 33.3
comp=Z,25nm,1.1s
HABR Khabarovsk 43.65 8 *e*P **P** **23 55 29.8 -1.9**
HABR *e**PP **pP** **23 55 45.1 -2.8**
HABR *e**SP **sP** **23 55 52.5 -2.8**
HABR *e* 23 57 12.5
HABR *e* 23 57 15.6
HABR PPP PPP 23 57 49.3
HABR *e*S **S** **00 01 56.2 -0.5**
HABR *e**SS **sS** **00 02 22.8 -1.5**
HABR *e* 00 05 23.2
HABR pmax pmax
comp=Z,56nm,1.7s
HABR MLR MLR
comp=Z,224nm,19.0s
YSS Yuzh-Sakhalins 43.76 16⇓*e*P **P** **23 55 33.5 +1.0**
YSS *e* 23 55 44.9
YSS *e**SP **sP** **23 55 55.0 -1.2**
YSS *e* 23 57 19.0
YSS *e*S S 00 02 08.0 +10
YSS *e*SS **SS** **00 05 12.0 -4.1**
YSS *e*SSS SSS 00 06 06.0
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS Yuzh-Sakhalins 43.76 16 *e*P **P** **23 55 31.8 -0.8**
comp=Z,102nm,1.5s
KLR Kul'dur 44.05 4 *e*P P 23 55 29.8 -5.1
KLR pmax pmax
comp=Z,38nm,1.2s
RAMN Ramite 44.12 304 *e*P **P** **23 55 35.4 -0.8**
comp=Z,310nm,1.3s
HIA Hailar 44.33 353 *e*P **P** **23 55 37.5 +0.3**
HIA pmax pmax
comp=Z,19nm,1.2s
VIS Vishakhapatnam 44.43 290 *e*P **P** **23 55 36.7 -1.7**
VIS AMB AMB 23 55 57.3
comp=Z,32nm,0.0s
GUN Gumba 45.08 305 *e*P **P** **23 55 43.0 -0.9**
comp=Z,227nm,0.6s
PKI Pulchoki 45.34 304 *e*P **P** **23 55 44.4 -1.5**
comp=Z,90nm,0.9s
PKIN Phulchoki 45.35 304 *e*P **P** **23 55 45.2 -0.7**
comp=Z,55nm,0.8s
KKN Kakani 45.53 304 *e*P **P** **23 55 45.7 -1.6**
comp=Z,113nm,1.0s
DMN Daman 45.60 304 *e*P **P** **23 55 46.8 -1.1**
comp=Z,140nm,0.9s
PVM Polavaram 45.95 289 *e*P **P** **23 55 49.6 -0.8**
PVM IAmb IAmb 23 55 50.3
comp=Z,41nm,1.4s
PVM *e*S **S** **00 02 33.0 +2.1**
PVM IVMs_BB IVMs_BB 00 11 51.5
comp=Z,261nm,4.3s
SONA0 Songino Array 45.99 341 *e*P **P** **23 55 51.5 +1.0**
SONA0 *e*PcP **PcP** **23 57 26.9 +0.6**
SONM Songino Array 45.99 341 P **P** **23 55 51.5 +1.0**
comp=Z,14nm,0.8s,baz=153,slow=8.4,SNR=102
SONM PcP **PcP** **23 57 26.9 +0.6**
comp=Z,15nm,0.8s,baz=163,slow=3.6,SNR=8.5
SONM LR LR 00 17 09.0
comp=Z,346nm,20.3s,baz=150,slow=39
SONM Songino Array 45.99 341 P **P** **23 55 51.5 +1.0**
SONM 23 57 26.9
SONM pmax pmax
comp=Z,14nm,0.8s
SONM pmax pmax
comp=Z,15nm,0.8s
SONM MLR MLR
comp=Z,346nm,20.3s
PALK Pallekele 46.04 275 P **P** **23 55 50.5 -0.8**
comp=Z,8.6nm,0.6s,baz=56,slow=9.4,SNR=8.7
PALK Pallekele 46.04 275 P **P** **23 55 50.5 -0.8**
PALK pmax pmax
comp=Z,9.0nm,0.6s
PALK Pallekele 46.04 275 *e*P **P** **23 55 50.0 -1.3**
comp=Z,23nm,1.0s
GKN Gorkha 46.13 304 *e*P **P** **23 55 50.4 -1.6**
comp=Z,57nm,0.7s
KOLN Koldanda 46.91 304 *e*P **P** **23 55 57.1 -1.0**
comp=Z,178nm,0.5s
ADKI Addanki 47.31 287 *e*P **P** **23 56 00.3 -0.8**
ADKI IAmb IAmb 23 56 01.1
comp=Z,26nm,1.2s
SKHT Srikalahasti 47.32 284 *e*P **P** **23 56 00.4 -0.8**
SKHT IAmb IAmb 23 56 02.0
comp=Z,31nm,0.6s
SKHT *e*S **S** **00 02 53.3 +2.8**
SKHT IVMs_BB IVMs_BB 00 14 33.2
comp=Z,640nm,4.7s
NJS Nagarjunasagar 48.04 288 *e*P **P** **23 56 05.4 -1.4**
NJS IAmb IAmb 23 56 06.2
comp=Z,33nm,1.2s
NJS IVMs_BB IVMs_BB 00 12 28.8
comp=Z,606nm,4.9s
RCLA Racherla 48.23 286 *e*P **P** **23 56 06.8 -1.4**
RCLA IAmb IAmb 23 56 08.8
comp=Z,22nm,0.6s
RCLA *e*S **S** **00 03 05.5 +2.0**
RCLA IVMs_BB IVMs_BB 00 15 27.2
comp=Z,583nm,4.7s
SRLM Srisailam 48.37 287 *e*P **P** **23 56 07.9 -1.4**
SRLM IAmb IAmb 23 56 08.7
comp=Z,42nm,1.3s
SRLM *e*S **S** **00 03 06.6 +1.1**
SRLM IVMs_BB IVMs_BB 00 10 24.3
comp=Z,785nm,4.4s
RPR Rampur 48.41 291 *e*P **P** **23 56 08.6 -1.0**
RPR IAmb IAmb 23 56 09.1
comp=Z,42nm,1.1s
RPR *e*S **S** **00 03 07.0 +1.2**
RPR IVMs_BB IVMs_BB 00 14 27.9
comp=Z,667nm,4.5s
HYB Hyderabad 48.87 289 *i* P **P** **23 56 12.0 -1.2**
HYB Hyderabad 48.87 289 *e*P **P** **23 56 10.8 -2.4**
HYB AMB AMB 23 56 12.0
comp=Z,27nm,1.6s
HYBB Hyderabad (bro 48.87 289 *e*P **P** **23 56 11.9 -1.3**
HYBB IAmb IAmb 23 56 12.5
comp=Z,35nm,1.2s
HYBB *e*S **S** **00 03 10.8 -1.8**
HYBB IVMs_BB IVMs_BB 00 14 11.8
comp=Z,600nm,5.5s
NGP Nagpur 49.06 293 *e*P **P** **23 56 13.6 -1.0**
NGP AMB AMB 23 57 23.4
comp=Z,26nm,2.0s
NKL Nikolayevsk 49.10 11 *e*P P 23 56 08.8 -5.5
NKL *e* 23 56 22.2
NKL pmax pmax
comp=Z,50nm,1.0s
ZAK Zakamensk 49.22 340⇑*i*P **P** **23 56 15.7 +0.2**
ZAK *e* 23 57 38.3
ZAK pmax pmax
comp=Z,9.0nm,1.6s
SRSP Sriramsagar 49.30 290 *e*P **P** **23 56 15.1 -1.4**
SRSP IAmb IAmb 23 56 15.9
comp=Z,22nm,0.9s
SRSP *e*S **S** **00 03 19.4 +0.8**
SRSP IVMs_BB IVMs_BB 00 13 07.7
comp=Z,544nm,4.5s
URV Uravakonda 49.80 285 *e*P **P** **23 56 19.4 -0.9**
URV IAmb IAmb 23 56 20.6
comp=Z,20nm,0.8s
URV *e* 00 03 54.2
TLY Talaya 50.22 341 P **P** **23 56 23.4 +0.5**
comp=Z,175nm,1.0s,SNR=11
TLY Talaya 50.22 341 P **P** **23 56 23.5 +0.7**
comp=Z,14nm,0.7s,baz=175,slow=5.9,SNR=22
TLY Talaya 50.22 341 P **P** **23 56 23.8 +0.9**
TLY pmax pmax
comp=Z,59nm,0.2s
TLY Talaya 50.22 341 P **P** **23 56 24.2 +1.4**
SNR=25
TLY Talaya 50.22 341 *e*P **P** **23 56 23.2 +0.3**
comp=Z,32nm,1.0s
IRK Irkutsk 50.50 342 *e*P **P** **23 56 25.4 +0.4**
IRK pmax pmax
comp=Z,67nm,1.6s
KLRI Killari 50.81 289 *e*P **P** **23 56 26.8 -1.1**
KLRI IAmb IAmb 23 56 26.9
comp=Z,46nm,1.2s
KLRI IVMs_BB IVMs_BB 00 14 02.7
comp=Z,972nm,4.2s
AKL Akola 50.84 292 *e*P **P** **23 56 26.6 -1.5**
AKL AMB AMB 23 56 35.9
comp=Z,46nm,1.4s
BHPL Bhopal 50.98 296 *e*P **P** **23 56 26.9 -2.2**
BHPL AMB AMB 23 56 27.8
comp=Z,28nm,0.7s
MOY Mondy 51.09 339 *e*P **P** **23 56 30.6 +1.0**
MOY pmax pmax
comp=Z,87nm,1.8s
CLNS Chul'man 51.51 359 *e*P **P** **23 56 31.6 -0.9**
CLNS pmax pmax
comp=Z,22nm,0.8s
CLNS pmax pmax
comp=N,14nm,0.7s
WMQ Urumqi 51.67 324 P **P** **23 56 35.5 +1.5**
WMQ pP **pP** **23 56 51.3 +0.7**
WMQ sP **sP** **23 56 58.3 +0.4**
WMQ PcP **PcP** **23 57 47.5 +0.7**
WMQ PP **PP** **23 58 34.5 +2.4**
WMQ S **S** **00 03 50.3 -0.5**
WMQ sS **sS** **00 04 17.5 -1.4**
WMQ ScS **ScS** **00 06 17.0 -1.6**
WMQ PMZ
comp=N,14nm,0.8s
WMQ PMZ
comp=N,100nm,5.6s
WMQ LN
comp=N,510nm,14.7s
WMQ LE
comp=N,800nm,19.4s
WMQ LZ
comp=N,1μm,17.9s
DDI Dehra Dun 52.33 305 *e*P **P** **23 56 37.6 -1.5**
DDI AMB AMB 23 56 39.7
comp=Z,92nm,0.7s
NDI New Delhi 52.53 302 *e*P P 23 56 34.5 -6.1
GOA Goa 53.15 285 *e*P **P** **23 56 45.1 -0.2**
GOA AMB AMB 23 57 19.8
comp=Z,50nm,2.5s
SMLA Simla 53.31 305 *e*P **P** **23 56 45.5 -0.8**
SMLA AMB AMB 23 56 46.9
comp=Z,102nm,0.3s
BOD Bodaibo 53.45 351 *e*P **P** **23 56 47.2 +0.4**
BOD pmax pmax
comp=Z,21nm,1.1s
POO Poona 53.46 289 *e*P P 23 56 43.0 -4.6
HVS Khovu-Aksy 53.52 335 *e*P **P** **23 56 48.4 +0.9**
PETK Petropavlovsk- 53.97 22 P **P** **23 56 50.5 -0.2**
comp=Z,20nm,0.6s,baz=200,slow=4.6,SNR=27
PETK LR LR 00 20 12.0
comp=Z,172nm,21.1s,baz=218,slow=36
PETK Petropavlovsk- 53.97 22 P **P** **23 56 50.5 -0.2**
PETK pmax pmax
comp=Z,20nm,0.6s
PETK MLR MLR
comp=Z,172nm,21.1s
PEA2 Petropavlovsk- 53.98 22 *e*P **P** **23 56 50.5 -0.2**
PET Petropavlovsk 54.27 23 *e*P **P** **23 56 53.9 +1.0**
PET *e*S **S** **00 04 26.3 +0.6**
PET pmax pmax
comp=Z,38nm,1.2s
PET pmax pmax
comp=Z,100nm,13.4s
PET Petropavlovsk 54.27 23 *e*P **P** **23 56 52.5 -0.4**
comp=Z,51nm,1.2s
DHRM DHARAMSHALA 54.37 306 *e*P **P** **23 56 52.7 -1.5**
DHRM AMB AMB 23 56 54.6
comp=Z,102nm,3.6s
MSVF Nonsavu 55.31 116 *e*P **P** **23 57 01.5 +0.5**
comp=Z,245nm,2.3s
MKAR Makanchi Array 56.50 325 *e*P **P** **23 57 09.2 +0.2**
YAK Yakutsk 56.73 2 *e*P **P** **23 57 10.0 -0.4**
YAK *e**PP **pP** **23 57 28.9 +1.7**
YAK *e* 23 58 09.9
YAK *e* 23 59 13.0
YAK *e*PPP PPP 00 00 33.3
YAK *e*S **S** **00 04 55.0 -3.1**
YAK *e* 00 06 48.9
YAK *e*SSS SSS 00 11 02.5
YAK pmax pmax
comp=Z,99nm,0.9s
YAK pmax pmax
comp=N,46nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,13nm,0.5s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK smax smax
comp=N,88nm,2.3s
YAK smax smax
comp=E,78nm,3.5s
YAK MLR MLR
comp=Z,217nm,21.0s
YAK MLR MLR
comp=N,189nm,21.0s
YAK MLR MLR
comp=E,52nm,15.0s
YAK Yakutsk 56.73 2 *e*P **P** **23 57 09.7 -0.7**
comp=E,142nm,0.9s
KSH Kashi 57.19 314 P **P** **23 57 15.8 +1.6**
KSH sP **sP** **23 57 39.0 +0.7**
KSH PcP **PcP** **23 58 11.5 +3.3**
KSH PP **PP** **23 59 26.8 +5.0**
KSH PcS **PcS** **00 02 08.3 -1.0**
KSH S **S** **00 05 08.3 +3.0**
KSH sS **sS** **00 05 35.0 +1.2**
KSH PMZ
comp=E,27nm,1.3s
KSH LN
comp=E,89nm,5.8s
KSH LE
comp=E,140nm,5.2s
KSH LZ
comp=E,120nm,6.3s
KRAR Krasnoyarsk 57.47 338 *e*P **P** **23 57 16.9 +1.2**
KRAR pmax pmax
comp=Z,36nm,0.8s
ULHL Ulahol 58.10 317 P **P** **23 57 19.4 -1.3**
SNR=16
KZA Kyzart 58.71 317 P **P** **23 57 24.8 -0.4**
SNR=23
TKM2 Tokmak 2 58.82 318 P **P** **23 57 27.2 +1.6**
SNR=19
TKM2 Tokmak 2 58.82 318 *e*P **P** **23 57 25.0 -0.7**
comp=Z,18nm,0.7s
KBK Karagaybulak 59.15 317 P **P** **23 57 29.7 +1.8**
SNR=12
UCH Uchtor 59.27 317 P **P** **23 57 31.2 +2.1**
SNR=31
ZALV Zalesovo Beam 59.40 333 P **P** **23 57 28.6 -0.6**
comp=Z,9.1nm,0.4s,baz=127,slow=6.2,SNR=57
ZALV S **S** **00 05 31.1 -2.1**
comp=Z,1.3nm,0.8s,baz=126,slow=9.8,SNR=3.6
ZALV LR LR 00 26 06.7
comp=Z,301nm,19.1s,baz=72,slow=39
ZAA1 Zalesovo Array 59.40 333 *e*P **P** **23 57 28.6 -0.6**
ZAA1 *e*S **S** **00 05 31.1 -2.2**
CHMS Chumysh 59.42 318 P **P** **23 57 30.5 +0.9**
SNR=6.0
AAK Ala-Archa 59.44 317 LR LR 00 26 11.5
comp=Z,254nm,19.3s,baz=82,slow=39
AAK Ala-Archa 59.44 317 *e*P **P** **23 57 29.3 -0.6**
comp=Z,36nm,1.4s
USP Ospenovka 59.69 318 P **P** **23 57 30.7 -0.8**
SNR=26
AML Almayashu 59.79 316 P **P** **23 57 34.5 +1.9**
SNR=16
EKS2 Erkin-Say 59.94 317 P **P** **23 57 35.2 +1.9**
SNR=25
EKS2 Erkin-Say 59.94 317 *e*P **P** **23 57 33.4 0.0**
comp=Z,26nm,0.8s
EKS2 *e*PcP **PcP** **23 58 20.1 +1.1**
SEY Seymchan 60.54 13 LR LR 00 21 56.1
comp=Z,151nm,21.4s,baz=192,slow=34
SEY Seymchan 60.54 13 *e*P **P** **23 57 37.8 +1.0**
KURBB Kurchatov Arra 60.64 327 S **S** **00 05 49.1 -0.2**
comp=Z,0.3nm,0.6s,baz=89,slow=12,SNR=4.6
KURK Kurchatov 60.64 327 P **P** **23 57 37.9 +0.2**
comp=Z,750nm,0.6s,SNR=43
KURK Kurchatov 60.64 327 *e*P **P** **23 57 37.1 -0.6**
comp=Z,44nm,0.6s
KURK *e*S **S** **00 05 49.1 -0.2**
KURK *e*S S 00 05 51.3 +2.0
NVS Novosibirsk 60.68 333 *e*P **P** **23 57 37.4 -0.5**
NVS *e*S **S** **00 05 46.9 -2.7**
NVS pmax pmax
comp=N,15nm,0.8s

NVS pmax pmax
comp=E,15nm,0.8s
NVS pmax pmax
comp=Z,27nm,0.8s
NVS smax smax
comp=N,25nm,1.8s
NVS smax smax
comp=E,32nm,1.8s
KBL Kabul 60.84 307 *e*P **P 23 57 38.1 -1.6**
comp=E,18nm,0.8s
DCZ Deep Cove 61.88 149 *e*P **P 23 57 47.1 +0.9**
comp=E,48nm,0.8s
KKAR Karatay Array 62.33 316 *e*P **P 23 57 48.2 -1.2**
WHZ Wether Hill Ro 62.57 149 *e*P **P 23 57 51.3 +0.5**
comp=E,26nm,0.8s
RPZ Rata Peaks 62.82 145 *e*P **P 23 57 52.8 +0.2**
comp=E,66nm,0.8s
URZ Urewera 63.45 138 *e*P **P 23 57 56.2 -0.6**
comp=E,155nm,2.0s
KHZ Kahutara 63.48 143 *e*P **P 23 57 56.5 -0.3**
comp=E,41nm,1.1s
BKZ Black Stump Fm 63.51 139 *e*P **P 23 57 57.6 +0.3**
comp=E,44nm,0.7s
BRVK Borovoye 66.30 327 P **P 23 58 15.8 +0.7**
comp=E,415nm,0.6s,SNR=33
BRVK Borovoye 66.30 327 *e*P **P 23 58 14.6 -0.5**
BRVK pmax pmax
comp=Z,96nm,1.2s
BRVK Borovoye 66.30 327 P **P 23 58 14.9 -0.2**
SNR=45
BRVK Borovoye 66.30 327 *e*P **P 23 58 14.4 -0.7**
comp=Z,55nm,0.8s
TIXI Tiksi 66.37 1*c i*P **P 23 58 14.3 -0.8**
TIXI pmax pmax
comp=Z,52nm,1.2s
TIXI Tiksi 66.37 1 *e*P **P 23 58 13.7 -1.4**
comp=Z,54nm,1.2s
IDAH Dahanechah 67.98 303 *e*P **P 23 58 26.0 -0.4**
BILL Bilibino 68.07 15⇑*i*P **P 23 58 26.5 +0.5**
BILL *e* 23 58 51.5
BILL pmax pmax
comp=Z,7.0nm,0.6s
BILL MLR MLR
comp=Z,225nm,24.0s
BILL Bilibino 68.07 15 *e*P **P 23 58 25.7 -0.3**
comp=Z,42nm,1.7s
IKOO Kooshah 68.66 303 *e*P **P 23 58 30.0 -0.7**
IPAY Payeh 69.25 307 *e*P **P 23 58 33.7 -0.6**
HOQ Hoqain 69.31 293 P **P 23 58 33.7 -0.9**
SNR=5.9
IAKL Akhelmad 69.46 307 *e*P **P 23 58 33.8 -1.9**
GEYT Alibeck 70.17 308 P **P 23 58 39.2 -0.5**
comp=Z,11nm,0.7s,baz=151,slow=3.4,SNR=26
GEYT LR LR 00 33 19.3
comp=Z,148nm,21.5s,baz=75,slow=39
BANOM Banah 70.37 296⇓*i*P **P 23 58 39.8 -1.3**
SNR=6.2
HATD Hatta, Dubai 70.46 294 *i* P **P 23 58 40.4 -1.2**
SNR=7.5
ASHO Ashiyiah 70.52 294⇑*e*P **P 23 58 40.7 -1.3**
FAQ Al Faqa, Dubai 70.94 294⇑P **P 23 58 43.1 -1.4**
ABKAR Akbulak array 71.17 320 *e*P **P 23 58 44.4 -1.1**
ASUD Al Ashush, Dub 71.17 294⇑P **P 23 58 44.5 -1.4**
IBAF Bafgh 71.47 301 *e*P **P 23 58 46.6 -1.2**
UNV Unalaska Valle 72.07 35 *e*P **P 23 58 50.2 -0.5**
comp=Z,24nm,0.7s
IMEH Mehriz 72.26 301 *e*P **P 23 58 51.1 -1.6**
DRV Dumont d'Urvil 72.31 175 S **SKiKP 00 08 29.0 +7.2**
DRV L L 00 18 00.0
DRV R 00 25 00.0
ICHK Chekchek 72.51 302 *e*P **P 23 58 53.0 -1.1**
SVE Sverdlovsk 72.84 326⇑*i*P **P 23 58 55.7 +0.4**
SVE *e*S **S 00 08 15.7 -0.7**
SVE pmax pmax
comp=Z,133nm,1.4s
SVE MLR MLR
comp=Z,268nm,18.0s
ISAD Sadrabad 73.09 302 *e*P **P 23 58 56.1 -1.5**
PAF Port-aux-Franc 73.22 215 S **S 00 08 22.0 +1.2**
PAF L L 00 17 00.0
PAF R 00 22 00.0
ARU Arti 73.83 327 P **P 23 59 00.6 -0.5**
comp=E,608nm,0.5s,SNR=46
ARU Arti 73.83 327*c i*P **P 23 59 00.5 -0.5**
ARU *PP **pP 23 59 18.9 +0.3**
ARU 00 01 42.2
ARU S **SKiKP 00 08 25.2 +0.7**
ARU pmax pmax
comp=Z,38nm,0.6s
ARU MLR MLR
comp=Z,341nm,26.0s
ARU Arti 73.83 327 *e*P **P 23 59 00.6 -0.5**
comp=Z,48nm,0.7s
IFIR Firoozkoh 74.17 305 *e*P **P 23 59 02.2 -1.7**
IKAZ Kazeroun 74.54 299 *e*P **P 23 59 04.7 -1.6**
IKLH Kolahrood 74.96 303 *e*P **P 23 59 07.5 -1.0**
IPIR Pirpir 75.50 302 *e*P **P 23 59 08.6 -3.1**
IKOM Komasi 78.39 304 *e*P **P 23 59 25.3 -2.4**
IDHR Dehrash 79.33 304 *e*P **P 23 59 30.2 -2.7**
RAYN Ar Rayn 80.14 293 P **P 23 59 35.0 -2.3**
comp=Z,184nm,0.6s,SNR=15
RAYN Ar Rayn 80.14 293 *e*P **P 23 59 35.2 -2.2**
comp=Z,22nm,0.7s
DGRG David-gareji 80.29 311 P **P 23 59 37.7 -0.1**
DGRG David-gareji 80.29 311 P **P 23 59 37.7 -0.1**
KDAK Kodiak Island 80.51 32 P **P 23 59 38.0 -0.5**
comp=Z,153nm,0.7s,SNR=9.2
KDAK Kodiak Island 80.51 32*ce*P **P 23 59 38.4 -0.1**
KDAK Kodiak Island 80.51 32 *e*P **P 23 59 38.2 -0.3**
comp=Z,197nm,2.3s
GNI Garni 80.74 310 *e*P **P 23 59 40.4 +0.1**
GNI pmax pmax
comp=Z,41nm,2.5s
GNI Garni 80.74 310 P **P 23 59 41.4 +1.0**
SNR=9.5
GNI Garni 80.74 310 *e*P **P 23 59 40.0 -0.4**
comp=Z,60nm,1.4s
TBLG Delisi 80.77 311 P **P 23 59 39.8 -0.5**
TBLG Delisi 80.77 311 P **P 23 59 39.8 -0.5**
IM04 Indian Mountai 80.88 24 *e*P **P 23 59 39.6 -0.8**
PPLA Purkeypile 81.21 27 *e*P **P 23 59 41.9 -0.4**
CAST Castle Rocks 81.31 27 *e*P **P 23 59 42.1 -0.6**
comp=Z,12nm,0.8s
BRLK Bradley Lake 81.56 30 *e*P **P 23 59 43.1 -1.1**
comp=Z,20nm,0.8s
NCK Nalchik 81.64 313⇓*i*P **P 23 59 44.6 -0.3**
AKH Akhalkalaki 81.70 311 P **P 23 59 45.2 -0.2**
AKH Akhalkalaki 81.70 311 P **P 23 59 45.2 -0.2**
ONI Oni 81.74 312 P **P 23 59 44.9 -0.7**
ONI Oni 81.74 312 P **P 23 59 44.8 -0.7**
BPAW Bear Paw Mtn. 81.86 26 *e*P **P 23 59 44.9 -0.7**
comp=Z,11nm,1.3s
MLY Manley 82.04 25 *e*P **P 23 59 46.2 -0.3**
comp=Z,40nm,1.3s
ABPO Ambohimpanom 82.05 250 *e*P **P 23 59 46.5 -1.2**
comp=Z,24nm,0.8s
GOF Gofitskoye 82.06 315 *e*P **P 23 59 46.3 -0.7**
GOF pmax pmax
comp=Z,20nm,1.1s
TRF Thorofare Moun 82.11 27 *e*P **P 23 59 46.0 -1.2**
comp=Z,22nm,1.0s
KBZ Khabaz 82.15 313 P **P 23 59 47.0 -0.5**
comp=Z,5.4nm,0.6s,baz=93,slow=3.4,SNR=9.8
KBZ LR LR 00 42 04.8
comp=Z,235nm,19.9s,baz=76,slow=40
KBZ Khabaz 82.15 313 P **P 23 59 47.0 -0.5**
KBZ pmax pmax
comp=Z,5.0nm,0.6s
RC01 Rabbit Creek A 82.22 29 *e*P **P 23 59 46.6 -0.9**
comp=Z,16nm,0.5s
NEY Neytrino 82.28 313 *e*P **P 23 59 48.4 0.0**
NEY pmax pmax
comp=Z,4.0nm,0.7s
SEW Seward 82.30 30 *e*P **P 23 59 47.2 -0.7**
comp=Z,15nm,0.7s
KIV Kislovodsk 82.31 314 P **P 23 59 49.4 +0.9**
comp=Z,137nm,0.8s,SNR=8.6
KIV Kislovodsk 82.31 314 *e*P **P 23 59 48.1 -0.4**
KIV *eS* **S 00 09 58.7 -0.7**
KIV pmax pmax
comp=Z,17nm,0.9s
KIV Kislovodsk 82.31 314 P **P 23 59 48.8 +0.3**
SNR=7.0
KIV Kislovodsk 82.31 314⇑*e*P **P 23 59 48.6 +0.1**
SNR=14
KIV Kislovodsk 82.31 314 *e*P **P 23 59 47.7 -0.8**
comp=Z,21nm,0.9s
COLD Coldfoot 82.44 23 *e*P **P 23 59 48.6 +0.1**
comp=Z,17nm,0.9s
BWN Browne 82.53 26 *e*P **P 23 59 49.3 +0.3**
comp=Z,31nm,0.9s
PMR Palmer 82.53 29 *e*P **P 23 59 47.9 -1.2**
MCK McKinley 82.73 26 *e*P **P 23 59 49.3 -0.9**
comp=Z,62nm,1.3s
CHVG Ch'k'valeri 82.75 312 P **P 23 59 49.5 -1.2**
RND Reindeer 82.75 27 *e*P **P 23 59 49.2 -1.2**
comp=Z,34nm,1.2s
SML Sawmill 82.92 28 *e*P **P 23 59 50.4 -0.8**
comp=Z,15nm,1.5s
VRHR Novokhopersk 83.06 321 *e*P **P 23 59 51.1 -1.0**
VRHR *eS* **S 00 10 07.4 +0.9**
VRHR pmax pmax
comp=Z,40nm,0.5s
VRHR pmax pmax
comp=N,6.0nm,0.6s
VRHR pmax pmax
comp=E,50nm,1.3s
VRHR smax smax
comp=N,100nm,1.2s
VRHR smax smax
comp=Z,10.0nm,1.3s
VRHR smax smax
comp=E,90nm,1.1s
WRH Wood River Hil 83.14 26 *e*P **P 23 59 51.4 -0.8**
comp=E,29nm,1.2s
COLA College 83.26 25⇑*i*P **P 23 59 51.8 -1.0**
CCB Clear Creek Bu 83.27 26 *e*P **P 23 59 51.5 -1.4**
comp=E,45nm,1.4s
SCM Sheep Creek Mo 83.40 28 *e*P **P 23 59 52.9 -0.9**
comp=E,39nm,1.1s
ILAR Eielson Array 83.67 25 P **P 23 59 53.4 -1.6**
comp=E,5.4nm,0.5s,baz=248,slow=5.0,SNR=97
ILAR PKKPbc **PKKPbc 00 18 14.1 -0.6**
comp=E,0.2nm,0.4s,baz=123,slow=2.6,SNR=4.6
ILAR LR LR 00 34 27.9
comp=E,69nm,21.3s,baz=252,slow=34
ILB Eielson Array 83.67 25 *e*P **P 23 59 53.4 -1.6**
ILB *e*PKKPbc **PKKPbc 00 18 14.1 -0.6**
DIV Divide 84.14 29 *e*P **P 23 59 56.9 -0.6**
comp=E,138nm,1.6s
PAX Paxson 84.28 27 *e*P **P 23 59 57.7 -0.5**
comp=E,107nm,2.2s
SOC Sochi 84.46 313 *e*P **P 23 59 57.5 -1.9**
SOC *e* 00 03 19.3
SOC *e*PPP PPP 00 05 15.2
SOC *eS* **S 00 10 15.1 -5.9**
SOC *e*SSS SSS 00 19 14.3
SOC pmax pmax
comp=Z,15nm,0.6s
SOC MLR MLR
comp=Z,284nm,21.0s
VORD Divnogorie 84.53 321 *e*P **P 23 59 59.0 -0.6**
VORD *eS* **S 00 10 18.4 -2.9**
VORD pmax pmax
comp=Z,50nm,0.8s
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,40nm,1.0s
VORD smax smax
comp=E,20nm,1.0s
VORD smax smax
comp=Z,10.0nm,1.9s
VORD smax smax
comp=N,20nm,0.9s
VOR Voronezh 84.57 321 *e*P **P 23 59 58.0 -1.8**
VOR pmax pmax
comp=Z,250nm,1.4s
VSR Storozhevoye 84.61 321 *e*P **P 23 59 59.2 -0.8**
VSR *eS* **S 00 10 19.4 -2.7**
VSR pmax pmax
comp=Z,70nm,0.8s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,60nm,1.1s
VSR smax smax
comp=N,20nm,1.5s
VSR smax smax
comp=E,30nm,1.5s
VSR smax smax
comp=Z,20nm,2.5s
RAGM Ragged Mountai 84.69 30 *e*P **P 23 59 59.5 -0.7**
comp=Z,47nm,1.3s
BMRM Bremner River 84.71 29 *e*P **P 23 59 59.9 -0.5**
comp=Z,29nm,0.9s
VNDA Vanda 84.85 173 P **P 00 00 00.7 0.0**
comp=Z,25nm,0.9s,baz=316,slow=5.8,SNR=69
VNDA PKKPbc **PKKPbc 00 18 09.9 -2.7**
comp=Z,1.0nm,0.8s,baz=227,slow=1.4,SNR=5.3
VNDA LR LR 00 37 15.1
comp=Z,224nm,21.5s,baz=332,slow=35
VNDA Vanda 84.85 173 *e*P **P 00 00 00.3 -0.4**
comp=Z,23nm,0.9s
TMCR Tamitsa 84.89 334 *e*P **P 00 00 01.7 +0.6**
TMCR *e* 00 03 16.1
TMCR pmax pmax
comp=Z,67nm,1.1s
MAW Mawson 85.22 200 P **P 00 00 03.7 +1.1**
comp=Z,17nm,0.8s,baz=65,slow=6.0,SNR=30
MAW PKKPbc **PKKPbc 00 18 09.4 -2.1**
comp=Z,3.0nm,0.8s,baz=315,slow=3.2,SNR=5.9
MAW Mawson 85.22 200 *e*P **P 00 00 02.8 +0.2**
comp=Z,40nm,2.0s
PPT2 Papeete2 85.33 108 *eS* **S 00 10 32.9 +2.3**
comp=Z,149nm,24.2s
PPT2 Papeete2 85.33 108 *e*LR LR 00 27 01.4
comp=Z,497nm,25.5s
MOS Moscow 85.37 325 *e*P **P 00 00 00.7 -3.0**
MOS *e*PP **pP 00 00 19.4 -2.1**
MOS *eS* **SKSac 00 10 18.6 -4.5**
MOS smax smax
comp=E,600nm,3.9s
MOS smax smax
comp=N,700nm,3.4s
MALT Malatya 85.67 308⇑P **P 00 00 06.9 +1.1**
SBA Scott Base 85.76 172 *e*P **P 00 00 05.3 +0.2**
comp=N,14nm,0.9s
OBN Obninsk 86.00 325*c i*P **P 00 00 06.1 -0.8**
OBN *e* 00 03 25.3
OBN MLR MLR
comp=Z,387nm,25.0s
OBN Obninsk 86.00 325 P **P 00 00 06.0 -0.8**
comp=Z,1µm,0.8s,SNR=15
OBN Obninsk 86.00 325 *e*P **P 00 00 06.1 -0.8**
comp=Z,625nm,1.6s
ANN Anapa 86.05 314*c i*P **P 00 00 05.9 -1.4**
ANN *e*PP **pP 00 00 23.0 -2.2**
ANN *eS* S 00 10 26.7 -10
ANN pmax pmax
comp=Z,76nm,0.9s
ANN MLR MLR
comp=E,225nm,20.0s
ANN MLR MLR
comp=Z,245nm,20.0s
EGAK Eagle 86.12 25 *e*P **P 00 00 06.7 -0.5**
comp=Z,14nm,1.4s
TBI Tubuai 86.15 114 *e*LR LR 00 27 27.3
comp=Z,465nm,26.2s
APA Apatity 86.59 337⇑*i*P **P 00 00 10.0 +0.5**
APA pmax pmax
comp=Z,34nm,1.0s
APA MLR MLR
comp=Z,1µm,23.0s
DAWY Dawson 86.94 26 *e*P **P 00 00 10.1 -1.2**
comp=Z,4.7nm,0.6s
FURI Furi 87.54 279 *e*P **P 00 00 13.0 -2.6**
comp=Z,32nm,1.2s
HYT Haines Junctio 88.18 29 *e*P **P 00 00 16.6 -0.8**
ARA0 ARCESS Array S 89.16 340 *e*P **P 00 00 20.6 -1.1**
ARCES ARCESS Array B 89.16 340 P **P 00 00 20.6 -1.1**
comp=Z,34nm,0.8s,baz=83,slow=6.3,SNR=69
ARCES LR LR 00 46 09.3
comp=Z,199nm,18.3s,baz=74,slow=40
BR101 Keskin Array S 89.28 310 *e*P **P 00 00 21.6 -1.6**
BR101 *e*PKKPdf **PKKPbc 00 18 01.3 +0.9**
BRTR Keskin Array B 89.28 310 P **P 00 00 21.6 -1.6**
comp=Z,11nm,0.8s,baz=126,slow=4.3,SNR=80
BRTR PKKPbc **PKKPbc 00 18 01.3 +0.9**
comp=Z,0.5nm,0.7s,baz=194,slow=4.4,SNR=4.4
BRTR LR LR 00 46 33.1
comp=Z,47nm,19.9s,baz=71,slow=40
ANTO Ankara 89.91 310⇑P **P 00 00 24.2 -1.8**
ANTO Ankara 89.91 310 *e*P **P 00 00 24.0 -2.0**
comp=Z,9.2nm,0.9s
CSS Prodhromos 90.04 305 *e*P **P 00 00 23.5 -3.1**
comp=Z,4.4nm,0.8s
FIA0 FINESS Array S 90.66 332 *e*P **P 00 00 28.0 -0.8**
FINES FINESS Array B 90.66 332 P **P 00 00 28.0 -0.8**
comp=Z,9.1nm,0.5s,baz=76,slow=4.6,SNR=136
FINES LR LR 00 45 24.8
comp=Z,199nm,21.3s,baz=79,slow=38
FINES FINESS Array B 90.66 332*ce*P **P 00 00 28.0 -0.8**
FINES pmax pmax
comp=Z,9.0nm,0.5s
AKASG Malin Array Be 90.91 321 P **P 00 00 29.1 -1.1**
comp=Z,7.2nm,0.7s,baz=67,slow=4.3,SNR=45
AKASG LR LR 00 45 39.6
comp=Z,175nm,19.8s,baz=75,slow=38
AKBB Malin Array Si 90.91 321 *e*P **P 00 00 29.1 -1.1**
KIEV Kiev 90.92 321*c i*P **P 00 00 29.1 -1.2**
KIEV Kiev 90.92 321 *e*P **P 00 00 28.6 -1.7**
comp=Z,54nm,1.4s
MICGM Minsk 91.07 325 *e* **SKSac 00 10 59.0 +1.6**
ISP Isparta 91.93 308⇓P **P 00 00 34.3 -1.1**
ISP Isparta 91.93 308 *e*P **P 00 00 32.8 -2.7**
comp=Z,9.7nm,0.8s
TIRR Tirgusor 92.48 315⇑P **P 00 00 37.3 -0.4**
TIRR Tirgusor 92.48 315 *e*P **P 00 00 36.4 -1.2**
comp=Z,18nm,1.0s
CFR Carcaliu 92.55 316⇑P **P 00 00 35.5 -2.5**
PSN Preselentsi 92.78 314⇑P **P 00 00 38.9 -0.2**
VRI Vrincioaia 93.40 316⇑P **P 00 00 39.8 -2.1**
PRD Provadia 93.42 314⇑P **P 00 00 41.9 -0.1**
PLOR Plostina 93.46 316⇑P **P 00 00 42.1 -0.1**
ISR Istrita 93.67 316⇑P **P 00 00 43.7 +0.4**
SUW Suwalki 93.86 325 *e*P **P 00 00 43.4 -0.4**
SUW Suwalki 93.86 325 *e*P **P 00 00 43.4 -0.4**
SYO Syowa Base 93.89 201⇑*e*P **P 00 00 43.2 -0.3**
SYO Syowa Base 93.89 201⇑*e*P **SS 00 18 11.8 +3.6**
MLR Muntele Rosu 94.02 316⇓P **P 00 00 44.0 -0.9**
BURAR Bucovina Array 94.07 318⇓P **P 00 00 44.4 -0.7**
JMB Yambol 94.15 313⇑P **P 00 00 44.3 -1.1**
VOIR 94.64 316⇑P **P 00 00 47.3 -0.4**
ALN Alexandroupoli 94.84 312 *e*P **P 00 00 47.2 -1.4**
KARP Karpathos 94.95 306 *e*P **P 00 00 47.9 -1.4**
PRK Paraskevi 94.98 310 *e*P **P 00 00 48.5 -0.8**
QSPA South Pole Qui 95.11 180 P **P 00 00 50.2 +0.9**
comp=Z,13nm,0.9s,baz=298,slow=1.2,SNR=26
KDZ Kurdzhali 95.16 313⇑P **P 00 00 47.3 -2.8**
KDZ Kurdzhali 95.16 313 P **P 00 00 50.1 0.0**
BMR Baia Mare 95.19 319⇓P **P 00 00 48.1 -2.0**
KWP Kalwaria Pacla 95.23 321 *e*P **P 00 00 50.4 +0.2**
KWP Kalwaria Pacla 95.23 321 *e*P **P 00 00 50.4 +0.2**
SIGR SIGRI 95.31 310 *e*P P 00 00 43.9 -6.9
CHOS Chios island 95.31 309 *e*P **P 00 00 49.8 -1.1**
CJR Cluj-Napoca 95.35 318⇑P **P 00 00 50.2 -0.7**
PLD Plovdiv 95.59 313 P **P 00 00 51.3 -0.7**
RZN Rozhen 95.67 313 P **P 00 00 51.6 -1.0**
BEL Belsk 95.83 323 *e*P **P 00 00 53.4 +0.5**
BEL Belsk 95.83 323 *e*P **P 00 00 53.4 +0.5**
DAG Danmarks Havn 95.83 352 *i* P **P 00 00 51.0 -1.4**
comp=Z,17nm,0.7s
DAG Danmarks Havn 95.83 352 *i* P **P 00 00 51.0 -1.4**
DAG pmax pmax
comp=Z,12nm,0.7s
DRGR 95.92 318⇑P **P 00 00 52.4 -1.1**
MPEP Malo Peshtene 96.01 314 P **P 00 00 53.9 0.0**
GZR Gura Zlata 96.21 317⇓P **P 00 00 54.2 -0.7**
NPS Neapolis 96.25 306 *e*P **P 00 00 53.8 -1.4**
NVR Nevrokopi 96.36 312 *e*P **P 00 00 53.8 -1.8**
MMB Musomiste 96.41 313⇑P **P 00 00 53.9 -1.9**
MMB Musomiste 96.41 313 P **P 00 00 54.7 -1.1**
VTS Vitosha 96.56 314⇓P **P 00 00 54.5 -2.1**
VTS Vitosha 96.56 314 P **P 00 00 55.2 -1.4**
SRS Serrai 96.61 312 *e*P **P 00 00 54.9 -1.8**
NIE Niedzica 96.79 321 *e*P **P 00 00 58.0 +0.6**
NIE Niedzica 96.79 321 *e*P **P 00 00 58.0 +0.6**
KKB Krupnik 96.82 313 P **P 00 00 56.2 -1.4**
OJC Ojcow 96.89 322 *e*P **P 00 00 58.0 +0.3**
OJC Ojcow 96.89 322 *e*P **P 00 00 58.0 +0.3**
OJC Ojcow 96.89 322 *e*P **P 00 00 56.5 -1.2**
comp=Z,18nm,1.0s
PLG Polygyros 96.89 312 *e*P **P 00 00 56.2 -1.8**
BZS Buzias 96.95 317⇓P **P 00 00 56.9 -1.2**
KNT Kendrikon 97.11 312 *e*P **P 00 00 57.2 -1.8**
PSZ Piszkesteto 97.48 320 *e*P **P 00 00 58.6 -2.0**
comp=Z,13nm,1.1s
NB2 NORSAR Subarra 97.58 334 P **P 00 00 59.2 -1.5**
comp=Z,6.9nm,0.8s,baz=66,slow=4.6
NB2 NORSAR Subarra 97.58 334 P **P 00 00 59.2 -1.5**
baz=66,slow=4.6
NB200 NORSAR Array S 97.58 334 *e*P **P 00 00 59.5 -1.2**
NOA NORSAR Array B 97.58 334 P **P 00 00 59.5 -1.2**
comp=Z,6.4nm,0.9s,baz=67,slow=4.6,SNR=20
NOA LR LR 00 49 03.9
comp=Z,335nm,21.9s,baz=60,slow=38
LIT Litokhoron 97.66 311 *e*P **P 00 00 59.8 -1.7**
KRND KRANIDI 97.77 309 *e*P **P 00 00 59.1 -2.9**
OKC Ostrava-Krasne 98.02 322 *e*P **P 00 01 02.4 -0.4**
OKC *eS* **S 00 12 24.3 -0.2**
OKC AMS AMS 00 49 30.0
OKC Ostrava-Krasne 98.02 322 *e*P **P 00 01 02.4 -0.4**
OKC *eS* **S 00 12 24.3 -0.2**
AGG Agios Georgios 98.03 310 *e*P **P 00 01 00.8 -2.4**
comp=Z,8.0nm,0.9s
YKA Yellowknife Ar 98.06 24 P **P 00 01 02.0 -0.6**
comp=Z,1.1nm,0.5s,baz=299,slow=4.2,SNR=7.3
YKA PKKPbc **PKKPbc 00 17 34.8 -3.2**
comp=Z,1.3nm,0.5s,baz=121,slow=3.4,SNR=6.5
YKB5 Yellowknife Ar 98.06 24 *e*P **P 00 01 02.0 -0.6**
YKB5 *e*PKKPbc **PKKPbc 00 17 34.9 -3.2**
BSD Bornholm Skovb 98.11 327⇑*i*P **P 00 01 02.1 -1.0**
comp=Z,7.2nm,0.8s
BSD Bornholm Skovb 98.11 327⇑*i*P **P 00 01 02.1 -1.0**
BSD pmax pmax
comp=Z,7.0nm,0.8s
MAKR Makrakomi, Fth 98.18 310 *e*P **P 00 01 01.8 -2.1**
GUR Goura 98.27 309 *e*P **P 00 01 02.7 -1.7**
KALE Kalithea 98.32 310 *e*P **P 00 01 02.6 -1.9**
FNA Florina 98.32 312 *e*P **P 00 01 02.6 -1.9**
VLX Vlachokerasia 98.37 309 *e*P **P 00 01 03.4 -1.4**
KLV Kalavryta, Ach 98.39 310 *e*P P 00 00 59.5 -5.4
MORC Moravsky Berou 98.41 322⇓P **P 00 01 03.0 -1.6**
MORC Moravsky Berou 98.41 322⇓*i*P **P 00 01 03.0 -1.6**
MORC Moravsky Berou 98.41 322 *e*P **P 00 01 04.1 -0.5**
comp=Z,40nm,1.0s
EVR Evrytania 98.45 310 *e*P **P 00 01 03.2 -2.0**
DIVS Divibare 98.46 316⇓*i*P **P 00 01 04.0 -1.1**
EFP Efpalio 98.49 310 *e*P **P 00 01 03.9 -1.3**
DRO Drossia 98.75 310 *e*P **P 00 01 05.7 -0.7**
ITM Ithomi 98.76 309 *e*P **P 00 01 05.2 -1.3**
KRLC Kraliky 98.78 322 *e*PDIFF **P 00 01 05.8 -0.5**
KRLC Kraliky 98.78 322 *e*P **P 00 01 05.8 -0.5**
PKSM Moragy 98.78 318⇑P **P 00 01 05.2 -1.1**
PKSM Moragy 98.78 318⇑*i*P **P 00 01 05.2 -1.1**
KSP Ksiaz 98.82 323 *e*P Pdif 00 01 07.1 +0.7
KSP Ksiaz 98.82 323 *e*P Pdif 00 01 07.1 +0.7
DSL Palaion Diasel 98.94 311 *e*P **P 00 01 05.7 -1.5**
DPC Dobruska-Polom 98.97 323 *e*PDIFF **P 00 01 07.1 0.0**
DPC *eS* **S 00 12 31.3 -1.4**
DPC AMS AMS 00 49 40.0
comp=Z,300nm,23.2s
DPC Dobruska-Polom 98.97 323 *e*P **P 00 01 07.1 0.0**
DPC *eS* **S 00 12 31.3 -1.4**
DPC MLR MLR
comp=Z,300nm,23.2s
JAN Janina 98.99 311 *e*P **P 00 01 06.3 -1.2**
UPC Upice 99.10 323 *e*PDIFF **Pdif 00 01 07.3 -0.4**
UPC Upice 99.10 323 *e*P **Pdif 00 01 07.3 -0.4**
VRAC Vranov 99.14 322⇓P **Pdif 00 01 09.0 +1.1**
VRAC Vranov 99.14 322⇓*i*P **Pdif 00 01 09.0 +1.1**
IGT Igoumenitsa 99.41 311 *e*P **Pdif 00 01 07.3 -2.0**
SGD Sagiada 99.46 311 *e*P **Pdif 00 01 07.8 -1.7**
MATP Matopo 99.73 250 P **Pdif 00 01 10.3 -1.0**
comp=Z,15nm,1.0s,baz=112,slow=5.4,SNR=17
LSZ Lusaka 99.82 255 P **Pdif 00 01 10.6 -1.2**
comp=Z,11nm,0.8s,baz=65,slow=7.1,SNR=24
LSZ Lusaka 99.82 255 *e*Pdif **Pdif 00 01 10.3 -1.4**
comp=Z,12nm,0.8s
TREC Trest 99.83 322 *e*PDIFF **Pdif 00 01 10.9 -0.1**
TREC *ex* x 00 01 42.1
TREC AMS AMS 00 51 40.0
comp=Z,200nm,23.6s
TREC Trest 99.83 322 *e*P **Pdif 00 01 10.9 -0.1**

TREC MLR MLR
comp=Z,200nm,23.6s
PVCC Panska Ves 99.96 323 *e*PDIFF **Pdif** **00 01 11.4 -0.1**
PVCC AMS AMS 00 50 00.0
comp=Z,300nm,21.8s
PVCC Panska Ves 99.96 323 *e*P **Pdif** **00 01 11.4 -0.1**
PVCC MLR MLR
comp=Z,300nm,21.8s
GOPC GO Pecny, Ondr 100.04 323 *e*PDIFF **Pdif** **00 01 11.6 -0.3**
GOPC *e*S **Sdif** **00 12 39.4 -2.3**
GOPC AMS AMS 00 50 30.0
comp=Z,300nm,19.0s
PRU Pruhonice 100.17 323 *e*PDIFF **Pdif** **00 01 11.8 -0.6**
PRU *ex* x 00 01 16.3
PRU *ex* x 00 01 31.6
PRU *e*SKS 00 11 42.4
PRU *e*S **Sdif** **00 12 39.4 -3.2**
PRU AMS AMS 00 50 40.0
comp=Z,300nm,20.2s
PRU Pruhonice 100.17 323 *e*P **Pdif** **00 01 11.8 -0.6**
PRU *e* 00 11 42.4
PRU *e*S **Sdif** **00 12 39.4 -3.2**
PRU MLR MLR
comp=Z,300nm,20.2s
PRA Prague 100.20 323 *e*PDIFF **Pdif** **00 01 12.8 +0.2**
PRA *ex* x 00 01 33.6
PRA *e*S **Sdif** **00 12 42.5 -0.4**
PRA AMS AMS 00 50 40.0
comp=Z,300nm,21.8s
PRA Prague 100.20 323 *e*P **Pdif** **00 01 12.8 +0.2**
PRA *e*S **Sdif** **00 12 42.5 -0.4**
PRA MLR MLR
comp=Z,300nm,21.8s
BRG Berggiesshubel 100.20 324 *e*P **Pdif** **00 01 13.1 +0.5**
comp=Z,16nm,1.0s
BRG *e* 00 12 47.0
BRG *e* 00 14 04.0
comp=N,156nm,22.1s
comp=E,209nm,19.2s
comp=Z,371nm,19.6s
BRG Berggiesshubel 100.20 324 *e*P **Pdif** **00 01 13.0 +0.5**
comp=Z,16nm,1.0s
BRG Berggiesshubel 100.20 324 *e*P **Pdif** **00 01 13.1 +0.5**
BRG *e* 00 12 47.0
BRG pmax pmax
comp=Z,16nm,1.0s
BRG MLR MLR
comp=N,156nm,22.1s
BRG MLR MLR
comp=E,209nm,19.2s
BRG MLR MLR
comp=Z,371nm,19.6s
FBE Freiberg 100.53 324 *e*P **Pdif** **00 01 14.7 +0.7**
comp=Z,152nm,2.6s
CLL Collm 100.59 324 *e*P **Pdif** **00 01 14.2 -0.1**
comp=Z,15nm,1.2s
CLL Collm 100.59 324⇓ *i*Pdif **Pdif** **00 01 14.1 -0.2**
comp=Z,15nm,1.3s
CLL *i* (pP) pP 00 01 20.7 -12
CLL *e*(SP) 00 14 11.0
CLL *e*SS SS 00 20 12.0 +29
CLL *e*PPPrev 00 26 00.0
CLL LmV 00 52 00.0
comp=Z,300nm,22.0s
CLL Collm 100.59 324⇓ *i*P **Pdif** **00 01 14.1 -0.2**
CLL pmax pmax
comp=Z,15nm,1.3s
CLL MLR MLR
comp=Z,300nm,22.0s
CLL Collm 100.59 324 *e*Pdif **Pdif** **00 01 13.2 -1.0**
KHC Kasperske Hory 101.06 322 *e*PDIFF **Pdif** **00 01 15.9 -0.6**
KHC *ex* x 00 01 47.4
KHC *e*SKS 00 11 49.3
KHC *e*S **Sdif** **00 12 47.9 -2.3**
KHC AMS AMS 00 51 10.0
comp=Z,200nm,17.3s
KHC Kasperske Hory 101.06 322 *e*P **Pdif** **00 01 15.9 -0.6**
KHC *e* 00 11 49.3
KHC *e*S **Sdif** **00 12 47.9 -2.3**
KHC MLR MLR
comp=Z,200nm,17.3s
KHC Kasperske Hory 101.06 322 *e*Pdif **Pdif** **00 01 15.9 -0.6**
GEC2 GERESS Array S 101.09 322 *e*P **Pdif** **00 01 16.9 +0.2**
comp=Z,14nm,1.3s
GEC2 GERESS Array S 101.09 322 *e*Pdif **Pdif** **00 01 15.7 -1.0**
GEC2 *e*PP **PP** **00 05 25.8 +0.2**
GEC2 *e*PKiKP **PKiKP** **00 05 42.0 +0.5**
GEC2 *e*PKKPbc **PKKPbc** **00 17 29.1 -0.2**
GERES GERESS Array B 101.09 322 P **Pdif** **00 01 16.5 -0.2**
comp=Z,3.1nm,0.8s,baz=70,slow=5.0,SNR=30
GERES PP **PP** **00 05 25.8 +0.2**
comp=Z,0.9nm,0.8s,baz=60,slow=7.9,SNR=5.4
GERES PKiKP **PKiKP** **00 05 42.0 +0.5**
comp=Z,0.5nm,0.6s,baz=51,slow=2.1,SNR=6.4
GERES PKKPbc **PKKPbc** **00 17 29.1 -0.2**
comp=Z,0.3nm,0.6s,baz=197,slow=2.2,SNR=4.0
MOA Molln 101.09 321 *i* Pdiff **Pdif** **00 01 16.9 +0.3**
comp=Z,15nm,1.2s,SNR=12
TANN Tannenbergstha 101.25 324 *e*P **Pdif** **00 01 17.6 +0.3**
comp=Z,10.0nm,1.1s
WERD Werda 101.33 324 *e*P **Pdif** **00 01 17.9 +0.3**
comp=Z,12nm,1.1s
NEUB Neuenburg 101.34 325 *e*P **Pdif** **00 01 18.2 +0.6**
comp=Z,29nm,1.4s
GUNZ Gunzen 101.35 324 *e*P **Pdif** **00 01 18.3 +0.6**
comp=Z,16nm,1.0s
WERN Wernitzgruen 101.35 323 *e*P **Pdif** **00 01 18.2 +0.5**
comp=Z,9.0nm,0.9s
PLN Plauen 101.40 324 *e*P **Pdif** **00 01 18.4 +0.5**
comp=Z,18nm,1.4s
VISS Visnje 101.43 319 *i* P **Pdif** **00 01 17.5 -0.7**
WET Wettzell 101.48 322 *e*P **Pdif** **00 01 18.9 +0.6**
comp=Z,17nm,1.6s
MANZ Manzenberg 101.63 323 *e*P **Pdif** **00 01 19.7 +0.7**
comp=Z,16nm,1.6s
ROTZ Rotzenmuhle 101.65 323 *e*P **Pdif** **00 01 19.9 +0.8**
comp=Z,17nm,1.3s
MOX Moxa 101.66 324 *e*P **Pdif** **00 01 19.3 +0.2**
comp=Z,10.0nm,1.0s
CLZ Clausthal 101.89 325 *e*P **Pdif** **00 01 20.9 +0.8**
comp=Z,19nm,1.7s
GRF Grafenberg Arr 102.27 323 *e*P **Pdif** **00 01 22.4 +0.6**
comp=Z,14nm,1.3s
LBTB Lobatse 102.49 246 P **Pdif** **00 01 24.8 +1.4**
comp=Z,5.0nm,0.8s,baz=88,slow=1.8,SNR=5.6
LBTB Lobatse 102.49 246 *e*Pdif **Pdif** **00 01 19.8 -3.6**
UBBA Unterbreizbach 102.53 325 *e*P **Pdif** **00 01 23.3 +0.5**
BOSA Boshof 102.76 242 PKKPbc PKKPbc 00 17 24.7 +1.0
comp=Z,2.7nm,1.0s,baz=236,slow=4.2,SNR=3.9
MOTA Moosalm 103.27 321 *i* Pdiff **Pdif** **00 01 26.6 +0.1**
comp=Z,4.6nm,0.9s,SNR=5.2
FUORN Ofenpass-Fuorn 104.08 321 *e*Pdif **Pdif** **00 01 29.4 -0.8**
NV01 Mina Array Sit 105.73 48 *e*Pdif **Pdif** **00 01 41.1 +3.4**
NV01 *e*PKiKP **PKiKP** **00 05 52.1 +1.6**
NV01 *e*PKKPbc **PKKPbc** **00 17 15.8 +0.6**
NV01 *e*PKKPab **PKKPab** **00 17 31.4 -0.6**
NVAR Mina Array Bea 105.73 48 Pdiff **Pdif** **00 01 41.1 +3.4**
comp=Z,0.3nm,0.5s,baz=289,slow=4.5,SNR=3.7
NVAR PKiKP **PKiKP** **00 05 52.1 +1.6**
comp=Z,0.6nm,0.6s,baz=280,slow=2.6,SNR=4.6
NVAR PKKPbc **PKKPbc** **00 17 15.8 +0.6**
comp=Z,1.8nm,0.7s,baz=136,slow=4.7,SNR=16
NVAR PKKPab **PKKPab** **00 17 31.4 -0.6**
comp=Z,1.2nm,0.7s,baz=122,slow=4.7,SNR=6.9
SNAA Sanae 106.70 195 P **Pdif** **00 01 40.5 -0.6**
SNAA Sanae 106.70 195 P **PP** **00 06 03.3 -3.4**
SNAA Sanae 106.70 195 Pdiff **Pdif** **00 01 43.9 +2.9**
comp=Z,0.3nm,0.6s,baz=97,slow=8.1,SNR=4.2
EKA Eskdalemuir Ar 107.03 333 PKKPbc PKKPbc 00 17 10.0 -1.5
comp=Z,0.4nm,0.4s,baz=230,slow=3.3,SNR=6.5
VNA1 Neumayer--Stat 108.71 194 P **PKiKP** **00 05 55.9 +1.2**
I19A Meeteetse 109.84 39 P **PKiKP** **00 05 58.5 +0.6**
baz=110
D22A Cohagen 109.98 36 P **PKiKP** **00 05 58.9 +1.0**
baz=110
TSUM Tsumeb 110.00 252 PKiKP **PKiKP** **00 05 59.4 +0.6**
comp=Z,1.1nm,0.8s,baz=196,slow=1.4,SNR=5.1
PD31 Pinedale Array 110.08 41 *e*PKiKP **PKiKP** **00 05 57.6 -0.8**
PD31 *e*PKKPbc **PKKPbc** **00 16 58.7 -3.1**
PD31 *e*PKKPab **PKKPab** **00 17 10.9 -1.8**
PDAR Pinedale Array 110.08 41 PKiKP **PKiKP** **00 05 57.6 -0.8**
comp=Z,0.5nm,0.8s,baz=318,slow=4.0,SNR=4.1
PDAR PKKPbc **PKKPbc** **00 16 58.7 -3.1**
comp=Z,0.7nm,0.8s,baz=96,slow=4.5,SNR=4.6
PDAR PKKPab **PKKPab** **00 17 10.9 -1.8**
comp=Z,3.7nm,0.9s,baz=104,slow=6.3,SNR=14

I20A Worland 110.43 39 P **PKiKP** **00 05 59.7 +0.7**
baz=110
J20A Shoshoni 110.75 40 P **PKiKP** **00 06 00.6 +1.0**
baz=111
E24A Baker 111.38 35 P **PKiKP** **00 06 00.2 -0.4**
baz=111
J22A Midwest 111.74 39 P **PKiKP** **00 06 01.5 +0.1**
baz=112
K22A Casper 112.09 40 P **PKiKP** **00 06 02.4 +0.2**
baz=112
O20A White River Ci 112.18 43 P **PKiKP** **00 06 03.0 +0.5**
baz=112
PV10 Paradox Valley 112.44 45 *e*PKiKP **PKiKP** **00 06 03.5 +0.4**
PV05 Paradox Valley 112.53 45 *e*PKiKP **PKiKP** **00 06 04.2 +0.9**
RSSD Black Hills 112.87 37 *e*PKiKP **PKiKP** **00 06 03.6 -0.1**
J24A Dixon Ranch, L 112.91 38 P **PKiKP** **00 06 04.3 +0.6**
baz=113
I25A Rochford 113.11 37 P **PKiKP** **00 06 04.3 +0.1**
baz=113
J25A Sunshine Ranch 113.41 38 P **PKiKP** **00 06 04.8 +0.2**
baz=113
G27A Dupree 113.41 35 P **PKiKP** **00 06 04.7 +0.2**
baz=113
H27A Howes 113.75 36 P **PKiKP** **00 06 05.3 +0.1**
baz=114
ANMO Albuquerque 115.84 47 *i* PKIKP **PKPdf** **00 06 08.6 -1.1**
ANMO pmax pmax
comp=Z,36nm,2.5s
ANMO Albuquerque 115.84 47 *e*PKPdf **PKPdf** **00 06 10.3 +0.7**
T25A Trinidad 116.25 44 P **PKPdf** **00 06 11.6 +1.2**
baz=116
T25A Trinidad 116.25 44 *e*PKPdf **PKPdf** **00 06 10.0 -0.4**
N28A Pribbeno Ranch 116.30 39 P **PKPdf** **00 06 10.6 +0.4**
baz=116
R26A Arlington 116.33 43 P **PKPdf** **00 06 10.6 +0.2**
baz=116
ESDC Sonseca Array 116.51 319 PKP **PKPdf** **00 06 11.7 +1.1**
comp=Z,0.5nm,0.6s,baz=29,slow=2.0,SNR=7.0
ESDC PKKPbc **PKKPbc** **00 16 40.5 +0.7**
comp=Z,1.1nm,0.8s,baz=255,slow=4.4,SNR=6.4
S26A Kim 116.66 43 P **PKPdf** **00 06 11.7 +0.7**
baz=116
T26A Comanche Natio 116.80 44 P **PKPdf** **00 06 12.5 +1.1**
baz=117
ECSD EROS Data Cent 117.43 34 P **PKPdf** **00 06 12.3 +0.1**
baz=117
ECSD EROS Data Cent 117.43 34 *e*PKPdf **PKPdf** **00 06 11.7 -0.5**
MVO Moncorvo 117.60 322 *e*PKP **PKPdf** **00 06 14.3 +1.6**
MVO Moncorvo 117.60 322 *e*PKP **PKPdf** **00 06 14.3 +1.6**
Q29A Oakley 117.65 41 P **PKPdf** **00 06 13.6 +0.7**
baz=118
U27A Thompson Grove 117.72 44 P **PKPdf** **00 06 13.8 +0.7**
baz=118
T28A Walsh 117.84 43 P **PKPdf** **00 06 13.8 +0.4**
baz=118
PGAV Gavieira, Arco 117.87 324 *e*PKP **PKPdf** **00 06 13.6 +0.4**
PGAV Gavieira, Arco 117.87 324 *e*PKP **PKPdf** **00 06 13.6 +0.4**
POLO Lamas de Olo 117.94 323 *e*PKP **PKPdf** **00 06 14.9 +1.5**
POLO Lamas de Olo 117.94 323 *e*PKP **PKPdf** **00 06 14.9 +1.5**
CBKS Cedar Bluff 118.50 40 P **PKPdf** **00 06 14.9 +0.4**
baz=118
PCBR Castelo Branco 118.65 321 *e*PKP **PKPdf** **00 06 16.2 +1.6**
PCBR Castelo Branco 118.65 321 *e*PKP **PKPdf** **00 06 16.2 +1.6**
PMRV Marv??o 118.84 321 *e*PKP **PKPdf** **00 06 16.4 +1.3**
PMRV Marv??o 118.84 321 *e*PKP **PKPdf** **00 06 16.4 +1.3**
MSTX Muleshoe 118.98 46 P **PKPdf** **00 06 16.1 +0.5**
baz=119
MSTX Muleshoe 118.98 46 *e*PKPdf **PKPdf** **00 06 14.0 -1.6**
SCHQ Schefferville 119.08 9 PKP **PKPdf** **00 06 15.2 +0.2**
comp=Z,11nm,0.7s,baz=357,slow=2.1,SNR=18
SCHQ Schefferville 119.08 9 *e*PKPdf **PKPdf** **00 06 15.0 0.0**
O33A Hebron 119.12 38 P **PKPdf** **00 06 15.9 +0.3**
baz=119
Q32A Meitler Ranch, 119.15 40 P **PKPdf** **00 06 16.1 +0.4**
baz=119
U30A WK&E Inc. Balk 119.15 43 P **PKPdf** **00 06 16.7 +0.9**
baz=119
PCAS Casmilo, Conde 119.16 322 *e*PKP **PKPdf** **00 06 16.9 +1.3**
PCAS Casmilo, Conde 119.16 322 *e*PKP **PKPdf** **00 06 16.9 +1.3**
PBAR Barrancos 119.34 319 *e*PKP **PKPdf** **00 06 17.2 +1.2**
PBAR Barrancos 119.34 319 *e*PKP **PKPdf** **00 06 17.2 +1.2**
PTOM Tomar 119.37 322 *e*PKP **PKPdf** **00 06 17.7 +1.7**
PTOM Tomar 119.37 322 *e*PKP **PKPdf** **00 06 17.7 +1.7**
R32A Long Quarter, 119.38 40 P **PKPdf** **00 06 16.7 +0.6**
baz=119
Y28A McKinney Farm, 119.39 46 P **PKPdf** **00 06 17.1 +0.7**
baz=119
P33A Williams Farm, 119.43 39 P **PKPdf** **00 06 16.5 +0.3**
baz=119
X29A Tulia 119.51 46 P **PKPdf** **00 06 17.4 +0.8**
baz=119
Y29A Porterfield Fa 119.83 46 P **PKPdf** **00 06 17.9 +0.7**
baz=120
128A Castleberry Fa 119.85 48 P **PKPdf** **00 06 17.8 +0.5**
baz=120
P34A Walnut Farm, R 119.90 38 P **PKPdf** **00 06 17.1 0.0**
baz=120
R33A Olander Ranch, 119.91 40 P **PKPdf** **00 06 17.3 +0.1**
baz=120
T32A Huddler Ranch, 119.95 41 P **PKPdf** **00 06 17.8 +0.5**
baz=120
X30A Coker Ranch, T 120.10 45 P **PKPdf** **00 06 18.5 +0.8**
baz=120
Z29A Hungry Hill Ra 120.11 47 P **PKPdf** **00 06 18.2 +0.5**
baz=120
Q34A Chapman 120.21 39 P **PKPdf** **00 06 18.0 +0.3**
baz=120
PVAQ Vaqueiros 120.22 319 *e*PKP **PKPdf** **00 06 19.3 +1.6**
PVAQ Vaqueiros 120.22 319 *e*PKP **PKPdf** **00 06 19.3 +1.6**
MESJ Messejana 120.29 320 *e*PKP **PKPdf** **00 06 19.4 +1.6**
MESJ Messejana 120.29 320 *e*PKP **PKPdf** **00 06 19.4 +1.6**
PCVE Castro Verde 120.30 319 *e*PKP **PKPdf** **00 06 19.5 +1.6**
PCVE Castro Verde 120.30 319 *e*PKP **PKPdf** **00 06 19.5 +1.6**
KSU1 Kansas State U 120.31 38 P **PKPdf** **00 06 18.1 +0.3**
baz=120
KSU1 Kansas State U 120.31 38 *e*PKPdf **PKPdf** **00 06 17.4 -0.4**
PNCL Nicolau / Gran 120.33 320 *e*PKP **PKPdf** **00 06 19.5 +1.6**
PNCL Nicolau / Gran 120.33 320 *e*PKP **PKPdf** **00 06 19.5 +1.6**
U32A Winter Ranch, 120.34 42 P **PKPdf** **00 06 19.1 +1.1**
baz=120
W31A Holland Ranch, 120.36 44 P **PKPdf** **00 06 19.2 +1.0**
baz=120
Y30A Stafford Cattl 120.38 46 P **PKPdf** **00 06 19.2 +1.0**
baz=120
T33A Patterson Ranc 120.45 41 P **PKPdf** **00 06 18.7 +0.5**
baz=120
LTX Lajitas 120.49 52 *e*PKPdf **PKPdf** **00 06 19.6 +1.0**
LTX *e*PKKPbc **PKKPbc** **00 16 24.8 -0.3**
TXAR Lajitas Array 120.49 52 PKP **PKPdf** **00 06 19.6 +1.0**
comp=Z,2.2nm,0.7s,baz=292,slow=0.4,SNR=14
TXAR PKKPbc **PKKPbc** **00 16 24.8 -0.3**
comp=Z,1.2nm,0.8s,baz=121,slow=6.0,SNR=4.3
Z30A Sanderson Ranc 120.51 46 P **PKPdf** **00 06 18.8 +0.3**
baz=120
MDT Midelt 120.54 313 PKP **PKPdf** **00 06 19.1 +0.5**
comp=Z,2.8nm,0.9s,baz=308,slow=2.8
O36A Bolckow 120.66 37 P **PKPdf** **00 06 19.0 +0.5**
baz=120
Y31A Rekieta Farm, 120.78 45 P **PKPdf** **00 06 19.5 +0.5**
baz=121
Q35A Mercer Eighty, 120.81 38 P **PKPdf** **00 06 19.0 +0.1**
baz=121
Z31A Sharp Cattle R 121.20 46 P **PKPdf** **00 06 20.3 +0.5**
baz=121
529A Stev Forest Ra 121.25 50 P **PKPdf** **00 06 20.5 +0.5**
baz=121
429A Davenport Ranc 121.26 49 P **PKPdf** **00 06 20.5 +0.5**
baz=121
S35A Otter Creek Ra 121.34 40 P **PKPdf** **00 06 20.5 +0.6**
baz=121
131A Roby 121.36 47 P **PKPdf** **00 06 20.8 +0.7**
baz=121
JFWS Jewell Farm 121.42 31 *e*PKPdf **PKPdf** **00 06 19.3 -0.6**
R36A Gordon, Harris 121.46 39 P **PKPdf** **00 06 20.2 0.0**
baz=121
V34A Guthrie 121.64 42 P **PKPdf** **00 06 21.3 +0.8**
baz=122
V34A Guthrie 121.64 42 *e*PKPdf **PKPdf** **00 06 19.7 -0.8**
T35A Sooner Cattle 121.67 40 P **PKPdf** **00 06 21.1 +0.5**
baz=122
430A Baggett Ranch, 121.68 49 P **PKPdf** **00 06 21.5 +0.7**
baz=122
Z32A Haskell 121.68 46 P **PKPdf** **00 06 21.4 +0.7**
baz=122
S36A Lake Cedric, C 121.78 39 P **PKPdf** **00 06 20.8 +0.1**
baz=122

231A Bronte 121.79 47 P **PKPdf** **00 06 21.1 +0.2**
baz=122
U35A Pawnee 121.85 41 P **PKPdf** **00 06 21.5 +0.5**
baz=122
R37A Teagarden Farm 121.89 38 P **PKPdf** **00 06 20.7 -0.3**
baz=122
530A J-C Ranch, Com 121.91 50 P **PKPdf** **00 06 22.0 +0.7**
baz=122
ABTX Abilene, Hawle 121.92 46 P **PKPdf** **00 06 21.9 +0.7**
baz=122
T36A Boggs Farm, Ca 122.00 40 P **PKPdf** **00 06 21.8 +0.6**
baz=122
V35A Meyer Ranch, C 122.14 42 P **PKPdf** **00 06 22.0 +0.5**
baz=122
431A Sonora 122.20 49 P **PKPdf** **00 06 22.4 +0.6**
baz=122
S37A Fort Scott 122.23 39 P **PKPdf** **00 06 21.8 +0.2**
baz=122
232A Coleman 122.30 47 P **PKPdf** **00 06 22.5 +0.6**
baz=122
W35A Tecumseh 122.46 42 P **PKPdf** **00 06 22.7 +0.6**
baz=122
332A Millersview 122.49 48 P **PKPdf** **00 06 22.8 +0.5**
baz=122
531A Rocksprings 122.50 49 P **PKPdf** **00 06 23.2 +0.8**
baz=122
Y34A Reagan Ranch, 122.54 44 P **PKPdf** **00 06 22.9 +0.6**
baz=122
T37A Cheneyville 18 122.57 39 P **PKPdf** **00 06 22.4 +0.1**
baz=122
TOA0 Torodi Ar. Sit 122.69 289 *e*PKIKP **PKPdf** **00 06 22.8 -0.2**
TOA0 Torodi Ar. Sit 122.69 289 *e*PKPdf **PKPdf** **00 06 22.6 -0.5**
TOA0 *e*PKKPbc **PKKPab** **00 16 16.9 -0.1**
TORD Torodi Ar. Bea 122.69 289 PKP **PKPdf** **00 06 22.6 -0.5**
comp=Z,8.5nm,0.6s,baz=50,slow=2.0,SNR=77
TORD PKKPbc **PKKPab** **00 16 16.9 -0.1**
comp=Z,3.5nm,0.8s,baz=275,slow=2.4,SNR=18
432A Menard 122.71 48 P **PKPdf** **00 06 22.9 +0.1**
baz=123
V36A Jenks 122.71 41 P **PKPdf** **00 06 23.2 +0.6**
baz=123
X35A Drake 122.83 43 P **PKPdf** **00 06 23.4 +0.6**
baz=123
631A Perdido Creek 122.84 50 P **PKPdf** **00 06 23.5 +0.5**
baz=123
U37A Salina 122.88 40 P **PKPdf** **00 06 22.9 +0.1**
baz=123
JCT Junction City 122.90 49 P **PKPdf** **00 06 23.9 +0.8**
baz=123
JCT Junction City 122.90 49 *e*PKPdf **PKPdf** **00 06 22.8 -0.4**
W36A Wetumka 122.90 42 P **PKPdf** **00 06 23.5 +0.6**
baz=123
532A Rocksprings 123.00 49 P **PKPdf** **00 06 23.8 +0.5**
baz=123
134A White-Moore Ra 123.07 45 P **PKPdf** **00 06 24.2 +0.8**
baz=123
333A Richland Sprin 123.08 47 P **PKPdf** **00 06 23.8 +0.4**
baz=123
X36A Centrahoma 123.15 43 P **PKPdf** **00 06 23.9 +0.5**
baz=123
V37A Hulbert 123.18 41 P **PKPdf** **00 06 23.4 0.0**
baz=123
433A Art 123.29 48 P **PKPdf** **00 06 23.7 -0.1**
baz=123
234A Clairette 123.33 46 P **PKPdf** **00 06 24.2 +0.3**
baz=123
632A Uvalde 123.40 50 P **PKPdf** **00 06 24.6 +0.5**
baz=123
W37A Quinton 123.44 41 P **PKPdf** **00 06 24.6 +0.6**
baz=123
Y36A Durant 123.58 43 P **PKPdf** **00 06 24.3 0.0**
baz=124
HDIL Hopedale 123.59 33 P **PKPdf** **00 06 24.1 -0.1**
baz=123
HDIL Hopedale 123.59 33 *e*PKPdf **PKPdf** **00 06 23.2 -1.0**
334A Lometa 123.61 47 P **PKPdf** **00 06 24.9 +0.4**
baz=124
732A Laxson Ranch, 123.64 50 P **PKPdf** **00 06 25.4 +0.9**
baz=124
V38A Canehill 123.66 40 P **PKPdf** **00 06 24.4 0.0**
baz=124
X37A Clayton 123.80 42 P **PKPdf** **00 06 25.4 +0.7**
baz=124
WHTX Lake Whitney, 123.83 46 P **PKPdf** **00 06 26.0 +1.2**
baz=124
Z36A Blue Ridge 123.83 44 P **PKPdf** **00 06 25.7 +0.9**
baz=124
832A Faith Ranch, C 123.85 51 P **PKPdf** **00 06 25.9 +0.9**
baz=124
434A Burnet 123.86 47 P **PKPdf** **00 06 25.0 0.0**
baz=124
W38A Poteau 124.07 41 P **PKPdf** **00 06 25.9 +0.7**
baz=124
X38A Whitesboro 124.11 42 P **PKPdf** **00 06 25.9 +0.6**
baz=124
534A Blanco 124.12 48 P **PKPdf** **00 06 26.1 +0.6**
baz=124
733A Divot King Ran 124.16 50 P **PKPdf** **00 06 27.0 +1.5**
baz=124
335A Moody 124.23 46 P **PKPdf** **00 06 26.3 +0.7**
baz=124
833A Chaparral WMA, 124.28 51 P **PKPdf** **00 06 26.7 +0.9**
baz=124
137A Heron Place, G 124.69 44 P **PKPdf** **00 06 28.1 +1.7**
baz=125
933A Laredo 124.71 51 P **PKPdf** **00 06 28.0 +1.4**
baz=125
535A Dale 124.79 48 P **PKPdf** **00 06 28.1 +1.4**
baz=125
SFIN Lafayette 124.89 31 P **PKPdf** **00 06 27.2 +0.6**
baz=125
SFIN Lafayette 124.89 31 *e*PKPdf **PKPdf** **00 06 26.2 -0.4**
MIAR Mount Ida 125.01 41 P **PKPdf** **00 06 27.8 +0.8**
baz=125
MIAR Mount Ida 125.01 41 *e*PKPdf **PKPdf** **00 06 27.2 +0.2**
834A Tilden 125.02 50 P **PKPdf** **00 06 28.2 +1.0**
baz=125
Y39A Lockesburg 125.03 42 P **PKPdf** **00 06 28.4 +1.3**
baz=125
536A Bastrop 125.14 47 P **PKPdf** **00 06 29.1 +1.8**
baz=125
934A Benavides 125.30 51 P **PKPdf** **00 06 29.3 +1.5**
baz=125
034A Hebbronville 125.44 52 P **PKPdf** **00 06 30.1 +2.1**
baz=125
835A Beeville 125.49 50 P **PKPdf** **00 06 30.4 +2.3**
baz=125
OLIL Olney 125.54 34 *e*PKPdf **PKPdf** **00 06 26.6 -1.3**
PBMO Poplar Bluff 125.55 37 *e*PKPdf **PKPdf** **00 06 26.7 -1.3**
537A Green Hill Far 125.68 47 P **PKPdf** **00 06 30.4 +1.9**
baz=126
736A Circle Diamond 125.72 49 P **PKPdf** **00 06 30.7 +2.2**
baz=126
035A Encino 125.95 51 P **PKPdf** **00 06 31.2 +2.2**
baz=126
BLO Bloomington 126.07 32 *e*PKPdf **PKPdf** **00 06 27.2 -1.7**
USIN University of 126.32 34 *e*PKPdf **PKPdf** **00 06 29.5 +0.1**
PQI Presque Isle 126.66 13 *e*PKPdf **PKPdf** **00 06 29.5 -0.3**
PTN Potsdam (NY) 126.66 19 *e*PKPdf **PKPdf** **00 06 29.0 -0.8**
LONY Lake Ozonia 126.75 19 *e*PKPdf **PKPdf** **00 06 30.1 0.0**
UTMT University of 126.77 36 *e*PKPdf **PKPdf** **00 06 31.3 +1.0**
WCI Wyandotte Cave 126.88 33 *e*PKPdf **PKPdf** **00 06 29.6 -0.9**
ACSO Alum Creek Sta 127.05 29 *e*PKPdf **PKPdf** **00 06 30.4 -0.4**
NCB Newcomb 127.44 19 *e*PKPdf **PKPdf** **00 06 31.3 -0.2**
PKME Peaks-Kenny Pk 127.68 14 *e*PKPdf **PKPdf** **00 06 31.9 +0.1**
MDV Middlebury 127.75 18 *e*PKPdf **PKPdf** **00 06 32.2 +0.2**
ACCN Adirondack Com 128.15 19 *e*PKPdf **PKPdf** **00 06 32.7 -0.1**
WVL Waterville 128.24 15 *e*PKPdf **PKPdf** **00 06 32.8 0.0**
HNH Hanover 128.29 18 *e*PKPdf **PKPdf** **00 06 33.6 +0.6**
EMMW East Machias 128.64 13 *e*PKPdf **PKPdf** **00 06 33.3 -0.3**
TRY Troy 128.73 19 *e*PKPdf **PKPdf** **00 06 34.4 +0.6**
USHA Ushuaia 128.98 169 PKP **PKPdf** **00 06 34.8 +0.9**
comp=Z,10nm,0.9s,baz=170,slow=5.4,SNR=5.3
SSPA Standing Stone 128.99 24 *e*PKPdf **PKPdf** **00 06 34.2 -0.2**
KSPA Keystone Colle 129.03 22 *e*PKPdf **PKPdf** **00 06 34.0 -0.5**
TZTN Tazewell 129.59 32 *e*PKPdf **PKPdf** **00 06 34.3 -1.5**
HRV Adam Dziewonsk 129.61 18 *e*PKPdf **PKPdf** **00 06 34.9 -0.6**
ODNJ Ogdensburg 129.87 21 *e*PKPdf **PKPdf** **00 06 35.5 -0.5**
CPCT Cooper Cave 129.88 34 *e*PKPdf **PKPdf** **00 06 36.5 +0.2**
TKL Tuckaleechee C 130.14 33 *e*PKPdf **PKPdf** **00 06 36.8 0.0**
MVL Millersville 130.15 23 *e*PKPdf **PKPdf** **00 06 36.7 +0.1**
LRAL Lakeview Retre 130.15 38 *e*PKPdf **PKPdf** **00 06 36.7 -0.1**
KIC Kosan Boka 130.46 283 *e*PKIKP **PKPdf** **00 06 37.9 -0.1**
comp=Z,22nm,0.6s
DBIC Dimbokro 130.50 283 PKP **PKPdf** **00 06 38.3 +0.3**
comp=Z,6.0nm,0.6s,baz=63,slow=2.5,SNR=13

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro	130.50	283	ePKPdf	PKPdf	00 06 38.1	+0.1
DBIC				eSKPbc	SKPab	00 09 54.6	-1.6
DBIC				eSKPab	SKPbc	00 09 54.8	-1.4
BLA	Blacksburg	130.66	29	ePKPdf	PKPdf	00 06 38.9	+1.1
TIC	Toumodi	130.67	283	ePKIKP	PKPdf	00 06 38.2	-0.2
LIC	Lamto	130.76	283	ePKIKP	PKPdf	00 06 38.3	-0.2
	comp=Z,119nm,2.1s						
CBN	Corbin Frederi	131.24	26	ePKPdf	PKPdf	00 06 39.1	+0.4
CBN				eSKPbc	SKPab	00 09 59.0	+0.4
JSRW	J. Sargeant Re	131.44	26	ePKPdf	PKPdf	00 06 39.0	-0.2
JSRW				eSKPbc	SKPab	00 10 01.5	+2.0
KMSC	Kings Mountain	131.82	31	ePKPdf	PKPdf	00 06 39.5	-0.5
KMSC				eSKPbc	SKPab	00 10 02.7	+1.5
GOGA	Godfrey	131.97	35	ePKPdf	PKPdf	00 06 41.1	+0.8
JTS	JuntasAbangare	144.66	64	ePKPdf	PKPbc	00 07 03.2	+0.2
TRQA	Tornquist	146.30	167	ePKPdf	PKPbc	00 07 06.9	-0.5
WSYH	La Gonave Hosp	149.13	39	ePKPbc	PKPbc	00 07 14.7	-0.8
BCIP	Isla Barro Col	149.69	62	ePKPbc	PKPbc	00 07 16.6	-0.4
SDDR	Presa de Saban	149.97	36	ePKPbc	PKPbc	00 07 17.9	+0.2
CFAA	Coronel Fontan	150.11	153	PKP	PKPdf	00 07 13.4	+0.8
	comp=Z,1.7nm,0.5s,baz=237,slow=4.5,SNR=6.6						
CFAA				PKPbc	PKPbc	00 07 17.9	+0.2
	comp=Z,4.8nm,0.7s,baz=230,slow=2.8,SNR=50						
SMN1	Samana, DR	150.95	33	ePKPbc	PKPbc	00 07 20.5	+0.5
LCO	Las Campanas	151.00	147	ePKPbc	PKPbc	00 07 21.2	+1.1
PCDR	Punta Cana, DR	151.98	32	ePKPdf	PKPdf	00 07 16.2	+0.4
CELP	Cerrillos	153.27	30	ePKPdf	PKPdf	00 07 16.6	-1.1
OBIP	Obispado Ponce	153.29	30	ePKPbc	PKPbc	00 07 24.2	-1.0
SJG	San Juan	153.45	29	ePKPdf	PKPdf	00 07 14.8	-3.2
ICMP	Isla Caja de M	153.46	30	ePKPdf	PKPdf	00 07 14.9	-3.0
STVI	Saint Thomas	153.79	26	ePKPbc	PKPbc	00 07 25.8	-0.6
OTAV	Otavalo	154.03	79	ePKPdf	PKPdf	00 07 18.3	-1.2
ROSC	El Rosal	156.48	65	PKP	PKPdf	00 07 23.5	+0.8
	comp=Z,1.9nm,0.3s,baz=265,slow=3.8,SNR=6.0						
ROSC	El Rosal	156.48	65	ePKPdf	PKPdf	00 07 19.8	-3.0
SDV	Santo Domingo	157.54	52	ePKPdf	PKPdf	00 07 23.3	-0.6
CPUP	Villa Florida	158.60	169	PKP	PKPdf	00 07 26.2	+1.7
	comp=Z,5.2nm,1.1s,baz=1.0,slow=2.2,SNR=5.3						
CPUP				PKPab	PKPab	00 08 00.6	+1.0
	comp=Z,6.2nm,0.7s,baz=127,slow=2.8,SNR=3.8						
CPUP	Villa Florida	158.60	169	ePKPdf	PKPdf	00 07 24.7	+0.2
CPUP				ePKPab	PKPab	00 08 00.4	+0.8
LPAZ	La Paz	161.53	128	PKP	PKPdf	00 07 30.6	+1.8
	comp=Z,9.3nm,1.0s,baz=150,slow=0.7,SNR=14						
LPAZ				PKPab	PKPab	00 08 15.7	+2.1
	comp=Z,21nm,0.9s,baz=206,slow=2.8,SNR=19						
LPAZ	La Paz	161.53	128	ePKPdf	PKPdf	00 07 28.1	-0.8
LPAZ				ePKPab	PKPab	00 08 15.7	+2.1
BDFB	Brasilia	168.53	205	PKPab	PKPab	00 08 44.5	+0.9
	comp=Z,6.5nm,0.7s,baz=168,slow=3.1,SNR=8.8						
SAML	Samuel	169.25	111	ePKPdf	PKPdf	00 07 34.8	+0.2
PTGA	Pitinga	171.76	58	ePKPdf	PKPdf	00 07 33.4	-2.6

*ISCJB **27** 23:51:58.9±0.5, 57°.44S±0°.07×66°.2W±0°.2, h10km, mb4.2/17, Error ellipse: s-maj=19.3km s-min=7.7km az=157.5*

*IDC **27** 23:51:58.5±0.9, 57°.47S×66°.20W, h0km, mb4.3/13, mb1 4.3/14, mb1mx4.2/29, mbtmp4.2/14, ML3.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/20, Error ellipse: s-maj=33.9km s-min=15.6km az=66.0*

*NEIC **27** 23:52:00.3±0.5, 57°.49S×66°.04W, h10km, mb4.5/10, Error ellipse: s-maj=19.5km s-min=9.3km az=74.0*

ISC 27 23:52:00.3±0.6**, 57°.44S**±0°.08×**66°.2W**±0°.2**, h10**km**, n33, σ1§23**/31**, mb4.3**/17**, Drake Passage**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
USHA	Ushuaia	2.91	333	Pn	Pn	23 52 45.3	-1.3
	5.0nm,0.3s,baz=144,slow=14,SNR=85						
USHA				Sn	Sn	23 53 19.3	-2.2
	43nm,0.3s,baz=296,slow=13,SNR=12						
USHA				LR	LR	23 53 50.5	
	comp=Z,446nm,19.2s,baz=112,slow=38						
TRQA	Tornquist	19.59	10	ePn	Pn	23 56 31.0	+1.3
	27nm,1.2s						
CFAA	Coronel Fontan	25.87	356	P	P	23 57 33.2	+1.2
	2.2nm,1.2s,baz=180,slow=8.5,SNR=8.5						
SNAA	Sanae	28.98	144	P	P	23 58 00.7	+1.1
	1.7nm,0.7s,baz=273,slow=7.9,SNR=20						
SNAA	Sanae	28.98	144	eP	P	23 57 56.6	-2.9
	3.1nm,0.6s						
QSPA	South Pole Qui	32.80	180	P	P	23 58 32.7	-0.8
	7.5nm,0.8s,baz=156,slow=3.3,SNR=30						
QSPA	South Pole Qui	32.80	180	eP	P	23 58 32.7	-0.8
	6.6nm,0.9s						
LPAZ	La Paz	41.11	357	P	P	23 59 44.6	-0.3
	1.5nm,0.7s,baz=189,slow=5.3,SNR=6.3						
LPAZ	La Paz	41.11	357	eP	P	23 59 45.6	+0.6
	25nm,1.8s						
SBA	Scott Base	41.15	195	eP	P	23 59 45.8	+1.8
	3.0nm,0.6s						
SIV	San Ignacio	41.55	7	P	P	23 59 47.8	-0.1
	1.7nm,0.7s,baz=172,slow=5.3,SNR=5.1						
SAML	Samuel	48.43	4	eP	P	00 00 43.1	+0.5
	4.1nm,0.8s						
CASY	Casey	56.57	178	eP	P	00 01 42.7	+0.3
	5.9nm,1.0s						
OTAV	Otavalo	58.34	346	eP	P	00 01 58.9	+2.9
	5.9nm,1.3s						
BOSA	Boshof	67.10	107	P	P	00 02 53.0	-1.0
	2.7nm,0.8s,baz=258,slow=8.4,SNR=3.8						
BOSA	Boshof	67.10	107	eP	P	00 02 53.6	-0.4
	3.6nm,0.7s						
LBTB	Lobatse	70.20	105	P	P	00 03 13.2	-0.1
	2.7nm,0.8s,baz=224,slow=5.8,SNR=8.8						
TSUM	Tsumeb	70.68	95	P	P	00 03 16.4	+0.1
	1.6nm,0.9s,baz=110,slow=4.1,SNR=3.8						
MATP	Matopo	75.48	105	P	P	00 03 44.6	-0.1
	4.0nm,0.7s,baz=231,slow=9.3,SNR=5.3						
LSZ	Lusaka	79.58	102	P	P	00 04 08.0	+0.3
	2.7nm,0.8s,baz=311,slow=19,SNR=3.8						
DBIC	Dimbokro	80.74	62	P	P	00 04 14.0	+0.3
	3.5nm,0.7s,baz=163,slow=4.6,SNR=10						
TORD	Torodi Ar. Bea	89.51	64	P	P	00 04 57.9	+0.3
	0.8nm,0.6s,baz=206,slow=5.1,SNR=10						
TXAR	Lajitas Array	92.03	328	P	P	00 05 09.4	+0.4
	0.7nm,0.8s,baz=178,slow=6.3,SNR=3.4						
GERES	GERESS Array B	124.65	52	PKP	PKPdf	00 10 57.2	-1.8
	0.6nm,0.7s,baz=225,slow=1.5,SNR=5.7						
H11N3	WAKE ISLAND Hy	126.04	249	T	T	02 29 39.8	
	baz=146						
H11N1	WAKE ISLAND Hy	126.04	249	T	T	02 29 36.2	
	baz=146						
H11N2	WAKE ISLAND Hy	126.05	249	T	T	02 29 41.3	
	baz=146						
ILAR	Eielson Array	136.28	322	PKP	PKPdf	00 11 20.0	-0.4
	0.4nm,0.7s,baz=172,slow=1.7,SNR=7.1						
ABKAR	Akbulak array	147.59	81	ePKPdf	PKPdf	00 11 40.2	-0.8
KKAR	Karatay Array	149.41	99	ePKPbc	PKPbc	00 11 48.1	-0.5
EKS2	Erkin-Say	150.83	103	ePKPbc	PKPbc	00 11 52.5	+0.3
KURBB	Kurchatov Arra	158.36	93	PKPab	PKPab	00 12 30.1	-1.1
	1.0nm,0.6s,baz=238,slow=5.5,SNR=7.6						
KURK	Kurchatov	158.46	93	PKPab	PKPab	00 12 30.1	-1.5

GUC 27 23:59:48.5±0.8**, 35°.26S**×**72°.56W, h17**km±11km**, ML4.3, 1C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TALC	Talca	0.77	100	⇓iP	Pg	00 00 03.6	0.0
TALC				iS	Sn	00 00 15.7	-0.1
LNCH	Linares	0.98	127	⇑iP	Pb	00 00 07.2	+0.2
LNCH				iS	Sb	00 00 19.9	+0.3
NICH	Los Niches	1.12	77	⇓iP	Pb	00 00 09.6	+0.1
NICH				iS	Sg	00 00 25.2	+0.3
LNV	Longovilo	1.61	36	eP	Pb	00 00 17.5	-0.4
LNV				iS	Sg	00 00 39.9	-0.6
CLCH	Cerro Calan	2.50	43	eP	Pb	00 00 31.2	-2.0
CLCH				eS	Sb	00 01 04.0	+0.2
CLCH				AML	AML	00 01 12.1	
	comp=N,2μm,0.5s						
PEL	Peldehue	2.62	37	eP	Pb	00 00 33.4	-1.8
PEL				AML	AML	00 01 15.8	
	comp=N,1μm,0.5s						

*CSEM **28** 00:05:45.0, 42°.61N×12°.71E, h6km, MD1.7/3*

ROM 28 00:05:45.0±0.1**, 42°.61N**×**12°.71E, h6**km±2km**, Md1.7**/3**, Ml1.0**/2**, Error ellipse: s-maj=2.1km s-min=1.3km az=5.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CESX	Cesi	0.09	268	Pg	Pg	00 05 47.4	+0.3
CESX				Sg	Sg	00 05 48.9	+0.4
	99nm,0.4s						
CESX	Cesi	0.09	268	Pg	Pg	00 05 47.4	+0.3
CESX				Sg	Sg	00 05 48.9	+0.4
	99nm,0.4s						
MNS	Montasola	0.23	184	Pg	Pg	00 05 50.3	+0.7
MNS				Sg	Sg	00 05 53.8	+1.1
	17nm,0.6s						
MNS	Montasola	0.23	184	Pg	Pg	00 05 50.3	+0.7
MNS				Sg	Sg	00 05 53.8	+1.1
	17nm,0.6s						
LNSS	Leonessa	0.25	92	Pg	Pg	00 05 50.8	+0.8
LNSS				Sg	Sg	00 05 55.1	+1.6
LNSS	Leonessa	0.25	92	Pg	Pg	00 05 50.8	+0.8
LNSS				Sg	Sg	00 05 55.1	+1.6
CESI	CESI - Serrava	0.42	21	Pg	Pb	00 05 54.1	-0.8
CESI				Sg	Sb	00 06 00.9	-0.7
CESI	CESI - Serrava	0.42	21	Pg	Pb	00 05 54.1	-0.8
CESI				Sg	Sb	00 06 00.9	-0.7
FDMO	Fiordimonte	0.51	34	Pg	Pg	00 05 55.2	+0.3
FDMO				Sg	Sb	00 06 03.3	-0.8
FDMO	Fiordimonte	0.51	34	Pg	Pg	00 05 55.2	+0.3
FDMO				Sg	Sb	00 06 03.3	-0.8
MGAB	Montegabbione	0.53	305	Pg	Pb	00 05 56.1	-0.7
MGAB				Sg	Sb	00 06 04.9	+0.2
MGAB	Montegabbione	0.53	305	Pg	Pb	00 05 56.1	-0.7
MGAB				Sg	Sb	00 06 04.9	+0.2

*IDC **28** 00:18:04.1±0.5, 18°.28S×168°.24E, h0km, mb4.7/19, mb1 4.8/20, mb1mx4.7/23, mbtmp4.7/20, ML3.7/1, MS4.0/8, Ms1 3.9/8, ms1mx3.6/29, Error ellipse: s-maj=18.2km s-min=13.4km az=97.0*

*ISCJB **28** 00:18:07.3±0.2, 18°.41S±0°.04×168°.20E±0°.05, h33km, mb4.9/53, MS4.0/10, Error ellipse: s-maj=7.2km s-min=4.8km az=18.5*

*NOU **28** 00:18:08.1±1.3, 18°.65S×168°.65E, h30km, MD3.9, MS6.0*

*BJI **28** 00:18:12.4, 17°.80S×168°.21E, h58km, mb4.8/35, mB5.0/26, Ms4.7/11, Ms7 4.6/11*

*NEIC **28** 00:18:12.1±2.0, 18°.34S×168°.14E, h62km±5km, mb4.9/38, Error ellipse: s-maj=16.8km s-min=14.1km az=99.0*

*MOS **28** 00:18:14.2±1.5, 18°.12S×168°.00E, h79km, mb5.0/21, MS4.1/5, Error ellipse: s-maj=12.6km s-min=10.6km az=10.7*

ISC 28 00:18:09.8±1.1**, 18°.42S**±0°.06×**168°.17E**±0°.08**, h41**km±9km**, n241, σ1§40**/228**, mb4.9**/53**, MS4.0**/10**, 16C-2D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	2.50	200	eP	Pn	00 18 44.7	-3.4
LIFNC				eS	Sn	00 19 12.8	-4.5
LIFNC				AMP		00 21 32.2	
	comp=Z,2890μm,26.4s						
DZM	Mont Dzumac	3.98	204	Pn	Pn	00 19 07.4	-1.0
	comp=Z,4.8nm,0.3s,baz=90,slow=24,SNR=46						
DZM				Sn	Sn	00 19 51.8	-2.0
	comp=Z,23nm,0.3s,baz=322,slow=19,SNR=7.3						
DZM	Mont Dzumac	3.98	204	eP	Pn	00 19 07.1	-1.3
DZM				AMP		00 19 58.7	
	comp=Z,2μm,6.5s						
NOUC	Port Laguerre	4.06	205	eP	Pn	00 19 07.5	-2.0
NOUC				eS	Sn	00 19 52.1	-3.7
NOUC				AMP		00 20 07.0	
	comp=Z,82nm,7.5s						
MSVF	Nonsavu	9.42	87	eP	Pn	00 20 30.8	+7.6
MSVF	Nonsavu	9.42	87	ePn	Pn	00 20 27.0	+3.8
HNR	Honiara	11.98	317	ePn	Pn	00 20 56.9	-1.1
EIDS	Eidsvold	17.29	243	ePn	P	00 22 09.3	0.0
	comp=Z,36nm,1.3s						
OUZ	Omahuta	17.41	165	ePn	P	00 22 11.6	+1.0
	comp=Z,30nm,1.1s						
ARMA	Armidale	19.19	228	eP	Pn	00 22 31.2	-0.3
	comp=Z,121nm,1.8s						
CTA	Charters Tower	20.75	262	P	P	00 22 48.5	+1.2
	comp=Z,21nm,0.8s,baz=96,slow=10,SNR=18						
CTA				LR	LR	00 30 12.8	
	comp=Z,846nm,19.6s,baz=76,slow=35						
CTA	Charters Tower	20.75	262	P	P	00 22 48.5	+1.2
CTA				pmax	pmax		
	comp=Z,21nm,0.9s						
CTA				MLR	MLR		
	comp=Z,846nm,19.6s						
CTAO	Charters Tower	20.75	262	eP	P	00 22 48.2	+0.9
	comp=Z,45nm,1.0s						
URZ	Urewera	21.25	160	P	P	00 22 54.0	+1.5
	comp=Z,19nm,0.8s,baz=338,slow=11,SNR=12						
URZ	Urewera	21.25	160	eP	P	00 22 54.0	+1.5
URZ				eP	P	00 22 54.7	+2.2
BKZ	Black Stump Fm	21.90	162	eP	P	00 23 02.0	+2.5
	comp=Z,52nm,1.1s						
PMG	Port Moresby	22.25	291	eP	P	00 23 05.3	+1.8
PMG				pmax	pmax		
	comp=Z,126nm,1.0s						
KHZ	Kahutara	24.35	170	eP	P	00 23 24.9	+1.0
	comp=Z,47nm,1.1s						
RPZ	Rata Peaks	25.34	175	P	P	00 23 34.8	+1.9
	comp=Z,24nm,0.8s,baz=142,slow=2.4,SNR=9.4						
RPZ	Rata Peaks	25.34	175	eP	P	00 23 34.3	+1.5
	comp=Z,33nm,0.9s						
RPZ				eP	P	00 23 34.8	+1.9
STKA	Stephens Creek	27.44	236	P	P	00 23 53.9	+1.9
	comp=Z,9.7nm,0.8s,baz=66,slow=8.8,SNR=13						
STKA				PcP	PcP	00 27 10.6	+0.5
	comp=Z,6.3nm,0.9s,baz=85,slow=8.4,SNR=4.0						
STKA				LR	LR	00 34 15.3	
	comp=Z,264nm,21.2s,baz=71,slow=35						
STKA	Stephens Creek	27.44	236	P	P	00 23 53.9	+1.9
STKA						00 27 10.6	
STKA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
STKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
STKA				MLR	MLR		
	comp=Z,264nm,21.2s						
STKA	Stephens Creek	27.44	236	eP	P	00 23 53.9	+1.9
	comp=Z,7.7nm,1.1s						
STKA				ePcP	PcP	00 27 09.9	-0.1
WRAB	Tennant Creek	31.95	262	eP	P	00 24 36.1	+4.0
WRAB				pmax	pmax		
	comp=Z,19nm,1.2s						
WRA	Warramunga Arr	31.96	262	P	P	00 24 31.4	-0.8
	comp=Z,2.3nm,0.8s,baz=93,slow=8.7,SNR=11						
WRA				PcP	PcP	00 27 22.3	+0.4
	comp=Z,2.9nm,0.9s,baz=99,slow=2.4,SNR=7.5						
WRA				LR	LR	00 36 33.3	
	comp=Z,420nm,21.4s,baz=85,slow=35						
WRA	Warramunga Arr	31.96	262	P	P	00 24 31.4	-0.8
WRA						00 27 22.3	
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA				MLR	MLR		
	comp=Z,420nm,21.4s						
AS12	Alice Springs	32.35	255	eP	P	00 24 35.3	-0.3
AS12				ePcP	PcP	00 27 22.9	0.0
ASAR	Alice Springs	32.35	255	P	P	00 24 35.3	-0.3
	comp=Z,10nm,0.5s,baz=84,slow=8.8,SNR=56						
ASAR				PcP	PcP	00 27 22.9	0.0
	comp=Z,1.7nm,0.9s,baz=94,slow=3.7,SNR=4.5						
ASAR	Alice Springs	32.35	255	P	P	00 24 35.3	-0.3
ASAR						00 27 22.9	
ASAR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FORT	Forrest	38.29	243	eP	P	00 25 27.4	+0.9
	comp=Z,61nm,0.7s						
GUMO	Guam	39.24	323	LR	LR	00 41 06.3	
	comp=Z,168nm,18.9s,baz=144,slow=35						
TBI	Tubuai	39.79	105	eLQ	LQ	00 35 03.1	
	comp=Z,367nm,27.5s						
TBI				eLR	LR	00 36 44.1	
	comp=Z,312nm,25.8s						
PPT2	Papeete2	40.13	96	eLQ	LQ	00 35 14.2	
	comp=Z,567nm,26.0s						
PPT2				eLR	LR	00 36 53.6	
	comp=Z,529nm,24.5s						
PPT	Papeete	40.13	96	LR	LR	00 38 35.3	
	comp=Z,235nm,20.8s,baz=291,slow=31						
SIJI	Sorong	40.20	292	P	P	00 25 43.3	+0.6
	comp=Z,8.1nm,0.7s,baz=194,slow=9.7,SNR=3.6						
NWAO	Narrogin (SRO)	47.69	242	P	P	00 26 43.2	+0.7
	comp=Z,19nm,0.7s,baz=150,slow=3.9,SNR=12						
NWAO	Narrogin (SRO)	47.69	242	P	P	00 26 43.3	+0.7
NWAO				pmax	pmax		
	comp=Z,19nm,0.7s						
NWAO	Narrogin (SRO)	47.69	242	eP	P	00 26 42.1	-0.5
JCJ	Chichijima	51.79	330	LR	LR	00 47 46.7	
	comp=Z,130nm,19.3s,baz=158,slow=34						
VNDA	Vanda	59.21	182	P	P	00 28 07.5	+1.1
	comp=Z,0.6nm,0.5s,baz=353,slow=7.7,SNR=12						
VNDA				LR	LR	00 50 06.6	
	comp=Z,48nm,20.7s,baz=22,slow=32						
VNDA	Vanda	59.21	182	eP	P	00 28 07.3	+0.9
	comp=Z,18nm,2.0s						
SBA	Scott Base	59.47	180	eP	P	00 28 10.0	+1.9
	comp=Z,15nm,1.2s						
MJAR	Matsushiro Arr	61.56	333	P	P	00 28 22.0	-1.0
	comp=Z,7.4nm,1.0s,baz=168,slow=6.5,SNR=13						
MJAR	Matsushiro Arr	61.56	333	P	P	00 28 22.0	-1.0
MJAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MAJO	Matsushiro	61.56	333	eP	P	00 28 21.9	-1.1
	comp=Z,12nm,1.1s						
ASAJ	Asahikawa	66.49	340	eP	P	00 28 54.9	-0.3
	comp=Z,78nm,2.2s						
KSRS	Korea Array	67.26	326	P	P	00 29 00.4	+0.2
	comp=Z,0.8nm,0.5s,baz=133,slow=5.7,SNR=4.2						
KSRS	Korea Array	67.26	326	P	P	00 29 00.4	+0.2
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KS15	Wonju Array Si	67.28	326	eP	P	00 29 00.4	+0.1
QIZ	Qiongzhong	68.30	300	P	P	00 29 08.5	+1.4
QIZ				S	S	00 38 04.5	-1.0
NJ2	Nanjing	68.92	316	eP	P	00 29 11.8	+1.1
NJ2				PMZ			
	comp=Z,40nm,0.9s						
YSS	Yuzh-Sakhalins	68.98	342	eP	P	00 29 11.8	+1.0
VLA	Vladivostok	69.73	332	⇓eP	P	00 29 16.2	+0.7
VLA				e		00 29 39.1	
VLA						00 31 49.2	
VLA				S	S	00 38 17.4	-4.1
VLA				pmax	pmax		
	comp=Z,14nm,0.8s						
USRK	Ussuriysk Ar.	70.55	333	P	P	00 29 21.4	+0.8
	comp=Z,16nm,0.8s,baz=132,slow=4.4,SNR=29						
PSI	Prapat	71.29	280	P	P	00 29 25.7	-0.2
	comp=Z,6.3nm,0.9s,baz=140,slow=3.4,SNR=4.1						
PSI	Prapat	71.29	280	P	P	00 29 25.7	-0.2
PSI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PEA2	Petropavlovsk-	71.80	353	eP	P	00 29 28.1	+0.2
PETK	Petropavlovsk-	71.81	353	P	P	00 29 28.1	+0.2
	comp=Z,16nm,0.8s,baz=147,slow=8.3,SNR=13						
PETK				LR	LR	00 56 41.9	
	comp=Z,62nm,20.4s,baz=166,slow=32						
MDJ	Mudanjiang	71.93	332	P	P	00 29 29.5	+0.6
MDJ				PMZ			
	comp=Z,37nm,1.0s						
MDJ				PMZ			
	comp=Z,81nm,9.4s						
MDJ	Mudanjiang	71.93	332	eP	P	00 29 29.0	+0.2
	comp=Z,34nm,0.9s						
CN2	Changchun	73.24	329	eP	P	00 29 37.0	+0.3
CN2				PMZ			
	comp=Z,10.0nm,0.8s						
GYA	Guiyang	74.52	305	eP	P	00 29 47.3	+2.5
GYA				pP	PcP	00 30 04.8	+5.7
GYA				sP	sP	00 30 12.0	+10
GYA				PP	PP	00 32 35.5	+3.6
GYA				SKS	SKSac	00 39 44.5	-5.6
GYA				SS	SS	00 44 05.3	+0.1
GYA				PMZ			
	comp=Z,10.0nm,1.0s						
GYA				PMZ			
	comp=Z,110nm,5.0s						
GYA				LN			
	comp=Z,460nm,20.6s						
GYA				LE			
	comp=Z,380nm,21.2s						
GYA				LZ			
	comp=Z,440nm,20.4s						
KLR	Kul'dur	74.72	336	eP	P	00 29 42.0	-3.2
KLR				pmax	pmax		
	comp=Z,33nm,1.4s						
BJI	Beijing	75.67	321	P	P	00 29 51.3	+0.4
BJI				PMZ			
	comp=Z,8.0nm,0.5s						
KMI	Kunming	76.98	302	P	P	00 30 00.5	+1.5
KMI				PMZ			
	comp=Z,15nm,1.0s						
CM31	Chiang Mai Arr	77.24	295	eP	P	00 30 01.9	+1.6
CMAR	Chiang Mai Arr	77.24	295	P	P	00 30 01.9	+1.6
	comp=Z,9.1nm,0.9s,baz=129,slow=4.9,SNR=25						
CMAR	Chiang Mai Arr	77.24	295	P	P	00 30 01.9	+1.6
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CHTO	Chiang Mai	77.39	295	eP	P	00 30 01.6	+0.5
	comp=Z,12nm,1.0s						
MAW	Mawson	78.81	202	P	P	00 30 09.8	+1.7
	comp=Z,7.3nm,0.9s,baz=127,slow=7.7,SNR=11						
MAW	Mawson	78.81	202	P	P	00 30 09.8	+1.7
MAW				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MAW	Mawson	78.81	202	eP	P	00 30 09.3	+1.3
	comp=Z,2.3nm,1.0s						
CD2	Chengdu	78.94	308	eP	P	00 30 09.8	+0.3
CD2				pP	pP	00 30 27.5	+5.7
CD2				sP	sP	00 30 34.8	+8.4
CD2				PP	PP	00 33 08.8	-0.1
CD2				S	S	00 40 03.5	-1.9
CD2				SS	SS	00 45 10.5	-1.2
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
HHC	Hu-ho-hao-te	78.94	320	eP	P	00 30 10.5	+1.1
HHC				pP	pP	00 30 28.5	+6.8
HHC				S	S	00 40 08.0	+2.9
HHC				sS	ScS	00 40 33.0	+4.6
HHC				PMZ			
	comp=Z,24nm,1.4s						
HHC				PMZ			
	comp=Z,63nm,8.7s						
HHC				LN			
	comp=Z,130nm,17.4s						
HHC				LE			
	comp=Z,100nm,17.1s						
HHC				LZ			
	comp=Z,98nm,17.5s						
HIA	Hailar	79.90	330	eP	P	00 30 14.9	+0.6
HIA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
LZH	Lanzhou	81.43	312	eP	P	00 30 25.5	+2.5
LZH				pP	pP	00 30 41.5	+6.2
LZH				sP	sP	00 30 49.3	+9.4
LZH				PMZ			
	comp=Z,24nm,1.2s						
LZH				PMZ			
	comp=Z,95nm,4.8s						
SEY	Seymchan	82.03	353	⇓iP	P	00 30 24.7	-0.6
SYO	Syowa Base	85.43	196	⇑eP	P	00 30 42.6	-0.2
YAK	Yakutsk	85.79	343	eP	P	00 30 43.7	-0.8
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,33nm,1.1s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
GTA	Gaotai	85.83	314	eP	P	00 30 46.5	+1.1
GTA				pP	pP	00 31 03.5	+5.7
GTA				sP	sP	00 31 10.5	+8.1
GTA				SKS	SKSac	00 41 05.0	-3.1
GTA				S	SKKSac	00 41 13.0	-2.3
GTA				sS	sS	00 41 42.0	+5.5
GTA				SS	SS	00 46 53.8	-0.2
GTA				PMZ			
	comp=N,11nm,1.0s						
GTA				PMZ			
	comp=N,97nm,9.0s						
GTA				LN			
	comp=N,140nm,21.9s						
GTA				LE			

comp=N,170nm,20.4s
GTA LZ
comp=N,70nm,20.0s
SONA0 Songino Array 85.96 323 *e*P **P 00 30 46.1 +0.3**
SONM Songino Array 85.96 323 P **P 00 30 46.1 +0.3**
comp=N,8.9nm,0.9s,baz=141,slow=4.5,SNR=48
SONM PKKP **PKKPbc 00 48 46.9 -1.3**
comp=N,0.5nm,0.6s,baz=119,slow=1.9,SNR=4.2
NSHM Saint Helena R 86.02 47 *e*P **P 00 30 46.3 +0.1**
BILL Bilibino 86.22 359 *c i*P **P 00 30 46.2 -0.3**
BILL pmax pmax
comp=Z,26nm,1.0s
BILL MLR MLR
comp=Z,132nm,17.0s
BILL Bilibino 86.22 359 *e*P **P 00 30 45.5 -1.0**
comp=Z,23nm,0.9s
KHMM Horse Mountain 86.34 45 *e*P **P 00 30 48.1 +0.2**
comp=Z,22nm,1.0s
CMB Columbia Colle 87.37 49 *e*P **P 00 30 52.3 -0.6**
comp=Z,5.8nm,0.8s
HUMO Hull Mountain 87.67 44 *e*P **P 00 30 54.2 0.0**
comp=Z,6.8nm,1.0s
ISA Isabella, Lake 87.76 51 *e*P **P 00 30 53.6 -1.2**
comp=Z,13nm,1.5s
BOD Bodaibo 88.16 334 *e*P **P 00 30 53.2 -2.9**
BOD pmax pmax
comp=Z,4.0nm,1.4s
LSA Lhasa 88.24 302 *e*P **P 00 30 56.5 -1.2**
comp=Z,7.0nm,0.9s
WAKR Walker 88.25 48 *e*P **P 00 30 56.4 -0.9**
NV01 Mina Array Sit 89.03 49 *e*P **P 00 31 01.0 0.0**
NVAR Mina Array Bea 89.03 49 P **P 00 31 01.0 0.0**
comp=Z,4.4nm,1.0s,baz=232,slow=7.2,SNR=16
ZAK Zakamensk 89.05 325 ⇑ *i*P **P 00 31 00.4 -0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
K05A Summer Lake 89.08 44 *e*P **P 00 31 00.5 -0.5**
CCB Clear Creek Bu 89.40 17 *e*P **P 00 31 00.9 -0.9**
comp=Z,8.3nm,1.6s
COLA College 89.56 17 *e*P **P 00 31 02.4 -0.1**
COLA pmax pmax
comp=Z,13nm,1.2s
TPH Tonopah 89.66 50 *e*P **P 00 31 02.8 -1.1**
comp=Z,4.6nm,1.2s
ILAR Eielson Array 89.76 18 P **P 00 31 01.6 -1.8**
comp=Z,1.9nm,0.7s,baz=239,slow=4.8,SNR=32
ILAR Eielson Array 89.76 18 P **P 00 31 01.7 -1.8**
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILB Eielson Array 89.76 18 *e*P **P 00 31 01.6 -1.8**
TPNV Topopah Spring 89.92 51 *e*P **P 00 31 03.7 -1.4**
comp=Z,19nm,0.3s
SNAA Sanae 89.93 183 P P 00 31 01.2 -3.3
SNAA Sanae 89.93 183 *e*P P 00 31 01.2 -3.3
comp=Z,4.7nm,0.8s
D05A Enumclaw 90.38 40 *e*P **P 00 31 05.3 -1.4**
comp=Z,24nm,1.2s
WVOR Wild Horse Vai 90.46 45 *e*P **P 00 31 05.9 -1.5**
comp=Z,10.0nm,1.1s
BMN Battle Mountai 90.61 47 *e*P **P 00 31 07.8 -0.4**
comp=Z,8.9nm,1.2s
VNA1 Neumayer--Stat 91.13 181 P **P 00 31 09.4 -0.5**
LTY Liberty 91.21 40 *e*P **P 00 31 10.0 -0.8**
comp=Z,6.5nm,1.0s
G08A Pilot Rock 91.44 42 *e*P **P 00 31 11.4 -0.5**
comp=Z,8.7nm,0.9s
CCUT Cedar City 92.28 51 *e*P **P 00 31 16.2 +0.1**
comp=Z,39nm,2.7s
KNB Kanab 92.49 52 *e*P **P 00 31 14.4 -2.7**
comp=Z,7.4nm,1.3s
TIXI Tiksi 93.74 348 *e*P **P 00 31 20.9 -0.8**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 93.74 348 *e*P **P 00 31 20.3 -1.5**
comp=Z,9.7nm,1.3s
HLID Hailey 93.75 45 *e*P **P 00 31 22.0 -0.7**
comp=Z,24nm,2.5s
PV04 Paradox Valley 95.88 52 *e*P **P 00 31 31.2 -1.4**
WMQ Urumqi 95.91 314 P **P 00 31 33.3 +0.9**
WMQ pP pP 00 31 50.5 +5.5
WMQ sP sP 00 31 57.3 +7.8
WMQ PMZ
comp=Z,7.0nm,0.6s
WMQ PMZ
comp=Z,59nm,4.0s
WMQ LN
comp=Z,39nm,18.3s
WMQ LE
comp=Z,74nm,17.0s
WMQ LZ
comp=Z,49nm,15.5s
ANMO Albuquerque 96.67 56 *e*P **P 00 31 35.3 -1.0**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
PDAR Pinedale Array 96.81 47 PKKPbc PKKPbc 00 48 18.5 -1.7
comp=Z,0.2nm,0.4s,baz=69,slow=4.9,SNR=3.8
SDCO Great Sand Dun 98.24 53 *e*P **P 00 31 40.3 -3.1**
comp=Z,6.7nm,1.4s
YKA Yellowknife Ar 100.41 27 P **Pdif 00 31 50.5 -1.6**
comp=Z,1.0nm,0.7s,baz=250,slow=4.8,SNR=3.3
YKA Yellowknife Ar 100.41 27 P **Pdif 00 31 50.5 -1.6**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKB5 Yellowknife Ar 100.41 27 *e*Pdif **Pdif 00 31 50.5 -1.6**
BOSA Boshof 121.08 218 PKP **PKPdf 00 36 59.9 +0.9**
comp=Z,7.9nm,1.1s,baz=100,slow=6.1,SNR=5.6
BOSA Boshof 121.08 218 PKIKP **PKPdf 00 36 59.9 +0.9**
BOSA pmax pmax
comp=Z,8.0nm,1.2s
DAG Danmarks Havn 121.52 2 *i*P **PKPdf 00 36 56.6 -1.5**
comp=Z,3.0nm,0.6s
DAG Danmarks Havn 121.52 2 *i*PKIKP **PKPdf 00 36 56.6 -1.5**
DAG pmax pmax
comp=Z,2.0nm,0.6s
SUMG Summit 123.72 9 *i*P **PKPdf 00 37 01.4 -1.6**
comp=Z,5.4nm,0.8s
SUMG Summit 123.72 9 *e*PKIKP **PKPdf 00 37 01.4 -1.6**
SUMG pmax pmax
comp=Z,5.0nm,0.8s
SUMG Summit 123.72 9 *e*PKPdf **PKPdf 00 37 01.6 -1.4**
ARA0 ARCESS Array S 124.02 345 *e*PKPdf **PKPdf 00 37 02.8 -0.3**
ARCES ARCESS Array B 124.02 345 PKP **PKPdf 00 37 02.8 -0.3**
comp=Z,1.5nm,0.3s,baz=29,slow=2.1,SNR=11
ARCES ARCESS Array B 124.02 345 PKIKP **PKPdf 00 37 02.8 -0.3**
ARCES pmax pmax
comp=Z,2.0nm,0.4s
OBN Obninsk 128.26 327 *e*PKIKP **PKPdf 00 37 11.9 +0.3**
OBN *e* 00 39 11.6
OBN pmax pmax
comp=Z,3.0nm,1.0s
OBN MLR MLR
comp=Z,75nm,22.0s
FIA0 FINESS Array S 129.45 338 *e*PKPdf **PKPdf 00 37 13.8 +0.2**
FIA0 *e*SKPdf SKPbc 00 40 33.5 +1.3
FINES FINESS Array B 129.45 338 PKP **PKPdf 00 37 13.8 +0.2**
comp=Z,2.6nm,0.9s,baz=94,slow=4.2,SNR=7.7
FINES SKPbc SKPbc 00 40 33.5 +1.3
comp=Z,2.0nm,0.9s,baz=83,slow=3.4,SNR=4.0
FINES FINESS Array B 129.45 338 PKIKP **PKPdf 00 37 13.8 +0.2**
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES pmax pmax
comp=N,2.0nm,0.9s
BDFB Brasilia 130.85 131 PKP **PKPdf 00 37 17.9 0.0**
comp=N,6.0nm,0.8s,baz=184,slow=1.2,SNR=8.9
BDFB Brasilia 130.85 131 PKIKP **PKPdf 00 37 17.9 0.0**
BDFB pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 134.24 324 PKP **PKPdf 00 37 23.5 +0.4**
comp=Z,0.9nm,0.6s,baz=41,slow=1.8,SNR=2.7
AKASG Malin Array Be 134.24 324 PKIKP **PKPdf 00 37 23.5 +0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 134.24 324 *e*PKPdf **PKPdf 00 37 23.5 +0.4**
NB200 NORSAR Array S 134.39 345 *e*PKPdf **PKPdf 00 37 23.8 +0.7**
NOA NORSAR Array B 134.39 345 PKP **PKPdf 00 37 23.8 +0.7**
comp=Z,1.5nm,0.9s,baz=36,slow=2.0,SNR=4.9
NOA NORSAR Array B 134.39 345 PKIKP **PKPdf 00 37 23.8 +0.7**
NOA pmax pmax
comp=Z,2.0nm,0.9s
BR101 Keskin Array S 135.51 308 *e*PKPdf **PKPdf 00 37 27.1 +1.0**
BRTR Keskin Array B 135.51 308 PKP **PKPdf 00 37 27.1 +1.1**
comp=Z,0.7nm,0.8s,baz=99,slow=3.6,SNR=4.4
BRTR Keskin Array B 135.51 308 PKIKP **PKPdf 00 37 27.1 +1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
KOLS Kolonicke sedl 138.98 326 *e*PKIKP **PKPdf 00 37 33.4 +1.5**
KOLS Kolonicke sedl 138.98 326 *e*PKP **PKPdf 00 37 33.4 +1.5**
DPC Dobruska-Polom 141.03 331 *e*PKP **PKPdf 00 37 34.8 -0.9**
DPC Dobruska-Polom 141.03 331 *e*PKIKP **PKPdf 00 37 34.8 -0.9**
BRG Berggiesshubel 141.69 334 *e*PKP **PKPdf 00 37 31.9 -4.8**
comp=Z,3.2nm,1.1s
BRG Berggiesshubel 141.69 334 *e*PKIKP **PKPdf 00 37 31.9 -4.8**
BRG pmax pmax
comp=Z,3.0nm,1.1s
CLL Collm 141.75 335 *e*PKPdf **PKPdf 00 37 39.0 +2.2**
CLL Collm 141.75 335 *e*PKIKP **PKPdf 00 37 39.0 +2.2**
CONA Conrad Observa 142.92 329 ⇑ *i*PKPdf **PKPdf 00 37 37.1 -2.1**
comp=Z,4.4nm,1.2s
GRG Griva 143.09 315 *e*P PKPbc 00 37 37.0 +0.4
KHC Kasperske Hory 143.14 332 *e*PKP PKPbc 00 37 36.6 +0.2
KHC *ex* x 00 37 43.2
KHC *ex* x 00 37 50.6
KHC *e*pPKP pPKPdf 00 37 57.4 +5.1
KHC Kasperske Hory 143.14 332 *e*PKIKP PKPbc 00 37 36.6 +0.2
KHC *e* 00 37 57.4
GEC2 GERESS Array S 143.29 332 *e*PKPdf PKPbc 00 37 38.1 +1.1
GERES GERESS Array B 143.29 332 PKP PKPbc 00 37 38.1 +1.1
comp=Z,0.6nm,0.5s,baz=38,slow=1.7,SNR=9.1
GERES GERESS Array B 143.29 332 PKIKP PKPbc 00 37 38.1 +1.2
GERES pmax pmax
comp=Z,1.0nm,0.5s
SMIA Simia 143.42 311 *e*P PKPab 00 37 34.3 -2.1
ARSA Arzberg 143.55 328 ⇑ *e*PKPdf PKPbc 00 37 38.7 +1.0
comp=Z,1.8nm,0.9s
GRF Grafenberg Arr 143.72 335 *e*PKPbc PKPbc 00 37 38.4 +0.4
MOA Molln 143.75 330 ⇑ *i*PKPdf **PKPdf 00 37 39.7 -0.9**
comp=Z,4.0nm,0.8s
FNA Florina 143.86 315 *e*P PKPbc 00 37 39.8 +1.0
FNA Florina 143.86 315 *e*P **PKPdf 00 37 40.9 -0.1**
AXAR Agios Charalam 143.86 311 *e*P **PKPdf 00 37 42.4 +1.4**
DID Didima 143.94 309 *e*P PKPab 00 37 38.8 +0.3
AGG Agios Georgios 143.99 312 *e*P **PKPdf 00 37 40.4 -0.9**
KRND KRANIDI 144.05 309 *e*P PKPbc 00 37 39.3 -0.1
DSF Desfina 144.10 311 *e*P PKPbc 00 37 40.2 +0.6
MAKR Makrakomi, Fth 144.13 312 *e*P PKPbc 00 37 40.6 +1.0
SOKA Soboth 144.19 328 ⇑ *i*PKPdf PKPbc 00 37 39.5 -0.1
comp=Z,5.0nm,0.7s,SNR=6.8
NEST Nestorio 144.25 315 *e*P PKPbc 00 37 40.2 +0.1
KALE Kalithea 144.39 311 *e*P PKPbc 00 37 40.4 -0.1
EVR Evrytania 144.40 312 *e*P **PKPdf 00 37 41.4 -0.7**
GUR Goura 144.43 310 *e*P **PKPdf 00 37 42.8 +0.6**
ANKY Antikythira Is 144.47 306 *e*P PKPbc 00 37 41.2 +0.4
KLV Kalavryta, Ach 144.52 311 *e*P PKPbc 00 37 41.0 +0.1
EFP Efpalio 144.54 311 *e*P PKPbc 00 37 41.2 +0.3
VLX Vlachokerasia 144.62 309 *e*P PKPbc 00 37 41.8 +0.5
KBA Koelnbreinsper 144.74 330 ⇑ *e*PKPdf **PKPdf 00 37 42.0 -0.5**
comp=Z,15nm,1.4s
JAN Janina 144.74 314 *e*P **PKPdf 00 37 42.4 -0.1**
VNDS Vrh nad Dolski 144.75 327 *i* PKPbc PKPbc 00 37 41.5 +0.2
HGN Heimansgroeve 144.77 340 *e*PKP PKPbc 00 37 41.5 +0.3
comp=Z,11nm,0.8s
DSL Palaion Diasel 144.81 313 *e*P PKPbc 00 37 42.2 +0.4
DRO Drossia 144.88 311 *e*P **PKPdf 00 37 43.1 +0.3**
MEM Membach 144.88 340 PKP PKPbc 00 37 42.0 +0.4
MEM Membach 144.88 340 *e*PKPdf PKPbc 00 37 41.7 +0.1
MYKA Terra Mystica 144.91 329 ⇑ *i*PKPdf **PKPab 00 37 41.5 -0.4**
comp=Z,5.6nm,0.7s,SNR=6.8
ITM Ithomi 145.03 309 *e*P **PKPbc 00 37 42.5 0.0**
AMT Artemida-Makis 145.05 310 *e*P **PKPdf 00 37 43.0 -0.1**
IGT Igoumenitsa 145.15 314 *e*P **PKPab 00 37 42.9 0.0**
BCLA Ciscara 145.26 341 PKP PKPbc 00 37 42.5 -0.3
STU Stuttgart 145.26 335 *e*PKPbc **PKPbc 00 37 43.0 +0.1**
PYL PYLOS 145.27 309 *e*P **PKPbc 00 37 43.0 -0.3**
SHEL Horse Pasture 145.31 190 *i* PKP2 **PKPdf 00 37 47.4 +3.2**
WATA Walderalm 145.37 332 ⇑ *e*PKPdf **PKPbc 00 37 43.3 -0.1**
comp=Z,4.3nm,0.4s,SNR=6.7
ABTA Abfaltersbach 145.37 330 ⇑ *e*PKPdf **PKPbc 00 37 42.9 -0.5**
comp=Z,34nm,1.2s,SNR=18
WTTA Wattenberg 145.40 331 ⇑ *i*PKPdf **PKPab 00 37 43.8 0.0**
comp=Z,24nm,1.1s,SNR=8.5
SNF Seneffe 145.50 342 PKP **PKPab 00 37 43.9 +0.1**
MOTA Moosalm 145.57 332 ⇑ *e*PKPab **PKPbc 00 37 44.1 0.0**
comp=Z,33nm,1.0s,SNR=38
RETA Reutte 145.62 333 ⇑ *i*PKPab **PKPab 00 37 44.4 -0.1**
comp=Z,22nm,1.1s,SNR=12
LANF Langenberg 145.63 337 PKP **PKPab 00 37 44.9 +0.5**
WLF Walferdange 145.64 339 PKP **PKPab 00 37 44.8 +0.5**
WLF Walferdange 145.64 339 *e*PKPdf **PKPbc 00 37 43.9 -0.1**
DOU Dourbes 145.77 341 PKP **PKPbc 00 37 44.5 +0.1**
BFO Black Forest 145.96 336 *i* PKP2 **PKPab 00 37 45.6 0.0**
BFO Black Forest 145.96 336 *e*PKPdf **PKPdf 00 37 44.5 +0.2**
FETA Feichten 145.99 332 ⇑ *i*PKPab **PKPbc 00 37 45.7 +0.3**
comp=Z,31nm,1.1s,SNR=17
MENF Mencas 146.05 344 PKP **PKPbc 00 37 45.3 +0.1**
DAVA Damuels 146.16 333 ⇑ *i*PKPab **PKPbc 00 37 46.2 +0.3**
comp=Z,14nm,1.1s,SNR=5.8
FUORN Ofenpass-Fuorn 146.50 332 *e*PKPdf **PKPdf 00 37 46.0 +0.4**
ECH Echery 146.50 337 PKP **PKPbc 00 37 46.9 +0.2**
MOF Molkenrain 146.81 336 PKP **PKPbc 00 37 47.5 -0.2**
THEF They Montfort 146.92 338 PKP **PKPbc 00 37 48.2 +0.3**
LOMF Lomont 147.34 336 PKP **PKPbc 00 37 49.7 +0.5**
TIP Timpagrande 147.73 316 *e*PKPdf **PKPdf 00 37 48.6 +0.9**
AQU L'Aquila 147.93 323 *e*PKPbc **PKPbc 00 37 50.2 -0.7**
SENIN Lac Senin/Sane 147.97 335 *e*PKPbc **PKPbc 00 37 49.9 -1.2**
OG01 Vacheresse 148.24 335 PKP **PKPbc 00 37 52.3 +0.6**
BNI Bardonecchia 149.28 334 *e*PKPbc **PKPbc 00 37 53.7 -0.7**
PLDF La Plantade 149.69 338 PKP **PKPbc 00 37 56.0 +0.7**
SAOF Saorge 149.75 332 PKP **PKPbc 00 37 55.3 -0.2**
AGO Saint Agoulin 149.79 339 PKP **PKPbc 00 37 56.6 +1.1**
TOUF Mont Tournerai 149.86 332 PKP **PKPbc 00 37 55.8 -0.2**
REVF Revere 150.03 332 PKP **PKPbc 00 37 56.0 -0.2**
COLF Collangettes 150.05 338 PKP **PKPbc 00 37 56.8 +0.6**
PYM Petit Puy Mans 150.09 339 PKP **PKPbc 00 37 56.9 +0.6**
CALN Calern 150.23 332 PKP **PKPbc 00 37 56.9 +0.1**
LBL Lubilhac 150.46 338 PKP **PKPbc 00 37 58.0 +0.8**
VSL Villasalto 152.11 323 *e*PKPbc **PKPbc 00 38 00.6 -0.5**
KEST Kesra 154.54 317 PKPbc **PKPbc 00 38 06.9 +0.2**
comp=Z,0.4nm,0.6s,baz=109,slow=3.3,SNR=4.8
KEST Kesra 154.54 317 *e*PKPdf **PKPdf 00 38 00.6 +2.3**
ESDC Sonseca Array 157.75 344 PKPab **PKPab 00 38 34.8 0.0**
comp=Z,0.3nm,0.4s,baz=9.6,slow=3.5,SNR=6.3
TOA0 Torodi Ar. Sit 165.97 250 *e*PKPdf **PKPdf 00 38 10.8 -0.5**
TOA0 *e*PKPab **PKPab 00 39 11.6 +0.2**
TORD Torodi Ar. Bea 165.97 250 PKP **PKPdf 00 38 10.8 -0.5**
comp=Z,1.7nm,0.9s,baz=128,slow=0.9,SNR=10
TORD PKPab **PKPab 00 39 11.6 +0.1**
comp=Z,1.4nm,0.9s,baz=116,slow=4.9,SNR=5.4

ISCJB ***28*** *00:25:44.7±0.6,24.5°N±0.1°×94.01°E±0.08,h50km, mb3.9/11,Error ellipse: s-maj=16.7km s-min=8.0km az=27.3*

IDC ***28*** *00:25:47.8±0.9,24.44°N×93.96°E,h64km±7km, mb3.6/11, mb1 3.8/12,mb1mx3.5/29,mbtmp3.9/12,Error ellipse: s-maj=42.5km s-min=13.8km az=57.0*

ISC 28 00:25:47.5±0.7,24.5°N±0.1°×93.8°E±0.1,h50km,n21,
σ1s71/24,mb3.8/11,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TAPN	**Taplejung** 183nm,0.4s	**6.20**	**299**	*e*P		**Pn**	**00 27 19.3**	**+2.5**
ODAN	**Odare** 197nm,0.3s	**6.27**	**293**	*e*P		**Pn**	**00 27 19.3**	**+1.6**
RAMN	**Ramite** 84nm,0.3s	**6.96**	**292**	*e*P		**Pn**	**00 27 29.0**	**+1.8**
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=318,slow=15,SNR=5.6	**7.67**	**141**	P		**Pn**	**00 27 37.0**	**+0.3**
CMAR				S		Sn	00 29 09.7	+7.5
	0.1nm,0.3s,baz=309,slow=32,SNR=2.0							
GUN	**Gumba** 138nm,0.3s	**7.91**	**297**	*e*P		**Pn**	**00 27 41.9**	**+1.7**
PKI	**Pulchoki** 40nm,0.3s	**8.17**	**294**	*e*P		**Pn**	**00 27 45.2**	**+1.4**
PKIN	**Phulchoki** 47nm,0.2s	**8.18**	**294**	*e*P		**Pn**	**00 27 45.7**	**+1.8**
PKIN				*e*S		**Sn**	**00 29 12.1**	**-3.0**
KKN	**Kakani** 44nm,0.2s	**8.35**	**295**	*e*P		**Pn**	**00 27 47.2**	**+1.0**
DMN	**Daman** 45nm,0.3s	**8.43**	**293**	*e*P		**Pn**	**00 27 48.6**	**+1.2**
GKN	**Gorkha** 200nm,0.3s	**8.96**	**295**	*e*P		**Pn**	**00 27 55.6**	**+1.1**
SONM	**Songino Array** 3.1nm,1.0s,baz=197,slow=8.9,SNR=6.3	**25.34**	**20**	P		**P**	**00 31 09.5**	**-0.2**
KURBB	**Kurchatov Arra** 0.7nm,0.6s,baz=158,slow=7.6,SNR=5.5	**28.64**	**339**	P		**P**	**00 31 38.3**	**-1.0**
ZALV	**Zalesovo Beam**	**30.18**	**349**	P		**P**	**00 31 52.7**	**-0.1**
	0.6nm,0.3s,baz=158,slow=7.5,SNR=4.1							
BVAR	**Borovoye Array** 0.7nm,0.6s,baz=133,slow=11,SNR=4.1	**33.54**	**334**	P		**P**	**00 32 22.6**	**+0.3**
FINES	**FINESS Array B** 2.7nm,1.0s,baz=114,slow=9.2,SNR=4.5	**58.17**	**328**	P		**P**	**00 35 35.4**	**-0.6**
WRA	**Warramunga Arr** 1.5nm,0.5s,baz=324,slow=7.4,SNR=8.2	**59.22**	**135**	P		**P**	**00 35 41.2**	**-2.7**
WRA				pP		**pP**	**00 35 59.9**	**+2.1**
	0.3nm,0.3s,baz=320,slow=7.6,SNR=2.0							
ARCES	**ARCESS Array B** 4.3nm,1.0s,baz=93,slow=6.3,SNR=2.5	**59.71**	**338**	P		**P**	**00 35 46.3**	**-0.4**
ASAR	**Alice Springs** 1.5nm,0.6s,baz=321,slow=6.8,SNR=12	**61.67**	**138**	P		**P**	**00 35 58.4**	**-2.2**
ASAR				sP		**sP**	**00 36 21.6**	**+1.3**
	0.5nm,0.5s,baz=317,slow=6.9,SNR=2.1							
NOA	**NORSAR Array B** 0.3nm,0.6s,baz=66,slow=4.4,SNR=2.8	**65.34**	**328**	P		**P**	**00 36 23.2**	**-1.2**
NOA				pP		**pP**	**00 36 41.1**	**+2.7**
	0.3nm,0.6s,baz=83,slow=6.5,SNR=1.5							
GERES	**GERESS Array B** 0.4nm,0.6s,baz=64,slow=6.1,SNR=6.1	**65.62**	**314**	P		**P**	**00 36 26.4**	**-0.1**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=296,slow=4.6,SNR=5.5	**79.54**	**22**	P		P	00 37 46.6	-2.1

NIED ***28*** *00:36:00,35.90N×140.90E,h47km,Mw4.0 Best double couple: M0 1.02000×10^15 NP1:φ=251.00000°,δ=28.00000°, λ=152.00000°. NP2:φ=6.00000°,δ=77.00000°,λ=65.00000°.*

IDC ***28*** *00:36:30.4±0.9,35.77N×140.61E,h0km,mb3.7/11, mb1 3.9/13,mb1mx3.8/29,mbtmp3.8/13,ML4.2/2,MS3.1/3, Ms1 3.1/3,ms1mx2.8/42,Error ellipse: s-maj=31.3km s-min=18.1km az=74.0*

ISCJB ***28*** *00:36:34.2±0.6,36.01N±0.05×140.98E±0.07,h35km, mb3.7/11,MS3.6/1,Error ellipse: s-maj=8.3km s-min=6.4km az=173.5*

JMA ***28*** *00:36:36.3±0.1,35.89N×140.81E,h40km±1km,M3.5 Broadband fault plane solution: P waves. NP1: φ=344.00000°,δ=83.00000°,λ=67.00000°. NP2: φ=238.00000°,δ=24.00000°,λ=163.00000°. Principal axes: T Plg47.0000°, Azm230.0000°; N Plg23.0000°, Azm347.0000°; P Plg34.0000°, Azm94.0000°;*

JMA Felt I J1.

ISC 28 00:36:35.7±0.7,35.91N±0.06×140.90E±0.08,h35km,n29,
σ1s43/26,mb3.7/11,2C-1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.21**	**190**	⇑P		**Pn**	**00 36 43.3**	**+0.7**
CHOJ				S		**Sn**	**00 36 47.8**	**+0.5**
JYT	**Yasato**	**0.66**	**299**	⇓P		**Pn**	**00 36 48.2**	**-0.3**
JHO	**Hitachi**	**0.75**	**339**	⇑P		**Pn**	**00 36 50.3**	**+0.5**
I30JP	**ISUMI INFRASON**	**0.77**	**219**	Pn		**Pn**	**00 36 51.6**	**+1.6**
I30JP				Sn		**Sn**	**00 37 04.7**	**+4.3**
BSO4	**Boso 4**	**1.03**	**207**	P		**Pn**	**00 36 54.0**	**+0.5**
BSO3	**Boso 3**	**1.15**	**196**	P		**Pn**	**00 36 55.4**	**+0.3**
MJAR	**Matsushiro Arr** 14nm,0.3s,baz=98,slow=11,SNR=85	**2.27**	**287**	Pn		**Pn**	**00 37 10.7**	**0.0**
MJAR				Sn		**Sn**	**00 37 36.9**	**-0.6**
	7.6nm,0.3s,baz=124,slow=15,SNR=6.4							
MJAR				LR		LR	00 38 10.5	
	comp=Z,198nm,20.4s,baz=110,slow=49							
MAT	**Matsushiro**	**2.27**	**287**	P		**Pn**	**00 37 11.9**	**+1.2**
MAT				S		**Sn**	**00 37 38.5**	**+1.0**
ASAJ	**Asahikawa** 1.4nm,0.3s,baz=180,slow=13,SNR=2.7	**8.30**	**8**	Pn		**Pn**	**00 38 34.2**	**+0.7**
JCJ	**Chichijima** 16nm,0.3s,baz=309,slow=12,SNR=12	**8.85**	**173**	Pn		**Pn**	**00 38 38.7**	**-2.5**
JCJ				Sn		Sn	00 40 09.3	-10
	4.3nm,0.3s,baz=287,slow=20,SNR=4.3							
KSRS	**Korea Array** 0.3nm,0.3s,baz=85,slow=15,SNR=2.6	**10.54**	**282**	Pn		**Pn**	**00 39 04.0**	**-0.2**
KSRS				LR		LR	00 43 10.4	
	comp=Z,74nm,19.4s,baz=122,slow=39							
H11N2	**WAKE ISLAND Hy** baz=311,slow=75,SNR=24	**27.95**	**118**	T		T	01 11 35.8	
H11N1	**WAKE ISLAND Hy** baz=311,slow=75,SNR=19	**27.96**	**118**	T		T	01 11 37.0	
H11N3	**WAKE ISLAND Hy** baz=311,slow=75,SNR=24	**27.97**	**118**	T		T	01 11 37.7	
SONM	**Songino Array** 0.5nm,0.7s,baz=98,slow=8.0,SNR=4.3	**28.09**	**306**	P		**P**	**00 42 23.7**	**-0.4**
H11S1	**WAKE ISLAND Hy** baz=312,slow=75,SNR=27	**28.62**	**120**	T		T	01 12 23.4	
H11S3	**WAKE ISLAND Hy** baz=312,slow=75,SNR=24	**28.62**	**120**	T		T	01 12 22.2	
H11S2	**WAKE ISLAND Hy** baz=312,slow=75,SNR=22	**28.64**	**120**	T		T	01 12 24.4	
ZALV	**Zalesovo Beam** 0.7nm,0.5s,baz=96,slow=6.7,SNR=4.4	**42.38**	**313**	P		**P**	**00 44 25.8**	**-0.5**
KURBB	**Kurchatov Arra** 2.1nm,0.2s,baz=85,slow=7.7,SNR=13	**46.38**	**309**	P		**P**	**00 44 57.2**	**-1.1**
ILAR	**Eielson Array** 0.2nm,0.7s,baz=280,slow=5.4,SNR=3.2	**50.66**	**32**	P		**P**	**00 45 33.3**	**+2.1**
PSI	**Prapat** comp=Z,63nm,19.0s,slow=38	**50.87**	**239**	LR		LR	01 08 14.9	
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=90,slow=7.4,SNR=6.8	**51.03**	**313**	P		**P**	**00 45 33.7**	**-0.4**
WRA	**Warramunga Arr** 1.0nm,0.7s,baz=1.3,slow=6.7,SNR=6.3	**55.89**	**187**	P		**P**	**00 46 08.4**	**-1.6**
ASAR	**Alice Springs** 0.2nm,0.4s,baz=13,slow=8.9,SNR=5.4	**59.62**	**187**	P		**P**	**00 46 35.3**	**-0.9**
KBZ	**Khabaz** 0.8nm,0.5s,baz=130,slow=3.8,SNR=3.9	**71.32**	**311**	P		**P**	**00 47 50.2**	**-1.4**
AKASG	**Malin Array Be** 0.5nm,0.5s,baz=47,slow=6.0,SNR=3.8	**74.93**	**322**	P		**P**	**00 48 12.0**	**-1.0**
BRTR	**Keskin Array B** 0.4nm,0.7s,baz=165,slow=5.1,SNR=3.6	**79.29**	**311**	P		**P**	**00 48 37.8**	**0.0**
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=227,slow=4.8,SNR=4.2	**91.13**	**52**	P		**P**	**00 49 38.6**	**+1.4**

IDC ***28*** *00:39:22.2±1.3,30.55S×178.38W,h0km,mb4.2/3, mb1 4.3/4,mb1mx3.8/18,mbtmp4.2/4,ML3.8/1,Error ellipse: s-maj=40.3km s-min=24.0km az=125.0*

ISC 28 00:39:23.9±0.9,30.37S±0.09×178.5W±0.2,h10km,n17,
σ2s56/17,mb3.9/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 36nm,0.3s,baz=113,slow=23,SNR=2.9	**1.21**	**24**	Pn		**Pg**	**00 39 48.1**	**+1.0**
WMGZ	**Waiomatatini S**	**7.87**	**198**	*e*PN		**Pb**	**00 41 38.9**	**-1.3**
WMGZ				*e*SN		**Sn**	**00 42 52.9**	**+5.5**
HAZ	**Te Kaha**	**8.00**	**202**	PN		**Pb**	**00 41 40.2**	**-2.2**
HAZ				SN		**Sn**	**00 42 56.0**	**+5.5**
PUZ	**Puketiti**	**8.15**	**198**	PN		Pb	00 41 41.2	-3.9
PUZ				SN		**Sn**	**00 42 57.4**	**+3.0**
MWZ	**Matawai**	**8.61**	**201**	SN		**Sn**	**00 43 07.5**	**+1.9**
URZ	**Urewera** 1.2nm,0.3s,baz=284,slow=4.0,SNR=10	**8.68**	**204**	Pn		**Pn**	**00 41 27.0**	**-2.5**
URZ				Sn		**Sn**	**00 43 07.7**	**+0.4**
	4.4nm,0.3s,baz=116,slow=21,SNR=14							
URZ	**Urewera**	**8.68**	**204**	*e*PN		Pn	00 41 45.8	+16
URZ				*e*SN		**Sn**	**00 43 07.5**	**+0.2**
PXZ	**Pawanui**	**10.37**	**200**	PN		Pn	00 42 05.5	+13
PXZ				*e*SN		Sn	00 43 43.1	-5.7
MRZ	**Mangatainoka R**	**11.35**	**204**	*e*PN		Pn	00 42 14.6	+8.5
MRZ				SN		Sn	00 44 03.6	-9.4
THZ	**Tophouse**	**13.33**	**209**	*e*PN		P	00 42 38.7	-4.1
THZ				SN		Sn	00 44 48.5	-13
STKA	**Stephens Creek** 12nm,1.1s,baz=103,slow=9.5,S

ellipse: s-maj=31.4km s-min=14.1km az=86.1

IDC ***28*** *00:42:55.4±1.4,54.2ˈ21Nₓ159.35E, h132ᵏᵐ±17ᵏᵐ, mb3.3/7, mb1 3.6/7, mb1mx3.2/28, mbtmp3.7/7, Error ellipse: s-maj=30.0km s-min=22.5km az=161.0*

ISC 28 00:42:53.8±0.7, 54°03N±0.04ₓ159°86E±0.05, h122ᵏᵐ±6ᵏᵐ, n54, σ1ᵗ25/75, mb3.4/7, 2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.91**	**200**	*eP*		**Pn**	**00 43 15.1**	**0.0**
NLC				*eS*		**Sn**	**00 43 30.7**	**-0.5**
SPN	**Mys Shipunski**	**0.94**	**174**	*i* P		**Pn**	**00 43 15.2**	**-0.2**
SPN				*eS*		**Sn**	**00 43 30.8**	**-0.8**
SDLR	**Sedlovina**	**0.95**	**218**	*i* P		**Pn**	**00 43 15.7**	**+0.1**
SDLR				*eS*		**Sn**	**00 43 31.6**	**-0.5**
KRER	**Koryakskii**	**0.98**	**223**	*i* P		**Pn**	**00 43 16.3**	**+0.3**
KRER				*eS*		**Sn**	**00 43 32.6**	**-0.2**
KRX	**Arik**	**0.98**	**228**	*i* P		**Pn**	**00 43 16.3**	**+0.3**
KRX				*eS*		**Sn**	**00 43 32.7**	**0.0**
SMAR	**Somma**	**0.99**	**220**	*eP*		**Pn**	**00 43 16.1**	**0.0**
SMAR				*eS*		**Sn**	**00 43 32.3**	**-0.7**
AVH	**Avacha**	**1.01**	**222**	*i* P		**Pn**	**00 43 16.6**	**+0.4**
AVH				*eS*		**Sn**	**00 43 33.0**	**-0.1**
UGLR	**Uglovaya**	**1.02**	**217**	*i* P		**Pn**	**00 43 16.6**	**+0.2**
UGLR				*eS*		**Sn**	**00 43 33.0**	**-0.4**
KOK	**Koryaka**	**1.03**	**225**	*i* P		**Pn**	**00 43 17.0**	**+0.6**
KOK				*eS*		**Sn**	**00 43 33.8**	**+0.3**
KZV	**Kizimen**	**1.12**	**13**	*i* P		**Pn**	**00 43 17.4**	**+0.1**
KZV				*eS*		**Sn**	**00 43 34.6**	**-0.6**
GNL	**Ganaly**	**1.18**	**255**	*i* P		**Pn**	**00 43 17.8**	**-0.2**
GNL				*eS*		**Sn**	**00 43 35.3**	**-1.0**
MKZ	**Mys Kozlova**	**1.22**	**63**	*i* P		**Pn**	**00 43 18.2**	**0.0**
MKZ				*eS*		**Sn**	**00 43 35.7**	**-0.9**
PET	**Petropavlovsk**	**1.24**	**216**	*eP*		**Pn**	**00 43 18.5**	**+0.1**
PET				*eS*		**Sn**	**00 43 36.3**	**-0.7**
PET	**Petropavlovsk**	**1.24**	**216ᴋ**	*i*PN		**Pn**	**00 43 18.5**	**+0.1**
PET				*eS*		**Sn**	**00 43 37.0**	**0.0**
PET	comp=Z,399nm,0.3s			pmax	pmax			
PET	comp=E,898nm,0.5s			smax	smax			
PET	comp=N,613nm,0.5s			smax	smax			
TUMR	**Tumrok**	**1.27**	**7**	*i* P		**Pn**	**00 43 19.3**	**+0.4**
TUMR				*eS*		**Sn**	**00 43 37.6**	**-0.3**
PETK	**Petropavlovsk-**	**1.58**	**235**	P		**Pn**	**00 43 22.4**	**+0.1**
PETK	comp=N,18nm,0.3s,baz=69,slow=16,SNR=186			S		**Sn**	**00 43 44.9**	**+0.9**
PETK	comp=N,7.0nm,0.3s,baz=39,slow=25,SNR=17			PN		**Pn**	**00 43 22.4**	**+0.1**
PETK	**Petropavlovsk-**	**1.58**	**235**	S		**Sn**	**00 43 44.9**	**+0.9**
PETK				pmax	pmax			
PETK	comp=Z,18nm,0.3s			smax	smax			
PETK	comp=N,7.0nm,0.3s							
KMNR	**Kamenistaya**	**1.75**	**7**	*i* P		**Pn**	**00 43 24.9**	**+0.6**
KMNR				*eS*		**Sn**	**00 43 47.4**	**-0.3**
RUS	**Russkaya**	**1.79**	**207**	*i* P		**Pn**	**00 43 24.6**	**-0.1**
RUS				*eS*		**Sn**	**00 43 47.0**	**-1.3**
MTVR	**Mutnovka**	**1.84**	**214**	*eP*		**Pn**	**00 43 26.2**	**+0.6**
MTVR				*eS*		**Sn**	**00 43 49.8**	**0.0**
KIRR	**Kirishev**	**1.95**	**8**	*eP*		**Pn**	**00 43 27.3**	**+0.4**
APC	**Apacha**	**1.96**	**237**	*eP*		**Pn**	**00 43 27.3**	**+0.5**
APC				*eS*		**Sn**	**00 43 52.1**	**+0.2**
ESO	**Esso**	**2.02**	**341**	*eP*		**Pn**	**00 43 27.2**	**-0.4**
ASAK	**Asacha**	**2.02**	**216**	*eP*		**Pn**	**00 43 28.7**	**+1.0**
KOZ	**Kozyrevsk**	**2.04**	**0**	*eP*		**Pn**	**00 43 28.0**	**+0.2**
KOZ				*eS*		**Sn**	**00 43 52.9**	**-0.9**
SRDR	**Sredinnyy**	**2.30**	**358**	*eP*		**Pn**	**00 43 30.8**	**-0.3**
KLY	**Klyuchi**	**2.34**	**11**	*eP*		**Pn**	**00 43 32.6**	**+1.1**
MIPR	**Malaya Ipel'ka**	**2.56**	**228**	*eP*		**Pn**	**00 43 35.9**	**+1.4**
BDR	**Baidarnaya**	**2.66**	**16**	*eP*		**Pn**	**00 43 36.9**	**+1.1**
BDR				*eS*		**Sn**	**00 44 08.5**	**+0.4**
SMKR	**Semkarok**	**2.72**	**19**	*eP*		**Pn**	**00 43 37.6**	**+1.0**
SMKR				*eS*		**Sn**	**00 44 09.4**	**-0.1**
SRKR	**Sorokina**	**2.74**	**15**	*eP*		**Pn**	**00 43 38.0**	**+1.2**
SRKR				*eS*		**Sn**	**00 44 10.2**	**+0.4**
KBTR	**Krutoberegovo**	**2.77**	**37**	*eP*		**Pn**	**00 43 37.2**	**+0.1**
KBTR				*eS*		**Sn**	**00 44 08.6**	**-1.8**
PAU	**Pauzhetka**	**3.16**	**217**	*eP*		**Pn**	**00 43 43.4**	**+1.1**
BKI	**Bering**	**3.75**	**69**	*eP*		**Pn**	**00 43 49.8**	**-0.1**
BKI				*eS*		**Sn**	**00 44 30.7**	**-2.6**
SKR	**Severo-Kuril's**	**4.06**	**216**	*eP*N		Pn	00 43 49.5	-4.6
SKR				*eS*		**Sn**	**00 44 35.0**	**-5.8**
SKR	comp=Z,50nm,0.5s			pmax	pmax			
SKR	comp=N,80nm,0.5s			smax	smax			
SKR	comp=E,80nm,0.5s			smax	smax			
SEY	**Seymchan**	**9.74**	**339**	P		**Pn**	**00 45 11.8**	**+1.2**
	comp=E,0.1nm,0.3s,baz=158,slow=14,SNR=4.1							
ERM	**Erimo**	**16.36**	**230**	*eP*		**P**	**00 46 39.8**	**+3.0**
YAK	**Yakutsk**	**17.73**	**309**	*eP*		**P**	**00 46 49.1**	**-2.7**
YAK	comp=Z,18nm,0.6s			pmax	pmax			
TIXI	**Tiksi**	**22.18**	**334**	*eP*		**P**	**00 47 38.2**	**-1.3**
ILAR	**Eielson Array**	**28.27**	**46**	P		**P**	**00 48 36.7**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=269,slow=8.2,SNR=4.1							
ILAR	**Eielson Array**	**28.27**	**46**	*eP*		**P**	**00 48 37.5**	**+2.4**
H11N2	**WAKE ISLAND Hy**	**34.66**	**168**	T		T	01 25 56.8	
	baz=353,slow=76,SNR=6.4							
H11N3	**WAKE ISLAND Hy**	**34.67**	**168**	T		T	01 25 51.5	
	baz=353,slow=76,SNR=5.8							
H11N1	**WAKE ISLAND Hy**	**34.67**	**168**	T		T	01 25 52.5	
	baz=353,slow=76,SNR=6.4							
H11S1	**WAKE ISLAND Hy**	**35.84**	**169**	T		T	01 27 09.3	
	baz=353							
H11S3	**WAKE ISLAND Hy**	**35.85**	**169**	T		T	01 27 06.2	
	baz=353							
H11S2	**WAKE ISLAND Hy**	**35.86**	**169**	T		T	01 27 10.7	
	baz=353							
KURK	**Kurchatov**	**47.13**	**301**	P		**P**	**00 51 11.4**	**-1.9**
KURBB	**Kurchatov Arra**	**47.23**	**301**	P		**P**	**00 51 11.4**	**-2.7**
	comp=Z,0.3nm,0.4s,baz=57,slow=7.5,SNR=3.9							
PDAR	**Pinedale Array**	**57.19**	**61**	P		**P**	**00 52 30.0**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=1,2,slow=4.4,SNR=4.7							
FINES	**FINESS Array B**	**59.21**	**336**	P		**P**	**00 52 39.6**	**-1.9**
	comp=Z,4.1nm,1.1s,baz=23,slow=7.7,SNR=4.0							
TXAR	**Lajitas Array**	**70.40**	**67**	P		**P**	**00 53 55.7**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=299,slow=5.9,SNR=4.5							
WRA	**Warramunga Arr**	**76.87**	**205**	P		**P**	**00 54 32.8**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=16,slow=6.2,SNR=4.0							
ESDC	**Sonseca Array**	**85.64**	**348**	P		**P**	**00 55 18.4**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=9.9,slow=5.1,SNR=4.2							

IDC 28 00:44:24.2±2.0, 15°78S×173°46W, h0ᵏᵐ, mb3.7/5, mb1 4.1/5, mb1mx3.9/20, mbtmp3.7/5, MS3.3/4, Ms1 3.2/4, ms1mx3.1/28, Error ellipse: s-maj=119.4km s-min=25.1km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.06**	**115**	LR		LR	00 51 04.6	
	comp=Z,52nm,20.2s,baz=274,slow=28							
PPT	**Papeete**	**22.94**	**98**	LR		LR	00 57 16.6	
	comp=Z,55nm,18.3s,baz=292,slow=34							
H11S2	**WAKE ISLAND Hy**	**39.26**	**329**	T		T	01 32 54.3	
	baz=149,slow=76,SNR=29							
H11S3	**WAKE ISLAND Hy**	**39.27**	**329**	T		T	01 32 43.2	
	baz=149,slow=76,SNR=20							
H11S1	**WAKE ISLAND Hy**	**39.28**	**329**	T		T	01 32 54.8	
	baz=149,slow=76,SNR=16							
H11N3	**WAKE ISLAND Hy**	**40.21**	**331**	T		T	01 34 00.2	
	baz=150,slow=76,SNR=9.4							
H11N1	**WAKE ISLAND Hy**	**40.22**	**331**	T		T	01 34 07.4	
	baz=150,slow=76,SNR=8.8							
H11N2	**WAKE ISLAND Hy**	**40.23**	**331**	T		T	01 34 11.3	
	baz=150,slow=76,SNR=11							
STKA	**Stephens Creek**	**43.80**	**240**	LR		LR	01 09 54.2	
	comp=Z,42nm,20.7s,baz=30,slow=35							
WRA	**Warramunga Arr**	**49.70**	**257**	P		P	00 53 18.2	-0.3
	0.5nm,0.7s,baz=89,slow=7.4,SNR=3.7							
ASAR	**Alice Springs**	**49.94**	**252**	P		P	00 53 20.1	-0.2
	3.9nm,0.6s,baz=86,slow=8.3,SNR=35							
JCJ	**Chichijima**	**60.58**	**314**	LR		LR	01 14 57.8	
	comp=Z,46nm,21.2s,baz=102,slow=30							
NVAR	**Mina Array Bea**	**74.65**	**42**	P		P	00 56 05.6	-0.3
	0.3nm,0.5s,baz=230,slow=8.1,SNR=4.4							
TXAR	**Lajitas Array**	**80.87**	**56**	P		P	00 56 41.0	+0.3
	0.5nm,0.9s,baz=260,slow=3.6,SNR=4.3							
ILAR	**Eielson Array**	**82.83**	**11**	P		P	00 56 50.1	0.0
	0.4nm,1.0s,baz=235,slow=6.3,SNR=3.1							
BRTR	**Keskin Array B**	**146.42**	**321**	PKPbc		PKPbc	01 04 07.5	-0.2
	1.0nm,0.8s,baz=49,slow=1.1,SNR=9.9							
GERES	**GERESS Array B**	**146.51**	**351**	PKPbc		PKPdf	01 04 06.3	0.0
	0.1nm,0.3s,baz=18,slow=3.5,SNR=3.5							

IDC ***28*** *00:59:44.3±0.4, 37°86S×75°18W, h0ᵏᵐ, mb5.1/21, mb1 5.2/24, mb1mx5.2/25, mbtmp5.1/24, ML4.8/3, MS5.0/14, Ms1 5.0/14, ms1mx4.9/18, Error ellipse: s-maj=16.4km s-min=11.3km az=94.0*

GUC ***28*** *00:59:47.5±0.4, 37°92S×75°04W, h28ᵏᵐ±4ᵏᵐ, ML5.8*

GCMT ***28*** *00:59:47.0±0.1, 37°91S×75°34W, h20ᵏᵐ, MW5.6/103, Moment Tensor Solution. s91,c142; s103,c235; Duration: 1ᵗ6 Moment tensor: Scale 10¹⁷Nm; Mᵣᵣ-2.53±.05; Mᵩᵩ-0.29±.04; Mᵩᵩ2.82±.04; Mᵣᵩ-0.34±.08; Mᵩᵩ1.43±.03; Mᵩᵣ1.20±.09; Best double couple: M₀3.24900×10¹⁷ NP1:φ₁184.00000°, δ57.00000°, λ-113.00000°. NP2:φ₂41.00000°, δ39.00000°, λ-59.00000°. Principal axes: T 3.5450, Plg10.0000°, Azm290.0000°; N -0.5900, Plg19.0000°, Azm196.0000°; P -2.9530, Plg69.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***28*** *00:59:47.0, 37°91Sₓ75°04W, h28ᵏᵐ, mb5.6/172, MS5.1/199, ML5.8(GUC), After GUC.*

NEIC Felt [IV] at Corral, Mariquina and Talcahuano; [III] at Angol, Contulmo, Licanray, Los Lagos, Pucon, Puerto Saavedra, Temuco, Tirua and Valdivia; [II] at Canete, La Union, Los Alamos and Panguipulli. Also felt at Chillan, Concepcion, Lebu, Villarica and Yumbel.

ISCJB ***28*** *00:59:48.1±0.2, 37°72S±0°03×75°02W±0°03, h33ᵏᵐ, mb5.5/191, MS5.1/221, Error ellipse: s-maj=4.0km s-min=3.7km az=170.3*

MOS ***28*** *00:59:48.7±0.8, 37°79Sₓ75°11W, h33ᵏᵐ, mb5.4/34, MS5.2/14, Error ellipse: s-maj=16.7km s-min=10.1km az=81.1*

BJI ***28*** *00:59:49.5, 37°70Sₓ74°90W, h35ᵏᵐ, mB5.4/33, Ms5.4/36, Ms7 5.2/40*

ISC 28 00:59:48.2±0.7, 37°82S±0°04×75°17W±0°05, h28ᵏᵐ±4ᵏᵐ, h28ᵏᵐ:pP-P, n1146,σ1ˢ14/1158, mb5.6/191, MS5.1/221, 42C-31D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**1.71**	**126**	*i* P		**Pn**	**01 00 15.9**	**-0.1**
PSCH				*i* S		**Sn**	**01 00 36.1**	**-0.8**
OSCH	**Osorno**	**3.18**	**151**	*i* S		**Sn**	**01 01 11.2**	**-2.0**
OSCH				AML		AML	01 01 14.6	
	comp=E,30μm,0.4s							
LNCH	**Linares**	**3.47**	**57**	*eP*		**Pn**	**01 00 40.6**	**+0.4**
LNCH				*eS*		**Sn**	**01 01 21.0**	**+0.5**
LNCH				AML		AML	01 01 25.8	
	comp=N,20μm,0.6s							
TALC	**Talca**	**3.73**	**51**	*eP*		**Pn**	**01 00 44.2**	**+0.3**
TALC				*i* S		**Sn**	**01 01 27.2**	**+0.4**
PMCH	**Puerto Montt**	**4.07**	**155**	*eP*		**Pn**	**01 00 48.0**	**-0.4**
PMCH				*i* S		**Sn**	**01 01 33.4**	**-1.6**
NICH	**Los Niches**	**4.24**	**50**	*i* P		**Pn**	**01 00 51.2**	**+0.4**
NICH				*i* S		**Sn**	**01 01 39.8**	**+0.4**
CHCH	**Chadas Angostu**	**5.33**	**45**	*eP*		**Pn**	**01 01 05.7**	**-0.2**
CHCH				*i* S		**Sn**	**01 02 05.6**	**-0.8**
QLLN	**Quelln**	**5.41**	**168**	*eP*		**Pn**	**01 01 05.9**	**-1.1**
QLLN				*i* S		**Sn**	**01 02 05.2**	**-3.0**
CFAA	**Coronel Fontan**	**8.42**	**45**	Pn		**Pn**	**01 01 47.4**	**-0.9**
	comp=N,9.3nm,0.3s,baz=223,slow=13,SNR=177				Sn	**Sn**	**01 03 21.1**	**-1.4**
CFAA	comp=N,7.5nm,0.3s,baz=321,slow=18,SNR=7.5				LR	LR	01 05 11.9	
CFAA	comp=N,2μm,18.6s,baz=222,slow=39							
LCO	**Las Campanas**	**9.54**	**24**	*eP*n		**Pn**	**01 02 01.5**	**-2.4**
LCO				*eS*n		**Sn**	**01 03 45.0**	**-5.3**
TRQA	**Tornquist**	**10.42**	**95**	*eP*n		**Pn**	**01 02 16.7**	**+1.0**
AHML	**Horco Molle**	**13.78**	**40**	*eP*		Pn	01 02 55.9	-5.8
AHML				*eS*		**P**	**01 03 07.1**	**-2.8**
SLA	**San Lorenzo**	**15.43**	**35**	*eP*		**Pn**	**01 03 20.9**	**-3.2**
SLA				AML		AML	01 03 45.6	
	comp=Z,51nm,0.7s							
AZAP	**Zapla**	**16.06**	**35**	*eP*		**Pn**	**01 03 28.7**	**-3.5**
LVC	**Limon Verde**	**16.08**	**21**	Pn		**Pn**	**01 03 30.3**	**-2.2**
	comp=Z,78nm,0.3s,baz=205,slow=11,SNR=50				Sn	**Sn**	**01 06 25.9**	**-4.2**
LVC	comp=Z,24nm,0.3s,baz=168,slow=19,SNR=3.0							
LVC	**Limon Verde**	**16.08**	**21**	*eP*n		**Pn**	**01 03 32.3**	**-0.2**
LVC				*eS*n		**Sn**	**01 06 25.9**	**-4.2**
ASTB	**Santa Barbara**	**16.57**	**36**	*eP*		**Pn**	**01 03 36.0**	**-2.6**
HJA	**Humahuaca**	**16.80**	**33**	*eP*		**P**	**01 03 43.1**	**-0.7**
ALOL	**LOMAS DE OLMED**	**16.93**	**38**	*eP*		**Pn**	**01 03 39.9**	**-3.1**
USHA	**Ushuaia**	**17.63**	**167**	Pn		**P**	**01 03 52.2**	**0.0**
	comp=Z,0.7nm,0.3s,baz=318,slow=9.1,SNR=13				LR	LR	01 10 42.7	
USHA	comp=Z,7μm,18.9s,baz=326,slow=37							
EFI	**East Falkland**	**18.36**	**144**	*eP*		**Pn**	**01 04 03.5**	**+3.0**
EFI	**East Falkland**	**18.36**	**144**	*eP*n		**Pn**	**01 04 01.8**	**+1.3**
	comp=Z,275nm,1.3s							
CPUP	**Villa Florida**	**18.93**	**58**	P		**P**	**01 04 07.1**	**+0.3**
	comp=Z,2.1nm,0.3s,baz=234,slow=10,SNR=26				LR	LR	01 12 03.0	
CPUP	comp=Z,9μm,20.3s,baz=236,slow=39							
CPUP	**Villa Florida**	**18.93**	**58**	P		**P**	**01 04 07.1**	**+0.3**
CPUP				pmax	pmax			
	comp=Z,2.0nm,0.3s							
CPUP	comp=Z,9μm,20.3s			MLR		MLR		
CPUP	**Villa Florida**	**18.93**	**58**	*eP*		**P**	**01 04 06.9**	**+0.1**
LPAZ	**La Paz**	**22.33**	**18**	P		**P**	**01 04 46.5**	**+2.1**
	comp=Z,127nm,1.1s,baz=187,slow=8.2,SNR=78							
LPAZ	**La Paz**	**22.33**	**18**	*eP*		**P**	**01 04 46.2**	**+1.9**
LPAZ	**La Paz**	**22.33**	**18**	*eP*		**P**	**01 04 45.8**	**+1.4**
	comp=Z,177nm,1.1s							
SIV	**San Ignacio**	**25.05**	**34**	P		**P**	**01 05 10.5**	**+0.4**
	comp=Z,30nm,0.9s,baz=228,slow=12,SNR=52							
NNA	**Nana**	**25.77**	**356**	P		**P**	**01 05 17.5**	**+0.9**
	comp=Z,17nm,0.7s,baz=170,slow=8.3,SNR=4.9				LR	LR	01 12 43.0	
NNA	comp=Z,3μm,20.0s,baz=183,slow=30							
NNA	**Nana**	**25.77**	**356**	*eP*		**P**	**01 05 17.5**	**+0.9**
NNA					LR	LR		
	comp=Z,4μm,18.0s							
PMSA	**Palmer Station**	**27.79**	**170**	PFAKE			01 05 40.0	+5.7
PMSA					LR	LR		
	comp=Z,3μm,18.0s							
RPN	**Rapa Nui**	**30.58**	**280**	PFAKE			01 06 10.0	+10
RPN					LR	LR		
	comp=Z,5μm,22.0s							
ATAH	**Atahualpa**	**30.68**	**354**	P		**P**	**01 06 02.5**	**+1.6**
	comp=Z,12nm,0.9s,baz=167,slow=8.9,SNR=5.9							
ATAH					LR	LR	01 16 01.8	
	comp=Z,2μm,18.5s,baz=196,slow=32							
SAML	**Samuel**	**30.71**	**24**	*eP*		**P**	**01 06 00.6**	**-0.1**
	comp=Z,121nm,1.3s							
SAML				*e*PcP		**PcP**	**01 08 57.4**	**-0.8**
SAML					LR	LR		
	comp=Z,1μm,20.0s							
BDFB	**Brasilia**	**32.59**	**55**	P		**P**	**01 06 17.6**	**+0.2**
	comp=Z,32nm,1.0s,baz=217,slow=8.7,SNR=28							
BDFB					LR	LR	01 20 53.0	
	comp=Z,7μm,18.0s,baz=221,slow=39							
BDFB	**Brasilia**	**32.59**	**55**	P		**P**	**01 06 17.6**	**+0.2**
BDFB					pmax	pmax		
	comp=Z,32nm,1.0s							
BDFB	comp=Z,7μm,18.0s				MLR	MLR		
OTAV	**Otavalo**	**37.99**	**355**	*eP*		**P**	**01 07 05.5**	**+1.2**
	comp=Z,93nm,1.3s							
OTAV				*e*PcP		**PcP**	**01 09 20.3**	**+0.7**
OTAV					LR	LR		
	comp=Z,1μm,18.0s							
PTGA	**Pitinga**	**39.47**	**24**	P		**P**	**01 07 16.2**	**+0.1**
	comp=Z,33nm,0.9s,baz=200,slow=9.5,SNR=52							
PTGA	**Pitinga**	**39.47**	**24**	*eP*		**P**	**01 07 15.8**	**-0.4**
	comp=Z,121nm,1.3s							
PTGA				*e*PcP		**PcP**	**01 09 23.6**	**-0.1**
PTGA					LR	LR		
	comp=Z,2μm,19.0s							
PAYG	**Puerto Ayora**	**39.50**	**336**	PFAKE			01 07 30.0	+14
PAYG					LR	LR		
	comp=Z,12μm,19.0s							
ROSC	**El Rosal**	**42.46**	**1**	P		**P**	**01 07 43.1**	**+1.9**
	comp=Z,15nm,0.8s,baz=141,slow=6.5,SNR=17							
ROSC	**El Rosal**	**42.46**	**1**	*eP*		**P**	**01 07 40.8**	**-0.4**
SDV	**Santo Domingo**	**46.65**	**6**	*eP*		**P**	**01 08 13.3**	**-1.1**
	comp=Z,34nm,0.9s							
SDV				*e*PcP		**PcP**	**01 09 46.8**	**-1.2**
SDV	comp=Z,2μm,21.0s			LR		LR		
BCIP	**Isla Barro Col**	**46.94**	**354**	PFAKE			01 08 30.0	+14
BCIP					LR	LR		
	comp=Z,800nm,19.0s							
VNA1	**Neumayer--Stat**	**47.22**	**155**	P		**P**	**01 08 19.9**	**+1.9**
RCBR	**Riachuelo**	**47.81**	**58**	P		**P**	**01 08 24.9**	**+1.6**
	comp=Z,21nm,0.8s,baz=217,slow=11,SNR=9.3							
RCBR	**Riachuelo**	**47.81**	**58**	*eP*		**P**	**01 08 24.4**	**+1.0**
RCBR	comp=Z,333nm,2.0s				LR	LR		
	comp=Z,7μm,20.0s							
JTS	**JuntasAbangare**	**48.72**	**347**	P		**P**	**01 08 32.0**	**+1.7**
	comp=Z,19nm,0.9s,baz=218,slow=4.5,SNR=12							
JTS	**JuntasAbangare**	**48.72**	**347**	*d* P		**P**	**01 08 31.6**	**+1.3**
JTS					pmax	pmax		
	comp=Z,45nm,1.0s							
JTS	**JuntasAbangare**	**48.72**	**347**	*eP*		**P**	**01 08 31.3**	**+1.0**
	comp=Z,186nm,0.9s							
PCRV	**Puerto La Cruz**	**48.75**	**14**	P		**P**	**01 08 30.8**	**+0.3**
	comp=Z,27nm,1.1s,baz=215,slow=5.0,SNR=11							
SNAA	**Sanae**	**49.06**	**156**	P		**P**	**01 08 29.8**	**-2.5**
SNAA	**Sanae**	**49.06**	**156**	*eP*		**P**	**01 08 29.9**	**-2.5**
SNAA	**Sanae**	**49.06**	**156**	P		**P**	**01 08 33.6**	**+1.3**
	comp=Z,18nm,1.0s,baz=268,slow=7.8,SNR=84							
SNAA	**Sanae**	**49.06**	**156**	*d* P		**P**	**01 08 29.6**	**-2.7**
SNAA					pmax	pmax		
	comp=Z,69nm,1.2s							
SNAA	**Sanae**	**49.06**	**156**	*eP*		P	01 08 29.1	-3.3
	comp=Z,73nm,1.1s							
GRGR	**Grenville**	**51.28**	**17**	*eP*		**P**	**01 08 49.9**	**+0.2**
	comp=Z,552nm,1.0s							
GRGR					LR	LR		
	comp=Z,1μm,19.0s							
RKT	**Rikitea**	**52.77**	**268**	*eS*		**S**	**01 16 25.8**	**-1.5**
	comp=Z,1μm,27.8s							
RKT				*e*LR		LR	01 24 14.4	
	comp=Z,4μm,26.0s							
SNET	**Serv Nac Est T**	**52.91**	**343**	PFAKE			01 09 10.0	+8.2
SNET					LR	LR		
	comp=Z,2μm,18.0s							
NVL	**N'lazarevskaya**	**53.86**	**156**	⇓*i* P		**P**	**01 09 08.1**	**0.0**
NVL				*e**PP		**pP**	**01 09 18.1**	**+1.3**
NVL				*e*			01 11 09.4	
NVL				*i* S		**S**	**01 16 42.6**	**+1.7**
NVL	comp=Z,39nm,1.0s			pmax	pmax			
ICMP	**Isla Caja de M**	**56.00**	**10**	*eP*		**P**	**01 09 23.4**	**-0.7**
CRPR	**Cabo Rojo, PR**	**56.04**	**9**	*eP*		**P**	**01 09 23.6**	**-0.8**
	comp=Z,83nm,0.9s							
OBIP	**Obispado Ponce**	**56.14**	**10**	*eP*		**P**	**01 09 24.6**	**-0.6**
	comp=Z,91nm,0.9s							
CELP	**Cerrillos**	**56.18**	**10**	*eP*		**P**	**01 09 26.6**	**+1.2**
SDD	**Santo Domingo**	**56.19**	**6**	*eP*		**P**	**01 09 25.6**	**+0.1**
	comp=Z,269nm,1.0s							
LSP	**Las Mesas**	**56.21**	**9**	*eP*		**P**	**01 09 26.4**	**+0.8**
MPR	**Mayaguez**	**56.24**	**9**	*eP*		**P**	**01 09 25.0**	**-0.8**
	comp=Z,36nm,1.1s							
SABA	**Saba**	**56.27**	**14**	*eP*		**P**	**01 09 25.5**	**-0.6**
	comp=Z,125nm,0.9s							
SJG	**San Juan**	**56.27**	**10**	*eP*		**P**	**01 09 25.0**	**-1.1**
	comp=Z,394nm,1.0s							
SJG					LR	LR		
	comp=Z,4μm,20.0s							
AOPR	**Arecibo Observ**	**56.42**	**10**	*eP*		**P**	**01 09 25.8**	**-1.4**
	comp=Z,58nm,1.0s							
ANWB	**Willy Bob**	**56.61**	**15**	PFAKE			01 09 40.0	+12
ANWB					LR	LR		
	comp=Z,1μm,18.0s							
SDDR	**Presa de Saban**	**56.61**	**4**	PFAKE			01 09 40.0	+11
SDDR					LR	LR		
	comp=Z,800nm,21.0s							
STVI	**Saint Thomas**	**56.69**	**12**	*eP*		**P**	**01 09 28.2**	**-0.8**
	comp=Z,36nm,1.2s							
SMN1	**Samana, DR**	**56.97**	**7**	*eP*		**P**	**01 09 31.2**	**+0.1**
SBA	**Scott Base**	**58.82**	**193**	*eP*		**P**	**01 09 44.5**	**+1.1**
	comp=Z,374nm,2.8s							
GRTK	**Grand Turk**	**59.13**	**4**	PFAKE			01 10 00.0	+14
GRTK					LR	LR		
	comp=Z,800nm,20.0s							
VNDA	**Vanda**	**59.86**	**192**	P		**P**	**01 09 52.3**	**+1.7**
	comp=Z,8.8nm,1.1s,baz=128,slow=7.0,SNR=25							
VN

comp=Z,23nm,1.0s
MAW MLR MLR
comp=Z,964nm,18.1s
MAW Mawson 70.23 164 *e*P **P 01 10 59.1 +1.0**
634A China Grove, S 70.28 339 P **P 01 10 59.3 +0.5**
baz=71
538A Harpers Horsep 70.30 341 P **P 01 11 00.2 +1.4**
baz=71
537A Green Hill Far 70.38 341 P **P 01 11 00.6 +1.3**
baz=71
440A Kirbyville 70.43 343 P **P 01 11 00.8 +1.1**
baz=71
BBSR BB Station 70.51 9 *e*P **P 01 11 00.4 +0.3**
comp=Z,41nm,1.0s
536A Bastrop 70.58 340 P **P 01 11 00.9 +0.4**
baz=71
633A Saathoff Ranch 70.60 338 P **P 01 11 01.4 +0.7**
baz=71,SNR=17
439A Center Grove, 70.67 342 P **P 01 11 01.8 +0.8**
baz=71
535A Dale 70.67 339 P **P 01 11 01.7 +0.6**
baz=71
438A Sam Houston St 70.80 342 P **P 01 11 02.9 +1.0**
baz=71
632A Uvalde 70.83 337 P **P 01 11 02.9 +0.8**
baz=71,SNR=29
534A Blanco 70.93 339 P **P 01 11 02.8 +0.1**
baz=71,SNR=6.3
631A Perdido Creek 70.98 337 P **P 01 11 03.3 +0.2**
baz=71,SNR=19
437A Phantom Ranch, 71.05 341 P **P 01 11 04.5 +1.1**
baz=72
340A Bronson 71.06 343 P **P 01 11 04.3 +0.9**
baz=72
533A Kerrville 71.13 338 P **P 01 11 04.7 +0.7**
baz=72,SNR=15
VBMS Vicksburg 71.13 346 P **P 01 11 05.0 +1.2**
baz=72
VBMS Vicksburg 71.13 346 *e*P **P 01 11 04.2 +0.4**
comp=Z,131nm,1.0s
339A Huntington 71.14 343 P **P 01 11 04.8 +0.9**
baz=72
436A Wall Ranch, Ga 71.16 340 P **P 01 11 05.1 +1.0**
baz=72
GOGA Godfrey 71.28 353 *e*P **P 01 11 04.3 -0.4**
comp=Z,31nm,0.9s
GOGA LR LR
comp=Z,500nm,20.0s
338A Crockett 71.34 342 P **P 01 11 06.5 +1.4**
baz=72,SNR=6.9
LRAL Lakeview Retre 71.35 350 *e*P **P 01 11 05.2 +0.1**
comp=Z,62nm,0.9s
435B Jarrell 71.39 340 P **P 01 11 06.2 +0.8**
baz=72
SACV Santiago Islan 71.39 53 PFAKE 01 11 20.0 +14
SACV LR LR
comp=Z,1µm,20.0s
532A Rocksprings 71.44 338 P **P 01 11 06.8 +0.9**
baz=72,SNR=41
337A Centerville 71.45 341 P **P 01 11 07.2 +1.4**
baz=72,SNR=8.0
NATX Nacogdoches 71.57 343 P **P 01 11 07.4 +0.9**
baz=72,SNR=6.1
434A Burnet 71.61 339 P **P 01 11 07.5 +0.7**
baz=72,SNR=43
531A Rocksprings 71.67 337 P **P 01 11 08.3 +1.0**
baz=72,SNR=38
JCT Junction City 71.74 338 P **P 01 11 08.0 +0.3**
baz=72,SNR=12
JCT Junction City 71.74 338 *e*P **P 01 11 08.1 +0.4**
comp=Z,79nm,1.1s
336A Riesel 71.76 341 P **P 01 11 08.3 +0.7**
baz=72,SNR=10.0
239A Gary 71.77 343 P **P 01 11 08.5 +0.8**
baz=72,SNR=5.4
433A Art 71.79 338 P **P 01 11 08.2 +0.3**
baz=72,SNR=30
335A Moody 71.82 340 P **P 01 11 08.4 +0.4**
baz=72
530A J-C Ranch, Com 71.91 336 P **P 01 11 09.6 +0.9**
baz=72,SNR=41
238A Jacksonville 71.91 342 P **P 01 11 09.5 +0.9**
baz=72
LTX Lajitas 71.93 334 *e*P **P 01 11 09.6 +0.7**
TXAR Lajitas Array 71.93 334 P **P 01 11 09.6 +0.7**
comp=Z,16nm,0.8s,baz=155,slow=7.9,SNR=151
TXAR LR LR 01 37 25.8
comp=Z,993nm,19.5s,baz=0.0,slow=31
237A Washetta, Mont 72.08 342 P **P 01 11 10.6 +1.0**
baz=72,SNR=5.7
334A Lometa 72.09 339 P **P 01 11 10.0 +0.4**
baz=72,SNR=37
432A Menard 72.11 338 P **P 01 11 10.0 +0.2**
baz=73,SNR=6.3
529A Stev Forest Ra 72.17 336 P **P 01 11 11.2 +0.9**
baz=73,SNR=28
431A Sonora 72.17 337 P **P 01 11 10.7 +0.4**
baz=73,SNR=22
236A Katherine and 72.26 341 P **P 01 11 11.3 +0.7**
baz=73,SNR=5.3
333A Richland Sprin 72.29 339 P **P 01 11 11.1 +0.2**
baz=73,SNR=20
139A Bunkhouse Ranc 72.39 343 P **P 01 11 12.2 +0.8**
baz=73
DRV Dumont d'Urvil 72.41 194 S **S 01 20 27.0 -5.7**
DRV L L 01 30 00.0
DRV R 01 34 00.0
430A Baggett Ranch, 72.47 337 P **P 01 11 12.6 +0.5**
baz=73,SNR=23
WHTX Lake Whitney, 72.50 340 P **P 01 11 12.2 +0.2**
baz=73,SNR=8.6
WHTX Lake Whitney, 72.50 340 *e*P **P 01 11 12.3 +0.2**
comp=Z,71nm,1.0s
429A Davenport Ranc 72.53 336 P **P 01 11 13.0 +0.7**
baz=73,SNR=26
138A Matatall Enter 72.53 342 P **P 01 11 13.3 +1.0**
baz=73,SNR=7.2
332A Millersview 72.57 338 P **P 01 11 12.8 +0.2**
baz=73,SNR=5.6
137A Heron Place, G 72.64 342 P **P 01 11 13.7 +0.8**
baz=73
234A Clairette 72.69 340 P **P 01 11 13.4 +0.1**
baz=73,SNR=18
331A San Angelo 72.70 338 P **P 01 11 13.6 +0.2**
baz=73,SNR=33
136A Ennis 72.71 341 P **P 01 11 13.7 +0.4**
baz=73,SNR=5.3
CNNC Cliffs of the 72.73 358 *e*P **P 01 11 12.8 -0.6**
comp=Z,73nm,1.0s
KMSC Kings Mountain 72.82 355 P **P 01 11 14.0 +0.1**
baz=73,SNR=16
KMSC Kings Mountain 72.82 355 *e*P **P 01 11 13.4 -0.5**
comp=Z,50nm,0.9s
KMSC LR LR
comp=Z,600nm,22.0s
Z39A Irene McRaven, 72.88 343 P **P 01 11 15.1 +0.8**
baz=73,SNR=5.2
233A Rising Star 72.92 339 P **P 01 11 15.0 +0.3**
baz=73,SNR=6.3
232A Coleman 73.01 338 P **P 01 11 15.4 +0.2**
baz=74,SNR=22
135A Vickery Place, 73.02 340 P **P 01 11 15.1 -0.1**
baz=74
330A Mertzon 73.02 337 P **P 01 11 15.4 +0.1**
baz=74,SNR=8.9
Z38A Mt. Pleasant 73.07 343 P **P 01 11 16.1 +0.7**
baz=74,SNR=7.3
OXF Oxford 73.17 348 *e*P **P 01 11 15.7 -0.3**
comp=Z,134nm,1.1s
Z37A Pogue Cattle C 73.18 342 P **P 01 11 16.6 +0.5**
baz=74
134A White-Moore Ra 73.22 340 P **P 01 11 16.3 0.0**
baz=74,SNR=11
231A Bronte 73.25 338 P **P 01 11 16.5 -0.2**
baz=74,SNR=18
329A Wagon Wheel Ra 73.35 336 P **P 01 11 17.7 +0.4**
baz=74
CPCT Cooper Cave 73.41 352 *e*P **P 01 11 17.5 +0.1**
Z36A Blue Ridge 73.44 342 P **P 01 11 18.3 +0.7**
baz=74,SNR=13
230A Sterling City 73.45 337 P **P 01 11 18.0 +0.2**
baz=74
133A Hamilton Ranch 73.48 339 P **P 01 11 18.2 +0.2**
baz=74,SNR=27
Y39A Lockesburg 73.53 344 P **P 01 11 18.3 +0.2**
baz=74,SNR=12
TKL Tuckaleechee C 73.54 353 *e*P **P 01 11 18.0 -0.2**
CER Ceres 73.58 120 *e*P **P 01 11 20.5 +1.7**
CER AMB AMB 01 11 20.6
comp=Z,64nm,1.2s
Y38A Idabel 73.66 343 P **P 01 11 19.2 +0.3**
baz=74,SNR=10.0
ABTX Abilene, Hawle 73.70 339 P **P 01 11 19.6 +0.4**
baz=74,SNR=23
ABTX Abilene, Hawle 73.70 339 *e*P **P 01 11 19.3 +0.1**
comp=Z,75nm,1.0s
Z35A Perchaven, San 73.71 341 P **P 01 11 19.5 +0.3**
baz=74,SNR=11
229A Bryant Ranch, 73.74 337 P **P 01 11 19.6 0.0**
baz=74,SNR=14
Y37A Hugo 73.92 342 P **P 01 11 20.9 +0.4**
baz=74,SNR=7.4
Z34A Collier Ranch, 73.92 340 P **P 01 11 20.6 +0.1**
baz=74
131A Roby 73.97 338 P **P 01 11 21.0 +0.2**
baz=74,SNR=8.1
MIAR Mount Ida 74.00 344 P **P 01 11 20.7 -0.2**
baz=74,SNR=23
MIAR Mount Ida 74.00 344 *e*P **P 01 11 20.9 0.0**
comp=Z,59nm,1.3s
Y36A Durant 74.01 342 P **P 01 11 21.1 +0.2**
baz=74,SNR=7.9
130A Snyder 74.07 338 P **P 01 11 21.5 +0.1**
baz=74,SNR=6.7
Z33A Whitaker Ranch 74.08 340 P **P 01 11 21.5 +0.1**
baz=74,SNR=14
228A UT Block 9, Go 74.13 336 P **P 01 11 22.1 +0.3**
baz=75,SNR=14
Y35A Marietta 74.20 341 P **P 01 11 22.5 +0.4**
baz=75,SNR=9.9
Z32A Haskell 74.29 339 P **P 01 11 22.9 +0.3**
baz=75,SNR=39
TZTN Tazewell 74.40 353 *e*P **P 01 11 22.7 -0.5**
comp=Z,78nm,1.1s
X38A Whitesboro 74.40 343 P **P 01 11 23.5 +0.3**
baz=75,SNR=40
Y34A Reagan Ranch, 74.44 341 P **P 01 11 23.4 -0.1**
baz=75,SNR=11
X37A Clayton 74.45 343 P **P 01 11 23.3 -0.2**
baz=75,SNR=7.2
Z31A Sharp Cattle R 74.50 338 P **P 01 11 24.1 +0.2**
baz=75,SNR=20
128A Castleberry Fa 74.56 336 P **P 01 11 25.0 +0.6**
baz=75
X35A Drake 74.66 341 P **P 01 11 24.6 -0.1**
baz=75,SNR=16
X36A Centrahoma 74.66 342 P **P 01 11 24.4 -0.3**
baz=75,SNR=21
GNAR Gosnell 74.69 348 *e*P **P 01 11 24.9 +0.1**
W38A Poteau 74.71 344 P **P 01 11 25.6 +0.6**
baz=75,SNR=24
Y33A Hilltop Ranch, 74.72 340 P **P 01 11 25.1 0.0**
baz=75
Z30A Sanderson Ranc 74.76 338 P **P 01 11 25.4 0.0**
baz=75,SNR=18
BLA Blacksburg 74.81 356 *e*P **P 01 11 25.4 -0.2**
comp=Z,25nm,0.9s
VWCC Virginia Weste 74.82 356 *e*P **P 01 11 25.9 +0.2**
UTMT University of 74.87 349 *e*P **P 01 11 26.2 +0.4**
comp=Z,150nm,1.0s
Z29A Hungry Hill Ra 74.91 337 P **P 01 11 26.1 -0.2**
baz=75
Y32A R-V Farms, Ver 74.94 339 P **P 01 11 26.5 +0.1**
baz=75,SNR=13
W37A Quinton 74.98 343 P **P 01 11 26.5 -0.1**
baz=76,SNR=12
URVA University of 75.05 358 *e*P **P 01 11 26.6 -0.3**
X34A Smith Ranch, M 75.07 341 P **P 01 11 27.6 +0.5**
baz=76,SNR=22
PVMO Portageville 75.08 348 PFAKE 01 11 40.0 +13
PVMO LR LR
comp=Z,300nm,19.0s
Y31A Rekieta Farm, 75.13 339 P **P 01 11 27.8 +0.2**
baz=76,SNR=13
Z28A Tucker Farm, M 75.15 337 P **P 01 11 27.6 -0.1**
baz=76
W36A Wetumka 75.17 342 P **P 01 11 26.9 -0.8**
baz=76,SNR=7.9
JSRW J. Sargeant Re 75.18 358 *e*P **P 01 11 27.9 +0.3**
X33A Lawton 75.19 340 P **P 01 11 27.6 -0.2**
baz=76,SNR=8.6
Y30A Stafford Cattl 75.24 338 P **P 01 11 28.1 -0.1**
baz=76,SNR=5.3
X32A Elmer 75.29 340 P **P 01 11 28.6 +0.3**
baz=76,SNR=10
PARMO Parma 75.33 348 *e*P **P 01 11 28.4 -0.1**
W35A Tecumseh 75.35 342 P **P 01 11 28.2 -0.5**
baz=76,SNR=10.0
WMOK Wichita Mounta 75.45 340 *e*P **P 01 11 28.8 -0.5**
comp=Z,70nm,1.4s
V38A Canehill 75.45 344 P **P 01 11 28.8 -0.5**
baz=76,SNR=14
Y29A Porterfield Fa 75.45 337 P **P 01 11 29.4 -0.1**
baz=76,SNR=6.3
PBMO Poplar Bluff 75.56 347 *e*P **P 01 11 29.5 -0.4**
comp=Z,69nm,0.9s
V37A Hulbert 75.63 343 P **P 01 11 30.5 +0.2**
baz=76,SNR=22
W34A Bridge Creek, 75.65 341 P **P 01 11 30.7 +0.3**
baz=76,SNR=11
W34A Bridge Creek, 75.65 341 *e*P **P 01 11 30.3 -0.2**
comp=Z,113nm,1.3s
CBN Corbin Frederi 75.67 358 *e*P **P 01 11 30.2 -0.2**
comp=Z,38nm,1.0s
Y28A McKinney Farm, 75.68 337 P **P 01 11 30.6 -0.1**
baz=76,SNR=6.8
X31A McDonald Ranch 75.68 339 P **P 01 11 30.8 +0.1**
baz=76,SNR=18
V36A Jenks 75.72 343 P **P 01 11 30.9 +0.1**
baz=76,SNR=39
W33A Caddo, Fort Co 75.75 340 P **P 01 11 31.7 +0.6**
baz=76,SNR=21
X30A Coker Ranch, T 75.76 338 P **P 01 11 31.4 +0.2**
baz=76
TUL1 Leonard 75.81 343 P **P 01 11 31.2 -0.1**
baz=76,SNR=28
TUL1 Leonard 75.81 343 *e*P **P 01 11 31.2 -0.1**
comp=Z,149nm,1.1s
MSTX Muleshoe 75.90 337 P **P 01 11 32.1 +0.2**
baz=76,SNR=20
MSTX Muleshoe 75.90 337 *e*P **P 01 11 32.2 +0.2**
comp=Z,100nm,1.4s
MSTX LR LR
comp=Z,600nm,18.0s
V35A Meyer Ranch, C 75.92 342 P **P 01 11 31.9 -0.1**
baz=76,SNR=17
W32A Sentinel 75.94 340 P **P 01 11 32.5 +0.4**
baz=76,SNR=45
X29A Tulia 76.01 338 P **P 01 11 32.8 +0.2**
baz=76,SNR=7.2
CASY Casey 76.14 182 PFAKE 01 11 40.0 +7.1
CASY LR LR
comp=Z,1µm,21.0s
V34A Guthrie 76.15 341 P **P 01 11 33.3 0.0**
baz=77,SNR=23
V34A Guthrie 76.15 341 *e*P **P 01 11 33.1 -0.1**
comp=Z,102nm,1.1s
W31A Holland Ranch, 76.19 339 P **P 01 11 33.7 +0.1**
baz=77,SNR=8.6
X28A Dimmitt 76.23 337 P **P 01 11 34.4 +0.5**
baz=77
SIUC Southern Illin 76.27 349 *e*P **P 01 11 33.4 -0.5**
comp=Z,88nm,1.0s
USIN University of 76.29 350 *e*P **P 01 11 33.6 -0.4**
comp=Z,111nm,0.9s
121A Cookes Peak, D 76.31 332 P **P 01 11 35.9 +1.4**
baz=77,SNR=10.0
V33A Lossen Ranch, 76.34 341 P **P 01 11 34.8 +0.4**
baz=77,SNR=21
W30A Crocket Farms 76.36 339 P **P 01 11 35.2 +0.6**
baz=77
WCI Wyandotte Cave 76.36 351 *e*P **P 01 11 33.7 -0.7**
comp=Z,19nm,0.9s
AMTX Amarillo 76.41 338 P **P 01 11 35.5 +0.7**
baz=77
AMTX Amarillo 76.41 338 *e*P **P 01 11 34.8 0.0**
comp=Z,99nm,1.1s
V32A Arapaho 76.44 340 P **P 01 11 36.0 +1.0**
baz=77,SNR=9.2
U35A Pawnee 76.47 342 P **P 01 11 35.4 +0.3**
baz=77,SNR=35
W29A Amarillo 76.62 338 P **P 01 11 36.2 +0.2**
baz=77,SNR=13
V31A Spring Creek L 76.71 340 P **P 01 11 37.7 +1.2**
baz=77,SNR=20
U34A Anderson Ranch 76.73 342 P **P 01 11 36.6 0.0**
baz=77,SNR=12
U34A Anderson Ranch 76.73 342 *e*P **P 01 11 36.5 -0.1**
comp=Z,113nm,1.2s
U34A LR LR
comp=Z,400nm,19.0s
T37A Cheneyville 18 76.77 344 P **P 01 11 36.6 -0.2**
baz=77,SNR=21
SDMD Soldier's Deli 76.87 359 *e*P **P 01 11 38.0 +0.8**
U33A Lingo Farm, Me 76.87 341 P **P 01 11 37.5 +0.2**
baz=77
W28A Vega 76.91 338 P **P 01 11 38.1 +0.4**
baz=77
T36A Boggs Farm, Ca 76.93 343 P **P 01 11 37.7 +0.1**
baz=77,SNR=29
T35A Sooner Cattle 76.94 343 P **P 01 11 38.1 +0.4**
baz=77,SNR=28
V30A Spur Ranch, Mi 76.94 339 P **P 01 11 39.0 +1.2**
baz=77
U32A Winter Ranch, 77.05 340 P **P 01 11 38.7 +0.3**
baz=78,SNR=12
OLIL Olney 77.10 350 *e*P **P 01 11 37.6 -0.9**
comp=Z,66nm,1.2s
T34A McClaskey Farm 77.20 342 P **P 01 11 39.7 +0.5**
baz=78,SNR=39
TUC Tucson 77.27 330 *e*P **P 01 11 40.9 +1.2**
comp=Z,49nm,1.1s
TUC LR LR
comp=Z,800nm,18.0s
U31A Nine Bar Ranch 77.27 340 P **P 01 11 40.5 +0.8**
baz=78
V29A Stinnett 77.28 338 P **P 01 11 40.2 +0.4**
baz=78
BLO Bloomington 77.32 351 *e*P **P 01 11 39.0 -0.7**
SLM Saint Louis 77.33 348 *e*P **P 01 11 39.9 0.0**
comp=Z,134nm,0.8s
BNM Barren Site 77.35 334 *e*P **P 01 11 40.3 -0.1**
V28A Channing 77.38 338 P **P 01 11 40.8 +0.5**
baz=78,SNR=6.9
Y22D IRIS PASSCAL I 77.38 333 P **P 01 11 41.9 +1.4**
baz=78
MVL Millersville 77.45 359 *e*P **P 01 11 41.3 +0.8**
comp=Z,67nm,1.1s
LENM Lemitar 77.48 333 *e*P **P 01 11 41.1 0.0**
S36A Lake Cedric, C 77.50 344 P **P 01 11 40.7 -0.1**
baz=78,SNR=21
T33A Patterson Ranc 77.52 341 P **P 01 11 41.6 +0.7**
baz=78,SNR=38
V27A Dan Oppiter Fa 77.57 337 P **P 01 11 42.3 +0.9**
baz=78
S35A Otter Creek Ra 77.62 343 P **P 01 11 41.8 +0.3**
baz=78,SNR=20
U30A WK&E Inc. Balk 77.64 339 P **P 01 11 42.5 +0.7**
baz=78
U29A Oasis Ranch, S 77.75 339 P **P 01 11 43.0 +0.7**
baz=78
LAZ Ladron 77.75 333 *e*P **P 01 11 43.6 +1.1**
T32A Huddler Ranch, 77.79 341 P **P 01 11 43.0 +0.5**
baz=78,SNR=12
214A Organ Pipe Nat 77.79 328 P **P 01 11 44.2 +1.5**
baz=78,SNR=26
S34A Willow Spring 77.83 342 P **P 01 11 42.8 +0.2**
baz=78,SNR=7.4
R37A Teagarden Farm 77.89 344 P **P 01 11 42.8 -0.2**
baz=78,SNR=12
T31A Randall Ranch, 77.91 340 P **P 01 11 43.7 +0.5**
baz=78,SNR=11
S33A Kaszmaul Farm, 77.94 342 P **P 01 11 44.1 +0.8**
baz=78
U28A Mallet 77.96 338 P **P 01 11 44.0 +0.4**
baz=78,SNR=6.4
ACSO Alum Creek Sta 78.00 354 *e*P **P 01 11 43.4 -0.2**
comp=Z,125nm,1.0s
ANMO Albuquerque 78.01 334 *d iP* **P 01 11 45.1 +1.1**
ANMO pmax pmax
comp=Z,248nm,1.2s
ANMO Albuquerque 78.01 334 *e*P **P 01 11 44.8 +0.8**
comp=Z,56nm,1.1s
ANMO LR LR
comp=Z,700nm,22.0s
LUPA Lehigh Univers 78.04 360 *e*P **P 01 11 44.0 +0.3**
comp=Z,45nm,2.4s
R36A Gordon, Harris 78.05 344 P **P 01 11 43.6 -0.3**
baz=78,SNR=5.5
T30A Plains 78.10 340 P **P 01 11 45.1 +0.8**
baz=79
SSPA Standing Stone 78.12 358 *e*P **P 01 11 44.2 0.0**
comp=Z,38nm,1.0s
BRNJ Basking Ridge 78.12 0 *e*P **P 01 11 43.9 -0.3**
comp=Z,14nm,1.1s
U27A Thompson Grove 78.18 338 P **P 01 11 45.4 +0.6**
baz=79,SNR=8.4
BFZ Birch Farm 78.20 227 PFAKE 01 12 00.0 +15
BFZ LR LR
comp=Z,1µm,22.0s
R35A Emporia Munici 78.21 343 P **P 01 11 44.8 0.0**
baz=79,SNR=8.2
S32A Newby Ranch, P 78.28 341 P **P 01 11 45.7 +0.5**
baz=79,SNR=11
S31A Mullinville 78.35 340 P **P 01 11 46.0 +0.4**
baz=79,SNR=7.5
Q37A Longview Farm, 78.36 345 P **P 01 11 45.0 -0.6**
baz=79,SNR=6.7
LIC Lamto 78.36 73 *e*P **P 01 11 46.1 -0.1**
comp=Z,178nm,1.1s
T29A Hugoton 78.41 339 P **P 01 11 46.3 +0.3**
baz=79,SNR=12
R34A Isabella, Hill 78.43 342 P **P 01 11 46.5 +0.5**
baz=79,SNR=22
PAL Palisades 78.45 1 PFAKE 01 12 00.0 +14
PAL LR LR
comp=Z,500nm,20.0s
GRM Grahamstown 78.49 123 *e*P **P 01 11 46.6 -0.1**
GRM AMB AMB 01 11 53.7
comp=Z,52nm,1.1s
ODNJ Ogdensburg 78.52 0 *e*P **P 01 11 46.7 +0.3**
comp=Z,33nm,1.0s
ODNJ LR LR
comp=Z,400nm,21.0s
SFIN Lafayette 78.58 351 P **P 01 11 45.9 -0.8**
baz=79,SNR=8.0
SFIN Lafayette 78.58 351 *e*P **P 01 11 46.0 -0.7**
comp=Z,133nm,1.8s
T28A Walsh 78.61 338 P **P 01 11 47.7 +0.5**
baz=79,SNR=33
R33A Olander Ranch, 78.62 342 P **P 01 11 47.8 +0.8**
baz=79,SNR=13
S30A Montezuma 78.63 340 P **P 01 11 47.7 +0.5**
baz=79,SNR=20
TIC Toumodi 78.64 72 *e*P **P 01 11 48.0 +0.2**
Q36A Arnold C. Orve 78.65 344 P **P 01 11 46.6 -0.6**
baz=79,SNR=9.0
KIC Kosan Boka 78.67 73 *e*P **P 01 11 48.2 +0.3**
comp=Z,195nm,1.1s
Q35A Mercer Eighty, 78.68 344 P **P 01 11 47.2 -0.2**
baz=79,SNR=12
T27A Campo 78.74 338 P **P 01 11 48.5 +0.6**
baz=79,SNR=11
DBIC Dimbokro 78.78 72 *e*P **P 01 11 48.5 +0.1**
DBIC Dimbokro 78.78 72 P **P 01 11 49.3 +0.8**
comp=Z,39nm,0.9s,baz=207,slow=5.6,SNR=29
DBIC LR LR 01 43 43.3
comp=Z,1µm,19.5s,baz=210,slow=34
DBIC Dimbokro 78.78 72 *e*P **P 01 11 48.4 -0.1**
comp=Z,67nm,1.0s
YLE Yale 78.78 2 *e*P **P 01 11 48.0 +0.2**
comp=Z,131nm,1.1s
YLE LR LR
comp=Z,400nm,20.0s
S29A Ulysses 78.80 339 P **P 01 11 49.0 +0.9**
baz=79,SNR=12
R32A Long Quarter, 78.91 341 P **P 01 11 49.0 +0.4**
baz=79,SNR=20
Q34A Chapman 78.95 343 P **P 01 11 49.1 +0.3**
baz=79,SNR=33
S28A Manter 78.99 339 P **P 01 11 49.9 +0.7**
baz=80,SNR=16
R31A Burdett 78.99 341 P **P 01 11 49.6 +0.5**
baz=80,SNR=6.6
KSPA Keystone Colle 79.00 360 *e*P **P 01 11 49.5 +0.5**
comp=Z,23nm,1.1s
BKZ Black Stump Fm 79.03 229 PFAKE 01 12 00.0 +10
BKZ LR LR
comp=Z,1µm,20.0s
KSU1 Kansas State U 79.04 343 P **P 01 11 49.3 -0.1**
baz=80,SNR=10
KSU1 Kansas State U 79.04 343 *e*P **P 01 11 49.3 -0.1**
comp=Z,68nm,1.0s
HDIL Hopedale 79.06 349 P **P 01 11 49.3 -0.1**

baz=80,SNR=24
HDIL Hopedale 79.06 349 *e*P P 01 11 49.0 -0.4
comp=Z,11nm,1.0s
T26A Comanche Natio 79.11 337 P P 01 11 50.8 +0.8
baz=80,SNR=7.4
R30A Dighton 79.19 340 P P 01 11 50.9 +0.7
baz=80
P36A Good Intent, A 79.23 344 P P 01 11 49.6 -0.7
baz=80,SNR=16
Q33A Connelly Farm, 79.23 342 P P 01 11 50.6 +0.2
baz=80,SNR=18
URZ Urewera 79.24 230 PFAKE 01 12 00.0 +9.3
URZ LR LR
comp=Z,1µm,20.0s
P35A Duane Minner, 79.32 344 P P 01 11 50.6 -0.2
baz=80,SNR=14
T25A Trinidad 79.33 337 P P 01 11 52.5 +1.2
baz=80,SNR=57
T25A Trinidad 79.33 337 *e*P P 01 11 52.4 +1.2
comp=Z,145nm,1.3s
T25A LR LR
comp=Z,600nm,18.0s
W18A Petrified Fore 79.34 332 P P 01 11 52.5 +1.2
baz=80,SNR=13
W18A Petrified Fore 79.34 332 *e*P P 01 11 52.2 +0.9
comp=Z,101nm,1.4s
W18A LR LR
comp=Z,1µm,20.0s
S27A Las Animas 79.37 338 P P 01 11 52.2 +0.8
baz=80
Q32A Meitler Ranch, 79.41 342 P P 01 11 51.6 +0.3
baz=80,SNR=10
BRYW Bryant College 79.43 3 *e*P P 01 11 52.3 +0.9
comp=Z,105nm,1.3s
S26A Kim 79.48 337 P P 01 11 53.0 +1.1
baz=80,SNR=17
P34A Walnut Farm, R 79.52 343 P P 01 11 52.6 +0.6
baz=80,SNR=31
CBKS Cedar Bluff 79.54 341 P P 01 11 52.8 +0.7
baz=80,SNR=7.4
R29A Marienthal 79.55 340 P P 01 11 52.9 +0.7
baz=80
GLA Glamis 79.59 327 P P 01 11 54.3 +1.7
baz=80,SNR=13
GLA Glamis 79.59 327 *e*P P 01 11 53.8 +1.2
comp=Z,76nm,1.5s
P33A Williams Farm, 79.62 342 P P 01 11 53.1 +0.6
baz=80
Q31A Ellis 79.63 341 P P 01 11 53.3 +0.7
baz=80,SNR=8.5
R28A Tribune 79.66 339 P P 01 11 53.5 +0.6
baz=80,SNR=11
O36A Bolckow 79.67 345 P P 01 11 52.0 -0.7
baz=80,SNR=5.9
QUA2 Belchertown 79.76 2 *e*P P 01 11 53.8 +0.7
comp=Z,76nm,1.0s
IBP Imperial Bould 79.82 326 P P 01 11 55.1 +1.3
baz=80
Q30A Quinter 79.82 340 P P 01 11 54.5 +0.8
baz=80,SNR=19
R27A Eads 79.90 338 P P 01 11 54.8 +0.6
baz=80,SNR=16
SWSC Sam W. Stewart 79.92 326 P P 01 11 55.8 +1.5
baz=80,SNR=7.7
Q29A Oakley 79.94 340 P P 01 11 54.7 +0.3
baz=80,SNR=7.2
O35A Humboldt 80.00 344 P P 01 11 53.7 -0.8
baz=80,SNR=6.0
HRV Adam Dziewonsk 80.01 3 *e*P P 01 11 55.5 +1.0
comp=Z,69nm,1.0s
P32A Huiting Farm, 80.01 342 P P 01 11 55.0 +0.4
baz=80,SNR=5.3
Y12C Blythe 80.06 328 P P 01 11 56.9 +1.9
baz=80,SNR=28
BAR Barrett 80.09 325 *e*P P 01 11 56.5 +1.2
comp=Z,31nm,1.3s
O34A Beatrice 80.10 343 P P 01 11 55.2 +0.1
baz=81,SNR=22
R26A Arlington 80.10 338 P P 01 11 56.1 +0.9
baz=81,SNR=34
P31A Stockton 80.11 341 P P 01 11 55.8 +0.6
baz=81,SNR=8.6
AAM Ann Arbor 80.11 354 *e*P P 01 11 54.6 -0.5
comp=Z,84nm,1.0s
MONP Monument Peak, 80.16 326 P P 01 11 57.4 +1.6
baz=81,SNR=5.1
TRY Troy 80.18 1 *e*P P 01 11 56.2 +0.8
comp=Z,111nm,1.1s
O33A Hebron 80.20 343 P P 01 11 55.9 +0.3
baz=81,SNR=22
MMNY Mt. Morris Dam 80.21 358 *e*P P 01 11 55.6 0.0
comp=Z,263nm,1.2s
SDCO Great Sand Dun 80.23 336 P P 01 11 57.2 +1.0
baz=81,SNR=19
SDCO Great Sand Dun 80.23 336 *e*P P 01 11 56.6 +0.4
comp=Z,26nm,1.1s
SDCO LR LR
comp=Z,600nm,19.0s
WUAZ Wupatki 80.32 331 P P 01 11 58.3 +1.7
baz=81,SNR=32
WUAZ Wupatki 80.32 331 *e*P P 01 11 57.7 +1.2
comp=Z,86nm,1.4s
WUAZ LR LR
comp=Z,500nm,21.0s
Q28A Sharon Springs 80.34 339 P P 01 11 57.4 +0.9
baz=81,SNR=7.8
P30A Selden 80.36 341 P P 01 11 57.3 +0.7
baz=81,SNR=12
PDMCI Parker Dam,Lak 80.37 328 P P 01 11 58.1 +1.5
baz=81,SNR=6.1
BC3 Big Chuckawall 80.38 327 P P 01 11 58.4 +1.5
baz=81,SNR=19
109C Camp Elliot, M 80.46 325 P P 01 11 58.9 +1.8
baz=81
BOSA Boshof 80.51 119 *e*P P 01 11 57.5 -0.4
BOSA AMB AMB 01 11 59.5
comp=Z,45nm,1.1s
BOSA AMS AMS 01 43 49.9
comp=Z,1µm,21.5s
BOSA Boshof 80.51 119 P P 01 11 58.5 +0.6
comp=Z,23nm,0.9s,baz=220,slow=5.5,SNR=20
BOSA LR LR 01 44 09.7
comp=Z,1µm,20.1s,baz=234,slow=33
BOSA Boshof 80.51 119 *e*P P 01 11 57.4 -0.6
N35A Tabor 80.51 344 P P 01 11 57.3 0.0
baz=81
KSCO Kaye Shedlock' 80.52 339 P P 01 11 58.6 +1.1
baz=81,SNR=7.8
KSCO Kaye Shedlock' 80.52 339 PFAKE 01 12 10.0 +12
KSCO LR LR
comp=Z,600nm,18.0s
O32A Brockman Farm, 80.54 342 P P 01 11 57.8 +0.4
baz=81,SNR=5.6
TSUM Tsumeb 80.58 107 *e*P P 01 11 59.5 +1.1
TSUM Tsumeb 80.58 107 *e*P P 01 11 58.5 0.0
comp=Z,11nm,1.0s
TSUM LR LR
comp=Z,2µm,21.0s
P29A Atwood 80.60 340 P P 01 11 58.9 +1.0
baz=81,SNR=9.3
S22A 4UR Ranch, Cre 80.67 335 P P 01 11 59.8 +1.2
baz=81,SNR=37
S22A 4UR Ranch, Cre 80.67 335 *e*P P 01 11 59.2 +0.6
comp=Z,92nm,1.6s
S22A LR LR
comp=Z,800nm,22.0s
N34A Lincoln 80.68 344 P P 01 11 58.1 -0.1
baz=81,SNR=12
IRM Iron Mountain 80.68 327 P P 01 11 59.8 +1.5
baz=81,SNR=16
O31A Woolen Ranch, 80.69 341 P P 01 11 58.7 +0.4
baz=81,SNR=6.2
Q26A Hugo 80.70 338 P P 01 11 59.5 +0.9
baz=81,SNR=12
MVCO Mesa Verde 80.76 334 P P 01 12 00.3 +1.3
baz=81,SNR=25
MVCO Mesa Verde 80.76 334 *e*P P 01 11 59.7 +0.7
comp=Z,72nm,1.3s
MVCO LR LR
comp=Z,1µm,19.0s
PFO Pinyon Flats O 80.78 326 *e*P P 01 12 01.5 +2.5
PFO Pinyon Flats O 80.78 326 P P 01 12 00.9 +1.9
baz=81,SNR=22
PFO Pinyon Flats O 80.78 326 *e*P P 01 12 00.3 +1.3
comp=Z,64nm,1.2s
PFO LR LR
comp=Z,600nm,20.0s
P28A Saint Francis 80.80 339 P P 01 12 00.1 +1.1
baz=81,SNR=6.1
N33A J Bar K, Exete 80.80 343 P P 01 11 59.2 +0.4
baz=81,SNR=6.0
ACCN Adirondack Com 80.83 1 *e*P P 01 11 59.6 +0.7
comp=Z,80nm,1.1s
ACCN LR LR
comp=Z,500nm,20.0s
O30A MW Ranch, Wils 80.91 341 P P 01 12 00.3 +0.8
baz=81,SNR=7.7
BELC Belle Mtn. Jos 80.91 327 P P 01 12 01.6 +1.8
baz=81,SNR=11
NEE2 Needles Airpor 80.98 328 P P 01 12 01.2 +1.3
baz=81
P27A Ficken Ranch, 81.01 339 P P 01 12 01.0 +0.9
baz=82,SNR=6.7
N32A Stulken Farm, 81.02 342 P P 01 12 00.9 +0.9
baz=82
SCIA State Center 81.04 346 *e*P P 01 11 59.6 -0.4
comp=Z,85nm,1.0s
O29A 4D Ranch, Culb 81.05 340 P P 01 12 01.3 +1.1
baz=82,SNR=5.5
MURC Murrieta 81.10 326 P P 01 12 02.0 +1.3
baz=82,SNR=8.6
M35A Neola 81.11 345 P P 01 12 00.2 -0.2
baz=82
HNH Hanover 81.19 2 *e*P P 01 12 02.1 +1.4
comp=Z,46nm,0.9s
SCI San Clemente I 81.20 324 P P 01 12 03.3 +2.2
baz=82
Q24A Divide 81.23 337 P P 01 12 02.5 +1.0
baz=82,SNR=31
Q24A Divide 81.23 337 *e*P P 01 12 02.4 +0.9
comp=Z,72nm,1.1s
Q24A LR LR
comp=Z,300nm,19.0s
N31A Bailey Ranch, 81.24 342 P P 01 12 02.2 +1.0
baz=82
P26A Davis Ranch, A 81.24 338 P P 01 12 02.4 +1.1
baz=82
O28A Krutsinger Ran 81.32 340 P P 01 12 02.8 +1.1
baz=82,SNR=7.7
M34A Aspy Farms, Fr 81.33 344 P P 01 12 02.1 +0.5
baz=82
NCB Newcomb 81.41 1 *e*P P 01 12 02.3 +0.3
comp=Z,29nm,0.9s
NCB LR LR
comp=Z,700nm,20.0s
GMRC Granite Mounta 81.43 327 P P 01 12 04.2 +1.7
baz=82,SNR=12
LDFC Landfair 81.45 328 *e*P P 01 12 04.0 +1.5
comp=Z,83nm,1.4s
MDV Middlebury 81.46 1 *e*P P 01 12 02.4 +0.2
N30A Hueftle Ranch, 81.50 341 P P 01 12 03.4 +0.8
baz=82
JFWS Jewell Farm 81.52 349 *e*P P 01 12 02.2 -0.3
comp=Z,82nm,1.0s
M33A Taylor Creek F 81.53 343 P P 01 12 02.5 -0.2
baz=82
BBRC Big Bear Solar 81.54 326 P P 01 12 04.6 +1.4
baz=82
O27A Beecher Island 81.57 339 P P 01 12 04.1 +1.0
baz=82,SNR=16
BGNE Belgrade 81.60 343 P P 01 12 03.6 +0.5
baz=82,SNR=6.0
BGNE Belgrade 81.60 343 *e*P P 01 12 03.3 +0.3
comp=Z,141nm,1.0s
PV01 Paradox Valley 81.61 334 *e*P P 01 12 04.3 +0.8
N29A Votaw Ranch, W 81.66 341 P P 01 12 04.5 +1.0
baz=82,SNR=5.8
L35A Bielow Farm, R 81.69 345 P P 01 12 03.7 +0.1
baz=82,SNR=7.7
L34A Svendsen Farm, 81.73 344 P P 01 12 03.6 -0.1
baz=82
M31A Lambtecht Ranc 81.73 342 P P 01 12 04.5 +0.7
baz=82,SNR=7.3
PV05 Paradox Valley 81.75 334 *e*P P 01 12 04.9 +0.7
HEC Hector,Ludlow 81.76 327 P P 01 12 06.3 +2.2
baz=82
N28A Pribbeno Ranch 81.78 340 P P 01 12 04.9 +0.8
baz=82
BFSC Mount Baldy Ra 81.85 326 P P 01 12 06.3 +1.6
baz=82,SNR=14
O26A Horse Wrangler 81.86 339 P P 01 12 05.7 +1.1
baz=82
PV04 Paradox Valley 81.96 334 *e*P P 01 12 05.6 +0.3
PV10 Paradox Valley 81.99 334 *e*P P 01 12 06.0 +0.5
PTN Potsdam (NY) 82.01 0 *e*P P 01 12 05.4 +0.4
comp=Z,132nm,1.0s
SMCO Snowmass 82.01 336 *e*P P 01 12 06.7 +0.9
comp=Z,93nm,1.3s
MWC Mount Wilson 82.01 325 *e*P P 01 12 07.2 +1.5
comp=Z,41nm,1.3s
PASC Padena Art C 82.03 325 *e*P P 01 12 06.7 +1.2
comp=Z,48nm,1.3s
PASC LR LR
comp=Z,900nm,18.0s
LONY Lake Ozonia 82.06 0 *e*P P 01 12 05.8 +0.4
comp=Z,86nm,1.0s
RRX Edison Barstow 82.09 326 P P 01 12 07.9 +2.1
baz=82
TUQ Turquoise Moun 82.10 327 P P 01 12 07.8 +1.8
baz=82,SNR=24
PV09 Paradox Valley 82.13 334 *e*P P 01 12 07.0 +0.7
M30A Dale-Ortello V 82.14 342 P P 01 12 06.5 +0.6
baz=83
ISCO Idaho Springs 82.14 337 P P 01 12 07.4 +1.1
baz=83,SNR=31
ISCO Idaho Springs 82.14 337 *e*P P 01 12 06.8 +0.4
comp=Z,49nm,1.3s
ISCO LR LR
comp=Z,400nm,19.0s
OGNE Ogallala 82.15 340 P P 01 12 07.0 +0.9
baz=83,SNR=9.4
WVL Waterville 82.15 4 *e*P P 01 12 07.1 +1.3
comp=Z,75nm,1.1s
DECC Green Verdugo 82.16 325 P P 01 12 07.9 +1.7
baz=83
N27A Anderson Farm, 82.16 339 P P 01 12 07.4 +1.2
baz=83,SNR=18
KNB Kanab 82.19 330 *e*P P 01 12 07.9 +1.4
comp=Z,103nm,1.2s
KNB LR LR
comp=Z,800nm,18.0s
M29A Burnside Ranch 82.26 341 P P 01 12 07.6 +1.0
baz=83
SEK Senekal 82.32 120 *e*P P 01 12 08.1 +0.5
SEK AMB AMB 01 12 09.2
comp=Z,41nm,1.0s
GSC Goldstone, Bar 82.36 327 P P 01 12 09.3 +2.0
baz=83,SNR=15
GSC Goldstone, Bar 82.36 327 *e*P P 01 12 07.3 0.0
N26A Koester Ranch, 82.37 339 P P 01 12 08.7 +1.5
baz=83
BLG Laguna Peak, P 82.38 325 P P 01 12 09.0 +1.7
baz=83
M28A Bar X Bar Ranc 82.39 340 P P 01 12 08.5 +1.1
baz=83
EMMW East Machias 82.44 6 *e*P P 01 12 07.3 -0.1
comp=Z,53nm,0.9s
EMMW LR LR
comp=Z,600nm,20.0s
L30A Spencer Herefo 82.49 342 P P 01 12 08.6 +0.8
baz=83,SNR=9.7
L31A Butterfield Fa 82.49 342 P P 01 12 08.8 +1.1
baz=83,SNR=14
EDW2 Edwards Air Fo 82.53 326 P P 01 12 09.3 +1.2
baz=83,SNR=14
BSC Santa Cruz Isl 82.54 324 P P 01 12 09.9 +1.7
baz=83
OSI Osito Audit: C 82.64 325 P P 01 12 10.4 +1.7
baz=83
OSI Osito Audit: C 82.64 325 *e*P P 01 12 09.9 +1.2
comp=Z,61nm,1.1s
SHOC Shoshone, Teco 82.65 327 P P 01 12 09.9 +1.2
baz=83,SNR=6.1
SHPR Sheep Range 82.69 329 *e*P P 01 12 10.1 +1.0
GLMI Grayling 82.70 353 *e*P P 01 12 08.5 -0.2
comp=Z,46nm,0.9s
L29A Maesberg Ranch 82.79 341 P P 01 12 10.5 +1.2
baz=83
M27A Reverse DX Ran 82.79 340 P P 01 12 10.4 +1.0
baz=83
CCUT Cedar City 82.87 330 *e*P P 01 12 11.7 +1.6
comp=Z,70nm,1.3s
CCUT LR LR
comp=Z,900nm,18.0s
PKME Peaks-Kenny Pk 82.87 4 *e*P P 01 12 09.7 +0.1
comp=Z,26nm,1.0s
LRMC Laurel Mtn Rad 82.90 326 P P 01 12 12.0 +1.8
baz=83,SNR=23
M26A McRoberts Ranc 82.94 339 P P 01 12 11.3 +1.1
baz=83
LBTB Lobatse 82.96 116 *e*P P 01 12 11.5 +0.6
LBTB AMB AMB 01 12 12.5
comp=Z,52nm,1.1s
LBTB AMS AMS 01 51 23.4
comp=Z,1µm,15.7s
LBTB Lobatse 82.96 116 *e*P P 01 12 10.5 -0.4
comp=Z,58nm,1.2s
L28A Connealy Angus 83.00 341 P P 01 12 11.7 +1.2
baz=84
PRYS Parys 83.01 119 *e*P P 01 12 10.9 -0.3
PRYS AMB AMB 01 12 13.0
comp=Z,367nm,3.7s
ARVC Arvin 83.11 325 P P 01 12 13.1 +2.0
baz=84
K30A Basset 83.15 342 P P 01 12 11.7 +0.6
baz=84,SNR=5.7
SRU San Rafael Swe 83.17 333 *e*P P 01 12 11.9 +0.4
comp=Z,42nm,1.1s
M25A Palm-Egli Farm 83.17 339 P P 01 12 12.1 +0.6
baz=84,SNR=7.3
N23A Red Feather La 83.24 337 P P 01 12 13.0 +1.0
baz=84,SNR=39
N23A Red Feather La 83.24 337 *e*P P 01 12 12.7 +0.7
comp=Z,66nm,1.0s
N23A LR LR
comp=Z,400nm,20.0s
MSU Marysvale 83.25 332 *e*P P 01 12 13.2 +1.1
MVU Marysvale 83.26 332 *e*P P 01 12 12.4 +0.3
comp=Z,67nm,1.4s
MVU LR LR
comp=Z,1µm,18.0s
L27A T5 Ranch, Ells 83.29 340 P P 01 12 13.2 +1.2
baz=84
O20A White River Ci 83.30 335 P P 01 12 13.1 +0.9
baz=84,SNR=24
O20A White River Ci 83.30 335 *e*P P 01 12 13.0 +0.8
comp=Z,52nm,1.0s
O20A LR LR
comp=Z,900nm,19.0s
MPMC Manual Prospec 83.30 327 P P 01 12 13.7 +1.3
baz=84,SNR=19
OUZ Omahuta 83.36 230 PFAKE 01 12 20.0 +7.4
OUZ LR LR
comp=Z,1µm,20.0s
PKM Mcpherson Peak 83.37 324 P P 01 12 14.1 +1.4
baz=84,SNR=19
FURC Furnace Creek, 83.38 327 P P 01 12 14.2 +1.8
baz=84,SNR=23
K29A Lazy Trails An 83.40 342 P P 01 12 13.3 +0.8
baz=84
ISA Isabella, Lake 83.40 326 P P 01 12 14.6 +1.9
baz=84,SNR=22
ISA Isabella, Lake 83.40 326 *e*P P 01 12 13.9 +1.2
comp=Z,45nm,1.1s
ISA LR LR
comp=Z,600nm,18.0s
L26A Underwood Farm 83.45 339 P P 01 12 13.5 +0.7
baz=84
PHWY Pilot Hill 83.47 338 *e*P P 01 12 13.7 +0.5
comp=Z,55nm,1.0s
ECSD EROS Data Cent 83.47 345 P P 01 12 13.1 +0.4
baz=84,SNR=131
ECSD EROS Data Cent 83.47 345 *e*P P 01 12 12.7 -0.1
comp=Z,158nm,1.0s
TPNV Topopah Spring 83.52 328 P P 01 12 15.2 +1.8
baz=84,SNR=26
TPNV Topopah Spring 83.52 328 *e*P P 01 12 14.8 +1.4
comp=Z,62nm,1.4s
TPNV LR LR
comp=Z,500nm,19.0s
DAC Darwin (Calif) 83.53 327 *e*P P 01 12 14.5 +1.0
comp=Z,62nm,1.2s
DAC LR LR
comp=Z,300nm,18.0s
TMUT Trail Mountain 83.58 333 *e*P P 01 12 15.0 +1.2
comp=Z,73nm,1.3s
CRZF Crozet Islands 83.62 146 S S 01 22 27.0 -7.1
CRZF SS SS 01 27 51.0 -8.5
CRZF L L 01 34 00.0
CRZF R 01 39 00.0
K28A Ten Mile Ranch 83.62 341 P P 01 12 14.7 +1.0
baz=84,SNR=15
J30A Dallas 83.73 342 P P 01 12 14.4 +0.3
baz=84,SNR=6.6
SMMC Simmler 83.80 325 P P 01 12 16.7 +2.0
baz=84,SNR=6.2
L25A Engebretsen Ra 83.81 339 P P 01 12 15.9 +1.2
baz=84
VES Vestal, Richgr 83.82 325 P P 01 12 16.2 +1.5
baz=84,SNR=15
K27A Flueckinger Fa 83.84 340 P P 01 12 15.8 +1.0
baz=84,SNR=12
CWC Cottonwood Cre 83.88 326 P P 01 12 16.9 +1.6
baz=84,SNR=6.2
J29A Okreek 84.01 342 P P 01 12 16.1 +0.6
baz=84,SNR=26
GRAC Grapevine Rang 84.04 327 P P 01 12 17.8 +1.9
baz=84,SNR=8.4
K26A Motz Farm, Whi 84.10 340 P P 01 12 17.1 +1.0
baz=85
SPMN Marine on St. 84.18 348 P P 01 12 15.8 -0.5
baz=85,SNR=16
SPMN Marine on St. 84.18 348 *e*P P 01 12 15.7 -0.6
comp=Z,73nm,0.9s
SPMN LR LR
comp=Z,400nm,21.0s
K25A Mack Ranch, Ha 84.21 339 P P 01 12 18.2 +1.5
baz=85
J28A Allard Ranch, 84.25 341 P P 01 12 17.6 +0.8
baz=85,SNR=14
I30A Oacoma 84.27 343 P P 01 12 17.1 +0.2
baz=85,SNR=5.2
RCTC Rector, Farmer 84.28 326 P P 01 12 18.0 +1.0
baz=85
J27A Elkhorn Farm, 84.29 341 P P 01 12 18.3 +1.2
baz=85,SNR=13
RWWY Rawlins 84.36 336 PFAKE 01 12 30.0 +12
RWWY LR LR
comp=Z,900nm,18.0s
MPU Maple Canyon 84.37 333 *e*P P 01 12 18.5 +0.8
comp=Z,213nm,1.1s
MPU LR LR
comp=Z,4µm,19.0s
SLR Silverton 84.40 118 *e*P P 01 12 18.7 +0.3
SLR AMB AMB 01 12 19.6
comp=Z,70nm,1.1s
R11A Troy Canyon, C 84.44 329 P P 01 12 19.7 +1.6
baz=85,SNR=63
R11A Troy Canyon, C 84.44 329 *e*P P 01 12 19.3 +1.2
comp=Z,51nm,1.3s
R11A LR LR
comp=Z,800nm,19.0s
TIN Tinemaha, Big 84.46 327 P P 01 12 20.0 +1.9
baz=85
NLU North Lily Min 84.48 332 *e*P P 01 12 19.0 +0.7
comp=Z,110nm,1.6s
NLU LR LR
comp=Z,1µm,19.0s
K24A Anderson Ranch 84.58 339 P P 01 12 19.6 +1.0
baz=85,SNR=12
I29A Vivian Onida 84.58 342 P P 01 12 18.4 -0.1
baz=85
J26A Sides Ranch, S 84.64 340 P P 01 12 19.9 +1.1
baz=85,SNR=19
I28A Midland 84.78 341 P P 01 12 19.7 +0.3
baz=85,SNR=33
JLU Jordanelle 84.82 333 PFAKE 01 12 30.0 +10
JLU LR LR
comp=Z,1µm,18.0s
K23A Bowen Ranch, D 84.85 338 P P 01 12 20.5 +0.5
baz=85,SNR=18
TPH Tonopah 84.89 328 *e*P P 01 12 21.3 +1.0
comp=Z,82nm,1.3s
TPH LR LR
comp=Z,700nm,18.0s
J25A Sunshine Ranch 84.91 339 P P 01 12 20.8 +0.6
baz=85,SNR=8.1
DUG Dugway, Tooele 84.96 332 P P 01 12 21.9 +1.3
baz=85,SNR=88
DUG Dugway, Tooele 84.96 332 *e*P P 01 12 21.6 +1.0
comp=Z,116nm,1.3s
DUG LR LR
comp=Z,1µm,18.0s
CTU Camp Tracy 85.01 333 *e*P P 01 12 21.2 +0.3

comp=Z,16nm,1.1s
CTU LR LR
comp=Z,1µm,20.0s
K22A Casper 85.02 337 P **P** 01 12 21.6 +0.7
baz=86,SNR=47
K22A Casper 85.02 337 *e*P **P** 01 12 21.3 +0.4
comp=Z,124nm,1.1s
K22A LR LR
comp=Z,300nm,19.0s
I27A Quinn 85.07 341 P **P** 01 12 21.2 +0.3
baz=86,SNR=12
J24A Dixon Ranch, L 85.09 339 P **P** 01 12 21.9 +0.8
baz=86,SNR=13
H29A Onida 85.13 342 P **P** 01 12 21.2 +0.1
baz=86,SNR=13
XMAS Kiritimati 85.14 276 PFAKE 01 12 30.0 +8.0
XMAS LR LR
comp=Z,2µm,19.0s
MLAC Mammoth, Mammo 85.20 327 P **P** 01 12 23.5 +1.5
baz=86,SNR=7.6
I26A New Underwood 85.24 340 P **P** 01 12 22.1 +0.2
baz=86,SNR=5.5
TCUT Toone Canyon 85.26 333 PFAKE 01 12 30.0 +7.8
TCUT LR LR
comp=Z,1µm,18.0s
G30A Faulkton 85.36 343 P **P** 01 12 22.2 -0.1
baz=86,SNR=9.2
H28A Mission Ridge 85.37 342 P **P** 01 12 22.4 0.0
baz=86
J23A Dilts Ranch, B 85.42 338 P **P** 01 12 23.2 +0.4
baz=86
I25A Rochford 85.47 340 P **P** 01 12 23.7 +0.6
baz=86,SNR=48
I24A Kuemmerle Ranc 85.57 339 P **P** 01 12 24.1 +0.5
baz=86,SNR=8.6
G29A Hoven 85.59 343 P **P** 01 12 23.5 +0.1
baz=86,SNR=9.4
H27A Howes 85.60 341 P **P** 01 12 23.6 0.0
baz=86,SNR=17
NV01 Mina Array Sit 85.64 327 *e*P **P** 01 12 25.6 +1.5
NV01 *e*PKKPbc **PKKPbc** 01 30 27.1 -0.4
NVAR Mina Array Bea 85.64 327 P **P** 01 12 25.6 +1.5
comp=Z,9.5nm,1.0s,baz=148,slow=5.8,SNR=60
NVAR PKKPbc **PKKPbc** 01 30 27.1 -0.4
comp=Z,0.8nm,0.8s,baz=320,slow=2.4,SNR=5.0
RSSD Black Hills 85.65 340 *e*P **P** 01 12 24.1 +0.1
comp=Z,38nm,0.8s
RSSD LR LR
comp=Z,300nm,18.0s
BGU Big Grassy Mou 85.68 332 *e*P **P** 01 12 24.6 +0.5
comp=Z,92nm,1.7s
BGU LR LR
comp=Z,1µm,18.0s
J22A Midwest 85.70 338 P **P** 01 12 24.1 -0.1
baz=86,SNR=18
G28A Parade 85.72 342 P **P** 01 12 24.4 +0.3
baz=86,SNR=13
HWUT Hardware Ranch 85.75 333 *e*P **P** 01 12 25.0 +0.5
comp=Z,144nm,1.3s
HWUT LR LR
comp=Z,900nm,18.0s
H26A Fairpoint 85.77 341 P **P** 01 12 24.5 +0.1
baz=86,SNR=6.4
I23A Meade Ranch, G 85.90 339 P **P** 01 12 25.3 +0.1
baz=86
J21A Lysite 85.94 337 P **P** 01 12 26.0 +0.5
baz=86,SNR=32
H25A Fruitdale 85.99 340 P **P** 01 12 25.7 +0.2
baz=86,SNR=13
F30A Leola 86.00 344 P **P** 01 12 25.6 +0.2
baz=86
BW06 Boulder Array 86.09 335 *e*P **P** 01 12 26.3 0.0
comp=Z,69nm,1.2s
BW06 LR LR
comp=Z,1µm,20.0s
PD31 Pinedale Array 86.09 335 *e*P **P** 01 12 26.8 +0.5
PD31 *e*PKKPbc **PKKPbc** 01 30 25.1 -1.7
PDAR Pinedale Array 86.09 335 P **P** 01 12 26.8 +0.5
comp=Z,29nm,1.0s,baz=134,slow=3.9,SNR=95
PDAR PKKPbc **PKKPbc** 01 30 25.1 -1.7
comp=Z,0.2nm,0.4s,baz=305,slow=5.3,SNR=3.0
PDAR LR LR 01 46 31.9
comp=Z,926nm,19.0s,baz=163,slow=33
I22A 9 Mile Ranch, 86.14 338 P **P** 01 12 26.4 0.0
baz=87,SNR=20
J20A Shoshoni 86.14 337 P **P** 01 12 27.5 +1.1
baz=87,SNR=115
F29A Eureka 86.18 343 P **P** 01 12 26.3 -0.1
baz=87,SNR=15
WAKR Walker 86.19 327 *e*P **P** 01 12 27.9 +1.0
CMB Columbia Colle 86.22 326 *e*P **P** 01 12 26.4 -0.4
comp=Z,26nm,1.3s
CMB LR LR
comp=Z,600nm,22.0s
G27A Dupree 86.26 341 P **P** 01 12 26.8 0.0
baz=87,SNR=11
I21A Big Trails, Te 86.31 337 P **P** 01 12 27.2 0.0
baz=87,SNR=68
HVU Hansel Valley 86.33 333 *e*P **P** 01 12 27.8 +0.4
comp=Z,69nm,1.1s
HVU *e*PP **PP** 01 15 51.0 +1.8
HVU LR LR
comp=Z,800nm,18.0s
G26A Maurine 86.35 341 P **P** 01 12 27.4 +0.1
baz=87,SNR=44
ELK Elko 86.36 331 *e*P **P** 01 12 28.6 +0.9
comp=Z,47nm,1.2s
H24A Dirks Ranch, A 86.37 339 P **P** 01 12 27.2 -0.2
baz=87,SNR=19
J19A Crowheart 86.37 336 P **P** 01 12 28.1 +0.6
baz=87,SNR=50
F28A McLaughlin 86.42 342 P **P** 01 12 27.7 +0.2
baz=87,SNR=15
H23A Clabaugh Cattl 86.44 339 P **P** 01 12 27.2 -0.6
baz=87
G25A Newell 86.47 340 P **P** 01 12 28.2 +0.4
baz=87,SNR=28
E30A Jud 86.60 344 P **P** 01 12 28.3 -0.1
baz=87,SNR=9.6
AHID Auburn Hatcher 86.61 334 *e*P **P** 01 12 28.9 +0.1
comp=Z,72nm,1.2s
AHID LR LR
comp=Z,700nm,19.0s
EYMN Ely 86.62 349 P **P** 01 12 28.2 -0.2
baz=87,SNR=8.9
EYMN Ely 86.62 349 *e*P **P** 01 12 28.3 -0.2
comp=Z,84nm,1.3s
EYMN LR LR
comp=Z,500nm,18.0s
I20A Worland 86.69 337 P **P** 01 12 29.7 +0.6
baz=87,SNR=71
H22A Clearmont 86.74 338 P **P** 01 12 29.2 -0.1
baz=87,SNR=7.4
F27A Lemmon 86.74 342 P **P** 01 12 29.2 0.0
baz=87,SNR=26
E29A Napoleon 86.83 343 P **P** 01 12 29.6 0.0
baz=87,SNR=8.4
G24A Alzada 86.86 340 P **P** 01 12 29.6 -0.2
baz=87
BMN Battle Mountai 86.88 329 *e*P **P** 01 12 29.7 -0.4
comp=Z,13nm,1.3s
BMN LR LR
comp=Z,600nm,18.0s
F26A Lodgepole 86.89 341 P **P** 01 12 29.9 0.0
baz=87,SNR=16
H21A Big Horn, Sher 86.98 338 P **P** 01 12 30.0 -0.4
baz=87
G23A Biddle 87.02 339 P **P** 01 12 30.2 -0.3
baz=88,SNR=7.7
I19A Meeteetse 87.05 336 P **P** 01 12 31.4 +0.5
baz=88,SNR=30
REDW Red Top Meadow 87.05 335 *e*P **P** 01 12 31.2 +0.2
comp=Z,50nm,1.0s
REDW LR LR
comp=Z,900nm,18.0s
E28A Huff 87.08 343 P **P** 01 12 31.0 +0.3
baz=88,SNR=18
SNOW Snow King Moun 87.11 335 *e*P **P** 01 12 31.4 +0.2
comp=Z,37nm,0.9s
SNOW LR LR
comp=Z,800nm,20.0s
H20A Greybull 87.14 337 P **P** 01 12 31.2 0.0
baz=88,SNR=41
D30A Buchanan 87.14 344 P **P** 01 12 31.3 +0.3
baz=88,SNR=27
E27A Carson 87.15 342 P **P** 01 12 31.2 +0.1
baz=88,SNR=9.3
F25A Bowman 87.16 341 P **P** 01 12 31.0 -0.2
baz=88,SNR=11
LOHW Long Hollow 87.19 335 *e*P **P** 01 12 31.9 +0.2
comp=Z,37nm,1.0s
LOHW LR LR
comp=Z,1µm,20.0s
TPAW Teton Pass 87.20 335 *e*P **P** 01 12 32.1 +0.4
comp=Z,65nm,1.0s
TPAW LR LR
comp=Z,700nm,18.0s
D29A Pettibone, Tap 87.28 344 P **P** 01 12 31.7 0.0
baz=88,SNR=5.2
G22A Birney 87.29 339 P **P** 01 12 31.6 -0.4
baz=88,SNR=6.4
F24A Ekalaka 87.35 340 P **P** 01 12 32.1 -0.1
baz=88,SNR=14
FXWY Fox Creek 87.36 335 *e*P **P** 01 12 32.6 +0.1
comp=Z,30nm,1.0s
FXWY LR LR
comp=Z,700nm,18.0s
MOOW Moose Ponds 87.36 335 *e*P **P** 01 12 32.4 -0.1
comp=Z,18nm,0.9s
MOOW LR LR
comp=Z,900nm,20.0s
E26A Carlson Angus 87.41 342 P **P** 01 12 32.4 0.0
baz=88,SNR=23
F23A Volborg 87.50 339 P **P** 01 12 32.3 -0.6
baz=88,SNR=8.7
IMW Indian Meadow 87.56 335 *e*P **P** 01 12 34.0 +0.6
comp=Z,79nm,1.1s
IMW LR LR
comp=Z,700nm,18.0s
G21A Lodge Grass 87.57 338 P **P** 01 12 33.1 -0.1
baz=88,SNR=14
H19A Powell 87.61 337 P **P** 01 12 33.9 +0.4
baz=88,SNR=24
D28A Regan 87.63 343 P **P** 01 12 33.6 +0.2
baz=88,SNR=17
FLWY Flagg Ranch 87.64 335 *e*P **P** 01 12 34.4 +0.6
comp=Z,90nm,0.9s
FLWY LR LR
comp=Z,1µm,20.0s
C30A Mose, Pekin 87.65 344 P **P** 01 12 34.0 +0.5
baz=88,SNR=35
E25A Miller Ranch, 87.68 341 P **P** 01 12 34.0 +0.3
baz=88,SNR=11
AGMN Agassiz Nation 87.69 346 P **P** 01 12 34.0 +0.4
baz=88,SNR=32
AGMN Agassiz Nation 87.69 346 *e*P **P** 01 12 33.3 -0.3
comp=Z,93nm,0.9s
AGMN LR LR
comp=Z,500nm,20.0s
D27A Center 87.78 342 P **P** 01 12 34.1 0.0
baz=88,SNR=6.9
OHCM Honcut 87.78 326 *e*P **P** 01 12 35.1 +0.9
MSNA Messina 87.78 117 *e*P **P** 01 12 35.5 +0.6
MSNA AMB AMB 01 12 36.6
comp=Z,24nm,1.0s
F22A Rosebud 87.79 339 P **P** 01 12 34.1 -0.2
baz=88
TOA0 Torodi Ar. Sit 87.86 72 *e*P **P** 01 12 34.2 -1.0
TOA0 Torodi Ar. Sit 87.86 72 *e*P **P** 01 12 35.4 +0.2
TOA0 *e*PP **PP** 01 16 00.3 -1.3
TOA0 *e*PKKPdf **PKKPbc** 01 30 21.9 +1.3
TORD Torodi Ar. Bea 87.86 72 P **P** 01 12 35.4 +0.2
comp=Z,18nm,1.0s,baz=235,slow=4.0,SNR=67
TORD PP **PP** 01 16 00.3 -1.3
comp=Z,2.9nm,1.0s,baz=245,slow=6.3,SNR=4.0
TORD PKKPbc **PKKPbc** 01 30 21.9 +1.3
comp=Z,0.4nm,0.7s,baz=46,slow=1.5,SNR=5.8
TORD LR LR 01 53 11.1
comp=Z,639nm,18.1s,baz=230,slow=36
G20A Bridger 87.87 337 P **P** 01 12 34.5 -0.2
baz=88,SNR=19
H17A Grant Village 87.88 335 P **P** 01 12 36.6 +1.6
baz=88
H17A Grant Village 87.88 335 *e*P **P** 01 12 34.8 -0.2
comp=Z,21nm,1.1s
H17A LR LR
comp=Z,2µm,20.0s
D26A Manning 87.93 342 P **P** 01 12 35.0 +0.2
baz=88,SNR=14
PAF Port-aux-Franc 87.95 158 P P 01 12 21.0 -14
PAF Port-aux-Franc 87.95 158 S S 01 22 49.0 -27
PAF SS SS 01 28 45.0 -18
PAF L L 01 35 00.0
PAF R 01 43 00.0
LKWY Lake 87.97 336 PFAKE 01 12 50.0 +15
LKWY LR LR
comp=Z,1µm,19.0s
E24A Baker 87.97 340 P **P** 01 12 35.3 +0.2
baz=88,SNR=9.9
YFT Old Faithful 88.01 335 *e*P **P** 01 12 36.0 +0.4
comp=Z,56nm,1.2s
MDND Maddock 88.03 344 P **P** 01 12 35.5 +0.3
baz=88,SNR=23
MDND Maddock 88.03 344 *e*P **P** 01 12 35.9 +0.6
comp=Z,286nm,1.0s
C28A Hausauer Farms 88.08 343 P **P** 01 12 35.6 +0.1
baz=89,SNR=6.9
F21A Absaloka Mine, 88.08 338 P **P** 01 12 35.9 +0.3
baz=89
RLMT Red Lodge 88.10 337 P **P** 01 12 36.5 +0.6
baz=89,SNR=37
E23A Ismay 88.19 340 P **P** 01 12 35.6 -0.4
baz=89,SNR=8.6
YMR Madison River 88.25 335 *e*P **P** 01 12 37.8 +1.2
comp=Z,102nm,1.0s
D25A Fairfield 88.26 341 P **P** 01 12 37.1 +0.7
baz=89,SNR=7.3
E22A Miles City 88.31 339 P **P** 01 12 36.4 -0.3
baz=89,SNR=6.1
B30A Myrvik Farm, E 88.33 345 P **P** 01 12 36.7 0.0
baz=89,SNR=58
C27A Sayler Ranch, 88.34 343 P **P** 01 12 37.1 +0.4
baz=89,SNR=9.0
F20A Billings 88.37 338 P **P** 01 12 36.9 -0.1
baz=89,SNR=5.5
HLID Hailey 88.48 333 P **P** 01 12 39.4 +1.7
baz=89,SNR=49
HLID Hailey 88.48 333 *e*P **P** 01 12 38.6 +0.9
comp=Z,62nm,1.3s
HLID LR LR
comp=Z,900nm,19.0s
D24A Glendive 88.49 341 P **P** 01 12 37.9 +0.4
baz=89,SNR=6.9
QLMT Earthquake Lak 88.55 335 *e*P **P** 01 12 38.7 +0.7
B29A Wagenman Farm, 88.56 344 P **P** 01 12 37.9 +0.1
baz=89,SNR=28
C26A Wahner Farm, P 88.59 342 P **P** 01 12 38.1 +0.2
baz=89
E21A Keefer Ranch, 88.72 339 P **P** 01 12 38.8 +0.2
baz=89
B28A Dugan Ranch, T 88.77 344 P **P** 01 12 39.0 +0.3
baz=89,SNR=14
C25A Freed Ranch, W 88.77 341 P **P** 01 12 39.1 +0.3
baz=89
D23A Lindsay 88.78 340 P **P** 01 12 39.3 +0.4
baz=89,SNR=9.3
A30A Hoffart Farm, 88.79 345 P **P** 01 12 38.7 -0.1
baz=89,SNR=18
GCMT Greycliff 88.83 337 *e*P **P** 01 12 39.1 -0.1
MFID Camas Ranch 88.88 332 *e*P **P** 01 12 40.3 +0.8
comp=Z,41nm,1.1s
MFID LR LR
comp=Z,500nm,20.0s
C24A Savage 88.90 341 P **P** 01 12 39.9 +0.5
baz=89
B27A Peters Farms, 88.93 343 P **P** 01 12 39.9 +0.4
baz=89,SNR=7.5
A29A Manning Farm, 88.97 344 P **P** 01 12 39.5 -0.1
baz=89,SNR=68
KCPM Cahto Peak 89.01 325 *e*P **P** 01 12 40.9 +0.7
comp=Z,81nm,1.3s
D22A Cohagen 89.02 339 P **P** 01 12 40.2 +0.2
baz=90,SNR=7.2
MCMT McKenzie Canyo 89.02 334 *e*P **P** 01 12 41.5 +1.2
B26A Jensen Ranch, 89.13 342 P **P** 01 12 40.9 +0.5
baz=90
WVOR Wild Horse Val 89.14 329 *e*P **P** 01 12 40.6 -0.2
comp=Z,79nm,1.6s
WVOR LR LR
comp=Z,400nm,18.0s
D21A La Casta Ranch 89.18 339 P **P** 01 12 40.7 -0.1
baz=90,SNR=6.9
A28A Rude Farm, Bot 89.18 344 P **P** 01 12 40.5 -0.2
baz=90,SNR=5.2
B25A Knox Farm, Ray 89.26 342 P **P** 01 12 41.8 +0.7
baz=90
WDC Whiskeytown Da 89.26 326 *e*P **P** 01 12 41.0 -0.2
comp=Z,116nm,2.0s
WDC LR LR
comp=Z,300nm,19.0s
BOZ Bozeman (W) 89.33 335 P **P** 01 12 42.0 +0.4
baz=90,SNR=24
C23A Lambert 89.35 340 P **P** 01 12 41.5 0.0
baz=90,SNR=6.8
DLMT Dillon 89.41 335 *e*P **P** 01 12 42.5 +0.5
comp=Z,73nm,1.4s
DLMT LR LR
comp=Z,900nm,20.0s
A27A Ledoux Ranch, 89.44 343 P **P** 01 12 42.2 +0.4
baz=90
C22A Vida 89.49 340 P **P** 01 12 41.6 -0.5
baz=90
KMRM Mail Ridge 89.50 325 *e*P **P** 01 12 42.9 +0.4
comp=Z,157nm,1.2s
A26A Wade Farm, Ken 89.57 343 P **P** 01 12 42.7 +0.2
baz=90
ULM Lac du Bonnet 89.57 347 P **P** 01 12 42.3 -0.1
comp=Z,44nm,0.9s,baz=177,slow=3.3,SNR=33
ULM Lac du Bonnet 89.57 347 P **P** 01 12 42.3 -0.1
ULM pmax pmax
comp=Z,44nm,0.9s
ULM Lac du Bonnet 89.57 347 *e*P **P** 01 12 42.0 -0.4
comp=Z,68nm,1.0s
N02D Trinity Center 89.66 326 P **P** 01 12 44.4 +1.3
baz=90
DGMT Dagmar 89.71 341 P **P** 01 12 43.4 +0.2
baz=90,SNR=7.5
DGMT Dagmar 89.71 341 *e*P **P** 01 12 43.2 +0.1
comp=Z,39nm,0.8s
DGMT LR LR
comp=Z,300nm,21.0s
LRM Limekiln Ridge 89.76 335 *e*P **P** 01 12 44.8 +1.0
A25A Svangstu Ranch 89.87 342 P **P** 01 12 44.3 +0.4
baz=90,SNR=11
C21A Desert Coulee 89.90 339 P **P** 01 12 43.9 -0.2
baz=90,SNR=6.8
B23A Brockton 89.91 341 P **P** 01 12 43.8 -0.3
baz=90,SNR=5.6
M04C Macdoel 89.94 327 P **P** 01 12 46.0 +1.4
baz=90,SNR=9.4
B22A Reddig Ranch S 90.03 340 P **P** 01 12 44.7 +0.1
baz=90,SNR=19
KHMM Horse Mountain 90.03 325 *e*P **P** 01 12 46.4 +1.4
comp=Z,112nm,1.2s
C20A Veseth Ranch, 90.05 339 P **P** 01 12 44.8 -0.1
baz=90,SNR=15
M02C Callahan 90.06 326 P **P** 01 12 46.4 +1.4
baz=90,SNR=9.7
A24A Westby 90.08 341 P **P** 01 12 45.3 +0.5
baz=91
YBH Yreka Blue Hor 90.27 326 *e*P **P** 01 12 46.6 +0.5
comp=Z,14nm,1.1s
YBH LR LR
comp=Z,500nm,18.0s
K05A Summer Lake 90.31 328 *e*P **P** 01 12 48.2 +1.9
comp=Z,67nm,1.3s
B21A Ellsworth Farm 90.42 339 P **P** 01 12 46.6 +0.1
baz=91
K04D Chiloquin, OR 90.59 328 P **P** 01 12 48.4 +0.8
baz=91
A22A Carney Farms, 90.64 340 P **P** 01 12 47.6 +0.1
baz=91,SNR=11
B20A Solberg Farm, 90.72 339 P **P** 01 12 47.8 -0.1
baz=91
EGMT Eagleton 90.85 338 P **P** 01 12 48.8 +0.3
baz=91
EGMT Eagleton 90.85 338 PFAKE 01 13 00.0 +11
EGMT LR LR
comp=Z,400nm,18.0s
J05D Fort Rock, OR 90.91 328 P **P** 01 12 50.3 +1.2
baz=91,SNR=15
LSZ Lusaka 90.96 110 PFAKE 01 13 00.0 +10
LSZ LR LR
comp=Z,2µm,18.0s
CHMT Chamberlain Mo 90.98 335 *e*P **P** 01 12 50.3 +0.9
B19A Brinkman Farms 91.00 338 P **P** 01 12 49.1 -0.1
baz=92,SNR=11
L02D Cave Junction, 91.01 326 P **P** 01 12 51.1 +1.7
baz=92
A20A Cobblestone Ra 91.09 339 P **P** 01 12 49.8 +0.2
baz=92
HUMO Hull Mountain 91.09 327 *e*P **P** 01 12 49.7 -0.1
comp=Z,23nm,1.7s
HUMO LR LR
comp=Z,600nm,19.0s
MSO Missoula 91.14 335 P **P** 01 12 51.3 +1.3
baz=92,SNR=19
MSO Missoula 91.14 335 *e*P **P** 01 12 50.2 +0.2
comp=Z,30nm,1.3s
MSO LR LR
comp=Z,1µm,18.0s
J04D Umpqua Nationa 91.24 328 P **P** 01 12 51.5 +0.9
baz=92
SLMT Seeley Lake 91.35 335 *e*P **P** 01 12 51.8 +0.8
A19A Klindworth Far 91.36 339 P **P** 01 12 50.8 -0.1
baz=92
F10A Beach Ranch, E 91.58 332 *e*P **P** 01 12 51.6 -0.4
comp=Z,51nm,1.4s
G08A Pilot Rock 91.66 331 *e*P **P** 01 12 52.6 +0.2
comp=Z,35nm,1.4s
SWMT Swartz Lake 91.75 335 *e*P **P** 01 12 53.9 +1.1
I05D Terrebonne, OR 91.82 329 P **P** 01 12 54.6 +1.4
baz=92
I04A Tendick Farm, 91.82 328 P **P** 01 12 54.4 +1.3
baz=92
JTMT Jette 92.06 335 *e*P **P** 01 12 55.1 +0.9
YBMT Yellow Bay 92.06 335 *e*P **P** 01 12 54.6 +0.4
I03D Drain, OR 92.14 327 P **P** 01 12 55.8 +1.3
baz=93
BLMT Blacktail Moun 92.31 335 *e*P **P** 01 12 55.9 +0.4
BSMT Bassoo Peak 92.32 335 *e*P **P** 01 12 56.0 +0.5
E09A Wood Farm, Sta 92.38 332 *e*P **P** 01 12 56.0 +0.5
comp=Z,8.8nm,0.9s
E09A LR LR
comp=Z,500nm,20.0s
H04A Detroit Lake 92.45 329 *e*P **P** 01 12 56.0 0.0
comp=Z,13nm,1.0s
SCHQ Schefferville 92.56 5 P **P** 01 12 56.2 0.0
comp=Z,5.9nm,0.9s,baz=176,slow=3.6,SNR=4.6
SCHQ Schefferville 92.56 5 *e*P **P** 01 12 56.0 -0.2
comp=Z,84nm,1.8s
HAWA Hanford 92.80 331 *e*P **P** 01 12 56.1 -1.4
comp=Z,100nm,2.0s
HAWA LR LR
comp=Z,600nm,18.0s
COR Corvallis 92.84 328 PFAKE 01 13 10.0 +12
COR LR LR
comp=Z,500nm,19.0s
WALA Waterton Lakes 93.07 336 *e*P **P** 01 12 59.4 +0.5
WALA LR LR
comp=Z,1µm,20.0s
D08A Wollman Farm, 93.12 332 *e*P **P** 01 12 59.4 +0.4
comp=Z,28nm,1.2s
NEW Newport 93.48 333 P **P** 01 13 00.7 0.0
baz=94,SNR=15
NEW Newport 93.48 333 *e*P **P** 01 13 00.8 +0.1
comp=Z,24nm,1.0s
NEW LR LR
comp=Z,500nm,18.0s
C09A Chrisman Ranch 93.50 333 *e*P **P** 01 13 01.5 +0.7
comp=Z,46nm,1.4s
F04A Amboy 93.56 329 *e*P **P** 01 13 01.6 +0.6
comp=Z,16nm,0.9s
F04A LR LR
comp=Z,400nm,19.0s
LTY Liberty 93.95 331 *e*P **P** 01 13 02.5 -0.5
comp=Z,123nm,2.8s
LON Longmire 93.98 330 *e*P **P** 01 13 03.1 0.0
comp=Z,10.0nm,0.9s
B08A Colville Reser 94.36 332 *e*P **P** 01 13 04.1 -0.7
D05A Enumclaw 94.41 330 *e*P **P** 01 13 04.9 -0.1
comp=Z,31nm,1.0s
FFC Flin Flon 95.01 345 *e*P **P** 01 13 07.3 -0.2
FFC Flin Flon 95.01 345 *e*P **P** 01 13 06.8 -0.7
comp=Z,17nm,1.0s
NLWA Neilton Lookou 95.33 329 *e*P **P** 01 13 09.5 +0.3
comp=Z,20nm,1.1s
NLWA LR LR
comp=Z,500nm,19.0s
EDM Edmonton 96.52 338 *e*P **P** 01 13 13.4 -1.0
EDM LR LR
comp=Z,400nm,18.0s
MORF Marmelete 96.71 47 *e*P **P** 01 13 16.7 +0.9

MORF AMS AMS 01 55 06.3
comp=Z,1μm,20.0s
MORF Marmelete 96.71 47 *e*P **P 01 13 16.7 +0.9**
MESJ Messejana 97.32 47 *e*P Pdif 01 13 19.2 +0.7
MESJ AMS AMS 01 55 14.9
comp=Z,957nm,20.6s
MESJ Messejana 97.32 47 *e*P Pdif 01 13 19.2 +0.7
LIS Lisbon 97.38 46 *e*P Pdif 01 13 19.3 +0.5
LIS AMS AMS 01 54 38.1
comp=Z,1μm,21.8s
LIS Lisbon 97.38 46 *e*P Pdif 01 13 19.3 +0.6
PAB San Pablo 100.72 48 PFAKE 01 13 40.0 +6.3
PAB LR LR
comp=Z,1μm,18.0s
ESDC Sonseca Array 101.03 48 P **Pdif 01 13 35.4 +0.4**
comp=Z,1.6nm,0.9s,baz=248,slow=5.4,SNR=9.4
ABPO Ambohimpanom 101.75 125 PFAKE 01 13 50.0 +11
ABPO LR LR
comp=Z,1μm,20.0s
YKA Yellowknife Ar 104.88 342 Pdiff **Pdif 01 13 51.6 +0.1**
comp=Z,2.4nm,0.9s,baz=141,slow=4.6,SNR=6.0
YKA Yellowknife Ar 104.88 342 P **Pdif 01 13 51.6 +0.1**
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKB5 Yellowknife Ar 104.88 342 *e*Pdif **Pdif 01 13 51.6 +0.1**
DLBC Dease Lake 106.23 333 PFAKE 01 18 20.0
DLBC LR LR
comp=Z,600nm,21.0s
DSB Dublin 108.41 36 PFAKE 01 18 20.0
DSB LR LR
comp=Z,1μm,18.0s
VSL Villasalto 109.18 55 PFAKE 01 18 30.0
VSL LR LR
comp=Z,800nm,19.0s
BNI Bardonecchia 110.55 49 PFAKE 01 18 30.0
BNI LR LR
comp=Z,800nm,19.0s
WDD Wield Dalam 110.65 60 PFAKE 01 18 30.0
WDD LR LR
comp=Z,4μm,20.0s
CLTB Caltabellotta 110.67 58 PFAKE 01 18 30.0
CLTB LR LR
comp=Z,1μm,20.0s
ESK Eskdalemuir 111.15 36 PFAKE 01 18 30.0
ESK LR LR
comp=Z,1μm,18.0s
EDI Edinburgh 111.52 35 PFAKE 01 18 30.0
EDI LR LR
comp=Z,500nm,18.0s
VLC Villacollemand 112.31 51 PFAKE 01 18 30.0
VLC LR LR
comp=Z,900nm,20.0s
UCC Uccle 112.36 42 PFAKE 01 18 30.0
UCC LR LR
comp=Z,900nm,20.0s
WLF Walferdange 112.73 44 PFAKE 01 18 30.0
WLF LR LR
comp=Z,1μm,20.0s
CEL Celeste 112.83 59 PFAKE 01 18 30.0
CEL LR LR
comp=Z,1μm,21.0s
TUE Stuetta 112.89 48 PFAKE 01 18 30.0
TUE LR LR
comp=Z,1μm,20.0s
RES Resolute Bay 112.99 354 PFAKE 01 18 30.0
RES LR LR
comp=Z,500nm,19.0s
SUMG Summit 113.01 11 PFAKE 01 18 30.0
SUMG LR LR
comp=Z,500nm,18.0s
AS12 Alice Springs 113.01 209 *e*PKiKP **PKiKP 01 18 22.0 -1.1**
AS12 *e*PKKPbc **PKKPbc 01 29 09.7 +1.0**
ASAR Alice Springs 113.01 209 PKiKP **PKiKP 01 18 22.0 -1.1**
comp=Z,0.4nm,0.5s,baz=138,slow=1.6,SNR=4.1
ASAR PKKPbc **PKKPbc 01 29 09.7 +1.0**
comp=Z,1.1nm,0.6s,baz=339,slow=3.5,SNR=5.4
ASAR Alice Springs 113.01 209 *i* PKiKP **PKiKP 01 18 22.0 -1.1**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
RAGM Ragged Mountai 113.09 330 PFAKE 01 18 30.0
RAGM LR LR
comp=Z,400nm,20.0s
MEM Membach 113.15 43 PFAKE 01 18 30.0
MEM LR LR
comp=Z,900nm,19.0s
BFO Black Forest 113.26 46 PFAKE 01 18 30.0
BFO LR LR
comp=Z,500nm,20.0s
AQU L'Aquila 113.28 54 PFAKE 01 18 30.0
AQU LR LR
comp=Z,1μm,20.0s
FUORN Ofenpass-Fuorn 113.51 49 PFAKE 01 18 30.0
FUORN LR LR
comp=Z,800nm,20.0s
DAVA Damuels 113.62 48⇑ *i*PKiKP **PKiKP 01 18 24.1 +0.6**
comp=Z,4.0nm,1.1s
CUC Castrocucco 113.66 57 PFAKE 01 18 30.0
CUC LR LR
comp=Z,700nm,20.0s
TIP Timpagrande 113.88 58 PFAKE 01 18 30.0
TIP LR LR
comp=Z,1μm,21.0s
STU Stuttgart 113.98 46 PFAKE 01 18 30.0
STU LR LR
comp=Z,500nm,20.0s
FURI Furi 114.22 98 PFAKE 01 18 40.0 +14
FURI LR LR
comp=Z,1μm,19.0s
INK Inuvik 114.35 340 PFAKE 01 18 30.0 +6.1
INK LR LR
comp=Z,500nm,19.0s
MOTA Moosalm 114.37 48⇑ *i*PKiKP **PKiKP 01 18 25.3 +0.4**
comp=Z,6.3nm,1.2s
EGAK Eagle 114.43 335 PFAKE 01 18 40.0 +16
EGAK LR LR
comp=Z,300nm,18.0s
SEW Seward 114.89 328 PFAKE 01 18 40.0 +15
SEW LR LR
comp=Z,400nm,21.0s
PAX Paxson 114.91 332 PFAKE 01 18 40.0 +15
PAX LR LR
comp=Z,300nm,21.0s
ABTA Abfaltersbach 114.91 49⇑ *e*PKiKP PKPdf 01 18 25.7 -0.2
comp=Z,3.3nm,0.9s
KDAK Kodiak Island 115.03 325 PFAKE 01 18 40.0 +14
KDAK LR LR
comp=Z,500nm,19.0s
TRI Trieste 115.17 51 PFAKE 01 18 40.0 +14
TRI LR LR
comp=Z,800nm,20.0s
BRLK Bradley Lake 115.32 327 PFAKE 01 18 40.0 +14
BRLK LR LR
comp=Z,400nm,20.0s
RC01 Rabbit Creek A 115.55 329 PFAKE 01 18 40.0 +13
RC01 LR LR
comp=Z,301nm,20.0s
GRFO Grafenberg 115.59 46 PFAKE 01 18 40.0 +13
GRFO LR LR
comp=Z,700nm,18.0s
OBKA Obir 116.03 50⇑ *i*PKiKP **PKiKP 01 18 28.7 +0.7**
comp=Z,5.5nm,1.0s
WRA Warramunga Arr 116.19 211 PKP **PKPdf 01 18 28.7 -0.5**
comp=Z,1.2nm,0.8s,baz=167,slow=1.4,SNR=5.3
WRA PKKPab **PKKPbc 01 28 58.6 +0.8**
comp=Z,1.2nm,0.9s,baz=334,slow=3.1,SNR=3.9
SOKA Soboth 116.40 50⇑ *i*PKiKP **PKiKP 01 18 29.3 +0.6**
comp=Z,4.3nm,1.3s
RND Reindeer 116.43 331 PFAKE 01 18 40.0 +12
RND LR LR
comp=Z,300nm,20.0s
ILAR Eielson Array 116.44 333 PKP **PKPdf 01 18 28.4 +0.3**
comp=Z,2.9nm,0.9s,baz=151,slow=3.0,SNR=29
ILAR PKKPbc **PKKPbc 01 28 56.7 -1.0**
comp=Z,0.3nm,0.9s,baz=298,slow=4.8,SNR=3.2
ILB Eielson Array 116.44 333 *e*PKPdf **PKPdf 01 18 28.4 +0.3**
MOA Molln 116.49 49⇑ *e*PKiKP **PKiKP 01 18 29.0 +0.2**
comp=Z,4.3nm,1.0s
GEC2 GERESS Array S 116.62 48 *e*PKPdf **PKPdf 01 18 28.5 -0.6**
GERES GERESS Array B 116.62 48 PKP **PKPdf 01 18 29.2 +0.1**
comp=Z,4.3nm,0.8s,baz=215,slow=1.2,SNR=37
GERES GERESS Array B 116.62 48 PKIKP **PKPdf 01 18 29.2 +0.1**
GERES pmax pmax
comp=Z,4.0nm,0.8s
MCK McKinley 116.63 331 PFAKE 01 18 40.0 +11
MCK LR LR
comp=Z,400nm,20.0s

KHC Kasperske Hory 116.68 47 *e*PKP **PKPdf 01 18 29.2 +0.1**
KHC *ep*PKP pPKPdf 01 18 35.3 -3.3
KHC *ex* x 01 18 43.9
KHC *e*PP **PP 01 19 36.5 -1.3**
KHC *e*PS **PKKPdf 01 29 22.4 -1.2**
KHC *ex* x 01 30 31.4
KHC AMS AMS 02 08 50.0
comp=Z,800nm,19.3s
KHC Kasperske Hory 116.68 47 *e*PKIKP **PKPdf 01 18 29.2 +0.1**
KHC *e* 01 18 35.3
KHC *e* 01 18 43.9
KHC *e* 01 19 36.5
KHC *e* 01 29 22.4
KHC *e* 01 30 31.4
KHC MLR MLR
comp=Z,800nm,19.3s
KHC Kasperske Hory 116.68 47 *e*PKPdf **PKPdf 01 18 28.9 -0.2**
KHC LR LR
comp=Z,300nm,19.0s
CCB Clear Creek Bu 116.70 333 *e*PKPdf **PKPdf 01 18 27.3 -1.3**
CCB LR LR
comp=Z,300nm,18.0s
WRH Wood River Hil 116.71 332 *e*PKPdf **PKPdf 01 18 28.2 -0.4**
COLA College 116.84 333 *i* PKIKP **PKPdf 01 18 29.5 +0.7**
COLA College 116.84 333 PFAKE 01 18 40.0 +11
COLA LR LR
comp=Z,300nm,21.0s
FYU Fort Yukon 116.85 335 PFAKE 01 18 40.0 +11
FYU LR LR
comp=Z,400nm,18.0s
GVD Gavdhos 116.87 66 PFAKE 01 18 40.0 +10
GVD LR LR
comp=Z,2μm,21.0s
ARSA Arzberg 116.97 50⇑ *i*PKiKP **PKiKP 01 18 30.2 +0.5**
comp=Z,6.2nm,1.1s
TRF Thorofare Moun 117.00 331 *e*PKPdf **PKPdf 01 18 29.3 -0.2**
TRF LR LR
comp=Z,400nm,18.0s
TIR Tirane 117.01 57 PFAKE 01 18 40.0 +10
TIR LR LR
comp=Z,1μm,18.0s
MDM Murphy Dome 117.02 333 *e*PKPdf **PKPdf 01 18 28.6 -0.7**
MDM LR LR
comp=Z,300nm,18.0s
BWN Browne 117.06 332 PFAKE 01 18 40.0 +11
BWN LR LR
comp=Z,400nm,20.0s
CLL Collm 117.35 45⇑ *i*PKiKP **PKiKP 01 18 31.0 +0.7**
comp=Z,9.0nm,1.1s
CLL *e*(pPKiKP) 01 18 36.0
CLL *e*PP PP 01 19 37.0 -5.4
CLL *e*PPP PPP 01 22 18.0
CLL *e*PS **PS 01 29 35.0 +8.7**
CLL *e*PPS PPS 01 30 44.0
CLL *e* 01 35 06.0
CLL *e*SS SS 01 35 53.0 +2.1
CLL *e*SSS SSS 01 40 18.0
CLL *e* 01 42 54.0
CLL LmV 02 12 00.0
comp=Z,700nm,18.0s
CLL Collm 117.35 45⇑ *i*PKIKP **PKiKP 01 18 31.0 +0.7**
CLL *e* 01 18 36.0
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL MLR MLR
comp=Z,700nm,18.0s
CLL Collm 117.35 45 *e*PKPdf **PKPdf 01 18 30.0 -0.2**
CLL LR LR
comp=Z,700nm,18.0s
CONA Conrad Observa 117.48 49⇑ *i*PKiKP **PKiKP 01 18 31.0 +0.2**
comp=Z,6.5nm,1.1s
BPAW Bear Paw Mtn. 117.60 331 *e*PKPdf **PKPdf 01 18 30.2 -0.2**
PRA Prague 117.60 47 *e*SP SP 01 29 26.7 +1.9
PRA *ex* x 01 30 40.8
PRA AMS AMS 02 12 10.0
comp=Z,700nm,17.0s
AGG Agios Georgios 117.60 61 PFAKE 01 18 40.0 +8.8
AGG LR LR
comp=Z,2μm,20.0s
PRU Pruhonice 117.63 47 *e*PKP **PKPdf 01 18 31.4 +0.5**
PRU *ep*PP **PP 01 19 47.3 +2.9**
PRU *e*PS **PS 01 29 28.6 -0.3**
PRU *ex* x 01 30 39.8
PRU AMS AMS 02 12 00.0
comp=Z,700nm,18.0s
PRU Pruhonice 117.63 47 *e*PKIKP **PKPdf 01 18 31.4 +0.5**
PRU *e* 01 19 47.3
PRU *e* 01 29 28.6
PRU *e* 01 30 39.8
PRU MLR MLR
comp=Z,700nm,18.0s
BRG Berggiesshubel 117.68 46 *e*PKIKP **PKPdf 01 18 31.6 +0.7**
BRG 01 22 16.0
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG MLR MLR
comp=N,417nm,19.2s
BRG MLR MLR
comp=E,270nm,14.7s
BRG MLR MLR
comp=Z,521nm,18.9s
CAST Castle Rocks 117.69 330 *e*PKPdf **PKPdf 01 18 30.4 -0.2**
CAST LR LR
comp=Z,200nm,18.0s
MSEY Mahe Island 117.69 121 PFAKE 01 18 40.0 +7.8
MSEY LR LR
comp=Z,1μm,20.0s
GOPC GO Pecny, Ondr 117.74 47 *e*PKP **PKPdf 01 18 31.6 +0.5**
GOPC *ep*PP **PP 01 19 46.0 +0.8**
GOPC *e*SP SP 01 29 29.5 +3.4
GOPC *ex* x 01 30 45.3
GOPC AMS AMS 02 12 10.0
comp=Z,600nm,16.6s
TREC Trest 117.87 48 *e*PKP **PKPdf 01 18 31.6 +0.2**
TREC *ep*PP **PP 01 19 47.9 +1.8**
TREC *e*SP SP 01 29 26.5 -0.8
TREC *ex* x 01 30 47.3
TREC AMS AMS 02 15 30.0
comp=Z,600nm,18.1s
TREC Trest 117.87 48 *e*PKIKP **PKPdf 01 18 31.6 +0.2**
TREC *e* 01 19 47.9
TREC *e* 01 29 26.5
TREC *e* 01 30 47.3
TREC MLR MLR
comp=Z,600nm,18.1s
PVCC Panska Ves 117.89 46 *e*PKP **PKPdf 01 18 31.9 +0.6**
PVCC *ep*PKP **pPKPdf 01 18 36.9 -3.9**
PVCC AMS AMS 02 15 40.0
comp=Z,500nm,17.2s
PVCC Panska Ves 117.89 46 *e*PKIKP **PKPdf 01 18 31.9 +0.6**
PVCC *e* 01 18 36.9
PVCC MLR MLR
comp=Z,500nm,17.2s
MLY Manley 117.97 332 PFAKE 01 18 40.0 +8.9
MLY LR LR
comp=Z,300nm,18.0s
RUE Ruedersdorf 118.30 44 PFAKE 01 18 40.0 +8.0
RUE LR LR
comp=Z,1μm,20.0s
PKSM Moragy 118.42 52 ⇓PKIKP **PKPdf 01 18 32.2 -0.3**
PKSM Moragy 118.42 52 ⇓*i*P **PKPdf 01 18 32.2 -0.3**
VRAC Vranov 118.53 48⇑PKIKP **PKPdf 01 18 32.6 0.0**
VRAC Vranov 118.53 48⇑*i*P **PKPdf 01 18 32.6 0.0**
SANT Santorini 118.58 65 PFAKE 01 18 40.0 +6.8
SANT LR LR
comp=Z,500nm,21.0s
UPC Upice 118.70 47 *e*PKP **PKPdf 01 18 33.8 +0.9**
UPC *ep*PKP **pPKPdf 01 18 44.4 +2.0**
UPC Upice 118.70 47 *e*PKIKP **PKPdf 01 18 33.8 +0.9**
UPC *e* 01 18 44.4
DPC Dobruska-Polom 118.82 47 *e*PKP **PKPdf 01 18 33.6 +0.4**
DPC *ep*PKP **pPKPdf 01 18 38.8 -3.9**
DPC *ex* x 01 18 44.4
DPC *e*PP **PP 01 19 52.3 -0.4**
DPC *e*PS **PS 01 29 37.4 -2.4**
DPC AMS AMS 02 10 10.0
comp=Z,600nm,17.7s
DPC Dobruska-Polom 118.82 47 *e*PKIKP **PKPdf 01 18 33.6 +0.4**
DPC *e* 01 18 38.8
DPC *e* 01 18 44.4
DPC *e* 01 19 52.3
DPC *e* 01 29 37.4
DPC MLR MLR

comp=Z,600nm,17.7s
COLD Coldfoot 118.87 335 *e*PKPdf **PKPdf 01 18 33.9 +1.1**
COLD LR LR
comp=Z,400nm,22.0s
RGN Rugen 118.95 42 PFAKE 01 18 40.0 +6.8
RGN LR LR
comp=Z,700nm,22.0s
KRLC Kraliky 118.97 47 *e*PKP **PKPdf 01 18 34.6 +1.1**
KRLC *ep*PKP **pPKPdf 01 18 39.2 -3.8**
KRLC *ex* x 01 18 45.1
KRLC Kraliky 118.97 47 *e*PKIKP **PKPdf 01 18 34.6 +1.1**
KRLC *e* 01 18 45.1
MORC Moravsky Berou 119.28 48 ⇓PKIKP **PKPdf 01 18 34.7 +0.6**
MORC Moravsky Berou 119.28 48 ⇓*i*P **PKPdf 01 18 34.7 +0.6**
MORC Moravsky Berou 119.28 48 *e*PKPdf **PKPdf 01 18 34.5 +0.3**
MORC LR LR
comp=Z,1μm,20.0s
KONO Kongsberg 119.29 35 PFAKE 01 18 40.0 +6.3
KONO LR LR
comp=Z,800nm,19.0s
IM04 Indian Mountai 119.54 333 *e*PKPdf **PKPdf 01 18 34.2 +0.1**
DAG Danmarks Havn 119.57 13 *i* P **PKPdf 01 18 33.2 -0.6**
comp=Z,9.5nm,1.0s
DAG Danmarks Havn 119.57 13 *i* PKIKP **PKPdf 01 18 33.2 -0.6**
DAG pmax pmax
comp=Z,10.0nm,1.0s
OKC Ostrava-Krasne 119.67 48 *e*PKP **PKPdf 01 18 35.3 +0.5**
OKC *e*PS **PS 01 29 47.3 0.0**
OKC AMS AMS 02 17 00.0
comp=Z,400nm,20.2s
OKC Ostrava-Krasne 119.67 48 *e*PKIKP **PKPdf 01 18 35.3 +0.5**
OKC *e* 01 29 47.3
OKC MLR MLR
comp=Z,400nm,20.2s
MMB Musomiste 119.71 59⇑PKIKP **PKPdf 01 18 31.9 -3.3**
MMB Musomiste 119.71 59⇑*i*P **PKPdf 01 18 31.9 -3.3**
VTS Vitosha 119.79 57⇑PKIKP **PKPdf 01 18 34.6 -0.9**
VTS Vitosha 119.79 57⇑*i*P **PKPdf 01 18 34.6 -0.9**
PSZ Piszkesteto 119.92 51 ⇓PKIKP **PKPdf 01 18 35.2 -0.2**
PSZ Piszkesteto 119.92 51 ⇓*i*P **PKPdf 01 18 35.2 -0.2**
PSZ Piszkesteto 119.92 51 PFAKE 01 18 50.0 +15
PSZ LR LR
comp=Z,500nm,19.0s
BSD Bornholm Skovb 120.03 42 *i* P **PKPdf 01 18 36.1 +0.8**
comp=Z,13nm,1.1s
BSD Bornholm Skovb 120.03 42 *i* PKIKP **PKPdf 01 18 36.1 +0.8**
BSD pmax pmax
comp=Z,13nm,1.1s
BZS Buzias 120.04 54⇑PKIKP **PKPdf 01 18 33.8 -1.8**
BZS Buzias 120.04 54⇑*i*P **PKPdf 01 18 33.8 -1.8**
SIRR Siria 120.33 53⇑*i*P **PKPdf 01 18 36.3 +0.1**
KECS Kecovo 120.51 50 *e*PKIKP **PKPdf 01 18 36.6 +0.1**
KECS Kecovo 120.51 50 *e*PKP **PKPdf 01 18 36.6 +0.1**
GKP Gorka Klasztor 120.54 44 *e*PKP **PKPdf 01 18 37.1 +0.8**
GKP Gorka Klasztor 120.54 44 *e*PKIKP **PKPdf 01 18 37.2 +0.9**
NB2 NORSAR Subarra1 120.60 34 PKPdf **PKPdf 01 18 36.8 +0.5**
comp=Z,6.9nm,1.1s,baz=248,slow=1.9
NB2 NORSAR Subarra1 120.60 34 PKPdf **PKPdf 01 18 36.8 +0.5**
baz=248,slow=1.9
NB200 NORSAR Array S 120.60 34 *e*PKPdf **PKPdf 01 18 36.3 0.0**
NOA NORSAR Array B 120.60 34 PKP **PKPdf 01 18 36.3 0.0**
comp=Z,3.4nm,0.9s,baz=250,slow=2.1,SNR=13
NOA NORSAR Array B 120.60 34 PKIKP **PKPdf 01 18 36.3 0.0**
NOA pmax pmax
comp=Z,3.0nm,0.9s
GZR Gura Zlata 120.69 54⇑PKIKP **PKPdf 01 18 35.9 -1.1**
GZR Gura Zlata 120.69 54⇑*i*P **PKPdf 01 18 35.9 -1.1**
NIE Niedzica 120.78 49 *e*PKP **PKPdf 01 18 37.9 +0.9**
NIE Niedzica 120.78 49 *e*PKIKP **PKPdf 01 18 38.0 +0.9**
OJC Ojcow 120.79 48 *e*PKP **PKPdf 01 18 37.7 +0.8**
OJC Ojcow 120.79 48 *e*PKIKP **PKPdf 01 18 37.8 +0.8**
OJC Ojcow 120.79 48 *e*PKPdf **PKPdf 01 18 36.6 -0.3**
KDZ Kurdzhali 120.88 59 ⇓PKIKP **PKPdf 01 18 37.1 -0.3**
KDZ Kurdzhali 120.88 59 ⇓*i*P **PKPdf 01 18 37.1 -0.3**
DRGR 121.21 53⇑PKIKP **PKPdf 01 18 37.5 -0.5**
DRGR 121.21 53⇑*i*P **PKPdf 01 18 37.5 -0.5**
STHS Stebnicka Huta 121.34 49 *e*PKIKP **PKPdf 01 18 38.9 +0.8**
STHS Stebnicka Huta 121.34 49 *e*PKP **PKPdf 01 18 38.9 +0.8**
LOT Lotru 121.35 55 ⇓*i*P PKPdf 01 18 43.8 +5.5
KOLS Kolonicke sedl 121.78 50 *e*PKIKP **PKPdf 01 18 39.4 +0.5**
KOLS Kolonicke sedl 121.78 50 *e*PKP **PKPdf 01 18 39.3 +0.4**
JMB Yambol 122.01 59⇑PKIKP **PKPdf 01 18 39.9 +0.4**
JMB Yambol 122.01 59⇑*i*P **PKPdf 01 18 39.9 +0.4**
DAMY Dhamar 122.07 96 PFAKE 01 18 50.0 +9.2
DAMY LR LR
comp=Z,1μm,19.0s
VOIR 122.17 55⇑PKIKP **PKPdf 01 18 39.6 -0.3**
VOIR 122.17 55⇑*i*P **PKPdf 01 18 39.6 -0.3**
KWP Kalwaria Pacla 122.31 50 *e*PKP **PKPdf 01 18 40.6 +0.7**
KWP Kalwaria Pacla 122.31 50 *e*PKIKP **PKPdf 01 18 40.6 +0.7**
EIL Elat 122.53 76 PKP **PKPdf 01 18 41.1 +0.1**
comp=Z,8.7nm,1.0s,baz=302,slow=1.8,SNR=5.0
SULR 122.67 56 ⇓*i*P **PKPdf 01 18 42.1 +1.4**
MLR Muntele Rosu 122.78 55 ⇓PKIKP **PKPdf 01 18 40.7 -0.4**
MLR Muntele Rosu 122.78 55 ⇓*i*P **PKPdf 01 18 40.7 -0.4**
ISP Isparta 122.85 65 PFAKE 01 18 50.0 +8.6
ISP LR LR
comp=Z,800nm,21.0s
PRD Provadia 122.85 58 ⇓PKIKP **PKPdf 01 18 40.8 -0.3**
PRD Provadia 122.85 58 ⇓*i*P **PKPdf 01 18 40.8 -0.3**
BURAR Bucovina Array 123.11 53⇑PKIKP **PKPdf 01 18 42.0 +0.4**
BURAR Bucovina Array 123.11 53⇑*i*P **PKPdf 01 18 42.0 +0.4**
PLOR Plostina 123.37 55⇑PKIKP **PKPdf 01 18 41.4 -0.7**
PLOR Plostina 123.37 55⇑*i*P **PKPdf 01 18 41.4 -0.7**
VRI Vrincioaia 123.42 55 ⇓PKIKP **PKPdf 01 18 40.7 -1.5**
VRI Vrincioaia 123.42 55 ⇓*i*P **PKPdf 01 18 40.7 -1.5**
MSAB Monastry St. A 123.48 57 ⇓*i*P **PKPdf 01 18 41.7 -0.6**
PSN Preselentsi 123.56 58⇑PKIKP **PKPdf 01 18 40.9 -1.6**
PSN Preselentsi 123.56 58⇑*i*P **PKPdf 01 18 40.9 -1.6**
TESR Tescani 123.61 54⇑*i*P **PKPdf 01 18 42.2 -0.3**
CSS Prodhromos 123.69 69 *e*PKPdf **PKPdf 01 18 43.1 +0.1**
CSS LR LR
comp=Z,100nm,20.0s
ATKA Atka Island 123.90 313 PFAKE 01 18 50.0 +7.2
ATKA LR LR
comp=Z,200nm,18.0s
TIRR Tirgusor 124.01 57 ⇓PKIKP **PKPdf 01 18 42.7 -0.6**
TIRR Tirgusor 124.01 57 ⇓*i*P **PKPdf 01 18 42.7 -0.6**
TIRR Tirgusor 124.01 57 *e*PKPdf **PKPdf 01 18 43.0 -0.3**
TIRR LR LR
comp=Z,800nm,19.0s
CFR Carcaliu 124.09 56 ⇓PKIKP **PKPdf 01 18 43.0 -0.4**
CFR Carcaliu 124.09 56 ⇓*i*P **PKPdf 01 18 43.0 -0.4**
SUW Suwalki 124.11 45 *e*PKP **PKPdf 01 18 42.5 -0.6**
SUW Suwalki 124.11 45 *e*PKIKP **PKPdf 01 18 42.6 -0.6**
MMAI Mount Meron Ar 124.39 72 PKP **PKPdf 01 18 44.9 +0.4**
comp=Z,6.6nm,0.8s,baz=251,slow=4.4,SNR=8.6
LEOM Leova 124.63 55⇑PKIKP **PKPdf 01 18 43.9 -0.5**
LEOM Leova 124.63 55⇑*i*P **PKPdf 01 18 43.9 -0.5**
ASF Jabal al Asfar 125.16 74 PKP **PKPdf 01 18 46.9 +0.9**
comp=Z,3.9nm,0.8s,baz=257,slow=4.8,SNR=5.8
ASF Jabal al Asfar 125.16 74 PKIKP **PKPdf 01 18 46.9 +0.9**
ASF pmax pmax
comp=Z,4.0nm,0.8s
ADK Adak 125.25 312 PFAKE 01 19 00.0 +15
ADK LR LR
comp=Z,700nm,19.0s
ANTO Ankara 125.30 64 *e*PKPdf **PKPdf 01 18 46.5 +0.5**
ANTO LR LR
comp=Z,500nm,21.0s
BR101 Keskin Array S 125.84 64 *e*PKPdf **PKPdf 01 18 47.6 +0.4**
BRTR Keskin Array B 125.84 64 PKP **PKPdf 01 18 47.6 +0.4**
comp=Z,6.4nm,0.9s,baz=212,slow=3.2,SNR=46
BRTR Keskin Array B 125.84 64*c* *i*PKIKP **PKPdf 01 18 47.0 -0.2**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
NACGM Naroch 126.38 45 *e* **PKPdf 01 18 44.0 -3.5**
KIEV Kiev 126.60 50*d* *i*PKIKP **PKPdf 01 18 47.2 -0.8**
KIEV Kiev 126.60 50 *e*PKPdf **PKPdf 01 18 47.0 -1.1**
KIEV LR LR
comp=Z,500nm,19.0s
AKASG Malin Array Be 126.61 50 PKP **PKPdf 01 18 47.1 -0.9**
comp=Z,4.3nm,0.8s,baz=264,slow=2.8,SNR=21
AKASG Malin Array Be 126.61 50 PKIKP **PKPdf 01 18 47.2 -0.9**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 126.61 50 *e*PKPdf **PKPdf 01 18 47.1 -0.9**
FIA0 FINESS Array S 127.56 36 *e*PKPdf **PKPdf 01 18 50.3 +0.8**
FINES FINESS Array B 127.56 36 PKP **PKPdf 01 18 50.3 +0.8**
comp=Z,8.0nm,0.9s,baz=270,slow=1.4,SNR=12
FINES FINESS Array B 127.56 36 PKIKP **PKPdf 01 18 50.3 +0.8**
FINES pmax pmax
comp=Z,8.0nm,0.9s

RAYN	**Ar Rayn**	**127.81**	**88**	*e*PKPdf	**PKPdf**	**01 18 51.0**	**-0.3**
RAYN				LR	LR		
	comp=Z,900nm,19.0s						
JAY	**Jayapura**	**127.92**	**228**	PKP	**PKPdf**	**01 18 51.6**	**-0.3**
	comp=Z,7.8nm,0.9s,baz=329,slow=5.9,SNR=3.2						
JAY	**Jayapura**	**127.92**	**228**	PKIKP	**PKPdf**	**01 18 51.6**	**-0.3**
JAY				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SIM	**Simferopol'**	**128.00**	**58**	*d i*PKIKP	**PKPdf**	**01 18 51.1**	**+0.2**
SIM				*e*		01 20 57.0	
SIM				*e*PPP	PPP	01 23 43.0	
SIM				*e*PPS	PPS	01 32 40.0	
SIM				*e*SS	SS	01 38 11.0	+4.4
SIM				pmax	pmax		
	comp=Z,12nm,1.0s						
SIM				pmax	pmax		
	comp=Z,60nm,9.9s						
ARA0	**ARCESS Array S**	**128.55**	**26**	*e*PKPdf	**PKPdf**	**01 18 52.1**	**+0.9**
ARCES	**ARCESS Array B**	**128.55**	**26**	PKP	**PKPdf**	**01 18 52.1**	**+0.9**
	comp=Z,7.1nm,0.8s,baz=247,slow=1.9,SNR=7.2						
ARCES	**ARCESS Array B**	**128.55**	**26**	PKIKP	**PKPdf**	**01 18 52.1**	**+0.9**
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MALT	**Malatya**	**128.78**	**68**	‖PKIKP	**PKPdf**	**01 18 52.9**	**+0.1**
MALT	**Malatya**	**128.78**	**68**	‖*i*P	**PKPdf**	**01 18 52.9**	**+0.1**
ANN	**Anapa**	**130.20**	**59**	*i* PKIKP	**PKPdf**	**01 18 55.3**	**+0.2**
ANN				*e*		01 21 05.7	
ANN				*e*		01 26 02.4	
ANN				pmax	pmax		
	comp=Z,27nm,0.9s						
ANN				MLR	MLR		
	comp=Z,340nm,21.0s						
SOC	**Sochi**	**131.42**	**62**	*i* PKIKP	**PKPdf**	**01 18 58.2**	**+0.7**
SOC				*e*		01 21 15.4	
SOC				*e*PPP	PPP	01 24 06.7	
SOC				*e*SS	SS	01 38 50.1	+1.3
SOC				*e*SSS	SSS	01 43 43.6	
SOC				pmax	pmax		
	comp=Z,27nm,1.1s						
OBN	**Obninsk**	**131.93**	**46**	PKP	**PKPdf**	**01 18 58.1**	**+0.1**
	comp=Z,9.3nm,0.9s,baz=276,slow=5.2,SNR=5.3						
OBN	**Obninsk**	**131.93**	**46**	*i* PKIKP	**PKPdf**	**01 18 59.3**	**+1.3**
OBN				*e*		01 21 23.7	
OBN				pmax	pmax		
	comp=Z,49nm,2.4s						
OBN				MLR	MLR		
	comp=Z,707nm,19.0s						
OBN	**Obninsk**	**131.93**	**46**	*e*PKPdf	**PKPdf**	**01 18 58.1**	**+0.1**
OBN				LR	LR		
	comp=Z,700nm,20.0s						
FAKI	**Fak Fak**	**132.16**	**218**	PFAKE		01 19 10.0	+10
FAKI				LR	LR		
	comp=Z,300nm,22.0s						
MOS	**Moscow**	**132.61**	**45**	*e*PKIKP	**PKPdf**	**01 18 56.8**	**-2.5**
MOS				pmax	pmax		
	comp=Z,34nm,1.2s						
VSR	**Storozhevoye**	**132.84**	**51**	*e*PKIKP	**PKPdf**	**01 18 59.7**	**-0.2**
VSR				pmax	pmax		
	comp=Z,20nm,1.9s						
VSR				pmax	pmax		
	comp=N,9.0nm,1.0s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.3s						
VORD	**Divnogorie**	**132.87**	**52**	*e*PKIKP	**PKPdf**	**01 19 00.7**	**+0.8**
VORD				pmax	pmax		
	comp=Z,10.0nm,1.2s						
VORD				pmax	pmax		
	comp=N,20nm,0.9s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.8s						
NEY	**Neytrino**	**133.44**	**63**	*e*PKIKP	**PKPdf**	**01 19 01.9**	**+0.4**
KIV	**Kislovodsk**	**133.59**	**62**	*i* PKIKP	**PKPdf**	**01 19 02.1**	**+0.4**
KIV				*e*		01 21 30.8	
KIV				*e*PS	**PS**	**01 31 50.1**	**+0.3**
KIV				*e*SS	SS	01 39 19.3	+3.9
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
KIV	**Kislovodsk**	**133.59**	**62**	*e*PKPdf	**PKPdf**	**01 19 01.8**	**+0.1**
KBZ	**Khabaz**	**133.68**	**62**	PKP	**PKPdf**	**01 19 01.6**	**-0.1**
	comp=Z,4.7nm,0.8s,baz=201,slow=1.5,SNR=9.6						
KBZ	**Khabaz**	**133.68**	**62**	PKIKP	**PKPdf**	**01 19 01.6**	**-0.1**
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GNI	**Garni**	**134.01**	**67**	PKP	**PKPdf**	**01 19 03.5**	**+0.8**
	comp=Z,2.3nm,0.5s,baz=321,slow=2.7,SNR=5.0						
GNI	**Garni**	**134.01**	**67**	*c i*PKIKP	**PKPdf**	**01 19 04.1**	**+1.4**
GNI				pmax	pmax		
	comp=Z,22nm,1.7s						
GNI	**Garni**	**134.01**	**67**	*e*PKPdf	**PKPdf**	**01 19 03.5**	**+0.8**
GNI				LR	LR		
	comp=Z,300nm,20.0s						
VRHR	**Novokhopersk**	**134.34**	**52**	*e*PKIKP	**PKPdf**	**01 19 03.2**	**+0.5**
VRHR				pmax	pmax		
	comp=N,7.0nm,0.5s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
SIJI	**Sorong**	**134.42**	**219**	PKP	**PKPdf**	**01 19 04.2**	**+0.1**
	comp=E,8.4nm,0.8s,baz=214,slow=4.9,SNR=4.6						
KAPI	**Kappang**	**135.18**	**201**	PFAKE		01 19 20.0	+14
KAPI				LR	LR		
	comp=Z,300nm,20.0s						
TNTI	**Ternate**	**137.70**	**215**	*e*PKPpre	PKPpre	01 19 00.6	
PET	**Petropavlovsk**	**140.26**	**310**	PFAKE		01 19 20.0	+6.4
PET				LR	LR		
	comp=Z,300nm,19.0s						
PEA2	**Petropavlovsk-**	**140.83**	**310**	*e*PKPdf	**PKPdf**	**01 19 15.8**	**+1.2**
PETK	**Petropavlovsk-**	**140.84**	**310**	PKP	**PKPdf**	**01 19 15.8**	**+1.2**
	comp=Z,31nm,1.2s,baz=120,slow=1.8,SNR=9.1						
PETK				PKKPab		01 27 09.6	
	comp=Z,2.4nm,0.4s,baz=263,slow=12,SNR=4.7						
SKR	**Severo-Kuril's**	**141.83**	**307**	*e*P	Pdif	01 16 53.0	+17
SEY	**Seymchan**	**141.95**	**327**	*e*PKHKP	PKPpre	01 19 10.3	
GEYT	**Alibeck**	**143.43**	**75**	PKhKP	PKPbc	01 19 17.2	+0.1
	comp=Z,27nm,1.0s,baz=251,slow=4.4,SNR=52						
KSM	**Kuching**	**143.48**	**189**	*e*PKPpre	PKPbc	01 19 17.9	+0.1
KSM				LR	LR		
	comp=Z,200nm,19.0s						
TIXI	**Tiksi**	**143.92**	**347**	*e*PKIKP	PKPab	01 19 16.7	-0.1
TIXI	**Tiksi**	**143.92**	**347**	*e*PKPpre	PKPab	01 19 15.3	-1.5
MYKOM	**Kota Tinggi**	**144.14**	**178**	PFAKE		01 19 30.0	+8.2
MYKOM				LR	LR		
	comp=Z,300nm,20.0s						
SBUM	**Sibu**	**144.16**	**193**	*e*PKPdf	PKPbc	01 19 20.2	+0.3
SBUM				LR	LR		
	comp=Z,300nm,22.0s						
ARU	**Arti**	**144.27**	**43**	*i* PKIKP	**PKPab**	**01 19 18.3**	**-0.3**
ARU	**Arti**	**144.27**	**43**	*e*PKPdf	PKPbc	01 19 19.1	+0.1
ARU				LR	LR		
	comp=Z,500nm,20.0s						
AKTO	**Aktyubinsk**	**144.69**	**54**	PKP	PKPbc	01 19 20.8	+0.3
	comp=Z,43nm,0.9s,baz=274,slow=2.9,SNR=112						
AKTO	**Aktyubinsk**	**144.69**	**54**	PKIKP	PKPbc	01 19 20.8	+0.3
AKTO				pmax	pmax		
	comp=Z,43nm,0.9s						
PSI	**Prapat**	**144.73**	**170**	PKP	**PKPab**	**01 19 21.3**	**-0.4**
	comp=Z,64nm,0.9s,baz=171,slow=5.8,SNR=40						
PSI	**Prapat**	**144.73**	**170**	PKIKP	**PKPab**	**01 19 21.3**	**-0.4**
PSI				pmax	pmax		
	comp=Z,64nm,0.9s						
SVE	**Sverdlovsk**	**145.30**	**42**	*c i*PKIKP	**PKPab**	**01 19 22.8**	**+0.4**
SVE				pmax	pmax		
	comp=Z,202nm,1.6s						
SVE				MLR	MLR		
	comp=Z,634nm,21.0s						
ABKAR	**Akbulak array**	**145.98**	**56**	*e*PKPdf	**PKPbc**	**01 19 24.7**	**+0.1**
URV	**Uravakonda**	**146.62**	**126**	*e*PKPdf	**PKPdf**	**01 19 23.7**	**-2.3**
IPM	**Ipoh**	**146.64**	**173**	*e*PKPdf	**PKPdf**	**01 19 25.8**	**-0.3**
IPM				LR	LR		
	comp=Z,400nm,20.0s						
KKM	**Kota Kinabalu**	**146.72**	**201**	*e*PKPdf	**PKPdf**	**01 19 25.9**	**-0.4**
LHMI	**Lhok Sumawe**	**146.78**	**166**	*e*PKPdf	**PKPdf**	**01 19 26.0**	**-0.2**
POO	**Poona**	**146.83**	**117**	‖*i*P	**PKPdf**	**01 19 25.0**	**-1.2**
SKHT	**Srikalahasti**	**147.23**	**130**	*e*PKPdf	**PKPdf**	**01 19 24.4**	**-2.5**
KUR	**Kuril'sk**	**147.25**	**297**	*e*PKIKP	**PKPdf**	**01 19 26.7**	**+0.7**
KUR				pmax	pmax		
	comp=N,43nm,1.0s						
KUR				pmax	pmax		
	comp=Z,75nm,1.0s						
KUR				pmax	pmax		
	comp=E,55nm,1.0s						
KULM	**Kulim**	**147.40**	**172**	*e*PKPdf	**PKPdf**	**01 19 27.2**	**-0.1**
KULM				LR	LR		
	comp=Z,300nm,20.0s						
RCLA	**Racherla**	**148.08**	**127**	*e*PKPdf	**PKPdf**	**01 19 26.8**	**-1.6**
RCLA				*e*PKPab	**PKPbc**	**01 19 31.8**	**+0.3**
KLRI	**Killari**	**148.43**	**121**	*e*PKPbc	**PKPdf**	**01 19 29.9**	**+0.9**
KLRI				*e*PKiKP	**PKPbc**	**01 19 32.3**	**-0.1**
SRLM	**Srisailam**	**148.52**	**126**	*e*PKPbc	**PKPdf**	**01 19 29.6**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**148.63**	**295**	‖*i*PKIKP	**PKPbc**	**01 19 30.8**	**-1.3**
YUK				*e*SS	SS	01 42 09.5	-1.0
YUK				SSS	SSS	01 47 45.3	
YUK				pmax	pmax		
	comp=Z,171nm,1.2s						
ADKI	**Addanki**	**149.01**	**128**	*e*PKPbc	**PKPdf**	**01 19 31.6**	**+1.8**
NJS	**Nagarjunasagar**	**149.13**	**126**	*e*PKPbc	**PKPdf**	**01 19 30.1**	**+0.1**
HYB	**Hyderabad**	**149.27**	**124**	*i* PKP	**PKPdf**	**01 19 30.0**	**-0.3**
HYBB	**Hyderabad (bro**	**149.27**	**124**	*e*PKPdf	**PKPdf**	**01 19 27.0**	**-3.3**
HYBB				*e*PKPbc	**PKPbc**	**01 19 31.2**	**-3.4**
HYBB				*e*PKiKP	**PKiKP**	**01 19 34.4**	**-1.3**
SRSP	**Sriramsagar**	**150.21**	**122**	*e*PKPdf	**PKPdf**	**01 19 29.0**	**-2.7**
SRSP				*e*PKPbc	**PKPbc**	**01 19 34.7**	**-2.1**
ERM	**Erimo**	**150.48**	**290**	*c i*PKIKP	**PKPbc**	**01 19 38.1**	**+1.4**
ERM				pmax	pmax		
	comp=Z,124nm,1.2s						
ERM	**Erimo**	**150.48**	**290**	*e*PKPbc	**PKPbc**	**01 19 36.8**	**+0.1**
ERM				LR	LR		
	comp=Z,500nm,21.0s						
YSS	**Yuzh-Sakhalins**	**150.78**	**300**	*i* PKIKP	**PKPdf**	**01 19 29.0**	**-2.7**
YSS				*e*		01 19 36.0	
YSS	**Yuzh-Sakhalins**	**150.78**	**300**	*e*PKPbc	**PKPbc**	**01 19 37.2**	**0.0**
RPR	**Rampur**	**150.79**	**123**	*e*PKPbc	**PKPbc**	**01 19 35.8**	**-2.4**
RPR				*e*PKiKP	**PKiKP**	**01 19 36.7**	**-2.1**
NKL	**Nikolayevsk**	**150.93**	**313**	*i* PKIKP	**PKPdf**	**01 19 32.2**	**+0.5**
NKL				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ASAJ	**Asahikawa**	**150.99**	**295**	*e*PKPdf	**PKPdf**	**01 19 32.1**	**-0.1**
ASAJ				*e*PKPbc	**PKiKP**	**01 19 38.3**	**-0.1**
ASAJ				LR	LR		
	comp=Z,300nm,20.0s						
KBL	**Kabul**	**151.03**	**85**	*e*PKPdf	**PKPdf**	**01 19 31.8**	**-1.1**
KBL				*e*PKPbc	**PKPbc**	**01 19 38.6**	**0.0**
KBL				LR	LR		
	comp=Z,400nm,20.0s						
PVM	**Polavaram**	**151.10**	**129**	*e*PKPdf	**PKPdf**	**01 19 30.0**	**-3.1**
YAK	**Yakutsk**	**151.31**	**336**	*e*PKIKP	**PKPbc**	**01 19 37.3**	**-0.7**
YAK				*e*		01 26 48.8	
YAK				pmax	pmax		
	comp=Z,321nm,1.1s						
YAK				pmax	pmax		
	comp=N,28nm,1.3s						
YAK				pmax	pmax		
	comp=E,27nm,1.4s						
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.4s						
YAK	**Yakutsk**	**151.31**	**336**	*e*PKPdf	**PKPdf**	**01 19 31.2**	**-0.8**
YAK				*e*PKPbc	**PKPbc**	**01 19 38.2**	**+0.1**
YAK				LR	LR		
	comp=Z,300nm,20.0s						
BRVK	**Borovoye**	**151.70**	**46**	*e*PKPdf	**PKPdf**	**01 19 33.1**	**+0.1**
BRVK				LR	LR		
	comp=Z,600nm,20.0s						
BVAR	**Borovoye Array**	**151.78**	**46**	PKP	**PKPdf**	**01 19 34.0**	**+1.0**
	comp=Z,4.2nm,0.7s,baz=288,slow=2.3,SNR=34						
BVAR				PKPbc	**PKiKP**	**01 19 40.2**	**+0.4**
	comp=Z,20nm,0.8s,baz=298,slow=3.1,SNR=44						
BVAR	**Borovoye Array**	**151.78**	**46**	PKIKP	**PKPdf**	**01 19 34.0**	**+1.0**
BVAR						01 19 40.2	
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BVAR				pmax	pmax		
	comp=Z,20nm,0.8s						
MJAR	**Matsushiro Arr**	**153.45**	**278**	PKP	**PKPdf**	**01 19 35.3**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=119,slow=1.0,SNR=7.3						
MJAR				PKPbc	**PKiKP**	**01 19 43.8**	**-0.1**
	comp=Z,4.2nm,0.7s,baz=149,slow=2.7,SNR=4.1						
MJAR				PKPab	**PKPab**	**01 19 56.8**	**+0.7**
	comp=Z,13nm,0.8s,baz=149,slow=3.3,SNR=11						
MJAR	**Matsushiro Arr**	**153.45**	**278**	PKIKP	**PKPdf**	**01 19 35.3**	**-0.8**
MJAR						01 19 43.8	
MJAR						01 19 56.8	
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MJAR				pmax	pmax		
	comp=Z,13nm,0.8s						
MAJO	**Matsushiro**	**153.46**	**278**	*e*PKPdf	**PKPdf**	**01 19 34.5**	**-1.6**
MAJO				*e*PKPab	**PKPab**	**01 19 56.8**	**+0.7**
MAJO				LR	LR		
	comp=Z,300nm,19.0s						
MAT	**Matsushiro**	**153.46**	**278**	PKP	**PKPdf**	**01 19 35.3**	**-0.8**
KKAR	**Karatay Array**	**153.48**	**68**	*e*PKPdf	**PKPdf**	**01 19 35.1**	**-0.8**
KKAR				*e*PKPab	**PKPab**	**01 19 55.6**	**-0.5**
HABR	**Khabarovsk**	**155.67**	**306**	*e*PKIKP	**PKPdf**	**01 19 37.9**	**-0.8**
HABR				*e*		01 20 03.8	
HABR						01 26 44.5	
HABR				*e*SS	SS	01 43 26.8	-0.6
HABR				pmax	pmax		
	comp=Z,39nm,1.4s						
AML	**Almayashu**	**155.82**	**70**	P	**PKPdf**	**01 19 41.0**	**+1.3**
	SNR=5.5						
EKS2	**Erkin-Say**	**155.88**	**69**	P	**PKPdf**	**01 19 40.2**	**+0.9**
	SNR=12						
EKS2	**Erkin-Say**	**155.88**	**69**	*e*PKPdf	**PKPdf**	**01 19 40.0**	**+0.7**
EKS2				*e*PKPab	**PKPab**	**01 20 06.7**	**+0.3**
EKS2				*e*PP	**PP**	**01 23 43.6**	**-0.6**
EKS2				LR	LR		
	comp=Z,400nm,20.0s						
AAK	**Ala-Archa**	**156.41**	**69**	P	**PKPdf**	**01 19 41.6**	**+1.5**
	SNR=5.5						
AAK	**Ala-Archa**	**156.41**	**69**	PKP	PKPab	01 19 55.6	-13
	comp=Z,7.9nm,0.9s,baz=203,slow=3.9,SNR=20						
AAK				PKPab	PKPdf	01 20 23.1	+43
	comp=Z,29nm,1.0s,baz=230,slow=6.4,SNR=16						
AAK	**Ala-Archa**	**156.41**	**69**	*e*PKPdf	**PKPdf**	**01 19 40.8**	**+0.6**
AAK				*e*PKPdif	PKPab	01 19 55.6	-13
AAK				*e*PKPab	PKPab	01 20 08.6	-0.2
AAK				*e*PP	**PP**	**01 23 47.3**	**+0.1**
AAK				LR	LR		
	comp=Z,400nm,19.0s						
UCH	**Uchtor**	**156.43**	**70**	P	**PKPdf**	**01 19 41.6**	**+1.1**
	SNR=20						
FRU	**Bishkek**	**156.50**	**68**	*e*PKIKP	**PKPdf**	**01 19 40.0**	**-0.1**
FRU				*e*		01 20 08.0	
FRU				*i*		01 23 47.0	
FRU				pmax	pmax		
	comp=Z,40nm,1.6s						
CHMS	**Chumysh**	**156.59**	**68**	P	**PKPab**	**01 20 10.0**	**+0.6**
	SNR=5.7						
KBK	**Karagaybulak**	**156.75**	**69**	P	**PKPdf**	**01 19 41.9**	**+1.3**
	SNR=6.0						
KZA	**Kyzart**	**156.98**	**70**	P	**PKPdf**	**01 19 42.5**	**+1.2**
	SNR=14						
TKM2	**Tokmak 2**	**157.21**	**68**	P	**PKPdf**	**01 19 42.2**	**+1.0**
	SNR=14						
TKM2	**Tokmak 2**	**157.21**	**68**	*e*PKPdf	**PKPdf**	**01 19 41.8**	**+0.6**
TKM2				*e*PKPab	**PKPab**	**01 20 12.4**	**+0.2**
TKM2				*e*PP	**PP**	**01 23 50.9**	**-0.7**
TKM2				LR	LR		
	comp=Z,300nm,20.0s						
KURBB	**Kurchatov Arra**	**157.35**	**47**	PKP	**PKPdf**	**01 19 41.2**	**+0.3**
	comp=Z,5.8nm,1.0s,baz=297,slow=1.9,SNR=38						
KURBB				PKPab	**PKPab**	**01 20 13.2**	**+0.8**
	comp=Z,11nm,0.9s,baz=294,slow=4.8,SNR=22						
KURBB				PP	**PP**	**01 23 51.7**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=278,slow=5.8,SNR=6.0						
KURK	**Kurchatov**	**157.37**	**47**	PKIKP	**PKPdf**	**01 19 41.2**	**+0.4**
KURK						01 23 51.7	
KURK				pmax	pmax		
	comp=Z,11nm,0.9s						
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**157.37**	**47**	*e*PKPdf	**PKPdf**	**01 19 40.6**	**-0.2**
KURK				*e*PKPab	**PKPab**	**01 20 12.4**	**+0.1**
KURK				*e*PP	**PP**	**01 23 51.7**	**0.0**
KURK				LR	LR		
	comp=Z,300nm,20.0s						
KSH	**Kashi**	**157.44**	**77**	PKP	**PKPdf**	**01 19 42.3**	**+0.8**
KSH				PP	**PP**	**01 23 52.8**	**-0.2**
KSH				SKKS		01 30 40.0	
KSH				PPMZ			
	comp=Z,140nm,5.8s						
KSH				LN			
	comp=Z,79nm,5.9s						
KSH				LE			
	comp=Z,120nm,5.2s						
KSH				LZ			
	comp=Z,120nm,6.0s						
NVS	**Novosibirsk**	**157.52**	**34**	*e*PKIKP	**PKPdf**	**01 19 39.8**	**-1.1**
NVS				pmax	pmax		
	comp=E,18nm,1.7s						
NVS				pmax	pmax		
	comp=Z,54nm,1.7s						
NVS				pmax	pmax		
	comp=N,6.0nm,1.2s						
KLR	**Kul'dur**	**157.52**	**309**	*e*PKIKP	**PKPdf**	**01 19 36.0**	**-5.1**
ULHL	**Ulahol**	**157.72**	**70**	P	**PKPdf**	**01 19 43.4**	**+1.5**
	SNR=13						
USRK	**Ussuriysk Ar.**	**158.59**	**296**	PKPab	**PKPab**	**01 20 17.6**	**-0.3**
	comp=N,6.2nm,0.9s,baz=101,slow=3.1,SNR=8.1						
ZAA1	**Zalesovo Array**	**158.80**	**34**	*e*PKPdf	**PKPdf**	**01 19 42.3**	**-0.2**
ZAA1				*e*PKPab	**PKPab**	**01 20 20.3**	**+1.8**
ZALV	**Zalesovo Beam**	**158.80**	**34**	PKP	**PKPdf**	**01 19 42.3**	**-0.2**
	comp=N,15nm,1.0s,baz=291,slow=1.1,SNR=39						
ZALV				PKPab	**PKPab**	**01 20 20.3**	**+1.8**
	comp=N,46nm,0.8s,baz=296,slow=5.3,SNR=34						
BOD	**Bodaibo**	**159.10**	**346**	*e*PKIKP	**PKPdf**	**01 19 38.9**	**-3.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.9s						
YOJ	**Yonaguni jima**	**159.57**	**235**	PFAKE		01 19 50.0	+5.7
YOJ				LR	LR		
	comp=Z,300nm,22.0s						
KOLN	**Koldanda**	**159.57**	**113**	*e*P	**PKPdf**	**01 19 44.1**	**-0.4**
	comp=Z,26nm,1.2s						
CM31	**Chiang Mai Arr**	**160.03**	**163**	*e*PKPdf	**PKPdf**	**01 19 45.1**	**+0.1**
CM31				*e*PKPab	**PKPab**	**01 20 24.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**160.03**	**163**	PKP	**PKPdf**	**01 19 45.1**	**+0.1**
	comp=Z,1.4nm,0.4s,baz=224,slow=2.5,SNR=4.1						
CMAR				PKPab	**PKPab**	**01 20 24.8**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=217,slow=4.6,SNR=8.2						
CMAR	**Chiang Mai Arr**	**160.03**	**163**	PKIKP	**PKPdf**	**01 19 45.1**	**+0.1**
CMAR						01 20 24.8	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	**Mudanjiang**	**160.22**	**298**	PKP	**PKPdf**	**01 19 41.5**	**-2.9**
MDJ				PP	**PP**	**01 24 07.5**	**-0.2**
MDJ				SS	SS	01 44 22.0	+5.6
MDJ				PPMZ			
	comp=Z,140nm,9.1s						
MDJ				LN			
	comp=Z,100nm,24.5s						
MDJ				LE			
	comp=Z,310nm,26.1s						
MDJ				LZ			
	comp=Z,450nm,24.5s						
MDJ	**Mudanjiang**	**160.22**	**298**	*e*PKPdf	**PKPdf**	**01 19 42.6**	**-1.9**
MDJ				*e*PKPab	**PKPab**	**01 20 25.5**	**+0.5**
CHTO	**Chiang Mai**	**160.38**	**163**	*e*PKPdf	**PKPdf**	**01 19 42.1**	**-3.3**
CHTO				*e*PKPab	**PKPab**	**01 20 25.2**	**-1.0**
GKN	**Gorkha**	**160.46**	**114**	*e*P	**PKPdf**	**01 19 45.0**	**-0.5**
	comp=Z,39nm,1.2s						
DMN	**Daman**	**160.56**	**116**	*e*P	**PKPdf**	**01 19 44.6**	**-1.1**
	comp=Z,16nm,0.7s						
PKIN	**Phulchoki**	**160.75**	**116**	*e*P	**PKPdf**	**01 19 45.1**	**-0.8**
	comp=Z,8.0nm,0.8s						
PKI	**Pulchoki**	**160.76**	**116**	*e*P	**PKPdf**	**01 19 45.5**	**-0.5**
	comp=Z,54nm,1.2s						
QIZ	**Qiongzhong**	**160.78**	**195**	PKP	**PKPdf**	**01 19 46.5**	**+0.7**
QIZ				PP	**PP**	**01 24 11.5**	**+2.0**
QIZ				SS	SS	01 44 26.0	+5.9
QIZ				LZ			
	comp=Z,420nm,19.3s						
KKN	**Kakani**	**160.79**	**116**	*e*P	**PKPdf**	**01 19 45.3**	**-0.6**
	comp=Z,8.5nm,0.6s						
MKAR	**Makanchi Array**	**161.12**	**54**	*e*PKPdf	**PKPdf**	**01 19 45.1**	**-0.3**
MKAR				*e*PKPab	**PKPab**	**01 20 27.9**	**-0.9**
MKAR				*e*PP	**PP**	**01 24 11.8**	**-0.6**
RAMN	**Ramite**	**161.21**	**120**	*e*P	**PKPdf**	**01 19 46.5**	**+0.1**
	comp=Z,64nm,1.1s						
GUN	**Gumba**	**161.29**	**116**	*e*P	**PKPdf**	**01 19 46.3**	**-0.3**
ODAN	**Odare**	**161.69**	**122**	*e*P	**PKPdf**	**01 19 47.7**	**+0.8**
	comp=Z,13nm,0.4s						
KSRS	**Korea Array**	**161.71**	**276**	PKP	**PKPdf**	**01 19 45.7**	**-0.6**
	comp=Z,4.5nm,1.0s,baz=160,slow=0.5,SNR=19						
KSRS				PKPab	**PKPab**	**01 20 32.7**	**+1.0**
	comp=Z,7.1nm,0.9s,baz=111,slow=4.7,SNR=15						
KSRS	**Korea Array**	**161.71**	**276**	PKIKP	**PKPdf**	**01 19 45.7**	**-0.6**
KSRS						01 20 32.7	
KSRS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KSRS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KS15	**Wonju Array Si**	**161.74**	**276**	*e*PKPdf	**PKPdf**	**01 19 45.7**	**-0.6**
KS15				*e*PKPab	**PKPab**	**01 20 32.7**	**+0.8**
QZH	**Quanzhou**	**162.63**	**226**	*i* PKP	**PKPdf**	**01 19 47.5**	**-0.1**
QZH				PP	**PP**	**01 24 22.5**	**+2.4**
QZH				LZ			
	comp=Z,560nm,23.6s						
CN2	**Changchun**	**163.30**	**297**	*e*PKP	**PKPdf**	**01 19 45.8**	**-1.9**
CN2				PP	**PP**	**01 24 24.5**	**+0.4**
CN2				SS	SS	01 44 52.8	+4.2
CN2				PPMZ			
	comp=Z,120nm,6.0s						
CN2				LN			
	comp=Z,380nm,19.0s						
CN2				LE			
	comp=Z,270nm,19.0s			

	comp=Z,180nm,23.0s							
GYA					LZ			
	comp=Z,140nm,22.4s							
WHN	**Wuhan**	**169.29**	**230**	*i* PKP	**PKPdf**	**01 19 52.5**	**-0.2**
WHN				PP	**PP**	**01 24 54.5**	**-0.2**
WHN				LZ			
	comp=Z,800nm,20.9s						
SONA0	**Songino Array**	**169.92**	**354**	*e*PKPdf	**PKPdf**	**01 19 51.6**	**-1.2**
SONA0				*e*PKPab	**PKPab**	**01 21 08.9**	**+1.3**
SONA0				*e*PP	**PP**	**01 24 54.3**	**-2.8**
SONM	**Songino Array**	**169.92**	**354**	PKP	**PKPdf**	**01 19 51.6**	**-1.2**
	comp=Z,2.7nm,1.0s,baz=211,slow=0.6,SNR=17						
SONM				PKPab	**PKPab**	**01 21 08.9**	**+1.3**
	comp=Z,7.5nm,0.9s,baz=353,slow=3.3,SNR=21						
SONM				PP	**PP**	**01 24 54.3**	**-2.8**
	comp=Z,3.1nm,1.0s,baz=351,slow=5.9,SNR=9.0						
SONM	**Songino Array**	**169.92**	**354**	PKIKP	**PKPdf**	**01 19 51.6**	**-1.2**
SONM						01 21 08.9	
SONM						01 24 54.3	
SONM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SONM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TIA	**Tai'an**	**170.04**	**264**	PKP	**PKPdf**	**01 19 53.0**	**-0.1**
BJI	**Beijing**	**170.89**	**288**	PKP	**PKPdf**	**01 19 52.8**	**-0.5**
BJI				PP	**PP**	**01 25 04.0**	**+0.7**
BJI				SKS	**SKSdf**	**01 26 49.5**	**-5.1**
BJI				PPMZ			
	comp=Z,270nm,14.7s						
BJI				LN			
	comp=Z,210nm,20.0s						
BJI				LE			
	comp=Z,260nm,21.2s						
BJI				LZ			
	comp=Z,390nm,22.3s						
CD2	**Chengdu**	**173.05**	**172**	PKP	**PKPdf**	**01 19 54.5**	**-0.2**
CD2				PP	**PP**	**01 25 12.0**	**-0.5**
CD2				SKS	**SKSdf**	**01 26 57.5**	**+1.5**
CD2				SKKS	**SKKSac**	**01 31 59.3**	**+1.4**
CD2				SS	**SS**	**01 46 28.0**	**+3.9**
CD2				PPMZ			
	comp=Z,290nm,6.8s						
CD2				LN			
	comp=Z,390nm,17.6s						
CD2				LE			
	comp=Z,370nm,19.1s						
CD2				LZ			
	comp=Z,550nm,17.2s						
HHC	**Hu-ho-hao-te**	**173.97**	**302**	*e*PKP	**PKPdf**	**01 19 54.5**	**-0.4**
HHC				PKS	PKSdf	01 23 20.5	-6.6
HHC				PP	**PP**	**01 25 20.5**	**+2.2**
HHC				SKS	**SKSdf**	**01 26 53.8**	**-2.2**
HHC				SKKS	**SKKSac**	**01 31 58.5**	**-4.0**
HHC				SS	**SS**	**01 46 38.0**	**+2.7**
HHC				PPMZ			
	comp=Z,230nm,10.3s						
HHC				LN			
	comp=Z,400nm,22.2s						
HHC				LE			
	comp=Z,330nm,21.8s						
HHC				LZ			
	comp=Z,460nm,22.1s						
XAN	**Xi'an**	**174.98**	**223**	PKP	**PKPdf**	**01 19 55.0**	**-0.3**
GTA	**Gaotai**	**175.76**	**66**	ǁ PKP	**PKPdf**	**01 19 56.0**	**+0.5**
GTA				PKPab	**PKPab**	**01 21 35.0**	**+1.0**
GTA				PP	**PP**	**01 25 27.5**	**+0.3**
GTA				SKS	**SKSdf**	**01 26 58.0**	**+1.5**
GTA				SKKS	**SKKSac**	**01 32 12.3**	**+1.1**
GTA				SS	**SS**	**01 46 49.5**	**-3.4**
GTA				PPMZ			
	comp=Z,430nm,6.7s						
GTA				LN			
	comp=Z,390nm,20.9s						
GTA				LE			
	comp=Z,290nm,18.1s						
GTA				LZ			
	comp=Z,410nm,19.5s						
LZH	**Lanzhou**	**178.10**	**155**	*e*PKP	**PKPdf**	**01 19 57.3**	**+1.3**
LZH				pPKP	**pPKPdf**	**01 20 07.5**	**+2.0**
LZH				sPKP		01 20 10.3	
LZH				PP	**PP**	**01 25 37.5**	**+0.4**
LZH				SKKS		01 32 24.8	
LZH				PPMZ			
	comp=Z,340nm,7.8s						
LZH				LN			
	comp=Z,240nm,18.2s						
LZH				LE			
	comp=Z,200nm,18.2s						
LZH				LZ			
	comp=Z,490nm,19.7s						

*ISCJB **28** 01:16:04.6±0.9,34.°93N±0.°05×25.°36E±0.°04, h9km±4km, Error ellipse: s-maj=8.6km s-min=4.1km az=158.1*
*ATH **28** 01:16:05.7, 35.°02N×25.°29E, h18km±1km, MD3.4/9*
*CSEM **28** 01:16:05.0±0.4, 34.°93N×25.°35E, h8km, MD3.4, Error ellipse: s-maj=9.3km s-min=3.9km az=162.0*
*THE **28** 01:16:05.0, 34.°93N×25.°36E, h2km±3km, ML2.0/1, Error ellipse: s-maj=4.0km s-min=1.1km az=159.0*
*DDA **28** 01:17:09.6, 39.°92N×29.°23E, h7km, MD2.5*

ISC 28 01:16:05.4±1.0, 34.°98N±0.°04×25.°35E±0.°02, h12km±7km, n48, σ0.°98/66, 2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.21**	**30**	P	**Pg**	**01 16 09.7**	**-0.3**
LAST				S	**Sg**	**01 16 13.4**	**+0.3**
LAST	**Lasithi**	**0.21**	**30** ǁ	*i* PB	**Pg**	**01 16 10.3**	**+0.3**
LAST	**Lasithi**	**0.21**	**30**	P	**Pg**	**01 16 09.7**	**-0.3**
LAST	**Lasithi**	**0.21**	**30** ǁ	*i* Pb	**Pg**	**01 16 10.3**	**+0.3**
LAST				S	**Sg**	**01 16 13.4**	**+0.3**
NPS	**Neapolis**	**0.35**	**37**	P	**Pg**	**01 16 12.6**	**+0.1**
NPS				S	**Sb**	**01 16 18.6**	**-0.5**
NPS	**Neapolis**	**0.35**	**37**	*e*PB	**Pg**	**01 16 12.7**	**+0.2**
NPS				*e*SB	**Sb**	**01 16 18.9**	**-0.2**
NPS	**Neapolis**	**0.35**	**37**	*e*Pb	**Pg**	**01 16 12.7**	**+0.2**
NPS				S	**Sb**	**01 16 18.6**	**-0.5**
SIVA	**Sivas**	**0.45**	**275**	P	**Pg**	**01 16 13.5**	**-0.7**
SIVA				S	**Sg**	**01 16 20.8**	**+0.6**
SIVA	**Sivas**	**0.45**	**275**	*e*PB	**Pg**	**01 16 14.0**	**-0.2**
SIVA	**Sivas**	**0.45**	**275**	P	**Pg**	**01 16 13.5**	**-0.7**
SIVA	**Sivas**	**0.45**	**275**	*e*Pb	**Pg**	**01 16 14.0**	**-0.2**
SIVA				S	**Sg**	**01 16 20.8**	**+0.6**
ZKR	**Zakros**	**0.72**	**79**	P	**Pg**	**01 16 18.5**	**-0.9**
ZKR				S	**Sb**	**01 16 29.9**	**+0.1**
ZKR	**Zakros**	**0.72**	**79**	P	**Pg**	**01 16 18.5**	**-0.9**
ZKR				S	**Sb**	**01 16 29.9**	**+0.1**
VAM	**Vamos**	**1.03**	**294**	*e*PN	**Pb**	**01 16 24.1**	**-1.1**
VAM	**Vamos**	**1.03**	**294**	*e*Pn	**Pb**	**01 16 24.1**	**-1.1**
GVD	**Gavdhos**	**1.05**	**262**	P	**Pb**	**01 16 25.0**	**-0.5**
GVD				S	**Sb**	**01 16 38.8**	**-0.3**
GVD	**Gavdhos**	**1.05**	**262**	P	**Pb**	**01 16 25.0**	**-0.5**
GVD				S	**Sb**	**01 16 38.8**	**-0.3**
THR6	**Thira Island,**	**1.37**	**2**	P	**Pb**	**01 16 30.9**	**-0.1**
THR6	**Thira Island,**	**1.37**	**2**	P	**Pb**	**01 16 30.9**	**-0.1**
SANT	**Santorini**	**1.39**	**4**	P	**Pb**	**01 16 31.2**	**-0.1**
SANT				S	**Sg**	**01 16 51.0**	**+0.9**
SANT	**Santorini**	**1.39**	**4**	*e*PN	**Pb**	**01 16 31.2**	**-0.1**
SANT				*e*SN	**Sg**	**01 16 49.7**	**-0.4**
SANT	**Santorini**	**1.39**	**4**	P	**Pb**	**01 16 31.2**	**-0.1**
SANT				*e*Sn	**Sg**	**01 16 49.7**	**-0.4**
SANT				S	**Sg**	**01 16 51.0**	**+0.9**
THR3	**Thira Island,**	**1.42**	**2**	P	**Pb**	**01 16 31.9**	**0.0**
THR3	**Thira Island,**	**1.42**	**2**	P	**Pb**	**01 16 31.9**	**0.0**
THR5	**Thira Island,**	**1.43**	**360**	P	**Pb**	**01 16 31.9**	**-0.1**
THR5	**Thira Island,**	**1.43**	**360**	P	**Pb**	**01 16 31.9**	**-0.1**
THR2	**Thira island,**	**1.46**	**3**	P	**Pn**	**01 16 31.4**	**-0.2**
THR2	**Thira island,**	**1.46**	**3**	P	**Pn**	**01 16 31.4**	**-0.2**
KARP	**Karpathos**	**1.58**	**69**	*e*PN	**Pb**	**01 16 34.9**	**+0.3**
KARP	**Karpathos**	**1.58**	**69**	*e*Pn	**Pb**	**01 16 34.9**	**+0.3**
APE	**Apeiranthos**	**2.09**	**4**	P	**Pb**	**01 16 42.0**	**-1.2**
APE				S	**Sb**	**01 17 07.7**	**-1.4**
APE	**Apeiranthos**	**2.09**	**4**	*e*PN	**Pb**	**01 16 41.7**	**-1.5**
APE	**Apeiranthos**	**2.09**	**4**	*e*Pn	**Pb**	**01 16 41.7**	**-1.5**
APE	**Apeiranthos**	**2.09**	**4**	P	**Pb**	**01 16 42.0**	**-1.2**
APE				S	**Sb**	**01 17 07.7**	**-1.4**
KYTH	**Kithira**	**2.29**	**305**	*e*PN	**Pn**	**01 16 44.6**	**+1.6**
KYTH	**Kithira**	**2.29**	**305**	*e*Pn	**Pn**	**01 16 44.6**	**+1.6**
ARG	**Arkhangelos**	**2.57**	**61**	*e*PB	**Pb**	**01 16 49.8**	**-1.7**
VLI	**Veliai**	**2.62**	**312**	*e*PN	**Pn**	**01 16 48.4**	**+1.0**
VLI	**Veliai**	**2.62**	**312**	*e*Pn	**Pn**	**01 16 48.4**	**+1.0**
DID	**Didima**	**3.04**	**326**	*e*PN	**Pn**	**01 16 54.3**	**+0.9**
DID	**Didima**	**3.04**	**326**	*e*Pn	**Pn**	**01 16 54.3**	**+0.9**
GUR	**Goura**	**3.82**	**321**	*e*PN	**Pn**	**01 17 05.4**	**+1.3**
GUR	**Goura**	**3.82**	**321**	*e*Pn	**Pn**	**01 17 05.4**	**+1.3**
DEMI	**Demirci**	**4.87**	**33**	*i* P	**Pb**	**01 17 28.1**	**-2.5**
DEMI				*i* S	**Pg**	**01 17 41.1**	**+2.5**
DURS	**Dursunbey**	**5.24**	**27**	*i* P	**Pn**	**01 17 22.5**	**-1.1**
DURS				*i* S	Pb	01 17 32.3	-4.7
DURS	**Dursunbey**	**5.24**	**27**	*i* P	**Pn**	**01 17 22.5**	**-1.1**
GDZ	**Gediz**	**5.26**	**38**	*i* P	**Pn**	**01 17 26.0**	**+2.0**
GDZ	**Gediz**	**5.26**	**38**	*i* P	**Pn**	**01 17 26.0**	**+2.0**

*IDC **28** 01:18:35.3±0.5, 0.°47N×125.°96E, h0km, mb4.4/18, mb1 4.5/20, mb1mx4.5/24, mbtmp4.4/20, ML4.0/2, Error ellipse: s-maj=21.8km s-min=11.1km az=72.0*
*BJI **28** 01:18:39.0, 0.°50N×126.°10E, h27km, mb4.7/16, mB4.9/15, Ms4.5/9, Ms7 4.2/10*
*NEIC **28** 01:18:39.4±1.9, 0.°51N×126.°11E, h28km±14km, mb4.8/10, Error ellipse: s-maj=7.2km s-min=5.4km az=50.0*
*ISCJB **28** 01:18:40.6±0.5, 0.°49N±0.°04×126.°15E±0.°03, h52km±5km, mb4.5/29, Error ellipse: s-maj=6.2km s-min=4.3km az=6.1*
*DJA **28** 01:18:40.8±1.0, 1.°1N±4.°×12.°6E±.°, h27km±15km, M4.6/17, mb4.9/6, mB5.0/4, MLv4.5/2, MLv4.7/17, Mw(mB)4.4/4*

ISC 28 01:18:40.7±0.6, 0.°47N±0.°04×126.°12E±0.°04, h33km±2km, n74, σ1°75/103, mb4.5/29, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.28**	**77**	P	**Pn**	**01 19 01.4**	**-0.8**
TNTI				S	**Sn**	**01 19 16.6**	**-1.6**
TNTI	**Ternate**	**1.28**	**77**	*e*Pn	**Pn**	**01 19 01.2**	**-1.0**
TNTI				*e*S	**Sn**	**01 19 19.1**	**+0.9**
KMSI	**Cibinong**	**2.15**	**273**	P	**Pn**	**01 19 14.1**	**-0.1**
KMSI				S	**Sn**	**01 19 41.0**	**+1.3**
SANI	**Sanana**	**2.51**	**183**	P	**Pn**	**01 19 20.1**	**+0.9**
SANI				S	**Sn**	**01 19 46.6**	**-2.1**
SGSI	**Sangihe**	**3.25**	**349**	P	Pb	01 19 44.2	+6.5
LUWI	**Luwuk**	**3.67**	**246**	P	Pn	01 19 39.5	+4.3
LUWI	**Luwuk**	**3.67**	**246**	*e*Pn	**Pn**	**01 19 34.5**	**-0.7**
LUWI				*e*S	**Sn**	**01 20 21.8**	**+4.3**
NLAI	**Namlea**	**3.81**	**165**	P	**Pn**	**01 19 38.8**	**+1.6**
MRSI	**Marisa**	**4.18**	**270**	P	**Pn**	**01 19 44.5**	**+2.3**
APSI	**Ampana**	**4.68**	**253**	P	**Pn**	**01 19 50.6**	**+1.5**
SIJI	**Sorong**	**5.31**	**105**	Pn	**Pn**	**01 19 59.2**	**+1.4**
	3.8nm,0.3s,baz=257,slow=18,SNR=9.4						
SIJI				Sn	**Sn**	**01 20 59.8**	**+1.9**
	1.2nm,0.3s,baz=323,slow=20,SNR=2.6						
KDI	**Kendari**	**5.62**	**218**	P	**Pn**	**01 20 05.2**	**+3.1**
	119nm,0.9s,0.4nm0.4nm						
MPSI	**Mapaga**	**6.23**	**269**	P	Pn	01 20 14.0	+3.7
	41nm,0.8s,548nm0.1nm0.1nm						
BBSI	**Bau Bau**	**6.90**	**211**	P	**Pn**	**01 20 22.6**	**+3.0**
	116nm,1.0s,1μm0.4nm						
FAKI	**Fak Fak**	**6.99**	**119**	P	**Pn**	**01 20 22.0**	**+1.2**
	39nm,1.0s,0.1nm						
FAKI	**Fak Fak**	**6.99**	**119**	*e*Pn	**Pn**	**01 20 21.2**	**+0.4**
FAKI				*e*S	**Sn**	**01 21 42.7**	**+3.5**
TTSI	**Tana Toraja**	**7.21**	**241**	P	**Pn**	**01 20 26.3**	**+2.5**
	87nm,0.5s,2μm0.4nm						
SPSI	**Sidrap Palu**	**7.73**	**235**	P	**Pn**	**01 20 33.9**	**+2.9**
KAPI	**Kappang**	**8.38**	**229**	Pn	**Pn**	**01 20 37.4**	**-2.5**
	2.6nm,0.3s,baz=211,slow=4.3,SNR=4.9						
KAPI				Sn	**Sn**	**01 22 14.9**	**+1.4**
	1.6nm,0.3s,baz=131,slow=20,SNR=3.3						
KAPI	**Kappang**	**8.38**	**229**	*e*Pn	**Pn**	**01 20 37.9**	**-2.0**
KAPI				*e*S	Sn	01 22 04.0	-10
SBUM	**Sibu**	**14.04**	**278**	*e*Pn	**Pn**	**01 21 57.9**	**+0.5**
KSM	**Kuching**	**15.84**	**274**	*e*Pn	**Pn**	**01 22 21.1**	**-0.3**
	46nm,0.8s						
WRAB	**Tennant Creek**	**21.82**	**159**	*e*P	**P**	**01 23 29.6**	**-0.7**
	128nm,0.8s						
WRA	**Warramunga Arr**	**21.83**	**159**	P	**P**	**01 23 29.6**	**-0.8**
	32nm,0.7s,baz=339,slow=11,SNR=84						
WRA				S	**S**	**01 27 30.5**	**+0.4**
	3.3nm,1.1s,baz=334,slow=17,SNR=4.2						
COEN	**Coen**	**22.15**	**131**	*e*P	**P**	**01 23 33.2**	**-0.8**
	16nm,1.7s						
MBWA	**Marble Bar**	**22.39**	**196**	*e*P	**P**	**01 23 36.0**	**-0.4**
TPUB	**Ta-pu**	**23.31**	**347**	*e*P	**P**	**01 23 43.4**	**-2.6**
	19nm,0.6s						
AS31	**Alice Springs**	**25.16**	**163**	*e*P	**P**	**01 24 02.9**	**-0.3**
ASAR	**Alice Springs**	**25.16**	**163**	P	**P**	**01 24 02.9**	**-0.2**
	32nm,0.9s,baz=352,slow=16,SNR=142						
ASAR				PcP	**PcP**	**01 27 36.4**	**-0.4**
	0.7nm,0.5s,baz=352,slow=2.8,SNR=3.8						
ASAR				S	**S**	**01 28 28.0**	**+1.8**
	1.6nm,0.8s,baz=350,slow=22,SNR=4.3						
JOW	**Kunigami**	**26.29**	**4**	P	**P**	**01 24 13.2**	**0.0**
	0.7nm,0.5s,baz=180,slow=10,SNR=2.5						
CTA	**Charters Tower**	**28.40**	**137**	P	**P**	**01 24 32.9**	**+0.5**
	2.7nm,0.2s,baz=324,slow=11,SNR=6.8						
FORT	**Forrest**	**31.14**	**177**	*e*P	**P**	**01 24 56.3**	**-0.1**
	65nm,0.7s						
GYA	**Guiyang**	**31.91**	**326**	P	**P**	**01 25 04.3**	**+0.8**
GYA				pP	**pP**	**01 25 12.5**	**-0.6**
GYA				S	**S**	**01 30 12.8**	**+0.2**
GYA				sS	**sS**	**01 30 26.0**	**-2.5**
GYA				ScP	**ScP**	**01 31 34.3**	**-0.5**
GYA				ScS	**ScS**	**01 35 32.0**	**-1.5**
GYA				PMZ			
	10.0nm,0.8s						
GYA				PMZ			
	110nm,4.9s						
GYA				LN			
	480nm,17.8s						
GYA				LE			
	460nm,18.0s						
GYA				LZ			
	500nm,17.6s						
CMAR	**Chiang Mai Arr**	**32.12**	**305**	P	**P**	**01 25 04.0**	**-1.2**
	0.9nm,0.4s,baz=133,slow=8.8,SNR=7.5						
CMAR				PcP	**PcP**	**01 27 54.0**	**-0.2**
	1.7nm,0.8s,baz=168,slow=1.8,SNR=7.1						
STKA	**Stephens Creek**	**35.35**	**157**	P	**P**	**01 25 33.1**	**-0.1**
	22nm,0.6s,baz=328,slow=9.2,SNR=26						
STKA	**Stephens Creek**	**35.35**	**157**	*e*P	**P**	**01 25 33.2**	**0.0**
KSAR	**Wonju Array Be**	**36.82**	**2**	P	**P**	**01 25 45.9**	**+0.2**
KSRS	**Korea Array**	**36.84**	**2**	P	**P**	**01 25 45.9**	**+0.1**
	1.3nm,0.5s,baz=179,slow=9.5,SNR=7.0						
CD2	**Chengdu**	**36.97**	**327**	P	**P**	**01 25 47.0**	**-0.1**
CD2				pP	**pP**	**01 25 55.0**	**-1.8**
CD2				PP	**PP**	**01 27 11.8**	**+0.1**
CD2				PcP	**PcP**	**01 28 07.0**	**-1.0**
CD2				S	**S**	**01 31 31.8**	**+1.4**
CD2				PcS	**PcS**	**01 31 55.5**	**-0.7**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.2s						
CD2				LN			
	400nm,17.6s						
CD2				LZ			
	170nm,11.3s						
MJAR	**Matsushiro Arr**	**37.60**	**16**	P	**P**	**01 25 50.8**	**-1.5**
	2.6nm,0.7s,baz=196,slow=9.8,SNR=6.0						
BJI	**Beijing**	**40.41**	**348**	P	**P**	**01 26 16.0**	**+0.2**
BJI				PMZ			
	15nm,0.5s						
LZH	**Lanzhou**	**41.03**	**332**	*e*P	P	01 26 25.3	+4.1
LZH				pP	pP	01 26 33.0	+2.0
LZH				sP	sP	01 26 36.0	+1.0
LZH				PMZ			
	50nm,1.3s						
LZH				PMZ			
	260nm,5.0s						
HHC	**Hu-ho-hao-te**	**42.31**	**344**	*e*P	**P**	**01 26 33.5**	**+2.0**
HHC				pP	**pP**	**01 26 46.0**	**+4.7**
HHC				PcS	**PcS**	**01 32 19.5**	**+2.8**
HHC				S	**S**	**01 32 55.5**	**+5.2**
HHC				sS	**sS**	**01 33 10.3**	**+3.8**
HHC				PMZ			
	24nm,0.9s						
HHC				PMZ			
	90nm,5.2s						
HHC				LN			
	180nm,13.8s						
HHC				LE			
	310nm,14.7s						
HHC				LZ			
	170nm,13.5s						
USRK	**Ussuriysk Ar.**	**43.85**	**6**	P	**P**	**01 26 43.8**	**0.0**
	3.1nm,0.7s,baz=179,slow=8.6,SNR=7.4						
MDJ	**Mudanjiang**	**44.06**	**4**	P	**P**	**01 26 45.5**	**0.0**
MDJ				PMZ			
	7.0nm,0.6s						
MDJ				PMZ			
	53nm,4.4s						
SONM	**Songino Array**	**50.19**	**343**	P	**P**	**01 27 32.8**	**-0.6**
	1.7nm,0.7s,baz=160,slow=8.9,SNR=6.5						
SONM				PcP	**PcP**	**01 28 51.8**	**-0.5**
	1.6nm,0.8s,baz=156,slow=3.9,SNR=4.4						
WMQ	**Urumqi**	**55.06**	**327**	P	**P**	**01 28 11.5**	**+2.0**
WMQ				pP	**pP**	**01 28 19.0**	**-0.5**
WMQ				sP	**sP**	**01 28 22.5**	**-1.0**
WMQ				PcP	**PcP**	**01 29 13.0**	**+2.3**
WMQ				PP	**PP**	**01 30 16.0**	**+3.0**
WMQ				ScS	**ScS**	**01 37 53.0**	**-3.4**
WMQ				PMZ			
	7.0nm,0.6s						
WMQ				PMZ			
	57nm,4.0s						
WMQ				LN			
	100nm,23.8s						
WMQ				LE			
	210nm,20.2s						
WMQ				LZ			
	130nm,25.0s						
PETK	**Petropavlovsk-**	**58.66**	**22**	P	**P**	**01 28 35.2**	**+0.5**
	3.8nm,0.6s,baz=187,slow=6.7,SNR=1.7						
MK31	**Makanchi Array**	**59.90**	**327**	*e*P	**P**	**01 28 42.1**	**-1.4**
MKAR	**Makanchi Array**	**59.90**	**327**	*e*P	**P**	**01 28 42.4**	**-1.1**
KSH	**Kashi**	**59.94**	**317**	*e*P	**P**	**01 28 45.8**	**+1.8**
EKS2	**Erkin-Say**	**62.86**	**319**	P	**P**	**01 29 05.3**	**+1.6**
	1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**63.22**	**334**	P	**P**	**01 29 03.9**	**-1.7**
	1.7nm,0.5s,baz=126,slow=5.1,SNR=5.1						
KURBB	**Kurchatov Arra**	**64.16**	**328**	P	**P**	**01 29 10.4**	**-1.5**
	5.5nm,0.6s,baz=127,slow=6.5,SNR=24						
KURK	**Kurchatov**	**64.17**	**329**	*e*P	**P**	**01 29 10.4**	**-1.6**
	12nm,0.7s						
KKAR	**Karatay Array**	**65.21**	**318**	*e*P	**P**	**01 29 17.4**	**-1.6**
BVAR	**Borovoye Array**	**69.72**	**328**	P	**P**	**01 29 46.1**	**-1.2**
	baz=131,slow=6.5						
BRVK	**Borovoye**	**69.79**	**328**	*e*P	**P**	**01 29 46.7**	**-1.0**
	8.5nm,1.3s						
GEYT	**Alibeck**	**72.47**	**310**	P	**P**	**01 30 04.3**	**0.0**
	1.4nm,0.5s,baz=94,slow=4.5,SNR=3.6						
ABKAR	**Akbulak array**	**74.29**	**321**	*e*P	**P**	**01 30 13.7**	**-1.0**
AKTO	**Aktyubinsk**	**75.83**	**322**	P	**P**	**01 30 22.9**	**-0.7**
	2.9nm,0.4s,baz=106,slow=7.4,SNR=13						
VNDA	**Vanda**	**80.30**	**173**	P	**P**	**01 30 47.7**	**-0.2**
	4.8nm,0.8s,baz=315,slow=6.4,SNR=27						
MAW	**Mawson**	**80.51**	**200**	P	**P**	**01 30 49.1**	**0.0**
	2.0nm,0.6s,baz=235,slow=15,SNR=2.9						
RAYN	**Ar Rayn**	**81.21**	**294**	*e*P	**P**	**01 30 54.4**	**+0.5**
KBZ	**Khabaz**	**84.77**	**314**	P	**P**	**01 31 11.4**	**-0.4**
	2.4nm,0.9s,baz=150,slow=5.4,SNR=4.5						
COLD	**Coldfoot**	**87.11**	**23**	*e*P	**P**	**01 31 22.6**	**-0.4**
	20nm,2.3s						
ILAR	**Eielson Array**	**88.28**	**25**	P	**P**	**01 31 26.1**	**-2.5**
	0.4nm,0.5s,baz=258,slow=4.6,SNR=9.2						
SYO	**Syowa Base**	**89.19**	**201** ⇑	*e*X	**P**	**01 31 29.6**	**-3.1**
BRTR	**Keskin Array B**	**91.62**	**310**	P	**P**	**01 31 43.0**	**-1.9**
	0.6nm,0.7s,baz=124,slow=5.9,SNR=5.5						
FINES	**FINESS Array B**	**94.39**	**332**	P	**P**	**01 31 57.6**	**+0.6**
	2.0nm,1.0s,baz=150,slow=35,SNR=3.1						
KOLS	**Kolonicke sedl**	**98.72**	**320**	PDIF	**P**	**01 32 13.9**	**-3.1**
TORD	**Torodi Ar. Bea**	**123.29**	**286**	PKP	**PKPdf**	**01 37 34.4**	**-0.9**
	1.4nm,0.7s,baz=91,slow=2.3,SNR=12						
TORD				PKKPbc	**PKKPbc**	**01 47 24.6**	**-0.4**
	0.6nm,0.7s,baz=245,slow=3.6,SNR=4.5						
TXAR	**Lajitas Array**	**124.03**	**54**	PKP	**PKPdf**	**01 37 36.1**	**-0.4**
	0.2nm,0.6s,baz=270,slow=0.9,SNR=2.5						
CPUP	**Villa Florida**	**154.08**	**173**	PKPbc	**PKPbc**	**01 38 38.2**	**+0.3**
	1.0nm,0.6s,baz=225,slow=1.4,SNR=3.5						

IDC 28 02:22:05.3±11.0, 15.°42S×177.°44W, h467km±137km, mb3.1/5, mb1 3.3/5, mb1mx3.0/25, mbtmp3.9/5, Error ellipse: s-maj=63.7km s-min=32.7km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.04**	**257**	P	P	02 29 45.6	-0.7
	0.3nm,0.8s,baz=91,slow=7.6,SNR=4.6						
ASAR	**Alice Springs**	**46.40**	**252**	P	P	02 29 49.1	+0.1
	3.0nm,0.3s,baz=85,slow=8.3,SNR=37						
PETK	**Petropavlovsk-**	**71.53**	**345**	P	P	02 32 37.8	0.0
	3.0nm,0.9s,baz=177,slow=8.5,SNR=2.5						
NVAR	**Mina Array Bea**	**76.99**	**44**	P	P	02 33 09.4	-0.1
	0.3nm,0.7s,baz=224,slow=6.3,SNR=3.2						
ILAR	**Eielson Array**	**83.27**	**13**	P	P	02 33 41.8	+0.3
	0.7nm,0.8s,baz=224,slow=5.9,SNR=7.7						
BRTR	**Keskin Array B**	**143.63**	**318**	PKP	PKPbc	02 40 46.0	+0.7
	0.4nm,0.8s,baz=101,slow=2.9,SNR=3.1						

JMA 28 02:22:41.2±0.2, 26.°06N×129.°42E, h44km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.28**	**307**	P	Pn	02 23 03.4	+0.7
JOW				*e*S	Sn	02 23 17.8	-0.9
JNTH	**Nagotoyohara**	**1.33**	**290**	P	Pn	02 23 03.9	+0.5
JNTH				*e*S	Sn	02 23 18.8	-1.2
JOKE	**Okinoerabujima**	**1.50**	**330**	P	Pn	02 23 07.0	+1.3
JOKE				*e*S	Sn	02 23 24.5	+0.4
JJT2	**Tamagusuku 2**

KNZ	Kokohu	8.59	208	PN	Pn	02 39 06.4	-3.2
MCHZ	McNeill Hill	9.35	211	*e*PN	Pn	02 39 18.7	-1.4
KWHZ	Kaweka Forest	9.46	212	*e*PN	Pn	02 39 21.0	-0.6
BHHZ	Black Hill Sta	9.67	213	*e*PN	Pn	02 39 23.6	-0.9
BFZ	Birch Farm	10.58	208	*e*SN	Sn	02 41 28.6	-5.4
MRZ	Mangatainoka R	10.84	211	*e*PN	Pn	02 39 37.2	-3.3
MRZ				*e*SN	Sn	02 41 33.7	-6.8
SNZO	South Karori	11.75	211	Pn	Pn	02 39 48.2	-4.7
THZ	Tophouse	12.95	215	*e*PN	Pn	02 40 06.9	-2.5
THZ				*e*SN	Sn	02 42 23.4	-8.8
LTZ	Lake Taylor	14.03	214	PN	Pn	02 40 21.4	-2.6
RPZ	Rata Peaks 2.6nm,0.3s,baz=26,slow=1.5,SNR=8.3	15.32	214	Pn	Pn	02 40 38.2	-3.1
RPZ				Sn	Sn	02 43 18.3	-12
	0.9nm,0.3s,baz=7.8,slow=18,SNR=5.2						
RPZ	Rata Peaks	15.32	214	*e*Pn	Pn	02 40 38.0	-3.4
RPZ				*e*S	Sn	02 43 12.5	-17
JCZ	Jackson Bay	16.72	217	*e*PN	Pn	02 40 55.8	-3.6
RAR	Rarotonga 3.1nm,0.3s,baz=107,slow=8.2,SNR=3.8	18.64	61	P	P	02 41 15.7	-6.9
PPT2	Papeete2 101nm,22.8s	28.58	67	*e*LR	LR	02 50 19.3	
PPT	Papeete comp=Z,46nm,18.4s,baz=104,slow=34	28.59	67	LR	LR	02 53 02.0	
STKA	Stephens Creek 4.3nm,0.8s,baz=108,slow=15,SNR=3.7	34.93	258	P	P	02 43 58.0	+1.6
ASAR	Alice Springs 3.0nm,0.6s,baz=108,slow=7.7,SNR=29	43.76	268	P	P	02 45 11.9	+1.7
ASAR				PcP	PcP	02 46 57.9	+1.3
	1.5nm,0.6s,baz=119,slow=3.6,SNR=4.7						
WRAB	Tennant Creek 7.6nm,0.8s	44.85	273	*e*P	P	02 45 19.9	+1.1
WRA	Warramunga Arr 4.5nm,0.5s,baz=111,slow=8.0,SNR=41	44.85	273	P	P	02 45 20.5	+1.6
WRA				PcP	PcP	02 47 01.5	+1.2
	1.4nm,0.8s,baz=122,slow=3.5,SNR=4.5						
VNDA	Vanda 0.6nm,0.7s,baz=15,slow=6.4,SNR=4.1	47.06	186	P	P	02 45 36.9	+1.3
CASY	Casey 7.0nm,1.0s	54.49	208	*e*P	P	02 46 33.0	+1.4
QSPA	South Pole Qui 7.0nm,1.0s	58.60	180	*e*P	P	02 47 01.9	+0.9
SNAA	Sanae	77.02	178	P	P	02 48 53.7	-3.1
SNAA	Sanae 8.5nm,1.2s	77.02	178	*e*P	P	02 48 53.3	-3.4
VNA1	Neumayer--Stat	77.81	176	P	P	02 49 02.1	+1.0
KSRS	Korea Array 0.6nm,0.3s,baz=141,slow=7.9,SNR=4.1	85.65	319	P	P	02 49 45.0	+2.2
KSAR	Wonju Array Be	85.67	319	P	P	02 49 45.0	+2.2
NVAR	Mina Array Bea 1.6nm,0.9s,baz=226,slow=8.1,SNR=6.4	88.58	42	P	P	02 49 57.2	0.0
TXAR	Lajitas Array 1.0nm,1.2s,baz=200,slow=6.6,SNR=4.3	92.40	57	P	P	02 50 14.1	-1.0
KBZ	Khabaz	146.31	303	PKPbc	PKPab	02 56 46.2	+0.7
	1.8nm,0.7s,baz=181,slow=4.2,SNR=4.6						
FINES	FINESS Array B 6.1nm,0.8s,baz=48,slow=2.1,SNR=26	146.43	340	PKPbc	PKPbc	02 56 44.5	+0.1
NB2	NORSAR Subarra comp=Z,1.2nm,0.6s,baz=9.1,slow=2.6	149.96	352	PKP	PKPbc	02 56 53.6	-0.2
NOA	NORSAR Array B comp=Z,1.5nm,0.6s,baz=14,slow=4.1,SNR=7.3	149.96	352	PKPbc	PKPbc	02 56 54.0	+0.2
AKASG	Malin Array Be comp=Z,1.6nm,0.7s,baz=49,slow=2.7,SNR=6.1	152.61	322	PKPbc	PKPbc	02 56 60.0	-0.2
AKASG				PKPab	PKPab	02 57 09.7	-1.2
	comp=Z,0.6nm,0.5s,baz=48,slow=3.9,SNR=4.2						
BRTR	Keskin Array B comp=Z,0.6nm,0.9s,baz=147,slow=3.4,SNR=3.9	153.74	297	PKPbc	PKPbc	02 57 01.9	-1.4
BRTR				PKPab	PKPab	02 57 17.2	+0.9
	comp=Z,1.0nm,0.6s,baz=123,slow=3.6,SNR=6.9						
TORD	Torodi Ar. Bea comp=Z,1.2nm,0.7s,baz=192,slow=3.9,SNR=8.5	161.69	176	PKPab	PKPab	02 57 50.9	+0.2

*ISCJB **28** 02:49:04.1±0.2,61.02N±0.02×149.63W±0.03, h41km, mb3.6/6,MS3.2/1, Error ellipse: s-maj=3.1km s-min=2.2km az=165.5*
*NEIC **28** 02:49:05.4,61.04N×149.65W, h34km,ML3.5(AEIC), After AEIC.*
NEIC Felt [III] at Anchorage and [II] at Chugiak and Eagle River. Also felt at Fort Richardson, Girdwood and Palmer.
*IDC **28** 02:49:06.6±5.7,61.12N×149.96W, h60km±47km, mb3.4/6, mb1 3.6/8, mb1mx3.3/26, mbtmp3.6/8, ML2.9/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/30, Error ellipse: s-maj=40.7km s-min=20.9km az=45.0*

ISC 28 02:49:04.8±0.7,61°00'N±0°03'×149°67'W±0°03, h41km, n92, σ1§03/104, mb3.7/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RC01	Rabbit Creek A	0.09	341	*e*Pg		Pn		02 49 10.8	-0.8
RC01				*e*S		Sn		02 49 15.5	-0.7
FIB	Fire Island	0.29	304	P		Pn		02 49 12.7	-0.4
PTE	Portage	0.35	113	P		Pn		02 49 13.1	-0.6
VOGL	Vogel Lake	0.37	269	P		Pn		02 49 14.0	+0.1
SLKM	Skilak Lake	0.56	209	P		Pn		02 49 15.9	-0.6
PMR	Palmer	0.65	24	P		Pn		02 49 16.4	-1.2
PMR				S		Sn		02 49 25.2	-1.5
SUA	Susitna One	0.69	312	P		Pn		02 49 17.5	-0.9
SUA				S		Sn		02 49 27.5	-0.5
SEW	Seward	0.91	173	P		Pn		02 49 20.6	-0.4
SEW				S		Sn		02 49 34.0	+1.1
SML	Sawmill	1.03	38	*e*Pg		Pn		02 49 22.4	-0.5
SML				*e*S		Sn		02 49 37.1	+0.9
STLK	Strandline Lak	1.16	296	P		Pn		02 49 24.2	-0.4
CRP	Crater Peak	1.23	284	P		Pn		02 49 25.6	-0.1
CRP				S		Sn		02 49 41.7	+0.5
CKN	Chakachatna No	1.24	281	P		Pn		02 49 25.6	0.0
CKL	Chakachamna La	1.31	280	P		Pn		02 49 26.5	-0.2
SKT	Skwentna	1.33	319	P		Pn		02 49 21.5	-5.4
BGL	Barrier Glacie	1.34	282	P		Pn		02 49 27.1	0.0
BRLK	Bradley Lake	1.38	206	P		Pn		02 49 28.1	+0.5
SCM	Sheep Creek Mo	1.40	52	P		Pn		02 49 28.4	+0.4
DFR	Drift River	1.53	256	P		Pn		02 49 29.7	0.0
DFR				S		Sn		02 49 50.3	+1.8
RDN	Redoubt North	1.59	253	P		Pn		02 49 30.6	-0.1
RSO	Redoubt South	1.61	252	*e*Pn		Pn		02 49 31.0	+0.2
VMT	TAPS TI Valdez	1.61	86	P		Pn		02 49 31.4	+0.7
VMT				S		Sn		02 49 51.9	+1.7
NCT	North Crescent	1.66	256	P		Pn		02 49 31.6	+0.2
NCT				S		Sn		02 49 53.6	+2.0
HOM	Homer	1.67	217	P		Pn		02 49 32.5	+1.1
HIN	Hinchinbrook I	1.67	110	P		Pn		02 49 31.9	+0.2
KLU	Klutina	1.88	73	P		Pn		02 49 34.9	+0.3
DIV	Divide	1.90	84	*e*Pn		Pn		02 49 35.2	+0.4
DIV				*e*S		Sn		02 49 56.7	-0.8
IVE	Iliamna Volcan	1.93	241	P		Pn		02 49 36.0	+0.8
EYAK	Cordova Ski Ar	1.98	102	P		Pn		02 49 35.7	0.0
ILS	Iliamna Low So	1.98	240	P		Pn		02 49 36.9	+1.0
OPT	Oil Point	2.23	234	P		Pn		02 49 40.5	+1.2
PS12	TAPS Pump St12	2.24	76	P		Pn		02 49 39.1	-0.3
PS11	TAPS Pump St11	2.28	60	P		Pn		02 49 41.1	+1.1
DHY	Denali Highway	2.35	26	P		Pn		02 49 42.2	+1.2
GOAT	Goat Mountain	2.46	98	P		Pn		02 49 42.4	-0.1
BMRM	Bremner River	2.47	89	P		Pn		02 49 42.6	0.0
AUH	Augustine H	2.50	231	P		Pn		02 49 44.2	+1.3
AUW	Augustine West	2.50	231	P		Pn		02 49 44.3	+1.3
AUI	Augustine Isla	2.51	230	P		Pn		02 49 44.2	+1.1
RAGM	Ragged Mountai	2.54	102	P		Pn		02 49 43.0	-0.5
MCK	McKinley	2.76	7	*e*Pn		Pn		02 49 49.2	+2.6
WASW	Wrangell South	2.80	68	P		Pn		02 49 47.6	+0.4
PAX	Paxson	2.80	43	*e*Pn		Pn		02 49 49.4	+2.2
PAX				*e*S		Sn		02 50 24.4	+4.8
GLB	Gilahina Butte	2.87	79	P		Pn		02 49 48.6	+0.6
SVW2	Sparrevohn	2.88	274	P		Pn		02 49 48.4	+0.3
NICHA	Nichawak Mount	2.92	103	P		Pn		02 49 47.9	-0.8
MCNL	McNeil River	2.96	234	P		Pn		02 49 50.2	+0.9
BERG	Berg Lake	3.00	99	P		Pn		02 49 49.0	-0.8
VRDI	Verde Repeater	3.03	83	P		Pn		02 49 50.4	0.0
CRQM	Cirque	3.20	92	P		Pn		02 49 52.7	-0.1
KHIT	Khitrov Hills	3.21	97	P		Pn		02 49 52.3	-0.4
MCARA	McCarthy VSAT	3.24	80	P		Pn		02 49 54.1	+1.0
TGL	Tana Glacier	3.35	91	P		Pn		02 49 54.6	-0.1
PTPK	Patty Peak	3.50	84	P		Pn		02 49 57.4	+0.5
KULT	Kultieth River	3.51	99	P		Pn		02 49 56.0	-0.8
KDAK	Kodiak Island	3.56	206	*e*Pn		Pn		02 49 56.8	-0.6
KDAK				*e*S		Sn		02 50 50.0	+12
TT01	Tatalina	3.56	305	P		Pn		02 49 58.0	+0.5
BALM	Baldy	3.57	86	P		Pn		02 49 57.9	+0.2
KIAG	Kiagna River	3.57	88	P		Pn		02 49 57.9	+0.1
BARK	Barkley Ridge	3.58	96	P		Pn		02 49 57.7	-0.1
ISLE	Juniper Island	3.62	93	P		Pn		02 49 57.9	-0.5
BAGL	Bagley Icefiel	3.76	95	P		Pn		02 50 00.8	+0.6
KAKN	Katmai Knife C	3.85	228	P		Pn		02 50 02.2	+0.6
GRNC	Granite Creek	3.88	91	P		Pn		02 50 02.1	0.0
BARN	Barnard Glacie	3.90	86	P		Pn		02 50 03.5	+1.2
MESA	MESA	3.90	99	P		Pn		02 50 02.3	0.0
KBM	Katmai Bkd Mtn	3.92	228	P		Pn		02 50 03.7	+1.2
KABR	Katmai Barrier	3.94	225	P		Pn		02 50 03.6	+0.8
COLA	College	3.98	11	*e*Pn		Pn		02 49 59.9	-3.3
COLA				*e*S		Sn		02 50 49.6	+1.2
ILAR	Eielson Array 0.4nm,0.3s,baz=232,slow=14,SNR=6.0	3.99	17	P		Pn		02 50 03.4	0.0
ILAR				S		Sn		02 50 49.9	+1.0
	4.8nm,0.3s,baz=199,slow=26,SNR=7.6								
IL1	Eielson Array	3.99	17	P		Pn		02 50 04.3	+0.8
MDM	Murphy Dome	4.03	9	P		Pn		02 50 04.5	+0.6
CTGM	Chitina Glacie	4.06	87	P		Pn		02 50 05.5	+1.0
MLY	Manley	4.07	354	P		Pn		02 50 05.5	+0.9
OHAK	Old Harbor	4.22	208	P		Pn		02 50 05.5	-1.0
TABL	Table Mountain	4.23	94	P		Pn		02 50 06.8	-0.1
LOGN	Logan Glacier	4.24	89	P		Pn		02 50 07.8	+0.9
IM3	Indian Mountai	5.32	342	P		Pn		02 50 20.9	-0.7
EGAK	Eagle 32nm,0.6s	5.43	42	*e*Pn		Pn		02 50 23.4	+0.3
EGAK				*e*S		Sn		02 51 46.4	+22
DAWY	Dawson	5.66	53	P		Pn		02 50 26.5	+0.2
HYT	Haines Junctio	5.94	86	*e*Pn		Pn		02 50 30.7	+0.4
HYT				*e*S		Sn		02 51 35.7	-1.3
COLD	Coldfoot 6.9nm,0.6s	6.26	358	*e*Pn		Pn		02 50 35.7	+1.3
COLD				*e*S		Sn		02 51 46.0	+1.5
BM3	Burnt Mountain	6.81	17	P		Pn		02 50 43.1	+1.1
WHY	Whitehorse	7.24	86	P		Pn		02 50 47.9	-0.1
TNA	Tin City	9.39	307	*e*Pn		Pn		02 51 19.0	+1.7
YKA	Yellowknife Ar 0.1nm,0.3s,baz=278,slow=11,SNR=3.4	16.55	70	P		P		02 52 56.1	+0.5
YBH	Yreka Blue Hor comp=Z,68nm,18.5s,baz=343,slow=30	25.29	127	LR		LR		03 01 55.9	
PDAR	Pinedale Array 0.2nm,0.5s,baz=306,slow=3.0,SNR=3.0	30.09	109	P		P		02 55 11.9	+1.6
TXAR	Lajitas Array 0.2nm,0.7s,baz=303,slow=5.0,SNR=2.7	43.85	115	P		P		02 57 07.9	+1.0
SONM	Songino Array 1.0nm,0.8s,baz=35,slow=5.1,SNR=7.0	55.51	307	P		P		02 58 34.1	-1.3
ZALV	Zalesovo Beam 1.0nm,0.4s,baz=17,slow=5.6,SNR=4.2	57.52	325	P		P		02 58 47.5	-1.8
FINES	FINESS Array B 1.4nm,0.4s,baz=356,slow=5.6,SNR=8.6	57.84	2	P		P		02 58 50.1	-1.4
ESDC	Sonseca Array 0.3nm,0.5s,baz=339,slow=5.2,SNR=4.0	75.84	27	P		P		03 00 45.8	-0.7

*ISCJB **28** 03:30:19.9±0.5,35.39N±0.04×70.70E±0.06, h98km, mb3.6/8, Error ellipse: s-maj=6.9km s-min=5.0km az=155.8*
*IDC **28** 03:30:19.0±5.4,35.32N×70.71E, h63km±42km, mb3.5/7, mb1 3.7/11, mb1mx3.3/45, mbtmp3.8/11, ML3.7/4, Error ellipse: s-maj=44.6km s-min=19.3km az=158.0*
*NNC **28** 03:30:24.7±2.9,35.73N×70.35E, h147km, mb3.4, mpv4.1, Error ellipse: s-maj=22.9km s-min=14.4km az=2.0*

ISC 28 03:30:21.8±0.7,35°41'N±0°06×70°66'E±0°06, h98km, n36, σ1§87/39, mb3.6/8, 6C-9D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEP	Cherat	1.89	147	⇑P		Pn		03 30 52.4	-0.6
CEP				S		Sn		03 31 18.0	+1.3
THW	Thamme Wali	2.76	161	⇑P		Pn		03 31 03.7	-0.7
CHCP	Chirah Chowk	2.77	128	P		Pn		03 31 04.0	-0.5
DZET	Dzherino 28nm,0.5s	3.69	337	⇑P		Pn		03 31 15.5	-1.5
DZET				⇓S		Sn		03 31 56.4	-3.2
	324nm,0.5s								
SFK	Sufi-Kurgan 14nm,0.4s	5.12	25	⇓P		Pn		03 31 37.5	+1.2
SFK				⇑S		Sn		03 32 35.7	+1.5
	7.3nm,0.2s								
DLH	Dalhousie	5.25	121	*e*P		Pn		03 31 34.0	-4.2
DLH				*e*S		Sn		03 32 35.0	-2.6
SDNR	Sundarnagar	6.55	125	*ex*		Pn		03 31 57.0	+1.3
SDNR				*e*S		Sn		03 33 04.0	-5.0
SMLA	Simla	6.92	126	*i* x		x		03 31 50.2	
SMLA				*i* S		Sn		03 33 13.5	-4.3
AML	Almayashu SNR=30	7.12	19	P		Pn		03 32 03.1	-0.6
UCH	Uchtor SNR=9.8	7.44	23	P		Pn		03 32 07.5	-0.6
KZA	Kyzart SNR=13	7.56	27	P		Pn		03 32 09.1	-0.6
EKS2	Erkin-Say SNR=14	7.64	18	P		Pn		03 32 10.2	-0.2
KK31	Karatay Array 4.3nm,0.5s,baz=189,slow=14,SNR=69	7.69	359	⇓P		Pn		03 32 09.3	-1.6
KK31				⇓S		Sn		03 33 32.0	-4.4
	6.3nm,0.5s,baz=196,slow=27,SNR=5.9								
AAK	Ala-Archa SNR=12	7.81	21	P		Pn		03 32 12.4	-0.4
AAK	Ala-Archa 7.7nm,0.5s	7.81	21	⇓P		Pn		03 32 12.1	-0.7
AAK				⇓S		Sn		03 33 38.6	-0.9
	13nm,0.6s								
AAK	Ala-Archa 5.1nm,0.3s,baz=184,slow=4.7,SNR=17	7.81	21	P		Pn		03 32 26.7	+14
AAK				S		Sn		03 33 51.5	+12
	0.4nm,0.3s,baz=0.0,slow=20,SNR=4.3								
USP	Ospenovka SNR=7.0	8.39	20	P		Pn		03 32 20.3	-0.3
TKM2	Tokmak 2 4.8nm,0.8s	8.42	26	⇓P		Pn		03 32 19.6	-1.6
TKM2				⇑S		Sn		03 33 54.5	-0.1
	5.0nm,0.7s								
KHET	Khetri	8.52	148	*e*S		Sn		03 33 48.6	-8.4
KHET				AML	AML			03 33 52.6	
	comp=N,314nm,0.3s								
KHET				AML	AML			03 33 52.7	
	comp=E,371nm,0.3s								
NDI	New Delhi	8.71	139	*e*P		Pn		03 32 18.0	-7.0
NDI				*e*S		Sn		03 33 50.0	-12
KALG	Kalgarh	9.02	128	*e*S		Sn		03 34 01.7	-7.2
AGRA	Agra	10.25	141	*e*S		Sn		03 34 29.1	-10
AGRA				AML	AML			03 34 36.7	
	comp=E,88nm,0.2s								
GEYT	Alibeck comp=E,1.0nm,0.3s,baz=101,slow=12,SNR=3.2	10.39	288	P		Pn		03 32 46.6	-1.2
GEYT				S		Sn		03 34 40.0	-2.2
	comp=E,1.0nm,0.3s,baz=117,slow=18,SNR=3.8								
AB31	Akbulak array comp=E,11nm,0.7s,baz=146,slow=12,SNR=104	15.92	334	P		Pn		03 33 58.3	-1.7
AB31				⇓S		Sn		03 36 44.1	-12
	comp=E,2.2nm,0.5s,baz=152,slow=24,SNR=6.5								
KURBB	Kurchatov Arra comp=E,0.0nm,0.3s,baz=208,slow=10,SNR=6.5	16.24	18	P		P		03 34 04.9	-0.4
AKTO	Aktyubinsk comp=E,6.6nm,0.9s	17.60	332	⇑P		P		03 34 20.5	+0.2
AKTO				⇓S		Sn		03 37 25.9	-11
	comp=E,5.7nm,0.8s								
AKTO	Aktyubinsk comp=E,0.5nm,0.3s,baz=136,slow=18,SNR=23	17.60	332	P		Pn		03 34 21.2	+0.6
BVAR	Borovoye Array comp=E,1.7nm,0.4s,baz=244,slow=13,SNR=6.5	17.61	359	P		P		03 34 19.6	-0.8
ZALV	Zalesovo Beam comp=E,0.6nm,0.7s,baz=261,slow=8.3,SNR=4.5	21.02	24	P		P		03 34 56.8	-0.6
SONM	Songino Array comp=E,0.4nm,0.5s,baz=107,slow=9.3,SNR=4.3	29.19	54	P		P		03 36 15.5	+1.4
FINES	FINESS Array B comp=E,0.4nm,0.5s,baz=90,slow=7.5,SNR=6.5	38.24	327	P		P		03 37 34.5	+2.6
ARCES	ARCESS Array B comp=E,7.5nm,1.2s,baz=125,slow=11,SNR=2.8	42.05	338	P		P		03 38 05.4	+2.1
NB2	NORSAR Subarra comp=Z,0.4nm,0.4s,baz=96,slow=7.9	45.09	324	P		P		03 38 29.2	+1.3
TORD	Torodi Ar. Bea comp=Z,0.8nm,0.5s,baz=47,slow=6.1,SNR=32	65.42	269	P		P		03 40 55.5	+1.1
ILAR	Eielson Array comp=Z,0.2nm,0.5s,baz=306,slow=4.0,SNR=5.8	75.90	16	P		P		03 41 58.0	+0.7
YKA	Yellowknife Ar comp=Z,0.5nm,0.5s,baz=349,slow=5.2,SNR=4.6	82.34	2	P		P		03 42 33.6	+1.2

*IDC **28** 03:30:51.3±0.8, 12.08N×125.18E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.8/42, mbtmp3.9/9, MS2.8/4, Ms1 2.9/4, ms1mx2.6/26, Error ellipse: s-maj=34.0km s-min=18.8km az=76.0*
*MAN **28** 03:30:59, 12.16N×124.98E, h20km, mb4.6, ML3.4, MS3.3*

ISC 28 03:30:53.0±0.7, 12°10'N±0°05×125°1'E±0°1, h10km, n18, σ0§60/14, mb3.8/9, MS2.6/3, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PVCP	Virac	1.75	328	⇓*i*P		Pg		03 31 26.7	+0.2
SCPH	Surigao	2.34	171	*e*P		Pg		03 31 38.5	+0.7
SCPH				*e*S		Sg		03 32 16.0	+7.8
TBP	Tagbilaran	2.69	207	*e*P		Pb		03 31 41.1	-0.2
TBP				*e*S		Sb		03 32 13.9	-0.4
GUMO	Guam comp=Z,44nm,19.1s,baz=82,slow=33	19.33	83	LR		LR		03 41 31.1	
JCJ	Chichijima comp=Z,30nm,19.9s,baz=313,slow=31	21.90	45	LR		LR		03 42 12.6	
KSRS	Korea Array 1.0nm,0.8s,baz=182,slow=9.5,SNR=4.5	25.37	5	P		P		03 36 21.1	+0.8
KSRS				LR		LR		03 46 09.8	
	comp=Z,17nm,21.5s,baz=175,slow=36								
CMAR	Chiang Mai Arr 2.8nm,0.3s,baz=98,slow=7.5,SNR=7.3	26.00	287	P		P		03 36 26.7	+0.4
CMAR				LR		LR		03 46 01.6	
	comp=Z,17nm,20.2s,baz=170,slow=35								
WRA	Warramunga Arr 0.4nm,0.5s,baz=342,slow=9.6,SNR=5.2	33.12	164	P		P		03 37 28.4	-1.1
ASAR	Alice Springs 0.5nm,0.3s,baz=352,slow=7.5,SNR=7.8	36.58	166	P		P		03 37 59.5	+0.2
SONM	Songino Array 0.5nm,0.6s,baz=164,slow=5.4,SNR=3.9	38.91	340	P		P		03 38 19.2	+0.2
H11N1	WAKE ISLAND Hy baz=266,slow=75,SNR=37	40.81	74	T		T		04 21 47.8	
H11N2	WAKE ISLAND Hy baz=266,slow=75,SNR=31	40.82	74	T		T		04 21 48.8	
H11N3	WAKE ISLAND Hy baz=266,slow=75,SNR=42	40.83	74	T		T		04 21 49.2	
KURBB	Kurchatov Arra 2.5nm,0.2s,baz=125,slow=6.9,SNR=5.1	53.92	325	P		P		03 40 17.3	+0.6
SEY	Seymchan 1.0nm,0.3s,baz=0.0,slow=20,SNR=1.7	54.34	15	P		P		03 40 19.6	0.0
ILAR	Eielson Array 0.3nm,0.7s,baz=243,slow=6.5,SNR=6.0	78.30	26	P		P		03 42 52.3	-0.8
FINES	FINESS Array B 0.8nm,0.7s,baz=56,slow=2.5,SNR=3.2	83.74	331	P		P		03 43 21.8	-0.3
TXAR	Lajitas Array 0.2nm,0.6s,baz=256,slow=2.6,SNR=2.7	117.47	48	PKP		PKPdf		03 49 39.5	-0.4

*ISCJB **28** 03:36:02.1±1.6, 18.7S±0.2×169.4E±0.3, h246km, mb3.8/8, Error ellipse: s-maj=44.2km s-min=11.7km az=29.1*
*IDC **28** 03:36:02.4±2.7, 18.86S×169.55E, h242km±28km, mb3.6/8, mb1 3.7/9, mb1mx3.3/34, mbtmp4.1/9, Error ellipse: s-maj=56.3km s-min=24.7km az=144.0*

ISC 28 03:36:03.0±1.8, 18°8'S±0°2×169°5'E±0°3, h246km, n10, σ1§15/10, mb4.0/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac 0.7nm,0.3s,baz=90,slow=24,SNR=37	4.32	221	P		Pn		03 37 11.7	+1.2
DZM				S		S		03 38 02.7	-1.5
	4.7nm,0.3s,baz=95,slow=23,SNR=5.4								
STKA	Stephens Creek 3.2nm,0.7s,baz=66,slow=9.5,SNR=4.2	28.27	237	P		P		03 41 33.8	0.0
WRA	Warramunga Arr 0.3nm,0.5s,baz=81,slow=6.4,SNR=2.6	33.14	262	P		P		03 42 16.5	-0.2
ASAR	Alice Springs 2.6nm,0.5s,baz=84,slow=8.9,SNR=24	33.46	255	P		P		03 42 19.1	-0.3
SIJI	Sorong 2.3nm,0.3s,baz=101,slow=11,SNR=3.5	41.50	291	P		P		03 43 25.8	-0.9
PETK	Petropavlovsk- 3.1nm,0.7s,baz=159,slow=8.9,SNR=3.6	72.34	353	P		P		03 47 01.8	-0.1
CMAR	Chiang Mai Arr 0.7nm,0.3s,baz=98,slow=3.7,SNR=3.2	78.54	294	P		P		03 47 39.5	+1.8
SONM	Songino Array 1.0nm,0.8s,baz=148,slow=5.1,SNR=7.5	87.02	323	P		P		03 48 21.1	+0.4
ILAR	Eielson Array 0.3nm,0.5s,baz=236,slow=5.1,SNR=7.0	89.76	17	P		P		03 48 31.8	-1.2
GERES	GERESS Array B 0.3nm,0.4s,baz=46,slow=5.8,SNR=5.6	144.22	332	PKP		PKPbc		03 55 08.7	+0.2

*ISCJB **28** 03:39:33.0±0.8, 47.4N±0.1×154.3E±0.1, h31km, mb3.7/11, Error ellipse: s-maj=20.2km s-min=8.2km az=141.7*
*MOS **28** 03:39:37.6±1.3, 47.50N×154.22E, h73km, mb4.3/6, Error ellipse: s-maj=20.7km s-min=13.8km az=62.3*
*IDC **28** 03:39:37.1±4.0, 47.40N×154.12E, h52km±36km, mb3.5/11, mb1 3.7/12, mb1mx3.5/35, mbtmp3.7/12, ML1.4/1, MS2.6/2, Ms1 2.6/2, ms1mx2.4/29, Error ellipse: s-maj=23.5km s-min=17.7km az=117.0*
*SKHL **28** 03:

NOA	**NORSAR Array B**	**67.85**	**342**	P	**P**	**03 50 29.2**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**69.43**	**200**	P	**P**	**03 50 38.2**	**-1.8**
	comp=Z,1.1nm,0.8s,baz=15,slow=6.6,SNR=3.5						
WRA	**Warramunga Arr**	**69.43**	**200**	P	**P**	**03 50 38.2**	**-1.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**71.44**	**327**	P	**P**	**03 50 50.9**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=31,slow=6.1,SNR=5.1						
AKASG	**Malin Array Be**	**71.44**	**327**	P	**P**	**03 50 50.9**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**73.12**	**200**	P	**P**	**03 51 01.9**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=9.0,slow=5.9,SNR=14						
ASAR	**Alice Springs**	**73.12**	**200**	P	**P**	**03 51 01.9**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**76.44**	**61**	P	**P**	**03 51 22.3**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=294,slow=3.3,SNR=4.7						
GERES	**GERESS Array B**	**78.21**	**335**	P	**P**	**03 51 31.6**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=32,slow=6.3,SNR=2.8						

*GUC **28** 03:43:34.8±0.5,36.˚57S×73.˚55W,h20km±3km,ML4.5*
*NEIC **28** 03:43:34.0,36.˚57S×73.˚55W,h20km,mb4.7/36,*
ML4.5(GUC),After GUC.
NEIC Felt [III] at Coelemu, Concepcion and Talcahuano; [II] at Arauco, Cauquenes and Ninhue. Also felt at Chiguayante.
*IDC **28** 03:43:35.3±0.6,36.˚49S×73.˚20W,h0km,mb4.4/16,*
mb1 4.5/19,mb1mx4.4/32,mbtmp4.4/19,ML3.9/2,MS3.9/12,
Ms1 3.9/12,ms1mx3.8/19,Error ellipse: s-maj=21.4km
s-min=15.0km az=84.0
*BJI **28** 03:43:36.0,36.˚60S×73.˚50W,h20km,mB4.8/2,Ms5.1/2,*
Ms7 4.8/2
*ISCJB **28** 03:43:38.2±0.2,36.˚55S±0.˚04×73.˚41W±0.˚05,h27km,*
mb4.6/50,MS4.0/10,Error ellipse: s-maj=6.6km
s-min=4.4km az=41.7

ISC 28 03:43:38.7±0.4,36.66S±0.05×73.27W±0.07,h27km,n346,
σ0.92/339,mb4.7/50,MS4.1/10,1C,Near coast of central
Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LNCH	**Linares**	**1.57**	**60**	*eP*		**Pb**		**03 44 06.2**	**-1.0**
LNCH				*i*	S	**Sb**		**03 44 29.6**	**+3.0**
TALC	**Talca**	**1.83**	**47**	*eP*		**Pn**		**03 44 08.9**	**+0.6**
TALC				*eS*		**Sb**		**03 44 34.5**	**+0.6**
PSCH	**Puerto Saavedr**	**2.14**	**182**	*i*	S	**Sb**		**03 44 42.1**	**-0.8**
NICH	**Los Niches**	**2.34**	**46**	*eP*		**Pn**		**03 44 16.0**	**+0.7**
NICH				*i*	S	**Sb**		**03 44 47.8**	**-0.8**
LNV	**Longovilo**	**3.10**	**30**	*eP*		**Pn**		**03 44 24.4**	**-1.4**
LNV				*eS*		**Sn**		**03 45 03.4**	**+1.5**
CHCH	**Chadas Angostu**	**3.46**	**39**	*eP*		**Pn**		**03 44 30.9**	**0.0**
CHCH				*eS*		**Sn**		**03 45 14.2**	**+3.2**
TACH	**Talagante**	**3.56**	**33**	*eP*		**Pn**		**03 44 30.9**	**-1.2**
TACH				*eS*		**Sn**		**03 45 14.4**	**+1.2**
PCH	**Pirque**	**3.78**	**38**	*eP*		**Pn**		**03 44 35.7**	**+0.4**
PCH				*eS*		**Sn**		**03 45 22.2**	**+3.3**
FSR	**Penalolen**	**3.89**	**36**	*eP*		**Pn**		**03 44 37.2**	**+0.5**
CFAA	**Coronel Fontan**	**6.54**	**41**	Pn		**Pn**		**03 45 12.6**	**-0.6**
	1.3nm,0.3s,baz=213,slow=12,SNR=116								
CFAA				Lg		Lg		03 46 46.6	
	1.0nm,0.3s,baz=304,slow=23,SNR=6.4								
CFAA				LR		LR		03 48 04.8	
	comp=Z,272nm,19.1s,baz=224,slow=42								
LCO	**Las Campanas**	**7.92**	**17**	*e*Pn		**Pn**		**03 45 29.4**	**-2.9**
LCO				*e*S		Sb		03 47 40.9	+11
TRQA	**Tornquist**	**9.10**	**102**	*e*Pn		**Pn**		**03 45 45.5**	**-2.8**
	28nm,1.0s								
LVC	**Limon Verde**	**14.50**	**16**	Pn		**Pn**		**03 47 00.4**	**-2.0**
	18nm,0.3s,baz=227,slow=11,SNR=5.1								
LVC				Lg		Lg		03 50 51.5	
	16nm,0.3s,baz=46,slow=18,SNR=3.7								
LVC	**Limon Verde**	**14.50**	**16**	*e*Pn		**Pn**		**03 47 02.4**	**+0.1**
LVC				*e*S		S		03 50 14.1	+12
LVC				Lg		Lg		03 50 51.5	
CPUP	**Villa Florida**	**17.03**	**57**	Pn		**Pn**		**03 47 32.5**	**-2.4**
	0.1nm,0.3s,baz=232,slow=8.4,SNR=8.5								
CPUP				LR		LR		03 54 08.2	
	comp=Z,673nm,19.3s,baz=236,slow=38								
CPUP	**Villa Florida**	**17.03**	**57**	*e*Pn		**Pn**		**03 47 34.2**	**-0.7**
	0.3nm,0.9s								
LPAZ	**La Paz**	**20.80**	**14**	P		**P**		**03 48 17.6**	**-1.0**
	4.7nm,0.7s,baz=191,slow=7.6,SNR=25								
LPAZ	**La Paz**	**20.80**	**14**	*e*P		**P**		**03 48 17.5**	**-1.0**
	11nm,0.8s								
SIV	**San Ignacio**	**23.26**	**31**	P		**P**		**03 48 43.0**	**-1.1**
	13nm,0.9s,baz=223,slow=9.8,SNR=22								
NNA	**Nana**	**24.77**	**352**	P		**P**		**03 48 58.0**	**-0.3**
	18nm,0.9s,baz=197,slow=2.6,SNR=3.9								
NNA				LR		LR		03 56 41.3	
	comp=Z,231nm,19.4s,baz=178,slow=32								
SAML	**Samuel**	**29.07**	**21**	*e*P		**P**		**03 49 35.8**	**-1.0**
	1.9nm,0.6s								
ATAH	**Atahualpa**	**29.75**	**350**	LR		LR		03 59 14.5	
	comp=Z,166nm,21.3s,baz=180,slow=32								
BDFB	**Brasilia**	**30.69**	**54**	P		**P**		**03 49 49.2**	**-2.2**
	3.2nm,0.7s,baz=213,slow=8.2,SNR=6.7								
BDFB				LR		LR		04 03 37.4	
	comp=Z,851nm,18.8s,baz=219,slow=39								
OTAV	**Otavalo**	**37.02**	**351**	*e*P		**P**		**03 50 47.6**	**+0.9**
	9.1nm,1.5s								
SDV	**Santo Domingo**	**45.37**	**4**	*e*P		**P**		**03 51 54.1**	**-0.9**
	9.8nm,1.0s								
VNA1	**Neumayer--Stat**	**47.65**	**156**	P		P		03 52 15.4	+3.4
SNAA	**Sanae**	**49.53**	**157**	P		**P**		**03 52 25.2**	**-1.4**
SNAA	**Sanae**	**49.53**	**157**	P		**P**		**03 52 28.8**	**+2.2**
	3.0nm,0.9s,baz=283,slow=6.5,SNR=21								
SNAA				LR		LR		04 12 42.6	
	comp=Z,39nm,18.8s,baz=284,slow=35								
SNAA	**Sanae**	**49.53**	**157**	*e*P		**P**		**03 52 25.2**	**-1.4**
	14nm,1.1s								
RKT	**Rikitea**	**54.33**	**266**	*e*T		T		04 51 03.5	
	3.1nm,0.2s								
VNDA	**Vanda**	**61.30**	**192**	P		**P**		**03 53 54.3**	**+3.1**
	1.1nm,1.0s,baz=260,slow=4.2,SNR=3.8								
VNDA				LR		LR		04 17 00.9	
	comp=Z,90nm,18.6s,baz=132,slow=33								
SYO	**Syowa Base**	**63.77**	**158**	*e*pP		**P**		**03 54 08.0**	**+0.3**
TBI	**Tubuai**	**65.75**	**258**	*e*LR		LR		04 14 03.8	
	296nm,28.2s								
MEH	**Mehetia**	**67.53**	**264**	*e*T		T		05 07 39.8	
	74nm,0.2s								
TVO	**Taravao**	**68.53**	**263**	*e*T		T		05 08 46.3	
	1.2nm,0.2s								
TIAR	**Tiarei**	**68.72**	**264**	*e*T		T		05 09 10.5	
	4.8nm,0.2s								
PAE	**Paea**	**68.85**	**263**	*e*T		T		05 09 11.7	
	1.8nm,0.3s								
PPT2	**Papeete2**	**68.89**	**263**	*e*S		**S**		**04 03 45.3**	**+1.1**
	141nm,23.2s								
PPT2	**Papeete2**	**68.89**	**263**	*e*LR		LR		04 15 39.5	
	364nm,24.5s								
PPT	**Papeete**	**68.90**	**263**	LR		LR		04 15 16.7	
	comp=Z,19nm,20.6s,baz=128,slow=28								
736A	**Circle Diamond**	**68.99**	**338**	P		**P**		**03 54 43.0**	**+1.5**
	baz=69								
735A	**Kenedy**	**69.13**	**337**	P		**P**		**03 54 43.3**	**+0.9**
	baz=69								
833A	**Chaparral WMA,**	**69.15**	**335**	P		**P**		**03 54 43.4**	**+0.9**
	baz=69								
637A	**Eagle Lake**	**69.22**	**339**	P		**P**		**03 54 43.9**	**+0.9**
	baz=69								
832A	**Faith Ranch, C**	**69.31**	**335**	P		**P**		**03 54 44.3**	**+0.8**
	baz=70								
636A	**Smothers Creek**	**69.48**	**338**	P		**P**		**03 54 46.1**	**+1.5**
	baz=70								
732A	**Laxson Ranch,**	**69.72**	**335**	P		**P**		**03 54 46.0**	**0.0**
	baz=70,SNR=6.9								
633A	**Saathoff Ranch**	**70.12**	**336**	P		**P**		**03 54 49.4**	**+0.9**
	baz=70								
632A	**Uvalde**	**70.37**	**336**	P		**P**		**03 54 50.8**	**+0.7**
	baz=70								
340A	**Bronson**	**70.42**	**341**	P		**P**		**03 54 51.2**	**+0.9**
	baz=71								
534A	**Blanco**	**70.43**	**337**	P		**P**		**03 54 51.1**	**+0.7**
	baz=71								
339A	**Huntington**	**70.51**	**341**	P		**P**		**03 54 51.5**	**+0.7**
	baz=71								
533A	**Kerrville**	**70.64**	**336**	P		**P**		**03 54 52.3**	**+0.6**
	baz=71								
338A	**Crockett**	**70.74**	**340**	P		**P**		**03 54 53.1**	**+0.9**
	baz=71								
MAW	**Mawson**	**70.92**	**164**	P		**P**		**03 54 54.6**	**+1.7**
	1.4nm,0.6s,baz=245,slow=6.9,SNR=5.0								
MAW				LR		LR		04 25 48.6	
	comp=Z,195nm,20.0s,baz=240,slow=36								
NATX	**Nacogdoches**	**70.95**	**341**	P		**P**		**03 54 54.3**	**+0.8**
	baz=71								
532A	**Rocksprings**	**70.98**	**336**	P		**P**		**03 54 54.0**	**+0.2**
	baz=71,SNR=7.5								
434A	**Burnet**	**71.09**	**337**	P		**P**		**03 54 55.1**	**+0.6**
	baz=71								
239A	**Gary**	**71.14**	**341**	P		**P**		**03 54 55.3**	**+0.7**
	baz=71								
336A	**Riesel**	**71.20**	**339**	P		**P**		**03 54 54.8**	**-0.2**
	baz=71,SNR=5.2								
531A	**Rocksprings**	**71.23**	**335**	P		**P**		**03 54 55.0**	**-0.3**
	baz=71,SNR=6.1								
JCT	**Junction City**	**71.27**	**336**	P		**P**		**03 54 55.6**	**+0.1**
	baz=71								
JCT	**Junction City**	**71.27**	**336**	*e*P		**P**		**03 54 56.0**	**+0.4**
	7.1nm,0.8s								
335A	**Moody**	**71.27**	**338**	P		**P**		**03 54 56.1**	**+0.7**
	baz=71								
433A	**Art**	**71.30**	**337**	P		**P**		**03 54 55.3**	**-0.4**
	baz=72,SNR=5.7								
238A	**Jacksonville**	**71.30**	**341**	P		**P**		**03 54 56.0**	**+0.4**
	baz=72								
530A	**J-C Ranch, Com**	**71.48**	**335**	P		**P**		**03 54 57.3**	**+0.5**
	baz=72								
237A	**Washetta, Mont**	**71.48**	**340**	P		**P**		**03 54 57.4**	**+0.7**
	baz=72								
334A	**Lometa**	**71.56**	**338**	P		**P**		**03 54 57.4**	**+0.2**
	baz=72,SNR=8.7								
TXAR	**Lajitas Array**	**71.58**	**332**	P		**P**		**03 54 57.6**	**+0.1**
	2.2nm,0.7s,baz=151,slow=8.7,SNR=31								
432A	**Menard**	**71.63**	**336**	P		**P**		**03 54 57.7**	**0.0**
	baz=72								
431A	**Sonora**	**71.72**	**335**	P		**P**		**03 54 58.5**	**+0.2**
	baz=72								
529A	**Stev Forest Ra**	**71.77**	**334**	P		**P**		**03 54 58.5**	**-0.1**
	baz=72								
333A	**Richland Sprin**	**71.79**	**337**	P		**P**		**03 54 58.6**	**0.0**
	baz=72								
KMSC	**Kings Mountain**	**71.83**	**353**	P		**P**		**03 54 58.7**	**0.0**
	baz=72								
WHTX	**Lake Whitney,**	**71.94**	**339**	P		**P**		**03 55 00.1**	**+0.6**
	baz=72								
WHTX	**Lake Whitney,**	**71.94**	**339**	*e*P		**P**		**03 54 59.8**	**+0.3**
	12nm,0.9s								
430A	**Baggett Ranch,**	**72.03**	**335**	P		**P**		**03 55 00.2**	**+0.1**
	baz=72,SNR=5.1								
137A	**Heron Place, G**	**72.03**	**340**	P		**P**		**03 55 00.8**	**+0.8**
	baz=72								
332A	**Millersview**	**72.08**	**336**	P		**P**		**03 55 00.5**	**+0.1**
	baz=72								
429A	**Davenport Ranc**	**72.11**	**334**	P		**P**		**03 55 01.1**	**+0.4**
	baz=72,SNR=6.2								
234A	**Clairette**	**72.16**	**338**	P		**P**		**03 55 00.6**	**-0.2**
	baz=72,SNR=5.8								
331A	**San Angelo**	**72.24**	**336**	P		**P**		**03 55 01.1**	**-0.3**
	baz=72,SNR=6.3								
233A	**Rising Star**	**72.41**	**337**	P		**P**		**03 55 01.8**	**-0.5**
	baz=73,SNR=6.1								
232A	**Coleman**	**72.52**	**337**	P		**P**		**03 55 02.6**	**-0.4**
	baz=73,SNR=5.4								
330A	**Mertzon**	**72.58**	**335**	P		**P**		**03 55 03.0**	**-0.4**
	baz=73,SNR=5.5								
TKL	**Tuckaleechee C**	**72.61**	**351**	P		**P**		**03 55 02.6**	**-0.8**
	6.1nm,0.8s,baz=182,slow=9.2,SNR=9.3								
134A	**White-Moore Ra**	**72.67**	**338**	P		**P**		**03 55 03.8**	**-0.1**
	baz=73								
Z36A	**Blue Ridge**	**72.85**	**340**	P		**P**		**03 55 04.7**	**-0.2**
	baz=73,SNR=7.0								
Y39A	**Loxesburg**	**72.87**	**342**	P		**P**		**03 55 05.0**	**+0.1**
	baz=73,SNR=5.4								
329A	**Wagon Wheel Ra**	**72.93**	**335**	P		**P**		**03 55 05.8**	**+0.3**
	baz=73								
133A	**Hamilton Ranch**	**72.96**	**338**	P		**P**		**03 55 05.2**	**-0.3**
	baz=73,SNR=6.3								
Z35A	**Perchaven, San**	**73.14**	**339**	P		**P**		**03 55 06.3**	**-0.3**
	baz=73,SNR=5.6								
ABTX	**Abilene, Hawle**	**73.20**	**337**	P		**P**		**03 55 07.1**	**+0.1**
	baz=73								
ABTX	**Abilene, Hawle**	**73.20**	**337**	*e*P		**P**		**03 55 07.3**	**+0.3**
	12nm,0.9s								
229A	**Bryant Ranch,**	**73.31**	**335**	P		**P**		**03 55 07.7**	**0.0**
	baz=74								
MIAR	**Mount Ida**	**73.32**	**343**	P		**P**		**03 55 07.6**	**0.0**
	baz=74								
Z34A	**Collier Ranch,**	**73.37**	**339**	P		**P**		**03 55 08.4**	**+0.4**
	baz=74								
Y36A	**Durant**	**73.41**	**340**	P		**P**		**03 55 08.6**	**+0.5**
	baz=74								
TZTN	**Tazewell**	**73.45**	**351**	*e*P		**P**		**03 55 07.9**	**-0.5**
	9.0nm,0.9s								
131A	**Roby**	**73.48**	**336**	P		**P**		**03 55 08.7**	**0.0**
	baz=74								
Z33A	**Whitaker Ranch**	**73.54**	**338**	P		**P**		**03 55 08.7**	**-0.3**
	baz=74,SNR=6.3								
228A	**UT Block 9, Go**	**73.71**	**334**	P		**P**		**03 55 10.4**	**+0.3**
	baz=74								
X38A	**Whitesboro**	**73.75**	**342**	P		**P**		**03 55 10.2**	**+0.1**
	baz=74								
Z32A	**Haskell**	**73.78**	**337**	P		**P**		**03 55 10.3**	**-0.1**
	baz=74,SNR=7.2								
Y34A	**Reagan Ranch,**	**73.87**	**339**	P		**P**		**03 55 10.9**	**+0.1**
	baz=74								
Z31A	**Sharp Cattle R**	**74.00**	**337**	P		**P**		**03 55 11.8**	**+0.1**
	baz=74								
W38A	**Poteau**	**74.05**	**342**	P		**P**		**03 55 12.0**	**+0.1**
	baz=74,SNR=6.3								
X36A	**Centrahoma**	**74.06**	**340**	P		**P**		**03 55 11.5**	**-0.4**
	baz=74								
X35A	**Drake**	**74.06**	**340**	P		**P**		**03 55 12.4**	**+0.4**
	baz=74								
128A	**Castleberry Fa**	**74.14**	**335**	P		**P**		**03 55 12.6**	**+0.1**
	baz=74								
Z30A	**Sanderson Ranc**	**74.29**	**336**	P		**P**		**03 55 13.8**	**+0.4**
	baz=74								
W37A	**Quinton**	**74.35**	**341**	P		**P**		**03 55 13.8**	**+0.2**
	baz=74								
Y32A	**R-V Farms, Ver**	**74.42**	**338**	P		**P**		**03 55 14.2**	**+0.2**
	baz=75								
Z29A	**Hungry Hill Ra**	**74.45**	**336**	P		**P**		**03 55 14.1**	**-0.3**
	baz=75								
X34A	**Smith Ranch, M**	**74.50**	**339**	P		**P**		**03 55 14.6**	**+0.1**
	baz=75								
Y31A	**Rekieta Farm,**	**74.63**	**337**	P		**P**		**03 55 15.7**	**+0.4**
	baz=75								
X33A	**Lawton**	**74.63**	**339**	P		**P**		**03 55 14.9**	**-0.4**
	baz=75								
Z28A	**Tucker Farm, M**	**74.71**	**335**	P		**P**		**03 55 16.3**	**+0.4**
	baz=75								
PBMO	**Poplar Bluff**	**74.78**	**346**	*e*P		**P**		**03 55 15.4**	**-0.7**
WMOK	**Wichita Mounta**	**74.90**	**338**	*e*P		**P**		**03 55 16.2**	**-0.7**
	2.6nm,0.9s								
V37A	**Hulbert**	**74.98**	**342**	P		**P**		**03 55 17.4**	**+0.1**
	baz=75								
Y29A	**Porterfield Fa**	**74.99**	**336**	P		**P**		**03 55 18.1**	**+0.6**
	baz=75								
W34A	**Bridge Creek,**	**75.07**	**339**	P		**P**		**03 55 18.2**	**+0.3**
	baz=75								
V36A	**Jenks**	**75.09**	**341**	P		**P**		**03 55 17.5**	**-0.4**
	baz=75,SNR=7.1								
X31A	**McDonald Ranch**	**75.16**	**337**	P		**P**		**03 55 18.5**	**+0.1**
	baz=75								
TUL1	**Leonard**	**75.17**	**341**	P		**P**		**03 55 18.3**	**0.0**
	baz=75								
TUL1	**Leonard**	**75.17**	**341**	*e*P		**P**		**03 55 18.2**	**-0.2**
	14nm,0.8s								
W33A	**Caddo, Fort Co**	**75.19**	**339**	P		**P**		**03 55 18.5**	**-0.1**
	baz=75,SNR=6.7								
V35A	**Meyer Ranch, C**	**75.31**	**340**	P		**P**		**03 55 19.3**	**+0.1**
	baz=76								
MSTX	**Muleshoe**	**75.46**	**335**	P		**P**		**03 55 20.6**	**+0.4**
	baz=76								
MSTX	**Muleshoe**	**75.46**	**335**	*e*P		**P**		**03 55 20.2**	**0.0**
	4.3nm,0.8s								
V34A	**Guthrie**	**75.56**	**340**	P		**P**		**03 55 21.0**	**+0.3**
	baz=76								
V33A	**Lossen Ranch,**	**75.77**	**339**	P		**P**		**03 55 22.1**	**+0.3**
	baz=76								
U35A	**Pawnee**	**75.85**	**341**	P		**P**		**03 55 21.7**	**-0.5**
	baz=76,SNR=5.3								
AMTX	**Amarillo**	**75.93**	**336**	P		**P**		**03 55 23.7**	**+0.8**
	baz=76								
121A	**Cookes Peak, D**	**76.02**	**330**	P		**P**		**03 55 24.2**	**+0.6**
	baz=76								
T37A	**Cheneyville 18**	**76.10**	**342**	P		**P**		**03 55 22.9**	**-0.8**
	baz=76,SNR=6.4								
U34A	**Anderson Ranch**	**76.13**	**340**	P		**P**		**03 55 23.7**	**-0.2**
	baz=76								
W29A	**Amarillo**	**76.14**	**336**	P		**P**		**03 55 24.0**	**-0.1**
	baz=76								
V31A	**Spring Creek L**	**76.18**	**338**	P		**P**		**03 55 25.7**	**+1.5**
	baz=76								
T36A	**Boggs Farm, Ca**	**76.28**	**342**	P		**P**		**03 55 23.7**	**-1.0**
	baz=76,SNR=6.2								
U33A	**Lingo Farm, Me**	**76.29**	**340**	P		**P**		**03 55 24.7**	**-0.1**
	baz=76								
T35A	**Sooner Cattle**	**76.31**	**341**	P		**P**		**03 55 25.3**	**+0.4**
	baz=76								
BLO	**Bloomington**	**76.44**	**349**	*e*P		**P**		**03 55 24.5**	**-1.0**
U32A	**Winter Ranch,**	**76.49**	**339**	P		**P**		**03 55 26.5**	**+0.5**
	baz=77								
LIC	**Lamto**	**76.57**	**72**	*e*P		**P**		**03 55 27.0**	**+0.1**
	84nm,1.8s								
T34A	**McClaskey Farm**	**76.59**	**341**	P		**P**		**03 55 26.5**	**+0.1**
	baz=77								
S36A	**Lake Cedric, C**	**76.84**	**342**	P		**P**		**03 55 27.7**	**-0.2**
	baz=77								
TIC	**Toumodi**	**76.84**	**71**	*e*P		**P**		**03 55 29.5**	**+1.0**
KIC	**Kosan Boka**	**76.87**	**72**	*e*P		**P**		**03 55 29.5**	**+0.9**
	45nm,1.0s								
V28A	**Channing**	**76.90**	**336**	P		**P**		**03 55 28.3**	**-0.1**
	baz=77								
T33A	**Patterson Ranc**	**76.93**	**340**	P		**P**		**03 55 29.0**	**+0.6**
	baz=77								
DBIC	**Dimbokro**	**76.98**	**71**	P		**P**		**03 55 30.5**	**+1.3**
	8.9nm,0.7s,baz=186,slow=6.0,SNR=12								
DBIC				LR		LR		04 25 42.7	
	comp=Z,157nm,20.4s,baz=205,slow=33								
S35A	**Otter Creek Ra**	**76.98**	**341**	P		**P**		**03 55 28.6**	**-0.1**
	baz=77								
U30A	**WK&E Inc. Balk**	**77.12**	**338**	P		**P**		**03 55 30.8**	**+1.2**
	baz=77								
214A	**Organ Pipe Nat**	**77.64**	**326**	P		**P**		**03 55 33.7**	**+1.1**
	baz=78								
ANMO	**Albuquerque**	**77.65**	**333**	P		**P**		**03 55 33.7**	**+1.0**
	3.3nm,0.9s,baz=157,slow=7.6,SNR=13								
ANMO	**Albuquerque**	**77.65**	**333**	*e*P		**P**		**03 55 33.3**	**+0.6**
	5.6nm,1.0s								
S32A	**Newby Ranch, P**	**77.70**	**339**	P		**P**		**03 55 33.4**	**+0.6**
	baz=78								
S31A	**Mullinville**	**77.79**	**339**	P		**P**		**03 55 34.1**	**+0.9**
	baz=78								
R34A	**Isabella, Hill**	**77.81**	**341**	P		**P**		**03 55 33.7**	**+0.4**
	baz=78								
T29A	**Hugoton**	**77.90**	**337**	P		**P**		**03 55 34.4**	**+0.5**
	baz=78								
R33A	**Olander Ranch,**	**78.01**	**340**	P		**P**		**03 55 34.5**	**0.0**
	baz=78								
S30A	**Montezuma**	**78.09**	**338**	P		**P**		**03 55 35.5**	**+0.6**
	baz=78								
T28A	**Walsh**	**78.12**	**337**	P		**P**		**03 55 35.7**	**+0.5**
	baz=78								
HDIL	**Hopedale**	**78.23**	**348**	P		**P**		**03 55 35.1**	**-0.4**
	baz=78								
T27A	**Campo**	**78.26**	**336**	P		**P**		**03 55 36.7**	**+0.7**
	baz=78								
S29A	**Ulysses**	**78.27**	**338**	P		**P**		**03 55 36.9**	**+0.9**
	baz=78								
Q34A	**Chapman**	**78.31**	**341**	P		**P**		**03 55 36.4**	**+0.3**
	baz=78								
R32A	**Long Quarter,**	**78.32**	**340**	P		**P**		**03 55 36.8**	**+0.6**
	baz=78								
R31A	**Burdett**	**78.42**	**339**	P		**P**		**03 55 37.1**	**+0.4**
	baz=79								
S28A	**Manter**	**78.48**	**337**	P		**P**		**03 55 37.6**	**+0.4**
	baz=79								
P36A	**Good Intent, A**	**78.55**	**343**	P		**P**		**03 55 36.9**	**-0.4**
	baz=79								
Q33A	**Connelly Farm,**	**78.62**	**341**	P		**P**		**03 55 38.3**	**+0.5**
	baz=79								
T26A	**Comanche Natio**	**78.65**	**336**	P		**P**		**03 55 38.9**	**+0.7**
	baz=79								
Q32A	**Meitler Ranch,**	**78.81**	**340**	P		**P**		**03 55 39.1**	**+0.3**
	baz=79								
P34A	**Walnut Farm, R**	**78.87**	**342**	P		**P**		**03 55 39.4**	**+0.3**
	baz=79								
T25A	**Trinidad**	**78.89**	**335**	P		**P**		**03 55 40.6**	**+1.0**
	baz=79								
CBKS	**Cedar Bluff**	**78.97**	**339**	P		**P**		**03 55 40.7**	**+1.0**
	baz=79								
O36A	**Bolckow**	**78.97**	**343**	P		**P**		**03 55 39.4**	**-0.3**
	baz=79								
P33A	**Williams Farm,**	**78.99**	**341**	P		**P**		**03 55 40.2**	**+0.4**
	baz=79								
S26A	**Kim**	**79.02**	**336**	P		**P**		**03 55 41.1**	**+1.0**
	baz=79								
Q31A	**Ellis**	**79.05**	**340**	P		**P**		**03 55 41.2**	**+1.0**
	baz=79								
R28A	**Tribune**	**79.15**	**338**	P		**P**		**03 55 41.3**	**+0.5**
	baz=79								
**

4.5nm,0.6s
L29A **Maesberg Ranch** 82.20 340 P P 03 55 58.4 +1.4
baz=82
SHPR **Sheep Range** 82.52 327 eP P 03 55 59.8 +0.8
K30A **Basset** 82.53 341 P P 03 55 59.9 +1.2
baz=83
ECSD **EROS Data Cent** 82.78 343 P P 03 56 00.1 +0.2
baz=83
ECSD **EROS Data Cent** 82.78 343 eP P 03 55 59.4 -0.5
15nm,0.8s
N23A **Red Feather La** 82.79 336 P P 03 56 01.2 +0.9
baz=83
SRU **San Rafael Swe** 82.85 332 eP P 03 56 01.0 +0.4
5.8nm,0.8s
O20A **White River Ci** 82.90 334 P P 03 56 02.3 +1.4
baz=83
O20A **White River Ci** 82.90 334 eP P 03 56 01.8 +0.9
5.4nm,0.8s
MSU **Marysvale** 82.97 330 eP P 03 56 01.9 +0.6
3.3nm,0.8s
MVU **Marysvale** 82.98 330 eP P 03 56 02.5 +1.1
2.8nm,0.9s
K28A **Ten Mile Ranch** 83.05 340 P P 03 56 02.9 +1.5
baz=83
FURC **Furnace Creek,** 83.24 326 P P 03 56 04.3 +1.9
baz=83
P17A **Butcher Ranch,** 83.24 332 eP P 03 56 03.5 +0.9
TMUT **Trail Mountain** 83.27 331 eP P 03 56 02.6 -0.4
6.0nm,0.9s
ISA **Isabella, Lake** 83.32 324 P P 03 56 05.3 +2.3
baz=83
TPNV **Topopah Spring** 83.36 327 P P 03 56 04.8 +1.5
baz=84
J29A **Okreek** 83.40 341 P P 03 56 04.1 +0.9
baz=84
I30A **Oacoma** 83.64 341 P P 03 56 04.6 +0.2
baz=84
J28A **Allard Ranch,** 83.67 340 P P 03 56 05.5 +0.9
baz=84
GRAC **Grapevine Rang** 83.91 326 P P 03 56 07.8 +1.9
baz=84
J26A **Sides Ranch, S** 84.09 339 P P 03 56 08.0 +1.2
baz=84
I28A **Midland** 84.18 340 P P 03 56 07.8 +0.7
baz=84
R11A **Troy Canyon, C** 84.25 328 P P 03 56 09.3 +1.5
baz=84
R11A **Troy Canyon, C** 84.25 328 eP P 03 56 08.6 +0.8
3.2nm,0.9s
K23A **Bowen Ranch, D** 84.36 337 P P 03 56 09.2 +1.0
baz=84
JLU **Jordanelle** 84.49 332 eP P 03 56 10.0 +0.9
5.9nm,0.8s
H29A **Onida** 84.51 341 P P 03 56 09.1 +0.3
baz=85
K22A **Casper** 84.56 336 P P 03 56 10.2 +1.0
baz=85
K22A **Casper** 84.56 336 eP P 03 56 09.6 +0.3
9.3nm,0.9s
J24A **Dixon Ranch, L** 84.58 338 P P 03 56 10.4 +1.2
baz=85
DUG **Dugway, Tooele** 84.67 331 P P 03 56 11.1 +1.2
baz=85
DUG **Dugway, Tooele** 84.67 331 eP P 03 56 10.7 +0.9
8.7nm,1.1s
TCUT **Toone Canyon** 84.92 332 eP P 03 56 12.2 +0.9
5.4nm,0.9s
I25A **Rochford** 84.93 338 P P 03 56 11.7 +0.6
baz=85
G28A **Parade** 85.11 341 P P 03 56 12.3 +0.5
baz=85
RSSD **Black Hills** 85.11 338 eP P 03 56 11.8 -0.3
5.4nm,0.9s
H26A **Fairpoint** 85.20 339 P P 03 56 13.6 +1.4
baz=85
J22A **Midwest** 85.23 336 P P 03 56 12.6 0.0
baz=85
HWUT **Hardware Ranch** 85.41 332 eP P 03 56 13.8 +0.3
12nm,1.0s
NVAR **Mina Array Bea** 85.50 326 P P 03 56 15.4 +1.2
1.7nm,0.8s,baz=157,slow=6.4,SNR=15
F29A **Eureka** 85.53 342 P P 03 56 14.0 +0.2
baz=86
I22A **9 Mile Ranch,** 85.66 337 P P 03 56 14.9 +0.2
baz=86
G27A **Dupree** 85.66 340 P P 03 56 14.8 +0.3
baz=86
BW06 **Boulder Array** 85.69 334 eP P 03 56 14.3 -0.7
3.6nm,1.2s
PDAR **Pinedale Array** 85.69 334 P P 03 56 15.2 +0.2
3.4nm,1.0s,baz=127,slow=3.9,SNR=17
J20A **Shoshoni** 85.70 335 P P 03 56 15.9 +1.0
baz=86
G26A **Maurine** 85.77 340 P P 03 56 15.5 +0.4
baz=86
F28A **McLaughlin** 85.80 341 P P 03 56 16.1 +0.9
baz=86
H24A **Dirks Ranch, A** 85.83 338 P P 03 56 15.7 +0.2
baz=86
I21A **Big Trails, Te** 85.85 336 P P 03 56 15.9 +0.2
baz=86
G25A **Newell** 85.91 339 P P 03 56 16.2 +0.3
baz=86
E30A **Jud** 85.93 343 P P 03 56 16.4 +0.5
baz=86
J19A **Crowheart** 85.95 335 P P 03 56 16.6 +0.4
baz=86
HVU **Hansel Valley** 86.02 332 eP P 03 56 16.6 0.0
TOA0 **Torodi Ar. Sit** 86.05 71 eP P 03 56 17.4 +0.2
TORD **Torodi Ar. Bea** 86.05 71 P P 03 56 17.8 +0.6
3.7nm,0.8s,baz=224,slow=4.3,SNR=17
TORD LR LR 04 33 23.6
comp=Z,138nm,18.0s,baz=240,slow=35
F27A **Lemmon** 86.14 340 P P 03 56 17.0 +0.1
baz=86
I20A **Worland** 86.25 336 P P 03 56 18.3 +0.7
baz=86
H22A **Clearmont** 86.25 337 P P 03 56 17.6 0.0
baz=86
F26A **Lodgepole** 86.30 340 P P 03 56 18.1 +0.3
baz=86
G24A **Alzada** 86.32 339 P P 03 56 18.3 +0.4
baz=86
E28A **Huff** 86.44 341 P P 03 56 18.9 +0.5
baz=87
D30A **Buchanan** 86.46 343 P P 03 56 19.5 +1.0
baz=87
H21A **Big Horn, Sher** 86.49 337 P P 03 56 18.7 -0.1
baz=87
G23A **Biddle** 86.50 338 P P 03 56 18.8 0.0
baz=87
I19A **Meeteetse** 86.61 335 P P 03 56 20.9 +1.4
baz=87
H20A **Greybull** 86.68 336 P P 03 56 19.9 +0.2
baz=87
G22A **Birney** 86.79 337 P P 03 56 20.2 0.0
baz=87
F24A **Ekalaka** 86.80 339 P P 03 56 20.2 0.0
baz=87
LOHW **Long Hollow** 86.80 334 eP P 03 56 20.8 +0.4
1.1nm,0.6s
E26A **Carlson Angus** 86.81 340 P P 03 56 20.3 +0.1
baz=87
TPAW **Teton Pass** 86.82 334 eP P 03 56 20.8 +0.2
7.2nm,0.9s
AGMN **Agassiz Nation** 86.95 345 P P 03 56 21.2 +0.4
baz=87
C30A **Mose, Pekin** 86.96 343 P P 03 56 21.3 +0.5
baz=87
F23A **Volborg** 86.97 338 P P 03 56 21.1 +0.1
baz=87
FXWY **Fox Creek** 86.97 334 eP P 03 56 21.8 +0.5
3.8nm,1.0s
D28A **Regan** 86.98 342 P P 03 56 21.7 +0.7
baz=87
E25A **Miller Ranch,** 87.10 340 P P 03 56 22.2 +0.6
baz=87
H19A **Powell** 87.17 335 P P 03 56 22.3 +0.2
baz=87
FLWY **Flagg Ranch** 87.24 334 eP P 03 56 23.2 +0.6
6.7nm,0.8s
D26A **Manning** 87.32 341 P P 03 56 23.1 +0.5
baz=88
MDND **Maddock** 87.36 343 P P 03 56 22.9 +0.1
baz=88
G20A **Bridger** 87.40 336 P P 03 56 23.0 -0.2
baz=88
E24A **Baker** 87.41 339 P P 03 56 24.3 +1.2
baz=88
B30A **Myrvik Farm, E** 87.62 344 P P 03 56 24.3 +0.2
baz=88
E23A **Ismay** 87.64 338 P P 03 56 24.5 +0.3
baz=88
RLMT **Red Lodge** 87.66 335 P P 03 56 24.9 +0.3
baz=88
D25A **Fairfield** 87.67 340 P P 03 56 25.4 +1.0
baz=88
C27A **Sayler Ranch,** 87.71 341 P P 03 56 25.4 +1.0
baz=88
B29A **Wagenman Farm,** 87.88 343 P P 03 56 26.1 +0.9
baz=88
D24A **Glendive** 87.92 339 P P 03 56 27.1 +1.5
baz=88
A30A **Hoffart Farm,** 88.08 344 P P 03 56 26.5 +0.3
baz=88
B28A **Dugan Ranch, T** 88.10 342 P P 03 56 27.4 +1.1
baz=88
HLID **Hailey** 88.17 331 P P 03 56 28.3 +1.3
baz=88
HLID **Hailey** 88.17 331 eP P 03 56 27.7 +0.7
3.9nm,1.1s
C25A **Freed Ranch, W** 88.17 340 P P 03 56 27.7 +1.0
baz=88
D23A **Lindsay** 88.22 339 P P 03 56 27.6 +0.6
baz=88
A29A **Manning Farm,** 88.28 343 P P 03 56 27.3 +0.2
baz=88
B27A **Peters Farms,** 88.28 342 P P 03 56 27.9 +0.7
baz=88
C24A **Savage** 88.33 339 P P 03 56 28.4 +0.9
baz=88
D22A **Cohagen** 88.49 338 P P 03 56 29.1 +0.9
baz=89
B25A **Knox Farm, Ray** 88.66 341 P P 03 56 30.1 +1.2
baz=89
MCMT **McKenzie Canyo** 88.66 333 eP P 03 56 30.3 +1.0
ULM **Lac du Bonnet** 88.81 346 P P 03 56 29.0 -0.6
2.3nm,0.7s,baz=152,slow=3.0,SNR=3.8
BOZ **Bozeman (W)** 88.93 334 P P 03 56 31.3 +0.9
baz=89
A26A **Wade Farm, Ken** 88.94 341 P P 03 56 31.1 +0.8
baz=89
B22A **Bridig Ranch S** 89.47 339 P P 03 56 33.6 +0.8
baz=90
GERES **GERESS Array B** 114.72 47 PKP PKPdf 04 02 16.2 0.0
0.3nm,0.6s,baz=122,slow=1.7,SNR=4.9
WRA **Warramunga Arr** 117.96 210 PKP PKPdf 04 02 23.2 -0.2
0.5nm,0.7s,baz=156,slow=1.7,SNR=3.1
BRTR **Keskin Array B** 123.97 63 PKP PKPdf 04 02 34.9 +0.6
1.1nm,0.8s,baz=187,slow=2.8,SNR=9.0
BR131 **Keskin Array S** 123.97 63 ePKPdf PKPdf 04 02 34.6 +0.3
H11S2 **WAKE ISLAND Hyd** 124.69 268 T T 06 19 43.1
baz=118,slow=75,SNR=14
H11S1 **WAKE ISLAND Hyd** 124.71 268 T T 06 19 25.2
baz=118,slow=75,SNR=7.9
AKASG **Malin Array Be** 124.71 49 PKP PKPdf 04 02 34.5 -0.6
0.5nm,0.6s,baz=252,slow=0.4,SNR=3.7
H11S3 **WAKE ISLAND Hyd** 124.71 268 T T 06 19 22.2
baz=118,slow=75,SNR=12
H11N3 **WAKE ISLAND Hyd** 125.17 269 T T 06 20 08.5
baz=116,slow=78,SNR=5.1
H11N1 **WAKE ISLAND Hyd** 125.19 269 T T 06 20 06.8
baz=116,slow=78,SNR=9.6
H11N2 **WAKE ISLAND Hyd** 125.19 269 T T 06 20 11.7
baz=116,slow=78,SNR=7.5
ABKAR **Akbulak array** 144.08 54 ePKPdf PKPbc 04 03 09.7 +0.4
KSH **Kashi** 155.68 74 ePKP PKPdf 04 03 27.5 -2.5
KSH pPKP pPKPdf 04 03 40.0 +1.0
KSH PP PP 04 07 31.8 -2.1
ZALV **Zalesovo Beam** 157.00 34 PKP PKPdf 04 03 30.6 -0.5
2.0nm,0.7s,baz=318,slow=2.0,SNR=8.4
ZALV PKPab PKPab 04 04 01.8 +0.4
1.0nm,0.4s,baz=300,slow=6.0,SNR=6.5
WMQ **Urumqi** 163.82 58 ePKP PKPdf 04 03 38.0 -1.0
SONM **Songino Array** 168.83 1 PKPab PKPab 04 04 53.8 +0.4
1.2nm,0.8s,baz=351,slow=4.0,SNR=8.0
HHC **Hu-ho-hao-te** 174.36 319 ePKP PKPdf 04 03 44.5 -1.2
HHC PP PP 04 09 08.5 -1.9
HHC SS SS 04 30 29.5 +0.4
HHC PPMZ
48nm,9.6s
HHC LN
59nm,21.7s
HHC LE
55nm,16.8s
HHC LZ
73nm,22.4s

*IDC **28** 03:53:46.9±1.6, 16°.65N×86°.13W, h0km, mb3.7/6, mb1 1.4/0, mb1mx3.7/33, mbtmp3.7/8, ML3.1/2, Error ellipse: s-maj=35.2km s-min=27.0km az=64.0*
*ISCJB **28** 03:53:49.3±0.9, 16°.56N±0°.09×86°.3W±0°.2, h33km, mb3.7/5, Error ellipse: s-maj=21.8km s-min=10.2km az=158.7*
ISC 28 03:53:51.5±1.0, 16°.58N±0°.09×86°.2W±0°.2, h35km, n9, σ1§01/10, mb3.7/5, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEIG	**Tepich**	**4.12**	**332**	Pn	**Pn**	**03 54 51.2**	**-0.7**
	97nm,0.3s,baz=326,slow=2.5,SNR=1142						
TEIG				Sn	**Sn**	**03 55 38.0**	**-0.9**
	7.4nm,0.3s,baz=71,slow=22,SNR=9.5						
JTS	**JuntasAbangare**	**6.37**	**169**	Pn	**Pn**	**03 55 22.6**	**-0.3**
	0.4nm,0.3s,baz=336,slow=20,SNR=2.5						
JTS				Sn	Sn	03 56 47.0	+12
	0.4nm,0.3s,baz=223,slow=19,SNR=2.2						
CMIG	**Matias Romero**	**8.30**	**275**	Pn	**Pn**	**03 55 48.5**	**-0.9**
	0.3nm,0.3s,baz=132,slow=15,SNR=3.3						
TXAR	**Lajitas Array**	**20.44**	**311**	P	**P**	**03 58 27.3**	**+1.3**
	1.9nm,0.8s,baz=129,slow=11,SNR=20						
ANMO	**Albuquerque**	**25.73**	**319**	P	**P**	**03 59 18.9**	**0.0**
	1.1nm,0.9s,baz=150,slow=10,SNR=3.9						
NVAR	**Mina Array Bea**	**35.54**	**314**	P	**P**	**04 00 47.2**	**+1.6**
	0.5nm,0.7s,baz=125,slow=9.1,SNR=5.7						
SCHQ	**Schefferville**	**41.01**	**17**	P	**P**	**04 01 30.8**	**-0.4**
	3.0nm,0.9s,baz=231,slow=13,SNR=2.8						
YKA	**Yellowknife Ar**	**49.99**	**343**	P	**P**	**04 02 41.7**	**-0.3**
	0.6nm,0.8s,baz=139,slow=8.6,SNR=4.4						
ILAR	**Eielson Array**	**62.77**	**335**	P	**P**	**04 04 13.5**	**+0.4**
	0.5nm,0.8s,baz=134,slow=4.7,SNR=5.8						

*DJA **28** 04:18:59.8±0.5, 1°.1N±4°×12°.5E±°, h17km±8km, M4.4/13, mb4.5/7, mB5.0/3, MLv4.3/6, MLv4.4/13, Mw(mB)4.3/3*
*ISCJB **28** 04:19:00.1±0.7, 1°.04N±0°.08×125°.36E±0°.05, h79km, mb4.0/5, Error ellipse: s-maj=11.3km s-min=6.9km az=177.3*
*IDC **28** 04:19:13.1±3.8, 0°.30N×124°.86E, h148km±35km, mb3.7/5, mb1 3.9/6, mb1mx3.4/31, mbtmp4.1/6, MS2.9/2, Ms1 2.9/2, ms1mx2.5/26, Error ellipse: s-maj=44.6km s-min=19.5km az=73.0*
ISC 28 04:19:02.0±1.3, 1°.0N±0°.1×125°.37E±0°.06, h79km, n21, σ1§30/19, mb4.0/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.46**	**252**	P	**Pn**	**04 19 23.7**	**-3.0**
KMSI				S	**Sn**	**04 19 43.6**	**-1.9**
TNTI	**Ternate**	**2.01**	**97**	P	**Pn**	**04 19 32.8**	**-1.2**
SGSI	**Sangihe**	**2.64**	**3**	P	Pn	04 19 41.2	-1.3
LBMI	**Labuha**	**2.70**	**128**	P	**Pn**	**04 19 41.9**	**-1.3**
LUWI	**Luwuk**	**3.31**	**232**	P	Pn	04 19 46.3	-5.3
MRSI	**Marisa**	**3.47**	**261**	P	**Pn**	**04 19 52.4**	**-1.3**
APSI	**Ampana**	**4.19**	**243**	P	**Pn**	**04 20 03.1**	**-0.4**
NLAI	**Namlea**	**4.58**	**158**	P	**Pn**	**04 20 07.3**	**-1.5**
MPSI	**Mapaga**	**5.52**	**263**	P	**Pn**	**04 20 22.2**	**+0.6**
	26nm,0.8s,0.1nm0.1nm						
TTSI	**Tana Toraja**	**6.87**	**234**	P	**Pn**	**04 20 40.0**	**-0.1**
	52nm,0.6s,908nm0.2nm						
SPSI	**Sidrap Palu**	**7.48**	**228**	P	**Pn**	**04 20 48.3**	**-0.1**
	34nm,0.5s,1um0.2nm						
BKSI	**Bulukumba**	**8.20**	**220**	P	**Pn**	**04 20 58.3**	**0.0**
	14nm,0.8s						
KAPI	**Kappang**	**8.22**	**223**	P	**Pn**	**04 20 58.2**	**-0.4**
	1.7nm,0.3s,baz=332,slow=3.2,SNR=5.1						
BSSI	**Bau Bau, Buton**	**8.63**	**214**	P	**Pn**	**04 21 05.1**	**+0.9**
JAY	**Jayapura**	**15.73**	**103**	LR	LR	04 29 41.9	
	comp=Z,53nm,20.7s,baz=141,slow=39						
WRA	**Warramunga Arr**	**22.62**	**158**	P	**P**	**04 23 55.1**	**-1.3**
	3.2nm,0.3s,baz=336,slow=10,SNR=28						
ASAR	**Alice Springs**	**25.91**	**162**	P	**P**	**04 24 27.2**	**+0.4**
	4.1nm,0.7s,baz=340,slow=6.8,SNR=32						
ASAR				PcP	**PcP**	**04 27 55.3**	**+1.2**
	0.7nm,0.5s,baz=348,slow=2.3,SNR=7.8						
STKA	**Stephens Creek**	**36.16**	**156**	P	**P**	**04 25 57.7**	**+0.9**
	1.9nm,0.4s,baz=333,slow=10,SNR=6.1						
KSRS	**Korea Array**	**36.32**	**3**	P	P	04 26 09.3	+11
	0.6nm,0.3s,baz=180,slow=10,SNR=4.8						
KSRS				LR	LR	04 39 48.9	
	comp=Z,13nm,21.1s,baz=350,slow=33						
VNDA	**Vanda**	**80.94**	**172**	P	**P**	**04 31 08.4**	**+1.2**
	0.4nm,0.4s,baz=308,slow=6.5,SNR=7.1						
TORD	**Torodi Ar. Bea**	**122.42**	**286**	PKP	**PKPdf**	**04 37 49.3**	**+0.1**
	0.7nm,0.7s,baz=56,slow=1.9,SNR=14						

*IDC **28** 04:43:05.4±2.4, 36°.79S×73°.38W, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.5/21, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=56.4km s-min=39.4km az=151.0*
*GUC **28** 04:43:09.3±0.6, 36°.44S×73°.53W, h19km±11km, ML3.6*
ISC 28 04:43:06.6±1.9, 36°.8S±0°.2×73°.5W±0°.2, h10km, n8, σ1§50/10, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNCH	**Linares**	**1.79**	**58**	‖ *i* P	**Pn**	**04 43 37.7**	**+0.2**
LNCH				*i* S	**Sn**	**04 43 59.0**	**-1.2**
TALC	**Talca**	**2.04**	**47**	*e*P	**Pn**	**04 43 40.1**	**-0.9**
NICH	**Los Niches**	**2.56**	**46**	*e*P	**Pn**	**04 43 48.4**	**+0.3**
PEL	**Peldehue**	**4.31**	**33**	⇑ *i* P	**Pn**	**04 44 10.8**	**-1.4**
CFAA	**Coronel Fontan**	**6.76**	**41**	Pn	**Pn**	**04 44 44.5**	**-1.4**
	0.2nm,0.3s,baz=196,slow=8.6,SNR=10						
CFAA				Sn	**Sn**	**04 46 05.9**	**+2.9**
	0.1nm,0.3s,baz=240,slow=20,SNR=2.3						
LPAZ	**La Paz**	**20.98**	**14**	P	**P**	**04 47 50.1**	**-0.6**
	1.0nm,0.7s,baz=127,slow=5.1,SNR=3.0						
TXAR	**Lajitas Array**	**71.64**	**332**	P	**P**	**04 54 29.2**	**+0.8**
	0.1nm,0.7s,baz=156,slow=6.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**86.25**	**71**	P	**P**	**04 55 48.9**	**+0.1**
	0.5nm,0.9s,baz=221,slow=6.2,SNR=4.8						

GUC 28 05:05:16.1±0.3, 35°.77S×72°.65W, h39km±2km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNCH	**Linares**	**0.85**	**96**	*i* P	Pn	05 05 32.0	+0.4
LNCH				*i* S	Sn	05 05 44.1	+1.1
TALC	**Talca**	**0.91**	**66**	*i* P	Pn	05 05 32.6	+0.3
TALC				*i* S	Sn	05 05 45.2	+1.1
NICH	**Los Niches**	**1.39**	**57**	*i* P	Pn	05 05 40.3	+1.3
NICH				*e*S	Sn	05 05 58.4	+2.3
CLCH	**Cerro Calan**	**2.94**	**37**	*e*P	Pn	05 06 01.5	+1.1
CLCH				*i* S	Sn	05 06 36.2	+1.6
CLCH				AML	AML	05 06 57.1	
	comp=N,282nm,0.6s						
PEL	**Peldehue**	**3.08**	**32**	*e*P	Pn	05 06 03.7	+1.4
PEL				*e*S	Sn	05 06 39.6	+1.6
PEL				AML	AML	05 06 51.4	
	comp=N,239nm,0.8s						

*ISCJB **28** 05:45:04.4±0.7, 6°.1S±0°.1×154°.5E±0°.1, h61km, mb4.0/11, Error ellipse: s-maj=19.1km s-min=14.2km az=167.2*
*IDC **28** 05:45:10.1±5.7, 6°.08S×154°.47E, h100km±50km, mb3.7/11, mb1 3.9/12, mb1mx3.7/35, mbtmp4.1/12, MS2.9/1, Ms1 2.9/1, ms1mx2.3/30, Error ellipse: s-maj=22.2km s-min=16.6km az=68.0*
ISC 28 05:45:06.0±0.7, 6°.1S±0°.1×154°.4E±0°.2, h61km, n15, σ1§17/16, mb3.9/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**14.12**	**284**	LR	LR	05 54 38.2	
	comp=Z,42nm,18.8s,baz=72,slow=40						
DZM	**Mont Dzumac**	**19.72**	**145**	P	**P**	**05 49 30.7**	**-0.1**
	1.2nm,0.3s,baz=90,slow=24,SNR=21						
WRA	**Warramunga Arr**	**23.91**	**233**	P	**P**	**05 50 15.1**	**+0.7**
	0.6nm,0.3s,baz=55,slow=9.5,SNR=17						
WRA				PcP	**PcP**	**05 53 55.0**	**-0.9**
	0.4nm,0.4s,baz=30,slow=1.9,SNR=5.0						
ASAR	**Alice Springs**	**26.39**	**226**	P	**P**	**05 50 37.5**	**+0.5**
	0.6nm,0.5s,baz=54,slow=8.6,SNR=8.2						
ASAR				PcP	**PcP**	**05 54 01.0**	**-0.5**
	0.8nm,0.6s,baz=46,slow=4.0,SNR=6.1						
STKA	**Stephens Creek**	**28.36**	**203**	P	**P**	**05 50 54.6**	**+0.1**
	4.8nm,1.0s,baz=53,slow=5.1,SNR=3.5						
URZ	**Urewera**	**38.11**	**151**	P	**P**	**05 52 19.4**	**+0.3**
	3.9nm,0.4s,baz=294,slow=11,SNR=8.7						
KSRS	**Korea Array**	**49.84**	**332**	P	**P**	**05 53 52.2**	**-0.8**
	1.1nm,0.4s,baz=156,slow=7.8,SNR=6.3						
CMAR	**Chiang Mai Arr**	**59.87**	**295**	P	**P**	**05 55 07.2**	**+1.2**
	1.0nm,0.3s,baz=128,slow=5.3,SNR=5.2						
SONM	**Songino Array**	**68.24**	**327**	P	**P**	**05 56 00.9**	**+0.5**
	1.0nm,0.7s,baz=147,slow=7.0,SNR=7.0						
VNDA	**Vanda**	**71.54**	**178**	P	**P**	**05 56 19.3**	**-0.8**
	0.4nm,0.6s,baz=320,slow=8.0,SNR=4.3						
ILAR	**Eielson Array**	**82.71**	**22**	P	**P**	**05 57 22.4**	**-0.5**
	0.6nm,0.7s,baz=247,slow=5.2,SNR=10						
MAW	**Mawson**	**85.05**	**203**	P	**P**	**05 57 34.3**	**-0.4**
	3.5nm,0.5s,baz=116,slow=4.6,SNR=12						
NVAR	**Mina Array Bea**	**91.58**	**52**	P	**P**	**05 58 08.0**	**+1.1**
	0.3nm,0.6s,baz=271,slow=5.6,SNR=3.7						
BDFB	**Brasilia**	**149.04**	**134**	PKPbc	**PKPdf**	**06 04 46.3**	**+1.9**
	1.8nm,0.8s,baz=207,slow=2.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**152.22**	**287**	PKPbc	**PKPbc**	**06 04 53.2**	**-2.8**
	0.4nm,0.5s,baz=62,slow=2.2,SNR=5.9						

DJA 28 05:53:16.9±0.4, 2°.S±5°×13°.0E±°, h10km, M3.7/6, MLv3.7/6, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**1.65**	**218**	P	Pn	05 53 40.1	-5.9
MSAI				S	Sn	05 53 54.9	-12
SWI	**Sorong**	**1.76**	**49**	P	Pn	05 53 48.3	+0.9
SWI				S	Sn	05 54 09.7	-0.2
AAI	**Ambon**	**2.40**	**227**	P	Pn	05 53 56.1	-0.2
AAI				S	Sb	05 54 28.3	-1.6
FAKI	**Fak Fak**	**2.47**	**111**	P	Pg	05 54 07.6	+3.3
BNDI	**Bandanaira**	**2.48**	**181**	P	Pn	05 53 56.8	-0.5
LBMI	**Labuha**	**2.80**	**300**	P	Pn	05 54 01.5	-0.3
NLAI	**Namlea**	**3.08**	**247**	P	Pb	05 54 09.5	-2.3

*IDC **28** 06:01:27.8±1.6, 37°.06S×177°.28E, h263km±13km, mb3.0/2, mb1 3.4/4, mb1mx3.0/28, mbtmp3.9/4, Error ellipse: s-maj=42.6km s-min=32.6km az=99.0*
*NEIC **28** 06:01:28.5, 36°.85S×177°.06E, h265km, MG4.9(WEL), After WEL.*
*ISCJB **28** 06:01:30.0±0.5, 37°.13S±0°.05×176°.80E±0°.07, h266km, mb3.1/2, Error ellipse: s-maj=7.4km s-min=6.6km az=32.3*
*WEL **28** 06:01:31.6±0.5, 36°.96S×177°.05E, h241km±4km, ML4.9/22, Error ellipse: s-maj=4.9km s-min=2.9km az=0.0*
ISC 28 06:01:29.7±1.0, 37°.15S±0°.06×176°.88E±0°.06, h266km, n182, σ1§35/190, 22C-6D, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**0.74**	**200**	PN	**Pn**	**06 02 05.6**	**+0.4**
OPRZ	**Ohinepanea**	**0.74**	**200**	Pn	**Pn**	**06 02 05.3**	**+0.2**
OPRZ				Sn	**S**	**06 02 34.8**	**+1.5**
MARZ	**Manawahe**	**0.85**	**191**	PN	**Pn**	**06 02 06.1**	**+0.4**
MARZ	**Manawahe**	**0.85**	**191**	Pn	**Pn**	**06 02 06.2**	**+0.6**
HAZ	**Te Kaha**	**0.94**	**130**	⇑PN	**Pn**	**06 02 05.2**	**-0.9**
HAZ				SN	**S**	**06 02 31.6**	**-3.2**
EDRZ	**Edgecumbe**	**0.96**	**187**	*e*PN	**Pn**	**06 02 07.1**	**+0.8**
EDRZ	**Edgecumbe**	**0.96**	**187**	Pn	**Pn**	**06 02 08.0**	**+1.7**
KARZ	**Kaharoa**	**1.01**	**210**	⇑PN	**Pn**	**06 02 07.5**	**+1.1**
KARZ	**Kaharoa**	**1.01**	**210**	Pn	**Pn**	**06 02 07.5**	**+1.1**
TARZ	**Mount Tarawera**	**1.13**	**195**	*e*PN	**Pn**	**06 02 08.5**	**+1.3**
TARZ	**Mount Tarawera**	**1.13**	**195**	Pn	**Pn**	**06 02 08.5**	**+1.3**
URZ	**Urewera**	**1.13**	**171**	⇑PN	**Pn**	**06 02 07.0**	**0.0**
URZ				SN	**S**	**06 02 35.9**	**-0.7**
URZ				AML	AML	06 02 39.8	
URZ	**Urewera**	**1.13**	**171**	P	**Pn**	**06 02 07.0**	**0.0**
	48nm,0.3s,baz=229,slow=4.8,SNR=139						
URZ				S	**S**	**06 02 35.0**	**-1.6**
	114nm,0.3s,baz=154,slow=12,SNR=20						
MXZ	**Matakaoa Point**	**1.21**	**111**	PN	**Pn**	**06 02 06.5**	**-1.0**
MXZ				SN	**S**	**06 02 34.3**	**-3.2**
MXZ				AML	AML	06 02 36.8	

MXZ				AML	AML	06 02 36.8
MXZ				AML	AML	06 02 38.4
MXZ	**Matakaoa Point**	**1.21 111**	Pn	**Pn**	**06 02 06.5 -1.0**	
RRRZ	**Republican Roa**	**1.23 194**	PN	**Pn**	**06 02 08.5 +0.9**	
RRRZ	**Republican Roa**	**1.23 194**	Pn	**Pn**	**06 02 08.7 +1.0**	
TOZ	**Tahuroa Road**	**1.24 242**	⇓PN	**Pn**	**06 02 09.0 +1.3**	
TOZ	**Tahuroa Road**	**1.24 242**	Pn	**Pn**	**06 02 09.0 +1.3**	
MWZ	**Matawai**	**1.29 157**	⇑PN	**Pn**	**06 02 08.3 +0.2**	
MWZ				AML	AML	06 02 41.9
MWZ				AML	AML	06 02 42.4
MWZ				AML	AML	06 02 45.0
MWZ				AML	AML	06 02 51.2
MWZ	**Matawai**	**1.29 157**	Pn	**Pn**	**06 02 08.3 +0.2**	
HRRZ	**Handcock Road**	**1.33 201**	PN	**Pn**	**06 02 09.6 +1.3**	
HRRZ	**Handcock Road**	**1.33 201**	Pn	**Pn**	**06 02 09.8 +1.5**	
TWGZ	**Tauwhareparae**	**1.35 140**	⇑PN	**Pn**	**06 02 09.2 +0.7**	
MKAZ	**Moumakai**	**1.37 271**	PN	**Pn**	**06 02 08.8 +0.2**	
MKAZ	**Moumakai**	**1.37 271**	Pn	**Pn**	**06 02 08.6 0.0**	
WMGZ	**Waiomatatini S**	**1.39 119**	⇑PN	**Pn**	**06 02 08.6 -0.2**	
PRRZ	**Plateau Road**	**1.40 196**	PN	**Pn**	**06 02 09.8 +1.0**	
PRRZ	**Plateau Road**	**1.40 196**	Pn	**Pn**	**06 02 10.0 +1.2**	
RAGZ	**Rawiri**	**1.41 163**	Pn	**Pn**	**06 02 09.7 +0.7**	
PUZ	**Puketiti**	**1.43 131**	⇓PN	**Pn**	**06 02 09.0 -0.1**	
PUZ				AML	AML	06 02 38.0
PUZ				AML	AML	06 02 44.0
PUZ	**Puketiti**	**1.43 131**	Pn	**Pn**	**06 02 09.0 -0.1**	
ALRZ	**Allen Road**	**1.48 197**	*e*PN	**Pn**	**06 02 10.8 +1.5**	
ALRZ	**Allen Road**	**1.48 197**	Pn	**Pn**	**06 02 10.9 +1.6**	
TKGZ	**Te Karaka**	**1.50 150**	⇑PN	**Pn**	**06 02 10.0 +0.6**	
KUTZ	**Kaahu Road**	**1.58 212**	PN	**Pn**	**06 02 11.7 +1.7**	
TLZ	**Tolley Road**	**1.59 222**	PN	**Pn**	**06 02 12.3 +2.1**	
SNGZ	**Shannon Statio**	**1.67 168**	PN	**Pn**	**06 02 11.7 +1.0**	
CNGZ	**Carnagh Statio**	**1.70 142**	⇑PN	**Pn**	**06 02 11.9 +1.0**	
CNGZ	**Carnagh Statio**	**1.70 142**	Pn	**Pn**	**06 02 11.9 +1.0**	
RIGZ	**Rimuhau**	**1.71 156**	⇑PN	**Pn**	**06 02 12.1 +1.1**	
MRHZ	**Matea Rd**	**1.72 192**	PN	**Pn**	**06 02 12.1 +0.9**	
RAHZ	**Arahi**	**1.77 175**	PN	**Pn**	**06 02 12.9 +1.3**	
RAHZ	**Arahi**	**1.77 175**	Pn	**Pn**	**06 02 12.9 +1.3**	
WATZ	**Wairara**	**1.80 210**	PN	**Pn**	**06 02 13.7 +1.9**	
WATZ	**Wairara**	**1.80 210**	Pn	**Pn**	**06 02 13.7 +1.9**	
HATZ	**Hinemaiaia**	**1.85 199**	PN	**Pn**	**06 02 13.5 +1.3**	
HATZ	**Hinemaiaia**	**1.85 199**	Pn	**Pn**	**06 02 13.5 +1.3**	
RATZ	**Rangitukua**	**1.93 207**	PN	**Pn**	**06 02 14.5 +1.6**	
RATZ	**Rangitukua**	**1.93 207**	Pn	**Pn**	**06 02 14.5 +1.6**	
PRGZ	**Paritu Road**	**1.94 156**	PN	**Pn**	**06 02 13.8 +0.9**	
PRGZ	**Paritu Road**	**1.94 156**	Pn	**Pn**	**06 02 14.2 +1.2**	
WHHZ	**Waihua**	**1.95 172**	PN	**Pn**	**06 02 14.5 +1.5**	
NMHZ	**Naumai**	**1.95 182**	⇑PN	**Pn**	**06 02 14.9 +1.8**	
NMHZ	**Naumai**	**1.95 182**	Pn	**Pn**	**06 02 14.9 +1.8**	
KNZ	**Kokohu**	**1.97 162**	PN	**Pn**	**06 02 14.1 +0.9**	
KNZ	**Kokohu**	**1.97 162**	Pn	**Pn**	**06 02 14.1 +0.9**	
RITZ	**Rihia Road**	**2.00 203**	PN	**Pn**	**06 02 15.2 +1.8**	
RITZ	**Rihia Road**	**2.00 203**	Pn	**Pn**	**06 02 15.4 +2.0**	
BKZ	**Black Stump Fm**	**2.04 188**	⇑PN	**Pn**	**06 02 14.8 +1.0**	
BKZ				AML	AML	06 02 53.1
BKZ				AML	AML	06 02 54.5
BKZ	**Black Stump Fm**	**2.04 188**	Pn	**Pn**	**06 02 14.8 +1.0**	
KATZ	**Kakaramea**	**2.05 207**	*e*PN	**Pn**	**06 02 16.0 +2.0**	
HIZ	**Hauiti**	**2.10 229**	PN	**Pn**	**06 02 16.6 +2.3**	
HIZ	**Hauiti**	**2.10 229**	Pn	**Pn**	**06 02 16.7 +2.3**	
KRVZ	**Karewarewa**	**2.18 206**	PN	**Pn**	**06 02 16.8 +1.7**	
KRVZ	**Karewarewa**	**2.18 206**	Pn	**Pn**	**06 02 16.8 +1.7**	
WTVZ	**West Tongariro**	**2.21 207**	PN	**Pn**	**06 02 17.2 +1.8**	
WTVZ	**West Tongariro**	**2.21 207**	Pn	**Pn**	**06 02 17.2 +1.8**	
OTVZ	**Oturere**	**2.23 205**	PN	**Pn**	**06 02 17.5 +1.9**	
TWVZ	**Taurewa**	**2.23 210**	PN	**Pn**	**06 02 17.4 +1.8**	
MCHZ	**McNeill Hill**	**2.30 184**	⇑PN	**Pn**	**06 02 17.9 +1.8**	
MCHZ	**McNeill Hill**	**2.30 184**	Pn	**Pn**	**06 02 17.9 +1.8**	
KWHZ	**Kaweka Forest**	**2.30 189**	⇑PN	**Pn**	**06 02 17.7 +1.5**	
COVZ	**Chateau Observ**	**2.30 207**	PN	**Pn**	**06 02 18.1 +1.9**	
WPVZ	**Whakapapa**	**2.31 207**	PN	**Pn**	**06 02 18.2 +1.9**	
WPVZ	**Whakapapa**	**2.31 207**	Pn	**Pn**	**06 02 18.2 +1.9**	
TUVZ	**Tukino**	**2.33 204**	PN	**Pn**	**06 02 18.3 +1.7**	
TUVZ	**Tukino**	**2.33 204**	Pn	**Pn**	**06 02 18.3 +1.7**	
FWVZ	**Far West T-bar**	**2.35 206**	PN	**Pn**	**06 02 18.4 +1.5**	
FWVZ	**Far West T-bar**	**2.35 206**	Pn	**Pn**	**06 02 18.5 +1.6**	
WHVZ	**Whangaehu Hut**	**2.36 205**	⇑PN	**Pn**	**06 02 18.6 +1.6**	
DRZ	**Dome Shelter**	**2.36 206**	PN	**Pn**	**06 02 18.8 +1.7**	
DRZ	**Dome Shelter**	**2.36 206**	Pn	**Pn**	**06 02 19.1 +2.0**	
WCZ	**Waipu Caves**	**2.37 300**	PN	**Pn**	**06 02 15.8 -1.1**	
TRVZ	**Turoa**	**2.39 206**	PN	**Pn**	**06 02 19.1 +1.9**	
TRVZ	**Turoa**	**2.39 206**	Pn	**Pn**	**06 02 19.1 +1.9**	
BHHZ	**Black Hill Sta**	**2.42 195**	⇑PN	**Pn**	**06 02 18.6 +1.2**	
BHHZ	**Black Hill Sta**	**2.42 195**	Pn	**Pn**	**06 02 18.6 +1.2**	
MOVZ	**Moawhango**	**2.42 203**	PN	**Pn**	**06 02 18.5 +1.1**	
MOVZ	**Moawhango**	**2.42 201**	Pn	**Pn**	**06 02 18.6 +1.1**	
MTVZ	**Mangateitei**	**2.50 206**	PN	**Pn**	**06 02 19.8 +1.7**	
MTVZ	**Mangateitei**	**2.50 206**	Pn	**Pn**	**06 02 20.0 +1.9**	
KRHZ	**Kereru**	**2.52 189**	⇑PN	**Pn**	**06 02 19.5 +1.3**	
VRZ	**Vera Road**	**2.59 220**	PN	**Pn**	**06 02 21.5 +2.6**	
VRZ	**Vera Road**	**2.59 220**	Pn	**Pn**	**06 02 21.5 +2.6**	
PNHZ	**Pukenui**	**2.81 191**	⇑PN	**Pn**	**06 02 22.2 +1.0**	
PNHZ	**Pukenui**	**2.81 191**	Pn	**Pn**	**06 02 22.2 +1.0**	
PXZ	**Pawanui**	**2.88 180**	PN	**Pn**	**06 02 22.9 +1.2**	
PXZ				AML	AML	06 03 07.3
PXZ				AML	AML	06 03 07.3
PXZ				AML	AML	06 03 07.4
PXZ				AML	AML	06 03 11.7
PXZ	**Pawanui**	**2.88 180**	Pn	**Pn**	**06 02 22.9 +1.2**	
TSZ	**Takapari Road**	**3.00 194**	⇑PN	**Pn**	**06 02 24.1 +1.1**	
TSZ				AML	AML	06 03 13.1
TSZ				AML	AML	06 03 20.5
TSZ	**Takapari Road**	**3.00 194**	Pn	**Pn**	**06 02 24.1 +1.1**	
WAZ	**Wanganui**	**3.00 209**	PN	**Pn**	**06 02 24.7 +1.7**	
WAZ	**Wanganui**	**3.00 209**	Pn	**Pn**	**06 02 25.0 +1.9**	
LREZ	**Lake Rotokare**	**3.02 219**	PN	**Pn**	**06 02 26.1 +2.8**	
DVHZ	**Dannevirke**	**3.20 190**	PN	**Pn**	**06 02 25.9 +0.7**	
DVHZ	**Dannevirke**	**3.20 190**	Pn	**Pn**	**06 02 25.9 +0.7**	
OUZ	**Omahuta**	**3.28 305**	PN	**Pn**	**06 02 24.8 -1.3**	
OUZ	**Omahuta**	**3.28 305**	*e*Pn	**Pn**	**06 02 24.6 -1.5**	
ANWZ	**Angora Road**	**3.32 185**	⇑PN	**Pn**	**06 02 27.7 +1.2**	
POWZ	**Post Office Ro**	**3.36 195**	PN	**Pn**	**06 02 27.8 +0.9**	
POWZ	**Post Office Ro**	**3.36 195**	Pn	**Pn**	**06 02 27.9 +1.1**	
PRWZ	**Pori Road**	**3.48 191**	PN	**Pn**	**06 02 29.7 +1.4**	
BFZ	**Birch Farm**	**3.56 188**	⇓PN	**Pn**	**06 02 30.0 +0.8**	
BFZ	**Birch Farm**	**3.56 188**	Pn	**Pn**	**06 02 30.0 +0.8**	
MRZ	**Mangatainoka R**	**3.65 196**	PN	**Pn**	**06 02 30.7 +0.5**	
MRZ				AML	AML	06 03 24.6
MRZ				AML	AML	06 03 26.0
MRZ	**Mangatainoka R**	**3.65 196**	Pn	**Pn**	**06 02 30.7 +0.5**	
TIWZ	**Tintock**	**3.71 192**	PN	**Pn**	**06 02 31.5 +0.7**	
TIWZ				AML	AML	06 03 25.8
TIWZ				AML	AML	06 03 26.8
TIWZ	**Tintock**	**3.71 192**	Pn	**Pn**	**06 02 31.6 +0.8**	
CPWZ	**Castlepoint**	**3.79 188**	PN	**Pn**	**06 02 33.1 +1.4**	
HOWZ	**Holdsworth Sta**	**3.89 195**	PN	**Pn**	**06 02 33.3 +0.4**	
HOWZ	**Holdsworth Sta**	**3.89 195**	Pn	**Pn**	**06 02 33.4 +0.4**	
OGWZ	**Otaki Gorge**	**3.90 199**	⇑PN	**Pn**	**06 02 33.6 +0.7**	
OGWZ	**Otaki Gorge**	**3.90 199**	Pn	**Pn**	**06 02 33.6 +0.7**	
KIW	**Kapiti Island**	**4.01 202**	PN	**Pn**	**06 02 34.7 +0.5**	
KIW				AML	AML	06 03 31.0
KIW				AML	AML	06 03 34.0
KIW	**Kapiti Island**	**4.01 202**	Pn	**Pn**	**06 02 34.8 +0.5**	
TMWZ	**Te Maipa**	**4.03 191**	PN	**Pn**	**06 02 35.3 +0.8**	
TMWZ	**Te Maipa**	**4.03 191**	Pn	**Pn**	**06 02 35.3 +0.8**	
MTW	**Mount Morrison**	**4.15 195**	PN	**Pn**	**06 02 36.2 +0.4**	
MTW				AML	AML	06 03 33.0
MTW				AML	AML	06 03 34.5
MTW	**Mount Morrison**	**4.15 195**	Pn	**Pn**	**06 02 36.2 +0.4**	
CAW	**Cannon Point**	**4.20 199**	PN	**Pn**	**06 02 36.7 +0.3**	
CAW				AML	AML	06 03 36.3
CAW				AML	AML	06 03 36.4
CAW	**Cannon Point**	**4.20 199**	Pn	**Pn**	**06 02 36.8 +0.4**	
DUWZ	**D'Urville Isla**	**4.32 211**	PN	**Pn**	**06 02 38.1 +0.3**	
DUWZ	**D'Urville Isla**	**4.32 211**	Pn	**Pn**	**06 02 38.1 +0.3**	
TRWZ	**Traveller**	**4.35 192**	PN	**Pn**	**06 02 38.9 +0.8**	
TRWZ				AML	AML	06 03 37.6
TRWZ				AML	AML	06 03 42.8
TRWZ	**Traveller**	**4.35 192**	Pn	**Pn**	**06 02 38.9 +0.8**	
PAWZ	**Paruwai Farm**	**4.38 194**	PN	**Pn**	**06 02 38.6 +0.1**	
PAWZ				AML	AML	06 03 38.6
PAWZ				AML	AML	06 03 39.8
PAWZ	**Paruwai Farm**	**4.38 194**	Pn	**Pn**	**06 02 38.7 +0.2**	
MSWZ	**Moikau Station**	**4.45 196**	PN	**Pn**	**06 02 39.4 +0.1**	
MSWZ				AML	AML	06 03 38.4
MSWZ				AML	AML	06 03 40.3
WEL	**Wellington**	**4.45 201**	PN	**Pn**	**06 02 39.8 +0.5**	
WEL				AML	AML	06 03 40.8
WEL				AML	AML	06 03 40.9
WEL	**Wellington**	**4.45 201**	Pn	**Pn**	**06 02 39.8 +0.5**	
SNZO	**South Karori**	**4.49 201**	*e*Pn	**Pn**	**06 02 39.8 +0.1**	
SNZO			*e*Sn	**S**	**06 03 30.7 -5.0**	
BHW	**Baring Head**	**4.53 199**	PN	**Pn**	**06 02 40.2 0.0**	
BHW				AML	AML	06 03 39.8
BHW				AML	AML	06 03 42.6
BHW	**Baring Head**	**4.53 199**	Pn	**Pn**	**06 02 40.4 +0.1**	
TCW	**Tory Channel**	**4.54 206**	⇑PN	**Pn**	**06 02 40.6 +0.2**	
TCW				AML	AML	06 03 39.7
TCW				AML	AML	06 03 41.7
TCW	**Tory Channel**	**4.54 206**	Pn	**Pn**	**06 02 40.6 +0.2**	
PLWZ	**Palliser**	**4.59 195**	PN	**Pn**	**06 02 41.2 +0.1**	
PLWZ	**Palliser**	**4.59 195**	Pn	**Pn**	**06 02 41.3 +0.3**	
TUWZ	**Tuamarina**	**4.85 207**	⇓PN	**Pn**	**06 02 44.1 +0.1**	
TUWZ				AML	AML	06 03 47.3
TUWZ				AML	AML	06 03 47.6
TUWZ	**Tuamarina**	**4.85 207**	Pn	**Pn**	**06 02 44.1 +0.1**	
NNZ	**Nelson**	**4.89 213**	⇓PN	**Pn**	**06 02 44.6 0.0**	
NNZ	**Nelson**	**4.89 213**	Pn	**Pn**	**06 02 44.6 0.0**	
QRZ	**Quartz Range**	**5.00 221**	PN	**Pn**	**06 02 45.6 -0.3**	
QRZ	**Quartz Range**	**5.00 221**	Pn	**Pn**	**06 02 45.6 -0.3**	
CMWZ	**Cape Campbell**	**5.04 203**	PN	**Pn**	**06 02 47.1 +0.8**	
CMWZ				AML	AML	06 03 58.7
CMWZ				AML	AML	06 04 00.8
CMWZ	**Cape Campbell**	**5.04 203**	Pn	**Pn**	**06 02 47.4 +1.1**	
BSWZ	**Blackbirch Sta**	**5.12 206**	PN	**Pn**	**06 02 48.1 +0.8**	
BSWZ				AML	AML	06 03 53.4
BSWZ				AML	AML	06 03 58.7
BSWZ	**Blackbirch Sta**	**5.12 206**	Pn	**Pn**	**06 02 48.1 +0.8**	
THZ	**Tophouse**	**5.54 212**	PN	**Pn**	**06 02 52.1 -0.4**	
THZ	**Tophouse**	**5.54 212**	Pn	**Pn**	**06 02 52.1 -0.4**	
KHZ	**Kahutara**	**5.86 205**	PN	**Pn**	**06 02 56.8 +0.5**	
KHZ				AML	AML	06 04 09.4
KHZ				AML	AML	06 04 11.1
KHZ	**Kahutara**	**5.86 205**	*e*Pn	**Pn**	**06 02 56.8 +0.5**	
KHZ			*e*Sn	**S**	**06 04 08.5 +2.8**	
DSZ	**Denniston Nort**	**6.04 219**	⇓PN	**Pn**	**06 02 57.6 -1.0**	
DSZ	**Denniston Nort**	**6.04 219**	Pn	**Pn**	**06 02 57.6 -1.0**	
LTZ	**Lake Taylor**	**6.65 211**	*e*PN	**Pn**	**06 03 05.5 -0.6**	
LTZ	**Lake Taylor**	**6.65 211**	Pn	**Pn**	**06 03 06.1 0.0**	
OXZ	**Oxford**	**7.20 209**	⇑PN	**Pn**	**06 03 12.0 -0.9**	
CRLZ	**Canterbury Las**	**7.20 206**	*e*PN	**Pn**	**06 03 11.9 -0.9**	
MQZ	**McQueen's Vall**	**7.30 205**	PN	**Pn**	**06 03 13.5 -0.7**	
MQZ	**McQueen's Vall**	**7.30 205**	Pn	**Pn**	**06 03 13.4 -0.7**	
WVZ	**Waitaha Valley**	**7.56 217**	PN	**Pn**	**06 03 17.1 -0.3**	
WVZ	**Waitaha Valley**	**7.56 217**	Pn	**Pn**	**06 03 17.1 -0.3**	
RPZ	**Rata Peaks**	**7.92 212**	PN	**Pn**	**06 03 21.8 -0.2**	
RPZ	**Rata Peaks**	**7.92 212**	P	**Pn**	**06 03 22.0 0.0**	
	8.0nm,0.3s,baz=28,slow=1.9,SNR=34					
RPZ			S	**S**	**06 04 48.4 -4.2**	
	12nm,0.3s,baz=314,slow=23,SNR=22					
FOZ	**Fox Glacier**	**8.44 218**	PN	**Pn**	**06 03 26.2 -2.2**	
LBZ	**Lake Benmore**	**8.83 213**	PN	**Pn**	**06 03 32.6 -0.7**	
ODZ	**Otahua Downs**	**9.18 209**	PN	**Pn**	**06 03 38.5 +0.7**	
JCZ	**Jackson Bay**	**9.27 219**	PN	**Pn**	**06 03 37.3 -1.6**	
WKZ	**Wanaka**	**9.70 215**	PN	**Pn**	**06 03 43.7 -0.6**	
DZM	**Mont Dzumac**	**17.53 326**	P	**P**	**06 05 15.3 -1.1**	
	0.2nm,0.3s,baz=90,slow=20,SNR=4.2					
ASAR	**Alice Springs**	**39.10 278**	P	**P**	**06 08 33.1 +1.4**	
	0.6nm,0.5s,baz=117,slow=7.9,SNR=10					
WRA	**Warramunga Arr**	**40.74 283**	P	**P**	**06 08 45.7 +0.6**	
	0.5nm,0.5s,baz=121,slow=7.6,SNR=13					
FINES	**FINESS Array B**	**149.60 332**	PKPbc	**PKPdf**	**06 20 44.6 +2.7**	
	1.8nm,1.0s,baz=46,slow=4.0,SNR=4.1					

NIED ***28*** *06:04:00,36˚.70N×142˚.30E,h20km,Mw3.7 Best double couple: M₀3.46000×10¹⁴ NP1:φs212.00000°,δ23.00000°, λ106.00000°. NP2:φs15.00000°,δ68.00000°,λ83.00000°.*

ISCJB ***28*** *06:04:47.3±2.1,36˚.70N±0˚.04×142˚.33E±0˚.08, h19km±20km,mb3.4/3,MS2.5/1,Error ellipse: s-maj=11.7km s-min=6.4km az=17.4*

JMA ***28*** *06:04:47.6±0.3,36˚.70N×142˚.34E,h28km,M3.5*

IDC ***28*** *06:04:50.7±1.4,37˚.23N×142˚.03E,h0km,mb3.5/3, mb1 3.7/5,mb1mx3.5/34,mbtmp3.6/5,ML3.7/1,MS2.7/3, Ms1 2.7/3,ms1mx2.4/33,Error ellipse: s-maj=35.7km s-min=26.2km az=115.0*

ISC 28 06:04:47.1±2.4,36.73N±0.05×142.22E±0.08,h2km±14km, n23,σ0.78/24,mb3.5/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.20 289**		P	**Pg**	**06 05 09.7**	**-0.5**
JFK	**Kawauchi**	**1.25 301**		P	**Pg**	**06 05 11.3**	**+0.1**
JFK	**Hitachi**	**1.35 266**		P	**Pn**	**06 05 12.2**	**-0.6**
JMM	**Marumori**	**1.61 315**		P	**Pn**	**06 05 16.1**	**-0.5**
JFT	**Otama**	**1.70 298**		P	**Pn**	**06 05 18.2**	**+0.4**
JFT				S	**Sb**	**06 05 41.6**	**+0.6**
JAG	**Ashikaga**	**2.25 263**		P	**Pn**	**06 05 25.6**	**+0.2**
BSO1	**Boso 1**	**2.30 206**		P	**Pn**	**06 05 25.2**	**-0.4**
BSO1				S	**Sn**	**06 05 53.4**	**-0.8**
JMK	**Ichinoseki**	**2.36 341**		P	**Pn**	**06 05 27.2**	**+0.4**
JMK				S	**Sn**	**06 05 56.1**	**-0.2**
JYK	**Kaneyama**	**2.64 327**		P	**Pn**	**06 05 31.0**	**+0.3**
JRY	**Ryogami san**	**2.77 256**		P	**Pn**	**06 05 32.7**	**+0.1**
JRY				S	**Sn**	**06 06 06.7**	**+0.1**
JOM	**Ohasama**	**2.84 345**		P	**Pn**	**06 05 33.5**	**+0.1**
JOM				S	**Sn**	**06 06 07.6**	**-0.6**
JOD2	**Odawara 2**	**2.93 241**		P	**Pn**	**06 05 34.6**	**-0.1**
MJAR	**Matsushiro Arr**	**3.23 268**		Pn	**Pn**	**06 05 40.5**	**+1.6**
	8.4nm,0.3s,baz=102,slow=11,SNR=35						
MJAR				Sn	**Sb**	**06 06 24.8**	**-0.3**
	1.9nm,0.3s,baz=131,slow=15,SNR=7.1						
MJAR				LR	LR	06 07 09.6	
	comp=Z,80nm,18.3s,baz=110,slow=45						
MAT	**Matsushiro**	**3.24 268**		P	**Pn**	**06 05 40.5**	**+1.6**
MAT				*e*S	**Sn**	**06 06 16.4**	**-1.6**
ASAJ	**Asahikawa**	**7.39 2**		Pn	**Pn**	**06 06 34.9**	**-1.1**
	baz=268,slow=13						
KSRS	**Korea Array**	**11.45 278**		LR	LR	06 11 47.9	
	comp=Z,45nm,18.7s,baz=166,slow=37						
YAK	**Yakutsk**	**26.51 347**		LR	LR	06 20 45.3	
	comp=Z,15nm,21.2s,baz=293,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.43 121**		T	T	06 39 14.3	
	baz=314,slow=75,SNR=7.9						
H11N1	**WAKE ISLAND Hy**	**27.44 121**		T	T	06 39 13.5	
	baz=314,slow=75,SNR=7.6						
H11N3	**WAKE ISLAND Hy**	**27.45 121**		T	T	06 39 15.6	
	baz=314,slow=75,SNR=5.7						
SONM	**Songino Array**	**28.50 304**		P	**P**	**06 10 44.5**	**+0.7**
	0.6nm,0.6s,baz=91,slow=8.8,SNR=5.1						
ILAR	**Eielson Array**	**49.41 32**		P	**P**	**06 13 38.0**	**0.0**
	0.2nm,0.7s,baz=261,slow=6.0,SNR=5.0						
WRA	**Warramunga Arr**	**56.85 189**		P	P	06 14 40.8	+7.6
	0.3nm,0.5s,baz=0.9,slow=7.5,SNR=5.9						

DJA 28 06:04:47.5±0.6,3˚S±3˚×13˚0E±˚,h15km±5km,M3.8/11, MLv3.8/11,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.82 248**		P	Pg	06 05 01.2	-2.3
MSAI				S	Sg	06 05 13.6	-0.7
BNDI	**Bandanaira**	**1.49 172**		P	Pn	06 05 11.9	-1.8
BNDI				S	Sn	06 05 33.0	+0.1
AAI	**Ambon**	**1.62 247**		P	Pn	06 05 14.8	-0.8
FAKI	**Fak Fak**	**2.56 87**		P	Pn	06 05 28.7	+0.2
FAKI				S	Sn	06 06 00.0	+0.6
NLAI	**Namlea**	**2.59 266**		P	Pn	06 05 30.1	+1.2
SWI	**Sorong**	**2.67 36**		P	Pn	06 05 30.3	+0.3
SWI				S	Sn	06 06 03.4	+1.3
LBMI	**Labuha**	**3.24 317**		P	Pn	06 05 38.8	+1.0
LBMI				S	Sn	06 06 17.9	+1.7
SANI	**Sanana**	**3.83 285**		P	Pn	06 05 44.8	-1.1
SANI				S	Sn	06 06 29.4	-1.3
RKPI	**Ransiki, Papua**	**4.73 71**		P	Pn	06 05 59.4	+1.0

ISCJB ***28*** *06:14:14.8±0.6,24˚.15S±0˚.05×67˚.25W±0˚.09,h181km, mb3.4/4,Error ellipse: s-maj=11.5km s-min=6.6km az=164.5*

SJA ***28*** *06:14:14.3±0.8,24˚.11S×66˚.83W,h227km±8km,ML3.0*

IDC ***28*** *06:14:15.2±1.1,24˚.11S×66˚.72W,h191km±9km,mb3.2/4, mb1 3.5/8,mb1mx3.3/26,mbtmp3.8/8,MS3.0/1,Ms1 3.0/1, ms1mx2.5/7,Error ellipse: s-maj=17.7km s-min=13.6km az=31.0*

ISC 28 06:14:14.6±0.8,24˚.15S±0˚.06×67˚.1W±0˚.1,h181km,n23, σ1.92/21,mb3.4/4,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.60 111**		*e*P	**Pn**	**06 14 50.0**	**+2.2**
SLA				*e*S	**Sn**	**06 15 16.5**	**+3.0**
SLA				AML	AML	06 15 18.5	
	comp=Z,141nm,0.7s						
HJA	**Humahuaca**	**1.84 60**		*e*P	**Pn**	**06 14 51.9**	**+1.4**
AZAP	**Zapla**	**1.90 93**		*e*P	**Pn**	**06 14 51.8**	**+0.9**
FSA	**Cafayete**	**2.19 152**		*e*P	**Pn**	**06 14 56.6**	**+2.6**
LVC	**Limon Verde**	**2.23 313**		P	Pn	06 15 00.1	+5.5
	comp=Z,2μm,0.3s,baz=132,slow=7.6,SNR=190						
LVC				S	Sn	06 15 32.7	+7.1
	comp=Z,2μm,0.3s,baz=101,slow=11,SNR=40						
LVC				LR	LR	06 15 49.0	
	comp=Z,260nm,19.2s,baz=220,slow=38						
LVC	**Limon Verde**	**2.23 313**		*e*P	Pn	06 15 00.0	+5.4
ASTB	**Santa Barbara**	**2.44 86**		*e*P	**Pn**	**06 14 57.2**	**+0.4**
YJA	**Yavi**	**2.47 38**		*e*P	**Pn**	**06 14 59.3**	**+1.8**
ALOL	**LOMAS DE OLMED**	**2.92 84**		*e*P	**Pn**	**06 15 02.0**	**-0.3**
AHML	**Horco Molle**	**3.09 149**		*e*P	**Pn**	**06 15 05.6**	**+1.2**
AHML				AML	AML	06 15 46.5	
	comp=Z,12nm,0.6s						
CYA	**Choya**	**4.44 165**		*e*P	**Pn**	**06 15 23.1**	**+1.7**
CFAA	**Coronel Fontan**	**7.49 187**		P	**Pn**	**06 16 02.6**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=338,slow=5.0,SNR=19						
CFAA				S	**Sn**	**06 17 22.5**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=117,slow=23,SNR=13						
LPAZ	**La Paz**	**7.88 353**		P	**Pn**	**06 16 08.4**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=110,slow=5.1,SNR=14						
LPAZ				S	**Sn**	**06 17 35.7**	**0.0**
	comp=Z,0.4nm,0.3s,baz=24,slow=7.4,SNR=5.5						
CPUP	**Villa Florida**	**9.14 106**		P	Pn	06 16 19.1	-3.8
	comp=Z,0.2nm,0.3s,baz=296,slow=11,SNR=5.8						
SIV	**San Ignacio**	**9.92 36**		P	**Pn**	**06 16 30.9**	**-2.3**
	comp=Z,0.8nm,0.3s,baz=225,slow=13,SNR=7.4						
BDFB	**Brasilia**	**19.86 68**		P	**P**	**06 18 28.3**	**-3.8**
	comp=Z,0.9nm,0.3s,baz=237,slow=10,SNR=13						
TXAR	**Lajitas Array**	**63.72 325**		P	**P**	**06 24 28.2**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=155,slow=8.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**76.74 69**		P	P	06 25 43.1	-3.3
	comp=Z,0.4nm,0.4s,baz=252,slow=5.9,SNR=12						
PDAR	**Pinedale Array**	**77.21 329**		P	**P**	**06 25 49.4**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=146,slow=9.8,SNR=2.5						
YKA	**Yellowknife Ar**	**94.22 340**		P	**P**	**06 27 12.7**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=132,slow=4.9,SNR=3.3						
ASAR	**Alice Springs**	**128.27 205**		PKP	**PKPdf**	**06 32 59.6**	**-0.6**

WRAB eP cP P 06 36 42.9 -0.4
WRA Warramunga Arr 31.95 254 P P 06 33 51.6 -1.9
comp=Z,10nm,0.5s,baz=85,slow=9.3,SNR=136
WRA PcP PcP 06 36 42.5 -0.9
comp=Z,6.0nm,0.9s,baz=79,slow=2.7,SNR=12
WRA LR LR 06 46 31.5
comp=Z,656nm,18.8s,baz=80,slow=36
WRA Warramunga Arr 31.95 254 *i* P P 06 33 51.5 -2.0
WRA pmax pmax
comp=Z,10.0nm,0.5s
RAR Rarotonga 32.52 108 LR LR 06 44 18.2
comp=Z,190nm,21.8s,baz=270,slow=31
AS31 Alice Springs 32.94 247 eP P 06 34 00.3 -1.9
AS31 eP cP PcP 06 36 45.5 -0.6
ASAR Alice Springs 32.94 247 P P 06 34 00.3 -1.9
comp=Z,12nm,0.6s,baz=73,slow=9.4,SNR=165
ASAR PcP PcP 06 36 45.5 -0.7
comp=Z,4.8nm,0.6s,baz=79,slow=2.4,SNR=14
ASAR ScP ScP 06 40 26.1 -1.7
comp=Z,1.9nm,0.9s,baz=82,slow=3.5,SNR=10.0
ASAR LR LR 06 46 19.8
comp=Z,378nm,21.9s,baz=78,slow=34
SWI Sorong 37.60 287 P P 06 34 42.4 +0.1
FORT Forrest 39.77 238 eP P 06 34 59.4 -0.9
NLAI Namlea 40.76 281 P P 06 35 09.2 +0.4
LBMI Labuha 41.20 285 P P 06 35 13.4 +1.0
comp=Z,194nm,0.8s,comp=Z,1µm
PPT2 Papeete2 41.91 101 eS S 06 41 34.5 -0.1
comp=Z,59nm,24.8s
PPT2 eLR LR 06 47 01.9
comp=Z,672nm,29.0s
PPT Papeete 41.91 101 LR LR 06 49 31.1
comp=Z,62nm,21.6s,baz=304,slow=31
SANI Sanana 42.17 282 P P 06 35 20.4 0.0
TBI Tubuai 42.26 110 eLR LR 06 47 00.4
comp=Z,385nm,25.0s
KMSI Cibinong 44.91 285 P P 06 35 43.0 +0.5
comp=Z,275nm,1.2s
MBWA Marble Bar 45.69 254 eP P 06 35 48.1 -0.4
comp=Z,11nm,0.5s
MBWA eP cP PcP 06 37 25.2 -1.1
APSI Ampana 46.65 282 P P 06 35 56.5 +0.3
MRSI Marisa 46.81 284 P P 06 35 58.8 +1.4
comp=Z,28nm,0.9s
CBIJ Chichi jima 47.02 329 P P 06 35 57.1 -1.7
JCJ Chichijima 47.02 329 P P 06 35 57.1 -1.7
comp=Z,11nm,0.4s,baz=278,slow=19,SNR=6.2
JCJ LR LR 06 55 36.5
comp=Z,40nm,19.6s,baz=237,slow=36
KAPI Kappang 47.37 276 eP P 06 36 02.2 +0.3
comp=Z,22nm,0.7s
TTSI Tana Toraja 47.80 278 P P 06 36 05.5 +0.3
comp=Z,21nm,1.3s,comp=Z,1µm
PCI Palu 48.38 281 P P 06 36 10.9 +1.2
comp=Z,131nm,1.2s,comp=Z,1µm
MPSI Mapaga 48.70 283 P P 06 36 11.6 -0.5
IGBI Denpasar 51.07 269 P P 06 36 30.0 -0.1
KBKI Kotabaru 51.26 277 P P 06 36 31.7 +0.2
TSM Tawau 51.92 286 ⇑P P 06 36 34.2 -2.2
JAGI Jajag, Banyuwa 52.10 270 P P 06 36 36.4 -1.5
ABJI Asem Bagus 52.15 271 P P 06 36 39.2 +1.0
SDKM Sandakan 53.03 288 ⇑P P 06 36 41.3 -3.5
KDM Kudat 53.84 289 ⇑P P 06 36 48.5 -2.1
KKM Kota Kinabalu 54.09 288 ⇑P P 06 36 49.8 -2.7
KKM Kota Kinabalu 54.09 288 eP P 06 36 51.9 -0.7
comp=Z,44nm,0.7s
JOW Kunigami 55.01 317 P P 06 36 59.8 +0.9
comp=Z,5.0nm,0.7s,baz=170,slow=7.1,SNR=14
MJAR Matsushiro Arr 56.72 332 P P 06 37 10.6 -0.4
comp=Z,10nm,0.7s,baz=171,slow=8.5,SNR=12
MJAR LR LR 07 03 37.2
comp=Z,19nm,18.4s,baz=85,slow=38
MAJO Matsushiro 56.72 332 *d i* P P 06 37 10.6 -0.4
MAJO pmax pmax
comp=Z,77nm,1.0s
MAJO Matsushiro 56.72 332 eP P 06 37 10.7 -0.3
MAT Matsushiro 56.72 332 P P 06 37 10.7 -0.3
KSM Kuching 58.18 280 eP P 06 37 22.2 +0.4
comp=Z,23nm,1.0s
TPUB Ta-pu 58.32 308 eP P 06 37 22.0 -0.5
comp=Z,17nm,0.8s
CISI Cisompet, Garu 58.44 269 eP P 06 37 22.6 -1.0
comp=Z,70nm,0.6s
YHNB Yeheng 58.53 310 eP P 06 37 24.0 -0.1
comp=Z,48nm,0.8s
ERM Erimo 59.46 339 *d i* P P 06 37 31.0 +1.0
ERM pmax pmax
comp=Z,4.0nm,0.6s
ASAJ Asahikawa 61.52 340 P P 06 37 45.0 +1.0
baz=270,slow=20
VNDA Vanda 64.09 181 P P 06 38 00.9 +0.2
comp=Z,3.7nm,0.8s,baz=354,slow=7.5,SNR=28
VNDA LR LR 07 00 59.5
comp=Z,39nm,21.8s,baz=302,slow=31
VNDA Vanda 64.09 181 eP P 06 38 01.0 +0.2
VNDA Vanda 64.09 181 eP P 06 38 01.0 +0.2
SBA Scott Base 64.37 180 eP P 06 38 03.8 +1.3
SBA pmax pmax
comp=Z,11nm,0.9s
SBA Scott Base 64.37 180 eP P 06 38 03.8 +1.3
comp=Z,11nm,0.9s
NJ2 Nanjing 64.66 316 eP P 06 38 06.5 +1.4
NJ2 pP pP 06 38 13.5 -2.4
NJ2 sP sP 06 38 17.5 -2.5
NJ2 PMZ
comp=Z,60nm,0.9s
QIZ Qiongzhong 64.97 299 P P 06 38 08.3 +0.9
QIZ S S 06 46 48.5 +1.2
QIZ PMZ
comp=Z,19nm,0.9s
USRK Ussuriysk Ar. 65.70 333 P P 06 38 12.4 +0.8
comp=Z,13nm,0.9s,baz=136,slow=6.2,SNR=19
PETK Petropavlovsk- 66.82 354 P P 06 38 19.2 +0.5
comp=Z,4.4nm,0.6s,baz=134,slow=8.5,SNR=6.0
PETK LR LR 07 02 19.1
comp=Z,35nm,20.9s,baz=178,slow=31
WHN Wuhan 66.97 312 P P 06 38 20.3 +0.2
MDJ Mudanjiang 67.10 332 P P 06 38 21.8 +1.2
MDJ PMZ
comp=Z,18nm,1.0s
MDJ PMZ
comp=Z,40nm,5.9s
IPM Ipoh 67.92 281 eP P 06 38 26.5 0.0
comp=Z,36nm,1.0s
TIA Tai'an 68.28 318 ⇑P P 06 38 28.3 0.0
TIA PMZ
comp=Z,30nm,1.0s
CN2 Changchun 68.49 329 ⇑P P 06 38 29.8 +0.4
CN2 PMZ
comp=Z,30nm,0.8s
CN2 PMZ
comp=Z,90nm,4.0s
SKNT Sakolnakorn 69.25 294 P P 06 38 34.8 +0.1
comp=Z,49nm,1.3s
KLR Kul'dur 69.80 336 eP P 06 38 34.8 -2.6
ENH Enshi 70.43 309 eP P 06 38 41.7 -0.1
comp=Z,9.5nm,0.3s
SURA Surathani 70.61 285 P P 06 38 44.5 +1.4
comp=Z,44nm,0.9s
NAYO Nakonayok 70.70 291 P P 06 38 44.6 +1.0
comp=Z,16nm,1.0s
GYA Guiyang 70.85 304 P P 06 38 46.0 +1.5
GYA pP pP 06 38 56.5 +1.1
GYA sP sP 06 39 02.5 +3.1
GYA PP PP 06 41 25.3 +3.3
GYA S S 06 47 58.0 +0.3
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,520nm,19.8s
GYA LE
comp=Z,540nm,20.2s
GYA LZ
comp=Z,500nm,19.6s
BJI Beijing 71.18 321 P P 06 38 46.0 0.0
BJI PMZ
comp=Z,40nm,0.7s
BJI PMZ
comp=Z,92nm,3.7s
BJI LN
comp=Z,130nm,23.2s
BJI LE
comp=Z,110nm,26.2s
BJI LZ
comp=Z,110nm,25.5s
PBKT Sadao Pong 71.80 293 P P 06 38 50.9 +0.7
comp=Z,21nm,1.1s
LOEI Loei 71.87 294 P P 06 38 48.8 -1.8
comp=Z,17nm,0.9s
UTTA Uttaradit 72.58 294 P P 06 38 55.9 +1.0
comp=Z,7.0nm,0.9s
XAN Xi'an 72.71 312 P P 06 38 55.5 +0.1
XAN PMZ
comp=Z,7.0nm,0.8s
XAN PMZ
comp=Z,18nm,7.2s
UTHA Uthaitani 72.83 291 P P 06 38 57.2 +0.8
comp=Z,9.1nm,0.9s
KMI Kunming 73.49 302 P P 06 39 01.5 +1.1
KMI pP pP 06 39 12.0 +0.7
KMI sP sP 06 39 16.0 +0.6
KMI S SKiKP 06 48 29.5 +0.7
KMI PMZ
comp=Z,33nm,1.1s
KMI PMZ
comp=Z,94nm,3.7s
KMI LN
comp=Z,70nm,16.2s
KMI LE
comp=Z,98nm,17.7s
KMI LZ
comp=Z,83nm,26.1s
LAMP Lampang 73.68 294 P P 06 39 02.1 +0.7
comp=Z,22nm,0.8s
CM31 Chiang Mai Arr 74.27 294 eP P 06 39 05.9 +1.1
comp=Z,26nm,0.8s
CMAR Chiang Mai Arr 74.27 294 P P 06 39 05.7 +0.9
comp=Z,23nm,0.8s,baz=125,slow=4.5,SNR=68
CMAR LR LR 07 10 31.2
comp=Z,20nm,20.6s,baz=162,slow=35
CMAR Chiang Mai Arr 74.27 294 *i* P P 06 39 05.6 +0.8
CMAR pmax pmax
comp=Z,23nm,0.8s
CMMT Chiang Mai 74.39 294 P P 06 39 05.9 +0.4
comp=Z,35nm,1.0s
CHTO Chiang Mai 74.39 294 P P 06 39 06.0 +0.5
comp=Z,123nm,1.0s
CHTO Chiang Mai 74.39 294 eP P 06 39 06.0 +0.5
CHTO pmax pmax
comp=Z,23nm,1.1s
CHTO Chiang Mai 74.39 294 eP P 06 39 06.0 +0.5
comp=Z,23nm,1.1s
HHC Hu-ho-hao-te 74.52 320 eP P 06 39 07.3 +1.3
HHC sP sP 06 39 24.0 +3.1
HHC SKS SKSac 06 49 08.5 -3.2
HHC PMZ
comp=Z,26nm,1.2s
HHC PMZ
comp=Z,67nm,7.5s
HHC LN
comp=Z,220nm,17.4s
HHC LE
comp=Z,190nm,17.8s
HHC LZ
comp=Z,210nm,17.4s
CMAI Chiengmai2 74.69 295 P P 06 39 08.1 +0.6
comp=Z,20nm,1.0s
CD2 Chengdu 75.10 307 eP P 06 39 10.3 +0.8
CD2 pP pP 06 39 21.0 +0.6
CD2 sP sP 06 39 25.5 +1.0
CD2 PP PP 06 41 58.5 +0.4
CD2 S S 06 48 47.0 +1.3
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
HIA Hailar 75.12 330 ⇑ *i* P P 06 39 09.7 +0.5
HIA pmax pmax
comp=Z,20nm,0.9s
HIA Hailar 75.12 330 eP P 06 39 09.5 +0.4
comp=Z,13nm,0.8s
QSPA South Pole Qui 76.53 180 eP P 06 39 17.0 -0.1
comp=Z,16nm,0.8s
SEY Seymchan 77.04 353 P P 06 39 20.2 +0.5
comp=Z,16nm,0.6s,baz=157,slow=6.0,SNR=50
SEY Seymchan 77.04 353 ⇑ *i* P P 06 39 20.1 +0.4
LZH Lanzhou 77.34 312 eP P 06 39 23.0 +0.7
LZH pP pP 06 39 35.5 +2.3
LZH sP sP 06 39 40.3 +3.0
LZH PMZ
comp=Z,67nm,1.2s
LZH PMZ
comp=Z,310nm,5.0s
KDAK Kodiak Island 78.39 21 *c* eP P 06 39 29.8 +2.5
SONM Songino Array 81.39 324 P P 06 39 44.2 +0.2
comp=Z,5.7nm,0.8s,baz=147,slow=5.7,SNR=26
SONM LR LR 07 15 45.3
comp=Z,32nm,19.0s,baz=272,slow=36
GTA Gaotai 81.67 314 ⇑P P 06 39 46.5 +0.8
GTA pP pP 06 39 57.0 +0.3
GTA sP sP 06 40 01.0 +0.2
GTA S S 06 49 56.5 +0.5
GTA SKS SKSac 06 49 58.5 -4.7
GTA sS ScS 06 50 13.5 +0.5
GTA PMZ
comp=Z,21nm,1.0s
GTA PMZ
comp=Z,81nm,5.5s
GTA LN
comp=Z,59nm,20.4s
GTA LE
comp=Z,71nm,20.4s
GTA LZ
comp=Z,63nm,20.4s
MAW Mawson 82.95 202 P P 06 39 51.5 -0.2
comp=Z,4.4nm,0.6s,baz=104,slow=7.3,SNR=12
MAW LR LR 07 10 10.4
comp=Z,85nm,21.1s,baz=62,slow=31
MAW Mawson 82.95 202 eP P 06 39 51.4 -0.3
MAW pmax pmax
comp=Z,1.0nm,1.0s
MAW Mawson 82.95 202 eP P 06 39 51.4 -0.3
comp=Z,1.4nm,1.0s
TRF Thorofare Moun 83.43 18 eP P 06 39 54.2 -0.1
comp=Z,7.2nm,0.7s
BPAW Bear Paw Mtn. 83.72 17 eP P 06 39 55.8 +0.2
comp=Z,0.4nm,0.7s
MCK McKinley 84.05 18 eP P 06 39 57.6 +0.3
MCK pmax pmax
comp=Z,13nm,1.0s
MCK McKinley 84.05 18 eP P 06 39 57.6 +0.3
comp=Z,13nm,1.0s
ZAK Zakamensk 84.43 325 ⇑ *i* P P 06 39 59.5 -0.2
ZAK pmax pmax
comp=Z,10.0nm,1.2s
LSA Lhasa 84.74 302 P P 06 40 02.5 +0.3
LSA Lhasa 84.74 302 eP P 06 40 03.0 +0.8
LSA pmax pmax
comp=Z,15nm,0.7s
LSA Lhasa 84.74 302 eP P 06 40 03.0 +0.8
comp=Z,15nm,0.7s
TLY Talaya 84.86 326 P P 06 40 00.7 -1.0
comp=Z,9.1nm,0.7s,baz=124,slow=2.2,SNR=9.8
TLY Talaya 84.86 326 eP P 06 40 01.4 -0.3
TLY pmax pmax
comp=Z,12nm,0.6s
COLA College 85.20 18 *c i* P P 06 40 02.4 -0.7
COLA pmax pmax
comp=Z,54nm,0.9s
COLA College 85.20 18 eP P 06 40 02.9 -0.2
comp=Z,13nm,0.8s
ILAR Eielson Array 85.42 18 P P 06 40 03.4 -0.8
comp=Z,6.0nm,0.6s,baz=238,slow=4.9,SNR=98
ILAR LR LR 07 13 36.5
comp=Z,117nm,20.1s,baz=226,slow=32
COLD Coldfoot 86.30 15 eP P 06 40 10.0 +1.5
comp=Z,8.5nm,1.0s
NVAR Mina Array Bea 86.62 49 P P 06 40 12.2 +1.2
comp=Z,0.8nm,0.7s,baz=232,slow=8.9,SNR=9.2
TAPN Taplejung 86.91 299 eP P 06 40 12.7 -0.1
comp=Z,24nm,0.8s
ODAN Odare 87.04 298 eP P 06 40 13.2 -0.2
comp=Z,88nm,0.8s
EGAK Eagle 87.23 20 eP P 06 40 14.1 +1.1
comp=Z,4.6nm,0.8s
RAMN Ramite 87.74 298 eP P 06 40 16.3 -0.5
comp=Z,35nm,0.6s
GUN Gumba 88.62 299 eP P 06 40 20.8 -0.2
comp=Z,64nm,0.7s
TIXI Tiksi 88.72 349 ⇑ eP P 06 40 19.4 -0.6
TIXI pmax pmax
comp=Z,3.0nm,1.0s
PKI Pulchoki 88.93 299 eP P 06 40 21.9 -0.6
comp=Z,71nm,0.7s
PKIN Phulchoki 88.94 299 eP P 06 40 22.2 -0.3
comp=Z,21nm,0.7s
KKN Kakani 89.10 299 eP P 06 40 22.6 -0.5
comp=Z,55nm,0.7s
DMN Daman 89.20 299 eP P 06 40 23.4 -0.3
comp=Z,113nm,0.7s
PVM Polavaram 89.68 288 eP P 06 40 24.8 -0.9
GKN Gorkha 89.71 299 eP P 06 40 24.9 -1.0
comp=Z,68nm,0.7s
SYO Syowa Base 89.83 197 ⇑ eP P 06 40 23.5 -1.9
SYO Syowa Base 89.83 197 ⇑ eS P sP 06 40 40.0 -0.6
KOLN Koldanda 90.53 298 eP P 06 40 28.6 -1.2
comp=Z,21nm,0.8s
SKHT Srikalahasti 90.63 284 eP P 06 40 30.0 -0.3
NJS Nagarjunasagar 91.67 287 eP P 06 40 34.2 -0.8
WMQ Urumqi 91.72 315 P P 06 40 35.0 +0.2
WMQ pP pP 06 40 45.5 -0.4
WMQ sP sP 06 40 49.5 -0.4
WMQ PP PP 06 44 16.0 +2.0
WMQ S S 06 51 30.5 -2.6
WMQ sS sS 06 51 47.8 -3.8
WMQ PMZ
comp=Z,10.0nm,0.6s
WMQ PMZ
comp=Z,100nm,5.4s
WMQ LN
comp=Z,84nm,12.0s
WMQ LE
comp=Z,82nm,10.0s
WMQ LZ
comp=Z,34nm,19.1s
RCLA Racherla 91.74 285 eP P 06 40 34.7 -0.7
SRLM Srisailam 91.95 286 eP P 06 40 35.5 -0.9
RPR Rampur 92.21 289 eP P 06 40 37.1 -0.4
RPR eP pP pP 06 40 51.7 +3.1
JLU Jordanelle 92.33 49 P P 06 40 37.0 -1.0
comp=Z,0.5nm,0.4s
HYB Hyderabad 92.57 287 *i* P P 06 40 37.5 -1.7
HYBB Hyderabad (bro 92.57 287 eP P 06 40 38.0 -1.2
SRSP Sriramsagar 93.10 289 eP P 06 40 40.4 -1.3
URV Uravakonda 93.22 285 eP P 06 40 41.4 -0.8
NVL N'lazarevskaya 94.24 188 eP P 06 40 44.3 -1.6
NVL pmax pmax
comp=Z,9.0nm,0.8s
PDAR Pinedale Array 94.26 47 P P 06 40 48.7 +1.9
comp=Z,0.2nm,0.7s,baz=193,slow=3.2,SNR=2.4
KLRI Killari 94.53 287 eP P 06 40 47.0 -1.2
SNAA Sanae 94.77 183 P P 06 40 43.8 -4.6
SNAA Sanae 94.77 183 *i* P P 06 40 44.1 -4.3
SNAA pmax pmax
comp=Z,12nm,1.0s
SNAA Sanae 94.77 183 eP P 06 40 43.7 -4.6
comp=Z,13nm,1.1s
ANMO Albuquerque 94.77 55 eP P 06 40 46.9 -2.3
ANMO pmax pmax
comp=Z,5.0nm,1.1s
TXAR Lajitas Array 95.87 61 PKKPbc PKKPbc 06 57 43.0 -0.7
comp=Z,0.3nm,0.7s,baz=91,slow=4.7,SNR=4.9
TXAR LR LR 07 15 48.5
comp=Z,56nm,21.6s,baz=0.0,slow=30
MK31 Makanchi Array 96.17 317 eP P 06 40 55.0 -0.1
MK31 Makanchi Array 96.17 317 eP P 06 40 55.0 -0.1
ZAA0 Zalesovo Array 96.28 324 eP P 06 40 54.2 -1.1
ZALV Zalesovo Beam 96.28 324 P P 06 40 54.3 -1.0
comp=Z,4.1nm,0.8s,baz=108,slow=4.8,SNR=15
ZALV LR LR 07 22 51.5
comp=Z,36nm,21.5s,baz=70,slow=34
ZALV Zalesovo Beam 96.28 324 *i* P P 06 40 54.2 -1.2
ZALV pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 96.55 27 P P 06 40 56.5 +0.2
comp=Z,1.1nm,0.5s,baz=257,slow=4.7,SNR=12
YKA Yellowknife Ar 96.55 27 P P 06 40 56.5 +0.2
YKA pmax pmax
comp=Z,1.0nm,0.5s
KSH Kashi 99.28 308 eP Pdif 06 41 12.3 +2.9
KURK Kurchatov 99.33 320 P Pdif 06 41 08.6 -0.6
KURK Kurchatov 99.33 320 P Pdif 06 41 08.6 -0.6
KURBB Kurchatov Arra 99.37 320 P Pdif 06 41 08.6 -0.7
comp=Z,0.4nm,0.5s,baz=104,slow=3.4,SNR=4.6
ULM Lac du Bonnet 104.75 41 PKKP PKKPdf 06 57 25.4 -3.6
comp=Z,1.5nm,0.6s,baz=135,slow=1.4,SNR=3.0
ARCES ARCESS Array B 119.01 346 PKP PKPdf 06 46 14.3 -0.8
comp=Z,7.4nm,0.6s,baz=83,slow=2.0,SNR=29
ARCES PKKPbc PKKPab 06 56 27.9 -3.2
comp=Z,1.6nm,0.6s,baz=151,slow=2.8,SNR=4.5
VRHR Novokhopersk 122.38 323 ePKIKP PKPdf 06 46 20.5 -1.6
VRHR pmax pmax
comp=N,3.0nm,0.4s
VRHR pmax pmax
comp=Z,6.0nm,0.4s
VRHR pmax pmax
comp=E,7.0nm,0.5s
OBN Obninsk 123.55 328 ePKIKP PKPdf 06 46 27.3 +3.1
OBN pmax pmax
comp=Z,8.0nm,1.0s
KBZ Khabaz 123.76 314 PKP PKPdf 06 46 25.6 +0.6
comp=Z,2.0nm,0.9s,baz=116,slow=8.4,SNR=3.9
VSR Storozhevoye 123.78 323 ePKIKP PKPdf 06 46 24.3 -0.5
VSR pmax pmax
comp=Z,7.0nm,0.6s
VSR pmax pmax
comp=N,5.0nm,1.4s
VSR pmax pmax
comp=E,7.0nm,1.0s
VORD Divnogorie 123.80 323 ePKIKP PKPdf 06 46 23.2 -1.6
VORD pmax pmax
comp=Z,5.0nm,0.4s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
BOSA Boshof 124.17 221 PKP PKPdf 06 46 25.4 -1.1
comp=E,2.7nm,0.5s,baz=109,slow=1.5,SNR=9.0
FINES FINESS Array B 124.50 338 PKP PKPdf 06 46 25.1 -0.7
comp=E,1.5nm,0.5s,baz=26,slow=1.4,SNR=14
NB2 NORSAR Subarra 129.38 345 PKPdf PKPdf 06 46 34.5 -0.8
comp=Z,1.1nm,0.5s,baz=31,slow=1.9
NOA NORSAR Array B 129.38 345 PKP PKPdf 06 46 35.0 -0.3
comp=Z,1.7nm,0.6s,baz=32,slow=2.0,SNR=12
NOA NORSAR Array B 129.38 345 PKIKP PKPdf 06 46 35.0 -0.3
BRTR Keskin Array B 131.55 312 PKP PKPdf 06 46 39.4 -0.9
comp=Z,0.5nm,0.4s,baz=129,slow=1.8,SNR=4.5
BRTR SKPbc SKPbc 06 50 01.8 -1.3
comp=Z,0.6nm,0.8s,baz=11,slow=2.5,SNR=3.7
BUR08 Bucovina Ar. S 133.48 325 ePKPdf PKPdf 06 46 44.5 +0.9
BURAR Bucovina Array 133.49 325 ⇑ *i* P PKPdf 06 46 44.8 +1.2
KOLS Kolonicke sedl 134.30 328 ePKIKP PKPdf 06 46 46.6 +1.7
KOLS Kolonicke sedl 134.30 328 ePKP PKPdf 06 46 46.6 +1.7
GZR Gura Zlata 136.14 324 ⇑ *i* P PKPdf 06 46 51.7 +3.2
CLL Collm 136.85 336 ePKIKP PKiKP 06 46 53.0 +1.7
CLL Collm 136.85 336 ePKIKP PKiKP 06 46 53.0 +1.7
TREC Trest 137.33 333 AMS AMS 07 47 30.0
comp=Z,100nm,15.9s
PKSM Moragy 137.93 327 ⇑ *i* P PKPdf 06 46 52.2 +0.5
KHC Kasperske Hory 138.29 334 ePKPdf PKPdf 06 46 51.2 -1.2
KHC *ex* x 06 46 53.9
KHC Kasperske Hory 138.29 334 ePKIKP PKPdf 06 46 51.2 -1.2
GERES GERESS Array B 138.45 333 PKP PKPdf 06 46 52.6 -0.1
comp=Z,0.8nm,0.7s,baz=99,slow=1.8,SNR=6.7
GERES SKPbc SKPbc 06 50 24.3 -0.4
comp=Z,1.5nm,0.8s,baz=46,slow=3.9,SNR=7.7
DIVS Divibare 138.50 324 ⇑ *i* P PKPdf 06 46 53.0 0.0
VISS Visnje 140.15 329 *i* PKPbc PKPdf 06 46 58.6 +2.8
BOJS Bojanci 140.15 329 *i* PKPbc PKPdf 06 46 57.8 +2.0
BNI Bardonecchia 144.39 336 ePKIKP PKPab 06 47 02.2 +0.5
BNI Bardonecchia 144.39 336 ePKPdf PKPab 06 47 02.2 +0.5
CEL Celeste 144.47 319 ePKPdf PKPab 06 47 01.7 -0.4
PLDF La Plantade 144.73 340 PKP PKPab 06 47 02.6 -0.2
SAOF Saorge 144.90 334 PKP PKPab 06 47 02.9 -0.6
TOUF Mont Tournerai 145.01 334 PKP PKPbc 06 47 03.7 -0.4
SSB Saint Sauveur 145.01 338 ePKIKP PKPbc 06 47 03.8 -0.1
SSB Saint Sauveur 145.01 338 ePKPbc PKPbc 06 47 03.8 -0.1
PYM Petit Puy Mans 145.13 340 PKP PKPbc 06 47 04.3 +0.1
MVIF Mont Vial 145.15 334 PKP PKPbc 06 47 03.9 -0.6
OG26 St.-Nazaire-De 145.33 337 PKP PKPab 06 47 05.5 +0.4
CALN Calern 145.37 334 PKP PKPbc 06 47 04.5 -0.7
LBL Lubilhac 145.50 340 PKP PKPdf 06 47 05.5 +0.1
VSL Villasalto 147.47 327 ePKPbc PKPbc 06 47 10.7 -0.6
VSL ePKPab PKPab 06 47 13.7 +0.3
KEST Kesra 150.13 322 PKPbc PKPbc 06 47 18.4 0.0

comp=Z,5.7nm,0.7s,baz=24,slow=0.4,SNR=22

KEST	**Kesra**	**150.13 322**	*e*PKPdf	**PKPdf**	**06 47 13.4**	**0.0**
KEST			*e*PKPbc	**PKPbc**	**06 47 17.9**	**-0.5**
KEST			PKPbc	**PKPbc**	**06 47 18.4**	**0.0**
KEST			*e*PKPab	**PKPab**	**06 47 24.3**	**0.0**
PBRG	**Braganca**	**151.28 350**	*e*PKPbc	**PKPbc**	**06 47 20.6**	**-0.3**
PBRG	**Braganca**	**151.28 350**	*e*PKPbc	**PKPbc**	**06 47 20.6**	**-0.3**
PGAV	**Gavieira, Arco**	**151.34 353**	*e*PKPbc	**PKPbc**	**06 47 19.1**	**-2.0**
PGAV	**Gavieira, Arco**	**151.34 353**	*e*PKPbc	**PKPbc**	**06 47 19.1**	**-2.0**
PCAB	**Cabril**	**151.56 352**	*e*PKPbc	**PKPbc**	**06 47 21.8**	**+0.3**
PCAB	**Cabril**	**151.56 352**	*e*PKPbc	**PKPbc**	**06 47 21.8**	**+0.3**
POLO	**Lamas de Olo**	**151.86 352**	*e*PKPbc	**PKPbc**	**06 47 22.4**	**+0.1**
POLO	**Lamas de Olo**	**151.86 352**	*e*PKPbc	**PKPbc**	**06 47 22.4**	**+0.1**
MVO	**Moncorvo**	**151.95 350**	*e*PKPbc	**PKPbc**	**06 47 22.5**	**0.0**
MVO	**Moncorvo**	**151.95 350**	*e*PKPbc	**PKPbc**	**06 47 22.5**	**0.0**
PTO	**Porto**	**152.20 353**	*e*PKPbc	**PKPbc**	**06 47 24.1**	**+1.2**
PTO	**Porto**	**152.20 353**	*e*PKPbc	**PKPbc**	**06 47 24.1**	**+1.2**
ESDC	**Sonseca Array**	**152.75 345**	PKPbc	**PKPbc**	**06 47 23.9**	**-0.4**

comp=Z,2.5nm,0.6s,baz=9.8,slow=3.8,SNR=14

ESDC			PKPab	**PKPab**	**06 47 35.9**	**+0.9**

comp=Z,1.2nm,0.5s,baz=4.1,slow=4.6,SNR=5.1

PCBR	**Castelo Branco**	**153.32 351**	*e*PKPbc	**PKPbc**	**06 47 25.3**	**-0.1**
PCBR	**Castelo Branco**	**153.32 351**	*e*PKPbc	**PKPbc**	**06 47 25.3**	**-0.1**
PMRV	**Marv??o**	**153.71 350**	*e*PKPdf	**PKPdf**	**06 47 20.1**	**+1.6**
PMRV	**Marv??o**	**153.71 350**	*e*PKPbc	**PKPbc**	**06 47 26.1**	**-0.2**
PMRV	**Marv??o**	**153.71 350**	*e*PKPdf	**PKPdf**	**06 47 20.1**	**+1.6**
PMRV	**Marv??o**	**153.71 350**	*e*PKPbc	**PKPbc**	**06 47 26.1**	**-0.2**
PBAR	**Barrancos**	**154.86 349**	*e*PKPab	**PKPab**	**06 47 46.1**	**+2.2**
PBAR	**Barrancos**	**154.86 349**	*e*PKPab	**PKPab**	**06 47 46.1**	**+2.2**
MESJ	**Messejana**	**155.39 351**	*e*PKPdf	**PKPdf**	**06 47 24.3**	**+3.5**
MESJ	**Messejana**	**155.39 351**	*e*PKPbc	PKPbc	06 47 31.8	
MESJ	**Messejana**	**155.39 351**	*e*PKPab	**PKPab**	**06 47 47.1**	**+1.0**
MESJ	**Messejana**	**155.39 351**	*e*PKPdf	**PKPdf**	**06 47 24.3**	**+3.5**
MESJ	**Messejana**	**155.39 351**	*e*PKPbc	PKPbc	06 47 31.8	
MESJ	**Messejana**	**155.39 351**	*e*PKPab	**PKPab**	**06 47 47.1**	**+1.0**
PVAQ	**Vaqueiros**	**155.73 350**	*e*PKPab	**PKPab**	**06 47 47.8**	**+0.2**
PVAQ	**Vaqueiros**	**155.73 350**	*e*PKPab	**PKPab**	**06 47 47.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**165.75 270**	PKP	**PKPdf**	**06 47 32.1**	**-0.7**

comp=Z,1.5nm,0.9s,baz=50,slow=2.1,SNR=8.3

TORD			PKPab	**PKPab**	**06 48 31.8**	**-0.4**

comp=Z,3.7nm,0.8s,baz=90,slow=4.8,SNR=16

NIED ***28*** *06:32:00, 36.70N× 142.40E, h14km, Mw3.6 Best double couple: M0 2.75000×10^14 NP1:φs 206.00000°, δ21.00000°, λ 89.00000°. NP2:φs 28.00000°, δ 69.00000°, λ 91.00000°.*

JMA ***28*** *06:32:57.9± 0.2, 36.69N× 142.36E, h28km, M3.5*

ISCJB ***28*** *06:32:58.1± 0.9, 36.71N± 0.04× 142.29E± 0.07, h15km, mb3.5/4, MS3.3/1, Error ellipse: s-maj=8.5km s-min=5.8km az=9.2*

IDC ***28*** *06:33:02.9± 1.7, 37.16N× 141.71E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.5/42, mbtmp3.6/5, ML3.5/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/31, Error ellipse: s-maj=38.2km s-min=28.6km az=91.0*

ISC 28 06:32:59.9± 1.3, 36.73N± 0.05× 142.24E± 0.08, h15km, n18, σ1§11/23, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.21 288**		P	**Pn**	**06 33 20.5**	**-1.8**
JFK	**Kawauchi**	**1.26 301**		P	**Pn**	**06 33 21.7**	**-1.3**
JFK				S	**Sn**	**06 33 39.4**	**-0.3**
JHO	**Hitachi**	**1.34 265**		P	**Pn**	**06 33 22.6**	**-1.6**
JHO				S	**Sn**	**06 33 41.0**	**-0.8**
JMM	**Marumori**	**1.61 315**		P	**Pn**	**06 33 26.5**	**-1.3**
JFT	**Otama**	**1.71 298**		P	**Pn**	**06 33 28.6**	**-0.6**
JFT				S	**Sn**	**06 33 50.9**	**+0.2**
JIO	**Ouri**	**1.86 338**		P	**Pn**	**06 33 30.0**	**-1.2**
JIO				S	**Sn**	**06 33 52.6**	**-1.8**
JFY	**Yanaizu**	**2.13 289**		P	**Pn**	**06 33 34.7**	**-0.3**
JAG	**Ashikaga**	**2.26 263**		P	**Pn**	**06 33 36.2**	**-0.5**
BSO1	**Boso 1**	**2.31 207**		P	**Pn**	**06 33 35.8**	**-1.2**
BSO1				S	**Sn**	**06 34 04.0**	**-0.9**
JMK	**Ichinoseki**	**2.36 340**		P	**Pn**	**06 33 37.7**	**-0.3**
JMK				S	**Sn**	**06 34 06.2**	**-0.5**
MJAR	**Matsushiro Arr**	**3.24 268**		Pn	**Pn**	**06 33 50.8**	**+0.5**

7.1nm,0.3s,baz=124,slow=8.6,SNR=27

MJAR				Sn	**Sb**	**06 34 37.0**	**+0.5**

2.1nm,0.3s,baz=220,slow=19,SNR=6.7

MAT	**Matsushiro**	**3.25 268**		P	**Pn**	**06 33 51.2**	**+0.9**
MAT				S	**Sn**	**06 34 28.4**	**-0.3**
KSRS	**Korea Array**	**11.46 278**		LR	LR	06 39 50.8	

comp=Z,45nn,19.0s,baz=138,slow=37

SEY	**Seymchan**	**26.96 10**		P	**P**	**06 38 42.9**	**+2.3**

0.3nn,0.2s,baz=240,slow=20,SNR=3.6

SONM	**Songino Array**	**28.50 304**		P	**P**	**06 38 55.1**	**+0.4**

0.7nn,0.6s,baz=99,slow=8.5,SNR=5.2

KURBB	**Kurchatov Arra**	**46.70 308**		P	**P**	**06 41 27.8**	**-0.2**

0.6nn,0.5s,baz=83,slow=7.5,SNR=5.0

WRA	**Warramunga Arr**	**56.86 189**		P	P	06 42 51.6	+7.6

0.2nn,0.4s,baz=1.0,slow=7.6,SNR=6.3

GNI	**Garni**	**72.41 307**		LR	LR	07 17 43.7	

comp=Z,18nn,20.2s,baz=272,slow=37

IDC ***28*** *06:49:53.0± 1.6, 12.06N× 85.83W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/26, mbtmp3.8/3, Error ellipse: s-maj=62.8km s-min=26.7km az=63.0*

ISCJB ***28*** *06:50:15.3± 0.7, 12.1N± 0.2× 86.7W± 0.2, h158km± 11km, mb3.6/3, Error ellipse: s-maj=48.8km s-min=3.8km az=39.4*

CASC ***28*** *06:50:15.8± 4.2, 11.49N× 87.21W, h7km± 18km, MD4.1, ML3.4*

ISC 28 06:50:15.3± 1.1, 12.1N± 0.2× 86.7W± 0.2, h160km± 11km, n19, σ1§13/28, mb3.6/3, 1C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.65 318**		*i* P	**Pn**	**06 50 46.6**	**-0.6**
GBS2	**Las Lilas**	**1.72 135**		*i* P	**Pn**	**06 50 47.5**	**-0.5**
GBS2				*i* S	**Sn**	**06 51 12.4**	**-0.7**
GBS3	**Finca Las Im¯¡**	**1.76 136**		*i* P	**Pn**	**06 50 48.1**	**-0.2**
LAPC	**Finca la Perla**	**1.78 136**		*i* P	**Pn**	**06 50 48.0**	**-0.7**
LAPC				*i* S	**Sn**	**06 51 13.2**	**-1.1**
NY14	**Universidad de**	**1.80 141**		*i* P	**Sn**	**06 50 49.6**	**+0.7**
NY14				*i* S	**Sn**	**06 51 15.0**	**+0.4**
LIM1	**Limonal**	**1.96 133**		*i* P	Pn	06 50 56.9	+6.3
LIM1				*i* S	Sn	06 51 24.8	+7.0
SNVI	**San Vicente**	**2.60 307**		*e*P	**Pn**	**06 50 58.4**	**+0.2**
SNVI				*e*S	**Sn**	**06 51 32.9**	**+1.5**
JCR	**Jicaral**	**2.69 144**		*e*P	**Pn**	**06 50 59.8**	**+0.5**
JCR				*e*S	**Sn**	**06 51 34.1**	**+0.9**
LFRS	**El Faro**	**2.78 304**		*i* P	**Pn**	**06 51 00.5**	**0.0**
LFRS				*e*S	**Sn**	**06 51 35.8**	**+0.4**
LFU	**La Fuente**	**2.90 306**		*e*P	**Pn**	**06 51 02.8**	**+1.0**
LFU				*e*S	**Sn**	**06 51 40.1**	**+2.2**
SNET	**Serv Nac Est T**	**2.96 304**		*e*P	**Pn**	**06 51 03.3**	**+0.7**
SNET				*e*S	**Sn**	**06 51 38.3**	**-1.0**
SNET				AML	AML	06 51 39.7	

comp=Z,190nn,0.3s

BOQS	**Boqueron**	**3.02 304**		*e*P	**Pn**	**06 51 04.0**	**+0.5**
BOQS				*e*S	**Sn**	**06 51 41.3**	**+0.4**
SBLS	**San Blas**	**3.36 302**		*e*P	**Pn**	**06 51 08.8**	**+1.1**
SBLS				*e*S	**Sn**	**06 51 48.7**	**+0.2**
URSC	**Urasca**	**3.62 127**		*e*P	**Pn**	**06 51 13.2**	**+2.1**
URSC				*e*S	**Sn**	**06 51 56.8**	**+2.4**
BUS	**Buena Vista**	**3.81 130**		*e*P	**Pn**	**06 51 14.7**	**+0.9**
BUS				*e*S	**Sn**	**06 51 58.4**	**-0.8**
TXAR	**Lajitas Array**	**23.35 320**		P	**P**	**06 55 08.8**	**-0.7**

comp=Z,0.5nn,0.6s,baz=139,slow=9.5,SNR=9.6

LPAZ	**La Paz**	**33.62 146**		P	P	06 56 32.3	-9.1

comp=Z,0.8nn,0.6s,baz=309,slow=6.5,SNR=3.1

SCHQ	**Schefferville**	**45.45 16**		P	P	06 58 11.7	-6.5

comp=Z,3.8nn,0.9s,baz=246,slow=10.0,SNR=2.7

WRA	**Warramunga Arr**	**139.86 253**		PKP	**PKPdf**	**07 09 23.7**	**-1.6**

comp=Z,0.5nn,0.6s,baz=94,slow=2.5,SNR=5.8

BJI ***28*** *07:04:44.7, 23.40S× 179.50E, h525km, mb4.7/27, mB4.8/17*

ISCJB ***28*** *07:04:47.4± 0.6, 23.41S± 0.03× 179.36E± 0.05, h534km± 7km, mb4.3/42, Error ellipse: s-maj=6.7km s-min=4.6km az=9.7*

IDC ***28*** *07:04:47.5± 1.1, 23.33S× 179.46E, h531km± 11km, mb3.8/17, mb1 4.0/18, mb1mx3.9/21, mbtmp4.7/18, Error ellipse: s-maj=14.3km s-min=10.5km az=93.0*

NEIC ***28*** *07:04:48.0± 0.6, 23.40S× 179.36E, h535km± 7km, mb4.5/30, Error ellipse: s-maj=7.9km s-min=6.5km az=118.0*

ISC 28 07:04:48.0± 0.4, 23.49S± 0.05× 179.37E± 0.06, h535km± 3km, h535km:pP-P, n231, σ1§21/279, mb4.3/42, 12C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.86 348**		P	**P**	**07 06 24.0**	**-0.9**

891nn,0.7s

MSVF	**Nonsavu**	**5.86 348**		*e*P	**P**	**07 06 24.4**	**-0.5**
RAO	**Raoul Island**	**6.23 158**		P	**P**	**07 06 29.2**	**+1.3**

99nn,0.3s,baz=49,slow=20,SNR=3.4

RAO				S	**S**	**07 07 51.2**	**+1.4**

74nn,0.3s,baz=73,slow=19,SNR=2.4

DZM	**Mont Dzumac**	**12.01 274**		P	**P**	**07 07 26.4**	**-0.4**

0.1nn,0.3s,baz=90,slow=20,SNR=3.5

DZM				S	**S**	**07 09 35.9**	**-1.6**

0.4nn,0.3s,baz=90,slow=20,SNR=189

AFI	**Afiamalu**	**12.69 43**		*e*P	P	07 07 28.9	-5.0
OUZ	**Omahuta**	**12.72 202**		*e*P	P	07 07 38.5	+4.6
MXZ	**Matakaoa Point**	**14.06 183**		PN	**P**	**07 07 47.5**	**-0.2**
MXZ				SN	**S**	**07 10 14.4**	**-1.5**
HAZ	**Te Kaha**	**14.29 185**		PN	**P**	**07 07 50.1**	**0.0**
HAZ				SN	**S**	**07 10 18.7**	**-1.5**
WMGZ	**Waiomatatini S**	**14.31 183**		PN	**P**	**07 07 50.9**	**+0.5**
WMGZ				SN	**S**	**07 10 19.1**	**-1.6**
PUZ	**Puketiti**	**14.57 183**		PN	**P**	**07 07 52.3**	**-0.8**
PUZ				SN	**S**	**07 10 23.7**	**-2.0**
TWGZ	**Tauwhareparae**	**14.69 184**		PN	**P**	**07 07 55.1**	**+0.7**
URZ	**Urewera**	**14.85 187**		P	**P**	**07 07 55.2**	**-0.8**

6.1nn,0.3s,baz=18,slow=11,SNR=37

URZ				S	**S**	**07 10 27.1**	**-3.9**

1.8nn,0.3s,baz=180,slow=20,SNR=17

URZ	**Urewera**	**14.85 187**		*e*PN	**P**	**07 07 55.5**	**-0.5**
URZ				SN	**S**	**07 10 28.6**	**-2.3**
URZ	**Urewera**	**14.85 187**		*e*P	**P**	**07 07 55.1**	**-0.8**
URZ				S	**S**	**07 10 27.1**	**-3.9**
URZ				*e*S	S	07 10 33.1	+2.1
MWZ	**Matawai**	**14.88 186**		PN	**P**	**07 07 55.9**	**-0.5**
MWZ				SN	**S**	**07 10 29.7**	**-2.0**
CNGZ	**Carnagh Statio**	**14.98 184**		*e*PN	**P**	**07 07 58.4**	**+1.1**
RIGZ	**Rimuhau**	**15.23 185**		*e*PN	**P**	**07 08 00.2**	**+0.2**
BKZ	**Black Stump Fm**	**15.82 188**		PN	**P**	**07 08 02.1**	**-3.7**
BKZ	**Black Stump Fm**	**15.82 188**		*e*P	**P**	**07 08 04.8**	**-1.2**

28nm,0.7s

KWHZ	**Kaweka Forest**	**16.08 188**		*e*PN	**P**	**07 08 07.0**	**-1.7**
BHHZ	**Black Hill Sta**	**16.20 189**		PN	**P**	**07 08 07.9**	**-1.8**
PXZ	**Pawanui**	**16.63 187**		PN	**P**	**07 08 12.8**	**-1.0**
BFZ	**Birch Farm**	**17.34 188**		PN	**P**	**07 08 19.4**	**-1.0**
BFZ	**Birch Farm**	**17.34 188**		*e*P	**P**	**07 08 19.7**	**-0.8**

38nm,0.6s

BFZ				*e*S	**S**	**07 11 14.4**	**+0.7**
MRZ	**Mangatainoka R**	**17.42 190**		PN	**P**	**07 08 19.8**	**-1.3**
OGWZ	**Otaki Gorge**	**17.64 191**		PN	**P**	**07 08 22.7**	**-0.4**
KIW	**Kapiti Island**	**17.72 191**		PN	**P**	**07 08 25.2**	**+1.3**
CAW	**Cannon Point**	**17.93 191**		PN	**P**	**07 08 25.8**	**-0.1**
TCW	**Tory Channel**	**18.18 192**		*e*PN	**P**	**07 08 28.8**	**+0.8**
SNZO	**South Karori**	**18.20 191**		*e*P	**P**	**07 08 28.8**	**+0.7**

91nn,0.8s

QRZ	**Quartz Range**	**18.22 197**		PN	**P**	**07 08 30.3**	**+1.9**
NNZ	**Nelson**	**18.38 194**		PN	**P**	**07 08 30.2**	**+0.3**
TUWZ	**Tuamarina**	**18.46 193**		PN	**P**	**07 08 30.8**	**+0.2**
THZ	**Tophouse**	**19.01 195**		PN	**P**	**07 08 36.0**	**+0.3**
DSZ	**Denniston Nort**	**19.27 197**		PN	**P**	**07 08 39.2**	**+1.1**
KHZ	**Kahutara**	**19.49 193**		PN	**P**	**07 08 39.7**	**-0.3**
KHZ	**Kahutara**	**19.49 193**		*e*P	**P**	**07 08 39.7**	**-0.3**

45nn,0.9s

KHZ				*e*S	**S**	**07 11 48.1**	**-0.3**
LTZ	**Lake Taylor**	**20.12 195**		PN	**P**	**07 08 45.7**	**-0.1**
OXZ	**Oxford**	**20.69 195**		PN	**P**	**07 08 51.4**	**+0.1**
WVZ	**Waitaha Valley**	**20.80 198**		PN	**P**	**07 08 52.0**	**+0.1**
RPZ	**Rata Peaks**	**21.31 197**		P	**P**	**07 08 56.6**	**+0.1**

28nm,0.6s,baz=358,slow=2.3,SNR=24

RPZ	**Rata Peaks**	**21.31 197**		*e*P	**P**	**07 08 56.9**	**+0.4**

28nm,0.6s

RPZ				*e*S	**S**	**07 12 19.1**	**+1.7**
FOZ	**Fox Glacier**	**21.56 199**		PN	**P**	**07 08 58.0**	**-0.7**
JCZ	**Jackson Bay**	**22.31 200**		PN	**P**	**07 09 06.1**	**+0.6**
DCZ	**Deep Cove**	**24.08 201**		*e*P	**P**	**07 09 22.4**	**+1.2**

60nn,1.3s

WHZ	**Wether Hill Ro**	**24.19 200**		*e*P	**P**	**07 09 23.0**	**+0.8**

80nn,0.7s

CTAO	**Charters Tower**	**30.90 270**		*e*P	**P**	**07 10 22.2**	**+1.0**

39nn,0.5s

PMG	**Port Moresby**	**33.82 289**		*e*P	**P**	**07 10 46.6**	**+0.5**

88nn,0.8s

STKA	**Stephens Creek**	**34.34 247**		P	**P**	**07 10 51.9**	**+1.5**

8.8nn,0.8s,baz=96,slow=8.9,SNR=12

ASAR	**Alice Springs**	**41.53 260**		P	**P**	**07 11 49.2**	**+0.2**

8.7nn,0.8s,baz=93,slow=8.0,SNR=60

ASAR				PcP	**PcP**	**07 13 32.9**	**-1.0**

2.0nn,0.7s,baz=101,slow=4.9,SNR=6.9

ASAR				ScP	**ScP**	**07 16 34.0**	**+0.8**

1.0nn,0.7s,baz=101,slow=4.1,SNR=4.4

ASAR				S	**S**	**07 17 23.9**	**-2.6**

1.5nn,0.9s,baz=101,slow=16,SNR=6.2

WRAB	**Tennant Creek**	**41.85 266**		P	**P**	**07 11 51.0**	**-0.6**

92nn,0.7s,SNR=14

WRAB	**Tennant Creek**	**41.85 266**		*e*P	**P**	**07 11 51.2**	**-0.3**

11nn,0.8s

WRAB				*e*pP	**pP**	**07 13 25.6**	**-1.7**
WRA	**Warramunga Arr**	**41.86 266**		P	**P**	**07 11 51.5**	**-0.1**

12nn,0.7s,baz=103,slow=8.8,SNR=96

WRA				PcP	**PcP**	**07 13 35.2**	**+0.2**

1.8nn,0.8s,baz=107,slow=3.4,SNR=4.5

WRA				ScP	**ScP**	**07 16 34.8**	**+0.2**

1.0nn,0.9s,baz=94,slow=3.6,SNR=4.8

WRA				S	**S**	**07 17 27.0**	**-4.1**

1.1nn,0.7s,baz=100,slow=16,SNR=6.9

SOEI	**Soe**	**54.23 275**		*e*P	**P**	**07 13 25.7**	**+1.5**

51nn,1.1s

VNDA	**Vanda**	**54.74 185**		P	**P**	**07 13 28.1**	**+1.6**

2.2nn,0.7s,baz=0.9,slow=7.9,SNR=18

VNDA				ScP	**ScP**	**07 17 27.6**	**-0.5**

0.8nn,0.8s,baz=8.2,slow=5.4,SNR=3.3

VNDA	**Vanda**	**54.74 185**		*e*P	**P**	**07 13 28.4**	**+1.9**

3.8nn,1.0s

VNDA				ScP	**ScP**	**07 17 27.6**	**-0.5**
SBA	**Scott Base**	**54.75 183**		*e*P	**P**	**07 13 29.7**	**+3.1**

14nn,0.8s

JCJ	**Chichijima**	**61.80 322**		P	**P**	**07 14 13.7**	**-1.4**

17nn,0.5s,baz=107,slow=19,SNR=4.0

CBIJ	**Chichi jima**	**61.80 322**		P	**P**	**07 14 13.7**	**-1.4**
QSPA	**South Pole Qui**	**66.59 180**		*e*P	**P**	**07 14 46.7**	**+1.7**

26nn,0.8s

JOW	**Kunigami**	**70.29 312**		P	**P**	**07 15 07.5**	**-0.4**

1.3nn,0.6s,baz=143,slow=7.7,SNR=5.3

MJAR	**Matsushiro Arr**	**71.24 326**		P	**P**	**07 15 12.5**	**-0.7**

6.0nn,0.7s,baz=166,slow=6.1,SNR=15

ASAJ	**Asahikawa**	**75.24 334**		*e*P	**P**	**07 15 37.6**	**+1.7**

11nn,0.7s

KSRS	**Korea Array**	**77.56 320**		P	**P**	**07 15 48.8**	**-0.1**

3.6nn,0.6s,baz=131,slow=5.9,SNR=17

KSAR	**Wonju Array Be**	**77.58 320**		P	**P**	**07 15 48.8**	**-0.2**
MAW	**Mawson**	**77.93 201**		P	**P**	**07 15 51.5**	**+1.1**

7.3nn,0.8s,baz=127,slow=5.7,SNR=14

PETK	**Petropavlovsk-**	**78.57 347**		P	**P**	**07 15 53.2**	**-0.7**

19nn,0.8s,baz=140,slow=6.6,SNR=18

QIZ	**Qiongzhong**	**79.90 296**		P	**P**	**07 16 03.5**	**+1.8**
QIZ				sP	**sP**	**07 18 48.8**	**-2.2**
QIZ				S	**SKSac**	**07 25 25.8**	**-2.4**
QIZ				sS	**sS**	**07 28 45.8**	**-0.1**
QIZ				PMZ			

13nn,1.8s

NJ2	**Nanjing**	**79.96 311**		*e*P	**P**	**07 16 02.3**	**+0.6**
NJ2				PMZ			

20nn,0.5s

USRK	**Ussuriysk Ar.**	**80.11 328**		P	**P**	**07 16 01.7**	**-0.5**

6.1nn,0.8s,baz=135,slow=5.0,SNR=9.6

MDJ	**Mudanjiang**	**81.61 327**		P	**P**	**07 16 10.5**	**+0.5**
MDJ				PMZ			

12nn,0.7s

MDJ				PMZ			

27nn,5.7s

PKM	**Mcpherson Peak**	**81.82 46**		P	**P**	**07 16 11.5**	**-0.1**

baz=82

VES	**Vestal, Richgr**	**82.86 46**		P	**P**	**07 16 16.1**	**-0.4**

baz=83

BFSC	**Mount Baldy Ra**	**82.90 48**		P	**P**	**07 16 16.6**	**-0.3**

baz=83

MONP	**Monument Peak,**	**83.00 50**		P	**P**	**07 16 17.8**	**+0.2**

baz=83

EDW2	**Edwards Air Fo**	**83.03 47**		P	**P**	**07 16 17.4**	**-0.2**

baz=83

ISA	**Isabella, Lake**	**83.16 46**		P	**P**	**07 16 18.1**	**0.0**

baz=83

ISA	**Isabella, Lake**	**83.16 46**		*e*P	**P**	**07 16 17.5**	**-0.7**

6.3nn,0.8s

CN2	**Changchun**	**83.22 324**		*e*P	**P**	**07 16 18.0**	**-0.1**
CN2				PMZ			

20nn,1.0s

SYO	**Syowa Base**	**83.27 194**		*e*P	**P**	**07 16 16.0**	**-2.1**
CMB	**Columbia Colle**	**83.30 44**		*e*P	**P**	**07 16 18.8**	**0.0**

5.2nn,0.7s

SWSC	**Sam W. Stewart**	**83.47 50**		P	**P**	**07 16 20.2**	**+0.5**

baz=84

TIA	**Tai'an**	**83.53 314**		P	**P**	**07 16 20.5**	**+0.6**
TIA				PMZ			

20nn,0.8s

LRMC	**Laurel Mtn Rad**	**83.58 47**		P	**P**	**07 16 20.3**	**0.0**

baz=84

N02D	**Trinity Center**	**83.67 40**		P	**P**	**07 16 21.1**	**+0.5**

baz=84

M02C	**Callahan**	**83.84 40**		P	**P**	**07 16 22.0**	**+0.5**

baz=84

BELC	**Belle Mtn. Jos**	**83.91 49**		P	**P**	**07 16 22.1**	**+0.2**

baz=84

GSC	**Goldstone, Bar**	**84.07 48**		P	**P**	**07 16 22.6**	**-0.1**

baz=84

GSC	**Goldstone, Bar**	**84.07 48**		*e*P	**P**	**07 16 22.9**	**+0.2**
BC3	**Big Chuckawall**	**84.09 50**		P	**P**	**07 16 22.7**	**-0.2**

baz=84

HEC	**Hector,Ludlow**	**84.14 48**		P	**P**	**07 16 22.9**	**-0.1**

baz=84

GLA	**Glamis**	**84.21 50**		P	**P**	**07 16 23.7**	**+0.3**

baz=84

GLA	**Glamis**	**84.21 50**		*e*P	**P**	**07 16 24.2**	**+0.8**

6.4nn,0.7s

HUMO	**Hull Mountain**	**84.54 39**		*e*P	**P**	**07 16 25.6**	**+0.9**
GMRC	**Granite Mounta**	**84.57 49**		P	**P**	**07 16 25.3**	**+0.1**

baz=85

IRM	**Iron Mountain**	**84.58 49**		P	**P**	**07 16 25.3**	**+0.1**

baz=85

GRAC	**Grapevine Rang**	**84.65 46**		P	**P**	**07 16 25.8**	**+0.3**

baz=85

M04C	**Macdoel**	**84.68 40**		P	**P**	**07 16 25.

	baz=92								
429A	**Davenport Ranc**	**92.65**	**58**	P		**P**	**07 17 02.5**	**-0.6**
	baz=93								
LZH	**Lanzhou**	**92.67**	**308**	*e*P		**P**	**07 17 04.3**	**+1.1**
LZH				PMZ					
	23nm,1.0s								
LZH				PMZ					
	110nm,5.0s								
SMCO	**Snowmass**	**92.78**	**48**	*e*P		**P**	**07 17 03.6**	**-0.3**
PDAR	**Pinedale Array**	**92.80**	**44**	P		**P**	**07 17 02.5**	**-1.2**
	1.0nm,0.7s,baz=206,slow=3.9,SNR=10								
H17A	**Grant Village**	**92.97**	**42**	P		**P**	**07 17 05.2**	**+0.8**
	baz=93								
DAWY	**Dawson**	**93.00**	**17**	*e*P		**P**	**07 17 03.1**	**-0.8**
SDCO	**Great Sand Dun**	**93.14**	**50**	P		**P**	**07 17 04.9**	**-0.5**
	baz=93								
SDCO	**Great Sand Dun**	**93.14**	**50**	*e*P		**P**	**07 17 05.0**	**-0.5**
	1.4nm,0.7s								
631A	**Perdido Creek**	**93.17**	**59**	P		**P**	**07 17 05.1**	**-0.3**
	baz=93								
832A	**Faith Ranch, C**	**93.17**	**61**	P		**P**	**07 17 04.9**	**-0.5**
	baz=93								
T25A	**Trinidad**	**93.64**	**51**	P		**P**	**07 17 06.8**	**-0.8**
	baz=94								
632A	**Uvalde**	**93.83**	**60**	P		**P**	**07 17 08.4**	**-0.1**
	baz=94								
Z30A	**Sanderson Ranc**	**94.38**	**56**	P		**P**	**07 17 09.7**	**-1.2**
	baz=94								
432A	**Menard**	**94.40**	**58**	P		**P**	**07 17 09.8**	**-1.2**
	baz=94								
S26A	**Kim**	**94.53**	**51**	P		**P**	**07 17 10.9**	**-0.7**
	baz=95								
G20A	**Bridger**	**94.84**	**43**	P		**P**	**07 17 12.2**	**-0.6**
	baz=95								
R26A	**Arlington**	**94.84**	**50**	P		**P**	**07 17 12.0**	**-0.9**
	baz=95								
433A	**Art**	**94.90**	**59**	P		**P**	**07 17 12.5**	**-0.7**
	baz=95								
KSCO	**Kaye Shedlock'**	**95.73**	**50**	*e*P		**P**	**07 17 15.3**	**-1.7**
R28A	**Tribune**	**96.02**	**51**	P		**P**	**07 17 17.6**	**-0.6**
	baz=96								
GTA	**Gaotai**	**96.99**	**310**	*e*P		**P**	**07 17 24.3**	**+1.7**
GTA				PMZ					
	2.0nm,1.2s								
I25A	**Rochford**	**97.14**	**45**	P		**P**	**07 17 22.7**	**-0.5**
	baz=97								
WMQ	**Urumqi**	**107.03**	**311**	Pdif		**Pdif**	**07 18 07.8**	**+0.7**
WMQ				PP		**PP**	**07 22 45.5**	**+3.8**
WMQ				PPMZ					
	12nm,11.4s								
GEYT	**Alibeck**	**128.26**	**301**	PKP		**PKPdf**	**07 22 53.6**	**-0.4**
	1.7nm,0.5s,baz=339,slow=3.7,SNR=3.5								
ARCES	**ARCESS Array B**	**131.37**	**348**	PKP		**PKPdf**	**07 22 57.7**	**-1.1**
	3.7nm,0.8s,baz=60,slow=1.7,SNR=9.5								
ARCES				SKPbc		**SKPbc**	**07 25 32.3**	**-1.8**
	1.6nm,0.6s,baz=12,slow=4.7,SNR=4.3								
FINES	**FINESS Array B**	**137.88**	**341**	PKhKP		PKPpre	07 23 00.4		
	1.0nm,0.6s,baz=223,slow=3.0,SNR=3.1								
FINES				PKP		**PKPdf**	**07 23 10.5**	**-0.6**
	2.5nm,0.7s,baz=75,slow=3.0,SNR=7.4								
FINES				SKPbc		**SKPbc**	**07 25 53.5**	**-1.3**
	3.4nm,0.7s,baz=64,slow=3.2,SNR=7.6								
NB2	**NORSAR Subarra1**	**141.59**	**351**	PKP		PKPpre	07 23 12.1		
	comp=Z,2.5nm,0.6s,baz=16,slow=3.0								
NB2	**NORSAR Subarra1**	**141.59**	**351**	PKP		PKPpre	07 23 12.1		
	baz=16,slow=3.0								
NOA	**NORSAR Array B**	**141.59**	**351**	PKhKP		PKPpre	07 23 11.7		
	comp=Z,3.0nm,0.6s,baz=16,slow=4.6,SNR=13								
NOA				PKP		**PKPdf**	**07 23 17.0**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=28,slow=3.1,SNR=3.8								
NC602	**NORSAR Array S**	**141.83**	**350**	*e*PKPdf		PKPpre	07 23 12.9		
SUE	**Sulen**	**142.27**	**356**	*e*P		PKPpre	07 23 14.6		
RUND	**Rundenannen**	**142.87**	**355**	*e*P		PKPpre	07 23 15.7		
KONO	**Kongsberg**	**143.16**	**351**	*e*P		PKPab	07 23 17.7	-0.8	
KONO				IAmb		IAmb	07 23 18.5		
	comp=Z,19nm,0.8s								
ODD1	**Odda**	**143.25**	**354**	*e*P		PKPab	07 23 18.0	-0.9	
KMY	**Karmoy**	**144.06**	**355**	*e*P		PKPbc	07 23 20.5	-1.2	
AKASG	**Malin Array Be**	**144.32**	**327**	PKP		PKPbc	07 23 21.4	-1.4	
	comp=Z,7.0nm,0.5s,baz=46,slow=4.2,SNR=49								
AKBB	**Malin Array Si**	**144.32**	**327**	*e*PKPbc		PKPbc	07 23 21.1	-1.7	
KIEV	**Kiev**	**144.33**	**327**	*e*PKPbc		PKPbc	07 23 21.2	-1.6	
AK02	**Malin Array Si**	**144.35**	**327**	*e*PKPbc		PKPbc	07 23 21.5	-1.4	
HOMB	**Homborsund**	**144.64**	**352**	*e*P		**PKPdf**	**07 23 22.9**	**-0.3**	
SUW	**Suwalki**	**144.66**	**336**	*e*PKP		PKPbc	07 23 23.7	0.0	
SNART	**Snartemo**	**144.73**	**353**	*e*P		**PKPdf**	**07 23 23.1**	**-0.3**	
BSD	**Bornholm Skovb**	**146.37**	**344**	⇑*i*P		**PKPdf**	**07 23 27.3**	**+1.0**
	comp=Z,20nm,0.9s								
BR131	**Keskin Array S**	**146.87**	**307**	*e*PKPbc		**PKPbc**	**07 23 29.7**	**-1.0**	
BR131				*e*PKPab		**PKPab**	**07 23 33.3**	**-0.5**	
BRTR	**Keskin Array B**	**146.87**	**307**	PKPbc		**PKPbc**	**07 23 29.9**	**-0.9**	
	comp=Z,5.8nm,0.7s,baz=137,slow=3.0,SNR=22								
BEL	**Belsk**	**147.26**	**335**	*e*PKP		**PKPbc**	**07 23 30.6**	**-0.5**	
KWP	**Kalwaria Pacla**	**148.13**	**331**	*e*PKP		**PKPbc**	**07 23 33.0**	**-0.5**	
BUR08	**Bucovina Ar. S**	**148.30**	**326**	*e*PKPdf		**PKPdf**	**07 23 30.8**	**+0.8**	
BUR08				*e*PKPbc		**PKPbc**	**07 23 34.1**	**0.0**	
BUR08				*e*PKPab		**PKPab**	**07 23 39.5**	**+0.2**	
KOLS	**Kolonicke sedl**	**148.83**	**330**	*e*PKP		**PKPbc**	**07 23 35.5**	**+0.2**	
KOLS				*e*			07 23 42.0		
OJC	**Ojcow**	**148.92**	**334**	*e*PKP		**PKPbc**	**07 23 34.8**	**-0.6**	
STHS	**Stebnicka Huta**	**148.94**	**332**	*e*PKP		**PKPbc**	**07 23 35.5**	**0.0**	
STHS				*e*			07 23 41.9		
NIE	**Niedzica**	**149.33**	**333**	*e*PKP		**PKPbc**	**07 23 36.4**	**-0.1**	
KSP	**Ksiaz**	**149.70**	**339**	*e*PKP		**PKPbc**	**07 23 37.3**	**+0.1**	
OKC	**Ostrava-Krasne**	**149.87**	**335**	⇑*e*PKP		**PKPbc**	**07 23 37.1**	**-0.6**	
OKC				*e*PKPab		**PKPab**	**07 23 46.1**	**+0.6**	
UPC	**Upice**	**150.08**	**338**	⇑*e*PKP		**PKPbc**	**07 23 37.8**	**-0.4**	
UPC				*e*PKPAB		**PKPab**	**07 23 46.0**	**-0.4**	
DPC	**Dobruska-Polom**	**150.11**	**338**	*e*PKPDF		**PKPdf**	**07 23 35.3**	**+2.7**	
DPC				⇑*e*PKP		**PKPbc**	**07 23 38.2**	**-0.1**	
DPC				*ex*		x	07 23 42.0		
DPC				*e*PKPAB		**PKPab**	**07 23 46.7**	**+0.1**	
DPC				*ex*		x	07 23 50.9		
DPC				*ex*		x	07 25 15.2		
KRLC	**Kraliky**	**150.18**	**337**	⇑*e*PKP		**PKPbc**	**07 23 38.0**	**-0.5**	
KRLC				*e*PKPAB		**PKPab**	**07 23 46.8**	**-0.1**	
CLL	**Collm**	**150.30**	**343**	⇓*i*PKPbc		**PKPbc**	**07 23 38.2**	**-0.4**	
	comp=Z,28nm,0.9s								
CLL				*i* PKPab		**PKPab**	**07 23 46.0**	**-1.2**	
	comp=Z,7.0nm,0.7s								
CLL				*e*			07 23 51.0		
BRG	**Berggiesshubel**	**150.42**	**341**	*i* PKP		**PKPbc**	**07 23 38.4**	**-0.5**	
	comp=Z,18nm,0.7s								
BRG				*e*			07 23 47.2		
	comp=Z,6.9nm,0.9s								
PVCC	**Panska Ves**	**150.53**	**340**	⇑*e*PKP		**PKPbc**	**07 23 38.7**	**-0.5**	
PVCC				*ex*		x	07 23 43.3		
PVCC				*e*PKPAB		**PKPab**	**07 23 48.9**	**+0.6**	
PRA	**Prague**	**150.97**	**340**	⇑*e*PKP		**PKPbc**	**07 23 40.2**	**0.0**	
GOPC	**GO Pecny, Ondr**	**150.99**	**339**	⇑*e*PKP		**PKPbc**	**07 23 39.5**	**-0.8**	
GOPC				*ex*		x	07 23 44.2		
GOPC				*e*PKPAB		**PKPab**	**07 23 50.2**	**-0.1**	
PRU	**Pruhonice**	**151.01**	**340**	⇑*e*PKP		**PKPbc**	**07 23 39.6**	**-0.7**	
PRU				*e*PKPAB		**PKPab**	**07 23 50.2**	**-0.1**	
TREC	**Trest**	**151.29**	**338**	⇑*e*PKP		**PKPbc**	**07 23 40.1**	**-0.9**	
TREC				*e*PKPAB		**PKPab**	**07 23 51.4**	**-0.1**	
KHC	**Kasperske Hory**	**152.06**	**340**	⇑*e*PKP		**PKPbc**	**07 23 41.8**	**-1.0**	
KHC				*ex*		x	07 23 44.1		
KHC				*e*PKPAB		**PKPab**	**07 23 54.6**	**-0.2**	
KHC	**Kasperske Hory**	**152.06**	**340**	*e*PKPdf		**PKPdf**	**07 23 36.1**	**+0.5**	
KHC				*e*PKPbc		**PKPbc**	**07 23 42.3**	**-0.5**	
KHC				*e*PKPab		**PKPab**	**07 23 54.6**	**-0.2**	
GERES	**GERESS Array B**	**152.27**	**339**	PKPbc		**PKPbc**	**07 23 42.3**	**-1.0**	
	comp=Z,1.5nm,0.6s,baz=29,slow=3.0,SNR=13								
GERES				PKPab		**PKPab**	**07 23 54.8**	**-1.0**	
	comp=Z,0.5nm,0.3s,baz=20,slow=3.1,SNR=5.6								
VISS	**Visnje**	**154.45**	**334**	*i* PKPbc		**PKPab**	**07 24 03.2**	**-1.8**	
BOJS	**Bojanci**	**154.53**	**333**	*i* PKPbc		**PKPab**	**07 24 04.8**	**-0.6**	
JAVS	**Javornik**	**154.68**	**336**	*i* PKPbc		**PKPab**	**07 24 04.7**	**-1.5**	
ESDC	**Sonseca Array**	**163.62**	**9**	PKPab		**PKPab**	**07 24 43.7**	**-1.6**	
	comp=Z,0.2nm,0.3s,baz=341,slow=4.3,SNR=5.2								
TORD	**Torodi Ar. Bea**	**169.48**	**192**	PKP		**PKPdf**	**07 23 52.9**	**-2.0**	
	comp=Z,1.8nm,1.1s,baz=177,slow=1.8,SNR=4.8								
TORD				PKPab		**PKPab**	**07 25 11.8**	**+0.3**	
	comp=Z,3.2nm,0.8s,baz=170,slow=4.1,SNR=16								

*ISCJB **28** 07:40:08.2±0.9, 22°.59N±0°.10×141°.9E±0°.3, h260km, mb3.3/6, Error ellipse: s-maj=37.2km s-min=13.2km az=4.7*
*IDC **28** 07:40:09.0±2.0, 22°.61N×141°.96E, h255km±18km, mb3.1/6, mb1 3.4/7, mb1mx3.1/26, mbtmp3.8/7, Error ellipse: s-maj=37.4km s-min=17.5km az=98.0*

ISC 28 07:40:09.6±1.0, 22°.6N±0°.1×142°.0E±0°.3, h260km, n7, σ0§63/8, mb3.3/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.45**	**3**	P		**P**	**Pn**	**07 41 19.6**	**+0.5**
	16nm,0.3s,baz=192,slow=9.3,SNR=28								
JCJ				S		**S**		**07 42 13.4**	**-1.1**
	5.5nm,0.3s,baz=285,slow=20,SNR=2.8								
WRA	**Warramunga Arr**	**42.96**	**191**	P		**P**		**07 47 43.0**	**-0.5**
	1.0nm,0.6s,baz=10,slow=8.4,SNR=14								
KURBB	**Kurchatov Arra**	**56.06**	**317**	P		**P**		**07 49 22.1**	**+0.4**
	0.3nm,0.3s,baz=96,slow=7.6,SNR=3.3								
ILAR	**Eielson Array**	**61.74**	**27**	P		**P**		**07 50 00.4**	**+0.1**
	0.2nm,0.6s,baz=281,slow=5.0,SNR=3.3								
YKA	**Yellowknife Ar**	**76.17**	**28**	P		**P**		**07 51 29.2**	**+0.3**
	0.3nm,0.5s,baz=291,slow=5.6,SNR=2.8								
FINES	**FINESS Array B**	**81.85**	**334**	P		**P**		**07 51 59.4**	**-0.2**
	0.7nm,0.3s,baz=72,slow=4.5,SNR=12								
NVAR	**Mina Array Bea**	**83.46**	**51**	P		**P**		**07 52 08.7**	**0.0**
	0.4nm,0.6s,baz=273,slow=5.1,SNR=4.6								

IDC 28 08:35:19.0±10.0, 22°.37S×178°.07W, h478km±104km, mb2.7/3, mb1 3.1/3, mb1mx2.8/18, mbtmp3.6/3, Error ellipse: s-maj=258.7km s-min=42.6km az=158.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.06**	**259**	P		P	P	08 42 43.5	-0.3
	0.5nm,0.8s,baz=98,slow=7.0,SNR=3.5								
WRA	**Warramunga Arr**	**44.31**	**264**	P		P		08 42 45.6	-0.1
	0.5nm,0.3s,baz=101,slow=8.3,SNR=7.5								
NVAR	**Mina Array Bea**	**82.42**	**43**	P		P		08 46 50.7	0.0
	0.4nm,0.7s,baz=229,slow=5.5,SNR=3.5								
AKASG	**Malin Array Be**	**144.60**	**330**	PKP		PKPdf		08 53 59.5	-0.8
	0.4nm,0.5s,baz=45,slow=3.6,SNR=3.0								
BRTR	**Keskin Array B**	**148.02**	**310**	PKPbc		PKPbc		08 54 09.9	-0.5
	0.2nm,0.3s,baz=48,slow=2.1,SNR=2.1								

*ISCJB **28** 08:40:29.7±0.7, 18°.8S±0°.2×177°.6W±0°.1, h570km, mb4.0/9, Error ellipse: s-maj=26.2km s-min=14.4km az=147.1*
*IDC **28** 08:40:33.9±3.5, 18°.87S×177°.60W, h616km±45km, mb3.5/9, mb1 3.8/11, mb1mx3.4/22, mbtmp4.5/11, Error ellipse: s-maj=27.5km s-min=18.6km az=178.0*

ISC 28 08:40:30.5±0.9, 18°.7S±0°.2×177°.7W±0°.1, h570km, n12, σ1§34/15, mb4.2/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.27**	**255**	P		**P**		**08 43 43.6**	**+1.3**
	1.1nm,0.3s,baz=90,slow=20,SNR=16								
URZ	**Urewera**	**19.98**	**192**	P		**P**		**08 44 24.8**	**-0.5**
	2.1nm,0.3s,baz=338,slow=4.6,SNR=14								
STKA	**Stephens Creek**	**38.87**	**242**	P		**P**		**08 47 09.2**	**+1.3**
	11nm,0.7s,baz=89,slow=10,SNR=13								
JAY	**Jayapura**	**43.82**	**287**	P		**P**		**08 47 48.3**	**+1.1**
	32nm,0.6s,baz=132,slow=4.3,SNR=22								
WRA	**Warramunga Arr**	**45.19**	**260**	P		**P**		**08 47 57.8**	**+0.2**
	10nm,0.3s,baz=98,slow=6.8,SNR=571								
WRA				PcP		**PcP**		**08 49 25.2**	**-0.5**
	0.7nm,0.4s,baz=94,slow=3.1,SNR=2.9								
ASAR	**Alice Springs**	**45.26**	**255**	P		**P**		**08 47 58.8**	**+0.6**
	21nm,0.7s,baz=87,slow=8.1,SNR=276								
ASAR				PcP		**PcP**		**08 49 25.3**	**-0.6**
	1.3nm,0.6s,baz=104,slow=4.6,SNR=4.2								
ASAR				S		**S**		**08 53 54.3**	**-3.3**
	1.7nm,0.8s,baz=92,slow=15,SNR=13								
NVAR	**Mina Array Bea**	**79.53**	**43**	P		**P**		**08 51 39.8**	**+0.7**
	0.5nm,0.6s,baz=229,slow=8.2,SNR=6.2								
TXAR	**Lajitas Array**	**85.84**	**57**	P		**P**		**08 52 11.6**	**+0.8**
	0.2nm,0.5s,baz=208,slow=7.1,SNR=5.8								
ILAR	**Eielson Array**	**86.53**	**13**	P		**P**		**08 52 11.9**	**-1.2**
	0.3nm,0.4s,baz=223,slow=4.8,SNR=12								
PDAR	**Pinedale Array**	**87.46**	**43**	P		**P**		**08 52 17.6**	**-0.7**
	0.6nm,0.7s,baz=117,slow=1.7,SNR=5.2								
CMAR	**Chiang Mai Ar**	**89.83**	**289**	P		**P**		**08 52 29.7**	**+0.1**
	0.9nm,0.3s,baz=104,slow=3.8,SNR=6.0								
BRTR	**Keskin Array B**	**145.87**	**314**	PKPbc		**PKPdf**		**08 59 04.0**	**-1.3**
	0.5nm,0.5s,baz=98,slow=2.9,SNR=2.8								

*ISCJB **28** 08:42:08.8±0.5, 50°.33N±0°.09×153°.3E±0°.1, h250km, mb3.5/17, Error ellipse: s-maj=14.0km s-min=9.3km az=44.5*
*MOS **28** 08:42:11.0±0.8, 50°.35N×153°.39E, h278km, mb3.9/6, Error ellipse: s-maj=24.4km s-min=12.8km az=89.0*
*IDC **28** 08:42:12.1±1.7, 50°.35N×153°.30E, h271km±16km, mb3.2/16, mb1 3.4/21, mb1mx3.3/30, mbtmp3.9/21, Error ellipse: s-maj=15.8km s-min=11.2km az=138.0*

ISC 28 08:42:10.6±0.7, 50°.3N±0°.1×153°.15E±0°.10, h250km, n32, σ1§38/33, mb3.5/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.94**	**77**	*e*PN		Pn	Pn	08 42 45.6	-6.8
SKR				pmax		pmax			
	comp=N,180nm,0.4s								
SKR				pmax		pmax			
	comp=E,80nm,0.4s								
SKR				pmax		pmax			
	comp=Z,330nm,0.4s								
PETK	**Petropavlovsk-**	**3.99**	**43**	P		**P**	**Pn**	**08 43 14.7**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=198,slow=9.2,SNR=16								
PETK				S		**S**		**08 44 08.2**	**+3.5**
	baz=225,slow=20,SNR=2.3								
PETK	**Petropavlovsk-**	**3.99**	**43**	PN		**Pn**		**08 43 14.7**	**+0.5**
PETK				S		**S**		**08 44 08.2**	**+3.5**
PETK				pmax		pmax			
	comp=Z,1.0nm,0.3s								
SEY	**Seymchan**	**12.67**	**358**	P		**P**	**Pn**	**08 45 03.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=192,slow=20,SNR=3.6								
USRK	**Usuriysk Ar.**	**15.58**	**255**	P		**P**		**08 45 37.9**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=74,slow=11,SNR=4.9								
YAK	**Yakutsk**	**17.45**	**321**	P		**P**		**08 45 57.9**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=168,slow=14,SNR=2.7								
MAT	**Matsushiro**	**17.47**	**224**	P		**P**	**Pn**	**08 46 01.6**	**+1.7**
MJAR	**Matsushiro Arr**	**17.47**	**224**	P		**P**		**08 45 59.0**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=17,slow=11,SNR=18								
MJAR	**Matsushiro Arr**	**17.47**	**224**	P		**P**		**08 45 59.0**	**+1.6**
MJAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
KSRS	**Korea Array**	**22.13**	**244**	P		**P**		**08 46 47.2**	**+1.5**
	comp=Z,1.7nm,0.5s,baz=51,slow=9.4,SNR=10								
KSRS	**Korea Array**	**22.13**	**244**	P		**P**		**08 46 47.2**	**+1.5**
KSRS				pmax		pmax			
	comp=Z,2.0nm,0.5s								
ZAK	**Zakamensk**	**31.34**	**290**	*e*P		**P**		**08 48 09.0**	**+1.2**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.0s								
ILAR	**Eielson Array**	**33.82**	**42**	P		**P**		**08 48 28.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=284,slow=7.3,SNR=7.5								
ILAR	**Eielson Array**	**33.82**	**42**	P		**P**		**08 48 28.0**	**-1.0**
ZALV	**Zalesovo Beam**	**40.63**	**302**	P		**P**		**08 49 26.1**	**0.0**
	comp=Z,0.8nm,0.5s,baz=54,slow=7.3,SNR=3.4								
ZALV				PcP		**PcP**		**08 51 21.3**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=104,slow=3.0,SNR=3.0								
ARCES	**ARCESS Array B**	**54.51**	**340**	P		**P**		**08 51 11.5**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=26,slow=8.5,SNR=3.5								
ARCES	**ARCESS Array B**	**54.51**	**340**	P		**P**		**08 51 11.5**	**-0.7**
ARCES				pmax		pmax			
	comp=Z,3.0nm,0.9s								
NVAR	**Mina Array Bea**	**60.81**	**64**	P		**P**		**08 51 56.4**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=301,slow=7.3,SNR=2.8								
FINES	**FINESS Array B**	**60.85**	**334**	P		**P**		**08 51 55.6**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=34,slow=6.4,SNR=12								
FINES	**FINESS Array B**	**60.85**	**334**	P		**P**		**08 51 55.6**	**-0.6**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.6s								
PDAR	**Pinedale Array**	**62.67**	**55**	P		**P**		**08 52 07.4**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=355,slow=3.1,SNR=3.7								
GEYT	**Alibeck**	**64.84**	**300**	P		**P**		**08 52 22.5**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=64,slow=3.4,SNR=2.4								
NOA	**NORSAR Array B**	**64.88**	**341**	P		**P**		**08 52 21.3**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=25,slow=6.7,SNR=4.3								
AKASG	**Malin Array Be**	**68.62**	**325**	P		**P**		**08 52 45.2**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=33,slow=6.0,SNR=5.0								
AKASG	**Malin Array Be**	**68.62**	**325**	P		**P**		**08 52 45.2**	**-1.2**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
SCHQ	**Schefferville**	**70.03**	**23**	P		**P**		**08 52 53.5**	**-1.5**
	comp=Z,1.3nm,0.5s,baz=342,slow=6.4,SNR=5.9								
WRA	**Warramunga Arr**	**71.88**	**199**	P		**P**		**08 53 05.6**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=15,slow=6.2,SNR=5.8								
GERES	**GERESS Array B**	**75.28**	**334**	P		**P**		**08 53 25.6**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=43,slow=6.0,SNR=6.5								
GERES	**GERESS Array B**	**75.28**	**334**	P		**P**		**08 53 25.6**	**-0.4**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.5s								
ASAR	**Alice Springs**	**75.59**	**198**	P		**P**		**08 53 27.8**	**0.0**
	comp=Z,0.4nm,0.7s,baz=9.2,slow=5.7,SNR=3.9								
TXAR	**Lajitas Array**	**75.75**	**61**	P		P		08 53 26.7	-2.3
	comp=Z,0.6nm,0.9s,baz=328,slow=6.7,SNR=3.2								
BRTR	**Keskin Array B**	**75.83**	**316**	P		**P**		**08 53 29.2**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=71,slow=5.4,SNR=3.9								

MEX 28 09:17:39.1±0.4, 17°.23N×101°.24W, h17km±439km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.43**	**330**	*i* P		P	Pg	09 17 46.5	-1.4
ZIIG				*e*S			Sg	09 17 52.2	-1.6
ARIG	**Puente Sto Nin**	**1.35**	**39**	*i* P		P	Pn	09 17 59.7	-3.5
ARIG				*e*S			Sn	09 18 15.6	-5.2
TLIG	**Tlapa**	**2.57**	**82**	*e*P		P	Pn	09 18 16.5	-3.7
TLIG				*i* S			Sn	09 18 47.4	-3.8

IDC 28 09:26:16.8±6.9, 23°.41S×179°.67W, h453km±76km, mb3.1/5, mb1 3.4/6, mb1mx3.1/20, mbtmp4.0/6, Error ellipse: s-maj=43.3km s-min=23.6km az=36.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.06**	**190**	P		P	P	09 29 28.3	-0.1
	1.0nm,0.3s,baz=34,slow=15,SNR=10.0								
URZ				S		S		09 31 59.9	-6.7
	0.1nm,0.3s,baz=163,slow=19,SNR=1.9								
RPZ	**Rata Peaks**	**21.65**	**198**	P		P		09 30 32.9	0.0
	6.2nm,0.6s,baz=11,slow=5.2,SNR=3.8								
ASAR	**Alice Springs**	**42.41**	**260**	P		P		09 33 30.4	-0.1
	0.8nm,0.9s,baz=97,slow=7.4,SNR=4.9								
WRA	**Warramunga Arr**	**42.74**	**265**	P		P		09 33 32.9	-0.2
	0.6nm,0.3s,baz=102,slow=8.4,SNR=32								
VNDA	**Vanda**	**54.89**	**185**	P		P		09 35 02.6	-0.2
	0.5nm,0.3s,baz=23,slow=6.2,SNR=8.5								
TXAR	**Lajitas Array**	**89.92**	**58**	P		P		09 38 26.9	0.0
	0.3nm,0.6s,baz=240,slow=7.2,SNR=4.3								

*IDC **28** 09:28:37.8±5.1, 16°.16S×176°.20W, h320km±50km, mb3.7/15, mb1 3.8/16, mb1mx3.8/23, mbtmp4.3/16, Error ellipse: s-maj=18.4km s-min=15.5km az=99.0*
*ISCJB **28** 09:28:39.5±0.3, 16°.10S±0°.06×176°.34W±0°.08, h350km, mb4.2/25, Error ellipse: s-maj=11.6km s-min=7.4km az=29.5*
*NEIC **28** 09:28:42.1±1.0, 16°.12S×176°.15W, h368km±11km, mb4.5/9, Error ellipse: s-maj=20.1km s-min=11.6km az=120.0*

ISC 28 09:28:40.9±0.5, 16°.13S±0°.08×176°.27W±0°.09, h350km, n50, σ1§43/51, mb4.3/25, Fiji Islands region

| Code | Station Name | Δ° | AZ° | Phase | ID | Op | ISC | Time

0.3nm,0.4s,baz=126,slow=2.0,SNR=2.0

KHC Kasperske Hory 146.11 348 *e*PKP **PKPdf 09 47 40.6 +1.8**
GERES GERESS Array B 146.36 348 PKPbc **PKPdf 09 47 40.6 +1.3**
0.3nm,0.2s,baz=35,slow=3.6,SNR=4.2

NEIC ***28*** *09:32:20.6±0.5,23°.02S×66°.41W,h212km±4km,mb4.5/47, Error ellipse: s-maj=6.3km s-min=4.5km az=65.0*
ISCJB ***28*** *09:32:21.5±0.3,22°.85S±0°.04×66°.57W±0°.04,h225km±2km, mb4.3/60,Error ellipse: s-maj=7.9km s-min=4.4km az=32.3*
IDC ***28*** *09:32:21.6±1.3,22°.92S×66°.40W,h222km±11km,mb3.9/15, mb1 4.0/20,mb1mx4.0/23,mbtmp4.5/20,Error ellipse: s-maj=15.4km s-min=11.3km az=30.0*
SJA ***28*** *09:32:22.1±0.8,22°.96S×66°.58W,h227km±7km,ML3.8*
GUC ***28*** *09:32:23.5±0.4,22°.79S×67°.31W,h274km±9km,ML5.7*
ISC 28 09:32:21.6±0.5,22°.97S±0°.05×66°.60W±0°.05,h221km±5km, n461,σ1s10/472,mb4.4/60,3C-2D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HJA	**Humahuaca**	**1.12**	**102**	*i* P	**Pn**	**09 32 56.8**	**+2.0**
HJA				*i* S	**S**	**09 33 21.9**	**+1.3**
HJA				AML	AML	09 33 24.7	
YJA	**Yavi**	**1.28**	**52**	*i* P	**Pn**	**09 32 58.0**	**+1.9**
YJA				*e*S	**S**	**09 33 24.0**	**+1.3**
AZAP	**Zapla**	**1.88**	**132**	*i* P	**Pn**	**09 33 01.9**	**+1.1**
AZAP				AML	AML	09 33 33.9	
	comp=Z,377nm,0.7s						
SLA	**San Lorenzo**	**2.01**	**150**	*i* P	**Pn**	**09 33 04.0**	**+2.0**
SLA				*i* S	**S**	**09 33 34.1**	**+0.6**
SLA				AML	AML	09 33 38.5	
	comp=Z,272nm,0.8s						
LVC	**Limon Verde**	**2.16**	**279**	P	**Pn**	**09 33 05.0**	**+1.4**
	comp=Z,11μm,0.3s,baz=99,slow=7.4,SNR=4280						
LVC				S	**S**	**09 33 37.4**	**+1.2**
	comp=Z,4μm,0.3s,baz=253,slow=19,SNR=29						
LVC	**Limon Verde**	**2.16**	**279**	*i* P	**Pn**	**09 33 05.1**	**+1.4**
ASTB	**Santa Barbara**	**2.17**	**117**	*i* P	**Pn**	**09 33 05.1**	**+1.4**
ALOL	**LOMAS DE OLMED**	**2.56**	**110**	*i* P	**Pn**	**09 33 08.2**	**+0.7**
ALOL				*i* P	**Pn**	**09 33 08.2**	**+0.7**
PB09	**IPOC Station P**	**2.71**	**295↑**	*e*P	**Pn**	**09 33 10.8**	**+1.5**
PB09				*e*S	**S**	**09 33 46.1**	**-0.3**
PB09				AML	AML	09 33 49.0	
	comp=E,11μm,0.4s						
PB04	**IPOC Station P**	**2.76**	**284↓**	*e*P	Pn	09 33 16.9	+7.3
PB04				*e*S	S	09 33 57.4	+10
PB04				AML	AML	09 34 01.2	
	comp=E,4μm,0.5s						
PB01	**IPOC Station P**	**3.29**	**305↑**	*e*P	**Pn**	**09 33 16.4**	**+0.4**
PB01				*e*S	**S**	**09 33 57.0**	**-1.4**
PB01				AML	AML	09 33 59.8	
	comp=E,4μm,0.2s						
PB10	**IPOC Station P**	**3.68**	**261↑**	*e*P	**Pn**	**09 33 20.5**	**+0.2**
PB10				*e*S	**S**	**09 34 04.2**	**-2.1**
PB10				AML	AML	09 34 06.3	
	comp=E,7μm,0.3s						
PATCX	**Punta Patache**	**3.93**	**302**	*e*P	**Pn**	**09 33 23.4**	**-0.1**
PATCX				*e*S	**S**	**09 34 09.0**	**-3.0**
PATCX				AML	AML	09 34 11.8	
	comp=N,3μm,0.2s						
PB11	**IPOC Station P**	**4.28**	**318**	*e*P	**Pn**	**09 33 28.4**	**+0.6**
PB11				*e*S	**S**	**09 34 18.2**	**-1.6**
PB11				AML	AML	09 34 20.8	
	comp=E,14μm,0.4s						
MNMC	**Minimini**	**4.74**	**323**	*e*P	**Pn**	**09 33 34.0**	**+0.4**
MNMC				*e*S	**S**	**09 34 28.5**	**-1.8**
LCO	**Las Campanas**	**7.05**	**211**	*e*Pn	**Pn**	**09 34 01.0**	**-1.9**
ARE	**Arequipa**	**7.95**	**324**	*e*P	**Pn**	**09 34 14.0**	**-0.5**
ARE				*e*S	S	09 35 37.0	-7.8
SIV	**San Ignacio**	**8.68**	**38**	P	**Pn**	**09 34 21.6**	**-2.2**
	comp=E,3.5nm,0.3s,baz=226,slow=14,SNR=68						
SIV				S	S	09 35 50.7	-11
	baz=231,slow=15,SNR=3.3						
CFAA	**Coronel Fontan**	**8.72**	**189**	P	**Pn**	**09 34 22.3**	**-1.8**
	comp=E,0.6nm,0.3s,baz=45,slow=20,SNR=89						
CFAA				S	S	09 35 54.5	-8.1
	comp=E,2.7nm,0.3s,baz=308,slow=19,SNR=24						
CPUP	**Villa Florida**	**9.07**	**114**	P	**Pn**	**09 34 26.6**	**-2.0**
	comp=E,0.1nm,0.3s,baz=297,slow=12,SNR=11						
CPUP				S	S	09 36 21.6	+11
	comp=E,0.2nm,0.3s,baz=230,slow=19,SNR=1.3						
CPUP	**Villa Florida**	**9.07**	**114**	*e*Pn	**Pn**	**09 34 27.2**	**-1.5**
CPUP				S	S	09 36 21.6	+11
SAML	**Samuel**	**14.32**	**14**	*e*Pn	**Pn**	**09 35 34.7**	**-0.1**
NNA	**Nana**	**14.64**	**317**	P	**Pn**	**09 35 40.0**	**+1.1**
	comp=E,3.0nm,0.3s,baz=144,slow=11,SNR=8.9						
NNA	**Nana**	**14.64**	**317**	*e*Pn	**P**	**09 35 40.6**	**+1.1**
TRQA	**Tornquist**	**15.55**	**166**	*e*Pn	**P**	**09 35 47.6**	**-1.5**
	comp=E,20nm,1.2s						
PLCA	**Paso Flores**	**18.02**	**190**	*e*P	**P**	**09 36 14.6**	**-1.6**
	comp=E,0.9nm,0.9s						
BDFB	**Brasilia**	**18.99**	**71**	P	**P**	**09 36 26.1**	**-0.8**
	comp=E,3.2nm,0.3s,baz=245,slow=11,SNR=74						
ATAH	**Atahualpa**	**19.41**	**322**	P	**P**	**09 36 33.8**	**+2.0**
	comp=E,0.8nm,0.3s,baz=175,slow=8.3,SNR=4.0						
PTGA	**Pitinga**	**23.03**	**17**	P	**P**	**09 37 05.9**	**-1.7**
	comp=E,14nm,1.1s,baz=194,slow=13,SNR=8.3						
OTAV	**Otavalo**	**25.79**	**332**	*e*P	**P**	**09 37 36.0**	**+3.0**
	comp=E,9.0nm,1.1s						
SDV	**Santo Domingo**	**31.91**	**352**	*e*P	**P**	**09 38 24.9**	**-1.8**
	comp=E,7.8nm,1.1s						
PCRV	**Puerto La Cruz**	**33.00**	**4**	P	**P**	**09 38 35.2**	**-0.9**
	comp=E,5.2nm,0.6s,baz=192,slow=5.2,SNR=5.8						
RCBR	**Riachuelo**	**34.15**	**65**	*e*P	**P**	**09 38 46.0**	**-0.2**
	comp=E,52nm,1.2s						
VNA1	**Neumayer--Stat**	**58.19**	**160**	P	**P**	**09 41 54.0**	**+1.9**
934A	**Benavides**	**58.98**	**327**	P	**P**	**09 41 59.9**	**+1.8**
	baz=59						
933A	**Laredo**	**59.37**	**326**	P	**P**	**09 42 01.7**	**+0.9**
	baz=60,SNR=5.2						
736A	**Circle Diamond**	**59.38**	**329**	P	**P**	**09 42 02.1**	**+1.2**
	baz=60,SNR=7.7						
834A	**Tilden**	**59.42**	**327**	P	**P**	**09 42 02.6**	**+1.4**
	baz=60						
637A	**Eagle Lake**	**59.45**	**330**	P	**P**	**09 42 02.5**	**+1.2**
	baz=60						
KMSC	**Kings Mountain**	**59.46**	**346**	P	**P**	**09 42 01.8**	**+0.5**
	baz=60						
KMSC	**Kings Mountain**	**59.46**	**346**	*e*P	**P**	**09 42 01.7**	**+0.5**
	comp=E,12nm,0.8s						
735A	**Kenedy**	**59.66**	**328**	P	**P**	**09 42 03.8**	**+1.1**
	baz=60						
636A	**Smothers Creek**	**59.82**	**329**	P	**P**	**09 42 04.9**	**+1.1**
	baz=60						
833A	**Chaparral WMA,**	**60.01**	**327**	P	**P**	**09 42 05.2**	**0.0**
	baz=60,SNR=21						
734A	**La Parita Cree**	**60.02**	**328**	P	**P**	**09 42 05.9**	**+0.7**
	baz=60,SNR=6.6						
340A	**Bronson**	**60.07**	**333**	P	**P**	**09 42 06.5**	**+1.0**
	baz=60						
635A	**Leesville**	**60.08**	**329**	P	**P**	**09 42 06.7**	**+1.1**
	baz=60						
438A	**Sam Houston St**	**60.17**	**331**	P	**P**	**09 42 08.1**	**+1.9**
	baz=61						
SNAA	**Sanae**	**60.20**	**161**	P	P	09 42 03.0	-2.9
SNAA	**Sanae**	**60.20**	**161**	*e*P	P	09 42 03.0	-2.9
832A	**Faith Ranch, C**	**60.27**	**326**	P	**P**	**09 42 07.2**	**+0.3**
	baz=61,SNR=13						
339A	**Huntington**	**60.28**	**332**	P	**P**	**09 42 07.8**	**+0.9**
	baz=61						
733A	**Divot King Ran**	**60.28**	**327**	P	**P**	**09 42 08.0**	**+1.0**
	baz=61						
536A	**Bastrop**	**60.32**	**330**	P	**P**	**09 42 08.1**	**+0.8**
	baz=61						
338A	**Crockett**	**60.62**	**332**	P	**P**	**09 42 10.5**	**+1.2**
	baz=61						
732A	**Laxson Ranch,**	**60.63**	**326**	P	**P**	**09 42 09.5**	**+0.2**
	baz=61,SNR=11						
NATX	**Nacogdoches**	**60.69**	**333**	P	**P**	**09 42 10.7**	**+1.0**
	baz=61						
NATX	**Nacogdoches**	**60.69**	**333**	*e*P	**P**	**09 42 11.5**	**+1.8**
436A	**Wall Ranch, Ga**	**60.78**	**330**	P	**P**	**09 42 11.6**	**+1.2**
	baz=61						
633A	**Saathoff Ranch**	**60.83**	**327**	P	**P**	**09 42 10.7**	**0.0**
	baz=61,SNR=8.9						
534A	**Blanco**	**60.95**	**328**	P	**P**	**09 42 11.4**	**-0.1**
	baz=61						
435B	**Jarrell**	**61.16**	**330**	P	**P**	**09 42 13.2**	**+0.3**
	baz=62						
632A	**Uvalde**	**61.17**	**327**	P	**P**	**09 42 13.3**	**+0.3**
	baz=62,SNR=6.4						
533A	**Kerrville**	**61.26**	**328**	P	**P**	**09 42 13.5**	**-0.1**
	baz=62						
336A	**Riesel**	**61.33**	**331**	P	**P**	**09 42 14.2**	**+0.2**
	baz=62						
631A	**Perdido Creek**	**61.49**	**326**	P	**P**	**09 42 14.8**	**-0.3**
	baz=62,SNR=6.3						
335A	**Moody**	**61.51**	**330**	P	**P**	**09 42 15.4**	**+0.2**
	baz=62						
434A	**Burnet**	**61.51**	**329**	P	**P**	**09 42 15.3**	**+0.1**
	baz=62						
138A	**Matatall Enter**	**61.65**	**333**	P	**P**	**09 42 16.5**	**+0.4**
	baz=62						
236A	**Katherine and**	**61.71**	**331**	P	**P**	**09 42 16.1**	**-0.4**
	baz=62						
532A	**Rocksprings**	**61.74**	**327**	P	**P**	**09 42 15.9**	**-0.9**
	baz=62,SNR=10						
433A	**Art**	**61.85**	**328**	P	**P**	**09 42 17.3**	**-0.2**
	baz=62,SNR=9.2						
137A	**Heron Place, G**	**61.88**	**332**	P	**P**	**09 42 17.5**	**-0.1**
	baz=62						
334A	**Lometa**	**61.92**	**329**	P	**P**	**09 42 18.3**	**+0.3**
	baz=62						
JCT	**Junction City**	**61.97**	**328**	P	**P**	**09 42 18.2**	**-0.1**
	baz=62,SNR=8.3						
JCT	**Junction City**	**61.97**	**328**	*e*P	**P**	**09 42 18.9**	**+0.5**
	comp=E,11nm,0.8s						
531A	**Rocksprings**	**62.09**	**327**	P	**P**	**09 42 19.4**	**+0.2**
	baz=62,SNR=11						
WHTX	**Lake Whitney,**	**62.12**	**330**	P	**P**	**09 42 19.0**	**-0.3**
	baz=62						
WHTX	**Lake Whitney,**	**62.12**	**330**	*e*P	**P**	**09 42 19.6**	**+0.4**
Z38A	**Mt. Pleasant**	**62.12**	**333**	P	**P**	**09 42 19.2**	**0.0**
	baz=62						
333A	**Richland Sprin**	**62.27**	**329**	P	**P**	**09 42 20.0**	**-0.3**
	baz=63,SNR=9.6						
432A	**Menard**	**62.29**	**328**	P	**P**	**09 42 20.2**	**-0.2**
	baz=63,SNR=12						
Z37A	**Pogue Cattle C**	**62.34**	**333**	P	**P**	**09 42 20.7**	**0.0**
	baz=63						
Y39A	**Lockesburg**	**62.35**	**334**	P	**P**	**09 42 20.9**	**+0.2**
	baz=63						
234A	**Clairette**	**62.44**	**330**	P	**P**	**09 42 21.1**	**-0.3**
	baz=63,SNR=8.9						
530A	**J-C Ranch, Com**	**62.48**	**326**	P	**P**	**09 42 21.6**	**-0.1**
	baz=63,SNR=9.5						
431A	**Sonora**	**62.54**	**327**	P	**P**	**09 42 22.0**	**-0.1**
	baz=63,SNR=8.7						
MIAR	**Mount Ida**	**62.68**	**335**	P	**P**	**09 42 22.5**	**-0.4**
	baz=63,SNR=5.5						
Z36A	**Blue Ridge**	**62.75**	**332**	P	**P**	**09 42 23.8**	**+0.4**
	baz=63,SNR=6.0						
233A	**Rising Star**	**62.80**	**329**	P	**P**	**09 42 23.5**	**-0.3**
	baz=63,SNR=9.3						
134A	**White-Moore Ra**	**62.89**	**330**	P	**P**	**09 42 24.4**	**+0.1**
	baz=63						
529A	**Stev Forest Ra**	**62.91**	**325**	P	**P**	**09 42 24.5**	**-0.2**
	baz=63,SNR=22						
331A	**San Angelo**	**62.96**	**328**	P	**P**	**09 42 24.3**	**-0.6**
	baz=63,SNR=13						
Y37A	**Hugo**	**63.01**	**333**	P	**P**	**09 42 25.1**	**0.0**
	baz=63,SNR=9.5						
232A	**Coleman**	**63.05**	**329**	P	**P**	**09 42 25.0**	**-0.5**
	baz=64,SNR=16						
TXAR	**Lajitas Array**	**63.06**	**324**	P	**P**	**09 42 25.9**	**+0.2**
	comp=E,1.7nm,0.6s,baz=148,slow=7.2,SNR=22						
429A	**Davenport Ranc**	**63.14**	**326**	P	**P**	**09 42 26.1**	**0.0**
	baz=64,SNR=10.0						
Z35A	**Perchaven, San**	**63.16**	**331**	P	**P**	**09 42 26.4**	**+0.4**
	baz=64						
PARMO	**Parma**	**63.21**	**339**	*e*P	**P**	**09 42 27.1**	**+0.7**
Y36A	**Durant**	**63.22**	**333**	P	**P**	**09 42 26.5**	**0.0**
	baz=64						
X38A	**Whitesboro**	**63.28**	**334**	P	**P**	**09 42 27.0**	**+0.2**
	baz=64,SNR=8.9						
133A	**Hamilton Ranch**	**63.30**	**330**	P	**P**	**09 42 27.0**	**0.0**
	baz=64,SNR=5.1						
330A	**Mertzon**	**63.41**	**327**	P	**P**	**09 42 27.6**	**-0.3**
	baz=64,SNR=6.5						
231A	**Bronte**	**63.41**	**328**	P	**P**	**09 42 27.5**	**-0.3**
	baz=64,SNR=5.8						
X37A	**Clayton**	**63.44**	**334**	P	**P**	**09 42 28.0**	**+0.2**
	baz=64,SNR=5.5						
Z34A	**Collier Ranch,**	**63.48**	**331**	P	**P**	**09 42 28.6**	**+0.4**
	baz=64						
PBMO	**Poplar Bluff**	**63.54**	**339**	*e*P	**P**	**09 42 28.1**	**-0.4**
Y35A	**Marietta**	**63.55**	**332**	P	**P**	**09 42 29.0**	**+0.4**
	baz=64						
WCI	**Wyandotte Cave**	**63.62**	**343**	*e*P	**P**	**09 42 27.4**	**-1.6**
ABTX	**Abilene, Hawle**	**63.66**	**329**	P	**P**	**09 42 30.1**	**+0.7**
	baz=64						
ABTX	**Abilene, Hawle**	**63.66**	**329**	*e*P	**P**	**09 42 30.2**	**+0.8**
	comp=E,28nm,1.5s						
230A	**Sterling City**	**63.77**	**327**	P	**P**	**09 42 29.7**	**-0.5**
	baz=64,SNR=8.0						
Z33A	**Whitaker Ranch**	**63.80**	**330**	P	**P**	**09 42 29.4**	**-0.9**
	baz=64,SNR=13						
X36A	**Centrahoma**	**63.83**	**333**	P	**P**	**09 42 30.2**	**-0.2**
	baz=64,SNR=6.8						
329A	**Wagon Wheel Ra**	**63.88**	**327**	P	**P**	**09 42 30.3**	**-0.7**
	baz=64						
Y34A	**Reagan Ranch,**	**63.91**	**331**	P	**P**	**09 42 31.0**	**0.0**
	baz=64,SNR=5.3						
W37A	**Quinton**	**63.93**	**334**	P	**P**	**09 42 30.8**	**-0.3**
	baz=64,SNR=5.0						
X35A	**Drake**	**63.94**	**332**	P	**P**	**09 42 30.6**	**-0.6**
	baz=64						
131A	**Roby**	**64.05**	**329**	P	**P**	**09 42 31.9**	**-0.1**
	baz=64,SNR=9.2						
Z32A	**Haskell**	**64.14**	**330**	P	**P**	**09 42 32.3**	**-0.3**
	baz=64						
229A	**Bryant Ranch,**	**64.18**	**327**	P	**P**	**09 42 32.5**	**-0.4**
	baz=65						
W36A	**Wetumka**	**64.26**	**333**	P	**P**	**09 42 32.3**	**-1.0**
	baz=65,SNR=12						
130A	**Snyder**	**64.27**	**328**	P	**P**	**09 42 32.9**	**-0.5**
	baz=65,SNR=10						
Y33A	**Hilltop Ranch,**	**64.34**	**331**	P	**P**	**09 42 33.9**	**+0.1**
	baz=65						
V37A	**Hulbert**	**64.47**	**335**	P	**P**	**09 42 34.7**	**+0.2**
	baz=65,SNR=10						
Z31A	**Sharp Cattle R**	**64.47**	**329**	P	**P**	**09 42 35.0**	**+0.3**
	baz=65,SNR=12						
X34A	**Smith Ranch, M**	**64.49**	**332**	P	**P**	**09 42 35.2**	**+0.5**
	baz=65						
W35A	**Tecumseh**	**64.55**	**333**	P	**P**	**09 42 35.1**	**0.0**
	baz=65						
BLO	**Bloomington**	**64.57**	**343**	*e*P	**P**	**09 42 34.2**	**-0.9**
228A	**UT Block 9, Go**	**64.69**	**327**	P	**P**	**09 42 36.0**	**-0.2**
	baz=65						
V36A	**Jenks**	**64.70**	**334**	P	**P**	**09 42 36.1**	**0.0**
	baz=65,SNR=6.1						
ACSO	**Alum Creek Sta**	**64.70**	**346**	*e*P	**P**	**09 42 35.9**	**-0.1**
	comp=E,31nm,1.4s						
Y32A	**R-V Farms, Ver**	**64.71**	**330**	P	**P**	**09 42 36.3**	**+0.1**
	baz=65,SNR=6.8						
TUL1	**Leonard**	**64.75**	**334**	P	**P**	**09 42 36.2**	**-0.2**
	baz=65						
Z30A	**Sanderson Ranc**	**64.91**	**328**	P	**P**	**09 42 37.7**	**+0.1**
	baz=65,SNR=7.4						
X32A	**Elmer**	**64.98**	**330**	P	**P**	**09 42 37.7**	**-0.3**
	baz=65						
128A	**Castleberry Fa**	**65.04**	**327**	P	**P**	**09 42 38.3**	**-0.2**
	baz=65						
V35A	**Meyer Ranch, C**	**65.05**	**333**	P	**P**	**09 42 38.1**	**-0.2**
	baz=66,SNR=5.8						
Y31A	**Rekieta Farm,**	**65.05**	**329**	P	**P**	**09 42 38.7**	**+0.3**
	baz=66,SNR=7.6						
Z29A	**Hungry Hill Ra**	**65.17**	**328**	P	**P**	**09 42 39.1**	**-0.2**
	baz=66						
W33A	**Cadlo, Fort Co**	**65.23**	**332**	P	**P**	**09 42 40.1**	**+0.6**
	baz=66,SNR=10						
Y30A	**Stafford Cattl**	**65.28**	**329**	P	**P**	**09 42 39.7**	**-0.2**
	baz=66						
V34A	**Guthrie**	**65.40**	**333**	P	**P**	**09 42 40.6**	**0.0**
	baz=66						
V34A	**Guthrie**	**65.40**	**333**	*e*P	**P**	**09 42 40.2**	**-0.3**
	comp=E,3.8nm,0.6s						
T37A	**Cheneyville 18**	**65.46**	**335**	P	**P**	**09 42 41.2**	**+0.3**
	baz=66,SNR=19						
X31A	**McDonald Ranch**	**65.47**	**330**	P	**P**	**09 42 41.4**	**+0.3**
	baz=66,SNR=24						
Z28A	**Tucker Farm, M**	**65.53**	**327**	P	**P**	**09 42 41.4**	**-0.2**
	baz=66,SNR=7.5						
U35A	**Pawnee**	**65.53**	**334**	P	**P**	**09 42 41.4**	**0.0**
	baz=66						
W32A	**Sentinel**	**65.55**	**331**	P	**P**	**09 42 41.8**	**+0.2**
	baz=66,SNR=10.0						
Y29A	**Porterfield Fa**	**65.64**	**328**	P	**P**	**09 42 42.1**	**-0.2**
	baz=66,SNR=5.5						
V33A	**Lossen Ranch,**	**65.72**	**332**	P	**P**	**09 42 42.6**	**0.0**
	baz=66,SNR=8.5						
X30A	**Coker Ranch, T**	**65.74**	**329**	P	**P**	**09 42 42.9**	**0.0**
	baz=66,SNR=7.0						
T36A	**Boggs Farm, Ca**	**65.78**	**335**	P	**P**	**09 42 42.9**	**-0.1**
	baz=66,SNR=7.8						
T35A	**Sooner Cattle**	**65.91**	**334**	P	**P**	**09 42 44.0**	**+0.1**
	baz=66						
W31A	**Holland Ranch,**	**65.92**	**330**	P	**P**	**09 42 44.0**	**+0.1**
	baz=66						
U34A	**Anderson Ranch**	**65.92**	**333**	P	**P**	**09 42 43.9**	**0.0**
	baz=66,SNR=6.2						
V32A	**Arapaho**	**65.96**	**331**	P	**P**	**09 42 44.0**	**-0.2**
	baz=66						
X29A	**Tulia**	**66.13**	**329**	P	**P**	**09 42 44.9**	**-0.5**
	baz=66,SNR=5.5						
U33A	**Lingo Farm, Me**	**66.16**	**333**	P	**P**	**09 42 45.2**	**-0.2**
	baz=67						
S36A	**Lake Cedric, C**	**66.25**	**335**	P	**P**	**09 42 45.8**	**-0.1**
	baz=67,SNR=6.1						
MSTX	**Muleshoe**	**66.27**	**328**	P	**P**	**09 42 46.1**	**-0.2**
	baz=67,SNR=13						
MSTX	**Muleshoe**	**66.27**	**328**	*e*P	**P**	**09 42 46.2**	**-0.1**
T34A	**McClaskey Farm**	**66.28**	**334**	P	**P**	**09 42 46.0**	**-0.1**
	baz=67						
V31A	**Spring Creek L**	**66.36**	**331**	P	**P**	**09 42 47.3**	**+0.6**
	baz=67						
R37A	**Teagarden Farm**	**66.47**	**336**	P	**P**	**09 42 47.4**	**0.0**
	baz=67						
AMTX	**Amarillo**	**66.48**	**329**	P	**P**	**09 42 47.3**	**-0.3**
	baz=67						
AMTX	**Amarillo**	**66.48**	**329**	*e*P	**P**	**09 42 47.6**	**+0.1**
	comp=E,9.3nm,1.1s						
S35A	**Otter Creek Ra**	**66.50**	**335**	P	**P**	**09 42 47.8**	**+0.3**
	baz=67,SNR=6.4						
HDIL	**Hopedale**	**66.64**	**341**	*e*P	**P**	**09 42 47.4**	**-1.0**
	comp=E,14nm,0.9s						
W29A	**Amarillo**	**66.65**	**329**	P	**P**	**09 42 48.5**	**-0.2**
	baz=67,SNR=5.1						
V30A	**Spur Ranch, Mi**	**66.73**	**330**	P	**P**	**09 42 50.4**	**+1.2**
	baz=67						
R36A	**Gordon, Harris**	**66.74**	**336**	P	**P**	**09 42 49.1**	**0.0**
	baz=67,SNR=6.0						
Q37A	**Longview Farm,**	**66.83**	**337**	P	**P**	**09 42 49.4**	**-0.2**
	baz=67,SNR=6.0						
R35A	**Emporia Munici**	**67.00**	**335**	P	**P**	**09 42 51.6**	**+0.9**
	baz=67						
DBIC	**Dimbokro**	**67.13**	**72**	P	**P**	**09 42 50.8**	**-1.2**
	comp=E,9.6nm,0.9s,baz=213,slow=6.4,SNR=7.8						
T32A	**Huddler Ranch,**	**67.14**	**332**	P	**P**	**09 42 52.3**	**+0.7**
	baz=68						
V29A	**Stinnett**	**67.21**	**330**	P	**P**	**09 42 53.1**	**+1.0**
	baz=68						
QSPA	**South Pole Qui**	**67.23**	**180**	*e*P	**P**	**09 42 53.1**	**+1.1**
U30A	**WK&E Inc. Balk**	**67.35**	**331**	P	**P**	**09 42 54.2**	**+1.1**
	baz=68						
T31A	**Randall Ranch,**	**67.39**	**332**	P	**P**	**09 42 54.0**	**+0.8**
	baz=68						
R34A	**Isabella, Hill**	**67.40**	**334**	P	**P**	**09 42 53.2**	**0.0**
	baz=68,SNR=5.8						
Q35A	**Mercer Eighty,**	**67.41**	**335**	P	**P**	**09 42 53.1**	**-0.1**
	baz=68						
V28A	**Channing**	**67.44**	**329**	P	**P**	**09 42 54.3**	**+0.7**
	baz=68,SNR=5.9						
S32A	**Newby Ranch, P**	**67.58**	**333**	P	**P**	**09 42 55.0**	**+0.6**
	baz=68						
V27A	**Dan Oppiter Fa**	**67.73**	**329**	P	**P**	**09 42 56.5**	**+1.0**
	baz=68						
P36A	**Good Intent, A**	**67.76**	**336**	P	**P**	**09 42 55.5**	**0.0**
	baz=68						
121A	**Cookes Peak, D**	**67.78**	**323**	P	**P**	**09 42 57.0**	**+1.1**
	baz=68,SNR=7.8						
121A	**Cookes Peak, D**	**67.78**	**323**	*e*P	**P**	**09 42 57.2**	**+1.3**
	comp=E,6.2nm,0.7s						
Q34A	**Chapman**	**67.81**	**335**	P	**P**	**09 42 56.0**	**+0.3**
	baz=68,SNR=7.0						
KSU1	**Kansas State U**	**67.84**	**335**	P	**P**	**09 42 55.7**	**-0.2**
	baz=68						
KSU1	**Kansas State U**	**67.84**	**335**	*e*P	**P**	**09 42 55.8**	**-0.1**
	comp=E,8.0nm,0.9s						
U28A	**Mallet**	**67.95**	**330**	P	**P**	**09 42 56.8**	**0.0**
	baz=68,SNR=5.9						
P35A	**Duane Minner,**	**67.98**	**336**	P	**P**	**09 42 57.1**	**+0.3**
	baz=68						
R32A	**Long Quarter,**	**68.10**	**333**	P	**P**	**09 42 57.7**	**+0.1**
	baz=68						
O36A	**Bolckow**	**68.12**	**337**	P	**P**	**09 42 57.8**	**+0.2**
	baz=68						
S30A	**Montezuma**	**68.19**	**332**	P	**P**	**09 42 58.6**	**+0.4**
	baz=69						
Q33A	**Connelly Farm,**	**68.23**	**334**	P	**P**	**09 42 58.7**	**+0.4**
	baz=69						
U27A	**Thompson Grove**	**68.27**	**329**	P	**P**	**09 42 59.0**	**+0.2**
	baz=69						
P34A	**Walnut Farm, R**	**68.31**	**335**	P	**P**	**09 42 59.3**	**+0.5**
	baz=69,SNR=6.9						
R31A	**Burdett**	**68.33**	**333**	P	**P**	**09 42 59.5**	**+0.4**
	baz=69						
S29A	**Ulysses**	**68.46**	**331**	P	**P**	**09 43 00.3**	**+0.4**
	baz=69						
T28A	**Walsh**	**68.50**	**330**	P	**P**	**09 43 00.7**	**+0.5**
	baz=69,SNR=5.8						
Q32A	**Meitler Ranch,**	**68.52**	**334**	P	**P**	**09 43 00.3**	**+0.1**
	baz=69						
P33A	**Williams Farm,**	**68.55**	**335**	P	**P**	**09 43 00.6**	**+0.2**
	baz=69						
R30A	**Dighton**	**68.64**	**332**	P	**P**	**09 43 01.2**	**+0.2**
	baz=69	

BGNE	**Belgrade** comp=E,40nm,0.7s	70.42	335	*e*P	P	09 43 12.1 +0.3
SDCO	**Great Sand Dun** baz=71,SNR=16	70.61	328	P	P	09 43 14.7 +1.4
SDCO	**Great Sand Dun** comp=E,7.3nm,0.8s	70.61	328	*e*P	P	09 43 14.3 +1.0
Q26A	**Hugo** baz=71	70.61	330	P	P	09 43 14.9 +1.8
P27A	**Ficken Ranch,** baz=71	70.70	331	P	P	09 43 15.1 +1.4
W18A	**Petrified Fore** baz=71	70.78	324	P	P	09 43 16.1 +1.8
O28A	**Krutsinger Ran** baz=71	70.82	332	P	P	09 43 15.8 +1.5
N29A	**Votaw Ranch, W** baz=71	70.91	333	P	P	09 43 16.4 +1.6
P26A	**Davis Ranch, A** baz=72	71.05	331	P	P	09 43 17.4 +1.6
O27A	**Beecher Island** baz=72	71.18	332	P	P	09 43 18.3 +1.8
N28A	**Pribbeno Ranch** baz=72	71.19	333	P	P	09 43 17.9 +1.5
S22A	**4UR Ranch, Cre** baz=72,SNR=5.8	71.26	327	P	P	09 43 18.5 +1.3
L31A	**Butterfield Fa** baz=72,SNR=6.6	71.34	335	P	P	09 43 17.9 +0.6
Q24A	**Divide** baz=72,SNR=8.4	71.40	329	P	P	09 43 19.6 +1.5
M29A	**Burnside Ranch** baz=72	71.46	334	P	P	09 43 19.4 +1.4
OGNE	**Ogallala** baz=72	71.61	332	P	P	09 43 20.1 +1.1
MVCO	**Mesa Verde** baz=72,SNR=8.0	71.70	326	P	P	09 43 21.3 +1.6
MVCO	**Mesa Verde** comp=E,8.8nm,0.8s	71.70	326	*e*P	P	09 43 20.9 +1.2
M28A	**Bar X Bar Ranc** baz=72	71.70	333	P	P	09 43 21.4 +1.9
N27A	**Anderson Farm,** baz=72	71.71	332	P	P	09 43 20.7 +1.1
ECSD	**EROS Data Cent** baz=72	71.87	338	P	P	09 43 20.7 +0.4
ECSD	**EROS Data Cent** comp=E,11nm,1.3s	71.87	338	*e*P	P	09 43 20.1 -0.3
SPMN	**Marine on St.** baz=72	71.95	341	P	P	09 43 21.2 +0.4
WUAZ	**Wupatki** baz=72,SNR=9.2	71.98	323	P	P	09 43 23.3 +1.8
WUAZ	**Wupatki** comp=E,9.6nm,1.0s	71.98	323	*e*P	P	09 43 23.1 +1.7
K30A	**Basset** baz=72	72.07	335	P	P	09 43 23.0 +1.4
GLA	**Glamis** baz=73	72.24	319	P	P	09 43 24.5 +1.6
L28A	**Connealy Angus** baz=73	72.27	333	P	P	09 43 24.5 +1.6
ISCO	**Idaho Springs** baz=73,SNR=7.3	72.28	329	P	P	09 43 24.6 +1.3
ISCO	**Idaho Springs** comp=E,5.2nm,0.8s	72.28	329	*e*P	P	09 43 24.4 +1.1
K29A	**Lazy Trails An** baz=73	72.42	335	P	P	09 43 25.1 +1.4
SMCO	**Snowmass** comp=E,5.1nm,0.6s	72.45	328	*e*P	P	09 43 25.6 +1.2
Y12C	**Blythe** baz=73	72.54	320	P	P	09 43 26.2 +1.6
J30A	**Dallas** baz=73	72.58	335	P	P	09 43 25.8 +1.2
K28A	**Ten Mile Ranch** baz=73	72.80	334	P	P	09 43 27.3 +1.4
J29A	**Okreek** baz=73	72.97	335	P	P	09 43 28.1 +1.2
BC3	**Big Chuckawall** baz=73,SNR=5.4	73.04	319	P	P	09 43 29.4 +1.8
I30A	**Oacoma** baz=74	73.05	336	P	P	09 43 28.1 +0.7
BAR	**Barrett** comp=E,3.9nm,0.2s	73.12	317	*e*P	P	09 43 29.6 +1.6
K27A	**Flueckinger Fa** baz=74,SNR=6.1	73.15	333	P	P	09 43 29.1 +1.1
IRM	**Iron Mountain** baz=74,SNR=5.9	73.20	320	P	P	09 43 30.2 +1.8
N23A	**Red Feather La** baz=74,SNR=6.6	73.31	330	P	P	09 43 30.2 +0.9
J28A	**Allard Ranch,** baz=74	73.34	334	P	P	09 43 30.4 +1.3
I29A	**Vivian Onida** baz=74	73.48	335	P	P	09 43 30.7 +0.8
J27A	**Elkhorn Farm,** baz=74,SNR=10	73.51	334	P	P	09 43 31.6 +1.5
BELC	**Belle Mtn. Jos** baz=74	73.60	319	P	P	09 43 32.9 +2.0
PFO	**Pinyon Flats O** baz=74	73.61	318	P	P	09 43 33.0 +2.0
O20A	**White River Ci** baz=74,SNR=6.3	73.81	328	P	P	09 43 33.3 +1.2
O20A	**White River Ci**	73.81	328	*e*P	P	09 43 33.7 +1.6
GMRC	**Granite Mounta** baz=74,SNR=12	73.93	320	P	P	09 43 35.0 +2.2
H29A	**Onida** baz=74	73.95	336	P	P	09 43 33.5 +0.9
J26A	**Sides Ranch, S** baz=74,SNR=5.3	74.00	333	P	P	09 43 33.8 +0.9
MURC	**Murrieta** baz=74	74.07	318	P	P	09 43 34.6 +1.1
SRU	**San Rafael Swe**	74.18	326	*e*P	P	09 43 35.4 +1.1
I27A	**Quinn** baz=75	74.20	334	P	P	09 43 35.5 +1.4
K24A	**Anderson Ranch** baz=75	74.26	332	P	P	09 43 36.2 +1.6
BBRC	**Big Bear Solar** baz=75	74.34	319	P	P	09 43 36.8 +1.5
J25A	**Sunshine Ranch** baz=75	74.36	333	P	P	09 43 36.6 +1.6
HEC	**Hector,Ludlow** baz=75,SNR=5.9	74.37	319	P	P	09 43 37.0 +1.7
SYO	**Syowa Base**	74.37	159	*e*P	P	09 43 34.2 -0.5
TUQ	**Turquoise Moun** baz=75	74.54	320	P	P	09 43 38.1 +1.8
CCUT	**Cedar City** comp=E,11nm,1.0s	74.56	323	*e*P	P	09 43 38.3 +1.8
P17A	**Butcher Ranch,**	74.56	326	*e*P	P	09 43 38.0 +1.6
G28A	**Parade** baz=75	74.60	336	P	P	09 43 37.5 +1.2
MSU	**Marysvale** comp=E,7.7nm,0.8s	74.61	324	*e*P	P	09 43 38.2 +1.4
MVU	**Marysvale** comp=E,8.7nm,0.9s	74.62	324	*e*P	P	09 43 38.1 +1.3
K23A	**Bowen Ranch, D** baz=75	74.64	331	P	P	09 43 38.2 +1.5
J24A	**Dixon Ranch, L** baz=75	74.68	332	P	P	09 43 38.1 +1.2
H27A	**Howes** baz=75,SNR=7.6	74.68	335	P	P	09 43 37.5 +0.7
BFSC	**Mount Baldy Ra** baz=75	74.78	318	P	P	09 43 39.3 +1.6
SHPR	**Sheep Range**	74.83	321	*e*P	P	09 43 39.9 +1.9
I25A	**Rochford** baz=75,SNR=7.2	74.85	333	P	P	09 43 39.2 +1.2
H26A	**Fairpoint** baz=75	74.95	334	P	P	09 43 40.0 +1.6
K22A	**Casper** baz=75	74.96	331	P	P	09 43 40.4 +1.8
K22A	**Casper** comp=E,7.4nm,1.2s	74.96	331	*e*P	P	09 43 39.9 +1.3
GSC	**Goldstone, Bar** baz=75,SNR=6.5	74.97	319	P	P	09 43 40.0 +1.2
GSC	**Goldstone, Bar**	74.97	319	*e*P	P	09 43 40.2 +1.5
RSSD	**Black Hills**	75.06	333	*e*P	P	09 43 40.9 +1.7
SHOC	**Shoshone, Teco** baz=76	75.07	320	P	P	09 43 40.7 +1.5
G27A	**Dupree** baz=76	75.25	335	P	P	09 43 41.2 +1.1
EDW2	**Edwards Air Fo** baz=76	75.41	318	P	P	09 43 42.8 +1.6
MPU	**Maple Canyon** comp=E,28nm,1.0s	75.42	326	*e*P	P	09 43 42.2 +0.8
G26A	**Maurine** baz=76	75.44	335	P	P	09 43 41.6 +0.5
J22A	**Midwest** baz=76,SNR=8.9	75.54	331	P	P	09 43 42.7 +0.8
D30A	**Buchanan** baz=76	75.55	338	P	P	09 43 43.1 +1.5
LRMC	**Laurel Mtn Rad** baz=76	75.62	319	P	P	09 43 44.4 +1.9
AGMN	**Agassiz Nation** baz=76	75.64	340	P	P	09 43 42.7 +0.6
G25A	**Newell**	75.68	334	P	P	09 43 43.5 +1.0
F27A	**Lemmon** baz=76,SNR=6.1	75.69	335	P	P	09 43 42.9 +0.4
TPNV	**Topopah Spring** baz=76,SNR=12	75.77	321	P	P	09 43 45.1 +1.7
VNDA	**Vanda** comp=E,1.0nm,0.8s,baz=162,slow=6.2,SNR=5.5	75.77	190	P	P	09 43 43.1 +0.6
H24A	**Dirks Ranch, A** baz=76,SNR=8.1	75.78	333	P	P	09 43 43.9 +0.8
E28A	**Huff** baz=76	75.78	336	P	P	09 43 44.3 +1.3
FURC	**Furnace Creek,** baz=76,SNR=6.2	75.80	320	P	P	09 43 45.0 +1.7
D29A	**Pettibone, Tap** baz=76	75.80	337	P	P	09 43 45.4 +2.3
TOA0	**Torodi Ar. Sit**	75.86	69	*e*P	P	09 43 42.8 -1.3
TORD	**Torodi Ar. Bea** comp=E,3.6nm,0.5s,baz=249,slow=5.2,SNR=48	75.86	69	P	P	09 43 42.6 -1.4
TORD				pP	pP	09 44 37.1 +0.6
MPMC	**Manual Prospec** baz=76,SNR=5.5	75.90	320	P	P	09 43 45.7 +1.5
J21A	**Lysite** baz=76	75.92	331	P	P	09 43 45.9 +1.8
I22A	**9 Mile Ranch,** baz=76,SNR=6.7	75.92	331	P	P	09 43 45.1 +1.1
F26A	**Lodgepole** baz=76,SNR=5.2	75.93	335	P	P	09 43 44.3 +0.4
TCUT	**Toone Canyon** comp=E,10nm,0.8s	76.12	327	P	P	09 43 46.1 +0.7
DUG	**Dugway, Tooele** baz=77,SNR=9.4	76.17	325	P	P	09 43 47.2 +1.7
DUG	**Dugway, Tooele**	76.17	325	*e*P	P	09 43 47.1 +1.6
G24A	**Alzada** baz=77	76.20	334	P	P	09 43 46.4 +0.9
I21A	**Big Trails, Te** baz=77,SNR=14	76.22	331	P	P	09 43 46.3 +0.6
J20A	**Shoshoni** baz=77	76.22	330	P	P	09 43 47.1 +1.4
ISA	**Isabella, Lake** baz=77,SNR=6.4	76.22	319	P	P	09 43 47.2 +1.4
ISA	**Isabella, Lake**	76.22	319	*e*P	P	09 43 47.8 +1.9
D28A	**Regan** baz=77	76.26	337	P	P	09 43 46.6 +0.9
R11A	**Troy Canyon, C** baz=77,SNR=11	76.36	322	P	P	09 43 48.0 +1.3
R11A	**Troy Canyon, C** comp=E,5.5nm,0.9s	76.36	322	*e*P	P	09 43 48.0 +1.3
BW06	**Boulder Array** comp=E,2.4nm,0.6s	76.46	329	*e*P	P	09 43 47.5 +0.4
PDAR	**Pinedale Array** comp=E,1.9nm,0.5s,baz=114,slow=8.0,SNR=24	76.46	329	P	P	09 43 47.4 +0.2
GRAC	**Grapevine Rang** baz=77	76.46	320	P	P	09 43 48.8 +1.7
G23A	**Biddle** baz=77,SNR=5.4	76.50	333	P	P	09 43 48.1 +0.9
PKM	**Mcpherson Peak** baz=77	76.55	317	P	P	09 43 49.7 +1.9
B30A	**Myrvik Farm, E** baz=77	76.56	339	P	P	09 43 48.3 +0.9
HWUT	**Hardware Ranch**	76.57	327	*e*P	P	09 43 48.8 +1.1
J19A	**Crowheart** baz=77	76.60	330	P	P	09 43 48.9 +1.0
F24A	**Ekalaka** baz=77,SNR=5.6	76.63	334	P	P	09 43 48.8 +0.9
I20A	**Worland** baz=77,SNR=7.0	76.70	331	P	P	09 43 49.8 +1.5
VES	**Vestal, Richgr** baz=77,SNR=6.0	76.71	319	P	P	09 43 49.7 +1.3
E25A	**Miller Ranch,** baz=77	76.75	335	P	P	09 43 49.8 +1.3
H21A	**Big Horn, Sher** baz=77	76.75	332	P	P	09 43 49.9 +1.2
BGU	**Big Grassy Mou** comp=E,12nm,1.3s	76.81	326	*e*P	P	09 43 50.0 +0.9
D26A	**Manning** baz=77	76.82	336	P	P	09 43 50.3 +1.5
B29A	**Wagenman Farm,** baz=77	76.92	338	P	P	09 43 50.8 +1.4
F23A	**Volborg** baz=77,SNR=7.1	76.92	333	P	P	09 43 50.1 +0.6
SMMC	**Simmler** baz=77	76.93	318	P	P	09 43 52.2 +2.4
H20A	**Greybull** baz=78,SNR=5.4	77.06	331	P	P	09 43 50.3 0.0
TPH	**Tonopah** comp=E,14nm,1.3s	77.11	321	*e*P	P	09 43 52.4 +1.5
RCTC	**Rector, Farmer** baz=78	77.12	319	P	P	09 43 52.3 +1.7
E24A	**Baker** baz=78	77.16	334	P	P	09 43 52.1 +1.3
I19A	**Meeteetse** baz=78,SNR=5.8	77.17	330	P	P	09 43 51.7 +0.6
AHID	**Auburn Hatcher**	77.20	328	*e*P	P	09 43 52.7 +1.5
D25A	**Fairfield** baz=78	77.25	335	P	P	09 43 52.5 +1.2
A29A	**Manning Farm,** baz=78	77.28	339	P	P	09 43 52.1 +0.8
G21A	**Lodge Grass** baz=78	77.30	332	P	P	09 43 52.6 +1.0
HVU	**Hansel Valley**	77.31	326	*e*P	P	09 43 52.9 +1.1
F22A	**Rosebud** baz=78	77.33	333	P	P	09 43 53.3 +1.6
ULM	**Lac du Bonnet** comp=E,4.0nm,0.5s,baz=154,slow=5.8,SNR=14	77.37	341	P	P	09 43 51.8 0.0
ULM	**Lac du Bonnet** comp=E,4.2nm,0.5s	77.37	341	*e*P	P	09 43 51.1 -0.7
SCHQ	**Schefferville** comp=E,1.9nm,0.6s,baz=200,slow=6.4,SNR=5.6	77.48	360	P	P	09 43 52.0 -0.3
E23A	**Ismay** baz=78	77.51	334	P	P	09 43 53.9 +1.2
REDW	**Red Top Meadow**	77.53	329	*e*P	P	09 43 53.3 +0.2
SNOW	**Snow King Moun** comp=E,5.8nm,0.7s	77.56	329	*e*P	P	09 43 53.9 +0.6
LOHW	**Long Hollow** comp=E,6.3nm,0.6s	77.60	329	*e*P	P	09 43 54.1 +0.7
D24A	**Glendive** baz=78	77.62	335	P	P	09 43 55.1 +1.8
H19A	**Powell** baz=78	77.65	331	P	P	09 43 54.8 +1.2
TPAW	**Ten Pass** comp=E,9.0nm,1.1s	77.67	329	*e*P	P	09 43 54.9 +0.9
C25A	**Freed Ranch, W** baz=78	77.69	336	P	P	09 43 54.4 +0.7
E22A	**Miles City** baz=78	77.73	333	P	P	09 43 55.0 +1.1
G20A	**Bridger** baz=78,SNR=7.7	77.73	331	P	P	09 43 54.1 +0.1
MLAC	**Mammoth, Mammo** baz=78	77.75	320	P	P	09 43 56.3 +1.8
MOOW	**Moose Ponds**	77.77	329	*e*P	P	09 43 55.6 +1.2
FXWY	**Fox Creek**	77.82	329	*e*P	P	09 43 56.0 +1.3
ELK	**Elko** comp=E,4.1nm,1.1s	77.85	324	*e*P	P	09 43 55.8 +0.9
IMW	**Indian Meadow**	77.97	329	*e*P	P	09 43 56.8 +1.2
NVAR	**Mina Array Bea** comp=E,1.3nm,0.6s,baz=143,slow=5.3,SNR=14	77.97	321	P	P	09 43 56.5 +0.8
A27A	**Ledoux Ranch,** baz=78	77.99	337	P	P	09 43 57.0 +1.8
FLWY	**Flagg Ranch** comp=E,23nm,1.1s	78.00	329	*e*P	P	09 43 56.4 +0.7
D23A	**Lindsay** baz=78	78.02	334	P	P	09 43 57.0 +1.6
RLMT	**Red Lodge** baz=78,SNR=7.4	78.13	331	P	P	09 43 57.4 +1.1
RLMT	**Red Lodge**	78.13	331	*e*P	P	09 43 57.6 +1.2
H17A	**Grant Village** baz=79	78.18	329	P	P	09 43 58.7 +2.0
H17A	**Grant Village** comp=E,4.2nm,0.8s	78.18	329	*e*P	P	09 43 57.4 +0.7
E21A	**Keeler Ranch,** baz=79	78.28	333	P	P	09 43 58.1 +1.2
D22A	**Cohagen** baz=79	78.39	334	P	P	09 43 58.8 +1.3
A25A	**Svangstu Ranch** baz=79	78.66	336	P	P	09 44 00.4 +1.5
D21A	**La Casta Ranch** baz=79,SNR=6.8	78.66	333	P	P	09 43 59.7 +0.7
DGMT	**Dagmar** baz=79	78.68	336	P	P	09 44 00.3 +1.2
C22A	**Vida** baz=79	78.75	334	P	P	09 44 00.4 +0.9
GCMT	**Greycliff** comp=E,6.1nm,0.8s	78.82	331	*e*P	P	09 44 00.7 +0.6
QLMT	**Earthquake Lak**	78.91	329	*e*P	P	09 43 59.7 -0.9
A24A	**Westby** baz=79	78.98	336	P	P	09 44 02.0 +1.3
B23A	**Brockton** baz=79	78.98	335	P	P	09 44 01.9 +1.2
C21A	**Desert Coulee** baz=80,SNR=5.9	79.31	334	P	P	09 44 03.0 +0.5
HLID	**Hailey** baz=80,SNR=32	79.43	327	P	P	09 44 05.1 +1.6
HLID	**Hailey**	79.43	327	*e*P	P	09 44 05.1 +1.6
MCMT	**McKenzie Canyo**	79.58	328	*e*P	P	09 44 05.7 +1.4
C20A	**Veseth Ranch,** baz=80	79.59	333	P	P	09 44 04.4 +0.4
BOZ	**Bozeman (W)** baz=80,SNR=5.2	79.61	330	P	P	09 44 05.2 +0.8
BOZ	**Bozeman (W)**	79.61	330	*e*P	P	09 44 05.2 +0.8
A22A	**Carney Farms,** baz=80	79.77	335	P	P	09 44 05.6 +0.7
DLMT	**Dillon**	79.85	329	*e*P	P	09 44 07.1 +1.5
MFID	**Camas Ranch**	80.05	326	*e*P	P	09 44 08.4 +1.7
LRM	**Limekiln Ridge** comp=E,23nm,1.0s	80.12	329	*e*P	P	09 44 07.4 +0.2
A20A	**Cobblestone Ra** baz=81	80.48	334	P	P	09 44 09.3 +0.5
EGMT	**Eagleton** baz=81	80.58	332	P	P	09 44 09.8 +0.4
A19A	**Klindworth Far** baz=81	80.85	333	P	P	09 44 11.5 +0.7
BOSA	**Boshof** comp=E,2.3nm,0.7s,baz=241,slow=6.1,SNR=4.2	80.87	117	P	P	09 44 10.6 -1.0
MOD	**Modoc Plateau** comp=E,3.8nm,0.7s	81.43	323	*e*P	P	09 44 14.9 +0.8
MSO	**Missoula** baz=82	81.56	329	P	P	09 44 15.9 +1.3
MSO	**Missoula**	81.56	329	*e*P	P	09 44 15.9 +1.3
SLMT	**Seeley Lake** comp=E,7.4nm,1.1s	81.66	330	*e*P	P	09 44 15.6 +0.5
BMO	**Blue Mountains** comp=E,15nm,1.2s	81.81	326	*e*P	P	09 44 16.7 +0.7
N02D	**Trinity Center** baz=83	82.20	321	P	P	09 44 18.8 +0.8
M04C	**Macdoel** baz=83	82.22	322	P	P	09 44 19.3 +1.1
MAW	**Mawson** comp=E,2.7nm,0.7s,baz=220,slow=4.6,SNR=4.5	82.30	163	P	P	09 44 18.0 0.0
M02C	**Callahan** baz=83	82.55	321	P	P	09 44 20.5 +0.7
YBH	**Yreka Blue Hor** comp=E,2.8nm,0.7s,baz=142,slow=2.5,SNR=12	82.69	321	P	P	09 44 20.5 0.0
K04D	**Chiloquin, OR** baz=83	82.71	322	P	P	09 44 22.1 +1.4
J05D	**Fort Rock, OR** baz=83,SNR=8.2	82.85	323	P	P	09 44 22.7 +1.2
G08A	**Pilot Rock**	82.97	326	*e*P	P	09 44 22.7 +0.8
J04D	**Umpqua Nationa** baz=84	83.31	323	P	P	09 44 24.9 +1.0
I05D	**Terrebonne, OR** baz=84,SNR=7.4	83.60	324	P	P	09 44 26.2 +1.1
I04A	**Tendick Farm,** baz=84	83.83	323	P	P	09 44 27.2 +1.0
NEW	**Newport** baz=84	84.10	329	P	P	09 44 28.6 +1.1
G05D	**Wamic, OR** baz=85	84.18	325	P	P	09 44 29.6 +1.6
ESDC	**Sonseca Array** comp=E,0.2nm,0.3s,baz=232,slow=4.8,SNR=6.2	85.40	43	P	P	09 44 33.5 -0.7
YKA	**Yellowknife Ar** comp=E,1.6nm,0.5s,baz=132,slow=4.6,SNR=14	93.29	340	P	P	09 45 10.2 -0.5
ILAR	**Eielson Array** comp=E,0.3nm,0.8s,baz=108,slow=5.4,SNR=4.2	106.50	334	PP	PP	09 50 37.6 -0.1
ASAR	**Alice Springs** comp=E,1.2nm,1.0s,baz=146,slow=1.5,SNR=7.3	129.54	205	PKP	**PKPdf**	09 51 04.2 -0.7
ASAR				SKPbc	SKPab	09 54 05.1 -0.5
WRA	**Warramunga Arr** comp=E,0.4nm,0.7s,baz=147,slow=4.0,SNR=5.7	132.70	207	PKP	**PKPdf**	09 51 10.6 -0.3
WRA				SKPbc	**SKPbc**	09 54 16.8 -0.5
ZALV	**Zalesovo Beam** comp=E,1.7nm,0.4s,baz=304,slow=3.2,SNR=7.4	142.32	28	PKP	**PKPdf**	09 51 26.7 -0.7
KSH	**Kashi**	144.30	54	*e*PKP	**PKPab**	09 51 30.5 +0.3
KSH				*ep*PKP	**pPKPdf**	09 52 24.3 -4.2
MK31	**Makanchi Array**	145.50	39	*e*PKPdf	**PKPdf**	09 51 33.8 +0.5
ASAJ	**Asahikawa** comp=E,2.7nm,0.7s,baz=117,slow=4.5,SNR=3.1	148.07	318	PKPbc	**PKPbc**	09 51 41.0 0.0
WMQ	**Urumqi**	150.32	39	*e*PKPbc	**PKPdf**	09 51 40.5 -0.8
SONM	**Songino Array** comp=E,0.6nm,0.4s,baz=318,slow=1.9,SNR=3.5	154.56	11	PKPbc	**PKPbc**	09 51 55.2 -0.9
MJAR	**Matsushiro Arr** comp=E,1.6nm,0.8s,baz=108,slow=1.5,SNR=5.0	154.66	308	PKPab	**PKPab**	09 52 12.2 -0.1
HHC	**Hu-ho-hao-te**	162.11	5	*e*PKP	PKPdf	09 51 51.0 -5.7
HHC				pPKP	pPKPdf	09 52 50.8 -3.2
HHC				sPKP		09 53 14.5
HHC				PKS	PKSdf	09 55 23.3 -6.6
HHC				PP	**PP**	09 56 30.0 +1.9
HHC				SKS	SKSdf	09 58 34.0 -6.6
HHC				SS	**SS**	10 16 32.8 +4.2
HHC				PPMZ		
CMAR	**Chiang Mai Arr** comp=E,30nm,8.7s comp=E,0.9nm,0.3s,baz=234,slow=5.4,SNR=4.2	165.75	106	PKPab	**PKPab**	09 53 00.3 -0.9

*IDC **28** 09:37:48.1±1.4, 18°.40S×168°.25E, h0km, mb4.0/8, mb1 4.3/9, mb1mx4.0/19, mbtmp4.0/9, ML3.3/1, MS3.4/9, Ms1 3.4/9, ms1mx3.1/29, Error ellipse: s-maj=48.1km s-min=22.5km az=141.0*

*NEIC **28** 09:37:49.5±1.0, 18°.45S×168°.31E, h10km, mb4.1/2, Error ellipse: s-maj=26.6km s-min=15.3km az=133.0*

*ISCJB **28** 09:37:52.1±0.9, 18°.57S±0°.07×168°.2E±0°.2, h37km, mb4.0/7, MS3.4/9, Error ellipse: s-maj=24.0km s-min=8.0km az=16.4*

ISC 28 09:37:53.3±1.1, 18°.6S±0°.1×168°.3E±0°.2, h37km, n22, σ1§10/18, mb4.1/7, MS3.5/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	2.40	205	*e*P		**Pn**	09 38 29.4	-0.7
LIFNC				*e*S		**Sn**	09 38 57.0	-1.3
DZM	**Mont Dzumac** 18nm,0.2s	3.89	207	*e*Pn		**Pn**	09 38 52.0	+1.4
DZM				*e*Sn		**Sn**	09 39 35.4	+0.4
DZM	**Mont Dzumac** 63nm,0.3s	3.89	207	Pn		**Pn**	09 38 51.1	+0.5
DZM	**Mont Dzumac** 2.0nm,0.3s,baz=90,slow=20,SNR=56	3.89	207	Sn		**Sn**	09 39 33.7	-1.3
DZM	**Mont Dzumac** 8.6nm,0.3s,baz=90,slow=24,SNR=55	3.89	207	*e*P		**Pn**	09 38 51.3	+0.7
DZM				*e*S		**Sn**	09 39 35.7	+0.7
CTA	**Charters Tower** 6.6nm,0.9s,baz=89,slow=12,SNR=4.8	20.87	262	P		**P**	09 42 33.0	+0.6
CTAO	**Charters Tower** 6.4nm,0.9s	20.87	262	*e*P		**P**	09 42 32.8	+0.4
STKA	**Stephens Creek** 3.0nm,0.8s,baz=66,slow=10.0,SNR=3.3	27.47	236	P		**P**	09 43 37.3	+1.2
STKA				LR		LR	09 53 24.7	
STKA	**Stephens Creek** 6.6nm,1.3s comp=Z,68nm,20.6s,baz=25,slow=34	27.47	236	*e*P		**P**	09 43 37.1	+1.0
JAY	**Jayapura** comp=Z,95nm,19.4s,slow=36	31.41	297	LR		LR	09 56 48.0	
WRA	**Warramunga Arr** 1.1nm,0.9s,baz=92,slow=9.0,SNR=5.1	32.08	262	P		**P**	09 44 15.5	-1.6
ASAR	**Alice Springs** 3.9nm,0.8s,baz=85,slow=8.6,SNR=24	32.45	255	P		**P**	09 44 19.2	-1.1
ASAR				LR		LR	09 57 07.5	
PPT2	**Papeete2** 100nm,24.8s comp=Z,120nm,19.4s,baz=87,slow=36	39.97	95	*e*LR		LR	09 56 59.2	
KAPI	**Kappang** comp=Z,15nm,19.4s,baz=109,slow=37	49.25	280	LR		LR	10 08 24.8	
KSRS	**Korea Array** comp=Z,0.3nm,20.8s,baz=340,slow=34	67.48	326	LR		LR	10 15 51.6	
PETK	**Petropavlovsk-** comp=Z,14nm,21.4s,baz=164,slow=33	71.99	353	LR		LR	10 17 08.3	
CMAR	**Chiang Mai Arr** 2.0nm,0.4s,baz=122,slow=4.4,SNR=4.6	77.44	294	P		**P**	09 49 46.5	+1.1
SEY	**Seymchan** comp=Z,22nm,19.5s,baz=247,slow=32	82.21	353	LR		LR	10 21 02.5	
SONM	**Songino Array** 0.9nm,0.7s,baz=144,slow=5.3,SNR=5.2	86.18	323	P		**P**	09 50 30.5	-0.4
YBH	**Yreka Blue Hor** comp=Z,34nm,19.2s,baz=272,slow=31	87.44	44	LR		LR	10 23 09.9	
NVAR	**Mina Array Bea** 0.4nm,0.8s,baz=222,slow=4.9,SNR=3.2	89.03	49	P		**P**	09 50 45.7	+0.9
ILAR	**Eielson Array** 0.3nm,0.8s,baz=232,slow=4.4,SNR=5.9	89.87	18	P		**P**	09 50 46.5	-1.4
TXAR	**Lajitas Array** comp=Z,20nm,18.9s,baz=0.0,slow=32	97.22	62	LR		LR	10 29 07.8	

MEX 28 09:40:00.2±0.5, 14°.51N×93°.31W, h14km±67km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCIG		**1.19**	**4**	*i*	P		Pn	09 40 18.9	-3.5
PCIG					*i*	S	Sb	09 40 32.7	-5.1
CCIG	**Comitan**	**2.09**	**33**	*e*	P		Pn	09 40 32.1	-3.0
CCIG					*i*	S	Sn	09 40 57.3	-3.8
TGIG		**2.26**	**4**	*e*	P		Pn	09 40 33.8	-3.4
TGIG					*i*	S	Sn	09 41 00.9	-4.1

DJA 28 09:58:18.3±0.4, 2°.S×137°.7E±°, h10km, M3.8/4, MLv3.8/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.18**	**269**		P		Pb	09 58 38.8	-2.0
SRPI					S		Sb	09 58 55.2	-1.0
SMPI	**Sarmi**	**1.30**	**97**		P		Pn	09 58 40.3	-2.2
SMPI					S		Sb	09 58 59.1	-0.4
BAKI	**Biak**	**1.46**	**296**		P		Pn	09 58 43.1	-1.7
BAKI					S		Sn	09 59 04.0	0.0
GENI	**Genyem**	**2.85**	**105**		P		Pn	09 59 04.9	+1.1

MEX 28 10:06:28.9±0.8, 32°.32N×115°.21W, h16km±999km, MD3.6, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBX	**Cerro Bola**	**1.23**	**270**	*e*	P		Pn	10 06 48.7	-3.0
CBX					*i*	S	Sb	10 07 02.1	-5.8
SPIG	**San Pedro Mart**	**1.29**	**190**	*e*	P		Pn	10 06 48.1	-4.6
SPIG					*i*	S	Sb	10 07 04.4	-5.5

GUC 28 10:11:43.2±0.7, 35°.30S×72°.71W, h5km±5km, ML4.0, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.89**	**96**	↑*i*	P		Pg	10 12 00.4	+0.2
TALC					*i*	S	Sb	10 12 12.8	-0.4
LNCH	**Linares**	**1.05**	**121**	↑*i*	P		Pg	10 12 03.2	-0.3
LNCH					*i*	S	Sb	10 12 18.1	0.0
NICH	**Los Niches**	**1.25**	**77**	↓*i*	P		Pg	10 12 05.7	-1.5
NICH					*i*	S	Sg	10 12 23.0	-0.4
CHCH	**Chadas Angostu**	**2.18**	**52**	↓*i*	P		Pn	10 12 20.9	+0.6
CHCH					*i*	S	Sb	10 12 49.2	-1.4
PCH	**Pirque**	**2.47**	**48**	*e*	P		Pn	10 12 24.9	+0.6
PCH					*i*	S	Sb	10 12 57.9	-1.2
CLCH	**Cerro Calan**	**2.62**	**44**	*e*	P		Pn	10 12 27.7	+1.4
CLCH					*i*	S	Sn	10 13 00.6	+2.0
CLCH						AML	AML	10 13 07.5	
	comp=N,832nm,0.6s								
PEL	**Peldehue**	**2.73**	**38**	*e*	P		Pn	10 12 29.1	+1.3
PEL					*i*	S	Sn	10 13 03.9	+2.5
PEL						AML	AML	10 13 15.5	
	comp=N,890nm,0.6s								

NIED ***28*** *10:40:00.3, 37°.00N×142°.60E, h8km, Mw4.3 Best double couple: M0=3.55000×10^15 NP1: φ=314.00000°, δ=25.00000°, λ=-91.00000°. NP2: φ=195.00000°, δ=65.00000°, λ=-90.00000°.*

IDC ***28*** *10:40:12.4±0.5, 32°.96N×142°.53E, h0km, mb4.3/18, mb1 4.4/22, mb1mx4.4/30, mbtmp4.2/22, ML4.0/3, MS3.4/8, Ms1 3.4/8, ms1mx3.1/42, Error ellipse: s-maj=16.2km s-min=13.7km az=94.0*

JMA ***28*** *10:40:14.6±0.2, 33°.04N×142°.57E, h56km, M4.4*

ISCJB ***28*** *10:40:17.0±0.2, 33°.09N±0°.04×142°.42E±0°.02, h33km, mb4.4/59, MS3.5/9, Error ellipse: s-maj=5.2km s-min=2.5km az=15.6*

BJI ***28*** *10:40:17.7, 33°.13N×142°.43E, h38km, mb4.6/33, mB4.8/27, Ms4.1/23, Ms7 3.9/23*

NEIC ***28*** *10:40:18.0±0.2, 32°.92N×142°.38E, h35km, mb4.5/22, MW4.3(NIED), Error ellipse: s-maj=5.7km s-min=4.8km az=174.0*

MOS ***28*** *10:40:19.6±1.1, 33°.62N×142°.53E, h37km, mb4.6/27, Error ellipse: s-maj=13.6km s-min=6.0km az=110.1*

ISC 28 10:40:18.2±0.4, 33°.08N±0°.05×142°.51E±0°.04, h33km, h33km; pP-P, n276, σ1§14/304, mb4.5/59, MS3.6/9, 10C-6D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.02**	**321**		P		**Pn**	**10 40 48.1**	**-1.3**
BSO1					S		**Sn**	**10 41 13.1**	**-0.2**
BSO2	**Boso 2**	**2.21**	**319**		S		**Sn**	**10 41 18.4**	**0.0**
JHJ2	**Mitsune**	**2.26**	**271**		P		**Pn**	**10 40 51.4**	**-1.9**
JHJ2					S		**Sn**	**10 41 18.9**	**-1.1**
JHJ2	**Mitsune**	**2.26**	**271**	*e*	Pn		**Pn**	**10 40 51.6**	**-1.7**
JHCJ	**Hachijojimakas**	**2.28**	**270**		P		**Pn**	**10 40 51.4**	**-2.1**
JHCJ					S		**Sn**	**10 41 18.6**	**-1.9**
BSO3	**Boso 3**	**2.39**	**316**		P		**Pn**	**10 40 53.7**	**-1.1**
BSO3					S		**Sn**	**10 41 23.0**	**+0.2**
BSO4	**Boso 4**	**2.62**	**317**		P		**Pn**	**10 40 57.4**	**-0.7**
BSO4					S		**Sn**	**10 41 28.2**	**-0.6**
I30JP	**ISUMI INFRASON**	**2.87**	**321**		Pn		**Pn**	**10 41 02.0**	**+0.4**
I30JP					Sn		**Sn**	**10 41 36.7**	**+1.7**
JOD2	**Odawara 2**	**3.58**	**308**		P		**Pn**	**10 41 09.2**	**-2.1**
TK02	**Tokai 2**	**4.07**	**284**		P		**Pn**	**10 41 17.5**	**-0.3**
TK02					S		**Sn**	**10 42 04.3**	**+0.1**
JYN	**Shimob**	**4.07**	**307**		P		**Pn**	**10 41 16.9**	**-1.3**
JYN					S		**Sn**	**10 42 04.2**	**-0.6**
JRY	**Ryogami san**	**4.18**	**315**		P		**Pn**	**10 41 18.1**	**-1.5**
JRY					S		**Sn**	**10 42 07.0**	**-0.3**
JAG	**Ashikaga**	**4.18**	**324**		P		**Pn**	**10 41 18.2**	**-1.4**
JFT	**Otama**	**4.77**	**339**		P		**Pn**	**10 41 26.4**	**-1.3**
JFT					S		**Sn**	**10 42 18.6**	**-3.3**
MJAR	**Matsushiro Arr**	**4.94**	**315**		Pn		**Pn**	**10 41 28.7**	**-1.4**
	12nm,0.3s,baz=181,slow=14,SNR=109								
MJAR					Sn		**Sn**	**10 42 23.3**	**-2.9**
	9.9nm,0.3s,baz=146,slow=23,SNR=10								
MJAR	**Matsushiro Arr**	**4.94**	**315**		P		**Pn**	**10 41 28.7**	**-1.4**
MJAR								10 42 23.3	
MJAR					pmax		pmax		
	comp=Z,12nm,0.3s								
MJAR					smax		smax		
	comp=N,10.0nm,0.3s								
MAJO	**Matsushiro**	**4.95**	**315**	*c*	*i* P		**Pn**	**10 41 29.5**	**-0.7**
MAJO	**Matsushiro**	**4.95**	**315**	*e*	Pn		**Pn**	**10 41 30.1**	**-0.1**
MAT	**Matsushiro**	**4.95**	**315**		P		**Pn**	**10 41 29.0**	**-1.2**
MAT					S		**Sn**	**10 42 23.1**	**-3.1**
MAT	**Matsushiro**	**4.95**	**315**		P		**Pn**	**10 41 30.0**	**-0.2**
MAT					S		**Sn**	**10 42 26.0**	**-0.2**
JIE	**Ise**	**5.01**	**287**		P		**Pn**	**10 41 29.9**	**-1.1**
JWY	**Kouya**	**5.88**	**283**		P		**Pn**	**10 41 42.5**	**-0.6**
JMK	**Ichinoseki**	**5.95**	**350**		P		**Pn**	**10 41 41.5**	**-2.4**
CBIJ	**Chichi jima**	**5.97**	**183**		P		Pn	10 41 40.7	-3.6
CBIJ	**Chichi jima**	**5.97**	**183**	*e*	Pn		Pn	10 41 40.2	-4.2
CBIJ					Sn		Sn	10 42 42.6	-9.0
CBIJ				*e*	Sn		Sn	10 42 43.1	-8.5
JCJ	**Chichijima**	**5.97**	**183**		Pn		Pn	10 41 39.8	-4.5
	comp=N,9.7nm,0.3s,baz=4.8,slow=21,SNR=47								
JCJ					Sn		Sn	10 42 42.6	-9.0
	comp=N,30nm,0.3s,baz=54,slow=23,SNR=8.0								
JCJ					LR		LR	10 45 46.8	
	comp=N,23nm,19.7s,baz=20,slow=57								
ERM	**Erimo**	**8.93**	**3**	*d*	*i* P		Pn	10 42 21.1	-3.7
ERM	**Erimo**	**8.93**	**3**	*e*	Pn		Pn	10 42 21.1	-3.7
ASAJ	**Asahikawa**	**11.02**	**0**		P		Pn	10 42 50.1	-3.3
	comp=N,2.9nm,0.3s,baz=184,slow=16,SNR=5.6								
ASAJ	**Asahikawa**	**11.02**	**0**		P		Pn	10 42 50.1	-3.3
ASAJ					pmax		pmax		
	comp=Z,3.0nm,0.3s								
ASAJ	**Asahikawa**	**11.02**	**0**	*e*	Pn		**Pn**	**10 42 51.0**	**-2.4**
YUK	**Yuzh-Kuril'sk**	**11.24**	**12**	*c*	*i* P		Pn	10 42 52.3	-4.1
YUK					*i* S		Sn	10 44 48.4	-12
YUK					pmax		pmax		
	comp=Z,62nm,2.4s								
YUK					pmax		pmax		
	comp=N,15nm,0.8s								
YUK					pmax		pmax		
	comp=E,17nm,0.8s								
YUK					pmax		pmax		
	comp=Z,31nm,0.8s								
YUK					MLR		MLR		
	comp=Z,106nm,20.0s								
KSRS	**Korea Array**	**12.69**	**294**		Pn		**Pn**	**10 43 16.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=106,slow=14,SNR=7.6								
KSRS					PcP		**PcP**	**10 48 51.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=104,slow=1.2,SNR=4.6								
KSRS					LR		LR	10 49 17.0	
	comp=Z,129nm,18.0s,baz=106,slow=43								
KSAR	**Wonju Array Be**	**12.72**	**294**		Pn		**Pn**	**10 43 16.4**	**-0.3**
KSAR					PcP		**PcP**	**10 48 51.8**	**-0.4**
VLA	**Vladivostok**	**13.04**	**323**	*e*	P		**Pn**	**10 43 20.2**	**-0.9**
USRK	**Ussuriysk Ar.**	**13.80**	**327**		Pn		**Pn**	**10 43 31.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=157,slow=12,SNR=3.1								
YSS	**Yuzh-Sakhalins**	**13.86**	**1**	*e*	P		**Pn**	**10 43 30.7**	**-1.4**
YSS					pmax		pmax		
	comp=Z,9.0nm,0.7s								
MDJ	**Mudanjiang**	**15.27**	**323**		P		**Pn**	**10 43 49.0**	**-2.3**
MDJ					PMZ				
	comp=Z,8.0nm,0.8s								
HABR	**Khabarovsk**	**16.37**	**342**	*e*	P		**Pn**	**10 44 00.9**	**-4.4**
HABR				*e*	S		Sn	10 46 58.2	-7.5
HABR					pmax		pmax		
	comp=Z,14nm,1.3s								
HABR					MLR		MLR		
	comp=Z,115nm,16.0s								
KLR	**Kul'dur**	**18.02**	**337**	*e*	P		Pn	10 44 20.2	-5.7
NJ2	**Nanjing**	**19.96**	**273**	*e*	P		**Pn**	**10 44 49.5**	**+0.1**
NJ2					pP		**pP**	**10 44 56.5**	**+0.2**
NJ2					S		**Sn**	**10 48 33.0**	**0.0**
NJ2					PMZ				
	comp=Z,40nm,0.7s								
NJ2					LN				
	comp=Z,290nm,14.6s								
NJ2					LE				
	comp=Z,310nm,15.9s								
NJ2					LZ				
	comp=Z,1μm,13.9s								
BJI	**Beijing**	**22.22**	**296**		P		**P**	**10 45 09.3**	**-2.5**
BJI					S		**S**	**10 49 13.0**	**-1.5**
BJI					PMZ				
	comp=Z,7.0nm,0.6s								
BJI					PMZ				
	comp=Z,73nm,3.7s								
BJI					LN				
	comp=Z,120nm,15.7s								
BJI					LE				
	comp=Z,190nm,15.3s								
BJI					LZ				
	comp=Z,120nm,26.4s								
PETK	**Petropavlovsk-**	**22.79**	**24**		LR		LR	10 57 20.0	
	comp=Z,38nm,18.1s,baz=208,slow=45								
HIA	**Hailar**	**23.43**	**320**	↑	*i* P		**P**	**10 45 23.8**	**-0.5**
HIA					pmax		pmax		
	comp=Z,9.0nm,0.9s								
WHN	**Wuhan**	**24.04**	**272**		P		**P**	**10 45 31.3**	**+1.1**
WHN					S		**S**	**10 49 40.3**	**-5.0**
WHN					LZ				
	comp=Z,460nm,12.9s								
H11N2	**WAKE ISLAND Hy**	**25.49**	**115**		T		T	11 12 11.7	
	baz=307,slow=75,SNR=13								
H11N1	**WAKE ISLAND Hy**	**25.50**	**115**		T		T	11 12 11.5	
	baz=307,slow=75,SNR=14								
H11N3	**WAKE ISLAND Hy**	**25.51**	**115**		T		T	11 12 15.3	
	baz=307,slow=75,SNR=10								
HHC	**Hu-ho-hao-te**	**25.82**	**296**	*e*	P		**P**	**10 45 44.0**	**-2.5**
HHC					pP		**pP**	**10 45 56.8**	**+0.9**
HHC					S		**S**	**10 50 13.5**	**-0.4**
HHC					sS		**sS**	**10 50 26.8**	**-2.8**
HHC					PMZ				
	comp=Z,28nm,0.7s								
HHC					PMZ				
	comp=Z,71nm,5.0s								
HHC					LN				
	comp=Z,620nm,10.0s								
HHC					LE				
	comp=Z,680nm,10.7s								
HHC					LZ				
	comp=Z,670nm,10.5s								
H11S3	**WAKE ISLAND Hy**	**26.08**	**118**		T		T	11 13 03.2	
	baz=313								
H11S1	**WAKE ISLAND Hy**	**26.08**	**118**		T		T	11 13 08.4	
	baz=313								
H11S2	**WAKE ISLAND Hy**	**26.10**	**118**		T		T	11 13 06.7	
	baz=313								
YAK	**Yakutsk**	**30.11**	**348**	*e*	P		**P**	**10 46 22.6**	**-1.8**
YAK					pmax		pmax		
	comp=Z,10.0nm,0.7s								
SEY	**Seymchan**	**30.52**	**9**		P		**P**	**10 46 28.4**	**+0.4**
	comp=Z,3.9nm,0.7s,baz=189,slow=11,SNR=16								
SEY	**Seymchan**	**30.52**	**9**	*d*	*i* P		**P**	**10 46 28.5**	**+0.5**
SONM	**Songino Array**	**30.86**	**309**		P		**P**	**10 46 31.8**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=116,slow=8.6,SNR=6.8								
SONM					LR		LR	10 59 48.6	
	comp=Z,78nm,18.9s,baz=84,slow=38								
SONM	**Songino Array**	**30.86**	**309**		P		**P**	**10 46 31.8**	**+0.4**
SONM					pmax		pmax		
	comp=Z,1.0nm,0.5s								
SONM					MLR		MLR		
	comp=Z,78nm,18.9s								
BOD	**Bodaibo**	**31.38**	**331**	*e*	P		P	10 46 42.6	+6.9
BOD					pmax		pmax		
	comp=Z,4.0nm,1.8s								
LZH	**Lanzhou**	**31.84**	**286**	*e*	P		P	10 46 44.3	+4.1
LZH					pP		pP	10 46 53.3	+3.6
LZH					sP		sP	10 46 57.8	+4.1
LZH					PMZ				
	comp=Z,42nm,1.3s								
LZH					PMZ				
	comp=Z,170nm,4.0s								
QIZ	**Qiongzhong**	**32.37**	**253**		P		**P**	**10 46 46.5**	**+1.7**
QIZ					S		**S**	**10 51 57.8**	**+1.0**
QIZ					PMZ				
	comp=Z,13nm,1.7s								
QIZ					PMZ				
	comp=Z,180nm,3.6s								
CD2	**Chengdu**	**32.82**	**277**	*e*	P		**P**	**10 46 48.8**	**+0.1**
CD2					pP		**pP**	**10 46 58.8**	**+0.6**
CD2					PP		**PP**	**10 48 03.0**	**-0.1**
CD2					PcP		**PcP**	**10 49 34.0**	**+0.8**
CD2					S		**S**	**10 52 03.3**	**-0.5**
CD2					sS		**sS**	**10 52 20.3**	**+0.7**
CD2					PMZ				
	comp=Z,10.0nm,0.5s								
CD2					PMZ				
	comp=Z,120nm,5.2s								
CD2					LN				
	comp=Z,260nm,15.2s								
CD2					LE				
	comp=Z,350nm,15.7s								
CD2					LZ				
	comp=Z,470nm,15.6s								
ZAK	**Zakamensk**	**33.52**	**313**	*e*	P		**P**	**10 46 57.0**	**+2.3**
ZAK					pmax		pmax		
	comp=Z,2.0nm,1.9s								
TLY	**Talaya**	**33.68**	**315**	*e*	P		**P**	**10 46 56.8**	**+0.8**
TLY					pmax		pmax		
	comp=Z,2.0nm,0.9s								
GTA	**Gaotai**	**34.76**	**293**	*e*	P		**P**	**10 47 07.8**	**+2.2**
GTA					pP		**pP**	**10 47 17.8**	**+2.6**
GTA					sP		**sP**	**10 47 21.8**	**+2.6**
GTA					PcP		**PcP**	**10 49 38.8**	**+0.1**
GTA					S		**S**	**10 52 35.5**	**+1.6**
GTA					sS		**sS**	**10 52 51.0**	**+1.2**
GTA					SS		**SnSn**	**10 54 48.3**	**-0.3**
GTA					PMZ				
	comp=Z,3.0nm,1.1s								
GTA					PMZ				
	comp=Z,97nm,5.5s								
GTA					LN				
	comp=Z,99nm,17.6s								
GTA					LE				
	comp=Z,88nm,16.6s								
GTA					LZ				
	comp=Z,150nm,15.7s								
KMI	**Kunming**	**35.48**	**268**		P		**P**	**10 47 14.3**	**+2.3**
KMI					S		S	10 52 37.5	-7.9
KMI					PMZ				
	comp=Z,6.0nm,0.9s								
KMI					LN				
	comp=Z,100nm,17.5s								
KMI					LE				
	comp=Z,97nm,17.9s								
KMI					LZ				
	comp=Z,120nm,13.6s								
TIXI	**Tiksi**	**39.31**	**353**	↓	*i* P		**P**	**10 47 42.9**	**-0.7**
TIXI					pmax		pmax		
	comp=Z,3.0nm,1.0s								
HVS	**Khovu-Aksy**	**39.63**	**312**		*i* P		**P**	**10 47 47.9**	**+1.2**
HVS					pmax		pmax		
	comp=Z,32nm,1.4s								
CMAR	**Chiang Mai Arr**	**41.55**	**261**		P		**P**	**10 48 01.4**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=43,slow=7.4,SNR=5.3								
CMAR					LR		LR	11 07 57.4	
	comp=Z,29nm,18.4s,baz=184,slow=40								
CMAR	**Chiang Mai Arr**	**41.55**	**261**		P		**P**	**10 48 01.4**	**-1.4**
CMAR					pmax		pmax		
	comp=Z,1.0nm,0.3s								
CMAR					MLR		MLR		
	comp=Z,29nm,18.4s								
WMQ	**Urumqi**	**43.53**	**301**		P		**P**	**10 48 20.3**	**+1.6**
WMQ					pP		**pP**	**10 48 30.3**	**+1.8**
WMQ					sP		**sP**	**10 48 34.0**	**+1.5**
WMQ					PP		**PP**	**10 50 02.5**	**+2.3**
WMQ					PcP		**PcP**	**10 50 10.0**	**+3.8**
WMQ					PcS		**PcS**	**10 54 01.0**	**+2.1**
WMQ					S		**S**	**10 54 47.3**	**+1.8**
WMQ					ScS		**ScS**	**10 58 15.5**	**-0.4**
WMQ					PMZ				
	comp=Z,8.0nm,0.6s								
WMQ					PMZ				
	comp=Z,30nm,4.0s								
WMQ					LN				
	comp=Z,33nm,25.4s								
WMQ					LE				
	comp=Z,23nm,15.9s								
WMQ					LZ				
	comp=Z,29nm,25.4s								
KAPI	**Kappang**	**43.61**	**214**		P		**P**	**10 48 17.9**	**-1.6**
	comp=Z,8.5nm,0.7s,baz=45,slow=10.0,SNR=5.2								
KSM	**Kuching**	**43.61**	**231**	*e*	P		**P**	**10 48 18.1**	**-1.4**
	comp=Z,4.6nm,0.6s								
ZAA0	**Zalesovo Array**	**45.30**	**315**	*e*	P		**P**	**10 48 33.0**	**+0.4**
ZALV	**Zalesovo Beam**	**45.30**	**315**		P		**P**	**10 48 32.7**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=89,slow=8.3,SNR=8.1								
ZALV					PcP		**PcP**	**10 50 11.5**	**-0.4**
	comp=Z,3.7nm,0.7s,baz=78,slow=3.9,SNR=8.5								
ZALV					LR		LR	11 08 48.5	
	comp=Z,41nm,18.5s,baz=84,slow=38								
ZALV	**Zalesovo Beam**	**45.30**	**315**		P		**P**	**10 48 32.7**	**+0.1**
ZALV								10 50 11.5	
ZALV					pmax		pmax		
	comp=Z,2.0nm,0.7s								
ZALV					pmax		pmax		
	comp=Z,4.0nm,0.7s								
ZALV					MLR		MLR		
	comp=Z,41nm,18.5s								
MK31	**Makanchi Array**	**47.06**	**305**	*e*	P		**P**	**10 48 46.6**	**0.0**
MKAR	**Makanchi Array**	**47.06**	**305**	*e*	P		**P**	**10 48 46.9**	**+0.2**
KURK	**Kurchatov**	**49.14**	**311**	*e*	P		**P**	**10 49 02.2**	**-0.3**
	comp=Z,8.2nm,0.7s								
KDAK	**Kodiak Island**	**49.49**	**40**	*c*	eP		**P**	**10 49 05.3**	**+0.2**
KDAK	**Kodiak Island**	**49.49**	**40**	*e*	P		**P**	**10 49 05.3**	**+0.2**
	comp=Z,48nm,1.5s								
PPLA	**Purkeypile**	**49.94**	**33**	*e*	P		**P**	**10 49 09.6**	**+0.9**
TRF	**Thorofare Moun**	**50.84**	**32**	*e*	P		**P**	**10 49 16.1**	**+0.6**
SML	**Sawmill**	**51.68**	**34**	*e*	P		**P**	**10 49 21.9**	**+0.2**
	comp=Z,1.2nm,0.7s								
COLA	**College**	**51.97**	**31**	*e*	P		**P**	**10 49 23.1**	**-0.6**
COLA					pmax		pmax		
	comp=Z,9.0nm,1.2s								
TKM2	**Tokmak 2**	**52.38**	**301**	*e*	P		**P**	**10 49 26.6**	**-0.8**
	comp=Z,2.7nm,0.6s								
ILAR	**Eielson Array**	**52.38**	**31**		P		**P**	**10 49 26.4**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=259,slow=6.4,SNR=27								
ILAR	**Eielson Array**	**52.38**	**31**		P		**P**	**10 49 26.5**	**-0.3**
ILAR					pmax		pmax		
	comp=Z,1.0nm,0.7s								
KSH	**Kashi**	**52.93**	**297**	*e*	P		P	10 49 35.8	+4.4
KSH				*e*	pP		pP	10 49 46.0	+4.7
KSH				*e*	sP		sP	10 49 51.0	+5.8
KSH				*e*	PP		**PP**	**10 51 36.0**	**+5.0**
WRAB	**Tennant Creek**	**53.29**	**190**	*c*	eP		**P**	**10 49 31.7**	**-2.3**
WRAB					pmax		pmax		
	comp=Z,51nm,2.4s								
WRA	**Warramunga Arr**	**53.30**	**190**		P		**P**	**10 49 32.0**	**-2.0**
	comp=Z,5.2nm,0.5s,baz=5.9,slow=7.7,SNR=92								
WRA					PcP		**PcP**	**10 50 40.4**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=357,slow=3.6,SNR=6.4								
WRA	**Warramunga Arr**	**53.30**	**190**		P		**P**	**10 49 32.1**	**-2.0**
WRA								10 50 40.4	
WRA					pmax		pmax		
	comp=Z,5.0nm,0.5s								
BRVK	**Borovoye**	**54.00**	**315**	*d*	*i* P		**P**	**10 49 38.6**	**-0.2**
BRVK					pmax		pmax		
	comp=Z,3.0nm,0.6s								
AS31	**Alice Springs**	**57.03**	**189**	*e*	P		**P**	**10 49 58.7**	**-2.2**
ASAR	**Alice Springs**	**57.03**	**189**		P		**P**	**10 49 59.3**	**-1.6**
	comp=Z,1.4nm,0.6s,baz=2.7,slow=5.6,SNR=24								
ASAR	**Alice Springs**	**57.03**	**189**		P		**P**	**10 49 59.3**	**-1.6**
ASAR					pmax		pmax		
	comp=Z,1.0nm,0.6s								
ARU	**Arti**	**59.94**	**320**	*c*	*i* P		**P**	**10 50 20.7**	**-0.2**
ARU								10 52 32.0	
ARU					S		**S**	**10 58 30.3**	**-0.3**
ARU					SS		**SS**	**11 02 24.4**	**-2.4**
ARU					pmax		pmax		
	comp=Z,9.0nm,1.2s								
ARU	**Arti**	**59.94**	**320**	*e*	P		**P**	**10 50 20.9**	**0.0**
	comp=Z,7.2nm,1.0s								
DLBC	**Dease Lake**	**61.21**	**37**		LR		LR	11 16 34.6	
	comp=Z,41nm,19.6s,baz=326,slow=36								
ABKAR	**Akbulak array**	**61.21**	**312**	*e*	P		**P**	**10 50 29.5**	**-0.2**
RES	**Resolute Bay**	**66.20**	**14**	*e*	P		**P**	**10 51 02.2**	**+0.2**
	comp=Z,13nm,1.3s								
GEYT	**Alibeck**	**66.58**	**301**		P		**P**	**10 51 05.2**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=64,slow=3.4,SNR=5.0								
YKA	**Yellowknife Ar**	**66.78**	**30**		P		**P**	**10 51 05.2**	**-0.8**
	comp=Z,3.5nm,1.0s,baz=292,slow=6.5,SNR=6.3								
YKA	**Yellowknife Ar**	**66.78**	**30**		P		**P**	**10 51 05.2**	**-0.8**
YKA					pmax		pmax		
	comp=Z,4.0nm,1.0s								
I03D	**Drain, OR**	**70.73**	**50**		P		**P**	**10 51 31.9**	**+1.0**
	baz=71								
L02D	**Cave Junction,**	**71.28**	**52**		P		**P**	**10 51 35.9**	**+1.6**
	baz=71								
I04A	**Tendick Farm,**	**71.28**	**50**		P		**P**	**10 51 34.6**	**+0.2**
	baz=71								
J04D	**Umpqua Nationa**	**71.74**	**50**		P		**P**	**10 51 37.9**	**+0.5**
	baz=72								
OBN	**Obnin

comp=Z,1.6nm,0.8s,baz=296,slow=6.1,SNR=16
EGMT Eagleton 76.64 41 P **P 10 52 05.6 0.0**
baz=77
A19A Klindworth Far 76.67 40 P **P 10 52 06.5 +0.7**
baz=77,SNR=7.8
B19A Brinkman Farms 76.84 40 P **P 10 52 07.2 +0.5**
baz=77,SNR=6.5
BOZ Bozeman (W) 76.92 44 P **P 10 52 07.5 +0.1**
baz=77
BOZ Bozeman (W) 76.92 44 *e*P **P 10 52 08.4 +1.0**
comp=Z,46nm,2.8s
RAR Rarotonga 77.11 126 LR LR 11 21 51.6
comp=Z,48nm,19.2s,baz=312,slow=32
B20A Solberg Farm, 77.35 40 P **P 10 52 09.7 +0.1**
baz=77
A21A Bergtoll Ranch 77.61 39 P **P 10 52 10.8 -0.3**
baz=78
C20A Veseth Ranch, 77.78 41 P **P 10 52 12.4 +0.4**
baz=78,SNR=7.1
AKASG Malin Array Be 77.98 323 P **P 10 52 12.2 -0.8**
comp=Z,0.8nm,0.5s,baz=40,slow=5.3,SNR=8.5
AKASG LR LR 11 29 56.1
comp=Z,36nm,18.5s,baz=40,slow=38
AKASG Malin Array Be 77.98 323*ce*P **P 10 52 12.1 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 78.00 323 *e*P **P 10 52 11.9 -1.2**
GRAC Grapevine Rang 78.02 54 P **P 10 52 14.0 +0.4**
baz=78
A22A Carney Farms, 78.14 39 P **P 10 52 14.2 +0.2**
baz=78,SNR=10.0
NB2 NORSAR Subarra 78.17 338 P **P 10 52 13.7 -0.2**
comp=Z,1.8nm,0.6s,baz=40,slow=5.6
NOA NORSAR Array B 78.17 338 P **P 10 52 13.8 -0.2**
comp=Z,2.9nm,0.7s,baz=39,slow=5.6,SNR=12
NOA NORSAR Array B 78.17 338 P **P 10 52 13.8 -0.2**
NOA pmax pmax
comp=Z,3.0nm,0.7s
C21A Desert Coulee 78.21 40 P **P 10 52 15.1 +0.7**
baz=78,SNR=6.0
H17A Grant Village 78.25 44 P **P 10 52 17.1 +2.2**
baz=78
H17A Grant Village 78.25 44 *e*P **P 10 52 17.9 +3.0**
comp=Z,5.4nm,1.0s
IMW Indian Meadow 78.32 45 P **P 10 52 16.7 +1.3**
MPMC Manual Prospec 78.44 55 P **P 10 52 15.9 -0.2**
baz=78
B22A Reddig Ranch S 78.52 39 P **P 10 52 16.4 +0.3**
baz=78
FURC Furnace Creek, 78.65 54 P **P 10 52 17.4 +0.4**
baz=79
D21A La Casta Ranch 78.72 41 P **P 10 52 17.4 +0.1**
baz=79
EDW2 Edwards Air Fo 78.73 56 P **P 10 52 17.9 +0.3**
baz=79
TPNV Topopah Spring 78.81 53 P **P 10 52 18.1 0.0**
baz=79
C22A Vida 78.91 40 P **P 10 52 18.6 +0.3**
baz=79
B23A Brockton 78.95 39 P **P 10 52 18.8 +0.3**
baz=79,SNR=9.9
H19A Powell 79.02 44 P **P 10 52 19.6 +0.6**
baz=79
D22A Cohagen 79.11 40 P **P 10 52 20.3 +0.8**
baz=79,SNR=8.8
A24A Westby 79.18 38 P **P 10 52 19.9 +0.2**
baz=79
HWUT Hardware Ranch 79.24 47 *e*P **P 10 52 21.5 +1.2**
comp=Z,12nm,1.9s
C23A Lambert 79.25 39 P **P 10 52 20.5 +0.3**
baz=79
DUG Dugway, Tooele 79.26 49 P **P 10 52 20.7 +0.2**
baz=79
DUG Dugway, Tooele 79.26 49 *e*P **P 10 52 21.4 +0.9**
comp=Z,6.8nm,1.5s
D23A Lindsay 79.63 40 P **P 10 52 22.9 +0.7**
baz=80,SNR=6.9
A25A Svangstu Ranch 79.63 38 P **P 10 52 22.2 +0.1**
baz=80
E22A Miles City 79.67 41 P **P 10 52 22.7 +0.2**
baz=80
G21A Lodge Grass 79.70 42 P **P 10 52 22.8 +0.1**
baz=80
PDAR Pinedale Array 79.79 45 P **P 10 52 23.2 -0.2**
comp=Z,1.3nm,0.7s,baz=322,slow=2.1,SNR=12
J19A Crowheart 79.80 45 P **P 10 52 23.7 +0.3**
baz=80
TUQ Turquoise Moun 79.85 54 P **P 10 52 24.0 +0.2**
baz=80
I20A Worland 79.94 44 P **P 10 52 24.9 +0.9**
baz=80,SNR=5.2
E23A Ismay 79.99 41 P **P 10 52 24.4 +0.2**
baz=80,SNR=7.9
B25A Knox Farm, Ray 80.03 38 P **P 10 52 24.9 +0.6**
baz=80
D24A Glendive 80.14 40 P **P 10 52 25.4 +0.5**
baz=80
H21A Big Horn, Sher 80.16 43 P **P 10 52 25.9 +0.7**
baz=80
A26A Wade Farm, Ken 80.20 37 P **P 10 52 25.7 +0.4**
baz=80
G22A Birney 80.22 42 P **P 10 52 26.1 +0.6**
baz=80
J20A Shoshoni 80.32 44 P **P 10 52 26.5 +0.3**
baz=80
C25A Freed Ranch, W 80.33 39 P **P 10 52 26.8 +0.8**
baz=80
GMRC Granite Mounta 80.39 55 P **P 10 52 26.5 -0.2**
baz=80
F23A Volborg 80.41 41 P **P 10 52 27.2 +0.7**
baz=80
PFO Pinyon Flats O 80.49 56 P **P 10 52 27.0 -0.2**
baz=80
E24A Baker 80.49 40 P **P 10 52 27.5 +0.6**
baz=80
I21A Big Trails, Te 80.50 44 P **P 10 52 27.3 +0.2**
baz=80
A27A Ledoux Ranch, 80.57 37 P **P 10 52 27.2 -0.1**
baz=80
BELC Belle Mtn. Jos 80.59 56 P **P 10 52 27.6 -0.1**
baz=81
J21A Lysite 80.69 44 P **P 10 52 28.4 +0.1**
baz=81
G23A Biddle 80.74 42 P **P 10 52 28.5 +0.2**
baz=81
F24A Ekalaka 80.86 41 P **P 10 52 28.7 -0.2**
baz=81
I22A 9 Mile Ranch, 80.92 43 P **P 10 52 29.5 +0.2**
baz=81
P17A Butcher Ranch, 80.98 49 *e*P **P 10 52 31.0 +1.2**
E25A Miller Ranch, 81.02 40 P **P 10 52 30.4 +0.7**
baz=81
A28A Rude Farm, Bot 81.09 36 P **P 10 52 30.5 +0.5**
baz=81
BC3 Big Chuckawall 81.16 56 P **P 10 52 30.9 +0.2**
baz=81
D26A Manning 81.19 39 P **P 10 52 30.7 +0.1**
baz=81
J22A Midwest 81.22 44 P **P 10 52 31.1 +0.2**
baz=81,SNR=9.6
SRU San Rafael Swe 81.33 49 *e*P **P 10 52 32.4 +0.7**
comp=Z,6.1nm,0.8s
B28A Dugan Ranch, T 81.34 37 P **P 10 52 31.9 +0.6**
baz=81
F25A Bowman 81.35 40 P **P 10 52 32.1 +0.6**
baz=81
H24A Dirks Ranch, A 81.49 42 P **P 10 52 32.1 -0.2**
baz=81
E26A Carlson Angus 81.54 39 P **P 10 52 32.8 +0.3**
baz=82
A29A Manning Farm, 81.59 36 P **P 10 52 33.2 +0.5**
baz=82
K22A Casper 81.65 44 P **P 10 52 33.6 +0.3**
baz=82
Y12C Blythe 81.75 55 P **P 10 52 34.3 +0.5**
baz=82
F26A Lodgepole 81.82 40 P **P 10 52 34.1 +0.1**
baz=82
B29A Wagenman Farm, 81.84 36 P **P 10 52 34.1 +0.2**
baz=82
E27A Carson 82.04 39 P **P 10 52 34.8 -0.3**
baz=82
O20A White River Ci 82.14 47 P **P 10 52 36.3 +0.4**
baz=82,SNR=7.0
O20A White River Ci 82.14 47 *e*P **P 10 52 36.6 +0.7**
comp=Z,4.5nm,0.8s
F27A Lemmon 82.16 40 P **P 10 52 35.8 +0.1**
baz=82
BRTR Keskin Array B 82.16 313 P **P 10 52 36.2 +0.2**
comp=Z,1.9nm,0.8s,baz=121,slow=4.8,SNR=10
BRTR Keskin Array B 82.16 313*ce*P **P 10 52 36.2 +0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
G26A Maurine 82.22 40 P **P 10 52 36.2 +0.1**
baz=82
B30A Myrvik Farm, E 82.35 36 P **P 10 52 36.7 0.0**
baz=82
I25A Rochford 82.40 42 P **P 10 52 37.6 +0.3**
baz=82
G27A Dupree 82.52 40 P **P 10 52 38.0 +0.3**
baz=82
KOLS Kolonicke sedl 82.55 325 *e*P **P 10 52 36.2 -1.5**
KOLS pmax pmax
comp=Z,4.0nm,1.3s
KOLS Kolonicke sedl 82.55 325 *e*P **P 10 52 36.2 -1.5**
STHS Stebnicka Huta 82.71 326 *e*P **P 10 52 40.1 +1.6**
STHS pmax pmax
comp=Z,7.0nm,1.6s
STHS Stebnicka Huta 82.71 326 *e*P **P 10 52 40.1 +1.6**
PV04 Paradox Valley 82.77 49 *e*P **P 10 52 40.7 +1.4**
C30A Mose, Pekin 82.78 37 P **P 10 52 39.7 +0.8**
baz=83
WUAZ Wupatki 82.87 52 P **P 10 52 40.9 +1.1**
baz=83
D30A Buchanan 83.04 37 P **P 10 52 40.8 +0.6**
baz=83
N23A Red Feather La 83.07 45 P **P 10 52 41.7 +0.8**
baz=83,SNR=5.5
PV01 Paradox Valley 83.14 49 *e*P **P 10 52 41.4 +0.2**
comp=Z,478nm,1.0s
J26A Sides Ranch, S 83.22 42 P **P 10 52 41.8 +0.5**
baz=83
G28A Parade 83.26 40 P **P 10 52 41.8 +0.4**
baz=83
E30A Jud 83.37 38 P **P 10 52 42.6 +0.6**
baz=83
H28A Mission Ridge 83.47 40 P **P 10 52 43.3 +0.7**
baz=83
SMCO Snowmass 83.50 47 *e*P **P 10 52 43.6 +0.4**
comp=Z,7.0nm,1.2s
K26A Motz Farm, Whi 83.55 43 P **P 10 52 42.6 -0.5**
baz=84
KECS Kecovo 83.72 325 *e*P **P 10 52 44.1 +0.4**
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 83.72 325 *e*P **P 10 52 44.1 +0.4**
MVCO Mesa Verde 83.74 49 P **P 10 52 44.6 +0.3**
baz=84
I28A Midland 83.83 41 P **P 10 52 44.8 +0.4**
baz=84
ISCO Idaho Springs 83.95 46 P **P 10 52 45.6 +0.2**
baz=84
ISCO Idaho Springs 83.95 46 *e*P **P 10 52 46.6 +1.1**
comp=Z,2.5nm,0.8s
214A Organ Pipe Nat 83.95 56 P **P 10 52 45.5 +0.3**
baz=84
J28A Allard Ranch, 84.17 41 P **P 10 52 46.3 +0.1**
baz=84
DPC Dobruska-Polom 84.28 329 *e*P **P 10 52 46.4 -0.2**
DPC *ep*P **pP 10 52 58.3 +1.2**
DPC Dobruska-Polom 84.28 329 *e*P **P 10 52 46.4 -0.2**
DPC *e* 10 52 58.3
S22A 4UR Ranch, Cre 84.47 48 P **P 10 52 48.6 +0.5**
baz=84,SNR=5.9
Q24A Divide 84.75 46 P **P 10 52 49.7 +0.2**
baz=85
I30A Oacoma 84.83 40 P **P 10 52 49.5 0.0**
baz=85
BRG Berggiesshubel 84.91 330 *e*P **P 10 52 49.8 +0.1**
comp=Z,3.4nm,0.9s
BRG Berggiesshubel 84.91 330 *e*P **P 10 52 49.8 +0.1**
BRG pmax pmax
comp=Z,3.0nm,0.9s
CLL Collm 84.97 331 ⇓*i*P **P 10 52 49.5 -0.5**
comp=Z,7.0nm,0.9s
CLL *ep*P **pP 10 53 01.0 +0.6**
CLL Collm 84.97 331 ⇓*i*P **P 10 52 49.5 -0.5**
CLL *e* 10 53 01.0
CLL pmax pmax
comp=Z,7.0nm,0.9s
O26A Horse Wrangler 85.04 45 P **P 10 52 51.0 +0.2**
baz=85
K29A Lazy Trails An 85.11 41 P **P 10 52 51.1 +0.1**
baz=85
N27A Anderson Farm, 85.13 44 P **P 10 52 51.3 +0.1**
baz=85
J30A Dallas 85.19 40 P **P 10 52 51.4 +0.1**
baz=85
SDCO Great Sand Dun 85.30 48 P **P 10 52 52.7 +0.4**
baz=85,SNR=5.7
SDCO Great Sand Dun 85.30 48 *e*P **P 10 52 52.9 +0.6**
comp=Z,2.5nm,0.8s
L29A Maesberg Ranch 85.48 42 P **P 10 52 53.1 +0.3**
baz=85
O27A Beecher Island 85.56 44 P **P 10 52 53.1 -0.2**
baz=86
Q26A Hugo 85.76 46 P **P 10 52 54.6 +0.3**
baz=86
R26A Arlington 86.20 46 P **P 10 52 56.8 +0.3**
baz=86
T25A Trinidad 86.35 47 P **P 10 52 57.6 +0.2**
baz=86
ANMO Albuquerque 86.43 50*ce*P **P 10 52 59.0 +1.2**
ANMO pmax pmax
comp=Z,17nm,2.5s
T26A Comanche Natio 86.83 47 P **P 10 52 59.4 -0.4**
baz=87
Q30A Quinter 87.68 44 P **P 10 53 03.2 -0.4**
baz=88
P31A Stockton 87.80 43 P **P 10 53 03.8 -0.4**
baz=88
TXAR Lajitas Array 91.79 53 P **P 10 53 23.4 +0.3**
comp=Z,1.1nm,0.7s,baz=303,slow=3.1,SNR=19
TXAR Lajitas Array 91.79 53 P **P 10 53 23.4 +0.3**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
Z32A Haskell 91.90 48 P **P 10 53 23.4 0.0**
baz=92
529A Stev Forest Ra 92.25 52 P **P 10 53 25.6 +0.4**
baz=92
V37A Hulbert 92.74 43 P **P 10 53 26.7 -0.5**
baz=93
530A J-C Ranch, Com 92.81 51 P **P 10 53 27.5 -0.2**
baz=93
233A Rising Star 93.13 48 P **P 10 53 29.6 +0.5**
baz=93
531A Rocksprings 93.31 51 P **P 10 53 30.2 +0.1**
baz=93
333A Richland Sprin 93.54 49 P **P 10 53 31.3 +0.2**
baz=94
732A Laxson Ranch, 94.64 51 P **P 10 53 36.4 +0.3**
baz=95
TORD Torodi Ar. Bea 120.74 314 PKP **PKPdf 10 59 06.4 -1.1**
comp=Z,0.5nm,0.6s,baz=16,slow=1.6,SNR=6.7
SAML Samuel 146.24 50 *e*P **PKPdf 10 59 54.6 -0.2**
SIV San Ignacio 152.72 57 PKPbc **PKPbc 11 00 11.8 -0.4**
comp=Z,3.9nm,0.9s,baz=317,slow=1.8,SNR=6.3
SIV PKPab **PKPab 11 00 22.0 -0.9**
comp=Z,2.5nm,1.0s,baz=3.7,slow=4.9,SNR=3.0
CFAA Coronel Fontan 154.02 95 PKPab **PKPab 11 00 27.9 -0.3**
comp=Z,0.7nm,0.8s,baz=285,slow=5.7,SNR=8.9

*IDC **28** 10:44:13.5±0.7, 18°.21S×168°.24E, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.3/22, mbtmp4.3/15, ML3.9/1, MS4.2/21, Ms1 4.2/21, ms1mx4.0/35, Error ellipse: s-maj=23.7km s-min=16.9km az=97.0*

*GCMT **28** 10:44:15.4±0.3, 18°.24S×167°.83E, h36km±1km, MW5.0/58, Moment Tensor Solution. s43,c50; s58,c80; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.49±.24; Mθθ0.51±.17; Mϕϕ-4.00±.15; Mrθ1.04±.22; Mϕθ1.41±.10; Mϕr-1.91±.14; Best double couple: M=4.51600×10^16^ NP1:ϕs354.00000°, δ32.00000°, λ105.00000°. Principal axes: T 4.0910, Plg74.0000°, Azm43.0000°; N 0.8510, Plg8.0000°, Azm161.0000°; P -4.9410, Plg14.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **28** 10:44:15.4±0.4, 18°.25S×168°.22E, h10km, mb4.6/6 Error ellipse: s-maj=9.8km s-min=8.4km az=146.0*

NEIC Felt at Port-Vila.

*ISCJB **28** 10:44:16.4±0.4, 18°.45S±0'.05×168°.16E±0'.07, h32km, mb4.3/16,MS4.2/20, Error ellipse: s-maj=10.5km s-min=6.2km az=18.3*

*NOU **28** 10:44:17.1±1.4, 18°.38S×168°.21E, h30km, MD3.5, ML4.5, MS6.2*

ISC 28 10:44:18.3±0.5, 18°.43S±0'.06×168°.14E±0'.09, h32km, n51, σ1s49/36, mb4.4/16, MS4.2/20, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.49**	**200**	*e*P		**Pn**	**10 44 55.0**	**-1.6**
LIFNC				AMP			10 45 21.6	
	comp=Z,2247μm,14.7s							
LIFNC				*e*S		**Sn**	**10 45 22.4**	**-3.5**
BAYA	**Yate Dam**	**3.89**	**197**	*e*S		**Sn**	**10 45 57.9**	**-2.6**
DZM	**Mont Dzumac**	**3.96**	**203**	*e*Pn		**Pn**	**10 45 16.6**	**-0.4**
	comp=Z,137nm,0.5s							
DZM				*e*Sn		Sn	10 45 54.4	-8.0
	comp=Z,1μm,0.8s							
DZM				*e*LR		LR	10 45 59.7	
	comp=Z,5μm,24.2s							
DZM	**Mont Dzumac**	**3.96**	**203**	Pn		**Pn**	**10 45 16.7**	**-0.3**
	comp=Z,6.4nm,0.3s,baz=90,slow=20,SNR=133							
DZM				Sn		**Sn**	**10 45 59.9**	**-2.5**
	comp=Z,33nm,0.3s,baz=317,slow=23,SNR=12							
DZM				LR		LR	10 46 50.3	
	comp=Z,3μm,20.0s,baz=2.0,slow=37							
DZM	**Mont Dzumac**	**3.96**	**203**	*e*P		**Pn**	**10 45 16.0**	**-1.0**
DZM				*e*S		**Sn**	**10 45 59.7**	**-2.7**
DZM				AMP			10 46 04.5	
	comp=Z,2μm,2.9s							
MSVF	**Nonsavu**	**9.45**	**87**	Pn		**Pn**	**10 46 32.2**	**-0.2**
	comp=Z,483nm,1.8s							
HNR	**Honiara**	**11.96**	**317**	*e*Pn		**Pn**	**10 47 06.2**	**-0.5**
	comp=Z,62nm,0.7s							
EIDS	**Eidsvold**	**17.26**	**243**	*e*Pn		**P**	**10 48 20.0**	**+1.7**
	comp=Z,31nm,1.3s							
ARMA	**Armidale**	**19.17**	**228**	*e*P		**Pn**	**10 48 42.5**	**+2.0**
	comp=Z,38nm,1.2s							
CTA	**Charters Tower**	**20.73**	**262**	P		Pn	10 48 58.2	-0.6
	comp=Z,11nm,1.0s,baz=76,slow=12,SNR=8.0							
CTAO	**Charters Tower**	**20.73**	**262**	*e*P		Pn	10 48 57.5	-1.3
	comp=Z,40nm,1.3s							
URZ	**Urewera**	**21.26**	**160**	P		**P**	**10 49 04.6**	**+2.8**
	comp=Z,9.7nm,0.8s,baz=343,slow=6.1,SNR=5.8							
URZ				LR		LR	10 56 33.3	
	comp=Z,1μm,19.3s,baz=350,slow=34							
RPZ	**Rata Peaks**	**25.33**	**175**	P		**P**	**10 49 44.6**	**+2.4**
	comp=Z,17nm,1.0s,baz=230,slow=7.9,SNR=2.7							
RPZ				LR		LR	10 59 00.5	
	comp=Z,395nm,20.2s,baz=351,slow=35							
STKA	**Stephens Creek**	**27.42**	**236**	P		**P**	**10 50 03.0**	**+1.8**
	comp=Z,5.8nm,0.8s,baz=63,slow=8.1,SNR=6.3							
STKA				LR		LR	10 59 28.0	
	comp=Z,482nm,21.8s,baz=63,slow=33							
RAR	**Rarotonga**	**30.29**	**101**	LR		LR	11 00 07.3	
	comp=Z,375nm,21.4s,baz=274,slow=32							
JAY	**Jayapura**	**31.19**	**297**	LR		LR	11 03 04.9	
	comp=Z,686nm,19.6s,baz=138,slow=36							
WRA	**Warramunga Arr**	**31.93**	**262**	LR		LR	11 03 20.3	
	comp=Z,433nm,18.5s,baz=75,slow=36							
AS31	**Alice Springs**	**32.32**	**255**	*e*P		**P**	**10 50 44.7**	**-0.2**
ASAR	**Alice Springs**	**32.32**	**255**	P		**P**	**10 50 45.1**	**+0.3**
	comp=Z,6.0nm,0.7s,baz=85,slow=8.4,SNR=45							
ASAR				LR		LR	11 03 52.1	
	comp=Z,966nm,18.1s,baz=86,slow=36							
GUMO	**Guam**	**39.23**	**323**	LR		LR	11 06 56.7	
	comp=Z,254nm,19.1s,baz=134,slow=35							
TBI	**Tubuai**	**39.81**	**105**	*e*LQ		LQ	11 01 10.8	
	comp=Z,418nm,37.5s							
TBI				*e*LR		LR	11 02 55.9	
	comp=Z,447nm,30.0s							
PPT2	**Papeete2**	**40.16**	**96**	*e*S		S	10 58 11.8	+15
	comp=Z,205nm,25.5s							
PPT2				*e*LQ		LQ	11 01 26.5	
	comp=Z,642nm,27.8s							
PPT2				*e*LR		LR	11 03 08.9	
	comp=Z,652nm,24.5s,baz=260							
PPT	**Papeete**	**40.16**	**96**	LR		LR	11 04 43.9	
	comp=Z,341nm,19.1s,baz=280,slow=31							
SIJI	**Sorong**	**40.17**	**292**	P		**P**	**10 51 51.9**	**-0.1**
	comp=Z,4.6nm,0.6s,baz=85,slow=3.2,SNR=3.7							
SIJI				LR		LR	11 08 41.2	
	comp=Z,386nm,19.7s,baz=229,slow=36							
KAPI	**Kappang**	**49.05**	**280**	LR		LR	11 12 26.3	
	comp=Z,70nm,21.2s,baz=121,slow=34							
JCJ	**Chichijima**	**51.78**	**330**	LR		LR	11 13 03.8	
	comp=Z,153nm,21.6s,baz=145,slow=34							
VNDA	**Vanda**	**59.21**	**182**	LR		LR	11 16 26.7	
	comp=Z,108nm,21.8s,baz=69,slow=32							
MJAR	**Matsushiro Arr**	**61.55**	**333**	P		**P**	**10 54 31.4**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=161,slow=7.4,SNR=2.9							
USRK	**Ussuriysk Ar.**	**70.54**	**333**	P		**P**	**10 55 29.7**	**-0.4**
	comp=Z,3.9nm,0.8s,baz=106,slow=6.9,SNR=9.1							
QSPA	**South Pole Qui**	**71.62**	**180**	*e*P		**P**	**10 55 37.7**	**+1.1**
	comp=Z,26nm,1.4s							
PETK	**Petropavlovsk-**	**71.81**	**353**	P		**P**	**10 55 36.6**	**-0.9**
	comp=Z,5.4nm,0.8s,baz=142,slow=7.5,SNR=5.9							
PETK				LR		LR	11 23 04.0	
	comp=Z,72nm,19.9s,baz=172,slow=32							
CMAR	**Chiang Mai Arr**	**77.22**	**295**	P		**P**	**10 56 10.8**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=131,slow=4.5,SNR=7.4							
CMAR				LR		LR	11 33 55.8	
	comp=Z,51nm,18.1s,baz=171,slow=39							
MAW	**Mawson**	**78.79**	**202**	P		**P**	**10 56 19.0**	**+1.4**
	comp=Z,2.0nm,0.9s,baz=84,slow=9.2,SNR=3.4							
MAW				LR		LR	11 26 04.1	
	comp=Z,171nm,22.0s,baz=68,slow=32							
GTA	**Gaotai**	**85.81**	**314**	*e*P		P	10 56 58.8	+3.9
GTA				PMZ				
	comp=Z,5.0nm,1.0s							
SONM	**Songino Array**	**85.95**	**323**	P		**P**	**10 56 55.4**	**0.0**
	comp=Z,1.7nm,0.9s,baz=152,slow=5.0,SNR=8.7							
YBH	**Yreka Blue Hor**	**87.45**	**44**	LR		LR	11 27 56.9	
	comp=Z,240nm,21.1s,baz=240,slow=36							
NVAR	**Mina Array Bea**	**89.05**	**49**	P		**P**	**10 57 09.6**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=233,slow=7.5,SNR=3.0							
ILAR	**Eielson Array**	**89.77**	**18**	P		**P**	**10 57 11.8**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=241,slow=4.8,SNR=14							
ILAR				LR		LR	11 33 18.6	
	comp=Z,111nm,19.4s,baz=238,slow=33							
SNAA	**Sanae**	**89.92**	**183**	P		P	10 57 10.5	-3.5
SNAA	**Sanae**	**89.92**	**183**	*e*P		P	10 57 10.3	-3.7
	comp=Z,6.2nm,1.1s							
WVOR	**Wild Horse Val**	**90.48**	**45**	P		**P**	**10 57 16.3**	**-0.8**
	comp=Z,4.9nm,1.2s							
VNA1	**Neumayer--Stat**	**91.12**	**181**	P		P	10 57 25.6	+6.1
MSU	**Marysvale**	**93.52**	**51**	P		**P**	**10 57 31.5**	**+0.1**
PDAR	**Pinedale Array**	**96.83**	**47**	LR		LR	11 36 57.6	
	comp=Z,74nm,18.8s,baz=222,slow=33							
TXAR	**Lajitas Array**	**97.30**	**62**	LR		LR	11 35 03.7	
	comp=Z,121nm,19.0s,baz=0.0,slow=31							
BOSA	**Boshof**	**121.06**	**218**	PKP		**PKPdf**	**11 03 07.6**	**-0.9**
	comp=Z,4.1nm,0.9s,baz=74,slow=7.4,SNR=3.7							
ARCES	**ARCESS Array B**	**124.02**	**345**	PKP		**PKPdf**	**11 03 12.7**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=79,slow=0.7,SNR=6.7							
BFO	**Black Forest**	**145.96**	**336**	*e*PKPdf		**PKPdf**	**11 03 54.1**	**+0.1**
TIP	**Timpagrande**	**147.72**	**316**	*e*PKPdf		**PKPbc**	**11 03 59.3**	**-0.9**
BNI	**Bardonecchia**	**149.28**	**334**	*e*PKPdf		**PKPdf**	**11 04 00.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**165.94**	**250**	PKP		**PKPdf**	**11 04 21.5**	**+0.6**
	comp=Z,0.6nm,1.0s,baz=349,slow=1.5,SNR=3.5							
TORD				PKPab		**PKPab**	**11 05 21.8**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=106,slow=4.0,SNR=2.4							

*JMA **28** 10:57:33.8±0.2, 24°.85N×122°.33E, h131km±2km, M2.4*

*ISCJB **28** 10:57:34.4±0.6, 24°.84N±0'.04×122°.41E±0'.02, h127km±4km, Error ellipse: s-maj=5.9km s-min=2.9km az=166.8*

*TAP **28** 10:57:34.2, 24°.85N×122°.44E, h130km±1km, ML3.5, D*

ISC 28 10:57:34.6±1.5, 24°.85N±0'.05×122°.39E±0'.03, h129km±8km, n42, σ0s64/84, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.40**	**294**	*e*P		**Pn**	**10 57 52.9**	**-0.1**
	baz=291							
TWB1				*e*S		**Sn**	**10 58 06.7**	**-0.2**
	baz=291							
EGS		**0.42**	**270**	*e*P		**Pn**	**10 57 53.5**	**+0.5**
	baz=268							
EGS				*e*S		**Sn**	**10 58 06.3**	**-0.8**
	baz=268							
TWC	**Suao**	**0.55**	**244**	P		Pn	**10 57 53.8**	**0.0**
	baz=245							
TWC				*e*S		**Sn**	**10 58 07.9**	**-0.4**
	baz=245							
NWF	**Wu-fen Shan**	**0.60**	**292**	*e*P		**Pn**	**10 57 53.2**	**-1.0**

	baz=290									
NWF					*e*S		**Sn**	**10 58 09.2**	**+0.1**	
	baz=290									
JYNG	**Yonagunijimaku**	**0.64**	**128**	P			**Pn**	**10 57 54.5**	**+0.1**	
JYNG					*e*S		**Sn**	**10 58 09.8**	**+0.4**	
TWE	**Neicheng**	**0.67**	**259**	*e*P			**Pn**	**10 57 54.9**	**+0.2**	
	baz=259									
TWE					*e*S		**Sn**	**10 58 10.1**	**+0.3**	
	baz=259									
YOJ	**Yonaguni jima**	**0.68**	**124**	P			**Pn**	**10 57 54.8**	**+0.1**	
YOJ					*e*S		**Sn**	**10 58 09.4**	**-0.5**	
ENA	**Nanau**	**0.73**	**235**	*e*P			**Pn**	**10 57 54.6**	**-0.5**	
	baz=236									
ENA					*e*S		**Sn**	**10 58 09.9**	**-0.6**	
	baz=236									
TWA	**Mucha**	**0.75**	**280**	*e*P			**Pn**	**10 57 55.0**	**-0.2**	
	baz=279									
TWA					*e*S		**Sn**	**10 58 11.7**	**+0.9**	
	baz=279									
ENTT	**Nioudou**	**0.78**	**255**	P			**Pn**	**10 57 56.0**	**+0.5**	
	baz=254									
ENTT					*e*S		**Sn**	**10 58 11.9**	**+0.6**	
	baz=254									
PCYT	**Pengchaiyu**	**0.83**	**340**	*e*P			**Pn**	**10 57 56.3**	**+0.4**	
	baz=337									
PCYT					*e*S		**Sn**	**10 58 11.3**	**-0.8**	
	baz=337									
TWY	**Chenhua**	**0.84**	**301**	*e*P			**Pn**	**10 57 56.0**	**+0.1**	
	baz=299									
TWY					*e*S		**Sn**	**10 58 12.2**	**+0.1**	
	baz=299									
TWS1	**Kuangyinshan**	**0.92**	**286**	*e*P			**Pn**	**10 57 56.9**	**+0.3**	
	baz=285									
TWS1					*e*S		**Sn**	**10 58 14.8**	**+1.4**	
	baz=285									
NSK	**Sanguang**	**0.96**	**260**	P			**Pn**	**10 57 56.8**	**-0.3**	
	baz=259									
NSK					S		**Sn**	**10 58 13.4**	**-0.7**	
	baz=259									
NNS	**Nan Shan**	**1.01**	**247**	P			**Pn**	**10 57 58.1**	**+0.4**	
	baz=246									
NNS					*e*S		**Sn**	**10 58 15.5**	**+0.3**	
	baz=246									
TWD	**Chiawan**	**1.05**	**224**	P			**Pn**	**10 57 57.9**	**0.0**	
	baz=224									
TWD					S		**Sn**	**10 58 15.6**	**0.0**	
	baz=224									
WHF	**Hehuan Shan**	**1.24**	**236**	*e*P			**Pn**	**10 58 00.6**	**+0.3**	
	baz=236									
WHF					*e*S		**Sn**	**10 58 19.5**	**-0.3**	
	baz=236									
TWT	**Tachien**	**1.26**	**242**	*e*P			**Pn**	**10 58 01.2**	**+1.0**	
	baz=242									
TWT					S		**Sn**	**10 58 20.5**	**+0.9**	
	baz=242									
NSTT	**Nanjuang**	**1.28**	**261**	P			**Pn**	**10 58 00.0**	**-0.2**	
	baz=260									
NSTT					*e*S		**Sn**	**10 58 19.0**	**-0.8**	
	baz=260									
IRIF	**Iriomote-Funau**	**1.32**	**112**	P			**Pn**	**10 58 00.5**	**-0.1**	
IRIF					*e*S		**Sn**	**10 58 20.3**	**-0.1**	
ESL	**Shilin**	**1.35**	**221**	*e*P			**Pn**	**10 58 01.8**	**+0.8**	
	baz=221									
ESL					*e*S		**Sn**	**10 58 19.7**	**-1.4**	
	baz=221									
HATJ	**Hateruma jima**	**1.51**	**121**	P			**Pn**	**10 58 03.2**	**+0.5**	
HATJ					*e*S		**Sn**	**10 58 25.0**	**+0.9**	
NSY	**Sanyi**	**1.55**	**254**	*e*P			**Pn**	**10 58 02.8**	**-0.4**	
	baz=254									
NSY					*e*S		**Sn**	**10 58 24.7**	**-0.2**	
	baz=254									
TWQ1	**Liyutan**	**1.56**	**252**	*e*P			**Pn**	**10 58 03.4**	**+0.2**	
	baz=251									
TWQ1					*e*S		**Sn**	**10 58 24.4**	**-0.8**	
	baz=251									
WDT	**Danda**	**1.58**	**227**	*e*P			**Pn**	**10 58 04.1**	**+0.2**	
	baz=227									
WDT					*e*S		**Sn**	**10 58 25.5**	**-0.6**	
	baz=227									
JKRS	**Kuro-shima**	**1.59**	**112**	P			**Pn**	**10 58 04.0**	**+0.4**	
JKRS					*e*S		**Sn**	**10 58 26.4**	**+0.6**	
JIJ	**Ishigaki jima**	**1.66**	**106**	P			**Pn**	**10 58 04.4**	**-0.1**	
JIJ					*e*S		**Sn**	**10 58 26.4**	**-0.9**	
SMLT	**Sun Moon Lake**	**1.67**	**235**	*e*P			**Pn**	**10 58 05.3**	**+0.6**	
	baz=235									
SMLT					*e*S		**Sn**	**10 58 28.8**	**+1.2**	
	baz=235									
TYC	**Yuchr**	**1.69**	**236**	*e*P			**Pn**	**10 58 04.8**	**+0.1**	
	baz=236									
TYC					*e*S		**Sn**	**10 58 27.7**	**-0.1**	
	baz=236									
JISG	**Ishigakijimahi**	**1.76**	**98**	P			**Pn**	**10 58 05.7**	**+0.1**	
JISG					*e*S		**Sn**	**10 58 29.0**	**-0.3**	
TWF1	**Yuli**	**1.79**	**214**	*e*P			**Pn**	**10 58 05.5**	**-0.5**	
	baz=214									
TWF1					*e*S		**Sn**	**10 58 29.1**	**-1.0**	
	baz=214									
YUS	**Yu-Shan**	**1.89**	**225**	*e*P			**Pn**	**10 58 09.1**	**+1.4**	
	baz=224									
YUS					*e*S		**Sn**	**10 58 33.7**	**+0.9**	
	baz=224									
ALS	**Alishan**	**1.97**	**228**	*e*P			**Pn**	**10 58 09.1**	**+0.6**	
	baz=228									
ALS					*e*S		**Sn**	**10 58 35.1**	**+0.8**	
	baz=228									
CHN5	**Tsauling**	**2.00**	**232**	*e*P			**Pn**	**10 58 09.9**	**+1.2**	
	baz=232									
CHN5					*e*S		**Sn**	**10 58 35.5**	**+0.8**	
	baz=232									
ELDTW	**Lidau**	**2.08**	**218**	*e*P			**Pn**	**10 58 08.7**	**-0.9**	
	baz=217									
ELDTW					*e*S		**Sn**	**10 58 35.5**	**-0.9**	
	baz=217									
JTJ	**Tarama**	**2.11**	**95**	P			**Pn**	**10 58 10.1**	**+0.3**	
JTJ					*e*S		**Sn**	**10 58 36.4**	**-0.4**	
CHN4	**Tsaushan**	**2.22**	**228**	*e*P			**Pn**	**10 58 10.6**	**-0.7**	
	baz=228									
CHN4					*e*S		**Sn**	**10 58 38.9**	**-0.4**	
	baz=228									
STYT	**Tauyuan**	**2.25**	**222**	*e*P			**Pn**	**10 58 12.2**	**+0.5**	
	baz=222									
STYT					*e*S		**Sn**	**10 58 38.9**	**-1.2**	
	baz=222									
CHN1	**Nanshi**	**2.38**	**226**	*e*P			**Pn**	**10 58 12.4**	**-0.9**	
	baz=226									
CHN1					*e*S		**Sn**	**10 58 43.0**	**+0.1**	
	baz=226									
JIRB	**Irabujima**	**2.52**	**90**	P			**Pn**	**10 58 15.1**	**+0.1**	
JIRB					*e*S		**Sn**	**10 58 45.9**	**-0.2**	
JOGS	**Gusukube**	**2.74**	**91**	P			**Pn**	**10 58 18.7**	**+0.9**	
JOGS					*e*S		**Sn**	**10 58 51.3**	**+0.2**	
JKE	**Kume jima 2**	**4.23**	**69**	P			**Pn**	**10 58 37.0**	**-0.4**	
JKE					*e*S		**Sn**	**10 59 25.8**	**-0.3**	

NEIC ***28*** *11:04:31.7±0.4, 18°.00N×101°.89W, mb4.1/61, MD4.4(MEX), Error ellipse: s-maj=9.0km s-min=4.4km az=224.0*

NEIC Felt at Zihuatanejo.

IDC ***28*** *11:04:32.0±0.8, 18°.14N×101°.67W, h34km±5km, mb3.9/14, mb1 4.1/18, mb1mx3.9/49, mbtmp4.1/18, ML3.6/4, MS3.6/7, Ms1 3.6/7, ms1mx3.3/29, Error ellipse: s-maj=23.5km s-min=12.4km az=52.0*

MEX ***28*** *11:04:32.7±0.8, 17°.89N×102°.01W, h5km±9km, MD4.4*

ISC 28 11:04:31.5±0.5, 17°.88N±0°.05×102°.03W±0°.03, h43km±4km, h42km; pP-P, n262, σ1=63/266, mb4.1/58, MS3.5/3, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
ZIIG	**Zihuatanejo**	**0.60**	**117**	*e*P	**Pn**	**11 04 43.8**	**+0.1**	
ZIIG				*i*S	**Sn**	**11 04 52.9**	**+0.5**	
ZIIG	**Zihuatanejo**	**0.60**	**117**	*e*P	**Pn**	**11 04 43.8**	**+0.1**	
ZIIG				*i*S	**Sn**	**11 04 52.9**	**+0.5**	
MMIG	**Aquila**	**1.32**	**288**	*e*P	**Pn**	**11 04 54.5**	**+1.1**	
MMIG				*i*S	**Sn**	**11 05 09.9**	**+0.1**	
MMIG	**Aquila**	**1.32**	**288**	*e*P	**Pn**	**11 04 54.5**	**+1.1**	
MMIG				*i*S	**Sn**	**11 05 09.9**	**+0.1**	
ARIG	**Puente Sto Nin**	**1.65**	**76**	*e*P	**Pn**	**11 04 58.5**	**+0.6**	
ARIG				*e*S	**Sn**	**11 05 18.8**	**+0.9**	
CAIG	**El Cayaco**	**1.87**	**116**	*e*P	**Pn**	**11 05 01.4**	**+0.4**	
CAIG				*i*S	**Sn**	**11 05 23.9**	**+0.4**	
CAIG	**El Cayaco**	**1.87**	**116**	*e*P	**Pn**	**11 05 01.4**	**+0.4**	
CAIG				*i*S	**Sn**	**11 05 23.9**	**+0.4**	
MOIG	**Morelia**	**1.95**	**24**	*e*P	**Pn**	**11 05 03.1**	**+0.7**	
MOIG				*e*S	**Sn**	**11 05 27.0**	**+1.2**	
MOIG	**Morelia**	**1.95**	**24**	*e*P	**Pn**	**11 05 03.1**	**+0.7**	
MOIG				*e*S	**Sn**	**11 05 27.0**	**+1.2**	
MEIG	**Mezcala**	**2.29**	**89**	*e*P	**Pn**	**11 05 08.0**	**+1.2**	
MEIG				*i*S	**Sn**	**11 05 34.8**	**+0.8**	
MEIG	**Mezcala**	**2.29**	**89**	*e*P	**Pn**	**11 05 08.0**	**+1.2**	
MEIG				*i*S	**Sn**	**11 05 34.8**	**+0.8**	
ACX	**Acapulco**	**2.30**	**116**	*e*P	**Pn**	**11 05 06.8**	**-0.1**	
ACX				*e*S	**Sn**	**11 05 36.6**	**+2.5**	
ACX	**Acapulco**	**2.30**	**116**	*e*P	**Pn**	**11 05 06.8**	**-0.1**	
ACX				*e*S	**Sn**	**11 05 36.6**	**+2.5**	
PLIG	**Platanillo**	**2.45**	**78**	*e*P	**Pn**	**11 05 09.7**	**+0.6**	
PLIG				*e*S	**Sn**	**11 05 39.5**	**+1.6**	
PLIG	**Platanillo**	**2.45**	**78**	*e*P	**Pn**	**11 05 09.7**	**+0.6**	
PLIG				*e*S	**Sn**	**11 05 39.5**	**+1.6**	
PNIG	**Pinotepa**	**4.01**	**111**	*e*P	**Pn**	**11 05 31.6**	**+1.1**	
PNIG				*i*S	**Sn**	**11 06 18.3**	**+2.0**	
PNIG	**Pinotepa**	**4.01**	**111**	*e*P	**Pn**	**11 05 31.6**	**+1.1**	
PNIG				*i*S	**Sn**	**11 06 18.3**	**+2.0**	
OXX	**Oaxaca**	**5.12**	**98**	*e*P	**Pn**	**11 05 44.9**	**-1.0**	
OXX				*e*S	**Sn**	**11 06 47.8**	**+3.8**	
OXX	**Oaxaca**	**5.12**	**98**	*e*P	**Pn**	**11 05 44.9**	**-1.0**	
OXX				*e*S	**Sn**	**11 06 47.8**	**+3.8**	
CMIG	**Matias Romero**	**6.86**	**96**	Pn	**Pn**	**11 06 10.8**	**+1.2**	
	7.7nm,0.3s,baz=252,slow=12,SNR=52							
CMIG				Sn	**Sn**	**11 07 24.0**	**-2.4**	
	5.6nm,0.3s,baz=45,slow=17,SNR=2.2							
CMIG				Lg	Lg	11 07 57.5		
	16nm,0.3s,baz=321,slow=14,SNR=6.2							
CMIG				LR	LR	11 08 59.7		
	comp=Z,380nm,18.4s,baz=339,slow=41							
034A	**Hebbronville**	**9.64**	**18**	P	Pn	11 06 51.9	+4.2	
	baz=9.5							
LPIG	**La Paz**	**9.90**	**310**	LR	LR	11 10 22.0		
	comp=Z,223nm,18.7s,baz=177,slow=35							
933A	**Laredo**	**10.01**	**14**	P	**Pn**	**11 06 55.8**	**+3.1**	
	baz=9.9							
934A	**Benavides**	**10.20**	**18**	P	Pn	11 06 58.8	+3.5	
	baz=10							
832A	**Faith Ranch, C**	**10.52**	**10**	P	**Pn**	**11 07 02.0**	**+2.2**	
	baz=10							
833A	**Chaparral WMA,**	**10.67**	**13**	P	**Pn**	**11 07 03.6**	**+1.9**	
	baz=11							
732A	**Laxson Ranch,**	**10.96**	**10**	P	**Pn**	**11 07 07.9**	**+2.2**	
	baz=11							
733A	**Divot King Ran**	**11.07**	**13**	P	**Pn**	**11 07 09.8**	**+2.5**	
	baz=11							
TXAR	**Lajitas Array**	**11.50**	**353**	Pn	**Pn**	**11 07 14.7**	**+1.5**	
	0.2nm,0.3s,baz=168,slow=14,SNR=43							
TXAR				Lg	Lg	11 10 31.3		
	0.0nm,0.3s,baz=171,slow=25,SNR=4.1							
TXAR				LR	LR	11 12 09.6		
	comp=Z,444nm,19.0s,baz=0.0,slow=40							
631A	**Perdido Creek**	**11.55**	**6**	P	Pn	11 07 17.3	+3.4	
	baz=12,SNR=12							
735A	**Kenedy**	**11.59**	**19**	P	**Pn**	**11 07 17.3**	**+3.0**	
	baz=12							
632A	**Uvalde**	**11.75**	**10**	P	**Pn**	**11 07 19.7**	**+3.1**	
	baz=12,SNR=7.6							
633A	**Saathoff Ranch**	**11.81**	**12**	P	**Pn**	**11 07 20.4**	**+2.9**	
	baz=12							
736A	**Circle Diamond**	**11.92**	**22**	P	Pn	11 07 22.9	+4.1	
	baz=12							
737A	**Port Lavaca**	**11.98**	**24**	P	Pn	11 07 23.4	+3.7	
	baz=12							
635A	**Leesville**	**12.10**	**18**	P	Pn	11 07 24.7	+3.4	
	baz=12							
529A	**Stev Forest Ra**	**12.19**	**359**	P	Pn	11 07 27.4	+4.8	
	baz=12,SNR=16							
530A	**J-C Ranch, Com**	**12.23**	**3**	P	**Pn**	**11 07 26.1**	**+3.0**	
	baz=12							
531A	**Rocksprings**	**12.30**	**6**	P	**Pn**	**11 07 27.0**	**+2.8**	
	baz=12,SNR=7.3							
532A	**Rocksprings**	**12.34**	**9**	P	**Pn**	**11 07 27.7**	**+3.0**	
	baz=12,SNR=26							
636A	**Smothers Creek**	**12.41**	**21**	P	Pn	11 07 28.8	+3.3	
	baz=12							
533A	**Kerrville**	**12.44**	**12**	P	Pn	11 07 29.4	+3.5	
	baz=12,SNR=12							
534A	**Blanco**	**12.52**	**14**	P	Pn	11 07 30.3	+3.3	
	baz=12,SNR=11							
637A	**Eagle Lake**	**12.63**	**23**	P	Pn	11 07 31.9	+3.4	
	baz=12							
429A	**Davenport Ranc**	**12.69**	**1**	P	Pn	11 07 33.5	+4.1	
	baz=13,SNR=29							
JCT	**Junction City**	**12.70**	**9**	P	Pn	11 07 32.8	+3.2	
	baz=13,SNR=5.3							
JCT	**Junction City**	**12.70**	**9**	*e*Pn	**Pn**	**11 07 27.0**	**-2.6**	
535A	**Dale**	**12.76**	**18**	P	**Pn**	**11 07 33.1**	**+2.8**	
	baz=13							
431A	**Sonora**	**12.81**	**6**	P	**Pn**	**11 07 33.7**	**+2.7**	
	baz=13							
433A	**Art**	**13.09**	**11**	P	**Pn**	**11 07 36.8**	**+2.0**	
	baz=13							
432A	**Menard**	**13.09**	**9**	P	**Pn**	**11 07 36.8**	**+1.9**	
	baz=13							
TEIG	**Tepich**	**13.21**	**78**	Pn	**Pn**	**11 07 33.9**	**-2.6**	
	0.3nm,0.3s,baz=253,slow=20,SNR=2.6							
TEIG				Sn	Sn	11 09 55.5	-6.6	
	0.5nm,0.3s,baz=339,slow=17,SNR=2.3							
434A	**Burnet**	**13.32**	**14**	P	**Pn**	**11 07 40.1**	**+2.1**	
	baz=13							
331A	**San Angelo**	**13.45**	**6**	P	**Pn**	**11 07 41.2**	**+1.5**	
	baz=13,SNR=6.9							
330A	**Mertzon**	**13.49**	**3**	P	**Pn**	**11 07 42.5**	**+2.2**	
	baz=13,SNR=10.0							
329A	**Wagon Wheel Ra**	**13.54**	**0**	P	**Pn**	**11 07 44.1**	**+3.0**	
	baz=14,SNR=5.6							
333A	**Richland Sprin**	**13.66**	**11**	P	**Pn**	**11 07 43.4**	**+0.7**	
	baz=14							
436A	**Wall Ranch, Ga**	**13.68**	**19**	P	**Pn**	**11 07 43.9**	**+1.0**	
	baz=14							
334A	**Lometa**	**13.82**	**14**	P	**Pn**	**11 07 45.7**	**+0.8**	
	baz=14							
230A	**Sterling City**	**13.97**	**3**	P	**Pn**	**11 07 50.0**	**+3.2**	
	baz=14,SNR=10.0							
335A	**Moody**	**13.98**	**17**	P	**Pn**	**11 07 48.5**	**+1.5**	
	baz=14							
229A	**Bryant Ranch,**	**14.02**	**1**	P	**Pn**	**11 07 49.5**	**+1.8**	
	baz=14							
231A	**Brnte**	**14.08**	**6**	P	**Pn**	**11 07 49.9**	**+1.6**	
	baz=14,SNR=7.1							
232A	**Coleman**	**14.11**	**8**	P	**Pn**	**11 07 49.0**	**+0.3**	
	baz=14,SNR=9.7							
233A	**Rising Star**	**14.36**	**11**	P	**Pn**	**11 07 53.5**	**+1.4**	
	baz=14,SNR=12							
WHTX	**Lake Whitney,**	**14.64**	**16**	*e*Pn	**Pn**	**11 07 55.8**	**0.0**	
128A	**Castleberry Fa**	**14.68**	**358**	P	**Pn**	**11 07 59.1**	**+2.6**	
	baz=15							
130A	**Snyder**	**14.68**	**4**	P	**Pn**	**11 07 58.9**	**+2.5**	
	baz=15,SNR=7.5							
131A	**Roby**	**14.80**	**5**	P	**Pn**	**11 07 59.2**	**+1.2**	
	baz=15,SNR=11							
ABTX	**Abilene, Hawle**	**14.83**	**8**	P	**Pn**	**11 08 00.4**	**+1.9**	
	baz=15,SNR=7.9							
ABTX	**Abilene, Hawle**	**14.83**	**8**	*e*Pn	**Pn**	**11 07 56.6**	**-1.8**	
133A	**Hamilton Ranch**	**14.93**	**10**	P	**Pn**	**11 08 01.5**	**+1.9**	
	baz=15,SNR=7.9							
339A	**Huntington**	**15.01**	**25**	P	**Pn**	**11 08 02.5**	**+1.8**	
	baz=15							
Z29A	**Hungry Hill Ra**	**15.31**	**1**	P	**P**	**11 08 07.0**	**-2.0**	
	baz=15,SNR=20							
Z28A	**Tucker Farm, M**	**15.34**	**359**	P	**P**	**11 08 08.2**	**-1.1**	
	baz=15,SNR=10							
Z30A	**Sanderson Ranc**	**15.36**	**3**	P	**Pn**	**11 08 07.1**	**+1.8**	
	baz=15,SNR=6.6							
340A	**Bronson**	**15.36**	**27**	P	**Pn**	**11 08 06.4**	**+1.1**	
	baz=15,SNR=7.4							
Z31A	**Sharp Cattle R**	**15.46**	**6**	P	**Pn**	**11 08 06.2**	**-0.5**	
	baz=15,SNR=12							
121A	**Cookes Peak, D**	**15.48**	**341**	P	**P**	**11 08 13.7**	**+2.7**	
	baz=16,SNR=6.0							
121A	**Cookes Peak, D**	**15.48**	**341**	P	**P**	**11 08 11.7**	**+0.7**	
	13nm,0.8s							
Z32A	**Haskell**	**15.53**	**8**	P	**Pn**	**11 08 07.0**	**-0.6**	
	baz=16							
Z33A	**Whitaker Ranch**	**15.62**	**10**	P	**Pn**	**11 08 08.1**	**-0.6**	
	baz=16							
Y29A	**Porterfield Fa**	**15.91**	**1**	P	**Pn**	**11 08 13.1**	**+0.6**	
	baz=16,SNR=6.6							
Y28A	**McKinney Farm,**	**15.96**	**359**	P	**Pn**	**11 08 14.6**	**+1.5**	
	baz=16,SNR=8.5							
MSTX	**Muleshoe**	**16.03**	**358**	P	**Pn**	**11 08 13.6**	**-0.5**	
	baz=16							
MSTX	**Muleshoe**	**16.03**	**358**	*e*Pn	**Pn**	**11 08 12.1**	**-2.0**	
	13nm,0.9s							
Y31A	**Rekieta Farm,**	**16.09**	**5**	P	**Pn**	**11 08 14.1**	**-0.6**	
	baz=16							
Y32A	**R-V Farms, Ver**	**16.22**	**8**	P	**Pn**	**11 08 15.2**	**-1.2**	
	baz=16							
TUC	**Tucson**	**16.40**	**333**	*e*P	**P**	**11 08 21.4**	**+0.4**	
	4.8nm,0.9s							
X29A	**Tulia**	**16.50**	**1**	P	**Pn**	**11 08 20.0**	**0.0**	
	baz=16,SNR=5.8							
X30A	**Coker Ranch, T**	**16.53**	**3**	P	**Pn**	**11 08 19.4**	**-0.9**	
	baz=16							
Y35A	**Marietta**	**16.57**	**15**	P	**Pn**	**11 08 19.6**	**-1.1**	
	baz=16							
X32A	**Elmer**	**16.65**	**8**	P	**Pn**	**11 08 21.4**	**-0.4**	
	baz=17,SNR=5.4							
Y36A	**Durant**	**16.76**	**17**	P	**Pn**	**11 08 21.9**	**-1.2**	
	baz=17							
X31A	**McDonald Ranch**	**16.78**	**6**	P	**Pn**	**11 08 22.2**	**-1.3**	
	baz=17,SNR=5.5							
LENM	**Lemitar**	**16.81**	**346**	*e*P	**P**	**11 08 25.2**	**-0.4**	
	6.7nm,0.9s							
X33A	**Lawton**	**16.89**	**10**	P	**Pn**	**11 08 23.2**	**-1.6**	
	baz=17							
AMTX	**Amarillo**	**16.93**	**1**	P	**Pn**	**11 08 24.1**	**-1.3**	
	baz=17							
AMTX	**Amarillo**	**16.93**	**1**	*e*P	**Pn**	**11 08 24.1**	**-1.3**	
	19nm,0.7s							
WMOK	**Wichita Mounta**	**17.03**	**9**	*e*Pn	**Pn**	**11 08 25.1**	**-1.5**	
	9.2nm,1.0s							
X35A	**Drake**	**17.06**	**14**	P	**Pn**	**11 08 25.0**	**-1.8**	
	baz=17							
X34A	**Smith Ranch, M**	**17.07**	**12**	P	**Pn**	**11 08 25.1**	**-1.9**	
	baz=17							
214A	**Organ Pipe Nat**	**17.07**	**327**	*e*P	**P**	**11 08 29.5**	**+1.1**	
	8.6nm,1.2s							
LAZ	**Ladron**	**17.07**	**345**	*e*Pn	**P**	**11 08 28.7**	**+0.1**	
	5.7nm,1.3s							
W29A	**Amarillo**	**17.17**	**1**	P	**Pn**	**11 08 27.1**	**-1.3**	
	baz=17							
W31A	**Holland Ranch,**	**17.33**	**6**	P	**Pn**	**11 08 28.7**	**-1.6**	
	baz=17							
W32A	**Sentinel**	**17.35**	**8**	P	**Pn**	**11 08 29.0**	**-1.5**	
	baz=17							
X36A	**Centrahoma**	**17.37**	**16**	P	**Pn**	**11 08 28.5**	**-2.3**	
	baz=17							
ANMO	**Albuquerque**	**17.45**	**348**	P	**Pn**	**11 08 31.3**	**-0.6**	
	0.1nm,0.3s,baz=166,slow=12,SNR=1.9							
ANMO				LR	LR	11 15 53.2		
	comp=Z,296nm,18.8s,baz=169,slow=39							
ANMO	**Albuquerque**	**17.45**	**348**	*e*Pn	**P**	**11 08 34.4**	**+1.7**	
	5.7nm,1.0s							
X37A	**Clayton**	**17.67**	**18**	P	**Pn**	**11 08 32.1**	**-2.2**	
	baz=18							
W35A	**Tecumseh**	**17.80**	**14**	P	**Pn**	**11 08 33.5**	**-2.5**	
	baz=18							
X38A	**Whitesboro**	**17.91**	**20**	P	**Pn**	**11 08 35.7**	**-1.7**	
	baz=18							
V29A	**Stinnett**	**17.93**	**1**	P	**Pn**	**11 08 36.1**	**-1.5**	
	baz=18							
V31A	**Spring Creek L**	**17.93**	**6**	P	**Pn**	**11 08 35.2**	**-2.4**	
	baz=18							
W36A	**Wetumka**	**17.95**	**16**	P	**Pn**	**11 08 34.8**	**-3.0**	
	baz=18							
W37A	**Quinton**	**18.16**	**18**	P	**P**	**11 08 37.5**	**-2.8**	
	baz=18							
V33A	**Lossen Ranch,**	**18.17**	**10**	P	**P**	**11 08 37.5**	**-3.0**	
	baz=18							
JTS	**JuntasAbangare**	**18.19**	**112**	P	**Pn**	**11 08 40.6**	**-0.3**	
	0.2nm,0.3s,baz=263,slow=18,SNR=2.0							
JTS	**JuntasAbangare**	**18.19**	**112**	*e*Pn	**Pn**	**11 08 41.2**	**+0.3**	
MIAR	**Mount Ida**	**18.23**	**23**	P	**P**	**11 08 38.9**	**-2.2**	
	baz=18							
MIAR	**Mount Ida**	**18.23**	**23**	*e*Pn	**P**	**11 08 39.6**	**-1.5**	
	8.5nm,0.8s							
V35A	**Meyer Ranch, C**	**18.39**	**13**	P	**P**	**11 08 40.2**	**-2.7**	
	baz=18							
U28A	**Mallet**	**18.43**	**359**	P	**P**	**11 08 41.8**	**-1.6**	
	baz=18							
U27A	**Thompson Grove**	**18.48**	**358**	P	**P**	**11 08 41.8**	**-2.2**	
	baz=18							
V36A	**Jenks**	**18.63**	**16**	P	**P**	**11 08 43.2**	**-2.3**	
	baz=18							
TUL1	**Leonard**	**18.79**	**16**	*e*P	**P**	**11 08 47.4**	**+0.1**	
	16nm,0.8s							
U34A	**Anderson Ranch**	**18.90**	**11**	*e*P	**P**	**11 08 46.6**	**-1.9**	
	27nm,0.8s							
U35A	**Pawnee**	**19.00**	**13**	P	**P**	**11 08 47.2**	**-2.4**	
	baz=19							
T26A	**Comanche Natio**	**19.27**	**356**	P	**P**	**11 08 51.8**	**-0.9**	
	baz=19							
T25A	**Trinidad**	**19.30**	**354**	P	**P**	**11 08 52.6**	**-0.5**	
	baz=19							
Y12C	**Blythe**	**19.37**	**327**	P	Pn	11 09 02.8	+7.8	
	baz=19							
WUAZ	**Wupatki**	**19.43**	**337**	P	**Pn**	**11 08 58.3**	**+2.4**	
	baz=19,SNR=6.7							
WUAZ	**Wupatki**	**19.43**	**337**	*e*P	**Pn**	**11 08 57.2**	**+1.4**	
	20nm,0.9s							
T34A	**McClaskey Farm**	**19.54**	**12**	P	**P**	**11 08 53.1**	**-2.4**	
	baz=20							
T35A	**Sooner

CIS	Catalina Islan	21.33	320	P	P	11 09 25.5	+11	
	baz=21							
Q33A	Connelly Farm,	21.35	9	P	P	11 09 13.1	-2.0	
	baz=21							
BFSC	Mount Baldy Ra	21.46	322	P	P	11 09 26.0	+10	
	baz=22							
P27A	Ficken Ranch,	21.60	359	P	P	11 09 17.4	-0.5	
	baz=22							
P26A	Davis Ranch, A	21.63	357	P	P	11 09 18.0	-0.2	
	baz=22							
SMCO	Snowmass	21.65	350	*e*P	P	11 09 19.8	+1.1	
	12nm,1.2s							
KSU1	Kansas State U	21.66	11	*e*P	P	11 09 18.3	-0.1	
	16nm,0.8s							
P31A	Stockton	21.68	6	P	P	11 09 17.7	-0.9	
	baz=22,SNR=7.2							
GSC	Goldstone, Bar	21.76	326	*e*P	P	11 09 21.2	+1.7	
	5.3nm,0.8s							
P33A	Williams Farm,	21.80	9	P	P	11 09 18.0	-1.9	
	baz=22							
P32A	Huiting Farm,	21.86	7	P	P	11 09 19.1	-1.4	
	baz=22							
SHPR	Sheep Range	21.88	331	*e*P	P	11 09 23.6	+2.7	
P34A	Walnut Farm, R	22.05	11	P	P	11 09 20.2	-2.4	
	baz=22							
ISCO	Idaho Springs	22.06	353	*e*P	P	11 09 22.6	-0.4	
	5.7nm,0.7s							
EDW2	Edwards Air Fo	22.11	323	P	P	11 09 32.4	+9.2	
	baz=22							
O28A	Krutsinger Ran	22.17	1	P	P	11 09 22.8	-1.1	
	baz=22							
O27A	Beecher Island	22.23	359	P	P	11 09 23.9	-0.7	
	baz=22							
SRU	San Rafael Swe	22.41	342	*e*P	P	11 09 27.9	+1.3	
	4.5nm,1.0s							
O34A	Beatrice	22.70	11	P	P	11 09 28.2	-1.3	
	baz=23,SNR=7.1							
SIUC	Southern Illin	22.73	27	P	P	11 09 29.4	-0.4	
	7.3nm,0.5s							
O20A	White River Ci	22.82	348	P	P	11 09 31.6	+0.7	
	baz=23							
O20A	White River Ci	22.82	348	*e*P	P	11 09 32.3	+1.4	
	6.6nm,0.8s							
ISA	Isabella, Lake	22.94	324	*e*P	P	11 09 34.4	+2.3	
	8.0nm,0.8s							
N32A	Stulken Farm,	23.03	7	P	P	11 09 30.6	-2.3	
	baz=23							
N23A	Red Feather La	23.18	352	P	P	11 09 34.0	-0.7	
	baz=23							
N34A	Lincoln	23.37	11	P	P	11 09 34.0	-2.3	
	baz=23							
PHWY	Pilot Hill	23.52	354	*e*P	P	11 09 37.2	-0.8	
	5.5nm,0.9s							
R11A	Troy Canyon, C	23.58	333	*e*P	P	11 09 39.9	+1.4	
	3.8nm,0.8s							
TKL	Tuckaleechee C	23.99	39	P	P	11 09 38.4	-3.7	
	2.0nm,0.6s,baz=229,slow=16,SNR=3.4							
TKL				LR	LR	11 21 41.1		
	comp=Z,36nm,18.5s,baz=192,slow=44							
DUG	Dugway, Tooele	24.11	339	*e*P	P	11 09 42.8	-0.5	
	1.8nm,0.7s							
TPH	Tonopah	24.12	330	*e*P	P	11 09 44.5	+0.9	
	3.6nm,0.7s							
L34A	Svendsen Farm,	24.48	10	P	P	11 09 45.2	-1.4	
	baz=24							
BGU	Big Grassy Mou	24.84	340	*e*P	P	11 09 51.4	+1.4	
	2.8nm,0.8s							
K29A	Lazy Trails An	24.84	3	P	P	11 09 48.9	-1.0	
	baz=25							
NVAR	Mina Array Bea	24.92	329	P	P	11 09 52.6	+1.7	
	4.3nm,0.7s,baz=154,slow=9.9,SNR=34							
NVAR				pP	pP	11 10 01.2	-1.2	
	6.6nm,0.7s,baz=148,slow=9.3,SNR=22							
K22A	Casper	24.98	352	P	P	11 09 50.8	-0.5	
	baz=25							
K22A	Casper	24.98	352	*e*P	P	11 09 52.9	+1.6	
	12nm,0.9s							
HWUT	Hardware Ranch	25.02	343	*e*P	P	11 09 52.4	+0.7	
	5.7nm,1.0s							
J26A	Sides Ranch, S	25.36	358	P	P	11 09 54.5	-0.2	
	baz=25							
ELK	Elko	25.47	336	P	P	11 09 57.4	+1.5	
	0.5nm,0.6s,baz=164,slow=7.4,SNR=3.9							
J28A	Allard Ranch,	25.47	1	P	P	11 09 54.3	-1.3	
	baz=25							
HVU	Hansel Valley	25.53	341	*e*P	P	11 09 56.3	0.0	
	2.6nm,0.8s							
BW06	Boulder Array	25.62	347	*e*P	P	11 09 56.9	-0.3	
	3.0nm,0.7s							
PDAR	Pinedale Array	25.62	347	P	P	11 09 56.9	-0.2	
	1.7nm,0.7s,baz=148,slow=9.6,SNR=14							
PDAR				LR	LR	11 20 48.0		
	comp=Z,145nm,20.2s,baz=188,slow=38							
J20A	Shoshoni	25.90	350	P	P	11 09 59.7	+0.1	
	baz=26							
BMN	Battle Mountai	26.02	333	*e*P	P	11 10 02.8	+2.1	
	2.9nm,0.8s							
I28A	Midland	26.05	1	P	P	11 09 59.6	-1.2	
	baz=26							
ECSD	EROS Data Cent	26.17	9	P	P	11 09 59.8	-2.1	
	baz=26							
ECSD	EROS Data Cent	26.17	9	*e*P	P	11 09 59.8	-2.1	
	5.1nm,0.7s							
REDW	Red Top Meadow	26.48	345	*e*P	P	11 10 04.8	-0.1	
	8.1nm,0.8s							
SNOW	Snow King Moun	26.55	346	*e*P	P	11 10 05.5	-0.1	
	8.0nm,0.7s							
TPAW	Teton Pass	26.62	345	*e*P	P	11 10 06.9	+0.6	
	6.6nm,0.6s							
LOHW	Long Hollow	26.65	346	*e*P	P	11 10 05.7	-0.8	
	5.1nm,0.7s							
FXWY	Fox Creek	26.78	345	*e*P	P	11 10 07.5	-0.2	
	2.7nm,0.9s							
MOOW	Moose Ponds	26.82	346	*e*P	P	11 10 08.1	+0.1	
	4.3nm,0.8s							
IMW	Indian Meadow	27.00	346	*e*P	P	11 10 09.9	+0.2	
	4.1nm,0.8s							
FLWY	Flagg Ranch	27.12	346	*e*P	P	11 10 10.9	+0.2	
	3.0nm,0.7s							
MOD	Modoc Plateau	28.58	331	*e*P	P	11 10 25.3	+1.6	
	6.4nm,1.0s							
DLMT	Dillon	28.79	344	*e*P	P	11 10 25.9	+0.4	
	2.8nm,0.7s							
BOZ	Bozeman (W)	28.82	346	P	P	11 10 25.9	+0.2	
	baz=29							
BOZ	Bozeman (W)	28.82	346	*e*P	P	11 10 25.6	-0.1	
	2.8nm,0.7s							
LRM	Limekiln Ridge	29.18	345	*e*P	P	11 10 29.1	+0.1	
	41nm,0.7s							
D22A	Cohagen	29.39	354	P	P	11 10 29.9	-0.8	
	baz=29							
CHMT	Chamberlain Mo	30.40	345	*e*P	P	11 10 39.4	-0.3	
	0.9nm,0.7s							
DGMT	Dagmar	30.56	357	P	P	11 10 40.5	-0.5	
	baz=30							
AGMN	Agassiz Nation	30.75	8	P	P	11 10 40.5	-2.1	
	baz=31							
AGMN	Agassiz Nation	30.75	8	*e*P	P	11 10 40.5	-2.1	
	9.0nm,1.0s							
SLMT	Seeley Lake	30.76	345	*e*P	P	11 10 42.5	-0.4	
	2.7nm,0.7s							
A29A	Manning Farm,	31.04	4	P	P	11 10 43.8	-1.5	
	baz=31							
SWMT	Swartz Lake	31.14	344	*e*P	P	11 10 45.4	-0.8	
ULM	Lac du Bonnet	32.66	7	LR	LR	11 25 14.1		
	comp=Z,160nm,19.4s,baz=41,slow=38							
FFC	Flin Flon	36.77	0	*e*P	P	11 11 32.6	-2.2	
	4.9nm,0.9s							
PTGA	Pitinga	45.33	110	P	P	11 12 46.2	+0.5	
	2.3nm,0.7s,baz=352,slow=21,SNR=4.4							
YKA	Yellowknife Ar	45.42	352	P	P	11 12 45.4	-0.4	
	1.2nm,0.9s,baz=159,slow=6.6,SNR=2.8							
SCHQ	Schefferville	45.64	28	P	P	11 12 44.7	-3.0	
	1.8nm,0.8s,baz=180,slow=12,SNR=3.7							
SAML	Samuel	46.72	122	*e*P	P	11 12 56.1	-0.5	
	3.2nm,0.9s							
SIV	San Ignacio	52.55	127	P	P	11 13 41.3	+0.3	
	3.1nm,0.6s,baz=313,slow=10,SNR=6.9							
EGAK	Eagle	53.68	340	*e*P	P	11 13 49.3	+0.6	
	4.3nm,0.8s							
PAX	Paxson	54.03	337	*e*P	P	11 13 52.6	+1.3	
	4.1nm,0.8s							
ILAR	Eielson Array	55.59	339	P	P	11 14 03.1	+0.6	
	1.2nm,0.9s,baz=148,slow=5.1,SNR=20							
ILAR				pP	pP	11 14 12.9	-1.9	
	2.6nm,0.7s,baz=146,slow=5.4,SNR=22							
RSO	Redoubt South	55.68	332	*e*P	P	11 14 04.8	+1.4	
	29nm,0.7s							
MCK	McKinley	55.75	337	*e*P	P	11 14 04.4	+0.7	
	4.7nm,0.7s							
MCK				*ep*P	pP	11 14 14.1	-1.8	
MCK				*es*P	sP	11 14 18.4	-2.5	
TRF	Thorofare Moun	56.11	336	*e*P	P	11 14 07.5	+1.0	
	16nm,0.7s							
TRF				*ep*P	pP	11 14 17.0	-1.7	
TRF				*es*P	sP	11 14 21.4	-2.3	
BPAW	Bear Paw Mtn.	56.71	337	*e*P	P	11 14 10.8	+0.2	
	0.6nm,0.8s							
CPUP	Villa Florida	61.78	134	P	P	11 14 47.2	+1.1	
	4.7nm,0.8s,baz=337,slow=6.7,SNR=8.4							
BDFB	Brasilia	62.79	119	P	P	11 14 53.8	+0.6	
	3.1nm,0.7s,baz=130,slow=3.2,SNR=3.7							
SEY	Seymchan	81.12	334	P	P	11 16 44.2	+2.1	
	1.9nm,0.8s,baz=73,slow=2.0,SNR=8.2							
SEY				pP	pP	11 16 54.6	-0.3	
	6.0nm,0.7s,baz=84,slow=5.5,SNR=14							
PETK	Petropavlovsk-	81.89	323	P	P	11 16 48.0	+1.6	
	1.5nm,0.6s,baz=89,slow=9.7,SNR=3.9							
PETK				pP	pP	11 16 58.8	-0.4	
	4.0nm,0.6s,baz=84,slow=9.7,SNR=6.7							
TIXI	Tiksi	84.30	346	*e*P	P	11 16 58.8	+0.3	
	1.3nm,0.3s							
MDT	Midelt	86.49	57	P	P	11 17 09.8	-0.6	
	1.4nm,0.8s,baz=304,slow=8.6,SNR=4.3							
WRA	Warramunga Arr	126.85	258	PKP	PKPdf	11 23 33.0	+1.6	
	1.7nm,0.9s,baz=78,slow=1.8,SNR=10							
ASAR	Alice Springs	127.66	254	PKP	PKPdf	11 23 34.3	+1.4	
	0.8nm,0.8s,baz=84,slow=8.6,SNR=20							

NIED ***28*** *11:05:00,33˚10N×142˚50E,h8km,Mw4.4 Best double couple: M₀3.83000×10¹⁵ NP1:φ₀19.00000°, δ25.00000°, λ-93.00000°. NP2:φ₀203.00000°, δ65.00000°, λ-88.00000°.*

IDC ***28*** *11:05:38.4±0.5,32˚99N×142˚45E,h0km,mb4.2/24, mb1 4.3/29,mb1mx4.2/56,mbtmp4.2/29,ML4.1/4,MS3.2/2, Ms1 3.2/2,ms1mx2.8/33,Error ellipse: s-maj=15.4km s-min=11.7km az=90.0*

ISCJB ***28*** *11:05:42.0±0.3,33˚05N±0˚03×142˚42E±0˚03,h33km, mb4.3/42,MS4.3/3,Error ellipse: s-maj=5.2km s-min=3.4km az=33.1*

JMA ***28*** *11:05:41.4±0.2,33˚06N×142˚49E,h72km,M4.1*

MOS ***28*** *11:05:42.0±0.8,32˚97N×142˚38E,h40km,mb4.4/24,Error ellipse: s-maj=14.5km s-min=7.5km az=113.4*

BJI ***28*** *11:05:42.4,32˚93N×142˚33E,h36km,mb4.5/30,mB4.8/21, Ms4.1/20,Ms7 4.0/20*

NEIC ***28*** *11:05:42.2±2.4,32˚96N×142˚42E,h24km±16km,mb4.4/10, Error ellipse: s-maj=7.5km s-min=6.0km az=112.0*

ISC 28 11:05:43.4±0.4,33°03N±0°05×142°47E±0°05,h33km,n136, σ1s27/172,mb4.3/46,MS4.3/4,4C-6D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	2.04	323	P	Pn	11 06 13.9	-1.1
BSO1				S	Sn	11 06 39.5	+0.4
JHJ2	Mitsune	2.23	273	P	Pn	11 06 17.3	-0.7
JHJ2	Mitsune	2.23	273	*e*Pn	Pn	11 06 17.8	-0.2
JHCJ	Hachijojimakas	2.24	272	P	Pn	11 06 17.5	-0.7
JHCJ				*e*S	Sn	11 06 43.5	-1.3
BSO3	Boso 3	2.41	318	P	Pn	11 06 19.6	-0.6
BSO3				S	Sn	11 06 49.4	+1.0
BSO4	Boso 4	2.64	318	P	Pn	11 06 23.2	-0.4
BSO4				S	Sn	11 06 53.5	-0.9
KTR	Katsuura	2.77	320	P	Pn	11 06 24.7	-0.7
KTR				*e*S	Sn	11 06 56.9	-0.8
JIM2	Oshima 3	3.04	305	P	Pn	11 06 27.5	-1.7
JIZS	Izushimoda	3.43	300	P	Pn	11 06 33.7	-0.8
JIZS				S	Sn	11 07 12.8	-1.3
JOD2	Odawara 2	3.58	309	P	Pn	11 06 35.0	-1.7
JOD2				*e*S	Sn	11 07 16.9	-1.0
TK02	Tokai 2	4.04	284	P	Pn	11 06 43.2	+0.5
TK02				S	Sn	11 07 29.8	+1.0
JYN	Shimob	4.08	308	P	Pn	11 06 42.6	-0.9
JYN				*e*S	Sn	11 07 29.5	-0.7
JRY	Ryogami san	4.19	316	P	Pn	11 06 43.7	-1.3
JRY				S	Sn	11 07 31.7	-1.2
JAG	Ashikaga	4.20	325	P	Pn	11 06 44.1	-1.1
JAG				S	Sn	11 07 31.0	-2.1
JFT	Otama	4.81	339	P	Pn	11 06 52.2	-1.3
JFT				S	Sn	11 07 43.7	-4.4
MJAR	Matsushiro Arr	4.96	316	Pn	Pn	11 06 54.6	-1.0
MJAR				Sn	Sn	11 07 50.5	-1.3
	7.3nm,0.3s,baz=154,slow=13,SNR=82						
MJAR				Sn		11 07 50.5	
	10nm,0.3s,baz=146,slow=24,SNR=9.4						
MJAR	Matsushiro Arr	4.96	316	P	Pn	11 06 54.6	-1.0
MJAR						11 07 50.5	
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MJAR				smax	smax		
	comp=N,10.0nm,0.3s						
MAJO	Matsushiro	4.96	316	*d* iP	Pn	11 06 55.7	+0.1
MAJO	Matsushiro	4.96	316	*e*Pn	Pn	11 06 55.5	-0.1
MAT	Matsushiro	4.96	316	P	Pn	11 06 54.7	-0.9
MAT				S	Sn	11 07 50.5	-1.3
MAT	Matsushiro	4.96	316	P	Pn	11 06 55.8	+0.2
MAT				*e*S	Sn	11 07 50.6	-1.3
JIE	Ise	4.99	287	P	Pn	11 06 56.5	+0.5
JWZ	Kozaga	5.68	277	P	Pn	11 07 05.9	+0.5
CBIJ	Chichi jima	5.92	182	*e*Pn	Pn	11 07 05.6	-3.1
CBIJ				Sn	Sn	11 08 08.8	-6.6
JCJ	Chichijima	5.92	182	Pn	Pn	11 07 06.2	-2.5
	comp=N,17nm,0.3s,baz=359,slow=20,SNR=45						
JCJ				Sn	Sn	11 08 08.8	-6.6
	comp=N,18nm,0.3s,baz=0.0,slow=20,SNR=4.1						
ERM	Erimo	8.99	3	*c* iP	Pn	11 07 47.9	-3.0
ERM	Erimo	8.99	3	*e*Pn	Pn	11 07 47.8	-3.0
	comp=N,21nm,0.8s						
ASAJ	Asahikawa	11.07	0	Pn	Pn	11 08 16.6	-2.8
	comp=N,1.9nm,0.3s,baz=209,slow=13,SNR=16						
ASAJ	Asahikawa	11.07	0	P	Pn	11 08 16.6	-2.8
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YUK	Yuzh-Kuril'sk	11.31	13	*e*P	Pn	11 08 18.1	-4.4
YUK				pmax	pmax		
	comp=N,13nm,0.5s						
YUK				pmax	pmax		
	comp=E,26nm,0.5s						
YUK				pmax	pmax		
	comp=Z,28nm,0.5s						
YUK				MLR	MLR		
	comp=Z,71nm,10.0s						
KSRS	Korea Array	12.68	294	Pn	Pn	11 08 41.9	+0.5
	comp=Z,0.1nm,0.3s,baz=104,slow=14,SNR=4.4						
KSRS				LR	LR	11 13 58.4	
	comp=Z,94nm,19.6s,baz=114,slow=39						
KSAR	Wonju Array Be	12.71	294	Pn	Pn	11 08 41.9	+0.1
VLA	Vladivostok	13.07	323	*i* P	Pn	11 08 47.1	+0.5
USRK	Ussuriysk Ar.	13.83	327	Pn	Pn	11 08 56.7	-0.3
	comp=Z,0.2nm,0.3s,baz=143,slow=41,SNR=4.3						
USRK				LR	LR	11 15 02.8	
	comp=Z,100nm,18.2s,baz=149,slow=41						
YSS	Yuzh-Sakhalins	13.91	1	*i* P	Pn	11 08 54.4	-3.7
NJ2	Nanjing	19.93	274	*e*P	P	11 10 12.3	-0.1
NJ2				S	S	11 13 53.0	-1.9
NJ2				PMZ			
	comp=Z,20nm,1.2s						
NJ2				LN			
	comp=Z,380nm,14.2s						
NJ2				LE			
	comp=Z,450nm,10.8s						
NJ2				LZ			
	comp=Z,3μm,10.1s						
BJI	Beijing	22.21	296	P	P	11 10 36.3	-0.6
BJI				S	S	11 14 37.3	-2.2
BJI				PMZ			
	comp=Z,6.0nm,0.5s						
BJI				PMZ			
	comp=Z,49nm,3.5s						
BJI				LN			
	comp=Z,110nm,19.4s						
BJI				LE			
	comp=Z,190nm,19.8s						
BJI				LZ			
	comp=Z,110nm,18.4s						
HIA	Hailar	23.45	321	⇑ *i* P	P	11 10 48.7	-1.0
HIA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WHN	Wuhan	24.00	272	P	P	11 10 54.5	-0.6
WHN				S	S	11 15 08.5	-1.5
WHN				LZ			
	comp=Z,480nm,16.4s						
H11N2	WAKE ISLAND Hy	25.50	115	T	T	11 37 42.1	
	baz=307,slow=75,SNR=4.9						
H11N1	WAKE ISLAND Hy	25.51	115	T	T	11 37 43.3	
	baz=307,slow=75,SNR=11						
H11N3	WAKE ISLAND Hy	25.52	115	T	T	11 37 45.5	
	baz=307,slow=75,SNR=4.8						
HHC	Hu-ho-hao-te	25.81	297	*e*P	P	11 11 10.3	-1.3
HHC				sP	sP	11 11 27.3	+2.2
HHC				PP	PnPn	11 11 53.5	+4.4
HHC				S	S	11 15 38.5	-0.5
HHC				sS	sS	11 15 49.8	-4.8
HHC				PMZ			
	comp=Z,25nm,0.6s						
HHC				PMZ			
	comp=Z,55nm,4.1s						
HHC				LN			
	comp=Z,630nm,11.2s						
HHC				LE			
	comp=Z,660nm,11.1s						
HHC				LZ			
	comp=Z,660nm,10.9s						
YAK	Yakutsk	30.16	348	*e*P	P	11 11 50.8	+0.7
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SEY	Seymchan	30.58	9	P	P	11 11 54.5	+0.7
	comp=Z,2.8nm,0.7s,baz=192,slow=6.8,SNR=14						
SEY	Seymchan	30.58	9	*d* iP	P	11 11 54.3	+0.6
SONM	Songino Array	30.87	309	P	P	11 11 57.5	+0.8
	comp=Z,1.2nm,0.6s,baz=104,slow=8.3,SNR=6.8						
SONM	Songino Array	30.87	309	P	P	11 11 57.5	+0.8
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BOD	Bodaibo	31.41	331	*e*P	P	11 12 00.9	-0.2
BOD				pmax	pmax		
	comp=Z,4.0nm,1.3s						
QIZ	Qiongzhong	32.31	253	P	P	11 12 09.0	-0.5
QIZ				S	S	11 17 20.5	-0.7
CD2	Chengdu	32.79	277	*e*P	P	11 12 13.0	-0.6
CD2				pP	pP	11 12 23.0	-0.2
CD2				sP	sP	11 12 27.5	+0.3
CD2				PP	PP	11 13 27.0	-1.0
CD2				S	S	11 17 27.5	-1.1
CD2				sS	sS	11 17 44.5	+0.2
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
CD2				LN			
	comp=Z,250nm,14.2s						
CD2				LE			
	comp=Z,280nm,15.2s						
CD2				LZ			
	comp=Z,390nm,15.2s						
ZAK	Zakamensk	33.53	313	*e*P	P	11 12 20.6	+0.6
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s						
GTA	Gaotai	34.75	293	*e*P	P	11 12 31.5	+0.8
GTA				pP	pP	11 12 41.3	+1.0
GTA				sP	sP	11 12 45.0	+0.7
GTA				S	S	11 18 00.0	+1.0
GTA				sS	sS	11 18 15.5	+0.7
GTA				PMZ			
	comp=Z,4.0nm,0.9s						
GTA				PMZ			
	comp=Z,79nm,5.0s						
GTA				LN			
	comp=Z,140nm,15.2s						
GTA				LE			
	comp=Z,140nm,15.2s						
GTA				LZ			
	comp=Z,240nm,15.7s						
KMI	Kunming	35.44	268	P	P	11 12 38.0	+1.1
KMI				pP	pP	11 12 46.3	-0.2
KMI				S	S	11 18 08.3	-1.7
KMI				PMZ			
	comp=Z,15nm,0.5s						
KMI				LN			
	comp=Z,110nm,16.0s						
KMI				LE			
	comp=Z,160nm,18.5s						
KMI				LZ			
	comp=Z,140nm,21.8s						
TIXI	Tiksi	39.36	353	⇓ *i* P	P	11 13 09.1	-0.1
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TIXI	Tiksi	39.36	353	*e*P	P	11 13 09.2	0.0
	comp=Z,17nm,2.0s						
CMAR	Chiang Mai Arr	41.51	261	P	P	11 13 26.9	-0.8
	comp=Z,0.8nm,0.6s,baz=51,slow=7.3,SNR=5.6						
CMAR	Chiang Mai Arr	41.51	261	P	P	11 13 26.9	-0.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WMQ	Urumqi	43.53	301	P	P	11 13 46.0	+2.1
WMQ				pP	pP	11 13 55.8	+2.1
WMQ				sP	sP	11 13 59.8	+2.2
WMQ				PP	PcP	11 15 29.0	-2.3
WMQ				PcP	PP	11 15 34.5	+9.2
WMQ				PMZ			
	comp=Z,8.0nm,0.6s						
WMQ				PMZ			
	comp=Z,74nm,5.0s						
WMQ				LN			
	comp=Z,94nm,19.5s						
WMQ				LE			
	comp=Z,15nm,16.8s						
WMQ				LZ			
	comp=Z,52nm,29.3s						
ZALV	Zalesovo Beam	45.31	315	P	P	11 13 58.1	+0.2
	comp=Z,1.7nm,0.6s,baz=102,slow=7.2,SNR=7.9						
ZALV				PcP	PcP	11 15 37.5	+0.3
	comp=Z,2.7nm,0.6s,baz=89,slow=3.4,SNR=7.3						
ZALV	Zalesovo Beam	45.31	315	P	P	11 13 58.1	+0.2
ZALV						11 15 37.5	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SOEI	Soe	45.94	205	*e*P	P	11 14 09.9	+6.5
	comp=Z,40nm,0.6s						
MK31	Makanchi Array	47.06	305	*e*P	P	11 14 12.3	+0.4
MKAR	Makanchi Array	47.06	305	*e*P	P	11 14 12.7	+0.8
TAPN	Taplejung	47.23	278	*e*P	P	11 14 14.4	+0.7
	comp=Z,7.7nm,0.6s						
ODAN	Odare	47.67	278	*e*P	P	11 14 15.7	-1.4
	comp=Z,7.0nm,0.5s						
RAMN	Ramite	48.30	278	*e*P	P	11 14 22.0	+0.1
	comp=Z,33nm,0.8s						
GUN	Gumba	48.55	280	*e*P	P	11 14 24.4	+0.4
KDAK	Kodiak Island	49.56	40	*ce*P	P	11 14 32.3	+1.4
KOLN	Koldanda	50.49	281	*e*P	P	11 14 38.7	+0.1
	comp=Z,5.3nm,0.4s						
PMR	Palmer	51.37	35	P	P	11 14 44.5	0.0
LEM	Lembang	51.65	226	P	P	11 14 46.6	-0.7
	comp=Z,59nm,0.7s,baz=14,slow=5.9,SNR=12						
LEM	Lembang	51.65	226	P	P	11 14 46.6	-0.7
LEM				pmax	pmax		
	comp=Z,59nm,0.7s						
COLA	College	52.04	31	*d* iP	P	11 14 47.9	-1.5
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ILAR	Eielson Array	52.45	31	P	P	11 14 52.4	-0.1
	comp=Z,0.8nm,0.6s,baz=262,slow=6.8,SNR=15						
ILAR	Eielson Array	52.45	31	P	P	11 14 52.4	-0.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s

BVAR	**Borovoye Array**	**53.95**	**315**	P		**P**	**11 15 03.2**	**-0.5**
BVAR							11 16 09.3	
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BRVK	**Borovoye**	**54.01**	**315**	*d iP*		**P**	**11 15 04.6**	**+0.4**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KKAR	**Karatay Array**	**55.95**	**303**	*eP*		**P**	**11 15 18.9**	**+0.5**
	comp=Z,3.8nm,0.8s							
AS31	**Alice Springs**	**56.96**	**189**	*eP*		**P**	**11 15 25.7**	**+0.1**
ASAR	**Alice Springs**	**56.96**	**189**	P		**P**	**11 15 24.9**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=359,slow=6.2,SNR=23							
ASAR				PcP		**PcP**	**11 16 22.1**	**+1.5**
	comp=Z,1.7nm,0.7s,baz=6.3,slow=3.5,SNR=8.5							
ASAR	**Alice Springs**	**56.96**	**189**	P		**P**	**11 15 24.9**	**-0.8**
ASAR							11 16 22.2	
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ASAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ARU	**Arti**	**59.96**	**320**	*d iP*		**P**	**11 15 46.2**	**0.0**
ARU							11 17 54.5	
ARU				S		**S**	**11 23 55.8**	**-0.3**
ARU				SS		**SS**	**11 27 48.3**	**-4.0**
ARU				pmax	pmax			
	comp=Z,5.0nm,0.7s							
ARU	**Arti**	**59.96**	**320**	*eP*		**P**	**11 15 46.4**	**+0.2**
	comp=Z,5.5nm,0.6s							
ABKAR	**Akbulak array**	**61.22**	**312**	*eP*		**P**	**11 15 55.3**	**+0.4**
AKTO	**Aktyubinsk**	**62.03**	**314**	P		**P**	**11 15 59.5**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=80,slow=11,SNR=7.2							
AKTO	**Aktyubinsk**	**62.03**	**314**	P		**P**	**11 15 59.6**	**-0.8**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.5s							
STKA	**Stephens Creek**	**64.56**	**181**	P		**P**	**11 16 17.1**	**0.0**
	comp=Z,2.8nm,0.9s,baz=333,slow=6.8,SNR=2.7							
STKA	**Stephens Creek**	**64.56**	**181**	P		**P**	**11 16 17.1**	**0.0**
STKA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
RES	**Resolute Bay**	**66.26**	**14**	P		**P**	**11 16 28.0**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=312,slow=4.4,SNR=5.2							
RES	**Resolute Bay**	**66.26**	**14**	P		**P**	**11 16 28.0**	**+0.3**
RES				pmax	pmax			
	comp=Z,3.0nm,0.7s							
GEYT	**Alibeck**	**66.58**	**301**	P		**P**	**11 16 30.6**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=79,slow=7.6,SNR=3.6							
YKA	**Yellowknife Ar**	**66.85**	**29**	P		**P**	**11 16 31.5**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=293,slow=6.7,SNR=5.1							
YKA	**Yellowknife Ar**	**66.85**	**29**	P		**P**	**11 16 31.5**	**-0.1**
YKA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ARCES	**ARCESS Array B**	**68.05**	**340**	P		**P**	**11 16 40.3**	**+1.2**
	comp=Z,2.6nm,0.8s,baz=94,slow=11,SNR=3.2							
ARCES	**ARCESS Array A**	**68.05**	**340**	P		**P**	**11 16 40.3**	**+1.2**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
FINES	**FINESS Array B**	**72.77**	**333**	P		**P**	**11 17 08.0**	**0.0**
	comp=Z,2.9nm,0.8s,baz=64,slow=4.4,SNR=7.2							
FINES	**FINESS Array B**	**72.77**	**333**	*ceP*		**P**	**11 17 08.0**	**0.0**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KBZ	**Khabaz**	**74.19**	**312**	P		**P**	**11 17 17.4**	**+0.7**
	comp=Z,4.2nm,0.9s,baz=93,slow=2.1,SNR=10.0							
KBZ	**Khabaz**	**74.19**	**312**	P		**P**	**11 17 17.4**	**+0.7**
KBZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
SLMT	**Seeley Lake**	**75.04**	**43**	*eP*		**P**	**11 17 21.7**	**-0.1**
	comp=Z,3.1nm,0.6s							
MFID	**Camas Ranch**	**75.68**	**47**	*eP*		**P**	**11 17 26.7**	**+1.1**
	comp=Z,2.4nm,0.9s							
LRM	**Limekiln Ridge**	**76.41**	**44**	*eP*		**P**	**11 17 30.6**	**+0.8**
	comp=Z,33nm,0.6s							
LRM				*ep*	P	**PcP**	**11 17 40.9**	**-0.6**
NVAR	**Mina Array Bea**	**76.70**	**53**	P		**P**	**11 17 31.9**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=293,slow=6.0,SNR=15							
ELK	**Elko**	**77.48**	**50**	P		**P**	**11 17 36.3**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=318,slow=9.6,SNR=4.1							
ELK	**Elko**	**77.48**	**50**	P		**P**	**11 17 36.3**	**+0.4**
ELK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**78.01**	**323**	P		**P**	**11 17 38.4**	**0.0**
	comp=Z,1.3nm,0.5s,baz=45,slow=6.6,SNR=7.1							
AKASG	**Malin Array Be**	**78.01**	**323**	P		**P**	**11 17 38.4**	**0.0**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
HFS	**Hagfors**	**78.09**	**336**	P		**P**	**11 17 38.9**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=74,slow=5.1,SNR=5.8							
HFS	**Hagfors**	**78.09**	**336**	P		**P**	**11 17 38.9**	**+0.2**
HFS				pmax	pmax			
	comp=Z,2.0nm,0.6s							
NB2	**NORSAR Subarra**	**78.22**	**338**	P		**P**	**11 17 39.5**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=40,slow=5.6							
NOA	**NORSAR Array B**	**78.22**	**338**	P		**P**	**11 17 39.5**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=40,slow=5.6,SNR=9.8							
NOA	**NORSAR Array B**	**78.22**	**338**	P		**P**	**11 17 39.5**	**+0.1**
NOA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
H17A	**Grant Village**	**78.31**	**44**	*eP*		**P**	**11 17 43.7**	**+3.1**
	comp=Z,2.6nm,0.8s							
PDAR	**Pinedale Array**	**79.86**	**45**	P		**P**	**11 17 49.6**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=325,slow=2.1,SNR=11							
SRU	**San Rafael Swe**	**81.39**	**49**	*eP*		**P**	**11 17 58.7**	**+1.5**
	comp=Z,4.1nm,0.7s							
BUR08	**Bucovina Ar. S**	**81.99**	**323**	*eP*		**P**	**11 18 00.1**	**0.0**
RAYN	**Ar Rayn**	**83.01**	**293**	*eP*		**P**	**11 18 06.5**	**+0.8**
SMCO	**Snowmass**	**83.57**	**47**	*eP*		**P**	**11 18 09.4**	**+0.5**
	comp=Z,1.6nm,0.7s							
ISCO	**Idaho Springs**	**84.02**	**46**	*eP*		**P**	**11 18 12.4**	**+1.4**
	comp=Z,1.8nm,0.7s							
DPC	**Dobruska-Polom**	**84.32**	**329**	*eP*		**P**	**11 18 10.8**	**-1.2**
DPC				*e*PCP		**PcP**	**11 18 12.8**	**-2.9**
DPC				AMS		AMS	12 07 10.0	
DPC	**Dobruska-Polom**	**84.32**	**329**	*eP*		**P**	**11 18 10.8**	**-1.2**
CLL	**Collm**	**85.00**	**331**	*eP*		**P**	**11 18 16.0**	**+0.7**
CLL				Lm		MLR	12 06 00.0	
	comp=Z,100nm,21.9s							
MMAI	**Mount Meron Ar**	**85.01**	**306**	P		**P**	**11 18 16.3**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=43,slow=8.7,SNR=5.4							
PRU	**Pruhonice**	**85.35**	**329**	AMS		AMS	12 09 20.0	
	comp=Z,100nm,15.1s							
TREC	**Trest**	**85.46**	**328**	AMS		AMS	12 07 00.0	
	comp=Z,100nm,17.8s							
KHC	**Kasperske Hory**	**86.41**	**329**	AMS		AMS	12 11 10.0	
	comp=Z,100nm,12.7s							
TXAR	**Lajitas Array**	**91.86**	**53**	P		**P**	**11 18 49.4**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=308,slow=3.3,SNR=13							
TXAR	**Lajitas Array**	**91.86**	**53**	P		**P**	**11 18 49.4**	**+0.8**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**120.75**	**314**	PKP		**PKPdf**	**11 24 32.3**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=29,slow=1.5,SNR=3.6							
SAML	**Samuel**	**146.31**	**50**	*e*PKPdf		**PKPdf**	**11 25 20.3**	**+0.2**

*ISCJB **28** 11:09:28.3±1.1, 33.°04N±0.°09×142.°5E±0.°2, h41km, mb3.7/2, MS3.8/2, Error ellipse: s-maj=24.5km s-min=6.6km az=153.3*
*JMA **28** 11:09:29.3±0.4, 33.°08N×142.°42E, h111km, M3.3*
*IDC **28** 11:09:30.5±2.7, 32.°48N×141.°05E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.4/51, mbtmp3.7/4, ML3.8/2, MS3.7/2, Ms1 3.7/2, ms1mx2.9/29, Error ellipse: s-maj=102.7km s-min=23.2km az=71.0*

ISC 28 11:09:29.0±1.5, 32.°99N±0.°07×142.°6E±0.°2, h41km, n14, σ1s70/19, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.13**	**322**	P		**Pn**	**11 10 02.6**	**+1.1**
BSO1				*e*S		**Sn**	**11 10 27.7**	**+1.2**
JHJ2	**Mitsune**	**2.32**	**274**	P		**Pn**	**11 10 05.7**	**+1.0**
JOD2	**Odawara 2**	**3.68**	**309**	P		**Pn**	**11 10 22.6**	**-0.7**
JYN	**Shimob**	**4.17**	**308**	P		**Pn**	**11 10 30.2**	**0.0**
JRY	**Ryogami san**	**4.28**	**316**	*e*S		**Sn**	**11 11 18.8**	**-1.6**
JAG	**Ashikaga**	**4.29**	**324**	P		**Pn**	**11 10 31.8**	**+0.1**
JFT	**Otama**	**4.88**	**339**	P		**Pn**	**11 10 39.8**	**0.0**
JFT				*e*S		**Sn**	**11 11 31.6**	**-3.4**
MJAR	**Matsushiro Arr**	**5.05**	**316**	Pn		**Pn**	**11 10 42.1**	**-0.1**
	2.0nm,0.3s,baz=152,slow=11,SNR=29							
MJAR				Sn		**Sn**	**11 11 38.6**	**-0.6**
	1.9nm,0.3s,baz=147,slow=24,SNR=6.3							
MAT	**Matsushiro**	**5.05**	**316**	P		**Pn**	**11 10 43.2**	**+1.0**
MAT				S		**Sn**	**11 11 37.7**	**-1.6**
MAT	**Matsushiro**	**5.05**	**316**	P		**Pn**	**11 10 42.3**	**+0.1**
MAT				*e*S		**Sn**	**11 11 38.4**	**-0.9**
JCJ	**Chichijima**	**5.88**	**183**	Pn		**Pn**	**11 10 54.5**	**+0.9**
	5.3nm,0.3s,baz=269,slow=22,SNR=8.9							
JCJ				Sn		**Sn**	**11 11 56.2**	**-3.6**
	6.9nm,0.3s,baz=288,slow=20,SNR=4.6							
WRA	**Warramunga Arr**	**53.22**	**190**	P		**P**	**11 18 45.3**	**+2.0**
	0.9nm,0.5s,baz=5.6,slow=7.6,SNR=8.7							
ASAR	**Alice Springs**	**56.94**	**189**	P		**P**	**11 19 12.5**	**+2.3**
	0.4nm,0.8s,baz=16,slow=13,SNR=3.7							
ASAR				LR		LR	11 42 05.7	
	comp=Z,49nm,18.9s,baz=285,slow=35							
ARCES	**ARCESS Array B**	**68.12**	**340**	LR		LR	11 56 03.2	
	comp=Z,66nm,19.9s,baz=70,slow=41							

GUC 28 11:10:51.5±0.6, 35.°28S×72.°81W, h38km±5km, ML3.6, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TALC	**Talca**	**0.97**	**97**	*i*P		**Pn**	**11 11 08.9**	**+0.4**
TALC				*i* S		Sn	11 11 22.3	+1.3
LNCH	**Linares**	**1.14**	**120**	*e*P		**Pn**	**11 11 11.5**	**+0.7**
LNCH				*i* S		Sn	11 11 26.9	+1.7
NICH	**Los Niches**	**1.32**	**78**	*e*P		**Pn**	**11 11 14.3**	**+0.9**
NICH				*i* S		Sn	11 11 32.4	+2.6
CHCH	**Chadas Angostu**	**2.23**	**54**	*e*P		**Pn**	**11 11 28.0**	**+2.0**
CHCH				*e*S		Sn	11 11 54.2	+1.9
CLCH	**Cerro Calan**	**2.66**	**46**	AML		AML	11 12 18.6	
	comp=N,213nm,0.7s							
PEL	**Peldehue**	**2.76**	**40**	*e*P		Pn	11 11 34.4	+1.1
PEL				AML		AML	11 12 23.9	
	comp=N,379nm,0.6s							

*ISCJB **28** 11:23:09.3±0.8, 33.°09N±0.°05×142.°65E±0.°09, h40km, mb3.4/2, MS3.7/1, Error ellipse: s-maj=11.2km s-min=5.7km az=152.6*
*JMA **28** 11:23:09.6±0.4, 33.°05N×142.°56E, h89km, M3.4*
*IDC **28** 11:23:11.9±2.2, 32.°52N×141.°28E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/41, mbtmp3.5/4, ML3.7/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/22, Error ellipse: s-maj=85.8km s-min=23.0km az=71.0*

ISC 28 11:23:12.0±1.3, 33.°09N±0.°07×142.°6E±0.°1, h40km, n18, σ1s18/29, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.06**	**320**	P		**Pn**	**11 23 43.1**	**-0.5**
BSO1				*e*S		**Sn**	**11 24 09.1**	**+1.4**
JHJ2	**Mitsune**	**2.33**	**271**	P		**Pn**	**11 23 46.4**	**-1.4**
JHJ2				*e*S		**Sn**	**11 24 14.9**	**-0.3**
JHCJ	**Hachijojimakas**	**2.35**	**270**	P		**Pn**	**11 23 46.8**	**-1.2**
BSO3	**Boso 3**	**2.43**	**315**	P		**Pn**	**11 23 48.2**	**-0.7**
BSO3				*e*S		**Sn**	**11 24 18.2**	**+0.9**
BSO4	**Boso 4**	**2.66**	**316**	P		**Pn**	**11 23 52.6**	**+0.3**
BSO4				*e*S		**Sn**	**11 24 24.4**	**+1.2**
JOD2	**Odawara 2**	**3.62**	**308**	P		**Pn**	**11 24 04.0**	**-1.6**
JYN	**Shimob**	**4.12**	**307**	P		**Pn**	**11 24 11.9**	**-0.6**
JYN				*e*S		**Sn**	**11 24 59.4**	**-0.1**
JAG	**Ashikaga**	**4.21**	**323**	P		**Pn**	**11 24 13.2**	**-0.5**
JAG				*e*S		**Sn**	**11 25 01.8**	**+0.2**
JRY	**Ryogami san**	**4.22**	**315**	P		**Pn**	**11 24 13.5**	**-0.3**
JRY				*e*S		**Sn**	**11 25 01.0**	**-0.8**
JFT	**Otama**	**4.79**	**338**	P		**Pn**	**11 24 21.1**	**-0.5**
JFT				*e*S		**Sn**	**11 25 13.1**	**-2.7**
MJAR	**Matsushiro Arr**	**4.98**	**315**	Pn		**Pn**	**11 24 25.0**	**+0.7**
	1.9nm,0.3s,baz=154,slow=14,SNR=23							
MJAR				Sn		**Sn**	**11 25 20.5**	**-0.1**
	1.1nm,0.3s,baz=148,slow=26,SNR=7.4							
MJAR				LR		LR	11 26 30.9	
	comp=Z,72nm,20.9s,baz=170,slow=42							
MAT	**Matsushiro**	**4.99**	**315**	P		**Pn**	**11 24 24.0**	**-0.3**
MAT				S		**Sn**	**11 25 19.6**	**-1.1**
MAT	**Matsushiro**	**4.99**	**315**	P		**Pn**	**11 24 24.8**	**+0.5**
MAT				*e*S		**Sn**	**11 25 19.6**	**-1.1**
JMK	**Ichinoseki**	**5.95**	**350**	P		**Pn**	**11 24 36.2**	**-1.3**
JCJ	**Chichijima**	**5.99**	**183**	Pn		**Pn**	**11 24 36.0**	**-2.1**
	4.5nm,0.3s,baz=354,slow=18,SNR=35							
JCJ				Sn		Sn	11 25 38.6	-6.8
	4.0nm,0.3s,baz=288,slow=20,SNR=5.2							
YAK	**Yakutsk**	**30.12**	**348**	LR		LR	11 43 34.5	
	comp=Z,146nm,18.2s,baz=84,slow=40							
WRA	**Warramunga Arr**	**53.32**	**190**	P		**P**	**11 32 26.9**	**-0.3**
	0.4nm,0.5s,baz=5.8,slow=7.7,SNR=12							
WRA				PcP		**PcP**	**11 33 36.5**	**+2.1**
	0.4nm,1.0s,baz=11,slow=4.2,SNR=2.6							
ASAR	**Alice Springs**	**57.05**	**190**	P		**P**	**11 32 55.4**	**+1.4**
	0.2nm,0.7s,baz=17,slow=13,SNR=7.2							

*ISCJB **28** 11:26:48.7±0.8, 25.°1N±0.°1×94.°56E±0.°08, h100km, mb3.8/3, Error ellipse: s-maj=18.9km s-min=7.0km az=26.0*
*IDC **28** 11:26:51.1±7.0, 25.°30N×94.°91E, h98km±45km, mb3.5/3, mb1 3.7/4, mb1mx3.1/40, mbtmp3.8/4, Error ellipse: s-maj=140.4km s-min=35.1km az=78.0*

ISC 28 11:26:50.3±1.0, 25.°1N±0.°2×94.°5E±0.°1, h100km, n16, σ0s78/20, mb4.0/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
IMP	**Imphal**	**0.62**	**237**	*e*S		**Sn**	**11 27 18.0**	**-1.8**
SHL	**Shillong**	**2.42**	**281**	*e*PN		**Pn**	**11 27 29.5**	**+0.9**
SHL				*e*SN		**Sn**	**11 27 58.5**	**+0.7**
TAPN	**Taplejung**	**6.50**	**291**	*e*P		**Pn**	**11 28 23.9**	**+0.2**
	78nm,0.3s							
ODAN	**Odare**	**6.64**	**287**	*e*P		**Pn**	**11 28 26.3**	**+0.8**
	84nm,0.4s							
RAMN	**Ramite**	**7.34**	**286**	*e*P		**Pn**	**11 28 36.4**	**+1.2**
	76nm,0.5s							
CMAR	**Chiang Mai Arr**	**7.80**	**147**	P		**Pn**	**11 28 41.5**	**+0.3**
	0.8nm,0.3s,baz=324,slow=12,SNR=4.1							
GUN	**Gumba**	**8.21**	**292**	*e*P		**Pn**	**11 28 47.8**	**+0.7**
	110nm,0.4s							
PKI	**Pulchoki**	**8.52**	**289**	*e*P		**Pn**	**11 28 51.1**	**-0.1**
	42nm,0.4s							
PKIN	**Phulchoki**	**8.53**	**289**	*e*P		**Pn**	**11 28 51.8**	**+0.5**
	27nm,0.2s							
PKIN				*e*S		**Sn**	**11 30 25.0**	**-1.1**
KKN	**Kakani**	**8.69**	**290**	*e*P		**Pn**	**11 28 53.9**	**+0.5**
	72nm,0.4s							
DMN	**Daman**	**8.79**	**288**	*e*P		**Pn**	**11 28 54.7**	**-0.1**
	52nm,0.5s							
GKN	**Gorkha**	**9.29**	**290**	*e*P		**Pn**	**11 29 01.6**	**0.0**
	45nm,0.3s							
KOLN	**Koldanda**	**10.13**	**287**	*e*P		**Pn**	**11 29 12.3**	**-0.7**
	22nm,0.3s							
WRA	**Warramunga Arr**	**59.22**	**135**	P		**P**	**11 36 41.1**	**-0.2**
	1.4nm,0.5s,baz=319,slow=7.8,SNR=47							
WRA				PcP		**PcP**	**11 37 29.0**	**+0.3**
	0.6nm,1.1s,baz=333,slow=3.7,SNR=3.0							
ASAR	**Alice Springs**	**61.72**	**139**	P		**P**	**11 36 58.9**	**+0.5**
	1.2nm,0.7s,baz=318,slow=6.8,SNR=25							
ASAR				PcP		**PcP**	**11 37 39.1**	**+0.4**
	0.2nm,0.4s,baz=323,slow=4.2,SNR=3.1							
ILAR	**Eielson Array**	**78.73**	**23**	P		**P**	**11 38 40.8**	**-0.7**
	0.3nm,0.7s,baz=308,slow=4.4,SNR=4.2							

*ISCJB **28** 11:39:24.7±0.9, 31.°97N±0.°03×114.°96W±0.°06, h12km±7km, Error ellipse: s-maj=8.9km s-min=5.2km az=0.9*
*ECX **28** 11:39:26.4±0.4, 31.°93N×114.°98W, h10km, MD2.5, ML2.7*
*MEX **28** 11:39:27.7±0.6, 32.°00N×114.°95W, h10km, MD4.0*

ISC 28 11:39:24.8±1.3, 31.°94N±0.°04×114.°96W±0.°07, h18km±6km, n14, σ0s43/20, 4C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ECBX	**El Chinero**	**0.48**	**189**	*e*P		**Pg**	**11 39 34.2**	**-0.2**
ECBX				*e*S		**Sg**	**11 39 40.8**	**-0.2**
CPBX	**Cerro Prieto**	**0.56**	**328**	*e*Pn		**Pb**	**11 39 36.4**	**+0.4**
CPBX				*e*S		**Sb**	**11 39 44.2**	**+0.6**
YMD	**Yuma Desert**	**0.70**	**30**	*i iP*		**Pg**	**11 39 38.8**	**+0.1**
EMSC	**East Mesa**	**0.79**	**358**	*e*Pn		**Pn**	**11 39 40.8**	**-0.3**
RDX	**Rancho Dawling**	**0.84**	**269**	*e*P		**Pb**	**11 39 40.6**	**-0.3**
RDX				*e*S		**Sg**	**11 39 52.2**	**-0.1**
RDX				*e*			11 39 54.3	
RDX				IAML			11 39 54.3	
	comp=N,154nm,0.3s							
SGL	**Mount Signal**	**0.96**	**318**	*e*Pn		**Pb**	**11 39 42.8**	**0.0**
SPIG	**San Pedro Mart**	**0.99**	**206**	*e*P		**Pg**	**11 39 44.0**	**+1.0**
SPIG				*e*S		**Sn**	**11 39 58.0**	**+0.1**
SPX	**San Pedro Mart**	**0.99**	**206**	*e*P		**Pn**	**11 39 44.0**	**-0.2**
YUH	**Yuha Desert**	**1.08**	**311**	*i*P		**Pn**	**11 39 44.9**	**-0.1**
RMX	**La Rumorosa**	**1.15**	**305**	*e*P		**Pb**	**11 39 46.3**	**0.0**
ZAX	**El Zacaton**	**1.20**	**249**	*e*P		**Pn**	**11 39 46.5**	**-0.3**
ZAX				*e*S		**Sn**	**11 40 02.5**	**-0.2**
ZAX				IAML			11 40 03.5	
	comp=N,202nm,0.4s							
ZAX				IAML			11 40 04.4	
	comp=E,129nm,0.4s							
ECNX	**Esteban Cantu**	**1.42**	**259**	*e*P		**Pn**	**11 39 50.3**	**+0.5**
CBX	**Cerro Bola**	**1.49**	**285**	*e*P		**Pn**	**11 39 50.5**	**-0.3**
CBX				*i* S		Sn	**11 40 09.3**	**-0.6**
CBX	**Cerro Bola**	**1.49**	**285**	*e*P		**Pb**	**11 39 51.5**	**-0.6**

*ISCJB **28** 11:44:15.9±0.7, 39.°11N±0.°03×140.°89E±0.°04, h14km±5km, mb3.5/2, Error ellipse: s-maj=5.6km s-min=5.2km az=149.2*
*IDC **28** 11:44:15.1±1.4, 39.°02N×141.°09E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/36, mbtmp3.4/4, ML2.6/3, Error ellipse: s-maj=36.4km s-min=18.9km az=128.0*
*JMA **28** 11:44:16.3, 39.°10N×140.°87E, h10km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs201.00000°, δ53.00000°, λ74.00000°. NP2: φs48.00000°, δ40.00000°, λ111.00000°. Principal axes: T Plg75.0000°, Azm61.0000°; N Plg13.0000°, Azm211.0000°; P Plg7.0000°, Azm303.0000°;*
JMA Felt I J1.

ISC 28 11:44:16.4±1.1, 39.°08N±0.°03×140.°88E±0.°03, h9km±9km, n12, σ0s53/18, 6D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JMK	**Ichinoseki**	**0.30**	**116**	*i*P		**Pg**	**11 44 22.2**	**-0.1**
JMK				*e*S		**Sg**	**11 44 26.5**	**+0.2**
JRG	**Rokugo**	**0.36**	**329**	*i*P		**Pg**	**11 44 23.4**	**-0.2**
JRG				*e*S		**Sg**	**11 44 28.5**	**+0.1**
JYK	**Kaneyama**	**0.43**	**248**	*i*P		**Pg**	**11 44 24.9**	**+0.1**
JYK				S		**Sg**	**11 44 30.7**	**+0.1**
JOM	**Ohasama**	**0.51**	**40**	P		**Pg**	**11 44 26.0**	**-0.2**
JOM				*e*S		**Sg**	**11 44 32.6**	**-0.3**
JIO	**Ouri**	**0.73**	**149**	*i*P		**Pg**	**11 44 30.1**	**-0.3**
JIO				*e*S		**Sg**	**11 44 40.0**	**+0.1**
JOU	**Okura**	**0.73**	**193**	*i*P		**Pg**	**11 44 30.5**	**-1.0**
JOU				*e*S		**Sb**	**11 44 40.6**	**-0.9**
JYA	**Atsumi**	**1.03**	**242**	*i*P		**Pg**	**11 44 35.5**	**-0.6**
JYA				*e*S		**Sg**	**11 44 49.3**	**-0.2**
MJAR	**Matsushiro Arr**	**3.30**	**221**	Pn		**Pn**	**11 45 09.6**	**+1.3**
	0.3nm,0.3s,baz=24,slow=13,SNR=5.3							
MJAR				Lg		Lg	11 46 01.9	
	0.5nm,0.3s,baz=30,slow=34,SNR=3.1							
USRK	**Ussuriysk Ar.**	**8.39**	**310**	Pn		**Pn**	**11 46 18.0**	**-0.1**
	0.3nm,0.3s,baz=117,slow=14,SNR=5.4							
KSRS	**Korea Array**	**10.31**	**265**	Pn		Pn	11 46 48.5	+4.1
	0.2nm,0.3s,baz=79,slow=14,SNR=7.2							
ILAR	**Eielson Array**	**48.01**	**33**	P		**P**	**11 52 55.5**	**+0.2**
	0.3nm,0.6s,baz=272,slow=6.3,SNR=6.7							
WRA	**Warramunga Arr**	**59.03**	**187**	P		**P**	**11 54 16.0**	**-0.6**
	0.2nm,0.5s,baz=6.9,slow=8.0,SNR=4.2							

*IDC **28** 11:53:07.8±2.6, 16.°48N×123.°13E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/33, mbtmp3.5/3, Error ellipse: s-maj=313.9km s-min=27.5km az=67.0*

MAN 28 11:53:51, 12.°99N×124.°17E, h98km, mb4.5, ML3.4, MS3.2, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PVCP	**Virac**	**0.60**	**358**	*i*P		Pn	11 54 09.1	+1.7
PVCP				*i* S		Sn	11 54 21.9	+2.3
TBP	**Tagbilaran**	**3.30**	**185**	*e*P		Pn	11 54 42.4	+1.7
WRA	**Warramunga Arr**	**34.22**	**163**	P		P	12 00 25.3	-2.2
	0.2nm,0.6s,baz=343,slow=8.8,SNR=9.4							
ASAR	**Alice Springs**	**37.66**	**165**	P		P	12 00 55.7	-1.1
	0.2nm,0.5s,baz=343,slow=7.2,SNR=7.7							

*NIED **28** 11:54:00, 33.°10N×142.°50E, h11km, Mw3.4 Best double couple: M0 1.67000×10^14 NP1: φs33.00000°, δ24.00000°, λ-64.00000°. NP2: φs185.00000°, δ68.00000°, λ-101.00000°.*
*ISCJB **28** 11:54:29.1±0.8, 33.°07N±0.°05×142.°54E±0.°08, h33km, mb

JCJ Chichijima 5.91 185 Pn **Pn** **12 00 08.3 +0.3**
3.8nm,0.3s,baz=0.0,slow=19,SNR=7.9
JCJ Sn **Sn** **12 01 11.1 -3.3**
2.4nm,0.3s,baz=288,slow=20,SNR=2.8
WRA Warramunga Arr 53.25 190 P **P** **12 08 00.6 +3.0**
0.6nm,0.6s,baz=6.9,slow=7.6,SNR=8.7
ASAR Alice Springs 56.98 190 P **P** **12 08 25.4 +0.9**
0.3nm,0.8s,baz=14,slow=14,SNR=3.4

IDC 28 12:03:03.3±10.0, 3°.48N×127°.24E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/29, mbtmp3.8/3, MS4.3/1, Ms1 4.3/1, ms1mx2.9/37, Error ellipse: s-maj=166.4km s-min=151.9km az=148.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.30**	**164**	P	P	12 08 22.6	-0.2
	1.3nm,0.5s,baz=343,slow=10,SNR=34						
ASAR	**Alice Springs**	**27.75**	**167**	P	P	12 08 54.2	+0.2
	0.4nm,0.5s,baz=351,slow=7.7,SNR=9.4						
STKA	**Stephens Creek**	**37.72**	**160**	P	P	12 10 20.6	-0.2
	0.9nm,0.4s,baz=327,slow=9.6,SNR=5.0						
PALK	**Pallekele**	**46.47**	**277**	LR	LR	12 31 33.0	
	comp=Z,400nm,21.2s,baz=246,slow=37						

NIED ***28*** *12:07:00, 30°.70N×142°.00E, h5km, Mw5.8 Best double couple: M0 5.12000×10^17 NP1:φs156.00000°, δ19.00000°, λ51.00000°. NP2:φs16.00000°, δ75.00000°, λ102.00000°.*
BJI ***28*** *12:07:21.6, 30°.62N×141°.97E, h20km, mb5.5/84, mB5.6/71, Ms5.8/96, Ms7 5.8/86*
JMA ***28*** *12:07:23.6±0.1, 30°.74N×142°.04E, h18km, M5.7*
IDC ***28*** *12:07:23.6±0.4, 30°.62N×141°.72E, h0km, mb5.2/30, mb1 5.3/35, mb1mx5.3/36, mbtmp5.2/35, ML2.4/2, MS5.3/35, Ms1 5.3/35, ms1mx5.3/39, Error ellipse: s-maj=14.3km s-min=9.7km az=101.0*
NEIC ***28*** *12:07:25.1±0.1, 30°.67N×141°.59E, h7km, mb5.4/180, MS5.5/149, MW5.7, MW5.7(NIED), Error ellipse: s-maj=3.4km s-min=2.5km az=146.0, Moment Tensor Solution. s61 Moment tensor: Scale 10^17Nm; Mrr 3.20; Mθθ -1.43; Mφφ -1.77; Mrθ 0.78; Mrφ 0.19; Mθφ 2.61; Best double couple: M0 3.90000×10^17 NP1:φs176.00000°, δ22.00000°, λ77.00000°. NP2:φs10.00000°, δ69.00000°, λ95.00000°. Principal axes: T 4.4300, Plg65.0000°, Azm289.0000°; N -1.5200, Plg4.0000°, Azm188.0000°; P -2.9000, Plg23.0000°, Azm96.0000°;*
ISCJB ***28*** *12:07:25.0±0.7, 30°.62N±0°.01×141°.61E±0°.02, h16km±4km, mb5.5/345, MS5.5/232 Error ellipse: s-maj=2.5km s-min=2.3km az=155.1*
MOS ***28*** *12:07:27.3±1.0, 30°.60N×141°.67E, h34km, mb5.9/68, MS5.6/69, Error ellipse: s-maj=9.6km s-min=4.2km az=115.2*
SZGRF ***28*** *12:07:28.3, 30°.97N×141°.90E, h32km, mb5.9, MS5.5, Southeast of Honshu, Japan*
GCMT ***28*** *12:07:30.0±0.1, 30°.61N×141°.84E, h18km, MW5.8/126, Moment Tensor Solution. s101,c193; s126,c344; Duration: 19 Moment tensor: Scale 10^17Nm; Mrr 3.86±.05; Mθθ 0.40±.04; Mφφ -4.26±.04; Mrθ 0.19±.10; Mθφ 0.58±.03; Mrφ 3.76±.13; Best double couple: M0 5.56700×10^17 NP1:φs0.00000°, δ66.00000°, λ96.00000°. NP2:φs165.00000°, δ24.00000°, λ76.00000°. Principal axes: T 5.3650, Plg68.0000°, Azm282.0000°; N 0.4020, Plg6.0000°, Azm178.0000°; P -5.7700, Plg21.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 28 12:07:27.4±0.3, 30°.64N±0°.03×141°.72E±0°.03, h23km±1km, h23km:pP-P, n1351, σ1938/1452, mb5.5/370, MS5.5/242, 116C-38D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.92**	**327**	P	**Pn**	**12 08 11.9**	**-0.5**
JHCJ				*e*S	**Sn**	**12 08 48.2**	**+1.4**
JHJ2	**Mitsune**	**2.95**	**327**	P	**Pn**	**12 08 12.2**	**-0.5**
JHJ2				*e*S	**Sn**	**12 08 47.4**	**0.0**
JHJ	**Mitsune**	**2.95**	**327**	*e*Pn	**Pn**	**12 08 11.5**	**-1.2**
CBIJ	**Chichi jima**	**3.56**	**173**	P	**Pn**	**12 08 20.8**	**-0.4**
CBIJ	**Chichi jima**	**3.56**	**173**	*e*Pn	**Pn**	**12 08 20.8**	**-0.4**
CBIJ				Sn	**Sn**	**12 08 60.0**	**-2.5**
JCJ	**Chichijima**	**3.56**	**173**	Pn	**Pn**	**12 08 20.9**	**-0.3**
	92nm,0.3s,baz=52,slow=15,SNR=153						
JCJ				Sn	**Sn**	**12 08 60.0**	**-2.5**
	629nm,0.3s,baz=319,slow=19,SNR=11						
JHHJ	**Haha-jima-NKT**	**4.02**	**174**	P	**Pn**	**12 08 27.6**	**+0.1**
JHHJ				*e*S	**Sn**	**12 09 14.0**	**+0.2**
BSO1	**Boso 1**	**4.05**	**351**	P	**Pn**	**12 08 26.5**	**-0.9**
JKO	**Kozu shima**	**4.15**	**329**	P	**Pn**	**12 08 30.0**	**+0.7**
JKO				*e*S	**Sn**	**12 09 18.3**	**+1.1**
JOD2	**Odawara 2**	**5.11**	**335**	P	**Pn**	**12 08 41.5**	**-1.0**
TTO1	**TONANKAI O.B.S**	**5.13**	**307**	P	**Pn**	**12 08 45.5**	**+3.0**
JIE	**Ise**	**5.65**	**313**	P	**Pn**	**12 08 51.4**	**+1.6**
JWZ	**Kozaga**	**5.85**	**301**	P	**Pn**	**12 08 54.7**	**+2.0**
JRY	**Ryogami san**	**5.86**	**337**	P	**Pn**	**12 08 52.0**	**-0.7**
JRY				*e*S	**Sn**	**12 09 59.3**	**+0.1**
MJAR	**Matsushiro Arr**	**6.57**	**334**	Pn	**Pn**	**12 09 02.7**	**+0.1**
	25nm,0.3s,baz=159,slow=13,SNR=562						
MJAR				Sn	**Sn**	**12 10 15.4**	**-1.4**
	18nm,0.3s,baz=158,slow=20,SNR=4.4						
MJAR				LR	LR	12 11 38.5	
	comp=Z,29μm,18.9s,baz=165,slow=39						
MJAR	**Matsushiro Arr**	**6.57**	**334**	P	**Pn**	**12 09 02.7**	**+0.1**
MJAR						12 10 15.4	
MJAR				pmax	pmax		
	comp=Z,25nm,0.3s						
MJAR				smax	smax		
	comp=N,18nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,29μm,18.9s						
MAJO	**Matsushiro**	**6.57**	**334**	*c i*P	**Pn**	**12 09 03.6**	**+1.0**
MAJO	**Matsushiro**	**6.57**	**334**	*e*Pn	**Pn**	**12 09 02.1**	**-0.4**
MAT	**Matsushiro**	**6.57**	**334**	P	**Pn**	**12 09 01.4**	**-1.2**
MAT				S	**Sn**	**12 10 15.8**	**-1.0**
JTO	**Tosashimizu**	**7.91**	**289**	P	**Pn**	**12 09 24.0**	**+3.1**
JMK	**Ichinoseki**	**8.30**	**357**	P	**Pn**	**12 09 24.2**	**-2.1**
JMK				*e*S	Sn	12 10 50.5	-8.8
SAI	**Saigo**	**8.93**	**311**	P	**Pn**	**12 09 37.7**	**+2.8**
JSJ	**Shimokoshiki**	**10.34**	**279**	P	Pn	12 09 58.6	+4.4
JMZ	**Minamidaito 2**	**10.43**	**245**	P	Pn	12 09 59.9	+4.4
JOT	**Ohata**	**10.73**	**357**	P	**Pn**	**12 09 56.8**	**-2.8**
JOT				*e*S	Sn	12 11 50.0	-8.9
KSULL	**Ulleungdo**	**11.26**	**310**	P	Pn	12 10 13.7	+6.9
	SNR=14						
ERM	**Erimo**	**11.41**	**5**	*c i*P	Pn	12 10 04.3	-4.5
ERM				pmax	pmax		
	comp=Z,124nm,1.0s						
ERM	**Erimo**	**11.41**	**5**	*e*Pn	Pn	12 10 04.1	-4.7
	comp=Z,111nm,0.8s						
ERM				*e*Sn	Sn	12 11 59.1	-16
KSBUS	**Busan**	**11.54**	**297**	P	Pn	12 10 22.6	+12
	SNR=12						
KSBUS	**Busan**	**11.54**	**297**	P	Pn	12 10 22.6	+12
	SNR=12						
KSPHA	**Pohang**	**11.70**	**301**	P	Pn	12 10 23.1	+10
	SNR=6.8						
KSPHA	**Pohang**	**11.70**	**301**	P	Pn	12 10 23.1	+10
	SNR=6.8						
KSDAG	**Daegu**	**11.89**	**299**	P	Pn	12 10 26.0	+11
	SNR=11						
KSDAG	**Daegu**	**11.89**	**299**	P	Pn	12 10 26.0	+11
	SNR=11						
KSYOC	**YEONGCHEON**	**11.93**	**300**	P	Pn	12 10 25.8	+10
	SNR=9.7						
KSYOC	**YEONGCHEON**	**11.93**	**300**	P	Pn	12 10 25.8	+10
	SNR=9.7						
KSEUS	**ULSEONG**	**12.27**	**301**	P	**P**	**12 10 30.2**	**-2.6**
	SNR=5.7						
JOW	**Kunigami**	**12.39**	**255**	Pn	**Pn**	**12 10 22.2**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=79,slow=12,SNR=1.8						
JOW				LR	LR	12 14 49.0	
	comp=Z,4μm,20.2s,baz=2.0,slow=36						
KSCPR	**CHUPUNGNYEONG**	**12.75**	**300**	P	**P**	**12 10 38.9**	**+0.7**
	SNR=7.3						
KSKOH	**Goheung**	**12.80**	**292**	P	**P**	**12 10 41.5**	**+2.8**
	SNR=9.4						
KSDGY	**Daegwallycong**	**12.88**	**307**	P	P	12 10 35.8	-3.9
	SNR=6.8						
KSDGY	**Daegwallycong**	**12.88**	**307**	P	P	12 10 35.8	-3.9
	SNR=24						
KSJMJ	**Jumunjin**	**12.92**	**307**	P	P	12 10 36.0	-4.0
	SNR=12						
KSJMJ	**Jumunjin**	**12.92**	**307**	P	P	12 10 35.3	-4.7
	SNR=37						
KSCHJ	**Chungju**	**13.01**	**302**	P	**P**	**12 10 40.5**	**-0.4**
	SNR=8.3						
KSKWJ	**Gwangju**	**13.17**	**294**	P	**P**	**12 10 45.9**	**+3.1**
	SNR=27						
KSJEO	**Jeonju**	**13.17**	**297**	P	**P**	**12 10 44.9**	**+2.1**
	SNR=5.8						
KSWJU	**Wonju**	**13.18**	**304**	P	**P**	**12 10 40.3**	**-2.6**
	SNR=11						
KSGWJ	**Gwangju-acc**	**13.25**	**294**	P	P	12 10 47.5	+3.9
	SNR=6.8						
TJN	**Taejon**	**13.27**	**299**	⇑*e*P	**Pn**	**12 10 37.3**	**+3.0**
KSSKC	**Sokcho**	**13.29**	**309**	P	P	12 10 39.8	-4.2
	SNR=7.1						
KSRS	**Korea Array**	**13.30**	**304**	Pn	**Pn**	**12 10 36.0**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=117,slow=14,SNR=58						
KSRS				LR	LR	12 15 44.9	
	comp=Z,21μm,18.1s,baz=116,slow=38						
KSRS	**Korea Array**	**13.30**	**304**	P	**Pn**	**12 10 36.0**	**+1.4**
KSRS				MLR	MLR		
	comp=Z,21μm,18.1s						
KSJEU	**Jeongeup**	**13.31**	**295**	P	P	12 10 47.9	+3.6
	SNR=7.1						
KSAR	**Wonju Array Be**	**13.32**	**304**	Pn	**Pn**	**12 10 36.0**	**+1.0**
KSIJA	**INJE**	**13.41**	**307**	P	P	12 10 41.2	-4.3
	SNR=13						
KSIJA	**INJE**	**13.41**	**307**	P	Pn	12 10 40.8	+4.5
	SNR=16						
SEHB	**SEOHWA**	**13.46**	**308**	P	P	12 10 41.9	-4.1
	SNR=8.5						
SEHB	**SEOHWA**	**13.46**	**308**	P	P	12 10 41.9	-4.1
	SNR=8.5						
KSKOJ	**Gongju**	**13.47**	**299**	P	**P**	**12 10 46.9**	**+0.9**
	SNR=8.3						
ASAJ	**Asahikawa**	**13.47**	**3**	*e*Pn	**Pn**	**12 10 34.1**	**-2.9**
KSCEA	**Cheonan**	**13.52**	**301**	P	**P**	**12 10 47.3**	**+0.7**
	SNR=6.2						
KSCHC	**Chuncheon**	**13.52**	**305**	P	**P**	**12 10 46.1**	**-0.5**
	SNR=14						
KSGUS	**GUNSAN**	**13.59**	**297**	P	**P**	**12 10 50.2**	**+2.7**
	SNR=13						
YUK	**Yuzh-Kuril'sk**	**13.77**	**13**	⇑*i*P	Pn	12 10 36.1	-4.9
YUK				pmax	pmax		
	comp=N,74nm,0.8s						
YUK				pmax	pmax		
	comp=E,48nm,0.8s						
YUK				pmax	pmax		
	comp=Z,84nm,0.8s						
YUK				pmax	pmax		
	comp=Z,366nm,2.2s						
YUK				MLR	MLR		
	comp=N,3μm,12.0s						
YUK				MLR	MLR		
	comp=E,2μm,12.0s						
YUK				MLR	MLR		
	comp=Z,3μm,12.0s						
KSCWO	**Cheorwon**	**13.87**	**306**	P	**P**	**12 10 49.9**	**-0.7**
	SNR=10						
KSSWO	**Suwon**	**13.90**	**302**	P	**P**	**12 10 51.6**	**+0.6**
	SNR=12						
KSSEO	**Seoul**	**14.03**	**303**	P	**P**	**12 10 52.8**	**+0.4**
	SNR=6.8						
KSDDC	**Dongducheon**	**14.11**	**305**	P	**P**	**12 10 53.7**	**+0.5**
	SNR=7.8						
INCN	**Inchon**	**14.24**	**303**	P	**P**	**12 10 55.7**	**+1.0**
	SNR=17						
INCN	**Inchon**	**14.24**	**303**	*e*Pn	**Pn**	**12 10 49.2**	**+1.7**
YNCB	**YEONCHEON**	**14.27**	**305**	P	**P**	**12 10 55.3**	**+0.4**
	SNR=10						
KSMUS	**Musan**	**14.32**	**304**	P	**P**	**12 10 55.7**	**+0.2**
	SNR=14						
KSGAH	**Ganghwa**	**14.46**	**303**	P	**P**	**12 10 58.5**	**+1.3**
	SNR=9.0						
VLA	**Vladivostok**	**14.72**	**331**	⇓*i*P	**Pn**	**12 10 55.0**	**+1.0**
VLA				*e*S	**Sn**	**12 13 38.3**	**+2.0**
VLA				pmax	pmax		
	comp=Z,20nm,0.8s						
KUR	**Kuril'sk**	**15.35**	**17**	⇑*i*P	Pn	12 10 57.3	-5.0
KUR				pmax	pmax		
	comp=N,11nm,1.2s						
KUR				pmax	pmax		
	comp=E,11nm,1.2s						
KUR				pmax	pmax		
	comp=Z,26nm,1.2s						
KUR				pmax	pmax		
	comp=N,1μm,3.4s						
KUR				pmax	pmax		
	comp=E,4μm,6.8s						
KUR				MLR	MLR		
	comp=N,5μm,11.0s						
KUR				MLR	MLR		
	comp=E,4μm,11.0s						
KUR				MLR	MLR		
	comp=Z,254nm,11.0s						
USRK	**Ussuriysk Ar.**	**15.57**	**333**	Pn	**Pn**	**12 11 03.3**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=145,slow=12,SNR=35						
USRK				LR	LR	12 16 52.3	
	comp=Z,14μm,18.9s,baz=140,slow=36						
YSS	**Yuzh-Sakhalins**	**16.31**	**3**	⇓*e*P	**Pn**	**12 11 10.0**	**-4.7**
YSS				*i*		12 14 24.0	
YSS				pmax	pmax		
	comp=Z,320nm,1.0s						
YSS				pmax	pmax		
	comp=N,1μm,4.0s						
YSS				pmax	pmax		
	comp=Z,1μm,4.0s						
YSS				MLR	MLR		
	comp=Z,12μm,14.0s						
YSS				MLR	MLR		
	comp=N,12μm,15.0s						
YSS	**Yuzh-Sakhalins**	**16.31**	**3**	*e*Pn	**Pn**	**12 11 11.4**	**-3.4**
	comp=N,289nm,0.9s						
MDJ	**Mudanjiang**	**16.91**	**329**	P	**Pn**	**12 11 20.3**	**-2.1**
MDJ				pP	**pP**	**12 11 30.3**	**-0.3**
MDJ				sP	**sP**	**12 11 33.0**	**-0.7**
MDJ				S	**Sn**	**12 14 29.0**	**-0.6**
MDJ				PcP	**PcP**	**12 16 09.0**	**+0.5**
MDJ				ScS	**ScS**	**12 23 19.0**	**-2.3**
MDJ				PMZ			
	comp=N,120nm,1.1s						
MDJ				PMZ			
	comp=N,2μm,11.5s						
MDJ				LN			
	comp=N,9μm,18.1s						
MDJ				LE			
	comp=N,11μm,18.7s						
MDJ				LZ			
	comp=N,18μm,17.2s						
MDJ	**Mudanjiang**	**16.91**	**329**	*e*Pn	**Pn**	**12 11 20.2**	**-2.1**
	comp=N,93nm,0.8s						
GUMO	**Guam**	**17.22**	**170**	P	**Pn**	**12 11 25.0**	**-1.4**
	comp=N,4.3nm,0.3s,baz=357,slow=13,SNR=19						
GUMO				LR	LR	12 16 33.3	
	comp=N,9μm,21.0s,baz=359,slow=32						
GUMO	**Guam**	**17.22**	**170**	P	**Pn**	**12 11 25.0**	**-1.4**
GUMO				pmax	pmax		
	comp=Z,4.0nm,0.3s						
GUMO				MLR	MLR		
	comp=Z,9μm,21.0s						
GUMO	**Guam**	**17.22**	**170**	*e*Pn	**P**	**12 11 28.8**	**+0.9**
	comp=Z,217nm,1.2s						
SSE	**Sheshan**	**17.63**	**277**	⇑P	**P**	**12 11 32.5**	**+0.2**
SSE				sP	**sP**	**12 11 42.5**	**+0.7**
SSE				S	**Sn**	**12 14 47.0**	**-0.3**
SSE				PMZ			
	comp=Z,51nm,1.4s						
SSE				PMZ			
	comp=Z,5μm,8.3s						
SSE				LN			
	comp=Z,3μm,16.4s						
SSE				LE			
	comp=Z,17μm,16.4s						
SSE				LZ			
	comp=Z,24μm,16.1s						
YOJ	**Yonaguni jima**	**17.68**	**254**	*e*Pn	**P**	**12 11 33.3**	**+0.3**
	comp=Z,136nm,0.8s						
SNY	**Shenyang**	**18.36**	**312**	⇓P	**P**	**12 11 39.5**	**-0.8**
SNY				S	**Sn**	**12 15 06.0**	**+1.2**
SNY				PMZ			
	comp=Z,75nm,0.9s						
SNY				PMZ			
	comp=Z,3μm,9.0s						
SNY				LN			
	comp=Z,19μm,15.3s						
SNY				LE			
	comp=Z,12μm,17.5s						
SNY				LZ			
	comp=Z,17μm,15.6s						
CN2	**Changchun**	**18.41**	**320**	*e*P	**P**	**12 11 38.8**	**-2.0**
CN2				*e*S	Sn	12 14 53.3	-13
CN2				PMZ			
	comp=Z,110nm,1.0s						
CN2				PMZ			
	comp=Z,3μm,6.0s						
CN2				LN			
	comp=Z,13μm,14.0s						
CN2				LE			
	comp=Z,14μm,14.0s						
CN2				LZ			
	comp=Z,16μm,18.0s						
UGL	**Uglegorsk**	**18.42**	**1**	*ce*P	**P**	**12 11 38.6**	**-2.2**
UGL				*e*S	**Sn**	**12 15 02.3**	**-3.6**
DL2	**Dalian**	**18.42**	**302**	P	**Pn**	**12 11 42.0**	**+0.9**
DL2				S	**S**	**12 15 09.8**	**-0.3**
DL2				PMZ			
	comp=Z,120nm,0.8s						
DL2				PMZ			
	comp=Z,3μm,8.4s						
DL2				LN			
	comp=Z,8μm,17.5s						
DL2				LE			
	comp=Z,12μm,15.6s						
DL2				LZ			
	comp=Z,16μm,16.3s						
HABR	**Khabarovsk**	**18.52**	**346**	*de*P	**P**	**12 11 39.2**	**-2.8**
HABR				*e*S	**Sn**	**12 15 05.4**	**-3.1**
HABR				pmax	pmax		
	comp=E,20nm,1.5s						
HABR				pmax	pmax		
	comp=N,16nm,1.5s						
HABR				pmax	pmax		
	comp=Z,50nm,1.5s						
HABR				MLR	MLR		
	comp=E,12μm,15.0s						
HABR				MLR	MLR		
	comp=N,5μm,15.0s						
HABR				MLR	MLR		
	comp=Z,13μm,15.0s						
TATO	**Taipei**	**18.75**	**257**	P	**Pn**	**12 11 46.8**	**+1.5**
	SNR=16						
TATO	**Taipei**	**18.75**	**257**	*e*Pn	**Pn**	**12 11 46.0**	**+0.7**
	comp=Z,463nm,1.1s						
YHNB	**Yeheng**	**18.96**	**257**	*e*P	**Pn**	**12 11 47.8**	**-0.1**
	comp=Z,199nm,0.8s						
NACB	**Ninganchiao**	**18.98**	**255**	*e*P	**P**	**12 11 47.1**	**-0.1**
	comp=Z,130nm,0.6s						
YULB	**Yu-li**	**19.56**	**253**	*e*P	**Pn**	**12 11 54.3**	**-0.7**
NJ2	**Nanjing**	**19.58**	**280**	*e*P	**Pn**	**12 11 54.8**	**-0.3**
NJ2				pP	**pP**	**12 11 59.3**	**-0.8**
NJ2				sP	**sP**	**12 12 02.3**	**-0.8**
NJ2				S	**Sn**	**12 15 34.0**	**-0.2**
NJ2				sS	**sS**	**12 15 42.0**	**-1.9**
NJ2				PMZ			
	comp=Z,330nm,0.8s						
NJ2				PMZ			
	comp=Z,5μm,9.8s						
NJ2				LN			
	comp=Z,38μm,18.1s						
NJ2				LE			
	comp=Z,44μm,18.9s						
NJ2				LZ			
	comp=Z,25μm,17.6s						
SSLB	**Suanglung**	**19.67**	**255**	*e*Pn	**Pn**	**12 11 56.1**	**-0.3**
	comp=Z,510nm,1.0s						
TWG	**Pinlang**	**20.00**	**252**	*e*P	**P**	**12 11 59.1**	**+0.8**
	comp=Z,779nm,0.8s						
KLR	**Kul'dur**	**20.04**	**341**	*e*P	P	12 11 52.2	-6.5
KLR				*e*S	**S**	**12 15 40.0**	**-2.8**
KLR				pmax	pmax		
	comp=N,130nm,2.2s						
KLR				pmax	pmax		
	comp=E,160nm,2.2s						
KLR				pmax	pmax		
	comp=Z,360nm,2.2s						
KLR				pmax	pmax		
	comp=N,2μm,8.0s						
KLR				pmax	pmax		
	comp=Z,4μm,8.0s						
KLR				MLR	MLR		
	comp=E,7μm,18.0s						
TPUB	**Ta-pu**	**20.15**	**254**	*e*Pn	Pn	12 12 01.3	-0.7
	comp=E,227nm,0.8s						
TYV	**Tymovskoe**	**20.21**	**2**	*e*P	Pn	12 12 02.0	-0.5
TYV				*e*S	**S**	**12 15 42.0**	**-4.1**
TYV				pmax	pmax		
	comp=Z,6μm,9.0s						
TYV				pmax	pmax		
	comp=E,2μm,7.0s						
TYV				pmax	pmax		
	comp=N,4μm,6.0s						
TYV				smax	smax		
	comp=E,10μm,9.0s						
TYV				MLR	MLR		
	comp=Z,14μm,20.0s						
TYV				MLR	MLR		
	comp=N,12μm,16.0s						
TYV				MLR	MLR		
	comp=E,13μm,18.0s						
QZH	**Quanzhou**	**21.21**	**260**	⇑*i*P	**P**	**12 12 11.5**	**0.0**
QZH				S	**S**	**12 16 04.5**	**-1.9**
QZH				PMZ			
	comp=E,210nm,0.9s						
QZH				PMZ			
	comp=E,5μm,8.4s						
QZH				LN			
	comp=E,28μm,21.1s						
QZH				LE			
	comp=E,34μm,19.4s						
QZH				LZ			
	comp=E,39μm,20.8s						
TIA	**Tai'an**	**21.24**	**292**	⇓P	**P**	**12 12 11.0**	**-0.7**
TIA				sP	**sP**	**12 12 21.8**	**+0.6**
TIA				PP	PnPn	12 12 39.0	+7.5
TIA				S	Sn	12 16 12.3	-2.0
TIA				PMZ			
	comp=E,140nm,1.0s						
TIA				PMZ			
	comp=E,3μm,9.9s						
TIA				LN			
	comp=E,22μm,15.7s						
TIA				LE			
	comp=E,20μm,12.5s						
TIA				LZ			
	comp=E,29μm,15.4s						
CVP	**Callao Caves**	**22.21**	**239**	*e*P	**P**	**12 12 22.3**	**+0.1**
NKL	**Nikolayevsk**	**22.50**	**358**	*i* P	P	12 12 19.0	-6.1
NKL				*i* S	**S**	**12 16 26.0**	**-4.6**
NKL				pmax	pmax		
	comp=N,52nm,1.0s						
NKL				pmax	pmax		
	comp=Z,160nm,1.0s						
NKL				pmax	pmax		
	comp=N,2μm,10.0s						
NKL				pmax	pmax		
	comp=Z,3μm,10.0s						
NKL				smax	smax		
	comp=N,4μm,13.0s						
NKL				smax	smax		
	comp=E,15μm,13.0s						
NKL				MLR	MLR		
	comp=N,8μm,17.0s						
NKL				MLR	MLR		
	comp=E,9μm,17.0s						
NKL				MLR	MLR		
	comp=Z,14μm,17.0s						
SKR	**Severo-Kuril's**	**22.73**	**24**	*e*P	P	12 12 22.0	-5.5
SKR				*e*		12 12 54.0	
SKR				*e*PPP	PPP	12 13 10.0	
SKR				*e*S	S	12 16 22.0	-13
SKR				*e*SS	**SnSn**	**12 17 11.0**	**+5.4**
SKR				pmax	pmax		
	comp=E,180nm,1.0s						
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
SKR				pmax	pmax		
	comp=N,2μm,4.0s						
SKR				pmax	pmax		
	comp=E,2μm,4.0s						
SKR				pmax	pmax		
	comp=Z,2μm,4.0s						

SKR smax smax
comp=N,5μm,10.0s
SKR smax smax
comp=E,7μm,10.0s
SKR MLR MLR
comp=Z,5μm,12.0s
SKR MLR MLR
comp=N,4μm,10.0s
SKR MLR MLR
comp=E,8μm,10.0s
PIP Pasuquin 22.73 242⇑ *e*P P 12 12 36.3 +8.4
BJT Baijiatuau 22.78 301 *e*P **P** **12 12 26.6 -1.6**
comp=E,136nm,0.8s
BJT LR LR
comp=Z,28μm,19.0s
BJI Beijing 22.78 301 P **P** **12 12 26.5 -1.7**
BJI S **S** **12 16 32.3 -3.6**
BJI PMZ
comp=Z,150nm,1.1s
BJI PMZ
comp=Z,2μm,9.0s
BJI LN
comp=Z,8μm,20.2s
BJI LE
comp=Z,30μm,18.0s
BJI LZ
comp=Z,18μm,19.3s
SZP Santa 23.32 241 *e*P **P** **12 12 32.2 -1.7**
comp=Z,359nm,0.8s
WHN Wuhan 23.54 277 P **P** **12 12 34.8 -1.1**
WHN S **S** **12 16 45.0 -3.7**
WHN LN
comp=Z,16μm,16.0s
WHN LE
comp=Z,48μm,16.4s
WHN LZ
comp=Z,53μm,16.2s
BCPH Baguio City Da 23.96 238⇓ *i*P **P** **12 12 38.1 -2.2**
HIA Hailar 24.94 324 *i* P **P** **12 12 47.9 -0.9**
HIA pmax pmax
comp=Z,388nm,1.1s
HIA MLR MLR
comp=Z,14μm,16.0s
HIA Hailar 24.94 324 *e*P **P** **12 12 48.2 -0.6**
comp=Z,282nm,0.8s
HIA LR LR
comp=Z,7μm,20.0s
TIY Taiyuan 25.16 294 *e*P **P** **12 12 50.5 -0.5**
TIY PP **PnPn** **12 13 28.3 +3.1**
TIY S **S** **12 17 17.3 +2.5**
TIY PMZ
comp=Z,220nm,0.9s
TIY PMZ
comp=Z,1μm,7.8s
TIY LN
comp=Z,6μm,15.9s
TIY LE
comp=Z,24μm,17.5s
TIY LZ
comp=Z,25μm,17.7s
H11N2 WAKE ISLAND Hy 25.19 110 T T 12 39 01.8
baz=296,slow=72,SNR=6.1
H11N1 WAKE ISLAND Hy 25.19 110 T T 12 39 08.3
baz=296,slow=72,SNR=5.3
H11N3 WAKE ISLAND Hy 25.20 110 T T 12 39 01.6
baz=296,slow=72,SNR=5.7
WAKE Wake Island 25.22 111 PFAKE 12 13 00.0 +8.5
WAKE LR LR
comp=Z,8μm,20.0s
TGY Tagaytay City 25.23 234 P **P** **12 12 50.6 -1.1**
comp=Z,104nm,0.4s,baz=90,slow=5.1
TGY LR LR 12 23 20.7
comp=Z,398nm,18.2s,baz=95,slow=38
TGY Tagaytay City 25.23 234 P **P** **12 12 50.6 -1.1**
TGY pmax pmax
comp=Z,104nm,0.4s
TGY MLR MLR
comp=Z,398nm,18.2s
PETK Petropavlovsk- 25.29 23 P **P** **12 12 52.1 +0.2**
comp=Z,10.0nm,0.9s,baz=162,slow=10.0,SNR=5.4
PETK LR LR 12 22 58.1
comp=Z,3μm,21.9s,baz=206,slow=37
PETK Petropavlovsk- 25.29 23 P **P** **12 12 52.1 +0.2**
PETK pmax pmax
comp=Z,10.0nm,0.9s
PETK MLR MLR
comp=Z,3μm,21.9s
PET Petropavlovsk 25.55 24*d*eP **P** **12 12 54.8 +0.6**
PET *e*S **S** **12 17 18.8 -1.6**
PET pmax pmax
comp=Z,900nm,12.1s
PET pmax pmax
comp=Z,800nm,13.9s
PET pmax pmax
comp=Z,67nm,1.3s
PET Petropavlovsk 25.55 24 *e*P **P** **12 12 54.2 +0.1**
comp=Z,121nm,1.4s
PET LR LR
comp=Z,5μm,20.0s
H11S3 WAKE ISLAND Hy 25.66 112 T T 12 39 30.0
baz=304,slow=74,SNR=46
H11S1 WAKE ISLAND Hy 25.67 112 T T 12 39 30.2
baz=304,slow=74,SNR=85
H11S2 WAKE ISLAND Hy 25.68 112 T T 12 39 31.2
baz=304,slow=74,SNR=75
HKC Hong Kong Obse 25.97 258 *e*P **P** **12 12 58.0 -0.3**
GZH Guangzhou 26.36 260 P P 12 12 56.3 -5.5
GZH pP pP 12 13 06.5 -2.2
GZH S **S** **12 17 30.8 -2.9**
GZH PMZ
comp=Z,5μm,9.6s
GZH LN
comp=Z,13μm,18.5s
GZH LE
comp=Z,21μm,21.9s
GZH LZ
comp=Z,42μm,17.8s
HHC Hu-ho-hao-te 26.39 301 ⇑P **P** **12 13 00.8 -1.3**
HHC sP **sP** **12 13 11.8 -0.2**
HHC S **S** **12 17 31.5 -2.8**
HHC sS **sS** **12 17 42.8 -3.0**
HHC SS **SnSn** **12 18 40.0 +4.5**
HHC PMZ
comp=Z,95nm,0.7s
HHC PMZ
comp=Z,2μm,4.4s
HHC LN
comp=Z,11μm,11.0s
HHC LE
comp=Z,29μm,10.3s
HHC LZ
comp=Z,32μm,10.4s
BTO Baotou 27.49 300 *e*P **P** **12 13 10.8 -1.2**
ENH Enshi 27.74 278 *e*P **P** **12 13 12.7 -1.5**
comp=Z,45nm,0.7s
ENH LR LR
comp=Z,549nm,19.0s
XAN Xi'an 27.85 286 P **P** **12 13 14.5 -0.7**
XAN pP **pP** **12 13 21.5 -0.7**
XAN sP **sP** **12 13 25.0 -0.1**
XAN PMZ
comp=Z,36nm,1.0s
XAN PMZ
comp=Z,330nm,8.4s
XAN LN
comp=Z,4μm,16.1s
XAN LE
comp=Z,3μm,14.4s
XAN LZ
comp=Z,3μm,15.7s
DAV Davao City (W) 27.91 216 PFAKE 12 13 30.0 +14
DAV LR LR
comp=Z,9μm,19.0s
CLNS Chul'man 28.71 341 *e*P **P** **12 13 21.5 -1.1**
CLNS *e**PP **pP** **12 13 30.9 +1.3**
CLNS *e*PPP PPP 12 14 22.3
CLNS *e* 12 16 31.2
CLNS *e*S **S** **12 18 09.7 -0.6**
CLNS *e*SSS SSS 12 19 44.3
CLNS *e* 12 24 02.8
CLNS pmax pmax
comp=Z,53nm,1.2s
CLNS pmax pmax
comp=N,41nm,1.2s
CLNS pmax pmax
comp=E,20nm,1.0s
CLNS pmax pmax
comp=E,35nm,0.9s
CLNS pmax pmax
comp=Z,45nm,1.0s
CLNS pmax pmax
comp=N,31nm,0.8s
CLNS smax smax
comp=E,2μm,11.8s
CLNS smax smax
comp=N,3μm,12.3s
CLNS MLR MLR
comp=Z,6μm,16.0s
CLNS MLR MLR
comp=N,5μm,16.0s
CLNS MLR MLR
comp=E,3μm,13.0s
CIT Chita 29.75 324 *e*P **P** **12 13 32.8 +0.9**
CIT *e* 12 13 44.5
CIT *e* 12 14 25.6
CIT pmax pmax
comp=Z,421nm,3.1s
GYA Guiyang 30.99 271⇑ *i*P **P** **12 13 41.3 -2.0**
GYA pP **pP** **12 13 51.3 +1.0**
GYA PP **PnPn** **12 14 46.5 +2.0**
GYA PcP **PcP** **12 16 41.5 +2.4**
GYA S **S** **12 18 44.0 -2.9**
GYA sS **sS** **12 18 57.0 -1.5**
GYA ScP **ScP** **12 20 21.5 +1.0**
GYA SS **SnSn** **12 20 30.0 +2.0**
GYA PMZ
comp=Z,40nm,0.9s
GYA PMZ
comp=Z,730nm,9.6s
GYA LN
comp=Z,5μm,19.3s
GYA LE
comp=Z,9μm,18.3s
GYA LZ
comp=Z,12μm,16.5s
QIZ Qiongzhong 31.05 256 P **P** **12 13 43.0 -0.6**
QIZ pP **pP** **12 13 50.5 -0.1**
QIZ sP **sP** **12 13 53.8 +0.3**
QIZ S S 12 18 54.3 +6.7
QIZ sS **sS** **12 18 58.5 -0.6**
QIZ PMZ
comp=Z,930nm,11.0s
QIZ LN
comp=Z,5μm,15.7s
QIZ LE
comp=Z,1μm,14.4s
QIZ LZ
comp=Z,9μm,20.9s
QIZ Qiongzhong 31.05 256 PFAKE 12 14 00.0 +16
QIZ LR LR
comp=Z,9μm,20.0s
ULN Ulaanbaatar 31.54 313 PFAKE 12 14 00.0 +12
ULN LR LR
comp=Z,9μm,19.0s
SONM Songino Array 31.95 313 P **P** **12 13 51.6 +0.1**
comp=Z,43nm,0.8s,baz=119,slow=8.4,SNR=96
SONM LR LR 12 27 25.4
comp=Z,11μm,18.7s,baz=113,slow=38
SONM Songino Array 31.95 313 P **P** **12 13 51.6 +0.1**
SONM pmax pmax
comp=Z,43nm,0.8s
SONM MLR MLR
comp=Z,11μm,18.7s
LZH Lanzhou 31.95 290 *e*P **P** **12 13 50.3 -1.4**
LZH pP **pP** **12 13 58.0 -0.7**
LZH sP **sP** **12 14 01.0 -0.6**
LZH PP **PnPn** **12 14 58.5 +1.6**
LZH PcP **PcP** **12 16 43.5 +1.9**
LZH *e*S **S** **12 18 57.0 -4.9**
LZH PMZ
comp=Z,50nm,1.0s
LZH PMZ
comp=Z,320nm,5.4s
LZH LN
comp=Z,4μm,12.6s
LZH LE
comp=Z,13μm,14.5s
LZH LZ
comp=Z,13μm,14.8s
YAK Yakutsk 32.37 349*c* *i*P **P** **12 13 53.9 -0.9**
YAK *e**PP **pP** **12 14 03.9 +2.2**
YAK *e* 12 15 00.0
YAK *e*PPP PPP 12 15 19.7
YAK *e* 12 16 44.8
YAK *e*S **S** **12 19 07.7 +0.4**
YAK *e*SS **SnSn** **12 21 04.7 +4.4**
YAK pmax pmax
comp=Z,99nm,1.3s
YAK pmax pmax
comp=N,46nm,1.4s
YAK pmax pmax
comp=E,15nm,1.3s
YAK pmax pmax
comp=Z,144nm,2.5s
YAK pmax pmax
comp=E,158nm,3.3s
YAK pmax pmax
comp=N,153nm,3.0s
YAK smax smax
comp=E,337nm,4.9s
YAK MLR MLR
comp=Z,6μm,16.0s
YAK MLR MLR
comp=N,4μm,14.0s
YAK MLR MLR
comp=E,3μm,15.0s
YAK Yakutsk 32.37 349 *e*P **P** **12 13 54.6 -0.1**
YAK LR LR
comp=Z,4μm,19.0s
CD2 Chengdu 32.51 280 P **P** **12 13 55.3 -1.2**
CD2 pP **pP** **12 14 02.5 -1.0**
CD2 PP **PP** **12 15 08.5 -1.6**
CD2 PcP **PcP** **12 16 42.3 -0.8**
CD2 S **S** **12 19 08.8 -1.6**
CD2 PcS **PcS** **12 20 27.3 -1.0**
CD2 PMZ
comp=Z,110nm,0.6s
CD2 PMZ
comp=Z,1μm,6.6s
CD2 LN
comp=Z,13μm,16.6s
CD2 LE
comp=Z,17μm,19.6s
CD2 LZ
comp=Z,14μm,16.7s
SMPI Sarmi 32.58 186 P **P** **12 13 58.5 +1.5**
comp=Z,138nm,1.4s,comp=Z,3μm
TNTI Ternate 32.68 207 P **P** **12 13 59.2 +1.2**
comp=Z,243nm,0.8s,comp=Z,3μm
TNTI Ternate 32.68 207 *e*P **P** **12 13 57.6 -0.4**
comp=Z,172nm,0.8s
SRPI Serui, Papua 32.75 190 P **P** **12 13 59.5 +0.9**
comp=Z,138nm,0.7s
RKPI Ransiki, Papua 32.77 194 P **P** **12 13 59.4 +0.6**
comp=Z,68nm,0.8s,comp=Z,4μm
SIJI Sorong 32.88 200 LR LR 12 25 23.9
comp=Z,5μm,19.6s,baz=10,slow=33
JAY Jayapura 32.98 182 P **P** **12 13 59.2 -1.5**
comp=Z,25nm,0.9s,baz=352,slow=14,SNR=4.9
JAY Jayapura 32.98 182 P **P** **12 13 59.2 -1.5**
JAY pmax pmax
comp=Z,25nm,0.9s
SEY Seymchan 33.03 9 P **P** **12 14 00.7 +0.2**
comp=Z,24nm,0.9s,baz=192,slow=6.8,SNR=89
KDM Kudat 33.19 230 ⇑P **P** **12 14 02.1 -0.3**
BOD Bodaibo 33.20 333 *e*P **P** **12 14 01.9 -0.2**
BOD pmax pmax
comp=Z,129nm,0.9s
SDKM Sandakan 33.91 228 ⇑P **P** **12 14 08.7 -0.1**
KKM Kota Kinabalu 34.24 230 ⇑P **P** **12 14 12.5 +0.8**
KKM Kota Kinabalu 34.24 230 *e*P **P** **12 14 11.4 -0.4**
comp=Z,49nm,1.0s
KKM LR LR
comp=Z,8μm,20.0s
KMSI Cibinong 34.32 213 P **P** **12 14 12.1 -0.2**
comp=Z,393nm,0.8s,comp=Z,4μm
TSM Tawau 34.53 225 ⇑P **P** **12 14 14.2 +0.1**
FAKI Fak Fak 34.58 197 P **P** **12 14 14.2 -0.3**
comp=Z,44nm,0.9s,comp=Z,841nm
FAKI Fak Fak 34.58 197 *e*P **P** **12 14 14.6 +0.1**
comp=Z,39nm,1.0s
ZAK Zakamensk 34.74 316 *e*P **P** **12 14 15.1 -0.6**
ZAK pmax pmax
comp=Z,66nm,2.4s
KMI Kunming 34.77 271 P **P** **12 14 15.3 -1.1**
KMI pP **pP** **12 14 25.0 +1.6**
KMI sP **sP** **12 14 28.5 +2.2**
KMI S **S** **12 19 44.3 -1.5**
KMI sS **sS** **12 20 00.8 +3.4**
KMI SS **SnSn** **12 21 59.8 0.0**
KMI PMZ
comp=Z,22nm,1.0s
KMI PMZ
comp=Z,810nm,8.4s
KMI LN
comp=Z,3μm,15.8s
KMI LE
comp=Z,6μm,17.1s
KMI LZ
comp=Z,6μm,15.4s
IRK Irkutsk 34.85 319⇑ *i*P **P** **12 14 17.2 +0.7**
IRK *e*S S 12 19 53.6 +7.5
IRK pmax pmax
comp=Z,415nm,1.8s
TLY Talaya 34.99 318 *i* P **P** **12 14 18.9 +1.2**
TLY pmax pmax
comp=Z,211nm,1.7s
TLY Talaya 34.99 318 P **P** **12 14 19.2 +1.5**
SNR=90
TLY Talaya 34.99 318 *e*P **P** **12 14 18.9 +1.2**
comp=Z,102nm,0.9s
TLY LR LR
comp=Z,10μm,20.0s
SLVN Son La 35.09 264 *e*P **P** **12 14 18.6 -0.4**
GTA Gaotai 35.15 296 ⇑P **P** **12 14 17.8 -1.7**
GTA pP **pP** **12 14 25.0 -1.5**
GTA sP **sP** **12 14 28.5 -0.9**
GTA PP **PnPn** **12 15 36.0 -1.2**
GTA PcP **PcP** **12 16 50.8 +0.3**
GTA S **S** **12 19 46.5 -4.8**
GTA ScP **ScP** **12 20 34.5 -0.3**
GTA ScS **ScS** **12 24 38.5 -0.3**
GTA PMZ
comp=Z,44nm,1.5s
GTA PMZ
comp=Z,1μm,6.9s
GTA LN
comp=Z,10μm,16.2s
GTA LE
comp=Z,18μm,17.6s
GTA LZ
comp=Z,22μm,17.6s
MRSI Marisa 35.39 216 P **P** **12 14 21.5 0.0**
comp=Z,149nm,1.2s,comp=Z,3μm
MIDW Midway 35.58 83 PFAKE 12 14 40.0 +17
MIDW LR LR
comp=Z,4μm,22.0s
SANI Sanana 35.80 208 P **P** **12 14 23.9 -1.1**
comp=Z,192nm,0.6s,comp=Z,2μm
DLV T Lat 35.92 246 *e*P **P** **12 14 26.1 -0.2**
MSAI Masohi 35.94 202 P **P** **12 14 26.4 +0.2**
comp=Z,54nm,0.8s,comp=Z,1μm
LUWI Luwuk 36.30 213 P **P** **12 14 27.9 -1.4**
comp=Z,146nm,0.9s,comp=Z,6μm
NLAI Namlea 36.47 205 P **P** **12 14 32.1 +1.4**
comp=Z,22nm,2.1s,comp=Z,1μm
UBPT Khong Chiam 36.52 254 P **P** **12 14 31.3 +0.1**
comp=Z,66nm,0.8s
MOY Mondy 36.53 317 *e*P **P** **12 14 31.6 +0.5**
MOY pmax pmax
comp=Z,254nm,3.4s
MPSI Mapaga 36.58 219 P **P** **12 14 31.2 -0.5**
comp=Z,35nm,0.9s,comp=Z,908nm
APSI Ampana 36.73 215 P **P** **12 14 32.9 -0.1**
comp=Z,161nm,0.9s,comp=Z,2μm
SKNT Sakolnakorn 36.92 257 P **P** **12 14 34.4 -0.3**
comp=Z,95nm,1.1s,comp=Z,2μm
PCI Palu 37.65 218 P **P** **12 14 41.1 +0.3**
comp=Z,155nm,1.2s,comp=Z,2μm
BTM Bintulu 38.43 230 ⇑P **P** **12 14 48.0 +0.6**
KDI Kendari 38.95 211 P **P** **12 14 50.8 -0.9**
comp=Z,90nm,0.9s,comp=Z,1μm
CHAI Chaiyaphum 39.12 257 P **P** **12 14 52.3 -0.9**
comp=Z,47nm,0.8s,comp=Z,421nm
UTTA Uttaradit 39.47 261 P **P** **12 14 55.6 -0.5**
comp=Z,20nm,0.7s,comp=Z,198nm
TTSI Tana Toraja 39.48 216 P **P** **12 14 57.9 +1.7**
comp=Z,56nm,0.8s
SBUM Sibu 39.55 231 ⇑P **P** **12 14 56.1 -0.7**
SBUM Sibu 39.55 231 *e*P **P** **12 14 56.6 -0.3**
PBKT Sadao Pong 39.65 259 P **P** **12 14 57.1 -0.5**
comp=Z,80nm,0.7s,comp=Z,2μm
LAMP Lampang 39.91 262 P **P** **12 14 59.6 -0.2**
comp=Z,18nm,0.7s,comp=Z,158nm
BILL Bilibino 40.11 14*c* *i*P **P** **12 15 00.4 -0.4**
BILL *e* 12 16 40.5
BILL *e* 12 17 05.2
BILL pmax pmax
comp=Z,23nm,0.8s
BILL MLR MLR
comp=Z,5μm,17.0s
BILL Bilibino 40.11 14 *e*P **P** **12 15 00.5 -0.4**
PMG Port Moresby 40.16 172 *i* P **P** **12 15 03.1 +1.3**
PMG pmax pmax
comp=Z,314nm,1.7s
PMG MLR MLR
comp=Z,6μm,18.0s
PMG Port Moresby 40.16 172 PFAKE 12 15 10.0 +8.2
PMG LR LR
comp=Z,2μm,20.0s
SPSI Sidrap Palu 40.30 215 P **P** **12 15 02.8 -0.2**
comp=Z,82nm,0.7s,comp=Z,1μm
CMMT Chiang Mai 40.37 263 P **P** **12 15 02.6 -1.0**
comp=Z,76nm,0.8s,comp=Z,1μm
CHTO Chiang Mai 40.37 263 P **P** **12 15 02.6 -1.1**
comp=Z,259nm,0.8s,comp=Z,5μm
CHTO Chiang Mai 40.37 263 P **P** **12 15 03.1 -0.6**
SNR=11
CHTO Chiang Mai 40.37 263 *e*P **P** **12 15 02.8 -0.9**
comp=Z,31nm,0.8s
CHTO LR LR
comp=Z,9μm,20.0s
NAYO Nakonayok 40.46 255 P **P** **12 15 04.3 -0.1**
comp=Z,76nm,0.9s,comp=Z,934nm
CM31 Chiang Mai Arr 40.53 263 *e*P **P** **12 15 04.2 -0.8**
comp=Z,14nm,0.6s
CMAR Chiang Mai Arr 40.53 263 P **P** **12 15 04.1 -0.8**
comp=Z,12nm,0.7s,baz=55,slow=6.7,SNR=67
CMAR PcP **PcP** **12 17 08.3 +1.1**
comp=Z,13nm,0.8s,baz=81,slow=2.4,SNR=14
CMAR ScP **ScP** **12 21 00.3 +5.1**
comp=Z,2.2nm,0.9s,baz=45,slow=3.3,SNR=4.5
CMAR LR LR 12 32 34.3
comp=Z,11μm,19.7s,baz=70,slow=37
CMAR Chiang Mai Arr 40.53 263 P **P** **12 15 04.1 -0.8**
CMAR 12 17 08.3
CMAR pmax pmax
comp=Z,12nm,0.7s
CMAR pmax pmax
comp=Z,13nm,0.8s
CMAR pmax pmax
comp=N,2.0nm,0.9s
CMAR MLR MLR
comp=Z,11μm,19.7s
HVS Khovu-Aksy 40.79 314*c* *i*P **P** **12 15 07.7 +0.8**
HVS MLR MLR
comp=Z,41μm,18.0s
KAPI Kappang 41.21 214 P **P** **12 15 09.7 -0.8**
comp=Z,32nm,0.9s,baz=32,slow=7.7,SNR=15
KAPI PcP **PcP** **12 17 08.8 -0.6**
comp=Z,24nm,0.8s,baz=354,slow=2.3,SNR=4.0
KAPI Kappang 41.21 214 *e*P **P** **12 15 09.8 -0.7**
KAPI PcP **PcP** **12 17 08.8 -0.6**
KAPI LR LR
comp=Z,2μm,20.0s
BKSI Bulukumba 41.30 214 P **P** **12 15 11.9 +0.7**
comp=Z,31nm,0.9s,comp=Z,662nm
TARA Tarawa 41.51 129 PFAKE 12 15 30.0 +17
TARA LR LR
comp=Z,2μm,20.0s
MHMT Maesarieng 41.52 263 P **P** **12 15 13.7 +0.7**
comp=Z,25nm,0.8s,comp=Z,531nm
PATY Pattaya 41.55 254 P **P** **12 15 14.4 +1.0**
comp=Z,25nm,0.7s,comp=Z,904nm
KSM Kuching 41.56 232 ⇑P **P** **12 15 14.1 +0.7**
KSM Kuching 41.56 232 *e*P **P** **12 15 13.1 -0.3**
comp=Z,46nm,0.9s
KSM LR LR

comp=Z,6µm,19.0s
KBKI Kotabaru 41.64 220 P **P** **12 15 15.6 +1.6**
comp=Z,61nm,1.3s,comp=Z,1µm
TIXI Tiksi 41.65 354*c i*P **P** **12 15 12.8 -0.6**
TIXI pmax pmax
comp=Z,20nm,1.0s
TIXI MLR MLR
comp=Z,3µm,15.0s
TIXI Tiksi 41.65 354 *e*P **P** **12 15 12.9 -0.6**
comp=Z,20nm,0.8s
TIXI LR LR
comp=Z,2µm,20.0s
STKI Sintang 41.83 229 P **P** **12 15 16.7 +1.1**
comp=Z,48nm,1.9s,comp=Z,6µm
BSSI Bau Bau, Buton 41.85 213 P P 12 15 20.2 +4.5
comp=Z,92nm,1.3s,comp=Z,2µm
SRDT SRDT 42.28 257 P **P** **12 15 20.0 +0.7**
comp=Z,249nm,0.9s,comp=Z,4µm
KRAR Krasnoyarsk 42.43 321 *i* P **P** **12 15 20.7 +0.7**
KRAR pmax pmax
comp=Z,127nm,0.9s
KRAR MLR MLR
comp=Z,4µm,20.0s
MMRI Maumere 43.30 209 P **P** **12 15 28.6 +1.1**
comp=Z,138nm,0.9s,comp=Z,3µm
MMRI Maumere 43.30 209 *e*P **P** **12 15 27.6 +0.2**
comp=Z,104nm,0.8s
LSA Lhasa 43.42 282 P **P** **12 15 28.5 -0.5**
LSA S **S** **12 22 01.0 +4.6**
LSA LN
comp=Z,3µm,19.2s
LSA LE
comp=Z,8µm,24.3s
LSA LZ
comp=Z,11µm,21.2s
LSA Lhasa 43.42 282 *e*P **P** **12 15 27.9 -1.1**
comp=Z,35nm,0.9s
LSA LR LR
comp=Z,14µm,19.0s
HNR Honiara 43.52 153 PFAKE 12 15 40.0 +11
HNR LR LR
comp=Z,7µm,22.0s
SOEI Soe 43.52 205 P **P** **12 15 30.1 +0.7**
comp=Z,192nm,1.0s,comp=Z,2µm
SOEI Soe 43.52 205 *e*P **P** **12 15 29.2 -0.2**
SHL Shillong 43.97 276 *e*P **P** **12 15 31.5 -1.6**
SHL AMB AMB 12 15 31.9
comp=Z,42nm,2.6s
SHL *ex* x 12 21 13.5
KTGM Kuala Trenggan 44.14 243 ⇑P **P** **12 15 33.7 -0.6**
WMQ Urumqi 44.24 303 P **P** **12 15 35.0 0.0**
WMQ sP **sP** **12 15 45.8 +0.8**
WMQ PP **PcP** **12 17 19.5 +0.3**
WMQ PcS **PcS** **12 21 11.8 -0.6**
WMQ sS **sS** **12 22 18.8 -0.2**
WMQ SS SS 12 25 16.3 -9.3
WMQ ScS **ScS** **12 25 29.0 -3.0**
WMQ PMZ
comp=Z,72nm,2.2s
WMQ PMZ
comp=Z,1µm,5.2s
WMQ LN
comp=Z,7µm,20.0s
WMQ LE
comp=Z,940nm,18.3s
WMQ LZ
comp=Z,4µm,18.3s
COEN Coen 44.36 178 *e*P **P** **12 15 37.6 +1.6**
comp=Z,13nm,0.9s
SURA Surathani 44.62 250 P P 12 15 41.5 +3.3
comp=Z,38nm,2.1s
SKLT Songkhla 44.98 247 P **P** **12 15 42.7 +1.6**
comp=Z,89nm,0.9s,comp=Z,1µm
TRTT Trang 45.33 249 P **P** **12 15 45.2 +1.3**
comp=Z,44nm,1.2s,comp=Z,1µm
KRAB Krabi 45.51 250 P **P** **12 15 47.3 +2.0**
comp=Z,108nm,0.8s,comp=Z,2µm
MYKOM Kota Tinggi 45.91 239 ⇑P **P** **12 15 48.2 -0.2**
MYKOM Kota Tinggi 45.91 239 *e*P **P** **12 15 50.1 +1.6**
KULM Kulim 46.09 245 ⇑P **P** **12 15 50.9 +1.1**
KULM Kulim 46.09 245 *e*P **P** **12 15 50.0 +0.1**
comp=Z,53nm,0.8s
KULM LR LR
comp=Z,3µm,19.0s
KGM Kluang 46.15 239 ⇑P **P** **12 15 50.6 +0.2**
IPM Ipoh 46.30 244 ⇑P **P** **12 15 50.9 -0.6**
IPM Ipoh 46.30 244 *e*P **P** **12 15 51.0 -0.6**
comp=Z,33nm,0.8s
TNA Tin City 46.38 26 *e*P **P** **12 15 53.2 +1.8**
comp=Z,96nm,1.5s
PKDT Phuket 46.39 250 P **P** **12 15 54.6 +2.4**
comp=Z,97nm,1.3s,comp=Z,2µm
ABJI Asem Bagus 46.43 219 P **P** **12 15 53.3 +0.9**
comp=Z,122nm,1.0s,comp=Z,3µm
ZAA0 Zalesovo Array 46.59 317 *e*P **P** **12 15 52.6 -0.7**
ZALV Zalesovo Beam 46.59 317 P **P** **12 15 52.7 -0.6**
comp=Z,20nm,0.8s,baz=104,slow=8.1,SNR=42
ZALV PcP **PcP** **12 17 27.3 +0.3**
comp=Z,25nm,0.7s,baz=107,slow=2.6,SNR=9.0
ZALV LR LR 12 36 13.3
comp=Z,10µm,18.4s,baz=80,slow=37
ZALV Zalesovo Beam 46.59 317 P **P** **12 15 52.7 -0.6**
ZALV 12 17 27.3
ZALV pmax pmax
comp=Z,20nm,0.8s
ZALV pmax pmax
comp=Z,25nm,0.7s
ZALV MLR MLR
comp=Z,10µm,18.4s
FRIM Kepong 46.63 242 ⇑P **P** **12 15 54.4 +0.3**
TAPN Taplejung 46.98 280 *e*P **P** **12 15 56.4 -0.7**
comp=Z,82nm,0.9s
JAGI Jajag, Banyuwa 47.03 219 P P 12 16 00.5 +3.3
comp=Z,96nm,0.9s,comp=Z,1µm
PPBI Pangkal Pinang 47.04 233 P **P** **12 16 00.0 +2.7**
comp=Z,33nm,1.0s,comp=Z,16µm
SDPT Sand Point 47.27 41 *e*P **P** **12 15 59.6 +1.1**
comp=Z,85nm,0.8s
ODAN Odare 47.40 280 *e*P **P** **12 15 59.2 -1.1**
comp=Z,162nm,0.8s
NVS Novosibirsk 47.60 318⇑ *i*P **P** **12 16 01.1 -0.1**
NVS *i* 12 17 29.9
NVS *i* S **S** **12 22 55.3 +0.2**
NVS *i* 12 25 51.0
NVS pmax pmax
comp=Z,397nm,2.1s
NVS pmax pmax
comp=N,64nm,2.0s
NVS pmax pmax
comp=E,235nm,2.0s
NVS pmax pmax
comp=E,82nm,2.5s
NVS pmax pmax
comp=Z,122nm,2.5s
NVS pmax pmax
comp=N,49nm,2.3s
NVS smax smax
comp=N,102nm,2.6s
NVS smax smax
comp=E,109nm,2.4s
MK31 Makanchi Array 47.96 307 *i* P **P** **12 16 03.5 -0.6**
MK31 pmax pmax
comp=Z,108nm,1.0s
MK31 Makanchi Array 47.96 307 *e*P **P** **12 16 03.7 -0.4**
MKAR Makanchi Array 47.96 307 *e*P **P** **12 16 04.0 -0.1**
PWJI Pagerwojo 47.97 222 P **P** **12 16 04.3 -0.2**
comp=Z,102nm,1.0s
SMRI Semarang 47.99 224 P **P** **12 16 03.7 -0.9**
comp=Z,129nm,1.2s
RAMN Ramite 48.04 280 *e*P **P** **12 16 04.2 -1.1**
comp=Z,166nm,0.7s
GUN Gumba 48.36 282 *e*P **P** **12 16 07.4 -0.5**
comp=Z,474nm,1.0s
CHGN Chignik 48.53 40 P **P** **12 16 08.2 -0.1**
PKI Pulchoki 48.86 281 *e*P **P** **12 16 10.5 -1.2**
comp=Z,89nm,0.9s
PKIN Phulchoki 48.87 281 *e*P **P** **12 16 11.2 -0.5**
comp=Z,21nm,0.5s
KKN Kakani 48.90 282 *e*P **P** **12 16 11.0 -0.9**
comp=Z,176nm,0.9s
PSI Prapat 48.98 244 P **P** **12 16 12.0 -0.5**
comp=Z,28nm,0.9s,baz=39,slow=6.4,SNR=14
PSI PcP **PcP** **12 17 37.9 +1.4**
comp=Z,72nm,0.8s,baz=353,slow=2.0,SNR=14
PSI LR LR 12 36 54.2
comp=Z,2µm,18.1s,baz=78,slow=36
PSI Prapat 48.98 244 P **P** **12 16 12.0 -0.5**
PSI 12 17 37.9
PSI pmax pmax
comp=Z,28nm,0.9s
PSI pmax pmax
comp=Z,72nm,0.8s
PSI MLR MLR
comp=Z,2µm,18.1s
DMN Daman 49.10 281 *e*P **P** **12 16 12.6 -0.9**
comp=Z,108nm,0.9s
KPJI Karang Pucung 49.12 225 P **P** **12 16 12.8 -0.6**
comp=Z,94nm,1.0s,comp=Z,3µm
GKN Gorkha 49.38 282 *e*P **P** **12 16 14.6 -0.9**
comp=Z,226nm,1.1s
LEM Lembang 49.55 227 P **P** **12 16 15.2 -1.6**
comp=Z,258nm,0.9s,comp=Z,4µm
LEM Lembang 49.55 227 P **P** **12 16 16.1 -0.7**
comp=Z,98nm,0.9s,baz=6.9,slow=7.4,SNR=13
LEM Lembang 49.55 227 P **P** **12 16 16.1 -0.7**
LEM pmax pmax
comp=Z,98nm,0.9s
BOK Bokaro 49.70 276 *e*P **P** **12 16 16.6 -1.2**
BOK AMB AMB 12 16 19.5
comp=Z,54nm,0.7s
MNSI Mandailing Nat 49.76 242 P **P** **12 16 17.9 -0.3**
comp=Z,57nm,1.1s,comp=Z,1µm
KLSI 49.84 232 P **P** **12 16 17.6 -1.2**
comp=Z,235nm,1.5s,comp=Z,5µm
LHSI Lahat 50.04 234 P **P** **12 16 19.9 -0.5**
comp=Z,106nm,2.4s,comp=Z,3µm
MDSI Maura Dua 50.06 232 P **P** **12 16 19.4 -1.1**
comp=Z,106nm,1.1s,comp=Z,2µm
KURK Kurchatov 50.25 312 P **P** **12 16 20.8 -0.8**
KURK pmax pmax
comp=Z,124nm,1.0s
KURK Kurchatov 50.25 312 P **P** **12 16 21.5 -0.1**
SNR=98
KURK Kurchatov 50.25 312 *e*P **P** **12 16 21.5 -0.1**
KURK LR LR
comp=Z,11µm,20.0s
KOLN Koldanda 50.33 282 *e*P **P** **12 16 22.1 -0.6**
comp=Z,89nm,0.7s
MASI Maura Aman, Be 50.46 235 P **P** **12 16 23.2 -0.4**
comp=Z,291nm,0.9s
CMBY CAMPBELL BAY 50.49 252 *e*P **P** **12 16 23.8 0.0**
CMBY AMB AMB 12 16 27.1
comp=Z,192nm,1.7s
LWLI Liwa 50.53 232 P **P** **12 16 24.4 +0.2**
comp=Z,99nm,0.6s
SVW2 Sparrevohn 50.56 34 *e*P **P** **12 16 25.4 +1.6**
KASI Kota Agung 50.60 231 P **P** **12 16 22.2 -2.4**
comp=Z,53nm,1.3s
CTAO Charters Tower 50.63 174 *e*P **P** **12 16 24.9 +0.3**
comp=Z,58nm,1.0s
CTAO LR LR
comp=Z,2µm,20.0s
WRAB Tennant Creek 50.78 189*c i*P **P** **12 16 25.2 -0.6**
WRAB pmax pmax
comp=Z,247nm,0.7s
WRAB MLR MLR
comp=Z,6µm,18.0s
WRAB Tennant Creek 50.78 189 *e*P **P** **12 16 25.6 -0.3**
WRAB LR LR
comp=Z,3µm,19.0s
WRA Warramunga Arr 50.79 189 P **P** **12 16 25.4 -0.5**
comp=Z,108nm,0.7s,baz=6.8,slow=7.7,SNR=1089
WRA PcP **PcP** **12 17 43.9 +1.2**
comp=Z,16nm,0.7s,baz=3.0,slow=3.7,SNR=4.6
WRA ScP **ScP** **12 21 41.6 +4.2**
comp=Z,5.8nm,0.8s,baz=1.8,slow=4.6,SNR=8.1
WRA S **S** **12 23 36.3 -4.2**
comp=Z,4.0nm,0.9s,baz=9.1,slow=13,SNR=6.8
WRA LR LR 12 38 06.4
comp=Z,2µm,18.7s,baz=15,slow=36
WRA Warramunga Arr 50.79 189 P **P** **12 16 25.4 -0.5**
WRA 12 17 43.9
WRA S **S** **12 23 36.3 -4.2**
WRA pmax pmax
comp=Z,108nm,0.7s
WRA pmax pmax
comp=Z,16nm,0.7s
WRA pmax pmax
comp=N,6.0nm,0.8s
WRA smax smax
comp=N,4.0nm,0.9s
WRA MLR MLR
comp=Z,2µm,18.7s
GSI Gunungsitoli 50.97 244 P **P** **12 16 26.0 -1.4**
comp=Z,262nm,1.6s,comp=Z,4µm
GSI Gunungsitoli 50.97 244 *e*P **P** **12 16 26.9 -0.5**
comp=Z,161nm,0.8s
OHAK Old Harbor 51.41 39 *e*P **P** **12 16 30.1 0.0**
KDAK Kodiak Island 51.81 38*ce*P **P** **12 16 33.4 +0.2**
KDAK Kodiak Island 51.81 38 *e*P **P** **12 16 32.9 -0.3**
KDAK LR LR
comp=Z,5µm,20.0s
RSO Redoubt South 51.87 35 *e*P **P** **12 16 36.7 +2.8**
comp=Z,92nm,0.9s
AAA Alma-Ata 52.07 303 *i* P **P** **12 16 34.7 -0.7**
AAA *i* S S 12 24 12.2 +14
AAA pmax pmax
comp=Z,2µm,1.6s
AAA smax smax
comp=E,2µm,8.7s
AAA MLR MLR
comp=Z,11µm,9.0s
IM04 Indian Mountai 52.08 28 *e*P **P** **12 16 35.3 +0.2**
PPLA Purkeypile 52.35 32 *e*P **P** **12 16 38.5 +1.1**
CAST Castle Rocks 52.45 31 *e*P **P** **12 16 39.0 +1.0**
BRLK Bradley Lake 52.77 36 *e*P **P** **12 16 40.9 +0.6**
BPAW Bear Paw Mtn. 53.01 30 *e*P **P** **12 16 42.8 +0.8**
TKM2 Tokmak 2 53.10 303 P **P** **12 16 43.7 +0.4**
SNR=27
TKM2 Tokmak 2 53.10 303 P **P** **12 16 43.3 +0.1**
TKM2 pmax pmax
comp=Z,245nm,2.2s
TKM2 Tokmak 2 53.10 303 *e*P **P** **12 16 43.4 +0.1**
comp=Z,125nm,1.4s
TKM2 LR LR
comp=Z,6µm,19.0s
TRF Thorofare Moun 53.26 31 *e*P **P** **12 16 44.8 +0.7**
CHLP Challavanipeta 53.31 271 *e*P **P** **12 16 45.3 +0.4**
CHLP IAmb IAmb 12 16 51.6
comp=Z,21nm,0.8s
CHLP IVMs_BB IVMs_BB 12 40 48.8
comp=Z,1µm,23.1s
RC01 Rabbit Creek A 53.39 34 *e*P **P** **12 16 44.2 -0.6**
comp=Z,62nm,1.3s
KSH Kashi 53.47 299 P P 12 16 49.8 +3.9
KSH pP pP 12 16 58.0 +4.8
KSH sP sP 12 17 01.0 +5.0
KSH PcP **PcP** **12 17 53.8 +1.0**
KSH PP PP 12 18 52.8 +6.5
KSH S **S** **12 24 22.3 +5.0**
KSH sS sS 12 24 34.5 +5.2
KSH ScS **ScS** **12 26 34.3 +0.1**
KSH PMZ
comp=Z,110nm,0.8s
KSH PMZ
comp=Z,900nm,5.8s
KSH LN
comp=Z,3µm,15.2s
KSH LE
comp=Z,5µm,15.7s
KSH LZ
comp=Z,8µm,17.8s
SEW Seward 53.50 36 *e*P **P** **12 16 45.2 -0.4**
comp=Z,107nm,1.3s
KZA Kyzart 53.50 302 P **P** **12 16 47.6 +1.1**
SNR=27
KBK Karagaybulak 53.62 303 P **P** **12 16 48.0 +1.0**
SNR=42
COLD Coldfoot 53.67 27 *e*P **P** **12 16 47.8 +1.0**
BWN Browne 53.68 30 *e*P **P** **12 16 48.6 +1.7**
comp=Z,157nm,1.2s
CHMS Chumysh 53.70 303 P **P** **12 16 48.2 +0.8**
SNR=13
FRU Bishkek 53.83 303⇑ *i*P **P** **12 16 48.0 -0.4**
FRU *e*S **S** **12 24 21.0 -0.9**
FRU pmax pmax
comp=Z,390nm,2.2s
FRU MLR MLR
comp=E,6µm,16.0s
USP Ospenovka 53.83 303 P **P** **12 16 48.4 -0.1**
SNR=25
MCK McKinley 53.88 31 *e*P **P** **12 16 48.7 +0.2**
AAK Ala-Archa 53.95 303 P **P** **12 16 50.2 +0.7**
SNR=17
AAK Ala-Archa 53.95 303*c i*P P 12 16 59.0 +10
AAK pmax pmax
comp=Z,187nm,1.8s
AAK Ala-Archa 53.95 303 P P 12 16 59.3 +10
SNR=20
UCH Uchtor 54.01 302 P **P** **12 16 50.7 +0.4**
SNR=37
SML Sawmill 54.08 33 *e*P **P** **12 16 49.8 -0.1**
comp=Z,13nm,0.9s
DDI Dehra Dun 54.17 287 *e*P **P** **12 16 50.1 -1.0**
VIS Vishakhapatnam 54.27 271 *e*P **P** **12 16 50.9 -0.9**
VIS AMB AMB 12 16 52.0
comp=Z,56nm,2.7s
KIP Kipapa 54.38 84 *e*P **P** **12 16 52.9 +0.3**
KIP pmax pmax
comp=Z,110nm,2.0s
KIP MLR MLR
comp=Z,2µm,17.0s
KIP Kipapa 54.38 84 PFAKE 12 17 10.0 +17
KIP LR LR
comp=Z,7µm,20.0s
COLA College 54.42 30*d i*P **P** **12 16 52.7 +0.4**
COLA pmax pmax
comp=Z,77nm,0.8s
COLA MLR MLR
comp=Z,7µm,21.0s
COLA College 54.42 30 *e*P **P** **12 16 53.4 +1.1**
COLA LR LR
comp=Z,1µm,19.0s
CCB Clear Creek Bu 54.43 30 *e*P **P** **12 16 52.5 +0.2**
EKS2 Erkin-Say 54.47 303 P **P** **12 16 53.1 0.0**
SNR=20
EKS2 Erkin-Say 54.47 303 *e*P **P** **12 16 52.9 -0.2**
comp=Z,23nm,0.8s
EKS2 LR LR
comp=Z,6µm,19.0s
AS31 Alice Springs 54.52 189 *e*P **P** **12 16 53.5 0.0**
ASAR Alice Springs 54.52 189 P **P** **12 16 53.2 -0.3**
comp=Z,32nm,0.6s,baz=3.8,slow=5.9,SNR=538
ASAR ScP **ScP** **12 21 58.6 +5.1**
comp=Z,1.5nm,0.7s,baz=2.3,slow=5.8,SNR=4.5
ASAR S **S** **12 24 26.6 -4.8**
comp=Z,1.5nm,0.9s,baz=5.1,slow=15,SNR=4.6
ASAR LR LR 12 40 11.9
comp=Z,3µm,20.5s,baz=16,slow=36
ASAR Alice Springs 54.52 189 P **P** **12 16 53.2 -0.3**
ASAR S **S** **12 24 26.6 -4.8**
ASAR pmax pmax
comp=Z,32nm,0.6s
ASAR pmax pmax
comp=N,2.0nm,0.7s
ASAR smax smax
comp=N,2.0nm,1.0s
ASAR MLR MLR
comp=Z,3µm,20.5s
DHY Denali Highway 54.56 32 *e*P **P** **12 16 54.6 +1.0**
AML Almayashu 54.63 302 P **P** **12 16 56.1 +1.4**
SNR=20
SMLA Simla 54.66 288 *e*P **P** **12 16 54.0 -0.6**
SMLA AMB AMB 12 16 56.1
comp=Z,178nm,1.3s
HDA Harding Lake 54.78 30 *e*P **P** **12 16 54.5 -0.5**
ILAR Eielson Array 54.83 30 P **P** **12 16 54.5 -0.8**
comp=Z,13nm,0.9s,baz=264,slow=5.9,SNR=142
ILAR LR LR 12 37 55.6
comp=Z,1µm,21.8s,baz=277,slow=33
ILAR PKPPKP **P'P'df** **12 47 08.7 -2.5**
comp=Z,0.7nm,0.9s,baz=25,slow=3.9,SNR=4.3
DHRM DHARAMSHALA 55.03 290 *e*P **P** **12 16 56.1 -1.5**
BVAR Borovoye Array 55.19 316 LR LR 12 41 32.1
comp=Z,8µm,18.5s,baz=83,slow=37
BRVK Borovoye 55.25 316*c i*P **P** **12 16 58.6 +0.1**
BRVK pmax pmax
comp=Z,114nm,1.7s
BRVK MLR MLR
comp=Z,10µm,18.0s
BRVK Borovoye 55.25 316 P **P** **12 16 59.0 +0.4**
SNR=37
BRVK Borovoye 55.25 316 *e*P **P** **12 16 58.7 +0.2**
BRVK LR LR
comp=Z,8µm,19.0s
DIV Divide 55.31 34 *e*P **P** **12 17 01.2 +2.3**
EYAK Cordova Ski Ar 55.34 35 *e*P **P** **12 17 00.5 +1.5**
NDI New Delhi 55.38 285 *e*P **P** **12 16 59.0 -0.8**
PONG Pong 55.40 290 *e*P **P** **12 17 00.0 +0.1**
PAX Paxson 55.43 32 *e*P **P** **12 17 00.1 +0.4**
HARP HAARP 55.58 33 *e*P **P** **12 17 02.0 +1.3**
MBWA Marble Bar 55.67 205 *e*P **P** **12 17 01.3 -0.5**
MBWA LR LR
comp=Z,2µm,20.0s
BMRM Bremner River 55.89 34 *e*P **P** **12 17 03.8 +0.7**
PVM Polavaram 55.94 271 *e*P **P** **12 17 03.0 -0.9**
PVM IAmb IAmb 12 17 06.8
comp=Z,19nm,0.8s
PVM IVMs_BB IVMs_BB 12 46 12.1
comp=Z,799nm,14.5s
EIDS Eidsvold 56.41 170 *e*P **P** **12 17 08.3 +1.3**
NGP Nagpur 56.54 276 *e*P **P** **12 17 07.3 -0.9**
NGP AMB AMB 12 17 08.6
comp=Z,79nm,0.9s
KK31 Karatay Array 56.73 304 P **P** **12 17 09.1 -0.2**
KK31 pmax pmax
comp=Z,128nm,1.0s
KKAR Karatay Array 56.73 304 *e*P **P** **12 17 09.5 +0.2**
BHPL Bhopal 57.12 279 *e*P **P** **12 17 11.0 -1.3**
BHPL AMB AMB 12 17 12.9
comp=Z,56nm,0.0s
POHA Pohakuloa 57.17 85 PFAKE 12 17 30.0 +17
POHA LR LR
comp=Z,5µm,19.0s
RPR Rampur 57.26 274 *e*P **P** **12 17 12.4 -1.0**
RPR IAmb IAmb 12 17 21.5
comp=Z,149nm,1.9s
RPR IVMs_BB IVMs_BB 12 44 47.6
comp=Z,1µm,15.3s
EGAK Eagle 57.28 30 *e*P **P** **12 17 12.3 -0.5**
comp=Z,30nm,1.3s
EGAK LR LR
comp=Z,2µm,19.0s
NOUC Port Laguerre 57.51 153 *e*P **P** **12 17 16.3 +1.4**
DZM Mont Dzumac 57.54 153 *e*S **S** **12 25 09.0 -2.7**
comp=Z,5µm,26.3s
DZM *e*LR LR 12 34 10.4
comp=Z,5µm,24.6s
DZM Mont Dzumac 57.54 153 *e*P **P** **12 17 16.9 +1.7**
ADKI Addanki 57.98 270 *e*P **P** **12 17 19.2 +0.8**
ADKI IAmb IAmb 12 17 23.4
comp=Z,26nm,1.1s
SRSP Sriramsagar 58.05 274 *e*P **P** **12 17 17.8 -1.1**
SRSP IAmb IAmb 12 17 19.7
comp=Z,42nm,0.8s
SRSP IVMs_BB IVMs_BB 12 47 25.9
comp=Z,1µm,14.4s
DAWY Dawson 58.10 31 *e*P **P** **12 17 19.4 +0.7**
comp=Z,50nm,1.2s
NJS Nagarjunasagar 58.24 271 *e*P **P** **12 17 20.0 -0.2**
NJS IAmb IAmb 12 17 21.3
comp=Z,36nm,1.1s
NJS *e*S S 12 25 27.8 +6.7
NJS IVMs_BB IVMs_BB 12 45 17.3
comp=Z,1µm,15.9s
AKL Akola 58.46 277 *e*P **P** **12 17 20.8 -1.0**
AKL AMB AMB 12 17 26.1
comp=Z,81nm,0.8s
HYB Hyderabad 58.51 273 *i* P **P** **12 17 20.0 -2.2**
HYB Hyderabad 58.51 273 *e*P **P** **12 17 21.5 -0.7**
HYB AMB AMB 12 17 40.1
comp=Z,29nm,1.0s
HYBB Hyderabad (bro 58.51 273 *e*P **P** **12 17 22.2 0.0**
HYBB IAmb IAmb 12 17 31.9
comp=Z,39nm,1.2s
HYBB *e*S **S** **12 25 29.1 +4.3**
HYBB IVMs_BB IVMs_BB 12 43 32.9
comp=Z,1µm,5.1s
SRLM Srisailam 58.79 271 *e*P **P** **12 17 23.7 -0.4**
SRLM IAmb IAmb 12 17 26.9
comp=Z,45nm,1.3s
SRLM IVMs_BB IVMs_BB 12 47 38.0
comp=Z,1µm,18.7s
MDRS Chennai 59.00 267 *e*P **P** **12 17 24.8 -0.7**
MDRS AMB AMB 12 17 31.5
comp=Z,55nm,2.7s
RCLA Racherla 59.02 270 *e*P **P** **12 17 25.3 -0.4**
RCLA IAmb IAmb 12 17 33.0
comp=Z,250nm,2.7s

RCLA IVMs_BB IVMs_BB 12 44 29.9
comp=Z,1μm,26.8s
SKHT Srikalahasti 59.15 268 *e*P **P 12 17 26.7 +0.1**
SKHT IAmb IAmb 12 17 31.8
comp=Z,33nm,1.0s
SKHT IVMs_BB IVMs_BB 12 43 03.7
comp=Z,1μm,16.7s
HYT Haines Junctio 59.35 34 *e*P **P 12 17 29.1 +1.6**
comp=Z,6.3nm,0.6s
HYT *e*pP **pP 12 17 37.2 +2.3**
HYT *e*sP **sP 12 17 41.5 +3.8**
MSVF Nonsavu 59.46 139 *e*P P 12 17 35.2 +6.6
MSVF LR LR
comp=Z,3μm,19.0s
KLRI Killari 59.91 274 *e*P **P 12 17 30.8 -1.1**
KLRI IAmb IAmb 12 17 32.3
comp=Z,70nm,0.8s
KLRI *e*S **S 12 25 46.7 +3.8**
KLRI IVMs_BB IVMs_BB 12 44 49.6
comp=Z,2μm,24.9s
INK Inuvik 60.00 25 *e*P **P 12 17 31.6 0.0**
comp=Z,24nm,0.8s
KBL Kabul 60.12 295 *e*P **P 12 17 32.9 -0.5**
comp=Z,120nm,0.9s
SVE Sverdlovsk 60.19 321 *d i*P **P 12 17 34.0 +0.8**
SVE *e*S **S 12 25 44.8 -0.5**
SVE *e* 12 27 18.3
SVE *e*SS **SS 12 29 48.6 +6.5**
SVE pmax pmax
comp=Z,179nm,0.9s
SVE MLR MLR
comp=Z,5μm,18.0s
SVE MLR MLR
comp=N,2μm,15.0s
SVE MLR MLR
comp=E,3μm,17.0s
COCO West Island 60.61 232 PFAKE 12 17 50.0 +13
COCO LR LR
comp=Z,2μm,20.0s
SKAG Skagway 60.66 36 *e*P **P 12 17 39.5 +3.2**
URV Uravakonda 60.71 271 *e*P **P 12 17 36.2 -1.1**
URV IAmb IAmb 12 17 37.6
comp=Z,477nm,2.7s
URV IVMs_BB IVMs_BB 12 47 01.4
comp=Z,691nm,5.5s
ARU Arti 61.40 321 *c i*P **P 12 17 41.3 -0.1**
ARU 12 18 21.4
ARU PPP PPP 12 21 21.7
ARU S **S 12 26 02.9 +2.2**
ARU 12 27 22.9
ARU SSS SSS 12 32 43.0
ARU pmax pmax
comp=Z,250nm,1.0s
ARU MLR MLR
comp=Z,5μm,17.0s
ARU Arti 61.40 321 *e*P **P 12 17 40.4 -0.9**
ARU LR LR
comp=Z,4μm,21.0s
ARMA Armidale 61.45 170 *e*P **P 12 17 45.0 +2.9**
POO Poona 62.08 276 ⇓*i*P **P 12 17 44.0 -2.6**
comp=Z,15nm,1.0s
POO *e*P pP 12 17 45.8 -8.2
POO AMB AMB 12 17 47.3
comp=Z,66nm,0.5s
STKA Stephens Creek 62.18 180 P **P 12 17 45.9 -0.9**
comp=Z,16nm,0.8s,baz=359,slow=5.8,SNR=18
STKA LR LR 12 45 56.5
comp=Z,3μm,20.0s,baz=357,slow=37
STKA Stephens Creek 62.18 180 P **P 12 17 45.9 -0.9**
STKA pmax pmax
comp=Z,16nm,0.8s
STKA MLR MLR
comp=Z,3μm,20.0s
STKA Stephens Creek 62.18 180 *e*P **P 12 17 47.1 +0.3**
comp=Z,9.1nm,0.9s
AB31 Akbulak array 62.36 313 *i* P **P 12 17 48.0 0.0**
AB31 pmax pmax
comp=Z,133nm,1.0s
ABKAR Akbulak array 62.36 313 *e*P **P 12 17 48.0 0.0**
comp=Z,56nm,0.7s
FORT Forrest 62.45 193 *e*P **P 12 17 48.6 0.0**
WRAK Wrangell Islan 62.90 39 *e*P **P 12 17 53.1 +1.7**
comp=Z,27nm,1.1s
WRAK LR LR
comp=Z,3μm,22.0s
AFI Afiamalu 62.94 128 PFAKE 12 18 10.0 +18
AFI LR LR
comp=Z,3μm,19.0s
AKTO Aktyubinsk 63.23 315 P **P 12 17 53.1 -0.7**
AKTO pmax pmax
comp=Z,104nm,1.2s
BBOO Buckleboo 63.34 185 *e*P **P 12 17 55.3 +0.8**
DLBC Dease Lake 63.57 36 *e*P **P 12 17 56.9 +1.0**
comp=Z,26nm,1.1s
BHJ Bhuj 63.69 283 *e*P **P 12 17 56.7 -0.5**
BHJ AMB AMB 12 17 58.5
comp=Z,88nm,1.3s
MNGI Mangalore 63.73 270 *e*S **S 12 26 30.9 -0.3**
XMAS Kiritimati 64.04 104 PFAKE 12 18 10.0 +10
XMAS LR LR
comp=Z,6μm,21.0s
IMYA Miami 66.38 299 *e*P **P 12 18 15.3 +0.5**
SPA0 Spitsbergen Ar 66.83 349 *e*P **P 12 18 17.3 +0.6**
SPA0 *e*S **S 12 27 10.2 +2.7**
SPITS Spitsbergen Ar 66.83 349 LR LR 12 50 25.5
comp=Z,2μm,18.4s,baz=25,slow=39
ISRO Mashad 66.86 300 *e*P **P 12 18 18.3 +0.6**
KBS Kingsbay 66.98 351 *e*P **P 12 18 19.0 +1.3**
KBS *e*S **S 12 27 13.3 +4.1**
KBS Kingsbay 66.98 351 *e*P **P 12 18 18.2 +0.5**
comp=Z,72nm,0.8s
KBS LR LR
comp=Z,2μm,19.0s
IMOG Moghan 67.04 299 *e*P **P 12 18 19.7 +0.6**
GEYT Alibeck 67.27 302 P **P 12 18 21.1 +0.8**
comp=Z,77nm,0.8s,baz=31,slow=3.5,SNR=75
GEYT LR LR 12 49 51.3
comp=Z,3μm,18.2s,baz=60,slow=38
IAKL Akhelmad 67.29 300 *e*P **P 12 18 21.7 +1.0**
IKRD Kardeh 67.41 300 *e*P P 12 18 17.7 -3.7
ISFR Sfrayin 67.68 301 *e*P **P 12 18 23.6 +0.4**
ISHV Shirvan 67.72 301 *e*P **P 12 18 24.1 +0.8**
HSPB Hornsund (broa 67.74 349 ⇓*i*P **P 12 18 23.3 +0.8**
HSPB IAmb IAmb 12 18 25.7
comp=Z,89nm,1.0s
HSPB *e*S **S 12 27 21.3 +2.9**
LVZ Lovozero 68.06 337 *e*P **P 12 18 25.8 +1.1**
LVZ pmax pmax
comp=Z,89nm,1.0s
LVZ MLR MLR
comp=Z,4μm,18.0s
LVZ Lovozero 68.06 337 *e*P **P 12 18 24.4 -0.2**
comp=Z,84nm,1.0s
LVZ LR LR
comp=Z,4μm,20.0s
TMCR Tamitsa 68.50 333 *e*P **P 12 18 27.9 +0.5**
TMCR *e* 12 20 58.9
TMCR pmax pmax
comp=Z,161nm,1.0s
APA Apatity 68.63 337 ⇓*i*P **P 12 18 28.8 +0.6**
APA *i* 12 21 10.0
APA *i* PPP PPP 12 22 34.0
APA *i* S **S 12 27 28.0 -1.2**
APA *i* 12 28 24.0
APA *i* SS **SS 12 31 54.0 +1.1**
APA pmax pmax
comp=Z,130nm,1.0s
APA MLR MLR
comp=Z,5μm,20.0s
BJO Bjornoya 68.66 346 *e*P **P 12 18 29.3 +1.0**
BJO *e*S **S 12 27 32.9 +3.5**
IKOO Kooshah 68.71 296 *e*P **P 12 18 28.8 -0.9**
RES Resolute Bay 68.72 14 *e*P **P 12 18 28.7 0.0**
comp=Z,38nm,0.9s
RES *e*pP **pP 12 18 40.3 +4.2**
YKW3 Yellowknife Ar 69.20 29 *e*P **P 12 18 31.4 -0.5**
comp=Z,0.7nm,1.3s
YKA Yellowknife Ar 69.23 29 P **P 12 18 31.7 -0.3**
comp=Z,8.2nm,0.9s,baz=294,slow=6.0,SNR=17
YKA Yellowknife Ar 69.23 29 P **P 12 18 31.7 -0.3**
YKA pmax pmax
comp=Z,8.0nm,0.9s
KEV Kevo 69.51 340 *e*P **P 12 18 33.1 -0.5**
comp=Z,52nm,0.9s
KEV LR LR
comp=Z,4μm,19.0s
HAMF Hammerfest 69.94 342 *e*P **P 12 18 36.6 +0.4**
ARCES ARCESS Array B 70.07 340 P **P 12 18 37.7 +0.6**
comp=Z,60nm,0.8s,baz=58,slow=7.7,SNR=66
ARCES LR LR 12 54 02.2
comp=Z,3μm,18.9s,baz=70,slow=40
ARCES ARCESS Array B 70.07 340 P **P 12 18 37.7 +0.6**
ARCES pmax pmax
comp=Z,60nm,0.8s
ARCES MLR MLR
comp=Z,3μm,18.9s
ARE0 ARCESS Array S 70.07 340 *e*P **P 12 18 37.9 +0.8**
ARE0 IAmb IAmb 12 18 39.5
comp=Z,59nm,0.8s
ARE0 *e*PP **PP 12 21 12.7 +1.0**
ARE0 *e*S **S 12 27 49.2 +3.0**
ARE0 IAMs_20 IAMs_20 12 53 53.9
comp=Z,3μm,19.4s
ARE0 ARCESS Array S 70.07 340 *e*P **P 12 18 37.6 +0.5**
PGC Sidney 70.64 44 *e*P **P 12 18 42.3 +1.4**
comp=Z,26nm,1.0s
RAO Raoul Island 70.89 143 PFAKE 12 19 00.0 +17
RAO LR LR
comp=Z,2μm,19.0s
NLWA Neilton Lookou 70.91 46 *e*P **P 12 18 43.9 +1.2**
comp=Z,82nm,1.5s
NLWA LR LR
comp=Z,2μm,19.0s
KTK1 Kautokeino 71.03 340 *e*P **P 12 18 43.3 +0.4**
KTK1 IAmb IAmb 12 18 44.4
comp=Z,33nm,0.8s
IKIA Kiasar 71.20 301 *e*P **P 12 18 44.9 0.0**
CMW Cultus Mountai 71.54 44 P **P 12 18 48.2 +1.7**
IBAF Bafgh 71.72 296 *e*P **P 12 18 47.8 -0.2**
JCW Jim Creek 71.75 44 P **P 12 18 48.9 +1.2**
TRO Tromso 71.84 342 *e*P **P 12 18 47.0 -0.8**
TRO *e*S **S 12 28 08.4 +1.8**
TRO IAMs_20 IAMs_20 12 55 23.1
comp=Z,7μm,20.5s
IFIR Firoozkooh 72.13 301 *e*P **P 12 18 51.2 +0.7**
DAG Danmarks Havn 72.15 355 ⇑*i*P **P 12 18 49.8 +0.3**
comp=Z,45nm,0.8s
comp=Z,1μm,17.0s
DAG Danmarks Havn 72.15 355 ⇑*i*P **P 12 18 49.8 +0.3**
DAG pmax pmax
comp=Z,33nm,0.8s
DAG MLR MLR
comp=Z,1μm,17.0s
ICHK Chekchek 72.33 297 *e*P **P 12 18 51.6 -0.1**
TDL Tradedollar La 72.38 46 P **P 12 18 53.1 +1.4**
LON Longmire 72.46 46 *e*P **P 12 18 52.9 +0.9**
comp=Z,26nm,1.2s
COR Corvallis 72.46 48 *e*P **P 12 18 54.3 +2.3**
comp=Z,90nm,1.4s
KEBM Edson Butte 72.53 50 *e*P **P 12 18 54.1 +1.5**
comp=Z,64nm,0.9s
IMEH Mehriz 72.54 296 *e*P **P 12 18 51.7 -1.3**
MOS Moscow 72.57 325 *c i*P **P 12 18 52.0 -0.4**
MOS *e* 12 18 59.0
MOS *i* 12 21 32.6
MOS *i* S **S 12 28 13.7 -1.8**
MOS pmax pmax
comp=Z,180nm,1.4s
MOS pmax pmax
comp=Z,1μm,2.6s
MOS smax smax
comp=E,1μm,3.9s
MOS smax smax
comp=N,2μm,4.9s
MOS MLR MLR
comp=N,3μm,17.0s
MOS MLR MLR
comp=E,6μm,17.0s
MOS MLR MLR
comp=Z,8μm,17.0s
VRHR Novokhopersk 72.64 319 *e*P **P 12 18 52.0 -0.9**
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=Z,80nm,0.8s
VRHR pmax pmax
comp=E,40nm,0.9s
MAK Makhachkala 72.67 310 *e*P **P 12 18 54.3 +1.1**
MAK *e* 12 19 12.6
MAK *e* 12 21 36.6
MAK *i* PPP PPP 12 23 18.0
MAK *e*S **S 12 28 18.9 +1.9**
MAK *e* 12 28 53.3
MAK pmax pmax
comp=Z,150nm,1.1s
MAK MLR MLR
comp=Z,20μm,19.0s
I03D Drain, OR 72.82 49 P **P 12 18 55.5 +1.4**
baz=73
WBK Wadi Bani Khal 72.88 286 ⇓P **P 12 18 55.2 +0.3**
SNR=8.4
ISAD Sadrabad 73.02 297 *e*P **P 12 18 55.6 -0.3**
IVRN Varamin 73.16 301 *e*P **P 12 18 56.3 -0.1**
L02D Cave Junction, 73.33 51 P **P 12 18 57.6 +0.4**
baz=73
TAU Tasmania Unive 73.37 176 PFAKE 12 19 10.0 +13
TAU LR LR
comp=Z,3μm,19.0s
I04A Tendick Farm, 73.39 49 P **P 12 18 58.2 +0.6**
baz=73
OBN Obninsk 73.40 325 LR LR 12 53 31.0
comp=Z,5μm,19.8s,baz=64,slow=38
OBN Obninsk 73.40 325 *c i*P **P 12 18 57.5 +0.2**
OBN *i* *SP **sP 12 19 04.4 -3.2**
OBN *e* 12 19 12.6
OBN *e* 12 21 39.0
OBN *e*S **S 12 28 22.9 -2.0**
OBN pmax pmax
comp=Z,187nm,1.7s
OBN MLR MLR
comp=Z,7μm,17.0s
OBN Obninsk 73.40 325 *e*P **P 12 18 56.8 -0.5**
comp=Z,81nm,0.8s
G05D Wamic, OR 73.44 47 P **P 12 18 58.6 +0.8**
baz=73
SMDO Samad 73.44 287 ⇓P **P 12 18 58.2 0.0**
SNR=7.6
IR3 Iran Long-Peri 73.47 302 *e*P **P 12 18 58.1 -0.2**
HUMO Hull Mountain 73.56 50 *e*P **P 12 19 00.7 +2.1**
comp=Z,39nm,1.5s
BANOM Banah 73.59 291 ⇑P **P 12 18 59.8 +0.7**
SNR=17
BANOM Banah 73.59 291 ⇓*i*P **P 12 18 59.7 +0.7**
SNR=13
KTRM Thompson Ridge 73.59 51 P **P 12 19 01.9 +2.9**
IZEF Zefreh 73.63 299 *e*P **P 12 18 58.7 -0.8**
VOR Voronezh 73.68 321 P **P 12 18 59.0 0.0**
VOR pmax pmax
comp=Z,270nm,1.4s
JMDO Jabal Madar 73.70 287 ⇑P **P 12 18 59.6 -0.1**
SNR=7.5
CROR Criterion Ridg 73.76 47 P **P 12 19 00.6 +0.8**
HOQ Hoqain 73.81 288 ⇓P **P 12 19 00.5 +0.1**
SNR=22
I05D Terrebonne, OR 73.83 48 P **P 12 19 00.9 +0.8**
baz=74
J04D Umppqua Nationa 73.83 49 P **P 12 19 01.7 +1.3**
baz=74
PUL Pulkovo 73.84 331 *e*P **P 12 19 00.9 +1.1**
PUL pmax pmax
comp=Z,121nm,0.3s
PUL MLR MLR
comp=Z,3μm,19.0s
IR5 Iran Long-Peri 73.91 302 *e*P **P 12 19 01.5 +0.6**
VTHM Trough 73.94 47 P **P 12 19 02.1 +1.3**
VSR Storozhevoye 73.95 320 *e*P **P 12 19 00.8 +0.2**
VSR pmax pmax
comp=N,50nm,0.9s
VSR pmax pmax
comp=E,60nm,0.9s
VSR pmax pmax
comp=Z,80nm,0.9s
VSR MLR MLR
comp=E,3μm,16.0s
VSR MLR MLR
comp=Z,5μm,16.0s
VSR MLR MLR
comp=N,2μm,17.0s
STEI Steigen 73.98 342 *e*P **P 12 19 01.2 +0.7**
IKLH Kolahrood 74.01 299 *e*P **P 12 19 02.6 +0.9**
HAWA Hanford 74.02 45 *e*P **P 12 19 01.0 -0.2**
comp=N,12nm,0.8s
HAWA LR LR
comp=Z,2μm,19.0s
YBH Yreka Blue Hor 74.12 51 *e*P **P 12 19 03.3 +1.4**
comp=Z,43nm,1.3s
M02C Callahan 74.17 51 P **P 12 19 03.3 +1.1**
baz=74
HATD Hatta, Dubai 74.22 290 P **P 12 19 03.2 +0.6**
SNR=33
HATD Hatta, Dubai 74.22 290 ⇑*i*P **P 12 19 03.3 +0.6**
SNR=36
EDM Edmonton 74.24 37 *e*P **P 12 19 02.6 +0.2**
comp=Z,64nm,1.1s
BSY Bisya 74.28 287 P **P 12 19 04.1 +1.0**
SNR=20
LOF Lofoten 74.30 342 *e*P P 12 19 06.1 +3.8
IRAZ Razeghan 74.30 302 *e*P **P 12 19 03.1 -0.1**
KULLO Kullorsuaq 74.30 5 *i*P **P 12 19 01.9 -0.4**
comp=Z,59nm,1.0s
KULLO *i* S **S 12 28 32.3 -2.2**
comp=Z,2μm,20.0s
ASHO Ashiyiah 74.34 290 P **P 12 19 04.2 +0.8**
SNR=30
ASHO Ashiyiah 74.34 290 ⇑*i*P **P 12 19 03.9 +0.5**
SNR=26
J05D Fort Rock, OR 74.38 49 P **P 12 19 04.3 +0.8**
baz=74
IPAR Pars 74.43 296 *e*P **P 12 19 04.3 +0.1**
N02D Trinity Center 74.47 51 P **P 12 19 05.5 +1.5**
baz=74
NAZ Nazwa, Dubai 74.52 290 P **P 12 19 04.9 +0.5**
SNR=17
NAZ Nazwa, Dubai 74.52 290 ⇓*i*P **P 12 19 05.0 +0.5**
SNR=14
ARQ Araqi 74.57 288 P **P 12 19 05.4 +0.6**
SNR=30
NEW Newport 74.58 43 P **P 12 19 05.2 +0.7**
baz=74
NEW Newport 74.58 43 *e*P **P 12 19 05.2 +0.7**
comp=Z,48nm,1.1s
NEW LR LR
comp=Z,1μm,20.0s
GOF Gofitskoye 74.60 313 *e*P **P 12 19 02.6 -1.9**
GOF pmax pmax
comp=Z,70nm,0.8s
FIA1 FINESS Array S 74.60 333 *e*P **P 12 19 04.2 0.0**
FINES FINESS Array B 74.60 333 P **P 12 19 04.5 +0.3**
comp=Z,97nm,0.9s,baz=66,slow=5.4,SNR=150
FINES LR LR 12 54 19.5
comp=Z,2μm,18.7s,baz=56,slow=38
FINES FINESS Array B 74.60 333 P **P 12 19 04.5 +0.3**
FINES pmax pmax
comp=Z,97nm,0.9s
FINES MLR MLR
comp=Z,2μm,18.7s
M04C Macdoel 74.67 50 P **P 12 19 05.8 +0.6**
baz=74
FAQ Al Faqa, Dubai 74.69 290 *i* P **P 12 19 05.6 +0.2**
SNR=20
WDC Whiskeytown Da 74.75 52 *e*P **P 12 19 07.8 +2.3**
comp=Z,45nm,1.4s
DGRG David-gareji 74.76 309 P **P 12 19 06.0 +0.4**
DGRG David-gareji 74.76 309 P **P 12 19 06.0 +0.4**
IPIR Pirpir 74.81 299 *e*P **P 12 19 04.8 -1.6**
ISRB Sarab 74.84 305 *e*P P 12 19 02.3 -4.1
ASUD Al Ashush, Dub 74.96 290 P **P 12 19 07.9 +1.0**
SNR=8.8
ASUD Al Ashush, Dub 74.96 290 ⇓*i*P **P 12 19 07.8 +0.8**
SNR=9.0
NCK Nalchik 74.98 312 ⇑*i*P **P 12 19 07.5 +0.7**
TBLG Delisi 75.05 310 *e*P **P 12 19 08.6 +1.3**
TBLG Delisi 75.05 310 P **P 12 19 07.8 +0.5**
TBLG Delisi 75.05 310 P **P 12 19 07.8 +0.5**
IHRS Heris 75.06 306 *e*P P 12 19 03.0 -4.6
ZEI Tsey 75.11 311 *e*P **P 12 19 07.0 -0.8**
ZEI pmax pmax
comp=Z,170nm,0.8s
ZEI pmax pmax
comp=N,146nm,0.7s
ZEI pmax pmax
comp=E,368nm,0.8s
ZEI pmax pmax
comp=Z,424nm,4.6s
ZEI MLR MLR
comp=Z,18μm,14.0s
ZEI MLR MLR
comp=N,7μm,13.0s
ZEI MLR MLR
comp=E,14μm,15.0s
KBZ Khabaz 75.31 312 P **P 12 19 09.6 +0.9**
comp=E,96nm,0.8s,baz=74,slow=3.9,SNR=186
KBZ LR LR 12 53 16.2
comp=E,3μm,20.7s,baz=77,slow=36
KBZ Khabaz 75.31 312 P **P 12 19 09.6 +0.9**
KBZ pmax pmax
comp=Z,96nm,0.8s
KBZ MLR MLR
comp=Z,3μm,20.7s
KIV Kislovodsk 75.34 313 *e*P **P 12 19 09.8 +0.8**
KIV *e* 12 19 23.1
KIV *e* 12 22 00.2
KIV *e*S **S 12 28 49.4 +2.1**
KIV *e*SS **SS 12 33 39.8 +3.0**
KIV pmax pmax
comp=Z,121nm,0.9s
KIV pmax pmax
comp=Z,528nm,3.9s
KIV MLR MLR
comp=Z,4μm,18.0s
KIV Kislovodsk 75.34 313 P **P 12 19 10.1 +1.1**
SNR=33
KIV Kislovodsk 75.34 313 ⇓*i*P **P 12 19 10.1 +1.1**
SNR=9.3
KIV Kislovodsk 75.34 313 *e*P **P 12 19 10.2 +1.1**
comp=Z,104nm,0.9s
KIV LR LR
comp=Z,4μm,19.0s
IKAZ Kazeroun 75.39 296 *e*P **P 12 19 09.6 -0.2**
IBST Bostanabad 75.44 305 *e*P P 12 19 04.2 -5.6
ONI Oni 75.50 311 P **P 12 19 11.1 +1.2**
ONI Oni 75.50 311 P **P 12 19 11.1 +1.2**
KONS Konsvik 75.58 341 *e*P **P 12 19 11.5 +1.7**
MOD Modoc Plateau 75.63 50 *e*P **P 12 19 11.4 +0.6**
comp=Z,34nm,1.4s
NEY Neytrino 75.65 312 *c i*P **P 12 19 11.6 +0.7**
NEY pmax pmax
comp=Z,8.0nm,0.7s
NEY MLR MLR
comp=Z,2μm,17.0s
GNI Garni 75.79 308 LR LR 12 54 49.5
comp=Z,2μm,21.9s,baz=60,slow=38
GNI Garni 75.79 308 *c i*P **P 12 19 13.0 +1.3**
GNI pmax pmax
comp=Z,81nm,1.7s
GNI MLR MLR
comp=Z,2μm,18.0s
GNI Garni 75.79 308 P **P 12 19 13.5 +1.8**
SNR=15
GNI Garni 75.79 308 ⇑*i*P **P 12 19 13.3 +1.6**
SNR=20
GNI Garni 75.79 308 *e*P **P 12 19 12.5 +0.8**
comp=Z,130nm,1.1s
IMRD Marand 75.81 307 *e*P **P 12 19 09.0 -2.9**
AKH Akhalkalaki 76.03 310 *e*P **P 12 19 14.8 +1.7**
AKH Akhalkalaki 76.03 310 P **P 12 19 14.2 +1.1**
AKH Akhalkalaki 76.03 310 P **P 12 19 14.2 +1.1**
WALA Waterton Lakes 76.04 41 *e*P **P 12 19 13.9 +1.0**
comp=Z,23nm,0.6s
URZ Urewera 76.09 152 *e*P **P 12 19 13.5 +0.6**
comp=Z,25nm,0.8s
IAZR Azarshahr 76.09 306 *e*P P 12 19 10.4 -3.2
VSU Vasula 76.11 331 *c i*P **P 12 19 13.4 +0.5**
VSU pmax pmax
comp=Z,494nm,1.0s
VSU MLR MLR
comp=Z,5μm,17.0s
BMO Blue Mountains 76.13 46 *e*P **P 12 19 14.0 +0.6**
comp=Z,22nm,0.9s
BMO LR LR
comp=Z,2μm,19.0s
BSMT Bassoo Peak 76.15 42 P **P 12 19 15.1 +1.4**
IBZA Bozab 76.24 302 *e*P **P 12 19 14.1 -0.5**
DGAR Diego Garcia 76.25 253 PFAKE 12 19 30.0 +16
DGAR LR LR
comp=Z,3μm,20.0s
EAK Akyaka 76.30 309 *i* P **P 12 19 15.5 +0.9**

BLMT **Blacktail Moun** 76.31 42 *e*P P 12 19 15.9 +1.2
comp=Z,32nm,0.9s
WVOR **Wild Horse Val** 76.47 49 *e*P P 12 19 16.5 +1.0
comp=Z,84nm,1.5s
WVOR LR LR
comp=Z,4μm,19.0s
JMIC **Jan Mayen** 76.47 350 *e*P P 12 19 15.5 +0.7
JMIC *e*S S 12 29 02.5 +3.8
JMIC **Jan Mayen** 76.47 350 LR LR 12 53 44.2
comp=Z,648nm,20.1s,baz=74,slow=36
JTMT **Jette** 76.50 42 *e*P P 12 19 16.6 +1.0
comp=Z,30nm,0.8s
YBMT **Yellow Bay** 76.59 42 *e*P P 12 19 17.2 +1.1
comp=Z,30nm,1.1s
KARS **Kars** 76.68 309 *e*P P 12 19 19.4 +2.7
IKFM **Kafar-mosalman** 76.69 301 *e*P P 12 19 15.6 -1.2
SWMT **Swartz Lake** 76.78 42 *e*P P 12 19 17.8 +0.6
comp=Z,37nm,1.0s
DYDN **Diyadin** 76.79 308 *i*P P 12 19 18.1 +0.6
CLDR **Caldiran** 76.83 308 *e*P P 12 19 19.5 +1.8
SUMG **Summit** 77.06 0⇑*i*P P 12 19 19.8 +1.2
comp=Z,87nm,1.0s
comp=Z,2μm,22.0s
SUMG **Summit** 77.06 0⇑*i*P P 12 19 19.8 +1.2
SUMG pmax pmax
comp=Z,87nm,1.0s
SUMG MLR MLR
comp=Z,2μm,22.0s
SUMG **Summit** 77.06 0 *e*P P 12 19 19.3 +0.7
comp=Z,84nm,1.0s
MSO **Missoula** 77.17 43 P P 12 19 19.7 +0.4
baz=77
ARTV **Artvin** 77.17 310 *i*P P 12 19 20.6 +1.0
IDHR **Dehrash** 77.21 303 *e*P P 12 19 19.0 -0.9
SLMT **Seeley Lake** 77.22 42 *e*P P 12 19 20.1 +0.4
comp=Z,42nm,0.8s
DAGI **Agillar** 77.23 310 *i*P P 12 19 20.6 +0.8
BCA **Borcka** 77.24 311 *e*P P 12 19 19.4 -0.3
AGRB **Hanur-Agry** 77.25 308 *e*P P 12 19 21.8 +1.8
DBOC **Borcka** 77.26 311 *i*P P 12 19 19.9 0.0
NSS **Namsos** 77.35 340 *e*P P 12 19 25.8 +5.9
NSS *e*S S 12 29 09.8 +1.4
SOC **Sochi** 77.40 313*c i*P P 12 19 20.8 +0.3
SOC *e**SP sP 12 19 27.6 -3.2
SOC *e* 12 22 13.6
SOC *e*PPP PPP 12 24 04.9
SOC *e*S S 12 29 08.6 -1.1
SOC *e*SSS SSS 12 37 27.3
SOC pmax pmax
comp=Z,137nm,0.8s
SOC MLR MLR
comp=Z,6μm,18.0s
DBAD **Bademkaya** 77.41 310 *i*P P 12 19 21.1 +0.4
CMB **Columbia Colle** 77.43 53 *e*P P 12 19 21.4 +0.5
comp=Z,29nm,0.8s
DDEM **Demirkent** 77.43 310 *i*P P 12 19 19.9 -1.0
EATA **Eleskirt** 77.44 309 *i*P P 12 19 23.0 +1.7
VANB **Van** 77.45 307 *e*P P 12 19 21.6 +0.5
TVAN **Van** 77.47 307 *i*P P 12 19 22.0 +0.7
CHMT **Chamberlain Mo** 77.53 43 *e*P P 12 19 21.7 +0.2
comp=Z,12nm,0.9s
HAKT **HAKKARI** 77.74 306 *i*P P 12 19 22.4 -0.5
HOMI **Horasan** 77.75 309 *i*P P 12 19 23.4 +0.5
MFID **Camas Ranch** 77.77 47 *e*P P 12 19 23.6 +0.9
comp=Z,41nm,0.9s
SNZO **South Karori** 77.81 155 PFAKE 12 19 30.0 +7.5
SNZO LR LR
comp=Z,1μm,20.0s
GEVA **Gevas** 77.82 307 *i*P P 12 19 22.7 -0.5
WAKR **Walker** 77.85 52 *e*P P 12 19 24.4 +1.0
comp=Z,20nm,0.9s
MICGM **Minsk** 77.95 327⇑*e*P P 12 19 22.0 -1.4
MNK **Minsk** 77.97 327⇑*e*P P 12 19 22.0 -1.5
MNK *e*S S 12 29 14.0 -1.5
MNK *e*SS SS 12 34 16.0 +0.3
MNK pmax pmax
comp=Z,240nm,2.0s
MNK MLR MLR
comp=Z,7μm,16.0s
ANN **Anapa** 78.19 315 *e*P P 12 19 24.9 0.0
ANN *e**PP pP 12 19 29.3 -3.1
ANN *e* 12 22 23.7
ANN *e*PPP PPP 12 24 10.8
ANN *e*S S 12 29 17.4 -0.7
ANN *e*SS SS 12 34 28.2 +8.8
ANN pmax pmax
comp=Z,138nm,1.1s
ANN pmax pmax
comp=N,55nm,1.1s
ANN pmax pmax
comp=E,26nm,1.0s
ANN MLR MLR
comp=N,4μm,18.0s
ANN MLR MLR
comp=Z,4μm,18.0s
ANN MLR MLR
comp=E,2μm,18.0s
NACGM **Naroch** 78.22 328 *e*P P 12 19 22.0 -2.9
KHZ **Kahutara** 78.38 157 *e*P P 12 19 25.5 -0.2
comp=E,57nm,0.9s
BMN **Battle Mountai** 78.38 50 *e*P P 12 19 27.4 +1.1
comp=E,51nm,1.4s
HRY **Holter Researc** 78.46 42 *e*P P 12 19 27.7 +1.1
comp=E,40nm,0.8s
VRTB **Varto-Mus** 78.49 309 *e*P P 12 19 20.3 -6.6
LRM **Limekiln Ridge** 78.57 43 *e*P P 12 19 28.1 +0.8
comp=E,579nm,0.8s
HLID **Hailey** 78.58 46 P P 12 19 28.3 +0.9
baz=78
HLID **Hailey** 78.58 46 *e*P P 12 19 28.2 +0.9
comp=E,18nm,0.9s
HLID LR LR
comp=Z,2μm,19.0s
NVAR **Mina Array Bea** 78.66 52 P P 12 19 28.5 +0.6
comp=Z,9.2nm,0.7s,baz=289,slow=5.8,SNR=48
SIRN **S¨¨rnak** 78.66 307 *i*P P 12 19 27.8 0.0
KOPT **Kop Dagi** 78.69 310 *i*P P 12 19 29.4 +1.3
MACK **Trabzon** 78.70 311 *i*P P 12 19 28.9 +1.0
RPZ **Rata Peaks** 78.72 159 *e*P P 12 19 28.1 +0.5
comp=Z,56nm,0.9s
DLMT **Dillon** 78.73 44 *e*P P 12 19 29.2 +1.1
comp=Z,31nm,1.0s
TBLU **Trondheim** 78.81 340 *e*P P 12 19 27.3 -0.6
TBLU *e*S S 12 29 24.0 -0.2
MCMT **McKenzie Canyo** 78.87 44 *e*P P 12 19 29.2 +0.2
comp=Z,3.9nm,0.8s
EGMT **Eagleton** 78.93 40 P P 12 19 29.5 +0.4
baz=79
EGMT **Eagleton** 78.93 40 *e*P P 12 19 29.5 +0.4
comp=Z,50nm,1.1s
EGMT LR LR
comp=Z,1μm,19.0s
FFC **Flin Flon** 78.96 32 *e*P P 12 19 28.7 -0.2
comp=Z,40nm,0.9s
FFC LR LR
comp=Z,2μm,20.0s
A19A **Klindworth Far** 78.98 39 P P 12 19 29.8 +0.5
baz=79
B19A **Brinkman Farms** 79.14 40 P P 12 19 30.9 +0.7
baz=79
BOZ **Bozeman (W)** 79.15 43 P P 12 19 31.0 +0.6
baz=79
RBK **Rabkut** 79.21 284 P P 12 19 31.9 +0.9
SNR=5.1
PKM **Mcpherson Peak** 79.37 56 P P 12 19 32.8 +1.0
baz=79
VES **Vestal, Richgr** 79.42 55 P P 12 19 31.9 +0.1
baz=79
KELT **Kalkit** 79.45 310 *i*P P 12 19 33.1 +0.9
ELK **Elko** 79.52 49 *e*P P 12 19 33.7 +1.1
comp=Z,17nm,1.0s
AKASG **Malin Array Be** 79.53 323 P P 12 19 32.1 -0.1
comp=Z,5.5nm,0.3s,baz=48,slow=5.9,SNR=94
AKASG PP PP 12 22 30.9 -1.2
comp=Z,4.7nm,0.8s,baz=51,slow=8.2,SNR=4.4
AKASG LR LR 12 57 13.8
comp=Z,7μm,19.5s,baz=45,slow=38
AKASG **Malin Array Be** 79.53 323 P P 12 19 32.1 -0.1
AKASG 12 22 30.9
AKASG pmax pmax
comp=Z,6.0nm,0.3s
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG MLR MLR
comp=Z,7μm,19.5s
AKBB **Malin Array Si** 79.53 323 *e*P P 12 19 32.0 -0.1

AK01 **Malin Array Si** 79.54 323 *e*P P 12 19 32.1 -0.1
KIEV **Kiev** 79.54 323*c i*P P 12 19 31.9 -0.3
KIEV **Kiev** 79.54 323 *e*P P 12 19 31.9 -0.3
comp=Z,56nm,0.8s
KIEV LR LR
comp=Z,7μm,19.0s
AK02 **Malin Array Si** 79.57 323 *e*P P 12 19 32.1 -0.2
TPH **Tonopah** 79.58 52 *e*P P 12 19 33.5 +0.5
comp=Z,29nm,1.1s
FCC **Fort Churchill** 79.61 26 *e*P P 12 19 35.3 +2.9
comp=Z,30nm,1.0s
B20A **Solberg Farm,** 79.66 39 P P 12 19 33.2 +0.2
baz=80
QLMT **Earthquake Lak** 79.72 44 *e*P P 12 19 35.0 +1.4
comp=Z,3.6nm,0.8s
MARD **Mardin** 79.88 307 *i*P P 12 19 34.3 -0.2
A21A **Bergtoll Ranch** 79.93 39 P P 12 19 34.9 +0.5
baz=80
ISA **Isabella, Lake** 79.93 55 P P 12 19 35.0 +0.3
baz=80
ILULI **Ilulissat** 80.00 5⇑*i*P P 12 19 34.8 +0.5
comp=Z,51nm,1.0s
comp=Z,2μm,17.0s
GRAC **Grapevine Rang** 80.02 53 P P 12 19 36.1 +1.0
baz=80
C20A **Veseth Ranch,** 80.08 40 P P 12 19 36.0 +0.7
baz=80
YMR **Madison River** 80.08 44 *e*P P 12 19 35.9 +0.4
comp=Z,72nm,1.2s
SIM **Simferopol'** 80.10 317 *i*P P 12 19 35.9 +0.6
SIM *e* 12 19 45.0
SIM *e* 12 22 36.0
SIM *i*S S 12 29 39.0 +0.5
SIM SS SS 12 34 51.0 +2.9
SIM *e*SSS SSS 12 38 10.0
SIM pmax pmax
comp=Z,51nm,0.7s
SIM pmax pmax
comp=Z,60nm,10.9s
SIM MLR MLR
comp=N,2μm,18.4s
SUSE **Susehri** 80.10 311 *i*P P 12 19 34.8 -0.9
MOL **Molde** 80.13 340 *e*P P 12 19 35.5 +0.4
MOL *e*S S 12 29 43.8 +5.7
NB2 **NORSAR Subarra** 80.18 338 P P 12 19 35.7 +0.2
comp=Z,41nm,0.8s,baz=41,slow=5.3
NB2 **NORSAR Subarra** 80.18 338 P P 12 19 35.7 +0.2
baz=41,slow=5.3
NOA **NORSAR Array B** 80.18 338 P P 12 19 35.5 0.0
comp=Z,45nm,0.8s,baz=41,slow=5.4,SNR=157
NOA LR LR 12 58 20.0
comp=Z,4μm,19.8s,baz=50,slow=38
NOA **NORSAR Array B** 80.18 338 P P 12 19 35.6 0.0
NOA pmax pmax
comp=Z,45nm,0.8s
NOA MLR MLR
comp=Z,4μm,19.8s
B21A **Ellsworth Farm** 80.21 39 P P 12 19 36.6 +0.7
baz=80
GCMT **Greycliff** 80.22 42 *e*P P 12 19 37.0 +0.8
comp=Z,10nm,0.7s
DAC **Darwin (Calif)** 80.24 54 *e*P P 12 19 36.7 +0.2
comp=Z,13nm,1.1s
YFT **Old Faithful** 80.28 44 *e*P P 12 19 39.5 +2.8
comp=Z,94nm,1.4s
NC602 **NORSAR Array S** 80.30 338 *e*P P 12 19 34.3 -1.8
NC602 *e*S S 12 29 40.8 +0.8
MPMC **Manual Prospec** 80.42 54 P P 12 19 37.7 +0.2
baz=80
SUW **Suwalki** 80.42 328 *e*P P 12 19 37.1 +0.2
SUW *e*S S 12 29 39.9 -1.6
SUW LMZ LR 12 58 49.5
SUW **Suwalki** 80.42 328 *e*P P 12 19 37.1 +0.2
SUW *e*S S 12 29 39.9 -1.6
SUW pmax pmax
comp=Z,300nm,1.1s
SUW MLR MLR
comp=Z,4μm,17.3s
NAO01 **NORSAR Array S** 80.43 338 *e*P P 12 19 36.8 0.0
comp=Z,24nm,0.8s
H17A **Grant Village** 80.46 44 P P 12 19 39.4 +1.7
baz=80
H17A **Grant Village** 80.46 44 *e*P P 12 19 40.4 +2.7
comp=Z,64nm,1.1s
A22A **Carney Farms,** 80.47 38 P P 12 19 37.1 -0.3
baz=80
LKWY **Lake** 80.47 44 *e*P P 12 19 37.7 0.0
comp=Z,42nm,1.0s
LKWY LR LR
comp=Z,2μm,20.0s
C21A **Desert Coulee** 80.51 40 P P 12 19 38.2 +0.6
baz=80
IMW **Indian Meadow** 80.52 44 *e*P P 12 19 39.6 +1.6
comp=Z,24nm,0.8s
R11A **Troy Canyon, C** 80.54 51 P P 12 19 38.5 +0.4
baz=80
R11A **Troy Canyon, C** 80.54 51 *e*P P 12 19 38.5 +0.4
comp=Z,38nm,1.4s
HVU **Hansel Valley** 80.55 47 *e*P P 12 19 39.2 +1.2
comp=Z,29nm,0.8s
FLWY **Flag Ranch** 80.56 44 *e*P P 12 19 39.7 +1.5
comp=Z,42nm,1.0s
LRMC **Laurel Mtn Rad** 80.58 54 P P 12 19 39.3 +1.0
baz=80
AKN **Aaknes** 80.60 340 *e*P P 12 19 38.5 +0.8
AKN IAmb IAmb 12 19 41.3
comp=Z,98nm,1.2s
AKN *e*S S 12 29 47.6 +4.4
FURC **Furnace Creek,** 80.64 53 P P 12 19 39.9 +1.5
baz=80
EDW2 **Edwards Air Fo** 80.67 55 P P 12 19 39.6 +0.8
baz=80
MOOW **Moose Ponds** 80.72 44 *e*P P 12 19 39.8 +0.8
comp=Z,11nm,0.8s
TPAW **Teton Pass** 80.74 45 *e*P P 12 19 40.2 +1.0
comp=Z,22nm,0.8s
TPNV **Topopah Spring** 80.82 53 P P 12 19 39.7 +0.1
baz=81
RLMT **Red Lodge** 80.83 43 P P 12 19 40.5 +0.9
baz=81
RLMT **Red Lodge** 80.83 43 *e*P P 12 19 40.4 +0.8
comp=Z,60nm,1.4s
RLMT LR LR
comp=Z,1μm,19.0s
B22A **Reddig Ranch S** 80.83 39 P P 12 19 40.0 +0.7
baz=81
BGU **Big Grassy Mou** 80.84 48 *e*P P 12 19 40.2 +0.6
comp=Z,44nm,1.4s
REDW **Red Top Meadow** 80.87 45 *e*P P 12 19 41.3 +1.5
comp=Z,59nm,1.3s
SNOW **Snow King Moun** 80.87 45 P P 12 19 41.0 +1.1
comp=Z,37nm,1.1s
LOHW **Long Hollow** 80.88 44 *e*P P 12 19 40.4 +0.5
comp=Z,12nm,0.8s
MWC **Mount Wilson** 80.96 56 *e*P P 12 19 40.9 +0.5
comp=Z,74nm,1.6s
SCER **sogukcermik** 80.99 311 *i*P P 12 19 42.8 +2.4
D21A **La Casta Ranch** 81.01 40 P P 12 19 40.5 +0.2
baz=81
AHID **Auburn Hatcher** 81.05 45 PFAKE 12 19 50.0 +9.2
AHID LR LR
comp=Z,2μm,20.0s
TOKA **Tokat** 81.16 312 *i*P P 12 19 41.2 0.0
OSL **Oslo** 81.17 337 *e*P P 12 19 41.2 +0.4
C22A **Vida** 81.22 39 P P 12 19 41.4 0.0
baz=81
BFSC **Mount Baldy Ra** 81.23 55 P P 12 19 43.3 +1.5
baz=81
HAVZ **Havza** 81.24 313 *i*P P 12 19 41.8 +0.3
H19A **Powell** 81.25 43 P P 12 19 42.9 +1.2
baz=81
B23A **Brockton** 81.28 38 P P 12 19 42.0 +0.3
baz=81
GSC **Goldstone, Bar** 81.29 54 P P 12 19 42.9 +0.9
baz=81
GSC **Goldstone, Bar** 81.29 54 *e*P P 12 19 42.5 +0.5
comp=Z,19nm,0.9s
SHOC **Shoshone, Teco** 81.34 53 P P 12 19 42.9 +0.7
baz=81
DUG **Dugway, Tooele** 81.38 48 P P 12 19 43.2 +0.7
baz=81
DUG **Dugway, Tooele** 81.38 48 *e*P P 12 19 43.3 +0.7
comp=Z,31nm,0.8s
DUG LR LR
comp=Z,3μm,19.0s
G20A **Bridger** 81.39 42 P P 12 19 42.5 0.0
baz=81

HWUT **Hardware Ranch** 81.40 47 *e*P P 12 19 43.3 +0.6
comp=Z,38nm,0.9s
HWUT LR LR
comp=Z,1μm,20.0s
D22A **Cohagen** 81.41 40 P P 12 19 42.9 +0.5
baz=81
PMOR **Pomariorio Ree** 81.43 113 *e*T T 13 48 32.1
comp=Z,3.3nm,0.2s
ATAB **Bozova** 81.49 309 *i*P P 12 19 44.4 +1.5
A24A **Westby** 81.52 37 P P 12 19 43.6 +0.6
baz=81
C23A **Lambert** 81.57 39 P P 12 19 43.6 +0.4
baz=81
PPT **Papeete** 81.58 116 LR LR 12 48 36.7
comp=Z,1μm,20.0s,baz=296,slow=30
PPT2 **Papeete2** 81.59 116 *e*S S 12 29 50.2 -4.7
comp=Z,2μm,32.0s
PPT2 **Papeete2** 81.59 116 *e*LQ LQ 12 41 37.4
comp=Z,2μm,28.5s
PPT2 *e*LR LR 12 44 54.9
comp=Z,3μm,22.2s,baz=303
I19A **Meeteetse** 81.61 43 P P 12 19 44.8 +1.1
baz=81
FOO **Floro** 81.63 341 *e*P P 12 19 45.3 +2.2
HYA **Hoyanger** 81.64 340 *e*P P 12 19 43.8 +0.5
HYA *e*S S 12 29 58.3 +4.4
DGMT **Dagmar** 81.69 38 P P 12 19 44.5 +0.6
baz=82
DGMT **Dagmar** 81.69 38 *e*P P 12 19 44.0 +0.2
comp=Z,52nm,1.3s
DGMT LR LR
comp=Z,1μm,20.0s
BBRC **Big Bear Solar** 81.75 55 P P 12 19 45.4 +0.7
baz=82
KONO **Kongsberg** 81.76 338 *e*P P 12 19 43.1 -0.8
KONO *e*S S 12 29 57.5 +2.3
KONO IAMs_20 IAMs_20 12 58 58.9
comp=Z,4μm,18.8s
KONO **Kongsberg** 81.76 338 *e*P P 12 19 43.1 -0.8
comp=Z,61nm,1.5s
KONO LR LR
comp=Z,3μm,20.0s
TCUT **Toone Canyon** 81.77 47 *e*P P 12 19 45.3 +0.7
comp=Z,32nm,0.8s
CTU **Camp Tracy** 81.78 47 *e*P P 12 19 45.3 +0.6
comp=Z,39nm,1.0s
SHPR **Sheep Range** 81.79 52 *e*P P 12 19 45.8 +1.0
comp=Z,20nm,0.8s
TUQ **Turquoise Moun** 81.83 54 P P 12 19 45.8 +0.8
baz=82
HEC **Hector,Ludlow** 81.87 54 P P 12 19 46.2 +1.1
baz=82
MURC **Murrieta** 81.89 56 P P 12 19 46.0 +0.8
baz=82
D23A **Lindsay** 81.93 39 P P 12 19 45.9 +0.7
baz=82
H20A **Greybull** 81.94 43 P P 12 19 46.5 +1.2
baz=82
KIS **Kishinev** 81.94 320⇑*i*P P 12 19 44.0 -1.1
comp=Z,300nm,2.0s
KIS **Kishinev** 81.94 320 *i*PcP PcP 12 19 56.0 +5.3
KIS **Kishinev** 81.94 320 *e*PP PP 12 22 50.0 -2.2
KIS *i*S S 12 29 54.0 -3.6
comp=Z,1μm,10.0s
KIS **Kishinev** 81.94 320 *e*PS 12 31 08.0
KIS *e*SS SS 12 35 10.0 -5.4
KIS LRM MLR 12 58 30.0
comp=Z,2μm,17.0s
KIS **Kishinev** 81.94 320⇑*i*P P 12 19 44.0 -1.1
KIS *i* 12 19 56.0
KIS *e* 12 22 50.0
KIS *i*S S 12 29 54.0 -3.6
KIS *e* 12 31 08.0
KIS *e* 12 35 10.0
KIS pmax pmax
comp=Z,300nm,2.0s
KIS pmax pmax
comp=Z,1μm,10.0s
KIS smax smax
comp=N,1μm,10.0s
KIS smax smax
comp=E,1μm,12.0s
KIS MLR MLR
comp=E,2μm,17.0s
KIS MLR MLR
comp=N,5μm,16.0s
KIS MLR MLR
comp=Z,6μm,16.0s
KIS MLR MLR
comp=Z,6μm,16.0s
E22A **Miles City** 81.96 40 P P 12 19 45.6 +0.3
baz=82
G21A **Lodge Grass** 81.97 42 P P 12 19 45.5 0.0
baz=82
NLU **North Lily Min** 81.98 48 *e*P P 12 19 46.1 +0.3
comp=Z,15nm,0.9s
BW06 **Boulder Array** 81.99 45 *e*P P 12 19 45.9 +0.1
comp=Z,14nm,0.9s
BW06 LR LR
comp=Z,2μm,20.0s
PDAR **Pinedale Array** 81.99 45 P P 12 19 46.1 +0.3
comp=Z,7.5nm,0.8s,baz=319,slow=2.5,SNR=29
PDAR LR LR 12 53 36.3
comp=Z,1μm,19.5s,baz=312,slow=34
J19A **Crowheart** 82.01 44 P P 12 19 46.3 +0.5
baz=82
JLU **Jordanelle** 82.03 47 *e*P P 12 19 46.4 +0.4
comp=Z,40nm,1.1s
GZT **Gaziantep** 82.04 309 *i*P P 12 19 47.2 +1.2
CTKT **Corum** 82.07 313 *i*P P 12 19 46.4 +0.2
PINB **Pinarbasi** 82.10 310 *i*P P 12 19 44.8 -1.7
C24A **Savage** 82.14 39 P P 12 19 47.0 +0.8
baz=82
SUE **Sulen** 82.14 340 *e*P P 12 19 46.6 +0.7
SUE IAMs_20 IAMs_20 13 02 13.8
comp=Z,3μm,18.5s
I20A **Worland** 82.17 43 P P 12 19 47.4 +0.8
baz=82
F22A **Rosebud** 82.18 41 P P 12 19 46.7 +0.2
baz=82
SFJD **Kangerlussuaq** 82.22 5⇑*i*P P 12 19 46.5 +0.3
comp=Z,51nm,1.3s
SFJD **Kangerlussuaq** 82.22 5 LR LR 12 57 20.0
comp=Z,754nm,21.9s,baz=343,slow=36
SFJD **Kangerlussuaq** 82.22 5⇑*i*P P 12 19 46.5 +0.3
SFJD pmax pmax
comp=Z,51nm,1.3s
SFJD MLR MLR
comp=Z,1μm,20.0s
SFJD **Kangerlussuaq** 82.22 5 *e*P P 12 19 46.1 -0.1
comp=Z,49nm,1.0s
E23A **Ismay** 82.28 40 P P 12 19 47.6 +0.6
baz=82
GMRC **Granite Mounta** 82.36 54 P P 12 19 48.2 +0.4
baz=82
H21A **Big Horn, Sher** 82.41 42 P P 12 19 48.4 +0.6
baz=82
PFO **Pinyon Flats O** 82.42 55 P P 12 19 48.4 +0.3
baz=82
PFO **Pinyon Flats O** 82.42 55 *e*P P 12 19 48.3 +0.3
comp=Z,33nm,0.9s
PFO LR LR
comp=Z,5μm,19.0s
D24A **Glendive** 82.45 39 P P 12 19 48.6 +0.7
baz=82
CCUT **Cedar City** 82.45 51 *e*P P 12 19 49.1 +0.8
comp=Z,10nm,0.8s
G22A **Birney** 82.49 41 P P 12 19 48.5 +0.3
baz=82
BER **Bergen** 82.52 340 *e*P P 12 19 48.5 +0.6
BER *e*S S 12 30 05.0 +2.1
BER IAMs_20 IAMs_20 13 02 07.3
comp=Z,4μm,18.8s
BELC **Belle Mtn. Jos** 82.53 55 P P 12 19 49.6 +0.9
baz=82
J20A **Shoshoni** 82.54 44 P P 12 19 49.1 +0.6
baz=82
A26A **Wade Farm, Ken** 82.56 37 P P 12 19 48.7 +0.3
baz=82
LDFC **Landfair** 82.59 54 *e*P P 12 19 49.1 +0.2
comp=Z,36nm,0.8s
MVU **Marysvale** 82.69 49 *e*P P 12 19 50.5 +1.0
comp=Z,20nm,1.1s
F23A **Volborg** 82.69 41 P P 12 19 49.9 +0.6
baz=82
LVV **L'vov** 82.70 325⇓*i*P P 12 19 48.9 -0.2
LVV *e* 12 19 59.6

LVV *e* 12 22 56.4
LVV *eS* **S** **12 30 06.6 +1.2**
LVV MLR MLR
comp=N,4µm,17.0s
LVV MLR MLR
comp=E,6µm,17.0s
LVV MLR MLR
comp=Z,7µm,17.0s
MSU Marysvale **82.71 49** *eP* **P** **12 19 50.7 +1.1**
comp=Z,44nm,1.4s
I21A Big Trails, Te **82.74 43** P **P** **12 19 50.0 +0.4**
baz=83
BAR Barrett **82.75 56** *eP* **P** **12 19 50.4 +0.8**
comp=Z,14nm,0.8s
E24A Baker **82.80 39** P **P** **12 19 50.1 +0.4**
baz=83
MONP Monument Peak, **82.82 56** P **P** **12 19 50.6 +0.3**
baz=83
H22A Clearmont **82.83 42** P **P** **12 19 50.4 +0.4**
baz=83
CDAG Cicekdag **82.90 312** *i* P **P** **12 19 50.9 +0.5**
TMUT Trail Mountain **82.90 48** *eP* **P** **12 19 51.7 +1.0**
comp=Z,12nm,0.8s
J21A Lysite **82.92 43** P **P** **12 19 51.0 +0.4**
baz=83
A27A Ledoux Ranch, **82.93 36** P **P** **12 19 50.6 +0.3**
baz=83
BEL Belsk **82.94 328** *eP* **P** **12 19 50.9 +0.7**
BEL *eS* **S** **12 30 06.1 -1.5**
BEL LMZ LR 12 59 17.7
BEL Belsk **82.94 328** *eP* **P** **12 19 51.0 +0.7**
BEL *eS* **S** **12 30 06.1 -1.5**
BEL pmax pmax
comp=Z,200nm,1.0s
BEL MLR MLR
comp=Z,6µm,19.5s
BLS5 Blasjo **82.94 339** *eP* **P** **12 19 50.7 +0.6**
ELDT Eldivan **83.01 313** *i* P **P** **12 19 51.8 +0.7**
G23A Biddle **83.01 41** P **P** **12 19 51.2 +0.3**
baz=83
IRM Iron Mountain **83.05 54** P **P** **12 19 51.7 +0.5**
baz=83
AVNT Avonos **83.05 311** *i* P **P** **12 19 51.4 +0.1**
BC3 Big Chuckawall **83.10 55** P **P** **12 19 52.3 +0.7**
baz=83
F24A Ekalaka **83.16 40** P **P** **12 19 51.7 0.0**
baz=83
I22A 9 Mile Ranch, **83.17 43** P **P** **12 19 52.3 +0.5**
baz=83
HOMB Homborsund **83.19 337** *eP* **P** **12 19 51.2 -0.1**
GIUM Giurgiulesti **83.19 319**⇑ *iP* **P** **12 19 52.9 +1.3**
BSD Bornholm Skovb **83.20 332**⇑ *iP* **P** **12 19 51.2 -0.3**
comp=Z,72nm,1.1s
BSD Bornholm Skovb **83.20 332** *i* S **S** **12 30 07.4 -2.7**
comp=Z,2µm,16.0s
BSD Bornholm Skovb **83.20 332**⇑ *iP* **P** **12 19 51.2 -0.3**
BSD *i* S **S** **12 30 07.4 -2.7**
BSD pmax pmax
comp=Z,72nm,1.1s
BSD MLR MLR
comp=Z,2µm,16.0s
BR131 Keskin Array S **83.31 312** *eP* **P** **12 19 52.9 +0.3**
comp=Z,50nm,0.8s
BRTR Keskin Array B **83.31 312** P **P** **12 19 53.0 +0.5**
comp=Z,66nm,0.8s,baz=104,slow=3.9,SNR=230
BRTR LR LR 13 01 20.9
comp=Z,1µm,19.0s,baz=52,slow=39
BRTR Keskin Array B **83.31 312** P **P** **12 19 53.1 +0.5**
BRTR pmax pmax
comp=Z,66nm,0.8s
BRTR MLR MLR
comp=Z,1µm,19.0s
E25A Miller Ranch, **83.33 39** P **P** **12 19 52.7 +0.3**
baz=83
RAYN Ar Rayn **83.36 293** *eP* **P** **12 19 53.8 +0.8**
comp=Z,244nm,0.8s
RAYN LR LR
comp=Z,4µm,20.0s
H23A Clabaugh Cattl **83.39 42** P **P** **12 19 53.6 +0.7**
baz=83
CFR Carcaliu **83.42 319**⇓ *iP* **P** **12 19 53.3 +0.5**
TESR Tescani **83.42 321**⇓ *iP* **P** **12 19 53.4 +0.5**
SRU San Rafael Swe **83.45 48** *eP* **P** **12 19 54.2 +0.8**
comp=Z,34nm,0.8s
A28A Rude Farm, Bot **83.45 36** P **P** **12 19 53.2 +0.1**
baz=83
J22A Midwest **83.45 43** P **P** **12 19 53.4 +0.1**
baz=83
KWP Kalwaria Pacla **83.48 325** *eP* **P** **12 19 53.9 +0.8**
KWP *eS* **S** **12 30 10.8 -2.5**
KWP LMZ LR 13 00 16.9
KWP Kalwaria Pacla **83.48 325** *eP* **P** **12 19 53.9 +0.8**
KWP *eS* **S** **12 30 10.8 -2.5**
KWP pmax pmax
comp=Z,200nm,1.0s
KWP MLR MLR
comp=Z,10µm,16.5s
KMY Karmoy **83.48 339** *eP* **P** **12 19 52.2 -0.7**
BUR08 Bucovina Ar. S **83.49 322** *eP* **P** **12 19 53.6 +0.3**
BURAR Bucovina Array **83.50 322**⇑ *iP* **P** **12 19 54.0 +0.6**
GKP Gorka Klasztor **83.55 330** *eP* **P** **12 19 53.6 +0.3**
GKP *eS* **S** **12 30 12.3 -1.4**
GKP LMZ LR 13 01 24.6
GKP Gorka Klasztor **83.55 330** *eP* **P** **12 19 53.6 +0.3**
GKP *eS* **S** **12 30 12.4 -1.3**
GKP MLR MLR
comp=Z,4µm,18.0s
C27A Sayler Ranch, **83.58 37** P **P** **12 19 54.0 +0.3**
baz=83
BCAM Yenicaga **83.67 314** *i* P **P** **12 19 55.5 +1.1**
PDMCI Parker Dam,Lak **83.68 54** P **P** **12 19 55.4 +1.0**
baz=84
TIRR Tirgusor **83.70 319**⇓ *iP* **P** **12 19 55.0 +0.7**
TIRR Tirgusor **83.70 319** *eP* **P** **12 19 54.4 +0.2**
comp=Z,29nm,0.9s
B28A Dugan Ranch, T **83.70 36** P **P** **12 19 54.5 +0.2**
baz=84
COP Copenhagen **83.75 334**⇑ *iP* **P** **12 19 54.4 +0.1**
comp=Z,50nm,1.0s
COP Copenhagen **83.75 334** *i* S **S** **12 30 12.3 -3.3**
comp=Z,2µm,17.0s
COP Copenhagen **83.75 334**⇑ *iP* **P** **12 19 54.4 +0.1**
COP *i* S **S** **12 30 12.3 -3.3**
COP pmax pmax
comp=Z,50nm,1.0s
COP MLR MLR
comp=Z,2µm,17.0s
ANTO Ankara **83.76 313**⇑ *iP* **P** **12 19 55.6 +0.8**
ANTO Ankara **83.76 313** P **P** **12 19 56.0 +1.1**
SNR=28
ANTO Ankara **83.76 313** PFAKE 12 20 10.0 +15
ANTO LR LR
comp=Z,2µm,21.0s
H24A Dirks Ranch, A **83.76 41** P **P** **12 19 54.9 +0.2**
baz=84
VRI Vrincioaia **83.78 320**⇓ *iP* **P** **12 19 56.5 +1.8**
HARR Harsova **83.83 319**⇓ *iP* **P** **12 19 55.9 +0.9**
PLOR Plostina **83.83 320**⇓ *iP* **P** **12 19 56.3 +1.3**
E26A Carlson Angus **83.85 39** P **P** **12 19 55.1 0.0**
baz=84
GLA Glamis **83.87 55** P **P** **12 19 56.0 +0.6**
baz=84
GLA Glamis **83.87 55** *eP* **P** **12 19 56.3 +0.8**
comp=Z,22nm,0.8s
K22A Casper **83.88 44** P **P** **12 19 55.2 -0.3**
baz=84
K22A Casper **83.88 44** *eP* **P** **12 19 56.1 +0.6**
comp=Z,59nm,1.3s
D27A Center **83.95 38** P **P** **12 19 56.1 +0.4**
baz=84
A29A Manning Farm, **83.97 35** P **P** **12 19 55.8 +0.2**
baz=84
BORG Borgarnes **84.00 353** LR LR 12 58 59.4
comp=Z,316nm,19.5s,baz=24,slow=37
RWWY Rawlins **84.03 45** P P 12 20 01.2 +4.7
comp=Z,146nm,1.6s
F26A Lodgepole **84.13 39** P **P** **12 19 57.0 +0.4**
baz=84
KOLS Kolonicke sedl **84.15 325** *eP* **P** **12 19 57.0 +0.4**
KOLS pmax pmax
comp=Z,29nm,1.3s
KOLS Kolonicke sedl **84.15 325** *eP* **P** **12 19 57.0 +0.4**
B29A Wagenman Farm, **84.20 36** P **P** **12 19 57.1 +0.3**
baz=84
RGN Rugen **84.24 333** *eP* **P** **12 19 56.7 -0.2**
comp=Z,111nm,1.0s

RGN *epP* **pP** **12 20 05.8 +1.4**
RGN Rugen **84.24 333** *eP* **P** **12 19 56.6 -0.2**
comp=Z,119nm,1.3s
MSAB Monastry St. A **84.25 319**⇑ *iP* **P** **12 19 58.3 +1.2**
I24A Kuemmerle Ranc **84.26 42** P **P** **12 19 57.2 -0.2**
baz=84
PSN Preselentsi **84.30 318**⇑ *iP* **P** **12 19 58.2 +0.8**
O20A White River Ci **84.31 46** P **P** **12 19 57.8 0.0**
baz=84
O20A White River Ci **84.31 46** *eP* **P** **12 19 58.3 +0.5**
comp=Z,35nm,0.8s
STHS Stebnicka Huta **84.34 326** *eP* **P** **12 19 58.1 +0.6**
STHS pmax pmax
comp=Z,24nm,1.1s
STHS Stebnicka Huta **84.34 326** *eP* **P** **12 19 58.1 +0.6**
ISR Istrita **84.34 320**⇓ *iP* **P** **12 19 59.0 +1.3**
UZH Uzhgorod **84.34 325** *eP* **P** **12 19 56.3 -1.2**
UZH *e* 12 20 07.3
UZH *e* 12 23 10.7
UZH *ePPP* PPP 12 25 07.3
UZH *i* S **S** **12 30 17.1 -4.8**
UZH *ePS* **PnS** **12 31 07.7 -8.9**
UZH MLR MLR
comp=N,2µm,16.0s
UZH MLR MLR
comp=E,4µm,16.0s
UZH MLR MLR
comp=Z,2µm,16.0s
MUD Monsted U'grnd **84.36 336**⇑ *iP* **P** **12 19 57.5 +0.1**
comp=Z,63nm,1.3s
comp=Z,3µm,17.0s
MUD Monsted U'grnd **84.36 336**⇑ *iP* **P** **12 19 57.5 +0.1**
MUD pmax pmax
comp=Z,63nm,1.3s
MUD MLR MLR
comp=Z,3µm,17.0s
H25A Fruitdale **84.38 41** P **P** **12 19 57.9 0.0**
baz=84
D28A Regan **84.40 37** P **P** **12 19 58.0 +0.1**
baz=84
A30A Hoffart Farm, **84.42 35** P **P** **12 19 57.5 -0.4**
baz=84
RSSD Black Hills **84.44 41** *eP* **P** **12 19 59.0 +0.6**
comp=Z,33nm,1.4s
MLR Muntele Rosu **84.44 320** P **P** **12 19 57.8 -0.4**
comp=Z,3.0nm,0.9s,baz=57,slow=6.3,SNR=14
MLR Muntele Rosu **84.44 320** P **P** **12 19 57.8 -0.4**
MLR pmax pmax
comp=Z,3.0nm,0.9s
MLR Muntele Rosu **84.44 320**⇓ *iP* **P** **12 19 58.7 +0.4**
DOPR Dopca **84.44 321**⇑ *iP* P 12 20 02.2 +4.1
F27A Lemmon **84.47 39** P **P** **12 19 58.4 +0.1**
baz=84
BTAS Taskesti **84.47 314** *i* P **P** **12 19 58.4 0.0**
MDND Maddock **84.48 36** P **P** **12 19 58.6 +0.4**
baz=84
MDND Maddock **84.48 36** P **P** **12 19 58.8 +0.6**
comp=Z,124nm,1.2s
OJC Ojcow **84.50 327** *eP* **P** **12 19 58.7 +0.4**
OJC *eS* **S** **12 30 22.8 -0.6**
OJC LMZ LR 13 00 49.4
OJC Ojcow **84.50 327** *eP* **P** **12 19 58.7 +0.4**
OJC *eS* **S** **12 30 22.8 -0.6**
OJC pmax pmax
comp=Z,700nm,2.9s
OJC MLR MLR
comp=Z,6µm,17.8s
G26A Maurine **84.52 40** P **P** **12 19 58.6 +0.1**
baz=84
WAL1 Walls **84.56 343** *eP* **P** **12 20 00.1 +1.7**
J24A Dixon Ranch, L **84.56 42** P **P** **12 19 58.8 -0.1**
baz=84
AUMIH MIHALICIK **84.58 314** *i* P **P** **12 19 59.2 +0.1**
SECR **84.66 320**⇑ *iP* **P** **12 20 00.0 +0.8**
SAN1 Sandwick **84.66 342** *eP* **P** **12 19 59.2 +0.4**
I25A Rochford **84.67 41** P **P** **12 19 59.2 -0.3**
baz=84
ULM Lac du Bonnet **84.70 33** P **P** **12 19 58.5 -0.8**
comp=Z,4.5nm,0.8s,baz=324,slow=5.3,SNR=5.1
ULM LR LR 12 59 40.2
comp=Z,1µm,19.0s,baz=312,slow=37
ULM Lac du Bonnet **84.70 33** P **P** **12 19 58.5 -0.8**
ULM pmax pmax
comp=Z,5.0nm,0.8s
ULM MLR MLR
comp=Z,1µm,19.0s
ULM Lac du Bonnet **84.70 33** *eP* **P** **12 19 59.2 -0.1**
comp=Z,21nm,1.4s
B30A Myrvik Farm, E **84.73 35** P **P** **12 19 59.6 +0.1**
baz=84
NIE Niedzica **84.79 326** *eP* **P** **12 20 00.4 +0.6**
NIE *eS* **S** **12 30 27.1 +0.6**
NIE LMZ LR 13 01 18.9
NIE Niedzica **84.79 326** *eP* **P** **12 20 00.5 +0.6**
NIE *eS* **S** **12 30 27.1 +0.6**
NIE MLR MLR
comp=Z,3µm,17.5s
AUSIV SIVRIHISAR **84.80 313** *i* P **P** **12 19 59.9 -0.3**
KIZK Mersin **84.81 310** *i* P **P** **12 19 59.3 -0.8**
G27A Dupree **84.83 39** P **P** **12 20 00.4 +0.3**
baz=85
H26A Fairpoint **84.84 40** P **P** **12 20 00.3 0.0**
baz=85
PV04 Paradox Valley **84.90 48** *eP* **P** **12 20 01.6 +0.9**
WUAZ Wupatki **84.91 52** P **P** **12 20 01.5 +0.7**
baz=85
WUAZ Wupatki **84.91 52** *eP* **P** **12 20 01.4 +0.5**
comp=Z,43nm,1.1s
WUAZ LR LR
comp=Z,2µm,19.0s
VOIR **84.96 321**⇓ *iP* **P** **12 20 01.3 +0.5**
KDHN Kadinhani **84.97 312** *i* P **P** **12 20 00.7 -0.4**
J25A Sunshine Ranch **85.02 42** P **P** **12 20 01.1 -0.1**
baz=85
PRD Provadia **85.04 318**⇑ *iP* **P** **12 20 02.4 +1.3**
TBI Tubuai **85.05 121** *eS* **S** **12 30 24.6 -4.9**
comp=Z,2µm,27.0s
TBI Tubuai **85.05 121** *eLQ* LQ 12 42 43.3
comp=Z,1µm,32.8s
TBI *eLR* LR 12 46 20.7
comp=Z,3µm,27.0s,baz=307
MTUR Matau **85.09 321**⇑ *iP* P 12 20 04.7 +3.2
C30A Mose, Pekin **85.15 36** P **P** **12 20 01.7 +0.1**
baz=85
SEYT Eskypehyr **85.18 314** *i* P **P** **12 20 01.8 -0.3**
H27A Howes **85.22 40** P **P** **12 20 02.9 +0.9**
baz=85
PV01 Paradox Valley **85.26 48** *eP* **P** **12 20 03.0 +0.4**
comp=Z,2µm,0.7s
N23A Red Feather La **85.27 45** P **P** **12 20 03.4 +0.7**
baz=85
E29A Napoleon **85.29 37** P **P** **12 20 02.3 -0.1**
baz=85
PHWY Pilot Hill **85.32 44** *eP* **P** **12 20 03.9 +0.9**
comp=Z,76nm,1.6s
DRGR **85.34 323**⇓ *iP* **P** **12 20 03.2 +0.5**
KECS Kecovo **85.34 325** *eP* **P** **12 20 03.1 +0.6**
KECS pmax pmax
comp=Z,6.0nm,0.9s
KECS Kecovo **85.34 325** *eP* **P** **12 20 03.1 +0.6**
KECS *e* 12 20 12.0
RAC Raciborz **85.34 327** *eP* **P** **12 20 03.5 +1.0**
RAC MLR MLR
comp=Z,4µm,19.7s
ISK Istanbul-Kandi **85.36 316** P **P** **12 20 02.4 -0.4**
ISK Istanbul-Kandi **85.36 316** P **P** **12 20 02.4 -0.4**
D30A Buchanan **85.40 37** P **P** **12 20 02.7 -0.1**
baz=85
AUKUT KUTAHYA **85.44 314** *i* P **P** **12 20 05.5 +2.2**
AUBOZ BOZOYUK **85.46 314** *i* P **P** **12 20 03.4 0.0**
J26A Sides Ranch, S **85.48 41** P **P** **12 20 03.7 +0.2**
baz=85
ERMK Ermenek **85.53 310** *i* P **P** **12 20 02.6 -1.4**
OKC Ostrava-Krasne **85.53 327** *eP* **P** **12 20 03.6 +0.1**
OKC *epP* **PcP** **12 20 07.8 +1.4**
OKC *ex* x 12 20 12.7
OKC *ePP* **PP** **12 23 21.1 -0.3**
OKC *eSKS* S 12 30 23.5 -10
OKC AMS AMS 13 08 10.0
comp=Z,2µm,16.7s
OKC Ostrava-Krasne **85.53 327** *eP* **P** **12 20 03.6 +0.1**
OKC *e**PP **pP** **12 20 12.7 +1.6**
OKC *e* 12 23 21.1
OKC *e* 12 30 23.5
OKC MLR MLR

comp=Z,2µm,16.7s
RUE Ruedersdorf **85.58 331** *eP* **P** **12 20 03.3 -0.3**
comp=Z,162nm,1.6s
RUE *epP* **pP** **12 20 12.5 +1.3**
I27A Quinn **85.59 40** P **P** **12 20 04.4 +0.4**
baz=85
BOLV Bolvadin **85.59 313** *i* P **P** **12 20 03.4 -0.8**
SMCO Snowmass **85.66 47** *eP* **P** **12 20 05.6 +0.7**
comp=Z,61nm,1.3s
F29A Eureka **85.67 38** P **P** **12 20 04.5 +0.2**
baz=86
KSP Ksiaz **85.67 329** *eP* **P** **12 20 04.6 +0.5**
KSP *eS* **S** **12 30 35.1 +0.1**
KSP LMZ LR 13 02 59.3
KSP Ksiaz **85.67 329** *eP* **P** **12 20 04.7 +0.6**
KSP *eS* **S** **12 30 35.2 +0.2**
KSP pmax pmax
comp=Z,300nm,2.0s
E30A Jud **85.72 37** P **P** **12 20 04.3 -0.2**
baz=86
H28A Mission Ridge **85.78 39** P **P** **12 20 05.1 +0.3**
baz=86
K26A Motz Farm, Whi **85.81 42** P **P** **12 20 05.5 +0.4**
baz=86
MVCO Mesa Verde **85.84 49** P **P** **12 20 05.6 0.0**
baz=86
MVCO Mesa Verde **85.84 49** *eP* **P** **12 20 06.1 +0.5**
comp=Z,21nm,0.9s
MVCO LR LR
comp=Z,2µm,20.0s
MORC Moravsky Berou **85.86 327**⇑ *iP* **P** **12 20 05.4 +0.3**
MORC Moravsky Berou **85.86 327** *eP* **P** **12 20 04.6 -0.5**
comp=Z,209nm,1.2s
ULDT Uludag **85.87 315** *i* P **P** **12 20 05.1 -0.5**
214A Organ Pipe Nat **85.89 55** P **P** **12 20 06.0 +0.4**
baz=86
214A Organ Pipe Nat **85.89 55** *eP* **P** **12 20 06.4 +0.8**
comp=Z,39nm,1.4s
ALT Altintas **85.92 313** P **P** **12 20 05.6 -0.2**
ALT Altintas **85.92 313** P **P** **12 20 05.6 -0.2**
JMB Yambol **85.97 318**⇓ *iP* **P** **12 20 06.4 +0.6**
KRLC Kraliky **86.00 328** *eP* **P** **12 20 05.9 +0.1**
KRLC *ex* x 12 20 15.4
KRLC *ex* x 12 20 16.8
KRLC *ex* x 12 20 20.7
KRLC Kraliky **86.00 328** *eP* **P** **12 20 05.9 +0.1**
KRLC *e* 12 20 16.8
KRLC *e* 12 20 20.7
DPC Dobruska-Polom **86.01 328** *eP* **P** **12 20 06.0 +0.1**
DPC *epP* **PcP** **12 20 10.2 +1.6**
DPC *ex* x 12 20 15.1
DPC *ex* x 12 20 17.1
DPC *ex* x 12 20 21.4
DPC *ePP* **PP** **12 23 26.4 +1.1**
DPC *ex* x 12 25 50.1
DPC *eSKS* S 12 30 30.0 -8.5
DPC *ex* x 12 36 07.4
DPC AMS AMS 13 03 00.0
comp=Z,4µm,14.6s
DPC Dobruska-Polom **86.01 328** *eP* **P** **12 20 06.0 +0.1**
DPC *e* 12 20 17.1
DPC *e* 12 20 21.4
DPC *e* 12 23 26.4
DPC *e* 12 30 30.0
DPC MLR MLR
comp=Z,4µm,14.6s
UPC Upice **86.04 329** *eP* **P** **12 20 06.3 +0.3**
UPC *epP* **PcP** **12 20 10.0 +1.4**
UPC *ex* x 12 20 15.3
UPC *ex* x 12 20 17.0
UPC *ex* x 12 20 21.8
UPC Upice **86.04 329** *eP* **P** **12 20 06.3 +0.3**
UPC *e* 12 20 17.0
UPC *e* 12 20 21.8
AGMN Agassiz Nation **86.05 34** P **P** **12 20 06.1 +0.1**
baz=86
AGMN Agassiz Nation **86.05 34** *eP* **P** **12 20 05.7 -0.3**
comp=Z,33nm,1.3s
AGMN LR LR
comp=Z,2µm,20.0s
F30A Leola **86.09 38** P **P** **12 20 06.2 -0.2**
baz=86
I28A Midland **86.12 40** P **P** **12 20 06.6 +0.1**
baz=86
J27A Elkhorn Farm, **86.13 41** P **P** **12 20 07.1 +0.4**
baz=86
ISCO Idaho Springs **86.13 45** P **P** **12 20 07.6 +0.6**
baz=86
ISCO Idaho Springs **86.13 45** *eP* **P** **12 20 08.0 +0.9**
comp=Z,33nm,1.3s
ISCO LR LR
comp=Z,2µm,19.0s
GAZI Gazipasa **86.16 310** *i* P **P** **12 20 06.8 -0.1**
CSS Prodhromos **86.22 309** P **P** **12 20 06.7 -0.5**
CSS Prodhromos **86.22 309** *eP* **P** **12 20 06.9 -0.3**
comp=Z,18nm,0.8s
CSS LR LR
comp=Z,1µm,20.0s
GZR Gura Zlata **86.22 322**⇑ *iP* **P** **12 20 07.6 +0.6**
W18A Petrified Fore **86.23 51** *eP* **P** **12 20 08.7 +1.2**
comp=Z,19nm,1.1s
H29A Onida **86.25 39** P **P** **12 20 07.2 0.0**
baz=86
GDZ Gediz **86.29 314** *i* P **P** **12 20 06.5 -1.1**
K27A Flueckinger Fa **86.35 42** P **P** **12 20 07.6 -0.2**
baz=86
ISP Isparta **86.39 312** P **P** **12 20 07.1 -1.0**
ISP Isparta **86.39 312**⇓ *iP* **P** **12 20 10.0 +1.9**
ISP Isparta **86.39 312** *eP* **P** **12 20 07.9 -0.2**
comp=Z,28nm,1.0s
ISP LR LR
comp=Z,2µm,19.0s
J28A Allard Ranch, **86.45 41** P **P** **12 20 08.4 +0.1**
baz=86
G30A Faulkton **86.50 38** P **P** **12 20 08.3 -0.1**
baz=86
I29A Vivian Onida **86.59 40** P **P** **12 20 08.8 0.0**
baz=86
HLG Helgoland **86.59 335** *eP* **P** **12 20 08.2 -0.4**
comp=Z,857nm,3.2s
HLG *epP* **pP** **12 20 17.3 +1.1**
S22A 4UR Ranch, Cre **86.60 48** P **P** **12 20 10.3 +0.9**
baz=86
VRAC Vranov **86.62 328** P **P** **12 20 09.3 +0.4**
comp=Z,19nm,0.9s,baz=54,slow=4.6,SNR=3.2
VRAC Vranov **86.62 328** P **P** **12 20 09.3 +0.4**
VRAC pmax pmax
comp=Z,19nm,0.9s
VRAC Vranov **86.62 328**⇓ *iP* **P** **12 20 09.7 +0.8**
PVCC Panska Ves **86.66 329** *eP* **P** **12 20 09.1 +0.1**
PVCC *ex* x 12 20 17.7
PVCC *ex* x 12 20 21.0
PVCC *ePP* **PP** **12 23 32.7 +2.2**
PVCC *eSKS* S 12 30 37.2 -7.5
PVCC *eSP* **SPn** **12 31 48.8 +7.5**
PVCC AMS AMS 13 04 00.0
comp=Z,3µm,14.7s
PVCC Panska Ves **86.66 329** *eP* **P** **12 20 09.1 +0.1**
PVCC *e* 12 20 21.0
PVCC *e* 12 23 32.7
PVCC *e* 12 30 37.2
PVCC *e* 12 31 48.8
PVCC MLR MLR
comp=Z,3µm,14.7s
BIGH Upper Bighouse **86.67 343** *eP* **P** **12 20 09.3 +0.4**
BIGH AMB AMB 12 20 10.2
comp=Z,242nm,2.8s
BRG Berggjesshubel **86.68 330** *eP* **P** **12 20 09.0 -0.1**
comp=Z,168nm,2.1s
BRG PP PP 12 23 21.0 -10
BRG S **SKSac** **12 30 34.0 -0.4**
BRG SS SS 12 36 02.0 -23
comp=N,3µm,15.8s
comp=E,2µm,15.4s
comp=Z,4µm,15.3s
BRG Berggjesshubel **86.68 330** *eP* **P** **12 20 08.5 -0.6**
comp=Z,168nm,2.1s
BRG *epP* **pP** **12 20 17.7 +1.0**
BRG Berggiesshubel **86.68 330** *eP* **P** **12 20 09.0 -0.1**
BRG S **SKSac** **12 30 34.0 -0.4**
BRG pmax pmax
comp=Z,168nm,2.1s
BRG MLR MLR
comp=N,3µm,15.8s
BRG MLR MLR

comp=E,2µm,15.4s
BRG MLR MLR
comp=Z,4µm,15.3s
SART Tekirdag 86.72 316 *i* P **P** 12 20 07.5 -2.1
BUD Budapest 86.74 325⇑ *eP* **P** 12 20 09.8 +0.3
CLL Collm 86.77 331 *eP* **P** 12 20 08.6 -0.9
comp=Z,182nm,2.2s
CLL *epP* **pP** 12 20 17.8 +0.7
CLL Collm 86.77 331⇑ *iP* **P** 12 20 09.0 -0.5
comp=Z,184nm,2.2s
CLL *i* 12 20 20.2
CLL *ePP* **PP** 12 23 33.0 +1.7
CLL *e* 12 23 45.0
CLL *e* 12 25 54.0
CLL *eS* **S** 12 30 42.0 -3.7
CLL *ePPS* PPS 12 32 03.0
CLL *eSS* **SS** 12 36 27.0 +0.8
CLL *eSSS* SSS 12 39 48.0
CLL *e* 12 41 06.0
CLL *eSSSS* 12 42 42.0
CLL Collm 86.77 331⇑ *iP* **P** 12 20 09.0 -0.5
CLL *i* 12 20 20.2
CLL *eS* **S** 12 30 42.0 -3.7
CLL pmax pmax
comp=Z,184nm,2.2s
SMOL Smolenice 86.79 327 *eP* **P** 12 20 10.3 +0.6
SMOL Smolenice 86.79 327 *eP* **P** 12 20 10.3 +0.6
FBE Freiberg 86.90 330 *eP* **P** 12 20 09.8 -0.4
comp=Z,65nm,1.2s
FBE *epP* **pP** 12 20 19.0 +1.2
J29A Okreek 86.97 40 P **P** 12 20 11.4 +0.6
baz=87
KORT Korkueli 86.99 312 *i* P **P** 12 20 10.1 -1.0
GOPC GO Pecny, Ondr 87.01 329 *eP* **P** 12 20 10.6 -0.2
GOPC *epP* **pP** 12 20 20.5 +2.1
GOPC *ePP* **PP** 12 23 36.0 +2.6
GOPC *eSKS* **SKSac** 12 30 31.6 -5.0
GOPC *eSS* **SS** 12 36 27.6 -2.3
GOPC AMS AMS 13 03 40.0
comp=Z,5µm,15.6s
PRA Prague 87.06 329 *eP* **P** 12 20 10.4 -0.5
PRA *epP* **PcP** 12 20 12.8 -0.3
PRA *ex* x 12 20 19.7
PRA *ePP* **PP** 12 23 36.1 +2.4
PRA *eSKS* **SKSac** 12 30 35.9 -0.8
PRA AMS AMS 13 03 50.0
comp=Z,4µm,15.3s
PRA Prague 87.06 329 *eP* **P** 12 20 10.4 -0.5
PRA *e*PP* **pP** 12 20 19.7 +1.1
PRA *e* 12 23 36.1
PRA *e* 12 30 35.9
PRA MLR MLR
comp=Z,4µm,15.3s
PRU Pruhonice 87.07 329 *eP* **P** 12 20 10.6 -0.4
PRU *ex* x 12 20 20.2
PRU *ex* x 12 20 24.3
PRU *ePP* **PP** 12 23 36.3 +2.5
PRU *ex* x 12 25 56.9
PRU *eSKS* **SKSac** 12 30 33.3 -3.5
PRU *eSP* **SPn** 12 31 41.5 -4.7
PRU *eSS* **SS** 12 36 28.7 -2.0
PRU AMS AMS 13 03 50.0
comp=Z,4µm,15.6s
PRU Pruhonice 87.07 329 *eP* **P** 12 20 10.6 -0.4
PRU *e*PP* **pP** 12 20 20.2 +1.6
PRU *e* 12 20 24.3
PRU *e* 12 23 36.3
PRU *e* 12 30 33.3
PRU *e* 12 31 41.5
PRU *eSS* SS 12 36 28.7 -2.0
PRU MLR MLR
comp=Z,4µm,15.6s
TUC Tucson 87.11 54 *eP* **P** 12 20 12.3 +0.5
comp=Z,21nm,1.4s
TUC LR LR
comp=Z,5µm,19.0s
I30A Oacoma 87.14 39 P **P** 12 20 11.4 -0.2
baz=87
TREC Trest 87.14 328 *eP* **P** 12 20 11.2 -0.2
TREC *ex* x 12 20 20.0
TREC *ePP* **PP** 12 23 37.4 +3.0
TREC *ex* x 12 26 00.0
TREC *eSKS* **SKSac** 12 30 33.3 -4.1
TREC *eSP* **SPn** 12 31 43.5 -3.7
TREC *eSS* **SS** 12 36 31.8 -0.1
TREC AMS AMS 13 01 50.0
comp=Z,4µm,18.5s
TREC Trest 87.14 328 *eP* **P** 12 20 11.2 -0.2
TREC *e*PP* **pP** 12 20 20.0 +0.9
TREC *e* 12 23 37.4
TREC *e* 12 30 33.3
TREC *e* 12 31 43.5
TREC *eSS* SS 12 36 31.8 -0.1
TREC MLR MLR
comp=Z,4µm,18.5s
KULA Kula-Manisa 87.15 314 P **P** 12 20 10.9 -0.9
KULA Kula-Manisa 87.15 314 P **P** 12 20 10.9 -0.9
KDZ Kurdzhali 87.16 318⇓ *iP* **P** 12 20 12.4 +0.7
O26A Horse Wrangler 87.26 44 P **P** 12 20 12.7 +0.3
baz=87
ALN Alexandroupoli 87.27 317 P **P** 12 20 11.2 -0.9
ALN Alexandroupoli 87.27 317 P **P** 12 20 11.2 -0.9
PLD Plovdiv 87.28 318 P **P** 12 20 11.9 -0.3
PLD Plovdiv 87.28 318 P **P** 12 20 11.9 -0.3
MCD Coleburn Disti 87.30 342 *eP* **P** 12 20 12.0 0.0
GOLH Golhisar 87.35 312 *iP* **P** 12 20 10.5 -2.3
NEUB Neuenburg 87.35 331 *eP* **P** 12 20 11.7 -0.7
comp=Z,212nm,2.0s
NEUB *epP* **pP** 12 20 20.9 +0.9
SDCO Great Sand Dun 87.44 47 P **P** 12 20 13.9 +0.4
baz=87
SDCO Great Sand Dun 87.44 47 *eP* **P** 12 20 14.1 +0.6
comp=Z,15nm,1.1s
SDCO LR LR
comp=Z,2µm,19.0s
AKHS Akhisar 87.45 314 *iP* **P** 12 20 11.3 -1.8
J30A Dallas 87.49 40 P **P** 12 20 13.2 -0.1
baz=87
OGNE Ogallala 87.58 43 PFAKE 12 20 30.0 +16
OGNE LR LR
comp=Z,1µm,19.0s
TANN Tannenbergstha 87.66 330 *eP* **P** 12 20 13.3 -0.6
comp=Z,64nm,1.9s
TANN *epP* **pP** 12 20 22.6 +1.0
TANN *ePP* **PP** 12 23 39.3 +0.7
WERD Werda 87.70 330 *eP* **P** 12 20 13.4 -0.7
comp=Z,100nm,2.0s
WERD *epP* **pP** 12 20 22.7 +1.0
WERD *ePP* **PP** 12 23 39.5 +0.6
PLN Plauen 87.73 330 *eP* **P** 12 20 14.0 -0.2
comp=Z,294nm,2.9s
PLN *epP* **pP** 12 20 23.2 +1.3
PLN *ePP* **PP** 12 23 39.6 +0.5
GUNZ Gunzen 87.75 330 *eP* **P** 12 20 13.8 -0.6
comp=Z,143nm,2.2s
GUNZ *epP* **pP** 12 20 23.0 +1.0
GUNZ *ePP* **PP** 12 23 39.8 +0.5
WERN Wernitzgruen 87.79 330 *eP* **P** 12 20 14.0 -0.6
comp=Z,100nm,2.0s
WERN *epP* **pP** 12 20 23.3 +1.1
WERN *ePP* **PP** 12 23 40.2 +0.6
SOP Sopron 87.79 326⇑ *eP* **P** 12 20 14.9 +0.3
NKC Novy Kostel 87.80 330 *eP* **P** 12 20 14.4 -0.2
NKC *epP* **PcP** 12 20 18.4 +1.9
NKC *ex* x 12 20 25.2
NKC *ex* x 12 20 29.1
NKC *ePP* **PP** 12 23 41.8 +2.1
NKC *eSKS* **SKSac** 12 30 42.2 +0.8
NKC *eSP* **SPn** 12 31 55.3 +0.3
NKC AMS AMS 13 08 00.0
comp=Z,4µm,15.6s
NKC Novy Kostel 87.80 330 *eP* **P** 12 20 14.4 -0.2
NKC *e*PP* **pP** 12 20 25.2 +3.0
NKC *e* 12 20 29.1
NKC *e* 12 23 41.8
NKC *e* 12 30 42.2
NKC *e* 12 31 55.3
NKC MLR MLR
comp=Z,4µm,15.6s
PKSM Moragy 87.81 324⇑ *iP* **P** 12 20 14.0 -0.6
PKSM Moragy 87.81 324⇑ *eP* **P** 12 20 14.2 -0.4
VTS Vitosha 87.81 320 P **P** 12 20 14.8 -0.2
VTS Vitosha 87.81 320⇓ *iP* **P** 12 20 15.5 +0.5
VTS Vitosha 87.81 320 P **P** 12 20 14.8 -0.2
SMTH Samothraki Isl 87.84 317 P **P** 12 20 13.7 -1.2
SMTH Samothraki Isl 87.84 317 P **P** 12 20 13.7 -1.2
MOX Moxa 87.84 331 *eP* **P** 12 20 14.1 -0.7
comp=Z,59nm,1.9s
MOX *epP* **pP** 12 20 23.3 +0.9
MOX *ePP* **PP** 12 23 40.5 +0.5
KAC Achnashellach 87.90 343 *eP* **P** 12 20 15.6 +0.7
BOZC Bozcaada 87.92 316 *iP* **P** 12 20 14.4 -0.9
AKAS Kas 87.93 311 *iP* P 12 20 12.2 -3.5
CONA Conrad Observa 87.95 327 *i* PcP **P** 12 20 15.9 +0.4
comp=Z,22nm,1.0s,SNR=11
KAVA Kavala 88.10 318 P **P** 12 20 15.6 -0.5
KAVA Kavala 88.10 318 P **P** 12 20 15.6 -0.5
IBBN Ibbenburen 88.11 334 *eP* **P** 12 20 15.3 -0.7
comp=Z,909nm,3.2s
IBBN *epP* **pP** 12 20 24.4 +0.8
KHC Kasperske Hory 88.12 329 *eP* **P** 12 20 15.9 -0.3
KHC *epP* **PcP** 12 20 19.8 +1.9
KHC *ex* x 12 20 25.1
KHC *ex* x 12 20 30.3
KHC *ePP* **PP** 12 23 44.9 +2.6
KHC *ex* x 12 26 05.1
KHC *eSKS* **SKSac** 12 30 42.7 -0.7
KHC *ex* x 12 31 51.1
KHC *eSS* **SS** 12 36 42.0 -4.2
KHC AMS AMS 13 04 30.0
comp=Z,7µm,15.4s
KHC Kasperske Hory 88.12 329 *eP* **P** 12 20 15.9 -0.3
KHC *e*PP* **pP** 12 20 25.1 +1.3
KHC *e* 12 20 30.3
KHC *e* 12 23 44.9
KHC *e* 12 30 42.7
KHC *eSS* SS 12 36 42.0 -4.2
KHC MLR MLR
comp=Z,7µm,15.4s
KHC Kasperske Hory 88.12 329 *eP* **P** 12 20 15.7 -0.4
comp=Z,7.1nm,1.1s
MANZ Manzenberg 88.13 330 *eP* **P** 12 20 15.7 -0.5
comp=Z,54nm,1.7s
MANZ *epP* **pP** 12 20 24.9 +1.1
MANZ *ePP* **PP** 12 23 42.9 +0.6
EDU Dundee 88.14 341⇑ *eP* **P** 12 20 15.9 -0.1
KPL Plockton 88.14 343 *eP* **P** 12 20 16.3 +0.3
KPL AMS AMS 13 11 37.8
comp=Z,1µm,14.9s
MMB Musomiste 88.17 318⇓ *iP* **P** 12 20 16.0 -0.5
TURN Turunc 88.19 312 *iP* **P** 12 20 16.2 -0.4
NVR Nevrokopi 88.25 318 P **P** 12 20 15.5 -1.4
NVR Nevrokopi 88.25 318 P **P** 12 20 15.5 -1.4
ROTZ Rotzenmuhle 88.25 330 *eP* **P** 12 20 16.5 -0.2
comp=Z,249nm,2.7s
ROTZ *epP* **pP** 12 20 25.8 +1.4
ROTZ *ePP* **PP** 12 23 44.0 +0.7
GEC2 GERESS Array S 88.28 329 *eP* **P** 12 20 16.0 -1.0
comp=Z,103nm,2.4s
GEC2 *epP* **pP** 12 20 25.2 +0.6
GEC2 *ePP* **PP** 12 23 44.4 +0.8
GERES GERESS Array B 88.28 329 P **P** 12 20 16.2 -0.8
comp=Z,4.7nm,0.7s,baz=37,slow=5.2,SNR=25
GERES PP **PP** 12 23 45.5 +1.8
comp=Z,2.5nm,0.7s,baz=41,slow=9.1,SNR=6.2
GERES LR LR 13 03 11.1
comp=Z,5µm,18.3s,baz=46,slow=38
GERES GERESS Array B 88.28 329 P **P** 12 20 16.2 -0.8
GERES 12 23 45.5
GERES pmax pmax
comp=Z,5.0nm,0.7s
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES MLR MLR
comp=Z,5µm,18.3s
EYMN Ely 88.37 33 P **P** 12 20 17.3 -0.1
baz=88
EYMN Ely 88.37 33 *eP* **P** 12 20 17.6 +0.3
comp=Z,33nm,1.1s
EYMN LR LR
comp=Z,1µm,19.0s
UBBA Unterbreizbach 88.38 332 *eP* **P** 12 20 16.6 -0.6
comp=Z,76nm,2.0s
UBBA *epP* **pP** 12 20 25.9 +1.1
UBBA *ePP* **PP** 12 23 43.6 -0.5
R26A Arlington 88.38 46 P **P** 12 20 17.9 +0.2
baz=88
LAZ Ladron 88.39 50 *eP* **P** 12 20 19.0 +1.1
comp=Z,30nm,2.0s
LIA Limnos Island 88.41 316 P **P** 12 20 15.9 -1.7
LIA Limnos Island 88.41 316 P **P** 12 20 15.9 -1.7
WET Wettzell 88.42 329 *eP* **P** 12 20 17.0 -0.6
comp=Z,82nm,2.2s
WET *epP* **pP** 12 20 26.3 +1.1
WET *ePP* **PP** 12 23 45.8 +1.1
SIGR SIGRI 88.44 316 P **P** 12 20 16.8 -1.0
SIGR SIGRI 88.44 316 P **P** 12 20 16.8 -1.0
T25A Trinidad 88.50 47 P **P** 12 20 18.3 -0.1
baz=88
ANMO Albuquerque 88.51 50 *eP* **P** 12 20 19.4 +0.9
ANMO pmax pmax
comp=Z,37nm,1.7s
ANMO MLR MLR
comp=Z,11µm,18.0s
ANMO Albuquerque 88.51 50 *eP* **P** 12 20 19.4 +0.9
comp=Z,12nm,1.2s
ANMO LR LR
comp=Z,4µm,19.0s
URLA Izmir 88.52 315 *iP* P 12 20 14.8 -3.4
BEHE Becsehely 88.55 325⇑ *eP* **P** 12 20 18.1 -0.1
SRS Serrai 88.55 318 P **P** 12 20 17.2 -1.1
SRS Serrai 88.55 318 P **P** 12 20 17.2 -1.1
DIVS Divibare 88.56 322 P **P** 12 20 17.6 -0.8
DIVS Divibare 88.56 322⇓ *iP* **P** 12 20 18.2 -0.2
ESY Stoneypath 88.57 341⇑ *eP* **P** 12 20 17.8 -0.3
ARSA Arzberg 88.59 327⇑ *iP* **P** 12 20 17.4 -1.0
comp=Z,8.8nm,0.9s,SNR=7.1
GRF Grafenberg Arr 88.73 330 *eP* **P** 12 20 18.6 -0.4
comp=Z,224nm,2.2s
GRF *epP* **pP** 12 20 27.9 +1.3
GRF *eL* L 13 02 39.3
comp=Z,2µm,19.9s
ECSD EROS Data Cent 88.78 38 P **P** 12 20 19.4 0.0
baz=89
ECSD EROS Data Cent 88.78 38 *eP* **P** 12 20 18.7 -0.6
comp=Z,18nm,0.9s
ECSD LR LR
comp=Z,2µm,20.0s
SMG Samos 88.78 314 P **P** 12 20 18.8 -0.7
SMG Samos 88.78 314 P **P** 12 20 18.8 -0.7
EBL Broad Law 88.82 341⇑ *eP* **P** 12 20 19.0 -0.3
DAMY Dhamar 88.83 286 *eP* **P** 12 20 20.6 +0.2
comp=Z,53nm,1.0s
OUR Ouranopolis 88.83 317 P **P** 12 20 18.7 -0.9
OUR Ouranopolis 88.83 317 P **P** 12 20 18.7 -0.9
CHOS Chios island 88.84 315 P **P** 12 20 19.1 -0.7
CHOS Chios island 88.84 315 P **P** 12 20 19.1 -0.7
KNT Kendrikon 88.92 319 P **P** 12 20 18.9 -1.2
KNT Kendrikon 88.92 319 P **P** 12 20 18.9 -1.2
BUG Bochum--Univer 88.98 333 *eP* **P** 12 20 19.1 -1.0
comp=Z,337nm,2.8s
BUG *epP* **pP** 12 20 28.4 +0.7
T26A Comanche Natio 88.99 47 P **P** 12 20 21.1 +0.4
baz=89
VAY Valandovo 89.00 319 P **P** 12 20 19.4 -1.0
VAY Valandovo 89.00 319 P **P** 12 20 19.4 -1.0
121A Cookes Peak, D 89.06 52 P **P** 12 20 21.3 +0.2
baz=89
121A Cookes Peak, D 89.06 52 *eP* **P** 12 20 22.3 +1.2
comp=Z,50nm,1.7s
MSEY Mahe Island 89.12 264 PFAKE 12 20 30.0 +8.6
MSEY LR LR
comp=Z,2µm,20.0s
SKO Skopje 89.21 320 P **P** 12 20 21.4 0.0
SKO Skopje 89.21 320 P **P** 12 20 21.4 0.0
PERS Pernice 89.23 326 *iP* **P** 12 20 21.0 -0.4
PERS *i* 12 20 31.5
PERS *i* PP **PP** 12 23 54.2 +2.9
PERS *eS* **S** 12 31 08.4 -1.0
EKA Eskdalemuir Ar 89.23 341 PP PP 12 23 54.5 +3.6
comp=Z,4.4nm,1.0s,baz=37,slow=7.1,SNR=3.8
SOKA Soboth 89.24 326⇑ *iPcP* **P** 12 20 21.2 -0.3
comp=Z,23nm,0.9s,SNR=17
ESK Eskdalemuir 89.26 341 *eP* **P** 12 20 21.9 +0.6
ESK AMB AMB 12 20 23.6
comp=Z,33nm,2.8s
ESK AMS AMS 13 09 46.1
comp=Z,17.5s
ESK AMS AMS 13 09 46.6
comp=Z,6µm,17.6s
ESK Eskdalemuir 89.26 341 *eP* **P** 12 20 21.7 +0.4
comp=Z,29nm,1.1s
ESK LR LR
comp=Z,2µm,19.0s
ECK Cauldkaine Hil 89.36 341⇑ *eP* **P** 12 20 21.8 0.0
GOLS Golise 89.44 326 *eP* **P** 12 20 22.0 -0.4
TNS Taunus Mts 89.47 332 *eP* **P** 12 20 21.8 -0.7
comp=Z,220nm,3.0s
TNS *epP* **pP** 12 20 31.0 +0.8
TNS *ePP* **PP** 12 23 53.4 +0.3
RJOB Jochberg 89.50 328 *eP* **P** 12 20 22.1 -0.6
RJOB *epP* **pP** 12 20 31.3 +0.9
OBKA Obir 89.59 327⇑ *iPcP* **P** 12 20 22.6 -0.6
comp=Z,15nm,0.9s,SNR=5.7
AOS Alonnisos 89.65 317 P **P** 12 20 20.9 -2.6
AOS Alonnisos 89.65 317 P **P** 12 20 20.9 -2.6
SPMN Marine on St. 89.70 35 P **P** 12 20 23.6 0.0
baz=90
SPMN Marine on St. 89.70 35 *eP* **P** 12 20 23.7 +0.1
comp=Z,29nm,1.0s
KBA Koelnbreinsper 89.74 328 *i* PcP **P** 12 20 23.2 -0.8
comp=Z,16nm,0.7s,SNR=12
LIT Litokhoron 89.85 318 P **P** 12 20 23.2 -1.3
LIT Litokhoron 89.85 318 P **P** 12 20 23.2 -1.3
FUR Furstenfeldbru 89.86 329 *eP* **P** 12 20 23.8 -0.5
comp=Z,198nm,1.9s
FUR *epP* **pP** 12 20 33.0 +1.0
FUR *ePP* **PP** 12 23 57.5 +1.3
KESW Keswick, Cumbr 89.86 340 *eP* **P** 12 20 24.2 +0.1
KESW AMS AMS 13 04 36.0
comp=Z,2µm,20.4s
KARP Karpathos 89.92 312 P **P** 12 20 23.7 -1.2
KARP Karpathos 89.92 312 P **P** 12 20 23.7 -1.2
XOR Xorichti 89.92 317 P **P** 12 20 22.7 -2.1
XOR Xorichti 89.92 317 P **P** 12 20 22.7 -2.1
MYKA Terra Mystica 89.93 327⇑ *iP* **P** 12 20 23.8 -1.0
comp=Z,18nm,0.9s,SNR=8.9
LJU Ljubljana 89.94 326 *eP* **P** 12 20 23.8 -0.9
VISS Visnje 89.97 326 *iP* **P** 12 20 24.1 -0.8
VISS *i* 12 20 34.4
VISS *i* PP **PP** 12 23 59.3 +2.2
VISS *eSKSac* **SKSac** 12 30 55.8 +1.5
VISS *eS* **S** 12 31 16.7 +0.5
HPK Haverah Park 89.97 339⇑ *eP* **P** 12 20 24.9 +0.2
HPK AMB AMB 12 20 26.5
comp=Z,58nm,0.9s
HPK AMS AMS 13 04 30.2
comp=Z,2µm,18.7s
BOJS Bojanci 89.98 326 *iP* **P** 12 20 24.5 -0.5
BOJS *i* 12 20 35.0
BOJS *i* PP **PP** 12 23 59.5 +2.3
BOJS *eSKSac* **SKSac** 12 30 52.4 -2.0
BOJS *eS* **S** 12 31 12.9 -3.5
APE Apeiranthos 89.99 314*c* *iP* **P** 12 20 22.8 -2.4
APE pmax pmax
comp=Z,84nm,2.0s
APE Apeiranthos 89.99 314⇑ *iP* **P** 12 20 23.9 -1.3
FNA Florina 90.03 319 P **P** 12 20 23.7 -1.6
FNA Florina 90.03 319 P **P** 12 20 23.7 -1.6
P31A Stockton 90.05 43 P **P** 12 20 25.2 -0.2
baz=90
BEBN Eben Emael 90.10 334 P **P** 12 20 25.3 -0.1
L34A Svendsen Farm, 90.11 39 P **P** 12 20 25.7 +0.1
baz=90
MEM Membach 90.13 334 P **P** 12 20 25.2 -0.3
JAVS Javornik 90.27 326 *iP* **P** 12 20 25.1 -1.3
JAVS *i* 12 20 35.8
JAVS *iPP* **PP** 12 24 01.8 +1.7
JAVS *iS* **S** 12 31 14.7 -4.6
JAVS *eSS* **SS** 12 37 24.1 +6.4
STU Stuttgart 90.29 331 *eP* **P** 12 20 25.6 -0.7
STU *epP* **pP** 12 20 34.8 +0.9
STU *ePP* **PP** 12 24 00.5 +1.0
CBKS Cedar Bluff 90.30 43 P **P** 12 20 26.8 +0.2
baz=90
CBKS Cedar Bluff 90.30 43 PFAKE 12 20 40.0 +13
CBKS LR LR
comp=Z,1µm,20.0s
ABTA Abfaltersbach 90.37 328⇑ *iP* **P** 12 20 25.6 -1.2
comp=Z,20nm,0.9s,SNR=11
LHO Holmfirth 90.40 339⇑ *eP* **P** 12 20 26.6 -0.1
ATAL Atalanti 90.47 317 P **P** 12 20 25.3 -2.0
ATAL Atalanti 90.47 317 P **P** 12 20 25.3 -2.0
SANT Santorini 90.48 314 PFAKE 12 20 40.0 +13
SANT LR LR
comp=Z,1µm,20.0s
TIR Tirane 90.50 320 PFAKE 12 20 40.0 +13
TIR LR LR
comp=Z,5µm,19.0s
MOTA Moosalm 90.56 329⇑ *iPcP* **P** 12 20 27.3 -0.4
comp=Z,8.8nm,0.8s,SNR=5.7
UCC Uccle 90.60 335 P **P** 12 20 27.4 -0.2
RETA Reutte 90.60 329⇑ *iPcP* **P** 12 20 27.7 -0.1
comp=Z,13nm,0.8s,SNR=11
AGG Agios Georgios 90.66 317 P P 12 20 24.3 -3.9
AGG Agios Georgios 90.66 317 P P 12 20 24.3 -3.9
ZKR Zakros 90.79 312 P **P** 12 20 28.1 -0.8
ZKR Zakros 90.79 312 P **P** 12 20 28.1 -0.8
WLF Walferdange 90.83 333 *eP* **P** 12 20 28.5 -0.3
WLF *epP* **pP** 12 20 37.7 +1.3
WLF *ePP* **PP** 12 24 04.7 +1.0
WLF Walferdange 90.83 333 PFAKE 12 20 40.0 +11
WLF LR LR
comp=Z,3µm,19.0s
FETA Feichten 90.97 329⇓ *iPcP* **P** 12 20 29.2 -0.5
comp=Z,15nm,0.8s,SNR=13
BFO Black Forest 91.00 331 *eP* **P** 12 20 28.8 -0.8
BFO *epP* **pP** 12 20 38.0 +0.7
BFO Black Forest 91.00 331 PFAKE 12 20 40.0 +10
BFO LR LR
comp=Z,2µm,20.0s
P33A Williams Farm, 91.08 42 P **P** 12 20 30.0 -0.2
baz=91
DOU Dourbes 91.08 334 P **P** 12 20 30.4 +0.5
DAVA Damuels 91.14 330⇑ *iPcP* **P** 12 20 30.2 -0.3
comp=Z,24nm,0.9s,SNR=13
LAST Lasithi 91.23 313 P **P** 12 20 30.4 -0.6
LAST Lasithi 91.23 313 P **P** 12 20 30.4 -0.6
Q33A Connelly Farm, 91.29 42 P **P** 12 20 31.5 +0.3
baz=91
GUR Goura 91.36 316 P **P** 12 20 29.1 -2.5
GUR Goura 91.36 316 P **P** 12 20 29.1 -2.5
FOEL Foel Wylfa 91.37 340 *eP* **P** 12 20 31.1 -0.1
FOEL AMB AMB 12 20 33.1
comp=Z,64nm,0.9s
FOEL AMS AMS 13 05 22.4
comp=Z,2µm,18.5s
SCHQ Schefferville 91.40 16 P **P** 12 20 31.0 -0.3
comp=Z,5.3nm,0.9s,baz=353,slow=5.7,SNR=5.0
SCHQ LR LR 13 10 34.5
comp=Z,287nm,18.0s,baz=350,slow=42
KLV Kalavryta, Ach 91.41 317 P **P** 12 20 29.5 -2.3
KLV Kalavryta, Ach 91.41 317 P **P** 12 20 29.5 -2.3
P34A Walnut Farm, R 91.50 41 P **P** 12 20 32.0 -0.1
baz=91
MSTX Muleshoe 91.51 49 *eP* **P** 12 20 35.4 +3.0
comp=Z,14nm,1.2s
IDI Anoyia 91.52 313 P **P** 12 20 31.1 -1.3
comp=Z,13nm,0.9s,baz=50,slow=13
O35A Humboldt 91.53 40 P **P** 12 20 32.4 +0.2
baz=91
DAVOX Davos/Dischmat 91.53 329 P **P** 12 20 32.1 -0.2
baz=41,slow=10
DAVOX PP **PP** 12 24 12.8 +3.2
comp=Z,2.3nm,0.4s,baz=42,slow=10,SNR=5.3
DAVOX Davos/Dischmat 91.53 329 P **P** 12 20 32.1 -0.2
DAVOX 12 24 12.8
DAVOX pmax pmax
comp=Z,2.0nm,0.4s
ECH Echery 91.57 332⇑ *eP* **P** 12 20 32.0 -0.3
ECH Echery 91.57 332 *eP* **P** 12 20 32.2 -0.1
comp=Z,30nm,1.1s
ECH LR LR
comp=Z,2µm,20.0s
HLM1 Long Mynd 91.60 339 *eP* **P** 12 20 32.2 0.0
HLM1 AMS AMS 13 05 49.8
comp=Z,2µm,20.6s
AMTX Amarillo 91.64 47 P **P** 12 20 32.7 -0.2
baz=92
AMTX Amarillo 91.64 47 *eP* **P** 12 20 33.5 +0.6
comp=Z,31nm,1.0s

VLI	Veliai	91.81	315	P		P	12 20 30.8	-2.8	
VLI	Veliai	91.81	315	P		P	12 20 30.8	-2.8	
SCIA	State Center	91.84	38	PFAKE			12 20 50.0	+16	
SCIA	comp=Z,2μm,19.0s			LR	LR				
MOF	Molkenrain	91.87	331⇑	*e*P		P	12 20 33.4	-0.4	
X29A	Tulia	91.90	48	P		P	12 20 34.8	+0.6	
KSU1	baz=92 Kansas State U	91.92	41	*e*P		P	12 20 34.5	+0.5	
KSU1	comp=Z,67nm,1.0s			LR	LR				
P35A	comp=Z,1μm,22.0s Duane Minner,	91.97	41	P		P	12 20 34.0	-0.3	
TUE	baz=92 Stuetta	92.00	329	PFAKE			12 20 50.0	+15	
TUE	comp=Z,3μm,19.0s			LR	LR				
STRD	Stroud	92.02	339	*e*P		P	12 20 34.1	-0.1	
STRD	comp=Z,98nm,1.2s			AMB	AMB		12 20 35.5		
STRD	comp=Z,2μm,15.2s			AMS	AMS		13 09 03.8		
THEF	They Montfort	92.04	332⇑	*e*P		P	12 20 34.0	-0.4	
MCH1	Michaelchurch	92.08	339	*e*P		P	12 20 34.5	0.0	
MCH1	comp=Z,48nm,1.6s			AMB	AMB		12 20 36.5		
MCH1	comp=Z,2μm,18.2s			AMS	AMS		13 08 21.6		
R34A	Isabella, Hill	92.10	42	P		P	12 20 34.9	0.0	
ANKY	baz=92 Antikythira Is	92.14	314	P		P	12 20 32.9	-2.2	
ANKY	Antikythira Is	92.14	314	P		P	12 20 32.9	-2.2	
Z28A	Tucker Farm, M	92.19	49	P		P	12 20 35.5	-0.1	
Y29A	baz=92 Porterfield Fa	92.29	48	P		P	12 20 36.2	+0.2	
GVD	baz=92 Gavdhos	92.31	313	P		P	12 20 34.6	-1.3	
GVD	Gavdhos	92.31	313	P		P	12 20 34.6	-1.3	
P36A	Good Intent, A	92.36	40	P		P	12 20 36.1	0.0	
LOMF	baz=92 Lomont	92.39	331⇑	*e*P		P	12 20 35.7	-0.5	
PYL	PYLOS	92.41	316	P		P	12 20 34.1	-2.3	
PYL	PYLOS	92.41	316	P		P	12 20 34.1	-2.3	
Q35A	Mercer Eighty,	92.42	41	P		P	12 20 36.2	-0.2	
W31A	baz=92 Holland Ranch,	92.53	46	P		P	12 20 37.1	+0.1	
128A	baz=92 Castleberry Fa	92.55	50	P		P	12 20 37.2	0.0	
JFWS	baz=92 Jewell Farm	92.64	35	PFAKE			12 20 50.0	+13	
JFWS	comp=Z,1μm,20.0s			LR	LR				
Z29A	Hungry Hill Ra	92.65	49	P		P	12 20 38.2	+0.6	
228A	baz=92 UT Block 9, Go	92.79	50	P		P	12 20 39.3	+0.9	
X31A	baz=93 McDonald Ranch	92.87	47	P		P	12 20 39.0	+0.4	
T34A	baz=93 McClaskey Farm	92.99	43	P		P	12 20 39.7	+0.6	
Z30A	baz=93 Sanderson Ranc	93.01	48	P		P	12 20 39.9	+0.6	
S35A	baz=93 Otter Creek Ra	93.06	42	P		P	12 20 39.8	+0.4	
R36A	baz=93 Gordon, Harris	93.09	41	P		P	12 20 39.2	-0.2	
HEX	baz=93 Exmoor	93.14	339	*e*P		P	12 20 39.1	-0.3	
U34A	Anderson Ranch	93.18	44	*e*P		P	12 20 40.8	+0.8	
AQU	comp=Z,44nm,1.1s L'Aquila	93.19	324	PFAKE			12 20 50.0	+10	
AQU	comp=Z,5μm,20.0s			LR	LR				
VLC	Villacollemand	93.30	327	PFAKE			12 20 50.0	+10	
VLC	comp=Z,4μm,19.0s			LR	LR				
X32A	Elmer	93.44	46	P		P	12 20 41.6	+0.4	
S36A	baz=93 Lake Cedric, C	93.45	42	P		P	12 20 41.2	+0.1	
R37A	baz=93 Teagarden Farm	93.48	41	P		P	12 20 41.2	0.0	
WMOK	baz=93 Wichita Mounta	93.55	46	*e*P		P	12 20 39.1	-2.6	
WMOK	comp=Z,19nm,1.1s			LR	LR				
130A	comp=Z,2μm,20.0s Snyder	93.55	49	P		P	12 20 41.2	-0.6	
329A	baz=93 Wagon Wheel Ra	93.59	50	P		P	12 20 42.8	+0.8	
Y32A	baz=93 R-V Farms, Ver	93.62	47	P		P	12 20 42.0	0.0	
Z31A	baz=93 Sharp Cattle R	93.62	48	P		P	12 20 42.1	+0.1	
CUC	baz=93 Castrocucco	93.65	321	PFAKE			12 20 50.0	+7.9	
CUC	comp=Z,2μm,22.0s			LR	LR				
TIP	Timpagrande	93.71	320	P		PP	12 24 27.7	+0.8	
TIP	Timpagrande	93.71	320	PFAKE			12 20 50.0	+7.6	
TIP	comp=Z,2μm,20.0s			LR	LR				
T36A	Boggs Farm, Ca	93.73	43	P		P	12 20 43.0	+0.6	
RSL	baz=94 Roselend	93.80	330⇑	*e*P		P	12 20 42.1	-0.7	
TXAR	Lajitas Array	93.80	53	P		P	12 20 43.8	+0.7	
TXAR	comp=Z,16nm,0.8s,baz=301,slow=2.6,SNR=87			LR	LR		13 04 29.5		
TXAR	comp=Z,3μm,18.0s,baz=0.0,slow=36 Lajitas Array	93.80	53	P		P	12 20 43.8	+0.7	
TXAR	comp=Z,16nm,0.8s			pmax	pmax				
TXAR	comp=Z,3μm,18.0s			MLR	MLR				
W34A	Bridge Creek,	93.84	45	*e*P		P	12 20 44.0	+1.0	
GLMI	comp=Z,44nm,1.1s Grayling	93.85	31	PFAKE			12 20 50.0	+7.1	
GLMI	comp=Z,1μm,20.0s			LR	LR				
S37A	Fort Scott	93.86	42	P		P	12 20 43.0	0.0	
131A	baz=94 Roby	93.88	48	P		P	12 20 43.9	+0.6	
230A	baz=94 Sterling City	93.91	49	P		P	12 20 43.8	+0.3	
Z32A	baz=94 Haskell	94.05	47	P		P	12 20 44.4	+0.4	
330A	baz=94 Mertzon	94.18	50	P		P	12 20 44.9	+0.2	
429A	baz=94 Davenport Ranc	94.19	51	P		P	12 20 44.9	+0.1	
T37A	baz=94 Cheneyville 18	94.25	42	P		P	12 20 45.0	+0.2	
BNI	baz=94 Bardonecchia	94.28	330	*e*P		P	12 20 45.5	+0.5	
BNI	comp=Z,31nm,0.9s			LR	LR				
529A	comp=Z,4μm,20.0s Stev Forest Ra	94.29	51	P		P	12 20 46.1	+0.8	
ABTX	baz=94 Abilene, Hawle	94.39	48	P		P	12 20 46.2	+0.6	
ABTX	baz=94 Abilene, Hawle	94.39	48	*e*P		P	12 20 46.5	+0.9	
231A	comp=Z,91nm,1.5s Bronte	94.40	49	P		P	12 20 46.1	+0.4	
W35A	baz=94 Tecumseh	94.44	45	P		P	12 20 46.2	+0.5	
V36A	baz=94 Jenks	94.57	44	P		P	12 20 46.5	+0.2	
TUL1	baz=94 Leonard	94.57	43	*e*P		P	12 20 47.5	+1.2	
U37A	comp=Z,16nm,0.8s Salina	94.63	43	P		P	12 20 46.3	-0.2	
331A	baz=94 San Angelo	94.73	49	P		P	12 20 47.5	+0.3	
SAOF	baz=95 Saorge	94.73	329⇑	*e*P		P	12 20 45.3	-1.6	
PLDF	La Plantade	94.82	332⇑	*e*P		P	12 20 46.5	-0.8	
CEL	Celeste	94.84	320	P		P	12 20 46.6	-0.9	
CEL	comp=Z,44nm,0.9s			LR	LR				
TOUF	comp=Z,2μm,19.0s Mont Tournerai	94.84	329⇑	*e*P		P	12 20 46.7	-1.0	
HDIL	Hopedale	94.86	36	PFAKE			12 21 00.0	+12	
HDIL	comp=Z,2μm,19.0s			LR	LR				
232A	Coleman	94.86	49	P		P	12 20 47.6	-0.2	
530A	baz=95 J-C Ranch, Com	94.87	51	P		P	12 20 48.8	+1.0	
	baz=95								

X35A	Drake	94.88	45	P		P	12 20 48.2	+0.4	
V37A	baz=95 Hulbert	94.97	43	P		P	12 20 48.3	+0.1	
MVIF	baz=95 Mont Vial	94.98	329⇑	*e*P		P	12 20 47.2	-1.0	
SSB	Saint Sauveur	95.00	331⇑	*e*P		P	12 20 47.7	-0.5	
SSB	Saint Sauveur	95.00	331	*e*P		P	12 20 48.0	-0.2	
SSB	comp=Z,22nm,1.0s			*e*pP		pP	12 20 58.3	+2.5	
SSB	comp=Z,2μm,19.0s			LR	LR				
REVF	Revere	95.01	329⇑	*e*P		P	12 20 48.2	0.0	
431A	Sonora	95.01	50	P		P	12 20 49.0	+0.5	
332A	baz=95 Millersview	95.13	49	P		P	12 20 49.4	+0.4	
X36A	baz=95 Centrahoma	95.15	45	P		P	12 20 49.4	+0.4	
COLF	baz=95 Collangettes	95.16	332⇑	*e*P		P	12 20 48.8	-0.1	
CALN	Calern	95.21	329⇑	*e*P		P	12 20 47.7	-1.6	
233A	Rising Star	95.26	48	P		P	12 20 50.6	+1.0	
W37A	baz=95 Quinton	95.32	44	P		P	12 20 49.7	0.0	
531A	baz=95 Rocksprings	95.38	50	P		P	12 20 50.8	+0.6	
V38A	baz=95 Canehill	95.42	43	P		P	12 20 50.2	0.0	
432A	baz=95 Menard	95.42	49	P		P	12 20 50.2	-0.2	
LBL	baz=95 Lubilhac	95.57	332	*e*P		P	12 20 51.5	+0.7	
333A	Richland Sprin	95.66	49	P		P	12 20 51.4	0.0	
JCT	baz=96 Junction City	95.67	50	P		P	12 20 51.7	+0.2	
JCT	baz=96 Junction City	95.67	50	*e*P		P	12 20 52.1	+0.5	
JCT	comp=Z,38nm,1.3s			LR	LR				
234A	comp=Z,3μm,19.0s Clairette	95.75	48	P		P	12 20 52.0	+0.2	
532A	baz=96 Rocksprings	95.83	50	P		P	12 20 52.6	+0.3	
631A	baz=96 Perdido Creek	95.85	51	P		P	12 20 52.8	+0.5	
X38A	baz=96 Whitesboro	96.00	44	P		P	12 20 53.1	+0.2	
RKT	baz=96 Rikitea	96.06	113	*e*PS		PS	12 33 30.6	-2.4	
RKT	comp=Z,782nm,33.0s			*e*SS		SS	12 38 39.0	-3.9	
RKT	comp=Z,936nm,27.8s Rikitea	96.06	113	*e*LR		LR	12 51 19.3		
SFIN	comp=Z,2μm,23.5s Lafayette	96.10	35	P		P	12 20 53.3	+0.1	
334A	baz=96 Lometa	96.13	48	P		P	12 20 53.6	0.0	
WHTX	baz=96 Lake Whitney,	96.19	47	P		P	12 20 54.3	+0.5	
WHTX	baz=96 Lake Whitney,	96.19	47	*e*P		P	12 20 54.8	+1.0	
AAM	comp=Z,25nm,1.0s Ann Arbor	96.26	32	PFAKE			12 21 10.0	+16	
AAM	comp=Z,2μm,19.0s			LR	LR				
MIAR	Mount Ida	96.83	43	P		P	12 20 56.9	+0.3	
MIAR	baz=97 Mount Ida	96.83	43	*e*P		P	12 20 57.1	+0.5	
MIAR	comp=Z,16nm,1.0s			LR	LR				
534A	comp=Z,1μm,19.0s Blanco	96.84	49	P		P	12 20 57.4	+0.6	
DRV	baz=97 Dumont d'Urvil	97.01	181	P		P	12 20 55.0	-1.4	
DRV				PP	PP		12 24 35.0	-18	
DRV				S	S		12 31 51.0	-26	
DRV				L	L		12 47 00.0		
DRV				R			12 55 00.0		
WDD	Wield Dalam	97.32	319	PFAKE			12 21 10.0	+11	
WDD	comp=Z,1μm,19.0s			LR	LR				
VSL	Villasalto	97.35	325	PFAKE			12 21 10.0	+11	
VSL	comp=Z,2μm,20.0s			LR	LR				
LONY	Lake Ozonia	98.11	25	PFAKE			12 21 10.0	+7.7	
LONY	comp=Z,2μm,19.0s			LR	LR				
ACSO	Alum Creek Sta	98.21	33	PFAKE			12 21 10.0	+7.2	
ACSO	comp=Z,2μm,19.0s			LR	LR				
NCB	Newcomb	98.80	25	PFAKE			12 21 20.0	+15	
NCB	comp=Z,2μm,19.0s			LR	LR				
PKME	Peaks-Kenny Pk	99.36	22	PFAKE			12 21 20.0	+12	
PKME	comp=Z,769nm,20.0s			LR	LR				
CASY	Casey	99.53	192	PFAKE			12 21 20.0	+12	
CASY	comp=Z,890nm,20.0s			LR	LR				
KEST	Kesra	100.24	322	P		Pdif	12 21 11.5	-0.5	
KEST	comp=Z,0.7nm,0.8s,baz=333,slow=4.5,SNR=3.1			PP		PP	12 25 20.4	+3.2	
CMAH	comp=Z,2.2nm,0.9s,baz=35,slow=6.4,SNR=5.2 Djebel Manchou	100.54	324	P		PP	12 25 20.7	+1.3	
ABSA	Djebel Ababsia	100.79	324	P		PP	12 25 23.9	+2.6	
CKFL	Kef-Lekhel	101.07	324	P		PP	12 25 22.5	-1.0	
DFRA	Djebel Bou Aff	101.38	325	P		PP	12 25 23.3	-2.4	
CTEI	Djebel Teioual	101.49	324	P		PP	12 25 28.4	+1.7	
BLA	Blacksburg	101.82	33	PFAKE			12 21 30.0	+11	
BLA	comp=Z,1μm,19.0s			LR	LR				
PAF	Port-aux-Franc	101.82	219	PP		PP	12 25 10.0	-20	
PAF				SKKS			12 31 52.0		
PAF				SP		SP	12 34 37.0	+5.9	
PAF				SS		SS	12 39 49.0	-14	
PAF				L	L		12 49 00.0		
PAF				R			12 55 00.0		
CBN	Corbin Frederi	102.39	31	PFAKE			12 21 30.0	+8.6	
CBN	comp=Z,1μm,19.0s			LR	LR				
ESDC	Sonseca Array	103.11	333	PP		PP	12 25 38.5	-0.1	
BRAL	comp=Z,3.1nm,0.8s,baz=30,slow=6.6,SNR=9.3 Brewton	103.16	42	PFAKE			12 21 40.0	+15	
BRAL	comp=Z,1μm,19.0s			LR	LR				
ABPO	Ambohimpanom	103.19	256	PFAKE			12 21 40.0	+15	
ABPO	comp=Z,952nm,20.0s			LR	LR				
GOGA	Godfrey	103.31	38	PFAKE			12 21 40.0	+14	
GOGA	comp=Z,3μm,19.0s			LR	LR				
PAB	San Pablo	103.37	334	PFAKE			12 21 40.0	+14	
PAB	comp=Z,2μm,21.0s			LR	LR				
CNNC	Cliffs of the	104.61	33	PFAKE			12 21 40.0	+8.7	
CNNC	comp=Z,2μm,19.0s			LR	LR				
NHSC	New Hope	105.23	36	PFAKE			12 26 00.0		
NHSC	comp=Z,1μm,19.0s			LR	LR				
LIS	Lisbon	105.84	337	*e*PP		PP	12 25 59.8	+1.2	
LIS	comp=E,3μm,23.1s			AMS	AMS		13 08 30.9		
MESJ	Messejana	106.31	336	*e*PP		PP	12 26 03.2	+1.2	
MESJ	comp=Z,2μm,21.1s			AMS	AMS		13 18 24.3		
MORF	Marmelete	106.94	336	*e*PP		PP	12 26 07.7	+0.9	
MORF	comp=E,2μm,27.2s			AMS	AMS		13 11 21.1		
MBAR	Mbarara	108.29	280	PFAKE			12 26 10.0		
MBAR	comp=Z,786nm,21.0s			LR	LR				
VNDA	Vanda	108.60	175	PP		PP	12 26 22.3	+2.9	
SBA	comp=Z,1.2nm,0.8s,baz=338,slow=8.5,SNR=4.0 Scott Base	109.28	175	PFAKE			12 26 10.0		
SBA	comp=Z,613nm,20.0s			LR	LR				
MDT	Midelt	109.30	330	PP		PP	12 26 22.5	-1.8	
TEIG	comp=Z,2.8nm,0.8s,baz=52,slow=3.9,SNR=5.0 Tepich	110.24	50	PFAKE			12 26 10.0		
TEIG	comp=Z,2μm,22.0s			LR	LR				
CRZF	Crozet Islands	111.39	228	PP		PP	12 26 24.0	-16	
CRZF				SP		SP	12 35 50.0	-19	
CRZF				SS		**SS**	**12 42 14.0**	**+0.9**	
CRZF				R			13 00 00.0		
TAM		112.25	316	PFAKE			12 26 10.0		
TAM	comp=Z,1μm,21.0s			LR	LR				
BBSR	BB Station	112.52	24	PFAKE			12 26 10.0		
BBSR	comp=Z,793nm,22.0s			LR	LR				
LSZ	Lusaka	117.70	268	PFAKE			12 26 20.0	+7.6	
LSZ	comp=Z,2μm,20.0s			LR	LR				
MTDJ	Mount Denham	118.47	43	PFAKE			12 26 30.0	+16	
MTDJ	comp=Z,916nm,22.0s			LR	LR				
GTBY	Guantanamo Bay	118.51	40	PFAKE			12 26 30.0	+16	
GTBY	comp=Z,2μm,20.0s			LR	LR				
GRTK	Grand Turk	119.30	35	PFAKE			12 26 30.0	+15	
GRTK	comp=Z,1μm,19.0s			LR	LR				
JTS	JuntasAbangare	119.47	55	PFAKE			12 26 30.0	+14	
JTS	comp=Z,700nm,20.0s			LR	LR				
QSPA	South Pole Qui	120.40	180	PFAKE			12 26 30.0	+14	
QSPA	comp=Z,1μm,21.0s			LR	LR				
SDDR	Presa de Saban	121.33	37	PFAKE			12 26 30.0	+11	
SDDR	comp=Z,1μm,19.0s			LR	LR				
TORD	Torodi Ar. Bea	121.92	312	PP		PP	12 27 49.1	-4.3	
TORD	comp=Z,5.2nm,1.0s,baz=28,slow=4.8,SNR=4.3			PKKPbc		**PKKPab**	**12 36 19.9**	**-0.4**	
PAYG	comp=Z,1.6nm,1.0s,baz=230,slow=4.5,SNR=4.6 Puerto Ayora	122.44	69	PFAKE			12 26 30.0	+8.5	
PAYG	comp=Z,883nm,19.0s			LR	LR				
SYO	Syowa Base	122.57	205⇑	*e*P		**PKPdf**	**12 26 19.6**	**-0.4**	
BCIP	Isla Barro Col	123.82	52	PFAKE			12 26 40.0	+16	
BCIP	comp=Z,818nm,19.0s			LR	LR				
SJG	San Juan	124.61	33	PFAKE			12 26 40.0	+14	
SJG	comp=Z,865nm,19.0s			LR	LR				
ANWB	Willy Bob	126.91	28	PFAKE			12 26 40.0	+10	
ANWB	comp=Z,941nm,22.0s			LR	LR				
TSUM	Tsumeb	128.52	269	PFAKE			12 26 40.0	+6.9	
TSUM	comp=Z,2μm,21.0s			LR	LR				
FDF	Fort de France	129.81	29	PFAKE			12 26 50.0	+14	
FDF	comp=Z,1μm,21.0s			LR	LR				
SDV	Santo Domingo	129.91	44	PFAKE			12 26 50.0	+14	
SDV	comp=Z,971nm,19.0s			LR	LR				
SUR	Sutherland	130.15	252	PFAKE			12 26 50.0	+14	
SUR	comp=Z,1μm,21.0s			LR	LR				
ROSC	El Rosal	130.67	51	PKP		**PKPdf**	**12 26 38.2**	**+0.5**	
DBIC	comp=Z,3.4nm,0.3s,baz=285,slow=20,SNR=2.0 Dimbokro	131.00	314	PKP		**PKPdf**	**12 26 38.1**	**+0.3**	
DBIC	comp=Z,10.0nm,0.7s,baz=65,slow=0.8,SNR=13			PP		**PP**	**12 28 56.3**	**+2.6**	
DBIC	comp=Z,6.8nm,0.9s,baz=14,slow=8.5,SNR=3.5 Dimbokro	131.00	314	PKIKP		**PKPdf**	**12 26 38.1**	**+0.3**	
DBIC							12 28 56.3		
DBIC	comp=Z,10.0nm,0.7s			pmax	pmax				
DBIC	comp=Z,7.0nm,0.9s			pmax	pmax				
OTAV	Otavalo	131.03	59	PFAKE			12 26 50.0	+12	
OTAV	comp=Z,749nm,19.0s			LR	LR				
NVL	N'lazarevskaya	131.42	200⇑	*i*PKIKP		**PKPdf**	**12 26 37.7**	**+0.9**	
NVL	comp=Z,8.0nm,0.7s			pmax	pmax				
BBGH	Gun Hill	131.90	28	PFAKE			12 26 50.0	+11	
BBGH	comp=Z,2μm,20.0s			LR	LR				
GRGR	Grenville	131.90	31	PFAKE			12 26 50.0	+10	
GRGR	comp=Z,791nm,19.0s			LR	LR				
SACV	Santiago Islan	132.50	341	PFAKE			12 26 50.0	+9.4	
SACV	comp=Z,890nm,19.0s			LR	LR				
NNA	Nana	139.83	71	PFAKE			12 27 10.0	+16	
NNA	comp=Z,2μm,20.0s			LR	LR				
SAML	Samuel	148.29	52	PFAKE			12 27 20.0	+4.6	
SAML	comp=Z,984nm,20.0s			LR	LR				
LVC	Limon Verde	151.54	81	PFAKE			12 27 30.0	+1.1	
LVC	comp=Z,1μm,19.0s			LR	LR				
LCO	Las Campanas	151.88	95	PFAKE			12 27 30.0	-0.2	
LCO	comp=Z,1μm,21.0s			LR	LR				
RCBR	Riachuelo	155.21	354	PFAKE			12 27 30.0	+11	
RCBR	comp=Z,873nm,21.0s			LR	LR				
HOPE	Hope Point	156.34	183	PFAKE			12 27 30.0	+10	
HOPE	comp=Z,1μm,20.0s			LR	LR				
TRQA	Tornquist	159.12	117	PFAKE			12 27 40.0	+16	
TRQA	comp=Z,2μm,20.0s			LR	LR				
BDFB	Brasilia	162.61	33	PKP		**PKPdf**	**12 27 28.1**	**-0.1**	
BDFB	comp=Z,1.4nm,0.3s,baz=327,slow=1.2,SNR=4.7 Brasilia	162.61	33	PKIKP		**PKPdf**	**12 27 28.1**	**-0.1**	
BDFB	comp=Z,1.0nm,0.3s			pmax	pmax				
CPUP	Villa Florida	162.72	80	PKP		**PKPdf**	**12 27 27.7**	**-0.1**	
CPUP	comp=Z,7.5nm,0.9s,baz=356,slow=2.4,SNR=13 Villa Florida	162.72	80	PKIKP		**PKPdf**	**12 27 27.7**	**-0.1**	
CPUP	comp=Z,8.0nm,0.9s			pmax	pmax				

DDA 28 12:18:32.0, 39.25N×41.78E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.22**	**87**	*i* P	Pg	12 18 36.8	0.0
EKAR				*i* S	Sg	12 18 40.4	+0.4
HOMI	**Horasan**	**0.81**	**7**	*i* P	Pg	12 18 47.9	0.0
HOMI				*i* S	Sb	12 19 60.0	-0.1
TUTA	**Tutak**	**0.82**	**79**	*i* P	Pn	12 18 59.2	+8.8
TUTA				*i* S	Sn	12 19 08.3	+5.3

IDC 28 12:18:59.1±1.6, 5.09N×126.29E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/39, mbtmp3.8/3, Error ellipse: s-maj=151.9km s-min=24.9km az=69.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.10**	**163**	P	P	12 24 33.6	-1.2
	1.0nm,0.7s,baz=342,slow=10,SNR=16						
ASAR	**Alice Springs**	**29.53**	**166**	P	P	12 25 06.9	+1.4
	0.6nm,0.8s,baz=351,slow=7.6,SNR=2.4						
ZALV	**Zalesovo Beam**	**59.19**	**333**	P	P	12 29 01.7	-0.1
	0.5nm,0.3s,baz=124,slow=7.4,SNR=2.8						

*MOS **28** 12:34:33.8±2.4, 48.78N×156.69E, h15km, mb4.4/1, Error ellipse: s-maj=54.4km s-min=6.4km az=81.0*

KRSC 28 12:34:33.9±2.9, 48.78N×156.69E, h15km±7km, ML4.3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.94**	**349**	*e*P	Pn	12 35 04.8	-1.5
SKR				*e*S	Sn	12 35 28.3	-2.1
SKR	**Severo-Kuril's**	**1.94**	**349**	*e*PN	Pn	12 34 57.4	-8.9
SKR	comp=N,80nm,0.4s			pmax	pmax		
SKR	comp=Z,80nm,0.4s			pmax	pmax		
PAU	**Pauzhetka**	**2.69**	**2**	*e*P	Pn	12 35 17.3	+0.7
PAU				*e*S	Sn	12 35 51.5	+2.6
PAU	**Pauzhetka**	**2.69**	**2**	PN	Pn	12 35 17.3	+0.7
PAU				S	Sn	12 35 51.5	+2.6
MIPR	**Malaya Ipel'ka**	**3.50**	**1**	*e*P	Pn	12 35 28.3	+0.6
ASAK	**Asacha**	**3.69**	**12**	*e*P	Pn	12 35 34.3	+3.9
MTVR	**Mutnovka**	**3.83**	**14**	*e*P	Pn	12 35 36.4	+4.0
MTVR				*e*S	Sb	12 36 23.9	-3.7
RUS	**Russkaya**	**3.84**	**17**	*e*P	Pn	12 35 35.5	+3.2
RUS				*e*S	Sb	12 36 23.2	-4.3
RUS	**Russkaya**	**3.84**	**17**	PN	Pn	12 35 35.5	+3.2

RUS				S	Sb	12 36 23.2	-4.3		
APC	**Apacha**	**4.17**	**4**	*e*P	Pn	12 35 41.4	+4.6		
APC	**Apacha**	**4.17**	**4**	PN	Pn	12 35 41.4	+4.6		
PET	**Petropavlovsk**	**4.43**	**16**	*e*P	Pn	12 35 44.7	+4.3		
PET				*e*S	Sb	12 36 38.4	-6.1		
PET	**Petropavlovsk**	**4.43**	**16**	PN	Pn	12 35 44.7	+4.3		
PET				S	Sb	12 36 38.4	-6.1		
UGLR	**Uglovaya**	**4.64**	**16**	*e*P	Pn	12 35 47.7	+4.2		
AVH	**Avacha**	**4.68**	**15**	*e*P	Pn	12 35 49.1	+5.2		
AVH	**Avacha**	**4.68**	**15**	PN	Pn	12 35 49.1	+5.2		
KOK	**Koryaka**	**4.69**	**14**	*e*P	Pn	12 35 49.2	+5.1		
KOK	**Koryaka**	**4.69**	**14**	PN	Pn	12 35 49.2	+5.1		
SMAR	**Somma**	**4.69**	**16**	*e*P	Pn	12 35 49.2	+5.0		
SMAR	**Somma**	**4.69**	**16**	PN	Pn	12 35 49.2	+5.0		
NLC	**Nalytchevo**	**4.71**	**20**	*e*P	Pn	12 35 46.8	+2.6		
NLC				*e*S	Sn	12 36 41.6	+3.1		
NLC	**Nalytchevo**	**4.71**	**20**	PN	Pn	12 35 46.8	+2.6		
NLC				S	Sn	12 36 41.6	+3.1		
KRER	**Koryakskii**	**4.72**	**15**	*e*P	Pn	12 35 49.1	+4.5		
KRER				*e*S	Sn	12 36 44.9	+5.7		
SDLR	**Sedlovina**	**4.72**	**16**	*e*P	Pn	12 35 48.4	+3.9		
SDLR				*e*S	Sn	12 36 44.6	+5.6		
SDLR	**Sedlovina**	**4.72**	**16**	PN	Pn	12 35 48.4	+3.9		
SDLR				S	Sn	12 36 44.6	+5.6		
KRX	**Arik**	**4.75**	**14**	*e*P	Pn	12 35 49.4	+4.3		
SPN	**Mys Shipunski**	**4.81**	**25**	*e*P	Pn	12 35 50.2	+4.5		
SPN				*e*S	Sn	12 36 47.6	+6.5		
SPN	**Mys Shipunski**	**4.81**	**25**	PN	Pn	12 35 50.2	+4.5		
SPN				S	Sn	12 36 47.6	+6.5		
GNL	**Ganaly**	**4.99**	**9**	*e*P	Pn	12 35 51.9	+3.6		
GNL	**Ganaly**	**4.99**	**9**	PN	Pn	12 35 51.9	+3.6		
MKZ	**Mys Kozlova**	**6.58**	**27**	*e*P	Pn	12 36 13.6	+3.7		
MKZ				*e*S	Sn	12 37 28.7	+4.1		
MKZ	**Mys Kozlova**	**6.58**	**27**	PN	Pn	12 36 13.6	+3.7		
KZV	**Kizimen**	**6.72**	**18**	*e*P	Pn	12 36 18.1	+5.9		
TUMR	**Tumrok**	**6.86**	**17**	*e*P	Pn	12 36 19.3	+5.4		
TUMR	**Tumrok**	**6.86**	**17**	PN	Pn	12 36 19.3	+5.4		
KBTR	**Krutoberegovo**	**8.33**	**24**	*e*P	Pn	12 36 39.7	+5.8		
KBTR	**Krutoberegovo**	**8.33**	**24**	PN	Pn	12 36 39.7	+5.8		

*SOF **28** 12:48:43.3, 42°.23N×26°.22E, h2km, MD2.6*
*CSEM **28** 12:48:43.1±0.1, 42°.20N×26°.26E, h5km, ML2.8, Error ellipse: s-maj=3.2km s-min=2.5km az=126.0*
*THE **28** 12:48:44.1, 42°.31N×26°.41E, h30km±5km, ML2.8/5, Error ellipse: s-maj=7.5km s-min=0.8km az=53.0*
*BEO **28** 12:48:44.5±0.4, 42°.45N×26°.05E, h0km, ML2.5/5*
*ATH **28** 12:48:52.2, 41.61N×25°.73E, h29km±3km, MD3.5/6*

ISC 28 12:48:42.6±1.0, **42°.17N**±0°.02×**26°.26E**±0°.02, **h12**km±9km, **n89**, σ1^{s}**29**/108, **11C-3D, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	**Yambol**	**0.38**	**39**	P	**Pg**	**12 48 49.8**	**-0.4**
JMB				S	**Sg**	**12 48 54.9**	**-0.4**
JMB	**Yambol**	**0.38**	**39**	*e*Pg	**Pg**	**12 48 50.1**	**-0.1**
JMB				*e*Sg	**Sg**	**12 48 55.0**	**-0.4**
JMB	**Yambol**	**0.38**	**39**	⇑*i*P	**Pg**	**12 48 50.1**	**-0.1**
JMB				S	**Sg**	**12 48 55.3**	**0.0**
JMB	**Yambol**	**0.38**	**39**	*i* Pg	**Pg**	**12 48 50.2**	**0.0**
JMB	**Yambol**	**0.38**	**39**	P	**Pg**	**12 48 49.8**	**-0.4**
JMB	**Yambol**	**0.38**	**39**	*e*Pg	**Pg**	**12 48 50.1**	**-0.1**
JMB				S	**Sg**	**12 48 54.9**	**-0.4**
DIM	**Dimitrovgrad**	**0.55**	**257**	Pg	**Pb**	**12 48 54.1**	**-0.2**
DIM	**Dimitrovgrad**	**0.55**	**257**	Pg	**Pb**	**12 48 54.1**	**-0.2**
KDZ	**Kurdzhali**	**0.82**	**231**	⇑*i*P	**Pn**	**12 49 00.4**	**+0.4**
KDZ	**Kurdzhali**	**0.82**	**231**	S	**Sn**	**12 49 12.0**	**0.0**
KDZ	**Kurdzhali**	**0.82**	**231**	Pg	**Pn**	**12 49 00.3**	**+0.3**
KDZ	**Kurdzhali**	**0.82**	**231**	Pg	**Pn**	**12 49 00.3**	**+0.3**
SZH	**Strazhica**	**1.12**	**348**	Pg	**Pn**	**12 49 04.6**	**+0.4**
SZH	**Strazhica**	**1.12**	**348**	Pg	**Pn**	**12 49 04.6**	**+0.4**
PLD	**Plovdiv**	**1.16**	**267**	P	**Pg**	**12 49 04.8**	**-0.2**
PLD	**Plovdiv**	**1.16**	**267**	*e*Pg	**Pg**	**12 49 04.7**	**-0.2**
PLD				*e*Sg	**Sb**	**12 49 18.7**	**-0.9**
PLD	**Plovdiv**	**1.16**	**267**	P	**Pg**	**12 49 04.8**	**-0.2**
PLD				*e*Sg	**Sb**	**12 49 18.7**	**-0.9**
ROIA	**ROIAK**	**1.24**	**42**	P	**Pg**	**12 49 07.0**	**+0.6**
RZN	**Rozhen**	**1.25**	**248**	P	**Pg**	**12 49 06.9**	**+0.2**
RZN	**Rozhen**	**1.25**	**248**	P	**Pg**	**12 49 06.9**	**+0.2**
ALN	**Alexandroupoli**	**1.28**	**187**	P	**Pg**	**12 49 07.8**	**+0.5**
ALN				S	**Sg**	**12 49 25.6**	**+1.6**
ALN	**Alexandroupoli**	**1.28**	**187**	*e*PN	**Pg**	**12 49 07.4**	**+0.1**
ALN				*e*SN	**Sb**	**12 49 18.3**	**-4.9**
ALN	**Alexandroupoli**	**1.28**	**187**	*e*Pn	**Pg**	**12 49 07.4**	**+0.1**
ALN	**Alexandroupoli**	**1.28**	**187**	P	**Pg**	**12 49 07.8**	**+0.5**
ALN				S	**Sg**	**12 49 25.6**	**+1.6**
PRD	**Provadia**	**1.33**	**39**	⇓*i*P	**Pb**	**12 49 07.7**	**+0.2**
PRD	**Provadia**	**1.33**	**39**	S	**Sg**	**12 49 26.4**	**+1.0**
PRD	**Provadia**	**1.33**	**39**	P	**Pb**	**12 49 07.6**	**+0.1**
PRD	**Provadia**	**1.33**	**39**	P	**Pb**	**12 49 07.6**	**+0.1**
PGB	**Panagyurishte**	**1.60**	**284**	P	**Pb**	**12 49 12.3**	**+0.2**
PGB	**Panagyurishte**	**1.60**	**284**	P	**Pb**	**12 49 12.3**	**+0.2**
SART	**Tekirdag**	**1.64**	**155**	*i* P	**Pg**	**12 49 13.2**	**-0.8**
SART				*i* S	**Sg**	**12 49 36.0**	**+0.8**
SART	**Tekirdag**	**1.64**	**155**	*i* P	**Pg**	**12 49 13.2**	**-0.8**
SART				*i* S	**Sg**	**12 49 36.0**	**+0.7**
KAVA	**Kavala**	**1.76**	**229**	P	**Pb**	**12 49 14.9**	**+0.1**
KAVA				S	**Sg**	**12 49 38.7**	**-0.5**
KAVA	**Kavala**	**1.76**	**229**	P	**Pb**	**12 49 14.9**	**+0.1**
KAVA				S	**Sg**	**12 49 38.7**	**-0.5**
SMTH	**Samothraki Isl**	**1.79**	**198**	P	**Pb**	**12 49 15.3**	**0.0**
SMTH				S	**Sb**	**12 49 38.4**	**+0.7**
SMTH	**Samothraki Isl**	**1.79**	**198**	*e*PN	**Pn**	**12 49 14.2**	**+0.9**
SMTH				*e*SN	Sn	12 49 29.6	-6.3
SMTH	**Samothraki Isl**	**1.79**	**198**	*e*Pn	**Pn**	**12 49 14.2**	**+0.9**
SMTH	**Samothraki Isl**	**1.79**	**198**	P	**Pb**	**12 49 15.3**	**0.0**
SMTH				S	**Sb**	**12 49 38.4**	**+0.7**
NVR	**Nevrokopi**	**1.97**	**246**	P	**Pb**	**12 49 17.7**	**-0.8**
NVR				S	**Sb**	**12 49 42.6**	**-0.5**
NVR	**Nevrokopi**	**1.97**	**246**	*e*PN	**Pb**	**12 49 17.8**	**-0.8**
NVR				*e*SN	**Sn**	**12 49 37.0**	**-3.6**
NVR	**Nevrokopi**	**1.97**	**246**	P	**Pb**	**12 49 17.7**	**-0.8**
NVR				S	**Sb**	**12 49 42.6**	**-0.5**
MMB	**Musomiste**	**1.98**	**254**	⇑*i*P	**Pb**	**12 49 19.3**	**+0.7**
MMB	**Musomiste**	**1.98**	**254**	S	**Sg**	**12 49 45.2**	**-1.0**
MMB	**Musomiste**	**1.98**	**254**	P	**Pg**	**12 49 20.9**	**+0.3**
MMB	**Musomiste**	**1.98**	**254**	P	**Pg**	**12 49 20.9**	**+0.3**
PSN	**Preselentsi**	**2.07**	**42**	⇑*i*P	**Pn**	**12 49 18.6**	**+1.4**
PSN	**Preselentsi**	**2.07**	**42**	S	**Sb**	**12 49 44.8**	**-0.9**
MPEP	**Malo Peshtene**	**2.20**	**303**	P	**Pn**	**12 49 20.7**	**+1.7**
SRS	**Serrai**	**2.26**	**243**	P	**Pn**	**12 49 21.6**	**+1.8**
SRS				S	**Sb**	**12 49 50.4**	**-0.9**
SRS	**Serrai**	**2.26**	**243**	P	**Pn**	**12 49 21.6**	**+1.8**
SRS				S	**Sb**	**12 49 50.4**	**-0.9**
VTS	**Vitosha**	**2.30**	**282**	P	**Pn**	**12 49 21.5**	**+1.0**
VTS				S	**Sn**	**12 49 49.1**	**+0.3**
VTS	**Vitosha**	**2.30**	**282**	*e*Pn	**Pn**	**12 49 22.0**	**+1.5**
VTS	**Vitosha**	**2.30**	**282**	⇑*i*P	**Pn**	**12 49 22.2**	**+1.8**
VTS	**Vitosha**	**2.30**	**282**	S	**Sn**	**12 49 50.2**	**+1.4**
VTS	**Vitosha**	**2.30**	**282**	P	**Pn**	**12 49 22.3**	**+1.8**
VTS	**Vitosha**	**2.30**	**282**	*e*Pn	**Pn**	**12 49 22.0**	**+1.5**
VTS	**Vitosha**	**2.30**	**282**	P	**Pn**	**12 49 22.3**	**+1.8**
VTS				S	**Sn**	**12 49 49.1**	**+0.3**
MANR	**Mangalia**	**2.37**	**45**	⇓*i*P	**Pn**	**12 49 23.2**	**+1.9**
MANR	**Mangalia**	**2.37**	**45**	S	**Sb**	**12 49 53.5**	**-0.9**
OUR	**Ouranopolis**	**2.51**	**224**	*e*PB	**Pn**	**12 49 24.2**	**+0.9**
OUR	**Ouranopolis**	**2.51**	**224**	*e*Pb	**Pn**	**12 49 24.2**	**+0.9**
HUMR	**Humele**	**2.53**	**339**	S	**Sb**	**12 50 01.5**	**+2.4**
SOH	**Sokhos**	**2.57**	**239**	*e*PN	**Pn**	**12 49 25.0**	**+0.9**
SOH	**Sokhos**	**2.57**	**239**	*e*Pn	**Pn**	**12 49 25.0**	**+0.9**
TIRR	**Tirgusor**	**2.77**	**34**	⇑*i*P	**Pn**	**12 49 28.8**	**+2.0**
TIRR	**Tirgusor**	**2.77**	**34**	S	**Sb**	**12 50 04.4**	**-1.6**
PLG	**Polygyros**	**2.78**	**231**	*e*PN	**Pn**	**12 49 27.9**	**+0.9**
PLG	**Polygyros**	**2.78**	**231**	*e*Pn	**Pn**	**12 49 27.9**	**+0.9**
HARR	**Harsova**	**2.79**	**25**	⇑*i*P	**Pb**	**12 49 30.0**	**-2.5**
ZAPS	**Zavoj**	**2.89**	**294**	*e*Pn	**Pn**	**12 49 30.8**	**+2.3**
ISR	**Istrita**	**2.95**	**4**	⇑*i*P	**Pn**	**12 49 31.6**	**+2.2**
CFR	**Carcaliu**	**3.30**	**24**	⇑*i*P	**Pn**	**12 49 37.1**	**+3.0**
CFR	**Carcaliu**	**3.30**	**24**	S	**Sb**	**12 50 19.3**	**-1.8**
MLR	**Muntele Rosu**	**3.33**	**356**	⇓*i*P	Pb	12 49 38.4	-3.2
MLR	**Muntele Rosu**	**3.33**	**356**	S	**Sb**	**12 50 20.0**	**-2.1**
BARS	**Barje**	**3.35**	**283**	*e*Pn	**Pn**	**12 49 36.4**	**+1.6**
BARS	**Barje**	**3.35**	**283**	*e*Pn	**Pn**	**12 49 36.4**	**+1.6**
VOIR		**3.38**	**345**	⇑*i*P	Pb	12 49 39.3	-3.2
VOIR		**3.38**	**345**	S	**Sb**	**12 50 23.1**	**-0.5**
BOLS	**Boljevac**	**3.57**	**299**	*e*Pn	**Pn**	**12 49 38.5**	**+0.7**
BOLS	**Boljevac**	**3.57**	**299**	*e*Pn	**Pn**	**12 49 38.5**	**+0.7**
SELS	**Selova**	**3.93**	**287**	*e*Pn	**Pn**	**12 49 43.2**	**+0.4**
SELS	**Selova**	**3.93**	**287**	*e*Pn	**Pn**	**12 49 43.2**	**+0.4**
GZR	**Gura Zlata**	**4.09**	**323**	S	**Sb**	**12 50 39.9**	**-4.1**
GRUS	**Gruza**	**4.41**	**295**	*e*Pn	**Pn**	**12 49 51.0**	**+1.6**
GRUS	**Gruza**	**4.41**	**295**	*e*Pn	**Pn**	**12 49 51.0**	**+1.6**
BZS	**Buzias**	**4.81**	**317**	S	Sb	12 50 58.2	-6.3
DIVS	**Divibare**	**4.97**	**295**	*e*Pn	**Pn**	**12 49 58.4**	**+1.2**
DIVS	**Divibare**	**4.97**	**295**	⇑*i*P	**Pn**	**12 49 58.7**	**+1.5**

*CSEM **28** 12:48:56.6±0.2, 40°.55N×29°.50E, h8km, MD2.9, Error ellipse: s-maj=3.6km s-min=3.2km az=32.0*
*DDA **28** 12:48:56.6, 40°.57N×29°.49E, h13km, MD2.9*

ISK 28 12:48:55.8, 40°.53N×29°.52E, h9km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADVT	**Abdulvahap**	**0.19**	**119**	*e*PG	Pg	12 49 00.0	+0.2
ADVT	**Abdulvahap**	**0.19**	**119**	*e*Pg	Pg	12 49 00.0	+0.2
HRT	**Hereke**	**0.32**	**21**	*e*PG	Pg	12 49 02.6	+0.3
HRT				*e*SG	Sg	12 49 07.6	+1.1
HRT	**Hereke**	**0.32**	**21**	*e*Pg	Pg	12 49 02.6	+0.4
HRT				*e*Sg	Sg	12 49 07.6	+1.1
CAVI	**Cavuskoy**	**0.41**	**142**	*e*PG	Pg	12 49 04.3	+0.4
CAVI	**Cavuskoy**	**0.41**	**142**	*e*Pg	Pg	12 49 04.3	+0.4
ULDT	**Uludag**	**0.48**	**217**	*i* P	Pb	12 49 06.3	-0.4
ULDT	**Uludag**	**0.48**	**217**	*i* P	Pb	12 49 06.3	-0.4
ARMT	**Armutlu**	**0.50**	**275**	*e*PG	Pb	12 49 06.5	-0.4
ARMT	**Armutlu**	**0.50**	**275**	*e*Pg	Pb	12 49 06.5	-0.3
MDNY	**Mudanya-Bursa**	**0.51**	**252**	*e*PG	Pg	12 49 06.3	+0.6
MDNY				*e*SG	Sb	12 49 13.6	-0.8
MDNY	**Mudanya-Bursa**	**0.51**	**252**	*e*Pg	Pb	12 49 06.3	-0.6
MDNY				*e*Sg	Sb	12 49 13.6	-0.8
ISK	**Istanbul-Kandi**	**0.64**	**327**	*e*PG	Pg	12 49 08.6	+0.4
ISK	**Istanbul-Kandi**	**0.64**	**327**	*e*Pg	Pg	12 49 08.6	+0.4
GULT	**Gulveren**	**0.77**	**97**	*e*PG	Pb	12 49 11.2	-0.2
GULT	**Gulveren**	**0.77**	**97**	*e*Pg	Pb	12 49 11.2	-0.3
KLYT	**Kilyos**	**0.81**	**334**	*e*PG	Pg	12 49 11.7	+0.3
KLYT	**Kilyos**	**0.81**	**334**	*e*Pg	Pg	12 49 11.7	+0.3
BGKT	**Bogazkoy**	**0.86**	**320**	*e*PG	Pb	12 49 13.0	0.0
BGKT	**Bogazkoy**	**0.86**	**320**	*e*Pg	Pb	12 49 13.0	0.0
KCTX	**Karacabey (Bur**	**0.92**	**254**	*e*PG	Pb	12 49 14.3	+0.3
KCTX	**Karacabey (Bur**	**0.92**	**254**	*e*Pg	Pb	12 49 14.4	+0.4
CTKS	**Kestanelik-??a**	**1.04**	**313**	*e*PG	Pg	12 49 15.8	-0.1
CTKS	**Kestanelik-??a**	**1.04**	**313**	*e*Pg	Pg	12 49 15.8	-0.1
TVSB	**Tavsanli**	**1.08**	**182**	*e*PG	Pn	12 49 17.4	+0.2
TVSB	**Tavsanli**	**1.08**	**182**	*e*Pg	Pn	12 49 17.5	+0.3
DST	**Dursunbey**	**1.15**	**217**	*e*PN	Pn	12 49 18.2	0.0
DST	**Dursunbey**	**1.15**	**217**	*e*Pn	Pn	12 49 18.2	0.0
SLVT	**Silivri**	**1.22**	**306**	*e*PN	Pg	12 49 19.4	+0.3
SLVT	**Silivri**	**1.22**	**306**	*e*Pn	Pg	12 49 19.4	+0.3
DURS	**Dursunbey**	**1.22**	**221**	*i* P	Pg	12 49 20.3	+0.9
DURS				*i* S	Sn	12 49 38.8	+2.9
DURS	**Dursunbey**	**1.22**	**221**	*i* P	Pg	12 49 20.3	+0.9
DURS				*i* S	Sn	12 49 38.8	+2.9
EDC	**Edincik**	**1.27**	**262**	*e*PN	Pb	12 49 20.1	+0.1
EDC	**Edincik**	**1.27**	**262**	*e*Pn	Pb	12 49 20.1	+0.1
MDUB	**Mudurnu**	**1.28**	**92**	*e*PN	Pg	12 49 20.6	0.0
MDUB	**Mudurnu**	**1.28**	**92**	*e*Pn	Pg	12 49 20.6	0.0
SEYT	**Eskypehyr**	**1.44**	**134**	*i* P	Pg	12 49 24.8	+1.2
SEYT				*i* S	Sg	12 49 43.5	+1.2
SEYT	**Eskypehyr**	**1.44**	**134**	*i* P	Pg	12 49 24.8	+1.3
SEYT				*i* S	Sg	12 49 43.5	+1.2
GDZ	**Gediz**	**1.44**	**181**	*i* P	Pg	12 49 23.7	+0.2
GDZ				*i* S	Sg	12 49 43.6	+1.3
GDZ	**Gediz**	**1.44**	**181**	*i* P	Pg	12 49 23.7	+0.1
GDZ				*i* S	Sg	12 49 43.6	+1.3
MRMT	**Marmara Adasi**	**1.47**	**274**	*e*PN	Pb	12 49 23.1	-0.2
MRMT	**Marmara Adasi**	**1.47**	**274**	*e*Pn	Pb	12 49 23.1	-0.2
BALB	**Balikesir**	**1.54**	**235**	*e*PN	Pb	12 49 24.0	-0.4
BALB	**Balikesir**	**1.54**	**235**	*e*Pn	Pb	12 49 24.0	-0.4
AUMIH	**MIHALICIK**	**1.64**	**113**	*i* P	Pg	12 49 27.6	0.0
AUMIH				*i* S	Sg	12 49 50.0	+1.0
BCAM	**Yenicaga**	**1.96**	**81**	*i* P	Pb	12 49 32.4	+0.5
BCAM	**Yenicaga**	**1.96**	**81**	*i* P	Pb	12 49 32.4	+0.5

NNC 28 12:51:27.6±2.5, **50°.89N×73°.80E, h0km, mb3.6, mpv3.3, 6C-4D, Error ellipse: s-maj=44.2km s-min=7.3km az=26.0, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**3.00**	**317**	⇑Pg	Pb	12 52 22.3	+0.4
	5.3nm,0.7s,baz=140,slow=14,SNR=27						
BVA0				⇓Lg	Lg	12 53 03.9	
	21nm,0.6s,baz=121,slow=28,SNR=9.2						
KURBB	**Kurchatov Arra**	**3.02**	**93**	⇓Pg	Pb	12 52 21.8	-0.4
	15nm,0.5s						
KURBB				⇑Lg	Lg	12 53 06.1	
	30nm,0.6s						
KURK	**Kurchatov**	**3.06**	**91**	⇑Pg	Pb	12 52 22.2	-0.8
	3.8nm,0.6s						
KURK				⇑Lg	Lg	12 53 07.3	
	14nm,0.5s						
BRVK	**Borovoye**	**3.07**	**316**	⇑Pg	Pb	12 52 24.4	+1.3
	6.9nm,0.5s						
BRVK				⇑Lg	Lg	12 53 03.1	
	48nm,0.8s						
MK31	**Makanchi Array**	**6.94**	**123**	⇓Pg	Pb	12 53 34.5	+5.3
	0.6nm,0.4s,baz=294,slow=12,SNR=4.0						
MK31				⇓Lg	Lg	12 55 10.0	
	11nm,0.8s,baz=323,slow=28,SNR=4.0						

*ISCJB **28** 12:54:26.8±0.6, 4°.23S±0°.05×135°.07E±0°.04, h23km, mb3.6/3, MS3.1/1, Error ellipse: s-maj=7.4km s-min=5.6km az=152.9*
*IDC **28** 12:54:26.8±1.3, 4°.16S×134°.67E, h0km, mb3.8/3, mb1 4.1/6, mb1mx3.8/36, mbtmp4.0/6, ML3.8/3, MS3.2/1, Ms1 3.2/1, ms1mx2.8/33, Error ellipse: s-maj=38.6km s-min=22.7km az=59.0*
*DJA **28** 12:54:30.4±0.7, 4°.S±8°×13°.5E±°, h77km±61km, M4.3/8, mb4.3/3, mB5.2/1, MLv4.2/8, Mw(mB)4.6/1*

ISC 28 12:54:28.9±0.9, **4°.08S**±0°.07×**135°.01E**±0°.05, **h23**km, **n14**, σ1^{s}**95**/18, **mb3.8/3, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**2.52**	**29**	P	**Pn**	**12 55 08.5**	**+0.1**
RKPI	**Ransiki, Papua**	**2.68**	**342**	P	**Pn**	**12 55 12.2**	**+1.5**
RKPI				S	**Sb**	**12 55 47.8**	**-1.0**
FAKI	**Fak Fak**	**2.99**	**293**	P	**Pn**	**12 55 15.4**	**+0.5**
FAKI				S	**Sn**	**12 55 51.5**	**+1.5**
BAKI	**Biak**	**3.07**	**21**	P	**Pn**	**12 55 15.6**	**-0.5**
BAKI				S	**Sn**	**12 55 54.6**	**+2.5**
SMPI	**Sarmi**	**4.24**	**61**	P	**Pn**	**12 55 31.7**	**-0.4**
SMPI				S	**Sn**	**12 56 22.2**	**+1.3**
SIJI	**Sorong**	**4.91**	**310**	Pn	**Pn**	**12 55 41.4**	**0.0**
	3.3nm,0.3s,baz=272,slow=22,SNR=14						
SIJI				Sn	**Sn**	**12 56 34.7**	**-2.9**
	1.5nm,0.3s,baz=287,slow=19,SNR=4.1						
BNDI	**Bandanaira**	**5.11**	**265**	P	**Pn**	**12 55 45.1**	**+1.1**
	106nm,1.3s,0.5nm						
BNDI				S	**Sn**	**12 56 45.7**	**+3.3**
	106nm,1.3s,0.5nm						
JAY	**Jayapura**	**5.90**	**75**	Pn	Pn	12 56 00.3	+5.4
	0.6nm,0.3s,baz=216,slow=16,SNR=3.5						
WRA	**Warramunga Arr**	**15.78**	**182**	Pn	**Pn**	**12 58 05.8**	**-4.0**
	0.2nm,0.3s,baz=8.3,slow=13,SNR=15						
WRA				Sn	Sn	13 00 54.3	-10
	0.2nm,0.3s,baz=7.8,slow=22,SNR=5.1						
ASAR	**Alice Springs**	**19.50**	**183**	P	**Pn**	**12 58 54.8**	**-1.2**
	1.1nm,0.3s,baz=7.7,slow=10,SNR=122						
STKA	**Stephens Creek**	**28.34**	**168**	P	**P**	**13 00 22.6**	**+1.4**
	2.2nm,1.0s,baz=343,slow=7.1,SNR=2.8						
JOW	**Kunigami**	**31.41**	**348**	LR	LR	13 14 35.6	
	comp=Z,40nm,18.2s,baz=82,slow=38						
CMAR	**Chiang Mai Arr**	**42.00**	**303**	P	**P**	**13 02 17.1**	**-1.6**
	0.6nm,0.7s,baz=113,slow=7.0,SNR=4.6						
KURBB	**Kurchatov Arra**	**72.76**	**326**	P	**P**	**13 05 56.2**	**+0.9**
	0.6nm,0.7s,baz=120,slow=4.7,SNR=9.7						

*NIED **28** 12:59:00, 33°.10N×142°.50E, h5km, Mw4.4 Best double couple: M₀4.92000×10¹⁵ NP1:φs360.00000°, δ24.00000°, λ-124.00000°. NP2:φs216.00000°, δ70.00000°, λ-76.00000°*
*IDC **28** 12:59:14.1±0.5, 32°.96N×142°.55E, h0km, mb4.3/26, mb1 4.5/31, mb1mx4.5/36, mbtmp4.4/31, ML3.1/2, Error ellipse: s-maj=15.2km s-min=10.7km az=99.0*
*JMA **28** 12:59:16.9±0.4, 33°.07N×142°.50E, h60km, M4.5*
*BJI **28** 12:59:16.2, 33°.07N×142°.31E, h18km, mb4.6/40, mB5.1/22, Ms4.7/18, Ms7 4.5/16*
*ISCJB **28** 12:59:17.8±0.2, 32°.96N±0°.02×142°.34E±0°.03, h34km, mb4.7/80, Error ellipse: s-maj=4.0km s-min=3.2km az=140.2*
*MOS **28** 12:59:17.9±1.1, 32°.95N×142°.37E, h39km, mb4.7/29, Error ellipse: s-maj=12.7km s-min=7.2km az=114.4*
*NEIC **28** 12:59:19.8±0.2, 32°.95N×142°.40E, h35km, mb4.7/29, MW4.4(NIED), Error ellipse: s-maj=5.4km s-min=5.0km az=144.0*

ISC 28 12:59:19.4±0.5, **32°.99N**±0°.04×**142°.39E**±0°.05, **h34**km±1km, **h34**km:**pP-P, n196,** σ1^{s}**36**/204, **mb4.7**/82, **10C-4D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.03**	**325**	P	**Pn**	**12 59 49.4**	**-1.3**
BSO1				S	**Sn**	**13 00 14.0**	**-0.6**
JHJ2	**Mitsune**	**2.16**	**274**	P	**Pn**	**12 59 52.8**	**-0.1**
JHJ2	**Mitsune**	**2.16**	**274**	*e*Pn	**Pn**	**12 59 52.8**	**-0.1**
JHCJ	**Hachijojimakas**	**2.17**	**273**	P	**Pn**	**12 59 52.7**	**-0.5**
JHCJ				S	**Sn**	**13 00 18.4**	**-0.5**
BSO3	**Boso 3**	**2.38**	**320**	P	**Pn**	**12 59 54.9**	**-0.9**
BSO4	**Boso 4**	**2.62**	**320**	P	**Pn**	**12 59 58.8**	**-0.4**
BSO4				S	**Sn**	**13 00 30.6**	**+0.8**
KTR	**Katsuura**	**2.75**	**322**	P	**Pn**	**13 00 00.1**	**-1.0**
KTR				S	**Sn**	**13 00 32.5**	**-0.6**
I30JP	**ISUMI INFRASON**	**2.88**	**324**	Pn	**Pn**	**13 00 05.0**	**+2.1**
JOD2	**Odawara 2**	**3.55**	**311**	P	**Pn**	**13 00 10.6**	**-1.5**
TK02	**Tokai 2**	**3.98**	**285**	P	**Pn**	**13 00 18.5**	**+0.7**
JYN	**Shimob**	**4.04**	**309**	P	**Pn**	**13 00 18.1**	**-0.9**
JRY	**Ryogami san**	**4.17**	**317**	P	**Pn**	**13 00 19.2**	**-1.4**
JRY				S	**Sn**	**13 01 08.1**	**-0.1**
JAG	**Ashikaga**	**4.19**	**326**	P	**Pn**	**13 00 19.8**	**-1.1**
JFT	**Otama**	**4.82**	**340**	S	**Sn**	**13 01 19.8**	**-4.3**
MJAR	**Matsushiro Arr**	**4.93**	**317**	Pn	**Pn**	**13 00 30.6**	**-0.5**
	30nm,0.3s,baz=154,slow=13,SNR=254						
MJAR				Sn	**Sn**	**13 01 27.1**	**0.0**
	27nm,0.3s,baz=146,slow=25,SNR=11						
MJAR	**Matsushiro Arr**	**4.93**	**317**	P	**Pn**	**13 00 30.6**	**-0.5**
MJAR						13 01 27.1	
MJAR				pmax	pmax		
	comp=Z,30nm,0.3s						
MJAR				smax	smax		
	comp=N,27nm,0.3s						
JIE	**Ise

GYA				PMZ					
	comp=Z,10.0nm,0.8s								
QIZ	**Qiongzhong**	**32.23**	**253**	P		**P**		**13 05 46.3**	**+1.6**
QIZ				S		**S**		**13 10 55.8**	**0.0**
CD2	**Chengdu**	**32.72**	**277**	P		**P**		**13 05 48.0**	**-0.9**
CD2				pP		**pP**		**13 05 57.0**	**-1.7**
CD2				sP		**sP**		**13 06 01.0**	**-1.8**
CD2				PP		**PP**		**13 07 02.0**	**-1.1**
CD2				S		**S**		**13 11 02.5**	**-0.8**
CD2				PcS		**PcS**		**13 12 18.8**	**-0.6**
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.2s								
CD2				LN					
	comp=Z,920nm,14.9s								
CD2				LZ					
	comp=Z,1μm,14.1s								
ZAK	**Zakamensk**	**33.50**	**313**	*e*P		**P**		**13 05 55.7**	**+0.1**
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.5s								
TLY	**Talaya**	**33.67**	**315**	P		**P**		**13 05 58.7**	**+1.7**
	comp=Z,4.8nm,0.7s,baz=129,slow=5.4,SNR=7.0								
TLY	**Talaya**	**33.67**	**315**	P		**P**		**13 05 58.9**	**+1.9**
TLY				pmax	pmax				
	comp=Z,1.0nm,0.1s								
TLY	**Talaya**	**33.67**	**315**	*e*P		**P**		**13 05 59.4**	**+2.4**
	comp=Z,8.6nm,0.9s								
GTA	**Gaotai**	**34.70**	**293**	*e*P		P		13 06 09.5	+3.4
GTA				pP		pP		13 06 19.0	+3.0
GTA				PcP		**PcP**		**13 08 42.5**	**+2.9**
GTA				PMZ					
	comp=Z,4.0nm,0.9s								
TNTI	**Ternate**	**35.03**	**207**	P		**P**		**13 06 08.4**	**-0.6**
	comp=Z,41nm,1.3s,comp=Z,1μm								
SIJI	**Sorong**	**35.28**	**200**	P		**P**		**13 06 10.5**	**-0.6**
	comp=Z,6.1nm,0.5s,baz=12,slow=19,SNR=5.5								
KMSI	**Cibinong**	**36.60**	**212**	P		**P**		**13 06 20.4**	**-2.1**
	comp=Z,108nm,0.9s								
MRSI	**Marisa**	**37.63**	**215**	P		**P**		**13 06 30.9**	**-0.3**
	comp=Z,41nm,1.0s,comp=Z,811nm								
BILL	**Bilibino**	**37.70**	**14**	*c*iP		**P**		**13 06 30.4**	**-0.9**
BILL				pmax	pmax				
	comp=Z,9.0nm,1.2s								
BILL	**Bilibino**	**37.70**	**14**	*e*P		**P**		**13 06 30.6**	**-0.6**
SANI	**Sanana**	**38.14**	**207**	P		**P**		**13 06 34.2**	**-1.3**
	comp=Z,28nm,0.6s								
MPSI	**Mapaga**	**38.77**	**218**	P		**P**		**13 06 39.0**	**-1.8**
	comp=Z,5.1nm,1.0s								
APSI	**Ampana**	**38.98**	**214**	P		**P**		**13 06 41.8**	**-0.8**
	comp=Z,89nm,0.7s,comp=Z,895nm								
TIXI	**Tiksi**	**39.39**	**353**	*c*eP		**P**		**13 06 45.9**	**+0.6**
TIXI				pmax	pmax				
	comp=Z,3.0nm,1.4s								
HVS	**Khovu-Aksy**	**39.61**	**312**	*i* P		**P**		**13 06 47.4**	**-0.2**
HVS				pmax	pmax				
	comp=Z,17nm,1.1s								
PCI	**Palu**	**39.87**	**217**	P		**P**		**13 06 48.4**	**-1.6**
	comp=Z,48nm,0.9s								
CMAR	**Chiang Mai Arr**	**41.43**	**261**	P		**P**		**13 07 03.5**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=46,slow=7.1,SNR=7.4								
CMAR	**Chiang Mai Arr**	**41.43**	**261**	P		**P**		**13 07 03.5**	**+0.6**
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
TTSI	**Tana Toraja**	**41.72**	**215**	P		**P**		**13 07 04.0**	**-1.2**
	comp=Z,9.9nm,1.0s,comp=Z,2μm								
SPSI	**Sidrap Palu**	**42.55**	**215**	P		**P**		**13 07 10.4**	**-1.6**
	comp=Z,23nm,0.8s								
KSM	**Kuching**	**43.47**	**231**	*e*P		**P**		**13 07 20.1**	**+0.6**
	comp=Z,6.0nm,0.6s								
KAPI	**Kappang**	**43.47**	**214**	P		**P**		**13 07 19.6**	**+0.1**
	comp=Z,11nm,0.7s,baz=268,slow=11,SNR=6.2								
KAPI	**Kappang**	**43.47**	**214**	*e*P		**P**		**13 07 20.1**	**+0.6**
	comp=Z,4.2nm,1.0s								
WMQ	**Urumqi**	**43.49**	**301**	P		**P**		**13 07 20.0**	**+0.6**
WMQ				pP		**pP**		**13 07 30.0**	**+0.5**
WMQ				sP		**sP**		**13 07 34.0**	**+0.5**
WMQ				PMZ					
	comp=Z,9.0nm,0.6s								
WMQ				PMZ					
	comp=Z,480nm,11.4s								
WMQ				LN					
	comp=Z,610nm,9.9s								
WMQ				LE					
	comp=Z,460nm,12.5s								
WMQ				LZ					
	comp=Z,200nm,15.8s								
ZAA0	**Zalesovo Array**	**45.29**	**315**	*e*P		**P**		**13 07 34.8**	**+1.2**
ZALV	**Zalesovo Beam**	**45.29**	**315**	P		**P**		**13 07 34.4**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=110,slow=7.2,SNR=8.2								
ZALV	**Zalesovo Beam**	**45.29**	**315**	*i* P		**P**		**13 07 34.4**	**+0.8**
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.7s								
SOEI	**Soe**	**45.88**	**205**	P		**P**		**13 07 38.1**	**-0.7**
	comp=Z,41nm,1.1s								
NVS	**Novosibirsk**	**46.26**	**317**	*i* P		P		13 07 46.2	+5.0
NVS				pmax	pmax				
	comp=N,7.0nm,0.9s								
NVS				pmax	pmax				
	comp=E,10.0nm,0.9s								
NVS				pmax	pmax				
	comp=Z,17nm,0.9s								
MK31	**Makanchi Array**	**47.03**	**306**	*e*P		**P**		**13 07 47.6**	**+0.2**
MKAR	**Makanchi Array**	**47.03**	**306**	*e*P		**P**		**13 07 48.8**	**+1.3**
SRBI	**Singaraja**	**48.35**	**217**	P		**P**		**13 07 56.5**	**-1.4**
	comp=Z,72nm,0.8s,comp=Z,1μm								
GUN	**Gumba**	**48.49**	**280**	*e*P		**P**		**13 08 01.2**	**+1.8**
KKN	**Kakani**	**49.03**	**280**	*e*P		**P**		**13 08 04.9**	**+1.5**
KURK	**Kurchatov**	**49.12**	**311**	P		**P**		**13 08 04.1**	**+0.6**
KURK				pmax	pmax				
	comp=Z,4.0nm,0.6s								
KURK	**Kurchatov**	**49.12**	**311**	*e*P		**P**		**13 08 03.9**	**+0.4**
	comp=Z,20nm,0.7s								
KURBB	**Kurchatov Arra**	**49.18**	**311**	P		**P**		**13 08 04.1**	**+0.2**
	comp=Z,4.2nm,0.6s,baz=83,slow=7.4,SNR=34								
DMN	**Daman**	**49.23**	**280**	*e*P		**P**		**13 08 06.1**	**+1.1**
OHAK	**Old Harbor**	**49.25**	**40**	*e*P		**P**		**13 08 03.7**	**-0.6**
GKN	**Gorkha**	**49.48**	**280**	*e*P		**P**		**13 08 08.2**	**+1.4**
	comp=Z,14nm,0.4s								
KDAK	**Kodiak Island**	**49.63**	**40**	*i* P		**P**		**13 08 06.7**	**-0.6**
KDAK	**Kodiak Island**	**49.63**	**40**	*e*P		**P**		**13 08 06.8**	**-0.4**
	comp=Z,27nm,1.0s								
PWJI	**Pagerwojo**	**50.10**	**221**	P		**P**		**13 08 10.6**	**-0.7**
	comp=Z,54nm,0.8s								
KOLN	**Koldanda**	**50.42**	**281**	*e*P		**P**		**13 08 15.4**	**+1.4**
	comp=Z,13nm,0.6s								
UGM	**Wanagama**	**50.73**	**222**	P		**P**		**13 08 14.9**	**-1.2**
	comp=Z,155nm,1.6s								
KPJI	**Karang Pucung**	**51.19**	**225**	P		**P**		**13 08 19.7**	**+0.2**
	comp=Z,77nm,0.9s								
SEW	**Seward**	**51.27**	**37**	*e*P		**P**		**13 08 19.6**	**0.0**
	comp=Z,16nm,1.3s								
LEM	**Lembang**	**51.57**	**226**	P		**P**		**13 08 23.5**	**+0.9**
	comp=Z,110nm,0.9s								
LEM	**Lembang**	**51.57**	**226**	P		**P**		**13 08 23.0**	**+0.4**
	comp=Z,71nm,0.7s,baz=358,slow=4.1,SNR=12								
LEM	**Lembang**	**51.57**	**226**	P		**P**		**13 08 23.0**	**+0.4**
LEM				pmax	pmax				
	comp=Z,71nm,0.7s								
KLSI		**51.75**	**231**	P		**P**		**13 08 24.2**	**+0.5**
	comp=Z,79nm,0.9s,comp=Z,3μm								
SML	**Sawmill**	**51.82**	**34**	*e*P		**P**		**13 08 23.4**	**-0.3**
	comp=Z,2.3nm,0.8s								
MDSI	**Maura Dua**	**51.96**	**232**	P		**P**		**13 08 25.6**	**+0.3**
CCB	**Clear Creek Bu**	**52.12**	**31**	*e*P		**P**		**13 08 26.2**	**+0.4**
	comp=Z,2.2nm,0.7s								
TKM2	**Tokmak 2**	**52.34**	**301**	*e*P		**P**		**13 08 30.6**	**+2.5**
	comp=Z,4.3nm,0.6s								
HDA	**Harding Lake**	**52.48**	**31**	*e*P		**P**		**13 08 28.7**	**+0.1**
	comp=Z,5.4nm,0.7s								
ILAR	**Eielson Array**	**52.52**	**31**	P		**P**		**13 08 28.0**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=261,slow=6.2,SNR=27								
ILAR	**Eielson Array**	**52.52**	**31**	P		**P**		**13 08 28.0**	**-0.8**
ILAR				pmax	pmax				
	comp=Z,2.0nm,0.6s								
KSH	**Kashi**	**52.87**	**297**	*e*P		P		13 08 37.5	+5.5
KSH				pP		pP		13 08 46.5	+4.2
KSH				sP		sP		13 08 49.8	+3.5
KSH				PcP		**PcP**		**13 09 44.5**	**+3.6**
PAX	**Paxson**	**53.14**	**33**	*e*P		**P**		**13 08 34.6**	**+0.9**
	comp=Z,8.4nm,0.8s								
WRAB	**Tennant Creek**	**53.19**	**189**	*i* P		**P**		**13 08 33.6**	**-0.7**
WRAB				pmax	pmax				
	comp=Z,20nm,0.6s								
WRAB	**Tennant Creek**	**53.19**	**189**	*e*P		**P**		**13 08 33.8**	**-0.5**
	comp=Z,11nm,0.6s								
AAK	**Ala-Archa**	**53.19**	**301**	*c*eP		**sP**		**13 08 47.6**	**-1.0**
AAK				pmax	pmax				
	comp=Z,7.0nm,0.7s								
WRA	**Warramunga Arr**	**53.20**	**189**	P		**P**		**13 08 33.7**	**-0.7**
	comp=Z,9.6nm,0.5s,baz=5.7,slow=7.6,SNR=158								
WRA	**Warramunga Arr**	**53.20**	**189**	P		**P**		**13 08 33.7**	**-0.7**
WRA				pmax	pmax				
	comp=Z,10.0nm,0.5s								
BMRM	**Bremner River**	**53.64**	**35**	*e*P		**P**		**13 08 39.5**	**+2.2**
	comp=Z,12nm,0.9s								
BRVK	**Borovoye**	**53.98**	**315**	*c*eP		**P**		**13 08 41.8**	**+2.0**
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.7s								
BRVK	**Borovoye**	**53.98**	**315**	*e*P		**P**		**13 08 41.8**	**+2.0**
	comp=Z,3.3nm,0.6s								
KKAR	**Karatay Array**	**55.91**	**303**	*e*P		**P**		**13 08 53.9**	**-0.1**
AS31	**Alice Springs**	**56.92**	**189**	*e*P		**P**		**13 09 00.6**	**-0.6**
ASAR	**Alice Springs**	**56.92**	**189**	P		**P**		**13 09 00.6**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=17,slow=12,SNR=41								
ASAR	**Alice Springs**	**56.92**	**189**	P		**P**		**13 09 00.6**	**-0.6**
ASAR				pmax	pmax				
	comp=Z,2.0nm,0.5s								
HYT	**Haines Junctio**	**57.10**	**35**	*e*P		**P**		**13 09 03.2**	**+1.0**
EIDS	**Eidsvold**	**58.63**	**171**	*e*P		**P**		**13 09 14.1**	**+1.0**
	comp=Z,13nm,0.7s								
ARU	**Arti**	**59.94**	**320**	*d i*P		**P**		**13 09 21.9**	**-0.1**
ARU				S		**S**		**13 17 34.4**	**+2.8**
ARU				SS		**SS**		**13 21 27.3**	**-0.5**
ARU				pmax	pmax				
	comp=Z,9.0nm,1.0s								
ARU	**Arti**	**59.94**	**320**	*e*P		**P**		**13 09 22.1**	**+0.2**
ABKAR	**Akbulak array**	**61.19**	**312**	*e*P		**P**		**13 09 31.1**	**+0.5**
DLBC	**Dease Lake**	**61.34**	**37**	P		**P**		**13 09 31.9**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=282,slow=12,SNR=3.5								
STKA	**Stephens Creek**	**64.53**	**181**	P		**P**		**13 09 53.0**	**+0.3**
	comp=Z,4.1nm,0.7s,baz=355,slow=5.6,SNR=7.3								
STKA	**Stephens Creek**	**64.53**	**181**	P		**P**		**13 09 53.1**	**+0.3**
STKA				pmax	pmax				
	comp=Z,4.0nm,0.7s								
RES	**Resolute Bay**	**66.31**	**14**	P		**P**		**13 10 04.1**	**+0.2**
	comp=Z,6.1nm,0.9s,baz=331,slow=7.4,SNR=8.3								
RES	**Resolute Bay**	**66.31**	**14**	P		**P**		**13 10 04.1**	**+0.2**
RES				pmax	pmax				
	comp=Z,6.0nm,0.9s								
GEYT	**Alibeck**	**66.54**	**301**	P		**P**		**13 10 06.8**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=38,slow=5.4,SNR=3.8								
YKA	**Yellowknife Ar**	**66.91**	**29**	P		**P**		**13 10 07.4**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=295,slow=6.3,SNR=7.4								
YKA	**Yellowknife Ar**	**66.91**	**29**	P		**P**		**13 10 07.4**	**-0.5**
YKA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
OBN	**Obninsk**	**71.82**	**324**	*i*P		**P**		**13 10 37.7**	**-0.7**
OBN				pmax	pmax				
	comp=Z,9.0nm,1.2s								
NEW	**Newport**	**72.48**	**44**	*e*P		**P**		**13 10 44.0**	**+1.4**
	comp=Z,6.3nm,1.3s								
FINES	**FINESS Array B**	**72.76**	**333**	P		**P**		**13 10 44.1**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=118,slow=8.0,SNR=7.3								
FINES	**FINESS Array B**	**72.76**	**333**	P		**P**		**13 10 44.1**	**+0.2**
FINES				pmax	pmax				
	comp=Z,3.0nm,0.6s								
K05A	**Summer Lake**	**72.91**	**50**	*e*P		**P**		**13 10 46.5**	**+1.1**
KBZ	**Khabaz**	**74.16**	**312**	P		**P**		**13 10 53.6**	**+1.1**
	comp=Z,4.2nm,0.9s,baz=8.3,slow=6.0,SNR=4.2								
KBZ	**Khabaz**	**74.16**	**312**	P		**P**		**13 10 53.6**	**+1.1**
KBZ				pmax	pmax				
	comp=Z,4.0nm,0.9s								
LRM	**Limekiln Ridge**	**76.49**	**44**	*e*P		**P**		**13 11 06.2**	**+0.1**
	comp=Z,38nm,0.7s								
NVAR	**Mina Array Bea**	**76.78**	**53**	P		**P**		**13 11 07.6**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=297,slow=5.8,SNR=16								
BOZ	**Bozeman (W)**	**77.06**	**44**	*e*P		**P**		**13 11 10.0**	**+0.7**
	comp=Z,14nm,1.6s								
AKASG	**Malin Array Be**	**77.99**	**323**	P		**P**		**13 11 14.3**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=46,slow=6.2,SNR=7.1								
AKASG	**Malin Array Be**	**77.99**	**323**	P		**P**		**13 11 14.3**	**+0.2**
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.5s								
NB2	**NORSAR Subarra**	**78.22**	**338**	P		**P**		**13 11 15.2**	**-0.1**
	comp=Z,3.1nm,0.6s,baz=40,slow=5.6								
NOA	**NORSAR Array B**	**78.22**	**338**	P		**P**		**13 11 15.2**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=39,slow=5.6,SNR=10								
NOA	**NORSAR Array B**	**78.22**	**338**	P		**P**		**13 11 15.2**	**-0.1**
NOA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
H17A	**Grant Village**	**78.39**	**44**	*e*P		**P**		**13 11 19.4**	**+2.6**
	comp=Z,8.1nm,1.0s								
RLMT	**Red Lodge**	**78.73**	**43**	*e*P		**P**		**13 11 19.6**	**+1.0**
	comp=Z,14nm,1.5s								
HWUT	**Hardware Ranch**	**79.38**	**47**	*e*P		**P**		**13 11 23.0**	**+0.8**
	comp=Z,4.4nm,1.1s								
DUG	**Dugway, Tooe**	**79.40**	**49**	*e*P		**P**		**13 11 22.9**	**+0.6**
	comp=Z,13nm,1.5s								
DGMT	**Dagmar**	**79.50**	**38**	*e*P		**P**		**13 11 23.2**	**+0.7**
	comp=Z,9.2nm,0.7s								
PDAR	**Pinedale Array**	**79.93**	**45**	P		**P**		**13 11 24.5**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=320,slow=2.0,SNR=12								
MSU	**Marysvale**	**80.76**	**50**	*e*P		**P**		**13 11 30.1**	**+0.3**
	comp=Z,3.1nm,1.1s								
P17A	**Butcher Ranch,**	**81.12**	**49**	*e*P		**P**		**13 11 32.8**	**+1.2**
SRU	**San Rafael Swe**	**81.47**	**49**	*e*P		**P**		**13 11 33.8**	**+0.3**
	comp=Z,8.4nm,0.8s								
BUR08	**Bucovina Ar. S**	**81.97**	**323**	*e*P		**P**		**13 11 36.8**	**+1.0**
BR131	**Keskin Array S**	**82.14**	**313**	*e*P		**P**		**13 11 38.0**	**+1.1**
	comp=Z,1.0nm,0.6s								
BRTR	**Keskin Array B**	**82.14**	**313**	P		**P**		**13 11 37.8**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=79,slow=3.4,SNR=9.4								
BRTR	**Keskin Array B**	**82.14**	**313**	*i* P		**P**		**13 11 37.7**	**+0.8**
BRTR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
STHS	**Stebnicka Huta**	**82.73**	**326**	*e*P		P		13 11 43.3	+3.6
STHS	**Stebnicka Huta**	**82.73**	**326**	*e*		P		13 11 43.3	+3.6
PV04	**Paradox Valley**	**82.91**	**49**	*e*P		**P**		**13 11 41.7**	**+0.7**
PV01	**Paradox Valley**	**83.28**	**49**	*e*P		**P**		**13 11 43.0**	**-0.1**
	comp=Z,471nm,1.0s								
ISCO	**Idaho Springs**	**84.09**	**46**	*e*P		**P**		**13 11 48.1**	**+0.9**
DPC	**Dobruska-Polom**	**84.31**	**329**	*e*P		**P**		**13 11 45.8**	**-2.0**
DPC				*e*PCP		**PcP**		**13 11 50.8**	**-0.7**
DPC				*e*pP		**pP**		**13 11 59.4**	**+0.9**
DPC	**Dobruska-Polom**	**84.31**	**329**	*e*P		**P**		**13 11 45.8**	**-2.0**
DPC				*e*				13 11 59.4	
BRG	**Berggiesshubel**	**84.94**	**330**	*e*P		pP		13 12 02.6	+1.0
	comp=Z,3.0nm,0.6s								
BRG	**Berggiesshubel**	**84.94**	**330**	*e*P		**pP**		**13 12 02.6**	**+1.0**
BRG				pmax	pmax				
	comp=Z,3.0nm,0.6s								
CLL	**Collm**	**85.00**	**331**	*e*P		**P**		**13 11 51.0**	**-0.2**
	comp=Z,5.0nm,1.3s								
CLL				*e*pP		**pP**		**13 12 02.0**	**+0.1**
CLL	**Collm**	**85.00**	**331**	*e*P		**P**		**13 11 51.0**	**-0.2**
CLL				*e*				13 12 02.0	
CLL				pmax	pmax				
	comp=Z,5.0nm,1.3s								
SDCO	**Great Sand Dun**	**85.44**	**47**	*e*P		**P**		**13 11 54.3**	**+0.3**
	comp=Z,4.0nm,0.8s								
GERES	**GERESS Array B**	**86.57**	**329**	P		**P**		**13 12 00.2**	**+1.0**
	comp=Z,0.4nm,0.2s,baz=40,slow=3.8,SNR=3.7								
ANMO	**Albuquerque**	**86.57**	**50**	*c*eP		**P**		**13 12 00.8**	**+1.2**
ANMO				pmax	pmax				
	comp=Z,8.0nm,1.2s								
CBKS	**Cedar Bluff**	**88.20**	**44**	*e*P		P		13 12 01.9	-5.3
TXAR	**Lajitas Array**	**91.93**	**53**	P		**P**		**13 12 24.6**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=298,slow=2.7,SNR=16								
TXAR	**Lajitas Array**	**91.93**	**53**	P		**P**		**13 12 24.6**	**-0.2**
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
TORD	**Torodi Ar. Bea**	**120.73**	**314**	PKP		**PKPdf**		**13 18 07.9**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=9.7,slow=2.1,SNR=4.3								
SAML	**Samuel**	**146.38**	**50**	*e*PKPdf		**PKPdf**		**13 18 56.1**	**0.0**

*IDC **28** 13:00:10.8±0.5, 32.°98N×142.°54E, h0km, mb4.4/24, mb1 4.6/28, mb1mx4.5/36, mbtmp4.5/28, ML2.9/2, MS3.8/1, Ms1 3.8/1, ms1mx3.0/42, Error ellipse: s-maj=17.2km s-min=11.1km az=93.0*

*NEIC **28** 13:00:11.4±2.5, 33.°03N×142.°49E, h4km±15km, mb4.9/11, Error ellipse: s-maj=6.6km s-min=4.7km az=73.0*

*ISCJB **28** 13:00:13.7±0.3, 32.°94N±0.°03×142.°42E±0.°04, h33km, mb4.6/39, Error ellipse: s-maj=5.6km s-min=3.6km az=145.4*

*JMA **28** 13:00:13.6±0.2, 33.°04N×142.°53E, h57km, M4.8*

ISC 28 13:00:15.8±0.4, 32.°97N±0.°04×142.°40E±0.°06, h33km, n73, σ1.9 s 07/79, mb4.6/39, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**2.17**	**275**	P		**Pn**	**13 00 49.6**	**0.0**
JHJ2				S		**Sb**	**13 01 17.5**	**-3.4**
JHCJ	**Hachijojimakas**	**2.19**	**273**	S		**Sn**	**13 01 17.2**	**+1.5**
BSO3	**Boso 3**	**2.41**	**320**	P		**Pn**	**13 00 51.8**	**-0.8**
BSO4	**Boso 4**	**2.65**	**320**	P		**Pn**	**13 00 55.7**	**-0.3**
KTR	**Katsuura**	**2.78**	**322**	P		**Pn**	**13 00 57.3**	**-0.6**
KTR				S		**Sn**	**13 01 30.1**	**-0.2**
I30JP	**ISUMI INFRASON**	**2.90**	**324**	Sn		**Sn**	**13 01 35.0**	**+1.7**
JOD2	**Odawara 2**	**3.57**	**311**	P		**Pn**	**13 01 08.6**	**-0.3**
JRY	**Ryogami san**	**4.19**	**317**	S		**Sn**	**13 02 04.9**	**-0.4**
MJAR	**Matsushiro Arr**	**4.96**	**317**	Sn		**Sn**	**13 02 23.1**	**-1.0**
	17nm,0.3s,baz=130,slow=24,SNR=6.7							
MJAR				LR		LR	13 03 21.7	
	comp=Z,1μm,18.9s,baz=95,slow=38							
MAJO	**Matsushiro**	**4.96**	**317**	*e*Pn		**Pn**	**13 01 27.1**	**-0.8**
MAT	**Matsushiro**	**4.96**	**317**	P		**Pn**	**13 01 28.0**	**+0.1**
MAT				S		**Sn**	**13 02 23.1**	**-1.1**
JNS	**Sasagawa**	**5.45**	**333**	S		**Sn**	**13 02 33.8**	**-2.5**
JWZ	**Kozaga**	**5.63**	**278**	S		**Sn**	**13 02 39.9**	**-0.7**
JWY	**Kouya**	**5.81**	**284**	P		**Pn**	**13 01 40.6**	**+0.9**
CBIJ	**Chichi jima**	**5.86**	**182**	S		**Sn**	**13 02 42.9**	**-3.3**
CBIJ	**Chichi jima**	**5.86**	**182**	Pn		**Pn**	**13 01 39.5**	**-0.7**
CBIJ				Sn		**Sn**	**13 02 43.8**	**-2.4**
JCJ	**Chichijima**	**5.86**	**182**	Pn		**Pn**	**13 01 39.5**	**-0.7**
	26nm,0.3s,baz=291,slow=21,SNR=3.9							
JCJ				Sn		**Sn**	**13 02 43.8**	**-2.4**
	67nm,0.3s,baz=301,slow=19,SNR=3.7							
JAW	**Awa shima**	**6.04**	**336**	P		**Pn**	**13 01 41.2**	**-1.6**
ERM	**Erimo**	**9.05**	**4**	*e*Pn		Pn	13 02 20.2	-3.8
ASAJ	**Asahikawa**	**11.13**	**1**	*e*Pn		Pn	13 02 49.0	-3.5
KSRS	**Korea Array**	**12.65**	**295**	Pn		**Pn**	**13 03 14.3**	**+1.0**
	0.2nm,0.3s,baz=102,slow=14,SNR=3.3							
KSAR	**Wonju Array Be**	**12.68**	**295**	Pn		**Pn**	**13 03 14.3**	**+0.7**
USRK	**Ussuriysk Ar.**	**13.84**	**327**	Pn		**Pn**	**13 03 28.8**	**-0.7**
	0.2nm,0.3s,baz=148,slow=12,SNR=5.5							
YSS	**Yuzh-Sakhalins**	**13.97**	**1**	*e*Pn		Pn	13 03 26.6	-4.7
	45nm,1.0s							
GUMO	**Guam**	**19.42**	**173**	P		**Pn**	**13 04 40.2**	**-0.4**
	4.2nm,0.3s,baz=169,slow=7.0,SNR=4.9							
HIA	**Hailar**	**23.45**	**321**	*e*P		P	**13 05 20.6**	**-1.6**
SEY	**Seymchan**	**30.65**	**9**	P		P	**13 06 26.4**	**-0.3**
	5.9nm,0.8s,baz=197,slow=8.3,SNR=6.4							
SONM	**Songino Array**	**30.86**	**309**	P		P	**13 06 30.5**	**+1.6**
	4.6nm,0.7s,baz=104,slow=9.1,SNR=4.0							
TLY	**Talaya**	**33.70**	**315**	P		P	**13 06 54.2**	**+0.5**
	4.3nm,0.8s,baz=119,slow=10,SNR=2.3							
SIJI	**Sorong**	**35.26**	**200**	P		P	**13 07 07.0**	**-0.4**
	6.1nm,0.5s,baz=27,slow=16,SNR=4.6							
CMAR	**Chiang Mai Arr**	**41.44**	**261**	P		P	**13 08 00.2**	**+0.8**
	0.9nm,0.8s,baz=45,slow=7.1,SNR=2.8							
CMAR				PcP		**PcP**	**13 09 57.8**	**+0.8**
	0.5nm,0.6s,baz=46,slow=5.2,SNR=2.5							
KAPI	**Kappang**	**43.46**	**214**	P		P	**13 08 16.3**	**+0.4**
	6.6nm,0.4s,baz=17,slow=9.8,SNR=3.8							
ZALV	**Zalesovo Beam**	**45.31**	**315**	P		P	**13 08 31.0**	**+0.8**
	1.4nm,0.6s,baz=102,slow=6.9,SNR=2.0							
ZALV				PcP		**PcP**	**13 10 09.3**	**-0

KALE	**Kalithea**	**0.25**	**94**	*e*Pg		**Pg**	**13 01 53.4**	**+0.1**
KALE	**Kalithea**	**0.25**	**94**	P		**Pg**	**13 01 53.8**	**+0.5**
KALE				S		**Sb**	**13 01 58.0**	**-0.9**
PVO	**Paravola**	**0.31**	**312**	P		**Pg**	**13 01 54.0**	**-0.3**
PVO				S		**Sg**	**13 01 59.2**	**+0.7**
PVO	**Paravola**	**0.31**	**312**	P		**Pg**	**13 01 54.0**	**-0.3**
PVO				S		**Sg**	**13 01 59.2**	**+0.7**
KLV	**Kalavryta, Ach**	**0.45**	**145**	P		**Pg**	**13 01 56.9**	**+0.1**
KLV				S		**Sb**	**13 02 04.8**	**+0.1**
KLV	**Kalavryta, Ach**	**0.45**	**145**	*e*PG		**Pg**	**13 01 57.0**	**+0.1**
KLV				*e*SB		**Sb**	**13 02 04.7**	**+0.1**
KLV	**Kalavryta, Ach**	**0.45**	**145**	*e*Pg		**Pg**	**13 01 57.0**	**+0.1**
KLV				*e*Sb		**Sb**	**13 02 04.7**	**+0.1**
RLS	**Riolos of Patr**	**0.45**	**219**	P		**Pb**	**13 01 57.6**	**-0.3**
RLS				S		**Sb**	**13 02 04.0**	**-0.6**
RLS	**Riolos of Patr**	**0.45**	**219**	*e*PB		**Pg**	**13 01 57.2**	**+0.3**
RLS				*e*SB		**Sb**	**13 02 04.2**	**-0.4**
RLS	**Riolos of Patr**	**0.45**	**219**	*e*Pb		**Pg**	**13 01 57.2**	**+0.3**
RLS	**Riolos of Patr**	**0.45**	**219**	P		**Pb**	**13 01 57.6**	**-0.3**
RLS				S		**Sb**	**13 02 04.0**	**-0.6**
DRO	**Drossia**	**0.47**	**191**	*e*PB		**Pg**	**13 01 57.3**	**+0.1**
DRO				*e*SB		**Sb**	**13 02 04.9**	**-0.2**
DRO	**Drossia**	**0.47**	**191**	*e*Pb		**Pg**	**13 01 57.3**	**+0.1**
DRO				*e*Sb		**Sb**	**13 02 04.9**	**-0.2**
EVR	**Evrytania**	**0.51**	**359**	P		**Pg**	**13 01 57.6**	**-0.4**
EVR				S		**Sg**	**13 02 05.5**	**+0.8**
EVR	**Evrytania**	**0.51**	**359**	*e*PB		**Pg**	**13 01 57.7**	**-0.3**
EVR	**Evrytania**	**0.51**	**359**	P		**Pg**	**13 01 57.6**	**-0.4**
EVR				S		**Sg**	**13 02 05.5**	**+0.8**
DSF	**Desfina**	**0.55**	**90**	P		**Pg**	**13 01 58.1**	**-0.8**
DSF				S		**Sg**	**13 02 06.5**	**+0.3**
DSF	**Desfina**	**0.55**	**90**	*e*PB		**Pg**	**13 01 58.3**	**-0.6**
DSF				*e*SB		**Sg**	**13 02 06.7**	**+0.5**
DSF	**Desfina**	**0.55**	**90**	*e*Pb		**Pg**	**13 01 58.3**	**-0.6**
DSF				S		**Sg**	**13 02 06.5**	**+0.3**
GUR	**Goura**	**0.63**	**139**	P		**Pg**	**13 01 59.9**	**-0.3**
GUR				S		**Sg**	**13 02 09.3**	**+0.8**
GUR	**Goura**	**0.63**	**139**	*e*PB		**Pg**	**13 02 00.0**	**-0.3**
GUR				*e*SB		**Sb**	**13 02 09.8**	**0.0**
GUR	**Goura**	**0.63**	**139**	*e*Pb		**Pg**	**13 02 00.0**	**-0.3**
GUR				S		**Sg**	**13 02 09.3**	**+0.8**
MAKR	**Makrakomi, Fth**	**0.65**	**22**	P		**Pg**	**13 02 00.4**	**-0.2**
MAKR				S		**Sb**	**13 02 10.9**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.65**	**22**	*e*PB		**Pg**	**13 02 00.4**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.65**	**22**	P		**Pg**	**13 02 00.4**	**-0.2**
MAKR				S		**Sb**	**13 02 10.9**	**+0.5**
AGG	**Agios Georgios**	**0.73**	**33**	P		**Pb**	**13 02 02.7**	**0.0**
AGG				S		**Sb**	**13 02 13.3**	**+0.6**
AGG	**Agios Georgios**	**0.73**	**33**	P		**Pb**	**13 02 02.7**	**0.0**
AGG				S		**Sb**	**13 02 13.3**	**+0.6**
LKR	**Lokris**	**0.95**	**75**	*e*PG		**Pg**	**13 02 06.1**	**-0.3**
LKR	**Lokris**	**0.95**	**75**	*e*Pg		**Pg**	**13 02 06.1**	**-0.3**
VLS	**Valsamata**	**1.00**	**257**	*e*PB		**Pg**	**13 02 06.8**	**-0.4**
VLS	**Valsamata**	**1.00**	**257**	*e*Pb		**Pg**	**13 02 06.8**	**-0.4**

IDC 28 13:04:14.9±3.3**, 32˚32N**×**140˚65E, h0**km**, mb3.6**/2,
mb1 3.7**/4**, mb1mx3.4**/38**, mbtmp3.6**/4**, ML3.6**/2**, Error
ellipse: s-maj=151.9km s-min=27.5km az=72.0,
Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**4.66**	**335**	Pn	Pn	13 05 25.7	-0.9
	2.0nm,0.3s,baz=159,slow=12,SNR=15						
MAT	**Matsushiro**	**4.67**	**335**	P	Pn	13 05 25.5	-1.2
MAT				S	Sn	13 06 20.3	-1.3
JCJ	**Chichijima**	**5.38**	**165**	Pn	Pn	13 05 36.8	+0.4
	2.1nm,0.3s,baz=287,slow=19,SNR=7.5						
JCJ				Sn	Sn	13 06 37.8	-1.4
	5.3nm,0.3s,baz=288,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**52.32**	**188**	P	P	13 13 27.1	-1.4
	0.7nm,0.6s,baz=6.1,slow=7.5,SNR=7.0						
ASAR	**Alice Springs**	**56.05**	**187**	P	P	13 13 57.0	+1.3
	0.3nm,0.7s,baz=17,slow=14,SNR=4.1						

*NIED **28** 13:05:00.33˚00N×142˚50E, h8km, Mw4.7 Best double couple: M₀1.13000×10¹⁶ NP1:φ₀71.00000°, δ54.00000°, λ-24.00000°. NP2:φ₀176.00000°, δ71.00000°, λ-141.00000°.*

*ISCJB **28** 13:05:22.9±1.2, 32˚98N±0˚03×142˚44E±0˚03, h17km±8km, mb4.5/44, MS4.2/6, Error ellipse: s-maj=5.7km s-min=3.7km az=32.3*

*BJI **28** 13:05:24.5, 32˚89N×142˚01E, h8km, mb4.6/39, mB5.1/18, Ms4.6/16, Ms7 4.4/15*

*JMA **28** 13:05:24.7±0.3, 32˚99N×142˚48E, h74km, M4.4*

*MOS **28** 13:05:25.1±1.3, 33˚12N×142˚63E, h33km, mb4.8/28, Error ellipse: s-maj=12.8km s-min=6.4km az=105.0*

*IDC **28** 13:05:27.3±0.5, 33˚03N×142˚48E, h35km±3km, mb4.3/23, mb1 4.4/27, mb1mx4.4/33, mbtmp4.5/27, ML4.4/4, MS4.0/9, Ms1 4.0/9, ms1mx3.7/37, Error ellipse: s-maj=13.4km s-min=10.4km az=89.0*

*NEIC **28** 13:05:27.1±0.2, 32˚97N×142˚44E, mb4.6/13, MW4.6(NIED), Error ellipse: s-maj=6.9km s-min=6.3km az=107.0*

ISC 28 13:05:26.8±0.4**, 33˚00N**±0˚04×**142˚42E**±0˚05**, h35**km±1km**, h35**km**:pP-P,n251,**σ†§**11/293, mb4.6**/44, **MS4.3**/6, **5C-1D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.04**	**324**	P	**Pn**	**13 05 58.5**	**+0.3**
BSO1				*e*S	**Sn**	**13 06 22.9**	**+0.8**
JHJ2	**Mitsune**	**2.19**	**274**	P	**Pn**	**13 06 00.4**	**-0.3**
JHJ2				*e*S	**Sn**	**13 06 28.5**	**+2.0**
JHJ2	**Mitsune**	**2.19**	**274**	*e*Pn	**Pn**	**13 06 00.7**	**0.0**
JHCJ	**Hachijojimakas**	**2.20**	**273**	P	**Pn**	**13 05 59.9**	**-1.0**
JHCJ				*e*S	**Sn**	**13 06 26.5**	**-0.4**
BSO2	**Boso 2**	**2.23**	**322**	*e*S	**Sn**	**13 06 28.6**	**+1.4**
BSO3	**Boso 3**	**2.40**	**319**	P	**Pn**	**13 06 03.3**	**-0.1**
BSO4	**Boso 4**	**2.63**	**320**	P	**Pn**	**13 06 07.0**	**+0.3**
BSO4				*e*S	**Sn**	**13 06 38.7**	**+1.3**
KTR	**Katsuura**	**2.76**	**321**	P	**Pn**	**13 06 07.8**	**-0.8**
KTR				*e*S	**Sn**	**13 06 40.9**	**+0.2**
I30JP	**ISUMI INFRASON**	**2.89**	**323**	Sn	**Sn**	**13 06 45.1**	**+1.3**
JOD2	**Odawara 2**	**3.56**	**310**	P	**Pn**	**13 06 18.5**	**-1.2**
JYN	**Shimob**	**4.06**	**309**	P	**Pn**	**13 06 26.9**	**+0.3**
JYN				*e*S	**Sn**	**13 07 13.3**	**+0.4**
JRY	**Ryogami san**	**4.18**	**317**	P	**Pn**	**13 06 28.0**	**-0.2**
JAG	**Ashikaga**	**4.20**	**325**	P	**Pn**	**13 06 28.2**	**-0.2**
JAG				*e*S	**Sn**	**13 07 14.9**	**-1.3**
JFT	**Otama**	**4.82**	**340**	P	**Pn**	**13 06 36.1**	**-0.8**
JFT				*e*S	**Sn**	**13 07 27.7**	**-3.8**
MJAR	**Matsushiro Arr**	**4.95**	**317**	Pn	**Pn**	**13 06 38.6**	**0.0**
	9.3nm,0.3s,baz=162,slow=12,SNR=20						
MJAR				Sn	**Sn**	**13 07 34.6**	**-0.1**
	10nm,0.3s,baz=272,slow=28,SNR=6.3						
MJAR	**Matsushiro Arr**	**4.95**	**317**	P	**Pn**	**13 06 38.7**	**0.0**
MJAR						13 07 34.6	
MJAR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
MJAR				smax	smax		
	comp=N,10.0nm,0.3s						
MAJO	**Matsushiro**	**4.95**	**317**	*c i*P	**Pn**	**13 06 39.4**	**+0.7**
MAT	**Matsushiro**	**4.95**	**317**	P	**Pn**	**13 06 39.1**	**+0.4**
MAT				S	**Sn**	**13 07 34.8**	**+0.1**
MAT	**Matsushiro**	**4.95**	**317**	P	**Pn**	**13 06 39.3**	**+0.6**
MAT				*e*S	**Sn**	**13 07 34.8**	**+0.1**
JIE	**Ise**	**4.96**	**288**	P	**Pn**	**13 06 40.4**	**+1.6**
JIE				*e*S	**Sn**	**13 07 37.9**	**+3.0**
CBIJ	**Chichi jima**	**5.89**	**182**	P	**Pn**	**13 06 49.4**	**-2.2**
CBIJ	**Chichi jima**	**5.89**	**182**	Pn	**Pn**	**13 06 49.4**	**-2.2**
CBIJ				Sn	**Sn**	**13 07 52.4**	**-5.5**
CBIJ				*e*Sn	**Sn**	**13 07 53.0**	**-4.9**
JCJ	**Chichijima**	**5.89**	**182**	Pn	**Pn**	**13 06 50.5**	**-1.2**
	comp=N,24nm,0.3s,baz=3.1,slow=19,SNR=27						
JCJ				Sn	**Sn**	**13 07 52.4**	**-5.5**
	comp=N,69nm,0.3s,baz=276,slow=23,SNR=7.4						
ERM	**Erimo**	**9.02**	**4**	*i* P	Pn	13 07 30.8	-3.7
ERM	**Erimo**	**9.02**	**4**	*e*Pn	Pn	13 07 31.1	-3.4
ASAJ	**Asahikawa**	**11.10**	**1**	*e*Pn	Pn	13 07 59.0	-4.0
YUK	**Yuzh-Kuril'sk**	**11.34**	**13**	*c i*P	Pn	13 08 02.3	-4.0
YUK				*i* S	Sn	13 10 01.3	-10
YUK				pmax	pmax		
	comp=N,15nm,0.8s						
YUK				pmax	pmax		
	comp=E,20nm,0.8s						
YUK				pmax	pmax		
	comp=Z,34nm,0.8s						
YUK				smax	smax		
	comp=N,153nm,2.9s						
YUK				smax	smax		
	comp=E,255nm,2.9s						
KSRS	**Korea Array**	**12.65**	**295**	Pn	**Pn**	**13 08 27.4**	**+3.1**
	comp=E,0.2nm,0.3s,baz=106,slow=13,SNR=8.6						
KSRS				LR	LR	13 12 48.6	
	comp=E,723nm,21.1s,baz=97,slow=35						
KSAR	**Wonju Array Be**	**12.68**	**295**	Pn	**Pn**	**13 08 27.4**	**+2.8**
KUR	**Kuril'sk**	**12.92**	**17**	P	**Pn**	**13 08 25.0**	**-2.9**
JOW	**Kunigami**	**13.71**	**247**	Pn	P	13 08 43.3	-3.7
	comp=E,0.1nm,0.3s,baz=12,slow=20,SNR=3.3						
USRK	**Ussuriysk Ar.**	**13.82**	**327**	Pn	P	13 08 44.5	-3.6
	comp=E,0.2nm,0.3s,baz=113,slow=11,SNR=4.2						
USRK				LR	LR	13 14 13.4	
	comp=E,331nm,18.2s,baz=137,slow=38						
YSS	**Yuzh-Sakhalins**	**13.94**	**1**	*e*P	**Pn**	**13 08 38.9**	**-2.9**
YSS	**Yuzh-Sakhalins**	**13.94**	**1**	*e*Pn	**Pn**	**13 08 39.0**	**-2.9**
	comp=E,28nm,0.8s						
MDJ	**Mudanjiang**	**15.29**	**323**	P	**Pn**	**13 08 58.3**	**-1.7**
MDJ				PMZ			
	comp=E,3.0nm,0.5s						
MDJ				PMZ			
	comp=E,510nm,9.9s						
KLR	**Kul'dur**	**18.07**	**337**	*e*P	Pn	13 09 28.9	-6.0
GUMO	**Guam**	**19.45**	**173**	P	**Pn**	**13 09 52.1**	**+0.2**
	comp=E,5.1nm,0.3s,baz=304,slow=11,SNR=3.7						
GUMO				LR	LR	13 20 20.9	
	comp=E,96nm,19.0s,baz=16,slow=46						
GUMO	**Guam**	**19.45**	**173**	P	**Pn**	**13 09 52.1**	**+0.2**
GUMO				pmax	pmax		
	comp=Z,5.0nm,0.3s						
GUMO				MLR	MLR		
	comp=Z,96nm,19.0s						
NJ2	**Nanjing**	**19.89**	**274**	*e*P	**P**	**13 09 52.5**	**-2.7**
NJ2				PMZ			
	comp=Z,30nm,0.6s						
YULB	**Yu-li**	**20.90**	**248**	*e*P	**P**	**13 10 05.1**	**-1.2**
	comp=Z,8.6nm,0.8s						
TIA	**Tai'an**	**21.05**	**286**	⇑P	**P**	**13 10 08.0**	**+0.2**
BJI	**Beijing**	**22.18**	**296**	P	**P**	**13 10 17.0**	**-2.9**
BJI				PMZ			
	comp=Z,10.0nm,0.7s						
WHN	**Wuhan**	**23.96**	**272**	⇑*i*P	**P**	**13 10 37.3**	**-0.6**
WHN				sP	**sP**	**13 10 50.8**	**-1.2**
H11N2	**WAKE ISLAND Hy**	**25.53**	**115**	T	T	13 37 36.8	
	baz=323,slow=74,SNR=3.2						
H11N3	**WAKE ISLAND Hy**	**25.55**	**115**	T	T	13 37 37.5	
	baz=311,slow=74,SNR=3.3						
HHC	**Hu-ho-hao-te**	**25.78**	**297**	*e*P	**P**	**13 10 52.3**	**-2.3**
HHC				PMZ			
	comp=Z,13nm,0.7s						
HHC				PMZ			
	comp=Z,340nm,4.7s						
XAN	**Xi'an**	**27.88**	**281**	P	**P**	**13 11 13.3**	**-0.1**
XAN				PMZ			
	comp=Z,4.0nm,1.4s						
YAK	**Yakutsk**	**30.18**	**348**	*i* P	**P**	**13 11 33.7**	**+0.3**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SEY	**Seymchan**	**30.61**	**9**	P	**P**	**13 11 37.5**	**+0.2**
	comp=Z,4.1nm,0.6s,baz=194,slow=7.4,SNR=22						
SONM	**Songino Array**	**30.85**	**309**	P	**P**	**13 11 41.2**	**+1.4**
	comp=Z,5.3nm,0.9s,baz=111,slow=9.3,SNR=11						
SONM				LR	LR	13 25 08.9	
	comp=Z,562nm,18.1s,baz=110,slow=38						
SONM	**Songino Array**	**30.85**	**309**	P	**P**	**13 11 41.2**	**+1.4**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,562nm,18.1s						
BOD	**Bodaibo**	**31.41**	**331**	*e*P	P	13 11 52.5	+8.1
BOD				pmax	pmax		
	comp=Z,7.0nm,1.6s						
CD2	**Chengdu**	**32.74**	**277**	P	**P**	**13 11 55.0**	**-1.5**
CD2				pP	**pP**	**13 12 04.8**	**-1.7**
CD2				PP	**PP**	**13 13 09.0**	**-1.8**
CD2				PcP	**PcP**	**13 14 40.3**	**-1.1**
CD2				PcS	**PcS**	**13 18 25.5**	**-1.3**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.0s						
CD2				LN			
	comp=Z,710nm,14.5s						
CD2				LZ			
	comp=Z,1μm,14.0s						
GTA	**Gaotai**	**34.72**	**293**	*e*P	**P**	**13 12 14.5**	**+0.8**
GTA				pP	**pP**	**13 12 24.0**	**+0.3**
GTA				sP	**sP**	**13 12 28.0**	**+0.1**
GTA				PcP	**PcP**	**13 14 49.0**	**+2.0**
GTA				S	**S**	**13 17 42.3**	**+0.7**
GTA				sS	**sS**	**13 17 56.5**	**-1.6**
GTA				SS	**SnSn**	**13 19 56.0**	**0.0**
GTA				PMZ			
	comp=Z,3.0nm,1.2s						
GTA				PMZ			
	comp=Z,210nm,6.2s						
GTA				LN			
	comp=Z,420nm,16.2s						
GTA				LE			
	comp=Z,400nm,14.3s						
GTA				LZ			
	comp=Z,450nm,14.3s						
BILL	**Bilibino**	**37.69**	**14**	*e*P	**P**	**13 12 38.0**	**-0.5**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIXI	**Tiksi**	**39.38**	**353**	*i* P	**P**	**13 12 51.9**	**-0.8**
TIXI				*i* *PP	**pP**	**13 13 02.8**	**0.0**
TIXI				pmax	pmax		
	comp=Z,14nm,2.4s						
CMAR	**Chiang Mai Arr**	**41.46**	**261**	P	**P**	**13 13 11.0**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=50,slow=8.0,SNR=8.6						
CMAR				LR	LR	13 30 51.3	
	comp=Z,120nm,19.7s,baz=58,slow=37						
CMAR	**Chiang Mai Arr**	**41.46**	**261**	P	**P**	**13 13 11.0**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR				MLR	MLR		
	comp=Z,120nm,19.7s						
KAPI	**Kappang**	**43.49**	**214**	P	**P**	**13 13 27.6**	**+0.7**
	comp=Z,8.9nm,0.5s,baz=19,slow=8.9,SNR=6.4						
KAPI	**Kappang**	**43.49**	**214**	*e*P	**P**	**13 13 27.4**	**+0.4**
	comp=Z,18nm,0.9s						
WMQ	**Urumqi**	**43.50**	**301**	P	**P**	**13 13 27.0**	**+0.1**
WMQ				pP	**pP**	**13 13 37.0**	**-0.2**
WMQ				sP	**sP**	**13 13 41.0**	**-0.3**
WMQ				PP	**PP**	**13 15 08.5**	**+0.2**
WMQ				PMZ			
	comp=Z,10.0nm,0.6s						
WMQ				PMZ			
	comp=Z,260nm,7.0s						
WMQ				LN			
	comp=Z,610nm,9.5s						
WMQ				LE			
	comp=Z,440nm,10.8s						
WMQ				LZ			
	comp=Z,310nm,14.4s						
ZALV	**Zalesovo Beam**	**45.30**	**315**	P	**P**	**13 13 41.5**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=107,slow=7.4,SNR=7.5						
ZALV				PcP	**PcP**	**13 15 20.2**	**-0.1**
	comp=Z,4.7nm,0.7s,baz=114,slow=3.0,SNR=7.7						
ZALV				pPcP		13 15 31.6	
	comp=Z,2.8nm,0.6s,baz=113,slow=2.5,SNR=4.8						
ZALV				LR	LR	13 33 36.1	
	comp=Z,272nm,18.3s,baz=59,slow=37						
ZALV	**Zalesovo Beam**	**45.30**	**315**	P	**P**	**13 13 41.6**	**+0.5**
ZALV						13 15 20.2	
ZALV						13 15 31.6	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZALV				MLR	MLR		
	comp=Z,272nm,18.3s						
NVS	**Novosibirsk**	**46.27**	**317**	*i* P	**P**	**13 13 49.4**	**+0.7**
NVS				pmax	pmax		
	comp=N,5.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,11nm,1.4s						
NVS				pmax	pmax		
	comp=Z,13nm,1.4s						
MK31	**Makanchi Array**	**47.04**	**306**	*e*P	**P**	**13 13 54.9**	**0.0**
MK31	**Makanchi Array**	**47.04**	**306**	*e*P	**P**	**13 13 55.0**	**0.0**
KURK	**Kurchatov**	**49.13**	**311**	*i* P	**P**	**13 14 11.2**	**+0.3**
KDAK	**Kodiak Island**	**49.61**	**40**	*i* P	**P**	**13 14 14.8**	**+0.3**
KDAK	**Kodiak Island**	**49.61**	**40**	*e*P	**P**	**13 14 14.4**	**0.0**
	comp=Z,12nm,0.7s						
KDAK				*e*pP	**pP**	**13 14 24.4**	**-0.5**
PPLA	**Purkeypile**	**50.05**	**33**	*e*P	**P**	**13 14 19.0**	**+1.0**
	comp=Z,7.0nm,0.7s						
SML	**Sawmill**	**51.80**	**34**	P	**P**	**13 14 31.4**	**+0.4**
	comp=Z,3.8nm,0.7s						
SML				*e*pP	**pP**	**13 14 41.4**	**0.0**
COLA	**College**	**52.09**	**31**	*i* P	P	13 14 29.3	-3.7
COLA				pmax	pmax		
	comp=Z,46nm,4.4s						
ILAR	**Eielson Array**	**52.50**	**31**	P	**P**	**13 14 35.1**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=260,slow=6.1,SNR=26						
ILAR				pP	**pP**	**13 14 46.8**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=262,slow=6.4,SNR=13						
ILAR	**Eielson Array**	**52.50**	**31**	P	**P**	**13 14 35.2**	**-0.9**
ILAR				*PP	**pP**	**13 14 46.8**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KSH	**Kashi**	**52.89**	**297**	*e*P	P	13 14 44.5	+5.0
KSH				sP	sP	13 14 57.5	+3.4
KSH				PcP	**PcP**	**13 15 49.0**	**+0.7**
WRA	**Warramunga Arr**	**53.21**	**189**	P	**P**	**13 14 41.0**	**-0.8**
	comp=Z,8.9nm,0.5s,baz=5.9,slow=7.7,SNR=61						
WRA				PcP	**PcP**	**13 15 51.0**	**+1.6**
	comp=Z,1.8nm,0.6s,baz=5.8,slow=4.5,SNR=4.7						
WRA	**Warramunga Arr**	**53.21**	**189**	P	**P**	**13 14 41.0**	**-0.8**
WRA						13 15 51.0	
WRA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BMRM	**Bremner River**	**53.62**	**35**	*e*P	**P**	**13 14 42.7**	**-1.8**
	comp=Z,9.1nm,0.9s						
BRVK	**Borovoye**	**54.00**	**315**	*c i*P	**P**	**13 14 48.4**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KKAR	**Karatay Array**	**55.93**	**303**	*e*P	**P**	**13 15 02.2**	**+0.8**
	comp=Z,4.1nm,0.7s						
AS31	**Alice Springs**	**56.93**	**189**	*e*P	**P**	**13 15 07.7**	**-0.9**
ASAR	**Alice Springs**	**56.93**	**189**	P	**P**	**13 15 08.3**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=351,slow=5.5,SNR=32						
ASAR				PcP	**PcP**	**13 16 05.2**	**+1.4**
	comp=Z,2.1nm,0.7s,baz=5.6,slow=4.2,SNR=6.4						
ASAR	**Alice Springs**	**56.93**	**189**	P	**P**	**13 15 08.4**	**-0.3**
ASAR						13 16 05.2	
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**57.62**	**26**	P	**P**	**13 15 13.2**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=250,slow=14,SNR=4.3						
INK	**Inuvik**	**57.62**	**26**	P	**P**	**13 15 13.2**	**+0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SVE	**Sverdlovsk**	**58.74**	**320**	*e*P	**P**	**13 15 22.3**	**+1.3**
SVE				pmax	pmax		
	comp=Z,11nm,1.1s						
DZM	**Mont Dzumac**	**59.38**	**154**	P	**P**	**13 15 27.0**	**+1.2**
	comp=Z,3.3nm,0.7s,baz=270,slow=24,SNR=6.6						
ARU	**Arti**	**59.95**	**320**	*d i*P	**P**	**13 15 29.7**	**+0.3**
ARU				S	**S**	**13 23 41.0**	**+2.0**
ARU				SS	**SS**	**13 27 29.6**	**-5.7**
ARU				pmax	pmax		
	comp=Z,16nm,1.2s						
ARU	**Arti**	**59.95**	**320**	*e*P	**P**	**13 15 28.4**	**-1.0**
	comp=Z,9.9nm,0.6s						
ARU				*e*pP	**pP**	**13 15 39.3**	**-0.7**
ABKAR	**Akbulak array**	**61.21**	**312**	*e*P	**P**	**13 15 37.6**	**-0.5**
	comp=Z,1.1nm,0.4s						
STKA	**Stephens Creek**	**64.53**	**181**	P	**P**	**13 16 01.4**	**+1.3**
	comp=Z,3.3nm,0.7s,baz=13,slow=6.1,SNR=8.0						
STKA	**Stephens Creek**	**64.53**	**181**	P	**P**	**13 16 01.5**	**+1.3**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
RES	**Resolute Bay**	**66.30**	**14**	P	**P**	**13 16 11.8**	**+0.6**
	comp=Z,6.7nm,0.8s,baz=329,slow=6.2,SNR=9.3						
RES				pP	**pP**	**13 16 22.1**	**+0.4**
	comp=Z,5.4nm,0.7s,baz=338,slow=2.9,SNR=6.6						
RES	**Resolute Bay**	**66.30**	**14**	P	**P**	**13 16 11.8**	**+0.6**
RES				*PP	**pP**	**13 16 22.2**	**+0.4**
RES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
RES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GEYT	**Alibeck**	**66.56**	**301**	P	**P**	**13 16 15.1**	**+1.6**
	comp=Z,4.2nm,0.7s,baz=72,slow=4.8,SNR=6.6						
YKA	**Yellowknife Ar**	**66.89**	**29**	P	**P**	**13 16 15.8**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=293,slow=6.2,SNR=6.7						
YKA				pP	**pP**	**13 16 26.2**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=293,slow=6.1,SNR=5.9						
YKA	**Yellowknife Ar**	**66.89**	**29**	P	**P**	**13 16 15.8**	**+0.7**
YKA				*PP	**pP**	**13 16 26.2**	**+0.4**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**68.06**	**340**	P	**P**	**13 16 21.9**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=81,slow=9.1,SNR=5.7						
ARCES	**ARCESS Array B**	**68.06**	**340**	P	**P**	**13 16 21.9**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
I03D	**Drain, OR**	**70.84**	**50**	P	**P**	**13 16 40.7**	**+0.6

VES	**Vestal, Richgr**	**77.58**	**55**	P		**P**	**13 17 19.7**	**+0.2**
	baz=77							
C20A	**Veseth Ranch,**	**77.90**	**41**	P		**P**	**13 17 20.8**	**-0.3**
	baz=78,SNR=7.9							
AKASG	**Malin Array Be**	**78.00**	**323**	P		**P**	**13 17 21.4**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=47,slow=6.3,SNR=12							
AKASG				pP		**pP**	**13 17 32.9**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=47,slow=5.7,SNR=4.9							
AKASG	**Malin Array Be**	**78.00**	**323**	P		**P**	**13 17 21.4**	**-0.1**
AKASG				*PP		**pP**	**13 17 32.9**	**+0.5**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.5s							
B21A	**Ellsworth Farm**	**78.01**	**40**	P		**P**	**13 17 21.9**	**+0.2**
	baz=78,SNR=5.3							
ISA	**Isabella, Lake**	**78.10**	**55**	P		**P**	**13 17 22.0**	**-0.4**
	baz=78							
GRAC	**Grapevine Rang**	**78.14**	**54**	P		**P**	**13 17 21.9**	**-0.8**
	baz=78							
NB2	**NORSAR Subarra**	**78.22**	**338**	P		**P**	**13 17 22.5**	**-0.1**
	comp=Z,4.0nm,1.0s,baz=40,slow=5.9							
NOA	**NORSAR Array B**	**78.22**	**338**	P		**P**	**13 17 22.4**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=40,slow=5.6,SNR=13							
NOA				pP		**pP**	**13 17 34.0**	**+0.5**
	comp=Z,2.4nm,0.5s,baz=40,slow=5.7,SNR=7.7							
NOA	**NORSAR Array B**	**78.22**	**338**	P		**P**	**13 17 22.5**	**-0.1**
NOA				*PP		**pP**	**13 17 34.0**	**+0.5**
NOA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
NOA				pmax	pmax			
	comp=Z,2.0nm,0.5s							
A22A	**Carney Farms,**	**78.26**	**39**	P		**P**	**13 17 22.8**	**-0.3**
	baz=78,SNR=16							
C21A	**Desert Coulee**	**78.33**	**40**	P		**P**	**13 17 23.4**	**-0.1**
	baz=78,SNR=8.7							
H17A	**Grant Village**	**78.36**	**44**	P		**P**	**13 17 25.0**	**+0.9**
	baz=78							
H17A	**Grant Village**	**78.36**	**44**	*e*P		**P**	**13 17 26.4**	**+2.3**
	comp=Z,3.9nm,0.8s							
MPMC	**Manual Prospec**	**78.56**	**54**	P		**P**	**13 17 25.2**	**0.0**
	baz=78							
R11A	**Troy Canyon, C**	**78.61**	**52**	P		**P**	**13 17 25.5**	**+0.1**
	baz=78							
B22A	**Reddig Ranch S**	**78.63**	**39**	P		**P**	**13 17 24.7**	**-0.5**
	baz=78							
RLMT	**Red Lodge**	**78.71**	**43**	P		**P**	**13 17 26.1**	**+0.2**
	baz=78							
D21A	**La Casta Ranch**	**78.84**	**41**	P		**P**	**13 17 26.9**	**+0.5**
	baz=79							
TPNV	**Topopah Spring**	**78.92**	**53**	P		**P**	**13 17 27.0**	**-0.1**
	baz=79							
C22A	**Vida**	**79.03**	**40**	P		**P**	**13 17 27.0**	**-0.3**
	baz=79							
B23A	**Brockton**	**79.07**	**39**	P		**P**	**13 17 27.6**	**0.0**
	baz=79,SNR=14							
D22A	**Cohagen**	**79.23**	**40**	P		**P**	**13 17 28.0**	**-0.5**
	baz=79,SNR=12							
G20A	**Bridger**	**79.25**	**43**	P		**P**	**13 17 28.4**	**-0.3**
	baz=79							
A24A	**Westby**	**79.30**	**38**	P		**P**	**13 17 28.3**	**-0.5**
	baz=79							
C23A	**Lambert**	**79.37**	**39**	P		**P**	**13 17 28.9**	**-0.3**
	baz=79							
DUG	**Dugway, Tooele**	**79.38**	**49**	P		**P**	**13 17 28.8**	**-0.7**
	baz=79							
DUG	**Dugway, Tooele**	**79.38**	**49**	*e*P		**P**	**13 17 29.5**	**0.0**
	comp=Z,2.6nm,0.6s							
DGMT	**Dagmar**	**79.48**	**38**	P		**P**	**13 17 29.8**	**+0.1**
	baz=79							
D23A	**Lindsay**	**79.74**	**40**	P		**P**	**13 17 31.3**	**0.0**
	baz=80,SNR=5.9							
E22A	**Miles City**	**79.79**	**41**	P		**P**	**13 17 31.3**	**-0.2**
	baz=80							
G21A	**Lodge Grass**	**79.82**	**42**	P		**P**	**13 17 31.4**	**-0.4**
	baz=80							
PDAR	**Pinedale Array**	**79.91**	**45**	P		**P**	**13 17 32.2**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=322,slow=2.4,SNR=16							
PDAR				pP		**pP**	**13 17 43.9**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=177,slow=0.1,SNR=7.9							
J19A	**Crowheart**	**79.92**	**45**	P		**P**	**13 17 32.1**	**-0.3**
	baz=80							
C24A	**Savage**	**79.94**	**39**	P		**P**	**13 17 32.4**	**0.0**
	baz=80							
TUQ	**Turquoise Moun**	**79.97**	**54**	P		**P**	**13 17 33.3**	**+0.5**
	baz=80							
F22A	**Rosebud**	**80.02**	**41**	P		**P**	**13 17 33.2**	**+0.4**
	baz=80							
I20A	**Worland**	**80.05**	**44**	P		**P**	**13 17 33.3**	**+0.2**
	baz=80,SNR=5.7							
E23A	**Ismay**	**80.10**	**40**	P		**P**	**13 17 32.9**	**-0.3**
	baz=80,SNR=9.8							
B25A	**Knox Farm, Ray**	**80.14**	**38**	P		**P**	**13 17 33.5**	**+0.2**
	baz=80							
D24A	**Glendive**	**80.25**	**40**	P		**P**	**13 17 34.3**	**+0.3**
	baz=80							
H21A	**Big Horn, Sher**	**80.27**	**43**	P		**P**	**13 17 34.0**	**-0.3**
	baz=80							
A26A	**Wade Farm, Ken**	**80.32**	**37**	P		**P**	**13 17 34.2**	**-0.1**
	baz=80							
G22A	**Birney**	**80.34**	**42**	P		**P**	**13 17 34.9**	**+0.3**
	baz=80							
J20A	**Shoshoni**	**80.43**	**44**	P		**P**	**13 17 34.9**	**-0.3**
	baz=80,SNR=5.4							
GMRC	**Granite Mounta**	**80.51**	**55**	P		**P**	**13 17 36.1**	**+0.3**
	baz=80							
F23A	**Volborg**	**80.53**	**41**	P		**P**	**13 17 36.3**	**+0.8**
	baz=80							
PFO	**Pinyon Flats O**	**80.60**	**56**	P		**P**	**13 17 36.5**	**+0.2**
	baz=80							
I21A	**Big Trails, Te**	**80.62**	**43**	P		**P**	**13 17 36.1**	**-0.1**
	baz=80							
BELC	**Belle Mtn. Jos**	**80.71**	**56**	P		**P**	**13 17 36.9**	**+0.1**
	baz=80							
J21A	**Lysite**	**80.81**	**44**	P		**P**	**13 17 37.1**	**-0.1**
	baz=81							
G23A	**Biddle**	**80.86**	**42**	P		**P**	**13 17 37.1**	**-0.3**
	baz=81							
F24A	**Ekalaka**	**80.98**	**41**	P		**P**	**13 17 38.1**	**+0.1**
	baz=81							
MONP	**Monument Peak,**	**81.02**	**57**	P		**P**	**13 17 39.0**	**+0.4**
	baz=81							
I22A	**9 Mile Ranch,**	**81.04**	**43**	P		**P**	**13 17 38.6**	**+0.2**
	baz=81							
E25A	**Miller Ranch,**	**81.13**	**40**	P		**P**	**13 17 39.0**	**+0.2**
	baz=81							
IRM	**Iron Mountain**	**81.20**	**55**	P		**P**	**13 17 39.7**	**+0.4**
	baz=81							
A28A	**Rude Farm, Bot**	**81.20**	**36**	P		**P**	**13 17 38.9**	**-0.1**
	baz=81							
D26A	**Manning**	**81.31**	**39**	P		**P**	**13 17 39.5**	**-0.1**
	baz=81							
J22A	**Midwest**	**81.33**	**43**	P		**P**	**13 17 39.5**	**-0.5**
	baz=81,SNR=9.1							
C27A	**Sayler Ranch,**	**81.36**	**38**	P		**P**	**13 17 40.0**	**+0.2**
	baz=81							
SRU	**San Rafael Swe**	**81.44**	**49**	*e*P		**P**	**13 17 40.6**	**-0.1**
	comp=Z,6.4nm,0.8s							
B28A	**Dugan Ranch, T**	**81.46**	**37**	P		**P**	**13 17 40.5**	**+0.2**
	baz=81							
H24A	**Dirks Ranch, A**	**81.60**	**42**	P		**P**	**13 17 41.4**	**+0.1**
	baz=81							
E26A	**Carlson Angus**	**81.65**	**39**	P		**P**	**13 17 41.6**	**+0.1**
	baz=81							
A29A	**Manning Farm,**	**81.71**	**36**	P		**P**	**13 17 42.5**	**+0.8**
	baz=82							
KWP	**Kalwaria Pacla**	**81.89**	**325**	*e*P		**P**	**13 17 44.3**	**+1.7**
KWP	**Kalwaria Pacla**	**81.89**	**325**	*e*P		**P**	**13 17 44.3**	**+1.7**
F26A	**Lodgepole**	**81.94**	**40**	P		**P**	**13 17 42.9**	**-0.1**
	baz=82							
B29A	**Wagenman Farm,**	**81.95**	**36**	P		**P**	**13 17 43.1**	**+0.2**
	baz=82							
PPT	**Papeete**	**82.09**	**117**	LR		LR	13 52 33.3	
	comp=Z,118nm,19.4s,baz=320,slow=34							
I24A	**Kuemmerle Ranc**	**82.12**	**42**	P		**P**	**13 17 44.4**	**+0.3**
	baz=82							
A30A	**Hoffart Farm,**	**82.15**	**35**	P		**P**	**13 17 44.4**	**+0.4**
	baz=82							
BRTR	**Keskin Array B**	**82.16**	**313**	P		**P**	**13 17 45.4**	**+1.0**
	comp=Z,3.0nm,0.7s,baz=116,slow=3.8,SNR=13							
BRTR				pP		**pP**	**13 17 56.5**	**+1.2**
	comp=Z,2.1nm,0.6s,baz=107,slow=3.8,SNR=7.4							
G26A	**Maurine**	**82.33**	**40**	P		**P**	**13 17 45.3**	**+0.2**
	baz=82							
B30A	**Myrvik Farm, E**	**82.47**	**36**	P		**P**	**13 17 44.5**	**-1.2**
	baz=82							
STHS	**Stebnicka Huta**	**82.73**	**326**	*e*P		**P**	**13 17 47.4**	**+0.3**
STHS	**Stebnicka Huta**	**82.73**	**326**	*e*P		**P**	**13 17 47.4**	**+0.3**
WUAZ	**Wupatki**	**82.98**	**52**	P		**P**	**13 17 49.3**	**+0.5**
	baz=83							
NIE	**Niedzica**	**83.17**	**326**	*e*P		**P**	**13 17 51.1**	**+1.8**
NIE	**Niedzica**	**83.17**	**326**	*e*P		**P**	**13 17 51.2**	**+1.9**
N23A	**Red Feather La**	**83.19**	**45**	P		**P**	**13 17 50.0**	**+0.1**
	baz=83,SNR=7.6							
PV01	**Paradox Valley**	**83.26**	**49**	*e*P		**P**	**13 17 50.7**	**+0.4**
	comp=Z,328nm,0.8s							
J26A	**Sides Ranch, S**	**83.33**	**42**	P		**P**	**13 17 51.0**	**+0.6**
	baz=83							
G28A	**Parade**	**83.38**	**40**	P		**P**	**13 17 51.1**	**+0.6**
	baz=83							
L25A	**Engebretsen Ra**	**83.56**	**43**	P		**P**	**13 17 52.0**	**+0.4**
	baz=83							
H28A	**Mission Ridge**	**83.59**	**40**	P		**P**	**13 17 52.2**	**+0.6**
	baz=83							
K26A	**Motz Farm, Whi**	**83.67**	**42**	P		**P**	**13 17 52.7**	**+0.6**
	baz=83							
KECS	**Kecovo**	**83.74**	**325**	*e*P		**P**	**13 17 53.3**	**+1.1**
KECS	**Kecovo**	**83.74**	**325**	*e*P		**P**	**13 17 53.3**	**+1.1**
AGMN	**Agassiz Nation**	**83.77**	**35**	P		**P**	**13 17 52.9**	**+0.5**
	baz=84							
I28A	**Midland**	**83.95**	**41**	P		**P**	**13 17 53.8**	**+0.4**
	baz=84							
J27A	**Elkhorn Farm,**	**83.97**	**42**	P		**P**	**13 17 54.2**	**+0.6**
	baz=84							
H29A	**Onida**	**84.05**	**40**	P		**P**	**13 17 54.7**	**+0.8**
	baz=84							
J28A	**Allard Ranch,**	**84.29**	**41**	P		**P**	**13 17 55.6**	**+0.4**
	baz=84							
W18A	**Petrified Fore**	**84.30**	**52**	P		**P**	**13 17 56.0**	**+0.4**
	baz=84							
DPC	**Dobruska-Polom**	**84.31**	**329**	*e*P		**P**	**13 17 55.3**	**+0.1**
DPC	**Dobruska-Polom**	**84.31**	**329**	*e*P		**P**	**13 17 55.3**	**+0.1**
S22A	**4UR Ranch, Cre**	**84.58**	**48**	P		**P**	**13 17 57.3**	**+0.1**
	baz=84,SNR=7.1							
Q24A	**Divide**	**84.87**	**46**	P		**P**	**13 17 58.1**	**-0.4**
	baz=85							
PVCC	**Panska Ves**	**84.94**	**330**	*e*P		**P**	**13 17 56.0**	**-2.3**
PVCC	**Panska Ves**	**84.94**	**330**	*e*P		**P**	**13 17 56.0**	**-2.3**
I30A	**Oacoma**	**84.95**	**40**	P		**P**	**13 17 58.4**	**-0.1**
	baz=85							
K29A	**Lazy Trails An**	**85.23**	**41**	P		**P**	**13 17 59.4**	**-0.5**
	baz=85							
N27A	**Anderson Farm,**	**85.25**	**44**	P		**P**	**13 18 00.2**	**+0.1**
	baz=85							
SDCO	**Great Sand Dun**	**85.41**	**47**	P		**P**	**13 18 00.6**	**-0.6**
	baz=85,SNR=6.2							
TREC	**Trest**	**85.46**	**328**	*e*P		**P**	**13 18 01.3**	**+0.4**
TREC	**Trest**	**85.46**	**328**	*e*P		**P**	**13 18 01.3**	**+0.4**
R26A	**Arlington**	**86.32**	**46**	P		**P**	**13 18 05.7**	**+0.2**
	baz=86							
T25A	**Trinidad**	**86.47**	**47**	P		**P**	**13 18 06.1**	**-0.3**
	baz=86							
P28A	**Saint Francis**	**86.50**	**44**	P		**P**	**13 18 06.3**	**-0.1**
	baz=86							
ECSD	**EROS Data Cent**	**86.56**	**39**	P		**P**	**13 18 06.2**	**-0.3**
	baz=86							
T26A	**Comanche Natio**	**86.95**	**47**	P		**P**	**13 18 08.7**	**0.0**
	baz=87							
SPMN	**Marine on St.**	**87.44**	**36**	P		**P**	**13 18 10.8**	**+0.1**
	baz=87							
Q30A	**Quinter**	**87.79**	**44**	P		**P**	**13 18 13.0**	**+0.4**
	baz=88							
P31A	**Stockton**	**87.92**	**43**	P		**P**	**13 18 13.6**	**+0.5**
	baz=88							
CBKS	**Cedar Bluff**	**88.18**	**44**	P		**P**	**13 18 14.2**	**-0.2**
	baz=88							
P34A	**Walnut Farm, R**	**89.34**	**42**	P		**P**	**13 18 20.5**	**+0.6**
	baz=89							
TXAR	**Lajitas Array**	**91.91**	**53**	P		**P**	**13 18 32.1**	**0.0**
	comp=Z,1.7nm,0.6s,baz=313,slow=3.4,SNR=11							
TXAR				pP		**pP**	**13 18 43.1**	**0.0**
	comp=Z,1.9nm,0.6s,baz=302,slow=3.5,SNR=7.7							
TXAR				LR		LR	13 56 09.0	
	comp=Z,110nm,19.8s,baz=0.0,slow=33							
TXAR	**Lajitas Array**	**91.91**	**53**	P		**P**	**13 18 32.1**	**0.0**
TXAR				*PP		**pP**	**13 18 43.1**	**0.0**
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
232A	**Coleman**	**92.86**	**49**	P		**P**	**13 18 36.4**	**0.0**
	baz=93							
530A	**J-C Ranch, Com**	**92.92**	**51**	P		**P**	**13 18 36.3**	**-0.4**
	baz=93							
TORD	**Tordi Ar. Bea**	**120.74**	**314**	PKP		**PKPdf**	**13 24 15.7**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=25,slow=1.5,SNR=7.4							
BOSA	**Boshof**	**126.55**	**257**	PKP		**PKPdf**	**13 24 27.6**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=157,slow=6.3,SNR=4.2							
BOSA	**Boshof**	**126.55**	**257**	PKIKP		**PKPdf**	**13 24 27.6**	**+0.9**
BOSA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
DBIC	**Dimbokro**	**129.77**	**316**	PKP		**PKPdf**	**13 24 33.1**	**-0.1**
	comp=Z,4.8nm,1.0s,baz=136,slow=3.3,SNR=2.6							
DBIC	**Dimbokro**	**129.77**	**316**	PKIKP		**PKPdf**	**13 24 33.1**	**-0.1**
DBIC				pmax	pmax			
	comp=Z,5.0nm,1.0s							
SAML	**Samuel**	**146.36**	**50**	*e*PKPbc		**PKPbc**	**13 25 04.1**	**-0.6**

MOS ***28*** *13:24:09.8±2.5,48.71N×156.33E,h6km,mb4.2/1, Error ellipse: s-maj=88.2km s-min=11.2km az=80.6*

KRSC 28 13:24:09.8±2.1,48.71N×156.33E,h6km±5km, ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.98**	**356**	*e*P		Pn	13 24 43.3	-0.5
SKR				*e*S		Sn	13 25 09.1	+0.2
SKR	**Severo-Kuril's**	**1.98**	**356**	PN		Pn	13 24 38.4	-5.4
PAU	**Pauzhetka**	**2.78**	**6**	*e*P		Pn	13 24 56.5	+1.7
PAU				*e*S		Sb	13 25 31.6	-2.4
PAU	**Pauzhetka**	**2.78**	**6**	PN		Pn	13 24 56.5	+1.7
PAU				S		Sb	13 25 31.6	-2.4
MIPR	**Malaya Ipel'ka**	**3.58**	**4**	*e*P		Pn	13 25 07.3	+1.4
ASAK	**Asacha**	**3.81**	**15**	*e*P		Pn	13 25 12.3	+3.2
RUS	**Russkaya**	**3.98**	**20**	*e*P		Pn	13 25 14.0	+2.7
RUS				*e*S		Sn	13 26 03.3	+5.1
RUS	**Russkaya**	**3.98**	**20**	PN		Pn	13 25 14.0	+2.7
RUS				S		Sn	13 26 03.3	+5.1
PET	**Petropavlovsk**	**4.56**	**18**	*e*S		Sn	13 26 18.7	+6.2
UGLR	**Uglovaya**	**4.77**	**18**	*e*P		Pn	13 25 27.7	+5.4
AVH	**Avacha**	**4.81**	**18**	*e*P		Pn	13 25 28.3	+5.5
AVH	**Avacha**	**4.81**	**18**	PN		Pn	13 25 28.3	+5.5
KOK	**Koryaka**	**4.81**	**17**	*e*P		Pn	13 25 28.2	+5.3
KOK	**Koryaka**	**4.81**	**17**	PN		Pn	13 25 28.2	+5.3
KRER	**Koryakskii**	**4.84**	**17**	*e*P		Pn	13 25 27.4	+3.9
SPN	**Mys Shipunski**	**4.97**	**27**	*e*P		Pn	13 25 29.6	+4.6
SPN				*e*S		Sn	13 26 28.6	+5.9
SPN	**Mys Shipunski**	**4.97**	**27**	PN		Pn	13 25 29.6	+4.6
SPN				S		Sn	13 26 28.6	+5.9
GNL	**Ganaly**	**5.09**	**11**	*e*P		Pn	13 25 30.9	+4.1
GNL	**Ganaly**	**5.09**	**11**	PN		Pn	13 25 30.9	+4.1
MKZ	**Mys Kozlova**	**6.75**	**28**	*e*P		Pn	13 25 53.4	+4.1
MKZ	**Mys Kozlova**	**6.75**	**28**	PN		Pn	13 25 53.4	+4.1
KZV	**Kizimen**	**6.86**	**19**	*e*P		Pn	13 25 57.0	+5.9

SJA ***28*** *13:25:53.0±1.1,34.31S×72.87W,h35km,ML3.9*
GUC ***28*** *13:25:57.5±0.4,34.61S×71.81W,h15km±614km,ML4.4*

ISC 28 13:25:54.5±1.9,34.61S±0.03×71.98W±0.09,h6km±13km, n25,σ1°57/30,1C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NICH	**Los Niches**	**0.73**	**123**	*i*P		**Pb**	**13 26 09.3**	**-0.3**
NICH				*i* S		**Sb**	**13 26 17.8**	**-2.1**
LNV	**Longovilo**	**0.80**	**36**	*i*P		**Pg**	**13 26 10.7**	**+0.8**
TALC	**Talca**	**0.84**	**161**	*e*P		**Pb**	**13 26 12.0**	**+0.6**
TALC				*i* S		**Sb**	**13 26 22.9**	**0.0**
LNCH	**Linares**	**1.27**	**166**	*i* P		**Pn**	**13 26 19.8**	**+0.9**
LNCH				*i* S		**Sn**	**13 26 36.3**	**0.0**
TACH	**Talagante**	**1.28**	**42**	*e*P		**Pg**	**13 26 18.3**	**-0.9**
PCH	**Parque**	**1.56**	**51**	*e*P		**Pn**	**13 26 22.7**	**-0.2**
SAN	**Santiago**	**1.59**	**44**	*e*P		**Pn**	**13 26 23.1**	**-0.1**
IHA	**Instituto Hidr**	**1.60**	**10**	*i* P		**Pn**	**13 26 23.5**	**+0.1**
IHA				*i* S		**Sn**	**13 26 43.9**	**-0.5**
CLCH	**Cerro Calan**	**1.70**	**45**	*e*P		**Pn**	**13 26 25.1**	**+0.3**
CLCH				*i* S		**Sn**	**13 26 45.9**	**-1.0**
CLCH				AML		AML	13 26 52.3	
	comp=N,7μm,0.7s							
PEL	**Peldehue**	**1.81**	**37**	*e*P		**Pn**	**13 26 26.8**	**+0.4**
PEL				*e*S		**Sn**	**13 26 49.3**	**-0.4**
PEL				AML		AML	13 26 58.1	
	comp=E,5μm,0.6s							
AAGR	**Agrelo**	**3.03**	**61**	*e*P		**Pb**	**13 26 49.5**	**+0.6**
ARCO	**CERRO ARCO**	**3.09**	**56**	*e*P		**Pb**	**13 26 50.3**	**+0.3**
ARCO				AML		AML	13 27 33.7	
	comp=Z,214nm,0.8s							
AUSP	**Uspallata**	**3.22**	**43**	*e*P		**Pb**	**13 26 50.7**	**-1.6**
AUSP				*e*S		**Sb**	**13 27 32.4**	**+0.6**
ASAL	**Salagasta**	**3.30**	**53**	*e*P		**Pb**	**13 26 52.2**	**-1.4**
ASAL				⇓*e*S		**Sb**	**13 27 35.3**	**+1.2**
CANA	**Caviahue**	**3.35**	**168**	*e*P		**Pb**	**13 26 53.1**	**-1.4**
RTLS	**Leoncito**	**3.59**	**39**	*e*P		Pb	13 26 55.8	-2.8
RTLS				⇓*e*S		**Sb**	**13 27 45.1**	**+2.6**
RTCV	**Cerro Valdivia**	**3.97**	**47**	*e*P		Pn	13 27 00.2	+4.2
RTCV				*e*S		**Sb**	**13 27 50.0**	**-3.3**
CFAA	**Coronel Fontan**	**4.34**	**47**	*e*P		Pn	13 27 04.6	+3.6
RTLL	**Cerro Villicun**	**4.40**	**43**	*e*P		Pn	13 27 05.5	+3.6
ACAN	**Cantantal**	**4.63**	**61**	*e*P		**Pn**	**13 27 08.2**	**+3.1**
AMOG	**MOGNA**	**4.69**	**40**	*e*P		**Pn**	**13 27 09.1**	**+3.2**
APLL	**PUNTA DE LOS L**	**6.23**	**49**	*e*P		**Pn**	**13 27 29.3**	**+2.2**
ACLC	**CERRO LA CRUZ**	**6.70**	**41**	⇓*e*P		**Pn**	**13 27 35.4**	**+1.7**
CYA	**Choya**	**8.10**	**42**	⇓*e*P		**Pn**	**13 27 51.4**	**-1.3**
FSA	**Cafayete**	**9.93**	**33**	*e*P		Pn	13 28 24.7	+6.7

ISCJB ***28*** *13:26:20.7±0.9,33.01N±0.08×142.4E±0.2,h33km, mb3.6/7, Error ellipse: s-maj=20.6km s-min=6.2km az=150.8*
JMA ***28*** *13:26:20.8±0.3,33.06N×142.48E,h40km,M3.8*
IDC ***28*** *13:26:22.5±0.9,32.53N×141.08E,h0km,mb3.7/7, mb1 3.9/9,mb1mx3.7/34,mbtmp3.7/9,ML4.0/2, Error ellipse: s-maj=31.7km s-min=18.0km az=75.0*

ISC 28 13:26:21.4±1.2,32.96N±0.07×142.6E±0.1,h33km,n20, σ1°86/26,mb3.7/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**2.14**	**322**	P		**Pn**	**13 26 53.5**	**-0.8**
BSO1				S		**Sn**	**13 27 17.9**	**-1.6**
JHJ2	**Mitsune**	**2.31**	**275**	P		**Pn**	**13 26 56.7**	**-0.4**
BSO3	**Boso 3**	**2.51**	**318**	P		**Pn**	**13 26 59.2**	**-0.4**
BSO4	**Boso 4**	**2.74**	**318**	P		**Pn**	**13 27 02.7**	**-0.2**
JOD2	**Odawara 2**	**3.68**	**310**	P		**Pn**	**13 27 14.5**	**-1.5**
JYN	**Shimob**	**4.18**	**308**	P		**Pn**	**13 27 23.3**	**+0.4**
JYN				S		**Sn**	**13 28 09.3**	**-1.3**
JRY	**Ryogami san**	**4.29**	**316**	P		**Pn**	**13 27 23.9**	**-0.5**
JRY				*e*S		**Sn**	**13 28 11.9**	**-1.4**
JAG	**Ashikaga**	**4.30**	**324**	P		**Pn**	**13 27 23.7**	**-0.8**
JFT	**Otama**	**4.90**	**339**	P		**Pn**	**13 27 31.7**	**-1.0**
JFT				*e*S		**Sn**	**13 28 23.5**	**-4.7**
MJAR	**Matsushiro Arr**	**5.06**	**316**	Pn		**Pn**	**13 27 35.1**	**+0.2**
	4.0nm,0.3s,baz=164,slow=13,SNR=35							
MJAR				Sn		**Sn**	**13 28 30.9**	**-1.3**
	2.3nm,0.3s,baz=81,slow=18,SNR=6.9							
MAT	**Matsushiro**	**5.06**	**316**	P		**Pn**	**13 27 34.7**	**-0.2**
MAT				S		**Sn**	**13 28 29.6**	**-2.7**
MAT	**Matsushiro**	**5.06**	**316**	P		**Pn**	**13 27 34.9**	**0.0**
MAT				*e*S		**Sn**	**13 28 31.2**	**-1.1**
JCJ	**Chichijima**	**5.85**	**183**	Pn		**Pn**	**13 27 46.1**	**+0.3**
	8.8nm,0.3s,baz=6.3,slow=19,SNR=20							
JCJ				Sn		**Sn**	**13 28 46.9**	**-4.9**
	5.0nm,0.3s,baz=253,slow=19,SNR=2.6							
SONM	**Songino Array**	**30.97**	**309**	P		**P**	**13 32 36.8**	**+1.2**
	0.6nm,0.4s,baz=110,slow=11,SNR=4.4							
ZALV	**Zalesovo Beam**	**45.41**	**315**	P		**P**	**13 34 37.6**	**+0.9**
	0.4nm,0.3s,baz=103,slow=6.4,SNR=2.6							
ILAR	**Eielson Array**	**52.47**	**31**	P		P	13 35 43.6	+13
	0.3nm,0.6s,baz=256,slow=6.1,SNR=7.9							
WRA	**Warramunga Arr**	**53.19**	**190**	P		**P**	**13 35 37.6**	**+1.2**
	0.5nm,0.5s,baz=5.6,slow=7.7,SNR=6.9							
ASAR	**Alice Springs**	**56.91**	**189**	P		**P**	**13 36 05.7**	**+2.4**
	0.1nm,0.8s,baz=18,slow=11,SNR=4.4							
KBZ	**Khabaz**	**74.30**	**312**	P		**P**	**13 37 56.6**	**+1.3**
	1.6nm,0.7s,baz=81,slow=2.5,SNR=4.2							
NVAR	**Mina Array Bea**	**76.68**	**53**	P		P	13 38 23.6	+14
	0.3nm,0.6s,baz=286,slow=6.9,SNR=3.9							

NIED ***28*** *13:42:00,33.10N×142.50E,h8km,Mw4.2 Best double couple: M0 2.39000×10^

	comp=N,13nm,0.7s									
YUK						pmax	pmax			
	comp=E,18nm,0.7s									
YUK						pmax	pmax			
	comp=Z,28nm,0.7s									
KSRS	**Korea Array**	**12.67**	**294**		Pn	**Pn**	**13 45 12.5**	**+2.1**		
	comp=Z,0.3nm,0.3s,baz=108,slow=14,SNR=12									
KSRS					LR	LR	13 49 34.5			
	comp=Z,157nm,20.3s,baz=35,slow=35									
KSAR	**Wonju Array Be**	**12.70**	**294**		Pn	**Pn**	**13 45 12.5**	**+1.8**		
KUR	**Kuril'sk**	**12.77**	**17**		P	Pn	13 45 08.0	-3.6		
KUR				*e*S		Sn	13 47 22.0	-10		
KUR					pmax	pmax				
	comp=E,7.0nm,0.1s									
KUR					pmax	pmax				
	comp=Z,10.0nm,0.1s									
USRK	**Ussuriysk Ar.**	**13.76**	**326**		Pn	**Pn**	**13 45 24.0**	**-1.1**		
	comp=Z,0.3nm,0.3s,baz=131,slow=13,SNR=15									
YSS	**Yuzh-Sakhalins**	**13.80**	**1**	*e*P		Pn	13 45 21.5	-4.2		
YSS					pmax	pmax				
	comp=Z,30nm,0.9s									
YSS	**Yuzh-Sakhalins**	**13.80**	**1**	*e*P		**Pn**	**13 45 22.8**	**-3.0**		
	comp=Z,29nm,0.8s									
KLR	**Kul'dur**	**17.97**	**337**	*e*P		Pn	13 46 12.2	-7.4		
GUMO	**Guam**	**19.58**	**173**		P	**P**	**13 46 37.4**	**-0.4**		
	comp=Z,5.5nm,0.3s,baz=342,slow=3.2,SNR=4.9									
GUMO	**Guam**	**19.58**	**173**		P	**P**	**13 46 37.4**	**-0.4**		
GUMO					pmax	pmax				
	comp=Z,6.0nm,0.3s									
PETK	**Petropavlovsk-**	**22.74**	**24**		LR	LR	13 55 10.8			
	comp=Z,62nm,21.4s,baz=295,slow=34									
HIA	**Hailar**	**23.38**	**320**	*e*P		**P**	**13 47 15.7**	**-2.5**		
HIA					pmax	pmax				
	comp=Z,9.0nm,0.6s									
HIA	**Hailar**	**23.38**	**320**		P	**P**	**13 47 16.9**	**-1.3**		
H11N2	**WAKE ISLAND Hy**	**25.52**	**115**		T	T	14 14 06.8			
	baz=308,slow=74,SNR=14									
H11N1	**WAKE ISLAND Hy**	**25.52**	**116**		T	T	14 14 05.8			
	baz=308,slow=74,SNR=3.5									
H11N3	**WAKE ISLAND Hy**	**25.53**	**115**		T	T	14 14 08.1			
	baz=308,slow=74,SNR=7.9									
H11S3	**WAKE ISLAND Hy**	**26.11**	**118**		T	T	14 15 06.7			
	baz=300									
H11S1	**WAKE ISLAND Hy**	**26.11**	**118**		T	T	14 15 03.2			
	baz=300,SNR=2.7									
H11S2	**WAKE ISLAND Hy**	**26.12**	**118**		T	T	14 15 11.2			
	baz=300									
YAK	**Yakutsk**	**30.06**	**348**	*e*P		**P**	**13 48 18.5**	**+0.2**		
YAK					pmax	pmax				
	comp=Z,5.0nm,0.6s									
SEY	**Seymchan**	**30.46**	**9**	P		**P**	**13 48 22.6**	**+0.8**		
	comp=Z,1.6nm,0.5s,baz=191,slow=5.8,SNR=9.1									
SEY	**Seymchan**	**30.46**	**9**	*d*	iP	**P**	**13 48 23.4**	**+1.6**		
SONM	**Songino Array**	**30.83**	**309**	P		**P**	**13 48 26.6**	**+1.1**		
	comp=Z,4.1nm,0.8s,baz=106,slow=9.5,SNR=14									
SONM	**Songino Array**	**30.83**	**309**	P		**P**	**13 48 26.6**	**+1.1**		
SONM					pmax	pmax				
	comp=Z,4.0nm,0.8s									
BOD	**Bodaibo**	**31.33**	**331**	*e*P		**P**	**13 48 30.3**	**+0.7**		
BOD				*e*			13 48 37.4			
BOD					pmax	pmax				
	comp=Z,16nm,0.9s									
ZAK	**Zakamensk**	**33.48**	**313**	*e*P		**P**	**13 48 48.6**	**-0.1**		
ZAK					pmax	pmax				
	comp=Z,3.0nm,1.5s									
TLY	**Talaya**	**33.65**	**315**	*e*P		**P**	**13 48 51.4**	**+1.4**		
TLY					pmax	pmax				
	comp=Z,5.0nm,0.8s									
SIJI	**Sorong**	**35.45**	**200**	P		**P**	**13 49 03.8**	**-2.1**		
	comp=Z,4.1nm,0.4s,baz=358,slow=18,SNR=5.7									
ZALV	**Zalesovo Beam**	**45.26**	**315**	P		**P**	**13 50 27.1**	**+0.5**		
	comp=Z,1.2nm,0.6s,baz=104,slow=7.4,SNR=5.3									
ZALV					PcP	**PcP**	**13 52 06.7**	**+0.7**		
	comp=Z,1.3nm,0.6s,baz=132,slow=4.1,SNR=3.4									
ZALV	**Zalesovo Beam**	**45.26**	**315**	*i*	P	**P**	**13 50 28.0**	**+1.4**		
ZALV					pmax	pmax				
	comp=Z,1.0nm,0.6s									
NVS	**Novosibirsk**	**46.23**	**316**	*i*	P	P	13 50 42.3	+8.1		
NVS					pmax	pmax				
	comp=Z,15nm,0.9s									
NVS					pmax	pmax				
	comp=N,6.0nm,1.0s									
NVS					pmax	pmax				
	comp=E,12nm,1.0s									
MK31	**Makanchi Array**	**47.03**	**305**	*e*P		**P**	**13 50 41.3**	**+0.6**		
KURK	**Kurchatov**	**49.10**	**311**	*e*P		**P**	**13 50 56.5**	**-0.1**		
	comp=E,26nm,0.8s									
KURK				*e*			13 51 05.7			
KDAK	**Kodiak Island**	**49.45**	**40**	*i*	P	**P**	**13 51 00.2**	**+1.1**		
SML	**Sawmill**	**51.64**	**34**	*e*P		**P**	**13 51 16.6**	**+0.9**		
	comp=E,1.0nm,0.8s									
ILAR	**Eielson Array**	**52.34**	**31**	P		**P**	**13 51 20.8**	**0.0**		
	comp=E,1.3nm,0.7s,baz=263,slow=6.0,SNR=16									
ILAR					pP	**pP**	**13 51 31.9**	**+1.2**		
	comp=E,1.4nm,0.6s,baz=262,slow=6.2,SNR=8.6									
ILAR	**Eielson Array**	**52.34**	**31**	P		**P**	**13 51 20.8**	**0.0**		
ILAR					*PP	**pP**	**13 51 31.9**	**+1.2**		
ILAR					pmax	pmax				
	comp=Z,1.0nm,0.7s									
ILAR					pmax	pmax				
	comp=Z,1.0nm,0.6s									
TKM2	**Tokmak 2**	**52.35**	**301**	P		P	**13 51 22.8**	**+1.3**		
	comp=Z,4.0nm,0.6s									
AAK	**Ala-Archa**	**53.21**	**301**	*ce*	P	P	13 51 39.2	+11		
AAK					pmax	pmax				
	comp=Z,4.0nm,0.6s									
WRAB	**Tennant Creek**	**53.35**	**190**	*e*P		**P**	**13 51 26.6**	**-2.0**		
WRA	**Warramunga Arr**	**53.36**	**190**	P		**P**	**13 51 26.9**	**-1.9**		
	comp=Z,7.2nm,0.5s,baz=5.5,slow=7.6,SNR=173									
WRA					PcP	**PcP**	**13 52 36.6**	**+0.7**		
	comp=Z,1.5nm,0.5s,baz=5.4,slow=4.4,SNR=5.8									
WRA	**Warramunga Arr**	**53.36**	**190**	P		**P**	**13 51 26.9**	**-1.9**		
WRA							13 52 36.6			
WRA					pmax	pmax				
	comp=Z,7.0nm,0.5s									
WRA					pmax	pmax				
	comp=Z,2.0nm,0.5s									
BRVK	**Borovoye**	**53.96**	**315**	*ce*	P	**P**	**13 51 33.3**	**+0.4**		
BRVK					pmax	pmax				
	comp=Z,2.0nm,0.7s									
BRVK	**Borovoye**	**53.96**	**315**	*e*	P	**P**	**13 51 32.8**	**-0.1**		
	comp=Z,3.0nm,0.5s									
BRVK				*e*			13 51 44.0			
KKAR	**Karatay Array**	**55.92**	**303**	*e*P		**P**	**13 51 48.1**	**+0.8**		
	comp=Z,2.5nm,0.6s									
AS31	**Alice Springs**	**57.08**	**189**	*e*P		**P**	**13 51 53.9**	**-1.7**		
ASAR	**Alice Springs**	**57.08**	**189**	P		**P**	**13 51 54.2**	**-1.4**		
	comp=Z,1.7nm,0.5s,baz=18,slow=12,SNR=40									
ASAR					PcP	**PcP**	**13 52 49.2**	**-1.0**		
	comp=Z,1.2nm,0.7s,baz=11,slow=4.9,SNR=4.5									
ASAR	**Alice Springs**	**57.08**	**189**	P		**P**	**13 51 54.2**	**-1.4**		
ASAR							13 52 49.3			
ASAR					pmax	pmax				
	comp=Z,2.0nm,0.5s									
ASAR					pmax	pmax				
	comp=Z,1.0nm,0.7s									
ARU	**Arti**	**59.90**	**320**	*c*	iP	**P**	**13 52 15.0**	**+0.1**		
ARU							13 54 25.6			
ARU					S	**S**	**14 00 22.4**	**-2.0**		
ARU					SS	**SS**	**14 04 17.4**	**-3.0**		
ARU					pmax	pmax				
	comp=Z,14nm,1.7s									
ARU	**Arti**	**59.90**	**320**	*e*P		**P**	**13 52 15.0**	**+0.1**		
	comp=Z,6.9nm,0.9s									
ABKAR	**Akbulak array**	**61.18**	**312**	*e*P		**P**	**13 52 23.7**	**-0.1**		
	comp=Z,2.2nm,0.5s									
STKA	**Stephens Creek**	**64.67**	**181**	P		**P**	**13 52 46.1**	**-0.8**		
	comp=Z,3.6nm,0.8s,baz=22,slow=3.9,SNR=9.2									
STKA	**Stephens Creek**	**64.67**	**181**	P		**P**	**13 52 46.2**	**-0.8**		
STKA					pmax	pmax				
	comp=Z,4.0nm,0.8s									
YKA	**Yellowknife Ar**	**66.73**	**30**	P		**P**	**13 53 00.1**	**+0.1**		
	comp=Z,1.2nm,0.8s,baz=297,slow=6.1,SNR=3.3									
YKA	**Yellowknife Ar**	**66.73**	**30**	P		**P**	**13 53 00.1**	**+0.1**		
YKA					pmax	pmax				
	comp=Z,1.0nm,0.8s									
FINES	**FINESS Array B**	**72.68**	**333**	P		**P**	**13 53 37.5**	**+0.9**		
	comp=Z,2.3nm,0.7s,baz=64,slow=13,SNR=4.7									
FINES					pP	**pP**	**13 53 48.5**	**+1.6**		
	comp=Z,3.2nm,0.8s,baz=51,slow=7.6,SNR=4.4									
FINES	**FINESS Array B**	**72.68**	**333**	P		**P**	**13 53 37.6**	**+0.9**		
FINES					*PP	**pP**	**13 53 48.6**	**+1.6**		
FINES					pmax	pmax				
	comp=Z,2.0nm,0.7s									
FINES					pmax	pmax				
	comp=Z,3.0nm,0.8s									
KBZ	**Khabaz**	**74.15**	**312**	P		**P**	**13 53 46.7**	**+1.1**		
	comp=Z,1.4nm,0.8s,baz=172,slow=8.1,SNR=4.4									
KBZ	**Khabaz**	**74.15**	**312**	P		**P**	**13 53 46.7**	**+1.1**		
KBZ					pmax	pmax				
	comp=Z,1.0nm,0.8s									
KIV	**Kislovodsk**	**74.16**	**312**	*e*P		P	13 53 42.3	-3.6		
KIV					pmax	pmax				
	comp=Z,5.0nm,0.9s									
LRM	**Limekiln Ridge**	**76.31**	**44**	*e*P		**P**	**13 53 59.0**	**+0.6**		
	comp=Z,18nm,0.7s									
NVAR	**Mina Array Bea**	**76.61**	**53**	P		**P**	**13 54 01.6**	**+1.4**		
	comp=Z,0.7nm,0.6s,baz=296,slow=6.0,SNR=7.9									
AKASG	**Malin Array Be**	**77.94**	**323**	P		**P**	**13 54 07.1**	**0.0**		
	comp=Z,0.6nm,0.6s,baz=42,slow=4.3,SNR=4.1									
AKASG					pP	**pP**	**13 54 18.3**	**+0.8**		
	comp=Z,1.7nm,0.5s,baz=48,slow=5.6,SNR=5.2									
AKASG	**Malin Array Be**	**77.94**	**323**	*i*	P	**P**	**13 54 08.1**	**+1.0**		
AKASG					pmax	pmax				
	comp=Z,1.0nm,0.6s									
NB2	**NORSAR Subarra**	**78.12**	**338**	P		**P**	**13 54 08.6**	**+0.6**		
	comp=Z,1.8nm,0.6s,baz=40,slow=5.6									
NOA	**NORSAR Array B**	**78.12**	**338**	P		**P**	**13 54 07.8**	**-0.2**		
	comp=Z,1.1nm,0.8s,baz=38,slow=5.8,SNR=4.3									
NOA					pP	**pP**	**13 54 19.3**	**+0.9**		
	comp=Z,2.0nm,0.7s,baz=39,slow=5.6,SNR=6.4									
NOA	**NORSAR Array B**	**78.12**	**338**	P		**P**	**13 54 07.8**	**-0.2**		
NOA					*PP	**pP**	**13 54 19.3**	**+0.9**		
NOA					pmax	pmax				
	comp=Z,1.0nm,0.8s									
NOA					pmax	pmax				
	comp=Z,2.0nm,0.7s									
PDAR	**Pinedale Array**	**79.75**	**45**	P		**P**	**13 54 17.9**	**+0.3**		
	comp=Z,0.5nm,0.6s,baz=306,slow=5.0,SNR=4.8									
BRTR	**Keskin Array B**	**82.13**	**313**	P		**P**	**13 54 31.4**	**+1.3**		
	comp=Z,0.9nm,0.8s,baz=101,slow=6.4,SNR=5.9									
BRTR	**Keskin Array B**	**82.13**	**313**	*i*	P	P	13 54 34.2	+4.1		
BRTR					pmax	pmax				
	comp=Z,1.0nm,0.8s									
CLL	**Collm**	**84.92**	**331**	*e*P		**P**	**13 54 45.0**	**+0.9**		
CLL	**Collm**	**84.92**	**331**	*e*P		**P**	**13 54 45.0**	**+0.9**		
TXAR	**Lajitas Array**	**91.76**	**53**	P		**P**	**13 55 18.0**	**+0.7**		
	comp=Z,0.5nm,0.6s,baz=312,slow=3.6,SNR=7.8									
TXAR	**Lajitas Array**	**91.76**	**53**	P		**P**	**13 55 18.0**	**+0.7**		
TXAR					pmax	pmax				
	comp=Z,1.0nm,0.6s									

IDC 28 14:17:41.8±26.0, 14.89S×166.51E, h0km, mb4.2/3, mb1 4.5/4, mb1mx3.7/38, mbtmp4.3/4, ML4.7/1, Error ellipse: s-maj=458.5km s-min=47.9km az=55.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.14**	**180**	Pn		Pn	14 19 27.9	+0.1
	14nm,0.3s,baz=90,slow=20,SNR=158							
DZM				Sn		Sn	14 20 43.6	-6.2
	2.8nm,0.3s,baz=90,slow=20,SNR=3.2							
DZM	**Mont Dzumac**	**7.14**	**180**	*e*P		Pn	14 19 27.6	-0.2
DZM				*e*S		Sn	14 20 44.4	-5.5
STKA	**Stephens Creek**	**28.33**	**229**	P		P	14 23 37.1	-0.5
	2.1nm,0.5s,baz=57,slow=9.3,SNR=9.7							
WRA	**Warramunga Arr**	**31.07**	**256**	P		P	14 24 02.3	+0.3
	1.1nm,0.7s,baz=86,slow=9.1,SNR=5.0							
ASAR	**Alice Springs**	**31.93**	**249**	P		P	14 24 09.6	+0.1
	2.6nm,0.4s,baz=76,slow=9.1,SNR=64							

JMA 28 14:19:09.3±0.5, 33.06N×142.53E, h71km, M2.9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**2.05**	**321**	P		Pn	14 19 42.1	+1.2
BSO1				*e*S		Sn	14 20 07.2	+2.2
JHJ2	**Mitsune**	**2.28**	**272**	P		Pn	14 19 45.8	+1.1
BSO3	**Boso 3**	**2.42**	**317**	P		Pn	14 19 48.0	+1.8
JOD2	**Odawara 2**	**3.60**	**309**	P		Pn	14 20 03.4	+0.7
JYN	**Shimobe**	**4.10**	**307**	P		Pn	14 20 11.4	+1.8
JYN				*e*S		Sn	14 20 59.1	+2.7
JRY	**Ryogami san**	**4.20**	**316**	P		Pn	14 20 12.5	+1.5
JAG	**Ashikaga**	**4.21**	**324**	P		Pn	14 20 12.4	+1.5
JAG				*e*S		Sn	14 21 00.7	+1.9
JFT	**Otama**	**4.80**	**339**	P		Pn	14 20 20.0	+1.0
JMK	**Ichinoseki**	**5.97**	**350**	P		Pn	14 20 34.9	-0.2

NIED ***28*** *14:20:00, 33.00N×142.50E, h17km, Mw4.3 Best double couple: M₀3.06000×10¹⁵ NP1:φ₀340.00000°, δ55.00000°, λ-173.00000°. NP2:φ₀246.00000°, δ85.00000°, λ-35.00000°.*

IDC ***28*** *14:20:43.6±0.5, 32.98N×142.56E, h0km, mb4.3/23, mb1 4.4/27, mb1mx4.3/44, mbtmp4.3/27, ML2.7/2, MS3.4/7, Ms1 3.4/7, ms1mx3.1/36, Error ellipse: s-maj=15.5km s-min=11.8km az=95.0*

JMA ***28*** *14:20:46.2±0.3, 33.05N×142.49E, h58km, M4.4*

BJI ***28*** *14:20:47.5, 32.97N×141.80E, h10km, mb4.5/19, mB4.8/9, Ms4.4/4, Ms7 4.1/2*

ISCJB ***28*** *14:20:47.2±0.3, 33.08N±0.03×142.42E±0.04, h33km, mb4.4/45, MS3.6/5, Error ellipse: s-maj=5.6km s-min=3.6km az=38.8*

MOS ***28*** *14:20:47.0±1.7, 33.19N×142.56E, h33km, mb4.7/29, Error ellipse: s-maj=12.1km s-min=5.7km az=105.5*

NEIC ***28*** *14:20:48.0±2.3, 32.98N×142.49E, h30km±16km, mb4.5/10, MW4.3(NIED), Error ellipse: s-maj=7.7km s-min=5.9km az=85.0*

ISC 28 14:20:48.8±0.4, 33.11N±0.05×142.51E±0.06, h33km, n143, σ1s22/147, mb4.5/51, MS3.5/5, 7C-4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**2.00**	**321**	P		**Pn**	**14 21 18.9**	**-0.9**
BSO1				S		**Sn**	**14 21 43.8**	**+0.3**
JHJ2	**Mitsune**	**2.26**	**271**	P		**Pn**	**14 21 21.7**	**-2.2**
JHJ2	**Mitsune**	**2.26**	**271**	*e*P		**Pn**	**14 21 21.6**	**-2.2**
JHCJ	**Hachijojimakas**	**2.28**	**270**	P		**Pn**	**14 21 21.9**	**-2.2**
JHCJ				*e*S		**Sn**	**14 21 49.1**	**-1.9**
BSO3	**Boso 3**	**2.37**	**316**	P		**Pn**	**14 21 24.6**	**-0.5**
BSO3				*e*S		**Sn**	**14 21 52.6**	**-0.4**
KTR	**Katsuura**	**2.73**	**319**	P		**Pn**	**14 21 29.8**	**-0.5**
KTR				S		**Sn**	**14 22 02.2**	**0.0**
JOD2	**Odawara 2**	**3.56**	**308**	P		**Pn**	**14 21 39.9**	**-1.9**
JOD2				*e*S		**Sn**	**14 22 19.4**	**-3.3**
JYN	**Shimobe**	**4.06**	**307**	P		**Pn**	**14 21 47.5**	**-1.1**
JYN				S		**Sn**	**14 22 33.6**	**-1.5**
TK02	**Tokai 2**	**4.06**	**283**	P		**Pn**	**14 21 47.9**	**-0.5**
JAG	**Ashikaga**	**4.16**	**324**	P		**Pn**	**14 21 49.2**	**-0.7**
JAG				*e*S		**Sn**	**14 22 36.0**	**-1.4**
JRY	**Ryogami san**	**4.16**	**315**	P		**Pn**	**14 21 48.6**	**-1.4**
JRY				S		**Sn**	**14 22 36.9**	**-0.6**
JFT	**Otama**	**4.75**	**339**	P		**Pn**	**14 21 57.1**	**-0.9**
JFT				S		**Sn**	**14 22 49.3**	**-2.6**
MJAR	**Matsushiro Arr**	**4.93**	**315**	Pn		**Pn**	**14 21 59.7**	**-0.8**
	10.0nm,0.3s,baz=160,slow=12,SNR=71							
MJAR				Sn		**Sn**	**14 22 57.4**	**+1.1**
	12nm,0.3s,baz=274,slow=30,SNR=9.1							
MJAR	**Matsushiro Arr**	**4.93**	**315**	P		**Pn**	**14 21 59.7**	**-0.8**
MJAR							14 22 57.4	
MJAR					pmax	pmax		
	comp=Z,10.0nm,0.3s							
MJAR					smax	smax		
	comp=N,12nm,0.3s							
MAJO	**Matsushiro**	**4.93**	**315**	*d*	iP	**Pn**	**14 22 00.7**	**+0.2**
MAJO	**Matsushiro**	**4.93**	**315**	*e*	P	**Pn**	**14 22 00.7**	**+0.2**
	comp=N,103nm,0.7s							
MAT	**Matsushiro**	**4.93**	**315**	P		**Pn**	**14 22 00.3**	**-0.2**
MAT				S		**Sn**	**14 22 55.6**	**-0.8**
MAT	**Matsushiro**	**4.93**	**315**	P		**Pn**	**14 22 00.9**	**+0.4**
JIE	**Ise**	**5.00**	**286**	P		**Pn**	**14 22 00.7**	**-0.8**
JWZ	**Kozaga**	**5.71**	**276**	P		**Pn**	**14 22 10.6**	**-0.6**
JMK	**Ichinoseki**	**5.93**	**350**	P		**Pn**	**14 22 11.9**	**-2.3**
JMK				*e*S		**Sn**	**14 23 16.0**	**-4.9**
CBIJ	**Chichi jima**	**6.00**	**183**	P		Pn	14 22 11.0	-4.2
CBIJ				S		Sn	14 23 15.3	-7.4
CBIJ	**Chichi jima**	**6.00**	**183**	*e*P		Pn	14 22 10.2	-5.0
	comp=N,32nm,0.4s							
CBIJ				Sn		Sn	14 23 12.2	-11
JCJ	**Chichijima**	**6.00**	**183**	Pn		Pn	14 22 10.7	-4.5
	comp=N,18nm,0.3s,baz=7.5,slow=19,SNR=32							
JCJ				Sn		Sn	14 23 12.2	-11
	comp=N,44nm,0.3s,baz=208,slow=23,SNR=8.5							
ERM	**Erimo**	**8.91**	**3**	*c*	iP	Pn	14 22 51.8	-3.3
ERM	**Erimo**	**8.91**	**3**	*e*	Pn	Pn	14 22 51.3	-3.8
	comp=N,24nm,0.9s							
ASAJ	**Asahikawa**	**10.99**	**0**		Pn	**Pn**	**14 23 20.6**	**-3.0**
	comp=N,2.9nm,0.3s,baz=222,slow=14,SNR=25							
ASAJ					Sn	Sn	14 25 17.4	-8.1
	baz=262,slow=0.9							
ASAJ	**Asahikawa**	**10.99**	**0**	P		**Pn**	**14 23 20.7**	**-3.0**
ASAJ							14 25 17.4	
ASAJ					pmax	pmax		
	comp=Z,3.0nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**11.22**	**12**	*c*	iP	Pn	14 23 21.5	-5.2
YUK					pmax	pmax		
	comp=N,12nm,0.6s							
YUK					pmax	pmax		
	comp=E,27nm,0.6s							
YUK					pmax	pmax		
	comp=Z,27nm,0.6s							
KSRS	**Korea Array**	**12.69**	**294**		Pn	**Pn**	**14 23 48.4**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=107,slow=14,SNR=4.7							
KSRS					LR	LR	14 29 02.3	
	comp=Z,125nm,18.6s,baz=92,slow=39							
KSAR	**Wonju Array Be**	**12.71**	**294**		Pn	**Pn**	**14 23 48.4**	**+1.2**
KUR	**Kuril'sk**	**12.80**	**17**		P	**Pn**	**14 23 46.6**	**-1.7**
KUR				*e*S		Sn	14 26 00.0	-10
KUR					pmax	pmax		
	comp=Z,2.0nm,0.3s							
VLA	**Vladivostok**	**13.03**	**323**	*e*P		**Pn**	**14 23 51.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**13.78**	**327**		LR	LR	14 29 13.1	
	comp=Z,77nm,20.1s,baz=162,slow=37							
JOW	**Kunigami**	**13.83**	**247**		Pn	**Pn**	**14 24 02.4**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=151,slow=19,SNR=2.1							
YSS	**Yuzh-Sakhalins**	**13.83**	**1**	*e*P		Pn	14 23 58.3	-4.1
YSS	**Yuzh-Sakhalins**	**13.83**	**1**	*e*P		**Pn**	**14 23 59.4**	**-3.0**
	comp=Z,11nm,0.6s							
HABR	**Khabarovsk**	**16.34**	**342**	*e*P		**Pn**	**14 24 31.2**	**-4.4**
HABR				S		Sn	14 27 27.5	-8.3
HABR					pmax	pmax		
	comp=Z,14nm,1.8s							
HABR					MLR	MLR		
	comp=Z,79nm,16.0s							
GUMO	**Guam**	**19.55**	**173**		P	**P**	**14 25 13.3**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=312,slow=14,SNR=3.8							
GUMO					LR	LR	14 37 24.9	
	comp=Z,16nm,18.1s,baz=16,slow=52							
H11N2	**WAKE ISLAND Hy**	**25.50**	**115**		T	T	14 52 55.1	
	baz=306,slow=76,SNR=11							
H11N1	**WAKE ISLAND Hy**	**25.51**	**115**		T	T	14 52 58.8	
	baz=306,slow=76,SNR=10							
H11N3	**WAKE ISLAND Hy**	**25.52**	**115**		T	T	14 52 58.1	
	baz=306,slow=76,SNR=8.8							
H11S3	**WAKE ISLAND Hy**	**26.09**	**118**		T	T	14 53 48.0	
	baz=9.2							
H11S1	**WAKE ISLAND Hy**	**26.09**	**118**		T	T	14 53 48.7	
	baz=9.2,slow=74,SNR=2.8							
H11S2	**WAKE ISLAND Hy**	**26.11**	**118**		T	T	14 53 41.9	
	baz=9.2,slow=74,SNR=2.4							
YAK	**Yakutsk**	**30.09**	**348**	*i*	P	**P**	**14 26 54.4**	**-0.4**
YAK					pmax	pmax		
	comp=Z,6.0nm,0.7s							
SEY	**Seymchan**	**30.49**	**9**	P		**P**	**14 26 59.5**	**+1.1**
	comp=Z,3.8nm,0.6s,baz=188,slow=6.8,SNR=24							
SONM	**Songino Array**	**30.85**	**309**	P		**P**	**14 27 03.1**	**+1.2**
	comp=Z,2.1nm,0.7s,baz=112,slow=8.8,SNR=8.4							
SONM					LR	LR	14 40 27.3	
	comp=Z,56nm,18.1s,baz=76,slow=38							
SONM	**Songino Array**	**30.85**	**309**	P		**P**	**14 27 03.1**	**+1.2**
SONM					pmax	pmax		
	comp=Z,2.0nm,0.7s							
SONM					MLR	MLR		
	comp=Z,56nm,18.1s							
BOD	**Bodaibo**	**31.36**	**331**	*e*P		**P**	**14 27 05.3**	**-0.8**
BOD					pmax	pmax		
	comp=Z,7.0nm,1.0s							
ZAK	**Zakamensk**	**33.51**	**313**	*e*P		**P**	**14 27 24.6**	**-0.5**
ZAK					pmax	pmax		
	comp=Z,2.0nm,1.8s							
TLY	**Talaya**	**33.67**	**315**	P		**P**	**14 27 27.4**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=160,slow=1.1,SNR=3.5							
TLY	**Talaya**	**33.67**	**315**	P		**P**	**14 27 27.6**	**+1.2**
TLY					pmax	pmax		
	comp=Z,5.0nm,1.5s							
GTA	**Gaotai**	**34.75**	**293**	*e*P		**P**	**14 27 38.5**	**+2.4**
GTA					PcP	**P

comp=Z,1.2nm,0.5s,baz=13,slow=12,SNR=20
ASAR PcP **PcP** **14 31 26.4 0.0**
comp=Z,1.9nm,0.8s,baz=11,slow=4.3,SNR=7.8
ASAR Alice Springs 57.05 189 P **P** **14 30 29.9 -1.8**
ASAR 14 31 26.4
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR pmax pmax
comp=Z,2.0nm,0.8s
INK Inuvik 57.49 26 P **P** **14 30 34.6 +0.4**
comp=Z,2.2nm,0.3s,baz=246,slow=10,SNR=3.8
INK Inuvik 57.49 26 P **P** **14 30 34.6 +0.4**
INK pmax pmax
comp=Z,2.0nm,0.3s
SVE Sverdlovsk 58.72 320 *e*P **P** **14 30 41.9 -1.1**
ARU Arti 59.92 320 *d* *i*P **P** **14 30 51.2 -0.1**
ARU 14 33 03.3
ARU S **S** **14 39 00.9 -0.1**
ARU pmax pmax
comp=Z,15nm,1.7s
ARU Arti 59.92 320 *e*P **P** **14 30 50.9 -0.4**
comp=Z,4.5nm,0.8s
DLBC Dease Lake 61.19 37 P **P** **14 30 59.8 -0.2**
comp=Z,2.1nm,1.1s,baz=235,slow=12,SNR=3.3
ABKAR Akbulak array 61.20 312 *e*P **P** **14 30 59.5 -0.7**
comp=Z,5.0nm,0.9s
STKA Stephens Creek 64.64 181 P **P** **14 31 21.8 -1.2**
comp=Z,6.5nm,1.2s,baz=72,slow=13,SNR=2.9
STKA Stephens Creek 64.64 181 P **P** **14 31 21.8 -1.2**
STKA pmax pmax
comp=Z,7.0nm,1.2s
RES Resolute Bay 66.18 14 P **P** **14 31 33.4 +0.8**
comp=Z,6.8nm,0.8s,baz=321,slow=6.8,SNR=11
RES Resolute Bay 66.18 14 P **P** **14 31 33.4 +0.8**
RES pmax pmax
comp=Z,7.0nm,0.8s
GEYT Alibeck 66.57 301 P **P** **14 31 36.1 +0.3**
comp=Z,0.6nm,0.3s,baz=312,slow=9.2,SNR=4.0
YKA Yellowknife Ar 66.76 30 P **P** **14 31 36.8 +0.3**
comp=Z,3.2nm,0.8s,baz=292,slow=5.9,SNR=8.8
YKA Yellowknife Ar 66.76 30 P **P** **14 31 36.8 +0.3**
YKA pmax pmax
comp=Z,3.0nm,0.8s
OBN Obninsk 71.79 324 *e*P **P** **14 32 09.1 +1.4**
OBN pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 72.71 333 P **P** **14 32 13.4 +0.4**
comp=Z,3.9nm,0.8s,baz=90,slow=7.6,SNR=9.1
FINES FINESS Array B 72.71 333 *i* P **P** **14 32 13.1 0.0**
FINES pmax pmax
comp=Z,4.0nm,0.7s
KBZ Khabaz 74.17 312 P **P** **14 32 22.9 +0.9**
comp=Z,4.5nm,0.8s,baz=97,slow=4.7,SNR=13
KBZ Khabaz 74.17 312 P **P** **14 32 22.9 +0.9**
KBZ pmax pmax
comp=Z,5.0nm,0.8s
KIV Kislovodsk 74.18 312 *e*P **P** **14 32 23.1 +0.8**
KIV pmax pmax
comp=Z,10.0nm,1.0s
SLMT Seeley Lake 74.95 43 *e*P **P** **14 32 27.5 +0.7**
comp=Z,3.4nm,0.6s
LRM Limekiln Ridge 76.33 44 *e*P **P** **14 32 35.7 +0.9**
comp=Z,4.5nm,0.7s
NVAR Mina Array Bea 76.63 53 P **P** **14 32 37.5 +1.0**
comp=Z,1.3nm,0.7s,baz=294,slow=5.8,SNR=12
AKASG Malin Array Be 77.97 323 P **P** **14 32 43.5 0.0**
AKASG LR LR 15 10 26.1
comp=Z,1.6nm,0.6s,baz=48,slow=6.3,SNR=8.7
comp=Z,70nm,18.5s,baz=20,slow=38
NB2 NORSAR Subarra 78.15 338 P **P** **14 32 44.2 -0.2**
comp=Z,1.9nm,0.7s,baz=40,slow=5.6
NOA NORSAR Array B 78.15 338 P **P** **14 32 44.9 +0.4**
comp=Z,2.8nm,0.7s,baz=40,slow=5.6,SNR=12
NOA NORSAR Array B 78.15 338 P **P** **14 32 44.9 +0.4**
NOA pmax pmax
comp=Z,3.0nm,0.7s
DUG Dugway, Tooele 79.25 49 *e*P **P** **14 32 51.5 +0.5**
comp=Z,4.2nm,1.0s
PDAR Pinedale Array 79.78 45 P **P** **14 32 54.5 +0.6**
comp=Z,1.3nm,0.7s,baz=316,slow=2.7,SNR=11
SRU San Rafael Swe 81.31 49 *e*P **P** **14 33 01.9 -0.3**
comp=Z,6.1nm,0.8s
BUR08 Bucovina Ar. S 81.95 323 *e*P **P** **14 33 05.3 0.0**
BR131 Keskin Array S 82.15 313 *e*P **P** **14 33 06.7 +0.2**
comp=Z,0.8nm,0.6s
BRTR Keskin Array B 82.15 313 P **P** **14 33 07.0 +0.5**
comp=Z,1.8nm,0.7s,baz=114,slow=3.8,SNR=11
BRTR Keskin Array B 82.15 313 *i* P **P** **14 33 07.0 +0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
KOLS Kolonicke sedl 82.54 325 *e*P **P** **14 33 09.1 +0.9**
KOLS Kolonicke sedl 82.54 325 *e*P **P** **14 33 09.1 +0.9**
PV01 Paradox Valley 83.12 49 *e*P **P** **14 33 12.4 +0.6**
comp=Z,461nm,1.1s
DPC Dobruska-Polom 84.27 329 *e*P **P** **14 33 17.1 0.0**
DPC *e*PCP **PcP** **14 33 20.2 -0.6**
DPC *e*pP **pP** **14 33 29.0 +1.4**
DPC *e*sP **sP** **14 33 32.5 +1.1**
DPC Dobruska-Polom 84.27 329 *e*P **P** **14 33 17.1 0.0**
DPC *e* 14 33 29.0
DPC *e* 14 33 32.5
UPC Upice 84.29 329 *e*P **P** **14 33 18.0 +0.9**
UPC Upice 84.29 329 *e*P **P** **14 33 18.0 +0.9**
BRG Berggiesshubel 84.89 330 *e*P **P** **14 33 20.8 +0.6**
comp=Z,2.2nm,0.6s
BRG Berggiesshubel 84.89 330 *e*P **P** **14 33 20.8 +0.6**
BRG pmax pmax
comp=Z,2.0nm,0.6s
CLL Collm 84.95 331 ⇓ *i*P **P** **14 33 20.4 -0.1**
comp=Z,8.0nm,0.9s
CLL *i* PcP **PcP** **14 33 23.8 +0.1**
CLL Collm 84.95 331 ⇓ *i*P **P** **14 33 20.4 -0.1**
CLL pmax pmax
comp=Z,8.0nm,0.9s
SDCO Great Sand Dun 85.28 48 *e*P **P** **14 33 23.5 +0.8**
comp=Z,1.9nm,0.9s
PRU Pruhonice 85.30 329 *e*P **P** **14 33 22.8 +0.5**
PRU Pruhonice 85.30 329 *e*P **P** **14 33 22.8 +0.5**
ANMO Albuquerque 86.41 50 ⇑ *i*P **P** **14 33 29.2 +0.9**
ANMO pmax pmax
comp=Z,21nm,2.1s
MSEY Mahe Island 90.04 264 *i* P **P** **14 33 47.3 +1.6**
TXAR Lajitas Array 91.78 53 P **P** **14 33 54.4 +0.8**
comp=Z,1.2nm,0.8s,baz=309,slow=3.9,SNR=13
TXAR Lajitas Array 91.78 53 P **P** **14 33 54.4 +0.8**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 120.72 314 PKP **PKPdf** **14 39 37.0 -1.0**
comp=Z,0.2nm,0.6s,baz=29,slow=0.6,SNR=4.5
SAML Samuel 146.23 50 *e*PKPbc **PKPbc** **14 40 26.1 -0.4**

GUC 28 14:24:06.0±0.5, 38.59S×71.78W, h88km±23km, ML4.3, 1D, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**1.28**	**260**	*e*P	Pn	14 24 29.9	+1.0
PSCH				*i* S	Sn	14 24 47.5	+1.3
LNCH	**Linares**	**2.74**	**3**	*e*P	Pn	14 24 49.9	+1.9
TALC	**Talca**	**3.19**	**2**	*e*P	Pn	14 24 54.9	+0.8
CLCH	**Cerro Calan**	**5.28**	**11**	⇓ *i*P	Pn	14 25 23.7	+1.1

*IDC **28** 14:49:53.2±1.0, 11°.43N×125°.73E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/34, mbtmp3.8/8, Error ellipse: s-maj=60.9km s-min=16.4km az=66.0*
*ISCJB **28** 14:49:55.8±0.7, 11°.64N±0°.05×126°.1E±0°.1, h33km, mb3.9/10, Error ellipse: s-maj=17.3km s-min=7.1km az=173.8*
*NEIC **28** 14:49:58.2±0.7, 11°.54N×125°.82E, h35km, mb4.4/3, Error ellipse: s-maj=38.2km s-min=9.6km az=68.0*
NEIC Felt [II PIVS] at Tacloban, Leyte.
*MAN **28** 14:49:59, 11°.53N×125°.64E, h22km, mb4.9, ML3.8, MS3.8*
MAN INTENSITY II - TACLOBAN CITY.

ISC 28 14:49:58.1±0.9, 11°.63N±0°.06×125°.9E±0°.1, h33km, n23, σ0s91/18, mb3.9/10, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.88**	**192**	*e*P	**Pn**	**14 50 29.4**	**+1.5**
SCPH				*e*S	**Sn**	**14 50 49.9**	**-0.6**
PVCP	**Virac**	**2.59**	**319**	⇑ *i*P	**Pn**	**14 50 37.9**	**+0.2**
PVCP				*e*S	**Sb**	**14 51 15.7**	**+0.3**
TBP	**Tagbilaran**	**2.77**	**226**	*e*P	**Pn**	**14 50 40.7**	**+0.5**
SOEI	**Soe**	**21.30**	**184**	*e*P	**P**	**14 54 42.9**	**+0.5**
	97nm,0.6s						
ENH	**Enshi**	**24.00**	**323**	*e*P	**P**	**14 55 08.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**26.87**	**288**	P	**P**	**14 55 35.2**	**-1.0**
	0.7nm,0.7s,baz=97,slow=7.1,SNR=6.3						
WRA	**Warramunga Arr**	**32.45**	**165**	P	P	14 56 23.3	-2.3
	0.3nm,0.7s,baz=347,slow=8.6,SNR=6.1						
AS31	**Alice Springs**	**35.94**	**167**	*e*P	**P**	**14 56 55.0**	**-0.8**
ASAR	**Alice Springs**	**35.94**	**167**	P	**P**	**14 56 54.6**	**-1.2**
	0.7nm,0.5s,baz=345,slow=7.0,SNR=23						
SONM	**Songino Array**	**39.63**	**339**	P	**P**	**14 57 28.2**	**+1.3**
	0.3nm,0.5s,baz=156,slow=12,SNR=2.5						
H11S3	**WAKE ISLAND Hy**	**39.91**	**75**	T	T	15 40 55.0	
	baz=273,slow=74,SNR=19						
H11S1	**WAKE ISLAND Hy**	**39.93**	**75**	T	T	15 40 35.5	
	baz=273,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy**	**39.93**	**75**	T	T	15 40 33.2	
	baz=273,slow=74,SNR=18						
H11N1	**WAKE ISLAND Hy**	**40.20**	**73**	T	T	15 40 54.8	
	baz=265,slow=74,SNR=92						
H11N2	**WAKE ISLAND Hy**	**40.21**	**73**	T	T	15 40 56.1	
	baz=265,slow=74,SNR=90						
H11N3	**WAKE ISLAND Hy**	**40.22**	**73**	T	T	15 40 56.1	
	baz=265,slow=74,SNR=80						
STKA	**Stephens Creek**	**45.80**	**161**	P	**P**	**14 58 15.9**	**-0.9**
	3.5nm,0.8s,baz=319,slow=11,SNR=8.0						
STKA	**Stephens Creek**	**45.80**	**161**	*e*P	**P**	**14 58 16.4**	**-0.5**
	0.6nm,0.6s						
MK31	**Makanchi Array**	**50.73**	**322**	*e*P	**P**	**14 58 55.4**	**+0.5**
ZALV	**Zalesovo Beam**	**53.27**	**331**	P	**P**	**14 59 13.8**	**+0.3**
	0.4nm,0.3s,baz=151,slow=9.8,SNR=3.6						
KURK	**Kurchatov**	**54.75**	**325**	*e*P	**P**	**14 59 24.6**	**+0.2**
	2.1nm,0.6s						
KURBB	**Kurchatov Arra**	**54.75**	**325**	P	**P**	**14 59 24.9**	**+0.4**
	0.8nm,0.3s,baz=124,slow=7.5,SNR=7.5						
ARCES	**ARCESS Array B**	**82.80**	**340**	P	**P**	**15 02 19.3**	**+0.6**
	1.1nm,0.5s,baz=79,slow=6.3,SNR=6.0						

JMA 28 14:59:59.6±0.4, 32.70N×142.47E, h45km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**2.66**	**323**	P	Pn	15 00 41.4	+1.8
BSO4	**Boso 4**	**2.89**	**323**	P	Pn	15 00 44.9	+1.9
JOD2	**Odawara 2**	**3.80**	**313**	P	Pn	15 00 57.3	+1.7
JOD2				*e*S	Sn	15 01 40.4	+1.3
JYN	**Shimob**	**4.29**	**312**	P	Pn	15 01 04.9	+2.5
JRY	**Ryogami san**	**4.43**	**319**	P	Pn	15 01 06.7	+2.3
JRY				*e*S	Sn	15 01 56.5	+1.8
JAG	**Ashikaga**	**4.47**	**327**	P	Pn	15 01 06.5	+1.6
JFT	**Otama**	**5.12**	**341**	P	Pn	15 01 14.0	+0.3
JFT				*e*S	Sn	15 02 05.4	-6.1
MAT	**Matsushiro**	**5.20**	**319**	P	Pn	15 01 17.6	+2.7
MAT				*e*S	Sn	15 02 13.5	-0.1

*IDC **28** 15:02:10.6±3.1, 19°.83S×69°.01W, h101km±21km, mb3.9/5, mb1 3.9/8, mb1mx3.6/31, mbtmp4.3/8, MS3.1/1, Ms1 3.1/1, ms1mx2.5/25, Error ellipse: s-maj=50.1km s-min=16.3km az=110.0*
*ISCJB **28** 15:02:11.0±0.4, 19°.97S±0°.04×68°.96W±0°.07, h121km±7km, mb4.2/4, Error ellipse: s-maj=10.7km s-min=5.6km az=166.8*
*GUC **28** 15:02:12.0±0.3, 20°.01S×69°.12W, h116km±2km, ML4.4*
*SJA **28** 15:02:12.5±0.4, 19°.87S×68°.49W, h268km±36km, ML3.5*
*NEIC **28** 15:02:13.2±0.8, 20°.02S×68°.83W, h128km±12km, mb3.9/2, Error ellipse: s-maj=16.6km s-min=10.4km az=94.0*
NEIC Felt [III] at Alto Hospicio and Iquique.

ISC 28 15:02:12.0±0.8, 19.94S±0°.05×68.89W±0°.08, h106km±10km, n26, σ1s61/33, mb4.4/3, 3C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB11	**IPOC Station P**	**0.74**	**284**	⇑ *i*P	**Pn**	**15 02 30.5**	**0.0**
PB11				*i* S	**Sn**	**15 02 44.4**	**0.0**
MNMC	**Minimini**	**1.04**	**320**	*i* P	**Pn**	**15 02 34.9**	**+1.2**
MNMC				*i* S	**Sn**	**15 02 51.8**	**+1.8**
MNMC				AML	AML	15 02 52.4	
	comp=N,10μm,0.4s						
PB01	**IPOC Station P**	**1.23**	**207**	⇑ *i*P	**Pn**	**15 02 35.2**	**-0.3**
PB01				*e*S	**Sn**	**15 02 52.7**	**-0.7**
PB01				AML	AML	15 02 53.6	
	comp=N,7μm,0.3s						
PATCX	**Punta Patache**	**1.47**	**233**	*i* P	**Pn**	**15 02 37.2**	**-1.2**
PATCX				*i* S	**Sn**	**15 02 56.2**	**-2.1**
PB09	**IPOC Station P**	**1.88**	**190**	⇑ *i*P	**Pn**	**15 02 43.7**	**+0.3**
PB09				*i* S	**Sn**	**15 03 07.5**	**+0.1**
PB09				AML	AML	15 03 10.5	
	comp=E,6μm,0.6s						
PB04	**IPOC Station P**	**2.38**	**193**	*e*P	Pn	15 02 53.0	+3.2
PB04				*i* S	**Sn**	**15 03 24.1**	**+5.5**
PB04				AML	AML	15 03 44.7	
	comp=N,813nm,0.6s						
LVC	**Limon Verde**	**2.66**	**180**	P	**Pn**	**15 02 55.3**	**+1.6**
	comp=N,2μm,0.3s,baz=337,slow=10,SNR=219						
LVC				S	**Sn**	**15 03 26.6**	**+1.0**
	comp=N,3μm,0.3s,baz=119,slow=19,SNR=18						
LVC	**Limon Verde**	**2.66**	**180**	*e*P	**Pn**	**15 02 54.4**	**+0.7**
LVC	**Limon Verde**	**2.66**	**180**	*e*Pn	**Pn**	**15 02 54.9**	**+1.2**
LVC				*e*Sn	**Sn**	**15 03 26.0**	**+0.4**
LVC				S	**Sn**	**15 03 26.6**	**+1.0**
ARE	**Arequipa**	**4.25**	**324**	*e*P	Pn	15 03 19.0	+4.0
ARE				*e*S	**Sn**	**15 04 05.0**	**+1.2**
HJA	**Humahuaca**	**4.59**	**136**	*e*P	Pn	15 03 22.9	+3.2
SLA	**San Lorenzo**	**5.70**	**147**	*e*P	**Pn**	**15 03 36.4**	**+1.9**
SLA				IAML		15 03 37.5	
	comp=Z,15nm,0.6s						
ASTB	**Santa Barbara**	**5.72**	**135**	*e*P	**Pn**	**15 03 36.1**	**+1.4**
ASTB				IAML		15 03 37.6	
ASTB				*e*S	**Sn**	**15 04 38.0**	**-1.1**
ALOL	**LOMAS DE OLMED**	**5.98**	**131**	*e*P	**Pn**	**15 03 38.3**	**+0.1**
ALOL				*e*S	**Sn**	**15 04 41.6**	**-3.8**
SIV	**San Ignacio**	**8.41**	**63**	P	**Pn**	**15 04 11.1**	**-0.1**
	comp=Z,11nm,0.3s,baz=264,slow=11,SNR=143						
LCO	**Las Campanas**	**9.18**	**190**	Pn	**Pn**	**15 04 20.9**	**-0.9**
SAML	**Samuel**	**12.24**	**28**	P	**Pn**	**15 05 03.3**	**+0.4**
	comp=Z,2.2nm,0.6s						
CPUP	**Villa Florida**	**12.39**	**123**	P	**Pn**	**15 05 05.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=296,slow=13,SNR=4.0						
CPUP	**Villa Florida**	**12.39**	**123**	*e*P	**Pn**	**15 05 05.0**	**+0.3**
ATAH	**Atahualpa**	**15.71**	**323**	LR	LR	15 11 27.3	
	comp=Z,74nm,19.9s,baz=236,slow=36						
BDFB	**Brasilia**	**20.33**	**81**	P	**P**	**15 06 39.7**	**-0.4**
	comp=Z,2.0nm,0.4s,baz=268,slow=13,SNR=3.8						
PTGA	**Pitinga**	**21.00**	**26**	P	**P**	**15 06 45.4**	**-1.7**
	comp=Z,3.0nm,0.3s,baz=216,slow=17,SNR=9.0						
SNAA	**Sanae**	**63.74**	**161**	P	**P**	**15 12 32.9**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=258,slow=9.3,SNR=5.7						
SNAA	**Sanae**	**63.74**	**161**	*e*P	P	15 12 29.2	-3.0
	comp=Z,0.8nm,0.6s						
DBIC	**Dimbokro**	**68.28**	**74**	P	**P**	**15 13 01.8**	**-0.4**
	comp=Z,15nm,0.9s,baz=225,slow=6.6,SNR=13						
TORD	**Torodi Ar. Bea**	**76.82**	**71**	P	**P**	**15 13 52.2**	**-0.6**
	comp=Z,2.5nm,0.4s,baz=253,slow=5.4,SNR=36						

IDC 28 15:07:03.5±4.4, 21°.17S×177°.92W, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/29, mbtmp3.5/4, Error ellipse: s-maj=191.9km s-min=34.7km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.57**	**245**	P	P	15 14 19.1	-0.6
	1.0nm,0.5s,baz=100,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**44.45**	**257**	P	P	15 15 16.6	+0.1
	0.3nm,0.6s,baz=96,slow=7.2,SNR=6.5						
WRA	**Warramunga Arr**	**44.59**	**263**	P	P	15 15 17.9	+0.1
	0.1nm,0.3s,baz=96,slow=8.3,SNR=8.2						
ILAR	**Eielson Array**	**88.95**	**13**	P	P	15 19 59.4	-0.1
	0.1nm,0.7s,baz=219,slow=7.0,SNR=3.3						

*IDC **28** 15:14:55.1±1.1, 10°.83S×161°.31E, h0km, mb4.0/8, mb1 4.2/10, mb1mx3.9/33, mbtmp4.0/10, ML3.5/2, MS3.5/4, Ms1 3.5/4, ms1mx3.0/31, Error ellipse: s-maj=32.7km s-min=20.8km az=121.0*
*ISCJB **28** 15:14:57.3±0.7, 10°.88S±0°.08×161°.4E±0°.1, h28km, mb3.9/9, MS3.4/4, Error ellipse: s-maj=15.6km s-min=11.1km az=1.7*
*NEIC **28** 15:14:58.1±4.8, 10°.81S×161°.36E, h18km±30km, mb4.2/1, Error ellipse: s-maj=13.8km s-min=10.8km az=79.0*

ISC 28 15:14:58.9±0.8, 10°.95S±0°.09×161°.4E±0°.1, h28km, n18, σ1s42/18, mb3.9/9, MS3.5/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.09**	**316**	*e*P	**Pn**	**15 15 32.0**	**-0.1**
HNR				*e*S	**Sb**	**15 16 02.0**	**+0.3**
HNR	**Honiara**	**2.09**	**316**	*e*P	**Pn**	**15 15 30.1**	**-2.0**
DZM	**Mont Dzumac**	**12.06**	**157**	Pn	**Pn**	**15 17 51.1**	**+2.0**
	0.1nm,0.3s,baz=270,slow=24,SNR=11						
DZM				Sn	**Sn**	**15 19 59.2**	**-3.6**
	0.1nm,0.3s,baz=270,slow=20,SNR=2.3						
CTA	**Charters Tower**	**17.19**	**236**	P	**P**	**15 18 58.5**	**0.0**
	0.2nm,0.3s,baz=61,slow=16,SNR=5.4						
EIDS	**Eidsvold**	**17.36**	**213**	P	**P**	**15 19 00.7**	**+0.2**
WRAB	**Tennant Creek**	**27.54**	**248**	*e*P	**P**	**15 20 45.3**	**+1.8**
	4.4nm,0.8s						
WRA	**Warramunga Arr**	**27.55**	**248**	P	**P**	**15 20 43.5**	**-0.2**
	2.4nm,0.7s,baz=76,slow=9.4,SNR=12						
STKA	**Stephens Creek**	**27.73**	**218**	P	**P**	**15 20 45.5**	**+0.4**
	2.7nm,1.1s,baz=0.7,slow=16,SNR=1.6						
STKA				LR	LR	15 31 35.5	
	comp=Z,238nm,18.0s,baz=28,slow=36						
AS31	**Alice Springs**	**29.08**	**241**	*e*P	**P**	**15 20 58.8**	**+1.4**
ASAR	**Alice Springs**	**29.08**	**241**	P	**P**	**15 20 56.2**	**-1.1**
	1.1nm,0.8s,baz=68,slow=9.5,SNR=8.8						
ASAR				LR	LR	15 31 06.5	
	comp=Z,119nm,21.3s,baz=74,slow=33						
GUMO	**Guam**	**29.39**	**326**	LR	LR	15 31 39.0	
	comp=Z,44nm,21.3s,baz=143,slow=34						
PPT	**Papeete**	**47.85**	**104**	LR	LR	15 40 22.0	
	comp=Z,41nm,18.6s,baz=124,slow=32						
KSRS	**Korea Array**	**57.49**	**329**	P	**P**	**15 24 45.0**	**-0.6**
	1.0nm,0.8s,baz=141,slow=8.2,SNR=5.3						
KSAR	**Wonju Array Be**	**57.50**	**329**	P	**P**	**15 24 45.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**68.19**	**295**	P	**P**	**15 25 57.7**	**+0.4**
	1.4nm,0.8s,baz=124,slow=5.5,SNR=6.7						
SONM	**Songino Array**	**76.12**	**325**	P	**P**	**15 26 44.0**	**-0.3**
	1.6nm,0.7s,baz=141,slow=5.8,SNR=8.3						
ILAR	**Eielson Array**	**84.82**	**20**	P	**P**	**15 27 30.2**	**-0.2**
	0.5nm,0.9s,baz=224,slow=3.8,SNR=4.3						
NVAR	**Mina Array Bea**	**89.24**	**51**	P	**P**	**15 27 53.9**	**+1.0**
	0.5nm,0.7s,baz=226,slow=6.0,SNR=3.8						

*IDC **28** 15:26:23.0±1.1, 11°.06S×161°.32E, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.8/35, mbtmp3.9/8, ML3.5/2, MS3.5/2, Ms1 3.4/2, ms1mx2.8/27, Error ellipse: s-maj=30.5km s-min=24.2km az=129.0*
*ISCJB **28** 15:26:25.4±0.8, 11°.16S±0°.08×161°.4E±0°.1, h28km, mb3.7/6, MS3.4/2, Error ellipse: s-maj=17.6km s-min=9.0km az=151.2*

ISC 28 15:26:27.3±0.8, 11°.1S±0°.1×161°.3E±0°.1, h28km, n10, σ0s80/10, mb3.8/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.13**	**321**	*e*P	**Pn**	**15 27 01.0**	**0.0**
DZM	**Mont Dzumac**	**11.96**	**156**	Pn	**Pn**	**15 29 15.7**	**-0.4**
	0.1nm,0.3s,baz=270,slow=20,SNR=2.3						
DZM				Sn	**Sn**	**15 31 29.2**	**+0.4**
	0.2nm,0.3s,baz=184,slow=13,SNR=3.6						
CTA	**Charters Tower**	**17.00**	**237**	P	**P**	**15 30 24.6**	**-0.4**
	0.3nm,0.3s,baz=90,slow=10,SNR=3.4						
WRA	**Warramunga Arr**	**27.38**	**248**	P	**P**	**15 32 10.7**	**+0.2**
	1.3nm,0.7s,baz=74,slow=10.0,SNR=11						
STKA	**Stephens Creek**	**27.53**	**218**	LR	LR	15 43 25.8	
	comp=Z,98nm,18.2s,baz=20,slow=37						
ASAR	**Alice Springs**	**28.90**	**241**	P	**P**	**15 32 24.6**	**+0.5**
	0.3nm,0.6s,baz=67,slow=9.9,SNR=5.6						
ASAR				LR	LR	15 44 20.0	
	comp=Z,77nm,18.9s,baz=64,slow=37						
CMAR	**Chiang Mai Arr**	**68.16**	**295**	P	**P**	**15 37 25.7**	**+0.3**
	0.7nm,0.4s,baz=133,slow=5.1,SNR=5.3						
SONM	**Songino Array**	**76.19**	**325**	P	**P**	**15 38 12.1**	**-1.0**
	1.0nm,0.6s,baz=139,slow=6.4,SNR=5.6						
ILAR	**Eielson Array**	**85.01**	**20**	P	**P**	**15 39 01.2**	**+1.4**
	0.5nm,0.9s,baz=261,slow=5.4,SNR=3.3						
NVAR	**Mina Array Bea**	**89.43**	**51**	P	**P**	**15 39 21.3**	**-0.7**
	0.4nm,0.7s,baz=251,slow=9.0,SNR=3.9						

IDC 28 15:38:38.8±1.4, 9.92N×122.32E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/34, mbtmp3.4/4, Error ellipse: s-maj=48.5km s-min=24.5km az=68.0, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**24.18**	**293**	P	P	15 43 56.5	-0.6
	0.5nm,0.4s,baz=96,slow=8.3,SNR=5.1						
KSRS	**Korea Array**	**27.88**	**10**	P	P	15 44 30.9	+0.5
	0.7nm,0.7s,baz=204,slow=12,SNR=4.9						
WRA	**Warramunga Arr**	**31.94**	**158**	P	P	15 45 06.6	0.0
	0.2nm,0.5s,baz=347,slow=9.0,SNR=4.8						
ASAR	**Alice Springs**	**35.25**	**161**	P	P	15 45 35.1	-0.2
	0.3nm,1.0s,baz=345,slow=7.4,SNR=4.6						

GUC 28 15:44:21.6±0.4, 22.02S×70.35W, h29km±2km, ML4.0, 2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB04	**IPOC Station P**	**0.84**	**107**	⇓ *i*P	Pn	15 44 30.0	-7.5
PB04				*i* S	Sb	15 44 35.6	-13
PB04				AML	AML	15 44 35.8	
	comp=N,24μm,0.1s						
PB09	**IPOC Station P**	**1.06**	**78**	*e*P	Pn	15 44 40.4	-0.3
PB09				*i* S	Sn	15 44 54.8	+0.1
PB09				AML	AML	15 44 59.0	
	comp=E,5μm,0.3s						
PATCX	**Punta Patache**	**1.21**	**9**	*e*P	Pn	15 44 42.7	0.0
PATCX				*e*S	Sb	15 44 59.0	-0.4
PB01	**IPOC Station P**	**1.27**	**40**	⇓ *i*P	Pn	15 44 43.7	+0.2
PB01				*i* S	Sb	15 45 00.5	-0.5
PB01				AML	AML	15 45 03.7	
	comp=E,2μm,0.2s						
PB10	**IPOC Station P**	**1.49**	**187**	*e*P	Pn	15 44 44.8	-1.7
PB10				*i* S	Sn	15 45 04.2	-0.8
PB10				AML	AML	15 45 09.7	
	comp=E,3μm,0.3s						
PB11	**IPOC Station P**	**2.34**	**16**	*e*P	Pn	15 45 00.4	+2.0
PB11				*i* S	Sb	15 45 30.2	-2.0
PB11				AML	AML	15 45 35.4	
	comp=N,4μm,0.5s						
MNMC	**Minimini**	**2.96**	**14**	AML	AML	15 46 03.6	
	comp=E,581nm,0.3s						

*NIED **28** 15:57:00, 33°.10N×142°.50E, h8km, Mw4.2 Best double couple: M0 2.57000×10^15 NP1:ϕs14

BSO4	**Boso 4**	**2.61**	**318**	P	**Pn**	**15 58 39.6**	**-0.3**
BSO4				S	**Sn**	**15 59 10.7**	**+0.3**
KTR	**Katsuura**	**2.73**	**320**	P	**Pn**	**15 58 41.0**	**-0.7**
KTR				S	**Sn**	**15 59 13.8**	**+0.2**
I30JP	**ISUMI INFRASON**	**2.86**	**322**	Pn	**Pn**	**15 58 45.1**	**+1.7**
I30JP				Sn	**Sn**	**15 59 17.9**	**+1.3**
JOD2	**Odawara 2**	**3.56**	**309**	P	**Pn**	**15 58 51.4**	**-1.7**
TK02	**Tokai 2**	**4.04**	**284**	P	**Pn**	**15 58 59.6**	**+0.2**
JYN	**Shimob**	**4.05**	**308**	P	**Pn**	**15 58 58.9**	**-1.0**
JRY	**Ryogami san**	**4.16**	**316**	P	**Pn**	**15 59 00.2**	**-1.2**
JRY				S	**Sn**	**15 59 49.2**	**+0.3**
JAG	**Ashikaga**	**4.17**	**324**	P	**Pn**	**15 59 00.3**	**-1.1**
JAG				S	**Sn**	**15 59 47.4**	**-1.6**
JFT	**Otama**	**4.76**	**339**	P	**Pn**	**15 59 08.1**	**-1.6**
JFT				S	**Sn**	**15 59 59.9**	**-3.9**
MJAR	**Matsushiro Arr**	**4.92**	**316**	Pn	**Pn**	**15 59 11.1**	**-0.8**
	15nm,0.3s,baz=121,slow=26,SNR=194						
MJAR				Sn	**Sn**	**16 00 06.4**	**-1.4**
	10nm,0.3s,baz=79,slow=20,SNR=12						
MJAR	**Matsushiro Arr**	**4.92**	**316**	P	**Pn**	**15 59 11.1**	**-0.8**
MJAR						16 00 06.4	
MJAR				pmax	pmax		
	comp=Z,15nm,0.3s						
MJAR				smax	smax		
	comp=N,11nm,0.3s						
MAJO	**Matsushiro**	**4.93**	**316**	*d* iP	**Pn**	**15 59 11.8**	**-0.2**
MAJO	**Matsushiro**	**4.93**	**316**	*e*P	**Pn**	**15 59 11.8**	**-0.2**
MAT	**Matsushiro**	**4.93**	**316**	P	**Pn**	**15 59 11.9**	**0.0**
MAT				S	**Sn**	**16 00 06.2**	**-1.6**
MAT	**Matsushiro**	**4.93**	**316**	P	**Pn**	**15 59 11.8**	**-0.1**
MAT				S	**Sn**	**16 00 07.0**	**-0.8**
JIE	**Ise**	**4.98**	**287**	P	**Pn**	**15 59 12.4**	**-0.2**
CBIJ	**Chichi jima**	**5.96**	**182**	*e*P	Pn	15 59 21.9	-4.3
CBIJ				Sn	Sn	16 00 24.6	-8.8
JCJ	**Chichijima**	**5.96**	**182**	Pn	Pn	15 59 21.1	-5.1
JCJ				Sn	Sn	16 00 24.6	-8.8
	baz=37,slow=20						
JCJ				LR	LR	16 03 25.2	
	comp=N,84nm,18.3s,baz=5.0,slow=55						
ERM	**Erimo**	**8.94**	**3**	*c* iP	Pn	16 00 03.4	-3.5
ERM	**Erimo**	**8.94**	**3**	*e*P	Pn	16 00 03.4	-3.5
	comp=N,12nm,0.6s						
ASAJ	**Asahikawa**	**11.03**	**0**	Pn	Pn	16 00 32.4	-3.1
	baz=0.0,slow=20						
ASAJ	**Asahikawa**	**11.03**	**0**	*e*P	**Pn**	**16 00 32.6**	**-2.9**
YUK	**Yuzh-Kuril'sk**	**11.26**	**13**	*e*P	Pn	16 00 33.4	-5.3
YUK				pmax	pmax		
	comp=Z,29nm,0.7s						
YUK				pmax	pmax		
	comp=N,19nm,0.6s						
YUK				pmax	pmax		
	comp=E,9.0nm,0.6s						
YUK				MLR	MLR		
	comp=N,155nm,17.0s						
YUK				MLR	MLR		
	comp=E,141nm,17.0s						
YUK				MLR	MLR		
	comp=Z,89nm,17.0s						
KSRS	**Korea Array**	**12.67**	**294**	Pn	**Pn**	**16 00 59.1**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=106,slow=14,SNR=6.2						
KSRS				LR	LR	16 06 59.5	
	comp=Z,76nm,19.1s,baz=106,slow=42						
KSAR	**Wonju Array Be**	**12.69**	**294**	Pn	**Pn**	**16 00 59.1**	**+0.8**
KUR	**Kuril'sk**	**12.84**	**17**	P	Pn	16 00 55.4	-4.8
KUR				pmax	pmax		
	comp=Z,2.0nm,0.1s						
JOW	**Kunigami**	**13.79**	**247**	Pn	**Pn**	**16 01 14.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=315,slow=20,SNR=2.4						
USRK	**Ussuriysk Ar.**	**13.79**	**327**	Pn	**Pn**	**16 01 12.9**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=126,slow=16,SNR=4.0						
USRK				LR	LR	16 06 23.8	
	comp=Z,62nm,21.0s,baz=161,slow=36						
YSS	**Yuzh-Sakhalins**	**13.86**	**1**	*e*P	Pn	16 01 11.0	-3.2
YSS	**Yuzh-Sakhalins**	**13.86**	**1**	P	**Pn**	**16 01 13.3**	**-0.9**
	comp=Z,11nm,0.8s						
GUMO	**Guam**	**19.52**	**173**	P	**P**	**16 02 24.5**	**-0.3**
	comp=Z,4.6nm,0.3s,baz=345,slow=18,SNR=4.4						
GUMO	**Guam**	**19.52**	**173**	P	**P**	**16 02 24.5**	**-0.3**
GUMO				pmax	pmax		
	comp=Z,5.0nm,0.3s						
YULB	**Yu-li**	**20.97**	**248**	*e*P	**P**	**16 02 39.1**	**-1.5**
	comp=Z,6.2nm,0.8s						
PET	**Petropavlovsk**	**23.08**	**25**	*i* P	**P**	**16 03 02.9**	**+0.2**
PET				pmax	pmax		
	comp=Z,20nm,1.9s						
HIA	**Hailar**	**23.41**	**320**	P	**P**	**16 03 05.8**	**-0.3**
	comp=Z,5.6nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**25.52**	**115**	T	T	16 29 47.0	
	baz=306,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**25.52**	**115**	T	T	16 29 57.1	
	baz=306,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**25.54**	**115**	T	T	16 30 14.1	
	baz=306,slow=75,SNR=10						
YAK	**Yakutsk**	**30.11**	**348**	*i* P	**P**	**16 04 05.4**	**-1.0**
SEY	**Seymchan**	**30.53**	**9**	P	**P**	**16 04 10.9**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=188,slow=7.7,SNR=16						
SEY				pP	**pP**	**16 04 21.2**	**+1.5**
	comp=Z,3.0nm,0.7s,baz=190,slow=8.1,SNR=8.5						
SEY	**Seymchan**	**30.53**	**9**	ǁ iP	**P**	**16 04 10.6**	**+0.5**
SONM	**Songino Array**	**30.84**	**309**	P	**P**	**16 04 14.6**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=120,slow=9.3,SNR=5.4						
SONM				LR	LR	16 17 59.7	
	comp=Z,49nm,19.1s,baz=122,slow=39						
SONM	**Songino Array**	**30.84**	**309**	P	**P**	**16 04 14.6**	**+1.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,49nm,19.2s						
BOD	**Bodaibo**	**31.37**	**331**	*e*P	P	16 04 23.4	+5.8
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ZAK	**Zakamensk**	**33.50**	**313**	*e*P	**P**	**16 04 39.2**	**+2.7**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s						
TLY	**Talaya**	**33.67**	**315**	P	**P**	**16 04 40.1**	**+2.3**
	comp=Z,3.9nm,0.8s,baz=49,slow=8.3,SNR=3.9						
TLY	**Talaya**	**33.67**	**315**	P	**P**	**16 04 39.7**	**+1.9**
TLY				pmax	pmax		
	comp=Z,3.0nm,8.2s						
BILL	**Bilibino**	**37.60**	**14**	*c*e P	**P**	**16 05 11.2**	**-0.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,33nm,20.0s						
TIXI	**Tiksi**	**39.31**	**353**	⇑ *i* P	**P**	**16 05 24.5**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**41.52**	**260**	P	**P**	**16 05 43.7**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=43,slow=7.4,SNR=5.5						
CMAR	**Chiang Mai Arr**	**41.52**	**260**	P	**P**	**16 05 43.7**	**-0.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**45.28**	**315**	P	**P**	**16 06 14.6**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=96,slow=6.9,SNR=4.5						
ZALV				PcP	**PcP**	**16 07 53.7**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=95,slow=2.6,SNR=7.0						
ZALV				pPcP		16 08 04.7	
	comp=Z,1.6nm,0.5s,baz=119,slow=2.3,SNR=3.9						
ZALV				LR	LR	16 25 16.4	
	comp=Z,33nm,20.1s,baz=70,slow=36						
ZALV	**Zalesovo Beam**	**45.28**	**315**	*i* P	**P**	**16 06 14.8**	**+0.4**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NVS	**Novosibirsk**	**46.25**	**317**	*e*P	**P**	**16 06 20.5**	**-1.6**
NVS				pmax	pmax		
	comp=Z,15nm,2.1s						
NVS				pmax	pmax		
	comp=N,6.0nm,2.2s						
NVS				pmax	pmax		
	comp=E,16nm,2.2s						
MK31	**Makanchi Array**	**47.04**	**305**	*e*P	**P**	**16 06 28.9**	**+0.4**
KURK	**Kurchatov**	**49.12**	**311**	*e*P	**P**	**16 06 44.7**	**+0.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KDAK	**Kodiak Island**	**49.52**	**40**	*c*e P	**P**	**16 06 48.1**	**+0.7**
ILAR	**Eielson Array**	**52.41**	**31**	P	**P**	**16 07 08.8**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=263,slow=6.6,SNR=13						
ILAR				pP	**pP**	**16 07 19.1**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=262,slow=6.1,SNR=8.8						
ILAR	**Eielson Array**	**52.41**	**31**	P	**P**	**16 07 08.8**	**-0.2**
ILAR				*PP	**pP**	**16 07 19.2**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

CTA	**Charters Tower**	**52.99**	**176**	LR	LR	16 28 08.4	
	comp=Z,102nm,21.4s,baz=238,slow=34						
WRAB	**Tennant Creek**	**53.28**	**190**	*e*P	**P**	**16 07 14.0**	**-1.8**
	comp=Z,7.9nm,0.9s						
WRA	**Warramunga Arr**	**53.29**	**190**	P	**P**	**16 07 14.4**	**-1.6**
	comp=Z,5.6nm,0.5s,baz=7.1,slow=7.7,SNR=100						
WRA				PcP	**PcP**	**16 08 23.9**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=3.3,slow=4.1,SNR=6.5						
WRA	**Warramunga Arr**	**53.29**	**190**	P	**P**	**16 07 14.4**	**-1.6**
WRA						16 08 23.9	
WRA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**53.98**	**315**	*d* iP	**P**	**16 07 21.3**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.6s						
AS31	**Alice Springs**	**57.01**	**189**	*e*P	**P**	**16 07 41.3**	**-1.5**
ASAR	**Alice Springs**	**57.01**	**189**	P	**P**	**16 07 41.4**	**-1.4**
	comp=Z,1.2nm,0.5s,baz=18,slow=12,SNR=33						
ASAR				PcP	**PcP**	**16 08 38.5**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=12,slow=3.5,SNR=7.2						
ASAR	**Alice Springs**	**57.01**	**189**	P	**P**	**16 07 41.4**	**-1.4**
ASAR						16 08 38.5	
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARU	**Arti**	**59.93**	**320**	*d* iP	**P**	**16 08 02.7**	**-0.1**
ARU						16 10 14.5	
ARU				S	**S**	**16 16 12.2**	**-0.2**
ARU				SS	**SS**	**16 20 06.8**	**-1.7**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ABKAR	**Akbulak array**	**61.19**	**312**	*e*P	**P**	**16 08 11.5**	**0.0**
	comp=Z,0.7nm,0.3s						
COCO	**West Island**	**62.61**	**232**	*i* P	P	16 08 30.6	+9.2
STKA	**Stephens Creek**	**64.61**	**181**	P	**P**	**16 08 33.9**	**-0.4**
	comp=Z,4.2nm,0.9s,baz=349,slow=7.8,SNR=5.1						
STKA	**Stephens Creek**	**64.61**	**181**	P	**P**	**16 08 33.9**	**-0.4**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YKA	**Yellowknife Ar**	**66.80**	**29**	P	**P**	**16 08 47.1**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=292,slow=6.0,SNR=3.7						
YKA	**Yellowknife Ar**	**66.80**	**29**	P	**P**	**16 08 47.1**	**-1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**68.00**	**340**	LR	LR	16 42 33.2	
	comp=Z,21nm,20.6s,baz=258,slow=39						
OBN	**Obninsk**	**71.80**	**324**	ǁ iP	**P**	**16 09 20.9**	**+1.8**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,55nm,21.0s						
FINES	**FINESS Array B**	**72.72**	**333**	P	**P**	**16 09 24.9**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=83,slow=6.5,SNR=9.1						
FINES				pP	**pP**	**16 09 36.0**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=84,slow=5.9,SNR=3.4						
FINES				LR	LR	16 45 31.8	
	comp=Z,26nm,18.1s,baz=41,slow=39						
FINES	**FINESS Array B**	**72.72**	**333**	*c*e P	**P**	**16 09 24.6**	**0.0**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KBZ	**Khabaz**	**74.16**	**312**	P	**P**	**16 09 34.6**	**+1.2**
	comp=Z,4.3nm,0.9s,baz=82,slow=3.0,SNR=9.5						
KBZ				pP	**pP**	**16 09 45.2**	**+1.5**
	comp=Z,2.9nm,0.7s,baz=79,slow=2.0,SNR=5.1						
KBZ	**Khabaz**	**74.16**	**312**	P	**P**	**16 09 34.6**	**+1.2**
KBZ				*PP	**pP**	**16 09 45.2**	**+1.5**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KIV	**Kislovodsk**	**74.18**	**312**	*e*P	**P**	**16 09 35.3**	**+1.7**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NVAR	**Mina Array Bea**	**76.67**	**53**	P	**P**	**16 09 48.9**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=294,slow=5.9,SNR=11						
NVAR				pP	**PcP**	**16 09 60.0**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=295,slow=5.7,SNR=7.6						
AKASG	**Malin Array Be**	**77.97**	**323**	P	**P**	**16 09 55.0**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=41,slow=4.6,SNR=6.0						
AKASG	**Malin Array Be**	**77.97**	**323**	*i* P	**P**	**16 09 53.5**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KIEV	**Kiev**	**77.98**	**323**	*i* P	**P**	**16 09 54.2**	**-0.8**
NB2	**NORSAR Subarra**	**78.17**	**338**	P	**P**	**16 09 55.9**	**0.0**
	comp=Z,2.0nm,0.6s,baz=39,slow=5.9						
NOA	**NORSAR Array B**	**78.17**	**338**	P	**P**	**16 09 56.2**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=39,slow=5.6,SNR=9.6						
NOA				pP	**pP**	**16 10 06.8**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=39,slow=5.6,SNR=4.7						
NOA	**NORSAR Array B**	**78.17**	**338**	P	**P**	**16 09 56.2**	**+0.3**
NOA				*PP	**pP**	**16 10 06.9**	**+0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**79.82**	**45**	P	**P**	**16 10 05.7**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=329,slow=2.2,SNR=8.1						
PDAR				pP	**pP**	**16 10 16.4**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=333,slow=0.3,SNR=4.1						
BRTR	**Keskin Array B**	**82.14**	**313**	P	**P**	**16 10 18.6**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=134,slow=4.0,SNR=8.7						
BRTR	**Keskin Array B**	**82.14**	**313**	*c*e P	**P**	**16 10 18.6**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ULM	**Lac du Bonnet**	**82.32**	**33**	LR	LR	16 46 02.2	
	comp=Z,29nm,21.1s,baz=296,slow=35						
DPC	**Dobruska-Polom**	**84.27**	**329**	*e*P	**P**	**16 10 28.3**	**-0.3**
DPC	**Dobruska-Polom**	**84.27**	**329**	*e*P	**P**	**16 10 28.3**	**-0.3**
CLL	**Collm**	**84.96**	**331**	*i* P	**P**	**16 10 31.8**	**-0.1**
	comp=Z,4.0nm,0.9s						
CLL				*i* pP	**pP**	**16 10 43.3**	**+0.9**
CLL	**Collm**	**84.96**	**331**	*i* P	**P**	**16 10 31.8**	**-0.1**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ANMO	**Albuquerque**	**86.46**	**50**	*i* P	**P**	**16 10 40.5**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TXAR	**Lajitas Array**	**91.82**	**53**	P	**P**	**16 11 05.8**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=305,slow=3.3,SNR=12						
TXAR				pP	**pP**	**16 11 16.2**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=313,slow=4.1,SNR=6.7						
TXAR	**Lajitas Array**	**91.82**	**53**	P	**P**	**16 11 05.8**	**+0.5**
TXAR				*PP	**pP**	**16 11 16.2**	**+0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**120.72**	**314**	PKP	**PKPdf**	**16 16 48.1**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=0.5,slow=1.0,SNR=5.5						

*IDC **28** 15:59:40.7±0.7, 30°.47N × 141°.26E, h0km, mb4.0/12, mb1 4.2/14, mb1mx4.0/30, mbtmp3.9/14, ML2.8/1, Error ellipse: s-maj=23.7km s-min=19.3km az=84.0*
*ISCJB **28** 15:59:43.5±0.7, 30°.47N±0°.10 × 141°.2E±0°.1, h28km, mb4.0/14, Error ellipse: s-maj=17.5km s-min=12.5km az=146.1*
*NEIC **28** 15:59:45.1±4.0, 30°.46N × 141°.27E, h28km±27km, mb4.3/2, Error ellipse: s-maj=15.0km s-min=12.1km az=92.0*

ISC 28 15:59:45.2±0.8, 30°.5N±0°.1 × 141°.3E±0°.1, h28km, n20, σ0s68/20, mb4.2/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.58**	**338**	Pn	**Pn**	**16 01 19.7**	**-0.4**
	baz=156,slow=11,SNR=1.5						
KSRS	**Korea Array**	**13.08**	**306**	Pn	**Pn**	**16 02 48.9**	**-0.2**
	0.1nm,0.3s,baz=112,slow=11,SNR=2.9						
KSAR	**Wonju Array Be**	**13.11**	**306**	Pn	**Pn**	**16 02 48.9**	**-0.5**
HIA	**Hailar**	**24.87**	**325**	*e*P	**P**	**16 05 05.6**	**+0.3**
SONM	**Songino Array**	**31.79**	**313**	P	**P**	**16 06 08.2**	**+1.0**
	1.1nm,0.6s,baz=115,slow=7.7,SNR=4.1						
CMAR	**Chiang Mai Arr**	**40.12**	**263**	P	**P**	**16 07 18.6**	**-0.1**
	0.5nm,0.7s,baz=72,slow=6.5,SNR=4.1						
MK31	**Makanchi Array**	**47.76**	**307**	*e*P	**P**	**16 08 19.9**	**+0.2**
KURK	**Kurchatov**	**50.09**	**313**	*e*P	**P**	**16 08 37.4**	**-0.1**
	8.5nm,1.1s						
WRA	**Warramunga Arr**	**50.55**	**188**	P	**P**	**16 08 41.2**	**0.0**
	5.4nm,0.8s,baz=6.8,slow=7.7,SNR=8.2						
ASAR	**Alice Springs**	**54.28**	**188**	P	**P**	**16 09 09.0**	**+0.1**
	1.2nm,0.5s,baz=2.2,slow=5.7,SNR=10						
ILAR	**Eielson Array**	**55.18**	**30**	P	**P**	**16 09 15.2**	**+0.2**
	0.4nm,0.7s,baz=268,slow=7.2,SNR=3.4						
KKAR	**Karatay Array**	**56.51**	**304**	*e*P	**P**	**16 09 25.7**	**+0.9**
	1.7nm,0.5s						
GEYT	**Alibeck**	**67.03**	**301**	P	**P**	**16 10 36.1**	**+0.2**
	2.0nm,0.6s,baz=14,slow=6.7,SNR=3.8						
FINES	**FINESS Array B**	**74.59**	**333**	P	**P**	**16 11 20.4**	**-0.8**
	1.3nm,0.5s,baz=76,slow=5.8,SNR=6.4						
KBZ	**Khabaz**	**75.15**	**312**	P	**P**	**16 11 24.7**	**-0.1**
	2.3nm,0.8s,baz=83,slow=4.0,SNR=4.7						
NVAR	**Mina Array Bea**	**79.08**	**52**	P	**P**	**16 11 48.6**	**+1.3**
	0.3nm,0.6s,baz=282,slow=4.5,SNR=3.2						
NOA	**NORSAR Array B**	**80.20**	**338**	P	**P**	**16 11 51.8**	**-1.0**
	1.0nm,0.8s,baz=42,slow=5.4,SNR=3.2						
BRTR	**Keskin Array B**	**83.14**	**312**	P	**P**	**16 12 08.9**	**+0.1**
	1.7nm,0.9s,baz=92,slow=3.7,SNR=6.4						
TXAR	**Lajitas Array**	**94.22**	**52**	P	**P**	**16 13 01.2**	**-0.9**
	0.5nm,0.9s,baz=343,slow=2.2,SNR=3.3						
TORD	**Torodi Ar. Bea**	**121.75**	**312**	PKP	**PKPdf**	**16 18 36.1**	**-1.1**
	0.2nm,0.5s,baz=14,slow=2.6,SNR=3.4						

*NNC **28** 16:00:47.2±2.8, 37°.61N × 71°.60E, h147km±26km, mb2.6, mpv3.5, Error ellipse: s-maj=26.3km s-min=9.0km az=161.0*

ISC 28 16:00:45.2±3.2, 37°.4N±0°.2 × 71°.74E±0°.09, h109km, n12, σ1s18/17, 6C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.69**	**302**	⇓P	**Pn**	**16 01 27.9**	**+0.7**
	22nm,0.3s						
DZET				⇑S	**Sn**	**16 02 00.3**	**+0.8**
	140nm,0.5s						
SFK	**Sufi-Kurgan**	**2.96**	**27**	⇑P	**Pn**	**16 01 32.7**	**+1.9**
	8.0nm,0.4s						
SFK				⇑S	**Sn**	**16 02 07.9**	**+2.0**
	21nm,0.3s						
AML	**Almayashu**	**4.96**	**17**	P	**Pn**	**16 01 58.9**	**+1.1**
	SNR=21						
UCH	**Uchtor**	**5.28**	**23**	P	**Pn**	**16 02 02.2**	**+0.1**
	SNR=15						
KZA	**Kyzart**	**5.40**	**29**	P	**Pn**	**16 02 03.9**	**+0.1**
	SNR=11						
EKS2	**Erkin-Say**	**5.49**	**16**	P	**Pn**	**16 02 06.2**	**+1.6**
	SNR=6.4						
AAK	**Ala-Archa**	**5.64**	**21**	⇓P	**Pn**	**16 02 07.4**	**+0.6**
	2.9nm,0.4s						
AAK				⇓S	**Sn**	**16 03 09.1**	**-1.3**
	12nm,0.7s						
KK31	**Karatay Array**	**5.78**	**351**	P	**Pn**	**16 02 09.6**	**+1.1**
	2.6nm,0.5s,baz=177,slow=13,SNR=42						
KK31				⇑S	**Sn**	**16 03 13.5**	**0.0**
	11nm,0.5s,baz=188,slow=24,SNR=13						
CHMS	**Chumysh**	**6.05**	**21**	P	**Pn**	**16 02 12.9**	**+0.7**
	SNR=5.4						
TKM2	**Tokmak 2**	**6.26**	**27**	P	**Pn**	**16 02 15.4**	**+0.2**
	SNR=6.7						
TKM2	**Tokmak 2**	**6.26**	**27**	⇑P	**Pn**	**16 02 15.4**	**+0.2**
	3.4nm,0.8s						
TKM2				⇑S	**Sn**	**16 03 24.5**	**-1.0**
	5.4nm,1.1s						
AB31	**Akbulak array**	**14.61**	**328**	⇓P	**Pn**	**16 04 04.8**	**-1.6**
	0.2nm,0.3s,baz=130,slow=14,SNR=8.6						
AB31				⇓S	Sn	16 06 35.7	-12
	1.1nm,0.5s,baz=148,slow=22,SNR=6.2						

*ISCJB **28** 16:01:41.6±0.9, 33°.04N±0°.05 × 142°.47E±0°.09, h40km, mb3.6/2, Error ellipse: s-maj=11.6km s-min=6.2km az=150.1*
*JMA **28** 16:01:44.5±0.3, 33°.02N × 142°.21E, h110km, M3.1*
*IDC **28** 16:01:45.5±2.6, 32°.25N × 140°.29E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.4/31, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=125.1km s-min=22.9km az=73.0*

ISC 28 16:01:44.1±1.5, 32°.94N±0°.06 × 142°.4E±0°.1, h40km, n12, σ1s55/21, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.05**	**327**	P	**Pn**	**16 02 17.0**	**+1.4**
BSO1				*e*S	**Sn**	**16 02 41.8**	**+2.1**
JHJ2	**Mitsune**	**2.13**	**275**	P	**Pn**	**16 02 18.1**	**+0.8**
JHJ2				*e*S	**Sn**	**16 02 44.1**	**+1.6**
JHCJ	**Hachijojimakas**	**2.15**	**274**	*e*S	**Sn**	**16 02 43.6**	**+0.7**
JOD2	**Odawara 2**	**3.56**	**311**	P	**Pn**	**16 02 36.7**	**-0.2**
JOD2				*e*S	**Sn**	**16 03 17.1**	**-0.6**
JYN	**Shimob**	**4.05**	**310**	P	**Pn**	**16 02 44.3**	**+0.6**
JYN				*e*S	**Sn**	**16 03 29.3**	**-0.6**
JRY	**Ryogami san**	**4.18**	**318**	P	**Pn**	**16 02 45.1**	**-0.4**
JRY				*e*S	**Sn**	**16 03 32.1**	**-1.0**
JAG	**Ashikaga**	**4.21**	**326**	P	**Pn**	**16 02 44.6**	**-1.2**
JAG				*e*S	**Sn**	**16 03 31.3**	**-2.5**
MJAR	**Matsushiro Arr**	**4.95**	**318**	Pn	**Pn**	**16 02 56.0**	**0.0**
	1.9nm,0.3s,baz=162,slow=12,SNR=12						
MJAR				Sn	**Sn**	**

*IDC **28** 17:06:34.3±0.9,21°.33S×66°.74W,h236km±14km,mb3.2/2, mb1 3.3/7,mb1mx3.1/30,mbtmp3.8/7,Error ellipse: s-maj=25.8km s-min=16.5km az=176.0*

*SJA **28** 17:06:38.3±0.7,21°.50S×66°.35W,h221km±7km,ML2.9*

ISC 28 17:06:34.4±1.0,21°.4S±0°.1×66°.65W±0°.09,h250km,n14, σ1§91/16,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.32**	**127**	*eP*	**Pn**	**17 07 11.7**	**-0.2**
YJA				*eS*	**S**	**17 07 36.6**	**-4.9**
HJA	**Humahuaca**	**2.16**	**148**	*eP*	**Pn**	**17 07 19.3**	**+0.6**
LVC	**Limon Verde**	**2.43**	**239**	P	**Pn**	**17 07 20.6**	**-0.6**
	266nm,0.3s,baz=50,slow=7.0,SNR=80						
LVC				S	**S**	**17 07 55.3**	**-2.9**
	462nm,0.3s,baz=268,slow=21,SNR=12						
AZAP	**Zapla**	**3.19**	**153**	*eP*	**Pn**	**17 07 29.2**	**0.0**
AZAP				AML	AML	17 08 12.6	
	comp=Z,23nm,0.3s						
ASTB	**Santa Barbara**	**3.25**	**142**	*eP*	**Pn**	**17 07 30.1**	**+0.3**
ALOL	**LOMAS DE OLMED**	**3.47**	**135**	*eP*	**Pn**	**17 07 31.6**	**-0.5**
SLA	**San Lorenzo**	**3.49**	**163**	*eP*	**Pn**	**17 07 33.6**	**+1.1**
FSA	**Cafayete**	**4.73**	**173**	*eP*	**Pn**	**17 07 49.2**	**+2.1**
SIV	**San Ignacio**	**7.53**	**46**	P	**Pn**	**17 08 21.0**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=240,slow=12,SNR=27						
CPUP	**Villa Florida**	**9.85**	**122**	P	**Pn**	**17 08 53.3**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=307,slow=16,SNR=1.7						
CFAA	**Coronel Fontan**	**10.29**	**188**	P	**Pn**	**17 08 57.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=186,slow=9.0,SNR=6.9						
BDFB	**Brasilia**	**18.57**	**75**	P	**Pn**	**17 10 36.9**	**0.0**
	comp=Z,0.9nm,0.3s,baz=264,slow=5.0,SNR=5.5						
TXAR	**Lajitas Array**	**61.76**	**323**	P	**P**	**17 16 28.4**	**+1.5**
	comp=Z,0.1nm,0.6s,baz=141,slow=5.8,SNR=1.9						
TORD	**Torodi Ar. Bea**	**75.34**	**69**	P	**P**	**17 17 51.7**	**+0.8**
	comp=Z,2.3nm,0.5s,baz=254,slow=5.5,SNR=20						

*NIED **28** 17:17:00,33°.00N×142°.40E,h5km,Mw3.9 Best double couple: M0 7.35000×10^14 NP1:φs316.00000°,δ13.00000°, λ-99.00000°. NP2:φs145.00000°,δ77.00000°, λ-88.00000°.*

*IDC **28** 17:17:10.7±0.9,32°.86N×142°.33E,h0km,mb3.7/7, mb1 3.8/10,mb1mx3.6/47,mbtmp3.7/10,ML3.4/3,MS2.7/1, Ms1 2.7/1,ms1mx2.2/34,Error ellipse: s-maj=29.0km s-min=17.4km az=65.0*

*JMA **28** 17:17:10.7±0.4,33°.03N×142°.43E,h8km,M3.7*

*ISCJB **28** 17:17:12.4±0.7,32°.93N±0°.05×142°.4E±0°.1,h33km, mb3.7/7,Error ellipse: s-maj=13.9km s-min=4.8km az=151.9*

ISC 28 17:17:14.4±1.0,33°.00N±0°.07×142°.5E±0°.1,h33km,n27, σ1§32/35,mb3.6/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.10**	**322**	P	**Pn**	**17 17 45.9**	**-0.8**
BSO1				*eS*	**Sn**	**17 18 11.1**	**-0.4**
JHJ2	**Mitsune**	**2.29**	**274**	P	**Pn**	**17 17 48.4**	**-1.4**
BSO2	**Boso 2**	**2.29**	**320**	*eS*	**Sn**	**17 18 16.1**	**-0.5**
JHCJ	**Hachijojimakas**	**2.30**	**273**	P	**Pn**	**17 17 48.3**	**-1.7**
BSO3	**Boso 3**	**2.47**	**317**	P	**Pn**	**17 17 51.5**	**-0.5**
BSO4	**Boso 4**	**2.70**	**318**	P	**Pn**	**17 17 55.4**	**0.0**
BSO4				*eS*	**Sn**	**17 18 27.8**	**+0.9**
KTR	**Katsuura**	**2.83**	**320**	*eS*	**Sn**	**17 18 29.1**	**-1.1**
JOD2	**Odawara 2**	**3.65**	**309**	P	**Pn**	**17 18 06.7**	**-1.8**
JYN	**Shimob**	**4.14**	**308**	P	**Pn**	**17 18 15.5**	**+0.1**
JYN				*eS*	**Sn**	**17 19 03.6**	**+0.9**
JRY	**Ryogami san**	**4.25**	**316**	P	**Pn**	**17 18 15.9**	**-0.9**
JRY				*eS*	**Sn**	**17 19 05.0**	**-0.4**
JAG	**Ashikaga**	**4.26**	**324**	P	**Pn**	**17 18 16.4**	**-0.5**
JAG				*eS*	**Sn**	**17 19 03.1**	**-2.4**
JFT	**Otama**	**4.86**	**339**	P	**Pn**	**17 18 24.5**	**-0.6**
JFT				*eS*	**Sn**	**17 19 16.6**	**-3.6**
MJAR	**Matsushiro Arr**	**5.02**	**316**	Pn	**Pn**	**17 18 27.5**	**+0.1**
	2.4nm,0.3s,baz=162,slow=13,SNR=32						
MJAR				Sn	**Sn**	**17 19 23.6**	**-0.6**
	1.5nm,0.3s,baz=180,slow=32,SNR=5.9						
MAT	**Matsushiro**	**5.02**	**316**	P	**Pn**	**17 18 27.6**	**+0.2**
MAT				S	**Sn**	**17 19 23.3**	**-1.0**
MAT	**Matsushiro**	**5.02**	**316**	P	**Pn**	**17 18 27.8**	**+0.4**
MAT				*eS*	**Sn**	**17 19 23.6**	**-0.7**
JIE	**Ise**	**5.06**	**288**	P	**Pn**	**17 18 27.4**	**-0.4**
CBIJ	**Chichi jima**	**5.89**	**183**	P	**Pn**	**17 18 36.9**	**-2.4**
JCJ	**Chichijima**	**5.89**	**183**	Pn	**Pn**	**17 18 37.0**	**-2.3**
	5.0nm,0.3s,baz=11,slow=18,SNR=21						
JCJ				Sn	Sn	17 19 38.3	-7.4
	11nm,0.3s,baz=303,slow=22,SNR=6.3						
JMK	**Ichinoseki**	**6.04**	**350**	P	**Pn**	**17 18 39.0**	**-2.3**
KSRS	**Korea Array**	**12.75**	**294**	Pn	**Pn**	**17 20 12.9**	**-0.3**
	0.0nm,0.3s,baz=107,slow=14,SNR=2.9						
KSRS				LR	LR	17 25 06.9	
	comp=Z,33nm,18.7s,baz=148,slow=38						
SONM	**Songino Array**	**30.93**	**309**	P	**P**	**17 23 29.3**	**+1.0**
	0.9nm,0.8s,baz=114,slow=9.0,SNR=4.9						
ZALV	**Zalesovo Beam**	**45.37**	**315**	P	**P**	**17 25 30.3**	**+0.9**
	0.3nm,0.4s,baz=97,slow=6.2,SNR=2.4						
KURBB	**Kurchatov Arra**	**49.27**	**311**	P	**P**	**17 26 00.1**	**+0.3**
	1.0nm,0.2s,baz=86,slow=8.1,SNR=2.7						
WRA	**Warramunga Arr**	**53.22**	**190**	P	**P**	**17 26 29.0**	**-0.6**
	0.4nm,0.4s,baz=5.7,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**56.95**	**189**	P	**P**	**17 26 57.5**	**+1.0**
	0.4nm,0.8s,baz=353,slow=6.5,SNR=3.1						
NVAR	**Mina Array Bea**	**76.68**	**53**	P	P	17 29 06.0	+3.6
	0.2nm,0.4s,baz=274,slow=5.3,SNR=2.6						
TXAR	**Lajitas Array**	**91.83**	**53**	P	**P**	**17 30 20.6**	**+1.1**
	0.2nm,0.6s,baz=316,slow=5.2,SNR=3.6						

*KRNET **28** 17:18:37.4±0.1,41°.10N×72°.14E,h8km,mb3.3*

*NNC **28** 17:18:38.9±0.8,40°.97N×72°.20E,h0km,mb3.5,mpv3.3, Error ellipse: s-maj=7.4km s-min=5.5km az=66.0*

ISC 28 17:18:37.7±1.2,41°.09N±0°.03×72°.18E±0°.03,h4km±12km, n26,σ1§53/44,21C-10D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.72**	**347**	⇑*iP*	**Pg**	**17 18 51.5**	**-0.2**
	baz=349						
ARK				⇑*iS*	**Sb**	**17 19 02.1**	**-1.3**
	baz=349						
FRG	**Fergana**	**0.77**	**203**	*eP*	**Pg**	**17 18 52.0**	**-0.5**
	baz=201						
FRG				*eS*	**Sb**	**17 19 04.6**	**0.0**
	baz=201						
BTK	**Batken**	**1.47**	**226**	*eP*	**Pb**	**17 19 04.6**	**-1.0**
	baz=225						
BTK				*eS*	**Sg**	**17 19 26.0**	**+1.2**
	baz=225						
SFK	**Sufi-Kurgan**	**1.47**	**137**	⇑P	**Pn**	**17 19 05.0**	**-0.3**
	7.1nm,0.2s						
SFK				⇓S	**Sn**	**17 19 23.4**	**-1.8**
	45nm,0.2s						
SFK	**Sufi-Kurgan**	**1.47**	**137**	⇓*iP*	**Pn**	**17 19 05.1**	**-0.3**
	baz=136						
SFK				⇓*iS*	**Sg**	**17 19 27.3**	**+2.2**
	baz=136						
AML	**Almayashu**	**1.54**	**47**	P	**Pn**	**17 19 05.4**	**-1.0**
	SNR=14						
AML	**Almayashu**	**1.54**	**47**	⇑*iP*	**Pb**	**17 19 06.8**	**-0.3**
	baz=47						
AML				⇑*iS*	**Sg**	**17 19 30.1**	**+2.9**
	baz=47						
EKS2	**Erkin-Say**	**1.97**	**37**	P	**Pb**	**17 19 13.6**	**-0.6**
	SNR=19						
EKS2	**Erkin-Say**	**1.97**	**37**	⇑*iP*	**Pb**	**17 19 13.6**	**-0.6**
	baz=37						
EKS2				⇑*iS*	**Sg**	**17 19 41.6**	**+0.6**
	baz=37						
EKS	**Erkin-Say**	**1.98**	**37**	⇑*iP*	**Pb**	**17 19 14.3**	**-0.1**
	baz=37						
EKS				⇑*iS*	**Sg**	**17 19 43.8**	**+2.5**
	baz=37						
UCH	**Uchtor**	**2.08**	**56**	P	**Pb**	**17 19 15.3**	**-1.1**
	SNR=74						
UCH	**Uchtor**	**2.08**	**56**	⇑*iP*	**Pb**	**17 19 15.3**	**-1.1**
	baz=57						
UCH				⇑*iS*	**Sg**	**17 19 45.1**	**+0.4**
	baz=57						
AAK	**Ala-Archa**	**2.31**	**48**	P	**Pb**	**17 19 18.8**	**-1.4**
	SNR=13						
AAK	**Ala-Archa**	**2.31**	**48**	⇓Pn	**Pb**	**17 19 18.4**	**-1.8**
	6.1nm,0.3s						
AAK				⇑Sn	**Sb**	**17 19 50.8**	**+1.7**
	32nm,0.6s						
AAK	**Ala-Archa**	**2.31**	**48**	⇑*iP*	**Pb**	**17 19 18.3**	**-1.8**
	baz=48						
AAK				⇑*iS*	**Sg**	**17 19 51.1**	**-1.0**
	baz=48						
KK31	**Karatay Array**	**2.36**	**329**	⇓Pn	**Pb**	**17 19 19.0**	**-1.9**
	7.2nm,0.3s,baz=135,slow=13,SNR=195						
KK31				Sn	**Sg**	**17 19 52.5**	**-1.1**
	25nm,0.3s,baz=141,slow=28,SNR=17						
KZA	**Kyzart**	**2.50**	**66**	P	**Pb**	**17 19 21.6**	**-1.9**
	SNR=42						
KZA	**Kyzart**	**2.50**	**66**	⇓*iP*	**Pb**	**17 19 21.6**	**-1.9**
	baz=66						
KZA				⇓*iS*	**Sb**	**17 19 55.8**	**+1.0**
	baz=66						
KBK	**Karagaybulak**	**2.59**	**52**	P	**Pb**	**17 19 23.2**	**-1.6**
	SNR=7.0						
KBK	**Karagaybulak**	**2.59**	**52**	⇑*iP*	**Pb**	**17 19 23.2**	**-1.6**
	baz=52						
KBK				⇑*iS*	**Sb**	**17 19 58.5**	**+1.4**
	baz=52						
CHMS	**Chumysh**	**2.70**	**44**	P	**Pb**	**17 19 24.0**	**-2.6**
	SNR=6.2						
CHMS	**Chumysh**	**2.70**	**44**	⇑*iP*	**Pn**	**17 19 23.6**	**+1.6**
	baz=45						
CHMS				⇑*iS*	**Sb**	**17 20 00.1**	**-0.1**
	baz=45						
USP	**Osepenovka**	**2.77**	**38**	P	**Pn**	**17 19 24.7**	**+1.7**
	SNR=9.2						
NRN	**Naryn**	**2.90**	**82**	⇓*iP*	**Pb**	**17 19 27.5**	**-2.7**
	baz=82						
NRN				⇓*iS*	**Sb**	**17 20 06.3**	**+0.2**
	baz=82						
TKM2	**Tokmak 2**	**3.13**	**53**	⇑Pn	**Pn**	**17 19 29.8**	**+1.7**
	2.6nm,0.3s						
TKM2				⇑Sn	**Sb**	**17 20 12.2**	**-0.6**
	20nm,0.6s						
DZET	**Dzherino**	**3.44**	**230**	⇓Pn	**Pn**	**17 19 33.7**	**+1.4**
DZET				⇑Sn	**Sn**	**17 20 15.7**	**+2.1**
	19nm,0.4s						

IDC 28 17:58:53.5±26.0,18°.81S×174°.98W,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.6/31,mbtmp3.9/4,Error ellipse: s-maj=488.1km s-min=155.3km az=73.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.52**	**261**	P	P	18 06 01.2	+0.2
	1.5nm,0.6s,baz=108,slow=9.6,SNR=4.4						
STKA	**Stephens Creek**	**41.08**	**243**	P	P	18 06 39.6	+0.4
	1.1nm,0.5s,baz=81,slow=9.1,SNR=3.4						
WRA	**Warramunga Arr**	**47.67**	**260**	P	P	18 07 31.7	-0.5
	0.4nm,0.3s,baz=97,slow=7.4,SNR=17						
ASAR	**Alice Springs**	**47.69**	**255**	P	P	18 07 31.9	-0.3
	1.8nm,0.8s,baz=97,slow=8.4,SNR=25						

*IDC **28** 18:03:07.3±5.3,36°.34N×71°.13E,h127km±47km,mb3.2/4, mb1 3.2/8,mb1mx3.0/43,mbtmp3.6/8,MS3.7/1,Ms1 3.7/1, ms1mx2.5/21,Error ellipse: s-maj=35.7km s-min=24.2km az=158.0*

*ISCJB **28** 18:03:11.9±0.5,36°.64N±0°.04×71°.06E±0°.07,h188km, mb3.2/3,Error ellipse: s-maj=8.2km s-min=4.8km az=154.9*

*NNC **28** 18:03:15.7±2.0,36°.87N×70°.94E,h153km±18km,mb3.2, mpv4.3,Error ellipse: s-maj=19.6km s-min=8.4km az=166.0*

ISC 28 18:03:13.2±0.8,36°.72N±0°.07×70°.92E±0°.07,h188km,n37, σ1§89/37,mb3.3/3,8C-6D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.66**	**322**	⇓P	**Pn**	**18 03 57.0**	**-1.4**
	36nm,0.3s						
DZET				⇓S	**Sn**	**18 04 31.0**	**-2.6**
	437nm,0.5s						
SFK	**Sufi-Kurgan**	**3.86**	**31**	⇓P	**Pn**	**18 04 13.2**	**+0.2**
SFK				⇑S	**Sn**	**18 04 57.5**	**-2.5**
	107nm,0.3s						
AML	**Almayashu**	**5.81**	**21**	P	**Pn**	**18 04 37.6**	**-0.6**
	SNR=62						
UCH	**Uchtor**	**6.16**	**26**	P	**Pn**	**18 04 42.2**	**-0.6**
	SNR=24						
KZA	**Kyzart**	**6.31**	**31**	P	**Pn**	**18 04 44.4**	**-0.3**
	SNR=12						
EKS2	**Erkin-Say**	**6.33**	**19**	P	**Pn**	**18 04 44.7**	**0.0**
	SNR=17						
KK31	**Karatay Array**	**6.38**	**357**	⇑P	**Pn**	**18 04 45.4**	**+0.2**
	9.3nm,0.3s,baz=182,slow=12,SNR=290						
KK31				S	**Sn**	**18 05 56.8**	**-1.3**
	15nm,0.5s,baz=182,slow=18,SNR=15						
AAK	**Ala-Archa**	**6.52**	**24**	P	**Pn**	**18 04 48.7**	**+1.5**
	SNR=8.9						
AAK	**Ala-Archa**	**6.52**	**24**	⇑P	**Pn**	**18 04 47.3**	**+0.2**
	14nm,0.6s						
AAK				⇑S	**Sn**	**18 05 59.0**	**-2.4**
	21nm,0.5s						
KBK	**Karagaybulak**	**6.69**	**26**	P	**Pn**	**18 04 51.4**	**+1.9**
	SNR=8.4						
CHMS	**Chumysh**	**6.93**	**24**	P	**Pn**	**18 04 52.0**	**-0.4**
	SNR=11						
TKM2	**Tokmak 2**	**7.16**	**29**	P	**Pn**	**18 04 57.0**	**+1.3**
	SNR=30						
TKM2	**Tokmak 2**	**7.16**	**29**	⇑P	**Pn**	**18 04 55.8**	**+0.2**
	18nm,0.6s						
SMLA	**Simla**	**7.62**	**135**	*i* P	Pn	18 04 52.6	-8.9
SMLA				*i* S	Sn	18 06 14.4	-13
SMLA				*i* S	Sn	18 06 14.9	-12
SMLA				AML	AML	18 06 17.9	
	comp=N,624nm,0.3s						
SMLA				AML	AML	18 06 18.8	
	comp=E,578nm,0.3s						
GEYT	**Alibeck**	**10.27**	**281**	P	**Pn**	**18 05 35.1**	**-1.1**
	comp=E,0.5nm,0.3s,baz=101,slow=7.5,SNR=4.2						
MK31	**Makanchi Array**	**13.15**	**37**	⇓P	**P**	**18 06 18.2**	**+2.0**
	comp=E,0.9nm,0.6s,baz=224,slow=12,SNR=13						
KOLN	**Koldanda**	**13.94**	**126**	*eP*	Pn	18 06 18.7	-4.4
	comp=E,4.0nm,0.3s						
GKN	**Gorkha**	**14.47**	**123**	*eP*	Pn	18 06 25.4	-4.3
	comp=E,7.0nm,0.3s						
GKN				*eS*	Sn	18 08 52.8	-19
AB31	**Akbulak array**	**14.86**	**331**	⇑P	**P**	**18 06 36.5**	**+1.4**
	comp=E,0.2nm,0.2s,baz=165,slow=10.0,SNR=4.0						
AB31				⇓S	**Sn**	**18 09 16.1**	**-3.9**
	comp=E,0.9nm,0.4s,baz=153,slow=23,SNR=5.9						
KURBB	**Kurchatov Arra**	**14.94**	**19**	⇓P	**P**	**18 06 38.1**	**+2.1**
	comp=E,1.7nm,0.7s						
KURBB	**Kurchatov Arra**	**14.94**	**19**	P	**Pn**	**18 06 34.4**	**-0.6**
	comp=E,0.0nm,0.3s,baz=210,slow=11,SNR=7.1						
DMN	**Daman**	**15.04**	**123**	*eP*	**Pn**	**18 06 33.5**	**-3.3**
	comp=E,3.5nm,0.3s						
KKN	**Kakani**	**15.04**	**122**	*eP*	**Pn**	**18 06 33.7**	**-3.1**
	comp=E,8.5nm,0.6s						
PKIN	**Phulchoki**	**15.26**	**123**	*eP*	**Pn**	**18 06 37.3**	**-2.1**
	comp=E,6.5nm,0.3s						
PKI	**Pulchoki**	**15.27**	**123**	*eP*	**Pn**	**18 06 37.6**	**-2.1**
BVA0	**Borovoye Array**	**16.31**	**359**	⇑P	**Pn**	**18 06 54.3**	**+2.7**
	comp=E,1.6nm,0.6s,baz=169,slow=9.2,SNR=12						
BVAR	**Borovoye Array**	**16.31**	**359**	P	**Pn**	**18 06 52.4**	**+0.8**
	comp=E,0.4nm,0.3s,baz=168,slow=10,SNR=11						
RAMN	**Ramite**	**16.48**	**122**	*eP*	**P**	**18 06 53.2**	**-0.3**
AKTO	**Aktyubinsk**	**16.56**	**330**	⇑P	**Pn**	**18 06 57.4**	**+2.8**
	comp=E,3.8nm,1.1s						
AKTO	**Aktyubinsk**	**16.56**	**330**	P	**Pn**	**18 06 58.4**	**+3.7**
	comp=E,0.9nm,0.3s,baz=143,slow=8.9,SNR=8.4						
TAPN	**Taplejung**	**17.00**	**119**	*eP*	**Pn**	**18 07 01.7**	**+1.2**
ODAN	**Odare**	**17.08**	**120**	*eP*	**Pn**	**18 07 00.7**	**-0.7**
ZALV	**Zalesovo Beam**	**19.74**	**25**	P	**P**	**18 07 29.6**	**+1.2**
	comp=E,2.5nm,0.4s,baz=218,slow=10,SNR=15						
ASF	**Jabal al Asfar**	**28.33**	**271**	LR	LR	18 21 48.5	
	comp=E,151nm,21.7s,baz=263,slow=39						
NOA	**NORSAR Array B**	**44.17**	**323**	P	P	18 11 06.7	+3.7
	comp=E,0.6nm,0.6s,baz=97,slow=7.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**65.66**	**268**	P	**P**	**18 13 38.6**	**+0.9**
	comp=E,0.3nm,0.6s,baz=47,slow=6.5,SNR=3.1						
ASAR	**Alice Springs**	**84.43**	**125**	P	**P**	**18 15 24.6**	**-0.1**
	comp=E,0.2nm,0.8s,baz=314,slow=4.4,SNR=4.5						

MEX 28 18:04:23.8±0.8,16°.70N×99°.70W,h10km±4km,MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.23**	**317**	*i* P	Pg	18 04 23.5	-5.1
ACX				*i* S	Sg	18 04 27.2	-4.5
ACP2	**Acapulco**	**0.25**	**313**	*i* P	Pg	18 04 28.4	-0.6
ACP2				*i* S	Sg	18 04 32.4	0.0
CAIG	**El Cayaco**	**0.64**	**302**	*i* P	Pg	18 04 34.5	-1.8
CAIG				*i* S	Sg	18 04 43.9	-0.9
MEIG	**Mezcala**	**1.22**	**4**	*eP*	Pn	18 04 42.8	-4.2
MEIG				*i* S	Sb	18 04 57.9	-5.1
TLIG	**Tlapa**	**1.38**	**52**	*eP*	Pn	18 04 45.3	-4.0
TLIG				*i* P	Pb	18 04 45.6	-4.3
TLIG				*i* S	Sb	18 05 02.1	-5.6
TLIG				*eS*	Sn	18 05 03.3	-4.4
PNIG	**Pinotepa**	**1.54**	**101**	*eP*	Pn	18 04 47.6	-3.8
PNIG				*i* S	Sn	18 05 06.8	-4.6
ARIG	**Puente Sto Nin**	**1.69**	**339**	*eP*	Pn	18 04 50.6	-2.8
ARIG				*eS*	Sn	18 05 10.9	-4.2

MAN 28 18:16:22,18°.03N×120°.67E,h51km,mb4.2,ML3.0,MS2.8, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJPP	**Brgy, Tapao**	**0.23**	**241**	⇓*eP*	Pn	18 16 32.7	+2.0
SJPP				*eS*	Sn	18 16 40.1	+3.3
PIP	**Pasuquin**	**0.29**	**351**	⇑*iP*	Pn	18 16 33.6	+2.3
PIP				*eS*	Sn	18 16 42.2	+4.5

*IDC **28** 18:19:01.8±0.4,8°.95S×160°.93E,h0km,mb5.2/23, mb1 5.3/25,mb1mx5.2/30,mbtmp5.2/25,ML5.0/2,MS5.2/28, Ms1 5.3/28,ms1mx5.2/31,Error ellipse: s-maj=14.8km s-min=10.9km az=84.0*

*ISCJB **28** 18:19:03.3±1.1,8°.99S±0°.03×160°.81E±0°.02,h15km±7km, mb5.4/216,MS5.5/202,Error ellipse: s-maj=5.6km s-min=3.3km az=179.9*

*BJI **28** 18:19:06.3,8°.67S×160°.90E,h28km,mb5.4/74,mB5.5/73, Ms5.6/82,Ms7 5.3/76*

*GCMT **28** 18:19:07.7±0.1,8°.75S×161°.24E,h26km,MW5.8/112, Moment Tensor Solution. s112,c228; s108,c264; Duration: 1§9 Moment tensor: Scale 10^17Nm; Mrr3.37±.05; Mθθ-1.53±.04; Mφφ-1.84±.04; Mrθ-3.27±.11; Mθφ 1.93±.03; Mφr3.16±.11; Best double couple: M0 5.73600×10^17 NP1:φs315.00000°,δ71.00000°, λ88.00000°. NP2:φs140.00000°,δ19.00000°,λ95.00000°. Principal axes: T 5.6140, Plg64.0000°, Azm222.0000°; N 0.2430, Plg2.0000°, Azm315.0000°; P -5.8580, Plg26.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **28** 18:19:07.5±1.2,8°.76S×160°.65E,h33km,mb5.5/46, MS5.6/41 Error ellipse: s-maj=11.4km s-min=7.6km az=109.8*

*NEIC **28** 18:19:07.7±0.1,8°.95S×160°.86E,h35km,mb5.4/128, MS5.5/152,MW5.8,Error ellipse: s-maj=4.3km s-min=3.7km az=147.0*

NEIC Felt [III] at Honiara.

*NEIC **28** 18:19:08.0±0.0,8°.95S×160°.83E,h35km,Moment Tensor Solution. s25 Moment tensor: Scale 10^17Nm; Mrr2.43; Mθθ-1.13; Mφφ-1.30; Mrθ-2.87; Mθφ 1.23; Mφr3.87; Best double couple: M0 5.40000×10^17 NP1:φs322.00000°, δ76.00000°,λ92.00000°. NP2:φs131.00000°,δ13.00000°, λ78.00000°. Principal axes: T 5.4000, Plg58.0000°, Azm236.0000°; N -0.0100, Plg2.0000°, Azm142.0000°; P -5.4000, Plg31.0000°, Azm50.0000°;*

ISC 28 18:19:07.4±0.3,8°.93S±0°.04×160°.94E±0°.04,h38km±2km, h38km:pP-P,n986,σ1§69/964,mb5.4/223,MS5.5/202, 42C-53D,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.10**	**243**	*ePn*	**Pn**	**18 19 28.6**	**+2.3**
LIFNC	**LIFOU**	**13.25**	**153**	*eP*	**Pn**	**18 22 13.4**	**+0.3**
PMG	**Port Moresby**	**13.62**	**267**	*c iP*	P	18 22 22.9	-3.4
PMG	**Port Moresby**	**13.62**	**267**	*ePn*	Pn	18 22 21.7	+3.6
DZM	**Mont Dzumac**	**14.10**	**159**	*ePn*	**Pn**	**18 22 26.4**	**+1.7**
	469nm,1.4s						
DZM				*e*Sn	**Sn**	**18 24 54.4**	**-5.5**
	34nm,0.6s						
DZM				*e*LR	LR	18 25 47.6	
	37µm,21.4s						
DZM	**Mont Dzumac**	**14.10**	**159**	Pn	**Pn**	**18 22 24.8**	**+0.1**
	4.3nm,0.3s,baz=90,slow=24,SNR=28						
DZM				LR	LR	18 27 21.9	
	comp=Z,31µm,20.2s,baz=0.0,slow=36						
DZM	**Mont Dzumac**	**14.10**	**159**	*eP*	**Pn**	**18 22 26.1**	**+1.4**
TARA	**Tarawa**	**15.71**	**50**	*ePn*	**Pn**	**18 22 42.3**	**-3.8**
CTA	**Charters Tower**	**18.02**	**230**	P	**P**	**18 23 15.1**	**-0.1**
	5.2nm,0.3s,baz=58,slow=13,SNR=86						
CTA				LR	LR	18 29 58.7	
	comp=Z,25µm,19.1s,baz=50,slow=36						
CTA	**Charters Tower**	**18.02**	**230**	P	**P**	**18 23 15.1**	**-0.1**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
CTA				MLR	MLR		
	comp=Z,25µm,19.1s						
CTAO	**Charters Tower**	**18.02**	**230**	*eP*	**P**	**18 23 18.3**	**+3.2**
	comp=Z,692nm,1.3s						
COEN	**Coen**	**18.11**	**252**	*ePn*	**P**	**18 23 19.7**	**+3.5**
	comp=Z,94nm,1.5s						
MSVF	**Nonsavu**	**18.79**	**120**	*ePn*	**Pn**	**18 23 26.1**	**+1.6**
	comp=Z,211nm,1.3s						
EIDS	**Eidsvold**	**18.85**	**209**	*ePn*	**Pn**	**18 23 27.1**	**+2.1**
	comp=Z,225nm,1.1s						
JAY	**Jayapura**	**21.11**	**286**	P	**P**	**18 23 47.9**	**-1.1**
	comp=Z,290nm,1.4s,comp=Z,4µm						
JAY	**Jayapura**	**21.11**	**286**	P	**P**	**18 23 46.9**	**-2.1**
	comp=Z,77nm,1.0s,baz=96,slow=2.9,SNR=22						
JAY				LR	LR

comp=Z,158nm,0.5s,baz=173,slow=5.0,SNR=4.4
RAO LR LR 18 35 29.3
comp=Z,5µm,19.5s,baz=306,slow=35
RAO Raoul Island 28.32 138 P **P** **18 24 57.2 -0.5**
RAO pmax pmax
comp=Z,158nm,0.5s
RAO MLR MLR
comp=Z,5µm,19.5s
WAKE Wake Island 28.59 11 PFAKE 18 25 10.0 +10
WAKE LR LR
comp=Z,5µm,19.0s
STKA Stephens Creek 29.05 215 P **P** **18 25 03.4 -0.8**
comp=Z,45nm,0.7s,baz=52,slow=11,SNR=69
STKA LR LR 18 37 03.0
comp=Z,10µm,18.4s,baz=36,slow=37
STKA Stephens Creek 29.05 215 P **P** **18 25 03.4 -0.8**
STKA pmax pmax
comp=Z,45nm,0.7s
STKA MLR MLR
comp=Z,10µm,18.4s
STKA Stephens Creek 29.05 215 *eP* **P** **18 25 04.8 +0.6**
comp=Z,49nm,1.4s
H11N1 WAKE ISLAND Hy 29.06 12 T T 18 55 19.2
baz=192,slow=76
H11N3 WAKE ISLAND Hy 29.07 12 T T 18 55 29.2
baz=192,slow=76,SNR=6110
H11N2 WAKE ISLAND Hy 29.08 12 T T 18 55 25.1
baz=192,slow=76
FAKI Fak Fak 29.14 280 P P 18 25 00.5 -4.7
FAKI Fak Fak 29.14 280 *eP* **P** **18 25 06.0 +0.8**
comp=Z,24nm,1.0s
AS31 Alice Springs 29.72 237 *eP* **P** **18 25 09.2 -1.0**
ASAR Alice Springs 29.72 237 P **P** **18 25 09.4 -0.8**
comp=Z,93nm,0.6s,baz=62,slow=10,SNR=794
ASAR ScP **ScP** **18 31 56.6 +3.6**
comp=Z,16nm,1.0s,baz=62,slow=4.0,SNR=10
ASAR LR LR 18 37 00.9
comp=Z,11µm,18.3s,baz=58,slow=36
ASAR Alice Springs 29.72 237 P **P** **18 25 09.5 -0.8**
ASAR 18 31 56.6
ASAR pmax pmax
comp=Z,93nm,0.6s
ASAR pmax pmax
comp=N,16nm,1.0s
ASAR MLR MLR
comp=Z,11µm,18.3s
SIJI Sorong 30.61 284 LR LR 18 39 48.2
comp=Z,4µm,18.3s,baz=120,slow=41
URZ Urewera 32.63 156 P **P** **18 25 35.8 +0.1**
comp=Z,9.0nm,0.4s,baz=261,slow=2.1,SNR=13
URZ LR LR 18 37 39.4
comp=Z,6µm,18.1s,baz=336,slow=34
BBOO Buckleboo 33.07 220 *eP* **P** **18 25 40.0 +0.4**
comp=Z,11nm,0.8s
BKZ Black Stump Fm 33.18 158 *eP* **P** **18 25 40.8 +0.3**
comp=Z,49nm,0.6s
NLAI Namlea 34.11 277 P **P** **18 25 51.8 +3.0**
comp=Z,35nm,1.9s,comp=Z,2µmcomp=Z,8µm
BFZ Birch Farm 34.42 159 *eP* **P** **18 25 52.6 +1.4**
comp=Z,87nm,1.5s
SNZO South Karori 34.48 162 PFAKE 18 26 00.0 +8.4
SNZO LR LR
comp=Z,7µm,20.0s
TNTI Ternate 34.81 284 P **P** **18 25 53.5 -1.4**
comp=Z,56nm,1.2s,comp=Z,1µmcomp=Z,5µm
KHZ Kahutara 35.15 164 *eP* **P** **18 25 56.8 -0.7**
comp=Z,81nm,1.2s
SANI Sanana 35.44 279 P **P** **18 25 59.3 -1.0**
comp=Z,47nm,1.3s,comp=Z,1µm
RPZ Rata Peaks 35.76 167 P **P** **18 26 02.1 -0.7**
comp=Z,45nm,0.6s,baz=345,slow=2.8,SNR=25
RPZ LR LR 18 39 47.9
comp=Z,4µm,18.7s,baz=328,slow=35
RPZ Rata Peaks 35.76 167 *eP* **P** **18 26 03.3 +0.6**
comp=Z,158nm,1.5s
TAU Tasmania Unive 35.89 197 *eP* **P** **18 26 04.9 +1.1**
comp=Z,114nm,1.1s
TAU LR LR
comp=Z,5µm,19.0s
SOEI Soe 36.19 266 P **P** **18 26 04.6 -2.3**
comp=Z,142nm,1.3s,comp=Z,2µm
SOEI Soe 36.19 266 *eP* **P** **18 26 07.8 +1.0**
comp=Z,177nm,1.2s
DCZ Deep Cove 36.81 173 *eP* **P** **18 26 12.1 +0.5**
comp=Z,56nm,0.8s
WHZ Wether Hill Ro 37.32 172 *eP* **P** **18 26 15.4 -0.5**
comp=Z,322nm,2.4s
FORT Forrest 37.57 230 *eP* **P** **18 26 18.0 -0.3**
comp=Z,286nm,1.2s
KMSI Cibinong 38.01 282 P **P** **18 26 21.4 -0.8**
comp=Z,283nm,1.2s,comp=Z,3µm
MMRI Maumere 38.24 267 P **P** **18 26 22.6 -1.6**
comp=Z,444nm,1.2s,comp=Z,4µm
MMRI Maumere 38.24 267 *eP* **P** **18 26 23.5 -0.7**
comp=Z,606nm,1.2s
DAV Davao City (W) 38.66 293 PFAKE 18 26 40.0 +12
DAV LR LR
comp=Z,4µm,19.0s
LUWI Luwuk 38.79 279 P **P** **18 26 26.9 -1.9**
comp=Z,167nm,1.2s,comp=Z,2µm
LUWI Luwuk 38.79 279 *eP* **P** **18 26 29.7 +0.9**
comp=Z,201nm,1.1s
RAR Rarotonga 39.73 112 LR LR 18 40 15.2
comp=Z,778nm,21.1s,baz=272,slow=32
APSI Ampana 39.92 279 P **P** **18 26 36.6 -1.6**
comp=Z,179nm,1.3s,comp=Z,2µm
CTBH Cotabato--PC H 39.94 293 *eP* **P** **18 26 38.7 +0.4**
WSI Waingapu 40.10 266 P P 18 26 46.5 +6.8
CBIJ Chichi jima 40.17 334 *eP* **P** **18 26 40.1 +0.1**
comp=Z,28nm,0.7s
JCJ Chichijima 40.17 334 P **P** **18 26 39.6 -0.5**
comp=Z,45nm,0.7s,baz=186,slow=2.8,SNR=7.8
BSSI Bau Bau, Buton 40.18 271 P **P** **18 26 38.7 -1.7**
comp=Z,143nm,1.3s,comp=Z,2µm
BKSI Bulukumba 40.65 272 P **P** **18 26 42.8 -1.5**
comp=Z,36nm,1.1s,comp=Z,622nm
WBSI Waikabubak, Su 41.00 266 P **P** **18 26 45.6 -1.6**
comp=Z,223nm,0.9s,comp=Z,3µm
KAPI Kappang 41.05 273 LR LR 18 44 49.6
comp=Z,2µm,20.2s,baz=109,slow=38
KAPI Kappang 41.05 273 *eP* **P** **18 26 47.9 +0.2**
comp=Z,29nm,1.3s
SPSI Sidrap Palu 41.19 274 P **P** **18 26 47.0 -1.7**
comp=Z,94nm,1.2s,comp=Z,1µm
TTSI Tana Toraja 41.29 276 P **P** **18 26 47.3 -2.3**
comp=Z,49nm,1.1s,comp=Z,930nm
MBWA Marble Bar 41.49 248 *eP* **P** **18 26 50.6 -0.5**
comp=Z,152nm,0.9s
MBWA LR LR
comp=Z,4µm,22.0s
PCI Palu 41.69 279 P **P** **18 26 52.4 -0.4**
comp=Z,144nm,1.1s,comp=Z,2µm
MPSI Mapaga 41.90 281 P **P** **18 26 52.9 -1.7**
comp=Z,34nm,1.3s,comp=Z,584nm
MIDW Midway 42.47 29 PFAKE 18 27 10.0 +11
MIDW LR LR
comp=Z,4µm,20.0s
XMAS Kiritimati 42.88 77 PFAKE 18 27 20.0 +17
XMAS LR LR
comp=Z,3µm,20.0s
BKB Balikpapan 44.49 277 P **P** **18 27 15.9 +0.4**
comp=Z,165nm,1.2s
KBKI Kotabaru 44.84 274 P **P** **18 27 17.3 -1.0**
comp=Z,38nm,1.3s,comp=Z,836nm
TSM Tawau 44.90 285 ⇑P **P** **18 27 18.7 -0.1**
DNP Denpasar 45.17 267 P P 18 27 31.2 +10
IGBI Denpasar 45.23 266 P **P** **18 27 19.5 -1.8**
comp=Z,168nm,0.9s,comp=Z,2µm
SDKM Sandakan 45.95 287 ⇑P **P** **18 27 27.1 -0.1**
KDM Kudat 46.70 288 ⇑P **P** **18 27 33.0 +0.1**
NWAO Narrogin (SRO) 46.84 233 PFAKE 18 27 50.0 +16
NWAO LR LR
comp=Z,1.0nm,20.0s
GMJI Gumukmas 46.94 267 P **P** **18 27 37.6 +2.7**
comp=Z,77nm,0.8s
KKM Kota Kinabalu 47.00 287 ⇑P **P** **18 27 35.2 -0.3**
KKM Kota Kinabalu 47.00 287 *eP* **P** **18 27 35.5 0.0**
comp=Z,135nm,1.1s
KKM LR LR
comp=Z,2µm,20.0s
JOW Kunigami 47.63 319 P **P** **18 27 41.1 +1.2**
comp=Z,3.4nm,0.8s,baz=112,slow=12,SNR=5.3
JOW Kunigami 47.63 319 *eP* **P** **18 27 42.6 +2.6**
comp=Z,27nm,1.1s
PWJI Pagerwojo 48.58 267 P **P** **18 27 48.4 +0.8**
comp=Z,80nm,1.1s
PPT Papeete 48.80 105 LR LR 18 45 14.5
comp=Z,2µm,18.5s,baz=273,slow=32
PPT2 Papeete2 48.81 106 *eS* S 18 35 00.6 +10
comp=Z,2µm,25.2s
PPT2 *eLQ* LQ 18 39 46.4
comp=Z,5µm,24.0s
PPT2 *eLR* LR 18 41 50.4
comp=Z,5µm,25.5s,baz=268
BTM Bintulu 49.20 282 ⇑P **P** **18 27 53.1 +0.7**
PBKI Pangkalan Bun 49.37 274 P **P** **18 27 51.9 -1.8**
comp=Z,172nm,1.1s
TBI Tubuai 49.51 113 *eS* S 18 35 09.6 +10
comp=Z,1µm,26.2s
TBI *eLQ* LQ 18 40 04.5
comp=Z,16µm,30.0s
TBI *eLR* LR 18 42 05.3
comp=Z,3µm,26.8s,baz=280
YOJ Yonaguni jima 49.71 313 *eP* **P** **18 27 58.2 +2.2**
comp=Z,53nm,1.2s
SBUM Sibu 49.86 281 *eP* **P** **18 27 58.2 +0.8**
comp=Z,40nm,1.2s
SMRI Semarang 50.02 268 P **P** **18 27 59.7 +1.1**
comp=Z,124nm,0.9s
SMRI Semarang 50.02 268 *eP* **P** **18 27 59.0 +0.4**
comp=Z,106nm,0.8s
MJAR Matsushiro Arr 50.02 336 P **P** **18 27 58.2 0.0**
comp=Z,14nm,1.1s,baz=173,slow=9.3,SNR=22
MJAR LR LR 18 48 07.7
comp=Z,1µm,20.8s,baz=180,slow=35
MJAR Matsushiro Arr 50.02 336 P **P** **18 27 58.2 0.0**
MJAR pmax pmax
comp=Z,14nm,1.1s
MJAR MLR MLR
comp=Z,1µm,20.8s
MAJO Matsushiro 50.03 336*c iP* **P** **18 27 58.7 +0.5**
MAJO pmax pmax
comp=Z,167nm,1.3s
MAJO MLR MLR
comp=Z,16µm,18.0s
MAJO Matsushiro 50.03 336 *eP* **P** **18 27 59.1 +0.9**
MAJO LR LR
comp=Z,2µm,21.0s
MAT Matsushiro 50.03 336 P **P** **18 27 59.0 +0.8**
MAT S **S** **18 35 06.6 -0.1**
STKI Sintang 50.06 278 P **P** **18 28 00.0 +1.1**
comp=Z,53nm,1.1s
TWG Pinlang 50.19 310 *eP* **P** **18 27 59.7 0.0**
comp=Z,255nm,1.3s
KIP Kipapa 50.33 53 PFAKE 18 28 10.0 +9.2
KIP LR LR
comp=Z,5µm,20.0s
YULB Yu-li 50.35 310 *eP* **P** **18 28 00.7 -0.2**
comp=Z,39nm,0.8s
NACB Ninganchiao 50.58 311 *eP* **P** **18 28 02.6 0.0**
comp=Z,123nm,1.2s
TPUB Ta-pu 50.80 310 *eP* **P** **18 28 05.3 +0.9**
comp=Z,114nm,1.2s
SSLB Sunglung 50.83 311 *eP* **P** **18 28 04.8 +0.2**
comp=Z,52nm,0.8s
YHNB Yeheng 51.03 312 *eP* **P** **18 28 06.3 +0.2**
comp=Z,58nm,0.8s
YHNB LR LR
comp=Z,2µm,19.0s
TATO Taipei 51.12 312 *eP* **P** **18 28 08.6 +1.9**
comp=Z,105nm,1.2s
TATO LR LR
comp=Z,3µm,19.0s
POHA Pohakuloa 51.47 56 PFAKE 18 28 20.0 +10
POHA LR LR
comp=Z,5µm,21.0s
KPJI Karang Pucung 51.48 268 P P 18 28 19.3 +10
KSM Kuching 51.50 279 ⇑P **P** **18 28 08.8 -0.9**
KSM Kuching 51.50 279 *eP* **P** **18 28 08.5 -1.3**
comp=Z,69nm,1.1s
KSM LR LR
comp=Z,1µm,22.0s
CISI Cisompet, Garu 52.56 267 P **P** **18 28 19.9 +2.2**
comp=Z,131nm,0.8s
CISI Cisompet, Garu 52.56 267 *eP* **P** **18 28 16.6 -1.1**
comp=Z,93nm,0.8s
LEM Lembang 52.83 268 P **P** **18 28 18.3 -1.5**
comp=Z,151nm,1.3s,comp=Z,2µm
ERM Erimo 53.25 343 *eP* P 18 28 25.8 +3.6
ERM pmax pmax
comp=Z,21nm,1.3s
ERM MLR MLR
comp=Z,8µm,18.0s
ERM Erimo 53.25 343 PFAKE 18 28 40.0 +18
ERM LR LR
comp=Z,8µm,19.0s
QZH Quanzhou 53.26 310⇑ *iP* **P** **18 28 23.5 +0.9**
QZH S **S** **18 35 55.3 +3.8**
QZH PMZ
comp=Z,250nm,0.8s
QZH PMZ
comp=Z,1µm,3.6s
QZH LN
comp=Z,2µm,15.8s
QZH LE
comp=Z,3µm,16.4s
QZH LZ
comp=Z,4µm,17.9s
TPI Tanjungpandan 53.32 273 P **P** **18 28 21.5 -1.8**
comp=Z,41nm,1.1s,comp=Z,754nm
CBJI Citeko 53.63 269 P **P** **18 28 24.8 -0.7**
comp=Z,143nm,0.9s
KSPHA Pohang 53.82 328 P **P** **18 28 29.5 +3.0**
SNR=6.8
SKJI Sukabumi 53.86 268 P **P** **18 28 27.9 +0.7**
comp=Z,174nm,1.4s,comp=Z,4µm
KSULJ Ulijin 54.20 329 P **P** **18 28 31.8 +2.6**
SNR=8.8
YUK Yuzh-Kuril'sk 54.46 347*d iP* P 18 28 35.0 +4.0
YUK *i* 18 30 34.7
YUK *i* S **S** **18 36 09.5 +2.4**
YUK SS **SKiKP** **18 39 43.0 +4.9**
YUK pmax pmax
comp=Z,213nm,3.2s
KSTBA Taebaek 54.75 329 P **P** **18 28 35.8 +2.5**
SNR=11
CGJI Cibinong 54.75 268 P **P** **18 28 31.5 -2.2**
comp=Z,159nm,1.1s,comp=Z,1µm
KSHUK Heuksando 54.86 324 P **P** **18 28 36.8 +2.7**
SNR=6.8
KSBON Boeun 54.88 327 P **P** **18 28 36.8 +2.6**
SNR=7.1
PPBI Pangkal Pinang 54.91 274 P **P** **18 28 34.0 -0.9**
comp=Z,28nm,1.2s,comp=Z,544nm
TJN Taejon 55.02 327 *eP* **P** **18 28 35.6 +0.4**
KSCHJ Chungju 55.07 328 P **P** **18 28 37.8 +2.3**
SNR=10.0
SSE Sheshan 55.09 318 ⇑P **P** **18 28 36.3 +0.5**
SSE pP **pP** **18 28 48.3 +1.2**
SSE sP **sP** **18 28 53.0 +1.4**
SSE S **S** **18 36 18.5 +2.5**
SSE PMZ
comp=Z,25nm,0.7s
SSE PMZ
comp=Z,340nm,7.4s
SSE LN
comp=Z,1µm,18.9s
SSE LE
comp=Z,620nm,18.7s
SSE LZ
comp=Z,1µm,18.5s
ASAJ Asahikawa 55.35 344 LR LR 18 51 24.7
comp=Z,240nm,19.3s,baz=194,slow=35
ASAJ Asahikawa 55.35 344 *eP* **P** **18 28 39.0 +1.6**
comp=Z,35nm,1.0s
KSCEA Cheonan 55.41 327 P **P** **18 28 40.4 +2.4**
SNR=11
KSJMJ Jumunjin 55.43 329 P **P** **18 28 41.1 +2.9**
SNR=10.0
KSRS Korea Array 55.53 328 P **P** **18 28 38.9 0.0**
comp=Z,6.7nm,0.6s,baz=140,slow=7.3,SNR=31
KSRS LR LR 18 50 36.7
comp=Z,3µm,20.6s,baz=126,slow=34
KSRS Korea Array 55.53 328 P **P** **18 28 38.9 0.0**
KSRS pmax pmax
comp=Z,7.0nm,0.6s
KSRS MLR MLR
comp=Z,3µm,20.6s
KSAR Wonju Array Be 55.55 328 P **P** **18 28 38.9 -0.1**
KSICN Icheon 55.68 328 P **P** **18 28 42.4 +2.5**
SNR=6.8
KSIJA INJE 55.84 329 P **P** **18 28 44.1 +3.0**
SNR=13
KASI Kota Agung 56.06 269 P **P** **18 28 41.2 -1.9**
comp=Z,88nm,1.1s
DLV T Lat 56.12 291 *eP* **P** **18 28 44.1 +0.4**
comp=Z,31nm,0.9s
PMBI Palembang 56.14 272 P P 18 28 47.1 +3.4
comp=Z,120nm,0.6s
INCN Inchon 56.23 327 *eP* **P** **18 28 46.6 +2.7**
comp=Z,37nm,0.9s
INCN LR LR
comp=Z,3µm,21.0s
YNCB YEONCHEON 56.49 328 P **P** **18 28 48.0 +2.3**
SNR=10
MDSI Maura Dua 56.51 271 P **P** **18 28 45.4 -0.9**
comp=Z,37nm,1.0s,comp=Z,681nm
LWLI Liwa 56.55 270 P **P** **18 28 47.2 +0.4**
comp=Z,90nm,1.0s,comp=Z,4µm
TPRI Tanjung Pinang 57.04 277 P **P** **18 28 52.4 +2.3**
comp=Z,48nm,0.8s,comp=Z,3µm
NJ2 Nanjing 57.23 317 *eP* **P** **18 28 52.5 +1.4**
NJ2 pP **pP** **18 29 00.5 -2.0**
NJ2 sP **sP** **18 29 04.5 -2.4**
NJ2 PP **PP** **18 30 57.0 -1.6**
NJ2 S **S** **18 36 47.3 +2.8**
NJ2 sS **sS** **18 37 02.3 -0.9**
NJ2 PMZ
comp=Z,130nm,1.1s
NJ2 PMZ
comp=Z,790nm,9.6s
NJ2 LN
comp=Z,2µm,17.3s
NJ2 LE
comp=Z,4µm,17.6s
NJ2 LZ
comp=Z,3µm,17.2s
LHSI Lahat 57.24 271 P **P** **18 28 52.2 +0.7**
comp=Z,46nm,3.2s
QIZ Qiongzhong 57.52 299 P **P** **18 28 54.5 +1.1**
QIZ pP **pP** **18 29 03.5 -1.3**
QIZ sP **sP** **18 29 07.0 -2.2**
QIZ S **S** **18 36 49.8 +1.1**
QIZ sS **sS** **18 37 05.5 -2.0**
QIZ ScS **ScS** **18 38 41.0 +0.6**
QIZ PMZ
comp=Z,520nm,11.1s
QIZ LN
comp=Z,1µm,26.3s
QIZ LE
comp=Z,350nm,25.9s
QIZ LZ
comp=Z,2µm,18.2s
QIZ Qiongzhong 57.52 299 PFAKE 18 29 10.0 +17
QIZ LR LR
comp=Z,2µm,20.0s
MYKOM Kota Tinggi 57.88 278 ⇑P **P** **18 28 55.2 -0.8**
MYKOM Kota Tinggi 57.88 278 *eP* **P** **18 28 56.1 +0.1**
YSS Yuzh-Sakhalins 57.95 345 *eP* **P** **18 28 56.0 +0.2**
YSS *e*PPP PPP 18 32 36.0
YSS *e*S **S** **18 36 50.0 -3.3**
YSS *e*PS PnS 18 36 57.0 -12
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=N,7µm,18.0s
YSS MLR MLR
comp=E,4µm,18.0s
YSS MLR MLR
comp=Z,7µm,18.0s
YSS Yuzh-Sakhalins 57.95 345 *eP* **P** **18 28 57.4 +1.6**
comp=Z,22nm,0.7s
YSS LR LR
comp=Z,3µm,19.0s
TAOE Nuku Hiva Isla 58.14 95 *eT* T 19 31 28.8
comp=Z,146nm,0.2s
VLA Vladivostok 58.17 335*d iP* **P** **18 28 59.7 +2.2**
VLA pmax pmax
comp=Z,46nm,1.3s
VLA MLR MLR
comp=Z,3µm,20.0s
KGM Kluang 58.44 278 ⇑P **P** **18 28 58.9 -1.1**
USRK Ussuriysk Ar. 59.02 336 P **P** **18 29 03.3 -0.1**
comp=Z,41nm,1.0s,baz=137,slow=5.9,SNR=55
USRK LR LR 18 52 14.7
comp=Z,2µm,21.0s,baz=132,slow=34
KTGM Kuala Trenggan 59.34 282 ⇑P **P** **18 29 05.6 -0.6**
DRV Dumont d'Urvil 59.40 190 P P 18 28 52.0 -14
DRV S S 18 37 04.0 -7.7
DRV SS **SS** **18 41 05.0 -1.9**
DRV L L 18 44 00.0
DRV R 18 46 00.0
DRV Dumont d'Urvil 59.40 190 P P 18 28 35.0 -31
DRV S **S** **18 37 08.0 -3.7**
DRV Dumont d'Urvil 59.40 190 S SS 18 41 00.0 -6.9
DRV L L 18 44 00.0
DRV R 18 46 00.0
WHN Wuhan 59.48 313⇑ *iP* **P** **18 29 08.8 +2.0**
WHN pP **pP** **18 29 15.5 -2.8**
WHN S **S** **18 37 15.5 +1.6**
WHN LN
comp=Z,830nm,12.1s
WHN LE
comp=Z,1µm,11.4s
WHN LZ
comp=Z,3µm,18.8s
SKR Severo-Kuril's 59.51 356 P **P** **18 29 05.0 -1.6**
SKR *e* 18 29 52.0
SKR *e* 18 31 27.0
SKR *e*S **S** **18 37 10.0 -3.4**
SKR *e*SSS SSS 18 43 42.0
SKR pmax pmax
comp=Z,2µm,5.0s
SKR smax smax
comp=N,2.0nm,14.0s
SKR smax smax
comp=E,3.0nm,14.0s
SKR MLR MLR
comp=N,3µm,16.0s
SKR MLR MLR
comp=E,2µm,16.0s
SKR MLR MLR
comp=Z,3µm,16.0s
SDSI Sungai Dareh 59.76 274 P **P** **18 29 09.5 +0.4**
comp=Z,168nm,0.8s,comp=Z,46µm
UBPT Khong Chiam 59.99 293 P **P** **18 29 12.3 +1.7**
comp=Z,38nm,1.7s,comp=Z,997nm
DL2 Dalian 60.00 325 P **P** **18 29 11.3 +1.1**
DL2 S **S** **18 37 20.5 +0.3**
DL2 sS **sS** **18 37 36.5 -2.6**
DL2 SS **SS** **18 41 18.0 +0.4**
DL2 PMZ
comp=Z,79nm,1.0s
DL2 PMZ
comp=Z,760nm,5.7s
DL2 LN
comp=Z,510nm,14.7s
DL2 LE
comp=Z,890nm,15.3s
DL2 LZ
comp=Z,1µm,19.2s
FRIM Kepong 60.35 279 ⇑P **P** **18 29 12.2 -1.0**
MDJ Mudanjiang 60.35 335 P **P** **18 29 14.5 +2.0**
MDJ pP **pP** **18 29 23.8 -0.2**
MDJ sP **sP** **18 29 27.5 -0.9**
MDJ PcP **PcP** **18 29 59.3 +2.0**
MDJ PP **PP** **18 31 28.3 +2.2**
MDJ PcS PcS 18 33 54.5 -5.2
MDJ S **S** **18 37 29.5 +5.0**
MDJ SS **SS** **18 41 18.0 -4.9**
MDJ PMZ
comp=Z,28nm,1.1s
MDJ PMZ
comp=Z,390nm,5.5s
MDJ LN
comp=Z,2µm,19.2s
MDJ LE
comp=Z,2µm,22.6s
MDJ LZ
comp=Z,2µm,20.7s
MDJ Mudanjiang 60.35 335 *eP* **P** **18 29 12.3 -0.2**
comp=Z,38nm,0.9s
MDJ LR LR
comp=Z,3µm,19.0s
BKNI Bangkinang 60.36 275 P **P** **18 29 14.7 +1.5**
comp=Z,104nm,1.4s,comp=Z,1µm
BKNI Bangkinang 60.36 275 *eP* **P** **18 29 13.2 0.0**
comp=Z,88nm,0.9s
TIA Tai'an 60.93 320 ⇓P **P** **18 29 17.8 +1.1**

TIA pP **pP** **18 29 27.8 -0.3**
TIA sP **sP** **18 29 32.0 -0.6**
TIA S **S** **18 37 33.0 +0.7**
TIA sS **sS** **18 37 51.3 +0.1**
TIA SS **SS** **18 41 35.3 +2.9**
TIA PMZ
comp=Z,40nm,0.9s
TIA PMZ
comp=Z,530nm,4.6s
TIA LN
comp=Z,2μm,18.4s
TIA LE
comp=Z,1μm,18.8s
TIA LZ
comp=Z,2μm,19.0s
SNY Shenyang 61.02 329 ⇑P **P** **18 29 16.0 -1.2**
SNY S **S** **18 37 33.0 -0.2**
SNY PMZ
comp=Z,7.0nm,0.5s
SNY PMZ
comp=Z,660nm,4.7s
SNY LN
comp=Z,2μm,17.1s
SNY LE
comp=Z,770nm,25.9s
SNY LZ
comp=Z,2μm,17.4s
IPM Ipoh 61.20 280 ⇑P **P** **18 29 18.0 -0.9**
IPM Ipoh 61.20 280 *e*P **P** **18 29 19.1 +0.1**
HABR Khabarovsk 61.55 341 *e*P **P** **18 29 19.7 -0.9**
HABR *e**PP **pP** **18 29 29.5 -2.5**
HABR *e**SP **sP** **18 29 33.7 -2.8**
HABR *e* 18 30 01.3
HABR *e* 18 31 34.5
HABR *e*S **S** **18 37 39.1 -0.5**
HABR *e**SS **sS** **18 37 55.6 -2.9**
HABR 18 39 08.0
HABR *e*SS **SS** **18 41 40.5 -1.0**
HABR pmax pmax
comp=N,17nm,1.7s
HABR pmax pmax
comp=Z,59nm,1.7s
HABR pmax pmax
comp=E,23nm,1.7s
HABR MLR MLR
comp=Z,4μm,19.0s
HABR MLR MLR
comp=N,2μm,18.0s
HABR MLR MLR
comp=E,2μm,19.0s
CN2 Changchun 61.57 331 *e*P **P** **18 29 19.8 -1.0**
CN2 *e*S **S** **18 37 36.0 -4.1**
CN2 PMZ
comp=E,30nm,1.0s
CN2 PMZ
comp=E,180nm,4.0s
CN2 LN
comp=E,2μm,18.0s
CN2 LE
comp=E,2μm,18.0s
CN2 LZ
comp=E,1μm,19.0s
TYV Tymovskoe 61.62 347 *e*P P 18 29 25.0 +4.0
TYV *e*S **S** **18 37 40.0 -0.5**
TYV pmax pmax
comp=Z,1μm,6.0s
TYV smax smax
comp=E,2μm,14.0s
TYV smax smax
comp=N,2μm,11.0s
PET Petropavlovsk 61.74 358 ⇓*i*P **P** **18 29 22.1 +0.4**
PET *e* 18 31 39.7
PET *e*S **S** **18 37 36.8 -5.0**
PET *e*PPS PPS 18 37 58.7
PET *e*SS **SS** **18 41 38.0 -6.3**
PET pmax pmax
comp=Z,200nm,11.4s
PET pmax pmax
comp=Z,60nm,1.2s
PET Petropavlovsk 61.74 358 *e*P **P** **18 29 21.4 -0.3**
PET LR LR
comp=Z,4μm,21.0s
KULM Kulim 61.74 281 ⇑P **P** **18 29 21.5 -1.1**
KULM Kulim 61.74 281 *e*P **P** **18 29 22.0 -0.6**
KULM LR LR
comp=Z,1μm,20.0s
PEA0B Petropavlovsk- 61.86 358 *e*P **P** **18 29 23.6 +1.1**
PETK Petropavlovsk- 61.86 358 P **P** **18 29 22.4 -0.1**
comp=Z,60nm,1.2s,baz=137,slow=7.7,SNR=19
PETK LR LR 18 51 48.5
comp=Z,4μm,21.9s,baz=166,slow=32
PETK Petropavlovsk- 61.86 358 P **P** **18 29 22.5 -0.1**
PETK pmax pmax
comp=Z,60nm,1.2s
PETK MLR MLR
comp=Z,4μm,21.9s
MNSI Mandailing Nat 61.88 276 P **P** **18 29 22.8 -0.7**
comp=Z,81nm,0.9s,comp=Z,962nm
SKNT Sakolnakorn 61.92 295 P **P** **18 29 24.7 +1.0**
comp=Z,102nm,1.1s,comp=Z,2μm
RKT Rikitea 62.76 111 *e*LR LR 18 48 12.8
comp=Z,5μm,23.2s
PSI Prapat 62.90 278 *e*P **P** **18 29 29.7 -0.9**
comp=Z,82nm,1.6s
ENH Enshi 62.92 311 *e*P **P** **18 29 29.6 -0.6**
comp=Z,28nm,1.0s
COCO West Island 62.99 261 PFAKE 18 29 40.0 +9.1
COCO LR LR
comp=Z,2μm,20.0s
KLR Kul'dur 63.32 339 *e*P P 18 29 29.5 -2.9
KLR *e*S **S** **18 38 00.0 -1.9**
GYA Guiyang 63.33 305 ⇑*i*P **P** **18 29 33.8 +0.7**
GYA pP **pP** **18 29 46.0 +1.4**
GYA PcP **PcP** **18 30 12.0 +2.0**
GYA PP **PP** **18 31 57.3 +4.4**
GYA ScP 18 34 10.5
GYA S **S** **18 38 05.5 +2.3**
GYA sS **sS** **18 38 21.0 -1.2**
GYA SKS **SKSac** **18 39 22.8 -1.0**
GYA SS **SS** **18 42 13.0 +2.5**
GYA PMZ
comp=Z,50nm,1.0s
GYA PMZ
comp=Z,360nm,6.6s
GYA LN
comp=Z,1μm,18.4s
GYA LE
comp=Z,1μm,19.9s
GYA LZ
comp=Z,2μm,19.3s
CHAI Chaiyaphum 63.37 293 P **P** **18 29 34.5 +1.1**
comp=Z,12nm,0.8s,comp=Z,91nm
TSI Tuntungan 63.39 278 P **P** **18 29 34.8 +1.2**
comp=Z,91nm,1.2s
NAYO Nakonayok 63.48 291 P **P** **18 29 35.9 +1.7**
comp=Z,221nm,1.0s,comp=Z,15μm
SLVN Son La 63.55 299 *e*P **P** **18 29 36.0 +1.5**
comp=Z,37nm,1.0s
BJT Baijiatuau 63.90 323 PFAKE 18 29 50.0 +14
BJT LR LR
comp=Z,3μm,22.0s
BJI Beijing 63.91 323 P **P** **18 29 37.5 +1.0**
BJI PP **PP** **18 32 00.3 +2.8**
BJI S **S** **18 38 10.0 +0.4**
BJI SS **SS** **18 42 21.8 +3.0**
BJI PMZ
comp=Z,24nm,1.6s
BJI PMZ
comp=Z,540nm,7.6s
BJI LN
comp=Z,2μm,18.2s
BJI LE
comp=Z,2μm,21.4s
BJI LZ
comp=Z,2μm,22.3s
GSI Gunungsitoli 63.94 276 P **P** **18 29 37.5 +0.2**
comp=Z,102nm,1.1s
GSI Gunungsitoli 63.94 276 *e*P **P** **18 29 36.2 -1.1**
comp=Z,96nm,1.0s
TIY Taiyuan 64.84 319 *e*P **P** **18 29 44.5 +1.8**
TIY S **S** **18 38 21.5 +0.2**
TIY SS **SS** **18 42 36.0 +2.5**
TIY PMZ
comp=Z,360nm,4.8s
TIY LN
comp=Z,820nm,15.3s
TIY LE
comp=Z,2μm,18.5s
TIY LZ
comp=Z,2μm,17.0s
XAN Xi'an 65.23 314 P **P** **18 29 46.5 +1.2**
XAN pP **pP** **18 29 57.0 +0.1**
XAN sP **sP** **18 30 01.0 -0.3**
XAN PP **PP** **18 32 12.0 +2.7**
XAN S **S** **18 38 25.5 -0.8**
XAN sS **sS** **18 38 42.8 -2.5**
XAN SS **SS** **18 42 40.3 +0.5**
XAN PMZ
comp=Z,52nm,0.8s
XAN PMZ
comp=Z,370nm,7.8s
XAN LN
comp=Z,1μm,18.4s
XAN LE
comp=Z,1μm,18.4s
XAN LZ
comp=Z,2μm,16.8s
UTTA Uttaradit 65.26 294 P **P** **18 29 47.3 +1.6**
comp=Z,17nm,0.9s,comp=Z,117nm
SRDT SRDT 65.53 290 P **P** **18 29 49.6 +2.1**
comp=Z,159nm,1.1s,comp=Z,3μm
UTHA Uthaitani 65.59 292 P **P** **18 29 49.6 +1.7**
comp=Z,14nm,1.0s,comp=Z,142nm
KMI Kunming 66.00 303 P **P** **18 29 52.3 +1.6**
KMI pP **pP** **18 30 02.0 -0.2**
KMI sP **sP** **18 30 06.0 -0.6**
KMI PcP **PcP** **18 30 20.0 -1.2**
KMI S **S** **18 38 40.3 +4.0**
KMI sS **sS** **18 38 55.0 -0.4**
KMI SS **SS** **18 42 54.3 +2.0**
KMI PMZ
comp=Z,95nm,1.2s
KMI PMZ
comp=Z,630nm,4.7s
KMI LN
comp=Z,360nm,21.8s
KMI LE
comp=Z,960nm,24.1s
KMI LZ
comp=Z,1μm,25.5s
LAMP Lampang 66.34 295 P **P** **18 29 54.6 +1.9**
comp=Z,29nm,1.0s,comp=Z,198nm
CASY Casey 66.69 200 PFAKE 18 30 10.0 +16
CASY LR LR
comp=Z,3μm,22.0s
CM31 Chiang Mai Arr 66.94 294 *e*P **P** **18 29 57.6 +1.1**
comp=Z,26nm,0.6s
CMAR Chiang Mai Arr 66.94 294 P **P** **18 29 57.0 +0.5**
comp=Z,39nm,0.9s,baz=116,slow=4.6,SNR=110
CMAR PKP2bc 18 58 28.4
comp=Z,3.4nm,1.1s,baz=292,slow=4.6,SNR=9.1
CMAR LR LR 19 00 41.6
comp=Z,621nm,18.5s,baz=120,slow=37
CMAR Chiang Mai Arr 66.94 294 *ce*P **P** **18 29 57.0 +0.5**
CMAR pmax pmax
comp=Z,41nm,0.9s
CHTO Chiang Mai 67.05 295 P **P** **18 29 58.4 +1.2**
comp=Z,264nm,1.2s,comp=Z,4μm
CHTO Chiang Mai 67.05 295 *e*P **P** **18 29 57.5 +0.3**
CHTO LR LR
comp=Z,1μm,20.0s
HHC Hu-ho-hao-te 67.20 321 *e*P **P** **18 29 59.0 +1.1**
HHC sP **sP** **18 30 13.8 -0.1**
HHC S **S** **18 38 53.5 +3.4**
HHC sS **sS** **18 39 09.0 -0.2**
HHC ScS **ScS** **18 39 53.3 +0.3**
HHC PMZ
comp=Z,35nm,1.2s
HHC PMZ
comp=Z,500nm,7.0s
HHC LN
comp=Z,1μm,16.8s
HHC LE
comp=Z,2μm,16.2s
HHC LZ
comp=Z,2μm,16.8s
CMAI Chiengmai2 67.32 296 P **P** **18 30 01.2 +2.1**
comp=Z,71nm,1.0s,comp=Z,5μm
CD2 Chengdu 67.58 309 P **P** **18 30 01.3 +0.9**
CD2 pP **pP** **18 30 12.3 +0.3**
CD2 PcP **PcP** **18 30 28.3 +0.9**
CD2 PP **PP** **18 32 30.8 +0.9**
CD2 S **S** **18 38 56.8 +1.9**
CD2 SKS **ScS** **18 39 56.5 +0.3**
CD2 SS **SS** **18 43 19.0 +2.6**
CD2 PMZ
comp=Z,120nm,0.7s
CD2 PMZ
comp=Z,590nm,5.0s
CD2 LN
comp=Z,2μm,17.1s
CD2 LE
comp=Z,1μm,20.1s
CD2 LZ
comp=Z,2μm,25.5s
MHMT Maesarieng 67.76 294 P **P** **18 30 03.4 +1.7**
comp=Z,17nm,0.8s,comp=Z,257nm
BTO Baotou 68.02 320 *e*P **P** **18 30 04.8 +1.7**
HIA Hailar 68.26 332 *e*P **P** **18 30 06.0 +1.7**
HIA comp=Z,38nm,0.8s LR LR
comp=Z,3μm,20.0s
VNDA Vanda 68.57 180 P **P** **18 30 06.1 +0.3**
comp=Z,12nm,0.7s,baz=342,slow=6.6,SNR=41
VNDA LR LR 18 55 03.3
comp=Z,3μm,20.8s,baz=359,slow=32
VNDA Vanda 68.57 180 P **P** **18 30 06.1 +0.3**
VNDA pmax pmax
comp=Z,12nm,0.7s
VNDA MLR MLR
comp=Z,3μm,20.8s
SBA Scott Base 68.97 179 *e*P **P** **18 30 09.8 +1.6**
comp=Z,33nm,1.1s
SBA LR LR
comp=Z,3μm,19.0s
LZH Lanzhou 69.86 314 *e*P **P** **18 30 17.0 +2.3**
LZH pP **pP** **18 30 28.5 +2.2**
LZH sP **sP** **18 30 33.8 +3.1**
LZH *e*S **S** **18 39 24.0 +2.0**
LZH sS **sS** **18 39 41.5 +0.3**
LZH SS **SS** **18 43 51.3 -0.4**
LZH PMZ
comp=Z,110nm,1.2s
LZH PMZ
comp=Z,610nm,4.0s
LZH LN
comp=Z,1μm,15.7s
LZH LE
comp=Z,380nm,15.2s
LZH LZ
comp=Z,1μm,17.6s
SEY Seymchan 71.95 356 ⇓*i*P **P** **18 30 27.1 +0.5**
CIT Chita 73.02 332 *e*P **P** **18 30 34.7 +1.4**
CIT pmax pmax
comp=Z,92nm,2.1s
MIR Mirnyy 73.15 203 ⇑*e*P P 18 30 44.0 +10
ULN Ulaanbaatar 73.85 326 PFAKE 18 30 50.0 +12
ULN LR LR
comp=Z,2μm,22.0s
SONM Songino Array 74.21 325 P **P** **18 30 41.6 +1.2**
comp=Z,24nm,0.6s,baz=136,slow=5.4,SNR=84
SONM PKPPKP P'P'df 18 58 18.9 +8.1
comp=Z,1.8nm,1.1s,baz=270,slow=1.5,SNR=6.4
SONM LR LR 19 04 29.2
comp=Z,1μm,18.2s,baz=119,slow=37
SONM Songino Array 74.21 325 P **P** **18 30 41.6 +1.2**
SONM pmax pmax
comp=Z,24nm,0.6s
SONM MLR MLR
comp=Z,1μm,18.2s
GTA Gaotai 74.21 315 ⇑P **P** **18 30 42.0 +1.3**
GTA pP **pP** **18 30 52.5 +0.1**
GTA sP **sP** **18 30 56.5 -0.2**
GTA PP **PP** **18 33 30.5 +3.6**
GTA S **S** **18 40 11.5 -0.3**
GTA sS **sS** **18 40 29.5 -1.6**
GTA SKS **SKSac** **18 40 41.0 -4.6**
GTA SS **SS** **18 44 59.5 +1.4**
GTA PMZ
comp=Z,62nm,1.3s
GTA PMZ
comp=Z,560nm,7.8s
GTA LN
comp=Z,930nm,17.6s
GTA LE
comp=Z,2μm,18.5s
GTA LZ
comp=Z,2μm,18.1s
YAK Yakutsk 74.80 345 *e*P **P** **18 30 43.3 -0.1**
YAK *e* 18 30 50.4
YAK *e*S **S** **18 40 16.4 -0.7**
YAK *e**SS **sS** **18 40 38.3 +1.8**
YAK *e* 18 40 50.5
YAK pmax pmax
comp=Z,69nm,1.3s
YAK pmax pmax
comp=E,14nm,1.5s
YAK pmax pmax
comp=N,27nm,1.4s
YAK pmax pmax
comp=Z,42nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,20nm,1.9s
YAK smax smax
comp=E,428nm,5.1s
YAK Yakutsk 74.80 345 *e*P **P** **18 30 43.5 +0.1**
YAK LR LR
comp=Z,4μm,21.0s
SHL Shillong 75.36 299 *e*P **P** **18 30 48.0 +0.3**
SHL AMB AMB 18 30 49.8
comp=Z,112nm,0.4s
SHL *ex* x 18 40 29.5
OHAK Old Harbor 75.79 24 *e*P **P** **18 30 49.1 0.0**
KDAK Kodiak Island 76.45 24 *e*P **P** **18 30 53.5 +0.7**
KDAK LR LR
comp=Z,3μm,20.0s
BOD Bodaibo 76.66 336 *e*P **P** **18 30 54.3 +0.2**
BOD pmax pmax
comp=Z,33nm,1.2s
BILL Bilibino 76.87 2 *d*P **P** **18 30 56.0 +0.9**
BILL pmax pmax
comp=Z,58nm,1.1s
BILL MLR MLR
comp=Z,1μm,17.0s
BILL Bilibino 76.87 2 *e*P **P** **18 30 55.6 +0.5**
BILL LR LR
comp=Z,2μm,20.0s
LSA Lhasa 77.24 303 P **P** **18 30 59.8 +1.2**
LSA Lhasa 77.24 303 *e*P **P** **18 31 00.2 +1.6**
comp=Z,79nm,1.2s
LSA LR LR
comp=Z,831nm,22.0s
ZAK Zakamensk 77.30 326 *e*P **P** **18 30 58.8 +0.8**
ZAK pmax pmax
comp=Z,18nm,1.4s
SVW2 Sparrevohn 77.67 20 *e*P **P** **18 31 00.8 +1.1**
IRK Irkutsk 77.75 328 ⇓*i*P **P** **18 31 00.8 +0.4**
IRK *e*S **S** **18 40 53.8 +3.8**
IRK pmax pmax
comp=Z,45nm,2.0s
TLY Talaya 77.78 328 *i*P **P** **18 31 01.3 +0.7**
TLY pmax pmax
comp=Z,44nm,2.3s
TLY Talaya 77.78 328 *e*P **P** **18 31 01.3 +0.7**
TLY LR LR
comp=Z,2μm,19.0s
TNA Tin City 77.78 13 *e*P **P** **18 31 01.5 +1.3**
comp=Z,16nm,1.0s
RSO Redoubt South 78.21 21 *e*P **P** **18 31 03.0 0.0**
comp=Z,46nm,0.8s
MOY Mondy 79.19 327 *e*P **P** **18 31 09.8 +1.3**
MOY pmax pmax
comp=Z,90nm,4.1s
SEW Seward 79.21 23 *e*P **P** **18 31 08.0 -0.1**
comp=Z,39nm,0.9s
TAPN Taplejung 79.45 300 *e*P **P** **18 31 11.1 +0.4**
comp=Z,210nm,1.2s
ODAN Odare 79.59 299 *e*P **P** **18 31 11.5 +0.1**
comp=Z,499nm,1.4s
RC01 Rabbit Creek A 79.74 22 *e*P **P** **18 31 11.4 +0.3**
comp=Z,42nm,1.1s
PPLA Purkeypile 80.08 20 *e*P **P** **18 31 13.0 -0.1**
comp=Z,14nm,0.8s
BOK Bokaro 80.12 296 *e*P **P** **18 31 14.4 +0.4**
BOK AMB AMB 18 31 16.1
comp=Z,55nm,1.2s
RAMN Ramite 80.30 299 *e*P **P** **18 31 16.0 +0.8**
comp=Z,160nm,1.4s
CHLP Challavanipeta 80.56 290 *e*P **P** **18 31 17.2 +0.8**
CHLP IAmb IAmb 18 31 19.9
comp=Z,126nm,1.1s
CHLP IVMs_BB IVMs_BB 19 10 05.1
comp=Z,298nm,4.2s
SML Sawmill 80.72 22 *e*P **P** **18 31 17.2 +0.8**
comp=Z,13nm,1.1s
QSPA South Pole Qui 81.06 180 P **P** **18 31 17.9 -0.5**
comp=Z,16nm,0.8s,baz=236,slow=0.5,SNR=60
QSPA South Pole Qui 81.06 180 *e*P **P** **18 31 17.3 -1.1**
comp=Z,43nm,1.1s
QSPA LR LR
comp=Z,3μm,19.0s
VIS Vishakhapatnam 81.06 290 *e*P **P** **18 31 18.7 -0.4**
TRF Thorofare Moun 81.09 20 *e*P **P** **18 31 17.8 -0.7**
comp=Z,23nm,0.7s
GUN Gumba 81.17 300 *e*P **P** **18 31 21.0 +1.0**
comp=Z,159nm,1.0s
BPAW Bear Paw Mtn. 81.29 19 *e*P **P** **18 31 18.6 -0.8**
comp=Z,2.4nm,0.9s
PKI Pulchoki 81.48 300 *e*P **P** **18 31 22.3 +0.7**
comp=Z,230nm,1.2s
PKIN Phulchoki 81.50 300 *e*P **P** **18 31 23.0 +1.4**
comp=Z,92nm,1.1s
PALK Pallekele 81.56 279 LR LR 19 10 42.2
comp=Z,466nm,20.9s,baz=39,slow=38
PALK Pallekele 81.56 279 *e*P **P** **18 31 24.1 +2.1**
comp=Z,82nm,1.1s
BMRM Bremner River 81.63 24 *e*P **P** **18 31 23.8 +2.5**
comp=Z,35nm,1.3s
KKN Kakani 81.65 300 *e*P **P** **18 31 23.2 +0.8**
comp=Z,102nm,1.0s
IM04 Indian Mountai 81.72 17 *e*P **P** **18 31 22.0 +0.4**
MCK McKinley 81.73 20 *e*P **P** **18 31 21.7 -0.1**
comp=Z,87nm,1.0s
DMN Daman 81.75 300 *e*P **P** **18 31 24.1 +1.1**
comp=Z,337nm,1.0s
GKN Gorkha 82.25 300 *e*P **P** **18 31 25.3 -0.2**
comp=Z,376nm,1.1s
PVM Polavaram 82.56 289 *e*P **P** **18 31 26.8 -0.2**
PVM IAmb IAmb 18 31 28.6
comp=Z,51nm,1.0s
PVM *e*S **S** **18 41 40.8 -1.0**
PVM IVMs_BB IVMs_BB 19 04 25.3
comp=Z,206nm,4.6s
COLA College 82.83 20 *d*P **P** **18 31 27.3 -0.1**
COLA pmax pmax
comp=Z,254nm,1.2s
COLA MLR MLR
comp=Z,5μm,18.0s
COLA College 82.83 20 *e*P **P** **18 31 26.6 -0.8**
COLA LR LR
comp=Z,2μm,20.0s
HVS Khovu-Aksy 83.05 324 *e*P **P** **18 31 30.8 +1.8**
ILAR Eielson Array 83.09 20 P **P** **18 31 28.3 -0.5**
comp=Z,15nm,0.8s,baz=256,slow=4.4,SNR=83
ILAR PKKPbc **PKKPbc** **18 49 50.1 -3.5**
comp=Z,0.7nm,0.5s,baz=338,slow=2.1,SNR=8.5
ILAR LR LR 19 04 35.1
comp=Z,2μm,19.9s,baz=233,slow=33
ILAR Eielson Array 83.09 20 P **P** **18 31 28.3 -0.5**
ILAR pmax pmax
comp=Z,15nm,0.8s
ILAR MLR MLR
comp=Z,2μm,19.9s
KOLN Koldanda 83.09 299 *e*P **P** **18 31 29.6 -0.3**
comp=Z,159nm,1.0s
TIXI Tiksi 83.17 350 ⇓*i*P **P** **18 31 29.8 +0.8**
TIXI pmax pmax
comp=Z,25nm,1.3s
TIXI MLR MLR
comp=Z,2μm,18.0s
TIXI Tiksi 83.17 350 *e*P **P** **18 31 28.9 -0.1**
TIXI LR LR
comp=Z,2μm,21.0s
H02S1 DAWSON INLET T 83.51 34 T T 20 03 27.6
SNR=55
SKHT Srikalahasti 83.69 285 *e*P **P** **18 31 33.5 +0.6**

SKHT IAmb IAmb 18 31 35.5
comp=Z,75nm,1.0s
SKHT IVMs_BB IVMs_BB 19 11 01.0
comp=Z,702nm,4.4s
SIT Sitka 83.70 30 *e*P **P 18 31 33.2 +1.2**
PAF Port-aux-Franc 83.78 221 P P 18 31 20.0 -13
PAF Port-aux-Franc 83.78 221 S S 18 41 29.0 -24
PAF Port-aux-Franc 83.78 221 S **S 18 41 49.0 -4.0**
PAF SS SS 18 47 04.0 -16
PAF L L 18 54 00.0
PAF R 18 58 00.0
PAF Port-aux-Franc 83.78 221 PFAKE 18 31 40.0 +7.3
PAF LR LR
comp=Z,6µm,20.0s
ADKI Addanki 83.84 287 *e*P **P 18 31 34.5 +0.8**
ADKI IAmb IAmb 18 31 35.4
comp=Z,88nm,1.2s
WMQ Urumqi 84.28 316 P **P 18 31 36.0 +0.6**
WMQ pP **pP 18 31 46.5 -0.8**
WMQ PP **PP 18 34 52.5 +1.9**
WMQ SKS **S 18 41 54.3 -4.1**
WMQ S **SKSac 18 41 58.5 +2.3**
WMQ sS **sS 18 42 15.0 -3.1**
WMQ SS **SS 18 47 29.8 +1.0**
WMQ PMZ
comp=Z,56nm,1.6s
WMQ PMZ
comp=Z,570nm,4.6s
WMQ LN
comp=Z,1µm,14.0s
WMQ LE
comp=Z,650nm,17.4s
WMQ LZ
comp=Z,870nm,20.9s
HYT Haines Junctio 84.48 26 *e*P **P 18 31 37.4 +1.3**
comp=Z,35nm,1.1s
NJS Nagarjunasagar 84.60 288 *e*P **P 18 31 37.6 +0.1**
NJS IAmb IAmb 18 31 40.1
comp=Z,174nm,0.9s
NJS *e*SKSac **SKSac 18 41 56.4 -2.8**
NJS IVMs_BB IVMs_BB 19 09 53.3
comp=Z,660nm,4.5s
RCLA Racherla 84.72 286 *e*P **P 18 31 37.7 -0.4**
RCLA IAmb IAmb 18 31 39.5
comp=Z,62nm,1.2s
RCLA *e*SKSac **SKSac 18 41 58.2 -1.9**
RCLA IVMs_BB IVMs_BB 19 09 28.5
comp=Z,960nm,4.5s
KHMM Horse Mountain 84.88 47 *e*P **P 18 31 41.2 +2.5**
MAW Mawson 84.88 202 P **P 18 31 37.4 -0.5**
comp=Z,23nm,1.0s,baz=93,slow=6.3,SNR=19
MAW LR LR 19 04 27.2
comp=Z,3µm,21.9s,baz=81,slow=32
MAW Mawson 84.88 202 P **P 18 31 37.4 -0.5**
MAW pmax pmax
comp=Z,23nm,1.0s
MAW MLR MLR
comp=Z,3µm,21.9s
MAW Mawson 84.88 202 *e*P **P 18 31 37.6 -0.3**
comp=Z,7.9nm,1.2s
WRAK Wrangell Islan 84.90 31 PFAKE 18 31 50.0 +12
WRAK LR LR
comp=Z,3µm,20.0s
SRLM Srisailam 84.90 287 *e*P **P 18 31 38.8 -0.3**
SRLM IAmb IAmb 18 31 41.7
comp=Z,215nm,0.9s
SRLM IVMs_BB IVMs_BB 19 06 40.3
comp=Z,736nm,4.4s
RPR Rampur 85.05 290 *e*P **P 18 31 39.4 -0.3**
RPR IAmb IAmb 18 31 42.1
comp=Z,163nm,0.8s
RPR IVMs_BB IVMs_BB 19 13 53.4
comp=Z,639nm,4.4s
EGAK Eagle 85.09 21 *e*P **P 18 31 40.6 +1.7**
EGAK LR LR
comp=Z,3µm,22.0s
L02D Cave Junction, 85.33 46 P **P 18 31 41.9 +1.2**
baz=86
KRAR Krasnoyarsk 85.43 328↓ *i*P **P 18 31 41.5 +0.7**
KRAR pmax pmax
comp=Z,48nm,2.6s
HYB Hyderabad 85.47 288 *i*P **P 18 31 41.0 -0.9**
HYB Hyderabad 85.47 288 *e*P **P 18 31 41.3 -0.6**
HYB AMB AMB 18 31 43.4
comp=Z,70nm,0.0s
HYBB Hyderabad (bro 85.47 288 *e*P **P 18 31 41.8 -0.1**
HYBB IAmb IAmb 18 31 43.5
comp=Z,85nm,1.0s
HYBB *e*SKSac **SKSac 18 42 02.8 -2.0**
HYBB IVMs_BB IVMs_BB 19 07 00.1
comp=Z,697nm,4.2s
N02D Trinity Center 85.65 48 P **P 18 31 44.3 +1.8**
baz=86,SNR=6.1
M02C Callahan 85.66 47 P **P 18 31 44.2 +1.7**
baz=86,SNR=12
WDC Whiskeytown Da 85.67 48 *e*P **P 18 31 43.8 +1.4**
comp=Z,19nm,1.2s
NGP Nagpur 85.71 292 *e*P **P 18 31 42.9 -0.2**
NGP AMB AMB 18 31 44.9
comp=Z,65nm,1.4s
YBH Yreka Blue Hor 85.85 47 P **P 18 31 44.2 +0.8**
comp=Z,16nm,1.1s,baz=228,slow=1.8,SNR=22
YBH Yreka Blue Hor 85.85 47 P **P 18 31 44.2 +0.8**
YBH pmax pmax
comp=Z,16nm,1.1s
YBH Yreka Blue Hor 85.85 47 *e*P **P 18 31 44.7 +1.2**
comp=Z,18nm,1.0s
HUMO Hull Mountain 85.92 46 *e*P **P 18 31 45.5 +1.8**
comp=Z,20nm,1.0s
I03D Drain, OR 85.94 45 P **P 18 31 44.7 +1.1**
baz=86,SNR=7.4
SRSP Sriramsagar 85.94 290 *e*P **P 18 31 44.1 -0.2**
SRSP IAmb IAmb 18 31 46.3
comp=Z,135nm,0.9s
SRSP IVMs_BB IVMs_BB 19 02 29.8
comp=Z,663nm,4.6s
URV Uravakonda 86.24 286 *e*P **P 18 31 46.3 +0.5**
URV IAmb IAmb 18 31 47.8
comp=Z,60nm,1.0s
URV *e*SKSac **SKSac 18 42 06.7 -3.0**
URV IVMs_BB IVMs_BB 19 05 51.1
comp=Z,772nm,4.4s
BSC Santa Cruz Isl 86.28 55 P **P 18 31 47.0 +1.4**
baz=86
SMMC Simmler 86.29 54 P **P 18 31 46.1 +0.4**
baz=86
SBC Santa Barbara 86.32 54 P **P 18 31 47.0 +1.3**
baz=86
PKM Mcpherson Peak 86.34 54 P **P 18 31 46.5 +0.5**
baz=86
G03D McMinnville, O 86.43 43 P **P 18 31 46.9 +0.9**
baz=87
M04C Macdoel 86.50 47 P **P 18 31 47.7 +1.0**
baz=87,SNR=7.2
LBCM Butte Creek Ri 86.61 48 P **P 18 31 48.0 +0.8**
I04A Tendick Farm, 86.62 45 P **P 18 31 47.7 +0.6**
baz=87,SNR=10
CMB Columbia Colle 86.64 51 *e*P **P 18 31 47.8 +0.5**
comp=Z,4.8nm,1.0s
NLWA Neilton Lookou 86.65 41 PFAKE 18 32 00.0 +13
NLWA LR LR
comp=Z,3µm,19.0s
J04D Umpqua Nationa 86.69 45 P **P 18 31 48.4 +0.7**
baz=87,SNR=8.0
BLG Laguna Peak, P 86.77 55 P **P 18 31 48.1 +0.1**
baz=87
K04D Chiloquin, OR 86.78 46 P **P 18 31 48.2 +0.2**
baz=87
F04D Rainier, OR 86.84 43 P **P 18 31 48.6 +0.6**
baz=87
DLBC Dease Lake 86.86 29 P **P 18 31 48.8 +0.8**
comp=Z,8.0nm,1.0s,baz=223,slow=6.7,SNR=8.9
DLBC Dease Lake 86.86 29 *e*P **P 18 31 48.7 +0.8**
comp=Z,12nm,1.0s
SCI San Clemente I 86.94 56 P **P 18 31 47.9 -0.9**
baz=87
RCTC Rector, Farmer 87.12 53 P **P 18 31 50.8 +1.2**
baz=87
VES Vestal, Richgr 87.14 53 P **P 18 31 51.0 +1.3**
baz=87
CIS Catalina Islan 87.15 56 P **P 18 31 49.9 0.0**
baz=87
OSI Osito Audit: C 87.16 54 P **P 18 31 51.0 +1.1**
baz=87
ARVC Arvin 87.18 54 P **P 18 31 51.2 +1.3**
baz=87

FMP Fort Macarthur 87.31 55 P **P 18 31 50.3 -0.2**
baz=88
J05D Fort Rock, OR 87.31 46 P **P 18 31 50.3 -0.3**
baz=88
DGAR Diego Garcia 87.39 263 PFAKE 18 32 00.0 +8.6
DGAR LR LR
comp=Z,2µm,19.0s
DECC Green Verdugo 87.39 55 P **P 18 31 51.6 +0.5**
baz=88
KLRI Killari 87.42 289 *e*P **P 18 31 50.9 -0.6**
KLRI IAmb IAmb 18 31 53.4
comp=Z,49nm,1.3s
KLRI IVMs_BB IVMs_BB 19 10 03.6
comp=Z,752nm,4.6s
AKL Akola 87.50 291 *e*P **P 18 31 51.9 +0.1**
AKL AMB AMB 18 31 54.6
comp=Z,35nm,3.0s
I05D Terrebonne, OR 87.51 45 P **P 18 31 51.6 +0.2**
baz=88
ISA Isabella, Lake 87.58 54 P **P 18 31 53.1 +1.1**
baz=88,SNR=7.1
BHPL Bhopal 87.59 294 *e*P **P 18 31 50.6 -1.6**
BHPL AMB AMB 18 31 52.4
comp=Z,28nm,0.9s
MWC Mount Wilson 87.61 55 *e*P **P 18 31 53.3 +1.0**
comp=Z,42nm,1.0s
MOD Modoc Plateau 87.64 47 *e*P **P 18 31 53.2 +1.0**
comp=Z,20nm,1.0s
MLAC Mammoth, Mammo 87.74 52 P **P 18 31 53.7 +0.9**
baz=88
G05D Wamic, OR 87.76 44 P **P 18 31 52.9 +0.4**
baz=88
EDW2 Edwards Air Fo 87.80 54 P **P 18 31 54.1 +1.0**
baz=88,SNR=12
LON Longmire 87.82 42 *e*P **P 18 31 55.1 +2.3**
comp=Z,8.0nm,1.3s
BFSC Mount Baldy Ra 87.93 55 P **P 18 31 54.5 +0.7**
baz=88,SNR=7.6
CWC Cottonwood Cre 88.06 53 P **P 18 31 55.0 +0.6**
baz=88
TIN Tinemaha, Big 88.08 52 P **P 18 31 54.9 +0.5**
baz=88
109C Camp Elliot, M 88.11 56 P **P 18 31 54.6 +0.2**
baz=88
LRMC Laurel Mtn Rad 88.17 54 P **P 18 31 56.0 +1.1**
baz=88,SNR=10.0
MURC Murrieta 88.17 56 P **P 18 31 55.2 +0.4**
baz=88
NVAR Mina Array Bea 88.32 51 P **P 18 31 56.2 +0.5**
comp=Z,9.9nm,1.0s,baz=240,slow=6.3,SNR=34
NVAR PKPPKP **P'P'df** **18 57 48.6 +1.9**
comp=Z,1.1nm,0.8s,baz=76,slow=3.3,SNR=5.8
DAC Darwin (Calif) 88.41 53 *e*P **P 18 31 57.2 +1.2**
comp=Z,36nm,1.4s
MPMC Manual Prospec 88.45 53 P **P 18 31 57.5 +1.3**
baz=89,SNR=11
BBRC Big Bear Solar 88.54 55 P **P 18 31 57.7 +1.0**
baz=89
RRX Edison Barstow 88.60 55 P **P 18 31 57.3 +0.5**
baz=89
MONP Monument Peak, 88.67 57 P **P 18 31 58.6 +1.3**
baz=89,SNR=9.3
GRAC Grapevine Rang 88.74 52 P **P 18 31 58.7 +1.3**
baz=89
MK31 Makanchi Array 88.77 318 *e*P **P 18 31 57.5 +0.2**
PFO Pinyon Flats O 88.78 56 P **P 18 31 58.8 +1.0**
baz=89
PFO Pinyon Flats O 88.78 56 *e*P **P 18 31 58.8 +1.0**
comp=Z,11nm,1.0s
PFO LR LR
comp=Z,5µm,20.0s
GSC Goldstone, Bar 88.84 54 P **P 18 31 59.2 +1.3**
baz=89
GSC Goldstone, Bar 88.84 54 *e*P **P 18 31 58.6 +0.6**
comp=Z,26nm,1.4s
IBP Imperial Bould 88.90 57 P **P 18 31 59.6 +1.3**
baz=89
WVOR Wild Horse Val 88.97 47 *e*P **P 18 31 60.0 +1.5**
comp=Z,69nm,1.5s
WVOR LR LR
comp=Z,2µm,19.0s
FURC Furnace Creek, 89.03 53 P **P 18 31 59.9 +1.2**
baz=89
TPH Tonopah 89.08 51 *e*P **P 18 31 59.3 +0.1**
comp=Z,15nm,1.1s
ZAA0 Zalesovo Array 89.10 325 *e*P **P 18 31 58.1 -0.5**
ZALV Zalesovo Beam 89.10 325 P **P 18 31 58.2 -0.4**
comp=Z,5.7nm,0.7s,baz=112,slow=4.8,SNR=31
ZALV PKKPbc **PKKPbc 18 49 36.9 -1.7**
comp=Z,1.0nm,0.6s,baz=270,slow=2.7,SNR=5.2
ZALV LR LR 19 12 15.8
comp=Z,978nm,19.3s,baz=76,slow=36
ZALV Zalesovo Beam 89.10 325 *i*P **P 18 31 59.2 +0.6**
ZALV pmax pmax
comp=Z,6.0nm,0.7s
HEC Hector,Ludlow 89.13 55 P **P 18 32 00.2 +0.9**
baz=89,SNR=10
SWSC Sam W. Stewart 89.20 57 P **P 18 32 00.7 +1.2**
baz=89
BELC Belle Mtn. Jos 89.23 56 P **P 18 32 01.3 +1.4**
baz=89,SNR=18
HAWA Hanford 89.25 43 PFAKE 18 32 10.0 +10
HAWA LR LR
comp=Z,2µm,22.0s
SMLA Simla 89.28 302 *i*P **P 18 32 01.0 +1.0**
SMLA AMB AMB 18 32 02.5
comp=Z,134nm,0.6s
SMLA *i*x x 18 35 49.8
SHOC Shoshone, Teco 89.38 54 P **P 18 32 01.4 +1.0**
baz=90
INK Inuvik 89.49 20 *e*P P 18 31 53.5 -6.6
comp=Z,12nm,1.1s
BMN Battle Mountai 89.57 49 *e*P **P 18 32 02.7 +1.3**
comp=Z,20nm,1.3s
TUQ Turquoise Moun 89.57 54 P **P 18 32 01.9 +0.4**
baz=90
TPNV Topopah Spring 89.61 53 P **P 18 32 02.7 +1.1**
baz=90,SNR=9.5
BC3 Big Chuckawall 89.61 56 P **P 18 32 03.1 +1.4**
baz=90,SNR=18
GMRC Granite Mounta 89.66 55 P **P 18 32 02.8 +0.9**
baz=90,SNR=16
IRM Iron Mountain 89.96 56 P **P 18 32 04.4 +1.3**
baz=90,SNR=29
GLA Glamis 90.02 57 P **P 18 32 05.1 +1.6**
baz=90,SNR=7.3
GLA Glamis 90.02 57 *e*P **P 18 32 05.9 +2.4**
comp=Z,43nm,1.3s
POO Poona 90.07 289 *e*P **P 18 32 04.7 +0.7**
POO AMB AMB 18 32 15.2
comp=Z,30nm,1.1s
DHRM DHARAMSHALA 90.21 302 *e*P **P 18 32 04.8 +0.1**
DHRM AMB AMB 18 32 07.2
comp=Z,63nm,1.1s
NVS Novosibirsk 90.24 326↑ *i*P **P 18 32 03.5 -0.4**
NVS *i* 18 32 15.6
NVS *e* 18 35 38.6
NVS *i*S **S 18 42 54.8 -0.2**
NVS pmax pmax
comp=N,5.0nm,1.4s
NVS pmax pmax
comp=E,22nm,1.4s
NVS pmax pmax
comp=Z,33nm,1.4s
NVS smax smax
comp=N,72nm,3.6s
NVS smax smax
comp=E,49nm,3.3s
SHPR Sheep Range 90.38 53 *e*P **P 18 32 06.7 +1.5**
comp=E,21nm,1.0s
Y12C Blythe 90.39 56 P **P 18 32 06.2 +1.0**
baz=90
R11A Troy Canyon, C 90.40 51 P **P 18 32 06.4 +1.1**
baz=90,SNR=24
R11A Troy Canyon, C 90.40 51 *e*P **P 18 32 06.6 +1.3**
comp=E,18nm,1.2s
BMO Blue Mountains 90.43 45 *e*P **P 18 32 05.9 +0.6**
comp=E,15nm,1.2s
BMO LR LR
comp=Z,3µm,20.0s
NEE2 Needles Airpor 90.50 55 P **P 18 32 06.7 +1.1**
baz=91
PDMCI Parker Dam,Lak 90.80 56 P **P 18 32 08.6 +1.6**
baz=91,SNR=6.8
ELK Elko 91.11 49 *e*P **P 18 32 09.4 +0.7**
comp=Z,21nm,1.4s
MFID Camas Ranch 91.19 46 *e*P **P 18 32 10.5 +1.7**
comp=Z,63nm,1.9s

NEW Newport 91.27 41 P **P 18 32 08.7 -0.2**
comp=Z,9.7nm,1.0s,baz=254,slow=2.4,SNR=8.8
NEW Newport 91.27 41 P **P 18 32 08.7 -0.2**
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 91.27 41 P **P 18 32 09.4 +0.5**
baz=91
NEW Newport 91.27 41 *e*P **P 18 32 09.8 +0.9**
comp=Z,12nm,1.0s
NEW LR LR
comp=Z,2µm,19.0s
214A Organ Pipe Nat 91.50 58 P **P 18 32 11.9 +1.5**
baz=92,SNR=8.2
214A Organ Pipe Nat 91.50 58 *e*P **P 18 32 12.5 +2.1**
comp=Z,14nm,1.1s
KSH Kashi 91.76 310 P **P 18 32 14.3 +2.8**
KSH pP **pP 18 32 25.0 +1.5**
KSH sP **sP 18 32 29.5 +1.7**
KSH PP **PP 18 35 54.0 +3.2**
KSH S **ScS 18 43 12.3 -0.2**
KSH sS **sS 18 43 29.3 -0.5**
KSH PMZ
comp=Z,15nm,1.1s
KSH PMZ
comp=Z,310nm,4.2s
KSH LN
comp=Z,790nm,17.5s
KSH LE
comp=Z,810nm,15.5s
KSH LZ
comp=Z,630nm,19.3s
CCUT Cedar City 91.98 52 *e*P **P 18 32 14.8 +2.0**
comp=Z,21nm,1.1s
KURK Kurchatov 92.01 321 *i*P **P 18 32 11.9 -0.3**
KURK pmax pmax
comp=Z,17nm,1.3s
KURK Kurchatov 92.01 321 *e*P **P 18 32 11.9 -0.3**
comp=Z,45nm,1.4s
KURK LR LR
comp=Z,2µm,19.0s
ULHL Ulahol 92.04 312 P **P 18 32 14.6 +1.7**
SNR=9.3
HLID Hailey 92.23 46 P **P 18 32 15.2 +1.5**
baz=92
HLID Hailey 92.23 46 *e*P **P 18 32 15.2 +1.5**
comp=Z,9.4nm,0.9s
HLID LR LR
comp=Z,1µm,21.0s
TKM2 Tokmak 2 92.62 313 P **P 18 32 15.5 -0.1**
SNR=13
TKM2 Tokmak 2 92.62 313 *e*P **P 18 32 15.5 -0.1**
comp=Z,17nm,0.9s
TKM2 LR LR
comp=Z,980nm,20.0s
BSMT Bassoo Peak 92.72 42 *e*P **P 18 32 16.8 +0.9**
comp=Z,6.3nm,1.0s
KZA Kyzart 92.73 312 P **P 18 32 18.4 +2.1**
SNR=15
BGU Big Grassy Mou 92.80 49 *e*P **P 18 32 17.5 +1.2**
comp=Z,14nm,1.0s
DUG Dugway, Tooele 92.84 50 P **P 18 32 17.2 +0.6**
baz=93
DUG Dugway, Tooele 92.84 50 PFAKE 18 32 30.0 +13
DUG LR LR
comp=Z,1µm,19.0s
MVU Marysvale 93.03 52 *e*P **P 18 32 19.8 +2.2**
comp=Z,12nm,1.0s
KBK Karagaybulak 93.05 313 P **P 18 32 17.9 +0.4**
SNR=7.2
MSU Marysvale 93.06 52 *e*P **P 18 32 19.9 +2.2**
comp=Z,22nm,1.2s
MSO Missoula 93.12 43 P **P 18 32 18.7 +1.0**
baz=93
HVU Hansel Valley 93.12 48 *e*P **P 18 32 19.4 +1.6**
comp=Z,26nm,1.0s
SWMT Swartz Lake 93.19 43 *e*P **P 18 32 19.4 +1.4**
comp=Z,4.4nm,1.0s
WUAZ Wupatki 93.25 55 P **P 18 32 19.9 +1.3**
baz=93
WUAZ Wupatki 93.25 55 *e*P **P 18 32 19.7 +1.2**
comp=Z,13nm,1.0s
WUAZ LR LR
comp=Z,5µm,20.0s
CHMS Chumysh 93.25 313 P **P 18 32 18.3 +0.1**
SNR=17
TUC Tucson 93.26 58 *e*P **P 18 32 20.0 +1.4**
comp=Z,2.5nm,0.8s
TUC LR LR
comp=Z,2µm,19.0s
UCH Uchtor 93.30 312 P **P 18 32 20.4 +1.3**
SNR=14
FRU Bishkek 93.32 313 *e*P **P 18 32 19.0 +0.4**
FRU *e* 18 42 50.0
FRU *e* 18 44 43.0
NLU North Lily Min 93.36 50 *e*P **P 18 32 19.9 +0.9**
comp=Z,15nm,1.0s
AAK Ala-Archa 93.38 312 P **P 18 32 20.6 +1.6**
SNR=5.5
WALA Waterton Lakes 93.50 41 *e*P **P 18 32 21.2 +1.9**
comp=Z,11nm,1.0s
MCMT McKenzie Canyo 93.55 45 *e*P **P 18 32 21.4 +1.6**
comp=Z,4.5nm,1.2s
CTU Camp Tracy 93.72 50 *e*P **P 18 32 21.7 +1.1**
comp=Z,16nm,1.0s
DLMT Dillon 93.81 45 *e*P **P 18 32 22.2 +1.4**
comp=Z,32nm,1.4s
AML Almayashu 93.89 312 P **P 18 32 23.1 +1.5**
SNR=11
EKS2 Erkin-Say 93.90 312 P **P 18 32 23.1 +1.8**
SNR=10
EKS2 Erkin-Say 93.90 312 *e*P **P 18 32 22.2 +0.8**
comp=Z,9.4nm,0.9s
EKS2 LR LR
comp=Z,1µm,19.0s
TMUT Trail Mountain 93.93 51 *e*P **P 18 32 23.4 +1.7**
comp=Z,13nm,1.0s
JLU Jordanelle 93.93 50 *e*P **P 18 32 23.1 +1.4**
comp=Z,13nm,1.1s
LRM Limekiln Ridge 93.97 44 *e*P **P 18 32 22.9 +1.2**
comp=Z,73nm,1.1s
HWUT Hardware Ranch 93.99 49 PFAKE 18 32 30.0 +8.1
HWUT LR LR
comp=Z,1µm,19.0s
TCUT Toone Canyon 94.04 49 *e*P **P 18 32 24.2 +2.0**
comp=Z,20nm,0.9s
SRU San Rafael Swe 94.43 51 *e*P **P 18 32 25.1 +1.1**
comp=Z,4.1nm,0.7s
AHID Auburn Hatcher 94.50 48 PFAKE 18 32 40.0 +16
AHID LR LR
comp=Z,2µm,20.0s
W18A Petrified Fore 94.52 55 P **P 18 32 24.3 -0.1**
baz=95
BOZ Bozeman (W) 94.52 45 P **P 18 32 25.4 +1.3**
baz=95
TPAW Teton Pass 94.70 47 *e*P **P 18 32 26.4 +1.2**
comp=Z,4.5nm,0.7s
REDW Red Top Meadow 94.76 47 *e*P **P 18 32 26.9 +1.5**
comp=Z,15nm,1.2s
IMW Indian Meadow 94.77 46 *e*P **P 18 32 25.9 +0.3**
comp=Z,27nm,1.4s
H17A Grant Village 95.09 46 P **P 18 32 27.9 +1.0**
baz=95
LKWY Lake 95.24 46 PFAKE 18 32 40.0 +12
LKWY LR LR
comp=Z,3µm,19.0s
YKA Yellowknife Ar 95.29 28 P **P 18 32 26.2 -0.8**
comp=Z,6.6nm,1.0s,baz=261,slow=4.6,SNR=16
YKA PKKPbc **PKKPbc 18 49 21.0 -1.8**
comp=Z,0.8nm,0.7s,baz=37,slow=7.3,SNR=4.0
YKA Yellowknife Ar 95.29 28 P **P 18 32 26.2 -0.8**
YKA pmax pmax
comp=Z,7.0nm,1.0s
YKW3 Yellowknife Ar 95.30 28 *e*P **P 18 32 27.3 +0.2**
comp=Z,0.2nm,0.9s
PV04 Paradox Valley 95.59 52 *e*P **P 18 32 31.2 +1.9**
BW06 Boulder Array 95.62 48 *e*P **P 18 32 29.4 0.0**
comp=Z,11nm,0.9s
BW06 LR LR
comp=Z,1µm,19.0s
PDAR Pinedale Array 95.62 48 P **P 18 32 30.2 +0.9**
comp=Z,7.7nm,1.0s,baz=270,slow=1.5,SNR=37
PDAR PKPPKP **P'P'df** **18 57 35.2 +2.4**
comp=Z,1.3nm,0.9s,baz=101,slow=3.0,SNR=8.0
PDAR LR LR 19 14 24.1
comp=Z,1µm,18.0s,baz=301,slow=35
MVCO Mesa Verde 95.77 53 P **P 18 32 32.1 +1.9**
baz=96

MVCO Mesa Verde 95.77 53 PFAKE 18 32 40.0 +10
MVCO LR LR
comp=Z,4μm,21.0s
121A Cookes Peak, D 95.80 58 P **P 18 32 31.4 +1.0**
baz=96
GCMT Greycliff 95.90 45 *e*P **P 18 32 32.3 +1.9**
comp=Z,2.0nm,0.7s
J19A Crowheart 96.05 47 P **P 18 32 32.4 +1.1**
baz=96
EGMT Eagleton 96.10 42 P **P 18 32 32.2 +1.0**
baz=96
EGMT Eagleton 96.10 42 *e*P **P 18 32 32.4 +1.2**
comp=Z,12nm,0.9s
EGMT LR LR
comp=Z,2μm,20.0s
RLMT Red Lodge 96.10 45 P **P 18 32 32.6 +1.1**
baz=96
RLMT Red Lodge 96.10 45 *e*P P 18 32 34.8 +3.3
comp=Z,15nm,1.2s
RLMT LR LR
comp=Z,3μm,19.0s
I19A Meeteetse 96.18 47 P **P 18 32 32.8 +0.9**
baz=96
H19A Powell 96.25 46 P **P 18 32 33.0 +0.9**
baz=96
O20A White River Ci 96.30 50 P **P 18 32 34.3 +1.8**
baz=96
KKAR Karatay Array 96.34 313 *e*P **P 18 32 31.7 -0.6**
comp=Z,12nm,1.0s
CRZF Crozet Islands 96.43 221 SP SP 18 45 05.0 -4.7
CRZF SP **SP 18 45 06.0 -3.7**
CRZF SS SS 18 50 15.0 -8.6
CRZF SS SS 18 50 25.0 +1.4
CRZF R 19 04 00.0
CRZF R 19 04 00.0
KBL Kabul 96.55 304 *e*P **P 18 32 32.9 -0.9**
comp=Z,13nm,1.1s
B19A Brinkman Farms 96.68 42 P **P 18 32 35.2 +1.4**
baz=97
J20A Shoshoni 96.76 47 P **P 18 32 35.9 +1.5**
baz=97
I20A Worland 96.79 47 P **P 18 32 35.6 +1.1**
baz=97
G20A Bridger 96.86 45 P **P 18 32 36.4 +1.7**
baz=97
A19A Klindworth Far 96.86 42 P **P 18 32 35.0 +0.4**
baz=97
H20A Greybull 96.94 46 P **P 18 32 36.6 +1.5**
baz=97
F20A Billings 96.96 45 P **P 18 32 36.7 +1.5**
baz=97
S22A 4UR Ranch, Cre 97.15 53 P Pdif 18 32 36.7 +0.1
baz=97
ANMO Albuquerque 97.17 56*c i*P Pdif 18 32 38.4 +1.8
ANMO pmax pmax
comp=Z,15nm,1.1s
ANMO MLR MLR
comp=Z,4μm,17.0s
ANMO Albuquerque 97.17 56 *e*P Pdif 18 32 38.1 +1.4
comp=Z,4.3nm,1.1s
ANMO LR LR
comp=Z,2μm,22.0s
SMCO Snowmass 97.18 52 *e*P Pdif 18 32 38.5 +1.7
comp=Z,5.8nm,1.0s
J21A Lysite 97.22 47 P Pdif 18 32 37.8 +1.1
baz=97
C20A Veseth Ranch, 97.24 43 P Pdif 18 32 38.2 +1.7
baz=97
RWWY Rawlins 97.24 49 P Pdif 18 32 43.7 +6.8
comp=Z,15nm,1.1s
B20A Solberg Farm, 97.29 42 P Pdif 18 32 37.1 +0.4
baz=97
I21A Big Trails, Te 97.38 47 P Pdif 18 32 38.4 +1.1
baz=98
A20A Cobblestone Ra 97.39 42 P Pdif 18 32 37.8 +0.7
baz=98
BRVK Borovoye 97.46 323*c e*P **P 18 32 36.6 -0.6**
BRVK pmax pmax
comp=Z,16nm,0.9s
BRVK MLR MLR
comp=Z,1μm,18.0s
BRVK Borovoye 97.46 323 *e*P **P 18 32 36.5 -0.6**
comp=Z,17nm,1.0s
BRVK LR LR
comp=Z,1μm,20.0s
G21A Lodge Grass 97.56 45 P Pdif 18 32 39.4 +1.3
baz=98
F21A Absaloka Mine, 97.67 45 P Pdif 18 32 38.8 +0.3
baz=98
E21A Keefer Ranch, 97.77 44 P Pdif 18 32 40.0 +1.2
baz=98
J22A Midwest 97.93 47 P Pdif 18 32 40.9 +1.1
baz=98
B21A Ellsworth Farm 97.96 42 P Pdif 18 32 41.0 +1.4
baz=98
I22A 9 Mile Ranch, 97.97 47 P Pdif 18 32 40.9 +1.0
baz=98
H22A Clearmont 98.12 46 P Pdif 18 32 41.6 +1.0
baz=98
N23A Red Feather La 98.12 50 P Pdif 18 32 41.9 +1.1
baz=98
SDCO Great Sand Dun 98.20 53 P Pdif 18 32 42.5 +1.2
baz=98
SDCO Great Sand Dun 98.20 53 PFAKE 18 32 50.0 +8.7
SDCO LR LR
comp=Z,4μm,21.0s
G22A Birney 98.21 46 P Pdif 18 32 42.3 +1.5
baz=98
F22A Rosebud 98.28 45 Pdiff Pdif 18 32 42.3 +1.2
baz=98
D22A Cohagen 98.43 44 Pdiff Pdif 18 32 43.3 +1.6
baz=98
K23A Bowen Ranch, D 98.50 48 Pdiff Pdif 18 32 43.9 +1.5
baz=99
E22A Miles City 98.54 44 Pdiff Pdif 18 32 43.3 +1.1
baz=99
J23A Dilts Ranch, B 98.60 47 Pdiff Pdif 18 32 44.0 +1.3
baz=99
B22A Reddig Ranch S 98.63 42 Pdiff Pdif 18 32 44.1 +1.5
baz=99
G23A Biddle 98.84 46 Pdiff Pdif 18 32 45.6 +2.0
baz=99
SNAA Sanae 98.85 185 P P 18 32 38.9 -4.3
SNAA Sanae 98.85 185 *e*P P 18 32 38.0 -5.2
comp=Z,15nm,1.4s
E23A Ismay 98.98 44 Pdiff Pdif 18 32 46.0 +1.8
baz=99
TXAR Lajitas Array 98.99 62 P Pdif 18 32 45.9 +1.1
comp=Z,0.2nm,0.8s,baz=239,slow=7.0,SNR=2.8
TXAR PP **PP 18 36 47.0 -0.1**
comp=Z,0.8nm,0.9s,baz=229,slow=9.3,SNR=4.2
TXAR PKKPbc **PKKPbc 18 49 12.4 +0.8**
comp=Z,0.4nm,0.5s,baz=111,slow=4.3,SNR=5.0
TXAR LR LR 19 12 01.6
comp=Z,2μm,18.9s,baz=0.0,slow=32
TXAR Lajitas Array 98.99 62 P Pdif 18 32 45.9 +1.2
TXAR 18 36 47.1
TXAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR MLR MLR
comp=Z,2μm,18.9s
C23A Lambert 99.14 43 Pdiff **Pdif 18 32 46.7 +1.9**
baz=99
PMSA Palmer Station 99.21 162 PFAKE 18 33 00.0 +15
PMSA LR LR
comp=Z,3μm,21.0s
I24A Kuemmerle Ranc 99.31 47 Pdiff **Pdif 18 32 46.9 +1.1**
baz=99
B23A Brockton 99.31 42 Pdiff **Pdif 18 32 47.5 +1.9**
baz=99
H24A Dirks Ranch, A 99.41 46 Pdiff **Pdif 18 32 48.1 +1.9**
baz=100
T26A Comanche Natio 99.67 54 Pdiff **Pdif 18 32 48.6 +0.9**
baz=100
E24A Baker 99.67 44 Pdiff **Pdif 18 32 49.2 +1.9**
baz=100
RSSD Black Hills 99.75 47 *e*P **Pdif 18 32 49.0 +1.1**
comp=Z,4.5nm,0.9s
K25A Mack Ranch, Ha 99.78 48 Pdiff **Pdif 18 32 49.9 +1.9**
baz=100
S26A Kim 99.79 53 Pdiff **Pdif 18 32 49.9 +1.8**
baz=100
DGMT Dagmar 99.83 42 Pdiff **Pdif 18 32 49.7 +1.7**
baz=100
DGMT Dagmar 99.83 42 *e*P **Pdif 18 32 49.0 +1.0**
comp=Z,11nm,0.9s
DGMT LR LR
comp=Z,855nm,20.0s

Q26A Hugo 99.84 52 Pdiff **Pdif 18 32 49.8 +1.4**
baz=100
J25A Sunshine Ranch 99.88 47 Pdiff **Pdif 18 32 50.0 +1.6**
baz=100
I25A Rochford 99.96 47 Pdiff **Pdif 18 32 50.3 +1.5**
baz=100
A24A Westby 99.98 42 Pdiff **Pdif 18 32 50.8 +2.2**
baz=100
H25A Fruitdale 100.08 46 Pdiff **Pdif 18 32 51.3 +2.1**
baz=100
VNA1 Neumayer--Stat 100.26 184 P **Pdif 18 32 48.9 -0.4**
VNA1 Neumayer--Stat 100.26 184 P **PP 18 36 58.8 +3.9**
529A Stev Forest Ra 100.31 61 Pdiff **Pdif 18 32 51.8 +1.3**
baz=100
Z28A Tucker Farm, M 100.39 58 Pdiff **Pdif 18 32 52.1 +1.2**
baz=100
J26A Sides Ranch, S 100.40 48 Pdiff **Pdif 18 32 52.1 +1.4**
baz=100
A25A Svangstu Ranch 100.57 42 Pdiff **Pdif 18 32 52.1 +0.9**
baz=101
H26A Fairpoint 100.67 46 Pdiff **Pdif 18 32 53.0 +1.2**
baz=101
N27A Anderson Farm, 100.69 50 Pdiff **Pdif 18 32 53.2 +1.1**
baz=101
O27A Beecher Island 100.71 51 Pdiff **Pdif 18 32 53.2 +1.1**
baz=101
Y29A Porterfield Fa 101.02 57 Pdiff **Pdif 18 32 55.2 +1.5**
530A J-C Ranch, Com 101.07 61 Pdiff **Pdif 18 32 55.4 +1.5**
baz=101
OGNE Ogallala 101.08 50 PFAKE 18 33 10.0 +16
OGNE LR LR
comp=Z,2μm,21.0s
I27A Quinn 101.17 47 Pdiff **Pdif 18 32 56.2 +2.1**
baz=101
C26A Wahner Farm, P 101.22 43 Pdiff **Pdif 18 32 56.4 +2.3**
baz=101
FFC Flin Flon 101.32 36 PFAKE 18 33 10.0 +16
FFC LR LR
comp=Z,2μm,19.0s
Z30A Sanderson Ranc 101.44 58 Pdiff **Pdif 18 32 57.4 +1.9**
baz=102
I28A Midland 101.81 47 Pdiff **Pdif 18 32 58.2 +1.4**
baz=102
V30A Spur Ranch, Mi 101.93 55 Pdiff **Pdif 18 32 58.3 +0.6**
baz=102
JCT Junction City 102.42 61 PFAKE 18 33 10.0 +10
JCT LR LR
comp=Z,2μm,19.0s
ABTX Abilene, Hawle 102.66 59 Pdiff **Pdif 18 33 01.6 +0.7**
baz=103
CBKS Cedar Bluff 102.78 52 Pdiff **Pdif 18 33 02.8 +1.5**
baz=103
CBKS Cedar Bluff 102.78 52 PFAKE 18 33 10.0 +8.7
CBKS LR LR
comp=Z,4μm,20.0s
A29A Manning Farm, 103.13 42 Pdiff **Pdif 18 33 03.8 +1.2**
baz=103
WMOK Wichita Mounta 103.45 56 PFAKE 18 33 20.0 +16
WMOK LR LR
comp=Z,3μm,19.0s
A30A Hoffart Farm, 103.74 42 Pdiff **Pdif 18 33 06.3 +1.1**
baz=104
B30A Myrvik Farm, E 103.74 42 Pdiff **Pdif 18 33 06.3 +1.1**
baz=104
ABKAR Akulak array 103.89 319 *e*P **Pdif 18 33 05.8 -0.1**
comp=Z,2.9nm,0.8s
ARU Arti 104.24 326 P **Pdif 18 33 07.7 +0.4**
ARU 18 37 21.7
ARU S **SKSac 18 43 44.7 +0.5**
ARU PS **PS 18 46 31.8 -6.5**
ARU MLR MLR
comp=Z,3μm,19.0s
ARU Arti 104.24 326 PFAKE 18 33 20.0 +13
ARU LR LR
comp=Z,3μm,19.0s
MSEY Mahe Island 104.48 263 PFAKE 18 33 20.0 +11
MSEY LR LR
comp=Z,4μm,19.0s
ECSD EROS Data Cent 105.10 47 PFAKE 18 37 40.0
ECSD LR LR
comp=Z,2μm,20.0s
KSU1 Kansas State U 105.22 52 PFAKE 18 37 40.0
KSU1 LR LR
comp=Z,4μm,20.0s
AGMN Agassiz Nation 105.39 42 PFAKE 18 37 40.0
AGMN LR LR
comp=Z,875nm,20.0s
GEYT Alibeck 105.53 307 Pdiff **Pdif 18 33 13.6 0.0**
comp=Z,0.6nm,0.4s,baz=60,slow=3.6,SNR=4.5
GEYT PP **PP 18 37 34.8 -1.2**
comp=Z,4.4nm,1.1s,baz=150,slow=3.3,SNR=3.5
738A Farr-Stevens R 105.96 63 PKiKP **PKiKP 18 37 28.8 +0.9**
baz=106
X38A Whitesboro 106.71 57 PKiKP **PKiKP 18 37 30.6 +1.4**
baz=107
NATX Nacogdoches 106.86 60 PFAKE 18 37 40.0
NATX LR LR
comp=Z,480nm,21.0s
SCIA State Center 107.69 49 PFAKE 18 37 40.0
SCIA LR LR
comp=Z,2μm,19.0s
MIAR Mount Ida 107.75 57 PFAKE 18 37 40.0
MIAR LR LR
comp=Z,4μm,19.0s
EYMN Ely 108.34 42 PFAKE 18 37 40.0
EYMN LR LR
comp=Z,1μm,20.0s
KBS Kingsbay 108.36 354 PFAKE 18 37 40.0
KBS LR LR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 109.03 246 PFAKE 18 37 50.0
ABPO LR LR
comp=Z,2μm,19.0s
JFWS Jewell Farm 109.79 48 PFAKE 18 37 50.0
JFWS LR LR
comp=Z,1μm,19.0s
HDIL Hopedale 110.76 50 PFAKE 18 37 50.0
HDIL LR LR
comp=Z,2μm,21.0s
LVZ Lovozero 111.35 341 PFAKE 18 37 50.0
LVZ LR LR
comp=Z,2μm,20.0s
APA Apatity 111.93 341 ⇓*i*PKIKP **PKiKP 18 37 38.0 +0.1**
APA *i* **SKSac 18 44 18.0 +1.2**
APA *i* PPS **PS 18 47 51.0 -3.7**
APA pmax pmax
comp=Z,22nm,0.8s
APA MLR MLR
comp=Z,2μm,30.0s
TEIG Tepich 112.47 72 PFAKE 18 37 50.0
TEIG LR LR
comp=Z,999nm,22.0s
KEV Kevo 112.53 344 PFAKE 18 37 50.0
KEV LR LR
comp=Z,2μm,21.0s
ARCES ARCESS Array B 113.08 344 PKiKP **PKiKP 18 37 41.1 +1.0**
comp=Z,1.7nm,0.6s,baz=96,slow=1.2,SNR=8.7
ARCES PKKPbc **PKKPbc 18 48 27.5 -1.8**
comp=Z,1.7nm,0.7s,baz=202,slow=5.2,SNR=6.3
ARCES ARCESS Array B 113.08 344 *i* PKIKP **PKiKP 18 37 41.1 +1.0**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
BRAL Brewton 113.38 60 PFAKE 18 37 50.0
BRAL LR LR
comp=Z,2μm,20.0s
GLMI Grayling 113.53 45 PFAKE 18 37 50.0
GLMI LR LR
comp=Z,1μm,19.0s
AAM Ann Arbor 114.70 48 PFAKE 18 38 00.0 +16
AAM LR LR
comp=Z,2μm,20.0s
JTS JuntasAbangare 115.12 83 PFAKE 18 38 00.0 +14
JTS LR LR
comp=Z,2μm,19.0s
VRHR Novokhopersk 115.14 323 *e*PKIKP **PKPdf 18 37 44.9 +0.4**
VRHR pmax pmax
comp=Z,7.0nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.6s
HOPE Hope Point 115.33 169 PFAKE 18 38 00.0 +15
HOPE LR LR
comp=Z,3μm,19.0s
ACSO Alum Creek Sta 115.58 50 PFAKE 18 38 00.0 +14

ACSO LR LR
comp=Z,2μm,22.0s
GNI Garni 115.69 310 PFAKE 18 38 00.0 +14
GNI LR LR
comp=Z,697nm,19.0s
MOS Moscow 115.73 328 *e*PKIKP **PKPdf 18 37 43.5 -2.0**
MOS MLR MLR
comp=Z,2μm,21.0s
MOS MLR MLR
comp=E,1μm,20.0s
MOS MLR MLR
comp=N,1μm,19.0s
GOGA Godfrey 116.20 57 PFAKE 18 38 00.0 +13
GOGA LR LR
comp=Z,2μm,20.0s
KIV Kislovodsk 116.39 315 *i* PKIKP **PKPdf 18 37 46.7 -0.7**
KIV *e* 18 38 51.8
KIV *e* 18 44 34.4
KIV *e*PS **PS 18 48 35.0 -1.9**
KIV *e*SS SS 18 54 54.8 -1.1
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 116.39 315 PFAKE 18 38 00.0 +13
KIV LR LR
comp=Z,733nm,19.0s
OBN Obninsk 116.53 328 *i* PKIKP **PKPdf 18 37 47.8 +0.7**
OBN *e* 18 38 54.5
OBN *e*SS SS 18 54 49.7 -6.9
OBN pmax pmax
comp=Z,9.0nm,1.2s
OBN MLR MLR
comp=Z,2μm,21.0s
OBN Obninsk 116.53 328 PFAKE 18 38 00.0 +13
OBN LR LR
comp=Z,2μm,21.0s
VSR Storozhevoye 116.56 323 *e*PKIKP **PKPdf 18 37 48.0 +0.7**
VSR pmax pmax
comp=Z,10.0nm,1.5s
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.7s
VORD Divnogorie 116.57 323 *e*PKIKP **PKPdf 18 37 48.6 +1.3**
VORD pmax pmax
comp=Z,7.0nm,1.1s
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,20nm,0.7s
RAYN Ar Rayn 116.79 292 PFAKE 18 38 00.0 +11
RAYN LR LR
comp=Z,628nm,22.0s
FINES FINESS Array B 118.04 337 PKP **PKPdf 18 37 49.6 -0.2**
comp=Z,7.3nm,0.9s,baz=103,slow=6.7,SNR=13
FINES FINESS Array B 118.04 337 PKIKP **PKPdf 18 37 49.6 -0.2**
FINES pmax pmax
comp=Z,7.0nm,0.9s
BLA Blacksburg 118.09 53 PFAKE 18 38 00.0 +9.2
BLA LR LR
comp=Z,4μm,19.0s
SFJD Kangerlussuaq 118.21 14 PFAKE 18 38 00.0 +10
SFJD LR LR
comp=Z,1μm,20.0s
TRQA Tornquist 118.46 142 PFAKE 18 38 00.0 +8.5
TRQA LR LR
comp=Z,1μm,19.0s
NNA Nana 118.92 109 PFAKE 18 38 10.0 +17
NNA LR LR
comp=Z,1μm,22.0s
NHSC New Hope 118.97 57 PFAKE 18 38 00.0 +7.5
NHSC LR LR
comp=Z,3μm,20.0s
ANN Anapa 119.78 317 *i* PKIKP **PKPdf 18 37 53.7 0.0**
ANN *e* 18 39 20.5
ANN *e* 18 44 44.9
ANN *e*PS **PS 18 49 10.3 +3.2**
ANN pmax pmax
comp=Z,20nm,1.0s
BCIP Isla Barro Col 120.04 85 PFAKE 18 38 10.0 +15
BCIP LR LR
comp=Z,1μm,19.0s
OTAV Otavalo 120.24 95 PFAKE 18 38 10.0 +14
OTAV LR LR
comp=Z,1μm,19.0s
CBN Corbin Frederi 120.25 51 PFAKE 18 38 10.0 +15
CBN LR LR
comp=Z,4μm,19.0s
CNNC Cliffs of the 120.47 54 PFAKE 18 38 10.0 +15
CNNC LR LR
comp=Z,4μm,20.0s
LONY Lake Ozonia 120.49 43 PFAKE 18 38 10.0 +15
LONY LR LR
comp=Z,1μm,20.0s
MALT Malatya 120.86 309 ⇓PKIKP **PKPdf 18 37 57.3 +1.1**
MALT Malatya 120.86 309 ⇓*i*P **PKPdf 18 37 57.3 +1.1**
NCB Newcomb 120.94 44 PFAKE 18 38 10.0 +14
NCB LR LR
comp=Z,2μm,19.0s
NACGM Naroch 121.56 331 *e* **PKPdf 18 37 55.0 -1.8**
SIM Simferopol' 121.95 318 *i* PKIKP **PKPdf 18 37 59.1 +1.2**
SIM *e* 18 39 30.0
SIM *e* 18 44 57.0
SIM *e*PS **PS 18 49 18.0 -8.5**
SIM *e*PPS PPS 18 50 58.0
SIM pmax pmax
comp=Z,8.0nm,0.7s
SIM pmax pmax
comp=Z,30nm,7.9s
AKASG Malin Array Be 122.49 326 PKP **PKPdf 18 37 58.4 -0.3**
comp=Z,7.6nm,0.8s,baz=60,slow=2.4,SNR=17
AKASG Malin Array Be 122.49 326 PKIKP **PKPdf 18 37 58.4 -0.3**
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKBB Malin Array Si 122.49 326 *e*PKPdf **PKPdf 18 37 59.4 +0.6**
AK01 Malin Array Si 122.50 326 *e*PKPdf **PKPdf 18 37 59.0 +0.2**
KIEV Kiev 122.50 326 *i* PKIKP **PKPdf 18 37 58.7 0.0**
KIEV Kiev 122.50 326 PFAKE 18 38 10.0 +11
KIEV LR LR
comp=Z,2μm,20.0s
AK02 Malin Array Si 122.52 326 *e*PKPdf **PKPdf 18 37 58.5 -0.3**
MTDJ Mount Denham 122.61 74 PFAKE 18 38 10.0 +10
MTDJ LR LR
comp=Z,807nm,19.0s
BOSA Boshof 123.24 227 PKP **PKPdf 18 38 01.6 +0.5**
comp=Z,17nm,0.6s,baz=132,slow=2.1,SNR=54
BOSA Boshof 123.24 227 PKIKP **PKPdf 18 38 01.6 +0.5**
BOSA pmax pmax
comp=Z,17nm,0.6s
BOSA Boshof 123.24 227 *e*PKPdf **PKPdf 18 38 00.9 -0.2**
BOSA PKP **PKPdf 18 38 01.6 +0.5**
NB2 NORSAR Subarra 123.37 343 PKPdf **PKPdf 18 38 01.0 +0.8**
comp=Z,8.7nm,1.2s,baz=39,slow=1.9
NB2 NORSAR Subarra 123.37 343 PKPdf **PKPdf 18 38 01.0 +0.8**
baz=39,slow=1.9
NOA NORSAR Array B 123.37 343 PKP **PKPdf 18 38 00.4 +0.2**
comp=Z,10nm,1.0s,baz=37,slow=1.9,SNR=17
NOA NORSAR Array B 123.37 343 PKIKP **PKPdf 18 38 00.4 +0.2**
NOA pmax pmax
comp=Z,10.0nm,1.0s
PKME Peaks-Kenny Pk 123.75 41 PFAKE 18 38 10.0 +8.7
PKME LR LR
comp=Z,2μm,20.0s
SUW Suwalki 123.79 331 *e*PKP **PKPdf 18 38 02.3 +1.2**
SUW Suwalki 123.79 331 *e*PKIKP **PKPdf 18 38 02.4 +1.3**
SUR Sutherland 124.02 221 PFAKE 18 38 10.0 +7.4
SUR LR LR
comp=Z,2μm,20.0s
BR131 Keskin Array S 124.05 312 *e*PKPdf **PKPdf 18 38 02.0 -0.2**
BRTR Keskin Array B 124.05 312 PKP **PKPdf 18 38 02.4 +0.1**
comp=Z,1.6nm,0.6s,baz=144,slow=4.2,SNR=13
BRTR PP **PP 18 39 47.5 +0.9**
comp=Z,4.9nm,1.1s,baz=102,slow=5.2,SNR=4.3
BRTR PKKPbc **PKKPbc 18 47 49.0 +0.4**
comp=Z,1.0nm,0.8s,baz=224,slow=3.4,SNR=6.2
BRTR Keskin Array B 124.05 312 PKIKP **PKPdf 18 38 02.4 +0.1**
BRTR 18 39 47.5
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR pmax pmax
comp=Z,5.0nm,1.1s
BORG Borgarnes 124.25 1 PFAKE 18 38 10.0 +8.3
BORG LR LR
comp=Z,1μm,21.0s
KIS Kishinev 124.47 322 *e*PP PP 18 39 50.0 +1.2
KIS LRM MLR 19 31 15.0

comp=Z,700nm,20.0s
ANTO Ankara 124.62 313 ⇓PKIKP PKPdf 18 38 03.7 +0.4
ANTO Ankara 124.62 313 ⇓*i*P PKPdf 18 38 03.7 +0.4
ANTO Ankara 124.62 313 PFAKE 18 38 20.0 +17
ANTO LR LR
comp=Z,580nm,20.0s
GTBY Guantanamo Bay 124.84 72 PFAKE 18 38 20.0 +16
GTBY LR LR
comp=Z,806nm,19.0s
LBTB Lobatse 124.95 231 *e*PKPdf **PKPdf 18 38 04.5 +0.1**
KONO Kongsberg 124.97 343 PFAKE 18 38 20.0 +17
KONO LR LR
comp=Z,1μm,20.0s
LPAZ La Paz 125.35 117 PKP **PKPdf 18 38 07.1 +1.1**
comp=Z,4.6nm,0.7s,baz=270,slow=1.9,SNR=17
LPAZ La Paz 125.35 117 PKIKP **PKPdf 18 38 07.1 +1.1**
LPAZ pmax pmax
comp=Z,5.0nm,0.7s
CSS Prodhromos 125.68 307 PFAKE 18 38 20.0 +15
CSS LR LR
comp=Z,275nm,20.0s
CFR Carcaliu 125.72 320 ⇑PKIKP **PKPdf 18 38 05.8 +0.7**
CFR Carcaliu 125.72 320 ⇑*i*P **PKPdf 18 38 05.8 +0.7**
LVV L'vov 125.79 327 *e*PKIKP **PKPdf 18 38 05.9 +0.8**
LVV *e* 18 56 52.8
LVV MLR MLR
comp=Z,900nm,21.0s
LVV MLR MLR
comp=N,700nm,20.0s
LVV MLR MLR
comp=E,700nm,20.0s
TIRR Tirgusor 125.87 319 ⇓PKIKP **PKPdf 18 38 06.1 +0.7**
TIRR Tirgusor 125.87 319 ⇓*i*P **PKPdf 18 38 06.1 +0.7**
BUR08 Bucovina Ar. S 126.31 324 *e*PKPdf **PKPdf 18 38 09.2 +2.9**
BURAR Bucovina Array 126.31 324 ⇑PKIKP **PKPdf 18 38 08.8 +2.5**
BURAR Bucovina Array 126.31 324 ⇑*i*P **PKPdf 18 38 08.8 +2.5**
PSN Preselentsi 126.36 319 ⇓PKIKP **PKPdf 18 38 08.4 +2.0**
PSN Preselentsi 126.36 319 ⇓*i*P **PKPdf 18 38 08.4 +2.0**
MSAB Monastry St. A 126.41 319 ⇓*i*P **PKPdf 18 38 08.9 +2.5**
KWP Kalwaria Pacla 126.61 327 *e*PKP **PKPdf 18 38 07.7 +1.1**
KWP Kalwaria Pacla 126.61 327 *e*PKIKP **PKPdf 18 38 07.8 +1.1**
BSD Bornholm Skovb 126.65 336 *i* P **PKPdf 18 38 07.4 +0.9**
comp=Z,2μm,23.0s
BSD Bornholm Skovb 126.65 336 *i* PKIKP **PKPdf 18 38 07.4 +0.9**
BSD MLR MLR
comp=Z,2μm,23.0s
ISR Istrita 126.75 321 ⇓PKIKP **PKPdf 18 38 09.0 +1.8**
ISR Istrita 126.75 321 ⇓*i*P **PKPdf 18 38 09.0 +1.8**
MLR Muntele Rosu 126.94 322 ⇓PKIKP **PKPdf 18 38 08.4 +0.8**
MLR Muntele Rosu 126.94 322 ⇓*i*P **PKPdf 18 38 08.4 +0.8**
ISP Isparta 126.98 311 PFAKE 18 38 20.0 +12
ISP LR LR
comp=Z,841nm,21.0s
KOLS Kolonicke sedl 127.24 327 *e*PKIKP **PKPdf 18 38 09.5 +1.6**
KOLS Kolonicke sedl 127.24 327 *e*PKP **PKPdf 18 38 09.5 +1.6**
LSZ Lusaka 127.37 243 *e*PKPdf **PKPdf 18 38 10.1 +0.8**
LSZ LR LR
comp=Z,1μm,20.0s
UZH Uzhgorod 127.40 327 *e*PKIKP **PKPdf 18 38 06.9 -1.3**
STHS Stebnicka Huta 127.51 328 *e*PKIKP **PKPdf 18 38 10.5 +2.1**
STHS Stebnicka Huta 127.51 328 *e*PKP **PKPdf 18 38 10.5 +2.1**
VOIR 127.52 322 ⇓PKIKP **PKPdf 18 38 12.1 +3.4**
VOIR 127.52 322 ⇓*i*P **PKPdf 18 38 12.1 +3.4**
LLD Lille Linde 127.52 338 *i* P **PKPdf 18 38 08.2 0.0**
LLD Lille Linde 127.52 338 *e*PKIKP **PKPdf 18 38 08.2 0.0**
MUD Monsted U'grnd 127.70 341 *i* P **PKPdf 18 38 10.6 +2.1**
MUD *i* 18 40 13.1
comp=Z,2μm,19.0s
MUD Monsted U'grnd 127.70 341 *e*PKIKP **PKPdf 18 38 10.6 +2.1**
MUD *i* 18 40 13.1
MUD MLR MLR
comp=Z,2μm,19.0s
CJR Cluj-Napoca 127.73 324 ⇓PKIKP **PKPdf 18 38 10.8 +1.8**
CJR Cluj-Napoca 127.73 324 ⇓*i*P **PKPdf 18 38 10.8 +1.8**
OJC Ojcow 127.77 329 *e*PKP **PKPdf 18 38 10.2 +1.4**
OJC Ojcow 127.77 329 *e*PKIKP **PKPdf 18 38 10.3 +1.4**
JMB Yambol 127.94 318 ⇓PKIKP **PKPdf 18 38 11.8 +2.4**
JMB Yambol 127.94 318 ⇓*i*P **PKPdf 18 38 11.8 +2.4**
NIE Niedzica 127.99 328 *e*PKP **PKPdf 18 38 11.4 +2.0**
NIE Niedzica 127.99 328 *e*PKIKP **PKPdf 18 38 11.4 +2.0**
HUMR Humele 128.01 321 ⇓*i*P **PKPdf 18 38 11.4 +1.9**
DRGR 128.20 324 ⇓PKIKP **PKPdf 18 38 10.9 +1.0**
DRGR 128.20 324 ⇓*i*P **PKPdf 18 38 10.9 +1.0**
GRTK Grand Turk 128.44 70 PFAKE 18 38 20.0 +9.0
GRTK LR LR
comp=Z,989nm,20.0s
KECS Kecovo 128.47 327 *e*PKIKP **PKPdf 18 38 12.1 +1.8**
KECS Kecovo 128.47 327 *e*PKP **PKPdf 18 38 12.1 +1.8**
SDDR Presa de Saban 128.50 73 PFAKE 18 38 20.0 +8.8
SDDR LR LR
comp=Z,1μm,19.0s
OKC Ostrava-Krasne 128.83 330 *e*PKPdf **PKPdf 18 38 12.3 +1.4**
OKC *ep*PKP **pPKPdf 18 38 20.1 -3.1**
OKC *ex* x 18 38 23.0
OKC *e*PP **PP 18 40 18.7 +1.3**
OKC *e*SKP 18 41 42.7
OKC *e*SP SP 18 50 20.9 +0.1
OKC *e*SS **SS 18 57 28.5 -4.2**
OKC AMS AMS 19 36 30.0
comp=Z,2μm,19.8s
OKC Ostrava-Krasne 128.83 330 *e*PKIKP **PKPdf 18 38 12.3 +1.4**
OKC *e* 18 38 20.1
OKC *e* 18 38 23.0
OKC *e* 18 40 18.7
OKC *e*SP SP 18 50 20.9 +0.1
OKC *e*SS **SS 18 57 28.5 -4.2**
OKC MLR MLR
comp=Z,2μm,19.8s
CPUP Villa Florida 128.91 134 PKP **PKPdf 18 38 12.0 +0.2**
comp=Z,20nm,1.2s,baz=261,slow=0.7,SNR=11
CPUP Villa Florida 128.91 134 PKIKP **PKPdf 18 38 12.0 +0.2**
CPUP pmax pmax
comp=Z,20nm,1.2s
CPUP Villa Florida 128.91 134 PKP **PKPdf 18 38 12.0 +0.2**
CPUP *e*PKPdf **PKiKP 18 38 12.9 +0.5**
GZR Gura Zlata 128.91 323 ⇓PKIKP **PKPdf 18 38 13.2 +1.9**
GZR Gura Zlata 128.91 323 ⇓*i*P **PKPdf 18 38 13.1 +1.8**
RUE Ruedersdorf 129.03 335 *e*PKPdf **PKPdf 18 38 13.5 +2.3**
KSP Ksiaz 129.06 332 *e*PKP **PKPdf 18 38 14.0 +2.7**
KSP Ksiaz 129.06 332 *e*PKIKP **PKPdf 18 38 14.0 +2.7**
SDV Santo Domingo 129.08 86 *e*PKPdf **PKPdf 18 38 12.3 -0.4**
SDV LR LR
comp=Z,969nm,21.0s
KDZ Kurdzhali 129.09 317 ⇓PKIKP **PKPdf 18 38 13.6 +1.9**
KDZ Kurdzhali 129.09 317 ⇓*i*P **PKPdf 18 38 13.6 +1.9**
KDZ Kurdzhali 129.09 317 *e*P **PKSab 18 41 32.0 -1.0**
MORC Moravsky Berou 129.17 330 ⇓PKIKP **PKPdf 18 38 13.5 +1.9**
MORC Moravsky Berou 129.17 330 ⇓*i*P **PKPdf 18 38 13.4 +1.9**
MORC Moravsky Berou 129.17 330 *e*PKPdf **PKPdf 18 38 13.6 +1.9**
BSEG Bad Segeberg 129.31 338 *e*PKPdf **PKPdf 18 38 13.0 +1.4**
KRLC Kraliky 129.35 331 *e*PKPdf **PKPdf 18 38 13.7 +1.7**
KRLC *ex* x 18 38 20.2
KRLC Kraliky 129.35 331 *e*PKIKP **PKPdf 18 38 13.7 +1.7**
KRLC *e* 18 38 20.2
MPEP Malo Peshtene 129.37 320 *e*P **PKSbc 18 41 34.0 -1.1**
DPC Dobruska-Polom 129.38 331 *e*PKPdf **PKPdf 18 38 13.5 +1.5**
DPC *ep*PKP **pPKPdf 18 38 24.9 +0.6**
DPC *e*PP **PP 18 40 16.5 -4.5**
DPC *ex* x 18 41 34.7
DPC *e*SP SP 18 50 19.4 -6.2
DPC *ex* x 18 57 32.1
DPC AMS AMS 19 35 20.0
comp=Z,2μm,21.2s
DPC Dobruska-Polom 129.38 331 *e*PKIKP **PKPdf 18 38 13.5 +1.5**
DPC *e* 18 38 24.9
DPC *e*SP SP 18 50 19.4 -6.2
DPC *e*SS SS 18 57 32.1 -7.4
DPC MLR MLR
comp=Z,2μm,21.2s
UPC Upice 129.42 332 *e*PKPdf **PKPdf 18 38 13.6 +1.6**
UPC *ex* x 18 38 20.2
UPC Upice 129.42 332 *e*PKIKP **PKPdf 18 38 13.6 +1.6**
UPC *e* 18 38 20.2
BZS Buzias 129.48 324 ⇓PKIKP **PKPdf 18 38 14.4 +2.1**
BZS Buzias 129.48 324 ⇓*i*P **PKPdf 18 38 14.4 +2.1**
MBAR Mbarara 129.51 262 PFAKE 18 38 30.0 +17
MBAR LR LR
comp=Z,432nm,19.0s
VRAC Vranov 129.95 330 ⇓PKIKP **PKPdf 18 38 15.7 +2.6**
VRAC Vranov 129.95 330 ⇓*i*P **PKPdf 18 38 15.7 +2.6**
HLG Helgoland 129.98 340 *e*PKPdf **PKPdf 18 38 14.4 +1.5**
PVCC Panska Ves 130.08 332 *e*PKPdf **PKPdf 18 38 14.7 +1.4**
PVCC *ep*PKP **pPKPdf 18 38 23.3 -2.3**
PVCC *ex* x 18 38 27.4
PVCC *e*PP **PP 18 40 27.9 +2.5**
PVCC *e*PKS PKSdf 18 41 37.4 -12
PVCC AMS AMS 19 38 50.0
comp=Z,3μm,18.7s
PVCC Panska Ves 130.08 332 *e*PKIKP **PKPdf 18 38 14.7 +1.4**
PVCC *e* 18 38 23.3
PVCC *e* 18 38 27.4
PVCC *e* 18 40 27.9
PVCC MLR MLR
comp=Z,3μm,18.7s
VTS Vitosha 130.09 320 P **PKSab 18 41 36.4 -1.2**
VTS Vitosha 130.09 320 ⇓PKIKP **PKPdf 18 38 14.6 +0.9**
VTS Vitosha 130.09 320 ⇓*i*P **PKPdf 18 38 14.6 +0.9**
VTS Vitosha 130.09 320 *e*P **PKSab 18 41 35.0 -2.6**
BRG Berggiesshubel 130.12 333 *e*PKP **PKPdf 18 38 14.8 +1.5**
comp=Z,23nm,1.4s
BRG PP PP 18 40 14.0 -12
BRG PKS PKSdf 18 41 38.5 -11
comp=Z,9.9nm,1.2s
BRG SS SS 18 57 36.0 -12
comp=N,1μm,18.9s
comp=E,979nm,18.7s
comp=Z,2μm,20.2s
BRG Berggiesshubel 130.12 333 *e*PKPdf **PKPdf 18 38 14.6 +1.3**
BRG Berggiesshubel 130.12 333 *e*PKIKP **PKPdf 18 38 14.8 +1.5**
BRG pmax pmax
comp=Z,23nm,1.4s
BRG MLR MLR
comp=N,1μm,18.9s
BRG MLR MLR
comp=E,979nm,18.7s
BRG MLR MLR
comp=Z,2μm,20.2s
CLL Collm 130.21 334 *e*PKPdf **PKPdf 18 38 14.5 +1.1**
CLL Collm 130.21 334 ⇓*i*PKPdf **PKPdf 18 38 14.6 +1.1**
comp=Z,12nm,1.1s
CLL *i* 18 38 21.8
CLL *e*PP **PP 18 40 30.0 +3.8**
CLL *i* PKSbc **PKSbc 18 41 39.0 +1.4**
comp=Z,28nm,1.7s
CLL *i* SKPdf **SKPdf 18 41 46.2 +0.2**
CLL *e* 18 42 28.0
CLL *e*SKSac **SKSdf 18 45 27.0 +4.9**
CLL *e*SKKSac **SKKSac 18 47 24.0 +3.5**
CLL *e*PS **PS 18 50 34.0 -4.5**
CLL *e*PPS PPS 18 52 13.0
CLL *e*SS **SS 18 57 50.0 +0.6**
CLL *e* 18 59 05.0
CLL *e*SKSSKSac **S'S'ac 19 00 15.0 +1.0**
CLL *e*SSS SSS 19 02 36.0
CLL *e* 19 03 47.0
CLL Lm MLR 19 36 00.0
comp=N,1μm,21.0s
CLL Lm MLR 19 36 00.0
comp=E,600nm,20.6s
CLL Lm MLR 19 36 00.0
comp=Z,1μm,21.4s
CLL Collm 130.21 334 ⇓*i*PKIKP **PKPdf 18 38 14.6 +1.1**
CLL *i* 18 38 21.8
CLL *e* 18 45 27.0
CLL pmax pmax
comp=Z,12nm,1.1s
CLL MLR MLR
comp=Z,1μm,21.4s
MMB Musomiste 130.23 318 ⇓PKIKP **PKPdf 18 38 14.5 +0.6**
MMB Musomiste 130.23 318 ⇓*i*P **PKPdf 18 38 14.5 +0.6**
MMB Musomiste 130.23 318 *e*P **SKPbc 18 41 35.0 +0.9**
FBE Freiberg 130.34 334 *e*PKPdf **PKPdf 18 38 15.3 +1.6**
GOPC GO Pecny, Ondr 130.40 332 *e*PKPdf **PKPdf 18 38 15.2 +1.3**
GOPC *ep*PKP **pPKPdf 18 38 25.6 -0.6**
GOPC *e*PP **PP 18 40 26.1 -1.5**
GOPC *e*SKP 18 41 35.4
GOPC *e*SP SP 18 50 35.1 +0.7
GOPC *ex* x 18 52 06.8
GOPC AMS AMS 19 36 00.0
comp=Z,3μm,22.0s
PRA Prague 130.46 332 *e*PKPdf **PKPdf 18 38 15.7 +1.7**
PRA *e*PP **PP 18 40 29.3 +1.4**
PRA *e*SKP 18 41 39.8
PRA AMS AMS 19 38 50.0
comp=Z,3μm,20.2s
PRA Prague 130.46 332 *e*PKIKP **PKPdf 18 38 15.7 +1.7**
PRA *e* 18 40 29.3
PRA MLR MLR
comp=Z,3μm,20.2s
PRU Pruhonice 130.47 332 *e*PKPdf **PKPdf 18 38 14.0 0.0**
PRU *ep*PKP **pPKPdf 18 38 25.9 -0.4**
PRU *e*PP **PP 18 40 24.6 -3.3**
PRU *e*SKP 18 41 37.9
PRU *e*SP SP 18 50 31.8 -3.1
PRU *ex* x 18 52 05.4
PRU *e*SS **SS 18 57 47.0 -5.7**
PRU AMS AMS 19 36 00.0
comp=Z,3μm,21.5s
PRU Pruhonice 130.47 332 *e*PKIKP **PKPdf 18 38 14.0 0.0**
PRU *e* 18 38 25.9
PRU *e* 18 40 24.6
PRU *e*SP SP 18 50 31.8 -3.1
PRU *e* 18 52 05.4
PRU *e*SS **SS 18 57 47.0 -5.7**
PRU MLR MLR
comp=Z,3μm,21.5s
TREC Trest 130.49 331 *e*PKPdf **PKPdf 18 38 15.2 +1.1**
TREC *ep*PKP **pPKPdf 18 38 23.2 -3.2**
TREC *e*PP **PP 18 40 31.3 +3.1**
TREC *e*SKP 18 41 33.9
TREC AMS AMS 19 37 20.0
comp=Z,3μm,19.8s
TREC Trest 130.49 331 *e*PKIKP **PKPdf 18 38 15.2 +1.1**
TREC *e* 18 38 23.2
TREC *e* 18 40 31.3
TREC MLR MLR
comp=Z,3μm,19.8s
KKB Krupnik 130.52 319 *e*P **PKSbc 18 41 40.0 +0.8**
PKSM Moragy 130.83 326 ⇑PKIKP **PKPdf 18 38 16.5 +1.7**
PKSM Moragy 130.83 326 ⇑*i*P **PKPdf 18 38 16.5 +1.7**
TANN Tannenbergstha 131.10 334 *e*PKPdf **PKPdf 18 38 16.6 +1.3**
WERD Werda 131.14 334 *e*PKPdf **PKPdf 18 38 16.6 +1.3**
PLN Plauen 131.18 334 *e*PKPdf **PKPdf 18 38 16.8 +1.4**
GUNZ Gunzen 131.19 334 *e*PKPdf **PKPdf 18 38 16.9 +1.5**
CONA Conrad Observa 131.22 329 ⇑*i*PKiKP **PKiKP 18 38 16.3 -0.2**
comp=Z,12nm,1.4s
CONA ⇑*i*SKPdf **SKPdf 18 41 43.3 -4.8**
comp=Z,11nm,1.6s
WERN Wernitzgruen 131.23 334 *e*PKPdf **PKPdf 18 38 17.1 +1.6**
NKC Novy Kostel 131.24 333 *e*PKPdf **PKPdf 18 38 17.1 +1.6**
NKC *ep*PP **PP 18 40 31.9 -1.0**
NKC *e*SKP 18 41 38.4
NKC *ex* x 18 41 56.2
NKC *e*SS SS 18 58 04.5 +2.4
NKC AMS AMS 19 36 50.0
comp=Z,2μm,22.3s
NKC Novy Kostel 131.24 333 *e*PKIKP **PKPdf 18 38 17.1 +1.6**
NKC *e* 18 40 31.9
NKC *e*SS SS 18 58 04.5 +2.4
NKC MLR MLR
comp=Z,2μm,22.3s
SANT Santorini 131.27 311 PFAKE 18 38 30.0 +14
SANT LR LR
comp=Z,633nm,20.0s
DIVS Divibare 131.28 323 P **PKSbc 18 41 41.0 -1.1**
DIVS Divibare 131.28 323 ⇓*i*P **PKPdf 18 38 18.2 +2.3**
MOX Moxa 131.30 334 *e*PKPdf **PKPdf 18 38 16.9 +1.3**
KHC Kasperske Hory 131.51 332 *e*PKPdf **PKPdf 18 38 16.9 +0.8**
KHC *ep*PKP **pPKPdf 18 38 28.3 -0.1**
KHC *es*PKP 18 38 31.4
KHC *e*PP **PP 18 40 36.0 +1.2**
KHC *e*SKP 18 41 42.6
KHC *e*SS SS 18 58 07.8 +2.2
KHC AMS AMS 19 37 30.0
comp=Z,3μm,20.4s
KHC Kasperske Hory 131.51 332 *e*PKIKP **PKPdf 18 38 16.9 +0.8**
KHC *e* 18 38 28.3
KHC *e* 18 40 36.0
KHC *e*SS SS 18 58 07.8 +2.2
KHC MLR MLR
comp=Z,3μm,20.4s
KHC Kasperske Hory 131.51 332 *e*PKPdf **PKPdf 18 38 16.8 +0.7**
IBBN Ibbenburen 131.54 338 *e*PKPdf **PKPdf 18 38 17.4 +1.5**
MANZ Manzenberg 131.57 333 *e*PKPdf **PKPdf 18 38 17.7 +1.5**
XOR Xorichti 131.63 316 P **SKPab 18 41 39.8 -0.1**
GEC2 GERESS Array S 131.66 331 *e*PKPdf **PKPdf 18 38 17.7 +1.3**
GERES GERESS Array B 131.66 331 PKP **PKPdf 18 38 16.7 +0.3**
comp=Z,4.7nm,0.8s,baz=79,slow=2.9,SNR=28
GERES SKPbc **SKPab 18 41 43.6 +3.8**
comp=Z,7.0nm,1.2s,baz=54,slow=3.4,SNR=8.8
GERES GERESS Array B 131.66 331 PKIKP **PKPdf 18 38 16.7 +0.3**
GERES pmax pmax
comp=Z,5.0nm,0.8s
GERES pmax pmax
comp=N,7.0nm,1.2s
ROTZ Rotzenmuhle 131.68 333 *e*PKPdf **PKPdf 18 38 17.9 +1.6**
LIT Litokhoron 131.77 317 P **PKSbc 18 41 43.6 -0.3**
BBSR BB Station 131.82 54 PFAKE 18 38 30.0 +13
BBSR LR LR
comp=Z,976nm,19.0s
WET Wettzell 131.83 332 *e*PKPdf **PKPdf 18 38 18.1 +1.4**
UBBA Unterbreizbach 131.84 336 *e*PKPdf **PKPdf 18 38 17.9 +1.5**
ARSA Arzberg 131.84 329 ⇑*i*SKPab **SKPab 18 41 43.2 +2.7**
comp=Z,19nm,1.4s
ESK Eskdalemuir 132.05 348 PFAKE 18 38 30.0 +13
ESK LR LR
comp=Z,1μm,21.0s
ATAL Atalanti 132.06 315 P **SKPab 18 41 41.7 0.0**
ATAL Atalanti 132.06 315 P **SKPab 18 41 41.7 0.0**
FNA Florina 132.18 318 P **SKPab 18 41 44.4 +2.2**
AXAR Agios Charalam 132.28 315 P **SKPab 18 41 44.2 +1.5**
AXAR Agios Charalam 132.28 315 P **SKPab 18 41 44.2 +1.5**
THL Klokotos Trika 132.35 317 P **SKPab 18 41 42.1 -0.8**
AGG Agios Georgios 132.39 316 P **SKPab 18 41 43.3 +0.2**
AGG Agios Georgios 132.39 316 P **SKPab 18 41 43.3 +0.2**
LTK Loutraki 132.40 314 P **SKPab 18 41 41.0 -2.2**
LTK Loutraki 132.40 314 P **SKPab 18 41 41.0 -2.2**
DID Didima 132.43 314 P **SKPab 18 41 44.3 +0.9**
DID Didima 132.43 314 P **SKPab 18 41 44.3 +0.9**
PERS Pernice 132.46 328 *i* PKPdf **PKPdf 18 38 17.8 -0.2**
PERS Pernice 132.46 328 *e*PKPdf **PKSab 18 41 47.5 +0.1**
PERS *e* **PKSdf 18 41 55.8 +1.4**
DIDY Didyma 132.46 314 P **PKSbc 18 41 44.6 -2.0**
SOKA Soboth 132.47 328 ⇑*i*PKPdf **PKPdf 18 38 18.0 -0.1**
comp=Z,9.3nm,1.0s
ACOR Acrocorinthos 132.53 314 P **PKSab 18 41 45.4 -2.6**
MAKR Makrakomi, Fth 132.53 316 P **PKSab 18 41 44.6 -3.3**
MAKR Makrakomi, Fth 132.53 316 P **PKSab 18 41 44.6 -3.3**
DSF Desfina 132.53 315 P **PKSab 18 41 44.6 -3.4**
DSF Desfina 132.53 315 P **PKSab 18 41 44.6 -3.4**
KRND KRANIDI 132.55 313 P **PKSab 18 41 44.0 -4.0**
SAML Samuel 132.60 111 *e*PKPdf **PKPdf 18 38 19.1 0.0**
SAML LR LR
comp=Z,831nm,22.0s
EVR Evrytania 132.79 316 P **PKSab 18 41 46.2 -3.1**
EVR Evrytania 132.79 316 P **PKSab 18 41 46.2 -3.1**
KALE Kalithea 132.81 315 P PKSab 18 41 44.3 -5.0
KALE Kalithea 132.81 315 P PKSab 18 41 44.3 -5.0
TIR Tirane 132.86 320 PFAKE 18 38 30.0 +11
TIR LR LR
comp=Z,1μm,20.0s
GUR Goura 132.88 314 P **PKSab 18 41 45.0 -4.7**
GUR Goura 132.88 314 P **PKSab 18 41 45.0 -4.7**
EFP Efpalio 132.96 315 P **PKSab 18 41 46.9 -2.8**
KLV Kalavryta, Ach 132.96 315 P **PKSab 18 41 45.4 -4.5**
KLV Kalavryta, Ach 132.96 315 P **PKSab 18 41 45.4 -4.5**
VLX Vlachokerasia 133.10 314 P PKSab 18 41 41.7 -9.0
BOJS Bojanci 133.12 327 *i* PKPdf **PKPdf 18 38 19.9 +0.7**
BOJS Bojanci 133.12 327 *i* PKPdf **PKSab 18 41 49.9 -0.3**
VISS Visnje 133.15 328 *i* P **PKPdf 18 38 19.5 +0.3**
VISS Visnje 133.15 328 *e*PKPdf **PKSbc 18 41 49.4 +1.0**
VISS *i* 18 41 58.0
DRO Drossia 133.31 315 P **PKSab 18 41 50.8 -0.6**
SJG San Juan 133.43 74 PFAKE 18 38 30.0 +10
SJG LR LR
comp=Z,639nm,21.0s
JAVS Javornik 133.50 328 *e*PKPdf **PKPdf 18 38 19.1 -0.9**
JAVS Javornik 133.50 328 *i* PKPdf **PKSab 18 41 51.0 -1.0**
JAVS *e* 18 42 00.5
IGT Igoumenitsa 133.50 317 P **SKPbc 18 41 47.3 +1.6**
IGT Igoumenitsa 133.50 317 P **SKPbc 18 41 47.3 +1.6**
AMT Artemida-Makis 133.51 314 P **SKPbc 18 41 50.5 +4.6**
ITM Ithomi 133.51 314 P **SKPbc 18 41 46.6 +0.7**
ITM Ithomi 133.51 314 P **SKPbc 18 41 46.6 +0.7**
MEM Membach 133.56 338 PKP **PKPdf 18 38 21.6 +1.8**
ABTA Abfaltersbach 133.70 330 ⇑*i*SKPab **SKPab 18 41 49.7 +1.1**
comp=Z,13nm,1.1s
STU Stuttgart 133.74 334 *e*PKPdf **PKPdf 18 38 21.9 +1.6**
STU Stuttgart 133.74 334 *e*PKPdf **PKPdf 18 38 21.9 +1.6**
WTTA Wattenberg 133.75 331 ⇑*i*PKPdf **PKPdf 18 38 20.4 -0.2**
comp=Z,14nm,0.9s
MOTA Moosalm 133.95 332 ⇑*i*PKPdf **PKPdf 18 38 21.1 +0.2**
comp=Z,9.6nm,0.8s
LANF Langenberg 134.16 335 PKP **PKPdf 18 38 22.2 +1.1**
SNF Seneffe 134.26 339 PKP **PKPdf 18 38 23.8 +2.7**
WLF Walferdange 134.27 337 PKP **PKPdf 18 38 23.2 +2.0**
WLF Walferdange 134.27 337 *e*PKPdf **PKPdf 18 38 23.4 +2.2**
WLF Walferdange 134.27 337 *e*PKPdf **PKPdf 18 38 23.5 +2.3**
WLF LR LR
comp=Z,2μm,19.0s
TSUM Tsumeb 134.33 232 *e*PKPdf **PKPdf 18 38 23.3 +0.9**
TSUM LR LR
comp=Z,3μm,19.0s
FETA Feichten 134.36 332 ⇑*i*PKiKP **PiKiKP 18 38 23.2 +0.2**
comp=Z,16nm,0.9s
FETA ⇓*i*SKPdf **SKPdf 18 41 54.1 +0.1**
comp=Z,17nm,1.1s
BFO Black Forest 134.45 335 *c i*PKIKP **PKPdf 18 38 25.7 +4.1**
BFO Black Forest 134.45 335 *e*PKPdf **PKPdf 18 38 22.4 +0.8**
BFO LR LR
comp=Z,1μm,22.0s
DOU Dourbes 134.50 339 PKP **PKPdf 18 38 24.2 +2.6**
DAVA Damuels 134.56 332 ⇑*i*PKiKP **PiKiKP 18 38 23.6 +0.2**
comp=Z,7.7nm,0.8s
ECH Echery 135.03 335 PKP **PKPdf 18 38 25.1 +2.4**
ECH Echery 135.03 335 *e*PKPdf **PKPdf 18 38 23.9 +1.2**
ECH LR LR
comp=Z,2μm,22.0s
TUE Stuetta 135.41 332 *e*PKPdf **PKPdf 18 38 23.7 0.0**
TUE LR LR
comp=Z,2μm,20.0s
LOMF Lomont 135.85 335 PKP **PKPdf 18 38 27.2 +2.9**
TIP Timpagrande 136.03 319 PKP **PKPdf 18 38 25.4 +0.5**
TIP LR LR
comp=Z,657nm,21.0s
CUC Castrocucco 136.18 321 PFAKE 18 38 40.0 +15
CUC LR LR
comp=Z,558nm,20.0s
AQU L'Aquila 136.18 325 ⇓PKHKP PKPpre 18 38 15.5
AQU L'Aquila 136.18 325 ⇓*i*P PKPpre 18 38 15.5
AQU L'Aquila 136.18 325 *e*PKPdf **PKPdf 18 38 26.6 +1.5**
AQU LR LR
comp=Z,1μm,22.0s
VLC Villacollemand 136.58 329 PFAKE 18 38 40.0 +14
VLC LR LR
comp=Z,2μm,21.0s
CEL Celeste 137.11 319 PFAKE 18 38 40.0 +13
CEL LR LR
comp=Z,867nm,21.0s
ANWB Willy Bob 137.60 74 PFAKE 18 38 40.0 +12
ANWB LR LR
comp=Z,664nm,20.0s
BNI Bardonecchia 137.70 333 *e*PKPdf **PKPdf 18 38 27.0 -1.0**
BNI LR LR
comp=Z,2μm,22.0s
GRGR Grenville 138.03 82 PFAKE 18 38 40.0 +11
GRGR LR LR
comp=Z,691nm,21.0s
PTGA Pitinga 138.13 101 PFAKE 18 38 40.0 +11
PTGA LR LR
comp=Z,12μm,21.0s
TOUF Mont Tournerai 138.23 331 PKP **PKPdf 18 38 32.9 +3.9**
PLDF La Plantade 138.27 336 PKP **PKPdf 18 38 30.4 +1.5**
MVIF Mont Vial 138.36 331 PKP **PKPdf 18 38 31.3 +2.1**
REVF Revere 138.38 331 PKP **PKPdf 18 38 31.7 +2.6**
FDF Fort de France 138.45 78 PFAKE 18 38 40.0 +10
FDF LR LR
comp=Z,666nm,19.0s
SSB Saint Sauveur 138.46 335 *e*PKPdf **PKPdf 18 38 30.6 +1.4**
SSB LR LR
comp=Z,2μm,21.0s
CALN Calern 138.60 331 PKP **PKPdf 18 38 31.2 +1.6**
LBL Lubilhac 139.03 336 PKP **PKPdf 18 38 33.2 +2.9**
WDD Wield Dalam 139.34 316 PFAKE 18 38 40.0 +9.0
WDD LR LR
comp=Z,635nm,21.0s
BBGH Gun Hill 140.06 80 PFAKE 18 38 50.0 +17
BBGH LR LR

comp=Z,1µm,20.0s
VSL Villasalto 140.35 325 PFAKE 18 38 50.0 +17
VSL LR LR
comp=Z,788nm,22.0s
BDFB Brasilia 142.33 130 PKhKP PKPpre 18 38 33.5
comp=Z,17nm,1.0s,baz=212,slow=0.5,SNR=14
BDFB Brasilia 142.33 130 PKHKP PKPpre 18 38 33.5
BDFB pmax pmax
comp=Z,17nm,1.0s
KEST Kesra 142.82 320 PKP **PKPdf 18 38 35.4 -2.0**
comp=Z,4.4nm,0.9s,baz=200,slow=0.2,SNR=10
CMAH Djebel Manchou 143.43 323 P PKPbc 18 38 36.5 +0.9
ABSA Djebel Ababsia 143.62 323 P PKPbc 18 38 37.0 +0.7
CKFL Kef-Lekhel 143.99 323 P **PKPdf 18 38 38.8 -0.7**
CASM Ain Smara 144.22 323 P PKPbc 18 38 38.4 +0.4
DFRA Djebel Bou Aff 144.38 324 P **PKPdf 18 38 40.0 -0.2**
CTEI Djebel Teioual 144.41 323 P **PKPdf 18 38 40.5 +0.2**
SET Setif 144.90 324 P **PKPdf 18 38 42.0 +0.9**
CKHR Kef el Ahmar 144.96 324 P **PKPdf 18 38 41.3 +0.1**
PBRG Braganca 145.50 344 *e*PKPdf **PKPab 18 38 43.5 +1.4**
PBRG Braganca 145.50 344 *e*PKPdf **PKPab 18 38 43.5 +1.4**
PGAV Gavieira, Arco 145.75 346 *e*PKPdf **PKPab 18 38 43.9 +0.8**
PGAV Gavieira, Arco 145.75 346 *e*LQ LQ 19 19 38.5
PGAV Gavieira, Arco 145.75 346 *e*PKPdf **PKPab 18 38 43.9 +0.8**
PGAV Gavieira, Arco 145.75 346 *e*LQ LQ 19 19 38.5
PCAB Cabril 145.93 345 *e*PKPdf **PKPab 18 38 44.6 +0.9**
PCAB Cabril 145.93 345 *e*PKPdf **PKPab 18 38 44.6 +0.9**
MVO Moncorvo 146.17 344 *e*PKPdf **PKPab 18 38 45.0 +0.3**
MVO Moncorvo 146.17 344 *e*LQ LQ 19 19 58.1
MVO Moncorvo 146.17 344 *e*PKPdf **PKPab 18 38 45.0 +0.3**
MVO Moncorvo 146.17 344 *e*LQ LQ 19 19 58.1
POLO Lamas de Olo 146.18 345 *e*PKPdf **PKPab 18 38 45.2 +0.4**
POLO Lamas de Olo 146.18 345 *e*PKPdf **PKPab 18 38 45.2 +0.4**
ESDC Sonseca Array 146.54 339 PKPbc **PKPbc 18 38 45.4 +0.3**
comp=Z,15nm,1.0s,baz=19,slow=3.1,SNR=53
PAB San Pablo 146.79 339 *e*PKPdf **PKPbc 18 38 45.1 -0.9**
PAB LR LR
comp=Z,2µm,20.0s
PCBR Castelo Branco 147.53 343 *e*PKPdf **PKPab 18 38 49.1 -0.8**
PCBR Castelo Branco 147.53 343 *e*PKPdf **PKPab 18 38 49.1 -0.8**
PCAS Casmilo, Conde 147.61 345 *e*PKPdf **PKPbc 18 38 47.6 -0.5**
PCAS Casmilo, Conde 147.61 345 *e*PKPdf **PKPbc 18 38 47.6 -0.5**
PMRV Marv??o 147.88 343 *e*PKPdf **PKPbc 18 38 49.0 +0.1**
PMRV Marv??o 147.88 343 *e*PKPdf **PKPbc 18 38 49.0 +0.1**
PESTR Estremoz 148.46 343 *e*PKPdf **PKPab 18 38 52.5 -1.2**
PESTR Estremoz 148.46 343 *e*PKPdf **PKPab 18 38 52.5 -1.2**
ODJA Bouhanifia 148.55 329 P **PKPbc 18 38 51.0 +0.2**
EVO Evora 148.90 343 *e*PKPdf **PKPbc 18 38 52.9 +1.4**
EVO Evora 148.90 343 *e*PKPdf **PKPbc 18 38 52.9 +1.4**
PBAR Barrancos 148.93 341 *e*PKPdf **PKPbc 18 38 50.3 -1.3**
PBAR Barrancos 148.93 341 *e*PKPdf **PKPbc 18 38 50.3 -1.3**
PGRA Graciosa 148.98 14 *e*PKP **PKPbc 18 38 51.3 -0.4**
PGRA Graciosa 148.98 14 *e*PP PP 18 42 24.9 +3.5
PGRA Graciosa 148.98 14 *e*LQ LQ 19 22 27.5
PGRA *e*LR LR 19 31 03.5
comp=Z,140nm,22.1s
LIS Lisbon 149.03 345 *e*P **PKPdf 18 38 47.6 -0.2**
LIS AMS AMS 19 50 23.4
comp=Z,2µm,15.3s
ROSA Rosais 149.21 14 *e*PKP **PKPbc 18 38 50.8 -1.5**
ROSA Rosais 149.21 14 *e*PP PP 18 42 25.4 +2.7
ROSA Rosais 149.21 14 *e*LQ LQ 19 22 10.8
ROSA *e*LR LR 19 30 25.9
comp=Z,94nm,23.5s
OLHC Oulhaca 149.23 331 P **PKPbc 18 38 52.0 -0.5**
PNCL Nicolau / Gran 149.43 344 *e*PKPdf **PKPdf 18 38 50.4 +2.0**
PNCL Nicolau / Gran 149.43 344 *e*PKPdf **PKPdf 18 38 50.4 +2.0**
MESJ Messejana 149.60 343 *e*P **PKPdf 18 38 48.5 -0.2**
MESJ AMS AMS 19 48 41.8
comp=Z,1µm,13.3s
MESJ Messejana 149.60 343 *e*PKIKP **PKPdf 18 38 48.5 -0.2**
MESJ Messejana 149.60 343 *e*PKPdf **PKPbc 18 38 51.4 -1.9**
MESJ Messejana 149.60 343 *e*PKPdf **PKPbc 18 38 51.4 -1.9**
PCVE Castro Verde 149.74 342 *e*PKPdf **PKPbc 18 38 52.0 -1.6**
PCVE Castro Verde 149.74 342 *e*PKPdf **PKPbc 18 38 52.0 -1.6**
PVAQ Vaqueiros 149.85 342 *e*PKPdf **PKPbc 18 38 52.6 -1.3**
PVAQ Vaqueiros 149.85 342 *e*LQ LQ 19 20 30.1
PVAQ Vaqueiros 149.85 342 *e*PKPdf **PKPbc 18 38 52.6 -1.3**
PVAQ Vaqueiros 149.85 342 *e*LQ LQ 19 20 30.1
PTEO Sao Teotonio 150.02 343 *e*PKPdf **PKPbc 18 38 56.3 +2.0**
PTEO Sao Teotonio 150.02 343 *e*PKPdf **PKPbc 18 38 56.3 +2.0**
PBDV Barranco-do-Ve 150.06 342 *e*PKPdf **PKPbc 18 38 56.2 +1.7**
PBDV Barranco-do-Ve 150.06 342 *e*PKPdf **PKPbc 18 38 56.2 +1.7**
MORF Marmelete 150.22 343 *e*P **PKPdf 18 38 49.5 -0.3**
MORF AMS AMS 19 49 28.2
comp=Z,1µm,19.8s
MORF Marmelete 150.22 343 *e*PKIKP **PKPdf 18 38 49.5 -0.3**
MORF Marmelete 150.22 343 *e*PKPdf **PKPbc 18 38 52.9 -2.0**
MORF Marmelete 150.22 343 *e*PKPdf **PKPbc 18 38 52.9 -2.0**
PFVI Vila Bisbo 150.43 343 *e*PKPdf **PKPbc 18 38 53.4 -1.9**
PFVI Vila Bisbo 150.43 343 *e*PKPdf **PKPbc 18 38 53.4 -1.9**
PSET Sete Cidades 150.61 11 *e*LQ LQ 19 22 44.3
PSET *e*LR LR 19 30 30.1
comp=Z,124nm,20.6s
PSMN Pico do Norte, 151.53 10 *e*PKP **PKPdf 18 38 52.5 +0.8**
PSMN Pico do Norte, 151.53 10 *e*LR LR 19 30 17.6
comp=Z,64nm,15.4s
TAM Tamanrasset 152.69 303 *e*PKPbc **PKPbc 18 39 03.0 +1.9**
TAM LR LR
comp=Z,1µm,19.0s
PMOZ Porto Moniz, M 156.16 356 A A 20 10 01.1
comp=Z,1µm,18.0s
PMOZ Porto Moniz, M 156.16 356 A A 20 10 01.1
comp=Z,1µm,18.0s
RCBR Riachuelo 157.71 131 PFAKE 18 39 10.0 +9.0
RCBR LR LR
comp=Z,1µm,22.0s
TORD Torodi Ar. Bea 159.21 283 PKP **PKPdf 18 39 02.0 -0.6**
comp=Z,8.8nm,0.8s,baz=12,slow=1.1,SNR=34
TORD PKPab **PKPab 18 39 40.0 +0.2**
comp=Z,32nm,1.0s,baz=78,slow=3.7,SNR=18
DBIC Dimbokro 165.75 262 PKP **PKPdf 18 39 08.9 -0.3**
comp=Z,12nm,1.1s,baz=117,slow=0.7,SNR=4.0
DBIC PKPab **PKPab 18 40 10.9 +2.3**
comp=Z,6.3nm,0.8s,baz=72,slow=4.8,SNR=4.5
DBIC Dimbokro 165.75 262 PKIKP **PKPdf 18 39 08.9 -0.3**
DBIC pmax pmax
comp=Z,13nm,1.1s
SACV Santiago Islan 172.53 36 PFAKE 18 39 20.0 +6.6
SACV LR LR
comp=Z,780nm,20.0s

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*IDC **28** 18:22:53.5±0.5, 9.°00S×160.°84E, h0km, mb4.9/17, mb1 5.0/17, mb1mx4.8/27, mbtmp4.9/17, Error ellipse: s-maj=16.8km s-min=13.1km az=105.0*
*ISCJB **28** 18:22:57.6±0.2, 8.°94S±0.°04×160.°82E±0.°04, h33km, mb5.1/46, Error ellipse: s-maj=5.9km s-min=5.6km az=29.9*
*BJI **28** 18:22:58.3, 9.°14S×160.°35E, h23km, mb5.2/48, mB5.2/31, Ms5.4/28, Ms7 5.2/28*
*NEIC **28** 18:22:59.2±0.2, 8.°88S×160.°90E, h35km, mb5.3/29, Error ellipse: s-maj=6.2km s-min=5.2km az=109.0*

ISC 28 18:22:58.8±0.4, 8.°95S±0.°05×160.°97E±0.°06, h33km±1km, h33km:pP-P, n177, σ1=43/208, mb5.2/47, 3C-2D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.12**	**244**	*e*P		**Pb**	**18 23 20.7**		**+1.0**
DZM	**Mont Dzumac**	**14.07**	**159**	Pn		**Pn**	**18 26 18.6**		**+2.6**
	3.2nm,0.3s,baz=90,slow=24,SNR=18								
CTA	**Charters Tower**	**18.03**	**230**	P		**P**	**18 27 08.9**		**+1.7**
	4.5nm,0.3s,baz=43,slow=12,SNR=14								
CTAO	**Charters Tower**	**18.03**	**230**	*e*P		**P**	**18 27 10.5**		**+3.3**
MSVF	**Nonsavu**	**18.76**	**119**	P		**P**	**18 27 14.8**		**-0.6**
EIDS	**Eidsvold**	**18.85**	**209**	*e*P		**Pn**	**18 27 18.9**		**+2.0**
JAY	**Jayapura**	**21.14**	**286**	P		**P**	**18 27 39.6**		**-1.7**
	129nm,0.9s,baz=113,slow=5.9,SNR=12								
ARMA	**Armidale**	**23.08**	**201**	*e*P		**P**	**18 28 02.8**		**+1.0**
H11S2	**WAKE ISLAND Hy**	**27.84**	**12**	T		T	18 57 51.3		
	baz=194,slow=76,SNR=3								
H11S3	**WAKE ISLAND Hy**	**27.84**	**12**	T		T	18 57 56.3		
	baz=194,slow=76,SNR=14								
H11S1	**WAKE ISLAND Hy**	**27.86**	**12**	T		T	18 57 50.9		
	baz=194,slow=76,SNR=10								
WRAB	**Tennant Creek**	**27.95**	**244**	P		**P**	**18 28 46.2**		**-0.3**
	1µm,0.7s,SNR=13								
WRAB	**Tennant Creek**	**27.95**	**244**	*e*P		**P**	**18 28 46.2**		**-0.3**
WRA	**Warramunga Arr**	**27.96**	**244**	P		**P**	**18 28 46.6**		**0.0**
	101nm,0.7s,baz=70,slow=9.3,SNR=33								
WRA				S		**S**	**18 33 27.0**		**-1.8**
	4.0nm,1.1s,baz=72,slow=14,SNR=4.8								
WRA				ScP		**ScP**	**18 35 41.5**		**+1.4**
	2.6nm,0.6s,baz=73,slow=3.7,SNR=9.6								
STKA	**Stephens Creek**	**29.06**	**216**	P		**P**	**18 28 55.2**		**-0.9**
	34nm,0.6s,baz=49,slow=12,SNR=9.0								
STKA	**Stephens Creek**	**29.06**	**216**	*e*P		**P**	**18 28 56.6**		**+0.5**
H11N1	**WAKE ISLAND Hy**	**29.07**	**12**	T		T	18 59 17.2		
	baz=192,slow=76,SNR=135								
H11N3	**WAKE ISLAND Hy**	**29.08**	**12**	T		T	18 59 11.4		
	baz=192,slow=76,SNR=74								
H11N2	**WAKE ISLAND Hy**	**29.09**	**12**	T		T	18 59 11.7		
	baz=192,slow=76,SNR=121								
AS31	**Alice Springs**	**29.73**	**237**	*e*P		**P**	**18 29 01.3**		**-1.0**
ASAR	**Alice Springs**	**29.73**	**237**	P		**P**	**18 29 01.7**		**-0.7**
	54nm,0.7s,baz=61,slow=10,SNR=34								
ASAR				ScP		**ScP**	**18 35 47.5**		**+1.8**
	9.2nm,0.8s,baz=61,slow=3.0,SNR=22								
URZ	**Urewera**	**32.61**	**156**	P		**P**	**18 29 27.9**		**+0.5**
	4.3nm,0.4s,baz=273,slow=3.0,SNR=5.6								
BBOO	**Buckleboo**	**33.08**	**221**	*e*P		**P**	**18 29 31.9**		**+0.3**
	7.4nm,0.8s								
BKZ	**Black Stump Fm**	**33.15**	**158**	*e*P		**P**	**18 29 32.8**		**+0.5**
	212nm,2.3s								
RPZ	**Rata Peaks**	**35.74**	**167**	P		**P**	**18 29 54.3**		**-0.2**
	30nm,0.8s,baz=215,slow=1.5,SNR=6.8								
RPZ	**Rata Peaks**	**35.74**	**167**	*e*P		**P**	**18 29 55.0**		**+0.5**
	41nm,1.0s								
DCZ	**Deep Cove**	**36.79**	**173**	*e*P		**P**	**18 30 03.6**		**+0.2**
	31nm,0.9s								
FORT	**Forrest**	**37.58**	**230**	*e*P		**P**	**18 30 09.9**		**-0.4**
	124nm,0.9s								
MMRI	**Maumere**	**38.27**	**267**	*e*P		**P**	**18 30 15.0**		**-1.4**
	226nm,1.1s								
CBIJ	**Chichi jima**	**40.20**	**334**	*e*P		**P**	**18 30 30.2**		**-2.0**
KAPI	**Kappang**	**41.08**	**273**	*e*P		**P**	**18 30 38.5**		**-1.3**
MBWA	**Marble Bar**	**41.51**	**248**	*e*P		**P**	**18 30 42.5**		**-0.7**
	74nm,0.8s								
KKM	**Kota Kinabalu**	**47.03**	**287**	*e*P		**P**	**18 31 26.6**		**-1.1**
SMRI	**Semarang**	**50.05**	**268**	*e*P		**P**	**18 31 49.2**		**-1.6**
MJAR	**Matsushiro Arr**	**50.05**	**336**	P		**P**	**18 31 49.8**		**-0.7**
	3.8nm,0.8s,baz=171,slow=9.0,SNR=5.2								
MAJO	**Matsushiro**	**50.05**	**336**	*e*P		**P**	**18 31 48.4**		**-2.1**
MAT	**Matsushiro**	**50.05**	**336**	P		**P**	**18 31 49.6**		**-0.9**
YULB	**Yu-li**	**50.38**	**310**	*e*P		**P**	**18 31 52.4**		**-0.8**
NACB	**Ninganchiao**	**50.61**	**311**	*e*P		**P**	**18 31 54.5**		**-0.3**
TPUB	**Ta-pu**	**50.83**	**310**	*e*P		**P**	**18 31 55.5**		**-1.1**
SSLB	**Suanglung**	**50.86**	**311**	*e*P		**P**	**18 31 56.9**		**0.0**
	23nm,0.9s								
YHNB	**Yeheng**	**51.06**	**312**	*e*P		**P**	**18 31 58.2**		**-0.2**
TATO	**Taipei**	**51.16**	**312**	*e*P		**P**	**18 31 58.9**		**-0.1**
KSM	**Kuching**	**51.53**	**279**	*e*P		**P**	**18 32 00.4**		**-1.6**
CISI	**Cisompet, Garu**	**52.59**	**267**	*e*P		**P**	**18 32 09.2**		**-0.8**
QZH	**Quanzhou**	**53.29**	**310**	⇑/P		**P**	**18 32 15.8**		**+1.0**
QZH				PMZ					
	130nm,0.8s								
ASAJ	**Asahikawa**	**55.38**	**344**	*e*P		**P**	**18 32 30.6**		**+1.0**
	9.4nm,1.0s								
KSRS	**Korea Array**	**55.56**	**328**	P		**P**	**18 32 31.2**		**+0.1**
	8.0nm,1.0s,baz=139,slow=6.8,SNR=6.1								
KSAR	**Wonju Array Be**	**55.58**	**328**	P		**P**	**18 32 31.2**		**0.0**
NJ2	**Nanjing**	**57.27**	**317**	*e*P		**P**	**18 32 45.3**		**+1.9**
NJ2				pP		**pP**	**18 32 53.0**		**-0.5**
NJ2				sP		**sP**	**18 32 57.3**		**-0.1**
NJ2				S		**S**	**18 40 37.5**		**+0.1**
NJ2				sS		**sS**	**18 40 54.0**		**0.0**
NJ2				PMZ					
	70nm,1.0s								
NJ2				PMZ					
	450nm,8.9s								
NJ2				LN					
	2µm,17.3s								
NJ2				LE					
	3µm,16.0s								
NJ2				LZ					
	4µm,17.2s								
YSS	**Yuzh-Sakhalins**	**57.97**	**345**	P		**P**	**18 32 45.9**		**-2.1**
USRK	**Ussuriysk Ar.**	**59.05**	**336**	P		**P**	**18 32 55.7**		**+0.1**
	14nm,1.0s,baz=150,slow=6.1,SNR=12								
WHN	**Wuhan**	**59.52**	**313**	⇑/P		**P**	**18 32 59.3**		**+0.2**
WHN				pP		**pP**	**18 33 07.8**		**-1.5**
MDJ	**Mudanjiang**	**60.38**	**335**	*e*P		**P**	**18 33 06.2**		**+1.4**
	39nm,1.3s								
TIA	**Tai'an**	**60.96**	**320**	⇓P		**P**	**18 33 09.0**		**+0.1**
TIA				PMZ					
	20nm,0.9s								
IPM	**Ipoh**	**61.23**	**280**	*e*P		**P**	**18 33 10.8**		**-0.4**
CN2	**Changchun**	**61.60**	**331**	*e*P		P	18 33 20.5		+7.4
CN2				PMZ					
	20nm,1.0s								
CN2				PMZ					
	110nm,4.0s								
PETK	**Petropavlovsk-**	**61.88**	**358**	P		**P**	**18 33 14.8**		**0.0**
	7.3nm,0.8s,baz=161,slow=9.4,SNR=4.6								
PSI	**Prapat**	**62.93**	**278**	*e*P		**P**	**18 33 20.8**		**-2.0**
	57nm,1.8s								
GYA	**Guiyang**	**63.37**	**305**	P		**P**	**18 33 27.8**		**+2.4**
GYA				pP		**pP**	**18 33 37.5**		**+1.9**
GYA				PcP		**PcP**	**18 34 03.3**		**+1.0**
GYA				PP		**PP**	**18 35 48.8**		**+3.6**
GYA				ScP			18 38 02.0		
GYA				S		**S**	**18 41 55.5**		**-0.6**
GYA				SS		**SS**	**18 46 04.5**		**+1.0**
GYA				PMZ					
	20nm,1.0s								
GYA				PMZ					
	130nm,5.2s								
GYA				LN					
	630nm,20.4s								
GYA				LE					
	570nm,21.6s								
GYA				LZ					
	650nm,20.0s								
SLVN	**Son La**	**63.58**	**299**	*e*P		**P**	**18 33 27.6**		**+0.8**
	15nm,1.0s								
BJI	**Beijing**	**63.95**	**323**	P		**P**	**18 33 29.5**		**+0.8**
BJI				PMZ					
	11nm,1.0s								
BJI				PMZ					
	79nm,4.5s								
GSI	**Gunungsitoli**	**63.97**	**276**	*e*P		**P**	**18 33 27.8**		**-1.7**
	52nm,1.1s								
XAN	**Xi'an**	**65.26**	**314**	P		**P**	**18 33 37.5**		**-0.1**
XAN				PMZ					
	19nm,0.9s								
KMI	**Kunming**	**66.03**	**302**	P		**P**	**18 33 44.3**		**+1.4**
KMI				sP		**sP**	**18 33 59.5**		**+2.4**
KMI				S		**S**	**18 42 28.8**		**-0.4**
KMI				PMZ					
	43nm,1.4s								
KMI				LN					
	560nm,18.5s								
KMI				LE					
	820nm,17.8s								
KMI				LZ					
	830nm,16.4s								
CM31	**Chiang Mai Arr**	**66.97**	**294**	*e*P		**P**	**18 33 48.8**		**0.0**
	10nm,0.7s								
CMAR	**Chiang Mai Arr**	**66.97**	**294**	P		**P**	**18 33 49.3**		**+0.5**
	12nm,0.8s,baz=126,slow=5.2,SNR=18								
CHTO	**Chiang Mai**	**67.08**	**295**	*e*P		**P**	**18 33 49.7**		**+0.2**
	54nm,1.5s								
HHC	**Hu-ho-hao-te**	**67.23**	**321**	*e*P		**P**	**18 33 51.3**		**+1.1**
HHC				PP		**PP**	**18 36 17.5**		**-1.2**
HHC				S		**S**	**18 42 48.0**		**+5.1**
HHC				sS		**sS**	**18 42 57.0**		**-2.9**
HHC				SS		**SS**	**18 47 06.5**		**+3.4**
HHC				PMZ					
	22nm,1.3s								
HHC				PMZ					
	150nm,7.1s								
HHC				LN					
	1µm,16.7s								
HHC				LE					
	2µm,16.5s								
HHC				LZ					
	2µm,16.9s								
CD2	**Chengdu**	**67.61**	**309**	P		**P**	**18 33 52.5**		**-0.2**
CD2				pP		**pP**	**18 34 03.0**		**0.0**
CD2				sP		**sP**	**18 34 07.5**		**+0.6**
CD2				PP		**PP**	**18 36 21.8**		**-0.4**
CD2				S		**S**	**18 42 47.5**		**-0.3**
CD2				SKS		**SKiKP**	**18 43 47.5**		**-1.0**
CD2				SS		**SS**	**18 47 10.0**		**+0.7**
CD2				PMZ					
	10.0nm,0.5s								
CD2				PMZ					
	120nm,5.2s								
HIA	**Hailar**	**68.28**	**332**	*e*P		**P**	**18 33 57.2**		**+0.7**
VNDA	**Vanda**	**68.55**	**180**	P		**P**	**18 33 57.9**		**+0.2**
	7.6nm,0.9s,baz=343,slow=6.5,SNR=7.6								
SBA	**Scott Base**	**68.95**	**179**	*e*P		**P**	**18 34 00.8**		**+0.6**
LZH	**Lanzhou**	**69.89**	**314**	*e*P		**P**	**18 34 08.8**		**+1.8**
LZH				pP		**pP**	**18 34 18.5**		**+1.2**
LZH				sP		**sP**	**18 34 23.0**		**+1.9**
LZH				PcP		**PcP**	**18 34 32.5**		**+3.2**
LZH				PP		**PP**	**18 36 45.3**		**+3.3**
LZH				SS		**SS**	**18 47 43.5**		**-1.1**
LZH				PMZ					
	48nm,1.0s								
LZH				PMZ					
	190nm,5.3s								
LZH				LN					
	1µm,17.7s								
LZH				LE					
	380nm,15.2s								
LZH				LZ					
	1µm,18.6s								
SONM	**Songino Array**	**74.24**	**325**	P		**P**	**18 34 33.6**		**+1.0**
	9.5nm,0.6s,baz=133,slow=5.3,SNR=20								
GTA	**Gaotai**	**74.24**	**315**	⇑P		**P**	**18 34 34.0**		**+1.1**
GTA				pP		**pP**	**18 34 44.5**		**+1.2**
GTA				sP		**sP**	**18 34 48.5**		**+1.4**
GTA				S		**S**	**18 44 04.0**		**-0.6**
GTA				sS		**sS**	**18 44 21.5**		**-0.3**
GTA				SKS		**SKSac**	**18 44 35.0**		**-3.5**
GTA				SS		**SS**	**18 48 52.0**		**+1.0**
GTA				PMZ					
	50nm,1.2s								
GTA				PMZ					
	220nm,5.5s								
GTA				LN					
	640nm,15.2s								
GTA				LE					
	1µm,16.2s								
GTA				LZ					
	1µm,17.1s								
YAK	**Yakutsk**	**74.82**	**345**	*e*P		**P**	**18 34 35.3**		**-0.2**
	29nm,0.9s								
BILL	**Bilibino**	**76.89**	**2**	*e*P		**P**	**18 34 47.5**		**+0.3**
	19nm,1.1s								
LSA	**Lhasa**	**77.27**	**303**	*e*P		**P**	**18 34 52.3**		**+1.4**
	34nm,1.2s								
TLY	**Talaya**	**77.81**	**328**	*e*P		**P**	**18 34 53.5**		**+0.7**
BRLK	**Bradley Lake**	**78.44**	**23**	*e*P		**P**	**18 34 57.1**		**+1.0**
	102nm,2.1s								
SEW	**Seward**	**79.21**	**23**	*e*P		**P**	**18 35 00.9**		**+0.7**
TAPN	**Taplejung**	**79.48**	**300**	*e*P		**P**	**18 35 03.2**		**+0.3**
	88nm,1.2s								
ODAN	**Odare**	**79.63**	**299**	*e*P		**P**	**18 35 04.0**		**+0.4**
	69nm,0.8s								
RC01	**Rabbit Creek A**	**79.74**	**22**	P		**P**	**18 35 01.4**		**-1.8**
RAMN	**Ramite**	**80.33**	**299**	*e*P		**P**	**18 35 07.4**		**-0.1**
	82nm,1.4s								
CAST	**Castle Rocks**	**80.48**	**19**	*e*P		**P**	**18 35 07.2**		**0.0**
	9.2nm,0.8s								
QSPA	**South Pole Qui**	**81.04**	**180**	*e*P		**P**	**18 35 09.4**		**-1.0**
TRF	**Thorofare Moun**	**81.10**	**20**	*e*P		**P**	**18 35 10.3**		**-0.3**
	9.2nm,0.8s								
GUN	**Gumba**	**81.20**	**300**	*e*P		**P**	**18 35 12.6**		**+0.4**
	105nm,1.1s								
BPAW	**Bear Paw Mtn.**	**81.30**	**19**	*e*P		**P**	**18 35 10.3**		**-1.2**
PKI	**Pulchoki**	**81.52**	**300**	*e*P		**P**	**18 35 13.8**		**-0.1**
	79nm,1.1s								
PKIN	**Phulchoki**	**81.53**	**300**	*e*P		**P**	**18 35 14.6**		**+0.7**
	41nm,1.1s								
KKN	**Kakani**	**81.68**	**300**	*e*P		**P**	**18 35 14.6**		**0.0**
	146nm,1.7s								
MCK	**McKinley**	**81.74**	**20**	*e*P		**P**	**18 35 13.3**		**-0.5**
	24nm,0.9s								
DMN	**Daman**	**81.78**	**300**	*e*P		**P**	**18 35 15.1**		**-0.1**
	173nm,1.2s								
GKN	**Gorkha**	**82.28**	**300**	*e*P		**P**	**18 35 17.7**		**0.0**
	105nm,0.9s								
CCB	**Clear Creek Bu**	**82.71**	**20**	*e*P		**P**	**18 35 18.2**		**-0.6**
	8.7nm,0.9s								
COLA	**College**	**82.83**	**20**	*e*P		**P**	**18 35 19.1**		**-0.3**
	16nm,0.9s								
HDA	**Harding Lake**	**82.84**	**20**	*e*P		**P**	**18 35 21.5**		**+1.9**
	16nm,0.8s								
ILAR	**Eielson Array**	**83.09**	**20**	P		**P**	**18 35 20.2**		**-0.7**
	3.7nm,0.7s,baz=252,slow=5.2,SNR=15								
ILAR				PKKPbc		**PKKPbc**	**18 53 41.6**		**-4.0**
	0.5nm,0.5s,baz=330,slow=1.7,SNR=5.6								
KOLN	**Koldanda**	**83.12**	**299**	*e*P		**P**	**18 35 21.8**		**-0.3**
	80nm,1.0s								
TIXI	**Tiksi**	**83.19**	**350**	*e*P		**P**	**18 35 20.6**		**-0.6**
H02S1	**DAWSON INLET T**	**83.51**	**34**	T		T	20 07 22.9		
	SNR=17								
WMQ	**Urumqi**	**84.31**	**316**	P		**P**	**18 35 28.3**		**+0.6**
WMQ				pP		**pP**	**18 35 38.8**		**+0.6**
WMQ				sP		**sP**	**18 35 42.8**		**+0.8**
WMQ				PP		**PP**	**18 38 44.5**		**+1.7**
WMQ				SKS		**SKSac**	**18 45 45.5**		**-3.5**
WMQ				SS		**SS**	**18 51 24.8**		**+3.1**
WMQ				PMZ					
	34nm,1.8s								
WMQ				PMZ					
	250nm,5.0s								
WMQ				LN					
	290nm,9.2s								
WMQ				LE					
	190nm,11.3s								
WMQ				LZ					
	100nm,16.1s								
HYT	**Haines Junctio**	**84.48**	**26**	*e*P		**P**	**18 35 27.9**		**-0.3**
MAW	**Mawson**	**84.87**	**202**	P		**P**	**18 35 28.9**		**-1.1**
	8.7nm,0.8s,baz=122,slow=7.0,SNR=10.0								
MAW	**Mawson**	**84.87**	**202**	*e*P		**P**	**18 35 29.1**		**-0.9**
HYB	**Hyderabad**	**85.50**	**288**	/ P		**P**	**18 35 32.5**		**-1.6**
HYBB	**Hyderabad (bro**	**85.50**	**288**	*e*P		**P**	**18 35 33.1**		**-1.1**
YBH	**Yreka Blue Hor**	**85.85**	**47**	P		**P**	**18 35 37.0**		**+1.6**
HUMO	**Hull Mountain**	**85.91**	**46**	*e*P		**P**	**

baz=97
BRVK Borovoye 97.49 323 eP P 18 36 28.8 -0.6
13nm,1.1s
ABKAR Akbulak array 103.92 319 ePKKPbc PKKPbc 18 52 48.6 -1.3
HKT Hockley 105.81 61 ePKKPbc PKKPbc 18 52 43.2 -0.2
SUMG Summit 115.34 6 i P Pdif 18 37 51.8 +2.9
SUMG i 18 39 09.5
comp=Z,2µm,22.0s
SUMG Summit 115.34 6 i PKIKP Pdif 18 37 51.8 +2.9
SUMG MLR MLR
comp=Z,2µm,22.0s
RAYN Ar Rayn 116.83 292 ePKPdf PKPdf 18 41 40.8 -0.1
FINES FINESS Array B 118.07 337 PKP PKPdf 18 41 41.8 -0.2
comp=Z,6.1nm,0.9s,baz=115,slow=9.0,SNR=6.9
AKASG Malin Array Be 122.52 326 PKP PKPdf 18 41 49.2 -1.7
comp=Z,3.9nm,0.7s,baz=60,slow=2.0,SNR=10
BOSA Boshof 123.25 227 PKP PKPdf 18 41 51.9 -1.3
comp=Z,9.3nm,0.6s,baz=138,slow=2.4,SNR=31
NB2 NORSAR Subarra123.39 343 PKPdf PKPdf 18 41 51.4 -1.0
comp=Z,2.5nm,0.9s,baz=39,slow=1.9
NOA NORSAR Array B 123.39 343 PKP PKPdf 18 41 51.3 -1.0
comp=Z,4.0nm,0.8s,baz=39,slow=2.0,SNR=13
BRTR Keskin Array B 124.09 312 PKP PKPdf 18 41 54.2 -0.3
comp=Z,1.1nm,0.6s,baz=145,slow=4.4,SNR=5.9
LPAZ La Paz 125.32 117 PKP PKPdf 18 41 57.1 -0.9
comp=Z,2.9nm,0.7s,baz=301,slow=6.4,SNR=6.1
LSZ Lusaka 127.39 243 ePKPdf PKPdf 18 42 00.2 -1.1
OKC Ostrava-Krasne 128.86 330 ePKPdf PKPdf 18 42 04.0 +0.9
CPUP Villa Florida 128.88 134 PKP PKPdf 18 42 04.3 +0.5
comp=Z,8.4nm,1.1s,baz=26,slow=1.7,SNR=5.4
SDV Santo Domingo 129.06 86 ePKPdf PKPdf 18 42 05.0 +0.3
KRLC Kraliky 129.38 331 ePKPdf PKPdf 18 42 04.7 +0.6
KRLC ex x 18 42 08.9
KRLC epPKP pPKPdf 18 42 11.3 -3.7
PVCC Panska Ves 130.10 332 ePKPdf PKPdf 18 42 06.2 +0.8
PVCC epPKP pPKPdf 18 42 14.0 -2.3
CLL Collm 130.24 334 ePKPdf PKPdf 18 42 06.0 +0.4
comp=Z,25nm,1.8s
GOPC GO Pecny, Ondr 130.43 332 ePKPdf PKPdf 18 42 07.0 +0.9
GOPC epPKP pPKPdf 18 42 15.0 -2.0
PRU Pruhonice 130.49 332 ePKPdf PKPdf 18 42 06.0 -0.2
PRU epPKP pPKPdf 18 42 14.0 -3.1
KHC Kasperske Hory 131.54 332 ePKPdf PKPdf 18 42 08.9 +0.7
KHC ex x 18 42 14.8
GERES GERESS Array B 131.69 331 PKP PKPdf 18 42 09.2 +0.6
comp=Z,2.7nm,0.8s,baz=48,slow=2.0,SNR=6.9
GERES SKPbc SKPab 18 45 33.9 +1.4
comp=Z,1.4nm,0.9s,baz=62,slow=3.2,SNR=5.7
MEM Membach 133.59 338 PKP PKPdf 18 42 13.9 +2.0
MEM Membach 133.59 338 ePKPdf PKPdf 18 42 14.0 +2.0
SNF Seneffe 134.29 339 PKP PKPdf 18 42 13.7 +0.4
DOU Dourbes 134.52 339 PKP PKPdf 18 42 15.9 +2.1
BDFB Brasilia 142.30 130 PKhKP PKPpre 18 42 24.8
comp=Z,56nm,1.4s,baz=222,slow=4.9,SNR=4.3
KEST Kesra 142.85 320 PKhKP PKPpre 18 42 26.2
comp=Z,2.2nm,0.9s,baz=262,slow=5.1,SNR=4.2
ESDC Sonseca Array 146.57 339 PKPbc PKPbc 18 42 36.9 -0.5
comp=Z,7.1nm,0.9s,baz=24,slow=3.0,SNR=9.5
PAB San Pablo 146.82 339 ePKPdf PKPdf 18 42 36.0 -0.3
TAM Tamanrasset 152.73 303 ePKPbc PKPbc 18 42 54.9 +1.5
TORD Torodi Ar. Bea 159.24 283 PKP PKPdf 18 42 54.8 -0.1
comp=Z,6.8nm,0.9s,baz=47,slow=1.0,SNR=7.9
TORD PKPab PKPab 18 43 30.1 -2.0
comp=Z,7.0nm,0.9s,baz=72,slow=3.9,SNR=6.1

IDC 28 18:31:46.5±7.2, 9°69S×162°09E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/30, mbtmp3.9/3, Error ellipse: s-maj=195.3km s-min=37.9km az=116.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	28.65	246	P	P	18 37 44.7	-0.5
	1.8nm,0.7s,baz=76,slow=8.6,SNR=11						
ASAR	Alice Springs	30.28	239	P	P	18 38 00.1	+0.4
	0.8nm,0.4s,baz=62,slow=10,SNR=20						
SONM	Songino Array	75.47	325	P	P	18 43 32.9	+0.1
	0.2nm,0.5s,baz=104,slow=4.6,SNR=2.0						

KRSC 28 18:33:43.0±1.7, 49°45N×156°32E, h85km±30km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.25	354	eP	Pn	18 34 06.0	+0.7
SKR				eS	Sn	18 34 23.2	+1.2
PAU	Pauzhetka	2.05	9	eP	Pn	18 34 18.0	+2.4
PAU				eS	Sn	18 34 43.4	+2.9
MIPR	Malaya Ipel'ka	2.85	5	eP	Pn	18 34 26.6	+0.3
ASAK	Asacha	3.11	18	eP	Pn	18 34 32.6	+2.7
RUS	Russkaya	3.30	24	eP	Pn	18 34 34.7	+2.4
RUS				eS	Sn	18 35 12.7	+2.3
PET	Petropavlovsk	3.87	21	eS	Sn	18 35 26.6	+2.2
UGLR	Uglovaya	4.08	22	eP	Pn	18 34 46.2	+3.1
AVH	Avacha	4.11	21	eP	Pn	18 34 45.9	+2.4
KOK	Koryaka	4.12	20	eP	Pn	18 34 46.8	+3.2
SMAR	Somma	4.13	21	eP	Pn	18 34 47.0	+3.1
KRER	Koryakskii	4.15	21	eP	Pn	18 34 47.4	+3.2
SDLR	Sedlovina	4.16	22	eP	Pn	18 34 47.3	+3.1
SPN	Mys Shipunski	4.33	31	eP	Pn	18 34 49.6	+3.2
GNL	Ganaly	4.37	13	eP	Pn	18 34 49.6	+2.5
MKZ	Mys Kozlova	6.11	31	eP	Pn	18 35 12.1	+1.6

IDC 28 18:33:44.0±0.9, 8°74S×160°80E, h0km, mb4.1/13, mb1 4.3/15, mb1mx4.1/33, mbtmp4.1/15, ML3.4/2, Error ellipse: s-maj=29.4km s-min=16.7km az=119.0
NEIC 28 18:33:49.2±0.4, 8°78S×160°79E, h35km, mb4.1/4, Error ellipse: s-maj=11.9km s-min=7.7km az=115.0
ISC 28 18:33:49.0±0.7, 8°96S±0°10×161°0E±0°1, h43km, n28, σ1s12/26, mb4.0/16, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	14.04	159	Pn	P	18 37 09.8	-2.5
	0.1nm,0.3s,baz=90,slow=20,SNR=1.6						
CTA	Charters Tower	18.07	231	P	Pn	18 37 57.8	+0.9
	0.1nm,0.3s,baz=18,slow=11,SNR=2.3						
CTAO	Charters Tower	18.07	231	eP	P	18 37 56.6	-0.3
	7.0nm,0.9s						
WRAB	Tennant Creek	28.00	244	eP	P	18 39 36.4	+0.3
	8.0nm,0.8s						
WRA	Warramunga Arr	28.01	244	P	P	18 39 34.9	-1.3
	5.7nm,0.7s,baz=73,slow=9.4,SNR=28						
H11N1	WAKE ISLAND Hy	29.07	11	T	T	19 10 00.2	
	baz=192,slow=76,SNR=21						
H11N3	WAKE ISLAND Hy	29.08	11	T	T	19 10 01.1	
	baz=192,slow=76,SNR=33						
STKA	Stephens Creek	29.08	216	P	P	18 39 47.1	+1.5
	3.2nm,0.9s,baz=0.4,slow=16,SNR=5.2						
STKA	Stephens Creek	29.08	216	eP	P	18 39 45.6	0.0
H11N2	WAKE ISLAND Hy	29.09	11	T	T	19 10 00.7	
	baz=192,slow=76,SNR=42						
AS31	Alice Springs	29.78	237	eP	P	18 39 51.7	-0.2
ASAR	Alice Springs	29.78	237	P	P	18 39 51.9	0.0
	3.0nm,0.7s,baz=62,slow=10,SNR=43						
MBWA	Marble Bar	41.55	248	eP	P	18 41 32.5	-0.3
	6.0nm,0.9s						
MJAR	Matsushiro Arr	50.08	336	P	P	18 42 37.0	-2.8
	0.7nm,0.6s,baz=137,slow=13,SNR=3.4						
KSRS	Korea Array	55.60	328	P	P	18 43 20.4	-0.1
	0.7nm,0.8s,baz=135,slow=7.2,SNR=4.2						
KSAR	Wonju Array Be	55.61	328	P	P	18 43 20.4	-0.2
USRK	Ussuriysk Ar.	59.08	336	P	P	18 43 44.5	-0.4
	1.0nm,0.7s,baz=129,slow=8.7,SNR=5.1						
PETK	Petropavlovsk-	61.89	358	P	P	18 44 04.5	+0.6
	1.4nm,0.5s,baz=177,slow=12,SNR=5.8						
CMAR	Chiang Mai Arr	67.03	294	P	P	18 44 38.3	+0.1
	1.1nm,0.7s,baz=114,slow=4.4,SNR=6.4						
VNDA	Vanda	68.54	180	P	P	18 44 48.1	+1.4
	0.8nm,0.7s						
SEY	Seymchan	71.98	356	P	P	18 45 07.6	-0.3
	1.0nm,0.8s,baz=141,slow=2.6,SNR=5.5						
SONM	Songino Array	74.28	325	P	P	18 45 21.7	-0.2
	2.0nm,0.8s,baz=136,slow=5.4,SNR=11						
ILAR	Eielson Array	83.08	20	P	P	18 46 09.8	0.0
	1.0nm,0.8s,baz=272,slow=4.6,SNR=9.3						
NVAR	Mina Array Bea	88.28	51	P	P	18 46 38.3	+1.8
	0.5nm,0.7s,baz=134,slow=6.4,SNR=4.0						
MK31	Makanchi Array	88.84	318	eP	P	18 46 39.3	+0.6
PDAR	Pinedale Array	95.58	48	P	P	18 47 11.7	+1.4
	1.0nm,1.0s,baz=320,slow=2.7,SNR=3.4						
GERES	GERESS Array B	131.72	331	PKP	PKPdf	18 52 58.5	+0.8
	0.4nm,0.5s,baz=45,slow=0.6,SNR=4.2						
TORD	Torodi Ar. Bea	159.30	283	PKP	PKPdf	18 53 43.8	0.0
	0.9nm,1.1s,baz=257,slow=0.8,SNR=3.1						
TORD				PKPab	PKPab	18 54 21.1	-0.2
	1.0nm,1.0s,baz=89,slow=4.6,SNR=4.3						

ISCJB 28 18:45:24.5±0.6, 4°91S±0°09×151°3E±0°1, h150km, mb4.1/13, Error ellipse: s-maj=21.2km s-min=9.7km az=26.2
IDC 28 18:45:27.4±1.0, 5°02S×151°22E, h163km±7km, mb3.9/9, mb1 4.0/10, mb1mx3.6/27, mbtmp4.3/10, Error ellipse: s-maj=23.9km s-min=11.2km az=114.0
NEIC 28 18:45:28.5±1.7, 4°99S×151°20E, h175km±15km, mb4.1/4, Error ellipse: s-maj=17.8km s-min=10.6km az=96.0
ISC 28 18:45:26.0±0.7, 5°0S±0°1×151°3E±0°2, h150km, n18, σ1s13/24, mb4.1/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	6.03	223	ePn	Pn	18 46 54.6	+1.5
	297nm,0.7s						
CTA	Charters Tower	15.82	198	P	Pn	18 49 00.8	+0.2
	0.6nm,0.3s,baz=25,slow=11,SNR=15						
CTAO	Charters Tower	15.82	198	eP	P	18 49 01.9	+0.6
	8.6nm,0.7s						
WRAB	Tennant Creek	22.21	226	eP	P	18 50 09.7	-0.8
	6.0nm,0.4s						
WRA	Warramunga Arr	22.23	226	P	P	18 50 10.1	-0.6
	5.1nm,0.4s,baz=52,slow=9.8,SNR=114						
WRA				pP	pP	18 50 37.7	-0.2
	2.9nm,0.5s,baz=50,slow=10,SNR=3.5						
WRA				S	S	18 54 02.5	-2.2
	0.5nm,0.7s,baz=50,slow=18,SNR=4.1						
WRA				ScP	ScP	18 57 23.6	-1.5
	1.5nm,0.8s,baz=50,slow=3.0,SNR=14						
AS31	Alice Springs	25.04	220	eP	P	18 50 36.1	-0.3
ASAR	Alice Springs	25.04	220	P	P	18 50 36.3	-0.1
	5.3nm,0.7s,baz=54,slow=8.9,SNR=205						
ASAR				pP	pP	18 51 08.4	+0.7
	2.1nm,0.8s,baz=50,slow=12,SNR=2.8						
ASAR				ScP	ScP	18 57 31.4	-1.3
	1.9nm,0.9s,baz=42,slow=2.8,SNR=11						
STKA	Stephens Creek	28.28	198	P	P	18 51 04.6	-0.7
	2.4nm,0.8s,baz=16,slow=12,SNR=8.1						
RPZ	Rata Peaks	42.36	159	P	P	18 53 05.5	+0.2
	9.9nm,0.7s,baz=3.8,slow=1.2,SNR=6.1						
PETK	Petropavlovsk-	58.10	5	P	P	18 55 03.5	0.0
	1.0nm,0.5s,baz=152,slow=6.0,SNR=6.5						
SONM	Songino Array	65.66	329	P	P	18 55 55.7	+1.4
	1.5nm,0.6s,baz=162,slow=4.5,SNR=9.7						
ZALV	Zalesovo Beam	80.45	327	P	P	18 57 19.9	-1.1
	1.1nm,0.5s,baz=103,slow=5.0,SNR=5.4						
ILAR	Eielson Array	82.87	22	P	P	18 57 32.9	-0.6
	1.5nm,0.6s,baz=248,slow=5.3,SNR=17						
KURK	Kurchatov	82.97	322	eP	P	18 57 33.3	-0.9
	1.4nm,0.6s						
QSPA	South Pole Qui	85.00	180	eP	P	18 57 44.2	-0.2
	1.7nm,0.7s						
NVAR	Mina Array Bea	93.36	52	P	P	18 58 25.1	+0.4
	1.4nm,0.8s,baz=255,slow=5.3,SNR=6.3						
PDAR	Pinedale Array	100.07	48	P	Pdif	18 58 54.6	-0.2
	0.7nm,0.7s,baz=302,slow=3.3,SNR=4.5						
TORD	Torodi Ar. Bea	148.92	287	PKPbc	PKPbc	19 04 56.9	-0.3
	2.0nm,0.7s,baz=95,slow=2.7,SNR=18						
TORD				pPKPbc	pPKPbc	19 05 39.6	+2.9
	0.4nm,0.5s,baz=52,slow=1.7,SNR=2.1						

ISCJB 28 18:50:14.8±0.6, 32°31N±0°04×115°38W±0°05, h12km±6km, Error ellipse: s-maj=7.2km s-min=5.4km az=148.8
ECX 28 18:50:16.2±0.6, 32°30N×115°40W, h5km, MD2.4, ML2.6
MEX 28 18:50:16.9±0.8, 32°42N×115°32W, h10km, MD3.5
ISC 28 18:50:14.7±0.9, 32°30N±0°03×115°38W±0°03, h13km±9km, n16, σ0s44/23, 7C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	Cerro Prieto	0.14	29	ePn	Pg	18 50 18.2	0.0
CPBX				eS	Sg	18 50 19.9	-0.7
CPBX				⇑e		18 50 23.1	
CPBX				IAML		18 50 23.1	
	comp=E,8µm,0.2s						
MBIG	Mexicali	0.19	55	eP	Pg	18 50 19.7	+0.7
MBIG				eS	Sg	18 50 21.5	-0.4
SGL	Mount Signal	0.46	321	⇓iP	Pg	18 50 24.1	+0.4
WESC	Westside Schoo	0.55	328	⇓iP	Pb	18 50 26.1	0.0
EMSC	East Mesa	0.55	37	⇑iP	Pb	18 50 26.5	+0.2
YUH	Yuha Desert	0.57	308	ePn	Pg	18 50 26.0	0.0
RDX	Rancho Dawling	0.60	232	⇓eP	Pg	18 50 26.7	+0.2
RDX				eS	Sg	18 50 34.8	+0.3
COA	Coachella	0.61	211	⇑iP	Pg	18 50 27.1	+0.5
RMX	La Rumorosa	0.66	298	⇓eP	Pg	18 50 27.6	0.0
RMX				eS	Sg	18 50 36.8	+0.3
RMX				IAML		18 50 39.6	
	comp=N,372nm,0.2s						
RMX				⇑e		18 50 39.6	
ECBX	El Chinero	0.87	161	ePn	Pg	18 50 31.5	-0.1
ECBX				eS	Sg	18 50 43.0	+0.1
CBX	Cerro Bola	1.08	271	eP	Pb	18 50 35.5	+0.1
CBX				i S	Sb	18 50 49.5	-0.1
CBX	Cerro Bola	1.08	271	IAML		18 50 53.8	
	comp=E,161nm,0.3s						
CBX				⇓e		18 50 53.8	
ZAX	El Zacaton	1.09	224	eP	Pb	18 50 35.4	0.0
ZAX				eS	Sg	18 50 49.8	-0.1
SPIG	San Pedro Mart	1.25	183	i P	Pn	18 50 38.1	-0.1
SPIG				i S	Sg	18 50 56.2	+1.1
SPIG	San Pedro Mart	1.25	183	⇑eP	Pn	18 50 37.7	-0.5
SPX	San Pedro Mart	1.25	183	⇑eP	Pn	18 50 37.7	-0.6

IDC 28 18:57:22.1±0.9, 8°81S×160°99E, h0km, mb4.3/18, mb1 4.4/19, mb1mx4.3/38, mbtmp4.3/19, ML3.6/1, Error ellipse: s-maj=29.0km s-min=16.9km az=128.0
ISCJB 28 18:57:27.1±0.5, 8°80S±0°07×160°82E±0°10, h43km, mb4.2/20, Error ellipse: s-maj=14.2km s-min=9.5km az=23.3
NEIC 28 18:57:27.8±0.4, 8°77S×160°89E, h35km, mb4.4/3, Error ellipse: s-maj=11.0km s-min=7.0km az=120.0
ISC 28 18:57:28.7±0.6, 8°79S±0°09×160°9E±0°1, h43km, n41, σ0s99/36, mb4.2/21, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	1.13	235	eP	Pn	18 57 48.9	+0.8
DZM	Mont Dzumac	14.25	159	Pn	Pn	19 00 48.6	+0.6
	baz=270,slow=20						
CTA	Charters Tower	18.07	230	P	P	19 01 37.0	+0.2
	0.1nm,0.3s,baz=59,slow=15,SNR=4.7						
CTAO	Charters Tower	18.07	230	eP	Pn	19 01 35.4	-1.3
JAY	Jayapura	21.02	286	P	P	19 02 09.0	-0.1
	13nm,0.8s,baz=281,slow=2.7,SNR=5.6						
H11S2	WAKE ISLAND Hy	27.70	12	T	T	19 31 56.8	
	baz=193,slow=76,SNR=86						
H11S3	WAKE ISLAND Hy	27.70	12	T	T	19 31 55.6	
	baz=193,slow=76,SNR=87						
H11S1	WAKE ISLAND Hy	27.72	12	T	T	19 31 58.3	
	baz=193,slow=76,SNR=50						
WRAB	Tennant Creek	27.95	244	eP	P	19 03 14.8	-0.6
	7.9nm,0.8s						
WRA	Warramunga Arr	27.96	244	P	P	19 03 14.7	-0.8
	8.7nm,0.8s,baz=70,slow=9.2,SNR=36						
H11N1	WAKE ISLAND Hy	28.93	12	T	T	19 33 28.3	
	baz=192,slow=76,SNR=395						
H11N3	WAKE ISLAND Hy	28.94	12	T	T	19 33 28.9	
	baz=192,slow=76,SNR=242						
H11N2	WAKE ISLAND Hy	28.95	12	T	T	19 33 29.3	
	baz=192,slow=76,SNR=352						
STKA	Stephens Creek	29.14	215	P	P	19 03 25.7	-0.1
	3.3nm,0.9s,baz=74,slow=10,SNR=4.0						
STKA	Stephens Creek	29.14	215	eP	P	19 03 26.1	+0.3
AS31	Alice Springs	29.75	237	eP	P	19 03 30.6	-0.8
ASAR	Alice Springs	29.75	237	P	P	19 03 30.6	-0.9
	3.3nm,0.6s,baz=62,slow=10,SNR=40						
ASAR				ScP	ScP	19 10 17.1	+3.6
	1.1nm,1.0s,baz=77,slow=2.6,SNR=5.6						
MBWA	Marble Bar	41.49	248	P	P	19 05 10.6	-1.4
MJAR	Matsushiro Arr	49.87	336	P	P	19 06 17.0	-0.9
	0.9nm,0.7s,baz=167,slow=9.9,SNR=4.0						
KSRS	Korea Array	55.39	328	P	P	19 06 59.8	+1.1
	1.1nm,0.6s,baz=138,slow=7.3,SNR=7.5						
KSAR	Wonju Array Be	55.40	328	P	P	19 06 59.8	+1.0
USRK	Ussuriysk Ar.	58.87	336	P	P	19 07 22.3	-0.9
	2.7nm,0.7s,baz=169,slow=8.5,SNR=8.5						
PETK	Petropavlovsk-	61.71	358	P	P	19 07 42.3	-0.1
	6.5nm,1.0s,baz=108,slow=9.5,SNR=4.5						
ENH	Enshi	62.79	311	eP	P	19 07 50.6	+0.5
	2.3nm,0.8s						
CMAR	Chiang Mai Arr	66.83	294	P	P	19 08 17.0	+0.3
	2.0nm,0.9s,baz=121,slow=5.2,SNR=11						
SONM	Songino Array	74.06	325	P	P	19 09 00.8	+0.4
	2.7nm,0.9s,baz=140,slow=5.3,SNR=14						
LSA	Lhasa	77.12	303	eP	P	19 09 19.9	+1.2
	3.0nm,1.1s						
TLY	Talaya	77.63	328	P	P	19 09 21.1	+0.5
	2.7nm,0.5s,baz=69,slow=3.4,SNR=4.8						
ILAR	Eielson Array	82.97	20	P	P	19 09 48.1	-0.8
	2.2nm,1.0s,baz=254,slow=4.1,SNR=15						
NVAR	Mina Array Bea	88.28	51	P	P	19 10 16.8	+0.6
	0.9nm,0.9s,baz=243,slow=6.2,SNR=4.3						
MK31	Makanchi Array	88.63	318	eP	P	19 10 17.8	+0.4
ZALV	Zalesovo Beam	88.95	325	P	P	19 10 18.4	-0.3
	1.0nm,0.7s,baz=120,slow=5.8,SNR=4.6						
KURK	Kurchatov	91.87	321	P	P	19 10 32.5	+0.1
KURBB	Kurchatov Arra	91.91	321	P	P	19 10 32.5	0.0
	0.7nm,0.9s,baz=109,slow=3.7,SNR=5.9						
YKA	Yellowknife Ar	95.19	28	P	P	19 10 45.7	-1.7
	1.3nm,1.0s,baz=266,slow=5.6,SNR=3.7						
PDAR	Pinedale Array	95.56	48	P	P	19 10 49.9	0.0
	1.1nm,0.9s,baz=318,slow=2.0,SNR=6.8						
BVAR	Borovoye Array	97.25	322	P	P	19 10 57.1	+0.1
	1.4nm,0.8s,baz=107,slow=5.1,SNR=7.8						
MICGM	Minsk	121.10	330	eLR	LR	19 26 30.0	
GERES	GERESS Array B	131.51	331	PKP	PKPdf	19 16 37.4	+0.5
	0.3nm,0.7s,baz=340,slow=1.6,SNR=5.2						
ESDC	Sonseca Array	146.39	339	PKPbc	PKPbc	19 17 04.8	-0.7
	0.3nm,0.3s,baz=359,slow=4.1,SNR=7.7						
TORD	Torodi Ar. Bea	159.12	284	PKP	PKPdf	19 17 22.5	-0.8
	0.8nm,1.0s,baz=197,slow=1.5,SNR=2.9						
TORD				PKPab	PKPab	19 18 00.5	+0.2
	1.6nm,1.0s,baz=71,slow=3.9,SNR=7.1						

IDC 28 19:00:02.8±12.0, 13°16N×91°66E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.1/42, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=252.3km s-min=50.5km az=111.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	8.77	52	Pn	Pn	19 02 10.7	-0.3
	0.1nm,0.3s,baz=239,slow=14,SNR=5.8						
H08S3	Diego Garcia H	28.09	224	T	T	19 36 01.7	
	baz=43,slow=76,SNR=53						
H08S2	Diego Garcia H	28.10	224	T	T	19 36 02.2	
	baz=43,slow=76,SNR=42						
H08S1	Diego Garcia H	28.11	224	T	T	19 36 03.2	
	baz=43,slow=76,SNR=48						
WRA	Warramunga Arr	53.35	127	P	P	19 09 24.6	+0.3
	0.3nm,0.7s,baz=306,slow=8.4,SNR=3.4						
ASAR	Alice Springs	55.19	131	P	P	19 09 37.2	-0.5
	0.2nm,0.7s,baz=308,slow=7.1,SNR=4.5						

MAN 28 19:21:16, 13°41N×123°31E, h17km, mb4.8, ML3.7, MS3.7, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	Virac	0.84	77	⇓iP	Pb	19 21 31.8	-0.4
GQP	Guinayangan	0.97	301	⇑e	Pb	19 21 34.1	-0.3
GQP				i S	Sn	19 21 48.8	+0.5

BKK 28 19:23:01.0±2.3, 20°N±21°×99°8E±1°0, h15km±11km, M4.1/7, MLv4.1/7
IDC 28 19:23:02.2±1.2, 19°94N×98°50E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/31, mbtmp3.5/4, Error ellipse: s-maj=18.9km s-min=13.1km az=80.0
ISCJB 28 19:23:04.9±0.9, 19°93N±0°07×98°6E±0°1, h33km, mb3.5/4, Error ellipse: s-maj=17.9km s-min=10.6km az=175.0
ISC 28 19:23:06.7±1.1, 19°8N±0°1×98°5E±0°1, h35km, n11, σ0s61/10, mb3.6/4, Thailand

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAI	Chiengmai2	0.56	78	P	Pn	19 23 13.6	-4.8
CHTO	Chiang Mai	1.10	156	P	Pn	19 23 24.9	-0.7
CMMT	Chiang Mai	1.10	155	P	Pn	19 23 24.9	-0.8
CMAR	Chiang Mai Arr	1.43	162	Pg	Pn	19 23 31.0	+0.8
	93nm,0.3s,baz=340,slow=17,SNR=1119						
CMAR				Lg	Lg	19 23 51.5	
	125nm,0.3s,baz=339,slow=22,SNR=25						
LAMP	Lampang	1.70	139	P	Pn	19 23 33.7	-0.2
MHMT	Maesarieng	1.71	197	P	Pn	19 23 33.7	-0.4
UTTA	Uttaradit	2.86	136	P	Pn	19 23 49.5	-0.4
SONM	Songino Array	28.68	11	P	P	19 29 00.6	+0.2
	0.4nm,0.9s,baz=189,slow=8.3,SNR=2.4						
ZALV	Zalesovo Beam	35.64	346	P	P	19 30 00.9	-0.2
	0.3nm,0.2s,baz=171,slow=9.9,SNR=4.8						
WRA	Warramunga Arr	52.88	136	P	P	19 32 19.6	+0.1
	0.6nm,0.9s,baz=323,slow=7.9,SNR=5.1						
ASAR	Alice Springs	55.33	140	P	P	19 32 38.0	+0.6
	0.3nm,0.5s,baz=322,slow=7.3,SNR=8.2						

IDC 28 19:34:53.4±8.0, 9°58S×162°05E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/36, mbtmp3.5/3, Error ellipse: s-maj=219.4km s-min=38.5km az=116.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	28.67	246	P	P	19 40 52.0	-0.3
	0.2nm,0.4s,baz=74,slow=9.1,SNR=7.5						
ASAR	Alice Springs	30.31	239	P	P	19 41 07.0	+0.2
	0.2nm,0.4s,baz=63,slow=10,SNR=11						
SONM	Songino Array	75

H11N3	**WAKE ISLAND Hy**	**28.93**	**12**	T		T		20 11 24.3	
	baz=192,slow=76,SNR=210								
H11N2	**WAKE ISLAND Hy**	**28.94**	**12**	T		T		20 11 24.8	
	baz=192,slow=76,SNR=316								
STKA	**Stephens Creek**	**29.15**	**215**	P		**P**		**19 41 10.1**	**-0.2**
	1.7nm,0.5s,baz=63,slow=16,SNR=7.5								
STKA	**Stephens Creek**	**29.15**	**215**	*eP*		**P**		**19 41 11.3**	**+1.0**
AS31	**Alice Springs**	**29.77**	**237**	*eP*		**P**		**19 41 14.1**	**-1.8**
ASAR	**Alice Springs**	**29.77**	**237**	P		**P**		**19 41 14.6**	**-1.4**
	3.5nm,0.4s,baz=62,slow=10,SNR=115								
ASAR					ScP	**ScP**		**19 48 00.8**	**+3.0**
	1.1nm,1.0s,baz=83,slow=2.9,SNR=4.8								
ASAR					LR	LR		19 52 55.1	
	comp=Z,257nm,18.5s,baz=19,slow=36								
RAR	**Rarotonga**	**39.83**	**113**	LR		LR		19 55 17.4	
	comp=Z,143nm,21.2s,baz=303,slow=30								
MBWA	**Marble Bar**	**41.50**	**248**	*eP*		**P**		**19 42 55.1**	**-1.4**
MJAR	**Matsushiro Arr**	**49.87**	**336**	P		**P**		**19 44 00.8**	**-1.5**
	1.3nm,0.6s,baz=176,slow=12,SNR=5.1								
KSRS	**Korea Array**	**55.39**	**328**	P		**P**		**19 44 42.6**	**-0.4**
	2.6nm,0.9s,baz=137,slow=7.5,SNR=8.6								
KSRS					LR	LR		20 08 02.8	
	comp=Z,64nm,18.4s,baz=180,slow=36								
KSAR	**Wonju Array Be**	**55.40**	**328**	P		**P**		**19 44 42.6**	**-0.5**
USRK	**Ussuriysk Ar.**	**58.87**	**336**	P		**P**		**19 45 07.8**	**+0.3**
	4.6nm,0.8s,baz=133,slow=8.4,SNR=8.1								
USRK					LR	LR		20 10 17.2	
	comp=Z,71nm,19.5s,baz=320,slow=36								
PETK	**Petropavlovsk-**	**61.71**	**358**	P		**P**		**19 45 27.1**	**+0.4**
	5.7nm,1.0s,baz=150,slow=10,SNR=4.6								
ENH	**Enshi**	**62.79**	**311**	*eP*		**P**		**19 45 33.9**	**-0.7**
	3.1nm,0.8s								
CMAR	**Chiang Mai Arr**	**66.84**	**294**	P		**P**		**19 46 00.8**	**-0.3**
	2.4nm,0.9s,baz=109,slow=4.4,SNR=12								
VNDA	**Vanda**	**68.71**	**180**	P		**P**		**19 46 10.7**	**-1.2**
	1.8nm,1.1s,baz=16,slow=7.8,SNR=4.2								
SONM	**Songino Array**	**74.06**	**325**	P		**P**		**19 46 46.2**	**+1.4**
	3.1nm,0.9s,baz=136,slow=5.4,SNR=24								
LSA	**Lhasa**	**77.12**	**303**	*eP*		**P**		**19 47 04.8**	**+1.7**
	12nm,1.4s								
TRF	**Thorofare Moun**	**80.97**	**20**	*eP*		**P**		**19 47 22.7**	**-0.3**
	3.0nm,0.7s								
IM04	**Indian Mountai**	**81.59**	**17**	*eP*		**P**		**19 47 25.7**	**-0.4**
ILAR	**Eielson Array**	**82.96**	**20**	P		**P**		**19 47 32.7**	**-0.6**
	2.1nm,0.9s,baz=251,slow=4.9,SNR=21								
H02N1	**VAN INLET T-PH**	**83.39**	**34**	T		T		21 19 33.8	
H02S1	**DAWSON INLET T**	**83.41**	**34**	T		T		21 19 31.4	
	SNR=9.9								
NVAR	**Mina Array Bea**	**88.26**	**51**	P		**P**		**19 48 02.3**	**+1.8**
	0.8nm,1.0s,baz=224,slow=3.3,SNR=3.2								
MK31	**Makanchi Array**	**88.63**	**318**	*eP*		**P**		**19 48 02.0**	**+0.2**
ZALV	**Zalesovo Beam**	**88.96**	**325**	P		**P**		**19 48 01.6**	**-1.5**
	0.9nm,0.8s,baz=113,slow=3.9,SNR=5.1								
YKA	**Yellowknife Ar**	**95.18**	**28**	P		**P**		**19 48 31.4**	**-0.3**
	1.3nm,0.8s,baz=260,slow=5.6,SNR=3.9								
PDAR	**Pinedale Array**	**95.55**	**48**	P		**P**		**19 48 33.5**	**-0.7**
	1.2nm,1.0s,baz=156,slow=4.0,SNR=7.0								
BOSA	**Boshof**	**123.31**	**227**	PKP		**PKPdf**		**19 54 06.3**	**0.0**
	2.8nm,0.9s,baz=178,slow=6.0,SNR=3.8								
GERES	**GERESS Array B**	**131.51**	**331**	PKP		**PKPdf**		**19 54 22.2**	**+0.9**
	0.4nm,0.7s,baz=112,slow=1.4,SNR=5.1								
ESDC	**Sonseca Array**	**146.39**	**339**	PKPbc		**PKPab**		**19 54 50.2**	**-0.5**
	1.5nm,0.9s,baz=22,slow=3.3,SNR=9.9								
TORD	**Torodi Ar. Bea**	**159.13**	**284**	PKP		**PKPdf**		**19 55 08.1**	**+0.4**
	0.6nm,0.9s,baz=269,slow=2.7,SNR=3.7								
TORD				PKPab		**PKPab**		**19 55 44.4**	**-0.3**
	2.3nm,1.0s,baz=79,slow=4.8,SNR=9.3								

JMA 28 19:38:16.8±0.3, 33°13.N×142°33.E, h7km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.89**	**324**	P	Pb	19 38 50.1	-0.8
JHJ2	**Mitsune**	**2.11**	**270**	P	Pn	19 38 53.3	+0.8
BSO3	**Boso 3**	**2.25**	**318**	P	Pn	19 38 55.6	+1.5
JIM2	**Oshima 3**	**2.88**	**304**	P	Pn	19 39 03.9	+0.7
JIZS	**Izushimoda**	**3.28**	**300**	P	Pn	19 39 10.2	+1.6
JOD2	**Odawara 2**	**3.43**	**309**	P	Pn	19 39 11.5	+0.8
JOD2				S	Sn	19 39 52.7	+1.1
JYT	**Yasato**	**3.56**	**331**	P	Pn	19 39 14.5	+2.1
JHU	**Hanno**	**3.70**	**318**	P	Pn	19 39 16.7	+2.3
JHU				S	Sn	19 40 00.4	+2.1
JHO	**Hitachi**	**3.76**	**338**	P	Pn	19 39 15.0	-0.3
JYN	**Shimob**	**3.92**	**308**	P	Pn	19 39 19.3	+1.7
JRY	**Ryogami san**	**4.04**	**316**	P	Pn	19 39 20.6	+1.5
JRY				S	Sn	19 40 08.7	+2.1
JAG	**Ashikaga**	**4.05**	**325**	P	Pn	19 39 20.5	+1.3
JAG				S	Sn	19 40 08.5	+1.6
JNY	**Yasuok**	**4.32**	**302**	P	Pn	19 39 26.1	+3.1
JFK	**Kawauchi**	**4.39**	**345**	S	Sn	19 40 11.5	-3.9
JFT	**Otama**	**4.67**	**340**	P	Pn	19 39 28.4	+0.6
JFT				S	Sn	19 40 20.0	-2.3
MAT	**Matsushiro**	**4.80**	**316**	P	Pn	19 39 32.0	+2.4
MAT				S	Sn	19 40 27.5	+1.9
MAT	**Matsushiro**	**4.80**	**316**	P	Pn	19 39 32.2	+2.6

IDC 28 19:39:41.8±3.9, 8°94S×161°07E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.6/33, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=105.6km s-min=31.0km az=108.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**18.10**	**231**	P	P	19 43 56.5	+1.1
	0.1nm,0.3s,baz=60,slow=16,SNR=2.4						
WRA	**Warramunga Arr**	**28.05**	**244**	P	P	19 45 34.5	-0.6
	1.1nm,0.5s,baz=75,slow=8.8,SNR=16						
H11N1	**WAKE ISLAND Hy**	**29.05**	**11**	T	T	20 16 02.8	
	baz=192,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**29.05**	**11**	T	T	20 16 03.8	
	baz=192,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**29.07**	**11**	T	T	20 16 04.0	
	baz=192,slow=76,SNR=16						
STKA	**Stephens Creek**	**29.11**	**216**	P	P	19 45 45.8	+1.3
	0.7nm,0.4s,baz=68,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**29.82**	**237**	P	P	19 45 49.6	-1.2
	1.0nm,0.4s,baz=63,slow=10,SNR=23						
SONM	**Songino Array**	**74.29**	**325**	P	P	19 51 21.3	+0.1
	0.3nm,0.6s,baz=123,slow=4.0,SNR=3.3						

*SJA **28** 19:45:05.8±1.1, 33°60S×73°10W, h23km, ML4.3*
*IDC **28** 19:45:09.1±0.8, 33°97S×72°47W, h0km, mb3.9/8, mb1 4.0/11, mb1mx4.0/28, mbtmp3.9/11, ML3.9/3, MS2.4/1, Ms1 2.4/1, ms1mx2.4/23, Error ellipse: s-maj=29.1km s-min=18.1km az=111.0*
*GUC **28** 19:45:13.0±0.4, 33°92S×72°13W, h28km±6km, ML4.5*
*NEIC **28** 19:45:14.5±2.5, 33°90S×72°42W, h36km±20km, mb4.1/1, Error ellipse: s-maj=24.9km s-min=10.4km az=87.0*

ISC 28 19:45:12.3±0.8, 33°91S±0°04×72°20W±0°08, h20km±5km, n42, σ1§50/46, mb4.1/8, 5C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.66**	**95**	↑*iP*	**Pb**	**19 45 24.9**	**-0.3**
IHA	**Instituto Hidr**	**0.99**	**28**	↑*iP*	**Pb**	**19 45 30.4**	**-0.4**
IHA				*i* S	**Sb**	**19 45 43.5**	**0.0**
TACH	**Talagante**	**1.08**	**77**	↑*iP*	**Pn**	**19 45 31.2**	**-1.2**
CHCH	**Chadas Angostu**	**1.29**	**92**	↑*iP*	**Pn**	**19 45 34.6**	**-0.6**
NICH	**Los Niches**	**1.36**	**144**	↑*iP*	**Pn**	**19 45 35.8**	**-0.3**
NICH				*eS*	**Sb**	**19 45 55.0**	**+1.0**
SAN	**Santiago**	**1.36**	**71**	↓*iP*	**Pn**	**19 45 36.0**	**-0.2**
SAN				*i* S	**Sn**	**19 45 53.1**	**-0.5**
PCH	**Pirque**	**1.43**	**79**	↓*iP*	**Pn**	**19 45 37.0**	**-0.3**
PCH				*eS*	**Sn**	**19 45 55.3**	**-0.3**
FSR	**Penalolen**	**1.46**	**73**	*eP*	**Pb**	**19 45 38.5**	**-0.3**
FSR				*i* S	**Sb**	**19 45 57.2**	**+0.2**
PEL	**Peldehue**	**1.48**	**59**	↓*iP*	**Pn**	**19 45 38.0**	**+0.2**
PEL				*eS*	**Sn**	**19 45 56.4**	**-0.2**
PEL				AML	AML	19 46 02.0	
	comp=E,16μm,0.4s						
CLCH	**Cerro Calan**	**1.48**	**70**	↓*iP*	**Pn**	**19 45 37.9**	**0.0**
CLCH				*eS*	**Sn**	**19 45 56.3**	**-0.4**
CLCH				AML	AML	19 46 00.3	
	comp=E,9μm,0.4s						
TALC	**Talca**	**1.56**	**163**	↓*iP*	**Pn**	**19 45 39.1**	**+0.2**
TALC				*i* S	**Sn**	**19 45 59.2**	**+0.6**
AUSP	**Uspallata**	**2.90**	**55**	*eP*	**Pb**	**19 46 03.2**	**-0.3**
AUSP				*eS*	**Sb**	**19 46 41.9**	**+3.3**
ARCO	**CERRO ARCO**	**2.93**	**70**	*eP*	**Pb**	**19 46 03.6**	**-0.4**
ARCO				AML	AML	19 46 50.0	
	comp=Z,710nm,0.6s						
AAGR	**Agrelo**	**2.93**	**75**	*eP*	**Pb**	**19 46 03.6**	**-0.4**
ASAL	**Salagasta**	**3.11**	**66**	*eP*	**Pb**	**19 46 05.6**	**-1.4**
RTLS	**Leoncito**	**3.22**	**50**	*eP*	Pb	19 46 05.9	-3.1
RTCV	**Cerro Valdivia**	**3.69**	**57**	*eP*	Pn	19 46 12.4	+4.2
CFAA	**Coronel Fontan**	**4.05**	**57**	Pn	**Pn**	**19 46 16.0**	**+2.8**
	comp=Z,0.8nm,0.3s,baz=226,slow=12,SNR=24						
CFAA				Sn	**Sb**	**19 47 08.4**	**-3.2**
	comp=Z,2.9nm,0.3s,baz=26,slow=16,SNR=4.1						
CFAA				LR	LR	19 48 04.1	
	comp=Z,49nm,19.9s,baz=225,slow=41						
CFAA	**Coronel Fontan**	**4.05**	**57**	*eP*	**Pn**	**19 46 15.7**	**+2.5**
RTLL	**Cerro Villicun**	**4.06**	**52**	*eP*	**Pn**	**19 46 15.8**	**+2.4**
CANA	**Caviahue**	**4.08**	**167**	*eP*	Pn	19 46 17.2	+3.5
AMOG	**MOGNA**	**4.31**	**48**	*eP*	**Pn**	**19 46 18.8**	**+2.0**
ACAN	**Cantantal**	**4.51**	**70**	*eP*	Pn	19 46 23.0	+3.5
LCO	**Las Campanas**	**5.04**	**15**	*eP*	**Pn**	**19 46 25.5**	**-1.6**
	comp=Z,59nm,0.6s						
AVFE	**Valle Fertil**	**5.16**	**52**	*eP*	**Pn**	**19 46 30.7**	**+2.2**
AVFE				AML	AML	19 47 46.1	
	comp=Z,104nm,0.4s						
TRQA	**Tornquist**	**9.26**	**119**	*eP*	**Pn**	**19 47 27.9**	**+3.2**
	comp=Z,35nm,1.1s						
CPUP	**Villa Florida**	**14.91**	**64**	Pn	**P**	**19 48 45.1**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=244,slow=10,SNR=3.4						
LPAZ	**La Paz**	**17.92**	**13**	P	**P**	**19 49 21.4**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=180,slow=9.3,SNR=14						
SIV	**San Ignacio**	**20.46**	**32**	P	Pn	19 49 50.2	-0.8
	comp=Z,1.3nm,0.4s,baz=237,slow=12,SNR=3.6						
SAML	**Samuel**	**26.19**	**21**	*eP*	**P**	**19 50 44.8**	**-0.9**
	comp=Z,4.0nm,0.8s						
BDFB	**Brasilia**	**28.39**	**56**	P	**P**	**19 51 08.5**	**+2.9**
	comp=Z,1.5nm,0.4s,baz=209,slow=8.4,SNR=3.0						
VNA1	**Neumayer--Stat**	**49.81**	**157**	P	P	19 54 11.5	+8.2
SNAA	**Sanae**	**51.72**	**158**	P	**P**	**19 54 15.3**	**-2.5**
SNAA	**Sanae**	**51.72**	**158**	P	**P**	**19 54 18.0**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=283,slow=9.2,SNR=5.6						
QSPA	**South Pole Qui**	**56.33**	**180**	P	**P**	**19 54 52.3**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=147,slow=1.3,SNR=11						
MAW	**Mawson**	**73.31**	**164**	P	**P**	**19 56 41.5**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=119,slow=12,SNR=4.8						
PDAR	**Pinedale Array**	**83.62**	**333**	P	**P**	**19 57 40.2**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=153,slow=6.1,SNR=2.8						
NVAR	**Mina Array Bea**	**83.73**	**325**	P	**P**	**19 57 39.7**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=111,slow=3.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**84.30**	**70**	P	**P**	**19 57 43.2**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=292,slow=7.2,SNR=15						
WRA	**Warramunga Arr**	**120.78**	**209**	PKP	**PKPdf**	**20 04 02.2**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=157,slow=1.7,SNR=18						
BRTR	**Keskin Array B**	**121.91**	**61**	PKP	**PKPdf**	**20 04 05.4**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=130,slow=2.3,SNR=2.5						
ZALV	**Zalesovo Beam**	**154.22**	**32**	PKPbc	**PKPbc**	**20 05 10.3**	**0.0**
	comp=Z,2.6nm,0.5s,baz=311,slow=2.6,SNR=13						

*IDC **28** 20:05:28.1±2.4, 30°57N×141°64E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/37, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=109.0km s-min=17.2km az=74.0*
*JMA **28** 20:05:30.4±0.2, 30°70N×141°87E, h47km, M3.8*

ISC 28 20:05:30.9±1.3, 30°76N±0°07×142°3E±0°3, h35km, n15, σ1§45/22, mb3.6/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.65**	**182**	P	**Pn**	**20 06 25.5**	**+0.5**
JCJ	**Chichijima**	**3.65**	**182**	Pn	**Pn**	**20 06 23.9**	**-1.1**
	2.4nm,0.3s,baz=13,slow=18,SNR=11						
JCJ				Sn	**Sn**	**20 07 05.0**	**-1.9**
	16nm,0.3s,baz=0.1,slow=22,SNR=12						
BSO1	**Boso 1**	**4.04**	**344**	P	**Pn**	**20 06 31.0**	**+1.1**
BSO3	**Boso 3**	**4.31**	**340**	P	**Pn**	**20 06 34.8**	**+1.1**
BSO4	**Boso 4**	**4.54**	**339**	P	**Pn**	**20 06 38.1**	**+1.1**
BSO4				S	**Sn**	**20 07 28.3**	**-0.2**
JOD2	**Odawara 2**	**5.25**	**330**	P	**Pn**	**20 06 48.6**	**+1.7**
JHU	**Hanno**	**5.68**	**334**	P	**Pn**	**20 06 53.0**	**+0.2**
JHU				S	**Sn**	**20 07 56.0**	**-1.8**
JRY	**Ryogami san**	**5.97**	**332**	P	**Pn**	**20 06 57.8**	**+0.9**
JRY				S	**Sn**	**20 08 03.2**	**-0.8**
JHO	**Hitachi**	**6.02**	**346**	P	**Pn**	**20 06 57.8**	**+0.4**
JHO				S	**Sn**	**20 08 01.7**	**-3.4**
JAG	**Ashikaga**	**6.14**	**338**	P	**Pn**	**20 06 59.2**	**+0.1**
JAG				S	**Sn**	**20 08 05.0**	**-3.0**
MJAR	**Matsushiro Arr**	**6.71**	**330**	Pn	**Pn**	**20 07 06.9**	**0.0**
	0.7nm,0.3s,baz=266,slow=16,SNR=11						
MJAR				Sn	**Sn**	**20 08 22.3**	**+0.1**
	0.3nm,0.3s,baz=158,slow=20,SNR=3.8						
SONM	**Songino Array**	**32.25**	**312**	P	**P**	**20 11 56.0**	**-0.2**
	0.2nm,0.5s,baz=111,slow=7.9,SNR=2.9						
WRA	**Warramunga Arr**	**50.39**	**190**	P	**P**	**20 14 29.4**	**0.0**
	0.5nm,0.5s,baz=6.6,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**54.71**	**189**	P	**P**	**20 14 57.6**	**+0.8**
	0.2nm,0.4s,baz=5.7,slow=6.3,SNR=8.6						
FINES	**FINESS Array B**	**74.73**	**333**	P	**P**	**20 17 08.3**	**+1.5**
	0.8nm,0.7s,baz=72,slow=6.2,SNR=5.0						

GUC 28 20:10:11.4±0.3, 36°99S×73°24W, h16km±2km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNCH	**Linares**	**1.74**	**50**	*eP*	Pn	20 10 40.9	0.0
LNCH				*i* S	Sn	20 11 03.0	+0.3
PSCH	**Puerto Saavedr**	**1.81**	**184**	*i* S	Sn	20 11 05.2	+0.6
TALC	**Talca**	**2.05**	**40**	*eP*	Pn	20 10 45.4	+0.3
TALC				*i* S	Sn	20 11 11.6	+1.3
NICH	**Los Niches**	**2.56**	**40**	*i* S	Sn	20 11 24.9	+1.9

*IDC **28** 20:10:47.5±0.9, 32°80N×142°60E, h0km, mb3.7/8, mb1 3.9/11, mb1mx3.7/38, mbtmp3.7/11, ML3.7/3, Error ellipse: s-maj=28.4km s-min=18.0km az=82.0*
*ISCJB **28** 20:10:50.4±0.6, 32°80N±0°06×142°5E±0°1, h33km, mb3.7/8, Error ellipse: s-maj=14.1km s-min=5.4km az=146.1*
*JMA **28** 20:10:50.5±0.5, 32°87N×142°55E, h54km, M3.8*

ISC 28 20:10:51.8±0.8, 32°76N±0°06×142°5E±0°1, h33km, n23, σ1§54/32, mb3.7/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.28**	**326**	P	**Pn**	**20 11 25.6**	**-1.0**
BSO1				*e*S	**Sn**	**20 11 51.8**	**-1.5**
JHJ2	**Mitsune**	**2.29**	**279**	P	**Pn**	**20 11 27.0**	**-0.3**
BSO2	**Boso 2**	**2.46**	**324**	*e*S	**Sn**	**20 11 56.8**	**-1.4**
BSO3	**Boso 3**	**2.63**	**321**	P	**Pn**	**20 11 30.8**	**-0.9**
BSO3				S	**Sn**	**20 12 01.5**	**-0.8**
BSO4	**Boso 4**	**2.86**	**321**	P	**Pn**	**20 11 34.8**	**-0.3**
BSO4				*e*S	**Sn**	**20 12 07.6**	**-0.8**
JOD2	**Odawara 2**	**3.78**	**312**	P	**Pn**	**20 11 46.2**	**-1.6**
JYN	**Shimob**	**4.27**	**311**	P	**Pn**	**20 11 54.3**	**-0.3**
JRY	**Ryogami san**	**4.41**	**318**	P	**Pn**	**20 11 55.3**	**-1.1**
JRY				S	**Sn**	**20 12 45.5**	**-1.2**
JAG	**Ashikaga**	**4.44**	**326**	P	**Pn**	**20 11 56.0**	**-0.8**
JFT	**Otama**	**5.07**	**340**	P	**Pn**	**20 12 04.1**	**-1.4**
JFT				S	**Sn**	**20 12 57.6**	**-5.3**
MJAR	**Matsushiro Arr**	**5.17**	**318**	Pn	**Pn**	**20 12 06.1**	**-0.8**
	2.0nm,0.3s,baz=160,slow=22,SNR=26						
MJAR				Sn	**Sn**	**20 13 04.0**	**-1.5**
	3.2nm,0.3s,baz=172,slow=22,SNR=7.6						
MAT	**Matsushiro**	**5.18**	**318**	P	**Pn**	**20 12 07.0**	**0.0**
MAT				S	**Sn**	**20 13 04.1**	**-1.5**
MAT	**Matsushiro**	**5.18**	**318**	P	**Pn**	**20 12 07.5**	**+0.5**
MAT				S	**Sn**	**20 13 04.9**	**-0.7**
JCJ	**Chichijima**	**5.66**	**183**	Pn	**Pn**	**20 12 12.3**	**-1.2**
	7.4nm,0.3s,baz=261,slow=23,SNR=23						
JCJ				Sn	**Sn**	**20 13 14.1**	**-3.3**
	16nm,0.3s,baz=305,slow=22,SNR=11						
KSRS	**Korea Array**	**12.83**	**295**	Pn	**Pn**	**20 13 52.9**	**+1.2**
	0.1nm,0.3s,baz=108,slow=13,SNR=3.4						
SONM	**Songino Array**	**31.07**	**310**	P	**P**	**20 17 06.8**	**0.0**
	0.3nm,0.6s,baz=134,slow=6.2,SNR=3.1						
ILAR	**Eielson Array**	**52.66**	**31**	P	**P**	**20 20 03.0**	**+0.6**
	0.4nm,0.6s,baz=260,slow=6.2,SNR=4.7						
WRA	**Warramunga Arr**	**52.99**	**190**	P	**P**	**20 20 06.3**	**+1.0**
	1.3nm,0.7s,baz=7.0,slow=7.6,SNR=14						
BVAR	**Borovoye Array**	**54.16**	**315**	P	**P**	**20 20 14.9**	**+1.2**
	0.5nm,0.6s,baz=80,slow=10,SNR=3.7						
ASAR	**Alice Springs**	**56.71**	**189**	P	**P**	**20 20 33.5**	**+1.3**
	0.3nm,0.7s,baz=13,slow=12,SNR=3.5						
YKA	**Yellowknife Ar**	**67.06**	**29**	P	**P**	**20 21 41.0**	**-0.4**
	1.5nm,0.8s,baz=302,slow=6.1,SNR=3.5						
NOA	**NORSAR Array B**	**78.47**	**338**	P	**P**	**20 22 50.5**	**+1.3**
	0.5nm,0.7s,baz=39,slow=5.7,SNR=3.6						
TXAR	**Lajitas Array**	**91.98**	**53**	P	**P**	**20 23 58.4**	**+0.7**
	0.3nm,0.7s,baz=341,slow=6.9,SNR=3.6						

*ISCJB **28** 20:13:26.9±0.3, 13°26N±0°05×49°57E±0°04, h10km, mb4.3/43, MS3.7/12, Error ellipse: s-maj=6.6km s-min=5.4km az=10.4*
*IDC **28** 20:13:26.7±0.6, 13°20N×49°66E, h0km, mb4.2/26, mb1 4.3/26, mb1mx4.2/38, mbtmp4.2/26, MS3.8/12, Ms1 3.8/12, ms1mx3.6/40, Error ellipse: s-maj=16.4km s-min=12.5km az=82.0*
*CSEM **28** 20:13:27.1±0.2, 13°20N×49°54E, h2km, mb4.6/16, Error ellipse: s-maj=8.2km s-min=7.6km az=128.0*
*NEIC **28** 20:13:28.3±0.3, 13°20N×49°66E, h10km, mb4.5/9, Error ellipse: s-maj=7.8km s-min=6.9km az=83.0*
*DHMR **28** 20:13:30.0±0.8, 13°40N×49°07E, h6km±53km, ML4.6*

ISC 28 20:13:28.8±0.6, 13°32N±0°07×49°50E±0°06, h10km, n164, σ1§45/177, mb4.5/53, MS3.7/12, 14C-9D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MUKL	**Al Mukalla**	**1.23**	**339**	↑*iP*	**Pn**	**20 13 49.4**	**-2.7**
MUKL				*i* S	**Sb**	**20 14 05.6**	**-2.5**
MUKL				AML	AML	20 14 07.3	
	comp=N,12μm,0.4s						
BDHA	**Al Bayda'**	**3.88**	**280**	↓*iP*	**Pn**	**20 14 27.2**	**-1.5**
BDHA				*i* S	**Sn**	**20 15 11.5**	**-2.9**
BDHA				AML	AML	20 15 15.4	
	comp=N,5μm,0.3s						
BDHA	**Al Bayda'**	**3.88**	**280**	↓*iP*	**Pn**	**20 14 27.2**	**-1.5**
BDHA				*i* S	**Sn**	**20 15 11.5**	**-2.9**
	comp=N,2μm,0.3s						
LBOS		**4.17**	**278**	*i* P	**Pn**	**20 14 31.6**	**-1.2**
LBOS				*i* S	**Sn**	**20 15 19.0**	**-2.7**
DAMY	**Dhamar**	**5.11**	**285**	*eP*	**Pn**	**20 14 46.8**	**+1.0**
	comp=N,87nm,0.6s						
DAMY	**Dhamar**	**5.11**	**285**	*eP*	**Pn**	**20 14 46.8**	**+1.0**
	comp=N,87nm,0.6s						
DHBB	**Dhamar BB**	**5.11**	**285**	*i* P	**Pn**	**20 14 44.0**	**-1.8**
DHBB				*i* S	**Sn**	**20 15 41.6**	**-3.5**
DHBB	**Dhamar BB**	**5.11**	**285**	*i* P	**Pn**	**20 14 44.0**	**-1.8**
DHBB				*i* S	**Sn**	**20 15 41.6**	**-3.5**
SANA	**San'a**	**5.52**	**292**	*i* S	**Sn**	**20 15 51.5**	**-3.7**
RAYN	**Ar Rayn**	**10.83**	**340**	*eP*	Pn	20 16 00.2	-3.8
	comp=N,19nm,0.7s						
IKAZ	**Kazeroun**	**16.52**	**7**	*eP*	**Pn**	**20 17 19.7**	**-1.4**
IBAF	**Bafgh**	**19.02**	**16**	*eP*	**P**	**20 17 49.7**	**-1.4**
IBAF	**Bafgh**	**19.02**	**16**	*eP*	**P**	**20 17 49.7**	**-1.4**
IPIR	**Pirpir**	**19.32**	**4**	*eP*	**P**	**20 17 52.5**	**-2.0**
IPIR	**Pirpir**	**19.32**	**4**	*eP*	**P**	**20 17 52.5**	**-2.0**
IZEF	**Zefreh**	**19.66**	**7**	*eP*	**P**	**20 17 58.4**	**+0.2**
IZEF	**Zefreh**	**19.66**	**7**	*eP*	**P**	**20 17 58.4**	**+0.2**
IKLH	**Kolahrood**	**20.00**	**5**	*eP*	**P**	**20 18 02.3**	**+0.4**
IKLH	**Kolahrood**	**20.00**	**5**	*eP*	**P**	**20 18 02.3**	**+0.4**
IKOM	**Komasi**	**20.84**	**355**	*eP*	**P**	**20 18 10.7**	**-0.2**
IKOM	**Komasi**	**20.84**	**355**	*eP*	**P**	**20 18 10.7**	**-0.2**
EIL	**Elat**	**21.12**	**323**	P	**P**	**20 18 15.4**	**+1.5**
	comp=N,5.4nm,0.7s,baz=181,

AK01	**Malin Array Si**	**40.76**	**340**	*e*P	**P**	**20 21 10.7**	**+0.7**
AK01	**Malin Array Si**	**40.76**	**340**	*e*P	**P**	**20 21 10.7**	**+0.7**
AKASG	**Malin Array Be**	**40.77**	**340**	P	**P**	**20 21 11.0**	**+1.0**
	comp=N,5.0nm,0.7s,baz=153,slow=7.4,SNR=21						
AKASG				PP	**PnPn**	**20 22 49.1**	**+1.1**
	comp=N,0.2nm,0.2s,baz=156,slow=11,SNR=4.7						
AKASG	**Malin Array Be**	**40.77**	**340**	P	**P**	**20 21 11.0**	**+1.0**
AKBB	**Malin Array Si**	**40.77**	**340**	*e*P	**P**	**20 21 10.7**	**+0.7**
AKBB	**Malin Array Si**	**40.77**	**340**	*e*P	**P**	**20 21 10.7**	**+0.7**
KIEV	**Kiev**	**40.77**	**340**	*e*P	**P**	**20 21 10.6**	**+0.6**
	comp=N,10nm,0.8s						
KIEV	**Kiev**	**40.77**	**340**	*e*P	**P**	**20 21 10.6**	**+0.6**
	comp=N,10nm,0.8s						
PKSM	**Moragy**	**41.84**	**328**	⇑*i*P	**P**	**20 21 20.2**	**+1.3**
KOLS	**Kolonicke sedl**	**42.02**	**333**	*e*P	**P**	**20 21 22.3**	**+1.9**
	comp=N,11nm,1.1s						
KOLS	**Kolonicke sedl**	**42.02**	**333**	*e*P	**P**	**20 21 22.3**	**+1.9**
KEST	**Kesra**	**42.40**	**309**	P	**P**	**20 21 25.3**	**+1.5**
	comp=N,1.4nm,0.9s,baz=296,slow=1.4,SNR=4.5						
KEST				LR	LR	20 38 59.6	
	comp=N,99nm,18.2s,baz=267,slow=36						
TAM	**Tamanrasset**	**42.72**	**289**	*e*P	**P**	**20 21 29.5**	**+2.8**
	comp=N,3.1nm,0.8s						
STHS	**Stebnicka Huta**	**42.83**	**333**	*e*P	**P**	**20 21 29.0**	**+2.0**
	comp=N,14nm,1.0s						
STHS	**Stebnicka Huta**	**42.83**	**333**	*e*P	**P**	**20 21 29.0**	**+2.0**
BVAR	**Borovoye Array**	**42.96**	**18**	P	**P**	**20 21 28.4**	**+0.4**
	comp=N,0.9nm,0.5s,baz=217,slow=6.9,SNR=7.9						
BVAR				PP	**PcP**	**20 23 17.7**	**-0.7**
	comp=N,1.4nm,0.8s,baz=274,slow=4.2,SNR=4.1						
BVAR				LR	LR	20 42 08.8	
	comp=N,180nm,19.6s,baz=241,slow=40						
MK31	**Makanchi Array**	**43.23**	**33**	*e*P	**P**	**20 21 29.3**	**-1.0**
MK31	**Makanchi Array**	**43.23**	**33**	*e*P	**P**	**20 21 29.3**	**-1.0**
KURK	**Kurchatov**	**44.17**	**26**	*e*P	**P**	**20 21 37.9**	**+0.2**
	comp=N,3.6nm,1.3s						
KURK	**Kurchatov**	**44.17**	**26**	*e*P	**P**	**20 21 37.9**	**+0.2**
	comp=N,3.6nm,1.3s						
OBKA	**Obir**	**44.22**	**325**	⇑*i*P	**P**	**20 21 40.0**	**+1.7**
	comp=N,18nm,1.1s						
OBKA	**Obir**	**44.22**	**325**	P	**P**	**20 21 40.0**	**+1.7**
	comp=N,18nm,1.1s						
CONA	**Conrad Observa**	**44.40**	**328**	⇑*i*P	**P**	**20 21 40.9**	**+1.2**
	comp=N,12nm,1.0s						
CONA	**Conrad Observa**	**44.40**	**328**	P	**P**	**20 21 40.9**	**+1.2**
	comp=N,12nm,1.0s						
LBTB	**Lobatse**	**44.67**	**212**	P	**P**	**20 21 41.6**	**-0.5**
	comp=N,3.6nm,1.0s,baz=64,slow=5.7,SNR=4.1						
MORC	**Moravsky Berou**	**44.78**	**331**	⇓*i*P	**P**	**20 21 43.7**	**+1.0**
MORC	**Moravsky Berou**	**44.78**	**331**	*e*P	**P**	**20 21 43.4**	**+0.7**
	comp=N,14nm,0.9s						
MORC	**Moravsky Berou**	**44.78**	**331**	*e*P	**P**	**20 21 43.4**	**+0.7**
	comp=N,14nm,0.9s						
MYKA	**Terra Mystica**	**44.80**	**325**	⇑*i*P	**P**	**20 21 44.2**	**+1.3**
	comp=N,8.7nm,0.8s						
MYKA	**Terra Mystica**	**44.80**	**325**	P	**P**	**20 21 44.2**	**+1.3**
	comp=N,8.7nm,0.8s						
VRAC	**Vranov**	**44.93**	**330**	⇓*i*P	**P**	**20 21 45.3**	**+1.5**
VRAC	**Vranov**	**44.93**	**330**	*e*P	**P**	**20 21 44.9**	**+1.1**
NACGM	**Naroch**	**45.13**	**342**	*e*	**P**	**20 21 43.0**	**-2.3**
MOA	**Molln**	**45.19**	**327**	⇑*i*P	**P**	**20 21 47.2**	**+1.3**
	comp=N,9.4nm,1.1s						
MOA	**Molln**	**45.19**	**327**	P	**P**	**20 21 47.2**	**+1.3**
	comp=N,9.4nm,1.1s						
KRLC	**Kraliky**	**45.35**	**331**	*e*P	**P**	**20 21 47.8**	**+0.6**
KRLC				*e*pP	**pP**	**20 21 51.2**	**+0.8**
KRLC				*e*sP	**sP**	**20 21 54.4**	**+2.8**
KRLC	**Kraliky**	**45.35**	**331**	P	**P**	**20 21 47.8**	**+0.6**
TREC	**Trest**	**45.47**	**329**	*e*P	**P**	**20 21 47.7**	**-0.4**
TREC				*e*pP	**pP**	**20 21 55.0**	**+3.7**
TREC	**Trest**	**45.47**	**329**	P	**P**	**20 21 47.7**	**-0.4**
DPC	**Dobruska-Polom**	**45.75**	**331**	*e*P	**P**	**20 21 51.1**	**+0.7**
DPC				*e*pP	**pP**	**20 21 55.1**	**+1.6**
DPC				*ex*	x	20 22 02.5	
DPC	**Dobruska-Polom**	**45.75**	**331**	P	**P**	**20 21 51.1**	**+0.7**
UPC	**Upice**	**46.01**	**331**	*e*P	**P**	**20 21 52.6**	**+0.3**
UPC				*e*pP	**pP**	**20 21 56.5**	**+1.0**
UPC				*e*sP	**sP**	**20 21 58.2**	**+1.5**
UPC	**Upice**	**46.01**	**331**	P	**P**	**20 21 52.6**	**+0.3**
GERES	**GERESS Array B**	**46.10**	**328**	P	**P**	**20 21 53.4**	**+0.2**
	comp=N,1.2nm,0.8s,baz=134,slow=7.6,SNR=10						
GOPC	**GO Pecny, Ondr**	**46.21**	**329**	*e*P	**P**	**20 21 54.4**	**+0.4**
GOPC				*e*pP	**pP**	**20 21 58.5**	**+1.3**
GOPC				*ex*	x	20 22 04.3	
GOPC	**GO Pecny, Ondr**	**46.21**	**329**	P	**P**	**20 21 54.4**	**+0.4**
WTTA	**Wattenberg**	**46.29**	**325**	⇑*i*P	**P**	**20 21 55.1**	**+0.3**
	comp=N,11nm,1.2s						
WTTA	**Wattenberg**	**46.29**	**325**	P	**P**	**20 21 55.1**	**+0.3**
	comp=N,11nm,1.2s						
KHC	**Kasperske Hory**	**46.34**	**328**	*e*P	**P**	**20 21 55.0**	**0.0**
KHC				*e*pP	**pP**	**20 22 01.5**	**+3.3**
KHC	**Kasperske Hory**	**46.34**	**328**	P	**P**	**20 21 55.0**	**0.0**
PRU	**Pruhonice**	**46.38**	**329**	*e*P	**P**	**20 21 56.0**	**+0.7**
PRU				*e*pP	**pP**	**20 22 02.2**	**+3.7**
PRU	**Pruhonice**	**46.38**	**329**	P	**P**	**20 21 56.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**46.47**	**276**	P	**P**	**20 21 56.9**	**+0.4**
	comp=N,1.8nm,0.6s,baz=90,slow=6.4,SNR=18						
PVCC	**Panska Ves**	**46.72**	**330**	*e*P	**P**	**20 21 57.3**	**-0.6**
PVCC				*e*pP	**pP**	**20 22 02.1**	**+1.0**
PVCC				*e*sP	**sP**	**20 22 04.9**	**+2.6**
PVCC	**Panska Ves**	**46.72**	**330**	P	**P**	**20 21 57.3**	**-0.6**
BRG	**Berggiesshubel**	**47.24**	**330**	*e*P	**P**	**20 22 02.2**	**+0.2**
	comp=N,3.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**47.72**	**77**	P	**P**	**20 22 04.3**	**-1.9**
	comp=N,1.8nm,0.3s,baz=273,slow=8.8,SNR=20						
CMAR				LR	LR	20 42 07.4	
	comp=N,98nm,19.3s,baz=285,slow=36						
BOSA	**Boshof**	**47.83**	**209**	P	**P**	**20 22 06.3**	**-0.7**
	comp=N,3.3nm,0.7s,baz=40,slow=5.2,SNR=6.2						
CLL	**Collm**	**47.98**	**330**	*e*P	**P**	**20 22 08.0**	**+0.3**
	comp=Z,7.0nm,1.2s						
BFO	**Black Forest**	**48.74**	**324**	*e*P	**P**	**20 22 13.6**	**-0.1**
	comp=Z,8.3nm,1.0s						
BFO	**Black Forest**	**48.74**	**324**	*e*P	**P**	**20 22 13.6**	**-0.1**
	comp=Z,8.3nm,1.0s						
ZAA0	**Zalesovo Array**	**49.15**	**27**	*e*P	**P**	**20 22 15.9**	**-0.8**
ZAA0	**Zalesovo Array**	**49.15**	**27**	*e*P	**P**	**20 22 15.9**	**-0.8**
ZALV	**Zalesovo Beam**	**49.15**	**27**	P	**P**	**20 22 14.4**	**-2.2**
	comp=Z,2.4nm,0.8s,baz=219,slow=8.0,SNR=8.4						
FINES	**FINESS Array B**	**50.95**	**346**	P	**P**	**20 22 30.5**	**+0.3**
	comp=Z,4.2nm,0.7s,baz=126,slow=9.7,SNR=14						
HFS	**Hagfors**	**53.61**	**339**	P	**P**	**20 22 50.1**	**+0.1**
	comp=Z,5.5nm,0.7s,baz=127,slow=9.5,SNR=15						
ESDC	**Sonseca Array**	**53.64**	**310**	P	**P**	**20 22 51.4**	**+0.7**
	comp=Z,3.0nm,0.8s,baz=98,slow=6.9,SNR=17						
NB2	**NORSAR Subarra**	**55.12**	**338**	P	**P**	**20 23 00.5**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=133,slow=7.4						
NB2	**NORSAR Subarra**	**55.12**	**338**	P	**P**	**20 23 00.5**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=133,slow=7.2,SNR=0.1						
NOA	**NORSAR Array B**	**55.12**	**338**	P	**P**	**20 23 00.1**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=129,slow=7.3,SNR=8.9						
NOA				LR	LR	20 47 53.1	
	comp=Z,50nm,18.6s,baz=130,slow=37						
SONM	**Songino Array**	**58.17**	**42**	P	**P**	**20 23 23.1**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=252,slow=6.0,SNR=5.2						
ARCES	**ARCESS Array B**	**58.19**	**350**	P	**P**	**20 23 22.7**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=108,slow=7.8,SNR=6.6						
MAW	**Mawson**	**81.29**	**175**	P	**P**	**20 25 43.7**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=1.0,slow=9.9,SNR=6.0						
WRA	**Warramunga Arr**	**89.73**	**110**	P	**P**	**20 26 27.0**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=300,slow=3.6,SNR=13						
ASAR	**Alice Springs**	**90.25**	**114**	P	**P**	**20 26 29.4**	**-1.0**
	comp=Z,1.5nm,0.9s,baz=286,slow=4.9,SNR=12						
NVAR	**Mina Array Bea**	**127.27**	**348**	PKP	**PKPdf**	**20 32 35.1**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=275,slow=1.1,SNR=5.6						
TXAR	**Lajitas Array**	**130.31**	**329**	PKP	**PKPdf**	**20 32 39.9**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=99,slow=5.7,SNR=3.5						

*ISCJB **28** 20:30:06.7±0.3,44.81N±0.05×141.62E±0.07, h280km±2km, mb3.5/16, Error ellipse: s-maj=8.3km s-min=7.4km az=154.9*
*JMA **28** 20:30:07.3±0.2,44.87N×141.65E, h280km±2km, M3.5*
*IDC **28** 20:30:07.4±0.5,44.90N×141.54E, h268km±5km, mb3.3/16, mb1 3.5/21, mb1mx3.3/53, mbtmp3.9/21, Error ellipse: s-maj=11.5km s-min=10.5km az=107.0*

ISC 28 20:30:07.5±0.6, 44.77N±0.06×141.65E±0.06, h276km±5km, n42, σ1s08/56, mb3.5/16, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JYG	**Yagishiri**	**0.38**	**205**	P		**Pn**	**20 30 43.6**	**+0.4**
JYG				*e*S		**S**	**20 31 11.6**	**+0.3**
JSS	**Shosan**	**0.40**	**159**	P		**Pn**	**20 30 44.0**	**+0.8**
JSS				*e*S		**S**	**20 31 12.5**	**+1.1**
JRR	**Rishiri**	**0.43**	**327**	P		**Pn**	**20 30 43.5**	**+0.3**
JRR				*e*S		**S**	**20 31 11.9**	**+0.5**
JWK2	**Keihoku**	**0.57**	**18**	P		**Pn**	**20 30 43.4**	**-0.1**
JWK2				*e*S		**S**	**20 31 10.7**	**-1.3**
JSE	**Soyaes**	**0.69**	**74**	P		**Pn**	**20 30 44.0**	**+0.1**
JSE				*e*S		**S**	**20 31 11.8**	**-0.9**
ASAJ	**Asahikawa**	**0.95**	**134**	P		**Pn**	**20 30 45.7**	**+0.6**
ASAJ	**Asahikawa**	**0.95**	**134**	P		**Pn**	**20 30 45.2**	**+0.1**
	baz=295,slow=10							
ASAJ				S		**S**	**20 31 14.8**	**-0.1**
	baz=135,slow=19							
JHR	**Hokuryu**	**1.03**	**177**	P		**Pn**	**20 30 46.7**	**+1.1**
JKK2	**Kamakawa 2**	**1.20**	**138**	P		**Pn**	**20 30 47.3**	**+0.8**
JAB	**Ashibetsu**	**1.33**	**162**	P		**Pn**	**20 30 48.3**	**+1.0**
JSK	**Shakotan**	**1.65**	**211**	P		**Pn**	**20 30 50.1**	**+0.6**
JTKR	**Abashiri--Toko**	**1.81**	**116**	P		**Pn**	**20 30 51.8**	**+1.2**
JTKR				*e*S		**S**	**20 31 26.1**	**+1.3**
JEW	**Eniwo**	**1.94**	**184**	P		**Pn**	**20 30 52.9**	**+1.1**
JEW				*e*S		**S**	**20 31 27.4**	**+0.6**
JAR	**Ashorobuto**	**2.13**	**133**	P		**Pn**	**20 30 54.4**	**+1.1**
JAR				*e*S		**S**	**20 31 30.8**	**+1.1**
JCH	**Churui**	**2.49**	**149**	P		**Pn**	**20 30 55.9**	**-0.7**
JCH				*e*S		**S**	**20 31 32.9**	**-2.8**
JNBK	**Urakawa-nobuka**	**2.62**	**162**	P		**Pn**	**20 30 58.7**	**+0.8**
JNBK				*e*S		**S**	**20 31 37.4**	**-0.5**
JAK	**Akkeshi**	**2.83**	**128**	P		**Pn**	**20 30 59.4**	**-0.5**
JAK				*e*S		**S**	**20 31 39.2**	**-2.4**
JKB	**Kayabe**	**2.92**	**189**	P		**Pn**	**20 31 00.9**	**0.0**
JKB				*e*S		**S**	**20 31 41.1**	**-2.2**
JOSM	**Okushiri--Mats**	**3.12**	**211**	P		**Pn**	**20 31 03.3**	**+0.4**
NEM2	**Nemuro 2**	**3.27**	**114**	P		**Pn**	**20 31 04.0**	**-0.5**
NEM2				*e*S		**S**	**20 31 47.3**	**-2.5**
USRK	**Ussuriysk Ar.**	**6.93**	**269**	P		**Pn**	**20 31 46.5**	**-1.1**
	0.3nm,0.3s,baz=85,slow=13,SNR=5.5							
MJAR	**Matsushiro Arr**	**8.63**	**199**	P		**Pn**	**20 32 09.2**	**+0.4**
	0.6nm,0.3s,baz=9.5,slow=12,SNR=7.3							
KSRS	**Korea Array**	**12.66**	**239**	P		**Pn**	**20 32 57.1**	**-1.5**
	0.2nm,0.3s,baz=46,slow=11,SNR=3.8							
JCJ	**Chichijima**	**17.65**	**178**	P		**P**	**20 33 56.2**	**+1.4**
	2.6nm,0.3s,baz=81,slow=23,SNR=5.8							
SEY	**Seymchan**	**19.21**	**15**	P		**P**	**20 34 09.8**	**-1.4**
	1.6nm,0.3s,baz=199,slow=7.9,SNR=47							
SONM	**Songino Array**	**24.42**	**290**	P		**P**	**20 35 01.0**	**-0.2**
	0.7nm,0.5s,baz=92,slow=8.4,SNR=7.0							
ZALV	**Zalesovo Beam**	**37.20**	**305**	P		**P**	**20 36 52.4**	**0.0**
	0.3nm,0.3s,baz=69,slow=9.7,SNR=2.0							
KURBB	**Kurchatov Arra**	**41.73**	**301**	P		**P**	**20 37 29.2**	**-0.5**
	0.7nm,0.4s,baz=74,slow=8.9,SNR=11							
ILAR	**Eielson Array**	**43.01**	**37**	P		**P**	**20 37 39.4**	**-0.3**
	1.7nm,0.7s,baz=278,slow=7.9,SNR=23							
BVAR	**Borovoye Array**	**45.76**	**307**	P		**P**	**20 38 00.9**	**-0.6**
	0.7nm,0.4s,baz=76,slow=8.6,SNR=6.8							
AKTO	**Aktyubinsk**	**53.83**	**308**	P		**P**	**20 39 02.4**	**+0.4**
	1.1nm,0.6s,baz=79,slow=5.2,SNR=2.9							
YKA	**Yellowknife Ar**	**57.10**	**32**	P		**P**	**20 39 25.2**	**+0.3**
	1.3nm,0.6s,baz=306,slow=6.9,SNR=5.0							
FINES	**FINESS Array B**	**62.10**	**331**	P		**P**	**20 39 58.0**	**-0.8**
	1.6nm,0.6s,baz=59,slow=7.6,SNR=9.1							
WRA	**Warramunga Arr**	**64.75**	**188**	P		**P**	**20 40 17.1**	**+0.5**
	0.5nm,0.5s,baz=3.3,slow=6.8,SNR=10							
HFS	**Hagfors**	**67.14**	**335**	P		**P**	**20 40 30.7**	**-0.6**
	1.3nm,0.5s,baz=54,slow=7.5,SNR=14							
NB2	**NORSAR Subarra**	**67.15**	**336**	P		**P**	**20 40 30.6**	**-0.8**
	comp=Z,0.1nm,0.5s,baz=40,slow=6.9							
NOA	**NORSAR Array B**	**67.15**	**336**	P		**P**	**20 40 31.2**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=34,slow=6.0,SNR=3.7							
AKASG	**Malin Array Be**	**68.35**	**321**	P		**P**	**20 40 38.9**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=39,slow=4.9,SNR=7.4							
ASAR	**Alice Springs**	**68.47**	**188**	P		**P**	**20 40 42.1**	**+2.1**
	comp=Z,0.8nm,0.5s,baz=6.7,slow=6.1,SNR=14							
NVAR	**Mina Array Bea**	**70.31**	**55**	P		**P**	**20 40 52.8**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=284,slow=4.9,SNR=7.0							
PDAR	**Pinedale Array**	**72.19**	**47**	P		**P**	**20 41 03.8**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=349,slow=3.6,SNR=10							
TXAR	**Lajitas Array**	**85.27**	**53**	P		**P**	**20 42 14.2**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=314,slow=3.4,SNR=3.6							

IDC 28 20:31:21.1±3.8, 20.16S×168.59E, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.6/33, mbtmp3.9/3, ML3.8/1, Error ellipse: s-maj=105.7km s-min=33.9km az=129.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**2.77**	**226**	Pn		Pn	20 32 06.0	-0.8
	15nm,0.3s,baz=271,slow=24,SNR=144							
DZM				Sn		Sn	20 32 40.1	-1.0
	14nm,0.3s,baz=113,slow=22,SNR=3.8							
WRA	**Warramunga Arr**	**32.15**	**264**	P		P	20 37 50.6	-0.1
	0.7nm,0.4s,baz=91,slow=8.5,SNR=24							
ASAR	**Alice Springs**	**32.33**	**257**	P		P	20 37 52.9	+0.6
	2.4nm,0.7s,baz=85,slow=8.8,SNR=24							
GERES	**GERESS Array B**	**145.00**	**331**	PKPbc		PKPbc	20 50 58.6	-1.1
	0.1nm,0.3s,baz=43,slow=4.4,SNR=2.5							

*ISCJB **28** 20:32:21.8±0.4, 57.49N±0.04×120.81E±0.08, h10km, mb3.8/5, Error ellipse: s-maj=6.7km s-min=4.9km az=149.2*
*YARS **28** 20:32:22.2±0.3, 57.50N±0.01×120.87E±0.03, h10km, MSV3.7*
*IDC **28** 20:32:23.2±1.2, 57.59N×120.63E, h0km, mb3.7/6, mb1 3.7/9, mb1mx3.4/52, mbtmp3.7/9, ML2.6/3, Error ellipse: s-maj=26.2km s-min=13.8km az=147.0*

ISC 28 20:32:22.5±0.6, 57.48N±0.03×120.80E±0.03, h10km, n23, σ2s11/46, mb3.8/5, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YKLR	**Yuktali**	**1.00**	**152**	*i*P		**Pg**	**20 32 41.1**	**-0.7**
YKLR				Pm			20 32 41.1	
	comp=Z,769nm,0.3s							
YKLR				*e*S		**Sg**	**20 32 53.6**	**-1.2**
YKLR				Sm			20 32 53.6	
	comp=E,428nm,0.2s,comp=N,1μm,0.2s							
CLNS	**Chul'man**	**2.32**	**104**	*e*P		**Pn**	**20 33 01.6**	**+0.9**
CLNS				*e*P		**Pb**	**20 33 03.9**	**-0.5**
CLNS				Pm			20 33 03.9	
	comp=Z,22nm,0.2s							
CLNS				*e*S		**Sb**	**20 33 33.7**	**+0.6**
CLNS				Sm			20 33 33.7	
	comp=E,728nm,0.4s							
IENR	**Iengra**	**2.56**	**118**	*e*P		**Pn**	**20 33 05.1**	**+1.1**
IENR				*e*P		**Pb**	**20 33 08.7**	**+0.2**
IENR				Pm			20 33 08.7	
	comp=Z,122nm,0.5s							
IENR				*e*S		**Sb**	**20 33 40.6**	**+0.6**
IENR				Sm			20 33 40.6	
	comp=E,637nm,0.6s							
ALDR	**Aldan**	**2.70**	**63**	*e*P		**Pn**	**20 33 06.7**	**+0.7**
ALDR				*e*P		**Pb**	**20 33 10.4**	**-0.5**
ALDR				Pm			20 33 10.4	
	comp=Z,46nm,0.1s							
ALDR				*e*S		**Sb**	**20 33 44.4**	**+0.4**
ALDR				Sm			20 33 44.4	
	comp=E,54nm,0.2s,comp=N,1μm,0.2s							
OLMR	**Olekminsk**	**2.91**	**357**	*e*P		**Pn**	**20 33 09.9**	**+1.1**
OLMR				*e*P		**Pb**	**20 33 14.1**	**-0.3**
OLMR				Pm			20 33 14.1	
	comp=Z,171nm,0.4s							
OLMR				*e*S		**Sb**	**20 33 51.3**	**+1.3**
OLMR				Sm			20 33 51.3	
	comp=E,106nm,0.6s,comp=N,1μm,0.6s							
TUP	**Tupik**	**3.10**	**189**	*e*P		**Pn**	**20 33 11.7**	**+0.3**
TUP				*e*P		**Pb**	**20 33 17.5**	**-0.2**
TUP				Pm			20 33 17.5	
	comp=Z,89nm,0.7s							
TUP				*e*S		**Sn**	**20 33 47.6**	**-0.9**
TUP				*e*S		**Sb**	**20 33 56.2**	**+0.7**
TUP				Sm			20 33 56.2	
	comp=E,781nm,0.5s							
TNDR	**Tynda**	**3.20**	**135**	*e*P		**Pn**	**20 33 13.7**	**+0.9**
TNDR				*e*P		**Pb**	**20 33 18.9**	**-0.4**
TNDR				Pm			20 33 18.9	
	comp=Z,66nm,0.3s							
TNDR				*e*S		**Sn**	**20 33 51.5**	**+0.6**
TNDR				*e*S		**Sb**	**20 34 00.7**	**+2.4**
TNDR				Sm			20 34 00.7	
	comp=E,757nm,0.3s							
VTMR	**Vitim**	**4.76**	**298**	*e*P		**Pn**	**20 33 36.6**	**+2.4**
VTMR				*e*P		Pg	20 33 49.4	-4.2
VTMR				Pm			20 33 49.4	
	comp=Z,7.0nm,0.3s							
VTMR				*e*S		**Sn**	**20 34 29.2**	**-0.1**
VTMR				*e*S		**Sg**	**20 34 50.5**	**-4.6**
VTMR				Sm			20 34 50.5	
	comp=E,494nm,0.6s							
BMKR	**Bomnak**	**5.29**	**118**	*e*P		**Pn**	**20 33 42.3**	**+0.9**
BMKR				*e*P		Pb	20 33 58.3	+3.4
BMKR				Pm			20 33 58.3	
	comp=Z,15nm,0.4s							
BMKR				*e*S		**Sg**	**20 35 06.5**	**-5.5**
BMKR				Sm			20 35 06.5	
	comp=N,170nm,0.4s							
CGD	**Chagda**	**5.36**	**72**	*e*P		**Pn**	**20 33 43.2**	**+0.8**
CGD				*e*P		**Pb**	**20 33 58.3**	**+2.2**
CGD				Pm			20 33 58.3	
	comp=Z,16nm,0.4s							
CGD				*e*S		**Sn**	**20 34 42.3**	**-1.8**
CGD				*e*S		**Sb**	**20 35 05.4**	**+5.0**
CGD				Sm			20 35 05.4	
	comp=N,322nm,0.5s							
TBGR	**Tabaga**	**6.24**	**42**	*e*P		**Pn**	**20 33 54.7**	**+0.2**
TBGR				*e*P		Pb	20 34 14.4	+3.2
TBGR				*e*S		**Sn**	**20 35 01.8**	**-4.0**
TBGR				*e*S		Sb	20 35 32.6	+6.8
YAK	**Yakutsk**	**6.40**	**41**	Pn		**Pn**	**20 33 57.9**	**+1.2**
	comp=N,0.0nm,0.3s,baz=216,slow=19,SNR=1.6							
YAK				Sn		**Sn**	**20 35 06.1**	**-3.5**
	comp=N,0.0nm,0.3s,baz=42,slow=19,SNR=8.8							
YAK				Lg		Lg	20 35 37.1	
	comp=N,0.0nm,0.3s,baz=194,slow=24,SNR=12							
YAK	**Yakutsk**	**6.40**	**41**	*e*P		**Pn**	**20 33 56.3**	**-0.3**
YAK				*e*P		**Pb**	**20 34 16.2**	**+2.4**
YAK				Pm			20 34 16.2	
	comp=Z,11nm,0.4s							
YAK				*e*S		**Sn**	**20 35 05.5**	**-4.1**
YAK				*e*S		Sb	20 35 38.3	+8.1
YAK				Sm			20 35 38.3	
	comp=E,235nm,0.6s							
USMR	**Ust'-Maya**	**7.69**	**62**	*e*P		**Pn**	**20 34 13.4**	**-1.0**
USMR				*e*P		Pb	20 34 40.4	+4.6
USMR				Pm			20 34 40.4	
	comp=Z,3.0nm,0.5s							
USMR				*e*S		**Sn**	**20 35 37.2**	**-4.2**
USMR				*e*S		Sb	20 36 17.3	+10
USMR				Sm			20 36 17.3	
	comp=N,91nm,0.2s							
BTGS	**Batagay**	**11.99**	**26**	*e*S			20 38 32.8	
BTGS				Sm			20 38 32.8	
	comp=N,25nm,0.2s							
SONM	**Songino Array**	**13.00**	**228**	Pn		Pn	20 35 30.3	+3.1
	comp=N,0.0nm,0.3s,baz=36,slow=12,SNR=3.3							
SONM				Lg		Lg	20 39 07.8	
	comp=N,0.4nm,0.3s,baz=41,slow=17,SNR=3.7							
SEY	**Seymchan**	**16.49**	**58**	Pn		**Pn**	**20 36 14.7**	**+1.0**
	comp=N,0.2nm,0.3s,baz=281,slow=7.2,SNR=3.6							
SEY				Lg		Lg	20 41 00.1	
	comp=N,0.1nm,0.3s,baz=356,slow=19,SNR=7.5							
KSRS	**Korea Array**	**20.58**	**164**	P		Pn	20 37 03.8	+0.2
	comp=N,1.2nm,0.7s,baz=347,slow=10,SNR=5.3							
ILAR	**Eielson Array**	**41.32**	**40**	P		**P**	**20 40 09.3**	**+1.6**
	comp=N,0.3nm,0.5s,baz=299,slow=5.6,SNR=4.1							
FINES	**FINESS Array B**	**44.22**	**317**	P		**P**	**20 40 33.1**	**+1.9**
	comp=N,1.0nm,0.7s,baz=52,slow=7.5,SNR=4.9							
HFS	**Hagfors**	**49.53**	**321**	P		**P**	**20

GRNR	**Gornyy**	**3.57**	**166**	*e*Sg	Sg	21 35 04.8	-3.5
BMKR	**Bomnak**	**3.65**	**280**	*e*Pg	Pb	21 34 18.7	+0.4
BMKR				*e*Sg	Sb	21 35 06.5	+3.8
BMKR				A	A	21 35 10.4	
	24nm,0.4s						
KROS	**Kirovskiy**	**4.73**	**276**	*e*Sg	Sb	21 35 39.7	+5.9
KROS				A	A	21 35 44.1	
	8.0nm,0.5s						

IDC 28 21:46:50.3±11.0, 9°.10S×160°.36E, h177km±96km, mb3.5/6, mb1 3.7/7, mb1mx3.4/19, mbtmp4.0/7, Error ellipse: s-maj=56.4km s-min=35.5km az=106.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**17.47**	**230**	P	Pn	21 50 43.5	0.0
	0.3nm,0.3s,baz=50,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**27.35**	**244**	P	P	21 52 19.1	-0.1
	4.0nm,0.7s,baz=73,slow=9.5,SNR=50						
H11S2	**WAKE ISLAND Hy**	**28.12**	**13**	T	T	22 21 12.0	
	baz=193,slow=76,SNR=56						
H11S3	**WAKE ISLAND Hy**	**28.12**	**13**	T	T	22 21 09.0	
	baz=193,slow=76,SNR=99						
H11S1	**WAKE ISLAND Hy**	**28.14**	**13**	T	T	22 21 13.3	
	baz=193,slow=76,SNR=50						
STKA	**Stephens Creek**	**28.58**	**215**	P	P	21 52 30.1	+0.2
	2.8nm,1.0s,baz=33,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**29.14**	**237**	P	P	21 52 34.4	-0.7
	1.5nm,0.4s,baz=61,slow=10,SNR=36						
ASAR				PcP	PcP	21 55 38.1	-0.3
	0.2nm,0.4s,baz=73,slow=3.2,SNR=2.8						
H11N1	**WAKE ISLAND Hy**	**29.34**	**13**	T	T	22 22 41.0	
	baz=192,slow=76,SNR=192						
H11N3	**WAKE ISLAND Hy**	**29.35**	**13**	T	T	22 22 41.6	
	baz=192,slow=76,SNR=112						
H11N2	**WAKE ISLAND Hy**	**29.36**	**13**	T	T	22 22 41.8	
	baz=192,slow=76,SNR=193						
CMAR	**Chiang Mai Arr**	**66.48**	**295**	P	P	21 57 22.2	+0.9
	0.5nm,0.5s,baz=108,slow=5.8,SNR=3.1						
SONM	**Songino Array**	**74.02**	**325**	P	P	21 58 06.2	-0.5
	0.4nm,0.5s,baz=108,slow=4.8,SNR=4.0						
ILAR	**Eielson Array**	**83.44**	**20**	P	P	21 58 57.6	0.0
	0.2nm,0.5s,baz=236,slow=4.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**158.69**	**283**	PKPab	PKPab	22 07 04.0	-0.2
	0.2nm,0.8s,baz=86,slow=4.1,SNR=2.8						

*ISCJB **28** 21:56:02.5±0.9, 36°.58N±0°.07×71°.0E±0°.1, h200km, Error ellipse: s-maj=15.7km s-min=6.8km az=149.2*
*NNC **28** 21:56:08.3±8.2, 36°.98N×70°.76E, h189km±64km, mb2.3, mpv3.6, Error ellipse: s-maj=79.5km s-min=35.1km az=169.0*

ISC 28 21:56:03.1±1.1, 36°.63N±0°.09×70°.89E±0°.10, h200km, n12, σ1°53/16, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.72**	**324**	⇓P	**Pn**	**21 56 50.1**	**+0.5**
	16nm,0.2s						
DZET				⇓S	**Sn**	**21 57 23.7**	**-2.2**
	90nm,0.4s						
SFK	**Sufi-Kurgan**	**3.95**	**30**	⇑P	**Pn**	**21 57 06.0**	**+1.6**
	3.6nm,0.3s						
SFK				⇑S	**Sn**	**21 57 51.8**	**-0.9**
	14nm,0.2s						
KK31	**Karatay Array**	**6.47**	**358**	⇑P	**Pn**	**21 57 37.0**	**+0.6**
	0.8nm,0.3s,baz=177,slow=12						
KK31				⇑S	**Sn**	**21 58 47.0**	**-3.4**
	2.8nm,0.3s,baz=191,slow=22						
KOLN	**Koldanda**	**13.91**	**126**	*e*P	**Pn**	**21 59 10.5**	**-1.7**
GKN	**Gorkha**	**14.45**	**123**	*e*P	**Pn**	**21 59 18.7**	**0.0**
	15nm,0.6s						
AB31	**Akbulak array**	**14.93**	**331**	⇑P	**P**	**21 59 27.4**	**+2.4**
	0.4nm,0.5s						
AB31				⇓S	**S**	**22 02 09.9**	**0.0**
	0.2nm,0.4s						
KKN	**Kakani**	**15.02**	**122**	*e*P	**Pn**	**21 59 25.7**	**-0.1**
	8.2nm,0.5s						
PKIN	**Phulchoki**	**15.23**	**122**	*e*P	**Pn**	**21 59 27.7**	**-0.8**
	10nm,0.6s						
PKI	**Pulchoki**	**15.25**	**122**	*e*P	**Pn**	**21 59 28.0**	**-0.7**
	13nm,0.5s						
RAMN	**Ramite**	**16.46**	**121**	*e*P	**P**	**21 59 41.8**	**-0.6**
	5.5nm,0.3s						
TAPN	**Taplejung**	**16.98**	**118**	*e*P	**Pn**	**21 59 49.6**	**+0.1**
ODAN	**Odare**	**17.06**	**120**	*e*P	**P**	**21 59 48.5**	**-0.5**
	4.5nm,0.5s						

FUNV 28 22:03:54.4, 7°.11N×72°.97W, h160km, MW2.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.00**	**41**	*e*P	Pn	22 04 19.2	-1.2
CAPV				*e*S	Sn	22 04 38.6	-1.8
CAPV	**Capacho**	**1.00**	**41**	*e*P	Pn	22 04 19.7	-0.7
CAPV				*e*S	Sn	22 04 41.4	+1.1
VIGV	**El Vigia**	**2.34**	**43**	*e*P	Pn	22 04 33.7	-0.5
VIGV				*e*S	Sn	22 05 01.5	-3.5
SOCV	**Socops**	**2.40**	**61**	*e*P	Pn	22 04 34.4	-0.5
SOCV	**Socops**	**2.40**	**61**	*e*P	Pn	22 04 34.1	-0.8
SOCV				*e*S	Sn	22 05 03.8	-2.4
VIRV	**Villa del Rosa**	**3.42**	**9**	*e*P	Pn	22 04 45.9	-1.6
VIRV				*e*S	Sn	22 05 24.9	-3.9
VIRV	**Villa del Rosa**	**3.42**	**9**	*e*P	Pn	22 04 45.1	-2.4
VIRV				*e*S	Sn	22 05 24.8	-4.0
ELOV	**Elorza**	**3.46**	**92**	*e*P	Pn	22 04 45.5	-2.6
CURV	**Curarigua**	**4.15**	**46**	*e*P	Pn	22 04 55.7	-1.3
CURV	**Curarigua**	**4.15**	**46**	*e*P	Pn	22 04 54.4	-2.6
CURV				*e*S	Sn	22 05 39.8	-5.9
BAUV	**El Baul**	**5.21**	**69**	*e*P	Pn	22 05 07.4	-3.4
MAPV	**Macapo**	**5.22**	**58**	*e*P	Pn	22 05 08.9	-2.1

*ISCJB **28** 22:20:23.7±3.3, 35°.39S±0°.08×72°.3W±0°.2, h10km±18km, mb3.8/4, Error ellipse: s-maj=31.4km s-min=13.4km az=6.6*
*IDC **28** 22:20:23.6±1.3, 35°.38S×72°.28W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.8/15, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=57.0km s-min=28.0km az=71.0*
*GUC **28** 22:20:25.4±0.5, 35°.34S×72°.14W, h9km±2km, ML4.2*

ISC 28 22:20:23.9±2.6, 35°.37S±0°.06×72°.3W±0°.1, h2km±14km, n14, σ0s80/21, mb3.9/4, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.50**	**93**	⇑*i*P	**Pg**	**22 20 34.1**	**+0.6**
TALC				*i* S	**Sg**	**22 20 40.3**	**+0.3**
LNCH	**Linares**	**0.71**	**132**	⇑*i*P	**Pb**	**22 20 38.6**	**-0.4**
LNCH				*i* S	**Sb**	**22 20 48.5**	**-0.6**
NICH	**Los Niches**	**0.91**	**66**	⇓*i*P	**Pg**	**22 20 40.9**	**-0.4**
NICH				*i* S	**Sg**	**22 20 52.9**	**-0.3**
LNV	**Longovilo**	**1.57**	**26**	⇓*i*P	**Pn**	**22 20 51.7**	**-1.1**
CHCH	**Chadas Angostu**	**1.94**	**43**	⇓*i*P	**Pn**	**22 20 57.8**	**-0.2**
CHCH				*i* S	**Sn**	**22 21 21.9**	**-1.1**
TACH	**Talagante**	**2.03**	**33**	⇑*i*P	**Pn**	**22 20 58.8**	**-0.3**
PCH	**Pirque**	**2.26**	**40**	*e*P	**Pn**	**22 21 03.4**	**+1.0**
PCH				*i* S	**Sn**	**22 21 31.7**	**+0.9**
CLCH	**Cerro Calan**	**2.42**	**36**	*e*P	**Pn**	**22 21 05.7**	**+1.1**
CLCH				*i* S	**Sn**	**22 21 35.1**	**+0.2**
CLCH				AML	AML	22 21 43.7	
	comp=E,2μm,0.5s						
PEL	**Peldehue**	**2.57**	**31**	⇓*i*P	**Pn**	**22 21 08.4**	**+1.8**
PEL				*i* S	**Sn**	**22 21 38.8**	**+0.3**
PEL				AML	AML	22 21 49.2	
	comp=E,1μm,0.5s						
LPAZ	**La Paz**	**19.36**	**12**	P	**Pn**	**22 24 52.1**	**-0.3**
	comp=E,0.1nm,0.3s,baz=185,slow=11,SNR=2.9						
TXAR	**Lajitas Array**	**70.85**	**331**	P	**P**	**22 31 42.2**	**0.0**
	comp=E,0.3nm,0.5s,baz=155,slow=8.8,SNR=2.5						
MAW	**Mawson**	**71.92**	**163**	P	**P**	**22 31 48.2**	**+0.1**
	comp=E,0.9nm,0.6s,baz=247,slow=7.7,SNR=4.0						
BOSA	**Boshof**	**79.59**	**118**	P	**P**	**22 32 33.5**	**+0.5**
	comp=E,2.2nm,0.7s,baz=236,slow=3.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**84.84**	**70**	P	**P**	**22 33 00.0**	**-0.4**
	comp=E,0.3nm,0.6s,baz=247,slow=5.3,SNR=4.3						

*NIED **28** 22:24:00, 39°.20N×141°.50E, h125km, Mw4.4 Best double couple: M0 3.85000×10^15 NP1:φs92.00000°, δ38.00000°, λ-7.00000°. NP2:φs188.00000°, δ85.00000°, λ-128.00000°.*
*MOS **28** 22:24:08.7±0.8, 39°.50N×141°.24E, h108km, mb4.5/16, Error ellipse: s-maj=9.9km s-min=5.6km az=86.5*
*ISCJB **28** 22:24:08.8±0.2, 39°.25N±0°.03×141°.42E±0°.04, h124km±1km, mb4.4/71, Error ellipse: s-maj=5.4km s-min=3.5km az=37.8*
*BJI **28** 22:24:09.0, 39°.31N×141°.34E, h127km, mb4.7/28, mB4.8/13*
*IDC **28** 22:24:09.6±0.5, 39°.20N×141°.36E, h116km±4km, mb4.0/23, mb1 4.1/28, mb1mx4.0/35, mbtmp4.4/28, MS2.7/1, Ms1 2.7/1, ms1mx2.2/35, Error ellipse: s-maj=12.1km s-min=11.1km az=137.0*
*NEIC **28** 22:24:09.3±0.5, 39°.19N×141°.38E, h115km±4km, mb4.5/45, MW4.3(NIED), Error ellipse: s-maj=5.3km s-min=3.6km az=139.0*
NEIC Recorded [3 JMA] in Iwate, [2 JMA] in Miyagi and [1 JMA] in Akita, Aomori and Fukushima.
*JMA **28** 22:24:10.3±0.1, 39°.25N×141°.46E, h116km±1km, M4.3 Broadband fault plane solution: P waves. NP1: φs175.00000°, δ87.00000°, λ-107.00000°. NP2: φs76.00000°, δ17.00000°, λ-9.00000°. Principal axes: T Plg40.0000°, Azm280.0000°; N Plg17.0000°, Azm175.0000°; P Plg45.0000°, Azm68.0000°;*
JMA Felt III J1.

ISC 28 22:24:09.2±0.4, 39°.25N±0°.04×141°.49E±0°.05, h119km±3km, h118km:pP-P, n199, σ1°39/228, mb4.5/80, 10C-12D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.21**	**141**	⇑P	**Pn**	**22 24 26.8**	**+1.1**
OFUJ				S	**Sn**	**22 24 38.8**	**+0.7**
JOM	**Ohasama**	**0.28**	**325**	⇓P	**Pn**	**22 24 26.6**	**+0.7**
JOM				S	**Sn**	**22 24 38.9**	**+0.4**
JMK	**Ichinoseki**	**0.36**	**216**	⇓P	**Pn**	**22 24 26.8**	**+0.5**
JMK				S	**Sn**	**22 24 39.4**	**+0.3**
JRG	**Rokugo**	**0.68**	**283**	⇓P	**Pn**	**22 24 29.1**	**+0.8**
JRG				S	**Sn**	**22 24 43.8**	**+1.1**
JIO	**Ouri**	**0.80**	**188**	⇓P	**Pn**	**22 24 29.8**	**+0.5**
JIO				S	**Sn**	**22 24 44.4**	**+0.1**
JYK	**Kaneyama**	**0.94**	**250**	⇓P	**Pn**	**22 24 31.4**	**+0.8**
JYK				S	**Sn**	**22 24 47.7**	**+1.0**
JOU	**Okura**	**1.09**	**217**	⇓P	**Pn**	**22 24 32.9**	**+0.8**
JOU				S	**Sn**	**22 24 50.2**	**+0.8**
JANG	**Nango**	**1.13**	**1**	⇑P	**Pn**	**22 24 32.7**	**+0.3**
JANG				S	**Sn**	**22 24 49.8**	**-0.2**
JAH	**Hinai**	**1.15**	**325**	P	**Pn**	**22 24 33.7**	**+1.1**
JAH				S	**Sn**	**22 24 51.5**	**+1.1**
JAW	**Awa shima**	**1.92**	**246**	⇓P	**Pn**	**22 24 42.4**	**+0.8**
JAW				S	**Sn**	**22 25 06.3**	**-0.1**
JFT	**Otama**	**1.95**	**208**	P	**Pn**	**22 24 42.9**	**+0.9**
JFT				S	**Sn**	**22 25 07.6**	**+0.6**
ERM	**Erimo**	**3.04**	**24**	*e*P	**Pn**	**22 24 56.3**	**+0.4**
ERM				pmax	pmax		
	comp=Z,98nm,1.0s						
ERM	**Erimo**	**3.04**	**24**	*e*Pn	**Pn**	**22 24 56.5**	**+0.6**
ERM				*e*Sn	**Sn**	**22 25 30.7**	**-1.3**
MJA0	**Matsu Arr-Jizo**	**3.73**	**225**	*e*P	**Pn**	**22 25 06.3**	**+1.2**
MJA0				pmax	pmax		
	comp=Z,24nm,0.3s						
MAJO	**Matsushiro**	**3.75**	**225**	*d i*P	**Pn**	**22 25 06.4**	**+1.0**
MAJO	**Matsushiro**	**3.75**	**225**	*e*Pn	**Pn**	**22 25 06.4**	**+1.0**
MAJO				*e*Sn	Sn	22 25 38.4	-10
MAT	**Matsushiro**	**3.75**	**225**	P	**Pn**	**22 25 06.3**	**+0.9**
MAT				*e*S	**Sn**	**22 25 51.6**	**+2.8**
MJAR	**Matsushiro Arr**	**3.75**	**225**	P	**Pn**	**22 25 05.9**	**+0.5**
	comp=Z,24nm,0.3s,baz=29,slow=12,SNR=366						
MJAR				S	Sn	22 25 38.4	-10
	comp=Z,7.6nm,0.3s,baz=73,slow=14,SNR=5.1						
I30JP	**ISUMI INFRASON**	**4.04**	**194**	S	**Sn**	**22 25 55.1**	**-0.7**
ASAJ	**Asahikawa**	**4.94**	**9**	S	**Sn**	**22 26 13.9**	**-3.3**
	baz=58,slow=19						
ASAJ	**Asahikawa**	**4.94**	**9**	*e*Pn	**Pn**	**22 25 20.8**	**-0.4**
ASAJ				*e*Sn	**Sn**	**22 26 13.9**	**-3.3**
YUK	**Yuzh-Kuril'sk**	**5.79**	**33**	*d i*P	**Pn**	**22 25 31.9**	**-0.9**
YUK				*i* S	**Sn**	**22 26 33.8**	**-4.1**
YUK				pmax	pmax		
	comp=N,119nm,0.3s						
YUK				pmax	pmax		
	comp=E,103nm,0.3s						
YUK				pmax	pmax		
	comp=Z,189nm,0.3s						
YUK				pmax	pmax		
	comp=Z,206nm,2.1s						
YUK				smax	smax		
	comp=N,1μm,0.6s						
YUK				smax	smax		
	comp=E,294nm,0.6s						
YUK				smax	smax		
	comp=N,1μm,2.3s						
YUK				smax	smax		
	comp=E,1μm,2.3s						
JHJ2	**Mitsune**	**6.27**	**193**	*e*Pn	**Pn**	**22 25 38.1**	**-1.2**
JHJ2				*e*Sn	**Sn**	**22 26 45.5**	**-4.1**
KUR	**Kuril'sk**	**7.62**	**36**	*e*P	**Pn**	**22 25 56.1**	**-1.4**
KUR				*e*S	**Sn**	**22 27 18.5**	**-3.7**
KUR				pmax	pmax		
	comp=N,42nm,0.1s						
KUR				pmax	pmax		
	comp=Z,510nm,0.1s						
KUR				pmax	pmax		
	comp=E,23nm,0.2s						
KUR				smax	smax		
	comp=N,74nm,0.5s						
KUR				smax	smax		
	comp=E,19nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.76**	**6**	*e*P	**Pn**	**22 25 58.0**	**-1.3**
YSS				*e*S	**Sn**	**22 27 22.9**	**-2.6**
YSS				pmax	pmax		
	comp=Z,70nm,0.9s						
YSS	**Yuzh-Sakhalins**	**7.76**	**6**	*e*Pn	**Pn**	**22 25 59.6**	**+0.3**
USRK	**Ussuriysk Ar.**	**8.66**	**308**	P	**Pn**	**22 26 12.3**	**+0.8**
	comp=Z,2.0nm,0.3s,baz=122,slow=13,SNR=64						
USRK				S	Sn	22 27 58.2	+11
	baz=130,slow=36,SNR=1.6						
UGL	**Uglegorsk**	**9.84**	**2**	*e*P	**Pn**	**22 26 25.0**	**-2.3**
UGL				*e*S	**Sn**	**22 28 12.5**	**-3.3**
HABR	**Khabarovsk**	**10.33**	**335**	*e*P	Pn	22 26 30.5	-3.4
HABR				*e*S	**Sn**	**22 28 22.3**	**-5.3**
HABR				pmax	pmax		
	comp=Z,24nm,1.4s						
MDJ	**Mudanjiang**	**10.36**	**305**	P	**Pn**	**22 26 34.8**	**+0.3**
MDJ				PMZ			
	comp=Z,43nm,0.8s						
MDJ				PMZ			
	comp=Z,72nm,6.0s						
MDJ	**Mudanjiang**	**10.36**	**305**	*e*Pn	**Pn**	**22 26 34.4**	**-0.1**
KSRS	**Korea Array**	**10.81**	**265**	P	**Pn**	**22 26 39.9**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=84,slow=12,SNR=13						
KSRS				S	Sn	22 28 47.4	+7.9
	baz=76,slow=25,SNR=7.6						
KSRS	**Korea Array**	**10.81**	**265**	P	**Pn**	**22 26 39.9**	**-0.6**
KSRS				S	Sn	22 28 47.4	+7.9
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KS15	**Wonju Array Si**	**10.84**	**265**	*e*Pn	**Pn**	**22 26 39.9**	**-1.1**
KS15				*e*Sn	Sn	22 28 47.4	+7.1
KSAR	**Wonju Array Be**	**10.84**	**265**	P	**Pn**	**22 26 39.9**	**-1.1**
CBIJ	**Chichi jima**	**12.13**	**177**	*e*Pn	**Pn**	**22 26 55.9**	**-2.3**
CBIJ				*e*Sn	Sn	22 29 01.0	-11
JCJ	**Chichijima**	**12.13**	**177**	P	**Pn**	**22 26 56.3**	**-1.9**
	comp=Z,9.9nm,0.3s,baz=12,slow=16,SNR=17						
JCJ				S	Sn	22 28 59.5	-12
	comp=Z,25nm,0.3s,baz=280,slow=24,SNR=8.5						
JCJ				LR	LR	22 32 15.4	
	comp=Z,38nm,20.3s,baz=69,slow=40						
CBI	**Chichi jima**	**12.14**	**177**	*e*Pn	**Pn**	**22 26 56.3**	**-1.9**
CBI				*e*Sn	Sn	22 28 59.5	-12
KLR	**Kul'dur**	**12.17**	**328**	*e*P	Pn	22 26 53.2	-5.3
PETK	**Petropavlovsk-**	**17.77**	**33**	P	**Pn**	**22 28 09.6**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=219,slow=6.7,SNR=3.5						
PEA2	**Petropavlovsk-**	**17.78**	**33**	*e*P	**Pn**	**22 28 09.6**	**+0.6**
PET	**Petropavlovsk**	**18.13**	**35**	*i* P	**Pn**	**22 28 13.2**	**+0.1**
PET				pmax	pmax		
	comp=Z,26nm,1.3s						
HIA	**Hailar**	**18.46**	**310**	*i* P	**P**	**22 28 13.2**	**-2.4**
HIA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TIA	**Tai'an**	**19.50**	**269**	⇑P	**P**	**22 28 26.0**	**-1.0**
TIA				PMZ			
	comp=Z,20nm,0.9s						
BJI	**Beijing**	**19.50**	**280**	P	**P**	**22 28 25.5**	**-1.4**
BJI				PMZ			
	comp=Z,16nm,0.9s						
BJI				PMZ			
	comp=Z,90nm,3.6s						
BJT	**Baijiatuan**	**19.51**	**280**	*e*P	**P**	**22 28 26.8**	**-0.3**
	comp=Z,19nm,0.9s						
YOJ	**Yonaguni jima**	**21.47**	**232**	*e*P	**P**	**22 28 46.1**	**-2.2**
	comp=Z,102nm,1.2s						
NACB	**Ninganchiao**	**22.56**	**234**	*e*P	**P**	**22 28 55.5**	**-4.1**
	comp=Z,16nm,1.1s						
SSLB	**Suanglung**	**23.25**	**235**	*e*P	**P**	**22 29 03.6**	**-2.6**
	comp=Z,103nm,2.8s						
YULB	**Yu-li**	**23.32**	**233**	*e*P	**P**	**22 29 02.2**	**-4.5**
	comp=Z,7.3nm,1.1s						
TPUB	**Ta-pu**	**23.80**	**234**	*e*P	**P**	**22 29 10.1**	**-1.1**
	comp=Z,10nm,0.6s						
YAK	**Yakutsk**	**23.93**	**346**	P	**P**	**22 29 11.4**	**-0.5**
	comp=Z,2.0nm,0.3s,baz=162,slow=20,SNR=4.7						
YAK	**Yakutsk**	**23.93**	**346**	*e*P	**P**	**22 29 11.0**	**-0.9**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s						
YAK				pmax	pmax		
	comp=N,8.0nm,0.9s						
YAK	**Yakutsk**	**23.93**	**346**	*e*P	**P**	**22 29 11.4**	**-0.5**
	comp=N,3.0nm,0.7s						
SEY	**Seymchan**	**24.61**	**12**	P	**P**	**22 29 20.6**	**+2.5**
	comp=N,1.6nm,0.3s,baz=207,slow=11,SNR=8.7						
SEY	**Seymchan**	**24.61**	**12**	*e*P	**P**	**22 29 18.3**	**+0.2**
XAN	**Xi'an**	**26.56**	**269**	P	**P**	**22 29 37.3**	**+1.2**
XAN				PMZ			
	comp=N,9.0nm,0.7s						
XAN				PMZ			
	comp=N,53nm,8.3s						
SONA0	**Songino Array**	**26.66**	**300**	*e*P	**P**	**22 29 37.2**	**+0.2**
SONM	**Songino Array**	**26.66**	**300**	P	**P**	**22 29 37.2**	**+0.2**
	comp=N,4.6nm,0.5s,baz=96,slow=9.0,SNR=28						
SONM	**Songino Array**	**26.66**	**300**	*e*P	**P**	**22 29 37.6**	**+0.6**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ENH	**Enshi**	**27.66**	**261**	*e*P	**P**	**22 29 44.9**	**-1.0**
	comp=Z,12nm,0.6s						
TLY	**Talaya**	**28.98**	**308**	P	**P**	**22 29 58.4**	**+1.0**
	comp=Z,8.6nm,0.7s,baz=119,slow=4.7,SNR=6.7						
TLY	**Talaya**	**28.98**	**308**	P	**P**	**22 29 58.0**	**+0.6**
TLY				pmax	pmax		
	comp=Z,26nm,1.4s						
TLY	**Talaya**	**28.98**	**308**	*e*P	**P**	**22 29 57.5**	**+0.2**
	comp=Z,14nm,0.8s						
ZAK	**Zakamensk**	**29.00**	**305**	*e*P	**P**	**22 29 57.5**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,11nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**29.28**	**124**	T	T	23 00 43.2	
	baz=317,slow=75,SNR=310						
H11N1	**WAKE ISLAND Hy**	**29.29**	**124**	T	T	23 00 45.4	
	baz=317,slow=75,SNR=405						
H11N3	**WAKE ISLAND Hy**	**29.30**	**124**	T	T	23 00 44.6	
	baz=317,slow=75,SNR=434						
H11S1	**WAKE ISLAND Hy**	**30.06**	**126**	T	T	23 01 38.4	
	baz=318,slow=76,SNR=97						
H11S3	**WAKE ISLAND Hy**	**30.06**	**126**	T	T	23 01 35.9	
	baz=318,slow=76,SNR=119						
H11S2	**WAKE ISLAND Hy**	**30.08**	**126**	T	T	23 01 44.0	
	baz=318,slow=76,SNR=72						
BILL	**Bilibino**	**31.89**	**17**	⇑*i*P	**P**	**22 30 23.9**	**+1.1**
BILL				*e**PP	pP	22 30 56.8	+8.0
BILL				pmax	pmax		
	comp=Z,7.0nm,1.7s						
GTA	**Gaotai**	**32.03**	**284**	*e*P	**P**	**22 30 24.8**	**+0.2**
GTA				PMZ			
	comp=Z,7.0nm,1.2s						
TIXI	**Tiksi**	**33.10**	**353**	⇑*i*P	**P**	**22 30 33.1**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KMI	**Kunming**	**35.41**	**258**	P	**P**	**22 30 54.0**	**-0.1**
KMI				PMZ			
	comp=Z,11nm,0.9s						
SLVN	**Son La**	**36.72**	**252**	*e*P	**P**	**22 31 02.9**	**-2.1**
	comp=Z,60nm,2.6s						
ZAA1	**Zalesovo Array**	**40.50**	**310**	*e*P	**P**	**22 31 36.6**	**+0.4**
ZAA1				*e*PcP	**PcP**	**22 33 36.4**	**+0.1**
ZAA1				*e*ScP	**ScP**	**22 37 14.2**	**-0.4**
ZALV	**Zalesovo Beam**	**40.50**	**310**	P	**P**	**22 31 36.6**	**+0.4**
	comp=Z,11nm,0.7s,baz=86,slow=7.5,SNR=37						
ZALV				PcP	**PcP**	**22 33 36.4**	**+0.1**
	comp=Z,1.6nm,0.4s,baz=92,slow=4.0,SNR=4.6						
ZALV				ScP	**ScP**	**22 37 14.2**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=92,slow=5.2,SNR=3.6						
NVS	**Novosibirsk**	**41.38**	**312**	⇑*i*P	**P**	**22 31 43.6**	**+0.2**
NVS				pmax	pmax		
	comp=Z,14nm,1.1s						
NVS				pmax	pmax		
	comp=N,3.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.0s						
CHTO	**Chiang Mai**	**41.94**	**253**	*e*P	**P**	**22 31 49.0**	**+0.7**
	comp=E,5.0nm,0.7s						
LSA	**Lhasa**	**42.12**	**273**	*e*P	**P**	**22 31 49.9**	**-0.3**
	comp=E,4.0nm,0.8s						
CM31	**Chiang Mai Arr**	**42.16**	**253**	*e*P	**P**	**22 31 50.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**42.16**	**253**	P	**P**	**22 31 50.3**	**+0.1**
	comp=E,0.9nm,0.6s,baz=54,slow=7.4,SNR=6.9						
CMAR	**Chiang Mai Arr**	**42.16**	**253**	*e*P	**P**	**22 31 50.3**	**+0.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**43.03**	**300**	*e*P	**P**	**22 31 57.4**	**+0.5**
KURK	**Kurchatov**	**44.65**	**306**	*e*P	**P**	**22 32 09.7**	**0.0**
	comp=Z,17nm,0.8s						
OHAK	**Old Harbor**	**45.11**	**44**	*e*P	**P**	**22 32 13.5**	**+0.3**
	comp=Z,113nm,2.2s						
PPLA	**Purkeypile**	**45.33**	**36**	*e*P	**P**	**22 32 16.8**	**+1.6**
	comp=Z,7.6nm,1.0s						
CAST	**Castle Rocks**	**45.38**	**35**	*e*P	**P**	**22 32 17.4**	**+2.0**
	comp=Z,3.4nm,0.6s						

BRVK	**Borovoye**	**49.21**	**311**	*c*	*i*P	**P**	**22 32 45.1**	**0.0**
BRVK					pmax	pmax		
	comp=Z,8.0nm,0.8s							
EKS2	**Erkin-Say**	**50.01**	**297**		*e*P	**P**	**22 32 52.0**	**+0.5**
	comp=Z,4.2nm,0.6s							
KKAR	**Karatay Array**	**52.10**	**299**		*e*P	**P**	**22 33 06.1**	**-0.9**
INK	**Inuvik**	**52.40**	**28**		P	**P**	**22 33 10.4**	**+1.7**
	comp=Z,3.9nm,0.3s,baz=276,slow=6.5,SNR=3.2							
INK	**Inuvik**	**52.40**	**28**		P	**P**	**22 33 10.4**	**+1.7**
INK					pmax	pmax		
	comp=Z,4.0nm,0.3s							
INK	**Inuvik**	**52.40**	**28**		*e*P	**P**	**22 33 10.4**	**+1.7**
	comp=Z,5.5nm,0.5s							
HYT	**Haines Junctio**	**52.50**	**38**		*e*P	**P**	**22 33 12.8**	**+3.0**
SVE	**Sverdlovsk**	**53.55**	**318**	*de*	P	**P**	**22 33 18.0**	**+0.6**
SVE					pmax	pmax		
	comp=Z,24nm,0.8s							
ARU	**Arti**	**54.76**	**318**	*c*	*i*P	**P**	**22 33 26.4**	**+0.2**
ARU					*PP	pP	22 34 01.7	+7.3
ARU							22 35 29.2	
ARU					S	**S**	**22 40 58.3**	**+1.0**
ARU					pmax	pmax		
	comp=Z,23nm,1.0s							
ARU	**Arti**	**54.76**	**318**		*e*P	**P**	**22 33 26.6**	**+0.4**
	comp=Z,20nm,0.9s							
GSI	**Gunungsitoli**	**55.01**	**238**		*e*P	**P**	**22 33 29.0**	**+0.5**
	comp=Z,23nm,1.1s							
ABKAR	**Akbulak array**	**56.58**	**309**		*e*P	**P**	**22 33 39.2**	**-0.1**
WRA	**Warramunga Arr**	**59.26**	**188**		P	**P**	**22 33 58.6**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=7.4,slow=6.9,SNR=7.8							
WRA					pP	**pP**	**22 34 25.5**	**-1.3**
	comp=Z,2.8nm,0.8s,baz=5.4,slow=7.1,SNR=5.7							
WRA					sP	**sP**	**22 34 39.3**	**-0.5**
	comp=Z,4.7nm,0.6s,baz=5.1,slow=7.1,SNR=9.5							
WRA	**Warramunga Arr**	**59.26**	**188**		*e*P	**P**	**22 34 00.9**	**+2.7**
WRA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
RES	**Resolute Bay**	**60.45**	**15**		*e*P	**P**	**22 34 06.1**	**+0.4**
	comp=Z,49nm,2.5s							
ARA0	**ARCESS Array S**	**61.95**	**339**		*e*P	**P**	**22 34 16.3**	**+0.3**
ARCES	**ARCESS Array B**	**61.95**	**339**		P	**P**	**22 34 16.3**	**+0.3**
	comp=Z,4.9nm,0.9s,baz=56,slow=7.4,SNR=9.6							
ARCES	**ARCESS Array B**	**61.95**	**339**		*e*P	**P**	**22 34 16.3**	**+0.3**
ARCES					pmax	pmax		
	comp=Z,5.0nm,0.9s							
GEYT	**Alibeck**	**62.84**	**298**		P	**P**	**22 34 22.6**	**+0.2**
	comp=Z,3.9nm,0.7s,baz=8.5,slow=2.9,SNR=12							
AS12	**Alice Springs**	**62.98**	**188**		*e*P	**P**	**22 34 23.7**	**+0.4**
ASAR	**Alice Springs**	**62.98**	**188**		P	**P**	**22 34 23.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=352,slow=4.5,SNR=3.7							
ASAR					pP	**pP**	**22 34 52.0**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=352,slow=4.3,SNR=2.6							
ASAR					sP	**sP**	**22 35 05.1**	**0.0**
	comp=Z,1.5nm,0.6s,baz=3.9,slow=4.3,SNR=5.4							
ASAR	**Alice Springs**	**62.98**	**188**		P	**P**	**22 34 23.7**	**+0.4**
ASAR					*PP	**pP**	**22 34 52.0**	**-0.2**
ASAR					*SP	**sP**	**22 35 05.1**	**0.0**
ASAR					pmax	pmax		
	comp=Z,1.0nm,0.7s							
ASAR					pmax	pmax		
	comp=Z,2.0nm,0.6s							
OBN	**Obninsk**	**66.37**	**323**		*e*P	**P**	**22 34 43.8**	**-1.1**
OBN					*e*		22 35 07.3	
OBN					*e*		22 37 14.3	
OBN					pmax	pmax		
	comp=Z,12nm,0.9s							
FIA0	**FINESS Array S**	**66.89**	**332**		*e*P	**P**	**22 34 48.2**	**+0.1**
FINES	**FINESS Array B**	**66.89**	**332**		P	**P**	**22 34 48.2**	**+0.1**
	comp=Z,4.9nm,0.6s,baz=42,slow=9.0,SNR=33							
FINES	**FINESS Array B**	**66.89**	**332**		*e*P	**P**	**22 34 48.2**	**+0.1**
FINES					pmax	pmax		
	comp=Z,5.0nm,0.6s							
YBH	**Yreka Blue Hor**	**68.95**	**53**		P	**P**	**22 35 03.8**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=293,slow=7.7,SNR=3.5							
YBH	**Yreka Blue Hor**	**68.95**	**53**		*e*P	**P**	**22 35 03.8**	**+2.2**
	comp=Z,13nm,1.6s							
K05A	**Summer Lake**	**69.50**	**51**		*e*P	**P**	**22 35 07.7**	**+2.6**
	comp=Z,16nm,1.5s							
KIV	**Kislovodsk**	**69.52**	**310**		*e*P	**P**	**22 35 05.7**	**+0.7**
KIV					pmax	pmax		
	comp=Z,23nm,0.9s							
KIV	**Kislovodsk**	**69.52**	**310**		*e*P	**P**	**22 35 05.8**	**+0.7**
	comp=Z,19nm,0.8s							
KBZ	**Khabaz**	**69.52**	**310**		P	**P**	**22 35 05.8**	**+1.0**
	comp=Z,6.2nm,0.8s,baz=82,slow=3.1,SNR=14							
KBZ	**Khabaz**	**69.52**	**310**		P	**P**	**22 35 05.9**	**+1.0**
KBZ					pmax	pmax		
	comp=Z,6.0nm,0.8s							
SWMT	**Swartz Lake**	**70.65**	**44**		*e*P	**P**	**22 35 12.3**	**+0.4**
SLMT	**Seeley Lake**	**71.09**	**44**		*e*P	**P**	**22 35 16.1**	**+1.5**
NB2	**NORSAR Subarra**	**72.17**	**337**		P	**P**	**22 35 20.5**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=40,slow=6.2							
NB200	**NORSAR Array S**	**72.17**	**337**		*e*P	**P**	**22 35 20.9**	**+0.2**
NOA	**NORSAR Array B**	**72.17**	**337**		P	**P**	**22 35 20.9**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=38,slow=5.9,SNR=15							
NOA					sP	**sP**	**22 36 03.2**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=38,slow=6.1,SNR=3.1							
LRM	**Limekiln Ridge**	**72.53**	**45**		*e*P	**P**	**22 35 25.2**	**+1.8**
AKASG	**Malin Array Be**	**72.59**	**322**		P	**P**	**22 35 23.3**	**-0.1**
	comp=Z,4.8nm,0.5s,baz=45,slow=5.8,SNR=14							
AKASG	**Malin Array Be**	**72.59**	**322**		*e*P	**P**	**22 35 23.2**	**-0.1**
AKASG					pmax	pmax		
	comp=Z,3.0nm,0.4s							
AKBB	**Malin Array Si**	**72.59**	**322**		*e*P	**P**	**22 35 23.3**	**0.0**
DLMT	**Dillon**	**72.73**	**45**		*e*P	**P**	**22 35 26.0**	**+1.5**
	comp=Z,6.0nm,0.6s							
NV01	**Mina Array Sit**	**73.62**	**54**		*e*P	**P**	**22 35 31.8**	**+1.9**
NVAR	**Mina Array Bea**	**73.62**	**54**		P	**P**	**22 35 31.8**	**+1.9**
	comp=Z,2.8nm,0.7s,baz=289,slow=6.7,SNR=19							
ELK	**Elko**	**74.08**	**50**		P	**P**	**22 35 34.6**	**+2.1**
	comp=Z,1.4nm,0.8s,baz=301,slow=5.9,SNR=4.9							
ELK	**Elko**	**74.08**	**50**		P	**P**	**22 35 34.6**	**+2.1**
ELK					pmax	pmax		
	comp=Z,1.0nm,0.8s							
ELK	**Elko**	**74.08**	**50**		*e*P	**P**	**22 35 34.6**	**+2.1**
	comp=Z,1.9nm,0.9s							
TPH	**Tonopah**	**74.51**	**53**		*e*P	**P**	**22 35 37.2**	**+2.1**
	comp=Z,5.0nm,0.8s							
FXWY	**Fox Creek**	**74.69**	**46**		*e*P	**P**	**22 35 36.6**	**+0.5**
	comp=Z,3.0nm,0.9s							
R11A	**Troy Canyon, C**	**75.36**	**52**		*e*P	**P**	**22 35 41.6**	**+1.7**
	comp=Z,7.7nm,1.4s							
TPNV	**Topopah Spring**	**75.81**	**54**		*e*P	**P**	**22 35 42.6**	**+0.1**
	comp=Z,4.6nm,0.9s							
DUG	**Dugway, Tooele**	**75.87**	**50**		*e*P	**P**	**22 35 42.0**	**-0.7**
	comp=Z,3.0nm,0.8s							
PD31	**Pinedale Array**	**76.08**	**46**		*e*P	**P**	**22 35 44.9**	**+0.9**
PDAR	**Pinedale Array**	**76.08**	**46**		P	**P**	**22 35 44.9**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=339,slow=1.6,SNR=16							
BR101	**Keskin Array S**	**77.44**	**311**		*e*P	**P**	**22 35 51.9**	**+0.3**
BRTR	**Keskin Array B**	**77.44**	**311**		P	**P**	**22 35 51.9**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=98,slow=3.1,SNR=15							
BRTR	**Keskin Array B**	**77.44**	**311**		*e*P	**P**	**22 35 51.8**	**+0.3**
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.5s							
KNB	**Kanab**	**77.89**	**52**		*e*P	**P**	**22 35 54.0**	**-0.2**
	comp=Z,7.6nm,1.4s							
DPC	**Dobruska-Polom**	**78.62**	**328**		*e*P	**P**	**22 35 58.8**	**+1.0**
DPC					*e*pP	**pP**	**22 36 29.4**	**+1.6**
DPC	**Dobruska-Polom**	**78.62**	**328**		*e*P	**P**	**22 35 58.8**	**+1.0**
DPC					*e*		22 36 29.4	
BRG	**Berggiesshubel**	**79.19**	**329**		*e*P	**P**	**22 36 01.8**	**+1.0**
	comp=Z,2.5nm,0.7s							
BRG	**Berggiesshubel**	**79.19**	**329**		*e*P	**P**	**22 36 01.8**	**+1.0**
BRG					pmax	pmax		
	comp=Z,3.0nm,0.7s							
PVCC	**Panska Ves**	**79.20**	**329**		*e*P	**P**	**22 36 04.0**	**+3.2**
PVCC	**Panska Ves**	**79.20**	**329**		*e*P	**P**	**22 36 04.0**	**+3.2**
CLL	**Collm**	**79.21**	**330**	ǁ	*i*P	**P**	**22 36 01.3**	**+0.4**
	comp=Z,5.0nm,0.9s							
CLL					*i* pP	**pP**	**22 36 29.3**	**-1.6**
CLL	**Collm**	**79.21**	**330**	ǁ	*i*P	**P**	**22 36 01.3**	**+0.4**
CLL					*i* *PP	**pP**	**22 36 29.3**	**-1.6**
CLL					pmax	pmax		
	comp=Z,5.0nm,0.9s							
PRA	**Prague**	**79.61**	**328**		*e*P	**P**	**22 36 03.7**	**+0.6**
PRA	**Prague**	**79.61**	**328**		*e*P	**P**	**22 36 03.7**	**+0.6**
PRU	**Pruhonice**	**79.63**	**328**		*e*P	**P**	**22 36 03.8**	**+0.6**
PRU	**Pruhonice**	**79.63**	**328**		*e*P	**P**	**22 36 03.8**	**+0.6**
TREC	**Trest**	**79.78**	**327**		*e*P	**P**	**22 36 05.0**	**+1.0**
TREC	**Trest**	**79.78**	**327**		*e*P	**P**	**22 36 05.0**	**+1.0**
KHC	**Kasperske Hory**	**80.69**	**328**		*e*P	**P**	**22 36 09.2**	**+0.2**
KHC					*ex*	x	22 36 44.9	
KHC					*es*P	**sP**	**22 36 54.4**	**+2.6**
KHC	**Kasperske Hory**	**80.69**	**328**		*e*P	**P**	**22 36 09.2**	**+0.2**
KHC					*e*		22 36 44.9	
GEC2	**GERESS Array S**	**80.87**	**328**		*e*P	**P**	**22 36 10.4**	**+0.4**
GERES	**GERESS Array B**	**80.87**	**328**		P	**P**	**22 36 10.4**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=12,slow=6.8,SNR=7.3							
GERES	**GERESS Array B**	**80.87**	**328**		*e*P	**P**	**22 36 10.3**	**+0.4**
GERES					pmax	pmax		
	comp=Z,1.0nm,0.5s							
LTX	**Lajitas**	**88.72**	**52**		*e*P	**P**	**22 36 51.0**	**+1.4**
TXAR	**Lajitas Array**	**88.72**	**52**		P	**P**	**22 36 51.0**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=305,slow=4.4,SNR=5.4							
TORD	**Torodi Ar. Bea**	**115.81**	**316**		PKP	**PKPdf**	**22 42 37.6**	**-0.6**
	comp=Z,0.6nm,1.1s,baz=79,slow=2.2,SNR=2.5							
LPAZ	**La Paz**	**145.48**	**57**		PKPbc	**PKPbc**	**22 43 35.2**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=346,slow=4.2,SNR=11							
LPAZ	**La Paz**	**145.48**	**57**		PKP2	**PKPbc**	**22 43 35.3**	**+0.6**
LPAZ					pmax	pmax		
	comp=Z,2.0nm,0.6s							

TRN 28 22:25:01.8, 15.63N × 60.30W, h30 km, MD3.8, M3.6 (FDF), 4C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
DWS	**Wesley**	**0.98**	**267**		*e*P		Pb	22 25 21.1	+0.9
DWS					*e*S		Sb	22 25 34.5	+1.7
MGG	**Marie-Galante**	**1.02**	**287**		*e*P		Pb	22 25 21.1	+0.2
MGG					*e*S		Sb	22 25 35.3	+1.2
DBCT	**Belle View Cho**	**1.07**	**251**		*e*P		Pb	22 25 30.3	+0.4
DBCT	**Belle View Cho**	**1.07**	**251**		*e*		Pb	22 25 30.4	+8.5
DBCT					*e*S		Sb	22 25 37.3	+1.7
MDN	**Morne-Daniel**	**1.10**	**254**		*e*P		Pb	22 25 22.8	+0.6
MDN					*e*S		Sb	22 25 38.3	+2.1
DSHT	**Scott's Head**	**1.11**	**249**		*e*P		Pb	22 25 23.5	+0.9
DSHT	**Scott's Head**	**1.11**	**249**		*e*		Sb	22 25 36.3	-0.4
DSHT					*e*S		Sb	22 25 38.4	+1.7
BBL	**Barber's Block**	**1.13**	**265**		*e*P		Pb	22 25 22.8	-0.1
SVN	**Savane Anatole**	**1.15**	**227**		*e*P		Pb	22 25 24.6	+1.5
BVM	**Bellevue**	**1.15**	**220**		*e*P		Pb	22 25 23.8	+0.5
FDF	**Fort de France**	**1.21**	**223**		*e*P		Pb	22 25 24.2	-0.1
FDF					*e*S		Sb	22 25 39.6	+0.1
MVM	**Montagne Vaucl**	**1.21**	**208**	ǁ	*e*P		Pb	22 25 24.2	-0.1
LPMF	**Morne Lapointe**	**1.23**	**212**	ǁ	*e*P		Pb	22 25 24.1	-0.4
ZAM	**Aeronautique**	**1.26**	**214**	ǁ	*i*P		Pb	22 25 24.7	-0.3
TRMF	**Trois Ilets**	**1.30**	**214**	ǁ	*e*P		Pb	22 25 25.4	-0.3
TBG	**Guadaloupe-3**	**1.32**	**280**		*e*P		Pb	22 25 25.4	-0.6
TBG					*e*S		Sb	22 25 42.4	-0.1
BIM	**Bigot**	**1.33**	**214**		*e*P		Pb	22 25 26.2	0.0
BIM					*e*S		Sn	22 25 41.8	+0.7
PHG	**Guadaloupe-2**	**1.35**	**287**	ǁ	*i*P		Pb	22 25 26.3	-0.4
LKG	**Breislack**	**1.37**	**288**		*e*P		Pb	22 25 26.5	-0.6
TAG	**Tarade**	**1.38**	**288**		*e*P		Pb	22 25 26.9	-0.3
SCG	**Saint Claude**	**1.39**	**287**		*e*P		Pb	22 25 26.8	-0.5
HMG	**Houelmont**	**1.39**	**285**	ǁ	*i*P		Pb	22 25 26.9	-0.4
SEG	**Port Louis**	**1.39**	**304**		*e*P		Pb	22 25 26.7	-0.6
FNG	**Fond-Bernard**	**1.40**	**288**		*e*P		Pb	22 25 26.8	-0.8
SSG	**Sans Toucher**	**1.41**	**289**	ǁ	*e*P		Pb	22 25 26.9	-0.7
MLG	**Mont-d'or**	**1.43**	**288**	ǁ	*i*P		Pb	22 25 27.3	-0.6
MCLT	**Moule a Chique**	**2.00**	**198**		*e*P		Pn	22 25 35.2	+1.6
MCLT					*e*S		Sn	22 25 59.1	+1.3
SVB	**Belmont**	**2.52**	**202**		*e*P		Pn	22 25 43.2	+2.5
SVB					*e*S		Sn	22 26 12.2	+1.9
GRW	**Mount Saint Ca**	**3.69**	**201**		*e*P		Pn	22 25 58.2	+1.2
GRW					*e*S		Sn	22 26 40.6	+1.1
GRGR	**Grenville**	**3.71**	**201**		*e*P		Pn	22 25 59.2	+2.0
GRGR					*e*S		Sn	22 26 40.9	+1.0

IDC 28 22:28:42.0 ± 1.2, 37.40S × 72.60W, h0 km, mb3.8/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.8/5, ML2.3/1, MS3.1/3, Ms1 3.2/3, ms1mx3.0/19, Error ellipse: s-maj=54.7km s-min=20.7km az=92.0, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CFAA	**Coronel Fontan**	**6.81**	**33**		Pn	Pn	Pn	22 30 23.1	-0.1
	0.1nm,0.3s,baz=204,slow=12,SNR=4.0								
CFAA					Sn		Sn	22 31 46.3	+4.7
	0.0nm,0.3s,baz=13,slow=18,SNR=2.6								
CFAA					Lg		Lg	22 32 13.6	
	0.0nm,0.3s,baz=259,slow=19,SNR=3.2								
CFAA					LR		LR	22 33 35.2	
	comp=Z,41nm,19.7s,baz=227,slow=43								
CPUP	**Villa Florida**	**17.01**	**54**		Pn	P		22 32 46.7	+3.5
	0.1nm,0.3s,baz=214,slow=17,SNR=2.4								
CPUP					LR		LR	22 39 15.7	
	comp=Z,78nm,21.1s,baz=237,slow=37								
LPAZ	**La Paz**	**21.40**	**12**		P	P		22 33 33.5	+1.4
	1.3nm,0.7s,baz=175,slow=5.2,SNR=4.3								
PMSA	**Palmer Station**	**27.88**	**172**		P	P		22 34 34.6	+1.6
	31nm,0.8s,baz=335,slow=17,SNR=2.7								
SNAA	**Sanae**	**48.63**	**157**		P	P		22 37 23.3	-3.8
SNAA	**Sanae**	**48.63**	**157**		P	P		22 37 27.1	-0.1
	1.2nm,0.9s,baz=293,slow=7.2,SNR=7.0								
QSPA	**South Pole Qui**	**52.84**	**180**		P	P		22 37 58.0	-1.1
	1.5nm,1.0s,baz=124,slow=5.6,SNR=3.5								
TXAR	**Lajitas Array**	**72.49**	**332**		P	P		22 40 10.7	+0.2
	0.5nm,0.8s,baz=144,slow=7.8,SNR=2.7								
TORD	**Torodi Ar. Bea**	**85.80**	**70**		P	P		22 41 23.9	+0.3
	0.9nm,1.0s,baz=250,slow=5.1,SNR=4.4								
PDAR	**Pinedale Array**	**86.59**	**334**		LR	LR		23 16 36.2	
	comp=Z,37nm,20.3s,baz=270,slow=33								
ZALV	**Zalesovo Beam**	**157.29**	**36**		PKPab	PKPab		22 49 08.4	-2.0
	0.7nm,0.7s,baz=317,slow=5.9,SNR=2.8								

IDC 28 22:30:21.1 ± 2.6, 29.45N × 141.89E, h0 km, mb3.9/4, mb1 4.0/5, mb1mx3.6/26, mbtmp3.9/5, ML3.4/2, Error ellipse: s-maj=124.5km s-min=21.4km az=75.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JCJ	**Chichijima**	**2.36**	**174**		Pn	Pn		22 31 01.9	+0.7
	1.6nm,0.3s,baz=348,slow=20,SNR=1.8								
JCJ					Sn		Sn	22 31 25.6	-5.2
	3.6nm,0.3s,baz=300,slow=20,SNR=3.1								
MJAR	**Matsushiro Arr**	**7.72**	**337**		Pn	Pn		22 32 15.1	+0.2
	2.6nm,0.3s,baz=159,slow=11,SNR=35								
MAT	**Matsushiro**	**7.72**	**337**		P	Pn		22 32 15.4	+0.5
WRA	**Warramunga Arr**	**49.64**	**189**		P	P		22 39 14.1	-0.5
	0.4nm,0.6s,baz=6.3,slow=7.8,SNR=5.5								
KURBB	**Kurchatov Arra**	**51.23**	**313**		P	P		22 39 26.1	-0.3
	1.3nm,0.2s,baz=81,slow=7.6,SNR=4.5								
BVAR	**Borovoye Array**	**56.16**	**316**		P	P		22 40 03.2	+0.8
	0.6nm,0.5s,baz=90,slow=8.6,SNR=4.0								
FINES	**FINESS Array B**	**75.73**	**333**		P	P		22 42 07.7	-0.6
	1.5nm,0.9s,baz=48,slow=2.1,SNR=4.8								

IDC 28 22:36:53.1 ± 4.0, 6.09S × 145.87E, h98 km ± 51 km, mb3.7/2, mb1 3.9/4, mb1mx3.4/18, mbtmp4.1/4, Error ellipse: s-maj=54.0km s-min=27.7km az=131.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JAY	**Jayapura**	**6.25**	**304**		P	Pn		22 38 24.0	+1.0
	1.3nm,0.3s,baz=125,slow=16,SNR=7.0								
WRA	**Warramunga Arr**	**17.76**	**218**		P	P		22 40 52.6	-1.1
	2.0nm,0.3s,baz=40,slow=11,SNR=83								
WRA					S	S		22 44 13.3	+0.4
	0.1nm,0.3s,baz=39,slow=18,SNR=5.5								
ASAR	**Alice Springs**	**20.93**	**212**		P	P		22 41 26.3	-1.9
	4.9nm,0.7s,baz=38,slow=10,SNR=31								
ASAR					S	S		22 45 17.3	+1.0
	2.3nm,0.8s,baz=33,slow=21,SNR=11								
STKA	**Stephens Creek**	**25.97**	**188**		P	P		22 42 17.6	+0.9
	3.2nm,0.7s,baz=353,slow=10,SNR=6.4								

MEX 28 22:44:20.7 ± 0.5, 16.19N × 98.75W, h12 km ± 9 km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PNIG	**Pinotepa**	**0.64**	**71**		*i* P		Pg	22 44 31.2	-1.9
PNIG					*i* S		Sg	22 44 39.9	-1.6
ACX	**Acapulco**	**1.26**	**303**		*i* P		Pb	22 44 44.5	+0.1
ACX					*e*S		Sb	22 45 00.6	-0.1
TLIG	**Tlapa**	**1.38**	**7**		*i* P		Pn	22 44 42.3	-3.8
TLIG					*i* S		Sn	22 44 59.2	-5.2
CAIG	**El Cayaco**	**1.69**	**301**		*i* P		Pn	22 44 46.6	-3.5
CAIG					*i* S		Sn	22 45 06.8	-4.8
VHO	**Vista Hermosa**	**2.13**	**65**		*e*P		Pn	22 44 53.6	-2.8
VHO					*i* S		Sn	22 45 18.0	-5.0
PLIG	**Platanillo**	**2.31**	**342**		*e*P		Pn	22 44 55.1	-3.6
PLIG					*i* S		Sn	22 45 22.8	-4.5
HUIG	**Huatulco**	**2.58**	**99**		*e*P		Pn	22 45 00.1	-2.3
HUIG					*i* S		Sn	22 45 30.1	-3.6

TIR **28** *23:01:48.6, 40.53N × 18.96E, h11 km, ML2.6*
ISCJB **28** *23:02:00.4 ± 0.4, 40.54N ± 0.02 × 18.93E ± 0.02, h2 km, 3 km, Error ellipse: s-maj=3.1km s-min=2.2km az=3.5*
CSEM **28** *23:02:00.9 ± 0.1, 40.55N × 18.96E, h5 km, ML2.6, Error ellipse: s-maj=3.2km s-min=2.1km az=1.0*
THE **28** *23:02:01.3, 40.54N × 18.96E, h4 km ± 1 km, ML2.6/6, Error ellipse: s-maj=1.2km s-min=0.9km az=102.0*
ROM **28** *23:02:02.2 ± 0.1, 40.51N × 18.86E, h10 km, Md3.0/23, Ml2.8/16, Error ellipse: s-maj=1.9km s-min=1.3km az=4.0*
BEO **28** *23:02:08.5 ± 1.4, 40.89N × 18.92E, h12 km ± 6 km, ML2.2/3*

ISC 28 23:02:01.2 ± 1.0, 40.53N ± 0.02 × 18.95E ± 0.01, h8 km ± 9 km, n123, σ0 °74/167, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
VLO	**Vlora**	**0.42**	**99**		*i* Pg		**Pg**	**23 02 08.9**	**-0.6**
VLO					*i* Sg		Sb	23 02 32.5	+15
VLO	**Vlora**	**0.42**	**99**		P		**Pg**	**23 02 08.5**	**-1.0**
VLO					S		**Sg**	**23 02 15.8**	**+0.7**
VLO	**Vlora**	**0.42**	**99**		P		**Pg**	**23 02 08.5**	**-1.0**
VLO	**Vlora**	**0.42**	**99**		*i* Pg		**Pg**	**23 02 08.9**	**-0.6**
VLO					S		**Sg**	**23 02 15.8**	**+0.7**
SCTE	**Santa Cesarea**	**0.59**	**219**		Pg		**Pg**	**23 02 13.0**	**+0.4**
SCTE					Sg		**Sb**	**23 02 21.8**	**-0.4**
	264nm,0.5s								
SCTE	**Santa Cesarea**	**0.59**	**219**		Pg		**Pg**	**23 02 13.0**	**+0.4**
SCTE					Sg		**Sb**	**23 02 21.8**	**-0.4**
	264nm,0.5s								
MESG	**Mesagne**	**0.84**	**274**		Pg		**Pg**	**23 02 16.6**	**-0.7**
MESG					Sg		**Sb**	**23 02 29.5**	**+0.1**
	449nm,0.3s								
MESG	**Mesagne**	**0.84**	**274**		Pg		**Pg**	**23 02 16.6**	**-0.7**
MESG					Sg		**Sb**	**23 02 29.5**	**+0.1**
	449nm,0.3s								
SRN	**Sarande**	**1.04**	**129**		*i* PG		**Pb**	**23 02 21.5**	**0.0**
SRN					*i* SG		**Sn**	**23 02 36.1**	**-0.6**
SRN	**Sarande**	**1.04**	**129**		P		**Pb**	**23 02 21.4**	**0.0**
SRN					S		**Sb**	**23 02 35.6**	**+0.4**
SRN	**Sarande**	**1.04**	**129**		P		**Pb**	**23 02 21.4**	**0.0**
SRN					S		**Sb**	**23 02 35.6**	**+0.4**
SRN					*i* Sg		**Sn**	**23 02 36.1**	**-0.6**
KEK	**Kerkira**	**1.05**	**141**		P		**Pg**	**23 02 20.6**	**-0.8**
KEK					S		**Sb**	**23 02 35.6**	**+0.1**
KEK	**Kerkira**	**1.05**	**141**		*e*P		**Pb**	**23 02 21.7**	**+0.1**
KEK	**Kerkira**	**1.05**	**141**		Pn		**Pb**	**23 02 21.6**	**0.0**
KEK					Sn		**Sn**	**23 02 37.0**	**0.0**
KEK	**Kerkira**	**1.05**	**141**		P		**Pg**	**23 02 20.6**	**-0.8**
KEK	**Kerkira**	**1.05**	**141**		Pn		**Pb**	**23 02 21.6**	**0.0**
KEK					S		**Sb**	**23 02 35.6**	**+0.1**
KEK					Sn		**Sn**	**23 02 37.0**	**0.0**
TIR	**Tirane**	**1.07**	**40**		*i* PG		**Pb**	**23 02 22.0**	**0.0**
TIR					*i* SG		**Sn**	**23 02 37.5**	**-0.1**
TIR	**Tirane**	**1.07**	**

SERS	**Sersale** 17nm,0.5s	**2.29**	**230**	Pn	**Pn**	**23 02 39.1**	**-0.3**
PALZ	**Palazzo San Ge** 312nm,0.9s	**2.30**	**281**	Pn	**Pn**	**23 02 40.2**	**+0.7**
PALZ	**Palazzo San Ge** 312nm,0.9s	**2.30**	**281**	Pn	**Pn**	**23 02 40.2**	**+0.7**
SKO	**Skopje**	**2.37**	**52**	*e*Pn	Pn	23 02 31.1	-9.2
SIRI	**Monte Sirino -** 41nm,0.7s	**2.38**	**262**	Pn	**Pn**	**23 02 40.8**	**+0.2**
SIRI	**Monte Sirino -** 41nm,0.7s	**2.38**	**262**	Pn	**Pn**	**23 02 40.8**	**+0.2**
MCEL	**Monticello** 17nm,0.4s	**2.41**	**266**	Pn	**Pn**	**23 02 41.2**	**+0.2**
MCEL	**Monticello** 17nm,0.4s	**2.41**	**266**	Pn	**Pn**	**23 02 41.2**	**+0.2**
CUC	**Castrocucco** 48nm,0.6s	**2.46**	**258**	Pn	**Pn**	**23 02 41.6**	**0.0**
CUC	**Castrocucco** 48nm,0.6s	**2.46**	**258**	Pn	**Pn**	**23 02 41.6**	**0.0**
THL	**Klokotos Trika**	**2.55**	**111**	P	**Pn**	**23 02 43.3**	**+0.5**
THL				S	**Sn**	**23 03 14.8**	**+0.8**
THL	**Klokotos Trika**	**2.55**	**111**	*e*P	**Pn**	**23 02 44.4**	**+1.6**
THL	**Klokotos Trika**	**2.55**	**111**	P	**Pn**	**23 02 43.3**	**+0.5**
THL				S	**Sn**	**23 03 14.8**	**+0.8**
GRG	**Griva**	**2.66**	**80**	*e*P	**Pn**	**23 02 44.0**	**-0.4**
VLS	**Valsamata**	**2.68**	**151**	*e*P	**Pn**	**23 02 43.5**	**-1.1**
LIT	**Litokhoron**	**2.75**	**98**	*e*P	**Pn**	**23 02 45.7**	**+0.1**
BULG	**Bulgheria - Ca**	**2.77**	**262**	Pn	**Pn**	**23 02 46.0**	**+0.1**
BULG	**Bulgheria - Ca**	**2.77**	**262**	Pn	**Pn**	**23 02 46.0**	**+0.1**
SGO	**Sicignano** 15nm,0.4s	**2.77**	**272**	Pn	**Pn**	**23 02 47.1**	**+1.1**
SGO	**Sicignano** 15nm,0.4s	**2.77**	**272**	Pn	**Pn**	**23 02 47.1**	**+1.1**
CDRU	**Civita di Ruta** 16nm,0.4s	**2.78**	**270**	Pn	**Pn**	**23 02 46.3**	**+0.2**
CDRU	**Civita di Ruta** 16nm,0.4s	**2.78**	**270**	Pn	**Pn**	**23 02 46.3**	**+0.2**
SJES	**Sjenica**	**2.83**	**15**	*e*Pn	**Pb**	**23 02 51.4**	**-0.7**
SJES	**Sjenica**	**2.83**	**15**	*e*Pn	**Pb**	**23 02 51.4**	**-0.7**
MCRV	**Calabrutti - M**	**2.88**	**276**	Pn	**Pn**	**23 02 47.8**	**+0.2**
MCRV	**Calabrutti - M**	**2.88**	**276**	Pn	**Pn**	**23 02 47.8**	**+0.2**
MAKR	**Makrakomi, Fth**	**2.89**	**121**	*e*P	**Pn**	**23 02 49.2**	**+1.7**
AGG	**Agios Georgios**	**3.01**	**119**	*e*P	**Pn**	**23 02 50.3**	**+1.0**
KNT	**Kendrikon**	**3.06**	**77**	*e*P	**Pn**	**23 02 49.3**	**-0.6**
MELA	**Melanico ??? S**	**3.11**	**293**	Pn	**Pn**	**23 02 51.0**	**+0.4**
MELA	**Melanico ??? S**	**3.11**	**293**	Pn	**Pn**	**23 02 51.0**	**+0.4**
BARS	**Barje**	**3.13**	**42**	*e*Pn	**Pn**	**23 02 50.0**	**-0.9**
SELS	**Selova**	**3.14**	**30**	*e*Pn	**Pn**	**23 02 53.7**	**+2.8**
IVAS	**Ivanjica**	**3.17**	**16**	*e*Pn	**Pb**	**23 02 56.1**	**-1.7**
IVAS	**Ivanjica**	**3.17**	**16**	*e*Pn	**Pb**	**23 02 56.1**	**-1.7**
PTRJ	**Pietraroja**	**3.45**	**285**	Pn	**Pn**	**23 02 55.6**	**+0.3**
PTRJ	**Pietraroja**	**3.45**	**285**	Pn	**Pn**	**23 02 55.6**	**+0.3**
XOR	**Xorichti**	**3.47**	**108**	*e*P	**Pn**	**23 02 55.9**	**+0.4**
DSF	**Desfina**	**3.49**	**126**	*e*P	**Pn**	**23 02 56.0**	**+0.2**
KLV	**Kalavryta, Ach**	**3.52**	**134**	*e*P	**Pn**	**23 02 56.8**	**+0.6**
SGG	**Gregorio Mates** 34nm,0.7s	**3.56**	**285**	Pn	**Pn**	**23 02 57.1**	**+0.3**
SGG	**Gregorio Mates** 34nm,0.7s	**3.56**	**285**	Pn	**Pn**	**23 02 57.1**	**+0.3**
GUR	**Goura**	**3.70**	**133**	*e*P	**Pn**	**23 02 59.2**	**+0.4**
ZAPS	**Zavoj**	**3.88**	**44**	*e*Pn	Pb	23 03 05.4	-4.5
ZAPS	**Zavoj**	**3.88**	**44**	*e*Pn	Pb	23 03 05.4	-4.5
MRKA	**Markates**	**4.02**	**115**	*e*P	**Pn**	**23 03 03.1**	**0.0**
PYL	**PYLOS**	**4.24**	**148**	*e*P	**Pn**	**23 03 04.8**	**-1.3**
KOLS	**Kolonicke sedl**	**8.72**	**15**	*e*PN	Pn	23 04 12.0	+4.4

MEX 28 23:09:58.4±0.7, 19°44N×98°83W, h14km±5km, MD3.6, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IIO	**Organos**	**0.18**	**33**	*e*P	Pg	23 10 01.8	-1.3
IIO				*i* S	Sg	23 10 05.9	-0.4
PBIG	**Penon de los B**	**0.24**	**270**	*e*P	Pg	23 10 03.2	-0.4
PBIG				*e*S	Sg	23 10 06.8	-0.4
AMVM	**AMECAMECA**	**0.31**	**173**	*e*P	Pg	23 10 05.3	0.0
AMVM				*i* S	Sg	23 10 09.8	0.0
VTVM	**Tizayuca**	**0.33**	**8**	*e*P	Pg	23 10 05.7	0.0
VTVM				*i* S	Sg	23 10 10.3	-0.2
PPM	**Popocatepetl**	**0.42**	**153**	*i* P	Pg	23 10 06.3	-1.2
PPM				*i* S	Sg	23 10 12.5	-1.1

CASC 28 23:11:34.5±2.5, 11°.78N×87°.02W, h38km±288km, MD3.9, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.58**	**46**	*e*P	Pn	23 11 46.5	0.0
CNCH	**Conchagua**	**1.69**	**332**	*e*P	Pn	23 12 00.9	-0.7
VSM	**San Miguel**	**2.05**	**323**	*e*P	Pn	23 12 07.2	+0.4
JCR	**Jicaral**	**2.68**	**135**	*e*P	Pn	23 12 16.5	+1.3
JCR				*e*S	Sn	23 12 46.3	-0.2
LFRS	**El Faro**	**2.71**	**313**	*e*P	Pn	23 12 16.7	+1.0
LFRS				*e*S	Sn	23 12 47.8	+0.5
URSC	**Urasca**	**3.73**	**121**	*e*P	Pn	23 12 30.0	+0.3
URSC				*e*S	Sn	23 13 15.4	+2.9
BUS	**Buena Vista**	**3.89**	**124**	*e*P	Pn	23 12 34.0	+1.6
BUS				*e*S	Sn	23 13 16.1	-1.2

*IDC **28** 23:14:30.1±0.5, 18°.26S×168°.18E, h0km, mb4.6/20, mb1 4.7/21, mb1mx4.7/23, mbtmp4.6/21, ML4.2/1, MS4.1/16, Ms1 4.1/16, ms1mx4.0/20, Error ellipse: s-maj=18.8km s-min=13.0km az=98.0*

*ISCJB **28** 23:14:33.7±0.2, 18°.30S±0°.03×168°.01E±0°.05, h33km, mb4.9/60, MS4.1/15, Error ellipse: s-maj=6.4km s-min=4.5km az=10.2*

*MOS **28** 23:14:34.3±1.4, 18°.15S×167°.96E, h33km, mb5.0/33, Error ellipse: s-maj=9.8km s-min=9.3km az=128.2*

*BJI **28** 23:14:34.0, 18°.055S×168°.26E, h32km, mb5.0/34, mB5.0/24, Ms4.7/14, Ms7 4.4/16*

*NEIC **28** 23:14:35.5±0.2, 18°.26S×168°.16E, h35km, mb5.0/42, Error ellipse: s-maj=7.8km s-min=6.0km az=105.0*

NEIC Felt at Port-Vila.

*GCMT **28** 23:14:38.2±0.4, 18°.30S×167°.86E, h33km±1km, MW5.0/52, Moment Tensor Solution. s38,c44; s52,c69; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.63±.19; Mθθ-0.64±.14; Mφφ-3.00±.14; Mrθ0.70±.21; Mθφ0.97±.08; Mφr-1.76±.14; Best double couple: M0 3.96900×10^16 NP1: φs341.00000°, δ31.00000°, λ92.00000°. NP2: φs159.00000°, δ59.00000°, λ89.00000°. Principal axes: T 4.1120, Plg76.0000°, Azm67.0000°; N -0.2900, Plg1.0000°, Azm160.0000°; P -3.8260, Plg14.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 28 23:14:35.1±0.4, 18°.36S±0°.05×168°.09E±0°.06, h33km±1km, h34km: pP-P, n270, σ19°34/297, mb5.0/60, MS4.2/16, 16C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.53**	**198**	*e*P	**Pn**	**23 15 11.2**	**-2.7**
LIFNC				*e*S	**Sn**	**23 15 38.5**	**-5.1**
DZM	**Mont Dzumac** 235nm,0.5s	**4.00**	**202**	*e*Pn	**Pn**	**23 15 33.8**	**-0.4**
DZM	645nm,1.1s			*e*Sn	**Sn**	**23 16 21.6**	**+1.6**
DZM	4μm,24.1s			*e*LR	LR	23 16 29.4	
DZM	**Mont Dzumac** 13nm,0.3s,baz=270,slow=24,SNR=46	**4.00**	**202**	Pn	**Pn**	**23 15 33.1**	**-1.1**
DZM	44nm,0.3s,baz=132,slow=23,SNR=9.9			Sn	**Sn**	**23 16 19.1**	**-0.9**
DZM	comp=Z,851nm,21.7s,baz=1.0,slow=29			LR	LR	23 16 28.3	
NOUC	**Port Laguerre**	**4.08**	**204**	*e*P	**Pn**	**23 15 33.4**	**-1.8**
NOUC				*e*S	**Sn**	**23 16 18.7**	**-3.2**
MSVF	**Nonsavu** 926nm,1.3s,SNR=11	**9.50**	**88**	Pn	Pn	23 16 56.0	+6.3
MSVF	**Nonsavu**	**9.50**	**88**	*e*P	Pn	23 16 56.0	+6.3
MSVF	**Nonsavu**	**9.50**	**88**	*e*Pn	Pn	23 16 56.0	+6.3
HNR	**Honiara**	**11.88**	**317**	*e*P	**Pn**	**23 17 22.7**	**+0.4**
HNR	**Honiara**	**11.88**	**317**	*e*Pn	**Pn**	**23 17 22.7**	**+0.4**
RAO	**Raoul Island** comp=Z,832nm,21.4s,baz=301,slow=32	**16.76**	**133**	LR	LR	23 23 32.3	
EIDS	**Eidsvold** 45nm,1.4s	**17.25**	**243**	*e*Pn	**P**	**23 18 36.4**	**+1.6**
OUZ	**Omahuta** 351nm,2.4s	**17.49**	**165**	*e*Pn	**P**	**23 18 38.8**	**+1.4**
ARMA	**Armidale** 48nm,1.4s	**19.18**	**228**	*e*P	**Pn**	**23 18 57.5**	**+0.3**
CTA	**Charters Tower** 18nm,0.9s,baz=87,slow=13,SNR=14	**20.69**	**262**	P	**P**	**23 19 13.7**	**+1.1**
CTAO	**Charters Tower**	**20.69**	**262**	*e*P	Pn	23 19 14.3	-0.8
CTAO	comp=Z,55nm,1.2s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,54nm,1.2s	**20.69**	**262**	*e*P	Pn	23 19 14.3	-0.8
URZ	**Urewera** comp=Z,23nm,0.8s,baz=18,slow=6.7,SNR=8.2	**21.33**	**160**	P	**P**	**23 19 20.6**	**+1.3**
URZ	comp=Z,963nm,19.6s,baz=352,slow=35			LR	LR	23 26 51.1	
URZ	**Urewera** comp=Z,32nm,0.8s	**21.33**	**160**	*e*P	**P**	**23 19 22.1**	**+2.8**
BKZ	**Black Stump Fm** comp=Z,43nm,1.2s	**21.98**	**162**	*e*P	**P**	**23 19 28.2**	**+1.9**
BFZ	**Birch Farm** comp=Z,32nm,0.9s	**23.33**	**164**	*e*P	**P**	**23 19 40.7**	**+0.4**
SNZO	**South Karori** comp=Z,185nm,1.4s	**23.57**	**167**	*e*P	**P**	**23 19 43.9**	**+1.3**
KHZ	**Kahutara** comp=Z,81nm,1.4s	**24.43**	**170**	*e*P	**P**	**23 19 51.6**	**+1.0**
RPZ	**Rata Peaks** comp=Z,20nm,0.9s,baz=20,slow=13,SNR=7.6	**25.40**	**175**	P	**P**	**23 19 60.0**	**+0.5**
RPZ	comp=Z,426nm,21.4s,baz=348,slow=33			LR	LR	23 28 34.8	
DCZ	**Deep Cove** comp=Z,281nm,2.7s	**27.05**	**181**	*e*P	**P**	**23 20 14.9**	**+0.5**
STKA	**Stephens Creek** comp=Z,9.0nm,0.7s,baz=79,slow=8.4,SNR=9.3	**27.42**	**236**	P	**P**	**23 20 19.3**	**+1.4**
STKA	comp=Z,4.7nm,0.8s,baz=216,slow=2.1,SNR=3.9			PcP	**PcP**	**23 23 35.7**	**-0.5**
STKA	comp=Z,416nm,21.1s,baz=71,slow=35			LR	LR	23 30 41.3	
STKA	**Stephens Creek**	**27.42**	**236**	*e*P	**P**	**23 20 20.3**	**+2.5**
STKA				*e*		23 23 35.7	
STKA	comp=Z,6.0nm,1.0s			pmax	pmax		
STKA	**Stephens Creek** comp=Z,5.8nm,1.0s	**27.42**	**236**	*e*P	**P**	**23 20 20.3**	**+2.5**
STKA				*e*PcP	**PcP**	**23 23 35.7**	**-0.5**
RAR	**Rarotonga** comp=Z,370nm,21.0s,baz=262,slow=32	**30.35**	**101**	LR	LR	23 30 23.7	
JAY	**Jayapura** comp=Z,627nm,19.4s,baz=75,slow=36	**31.11**	**297**	LR	LR	23 33 20.5	
WRAB	**Tennant Creek**	**31.88**	**262**	*i* P	**P**	**23 20 55.2**	**-2.4**
WRAB	comp=Z,18nm,1.3s			pmax	pmax		
WRA	**Warramunga Arr** comp=Z,2.3nm,0.8s,baz=91,slow=8.8,SNR=9.9	**31.89**	**262**	P	**P**	**23 20 56.5**	**-1.1**
WRA	comp=Z,2.8nm,0.9s,baz=89,slow=2.7,SNR=6.8			PcP	**PcP**	**23 23 46.7**	**-1.2**
WRA	comp=Z,476nm,21.7s,baz=100,slow=35			LR	LR	23 32 59.1	
BBOO	**Buckleboo** comp=Z,118nm,1.8s	**32.13**	**237**	*e*P	**P**	**23 20 58.9**	**-0.7**
AS12	**Alice Springs**	**32.30**	**255**	*e*P	**P**	**23 21 00.9**	**-0.3**
AS12				*e*PcP	**PcP**	**23 23 49.0**	**0.0**
ASAR	**Alice Springs** comp=Z,4.3nm,0.5s,baz=82,slow=8.6,SNR=49	**32.30**	**255**	P	**P**	**23 21 00.9**	**-0.3**
ASAR	comp=Z,1.5nm,0.8s,baz=95,slow=2.7,SNR=4.5			PcP	**PcP**	**23 23 49.0**	**0.0**
ASAR	comp=Z,822nm,18.2s,baz=92,slow=36			LR	LR	23 34 08.4	
ASAR	**Alice Springs**	**32.30**	**255**	P	**P**	**23 21 00.9**	**-0.3**
ASAR						23 23 49.0	
ASAR	comp=Z,4.0nm,0.5s			pmax	pmax		
ASAR	comp=Z,2.0nm,0.8s			pmax	pmax		
ASAR	comp=Z,822nm,18.2s			MLR	MLR		
FORT	**Forrest** comp=Z,37nm,0.6s	**38.25**	**243**	*e*P	**P**	**23 21 53.1**	**+0.8**
TBI	**Tubuai** comp=Z,175nm,30.5s	**39.88**	**105**	*e*S	**S**	**23 28 12.7**	**+3.9**
TBI	comp=Z,441nm,29.8s			*e*LQ	LQ	23 31 21.7	
TBI	comp=Z,372nm,28.5s			*e*LR	LR	23 33 01.7	
PPT2	**Papeete2** comp=Z,180nm,26.0s	**40.21**	**96**	*e*S	**S**	**23 28 16.1**	**+2.1**
PPT2	comp=Z,414nm,31.8s			*e*LQ	LQ	23 31 25.3	
PPT2	comp=Z,663nm,24.8s			*e*LR	LR	23 33 10.7	
PPT	**Papeete** comp=Z,260nm,20.4s,baz=266,slow=31	**40.21**	**96**	LR	LR	23 35 12.1	
CBIJ	**Chichi jima** comp=Z,32nm,0.8s	**51.70**	**330**	*e*P	**P**	**23 23 38.3**	**-0.9**
VNDA	**Vanda** comp=Z,1.5nm,0.8s,baz=352,slow=3.4,SNR=7.4	**59.27**	**182**	P	**P**	**23 24 35.0**	**+2.0**
VNDA	comp=Z,75nm,18.3s,baz=23,slow=34			LR	LR	23 48 10.0	
VNDA	**Vanda** comp=Z,4.0nm,0.9s	**59.27**	**182**	*e*P	**P**	**23 24 35.4**	**+2.4**
VNDA	comp=Z,4.0nm,0.9s			pmax	pmax		
VNDA	**Vanda** comp=Z,4.0nm,0.9s	**59.27**	**182**	*e*P	**P**	**23 24 35.4**	**+2.4**
SBA	**Scott Base** comp=Z,13nm,0.9s	**59.53**	**180**	*e*P	**P**	**23 24 36.7**	**+2.0**
SBA	comp=Z,13nm,0.9s			pmax	pmax		
SBA	**Scott Base** comp=Z,13nm,0.9s	**59.53**	**180**	*e*P	**P**	**23 24 36.7**	**+2.0**
MJAR	**Matsushiro Arr** comp=Z,11nm,1.1s,baz=169,slow=7.2,SNR=18	**61.47**	**333**	P	**P**	**23 24 47.4**	**-1.2**
MJAR	**Matsushiro Arr** comp=Z,11nm,1.1s	**61.47**	**333**	P	**P**	**23 24 47.4**	**-1.2**
MJAR				pmax	pmax		
MAJO	**Matsushiro** comp=Z,74nm,1.1s	**61.48**	**333**	*c i* P	**P**	**23 24 47.7**	**-0.9**
MAJO				pmax	pmax		
MAJO	**Matsushiro** comp=Z,9.8nm,0.9s	**61.48**	**333**	*e*P	**P**	**23 24 48.9**	**+0.3**
MAT	**Matsushiro**	**61.48**	**333**	P	**P**	**23 24 47.6**	**-1.0**
MAT				*e*S	**S**	**23 33 07.0**	**-0.7**
ASAJ	**Asahikawa** comp=Z,6.5nm,0.6s,baz=198,slow=9.6	**66.41**	**340**	P	**P**	**23 25 21.6**	**+0.8**
ASAJ	**Asahikawa** comp=Z,7.0nm,0.6s	**66.41**	**340**	P	**P**	**23 25 21.6**	**+0.8**
ASAJ				pmax	pmax		
ASAJ	**Asahikawa** comp=Z,111nm,2.1s	**66.41**	**340**	*e*P	**P**	**23 25 21.6**	**+0.8**
KSRS	**Korea Array** comp=Z,1.1nm,0.6s,baz=146,slow=4.5,SNR=4.4	**67.17**	**326**	P	**P**	**23 25 26.4**	**+0.6**
KSRS	**Korea Array**	**67.17**	**326**	P	**P**	**23 25 26.4**	**+0.6**
KSRS	comp=Z,1.0nm,0.6s			pmax	pmax		
KS15	**Wonju Array Si**	**67.18**	**326**	*e*P	**P**	**23 25 26.4**	**+0.5**
QIZ	**Qiongzhong**	**68.20**	**300**	P	**P**	**23 25 32.3**	**-0.4**
QIZ				S	**S**	**23 34 31.0**	**-0.1**
NJ2	**Nanjing**	**68.82**	**316**	*e*P	**P**	**23 25 36.3**	**0.0**
NJ2	comp=Z,40nm,0.9s			PMZ			
YSS	**Yuzh-Sakhalins** comp=Z,40nm,0.8s	**68.91**	**342**	*e*P	**P**	**23 25 36.2**	**-0.3**
YSS				pmax	pmax		
USRK	**Ussuriysk Ar.** comp=Z,15nm,0.8s,baz=144,slow=5.4,SNR=27	**70.46**	**333**	P	**P**	**23 25 46.6**	**+0.4**
WHN	**Wuhan**	**70.96**	**313**	P	**P**	**23 25 51.3**	**+1.8**
PET	**Petropavlovsk**	**71.56**	**354**	*e*P	**P**	**23 25 52.4**	**-0.2**
PET				*e*S	**S**	**23 35 09.2**	**+0.1**
PET	comp=Z,100nm,10.8s			pmax	pmax		
PEA2	**Petropavlovsk-**	**71.74**	**353**	*e*P	**P**	**23 25 53.5**	**-0.1**
PETK	**Petropavlovsk-** comp=Z,18nm,0.8s,baz=154,slow=8.1,SNR=21	**71.74**	**353**	P	**P**	**23 25 53.5**	**-0.1**
PETK	comp=Z,51nm,19.7s,baz=165,slow=32			LR	LR	23 52 56.9	
PETK	**Petropavlovsk-**	**71.74**	**353**	P	**P**	**23 25 53.6**	**-0.1**
PETK	comp=Z,18nm,0.8s			pmax	pmax		
PETK	comp=Z,51nm,19.7s			MLR	MLR		
MDJ	**Mudanjiang**	**71.84**	**332**	P	**P**	**23 25 55.5**	**+1.0**
MDJ				pP	**pP**	**23 26 05.0**	**+0.1**
MDJ				sP	**sP**	**23 26 08.5**	**-0.3**
MDJ				PP	**PP**	**23 28 36.8**	**+2.2**
MDJ				S	**S**	**23 35 13.3**	**+0.5**
MDJ				sS	**SKiKP**	**23 35 31.3**	**+1.2**
MDJ	comp=Z,42nm,1.0s			PMZ			
MDJ	comp=Z,31nm,4.8s			PMZ			
MDJ	comp=Z,92nm,17.6s			LN			
MDJ	comp=Z,53nm,16.5s			LE			
MDJ	comp=Z,130nm,18.0s			LZ			
MDJ	**Mudanjiang** comp=Z,44nm,0.9s	**71.84**	**332**	*e*P	**P**	**23 25 55.3**	**+0.8**
TIA	**Tai'an**	**72.57**	**319**	⇑P	P	23 26 06.0	+6.9
HABR	**Khabarovsk**	**72.78**	**338**	*e*P	**P**	**23 25 57.5**	**-2.5**
HABR				*e*PP	**pP**	**23 26 07.7**	**-2.7**
HABR				*e*SP	**sP**	**23 26 11.8**	**-2.5**
HABR				*e*		23 26 15.1	
HABR				*e*		23 28 38.1	
HABR				*e*PPP	PPP	23 30 22.7	
HABR				*e*S	**S**	**23 35 19.1**	**-4.2**
HABR				*e*		23 36 01.3	
HABR	comp=Z,50nm,1.9s			pmax	pmax		
HABR	comp=Z,50nm,19.0s			MLR	MLR		
CN2	**Changchun**	**73.15**	**329**	*e*P	**P**	**23 26 02.5**	**+0.2**
CN2	comp=Z,30nm,1.0s			PMZ			
GYA	**Guiyang**	**74.43**	**305**	P	**P**	**23 26 11.0**	**+0.6**
GYA				pP	**pP**	**23 26 20.5**	**-0.3**
GYA				PP	**PP**	**23 29 00.8**	**+3.6**
GYA				S	**S**	**23 35 42.3**	**-0.9**
GYA				sS	**sS**	**23 35 58.0**	**-2.5**
GYA				SKS	**SKSac**	**23 36 12.5**	**-3.8**
GYA				SS	**SS**	**23 40 31.8**	**+1.4**
GYA	comp=Z,20nm,1.0s			PMZ			
GYA	comp=Z,120nm,5.2s			PMZ			
GYA	comp=Z,540nm,20.8s			LN			
GYA	comp=Z,480nm,21.2s			LE			
GYA	comp=Z,520nm,20.4s			LZ			
KLR	**Kul'dur**	**74.63**	**336**	*e*P	**P**	**23 26 08.0**	**-2.9**
KLR	comp=Z,43nm,1.4s			pmax	pmax		
BJI	**Beijing**	**75.58**	**321**	P	**P**	**23 26 16.8**	**+0.3**
BJI				S	**S**	**23 35 57.0**	**+1.9**
BJI	comp=Z,10.0nm,0.5s			PMZ			
BJI	comp=Z,66nm,38.9s			LN			
BJI	comp=Z,72nm,19.9s			LE			
BJI	comp=Z,48nm,30.3s			LZ			
KMI	**Kunming**	**76.89**	**302**	P	**P**	**23 26 25.8**	**+1.2**
KMI				pP	**pP**	**23 26 34.0**	**-1.1**
KMI				sP	**sP**	**23 26 37.5**	**-1.5**
KMI				S	**S**	**23 36 07.3**	**-3.4**
KMI	comp=Z,8.0nm,1.2s			PMZ			
KMI	comp=Z,68nm,5.1s			PMZ			
KMI	comp=Z,64nm,25.0s			LN			
KMI	comp=Z,88nm,19.8s			LE			
KMI	comp=Z,93nm,22.4s			LZ			
CM31	**Chiang Mai Arr**	**77.15**	**295**	*e*P	**P**	**23 26 27.9**	**+2.0**
CMAR	**Chiang Mai Arr** comp=Z,11nm,1.0s,baz=130,slow=4.3,SNR=28	**77.15**	**295**	P	**P**	**23 26 27.9**	**+2.0**
CMAR	**Chiang Mai Arr**	**77.15**	**295**	P	**P**	**23 26 28.0**	**+2.0**
CMAR	comp=Z,11nm,1.0s			pmax	pmax		
CHTO	**Chiang Mai**	**77.30**	**295**	*e*P	**P**	**23 26 28.7**	**+1.9**
CHTO				*e*		23 26 39.6	
CHTO	comp=Z,16nm,1.1s			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,16nm,1.1s	**77.30**	**295**	*e*P	**P**	**23 26 28.7**	**+1.9**
CHTO				*e*		23 26 39.5	
MAW	**Mawson** comp=Z,7.7nm,0.9s,baz=100,slow=5.2,SNR=14	**78.83**	**202**	P	**P**	**23 26 35.9**	**+1.5**
MAW	comp=Z,159nm,20.1s,baz=64,slow=32			LR	LR	23 57 03.8	
CD2	**Chengdu**	**78.84**	**308**	*e*P	**P**	**23 26 35.5**	**+0.3**
CD2				pP	**pP**	**23 26 45.0**	**-0.7**
CD2				PP	**PP**	**23 29 33.8**	**-0.4**
CD2				S	**S**	**23 36 31.8**	**+0.6**
CD2				SKS	**SKSac**	**23 36 47.5**	**-0.9**
CD2				ScS	**ScS**	**23 36 54.5**	**-0.2**
CD2				SS	**SS**	**23 41 37.8**	**+0.9**
CD2	comp=Z,10.0nm,0.5s			PMZ			
CD2	comp=Z,120nm,5.2s			PMZ			
HHC	**Hu-ho-hao-te**	**78.85**	**320**	*e*P	**P**	**23 26 35.0**	**-0.1**
HHC				S	**S**	**23 36 33.0**	**+2.0**
HHC	comp=Z,30nm,1.3s			PMZ			
HHC	comp=Z,86nm,7.6s			PMZ			
HHC	comp=Z,130nm,17.3s			LN			
HHC	comp=Z,130nm,17.4s			LE			
HHC	comp=Z,110nm,18.2s			LZ			
HIA	**Hailar**	**79.81**	**330**	⇑*i* P	**P**	**23 26 40.1**	**+0.1**
HIA	comp=Z,11nm,1.1s			pmax	pmax		
LZH	**Lanzhou**	**81.33**	**312**	*e*P	**P**	**23 26 49.5**	**+0.8**
LZH				pP	**pP**	**23 27 02.3**	**+3.1**
LZH				sP	**sP**	**23 27 07.0**	**+3.9**
LZH	comp=Z,14nm,1.2s			PMZ			
SEY	**Seymchan** comp=Z,14nm,0.8s,baz=153,slow=5.4,SNR=51	**81.96**	**353**	P	**P**	**23 26 50.9**	**-0.2**
KDAK	**Kodiak Island**	**82.58**	**20**	*c e* P	**P**	**23 26 55.2**	**+0.8**
RSO	**Redoubt South**	**84.67**	**18**	*e*P	**P**	**23 27 03.9**	**-1.5**
SYO	**Syowa Base**	**85.47**	**196**	⇑*i* P	**P**	**23 27 08.6**	**-0.5**
YAK	**Yakutsk**	**85.71**	**343**	*e*P	P	23 27 06.9	-3.4
YAK	comp=Z,25nm,0.7s			pmax	pmax		
GTA	**Gaotai**	**85.74**	**314**	*e*P	**P**	**23 27 12.5**	**+1.4**
GTA				pP	**pP**	**23 27 22.8**	**+1.1**
GTA				sP	**sP**	**23 27 27.0**	**+1.4**
GTA				SKS	**SKSac**	**23 37 33.0**	**-1.4**
GTA				S	**S**	**23 37 42.8**	**+1.1**
GTA				sS	**sS**	**23 37 59.8**	**+0.5**
GTA				SS	**SS**	**23 43 24.0**	**+4.7**
GTA	comp=Z,11nm,1.0s			PMZ			
GTA	comp=Z,93nm,4.5s			PMZ			
GTA	comp=Z,72nm,18.0s			LN			
GTA	comp=Z,76nm,19.0s			LE			
GTA	comp=Z,100nm,20.4s			LZ			
SONA0	**Songino Array**	**85.87**	**324**	*e*P	**P**	**23 27 11.9**	**+0.3**
SONM	**Songino Array** comp=Z,9.3nm,1.0s,baz=140,slow=5.3,SNR=34	**85.87**	**324**	P	**P**	**23 27 11.9**	**+0.3**
SONM				PKKPbc	**PKKPbc**	**23 45 12.8**	**-1.8**
NSHM	**Saint Helena R** comp=Z,0.1nm,0.4s,baz=242,slow=9.9,SNR=4.5	**86.04**	**47**	*e*P	**P**	**23 27 09.9**	**-2.6**
RC01	**Rabbit Creek A** comp=Z,22nm,1.8s	**86.08**	**19**	*e*P	**P**	**23 27 12.2**	**0.0**
BILL	**Bilibino**	**86.16**	**359**	*c i* P	**P**	**23 27 11.8**	**-0.6**
BILL	comp=Z,37nm,1.1s			pmax	pmax		
BILL	**Bilibino** comp=Z,27nm,0.9s	**86.16**	**359**	*e*P	**P**	**23 27 11.7**	**-0.7**
WDC	**Whiskeytown Da**	**87.02**	**46**	*e*P	**P**	**23 27 17.5**	**+0.2**
WDC	comp=Z,10.0nm,1.1s			pmax	pmax		
WDC	**Whiskeytown Da** comp=Z,10nm,1.1s	**87.02**	**46**	*e*P	**P**	**23 27 17.5**	**+0.2**
N02D	**Trinity Center** baz=87	**87.09**	**45**	P	**P**	**23 27 17.8**	**+0.1**
M02C	**Callahan

	comp=Z,10.0nm,0.9s							
CMB	**Columbia Colle**	**87.39**	**49**	*e*P		**P**	**23 27 19.1**	**-0.1**
	comp=Z,10.0nm,0.9s							
YBH	**Yreka Blue Hor**	**87.43**	**44**	*e*P		**P**	**23 27 19.5**	**+0.2**
YBH				pmax	pmax			
	comp=Z,6.0nm,1.0s							
YBH	**Yreka Blue Hor**	**87.43**	**44**	*e*P		**P**	**23 27 19.5**	**+0.2**
	comp=Z,5.8nm,1.0s							
HUMO	**Hull Mountain**	**87.67**	**44**	*e*P		**P**	**23 27 20.7**	**+0.3**
	comp=Z,5.7nm,0.8s							
TRF	**Thorofare Moun**	**87.75**	**17**	*e*P		**P**	**23 27 18.1**	**-2.4**
	comp=Z,42nm,2.4s							
ISA	**Isabella, Lake**	**87.78**	**51**	*e*P		**P**	**23 27 21.2**	**+0.1**
ISA	**Isabella, Lake**	**87.78**	**51**	P		**P**	**23 27 20.6**	**-0.5**
	baz=88							
ISA	**Isabella, Lake**	**87.78**	**51**	*e*P		**P**	**23 27 21.2**	**+0.1**
EDW2	**Edwards Air Fo**	**87.82**	**52**	P		**P**	**23 27 21.2**	**-0.1**
	baz=88							
RND	**Reindeer**	**88.12**	**18**	*e*P		**P**	**23 27 21.4**	**-0.7**
RND				pmax	pmax			
	comp=Z,43nm,2.5s							
RND	**Reindeer**	**88.12**	**18**	*e*P		**P**	**23 27 21.4**	**-0.7**
	comp=Z,43nm,2.5s							
LSA	**Lhasa**	**88.14**	**302**	*e*P		**P**	**23 27 24.6**	**+1.1**
LSA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
LSA	**Lhasa**	**88.14**	**302**	*e*P		**P**	**23 27 24.6**	**+1.1**
	comp=Z,6.4nm,1.0s							
MONP	**Monument Peak,**	**88.22**	**55**	P		**P**	**23 27 23.0**	**-0.5**
	baz=88							
WAKR	**Walker**	**88.27**	**48**	*e*P		**P**	**23 27 23.4**	**-0.2**
MPMC	**Manual Prospec**	**88.67**	**51**	P		**P**	**23 27 25.9**	**+0.4**
	baz=89							
ZAK	**Zakamensk**	**88.95**	**325**	*e*P		**P**	**23 27 25.2**	**-1.2**
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.3s							
BELC	**Belle Mtn. Jos**	**88.98**	**54**	P		**P**	**23 27 27.0**	**0.0**
	baz=89							
NV01	**Mina Array Sit**	**89.04**	**49**	*e*P		**P**	**23 27 26.8**	**-0.5**
NVAR	**Mina Array Bea**	**89.04**	**49**	P		**P**	**23 27 26.8**	**-0.5**
	comp=Z,4.7nm,1.0s,baz=232,slow=7.5,SNR=14							
NVAR					PKKPbc	**PKKPbc**	**23 45 09.7**	**+3.2**
	comp=Z,0.7nm,0.8s,baz=35,slow=5.4,SNR=4.0							
K05A	**Summer Lake**	**89.08**	**44**	*e*P		**P**	**23 27 27.6**	**+0.3**
	comp=Z,94nm,2.5s							
J05D	**Fort Rock, OR**	**89.11**	**44**	P		**P**	**23 27 27.2**	**-0.1**
	baz=89							
WRH	**Wood River Hil**	**89.16**	**17**	*e*P		**P**	**23 27 26.4**	**-0.4**
	comp=Z,23nm,2.2s							
FURC	**Furnace Creek,**	**89.30**	**51**	P		**P**	**23 27 28.2**	**+0.1**
	baz=89							
CCB	**Clear Creek Bu**	**89.37**	**17**	*e*P		**P**	**23 27 26.4**	**-1.5**
	comp=Z,2.3nm,0.9s							
COLA	**College**	**89.53**	**17**	*i* P		**P**	**23 27 26.9**	**-1.6**
COLA				pmax	pmax			
	comp=Z,14nm,0.7s							
NVL	**N'lazarevskaya**	**89.58**	**188**	*e*P		**P**	**23 27 28.4**	**-0.5**
NVL				pmax	pmax			
	comp=Z,10.0nm,0.9s							
TPH	**Tonopah**	**89.68**	**50**	*e*P		**P**	**23 27 30.0**	**-0.2**
TPH				pmax	pmax			
	comp=Z,5.0nm,1.1s							
TPH	**Tonopah**	**89.68**	**50**	*e*P		**P**	**23 27 30.0**	**-0.2**
	comp=Z,4.8nm,1.1s							
IRM	**Iron Mountain**	**89.69**	**54**	P		**P**	**23 27 30.1**	**-0.1**
	baz=90							
ILAR	**Eielson Array**	**89.72**	**18**	P		**P**	**23 27 27.3**	**-2.2**
	comp=Z,2.2nm,0.7s,baz=241,slow=5.1,SNR=24							
ILAR				LR		LR	00 02 53.6	
	comp=Z,108nm,20.0s,baz=251,slow=32							
ILB	**Eielson Array**	**89.72**	**18**	*e*P		**P**	**23 27 27.3**	**-2.2**
TPNV	**Topopah Spring**	**89.94**	**51**	*e*P		**P**	**23 27 29.1**	**-2.3**
TPNV				pmax	pmax			
	comp=Z,4.0nm,0.8s							
TPNV	**Topopah Spring**	**89.94**	**51**	P		**P**	**23 27 31.2**	**-0.2**
	baz=90							
TPNV	**Topopah Spring**	**89.94**	**51**	*e*P		**P**	**23 27 29.1**	**-2.3**
	comp=Z,4.1nm,0.8s							
SNAA	**Sanae**	**89.98**	**183**	P		P	23 27 27.2	-3.7
SNAA	**Sanae**	**89.98**	**183**	*i* P		P	23 27 27.5	-3.4
SNAA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
SNAA	**Sanae**	**89.98**	**183**	*e*P		P	23 27 27.1	-3.8
	comp=Z,8.2nm,1.1s							
WVOR	**Wild Horse Val**	**90.47**	**45**	*e*P		**P**	**23 27 33.8**	**+0.1**
WVOR				pmax	pmax			
	comp=Z,6.0nm,0.8s							
WVOR	**Wild Horse Val**	**90.47**	**45**	*e*P		**P**	**23 27 33.8**	**+0.1**
	comp=Z,5.9nm,0.8s							
R11A	**Troy Canyon, C**	**90.97**	**50**	P		**P**	**23 27 35.7**	**-0.5**
	baz=91							
R11A	**Troy Canyon, C**	**90.97**	**50**	*e*P		**P**	**23 27 35.7**	**-0.5**
	comp=Z,1.9nm,0.9s							
VNA1	**Neumayer--Stat**	**91.19**	**181**	P		**P**	**23 27 36.5**	**+0.1**
LTY	**Liberty**	**91.21**	**40**	*e*P		**P**	**23 27 36.6**	**-0.4**
	comp=Z,5.4nm,0.8s							
LTY				*e*S		**S**	**23 38 33.1**	**+0.1**
G08A	**Pilot Rock**	**91.44**	**42**	*e*P		**P**	**23 27 38.0**	**-0.1**
KNB	**Kanab**	**92.51**	**52**	*e*P		**P**	**23 27 43.6**	**+0.2**
KNB				pmax	pmax			
	comp=Z,31nm,2.2s							
KNB	**Kanab**	**92.51**	**52**	*e*P		**P**	**23 27 43.6**	**+0.2**
	comp=Z,31nm,2.2s							
TIXI	**Tiksi**	**93.67**	**348**	⇑*i*P		**P**	**23 27 46.5**	**-1.1**
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.1s							
TIXI	**Tiksi**	**93.67**	**348**	*e*P		**P**	**23 27 46.2**	**-1.4**
	comp=Z,4.1nm,1.0s							
PV05	**Paradox Valley**	**95.65**	**52**	*e*P		**P**	**23 27 59.3**	**+1.5**
WMQ	**Urumqi**	**95.82**	**314**	P		**P**	**23 27 58.5**	**+0.3**
WMQ				pP		**pP**	**23 28 09.0**	**+0.1**
WMQ				sP		**sP**	**23 28 13.0**	**+0.3**
WMQ				PP		**PP**	**23 31 52.3**	**+1.6**
WMQ				PMZ				
	comp=Z,11nm,0.6s							
WMQ				PMZ				
	comp=Z,100nm,4.4s							
WMQ				LN				
	comp=Z,44nm,17.7s							
WMQ				LE				
	comp=Z,100nm,27.3s							
WMQ				LZ				
	comp=Z,74nm,17.7s							
PD31	**Pinedale Array**	**96.82**	**47**	*e*P		**P**	**23 28 01.9**	**-1.2**
PDAR	**Pinedale Array**	**96.82**	**47**	P		**P**	**23 28 01.9**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=268,slow=5.2,SNR=2.7							
PDAR				LR		LR	00 07 03.4	
	comp=Z,69nm,18.8s,baz=255,slow=33							
TXAR	**Lajitas Array**	**97.31**	**62**	P		**P**	**23 28 05.0**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=241,slow=3.0,SNR=2.5							
TXAR				LR		LR	00 05 55.8	
	comp=Z,105nm,18.4s,baz=0.0,slow=32							
YKA	**Yellowknife Ar**	**100.39**	**27**	P		**Pdif**	**23 28 17.9**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=256,slow=4.5,SNR=5.3							
YKA	**Yellowknife Ar**	**100.39**	**27**	P		**Pdif**	**23 28 17.9**	**-0.3**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
YKB5	**Yellowknife Ar**	**100.39**	**27**	*e*Pdif		**Pdif**	**23 28 17.9**	**-0.3**
ZALV	**Zalesovo Beam**	**100.76**	**323**	P		**Pdif**	**23 28 19.8**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=106,slow=3.1,SNR=3.6							
ZALV	**Zalesovo Beam**	**100.76**	**323**	*i* P		**Pdif**	**23 28 20.2**	**+0.1**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ZAA1	**Zalesovo Array**	**100.77**	**323**	*e*Pdif		**Pdif**	**23 28 19.8**	**-0.3**
SUMG	**Summit**	**123.68**	**9**	*i* P		**PKPdf**	**23 33 27.8**	**-1.3**
	comp=Z,6.1nm,1.0s							
SUMG	**Summit**	**123.68**	**9**	*i* PKIKP		**PKPdf**	**23 33 27.8**	**-1.3**
SUMG				pmax	pmax			
	comp=Z,6.0nm,1.0s							
SUMG	**Summit**	**123.68**	**9**	*e*PKPdf		**PKPdf**	**23 33 28.6**	**-0.6**
ILULI	**Ilulissat**	**123.73**	**16**	*i* P		**PKPdf**	**23 33 26.9**	**-1.9**
	comp=Z,15nm,1.0s							
ARA0	**ARCESS Array S**	**123.94**	**345**	*e*PKPdf		**PKPdf**	**23 33 28.7**	**-0.5**
ARCES	**ARCESS Array B**	**123.94**	**345**	PKP		**PKPdf**	**23 33 28.7**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=62,slow=1.7,SNR=17							
ARCES	**ARCESS Array B**	**123.94**	**345**	PKIKP		**PKPdf**	**23 33 28.7**	**-0.5**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
GNI	**Garni**	**126.96**	**307**	*c i*PKIKP		**PKPdf**	**23 33 35.7**	**-0.4**
GNI				pmax	pmax			
	comp=Z,9.0nm,1.7s							
FIA0	**FINESS Array S**	**129.37**	**338**	*e*PKIKP		**PKPdf**	**23 33 40.3**	**+0.6**
FIA0	**FINESS Array S**	**129.37**	**338**	*e*PKPdf		**PKPdf**	**23 33 40.3**	**+0.6**
FINES	**FINESS Array B**	**129.37**	**338**	PKP		**PKPdf**	**23 33 40.3**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=46,slow=4.0,SNR=5.6							
FINES	**FINESS Array B**	**129.37**	**338**	PKIKP		**PKPdf**	**23 33 40.3**	**+0.6**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BDFB	**Brasilia**	**130.95**	**131**	PKP		**PKPdf**	**23 33 43.9**	**-0.4**
	comp=Z,5.1nm,0.8s,baz=163,slow=3.1,SNR=7.5							
NB2	**NORSAR Subarra**	**134.31**	**345**	PKPdf		**PKPdf**	**23 33 49.4**	**+0.2**
	comp=Z,2.2nm,1.1s,baz=31,slow=1.9							
NB200	**NORSAR Array S**	**134.31**	**345**	*e*PKPdf		**PKPdf**	**23 33 48.8**	**-0.4**
NOA	**NORSAR Array B**	**134.31**	**345**	PKP		**PKPdf**	**23 33 48.8**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=33,slow=2.0,SNR=5.7							
NOA	**NORSAR Array B**	**134.31**	**345**	PKIKP		**PKPdf**	**23 33 48.8**	**-0.4**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BR101	**Keskin Array S**	**135.42**	**308**	*e*PKPdf		**PKPdf**	**23 33 52.6**	**+0.5**
BRTR	**Keskin Array B**	**135.42**	**308**	PKP		**PKPdf**	**23 33 52.6**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=155,slow=3.8,SNR=4.1							
BRTR	**Keskin Array B**	**135.42**	**308**	*c i*PKIKP		**PKPdf**	**23 33 52.5**	**+0.5**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KOLS	**Kolonicke sedl**	**138.89**	**326**	*e*PKIKP		**PKPdf**	**23 33 56.6**	**-1.4**
KOLS	**Kolonicke sedl**	**138.89**	**326**	*e*PKP		**PKPdf**	**23 33 56.6**	**-1.4**
STHS	**Stebnicka Huta**	**139.15**	**327**	*e*PKIKP		**PKPdf**	**23 33 59.3**	**+0.8**
STHS	**Stebnicka Huta**	**139.15**	**327**	*e*PKP		**PKPdf**	**23 33 59.3**	**+0.8**
KECS	**Kecovo**	**140.11**	**326**	*e*PKIKP		**PKPdf**	**23 34 01.5**	**+1.3**
KECS	**Kecovo**	**140.11**	**326**	*e*PKP		**PKPdf**	**23 34 01.5**	**+1.3**
BRG	**Berggiesshubel**	**141.60**	**334**	*e*(P)		**PKPdf**	**23 34 04.3**	**+1.4**
	comp=Z,2.8nm,1.0s							
BRG				*e*			23 34 12.6	
	comp=Z,2.6nm,0.9s							
BRG	**Berggiesshubel**	**141.60**	**334**	*e*PKIKP		**PKPdf**	**23 34 04.3**	**+1.4**
BRG				*e*			23 34 12.6	
BRG				pmax	pmax			
	comp=Z,3.0nm,1.0s							
CLL	**Collm**	**141.66**	**335**	*e*PKPdf		**PKPdf**	**23 34 01.0**	**-1.9**
CLL				*ep*PKPdf		**pPKPdf**	**23 34 13.0**	**-0.9**
CLL				Lm		MLR	00 37 00.0	
	comp=Z,100nm,21.9s							
CLL	**Collm**	**141.66**	**335**	*e*PKIKP		**PKPdf**	**23 34 01.0**	**-1.9**
PRU	**Pruhonice**	**142.00**	**332**	*e*PKP		**PKPdf**	**23 34 02.4**	**-1.2**
PRU				*ex*		x	23 34 08.2	
PRU				*ep*PKP		**pPKPdf**	**23 34 13.5**	**-1.1**
PRU	**Pruhonice**	**142.00**	**332**	*e*PKIKP		**PKPdf**	**23 34 02.4**	**-1.2**
PRU				*e*			23 34 08.2	
PRU				*e*			23 34 13.5	
LAST	**Lasithi**	**142.92**	**304**	*e*P		**PKPdf**	**23 34 03.1**	**-2.7**
KHC	**Kasperske Hory**	**143.05**	**332**	*e*PKP		PKPbc	23 34 03.7	+1.3
KHC				*ex*		x	23 34 08.9	
KHC				*ep*PKP		pPKPdf	23 34 14.8	-1.7
KHC				*es*PKP			23 34 20.4	
KHC	**Kasperske Hory**	**143.05**	**332**	*e*PKIKP		PKPbc	23 34 03.7	+1.3
KHC				*e*			23 34 08.9	
KHC				*e*			23 34 14.8	
KHC	**Kasperske Hory**	**143.05**	**332**	*e*PKPdf		**PKPdf**	**23 34 04.2**	**-1.3**
GEC2	**GERESS Array S**	**143.21**	**332**	*e*PKIKP		PKPbc	23 34 03.0	+0.1
GEC2	**GERESS Array S**	**143.21**	**332**	*e*PKPpre		PKPbc	23 34 03.0	+0.1
GERES	**GERESS Array B**	**143.21**	**332**	PKhKP		PKPbc	23 34 03.0	+0.1
	comp=Z,0.5nm,0.5s,baz=45,slow=4.0,SNR=7.1							
LIT	**Litokhoron**	**143.32**	**313**	*e*P		PKPab	23 34 02.7	+0.5
GRF	**Grafenberg Arr**	**143.64**	**335**	*e*PKPbc		PKPbc	23 34 04.1	+0.1
MOA	**Molln**	**143.66**	**330**	⇑*i*PKPdf		PKPbc	23 34 04.6	+0.5
	comp=Z,10.0nm,1.6s							
FNA	**Florina**	**143.76**	**315**	*e*P		**PKPdf**	**23 34 07.2**	**+0.1**
VAM	**Vamos**	**143.84**	**305**	*e*P		PKPbc	23 34 06.1	+1.1
DID	**Didima**	**143.84**	**309**	*e*P		PKPbc	23 34 04.8	-0.2
KRND	**KRANIDI**	**143.95**	**309**	*e*P		PKPab	23 34 04.7	0.0
SOKA	**Soboth**	**144.10**	**328**	⇑*i*PKPdf		PKPbc	23 34 05.4	-0.2
	comp=Z,4.8nm,0.8s,SNR=8.1							
NEST	**Nestorio**	**144.16**	**315**	*e*P		**PKPab**	**23 34 05.6**	**+0.1**
VLI	**Veliai**	**144.36**	**308**	*e*P		**PKPab**	**23 34 05.8**	**-0.5**
ANKY	**Antikythira Is**	**144.38**	**306**	*e*P		PKPbc	23 34 07.1	+0.4
KYTH	**Kithira**	**144.44**	**307**	*e*P		**PKPab**	**23 34 06.7**	**+0.1**
CRES	**Cresnjev**	**144.45**	**326**	*e*PKPdf		**PKPab**	**23 34 06.2**	**-0.2**
TIR	**Tirane**	**144.48**	**317**	*e*PKIKP		**PKPdf**	**23 34 07.9**	**-0.4**
TIR	**Tirane**	**144.48**	**317**	*e*PKPdf		**PKPdf**	**23 34 07.9**	**-0.4**
JAN	**Janina**	**144.64**	**314**	*e*P		PKPbc	23 34 07.7	+0.2
KBA	**Koelnbreinsper**	**144.65**	**330**	⇑*i*PKPdf		**PKPab**	**23 34 07.0**	**-0.3**
	comp=Z,16nm,1.3s							
HGN	**Heimansgroeve**	**144.69**	**340**	*e*PKP		**PKPab**	**23 34 06.5**	**-0.5**
	comp=Z,16nm,1.1s							
MEM	**Membach**	**144.79**	**340**	PKP		PKPbc	23 34 07.7	+0.2
MEM				APKP		pPKPdf	23 34 19.2	-0.2
MEM	**Membach**	**144.79**	**340**	*e*PKHKP		**PKPab**	**23 34 04.7**	**-2.7**
MEM	**Membach**	**144.79**	**340**	*e*PKPdf		**PKPab**	**23 34 04.7**	**-2.7**
MYKA	**Terra Mystica**	**144.82**	**329**	*i* PKPdf		**PKPab**	**23 34 07.3**	**-0.5**
	comp=Z,10.0nm,1.0s,SNR=5.7							
STON	**Ston**	**145.01**	**321**	P		**PKPdf**	**23 34 10.1**	**+1.0**
IGT	**Igoumenitsa**	**145.06**	**314**	*e*P		**PKPbc**	**23 34 08.0**	**-0.7**
SGD	**Sagiada**	**145.09**	**314**	*e*P		**PKPab**	**23 34 08.9**	**0.0**
UDBI	**Udbina**	**145.12**	**324**	P		**PKPbc**	**23 34 08.6**	**-0.3**
UCC	**Uccle**	**145.14**	**342**	PKP		**PKPbc**	**23 34 08.5**	**-0.1**
STU	**Stuttgart**	**145.18**	**335**	*e*PKIKP		**PKPdf**	**23 34 09.6**	**+0.4**
STU	**Stuttgart**	**145.18**	**335**	*e*PKPbc		**PKPdf**	**23 34 09.6**	**+0.4**
BCLA	**Clavier**	**145.18**	**341**	PKP		**PKPbc**	**23 34 08.1**	**-0.7**
ABTA	**Abfaltersbach**	**145.28**	**330**	*i* PKPdf		**PKPbc**	**23 34 08.8**	**-0.6**
	comp=Z,30nm,0.9s,SNR=27							
WATA	**Walderalm**	**145.28**	**332**	⇓*i*PKPdf		**PKPbc**	**23 34 09.0**	**-0.4**
	comp=Z,16nm,1.1s,SNR=5.9							
WTTA	**Wattenberg**	**145.31**	**331**	⇑*i*PKPdf		**PKPbc**	**23 34 09.5**	**0.0**
	comp=Z,26nm,1.1s,SNR=12							
SNF	**Seneffe**	**145.42**	**342**	PKP		**PKPbc**	**23 34 09.4**	**-0.1**
MOTA	**Moosalm**	**145.49**	**332**	⇓*i*PKPab		**PKPdf**	**23 34 09.7**	**-0.3**
	comp=Z,41nm,1.0s,SNR=27							
RETA	**Reutte**	**145.53**	**332**	*i* PKPab		**PKPbc**	**23 34 10.1**	**0.0**
	comp=Z,24nm,1.1s,SNR=13							
LANF	**Langenberg**	**145.54**	**337**	PKP		**PKPab**	**23 34 10.4**	**+0.1**
WLF	**Walferdange**	**145.56**	**339**	PKP		**PKPab**	**23 34 10.6**	**+0.3**
WLF				APKP		**pPKPdf**	**23 34 22.3**	**+1.5**
WLF	**Walferdange**	**145.56**	**339**	*e*PKIKP		**PKPab**	**23 34 10.7**	**+0.4**
WLF	**Walferdange**	**145.56**	**339**	*e*PKPdf		**PKPab**	**23 34 10.7**	**+0.4**
DOU	**Dourbes**	**145.69**	**341**	PKP		**PKPbc**	**23 34 10.5**	**+0.1**
BFO	**Black Forest**	**145.88**	**336**	*c i*PKP2		**PKPbc**	**23 34 11.3**	**+0.2**
BFO	**Black Forest**	**145.88**	**336**	*e*PKPdf		**PKPdf**	**23 34 10.7**	**+0.2**
FETA	**Feichten**	**145.90**	**332**	⇑*i*PKPab		**PKPbc**	**23 34 11.6**	**+0.2**
	comp=Z,34nm,1.0s,SNR=19							
DAVA	**Damuels**	**146.07**	**333**	*i* PKPab		**PKPbc**	**23 34 11.9**	**0.0**
	comp=Z,20nm,1.1s,SNR=9.9							
FUORN	**Ofenpass-Fuorn**	**146.41**	**332**	*e*PKPdf		**PKPab**	**23 34 13.6**	**-0.4**
ECH	**Echery**	**146.42**	**337**	PKP		**PKPbc**	**23 34 12.5**	**-0.2**
MOF	**Molkenrain**	**146.73**	**336**	PKP		**PKPbc**	**23 34 13.2**	**-0.5**
THEF	**They Montfort**	**146.84**	**338**	PKP		**PKPbc**	**23 34 13.9**	**0.0**
LOMF	**Lomont**	**147.26**	**336**	PKP		**PKPbc**	**23 34 15.4**	**+0.2**
SENIN	**Lac Senin/Sane**	**147.88**	**335**	*e*PKPbc		**PKPbc**	**23 34 17.1**	**-0.1**
CEL	**Celeste**	**148.69**	**315**	*e*PKPdf		**PKPdf**	**23 34 12.0**	**-3.6**
BNI	**Bardonecchia**	**149.20**	**334**	*e*PKP2		**PKPbc**	**23 34 20.8**	**+0.3**
BNI	**Bardonecchia**	**149.20**	**334**	*e*PKPbc		**PKPbc**	**23 34 20.8**	**+0.3**
PLDF	**La Plantade**	**149.61**	**338**	PKP		**PKPbc**	**23 34 21.5**	**+0.1**
SAOF	**Saorge**	**149.66**	**332**	PKP		**PKPbc**	**23 34 21.2**	**-0.3**
AGO	**Saint Agoulin**	**149.70**	**339**	PKP		**PKPbc**	**23 34 23.3**	**+1.8**
TOUF	**Mont Tournerai**	**149.78**	**332**	PKP		**PKPbc**	**23 34 21.7**	**-0.3**
MVIF	**Mont Vial**	**149.91**	**332**	PKP		**PKPbc**	**23 34 22.1**	**-0.2**
REVF	**Revere**	**149.94**	**331**	PKP		**PKPbc**	**23 34 19.9**	**-2.3**
PYM	**Petit Puy Mans**	**150.01**	**339**	PKP		**PKPbc**	**23 34 22.4**	**0.0**
CALN	**Calern**	**150.14**	**332**	PKP		**PKPbc**	**23 34 22.7**	**-0.1**
LBL	**Lubilhac**	**150.38**	**338**	PKP		**PKPbc**	**23 34 23.8**	**+0.5**
CLTB	**Caltabellotta**	**150.84**	**316**	*e*PKPbc		**PKPbc**	**23 34 24.6**	**-0.1**
KEST	**Kesra**	**154.44**	**317**	PKPab		**PKPab**	**23 34 47.6**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=304,slow=2.0,SNR=6.3							
KEST	**Kesra**	**154.44**	**317**	*e*PKPab		**PKPab**	**23 34 49.4**	**+2.3**
ESDC	**Sonseca Array**	**157.67**	**344**	PKPab		**PKPab**	**23 35 00.5**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=4.8,slow=4.0,SNR=6.4							
TOA0	**Torodi Ar. Sit**	**165.92**	**250**	*e*PKPdf		**PKPdf**	**23 34 36.6**	**-0.9**
TOA0				*e*PKPab		**PKPab**	**23 35 37.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**165.92**	**250**	PKP		**PKPdf**	**23 34 36.6**	**-0.9**
	comp=Z,1.7nm,0.9s,baz=74,slow=1.2,SNR=8.4							
TORD				PKPab		**PKPab**	**23 35 37.3**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=99,slow=3.4,SNR=4.4							

*IDC **28** 23:21:02.1±2.6, 9.°01S×161.°16E, h0km, mb4.0/5, mb1 4.3/5, mb1mx4.0/18, mbtmp4.0/5, Error ellipse: s-maj=78.8km s-min=29.2km az=127.0*

ISC 28 23:21:06.6±1.1, **9.°0S**±0.°2×**161.°5E**±0.°1, **h35**km, **n14, σ1s66/9, mb4.1/5, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.56**	**256**	*e*P	**Pn**	**23 21 32.0**	**0.0**
HNR				*i* S	**Sn**	**23 21 52.0**	**+1.0**
DZM	**Mont Dzumac**	**13.81**	**160**	Pn	**P**	**23 24 28.4**	**+0.4**
	0.4nm,0.3s,baz=90,slow=20,SNR=4.5						
CTA	**Charters Tower**	**18.36**	**232**	P	**Pn**	**23 25 20.6**	**+2.0**
	0.2nm,0.3s,baz=60,slow=16,SNR=3.4						
H11S2	**WAKE ISLAND Hy**	**27.84**	**11**	T	T	23 55 52.4	
	baz=194,slow=76,SNR=166						
H11S3	**WAKE ISLAND Hy**	**27.84**	**11**	T	T	23 55 51.8	
	baz=194,slow=76,SNR=153						
H11S1	**WAKE ISLAND Hy**	**27.85**	**11**	T	T	23 55 52.4	
	baz=194,slow=76,SNR=132						
WRA	**Warramunga Arr**	**28.38**	**245**	P	**P**	**23 26 55.9**	**-2.1**
	2.6nm,0.6s,baz=69,slow=9.3,SNR=14						
H11N1	**WAKE ISLAND Hy**	**29.07**	**11**	T	T	23 57 23.0	
	baz=192,slow=76,SNR=504						
H11N3	**WAKE ISLAND Hy**	**29.07**	**11**	T	T	23 57 23.9	
	baz=192,slow=76,SNR=413						
H11N2	**WAKE ISLAND Hy**	**29.08**	**11**	T	T	23 57 22.9	
	baz=192,slow=76,SNR=831						
ASAR	**Alice Springs**	**30.11**	**238**	P	**P**	**23 27 10.9**	**-2.3**
	1.4nm,0.4s,baz=62,slow=10,SNR=17						
CMAR	**Chiang Mai Arr**	**67.47**	**294**	P	**P**	**23 31 58.7**	**-0.8**
	0.6nm,0.3s,baz=133,slow=4.0,SNR=3.1						
SONM	**Songino Array**	**74.60**	**325**	P	**P**	**23 32 43.4**	**+1.0**
	0.6nm,0.7s,baz=142,slow=4.6,SNR=3.8						
ILAR	**Eielson Array**	**83.01**	**20**	P	**P**	**23 33 28.4**	**+0.4**
	0.5nm,0.7s,baz=237,slow=6.3,SNR=4.3						

NNC 28 23:22:48.2±1.9, **39.°60N**×**77.°31E, h0**km, **mb3.6, mpv3.3, 4C-4D, Error ellipse: s-maj=14.8km s-min=7.4km az=146.0, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.96**	**279**	⇑Pg	Pb	23 23 43.0	+0.8
	7.3nm,0.5s						
SFK				⇓Lg	Lg	23 24 21.8	
TKM2	**Tokmak 2**	**3.56**	**339**	⇓Pg	Pb	23 23 52.5	0.0
	2.7nm,0.4s						
TKM2				⇓Lg	Lg	23 24 43.1	
	16nm,0.7s						
AAK	**Ala-Archa**	**3.71**	**326**	⇑Pg	Pb	23 23 55.2	+0.4
	9.0nm,1.1s						
AAK				⇓Lg	Lg	23 24 46.9	
	55nm,0.9s						
PDGK	**Podgornoye**	**4.07**	**23**	Pg	Pb	23 24 02.6	+1.9
PDGK				Lg	Lg

*ISCJB **28** 23:55:56.3±1.3, 17.2S±0.6×179.2W±0.4, h533km, mb3.3/7, Error ellipse: s-maj=89.5km s-min=17.1km az=149.8*

ISC 28 23:55:57.3±1.4, **17.1S**±0.5×**179.2W**±0.3, **h533**km, **n9,** σ0**§78/9, mb3.3/7, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.35**	**240**	P	**P**	**00 02 32.6**	**-0.2**
	1.6nm,0.6s,baz=79,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**44.01**	**259**	P	**P**	**00 03 17.8**	**0.0**
	0.4nm,0.6s,baz=95,slow=7.8,SNR=2.5						
ASAR	**Alice Springs**	**44.27**	**253**	P	**P**	**00 03 19.9**	**+0.2**
	3.6nm,0.5s,baz=89,slow=8.0,SNR=42						
NVAR	**Mina Array Bea**	**79.37**	**44**	P	**P**	**00 07 07.3**	**-1.0**
	0.4nm,0.6s,baz=233,slow=6.7,SNR=3.5						
ILAR	**Eielson Array**	**85.25**	**13**	P	**P**	**00 07 38.0**	**+0.8**
	0.3nm,0.4s,baz=215,slow=5.0,SNR=5.3						
TXAR	**Lajitas Array**	**86.22**	**58**	P	**P**	**00 07 42.8**	**+0.1**
	0.3nm,0.7s,baz=215,slow=5.7,SNR=3.9						
PDAR	**Pinedale Array**	**87.29**	**44**	P	**P**	**00 07 47.9**	**+0.3**
	0.3nm,0.5s,baz=177,slow=2.7,SNR=4.0						
BRTR	**Keskin Array B**	**143.63**	**315**	PKP	**PKPdf**	**00 14 32.6**	**+0.7**
	0.2nm,0.4s,baz=64,slow=1.3,SNR=3.4						
GERES	**GERESS Array B**	**146.59**	**344**	PKPbc	**PKPab**	**00 14 40.6**	**-1.2**
	0.1nm,0.3s,baz=15,slow=4.1,SNR=4.4						

*ISCJB **29** 00:10:45.5±0.5, 32.19N±0.02×115.18W±0.04, h26km±5km, Error ellipse: s-maj=6.0km s-min=4.2km az=179.5*
*ECX **29** 00:10:46.6±0.6, 32.14N×115.20W, h3km±2km, MD2.5, ML2.7*
*NEIC **29** 00:10:46.6, 32.14N×115.21W, h3km, ML2.6(PAS), ML2.9(ECX), After ECX.*
*MEX **29** 00:10:48.4±0.6, 32.21N×115.13W, h15km, MD3.5*

ISC 29 00:10:45.4±1.0, **32.18N**±0.03×**115.18W**±0.03, **h26**km±9km, **n24,** σ0**§50/36, 5C-8D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.26**	**336**	*e*P	**Pb**	**00 10 52.2**	**+0.2**
CPBX				*i* S	**Sb**	**00 10 56.1**	**-0.4**
CPBX	**Cerro Prieto**	**0.26**	**336**	⇓*e*P	**Pb**	**00 10 52.3**	**+0.2**
CPBX				⇑*e*P	**Pn**	**00 10 52.4**	**-1.2**
CPBX				⇓*e*		00 10 58.7	
CPBX				IAML		00 10 58.7	
	comp=N,4μm,0.2s						
EMSC	**East Mesa**	**0.58**	**16**	⇓*i*P	**Pb**	**00 10 57.8**	**+0.7**
YMD	**Yuma Desert**	**0.65**	**55**	⇑*i*P	**Pb**	**00 10 58.5**	**+0.3**
SGL	**Mount Signal**	**0.66**	**315**	⇓*i*P	**Pb**	**00 10 58.3**	**-0.1**
COA	**Coachella**	**0.68**	**4**	⇓*i*P	**Pb**	**00 10 59.1**	**+0.4**
ERPC	**Ernies Place**	**0.70**	**324**	*e*Pn	**Pn**	**00 10 59.7**	**+0.1**
RDX	**Rancho Dawling**	**0.70**	**249**	⇑*e*P	**Pb**	**00 10 58.9**	**-0.2**
RDX				*e*S	**Sb**	**00 11 07.7**	**-0.7**
RDX				IAML		00 11 09.0	
	comp=N,256nm,0.3s						
RDX				⇑*e*		00 11 09.0	
ECBX	**El Chinero**	**0.71**	**171**	⇓*e*P	**Pb**	**00 10 58.5**	**-0.7**
ECBX				*e*S	**Sb**	**00 11 08.2**	**-0.4**
YUH	**Yuha Desert**	**0.78**	**307**	⇓*i*P	**Pb**	**00 11 00.1**	**-0.3**
RMX	**La Rumorosa**	**0.87**	**299**	⇑*e*P	**Pb**	**00 11 02.3**	**+0.1**
RMX				*e*Sn	**Sb**	**00 11 13.5**	**+0.2**
GLA	**Glamis**	**0.92**	**19**	*e*P	**Pb**	**00 11 02.2**	**-0.5**
GLA				*e*S	**Sb**	**00 11 14.8**	**+0.2**
SPIG	**San Pedro Mart**	**1.16**	**192**	*e*P	**Pb**	**00 11 07.0**	**0.0**
SPIG				*i* S	**Sb**	**00 11 22.6**	**+0.9**
SPIG	**San Pedro Mart**	**1.16**	**192**	*e*P	**Pb**	**00 11 07.0**	**0.0**
SPIG				*i* S	**Sb**	**00 11 22.6**	**+0.9**
SPIG	**San Pedro Mart**	**1.16**	**192**	*e*P	**Pn**	**00 11 05.9**	**-0.3**
SPX	**San Pedro Mart**	**1.16**	**192**	*e*P	**Pb**	**00 11 06.9**	**0.0**
SPX				*i* S	**Sb**	**00 11 21.8**	**+0.1**
SPX	**San Pedro Mart**	**1.16**	**192**	*e*P	**Pn**	**00 11 06.2**	**0.0**
SPX				IAML		00 11 23.2	
	comp=E,74nm,0.3s						
SPX				*e*		00 11 23.2	
CBX	**Cerro Bola**	**1.27**	**276**	*e*P	**Pn**	**00 11 07.7**	**+0.1**
CBX				*i* S	**Sb**	**00 11 24.5**	**-0.2**
CBX	**Cerro Bola**	**1.27**	**276**	*e*P	**Pn**	**00 11 07.7**	**+0.1**
CBX				*i* S	**Sb**	**00 11 24.5**	**-0.2**
CBX	**Cerro Bola**	**1.27**	**276**	*e*P	**Pb**	**00 11 08.8**	**+0.1**
CBX				IAML		00 11 26.2	
	comp=E,200nm,0.3s						
CBX				*e*		00 11 26.2	
BAR	**Barrett**	**1.36**	**292**	*e*P	**Pb**	**00 11 10.5**	**+0.3**
BAR				*e*S	**Sn**	**00 11 26.4**	**+0.5**
BAR	**Barrett**	**1.36**	**292**	⇓*e*P	**Pn**	**00 11 09.4**	**+0.7**
PFO	**Pinyon Flats O**	**1.79**	**323**	*e*Pn	**Pn**	**00 11 13.7**	**-1.0**
214A	**Organ Pipe Nat**	**2.02**	**96**	*e*Pn	**Pn**	**00 11 17.7**	**-0.1**

*KRSC **29** 00:21:31.5±1.1, 53.32N×160.60E, h49km±13km, ML3.9*
*IDC **29** 00:21:31.7±6.1, 54.13N×159.86E, h0km, mb3.7/2, mb1 3.8/2, mb1mx3.2/39, mbtmp3.7/2, Error ellipse: s-maj=147.9km s-min=14.6km az=129.0*
*ISCJB **29** 00:21:33.8±0.6, 53.33N±0.04×160.51E±0.06, h36km±17km, mb3.7/2, Error ellipse: s-maj=7.9km s-min=3.2km az=136.3*

ISC 29 00:21:33.4±1.1, **53.29N**±0.05×**160.55E**±0.05, **h45**km±12km, **n40,** σ1**§25/58, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.37**	**238**	*e*P	**Pn**	**00 21 43.3**	**+0.4**
SPN				*e*S	**Sn**	**00 21 49.6**	**+0.1**
NLC	**Nalytchevo**	**0.73**	**261**	*e*P	**Pn**	**00 21 47.4**	**0.0**
NLC				*e*S	**Sn**	**00 21 57.1**	**-0.4**
KII	**Karymskiy**	**0.99**	**319**	*e*P	**Pn**	**00 21 50.3**	**-0.7**
KII				*e*S	**Sn**	**00 22 02.8**	**-1.1**
SDLR	**Sedlovina**	**1.00**	**270**	*e*P	**Pn**	**00 21 51.3**	**+0.2**
SDLR				*e*S	**Sn**	**00 22 03.8**	**-0.4**
UGLR	**Uglovaya**	**1.04**	**266**	*e*P	**Pn**	**00 21 52.2**	**+0.5**
UGLR				*e*S	**Sn**	**00 22 05.6**	**+0.5**
SMAR	**Somma**	**1.05**	**269**	*e*P	**Pn**	**00 21 51.9**	**0.0**
SMAR				*e*S	**Sn**	**00 22 04.3**	**-1.2**
KRER	**Koryakskii**	**1.08**	**271**	*e*P	**Pn**	**00 21 52.7**	**+0.4**
KRER				*e*S	**Sn**	**00 22 06.5**	**+0.3**
AVH	**Avacha**	**1.09**	**269**	*e*P	**Pn**	**00 21 52.8**	**+0.5**
AVH				*e*S	**Sn**	**00 22 06.7**	**+0.5**
KRX	**Arik**	**1.14**	**274**	*e*P	**Pn**	**00 21 53.1**	**0.0**
KRX				*e*S	**Sn**	**00 22 06.8**	**-0.9**
KOK	**Koryaka**	**1.15**	**271**	*e*P	**Pn**	**00 21 53.3**	**+0.2**
KOK				*e*S	**Sn**	**00 22 07.6**	**-0.2**
PET	**Petropavlovsk**	**1.17**	**257**	*e*P	**Pn**	**00 21 53.4**	**0.0**
PET				*e*S	**Sn**	**00 22 07.3**	**-0.9**
MKZ	**Mys Kozlova**	**1.44**	**28**	*e*P	**Pn**	**00 21 56.8**	**-0.3**
MKZ				*e*S	**Sn**	**00 22 13.5**	**-1.3**
RUS	**Russkaya**	**1.51**	**236**	*e*P	**Pn**	**00 21 58.2**	**+0.3**
RUS				*e*S	**Sn**	**00 22 15.9**	**-0.4**
GNL	**Ganaly**	**1.61**	**286**	*e*P	**Pn**	**00 21 59.9**	**+0.4**
GNL				*e*S	**Sn**	**00 22 19.2**	**+0.1**
MTVR	**Mutnovka**	**1.65**	**241**	*e*P	**Pn**	**00 22 00.8**	**+0.8**
MTVR				*e*S	**Sn**	**00 22 20.1**	**0.0**
GRL	**Gorelyy**	**1.67**	**245**	*e*S	**Sn**	**00 22 22.9**	**+2.3**
PETK	**Petropavlovsk-**	**1.73**	**265**	Pg	**Pn**	**00 22 01.8**	**+0.8**
	30nm,0.3s,baz=51,slow=12,SNR=124						
PETK				Lg	Lg	00 22 23.6	
	21nm,0.3s,baz=38,slow=26,SNR=12						
PETK				LR	LR	00 22 53.3	
	comp=Z,52nm,18.6s,baz=102,slow=50						
KZV	**Kizimen**	**1.83**	**355**	*e*P	**Pn**	**00 22 03.1**	**+0.6**
KZV				*e*S	**Sn**	**00 22 24.2**	**-0.3**
ASAK	**Asacha**	**1.85**	**241**	*e*P	**Pn**	**00 22 04.2**	**+1.5**
ASAK				*e*S	**Sn**	**00 22 26.3**	**+1.4**
TUMR	**Tumrok**	**2.01**	**353**	*e*P	**Pn**	**00 22 06.1**	**+1.2**
TUMR				*e*S	**Sn**	**00 22 29.4**	**+0.6**
APC	**Apacha**	**2.08**	**261**	*e*P	**Pn**	**00 22 07.2**	**+1.5**
APC				*e*S	**Sn**	**00 22 31.7**	**+1.3**
KMNR	**Kamenistaya**	**2.47**	**356**	*e*P	**Pn**	**00 22 13.5**	**+2.2**
MIPR	**Malaya Ipel'ka**	**2.52**	**248**	*e*P	**Pn**	**00 22 13.8**	**+2.0**
KOZ	**Kozyrevsk**	**2.80**	**352**	*e*P	**Pn**	**00 22 17.2**	**+1.6**
ESO	**Esso**	**2.85**	**339**	*e*P	**Pn**	**00 22 17.0**	**+0.7**
PAU	**Pauzhetka**	**2.93**	**233**	*e*P	**Pn**	**00 22 19.3**	**+1.8**
SRDR	**Sredinnyy**	**3.07**	**351**	*e*P	**Pn**	**00 22 20.4**	**+1.0**
KBTR	**Krutoberegovo**	**3.20**	**23**	*e*P	**Pn**	**00 22 22.6**	**+1.4**
KBTR				*e*S	**Sn**	**00 23 00.1**	**+2.1**
BDR	**Baidarnaya**	**3.30**	**6**	*e*P	**Pn**	**00 22 25.2**	**+2.6**
BDR				*e*S	**Sn**	**00 23 03.5**	**+2.8**
SMKR	**Semkarok**	**3.34**	**9**	*e*P	**Pn**	**00 22 24.8**	**+1.7**
SMKR				*e*S	**Sn**	**00 23 03.6**	**+2.1**
SRKR	**Sorokina**	**3.39**	**6**	*e*P	**Pn**	**00 22 24.4**	**+0.6**
SRKR				*e*S	**Sn**	**00 23 02.7**	**0.0**
BKI	**Bering**	**3.71**	**57**	*e*P	**Pn**	**00 22 29.2**	**+1.1**
BKI				*e*S	**Sn**	**00 23 07.7**	**-2.8**
H11N2	**WAKE ISLAND Hy**	**33.86**	**169**	T	T	01 04 40.7	
	baz=354,slow=76,SNR=29						
H11N3	**WAKE ISLAND Hy**	**33.87**	**169**	T	T	01 04 38.4	
	baz=354,slow=76,SNR=34						
H11N1	**WAKE ISLAND Hy**	**33.88**	**169**	T	T	01 04 42.8	
	baz=354,slow=76,SNR=37						
H11S1	**WAKE ISLAND Hy**	**35.05**	**170**	T	T	01 06 01.3	
	baz=350,slow=74						
H11S3	**WAKE ISLAND Hy**	**35.06**	**170**	T	T	01 06 08.4	
	baz=350,slow=74						
H11S2	**WAKE ISLAND Hy**	**35.06**	**170**	T	T	01 06 04.0	
	baz=350						
FINES	**FINESS Array B**	**60.04**	**337**	P	**P**	**00 31 33.5**	**-1.5**
	0.6nm,0.5s,baz=28,slow=6.8,SNR=6.8						
NOA	**NORSAR Array B**	**63.43**	**344**	P	**P**	**00 31 56.1**	**-1.8**
	0.2nm,0.4s,baz=21,slow=6.7,SNR=4.6						

*IDC **29** 00:23:28.7±2.5, 1.22N×126.09E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/29, mbtmp4.1/3, Error ellipse: s-maj=161.0km s-min=37.2km az=62.0*
*ISCJB **29** 00:23:33.0±0.7, 1.44N±0.06×126.42E±0.04, h47km, mb4.0/3, Error ellipse: s-maj=8.6km s-min=5.6km az=26.9*
*DJA **29** 00:23:33.5±0.8, 1.1×4.2×12.6E±1.1, h27km±12km, M4.1/10, mb4.2/3, mB5.0/1, MLv4.0/10, Mw(mB)4.3/1*

ISC 29 00:23:34.3±1.1, **1.44N**±0.07×**126.46E**±0.05, **h47**km, **n12,** σ1**§20/16, mb4.2/3, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.12**	**126**	P	**Pn**	**00 23 52.7**	**-1.0**
TNTI				S	**Sn**	**00 24 10.1**	**+2.1**
LBMI	**Labuha**	**2.31**	**153**	P	**Pn**	**00 24 09.1**	**-0.9**
LBMI				S	**Sn**	**00 24 38.5**	**+1.3**
SGSI	**Sangihe**	**2.42**	**337**	S	**Sn**	**00 24 39.7**	**-0.1**
KMSI	**Cibinong**	**2.62**	**251**	P	**Pn**	**00 24 13.6**	**-0.6**
KMSI				S	**Sn**	**00 24 43.4**	**-1.5**
SANI	**Sanana**	**3.50**	**188**	P	**Pn**	**00 24 25.3**	**-1.0**
LUWI	**Luwuk**	**4.43**	**236**	P	**Pn**	**00 24 38.0**	**-1.1**
LUWI				S	**Sn**	**00 25 31.0**	**+1.5**
APSI	**Ampana**	**5.35**	**244**	P	**Pn**	**00 24 52.3**	**+0.6**
	69nm,0.8s,1μm,0.3nm						
MPSI	**Mapaga**	**6.65**	**261**	P	**Pn**	**00 25 10.8**	**+1.2**
WRA	**Warramunga Arr**	**22.61**	**160**	P	**P**	**00 28 30.2**	**-1.1**
	3.4nm,0.4s,baz=338,slow=11,SNR=24						
ASAR	**Alice Springs**	**25.98**	**164**	P	**P**	**00 29 02.5**	**-0.3**
	0.8nm,0.4s,baz=341,slow=6.7,SNR=12						
STKA	**Stephens Creek**	**36.11**	**158**	P	**P**	**00 30 31.9**	**-0.1**
	2.7nm,0.8s,baz=315,slow=8.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**123.34**	**287**	PKP	**PKPdf**	**00 42 28.2**	**+0.9**
	0.4nm,0.8s,baz=83,slow=2.7,SNR=2.7						

*ISCJB **29** 00:42:43.2±0.2, 50.04N±0.09×8.48E±0.01, h1km±2km, Error ellipse: s-maj=1.7km s-min=1.4km az=140.1*
*BGR **29** 00:42:45.7±0.1, 50.07N×8.49E, h5km, ML3.3/16, Error ellipse: s-maj=2.2km s-min=2.2km az=28.0*
*LDG **29** 00:42:45.9±0.1, 50.04N×8.46E, h5km, Md3.6/3, Ml3.5/41, Error ellipse: s-maj=0.9km s-min=0.9km az=176.0*
*CSEM **29** 00:42:45.1±0.1, 50.03N×8.43E, h10km, ML3.9/25, Error ellipse: s-maj=1.9km s-min=1.5km az=46.0*
*STR **29** 00:42:46.5±0.2, 49.98N×8.45E, h10km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **29** 00:42:46.0, 50.04N×8.31E, h10km, ML3.3(SZGRF), ML3.4(CSEM), After CSEM.*
NEIC Felt at Eppstein, Kelsterbach and Morfelden-Waldorf.
*UCC **29** 00:42:46.3, 50.09N×8.49E, h6km, ML3.1*
*BNS **29** 00:42:47.0±0.5, 50.09N×8.44E, h4km±2km, ML3.2*
*PRU **29** 00:42:48.1, 50.08N×8.69E, h13km*

ISC 29 00:42:45.3±0.9, **50.01N**±0.01×**8.38E**±0.01, **h10**km±7km, **n318,** σ1**§52/553, 23C-9D, Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNS	**Taunus Mts**	**0.21**	**11**	⇓*i*P*	**Pg**	**00 42 49.5**	**-0.3**
TNS				S*	**Sg**	**00 42 52.1**	**-0.8**
TNS	**Taunus Mts**	**0.21**	**11**	Pb	**Pg**	**00 42 49.5**	**-0.3**
TNS				Sb	**Sg**	**00 42 52.1**	**-0.8**
TNS	**Taunus Mts**	**0.21**	**11**	P	**Pg**	**00 42 49.3**	**-0.6**
TNS				*e*Sg	**Sg**	**00 42 52.1**	**-0.8**
FACH	**Fachingen**	**0.42**	**324**	⇑*i*P*	**Pg**	**00 42 54.2**	**+0.5**
FACH				S*	**Sg**	**00 43 00.1**	**+0.8**
FACH	**Fachingen**	**0.42**	**324**	Pb	**Pg**	**00 42 54.2**	**+0.5**
FACH				Sb	**Sg**	**00 43 00.1**	**+0.8**
FACH	**Fachingen**	**0.42**	**324**	⇑*i*P	**Pg**	**00 42 54.2**	**+0.5**
FACH				S	**Sg**	**00 43 00.1**	**+0.8**
TOD	**Tromm**	**0.49**	**146**	⇑*e*P*	**Pg**	**00 42 55.4**	**+0.5**
TOD	**Tromm**	**0.49**	**146**	⇑*e*P	**Pg**	**00 42 55.4**	**+0.5**
TOD				Sg	**Sg**	**00 43 01.9**	**+0.6**
TOD	**Tromm**	**0.49**	**146**	⇑*e*P	**Pg**	**00 42 55.4**	**+0.5**
IMS	**Imsbach**	**0.52**	**217**	⇑P*	**Pb**	**00 42 56.9**	**+0.4**
IMS				S*	**Sb**	**00 43 05.3**	**+1.2**
IMS				SmS		00 43 09.1	
IMS	**Imsbach**	**0.52**	**217**	Pb	**Pb**	**00 42 56.9**	**+0.4**
IMS				Sb	**Sb**	**00 43 05.3**	**+1.2**
IMS				S	**Sn**	**00 43 09.1**	**+1.4**
ABH	**Alteburg**	**0.55**	**257**	⇑*e*P*	**Pb**	**00 42 57.2**	**+0.1**
ABH	**Alteburg**	**0.55**	**257**	Pb	**Pb**	**00 42 57.2**	**+0.1**
ABH	**Alteburg**	**0.55**	**257**	Pg	**Pb**	**00 42 57.7**	**+0.6**
ABH				Sg	**Sb**	**00 43 06.4**	**+1.3**
SWS	**Schriesheim-Wi**	**0.57**	**158**	⇓*e*P*	**Pb**	**00 42 56.9**	**-0.4**
SWS				PmP		00 42 59.9	
SWS				S*	**Sb**	**00 43 04.8**	**-0.6**
SWS	**Schriesheim-Wi**	**0.57**	**158**	Pb	**Pb**	**00 42 56.9**	**-0.4**
SWS	**Schriesheim-Wi**	**0.57**	**158**	P	**Pn**	**00 42 59.9**	**+0.5**
SWS				Sb	**Sb**	**00 43 04.8**	**-0.6**
KOE	**Koeppel**	**0.59**	**315**	*e*Pg	**Pb**	**00 42 57.9**	**+0.2**
KOE				*i* Sg	**Sg**	**00 43 05.4**	**+0.9**
KOE	**Koeppel**	**0.59**	**315**	Pg	**Pb**	**00 42 57.9**	**+0.2**
KOE				Sg	**Sg**	**00 43 05.4**	**+0.9**
BGG	**Burgeitz**	**0.70**	**287**	⇑*e*Pg	**Pn**	**00 43 00.6**	**-0.6**
BGG				*e*Sg	**Sb**	**00 43 10.4**	**+1.2**
	1μm,0.5s						
BGG	**Burgeitz**	**0.70**	**287**	Pg	**Pn**	**00 43 00.6**	**-0.6**
BGG				Sg	**Sb**	**00 43 10.4**	**+1.2**
	1μm,0.5s						
KTD	**Kalmit**	**0.72**	**196**	⇓P*	**Pb**	**00 43 00.6**	**+0.7**
KTD	**Kalmit**	**0.72**	**196**	Pg	**Pb**	**00 42 59.8**	**-0.1**
KTD	**Kalmit**	**0.72**	**196**	Pb	**Pb**	**00 43 00.6**	**+0.7**
KTD				Sg	**Sb**	**00 43 10.4**	**+0.6**
BIW	**Bindweide**	**0.80**	**334**	⇓P*	**Pg**	**00 43 01.0**	**+0.3**
BIW				PmP		00 43 02.2	
BIW				S*	**Sg**	**00 43 11.3**	**+0.1**
BIW	**Bindweide**	**0.80**	**334**	Pb	**Pg**	**00 43 01.0**	**+0.3**
BIW	**Bindweide**	**0.80**	**334**	P	**Pn**	**00 43 02.2**	**-0.4**
BIW				Sb	**Sg**	**00 43 11.3**	**+0.1**
FSH	**Hochheid**	**0.82**	**275**	⇑P*	**Pn**	**00 43 02.9**	**0.0**
FSH				S*	**Sb**	**00 43 14.0**	**+1.2**
FSH	**Hochheid**	**0.82**	**275**	Pb	**Pn**	**00 43 02.9**	**0.0**
FSH				Sb	**Sb**	**00 43 14.0**	**+1.2**
BHE	**Schloss Buerre**	**0.84**	**294**	*e*Pg	**Pn**	**00 43 02.9**	**-0.3**
BHE				*e*Sg	**Sb**	**00 43 13.9**	**+0.5**
	1μm,0.1s						
BHE	**Schloss Buerre**	**0.84**	**294**	Pg	**Pn**	**00 43 02.9**	**-0.3**
BHE				Sg	**Sb**	**00 43 13.9**	**+0.5**
	1μm,0.1s						
RUP	**Ruppelstein**	**0.91**	**251**	P*	**Pn**	**00 43 04.0**	**-0.2**
RUP				PmP		00 43 05.0	
RUP	**Ruppelstein**	**0.91**	**251**	Pb	**Pn**	**00 43 04.0**	**-0.2**
RUP	**Ruppelstein**	**0.91**	**251**	Pg	**Pn**	**00 43 04.8**	**+0.6**
RUP				Sg	**Sn**	**00 43 17.7**	**+0.4**
SIND	**Sindeldorf**	**1.04**	**129**	⇑P*	**Pb**	**00 43 04.9**	**-0.4**
SIND				PmP		00 43 05.6	
SIND				Sg	**Sg**	**00 43 18.6**	**-0.1**
SIND	**Sindeldorf**	**1.04**	**129**	Pb	**Pb**	**00 43 04.9**	**-0.4**
SIND	**Sindeldorf**	**1.04**	**129**	P	**Pn**	**00 43 05.6**	**-0.3**
SIND				Sg	**Sg**	**00 43 18.6**	**-0.1**
PEB	**Petersbachel**	**1.04**	**205**	P	**Pn**	**00 43 05.8**	**-0.1**
PEB	**Petersbachel**	**1.04**	**205**	P	**Pn**	**00 43 05.8**	**-0.1**
WBS	**Wahnbachtalspe**	**1.06**	**319**	*e*Pg	**Pn**	**00 43 06.1**	**-0.1**
WBS				*e*Sg	**Sb**	**00 43 19.5**	**-0.2**
	494nm,0.1s						
TDN	**Todenfeld**	**1.08**	**302**	*e*Pg	**Pn**	**00 43 06.7**	**+0.2**
TDN				*e*Sg	**Sg**	**00 43 20.5**	**+0.4**
	546nm,0.1s						
TDN	**Todenfeld**	**1.08**	**302**	Pg	**Pn**	**00 43 06.7**	**+0.2**
TDN				Sg	**Sg**	**00 43 20.5**	**+0.4**
	546nm,0.1s						
RIVT	**Riveris**	**1.09**	**254**	P	**Pn**	**00 43 06.8**	**+0.2**
RIVT				Sg	**Sn**	**00 43 22.8**	**+1.1**
RIVT	**Riveris**	**1.09**	**254**	P	**Pn**	**00 43 06.8**	**+0.2**
RIVT				Sg	**Sn**	**00 43 22.8**	**+1.1**
LANF	**Langenberg**	**1.10**	**200**	P	**Pn**	**00 43 07.1**	**+0.4**
LANF	**Langenberg**	**1.10**	**200**	Pg	**Pn**	**00 43 06.9**	**+0.2**
LANF				Sg	**Sn**	**00 43 22.7**	**+0.8**
LANF	**Langenberg**	**1.10**	**200**	P	**Pn**	**00 43 07.1**	**+0.4**
LANF				Sg	**Sn**	**00 43 22.7**	**+0.8**
HILG	**Hillesheim**	**1.13**	**285**	*e*Pg	**Pg**	**00 43 08.0**	**+1.0**
HILG				*e*Sg	**Sn**	**00 43 23.6**	**+0.9**
	545nm,0.3s						
HILG	**Hillesheim**	**1.13**	**285**	Pg	**Pg**	**00 43 08.0**	**+1.0**
HILG				Sg	**Sn**	**00 43 23.6**	**+0.9**
	545nm,0.3s						
STB	**Steinbach**	**1.15**	**301**	*e*Pg	**Pg**	**00 43 08.3**	**+1.0**
STB				*e*Sg	**Sn**	**00 43 23.4**	**+0.3**
	460nm,0.5s						
STB	**Steinbach**	**1.15**	**301**	Pg	**Pg**	**00 43 08.3**	**+1.0**
STB				Sg	**Sn**	**00 43 23.4**	**+0.3**
	460nm,0.5s						
HOBG	**Hohbusch**	**1.18**	**326**	⇓*e*Pg	**Pb**	**00 43 07.8**	**0.0**
HOBG	**Hohbusch**	**1.18**	**326**	Pg	**Pb**	**00 43 07.8**	**0.0**
DUP	**Duppenweiler**	**1.20**	**240**	⇑P	**Pg**	**00 43 08.8**	**+0.6**
DUP				S	**Sn**	**00 43 25.9**	**+1.6**
DUP	**Duppenweiler**	**1.20**	**240**	P	**Pg**	**00 43 08.9**	**+0.6**
DUP				S	**Sn**	**00 43 26.0**	**+1.6**
LOH	**Wallersheim-Lo**	**1.20**	**279**	*e*Pg	**Pg**	**00 43 09.7**	**+1.4**
LOH				*e*Sg	**Sn**	**00 43 25.4**	**+0.9**
	367nm,0.3s						
LOH	**Wallersheim-Lo**	**1.20**	**279**	Pg	**Pg**	**00 43 09.7**	**+1.4**
LOH				Sg	**Sn**	**00 43 25.4**	**+0.9**
	367nm,0.3s						
BNS	**Bensberg**	**1.23**	**322**	*e*Pg	**Pb**	**00 43 08.5**	**0.0**
BNS	**Bensberg**	**1.23**	**322**	Pg	**Pb**	**00 43 08.5**	**0.0**
OLFT	**Oleftalsperre**	**1.35**	**292**	*e*Sg	**Sn**	**00 43 28.3**	**+0.2**
OLFT	**Oleftalsperre**	**1.35**	**292**	Sg	**Sn**	**00 43 28.3**	**+0.2**
STU	**Stuttgart**	**1.35**	**156**	*e*Pn	**Pg**	**00 43 11.7**	**+0.5**
STU				Sg	**Sg**	**00 43 30.6**	**+1.9**
STU	**Stuttgart**	**1.35**	**156**	*e*Pn	**Pg**	**00 43 11.7**	**+0.5**
BLI	**Bleialf**	**1.36**	**280**	⇑P	**Pb**	**00 43 11.1**	**+0.2**
BLI				Pg	**Pg**	**00 43 12.3**	**+0.8**
BLI	**Bleialf**	**1.36**	**280**	P	**Pb**	**00 43 11.1**	**+0.2**
LBG	**Lerchenberg**	**1.38**	**168**	P	**Pn**	**00 43 10.5**	**-0.1**
LBG				Sg	**Sg**	**00 43 31.6**	**+2.1**
LBG	**Lerchenberg**	**1.38**	**168**	P	**Pn**	**00 43 10.5**	**-0.1**
LBG				Sg	**Sg**	**00 43 31.6**	**+2.1**
ENTS	**Ennepetalsperr**	**1.38**	**334**	*e*Pg	**Pn**	**00 43 10.4**	**-0.1**
ENTS				*e*Sg	**Sn**	**00 43 27.4**	**-1.4**
ENTS	**Ennepetalsperr**	**1.38**	**334**	Pg	**Pn**	**00 43 10.4**	**-0.1**
ENTS				Sg	**Sn**	**00 43 27.4**	**-1.4**
PLH	**Pulheim**	**1.41**	**316**	*e*Pg	**Pb**	**00 43 11.3**	**-0.3**
PLH				*e*Sg	**Sn**	**00 43 28.9**	**-0.6**
	784nm,0.2s						
PLH	**Pulheim**	**1.41**	**316**	Pg	**Pb**	**00 43 11.3**	**-0.3**
PLH				Sg	**Sn**	**00 43 28.9**	**-0.6**
	784nm,0.2s						
LVIA	**Vianden**	**1.41**	**268**	P	**Pg**	**00 43 13.0**	**+0.7**
LVIA				S	**Sg**	**00 43 33.7**	**+3.1**
LKLB	**Kalborn**	**1.47**	**274**	P	**Pg**	**00 43 13.9**	**+0.5**
LKLB				S	**Sg**	**00 43 33.9**	**+1.4**
KLL	**Kalltalsperre**	**1.47**	**296**	*e*P

BSTI	**Sart Tilman**	**1.89**	**289**	P	**Pn**	**00 43 18.8**	**+1.2**	SFTF				*e*Sg	**Sg**	**00 44 17.0**	**+0.4**	AVF				*e*Sg	**Sg**	**00 45 13.4**	**-1.1**
BEBN	**Eben Emael**	**1.90**	**295**	P	**Pb**	**00 43 18.9**	**-1.1**		comp=N,44nm,0.2s								comp=Z,20nm,0.8s						
BEBN	**Eben Emael**	**1.90**	**295**	P	**Pb**	**00 43 18.9**	**-1.1**	**SFTF**	**Sexfontaines**	**2.84**	**232**	*e*Pn	**Pn**	**00 43 30.9**	**+0.2**	**LPG**	**La Plagne**	**4.65**	**194**	*e*Pn	**Pn**	**00 43 55.5**	**-0.3**
SPAK	**Spaichingen-Ko**	**1.93**	**172**	Pn	**Pn**	**00 43 18.3**	**+0.1**	**SFTF**	**Sexfontaines**	**2.84**	**232**	*e*Pg	**Pg**	**00 43 39.9**	**+0.1**		SNR=1.0						
ECH	**Echery**	**1.97**	**205**	P	**Pn**	**00 43 18.1**	**-0.7**	SFTF				*e*Sg	**Sg**	**00 44 17.0**	**+0.4**	**LPG**	**La Plagne**	**4.65**	**194**	*e*Pg	**Pg**	**00 44 12.6**	**-1.7**
ECH				*e*Pg	**Pg**	**00 43 25.1**	**+2.1**		comp=N,22nm,0.2s							LPG				*e*Sg	**Sg**	**00 45 13.0**	**-1.5**
ECH				Sg	**Sg**	**00 43 49.5**	**+1.0**	**LOMF**	**Lomont**	**2.85**	**202**	Pg	**Pg**	**00 43 40.1**	**+0.1**		comp=Z,14nm,0.7s						
ECH	**Echery**	**1.97**	**205**	Pn	**Pn**	**00 43 18.4**	**-0.3**	LOMF				Sg	**Sg**	**00 44 19.3**	**+2.3**	**LPG**	**La Plagne**	**4.65**	**194**	*e*Pn	**Pn**	**00 43 55.5**	**-0.3**
ECH	**Echery**	**1.97**	**205**	Pg	**Pg**	**00 43 23.3**	**+0.3**	**LOMF**	**Lomont**	**2.85**	**202**	Pg	**Pg**	**00 43 40.1**	**+0.1**		SNR=1.0						
ECH				Sg	**Sg**	**00 43 50.3**	**+1.8**	LOMF				Sg	**Sg**	**00 44 19.3**	**+2.3**	**LPG**	**La Plagne**	**4.65**	**194**	*e*Pg	**Pg**	**00 44 12.6**	**-1.7**
ECH	**Echery**	**1.97**	**205**	P	**Pn**	**00 43 18.0**	**-0.7**	**BBOU**	**Bougnies**	**2.88**	**279**	P	**Pb**	**00 43 34.5**	**-2.1**	LPG				*e*Sg	**Sg**	**00 45 13.0**	**-1.5**
ECH	**Echery**	**1.97**	**205**	Pn	**Pn**	**00 43 18.4**	**-0.3**	**OBER**	**Oberstdorf**	**2.90**	**153**	S	**Sn**	**00 44 04.2**	**-2.2**		comp=Z,6.9nm,0.7s						
ECH	**Echery**	**1.97**	**205**	Pg	**Pg**	**00 43 23.3**	**+0.3**	**OBER**	**Oberstdorf**	**2.90**	**153**	S	**Sn**	**00 44 04.2**	**-2.2**	**TREC**	**Trest**	**4.67**	**96**	*e*PN	**Pn**	**00 43 55.5**	**-0.4**
ECH				Sg	**Sg**	**00 43 49.5**	**+1.0**	**DAVA**	**Damuels**	**2.90**	**159**	⇑*e*Pn	**Pn**	**00 43 32.5**	**+0.8**	TREC				*e*PG	**Pb**	**00 44 09.3**	**+2.0**
ECH	**Echery**	**1.97**	**205**	*e*Pn	**Pn**	**00 43 18.9**	**+0.2**		SNR=6.1							TREC				*ex*	x	00 44 12.2	
GUT	**Gutenstein**	**2.00**	**166**	P	**Pn**	**00 43 19.2**	**0.0**	DAVA				⇓*i*Sn	**Sn**	**00 44 08.6**	**+2.0**	TREC				*e*SG	**Sg**	**00 45 09.6**	**-5.6**
GUT				S	**Sn**	**00 43 42.5**	**-1.7**	DAVA				⇑*i*Sg	**Sg**	**00 44 20.9**	**+2.4**		comp=Z,17nm,0.4s						
GUT	**Gutenstein**	**2.00**	**166**	P	**Pn**	**00 43 19.2**	**0.0**		comp=N,72nm,0.6s							**TREC**	**Trest**	**4.67**	**96**	Pn	**Pn**	**00 43 55.5**	**-0.4**
GUT				S	**Sn**	**00 43 42.5**	**-1.7**	**DAVA**	**Damuels**	**2.90**	**159**	Pn	**Pn**	**00 43 32.5**	**+0.8**	TREC				Sg	**Sg**	**00 45 09.6**	**-5.6**
BCLA	**Clavier**	**2.02**	**283**	P	**Pb**	**00 43 20.8**	**-1.2**		SNR=6.1								comp=Z,17nm,0.4s						
BCLA	**Clavier**	**2.02**	**283**	P	**Pb**	**00 43 20.8**	**-1.2**	DAVA				Sn	**Sn**	**00 44 08.6**	**+2.0**	**HYF**	**Humbligny**	**4.69**	**236**	*e*Pn	**Pn**	**00 43 56.4**	**+0.3**
RCHB	**Rochefort**	**2.04**	**275**	P	**Pb**	**00 43 21.9**	**-0.4**	DAVA				Sg	**Sg**	**00 44 20.9**	**+2.4**	HYF				*e*Sn	**Sn**	**00 44 48.8**	**-1.8**
KIZ	**Kirchzarten**	**2.08**	**189**	P	**Pn**	**00 43 20.3**	**+0.1**		comp=N,72nm,0.6s							HYF				*e*Sg	**Sg**	**00 45 14.5**	**-1.4**
KIZ				S	**Sn**	**00 43 45.0**	**-1.2**	**CLL**	**Collm**	**3.21**	**64**	*e*Pn	**Pn**	**00 43 34.3**	**-1.5**	**HYF**	**Humbligny**	**4.69**	**236**	*e*Pn	**Pn**	**00 43 56.4**	**+0.3**
KIZ	**Kirchzarten**	**2.08**	**189**	P	**Pn**	**00 43 20.3**	**+0.1**	CLL				*e*Pg	**Pb**	**00 43 44.0**	**+1.6**	HYF				*e*Sn	**Sn**	**00 44 48.8**	**-1.8**
KIZ				S	**Sn**	**00 43 45.0**	**-1.2**	CLL				*e*Sg	**Sb**	**00 44 24.0**	**+2.4**	HYF				*e*Sg	**Sg**	**00 45 14.5**	**-1.4**
BGES	**Gesves**	**2.15**	**281**	P	**Pn**	**00 43 22.3**	**+1.1**	**CLL**	**Collm**	**3.21**	**64**	*e*Pn	**Pn**	**00 43 34.0**	**-1.8**	**UPC**	**Upice**	**4.92**	**81**	*e*PN	**Pn**	**00 43 58.8**	**-0.4**
FELD	**Feldberg im Sc**	**2.15**	**187**	P	**Pn**	**00 43 21.5**	**+0.2**	CLL				*e*Pg	**Pb**	**00 43 44.0**	**+1.6**	UPC				*e*PG	**Pb**	**00 44 13.1**	**+1.6**
FELD	**Feldberg im Sc**	**2.15**	**187**	Pn	**Pn**	**00 43 20.5**	**-0.8**	CLL				*e*Sn	**Sn**	**00 44 12.0**	**-2.1**	UPC				*ex*	x	00 44 16.8	
FELD	**Feldberg im Sc**	**2.15**	**187**	P	**Pn**	**00 43 21.5**	**+0.2**	CLL				*i*		00 44 23.6		UPC				*e*SG	**Sg**	**00 45 17.7**	**-5.5**
FELD				Sg	**Sg**	**00 43 55.4**	**+1.0**	CLL				*i* Sg	**Sg**	**00 44 28.3**	**-0.2**		comp=Z,13nm,0.7s						
MOX	**Moxa**	**2.17**	**72**	*e*Pn	**Pn**	**00 43 20.4**	**-1.1**		comp=Z,60nm,0.7s							**UPC**	**Upice**	**4.92**	**81**	Pn	**Pn**	**00 43 58.8**	**-0.4**
MOX				*e*Sg	**Sb**	**00 43 52.2**	**+0.7**	**CLL**	**Collm**	**3.21**	**64**	Pn	**Pn**	**00 43 34.3**	**-1.5**	UPC				Sg	**Sg**	**00 45 17.7**	**-5.5**
MOX	**Moxa**	**2.17**	**72**	Pn	**Pn**	**00 43 20.4**	**-1.1**	**CLL**	**Collm**	**3.21**	**64**	*e*Pn	**Pn**	**00 43 34.3**	**-1.5**		comp=Z,13nm,0.7s						
MOX				Sg	**Sb**	**00 43 52.2**	**+0.7**	CLL				*e*Pg	**Pb**	**00 43 44.0**	**+1.6**	**BGF**	**Bois d'Agland**	**5.06**	**229**	*e*Pn	**Pn**	**00 44 00.0**	**-1.1**
WTSB	**Winterswijk**	**2.20**	**334**	*e*Pn	**Pn**	**00 43 22.6**	**+0.8**	CLL				*e*Sg	**Sb**	**00 44 24.0**	**+2.4**		SNR=1.0						
WTSB				*e*Sg	**Sg**	**00 43 54.6**	**-1.3**	**MOTA**	**Moosalm**	**3.22**	**145**	⇑*i*Pn	**Pn**	**00 43 36.3**	**+0.3**	BGF				*e*Sn	**Sn**	**00 44 57.6**	**-2.0**
WTSB	**Winterswijk**	**2.20**	**334**	*e*Pn	**Pn**	**00 43 22.6**	**+0.8**		SNR=7.2								SNR=1.0						
WTSB				*e*Pg	**Pg**	**00 43 28.9**	**+1.5**	**MOTA**	**Moosalm**	**3.22**	**145**	Pn	**Pn**	**00 43 36.3**	**+0.3**	BGF				*e*Sg	**Sg**	**00 45 26.3**	**-1.3**
WTSB				*e*Sg	**Sb**	**00 43 53.5**	**+1.2**		SNR=7.2								comp=Z,65nm,0.5s,SNR=1.0						
WTSB	**Winterswijk**	**2.20**	**334**	*e*Pn	**Pn**	**00 43 22.6**	**+0.8**	**FETA**	**Feichten**	**3.38**	**152**	⇑*i*Pn	**Pn**	**00 43 39.3**	**+1.1**	**BGF**	**Bois d'Agland**	**5.06**	**229**	*e*Pn	**Pn**	**00 44 00.0**	**-1.1**
WTSB	**Winterswijk**	**2.20**	**334**	*e*Pg	**Pg**	**00 43 28.9**	**+1.5**		SNR=13								SNR=1.0						
WTSB				Sg	**Sg**	**00 43 54.6**	**-1.3**	FETA				⇑*i*Sn	**Sn**	**00 44 19.7**	**+1.4**	BGF				*e*Sn	**Sn**	**00 44 57.6**	**-2.0**
SLE	**Schleitheim**	**2.25**	**178**	P	**Pn**	**00 43 22.5**	**-0.1**	**FETA**	**Feichten**	**3.38**	**152**	Pn	**Pn**	**00 43 39.3**	**+1.1**		SNR=1.0						
SLE	**Schleitheim**	**2.25**	**178**	P	**Pn**	**00 43 22.5**	**-0.1**		SNR=13							BGF				*e*Sg	**Sg**	**00 45 26.3**	**-1.3**
PAGF	**Fort de Pagny**	**2.27**	**231**	*e*Pn	**Pn**	**00 43 23.3**	**+0.5**	FETA				Sn	**Sn**	**00 44 19.7**	**+1.4**		comp=Z,33nm,0.5s,SNR=1.0						
	baz=51							**WATA**	**Walderalm**	**3.41**	**140**	⇓*i*Pn	**Pn**	**00 43 39.7**	**+1.0**	**DPC**	**Dobruska-Polom**	**5.11**	**83**	*e*PN	**Pn**	**00 44 01.3**	**-0.6**
PAGF	**Fort de Pagny**	**2.27**	**231**	*e*Pg	**Pg**	**00 43 29.5**	**+0.7**	**WATA**	**Walderalm**	**3.41**	**140**	Pn	**Pn**	**00 43 39.7**	**+1.0**	DPC				*e*PG	**Pb**	**00 44 16.6**	**+1.8**
PAGF				*e*Sg	**Sg**	**00 43 58.7**	**+0.5**	**KHC**	**Kasperske Hory**	**3.50**	**103**	*e*PN	**Pn**	**00 43 40.0**	**+0.3**	DPC				*ex*	x	00 44 19.7	
	comp=N,19nm,0.6s							KHC				*e*PG	**Pb**	**00 43 48.6**	**+1.3**	DPC				*e*SN	**Sn**	**00 44 56.1**	**-4.9**
GIVF	**Givet**	**2.29**	**274**	*e*Pn	**Pn**	**00 43 24.2**	**+1.0**	KHC				*e*SN	**Sn**	**00 44 18.9**	**-2.2**	DPC				*e*SG	**Sg**	**00 45 23.7**	**-5.7**
	SNR=1.0							KHC				*e*SG	**Sb**	**00 44 32.9**	**+3.2**		comp=Z,14nm,0.4s						
GIVF	**Givet**	**2.29**	**274**	*e*Pg	**Pg**	**00 43 29.1**	**-0.2**		comp=Z,19nm,0.3s							**DPC**	**Dobruska-Polom**	**5.11**	**83**	Pn	**Pn**	**00 44 01.3**	**-0.6**
GIVF				*e*Sg	**Sg**	**00 43 59.3**	**+0.3**	**KHC**	**Kasperske Hory**	**3.50**	**103**	Pn	**Pn**	**00 43 40.0**	**+0.3**	DPC				Sn	**Sn**	**00 44 56.1**	**-4.9**
	comp=N,181nm,0.3s,SNR=1.0							**KHC**	**Kasperske Hory**	**3.50**	**103**	Pg	**Pb**	**00 43 48.6**	**+1.3**	DPC				Sg	**Sg**	**00 45 23.7**	**-5.7**
GIVF	**Givet**	**2.29**	**274**	*e*Pn	**Pn**	**00 43 24.2**	**+1.0**	KHC				Sn	**Sn**	**00 44 18.9**	**-2.2**		comp=Z,14nm,0.4s						
	SNR=1.0							KHC				Sg	**Sb**	**00 44 32.9**	**+3.2**	**PLDF**	**La Plantade**	**5.15**	**220**	Pn	**Pn**	**00 44 01.5**	**-1.0**
GIVF	**Givet**	**2.29**	**274**	*e*Pg	**Pg**	**00 43 29.1**	**-0.2**		comp=Z,19nm,0.3s							**PLDF**	**La Plantade**	**5.15**	**220**	Pg	**Pg**	**00 44 24.2**	**+0.2**
GIVF				*e*Sg	**Sg**	**00 43 59.3**	**+0.3**	**KHC**	**Kasperske Hory**	**3.50**	**103**	*e*Pn	**Pn**	**00 43 40.0**	**+0.3**	**PLDF**	**La Plantade**	**5.15**	**220**	Pn	**Pn**	**00 44 01.5**	**-1.0**
	comp=N,90nm,0.3s,SNR=1.0							**WTTA**	**Wattenberg**	**3.50**	**141**	⇑*i*Pn	**Pn**	**00 43 39.9**	**+0.1**	**PLDF**	**La Plantade**	**5.15**	**220**	Pg	**Pg**	**00 44 24.2**	**+0.2**
MOF	**Molkenrain**	**2.31**	**201**	P	**Pn**	**00 43 23.7**	**+0.2**	WTTA				⇑*i*Sn	**Sn**	**00 44 21.9**	**+0.6**	**AGO**	**Saint Agoulin**	**5.30**	**224**	Pn	**Pn**	**00 44 02.8**	**-1.7**
MOF	**Molkenrain**	**2.31**	**201**	Pn	**Pn**	**00 43 22.7**	**-0.8**	**WTTA**	**Wattenberg**	**3.50**	**141**	Pn	**Pn**	**00 43 39.9**	**+0.1**	**AGO**	**Saint Agoulin**	**5.30**	**224**	Pg	**Pg**	**00 44 27.0**	**+0.2**
MOF	**Molkenrain**	**2.31**	**201**	Pg	**Pg**	**00 43 30.0**	**+0.4**	WTTA				Sn	**Sn**	**00 44 21.9**	**+0.6**	**AGO**	**Saint Agoulin**	**5.30**	**224**	Pn	**Pn**	**00 44 02.8**	**-1.7**
MOF	**Molkenrain**	**2.31**	**201**	Pn	**Pn**	**00 43 22.7**	**-0.8**	**TUE**	**Stuetta**	**3.60**	**169**	*e*Pn	**Pn**	**00 43 42.7**	**+1.4**	**AGO**	**Saint Agoulin**	**5.30**	**224**	Pg	**Pg**	**00 44 27.0**	**+0.2**
MOF	**Molkenrain**	**2.31**	**201**	P	**Pn**	**00 43 23.7**	**+0.2**	**TUE**	**Stuetta**	**3.60**	**169**	*e*Pn	**Pn**	**00 43 42.7**	**+1.4**	**ORIF**	**Oris-en-Rattie**	**5.37**	**199**	*e*Pn	**Pn**	**00 44 05.3**	**-0.2**
MOF	**Molkenrain**	**2.31**	**201**	Pg	**Pg**	**00 43 30.0**	**+0.4**	**BRG**	**Berggiesshubel**	**3.66**	**74**	PN	**Pn**	**00 43 41.3**	**-0.6**	ORIF				*e*Sg	**Sg**	**00 45 35.1**	**-2.5**
IBBN	**Ibbenburen**	**2.33**	**351**	*e*Pn	**Pn**	**00 43 24.3**	**+0.7**	BRG				SG	**Sb**	**00 44 36.4**	**+2.0**		comp=Z,12nm,0.7s						
IBBN				*e*Pg	**Pg**	**00 43 29.2**	**-0.4**		comp=Z,22nm,0.4s							**VRAC**	**Vranov**	**5.38**	**94**	*e*Pn	**Pn**	**00 44 07.7**	**+2.1**
IBBN				*e*Sg	**Sg**	**00 43 58.6**	**-1.6**	**BRG**	**Berggiesshubel**	**3.66**	**74**	*e*Pn	**Pn**	**00 43 41.6**	**-0.3**	**MBDF**	**Montbardon**	**5.40**	**192**	*e*Sg	**Sg**	**00 45 36.1**	**-2.5**
IBBN	**Ibbenburen**	**2.33**	**351**	Pn	**Pn**	**00 43 24.3**	**+0.7**	BRG				*e*Sg	**Sb**	**00 44 38.2**	**+3.8**		comp=Z,12nm,0.8s						
BMRD	**Maredsous**	**2.34**	**279**	P	**Pn**	**00 43 25.0**	**+1.2**	**BRG**	**Berggiesshubel**	**3.66**	**74**	Pn	**Pn**	**00 43 41.6**	**-0.3**	**KRLC**	**Kraliky**	**5.41**	**86**	*e*PN	**Pn**	**00 44 05.6**	**-0.5**
SISB	**Singen-Schiene**	**2.36**	**170**	P	**Pn**	**00 43 24.3**	**+0.2**	BRG				Sg	**Sb**	**00 44 38.2**	**+3.8**	KRLC				*e*SB	Sg	00 45 32.7	-6.3
SISB	**Singen-Schiene**	**2.36**	**170**	P	**Pn**	**00 43 24.3**	**+0.2**	**CABF**	**La Chapelle**	**3.73**	**205**	*e*Pn	**Pn**	**00 43 42.5**	**-0.5**	**KRLC**	**Kraliky**	**5.41**	**86**	Pn	**Pn**	**00 44 05.6**	**-0.5**
THEF	**They Montfort**	**2.38**	**222**	P	**Pn**	**00 43 24.1**	**-0.3**		SNR=1.0							**TCF**	**Toulx Ste Croi**	**5.56**	**230**	*e*Pn	**Pn**	**00 44 06.8**	**-1.3**
THEF				Sg	**Sg**	**00 44 05.4**	**+3.7**	CABF				*e*Sg	**Sg**	**00 44 44.2**	**-0.9**		SNR=1.0						
THEF	**They Montfort**	**2.38**	**222**	Pn	**Pn**	**00 43 23.6**	**-0.8**		comp=Z,62nm,0.7s							TCF				*e*Sn	**Sn**	**00 45 09.4**	**-2.6**
THEF				Sg	**Sg**	**00 44 05.1**	**+3.4**	**CABF**	**La Chapelle**	**3.73**	**205**	*e*Pn	**Pn**	**00 43 42.5**	**-0.5**	TCF				*e*Sg	**Sg**	**00 45 41.6**	**-2.1**
THEF	**They Montfort**	**2.38**	**222**	Pn	**Pn**	**00 43 23.6**	**-0.8**		SNR=1.0								comp=Z,19nm,0.7s,SNR=1.0						
THEF	**They Montfort**	**2.38**	**222**	P	**Pn**	**00 43 24.0**	**-0.3**	CABF				*e*Sg	**Sg**	**00 44 44.2**	**-0.9**	**PYM**	**Petit Puy Mans**	**5.59**	**222**	Pn	**Pn**	**00 44 07.2**	**-1.3**
THEF				Sg	**Sg**	**00 44 05.4**	**+3.7**		comp=Z,31nm,0.7s							**PYM**	**Petit Puy Mans**	**5.59**	**222**	Pg	**Pg**	**00 44 32.0**	**-0.3**
HAU	**Haudompre**	**2.41**	**214**	*e*Pn	**Pn**	**00 43 24.1**	**-0.7**	**PRA**	**Prague**	**3.90**	**87**	*e*PN	**Pn**	**00 43 45.0**	**-0.2**	**VIVF**	**Saint-Julien-l**	**5.74**	**207**	*e*Pn	**Pn**	**00 44 09.8**	**-0.7**
	SNR=1.0							PRA				*e*PG	**Pb**	**00 43 55.4**	**+1.3**		SNR=1.0						
HAU				*e*Sg	**Sg**	**00 44 03.3**	**+0.5**	PRA				*e*SG	**Sb**	**00 44 45.3**	**+3.9**	VIVF				*e*Sg	**Sg**	**00 45 46.8**	**-2.6**
	comp=N,76nm,0.3s								comp=Z,24nm,0.6s								comp=Z,12nm,0.7s						
HAU	**Haudompre**	**2.41**	**214**	*e*Pn	**Pn**	**00 43 24.1**	**-0.7**	**PRA**	**Prague**	**3.90**	**87**	Pn	**Pn**	**00 43 45.0**	**-0.2**	**LDF**	**La Druitiere**	**5.74**	**259**	*e*Pn	**Pn**	**00 44 11.4**	**+0.9**
	SNR=1.0							**PRU**	**Pruhonice**	**3.98**	**88**	*e*PN	**Pn**	**00 43 46.2**	**0.0**		SNR=1.0						
HAU				*e*Sg	**Sg**	**00 44 03.3**	**+0.5**	PRU				*e*PG	**Pb**	**00 43 56.9**	**+1.5**	LDF				*e*Sn	**Sn**	**00 45 12.5**	**-3.9**
	comp=N,38nm,0.3s							PRU				*e*SG	**Sg**	**00 44 48.2**	**-4.7**	LDF				*e*Sg	**Sg**	**00 45 47.3**	**-2.2**
HINF	**Hinteralfeld**	**2.42**	**205**	*e*Pn	**Pn**	**00 43 24.1**	**-0.8**		comp=Z,18nm,0.3s								comp=Z,14nm,0.4s						
	SNR=1.0							**PRU**	**Pruhonice**	**3.98**	**88**	Pn	**Pn**	**00 43 46.2**	**0.0**	**FLN**	**La Foliniere**	**5.92**	**261**	*e*Pn	**Pn**	**00 44 13.3**	**+0.3**
HINF				*e*Sg	**Sg**	**00 44 03.1**	**+0.2**	**PVCC**	**Panska Ves**	**4.00**	**80**	*e*PN	**Pn**	**00 43 46.2**	**-0.4**		baz=76,SNR=1.0						
	comp=N,77nm,0.4s							PVCC				*e*PG	**Pb**	**00 43 57.6**	**+1.7**	FLN				*e*Sn	**Sn**	**00 45 15.6**	**-5.2**
HINF	**Hinteralfeld**	**2.42**	**205**	*e*Pn	**Pn**	**00 43 24.1**	**-0.8**	PVCC				*ex*	x	00 44 00.4			SNR=1.0						
	SNR=1.0							PVCC				*e*SG	**Sg**	**00 44 49.2**	**-4.6**	FLN				*e*Sg	**Sg**	**00 45 52.9**	**-2.4**
HINF				*e*Sg	**Sg**	**00 44 03.1**	**+0.2**		comp=Z,49nm,0.3s								comp=Z,22nm,0.5s,SNR=1.0						
	comp=N,38nm,0.4s							**PVCC**	**Panska Ves**	**4.00**	**80**	Pn	**Pn**	**00 43 46.2**	**-0.4**	**GRR**	**Gorron**	**6.27**	**259**	*e*Pn	**Pn**	**00 44 18.4**	**+0.7**
DOU	**Dourbes**	**2.44**	**273**	P	**Pn**	**00 43 26.4**	**+1.2**	**LOR**	**Lormes**	**4.07**	**229**	*e*Pn	**Pn**	**00 43 46.8**	**-0.7**		SNR=1.0						
DOU				S	**Sg**	**00 44 06.2**	**+2.6**		baz=54,SNR=1.0							GRR				*e*Sn	**Sn**	**00 45 23.5**	**-5.9**
	comp=N,66nm,0.0s							LOR				*e*Sn	**Sn**	**00 44 33.9**	**-1.2**		SNR=1.0						
DOU	**Dourbes**	**2.44**	**273**	P	**Pn**	**00 43 26.3**	**+1.2**	LOR				*e*Sg	**Sg**	**00 44 55.1**	**-0.7**	GRR				*e*Sg	**Sg**	**00 46 03.7**	**-2.7**
SULZ	**Cheisacher**	**2.49**	**184**	Sg	**Sg**	**00 44 06.7**	**+1.4**		comp=Z,32nm,0.4s								comp=Z,14nm,0.5s						
SULZ	**Cheisacher**	**2.49**	**184**	Sg	**Sg**	**00 44 06.7**	**+1.4**	**LOR**	**Lormes**	**4.07**	**229**	*e*Pn	**Pn**	**00 43 46.8**	**-0.7**	**OKC**	**Ostrava-Krasne**	**6.31**	**88**	*e*PB	**Pb**	**00 44 37.9**	**+2.8**
ASSE	**Asse, Remlinge**	**2.57**	**33**	*e*Pn	**Pn**	**00 43 25.6**	**-1.2**		SNR=1.0							OKC				*ex*	x	00 46 02.3	
ASSE				*e*Pg	**Pb**	**00 43 32.2**	**+0.8**	LOR				*e*Sn	**Sn**	**00 44 33.9**	**-1.2**		comp=Z,17nm,0.9s						
ASSE				*e*Sg	**Sg**	**00 44 05.9**	**-1.8**	LOR				*e*Sg	**Sg**	**00 44 55.1**	**-0.7**	**RJF**	**Les Rejaudoux**	**6.61**	**227**	*e*Pn	**Pn**	**00 44 22.2**	**-0.2**
ASSE	**Asse, Remlinge**	**2.57**	**33**	Pn	**Pn**	**00 43 25.6**	**-1.2**		comp=Z,16nm,0.4s							RJF				*e*Sg	**Sg**	**00 46 14.3**	**-3.0**
UBR	**Ueberruh**	**2.60**	**153**	P	**Pn**	**00 43 28.1**	**+0.7**	**GOPC**	**GO Pecny, Ondr**	**4.14**	**89**	*e*PN	**Pn**	**00 43 48.2**	**-0.3**		comp=Z,29nm,0.9s,SNR=1.0						
UBR	**Ueberruh**	**2.60**	**153**	P	**Pn**	**00 43 28.1**	**+0.7**	GOPC				*e*PG	**Pb**	**00 43 59.5**	**+1.3**	**MFF**	**Saint Martin d**	**6.63**	**242**	*e*Pn	**Pn**	**00 44 22.3**	**-0.4**
BBS	**Basel-Blauen**	**2.61**	**193**	Pn	**Pn**	**00 43 27.4**	**-0.2**	GOPC				*e*SG	**Sb**	**00 44 52.4**	**+4.2**		SNR=1.0						
WILA	**Wila**	**2.62**	**172**	P	**Pn**	**00 43 29.0**	**+1.2**		comp=Z,17nm,0.5s							MFF				*e*Sn	**Sn**	**00 45 34.4**	**-3.9**
WILA	**Wila**	**2.62**	**172**	P	**Pn**	**00 43 29.0**	**+1.2**	**GOPC**	**GO Pecny, Ondr**	**4.14**	**89**	Pn	**Pn**	**00 43 48.2**	**-0.3**		SNR=1.0						
NKC	**Novy Kostel**	**2.63**	**84**	*e*PN	**Pn**	**00 43 26.0**	**-1.8**	**GOPC**	**GO Pecny, Ondr**	**4.14**	**89**	Pg	**Pb**	**00 43 59.5**	**+1.3**	MFF				*e*Sg	**Sg**	**00 46 15.2**	**-2.8**
NKC				*e*PG	**Pb**	**00 43 32.0**	**-0.4**	GOPC				Sg	**Sb**	**00 44 52.4**	**+4.2**		comp=Z,11nm,0.7s						
NKC				*e*SN	**Sn**	**00 43 57.9**	**-1.8**		comp=Z,17nm,0.5s							**CAF**	**Calviac**	**6.65**	**222**	*e*Pn	**Pn**	**00 44 21.9**	**-1.1**
NKC				*e*SG	**Sb**	**00 44 05.4**	**+0.7**	**ABTA**	**Abfaltersbach**	**4.27**	**138**	⇓*i*Pn	**Pn**	**00 43 51.7**	**+1.3**		SNR=1.0						
	comp=N,101nm,0.3s							ABTA				⇓*i*Sn	**Sn**	**00 44 40.3**	**0.0**	CAF				*e*Sg	**Sg**	**00 46 15.7**	**-2.9**
NKC	**Novy Kostel**	**2.63**	**84**	Pn	**Pn**	**00 43 26.0**	**-1.8**	**ABTA**	**Abfaltersbach**	**4.27**	**138**	Pn	**Pn**	**00 43 51.7**	**+1.3**		comp=Z,11nm,0.7s						
NKC	**Novy Kostel**	**2.63**	**84**	Pg	**Pb**	**00 43 32.0**	**-0.4**	ABTA				Sn	**Sn**	**00 44 40.3**	**0.0**	**LASF**	**Ste Croix**	**6.69**	**209**	*e*Sg	**Sg**	**00 46 16.6**	**-3.4**
NKC				Sn	**Sn**	**00 43 57.9**	**-1.8**	**SSF**	**Saint Saulge**	**4.38**	**229**	*e*Pn	**Pn**	**00 43 51.0**	**-0.8**		comp=Z,7.0nm,0.6s						
NKC				Sg	**Sb**	**00 44 05.4**	**+0.7**		SNR=1.0							**NVLJ**	**Novalja**	**7.01**	**139**	*i* Pn	**Pn**	**00 44 29.7**	**+1.8**
	comp=N,101nm,0.3s							SSF				*e*Sn	**Sn**	**00 44 41.3**	**-1.6**	NVLJ				Sn	**Sn**	**00 45 44.6**	**-3.0**
TANN	**Tannenbergstha**	**2.65**	**80**	*e*Pn	**Pn**	**00 43 27.1**	**-1.0**	SSF				*e*Sg	**Sg**	**00 45 04.9**	**-1.0**	**LFF**	**La Frestale**	**7.25**	**228**	*e*Pn	**Pn**	**00 44 31.1**	**-0.1**
TANN				*e*Pg	**Pb**	**00 43 33.3**	**+0.4**		comp=Z,18nm,0.3s							LFF				*e*Sg	**Sg**	**00 46 34.5**	**-3.3**
TANN				*e*Sg	**Sb**	**00 44 05.5**	**0.0**	**SSF**	**Saint Saulge**	**4.38**	**229**	*e*Pn	**Pn**	**00 43 51.0**	**-0.8**		comp=Z,23nm,0.6s						
TANN	**Tannenbergstha**	**2.65**	**80**	Pn	**Pn**	**00 43 27.1**	**-1.0**		SNR=1.0							**SGMF**	**Saint Gilles**	**7.39**	**260**	*e*Pn	**Pn**	**00 44 33.3**	**+0.2**
FUR	**Furstenfeldbru**	**2.65**	**133**	*e*Pg	**Pg**	**00 43 36.8**	**+0.7**	SSF				*e*Sn	**Sn**	**00 44 41.3**	**-1.6**		SNR=1.0						
FUR				*e*Sg	**Sg**	**00 44 09.6**	**-0.9**	SSF				*e*Sg	**Sg**	**00 45 04.9**	**-1.0**	SGMF				*e*Sn	**Sn**	**00 45 53.2**	**-3.7**
FUR	**Furstenfeldbru**	**2.65**	**133**	Pg	**Pg**	**00 43 36.8**	**+0.7**		comp=Z,9.1nm,0.3s							SGMF				*e*Sg	**Sg**	**00 46 38.9**	**-3.4**
FUR				Sg	**Sg**	**00 44 09.6**	**-0.9**	**MOA**	**Molln**	**4.44**	**117**	⇑*i*Pn	**Pn**	**00 43 53.5**	**+0.8**		comp=Z,18nm,0.8s						
MEZF	**Maizieres J'vi**	**2.65**	**237**	*e*Pn	**Pn**	**00 43 28.9**	**+0.8**		SNR=11							**ROSF**	**Rostrenen**	**7.82**	**262**	*e*Pn	**Pn**	**00 44 39.1**	**+0.1**
	baz=59,SNR=1.0							MOA				⇑*i*Sn	**Sn**	**00 44 43.4**	**-1.0**	ROSF				*e*Sn	**Sn**	**00 46 03.6**	**-4.0**
MEZF	**Maizieres J'vi**	**2.65**	**237**	*e*Pg	**Pg**	**00 43 36.2**	**+0.1**	**MOA**	**

IDC ***29*** *01:24:03.3±0.6,4.79S×153.90E,h165km±4km,mb4.7/30, mb1 4.8/31,mb1mx4.8/34,mbtmp5.2/31, Error ellipse: s-maj=10.2km s-min=7.8km az=86.0*

MOS ***29*** *01:24:03.4±0.9,4.68S×153.83E,h172km,mb5.2/37, Error ellipse: s-maj=9.5km s-min=7.1km az=99.6*

DJA ***29*** *01:24:09.2±0.7,5.5S±4.1×15.4E±.1,h202km±7km,M5.4/98, mB5.8/57, mb5.5/6, mb5.5/98, mB5.6/4, MLv6.8/1, Mw(mB)5.3/57, Mw(mB)5.1/4*

ISC 29 01:24:03.5±0.2, 4.78S±0.03×153.98E±0.04, h170km±1km, h170km:pP-P, n622, σ1.943/785, mb5.2/219, 39C-23D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.51**	**128**	*e*P			Pn	01 25 55.0	+4.6
HNR	**Honiara**	**7.51**	**128**	*e*Pn			**Pn**	**01 25 52.5**	**+2.1**
PMG	**Port Moresby**	**8.18**	**235**	*c i*P			**Pn**	**01 26 01.3**	**+2.0**
PMG	comp=Z,6µm,1.0s			pmax			pmax		
PMG	**Port Moresby**	**8.18**	**235**	*e*Pn			**Pn**	**01 26 01.2**	**+1.8**
PMG				*e*Sn			Sn	01 27 21.5	-9.3
JAY	**Jayapura**	**13.44**	**279**	P			**Pn**	**01 27 07.6**	**-0.2**
	comp=Z,350nm,0.9s,comp=Z,9µm								
JAY	**Jayapura**	**13.44**	**279**	P			**Pn**	**01 27 07.0**	**-0.8**
	comp=Z,11nm,0.3s,baz=100,slow=4.4,SNR=58								
JAY	**Jayapura**	**13.44**	**279**	P			**Pn**	**01 27 07.0**	**-0.8**
JAY	comp=Z,11nm,0.3s			pmax			pmax		
GENI	**Genyem**	**13.96**	**278**	P			**Pn**	**01 27 13.8**	**-0.4**
	comp=Z,628nm,0.8s,comp=Z,7µm								
COEN	**Coen**	**14.02**	**229**	*e*P			**P**	**01 27 17.3**	**-0.3**
SMPI	**Sarmi**	**15.49**	**280**	P			**Pn**	**01 27 33.4**	**+0.1**
	comp=Z,893nm,1.2s,comp=Z,10µm								
CTA	**Charters Tower**	**16.97**	**206**	P			**Pn**	**01 27 52.2**	**+1.1**
	comp=Z,9.0nm,0.3s,baz=30,slow=13,SNR=88								
CTA	**Charters Tower**	**16.97**	**206**	P			**Pn**	**01 27 52.3**	**+1.1**
CTA	comp=Z,9.0nm,0.3s			pmax			pmax		
CTAO	**Charters Tower**	**16.97**	**206**	*e*P			**Pn**	**01 27 52.1**	**+1.1**
	comp=Z,301nm,1.2s								
SRPI	**Serui, Papua**	**17.95**	**279**	P			**Pn**	**01 28 02.5**	**-0.2**
	comp=Z,849nm,1.0s,comp=Z,10µm								
TARA	**Tarawa**	**19.88**	**73**	*e*P			**Pn**	**01 28 24.7**	**-0.8**
	comp=Z,263nm,0.9s								
RKPI	**Ransiki, Papua**	**20.04**	**279**	P			**P**	**01 28 24.7**	**+1.1**
	comp=Z,341nm,1.1s,comp=Z,8µm								
GUMO	**Guam**	**20.37**	**334**	P			**P**	**01 28 27.4**	**+0.3**
	comp=Z,35nm,0.4s,baz=173,slow=14,SNR=5.3								
GUMO	**Guam**	**20.37**	**334**	P			**P**	**01 28 27.4**	**+0.3**
GUMO	comp=Z,35nm,0.4s			pmax			pmax		
GUMO	**Guam**	**20.37**	**334**	*e*P			**P**	**01 28 26.2**	**-0.9**
	comp=Z,18nm,1.1s								
EIDS	**Eidsvold**	**20.66**	**187**	*e*P			**P**	**01 28 31.7**	**+1.6**
	comp=Z,174nm,0.7s								
EIDS				*e*S			**S**	**01 32 11.8**	**+0.2**
DZM	**Mont Dzumac**	**21.00**	**146**	*e*P			**P**	**01 28 33.4**	**-0.5**
	comp=Z,242nm,1.1s								
DZM	**Mont Dzumac**	**21.00**	**146**	P			**P**	**01 28 33.9**	**0.0**
	comp=Z,94nm,0.8s,baz=90,slow=24,SNR=59								
DZM	**Mont Dzumac**	**21.00**	**146**	*e*P			**P**	**01 28 33.5**	**-0.4**
FAKI	**Fak Fak**	**21.76**	**274**	P			**P**	**01 28 41.0**	**-1.0**
	comp=Z,119nm,0.9s,comp=Z,2µm								
FAKI	**Fak Fak**	**21.76**	**274**	*e*P			**P**	**01 28 40.7**	**-1.2**
	comp=Z,174nm,1.2s								
SAUI	**Saumlaki**	**22.76**	**261**	P			**P**	**01 28 52.2**	**+0.7**
	comp=Z,1µm,0.7s,comp=Z,16µm								
SAUI	**Saumlaki**	**22.76**	**261**	*e*P			**P**	**01 28 49.7**	**-1.9**
	comp=Z,5µm,1.7s								
SIJI	**Sorong**	**23.02**	**279**	P			**P**	**01 28 52.9**	**-1.0**
	comp=Z,267nm,0.8s,baz=77,slow=7.5,SNR=108								
SWI	**Sorong**	**23.02**	**279**	P			**P**	**01 28 54.0**	**+0.1**
	comp=Z,450nm,0.9s,comp=Z,3µm								
BNDI	**Bandanaira**	**24.00**	**270**	P			**P**	**01 29 02.0**	**-0.8**
	comp=Z,322nm,0.7s,comp=Z,3µm								
WRAB	**Tennant Creek**	**24.34**	**230**	P			**P**	**01 29 06.0**	**+0.2**
	comp=Z,3µm,0.6s								
WRAB	**Tennant Creek**	**24.34**	**230**	*c i*P			**P**	**01 29 06.3**	**+0.5**
WRAB	**Tennant Creek**	**24.34**	**230**	*e*P			**P**	**01 29 06.0**	**+0.2**
	comp=Z,364nm,0.7s								
WRAB				*e*S			**S**	**01 33 11.5**	**-1.2**
WRA	**Warramunga Arr**	**24.35**	**230**	P			**P**	**01 29 06.0**	**+0.1**
	comp=Z,265nm,0.7s,baz=54,slow=10,SNR=325								
WRA				PcP			**PcP**	**01 32 41.4**	**+0.4**
	comp=Z,6.6nm,0.5s,baz=58,slow=2.5,SNR=4.2								
WRA				S			**S**	**01 33 10.7**	**-2.3**
	comp=Z,43nm,0.9s,baz=49,slow=16,SNR=12								
WRA				PKiKP			**PKiKP**	**01 40 21.7**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=0.7,slow=0.8,SNR=9.5								
WRA	**Warramunga Arr**	**24.35**	**230**	P			**P**	**01 29 06.0**	**+0.1**
WRA								01 32 41.4	
WRA				S			**S**	**01 33 10.7**	**-2.3**
WRA	comp=Z,265nm,0.7s			pmax			pmax		
WRA	comp=Z,7.0nm,0.5s			pmax			pmax		
WRA	comp=N,43nm,0.9s			smax			smax		
MSAI	**Masohi**	**25.03**	**272**	P			**P**	**01 29 12.4**	**+0.2**
	comp=N,22nm,0.8s,comp=N,2µm								
ARMA	**Armidale**	**25.60**	**185**	*e*P			**P**	**01 29 18.7**	**+1.5**
	comp=N,236nm,0.6s								
AAI	**Ambon**	**25.74**	**271**	P			**P**	**01 29 18.1**	**-0.5**
	comp=N,124nm,0.9s,comp=N,2µm								
H11S3	**WAKE ISLAND Hy**	**26.30**	**28**	T			T	01 57 44.4	
	baz=208,slow=73,SNR=205								
H11S2	**WAKE ISLAND Hy**	**26.31**	**28**	T			T	01 57 44.6	
	baz=208,slow=73,SNR=136								
H11S1	**WAKE ISLAND Hy**	**26.32**	**28**	T			T	01 57 42.3	
	baz=208,slow=73,SNR=76								
LBMI	**Labuha**	**26.77**	**278**	P			**P**	**01 29 28.8**	**+1.0**
	comp=N,139nm,1.2s,comp=N,2µm								
MSVF	**Nonsavu**	**26.84**	**121**	P			**P**	**01 29 30.3**	**+1.8**
	comp=N,1µm,0.9s,SNR=35								
MSVF	**Nonsavu**	**26.84**	**121**	*e*P			**P**	**01 29 30.9**	**+2.4**
	comp=N,206nm,1.0s								
NLAI	**Namlea**	**26.86**	**272**	P			**P**	**01 29 29.0**	**+0.4**
	comp=N,79nm,1.2s,comp=N,6µm								
ASAR	**Alice Springs**	**26.97**	**224**	P			**P**	**01 29 29.7**	**+0.2**
	comp=N,23nm,0.6s,baz=54,slow=8.8,SNR=186								
ASAR				PcP			**PcP**	**01 32 47.4**	**+0.4**
	comp=N,5.3nm,0.5s,baz=54,slow=3.7,SNR=3.4								
ASAR				S			**S**	**01 33 51.5**	**-2.8**
	comp=N,19nm,0.9s,baz=56,slow=15,SNR=8.7								
ASAR	**Alice Springs**	**26.97**	**224**	P			**P**	**01 29 29.7**	**+0.2**
ASAR								01 32 47.4	
ASAR				S			**S**	**01 33 51.6**	**-2.8**
ASAR	comp=Z,23nm,0.6s			pmax			pmax		
ASAR	comp=Z,5.0nm,0.5s			pmax			pmax		
ASAR	comp=N,19nm,0.9s			smax			smax		
TNTI	**Ternate**	**27.16**	**281**	P			**P**	**01 29 35.5**	**+4.2**
	comp=N,116nm,1.0s								
SANI	**Sanana**	**28.07**	**275**	P			**P**	**01 29 39.4**	**0.0**
	comp=N,68nm,1.1s,comp=N,933nm								
STKA	**Stephens Creek**	**29.35**	**202**	P			**P**	**01 29 50.6**	**+0.1**
	comp=N,44nm,0.6s,baz=5.0,slow=7.8,SNR=50								
STKA	**Stephens Creek**	**29.35**	**202**	P			**P**	**01 29 50.6**	**+0.1**
STKA	comp=Z,44nm,0.6s			pmax			pmax		
STKA	**Stephens Creek**	**29.35**	**202**	*e*P			**P**	**01 29 50.8**	**+0.2**
	comp=Z,8.3nm,0.6s								
SOEI	**Soe**	**29.88**	**259**	P			**P**	**01 29 56.8**	**+1.3**
	comp=Z,169nm,1.0s,comp=Z,3µm								
SOEI	**Soe**	**29.88**	**259**	*e*P			**P**	**01 29 54.7**	**-0.8**
	comp=Z,113nm,0.8s								
KMSI	**Cibinong**	**30.44**	**279**	P			**P**	**01 30 00.9**	**+0.5**
	comp=Z,316nm,1.0s,comp=Z,3µm								
BBSI	**Bau Bau**	**31.29**	**267**	P			**P**	**01 30 11.0**	**+3.1**
	comp=Z,90nm,1.1s,comp=Z,90nm,1.1s,comp=Z,1µm comp=Z,1µm								
LUWI	**Luwuk**	**31.39**	**276**	P			**P**	**01 30 09.1**	**+0.4**
	comp=Z,157nm,1.1s								
LUWI	**Luwuk**	**31.39**	**276**	*e*P			**P**	**01 30 08.1**	**-0.6**
	comp=Z,180nm,1.1s								
MMRI	**Maumere**	**31.75**	**261**	P			**P**	**01 30 11.1**	**-0.8**
	comp=Z,420nm,0.9s								
MMRI	**Maumere**	**31.75**	**261**	*e*P			**P**	**01 30 10.5**	**-1.4**
	comp=Z,572nm,1.2s								
MRSI	**Marisa**	**32.43**	**278**	P			**P**	**01 30 17.5**	**-0.3**
	comp=Z,37nm,1.0s,comp=Z,3µm								
APSI	**Ampana**	**32.52**	**276**	P			**P**	**01 30 18.8**	**+0.2**
	comp=Z,198nm,1.1s,comp=Z,2µm								
BBOO	**Buckleboo**	**32.52**	**209**	*e*P			**P**	**01 30 18.5**	**+0.1**
	comp=Z,3.5nm,0.8s								
BSSI	**Bau Bau, Buton**	**33.36**	**266**	P			**P**	**01 30 26.6**	**+0.6**
	comp=Z,187nm,1.7s,comp=Z,2µm								
BASI	**Baing, Sumba**	**33.54**	**259**	*e*P			**P**	**01 30 27.8**	**+0.4**
	comp=Z,582nm,0.8s,comp=Z,6µm								
CBIJ	**Chichi jima**	**33.68**	**341**	*e*P			**P**	**01 30 26.1**	**-2.3**
	comp=Z,64nm,0.6s								
BKSI	**Bulukumba**	**33.73**	**268**	P			**P**	**01 30 28.4**	**-0.7**
	comp=Z,38nm,1.1s								
WSI	**Waingapu**	**33.75**	**260**	P			**P**	**01 30 29.2**	**-0.1**
	comp=Z,2µm,0.9s								
KAPI	**Kappang**	**34.10**	**268**	P			**P**	**01 30 32.9**	**+0.6**
	comp=Z,399nm,0.6s,SNR=8.1								
KAPI	**Kappang**	**34.10**	**268**	*e*P			**P**	**01 30 31.5**	**-0.9**
	comp=Z,12nm,0.8s								
SPSI	**Sidrap Palu**	**34.12**	**270**	P			**P**	**01 30 31.9**	**-0.6**
	comp=Z,79nm,0.8s,comp=Z,1µm								
TTSI	**Tana Toraja**	**34.12**	**272**	P			**P**	**01 30 33.1**	**+0.6**
	comp=Z,44nm,1.1s,comp=Z,4µm								
PCI	**Palu**	**34.31**	**275**	P			**P**	**01 30 35.2**	**+1.0**
	comp=Z,334nm,0.9s,comp=Z,2µm								
MPSI	**Mapaga**	**34.42**	**278**	P			**P**	**01 30 34.7**	**-0.4**
	comp=Z,93nm,0.9s,comp=Z,937nm								
WBSI	**Waikabubak, Su**	**34.64**	**260**	P			**P**	**01 30 38.1**	**+1.1**
	comp=Z,491nm,0.8s,comp=Z,4µm								
FORT	**Forrest**	**35.55**	**220**	*e*P			**P**	**01 30 44.2**	**-0.3**
	comp=Z,120nm,0.6s								
MBWA	**Marble Bar**	**37.00**	**241**	*e*P			**P**	**01 30 56.4**	**-0.5**
	comp=Z,117nm,0.9s								
TSM	**Tawau**	**37.18**	**283**	⇑P			**P**	**01 30 58.9**	**+0.3**
KBKI	**Kotabaru**	**37.75**	**271**	P			**P**	**01 31 03.9**	**+0.6**
	comp=Z,39nm,0.8s,comp=Z,2µm								
SDKM	**Sandakan**	**38.17**	**285**	⇓P			**P**	**01 31 07.0**	**+0.1**
TAU	**Tasmania Unive**	**38.42**	**188**	P			**P**	**01 31 10.6**	**+2.0**
	comp=Z,792nm,0.7s,SNR=14								
TAU	**Tasmania Unive**	**38.42**	**188**	*e*P			**P**	**01 31 10.3**	**+1.7**
	comp=Z,337nm,1.4s								
KKM	**Kota Kinabalu**	**39.21**	**286**	⇓P			**P**	**01 31 16.2**	**+0.5**
KKM	**Kota Kinabalu**	**39.21**	**286**	*e*P			**P**	**01 31 14.6**	**-1.1**
	comp=Z,78nm,0.8s								
URZ	**Urewera**	**39.42**	**151**	P			**P**	**01 31 17.2**	**+0.4**
	comp=Z,14nm,0.7s,baz=89,slow=4.6,SNR=8.9								
URZ	**Urewera**	**39.42**	**151**	*e*P			**P**	**01 31 17.3**	**+0.4**
	comp=Z,57nm,1.1s								
JAGI	**Jajag, Banyuwa**	**39.72**	**263**	P			**P**	**01 31 17.9**	**-1.9**
	comp=Z,128nm,0.9s								
JAGI	**Jajag, Banyuwa**	**39.72**	**263**	*e*P			**P**	**01 31 17.3**	**-2.5**
	comp=Z,95nm,0.8s								
BKZ	**Black Stump Fm**	**39.84**	**152**	*e*P			**P**	**01 31 20.7**	**+0.2**
	comp=Z,37nm,1.2s								
JOW	**Kunigami**	**40.08**	**323**	P			**P**	**01 31 23.0**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=122,slow=7.2,SNR=16								
JOW				pP			**pP**	**01 31 58.1**	**-1.2**
	comp=Z,13nm,0.8s,baz=141,slow=9.6,SNR=15								
JOW	**Kunigami**	**40.08**	**323**	*e*P			**P**	**01 31 22.4**	**-0.1**
	comp=Z,159nm,0.9s								
BLJI	**Banyuglugur**	**40.24**	**264**	P			**P**	**01 31 22.9**	**-1.2**
	comp=Z,105nm,0.7s								
GMJI	**Gumukmas**	**40.41**	**263**	P			**P**	**01 31 27.7**	**+2.3**
	comp=Z,50nm,1.3s								
RPZ	**Rata Peaks**	**41.60**	**161**	*e*P			**P**	**01 31 35.6**	**+0.8**
	comp=Z,39nm,0.9s								
YOJ	**Yonaguni jima**	**41.88**	**315**	*e*P			**P**	**01 31 36.0**	**-1.2**
	comp=Z,236nm,1.1s								
PWJI	**Pagerwojo**	**42.02**	**263**	P			**P**	**01 31 37.7**	**-0.9**
	comp=Z,183nm,1.0s,comp=Z,2µm								
DCZ	**Deep Cove**	**42.13**	**166**	*e*P			**P**	**01 31 39.2**	**+0.2**
	comp=Z,26nm,0.8s								
PBKI	**Pangkalan Bun**	**42.27**	**271**	P			**P**	**01 31 42.5**	**+1.9**
	comp=Z,387nm,0.9s,comp=Z,5µm								
SBUM	**Sibu**	**42.34**	**279**	*e*P			**P**	**01 31 41.5**	**+0.3**
	comp=Z,30nm,1.0s								
YULB	**Yu-li**	**42.45**	**313**	*e*P			**P**	**01 31 43.1**	**+1.3**
	comp=Z,35nm,0.9s								
ODZ	**Otahua Downs**	**42.67**	**163**	*e*P			**P**	**01 31 43.1**	**-0.3**
	comp=Z,76nm,1.8s								
NACB	**Ninganchiao**	**42.70**	**314**	*e*P			**P**	**01 31 44.0**	**+0.1**
	comp=Z,88nm,0.9s								
WHZ	**Wether Hill Ro**	**42.72**	**166**	*e*P			**P**	**01 31 43.3**	**-0.5**
	comp=Z,149nm,1.9s								
STKI	**Sintang**	**42.73**	**275**	P			**P**	**01 31 45.6**	**+1.3**
	comp=Z,75nm,0.7s,comp=Z,6µm								
WOJI	**Wonogiri, Jawa**	**42.89**	**264**	P			**P**	**01 31 45.8**	**+0.2**
	comp=Z,150nm,1.1s								
SSLB	**Suanglung**	**42.93**	**313**	*e*P			**P**	**01 31 46.8**	**+0.9**
	comp=Z,46nm,1.2s								
YHNB	**Yeheng**	**43.16**	**314**	*e*P			**P**	**01 31 48.8**	**+1.1**
	comp=Z,95nm,0.9s								
TATO	**Taipei**	**43.27**	**315**	*e*P			**P**	**01 31 48.6**	**+0.2**
	comp=Z,98nm,1.0s								
SMRI	**Semarang**	**43.36**	**265**	P			**P**	**01 31 50.2**	**+0.8**
	comp=Z,162nm,1.0s								
SMRI	**Semarang**	**43.36**	**265**	*e*P			**P**	**01 31 48.1**	**-1.3**
	comp=Z,157nm,1.1s								
MJAR	**Matsushiro Arr**	**43.68**	**342**	P			**P**	**01 31 50.1**	**-1.4**
	comp=Z,5.6nm,0.7s,baz=171,slow=9.4,SNR=20								
MJAR				PcP			**PcP**	**01 33 35.7**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=162,slow=2.4,SNR=4.3								
MJAR	**Matsushiro Arr**	**43.68**	**342**	P			**P**	**01 31 50.1**	**-1.4**
MJAR								01 33 35.7	
MJAR	comp=Z,6.0nm,0.7s			pmax			pmax		
MJAR	comp=Z,2.0nm,0.3s			pmax			pmax		
MAJO	**Matsushiro**	**43.68**	**342**	*c i*P			**P**	**01 31 50.8**	**-0.8**
MAJO				*i* *PP			**pP**	**01 32 24.6**	**-4.3**
MAJO	**Matsushiro**	**43.68**	**342**	*e*P			**P**	**01 31 50.5**	**-1.1**
	comp=Z,158nm,2.4s								
MAT	**Matsushiro**	**43.68**	**342**	P			**P**	**01 31 50.4**	**-1.2**
MAT				S			S	01 38 02.4	-6.2
KSM	**Kuching**	**44.07**	**277**	*e*P			**P**	**01 31 54.7**	**-0.4**
	comp=Z,66nm,0.8s								
NWAO	**Narrogin (SRO)**	**44.24**	**226**	P			**P**	**01 31 55.9**	**-0.3**
	comp=Z,15nm,0.6s,baz=145,slow=1.6,SNR=8.9								
NWAO				PcP			**PcP**	**01 33 39.4**	**+1.7**
	comp=Z,22nm,0.8s,baz=154,slow=1.6,SNR=3.8								
NWAO	**Narrogin (SRO)**	**44.24**	**226**	P			**P**	**01 31 55.9**	**-0.3**
NWAO								01 33 39.4	
NWAO	comp=Z,15nm,0.6s			pmax			pmax		
NWAO	comp=Z,23nm,0.8s			pmax			pmax		
KPJI	**Karang Pucung**	**44.86**	**264**	P			**P**	**01 32 01.7**	**+0.4**
	comp=Z,220nm,0.9s								
CMJI	**Cimerak**	**45.34**	**264**	P			**P**	**01 32 04.8**	**-0.3**
	comp=Z,436nm,0.8s,comp=Z,4µm								
QZH	**Quanzhou**	**45.35**	**312**	⇑*e*P			**P**	**01 32 06.8**	**+1.8**
QZH				pP			**pP**	**01 32 42.3**	**-0.3**
QZH				S			**S**	**01 38 29.0**	**-4.0**
CISI	**Cisompet, Garu**	**45.97**	**264**	P			**P**	**01 32 09.2**	**-0.9**
	comp=Z,426nm,0.8s,comp=Z,4µm								
CISI	**Cisompet, Garu**	**45.97**	**264**	*e*P			**P**	**01 32 09.2**	**-0.9**
	comp=Z,282nm,0.8s								
LEM	**Lembang**	**46.16**	**265**	P			P	01 32 19.0	+7.3
LEM	**Lembang**	**46.16**	**265**	P			**P**	**01 32 11.0**	**-0.7**
	comp=Z,41nm,0.7s,baz=114,slow=6.6,SNR=6.2								
LEM	**Lembang**	**46.16**	**265**	P			**P**	**01 32 11.0**	**-0.7**
LEM	comp=Z,41nm,0.7s			pmax			pmax		
TPI	**Tanjungpandan**	**46.27**	**271**	P			**P**	**01 32 13.2**	**+0.8**
	comp=Z,56nm,0.7s,comp=Z,476nm								
CNJI	**Cibinong**	**46.64**	**264**	P			**P**	**01 32 14.9**	**-0.4**
	comp=Z,350nm,0.9s,comp=Z,3µm								
KSULL	**Lungdo**	**47.22**	**335**	P			**P**	**01 32 20.2**	**+0.9**
	SNR=7.1								
KSULL	SNR=7.1			P			**P**	**01 32 20.2**	**+0.9**
KSULL	SNR=7.1			P			**P**	**01 32 20.2**	**+0.9**
KSULJ	**Uljin**	**47.23**	**333**	P			**P**	**01 32 20.1**	**+0.7**
	SNR=8.6								
KSULJ	SNR=8.6			P			**P**	**01 32 20.1**	**+0.7**
KSULJ	SNR=8.6			P			**P**	**01 32 20.1**	**+0.7**
	SNR=8.6								
KSHUK	**Heuksando**	**47.58**	**328**	P			**P**	**01 32 22.9**	**+0.8**
	SNR=6.0								
KSHUK	SNR=6.0			P			**P**	**01 32 22.9**	**+0.8**
KSHUK	SNR=6.0			P			**P**	**01 32 22.9**	**+0.8**
ERM	**Erimo**	**47.61**	**349**	*i* P			**P**	**01 32 23.7**	**+1.5**
ERM	comp=Z,21nm,1.2s			pmax			pmax		
RAR	**Rarotonga**	**47.71**	**114**	*e*P			**P**	**01 32 25.3**	**+1.9**
	comp=Z,96nm,1.0s								
TJN	**Taejon**	**47.92**	**331**	*d i*P			**P**	**01 32 24.7**	**-0.1**
TJN				*i* *PP			**pP**	**01 33 02.2**	**-0.6**
CGJI	**Cibinong**	**48.07**	**265**	P			**P**	**01 32 25.0**	**-1.3**
	comp=Z,129nm,0.8s,comp=Z,3µm								
XMIS	**Christmas Isla**	**48.20**	**260**	*e*P			**P**	**01 32 26.5**	**-0.8**
	comp=Z,440nm,1.7s								
KSCEA	**Cheonan**	**48.33**	**331**	P			**P**	**01 32 29.4**	**+1.5**
	SNR=6.2								
KSCEA	SNR=6.2			P			**P**	**01 32 29.4**	**+1.5**
KSCEA	SNR=6.2			P			**P**	**01 32 29.4**	**+1.5**
KSDGY	**Daegwallycong**	**48.37**	**333**	P			**P**	**01 32 29.0**	**+0.7**
	SNR=6.9								
KSDGY	SNR=6.9			P			**P**	**01 32 29.0**	**+0.7**
KSDGY	SNR=6.9			P			**P**	**01 32 29.0**	**+0.7**
KSJMJ	**Jumunjin**	**48.49**	**333**	P			**P**	**01 32 29.8**	**+0.7**
	SNR=12								
KSJMJ	SNR=12			P			**P**	**01 32 29.8**	**+0.7**
KSJMJ	SNR=12			P			**P**	**01 32 29.8**	**+0.7**
KSRS	**Korea Array**	**48.52**	**332**	P			**P**	**01 32 29.2**	**-0.1**
	comp=Z,7.2nm,0.6s,baz=151,slow=9.0,SNR=44								
KSRS				pP			**pP**	**01 33 06.7**	**-0.7**
	comp=Z,17nm,1.1s,baz=150,slow=7.7,SNR=3.3								
KSRS	**Korea Array**	**48.52**	**332**	P			**P**	**01 32 29.3**	**-0.1**
KSRS				*PP			**pP**	**01 33 06.7**	**-0.7**
KSRS	comp=Z,7.0nm,0.6s			pmax			pmax		
KSRS	comp=Z,17nm,1.1s			pmax			pmax		
KSIJA	**INJE**	**48.87**	**333**	P			**P**	**01 32 32.9**	**+0.9**
	SNR=5.4								
KSIJA	SNR=5.4			P			**P**	**01 32 32.9**	**+0.9**
KSIJA	SNR=5.4			P			**P**	**01 32 32.9**	**+0.9**
XMAS	**Kiritimati**	**49.00**	**83**	*e*P			**P**	**01 32 35.8**	**+2.3**
	comp=Z,277nm,0.8s								
INCN	**Inchon**	**49.16**	**331**	*e*P			**P**	**01 32 34.6**	**+0.4**
	comp=Z,131nm,1.4s								
YNCB	**YEONCHEON**	**49.46**	**332**	P			**P**	**01 32 37.3**	**+0.8**
	SNR=10								
YNCB	SNR=10			P			**P**	**01 32 37.3**	**+0.8**
YNCB	SNR=10			P			**P**	**01 32 37.3**	**+0.8**
QIZ	**Qiongzhong**	**49.48**	**300**	P			**P**	**01 32 37.8**	**+0.8**
QIZ				pP			**pP**	**01 33 15.5**	**+0.3**
QIZ				S			**S**	**01 39 29.8**	**-1.8**
QIZ				sS			**sS**	**01 40 38.5**	**+0.3**
QIZ	comp=Z,160nm,2.5s			PMZ					
NJ2	**Nanjing**	**49.58**	**320**	*e*P			**P**	**01 32 38.0**	**+0.5**
NJ2	comp=Z,30nm,0.6s			PMZ					
MDSI	**Maura Dua**	**49.63**	**268**	P			**P**	**01 32 38.4**	**+0.2**
	comp=Z,25nm,1.0s								
ASAJ	**Asahikawa**	**49.74**	**349**	*e*P			**P**	**01 32 39.5**	**+1.0**
	comp=Z,32nm,0.7s								
WHN	**Wuhan**	**51.66**	**315**	P			**P**	**01 32 54.3**	**+1.2**
YSS	**Yuzh-Sakhalins**	**52.46**	**350**	⇓*i*P			**P**	**01 32 58.3**	**-0.4**
YSS				*e*				01 33 34.8	
YSS	comp=Z,60nm,1.0s			pmax			pmax		
YSS	**Yuzh-Sakhalins**	**52.46**	**350**	*e*P			**P**	**01 32 59.1**	**+0.4**
	comp=Z,108nm,1.4s								
SDSI	**Sungai Dareh**	**52.61**	**272**	P			**P**	**01 33 00.2**	**-0.3**
	comp=Z,111nm,0.7s,comp=Z,11µm								
USRK	**Ussuriysk Ar.**	**52.62**	**340**	P			**P**	**01 32 59.9**	**0.0**
	comp=Z,13nm,0.7s,baz=176,slow=7.8,SNR=59								
USRK				pP			**pP**	**01 33 37.2**	**-1.4**
	comp=Z,22nm,1.0s,baz=163,slow=8.8,SNR=7.2								
PDSI	**Padang**	**53.58**	**272**	P			**P**	**01 33 06.2**	**-1.4**
	comp=Z,55nm,0.7s,comp=Z,5µm								
IPM	**Ipoh**	**53.69**	**279**	*e*P			**P**	**01 33 07.8**	**-0.6**
	comp=Z,70nm,0.6s								
KIP	**Kipapa**	**53.76**	**59**	*e*P			**P**	**01 33 06.1**	**-2.6**
KIP	comp=Z,75nm,1.3s			pmax			pmax		
MDJ	**Mudanjiang**	**53.83**	**339**	P			**P**	**01 33 09.5**	**

PPT pmax pmax
comp=Z,129nm,0.9s
PPT2 Papeete2 56.61 108 *e*P **P 01 33 31.4 +2.1**
comp=Z,194nm,1.1s
PAE Paea 56.61 108 *e*P **P 01 33 31.7 +2.5**
comp=Z,15nm,0.8s
GSI Gunungsitoli 56.68 275 *e*P **P 01 33 27.4 -2.3**
GSI *e*pP **pP 01 34 06.0 -2.9**
TIAR Tiarei 56.83 108 *e*P **P 01 33 33.8 +3.1**
comp=Z,125nm,1.0s
TVO Taravao 56.94 108 *e*P **P 01 33 34.6 +3.0**
comp=Z,38nm,0.7s
KLR Kul'dur 57.17 343 *e*P P 01 33 29.2 -3.3
KLR *e* 01 34 07.2
KLR pmax pmax
comp=Z,110nm,1.6s
UTTA Uttaradit 57.26 295 P **P 01 33 35.4 +1.7**
comp=Z,7.5nm,0.9s,comp=Z,66nm
XAN Xi'an 57.43 316 P **P 01 33 35.0 +0.3**
XAN pP **pP 01 34 16.5 +2.5**
XAN PMZ
comp=Z,18nm,0.6s
SRDT SRDT 57.62 290 P **P 01 33 39.3 +3.0**
comp=Z,66nm,1.6s,comp=Z,3µm
UTHA Uthaitani 57.64 292 P P 01 33 39.8 +3.4
comp=Z,7.0nm,0.7s,comp=Z,91nm
PET Petropavlovsk 57.73 3⇑*i*P **P 01 33 37.6 +1.3**
PET *e**PP **pP 01 34 15.1 -0.5**
PET *e*S **S 01 41 22.9 +1.4**
PET pmax pmax
comp=Z,53nm,1.0s
PET Petropavlovsk 57.73 3 *e*P **P 01 33 37.2 +0.9**
comp=Z,39nm,0.9s
PETK Petropavlovsk- 57.76 3 P **P 01 33 38.0 +1.5**
comp=Z,44nm,0.8s,baz=176,slow=8.8,SNR=48
PETK pP **pP 01 34 14.6 -1.4**
comp=Z,24nm,1.0s,baz=172,slow=7.5,SNR=3.7
PETK Petropavlovsk- 57.76 3 P **P 01 33 38.1 +1.5**
PETK *PP **pP 01 34 14.6 -1.4**
PETK pmax pmax
comp=Z,44nm,0.8s
PETK pmax pmax
comp=Z,24nm,1.0s
KMI Kunming 57.96 303 P **P 01 33 41.0 +2.2**
KMI pP **PcP 01 34 24.0 -5.1**
KMI sP sP 01 34 44.0 +7.2
KMI S **S 01 41 27.0 +1.0**
KMI SS **SS 01 45 18.8 -1.3**
KMI PMZ
comp=Z,25nm,1.2s
KMI LN
comp=Z,110nm,18.3s
KMI LE
comp=Z,93nm,20.1s
KMI LZ
comp=Z,120nm,19.5s
PMOR Pomariorio Ree 58.00 105 *e*P **P 01 33 41.7 +2.8**
comp=Z,599nm,1.2s
MEH Mehetia 58.07 108 *e*P **P 01 33 42.2 +2.8**
comp=Z,98nm,0.9s
VAH Vaihoa 58.28 105 *e*P **P 01 33 43.2 +2.4**
comp=Z,365nm,1.1s
LAMP Lampang 58.34 295 P **P 01 33 43.3 +2.1**
comp=Z,9.6nm,0.8s,comp=Z,102nm
CMAR Chiang Mai Arr 58.94 295 P **P 01 33 46.9 +1.5**
comp=Z,10nm,0.7s,baz=117,slow=5.2,SNR=43
CMAR Chiang Mai Arr 58.94 295 P **P 01 33 46.9 +1.5**
CMAR pmax pmax
comp=Z,10.0nm,0.7s
CMMT Chiang Mai 59.04 295 P **P 01 33 47.9 +1.8**
comp=Z,16nm,1.1s
CHTO Chiang Mai 59.05 295 P **P 01 33 47.9 +1.8**
comp=Z,55nm,1.2s
CHTO Chiang Mai 59.05 295 *e*P **P 01 33 46.6 +0.5**
CHTO *e*pP **pP 01 34 22.5 -3.1**
CMAI Chiengmai2 59.30 296 P **P 01 33 50.7 +2.6**
comp=Z,16nm,1.3s
CD2 Chengdu 59.62 310 P **P 01 33 51.0 +1.0**
CD2 pP **pP 01 34 31.0 +1.4**
CD2 sP **sP 01 34 50.3 +2.2**
CD2 PP **PP 01 36 04.5 +0.8**
CD2 PcS **PcS 01 38 38.5 +0.7**
CD2 S **S 01 41 48.0 +1.0**
CD2 sS **sS 01 42 58.3 +2.5**
CD2 SS **SS 01 45 47.8 +2.0**
CD2 PMZ
comp=Z,40nm,0.5s
CD2 PMZ
comp=Z,220nm,5.0s
CD2 LE
comp=Z,440nm,18.0s
CD2 LZ
comp=Z,360nm,12.9s
HHC Hu-ho-hao-te 59.73 324 *e*P **P 01 33 52.3 +1.8**
HHC pP **pP 01 34 31.8 +1.7**
HHC PP **PP 01 36 03.5 -1.0**
HHC S **S 01 41 49.5 +1.4**
HHC sS **sS 01 42 59.0 +2.1**
HHC PMZ
comp=Z,25nm,1.3s
HHC PMZ
comp=Z,120nm,4.3s
HIA Hailar 61.51 335*d i*P **P 01 34 02.7 +0.4**
HIA *e**PP **pP 01 34 40.4 -1.7**
ADK Adak 61.74 20 *e*P **P 01 34 04.5 +0.8**
comp=Z,95nm,0.9s
LZH Lanzhou 62.04 315 *e*P **P 01 34 08.0 +1.7**
LZH pP **PcP 01 34 45.5 +0.3**
LZH sP **sP 01 35 08.8 +4.1**
LZH PP PP 01 36 32.0 +6.9
LZH *e*S **S 01 42 16.0 -1.8**
LZH sS **sS 01 43 28.0 +1.0**
LZH SS **SS 01 46 28.3 +4.6**
LZH PMZ
comp=Z,84nm,1.1s
LZH PMZ
comp=Z,320nm,4.0s
GSTR Great Sitkin T 62.13 20 *e*P **P 01 34 08.4 +2.0**
NIKH Nikolski High 65.52 24 *e*P **P 01 34 30.1 +1.6**
comp=Z,141nm,0.9s
CLNS Chul'man 65.83 343 *e*P **P 01 34 27.3 -3.2**
CLNS pmax pmax
comp=Z,32nm,0.6s
CLNS pmax pmax
comp=N,11nm,0.6s
CLNS pmax pmax
comp=E,7.0nm,0.6s
GTA Gaotai 66.45 317 ⇓P **P 01 34 36.3 +1.4**
GTA pP **pP 01 35 18.5 +3.2**
GTA sP **sP 01 35 38.0 +4.3**
GTA S **S 01 43 11.3 -0.4**
GTA sS **sS 01 44 23.0 +1.1**
GTA SS **SS 01 47 31.3 -0.8**
GTA PMZ
comp=E,26nm,1.6s
GTA PMZ
comp=E,72nm,6.4s
SONM Songino Array 66.94 327 P **P 01 34 38.4 +0.5**
comp=E,14nm,0.5s,baz=142,slow=5.8,SNR=93
SONM pP **pP 01 35 17.7 -0.6**
comp=E,7.5nm,0.6s,baz=147,slow=5.9,SNR=5.0
SONM Songino Array 66.94 327 P **P 01 34 38.4 +0.5**
SONM *PP **pP 01 35 17.7 -0.6**
SONM pmax pmax
comp=Z,14nm,0.5s
SONM pmax pmax
comp=Z,8.0nm,0.6s
UNV Unalaska Valle 67.12 24 *e*P **P 01 34 39.1 +0.5**
comp=Z,73nm,1.2s
SEY Seymchan 67.54 359 P **P 01 34 41.9 +0.8**
comp=Z,23nm,0.9s,baz=172,slow=5.7,SNR=80
SEY Seymchan 67.54 359*d i*P **P 01 34 41.7 +0.6**
CASY Casey 68.38 197 *e*P **P 01 34 46.4 +0.1**
comp=Z,62nm,0.9s
FALS False Pass 69.11 25 *e*P **P 01 34 51.4 +0.4**
comp=Z,26nm,0.7s
YAK Yakutsk 69.20 348 P **P 01 34 52.5 +1.1**
comp=Z,3.7nm,0.3s,baz=216,slow=18,SNR=7.5
YAK Yakutsk 69.20 348 *e*P **P 01 34 52.0 +0.6**
YAK *e* 01 35 10.9
YAK *e**PP **pP 01 35 35.0 +2.9**
YAK *e* 01 37 27.6
YAK *e*PPP PPP 01 39 07.6
YAK *e*S **S 01 43 41.7 -1.5**
YAK *e* 01 44 33.4
YAK *e*SS **SS 01 48 12.1 -1.2**
YAK pmax pmax
comp=Z,80nm,1.0s
YAK pmax pmax
comp=N,26nm,1.1s
YAK pmax pmax
comp=E,16nm,1.3s
YAK pmax pmax
comp=Z,18nm,0.8s
YAK pmax pmax
comp=N,42nm,3.9s
YAK pmax pmax
comp=E,31nm,3.5s
YAK smax smax
comp=N,62nm,3.8s
YAK smax smax
comp=E,35nm,3.5s
LSA Lhasa 69.20 304 P **P 01 34 53.8 +1.1**
LSA Lhasa 69.20 304 *e*P **P 01 34 53.3 +0.6**
comp=E,17nm,0.8s
LSA *e*pP **pP 01 35 29.9 -3.6**
ZAK Zakamensk 70.09 328 *e*P **P 01 34 57.5 +0.2**
ZAK *e* 01 35 37.5
ZAK pmax pmax
comp=Z,20nm,1.1s
BOD Bodaibo 70.20 339 *e*P **P 01 34 57.7 +0.1**
BOD pmax pmax
comp=Z,29nm,0.8s
TLY Talaya 70.66 329 P **P 01 35 01.3 +0.7**
comp=Z,90nm,0.7s,SNR=5.0
TLY Talaya 70.66 329 *i* P **P 01 35 01.4 +0.8**
TLY pmax pmax
comp=Z,14nm,0.9s
TLY Talaya 70.66 329 *e*P **P 01 35 01.2 +0.7**
comp=Z,17nm,0.8s
SDPT Sand Point 70.69 26 *e*P **P 01 35 01.1 +0.4**
comp=Z,93nm,0.8s
TAPN Taplejung 71.41 301 *e*P **P 01 35 07.0 +1.0**
comp=Z,108nm,0.8s
ODAN Odare 71.55 300 *e*P **P 01 35 07.8 +1.0**
comp=Z,177nm,0.7s
MOY Mondy 72.01 328 *e*P **P 01 35 09.8 +1.0**
MOY pmax pmax
comp=Z,31nm,1.3s
CHGN Chignik 72.19 26 *e*P **P 01 35 10.6 +1.0**
RAMN Ramite 72.26 300 *e*P **P 01 35 11.7 +0.7**
comp=Z,40nm,0.6s
CHLP Challavanipeta 72.64 291 *e*P **P 01 35 13.7 +0.7**
CHLP IAmb IAmb 01 35 15.2
comp=Z,48nm,1.0s
VNDA Vanda 72.81 178 P **P 01 35 13.2 +0.2**
comp=Z,8.2nm,0.5s,baz=332,slow=6.5,SNR=81
VNDA Vanda 72.81 178 P **P 01 35 13.2 +0.2**
VNDA pmax pmax
comp=Z,8.0nm,0.5s
VNDA Vanda 72.81 178 *e*P **P 01 35 13.4 +0.4**
comp=Z,16nm,0.8s
VNDA *e*pP **pP 01 35 51.4 -2.7**
GAMB Gambell 73.05 15 *e*P **P 01 35 16.3 +1.8**
comp=Z,45nm,1.1s
GUN Gumba 73.12 301 *e*P **P 01 35 17.2 +1.0**
comp=Z,124nm,0.7s
BILL Bilibino 73.17 5*d i*P **P 01 35 16.1 +0.9**
BILL *i* 01 35 30.9
BILL pmax pmax
comp=Z,73nm,0.8s
BILL Bilibino 73.17 5 *e*P **P 01 35 16.2 +1.1**
SBA Scott Base 73.33 177 *e*P **P 01 35 17.4 +1.4**
comp=Z,39nm,1.4s
SBA *e*pP **pP 01 35 55.4 -1.8**
PKI Pulchoki 73.44 300 *e*P **P 01 35 18.4 +0.4**
PKIN Phulchoki 73.45 300 *e*P **P 01 35 18.8 +0.8**
comp=Z,6.2nm,0.4s
KKN Kakani 73.61 301 *e*P **P 01 35 19.7 +0.8**
DMN Daman 73.71 300 *e*P **P 01 35 20.4 +0.9**
comp=Z,153nm,1.0s
GKN Gorkha 74.21 301 *e*P **P 01 35 22.9 +0.6**
PVM Polavaram 74.68 289 *e*P **P 01 35 25.1 +0.2**
PVM IAmb IAmb 01 35 26.1
comp=Z,16nm,0.8s
OHAK Old Harbor 75.00 27 *e*P **P 01 35 27.3 +1.3**
comp=Z,56nm,0.7s
OHAK *e*pP **pP 01 36 05.1 -2.2**
KOLN Koldanda 75.04 300 *e*P **P 01 35 27.7 +0.5**
comp=Z,64nm,0.8s
KDAK Kodiak Island 75.64 26 P **P 01 35 31.8 +2.2**
comp=Z,272nm,0.9s,SNR=9.8
KDAK Kodiak Island 75.64 26*ce*P **P 01 35 31.7 +2.2**
KDAK Kodiak Island 75.64 26 *e*P **P 01 35 31.0 +1.5**
KDAK *e*pP **pP 01 36 08.1 -2.9**
HVS Khovu-Aksy 75.70 326*d i*P **P 01 35 31.3 +1.0**
HVS pmax pmax
comp=Z,259nm,1.2s
SKHT Srikalahasti 75.94 285 *e*P **P 01 35 32.7 +0.5**
SKHT IAmb IAmb 01 35 33.4
comp=Z,39nm,1.5s
SVW2 Sparrevohn 76.35 23 *e*P **P 01 35 34.2 +0.6**
SVW2 *e*pP **pP 01 36 13.4 -1.6**
WMQ Urumqi 76.53 317 P **P 01 35 35.8 +0.7**
WMQ PcP **PcP 01 35 46.8 +0.8**
WMQ pP **pP 01 36 18.5 +1.9**
WMQ sP **sP 01 36 37.3 +2.6**
WMQ PP **PP 01 38 31.3 +1.7**
WMQ S **S 01 45 07.5 +0.4**
WMQ SS **SS 01 50 06.3 +0.3**
WMQ PMZ
comp=Z,15nm,1.0s
WMQ PMZ
comp=Z,140nm,4.0s
WMQ LN
comp=Z,120nm,7.4s
WMQ LE
comp=Z,120nm,7.4s
WMQ LZ
comp=Z,140nm,12.6s
NJS Nagarjunasagar 76.75 288 *e*P **P 01 35 36.6 -0.2**
NJS IAmb IAmb 01 35 37.6
comp=Z,29nm,1.1s
RCLA Racherla 76.92 287 *e*P **P 01 35 37.3 -0.5**
RCLA IAmb IAmb 01 35 43.5
comp=Z,54nm,1.7s
SRLM Srisailam 77.08 288 *e*P **P 01 35 38.3 -0.3**
SRLM IAmb IAmb 01 35 39.3
comp=Z,34nm,0.8s
RSO Redoubt South 77.09 24 *e*P **P 01 35 39.0 +0.9**
RSO *e*pP **pP 01 36 19.0 -0.5**
RPR Rampur 77.14 290 *e*P **P 01 35 38.2 -0.7**
RPR IAmb IAmb 01 35 39.7
comp=Z,20nm,0.8s
BRLK Bradley Lake 77.47 25 *e*P **P 01 35 40.8 +0.8**
comp=Z,75nm,1.4s
BRLK *e*pP **pP 01 36 19.8 -1.7**
HYB Hyderabad 77.60 289 *i* P **P 01 35 40.5 -1.0**
HYBB Hyderabad (bro 77.60 289 *e*P **P 01 35 40.5 -1.0**
HYBB IAmb IAmb 01 35 42.0
comp=Z,22nm,0.9s
SRSP Sriramsagar 78.04 290 *e*P **P 01 35 43.5 -0.4**
SRSP IAmb IAmb 01 35 44.5
comp=Z,26nm,0.8s
TIXI Tiksi 78.04 352*d i*P **P 01 35 42.5 -0.3**
TIXI pmax pmax
comp=Z,34nm,1.6s
TIXI Tiksi 78.04 352 *e*P **P 01 35 42.8 +0.1**
comp=Z,23nm,1.1s
SEW Seward 78.27 25 *e*P **P 01 35 45.3 +1.1**
SEW *e*pP **pP 01 36 24.2 -1.6**
URV Uravakonda 78.46 286 *e*P **P 01 35 45.9 -0.4**
URV IAmb IAmb 01 35 47.3
comp=Z,30nm,0.7s
RC01 Rabbit Creek A 78.67 24 *e*P **P 01 35 47.4 +0.9**
comp=Z,80nm,1.3s
RC01 *e*pP **pP 01 36 26.2 -2.0**
PPLA Purkeypile 78.71 22 *e*P **P 01 35 47.1 +0.2**
comp=Z,56nm,1.6s
CAST Castle Rocks 79.05 22 *e*P **P 01 35 49.3 +0.8**
CAST *e*pP **pP 01 36 27.9 -2.4**
PMR Palmer 79.19 24 *e*P **P 01 35 50.0 +0.7**
PMR *e*pP **pP 01 36 29.2 -1.8**
KLRI Killari 79.54 289 *e*P **P 01 35 51.2 -0.9**
KLRI IAmb IAmb 01 35 52.7
comp=Z,17nm,0.7s
SML Sawmill 79.62 24 *e*P **P 01 35 52.9 +1.2**
comp=Z,9.8nm,0.9s
SML *e*pP **pP 01 36 31.9 -1.6**
TRF Thorofare Moun 79.74 22 *e*P **P 01 35 52.3 -0.1**
TRF *e*pP **pP 01 36 31.5 -2.7**
TRF *e*PP **PP 01 38 54.0 -2.0**
BPAW Bear Paw Mtn. 79.84 21 *e*P **P 01 35 52.9 +0.1**
comp=Z,3.3nm,1.0s
BPAW *e*pP **pP 01 36 31.9 -2.7**
IM04 Indian Mountai 79.96 19 *e*P **P 01 35 54.5 +1.1**
IM04 *e*pP **pP 01 36 34.0 -1.2**
SCM Sheep Creek Mo 80.05 24 *e*P **P 01 35 55.1 +1.1**
SCM *e*pP **pP 01 36 34.6 -1.2**
RND Reindeer 80.26 23 *e*P **P 01 35 55.1 0.0**
comp=Z,34nm,0.9s
RND *e*pP **pP 01 36 34.7 -2.2**
DIV Divide 80.35 25 *e*P **P 01 35 57.0 +1.4**
DIV *e*pP **pP 01 36 35.8 -1.7**
MCK McKinley 80.40 22 *e*P **P 01 35 55.9 +0.2**
comp=Z,58nm,0.9s
MCK *e*pP **pP 01 36 35.2 -2.4**
BWN Browne 80.44 22 *e*P **P 01 35 56.7 +0.8**
comp=Z,46nm,1.0s
BWN *e*pP **pP 01 36 36.1 -1.7**
MLY Manley 80.45 21 *e*P **P 01 35 56.6 +0.5**
comp=Z,32nm,0.9s
MLY *e*pP **pP 01 36 36.3 -1.6**
RAGM Ragged Mountai 80.47 26 *e*P **P 01 35 57.9 +1.6**
comp=Z,52nm,1.2s
RAGM *e*pP **pP 01 36 36.8 -1.3**
BMRM Bremner River 80.78 26 *e*P **P 01 35 58.9 +1.0**
comp=Z,30nm,1.1s
BMRM *e*pP **pP 01 36 37.9 -1.9**
MK31 Makanchi Array 81.09 319 P **P 01 36 00.2 +0.4**
MK31 pmax pmax
comp=Z,27nm,0.9s
MKAR Makanchi Array 81.09 319 *e*P **P 01 36 00.2 +0.4**
MKAR *e*pP **pP 01 36 39.8 -1.9**
WRH Wood River Hil 81.10 22 *e*P **P 01 35 59.4 0.0**
comp=Z,29nm,1.0s
WRH *e*pP **pP 01 36 38.9 -2.5**
CCB Clear Creek Bu 81.30 22 *e*P **P 01 35 59.9 -0.6**
comp=Z,24nm,1.0s
CCB *e*pP **pP 01 36 39.3 -3.2**
MDM Murphy Dome 81.31 21 *e*P **P 01 36 00.7 +0.1**
comp=Z,27nm,1.2s
MDM *e*pP **pP 01 36 39.2 -3.4**
PAX Paxson 81.36 24 *e*P **P 01 36 01.1 +0.1**
PAX *e*pP **pP 01 36 41.1 -1.9**
COLA College 81.40 22*d i*P **P 01 36 00.7 -0.3**
COLA pmax pmax
comp=Z,230nm,1.2s
COLA College 81.40 22 *e*P **P 01 36 01.0 0.0**
comp=Z,41nm,0.8s
COLA *e*pP **pP 01 36 40.1 -2.9**
HDA Harding Lake 81.49 22 *e*P **P 01 36 01.6 0.0**
comp=Z,11nm,0.7s
ILAR Eielson Array 81.70 22 P **P 01 36 01.8 -0.9**
comp=Z,15nm,0.9s,baz=253,slow=5.4,SNR=117
ILAR Eielson Array 81.70 22 P **P 01 36 01.8 -0.9**
ILAR pmax pmax
comp=Z,15nm,0.9s
ZALV Zalesovo Beam 81.79 326 P **P 01 36 02.5 -0.8**
comp=Z,18nm,0.5s,baz=116,slow=5.6,SNR=75
ZALV Zalesovo Beam 81.79 326 P **P 01 36 02.5 -0.8**
ZALV pmax pmax
comp=Z,18nm,0.5s
COLD Coldfoot 81.86 19 *e*P **P 01 36 04.8 +1.4**
comp=Z,21nm,1.1s
COLD *e*pP **pP 01 36 44.3 -1.0**
PDGK Podgornoye 82.08 315 P **P 01 36 05.4 +0.4**
PDGK pmax pmax
comp=Z,17nm,1.2s
NVS Novosibirsk 82.96 327⇑*i*P **P 01 36 09.2 -0.1**
NVS pmax pmax
comp=N,22nm,1.5s
NVS pmax pmax
comp=E,43nm,1.5s
NVS pmax pmax
comp=Z,68nm,1.5s
KSH Kashi 83.82 310 P **P 01 36 17.0 +2.7**
KSH sP **sP 01 37 17.8 +3.4**
KSH PP **PP 01 39 33.5 +3.5**
KSH SKS **SKSac 01 46 22.3 +0.8**
KSH S **SKKSac 01 46 27.3 +0.5**
KSH sS sS 01 47 44.0 +7.3
KSH PMZ
comp=Z,29nm,0.9s
KSH LN
comp=Z,55nm,4.6s
KSH LE
comp=Z,100nm,3.9s
KSH LZ
comp=Z,130nm,5.4s
HYT Haines Junctio 83.88 27 *e*P **P 01 36 16.0 +1.9**
HYT *e*pP **pP 01 36 55.6 -0.7**
EGAK Eagle 83.88 23 *e*P **P 01 36 14.9 +1.1**
comp=Z,32nm,1.1s
EGAK *e*pP **pP 01 36 55.0 -1.1**
ULHL Ulahol 84.17 313 P **P 01 36 17.2 +1.2**
SNR=11
DAWY Dawson 84.29 24 *e*P **P 01 36 17.3 +1.3**
DAWY *e*pP **pP 01 36 57.1 -1.1**
BESE Bessie Mountai 84.38 30 *e*P **P 01 36 18.4 +1.9**
BESE *e*pP **pP 01 36 57.1 -1.7**
KURK Kurchatov 84.48 322 P **P 01 36 17.2 0.0**
comp=Z,282nm,1.5s,SNR=31
KURK Kurchatov 84.48 322 P **P 01 36 16.7 -0.5**
KURK pmax pmax
comp=Z,51nm,1.6s
KURK Kurchatov 84.48 322 *e*P **P 01 36 17.3 +0.2**
comp=Z,61nm,1.1s
TKM2 Tokmak 2 84.77 314 P **P 01 36 19.9 +0.8**
SNR=33
TKM2 Tokmak 2 84.77 314 P **P 01 36 19.5 +0.4**
TKM2 pmax pmax
comp=Z,24nm,0.7s
TKM2 Tokmak 2 84.77 314 *e*P **P 01 36 19.2 +0.1**
comp=Z,26nm,0.6s
TKM2 *e*pP **pP 01 36 57.3 -4.1**
KZA Kyzart 84.86 313 P **P 01 36 21.5 +1.7**
SNR=36
WRAK Wrangell Islan 85.02 32 *e*P **P 01 36 21.2 +1.5**
comp=Z,52nm,1.5s
WRAK *e*pP **pP 01 37 00.2 -1.7**
KBK Karagaybulak 85.19 313 P **P 01 36 21.9 +0.8**
SNR=12
CHMS Chumysh 85.39 314 P **P 01 36 22.7 +0.7**
SNR=17
UCH Uchtor 85.42 313 P **P 01 36 24.1 +1.4**
SNR=30
FRU Bishkek 85.46 314⇓*i*P **P 01 36 22.0 -0.3**
FRU *i* 01 37 03.0
FRU pmax pmax
comp=Z,60nm,1.8s
AAK Ala-Archa 85.51 313 P **P 01 36 23.7 +1.0**
SNR=9.4
AAK Ala-Archa 85.51 313 *e*P **P 01 36 22.9 +0.2**
comp=Z,23nm,1.0s
AAK *e*pP pP 01 36 59.5 -5.5
USP Ospenovka 85.62 314 P **P 01 36 23.5 +0.4**
SNR=10
SFK Sufi-Kurgan 85.78 311 P **P 01 36 25.0 +0.8**
SFK pmax pmax
comp=Z,77nm,1.4s
AML Almayashu 86.00 313 P **P 01 36 26.7 +1.3**
SNR=12
EKS2 Erkin-Say 86.04 313 P **P 01 36 26.1 +0.9**
SNR=11
EKS2 Erkin-Say 86.04 313 *e*P **P 01 36 25.8 +0.5**
EKS2 *e*pP **pP 01 37 02.9 -4.8**
MAW Mawson 86.04 203 P **P 01 36 24.1 -0.4**
comp=Z,58nm,0.7s,baz=94,slow=5.9,SNR=269
MAW pP **pP 01 37 05.6 -1.3**
comp=Z,14nm,0.6s,baz=95,slow=10,SNR=2.6
MAW Mawson 86.04 203 P **P 01 36 24.1 -0.4**
MAW *PP **pP 01 37 05.6 -1.3**
MAW pmax pmax
comp=Z,58nm,0.7s
MAW pmax pmax
comp=Z,14nm,0.6s
MAW Mawson 86.04 203 *e*P **P 01 36 24.6 +0.1**
comp=Z,13nm,0.7s
MAW *e*pP **pP 01 37 03.7 -3.3**
DLBC Dease Lake 86.76 31 P **P 01 36 29.1 +0.8**
comp=Z,14nm,1.1s,baz=254,slow=5.3,SNR=14
DLBC Dease Lake 86.76 31 *e*P **P 01 36 30.0 +1.7**
DLBC *e*pP **pP 01 37 10.1 -0.7**
KHMM Horse Mountain 87.28 49 *e*P **P 01 36 31.8 +0.4**

comp=Z,27nm,1.1s
L02D Cave Junction, 87.57 48 P P 01 36 34.5 +2.0
baz=88
I03D Drain, OR 87.98 46 P P 01 36 35.7 +1.3
baz=88
M02C Callahan 88.01 48 P P 01 36 35.9 +1.2
baz=88
INK Inuvik 88.02 21 P P 01 36 34.1 +0.1
comp=Z,18nm,1.0s,baz=239,slow=7.0,SNR=14
INK Inuvik 88.02 21 P P 01 36 34.1 +0.1
INK pmax pmax
comp=Z,18nm,1.0s
N02D Trinity Center 88.06 49 P P 01 36 36.7 +1.7
baz=88
HUMO Hull Mountain 88.11 47 *e*P P 01 36 37.3 +2.2
comp=Z,17nm,1.0s
WDC Whiskeytown Da 88.13 49 *e*P P 01 36 36.9 +1.7
comp=Z,8.2nm,0.9s
YBH Yreka Blue Hor 88.17 48 P P 01 36 37.4 +1.9
comp=Z,12nm,0.9s,baz=267,slow=2.1,SNR=21
YBH Yreka Blue Hor 88.17 48 P P 01 36 37.4 +1.9
YBH pmax pmax
comp=Z,12nm,0.9s
YBH Yreka Blue Hor 88.17 48 *e*P P 01 36 37.4 +1.9
comp=Z,14nm,1.0s
KKAR Karatay Array 88.48 313 *e*P P 01 36 36.5 -0.3
KKAR epP pP 01 37 16.6 -2.8
I04A Tendick Farm, 88.67 46 P P 01 36 38.9 +1.2
baz=89
M04C Macdoel 88.82 48 P P 01 36 40.6 +2.1
baz=89
DZET Dzherino 89.19 309 P P 01 36 40.4 0.0
DZET pmax pmax
comp=Z,27nm,0.7s
D05A Enumclaw 89.42 43 *e*P P 01 36 41.4 +0.3
comp=Z,36nm,1.3s
J05D Fort Rock, OR 89.45 47 P P 01 36 42.8 +1.2
baz=90
CMB Columbia Colle 89.48 52 *e*P P 01 36 42.1 +0.4
comp=Z,54nm,2.6s
I05D Terrebonne, OR 89.50 46 P P 01 36 42.9 +1.3
baz=90
PKM Mcpherson Peak 89.59 55 P P 01 36 43.8 +1.4
baz=90
K05A Summer Lake 89.63 47 *e*P P 01 36 43.5 +1.0
comp=Z,81nm,2.3s
BVA0 Borovoye Array 89.93 323 *i* P P 01 36 42.4 -1.0
BVA0 pmax pmax
comp=Z,56nm,1.1s
BRVK Borovoye 90.00 323 P P 01 36 43.5 -0.2
comp=Z,163nm,1.1s,SNR=22
BRVK Borovoye 90.00 323 *d i*P P 01 36 41.9 -1.8
BRVK pmax pmax
comp=Z,50nm,1.7s
BRVK Borovoye 90.00 323 *e*P P 01 36 42.7 -0.9
comp=Z,28nm,1.0s
VES Vestal, Richgr 90.28 54 P P 01 36 46.4 +1.0
baz=90
LTY Liberty 90.32 43 *e*P P 01 36 45.0 -0.4
ISA Isabella, Lake 90.76 54 P P 01 36 48.8 +1.0
baz=91
MWC Mount Wilson 90.97 56 *e*P P 01 36 50.3 +1.4
EDW2 Edwards Air Fo 91.09 55 P P 01 36 51.0 +1.8
baz=91
NVAR Mina Array Bea 91.15 52 P P 01 36 50.8 +1.2
comp=Z,4.1nm,0.5s,baz=259,slow=6.4,SNR=48
WVOR Wild Horse Val 91.26 48 *e*P P 01 36 50.0 0.0
comp=Z,7.5nm,0.8s
G08A Pilot Rock 91.29 45 *e*P P 01 36 50.8 +0.7
comp=Z,18nm,1.4s
B08A Colville Reser 91.33 42 *e*P P 01 36 49.8 -0.3
comp=Z,14nm,1.4s
LRMC Laurel Mtn Rad 91.38 55 P P 01 36 52.7 +2.0
baz=92
DAC Darwin (Calif) 91.53 54 *e*P P 01 36 52.2 +0.8
comp=Z,7.7nm,0.8s
DAC *e*pP pP 01 37 32.8 -1.4
MPMC Manual Prospec 91.59 54 P P 01 36 53.0 +1.2
baz=92
GRAC Grapevine Rang 91.77 53 P P 01 36 54.3 +2.0
baz=92
TPH Tonopah 91.97 52 *e*P P 01 36 54.7 +1.2
comp=Z,20nm,1.5s
TPH *e*pP pP 01 37 33.2 -3.0
E09A Wood Farm, Sta 91.97 44 *e*P P 01 36 53.6 +0.7
comp=Z,28nm,1.4s
C09A Chrisman Ranch 91.99 42 *e*P P 01 36 53.3 +0.3
comp=Z,12nm,1.3s
BAR Barrett 92.00 58 *e*P P 01 36 54.6 +1.1
comp=Z,206nm,0.4s
GSC Goldstone, Bar 92.09 55 P P 01 36 55.1 +1.2
baz=92
GSC Goldstone, Bar 92.09 55 *e*P P 01 36 54.1 +0.3
comp=Z,40nm,0.8s
FURC Furnace Creek, 92.13 54 P P 01 36 55.9 +2.0
baz=92
MONP Monument Peak, 92.23 57 P P 01 36 56.9 +2.1
baz=92
PFO Pinyon Flats O 92.25 57 P P 01 36 56.6 +1.9
baz=92
PFO Pinyon Flats O 92.25 57 *e*P P 01 36 57.0 +2.3
comp=Z,180nm,0.8s
SHOC Shoshone, Teco 92.56 54 P P 01 36 58.2 +2.3
baz=93
F10A Beach Ranch, E 92.56 44 *e*P P 01 36 56.2 +0.4
comp=Z,8.2nm,0.8s
TPNV Topopah Spring 92.66 53 P P 01 36 57.7 +1.2
baz=93
TPNV Topopah Spring 92.66 53 *e*P P 01 36 56.5 -0.1
TPNV *e*pP pP 01 37 38.8 -0.5
BELC Belle Mtn. Jos 92.66 56 P P 01 36 58.0 +1.4
baz=93
SWSC Sam W. Stewart 92.75 57 P P 01 36 57.7 +0.9
baz=93
NEW Newport 92.80 42 P P 01 36 57.4 +0.6
comp=Z,7.7nm,1.0s,baz=264,slow=3.6,SNR=7.9
NEW Newport 92.80 42 P P 01 36 57.4 +0.6
NEW pmax pmax
comp=Z,8.0nm,1.0s
NEW Newport 92.80 42 P P 01 36 57.6 +0.8
baz=93
NEW Newport 92.80 42 *e*P P 01 36 57.3 +0.6
comp=Z,13nm,1.1s
NEW *e*pP pP 01 37 36.8 -2.8
GMRC Granite Mounta 92.99 56 P P 01 36 59.9 +1.8
baz=93
BC3 Big Chuckawall 93.09 57 P P 01 37 00.7 +2.2
baz=93
R11A Troy Canyon, C 93.27 52 P P 01 37 00.8 +1.4
baz=93
R11A Troy Canyon, C 93.27 52 *e*P P 01 37 00.5 +1.1
R11A *e*pP pP 01 37 38.4 -3.8
IRM Iron Mountain 93.37 56 P P 01 37 01.3 +1.6
baz=94
MFID Camas Ranch 93.39 47 *e*P P 01 37 01.2 +1.5
comp=Z,14nm,1.8s
MFID *e*pP pP 01 37 40.7 -1.8
SHPR Sheep Range 93.50 54 *e*P P 01 37 02.5 +2.1
SHPR *e*pP pP 01 37 43.3 +0.1
ELK Elko 93.68 50 P P 01 37 02.5 +1.2
comp=Z,1.6nm,0.5s,baz=227,slow=2.1,SNR=9.5
ELK PP PP 01 40 49.3 +0.6
comp=Z,1.6nm,0.9s,baz=253,slow=6.7,SNR=4.3
ELK Elko 93.68 50 P P 01 37 02.5 +1.2
ELK 01 40 49.3
ELK pmax pmax
comp=Z,2.0nm,0.5s
ELK pmax pmax
comp=Z,2.0nm,0.9s
SYO Syowa Base 94.07 199⇑ *e*P P 01 37 00.0 -2.1
BSMT Bassoo Peak 94.34 42 *e*P P 01 37 04.3 +0.2
HLID Hailey 94.42 47 P P 01 37 06.4 +1.8
baz=94
HLID Hailey 94.42 47 *e*P P 01 37 05.3 +0.7
comp=Z,2.7nm,0.9s
YKA Yellowknife Ar 94.86 28 P P 01 37 06.6 +0.7
comp=Z,8.8nm,1.0s,baz=267,slow=4.6,SNR=17
YKA pP pP 01 37 47.9 -0.7
comp=Z,2.8nm,0.8s,baz=269,slow=4.5,SNR=3.4
YKA Yellowknife Ar 94.86 28 P P 01 37 06.6 +0.7
YKA *PP pP 01 37 47.9 -0.7
YKA pmax pmax
comp=Z,9.0nm,1.0s
YKA pmax pmax
comp=Z,3.0nm,0.8s
MSO Missoula 94.88 44 P P 01 37 08.7 +2.2
baz=95

WALA Waterton Lakes 94.96 41 *e*P P 01 37 08.0 +1.1
comp=Z,1µm,1.5s
WALA *e*pP pP 01 37 46.2 -3.4
CCUT Cedar City 94.99 53 *e*P P 01 37 08.3 +0.9
CCUT *e*pP pP 01 37 47.6 -2.6
CHMT Chamberlain Mo 95.35 43 *e*P P 01 37 08.9 +0.1
BGU Big Grassy Mou 95.36 49 *e*P P 01 37 08.2 -0.7
comp=Z,92nm,2.6s
EDM Edmonton 95.40 37 *e*P P 01 37 09.0 +0.4
EDM *e*pP pP 01 37 49.8 -1.6
KNB Kanab 95.40 53 *e*P P 01 37 10.5 +1.3
comp=Z,30nm,1.4s
DUG Dugway, Tooele 95.50 50 P P 01 37 10.2 +0.7
baz=96
HVU Hansel Valley 95.57 49 *e*P P 01 37 10.0 +0.2
comp=Z,3.4nm,0.9s
MCMT McKenzie Canyo 95.59 46 *e*P P 01 37 11.2 +1.2
DLMT Dillon 95.78 45 *e*P P 01 37 11.3 +0.6
comp=Z,3.4nm,0.9s
SVE Sverdlovsk 95.81 327 *e*P P 01 37 09.4 -0.9
AB31 Akbulak array 96.23 319 *i* P P 01 37 10.5 -1.9
AB31 pmax pmax
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 96.23 319 *e*P P 01 37 10.7 -1.7
BOZ Bozeman (W) 96.46 45 P P 01 37 15.3 +1.5
baz=97
WUAZ Wupatki 96.53 55 P P 01 37 16.8 +2.4
baz=97
WUAZ Wupatki 96.53 55 *e*P P 01 37 14.7 +0.3
comp=Z,20nm,0.8s
FXWY Fox Creek 96.89 47 *e*P P 01 37 15.8 -0.1
comp=Z,2.7nm,0.8s
ARU Arti 96.96 326 P P 01 37 13.4 -2.1
comp=Z,76nm,0.5s,SNR=5.0
ARU Arti 96.96 326 *d i*P P 01 37 13.7 -1.8
ARU *PP pP 01 37 56.8 -1.6
ARU 01 41 10.3
ARU S SKSac 01 47 33.9 -2.3
ARU pmax pmax
comp=Z,15nm,1.2s
ARU Arti 96.96 326 *e*P P 01 37 13.7 -1.8
comp=Z,39nm,1.6s
REDW Red Top Meadow 97.01 47 *e*P P 01 37 16.2 -0.2
comp=Z,4.3nm,1.1s
SRU San Rafael Swe 97.25 51 *e*P Pdif 01 37 18.5 +0.9
comp=Z,4.6nm,1.0s
GEYT Alibeck 97.54 307 P P 01 37 18.3 -0.4
comp=Z,4.1nm,0.8s,baz=128,slow=2.4,SNR=10
EGMT Eagleton 97.72 42 P Pdif 01 37 20.0 +0.7
baz=98
EGMT Eagleton 97.72 42 *e*P Pdif 01 37 19.7 +0.4
comp=Z,26nm,1.6s
BW06 Boulder Array 97.97 48 *e*P P 01 37 20.4 -0.4
comp=Z,2.3nm,0.8s
PDAR Pinedale Array 97.97 48 P Pdif 01 37 20.9 +0.2
comp=Z,1.0nm,0.5s,baz=247,slow=2.0,SNR=10.0
PDAR PP PP 01 41 20.6 -1.1
comp=Z,1.3nm,0.9s,baz=312,slow=5.4,SNR=5.2
B19A Brinkman Farms 98.25 42 P Pdif 01 37 23.0 +1.4
baz=98
A19A Klindworth Far 98.36 41 P Pdif 01 37 23.2 +1.0
baz=98
MVCO Mesa Verde 98.86 53 P Pdif 01 37 26.9 +2.1
baz=99
MVCO Mesa Verde 98.86 53 *e*P Pdif 01 37 26.9 +2.1
comp=Z,42nm,2.0s
C20A Veseth Ranch, 98.91 43 P Pdif 01 37 25.6 +1.0
baz=99
SMCO Snowmass 100.01 51 *e*Pdif **Pdif 01 37 31.0 +0.8**
I22A 9 Mile Ranch, 100.17 46 P **Pdif 01 37 31.4 +1.0**
baz=100
D22A Cohagen 100.18 43 P **Pdif 01 37 31.0 +0.8**
baz=100
A22A Carney Farms, 100.22 41 P **Pdif 01 37 31.5 +1.1**
baz=100
E23A Ismay 100.83 44 P **Pdif 01 37 34.1 +0.9**
baz=101
G23A Biddle 100.86 45 P **Pdif 01 37 34.9 +1.5**
baz=101
H24A Dirks Ranch, A 101.49 45 P **Pdif 01 37 37.0 +0.8**
baz=102
RSSD Black Hills 101.92 46 *e*Pdif **Pdif 01 37 39.0 +0.7**
RSSD *e*PP PP 01 41 45.9 -5.6
SNAA Sanae 102.20 187 PKiKP PKiKP 01 41 52.7 -7.1
TXAR Lajitas Array 103.09 61 PP PP 01 41 58.4 -2.2
comp=Z,1.9nm,1.0s,baz=260,slow=7.5,SNR=7.1
VNA1 Neumayer--Stat 103.78 186 PKiKP PKiKP 01 41 55.5 -7.2
ULM Lac du Bonnet 106.49 39 PKiKP **PKiKP 01 42 07.0 -1.2**
comp=Z,1.3nm,0.7s,baz=185,slow=3.3,SNR=3.2
ARCES ARCESS Array B 107.19 343 Pdiff **Pdif 01 37 58.4 -2.5**
comp=Z,4.1nm,0.9s,baz=51,slow=4.7,SNR=4.5
ARCES PKiKP **PKiKP 01 42 09.2 +0.2**
comp=Z,2.6nm,0.7s,baz=88,slow=2.8,SNR=11
ARCES PKKPbc **PKKPbc 01 53 24.7 -4.2**
comp=Z,2.9nm,1.0s,baz=259,slow=1.2,SNR=5.0
ECSD EROS Data Cent 107.28 46 *e*Pdif **Pdif 01 38 01.8 -0.1**
ECSD *e*PKiKP **PKiKP 01 42 10.9 +1.0**
ECSD *e*PP PP 01 42 29.1 -1.8
HKT Hockley 109.85 60 *e*PKiKP **PKiKP 01 42 15.1 +0.1**
HKT *e*PP PP 01 42 48.0 -2.0
MIAR Mount Ida 111.15 55 *e*PKiKP **PKiKP 01 42 15.7 -1.8**
MIAR *e*PP PP 01 42 56.7 -2.5
FINES FINESS Array B 111.52 336 Pdiff **Pdif 01 38 18.4 -1.9**
comp=Z,0.8nm,0.5s,baz=90,slow=4.6,SNR=14
FINES PKiKP **PKiKP 01 42 16.6 -0.7**
comp=Z,0.6nm,0.5s,baz=114,slow=4.6,SNR=6.7
FINES FINESS Array B 111.52 336 *c i*PKiKP **PKiKP 01 42 16.1 -1.2**
FINES pmax pmax
comp=Z,1.0nm,0.5s
SFIN Lafayette 114.94 48 *e*PKiKP **PKiKP 01 42 22.8 -1.7**
SFIN *e*PP PP 01 43 22.7 -3.1
AKASG Malin Array Be 115.17 325 Pdiff **Pdif 01 38 35.5 -1.2**
comp=Z,0.3nm,0.4s,baz=56,slow=2.3,SNR=4.2
AKASG PKP **PKiKP 01 42 23.7 -0.9**
comp=Z,3.0nm,0.5s,baz=50,slow=2.6,SNR=29
AKASG PKKPbc **PKKPbc 01 52 59.4 -2.8**
comp=Z,1.6nm,0.5s,baz=262,slow=3.8,SNR=8.4
AKASG Malin Array Be 115.17 325 P **Pdif 01 38 35.5 -1.2**
AKASG 01 42 23.7
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG pmax pmax
comp=Z,2.0nm,0.5s
KIEV Kiev 115.18 325 *e*PKiKP **PKiKP 01 42 23.1 -1.6**
BRTR Keskin Array B 116.17 312 PKP **PKPdf 01 42 25.9 -1.1**
comp=Z,0.6nm,0.5s,baz=131,slow=2.2,SNR=8.8
BRTR PP PP 01 43 36.8 +2.2
comp=Z,0.4nm,0.7s,baz=100,slow=6.5,SNR=3.7
BRTR PKKPbc **PKKPbc 01 52 58.0 -0.5**
comp=Z,0.9nm,0.8s,baz=215,slow=4.8,SNR=7.1
BRTR Keskin Array B 116.17 312 *c i*PKiKP **PKPdf 01 42 26.2 -0.9**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
AAM Ann Arbor 116.82 45 *e*PKPdf **PKPdf 01 42 26.8 -1.3**
AAM *e*PP PP 01 43 28.7 -10
NB2 NORSAR Subarra 117.29 341 PKPdf **PKPdf 01 42 27.5 -1.0**
comp=Z,0.9nm,0.5s,baz=35,slow=1.7
NB2 NORSAR Subarra 117.29 341 PKPdf pPKPdf 01 43 06.7 -6.5
comp=Z,1.3nm,1.0s,baz=39,slow=1.9
NOA NORSAR Array B 117.29 341 PKP **PKPdf 01 42 27.8 -0.7**
comp=Z,0.7nm,0.6s,baz=46,slow=2.0,SNR=8.0
NOA NORSAR Array B 117.29 341 PKIKP **PKPdf 01 42 27.8 -0.7**
NOA pmax pmax
comp=Z,1.0nm,0.6s
TIRR Tirgusor 118.22 319 ⇑PKIKP **PKPdf 01 42 30.3 -0.4**
TIRR Tirgusor 118.22 319 ⇑*i*P **PKPdf 01 42 30.3 -0.4**
MANR Mangalia 118.36 318 ⇓*i*P **PKPdf 01 42 31.3 +0.4**
PSN Preselentsi 118.68 318 ⇑PKIKP **PKPdf 01 42 31.6 0.0**
PSN Preselentsi 118.68 318 ⇑*i*P **PKPdf 01 42 31.6 0.0**
TZTN Tazewell 118.68 51 *e*PKPdf **PKPdf 01 42 31.3 -0.6**
TZTN *e*PP PP 01 43 46.4 -5.6
VRI Vrincioaia 118.74 321 ⇑PKIKP **PKPdf 01 42 35.1 +3.4**
VRI Vrincioaia 118.74 321 ⇑*i*P **PKPdf 01 42 35.1 +3.4**
TKL Tuckaleechee C 118.75 52 PKP **PKPdf 01 42 32.0 +0.1**
comp=Z,2.7nm,0.5s,baz=346,slow=4.2,SNR=7.3
TKL Tuckaleechee C 118.75 52 PKIKP **PKPdf 01 42 32.1 +0.1**
TKL pmax pmax
comp=Z,3.0nm,0.5s
MSAB Monastry St. A 118.76 318 ⇑*i*P **PKPdf 01 42 31.8 +0.1**
BURAR Bucovina Array 118.89 323 ⇑PKIKP **PKPdf 01 42 33.0 +1.0**
BURAR Bucovina Array 118.89 323 ⇑*i*P **PKPdf 01 42 33.0 +1.0**
KWP Kalwaria Pacla 119.37 326 *e*PKP **PKPdf 01 42 32.8 0.0**
KWP Kalwaria Pacla 119.37 326 *e*PKIKP **PKPdf 01 42 32.8 0.0**
MLR Muntele Rosu 119.39 321 ⇑PKIKP **PKPdf 01 42 32.9 -0.2**
MLR Muntele Rosu 119.39 321 ⇑*i*P **PKPdf 01 42 32.8 -0.3**

PRD Provadia 119.39 318 ⇑PKIKP **PKPdf 01 42 33.0 0.0**
PRD Provadia 119.39 318 ⇑*i*P **PKPdf 01 42 33.0 0.0**
KOLS Kolonicke sedl 119.97 325 *e*PKIKP **PKPdf 01 42 34.5 +0.6**
KOLS Kolonicke sedl 119.97 325 *e*PKP **PKPdf 01 42 34.5 +0.6**
SCHQ Schefferville 120.26 26 PKP **PKPdf 01 42 34.6 +0.3**
comp=Z,1.7nm,0.6s,baz=282,slow=9.3,SNR=3.1
STHS Stebnicka Huta 120.29 326 *e*PKIKP **PKPdf 01 42 35.1 +0.5**
STHS Stebnicka Huta 120.29 326 *e*PKP **PKPdf 01 42 35.1 +0.5**
BOSA Boshof 120.58 233 PKP **PKPdf 01 42 35.5 -0.3**
comp=Z,4.8nm,0.6s,baz=130,slow=1.2,SNR=18
BOSA Boshof 120.58 233 PKIKP **PKPdf 01 42 35.6 -0.3**
BOSA pmax pmax
comp=Z,5.0nm,0.6s
OJC Ojcow 120.64 328 *e*PKP **PKPdf 01 42 35.3 +0.1**
OJC Ojcow 120.64 328 *e*PKIKP **PKPdf 01 42 35.4 +0.2**
DRGR 120.79 323 ⇓PKIKP **PKPdf 01 42 35.2 -0.5**
DRGR 120.79 323 ⇓*i*P **PKPdf 01 42 35.2 -0.5**
NIE Niedzica 120.80 327 *e*PKP **PKPdf 01 42 35.7 +0.1**
NIE Niedzica 120.80 327 *e*PKIKP **PKPdf 01 42 35.7 +0.1**
RDO Rodhopi 121.48 316 *e*PKPdf **PKPdf 01 42 36.0 -1.1**
OKC Ostrava-Krasne 121.73 328 *e*PKPdf **PKPdf 01 42 37.5 +0.2**
OKC Ostrava-Krasne 121.73 328 *e*PKIKP **PKPdf 01 42 37.5 +0.2**
BZS Buzias 122.03 322 ⇑PKIKP **PKPdf 01 42 37.7 -0.3**
BZS Buzias 122.03 322 ⇑*i*P **PKPdf 01 42 37.7 -0.3**
MORC Moravsky Berou 122.09 328 *e*PKPdf **PKPdf 01 42 35.0 -3.1**
KRLC Kraliky 122.31 329 *e*PKPdf **PKPdf 01 42 38.8 +0.3**
KRLC Kraliky 122.31 329 *e*PKIKP **PKPdf 01 42 38.8 +0.3**
DPC Dobruska-Polom 122.38 329 *e*PKPdf **PKPdf 01 42 38.1 -0.5**
DPC epPKP **pPKPdf 01 43 25.0 +1.7**
DPC Dobruska-Polom 122.38 329 *e*PKIKP **PKPdf 01 42 38.1 -0.5**
DPC *e* 01 43 25.0
UPC Upice 122.44 330 *e*PKPdf **PKPdf 01 42 38.2 -0.4**
UPC Upice 122.44 330 *e*PKIKP **PKPdf 01 42 38.2 -0.4**
VTS Vitosha 122.44 318 ⇑PKIKP **PKPdf 01 42 38.8 -0.3**
VTS Vitosha 122.44 318 ⇑*i*P **PKPdf 01 42 38.8 -0.3**
MMB Musomiste 122.54 317 ⇑PKIKP **PKPdf 01 42 38.3 -0.8**
MMB Musomiste 122.54 317 ⇑*i*P **PKPdf 01 42 38.3 -0.8**
LSZ Lusaka 122.74 249 *e*PKPdf **PKPdf 01 42 39.3 -1.0**
PVCC Panska Ves 123.15 330 *e*PKPdf **PKPdf 01 42 40.3 +0.3**
PVCC Panska Ves 123.15 330 *e*PKIKP **PKPdf 01 42 40.3 +0.3**
BRG Berggiesshubel 123.23 331 *i* PKP **PKPdf 01 42 40.4 +0.3**
comp=Z,7.3nm,0.5s
BRG *e* 01 43 25.7
comp=Z,3.0nm,0.6s
BRG Berggiesshubel 123.23 331 *i* PKIKP **PKPdf 01 42 40.4 +0.3**
BRG *e* 01 43 25.7
BRG pmax pmax
comp=Z,7.0nm,0.5s
CLL Collm 123.40 332 ⇓*i*PKPdf **PKPdf 01 42 40.3 -0.1**
comp=Z,8.0nm,0.5s
CLL *e*pPKPdf **pPKPdf 01 43 21.0 -4.1**
CLL *e* 01 43 24.0
CLL *e* 01 43 27.0
CLL *e*SKPdf **SKPdf 01 45 59.0 -1.0**
CLL Collm 123.40 332 ⇓*i*PKIKP **PKPdf 01 42 40.3 -0.1**
CLL *e* 01 43 21.0
CLL pmax pmax
comp=Z,8.0nm,0.5s
CLL Collm 123.40 332 *e*PKPdf **PKPdf 01 42 39.5 -0.9**
GOPC GO Pecny, Ondr 123.42 330 *e*PKPdf **PKPdf 01 42 40.4 -0.2**
TREC Trest 123.45 329 *e*PKPdf **PKPdf 01 42 40.3 -0.3**
TREC *e*pPKP **pPKPdf 01 43 25.8 +0.4**
TREC Trest 123.45 329 *e*PKIKP **PKPdf 01 42 40.3 -0.3**
TREC *e* 01 43 25.8
PKSM Moragy 123.49 324 ⇓PKIKP **PKPdf 01 42 40.9 +0.1**
PKSM Moragy 123.49 324 ⇓*i*P **PKPdf 01 42 40.9 +0.1**
PRU Pruhonice 123.50 330 *e*PKPdf **PKPdf 01 42 40.8 +0.1**
PRU *e*pPKP **pPKPdf 01 43 27.4 +2.0**
PRU Pruhonice 123.50 330 *e*PKIKP **PKPdf 01 42 40.8 +0.1**
PRU *e* 01 43 27.4
PRA Prague 123.50 330 *e*PKPdf **PKPdf 01 42 41.1 +0.4**
PRA Prague 123.50 330 *e*PKIKP **PKPdf 01 42 41.1 +0.4**
DIVS Divibare 123.79 321 ⇑*i*P **PKPdf 01 42 41.5 0.0**
CONA Conrad Observa 124.08 327 *i* PKiKP **PKiKP 01 42 42.1 -0.1**
comp=Z,3.6nm,0.5s,SNR=5.8
NKC Novy Kostel 124.37 331 *e*PKPdf **PKPdf 01 42 42.4 0.0**
NKC *e*pPKP **pPKPdf 01 43 25.5 -1.6**
NKC Novy Kostel 124.37 331 *e*PKIKP **PKPdf 01 42 42.4 0.0**
NKC *e* 01 43 25.5
KHC Kasperske Hory 124.53 329 *e*PKPdf **PKPdf 01 42 42.8 +0.1**
KHC *e*pPKP **pPKPdf 01 43 25.6 -1.9**
KHC *ex* x 01 43 29.5
KHC Kasperske Hory 124.53 329 *e*PKIKP **PKPdf 01 42 42.8 +0.1**
KHC *e* 01 43 25.6
KHC Kasperske Hory 124.53 329 *e*PKPdf **PKPdf 01 42 41.3 -1.5**
AGG Agios Georgios 124.60 315 *e*PKPdf **PKPdf 01 42 39.8 -3.4**
GEC2 GERESS Array S 124.65 329 *e*PKPdf **PKPdf 01 42 42.1 -1.0**
GERES GERESS Array B 124.65 329 PKP **PKPdf 01 42 42.9 -0.2**
comp=Z,5.3nm,0.5s,baz=65,slow=1.9,SNR=88
GERES GERESS Array B 124.65 329 PKIKP **PKPdf 01 42 42.9 -0.2**
GERES pmax pmax
comp=Z,5.0nm,0.5s
PQI Presque Isle 124.75 34 *e*PKPdf **PKPdf 01 42 42.5 -0.7**
MOA Molln 124.98 328 ⇑*i*PKiKP **PKPdf 01 42 43.4 -0.2**
comp=Z,1.9nm,0.5s
PERS Pernice 125.26 326 *e*PKPdf **PKPdf 01 42 43.8 -0.4**
SOKA Soboth 125.28 326 ⇑*i*PKiKP **PKPdf 01 42 44.0 -0.3**
comp=Z,2.7nm,0.7s
GRF Grafenberg Arr 125.33 331 *e*PKPdf **PKPdf 01 42 44.4 +0.2**
BOJS Bojanci 125.85 325 *i* PKPdf **PKPdf 01 42 45.8 +0.5**
CEY Cerknica 126.18 326 *e*PKPdf **PKPdf 01 42 46.1 +0.1**
CEY *i* pPKPdf **pPKPdf 01 43 32.9 +2.2**
ATAH Atahualpa 126.41 102 PKP **PKPdf 01 42 48.8 +1.0**
comp=Z,10nm,0.8s,baz=206,slow=2.4,SNR=5.8
WATA Walderalm 126.71 329 ⇓*i*PKiKP **PKPdf 01 42 47.0 -0.1**
comp=Z,5.2nm,0.5s,SNR=5.7
WTTA Wattenberg 126.73 329 ⇑*i*PKiKP **PKPdf 01 42 46.9 -0.3**
comp=Z,6.5nm,0.5s,SNR=6.0
MOTA Moosalm 126.95 329 ⇑*i*PKiKP **PKPdf 01 42 47.3 -0.3**
comp=Z,7.9nm,0.5s,SNR=8.2
MEM Membach 127.03 335 *e*PKPdf **PKPdf 01 42 47.1 -0.3**
DAVA Damuels 127.61 330 ⇓*i*PKiKP **PKiKP 01 42 49.2 -0.2**
comp=Z,4.9nm,0.6s
BFO Black Forest 127.64 332 *c i*PKIKP **PKPdf 01 42 49.0 +0.3**
WLF Walferdange 127.67 334 PKP **PKPdf 01 42 47.5 -1.1**
FUORN Ofenpass-Fuorn 127.86 329 *e*PKPdf **PKPdf 01 42 47.6 -1.9**
DOU Dourbes 128.00 335 PKP **PKPdf 01 42 48.6 -0.7**
AQU L'Aquila 128.77 323 ⇑PKHKP PKPpre 01 42 32.1
AQU L'Aquila 128.77 323 ⇑*i*P PKPpre 01 42 32.1
LVC Limon Verde 130.01 125 PKP **PKPdf 01 42 55.2 +0.9**
comp=Z,1.4nm,0.6s,baz=288,slow=7.3,SNR=6.5
BNI Bardonecchia 130.76 330 *e*PKPdf **PKPdf 01 42 53.2 -1.7**
CLTB Caltabellotta 131.57 318 *e*PKPdf **PKPdf 01 42 55.3 -1.3**
ROSC El Rosal 131.87 88 PKHKP PKPpre 01 42 46.4
comp=Z,2.0nm,0.4s,baz=287,slow=18,SNR=1.6
ROSC PKP **PKPdf 01 42 58.2 +0.1**
comp=Z,5.8nm,0.5s,baz=284,slow=4.6,SNR=6.0
ROSC El Rosal 131.87 88 *e*PKPdf **PKPdf 01 42 57.1 -1.0**
LPAZ La Paz 133.38 118 PKHKP PKPpre 01 42 50.3
comp=Z,1.6nm,0.6s,baz=322,slow=4.2,SNR=8.8
LPAZ PKP **PKPdf 01 43 01.6 +0.4**
comp=Z,7.0nm,0.7s,baz=304,slow=3.7,SNR=22
KEST Kesra 135.18 318 PKP **PKPdf 01 43 03.4 0.0**
comp=Z,0.8nm,0.5s,baz=44,slow=1.9,SNR=19
KEST Kesra 135.18 318 *e*PKPdf **PKPdf 01 43 04.7 +1.2**
SDV Santo Domingo 135.54 82 *e*PKPdf **PKPdf 01 43 04.2 -0.6**
CPUP Villa Florida 136.68 137 PKHKP PKPpre 01 42 55.4
comp=Z,2.6nm,0.8s,baz=273,slow=4.3,SNR=3.3
CPUP PKP **PKPdf 01 43 06.2 -0.2**
comp=Z,10.0nm,0.9s,baz=172,slow=4.9,SNR=5.2
AOPR Arecibo Observ 138.00 68 *e*PKPdf **PKPdf 01 43 08.8 -0.2**
OBIP Obispado Ponce 138.21 68 *e*PKPdf **PKPdf 01 43 09.2 -0.2**
SJG San Juan 138.61 68 *e*PKPdf **PKPdf 01 43 07.2 -2.8**
SJG *e*PP PP 01 45 54.5 -8.1
HUMP Col San Antoni 138.88 68 *e*PKPdf **PKPdf 01 43 10.1 -0.4**
SIV San Ignacio 139.64 121 PKHKP PKPpre 01 43 02.7
comp=Z,1.8nm,0.6s,baz=254,slow=6.8,SNR=4.6
SIV PKP **PKPdf 01 43 12.2 +0.1**
comp=Z,4.0nm,0.7s,baz=289,slow=3.0,SNR=7.1
STVI Saint Thomas 139.65 67 *e*PKPdf **PKPdf 01 43 11.3 -0.7**
PGAV Gavieira, Arco 139.73 339 *e*PKPdf **PKPdf 01 43 12.1 +0.5**
PGAV Gavieira, Arco 139.73 339 *e*PKPdf **PKPdf 01 43 12.1 +0.5**
PCAB Cabril 139.87 339 *e*PKIKP **PKiKP 01 43 14.6 +0.3**
PCAB Cabril 139.87 339 *e*PKIKP **PKiKP 01 43 14.6 +0.3**
ESDC Sonseca Array 139.95 333 PKHKP PKPpre 01 43 04.4
comp=Z,0.4nm,0.5s,baz=11,slow=3.7,SNR=4.2
ESDC PKP **PKPdf 01 43 12.7 +0.6**
comp=Z,0.8nm,0.5s,baz=3.6,slow=2.9,SNR=7.8
ESDC PP PP 01 46 07.5 -2.0
comp=Z,1.5nm,0.8s,baz=29,slow=6.3,SNR=8.3
MVO Moncorvo 139.98 338 *e*PKPdf **PKPdf 01 43 12.8 +0.7**
MVO Moncorvo 139.98 338 *e*PKIKP **PKiKP 01 43 15.0 +0.5**
MVO Moncorvo 139.98 338 *e*PKPdf **PKPdf 01 43 12.8 +0.7**

MVO	**Moncorvo**	**139.98**	**338**	*e*PKiKP	**PKiKP**	**01 43 15.0**	**+0.5**
POLO	**Lamas de Olo**	**140.08**	**338**	*i* P	PKPdf	01 43 06.6	-5.7
POLO	**Lamas de Olo**	**140.08**	**338**	*e*PKiKP	**PKiKP**	**01 43 15.2**	**+0.4**
POLO	**Lamas de Olo**	**140.08**	**338**	*i* P	PKPdf	01 43 06.6	-5.7
POLO	**Lamas de Olo**	**140.08**	**338**	*e*PKiKP	**PKiKP**	**01 43 15.2**	**+0.4**
SAML	**Samuel**	**140.52**	**110**	*e*PKPdf	**PKPdf**	**01 43 13.5**	**-0.2**
PMRV	**Marv??o**	**141.61**	**337**	*e*PKPdf	**PKPdf**	**01 43 10.3**	**-4.7**
PMRV	**Marv??o**	**141.61**	**337**	*e*PKPdf	**PKPdf**	**01 43 10.3**	**-4.7**
PBAR	**Barrancos**	**142.53**	**335**	*e*PKPdf	**PKPdf**	**01 43 16.9**	**+0.3**
PBAR	**Barrancos**	**142.53**	**335**	*e*PKPdf	**PKPdf**	**01 43 16.9**	**+0.3**
PNCL	**Nicolau / Gran**	**143.19**	**337**	*e*PKPdf	PKPbc	01 43 15.8	+0.6
PNCL	**Nicolau / Gran**	**143.19**	**337**	*e*PKPdf	PKPbc	01 43 15.8	+0.6
MESJ	**Messejana**	**143.31**	**336**	*e*PKPdf	**PKPdf**	**01 43 16.9**	**-1.1**
MESJ				*i* P	**PKiKP**	**01 43 19.5**	**-1.9**
MESJ	**Messejana**	**143.31**	**336**	*e*PKPdf	**PKPdf**	**01 43 16.9**	**-1.1**
MESJ				*i* P	**PKiKP**	**01 43 19.5**	**-1.9**
PBDV	**Barranco-do-Ve**	**143.70**	**335**	*e*PKPdf	**PKPdf**	**01 43 19.3**	**+0.5**
PBDV	**Barranco-do-Ve**	**143.70**	**335**	*e*PKiKP	**PKiKP**	**01 43 22.1**	**-0.1**
PBDV	**Barranco-do-Ve**	**143.70**	**335**	*e*PKPdf	**PKPdf**	**01 43 19.3**	**+0.5**
PBDV	**Barranco-do-Ve**	**143.70**	**335**	*e*PKiKP	**PKiKP**	**01 43 22.1**	**-0.1**
PTEO	**Sao Teotonio**	**143.76**	**336**	*e*PKPdf	**PKPdf**	**01 43 18.4**	**-0.4**
PTEO	**Sao Teotonio**	**143.76**	**336**	*e*PKPdf	**PKPdf**	**01 43 18.4**	**-0.4**
FDF	**Fort de France**	**144.05**	**71**	*e*P	**PKPdf**	**01 43 21.0**	**+1.0**
FDF				*e*S	**PKPdf**	**01 43 23.0**	**+3.0**
TRMF	**Trois Ilets**	**144.18**	**72**	*e*P	**PKPdf**	**01 43 20.5**	**+0.4**
ZAM	**Aeronautique**	**144.19**	**72**	*e*P	**PKPdf**	**01 43 20.2**	**+0.1**
LPMF	**Morne Lapointe**	**144.25**	**72**	*e*P	PKPbc	01 43 19.2	+0.3
MVM	**Montagne Vaucl**	**144.32**	**72**	*e*P	PKPbc	01 43 19.5	+0.3
PTGA	**Pitinga**	**145.65**	**98**	PKPbc	**PKPdf**	**01 43 22.9**	**+0.1**
	comp=Z,30nm,0.6s,baz=260,slow=3.1,SNR=64						
PTGA	**Pitinga**	**145.65**	**98**	*e*PKPdf	**PKPbc**	**01 43 23.1**	**-0.3**
BDFB	**Brasília**	**150.23**	**133**	PKP	**PKPdf**	**01 43 30.7**	**+0.3**
	comp=Z,62nm,0.8s,baz=198,slow=2.2,SNR=6.6						
BDFB				PKPbc	**PKPbc**	**01 43 35.3**	**-0.3**
	comp=Z,41nm,0.5s,baz=213,slow=2.5,SNR=56						
TOC1	**Torodi Ar. Sit**	**151.41**	**289**	*e*P	**PKPbc**	**01 43 37.0**	**-1.3**
TORD	**Torodi Ar. Bea**	**151.42**	**289**	PKP	**PKPdf**	**01 43 31.2**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=2.0,slow=2.2,SNR=11						
TORD				PKPbc	**PKPbc**	**01 43 37.2**	**-1.1**
	comp=Z,18nm,0.6s,baz=59,slow=2.4,SNR=184						
TORD				PKPab	**PKPab**	**01 43 46.2**	**-1.0**
	comp=Z,25nm,1.0s,baz=85,slow=3.4,SNR=18						
KIC	**Kosan Boka**	**158.77**	**275**	*e*P	**PKPab**	**01 44 18.1**	**-0.6**
	comp=Z,41nm,0.7s						
DBIC	**Dimbokro**	**158.86**	**276**	PKP	**PKPdf**	**01 43 42.4**	**+0.2**
	comp=Z,5.7nm,0.9s,baz=16,slow=1.5,SNR=3.8						
DBIC				PKPab	**PKPab**	**01 44 18.8**	**-0.3**
	comp=Z,11nm,0.5s,baz=74,slow=3.7,SNR=23						
DBIC	**Dimbokro**	**158.86**	**276**	PKIKP	**PKPdf**	**01 43 42.4**	**+0.2**
DBIC						01 44 18.8	
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
DBIC				pmax	pmax		
	comp=Z,11nm,0.5s						
DBIC	**Dimbokro**	**158.86**	**276**	*e*PKPdf	**PKPdf**	**01 43 38.7**	**-3.5**
DBIC				*e*PKPab	**PKPab**	**01 44 17.6**	**-1.4**
TIC	**Toumodi**	**159.03**	**276**	*e*P	**PKPab**	**01 44 19.8**	**0.0**
LIC	**Lamto**	**159.06**	**275**	*e*P	**PKPab**	**01 44 19.0**	**-0.9**
	comp=Z,77nm,1.4s						

JMA 29 01:35:59.4±0.3, 33°.03N×142°.10E, h0km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.87**	**330**	S	Sb	01 36 57.1	-0.1
BSO2	**Boso 2**	**2.05**	**327**	S	Sb	01 37 02.8	-0.1
BSO3	**Boso 3**	**2.21**	**324**	S	Sb	01 37 06.9	-0.6
BSO4	**Boso 4**	**2.44**	**324**	P	Pn	01 36 41.7	+1.3
BSO4				S	Sb	01 37 13.2	-1.4
JIM2	**Oshima 3**	**2.79**	**308**	S	Sn	01 37 20.7	+1.0
JAG	**Ashikaga**	**4.03**	**328**	S	Sn	01 37 51.0	+0.7

DJA 29 01:36:45.5±0.7, 10°.5S±4°.×107°.7E±°, h10km, M4.0/9, MLv4.0/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**2.34**	**16**	P	Pn	01 37 24.7	+0.6
CISI				S	Sn	01 37 54.1	+1.1
CMJI	**Cimerak**	**2.38**	**32**	P	Pn	01 37 24.2	-0.5
CMJI				S	Sn	01 37 53.2	-0.8
CNJI	**Cibinong**	**2.50**	**359**	P	Pn	01 37 25.6	-0.6
CNJI				S	Sn	01 37 57.3	+0.6
LEM	**Lembang**	**3.01**	**9**	P	Pn	01 37 33.3	-0.2
LEM				S	Sn	01 38 12.0	+2.3
KPJI	**Karang Pucung**	**3.02**	**35**	P	Pn	01 37 33.4	-0.1
KPJI				S	Sn	01 38 12.0	+2.3
CGJI	**Cibinong**	**3.50**	**335**	P	Pn	01 37 39.6	-0.5
CGJI				S	Sn	01 38 22.6	+0.9
PCJI	**Pacitan**	**4.28**	**68**	P	Pn	01 37 50.6	-0.1
PWJI	**Pagerwojo**	**4.92**	**69**	P	Pn	01 37 57.6	-1.9

IDC 29 01:37:45.4±6.1, 9°.58S×161°.57E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/39, mbtmp4.0/3, Error ellipse: s-maj=187.3km s-min=43.1km az=121.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.60**	**275**	*e*P	Pn	01 38 15.0	0.0
HNR				*e*S	Sn	01 38 34.0	-2.4
WRA	**Warramunga Arr**	**28.23**	**246**	P	P	01 43 40.3	0.0
	1.5nm,0.7s,baz=74,slow=9.6,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.35**	**10**	T	T	02 12 37.0	
	baz=193,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**28.35**	**10**	T	T	02 12 38.8	
	baz=193,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**28.37**	**10**	T	T	02 12 41.1	
	baz=193,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**29.58**	**10**	T	T	02 14 06.2	
	baz=192,slow=76,SNR=114						
H11N3	**WAKE ISLAND Hy**	**29.59**	**10**	T	T	02 14 04.9	
	baz=192,slow=76,SNR=85						
H11N2	**WAKE ISLAND Hy**	**29.60**	**10**	T	T	02 14 08.1	
	baz=192,slow=76,SNR=199						
ASAR	**Alice Springs**	**29.90**	**239**	P	P	01 43 55.2	+0.1
	0.7nm,0.4s,baz=62,slow=10,SNR=12						
ZALV	**Zalesovo Beam**	**89.98**	**325**	P	P	01 50 46.6	-0.1
	0.4nm,0.4s,baz=95,slow=6.5,SNR=2.1						

*ECX **29** 01:38:01.3±0.6, 32°.31N×115°.39W, h4km, MD3.4, ML3.6*
*NEIC **29** 01:38:01.4, 32°.30N×115°.38W, h8km, ML3.5(ECX), ML3.5(PAS), After ECX.*

ISC 29 01:37:59.9±1.2, 32°.27N±0°.02×115°.37W±0°.02, h2km±11km, n36, σ1°54/54, 8C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.16**	**22**	*e*P	**Pg**	**01 38 03.4**	**+0.5**
CPBX				*e*S	**Sg**	**01 38 05.3**	**+0.3**
CPBX				*e*		01 38 09.4	
CPBX				IAML		01 38 09.4	
	comp=E,42μm,0.3s						
SGL	**Mount Signal**	**0.48**	**322**	*i*P	**Pg**	**01 38 09.2**	**+0.1**
EMSC	**East Mesa**	**0.57**	**35**	*i*P	**Pg**	**01 38 11.5**	**+0.7**
WESC	**Westside Schoo**	**0.57**	**328**	*i*P	**Pg**	**01 38 11.2**	**+0.4**
RDX	**Rancho Dawling**	**0.59**	**235**	*e*P	**Pg**	**01 38 11.8**	**+0.5**
RDX				IAML		01 38 22.4	
	comp=N,3μm,0.5s						
RDX				*e*		01 38 22.4	
YUH	**Yuha Desert**	**0.60**	**309**	*i*P	**Pg**	**01 38 11.0**	**-0.3**
COA	**Coachella**	**0.63**	**20**	*i*P	**Pg**	**01 38 12.1**	**+0.2**
COK	**Cook Ranch**	**0.65**	**333**	*e*Pn	**Pg**	**01 38 12.5**	**+0.2**
RMX	**La Rumorosa**	**0.68**	**299**	*e*P	**Pg**	**01 38 12.7**	**-0.2**
RMX				*e*S	**Sg**	**01 38 22.5**	**+0.7**
BTCC	**Brunts Corner**	**0.75**	**10**	*i*P	**Pg**	**01 38 13.7**	**-0.5**
YMD	**Yuma Desert**	**0.76**	**68**	*i*P	**Pg**	**01 38 14.2**	**-0.2**
CRR	**Carrizo Plain**	**0.79**	**321**	*i*P	**Pg**	**01 38 14.8**	**-0.3**
ECBX	**El Chinero**	**0.84**	**161**	*e*P	**Pg**	**01 38 15.8**	**-0.3**
ECBX				*e*S	**Sg**	**01 38 28.0**	**+1.0**
GLA	**Glamis**	**0.90**	**31**	*e*Pg	**Pg**	**01 38 15.8**	**-1.4**
GLA				*e*S	**Sg**	**01 38 27.8**	**-1.2**
CBX	**Cerro Bola**	**1.09**	**272**	*e*P	**Pg**	**01 38 20.5**	**-0.3**
CBX				*e*S	**Sg**	**01 38 34.8**	**-0.2**
CBX				*e*		01 38 37.0	
CBX				IAML		01 38 37.0	
	comp=N,2μm,0.3s						
BAR	**Barrett**	**1.17**	**291**	*e*Pn	**Pg**	**01 38 21.4**	**-0.9**
BAR				*e*S	**Sg**	**01 38 36.4**	**-1.1**
BAR	**Barrett**	**1.17**	**291**	*i*P	**Pg**	**01 38 21.2**	**-1.1**
ECNX	**Esteban Cantu**	**1.21**	**240**	*e*P	**Pg**	**01 38 22.8**	**-0.2**
ECNX				*e*S	**Sg**	**01 38 38.8**	**+0.1**
SPIG	**San Pedro Mart**	**1.23**	**184**	*i* P	**Pn**	**01 38 22.8**	**-1.5**
SPX	**San Pedro Mart**	**1.23**	**184**	*e*P	**Pn**	**01 38 22.8**	**-1.5**
SPX				*e*S	**Sg**	**01 38 40.8**	**+1.5**
PBX	**Punta Banda**	**1.26**	**246**	*e*P	**Pn**	**01 38 23.7**	**-0.8**
PBX				*e*S	**Sg**	**01 38 40.5**	**0.0**
PFO	**Pinyon Flats O**	**1.61**	**326**	*e*Pn	Pn	01 38 26.6	-2.9
PFO				*e*S	**Sn**	**01 38 47.9**	**-3.0**
214A	**Organ Pipe Nat**	**2.20**	**98**	*e*Pn	Pn	01 38 35.0	-2.3
214A				*e*S	**Sb**	**01 39 09.0**	**+1.0**
PASC	**Pasadena Art C**	**3.02**	**310**	*e*Pn	**Pn**	**01 38 49.9**	**+1.1**
PASC				*e*S	**Sb**	**01 39 32.9**	**+1.1**
GSC	**Goldstone, Bar**	**3.25**	**339**	*e*Pn	**Pn**	**01 38 53.0**	**+1.1**
GSC				*e*Pg	**Pg**	**01 39 02.4**	**+0.2**
TUC	**Tucson**	**3.89**	**88**	*e*Pn	**Pn**	**01 39 02.2**	**+1.6**
TUC				*e*S	**Sg**	**01 40 03.2**	**-1.6**
SHPR	**Sheep Range**	**4.23**	**2**	*e*Pn	**Pn**	**01 39 05.6**	**+0.2**
SHPR				*e*Pg	**Pg**	**01 39 22.5**	**+1.6**
SHPR				*e*S	**Sb**	**01 40 11.5**	**+5.0**
DAC	**Darwin (Calif)**	**4.40**	**336**	*e*Pn	**Pn**	**01 39 10.5**	**+2.7**
DAC				*e*S	**Sg**	**01 40 19.2**	**-2.0**
WUAZ	**Wupatki**	**4.64**	**45**	*e*Pn	Pn	01 39 07.3	-3.8
WUAZ				*e*S	Sg	01 40 35.6	+6.6
W18A	**Petrified Fore**	**5.49**	**57**	*e*Pn	**Pn**	**01 39 23.1**	**+0.3**
	comp=N,8.8nm,0.5s						
CCUT	**Cedar City**	**5.52**	**17**	*e*Pn	**Pn**	**01 39 23.5**	**+0.3**
	comp=N,5.1nm,0.8s						
CCUT				*e*Pg	Pg	01 39 43.0	-2.7
CCUT				*e*S	**Sg**	**01 40 52.7**	**-4.5**
R11A	**Troy Canyon, C**	**6.07**	**358**	Pn	**Pn**	**01 39 31.2**	**+0.5**
R11A				*e*Pg	**Pg**	**01 39 54.8**	**-1.3**
R11A				*e*S	Sb	01 41 07.2	+7.7
121A	**Cookes Peak, D**	**6.42**	**86**	*e*Pn	**Pn**	**01 39 35.1**	**-0.5**
	comp=N,5.9nm,0.3s						
MVU	**Marysvale**	**6.73**	**22**	*e*Pn	Pn	01 39 43.6	+3.7
	comp=N,6.4nm,0.8s						
MVU				*e*Pg	**Pg**	**01 40 07.2**	**-1.7**
MVU				*e*S	**Sg**	**01 41 32.9**	**-3.2**
MSU	**Marysvale**	**6.75**	**22**	*e*Pn	**Pn**	**01 39 42.0**	**+1.9**
	comp=N,5.2nm,0.6s						
MVCO	**Mesa Verde**	**7.50**	**47**	*e*Pn	**Pn**	**01 39 52.0**	**+1.5**
	comp=N,5.5nm,0.6s						
MVCO				*e*S	**Sg**	**01 42 01.9**	**+1.2**

*IDC **29** 01:39:58.1±0.3, 37°.81S×73°.43W, h0km, mb5.5/21, mb1 5.6/24, mb1mx5.6/26, mbtmp5.5/24, ML4.8/3, MS5.0/13, Ms1 4.9/13, ms1mx4.8/18, Error ellipse: s-maj=16.2km s-min=11.5km az=88.0*
*NEIC **29** 01:40:00.6±0.1, 37°.84S×73°.28W, h17km, mb6.0/202, ME5.2, MS5.2/255, ML6.1(GUC), Error ellipse: s-maj=5.1km s-min=3.3km az=81.0, Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [VI] at Angol, Canete, Lebu, Puerto Saavedra, Queule and Tolten; [V] at Chillan, Concepcion, Los Angeles, Renaico, Temuco and Tome; [IV] at Cauquenes, Chiguayante, Colbun, Constitucion, La Laja, Loncoche, Longavi, Pelluhue, Retiro, San Rosendo and Talcahuano. Felt widely in central Chile from Santiago to Osorno.
*GUC **29** 01:40:00.2±0.5, 37°.88S×73°.62W, h25km±3km, ML6.1*
*GCMT **29** 01:40:00.6±0.1, 37°.91S×73°.72W, h19km, MW5.5/104, Moment Tensor Solution. s75,c127; s104,c219; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr 1.56±.03; Mθθ-0.98±.02; Mφφ-0.57±.03; Mrθ 1.67±.07; Mθφ 1.04±.02; Mφr-0.37±.06; Best double couple: M=2.42200×10^17 NP1:φs110.00000°, δ69.00000°, λ73.00000°. NP2:φs330.00000°, δ27.00000°, λ126.00000°. Principal axes: T 2.3940, Plg63.0000°, Azm354.0000°; N 0.0610, Plg16.0000°, Azm117.0000°; P -2.4500, Plg22.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*ISCJB **29** 01:40:02.0±0.1, 37°.78S±0°.02×73°.34W±0°.04, h33km, mb5.9/255, MS5.2/292 Error ellipse: s-maj=4.6km s-min=3.1km az=168.5*
*MOS **29** 01:40:02.6±0.8, 37°.79S×73°.61W, h33km, mb6.0/40, MS5.3/27, Error ellipse: s-maj=19.5km s-min=11.1km az=79.0*

ISC 29 01:40:01.4±0.6, 37°.84S±0°.03×73°.49W±0°.04, h23km±3km, h21km:pP-P, n1461, σ1°17/1512, mb6.0/247, MS5.2/293, 95C-31D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**0.96**	**175**	*i*P	**Pn**	**01 40 18.1**	**-1.3**
PSCH				*i* S	**Sb**	**01 40 30.9**	**-0.7**
CCSP	**San Pedro de C**	**1.04**	**17**	*e*P	**Pb**	**01 40 20.7**	**-0.1**
VLCH	**Valdivia**	**1.97**	**174**	*i*P	**Pn**	**01 40 32.2**	**-1.1**
VLCH				*i* S	**Sn**	**01 40 57.7**	**+0.4**
LNCH	**Linares**	**2.50**	**38**	*e*P	**Pb**	**01 40 43.2**	**-2.5**
LNCH				*e*S	**Sb**	**01 41 16.0**	**-0.1**
OSCH	**Osorno**	**2.74**	**174**	*i* P	**Pn**	**01 40 44.6**	**+0.6**
OSCH				*i* S	**Sn**	**01 41 18.9**	**+2.5**
TALC	**Talca**	**2.86**	**32**	*e*P	**Pn**	**01 40 46.4**	**+0.8**
TALC				*e*S	**Sb**	**01 41 22.6**	**-3.8**
NICH	**Los Niches**	**3.37**	**33**	*e*P	**Pn**	**01 40 53.1**	**+0.4**
NICH				*e*S	**Sn**	**01 41 35.0**	**+3.0**
CFAA	**Coronel Fontan**	**7.58**	**36**	Pn	**Pn**	**01 41 49.4**	**-1.1**
	3.4nm,0.3s,baz=239,slow=2.8,SNR=234						
CFAA				Sn	**Sn**	**01 43 16.1**	**+0.3**
	5.2nm,0.3s,baz=233,slow=20,SNR=3.8						
CFAA				LR	LR	01 44 44.8	
	comp=Z,2μm,21.0s,baz=188,slow=38						
TRQA	**Tornquist**	**9.10**	**95**	*e*Pn	**Pn**	**01 42 13.2**	**+1.9**
TRQA				*e*Sn	**Sn**	**01 43 50.6**	**-2.4**
LCO	**Las Campanas**	**9.11**	**16**	*e*Pn	**Pn**	**01 42 09.4**	**-2.4**
LCO				*e*Sn	Sn	01 43 45.3	-8.5
LVC	**Limon Verde**	**15.69**	**16**	Pn	Pn	01 43 36.1	-5.2
	48nm,0.3s,baz=161,slow=5.0,SNR=15						
USHA	**Ushuaia**	**17.34**	**170**	P	**P**	**01 44 02.7**	**-0.3**
	2.6nm,0.3s,baz=315,slow=5.1,SNR=30						
EFI	**East Falkland**	**17.59**	**147**	Pn	**P**	**01 44 07.3**	**+1.5**
	3μm,0.6s,SNR=21						
EFI	**East Falkland**	**17.59**	**147**	*e*P	**Pn**	**01 44 03.1**	**-1.8**
EFI				pmax	pmax		
	comp=Z,945nm,1.2s						
EFI	**East Falkland**	**17.59**	**147**	*e*Pn	**P**	**01 44 05.5**	**-0.3**
	comp=Z,1μm,1.5s						
CPUP	**Villa Florida**	**17.84**	**55**	P	**Pn**	**01 44 05.7**	**-2.5**
	comp=Z,2.0nm,0.3s,baz=227,slow=11,SNR=32						
CPUP				PcP	**PcP**	**01 48 44.8**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=297,slow=4.5,SNR=4.3						
CPUP	**Villa Florida**	**17.84**	**55**	*e*Pn	**Pn**	**01 44 06.9**	**-1.2**
LPAZ	**La Paz**	**21.99**	**14**	P	**P**	**01 44 55.8**	**+1.2**
	comp=Z,87nm,0.8s,baz=182,slow=9.0,SNR=77						
LPAZ				PcP	**PcP**	**01 48 53.5**	**+0.7**
	comp=Z,17nm,1.1s,baz=216,slow=6.3,SNR=2.9						
LPAZ	**La Paz**	**21.99**	**14**	P	**P**	**01 44 55.8**	**+1.2**
LPAZ						01 48 53.5	
LPAZ				pmax	pmax		
	comp=Z,87nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,17nm,1.1s						
LPAZ	**La Paz**	**21.99**	**14**	*e*P	**P**	**01 44 55.7**	**+1.1**
	comp=Z,620nm,1.5s						
SIV	**San Ignacio**	**24.37**	**30**	P	**P**	**01 45 17.4**	**-0.6**
	comp=Z,72nm,0.9s,baz=225,slow=10,SNR=57						
SIV				PcP	**PcP**	**01 48 57.4**	**+0.4**
	comp=Z,16nm,0.9s,baz=234,slow=3.8,SNR=3.4						
NNA	**Nana**	**25.92**	**352**	P	**P**	**01 45 31.1**	**-0.9**
	comp=Z,724nm,0.8s,SNR=9.1						
NNA	**Nana**	**25.92**	**352**	P	**P**	**01 45 31.4**	**-0.6**
	comp=Z,83nm,0.8s,baz=195,slow=10,SNR=27						
NNA	**Nana**	**25.92**	**352**	P	**P**	**01 45 31.4**	**-0.6**
NNA				pmax	pmax		
	comp=Z,83nm,0.8s						
NNA	**Nana**	**25.92**	**352**	*e*P	**P**	**01 45 31.0**	**-1.0**
	comp=Z,99nm,0.9s						
NNA				LR	LR		
	comp=Z,6μm,21.0s						
HOPE	**Hope Point**	**30.05**	**135**	*e*P	**P**	**01 46 07.8**	**-0.6**
	comp=Z,154nm,1.2s						
HOPE				LR	LR		
	comp=Z,3μm,19.0s						
SAML	**Samuel**	**30.24**	**21**	PFAKE		01 46 20.0	+9.5
SAML				LR	LR		
	comp=Z,3μm,20.0s						
ATAH	**Atahualpa**	**30.89**	**350**	P	**P**	**01 46 18.4**	**+1.7**
	comp=Z,68nm,1.0s,baz=176,slow=7.5,SNR=22						
ATAH				PcP	**PcP**	**01 49 14.8**	**+1.5**
	comp=Z,55nm,1.1s,baz=175,slow=5.8,SNR=6.1						
BDFB	**Brasília**	**31.54**	**52**	P	**P**	**01 46 21.2**	**-1.0**
	comp=Z,20nm,0.6s,baz=222,slow=9.9,SNR=13						
BDFB				LR	LR	01 59 46.4	
	comp=Z,4μm,20.9s,baz=216,slow=38						
BDFB	**Brasília**	**31.54**	**52**	P	**P**	**01 46 21.2**	**-1.0**
BDFB				pmax	pmax		
	comp=Z,20nm,0.6s						
BDFB				MLR	MLR		
	comp=Z,4μm,20.9s						
OTAV	**Otavalo**	**38.17**	**352**	*e*P	**P**	**01 47 21.3**	**+1.6**
	comp=Z,425nm,1.4s						
OTAV				*e*PcP	**PcP**	**01 49 34.6**	**+0.4**
PTGA	**Pitinga**	**38.98**	**22**	P	**P**	**01 47 25.1**	**-0.9**
	comp=Z,52nm,0.7s,baz=208,slow=8.9,SNR=50						
PTGA				PcP	**PcP**	**01 49 36.4**	**+0.2**
	comp=Z,23nm,1.0s,baz=269,slow=6.3,SNR=3.3						
PTGA	**Pitinga**	**38.98**	**22**	*e*P	**P**	**01 47 24.9**	**-1.2**
	comp=Z,62nm,0.7s						
PTGA				*e*PcP	**PcP**	**01 49 36.6**	**+0.4**
PTGA				LR	LR		
	comp=Z,4μm,18.0s						
PAYG	**Puerto Ayora**	**40.09**	**333**	*e*P	**P**	**01 47 34.5**	**-0.8**
	comp=Z,935nm,1.0s						
PAYG				LR	LR		
	comp=Z,14μm,20.0s						
ROSC	**El Rosal**	**42.49**	**359**	P	**P**	**01 47 57.4**	**+2.0**
	comp=Z,86nm,0.7s,baz=138,slow=4.3,SNR=38						
ROSC				PcP	**PcP**	**01 49 48.3**	**+0.2**
	comp=Z,14nm,0.6s,baz=154,slow=5.0,SNR=2.7						
ROSC				LR	LR	02 05 24.0	
	comp=Z,3μm,18.5s,baz=194,slow=36						
ROSC	**El Rosal**	**42.49**	**359**	*e*P	**P**	**01 47 57.0**	**+1.6**
ROSC				*e*PcP	**PcP**	**01 49 48.0**	**0.0**
SDV	**Santo Domingo**	**46.56**	**4**	*e*P	**P**	**01 48 26.9**	**-0.8**
	comp=Z,164nm,0.8s						
SDV				*e*PcP	**PcP**	**01 50 01.0**	**-0.7**
SDV				LR	LR		
	comp=Z,2μm,20.0s						
VNA1	**Neumayer--Stat**	**46.64**	**155**	P	**P**	**01 48 29.3**	**+1.8**
RCBR	**Riachuelo**	**46.71**	**56**	PFAKE		01 48 40.0	+11
RCBR				LR	LR		
	comp=Z,3μm,22.0s						
BCIP	**Isla Barro Col**	**47.14**	**351**	*e*P	**P**	**01 48 32.0**	**0.0**
	comp=Z,221nm,1.0s						
BCIP				LR	LR		
	comp=Z,1μm,20.0s						
SNAA	**Sanae**	**48.51**	**157**	P	**P**	**01 48 39.5**	**-2.6**
SNAA	**Sanae**	**48.51**	**157**	*i*P	**P**	**01 48 39.7**	**-2.4**
SNAA	**Sanae**	**48.51**	**157**	P	**P**	**01 48 43.1**	**+1.0**
	comp=Z,78nm,1.1s,baz=279,slow=6.8,SNR=286						
SNAA	**Sanae**	**48.51**	**157**	*c i*P	**P**	**01 48 39.5**	**-2.6**
SNAA				pmax	pmax		
SNAA				MLR	MLR		
	comp=Z,3μm,17.0s						
SNAA	**Sanae**	**48.51**	**157**	*e*P	**P**	**01 48 39.3**	**-2.8**
	comp=Z,992nm,1.8s						
SNAA				LR	LR		
	comp=Z,2μm,20.0s						
JTS	**JuntasAbangare**	**49.07**	**345**	P	**P**	**01 48 48.0**	**+1.1**
	comp=Z,708nm,1.2s,SNR=13						
JTS	**JuntasAbangare**	**49.07**	**345**	*e*P	**P**	**01 48 48.1**	**+1.1**
	comp=Z,242nm,1.3s						
JTS				*e*PcP	**PcP**	**01 50 11.1**	**+0.6**
JTS				*e*PP	**PP**	**01 50 39.8**	**-1.1**
JTS				LR	LR		
	comp=Z,1μm,20.0s						
PTCN	**Pitcairn Islan**	**49.26**	**268**	*e*P	**P**	**01 48 48.5**	**+0.1**
	comp=Z,2μm,1.7s						
GRGR	**Grenville**	**50.94**	**15**	*e*P	**P**	**01 49 00.7**	**-0.4**
	comp=Z,1μm,0.9s						
GRGR				LR	LR		
	comp=Z,2μm,20.0s						
BBGH	**Gun Hill**	**52.38**	**17**	PFAKE		01 49 20.0	+8.2
BBGH				LR	LR		
	comp=Z,4μm,22.0s						
NVL	**N'lazarevskaya**	**53.29**	**156**	*i*P	**P**	**01 49 18.3**	**+0.3**
NVL				pmax	pmax		
	comp=Z,2μm,17.5s						
NVL				MLR	MLR		
	comp=Z,2μm,15.0s						
SNET	**Serv Nac Est T**	**53.35**	**341**	*e*P	**P**	**01 49 19.1**	**0.0**
	comp=Z,1μm,2.0s						
RKT	**Rikitea**	**54.09**	**267

VNDA PKPPKP P'P'df 02 19 30.7 -7.3
comp=Z,2.4nm,1.1s,baz=308,slow=3.8,SNR=3.7
VNDA Vanda 60.11 192 *eP* **P 01 50 08.7 +2.4**
comp=Z,133nm,1.9s
SYO Syowa Base 62.74 158‖ *eP* **P** 01 50 22.0 -2.2
SYO Syowa Base 62.74 158‖ *iP* pP 01 50 28.7 -2.7
TBI Tubuai 65.34 259 *eS* **S 01 59 20.7 -4.1**
comp=Z,2µm,28.0s
TBI *eLQ* LQ 02 07 26.0
comp=Z,2µm,27.0s
TBI *eLR* LR 02 10 13.6
comp=Z,2µm,26.2s,baz=125
TBI Tubuai 65.34 259 *eT* T 03 01 16.7
comp=Z,7.6nm,0.3s
MEH Mehetia 67.23 265 *eT* T 03 03 39.3
comp=Z,71nm,0.2s
035Z Hargill 68.00 336 P **P 01 51 00.1 +1.4**
baz=68
TVO Taravao 68.22 264 *eP* **P 01 51 00.5 0.0**
comp=Z,24nm,1.0s
TVO Taravao 68.22 264 *eT* T 03 04 53.3
comp=Z,4.2nm,0.2s
VAH Vaihoa 68.38 267 *eP* **P 01 51 01.2 -0.2**
comp=Z,210nm,1.1s
TIAR Tiarei 68.42 264 *eP* **P 01 51 01.8 +0.1**
comp=Z,39nm,1.0s
TIAR Tiarei 68.42 264 *eT* T 03 05 07.8
comp=Z,17nm,0.2s
035A Encino 68.45 336 P **P 01 51 02.9 +1.4**
baz=69,SNR=15
PAE Paea 68.55 264 *eP* **P 01 51 02.7 +0.2**
comp=Z,32nm,1.1s
PAE Paea 68.55 264 *eT* T 03 05 17.4
comp=Z,2.8nm,0.2s
PPT2 Papeete2 68.58 264 *eP* **P 01 51 02.9 +0.1**
comp=Z,237nm,1.3s
PPT2 *eS* **S 02 00 00.6 -3.7**
comp=Z,853nm,23.8s
PPT2 Papeete2 68.58 264 *eLR* LR 02 11 42.0
comp=Z,916nm,23.8s,baz=113
PPT Papeete 68.60 264 P **P 01 51 03.5 +0.7**
comp=Z,116nm,1.0s,baz=178,slow=2.9,SNR=4.1
PPT LR LR 02 13 51.1
comp=Z,591nm,18.2s,baz=128,slow=30
PPT Papeete 68.60 264 *eP* **P 01 51 02.4 -0.4**
034A Hebbronville 68.76 336 P **P 01 51 04.8 +1.4**
baz=69,SNR=28
934A Benavides 69.20 336 P **P 01 51 07.8 +1.6**
baz=70,SNR=25
933A Laredo 69.46 336 P **P 01 51 08.9 +1.1**
baz=70,SNR=30
738A Farr-Stevens R 69.51 339 P **P 01 51 09.7 +1.7**
baz=70
TIGA Tifton 69.57 351 P **P 01 51 08.0 -0.4**
baz=70,SNR=21
TIGA Tifton 69.57 351 *eP* **P 01 51 08.0 -0.4**
comp=Z,202nm,0.8s
TIGA LR LR
comp=Z,900nm,19.0s
835A Beeville 69.63 337 P **P 01 51 10.8 +2.0**
baz=70,SNR=8.7
737A Port Lavaca 69.66 339 P **P 01 51 11.0 +2.0**
baz=70
BRAL Brewton 69.66 348 *eP* **P 01 51 10.2 +1.3**
comp=Z,872nm,1.6s
834A Tilden 69.70 336 P **P 01 51 10.6 +1.4**
baz=70,SNR=64
MAW Mawson 69.83 164 P **P 01 51 10.3 +0.7**
comp=Z,30nm,1.1s,baz=210,slow=7.0,SNR=30
MAW LR LR 02 23 46.5
comp=Z,3µm,18.0s,baz=228,slow=38
MAW Mawson 69.83 164 P **P 01 51 10.3 +0.7**
MAW pmax pmax
comp=Z,30nm,1.1s
MAW MLR MLR
comp=Z,3µm,18.0s
MAW Mawson 69.83 164 *eP* **P 01 51 10.1 +0.5**
comp=Z,56nm,1.9s
736A Circle Diamond 70.02 338 P **P 01 51 13.4 +2.2**
baz=70,SNR=37
SLBS Sierra La Lagu 70.14 325 *eP* **P 01 51 13.8 +1.7**
comp=Z,91nm,0.8s
SLBS LR LR
comp=Z,3µm,20.0s
735A Kenedy 70.15 337 P **P 01 51 13.4 +1.4**
baz=70,SNR=20
833A Chaparral WMA, 70.16 336 P **P 01 51 13.2 +1.1**
baz=70,SNR=38
637A Eagle Lake 70.27 339 P **P 01 51 14.1 +1.4**
baz=71,SNR=8.7
832A Faith Ranch, C 70.31 335 P **P 01 51 13.7 +0.7**
baz=71,SNR=35
BBSR BB Station 70.34 8 *eP* **P 01 51 13.0 0.0**
comp=Z,217nm,1.4s
BBSR LR LR
comp=Z,700nm,20.0s
SACV Santiago Islan 70.36 52 PFAKE 01 51 20.0 +6.4
SACV LR LR
comp=Z,3µm,18.0s
540A Vidor 70.36 341 P **P 01 51 15.2 +2.0**
baz=71,SNR=5.8
734A La Parita Cree 70.38 337 P **P 01 51 14.1 +0.8**
baz=71,SNR=8.4
539A Cross D Ranch, 70.46 341 P **P 01 51 15.6 +1.7**
baz=71,SNR=9.8
733A Divot King Ran 70.49 336 P **P 01 51 14.7 +0.7**
baz=71,SNR=14
636A Smothers Creek 70.51 338 P **P 01 51 15.8 +1.6**
baz=71,SNR=29
HKT Hockley 70.61 340 *eP* **P 01 51 15.3 +0.6**
comp=Z,299nm,1.8s
HKT LR LR
comp=Z,800nm,19.0s
635A Leesville 70.64 338 P **P 01 51 15.4 +0.4**
baz=71,SNR=7.2
RGRS Roger Stewart 70.67 354 *eP* **P 01 51 14.3 -0.7**
732A Laxson Ranch, 70.72 335 P **P 01 51 16.2 +0.8**
baz=71,SNR=140
CSU Charleston Sou 70.73 354 *eP* **P 01 51 15.0 -0.4**
538A Harpers Horsep 70.77 340 P **P 01 51 17.4 +1.7**
baz=71
634A China Grove, S 70.81 337 P **P 01 51 16.5 +0.5**
baz=71
537A Green Hill Far 70.86 339 P **P 01 51 17.6 +1.3**
baz=71,SNR=24
440A Kirbyville 70.87 341 P **P 01 51 17.7 +1.4**
baz=71,SNR=16
536A Bastrop 71.07 339 P **P 01 51 18.4 +0.8**
baz=71,SNR=17
439A Center Grove, 71.12 341 P **P 01 51 19.1 +1.2**
baz=72,SNR=18
633A Saathoff Ranch 71.14 336 P **P 01 51 18.8 +0.8**
baz=72,SNR=22
535A Dale 71.18 338 P **P 01 51 18.8 +0.5**
baz=72,SNR=17
438A Sam Houston St 71.27 340 P **P 01 51 20.0 +1.3**
baz=72,SNR=22
632A Uvalde 71.38 336 P **P 01 51 20.3 +0.8**
baz=72,SNR=94
534A Blanco 71.45 337 P **P 01 51 20.0 +0.1**
baz=72,SNR=30
340A Bronson 71.49 342 P **P 01 51 21.0 +0.9**
baz=72,SNR=36
VBMS Vicksburg 71.49 345 P **P 01 51 20.8 +0.8**
baz=72,SNR=11
VBMS Vicksburg 71.49 345 *eP* **P 01 51 20.8 +0.8**
comp=Z,280nm,0.8s
GOGA Godfrey 71.50 351 *eP* **P 01 51 19.8 -0.3**
comp=Z,129nm,0.6s
GOGA LR LR
comp=Z,1µm,21.0s
437A Phantom Ranch, 71.52 340 P **P 01 51 21.4 +1.1**
baz=72,SNR=7.9
631A Perdido Creek 71.55 335 P **P 01 51 20.9 +0.4**
baz=72,SNR=18
339A Huntington 71.58 341 P **P 01 51 21.6 +1.0**
baz=72,SNR=28
LRAL Lakeview Retre 71.63 348 *eP* **P 01 51 21.2 +0.4**
comp=Z,178nm,0.9s
LRAL LR LR
comp=Z,500nm,21.0s
436A Wall Ranch, Ga 71.65 339 P **P 01 51 22.0 +0.9**
baz=72,SNR=12
533A Kerrville 71.66 337 P **P 01 51 21.9 +0.7**
baz=72,SNR=94
338A Crockett 71.80 340 P **P 01 51 23.2 +1.3**
baz=72,SNR=47
435B Jarrell 71.89 338 P **P 01 51 23.3 +0.8**
baz=72,SNR=12
337A Centerville 71.91 340 P **P 01 51 24.1 +1.5**
baz=72,SNR=32
532A Rocksprings 71.99 336 P **P 01 51 24.0 +0.8**
baz=72,SNR=158
NATX Nacogdoches 72.01 341 P **P 01 51 24.1 +0.8**
baz=72,SNR=18
434A Burnet 72.12 338 P **P 01 51 24.6 +0.6**
baz=72,SNR=140
JSC Jenkinsville 72.12 353 *eP* **P 01 51 23.7 -0.1**
239A Gary 72.21 341 P **P 01 51 25.3 +0.9**
baz=73,SNR=21
531A Rocksprings 72.23 336 P **P 01 51 25.6 +0.9**
baz=72,SNR=154
336A Riesel 72.24 339 P **P 01 51 25.4 +0.8**
baz=73,SNR=48
JCT Junction City 72.28 336 P **P 01 51 25.7 +0.7**
baz=73,SNR=109
JCT Junction City 72.28 336 *eP* **P 01 51 25.6 +0.7**
comp=Z,323nm,1.1s
JCT LR LR
comp=Z,500nm,19.0s
335A Moody 72.31 339 P **P 01 51 25.6 +0.6**
baz=73,SNR=25
433A Art 72.32 337 P **P 01 51 25.5 +0.4**
baz=73,SNR=159
238A Jacksonville 72.36 341 P **P 01 51 26.4 +1.1**
baz=73,SNR=9.8
CER Ceres 72.41 119 *eP* **P 01 51 27.3 +1.3**
CER AMB AMB 01 51 28.1
comp=Z,159nm,1.0s
530A J-C Ranch, Com 72.48 335 P **P 01 51 27.2 +1.1**
baz=73,SNR=190
237A Washetta, Mont 72.54 340 P **P 01 51 27.4 +1.0**
baz=73,SNR=18
LTX Lajitas 72.55 333 *eP* **P 01 51 27.5 +0.8**
TXAR Lajitas Array 72.55 333 P **P 01 51 27.5 +0.8**
comp=Z,92nm,0.9s,baz=152,slow=8.6,SNR=416
TXAR LR LR 02 18 21.2
comp=Z,2µm,18.4s,baz=0.0,slow=32
TXAR PKPPKP P'P'df 02 19 11.8 +6.7
comp=Z,0.8nm,1.1s,baz=158,slow=1.3,SNR=4.4
334A Lometa 72.60 338 P **P 01 51 27.3 +0.5**
baz=73,SNR=123
432A Menard 72.65 336 P **P 01 51 27.4 +0.3**
baz=73,SNR=66
DRV Dumont d'Urvil 72.70 193 S S 02 00 21.0 -30
DRV SS SS 02 05 37.0 +8.0
DRV R 02 14 00.0
431A Sonora 72.73 336 P **P 01 51 28.1 +0.5**
baz=73,SNR=120
236A Katherine and 72.73 340 P **P 01 51 28.0 +0.5**
baz=73,SNR=10
529A Stev Forest Ra 72.76 334 P **P 01 51 28.4 +0.6**
baz=73,SNR=156
333A Richland Sprin 72.81 337 P **P 01 51 28.2 +0.1**
baz=73,SNR=110
139A Bunkhouse Ranc 72.82 342 P **P 01 51 28.8 +0.8**
baz=73,SNR=11
CNNC Cliffs of the 72.83 356 *eP* **P 01 51 28.3 +0.3**
comp=Z,205nm,0.9s
CNNC LR LR
comp=Z,800nm,19.0s
138A Matatall Enter 72.97 341 P **P 01 51 29.9 +0.9**
baz=73,SNR=30
KMSC Kings Mountain 72.98 353 P **P 01 51 28.7 -0.2**
baz=73,SNR=55
KMSC Kings Mountain 72.98 353 *eP* **P 01 51 28.8 -0.1**
comp=Z,153nm,0.8s
KMSC *ePP* **PP 01 54 15.0 +3.0**
KMSC LR LR
comp=Z,1µm,20.0s
WHTX Lake Whitney, 72.99 339 P **P 01 51 29.4 +0.4**
baz=73,SNR=28
WHTX Lake Whitney, 72.99 339 *eP* **P 01 51 29.2 +0.2**
comp=Z,292nm,1.0s
WHTX LR LR
comp=Z,400nm,20.0s
430A Baggett Ranch, 73.03 335 P **P 01 51 30.0 +0.5**
baz=73
137A Heron Place, G 73.09 340 P **P 01 51 30.6 +1.0**
baz=73,SNR=31
332A Millersview 73.10 337 P **P 01 51 30.1 +0.3**
baz=73,SNR=194
429A Davenport Ranc 73.11 335 P **P 01 51 30.5 +0.7**
baz=73,SNR=163
136A Ennis 73.18 340 P **P 01 51 30.6 +0.4**
baz=74
234A Clairette 73.19 338 P **P 01 51 30.9 +0.6**
baz=74,SNR=90
331A San Angelo 73.25 336 P **P 01 51 31.0 +0.4**
baz=74,SNR=166
Z39A Irene McRaven, 73.30 342 P **P 01 51 31.5 +0.7**
baz=74
233A Rising Star 73.43 338 P **P 01 51 32.0 +0.3**
baz=74,SNR=65
OXF Oxford 73.49 346 *eP* **P 01 51 31.5 -0.5**
comp=Z,324nm,1.0s
135A Vickery Place, 73.50 339 P **P 01 51 32.2 +0.1**
baz=74,SNR=13
Z38A Mt. Pleasant 73.51 341 P **P 01 51 32.8 +0.8**
baz=74,SNR=12
232A Coleman 73.54 337 P **P 01 51 32.7 +0.3**
baz=74,SNR=103
330A Mertzon 73.58 336 P **P 01 51 32.8 +0.2**
baz=74,SNR=88
Z37A Pogue Cattle C 73.62 341 P **P 01 51 33.4 +0.7**
baz=74,SNR=5.8
CPCT Cooper Cave 73.64 351 *eP* **P 01 51 32.8 -0.1**
134A White-Moore Ra 73.71 339 P **P 01 51 33.6 +0.3**
baz=74,SNR=53
TKL Tuckaleechee C 73.75 351 P **P 01 51 33.0 -0.5**
comp=Z,96nm,0.8s,baz=168,slow=6.6,SNR=111
TKL Tuckaleechee C 73.75 351 P **P 01 51 33.0 -0.5**
TKL pmax pmax
comp=Z,97nm,0.8s
TKL Tuckaleechee C 73.75 351 *eP* **P 01 51 33.0 -0.5**
231A Bronte 73.80 336 P **P 01 51 33.9 +0.1**
baz=74,SNR=96
Z36A Blue Ridge 73.91 340 P **P 01 51 35.0 +0.5**
baz=74,SNR=72
329A Wagon Wheel Ra 73.92 335 P **P 01 51 35.1 +0.5**
baz=74,SNR=118
Y39A Lockesburg 73.94 342 P **P 01 51 34.8 +0.2**
baz=74,SNR=16
133A Hamilton Ranch 73.99 338 P **P 01 51 35.5 +0.5**
baz=74,SNR=125
230A Sterling City 74.01 336 P **P 01 51 35.2 0.0**
baz=74,SNR=20
SUR Sutherland 74.02 119 P **P 01 51 37.6 +1.9**
comp=Z,710nm,1.0s,SNR=6.0
SUR Sutherland 74.02 119 PFAKE 01 51 50.0 +14
SUR LR LR
comp=Z,4µm,21.0s
Y38A Idabel 74.09 342 P **P 01 51 35.9 +0.5**
baz=74,SNR=37
Z35A Perchaven, San 74.19 339 P **P 01 51 36.6 +0.5**
baz=74,SNR=58
ABTX Abilene, Hawle 74.22 337 P **P 01 51 36.6 +0.3**
baz=75,SNR=106
ABTX Abilene, Hawle 74.22 337 *eP* **P 01 51 36.7 +0.3**
comp=Z,453nm,1.3s
ABTX LR LR
comp=Z,500nm,22.0s
229A Bryant Ranch, 74.31 335 P **P 01 51 37.3 +0.4**
baz=75,SNR=76
UALR University of 74.34 344 *eP* **P 01 51 36.6 -0.3**
comp=Z,90nm,1.0s
Y37A Hugo 74.36 341 P **P 01 51 37.5 +0.5**
baz=75,SNR=28
MIAR Mount Ida 74.40 343 P **P 01 51 37.4 +0.1**
baz=75,SNR=52
MIAR Mount Ida 74.40 343 *eP* **P 01 51 37.0 -0.3**
comp=Z,120nm,1.2s
MIAR LR LR
comp=Z,400nm,19.0s
Z34A Collier Ranch, 74.41 339 P **P 01 51 37.6 +0.2**
baz=75,SNR=17
Y36A Durant 74.46 340 P **P 01 51 37.9 +0.2**
baz=75,SNR=28
RAR Rarotonga 74.47 255 LR LR 02 16 20.2
comp=Z,433nm,18.2s,baz=132,slow=29
131A Roby 74.50 337 P **P 01 51 38.4 +0.4**
baz=75,SNR=45
Z33A Whitaker Ranch 74.58 338 P **P 01 51 38.9 +0.6**
baz=75,SNR=72
TZTN Tazewell 74.60 352 *eP* **P 01 51 38.1 -0.3**
comp=Z,595nm,1.6s
130A Snyder 74.61 336 P **P 01 51 38.8 +0.2**
baz=75,SNR=38
Y35A Marietta 74.67 340 P **P 01 51 39.5 +0.7**
baz=75,SNR=33
228A UT Block 9, Go 74.71 335 P **P 01 51 39.5 +0.3**
baz=75,SNR=85
HBAR Harrisburg 74.75 346 *eP* **P 01 51 39.5 +0.3**
Z32A Haskell 74.81 338 P **P 01 51 40.2 +0.5**
baz=75,SNR=157
X38A Whitesboro 74.82 342 P **P 01 51 40.2 +0.5**
baz=75,SNR=87
HALT Halls 74.84 347 *eP* **P 01 51 39.7 0.0**
X37A Clayton 74.88 341 P **P 01 51 40.0 -0.1**
baz=75,SNR=36
Y34A Reagan Ranch, 74.92 339 P **P 01 51 40.4 +0.1**
baz=75,SNR=86
129A Stewart Farms, 74.94 335 P **P 01 51 40.8 +0.3**
baz=75
BLA Blacksburg 74.96 354 *eP* **P 01 51 40.2 -0.3**
comp=Z,80nm,0.8s
BLA *ePP* **PP 01 54 32.9 +4.0**
BLA LR LR
comp=Z,700nm,19.0s
VWCC Virginia Weste 74.96 355 *eP* **P 01 51 40.4 -0.1**
GNAR Gosnell 75.02 346 *eP* **P 01 51 40.9 +0.1**
Z31A Sharp Cattle R 75.02 337 P **P 01 51 41.3 +0.4**
baz=75
X36A Centrahoma 75.11 341 P **P 01 51 41.3 -0.1**
baz=76,SNR=120
X35A Drake 75.12 340 P **P 01 51 41.3 -0.1**
baz=76,SNR=56
W38A Poteau 75.13 342 P **P 01 51 42.0 +0.5**
baz=76,SNR=66
128A Castleberry Fa 75.13 335 P **P 01 51 42.3 +0.6**
baz=76,SNR=110
URVA University of 75.14 357 *eP* **P 01 51 41.8 +0.4**
URVA *ePP* **PP 01 54 29.6 -0.6**
UTMT University of 75.18 347 *eP* **P 01 51 41.9 +0.2**
comp=Z,532nm,0.9s
GLAT Glass 75.18 347 *eP* **P 01 51 42.2 +0.5**
Y33A Hilltop Ranch, 75.21 339 P **P 01 51 42.4 +0.4**
baz=76,SNR=44
JSRW J. Sargeant Re 75.28 356 *eP* **P 01 51 42.6 +0.4**
Z30A Sanderson Ranc 75.30 336 P **P 01 51 42.7 +0.1**
baz=76,SNR=160
PVMO Portageville 75.40 347 *eP* **P 01 51 42.4 -0.6**
comp=Z,1µm,1.3s
PVMO LR LR
comp=Z,500nm,18.0s
W37A Quinton 75.41 342 P **P 01 51 43.1 -0.1**
baz=76,SNR=51
Y32A R-V Farms, Ver 75.45 338 P **P 01 51 43.8 +0.4**
baz=76,SNR=68
Z29A Hungry Hill Ra 75.46 336 P **P 01 51 43.6 0.0**
baz=76,SNR=243
X34A Smith Ranch, M 75.54 339 P **P 01 51 44.4 +0.5**
baz=76,SNR=103
W36A Wetumka 75.62 341 P **P 01 51 43.8 -0.5**
baz=76,SNR=36
PARMO Parma 75.65 347 *eP* **P 01 51 44.6 +0.2**
Y31A Rekieta Farm, 75.66 337 P **P 01 51 45.0 +0.4**
baz=76,SNR=70
X33A Lawton 75.67 339 P **P 01 51 44.2 -0.4**
baz=76,SNR=6.5
Z28A Tucker Farm, M 75.71 335 P **P 01 51 44.8 -0.2**
baz=76,SNR=43
CBN Corbin Frederi 75.76 357 *eP* **P 01 51 45.0 0.0**
comp=Z,63nm,0.8s
CBN LR LR
comp=Z,600nm,19.0s
Y30A Stafford Cattl 75.77 337 P **P 01 51 45.6 +0.3**
baz=76
X32A Elmer 75.79 338 P **P 01 51 45.5 +0.1**
baz=76,SNR=63
W35A Tecumseh 75.80 340 P **P 01 51 44.9 -0.5**
baz=76,SNR=48
V38A Canehill 75.86 343 P **P 01 51 45.4 -0.3**
baz=76
PBMO Poplar Bluff 75.89 346 *eP* **P 01 51 45.5 -0.2**
comp=Z,162nm,0.8s
WMOK Wichita Mounta 75.94 339 *eP* **P 01 51 46.0 -0.2**
comp=Z,219nm,1.3s
WMOK LR LR
comp=Z,600nm,19.0s
Y29A Porterfield Fa 76.00 336 P **P 01 51 47.0 +0.3**
baz=76,SNR=85
V37A Hulbert 76.05 342 P **P 01 51 46.6 -0.1**
baz=76,SNR=65
W34A Bridge Creek, 76.12 340 P **P 01 51 47.5 +0.3**
baz=76,SNR=38
W34A Bridge Creek, 76.12 340 *eP* **P 01 51 47.2 0.0**
comp=Z,265nm,0.9s
CASY Casey 76.16 182 PFAKE 01 52 00.0 +13
CASY LR LR
comp=Z,2µm,18.0s
V36A Jenks 76.16 341 P **P 01 51 47.5 +0.1**
baz=76
X31A McDonald Ranch 76.19 338 P **P 01 51 48.0 +0.4**
baz=76,SNR=107
Y28A McKinney Farm, 76.23 336 P **P 01 51 48.1 +0.2**
baz=77,SNR=52
W33A Caddo, Fort Co 76.24 339 P **P 01 51 48.8 +0.9**
baz=77,SNR=191
TUL1 Leonard 76.24 342 P **P 01 51 47.9 +0.1**
baz=77,SNR=115
TUL1 Leonard 76.24 342 *eP* **P 01 51 47.7 -0.1**
comp=Z,385nm,1.0s
TUL1 LR LR
comp=Z,600nm,22.0s
X30A Coker Ranch, T 76.29 337 P **P 01 51 48.5 +0.3**
baz=77,SNR=51
V35A Meyer Ranch, C 76.37 341 P **P 01 51 48.6 +0.1**
baz=77,SNR=66
W32A Sentinel 76.43 339 P **P 01 51 49.5 +0.6**
baz=77,SNR=216
MSTX Muleshoe 76.46 335 P **P 01 51 49.5 +0.2**
baz=77,SNR=75
MSTX Muleshoe 76.46 335 *eP* **P 01 51 49.4 +0.1**
comp=Z,350nm,1.3s
MSTX LR LR
comp=Z,600nm,20.0s
X29A Tulia 76.55 336 P **P 01 51 50.2 +0.5**
baz=77,SNR=75
USIN University of 76.56 349 *eP* **P 01 51 48.6 -0.9**
comp=Z,295nm,0.8s
SIUC Southern Illin 76.58 347 *eP* **P 01 51 49.2 -0.4**
V34A Guthrie 76.62 340 P **P 01 51 50.1 +0.1**
baz=77,SNR=46
V34A Guthrie 76.62 340 *eP* **P 01 51 49.8 -0.2**
comp=Z,358nm,1.0s
V34A LR LR
comp=Z,700nm,20.0s
W31A Holland Ranch, 76.70 338 P **P 01 51 50.6 +0.1**
baz=77,SNR=44
X28A Dimmitt 76.78 336 P **P 01 51 51.4 +0.4**
baz=77,SNR=10
V33A Lossen Ranch, 76.81 340 P **P 01 51 51.5 +0.4**
baz=77,SNR=88
W30A Crocket Farms 76.88 337 P **P 01 51 52.1 +0.5**
baz=77,SNR=5.9
U35A Pawnee 76.92 341 P **P 01 51 52.1 +0.5**
baz=77,SNR=168
V32A Arapaho 76.93 339 P **P 01 51 52.6 +0.8**
baz=77,SNR=31
SDMD Soldier's Deli 76.94 357 *eP* **P 01 51 52.0 +0.3**
AMTX Amarillo 76.95 337 P **P 01 51 52.7 +0.8**
baz=77
AMTX Amarillo 76.95 337 *eP* **P 01 51 52.3 +0.3**
comp=Z,464nm,1.1s
AMTX LR LR
comp=Z,600nm,19.0s
121A Cookes Peak, D 76.97 331 P **P 01 51 53.7 +1.5**
baz=77,SNR=75
LIC Lamto 77.11 72⇑ *iP* **P 01 51 54.1 +0.8**
comp=Z,733nm,1.1s
W29A Amarillo 77.16 337 P **P 01 51 53.8 +0.6**
baz=78,SNR=98
T37A Cheneyville 18 77.18 343 P **P 01 51 53.0 -0.1**
baz=78,SNR=105
U34A Anderson Ranch 77.19 340 P **P 01 51 53.4 +0.2**
baz=78,SNR=42
U34A Anderson Ranch 77.19 340 *eP* **P 01 51 53.5 +0.2**
comp=Z,286nm,1.1s
U34A LR LR
comp=Z,400nm,20.0s
V31A Spring Creek L 77.21 338 P **P 01 51 54.7 +1.3**
baz=78,SNR=90
U33A Lingo Farm, Me 77.34 340 P **P 01 51 54.1 0.0**

baz=78,SNR=6.7
T36A **Boggs Farm, Ca** 77.35 342 P P 01 51 54.1 0.0
baz=78,SNR=74
GRM **Grahamstown** 77.36 122 eP P 01 51 54.9 +0.3
T35A **Sooner Cattle** 77.37 341 P P 01 51 54.7 +0.5
baz=78,SNR=112
OLIL **Olney** 77.38 348 eP P 01 51 53.1 -1.0
comp=Z,318nm,1.6s
TIC **Toumodi** 77.39 71⇑iP P 01 51 55.7 +0.8
KIC **Kosan Boka** 77.41 72⇑iP P 01 51 55.9 +0.9
comp=Z,877nm,0.9s
V30A **Spur Ranch, Mi** 77.45 338 P P 01 51 56.1 +1.3
baz=78,SNR=63
W28A **Vega** 77.46 336 P P 01 51 55.4 +0.6
baz=78,SNR=17
MVL **Millersville** 77.51 358 eP P 01 51 55.5 +0.6
comp=Z,154nm,1.3s
DBIC **Dimbokro** 77.53 71⇑iP P 01 51 56.6 +0.9
DBIC **Dimbokro** 77.53 71 P P 01 51 56.4 +0.8
comp=Z,324nm,0.9s,baz=203,slow=5.8,SNR=291
DBIC LR LR 02 22 28.6
comp=Z,569nm,19.7s,baz=205,slow=33
DBIC **Dimbokro** 77.53 71 eP P 01 51 56.4 +0.8
comp=Z,319nm,0.8s
U32A **Winter Ranch,** 77.54 339 P P 01 51 55.9 +0.7
baz=78,SNR=11
BLO **Bloomington** 77.57 350 eP P 01 51 54.6 -0.6
comp=Z,180nm,0.8s
T34A **McClaskey Farm** 77.65 341 P P 01 51 56.4 +0.7
baz=78,SNR=109
SLM **Saint Louis** 77.65 347 eP P 01 51 55.5 -0.2
comp=Z,443nm,1.0s
U31A **Nine Bar Ranch** 77.77 338 P P 01 51 57.2 +0.7
baz=78,SNR=5.3
V29A **Stinnett** 77.81 337 P P 01 51 57.1 +0.4
baz=78,SNR=7.7
S36A **Lake Cedric, C** 77.91 342 P P 01 51 57.1 -0.1
baz=78,SNR=66
V28A **Channing** 77.92 336 P P 01 51 58.3 +0.9
baz=78,SNR=22
BNM **Barren Site** 77.97 332 eP P 01 51 59.3 +1.4
TUC **Tucson** 77.97 328 eP P 01 51 59.0 +1.3
comp=Z,150nm,1.3s
TUC LR LR
comp=Z,1µm,20.0s
T33A **Patterson Ranc** 77.99 340 P P 01 51 58.6 +1.0
baz=78,SNR=112
Y22D **IRIS PASSCAL I** 78.01 332 P P 01 51 59.6 +1.6
baz=78
S35A **Otter Creek Ra** 78.05 342 P P 01 51 58.1 +0.1
baz=78,SNR=55
LUPA **Lehigh Univers** 78.09 359 eP P 01 51 58.6 +0.5
LENM **Lemitar** 78.11 332 eP P 01 51 59.8 +1.2
LPM **Los Pinos Moun** 78.12 332 eP P 01 51 59.5 +0.8
V27A **Dan Oppiter Fa** 78.12 336 P P 01 51 59.4 +0.8
baz=78,SNR=23
U30A **WK&E Inc. Balk** 78.16 338 P P 01 51 59.5 +0.9
baz=78,SNR=20
BRNJ **Basking Ridge** 78.16 359 eP P 01 51 59.1 +0.7
comp=Z,61nm,1.4s
ACSO **Alum Creek Sta** 78.19 353 eP P 01 51 58.1 -0.5
comp=Z,249nm,0.8s
SSPA **Standing Stone** 78.21 357 eP P 01 51 58.8 0.0
comp=Z,204nm,1.5s
SSPA LR LR
comp=Z,500nm,20.0s
CPNY **Central Park** 78.26 360 eP P 01 51 59.1 +0.1
T32A **Huddler Ranch,** 78.26 339 P P 01 51 60.0 +0.8
baz=79,SNR=36
U29A **Oasis Ranch, S** 78.27 337 P P 01 51 60.0 +0.7
baz=79,SNR=7.3
S34A **Willow Spring** 78.27 341 P P 01 51 59.3 +0.1
baz=79,SNR=15
R37A **Teagarden Farm** 78.29 343 P P 01 51 59.0 -0.3
baz=79,SNR=35
LAZ **Ladron** 78.39 332 eP P 01 52 01.4 +1.3
S33A **Kaszmaul Farm,** 78.40 340 P P 01 52 00.5 +0.5
baz=79,SNR=11
R36A **Gordon, Harris** 78.46 342 P P 01 52 00.1 -0.2
baz=79,SNR=15
PAL **Palisades** 78.47 360 eP P 01 52 00.6 +0.5
comp=Z,102nm,1.4s
PAL LR LR
comp=Z,700nm,19.0s
U28A **Mallet** 78.50 337 P P 01 52 01.2 +0.6
baz=79
214A **Organ Pipe Nat** 78.53 327 P P 01 52 02.6 +1.8
baz=79,SNR=127
ODNJ **Ogdensburg** 78.56 359 eP P 01 52 01.2 +0.5
T30A **Plains** 78.60 338 P P 01 52 01.9 +0.8
baz=79,SNR=18
ANMO **Albuquerque** 78.62 333ceP P 01 52 02.5 +1.1
ANMO pmax pmax
comp=Z,924nm,1.2s
ANMO MLR MLR
comp=Z,2µm,13.0s
ANMO **Albuquerque** 78.62 333 eP P 01 52 02.6 +1.2
comp=Z,181nm,1.0s
ANMO LR LR
comp=Z,1µm,21.0s
R35A **Emporia Munici** 78.63 342 P P 01 52 01.6 +0.5
baz=79,SNR=24
U27A **Thompson Grove** 78.72 336 P P 01 52 02.7 +0.8
baz=79,SNR=37
Q37A **Longview Farm,** 78.75 343 P P 01 52 01.3 -0.5
baz=79,SNR=24
S32A **Newby Ranch, P** 78.75 340 P P 01 52 02.5 +0.6
baz=79,SNR=39
YLE **Yale** 78.78 0 eP P 01 52 02.7 +0.8
comp=Z,381nm,1.1s
S31A **Mullinville** 78.83 339 P P 01 52 02.9 +0.6
baz=79
SFIN **Lafayette** 78.84 349 P P 01 52 01.2 -1.1
baz=79,SNR=16
SFIN **Lafayette** 78.84 349 eP P 01 52 01.0 -1.3
comp=Z,293nm,1.7s
SFIN LR LR
comp=Z,800nm,20.0s
R34A **Isabella, Hill** 78.87 341 P P 01 52 03.0 +0.5
baz=79,SNR=78
T29A **Hugoton** 78.93 338 P P 01 52 03.4 +0.5
baz=79,SNR=18
KSPA **Keystone Colle** 79.05 358 eP P 01 52 03.6 +0.2
comp=Z,37nm,0.9s
Q36A **Arnold C. Orve** 79.06 343 P P 01 52 03.1 -0.4
baz=79,SNR=10.0
R33A **Olander Ranch,** 79.07 341 P P 01 52 03.9 +0.3
baz=79,SNR=37
Q35A **Mercer Eighty,** 79.10 342 P P 01 52 03.5 -0.2
baz=80,SNR=29
S30A **Montezuma** 79.13 338 P P 01 52 04.8 +0.8
baz=80,SNR=44
T28A **Walsh** 79.14 337 P P 01 52 04.6 +0.5
baz=80,SNR=129
BFZ **Birch Farm** 79.15 227 PFAKE 01 52 20.0 +16
BFZ LR LR
comp=Z,1µm,20.0s
ODZ **Otahua Downs** 79.28 220 eP P 01 52 05.8 +0.9
comp=Z,134nm,1.7s
T27A **Campo** 79.28 337 P P 01 52 05.5 +0.6
baz=80,SNR=44
TSUM **Tsumeb** 79.30 106⇑iP P 01 52 06.5 +0.9
TSUM **Tsumeb** 79.30 106 eP P 01 52 06.2 +0.6
comp=Z,122nm,1.4s
TSUM LR LR
comp=Z,1µm,19.0s
S29A **Ulysses** 79.30 338 P P 01 52 05.9 +1.0
baz=80,SNR=18
BOSA **Boshof** 79.33 118⇑iP P 01 52 06.2 +0.6
BOSA AMB AMB 01 52 07.0
comp=Z,164nm,1.1s
BOSA AMS AMS 02 30 40.0
comp=Z,1µm,15.5s
BOSA **Boshof** 79.33 118 P P 01 52 05.9 +0.3
comp=Z,111nm,0.9s,baz=231,slow=5.2,SNR=84
BOSA LR LR 02 23 35.9
comp=Z,853nm,19.3s,baz=230,slow=33
HDIL **Hopedale** 79.36 348 P P 01 52 05.0 -0.1
baz=80,SNR=55
HDIL **Hopedale** 79.36 348 eP P 01 52 04.9 -0.1
comp=Z,84nm,1.5s
R32A **Long Quarter,** 79.37 340 P P 01 52 06.0 +0.7
baz=80,SNR=41
Q34A **Chapman** 79.38 342 P P 01 52 05.6 +0.3
baz=80,SNR=57
BRYW **Bryant College** 79.41 1 eP P 01 52 06.5 +1.1
comp=Z,284nm,1.1s
KSU1 **Kansas State U** 79.47 342 P P 01 52 05.7 0.0
baz=80,SNR=36
KSU1 **Kansas State U** 79.47 342 eP P 01 52 05.5 -0.2
comp=Z,164nm,0.9s
KSU1 LR LR
comp=Z,500nm,20.0s
R31A **Burdett** 79.47 339 P P 01 52 06.3 +0.5
baz=80,SNR=27
S28A **Manter** 79.51 337 P P 01 52 06.7 +0.6
baz=80,SNR=17
SNZO **South Karori** 79.61 225 PFAKE 01 52 20.0 +13
SNZO LR LR
comp=Z,1µm,20.0s
P36A **Good Intent, A** 79.63 343 P P 01 52 06.0 -0.5
baz=80,SNR=32
T26A **Comanche Natio** 79.66 336 P P 01 52 08.1 +1.0
baz=80,SNR=112
R30A **Dighton** 79.67 339 P P 01 52 07.5 +0.6
baz=80,SNR=18
Q33A **Connelly Farm,** 79.68 341 P P 01 52 07.3 +0.4
baz=80,SNR=45
P35A **Duane Minner,** 79.73 342 P P 01 52 07.0 -0.1
baz=80,SNR=58
QUA2 **Belchertown** 79.75 1 eP P 01 52 07.9 +0.7
comp=Z,196nm,1.0s
Q32A **Meitler Ranch,** 79.86 340 P P 01 52 08.5 +0.6
baz=80,SNR=50
T25A **Trinidad** 79.89 335 P P 01 52 09.8 +1.5
baz=80,SNR=207
T25A **Trinidad** 79.89 335 eP P 01 52 09.8 +1.5
comp=Z,327nm,1.0s
T25A LR LR
comp=Z,600nm,19.0s
S27A **Las Animas** 79.91 337 P P 01 52 08.9 +0.6
baz=80
P34A **Walnut Farm, R** 79.94 342 P P 01 52 08.8 +0.4
baz=80,SNR=59
RPZ **Rata Peaks** 79.98 222 eP P 01 52 09.3 +0.6
comp=Z,84nm,1.3s
RPZ LR LR
comp=Z,2µm,19.0s
HRV **Adam Dziewonsk** 79.99 1 eP P 01 52 09.1 +0.6
comp=Z,205nm,1.1s
BKZ **Black Stump Fm** 80.00 228 eP P 01 52 08.0 -1.0
comp=Z,56nm,0.4s
BKZ LR LR
comp=Z,900nm,20.0s
W18A **Petrified Fore** 80.00 331 P P 01 52 10.4 +1.4
baz=80,SNR=52
W18A **Petrified Fore** 80.00 331 eP P 01 52 10.2 +1.3
comp=Z,307nm,1.3s
W18A LR LR
comp=Z,2µm,18.0s
CBKS **Cedar Bluff** 80.02 339 P P 01 52 09.5 +0.8
baz=80,SNR=38
S26A **Kim** 80.03 336 P P 01 52 10.2 +1.2
baz=80,SNR=176
WHZ **Wether Hill Ro** 80.04 219 eP P 01 52 09.4 +0.3
comp=Z,646nm,2.8s
R29A **Marienthal** 80.05 338 P P 01 52 09.9 +0.8
baz=80,SNR=9.7
P33A **Williams Farm,** 80.06 341 P P 01 52 09.4 +0.4
baz=80,SNR=14
O36A **Bolckow** 80.06 343 P P 01 52 08.4 -0.5
baz=80,SNR=26
Q31A **Ellis** 80.10 340 P P 01 52 10.1 +0.9
baz=80,SNR=23
R28A **Tribune** 80.18 338 P P 01 52 10.6 +0.9
baz=80,SNR=31
TRY **Troy** 80.20 360 eP P 01 52 10.2 +0.7
comp=Z,257nm,1.0s
URZ **Urewera** 80.22 229 eP P 01 52 10.8 +0.6
comp=Z,39nm,0.7s
URZ LR LR
comp=Z,1µm,20.0s
MMNY **Mt. Morris Dam** 80.30 357 eP P 01 52 10.2 +0.1
comp=Z,790nm,1.4s
AAM **Ann Arbor** 80.30 352 eP P 01 52 09.4 -0.8
comp=Z,128nm,0.8s
AAM LR LR
comp=Z,1µm,21.0s
Q30A **Quinter** 80.30 339 P P 01 52 11.3 +0.9
baz=81,SNR=73
GLA **Glamis** 80.35 326 P P 01 52 12.2 +1.5
baz=81,SNR=39
GLA **Glamis** 80.35 326 eP P 01 52 12.3 +1.6
comp=Z,326nm,1.6s
O35A **Humboldt** 80.41 343 P P 01 52 10.0 -0.8
baz=81,SNR=15
R27A **Eads** 80.43 337 P P 01 52 11.8 +0.7
baz=81,SNR=32
Q29A **Oxley** 80.44 339 P P 01 52 11.7 +0.6
baz=81,SNR=17
P32A **Huiting Farm,** 80.47 341 P P 01 52 11.6 +0.4
baz=81,SNR=7.3
O34A **Beatrice** 80.51 342 P P 01 52 11.5 +0.2
baz=81,SNR=46
P31A **Stockton** 80.58 340 P P 01 52 12.4 +0.6
baz=81,SNR=19
IBP **Imperial Bould** 80.59 325 P P 01 52 13.7 +1.6
baz=81,SNR=6.7
O33A **Hebron** 80.63 341 P P 01 52 12.4 +0.4
baz=81,SNR=48
R26A **Arlington** 80.64 337 P P 01 52 13.3 +1.0
baz=81,SNR=64
SWSC **Sam W. Stewart** 80.69 325 P P 01 52 14.2 +1.7
baz=81,SNR=17
DCZ **Deep Cove** 80.73 218 eP P 01 52 13.9 +1.2
comp=Z,40nm,1.1s
SDCO **Great Sand Dun** 80.81 335 P P 01 52 14.4 +1.1
baz=81,SNR=110
SDCO **Great Sand Dun** 80.81 335 eP P 01 52 14.1 +0.7
comp=Z,65nm,1.0s
SDCO LR LR
comp=Z,800nm,20.0s
Y12C **Blythe** 80.81 326 P P 01 52 15.0 +1.9
baz=81,SNR=81
P30A **Selden** 80.84 339 P P 01 52 14.1 +0.9
baz=81,SNR=22
Q28A **Sharon Springs** 80.85 338 P P 01 52 14.2 +0.9
baz=81,SNR=25
ACCN **Adirondack Com** 80.85 360 eP P 01 52 13.2 +0.1
comp=Z,209nm,1.1s
ACCN LR LR
comp=Z,600nm,20.0s
BAR **Barrett** 80.88 324 eP P 01 52 15.1 +1.5
BAR LR LR
comp=Z,2µm,19.0s
N35A **Tabor** 80.91 343 P P 01 52 13.4 0.0
baz=81,SNR=53
MONP **Monument Peak,** 80.94 325 P P 01 52 15.6 +1.5
baz=81,SNR=32
O32A **Brockman Farm,** 80.98 341 P P 01 52 14.4 +0.5
baz=81,SNR=20
WUAZ **Wupatki** 81.00 330 P P 01 52 15.9 +1.7
baz=81,SNR=88
WUAZ **Wupatki** 81.00 330 eP P 01 52 15.8 +1.5
comp=Z,210nm,1.3s
WUAZ LR LR
comp=Z,1µm,21.0s
KSCO **Kaye Shedlock'** 81.04 337 P P 01 52 15.6 +1.2
baz=81,SNR=10
KSCO **Kaye Shedlock'** 81.04 337 eP P 01 52 15.2 +0.8
comp=Z,337nm,1.3s
KSCO LR LR
comp=Z,600nm,20.0s
P29A **Atwood** 81.09 339 P P 01 52 15.6 +1.1
baz=81,SNR=47
N34A **Lincoln** 81.09 343 P P 01 52 14.4 0.0
baz=82,SNR=18
PDMCI **Parker Dam,Lak** 81.11 327 P P 01 52 16.0 +1.4
baz=81,SNR=19
BC3 **Big Chuckawall** 81.14 326 P P 01 52 16.6 +1.6
baz=81,SNR=71
SEK **Senekal** 81.16 119 eP P 01 52 15.9 +0.4
SEK AMB AMB 01 52 16.8
comp=Z,144nm,1.0s
O31A **Woolen Ranch,** 81.16 340 P P 01 52 15.4 +0.6
baz=82,SNR=23
HNH **Hanover** 81.18 1 eP P 01 52 15.6 +0.8
comp=Z,108nm,0.9s
N33A **J Bar K, Exete** 81.22 342 P P 01 52 15.6 +0.4
baz=82,SNR=17
Q26A **Hugo** 81.23 337 P P 01 52 16.6 +1.1
baz=82,SNR=30
109C **Camp Elliot, M** 81.25 324 P P 01 52 16.9 +1.5
baz=82
S22A **4UR Ranch, Cre** 81.26 334 P P 01 52 17.1 +1.3
baz=82,SNR=99
S22A **4UR Ranch, Cre** 81.26 334 eP P 01 52 16.8 +1.0
comp=Z,86nm,1.0s
S22A LR LR
comp=Z,1µm,19.0s
P28A **Saint Francis** 81.30 338 P P 01 52 16.9 +1.2
baz=82,SNR=13
O30A **MW Ranch, Wils** 81.38 340 P P 01 52 17.0 +0.9
baz=82,SNR=35
MVCO **Mesa Verde** 81.38 332 P P 01 52 17.6 +1.2
baz=82,SNR=84
MVCO **Mesa Verde** 81.38 332 eP P 01 52 17.1 +0.8
comp=Z,205nm,1.3s
MVCO LR LR
comp=Z,2µm,19.0s
SCIA **State Center** 81.39 345 eP P 01 52 15.8 -0.1
comp=Z,229nm,1.1s
IRM **Iron Mountain** 81.43 326 P P 01 52 18.1 +1.7
baz=82,SNR=74
NCB **Newcomb** 81.44 359 eP P 01 52 16.5 +0.3
comp=Z,88nm,0.9s
NCB LR LR
comp=Z,700nm,21.0s
N32A **Stulken Farm,** 81.46 341 P P 01 52 17.0 +0.6
baz=82,SNR=15
BFSD **Buffelsfontein** 81.47 117 eP P 01 52 17.3 +0.1
BFSD AMB AMB 01 52 18.3
comp=Z,212nm,1.2s
MDV **Middlebury** 81.47 0 eP P 01 52 16.7 +0.4
M35A **Neola** 81.50 343 P P 01 52 16.3 -0.2
baz=82,SNR=8.6
P27A **Ficken Ranch,** 81.53 338 P P 01 52 17.9 +1.0
baz=82,SNR=14
O29A **4D Ranch, Culb** 81.53 339 P P 01 52 17.9 +1.0
baz=82,SNR=13
PFO **Pinyon Flats O** 81.55 325 P P 01 52 19.0 +1.8
comp=Z,694nm,1.1s,SNR=61
PFO **Pinyon Flats O** 81.55 325 eP P 01 52 19.1 +1.8
PFO **Pinyon Flats O** 81.55 325 P P 01 52 19.2 +1.9
baz=82,SNR=97
PFO **Pinyon Flats O** 81.55 325 eP P 01 52 18.9 +1.7
comp=Z,163nm,1.1s
PFO LR LR
comp=Z,2µm,18.0s
BELC **Belle Mtn. Jos** 81.67 325 P P 01 52 19.5 +1.7
baz=82,SNR=38
N31A **Bailey Ranch,** 81.69 341 P P 01 52 18.4 +0.8
baz=82,SNR=6.0
NEE2 **Needles Airpor** 81.71 327 P P 01 52 19.2 +1.3
baz=82,SNR=9.1
M34A **Aspy Farms, Fr** 81.74 343 P P 01 52 17.9 +0.1
baz=82,SNR=8.7
LBTB **Lobatse** 81.75 115⇑iP P 01 52 19.0 +0.3
LBTB AMB AMB 01 52 20.0
comp=Z,125nm,0.8s
LBTB AMS AMS 02 29 10.8
comp=Z,1µm,16.7s
LBTB **Lobatse** 81.75 115 eP P 01 52 18.8 +0.1
comp=Z,129nm,0.8s
P26A **Davis Ranch, A** 81.76 337 P P 01 52 19.4 +1.1
baz=82,SNR=24
Q24A **Divide** 81.79 336 P P 01 52 19.8 +1.2
baz=82,SNR=94
Q24A **Divide** 81.79 336 eP P 01 52 19.4 +0.8
comp=Z,345nm,1.5s
Q24A LR LR
comp=Z,800nm,18.0s
JFWS **Jewell Farm** 81.81 348 eP P 01 52 17.8 -0.4
comp=Z,248nm,1.3s
JFWS LR LR
comp=Z,800nm,22.0s
O28A **Krutsinger Ran** 81.81 338 P P 01 52 19.5 +1.1
baz=82,SNR=30
PRYS **Parys** 81.83 118⇑iP P 01 52 19.0 -0.1
PRYS AMB AMB 01 52 20.0
comp=Z,51nm,1.0s
MURC **Murrieta** 81.89 324 P P 01 52 20.6 +1.7
baz=82,SNR=26
M33A **Taylor Creek F** 81.95 342 P P 01 52 18.9 0.0
baz=82,SNR=7.1
N30A **Hueftle Ranch,** 81.97 340 P P 01 52 19.7 +0.6
baz=82
SCI **San Clemente I** 82.00 323 P P 01 52 21.0 +1.6
baz=82,SNR=6.6
BGNE **Belgrade** 82.03 342 P P 01 52 19.9 +0.5
baz=82,SNR=11
BGNE **Belgrade** 82.03 342 eP P 01 52 19.7 +0.3
comp=Z,472nm,1.1s
BGNE LR LR
comp=Z,700nm,20.0s
PTN **Potsdam (NY)** 82.05 359 eP P 01 52 19.9 +0.6
comp=Z,317nm,0.9s
L35A **Bielow Farm, R** 82.08 344 P P 01 52 19.8 +0.2
baz=82,SNR=16
O27A **Beecher Island** 82.08 338 P P 01 52 21.0 +1.2
baz=82,SNR=34
LONY **Lake Ozonia** 82.09 359 eP P 01 52 20.1 +0.5
comp=Z,214nm,1.1s
LONY LR LR
comp=Z,700nm,20.0s
WVL **Waterville** 82.10 3 eP P 01 52 20.3 +0.7
comp=Z,115nm,1.0s
WVL LR LR
comp=Z,1µm,22.0s
L34A **Svendsen Farm,** 82.13 343 P P 01 52 20.0 +0.1
baz=82,SNR=20
N29A **Votaw Ranch, W** 82.13 340 P P 01 52 21.0 +1.0
baz=82,SNR=17
KSR **Koster** 82.17 117 eP P 01 52 21.2 +0.2
KSR AMB AMB 01 52 22.2
comp=Z,263nm,1.3s
GMRC **Granite Mounta** 82.18 326 P P 01 52 22.4 +1.9
baz=82,SNR=84
M31A **Lambtecht Ranc** 82.18 341 P P 01 52 21.3 +1.1
baz=82,SNR=18
WDLM **Western Deep L** 82.18 117 eP P 01 52 21.3 +0.3
WDLM AMB AMB 01 52 22.1
comp=Z,41nm,0.8s
LDFC **Landfair** 82.19 327 eP P 01 52 22.5 +2.0
comp=Z,156nm,1.1s
PV01 **Paradox Valley** 82.23 333 eP P 01 52 21.8 +1.0
N28A **Pribbeno Ranch** 82.27 339 P P 01 52 21.5 +0.7
baz=83,SNR=8.4
CIS **Catalina Islan** 82.29 323 P P 01 52 22.5 +1.5
baz=83
BBRC **Big Bear Solar** 82.31 325 P P 01 52 23.1 +1.7
baz=83
EMMW **East Machias** 82.36 4 eP P 01 52 21.6 +0.6
comp=Z,119nm,0.8s
EMMW LR LR
comp=Z,400nm,21.0s
PV05 **Paradox Valley** 82.37 332 eP P 01 52 22.6 +1.0
O26A **Horse Wrangler** 82.38 337 P P 01 52 22.7 +1.3
baz=83,SNR=34
FMP **Fort Macarthur** 82.49 324 P P 01 52 23.5 +1.6
baz=83
HEC **Hector,Ludlow** 82.52 326 P P 01 52 24.1 +1.9
baz=83,SNR=29
PV04 **Paradox Valley** 82.58 333 eP P 01 52 23.4 +0.9
M30A **Dale-Ortello V** 82.60 340 P P 01 52 23.3 +0.9
baz=83,SNR=19
SMCO **Snowmass** 82.60 334 eP P 01 52 24.3 +1.4
comp=Z,178nm,1.1s
SMCO LR LR
comp=Z,2µm,19.0s
PV10 **Paradox Valley** 82.61 333 eP P 01 52 23.7 +0.8
BFSC **Mount Baldy Ra** 82.63 324 P P 01 52 24.5 +1.6
baz=83,SNR=46
OGNE **Ogallala** 82.65 339 P P 01 52 23.7 +0.9
baz=83,SNR=10.0
N27A **Anderson Farm,** 82.67 338 P P 01 52 24.1 +1.2
baz=83,SNR=25
M29A **Burnside Ranch** 82.73 340 P P 01 52 24.2 +1.1
baz=83,SNR=11
PV09 **Paradox Valley** 82.76 333 eP P 01 52 24.7 +1.1
MWC **Mount Wilson** 82.80 324 eP P 01 52 25.3 +1.5
comp=Z,159nm,1.4s
MWC LR LR
comp=Z,3µm,18.0s
EKU **East Kanab** 82.80 330 eP P 01 52 25.7 +1.9
PASC **Pasadena Art C** 82.82 324 eP P 01 52 25.0 +1.3
comp=Z,149nm,1.4s
PASC LR LR
comp=Z,2µm,18.0s
PKME **Peaks-Kenny Pk** 82.82 3 eP P 01 52 23.7 +0.4
comp=Z,44nm,0.9s
PKME LR LR
comp=Z,500nm,22.0s
TUQ **Turquoise Moun** 82.85 326 P P 01 52 25.7 +1.8

baz=83,SNR=18
CRZF Crozet Islands 82.86 145 S SKiKP 02 01 30.0 +14
CRZF R 02 18 00.0
RRX Edison Barstow 82.86 325 P **P** **01 52 25.5 +1.6**
baz=83
M28A Bar X Bar Ranc 82.88 339 P **P** **01 52 25.1 +1.2**
baz=83,SNR=7.7
KNB Kanab 82.88 329 *eP* **P** **01 52 25.7 +1.6**
comp=Z,254nm,1.1s
KNB LR LR
comp=Z,1μm,19.0s
N26A Koester Ranch, 82.89 338 P **P** **01 52 25.2 +1.2**
baz=83,SNR=15
GLMI Grayling 82.90 352 *eP* **P** **01 52 23.7 -0.1**
comp=Z,94nm,0.9s
GLMI LR LR
comp=Z,1μm,20.0s
L31A Butterfield Fa 82.93 341 P **P** **01 52 25.0 +1.0**
baz=83,SNR=43
L30A Spencer Herefo 82.94 341 P **P** **01 52 25.3 +1.1**
baz=83,SNR=25
DECC Green Verdugo 82.95 324 P **P** **01 52 26.3 +1.9**
baz=83,SNR=7.0
GSC Goldstone, Bar 83.13 326 P **P** **01 52 27.1 +1.7**
baz=83,SNR=49
GSC Goldstone, Bar 83.13 326 *eP* **P** **01 52 27.0 +1.6**
comp=Z,191nm,1.6s
GSC LR LR
comp=Z,900nm,18.0s
BTU Barney Top 83.14 330 *eP* **P** **01 52 24.7 -1.1**
BLG Laguna Peak, P 83.18 323 P **P** **01 52 27.0 +1.4**
baz=83,SNR=5.7
SLR Silverton 83.22 117 *eP* **P** **01 52 26.6 +0.3**
SLR AMB AMB 01 52 27.3
comp=Z,108nm,1.0s
SLR AMS AMS 02 38 51.6
comp=Z,1μm,16.7s
L29A Maesberg Ranch 83.25 340 P **P** **01 52 26.8 +1.0**
baz=84,SNR=11
M27A Reverse DX Ran 83.29 339 P **P** **01 52 27.1 +1.0**
baz=84
MMU Miners Mountai 83.30 331 *eP* **P** **01 52 27.5 +1.1**
EDW2 Edwards Air Fo 83.31 325 P **P** **01 52 27.7 +1.4**
baz=84,SNR=34
BSC Santa Cruz Isl 83.35 323 P **P** **01 52 28.0 +1.5**
baz=84,SNR=9.4
SHOC Shoshone, Teco 83.39 326 P **P** **01 52 28.0 +1.3**
baz=84,SNR=8.4
SHPR Sheep Range 83.42 327 *eP* **P** **01 52 28.7 +1.8**
OSI Osito Audit: C 83.43 324 P **P** **01 52 28.4 +1.5**
baz=84
OSI Osito Audit: C 83.43 324 PFAKE 01 52 40.0 +13
OSI LR LR
comp=Z,2μm,18.0s
M26A McRoberts Ranc 83.45 338 P **P** **01 52 27.8 +0.9**
baz=84
L28A Connealy Angus 83.48 339 P **P** **01 52 28.0 +1.0**
baz=84,SNR=6.8
CCUT Cedar City 83.56 329 *eP* **P** **01 52 29.8 +2.1**
comp=Z,182nm,1.2s
CCUT LR LR
comp=Z,1μm,20.0s
K30A Basset 83.59 341 P **P** **01 52 28.3 +0.8**
baz=84,SNR=27
LRMC Laurel Mtn Rad 83.67 325 P **P** **01 52 29.8 +1.6**
baz=84,SNR=11
M25A Palm-Egli Farm 83.70 337 P **P** **01 52 29.2 +1.0**
baz=84,SNR=22
SBC Santa Barbara 83.76 323 P **P** **01 52 30.2 +1.7**
baz=84
L27A T5 Ranch, Ells 83.78 339 P **P** **01 52 29.6 +1.1**
baz=84,SNR=6.4
N23A Red Feather La 83.80 336 P **P** **01 52 29.9 +1.0**
baz=84,SNR=24
N23A Red Feather La 83.80 336 *eP* **P** **01 52 29.9 +1.0**
comp=Z,192nm,1.4s
N23A LR LR
comp=Z,600nm,18.0s
SRU San Rafael Swe 83.81 332 *eP* **P** **01 52 29.6 +0.7**
comp=Z,102nm,0.8s
K29A Lazy Trails An 83.86 340 P **P** **01 52 29.7 +0.8**
baz=84,SNR=16
ECSD EROS Data Cent 83.86 343 P **P** **01 52 29.4 +0.5**
baz=84,SNR=40
ECSD EROS Data Cent 83.86 343 *eP* **P** **01 52 29.3 +0.5**
comp=Z,481nm,1.0s
ECSD LR LR
comp=Z,600nm,19.0s
O20A White River Ci 83.89 334 P **P** **01 52 30.4 +1.1**
baz=84,SNR=48
O20A White River Ci 83.89 334 *eP* **P** **01 52 30.1 +0.7**
comp=Z,534nm,2.0s
O20A LR LR
comp=Z,1μm,20.0s
ARVC Arvin 83.90 324 P **P** **01 52 30.8 +1.6**
baz=84,SNR=5.6
MSU Marysvale 83.92 330 *eP* **P** **01 52 30.9 +1.3**
MVU Marysvale 83.92 330 *eP* **P** **01 52 31.1 +1.5**
comp=Z,80nm,1.0s
MVU LR LR
comp=Z,1μm,20.0s
L26A Underwood Farm 83.96 338 P **P** **01 52 30.3 +0.8**
baz=84,SNR=12
PHWY Pilot Hill 84.01 336 *eP* **P** **01 52 30.5 +0.5**
comp=Z,66nm,0.8s
MPMC Manual Prospec 84.06 326 P **P** **01 52 31.7 +1.4**
baz=84,SNR=34
K28A Ten Mile Ranch 84.10 340 P **P** **01 52 31.5 +1.4**
baz=84,SNR=51
FURC Furnace Creek, 84.13 326 P **P** **01 52 32.1 +1.8**
baz=84,SNR=48
J30A Dallas 84.17 341 P **P** **01 52 30.8 +0.3**
baz=84,SNR=18
PKM Mcpherson Peak 84.18 323 P **P** **01 52 32.7 +1.8**
baz=84,SNR=53
ISA Isabella, Lake 84.18 325 P **P** **01 52 32.6 +1.9**
baz=84,SNR=40
ISA Isabella, Lake 84.18 325 *eP* **P** **01 52 32.7 +1.9**
comp=Z,89nm,1.0s
ISA LR LR
comp=Z,2μm,20.0s
TMUT Trail Mountain 84.23 332 *eP* **P** **01 52 32.2 +1.0**
comp=Z,101nm,0.9s
TMUT LR LR
comp=Z,1μm,19.0s
TPNV Topopah Spring 84.26 327 P **P** **01 52 33.1 +1.8**
baz=84,SNR=93
TPNV Topopah Spring 84.26 327 *eP* **P** **01 52 32.9 +1.7**
comp=Z,87nm,1.1s
TPNV LR LR
comp=Z,1μm,20.0s
PQI Presque Isle 84.28 4 PFAKE 01 52 40.0 +9.2
PQI LR LR
comp=Z,702nm,20.0s
DAC Darwin (Calif) 84.29 326 *eP* **P** **01 52 33.0 +1.6**
comp=Z,123nm,1.1s
DAC LR LR
comp=Z,500nm,19.0s
SGU Sterling 84.29 331 *eP* **P** **01 52 33.3 +1.9**
L25A Engebretsen Ra 84.33 338 P **P** **01 52 32.5 +1.2**
baz=85,SNR=15
K27A Fleckinger Fa 84.33 339 P **P** **01 52 32.4 +1.1**
baz=85,SNR=24
OUZ Omahuta 84.35 229 *eP* **P** **01 52 32.7 +0.9**
comp=Z,71nm,1.2s
OUZ LR LR
comp=Z,2μm,18.0s
SNO Snow College 84.37 331 *eP* **P** **01 52 33.6 +1.7**
ARGU Argyle Ridge 84.44 332 *eP* **P** **01 52 33.7 +1.4**
J29A Okreek 84.46 341 P **P** **01 52 32.6 +0.7**
baz=85,SNR=42
SPMN Marine on St. 84.50 346 P **P** **01 52 31.6 -0.5**
baz=85,SNR=32
SPMN Marine on St. 84.50 346 *eP* **P** **01 52 31.6 -0.5**
comp=Z,132nm,0.8s
SPMN LR LR
comp=Z,800nm,19.0s
K26A Motz Farm, Whi 84.60 338 P **P** **01 52 33.5 +0.8**
baz=85,SNR=22
SMMC Simmler 84.60 323 P **P** **01 52 35.2 +2.3**
baz=85
VES Vestal, Richgr 84.61 324 P **P** **01 52 34.0 +1.2**
baz=85,SNR=52
CWC Cottonwood Cre 84.64 325 P **P** **01 52 34.7 +1.5**
baz=85,SNR=9.7
I30A Oacoma 84.71 341 P **P** **01 52 33.2 +0.1**
baz=85,SNR=14
K25A Mack Ranch, Ha 84.72 338 P **P** **01 52 34.5 +1.1**
baz=85,SNR=14
J28A Allard Ranch, 84.72 340 P **P** **01 52 34.0 +0.7**
baz=85,SNR=33
J27A Elkhorn Farm, 84.77 339 P **P** **01 52 34.8 +1.2**
baz=85,SNR=27
GRAC Grapevine Rang 84.79 326 P **P** **01 52 35.5 +1.7**
baz=85,SNR=55
MPU Maple Canyon 85.01 332 *eP* **P** **01 52 36.1 +1.1**
comp=Z,386nm,1.1s
MPU LR LR
comp=Z,6μm,18.0s
I29A Vivian Onida 85.03 341 P **P** **01 52 34.9 +0.2**
baz=85
RCTC Rector, Farmer 85.06 325 P **P** **01 52 35.7 +0.7**
baz=85
K24A Anderson Ranch 85.10 337 P **P** **01 52 36.4 +1.1**
baz=85,SNR=13
J26A Sides Ranch, S 85.13 339 P **P** **01 52 36.3 +1.0**
baz=86,SNR=68
NLU North Lily Min 85.13 331 *eP* **P** **01 52 36.7 +1.1**
comp=Z,252nm,1.7s
NLU LR LR
comp=Z,2μm,18.0s
R11A Troy Canyon, C 85.16 328 P **P** **01 52 37.4 +1.7**
baz=86,SNR=153
R11A Troy Canyon, C 85.16 328 *eP* **P** **01 52 37.2 +1.5**
comp=Z,91nm,1.0s
R11A LR LR
comp=Z,1μm,20.0s
TIN Tinemaha, Big 85.22 326 P **P** **01 52 37.8 +1.8**
baz=86,SNR=14
I28A Midland 85.24 340 P **P** **01 52 36.4 +0.6**
baz=86,SNR=75
K23A Bowen Ranch, D 85.38 337 P **P** **01 52 37.2 +0.5**
baz=86,SNR=26
J25A Sunshine Ranch 85.41 338 P **P** **01 52 37.4 +0.6**
baz=86,SNR=105
HTU Hoyt Peak 85.44 332 *eP* **P** **01 52 38.4 +1.2**
FSU Fish Springs 85.44 330 *eP* **P** **01 52 38.7 +1.6**
JLU Jordanelle 85.46 332 *eP* **P** **01 52 38.3 +1.0**
comp=Z,60nm,0.8s
JLU LR LR
comp=Z,1μm,18.0s
I27A Quinn 85.54 340 P **P** **01 52 37.9 +0.5**
baz=86,SNR=37
K22A Casper 85.57 336 P **P** **01 52 38.3 +0.6**
baz=86,SNR=53
K22A Casper 85.57 336 *eP* **P** **01 52 38.3 +0.6**
comp=Z,127nm,0.9s
K22A LR LR
comp=Z,700nm,18.0s
H29A Onida 85.57 341 P **P** **01 52 37.6 +0.2**
baz=86,SNR=46
J24A Dixon Ranch, L 85.61 338 P **P** **01 52 38.8 +1.0**
baz=86,SNR=33
MTUM Tungsten Hills 85.62 326 *eP* **P** **01 52 39.3 +1.2**
MTUM *ePP* **PP** **01 55 57.1 -0.4**
DUG Dugway, Tooele 85.62 331 P **P** **01 52 39.2 +1.2**
baz=86,SNR=128
DUG Dugway, Tooele 85.62 331 *eP* **P** **01 52 39.1 +1.2**
comp=Z,181nm,1.3s
DUG LR LR
comp=Z,1μm,19.0s
TPH Tonopah 85.62 327 *eP* **P** **01 52 39.5 +1.4**
comp=Z,152nm,1.0s
TPH LR LR
comp=Z,1μm,21.0s
GRD Gardner Farm 85.63 332 *eP* **P** **01 52 35.7 -2.3**
CTU Camp Tracy 85.65 332 *eP* **P** **01 52 38.7 +0.6**
comp=Z,31nm,0.8s
CTU LR LR
comp=Z,2μm,18.0s
I26A New Underwood 85.73 339 P **P** **01 52 38.5 +0.2**
baz=86,SNR=6.3
G30A Faulkton 85.78 342 P **P** **01 52 38.4 0.0**
baz=86,SNR=13
H28A Mission Ridge 85.83 341 P **P** **01 52 39.2 +0.5**
baz=86,SNR=18
TCUT Toone Canyon 85.89 332 PFAKE 01 52 50.0 +11
TCUT LR LR
comp=Z,900nm,22.0s
J23A Dilts Ranch, B 85.95 337 P **P** **01 52 39.9 +0.4**
baz=86
SAIU Southern Antel 85.95 332 *eP* **P** **01 52 40.2 +0.6**
I25A Rochford 85.97 339 P **P** **01 52 40.3 +0.6**
baz=86,SNR=91
MLAC Mammoth, Mammo 85.97 326 P **P** **01 52 41.5 +1.7**
baz=86,SNR=10
FPU Francis Peak 85.97 332 *eP* **P** **01 52 40.8 +0.9**
LRV Little Rabbit 85.99 323 *eP* **P** **01 52 40.4 +0.6**
G29A Hoven 86.03 342 P **P** **01 52 39.8 +0.1**
baz=86,SNR=30
H27A Howes 86.07 340 P **P** **01 52 40.0 +0.1**
baz=86,SNR=45
I24A Kuemmerle Ranc 86.08 338 P **P** **01 52 40.5 +0.4**
baz=86,SNR=20
NAIU Northern Antel 86.11 332 *eP* **P** **01 52 41.0 +0.6**
H07S1 FLORES T-PHASE 86.11 32 *eP* **P** **01 52 41.7 +1.5**
RSSD Black Hills 86.15 338 *eP* **P** **01 52 40.6 +0.1**
comp=Z,98nm,0.8s
RSSD LR LR
comp=Z,400nm,18.0s
G28A Parade 86.17 341 P **P** **01 52 40.9 +0.5**
baz=86,SNR=29
MCU Monte Cristo P 86.23 332 *eP* **P** **01 52 40.2 -0.9**
J22A Midwest 86.24 337 P **P** **01 52 40.8 -0.2**
baz=87,SNR=38
H26A Fairpoint 86.24 340 P **P** **01 52 40.9 +0.1**
baz=87
BGU Big Grassy Mou 86.33 331 *eP* **P** **01 52 42.0 +0.5**
comp=Z,201nm,1.9s
BGU LR LR
comp=Z,1μm,18.0s
RSUT Red Spur Mount 86.35 333 *eP* **P** **01 52 42.4 +0.7**
HWUT Hardware Ranch 86.38 332 *eP* **P** **01 52 42.5 +0.8**
comp=Z,200nm,1.0s
HWUT LR LR
comp=Z,1μm,22.0s
NV01 Mina Array Sit 86.39 326 *eP* **P** **01 52 43.3 +1.4**
NV01 *e*PKKPbc **PKKPbc** **02 10 41.0 +1.2**
NVAR Mina Array Bea 86.39 326 P **P** **01 52 43.3 +1.4**
comp=Z,28nm,0.8s,baz=157,slow=6.3,SNR=156
NVAR PKKPbc **PKKPbc** **02 10 41.0 +1.2**
comp=Z,1.1nm,0.8s,baz=300,slow=3.4,SNR=5.4
NVAR PKPPKP **P'P'df** **02 18 43.5 +2.3**
comp=Z,0.3nm,0.4s,baz=112,slow=1.6,SNR=3.9
F30A Leola 86.41 342 P **P** **01 52 41.9 +0.4**
baz=87,SNR=20
I23A Meade Ranch, G 86.42 337 P **P** **01 52 41.6 -0.3**
baz=87
H25A Fruitdale 86.48 339 P **P** **01 52 42.4 +0.4**
baz=87,SNR=18
J21A Lysite 86.49 336 P **P** **01 52 42.6 +0.3**
baz=87,SNR=31
EPU East Promontor 86.50 332 *eP* **P** **01 52 43.0 +0.7**
WVUT Wellsville 86.52 332 *eP* **P** **01 52 42.8 +0.4**
PCED Cedros 86.55 34 *eP* **P** **01 52 43.4 +1.0**
comp=Z,86nm,1.3s
BMUT Black Mountain 86.56 333 *eP* **P** **01 52 43.2 +0.5**
MSNA Messina 86.58 116 ⇑*i*P **P** **01 52 44.2 +1.0**
MSNA AMB AMB 01 52 45.1
comp=Z,100nm,1.0s
F29A Eureka 86.60 342 P **P** **01 52 42.8 +0.2**
baz=87,SNR=10
TOB5 Torodi Ar. Sit 86.61 71 ⇑*i*P **P** **01 52 42.3 -0.9**
PPNO Prainha do Nor 86.61 34 *eP* **P** **01 52 43.6 +0.8**
comp=Z,231nm,1.5s
TOA0 Torodi Ar. Sit 86.61 71 *eP* **P** **01 52 43.1 -0.1**
TOA0 *e*PP **PP** **01 56 08.7 +3.0**
TOA0 *e*PKiKP **PKiKP** **01 57 49.5 -0.6**
TOA0 *e*S **S** **02 03 17.6 -1.4**
TOA0 *e*PKKPbc **PKKPbc** **02 10 39.1 +1.5**
TORD Torodi Ar. Bea 86.61 71 P **P** **01 52 43.1 -0.1**
comp=Z,49nm,1.0s,baz=224,slow=4.0,SNR=145
TORD PP **PP** **01 56 08.7 +3.0**
comp=Z,6.4nm,1.0s,baz=241,slow=9.9,SNR=3.5
TORD PKiKP **PKiKP** **01 57 49.5 -0.5**
comp=Z,1.9nm,0.8s,baz=291,slow=1.3,SNR=5.0
TORD S **S** **02 03 17.6 -1.4**
comp=Z,2.6nm,1.3s,baz=232,slow=7.1,SNR=4.5
TORD PKKPbc **PKKPbc** **02 10 39.1 +1.5**
comp=Z,1.8nm,1.0s,baz=74,slow=1.8,SNR=5.6
TORD LR LR 02 28 05.9
comp=Z,661nm,20.9s,baz=245,slow=33
HDU Hyde Park 86.62 332 *eP* **P** **01 52 43.3 +0.4**
I22A 9 Mile Ranch, 86.68 337 P **P** **01 52 43.0 -0.1**
baz=87,SNR=29
BW06 Boulder Array 86.68 334 *eP* **P** **01 52 43.4 +0.1**
comp=Z,76nm,1.1s
BW06 LR LR
comp=Z,2μm,21.0s
PD31 Pinedale Array 86.68 334 *eP* **P** **01 52 43.3 +0.1**
PD31 *e*PKKPbc **PKKPbc** **02 10 38.4 -1.1**
PDAR Pinedale Array 86.68 334 P **P** **01 52 43.3 +0.1**
comp=Z,32nm,0.8s,baz=132,slow=4.4,SNR=207
PDAR PKKPbc **PKKPbc** **02 10 38.4 -1.1**
comp=Z,1.1nm,1.0s,baz=50,slow=4.6,SNR=5.4
PDAR LR LR 02 27 27.9
comp=Z,2μm,18.2s,baz=176,slow=33
J20A Shoshoni 86.70 335 P **P** **01 52 44.1 +0.9**
baz=87,SNR=99
G27A Dupree 86.72 340 P **P** **01 52 43.2 0.0**
baz=87,SNR=16
MTUT Morton Thiokol 86.79 332 *eP* **P** **01 52 44.0 +0.3**
G26A Maurine 86.82 340 P **P** **01 52 43.7 +0.1**
baz=87,SNR=90
PMAN Manadas 86.82 34 *eP* **P** **01 52 45.2 +1.5**
comp=Z,110nm,1.2s
ROSA Rosais 86.83 34 *eP* **P** **01 52 44.7 +1.0**
comp=Z,82nm,1.0s
PSMA Santa Maria 86.84 37 *eP* **P** **01 52 44.4 +0.5**
comp=Z,171nm,1.2s
I21A Big Trails, Te 86.86 336 P **P** **01 52 43.9 -0.1**
baz=87,SNR=50
F28A McLaughlin 86.86 341 P **P** **01 52 44.2 +0.4**
baz=87,SNR=48
H24A Dirks Ranch, A 86.87 338 P **P** **01 52 43.7 -0.2**
baz=87,SNR=36
PSMN Pico do Norte, 86.88 37 *eP* **P** **01 52 44.6 +0.5**
comp=Z,170nm,1.3s
BEI Bear River Ran 86.90 333 *eP* **P** **01 52 45.0 +0.7**
EYMN Ely 86.91 348 P **P** **01 52 43.7 -0.2**
baz=87,SNR=31
EYMN Ely 86.91 348 *eP* **P** **01 52 43.8 -0.1**
comp=Z,160nm,1.2s
EYMN LR LR
comp=Z,900nm,20.0s
MLI Malad Range 86.95 332 *eP* **P** **01 52 45.0 +0.5**
J19A Crowheart 86.95 335 P **P** **01 52 44.8 +0.4**
baz=87,SNR=83
H23A Clabaugh Cattl 86.95 338 P **P** **01 52 43.9 -0.4**
baz=87
G25A Newell 86.95 339 P **P** **01 52 44.6 +0.3**
baz=87,SNR=69
WAKR Walker 86.95 326 *eP* **P** **01 52 46.0 +1.3**
WAKR *e*PP **PP** **01 56 09.8 +1.4**
HVU Hansel Valley 86.97 332 *eP* **P** **01 52 45.1 +0.5**
comp=Z,88nm,0.9s
HVU LR LR
comp=Z,2μm,18.0s
CMB Columbia Colle 87.00 325 *eP* **P** **01 52 45.7 +1.1**
comp=Z,62nm,1.3s
CMB LR LR
comp=Z,2μm,18.0s
E30A Jud 87.01 343 P **P** **01 52 44.7 +0.3**
baz=87,SNR=30
ELK Elko 87.04 330 *eP* **P** **01 52 45.9 +0.8**
comp=Z,70nm,1.0s
PGRA Graciosa 87.19 34 *eP* **P** **01 52 46.0 +0.5**
comp=Z,47nm,0.8s
NPI North Pocatell 87.20 332 *eP* **P** **01 52 46.2 +0.5**
PDA Ponta Delgada 87.20 36 *eP* **P** **01 52 46.2 +0.7**
comp=Z,92nm,1.2s
F27A Lemmon 87.20 340 P **P** **01 52 45.7 +0.2**
baz=88,SNR=60
AHID Auburn Hatcher 87.22 333 *eP* **P** **01 52 45.8 0.0**
comp=Z,69nm,1.0s
AHID LR LR
comp=Z,1μm,21.0s
ADH Angra Heroismo 87.22 34 *eP* **P** **01 52 47.2 +1.6**
comp=Z,49nm,0.8s
PSET Sete Cidades 87.23 36 *eP* **P** **01 52 46.5 +0.7**
comp=Z,111nm,1.1s
E29A Napoleon 87.25 342 P **P** **01 52 46.0 +0.3**
baz=88,SNR=16
I20A Worland 87.25 336 P **P** **01 52 46.2 +0.4**
baz=88,SNR=36
H22A Clearmont 87.27 337 P **P** **01 52 45.7 -0.1**
baz=88
GRON Grota Negra 87.28 36 *eP* **P** **01 52 47.5 +1.5**
comp=Z,39nm,1.3s
F26A Lodgepole 87.35 340 P **P** **01 52 46.4 +0.2**
baz=88,SNR=21
G24A Alzada 87.36 339 P **P** **01 52 46.1 -0.2**
baz=88,SNR=11
PAF Port-aux-Franc 87.42 157 S **S** **02 03 21.0 -5.0**
PAF SS **SS** **02 09 14.0 +4.5**
PAF R 02 22 00.0
BART Pico Bartolome 87.45 36 *eP* **P** **01 52 48.1 +1.2**
comp=Z,281nm,1.4s
E28A Huff 87.51 342 P **P** **01 52 47.2 +0.3**
baz=88,SNR=22
H21A Big Horn, Sher 87.51 337 P **P** **01 52 46.7 -0.4**
baz=88,SNR=9.5
G23A Biddle 87.53 338 P **P** **01 52 46.9 -0.2**
baz=88,SNR=13
D30A Buchanan 87.55 343 P **P** **01 52 47.5 +0.5**
baz=88,SNR=34
BMN Battle Mountai 87.59 328 *eP* **P** **01 52 47.9 +0.3**
comp=Z,24nm,0.9s
BMN *e*PP **PP** **01 56 13.2 -0.2**
BMN LR LR
comp=Z,1μm,18.0s
E27A Carson 87.60 341 P **P** **01 52 47.6 +0.2**
baz=88,SNR=17
I19A Meeteetse 87.61 335 P **P** **01 52 48.0 +0.3**
baz=88,SNR=28
F25A Bowman 87.64 340 P **P** **01 52 47.8 +0.2**
baz=88,SNR=23
REDW Red Top Meadow 87.65 334 *eP* **P** **01 52 48.5 +0.5**
comp=Z,311nm,1.9s
REDW *e*PP **PP** **01 56 11.8 -2.1**
REDW LR LR
comp=Z,1μm,20.0s
H20A Greybull 87.69 336 P **P** **01 52 47.7 -0.2**
baz=88,SNR=26
D29A Pettibone, Tap 87.70 342 P **P** **01 52 48.1 +0.3**
baz=88,SNR=35
SNOW Snow King Moun 87.71 334 *eP* **P** **01 52 48.7 +0.5**
comp=Z,55nm,0.8s
SNOW LR LR
comp=Z,2μm,20.0s
LOHW Long Hollow 87.79 334 *eP* **P** **01 52 48.8 +0.2**
comp=Z,38nm,0.8s
LOHW LR LR
comp=Z,2μm,20.0s
TPAW Teton Pass 87.80 334 *eP* **P** **01 52 49.2 +0.5**
comp=Z,85nm,0.9s
TPAW LR LR
comp=Z,1μm,20.0s
G22A Birney 87.81 337 P **P** **01 52 48.1 -0.4**
baz=88,SNR=8.4
F24A Ekalaka 87.84 339 P **P** **01 52 48.4 -0.2**
baz=88,SNR=15
E26A Carlson Angus 87.87 340 P **P** **01 52 48.8 +0.1**
baz=88,SNR=65
DRLN Deer Lake 87.88 10 *eP* **P** **01 52 48.4 -0.1**
comp=Z,43nm,0.8s
MOOW Moose Ponds 87.95 334 *eP* **P** **01 52 49.5 +0.1**
comp=Z,30nm,0.8s
MOOW LR LR
comp=Z,2μm,20.0s
FXWY Fox Creek 87.96 334 *eP* **P** **01 52 49.8 +0.4**
comp=Z,30nm,0.9s
FXWY LR LR
comp=Z,1μm,19.0s
F23A Volborg 88.00 338 P **P** **01 52 49.0 -0.4**
baz=88,SNR=9.5
C30A Mose, Pekin 88.04 343 P **P** **01 52 50.1 +0.7**
baz=88,SNR=76
AGMN Agassiz Nation 88.05 345 P **P** **01 52 49.6 +0.3**
baz=88,SNR=92
AGMN Agassiz Nation 88.05 345 *eP* **P** **01 52 49.5 +0.1**
comp=Z,290nm,1.3s
AGMN LR LR
comp=Z,800nm,18.0s
D28A Regan 88.06 342 P **P** **01 52 50.0 +0.5**
baz=88,SNR=58
G21A Lodge Grass 88.10 337 P **P** **01 52 49.8 -0.1**
baz=88,SNR=11
E25A Miller Ranch, 88.15 340 P **P** **01 52 50.2 +0.2**
baz=88,SNR=23
IMW Indian Meadow 88.15 334 *eP* **P** **01 52 50.6 +0.3**
comp=Z,83nm,1.0s
IMW LR LR

comp=Z,2µm,19.0s
H19A Powell 88.17 336 P P 01 52 50.4 +0.1
baz=88,SNR=15
D27A Center 88.22 341 P P 01 52 50.5 +0.2
baz=89,SNR=13
FLWY Flagg Ranch 88.23 334 eP P 01 52 51.5 +0.9
comp=Z,103nm,0.8s
FLWY LR LR
comp=Z,2µm,20.0s
F22A Rosebud 88.31 338 P P 01 52 50.5 -0.3
baz=89
D26A Manning 88.38 341 P P 01 52 51.5 +0.5
baz=89,SNR=71
G20A Bridger 88.41 336 P P 01 52 51.1 -0.3
baz=89,SNR=14
NSHM Saint Helena R 88.42 324 eP P 01 52 51.4 0.0
MDND Maddock 88.44 343 P P 01 52 51.8 +0.5
baz=89,SNR=31
MDND Maddock 88.44 343 eP P 01 52 51.8 +0.5
comp=Z,452nm,0.9s
MDND LR LR
comp=Z,500nm,21.0s
E24A Baker 88.45 339 P P 01 52 51.7 +0.3
baz=89,SNR=14
H17A Grant Village 88.46 334 P P 01 52 53.0 +1.2
baz=89,SNR=6.9
H17A Grant Village 88.46 334 eP P 01 52 52.6 +0.8
comp=Z,10nm,0.7s
H17A LR LR
comp=Z,4µm,21.0s
MCID Moose Creek 88.49 334 eP P 01 52 52.9 +1.0
C28A Hausauer Farms 88.50 342 P P 01 52 52.0 +0.4
baz=89,SNR=22
LKWY Lake 88.55 335 PFAKE 01 53 00.0 +7.8
LKWY LR LR
comp=Z,2µm,20.0s
OHCM Honcut 88.56 325 eP P 01 52 52.7 +0.7
YFT Old Faithful 88.60 334 eP P 01 52 54.2 +1.8
comp=Z,109nm,1.4s
F21A Absaloka Mine, 88.61 337 P P 01 52 52.1 -0.1
baz=89
RLMT Red Lodge 88.67 336 P P 01 52 53.0 +0.3
baz=89,SNR=36
E23A Ismay 88.68 339 P P 01 52 52.1 -0.4
baz=89
B30A Myrvik Farm, E 88.71 344 P P 01 52 52.9 +0.3
baz=89,SNR=115
D25A Fairfield 88.73 340 P P 01 52 53.2 +0.5
baz=89,SNR=14
C27A Sayler Ranch, 88.77 342 P P 01 52 53.4 +0.6
baz=89,SNR=48
E22A Miles City 88.81 338 P P 01 52 52.6 -0.5
baz=89,SNR=6.4
YMR Madison River 88.84 334 eP P 01 52 54.6 +1.1
comp=Z,103nm,0.9s
YHH Holmes Hill 88.90 334 eP P 01 52 55.0 +1.1
F20A Billings 88.91 337 P P 01 52 53.4 -0.2
baz=89
B29A Wagenman Farm, 88.96 343 P P 01 52 53.9 +0.2
baz=89,SNR=16
D24A Glendive 88.97 340 P P 01 52 54.2 +0.4
baz=89,SNR=23
C26A Wahner Farm, P 89.03 341 P P 01 52 54.5 +0.4
baz=89,SNR=10
HLID Hailey 89.12 332 P P 01 52 56.1 +1.3
baz=89,SNR=114
HLID Hailey 89.12 332 eP P 01 52 55.9 +1.0
comp=Z,98nm,1.2s
HLID LR LR
comp=Z,1µm,19.0s
QLMT Earthquake Lak 89.14 334 eP P 01 52 56.1 +1.2
A30A Hoffart Farm, 89.17 344 P P 01 52 54.7 0.0
baz=90,SNR=31
B28A Dugan Ranch, T 89.18 342 P P 01 52 55.1 +0.3
baz=90,SNR=16
C25A Freed Ranch, W 89.22 340 P P 01 52 55.3 +0.3
baz=90,SNR=6.5
E21A Keefer Ranch, 89.24 338 P P 01 52 55.1 0.0
baz=90,SNR=5.5
D23A Lindsay 89.27 339 P P 01 52 55.5 +0.3
baz=90,SNR=15
B27A Peters Farms, 89.36 342 P P 01 52 55.9 +0.3
baz=90,SNR=11
A29A Manning Farm, 89.36 343 P P 01 52 55.6 0.0
baz=90,SNR=93
C24A Savage 89.37 340 P P 01 52 55.9 +0.2
baz=90,SNR=25
GCMT Greycliff 89.39 336 eP P 01 52 56.0 0.0
D22A Cohagen 89.53 338 P P 01 52 56.7 +0.2
baz=90,SNR=12
MFID Camas Ranch 89.54 331 eP P 01 52 57.4 +0.7
comp=Z,110nm,1.4s
MFID LR LR
comp=Z,1µm,19.0s
B26A Jensen Ranch, 89.57 341 P P 01 52 56.8 +0.2
baz=90
A28A Rude Farm, Bot 89.59 343 P P 01 52 56.8 +0.1
baz=90,SNR=18
MCMT McKenzie Canyo 89.64 333 eP P 01 52 58.4 +1.1
D21A La Casta Ranch 89.69 338 P P 01 52 57.2 0.0
baz=90,SNR=10
LSZ Lusaka 89.70 109 ⇑ iP P 01 53 00.2 +2.0
LSZ Lusaka 89.70 109 P P 01 53 00.5 +2.3
SNR=18
LSZ Lusaka 89.70 109 eP P 01 52 58.3 0.0
comp=Z,58nm,1.0s
LSZ LR LR
comp=Z,1µm,18.0s
B25A Knox Farm, Ray 89.72 341 P P 01 52 57.7 +0.4
baz=90,SNR=5.0
KCPM Cahto Peak 89.81 324 eP P 01 52 57.5 -0.6
comp=Z,72nm,1.3s
C23A Lambert 89.83 339 P P 01 52 57.9 0.0
baz=90,SNR=11
WVOR Wild Horse Val 89.85 328 eP P 01 52 58.8 +0.6
comp=Z,97nm,1.3s
WVOR LR LR
comp=Z,1µm,19.0s
KIPM Iron Peak 89.86 324 eP P 01 52 59.0 +0.7
A27A Ledoux Ranch, 89.86 342 P P 01 52 58.3 +0.4
baz=90,SNR=10
ULM Lac du Bonnet 89.91 346 P P 01 52 57.4 -0.7
comp=Z,96nm,1.1s,baz=173,slow=3.5,SNR=65
ULM Lac du Bonnet 89.91 346 P P 01 52 57.4 -0.7
ULM pmax pmax
comp=Z,96nm,1.1s
ULM Lac du Bonnet 89.91 346 eP P 01 52 57.6 -0.5
comp=Z,123nm,1.1s
BOZ Bozeman (W) 89.92 334 P P 01 52 58.7 +0.3
baz=90,SNR=20
C22A Vida 89.98 339 P P 01 52 58.4 -0.2
baz=90,SNR=6.9
A26A Wade Farm, Ken 90.01 342 P P 01 52 58.7 +0.1
baz=90,SNR=11
DLMT Dillon 90.01 334 eP P 01 52 59.9 +1.0
comp=Z,81nm,1.4s
DLMT LR LR
comp=Z,1µm,19.0s
WDC Whiskeytown Da 90.04 325 eP P 01 52 59.2 +0.3
comp=Z,86nm,1.6s
WDC LR LR
comp=Z,900nm,18.0s
DGMT Dagmar 90.17 340 P P 01 52 59.6 +0.1
baz=90,SNR=12
DGMT Dagmar 90.17 340 eP P 01 52 59.5 +0.1
KMRM Mail Ridge 90.29 324 eP P 01 53 00.4 +0.2
comp=Z,176nm,1.3s
A25A Svangstu Ranch 90.32 341 P P 01 53 00.4 +0.3
baz=91,SNR=13
LRM Limekiln Ridge 90.36 334 eP P 01 53 01.4 +0.8
B23A Brockton 90.38 340 P P 01 53 00.3 -0.1
baz=91,SNR=7.8
C21A Desert Coulee 90.41 338 P P 01 53 00.1 -0.4
baz=91,SNR=12
N02D Trinity Center 90.43 325 P P 01 53 01.7 +0.9
baz=91,SNR=7.9
B22A Reddig Ranch S 90.52 339 P P 01 53 01.2 +0.1
baz=91,SNR=7.9
A24A Westby 90.53 340 P P 01 53 01.2 +0.1
baz=91,SNR=6.8
C20A Veseth Ranch, 90.58 338 P P 01 53 00.9 -0.4
baz=91,SNR=14
M04C Macdoel 90.69 326 P P 01 53 03.3 +1.1
baz=91,SNR=12
A23A Redstone 90.80 340 P P 01 53 02.4 +0.1
baz=91
KHMM Horse Mountain 90.82 324 eP P 01 53 03.4 +0.6
comp=Z,96nm,1.2s

M02C Callahan 90.83 325 P P 01 53 03.9 +1.2
baz=91,SNR=12
HRY Holter Researc 90.92 335 eP P 01 53 03.7 +0.6
B21A Ellsworth Farm 90.92 338 P P 01 53 03.0 0.0
baz=91,SNR=6.3
YBH Yreka Blue Hor 91.04 325 eP P 01 53 04.1 +0.4
comp=Z,24nm,1.1s
YBH LR LR
comp=Z,700nm,18.0s
K05A Summer Lake 91.04 327 eP P 01 53 05.2 +1.4
comp=Z,101nm,1.3s
A22A Carney Farms, 91.12 339 P P 01 53 03.8 0.0
baz=92,SNR=20
B20A Solberg Farm, 91.23 338 P P 01 53 03.9 -0.5
baz=92
K04D Chiloquin, OR 91.33 327 P P 01 53 06.0 +1.0
baz=92
EGMT Eagleton 91.39 337 P P 01 53 04.6 -0.6
baz=92,SNR=16
EGMT Eagleton 91.39 337 eP P 01 53 04.5 -0.6
comp=Z,31nm,1.2s
EGMT LR LR
comp=Z,500nm,21.0s
A21A Bergtoll Ranch 91.40 339 P P 01 53 04.6 -0.5
baz=92
B19A Brinkman Farms 91.52 337 P P 01 53 05.4 -0.4
baz=92
CHMT Chamberlain Mo 91.58 334 eP P 01 53 06.3 +0.1
A20A Cobblestone Ra 91.60 338 P P 01 53 05.7 -0.4
baz=92
J05D Fort Rock, OR 91.64 327 P P 01 53 07.8 +1.2
baz=92,SNR=16
MSO Missoula 91.75 334 P P 01 53 08.2 +1.3
baz=92,SNR=18
MSO Missoula 91.75 334 eP P 01 53 07.5 +0.6
comp=Z,68nm,1.6s
MSO ePP PP 01 56 43.2 -3.2
MSO LR LR
comp=Z,2µm,18.0s
L02D Cave Junction, 91.78 325 P P 01 53 08.5 +1.5
baz=92
HUMO Hull Mountain 91.85 326 eP P 01 53 08.7 +1.3
comp=Z,68nm,2.1s
HUMO LR LR
comp=Z,1µm,20.0s
A19A Klinkhorth Far 91.88 338 P P 01 53 07.2 -0.2
baz=92,SNR=11
SLMT Seeley Lake 91.95 334 eP P 01 53 08.1 +0.2
J04D Umpqua Nationa 91.98 327 P P 01 53 09.1 +1.0
baz=92
F10A Beach Ranch, E 92.23 331 eP P 01 53 09.4 +0.3
comp=Z,36nm,1.0s
G08A Pilot Rock 92.34 330 eP P 01 53 10.2 +0.6
comp=Z,155nm,1.8s
SWMT Swartz Lake 92.35 334 eP P 01 53 09.9 +0.2
SCHQ Schefferville 92.49 4 P P 01 53 09.1 -0.9
comp=Z,9.4nm,1.0s,baz=154,slow=3.7,SNR=5.1
SCHQ LR LR 02 32 09.1
comp=Z,292nm,22.0s,baz=152,slow=34
SCHQ Schefferville 92.49 4 eP P 01 53 09.1 -0.9
comp=Z,33nm,1.3s
I05D Terrebonne, OR 92.54 328 P P 01 53 11.9 +1.3
baz=93,SNR=10
I04A Tendick Farm, 92.56 327 P P 01 53 11.3 +0.7
baz=93,SNR=5.2
JTMT Jette 92.66 334 eP P 01 53 11.4 +0.3
YBMT Yellow Bay 92.66 334 eP P 01 53 10.9 -0.2
I03D Drain, OR 92.89 326 P P 01 53 13.2 +1.2
baz=93
BLMT Blacktail Moun 92.91 334 eP P 01 53 12.2 -0.2
BSMT Bassoo Peak 92.92 334 eP P 01 53 12.6 +0.2
E09A Wood Farm, Sta 93.03 331 eP P 01 53 12.8 +0.1
comp=Z,13nm,0.9s
MSVF Nonsavu 93.09 245 eP P 01 53 13.9 0.0
comp=Z,234nm,2.6s
H04A Detroit Lake 93.17 328 eP P 01 53 13.3 -0.2
comp=Z,28nm,1.0s
G05D Wamic, OR 93.26 328 P P 01 53 15.0 +1.2
baz=94
HAWA Hanford 93.47 330 eP P 01 53 15.5 +0.8
comp=Z,116nm,1.5s
HAWA LR LR
comp=Z,900nm,18.0s
RSW Rattlesnake Hi 93.50 330 eP P 01 53 16.4 +1.5
COR Corvallis 93.58 327 eP P 01 53 14.8 -0.4
comp=Z,83nm,1.3s
COR LR LR
comp=Z,1µm,22.0s
WALA Waterton Lakes 93.65 335 eP P 01 53 16.0 +0.4
comp=Z,57nm,1.0s
WALA LR LR
comp=Z,2µm,19.0s
OD2 Odessa Site #2 93.98 331 eP P 01 53 17.6 +0.5
G03D McMinnville, O 94.06 327 P P 01 53 18.4 +1.0
baz=94
ASR Mount Adams--S 94.11 329 eP P 01 53 19.3 +1.5
NEW Newport 94.11 332 P P 01 53 17.1 -0.6
comp=Z,13nm,0.9s,baz=157,slow=3.8,SNR=21
NEW Newport 94.11 332 P P 01 53 17.1 -0.6
NEW pmax pmax
comp=Z,13nm,1.0s
NEW Newport 94.11 332 P P 01 53 17.5 -0.1
baz=94,SNR=18
NEW Newport 94.11 332 eP P 01 53 17.3 -0.3
comp=Z,63nm,1.5s
NEW LR LR
comp=Z,1µm,18.0s
C09A Chrisman Ranch 94.15 332 eP P 01 53 18.3 +0.4
comp=Z,26nm,0.9s
C09A ePP PP 01 57 05.1 0.0
C09A LR LR
comp=Z,900nm,19.0s
F04A Amboy 94.27 328 eP P 01 53 18.6 +0.2
comp=Z,34nm,0.8s
LTY Liberty 94.63 330 eP P 01 53 20.0 -0.1
comp=Z,55nm,1.7s
LON Longmire 94.68 329 eP P 01 53 20.5 +0.1
LON LR LR
comp=Z,1µm,20.0s
B08A Colville Reser 95.01 331 eP P 01 53 21.5 -0.3
comp=Z,59nm,1.8s
B08A ePP PP 01 57 10.7 -1.1
B08A LR LR
comp=Z,900nm,19.0s
D05A Enumclaw 95.10 329 eP P 01 53 21.8 -0.4
comp=Z,36nm,1.1s
FFC Flin Flon 95.39 344 P P 01 53 22.2 -1.1
comp=Z,99nm,1.2s,SNR=5.2
FFC Flin Flon 95.39 344 eP P 01 53 22.9 -0.4
FFC Flin Flon 95.39 344 eP P 01 53 22.5 -0.8
comp=Z,25nm,1.1s
FFC LR LR
comp=Z,600nm,20.0s
MORF Marmelete 95.76 47 eP P 01 53 25.0 -0.5
MORF AMS AMS 02 36 27.9
comp=Z,1µm,17.2s
MORF Marmelete 95.76 47 eP P 01 53 25.0 -0.5
B06A Marblemount 95.97 330 PFAKE 01 53 40.0 +14
B06A LR LR
comp=Z,900nm,19.0s
NLWA Neilton Lookou 96.04 328 PFAKE 01 53 40.0 +13
NLWA LR LR
comp=Z,900nm,20.0s
PBDV Barranco-do-Ve 96.13 47 eP P 01 53 27.9 +0.7
comp=Z,73nm,1.4s
PBDV Barranco-do-Ve 96.13 47 eP P 01 53 27.9 +0.7
comp=Z,73nm,1.4s
PCVE Castro Verde 96.34 47 eP P 01 53 28.4 +0.3
comp=Z,9.5nm,1.6s
PCVE Castro Verde 96.34 47 eP P 01 53 28.4 +0.3
comp=Z,9.5nm,1.6s
PVAQ Vaqueiros 96.36 47 eP P 01 53 28.7 +0.5
comp=Z,25nm,1.6s
PVAQ Vaqueiros 96.36 47 eP P 01 53 28.7 +0.5
comp=Z,25nm,1.6s
MESJ Messejana 96.38 46 eP P 01 53 27.8 -0.4
MESJ AMS AMS 02 36 55.8
comp=Z,1µm,18.7s
MESJ Messejana 96.38 46 eP P 01 53 27.8 -0.4
MESJ Messejana 96.38 46 eP P 01 53 28.9 +0.7
comp=Z,31nm,1.7s
MESJ Messejana 96.38 46 eP P 01 53 28.9 +0.7
comp=Z,31nm,1.7s
PNCL Nicolau / Gran 96.39 46 eP P 01 53 28.7 +0.5
comp=Z,30nm,1.6s
PNCL Nicolau / Gran 96.39 46 eP P 01 53 28.7 +0.5
comp=Z,30nm,1.6s

LIS Lisbon 96.45 45 eP P 01 53 27.9 -0.6
LIS AMS AMS 02 33 58.2
comp=E,1µm,21.1s
LIS Lisbon 96.45 45 eP P 01 53 27.9 -0.6
A05A Maple Falls 96.60 330 eP P 01 53 28.3 -0.6
comp=E,113nm,1.9s
PGC Sidney 96.86 329 PFAKE 01 53 40.0 +10
PGC LR LR
comp=Z,2µm,20.0s
EDM Edmonton 97.05 337 eP P 01 53 29.4 -1.6
comp=Z,64nm,1.4s
EDM LR LR
comp=Z,700nm,18.0s
PBAR Barrancos 97.28 47 eP Pdif 01 53 32.4 0.0
comp=Z,36nm,1.7s
PBAR Barrancos 97.28 47 eP Pdif 01 53 32.4 0.0
comp=Z,36nm,1.7s
PESTR Estremoz 97.44 46 eP Pdif 01 53 33.2 +0.1
comp=Z,22nm,1.2s
PESTR Estremoz 97.44 46 eP Pdif 01 53 33.2 +0.1
comp=Z,22nm,1.2s
PCAS Casmilo, Conde 97.74 45 eP Pdif 01 53 37.6 +3.2
comp=Z,36nm,1.6s
PCAS Casmilo, Conde 97.74 45 eP Pdif 01 53 37.6 +3.2
comp=Z,36nm,1.6s
FCC Fort Churchill 97.77 349 eP P 01 53 33.3 -0.6
comp=Z,53nm,1.4s
FCC LR LR
comp=Z,700nm,18.0s
PMRV Marv??o 97.94 46 eP P 01 53 35.1 -0.2
comp=Z,17nm,0.8s
PMRV Marv??o 97.94 46 eP P 01 53 35.1 -0.2
comp=Z,17nm,0.8s
DZM Mont Dzumac 98.03 234 ePP PP 01 57 33.0 -1.8
comp=Z,259nm,28.4s
DZM Mont Dzumac 98.03 234 eSS SS 02 11 39.8 -3.5
comp=Z,1µm,27.1s
DZM Mont Dzumac 98.03 234 eLR LR 02 25 20.8
comp=Z,1µm,24.2s
PCBR Castelo Branco 98.17 45 eP P 01 53 36.1 -0.2
comp=Z,21nm,1.3s
PCBR Castelo Branco 98.17 45 eP P 01 53 36.1 -0.2
comp=Z,21nm,1.3s
POLO Lamas de Olo 99.04 44 eP Pdif 01 53 40.2 -0.1
comp=Z,7.2nm,0.9s
POLO Lamas de Olo 99.04 44 eP Pdif 01 53 40.2 -0.1
comp=Z,7.2nm,0.9s
MVO Moncorvo 99.32 45 eP Pdif 01 53 41.8 +0.3
comp=Z,31nm,1.1s
MVO Moncorvo 99.32 45 eP Pdif 01 53 41.8 +0.3
comp=Z,31nm,1.1s
PAB San Pablo 99.76 47 ePdif Pdif 01 53 43.5 0.0
comp=Z,13nm,1.1s
PAB LR LR
comp=Z,2µm,20.0s
PBRG Braganca 99.91 44 eP Pdif 01 53 44.4 +0.3
comp=Z,21nm,1.2s
PBRG Braganca 99.91 44 eP Pdif 01 53 44.4 +0.3
comp=Z,21nm,1.2s
ARMA Armidale 100.06 218 PFAKE 01 54 00.0 +15
ARMA LR LR
comp=Z,700nm,19.0s
ESDC Sonseca Array 100.07 47 P Pdif 01 53 45.1 +0.3
comp=Z,4.8nm,0.9s,baz=248,slow=4.0,SNR=20
ESDC PP PP 01 57 46.8 -4.2
comp=Z,1.0nm,0.7s,baz=235,slow=7.2,SNR=4.1
EIDS Eidsvold 104.47 221 PFAKE 01 54 20.0 +15
EIDS LR LR
comp=Z,800nm,19.0s
YKA Yellowknife Ar 105.32 342 Pdiff Pdif 01 54 06.5 -1.0
comp=Z,1.6nm,0.7s,baz=149,slow=5.2,SNR=5.3
YKA PP PP 01 58 30.4 +0.7
comp=Z,2.3nm,0.9s,baz=133,slow=7.6,SNR=5.9
YKA Yellowknife Ar 105.32 342 P Pdif 01 54 06.5 -1.0
YKA 01 58 30.4
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKB5 Yellowknife Ar 105.32 342 ePdif Pdif 01 54 06.5 -1.0
YKB5 ePP PP 01 58 30.4 +0.7
KEST Kesra 105.96 57 Pdiff Pdif 01 54 12.3 +1.1
comp=Z,1.5nm,1.1s,baz=166,slow=4.2,SNR=3.8
KEST PP PKiKP 01 58 27.3 +3.9
comp=Z,1.2nm,0.8s,baz=207,slow=6.8,SNR=4.4
KEST Kesra 105.96 57 ePdif Pdif 01 54 12.6 +1.5
SFJD Kangerlussuaq 105.97 9 PFAKE 01 58 30.0
SFJD LR LR
comp=Z,500nm,20.0s
WRAK Wrangell Islan 106.28 330 PFAKE 01 58 30.0
WRAK LR LR
comp=Z,700nm,18.0s
DLBC Dease Lake 106.86 333 Pdiff Pdif 01 54 15.2 +0.7
comp=Z,1.4nm,0.7s,baz=72,slow=3.2,SNR=4.6
DLBC PP PP 01 58 45.6 +4.4
comp=Z,2.5nm,0.9s,baz=148,slow=4.9,SNR=4.2
DLBC Dease Lake 106.86 333 ePdif Pdif 01 54 15.3 +0.7
DLBC LR LR
comp=Z,1µm,21.0s
DSB Dublin 107.66 36 PFAKE 01 58 40.0
DSB LR LR
comp=Z,500nm,19.0s
VSL Villasalto 108.12 54 PFAKE 01 58 40.0
VSL LR LR
comp=Z,1µm,18.0s
BESE Bessie Mountai 108.76 331 PFAKE 01 58 40.0
BESE LR LR
comp=Z,200nm,20.0s
WDD Wield Dalam 109.52 59 PFAKE 01 58 40.0
WDD LR LR
comp=Z,4µm,19.0s
BNI Bardonecchia 109.58 48 PFAKE 01 58 40.0
BNI LR LR
comp=Z,1µm,19.0s
ESK Eskdalemuir 110.41 35 PFAKE 01 58 40.0
ESK LR LR
comp=Z,700nm,19.0s
SENIN Lac Senin/Sane 110.67 47 ePKiKP PKiKP 01 58 31.5 -0.5
EDI Edinburgh 110.78 35 PFAKE 01 58 40.0
EDI LR LR
comp=Z,500nm,20.0s
VLC Villacollemand 111.31 50 PFAKE 01 58 40.0
VLC LR LR
comp=Z,900nm,20.0s
CTAO Charters Tower 111.32 220 PFAKE 01 58 50.0
CTAO LR LR
comp=Z,600nm,18.0s
UCC Uccle 111.50 42 PFAKE 01 58 40.0
UCC LR LR
comp=Z,1µm,18.0s
CEL Celeste 111.72 58 PFAKE 01 58 50.0
CEL LR LR
comp=Z,1µm,20.0s
WLF Walferdange 111.83 44 PFAKE 01 58 50.0
WLF LR LR
comp=Z,2µm,21.0s
TUE Stuetta 111.92 48 PFAKE 01 58 50.0
TUE LR LR
comp=Z,2µm,18.0s
AQU L'Aquila 112.23 53 PFAKE 01 58 50.0
AQU LR LR
comp=Z,800nm,21.0s
MEM Membach 112.27 43 ePKiKP PKiKP 01 58 34.5 -0.2
MEM LR LR
comp=Z,1µm,22.0s
HGN Heimansgroeve 112.31 42 eP PKiKP 01 58 34.8 +0.1
comp=Z,9.8nm,0.9s
BFO Black Forest 112.33 46 c iPKiKP PKiKP 01 58 35.8 +0.9
BFO Black Forest 112.33 46 ePKiKP PKiKP 01 58 34.2 -0.7
BFO ePP PP 01 59 11.5 -10
BFO LR LR
comp=Z,800nm,19.0s
FUORN Ofenpass-Fuorn 112.54 48 ePKiKP PKiKP 01 58 34.7 -0.9
FUORN ePP PP 01 59 21.1 -1.9
FUORN LR LR
comp=Z,2µm,20.0s
CUC Castrocucco 112.57 56 PFAKE 01 58 50.0
CUC LR LR
comp=Z,1µm,20.0s
DAVA Damuels 112.66 47 ⇓ iPKiKP PKiKP 01 58 36.1 +0.4
comp=Z,9.1nm,0.8s
TIP Timpagrande 112.77 57 PFAKE 01 58 50.0
TIP LR LR
comp=Z,1µm,22.0s
SUMG Summit 112.78 11 PFAKE 01 58 50.0
SUMG LR LR

comp=Z,800nm,21.0s
FURI Furi 112.90 97 PFAKE 01 58 50.0
FURI LR LR
comp=Z,900nm,18.0s
FETA Feichten 113.02 48⇑ *i*PKiKP **PKiKP 01 58 36.7 +0.2**
comp=Z,16nm,1.1s,SNR=9.1
STU Stuttgart 113.05 45 PFAKE 01 58 50.0
STU LR LR
comp=Z,900nm,18.0s
RETA Reutte 113.28 47⇑ *i*PKiKP **PKiKP 01 58 37.1 +0.3**
comp=Z,14nm,1.1s,SNR=8.8
MOTA Moosalm 113.41 48⇑ *i*PKiKP **PKiKP 01 58 37.4 +0.3**
comp=Z,11nm,0.9s,SNR=9.0
WTSB Winterswijk 113.42 42 *e*P **PKiKP 01 58 37.4 +0.6**
comp=Z,16nm,0.8s
AS12 Alice Springs 113.61 207 *e*PKiKP **PKiKP 01 58 37.6 -0.7**
AS12 *e*PKKPbc **PKKPbc 02 09 19.4 -1.4**
ASAR Alice Springs 113.61 207 PKiKP **PKiKP 01 58 37.6 -0.7**
comp=Z,1.4nm,0.7s,baz=136,slow=2.3,SNR=13
ASAR PKKPbc **PKKPbc 02 09 19.4 -1.4**
comp=Z,0.5nm,0.5s,baz=357,slow=2.3,SNR=5.2
RAGM Ragged Mountai 113.79 329 PFAKE 01 58 50.0
RAGM LR LR
comp=Z,600nm,21.0s
ABTA Abfaltersbach 113.93 49⇑ *i*PKPdf **PKiKP 01 58 38.1 0.0**
comp=Z,12nm,0.9s,SNR=7.1
DAWY Dawson 113.99 334 PFAKE 01 58 50.0
DAWY LR LR
comp=Z,600nm,19.0s
BMRM Bremner River 114.10 330 PFAKE 01 58 50.0 +12
BMRM LR LR
comp=Z,500nm,21.0s
TRI Trieste 114.16 50 PFAKE 01 58 50.0 +12
TRI LR LR
comp=Z,800nm,20.0s
MYKA Terra Mystica 114.55 49⇑ *i*PKPdf PKPdf 01 58 39.4 +0.1
comp=Z,11nm,0.9s,SNR=5.8
GRFO Grafenberg 114.66 45 *e*PKiKP PKPdf 01 58 36.0 -3.2
GRFO *e*PP PP 01 59 31.2 -6.4
GRFO LR LR
comp=Z,700nm,19.0s
INK Inuvik 114.84 339 *e*Pdif **Pdif 01 54 46.9 -2.9**
INK *e*PKiKP PKPdf 01 58 36.2 -2.8
VLS Valsamata 114.86 60 *e*P PKPdf 01 58 37.3 -2.7
EGAK Eagle 115.03 334 *e*PKiKP **PKPdf 01 58 39.2 -0.3**
EGAK LR LR
comp=Z,500nm,20.0s
PYL PYLOS 115.03 62 *e*P PKPdf 01 58 40.2 -0.2
OBKA Obir 115.03 50 *i* PKiKP **PKiKP 01 58 40.7 +0.5**
comp=Z,19nm,0.8s,SNR=10
AMT Artemida-Makis 115.32 61 *e*P **PKPdf 01 58 44.0 +3.0**
SOKA Soboth 115.41 50⇑ *i*PKPdf **PKPdf 01 58 41.1 +0.2**
comp=Z,16nm,1.2s,SNR=10
MOA Molln 115.51 48⇑ *i*PKPdf **PKPdf 01 58 40.9 -0.1**
comp=Z,17nm,1.0s,SNR=11
PAX Paxson 115.56 331 PFAKE 01 58 50.0 +9.3
PAX LR LR
comp=Z,600nm,21.0s
NKC Novy Kostel 115.61 45 *e*PKP **PKPdf 01 58 41.8 +0.7**
NKC *ep*PKP PKiKP 01 58 46.3 +5.2
NKC *e*PP **PP 01 59 45.1 +0.7**
NKC *e*SP SP 02 09 22.5 +1.1
NKC AMS AMS 02 52 50.0
comp=Z,700nm,16.2s
NKC Novy Kostel 115.61 45 *e*PKIKP **PKPdf 01 58 41.8 +0.7**
NKC *e* 01 58 46.3
NKC *e* 01 59 45.1
NKC *e* 02 09 22.5
NKC MLR MLR
comp=Z,700nm,16.2s
ANKY Antikythira Is 115.62 63 *e*P **PKPdf 01 58 42.8 +1.3**
SEW Seward 115.63 327 PFAKE 01 58 50.0 +9.3
SEW LR LR
comp=Z,400nm,20.0s
GEC2 GERESS Array S 115.66 47 *e*PKPdf **PKPdf 01 58 41.4 0.0**
GEC2 *e*PKKPbc **PKKPbc 02 09 15.4 +1.2**
GERES GERESS Array B 115.66 47 PKP **PKPdf 01 58 41.2 -0.1**
comp=Z,16nm,0.8s,baz=202,slow=1.4,SNR=130
GERES PKKPab **PKKPbc 02 09 15.4 +1.2**
comp=Z,0.6nm,0.7s,baz=61,slow=6.3,SNR=3.8
GERES GERESS Array B 115.66 47 PKIKP **PKPdf 01 58 41.3 -0.1**
GERES 02 09 15.4
GERES pmax pmax
comp=Z,16nm,0.8s
SCM Sheep Creek Mo 115.67 330 PFAKE 01 58 50.0 +9.1
SCM LR LR
comp=Z,500nm,22.0s
GVD Gavdhos 115.68 65 PFAKE 01 58 50.0 +8.3
GVD LR LR
comp=Z,3μm,20.0s
VLX Vlachokerasia 115.71 62 P **PKPdf 01 58 42.3 +0.5**
KHC Kasperske Hory 115.73 47 *e*PKP **PKPdf 01 58 41.3 -0.1**
KHC *ep*PKP PKiKP 01 58 47.4 +6.0
KHC *e*PP **PP 01 59 47.9 +2.7**
KHC *e*SP SP 02 09 21.2 -1.3
KHC *ex* x 02 10 39.5
KHC AMS AMS 02 49 50.0
comp=Z,700nm,19.2s
KHC Kasperske Hory 115.73 47 *e*PKIKP **PKPdf 01 58 41.3 -0.1**
KHC *e* 01 58 47.4
KHC *e* 01 58 47.9
KHC *e* 02 09 21.2
KHC *e* 02 10 39.5
KHC MLR MLR
comp=Z,700nm,19.2s
KHC Kasperske Hory 115.73 47 *e*PKPdf **PKPdf 01 58 41.4 -0.1**
VLI Veliai 115.78 62 *e*P **PKPdf 01 58 42.3 +0.5**
KDAK Kodiak Island 115.83 324 PFAKE 01 58 50.0 +8.8
KDAK LR LR
comp=Z,600nm,20.0s
KLV Kalavryta, Ach 115.88 61 *e*P **PKPdf 01 58 42.3 +0.2**
TIR Tirane 115.91 57 PFAKE 01 58 50.0 +8.1
TIR LR LR
comp=Z,2μm,18.0s
GUR Goura 115.96 61 P **PKPdf 01 58 42.4 +0.2**
GUR Goura 115.96 61 *e*P **PKPdf 01 58 42.5 +0.2**
VAM Vamos 116.04 64 *e*P **PKPdf 01 58 43.0 +0.6**
EVR Evrytania 116.06 60 P **PKPdf 01 58 43.5 +1.1**
EVR Evrytania 116.06 60 *e*P **PKPdf 01 58 42.5 +0.1**
BRLK Bradley Lake 116.07 327 PFAKE 01 58 50.0 +8.3
BRLK LR LR
comp=Z,500nm,19.0s
KRND KRANIDI 116.25 62 *e*P **PKPdf 01 58 43.0 +0.3**
DSF Desfina 116.31 61 P **PKPdf 01 58 42.9 0.0**
DIDY Didyma 116.34 62 P **PKPdf 01 58 42.6 -0.4**
DID Didima 116.37 62 P **PKPdf 01 58 42.5 -0.5**
DID Didima 116.37 62 *e*P **PKPdf 01 58 42.5 -0.5**
LTK Loutraki 116.43 61 P **PKPdf 01 58 42.9 -0.2**
CLL Collm 116.44 44⇑ *i*PKiKP **PKiKP 01 58 42.9 +0.3**
comp=Z,18nm,1.0s
CLL *i* sPKiKP sPKiKP 01 58 49.8 -3.2
CLL *e*PP **PP 01 59 51.0 +1.0**
CLL *e*SKKSac **SKKSac 02 06 48.0 -0.7**
CLL *e*Sdif **Sdif 02 07 42.0 +7.9**
CLL *e*PKKPab **PKKPab 02 09 18.0 +4.8**
CLL *e*PS **PKKPdf 02 09 36.0 -2.1**
CLL *e*PPS PPS 02 10 51.0
CLL *e*SS **SS 02 16 00.0 +6.5**
CLL *e*PPPrev 02 17 00.0
CLL *e*SSS SSS 02 20 06.0
CLL *e* 02 21 12.0
CLL *e*SSSS 02 24 18.0
CLL *e* 02 27 49.0
CLL Lm MLR 02 48 00.0
comp=N,400nm,18.6s
CLL Lm MLR 02 48 00.0
comp=E,900nm,19.5s
CLL Lm MLR 02 48 00.0
comp=Z,1μm,18.9s
CLL Collm 116.44 44⇑ *i*PKIKP **PKiKP 01 58 42.9 +0.3**
CLL *i* 01 58 49.8
CLL *e* 01 59 51.0
CLL pmax pmax
comp=Z,18nm,1.0s
CLL MLR MLR
comp=Z,1μm,18.9s
CLL Collm 116.44 44 *e*PKPdf **PKPdf 01 58 43.4 +0.8**
CLL LR LR
comp=Z,2μm,19.0s
PHP Peshkopia 116.45 57 P **PKPdf 01 58 43.5 +0.5**
AGG Agios Georgios 116.47 60 *e*PKPdf **PKPdf 01 58 43.2 +0.1**
AGG LR LR
comp=Z,900nm,19.0s
CONA Conrad Observa 116.50 49 *i* PKPdf **PKPdf 01 58 42.8 -0.1**
comp=Z,16nm,0.8s,SNR=15
THL Klokotos Trika 116.51 59 *e*P **PKPdf 01 58 42.8 -0.3**
AXAR Agios Charalam 116.57 60 P **PKPdf 01 58 43.4 +0.1**
FNA Florina 116.65 58 P **PKPdf 01 58 43.2 -0.3**
PRA Prague 116.66 46 *e*PKP **PKPdf 01 58 43.4 +0.3**
PRA *ep*PKP pPKPdf 01 58 49.1 -1.7
PRA *e*PP **PP 01 59 50.8 -0.8**
PRA *e*SP SP 02 09 31.8 +0.9
PRA *ex* x 02 10 56.8
PRA AMS AMS 02 49 40.0
comp=Z,1μm,18.8s
PRA Prague 116.66 46 *e*PKIKP **PKPdf 01 58 43.4 +0.3**
PRA *e* 01 58 49.1
PRA *e* 01 59 50.8
PRA *e* 02 09 31.8
PRA *e* 02 10 56.8
PRA MLR MLR
comp=Z,1μm,18.8s
PRU Pruhonice 116.69 46 *e*PKP **PKPdf 01 58 42.9 -0.2**
PRU *e*PP **PP 01 59 56.3 +4.5**
PRU *e*SP SP 02 09 30.8 -0.3
PRU *ex* x 02 10 47.1
PRU AMS AMS 02 49 50.0
comp=Z,1μm,19.1s
PRU Pruhonice 116.69 46 *e*PKIKP **PKPdf 01 58 42.9 -0.2**
PRU *e* 01 59 56.3
PRU *e* 02 09 30.8
PRU *e* 02 10 47.1
PRU MLR MLR
comp=Z,1μm,19.1s
BRG Berggiesshubel 116.76 45 *e*PKIKP **PKPdf 01 58 43.7 +0.5**
BRG S **SP 02 09 41.0 +9.3**
BRG pmax pmax
comp=Z,18nm,0.9s
BRG MLR MLR
comp=N,519nm,21.2s
BRG MLR MLR
comp=E,333nm,22.3s
BRG MLR MLR
comp=Z,706nm,16.2s
ATAL Atalanti 116.79 61 P **PKPdf 01 58 43.4 -0.3**
GOPC GO Pecny, Ondr 116.79 46 *e*PKP **PKPdf 01 58 43.6 +0.2**
GOPC *ep*PKP pPKPdf 01 58 48.9 -2.2
GOPC *e*PP **PP 01 59 57.3 +4.7**
GOPC *e*SP SP 02 09 30.4 -1.8
GOPC *ex* x 02 10 51.3
GOPC AMS AMS 02 50 00.0
comp=Z,900nm,18.2s
SOP Sopron 116.80 49⇓ *e*PKPdf **PKPdf 01 58 43.4 0.0**
LAST Lasithi 116.83 65 *e*P **PKPdf 01 58 44.1 +0.1**
WRA Warramunga Arr 116.84 209 PKP **PKPdf 01 58 43.8 -0.7**
comp=Z,4.0nm,0.8s,baz=160,slow=1.7,SNR=28
WRA PKKPbc **PKKPbc 02 09 10.4 +0.8**
comp=Z,2.1nm,0.6s,baz=342,slow=4.0,SNR=16
WRAB Tennant Creek 116.84 210 PFAKE 01 59 00.0 +15
WRAB LR LR
comp=Z,1μm,22.0s
SUA Susitna One 116.87 328 PFAKE 01 59 00.0 +17
SUA LR LR
comp=Z,500nm,22.0s
MUD Monsted U'grnd 116.88 38 *i* P **PKPdf 01 58 41.9 -1.3**
comp=Z,17nm,1.0s
comp=Z,980nm,22.0s
MUD Monsted U'grnd 116.88 38 *i* PKIKP **PKPdf 01 58 41.9 -1.3**
MUD pmax pmax
comp=Z,17nm,1.0s
MUD MLR MLR
comp=Z,990nm,22.0s
HDA Harding Lake 116.90 332 PFAKE 01 59 00.0 +17
HDA LR LR
comp=Z,700nm,19.0s
TREC Trest 116.91 47 *e*PKP **PKPdf 01 58 43.6 0.0**
TREC *ep*PKP pPKPdf 01 58 48.8 -2.6
TREC *e*PP **PP 01 59 54.3 +0.9**
TREC *e*SP SP 02 09 34.1 +0.8
TREC *ex* x 02 10 50.9
TREC AMS AMS 02 48 50.0
comp=Z,800nm,17.8s
TREC Trest 116.91 47 *e*PKIKP **PKPdf 01 58 43.6 0.0**
TREC *e* 01 58 48.8
TREC *e* 01 59 54.3
TREC *e* 02 09 34.1
TREC *e* 02 10 50.9
TREC MLR MLR
comp=Z,800nm,17.8s
PVCC Panska Ves 116.95 46 *e*PKP **PKPdf 01 58 44.4 +0.8**
PVCC *ep*PKP pPKPdf 01 58 49.1 -2.3
PVCC *e*PP **PP 01 59 58.0 +4.3**
PVCC *e*SP SP 02 09 33.5 0.0
PVCC AMS AMS 02 48 50.0
comp=Z,800nm,19.6s
PVCC Panska Ves 116.95 46 *e*PKIKP **PKPdf 01 58 44.4 +0.8**
PVCC *e* 01 58 49.1
PVCC *e* 01 59 58.0
PVCC *e* 02 09 33.5
PVCC MLR MLR
comp=Z,800nm,19.6s
SMIA Simia 117.00 60 P **PKPdf 01 58 44.3 +0.1**
ILAR Eielson Array 117.07 333 PKP **PKPdf 01 58 43.0 -0.5**
comp=Z,4.9nm,0.8s,baz=170,slow=1.7,SNR=47
ILAR Eielson Array 117.07 333 PKIKP **PKPdf 01 58 43.0 -0.5**
ILAR pmax pmax
comp=Z,5.0nm,0.8s
ILB Eielson Array 117.07 333 *e*PKPdf **PKPdf 01 58 43.0 -0.5**
RND Reindeer 117.10 331 PFAKE 01 59 00.0 +16
RND LR LR
comp=Z,500nm,20.0s
MRKA Markates 117.18 61 P **PKPdf 01 58 44.2 -0.3**
NEO Neokhori 117.21 60 P **PKPdf 01 58 44.3 -0.3**
XOR Xorichti 117.22 60 P **PKPdf 01 58 44.3 -0.3**
XOR Xorichti 117.22 60 *e*P **PKPdf 01 58 44.3 -0.3**
DIVS Divibare 117.28 54 P **PKPdf 01 58 44.9 +0.3**
DIVS Divibare 117.28 54⇓ *i*P **PKPdf 01 58 44.8 +0.2**
MCK McKinley 117.30 331 *e*PKPdf **PKPdf 01 58 44.2 +0.2**
MCK LR LR
comp=Z,600nm,21.0s
CCB Clear Creek Bu 117.34 332 *e*PKPdf **PKPdf 01 58 43.4 -0.5**
CCB LR LR
comp=Z,500nm,19.0s
PKS9 Tamasi 117.34 51⇓ *e*PKPdf **PKPdf 01 58 45.0 +0.5**
WRH Wood River Hil 117.35 332 *e*PKPdf **PKPdf 01 58 43.8 -0.2**
WRH LR LR
comp=Z,700nm,18.0s
PKSM Moragy 117.39 51⇑ PKIKP **PKPdf 01 58 44.4 -0.2**
PKSM Moragy 117.39 51⇑ *i*P **PKPdf 01 58 44.4 -0.2**
PKSM Moragy 117.39 51⇓ *e*PKPdf **PKPdf 01 58 44.9 +0.3**
SANT Santorini 117.40 64 PFAKE 01 59 00.0 +15
SANT LR LR
comp=Z,700nm,22.0s
RUE Ruedersdorf 117.41 43 PFAKE 01 59 00.0 +16
RUE LR LR
comp=Z,1μm,21.0s
GRG Griva 117.42 58 P **PKPdf 01 58 45.1 +0.2**
GRG Griva 117.42 58 *e*P **PKPdf 01 58 45.6 +0.7**
FYU Fort Yukon 117.44 335 PFAKE 01 59 00.0 +16
FYU LR LR
comp=Z,600nm,20.0s
COLA College 117.47 332 *i* PKIKP **PKPdf 01 58 43.9 -0.3**
COLA MLR MLR
comp=Z,1μm,16.0s
COLA College 117.47 332 PFAKE 01 59 00.0 +16
COLA LR LR
comp=Z,300nm,21.0s
AOS Alonnisos 117.60 60 P **PKPdf 01 58 44.9 -0.4**
AOS Alonnisos 117.60 60 *e*P **PKPdf 01 58 44.4 -0.9**
MDM Murphy Dome 117.66 332 *e*PKPdf **PKPdf 01 58 44.0 -0.6**
MDM LR LR
comp=Z,400nm,18.0s
TRF Thorofare Moun 117.68 330 *e*PKPdf **PKPdf 01 58 44.6 -0.3**
TRF LR LR
comp=Z,500nm,19.0s
BWN Browne 117.72 331 *e*PKPdf **PKPdf 01 58 45.0 +0.2**
BWN LR LR
comp=Z,700nm,20.0s
HORT Hortiatis 117.73 59 *e*P **PKPdf 01 58 45.5 -0.1**
UPC Upice 117.76 46 *e*PKP **PKPdf 01 58 45.7 +0.5**
UPC *ep*PKP **pPKPdf 01 58 51.8 -1.1**
UPC Upice 117.76 46 *e*PKIKP **PKPdf 01 58 45.7 +0.5**
UPC *e* 01 58 51.8
PKSG 117.77 50⇓ *e*PKPdf **PKPdf 01 58 45.4 +0.1**
APE Apeiranthos 117.78 63 *e*P **PKPdf 01 58 44.7 -1.0**
PAIG Paliouri 117.81 60 P **PKPdf 01 58 45.8 +0.2**
PAIG Paliouri 117.81 60 *e*P **PKPdf 01 58 45.5 -0.1**
KNT Kendrikon 117.85 58 P **PKPdf 01 58 45.8 +0.1**
KNT Kendrikon 117.85 58 *e*P **PKPdf 01 58 45.3 -0.4**
DPC Dobruska-Polom 117.87 46 *e*PKP **PKPdf 01 58 45.6 +0.1**
DPC *ep*PKP **pPKPdf 01 58 52.6 -0.6**
DPC *ex* x 01 58 55.8
DPC *e*PP **PP 02 00 00.3 +0.2**
DPC *e*PKKP **PKKPab 02 09 07.2 +0.1**
DPC *ex* x 02 09 10.8
DPC *e*SP SP 02 09 41.9 0.0
DPC *ex* x 02 10 50.7
DPC AMS AMS 02 50 30.0
comp=Z,700nm,19.8s
DPC Dobruska-Polom 117.87 46 *e*PKIKP **PKPdf 01 58 45.6 +0.1**
DPC *e* 01 58 52.6
DPC *e* 01 58 55.8
DPC *e* 02 00 00.3
DPC *e* 02 09 41.9
DPC MLR MLR
comp=Z,700nm,19.8s
LLD Lille Linde 117.88 40 *i* P **PKPdf 01 58 45.7 +0.5**
LLD Lille Linde 117.88 40 *i* PKIKP **PKPdf 01 58 45.7 +0.5**
KRLC Kraliky 118.01 47 *e*PKP **PKPdf 01 58 46.4 +0.6**
KRLC *ep*PKP **pPKPdf 01 58 53.1 -0.4**
KRLC *ex* x 01 58 55.6
KRLC Kraliky 118.01 47 *e*PKIKP **PKPdf 01 58 46.4 +0.6**
KRLC *e* 01 58 55.6
KSP Ksiaz 118.07 46 *e*PKP **PKPdf 01 58 46.5 +0.7**
KSP Ksiaz 118.07 46 *e*PKIKP **PKPdf 01 58 46.5 +0.7**
RGN Rugen 118.09 41 *e*PKPdf **PKPdf 01 58 45.2 -0.4**
RGN LR LR
comp=Z,800nm,20.0s
COP Copenhagen 118.14 40 *i* P **PKPdf 01 58 46.0 +0.3**
comp=Z,15nm,0.9s
comp=Z,350nm,14.0s
COP Copenhagen 118.14 40 *i* PKIKP **PKPdf 01 58 46.0 +0.3**
COP pmax pmax
comp=Z,15nm,0.9s
COP MLR MLR
comp=Z,360nm,14.0s
PPLA Purkeypile 118.16 329 *e*PKPdf **PKPdf 01 58 45.7 -0.1**
PPLA LR LR
comp=Z,600nm,20.0s
BPAW Bear Paw Mtn. 118.27 331 *e*PKPdf **PKPdf 01 58 45.5 -0.3**
BPAW LR LR
comp=Z,100nm,18.0s
KKB Krupnik 118.29 57 *e*P **PKPdf 01 58 46.6 +0.1**
MORC Moravsky Berou 118.32 47 *e*PKPdf **PKPdf 01 58 46.8 +0.4**
MORC LR LR
comp=Z,2μm,19.0s
CAST Castle Rocks 118.37 330 *e*PKPdf **PKPdf 01 58 45.5 -0.5**
CAST LR LR
comp=Z,400nm,20.0s
KONO Kongsberg 118.55 35 *e*PKPdf **PKPdf 01 58 45.4 -1.0**
KONO LR LR
comp=Z,600nm,20.0s
MMB Musomiste 118.60 58⇑ PKIKP **PKPdf 01 58 46.6 -0.6**
MMB Musomiste 118.60 58⇑ *i*P **PKPdf 01 58 46.5 -0.6**
MMB Musomiste 118.60 58 *e*P **PKPdf 01 58 46.1 -1.1**
MLY Manley 118.62 332 PFAKE 01 59 00.0 +14
MLY LR LR
comp=Z,400nm,21.0s
VTS Vitosha 118.70 57 P **PKPdf 01 58 47.2 -0.3**
VTS Vitosha 118.70 57⇓ PKIKP **PKPdf 01 58 47.7 +0.2**
VTS Vitosha 118.70 57⇓ *i*P **PKPdf 01 58 47.7 +0.2**
VTS Vitosha 118.70 57 *e*P **PKPdf 01 58 47.4 -0.1**
OKC Ostrava-Krasne 118.70 48 *e*PKP **PKPdf 01 58 47.6 +0.6**
OKC *ep*PKP **pPKPdf 01 58 53.0 -1.8**
OKC *e*PP **PP 02 00 06.3 +0.5**
OKC *e*SP SP 02 09 48.3 -1.1
OKC *ex* x 02 11 03.5
OKC AMS AMS 02 51 50.0
comp=Z,500nm,19.9s
OKC Ostrava-Krasne 118.70 48 *e*PKIKP **PKPdf 01 58 47.6 +0.6**
OKC *e* 01 58 53.0
OKC *e* 02 00 06.3
OKC *e* 02 09 48.3
OKC *e* 02 11 03.5
OKC MLR MLR
comp=Z,500nm,19.9s
CHOS Chios island 118.75 62 *e*P **PKPdf 01 58 47.9 +0.3**
LIA Limnos Island 118.83 60 P **PKPdf 01 58 47.0 -0.6**
PSZ Piszkesteto 118.92 50 PFAKE 01 59 00.0 +12
PSZ LR LR
comp=Z,700nm,20.0s
SIGR SIGRI 118.98 61 P **PKPdf 01 58 47.0 -0.9**
BZS Buzias 118.99 53⇑ PKIKP **PKPdf 01 58 47.9 +0.2**
BZS Buzias 118.99 53⇑ *i*P **PKPdf 01 58 47.9 +0.2**
BSD Bornholm Skovb 119.17 41⇑ *i*P **PKPdf 01 58 47.8 +0.1**
comp=Z,26nm,0.9s
BSD Bornholm Skovb 119.17 41⇑ *i*PKIKP **PKPdf 01 58 47.8 +0.1**
BSD pmax pmax
comp=Z,26nm,0.9s
ARG Arkhangelos 119.23 65 *e*P **PKPdf 01 58 48.6 +0.1**
PRK Paraskevi 119.29 61 P **PKPdf 01 58 48.2 -0.3**
RZN Rozhen 119.31 58 *e*P **PKPdf 01 58 48.2 -0.5**
SMTH Samothraki Isl 119.32 60 P **PKPdf 01 58 47.8 -0.8**
MPEP Malo Peshtene 119.38 56 *e*P **PKPdf 01 58 48.4 -0.2**
COLD Coldfoot 119.47 334 *e*PKPdf **PKPdf 01 58 48.5 +0.5**
KECS Kecovo 119.52 50 *e*PKIKP **PKPdf 01 58 48.9 +0.3**
KECS Kecovo 119.52 50 *e*PKP **PKPdf 01 58 48.8 +0.2**
RDO Rodhopi 119.62 59 P **PKPdf 01 58 48.9 -0.2**
RDO Rodhopi 119.62 59 *e*PKPdf **PKPdf 01 58 49.0 0.0**
GZR Gura Zlata 119.63 54⇑ PKIKP **PKPdf 01 58 49.3 +0.2**
GZR Gura Zlata 119.63 54⇑ *i*P **PKPdf 01 58 49.3 +0.2**
GKP Gorka Klasztor 119.64 44 *e*PKP **PKPdf 01 58 49.0 +0.4**
GKP Gorka Klasztor 119.64 44 *e*PKIKP **PKPdf 01 58 49.1 +0.4**
KDZ Kurdzhali 119.76 59⇑ PKIKP **PKPdf 01 58 49.3 -0.1**
KDZ Kurdzhali 119.76 59⇑ *i*P **PKPdf 01 58 49.3 -0.1**
KDZ Kurdzhali 119.76 59 *e*P **PKPdf 01 58 48.7 -0.7**
NIE Niedzica 119.80 49 *e*PKP **PKPdf 01 58 49.8 +0.6**
NIE Niedzica 119.80 49 *e*PKIKP **PKPdf 01 58 49.8 +0.6**
OJC Ojcow 119.83 48 *e*PKP **PKPdf 01 58 49.3 +0.1**
OJC Ojcow 119.83 48 *e*PKIKP **PKPdf 01 58 49.3 +0.1**
OJC Ojcow 119.83 48 *e*PKPdf **PKPdf 01 58 49.4 +0.1**
ALN Alexandroupoli 119.86 60 P **PKPdf 01 58 49.0 -0.5**
ALN Alexandroupoli 119.86 60 *e*P **PKPdf 01 58 49.3 -0.2**
NB2 NORSAR Subarra 119.88 34 PKPdf **PKPdf 01 58 48.9 -0.1**
comp=Z,10nm,0.7s,baz=245,slow=2.0
NB2 NORSAR Subarra 119.88 34 PKPdf **PKPdf 01 58 48.9 -0.1**
baz=245,slow=2.0
NB200 NORSAR Array S 119.88 34 *e*PKPdf **PKPdf 01 58 48.7 -0.3**
NB200 *e*PKKPbc **PKKPbc 02 08 59.9 +0.5**
NOA NORSAR Array B 119.88 34 PKP **PKPdf 01 58 48.7 -0.3**
comp=Z,6.9nm,0.6s,baz=251,slow=2.2,SNR=57
NOA PKKPab **PKKPbc 02 08 59.9 +0.5**
comp=Z,1.1nm,0.8s,baz=67,slow=4.5,SNR=5.9
DIM Dimitrovgrad 120.01 58 *e*P **PKPdf 01 58 49.7 -0.1**
DRGR 120.18 52⇑ PKIKP **PKPdf 01 58 50.2 +0.1**
DRGR 120.18 52⇑ *i*P **PKPdf 01 58 50.2 +0.1**
IM04 Indian Mountai 120.18 332 *e*PKPdf **PKPdf 01 58 49.9 +0.4**
LOT Lotru 120.29 54⇑ *i*P **PKPdf 01 58 50.4 0.0**
STHS Stebnicka Huta 120.36 49 *e*PKIKP **PKPdf 01 58 50.6 +0.3**
STHS Stebnicka Huta 120.36 49 *e*PKP **PKPdf 01 58 50.6 +0.3**
UZH Uzhgorod 120.67 50⇑ *i*PKIKP **PKPdf 01 58 50.9 +0.1**
UZH *i* 01 58 57.4
UZH *e* 02 00 22.0
UZH *e* 02 05 50.5
HUMR Humele 120.69 55⇓ *i*P **PKPdf 01 58 51.5 +0.5**
CJR Cluj-Napoca 120.70 53⇓ PKIKP **PKPdf 01 58 51.6 +0.5**
CJR Cluj-Napoca 120.70 53⇓ *i*P **PKPdf 01 58 51.6 +0.5**
DAMY Dhamar 120.75 95 PFAKE 01 59 00.0 +7.6
DAMY LR LR
comp=Z,800nm,20.0s
KOLS Kolonicke sedl 120.78 50 *e*PKIKP **PKPdf 01 58 51.2 +0.1**
KOLS Kolonicke sedl 120.78 50 *e*PKP **PKPdf 01 58 51.2 +0.1**
SZH Strazhica 120.80 57 *e*P **PKPdf 01 58 51.0 -0.3**
JMB Yambol 120.89 58 P **PKPdf 01 58 51.2 -0.2**
JMB Yambol 120.89 58⇑ PKIKP **PKPdf 01 58 51.6 +0.1**
JMB Yambol 120.89 58⇑ *i*P **PKPdf 01 58 51.6 +0.1**
JMB Yambol 120.89 58 *e*P **PKPdf 01 58 51.3 -0.2**
BMR Baia Mare 121.03 52⇓ PKIKP **PKPdf 01 58 52.3 +0.7**
BMR Baia Mare 121.03 52⇓ *i*P **PKPdf 01 58 52.3 +0.7**
BEL Belsk 121.05 46 *e*PKP **PKPdf 01 58 51.7 +0.2**
BEL Belsk 121.05 46 *e*PKIKP **PKPdf 01 58 51.7 +0.2**
VOIR 121.11 54⇑ PKIKP **PKPdf 01 58 52.1 +0.2**
VOIR 121.11 54⇑ *i*P **PKPdf 01 58 52.1 +0.2**
UNV Unalaska Valle 121.12 316 PFAKE 01 59 00.0 +8.5
UNV LR LR
comp=Z,400nm,19.0s
KWP Kalwaria Pacla 121.32 49 *e*PKP **PKPdf 01 58 52.4 +0.4**
KWP Kalwaria Pacla 121.32 49 *e*PKIKP **PKPdf 01 58 52.5 +0.4**
SECR 121.61 55⇑ *i*P **PKPdf 01 58 53.3 +0.5**

ISP Isparta 121.66 65 PFAKE 01 59 00.0 +6.7
ISP LR LR
comp=Z,700nm,20.0s
MLR Muntele Rosu 121.71 55 ⇑PKIKP **PKPdf** 01 58 52.7 -0.4
MLR Muntele Rosu 121.71 55 ⇑*i*P **PKPdf** 01 58 52.7 -0.4
PRD Provadia 121.74 58 ⇑PKIKP **PKPdf** 01 58 53.3 +0.2
PRD Provadia 121.74 58 ⇑*i*P **PKPdf** 01 58 53.3 +0.2
PRD Provadia 121.74 58 *e*P **PKPdf** 01 58 52.5 -0.6
ALT Altintas 121.89 63 P **PKPdf** 01 58 54.0 +0.3
ISK Istanbul-Kandi 122.00 60 P **PKPdf** 01 58 52.9 -0.7
BURAR Bucovina Array 122.07 52 ⇑PKIKP **PKPdf** 01 58 54.1 +0.4
BURAR Bucovina Array 122.07 52 ⇑*i*P **PKPdf** 01 58 54.1 +0.4
PGOR Pogoanele 122.15 56 ⇓*i*P **PKPdf** 01 58 54.3 +0.5
LVV L'vov 122.18 49 *e*PKIKP **PKPdf** 01 58 53.4 -0.3
LVV *e* 02 00 27.0
LVV MLR MLR
comp=Z,500nm,19.0s
LVV MLR MLR
comp=N,200nm,17.0s
LVV MLR MLR
comp=E,600nm,18.0s
PLOR Plostina 122.30 54 ⇓PKIKP **PKPdf** 01 58 54.0 -0.1
PLOR Plostina 122.30 54 ⇓*i*P **PKPdf** 01 58 54.0 -0.1
VRI Vrincioaia 122.36 54 ⇑PKIKP **PKPdf** 01 58 53.5 -0.7
VRI Vrincioaia 122.36 54 ⇑*i*P **PKPdf** 01 58 53.5 -0.7
MSAB Monastry St. A 122.38 57 ⇓*i*P **PKPdf** 01 58 54.2 -0.1
CSS Prodhromos 122.46 69 P **PKPdf** 01 58 55.3 +0.5
CSS Prodhromos 122.46 69 *e*PKPdf **PKPdf** 01 58 55.3 +0.5
CSS LR LR
comp=Z,100nm,20.0s
PSN Preselentsi 122.46 57 ⇑PKIKP **PKPdf** 01 58 54.5 +0.1
PSN Preselentsi 122.46 57 ⇑*i*P **PKPdf** 01 58 54.5 +0.1
PSN Preselentsi 122.46 57 *e*P **PKPdf** 01 58 54.6 +0.1
TESR Tescani 122.56 54 ⇑*i*P **PKPdf** 01 58 54.3 -0.3
MANR Mangalia 122.78 57 ⇑*i*P **PKPdf** 01 58 55.7 +0.7
TIRR Tirgusor 122.92 57 ⇑PKIKP **PKPdf** 01 58 55.3 0.0
TIRR Tirgusor 122.92 57 ⇑*i*P **PKPdf** 01 58 55.3 0.0
TIRR Tirgusor 122.92 57 *e*PKPdf **PKPdf** 01 58 55.2 0.0
TIRR LR LR
comp=Z,700nm,19.0s
CFR Carcaliu 123.01 56 ⇑PKIKP **PKPdf** 01 58 55.3 -0.1
CFR Carcaliu 123.01 56 ⇑*i*P **PKPdf** 01 58 55.3 -0.1
SUW Suwalki 123.20 44 *e*PKP **PKPdf** 01 58 55.1 -0.4
SUW Suwalki 123.20 44 *e*PKIKP **PKPdf** 01 58 55.1 -0.4
IAS Iasi 123.39 53 ⇓PKIKP **PKPdf** 01 58 56.1 0.0
IAS Iasi 123.39 53 ⇓*i*P **PKPdf** 01 58 56.1 0.0
LEOM Leova 123.56 54 ⇑PKIKP **PKPdf** 01 58 56.4 0.0
LEOM Leova 123.56 54 ⇑*i*P **PKPdf** 01 58 56.4 0.0
KIS Kishinev 124.12 54 *e*PKP **PKPdf** 01 58 57.0 -0.5
KIS LRM MLR 02 54 40.0
comp=Z,400nm,22.0s
KIS Kishinev 124.12 54 *e*PKIKP **PKPdf** 01 58 57.0 -0.5
KIS *e* 01 59 05.0
KIS *e* 02 00 50.0
KIS *e* 02 03 22.0
KIS *e* 02 06 02.0
KIS MLR MLR
comp=Z,400nm,22.0s
KIS MLR MLR
comp=Z,700nm,20.0s
KIS MLR MLR
comp=E,500nm,22.0s
KIS Kishinev 124.12 54 ⇓*i*P **PKPdf** 01 58 57.8 +0.3
ANTO Ankara 124.12 63 ⇑PKIKP **PKPdf** 01 58 58.5 +0.6
ANTO Ankara 124.12 63 ⇑*i*P **PKPdf** 01 58 58.5 +0.6
ANTO Ankara 124.12 63 PKPdf **PKPdf** 01 58 58.6 +0.8
SNR=12
ANTO Ankara 124.12 63 *e*PKPdf **PKPdf** 01 58 58.6 +0.8
ANTO LR LR
comp=Z,600nm,20.0s
SORM Soroca 124.23 52 ⇑PKIKP **PKPdf** 01 58 57.8 +0.1
SORM Soroca 124.23 52 ⇑*i*P **PKPdf** 01 58 57.8 +0.1
H11S2 WAKE ISLAND Hyl 124.47 267 T T 04 15 38.7
baz=126,slow=75,SNR=64
H11S1 WAKE ISLAND Hyl 124.48 267 T T 04 15 42.7
baz=126,slow=75,SNR=30
H11S3 WAKE ISLAND Hyl 124.49 267 T T 04 15 41.0
baz=126,slow=75,SNR=24
BR101 Keskin Array S 124.66 64 *e*PKPdf **PKPdf** 01 58 59.1 +0.1
BRTR Keskin Array B 124.66 64 PKP **PKPdf** 01 58 59.1 0.0
comp=Z,26nm,0.7s,baz=194,slow=3.2,SNR=161
BRTR Keskin Array B 124.66 64*c* *i*PKIKP **PKPdf** 01 58 59.0 0.0
BRTR pmax pmax
comp=Z,26nm,0.7s
H11N3 WAKE ISLAND Hyl 124.98 269 T T 04 16 29.6
baz=123,slow=74
H11N1 WAKE ISLAND Hyl 124.99 269 T T 04 16 24.7
baz=123
H11N2 WAKE ISLAND Hyl 125.00 269 T T 04 16 29.6
baz=123,slow=74
NACGM Naroch 125.47 44 *e*P **PKPdf** 01 58 56.0 -3.8
TNA Tin City 125.52 329 *e*PKPdf **PKPdf** 01 59 00.2 +0.6
TNA LR LR
comp=Z,500nm,18.0s
KIEV Kiev 125.60 50*c* *i*PKIKP **PKPdf** 01 58 59.4 -0.8
KIEV Kiev 125.60 50 *e*PKPdf **PKPdf** 01 58 59.5 -0.8
KIEV LR LR
comp=Z,600nm,18.0s
AKASG Malin Array Be 125.61 50 PKP **PKPdf** 01 58 59.5 -0.8
comp=Z,18nm,0.8s,baz=266,slow=2.5,SNR=65
AKASG PP **PP** 02 00 49.3 -3.4
comp=Z,13nm,1.1s,baz=256,slow=6.3,SNR=12
AKBB Malin Array Si 125.61 50 *e*PKPdf **PKPdf** 01 58 59.5 -0.8
AKBB *e*PP **PP** 02 00 49.3 -3.4
KBS Kingsbay 125.96 14 PFAKE 01 59 10.0 +10
KBS LR LR
comp=Z,3μm,21.0s
ADK Adak 126.26 312 PFAKE 01 59 10.0 +8.6
ADK LR LR
comp=Z,700nm,20.0s
VSU Vasula 126.42 40*c* *i*PKIKP **PKPdf** 01 59 01.2 -0.3
RAYN Ar Rayn 126.49 87 *e*PKPdf **PKPdf** 01 59 03.7 +0.8
RAYN LR LR
comp=Z,800nm,20.0s
GAMB Gambell 126.69 327 *e*PKPdf **PKPdf** 01 59 01.9 0.0
FIA0 FINESS Array S 126.80 36 *e*PKPpre PKPpre 01 58 48.4
FIA0 *e*PKPdf **PKPdf** 01 59 01.5 -0.7
FINES FINESS Array B 126.80 36 PKhKP PKPpre 01 58 48.4
comp=Z,1.6nm,0.9s,baz=174,slow=2.8,SNR=3.0
FINES PKP **PKPdf** 01 59 01.5 -0.7
comp=Z,13nm,0.7s,baz=158,slow=1.0,SNR=36
FINES FINESS Array B 126.80 36*c* *i*PKIKP **PKPdf** 01 59 02.2 0.0
FINES pmax pmax
comp=Z,13nm,0.7s
SIM Simferopol' 126.89 58*c* *i*PKIKP **PKPdf** 01 59 03.2 +0.3
SIM *e* 02 01 01.0
SIM *e*PPP PPP 02 03 43.0
SIM pmax pmax
comp=Z,63nm,0.9s
SIM pmax pmax
comp=Z,40nm,13.6s
MALT Malatya 127.57 67 ⇑PKIKP **PKPdf** 01 59 05.6 +1.0
MALT Malatya 127.57 67 ⇑*i*P **PKPdf** 01 59 05.6 +1.0
ARA0 ARCESS Array S 127.99 26 *e*PKPdf **PKPdf** 01 59 04.1 -0.2
ARCES ARCESS Array B 127.99 26 PKP **PKPdf** 01 59 04.1 -0.2
comp=Z,14nm,0.7s,baz=264,slow=2.3,SNR=35
ARCES ARCESS Array B 127.99 26 PKIKP **PKPdf** 01 59 04.1 -0.2
ARCES pmax pmax
comp=Z,14nm,0.7s
PUL Pulkovo 128.50 39 ⇑*i*PKIKP **PKPdf** 01 59 06.5 +1.0
PUL pmax pmax
comp=Z,35nm,0.3s
JAY Jayapura 128.87 226 PKP PKPdf 01 59 15.9 +8.1
JAY PKP PKiKP 01 59 21.9 +13
ANN Anapa 129.07 59 *i*PKIKP **PKPdf** 01 59 07.1 +0.1
ANN pmax pmax
comp=Z,137nm,1.6s
ANN MLR MLR
comp=Z,563nm,24.0s
GENI Genyem 129.11 226 PKP **PKPdf** 01 59 09.9 +1.7
SOEI Soe 129.82 203 PKP **PKPdf** 01 59 14.3 +4.6
SOEI Soe 129.82 203 *e*PKPdf **PKPdf** 01 59 09.7 0.0
SOEI LR LR
comp=Z,1μm,20.0s
APA Apatity 130.73 29 ⇑*i*PKIKP **PKPdf** 01 59 10.0 +0.5
OBN Obninsk 131.00 46*c* *i*PKIKP **PKPdf** 01 59 10.1 -0.2
OBN *i* 01 59 17.0
OBN pmax pmax
comp=Z,121nm,1.5s
OBN Obninsk 131.00 46 *e*PKPdf **PKPdf** 01 59 10.5 +0.2
OBN LR LR
comp=Z,600nm,19.0s
LVZ Lovozero 131.21 29 ⇑*i*PKIKP **PKPdf** 01 59 10.7 +0.2
LVZ pmax pmax
comp=Z,117nm,1.7s
LVZ Lovozero 131.21 29 *e*PKPdf **PKPdf** 01 59 09.7 -0.8
MMRI Maumere 131.48 201 PFAKE 01 59 20.0 +7.3
MMRI LR LR
comp=Z,400nm,21.0s
MOS Moscow 131.69 45 *e*PKIKP **PKPdf** 01 59 10.2 -1.5
MOS *e* 01 59 17.0
MOS pmax pmax
comp=Z,65nm,1.4s
MOS MLR MLR
comp=Z,900nm,20.0s
VSR Storozhevoye 131.82 51 *e*PKIKP **PKPdf** 01 59 11.3 -0.8
VSR pmax pmax
comp=N,3.0nm,0.9s
VSR pmax pmax
comp=E,5.0nm,0.9s
VSR pmax pmax
comp=Z,30nm,0.9s
VSR MLR MLR
comp=N,500nm,23.0s
VSR MLR MLR
comp=E,350nm,23.0s
VSR MLR MLR
comp=Z,630nm,23.0s
VORD Divnogorie 131.85 52 *e*PKIKP **PKPdf** 01 59 12.2 +0.1
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,40nm,0.8s
VORD pmax pmax
comp=Z,20nm,0.8s
VORD MLR MLR
comp=N,150nm,19.0s
VORD MLR MLR
comp=E,260nm,19.0s
VORD MLR MLR
comp=Z,330nm,19.0s
NEY Neytrino 132.27 62*c* *i*PKIKP **PKPdf** 01 59 14.3 +0.9
AKH Akhalkalaki 132.28 65 P **PKPdf** 01 59 11.9 -1.7
AKH Akhalkalaki 132.28 65 ⇑PKIKP **PKPdf** 01 59 15.3 +1.8
AKH Akhalkalaki 132.28 65 ⇑*i*P **PKPdf** 01 59 15.3 +1.8
KIV Kislovodsk 132.44 61 *i* PKIKP **PKPdf** 01 59 14.0 +0.4
KIV *e* 02 01 35.2
KIV *e*PS **PS** **02 11 51.2** **-2.7**
KIV *e*SS SS 02 19 14.4 -1.6
KIV pmax pmax
comp=Z,64nm,1.1s
KIV Kislovodsk 132.44 61 PKPdf **PKPdf** 01 59 14.8 +1.2
SNR=19
KIV Kislovodsk 132.44 61 ⇑*i*PKPdf **PKPdf** 01 59 14.0 +0.4
SNR=12
KIV Kislovodsk 132.44 61 *e*PKPdf **PKPdf** 01 59 14.4 +0.8
KBZ Khabaz 132.53 62 PKhKP PKPpre 01 59 02.1
comp=Z,2.2nm,0.8s,baz=195,slow=4.2,SNR=5.7
KBZ PKP **PKPdf** 01 59 13.9 +0.3
comp=Z,18nm,0.9s,baz=201,slow=2.5,SNR=23
TMCR Tamitsa 132.57 34 *e*PKIKP **PKPdf** 01 59 12.6 -0.4
TMCR pmax pmax
comp=Z,77nm,0.7s
ONI Oni 132.60 63 P **PKPdf** 01 59 12.7 -1.2
ONI Oni 132.60 63 PKIKP **PKPdf** 01 59 12.7 -1.2
GNI Garni 132.80 67*c* *i*PKIKP **PKPdf** 01 59 15.5 +1.0
GNI pmax pmax
comp=Z,86nm,1.7s
GNI Garni 132.80 67 PKPdf **PKPdf** 01 59 16.3 +1.7
SNR=13
GNI Garni 132.80 67 ⇓*i*PKiKP **PKPdf** 01 59 15.5 +1.0
SNR=6.9
GNI Garni 132.80 67 *e*PKPdf **PKPdf** 01 59 15.2 +0.7
GNI LR LR
comp=Z,400nm,19.0s
FAKI Fak Fak 132.94 216 PFAKE 01 59 30.0 +15
FAKI LR LR
comp=Z,300nm,19.0s
NCK Nalchik 132.95 62*c* *i*PKIKP **PKPdf** 01 59 15.4 +0.9
ZEI Tsey 132.97 63 *i* PKIKP **PKPdf** 01 59 14.9 +0.1
ZEI pmax pmax
comp=Z,83nm,0.7s
GOF Gofitskoye 132.97 60 *e*PKIKP **PKPdf** 01 59 14.4 -0.1
GOF pmax pmax
comp=Z,150nm,1.3s
TBLG Delisi 133.27 65 P **PKPdf** 01 59 14.7 -0.5
TBLG Delisi 133.27 65 PKIKP **PKPdf** 01 59 14.7 -0.5
VRHR Novokhopersk 133.32 52 *e*PKIKP **PKPdf** 01 59 15.1 +0.2
VRHR pmax pmax
comp=Z,50nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.8s
JAGI Jajag, Banyuwa 133.38 190 *e*PKPdf **PKPdf** 01 59 14.9 -1.3
JAGI LR LR
comp=Z,400nm,21.0s
DGRG David-gareji 133.65 65 P **PKPdf** 01 59 13.9 -2.0
DGRG David-gareji 133.65 65 PKIKP **PKPdf** 01 59 13.9 -2.0
CISI Cisompet, Garu 134.82 182 PKP **PKPdf** 01 59 21.5 +2.5
CISI PKP **PKiKP** 01 59 22.4 +1.9
CISI Cisompet, Garu 134.82 182 *e*PKPdf **PKPdf** 01 59 19.1 0.0
FAQ Al Faqa, Dubai 135.09 92 ⇓*i*PKPdf **PKPdf** 01 59 19.2 +0.1
SNR=7.0
SMRI Semarang 135.19 186 PKP **PKPdf** 01 59 21.8 +2.1
SMRI Semarang 135.19 186 *e*PKPdf **PKPdf** 01 59 20.3 +0.6
NAZ Nazwa, Dubai 135.26 91 ⇓PKPdf **PKPdf** 01 59 19.2 -0.1
ASHO Ashiyiah 135.42 92 ⇓PKPdf **PKPdf** 01 59 19.3 -0.4
LEM Lembang 135.55 182 PKP **PKPdf** 01 59 22.4 +1.9
LEM PKP **PKiKP** 01 59 23.0 +0.9
LEM Lembang 135.55 182 PKP **PKPdf** 01 59 21.1 +0.6
comp=Z,49nm,0.6s,baz=98,slow=14
LEM Lembang 135.55 182 PKIKP **PKPdf** 01 59 21.1 +0.6
LEM pmax pmax
comp=Z,49nm,0.6s
HATD Hatta, Dubai 135.55 92 ⇑PKPdf **PKPdf** 01 59 19.5 -0.4
MAK Makhachkala 135.57 64 *e*P **Pdif** 01 56 28.7 +6.2
MAK *i* 01 59 20.5
MAK *e*PS PS 02 12 08.8 -12
MAK *e*SS SS 02 19 56.0 +2.4
MAK pmax pmax
comp=Z,32nm,0.4s
KAPI Kappang 135.62 199 *e*PKPdf **PKPdf** 01 59 20.7 +0.3
KAPI LR LR
comp=Z,600nm,18.0s
BILL Bilibino 135.73 332 *e*PKPdf **PKPdf** 01 59 19.3 +0.4
SANI Sanana 136.40 209 PKP **PKPdf** 01 59 23.7 +1.8
SANI PKP **PKiKP** 01 59 25.2 +1.6
SANI PKP 01 59 26.1
WBK Wadi Bani Khal 136.67 97 PKPdf **PKPdf** 01 59 23.6 +1.5
SNR=5.0
TOLI Toli-Toli 141.16 203 PFAKE 01 59 40.0 +9.4
TOLI LR LR
comp=Z,300nm,20.0s
PET Petropavlovsk 141.29 310 *e*PKHKP PKPpre 01 59 24.0
PET *e* 02 02 32.9
PET *e*PPP PPP 02 05 36.7
PET *e*SS SS 02 21 04.1 +3.6
PET pmax pmax
comp=Z,100nm,7.1s
PET pmax pmax
comp=Z,42nm,1.1s
PET pmax pmax
comp=Z,200nm,13.5s
PET Petropavlovsk 141.29 310 PFAKE 01 59 40.0 +10
PET LR LR
comp=Z,400nm,21.0s
PEA2 Petropavlovsk- 141.86 310 *e*PKPpre PKPpre 01 59 24.4
PEA2 *e*PKPdf **PKPdf** **01 59 31.5** **+0.9**
PETK Petropavlovsk- 141.86 310 PKhKP PKPpre 01 59 24.4
comp=Z,19nm,0.8s,baz=110,slow=7.6,SNR=22
PETK PKP **PKPdf** **01 59 31.5** **+0.9**
comp=Z,33nm,1.0s,baz=102,slow=6.2,SNR=18
GEYT Alibeck 142.16 75 PKhKP PKPpre 01 59 27.2
comp=Z,24nm,0.8s,baz=270,slow=4.4,SNR=49
GEYT PKP **PKPdf** **01 59 32.5** **+0.8**
comp=Z,35nm,0.8s,baz=276,slow=5.7,SNR=31
BKNI Bangkinang 142.33 171 PFAKE 01 59 40.0 +7.3
BKNI LR LR
comp=Z,900nm,20.0s
SEY Seymchan 142.69 327 PKhKP PKPpre 01 59 27.4
comp=Z,22nm,0.9s,baz=114,slow=3.9,SNR=53
SEY Seymchan 142.69 327 *e*PKIKP **PKPdf** **01 59 28.1** **-3.6**
SEY *i* 01 59 32.6
GSI Gunungsitoli 142.72 165 *e*PKPdf **PKPdf** **01 59 32.0** **-1.4**
ARU Arti 143.38 44 *i* PKIKP PKPbc 01 59 30.3 -0.1
ARU MLR MLR
comp=Z,721nm,19.0s
ARU Arti 143.38 44 *e*PKPpre PKPbc 01 59 30.4 +0.1
ARU LR LR
comp=Z,700nm,20.0s
GOA Goa 143.57 119 *e*P PKPbc 01 59 32.9 +0.8
GOA AMS AMS 03 11 18.4
comp=Z,2μm,13.6s
AKTO Aktyubinsk 143.63 54 PKIKP PKPbc 01 59 30.8 -0.5
AKTO pmax pmax
comp=Z,162nm,1.6s
KSM Kuching 143.64 186 *e*PKPpre PKPbc 01 59 32.6 +0.3
KSM LR LR
comp=Z,500nm,20.0s
MYKOM Kota Tinggi 144.04 175 *e*PKPdf **PKPab** **01 59 32.2** **-0.9**
TIXI Tiksi 144.23 348*c* *i*PKIKP **PKPab** **01 59 31.4** **-0.7**
TIXI *i* 01 59 37.8
TIXI MLR MLR
comp=Z,331nm,22.0s
TIXI Tiksi 144.23 348 *e*PKPdf **PKPab** **01 59 31.5** **-0.6**
TIXI LR LR
comp=Z,300nm,20.0s
SBUM Sibu 144.39 190 *e*PKPdf PKPbc 01 59 34.9 +0.2
SBUM LR LR
comp=Z,700nm,20.0s
SVE Sverdlovsk 144.43 43*d* *i*PKIKP PKPbc 01 59 34.0 +0.5
SVE pmax pmax
comp=Z,164nm,1.4s
SVE MLR MLR
comp=Z,893nm,23.0s
PSI Prapat 144.44 167 PKP **PKPab** **01 59 34.5** **-0.2**
comp=Z,173nm,0.8s,baz=187,slow=3.8,SNR=163
PSI Prapat 144.44 167 PKIKP **PKPab** **01 59 34.5** **-0.2**
PSI pmax pmax
comp=Z,173nm,0.8s
PSI Prapat 144.44 167 *e*PKPdf **PKPab** **01 59 34.5** **-0.2**
PSI LR LR
comp=Z,1μm,20.0s
AB31 Akbulak array 144.90 56 *i* PKIKP **PKPab** **01 59 34.9** **-0.4**
AB31 pmax pmax
comp=Z,255nm,0.8s
ABKAR Akbulak array 144.90 56 *e*PKPdf **PKPdf** **01 59 35.8** **-0.3**
BHJ Bhuj 145.33 104 *e*P **PKPbc** **01 59 37.1** **-0.3**
URV Uravakonda 145.51 123 *e*PKPdf **PKPdf** **01 59 37.3** **-0.9**
POO Poona 145.63 115 *e*P **PKPdf** **01 59 37.8** **-0.5**
SKHT Srikalahasti 146.19 128 *e*PKPab **PKPbc** **01 59 39.8** **-0.5**
LHMI Lhok Sumawe 146.39 163 *e*PKPdf **PKPdf** **01 59 39.0** **-0.7**
LHMI *e*PKPbc **PKPbc** **01 59 40.5** **-0.4**
IPM Ipoh 146.42 170 *e*PKPdf **PKPdf** **01 59 40.1** **+0.3**
IPM LR LR
comp=Z,600nm,20.0s
RCLA Racherla 147.00 125 *e*PKPbc **PKPdf** **01 59 40.8** **+0.2**
KKM Kota Kinabalu 147.14 198 *e*PKPdf **PKPdf** **01 59 41.7** **+0.6**
KKM LR LR
comp=Z,500nm,20.0s
KULM Kulim 147.16 169 *e*PKPdf **PKPdf** **01 59 40.9** **-0.1**
KULM *e*PKPbc **PKPbc** **01 59 43.1** **-0.1**
KULM LR LR
comp=Z,700nm,19.0s
CMBY CAMPBELL BAY 147.25 156 *e*P **PKPdf** **01 59 38.0** **-3.2**
KLRI Killari 147.26 119 *e*PKPbc **PKPdf** **01 59 41.2** **+0.1**
SRLM Srisailam 147.43 124 *e*PKPbc **PKPdf** **01 59 42.0** **+0.6**
ADKI Addanki 147.94 126 *e*PKPbc **PKPbc** **01 59 44.5** **-0.6**
NJS Nagarjunasagar 148.03 124 *e*PKPdf **PKPdf** **01 59 41.8** **-0.6**
HYB Hyderabad 148.15 122 *i* PKP **PKPdf** **01 59 44.0** **+1.4**
HYB Hyderabad 148.15 122 *e*P **PKPdf** **01 59 42.4** **-0.1**
HYBB Hyderabad (bro 148.15 122 *e*PKPbc **PKPbc** **01 59 44.5** **-1.3**
KUR Kuril'sk 148.45 297 *i* PKIKP **PKPdf** **01 59 41.9** **-0.2**
KUR *e*SS SS 02 22 22.1 -0.9
SRSP Sriramsagar 149.06 120 *e*PKPdf **PKPdf** **01 59 43.8** **-0.2**
AKL Akola 149.30 115 *ex* **PKPab** **01 59 52.2** **-1.1**
RPR Rampur 149.66 121 *e*PKPdf **PKPdf** **01 59 44.6** **-0.3**
KBL Kabul 149.72 85 *e*PKPdf **PKPdf** **01 59 45.3** **+0.5**
KBL *e*PKPbc **PKPbc** **01 59 49.5** **-0.1**
KBL LR LR
comp=Z,400nm,18.0s
YUK Yuzh-Kuril'sk 149.85 294*c* *i*PKHKP PKPpre 01 59 48.7
YUK *i* 02 03 22.6
YUK *e*PPP PPP 02 06 45.7
YUK *e*SS SS 02 22 41.2 +2.5
YUK *i* SSS SSS 02 28 17.3
PVM Polavaram 150.04 126 *e*PKPdf **PKPdf** **01 59 45.4** **-0.1**
DZET Dzherino 150.56 76 PKIKP **PKPdf** **01 59 46.6** **+0.7**
DZET pmax pmax
comp=Z,245nm,0.9s
BRVK Borovoye 150.76 47*c* *i*PKIKP **PKPdf** **01 59 46.1** **+0.5**
BRVK *i* 01 59 52.1
BRVK Borovoye 150.76 47 PKPdf **PKPdf** **01 59 46.5** **+0.9**
SNR=71
BRVK Borovoye 150.76 47 *e*PKPdf **PKPdf** **01 59 46.4** **+0.9**
BRVK *e*PKPbc **PKiKP** **01 59 52.3** **+0.5**
BRVK LR LR
comp=Z,900nm,20.0s
BVA0 Borovoye Array 150.83 47 *i* PKIKP **PKPdf** **01 59 45.6** **-0.1**
BVA0 pmax pmax
comp=Z,194nm,0.8s
BVAR Borovoye Array 150.83 47 PKP **PKPdf** **01 59 46.0** **+0.3**
comp=Z,12nm,0.8s,baz=270,slow=1.5,SNR=55
BVAR PKPbc **PKiKP** **01 59 52.2** **+0.3**
comp=Z,99nm,0.6s,baz=283,slow=0.9,SNR=168
BVAR Borovoye Array 150.83 47 PKIKP **PKPdf** **01 59 46.0** **+0.3**
BVAR 01 59 52.2
BVAR pmax pmax
comp=Z,12nm,0.8s
BVAR pmax pmax
comp=Z,99nm,0.6s
NGP Nagpur 151.03 117 *e*P **PKPdf** **01 59 47.6** **+0.6**
PBA Port Blair 151.16 151 *e*P PKPdf 01 59 45.9 -1.4
BHPL Bhopal 151.18 112 *e*P **PKPdf** **01 59 48.8** **+1.5**
VIS Vishakhapatnam 151.46 128 *e*P **PKPdf** **01 59 48.2** **+0.4**
ERM Erimo 151.73 290*d* *i*PKIKP **PKPbc** **01 59 54.3** **+0.6**
ERM pmax pmax
comp=Z,205nm,1.2s
ERM Erimo 151.73 290 *e*PKPdf **PKPdf** **01 59 48.5** **+1.1**
ERM *e*PKPbc **PKiKP** **01 59 54.7** **+0.5**
ERM LR LR
comp=Z,400nm,19.0s
YAK Yakutsk 151.87 337 *e*PKIKP **PKPbc** **01 59 52.5** **-0.9**
YAK *e* 02 03 40.9
YAK *e* 02 06 49.7
YAK *e*SS SS 02 22 59.2 0.0
YAK pmax pmax
comp=Z,220nm,1.0s
YAK pmax pmax
comp=N,15nm,1.4s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=Z,166nm,3.8s
YAK pmax pmax
comp=N,82nm,3.8s
YAK pmax pmax
comp=E,26nm,1.6s
YAK Yakutsk 151.87 337 *e*PKPdf **PKPdf** **01 59 46.0** **-0.9**
YAK *e*PKPbc **PKPbc** **01 59 53.0** **-0.4**
YAK LR LR
comp=Z,300nm,20.0s
NKL Nikolayevsk 151.91 314 *i* PKIKP **PKPdf** **01 59 48.0** **+0.7**
NKL pmax pmax
comp=Z,110nm,1.0s
NKL pmax pmax
comp=Z,500nm,6.0s
YSS Yuzh-Sakhalins 151.94 301 *i* PKIKP PKPpre 01 59 40.3
YSS *i* 01 59 53.0
YSS Yuzh-Sakhalins 151.94 301 *e*PKPdf **PKPdf** **01 59 47.1** **-0.4**
YSS *e*PKPbc **PKPbc** **01 59 54.0** **-0.1**
YSS LR LR
comp=Z,200nm,20.0s
ASAJ Asahikawa 152.20 295 *e*PKPdf **PKPdf** **01 59 48.0** **-0.1**
ASAJ *e*PKPbc **PKPbc** **01 59 54.6** **-0.2**
ASAJ LR LR
comp=Z,300nm,18.0s
KK31 Karatay Array 152.26 68 *i* PKIKP **PKPdf** **01 59 48.3** **+0.1**
KK31 pmax pmax
comp=Z,30nm,0.6s
KKAR Karatay Array 152.26 68 *e*PKPdf **PKPdf** **01 59 48.6** **+0.4**
KKAR *e*PKPbc **PKiKP** **01 59 55.3** **0.0**
CHLP Challavanipeta 152.51 128 *e*PKPdf **PKPdf** **01 59 47.8** **-1.5**
DGPR DIGLIPUR 152.62 150 *e*P **PKPdf** **01 59 50.8** **+1.3**
DGPR AMS AMS 03 13 34.0
comp=Z,640nm,10.6s
DLV T Lat 154.15 184 *e*PKPdf **PKPdf** **01 59 50.6** **-1.4**
DLV *e*PKPbc **PKPbc** **01 59 59.8** **-0.4**
SFK Sufi-Kurgan 154.31 75 PKIKP **PKPdf** **01 59 51.8** **+0.2**
SFK pmax pmax
comp=Z,125nm,1.6s
AML Almayashu 154.59 70 P **PKPdf** **01 59 53.0** **+0.9**

	SNR=15								
AML	**Almayashu**	**154.59**	**70**		P	**PP**	**02 03 51.3**	**-0.1**	
	SNR=6.7								
EKS2	**Erkin-Say**	**154.66**	**69**		P	**PKPdf**	**01 59 52.7**	**+0.9**	
	SNR=41								
EKS2	**Erkin-Say**	**154.66**	**69**		P	**PP**	**02 03 51.4**	**0.0**	
	SNR=7.0								
EKS2	**Erkin-Say**	**154.66**	**69**		*e*PKPdf	**PKPdf**	**01 59 52.8**	**+0.9**	
EKS2					*e*PKPbc	**PKiKP**	**02 00 01.2**	**+0.8**	
EKS2					*e*PP	**PP**	**02 03 47.4**	**-4.0**	
EKS2					LR	LR			
	comp=Z,500nm,18.0s								
DHRM	**DHARAMSHALA**	**154.71**	**94**		*e*P	**PKPdf**	**01 59 52.5**	**+0.2**	
MJAR	**Matsushiro Arr**	**154.77**	**277**		PKP	**PKPdf**	**01 59 51.1**	**-0.9**	
	comp=Z,9.7nm,1.2s,baz=218,slow=1.9,SNR=18								
MJAR					PKPbc	**PKPbc**	**02 00 00.1**	**-0.6**	
	comp=Z,9.1nm,1.0s,baz=114,slow=1.8,SNR=4.2								
MJAR					PKPab	**PKPab**	**02 00 16.1**	**+0.2**	
	comp=Z,22nm,0.9s,baz=155,slow=3.2,SNR=19								
MAJO	**Matsushiro**	**154.77**	**277**	*c*	*i*PKIKP	**PKPbc**	**02 00 00.3**	**-0.4**	
MAJO	**Matsushiro**	**154.77**	**277**		*e*PKPdf	**PKPdf**	**01 59 51.2**	**-0.9**	
MAJO					*e*PKPbc	**PKPbc**	**02 00 00.2**	**-0.4**	
MAJO					*e*PKPab	**PKPab**	**02 00 16.0**	**+0.2**	
MAJO					*e*PP	**PP**	**02 03 50.2**	**-2.0**	
MAJO					LR	LR			
	comp=Z,300nm,20.0s								
MAT	**Matsushiro**	**154.77**	**277**		PKP	**PKPdf**	**01 59 50.6**	**-1.4**	
SMLA	**Simla**	**154.97**	**97**		*e*P	**PKPdf**	**01 59 51.6**	**-0.8**	
USP	**Ospenovka**	**155.18**	**67**		P	**PKPdf**	**01 59 53.1**	**+0.7**	
	SNR=25								
USP	**Ospenovka**	**155.18**	**67**		P	**PP**	**02 03 53.6**	**-0.6**	
	SNR=8.4								
AAK	**Ala-Archa**	**155.19**	**69**		P	**PKPdf**	**01 59 53.6**	**+0.9**	
	SNR=16								
AAK	**Ala-Archa**	**155.19**	**69**		P	**PP**	**02 03 54.6**	**+0.2**	
	SNR=6.3								
AAK	**Ala-Archa**	**155.19**	**69**		PKIKP	**PKPdf**	**01 59 53.5**	**+0.9**	
AAK					pmax	pmax			
	comp=Z,51nm,0.8s								
AAK	**Ala-Archa**	**155.19**	**69**		*e*PKPdf	**PKPdf**	**01 59 53.1**	**+0.5**	
AAK					*e*PKPab	**PKPab**	**02 00 18.3**	**+0.7**	
AAK					*e*PP	**PP**	**02 03 53.9**	**-0.6**	
AAK					LR	LR			
	comp=Z,400nm,20.0s								
UCH	**Uchtor**	**155.20**	**70**		P	**PKPdf**	**01 59 54.1**	**+1.1**	
	SNR=57								
UCH	**Uchtor**	**155.20**	**70**		P	**PP**	**02 03 55.0**	**+0.1**	
	SNR=5.9								
FRU	**Bishkek**	**155.27**	**68**		*e*PKIKP	**PKPdf**	**01 59 53.0**	**+0.4**	
FRU					*i*		01 59 59.0		
FRU					pmax	pmax			
	comp=Z,110nm,1.8s								
DDI	**Dehra Dun**	**155.34**	**99**		*e*P	**PKPdf**	**01 59 52.7**	**-0.4**	
DDI					AMS	AMS	03 34 25.3		
	comp=Z,260nm,3.4s								
CHMS	**Chumysh**	**155.37**	**68**		P	**PKPdf**	**01 59 53.4**	**+0.7**	
	SNR=7.8								
KBK	**Karagaybulak**	**155.52**	**69**		P	**PKPdf**	**01 59 53.7**	**+0.6**	
	SNR=17								
KBK	**Karagaybulak**	**155.52**	**69**		P	**PP**	**02 03 56.8**	**+0.4**	
	SNR=8.5								
KZA	**Kyzart**	**155.75**	**70**		P	**PKPdf**	**01 59 54.8**	**+1.1**	
	SNR=26								
KZA	**Kyzart**	**155.75**	**70**		P	**PP**	**02 03 59.1**	**+1.2**	
	SNR=8.5								
TKM2	**Tokmak 2**	**155.99**	**68**		P	**PKPdf**	**01 59 54.3**	**+0.5**	
	SNR=46								
TKM2	**Tokmak 2**	**155.99**	**68**		P	**PP**	**02 03 59.0**	**0.0**	
	SNR=11								
TKM2	**Tokmak 2**	**155.99**	**68**		PKIKP	**PKPdf**	**01 59 53.8**	**0.0**	
TKM2					pmax	pmax			
	comp=Z,109nm,1.8s								
TKM2	**Tokmak 2**	**155.99**	**68**		*e*PKPdf	**PKPdf**	**01 59 54.3**	**+0.5**	
TKM2					*e*PKPab	**PKPab**	**02 00 20.3**	**-0.8**	
TKM2					*e*PP	**PP**	**02 03 58.2**	**-0.8**	
TKM2					LR	LR			
	comp=Z,600nm,19.0s								
KSH	**Kashi**	**156.16**	**76**		PKP	**PKPdf**	**01 59 54.3**	**+0.3**	
KSH					sPKP		02 00 06.5		
KSH					PKS	**PKSdf**	**02 03 25.8**	**-2.2**	
KSH					PP	**PP**	**02 03 56.0**	**-3.9**	
KSH					SKS	**SKSdf**	**02 06 55.5**	**-3.3**	
KSH					SKKS	**SKKSac**	**02 10 45.3**	**-2.4**	
KSH					LN				
	comp=Z,81nm,5.8s								
KSH					LE				
	comp=Z,91nm,4.4s								
KSH					LZ				
	comp=Z,82nm,5.9s								
KURBB	**Kurchatov Arra**	**156.39**	**48**		PP	PP	02 03 59.0	-1.4	
	comp=Z,3.5nm,1.0s,baz=287,slow=6.6,SNR=5.4								
KURK	**Kurchatov**	**156.41**	**48**		PKPdf	**PKPdf**	**01 59 53.9**	**+0.2**	
	SNR=24								
KURK	**Kurchatov**	**156.41**	**48**		*e*PKPdf	**PKPdf**	**01 59 53.8**	**0.0**	
KURK					*e*PKPab	**PKPab**	**02 00 22.7**	**+0.4**	
KURK					*e*PP	PP	02 03 51.1	-9.4	
KURK					*e*PP	PP	02 03 59.0	-1.5	
KURK					LR	LR			
	comp=Z,400nm,20.0s								
ULHL	**Ulahol**	**156.48**	**70**		P	**PKPdf**	**01 59 55.4**	**+1.0**	
	SNR=18								
ULHL	**Ulahol**	**156.48**	**70**		P	**PP**	**02 04 01.6**	**-0.2**	
	SNR=12								
HABR	**Khabarovsk**	**156.75**	**306**	*ce*	PKIKP	**PKPdf**	**01 59 53.2**	**-1.0**	
HABR					*e*		02 00 00.0		
HABR					*e*		02 04 01.8		
HABR					*e*		02 06 58.3		
HABR					*e*SSS	SSS	02 29 53.9		
HABR					pmax	pmax			
	comp=N,9.0nm,1.1s								
HABR					pmax	pmax			
	comp=E,36nm,1.1s								
HABR					pmax	pmax			
	comp=Z,131nm,1.1s								
NVS	**Novosibirsk**	**156.79**	**35**	⇓	*i*PKP2	**PKPab**	**02 00 22.4**	**-1.4**	
NVS					pmax	pmax			
	comp=Z,198nm,1.8s								
NVS					pmax	pmax			
	comp=N,14nm,1.5s								
NVS					pmax	pmax			
	comp=E,40nm,1.5s								
BOK	**Bokaro**	**157.49**	**123**		*e*P	**PKPdf**	**01 59 55.4**	**-0.6**	
ZAA1	**Zalesovo Array**	**158.06**	**36**		*e*PKPdf	**PKPdf**	**01 59 55.0**	**-0.7**	
ZAA1					*e*PKPab	**PKPab**	**02 00 30.1**	**+0.8**	
ZALV	**Zalesovo Beam**	**158.07**	**36**		PKP	**PKPdf**	**01 59 55.0**	**-0.7**	
	comp=E,29nm,0.8s,baz=277,slow=2.4,SNR=100								
ZALV					PKPab	**PKPab**	**02 00 30.1**	**+0.8**	
	comp=E,44nm,0.8s,baz=299,slow=5.8,SNR=16								
ZALV					PKKP		02 08 13.0		
	comp=E,2.1nm,0.8s,baz=336,slow=3.3,SNR=5.2								
KOLN	**Koldanda**	**158.33**	**111**		*e*P	**PKPdf**	**01 59 57.0**	**-0.2**	
KLR	**Kul'dur**	**158.56**	**310**		*e*PKIKP	PKPdf	01 59 50.7	-5.8	
KLR					*e*		02 00 04.1		
KLR					*e*		02 00 28.2		
PDGK	**Podgornoye**	**158.81**	**67**		PKIKP	**PKPdf**	**01 59 57.3**	**+0.4**	
PDGK					pmax	pmax			
	comp=Z,54nm,1.0s								
GKN	**Gorkha**	**159.23**	**112**		*e*P	**PKPdf**	**01 59 58.0**	**-0.2**	
DMN	**Daman**	**159.35**	**113**		*e*P	**PKPdf**	**01 59 58.3**	**-0.2**	
BOD	**Bodaibo**	**159.41**	**349**	⇑	*i*PKP2	**PKPab**	**02 00 34.4**	**-0.6**	
BOD					pmax	pmax			
	comp=Z,82nm,1.1s								
PKIN	**Phulchoki**	**159.54**	**114**		*e*P	**PKPdf**	**01 59 57.5**	**-1.2**	
	comp=Z,9.5nm,0.5s								
PKI	**Pulchoki**	**159.54**	**114**		*e*P	**PKPdf**	**01 59 58.2**	**-0.6**	
KKN	**Kakani**	**159.58**	**113**		*e*P	**PKPdf**	**01 59 58.7**	**0.0**	
CM31	**Chiang Mai Arr**	**159.58**	**159**		*e*PKPdf	**PKPdf**	**01 59 58.6**	**0.0**	
CM31					*e*PKPab	**PKPab**	**02 00 36.4**	**-0.3**	
CMAR	**Chiang Mai Arr**	**159.58**	**159**		PKP	**PKPdf**	**01 59 58.6**	**0.0**	
	comp=Z,14nm,1.0s,baz=234,slow=2.4,SNR=33								
CMAR					PKPab	**PKPab**	**02 00 36.4**	**-0.3**	
	comp=Z,9.0nm,1.0s,baz=219,slow=5.1,SNR=7.4								
USRK	**Ussuriysk Ar.**	**159.80**	**296**		PKP	**PKPdf**	**01 59 56.9**	**-1.2**	
	comp=Z,1.9nm,0.9s,baz=299,slow=2.0,SNR=4.5								
USRK					PKPab	**PKPab**	**02 00 37.2**	**0.0**	
	comp=Z,10nm,0.9s,baz=66,slow=6.5,SNR=13								
USRK					PP	**PP**	**02 04 17.7**	**-1.7**	
	comp=Z,2.0nm,0.7s,baz=72,slow=9.0,SNR=6.1								
CHTO	**Chiang Mai**	**159.92**	**159**		PKPdf	**PKPdf**	**01 59 58.8**	**-0.2**	
	SNR=6.9								
CHTO	**Chiang Mai**	**159.92**	**159**		*e*PKPdf	**PKPdf**	**01 59 58.5**	**-0.5**	
CHTO					*e*PKPab	**PKPab**	**02 00 34.3**	**-3.9**	
CHTO					*e*PP	**PP**	**02 04 21.3**	**+2.3**	
CHTO					LR	LR			
	comp=Z,600nm,22.0s								
RAMN	**Ramite**	**160.03**	**117**		*e*P	**PKPdf**	**01 59 59.4**	**+0.2**	
	comp=Z,181nm,1.3s								
MKAR	**Makanchi Array**	**160.05**	**56**		*e*PKPdf	**PKPdf**	**01 59 58.2**	**-0.1**	
MKAR					*e*PKPab	**PKPab**	**02 00 38.5**	**+0.2**	
MKAR					*e*PP	**PP**	**02 04 17.4**	**-3.3**	
GUN	**Gumba**	**160.08**	**114**		*e*P	**PKPdf**	**01 59 59.2**	**-0.2**	
ODAN	**Odare**	**160.52**	**119**		*e*P	**PKPdf**	**02 00 00.1**	**+0.3**	
	comp=Z,85nm,0.9s								
QIZ	**Qiongzhong**	**161.03**	**190**		PKP	**PKPdf**	**02 00 00.0**	**-0.2**	
QIZ					PP	**PP**	**02 04 27.3**	**+2.5**	
QIZ					SS	SS	02 24 41.5	+4.3	
QIZ					LN				
	comp=Z,660nm,20.4s								
QIZ					LZ				
	comp=Z,740nm,19.1s								
TAPN	**Taplejung**	**161.05**	**118**		*e*P	**PKPdf**	**02 00 00.5**	**+0.1**	
	comp=Z,112nm,1.4s								
MDJ	**Mudanjiang**	**161.40**	**299**		PKP	**PKPdf**	**02 00 01.5**	**+1.7**	
MDJ	**Mudanjiang**	**161.40**	**299**		*e*PKPdf	**PKPdf**	**01 59 58.2**	**-1.6**	
MDJ					*e*PKPab	**PKPab**	**02 00 43.1**	**-1.1**	
MDJ					*e*PP	**PP**	**02 04 26.4**	**-1.7**	
SHL	**Shillong**	**162.57**	**130**		*e*P	**PKPdf**	**02 00 00.5**	**-1.4**	
KSRS	**Korea Array**	**163.03**	**275**		PKP	**PKPdf**	**02 00 00.1**	**-1.5**	
	comp=Z,9.5nm,1.1s,baz=184,slow=0.7,SNR=36								
KSRS					PKPab	**PKPab**	**02 00 52.4**	**+0.8**	
	comp=Z,11nm,0.8s,baz=101,slow=4.2,SNR=18								
KSRS	**Korea Array**	**163.03**	**275**		PKIKP	**PKPdf**	**02 00 00.2**	**-1.5**	
KSRS							02 00 52.4		
KSRS					pmax	pmax			
	comp=Z,10.0nm,1.1s								
KSRS					pmax	pmax			
	comp=Z,11nm,0.8s								
KS15	**Wonju Array Si**	**163.06**	**275**		*e*PKPdf	**PKPdf**	**02 00 00.1**	**-1.6**	
KS15					*e*PKPab	**PKPab**	**02 00 52.4**	**+0.7**	
SLVN	**Son La**	**163.39**	**171**		*e*PKPdf	**PKPdf**	**02 00 02.5**	**-0.1**	
QZH	**Quanzhou**	**163.53**	**222**	⇑	*i*PKP	**PKPdf**	**02 00 02.5**	**0.0**	
QZH					PKPab	PKPab	02 00 59.8	+5.9	
QZH					PP	**PP**	**02 04 41.0**	**+2.2**	
QZH					SS	SS	02 25 03.8	-0.7	
QZH					LN				
	comp=Z,940nm,19.4s								
QZH					LE				
	comp=Z,1μm,21.7s								
QZH					LZ				
	comp=Z,830nm,18.0s								
WMQ	**Urumqi**	**164.57**	**61**		PKP	**PKPdf**	**02 00 03.3**	**+0.3**	
LSA	**Lhasa**	**164.88**	**118**		*e*PKPdf	**PKPdf**	**02 00 03.8**	**-0.5**	
LSA					*e*PKPab	**PKPab**	**02 01 00.0**	**-0.5**	
LSA					*e*PP	**PP**	**02 04 50.4**	**+3.3**	
HIA	**Hailar**	**165.11**	**324**		*e*PKPdf	**PKPdf**	**02 00 00.8**	**-2.5**	
HIA					*e*PKPab	**PKPab**	**02 00 59.9**	**-0.4**	
HIA					*e*PP	**PP**	**02 04 47.1**	**+0.1**	
MOY	**Mondy**	**165.64**	**14**		*e*PKP2	**PKPab**	**02 01 03.5**	**+0.9**	
MOY					pmax	pmax			
	comp=Z,58nm,2.1s								
TLY	**Talaya**	**166.02**	**7**		PKPab	**PKPab**	**02 01 05.2**	**+1.0**	
	baz=324,slow=5.3								
TLY					PP	**PP**	**02 04 52.5**	**+1.3**	
	comp=Z,0.8nm,0.3s,baz=346,slow=6.0,SNR=8.0								
TLY	**Talaya**	**166.02**	**7**		PKP2	**PKPab**	**02 01 05.2**	**+1.0**	
TLY							02 04 52.5		
TLY					pmax	pmax			
	comp=Z,1.0nm,0.4s								
TLY	**Talaya**	**166.02**	**7**		*e*PKPdf	**PKPdf**	**02 00 03.5**	**-0.4**	
TLY					*e*PKPab	**PKPab**	**02 01 04.1**	**-0.1**	
TLY					*e*PKPab	PKPab	02 01 05.2	+1.0	
TLY					*e*PP	**PP**	**02 04 50.7**	**-0.5**	
TLY					*e*PP	PP	02 04 52.5	+1.3	
KMI	**Kunming**	**166.92**	**165**		PKP	**PKPdf**	**02 00 06.0**	**+0.3**	
KMI					pPKP	**pPKPdf**	**02 00 12.5**	**-1.0**	
KMI					sPKP		02 00 16.5		
ZAK	**Zakamensk**	**167.25**	**9**	⇑	*e*PKIKP	**PKPdf**	**02 00 04.0**	**-1.0**	
ZAK					*i*		02 01 10.3		
ZAK					*e*		02 04 57.5		
ZAK					pmax	pmax			
	comp=Z,4.0nm,2.2s								
ZAK					pmax	pmax			
	comp=Z,17nm,1.7s								
NJ2	**Nanjing**	**168.34**	**244**		*e*PKP	**PKPdf**	**02 00 07.8**	**+1.6**	
GYA	**Guiyang**	**168.65**	**181**		PKP	**PKPdf**	**02 00 05.8**	**-1.0**	
GYA					PKPab	**PKPab**	**02 01 18.0**	**+1.5**	
GYA					PKS	**PKSdf**	**02 03 36.5**	**-3.0**	
GYA					PP	**PP**	**02 05 07.5**	**+2.8**	
GYA					SKKS		02 11 52.3		
GYA					SS	**SS**	**02 25 58.8**	**+3.5**	
GYA					PPMZ				
	comp=Z,160nm,9.2s								
GYA					LN				
	comp=Z,160nm,25.4s								
GYA					LE				
	comp=Z,150nm,26.0s								
GYA					LZ				
	comp=Z,180nm,25.2s								
SONA0	**Songino Array**	**170.01**	**0**		*e*PKPdf	**PKPdf**	**02 00 05.9**	**-1.0**	
SONA0					*e*PKPab	**PKPab**	**02 01 22.9**	**+0.9**	
SONA0					*e*PP	**PP**	**02 05 10.8**	**-0.8**	
SONM	**Songino Array**	**170.01**	**0**		PKP	**PKPdf**	**02 00 05.9**	**-1.0**	
	comp=Z,9.1nm,1.1s,baz=186,slow=0.6,SNR=42								
SONM					PKPab	**PKPab**	**02 01 22.9**	**+0.9**	
	comp=Z,16nm,0.9s,baz=334,slow=3.6,SNR=22								
SONM					PP	**PP**	**02 05 10.8**	**-0.8**	
	comp=Z,6.4nm,1.0s,baz=350,slow=4.4,SNR=9.4								
SONM	**Songino Array**	**170.01**	**0**		PKIKP	**PKPdf**	**02 00 05.9**	**-1.0**	
SONM							02 01 22.9		
SONM							02 05 10.8		
SONM					pmax	pmax			
	comp=Z,9.0nm,1.1s								
SONM					pmax	pmax			
	comp=Z,16nm,0.9s								
SONM					pmax	pmax			
	comp=Z,6.0nm,1.0s								
WHN	**Wuhan**	**170.25**	**224**		PKP	**PKPdf**	**02 00 07.0**	**-0.4**	
WHN					PP	**PP**	**02 05 17.3**	**+3.9**	
WHN					SS	SS	02 26 13.5	+1.1	
WHN					LN				
	comp=Z,1μm,23.2s								
WHN					LE				
	comp=Z,400nm,11.1s								
WHN					LZ				
	comp=Z,1μm,19.9s								
TIA	**Tai'an**	**171.35**	**262**		PKP	**PKPdf**	**02 00 07.0**	**-0.9**	
TIA					PP	**PP**	**02 05 21.0**	**+1.2**	
TIA					SS	SS	02 26 30.0	+5.0	
TIA					PPMZ				
	comp=Z,320nm,7.7s								
TIA					LN				
	comp=Z,420nm,20.2s								
TIA					LE				
	comp=Z,320nm,23.7s								
TIA					LZ				
	comp=Z,580nm,19.0s								
BJI	**Beijing**	**172.15**	**289**		PKP	**PKPdf**	**02 00 06.0**	**-2.1**	
BJI					PP	**PP**	**02 05 22.3**	**-1.3**	
BJI					PPMZ				
	comp=Z,400nm,6.9s								
BJI					LN				
	comp=Z,250nm,32.3s								
BJI					LE				
	comp=Z,280nm,28.6s								
BJI					LZ				
	comp=Z,390nm,39.0s								
CD2	**Chengdu**	**172.72**	**161**		PKP	**PKPdf**	**02 00 08.5**	**-0.2**	
CD2					pPKP	**pPKPdf**	**02 00 17.0**	**+0.5**	
CD2					sPKP		02 00 19.5		
CD2					PP	**PP**	**02 05 26.3**	**+1.2**	
CD2					SKS	**SKSdf**	**02 07 10.3**	**-0.3**	
CD2					SKKS	**SKKSac**	**02 12 10.8**	**-0.2**	
CD2					SS	**SS**	**02 26 38.3**	**+2.6**	
CD2					PPMZ				
	comp=Z,280nm,6.8s								
CD2					LN				
	comp=Z,500nm,20.6s								
CD2					LE				
	comp=Z,440nm,18.1s								
CD2					LZ				
	comp=Z,640nm,21.0s								
GTA	**Gaotai**	**174.53**	**71**	⇑	PKP	**PKPdf**	**02 00 09.5**	**+0.3**	
GTA					sPKP		02 00 16.0		
GTA					PKPab	**PKPab**	**02 01 43.0**	**+0.4**	
GTA					PP	**PP**	**02 05 36.0**	**+0.5**	
GTA					SKS	**SKSdf**	**02 07 06.8**	**-4.1**	
GTA					SKKS	**SKKSac**	**02 12 17.3**	**-2.8**	
GTA					SS	SS	02 26 48.5	-7.5	
GTA					PPMZ				
	comp=Z,550nm,9.5s								
GTA					LN				
	comp=Z,390nm,19.5s								
GTA					LE				
	comp=Z,360nm,20.9s								
GTA					LZ				
	comp=Z,500nm,22.3s								
HHC	**Hu-ho-hao-te**	**175.06**	**309**		*e*PKP	**PKPdf**	**02 00 09.5**	**+0.2**	
HHC					SKS	**SKSdf**	**02 07 06.3**	**-4.6**	
HHC					SKKS	**SKKSac**	**02 12 22.0**	**-0.3**	
HHC					SS	**SS**	**02 27 01.3**	**+1.2**	
HHC					PPMZ				
	comp=Z,190nm,9.7s								
HHC					LN				
	comp=Z,470nm,17.5s								
HHC					LE				
	comp=Z,220nm,17.3s								
HHC					LZ				
	comp=Z,520nm,16.5s								
TIY	**Taiyuan**	**175.30**	**270**		*e*PKP	**PKPdf**	**02 00 09.0**	**-0.4**	
TIY					PKPab	PKPab	02 01 52.0	+5.9	
TIY					PP	**PP**	**02 05 38.0**	**-1.3**	
TIY					PPMZ				
	comp=Z,190nm,6.2s								
TIY					LN				
	comp=Z,760nm,21.5s								
TIY					LE				
	comp=Z,410nm,18.2s								
TIY					LZ				
	comp=Z,660nm,18.4s								
XAN	**Xi'an**	**175.73**	**208**		PKP	**PKPdf**	**02 00 08.5**	**-1.1**	
XAN					sPKP		02 00 22.8		
XAN					PKPab	PKPab	02 01 53.3	+5.6	
XAN					PKS	**PKSdf**	**02 03 39.3**	**-2.5**	
XAN					PP	PP	02 05 48.0	+8.1	
XAN					SKS	**SKSdf**	**02 07 06.3**	**-5.0**	
XAN					SKKS	**SKKSac**	**02 12 28.0**	**+2.7**	
XAN					SS	SS	02 27 12.3	+7.2	
XAN					PPMZ				
	comp=Z,140nm,7.6s								
XAN					LN				
	comp=Z,350nm,21.0s								
XAN					LE				
	comp=Z,480nm,19.6s								
XAN					LZ				
	comp=Z,450nm,19.6s								
LZH	**Lanzhou**	**177.24**	**129**		*e*PKP	**PKPdf**	**02 00 11.3**	**+1.3**	
LZH					pPKP	**pPKPdf**	**02 00 19.0**	**+1.2**	
LZH					sPKP		02 00 23.0		
LZH					PP	**PP**	**02 05 51.5**	**+3.6**	
LZH					SKKS		02 12 32.5		
LZH					SS	**SS**	**02 27 14.5**	**-6.4**	
LZH					PPMZ				
	comp=Z,340nm,5.0s								
LZH					LN				
	comp=Z,440nm,16.4s								
LZH					LE				
	comp=Z,410nm,19.4s								
LZH					LZ				
	comp=Z,590nm,19.5s								

IDC 29 01:58:46.5±8.8, 17°34S×178°45W, h412km±94km, mb2.9/5, mb1 3.3/5, mb1mx3.0/30, mbtmp3.7/5, Error ellipse: s-maj=114.6km s-min=28.1km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.70**	**259**	P	P	02 06 21.0	-0.2
	0.3nm,0.7s,baz=91,slow=8.2,SNR=4.4						
ASAR	**Alice Springs**	**44.91**	**254**	P	P	02 06 22.8	0.0
	0.6nm,0.6s,baz=91,slow=8.1,SNR=8.4						
NVAR	**Mina Array Bea**	**79.04**	**44**	P	P	02 10 05.8	-1.0
	0.4nm,0.6s,baz=212,slow=8.2,SNR=3.2						
ILAR	**Eielson Array**	**85.34**	**13**	P	P	02 10 38.8	+0.7
	0.3nm,0.4s,baz=220,slow=5.5,SNR=4.9						
TXAR	**Lajitas Array**	**85.72**	**58**	P	P	02 10 42.0	+1.1
	0.4nm,0.5s,baz=217,slow=7.7,SNR=6.8						
ARCES	**ARCESS Array B**	**125.75**	**350**	PKP	PKPdf	02 16 58.6	-0.8
	1.7nm,0.9s,baz=0.0,slow=1.0,SNR=3.0						
BRTR	**Keskin Array B**	**144.35**	**315**	PKP	PKPbc	02 17 34.1	-0.2
	0.2nm,0.3s,baz=126,slow=3.0,SNR=3.3						
GERES	**GERESS Array B**	**147.05**	**345**	PKPbc	PKPbc	02 17 41.4	-0.5
	0.7nm,0.6s,baz=3.4,slow=3.3,SNR=8.2						

PRE 29 02:07:00.4±1.2, 28°38S×20°01E, h5km, ML3.7, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**4.62**	**94**	*e*P	Pn	02 08 12.2	+1.1
BOSA				*e*S	Sn	02 09 03.7	-1.5
BOSA				AML	AML	02 09 20.6	
	comp=Z,60nm,0.5s						
SWZ	**Schweizer**	**4.86**	**77**	*e*P	Pn	02 08 14.1	-0.3
SWZ				*e*S	Sn	02 09 08.9	-2.3
SWZ				AML	AML	02 09 34.8	
	comp=Z,69nm,0.4s						
CER	**Ceres**	**5.00**	**187**	*e*P	Pn	02 08 16.4	+0.2
CER				*e*S	Sn	02 09 13.3	-1.2
CER				AML	AML	02 09 40.8	
	comp=Z,58nm,0.6s						
LBTB	**Lobatse**	**6.01**	**57**	*e*P	Pn	02 08 30.6	+0.4
LBTB				*e*S	Sn	02 09 38.0	-1.6
LBTB				AML	AML	02 10 12.8	
	comp=Z,13nm,0.8s						
PRYS	**Parys**	**6.67**	**79**	*e*P	Pn	02 08 40.7	+1.4
PRYS				*e*S	Sn	02 09 53.1	-2.8
PRYS				AML	AML	02 10 34.8	
	comp=Z,14nm,0.7s						
GRM	**Grahamstown**	**7.44**	**133**	*e*P	Pn	02 08 51.5	+1.8
GRM				*e*S	Sn	02 10 12.2	-2.3
GRM				AML	AML	02 10 47.3	
	comp=Z,13nm,

ML3.8, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRL	**Marmol**	**0.18**	**323**	*i* P	Pg	02 50 49.1	-1.6
NBG	**Las Nubes**	**0.81**	**246**	*e*P	Pg	02 51 03.2	+0.3
RBDL	**Robledal**	**0.81**	**187**	*e*P	Pg	02 51 02.7	-0.1
RTR	**El Retiro**	**1.02**	**183**	*e*P	Pg	02 51 06.5	-0.3
RTR				*e*S	Sb	02 51 21.0	-0.6
SNJE	**San Jose**	**1.05**	**181**	*e*P	Pg	02 51 06.8	-0.7
SBLS	**San Blas**	**1.08**	**182**	*e*P	Pg	02 51 07.3	-0.7
PCG	**Pacaya**	**1.12**	**242**	*e*P	Pg	02 51 09.2	+0.2
BOQS	**Boqueron**	**1.22**	**166**	*e*P	Pg	02 51 10.4	-0.3
LFU	**La Fuente**	**1.25**	**159**	*e*P	Pg	02 51 10.4	-0.8
SNET	**Serv Nac Est T**	**1.27**	**165**	*e*P	Pg	02 51 10.5	-1.1
SNET				*e*S	Sg	02 51 28.4	+0.2
SNET				AML	AML	02 51 35.3	
	comp=Z,2μm,0.4s						
LBRS	**Las Brisas**	**1.29**	**156**	*e*P	Pg	02 51 11.1	-0.7
FUG	**Fuego 3**	**1.31**	**249**	*e*P	Pg	02 51 11.7	-0.7
LFRS	**El Faro**	**1.39**	**159**	*e*P	Pn	02 51 12.5	-0.9
CAHU	**Cacacuatique**	**1.75**	**131**	*e*P	Pn	02 51 18.5	-0.1
VSM	**San Miguel**	**1.95**	**139**	*e*P	Pn	02 51 21.3	-0.1
JAT	**Jato**	**2.08**	**253**	*e*P	Pn	02 51 23.9	+1.1

*IDC **29** 03:08:39.0±0.7, 8.94S×161.00E, h0km, mb4.2/12, mb1 4.5/12, mb1mx4.2/27, mbtmp4.2/12, MS3.8/2, Ms1 3.7/2, ms1mx3.3/19, Error ellipse: s-maj=25.4km s-min=18.5km az=122.0*

*NEIC **29** 03:08:44.6±0.4, 8.83S×160.94E, h35km, mb4.1/5, Error ellipse: s-maj=11.8km s-min=9.3km az=128.0*

ISC 29 03:08:45.4±0.6, 8.81S±0.09×161.08E±0.09, h43km, n36, σ1s64/36, mb4.1/14, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.28**	**241**	*i* P	**Pn**	**03 09 09.0**	**+2.2**
HNR				*i* S	**Sn**	**03 09 27.0**	**+4.2**
HNR	**Honiara**	**1.28**	**241**	*e*Pg	**Pn**	**03 09 06.0**	**-0.8**
HNR				*e*S	**Sn**	**03 09 24.5**	**+1.7**
DZM	**Mont Dzumac**	**14.16**	**159**	Pn	**Pn**	**03 12 04.6**	**+1.0**
	baz=360,slow=19						
CTA	**Charters Tower**	**18.20**	**230**	P	**Pn**	**03 12 56.0**	**+1.1**
	0.5nm,0.3s,baz=57,slow=10.0,SNR=8.0						
CTAO	**Charters Tower**	**18.20**	**230**	*e*Pn	**Pn**	**03 12 55.1**	**+0.1**
	36nm,1.3s						
COEN	**Coen**	**18.28**	**252**	*e*Pn	**P**	**03 12 53.9**	**-1.8**
EIDS	**Eidsvold**	**19.02**	**209**	Pn	P	03 12 58.1	-5.8
	6.4nm,0.8s						
JAY	**Jayapura**	**21.21**	**286**	P	**P**	**03 13 25.1**	**-2.7**
	14nm,0.8s,baz=73,slow=14,SNR=3.4						
H11S2	**WAKE ISLAND Hy**	**27.69**	**12**	T	T	03 43 15.1	
	baz=193,slow=76,SNR=159						
H11S3	**WAKE ISLAND Hy**	**27.69**	**12**	T	T	03 43 21.8	
	baz=193,slow=76,SNR=158						
H11S1	**WAKE ISLAND Hy**	**27.70**	**12**	T	T	03 43 27.2	
	baz=193,slow=76,SNR=150						
WRAB	**Tennant Creek**	**28.11**	**244**	*e*P	**P**	**03 14 31.6**	**-1.9**
	12nm,0.7s						
WRA	**Warramunga Arr**	**28.12**	**244**	P	**P**	**03 14 31.9**	**-1.7**
	10nm,0.7s,baz=69,slow=9.4,SNR=71						
WRA				PcP	**PcP**	**03 17 46.4**	**-0.9**
	0.5nm,0.6s,baz=66,slow=3.3,SNR=4.4						
WRA				ScP	**ScP**	**03 21 28.3**	**+3.4**
	0.6nm,1.0s,baz=72,slow=3.5,SNR=2.9						
H11N1	**WAKE ISLAND Hy**	**28.91**	**11**	T	T	03 45 00.1	
	baz=192,slow=76,SNR=830						
H11N3	**WAKE ISLAND Hy**	**28.92**	**11**	T	T	03 44 58.7	
	baz=192,slow=76,SNR=494						
H11N2	**WAKE ISLAND Hy**	**28.93**	**11**	T	T	03 44 53.8	
	baz=192,slow=76,SNR=637						
STKA	**Stephens Creek**	**29.23**	**216**	P	**P**	**03 14 42.2**	**-1.1**
	2.6nm,0.6s,baz=50,slow=12,SNR=5.9						
STKA				LR	LR	03 26 25.3	
	comp=Z,167nm,18.8s,baz=17,slow=37						
STKA	**Stephens Creek**	**29.23**	**216**	*e*P	**P**	**03 14 40.9**	**-2.5**
	1.0nm,0.9s						
AS31	**Alice Springs**	**29.90**	**237**	*e*P	**P**	**03 14 47.2**	**-2.2**
ASAR	**Alice Springs**	**29.90**	**237**	P	**P**	**03 14 47.2**	**-2.2**
	5.6nm,0.6s,baz=62,slow=10,SNR=62						
ASAR				PcP	**PcP**	**03 17 51.6**	**-0.2**
	0.4nm,0.4s,baz=81,slow=2.4,SNR=3.6						
ASAR				ScP	**ScP**	**03 21 33.4**	**+2.8**
	0.8nm,0.6s,baz=47,slow=4.3,SNR=6.4						
ASAR				LR	LR	03 26 26.2	
	comp=Z,143nm,18.2s,baz=254,slow=36						
KSRS	**Korea Array**	**55.50**	**328**	P	**P**	**03 18 16.9**	**+0.7**
	0.7nm,0.5s,baz=130,slow=8.6,SNR=5.1						
KSAR	**Wonju Array Be**	**55.51**	**328**	P	**P**	**03 18 16.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**67.01**	**294**	P	**P**	**03 19 34.2**	**-0.3**
	1.0nm,0.3s,baz=108,slow=5.8,SNR=5.2						
VNDA	**Vanda**	**68.69**	**180**	P	**P**	**03 19 43.6**	**-0.5**
	1.1nm,0.8s,baz=25,slow=4.7,SNR=5.9						
SONM	**Songino Array**	**74.19**	**325**	P	**P**	**03 20 19.2**	**+1.4**
	3.0nm,1.0s,baz=132,slow=6.2,SNR=14						
QSPA	**South Pole Qui**	**81.18**	**180**	*e*P	**P**	**03 20 55.4**	**-1.1**
	2.3nm,1.0s						
ILAR	**Eielson Array**	**82.93**	**20**	P	**P**	**03 21 05.5**	**+0.1**
	0.6nm,0.5s,baz=247,slow=5.2,SNR=15						
NVAR	**Mina Array Bea**	**88.14**	**51**	P	**P**	**03 21 32.7**	**+0.4**
	0.5nm,0.7s,baz=248,slow=4.8,SNR=4.9						
MK31	**Makanchi Array**	**88.77**	**318**	*e*P	**P**	**03 21 34.6**	**-0.2**
ZALV	**Zalesovo Beam**	**89.08**	**325**	P	**P**	**03 21 36.7**	**+0.7**
	0.5nm,0.6s,baz=79,slow=7.8,SNR=3.1						
PDAR	**Pinedale Array**	**95.44**	**48**	P	**P**	**03 22 07.2**	**+1.2**
	0.8nm,0.9s,baz=243,slow=1.7,SNR=5.4						
NOA	**NORSAR Array B**	**123.29**	**343**	PKP	**PKPdf**	**03 27 37.2**	**-0.3**
	0.3nm,0.6s,baz=24,slow=2.0,SNR=3.0						
BOSA	**Boshof**	**123.42**	**227**	PKP	**PKPdf**	**03 27 38.8**	**-0.1**
	1.4nm,0.7s,baz=174,slow=2.5,SNR=4.5						
GERES	**GERESS Array B**	**131.61**	**332**	PKP	**PKPdf**	**03 27 54.3**	**+0.5**
	0.2nm,0.3s,baz=348,slow=1.9,SNR=4.2						
ESDC	**Sonseca Array**	**146.48**	**339**	PKPbc	**PKPdf**	**03 28 21.6**	**+0.5**
	0.3nm,0.5s,baz=1.2,slow=1.9,SNR=6.5						
TORD	**Torodi Ar. Bea**	**159.31**	**284**	PKP	**PKPdf**	**03 28 40.2**	**0.0**
	0.5nm,0.9s,baz=76,slow=2.3,SNR=3.7						
TORD				PKPab	**PKPab**	**03 29 17.3**	**-0.5**
	1.4nm,1.0s,baz=85,slow=3.8,SNR=7.9						

*IDC **29** 05:11:48.0±1.3, 11.12N×60.01W, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.5/36, mbtmp3.6/6, ML4.4/2, Error ellipse: s-maj=29.9km s-min=25.3km az=57.0*

*TRN **29** 05:11:52.3, 11.24N×60.06W, h25km, MD3.9*

*ISCJB **29** 05:11:54.3±0.7, 11.28N±0.03×60.25W±0.07, h80km±7km, mb3.5/5, Error ellipse: s-maj=11.9km s-min=4.4km az=20.0*

*FUNV **29** 05:12:04.1, 11.20N×60.94W, h81km, MW3.5*

ISC 29 05:11:55.7±1.2, 11.25N±0.05×60.12W±0.08, h56km±10km, n52, σ1s56/56, mb3.5/5, 1C-2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOT	**Bacolet**	**0.59**	**262**	*i* P	**Pn**	**05 12 06.5**	**-1.9**
BOT	**Bacolet**	**0.59**	**262**	*e*	**Pn**	**05 12 09.4**	**+1.0**
BOT				*e*S	**Sn**	**05 12 17.6**	**0.0**
TPR	**Prospect**	**0.65**	**264**	*e*P	**Pn**	**05 12 07.3**	**-1.8**
TBH	**Brigand Hill**	**1.20**	**231**	*e*P	**Pn**	**05 12 15.1**	**-1.2**
TBH				*e*S	**Sn**	**05 12 32.0**	**+0.4**
TRN	**Trinidad (W)**	**1.40**	**245**	*e*P	**Pn**	**05 12 17.3**	**-1.6**
TRN				*e*S	**Sn**	**05 12 38.0**	**+1.8**
TPP	**Pointe-a-Pierr**	**1.60**	**235**	*e*P	**Pn**	**05 12 21.0**	**-0.7**
TPP	**Pointe-a-Pierr**	**1.60**	**235**	*e*	Pn	05 12 31.9	+10
TPP				*e*S	**Sn**	**05 12 41.5**	**+0.1**
TCE	**Chacachacare**	**1.70**	**251**	*e*P	**Pn**	**05 12 22.4**	**-0.6**
TCE				*e*S	**Sn**	**05 12 43.5**	**-0.1**
GRGR	**Grenville**	**1.74**	**300**	*e*P	**Pn**	**05 12 22.5**	**-1.0**
GRGR				*e*S	**Sn**	**05 12 45.5**	**+0.8**
GRW	**Mount Saint Ca**	**1.76**	**301**	*e*P	**Pn**	**05 12 24.0**	**+0.1**
GRW				*e*S	**Sn**	**05 12 46.7**	**+1.5**
BBGH	**Gun Hill**	**1.96**	**16**	*e*P	**Pn**	**05 12 26.1**	**-0.5**
BBGH				*e*S	**Sn**	**05 12 49.6**	**-0.3**
GUIV	**Guiria**	**2.15**	**254**	*e*P	**Pn**	**05 12 27.9**	**-1.2**
GUIV				*e*S	Sn	05 12 44.2	-11
SVB	**Belmont**	**2.29**	**331**	*i* P	**Pn**	**05 12 29.8**	**-1.3**
SVB				*e*S	**Sn**	**05 12 59.2**	**+1.0**
MCLT	**Moule a Chique**	**2.57**	**342**	*i* P	**Pn**	**05 12 33.6**	**-1.4**
MCLT				*e*S	**Sn**	**05 13 04.3**	**-0.7**
GUNV	**Guanoco**	**2.98**	**249**	*e*P	**Pn**	**05 12 38.2**	**-2.3**
GUNV				*e*S	Sn	05 13 03.6	-11
CRUV	**Carupano**	**3.11**	**260**	*e*P	**Pn**	**05 12 39.2**	**-3.1**
CRUV				*e*S	Sn	05 13 05.4	-13
H05S1	**Guadeloupe/Mar**	**3.23**	**348**	Pn	**Pn**	**05 12 42.5**	**-1.4**
H05S1				Sn	**Sn**	**05 13 19.3**	**-1.9**
MVM	**Montagne Vaucl**	**3.37**	**347**	*e*P	**Pn**	**05 12 44.7**	**-1.2**
BIM	**Bigot**	**3.38**	**344**	*e*P	**Pn**	**05 12 46.1**	**+0.1**
BIM				*e*S	**Sn**	**05 13 23.4**	**-1.4**
TRMF	**Trois Ilets**	**3.39**	**345**	*i*P	**Pn**	**05 12 45.4**	**-0.7**
LPMF	**Morne Lapointe**	**3.40**	**346**	*e*P	**Pn**	**05 12 45.6**	**-0.7**
ZAM	**Aeronautique**	**3.42**	**345**	*e*P	**Pn**	**05 12 45.8**	**-0.7**
BVM	**Bellevue**	**3.58**	**345**	*e*P	**Pn**	**05 12 48.5**	**-0.3**
FDF	**Fort de France**	**3.60**	**344**	*e*P	**Pn**	**05 12 48.5**	**-0.6**
FDF				*e*S	**Sn**	**05 13 30.0**	**-0.4**
SVN	**Savane Anatole**	**3.71**	**344**	*e*P	**Pn**	**05 12 51.2**	**+0.7**
BBL	**Barber's Block**	**4.45**	**343**	*e*P	**Pn**	**05 13 00.4**	**-0.2**
PCRV	**Puerto La Cruz**	**4.57**	**257**	Pn	**Pn**	**05 12 59.4**	**-2.9**
	5.2nm,0.3s,baz=71,slow=5.3,SNR=34						
PCRV				Sn	**Sn**	**05 13 49.2**	**-4.9**
	1.3nm,0.3s,baz=28,slow=17,SNR=1.9						
PCRV	**Puerto La Cruz**	**4.57**	**257**	*e*P	Pn	05 12 58.8	-3.5
PCRV				*e*S	Sn	05 13 38.7	-15
MGG	**Marie-Galante**	**4.78**	**346**	*e*P	**Pn**	**05 13 04.2**	**-1.0**
MGG	**Marie-Galante**	**4.78**	**346**	*e*P	**Pn**	**05 13 04.4**	**-0.8**
MGG	**Marie-Galante**	**4.78**	**346**	*e*S	**Sn**	**05 13 58.0**	**-1.4**
TBG	**Guadaloupe-3**	**4.81**	**342**	*e*P	**Pn**	**05 13 06.0**	**+0.4**
TBG	**Guadaloupe-3**	**4.81**	**342**	*e*S	**Sn**	**05 13 58.1**	**-1.9**
MLG	**Mont-d'or**	**5.03**	**342**	*e*P	**Pn**	**05 13 09.3**	**+0.7**
PRGV	**PARIAGUAN**	**5.10**	**241**	*e*P	Pn	05 13 06.3	-3.3
PRGV				*e*S	Sn	05 13 54.0	-13
H05N1	**Guadeloupe/Mar**	**5.12**	**350**	Pn	**Pn**	**05 13 07.2**	**-2.6**
H05N1				Sn	**Sn**	**05 14 03.2**	**-4.4**
LZG	**Guadaloupe-1**	**5.12**	**342**	*i* P	**Pn**	**05 13 09.6**	**-0.3**
BIRV	**Birongo**	**6.09**	**263**	*e*P	Pn	05 13 19.3	-3.9
BIRV				*e*S	Sn	05 14 13.9	-18
BAUV	**El Baul**	**8.13**	**254**	*e*P	Pn	05 13 46.0	-5.1
BAUV				*e*S	Sn	05 15 02.4	-19
PTGA	**Pitinga**	**11.90**	**179**	Pn	Pn	05 14 36.2	-6.6
	8.8nm,0.3s,baz=3.4,slow=17,SNR=58						
PTGA				Sn	Sn	05 16 40.2	-14
	2.9nm,0.3s,baz=280,slow=22,SNR=12						
ROSC	**El Rosal**	**15.43**	**247**	Pn	**P**	**05 15 35.9**	**+1.9**
	1.7nm,0.3s,baz=98,slow=7.1,SNR=15						
TXAR	**Lajitas Array**	**44.33**	**301**	P	**P**	**05 20 01.6**	**+1.0**
	0.1nm,0.6s,baz=126,slow=7.6,SNR=4.4						
TXAR				PcP	**PP**	**05 21 46.0**	**+1.2**
	0.4nm,0.8s,baz=121,slow=3.8,SNR=3.9						
ULM	**Lac du Bonnet**	**48.72**	**330**	P	**P**	**05 20 34.7**	**+0.1**
	2.6nm,0.7s,baz=129,slow=8.2,SNR=3.2						
H10N3	**ASCENSION HYDR**	**49.19**	**111**	T	T	06 13 21.7	
	baz=291,slow=75,SNR=9.9						
H10N2	**ASCENSION HYDR**	**49.20**	**111**	T	T	06 13 20.8	
	baz=291,slow=75,SNR=8.4						
H10N1	**ASCENSION HYDR**	**49.21**	**111**	T	T	06 13 23.5	
	baz=291,slow=75,SNR=9.9						
H10S3	**ASCENSION HYDR**	**49.47**	**112**	T	T	06 13 44.1	
	baz=293,slow=75,SNR=18						
H10S1	**ASCENSION HYDR**	**49.48**	**112**	T	T	06 13 43.7	
	baz=293,slow=75,SNR=14						
H10S2	**ASCENSION HYDR**	**49.48**	**112**	T	T	06 13 45.5	
	baz=293,slow=75,SNR=12						
PDAR	**Pinedale Array**	**53.06**	**316**	P	**P**	**05 21 07.7**	**0.0**
	0.3nm,0.5s,baz=103,slow=11,SNR=3.5						
TORD	**Torodi Ar. Bea**	**60.32**	**81**	P	**P**	**05 21 58.6**	**-0.7**
	0.2nm,0.6s,baz=290,slow=6.3,SNR=4.4						
YKA	**Yellowknife Ar**	**64.13**	**335**	P	**P**	**05 22 24.9**	**+1.0**
	0.6nm,0.5s,baz=112,slow=7.6,SNR=4.7						

*IDC **29** 05:41:30.1±3.2, 21.47S×179.02W, h571km±36km, mb3.5/12, mb1 3.7/14, mb1mx3.4/25, mbtmp4.4/14, Error ellipse: s-maj=23.8km s-min=19.7km az=158.0*

*ISCJB **29** 05:41:31.4±0.6, 21.57S±0.09×179.1W±0.1, h602km, mb4.0/12, Error ellipse: s-maj=13.9km s-min=10.6km az=31.4*

ISC 29 05:41:32.4±0.7, 21.6S±0.1×179.1W±0.1, h602km, n20, σ0s94/24, mb3.9/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.42**	**265**	P	**P**	**05 44 24.6**	**-1.1**
	1.1nm,0.3s,baz=90,slow=20,SNR=16						
URZ	**Urewera**	**16.91**	**190**	P	**P**	**05 44 57.2**	**-0.6**
	0.9nm,0.3s,baz=90,slow=1.0,SNR=3.9						
URZ				S	**S**	**05 47 43.9**	**-1.0**
	0.3nm,0.3s,baz=75,slow=20,SNR=2.3						
CTA	**Charters Tower**	**32.37**	**266**	P	**P**	**05 47 14.9**	**+0.6**
	4.3nm,0.5s,baz=90,slow=8.1,SNR=4.7						
ASAR	**Alice Springs**	**43.26**	**258**	P	**P**	**05 48 43.3**	**+0.8**
	6.3nm,0.5s,baz=94,slow=8.0,SNR=66						
ASAR				PcP	**PcP**	**05 50 18.9**	**+1.1**
	0.2nm,0.4s,baz=95,slow=4.3,SNR=4.5						
ASAR				S	**S**	**05 54 28.8**	**+1.2**
	1.4nm,0.9s,baz=91,slow=14,SNR=9.4						
JAY	**Jayapura**	**43.43**	**290**	P	**P**	**05 48 43.7**	**-0.2**
	6.2nm,0.6s,baz=135,slow=5.7,SNR=4.2						
WRA	**Warramunga Arr**	**43.43**	**263**	P	**P**	**05 48 43.9**	**0.0**
	3.6nm,0.3s,baz=96,slow=7.6,SNR=358						
WRA				PcP	**PcP**	**05 50 19.4**	**+1.1**
	0.4nm,0.6s,baz=95,slow=2.8,SNR=2.8						
WRA				S	**S**	**05 54 28.9**	**-1.0**
	1.6nm,1.2s,baz=99,slow=14,SNR=5.2						
MJAR	**Matsushiro Arr**	**70.50**	**325**	P	**P**	**05 51 46.9**	**-0.8**
	2.2nm,0.5s,baz=167,slow=5.1,SNR=6.9						
PETK	**Petropavlovsk-**	**77.08**	**346**	P	**P**	**05 52 24.2**	**-0.3**
	3.3nm,0.7s,baz=144,slow=13,SNR=5.1						
USRK	**Ussuriysk Ar.**	**79.30**	**327**	P	**P**	**05 52 35.9**	**-0.6**
	2.8nm,0.8s,baz=157,slow=4.5,SNR=5.6						
NVAR	**Mina Array Bea**	**82.54**	**44**	P	**P**	**05 52 54.2**	**+0.5**
	0.8nm,0.5s,baz=221,slow=9.1,SNR=5.9						
TXAR	**Lajitas Array**	**88.52**	**58**	P	**P**	**05 53 23.4**	**+1.0**
	0.4nm,0.8s,baz=211,slow=7.2,SNR=5.7						
CMAR	**Chiang Mai Arr**	**89.51**	**290**	P	**P**	**05 53 29.4**	**+2.4**
	2.4nm,0.3s,baz=148,slow=3.1,SNR=7.9						
ILAR	**Eielson Array**	**89.62**	**13**	P	**P**	**05 53 25.2**	**-1.3**
	0.7nm,0.5s,baz=217,slow=5.3,SNR=17						
PDAR	**Pinedale Array**	**90.48**	**44**	P	**P**	**05 53 31.4**	**0.0**
	0.6nm,0.7s,baz=187,slow=2.9,SNR=7.1						
ARCES	**ARCESS Array B**	**129.81**	**349**	PKP	**PKPdf**	**05 59 33.5**	**-0.1**
	2.6nm,0.7s,baz=80,slow=1.4,SNR=14						
FINES	**FINESS Array B**	**136.53**	**343**	PKhKP	PKPpre	05 59 36.1	
	1.3nm,1.0s,baz=22,slow=1.5,SNR=2.4						
FINES				PKP	**PKiKP**	**05 59 47.7**	**-0.6**
	0.9nm,0.6s,baz=22,slow=2.1,SNR=4.4						
AKASG	**Malin Array Be**	**143.46**	**330**	PKP	PKPab	05 59 57.1	-0.8
	2.8nm,0.5s,baz=40,slow=4.1,SNR=17						
BRTR	**Keskin Array B**	**146.79**	**310**	PKPbc	**PKPbc**	**06 00 08.3**	**0.0**
	1.4nm,0.6s,baz=124,slow=4.9,SNR=7.6						
GERES	**GERESS Array B**	**150.96**	**342**	PKPbc	**PKPbc**	**06 00 18.1**	**0.0**
	1.4nm,0.6s,baz=20,slow=1.6,SNR=9.4						
TORD	**Torodi Ar. Bea**	**171.55**	**185**	PKP	**PKPdf**	**06 00 33.0**	**-0.6**
	0.6nm,1.0s,baz=146,slow=0.7,SNR=2.3						

*NIED **29** 05:42:00, 40.40N×142.10E, h56km, Mw3.5 Best double couple: Mo1.71000×10^14 NP1:φs180.00000°, δ25.00000°, λ76.00000°. NP2:φs15.00000°, δ66.00000°, λ96.00000°.*

JMA 29 05:42:12.7±0.1, 40.35N×142.08E, h50km±1km, M3.7, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JANG	**Nango**	**0.43**	**273**	⇓P	Pn	05 42 23.2	0.0
JANG				S	Sn	05 42 30.5	-0.2
JTH	**Tanohata**	**0.44**	**202**	⇑P	Pn	05 42 23.4	+0.1
JTH				S	Sn	05 42 31.0	+0.1
JKZ	**Kuzumaki**	**0.68**	**238**	⇓P	Pn	05 42 26.5	+0.2
JKZ				S	Sn	05 42 36.1	0.0
JTM	**Tenmabayashi**	**0.89**	**300**	⇓P	Pn	05 42 28.5	-0.4
JTM				S	Sn	05 42 39.8	-1.0
JOM	**Ohasama**	**1.06**	**215**	P	Pn	05 42 31.6	+0.3
JOM				S	Sn	05 42 45.1	0.0
JAH	**Hinai**	**1.12**	**262**	⇓P	Pn	05 42 32.2	+0.2
JAH				S	Sn	05 42 46.5	+0.2
JOT	**Ohata**	**1.29**	**323**	⇓P	Pn	05 42 33.9	-0.5
JOT				S	Sn	05 42 49.5	-1.1
JRG	**Rokugo**	**1.47**	**230**	P	Pn	05 42 37.6	+0.9

*ISCJB **29** 05:44:58.3±0.7, 36.13N±0.04×70.36E±0.09, h100km, Error ellipse: s-maj=10.4km s-min=5.4km az=173.8*

*NNC **29** 05:45:00.6±3.1, 36.48N×70.36E, h0km, mb4.3, mpv3.8, Error ellipse: s-maj=24.7km s-min=13.0km az=179.0*

ISC 29 05:44:59.4±1.3, 36.13N±0.08×70.29E±0.09, h100km, n16, σ1s01/20, 8C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.66**	**149**	⇓P	**Pn**	**05 45 40.4**	**-0.3**
CEP				S	Sn	05 46 27.0	+14
DZET	**Dzherino**	**2.92**	**337**	⇑Pn	**Pn**	**05 45 44.6**	**+0.5**
	28nm,0.7s						
DZET				⇑Sn	**Sn**	**05 46 18.5**	**+0.1**
	55nm,0.6s						
CHCP	**Chirah Chowk**	**3.47**	**134**	P	**Pn**	**05 45 51.2**	**-0.3**
THW	**Thamme Wali**	**3.54**	**160**	P	**Pn**	**05 45 51.4**	**-1.0**
SFK	**Sufi-Kurgan**	**4.64**	**32**	⇑Pn	**Pn**	**05 46 08.7**	**+1.4**
	6.8nm,0.3s						
SFK				⇓Sn	**Sn**	**05 47 00.9**	**+0.8**
	8.7nm,0.2s						
SARP	**Sargodha**	**4.64**	**154**	P	**Pn**	**05 46 06.1**	**-1.1**
AML	**Almayashu**	**6.55**	**23**	P	**Pn**	**05 46 34.0**	**+0.5**
	SNR=15						
UCH	**Uchtor**	**6.92**	**27**	P	**Pn**	**05 46 38.4**	**-0.1**
	SNR=7.5						
KK31	**Karatay Array**	**6.97**	**1**	Pn	**Pn**	**05 46 38.8**	**0.0**
	3.1nm,0.4s,baz=190,slow=13,SNR=41						
KK31				⇑Sn	**Sn**	**05 47 54.6**	**-1.9**
	3.4nm,0.5s,baz=196,slow=24,SNR=3.5						
EKS2	**Erkin-Say**	**7.06**	**21**	P	**Pn**	**05 46 41.5**	**+1.3**
	SNR=6.1						
AAK	**Ala-Archa**	**7.27**	**25**	⇑Sn	**Sn**	**05 48 02.8**	**-1.2**
	18nm,0.6s						
CHMS	**Chumysh**	**7.68**	**25**	P	**Pn**	**05 46 48.5**	**0.0**
	SNR=8.6						
TKM2	**Tokmak 2**	**7.93**	**30**	P	**Pn**	**05 46 52.0**	**0.0**
	SNR=8.0						
TKM2	**Tokmak 2**	**7.93**	**30**	⇑Pn	**Pn**	**05 46 51.6**	**-0.4**
	3.8nm,0.6s						
TKM2				⇑Sn	**Sn**	**05 48 19.3**	**-0.8**
	4.2nm,0.6s						
AB31	**Akbulak array**	**15.14**	**333**	P	**Pn**	**05 48 26.9**	**-0.9**
	14nm,0.7s,baz=146,slow=12,SNR=68						
AKTO	**Aktyubinsk**	**16.83**	**332**	⇑P	**P**	**05 48 51.1**	**+2.0**
	4.5nm,0.7s						

IDC 29 05:59:30.9±1.6, 3.48S×141.93E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/31, mbtmp3.6/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/21, Error ellipse: s-maj=40.0km s-min=31.3km az=79.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.55**	**308**	Pn	Pn	06 00 00.0	+0.1
	10nm,0.3s,baz=157,slow=7.7,SNR=39						
JAY				Sn	Sn	06 00 18.0	-2.8
	56nm,0.3s,baz=193,slow=14,SNR=23						
JAY				LR	LR	06 00 43.0	
	comp=Z,108nm,19.4s,baz=352,slow=46						
WRA	**Warramunga Arr**	**17.96**	**204**	Pn	Pn	06 03 38.7	-3.5
	0.1nm,0.3s,baz=25,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**21.51**	**200**	P	P	06 04 21.7	0.0
	0.1nm,0.3s,baz=26,slow=11,SNR=3.8						
ASAR				LR	LR	06 12 53.4	
	comp=Z,54nm,18.7s,baz=280,slow=37						
H11S3	**WAKE ISLAND Hy**	**32.74**	**47**	T	T	06 40 59.3	
	baz=224						
H11S2	**WAKE ISLAND Hy**	**32.75**	**47**	T	T	06 41 03.1	
	baz=224						
H11S1	**WAKE ISLAND Hy**	**32.76**	**47**	T	T	06 41 01.2	
	baz=224						
ILAR	**Eielson Array**	**85.22**	**24**	P	P	06 12 09.1	0.0
	0.4nm,0.8s,baz=261,slow=3.9,SNR=4.6						
YKA	**Yellowknife Ar**	**99.29**	**27**	P	Pdif	06 13 14.2	-0.5
	0.4nm,0.7s,baz=298,slow=4.5,SNR=2.7						

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IDC 29 07:56:50.1±4.1,5°27S×151°53E,h214km±39km,mb3.5/7, mb1 3.8/8,mb1mx3.5/19,mbtmp4.1/8,Error ellipse: s-maj=22.7km s-min=17.1km az=52.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**11.14**	**284**	P	Pn	07 59 24.5	+0.7
	2.3nm,0.3s,baz=148,slow=21,SNR=11						
DZM	**Mont Dzumac**	**22.08**	**141**	P	P	08 01 28.5	+0.4
	3.1nm,0.8s,baz=270,slow=20,SNR=20						
WRA	**Warramunga Arr**	**22.19**	**227**	P	P	08 01 27.9	-1.1
	2.7nm,0.3s,baz=54,slow=10,SNR=70						
ASAR	**Alice Springs**	**24.96**	**221**	P	P	08 01 54.3	+0.1
	4.7nm,0.5s,baz=57,slow=8.6,SNR=34						
CMAR	**Chiang Mai Arr**	**56.93**	**296**	P	P	08 06 14.4	+0.9
	0.9nm,0.3s,baz=106,slow=6.7,SNR=3.5						
SONM	**Songino Array**	**66.05**	**328**	P	P	08 07 14.2	+0.2
	0.8nm,0.6s,baz=151,slow=5.7,SNR=4.5						
ZALV	**Zalesovo Beam**	**80.84**	**327**	P	P	08 08 39.0	-1.0
	0.7nm,0.4s,baz=107,slow=5.6,SNR=3.7						
ILAR	**Eielson Array**	**83.07**	**22**	P	P	08 08 50.1	-1.2
	0.5nm,0.6s,baz=254,slow=5.1,SNR=13						
TORD	**Torodi Ar. Bea**	**149.24**	**287**	PKPbc	PKPbc	08 16 14.8	+0.5
	2.1nm,0.6s,baz=91,slow=2.2,SNR=14						

ISCJB 29 08:01:58.1±0.3,38°18S±0°03×176°42E±0°04,h174km±3km, mb3.9/7,Error ellipse: s-maj=5.9km s-min=4.0km az=11.3

IDC 29 08:01:58.4±0.4,38°35S×176°39E,h152km±5km,mb3.7/5, mb1 3.8/7,mb1mx3.5/35,mbtmp4.2/7,MS3.2/1,Ms1 3.2/1, ms1mx2.5/27,Error ellipse: s-maj=19.9km s-min=16.8km az=136.0

WEL 29 08:01:59.9±0.2,38°07S×176°43E,h157km±2km,ML5.0/20, Error ellipse: s-maj=1.1km s-min=1.0km az=90.0

NEIC 29 08:01:59.7,38°05S×176°41E,h158km,mb4.3/7,After WEL.

ISC 29 08:01:59.3±0.7,38°19S±0°04×176°39E±0°04,h163km±5km, n219,σ1§16/227,mb4.0/7,125C-16D,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLRZ	**Highlands Stat**	**0.07**	**203**	⇑PN	**Pn**	**08 02 21.2**	**+0.2**
OMRZ	**Omania**	**0.08**	**351**	⇑Pn	**Pn**	**08 02 20.8**	**-0.3**
OMRZ	**Omania**	**0.08**	**351**	⇑PN	**Pn**	**08 02 20.8**	**-0.3**
TARZ	**Mount Tarawera**	**0.10**	**117**	⇑PN	**Pn**	**08 02 21.1**	**0.0**
TARZ	**Mount Tarawera**	**0.10**	**117**	⇑Pn	**Pn**	**08 02 21.1**	**0.0**
UTU	**Utuhina**	**0.15**	**274**	⇑Pn	**Pn**	**08 02 21.3**	**+0.2**
UTU	**Utuhina**	**0.15**	**274**	⇑PN	**Pn**	**08 02 21.3**	**+0.2**
HSRZ	**Hossack Road**	**0.17**	**222**	⇑PN	**Pn**	**08 02 21.3**	**+0.2**
RRRZ	**Republican Roa**	**0.18**	**147**	⇑PN	**Pn**	**08 02 21.1**	**-0.1**
RRRZ	**Republican Roa**	**0.18**	**147**	⇑Pn	**Pn**	**08 02 21.1**	**-0.1**
LIRZ	**Lichensteins R**	**0.18**	**359**	⇑PN	**Pn**	**08 02 20.8**	**-0.4**
LIRZ	**Lichensteins R**	**0.18**	**359**	⇑Pn	**Pn**	**08 02 20.8**	**-0.4**
KARZ	**Kaharoa**	**0.20**	**326**	⇑PN	**Pn**	**08 02 20.8**	**-0.4**
KARZ	**Kaharoa**	**0.20**	**326**	⇑Pn	**Pn**	**08 02 20.8**	**-0.4**
HRRZ	**Handcock Road**	**0.22**	**202**	⇑PN	**Pn**	**08 02 21.4**	**+0.2**
HRRZ	**Handcock Road**	**0.22**	**202**	⇑Pn	**Pn**	**08 02 21.4**	**+0.2**
GRRZ	**Galatos Road**	**0.27**	**234**	⇑PN	**Pn**	**08 02 21.7**	**+0.4**
EDRZ	**Edgecumbe**	**0.29**	**74**	PN	**Pn**	**08 02 20.8**	**-0.6**
EDRZ	**Edgecumbe**	**0.29**	**74**	Pn	**Pn**	**08 02 20.8**	**-0.6**
MARZ	**Manawahe**	**0.30**	**48**	⇑PN	**Pn**	**08 02 20.9**	**-0.5**
MARZ	**Manawahe**	**0.30**	**48**	⇑Pn	**Pn**	**08 02 20.9**	**-0.5**
PRRZ	**Plateau Road**	**0.31**	**179**	⇑PN	**Pn**	**08 02 21.6**	**+0.2**
PRRZ	**Plateau Road**	**0.31**	**179**	⇑Pn	**Pn**	**08 02 21.6**	**+0.2**
OPRZ	**Ohinepanea**	**0.37**	**21**	⇑PN	**Pn**	**08 02 20.7**	**-0.9**
OPRZ	**Ohinepanea**	**0.37**	**21**	⇑Pn	**Pn**	**08 02 20.7**	**-0.9**
WPRZ	**Whakapapatarin**	**0.38**	**208**	⇑PN	**Pn**	**08 02 22.1**	**+0.4**
ALRZ	**Allen Road**	**0.38**	**185**	PN	**Pn**	**08 02 21.7**	**+0.1**
ALRZ	**Allen Road**	**0.38**	**185**	Pn	**Pn**	**08 02 21.7**	**+0.1**
TGRZ	**Tauranga**	**0.47**	**348**	⇑PN	**Pn**	**08 02 21.2**	**-0.8**
TGRZ				SN	**Sn**	**08 02 37.9**	**-1.5**
TGRZ	**Tauranga**	**0.47**	**348**	⇑Pn	**Pn**	**08 02 21.2**	**-0.8**
TGRZ				Sn	**Sn**	**08 02 37.9**	**-1.5**
KUTZ	**Kaahu Road**	**0.54**	**236**	⇑PN	**Pn**	**08 02 22.9**	**+0.6**
URZ	**Urewera**	**0.57**	**97**	⇑PN	**Pn**	**08 02 21.8**	**-0.6**
URZ				SN	**Sn**	**08 02 37.8**	**-2.3**
URZ				AML	AML	08 02 40.4	
URZ	**Urewera**	**0.57**	**97**	P	**Pn**	**08 02 21.8**	**-0.6**
	1µm,0.3s,baz=257,slow=5.2,SNR=6895						
URZ				S	**Sn**	**08 02 38.2**	**-1.9**
	682nm,0.3s,baz=178,slow=4.9,SNR=26						
URZ				LR	LR	08 02 38.5	
	comp=Z,110nm,20.4s,baz=146,slow=70						
WHTZ	**Whakaora**	**0.59**	**215**	⇑PN	**Pn**	**08 02 23.5**	**+0.9**
WHTZ	**Whakaora**	**0.59**	**215**	⇑Pn	**Pn**	**08 02 23.6**	**+0.9**
MRHZ	**Matea Rd**	**0.64**	**178**	⇑PN	**Pn**	**08 02 23.6**	**+0.6**
TLZ	**Tolley Road**	**0.68**	**258**	⇑PN	**Pn**	**08 02 23.7**	**+0.5**
WATZ	**Wairara**	**0.73**	**224**	⇑PN	**Pn**	**08 02 24.3**	**+0.9**
WATZ	**Wairara**	**0.73**	**224**	⇑Pn	**Pn**	**08 02 24.3**	**+0.9**
HATZ	**Hinemaiaia**	**0.74**	**198**	⇑PN	**Pn**	**08 02 24.2**	**+0.7**
HATZ	**Hinemaiaia**	**0.74**	**198**	⇑Pn	**Pn**	**08 02 24.2**	**+0.7**
RATZ	**Rangitukua**	**0.83**	**215**	⇑PN	**Pn**	**08 02 25.0**	**+0.9**
RATZ	**Rangitukua**	**0.83**	**215**	⇑Pn	**Pn**	**08 02 25.0**	**+0.9**
TOZ	**Tahuroa Road**	**0.84**	**303**	⇓PN	**Pn**	**08 02 23.9**	**-0.1**
TOZ	**Tahuroa Road**	**0.84**	**303**	⇓Pn	**Pn**	**08 02 23.9**	**-0.1**
RAGZ	**Rawiri**	**0.86**	**111**	⇑PN	**Pn**	**08 02 24.6**	**+0.3**
RITZ	**Rihia Road**	**0.89**	**208**	⇑PN	**Pn**	**08 02 25.8**	**+1.3**
RITZ	**Rihia Road**	**0.89**	**208**	⇑Pn	**Pn**	**08 02 25.8**	**+1.3**
MWZ	**Matawai**	**0.91**	**100**	⇑PN	**Pn**	**08 02 24.4**	**-0.3**
MWZ				SN	**Sn**	**08 02 42.8**	**-1.3**
MWZ				AML	AML	08 02 43.2	
MWZ	**Matawai**	**0.91**	**100**	⇑Pn	**Pn**	**08 02 24.4**	**-0.3**
MWZ				Sn	**Sn**	**08 02 42.8**	**-1.3**
RAHZ	**Arahi**	**0.91**	**143**	⇑PN	**Pn**	**08 02 25.7**	**+1.0**
RAHZ	**Arahi**	**0.91**	**143**	⇑Pn	**Pn**	**08 02 25.7**	**+1.0**
WIZ	**White Island**	**0.92**	**44**	PN	**Pn**	**08 02 23.2**	**-1.4**
SNGZ	**Shannon Statio**	**0.95**	**129**	⇑PN	**Pn**	**08 02 25.8**	**+0.8**
KATZ	**Kakaramea**	**0.96**	**214**	⇑PN	**Pn**	**08 02 26.0**	**+0.9**
KATZ	**Kakaramea**	**0.96**	**214**	Pn	**Pn**	**08 02 26.0**	**+0.9**
NMHZ	**Naumai**	**0.97**	**160**	⇑PN	**Pn**	**08 02 26.6**	**+1.5**
NMHZ	**Naumai**	**0.97**	**160**	⇑Pn	**Pn**	**08 02 26.6**	**+1.5**
BKZ	**Black Stump Fm**	**0.98**	**175**	⇑PN	**Pn**	**08 02 26.0**	**+0.8**
BKZ				AML	AML	08 02 47.7	
BKZ				AML	AML	08 02 48.6	
BKZ	**Black Stump Fm**	**0.98**	**175**	⇑Pn	**Pn**	**08 02 26.0**	**+0.8**
KRVZ	**Karewarewa**	**1.08**	**213**	⇑PN	**Pn**	**08 02 27.1**	**+1.0**
KRVZ	**Karewarewa**	**1.08**	**213**	⇑Pn	**Pn**	**08 02 27.1**	**+1.0**
WHHZ	**Waihua**	**1.11**	**143**	⇑PN	**Pn**	**08 02 27.3**	**+1.2**
WTVZ	**West Tongariro**	**1.12**	**214**	⇑PN	**Pn**	**08 02 27.4**	**+1.0**
WTVZ	**West Tongariro**	**1.12**	**214**	⇑Pn	**Pn**	**08 02 27.4**	**+1.0**
OTVZ	**Oturere**	**1.13**	**210**	⇑PN	**Pn**	**08 02 27.7**	**+1.2**
OTVZ	**Oturere**	**1.13**	**210**	⇑Pn	**Pn**	**08 02 27.7**	**+1.2**
TWVZ	**Taurewa**	**1.15**	**220**	⇑PN	**Pn**	**08 02 27.8**	**+1.1**
TWVZ	**Taurewa**	**1.15**	**220**	⇑Pn	**Pn**	**08 02 27.8**	**+1.1**
NGZ	**Ngauruhoe**	**1.16**	**212**	⇑PN	**Pn**	**08 02 27.8**	**+1.0**
NGZ	**Ngauruhoe**	**1.16**	**212**	⇑Pn	**Pn**	**08 02 27.8**	**+1.0**
ARHZ	**Aropaoanui**	**1.17**	**156**	⇑PN	**Pn**	**08 02 28.2**	**+1.5**
TKGZ	**Te Karaka**	**1.18**	**103**	⇑PN	**Pn**	**08 02 27.0**	**+0.3**
HAZ	**Te Kaha**	**1.18**	**69**	⇑PN	**Pn**	**08 02 25.3**	**-1.5**
HAZ				SN	**Sn**	**08 02 44.1**	**-3.8**
RIGZ	**Rimuhau**	**1.20**	**116**	⇑PN	**Pn**	**08 02 27.6**	**+0.6**
COVZ	**Chateau Observ**	**1.21**	**213**	⇓PN	**Pn**	**08 02 28.0**	**+0.9**
WPVZ	**Whakapapa**	**1.21**	**213**	⇑PN	**Pn**	**08 02 28.2**	**+1.0**
WPVZ	**Whakapapa**	**1.21**	**213**	Pn	**Pn**	**08 02 28.2**	**+1.0**
TUVZ	**Tukino**	**1.22**	**208**	⇑PN	**Pn**	**08 02 28.6**	**+1.3**
TUVZ	**Tukino**	**1.22**	**208**	Pn	**Pn**	**08 02 28.6**	**+1.3**
KWHZ	**Kaweka Forest**	**1.23**	**179**	⇑PN	**Pn**	**08 02 28.6**	**+1.3**
HIZ	**Hauiti**	**1.25**	**254**	⇑PN	**Pn**	**08 02 28.4**	**+1.0**
HIZ	**Hauiti**	**1.25**	**254**	⇑Pn	**Pn**	**08 02 28.4**	**+1.0**
FWVZ	**Far West T-bar**	**1.25**	**211**	⇑PN	**Pn**	**08 02 28.6**	**+0.9**
FWVZ	**Far West T-bar**	**1.25**	**211**	⇑Pn	**Pn**	**08 02 28.6**	**+0.9**
TWGZ	**Tauwhareparae**	**1.25**	**90**	⇑PN	**Pn**	**08 02 27.6**	**0.0**
TWGZ				SN	**Sn**	**08 02 48.2**	**-1.0**
WHVZ	**Whangaehu Hut**	**1.26**	**210**	⇑PN	**Pn**	**08 02 28.7**	**+1.0**
DRZ	**Dome Shelter**	**1.26**	**210**	PN	**Pn**	**08 02 29.2**	**+1.3**
DRZ	**Dome Shelter**	**1.26**	**210**	Pn	**Pn**	**08 02 29.2**	**+1.3**
MCHZ	**McNeill Hill**	**1.28**	**169**	⇑PN	**Pn**	**08 02 29.4**	**+1.7**
MCHZ	**McNeill Hill**	**1.28**	**169**	⇑Pn	**Pn**	**08 02 29.4**	**+1.7**
TRVZ	**Turoa**	**1.29**	**210**	PN	**Pn**	**08 02 29.0**	**+0.9**
TRVZ	**Turoa**	**1.29**	**210**	Pn	**Pn**	**08 02 29.0**	**+0.9**
KNZ	**Kokohu**	**1.31**	**130**	⇑PN	**Pn**	**08 02 28.7**	**+0.8**
KNZ	**Kokohu**	**1.31**	**130**	⇑Pn	**Pn**	**08 02 28.7**	**+0.8**
MOVZ	**Moawhango**	**1.31**	**202**	⇑PN	**Pn**	**08 02 28.9**	**+0.8**
MOVZ	**Moawhango**	**1.31**	**202**	⇑Pn	**Pn**	**08 02 28.9**	**+0.8**
BHHZ	**Black Hill Sta**	**1.32**	**191**	⇑PN	**Pn**	**08 02 29.2**	**+1.0**
BHHZ	**Black Hill Sta**	**1.32**	**191**	⇑Pn	**Pn**	**08 02 29.2**	**+1.0**
PRGZ	**Paritu Road**	**1.38**	**123**	⇑PN	**Pn**	**08 02 29.4**	**+0.7**
PRGZ	**Paritu Road**	**1.38**	**123**	⇑Pn	**Pn**	**08 02 29.4**	**+0.7**
MTVZ	**Mangateitei**	**1.39**	**211**	⇑PN	**Pn**	**08 02 30.1**	**+1.3**
MTVZ	**Mangateitei**	**1.39**	**211**	⇑Pn	**Pn**	**08 02 30.1**	**+1.3**
MKAZ	**Moumakai**	**1.45**	**318**	⇓PN	**Pn**	**08 02 28.9**	**-0.4**
MKAZ	**Moumakai**	**1.45**	**318**	⇓Pn	**Pn**	**08 02 28.9**	**-0.4**
KRHZ	**Kereru**	**1.45**	**181**	⇑PN	**Pn**	**08 02 30.5**	**+1.1**
CNGZ	**Carnagh Statio**	**1.46**	**102**	⇑PN	**Pn**	**08 02 30.1**	**+0.7**
CNGZ	**Carnagh Statio**	**1.46**	**102**	⇑Pn	**Pn**	**08 02 30.1**	**+0.7**
PUZ	**Puketiti**	**1.48**	**86**	⇑PN	**Pn**	**08 02 29.0**	**-0.7**
PUZ				AML	AML	08 02 55.5	
PUZ				AML	AML	08 02 58.0	
PUZ	**Puketiti**	**1.48**	**86**	⇑Pn	**Pn**	**08 02 29.0**	**-0.7**
KUZ	**Kuaotunu**	**1.53**	**340**	⇓PN	**Pn**	**08 02 28.9**	**-1.3**
KUZ	**Kuaotunu**	**1.53**	**340**	⇓Pn	**Pn**	**08 02 28.9**	**-1.3**
VRZ	**Vera Road**	**1.58**	**233**	PN	**Pn**	**08 02 32.1**	**+1.5**
VRZ	**Vera Road**	**1.58**	**233**	Pn	**Pn**	**08 02 32.1**	**+1.5**
KBAZ	**Karaka Road Bo**	**1.61**	**312**	⇑PN	**Pn**	**08 02 30.7**	**-0.3**
MXZ	**Matakaoa Point**	**1.64**	**68**	⇑PN	**Pn**	**08 02 30.7**	**-0.6**
MXZ				AML	AML	08 02 55.1	
MXZ				AML	AML	08 02 55.9	
MXZ	**Matakaoa Point**	**1.64**	**68**	⇑Pn	**Pn**	**08 02 30.7**	**-0.6**
WMGZ	**Waiomatatini S**	**1.64**	**78**	⇓PN	**Pn**	**08 02 30.7**	**-0.6**
ETAZ	**East Tamaki Re**	**1.69**	**316**	⇓PN	**Pn**	**08 02 31.3**	**-0.5**
PNHZ	**Pukenui**	**1.73**	**185**	⇑PN	**Pn**	**08 02 33.1**	**+0.8**
PNHZ	**Pukenui**	**1.73**	**185**	⇑Pn	**Pn**	**08 02 33.1**	**+0.8**
MTAZ	**Motutapu**	**1.83**	**320**	PN	**Pn**	**08 02 32.9**	**-0.4**
MHEZ	**Mangahewa**	**1.84**	**241**	PN	**Pn**	**08 02 35.3**	**+1.8**
PXZ	**Pawanui**	**1.88**	**169**	AML	AML	08 03 03.5	
PXZ				AML	AML	08 03 04.3	
TSZ	**Takapari Road**	**1.90**	**190**	⇑PN	**Pn**	**08 02 34.9**	**+0.8**
TSZ				AML	AML	08 03 04.1	
TSZ				AML	AML	08 03 05.8	
TSZ	**Takapari Road**	**1.90**	**190**	⇑Pn	**Pn**	**08 02 34.9**	**+0.8**
WAZ	**Wanganui**	**1.91**	**214**	⇑PN	**Pn**	**08 02 35.4**	**+1.3**
WAZ	**Wanganui**	**1.91**	**214**	⇑Pn	**Pn**	**08 02 35.5**	**+1.3**
DREZ	**Durham Road**	**1.98**	**239**	PN	**Pn**	**08 02 36.8**	**+1.8**
LREZ	**Lake Rotokare**	**2.00**	**230**	PN	**Pn**	**08 02 36.9**	**+1.7**
ABAZ	**Army Bay**	**2.01**	**322**	PN	**Pn**	**08 02 34.7**	**-0.6**
RVAZ	**Riverhead Bore**	**2.02**	**314**	PN	**Pn**	**08 02 34.1**	**-1.3**
GRZ	**Great Barrier**	**2.07**	**339**	⇓PN	**Pn**	**08 02 34.9**	**-1.2**
PREZ	**Palmer Road**	**2.09**	**236**	PN	**Pn**	**08 02 38.3**	**+2.0**
NEZ	**North Egmont**	**2.09**	**238**	⇑PN	**Pn**	**08 02 38.3**	**+2.0**
NEZ	**North Egmont**	**2.09**	**238**	Pn	**Pn**	**08 02 38.3**	**+2.0**
DVHZ	**Dannevirke**	**2.12**	**185**	⇑PN	**Pn**	**08 02 37.1**	**+0.6**
DVHZ	**Dannevirke**	**2.12**	**185**	⇑Pn	**Pn**	**08 02 37.1**	**+0.6**
PKE	**Pukeiti**	**2.13**	**241**	PN	**Pn**	**08 02 38.4**	**+1.7**
KHEZ	**Kahui Hut**	**2.16**	**239**	PN	**Pn**	**08 02 38.8**	**+1.7**
POWZ	**Post Office Ro**	**2.25**	**192**	⇑PN	**Pn**	**08 02 38.6**	**+0.6**
POWZ	**Post Office Ro**	**2.25**	**192**	⇑Pn	**Pn**	**08 02 38.6**	**+0.6**
ANWZ	**Angora Road**	**2.27**	**178**	⇑PN	**Pn**	**08 02 39.3**	**+1.0**
PRWZ	**Pori Road**	**2.39**	**188**	⇑PN	**Pn**	**08 02 40.5**	**+0.8**
BFZ	**Birch Farm**	**2.49**	**182**	⇓PN	**Pn**	**08 02 41.4**	**+0.5**
BFZ	**Birch Farm**	**2.49**	**182**	⇓Pn	**Pn**	**08 02 41.4**	**+0.5**
MRZ	**Mangatainoka R**	**2.55**	**194**	⇑PN	**Pn**	**08 02 41.9**	**+0.3**
MRZ				AML	AML	08 03 15.8	
MRZ				AML	AML	08 03 15.8	
MRZ	**Mangatainoka R**	**2.55**	**194**	⇑Pn	**Pn**	**08 02 41.9**	**+0.3**
TIWZ	**Tintock**	**2.62**	**188**	⇑PN	**Pn**	**08 02 42.9**	**+0.4**
TIWZ				AML	AML	08 03 17.6	
TIWZ				AML	AML	08 03 18.8	
TIWZ	**Tintock**	**2.62**	**188**	⇑Pn	**Pn**	**08 02 42.9**	**+0.4**
CPWZ	**Castlepoint**	**2.72**	**183**	⇑PN	**Pn**	**08 02 44.6**	**+1.0**
WCZ	**Waipu Caves**	**2.77**	**323**	⇑PN	**Pn**	**08 02 43.6**	**-0.8**
HOWZ	**Holdsworth Sta**	**2.79**	**194**	⇑PN	**Pn**	**08 02 44.5**	**0.0**
HOWZ	**Holdsworth Sta**	**2.79**	**194**	⇑Pn	**Pn**	**08 02 44.5**	**0.0**
OGWZ	**Otaki Gorge**	**2.79**	**199**	⇑PN	**Pn**	**08 02 44.7**	**+0.2**
OGWZ	**Otaki Gorge**	**2.79**	**199**	Pn	**Pn**	**08 02 44.7**	**+0.2**
TMWZ	**Te Maipa**	**2.94**	**187**	⇑PN	**Pn**	**08 02 46.3**	**-0.1**
TMWZ	**Te Maipa**	**2.94**	**187**	⇑Pn	**Pn**	**08 02 46.3**	**-0.1**
MTW	**Mount Morrison**	**3.04**	**193**	⇑PN	**Pn**	**08 02 47.3**	**-0.4**
MTW				AML	AML	08 03 25.2	
MTW				AML	AML	08 03 26.1	
MTW	**Mount Morrison**	**3.04**	**193**	⇑Pn	**Pn**	**08 02 47.3**	**-0.4**
CAW	**Cannon Point**	**3.09**	**199**	⇑PN	**Pn**	**08 02 47.9**	**-0.4**
CAW				AML	AML	08 03 27.2	
CAW				AML	AML	08 03 27.2	
DUWZ	**D'Urville Isla**	**3.23**	**215**	PN	**Pn**	**08 02 49.3**	**-0.8**
TRWZ	**Traveller**	**3.25**	**189**	⇑PN	**Pn**	**08 02 49.9**	**-0.4**
TRWZ				AML	AML	08 03 31.4	
TRWZ				AML	AML	08 03 31.5	
TRWZ	**Traveller**	**3.25**	**189**	Pn	**Pn**	**08 02 49.9**	**-0.4**
PAWZ	**Paruwai Farm**	**3.27**	**193**	PN	**Pn**	**08 02 50.0**	**-0.5**
PAWZ				AML	AML	08 03 31.2	
PAWZ				AML	AML	08 03 31.2	
PAWZ	**Paruwai Farm**	**3.27**	**193**	Pn	**Pn**	**08 02 50.0**	**-0.5**
WEL	**Wellington**	**3.34**	**201**	⇓PN	**Pn**	**08 02 50.9**	**-0.4**
WEL	**Wellington**	**3.34**	**201**	Pn	**Pn**	**08 02 50.9**	**-0.4**
MSWZ	**Moikau Station**	**3.34**	**195**	⇑PN	**Pn**	**08 02 50.8**	**-0.6**
MSWZ				AML	AML	08 03 32.2	
SNZO	**South Karori**	**3.38**	**202**	*e*Pn	**Pn**	**08 02 50.7**	**-1.1**
SNZO				*e*Sn	**Sn**	**08 03 32.4**	**-0.4**
BHW	**Baring Head**	**3.42**	**199**	⇑PN	**Pn**	**08 02 51.6**	**-0.8**
BHW				AML	AML	08 03 34.2	
BHW				AML	AML	08 03 35.5	
TCW	**Tory Channel**	**3.43**	**208**	PN	**Pn**	**08 02 51.8**	**-0.8**
TCW				AML	AML	08 03 35.7	
TCW				AML	AML	08 03 35.7	
PLWZ	**Palliser**	**3.49**	**194**	PN	**Pn**	**08 02 52.4**	**-0.9**
OUZ	**Omahuta**	**3.71**	**322**	⇓PN	**Pn**	**08 02 55.9**	**-0.3**
OUZ	**Omahuta**	**3.71**	**322**	*e*Pn	**Pn**	**08 02 55.9**	**-0.3**
TUWZ	**Tuamarina**	**3.75**	**209**	PN	**Pn**	**08 02 55.5**	**-1.1**
TUWZ				AML	AML	08 03 41.6	
TUWZ				AML	AML	08 03 43.0	
NNZ	**Nelson**	**3.81**	**217**	PN	**Pn**	**08 02 56.5**	**-0.9**
NNZ	**Nelson**	**3.81**	**217**	Pn	**Pn**	**08 02 56.5**	**-0.9**
CMWZ	**Cape Campbell**	**3.93**	**204**	PN	**Pn**	**08 02 58.7**	**-0.2**
CMWZ				AML	AML	08 03 47.9	
CMWZ				AML	AML	08 03 49.5	
QRZ	**Quartz Range**	**3.98**	**227**	⇑PN	**Pn**	**08 02 58.2**	**-1.4**
QRZ	**Quartz Range**	**3.98**	**227**	Pn	**Pn**	**08 02 58.2**	**-1.4**
BSWZ	**Blackbirch Sta**	**4.02**	**208**	PN	**Pn**	**08 02 59.0**	**-1.1**
BSWZ				AML	AML	08 03 49.7	
BSWZ				AML	AML	08 03 50.0	
THZ	**Tophouse**	**4.46**	**216**	PN	**Pn**	**08 03 04.4**	**-1.5**
THZ	**Tophouse**	**4.46**	**216**	Pn	**Pn**	**08 03 04.7**	**-1.2**
KHZ	**Kahutara**	**4.75**	**206**	PN	**Pn**	**08 03 08.2**	**-1.4**
KHZ				AML	AML	08 04 03.5	
KHZ				AML	AML	08 04 04.0	
KHZ	**Kahutara**	**4.75**	**206**	*e*Pn	**Pn**	**08 03 08.5**	**-1.1**
KHZ				*e*Sn	**Sn**	**08 04 02.9**	**-1.6**
DSZ	**Denniston Nort**	**5.00**	**223**	⇓PN	**Pn**	**08 03 11.0**	**-2.0**
DSZ	**Denniston Nort**	**5.00**	**223**	Pn	**Pn**	**08 03 11.4**	**-2.0**
CRLZ	**Canterbury Las**	**6.09**	**207**	PN	**Pn**	**08 03 24.8**	**-2.4**
CRLZ	**Canterbury Las**	**6.09**	**207**	Pn	**Pn**	**08 03 24.8**	**-2.4**
OXZ	**Oxford**	**6.10**	**211**	PN	**Pn**	**08 03 24.6**	**-2.7**
MQZ	**McQueen's Vall**	**6.20**	**206**	⇓PN	**Pn**	**08 03 25.6**	**-3.0**
MQZ	**McQueen's Vall**	**6.20**	**206**	Pn	**Pn**	**08 03 25.6**	**-3.0**
RPZ	**Rata Peaks**	**6.84**	**214**	P	**Pn**	**08 03 35.0**	**-2.1**
	4.7nm,0.3s,baz=76,slow=1.3,SNR=28						
RPZ				S	Sn	08 04 47.7	-6.4
	3.0nm,0.3s,baz=310,slow=6.5,SNR=3.8						
RPZ	**Rata Peaks**	**6.84**	**214**	*e*Pn	**Pn**	**08 03 36.3**	**-0.8**
	15nm,0.4s						
RPZ				*e*Sn	**Sn**	**08 04 50.1**	**-4.1**
ODZ	**Otahua Downs**	**8.09**	**210**	PN	**Pn**	**08 03 51.5**	**-2.2**
ODZ	**Otahua Downs**	**8.09**	**210**	*e*Pn	**Pn**	**08 03 51.8**	**-1.9**
	8.5nm,0.3s						
HHSZ	**Highcliff Hill**	**8.81**	**207**	PN	**Pn**	**08 04 02.0**	**-1.3**
TUZ	**Tuapeka**	**9.24**	**211**	PN	**Pn**	**08 04 08.0**	**-0.9**
SYZ	**Scrubby Hill**	**9.91**	**210**	PN	**Pn**	**08 04 17.7**	**-0.1**
WHZ	**Wether Hill Ro**	**9.93**	**216**	PN	**Pn**	**08 04 15.1**	**-2.9**
DCZ	**Deep Cove**	**10.02**	**220**	PN	**Pn**	**08 04 17.1**	**-2.1**
APZ	**The Paps**	**10.63**	**213**	PN	**Pn**	**08 04 26.1**	**-1.1**
DZM	**Mont Dzumac**	**18.20**	**329**	P	**P**	**08 06 00.1**	**+0.2**
	0.4nm,0.3s,baz=90,slow=20,SNR=5.4						
DZM	**Mont Dzumac**	**18.20**	**329**	*e*P	**Pn**	**08 06 01.3**	**-0.5**
	5.1nm,0.8s						
MSVF	**Monsavu**	**20.43**	**5**	*e*P	**P**	**08 06 24.3**	**+0.3**
	101nm,2.0s						
STKA	**Stephens Creek**	**29.06**	**272**	P	**P**	**08 07 45.0**	**+0.7**
	1.9nm,0.6s,baz=120,slow=11,SNR=3.2						
STKA	**Stephens Creek**	**29.06**	**272**	*e*P	**P**	**08 07 46.7**	**+2.4**
	1.8nm,1.3s						
CTA	**Charters Tower**	**31.70**	**296**	P	**P**	**08 08 08.9**	**+1.2**
	2.0nm,0.6s,baz=131,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**38.87**	**279**	P	**P**	**08 09 09.6**	**+0.7**
	2.8nm,0.7s,baz=120,slow=8.0,SNR=28						
WRAB	**Tennant Creek**	**40.60**	**285**	*e*P	**P**	**08 09 23.1**	**-0.1**
	2.9nm,0.6s						
WRA	**Warramunga Arr**	**40.60**	**284**	P	**P**	**08 09 23.4**	**+0.2**
	1.4nm,0.7s,baz=123,slow=7.3,SNR=20						
QSPA	**South Pole Qui**	**51.94**	**180**	*e*P	P	08 10 55.6	+4.4
	2.6nm,0.8s						
JCJ	**Chichijima**	**72.42**	**328**	LR	LR	08 42 33.1	
	comp=Z,16nm,19.8s,baz=10,slow=34						
KSRS	**Korea Array**	**87.54**	**323**	P	**P**	**08 14 29.9**	**+1.5**
	0.7nm,0.6s,baz=146,slow=5.7,SNR=4.3						
ARCES	**ARCESS Array B**	**144.93**	**343**	PKPbc	PKPbc	08 21 14.4	-1.0
	5.9nm,1.0s,baz=50,slow=3.8,SNR=6.7						
**DBI

comp=Z,0.8nm,0.6s,baz=349,slow=5.3,SNR=8.4
WRA Warramunga Arr 82.39 122 P **P 08 17 15.8 -1.4**
comp=Z,0.9nm,0.5s,baz=322,slow=5.0,SNR=22
ASAR Alice Springs 84.64 124 P **P 08 17 27.4 -1.2**
comp=Z,1.0nm,0.5s,baz=313,slow=5.0,SNR=16

NOU 29 08:14:38.0±1.2, 20°25S×169°22E, h30km, MD3.6, MS6.2, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LIFNC	**LIFOU**	**1.93**	**254**	*eP*		Pn	08 15 08.1	-0.7
LIFNC				*eS*		Sn	08 15 29.5	-2.5
LIFNC				AMP			08 15 49.0	
	comp=Z,4026μm,14.7s							
BAYA	**Yate Dam**	**2.89**	**229**	*eP*		Pn	08 15 21.4	-0.6
BAYA				*eS*		Sn	08 15 52.7	-3.1
BAYA				AMP			08 15 56.3	
	comp=Z,75nm,7.8s							
NOUC	**Port Laguerre**	**3.29**	**235**	*eP*		Pn	08 15 26.1	-1.3
NOUC				*eS*		Sn	08 16 03.7	-2.0
NOUC				AMP			08 16 06.7	
	comp=Z,257nm,7.4s							

IDC 29 08:14:51.1±1.5, 2°28N×126°29E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/35, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=58.7km s-min=22.5km az=62.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**5.88**	**122**	Pn		Pn	08 16 18.4	-1.2
SIJI	2.1nm,0.3s,baz=323,slow=20,SNR=2.9			Sn		Sn	08 17 30.0	+2.3
	0.8nm,0.3s,baz=253,slow=19,SNR=2.7							
WRA	**Warramunga Arr**	**23.45**	**161**	P		P	08 20 02.0	-0.4
	1.0nm,0.7s,baz=338,slow=10,SNR=8.5							
ASAR	**Alice Springs**	**26.83**	**164**	P		P	08 20 34.0	+0.6
	0.1nm,0.3s,baz=339,slow=10,SNR=2.9							
SONM	**Songino Array**	**48.53**	**342**	P		P	08 23 36.0	-0.1
	0.5nm,0.5s,baz=143,slow=5.0,SNR=3.2							

*IDC **29** 08:16:08.4±6.4, 17°87S×177°94W, h460km±72km, mb3.3/9, mb1 3.5/9, mb1mx3.3/21, mbtmp4.2/9, Error ellipse: s-maj=29.8km s-min=19.0km az=31.0*
*ISCJB **29** 08:16:17.6±0.8, 18°3S±0°1×178°2W±0°2, h590km, mb3.9/10, Error ellipse: s-maj=21.0km s-min=16.3km az=41.7*
ISC 29 08:16:18.8±0.9, 18°2S±0°2×178°1W±0°2, h590km, n14, σ1811/13, mb4.1/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**20.40**	**191**	P		**P**	**08 20 15.0**	**-1.5**
	3.1nm,0.3s,baz=71,slow=9.6,SNR=7.7							
RPZ	**Rata Peaks**	**27.01**	**197**	P		**P**	**08 21 14.3**	**-0.8**
	13nm,1.1s,baz=46,slow=4.7,SNR=3.3							
STKA	**Stephens Creek**	**38.73**	**242**	P		**P**	**08 22 55.1**	**+1.3**
	5.8nm,0.6s,baz=77,slow=6.4,SNR=11							
JAY	**Jayapura**	**43.26**	**286**	P		**P**	**08 23 29.4**	**-0.6**
	23nm,1.1s,baz=179,slow=9.2,SNR=4.5							
WRA	**Warramunga Arr**	**44.85**	**260**	P		**P**	**08 23 41.7**	**-0.3**
	1.9nm,0.5s,baz=92,slow=7.5,SNR=54							
ASAR	**Alice Springs**	**44.98**	**255**	P		**P**	**08 23 43.9**	**+0.8**
	32nm,0.5s,baz=89,slow=8.2,SNR=359							
SIJI	**Sorong**	**52.58**	**283**	P		**P**	**08 24 38.9**	**-0.2**
	27nm,0.7s,baz=70,slow=6.2,SNR=8.0							
VNDA	**Vanda**	**60.16**	**185**	P		P	08 25 33.8	+3.7
	0.2nm,0.3s,baz=0.0,slow=7.1,SNR=3.9							
NVAR	**Mina Array Bea**	**79.45**	**44**	P		**P**	**08 27 25.2**	**-0.1**
	0.5nm,0.7s,baz=226,slow=9.7,SNR=4.0							
TXAR	**Lajitas Array**	**85.92**	**57**	P		**P**	**08 27 59.2**	**+1.5**
	0.4nm,0.7s,baz=227,slow=6.6,SNR=5.5							
ILAR	**Eielson Array**	**86.12**	**13**	P		**P**	**08 27 56.0**	**-1.7**
	0.2nm,0.4s,baz=227,slow=5.2,SNR=6.7							
ARCES	**ARCESS Array B**	**126.67**	**350**	PKP		**PKPdf**	**08 34 15.9**	**+0.5**
	2.7nm,1.1s,baz=11,slow=2.5,SNR=5.2							
BRTR	**Keskin Array B**	**145.20**	**315**	PKPbc		**PKPab**	**08 34 52.4**	**-0.4**
	0.8nm,0.5s,baz=112,slow=4.0,SNR=5.1							
GERES	**GERESS Array B**	**147.98**	**345**	PKPbc		**PKPbc**	**08 34 59.6**	**+0.9**
	1.2nm,0.6s,baz=17,slow=1.8,SNR=3.7							

*BJI **29** 08:27:26.3, 5°91S×146°43E, h137km, mb4.9/11, mB5.0/7*
*ISCJB **29** 08:27:28.1±0.3, 5°50S±0°03×146°26E±0°07, h123km, mb4.4/33, Error ellipse: s-maj=9.7km s-min=4.9km az=178.4*
*NEIC **29** 08:27:28.1±0.9, 5°41S×146°33E, h108km±8km, mb4.5/22, Error ellipse: s-maj=8.6km s-min=5.3km az=75.0*
*IDC **29** 08:27:28.1±2.1, 5°44S×146°35E, h108km±18km, mb4.1/16, mb1 4.3/18, mb1mx4.2/22, mbtmp4.5/18, MS3.1/4, Ms1 3.1/4, ms1mx2.8/23, Error ellipse: s-maj=19.7km s-min=10.8km az=76.0*
ISC 29 08:27:29.9±0.5, 5°51S±0°05×146°25E±0°10, h123km, n51, σ1903/55, mb4.4/32, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.98**	**167**	*e*Pn		**Pn**	**08 28 27.7**	**-1.5**
PMG				*e*Sn		**Sn**	**08 29 12.7**	**-2.5**
JAY	**Jayapura**	**6.28**	**298**	P		**Pn**	**08 28 57.6**	**-2.6**
	0.4nm,0.3s,baz=90,slow=12,SNR=2.9							
JAY				LR		LR	08 32 16.7	
	comp=Z,115nm,19.4s,baz=348,slow=46							
COEN	**Coen**	**8.93**	**200**	*e*Pn		**Pn**	**08 29 36.5**	**+0.5**
	16nm,0.5s							
COEN				*e*Sn		**Sn**	**08 31 12.9**	**-1.9**
CTA	**Charters Tower**	**14.49**	**180**	P		**Pn**	**08 30 50.0**	**+0.8**
	0.2nm,0.3s,baz=305,slow=12,SNR=2.4							
CTAO	**Charters Tower**	**14.49**	**180**	*e*P		**P**	**08 30 53.8**	**+1.3**
	7.3nm,0.4s							
WRAB	**Tennant Creek**	**18.43**	**218**	*e*P		**P**	**08 31 35.3**	**-0.7**
	57nm,1.0s							
WRA	**Warramunga Arr**	**18.45**	**218**	P		**P**	**08 31 36.2**	**+0.1**
	1.9nm,0.3s,baz=32,slow=9.9,SNR=136							
WRA				PcP		**PcP**	**08 36 02.1**	**+0.5**
	baz=28,slow=2.1,SNR=2.9							
WRA				ScP		**ScP**	**08 39 27.3**	**+1.4**
	0.0nm,0.3s,baz=40,slow=2.7,SNR=5.3							
GUMO	**Guam**	**19.02**	**356**	LR		LR	08 38 06.5	
	comp=Z,27nm,18.7s,baz=183,slow=34							
EIDS	**Eidsvold**	**20.29**	**167**	*e*P		**P**	**08 31 57.3**	**+1.3**
	22nm,0.8s							
AS31	**Alice Springs**	**21.62**	**212**	*e*P		**P**	**08 32 10.7**	**+0.3**
ASAR	**Alice Springs**	**21.62**	**212**	P		**P**	**08 32 10.7**	**+0.3**
	24nm,0.8s,baz=42,slow=7.2,SNR=80							
ASAR				ScP		**ScP**	**08 39 34.2**	**+0.8**
	0.4nm,0.8s,baz=31,slow=4.3,SNR=3.3							
ASAR				LR		LR	08 41 29.2	
	comp=Z,76nm,20.0s,baz=8.5,slow=39							
SOEI	**Soe**	**22.19**	**258**	*e*P		**P**	**08 32 18.4**	**+1.9**
	60nm,1.2s							
ARMA	**Armidale**	**25.29**	**169**	*e*P		**P**	**08 32 45.9**	**+0.8**
	14nm,1.3s							
DZM	**Mont Dzumac**	**25.55**	**132**	P		**P**	**08 32 47.5**	**0.0**
	5.4nm,0.8s,baz=270,slow=20							
KAPI	**Kappang**	**26.39**	**270**	P		**P**	**08 32 56.5**	**+1.4**
	1.7nm,0.6s,baz=120,slow=20,SNR=1.5							
STKA	**Stephens Creek**	**26.59**	**189**	P		**P**	**08 32 57.1**	**+0.4**
	13nm,0.7s,baz=355,slow=8.8,SNR=19							
STKA				LR		LR	08 44 22.7	
	comp=Z,78nm,19.0s,baz=18,slow=38							
STKA	**Stephens Creek**	**26.59**	**189**	*e*P		**P**	**08 32 57.1**	**+0.4**
	2.7nm,0.8s							
FORT	**Forrest**	**30.41**	**212**	*e*P		**P**	**08 33 31.3**	**+0.7**
	37nm,0.8s							
YHNB	**Yeheng**	**38.55**	**322**	*e*P		**P**	**08 34 40.9**	**0.0**
	16nm,0.9s							
JNU	**Nakatsue**	**41.09**	**340**	*e*P		**P**	**08 35 01.1**	**-0.7**
	11nm,1.3s							
MJAR	**Matsushiro Arr**	**42.50**	**350**	P		**P**	**08 35 11.0**	**-2.1**
	1.1nm,0.6s,baz=191,slow=6.0,SNR=4.4							
URZ	**Urewera**	**42.99**	**144**	P		**P**	**08 35 16.4**	**-0.6**
	6.8nm,0.8s,baz=351,slow=16,SNR=2.7							
QIZ	**Qiongzhong**	**43.37**	**305**	*e*P		**P**	**08 35 20.9**	**+0.6**
	61nm,1.5s							
RPZ	**Rata Peaks**	**43.87**	**154**	P		**P**	**08 35 24.0**	**-0.1**
	4.1nm,0.6s,baz=281,slow=5.2,SNR=4.3							
KSRS	**Korea Array**	**46.03**	**340**	P		**P**	**08 35 40.2**	**-0.9**
	7.6nm,0.9s,baz=159,slow=9.2,SNR=30							
KSAR	**Wonju Array Be**	**46.03**	**340**	P		**P**	**08 35 40.2**	**-0.9**
ASAJ	**Asahikawa**	**49.50**	**357**	*e*P		**P**	**08 36 07.5**	**-0.3**
	5.9nm,1.3s							
USRK	**Ussuriysk Ar.**	**51.12**	**347**	P		**P**	**08 36 20.2**	**+0.2**
	1.6nm,0.5s,baz=166,slow=6.6,SNR=11							
CMAR	**Chiang Mai Arr**	**52.36**	**298**	P		**P**	**08 36 30.5**	**+0.8**
	2.5nm,0.3s,baz=117,slow=7.2,SNR=11							
CN2	**Changchun**	**52.55**	**341**	*e*P		P	08 36 34.3	+3.6
CN2				PMZ				
	10.0nm,0.7s							
PETK	**Petropavlovsk-**	**59.19**	**8**	P		**P**	**08 37 18.2**	**+0.4**
	2.1nm,0.5s,baz=178,slow=6.9,SNR=3.4							
GTA	**Gaotai**	**61.89**	**320**	*e*P		**P**	**08 37 37.0**	**+0.4**
GTA				PMZ				
	4.0nm,0.9s							
SONM	**Songino Array**	**63.62**	**331**	P		**P**	**08 37 48.0**	**+0.1**
	2.0nm,0.8s,baz=158,slow=5.7,SNR=8.9							
CASY	**Casey**	**65.53**	**195**	*e*P		**P**	**08 38 00.2**	**+0.4**
	5.0nm,0.6s							
VNDA	**Vanda**	**72.45**	**176**	P		**P**	**08 38 42.1**	**-0.3**
	2.7nm,1.0s,baz=330,slow=6.5,SNR=10							
VNDA	**Vanda**	**72.45**	**176**	*e*P		**P**	**08 38 43.0**	**+0.6**
	6.8nm,1.5s							
ZALV	**Zalesovo Beam**	**78.20**	**328**	P		**P**	**08 39 14.3**	**-1.4**
	2.1nm,0.6s,baz=117,slow=5.8,SNR=6.6							
KURK	**Kurchatov**	**80.37**	**323**	*e*P		**P**	**08 39 27.3**	**-0.3**
	1.7nm,0.5s							
PMR	**Palmer**	**83.09**	**26**	*e*P		**P**	**08 39 40.8**	**-0.7**
	4.1nm,0.7s							
IM04	**Indian Mountai**	**83.28**	**21**	*e*P		**P**	**08 39 42.4**	**-0.1**
BPAW	**Bear Paw Mtn.**	**83.43**	**23**	*e*P		**P**	**08 39 42.9**	**-0.5**
	2.5nm,1.5s							
SML	**Sawmill**	**83.52**	**26**	*e*P		**P**	**08 39 43.2**	**-0.7**
	0.9nm,0.7s							
MCK	**McKinley**	**84.08**	**24**	*e*P		**P**	**08 39 45.8**	**-0.9**
	12nm,0.9s							
QSPA	**South Pole Qui**	**84.46**	**180**	*e*P		**P**	**08 39 48.8**	**+0.1**
	1.4nm,0.8s							
COLA	**College**	**84.99**	**23**	*e*P		**P**	**08 39 49.5**	**-1.6**
	10nm,0.7s							
COLD	**Coldfoot**	**85.13**	**20**	*e*P		**P**	**08 39 51.9**	**+0.1**
	5.5nm,1.1s							
ILAR	**Eielson Array**	**85.32**	**23**	P		**P**	**08 39 51.3**	**-1.5**
	10nm,0.6s,baz=252,slow=5.1,SNR=208							
ILAR				pP		**pP**	**08 40 26.1**	**+1.8**
	2.7nm,0.7s,baz=253,slow=4.9,SNR=5.8							
EGAK	**Eagle**	**87.62**	**24**	*e*P		**P**	**08 40 03.6**	**-0.4**
	3.6nm,0.8s							
DAWY	**Dawson**	**88.14**	**25**	*e*P		**P**	**08 40 06.6**	**0.0**
YKA	**Yellowknife Ar**	**99.08**	**28**	P		**Pdif**	**08 40 56.7**	**0.0**
	0.7nm,0.8s,baz=304,slow=5.7,SNR=3.7							
TORD	**Torodi Ar. Bea**	**144.25**	**285**	PKP		**PKPab**	**08 46 50.0**	**-0.6**
	3.3nm,0.8s,baz=77,slow=3.3,SNR=19							

*CSEM **29** 08:29:15.7±0.3, 43°78N×12°64E, h10km, MD1.5, Error ellipse: s-maj=10.2km s-min=4.5km az=138.0*
ROM 29 08:29:17.1±0.8, 43°70N×12°54E, h7km, Md1.5/3, Ml0.8/1, Error ellipse: s-maj=7.4km s-min=3.0km az=44.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PIEI	**Pieia**	**0.16**	**181**	Pg		Pg	08 29 21.0	+0.5
PIEI				Sg		Sg	08 29 23.3	+0.5
PIEI	**Pieia**	**0.16**	**181**	Pg		Pg	08 29 21.0	+0.5
PIEI				Sg		Sg	08 29 23.3	+0.5
ATPC	**Poggio Castell**	**0.22**	**196**	Pg		Pg	08 29 22.9	+1.3
ATPC				Sg		Sg	08 29 26.6	+1.9
	15nm,0.4s							
ATPC	**Poggio Castell**	**0.22**	**196**	Pg		Pg	08 29 22.9	+1.3
ATPC				Sg		Sg	08 29 26.6	+1.9
	15nm,0.4s							
PARC	**Parchiule**	**0.22**	**258**	Pg		Pg	08 29 22.1	+0.4
PARC				Sg		Sg	08 29 26.1	+1.4
PARC	**Parchiule**	**0.22**	**258**	Pg		Pg	08 29 22.1	+0.4
PARC				Sg		Sg	08 29 26.1	+1.4
NVLJ	**Novalja**	**1.89**	**62**	*e*Pn		Pn	08 29 46.2	-3.5
NVLJ				Sn		Sn	08 30 10.3	-3.4
NVLJ	**Novalja**	**1.89**	**62**	*e*Pn		Pn	08 29 46.2	-3.5
NVLJ				Sn		Sn	08 30 10.2	-3.5

*CSEM **29** 08:30:52.1±0.3, 50°17N×19°08E, h2km, ML3.2/10, Error ellipse: s-maj=7.3km s-min=3.0km az=10.0*
PRU 29 08:30:53.2, 50°13N×19°08E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHZP	**Chorzow**	**0.17**	**341**	P		Pg	08 30 58.5	+2.0
OJC	**Ojcow**	**0.47**	**79**	*e*Pg		Pg	08 31 01.3	-1.0
OJC				*e*Sg		Sg	08 31 06.7	-1.7
OJC	**Ojcow**	**0.47**	**79**	*e*Pg		Pg	08 31 01.3	-1.0
OJC				*e*Sg		Sg	08 31 06.7	-1.7
OKC	**Ostrava-Krasne**	**0.67**	**244**	*e*PG		Pg	08 31 05.6	-0.5
OKC				*e*SG		Sg	08 31 15.3	+0.5
	comp=Z,52nm,0.4s							
OKC	**Ostrava-Krasne**	**0.67**	**244**	Pg		Pg	08 31 05.6	-0.5
OKC				Sg		Sg	08 31 15.3	+0.5
	52nm,0.4s							
LANS	**Liptovska Anna**	**1.01**	**165**	*e*Pg		Pg	08 31 12.1	-0.6
LANS				*e*Sg		Sg	08 31 25.7	-0.2
MORC	**Moravsky Berou**	**1.05**	**251**	*e*Pg		Pg	08 31 13.8	+0.3
MORC				*e*Sg		Sb	08 31 28.5	-0.3
NIE	**Niedzica**	**1.07**	**131**	*e*Pg		Pg	08 31 12.4	-1.4
NIE				*e*Sg		Sg	08 31 28.3	+0.6
NIE	**Niedzica**	**1.07**	**131**	*e*Pg		Pg	08 31 12.4	-1.4
NIE				*e*Sg		Sg	08 31 28.3	+0.6
KRLC	**Kraliky**	**1.48**	**269**	*e*PG		Pn	08 31 20.0	-1.2
KRLC				*e*SG		Sg	08 31 40.8	-0.2
KRLC	**Kraliky**	**1.48**	**269**	Pg		Pn	08 31 20.0	-1.2
KRLC				Sg		Sg	08 31 40.8	-0.2
STHS	**Stebnicka Huta**	**1.57**	**116**	*e*Pn		Pn	08 31 22.4	0.0
STHS				*e*Sn		Sg	08 31 44.2	+0.3
STHS	**Stebnicka Huta**	**1.57**	**116**	*e*PN		Pn	08 31 22.4	0.0
STHS				*e*SN		Sg	08 31 44.2	+0.3
DPC	**Dobruska-Polom**	**1.78**	**278**	*e*PG		Pn	08 31 25.4	0.0
DPC				*e*SG		Sb	08 31 49.8	0.0
	comp=Z,33nm,0.4s							
DPC	**Dobruska-Polom**	**1.78**	**278**	Pg		Pn	08 31 25.4	0.0
DPC				Sg		Sb	08 31 49.8	0.0
	33nm,0.4s							
VRAC	**Vranov**	**1.81**	**244**	*e*Pn		Pn	08 31 25.6	-0.1
VRAC				*e*Sg		Sg	08 31 51.3	-0.2
KSP	**Ksiaz**	**1.92**	**293**	*e*Pg		Pg	08 31 29.9	-0.1
KSP				*e*Sg		Sg	08 31 56.5	+1.6
KSP	**Ksiaz**	**1.92**	**293**	*e*Pg		Pg	08 31 29.9	-0.1
KSP				*e*Sg		Sg	08 31 56.5	+1.6
SMOL	**Smolenice**	**1.94**	**214**	*e*Sn		Sg	08 31 56.2	+0.4
SMOL	**Smolenice**	**1.94**	**214**	*e*		Pg	08 31 35.7	+5.2
SMOL	**Smolenice**	**1.94**	**214**	*e*SN		Sg	08 31 56.2	+0.4
UPC	**Upice**	**2.00**	**282**	*e*PG		Pn	08 31 29.3	+1.0
UPC				*e*SG		Sg	08 31 57.2	-0.4
	comp=Z,7.7nm,0.4s							
UPC	**Upice**	**2.00**	**282**	Pg		Pn	08 31 29.3	+1.0
UPC				Sg		Sg	08 31 57.2	-0.4
	7.7nm,0.4s							
KOLS	**Kolonicke sedl**	**2.40**	**119**	*e*Sn		Sb	08 32 06.6	-0.9
KOLS	**Kolonicke sedl**	**2.40**	**119**	*e*		Pg	08 31 39.2	-0.1
KOLS	**Kolonicke sedl**	**2.40**	**119**	*e*SN		Sb	08 32 06.6	-0.9
TREC	**Trest**	**2.48**	**252**	*e*SG		Sg	08 32 11.5	-1.4
	comp=Z,12nm,0.3s							
TREC	**Trest**	**2.48**	**252**	Sg		Sg	08 32 11.5	-1.4
	12nm,0.3s							
GOPC	**GO Pecny, Ondr**	**2.78**	**267**	*e*SG		Sg	08 32 20.9	-1.6
	comp=Z,9.6nm,0.3s							
GOPC	**GO Pecny, Ondr**	**2.78**	**267**	Sg		Sg	08 32 20.9	-1.6
	9.6nm,0.3s							
PVCC	**Panska Ves**	**2.92**	**280**	*e*SG		Sg	08 32 26.0	-1.0
	comp=Z,28nm,0.4s							
PVCC	**Panska Ves**	**2.92**	**280**	Sg		Sg	08 32 26.0	-1.0
	28nm,0.4s							
PRU	**Pruhonice**	**2.93**	**269**	*e*PG		Pb	08 31 47.1	+0.8
PRU				*e*SG		Sg	08 32 25.7	-1.6
	comp=Z,9.8nm,0.4s							
PRU	**Pruhonice**	**2.93**	**269**	Pg		Pb	08 31 47.1	+0.8
PRU				Sg		Sg	08 32 25.7	-1.6
	9.8nm,0.4s							
PRA	**Prague**	**2.99**	**271**	*e*SG		Sg	08 32 28.3	-1.1
	comp=Z,12nm,0.3s							
PRA	**Prague**	**2.99**	**271**	Sg		Sg	08 32 28.3	-1.1
	12nm,0.3s							
BRG	**Berggiesshubel**	**3.36**	**285**	PG		Pg	08 32 00.6	+2.9
BRG				SG		Sg	08 32 40.6	-0.7
	10nm,0.4s							
KHC	**Kasperske Hory**	**3.71**	**256**	*e*PN		Pn	08 31 50.7	-1.2
KHC				*e*PG		Pb	08 32 01.4	+1.7
KHC				*e*SN		Sn	08 32 33.9	-2.5
KHC				*e*SG		Sg	08 32 51.5	-1.1
	comp=Z,9.8nm,0.4s							
KHC	**Kasperske Hory**	**3.71**	**256**	Pn		Pn	08 31 50.7	-1.2
NKC	**Novy Kostel**	**4.26**	**274**	*e*SG		Sg	08 33 08.9	-1.3
	comp=Z,7.8nm,0.4s							
NKC	**Novy Kostel**	**4.26**	**274**	Sg		Sg	08 33 08.9	-1.3
	7.8nm,0.4s							

DJA 29 08:38:30.8±0.6, 4°S±7°×12°9E±°, h73km±6km, M3.8/8, mb4.5/2, mB5.9/1, MLv3.4/8, Mw(mB)5.5/1, Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AAI	**Ambon**	**0.48**	**305**	P		Pn	08 38 45.6	+1.8
MSAI	**Masohi**	**0.71**	**29**	P		Pn	08 38 57.5	+11
MSAI				S		Sn	08 38 59.9	+2.6
BNDI	**Bandanaira**	**1.42**	**113**	P		Pn	08 38 55.1	+0.3
BNDI				S		Sn	08 39 16.4	+3.5
NLAI	**Namlea**	**1.66**	**296**	P		Pn	08 38 57.9	0.0
SANI	**Sanana**	**3.22**	**306**	P		Pn	08 39 19.4	+0.3
FAKI	**Fak Fak**	**3.80**	**74**	P		Pn	08 39 21.7	-5.3
SWI	**Sorong**	**4.08**	**41**	P		Pn	08 39 30.7	-0.1
RKPI	**Ransiki, Papua**	**6.09**	**67**	P		Pn	08 39 57.6	-0.7

WEL 29 08:41:31.1±0.5, 38°24S×176°03E, h181km±4km, ML3.8/12, 29C, Error ellipse: s-maj=1.9km s-min=1.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HRRZ	**Handcock Road**	**0.25**	**128**	↑PN		Pn	08 41 55.2	0.0
KARZ	**Kaharoa**	**0.27**	**39**	↑PN		Pn	08 41 55.3	0.0
WPRZ	**Whakapapatarin**	**0.30**	**159**	↑PN		Pn	08 41 55.3	0.0
TARZ	**Mount Tarawera**	**0.38**	**90**	PN		Pn	08 41 55.6	0.0
PRRZ	**Plateau Road**	**0.39**	**132**	PN		Pn	08 41 55.0	-0.5
RRRZ	**Republican Roa**	**0.40**	**105**	PN		Pn	08 41 55.3	-0.2
ALRZ	**Allen Road**	**0.41**	**143**	PN		Pn	08 41 55.4	-0.2
WATZ	**Wairara**	**0.53**	**206**	PN		Pn	08 41 55.8	-0.3
OPRZ	**Ohinepanea**	**0.57**	**47**	PN		Pn	08 41 56.0	-0.2
TOZ	**Tahuroa Road**	**0.65**	**320**	PN		Pn	08 41 57.1	+0.5
RATZ	**Rangitukua**	**0.66**	**198**	↑PN		Pn	08 41 56.6	-0.1
MRHZ	**Matea Rd**	**0.67**	**153**	↑PN		Pn	08 41 56.5	-0.3
RITZ	**Rihia Road**	**0.75**	**190**	PN		Pn	08 41 57.5	+0.3
URZ	**Urewera**	**0.85**	**92**	PN		Pn	08 41 57.1	-0.7
URZ				SN		Sn	08 42 16.0	-2.3
URZ				AML		AML	08 42 17.5	
KRVZ	**Karewarewa**	**0.91**	**199**	PN		Pn	08 41 58.0	-0.3
WTVZ	**West Tongariro**	**0.94**	**201**	PN		Pn	08 41 58.5	-0.1
TWVZ	**Taurewa**	**0.95**	**209**	↑PN		Pn	08 41 58.6	0.0
OTVZ	**Oturere**	**0.97**	**197**	↑PN		Pn	08 41 58.9	+0.2
NGZ	**Ngauruhoe**	**1.00**	**199**	PN		Pn	08 41 58.9	0.0
BKZ	**Black Stump Fm**	**1.00**	**159**	PN		Pn	08 41 58.5	-0.4
BKZ				SN		Sn	08 42 18.7	-1.8
COVZ	**Chateau Observ**	**1.03**	**201**	PN		Pn	08 41 59.0	-0.2
WPVZ	**Whakapapa**	**1.04**	**201**	↑PN		Pn	08 41 59.2	-0.1
NMHZ	**Naumai**	**1.05**	**145**	↑PN		Pn	08 41 59.9	+0.6
NMHZ				SN		Sn	08 42 20.8	-0.5
TUVZ	**Tukino**	**1.07**	**196**	PN		Pn	08 41 59.4	-0.1
RAHZ	**Arahi**	**1.07**	**130**	↑PN		Pn	08 41 59.6	+0.2
FWVZ	**Far West T-bar**	**1.08**	**200**	↑PN		Pn	08 41 59.5	-0.2
WHVZ	**Whangaehu Hut**	**1.10**	**198**	PN		Pn	08 41 59.6	-0.3
RAGZ	**Rawiri**	**1.12**	**104**	PN		Pn	08 41 59.8	-0.1
TRVZ	**Turoa**	**1.13**	**199**	↑PN		Pn	08 41 59.9	-0.1
SNGZ	**Shannon Statio**	**1.16**	**118**	↑PN		Pn	08 42 00.3	+0.1
MWZ	**Matawai**	**1.19**	**95**	↑PN		Pn	08 41 60.0	-0.3
MWZ				AML		AML	08 42 22.0	
MWZ				AML		AML	08 42 22.2	
MOVZ	**Moawhango**	**1.19**	**190**	↑PN		Pn	08 41 59.8	-0.6
KWHZ	**Kaweka Forest**	**1.23**	**166**	PN		Pn	08 42 00.7	0.0
MTVZ	**Mangateitei**	**1.23**	**201**	PN		Pn	08 42 00.5	-0.2
BHHZ	**Black Hill Sta**	**1.25**	**179**	↑PN		Pn	08 42 00.4	-0.5
WHHZ	**Waihua**	**1.26**	**132**	↑PN		Pn	08 42 01.1	+0.2
ARHZ

TLCB	**Telegraph Cove**	**1.95**	**79**	Pn	Pn	08 48 55.6	-1.4
TLCB				Sn	Sn	08 49 17.5	-4.1
WOSB	**Woss**	**2.10**	**91**	Pn	Pn	08 48 57.9	-1.5
BBB	**Bella Bella**	**2.24**	**28**	Pn	Pn	08 48 59.8	-1.2
BBB				Sn	Sn	08 49 24.4	-4.3
NCRB	**Newcastle Ridg**	**2.43**	**84**	Pn	Pn	08 49 02.5	-1.4
GDR	**Gold River**	**2.50**	**99**	Pn	Pn	08 49 03.0	-1.6
BNB	**Barry Inlet**	**2.64**	**334**	Pn	Pn	08 49 04.5	-2.1
TOFB	**Tofino**	**2.77**	**111**	Pn	Pn	08 49 06.5	-1.9
CBB	**Campbell River**	**2.89**	**92**	Pn	Pn	08 49 09.2	-0.8
CBB				Sn	Sn	08 49 41.1	-3.7
BCBC	**Bella Coola**	**2.89**	**41**	Sn	Sn	08 49 41.2	-3.6
BTB	**Buttle Lake**	**2.90**	**104**	Pn	Pn	08 49 09.4	-1.0
BTB				Sn	Sn	08 49 41.0	-4.4
OZB	**Mount Ozzard**	**3.10**	**113**	Pn	Pn	08 49 11.6	-1.4
OZB				Sn	Sn	08 49 44.2	-5.9
MOBC	**Moresby Island**	**3.21**	**336**	Pn	Pn	08 49 12.2	-2.2
TXB	**Texada**	**3.53**	**97**	Pn	Pn	08 49 18.2	-0.7
MGB	**Mount Grey**	**3.57**	**108**	Pn	Pn	08 49 18.4	-1.1
MGB				Sn	Sn	08 49 57.3	-4.5
YOUB	**Youbou, Lake C**	**3.87**	**108**	Sn	Sn	08 50 05.3	-3.8
PFB	**Port Renfrew**	**3.90**	**113**	Pn	Pn	08 49 23.7	-0.2
SHB	**Sechelt**	**3.91**	**97**	Pn	Pn	08 49 23.4	-0.7
SHB				Sn	Sn	08 50 06.6	-3.6
NLLB	**Nanaimo Lost L**	**3.93**	**103**	Pn	Pn	08 49 24.3	+0.1
RUBB	**Prince Rupert**	**4.11**	**357**	Pn	Pn	08 49 26.6	-0.2
BIB	**Bowen Island**	**4.31**	**99**	Pn	Pn	08 49 30.3	+0.8
LLLB	**Lillooet**	**5.10**	**83**	Pn	Pn	08 49 40.1	-0.4
VDB	**Vedder Mountai**	**5.17**	**100**	Pn	Pn	08 49 42.0	+0.6
A05A	**Maple Falls**	**5.19**	**101**	Pn	Pn	08 49 43.0	+1.4
CMW	**Cultus Mountai**	**5.36**	**107**	Pn	Pn	08 49 45.8	+1.7
MBW	**Mount Baker**	**5.37**	**103**	Pn	Pn	08 49 45.4	+1.0

*IDC **29** 08:49:39.4±1.1,60°.55S×160°.14E,h0km,mb4.3/5, mb1 4.4/7,mb1mx4.2/15,mbtmp4.2/7,ML3.5/2,MS3.7/9, Ms1 3.7/9,ms1mx3.6/16,Error ellipse: s-maj=52.3km s-min=19.6km az=76.0*

*ISCJB **29** 08:49:40.6±0.6,60°.33S±0°.06×160°.2E±0°.3,h10km, mb4.2/7,MS3.7/7,Error ellipse: s-maj=18.8km s-min=7.5km az=11.2*

*AWI **29** 08:49:40.9,59°.97S×161°.39E*

*NEIC **29** 08:49:42.1±0.7,60°.32S×159°.96E,h10km,mb4.3/9, Error ellipse: s-maj=26.6km s-min=10.2km az=89.0*

ISC 29 08:49:41.1±0.6, 60°.34S±0°.06×159°.9E±0°.2, h10km, n39, σ1$87/30, mb4.2/7, MS3.6/7, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MCQ	**Macquarie Isla**	**5.88**	**354**	*e*Pn		**Pn**	**08 51 06.2**	**-2.0**
MCQ				*e*Sn		**Sn**	**08 52 12.0**	**-3.5**
APZ	**The Paps**	**14.33**	**23**	*e*PN		**Pn**	**08 53 03.9**	**-0.1**
PYZ	**Puysegur Point**	**14.75**	**19**	PN		**Pn**	**08 53 09.8**	**+0.2**
SYZ	**Scrubby Hill**	**14.85**	**26**	PN		**Pn**	**08 53 10.0**	**-0.9**
WHZ	**Wether Hill Ro**	**15.23**	**22**	PN		**Pn**	**08 53 15.9**	**-0.1**
WHZ	**Wether Hill Ro**	**15.23**	**22**	*e*Pn		**Pn**	**08 53 16.6**	**+0.6**
	58nm,0.5s							
DCZ	**Deep Cove**	**15.49**	**19**	PN		**Pn**	**08 53 20.5**	**+1.0**
TUZ	**Tuapeka**	**15.51**	**26**	PN		**Pn**	**08 53 20.5**	**+0.8**
MLZ	**Mavora Lakes**	**15.80**	**22**	PN		**Pn**	**08 53 23.9**	**+0.4**
ODZ	**Otahua Downs**	**16.60**	**27**	*e*P		**P**	**08 53 36.0**	**-0.1**
	40nm,1.3s							
JCZ	**Jackson Bay**	**17.14**	**22**	PN		**P**	**08 53 45.3**	**+3.0**
VNDA	**Vanda**	**17.27**	**179**	P		**Pn**	**08 53 38.4**	**-3.6**
	0.1nm,0.3s,baz=353,slow=14,SNR=4.3							
VNDA				LR		LR	08 59 10.1	
	comp=Z,375nm,19.9s,baz=8.0,slow=34							
VNDA	**Vanda**	**17.27**	**179**	*e*P		**Pn**	**08 53 42.6**	**+0.6**
	15nm,1.2s							
SBA	**Scott Base**	**17.74**	**175**	*e*P		**P**	**08 53 49.7**	**+1.1**
	47nm,1.8s							
RPZ	**Rata Peaks**	**17.95**	**27**	P		**P**	**08 53 51.9**	**+0.7**
	0.6nm,0.3s,baz=115,slow=1.5,SNR=6.4							
RPZ				LR		LR	08 59 39.6	
	comp=Z,213nm,19.4s,baz=178,slow=33							
RPZ	**Rata Peaks**	**17.95**	**27**	*e*P		**P**	**08 53 54.4**	**+3.3**
	16nm,1.0s							
URZ	**Urewera**	**24.62**	**34**	LR		LR	09 03 38.3	
	comp=Z,102nm,19.0s,baz=210,slow=34							
QSPA	**South Pole Qui**	**29.76**	**180**	P		**P**	**08 55 46.3**	**-1.1**
	2.2nm,0.8s,baz=7.1,slow=2.4,SNR=12							
QSPA				LR		LR	09 06 22.8	
	comp=Z,137nm,20.4s,baz=16,slow=34							
QSPA	**South Pole Qui**	**29.76**	**180**	*e*P		**P**	**08 55 48.9**	**+1.5**
	4.4nm,1.0s							
STKA	**Stephens Creek**	**30.95**	**329**	LR		LR	09 07 09.7	
	comp=Z,471nm,18.1s,baz=182,slow=34							
H01W1	**Cape Leeuwin H**	**38.82**	**290**	T		T	09 38 38.6	
	baz=145,slow=76,SNR=36							
H01W2	**Cape Leeuwin H**	**38.82**	**290**	T		T	09 38 38.6	
	baz=145,slow=76,SNR=37							
H01W3	**Cape Leeuwin H**	**38.83**	**290**	T		T	09 38 39.7	
	baz=145,slow=76,SNR=31							
ASAR	**Alice Springs**	**40.88**	**322**	P		**P**	**08 57 25.8**	**+2.6**
	6.5nm,0.7s,baz=162,slow=8.5,SNR=79							
ASAR				LR		LR	09 13 30.2	
	comp=Z,83nm,18.3s,baz=215,slow=35							
CTA	**Charters Tower**	**41.37**	**340**	P		**P**	**08 57 28.3**	**+1.1**
	4.4nm,0.9s,baz=163,slow=11,SNR=3.3							
WRA	**Warramunga Arr**	**44.26**	**324**	P		**P**	**08 57 52.2**	**+1.6**
	3.3nm,0.9s,baz=162,slow=6.4,SNR=9.9							
WRA				PcP		**PcP**	**08 59 35.2**	**+0.3**
	1.0nm,0.7s,baz=162,slow=3.0,SNR=5.3							
WRAB	**Tennant Creek**	**44.27**	**324**	*e*P		**P**	**08 57 52.4**	**+1.8**
	14nm,1.5s							
SNAA	**Sanae**	**47.73**	**187**	P		**P**	**08 58 14.8**	**-2.6**
SNAA	**Sanae**	**47.73**	**187**	*e*P		**P**	**08 58 14.5**	**-3.0**
	2.3nm,0.8s							
VNA1	**Neumayer--Stat**	**49.03**	**185**	P		**P**	**08 58 29.4**	**+2.0**
H08S2	**Diego Garcia H**	**82.14**	**268**	T		T	10 32 57.8	
	baz=148,slow=76,SNR=24							
H08S1	**Diego Carcia H**	**82.15**	**268**	T		T	10 32 56.1	
	baz=148,slow=76,SNR=33							
H08S3	**Diego Garcia H**	**82.17**	**268**	T		T	10 32 59.0	
	baz=148,slow=76,SNR=26							
BOSA	**Boshof**	**83.92**	**219**	LR		LR	09 36 55.6	
	comp=Z,28nm,18.9s,baz=150,slow=34							
CPUP	**Villa Florida**	**88.42**	**147**	P		**P**	**09 02 31.8**	**-1.5**
	0.6nm,0.3s,baz=180,slow=4.0,SNR=2.8							
CPUP	**Villa Florida**	**88.42**	**147**	*e*P		**P**	**09 02 33.7**	**+0.5**
	0.6nm,1.5s							
CMAR	**Chiang Mai Arr**	**92.53**	**304**	LR		LR	09 39 32.0	
	comp=Z,27nm,22.0s,baz=184,slow=32							
MJAR	**Matsushiro Arr**	**98.17**	**342**	LR		LR	09 46 47.1	
	comp=Z,20nm,19.4s,baz=60,slow=35							
AKASG	**Malin Array Be**	**151.14**	**273**	PKPbc		**PKPbc**	**09 09 32.3**	**-0.8**
	0.5nm,0.4s,baz=100,slow=1.4,SNR=4.5							

*ISCJB **29** 09:46:05.8±0.7,21°.58N±0°.08×143°.1E±0°.2,h311km, mb3.4/8,Error ellipse: s-maj=29.7km s-min=10.7km az=175.4*

*IDC **29** 09:46:07.4±2.0,21°.67N×143°.12E,h314km±20km,mb3.0/9, mb1 3.2/11,mb1mx3.0/28,mbtmp3.7/11,Error ellipse: s-maj=33.4km s-min=13.5km az=98.0*

ISC 29 09:46:07.1±0.9, 21°.6N±0°.1×143°.1E±0°.2, h311km, n11, σ1$03/12, mb3.4/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JCJ	**Chichijima**	**5.50**	**351**	P		**Pn**	**09 47 31.9**	**+1.1**
	5.4nm,0.3s,baz=102,slow=23,SNR=7.1							
JCJ				S		**S**	**09 48 38.5**	**+0.2**
	6.5nm,0.3s,baz=240,slow=20,SNR=6.3							
MJAR	**Matsushiro Arr**	**15.45**	**345**	P		**P**	**09 49 28.4**	**-0.1**
	0.2nm,0.3s,baz=162,slow=11,SNR=3.3							
KSRS	**Korea Array**	**20.53**	**323**	P		**P**	**09 50 21.8**	**-0.7**
	0.5nm,0.5s,baz=141,slow=9.2,SNR=4.5							
PETK	**Petropavlovsk-**	**33.35**	**16**	P		**P**	**09 52 14.5**	**-2.1**
	1.2nm,0.3s,baz=216,slow=6.2,SNR=6.1							
WRA	**Warramunga Arr**	**42.21**	**192**	P		**P**	**09 53 30.3**	**-0.2**
	0.3nm,0.4s,baz=17,slow=9.1,SNR=8.6							
ASAR	**Alice Springs**	**45.92**	**192**	P		**P**	**09 53 59.8**	**+0.1**
	0.1nm,0.4s,baz=8.4,slow=5.9,SNR=3.3							
ILAR	**Eielson Array**	**62.12**	**27**	P		**P**	**09 55 54.6**	**-0.7**
	0.3nm,0.7s,baz=262,slow=5.4,SNR=6.0							
YKA	**Yellowknife Ar**	**76.53**	**28**	P		**P**	**09 57 23.8**	**+0.7**
	0.5nm,0.5s,baz=289,slow=5.6,SNR=3.6							
ARCES	**ARCESS Array B**	**78.96**	**341**	P		**P**	**09 57 37.3**	**+1.0**
	2.2nm,0.8s,baz=76,slow=10,SNR=5.7							
FINES	**FINESS Array B**	**83.21**	**334**	P		**P**	**09 57 58.2**	**-0.5**
	1.1nm,0.6s,baz=75,slow=8.1,SNR=5.9							
NVAR	**Mina Array Bea**	**83.23**	**51**	P		**P**	**09 58 00.7**	**+1.1**
	0.4nm,0.7s,baz=242,slow=4.8,SNR=3.6							

*ISCJB **29** 10:08:21.5±0.6,7°.27S±0°.05×30°.24E±0°.09,h10km, mb3.8/6,MS3.3/6,Error ellipse: s-maj=14.0km s-min=6.0km az=20.0*

*IDC **29** 10:08:22.1±0.9,7°.20S×30°.16E,h0km,mb3.8/6, mb1 4.1/10,mb1mx3.8/33,mbtmp3.9/10,ML1.9/1,MS3.3/8, Ms1 3.3/8,ms1mx3.0/34,Error ellipse: s-maj=35.0km s-min=14.3km az=97.0*

*BUL **29** 10:08:23.0±3.1,6°.95S×30°.38E,h84km±999km*

ISC 29 10:08:22.9±0.7, 7°.27S±0°.07×30°.38E±0°.09, h10km, n17, σ2$59/18, mb3.8/6, MS3.3/6, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DODT	**Dodoma, Tanzan**	**5.44**	**79**	*i* P		**Pn**	**10 09 47.0**	**+2.8**
DODT				*i* S		**Sn**	**10 10 45.3**	**-1.7**
MAUS	**Longido**	**7.74**	**55**	*i* P		**Pn**	**10 10 17.4**	**+1.6**
MAUS				*i* S		**Sn**	**10 11 38.5**	**-5.2**
LSZ	**Lusaka**	**8.24**	**195**	Pn		**Pn**	**10 10 23.4**	**+0.7**
	0.4nm,0.3s,baz=4.2,slow=13,SNR=2.7							
LSZ				Sn		**Sn**	**10 11 56.8**	**+0.8**
	4.5nm,0.3s,baz=90,slow=21,SNR=9.8							
LSZ				Lg		Lg	10 12 44.3	
	7.9nm,0.3s,baz=308,slow=23,SNR=11							
ITZ	**Itezhi-Tezhi**	**9.44**	**207**	*i* P		**Pn**	**10 10 41.1**	**+1.8**
ITZ				*i* S		**Sn**	**10 12 22.4**	**-3.3**
MATP	**Matopo**	**13.20**	**188**	Pn		**Pn**	**10 11 32.3**	**+1.6**
	1.3nm,0.3s,baz=4.3,slow=14,SNR=18							
MATP				Sn		**Sn**	**10 13 58.2**	**+0.5**
	0.8nm,0.3s,baz=54,slow=21,SNR=4.1							
MATP				Lg		Lg	10 15 21.9	
	0.9nm,0.3s,baz=86,slow=23,SNR=3.9							
TSUM	**Tsumeb**	**17.18**	**225**	Pn		**Pn**	**10 12 23.1**	**-0.3**
	0.3nm,0.3s,baz=54,slow=17,SNR=4.3							
TSUM				Sn		Sn	10 15 24.3	-10
	0.5nm,0.3s,baz=330,slow=20,SNR=5.4							
TSUM				LR		LR	10 19 11.0	
	comp=Z,130nm,19.4s,baz=2.5,slow=38							
LBTB	**Lobatse**	**18.23**	**194**	Pn		**P**	**10 12 38.6**	**+2.2**
	0.6nm,0.3s,baz=26,slow=14,SNR=6.0							
LBTB				S		**Sn**	**10 15 53.7**	**-6.2**
	0.6nm,0.3s,baz=291,slow=11,SNR=4.3							
LBTB				Lg		Lg	10 17 53.6	
	0.2nm,0.3s,baz=29,slow=13,SNR=2.2							
LBTB				LR		LR	10 18 58.4	
	comp=Z,69nm,19.7s,baz=26,slow=35							
BOSA	**Boshof**	**21.77**	**192**	P		**P**	**10 13 15.7**	**+0.6**
	6.0nm,1.1s,baz=349,slow=5.2,SNR=3.0							
BOSA				Lg		Lg	10 19 51.5	
	16nm,1.1s,baz=274,slow=19,SNR=3.9							
BOSA				LR		LR	10 21 38.7	
	comp=Z,55nm,18.3s,baz=182,slow=37							
SUR	**Sutherland**	**26.52**	**198**	LR		LR	10 24 10.6	
	comp=Z,200nm,19.0s,slow=36							
TORD	**Torodi Ar. Bea**	**34.98**	**305**	P		**P**	**10 15 14.3**	**-1.4**
	0.4nm,0.6s,baz=101,slow=7.0,SNR=3.8							
DBIC	**Dimbokro**	**37.78**	**291**	LR		LR	10 30 43.8	
	comp=Z,45nm,18.9s,baz=96,slow=36							
BRTR	**Keskin Array B**	**46.86**	**3**	LR		LR	10 38 41.7	
	comp=Z,16nm,18.3s,baz=148,slow=39							
KEST	**Kesra**	**47.14**	**337**	LR		LR	10 38 52.3	
	comp=Z,27nm,19.2s,baz=318,slow=39							
GERES	**GERESS Array B**	**57.77**	**347**	P		**P**	**10 18 14.6**	**+0.3**
	0.6nm,0.7s,baz=161,slow=8.5,SNR=4.9							
GERES				LR		LR	10 44 55.2	
	comp=Z,28nm,19.0s,baz=58,slow=38							
NOA	**NORSAR Array B**	**69.75**	**350**	P		**P**	**10 19 32.9**	**-0.1**
	0.5nm,0.7s,baz=163,slow=6.0,SNR=2.4							
CMAR	**Chiang Mai Arr**	**72.27**	**68**	P		**P**	**10 19 51.2**	**+2.1**
	0.8nm,0.4s,baz=236,slow=9.6,SNR=4.7							
ARCES	**ARCESS Array B**	**76.71**	**358**	P		**P**	**10 20 14.0**	**+0.1**
	2.3nm,1.0s,baz=175,slow=4.5,SNR=2.6							

NNC 29 10:23:23.3±3.1, 39°.82N×66°.59E, h19km±16km, mb3.6, mpv3.3,5C-1D, Error ellipse: s-maj=24.1km s-min=9.8km az=48.0, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DZET	**Dzherino**	**2.01**	**120**	⇑Pn		Pn	10 23 56.1	-0.3
	43nm,0.5s							
DZET				⇑Sn		Sn	10 24 21.6	+0.6
	131nm,0.3s							
KK31	**Karatay Array**	**4.41**	**41**	⇑Pn		Pn	10 24 31.0	+1.9
	0.3nm,0.2s,baz=216,slow=12,SNR=28							
KK31				⇓Pg		Pb	10 24 43.4	+3.3
	1.4nm,0.3s,baz=222,slow=16,SNR=7.3							
KK31				Lg		Lg	10 25 40.1	
	12nm,0.5s,baz=224,slow=30,SNR=11							
AB31	**Akbulak array**	**10.55**	**336**	Pn		Pn	10 25 53.9	+0.5
	0.2nm,0.2s,baz=154,slow=12,SNR=18							
AB31				⇑Sn		Sn	10 27 48.8	-2.1
	0.5nm,0.5s,baz=149,slow=24,SNR=3.2							
AB31				⇑Lg		Lg	10 28 59.2	
	1.2nm,0.6s,baz=149,slow=24,SNR=3.2							

DJA 29 10:52:11.8±0.7, 0°.5±4°.×12°.4E±°., h19km±8km, M3.6/3, MLv3.6/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LUWI	**Luwuk**	**1.02**	**235**	P		Pb	10 52 29.4	-1.4
KMSI	**Cibinong**	**1.09**	**20**	P		Pn	10 52 31.3	-0.8
MRSI	**Marisa**	**1.91**	**299**	P		Pn	10 52 41.9	-1.5
MRSI				S		Sn	10 53 07.7	+0.8
APSI	**Ampana**	**2.01**	**257**	P		Pb	10 52 46.5	-1.3
APSI				S		Sb	10 53 11.0	-1.5
SANI	**Sanana**	**2.85**	**124**	P		Pn	10 52 57.6	+1.2
SANI				S		Sn	10 53 31.8	+1.6

*NEIC **29** 10:52:42.7,35°.11S×178°.59E,h205km,MG4.2(WEL), After WEL.*

WEL 29 10:52:42.7±0.6, 35°.11S×178°.59E, h205km±11km, ML4.2/5, 2C-2D, Error ellipse: s-maj=12.4km s-min=9.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MXZ	**Matakaoa Point**	**2.46**	**185**	PN		Pn	10 53 26.3	-0.1
MXZ				*e*SN		S	10 53 59.9	-0.3
MXZ	**Matakaoa Point**	**2.46**	**185**	Pn		Pn	10 53 26.3	-0.1
WMGZ	**Waiomatatini S**	**2.71**	**183**	PN		Pn	10 53 29.4	+0.2
WMGZ				SN		S	10 54 05.2	0.0
HAZ	**Te Kaha**	**2.72**	**194**	PN		Pn	10 53 29.6	+0.3
HAZ				SN		S	10 54 06.3	+0.9
PUZ	**Puketiti**	**2.97**	**185**	PN		Pn	10 53 31.6	-0.7
PUZ				SN		S	10 54 09.0	-1.6
PUZ				AML		AML	10 54 11.2	
PUZ	**Puketiti**	**2.97**	**185**	Pn		Pn	10 53 31.6	-0.7
TWGZ	**Tauwhareparae**	**3.10**	**189**	PN		Pn	10 53 35.0	+1.2
TWGZ				SN		S	10 54 13.5	+0.1
MWZ	**Matawai**	**3.33**	**194**	PN		Pn	10 53 36.5	0.0
MWZ				SN		S	10 54 18.6	+0.3
MWZ				AML		AML	10 54 24.0	
MWZ	**Matawai**	**3.33**	**194**	Pn		Pn	10 53 36.5	0.0
MWZ				Sn		S	10 54 18.6	+0.3
URZ	**Urewera**	**3.36**	**200**	⇑PN		Pn	10 53 36.3	-0.5
URZ				AML		AML	10 54 21.1	
URZ				AML		AML	10 54 26.6	
URZ	**Urewera**	**3.36**	**200**	Pn		Pn	10 53 36.3	-0.5
TKGZ	**Te Karaka**	**3.38**	**190**	PN		Pn	10 53 36.5	-0.5
CNGZ	**Carnagh Statio**	**3.38**	**185**	PN		Pn	10 53 38.5	+1.4
RAGZ	**Rawiri**	**3.51**	**195**	PN		Pn	10 53 39.3	+0.6
RRRZ	**Republican Roa**	**3.63**	**207**	PN		Pn	10 53 40.6	+0.5
RIGZ	**Rimuhau**	**3.65**	**190**	PN		Pn	10 53 40.6	+0.2
SNGZ	**Shannon Statio**	**3.80**	**195**	PN		Pn	10 53 41.7	-0.5
PRRZ	**Plateau Road**	**3.81**	**207**	PN		Pn	10 53 43.2	+0.9
KNZ	**Kokohu**	**3.97**	**190**	PN		Pn	10 53 43.8	-0.4
KNZ	**Kokohu**	**3.97**	**190**	Pn		Pn	10 53 43.8	-0.4
RAHZ	**Arahi**	**3.99**	**197**	PN		Pn	10 53 44.1	-0.4
RAHZ	**Arahi**	**3.99**	**197**	Pn		Pn	10 53 44.1	-0.4
MRHZ	**Matea Rd**	**4.10**	**204**	PN		Pn	10 53 45.4	-0.6
WHHZ	**Waihua**	**4.11**	**195**	PN		Pn	10 53 45.2	-0.8
NMHZ	**Naumai**	**4.23**	**199**	PN		Pn	10 53 47.1	-0.5
NMHZ	**Naumai**	**4.23**	**199**	Pn		Pn	10 53 47.1	-0.5
ARHZ	**Aropaoanui**	**4.34**	**197**	PN		Pn	10 53 48.0	-0.8
BKZ	**Black Stump Fm**	**4.38**	**202**	PN		Pn	10 53 48.7	-0.7
BKZ	**Black Stump Fm**	**4.38**	**202**	Pn		Pn	10 53 48.7	-0.7
MCHZ	**McNeill Hill**	**4.58**	**199**	PN		Pn	10 53 51.1	-0.8
MCHZ	**McNeill Hill**	**4.58**	**199**	Pn		Pn	10 53 51.1	-0.8
KWHZ	**Kaweka Forest**	**4.64**	**201**	PN		Pn	10 53 51.8	-0.9
NGZ	**Ngauruhoe**	**4.71**	**210**	PN		Pn	10 53 53.9	+0.2
FWVZ	**Far West T-bar**	**4.80**	**209**	⇓PN		Pn	10 53 54.1	-0.8
FWVZ	**Far West T-bar**	**4.80**	**209**	Pn		Pn	10 53 54.1	-0.8
WHVZ	**Whangaehu Hut**	**4.80**	**209**	⇑PN		Pn	10 53 54.6	-0.5
BHHZ	**Black Hill Sta**	**4.81**	**204**	PN		Pn	10 53 53.3	-1.6
BHHZ	**Black Hill Sta**	**4.81**	**204**	Pn		Pn	10 53 53.3	-1.6
MOVZ	**Moawhango**	**4.85**	**207**	PN		Pn	10 53 53.5	-1.9
MOVZ	**Moawhango**	**4.85**	**207**	Pn		Pn	10 53 53.5	-1.9
KRHZ	**Kereru**	**4.86**	**201**	PN		Pn	10 53 53.2	-2.3
PXZ	**Pawanui**	**5.10**	**195**	PN		Pn	10 53 56.0	-2.5
PXZ				AML		AML	10 54 56.2	
PXZ				AML		AML	10 54 56.5	
PXZ	**Pawanui**	**5.10**	**195**	Pn		Pn	10 53 56.0	-2.5
PNHZ	**Pukenui**	**5.16**	**201**	PN		Pn	10 53 56.7	-2.5
PNHZ	**Pukenui**	**5.16**	**201**	Pn		Pn	10 53 56.7	-2.5
TSZ	**Takapari Road**	**5.36**	**202**	PN		Pn	10 53 59.2	-2.7
TSZ	**Takapari Road**	**5.36**	**202**	Pn		Pn	10 53 59.2	-2.7
DVHZ	**Dannevirke**	**5.53**	**200**	PN		Pn	10 54 00.8	-3.2
DVHZ	**Dannevirke**	**5.53**	**200**	Pn		Pn	10 54 00.8	-3.2
POWZ	**Post Office Ro**	**5.73**	**202**	PN		Pn	10 54 04.3	-2.2
PRWZ	**Pori Road**	**5.82**	**200**	PN		Pn	10 54 05.7	-1.9
BFZ	**Birch Farm**	**5.86**	**198**	PN		Pn	10 54 04.3	-3.9
BFZ	**Birch Farm**	**5.86**	**198**	Pn		Pn	10 54 05.3	-2.9
MRZ	**Mangatainoka R**	**6.03**	**202**	PN		Pn	10 54 06.8	-3.6
MRZ	**Mangatainoka R**	**6.03**	**202**	Pn		Pn	10 54 06.8	-3.6
TIWZ	**Tintock**	**6.05**	**200**	PN		Pn	10 54 07.3	-3.3
TIWZ				AML		AML	10 55 18.1	
TIWZ				AML		AML	10 55 20.4	
TIWZ	**Tintock**	**6.05**	**200**	Pn		Pn	10 54 07.3	-3.3
CPWZ	**Castlepoint**	**6.09**	**197**	PN		Pn	10 54 09.2	-1.9
HOWZ	**Holdsworth Sta**	**6.27**	**202**	PN		Pn	10 54 09.6	-3.8
HOWZ	**Holdsworth Sta**	**6.27**	**202**	Pn		Pn	10 54 09.7	-3.8
OGWZ	**Otaki Gorge**	**6.31**	**204**	⇓PN		Pn	10 54 10.6	-3.3
OGWZ	**Otaki Gorge**	**6.31**	**204**	Pn		Pn	10 54 10.6	-3.3
TMWZ	**Te Maipa**	**6.36**	**199**	PN		Pn	10 54 10.7	-3.9
TMWZ	**Te Maipa**	**6.36**	**199**	Pn		Pn	10 54 10.7	-3.9
MTW	**Mount Morrison**	**6.51**	**201**	PN		Pn	10 54 12.6	-4.0
MTW	**Mount Morrison**	**6.51**	**201**	Pn		Pn	10 54 12.6	-4.0
CAW	**Cannon Point**	**6.60**	**204**	PN		Pn	10 54 13.6	-4.1
CAW	**Cannon Point**	**6.60**	**204**	Pn		Pn	10 54 13.6	-4.1
TRWZ	**Traveller**	**6.68**	**199**	PN		Pn	10 54 15.2	-3.6
TRWZ	**Traveller**	**6.68**	**199**	Pn		Pn	10 54 15.2	-3.6
PAWZ	**Paruwai Farm**	**6.74**	**201**	PN		Pn	10 54 15.4	-4.1
MSWZ	**Moikau Station**	**6.82**	**202**	PN		Pn	10 54 16.8	-3.8
BHW	**Baring Head**	**6.94**	**204**	PN		Pn	10 54 17.7	-4.3
PLWZ	**Palliser**	**6.96**	**201**	PN		Pn	10 54 18.3	-4.2
PLWZ	**Palliser**	**6.96**	**201**	Pn		Pn	10 54 18.3	-4.2
TCW	**Tory Channel**	**6.97**	**208**	PN		Pn	10 54 18.7	-3.9
TCW	**Tory Channel**	**6.97**	**208**	Pn		Pn	10 54 18.7	-3.9
TUWZ	**Tuamarina**	**7.29**	**209**	PN		Pn	10 54 22.3	-4.4
TUWZ	**Tuamarina**	**7.29**	**209**	Pn		Pn	10 54 22.3	-4.4
NNZ	**Nelson**	**7.35**	**212**	PN		Pn	10 54 23.1	-4.3
NNZ	**Nelson**	**7.35**	**212**	Pn		Pn

	SNR=27							
KSULJ					P	Pg	11 36 54.5	-0.6
	SNR=27							
KSDGY	**Daegwallycong**	**1.10**	**23**		P	Pg	11 36 55.7	-0.8
	SNR=10							
KSDGY					P	Pg	11 36 55.7	-0.8
	SNR=10							
KSDAG	**Daegu**	**1.10**	**145**		P	Pg	11 36 56.5	0.0
	SNR=43							
KSDAG					P	Pg	11 36 56.5	0.0
	SNR=43							
KSDAG	**Daegu**	**1.10**	**145**		P	Pg	11 36 56.5	0.0
	SNR=43							
KSDAG					P	Pg	11 36 56.5	0.0
	SNR=43							
KSCHC	**Chuncheon**	**1.12**	**347**		P	Pg	11 36 56.1	-0.7
	SNR=28							
KSCHC					P	Pg	11 36 56.1	-0.7
	SNR=28							
KSJMJ	**Jumunjin**	**1.30**	**23**		P	Pn	11 36 59.1	-0.6
	SNR=9.6							
KSJMJ					P	Pn	11 36 59.1	-0.6
	SNR=9.6							
KSCWO	**Cheorwon**	**1.48**	**341**		P	Pb	11 37 02.8	-0.3
	SNR=6.2							
KSCWO					P	Pb	11 37 02.8	-0.3
	SNR=6.2							
SEHB	**SEOHWA**	**1.59**	**4**		P	Pb	11 37 04.4	-0.5
	SNR=7.0							

ROM 29 11:43:37.7±0.5, 40.53N×17.21E, h4km, Md1.8/3, Ml1.5/3, Error ellipse: s-maj=4.5km s-min=2.6km az=142.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOCI	**Noci**	**0.28**	**338**	Pg	Pg	11 43 44.0	+0.8
NOCI				Sg	Sg	11 43 48.7	+1.7
	56nm,0.5s						
LTRZ	**Laterza**	**0.30**	**285**	Pg	Pg	11 43 44.4	+0.8
LTRZ				Sg	Sb	11 43 49.7	-1.5
	589nm,1.9s						
MATE	**Matera**	**0.40**	**288**	Pg	Pb	11 43 46.7	-0.7
MATE				Sg	Sb	11 43 52.8	-1.1
	22nm,0.2s						

NIED ***29*** *11:48:00, 48.10N×155.40E, h35km, Mw5.5 Best double couple: M0 2.14000×10^17 NP1:φs1.00000°, δ29.00000°, λ35.00000°. NP2:φs239.00000°, δ74.00000°, λ114.00000°.*

JMA ***29*** *11:48:11.8±0.7, 48.07N×155.40E, h30km, M5.7*

BJI ***29*** *11:48:13.2, 48.28N×154.89E, h35km, mb5.3/76, mB5.1/57, Ms5.1/81, Ms7 5.0/75*

KRSC ***29*** *11:48:15.8±2.9, 47.97N×154.96E, h103km±36km, ML5.9*

SKHL ***29*** *11:48:17.8±0.8, 47.96N×154.88E, h67km±9km, mb6.1/6, mbh6.0/4, Ms5.1/10, msh5.6/5*

ISCJB ***29*** *11:48:18.3±0.3, 48.20N±0.02×154.48E±0.02, h53km±2km, mb5.5/397, MS4.9/176, Error ellipse: s-maj=2.8km s-min=1.4km az=152.3*

NEIC ***29*** *11:48:19.0±0.1, 48.27N×154.28E, mb5.5/247, MS4.9/122, MW5.3, Error ellipse: s-maj=3.5km s-min=2.0km az=154.0, Moment Tensor Solution. s78 Moment tensor: Scale 10^17Nm; Mrr 1.14; Mθθ 0.04; Mφφ -1.17; Mrθ-0.08; Mθφ -0.54; Mφr 0.38; Best double couple: M0 1.30000×10^17 NP1: φs213.00000°, δ39.00000°, λ109.00000°. NP2: φs10.00000°, δ54.00000°, λ75.00000°. Principal axes: T 1.2300, Plg76.0000°, Azm231.0000°; N 0.2000, Plg11.0000°, Azm18.0000°; P -1.4200, Plg7.0000°, Azm110.0000°;*

GCMT ***29*** *11:48:19.0±0.1, 48.18N×154.77E, h46km, MW5.5/110, Moment Tensor Solution. s102,c189; s110,c218; Duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr 1.73±.03; Mθθ 0.16±.03; Mφφ -1.89±.03; Mrθ-0.28±.03; Mθφ -0.75±.02; Mφr 0.65±.03; Best double couple: M0 2.07500×10^17 NP1:φs2.00000°, δ55.00000°, λ70.00000°. NP2:φs215.00000°, δ40.00000°, λ116.00000°. Principal axes: T 1.9410, Plg72.0000°, Azm221.0000°; N 0.2710, Plg16.0000°, Azm14.0000°; P -2.2080, Plg8.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***29*** *11:48:19.4±1.1, 48.32N×154.44E, h63km, mb5.7/45, MS4.9/44 Error ellipse: s-maj=6.7km s-min=3.8km az=86.9*

IDC ***29*** *11:48:20.5±1.6, 48.24N×154.30E, h57km±13km, mb4.8/36, mb1 5.0/40, mb1mx4.9/47, mbtmp5.1/40, MS4.7/32, Ms1 4.7/32, ms1mx4.6/38, Error ellipse: s-maj=11.4km s-min=7.8km az=139.0*

SZGRF ***29*** *11:48:28.0, 49.59N×153.46E, h33km, mb5.7, MS5.0, Kuril Islands, Russia*

ISC 29 11:48:18.8±0.3, 48.19N±0.03×154.42E±0.03, h42km±1km, h41km:pP-P, n1689, σ1924/1905, mb5.5/404, MS4.9/179, 110C-28D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.73**	**23**	*e*P	**Pn**	**11 49 00.2**	**+0.2**
SKR				*e*S	**Sn**	**11 49 32.7**	**+1.0**
SKR	**Severo-Kuril's**	**2.73**	**23**	*i*PN	Pn	11 48 52.1	-7.9
SKR				pmax	pmax		
	comp=E,4μm,1.0s						
SKR				pmax	pmax		
	comp=Z,10μm,1.0s						
SKR				pmax	pmax		
	comp=N,5μm,2.0s						
SKR				pmax	pmax		
	comp=Z,3μm,0.5s						
SKR				pmax	pmax		
	comp=N,1μm,0.8s						
SKR				pmax	pmax		
	comp=E,3μm,1.0s						
SKR				MLR	MLR		
	comp=E,16μm,10.0s						
SKR				MLR	MLR		
	comp=Z,8μm,10.0s						
SKR	**Severo-Kuril's**	**2.73**	**23**	*e*P	**Pn**	**11 49 00.3**	**+0.2**
SKR				AMB	AMB	11 49 03.2	
	comp=Z,5μm,1.0s						
SKR				AMB	AMB	11 49 03.2	
	comp=Z,4μm,1.0s						
SKR				AMB	AMB	11 49 03.2	
	comp=Z,10μm,1.0s						
SKR				AMB	AMB	11 49 03.9	
	comp=Z,1μm,0.9s						
SKR				AMB	AMB	11 49 03.9	
	comp=Z,3μm,0.9s						
SKR				AMB	AMB	11 49 03.9	
	comp=Z,3μm,0.9s						
SKR				*e*S	**Sn**	**11 49 32.8**	**+1.0**
SKR				A	A	11 49 40.6	
	comp=Z,3μm,0.6s						
SKR				AMS	AMS	11 50 36.0	
	comp=Z,25μm,19.0s						
SKR				AMS	AMS	11 50 36.0	
	comp=Z,63μm,19.0s						
PAU	**Pauzhetka**	**3.63**	**24**	*e*P	**Pn**	**11 49 12.6**	**+0.2**
PAU				*e*S	**Sn**	**11 49 54.7**	**+0.8**
PAU	**Pauzhetka**	**3.63**	**24**	PN	**Pn**	**11 49 12.6**	**+0.2**
PAU				S	**Sn**	**11 49 54.7**	**+0.8**
PAU	**Pauzhetka**	**3.63**	**24**	*e*P	**Pn**	**11 49 13.5**	**+1.1**
PAU				AMB	AMB	11 49 22.7	
	comp=Z,257nm,0.5s						
PAU				*e*S	**Sn**	**11 49 55.0**	**+1.1**
PAU				A	A	11 50 14.5	
	comp=Z,3μm,0.6s						
PAU				AMS	AMS	11 51 07.8	
	comp=Z,17μm,20.0s						
PAU				AMS	AMS	11 51 07.8	
	comp=Z,20μm,20.0s						
PAU				AMS	AMS	11 51 07.8	
	comp=Z,15μm,20.0s						
MIPR	**Malaya Ipel'ka**	**4.36**	**19**	*e*P	**Pn**	**11 49 23.6**	**+1.2**
MIPR				*e*S	**Sn**	**11 50 14.8**	**+2.9**
ASAK	**Asacha**	**4.75**	**27**	*i* P	**Pn**	**11 49 28.8**	**+0.9**
MTVR	**Mutnovka**	**4.92**	**28**	*e*P	**Pn**	**11 49 30.6**	**+0.3**
MTVR				*e*S	**Sn**	**11 50 25.0**	**-1.1**
GRL	**Gorelyy**	**4.95**	**27**	*e*P	**Pn**	**11 49 32.1**	**+1.4**
GRL	**Gorelyy**	**4.95**	**27**	PN	**Pn**	**11 49 32.1**	**+1.4**
RUS	**Russkaya**	**4.99**	**30**	*e*P	**Pn**	**11 49 30.1**	**-1.0**
RUS				*e*S	**Sn**	**11 50 24.2**	**-3.2**
RUS	**Russkaya**	**4.99**	**30**	PN	**Pn**	**11 49 30.1**	**-1.0**
RUS				S	**Sn**	**11 50 24.2**	**-3.2**
APC	**Apacha**	**5.05**	**19**	*e*P	**Pn**	**11 49 34.6**	**+2.7**
APC	**Apacha**	**5.05**	**19**	PN	**Pn**	**11 49 34.6**	**+2.7**
PETK	**Petropavlovsk-**	**5.35**	**22**	P	**Pn**	**11 49 38.1**	**+2.1**
	comp=Z,37nm,0.3s,baz=183,slow=13,SNR=281						
PETK				S	**Sn**	**11 50 39.8**	**+3.6**
	comp=Z,5.2nm,0.3s,baz=243,slow=24,SNR=3.4						
PETK				LR	LR	11 51 57.7	
	comp=Z,9μm,18.6s,baz=201,slow=41						
PETK	**Petropavlovsk-**	**5.35**	**22**	PN	**Pn**	**11 49 38.1**	**+2.1**
PETK				S	**Sn**	**11 50 39.8**	**+3.6**
PETK				pmax	pmax		
	comp=Z,37nm,0.3s						
PETK				smax	smax		
	comp=N,5.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,9μm,18.7s						
KUR	**Kuril'sk**	**5.39**	**239**	*e*PN	Pn	11 49 40.6	+4.0
KUR				*e*S	Sn	11 50 44.2	+6.8
KUR				pmax	pmax		
	comp=E,640nm,0.7s						
KUR				pmax	pmax		
	comp=Z,1μm,0.7s						
KUR				pmax	pmax		
	comp=N,330nm,0.4s						
KUR				smax	smax		
	comp=N,538nm,0.4s						
KUR				smax	smax		
	comp=E,2μm,0.8s						
KUR	**Kuril'sk**	**5.39**	**239**	*e*P	**Pn**	**11 49 39.3**	**+2.7**
KUR				AMB	AMB	11 49 45.5	
	comp=E,330nm,0.5s						
KUR				AMB	AMB	11 49 45.5	
	comp=E,640nm,0.5s						
KUR				AMB	AMB	11 49 45.5	
	comp=E,1μm,0.5s						
KUR				AMB	AMB	11 49 47.0	
	comp=E,12μm,1.0s						
KUR				AMB	AMB	11 49 47.0	
	comp=E,5μm,1.0s						
KUR				*e*S	**Sn**	**11 50 40.0**	**+2.6**
KUR				A	A	11 50 56.8	
	comp=E,540nm,1.0s						
KUR				A	A	11 50 56.8	
	comp=E,2μm,1.0s						
KUR				A	A	11 51 44.0	
	comp=E,36μm,12.0s						
KUR				A	A	11 51 44.0	
	comp=E,35μm,12.0s						
PET	**Petropavlovsk**	**5.54**	**27**	*e*P	**Pn**	**11 49 38.9**	**+0.4**
PET				*e*S	**Sn**	**11 50 40.3**	**-0.6**
PET	**Petropavlovsk**	**5.54**	**27**	*b i*PN	**Pn**	**11 49 39.0**	**+0.4**
PET				*i* S	**Sn**	**11 50 38.6**	**-2.3**
PET				pmax	pmax		
	comp=Z,800nm,5.4s						
PET				pmax	pmax		
	comp=Z,2μm,5.1s						
PET				smax	smax		
	comp=E,7μm,0.7s						
PET				smax	smax		
	comp=N,5μm,0.7s						
PET				MLR	MLR		
	comp=Z,7μm,13.0s						
PET				MLR	MLR		
	comp=Z,6μm,14.0s						
PET	**Petropavlovsk**	**5.54**	**27**	*e*P	**Pn**	**11 49 39.3**	**+0.7**
PET				*e*S	**Sn**	**11 50 38.6**	**-2.3**
PET				A	A	11 50 58.7	
	comp=Z,5μm,0.7s						
PET				A	A	11 50 58.7	
	comp=Z,6μm,0.7s						
PET				AMS	AMS	11 51 43.9	
	comp=Z,7μm,13.0s						
PET	**Petropavlovsk**	**5.54**	**27**	*e*Pn	**Pn**	**11 49 38.5**	**-0.1**
PET				*e*Sn	**Sn**	**11 50 43.8**	**+2.9**
UGLR	**Uglovaya**	**5.75**	**27**	*e*P	**Pn**	**11 49 42.7**	**+1.1**
KOK	**Koryaka**	**5.76**	**26**	*e*P	**Pn**	**11 49 43.4**	**+1.6**
KOK	**Koryaka**	**5.76**	**26**	PN	**Pn**	**11 49 43.4**	**+1.6**
AVH	**Avacha**	**5.77**	**27**	*e*P	**Pn**	**11 49 43.0**	**+1.1**
AVH				*e*S	**Sn**	**11 50 48.4**	**+1.6**
AVH	**Avacha**	**5.77**	**27**	PN	**Pn**	**11 49 43.0**	**+1.1**
AVH				S	**Sn**	**11 50 48.4**	**+1.6**
SMAR	**Somma**	**5.79**	**27**	*e*P	**Pn**	**11 49 43.4**	**+1.1**
SMAR				*e*S	**Sn**	**11 50 48.7**	**+1.3**
SMAR	**Somma**	**5.79**	**27**	PN	**Pn**	**11 49 43.4**	**+1.1**
SMAR				S	**Sn**	**11 50 48.7**	**+1.3**
KRER	**Koryakskii**	**5.81**	**27**	*e*P	**Pn**	**11 49 43.5**	**+1.0**
KRER				*e*S	**Sn**	**11 50 48.7**	**+0.8**
KRX	**Arik**	**5.83**	**26**	*e*P	**Pn**	**11 49 43.9**	**+1.2**
KRX				*e*S	**Sn**	**11 50 50.6**	**+2.4**
SDLR	**Sedlovina**	**5.83**	**27**	*e*P	**Pn**	**11 49 43.1**	**+0.4**
SDLR				*e*S	**Sn**	**11 50 47.9**	**-0.3**
SDLR	**Sedlovina**	**5.83**	**27**	PN	**Pn**	**11 49 43.1**	**+0.4**
SDLR				S	**Sn**	**11 50 47.9**	**-0.3**
NLC	**Nalytchevo**	**5.88**	**30**	*e*P	**Pn**	**11 49 41.4**	**-1.9**
NLC				*e*S	**Sn**	**11 50 44.8**	**-4.6**
NLC	**Nalytchevo**	**5.88**	**30**	PN	**Pn**	**11 49 41.4**	**-1.9**
GNL	**Ganaly**	**5.94**	**21**	*e*P	**Pn**	**11 49 45.9**	**+1.6**
GNL	**Ganaly**	**5.94**	**21**	PN	**Pn**	**11 49 45.9**	**+1.6**
SPN	**Mys Shipunski**	**6.07**	**34**	*e*P	**Pn**	**11 49 45.0**	**-0.9**
SPN				*e*S	**Sn**	**11 50 49.6**	**-4.3**
SPN	**Mys Shipunski**	**6.07**	**34**	PN	**Pn**	**11 49 45.0**	**-0.9**
KII	**Karymskiy**	**6.65**	**26**	*e*P	**Pn**	**11 49 51.2**	**-2.8**
KII	**Karymskiy**	**6.65**	**26**	PN	**Pn**	**11 49 51.2**	**-2.8**
SHO	**Shikotan**	**6.83**	**234**	*e*P	**Pn**	**11 49 57.7**	**+1.4**
SHO				AMB	AMB	11 49 58.7	
	comp=Z,771nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**7.26**	**238**	*c i*PN	**Pn**	**11 50 04.2**	**+2.0**
YUK				*i* S	**Sn**	**11 51 28.6**	**+5.4**
YUK				pmax	pmax		
	comp=N,180nm,0.5s						
YUK				pmax	pmax		
	comp=E,287nm,0.5s						
YUK				pmax	pmax		
	comp=Z,921nm,0.5s						
YUK				smax	smax		
	comp=E,3μm,1.7s						
YUK				smax	smax		
	comp=N,5μm,3.5s						
YUK				MLR	MLR		
	comp=N,5μm,16.0s						
YUK				MLR	MLR		
	comp=E,9μm,16.0s						
YUK				MLR	MLR		
	comp=Z,9μm,16.0s						
YUK	**Yuzh-Kuril'sk**	**7.26**	**238**	*i* P	**Pn**	**11 50 04.2**	**+2.0**
YUK				AMB	AMB	11 50 06.3	
	comp=Z,180nm,0.5s						
YUK				AMB	AMB	11 50 06.3	
	comp=Z,290nm,0.5s						
YUK				AMB	AMB	11 50 06.3	
	comp=Z,920nm,0.5s						
YUK				*e*S	**Sn**	**11 51 28.7**	**+5.5**
YUK				A	A	11 51 46.7	
	comp=Z,5μm,2.0s						
YUK				A	A	11 51 46.7	
	comp=Z,3μm,2.0s						
YUK				AMS	AMS	11 52 49.4	
	comp=Z,5μm,16.0s						
YUK				AMS	AMS	11 52 49.4	
	comp=Z,9μm,16.0s						
YUK				AMS	AMS	11 52 49.4	
	comp=Z,9μm,16.0s						
JRA	**Rausu**	**7.74**	**240**	P	**Pn**	**11 50 11.2**	**+2.4**
NEM2	**Nemuro 2**	**7.75**	**235**	P	**Pn**	**11 50 07.9**	**-1.1**
NEM2				*e*S	**Sn**	**11 51 34.0**	**-1.4**
KZV	**Kizimen**	**7.83**	**26**	*e*P	**Pn**	**11 50 10.1**	**-0.1**
MKZ	**Mys Kozlova**	**7.84**	**33**	*e*P	**Pn**	**11 50 08.3**	**-1.8**
MKZ				*e*S	Sn	11 51 30.8	-6.7
MKZ	**Mys Kozlova**	**7.84**	**33**	PN	**Pn**	**11 50 08.3**	**-1.8**
TUMR	**Tumrok**	**7.94**	**24**	*e*P	**Pn**	**11 50 12.6**	**+1.0**
TUMR	**Tumrok**	**7.94**	**24**	PN	**Pn**	**11 50 12.6**	**+1.0**
YSS	**Yuzh-Sakhalins**	**7.99**	**265**	*k i*PN	**Pn**	**11 50 15.2**	**+3.0**
YSS				pmax	pmax		
	comp=E,750nm,0.8s						
YSS				pmax	pmax		
	comp=Z,2μm,2.0s						
YSS				MLR	MLR		
	comp=Z,8μm,18.0s						
YSS				MLR	MLR		
	comp=E,7μm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.99**	**265**	*e*P	Pn	11 50 16.0	+3.8
YSS				AMB	AMB	11 50 19.6	
	comp=E,2μm,2.0s						
YSS				AMB	AMB	11 50 19.7	
	comp=E,750nm,0.8s						
YSS				*e*S	**Sn**	**11 51 45.2**	**+4.0**
YSS				A	A	11 51 51.7	
	comp=E,5μm,0.6s						
YSS				AMS	AMS	11 53 20.0	
	comp=E,8μm,18.0s						
YSS				AMS	AMS	11 53 20.0	
	comp=E,9μm,18.0s						
TYV	**Tymovskoe**	**8.11**	**294**	*e*PN	Pn	11 50 19.0	+5.1
TYV				pmax	pmax		
	comp=Z,2μm,3.0s						
TYV				pmax	pmax		
	comp=E,2μm,4.0s						
TYV				MLR	MLR		
	comp=N,9μm,19.0s						
TYV				MLR	MLR		
	comp=Z,14μm,19.0s						
TYV				MLR	MLR		
	comp=E,12μm,17.0s						
TYV	**Tymovskoe**	**8.11**	**294**	*e*P	Pn	11 50 18.0	+4.1
TYV				AMB	AMB	11 50 23.0	
	comp=E,2μm,3.0s						
TYV				AMB	AMB	11 50 23.0	
	comp=E,2μm,3.0s						
TYV				*e*S	**Sn**	**11 51 50.0**	**+5.8**
TYV				A	A	11 51 58.0	
	comp=E,4μm,22.0s						
TYV				AMS	AMS	11 53 27.0	
	comp=E,9μm,18.0s						
TYV				AMS	AMS	11 53 27.0	
	comp=E,12μm,18.0s						
TYV				AMS	AMS	11 53 27.0	
	comp=E,14μm,18.0s						
JNK	**Nakash**	**8.19**	**239**	P	**Pn**	**11 50 16.3**	**+1.4**
UGL	**Uglegorsk**	**8.24**	**281**	*e*PN	Pn	11 50 20.5	+4.9
UGL				pmax	pmax		
	comp=N,159nm,0.6s						
UGL				pmax	pmax		
	comp=E,103nm,0.6s						
UGL				pmax	pmax		
	comp=Z,632nm,0.6s						
UGL				pmax	pmax		
	comp=Z,2μm,6.0s						
UGL				MLR	MLR		
	comp=N,8μm,16.0s						
UGL				MLR	MLR		
	comp=E,10μm,16.0s						
UGL				MLR	MLR		
	comp=Z,8μm,16.0s						
UGL	**Uglegorsk**	**8.24**	**281**	*e*P	Pn	11 50 20.5	+4.9
UGL				AMB	AMB	11 50 22.5	
	comp=Z,160nm,0.6s						
UGL				AMB	AMB	11 50 22.5	
	comp=Z,100nm,0.6s						
UGL				AMB	AMB	11 50 22.5	
	comp=Z,632nm,0.6s						
UGL				AMB	AMB	11 50 26.0	
	comp=Z,2μm,6.0s						
UGL				*e*S	**Sn**	**11 51 53.0**	**+5.8**
UGL				AMS	AMS	11 53 43.0	
	comp=Z,8μm,16.0s						
UGL				AMS	AMS	11 53 43.0	
	comp=Z,10μm,16.0s						
UGL				AMS	AMS	11 53 43.0	
	comp=Z,8μm,16.0s						
KMNR	**Kamenistaya**	**8.38**	**23**	*e*P	**Pn**	**11 50 20.3**	**+2.6**
KMNR	**Kamenistaya**	**8.38**	**23**	PN	**Pn**	**11 50 20.3**	**+2.6**
JTKR	**Abashiri--Toko**	**8.44**	**244**	P	**Pn**	**11 50 21.2**	**+2.8**
JAK	**Akkeshi**	**8.57**	**236**	P	**Pn**	**11 50 19.3**	**-0.9**
JAK				*e*S	**Sn**	**11 51 53.3**	**-2.2**
BZMR	**Bezymyannaya**	**8.61**	**23**	*e*P	**Pn**	**11 50 23.7**	**+2.9**
BZWR	**Bezymyannyi-We**	**8.63**	**23**	*e*P	**Pn**	**11 50 23.6**	**+2.4**
NEVR	**Nevel'sk**	**8.65**	**265**	*e*P	Pn	11 50 25.4	+4.1
NEVR				AMB	AMB	11 50 35.2	
	comp=Z,569nm,0.6s						
NEVR				*e*S	**Sn**	**11 52 01.2**	**+3.7**
NEVR				A	A	11 52 14.6	
	comp=Z,6μm,0.6s						
JMP	**Maruseppu**	**8.75**	**246**	P	Pn	11 50 26.0	+3.3
SRDR	**Sredinnyy**	**8.76**	**20**	*e*P	**Pn**	**11 50 24.6**	**+1.8**
SRDR	**Sredinnyy**	**8.76**	**20**	PN	**Pn**	**11 50 24.6**	**+1.8**
JSE	**Soyaes**	**8.77**	**253**	P	Pn	11 50 27.7	+4.7
JAR	**Ashorobuto**	**8.91**	**241**	P	**Pn**	**11 50 26.4**	**+1.5**
OKH	**Okha**	**9.03**	**311**	*e*P	Pn	11 50 31.0	+4.6
OKH				AMB	AMB	11 50 31.9	
	comp=Z,700nm,1.0s						
OKH				AMB	AMB	11 50 32.0	
	comp=Z,2μm,5.0s						
OKH				AMB	AMB	11 50 32.0	
	comp=Z,3μm,5.0s						
OKH				AMB	AMB	11 50 32.0	
	comp=Z,3μm,5.0s						
OKH				*e*S	**Sn**	**11 52 12.0**	**+5.4**
OKH				AMS	AMS	11 54 08.1	
	comp=Z,3μm,19.0s						
OKH				AMS	AMS	11 54 08.1	
	comp=Z,10μm,19.0s						
OKH				AMS	AMS	11 54 08.1	
	comp=Z,10μm,19.0s						
JWK2	**Keihoku**	**9.07**	**256**	P	Pn	11 50 33.5	+6.5
JOB	**Onbets**	**9.12**	**238**	P	**Pn**	**11 50 27.8**	**+0.1**
JOB				*e*S	**Sn**	**11 52 07.9**	**-1.0**
ASAJ	**Asahikawa**	**9.16**	**248**	P	Pn	11 50 32.6	+4.3
ASAJ	**Asahikawa**	**9.16**	**248**	LR	LR	11 53 44.3	
	comp=Z,11μm,21.0s,baz=70,slow=36						
ASAJ	**Asahikawa**	**9.16**	**248**	*e*Pn	Pn	11 50 32.6	+4.3
ASAJ				*e*Sn	**Sn**	**11 52 09.6**	**-0.5**
JKK2	**Kamakawa 2**	**9.20**	**246**	P	Pn	11 50 32.3	+3.5
BDR	**Baidarnaya**	**9.36**	**24**	*e*P	**Pn**	**11 50 32.8**	**+1.8**
JSS	**Shosan**	**9.49**	**251**	P	Pn	11 50 39.4	+6.6
KBTR	**Krutoberegovo**	**9.53**	**30**	*e*P	**Pn**	**11 50 32.1**	**-1.2**
KBTR	**Krutoberegovo**	**9.53**	**30**	PN	**Pn**	**11 50 32.1**	**-1.2**
KBG	**Krutoberegovo**	**9.54**	**29**	*e*P	**Pn**	**11 50 34.5**	**+1.2**
JCH	**Churui**	**9.57**	**238**	P	**Pn**	**11 50 33.5**	**-0.4**
JCH				*e*S	**Sn**	**11 52 18.8**	**-1.2**
JFR	**Furan**	**9.68**	**243**	P	**Pn**	**11 50 37.9**	**+2.4**
JAB	**Ashibetsu**	**9.71**	**246**	P	Pn	11 50 39.6	+3.7
JHR	**Hokuryu**	**9.89**	**248**	P	Pn	11 50 42.9	+4.6
NKL	**Nikolayevsk**	**10.03**	**305**	*i* PN	**Pn**	**11 50 39.0**	**-1.2**
NKL				pmax	pmax		
	comp=N,800nm,2.5s						
NKL				pmax	pmax		
	comp=E,2μm,2.5s						
NKL				pmax	pmax		
	comp=Z,2μm,2.5s						
NKL				pmax	pmax		
	comp=N,120nm,1.1s						
NKL				pmax	pmax		
	comp=E,220nm,1.1s						
NKL				pmax	pmax		
	comp=Z,480nm,1.1s						
NKL				MLR	MLR		
	comp=N,2μm,18.0s						
NKL				MLR	MLR		
	comp=E,6μm,18.0s						
NKL				MLR	MLR		
	comp=Z,9μm,18.0s						
NKL	**Nikolayevsk**	**10.03**	**305**	*e*P	**Pn**	**11 50 40.0**	**-0.2**
NKL				AMB	AMB	11 50 41.0	
	comp=Z,800nm,2.5s						
NKL				AMB	AMB	11 50 41.0	
	comp=Z,2μm,2.5s						
NKL				AMB	AMB	11 50 41.0	
	comp=Z,2μm,2.5s						
NKL				AMB	AMB	11 52 29.1	
	comp=Z,120nm,1.0s						
NKL				AMB	AMB	11 52 29.1	
	comp=Z,220nm,1.0s						
NKL				AMB	AMB	11 52 29.1	
	comp=Z,480nm,1.0s						
NKL				*e*S	**Sn**	**11 52 32.0**	**+0.7**
NKL				A	A	11 52 40.0	
	comp=Z,1μm,8.0s						
NKL				AMS	AMS	11 54 52.0	
	comp=Z,2μm,18.0s						
NKL				AMS	AMS	11 54 52.0	
	comp=Z,6μm,18.0s						
NKL				AMS	AMS	11 54 52.0	
	comp=Z,9μm,18.0s						
JBT2	**Biratori 2**	**10.05**	**242**	P	**Pn**	**11 50 41.3**	**+0.9**
ERM	**Erimo**	**10.07**	**236**	Pn	**Pn**	**11 50 41.1**	**+0.3**
	comp=Z,2μm,0.5s,SNR=64						
ERM	**Erimo**	**10.07**	**236**	*c i*PN	**Pn**	**11 50 41.1**	**+0.3**
ERM				pmax	pmax		
	comp=Z,109nm,0.6s						

ERM	**Erimo**	**10.07 236**	*e*P		**Pn**	**11 50 41.1 +0.3**		
ERM	**Erimo**	**10.07 236**	*e*Pn		**Pn**	**11 50 41.5 +0.7**		
	comp=Z,177nm,0.5s							
ERM			*e*Sn		**Sn**	**11 52 30.5 -1.8**		
JEM	**Erimo**	**10.07 236**	*e*S		**Sn**	**11 52 30.8 -1.5**		
JNBK	**Urakawa-nobuka**	**10.13 239**	P		**Pn**	**11 50 40.1 -1.4**		
JEW	**Eniwo**	**10.55 244**	P		**Pn**	**11 50 49.3 +1.9**		
JSK	**Shakotan**	**10.87 249**	P		**Pn**	**11 50 54.6 +2.9**		
JNB	**Noboribetsu**	**11.02 244**	P		**Pn**	**11 50 54.1 +0.4**		
JNB			*e*S		**Sn**	**11 52 52.4 -3.1**		
JKB	**Kayabe**	**11.37 241**	P		**Pn**	**11 50 57.1 -1.4**		
JKB			*e*S		**Sn**	**11 53 00.1 -4.0**		
JSH	**Shimam**	**11.52 247**	P		**Pn**	**11 51 02.0 +1.4**		
JYM2	**Yakumo 2**	**11.62 244**	P		**Pn**	**11 51 02.0 0.0**		
JSR	**Shiriuchi**	**11.95 241**	P		**Pn**	**11 51 05.0 -1.5**		
GRNR	**Gornyy**	**11.99 289**	*e*P		**Pn**	**11 51 10.0 +3.0**		
GRNR				AMB	AMB	11 51 12.6		
	comp=Z,70nm,0.9s							
JTM	**Tenmabayashi**	**12.06 237**	P		**Pn**	**11 51 05.0 -3.0**		
JTM			*e*S		Sn	11 53 11.6 -9.4		
JANG	**Nango**	**12.10 235**	P		Pn	11 51 04.7 -3.8		
JANG			*e*S		Sn	11 53 11.8 -10		
JOSM	**Okushiri--Mats**	**12.19 245**	P		**Pn**	**11 51 09.7 0.0**		
JTH	**Tanohata**	**12.22 232**	P		Pn	11 51 05.3 -4.9		
JTH			*e*S		Sn	11 53 15.5 -9.4		
TEY	**Ternei**	**12.65 262**	*e*P		**Pn**	**11 51 18.0 +2.0**		
TEY				AMB	AMB	11 51 21.8		
	comp=Z,170nm,1.5s							
TEY				AMB	AMB	11 51 21.8		
	comp=Z,190nm,1.5s							
TEY				AMS	AMS	11 55 18.0		
	comp=Z,3μm,23.0s							
TEY				AMS	AMS	11 55 18.0		
	comp=Z,4μm,23.0s							
TEY				AMS	AMS	11 55 18.0		
	comp=Z,6μm,23.0s							
HABR	**Khabarovsk**	**12.90 278**	*d i*	PN	P	11 51 24.4 -4.7		
HABR			*e*S		Sn	11 53 47.7 +6.4		
HABR				pmax	pmax			
	comp=N,35nm,1.9s							
HABR				pmax	pmax			
	comp=E,330nm,1.9s							
HABR				pmax	pmax			
	comp=Z,364nm,1.9s							
HABR				MLR	MLR			
	comp=Z,5μm,16.0s							
HABR	**Khabarovsk**	**12.90 278**	*e*P		P	11 51 24.4 -4.7		
OFUJ	**Ofunato**	**12.96 230**	P		Pn	11 51 16.0 -4.2		
OFUJ			*e*S		Sn	11 53 32.9 -10		
JRG	**Rokugo**	**13.27 234**	P		Pn	11 51 20.9 -3.6		
JRG			*e*S		**Sn**	**11 53 47.1 -3.4**		
JOG2	**Oga 2**	**13.37 237**	P		Pn	11 51 22.7 -3.1		
JIO	**Ouri**	**13.59 229**	P		Pn	11 51 24.4 -4.5		
JYA	**Atsumi**	**14.34 233**	P		Pn	11 51 34.9 -4.2		
EKMR	**Ekimchan**	**14.46 298**	*e*P		**Pn**	**11 51 42.0 +1.5**		
EKMR				AMB	AMB	11 51 52.5		
	comp=Z,28nm,0.5s							
EKMR				AMB	AMB	11 51 52.5		
	comp=Z,36nm,0.5s							
EKMR				AMB	AMB	11 51 52.5		
	comp=Z,70nm,0.5s							
JFK	**Kawauchi**	**14.67 227**	P		Pn	11 51 39.1 -4.4		
SEY	**Seymchan**	**14.82 356**	P		**Pn**	**11 51 45.7 +0.4**		
	comp=Z,0.5nm,0.3s,baz=167,slow=11,SNR=20							
SEY				LR	LR	11 57 36.1		
	comp=Z,3μm,21.0s,baz=168,slow=38							
SEY	**Seymchan**	**14.82 356**	*c i*	P	**Pn**	**11 51 45.8 +0.5**		
SEY	**Seymchan**	**14.82 356**	*e*P		**Pn**	**11 51 45.8 +0.5**		
KLR	**Kul'dur**	**15.00 282**	*e*P		**Pn**	**11 51 49.7 +2.0**		
KLR				pmax	pmax			
	comp=E,200nm,1.6s							
KLR				pmax	pmax			
	comp=Z,180nm,1.6s							
KLR				MLR	MLR			
	comp=Z,5μm,14.5s							
KLR	**Kul'dur**	**15.00 282**	*e*P		**Pn**	**11 51 49.7 +2.0**		
KLR				AMB	AMB	11 51 52.8		
	comp=Z,200nm,1.6s							
KLR				AMB	AMB	11 51 52.8		
	comp=Z,180nm,1.6s							
KLR				AMS	AMS	11 58 22.5		
	comp=Z,5μm,15.0s							
KLR				AMS	AMS	11 58 22.5		
	comp=Z,5μm,15.0s							
JFY	**Yanaizu**	**15.23 230**	P		**Pn**	**11 51 48.1 -2.8**		
USRK	**Ussuriysk Ar.**	**16.02 264**	P		**P**	**11 52 02.6 -1.3**		
	comp=Z,5.3nm,0.3s,baz=68,slow=11,SNR=101							
USRK				LR	LR	11 57 50.0		
	comp=Z,3μm,20.3s,baz=71,slow=36							
VLA	**Vladivostok**	**16.53 261**	⇑	*i*P	**Pn**	**11 52 07.9 +0.5**		
VLA			*e*S		**Sn**	**11 55 10.8 +1.0**		
VLA				pmax	pmax			
	comp=Z,153nm,1.2s							
VLA	**Vladivostok**	**16.53 261**	*e*P		**Pn**	**11 52 07.8 +0.4**		
MAJO	**Matsushiro**	**16.67 232**	*d i*P		**Pn**	**11 52 07.3 -1.9**		
MAJO				pmax	pmax			
	comp=Z,878nm,0.9s							
MAJO	**Matsushiro**	**16.67 232**	*e*P		**Pn**	**11 52 05.3 -3.9**		
MAJO				AMB	AMB	11 52 13.8		
	comp=Z,230nm,1.0s							
MAJO	**Matsushiro**	**16.67 232**	*e*Pn		**Pn**	**11 52 06.9 -2.3**		
	comp=Z,250nm,1.0s							
MAJO			*e*Sn		**Sn**	**11 55 15.7 +2.5**		
MJAR	**Matsushiro Arr**	**16.67 232**	P		**Pn**	**11 52 07.7 -1.5**		
	comp=Z,3.3nm,0.3s,baz=28,slow=12,SNR=222							
MJAR				ScP	**ScP**	**12 00 26.7 -1.2**		
	comp=Z,0.1nm,0.3s,baz=64,slow=4.2,SNR=4.7							
BMKR	**Bomnak**	**17.17 302**	*e*P		**Pn**	**11 52 16.0 +0.7**		
BMKR				AMB	AMB	11 59 23.4		
	comp=Z,43nm,0.7s							
MDJ	**Mudanjiang**	**17.47 267**	P		**Pn**	**11 52 18.8 -0.3**		
MDJ			pP		**pP**	**11 52 27.8 -2.3**		
MDJ			sP		**sP**	**11 52 32.0 -3.4**		
MDJ			S		**Sn**	**11 55 32.0 -0.5**		
MDJ			sS		sS	11 55 47.8 -7.5		
MDJ				PMZ				
	comp=Z,9.0nm,1.4s							
MDJ				PMZ				
	comp=Z,90nm,3.0s							
MDJ				LN				
	comp=Z,1μm,23.2s							
MDJ				LE				
	comp=Z,2μm,27.3s							
MDJ				LZ				
	comp=Z,3μm,21.8s							
MDJ	**Mudanjiang**	**17.47 267**	*e*P		**P**	**11 52 20.0 +0.1**		
	comp=Z,72nm,1.0s							
MDJ			*e*S		**Sn**	**11 55 30.4 -2.1**		
ZEA	**Zeya**	**17.93 298**	*e*P		**P**	**11 52 26.0 +1.1**		
ZEA				AMB	AMB	11 52 30.0		
	comp=Z,800nm,4.0s							
ZEA				AMB	AMB	11 52 30.0		
	comp=Z,800nm,4.0s							
ZEA			*e*S		**Sn**	**11 55 46.0 +2.5**		
ZEA			A		A	11 55 53.0		
	comp=Z,1μm,8.0s							
ZEA				AMS	AMS	12 00 11.0		
	comp=Z,1μm,15.0s							
ZEA				AMS	AMS	12 00 11.0		
	comp=Z,5μm,15.0s							
ZEA				AMS	AMS	12 00 11.0		
	comp=Z,7μm,15.0s							
KROS	**Kirovskiy**	**18.19 300**	*e*P		**Pn**	**11 52 31.0 +3.1**		
KROS				AMB	AMB	11 52 34.5		
	comp=Z,23nm,0.6s							
KROS				AMB	AMB	11 52 34.5		
	comp=Z,11nm,0.6s							
JHJ2	**Mitsune**	**18.65 221**	*e*P		**Pn**	**11 52 33.8 +0.2**		
	comp=Z,168nm,0.9s							
JHJ2			*e*S		**Sn**	**11 55 57.1 -4.0**		
YAK	**Yakutsk**	**19.63 324**	P		**P**	**11 52 43.7 +0.2**		
	comp=Z,0.0nm,0.3s,baz=296,slow=22,SNR=13							
YAK				LR	LR	12 00 08.5		
	comp=Z,2μm,21.1s,baz=131,slow=36							
YAK	**Yakutsk**	**19.63 324**	*e*P		**P**	**11 52 43.9 +0.4**		
YAK			*e*S		**S**	**11 56 20.4 -2.1**		
YAK				pmax	pmax			
	comp=Z,83nm,0.8s							
YAK				pmax	pmax			
	comp=N,29nm,1.0s							
YAK				pmax	pmax			
	comp=E,41nm,1.1s							
YAK				smax	smax			
	comp=N,326nm,1.8s							
YAK				smax	smax			

	comp=E,261nm,2.2s							
YAK	**Yakutsk**	**19.63 324**	*e*P		**Pn**	**11 52 47.7 +2.6**		
YAK	**Yakutsk**	**19.63 324**	*e*P		**P**	**11 52 43.0 -0.5**		
	comp=E,166nm,0.8s							
CLNS	**Chul'man**	**19.81 307**	*e*P		**Pn**	**11 52 48.8 +1.5**		
CLNS				pmax	pmax			
	comp=Z,177nm,0.8s							
CLNS				pmax	pmax			
	comp=N,63nm,0.9s							
CLNS				pmax	pmax			
	comp=E,109nm,1.1s							
CLNS				MLR	MLR			
	comp=N,3μm,19.0s							
CLNS				MLR	MLR			
	comp=E,3μm,18.0s							
CLNS				MLR	MLR			
	comp=Z,5μm,19.0s							
CLNS	**Chul'man**	**19.81 307**	*e*P		**Pn**	**11 52 48.8 +1.5**		
KSULL	**Ulleungdo**	**20.23 247**	P		**P**	**11 52 50.7 +0.5**		
	SNR=31							
KSULL	**Ulleungdo**	**20.23 247**	P		**P**	**11 52 50.7 +0.5**		
	SNR=31							
KSULL	**Ulleungdo**	**20.23 247**	P		**P**	**11 52 50.7 +0.5**		
	SNR=31							
KSULL	**Ulleungdo**	**20.23 247**	P		**P**	**11 52 50.7 +0.5**		
	SNR=31							
CN2	**Changchun**	**20.54 268**	⇑	P	**P**	**11 52 53.0 -0.5**		
CN2				*e*sP	**sP**	**11 53 08.0 -1.1**		
CN2				*e*S	**S**	**11 56 34.0 -6.8**		
CN2				PMZ				
	comp=Z,100nm,0.9s							
CN2				PMZ				
	comp=Z,300nm,5.0s							
CN2				LN				
	comp=Z,2μm,16.0s							
CN2				LE				
	comp=Z,1μm,16.0s							
CN2				LZ				
	comp=Z,3μm,17.0s							
KSSKC	**Sokcho**	**21.21 252**	P		**P**	**11 53 01.8 +1.0**		
	SNR=28							
KSSKC	**Sokcho**	**21.21 252**	P		**P**	**11 53 01.8 +1.0**		
	SNR=28							
KSSKC	**Sokcho**	**21.21 252**	P		**P**	**11 53 01.9 +1.1**		
	SNR=13							
KSSKC	**Sokcho**	**21.21 252**	P		**P**	**11 53 01.8 +1.0**		
	SNR=28							
KSJMJ	**Jumunjin**	**21.31 251**	P		**P**	**11 53 02.9 +1.0**		
	SNR=17							
KSJMJ	**Jumunjin**	**21.31 251**	P		**P**	**11 53 02.9 +1.0**		
	SNR=17							
KSJMJ	**Jumunjin**	**21.31 251**	P		**P**	**11 53 02.9 +1.0**		
	SNR=17							
KSJMJ	**Jumunjin**	**21.31 251**	P		**P**	**11 53 02.9 +1.0**		
	SNR=17							
KSJMJ				P	**P**	**11 53 02.9 +1.0**		
	SNR=17							
KSJMJ				P	**P**	**11 53 02.9 +1.0**		
	SNR=17							
SEHB	**SEOHWA**	**21.40 252**	P		**P**	**11 53 04.2 +1.3**		
	SNR=181							
SEHB	**SEOHWA**	**21.40 252**	P		**P**	**11 53 04.2 +1.3**		
	SNR=181							
SEHB	**SEOHWA**	**21.40 252**	P		**P**	**11 53 04.2 +1.3**		
	SNR=181							
SEHB	**SEOHWA**	**21.40 252**	P		**P**	**11 53 03.7 +0.9**		
	SNR=42							
SEHB				P	**P**	**11 53 03.7 +0.9**		
	SNR=42							
SEHB				P	**P**	**11 53 03.7 +0.9**		
	SNR=42							
KSDGY	**Daegwallycong**	**21.48 250**	P		**P**	**11 53 05.0 +1.3**		
	SNR=27							
KSDGY	**Daegwallycong**	**21.48 250**	P		**P**	**11 53 04.8 +1.0**		
	SNR=18							
KSDGY	**Daegwallycong**	**21.48 250**	P		**P**	**11 53 05.0 +1.3**		
	SNR=27							
KSDGY	**Daegwallycong**	**21.48 250**	P		**P**	**11 53 05.0 +1.3**		
	SNR=27							
KSULJ	**Uljin**	**21.64 247**	P		**P**	**11 53 06.5 +1.2**		
	SNR=78							
KSULJ	**Uljin**	**21.64 247**	P		**P**	**11 53 06.8 +1.5**		
	SNR=23							
KSULJ	**Uljin**	**21.64 247**	P		**P**	**11 53 06.5 +1.2**		
	SNR=78							
KSULJ	**Uljin**	**21.64 247**	P		**P**	**11 53 06.8 +1.5**		
	SNR=23							
KSJES	**JEONGSEON**	**21.64 250**	P		**P**	**11 53 07.4 +2.0**		
	SNR=17							
KSJES	**JEONGSEON**	**21.64 250**	P		**P**	**11 53 07.2 +1.8**		
	SNR=17							
KSJES	**JEONGSEON**	**21.64 250**	P		**P**	**11 53 07.4 +2.0**		
	SNR=17							
KSJES	**JEONGSEON**	**21.64 250**	P		**P**	**11 53 07.2 +1.8**		
	SNR=17							
KSTBA	**Taebaek**	**21.65 249**	P		**P**	**11 53 06.8 +1.2**		
	SNR=111							
KSTBA	**Taebaek**	**21.65 249**	P		**P**	**11 53 06.8 +1.2**		
	SNR=111							
KSTBA	**Taebaek**	**21.65 249**	P		**P**	**11 53 06.8 +1.2**		
	SNR=111							
KSTBA	**Taebaek**	**21.65 249**	P		**P**	**11 53 06.8 +1.2**		
	SNR=111							
KSTBA				P	**P**	**11 53 06.8 +1.2**		
	SNR=111							
KSTBA				P	**P**	**11 53 06.8 +1.2**		
	SNR=111							
KSIJA	**INJE**	**21.66 252**	P		**P**	**11 53 06.4 +0.9**		
	SNR=111							
KSIJA	**INJE**	**21.66 252**	P		**P**	**11 53 06.4 +0.9**		
	SNR=111							
KSIJA	**INJE**	**21.66 252**	P		**P**	**11 53 06.4 +0.9**		
	SNR=111							
KSIJA	**INJE**	**21.66 252**	P		**P**	**11 53 06.4 +0.9**		
	SNR=111							
KSIJA				P	**P**	**11 53 06.4 +0.9**		
	SNR=111							
KSIJA				P	**P**	**11 53 06.4 +0.9**		
	SNR=111							
KSYOW	**Yeongwol**	**21.93 249**	P		**P**	**11 53 09.8 +1.3**		
	SNR=11							
KSYOW	**Yeongwol**	**21.93 249**	P		**P**	**11 53 09.8 +1.3**		
	SNR=11							
KSYOW	**Yeongwol**	**21.93 249**	P		**P**	**11 53 09.8 +1.3**		
	SNR=11							
KSYOW	**Yeongwol**	**21.93 249**	P		**P**	**11 53 09.8 +1.3**		
	SNR=11							
KSCHC	**Chuncheon**	**21.97 252**	P		**P**	**11 53 10.5 +1.6**		
	SNR=35							
KSCHC	**Chuncheon**	**21.97 252**	P		**P**	**11 53 09.6 +0.7**		
	SNR=132							
KSCHC	**Chuncheon**	**21.97 252**	P		**P**	**11 53 10.5 +1.6**		
	SNR=35							
KSCHC	**Chuncheon**	**21.97 252**	P		**P**	**11 53 09.6 +0.7**		
	SNR=132							
KSCHC				P	**P**	**11 53 09.6 +0.7**		
	SNR=132							
KSCHC				P	**P**	**11 53 09.6 +0.7**		
	SNR=132							
KSCWO	**Cheorwon**	**21.98 253**	P		**P**	**11 53 10.0 +1.0**		
	SNR=154							
KSCWO	**Cheorwon**	**21.98 253**	P		**P**	**11 53 10.0 +1.0**		
	SNR=154							
KSCWO				P	**P**	**11 53 10.0 +1.0**		
	SNR=154							
KSCWO				P	**P**	**11 53 10.0 +1.0**		
	SNR=154							
KSPHA	**Pohang**	**21.99 246**	P		**P**	**11 53 09.9 +0.8**		
	SNR=24							
KSPHA	**Pohang**	**21.99 246**	P		**P**	**11 53 10.1 +1.0**		
	SNR=15							
KSPHA	**Pohang**	**21.99 246**	P		**P**	**11 53 09.9 +0.8**		
	SNR=24							
KSPHA	**Pohang**	**21.99 246**	P		**P**	**11 53 10.1 +1.0**		
	SNR=15							
KSPHA				P	**P**	**11 53 10.1 +1.0**		
	SNR=15							
KSPHA				P	**P**	**11 53 10.1 +1.0**		
	SNR=15							
KSWJU	**Wonju**	**22.04 250**	P		**P**	**11 53 11.1 +1.4**		
	SNR=17							
KSWJU	**Wonju**	**22.04 250**	P		**P**	**11 53 11.0 +1.3**		
	SNR=14							
KSWJU	**Wonju**	**22.04 250**	P		**P**	**11 53 11.1 +1.4**		
	SNR=17							
KSWJU	**Wonju**	**22.04 250**	P		**P**	**11 53 11.0 +1.3**		
	SNR=14							
KSRS	**Korea Array**	**22.09 251**	P		**P**	**11 53 11.0 +0.8**		

	comp=Z,131nm,0.7s,baz=50,slow=10.0,SNR=306							
KSRS				PcP	**PcP**	**11 57 06.9 +0.5**		
	comp=Z,9.0nm,0.8s,baz=50,slow=1.7,SNR=11							
KSRS				ScP	**ScP**	**12 00 39.2 -1.0**		
	comp=Z,1.5nm,0.9s,baz=48,slow=1.9,SNR=6.7							
KSRS				LR	LR	12 01 24.4		
	comp=Z,5μm,18.7s,baz=52,slow=36							
KSAR	**Wonju Array Be**	**22.13 251**	P		**P**	**11 53 11.0 +0.4**		
KSAR				PcP	**PcP**	**11 57 06.9 +0.4**		
KSAR				ScP	**ScP**	**12 00 39.2 -1.1**		
KSEUS	**ULSEONG**	**22.31 247**	P		**P**	**11 53 13.9 +1.4**		
	SNR=42							
KSEUS	**ULSEONG**	**22.31 247**	P		**P**	**11 53 13.9 +1.4**		
	SNR=42							
KSDDC	**Dongducheon**	**22.38 253**	P		**P**	**11 53 13.9 +0.7**		
	SNR=12							
KSDDC	**Dongducheon**	**22.38 253**	P		**P**	**11 53 13.9 +0.7**		
	SNR=12							
YNCB	**YEONCHEON**	**22.38 253**	P		**P**	**11 53 14.8 +1.5**		
	SNR=12							
YNCB	**YEONCHEON**	**22.38 253**	P		**P**	**11 53 14.8 +1.5**		
	SNR=12							
YNCB				P	**P**	**11 53 14.8 +1.5**		
	SNR=12							
YNCB				P	**P**	**11 53 14.8 +1.5**		
	SNR=12							
KSYOC	**YEONGCHEON**	**22.39 246**	P		**P**	**11 53 14.9 +1.5**		
	SNR=6.3							
KSYOC	**YEONGCHEON**	**22.39 246**	P		**P**	**11 53 14.9 +1.5**		
	SNR=6.3							
KSCHJ	**Chungju**	**22.42 249**	P		**P**	**11 53 15.3 +1.5**		
	SNR=15							
KSCHJ	**Chungju**	**22.42 249**	P		**P**	**11 53 15.3 +1.5**		
	SNR=15							
KSICN	**Icheon**	**22.51 251**	P		**P**	**11 53 15.8 +1.1**		
	SNR=21							
KSICN	**Icheon**	**22.51 251**	P		**P**	**11 53 15.8 +1.1**		
	SNR=21							
KSDAG	**Daegu**	**22.56 246**	P		**P**	**11 53 16.5 +1.2**		
	SNR=5.9							
KSDAG	**Daegu**	**22.56 246**	P		**P**	**11 53 16.5 +1.2**		
	SNR=5.9							
KSDAG				P	**P**	**11 53 16.5 +1.2**		
	SNR=5.9							
KSDAG				P	**P**	**11 53 16.5 +1.2**		
	SNR=5.9							
KSMUS	**Musan**	**22.58 253**	P		**P**	**11 53 16.2 +0.8**		
	SNR=34							
KSMUS	**Musan**	**22.58 253**	P		**P**	**11 53 16.2 +0.8**		
	SNR=34							
KSMUS				P	**P**	**11 53 16.2 +0.8**		
	SNR=34							
KSMUS				P	**P**	**11 53 16.2 +0.8**		
	SNR=34							
KSSAJ	**Sangju**	**22.60 248**	P		**P**	**11 53 16.6 +0.9**		
	SNR=37							
KSSAJ	**Sangju**	**22.60 248**	P		**P**	**11 53 16.6 +0.9**		
	SNR=37							
SNY	**Shenyang**	**22.62 265**	⇑	P	**P**	**11 53 14.3 -1.5**		
SNY				S	**S**	**11 57 18.8 -1.8**		
SNY				PMZ				
	comp=Z,320nm,10.8s							
SNY				LN				
	comp=Z,2μm,18.3s							
SNY				LE				
	comp=Z,2μm,21.6s							
SNY				LZ				
	comp=Z,3μm,21.0s							
KSSEO	**Seoul**	**22.71 252**	P		**P**	**11 53 17.5 +0.7**		
	SNR=24							
KSSEO	**Seoul**	**22.71 252**	P		**P**	**11 53 17.5 +0.7**		
	SNR=24							
KSSEO				P	**P**	**11 53 17.5 +0.7**		
	SNR=24							
KSSEO				P	**P**	**11 53 17.5 +0.7**		
	SNR=24							
KSBON	**Boeun**	**22.76 249**	P		**P**	**11 53 18.1 +0.7**		
	SNR=89							
KSBON	**Boeun**	**22.76 249**	P		**P**	**11 53 18.1 +0.7**		
	SNR=89							
KSBON				P	**P**	**11 53 18.1 +0.7**		
	SNR=89							
KSBON				P	**P**	**11 53 18.1 +0.7**		
	SNR=89							
KSBUS	**Busan**	**22.77 245**	P		**P**	**11 53 18.0 +0.5**		
	SNR=34							
KSBUS	**Busan**	**22.77 245**	P		**P**	**11 53 18.0 +0.5**		
	SNR=34							
KSBUS				P	**P**	**11 53 18.0 +0.5**		
	SNR=34							
KSBUS				P	**P**	**11 53 18.0 +0.5**		
	SNR=34							
HIA	**Hailar**	**22.79 286**	*e*P		**P**	**11 53 15.8 -1.8**		
HIA	**Hailar**	**22.79 286**	*e*P		**P**	**11 53 15.8 -1.8**		
HIA	**Hailar**	**22.79 286**	*e*P		**P**	**11 53 17.4 -0.2**		
	comp=Z,27nm,0.8s							
HIA				LR	LR			
	comp=Z,5μm,20.0s							
KSSWO	**Suwon**	**22.81 252**	P		**P**	**11 53 18.3 +0.4**		
	SNR=31							
KSSWO	**Suwon**	**22.81 252**	P		**P**	**11 53 18.3 +0.4**		
	SNR=31							
KSSWO				P	**P**	**11 53 18.3 +0.4**		
	SNR=31							
KSSWO				P	**P**	**11 53 18.3 +0.4**		
	SNR=31							
KSCPR	**CHUPUNGNYEONG**	**22.83 248**	P		**P**	**11 53 19.1 +1.0**		
	SNR=52							
KSCPR	**CHUPUNGNYEONG**	**22.83 248**	P		**P**	**11 53 19.1 +1.0**		
	SNR=52							
KSCPR				P	**P**	**11 53 19.1 +1.0**		
	SNR=52							
KSCPR				P	**P**	**11 53 19.1 +1.0**		
	SNR=52							
KSGAH	**Ganghwa**	**22.88 253**	P		**P**	**11 53 19.1 +0.5**		
	SNR=23							
KSGAH	**Ganghwa**	**22.88 253**	P		**P**	**11 53 19.1 +0.5**		
	SNR=23							
KSGAH				P	**P**	**11 53 19.1 +0.5**		
	SNR=23							
KSGAH				P	**P**	**11 53 19.1 +0.5**		
	SNR=23							
INCN	**Inchon**	**22.90 252**	*e*P		**P**	**11 53 19.5 +0.7**		
INCN	**Inchon**	**22.90 252**	P		**P**	**11 53 20.1 +1.3**		
	SNR=16							
INCN	**Inchon**	**22.90 252**	*e*P		**P**	**11 53 19.7 +0.9**		
	comp=Z,169nm,0.8s							
INCN				LR	LR			
	comp=Z,4μm,19.0s							
KSCEA	**Cheonan**	**22.90 250**	P		**P**	**11 53 19.8 +1.0**		
	SNR=84							
KSCEA	**Cheonan**	**22.90 250**	P		**P**	**11 53 19.8 +1.0**		
	SNR=84							
KSCEA				P	**P**	**11 53 19.8 +1.0**		
	SNR=84							
KSCEA				P	**P**	**11 53 19.8 +1.0**		
	SNR=84							
KSCEJ	**CHEONGJU**	**22.90 250**	P		**P**	**11 53 20.5 +1.7**		
	SNR=6.9							
KSCEJ	**CHEONGJU**	**22.90 250**	P		**P**	**11 53 20.5 +1.7**		
	SNR=6.9							
TJN	**Taejon**	**23.11 249**	*c i*	P	**P**	**11 53 21.0 +0.1**		
KSTEJ	**Daejeon**	**23.11 249**	P		**P**	**11 53 22.5 +1.6**		
	SNR=13							
KSTEJ	**Daejeon**	**23.11 249**	P		**P**	**11 53 22.5 +1.6**		
	SNR=13							
CBIJ	**Chichi jima**	**23.12 209**	*e*P		**P**	**11 53 20.5 -0.7**		
	comp=Z,119nm,1.1s							
JCJ	**Chichijima**	**23.12 209**	P		**P**	**11 53 20.9 -0.3**		
	comp=Z,150nm,0.9s,baz=10,slow=12,SNR=12							
JCJ				LR	LR	12 01 18.9		
	comp=Z,789nm,21.7s,ba

KSGUS P **P** **11 53 27.9 +1.4**
SNR=14
KSGUS P **P** **11 53 27.9 +1.4**
SNR=14
KSNAH Namhae 23.78 246 P **P** **11 53 29.1 +1.7**
SNR=11
KSNAH Namhae 23.78 246 P **P** **11 53 29.1 +1.7**
SNR=11
KSBAR Backryungdo 23.84 256 P **P** **11 53 29.4 +1.4**
SNR=15
KSBAR Backryungdo 23.84 256 P **P** **11 53 29.4 +1.4**
SNR=15
KSJEU Jeongeup 23.95 248 P **P** **11 53 31.0 +2.1**
SNR=13
KSJEU Jeongeup 23.95 248 P **P** **11 53 31.0 +2.1**
SNR=13
KSJEU P **P** **11 53 31.0 +2.1**
SNR=13
KSJEU P **P** **11 53 31.0 +2.1**
SNR=13
KSKWJ Gwangju 24.13 247 P **P** **11 53 31.8 +1.2**
SNR=6.0
KSKWJ Gwangju 24.13 247 P **P** **11 53 31.8 +1.2**
SNR=6.0
KSKWJ P **P** **11 53 31.8 +1.2**
SNR=6.0
KSKWJ P **P** **11 53 31.8 +1.2**
SNR=6.0
GAMB Gambell 24.14 37 *e*P **P** **11 53 30.1 -0.3**
comp=Z,406nm,2.0s
KSGWJ Gwangju-acc 24.18 248 P **P** **11 53 32.5 +1.5**
SNR=10
KSGWJ Gwangju-acc 24.18 248 P **P** **11 53 32.5 +1.5**
SNR=10
KSKOH Goheung 24.32 246 P **P** **11 53 33.7 +1.4**
SNR=19
KSKOH Goheung 24.32 246 P **P** **11 53 33.7 +1.4**
SNR=19
KSWAN Wando 24.82 246 P **P** **11 53 39.0 +2.1**
SNR=9.6
KSWAN Wando 24.82 246 P **P** **11 53 39.0 +2.1**
SNR=9.6
KSJDO Jindo 25.00 247 P **P** **11 53 40.5 +1.9**
SNR=7.7
KSJDO Jindo 25.00 247 P **P** **11 53 40.5 +1.9**
SNR=7.7
KSJDO P **P** **11 53 40.5 +1.9**
SNR=7.7
KSJDO P **P** **11 53 40.5 +1.9**
SNR=7.7
DL2 Dalian 25.35 261 ⇑P **P** **11 53 42.0 +0.3**
DL2 S **S** **11 58 06.0 +1.0**
DL2 sS **sS** **11 58 19.5 -4.4**
DL2 PMZ
comp=Z,130nm,0.7s
DL2 PMZ
comp=Z,240nm,9.2s
DL2 LN
comp=Z,880nm,15.4s
DL2 LZ
comp=Z,1μm,19.8s
KSHUK Heuksando 25.39 249 P **P** **11 53 43.2 +1.1**
SNR=9.3
KSHUK Heuksando 25.39 249 P **P** **11 53 43.2 +1.1**
SNR=9.3
KSHUK P **P** **11 53 43.2 +1.1**
SNR=9.3
KSHUK P **P** **11 53 43.2 +1.1**
SNR=9.3
KSSGP Seogwipo 25.71 245 P **P** **11 53 47.3 +2.3**
SNR=5.4
KSSGP Seogwipo 25.71 245 P **P** **11 53 47.3 +2.3**
SNR=5.4
KSSGP P **P** **11 53 47.3 +2.3**
SNR=5.4
KSSGP P **P** **11 53 47.3 +2.3**
SNR=5.4
BOD Bodaibo 25.79 307 *e*P **P** **11 53 44.8 -0.7**
BOD pmax pmax
comp=Z,32nm,1.3s
TNA Tin City 26.34 35 *e*P **P** **11 53 51.8 +1.5**
comp=Z,61nm,0.8s
TIXI Tiksi 26.35 342 *e*P **P** **11 53 47.9 -2.5**
TIXI Tiksi 26.35 342 *e*P **P** **11 53 47.8 -2.5**
comp=Z,58nm,1.0s
BJI Beijing 28.40 268 P **P** **11 54 10.5 +1.4**
BJI S **S** **11 58 53.5 +0.4**
BJI PMZ
comp=Z,32nm,0.6s
BJI PMZ
comp=Z,410nm,11.2s
BJI LN
comp=Z,2μm,19.4s
BJI LE
comp=Z,2μm,17.8s
BJI LZ
comp=Z,2μm,20.9s
BJT Baijiatuan 28.42 268 *e*P **P** **11 54 11.4 +2.1**
comp=Z,33nm,0.7s
BJT LR LR
comp=Z,2μm,20.0s
JOW Kunigami 29.50 233 P **P** **11 54 19.9 +1.0**
comp=Z,3.9nm,0.6s,baz=0.8,slow=4.3,SNR=11
JOW LR LR 12 07 46.9
comp=Z,82nm,18.7s,baz=1.5,slow=40
JOW Kunigami 29.50 233 *e*P **P** **11 54 18.9 0.0**
comp=Z,31nm,1.0s
MIDW Midway 29.55 122 PFAKE 11 54 30.0 +11
MIDW LR LR
comp=Z,2μm,20.0s
TIA Tai'an 29.82 260 ⇓P **P** **11 54 22.0 +0.2**
TIA sP **sP** **11 54 38.0 -0.1**
TIA S **S** **11 59 13.0 -2.5**
TIA PMZ
comp=Z,40nm,0.7s
TIA LN
comp=Z,610nm,16.7s
TIA LE
comp=Z,2μm,17.8s
TIA LZ
comp=Z,2μm,17.8s
H11N2 WAKE ISLAND Hy 30.13 156 T T 12 26 03.9
baz=344,slow=76,SNR=3735
H11N1 WAKE ISLAND Hy 30.15 156 T T 12 26 07.2
baz=344,slow=76,SNR=6268
H11N3 WAKE ISLAND Hy 30.15 156 T T 12 26 05.8
baz=344,slow=76,SNR=2849
SSE Sheshan 30.45 248 ⇑P **P** **11 54 28.8 +1.5**
SSE pP **pP** **11 54 39.8 +1.1**
SSE sP **sP** **11 54 44.8 +1.1**
SSE S **S** **11 59 27.5 +2.0**
SSE sS **sS** **11 59 45.3 +0.9**
SSE PMZ
comp=Z,55nm,0.7s
SSE PMZ
comp=Z,290nm,11.2s
SSE LN
comp=Z,510nm,16.7s
SSE LE
comp=Z,2μm,16.7s
SSE LZ
comp=Z,2μm,16.6s
SVW2 Sparrevohn 30.85 47 *e*P **P** **11 54 31.4 +0.9**
comp=Z,16nm,1.0s
HHC Hu-ho-hao-te 31.10 273 *e*P **P** **11 54 33.0 -0.1**
HHC PP **PnPn** **11 55 38.3 +2.9**
HHC S **S** **11 59 34.5 -1.2**
HHC SS **SnSn** **12 01 27.0 +7.7**
HHC PMZ
comp=Z,47nm,1.4s
HHC PMZ
comp=Z,180nm,5.6s
HHC LN
comp=Z,1μm,13.5s
HHC LE
comp=Z,1μm,12.7s
HHC LZ
comp=Z,2μm,13.3s
H11S1 WAKE ISLAND Hy 31.25 157 T T 12 27 36.2
baz=344,slow=76,SNR=8207
H11S3 WAKE ISLAND Hy 31.26 157 T T 12 27 25.0
baz=344,slow=76,SNR=5612
H11S2 WAKE ISLAND Hy 31.27 157 T T 12 27 27.6
baz=344,slow=76
NJ2 Nanjing 31.28 252 *e*P **P** **11 54 36.8 +2.2**
NJ2 pP **pP** **11 54 45.0 -1.0**
NJ2 sP **sP** **11 54 48.0 -3.0**
NJ2 S **S** **11 59 39.0 +0.7**
NJ2 sS **sS** **11 59 54.5 -2.8**
NJ2 PMZ
comp=Z,60nm,0.8s
NJ2 PMZ
comp=Z,730nm,11.4s
NJ2 LN
comp=Z,4μm,18.5s
NJ2 LE
comp=Z,7μm,21.4s
NJ2 LZ
comp=Z,7μm,18.6s
SONM Songino Array 31.72 288 P **P** **11 54 38.5 0.0**
comp=Z,2.5nm,0.7s,baz=120,slow=8.2,SNR=8.4
SONM PcP **PcP** **11 57 28.7 -0.5**
comp=Z,12nm,0.7s,baz=86,slow=2.2,SNR=16
SONM ScP **ScP** **12 01 07.9 -1.0**
comp=Z,0.9nm,0.3s,baz=64,slow=3.4,SNR=6.6
SONM LR LR 12 08 38.6
comp=Z,5μm,18.6s,baz=72,slow=38
SONM Songino Array 31.72 288 P **P** **11 54 38.5 0.0**
SONM 11 57 28.7
SONM MLR MLR
comp=Z,5μm,18.6s
IRK Irkutsk 31.82 296 ⇑*i*P **P** **11 54 39.7 +0.5**
IRK *e* 11 57 28.0
IRK pmax pmax
comp=Z,30nm,2.0s
IRK Irkutsk 31.82 296 *e*P **P** **11 54 39.7 +0.5**
IM04 Indian Mountai 32.07 37 *e*P **P** **11 54 41.0 -0.2**
IM04 *e*PcP **PcP** **11 57 30.1 +0.4**
TIY Taiyuan 32.10 267 *e*P **P** **11 54 42.0 +0.1**
TIY S **S** **11 59 57.0 +5.7**
TIY PMZ
comp=Z,220nm,5.8s
TIY LN
comp=Z,1μm,17.5s
TIY LE
comp=Z,1μm,18.0s
TIY LZ
comp=Z,2μm,20.0s
RSO Redoubt South 32.24 48 *e*P **P** **11 54 44.3 +1.3**
comp=Z,66nm,1.0s
TLY Talaya 32.33 296 P **P** **11 54 42.9 -0.9**
comp=Z,22nm,0.6s,baz=142,slow=3.6,SNR=9.0
TLY Talaya 32.33 296 *e*P **P** **11 54 43.0 -0.7**
comp=Z,22nm,0.6s
TLY LR LR
comp=Z,4μm,19.0s
PPLA Purkeypile 32.50 43 *e*P **P** **11 54 46.0 +0.7**
comp=Z,99nm,1.4s
KDAK Kodiak Island 32.51 53 *i* P **P** **11 54 44.7 -0.5**
KDAK Kodiak Island 32.51 53 *e*P **P** **11 54 44.6 -0.6**
KDAK Kodiak Island 32.51 53 *e*P **P** **11 54 44.4 -0.8**
comp=Z,34nm,0.9s
KDAK *e*PcP **PcP** **11 57 31.1 +0.2**
KDAK LR LR
comp=Z,2μm,22.0s
CAST Castle Rocks 32.57 42 *e*P **P** **11 54 46.5 +0.8**
comp=Z,129nm,1.9s
ZAK Zakamensk 32.90 293 ⇑*i*P **P** **11 54 48.5 -0.3**
ZAK *e* 11 57 32.8
BPAW Bear Paw Mtn. 33.08 41 *e*P **P** **11 54 50.8 +0.6**
comp=Z,41nm,1.1s
BPAW *e*PcP **PcP** **11 57 32.6 +0.1**
BRLK Bradley Lake 33.21 49 *e*P **P** **11 54 50.6 -0.8**
comp=Z,155nm,2.2s
TRF Thorofare Moun 33.37 42 *e*P **P** **11 54 52.7 -0.1**
comp=Z,76nm,1.4s
TRF *e*PcP **PcP** **11 57 33.5 0.0**
COLD Coldfoot 33.64 35 *e*P **P** **11 54 55.1 +0.1**
comp=Z,54nm,1.2s
COLD *e*PcP **PcP** **11 57 34.0 0.0**
RC01 Rabbit Creek A 33.69 46 *e*P **P** **11 54 55.2 -0.2**
comp=Z,50nm,1.2s
RC01 *e*PcP **PcP** **11 57 33.8 -0.5**
BWN Browne 33.75 41 *e*P **P** **11 54 57.6 +1.6**
comp=Z,494nm,1.5s
SEW Seward 33.90 48 *e*P **P** **11 54 56.5 -0.8**
comp=Z,60nm,1.2s
SEW *e*PcP **PcP** **11 57 34.7 -0.1**
MCK McKinley 33.98 42 *e*P **P** **11 54 57.8 -0.1**
comp=Z,51nm,1.0s
SML Sawmill 34.32 45 *e*P **P** **11 55 00.6 -0.4**
comp=Z,33nm,0.9s
COLA College 34.46 40 *c i*P **P** **11 55 02.1 +0.1**
COLA pmax pmax
comp=Z,385nm,2.0s
COLA College 34.46 40 *e*P **P** **11 55 02.1 +0.1**
COLA College 34.46 40 *e*P **P** **11 55 02.5 +0.5**
comp=Z,96nm,1.1s
COLA LR LR
comp=Z,1μm,19.0s
CCB Clear Creek Bu 34.48 40 *e*P **P** **11 55 02.1 -0.1**
comp=Z,120nm,1.6s
DHY Denali Highway 34.70 43 *e*P **P** **11 55 05.2 +0.9**
comp=Z,71nm,1.5s
TATO Taipei 34.74 240 *e*P **P** **11 55 06.3 +1.5**
comp=Z,220nm,1.7s
HDA Harding Lake 34.84 40 *e*P **P** **11 55 05.9 +0.5**
comp=Z,25nm,1.0s
ILAR Eielson Array 34.87 40 P **P** **11 55 05.0 -0.6**
comp=Z,4.0nm,0.7s,baz=253,slow=6.5,SNR=42
ILAR PcP **PcP** **11 57 35.1 -2.4**
comp=Z,2.4nm,0.6s,baz=277,slow=2.6,SNR=5.4
ILAR LR LR 12 12 07.4
comp=Z,1μm,19.2s,baz=272,slow=41
YHNB Yeheng 35.04 240 *e*P **P** **11 55 07.2 -0.4**
comp=Z,24nm,0.8s
YHNB LR LR
comp=Z,2μm,20.0s
WHN Wuhan 35.16 255 ⇓P **P** **11 55 08.8 +0.3**
WHN S **S** **12 00 33.0 -5.6**
WHN LN
comp=Z,5μm,20.0s
WHN LE
comp=Z,3μm,17.0s
WHN LZ
comp=Z,4μm,22.7s
GUMO Guam 35.40 196 PFAKE 11 55 20.0 +9.4
GUMO LR LR
comp=Z,84nm,22.0s
DIV Divide 35.60 46 *e*P **P** **11 55 12.3 +0.3**
comp=Z,59nm,0.9s
EYAK Cordova Ski Ar 35.68 47 *e*P **P** **11 55 12.9 +0.3**
comp=Z,39nm,1.0s
HARP HAARP 35.76 44 *e*P **P** **11 55 14.5 +1.2**
comp=Z,202nm,1.8s
SSLB Suanglung 35.97 239 *e*P **P** **11 55 15.4 -0.1**
comp=Z,29nm,0.9s
SSLB *e*PcP **PcP** **11 57 41.6 +0.2**
YULB Yu-li 36.08 239 *e*P **P** **11 55 16.5 +0.1**
comp=Z,40nm,0.8s
YULB *e*PcP **PcP** **11 57 40.1 -1.7**
BMRM Bremner River 36.19 46 *e*P **P** **11 55 17.2 +0.2**
comp=Z,61nm,1.1s
BMRM *e*PcP **PcP** **11 57 41.9 +0.3**
QZH Quanzhou 36.47 243 ⇑*i*P **P** **11 55 21.3 +1.6**
QZH sP **sP** **11 55 37.8 +1.6**
QZH S **S** **12 01 01.3 +2.6**
QZH PMZ
comp=Z,230nm,0.9s
QZH PMZ
comp=Z,1μm,2.8s
QZH LN
comp=Z,1μm,17.8s
QZH LE
comp=Z,1μm,15.6s
QZH LZ
comp=Z,3μm,27.4s
TPUB Ta-pu 36.53 239 *e*P **P** **11 55 20.3 0.0**
comp=Z,110nm,0.8s
TPUB *e*PcP **PcP** **11 57 43.8 +0.7**
XAN Xi'an 36.53 264 P **P** **11 55 20.5 +0.2**
XAN pP **pP** **11 55 32.0 +0.2**
XAN sP **sP** **11 55 37.5 +0.8**
XAN PP **PP** **11 56 44.0 +0.2**
XAN S **S** **12 00 57.5 -2.2**
XAN sS **sS** **12 01 17.5 -1.3**
XAN PMZ
comp=Z,22nm,0.9s
XAN PMZ
comp=Z,140nm,7.6s
XAN LN
comp=Z,1μm,20.8s
XAN LE
comp=Z,2μm,20.8s
XAN LZ
comp=Z,2μm,22.0s
TWG Pinlang 36.65 238 *e*P **P** **11 55 21.0 -0.3**
comp=Z,491nm,0.9s
EGAK Eagle 37.32 40 *e*P **P** **11 55 26.1 -0.4**
comp=Z,38nm,0.9s
EGAK LR LR
comp=Z,932nm,19.0s
DAWY Dawson 38.16 41 *e*P **P** **11 55 34.3 +0.5**
HVS Khovu-Aksy 38.44 298 *e*P **P** **11 55 36.7 +0.5**
HVS pmax pmax
comp=Z,221nm,1.3s
HVS Khovu-Aksy 38.44 298 *e*P **P** **11 55 36.7 +0.5**
ENH Enshi 38.51 259 *e*P **P** **11 55 37.2 +0.2**
comp=Z,44nm,0.8s
LZH Lanzhou 38.74 271 *e*P **P** **11 55 40.8 +1.7**
LZH pP **pP** **11 55 51.5 +0.9**
LZH sP **sP** **11 55 55.3 -0.3**
LZH PcP **PcP** **11 57 51.8 +1.8**
LZH *e*S **S** **12 01 32.8 -0.6**
LZH sS **sS** **12 01 52.5 -0.1**
LZH PMZ
comp=Z,55nm,1.2s
LZH PMZ
comp=Z,290nm,5.0s
LZH LN
comp=Z,1μm,13.3s
LZH LE
comp=Z,1μm,14.1s
LZH LZ
comp=Z,2μm,15.4s
HYT Haines Junctio 39.62 45 *e*P **P** **11 55 47.1 +1.0**
GTA Gaotai 39.63 278 *e*P **P** **11 55 47.0 +0.6**
GTA pP **pP** **11 55 57.0 -1.0**
GTA sP **sP** **11 56 01.3 -1.7**
GTA PP **PnPn** **11 57 23.0 +1.9**
GTA PcP **PcP** **11 57 54.5 +1.8**
GTA ScP **ScP** **12 01 38.3 +0.4**
GTA PcS **PcS** **12 01 44.5 +1.6**
GTA S **S** **12 01 46.3 -0.4**
GTA sS **sS** **12 02 02.5 -3.4**
GTA ScS **ScS** **12 05 50.3 -0.3**
GTA PMZ
comp=Z,14nm,1.5s
GTA PMZ
comp=Z,210nm,4.8s
GTA LN
comp=Z,2μm,17.6s
GTA LE
comp=Z,3μm,16.2s
GTA LZ
comp=Z,4μm,18.1s
INK Inuvik 39.96 33 P **P** **11 55 49.2 +0.7**
comp=Z,21nm,0.7s,baz=292,slow=7.1,SNR=35
INK Inuvik 39.96 33 P **P** **11 55 49.3 +0.7**
INK pmax pmax
comp=Z,21nm,0.7s
GZH Guangzhou 41.04 247 P P 11 55 54.5 -3.5
GZH S S 12 02 00.3 -7.3
GZH LN
comp=Z,3μm,16.3s
GZH LE
comp=Z,3μm,15.8s
SZP Santa 41.22 234 *e*P **P** **11 56 00.6 +1.1**
comp=Z,43nm,0.6s
BESE Bessie Mountai 41.52 48 *e*P **P** **11 56 02.1 +0.4**
comp=Z,82nm,1.8s
SIT Sitka 41.76 51 *e*P **P** **11 56 04.9 +1.4**
comp=Z,247nm,2.0s
SIT *e*pP **pP** **11 56 16.9 +1.8**
CD2 Chengdu 41.89 265 P **P** **11 56 05.0 0.0**
CD2 pP **pP** **11 56 16.3 -0.4**
CD2 PP **PP** **11 57 42.0 -0.3**
CD2 PcP **PcP** **11 58 00.8 +0.7**
CD2 PcS **PcS** **12 01 52.3 +0.5**
CD2 S **S** **12 02 20.0 -0.2**
CD2 SS **SS** **12 05 28.0 +0.4**
CD2 PMZ
comp=Z,120nm,0.6s
CD2 PMZ
comp=Z,340nm,4.1s
CD2 LN
comp=Z,1μm,16.6s
CD2 LE
comp=Z,2μm,22.0s
CD2 LZ
comp=Z,2μm,22.0s
ZAA0 Zalesovo Array 42.50 305 *e*P **P** **11 56 08.4 -1.2**
ZAA0 *e*PcP **PcP** **11 58 01.6 0.0**
ZALV Zalesovo Beam 42.50 305 P **P** **11 56 08.5 -1.1**
comp=Z,32nm,0.5s,baz=64,slow=6.7,SNR=156
ZALV PcP **PcP** **11 58 01.4 -0.2**
comp=Z,36nm,0.8s,baz=76,slow=2.7,SNR=25
ZALV LR LR 12 14 36.3
comp=Z,2μm,21.1s,baz=70,slow=37
ZALV Zalesovo Beam 42.50 305 *i* P **P** **11 56 08.5 -1.1**
ZALV pmax pmax
comp=Z,33nm,0.5s
GYA Guiyang 42.90 257 ⇑*i*P **P** **11 56 13.0 -0.3**
GYA pP **pP** **11 56 25.0 0.0**
GYA PP **PP** **11 57 55.8 +2.5**
GYA PcP **PcP** **11 58 04.0 +0.4**
GYA ScP **ScP** **12 01 52.3 +1.3**
GYA S **S** **12 02 34.5 -0.8**
GYA sS **sS** **12 02 54.0 -0.7**
GYA SS SS 12 05 39.0 -8.6
GYA PMZ
comp=Z,110nm,0.8s
GYA PMZ
comp=Z,240nm,8.1s
GYA LN
comp=Z,860nm,18.2s
GYA LE
comp=Z,650nm,18.4s
GYA LZ
comp=Z,780nm,18.0s
NVS Novosibirsk 43.03 307 ⇓*i*P **P** **11 56 13.2 -0.7**
NVS *e* 11 56 29.6
NVS *i* 12 02 35.8
NVS pmax pmax
comp=E,13nm,0.5s
NVS pmax pmax
comp=Z,19nm,0.5s
WRAK Wrangell Islan 43.52 51 *e*P **P** **11 56 19.8 +2.0**
comp=Z,11nm,0.8s
WRAK *e*pP **pP** **11 56 31.3 +1.8**
DLBC Dease Lake 43.96 47 P **P** **11 56 23.2 +1.8**
comp=Z,9.4nm,0.8s,baz=320,slow=8.2,SNR=28
DLBC Dease Lake 43.96 47 *e*P **P** **11 56 22.9 +1.5**
comp=Z,163nm,1.7s
DLBC *e*pP **pP** **11 56 35.2 +2.1**
WMQ Urumqi 45.24 291 P **P** **11 56 32.8 +0.9**
WMQ sP **sP** **11 56 46.5 -2.0**
WMQ PP **PP** **11 58 20.3 +2.4**
WMQ S **S** **12 03 09.0 0.0**
WMQ sS **sS** **12 03 24.0 -4.5**
WMQ SS **ScS** **12 06 21.8 -3.1**
WMQ PMZ
comp=Z,15nm,1.2s
WMQ PMZ
comp=Z,160nm,7.4s
WMQ LN
comp=Z,2μm,15.9s
WMQ LE
comp=Z,2μm,12.2s
WMQ LZ
comp=Z,2μm,18.2s
QIZ Qiongzhong 46.23 247 P **P** **11 56 37.5 -2.3**
QIZ pP **pP** **11 56 49.3 -2.3**
QIZ sP **sP** **11 56 54.5 -2.0**
QIZ S S 12 03 31.0 +7.5
QIZ sS **sS** **12 03 40.8 -2.3**
QIZ LN
comp=Z,510nm,16.9s
QIZ LE
comp=Z,850nm,16.7s
QIZ LZ
comp=Z,2μm,16.2s
QIZ Qiongzhong 46.23 247 *e*P **P** **11 56 41.9 +2.0**
comp=Z,55nm,1.3s
QIZ LR LR
comp=Z,1μm,22.0s
KIP Kipapa 46.33 108 PFAKE 11 56 50.0 +9.5
KIP LR LR

comp=Z,2µm,19.0s
KMI Kunming 46.38 259 P **P** **11 56 41.3 +0.1**
KMI pP **pP** **11 56 54.5 +1.5**
KMI sP **sP** **11 56 58.5 +0.6**
KMI PP **PP** **11 58 30.5 0.0**
KMI S **S** **12 03 23.0 -3.0**
KMI PMZ
comp=Z,61nm,1.2s
KMI PMZ
comp=Z,330nm,4.4s
KMI LN
comp=Z,910nm,18.0s
KMI LE
comp=Z,640nm,19.6s
KMI LZ
comp=Z,1µm,20.1s
MK31 Makanchi Array 47.08 297 *i* P **P** **11 56 45.3 -0.9**
MK31 pmax pmax
comp=Z,5.0nm,0.4s
MK31 Makanchi Array 47.08 297 *e*P **P** **11 56 44.6 -1.6**
MK31 *e*PcP **PcP** **11 58 17.9 +0.3**
MKAR Makanchi Array 47.08 297 *e*P **P** **11 56 45.0 -1.2**
KURK Kurchatov 47.31 303 P **P** **11 56 47.8 -0.1**
comp=Z,1µm,0.6s,SNR=74
KURK Kurchatov 47.31 303 P **P** **11 56 46.1 -1.8**
KURK pmax pmax
comp=Z,60nm,0.7s
KURK Kurchatov 47.31 303 *e*P **P** **11 56 47.0 -0.9**
KURK Kurchatov 47.31 303 P **P** **11 56 47.2 -0.7**
SNR=41
KURK Kurchatov 47.31 303 *e*P **P** **11 56 46.9 -1.1**
comp=Z,281nm,0.6s
KURK *e*PcP **PcP** **11 58 18.7 +0.4**
KURK LR LR
comp=Z,3µm,20.0s
BBB Bella Bella 47.55 55 P **P** **11 56 50.4 +0.7**
comp=Z,16nm,1.1s,baz=329,slow=5.9,SNR=3.1
DAV Davao City (W) 47.73 220 PFAKE 11 57 00.0 +8.5
DAV LR LR
comp=Z,582nm,20.0s
ALE Alert 48.22 6 P **P** **11 56 55.3 +0.8**
comp=Z,154nm,0.9s,SNR=9.2
SLVN Son La 48.28 255 *e*P **P** **11 56 56.1 +0.2**
comp=Z,25nm,0.8s
POHA Pohakuloa 49.12 107 PFAKE 11 57 20.0 +17
POHA LR LR
comp=Z,2µm,19.0s
RES Resolute Bay 49.18 19 P **P** **11 57 02.2 +0.2**
comp=Z,50nm,0.6s,baz=355,slow=4.4,SNR=82
RES Resolute Bay 49.18 19 P **P** **11 57 02.2 +0.2**
RES pmax pmax
comp=Z,50nm,0.6s
YKW3 Yellowknife Ar 49.20 38 *e*P **P** **11 57 02.5 +0.2**
comp=Z,1.0nm,1.3s
YKA Yellowknife Ar 49.24 38 P **P** **11 57 02.8 +0.2**
comp=Z,14nm,0.8s,baz=297,slow=7.6,SNR=37
YKA Yellowknife Ar 49.24 38 P **P** **11 57 02.8 +0.2**
YKA pmax pmax
comp=Z,14nm,0.8s
BVA0 Borovoye Array 50.64 309 *i* P **P** **11 57 12.2 -1.1**
BVA0 pmax pmax
comp=Z,67nm,0.5s
BRVK Borovoye 50.67 309 P **P** **11 57 13.3 -0.3**
comp=Z,1µm,0.5s,SNR=76
BRVK Borovoye 50.67 309 *c i*P **P** **11 57 12.2 -1.4**
BRVK pmax pmax
comp=Z,110nm,0.6s
BRVK Borovoye 50.67 309 P **P** **11 57 13.0 -0.6**
SNR=24
BRVK Borovoye 50.67 309 *e*P **P** **11 57 12.4 -1.2**
comp=Z,148nm,0.5s
BRVK *e*PcP **PcP** **11 58 30.4 -0.1**
BRVK LR LR
comp=Z,3µm,19.0s
LSA Lhasa 51.09 273 P **P** **11 57 19.3 +1.7**
LSA Lhasa 51.09 273 *e*P **P** **11 57 19.2 +1.6**
comp=Z,22nm,0.6s
LSA LR LR
comp=Z,1µm,19.0s
KBS Kingsbay 51.21 351 *e*P **P** **11 57 16.1 -1.2**
KBS *e*S **S** **12 04 34.0 +1.8**
KBS IAMs_20 IAMs_20 12 17 26.2
comp=Z,629nm,20.2s
KBS Kingsbay 51.21 351 PFAKE 11 57 30.0 +13
KBS LR LR
comp=Z,691nm,22.0s
SPA0 Spitsbergen Ar 51.35 350 *e*P **P** **11 57 16.6 -1.8**
SPA0 *e*S **S** **12 04 28.3 -5.9**
SPITS Spitsbergen Ar 51.35 350 P **P** **11 57 16.9 -1.4**
comp=Z,9.7nm,0.5s,baz=66,slow=8.1,SNR=33
SPITS PcP **PcP** **11 58 32.6 0.0**
comp=Z,14nm,0.8s,baz=116,slow=3.4,SNR=6.4
SPITS Spitsbergen Ar 51.35 350 P **P** **11 57 17.0 -1.4**
SPITS 11 58 32.6
SPITS pmax pmax
comp=Z,10.0nm,0.5s
SKNT Sakolnakorn 51.43 251 P **P** **11 57 20.9 +1.2**
comp=Z,92nm,1.2s,comp=Z,1µm
UBPT Khong Chiam 51.78 248 P **P** **11 57 23.8 +1.5**
comp=Z,65nm,1.2s,comp=Z,3µm
SMPI Sarmi 51.82 200 P **P** **11 57 23.0 +0.4**
comp=Z,60nm,1.6s
JAY Jayapura 51.90 198 P P 11 57 29.6 +6.4
comp=Z,29nm,0.8s,comp=Z,3µm
PGC Sidney 51.90 57 *e*P **P** **11 57 23.2 +0.4**
PGC *e*pP **pP** **11 57 35.1 +0.3**
GENI Genyem 52.09 198 P **P** **11 57 26.5 +2.0**
comp=Z,122nm,1.2s,comp=Z,2µm
NLWA Neilton Lookou 52.35 58 *e*P **P** **11 57 27.0 +0.7**
comp=Z,103nm,1.3s
NLWA *e*pP **pP** **11 57 39.2 +1.0**
NLWA LR LR
comp=Z,935nm,22.0s
HSPB Hornsund (broa 52.43 349 *e*P **P** **11 57 27.3 +0.9**
VDB Vedder Mountai 52.45 56 P **P** **11 57 26.8 -0.1**
RKPI Ransiki, Papua 52.55 206 P **P** **11 57 27.2 -0.8**
comp=Z,49nm,0.8s,comp=Z,31µm
MBW Mount Baker 52.69 56 P **P** **11 57 28.9 -0.1**
TNTI Ternate 52.71 215 P **P** **11 57 29.0 -0.2**
comp=Z,55nm,1.4s,comp=Z,1µm
SWI Sorong 52.84 210 P **P** **11 57 29.9 -0.2**
comp=Z,90nm,0.8s,comp=Z,2µm
JCW Jim Creek 53.00 56 P **P** **11 57 31.4 +0.3**
UTTA Uttaradit 53.05 254 P **P** **11 57 33.1 +1.4**
comp=Z,13nm,0.9s,comp=Z,147nm
B06A Marlemount 53.07 56 *e*P **P** **11 57 32.2 +0.7**
comp=Z,59nm,1.2s
LAMP Lampang 53.08 256 P **P** **11 57 33.3 +1.4**
comp=Z,26nm,0.9s,comp=Z,188nm
KKM Kota Kinabalu 53.09 230 ⇑P **P** **11 57 34.4 +2.3**
KKM Kota Kinabalu 53.09 230 PFAKE 11 57 40.0 +7.9
KKM LR LR
comp=Z,577nm,20.0s
TKM2 Tokmak 2 53.17 296 *i* P **P** **11 57 32.6 0.0**
TKM2 pmax pmax
comp=Z,19nm,0.7s
TKM2 Tokmak 2 53.17 296 *e*P **P** **11 57 32.2 -0.4**
comp=Z,23nm,0.7s
TKM2 *e*pP **pP** **11 57 49.4 +4.8**
TKM2 *e*PcP **PcP** **11 58 40.4 +0.1**
TKM2 LR LR
comp=Z,1µm,21.0s
CMMT Chiang Mai 53.31 257 P **P** **11 57 34.3 +0.6**
comp=Z,150nm,0.8s,comp=Z,2µm
CHTO Chiang Mai 53.32 257 P **P** **11 57 34.3 +0.6**
comp=Z,518nm,0.9s,comp=Z,6µm
CHTO Chiang Mai 53.32 257 P **P** **11 57 34.8 +1.1**
SNR=22
CHTO Chiang Mai 53.32 257 *e*P **P** **11 57 34.2 +0.6**
comp=Z,77nm,0.8s
CHTO LR LR
comp=Z,2µm,19.0s
SVE Sverdlovsk 53.38 317 ⇑*e*P **P** **11 57 33.2 -0.5**
SVE *e*S **S** **12 04 59.3 -3.1**
SVE pmax pmax
comp=Z,32nm,0.6s
SVE MLR MLR
comp=Z,1µm,22.0s
SVE Sverdlovsk 53.38 317 *e*P **P** **11 57 33.2 -0.5**
SOKR Solikamsk 53.51 321 *e*P **P** **11 57 33.0 -1.6**
SOKR pmax pmax
comp=Z,9.0nm,0.8s
SOKR MLR MLR
comp=Z,1µm,21.0s
D05A Enumclaw 53.53 57 *e*P **P** **11 57 35.9 +1.0**
F04D Rainier, OR 53.57 59 P **P** **11 57 35.4 +0.2**
baz=53
CM31 Chiang Mai Arr 53.57 256 *e*P **P** **11 57 36.1 +0.5**
comp=Z,36nm,0.7s
CM31 *e*PcP **PcP** **11 58 43.2 +1.3**
CMAR Chiang Mai Arr 53.57 256 P **P** **11 57 36.6 +1.0**
comp=Z,38nm,0.7s,baz=34,slow=7.3,SNR=188
CMAR PcP **PcP** **11 58 42.5 +0.7**
comp=Z,18nm,0.7s,baz=23,slow=3.4,SNR=11
CMAR LR LR 12 22 09.9
comp=Z,1µm,18.3s,baz=54,slow=38
CMAR Chiang Mai Arr 53.57 256 P **P** **11 57 36.6 +1.0**
CMAR 11 58 42.6
CMAR pmax pmax
comp=Z,38nm,0.7s
CMAR MLR MLR
comp=Z,1µm,18.3s
PBKT Sadao Pong 53.65 253 P **P** **11 57 37.1 +1.0**
comp=Z,31nm,1.3s,comp=Z,850nm
TSM Tawau 53.75 227 ⇑P **P** **11 57 38.4 +1.5**
FRU Bishkek 53.81 296 *e*P **P** **11 57 35.5 -1.6**
FRU pmax pmax
comp=Z,85nm,2.3s
FMW Mount Fremont 53.85 58 P **P** **11 57 37.8 +0.3**
LON Longmire 53.88 58 *e*P **P** **11 57 37.6 0.0**
comp=Z,35nm,1.6s
LON *e*PcP **PcP** **11 58 43.5 +0.8**
G03D McMinnville, O 53.92 60 P **P** **11 57 37.9 +0.1**
baz=54
AAK Ala-Archa 54.00 296 PFAKE 11 57 50.0 +11
AAK LR LR
comp=Z,2µm,19.0s
KMSI Cibinong 54.25 219 P **P** **11 57 38.3 -2.2**
comp=Z,151nm,1.3s
B08A Colville Reser 54.34 55 *e*P **P** **11 57 40.9 0.0**
WTV Waterville 54.38 56 P **P** **11 57 41.7 +0.5**
EKS2 Erkin-Say 54.41 296 *e*P **P** **11 57 41.4 -0.1**
comp=Z,11nm,0.6s
EKS2 *e*PcP **PcP** **11 58 45.3 +0.4**
EKS2 LR LR
comp=Z,2µm,22.0s
MHMT Maesarieng 54.44 257 P **P** **11 57 43.4 +1.5**
comp=Z,58nm,1.1s,comp=Z,633nm
FAKI Fak Fak 54.46 208 P **P** **11 57 41.8 -0.2**
comp=Z,77nm,1.6s,comp=Z,1µm
FAKI Fak Fak 54.46 208 *e*P **P** **11 57 41.9 -0.2**
comp=Z,74nm,1.1s
ARU Arti 54.55 317 P **P** **11 57 40.2 -2.0**
comp=Z,818nm,0.5s,SNR=24
ARU Arti 54.55 317 *c i*P **P** **11 57 40.9 -1.3**
ARU 11 58 41.7
ARU 11 59 43.2
ARU PPP PPP 12 00 57.9
ARU S **S** **12 05 19.4 +1.2**
ARU 12 07 24.6
ARU pmax pmax
comp=Z,56nm,0.6s
ARU MLR MLR
comp=Z,1µm,22.0s
ARU Arti 54.55 317 *e*P **P** **11 57 40.7 -1.5**
comp=Z,81nm,0.5s
ARU *e*PcP **PcP** **11 58 45.2 +0.3**
ARU LR LR
comp=Z,991nm,21.0s
EDM Edmonton 54.68 47 *e*P **P** **11 57 43.4 +0.1**
comp=Z,33nm,0.6s
EDM *e*pP **pP** **11 57 55.6 +0.3**
SAW Saint Andrews 54.68 56 P **P** **11 57 43.2 -0.2**
VLL Laurance Lake 54.69 59 P **P** **11 57 44.6 +1.1**
I03D Drain, OR 54.74 62 P **P** **11 57 43.3 -0.5**
baz=55
TAPN Taplejung 54.91 273 *e*P **P** **11 57 46.3 +0.7**
KSH Kashi 54.93 292 P P 11 57 48.8 +3.4
KSH pP pP 11 58 00.5 +3.1
KSH PcP **PcP** **11 58 49.0 +2.1**
KSH PP PP 11 59 58.0 +10
KSH PcS **PcS** **12 02 46.5 -0.4**
KSH S **S** **12 05 28.8 +4.8**
KSH sS sS 12 05 49.0 +5.0
KSH ScS **ScS** **12 07 27.5 -3.6**
KSH PMZ
comp=Z,40nm,1.7s
KSH PMZ
comp=Z,130nm,5.8s
KSH LN
comp=Z,1µm,15.8s
KSH LE
comp=Z,2µm,16.1s
KSH LZ
comp=Z,3µm,19.3s
G05D Wamic, OR 55.02 59 P **P** **11 57 46.1 +0.2**
baz=55
MRSI Marisa 55.21 221 P **P** **11 57 47.3 -0.1**
comp=Z,107nm,1.7s,comp=Z,2µm
DAG Danmarks Havn 55.24 358 *i* P **P** **11 57 45.1 -1.8**
DAG pmax pmax
comp=Z,3.0nm,0.5s
DAG MLR MLR
comp=Z,610nm,22.0s
I04A Tendick Farm, 55.24 61 P **P** **11 57 48.1 +0.6**
baz=55,SNR=8.4
D08A Wollman Farm, 55.32 56 *e*P **P** **11 57 47.7 -0.2**
D08A *e*pP **pP** **11 57 59.6 -0.3**
HAWA Hanford 55.37 57 *e*P **P** **11 57 48.6 +0.3**
comp=Z,13nm,0.9s
HAWA *e*pP **pP** **11 58 00.8 +0.6**
HAWA LR LR
comp=Z,551nm,20.0s
ODAN Odare 55.44 273 *e*P **P** **11 57 50.6 +1.2**
comp=Z,51nm,0.6s
L02D Cave Junction, 55.50 63 P **P** **11 57 50.8 +1.5**
baz=55,SNR=5.6
I05D Terrebonne, OR 55.54 60 P **P** **11 57 50.9 +1.2**
baz=55,SNR=6.3
NEW Newport 55.60 54 P **P** **11 57 50.2 +0.2**
comp=Z,5.3nm,0.9s,baz=297,slow=7.9,SNR=8.6
NEW PcP **PcP** **11 58 49.9 +0.6**
comp=Z,8.9nm,0.8s,baz=161,slow=2.7,SNR=6.3
NEW Newport 55.60 54 P **P** **11 57 50.2 +0.2**
NEW 11 58 49.9
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW Newport 55.60 54 P **P** **11 57 49.5 -0.5**
baz=55
NEW Newport 55.60 54 *e*P **P** **11 57 50.4 +0.4**
comp=Z,6.7nm,0.9s
NEW *e*pP **pP** **11 58 02.2 +0.2**
NEW *e*PcP **PcP** **11 58 49.5 +0.3**
NEW PcP **PcP** **11 58 49.9 +0.6**
NEW LR LR
comp=Z,447nm,19.0s
HUMO Hull Mountain 55.62 63 *e*P **P** **11 57 51.5 +1.3**
comp=Z,83nm,1.5s
HUMO *e*pP **pP** **11 58 03.4 +1.2**
J04D Umpqua Nationa 55.74 61 P **P** **11 57 51.9 +0.6**
baz=56,SNR=13
GUN Gumba 55.76 275 *e*P **P** **11 57 52.8 +1.0**
comp=Z,76nm,0.6s
LVZ Lovozero 55.80 337 PFAKE 11 58 00.0 +8.9
LVZ LR LR
comp=Z,2µm,22.0s
SANI Sanana 55.83 215 P **P** **11 57 50.8 -1.1**
comp=Z,107nm,0.8s,comp=Z,1µm
RAMN Ramite 55.91 274 *e*P **P** **11 57 53.3 +0.5**
comp=Z,141nm,0.8s
MSAI Masohi 55.95 211 P **P** **11 57 51.9 -0.8**
comp=Z,12nm,1.1s
KKAR Karatay Array 56.09 299 *e*P **P** **11 57 53.1 -0.4**
KHMM Horse Mountain 56.19 65 *e*P **P** **11 57 56.2 +1.7**
comp=Z,120nm,1.4s
KHMM *e*pP **pP** **11 58 08.0 +1.5**
LUWI Luwuk 56.21 219 P **P** **11 57 53.5 -1.1**
comp=Z,124nm,1.2s,comp=Z,2µm
LUWI Luwuk 56.21 219 *e*P **P** **11 57 53.5 -1.1**
comp=Z,159nm,1.2s
J05D Fort Rock, OR 56.23 61 P **P** **11 57 55.9 +1.2**
baz=56,SNR=25
KKN Kakani 56.24 275 *e*P **P** **11 57 56.3 +1.2**
comp=Z,80nm,0.6s
MPSI Mapaga 56.25 223 P **P** **11 57 53.8 -1.1**
comp=Z,18nm,1.6s,comp=Z,396nm
KEV Kevo 56.28 341 PFAKE 11 58 10.0 +16
KEV LR LR
comp=Z,2µm,20.0s
YBH Yreka Blue Hor 56.29 63 P **P** **11 57 56.2 +1.1**
comp=Z,8.6nm,0.7s,baz=348,slow=5.4,SNR=23
YBH Yreka Blue Hor 56.29 63 P **P** **11 57 56.2 +1.1**
YBH pmax pmax
comp=Z,9.0nm,0.7s
YBH Yreka Blue Hor 56.29 63 *e*P **P** **11 57 56.1 +1.1**
comp=Z,62nm,1.3s
YBH *e*pP **pP** **11 58 08.4 +1.3**
HAMF Hammerfest 56.29 342 *e*P **P** **11 57 56.8 +2.3**
PKI Pulchoki 56.30 275 *e*P **P** **11 57 56.6 +1.0**
comp=Z,68nm,0.5s
PKIN Phulchoki 56.30 275 *e*P **P** **11 57 56.8 +1.2**
comp=Z,38nm,0.6s
K04D Chiloquin, OR 56.32 62 P **P** **11 57 55.3 -0.1**
baz=56
G08A Pilot Rock 56.34 58 *e*P **P** **11 57 56.4 +0.9**
APA Apatity 56.37 337 ⇑*i*P **P** **11 57 54.0 -1.1**
APA pmax pmax
comp=Z,28nm,0.4s
APA MLR MLR
comp=Z,1µm,18.0s
M02C Callahan 56.41 64 P **P** **11 57 57.5 +1.6**
baz=56,SNR=7.2
DMN Daman 56.48 275 *e*P **P** **11 57 58.0 +1.2**
comp=Z,106nm,0.6s
SRDT SRDT 56.48 253 P **P** **11 57 59.1 +2.5**
comp=Z,76nm,1.3s,comp=Z,7µm
KHLT Khaolaem Dam 56.49 254 P P 11 58 00.1 +3.5
comp=Z,19nm,1.4s
NLAI Namlea 56.51 213 P **P** **11 57 56.8 +0.1**
comp=Z,17nm,0.7s
AAI Ambon 56.53 212 P **P** **11 57 57.3 +0.5**
comp=Z,72nm,1.1s,comp=Z,2µm
GKN Gorkha 56.53 276 *e*P **P** **11 57 58.0 +1.0**
comp=Z,120nm,0.6s
APSI Ampana 56.58 220 P **P** **11 57 57.1 -0.1**
comp=Z,119nm,1.0s,comp=Z,1µm
BNDI Bandanaira 56.72 210 P **P** **11 57 58.3 +0.1**
comp=Z,138nm,1.2s
N02D Trinity Center 56.75 64 P **P** **11 57 59.5 +1.2**
baz=57,SNR=6.9
M04C Macdoel 56.78 63 P **P** **11 57 59.0 +0.4**
baz=57,SNR=5.6
ARCES ARCESS Array B 56.78 341 P **P** **11 57 55.7 -2.3**
comp=Z,7.8nm,0.7s,baz=32,slow=7.5,SNR=24
ARCES LR LR 12 26 14.5
comp=Z,1µm,20.8s,baz=32,slow=40
ARCES ARCESS Array B 56.78 341 P **P** **11 57 55.7 -2.3**
ARCES pmax pmax
comp=Z,8.0nm,0.7s
ARCES MLR MLR
comp=Z,1µm,20.8s
ARE0 ARCESS Array S 56.78 341 *e*P **P** **11 57 56.6 -1.4**
ARE0 *e*S **S** **12 05 44.6 -3.0**
WALA Waterton Lakes 56.84 52 *e*P **P** **11 57 58.5 -0.4**
comp=Z,40nm,0.9s
WALA *e*pP **pP** **11 58 10.5 -0.5**
WDC Whiskeytown Da 57.09 64 *e*P **P** **11 58 01.5 +0.9**
comp=Z,37nm,1.2s
WDC *e*pP **pP** **11 58 13.8 +1.1**
BSMT Bassoo Peak 57.11 53 *e*P **P** **11 58 01.2 +0.3**
comp=Z,69nm,1.3s
BSMT *e*pP **pP** **11 58 13.6 +0.7**
BLMT Blacktail Moun 57.24 53 *e*P **P** **11 58 02.4 +0.6**
BLMT *e*pP **pP** **11 58 14.7 +0.7**
KOLN Koldanda 57.37 276 *e*P **P** **11 58 04.2 +1.1**
comp=Z,130nm,0.6s
PCI Palu 57.37 222 P **P** **11 58 02.7 -0.2**
comp=Z,42nm,1.1s
JTMT Jette 57.44 53 *e*P **P** **11 58 04.0 +0.8**
JTMT *e*pP **pP** **11 58 15.6 +0.4**
TMCR Tamitsa 57.47 332 *e*P **P** **11 58 01.8 -1.1**
TMCR pmax pmax
comp=Z,32nm,0.6s
YBMT Yellow Bay 57.51 53 *e*P **P** **11 58 04.6 +0.9**
comp=Z,43nm,1.4s
YBMT *e*pP **pP** **11 58 16.1 +0.4**
BMO Blue Mountains 57.54 57 *e*P **P** **11 58 04.3 +0.4**
comp=Z,76nm,1.3s
BMO *e*pP **pP** **11 58 16.5 +0.5**
BMO LR LR
comp=Z,679nm,22.0s
HNR Honiara 57.58 174 PFAKE 11 58 20.0 +16
HNR LR LR
comp=Z,927nm,22.0s
MOD Modoc Plateau 57.61 62 *e*P **P** **11 58 05.4 +0.8**
comp=Z,63nm,1.4s
MOD *e*pP **pP** **11 58 17.3 +0.7**
KTK1 Kautokeino 57.69 341 *e*P **P** **11 58 03.0 -1.4**
KTK1 IAmb IAmb 11 58 05.4
comp=Z,12nm,0.5s
PMG Port Moresby 57.70 188 *e*P **P** **11 58 04.1 -1.0**
PMG pmax pmax
comp=Z,144nm,0.8s
PMG Port Moresby 57.70 188 *e*P **P** **11 58 05.4 +0.3**
comp=Z,41nm,1.0s
PMG LR LR
comp=Z,728nm,22.0s
SWMT Swartz Lake 57.74 53 *e*P **P** **11 58 05.8 +0.5**
comp=Z,66nm,1.5s
SWMT *e*pP **pP** **11 58 18.0 +0.6**
TRO Tromso 58.06 343 *e*P **P** **11 58 04.8 -2.1**
TRO *e*S **S** **12 06 03.6 -0.7**
SLMT Seeley Lake 58.17 53 *e*P **P** **11 58 08.6 +0.2**
comp=Z,36nm,0.8s
SLMT *e*pP **pP** **11 58 21.2 +0.8**
AB31 Akbulak array 58.19 310 *i* P **P** **11 58 06.4 -1.8**
AB31 pmax pmax
comp=Z,46nm,0.5s
ABKAR Akbulak array 58.19 310 *e*P **P** **11 58 06.6 -1.6**
comp=Z,50nm,0.5s
MSO Missoula 58.19 54 P **P** **11 58 08.3 -0.1**
baz=58,SNR=19
MSO Missoula 58.19 54 *e*P **P** **11 58 08.6 +0.2**
comp=Z,104nm,1.3s
SBUM Sibu 58.21 232 ⇑P **P** **11 58 10.9 +2.2**
SBUM Sibu 58.21 232 *e*P **P** **11 58 09.3 +0.5**
comp=Z,117nm,2.2s
WVOR Wild Horse Val 58.26 60 *e*P **P** **11 58 09.9 +0.9**
comp=Z,86nm,1.4s
WVOR *e*pP **pP** **11 58 22.1 +1.0**
CHMT Chamberlain Mo 58.51 53 *e*P **P** **11 58 10.8 +0.1**
CHMT *e*pP **pP** **11 58 22.9 +0.1**
KDI Kendari 58.91 218 P **P** **11 58 14.7 +1.1**
comp=Z,55nm,1.5s,comp=Z,790nm
FFC Flin Flon 59.06 41 P **P** **11 58 14.5 +0.3**
comp=Z,213nm,1.0s,SNR=11
FFC Flin Flon 59.06 41 *e*P **P** **11 58 14.2 -0.1**
comp=Z,31nm,0.9s
FFC *e*pP **pP** **11 58 26.8 +0.5**
FFC LR LR
comp=Z,665nm,21.0s
SUMG Summit 59.20 4 ⇑*i*P **P** **11 58 15.4 0.0**
SUMG *i* S **S** **12 06 18.2 -1.7**
SUMG pmax pmax
comp=Z,83nm,0.8s
SUMG MLR MLR
comp=Z,730nm,20.0s
SUMG Summit 59.20 4 *e*P **P** **11 58 14.4 -1.0**
comp=Z,84nm,0.8s
MFID Camas Ranch 59.27 58 *e*P **P** **11 58 16.8 +0.8**
comp=Z,43nm,1.1s
MFID *e*pP **pP** **11 58 28.8 +0.8**
TTSI Tana Toraja 59.28 221 P **P** **11 58 16.1 -0.1**
comp=Z,20nm,0.9s
HRY Holter Researc 59.39 53 *e*P **P** **11 58 17.9 +1.1**
comp=Z,6.7nm,0.5s
HRY *e*pP **pP** **11 58 29.9 +0.9**
SAUI Saumlaki 59.54 207 P **P** **11 58 18.7 +0.8**
comp=Z,404nm,1.3s
FCC Fort Churchill 59.57 34 *e*P **P** **11 58 17.3 -0.3**
comp=Z,47nm,1.0s
FCC *e*pP **pP** **11 58 29.2 -0.5**
A19A Klindworth Far 59.59 49 P **P** **11 58 17.7 -0.4**
baz=59,SNR=6.4
LRM Limekiln Ridge 59.62 54 *e*P **P** **11 58 18.7 +0.1**
comp=Z,771nm,1.2s
LRM *e*pP **pP** **11 58 31.6 +0.9**
EGMT Eagleton 59.65 51 P **P** **11 58 18.5 0.0**
baz=59,SNR=10
EGMT Eagleton 59.65 51 *e*P **P** **11 58 18.8 +0.3**
comp=Z,182nm,1.6s
EGMT *e*pP **pP** **11 58 31.2 +0.6**
EGMT LR LR
comp=Z,759nm,20.0s
B19A Brinkman Farms 59.80 50 P **P** **11 58 19.7 +0.3**
baz=60
DLMT Dillon 59.83 55 *e*P **P** **11 58 20.8 +0.9**

	comp=Z,214nm,1.9s									
DLMT					*e*P		**pP**		11 58 33.1	+1.1
HLID	**Hailey**	**59.97**	**57**	P			**P**		11 58 20.9	**0.0**
	baz=60,SNR=19									
HLID	**Hailey**	**59.97**	**57**	*e*P			**P**		11 58 20.9	**0.0**
	comp=Z,59nm,1.3s									
HLID					*e*P		**pP**		11 58 33.7	+0.7
HLID					LR		LR			
	comp=Z,515nm,21.0s									
CMB	**Columbia Colle**	**59.98**	**65**	*e*P			**P**		11 58 21.1	+0.2
	comp=Z,36nm,1.2s									
CMB					*e*P		**pP**		11 58 33.8	+0.8
MCMT	**McKenzie Canyo**	**60.04**	**55**	*e*P			**P**		11 58 21.5	+0.1
MCMT					*e*P		**pP**		11 58 34.2	+0.7
A20A	**Cobblestone Ra**	**60.04**	**49**	P			**P**		11 58 21.4	+0.2
	baz=60									
KSM	**Kuching**	**60.05**	**233**	*e*P			**P**		11 58 21.9	+0.4
	comp=Z,42nm,0.8s									
KSM					LR		LR			
	comp=Z,383nm,21.0s									
SPSI	**Sidrap Palu**	**60.13**	**221**	P			**P**		11 58 19.6	**-2.4**
	comp=Z,44nm,1.1s									
BOZ	**Bozeman (W)**	**60.18**	**54**	P			**P**		11 58 22.6	+0.3
	baz=60,SNR=41									
BOZ	**Bozeman (W)**	**60.18**	**54**	*e*P			**P**		11 58 23.1	+0.9
	comp=Z,220nm,1.4s									
WAKR	**Walker**	**60.26**	**64**	*e*P			**P**		11 58 23.9	+0.9
WAKR					*e*P		**pP**		11 58 36.0	+0.9
B20A	**Solberg Farm,**	**60.28**	**49**	P			**P**		11 58 22.9	+0.1
	baz=60,SNR=13									
BMN	**Battle Mountai**	**60.35**	**61**	*e*P			**P**		11 58 24.2	+0.7
	comp=Z,53nm,1.1s									
BMN					*e*P		**pP**		11 58 36.5	+0.8
LOF	**Lofoten**	**60.36**	**344**	*e*P			**P**		11 58 21.7	**-1.2**
LOF					IAmb		IAmb		11 58 26.6	
	comp=Z,34nm,1.2s									
A21A	**Bergtoll Ranch**	**60.47**	**48**	P			**P**		11 58 24.3	+0.2
	baz=60,SNR=9.0									
STKI	**Sintang**	**60.62**	**231**	P			**P**		11 58 23.7	**-1.7**
	comp=Z,84nm,0.8s,comp=Z,27µm									
C20A	**Veseth Ranch,**	**60.76**	**50**	P			**P**		11 58 25.9	**-0.1**
	baz=60,SNR=30									
B21A	**Ellsworth Farm**	**60.79**	**49**	P			**P**		11 58 26.4	+0.2
	baz=61,SNR=5.8									
QLMT	**Earthquake Lak**	**60.81**	**54**	*e*P			**P**		11 58 27.0	+0.4
	comp=Z,20nm,1.3s									
QLMT					*e*P		**pP**		11 58 39.9	+1.1
KTGM	**Kuala Trenggan**	**60.97**	**243**	⇓P			**P**		11 58 29.6	+1.8
A22A	**Carney Farms,**	**60.98**	**48**	P			**P**		11 58 27.5	**0.0**
	baz=61,SNR=23									
NVAR	**Mina Array Bea**	**60.99**	**64**	P			**P**		11 58 28.4	+0.4
	comp=Z,15nm,0.7s,baz=295,slow=7.1,SNR=136									
SKLT	**Songkhla**	**61.04**	**246**	P			**P**		11 58 29.9	+1.7
	comp=Z,75nm,0.8s,comp=Z,936nm									
KAPI	**Kappang**	**61.07**	**220**	P			**P**		11 58 29.3	+0.9
	comp=Z,215nm,0.8s,SNR=5.7									
KAPI	**Kappang**	**61.07**	**220**	LR			LR		12 25 21.8	
	comp=Z,180nm,21.1s,baz=16,slow=36									
KAPI	**Kappang**	**61.07**	**220**	*e*P			**P**		11 58 29.2	+0.9
	comp=Z,8.3nm,1.0s									
TRTT	**Trang**	**61.09**	**248**	P			**P**		11 58 30.4	+1.8
	comp=Z,57nm,1.4s									
GCMT	**Greycliff**	**61.14**	**53**	*e*P			**P**		11 58 29.6	+0.9
	comp=Z,84nm,1.3s									
GCMT					*e*P		**pP**		11 58 42.4	+1.5
C21A	**Desert Coulee**	**61.15**	**50**	P			**P**		11 58 29.2	+0.5
	baz=61,SNR=20									
YMR	**Madison River**	**61.17**	**54**	*e*P			**P**		11 58 29.8	+0.7
	comp=Z,209nm,1.6s									
YMR					*e*P		**pP**		11 58 42.0	+0.7
KBKI	**Kotabaru**	**61.18**	**225**	P			**P**		11 58 28.1	**-1.0**
	comp=Z,48nm,1.4s,comp=Z,869nm									
MLAC	**Mammoth, Mammo**	**61.18**	**65**	P			**P**		11 58 29.6	+0.3
	baz=61									
BKSI	**Bulukumba**	**61.19**	**220**	P			**P**		11 58 28.0	**-1.2**
	comp=Z,54nm,0.8s,comp=Z,573nm									
YNR	**Norris Junctio**	**61.29**	**54**	*e*P			**P**		11 58 29.8	**-0.2**
	comp=Z,330nm,1.9s									
YNR					*e*P		**pP**		11 58 43.8	+1.7
ELK	**Elko**	**61.30**	**60**	P			**P**		11 58 30.6	+0.5
	comp=Z,8.0nm,0.8s,baz=303,slow=6.6,SNR=50									
ELK	**Elko**	**61.30**	**60**	P			**P**		11 58 30.7	+0.5
ELK					pmax		pmax			
	comp=Z,8.0nm,0.8s									
ELK	**Elko**	**61.30**	**60**	*e*P			**P**		11 58 30.6	+0.5
	comp=Z,24nm,1.1s									
ELK					*e*P		**pP**		11 58 43.0	+0.8
YFT	**Old Faithful**	**61.38**	**54**	*e*P			**P**		11 58 33.1	+2.5
	comp=Z,74nm,1.1s									
YFT					*e*P		**pP**		11 58 44.8	+2.1
B22A	**Reddig Ranch S**	**61.39**	**49**	P			**P**		11 58 30.6	+0.2
	baz=61									
A23A	**Redstone**	**61.51**	**47**	P			**P**		11 58 31.1	**0.0**
	baz=61									
LKWY	**Lake**	**61.54**	**54**	*e*P			**P**		11 58 33.1	+1.4
	comp=Z,60nm,1.0s									
LKWY					*e*P		**pP**		11 58 46.0	+2.2
LKWY					LR		LR			
	comp=Z,673nm,20.0s									
H17A	**Grant Village**	**61.56**	**54**	P			**P**		11 58 33.4	+1.6
	baz=61,SNR=18									
H17A	**Grant Village**	**61.56**	**54**	*e*P			pP		11 58 45.6	+1.7
IMW	**Indian Meadow**	**61.68**	**55**	*e*P			**P**		11 58 33.5	+0.8
	comp=Z,70nm,1.2s									
IMW					*e*P		**pP**		11 58 45.4	+0.5
FLWY	**Flagg Ranch**	**61.69**	**55**	*e*P			**P**		11 58 33.7	+1.0
	comp=Z,112nm,1.4s									
FLWY					*e*P		**pP**		11 58 45.7	+0.9
D21A	**La Casta Ranch**	**61.70**	**50**	P			**P**		11 58 33.1	+0.6
	baz=62,SNR=18									
BSSI	**Bau Bau, Buton**	**61.77**	**219**	P			**P**		11 58 31.8	**-1.3**
	comp=Z,90nm,1.1s,comp=Z,1µm									
B23A	**Brockton**	**61.78**	**48**	P			**P**		11 58 33.3	+0.4
	baz=62,SNR=14									
RLMT	**Red Lodge**	**61.79**	**53**	P			**P**		11 58 34.1	+0.9
	baz=62,SNR=17									
RLMT	**Red Lodge**	**61.79**	**53**	*e*P			**P**		11 58 34.2	+0.9
	comp=Z,150nm,1.3s									
RLMT					*e*P		**pP**		11 58 47.3	+1.9
RLMT					LR		LR			
	comp=Z,714nm,22.0s									
RCTC	**Rector, Farmer**	**61.79**	**66**	P			**P**		11 58 32.9	**-0.2**
	baz=62									
FXWY	**Fox Creek**	**61.80**	**55**	*e*P			**P**		11 58 34.8	+1.4
	comp=Z,51nm,1.3s									
C22A	**Vida**	**61.81**	**49**	P			**P**		11 58 33.4	+0.3
	baz=62,SNR=9.3									
TPH	**Tonopah**	**61.87**	**63**	*e*P			**P**		11 58 34.1	+0.2
	comp=Z,80nm,1.2s									
TPH					*e*P		**pP**		11 58 46.7	+0.7
MOOW	**Moose Ponds**	**61.89**	**55**	*e*P			**P**		11 58 35.0	+1.1
	comp=Z,74nm,1.3s									
MOOW					*e*P		**pP**		11 58 47.5	+1.3
MOR8	**Moi Rana**	**61.91**	**343**	*e*P			**P**		11 58 31.3	**-2.2**
MOR8					IAmb		IAmb		11 58 35.0	
	comp=Z,20nm,1.2s									
TIN	**Tinemaha, Big**	**61.92**	**65**	P			**P**		11 58 35.0	+0.8
	baz=62									
F20A	**Billings**	**61.93**	**52**	P			**P**		11 58 34.7	+0.6
	baz=62									
TPAW	**Teton Pass**	**61.94**	**55**	*e*P			**P**		11 58 35.3	+0.9
	comp=Z,141nm,1.3s									
TPAW					*e*P		**pP**		11 58 48.0	+1.5
A24A	**Westby**	**61.96**	**47**	P			**P**		11 58 34.4	+0.2
	baz=62									
SMMC	**Simmler**	**61.98**	**67**	P			**P**		11 58 35.9	+1.4
	baz=62									
E21A	**Keefer Ranch,**	**62.00**	**51**	P			**P**		11 58 35.1	+0.7
	baz=62,SNR=8.2									
HVU	**Hansel Valley**	**62.04**	**58**	*e*P			**P**		11 58 35.5	+0.6
	comp=Z,8.4nm,0.8s									
HVU					*e*P		**pP**		11 58 47.7	+0.6
LOHW	**Long Hollow**	**62.05**	**55**	*e*P			**P**		11 58 36.2	+1.1
	comp=Z,133nm,1.4s									
LOHW					*e*P		**pP**		11 58 48.6	+1.4
D22A	**Cohagen**	**62.06**	**50**	P			**P**		11 58 35.4	+0.5
	baz=62,SNR=7.9									
SNOW	**Snow King Moun**	**62.07**	**55**	*e*P			**P**		11 58 36.5	+1.3
	comp=Z,127nm,1.3s									
SNOW					*e*P		**pP**		11 58 49.0	+1.7
REDW	**Red Top Meadow**	**62.08**	**55**	*e*P			**P**		11 58 36.5	+1.2
	comp=Z,162nm,1.4s									
REDW					*e*P		**pP**		11 58 49.0	+1.5
C23A	**Lambert**	**62.13**	**49**	P			**P**		11 58 35.2	**-0.1**
	baz=62									
DGMT	**Dagmar**	**62.17**	**48**	P			**P**		11 58 35.6	**0.0**
	baz=62									
DGMT	**Dagmar**	**62.17**	**48**	*e*P			**P**		11 58 35.0	**-0.5**
	comp=Z,143nm,1.1s									
DGMT					*e*P		**pP**		11 58 48.3	+0.6
DGMT					LR		LR			
	comp=Z,1µm,22.0s									
VES	**Vestal, Richgr**	**62.19**	**66**	P			**P**		11 58 36.7	+0.9
	baz=62									
H19A	**Powell**	**62.23**	**53**	P			**P**		11 58 37.1	+1.0
	baz=62,SNR=6.1									
G20A	**Bridger**	**62.28**	**52**	P			**P**		11 58 36.7	+0.2
	baz=62,SNR=10									
AHID	**Auburn Hatcher**	**62.34**	**56**	*e*P			**P**		11 58 37.6	+0.6
	comp=Z,165nm,1.6s									
AHID					*e*P		**pP**		11 58 50.2	+1.1
AHID					LR		LR			
	comp=Z,635nm,22.0s									
KBL	**Kabul**	**62.36**	**292**	*e*P			**P**		11 58 36.6	**-0.7**
	comp=Z,15nm,0.6s									
PKM	**Mcpherson Peak**	**62.36**	**68**	P			**P**		11 58 37.8	+0.6
	baz=62,SNR=7.0									
A25A	**Svangstu Ranch**	**62.39**	**47**	P			**P**		11 58 37.4	+0.4
	baz=62,SNR=6.6									
CWC	**Cottonwood Cre**	**62.41**	**65**	P			**P**		11 58 37.4	**-0.1**
	baz=62									
F21A	**Absaloka Mine,**	**62.45**	**51**	P			**P**		11 58 37.9	+0.4
	baz=62,SNR=12									
BGU	**Big Grassy Mou**	**62.46**	**59**	*e*P			**P**		11 58 38.3	+0.5
	comp=Z,79nm,1.8s									
BGU					*e*P		**pP**		11 58 50.4	+0.5
GRAC	**Grapevine Rang**	**62.48**	**64**	P			**P**		11 58 38.5	+0.6
	baz=62,SNR=7.7									
KULM	**Kulim**	**62.49**	**245**	*e*P			**P**		11 58 38.2	+0.1
	comp=Z,58nm,0.9s									
KULM					LR		LR			
	comp=Z,484nm,22.0s									
D23A	**Lindsay**	**62.54**	**49**	P			**P**		11 58 38.8	+0.7
	baz=62,SNR=5.7									
I19A	**Meeetse**	**62.65**	**54**	P			**P**		11 58 39.6	+0.5
	baz=62,SNR=9.7									
E22A	**Miles City**	**62.65**	**50**	P			**P**		11 58 39.2	+0.4
	baz=62,SNR=6.3									
R11A	**Troy Canyon, C**	**62.66**	**62**	P			**P**		11 58 39.2	**0.0**
	baz=62,SNR=32									
R11A	**Troy Canyon, C**	**62.66**	**62**	*e*P			**P**		11 58 39.1	**0.0**
	comp=Z,31nm,1.0s									
R11A					*e*P		**pP**		11 58 51.6	+0.3
COEN	**Coen**	**62.67**	**192**	*e*P			**P**		11 58 39.5	+0.4
	comp=Z,8.7nm,1.1s									
ISA	**Isabella, Lake**	**62.69**	**66**	P			**P**		11 58 38.5	**-0.7**
	baz=62,SNR=7.9									
ISA	**Isabella, Lake**	**62.69**	**66**	*e*P			**P**		11 58 38.7	**-0.5**
	comp=Z,45nm,1.6s									
SBC	**Santa Barbara**	**62.72**	**68**	P			**P**		11 58 39.9	+0.6
	baz=63									
B25A	**Knox Farm, Ray**	**62.82**	**47**	P			**P**		11 58 39.9	**0.0**
	baz=63									
ARVC	**Arvin**	**62.82**	**67**	P			**P**		11 58 39.9	**-0.1**
	baz=63									
HWUT	**Hardware Ranch**	**62.84**	**57**	*e*P			**P**		11 58 40.9	+0.5
	comp=Z,104nm,1.4s									
HWUT					*e*P		**pP**		11 58 53.3	+0.8
HWUT					LR		LR			
	comp=Z,543nm,21.0s									
H20A	**Greybull**	**62.88**	**53**	P			**P**		11 58 40.2	**-0.2**
	baz=63									
IPM	**Ipoh**	**62.91**	**244**	⇓P			**P**		11 58 42.3	+1.4
IPM	**Ipoh**	**62.91**	**244**	*e*P			**P**		11 58 41.0	+0.2
	comp=Z,31nm,0.9s									
F22A	**Rosebud**	**62.94**	**51**	P			**P**		11 58 40.8	**0.0**
	baz=63									
A26A	**Wade Farm, Ken**	**62.94**	**46**	P			**P**		11 58 40.3	**-0.4**
	baz=63									
E23A	**Ismay**	**62.94**	**50**	P			**P**		11 58 41.3	+0.5
	baz=63,SNR=12									
D24A	**Glendive**	**63.02**	**49**	P			**P**		11 58 41.5	+0.3
	baz=63,SNR=9.1									
MPMC	**Manual Prospec**	**63.02**	**65**	P			**P**		11 58 41.6	**0.0**
	baz=63,SNR=15									
DUG	**Dugway, Tooele**	**63.06**	**59**	P			**P**		11 58 42.2	+0.5
	baz=63,SNR=34									
DUG	**Dugway, Tooele**	**63.06**	**59**	*e*P			**P**		11 58 42.3	+0.5
	comp=Z,79nm,1.0s									
DUG					*e*P		**pP**		11 58 55.0	+1.1
DUG					LR		LR			
	comp=Z,489nm,21.0s									
BSC	**Santa Cruz Isl**	**63.07**	**68**	P			**P**		11 58 41.6	**-0.1**
	baz=63									
FIA1	**FINESS Array S**	**63.11**	**335**	*e*P			**P**		11 58 39.4	**-2.1**
FINES	**FINESS Array B**	**63.11**	**335**	P			**P**		11 58 40.6	**-0.9**
	comp=Z,28nm,0.5s,baz=40,slow=7.2,SNR=135									
FINES					LR		LR		12 28 23.3	
	comp=Z,1µm,21.9s,baz=34,slow=38									
FINES	**FINESS Array B**	**63.11**	**335**	*i* P			**P**		11 58 40.0	**-1.5**
FINES					pmax		pmax			
	comp=Z,28nm,0.5s									
FINES	**FINESS Array B**	**63.11**	**335**	*e*P			**P**		11 58 40.0	**-1.5**
J19A	**Crowheart**	**63.13**	**54**	P			**P**		11 58 43.0	+0.8
	baz=63,SNR=14									
FURC	**Furnace Creek,**	**63.13**	**65**	P			**P**		11 58 42.3	+0.2
	baz=63,SNR=47									
C25A	**Freed Ranch, W**	**63.15**	**48**	P			**P**		11 58 42.3	+0.3
	baz=63									
I20A	**Worland**	**63.17**	**53**	P			**P**		11 58 42.9	+0.5
	baz=63,SNR=21									
BW06	**Boulder Array**	**63.19**	**55**	*e*P			**P**		11 58 41.8	**-0.8**
	comp=Z,98nm,1.1s									
BW06					*e*P		**pP**		11 58 55.1	+0.3
BW06					LR		LR			
	comp=Z,546nm,22.0s									
PDAR	**Pinedale Array**	**63.19**	**55**	P			**P**		11 58 43.2	+0.6
	comp=Z,18nm,0.8s,baz=340,slow=2.1,SNR=111									
PDAR					LR		LR		12 27 19.6	
	comp=Z,225nm,20.5s,baz=342,slow=37									
TPNV	**Topopah Spring**	**63.19**	**64**	P			**P**		11 58 42.5	**-0.2**
	baz=63,SNR=36									
B26A	**Jensen Ranch,**	**63.20**	**47**	P			**P**		11 58 42.1	**-0.3**
	baz=63									
OSI	**Osito Audit: C**	**63.22**	**67**	P			**P**		11 58 42.7	**0.0**
	baz=63									
TCUT	**Toone Canyon**	**63.25**	**58**	*e*P			**P**		11 58 44.0	+0.9
	comp=Z,95nm,1.4s									
TCUT					*e*P		**pP**		11 58 56.4	+1.1
A27A	**Ledoux Ranch,**	**63.28**	**46**	P			**P**		11 58 43.2	+0.3
	baz=63									
LRMC	**Laurel Mtn Rad**	**63.29**	**66**	P			**P**		11 58 43.4	+0.1
	baz=63,SNR=9.2									
G22A	**Birney**	**63.29**	**51**	P			**P**		11 58 43.2	**0.0**
	baz=63,SNR=10.0									
H21A	**Big Horn, Sher**	**63.30**	**52**	P			**P**		11 58 43.3	+0.1
	baz=63,SNR=29									
MMRI	**Maumere**	**63.31**	**216**	P			**P**		11 58 43.0	**-0.3**
	comp=Z,127nm,1.4s,comp=Z,2µm									
MMRI	**Maumere**	**63.31**	**216**	*e*P			**P**		11 58 43.1	**-0.3**
	comp=Z,123nm,1.0s									
CTU	**Camp Tracy**	**63.34**	**58**	*e*P			**P**		11 58 43.6	**0.0**
	comp=Z,62nm,1.2s									
CTU					*e*P		**pP**		11 58 56.5	+0.7
BLG	**Laguna Peak, P**	**63.35**	**68**	P			**P**		11 58 43.7	+0.1
	baz=63									
MYKOM	**Kota Tinggi**	**63.40**	**240**	*e*P			**P**		11 58 45.6	+1.6
	comp=Z,26nm,0.9s									
CHLP	**Challavanipeta**	**63.40**	**268**	*e*P			**P**		11 58 44.5	+0.5
E24A	**Baker**	**63.41**	**49**	P			**P**		11 58 44.0	+0.1
	baz=63									
F23A	**Volborg**	**63.41**	**50**	P			**P**		11 58 43.8	**-0.1**
	baz=63,SNR=12									
EDW2	**Edwards Air Fo**	**63.50**	**67**	P			**P**		11 58 44.8	+0.2
	baz=63,SNR=17									
D25A	**Fairfield**	**63.50**	**48**	P			**P**		11 58 44.4	**0.0**
	baz=63									
SOEI	**Soe**	**63.56**	**214**	P			**P**		11 58 44.6	**-0.6**
	comp=Z,71nm,0.9s									
SOEI	**Soe**	**63.56**	**214**	*e*P			**P**		11 58 45.2	**0.0**
	comp=Z,50nm,0.8s									
JLU	**Jordanelle**	**63.57**	**58**	*e*P			**P**		11 58 46.1	+0.9
	comp=Z,68nm,1.3s									
JLU					*e*P		**pP**		11 58 58.5	+1.0
SFJD	**Kangerlussuaq**	**63.57**	**11**	⇑*i*P			**P**		11 58 43.8	**-0.7**
SFJD					pmax		pmax			
	comp=Z,34nm,0.7s									
SFJD					MLR		MLR			
	comp=Z,870nm,18.0s									
SFJD	**Kangerlussuaq**	**63.57**	**11**	*e*P			**P**		11 58 44.0	**-0.5**
	comp=Z,51nm,1.0s									
J20A	**Shoshoni**	**63.60**	**54**	P			**P**		11 58 45.4	+0.1
	baz=63,SNR=9.8									
C26A	**Wahner Farm, P**	**63.64**	**47**	P			**P**		11 58 45.3	**0.0**
	baz=63									
NLU	**North Lily Min**	**63.65**	**59**	*e*P			**P**		11 58 45.9	+0.2
	comp=Z,44nm,1.0s									
NLU					*e*P		**pP**		11 58 58.8	+0.9
B27A	**Peters Farms,**	**63.65**	**46**	P			**P**		11 58 45.5	+0.1
	baz=63									
H22A	**Clearmont**	**63.68**	**52**	P			**P**		11 58 45.8	**0.0**
	baz=64									
DECC	**Green Verdugo**	**63.71**	**67**	P			**P**		11 58 46.2	+0.2
	baz=64									
I21A	**Big Trails, Te**	**63.71**	**53**	P			**P**		11 58 46.1	+0.1
	baz=64,SNR=24									
A28A	**Rude Farm, Bot**	**63.77**	**45**	P			**P**		11 58 46.4	+0.2
	baz=64,SNR=5.1									
G23A	**Biddle**	**63.77**	**51**	P			**P**		11 58 46.3	**0.0**
	baz=64,SNR=10									
F24A	**Ekalaka**	**63.82**	**50**	P			**P**		11 58 46.7	+0.1
	baz=64,SNR=8.2									
PASC	**Pasadena Art C**	**63.85**	**67**	*e*P			**P**		11 58 47.0	+0.2
	comp=Z,59nm,1.3s									
PASC					*e*P		**pP**		11 58 59.3	+0.3
MPU	**Maple Canyon**	**63.86**	**59**	*e*P			**P**		11 58 47.8	+0.7
	comp=Z,221nm,1.1s									
MPU					*e*P		**pP**		11 59 00.1	+0.8
SHOC	**Shoshone, Teco**	**63.86**	**65**	P			**P**		11 58 47.3	+0.3
	baz=64									
MWC	**Mount Wilson**	**63.89**	**67**	*e*P			**P**		11 58 47.4	**0.0**
	comp=Z,88nm,1.4s									
MWC					*e*P		**pP**		11 58 59.6	**0.0**
E25A	**Miller Ranch,**	**63.91**	**49**	P			**P**		11 58 47.0	**-0.1**
	baz=64									
GSC	**Goldstone, Bar**	**63.94**	**66**	P			**P**		11 58 47.9	+0.4
	baz=64,SNR=18									
GSC	**Goldstone, Bar**	**63.94**	**66**	*e*P			**P**		11 58 46.8	**-0.7**
	comp=Z,29nm,1.1s									
GSC					*e*P		**pP**		11 58 59.8	**0.0**
J21A	**Lysite**	**63.95**	**54**	P			**P**		11 58 47.7	**0.0**
	baz=64,SNR=7.9									
C27A	**Sayler Ranch,**	**64.01**	**47**	P			**P**		11 58 47.3	**-0.5**
	baz=64									
D26A	**Manning**	**64.02**	**48**	P			**P**		11 58 47.4	**-0.5**
	baz=64									
B28A	**Dugan Ranch, T**	**64.05**	**46**	P			**P**		11 58 47.6	**-0.4**
	baz=64									
FMP	**Fort Macarthur**	**64.09**	**68**	P			**P**		11 58 47.5	**-0.9**
	baz=64									
I22A	**9 Mile Ranch,**	**64.09**	**53**	P			**P**		11 58 48.9	+0.5
	baz=64,SNR=8.1									
RRX	**Edison Barstow**	**64.11**	**66**	P			**P**		11 58 48.1	**-0.5**
	baz=64									
BFSC	**Mount Baldy Ra**	**64.13**	**67**	P			**P**		11 58 48.8	**0.0**
	baz=64,SNR=9.5									
SHPR	**Sheep Range**	**64.14**	**64**	*e*P			**P**		11 58 48.6	**-0.3**
SHPR					*e*P		**pP**		11 59 01.7	+0.6
G24A	**Alzada**	**64.19**	**50**	P			**P**		11 58 48.7	**-0.4**
	baz=64									
H23A	**Clabaugh Cattl**	**64.20**	**51**	P			**P**		11 58 48.7	**-0.5**
	baz=64									
CIS	**Catalina Islan**	**64.22**	**68**	P			**P**		11 58 49.0	**-0.4**
	baz=64									
A29A	**Manning Farm,**	**64.25**	**45**	P			**P**		11 58 49.5	+0.2
	baz=64,SNR=19									
F25A	**Bowman**	**64.27**	**49**	P			**P**		11 58 49.2	**-0.4**
	baz=64									
TUQ	**Turquoise Moun**	**64.39**	**65**	P			**P**		11 58 50.4	**-0.2**
	baz=64,SNR=17									
E26A	**Carlson Angus**	**64.40**	**48**	P			**P**		11 58 50.3	**0.0**
	baz=64,SNR=6.1									
J22A	**Midwest**	**64.42**	**53**	P			**P**		11 58 50.5	**-0.2**
	baz=64,SNR=17									
D27A	**Center**	**64.42**	**47**	P			**P**		11 58 50.7	+0.3
	baz=64									
CCUT	**Cedar City**	**64.50**	**62**	*e*P			**P**		11 58 51.6	+0.2
	comp=Z,55nm,1.2s									
CCUT					*e*P		**pP**		11 59 04.3	+0.6
B29A	**Wagenman Farm,**	**64.52**	**45**	P			**P**		11 58 51.2	+0.1
	baz=64,SNR=8.4									

E28A	**Huff**	**65.20**	**47**	P		**P**		**11 58 55.5**	**0.0**
	baz=65								
RSSD	**Black Hills**	**65.22**	**51**	*e*P		**P**		**11 58 55.6**	**-0.4**
	comp=Z,168nm,1.4s								
RSSD				*e*pP		**pP**		**11 59 08.3**	**+0.2**
PFO	**Pinyon Flats O**	**65.29**	**67**	P		**P**		**11 58 56.2**	**-0.3**
	baz=65								
PFO	**Pinyon Flats O**	**65.29**	**67**	PFAKE				11 59 10.0	+14
PFO				LR		LR			
	comp=Z,802nm,22.0s								
BELC	**Belle Mtn. Jos**	**65.31**	**66**	P		**P**		**11 58 56.3**	**-0.3**
	baz=65								
K23A	**Bowen Ranch, D**	**65.32**	**53**	P		**P**		**11 58 56.4**	**-0.2**
	baz=65,SNR=5.1								
VSU	**Vasula**	**65.34**	**333**	*i* P		**P**		**11 58 54.5**	**-1.7**
VSU				pmax		pmax			
	comp=Z,69nm,0.7s								
109C	**Camp Elliot, M**	**65.38**	**68**	P		**P**		**11 58 56.5**	**-0.3**
	baz=65								
WBSI	**Waikabubak, Su**	**65.38**	**219**	P		**P**		**11 58 55.7**	**-1.3**
	comp=Z,82nm,0.8s								
D29A	**Pettibone, Tap**	**65.39**	**46**	P		**P**		**11 58 55.8**	**-1.0**
	baz=65								
G27A	**Dupree**	**65.42**	**49**	P		**P**		**11 58 56.5**	**-0.5**
	baz=65								
J24A	**Dixon Ranch, L**	**65.44**	**52**	P		**P**		**11 58 56.9**	**-0.4**
	baz=65								
I25A	**Rochford**	**65.45**	**51**	P		**P**		**11 58 57.4**	**0.0**
	baz=65,SNR=15								
C30A	**Mose, Pekin**	**65.47**	**45**	P		**P**		**11 58 56.9**	**-0.4**
	baz=65								
PSI	**Prapat**	**65.50**	**245**	LR		LR		12 28 07.9	
	comp=Z,364nm,20.5s,baz=26,slow=36								
PSI	**Prapat**	**65.50**	**245**	*e*P		**P**		**11 58 58.3**	**+0.3**
	comp=Z,60nm,0.7s								
H26A	**Fairpoint**	**65.53**	**50**	P		**P**		**11 58 57.1**	**-0.6**
	baz=65								
VRHR	**Novokhopersk**	**65.59**	**320**	*e*P		P		11 58 53.8	-4.1
VRHR				pmax		pmax			
	comp=N,10.0nm,0.6s								
VRHR				pmax		pmax			
	comp=E,20nm,0.6s								
VRHR				pmax		pmax			
	comp=Z,70nm,0.6s								
NEE2	**Needles Airpor**	**65.63**	**65**	P		**P**		**11 58 58.4**	**0.0**
	baz=66								
F28A	**McLaughlin**	**65.66**	**48**	P		**P**		**11 58 58.3**	**-0.2**
	baz=65								
O20A	**White River Ci**	**65.69**	**57**	P		**P**		**11 58 58.8**	**-0.2**
	baz=66,SNR=6.7								
O20A	**White River Ci**	**65.69**	**57**	*e*P		**P**		**11 58 58.9**	**-0.2**
	comp=Z,64nm,1.1s								
O20A				*e*pP		**pP**		**11 59 11.8**	**+0.5**
IRM	**Iron Mountain**	**65.72**	**65**	P		**P**		**11 58 58.9**	**-0.1**
	baz=66,SNR=8.1								
E29A	**Napoleon**	**65.72**	**47**	P		**P**		**11 58 58.5**	**-0.4**
	baz=66								
D30A	**Buchanan**	**65.76**	**46**	P		**P**		**11 58 58.7**	**-0.5**
	baz=66								
K24A	**Anderson Ranch**	**65.78**	**53**	P		**P**		**11 58 58.7**	**-0.8**
	baz=66								
MONP	**Monument Peak,**	**65.80**	**67**	P		**P**		**11 58 59.6**	**-0.2**
	baz=66								
J25A	**Sunshine Ranch**	**65.85**	**51**	P		**P**		**11 58 59.1**	**-0.7**
	baz=66								
H27A	**Howes**	**65.87**	**50**	P		**P**		**11 58 59.5**	**-0.5**
	baz=66								
BC3	**Big Chuckawall**	**65.88**	**66**	P		**P**		**11 59 00.1**	**-0.1**
	baz=66,SNR=6.8								
I26A	**New Underwood**	**65.89**	**50**	P		**P**		**11 59 00.1**	**0.0**
	baz=66								
PVM	**Polavaram**	**65.91**	**269**	*e*P		**P**		**11 59 00.8**	**+0.3**
E30A	**Jud**	**66.12**	**46**	P		**P**		**11 59 01.0**	**-0.5**
	baz=66								
G28A	**Parade**	**66.15**	**49**	P		**P**		**11 59 01.2**	**-0.5**
	baz=66								
F29A	**Eureka**	**66.15**	**47**	P		**P**		**11 59 01.1**	**-0.6**
	baz=66								
SWSC	**Sam W. Stewart**	**66.15**	**67**	P		**P**		**11 59 01.7**	**-0.1**
	baz=66								
IBP	**Imperial Bould**	**66.16**	**67**	P		**P**		**11 59 02.2**	**+0.2**
	baz=66								
BKNI	**Bangkinang**	**66.22**	**241**	*e*P		**P**		**11 59 03.2**	**+0.8**
	comp=Z,60nm,0.7s								
PDMCI	**Parker Dam,Lak**	**66.24**	**65**	P		**P**		**11 59 02.3**	**0.0**
	baz=66,SNR=5.4								
AGMN	**Agassiz Nation**	**66.27**	**43**	P		**P**		**11 59 02.0**	**-0.4**
	baz=66,SNR=12								
AGMN	**Agassiz Nation**	**66.27**	**43**	*e*P		**P**		**11 59 02.0**	**-0.4**
	comp=Z,60nm,1.3s								
AGMN				*e*pP		**pP**		**11 59 14.4**	**-0.2**
AGMN				LR		LR			
	comp=Z,991nm,22.0s								
I27A	**Quinn**	**66.28**	**50**	P		**P**		**11 59 02.4**	**-0.2**
	baz=66,SNR=6.9								
J26A	**Sides Ranch, S**	**66.28**	**51**	P		**P**		**11 59 02.5**	**-0.1**
	baz=66,SNR=5.2								
K25A	**Mack Ranch, Ha**	**66.36**	**52**	P		**P**		**11 59 02.8**	**-0.4**
	baz=66								
H28A	**Mission Ridge**	**66.38**	**49**	P		**P**		**11 59 03.1**	**-0.1**
	baz=66,SNR=5.5								
Y12C	**Blythe**	**66.38**	**65**	P		**P**		**11 59 03.4**	**+0.1**
	baz=66,SNR=5.6								
PHWY	**Pilot Hill**	**66.42**	**54**	*e*P		**P**		**11 59 04.4**	**+0.6**
	comp=Z,2.0nm,0.6s								
PHWY				*e*pP		**pP**		**11 59 16.7**	**+0.6**
N23A	**Red Feather La**	**66.44**	**55**	P		**P**		**11 59 04.1**	**+0.2**
	baz=66,SNR=10								
PV04	**Paradox Valley**	**66.51**	**58**	*e*P		**P**		**11 59 04.1**	**-0.2**
PV04				*e*pP		**pP**		**11 59 17.3**	**+0.7**
VSR	**Storozhevoye**	**66.53**	**322**	*e*P		**P**		**11 59 02.5**	**-1.5**
VSR				*e*S		**S**		**12 07 52.5**	**+1.1**
VSR				pmax		pmax			
	comp=N,4.0nm,0.5s								
VSR				pmax		pmax			
	comp=E,4.0nm,0.5s								
VSR				pmax		pmax			
	comp=Z,10.0nm,0.5s								
VSR				smax		smax			
	comp=N,70nm,3.0s								
VSR				smax		smax			
	comp=E,80nm,3.0s								
VSR				smax		smax			
	comp=Z,40nm,3.0s								
VSR				MLR		MLR			
	comp=N,580nm,24.0s								
VSR				MLR		MLR			
	comp=E,870nm,24.0s								
VSR				MLR		MLR			
	comp=Z,1μm,24.0s								
F30A	**Leola**	**66.54**	**47**	P		**P**		**11 59 03.4**	**-0.7**
	baz=66								
G29A	**Hoven**	**66.56**	**48**	P		**P**		**11 59 03.7**	**-0.6**
	baz=66								
IMYA	**Miami**	**66.56**	**299**	*e*P		**P**		**11 59 04.4**	**-0.3**
GEYT	**Alibeck**	**66.62**	**301**	LR		LR		12 30 52.0	
	comp=Z,2μm,18.1s,baz=50,slow=38								
L25A	**Engebretsen Ra**	**66.62**	**53**	P		**P**		**11 59 04.9**	**0.0**
	baz=66								
K26A	**Motz Farm, Whi**	**66.66**	**52**	P		**P**		**11 59 04.7**	**-0.3**
	baz=66								
GLA	**Glamis**	**66.67**	**66**	P		**P**		**11 59 05.0**	**-0.2**
	baz=66,SNR=5.0								
GLA	**Glamis**	**66.67**	**66**	*e*P		**P**		**11 59 05.8**	**+0.5**
	comp=Z,19nm,0.9s								
GLA				*e*pP		**pP**		**11 59 17.9**	**+0.4**
VORD	**Divnogorie**	**66.67**	**321**	*e*P		**P**		**11 59 02.4**	**-2.4**
VORD				pmax		pmax			
	comp=N,30nm,0.6s								
VORD				pmax		pmax			
	comp=E,60nm,0.6s								
VORD				pmax		pmax			
	comp=Z,30nm,0.6s								
VORD				MLR		MLR			
	comp=N,830nm,27.0s								
VORD				MLR		MLR			
	comp=E,1μm,27.0s								
VORD				MLR		MLR			
	comp=Z,1μm,27.0s								
MNSI	**Mandailing Nat**	**66.70**	**243**	P		**P**		**11 59 02.8**	**-2.7**
	comp=Z,46nm,0.7s								
I28A	**Midland**	**66.78**	**50**	P		**P**		**11 59 05.3**	**-0.4**
	baz=66,SNR=6.3								
H29A	**Onida**	**66.82**	**49**	P		**P**		**11 59 05.5**	**-0.4**
	baz=67								
J27A	**Elkhorn Farm,**	**66.88**	**51**	P		**P**		**11 59 06.5**	**0.0**
	baz=67								
PV01	**Paradox Valley**	**66.88**	**58**	*e*P		**P**		**11 59 06.7**	**0.0**
	comp=Z,3μm,1.1s								
PV01				*e*pP		**pP**		**11 59 20.3**	**+1.3**
SRSP	**Sriramsagar**	**66.92**	**273**	*e*P		**P**		**11 59 06.5**	**-0.5**
AKN	**Aaknes**	**66.94**	**344**	*e*P		**P**		**11 59 06.0**	**-0.4**
G30A	**Faulkton**	**66.99**	**48**	P		**P**		**11 59 06.2**	**-0.8**
	baz=67								
WUAZ	**Wupatki**	**67.06**	**62**	P		**P**		**11 59 07.7**	**-0.1**
	baz=67,SNR=14								
WUAZ	**Wupatki**	**67.06**	**62**	*e*P		**P**		**11 59 08.7**	**+0.9**
	comp=Z,51nm,1.0s								
WUAZ				*e*pP		**pP**		**11 59 21.1**	**+1.0**
SMCO	**Snowmass**	**67.06**	**57**	*e*P		**P**		**11 59 08.1**	**+0.1**
	comp=Z,36nm,1.0s								
SMCO				*e*pP		**pP**		**11 59 20.7**	**+0.4**
ISHV	**Shirvan**	**67.13**	**301**	*e*P		**P**		**11 59 08.7**	**+0.4**
NB2	**NORSAR Subarra**	**67.15**	**342**	P		**P**		**11 59 06.5**	**-1.3**
	comp=Z,14nm,0.7s,baz=24,slow=6.5								
NB2	**NORSAR Subarra**	**67.15**	**342**	P		**P**		**11 59 06.5**	**-1.3**
	baz=24,slow=6.5								
NOA	**NORSAR Array B**	**67.15**	**342**	P		**P**		**11 59 06.2**	**-1.5**
	comp=Z,6.8nm,0.5s,baz=25,slow=6.3,SNR=64								
NOA				LR		LR		12 33 11.4	
	comp=Z,516nm,19.3s,baz=20,slow=40								
NOA	**NORSAR Array B**	**67.15**	**342**	P		**P**		**11 59 06.3**	**-1.5**
NOA				pmax		pmax			
	comp=Z,7.0nm,0.5s								
NOA				MLR		MLR			
	comp=Z,516nm,19.3s								
K27A	**Fluecklinger Fa**	**67.15**	**51**	P		**P**		**11 59 07.6**	**-0.6**
	baz=67								
J28A	**Allard Ranch,**	**67.15**	**50**	P		**P**		**11 59 07.8**	**-0.3**
	baz=67,SNR=9.8								
L26A	**Underwood Farm**	**67.18**	**52**	P		**P**		**11 59 07.9**	**-0.5**
	baz=67								
I29A	**Vivian Onida**	**67.20**	**49**	P		**P**		**11 59 08.2**	**-0.2**
	baz=67								
NC602	**NORSAR Array S**	**67.35**	**341**	*e*P		**P**		**11 59 08.4**	**-0.6**
NC602				*e*S		**S**		**12 07 57.6**	**-3.4**
BORG	**Borgarnes**	**67.35**	**358**	*i* P		**P**		**11 59 11.6**	**+2.7**
BORG	**Borgarnes**	**67.35**	**358**	*e*P		**P**		**11 59 10.5**	**+1.6**
	comp=Z,56nm,0.9s								
BORG				LR		LR			
	comp=Z,340nm,19.0s								
PWJI	**Pagerwojo**	**67.38**	**227**	P		**P**		**11 59 09.5**	**-0.2**
	comp=Z,308nm,1.0s,comp=Z,3μm								
ISCO	**Idaho Springs**	**67.38**	**55**	P		**P**		**11 59 09.9**	**0.0**
	baz=67,SNR=25								
ISCO	**Idaho Springs**	**67.38**	**55**	*e*P		**P**		**11 59 10.7**	**+0.7**
	comp=Z,70nm,1.1s								
ISCO				*e*pP		**pP**		**11 59 23.0**	**+0.7**
ISCO				LR		LR			
	comp=Z,481nm,20.0s								
NAO01	**NORSAR Array S**	**67.39**	**342**	*e*P		**P**		**11 59 09.1**	**-0.2**
	comp=Z,7.8nm,0.6s								
GSI	**Gunungsitoli**	**67.50**	**245**	P		**P**		**11 59 10.9**	**+0.3**
	comp=Z,128nm,0.7s								
GSI	**Gunungsitoli**	**67.50**	**245**	*e*P		**P**		**11 59 11.3**	**+0.7**
	comp=Z,88nm,0.8s								
L27A	**T5 Ranch, Ellis**	**67.55**	**52**	P		**P**		**11 59 10.3**	**-0.4**
	baz=67								
M26A	**McRoberts Ranc**	**67.55**	**53**	P		**P**		**11 59 11.0**	**+0.3**
	baz=67								
PDSI	**Padang**	**67.55**	**241**	P		**P**		**11 59 08.1**	**-2.8**
	comp=Z,20nm,0.9s,comp=Z,621nm								
MVCO	**Mesa Verde**	**67.56**	**59**	P		**P**		**11 59 11.1**	**0.0**
	baz=67,SNR=14								
MVCO	**Mesa Verde**	**67.56**	**59**	*e*P		**P**		**11 59 11.5**	**+0.5**
MVCO				*e*pP		**pP**		**11 59 22.9**	**-0.4**
MVCO				LR		LR			
	comp=Z,616nm,21.0s								
K28A	**Ten Mile Ranch**	**67.59**	**51**	P		**P**		**11 59 10.5**	**-0.5**
	baz=67								
J29A	**Okreek**	**67.63**	**49**	P		**P**		**11 59 11.2**	**+0.1**
	baz=67								
I30A	**Oacoma**	**67.72**	**49**	P		**P**		**11 59 11.4**	**-0.3**
	baz=68,SNR=13								
HYBB	**Hyderabad (bro**	**67.85**	**272**	*e*P		**P**		**11 59 12.4**	**-0.4**
HYB	**Hyderabad**	**67.85**	**272**	*i* P		**P**		**11 59 11.0**	**-1.8**
M27A	**Reverse DX Ran**	**67.90**	**52**	P		**P**		**11 59 13.0**	**0.0**
	baz=68								
N26A	**Koester Ranch,**	**67.95**	**53**	P		**P**		**11 59 13.7**	**+0.4**
	baz=68,SNR=5.1								
NJS	**Nagarjunasagar**	**67.96**	**270**	*e*P		**P**		**11 59 13.2**	**-0.3**
L28A	**Connealy Angus**	**68.02**	**51**	P		**P**		**11 59 13.8**	**+0.1**
	baz=68								
ADKI	**Addanki**	**68.02**	**269**	*e*P		P		11 59 19.0	+5.1
HYA	**Hoyanger**	**68.03**	**344**	*e*P		**P**		**11 59 13.3**	**+0.1**
HYA				IAmb		IAmb		11 59 14.3	
	comp=Z,32nm,0.6s								
K29A	**Lazy Trails An**	**68.10**	**50**	P		**P**		**11 59 14.5**	**+0.4**
	baz=68								
J30A	**Dallas**	**68.11**	**49**	P		**P**		**11 59 14.1**	**-0.1**
	baz=68								
S22A	**4UR Ranch, Cre**	**68.14**	**58**	P		**P**		**11 59 15.3**	**+0.5**
	baz=68,SNR=13								
PBSI	**Pulau Batu**	**68.16**	**243**	P		**P**		**11 59 15.7**	**+1.0**
LHSI	**Lahat**	**68.17**	**237**	P		**P**		**11 59 15.0**	**+0.2**
	comp=Z,88nm,0.8s								
KPJI	**Karang Pucung**	**68.22**	**230**	P		**P**		**11 59 13.9**	**-1.1**
	comp=Z,33nm,1.4s								
Q24A	**Divide**	**68.22**	**56**	P		**P**		**11 59 15.0**	**-0.3**
	baz=68								
MNK	**Minsk**	**68.22**	**330**	*e*P		P		11 59 10.0	-4.6
W18A	**Petrified Fore**	**68.30**	**61**	P		**P**		**11 59 15.9**	**+0.3**
	baz=68								
O26A	**Horse Wrangler**	**68.32**	**54**	P		**P**		**11 59 15.8**	**+0.2**
	baz=68								
N27A	**Anderson Farm,**	**68.34**	**53**	P		**P**		**11 59 15.6**	**-0.1**
	baz=68,SNR=16								
CTAO	**Charters Tower**	**68.36**	**188**	*e*P		**P**		**11 59 14.9**	**-0.8**
	comp=Z,25nm,0.8s								
CTAO				LR		LR			
	comp=Z,487nm,22.0s								
SUE	**Sulen**	**68.39**	**345**	*e*P		**P**		**11 59 15.8**	**+0.3**
LEM	**Lembang**	**68.47**	**231**	LR		LR		12 28 55.5	
	comp=Z,245nm,21.6s,baz=354,slow=36								
EYMN	**Ely**	**68.50**	**41**	P		**P**		**11 59 16.0**	**-0.4**
	baz=68,SNR=8.5								
EYMN	**Ely**	**68.50**	**41**	*e*P		**P**		**11 59 15.8**	**-0.7**
	comp=Z,42nm,1.0s								
EYMN				*e*pP		**pP**		**11 59 28.2**	**-0.6**
EYMN				LR		LR			
	comp=Z,823nm,21.0s								
OGNE	**Ogallala**	**68.50**	**52**	P		**P**		**11 59 16.8**	**+0.1**
	baz=68,SNR=14								
OGNE	**Ogallala**	**68.50**	**52**	*e*P		**P**		**11 59 16.9**	**+0.1**
	comp=Z,899nm,1.8s								
OGNE				*e*pP		**pP**		**11 59 30.0**	**+1.0**
OGNE				LR		LR			
	comp=Z,557nm,20.0s								
L29A	**Maesberg Ranch**	**68.52**	**51**	P		**P**		**11 59 16.5**	**-0.2**
	baz=68								
K30A	**Basset**	**68.52**	**50**	P		**P**		**11 59 16.7**	**-0.1**
	baz=68								
M28A	**Bar X Bar Ranc**	**68.53**	**52**	P		**P**		**11 59 16.5**	**-0.3**
	baz=68								
SRLM	**Srisailam**	**68.56**	**270**	*e*P		**P**		**11 59 17.0**	**-0.3**
214A	**Organ Pipe Nat**	**68.66**	**66**	P		**P**		**11 59 17.8**	**+0.1**
	baz=68								
214A	**Organ Pipe Nat**	**68.66**	**66**	*e*P		**P**		**11 59 18.3**	**+0.6**
	comp=Z,37nm,1.1s								
214A				*e*pP		**pP**		**11 59 30.6**	**+0.5**
KLRI	**Killari**	**68.69**	**274**	*e*P		**P**		**11 59 17.7**	**-0.4**
AFI	**Afiamalu**	**68.75**	**145**	PFAKE				11 59 30.0	+12
AFI				LR		LR			
	comp=Z,683nm,19.0s								
KONO	**Kongsberg**	**68.75**	**342**	*e*P		**P**		**11 59 17.6**	**-0.2**
KONO				IAmb		IAmb		11 59 19.8	
	comp=Z,37nm,1.0s								
KONO				*e*S		**S**		**12 08 17.2**	**-0.5**
KONO	**Kongsberg**	**68.75**	**342**	*e*P		**P**		**11 59 18.2**	**+0.4**
	comp=Z,39nm,1.0s								
KONO				LR		LR			
	comp=Z,789nm,19.0s								
P26A	**Davis Ranch, A**	**68.79**	**54**	P		**P**		**11 59 18.5**	**-0.1**
	baz=69,SNR=5.9								
MAK	**Makhachkala**	**68.80**	**311**	*e*P		**P**		**11 59 16.9**	**-1.4**
MAK				*e*				11 59 42.4	
MAK				*e*				12 01 46.2	
MAK				*e*PPP		PPP		12 03 27.1	
MAK				S		**S**		**12 08 16.9**	**-1.9**
MAK				pmax		pmax			
	comp=Z,69nm,0.4s								
MAK				MLR		MLR			
	comp=Z,2μm,18.0s								
O27A	**Beecher Island**	**68.81**	**53**	P		**P**		**11 59 18.6**	**-0.1**
	baz=69,SNR=10								
M29A	**Burnside Ranch**	**68.85**	**51**	P		**P**		**11 59 18.2**	**-0.7**
	baz=69								
RUND	**Rundenannen**	**68.88**	**344**	*e*P		**P**		**11 59 18.0**	**-0.6**
SDCO	**Great Sand Dun**	**68.89**	**57**	P		**P**		**11 59 19.8**	**+0.4**
	baz=69,SNR=19								
SDCO	**Great Sand Dun**	**68.89**	**57**	*e*P		**P**		**11 59 19.2**	**-0.2**
	comp=Z,50nm,1.4s								
SDCO				*e*pP		**pP**		**11 59 32.3**	**+0.6**
SDCO				LR		LR			
	comp=Z,453nm,22.0s								
BER	**Bergen**	**68.91**	**344**	*e*P		**P**		**11 59 19.1**	**+0.4**
BER				IAmb		IAmb		11 59 19.9	
	comp=Z,51nm,0.6s								
MSVF	**Nonsavu**	**68.94**	**156**	*e*P		**P**		**11 59 21.0**	**+1.5**
	comp=Z,27nm,1.1s								
MSVF				LR		LR			
	comp=Z,746nm,20.0s								
N28A	**Pribbeno Ranch**	**68.95**	**52**	P		**P**		**11 59 19.2**	**-0.3**
	baz=69								
RCLA	**Racherla**	**68.98**	**270**	*e*P		**P**		**11 59 20.5**	**+0.6**
L30A	**Spencer Herefo**	**68.99**	**50**	P		**P**		**11 59 19.1**	**-0.6**
	baz=69								
Q26A	**Hugo**	**69.15**	**55**	P		**P**		**11 59 20.5**	**-0.3**
	baz=69,SNR=6.3								
P27A	**Ficken Ranch,**	**69.21**	**54**	P		**P**		**11 59 20.7**	**-0.4**
	baz=69								
M30A	**Dale-Ortello V**	**69.21**	**51**	P		**P**		**11 59 20.3**	**-0.8**
	baz=69								
O28A	**Krutsinger Ran**	**69.23**	**53**	P		**P**		**11 59 20.8**	**-0.4**
	baz=69								
ECSD	**EROS Data Cent**	**69.25**	**47**	P		**P**		**11 59 20.5**	**-0.7**
	baz=69,SNR=36								
ECSD	**EROS Data Cent**	**69.25**	**47**	*e*P		**P**		**11 59 20.2**	**-1.0**
	comp=Z,99nm,1.4s								
ECSD				*e*pP		**pP**		**11 59 33.0**	**-0.5**
ECSD				LR		LR			
	comp=Z,794nm,19.0s								
L31A	**Butterfield Fa**	**69.28**	**50**	P		**P**		**11 59 20.9**	**-0.6**
	baz=69,SNR=7.6								
N29A	**Votaw Ranch, W**	**69.34**	**52**	P		**P**		**11 59 21.2**	**-0.7**
	baz=69								
GOF	**Gofitskoye**	**69.43**	**315**	*e*P		**P**		**11 59 22.1**	**-0.2**
GOF				pmax		pmax			
	comp=Z,50nm,0.8s								
KSCO	**Kaye Shedlock'**	**69.57**	**54**	P		**P**		**11 59 23.2**	**-0.2**
	baz=69								
KSCO	**Kaye Shedlock'**	**69.57**	**54**	*e*P		**P**		**11 59 23.5**	**+0.1**
	comp=Z,106nm,1.5s								
KSCO				*e*pP		**pP**		**11 59 36.3**	**+0.6**
BLS5	**Blasjo**	**69.59**	**343**	*e*P		**P**		**11 59 23.8**	**+0.8**
BLS5				IAmb		IAmb		11 59 24.3	
	comp=Z,29nm,0.8s								
BLS5				*e*S		S		12 08 21.7	-6.1
BLS5				IAMs_20		IAMs_20		12 33 54.8	
	comp=Z,1μm,18.2s								
N30A	**Hueftle Ranch,**	**69.63**	**51**	P		**P**		**11 59 23.5**	**-0.2**
	baz=69								
R26A	**Arlington**	**69.63**	**55**	P		**P**		**11 59 23.6**	**-0.2**
	baz=69,SNR=12								
P28A	**Saint Francis**	**69.64**	**53**	P		**P**		**11 59 23.4**	**-0.4**
	baz=69								
TUC	**Tucson**	**69.64**	**64**	*e*P		**P**		**11 59 23.9**	**+0.1**
	comp=Z,32nm,1.2s								
TUC				*e*pP		**pP**		**11 59 36.9**	**+0.7**
SKHT	**Srikalahasti**	**69.71**	**268**	*e*P		**P**		**11 59 24.6**	**+0.2**
O29A	**4D Ranch, Culb**	**69.75**	**52**	P		**P**		**11 59 23.8**	**-0.6**
	baz=70								
M31A	**Lambtecht Ranc**	**69.81**	**50**	P		**P**		**11 59 24.1**	**-0.7**
	baz=70								
T25A	**Trinidad**	**69.93**	**57**	P		**P**		**11 59 25.6**	**-0.1**
	baz=70,SNR=10								
SPMN	**Marine on St.**	**69.96**	**44**	P		**P**		**11 59 24.9**	**-0.6**
	baz=70								
SPMN	**Marine on St.**	**69.96**	**44**	*e*P		**P**		**11 59 25.4**	**-0.2**
	comp=Z,47nm,1.0s								
SPMN				*e*pP		**pP**		**11 59 37.2**	**-0.7**
Q28A	**Sharon Springs**	**69.96**	**54**	P		**P**		**11 59 25.3**	**-0.5**
	baz=70								
R27A	**Eads**	**70.00**	**55**	P		**P**		**11 59 25.6**	**-0.4**
	baz=70,SNR=10.0								
KMY	**Karmoy**	**70.02**	**344**	*e*P		**P**		**11 59 26.3**	**+0.7**
KMY				IAmb		IAmb		11 59 26.9	
	comp=Z,41nm,0.9s								
P29A	**Atwood**	**70.06**	**53**	P		**P**		**11 59 25.4**	**-0.9**
	baz=70								
O30A	**MW Ranch, Wils**	**70.10**	**52**	P		**P**		**11 59 25.7**	**-0.9**
	baz=70								
S26A	**Kim**	**70.10**	**56**	P		**P**		**11 59 26.3**	**-0.4**
	baz=70								
SUW	**Suwalki**	**70.15**	**332**	*e*P		**P**		**11 59 26.1**	**-0.4**
WRAB	**Tennant Creek**	**70.16**	**200**	P		**P**		**11 59 26.2**	**-0.7**
	comp=Z,592nm,1.0s,SNR=23								
WRAB	**Tennant Creek**	**70.16**	**200**	*c i*P		**P**		**11 59 26.2**	**-0.7**
WRAB				pmax		pmax			
	comp=Z,376nm,1.3s								
WRAB	**Tennant Creek**	**70.16**	**200**	*e*P		**P**		**11 59 26.0**	**-0.9**
	comp=Z,97nm,0.9s								
WRAB				LR		LR			
	comp=Z,672nm,21.0s								
WRA	**Warramunga Arr**	**70.17**	**200**	P		**P**		**11 59 26.5**	**-0.5**
	comp=Z,61nm,0.8s,baz=14,slow=6.0,SNR=191								
WRA				LR		LR		12 30 02.8	
	comp=Z,164nm,20.2s,baz=25

LPM	Los Pinos Moun	70.68	60	*e*P		P	11 59 30.3	0.0
	comp=Z,23nm,1.2s							
Y22D	IRIS PASSCAL I	70.68	60	P		P	11 59 29.8	-0.5
	baz=70							
ZEI	Tsey	70.71	313	*e*P		P	11 59 29.3	-1.1
ZEI				pmax		pmax		
	comp=Z,27nm,0.3s							
ZEI	Tsey	70.71	313	*e*P		P	11 59 29.3	-1.1
IANJ	Anjilo	70.75	302	*e*P		P	11 59 31.2	+0.3
DZM	Mont Dzumac	70.77	168	*e*P		P	11 59 31.9	+1.3
	comp=Z,52nm,1.1s							
DZM				*e*S		S	12 08 42.1	-0.1
	comp=Z,680nm,26.4s							
DZM	Mont Dzumac	70.77	168	*e*LR		LR	12 21 06.8	
	comp=Z,1µm,24.9s							
DZM	Mont Dzumac	70.77	168	LR		LR	12 26 02.7	
	comp=Z,489nm,20.7s,baz=0.0,slow=32							
DZM	Mont Dzumac	70.77	168	*e*P		P	11 59 31.3	+0.7
	comp=Z,15nm,0.8s							
R29A	Marienthal	70.80	54	P		P	11 59 30.6	-0.3
	baz=71							
FITZ	Fitzroy Crossi	70.83	209	*e*P		P	11 59 31.4	+0.4
	comp=Z,75nm,0.8s							
AKASG	Malin Array Be	70.84	327	P		P	11 59 29.3	-1.4
	comp=Z,24nm,0.5s,baz=32,slow=6.2,SNR=85							
AKASG				LR		LR	12 32 40.5	
	comp=Z,910nm,20.3s,baz=35,slow=38							
AKASG	Malin Array Be	70.84	327	*c i*P		P	11 59 29.6	-1.2
AKASG				pmax		pmax		
	comp=Z,24nm,0.5s							
AKBB	Malin Array Si	70.84	327	*e*P		P	11 59 29.1	-1.7
KIEV	Kiev	70.85	327	*c i*P		P	11 59 29.1	-1.7
KIEV	Kiev	70.85	327	*e*P		P	11 59 29.1	-1.7
KIEV	Kiev	70.85	327	PFAKE			11 59 40.0	+9.2
KIEV				LR		LR		
	comp=Z,978nm,21.0s							
AK01	Malin Array Si	70.85	327	*e*P		P	11 59 29.2	-1.6
ISHM	Shahmirzad	70.86	302	*e*P		P	11 59 32.3	+0.7
AK02	Malin Array Si	70.88	327	*e*P		P	11 59 29.2	-1.8
Q30A	Quinter	70.89	53	P		P	11 59 30.9	-0.5
	baz=71,SNR=7.6							
M34A	Aspy Farms, Fr	70.91	49	P		P	11 59 30.5	-0.9
	baz=71							
T27A	Campo	70.92	56	P		P	11 59 31.2	-0.5
	baz=71							
P31A	Stockton	70.94	52	P		P	11 59 30.7	-1.0
	baz=71,SNR=6.9							
NEY	Neytrino	70.94	314	*i* P		P	11 59 31.6	-0.2
O32A	Brockman Farm,	70.97	51	P		P	11 59 30.8	-1.0
	baz=71							
L35A	Bielow Farm, R	70.98	48	P		P	11 59 30.9	-0.9
	baz=71							
S28A	Manter	70.99	55	P		P	11 59 31.7	-0.4
	baz=71							
N33A	J Bar K, Exete	71.04	50	P		P	11 59 30.7	-1.5
	baz=71							
ONI	Oni	71.08	313	P		P	11 59 32.5	0.0
T28A	Walsh	71.21	55	P		P	11 59 33.0	-0.5
	baz=71,SNR=6.9							
CBKS	Cedar Bluff	71.26	53	P		P	11 59 32.4	-1.2
	baz=71,SNR=5.6							
CBKS	Cedar Bluff	71.26	53	*e*P		P	11 59 32.6	-1.0
	comp=Z,56nm,1.0s							
CBKS				LR		LR		
	comp=Z,531nm,20.0s							
P32A	Huiting Farm,	71.27	51	P		P	11 59 32.0	-1.6
	baz=71,SNR=7.3							
121A	Cookes Peak, D	71.27	62	P		P	11 59 34.2	+0.2
	baz=71,SNR=9.9							
121A	Cookes Peak, D	71.27	62	*e*P		P	11 59 34.6	+0.6
	comp=Z,74nm,1.4s							
121A				*e*pP		pP	11 59 47.6	+1.2
Q31A	Ellis	71.31	52	P		P	11 59 32.8	-1.1
	baz=71							
U27A	Thompson Grove	71.33	56	P		P	11 59 33.4	-0.8
	baz=71,SNR=5.9							
ILAS	Lasjerd	71.36	302	*e*P		P	11 59 35.5	+1.0
R30A	Dighton	71.36	53	P		P	11 59 33.5	-0.7
	baz=71							
M35A	Neola	71.39	48	P		P	11 59 33.6	-0.6
	baz=71							
S29A	Ulysses	71.39	54	P		P	11 59 33.6	-0.9
	baz=71							
N34A	Lincoln	71.45	49	P		P	11 59 33.4	-1.3
	baz=71							
BSD	Bornholm Skovb	71.59	337	*i* P		P	11 59 35.2	0.0
BSD				pmax		pmax		
	comp=Z,56nm,0.8s							
BSD				MLR		MLR		
	comp=Z,970nm,18.0s							
SCHQ	Schefferville	71.63	24	P		P	11 59 35.7	+0.2
	comp=Z,39nm,0.8s,baz=346,slow=7.6,SNR=34							
SCHQ				LR		LR	12 35 11.3	
	comp=Z,223nm,19.9s,baz=322,slow=39							
SCHQ	Schefferville	71.63	24	*e*P		P	11 59 35.8	+0.2
	comp=Z,42nm,0.8s							
T29A	Hugoton	71.64	55	P		P	11 59 35.1	-0.8
	baz=71							
COP	Copenhagen	71.70	338	*e*P		P	11 59 36.1	+0.2
COP				pmax		pmax		
	comp=Z,43nm,0.8s							
COP				MLR		MLR		
	comp=Z,510nm,20.0s							
S30A	Montezuma	71.73	54	P		P	11 59 36.1	-0.5
	baz=72							
Q32A	Meitler Ranch,	71.76	52	P		P	11 59 35.1	-1.5
	baz=72,SNR=6.9							
R31A	Burdett	71.76	53	P		P	11 59 34.9	-1.7
	baz=72							
MUD	Monsted U'grnd	71.77	341	*i* P		P	11 59 35.9	-0.4
MUD				pmax		pmax		
	comp=Z,40nm,0.8s							
MUD				MLR		MLR		
	comp=Z,960nm,15.0s							
V27A	Dan Oppiter Fa	71.80	57	P		P	11 59 36.4	-0.6
	baz=72							
O34A	Beatrice	71.84	50	P		P	11 59 35.7	-1.4
	baz=72,SNR=8.7							
N35A	Tabor	71.86	49	P		P	11 59 36.3	-0.9
	baz=72,SNR=5.2							
P33A	Williams Farm,	71.88	51	P		P	11 59 35.8	-1.5
	baz=72							
LLD	Lille Linde	72.08	338	*i* P		P	11 59 38.1	0.0
R32A	Long Quarter,	72.09	52	P		P	11 59 37.1	-1.6
	baz=72							
SOC	Sochi	72.11	316	*e*P		P	11 59 38.4	-0.1
SOC				*e*			12 02 16.2	
SOC				*e*S		S	12 08 56.8	-0.5
SOC				pmax		pmax		
	comp=Z,28nm,0.6s							
SOC				MLR		MLR		
	comp=Z,2µm,20.0s							
T30A	Plains	72.13	54	P		P	11 59 38.2	-0.7
	baz=72							
Q33A	Connelly Farm,	72.13	51	P		P	11 59 37.6	-1.2
	baz=72,SNR=17							
V28A	Channing	72.15	56	P		P	11 59 38.8	-0.3
	baz=72							
U29A	Oasis Ranch, S	72.16	55	P		P	11 59 38.3	-0.8
	baz=72							
O35A	Humboldt	72.17	49	P		P	11 59 37.7	-1.4
	baz=72							
BIGH	Upper Bighouse	72.19	348	*e*P		P	11 59 38.7	-0.1
ANN	Anapa	72.20	318	*e*P		P	11 59 37.6	-1.5
ANN				*e*S		S	12 08 59.2	+0.8
ANN				pmax		pmax		
	comp=Z,78nm,1.8s							
ANN				MLR		MLR		
	comp=E,358nm,16.0s							
ANN				MLR		MLR		
	comp=Z,562nm,16.0s							
P34A	Walnut Farm, R	72.24	50	P		P	11 59 38.2	-1.2
	baz=72,SNR=6.5							
GNI	Garni	72.27	311	*c i*P		P	11 59 41.0	+1.2
GNI				pmax		pmax		
	comp=Z,28nm,0.8s							
GNI	Garni	72.27	311	P		P	11 59 41.4	+1.5
	SNR=6.0							
GNI	Garni	72.27	311	*e*P		P	11 59 41.0	+1.2
	comp=Z,27nm,0.9s							
GNI				LR		LR		
	comp=Z,1µm,20.0s							
SCIA	State Center	72.27	46	*e*P		P	11 59 39.8	+0.2
	comp=Z,143nm,1.2s							
SCIA				*e*pP		pP	11 59 51.6	-0.4
S31A	Mullinville	72.28	53	P		P	11 59 38.5	-1.2
	baz=72							
MLA1	Latheron	72.30	348	*e*P		P	11 59 39.2	-0.2
IHRS	Heris	72.44	308	*e*P		P	11 59 38.0	-3.0
U30A	WK&E Inc. Balk	72.44	55	P		P	11 59 40.0	-0.8
	baz=72							
V29A	Stinnett	72.45	56	P		P	11 59 39.8	-1.1
	baz=72							
ISRB	Sarab	72.48	307	*e*P		P	11 59 38.3	-2.9
RGN	Rugen	72.51	337	*e*P		P	11 59 41.0	+0.3
	comp=Z,153nm,0.7s							
RGN	Rugen	72.51	337	*e*P		P	11 59 41.3	+0.6
	comp=Z,144nm,0.6s							
S32A	Newby Ranch, P	72.51	53	P		P	11 59 39.9	-1.2
	baz=72							
W28A	Vega	72.52	57	P		P	11 59 41.0	-0.3
	baz=72,SNR=6.8							
R33A	Olander Ranch,	72.56	52	P		P	11 59 40.2	-1.2
	baz=72							
IBAF	Bafgh	72.57	298	*e*P		P	11 59 41.0	-0.8
GKP	Gorka Klasztor	72.58	335	*e*P		P	11 59 40.7	-0.5
Q34A	Chapman	72.65	51	P		P	11 59 40.8	-1.1
	baz=72							
P35A	Duane Minner,	72.67	50	P		P	11 59 40.9	-1.1
	baz=72							
KSU1	Kansas State U	72.69	50	P		P	11 59 40.9	-1.2
	baz=72							
KSU1	Kansas State U	72.69	50	PFAKE			11 59 50.0	+7.9
KSU1				LR		LR		
	comp=Z,1µm,19.0s							
O36A	Bolckow	72.75	49	P		P	11 59 41.2	-1.2
	baz=72							
BEL	Belsk	72.76	332	*e*P		P	11 59 42.4	+0.1
MVH1	Achvaich	72.78	348⇑	*e*P		P	11 59 41.6	-0.7
IMRD	Marand	72.85	309	*e*P		P	11 59 41.8	-1.6
T32A	Huddler Ranch,	72.90	53	P		P	11 59 42.4	-1.1
	baz=73							
JFWS	Jewell Farm	72.91	44	*e*P		P	11 59 42.4	-0.9
	comp=Z,68nm,1.6s							
JFWS				LR		LR		
	comp=Z,845nm,21.0s							
W29A	Amarillo	72.93	56	P		P	11 59 43.0	-0.7
	baz=73							
R34A	Isabella, Hill	72.95	51	P		P	11 59 42.9	-0.8
	baz=73							
MCD	Coleburn Disti	72.98	348⇑	*e*P		P	11 59 42.9	-0.6
V30A	Spur Ranch, Mi	72.99	55	P		P	11 59 43.0	-1.1
	baz=73							
U31A	Nine Bar Ranch	73.00	54	P		P	11 59 43.4	-0.7
	baz=73							
P36A	Good Intent, A	73.02	49	P		P	11 59 42.7	-1.4
	baz=73							
IRAZ	Razeghan	73.03	304	*e*P		P	11 59 44.7	+0.2
X28A	Dimmitt	73.06	57	P		P	11 59 44.1	-0.4
	baz=73							
AMTX	Amarillo	73.08	57	P		P	11 59 44.5	-0.2
	baz=73							
AMTX	Amarillo	73.08	57	*e*P		P	11 59 44.9	+0.3
	comp=Z,59nm,1.1s							
S33A	Kaszmaul Farm,	73.08	52	P		P	11 59 43.1	-1.4
	baz=73							
MSTX	Muleshoe	73.14	58	P		P	11 59 44.5	-0.5
	baz=73,SNR=12							
Q35A	Mercer Eighty,	73.17	50	P		P	11 59 43.7	-1.2
	baz=73							
CPRX	Cap Rock	73.20	59	*e*P		P	11 59 46.1	+0.7
	comp=Z,23nm,0.7s							
MME1	Meikle Cairn	73.20	347	*e*P		P	11 59 43.9	-1.0
SORM	Soroca	73.27	326⇑	*i* P		P	11 59 44.6	-0.8
MDO	Dochfour	73.27	348⇑	*e*P		P	11 59 44.7	-0.6
EIDS	Eidsvold	73.28	183	*e*P		P	11 59 45.9	+0.4
	comp=Z,45nm,0.9s							
IMEH	Mehriz	73.28	298	*e*P		P	11 59 44.0	-2.1
T33A	Patterson Ranc	73.34	53	P		P	11 59 44.6	-1.4
	baz=73							
KAC	Achnashellach	73.34	349⇑	*e*P		P	11 59 45.1	-0.5
Q36A	Arnold C. Orve	73.38	50	P		P	11 59 45.3	-1.0
	baz=73							
X29A	Tulia	73.39	57	P		P	11 59 46.3	-0.2
	baz=73,SNR=16							
LVV	L'vov	73.42	329	⇓ *i* P		P	11 59 44.8	-1.5
LVV				*e*			12 02 33.8	
LVV				*e*S		S	12 09 08.4	-3.8
V31A	Spring Creek L	73.44	55	P		P	11 59 46.4	-0.3
	baz=73,SNR=8.0							
U32A	Winter Ranch,	73.45	54	P		P	11 59 45.8	-0.9
	baz=73							
S34A	Willow Spring	73.47	52	P		P	11 59 45.6	-1.2
	baz=73							
W30A	Crocket Farms	73.48	56	P		P	11 59 46.6	-0.3
	baz=73							
Y28A	McKinney Farm,	73.48	58	P		P	11 59 46.2	-0.8
	baz=73							
IAZR	Azarshahr	73.48	308	*e*P		P	11 59 45.7	-1.4
R35A	Emporia Munici	73.48	51	P		P	11 59 45.9	-1.0
	baz=73							
DRUM	Mains of Drumt	73.52	347	*e*P		P	11 59 45.8	-0.8
IZEF	Zefreh	73.52	301	*e*P		P	11 59 48.1	+0.7
SIM	Simferopol'	73.53	320	*e*P		P	11 59 47.8	+0.8
SIM				*e*PPP		PPP	12 04 12.0	
SIM				*e*S		S	12 09 16.0	+2.4
SIM				*e*PS		PnS	12 10 10.0	+20
SIM				pmax		pmax		
	comp=Z,30nm,0.7s							
SIM				MLR		MLR		
	comp=N,380nm,15.1s							
KSB	Sheil Bridge	73.64	349	*e*P		P	11 59 46.9	-0.4
PALK	Pallekele	73.77	263	LR		LR	12 34 17.7	
	comp=N,380nm,21.2s,baz=34,slow=37							
PALK	Pallekele	73.77	263	*i* P		P	11 59 50.3	+1.5
BSEG	Bad Segeberg	73.81	339	*e*P		P	11 59 48.7	+0.3
	comp=Z,46nm,1.0s							
W31A	Holland Ranch,	73.82	55	P		P	11 59 48.4	-0.5
	baz=74,SNR=7.7							
Y29A	Porterfield Fa	73.84	57	P		P	11 59 48.6	-0.5
	baz=74,SNR=5.8							
R36A	Gordon, Harris	73.84	50	P		P	11 59 47.6	-1.3
	baz=74,SNR=6.9							
X30A	Coker Ranch, T	73.86	56	P		P	11 59 48.5	-0.6
	baz=74							
Z28A	Tucker Farm, M	73.86	58	P		P	11 59 48.8	-0.4
	baz=74							
AS31	Alice Springs	73.86	200	*e*P		P	11 59 49.2	+0.2
ASAR	Alice Springs	73.86	200	P		P	11 59 49.5	+0.5
	comp=Z,25nm,0.7s,baz=12,slow=5.5,SNR=201							
ASAR				LR		LR	12 32 16.2	
	comp=Z,162nm,19.8s,baz=14,slow=36							
ASAR	Alice Springs	73.86	200	P		P	11 59 49.5	+0.5
ASAR				pmax		pmax		
	comp=Z,25nm,0.7s							
ASAR				MLR		MLR		
	comp=Z,163nm,19.8s							
U33A	Lingo Farm, Me	73.89	53	P		P	11 59 48.6	-0.6
	baz=74							
S35A	Otter Creek Ra	73.90	51	P		P	11 59 48.6	-0.7
	baz=74							
GLMI	Grayling	73.91	39	PFAKE			12 00 00.0	+11
GLMI				LR		LR		
	comp=Z,1µm,20.0s							
V32A	Arapaho	73.92	54	P		P	11 59 49.6	+0.1
	baz=74							
T34A	McClaskey Farm	73.94	52	P		P	11 59 48.9	-0.7
	baz=74							
EDU	Dundee	73.95	347	*e*P		P	11 59 48.9	-0.3
Q37A	Longview Farm,	73.96	49	P		P	11 59 48.4	-1.2
	baz=74							
KIS	Kishinev	74.03	325	*e*P		P	11 59 48.0	-1.9
KIS				*e*S		S	12 09 18.0	-1.1
KIS	Kishinev	74.03	325	*e*PS			12 09 54.0	
KIS				*e*L		L	12 26 32.0	
KIS				LRM		MLR	12 39 56.0	
	comp=Z,800nm,18.0s							
KIS	Kishinev	74.03	325	*e*P		P	11 59 48.0	-1.9
KIS				*e*S		S	12 09 18.0	-1.1
KIS				*e*			12 09 54.0	
KWP	Kalwaria Pacla	74.03	330	*e*P		P	11 59 49.6	-0.3
KWP	Kalwaria Pacla	74.03	330	*e*P		P	11 59 49.7	-0.2
R37A	Teagarden Farm	74.20	50	P		P	11 59 49.7	-1.3
	baz=74							
U34A	Anderson Ranch	74.20	53	P		P	11 59 50.5	-0.5
	baz=74							
U34A	Anderson Ranch	74.20	53	*e*P		P	11 59 50.9	-0.1
	comp=Z,11nm,0.7s							
X31A	McDonald Ranch	74.22	56	P		P	11 59 50.8	-0.4
	baz=74,SNR=8.4							
RUE	Ruedersdorf	74.25	336	*e*P		P	11 59 51.0	0.0
	comp=Z,78nm,0.9s							
RUE	Ruedersdorf	74.25	336	*e*P		P	11 59 51.7	+0.7
	comp=Z,16nm,0.5s							
S36A	Lake Cedric, C	74.25	51	P		P	11 59 50.1	-1.2
	baz=74							
W32A	Sentinel	74.25	55	P		P	11 59 51.2	-0.2
	baz=74,SNR=12							
V33A	Lossen Ranch,	74.25	54	P		P	11 59 50.6	-0.8
	baz=74							
Y30A	Stafford Cattl	74.26	57	P		P	11 59 51.3	-0.3
	baz=74,SNR=16							
Z29A	Hungry Hill Ra	74.26	58	P		P	11 59 51.2	-0.4
	baz=74,SNR=18							
128A	Castleberry Fa	74.29	59	P		P	11 59 51.3	-0.5
	baz=74,SNR=13							
T35A	Sooner Cattle	74.38	52	P		P	11 59 51.1	-1.0
	baz=74							
OJC	Ojcow	74.48	332	*e*P		P	11 59 52.1	-0.3
OJC	Ojcow	74.48	332	*e*P		P	11 59 52.1	-0.3
OJC	Ojcow	74.48	332	*e*P		P	11 59 51.7	-0.7
	comp=Z,44nm,0.9s							
IPIR	Pirpir	74.49	302	*e*P		P	11 59 52.2	-1.0
ESY	Stoneypath	74.49	347	*e*P		P	11 59 51.7	-0.7
Y31A	Rekieta Farm,	74.55	56	P		P	11 59 52.6	-0.6
	baz=74							
Z30A	Sanderson Ranc	74.57	57	P		P	11 59 52.7	-0.6
	baz=74,SNR=32							
228A	UT Block 9, Go	74.60	59	P		P	11 59 53.2	-0.3
	baz=74							
T36A	Boggs Farm, Ca	74.60	51	P		P	11 59 52.6	-0.8
	baz=74							
129A	Stewart Farms,	74.63	58	P		P	11 59 53.4	-0.3
	baz=74							
W33A	Caddo, Fort Co	74.66	54	P		P	11 59 53.6	-0.1
	baz=74							
V34A	Guthrie	74.66	53	P		P	11 59 53.2	-0.5
	baz=74,SNR=6.1							
V34A	Guthrie	74.66	53	*e*P		P	11 59 53.5	-0.2
	comp=Z,37nm,0.8s							
U35A	Pawnee	74.67	52	P		P	11 59 53.5	-0.3
	baz=74							
EBL	Broad Law	74.70	347	*e*P		P	11 59 53.5	-0.1
STHS	Stebnicka Huta	74.71	330	*e*P		P	11 59 54.5	+0.7
STHS				pmax		pmax		
	comp=Z,40nm,0.7s							
STHS	Stebnicka Huta	74.71	330	*e*P		P	11 59 54.5	+0.7
X32A	Elmer	74.75	55	P		P	11 59 54.3	0.0
	baz=74							
KOLS	Kolonicke sedl	74.78	330	*e*P		P	11 59 53.8	-0.4
KOLS				pmax		pmax		
	comp=Z,22nm,0.8s							
KOLS	Kolonicke sedl	74.78	330	*e*P		P	11 59 53.8	-0.4
WMOK	Wichita Mounta	74.79	55	*e*P		P	11 59 54.0	-0.6
	comp=Z,47nm,1.2s							
BUR08	Bucovina Ar. S	74.85	327	*e*P		P	11 59 54.3	-0.5
BURAR	Bucovina Array	74.87	327⇑	*i* P		P	11 59 54.3	-0.6
PGBU	Glenifferbraes	74.87	348	*e*P		P	11 59 54.2	-0.3
PGBU				AMB		AMB	11 59 55.8	
	comp=Z,190nm,1.0s							
W34A	Bridge Creek,	74.97	54	P		P	11 59 55.4	-0.1
	baz=75							
W34A	Bridge Creek,	74.97	54	*e*P		P	11 59 56.3	+0.8
	comp=Z,54nm,1.3s							
Y32A	R-V Farms, Ver	74.98	56	P		P	11 59 55.0	-0.6
	baz=75,SNR=11							
KSP	Ksiaz	75.00	334	*e*P		P	11 59 55.3	-0.1
NIE	Niedzica	75.01	331	*e*P		P	11 59 55.6	0.0
NIE	Niedzica	75.01	331	*e*P		P	11 59 55.7	+0.1
UZH	Uzhgorod	75.03	329⇑	*i* P		P	11 59 55.1	-0.5
UZH				*e*			12 02 42.3	
UZH				*e*PPP		PPP	12 04 25.7	
UZH				*e*S		S	12 09 25.3	-4.9
UZH				*e*			12 10 02.1	
UZH				*e*PS		PnS	12 10 17.1	+8.1
UZH				MLR		MLR		
	comp=N,510nm,20.0s							
UZH				MLR		MLR		
	comp=E,780nm,20.0s							
UZH				MLR		MLR		
	comp=Z,290nm,20.0s							
T37A	Cheneyville 18	75.06	51	P		P	11 59 54.9	-1.0
	baz=75,SNR=17							
V35A	Meyer Ranch, C	75.08	53	P		P	11 59 55.4	-0.7
	baz=75,SNR=9.4							
X33A	Lawton	75.09	55	P		P	11 59 55.9	-0.3
	baz=75							
Z31A	Sharp Cattle R	75.10	57	P		P	11 59 55.9	-0.5
	baz=75,SNR=22							
229A	Bryant Ranch,	75.16	59	P		P	11 59 56.8	+0.1
	baz=75,SNR=7.8							
ESK	Eskdalemuir	75.16	347	*e*P		P	11 59 55.9	-0.4
ESK				AMB		AMB	11 59 56.9	
	comp=Z,61nm,0.7s							
ESK	Eskdalemuir	75.16	347	P		P	11 59 56.9	+0.6
	comp=Z,725nm,0.5s,SNR=14							
ESK	Eskdalemuir	75.16	347	*i* P		P	11 59 54.7	-1.6
ESK	Eskdalemuir	75.16	347	*e*P		P	11 59 55.2	-1.1
	comp=Z,68nm,0.6s							
ESK				LR		LR		
	comp=Z,375nm,20.0s							
130A	Snyder	75.17	58	P		P	11 59 56.5	-0.3
	baz=75							
HDIL	Hopedale	75.19	45	P		P	11 59 55.8	-0.9
	baz=75,SNR=5.3							
HDIL	Hopedale	75.19	45	*e*P		P	11 59 55.3	-1.4
	comp=Z,964nm,0.9s							
HDIL				LR		LR		
	comp=Z,622nm,20.0s							
TESR	Tescani	75.27	326⇑	*i* P		P	11 59 56.3	-0.7
ECK	Cauldkaine Hil	75.28	347	*e*P		P	11 59 56.4	-0.6
OKC	Ostrava-Krasne	75.33	332	*e*P		P	11 59 57.4	+0.1
OKC				*e*S		S	12 09 26.0	-7.5
OKC				AMS		AMS	12 37 50.0	
	comp=Z,800nm,18.5s							
OKC	Ostrava-Krasne	75.33	332	*e*P		P	11 59 57.4	+0.1
OKC				*e*S		S	12 09 26.0	-7.5
OKC				MLR		MLR		
	comp=Z,800nm,18.5s							
UPC	Upice	75.38	334	*e*P		P	11 59 57.7	+0.1
UPC				*ex*		x	12 00 04.7	
UPC	Upice	75.38	334	*e*P		P	11 59 57.7	+0.1
UPC				*e*			12 00 04.7	
329A	Wagon Wheel Ra	75.41	59	P		P	11 59 58.2	-0.1
	baz=75,SNR=19							
X34A	Smith Ranch, M	75.41	54	P		P	11 59 57.9	-0.2
	baz=75,SNR=5.9							
Y33A	Hilltop Ranch,	75.42	55	P		P	11 59 57.4	-0.8
	baz=75							
DPC	Dobruska-Polom	75.43	334	*e*P		P	11 59 58.2	+0.2
DPC				*ex*		x	12 00 04.5	
DPC				*e*pP		pP	12 00 10.3	-0.1
DPC				*e*S		S	12 09 28.1	-6.6
DPC				AMS		AMS	12 39 00.0	
	comp=Z,1µm,18.2s							
DPC	Dobruska-Polom	75.43	334	*e*P		P	11 59 58.2	+0.2
DPC				*e*			12 00 10.3	
DPC				*e*S		S	12 09 28.1	-6.6
DPC				MLR		MLR		
	comp=Z,1µm,18.2s							

KRLC **Kraliky** 75.54 333 *e*P P 11 59 58.6 0.0
MORC **Moravsky Berou** 75.57 333 *e*P P 11 59 58.2 -0.6
comp=Z,225nm,0.8s
230A **Sterling City** 75.61 58 P P 11 59 58.9 -0.4
baz=75
BRG **Berggiesshubel** 75.65 335 *e*P P 11 59 58.7 -0.4
comp=Z,34nm,0.8s
BRG **Berggiesshubel** 75.65 335 *i*P P 11 59 58.6 -0.5
BRG S S 12 09 33.0 -4.0
BRG SS SS 12 14 27.0 -0.4
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG MLR MLR
comp=N,942nm,23.0s
BRG MLR MLR
comp=E,1µm,20.4s
MBWA **Marble Bar** 75.71 213 *e*P P 12 00 00.1 +0.4
comp=E,68nm,1.0s
CLZ **Clausthal** 75.71 338 *e*P P 11 59 59.9 +0.3
comp=Z,119nm,1.3s
FBE **Freiberg** 75.77 336 *e*P P 11 59 59.8 0.0
comp=Z,76nm,0.8s
VRI **Vrincioaia** 75.78 325⇓*i*P P 12 00 00.6 +0.6
PVCC **Panska Ves** 75.78 335 *e*P P 12 00 00.0 +0.1
PVCC *ex* x 12 00 05.9
PVCC *e*S S 12 09 34.1 -4.4
PVCC AMS AMS 12 35 30.0
comp=Z,1µm,20.1s
PVCC **Panska Ves** 75.78 335 *e*P P 12 00 00.0 +0.1
PVCC *e* 12 00 05.9
PVCC *e*S S 12 09 34.1 -4.4
PVCC MLR MLR
comp=Z,1µm,20.1s
CFR **Carcaliu** 75.80 324⇑*i*P P 12 00 00.2 +0.1
PLOR **Plostina** 75.82 325⇓*i*P P 12 00 00.0 -0.3
GAL1 **Galloway** 75.82 348 *e*P P 11 59 59.8 -0.2
GAL1 AMB AMB 12 00 00.5
comp=Z,71nm,0.9s
KESW **Keswick, Cumbr** 75.85 347 *e*P P 11 59 59.8 -0.5
KESW AMB AMB 12 00 01.1
comp=Z,110nm,0.9s
W36A **Wetumka** 75.87 53 P P 12 00 00.1 -0.6
baz=76,SNR=15
V37A **Hulbert** 75.88 52 P P 11 59 60.0 -0.8
baz=76,SNR=22
Z33A **Whitaker Ranch** 75.89 56 P P 12 00 00.5 -0.3
baz=76
ABTX **Abilene, Hawle** 75.89 57 P P 12 00 00.9 -0.1
baz=76
ABTX **Abilene, Hawle** 75.89 57 *e*P P 12 00 00.6 -0.3
comp=Z,84nm,1.4s
IBBN **Ibbenburen** 75.92 340 *e*P P 12 00 00.6 0.0
comp=Z,9nm,1.1s
NEUB **Neuenburg** 75.93 337 *e*P P 12 00 00.5 -0.2
comp=Z,147nm,1.6s
330A **Mertzon** 75.93 59 P P 12 00 00.6 -0.5
baz=76,SNR=13
Y34A **Reagan Ranch,** 75.94 55 P P 12 00 00.8 -0.3
baz=76,SNR=13
TXAR **Lajitas Array** 76.02 62 P P 12 00 01.7 0.0
comp=Z,22nm,0.7s,baz=298,slow=4.2,SNR=226
TXAR **Lajitas Array** 76.02 62 P P 12 00 01.7 0.0
TXAR pmax pmax
comp=Z,22nm,0.7s
231A **Bronte** 76.03 58 P P 12 00 01.2 -0.5
baz=76,SNR=5.7
X35A **Drake** 76.03 54 P P 12 00 00.9 -0.7
baz=76
GRER 76.09 325⇓*i*P P 12 00 01.7 0.0
429A **Davenport Ranc** 76.10 60 P P 12 00 02.0 -0.2
baz=76,SNR=16
DOPR **Dopca** 76.20 326⇑*i*P P 12 00 01.9 -0.5
CJR **Cluj-Napoca** 76.22 328⇓*i*P P 12 00 03.3 +0.8
HPK **Haverah Park** 76.22 346 *e*P P 12 00 02.2 -0.1
HPK AMB AMB 12 00 03.8
comp=Z,199nm,0.8s
PRA **Prague** 76.23 335 *e*P P 12 00 02.9 +0.4
PRA *ex* x 12 00 06.6
PRA *ex* x 12 00 08.7
PRA AMS AMS 12 36 00.0
comp=Z,1µm,20.9s
PRA **Prague** 76.23 335 *e*P P 12 00 02.9 +0.4
PRA *e* 12 00 08.7
PRA MLR MLR
comp=Z,1µm,20.9s
BANOM **Banah** 76.23 293⇓*i*P P 12 00 02.9 0.0
SNR=13
X36A **Centrahoma** 76.23 53 P P 12 00 02.3 -0.5
baz=76,SNR=7.5
GOPC **GO Pecny, Ondr** 76.27 334 *e*P P 12 00 02.8 +0.1
GOPC *ex* x 12 00 09.0
GOPC *e*S S 12 09 36.1 -7.8
GOPC AMS AMS 12 39 10.0
comp=Z,1µm,17.4s
PRU **Pruhonice** 76.27 335 *e*P P 12 00 02.7 0.0
PRU *e*S S 12 09 38.5 -5.4
PRU *e*SS SS 12 14 46.8 +10
PRU AMS AMS 12 39 20.0
comp=Z,1µm,17.9s
PRU **Pruhonice** 76.27 335 *e*P P 12 00 02.7 0.0
PRU *e*S S 12 09 38.5 -5.4
PRU MLR MLR
comp=Z,1µm,17.9s
529A **Stev Forest Ra** 76.28 60 P P 12 00 02.9 -0.3
baz=76,SNR=19
V38A **Canehill** 76.28 51 P P 12 00 02.6 -0.4
baz=76,SNR=21
TIRR **Tirgusor** 76.29 323⇑*i*P P 12 00 02.4 -0.5
TIRR **Tirgusor** 76.29 323 *e*P P 12 00 02.1 -0.8
comp=Z,41nm,0.9s
Z34A **Collier Ranch,** 76.29 55 P P 12 00 02.6 -0.6
baz=76,SNR=5.7
W37A **Quinton** 76.30 52 P P 12 00 03.0 -0.1
baz=76,SNR=13
133A **Hamilton Ranch** 76.31 56 P P 12 00 02.8 -0.4
baz=76,SNR=7.7
430A **Baggett Ranch,** 76.36 59 P P 12 00 03.1 -0.5
baz=76,SNR=23
AAM **Ann Arbor** 76.36 40 PFAKE 12 00 20.0 +17
AAM LR LR
comp=Z,835nm,20.0s
SFIN **Lafayette** 76.36 44 P P 12 00 02.5 -0.9
baz=76
SFIN **Lafayette** 76.36 44 *e*P P 12 00 02.6 -0.8
comp=Z,54nm,1.3s
Y35A **Marietta** 76.37 54 P P 12 00 03.0 -0.6
baz=76
MLR **Muntele Rosu** 76.39 325⇑*i*P P 12 00 04.5 +0.9
331A **San Angelo** 76.43 58 P P 12 00 03.2 -0.8
baz=76,SNR=6.0
232A **Coleman** 76.44 57 P P 12 00 03.6 -0.4
baz=76,SNR=13
PSZ **Piszkesteto** 76.45 330 *e*P P 12 00 04.1 +0.2
comp=Z,39nm,1.0s
PSZ LR LR
comp=Z,864nm,20.0s
PSZ **Piszkesteto** 76.45 330⇑*e*P P 12 00 03.7 -0.2
DRGR 76.47 328⇓*i*P P 12 00 03.8 -0.2
TANN **Tannenbergstha** 76.47 336 *e*P P 12 00 03.8 -0.1
comp=Z,96nm,1.8s
ISR **Istrita** 76.47 325⇓*i*P P 12 00 05.0 +1.0
WERD **Werda** 76.48 336 *e*P P 12 00 03.9 0.0
comp=Z,46nm,1.1s
MOX **Moxa** 76.49 337 *e*P P 12 00 03.9 0.0
comp=Z,71nm,1.3s
PLN **Plauen** 76.49 336 *e*P P 12 00 04.0 +0.1
comp=Z,40nm,0.9s
GUNZ **Gunzen** 76.55 336 *e*P P 12 00 04.4 +0.1
comp=Z,51nm,0.8s
GMM **Mts of Mourne** 76.60 348⇑*e*P P 12 00 03.8 -0.6
WERN **Wernitzgruen** 76.61 336 *e*P P 12 00 04.7 0.0
comp=Z,73nm,0.7s
TREC **Trest** 76.62 334 *e*P P 12 00 04.4 -0.3
TREC AMS AMS 12 39 00.0
comp=Z,1µm,17.4s
TREC **Trest** 76.62 334 *e*P P 12 00 04.4 -0.3
TREC MLR MLR
comp=Z,1µm,17.4s
NKC **Novy Kostel** 76.64 336 *e*P P 12 00 04.6 -0.2
NKC *ex* x 12 00 08.1
NKC *ex* x 12 00 10.5
NKC AMS AMS 12 36 50.0
comp=Z,1µm,19.9s
NKC **Novy Kostel** 76.64 336 *e*P P 12 00 04.6 -0.2
NKC *e* 12 00 10.5
NKC MLR MLR
comp=Z,1µm,19.9s
LHO **Holmfirth** 76.66 346 *e*P P 12 00 04.7 -0.2
Z35A **Perchaven, San** 76.69 55 P P 12 00 04.9 -0.4
baz=76
SMOL **Smolenice** 76.72 332 *e*P P 12 00 06.3 +1.0
SECR 76.72 325⇑*i*P P 12 00 05.4 0.0
X37A **Clayton** 76.75 53 P P 12 00 05.4 -0.2
baz=76
UBBA **Unterbreizbach** 76.75 338 *e*P P 12 00 05.2 0.0
comp=Z,109nm,1.7s
MANR **Mangalia** 76.75 323⇑*i*P P 12 00 06.3 +0.8
233A **Rising Star** 76.76 57 P P 12 00 05.7 -0.2
baz=77
332A **Millersview** 76.77 58 P P 12 00 05.6 -0.3
baz=77,SNR=12
VOIR 76.77 326⇓*i*P P 12 00 06.2 +0.5
530A **J-C Ranch, Com** 76.77 60 P P 12 00 05.5 -0.5
baz=77,SNR=14
Y36A **Durant** 76.78 54 P P 12 00 05.4 -0.4
baz=77
431A **Sonora** 76.80 59 P P 12 00 05.6 -0.5
baz=77,SNR=11
134A **White-Moore Ra** 76.80 56 P P 12 00 05.5 -0.5
baz=77
MALT **Malatya** 76.81 313⇑*i*P P 12 00 07.0 +0.9
W38A **Poteau** 76.83 52 P P 12 00 05.6 -0.5
baz=77,SNR=9.8
MSAB **Monastry St. A** 76.83 324⇓*i*P P 12 00 06.0 0.0
BUG **Bochum-Univer** 76.84 340 *e*P P 12 00 05.7 -0.1
comp=Z,22nm,1.0s
MANZ **Manzenberg** 76.95 336 *e*P P 12 00 06.6 0.0
comp=Z,41nm,0.9s
SULR 76.95 325⇓*i*P P 12 00 06.8 +0.2
X38A **Whitesboro** 76.97 52 P P 12 00 06.3 -0.6
baz=77,SNR=9.5
UOSS **Wadi Hilu** 77.01 293 P P 12 00 07.9 +0.6
comp=Z,450nm,0.7s,SNR=11
UOSS **Wadi Hilu** 77.01 293 *e*P P 12 00 06.4 -0.9
comp=Z,60nm,0.8s
PSN **Preselentsi** 77.03 323⇑*i*P P 12 00 07.0 -0.1
PSN **Preselentsi** 77.03 323 *e*P P 12 00 07.3 +0.2
Y37A **Hugo** 77.08 53 P P 12 00 07.0 -0.6
baz=77
432A **Menard** 77.11 58 P P 12 00 07.3 -0.5
baz=77,SNR=5.8
BUD **Budapest** 77.12 331⇑*e*P P 12 00 08.0 +0.5
ROTZ **Rotzenmuhle** 77.12 336 *e*P P 12 00 08.0 +0.4
comp=Z,60nm,1.0s
HATD **Hatta, Dubai** 77.14 293⇑*i*P P 12 00 08.6 +0.5
SNR=6.2
DEV **Deva** 77.18 328⇑*i*P P 12 00 08.8 +0.9
Z36A **Blue Ridge** 77.18 54 P P 12 00 07.3 -0.8
baz=77,SNR=11
135A **Vickery Place,** 77.18 55 P P 12 00 07.3 -0.9
baz=77
OLIL **Olney** 77.20 45 *e*P P 12 00 08.6 +0.5
comp=Z,31nm,0.8s
234A **Clairette** 77.20 56 P P 12 00 07.7 -0.5
baz=77
531A **Rocksprings** 77.22 59 P P 12 00 07.9 -0.5
baz=77,SNR=20
SMDO **Samad** 77.23 290 P P 12 00 09.3 +0.6
SNR=5.5
333A **Richland Sprin** 77.24 57 P P 12 00 08.0 -0.5
baz=77,SNR=9.5
ASHO **Ashiyiah** 77.29 293 P P 12 00 09.6 +0.6
SNR=9.9
ASHO **Ashiyiah** 77.29 293⇑*i*P P 12 00 09.5 +0.6
SNR=6.0
SIRR **Siria** 77.29 329⇑*i*P P 12 00 08.3 -0.2
NAZ **Nazwa, Dubai** 77.31 293 *i*P P 12 00 09.4 +0.5
SNR=12
HOQ **Hoqain** 77.31 291 ⇑P P 12 00 09.3 +0.3
SNR=12
KHC **Kasperske Hory** 77.32 335 *e*P P 12 00 08.7 0.0
KHC *ex* x 12 00 14.9
KHC *e*S S 12 09 50.6 -4.8
KHC *e*SS SS 12 15 02.5 +10
KHC AMS AMS 12 36 20.0
comp=Z,900nm,19.1s
KHC **Kasperske Hory** 77.32 335 *e*P P 12 00 08.7 0.0
KHC *e* 12 00 14.9
KHC *e*S S 12 09 50.6 -4.8
KHC MLR MLR
comp=Z,900nm,19.1s
KHC **Kasperske Hory** 77.32 335 *e*P P 12 00 08.7 0.0
KHC **Kasperske Hory** 77.32 335 *e*P P 12 00 08.8 0.0
comp=Z,36nm,0.7s
PKSN **Nyarlorinc** 77.35 330⇓*e*P P 12 00 10.0 +1.2
PKSG 77.41 331 *e*P P 12 00 09.4 +0.3
JCT **Junction City** 77.41 58 P P 12 00 08.9 -0.6
baz=77,SNR=8.2
JCT **Junction City** 77.41 58 *e*P P 12 00 09.1 -0.4
comp=Z,69nm,1.3s
JCT LR LR
comp=Z,563nm,21.0s
PKS7 **Kunszentmiklos** 77.46 330⇓*e*P P 12 00 10.4 +1.0
GRF **Grafenberg Arr** 77.46 337 *e*P P 12 00 09.8 +0.4
comp=Z,123nm,0.7s
GRF *e*L L 12 37 36.9
comp=Z,772nm,21.0s
GRFO **Grafenberg** 77.46 337 *e*P P 12 00 10.1 +0.6
comp=Z,97nm,0.7s
SIUC **Southern Illin** 77.46 47 *e*P P 12 00 09.3 -0.3
comp=Z,11nm,0.6s
CSKK **Cs˙ákako** 77.47 331⇓*e*P P 12 00 10.1 +0.6
WET **Wettzell** 77.50 335 *e*P P 12 00 10.1 +0.4
comp=Z,79nm,0.9s
FOEL **Foel Wylfa** 77.51 346 *e*P P 12 00 09.9 +0.3
FOEL AMB AMB 12 00 11.0
comp=Z,88nm,0.9s
FAQ **Al Faqa, Dubai** 77.53 293⇑*i*P P 12 00 09.9 -0.3
SNR=24
GEC2 **GERESS Array S** 77.54 335 *e*P P 12 00 09.8 -0.3
comp=Z,46nm,0.7s
GEC2 **GERESS Array S** 77.54 335 *e*P P 12 00 10.0 0.0
GERES **GERESS Array B** 77.54 335 P P 12 00 09.7 -0.3
comp=Z,35nm,0.6s,baz=32,slow=5.8,SNR=237
GERES LR LR 12 36 50.9
comp=Z,981nm,21.5s,baz=20,slow=38
GERES **GERESS Array B** 77.54 335 P P 12 00 09.7 -0.3
GERES pmax pmax
comp=Z,35nm,0.6s
GERES MLR MLR
comp=Z,981nm,21.5s
WHTX **Lake Whitney,** 77.59 56 P P 12 00 09.9 -0.5
baz=77,SNR=5.4
WHTX **Lake Whitney,** 77.59 56 *e*P P 12 00 10.9 +0.4
comp=Z,84nm,1.3s
Y38A **Idabel** 77.59 53 P P 12 00 09.6 -0.8
baz=77
PBMO **Poplar Bluff** 77.60 48 *e*P P 12 00 10.6 +0.2
433A **Art** 77.60 58 P P 12 00 10.1 -0.5
baz=77,SNR=8.6
532A **Rocksprings** 77.61 59 P P 12 00 10.3 -0.4
baz=77,SNR=15
DSB **Dublin** 77.63 348 *e*P P 12 00 10.0 -0.3
comp=Z,62nm,0.8s
PKST **T˙s** 77.64 331 *e*P P 12 00 10.5 0.0
GZR **Gura Zlata** 77.64 327⇓*i*P P 12 00 10.4 -0.2
334A **Lometa** 77.65 57 P P 12 00 10.5 -0.3
baz=78,SNR=9.5
Z37A **Pogue Cattle C** 77.67 54 P P 12 00 10.1 -0.8
baz=78
TNS **Taunus Mts** 77.68 338 *e*P P 12 00 10.8 +0.1
comp=Z,70nm,0.8s
JMDO **Jabal Madar** 77.70 290 P P 12 00 12.1 +0.9
SNR=9.0
CONA **Conrad Observa** 77.72 333⇑*i*P P 12 00 11.4 +0.4
comp=Z,88nm,1.3s,SNR=22
MIAR **Mount Ida** 77.73 52 P P 12 00 10.8 -0.4
baz=78,SNR=17
MIAR **Mount Ida** 77.73 52 *e*P P 12 00 10.7 -0.4
comp=Z,44nm,1.1s
MIAR LR LR
comp=Z,857nm,22.0s
SOP **Sopron** 77.73 332⇑*e*P P 12 00 11.4 +0.5
136A **Ennis** 77.73 55 P P 12 00 10.5 -0.6
baz=78
PRD **Provadia** 77.75 323⇑*i*P P 12 00 10.9 -0.2
PRD **Provadia** 77.75 323 *e*P P 12 00 10.9 -0.2
631A **Perdido Creek** 77.76 60 P P 12 00 11.3 -0.2
baz=78,SNR=28
ASUD **Al Ashush, Dub** 77.78 293 *i*P P 12 00 11.9 +0.3
SNR=16
HLM1 **Long Mynd** 77.82 346 *e*P P 12 00 11.6 +0.2
HLM1 AMB AMB 12 00 12.2
comp=Z,47nm,0.9s
MEM **Membach** 77.90 340 *e*P P 12 00 12.0 +0.2
comp=Z,89nm,0.8s
Y39A **Lockesburg** 77.92 52 P P 12 00 11.5 -0.7
baz=78
PKS2 **Kecel** 77.93 330⇓*e*P P 12 00 12.4 +0.4
BR131 **Keskin Array S** 77.94 317 *e*P P 12 00 12.1 -0.4
comp=Z,29nm,0.6s
BRTR **Keskin Array B** 77.94 317 P P 12 00 12.3 -0.1
comp=Z,40nm,0.6s,baz=34,slow=3.0,SNR=178
BRTR LR LR 12 40 09.8
comp=Z,420nm,18.5s,baz=50,slow=40
Z38A **Mt. Pleasant** 77.97 53 P P 12 00 11.9 -0.7
baz=78
ARQ **Araqi** 77.98 291 ⇑P P 12 00 13.2 +0.5
SNR=7.8
BSY **Bisya** 78.00 291 ⇑P P 12 00 13.4 +0.5
SNR=13
USIN **University of** 78.01 46 *e*P P 12 00 13.3 +0.6
comp=Z,108nm,1.2s
434A **Burnet** 78.02 57 P P 12 00 12.5 -0.4
baz=78
PARMO **Parma** 78.03 48 *e*P P 12 00 13.7 +0.9
137A **Heron Place, G** 78.06 54 P P 12 00 12.9 -0.2
baz=78
LONY **Lake Ozonia** 78.07 33 PFAKE 12 00 20.0 +7.1
LONY LR LR
comp=Z,496nm,20.0s
236A **Katherine and** 78.09 55 P P 12 00 12.7 -0.5
baz=78
335A **Moody** 78.14 56 P P 12 00 12.9 -0.6
baz=78
632A **Uvalde** 78.14 59 P P 12 00 13.5 -0.1
baz=78,SNR=12
533A **Kerrville** 78.15 58 P P 12 00 13.1 -0.5
baz=78,SNR=7.5
PKS9 **Tamasi** 78.15 331⇓*e*P P 12 00 13.5 +0.2
ANTO **Ankara** 78.20 318 P P 12 00 14.3 +0.5
SNR=22
ANTO **Ankara** 78.20 318 PFAKE 12 00 20.0 +6.2
ANTO LR LR
comp=Z,626nm,20.0s
SZH **Strazhica** 78.27 324 *e*P P 12 00 12.0 -2.0
MOA **Molln** 78.27 334⇑*i*P P 12 00 14.0 0.0
comp=Z,50nm,0.9s,SNR=22
ACSO **Alum Creek Sta** 78.34 41 *e*P P 12 00 15.0 +0.5
comp=Z,80nm,1.4s
ACSO LR LR
comp=Z,632nm,20.0s
MCH1 **Michaelchurch** 78.34 346 *e*P P 12 00 14.3 0.0
MCH1 AMB AMB 12 00 15.0
comp=Z,58nm,1.0s
PKSM **Moragy** 78.36 330⇑*i*P P 12 00 13.4 -1.1
PKSM **Moragy** 78.36 330⇑*e*P P 12 00 13.8 -0.7
138A **Matatall Enter** 78.37 54 P P 12 00 14.6 -0.2
baz=78
336A **Riesel** 78.38 56 P P 12 00 14.7 -0.1
baz=78
MMNY **Mt. Morris Dam** 78.40 37 *e*P P 12 00 14.9 +0.2
comp=Z,122nm,1.0s
LPW **Lampeter** 78.40 347 *e*P P 12 00 14.4 -0.2
Z39A **Irene McRaven,** 78.41 53 P P 12 00 15.0 +0.1
baz=78
STRD **Stroud** 78.42 345 *e*P P 12 00 14.9 +0.2
STRD AMB AMB 12 00 16.0
comp=Z,186nm,1.0s
435B **Jarrell** 78.43 57 P P 12 00 15.3 +0.1
baz=78
MONM **Monmouth** 78.46 346 *e*P P 12 00 14.6 -0.3
MONM AMB AMB 12 00 16.7
comp=Z,128nm,0.8s
237A **Washetta, Mont** 78.48 55 P P 12 00 15.1 -0.3
baz=78
534A **Blanco** 78.50 58 P P 12 00 15.2 -0.4
baz=78,SNR=7.5
633A **Saathoff Ranch** 78.53 59 P P 12 00 15.4 -0.3
baz=78,SNR=5.9
SWN1 **Swindon** 78.61 345 *e*P P 12 00 16.1 +0.4
SWN1 AMB AMB 12 00 17.3
comp=Z,361nm,0.9s
732A **Laxson Ranch,** 78.62 60 P P 12 00 16.4 +0.2
baz=78,SNR=19
JMB **Yambol** 78.69 323 P P 12 00 15.8 -0.5
JMB **Yambol** 78.69 323⇑*i*P P 12 00 15.9 -0.4
JMB **Yambol** 78.69 323 *e*P P 12 00 15.6 -0.7
JMB **Yambol** 78.69 323 P P 12 00 15.8 -0.5
WOL **Wolverton** 78.70 345 *e*P P 12 00 15.5 -0.7
WOL AMB AMB 12 00 16.9
comp=Z,151nm,0.7s
139A **Bunkhouse Ranc** 78.73 53 P P 12 00 16.4 -0.3
baz=78
BEHE **Becsehely** 78.74 332⇑*e*P P 12 00 16.6 0.0
WLF **Walferdange** 78.75 340 *e*P P 12 00 17.1 +0.6
comp=Z,28nm,0.8s
WLF LR LR
comp=Z,1µm,21.0s
NCB **Newcomb** 78.76 34 PFAKE 12 00 30.0 +13
NCB LR LR
comp=Z,593nm,22.0s
MENF **Mencas** 78.78 342⇑*e*P P 12 00 15.6 -1.1
STU **Stuttgart** 78.83 337 *e*P P 12 00 17.1 0.0
comp=Z,71nm,1.0s
STU **Stuttgart** 78.83 337 *e*P P 12 00 17.0 0.0
comp=Z,50nm,0.8s
FUR **Furstenfeldbru** 78.84 336 *e*P P 12 00 17.4 +0.3
comp=Z,107nm,0.9s
HMNX **Herstmonceux** 78.84 344 *e*P P 12 00 17.7 +0.8
238A **Jacksonville** 78.86 54 P P 12 00 17.2 -0.3
baz=79
436A **Wall Ranch, Ga** 78.88 56 P P 12 00 17.5 -0.1
baz=79
KOGS **Kog** 78.92 332 *e*P P 12 00 16.7 -0.9
832A **Faith Ranch, C** 78.95 60 P P 12 00 18.1 +0.1
baz=79,SNR=11
337A **Centerville** 78.97 55 P P 12 00 18.0 0.0
baz=79
LANF **Langenberg** 78.99 338⇑*e*P P 12 00 17.9 0.0
535A **Dale** 79.01 57 P P 12 00 18.5 +0.2
baz=79
733A **Divot King Ran** 79.02 59 P P 12 00 18.7 +0.3
baz=79
MPEP **Malo Peshtene** 79.03 326 *e*P P 12 00 17.1 -1.1
634A **China Grove, S** 79.06 58 P P 12 00 18.8 +0.2
baz=79
SOKA **Soboth** 79.10 333⇑*i*P P 12 00 18.4 -0.2
comp=Z,58nm,0.7s,SNR=72
PERS **Pernice** 79.11 333 *e*P P 12 00 18.2 -0.5
239A **Gary** 79.20 54 P P 12 00 19.5 +0.2
baz=79
437A **Phantom Ranch,** 79.20 56 P P 12 00 19.6 +0.3
baz=79
KBA **Koelnbreinsper** 79.24 334⇑*i*P P 12 00 19.7 +0.2
comp=Z,179nm,0.6s,SNR=143
338A **Crockett** 79.25 55 P P 12 00 19.7 +0.1
baz=79
536A **Bastrop** 79.26 57 P P 12 00 19.6 -0.1
baz=79
833A **Chaparral WMA,** 79.26 60 P P 12 00 20.3 +0.6
baz=79
NATX **Nacogdoches** 79.29 54 P P 12 00 20.3 +0.4
baz=79
NATX **Nacogdoches** 79.29 54 *e*P P 12 00 21.2 +1.4
comp=Z,45nm,0.8s
734A **La Parita Cree** 79.34 59 P P 12 00 20.9 +0.7
baz=79
PKME **Peaks-Kenny Pk** 79.36 30 PFAKE 12 00 30.0 +10
PKME LR LR
comp=Z,629nm,22.0s
HEX **Exmoor** 79.37 346 *e*P P 12 00 19.7 -0.2
635A **Leesville** 79.38 58 P P 12 00 20.9 +0.6
baz=79
OBKA **Obir** 79.39 333⇑*i*P P 12 00 19.8 -0.4
comp=Z,46nm,0.6s,SNR=20
DIM **Dimitrovgrad** 79.46 324 *e*P P 12 00 20.9 +0.4
BFO **Black Forest** 79.46 338 *e*P P 12 00 20.5 -0.1
comp=Z,80nm,1.2s
BFO **Black Forest** 79.46 338 P P 12 00 20.0 -0.5
comp=Z,323nm,0.8s,SNR=20
BFO **Black Forest** 79.46 338 *i*P P 12 00 20.4 -0.1
BFO **Black Forest** 79.46 338 *e*P P 12 00 20.0 -0.5
BFO LR LR
comp=Z,545nm,22.0s
GOLS **Golise** 79.51 332 *e*P P 12 00 20.2 -0.6
WATA **Walderalm** 79.51 335⇑*i*P P 12 00 21.1 +0.2
comp=Z,55nm,0.6s,SNR=27
HTL **Hartland** 79.55 347 *e*P P 12 00 21.2 +0.3

HTL					AMB	AMB	12 00 22.3			PPT	**Papeete**	**82.30**	**127**	LR	LR	12 30 18.6			
	comp=Z,64nm,0.8s										comp=Z,360nm,20.4s,baz=306,slow=31								
MYKA	**Terra Mystica**	**79.56**	**334**	⇑*iP*	**P**	**12 00 20.5**	**-0.7**			**LIT**	**Litokhoron**	**82.31**	**325**	P	**P**	**12 00 34.6**	**-1.3**		
	comp=Z,37nm,0.6s,SNR=27									**LIT**	**Litokhoron**	**82.31**	**325**	P	**P**	**12 00 34.6**	**-1.3**		
WTTA	**Wattenberg**	**79.56**	**335**	⇑*iP*	**P**	**12 00 21.6**	**+0.4**			**PPT2**	**Papeete2**	**82.32**	**127**	*e*S	**S**	**12 10 54.2**	**+5.5**		
	comp=Z,171nm,0.6s,SNR=93										comp=Z,948nm,33.0s								
PGB	**Panagyurishte**	**79.56**	**325**	*e*P	**P**	**12 00 20.2**	**-1.0**			**PPT2**	**Papeete2**	**82.32**	**127**	*e*LR	LR	12 26 32.6			
RETA	**Reutte**	**79.60**	**336**	⇑*iP*	**P**	**12 00 21.4**	**0.0**				comp=Z,1µm,23.2s,baz=325								
	comp=Z,63nm,0.7s,SNR=24									**PPT2**	**Papeete2**	**82.32**	**127**	*e*T	T	13 31 06.3			
438A	**Sam Houston St**	**79.62**	**55**	P	**P**	**12 00 22.3**	**+0.6**				comp=Z,13nm,0.2s								
	baz=79									**CHOS**	**Chios island**	**82.35**	**322**	P	**P**	**12 00 35.1**	**-1.0**		
MOTA	**Moosalm**	**79.64**	**336**	⇑*iP*	**P**	**12 00 21.7**	**0.0**			**CHOS**	**Chios island**	**82.35**	**322**	P	**P**	**12 00 35.1**	**-1.0**		
	comp=Z,234nm,1.2s,SNR=54									**PAE**	**Paea**	**82.38**	**127**	*e*T	T	13 31 10.1			
537A	**Green Hill Far**	**79.67**	**56**	P	**P**	**12 00 22.2**	**+0.3**				comp=Z,3.5nm,0.2s								
	baz=80									**TIAR**	**Tiarei**	**82.41**	**127**	*e*T	T	13 31 13.3			
339A	**Huntington**	**79.68**	**54**	P	**P**	**12 00 22.3**	**+0.3**				comp=Z,9.9nm,0.2s								
	baz=80									**CBN**	**Corbin Frederi**	**82.43**	**39**	PFAKE					
636A	**Smothers Creek**	**79.72**	**57**	P	**P**	**12 00 21.7**	**-0.5**			CBN				LR	LR	12 00 50.0	+14		
	baz=80										comp=Z,612nm,20.0s								
PLD	**Plovdiv**	**79.73**	**324**	*e*P	**P**	**12 00 20.9**	**-1.1**			**NEST**	**Nestorio**	**82.59**	**326**	P	**P**	**12 00 36.3**	**-1.1**		
DIVS	**Divibare**	**79.76**	**328**	P	**P**	**12 00 21.2**	**-1.1**			**XOR**	**Xorichti**	**82.67**	**324**	P	**P**	**12 00 36.2**	**-1.5**		
DIVS	**Divibare**	**79.76**	**328**	⇑*iP*	**P**	**12 00 21.4**	**-0.9**			**XOR**	**Xorichti**	**82.67**	**324**	P	**P**	**12 00 36.2**	**-1.5**		
735A	**Kenedy**	**79.77**	**58**	P	**P**	**12 00 22.8**	**+0.3**			**NEO**	**Neokhori**	**82.71**	**324**	P	**P**	**12 00 37.2**	**-0.7**		
	baz=80									**NEO**	**Neokhori**	**82.71**	**324**	P	**P**	**12 00 37.2**	**-0.7**		
ABTA	**Abfaltersbach**	**79.78**	**334**	⇓*iP*	**P**	**12 00 21.1**	**-1.3**			**VLC**	**Villacollemand**	**82.75**	**335**	PFAKE		12 00 50.0	+12		
	comp=Z,84nm,1.6s,SNR=25									VLC				LR	LR				
KDZ	**Kurdzhali**	**79.84**	**324**	⇑*iP*	**P**	**12 00 23.3**	**+0.6**				comp=Z,982nm,22.0s								
ECH	**Echery**	**79.86**	**338**	⇑*eP*	**P**	**12 00 22.4**	**-0.3**			**PLDF**	**La Plantade**	**82.81**	**340**	⇑*eP*	**P**	**12 00 38.7**	**+0.3**		
ECH	**Echery**	**79.86**	**338**	*eP*	**P**	**12 00 22.0**	**-0.7**			**AGO**	**Saint Agoulin**	**82.84**	**340**	⇑*eP*	**P**	**12 00 39.9**	**+1.4**		
	comp=Z,53nm,0.8s									**BNI**	**Bardonecchia**	**82.93**	**338**	*eP*	**P**	**12 00 39.6**	**+0.5**		
ECH				LR	LR						comp=Z,50nm,0.8s								
	comp=Z,839nm,22.0s									BNI				LR	LR				
933A	**Laredo**	**79.87**	**60**	P	**P**	**12 00 23.7**	**+0.7**				comp=Z,834nm,22.0s								
	baz=80,SNR=12									**MRKA**	**Markates**	**83.08**	**323**	P	**P**	**12 00 38.3**	**-1.6**		
VTS	**Vitosha**	**79.89**	**326**	P	**P**	**12 00 22.4**	**-0.7**			**SMIA**	**Simia**	**83.08**	**324**	P	**P**	**12 00 37.8**	**-2.1**		
VTS	**Vitosha**	**79.89**	**326**	⇑*iP*	**P**	**12 00 22.9**	**-0.2**			**PYM**	**Petit Puy Mans**	**83.16**	**340**	⇑*eP*	**P**	**12 00 41.0**	**+0.8**		
VTS	**Vitosha**	**79.89**	**326**	*eP*	**P**	**12 00 22.5**	**-0.7**			**EREA**	**Eretria**	**83.19**	**323**	P	**P**	**12 00 38.5**	**-1.9**		
VTS	**Vitosha**	**79.89**	**326**	P	**P**	**12 00 22.4**	**-0.7**			**SSB**	**Saint Sauveur**	**83.25**	**339**	*eP*	**P**	**12 00 40.3**	**-0.3**		
834A	**Tilden**	**79.89**	**59**	P	**P**	**12 00 23.9**	**+0.7**				comp=Z,112nm,1.0s								
	baz=80,SNR=6.0									SSB				LR	LR				
OXF	**Oxford**	**79.89**	**49**	*eP*	**P**	**12 00 23.2**	**+0.2**				comp=Z,582nm,22.0s								
	comp=Z,85nm,1.3s									**KMSC**	**Kings Mountain**	**83.27**	**43**	P	**P**	**12 00 40.4**	**-0.4**		
340A	**Bronson**	**79.98**	**54**	P	**P**	**12 00 23.7**	**+0.2**				baz=83								
	baz=80									**KMSC**	**Kings Mountain**	**83.27**	**43**	*eP*	**P**	**12 00 40.9**	**0.0**		
439A	**Center Grove,**	**79.98**	**55**	P	**P**	**12 00 24.0**	**+0.5**				comp=Z,4.1nm,0.5s								
	baz=80									**AGG**	**Agios Georgios**	**83.31**	**324**	*eP*	**P**	**12 00 39.6**	**-1.4**		
DYA	**Yadsworthy**	**80.00**	**346**	*eP*	**P**	**12 00 22.6**	**-0.8**				comp=Z,23nm,1.0s								
DYA				AMB	AMB	12 00 24.6				**ATAL**	**Atalanti**	**83.32**	**324**	P	**P**	**12 00 39.0**	**-2.1**		
	comp=Z,102nm,1.1s									**ATAL**	**Atalanti**	**83.32**	**324**	P	**P**	**12 00 39.0**	**-2.1**		
538A	**Harpers Horsep**	**80.02**	**56**	P	**P**	**12 00 23.9**	**+0.1**			**LKR**	**Lokris**	**83.36**	**324**	P	**P**	**12 00 39.2**	**-2.1**		
	baz=80									**LKR**	**Lokris**	**83.36**	**324**	P	**P**	**12 00 39.2**	**-2.1**		
DAVA	**Damuels**	**80.02**	**336**	⇑*iP*	**P**	**12 00 23.8**	**0.0**			**AQU**	**L'Aquila**	**83.50**	**332**	*eP*	**P**	**12 00 42.3**	**+0.3**		
	comp=Z,92nm,0.9s,SNR=30										comp=Z,50nm,0.7s								
FETA	**Feichten**	**80.03**	**336**	⇑*iP*	**P**	**12 00 23.9**	**+0.1**			AQU				LR	LR				
	comp=Z,72nm,1.1s,SNR=33										comp=Z,597nm,22.0s								
736A	**Circle Diamond**	**80.11**	**58**	P	**P**	**12 00 25.1**	**+0.8**			**LBL**	**Lubilhac**	**83.59**	**340**	*eP*	**P**	**12 00 43.3**	**+0.8**		
	baz=80									**EVR**	**Evrytania**	**83.60**	**325**	P	**P**	**12 00 41.4**	**-1.2**		
THEF	**They Montfort**	**80.14**	**339**	⇑*eP*	**P**	**12 00 24.1**	**0.0**			**EVR**	**Evrytania**	**83.60**	**325**	P	**P**	**12 00 41.4**	**-1.2**		
835A	**Beeville**	**80.19**	**58**	P	**P**	**12 00 25.4**	**+0.7**			**IGT**	**Igoumenitsa**	**83.62**	**326**	P	**P**	**12 00 41.6**	**-1.0**		
	baz=80									**IGT**	**Igoumenitsa**	**83.62**	**326**	P	**P**	**12 00 41.6**	**-1.0**		
MOF	**Molkenrain**	**80.21**	**338**	⇑*eP*	**P**	**12 00 23.9**	**-0.7**			**VILL**	**Villia**	**83.66**	**323**	P	**P**	**12 00 41.0**	**-1.9**		
ALN	**Alexandroupoli**	**80.23**	**323**	P	**P**	**12 00 23.9**	**-0.8**			**KEK**	**Kerkira**	**83.66**	**326**	P	**P**	**12 00 41.3**	**-1.5**		
ALN	**Alexandroupoli**	**80.23**	**323**	P	**P**	**12 00 23.9**	**-0.8**			**KEK**	**Kerkira**	**83.66**	**326**	P	**P**	**12 00 41.3**	**-1.5**		
KSPA	**Keystone Colle**	**80.23**	**36**	*eP*	**P**	**12 00 24.8**	**0.0**			**DSL**	**Palaion Diasel**	**83.68**	**325**	P	**P**	**12 00 41.9**	**-1.1**		
	comp=Z,32nm,1.1s									**DSL**	**Palaion Diasel**	**83.68**	**325**	P	**P**	**12 00 41.9**	**-1.1**		
934A	**Benavides**	**80.31**	**59**	P	**P**	**12 00 26.2**	**+0.8**			**APE**	**Apeiranthos**	**83.69**	**321**	*c iP*	**P**	**12 00 40.3**	**-2.7**		
	baz=80									APE				pmax	pmax				
TRI	**Trieste**	**80.35**	**333**	*eP*	**P**	**12 00 24.3**	**-1.1**				comp=Z,32nm,1.4s								
	comp=Z,57nm,0.6s									**SAOF**	**Saorge**	**83.69**	**337**	⇑*eP*	**P**	**12 00 43.5**	**+0.5**		
FUORN	**Ofenpass-Fuorn**	**80.53**	**336**	*eP*	**P**	**12 00 27.1**	**+0.4**			**GOGA**	**Godfrey**	**83.70**	**45**	*eP*	**P**	**12 00 43.1**	**0.0**		
	comp=Z,66nm,0.8s										comp=Z,122nm,2.2s								
STKA	**Stephens Creek**	**80.53**	**191**	P	**P**	**12 00 26.3**	**+0.1**			GOGA				LR	LR				
	comp=Z,20nm,0.9s,baz=346,slow=6.2,SNR=20										comp=Z,940nm,22.0s								
STKA	**Stephens Creek**	**80.53**	**191**	P	**P**	**12 00 26.3**	**+0.1**			**AUTN**	**L'Aution**	**83.72**	**337**	⇑*eP*	**P**	**12 00 43.9**	**+0.6**		
STKA				pmax	pmax					**TOUF**	**Mont Tournerai**	**83.75**	**337**	⇑*eP*	**P**	**12 00 44.0**	**+0.6**		
	comp=Z,20nm,0.9s									**DSF**	**Desfina**	**83.76**	**324**	P	**P**	**12 00 40.7**	**-2.7**		
STKA	**Stephens Creek**	**80.53**	**191**	*eP*	**P**	**12 00 26.5**	**+0.3**			**DSF**	**Desfina**	**83.76**	**324**	P	**P**	**12 00 40.7**	**-2.7**		
	comp=Z,8.0nm,1.1s									**BRAL**	**Brewton**	**83.88**	**49**	PFAKE		12 01 00.0	+16		
MMB	**Musomiste**	**80.55**	**325**	⇑*iP*	**P**	**12 00 26.3**	**-0.2**			BRAL				LR	LR				
MMB	**Musomiste**	**80.55**	**325**	*eP*	**P**	**12 00 25.8**	**-0.7**				comp=Z,649nm,19.0s								
KKB	**Krupnik**	**80.56**	**325**	*eP*	**P**	**12 00 26.4**	**-0.2**			**MVIF**	**Mont Vial**	**83.89**	**337**	⇑*eP*	**P**	**12 00 44.5**	**+0.4**		
034A	**Hebbronville**	**80.62**	**60**	P	**P**	**12 00 28.1**	**+1.0**			**LTK**	**Loutraki**	**83.92**	**323**	P	**P**	**12 00 42.2**	**-2.0**		
	baz=80,SNR=6.5									**LTK**	**Loutraki**	**83.92**	**323**	P	**P**	**12 00 42.2**	**-2.0**		
PLE	**Pljevlja**	**80.64**	**328**	⇑*iP*	**P**	**12 00 26.3**	**-0.8**			**REVF**	**Revere**	**83.97**	**337**	⇑*eP*	**P**	**12 00 44.9**	**+0.5**		
NVR	**Nevrokopi**	**80.71**	**325**	P	**P**	**12 00 26.7**	**-0.7**			**EFP**	**Efpalio**	**83.98**	**324**	P	**P**	**12 00 43.0**	**-1.5**		
NVR	**Nevrokopi**	**80.71**	**325**	P	**P**	**12 00 26.7**	**-0.7**			**JSC**	**Jenkinsville**	**84.01**	**43**	*eP*	**P**	**12 00 45.3**	**+0.6**		
LOMF	**Lomont**	**80.75**	**338**	⇑*eP*	**P**	**12 00 27.4**	**-0.1**				comp=Z,16nm,0.9s								
KAVA	**Kavala**	**80.75**	**324**	P	**P**	**12 00 26.6**	**-1.0**			**CALN**	**Calern**	**84.09**	**337**	⇑*eP*	**P**	**12 00 45.6**	**+0.5**		
KAVA	**Kavala**	**80.75**	**324**	P	**P**	**12 00 26.6**	**-1.0**			**KLV**	**Kalavryta, Ach**	**84.22**	**324**	P	**P**	**12 00 43.5**	**-2.3**		
IVA	**Berane**	**80.86**	**328**	⇑*iP*	**P**	**12 00 26.6**	**-1.6**			**KLV**	**Kalavryta, Ach**	**84.22**	**324**	P	**P**	**12 00 43.5**	**-2.3**		
ISP	**Isparta**	**80.89**	**318**	⇑*iP*	**P**	**12 00 27.7**	**-0.8**			**GUR**	**Goura**	**84.24**	**324**	P	**P**	**12 00 43.9**	**-2.0**		
ISP	**Isparta**	**80.89**	**318**	*eP*	**P**	**12 00 28.5**	**0.0**			**GUR**	**Goura**	**84.24**	**324**	P	**P**	**12 00 43.9**	**-2.0**		
	comp=Z,52nm,0.6s									**DID**	**Didima**	**84.25**	**323**	P	P	12 00 42.7	-3.2		
ISP				LR	LR					**DID**	**Didima**	**84.25**	**323**	P	P	12 00 42.7	-3.2		
	comp=Z,529nm,20.0s									**DIDY**	**Didyma**	**84.29**	**323**	P	P	12 00 43.0	-3.2		
JSA	**Saint Aubin**	**80.91**	**345**	*eP*	**P**	**12 00 28.4**	**+0.2**			**SANT**	**Santorini**	**84.31**	**321**	PFAKE		12 01 00.0	+14		
JSA				AMB	AMB	12 00 29.6				SANT				LR	LR				
	comp=Z,111nm,1.0s										comp=Z,380nm,21.0s								
TUE	**Stuetta**	**80.92**	**336**	PFAKE		12 00 40.0	+11			**DRO**	**Drossia**	**84.47**	**324**	P	**P**	**12 00 45.9**	**-1.1**		
TUE				LR	LR					**RLS**	**Riolos of Patr**	**84.48**	**325**	P	**P**	**12 00 46.0**	**-1.0**		
	comp=Z,927nm,20.0s									**RLS**	**Riolos of Patr**	**84.48**	**325**	P	**P**	**12 00 46.0**	**-1.0**		
UPM	**Unac-Piva**	**80.92**	**329**	⇑*iP*	**P**	**12 00 27.2**	**-1.5**			**RAYN**	**Ar Rayn**	**84.50**	**299**	P	**P**	**12 00 47.6**	**+0.2**		
SRS	**Serrai**	**81.01**	**325**	P	**P**	**12 00 27.5**	**-1.5**				comp=Z,1µm,0.6s,SNR=68								
SRS	**Serrai**	**81.01**	**325**	P	**P**	**12 00 27.5**	**-1.5**			**RAYN**	**Ar Rayn**	**84.50**	**299**	*eP*	**P**	**12 00 47.2**	**-0.2**		
PVY	**Plav**	**81.08**	**328**	⇑*iP*	**P**	**12 00 28.1**	**-1.4**			RAYN				LR	LR				
SKO	**Skopje**	**81.09**	**326**	*eP*	**P**	**12 00 29.4**	**0.0**				comp=Z,1µm,21.0s								
VBMS	**Vicksburg**	**81.14**	**51**	P	**P**	**12 00 29.4**	**-0.3**			**LEPF**	**PUYLOUBIER**	**84.61**	**338**	⇑*eP*	**P**	**12 00 47.9**	**+0.3**		
	baz=81									**KFL**	**Anninata**	**84.69**	**325**	P	**P**	**12 00 46.6**	**-1.5**		
VAY	**Valandovo**	**81.23**	**325**	P	**P**	**12 00 29.4**	**-0.7**			**VLS**	**Valsamata**	**84.71**	**325**	P	**P**	**12 00 47.0**	**-1.2**		
VAY	**Valandovo**	**81.23**	**325**	*eP*	**P**	**12 00 30.3**	**+0.2**			**VLS**	**Valsamata**	**84.71**	**325**	P	**P**	**12 00 47.0**	**-1.2**		
VAY	**Valandovo**	**81.23**	**325**	P	**P**	**12 00 29.4**	**-0.7**			**VLX**	**Vlachokerasia**	**84.71**	**324**	P	**P**	**12 00 46.3**	**-2.0**		
NKY	**Niksic**	**81.23**	**328**	*eP*	**P**	**12 00 28.7**	**-1.5**			**VLX**	**Vlachokerasia**	**84.71**	**324**	P	**P**	**12 00 46.3**	**-2.0**		
KNT	**Kendrikon**	**81.24**	**325**	P	**P**	**12 00 29.5**	**-0.7**			**CNNC**	**Cliffs of the**	**84.72**	**41**	PFAKE		12 01 00.0	+12		
KNT	**Kendrikon**	**81.24**	**325**	P	**P**	**12 00 29.5**	**-0.7**			CNNC				LR	LR				
NKME	**Niksic**	**81.29**	**329**	*eP*	**P**	**12 00 28.9**	**-1.5**				comp=Z,884nm,19.0s								
BRY	**Bratogost**	**81.31**	**329**	*eP*	**P**	**12 00 29.0**	**-1.7**			**CUC**	**Castrocucco**	**84.83**	**329**	*eP*	**P**	**12 00 47.7**	**-1.1**		
LIA	**Limnos Island**	**81.42**	**323**	P	**P**	**12 00 29.9**	**-1.2**				comp=Z,24nm,1.0s								
LIA	**Limnos Island**	**81.42**	**323**	P	**P**	**12 00 29.9**	**-1.2**			CUC				LR	LR				
035Z	**Hargill**	**81.44**	**60**	P	**P**	**12 00 31.4**	**0.0**				comp=Z,544nm,21.0s								
	baz=81									**ZKR**	**Zakros**	**85.05**	**320**	P	**P**	**12 00 47.8**	**-2.1**		
TTG	**Podgorica**	**81.48**	**328**	⇑*iP*	**P**	**12 00 29.8**	**-1.6**			**ZKR**	**Zakros**	**85.05**	**320**	P	**P**	**12 00 47.8**	**-2.1**		
OUR	**Ouranopolis**	**81.53**	**324**	P	**P**	**12 00 30.4**	**-1.3**			**VLI**	**Veliai**	**85.05**	**323**	P	P	12 00 45.7	-4.2		
OUR	**Ouranopolis**	**81.53**	**324**	P	**P**	**12 00 30.4**	**-1.3**			**VLI**	**Veliai**	**85.05**	**323**	P	P	12 00 45.7	-4.2		
PRK	**Paraskevi**	**81.53**	**322**	P	**P**	**12 00 30.9**	**-0.8**			**ITM**	**Ithomi**	**85.06**	**324**	P	**P**	**12 00 47.5**	**-2.5**		
PRK	**Paraskevi**	**81.53**	**322**	P	**P**	**12 00 30.9**	**-0.8**			**ITM**	**Ithomi**	**85.06**	**324**	P	**P**	**12 00 47.5**	**-2.5**		
SENIN	**Lac Senin/Sane**	**81.55**	**338**	*eP*	**P**	**12 00 31.8**	**-0.2**			**TIP**	**Timpagrande**	**85.23**	**328**	P	**P**	**12 00 50.1**	**-0.8**		
	comp=Z,54nm,1.1s									TIP				LR	LR				
GRG	**Griva**	**81.61**	**325**	P	**P**	**12 00 31.1**	**-1.0**				comp=Z,550nm,21.0s								
GRG	**Griva**	**81.61**	**325**	P	**P**	**12 00 31.1**	**-1.0**			**TIGA**	**Tifton**	**85.25**	**47**	P	**P**	**12 00 51.0**	**+0.1**		
HORT	**Hortiatis**	**81.65**	**325**	P	**P**	**12 00 30.1**	**-2.3**				baz=85,SNR=6.1								
HORT	**Hortiatis**	**81.65**	**325**	P	**P**	**12 00 30.1**	**-2.3**			**TIGA**	**Tifton**	**85.25**	**47**	*eP*	**P**	**12 00 51.7**	**+0.7**		
PHP	**Peshkopia**	**81.70**	**327**	P	**P**	**12 00 30.8**	**-1.9**				comp=Z,75nm,0.8s								
PHP	**Peshkopia**	**81.70**	**327**	P	**P**	**12 00 30.8**	**-1.9**			**LAST**	**Lasithi**	**85.33**	**320**	P	**P**	**12 00 50.5**	**-0.9**		
PLG	**Polygyros**	**81.70**	**324**	P	**P**	**12 00 31.1**	**-1.6**			**LAST**	**Lasithi**	**85.33**	**320**	P	**P**	**12 00 50.5**	**-0.9**		
PLG	**Polygyros**	**81.70**	**324**	P	**P**	**12 00 31.1**	**-1.6**			**PYL**	**PYLOS**	**85.38**	**324**	P	**P**	**12 00 49.3**	**-2.2**		
DRME	**Dracevica, Mon**	**81.72**	**328**	⇑*iP*	**P**	**12 00 31.1**	**-1.6**			**PYL**	**PYLOS**	**85.38**	**324**	P	**P**	**12 00 49.3**	**-2.2**		
BUM	**Brajici-Budva**	**81.72**	**328**	⇑*iP*	**P**	**12 00 31.2**	**-1.6**			**NHSC**	**New Hope**	**85.49**	**43**	PFAKE		12 01 00.0	+7.9		
HCY	**Herceg Novi**	**81.73**	**329**	⇑*iP*	**P**	**12 00 30.8**	**-1.9**			NHSC				LR	LR				
SIGR	**SIGRI**	**81.73**	**322**	P	**P**	**12 00 30.9**	**-1.9**				comp=Z,602nm,20.0s								
SIGR	**SIGRI**	**81.73**	**322**	P	**P**	**12 00 30.9**	**-1.9**			**MLS**	**Moulis**	**86.24**	**341**	⇑*eP*	**P**	**12 00 55.0**	**-0.7**		
ULC	**Ulcinj**	**81.89**	**328**	*eP*	**P**	**12 00 32.2**	**-1.4**			**CEL**	**Celeste**	**86.36**	**329**	*eP*	**P**	**12 00 56.6**	**+0.2**		
CSS	**Prodhromos**	**81.95**	**315**	P	**P**	**12 00 33.4**	**-0.6**				comp=Z,31nm,0.7s								
CSS	**Prodhromos**	**81.95**	**315**	*eP*	**P**	**12 00 33.3**	**-0.7**			CEL				LR	LR				
	comp=Z,30nm,0.7s										comp=Z,784nm,21.0s								
CSS				LR	LR					**VIEF**	**Viey**	**86.54**	**341**	⇑*eP*	**P**	**12 00 57.3**	**0.0**		
	comp=Z,129nm,19.0s									**TBI**	**Tubui**	**87.13**	**130**	*eS*	**S**	**12 11 37.5**	**+1.3**		
BLA	**Blacksburg**	**81.96**	**41**	PFAKE		12 00 50.0	+16				comp=Z,571nm,29.2s								
BLA				LR	LR					**TBI**	**Tubuai**	**87.13**	**130**	*eLR*	LR	12 28 40.1			
	comp=Z,465nm,20.0s										comp=Z,1µm,24.8s,baz=328								
PAIG	**Paliouri**	**82.00**	**324**	P	**P**	**12 00 32.0**	**-2.2**			**TBI**	**Tubuai**	**87.13**	**130**	*eT*	T	13 37 03.7			
PAIG	**Paliouri**	**82.00**	**324**	P	**P**	**12 00 32.0**	**-2.2**				comp=Z,23nm,0.2s								
OHR	**Ohrid**	**82.07**	**326**	*eP*	**P**	**12 00 32.8**	**-1.9**			**VSL**	**Villasalto**	**87.34**	**334**	*eP*	**P**	**12 01 02.0**	**+0.9**		
FORT	**Forrest**	**82.09**	**203**	*eP*	**P**	**12 00 34.2**	**-0.3**				comp=Z,22nm,1.0s								
	comp=Z,304nm,0.7s									VSL				LR	LR				
FNA	**Florina**	**82.14**	**326**	P	**P**	**12 00 33.8**	**-1.2**				comp=Z,458nm,21.0s								
FNA	**Florina**	**82.14**	**326**	P	**P**	**12 00 33.8**	**-1.2**			**CLTB**	**Caltabellotta**	**87.88**	**330**	PFAKE		12 01 10.0	+6.1		
TIR	**Tirane**	**82.21**	**327**	*eP*	**P**	**12 00 34.9**	**-0.4**			CLTB				LR	LR				
	comp=Z,118nm,0.6s										comp=Z,532nm,19.0s								
TIR				LR	LR					**URZ**	**Urewera**	**88.41**	**162**	P	**P**	**12 01 04.1**	**-1.7**		
	comp=Z,942nm,19.0s										comp=Z,16nm,0.7s,baz=280,slow=4.8,SNR=9.5								
LRAL	**Lakeview Retre**	**82.28**	**48**	*eP*	**P**	**12 00 35.1**	**-0.6**			**URZ**	**Urewera**	**88.41**	**162**	*eP*	**P**	**12 01 04.7**	**-1.2**		
	comp=Z,12nm,0.7s										comp=Z,24nm,0.8s								
BBOO	**Buckleboo**	**82.30**	**196**	*eP*	**P**	**12 00 36.0**	**+0.5**			**PBRG**	**Braganca**	**88.85**	**346**	*eP*	**P**	**12 01 07.1**	**-1.2**		
	comp=Z,61nm,1.0s										comp=Z,27nm,1.8s								
PBRG	**Braganca**	**88.85**	**346**	*eP*	**P**	**12 01 07.1**	**-1.2**												
	comp=Z,27nm,1.8s																		
WDD	**Wield Dalam**	**88.98**	**328**	PFAKE		12 01 20.0	+11												
WDD				LR	LR														
	comp=Z,512nm,19.0s																		
BKZ	**Black Stump Fm**	**89.16**	**163**	*eP*	**P**	**12 01 08.6**	**-0.8**												
	comp=Z,29nm,0.9s																		
ESDC	**Sonseca Array**	**90.43**	**343**	P	**P**	**12 01 14.5**	**-1.3**												
	comp=Z,4.7nm,0.6s,baz=8.7,slow=3.9,SNR=21																		
ESDC				LR	LR	12 46 24.6													
	comp=Z,506nm,20.9s,baz=20,slow=39																		
PAB	**San Pablo**	**90.63**	**344**	*eP*	**P**	**12 01 15.5**	**-1.3**												
	comp=Z,8.1nm,0.8s																		
PAB				LR	LR														
	comp=Z,769nm,20.0s																		
KEST	**Kesra**	**90.82**	**332**	P	**P**	**12 01 17.6**	**-0.1**												
	comp=Z,5.4nm,0.7s,baz=336,slow=4.6,SNR=24																		
KEST				LR	LR	12 47 02.8													
	comp=Z,318nm,20.2s,baz=332,slow=39																		
BBSR	**BB Station**	**92.48**	**32**	PFAKE		12 01 40.0	+15												
BBSR				LR	LR														
	comp=Z,402nm,19.0s																		
RPZ	**Rata Peaks**	**92.69**	**168**	P	**P**	**12 01 26.0**	**+0.3**												
	comp=Z,13nm,0.9s,baz=226,slow=0.5,SNR=5.2																		
PVAQ	**Vaqueiros**	**93.31**	**346**	*eP*	**P**	12 01 25.6	-3.4												
PVAQ	**Vaqueiros**	**93.31**	**346**	*eP*	P	12 01 25.6	-3.4												
GTBY	**Guantanamo Bay**	**99.02**	**46**	PFAKE		12 02 10.0	+15												
GTBY				LR	LR														
	comp=Z,538nm,19.0s																		
MTDJ	**Mount Denham**	**99.26**	**49**	PFAKE		12 02 10.0	+14												
MTDJ				LR	LR														
	comp=Z,486nm,21.0s																		
GRTK	**Grand Turk**	**99.52**	**42**	PFAKE		12 02 10.0	+13												
GRTK				LR	LR														
	comp=Z,469nm,20.0s																		
SDDR	**Presa de Saban**	**101.65**	**44**	PFAKE		12 02 20.0	+13												
SDDR				LR	LR														
	comp=Z,422nm,22.0s																		
JTS	**JuntasAbangare**	**101.75**	**60**	PFAKE		12 02 20.0	+13												
JTS				LR	LR														
	comp=Z,315nm,19.0s																		
TAM	**Tamanrasset**	**104.03**	**331**	PFAKE		12 02 30.0	+12												
TAM				LR	LR														
	comp=Z,556nm,20.0s																		
BCIP	**Isla Barro Col**	**105.56**	**56**	PFAKE		12 06 50.0													
BCIP				LR	LR

*THE **29** 12:08:03.8, 39˚.55N×25˚.29E, h6km, ML3.3/14, Error ellipse: s-maj=0.8km s-min=0.4km az=73.0*
*ATH **29** 12:08:03.2, 39˚.57N×25˚.28E, h23km, MD3.3/36, ML3.0*
*ISK **29** 12:08:05.1, 39˚.58N×25˚.47E, h12km, ML3.4*
*SOF **29** 12:08:08.2, 39˚.97N×25˚.26E, h5km, MD3.3*

ISC 29 12:08:03.9±0.9, 39˚.56N±0˚.01×25˚.30E±0˚.01, h12km±8km, n176, σ0°58/244, 11C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.35**	**346**	P	**Pg**	**12 08 10.9**	**+0.1**
LIA				S	**Sg**	**12 08 15.8**	**+0.3**
LIA	**Limnos Island**	**0.35**	**346**	*e*PB	**Pg**	**12 08 10.9**	**+0.1**
LIA				*e*SB	**Sg**	**12 08 15.8**	**+0.3**
LIA	**Limnos Island**	**0.35**	**346**	P	**Pg**	**12 08 10.9**	**+0.1**
LIA				S	**Sg**	**12 08 15.8**	**+0.3**
SIGR	**SIGRI**	**0.56**	**129**	P	**Pg**	**12 08 14.7**	**0.0**
SIGR				S	**Sg**	**12 08 22.6**	**+0.4**
SIGR	**SIGRI**	**0.56**	**129**	*e*PN	**Pg**	**12 08 14.8**	**0.0**
SIGR				*e*SN	**Sg**	**12 08 22.5**	**+0.4**
SIGR	**SIGRI**	**0.56**	**129**	P	**Pg**	**12 08 14.7**	**0.0**
SIGR				S	**Sg**	**12 08 22.6**	**+0.4**
BOZC	**Bozcaada**	**0.65**	**64**	*i* P	**Pg**	**12 08 15.6**	**-0.8**
BOZC				*i* S	**Sg**	**12 08 24.8**	**-0.2**
GADA	**Gvkgeada**	**0.78**	**36**	*e*PG	**Pb**	**12 08 19.1**	**-0.3**
GADA				*e*SG	**Sg**	**12 08 28.9**	**-0.3**
GADA	**Gvkgeada**	**0.78**	**36**	*e*Pg	**Pb**	**12 08 19.1**	**-0.3**
GADA				*e*Sg	**Sg**	**12 08 28.9**	**-0.3**
PRK	**Paraskevi**	**0.82**	**112**	P	**Pg**	**12 08 19.4**	**-0.3**
PRK				S	**Sb**	**12 08 31.0**	**0.0**
PRK	**Paraskevi**	**0.82**	**112**	*e*PN	**Pg**	**12 08 19.5**	**-0.3**
PRK				*e*SN	**Sb**	**12 08 31.1**	**0.0**
PRK	**Paraskevi**	**0.82**	**112**	P	**Pg**	**12 08 19.4**	**-0.3**
PRK				S	**Sb**	**12 08 31.0**	**0.0**
EZN	**Ezine**	**0.84**	**71**	*e*PG	**Pg**	**12 08 19.3**	**-0.7**
EZN	**Ezine**	**0.84**	**71**	*e*Pg	**Pg**	**12 08 19.3**	**-0.7**
SMTH	**Samothraki Isl**	**0.93**	**11**	P	**Pg**	**12 08 21.1**	**-0.6**
SMTH				S	**Sb**	**12 08 34.8**	**+0.7**
SMTH	**Samothraki Isl**	**0.93**	**11**	*e*PN	**Pg**	**12 08 21.4**	**-0.3**
SMTH				*e*SN	**Sb**	**12 08 34.4**	**+0.3**
SMTH	**Samothraki Isl**	**0.93**	**11**	*e*Pn	**Pg**	**12 08 21.4**	**-0.3**
SMTH				*e*Sn	**Sb**	**12 08 34.4**	**+0.3**
AYVA	**Ayvalik**	**1.11**	**103**	*i* P	**Pb**	**12 08 24.2**	**-0.8**
AYVA				*i* S	**Sg**	**12 08 39.8**	**+0.1**
AYVA	**Ayvalik**	**1.11**	**103**	*i* P	**Pb**	**12 08 24.2**	**-0.8**
AYVA				*i* S	**Sg**	**12 08 39.8**	**+0.1**
AOS	**Alonnisos**	**1.17**	**251**	P	**Pb**	**12 08 25.6**	**-0.3**
AOS				S	**Sn**	**12 08 41.7**	**-0.1**
AOS	**Alonnisos**	**1.17**	**251**	*e*PN	**Pb**	**12 08 25.6**	**-0.3**
AOS				*e*SN	**Sg**	**12 08 41.4**	**0.0**
AOS	**Alonnisos**	**1.17**	**251**	P	**Pb**	**12 08 25.6**	**-0.3**
AOS				*e*Sn	**Sg**	**12 08 41.4**	**0.0**
GELI	**Tayfur-Gelibol**	**1.23**	**47**	*e*PN	**Pn**	**12 08 26.8**	**-0.1**
GELI				*e*SN	**Sb**	**12 08 43.1**	**+0.2**
OUR	**Ouranopolis**	**1.27**	**308**	P	**Pn**	**12 08 27.1**	**-0.3**
OUR				S	**Sg**	**12 08 45.2**	**+0.4**
OUR	**Ouranopolis**	**1.27**	**308**	*e*PN	**Pb**	**12 08 27.4**	**-0.3**
OUR				*e*SN	**Sn**	**12 08 44.0**	**-0.4**
OUR	**Ouranopolis**	**1.27**	**308**	P	**Pn**	**12 08 27.1**	**-0.3**
OUR	**Ouranopolis**	**1.27**	**308**	*e*Pn	**Pb**	**12 08 27.4**	**-0.3**
OUR				*e*Sn	**Sn**	**12 08 44.0**	**-0.4**
OUR				S	**Sg**	**12 08 45.2**	**+0.4**
PAIG	**Paliouri**	**1.30**	**287**	P	**Pn**	**12 08 27.3**	**-0.5**
PAIG	**Paliouri**	**1.30**	**287**	*e*PN	**Pn**	**12 08 27.3**	**-0.5**
PAIG				*e*SN	**Sg**	**12 08 45.7**	**+0.1**
PAIG	**Paliouri**	**1.30**	**287**	P	**Pn**	**12 08 27.3**	**-0.5**
PAIG				*e*Sn	**Sg**	**12 08 45.7**	**+0.1**
CHOS	**Chios island**	**1.31**	**153**	P	**Pn**	**12 08 27.9**	**-0.2**
CHOS				S	**Sn**	**12 08 45.9**	**+0.2**
CHOS	**Chios island**	**1.31**	**153**	*e*PN	**Pn**	**12 08 28.0**	**-0.2**
CHOS				*e*SN	**Sg**	**12 08 47.0**	**+0.8**
CHOS	**Chios island**	**1.31**	**153**	P	**Pn**	**12 08 27.9**	**-0.2**
CHOS				S	**Sn**	**12 08 45.9**	**+0.2**
CHOS				*e*Sn	**Sg**	**12 08 47.0**	**+0.8**
ENEZ	**Enez**	**1.34**	**29**	*e*PN	**Pb**	**12 08 29.1**	**+0.1**
ENEZ	**Enez**	**1.34**	**29**	*e*Pn	**Pb**	**12 08 29.1**	**+0.1**
LPK	**Lapseki**	**1.39**	**54**	*e*PN	**Pn**	**12 08 29.2**	**+0.2**
ALN	**Alexandroupoli**	**1.45**	**23**	P	**Pn**	**12 08 29.1**	**-0.8**
ALN				S	**Sb**	**12 08 49.1**	**-0.2**
ALN	**Alexandroupoli**	**1.45**	**23**	*e*PN	**Pn**	**12 08 29.4**	**-0.5**
ALN				*e*SN	**Sb**	**12 08 49.2**	**-0.1**
ALN	**Alexandroupoli**	**1.45**	**23**	P	**Pn**	**12 08 29.1**	**-0.8**
ALN	**Alexandroupoli**	**1.45**	**23**	*e*Pn	**Pn**	**12 08 29.4**	**-0.5**
ALN				*e*Sn	**Sb**	**12 08 49.2**	**-0.1**
KAVA	**Kavala**	**1.55**	**338**	P	**Pn**	**12 08 30.9**	**-0.4**
KAVA				S	**Sb**	**12 08 52.6**	**+0.4**
KAVA	**Kavala**	**1.55**	**338**	*e*PN	**Pn**	**12 08 31.0**	**-0.4**
KAVA				*e*SN	**Sn**	**12 08 51.2**	**-0.2**
KAVA	**Kavala**	**1.55**	**338**	*e*Pn	**Pn**	**12 08 31.0**	**-0.4**
KAVA				*e*Sn	**Sn**	**12 08 51.2**	**-0.2**
KAVA				S	**Sb**	**12 08 52.6**	**+0.4**
EREA	**Eretria**	**1.56**	**223**	P	**Pn**	**12 08 30.8**	**-0.6**
EREA				S	**Sn**	**12 08 51.9**	**+0.3**
EREA	**Eretria**	**1.56**	**223**	*e*PB	**Pn**	**12 08 30.8**	**-0.6**
EREA				*e*SN	**Sb**	**12 08 53.0**	**+0.6**
EREA	**Eretria**	**1.56**	**223**	P	**Pn**	**12 08 30.8**	**-0.6**
EREA				S	**Sn**	**12 08 51.9**	**+0.3**
EREA				*e*Sn	**Sb**	**12 08 53.0**	**+0.6**
URLA	**Izmir**	**1.57**	**139**	*i* P	**Pn**	**12 08 31.2**	**-0.4**
URLA				*i* S	**Sn**	**12 08 51.6**	**-0.3**
URLA	**Izmir**	**1.57**	**139**	*i* P	**Pn**	**12 08 31.2**	**-0.4**
URLA				*i* S	**Sn**	**12 08 51.6**	**-0.3**
MRKA	**Markates**	**1.58**	**238**	P	**Pn**	**12 08 31.0**	**-0.7**
MRKA				S	**Sb**	**12 08 52.5**	**-0.5**
MRKA	**Markates**	**1.58**	**238**	*e*PN	**Pn**	**12 08 31.3**	**-0.4**
MRKA				*e*SN	**Sb**	**12 08 53.4**	**+0.4**
MRKA	**Markates**	**1.58**	**238**	P	**Pn**	**12 08 31.0**	**-0.7**
MRKA	**Markates**	**1.58**	**238**	*e*Pn	**Pn**	**12 08 31.3**	**-0.4**
MRKA				*e*Sn	**Sb**	**12 08 53.4**	**+0.4**
NEO	**Neokhori**	**1.62**	**262**	P	**Pn**	**12 08 32.4**	**+0.1**
NEO	**Neokhori**	**1.62**	**262**	*e*PN	**Pn**	**12 08 32.6**	**+0.3**
NEO				*e*SN	**Sb**	**12 08 54.4**	**+0.1**
NEO	**Neokhori**	**1.62**	**262**	*e*Pn	**Pn**	**12 08 32.6**	**+0.3**
NEO				*e*Sn	**Sb**	**12 08 54.4**	**+0.1**
PLG	**Polygyros**	**1.64**	**300**	P	**Pn**	**12 08 32.4**	**-0.1**
PLG				S	**Sb**	**12 08 54.3**	**-0.3**
PLG	**Polygyros**	**1.64**	**300**	*e*PN	**Pn**	**12 08 32.7**	**+0.2**
PLG				*e*SN	**Sn**	**12 08 53.8**	**+0.3**
PLG	**Polygyros**	**1.64**	**300**	P	**Pn**	**12 08 32.4**	**-0.1**
PLG	**Polygyros**	**1.64**	**300**	*e*Pn	**Pn**	**12 08 32.7**	**+0.2**
PLG				*e*Sn	**Sn**	**12 08 53.8**	**+0.3**
PLG				S	**Sb**	**12 08 54.3**	**-0.3**
XOR	**Xorichti**	**1.64**	**264**	P	**Pn**	**12 08 31.5**	**-1.1**
XOR				S	**Sb**	**12 08 54.1**	**-0.6**
XOR	**Xorichti**	**1.64**	**264**	*e*PN	**Pn**	**12 08 32.2**	**-0.4**
XOR	**Xorichti**	**1.64**	**264**	*e*Pn	**Pn**	**12 08 32.2**	**-0.4**
XOR				S	**Sb**	**12 08 54.1**	**-0.6**
SMIA	**Simia**	**1.76**	**248**	P	**Pn**	**12 08 34.2**	**0.0**
SMIA	**Simia**	**1.76**	**248**	*e*PN	**Pb**	**12 08 35.2**	**-0.9**
SMIA	**Simia**	**1.76**	**248**	*e*Pn	**Pb**	**12 08 35.2**	**-0.9**
BALY	**Balya**	**1.80**	**84**	*i* P	**Pn**	**12 08 34.8**	**0.0**
BALY				*i* S	**Sb**	**12 08 58.9**	**-0.5**
BALY	**Balya**	**1.80**	**84**	*i* P	**Pn**	**12 08 34.8**	**0.0**
BALY				*i* S	**Sb**	**12 08 58.9**	**-0.5**
FYTO	**Fytoko, Volos**	**1.83**	**266**	P	**Pn**	**12 08 35.1**	**0.0**
FYTO	**Fytoko, Volos**	**1.83**	**266**	P	**Pn**	**12 08 35.1**	**0.0**
SART	**Tekirdag**	**1.83**	**52**	*i* P	**Pn**	**12 08 34.8**	**-0.5**
SART				*i* S	**Sn**	**12 08 58.9**	**+0.5**
SART	**Tekirdag**	**1.83**	**52**	*i* P	**Pn**	**12 08 34.8**	**-0.5**
SART				*i* S	**Sn**	**12 08 58.9**	**+0.5**
SOH	**Sokhos**	**1.95**	**311**	P	**Pn**	**12 08 36.8**	**0.0**
SOH				S	**Sb**	**12 09 02.4**	**-1.2**
SOH	**Sokhos**	**1.95**	**311**	*e*PN	**Pn**	**12 08 37.0**	**+0.2**
SOH	**Sokhos**	**1.95**	**311**	P	**Pn**	**12 08 36.8**	**0.0**
SOH				S	**Sb**	**12 09 02.4**	**-1.2**
ATAL	**Atalanti**	**1.97**	**245**	P	**Pn**	**12 08 37.1**	**0.0**
HORT	**Hortiatis**	**1.98**	**302**	P	**Pn**	**12 08 37.2**	**0.0**
HORT				S	**Sn**	**12 09 02.7**	**+0.7**
HORT	**Hortiatis**	**1.98**	**302**	*e*PN	**Pn**	**12 08 37.8**	**+0.6**
HORT	**Hortiatis**	**1.98**	**302**	P	**Pn**	**12 08 37.2**	**0.0**
HORT	**Hortiatis**	**1.98**	**302**	*e*Pn	**Pn**	**12 08 37.8**	**+0.6**
HORT				S	**Sn**	**12 09 02.7**	**+0.7**
ATHU	**Athens Univers**	**1.98**	**217**	P	**Pn**	**12 08 36.5**	**-0.8**
ATHU	**Athens Univers**	**1.98**	**217**	P	**Pn**	**12 08 36.5**	**-0.8**
BALB	**Balikesir**	**2.00**	**87**	*e*PN	**Pn**	**12 08 37.2**	**-0.3**
LKR	**Lokris**	**2.00**	**244**	*e*PB	**Pn**	**12 08 37.0**	**-0.5**
LKR	**Lokris**	**2.00**	**244**	*e*Pb	**Pn**	**12 08 37.0**	**-0.5**
ATH	**Athens Observa**	**2.01**	**218**	*e*PB	**Pn**	**12 08 37.6**	**0.0**
ATH				*e*SN	**Sn**	**12 09 03.0**	**+0.3**
ATH	**Athens Observa**	**2.01**	**218**	*e*Pb	**Pn**	**12 08 37.6**	**0.0**
ATH				*e*Sn	**Sn**	**12 09 03.0**	**+0.3**
SRS	**Serrai**	**2.03**	**321**	P	**Pn**	**12 08 37.4**	**-0.5**
SRS	**Serrai**	**2.03**	**321**	*e*PB	**Pn**	**12 08 37.7**	**-0.2**
SRS	**Serrai**	**2.03**	**321**	P	**Pn**	**12 08 37.4**	**-0.5**
SRS	**Serrai**	**2.03**	**321**	*e*Pb	**Pn**	**12 08 37.7**	**-0.2**
MRMT	**Marmara Adasi**	**2.05**	**59**	*e*PN	**Pn**	**12 08 38.4**	**+0.2**
MRMT	**Marmara Adasi**	**2.05**	**59**	*e*Pn	**Pn**	**12 08 38.4**	**+0.2**
AKHS	**Akhisar**	**2.07**	**108**	*i* P	**Pn**	**12 08 38.3**	**-0.2**
AKHS				*i* S	**Sg**	**12 09 10.1**	**-0.3**
AKHS	**Akhisar**	**2.07**	**108**	*i* P	**Pn**	**12 08 38.3**	**-0.2**
VIL2	**Platees**	**2.08**	**230**	*e*PB	**Pn**	**12 08 38.1**	**-0.5**
VILL	**Villia**	**2.08**	**229**	P	**Pn**	**12 08 38.1**	**-0.6**
VILL	**Villia**	**2.08**	**229**	P	**Pn**	**12 08 38.1**	**-0.6**
KDZ	**Kurdzhali**	**2.09**	**3**	⇑*i* P	**Pn**	**12 08 38.4**	**-0.3**
KDZ	**Kurdzhali**	**2.09**	**3**	S	**Sn**	**12 09 03.2**	**-1.4**
NVR	**Nevrokopi**	**2.09**	**329**	P	**Pn**	**12 08 38.7**	**-0.1**
NVR	**Nevrokopi**	**2.09**	**329**	*e*PB	**Pn**	**12 08 38.7**	**-0.1**
NVR	**Nevrokopi**	**2.09**	**329**	P	**Pn**	**12 08 38.7**	**-0.1**
EDC	**Edincik**	**2.12**	**68**	*e*PN	**Pn**	**12 08 40.0**	**+0.8**
EDC	**Edincik**	**2.12**	**68**	*e*Pn	**Pn**	**12 08 40.0**	**+0.8**
RZN	**Rozhen**	**2.17**	**348**	*i* P	**Pn**	**12 08 40.3**	**+0.3**
RZN	**Rozhen**	**2.17**	**348**	*i* P	**Pn**	**12 08 40.3**	**+0.3**
SMG	**Samos**	**2.21**	**146**	P	**Pn**	**12 08 40.3**	**-0.1**
SMG				S	**Sn**	**12 09 08.5**	**+0.8**
SMG	**Samos**	**2.21**	**146**	*e*PN	**Pn**	**12 08 40.6**	**+0.2**
SMG	**Samos**	**2.21**	**146**	P	**Pn**	**12 08 40.3**	**-0.1**
SMG	**Samos**	**2.21**	**146**	*e*Pn	**Pn**	**12 08 40.6**	**+0.2**
SMG				S	**Sn**	**12 09 08.5**	**+0.8**
LIT	**Litokhoron**	**2.23**	**285**	P	**Pn**	**12 08 40.7**	**+0.1**
LIT	**Litokhoron**	**2.23**	**285**	*e*PB	**Pn**	**12 08 41.5**	**+0.9**
LIT	**Litokhoron**	**2.23**	**285**	P	**Pn**	**12 08 40.7**	**+0.1**
LIT	**Litokhoron**	**2.23**	**285**	*e*Pb	**Pn**	**12 08 41.5**	**+0.9**
MMB	**Musomiste**	**2.35**	**330**	⇑*i* P	**Pn**	**12 08 42.1**	**-0.2**
MMB	**Musomiste**	**2.35**	**330**	*i* P	**Pn**	**12 08 42.1**	**-0.2**
MMB	**Musomiste**	**2.35**	**330**	*i* P	**Pn**	**12 08 42.1**	**-0.2**
AGG	**Agios Georgios**	**2.36**	**258**	P	**Pn**	**12 08 42.2**	**-0.3**
AGG	**Agios Georgios**	**2.36**	**258**	*e*PB	**Pn**	**12 08 43.4**	**+0.9**
AGG	**Agios Georgios**	**2.36**	**258**	P	**Pn**	**12 08 42.2**	**-0.3**
AGG	**Agios Georgios**	**2.36**	**258**	*e*Pb	**Pn**	**12 08 43.4**	**+0.9**
LTK	**Loutraki**	**2.38**	**231**	P	**Pn**	**12 08 42.4**	**-0.3**
LTK	**Loutraki**	**2.38**	**231**	*e*PB	**Pn**	**12 08 44.0**	**+1.3**
LTK	**Loutraki**	**2.38**	**231**	*e*Pb	**Pn**	**12 08 44.0**	**+1.3**
KNT	**Kendrikon**	**2.43**	**312**	*e*PN	**Pn**	**12 08 43.7**	**+0.3**
KNT	**Kendrikon**	**2.43**	**312**	*e*Pn	**Pn**	**12 08 43.7**	**+0.3**
APE	**Apeiranthos**	**2.50**	**176**	P	**Pn**	**12 08 43.8**	**-0.6**
APE	**Apeiranthos**	**2.50**	**176**	*e*PN	**Pn**	**12 08 44.0**	**-0.4**
APE	**Apeiranthos**	**2.50**	**176**	⇑*i* P	**Pn**	**12 08 45.3**	**+0.9**
APE	**Apeiranthos**	**2.50**	**176**	S	**Sg**	**12 09 24.1**	**0.0**
APE	**Apeiranthos**	**2.50**	**176**	*e*Pn	**Pn**	**12 08 44.0**	**-0.4**
MAKR	**Makrakomi, Fth**	**2.52**	**258**	*e*PB	**Pn**	**12 08 45.5**	**+0.9**
MAKR	**Makrakomi, Fth**	**2.52**	**258**	*e*Pb	**Pn**	**12 08 45.5**	**+0.9**
PLD	**Plovdiv**	**2.58**	**350**	*i* P	**Pn**	**12 08 46.1**	**+0.7**
PLD	**Plovdiv**	**2.58**	**350**	*i* P	**Pn**	**12 08 46.1**	**+0.7**
DID	**Didima**	**2.61**	**219**	P	**Pn**	**12 08 45.2**	**-0.7**
DID	**Didima**	**2.61**	**219**	*e*PN	**Pn**	**12 08 45.5**	**-0.4**
DID	**Didima**	**2.61**	**219**	P	**Pn**	**12 08 45.2**	**-0.7**
DID	**Didima**	**2.61**	**219**	*e*Pn	**Pn**	**12 08 45.5**	**-0.4**
GRG	**Griva**	**2.62**	**303**	P	**Pn**	**12 08 46.0**	**0.0**
GRG	**Griva**	**2.62**	**303**	*e*PN	**Pn**	**12 08 46.4**	**+0.4**
GRG	**Griva**	**2.62**	**303**	P	**Pn**	**12 08 46.0**	**0.0**
GRG	**Griva**	**2.62**	**303**	*e*Pn	**Pn**	**12 08 46.4**	**+0.4**
DIDY	**Didyma**	**2.65**	**219**	P	**Pn**	**12 08 45.8**	**-0.7**
DIDY	**Didyma**	**2.65**	**219**	P	**Pn**	**12 08 45.8**	**-0.7**
VAY	**Valandovo**	**2.72**	**311**	*e*Pn	**Pg**	**12 08 57.1**	**+1.1**
KALE	**Kalithea**	**2.72**	**246**	*e*PN	**Pn**	**12 08 47.8**	**+0.3**
KALE	**Kalithea**	**2.72**	**246**	*e*Pn	**Pn**	**12 08 47.8**	**+0.3**
SLVT	**Silivri**	**2.78**	**52**	*e*PN	**Pn**	**12 08 49.0**	**+0.8**
SLVT	**Silivri**	**2.78**	**52**	*e*Pn	**Pn**	**12 08 49.0**	**+0.8**
KULA	**Kula-Manisa**	**2.82**	**111**	*e*PN	**Pn**	**12 08 50.2**	**+1.3**
KKB	**Krupnik**	**2.85**	**325**	*i* P	**Pn**	**12 08 50.1**	**+0.9**
KKB	**Krupnik**	**2.85**	**325**	*i* P	**Pn**	**12 08 50.1**	**+0.9**
KLV	**Kalavryta, Ach**	**2.89**	**239**	*e*PN	**Pn**	**12 08 49.9**	**+0.2**
KLV	**Kalavryta, Ach**	**2.89**	**239**	*e*Pn	**Pn**	**12 08 49.9**	**+0.2**
ARMT	**Armutlu**	**2.92**	**69**	*e*PN	**Pn**	**12 08 49.9**	**-0.2**
ARMT	**Armutlu**	**2.92**	**69**	*e*Pn	**Pn**	**12 08 49.9**	**-0.2**
JMB	**Yambol**	**3.06**	**18**	⇓*i* P	**Pg**	**12 09 01.8**	**-0.7**
TVSB	**Tavsanli**	**3.23**	**91**	*e*PN	**Pn**	**12 08 55.5**	**+1.1**
TVSB	**Tavsanli**	**3.23**	**91**	*e*Pn	**Pn**	**12 08 55.5**	**+1.1**
DRO	**Drossia**	**3.23**	**241**	P	**Pn**	**12 08 54.8**	**+0.4**
DRO	**Drossia**	**3.23**	**241**	P	**Pn**	**12 08 54.8**	**+0.4**
VTS	**Vitosha**	**3.41**	**333**	⇑*i* P	**Pg**	**12 09 08.0**	**-1.2**
VTS	**Vitosha**	**3.41**	**333**	*i* Pg	**Pg**	**12 09 07.3**	**-1.9**
KYTH	**Kithira**	**3.73**	**209**	*e*PN	**Pn**	**12 09 01.4**	**+0.1**
KYTH	**Kithira**	**3.73**	**209**	*e*Pn	**Pn**	**12 09 01.4**	**+0.1**
PRD	**Provadia**	**3.96**	**23**	⇑*i* P	**Pn**	**12 09 06.4**	**+1.9**
MPEP	**Malo Peshtene**	**3.97**	**343**	*i* P	**Pn**	**12 09 05.6**	**+1.1**
PSN	**Preselentsi**	**4.65**	**27**	⇓*i* P	**Pn**	**12 09 15.4**	**+1.5**
MSAB	**Monastry St. A**	**4.90**	**22**	⇑*i* P	**Pn**	**12 09 17.8**	**+0.4**
TIRR	**Tirgusor**	**5.42**	**24**	⇑*i* P	**Pn**	**12 09 24.8**	**+0.4**
VOIR		**5.87**	**358**	⇑*i* P	**Pn**	**12 09 31.9**	**+1.1**
MLR	**Muntele Rosu**	**5.94**	**4**	⇑*i* P	**Pn**	**12 09 33.8**	**+2.0**
CFR	**Carcaliu**	**5.99**	**20**	⇓*i* P	**Pn**	**12 09 33.8**	**+1.5**
DIVS	**Divibare**	**6.02**	**321**	⇑*i* P	**Pg**	**12 09 59.4**	**+0.3**
BZS	**Buzias**	**6.63**	**337**	⇑*i* P	Pn	12 09 36.5	-4.6

*IDC **29** 12:16:28.6±1.9, 9˚.73S×116˚.89E, h0km, mb3.6/5, mb1 3.6/7, mb1mx3.5/35, mbtmp3.6/7, ML3.3/2, Error ellipse: s-maj=55.5km s-min=23.5km az=59.0*
*ISCJB **29** 12:16:39.6±0.5, 9˚.53S±0˚.05×117˚.74E±0˚.02, h87km±7km, mb3.7/4, Error ellipse: s-maj=8.0km s-min=3.7km az=0.6*
*DJA **29** 12:16:40.9±0.3, 10˚S±3˚×11˚8E±˚, h52km±8km, M4.2/21, mb4.2/2, MLv4.2/21*

ISC 29 12:16:40.3±1.0, 9˚.59S±0˚.07×117˚.74E±0˚.03, h85km±12km, n21, σ0°96/34, mb3.8/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.63**	**92**	P	**Pn**	**12 17 06.9**	**-0.6**
WBSI				S	**Sn**	**12 17 27.5**	**-0.6**
WSI	**Waingapu**	**2.52**	**92**	P	**Pn**	**12 17 19.8**	**+0.5**
WSI				S	**Sn**	**12 17 49.3**	**+0.1**
DNP	**Denpasar**	**2.66**	**290**	P	**Pn**	**12 17 21.0**	**-0.2**
DNP				S	**Sn**	**12 17 52.1**	**-0.5**
IGBI	**Denpasar**	**2.68**	**286**	P	**Pn**	**12 17 21.0**	**-0.4**
IGBI				S	**Sn**	**12 17 52.5**	**-0.4**
SRBI	**Singaraja**	**2.91**	**301**	P	**Pn**	**12 17 24.5**	**-0.1**
SRBI				S	**Sn**	**12 17 58.8**	**+0.1**
JAGI	**Jajag, Banyuwa**	**3.72**	**287**	P	**Pn**	**12 17 35.2**	**-0.3**
JAGI				S	**Sn**	**12 18 19.1**	**+0.9**
ABJI	**Asem Bagus**	**3.90**	**297**	P	**Pn**	**12 17 37.6**	**-0.4**
ABJI				S	**Sn**	**12 18 24.1**	**+1.5**
BSSI	**Bau Bau, Buton**	**4.38**	**39**	P	**Pn**	**12 17 44.7**	**+0.2**
BSSI				S	**Sn**	**12 18 35.4**	**+1.1**
GMJI	**Gumukmas**	**4.44**	**287**	P	**Pn**	**12 17 45.4**	**0.0**
GMJI				S	**Sn**	**12 18 35.0**	**-0.9**
BLJI	**Banyuglugur**	**4.49**	**294**	P	**Pn**	**12 17 45.0**	**-1.0**
BLJI				S	**Sn**	**12 18 38.6**	**+1.5**
MMRI	**Maumere**	**4.54**	**78**	P	**Pn**	**12 17 47.0**	**+0.3**
BKSI	**Bulukumba**	**4.85**	**29**	P	**Pn**	**12 17 51.1**	**+0.1**
BKSI				S	**Sn**	**12 18 46.4**	**+0.5**
KAPI	**Kappang**	**4.96**	**24**	Pn	**Pn**	**12 17 53.2**	**+0.8**
	3.2nm,0.3s,baz=223,slow=6.1,SNR=10						
KAPI				Sn	**Sn**	**12 18 46.6**	**-2.0**
	21nm,0.3s,baz=290,slow=24,SNR=21						
SPSI	**Sidrap Palu**	**5.94**	**20**	P	**Pn**	**12 18 05.7**	**-0.1**
	7.7nm,1.1s,0.1nm						
SPSI				S	**Sn**	**12 19 12.9**	**+0.4**
	7.7nm,1.1s,0.1nm						
PWJI	**Pagerwojo**	**6.07**	**284**	P	**Pn**	**12 18 07.1**	**-0.5**
PWJI				S	**Sn**	**12 19 18.0**	**+2.3**
WRA	**Warramunga Arr**	**19.05**	**125**	P	**Pn**	**12 20 58.9**	**+1.3**
	0.1nm,0.3s,baz=297,slow=13,SNR=4.6						
ASAR	**Alice Springs**	**20.84**	**134**	P	Pn	12 21 18.4	-0.3
	0.3nm,0.6s,baz=310,slow=9.7,SNR=9.1						
KSRS	**Korea Array**	**47.76**	**11**	P	**P**	**12 25 09.3**	**+0.4**
	0.4nm,0.3s,baz=194,slow=8.8,SNR=3.8						
MJAR	**Matsushiro Arr**	**49.76**	**22**	P	**P**	**12 25 25.0**	**+0.6**
	0.8nm,0.6s,baz=202,slow=10,SNR=4.7						
SONM	**Songino Array**	**58.05**	**351**	P	**P**	**12 26 24.9**	**+0.2**
	0.3nm,0.4s,baz=167,slow=7.1,SNR=2.3						
ZALV	**Zalesovo Beam**	**69.16**	**340**	P	**P**	**12 27 35.4**	**-2.1**
	0.6nm,0.4s,baz=139,slow=6.8,SNR=3.4						

*ISCJB **29** 12:18:50.1±1.0, 25˚.15S±0˚.06×176˚.0W±0˚.2, h33km, mb4.5/9, Error ellipse: s-maj=21.8km s-min=7.8km az=6.4*

*NEIC **29** 12:18:54.3±1.2, 25˚.27S×176˚.04W, h59km±11km, mb4.4/4, Error ellipse: s-maj=12.7km s-min=11.7km az=158.0*
*IDC **29** 12:18:56.4±5.1, 25˚.27S×176˚.05W, h75km±48km, mb4.0/5, mb1 4.2/8, mb1mx3.8/21, mbtmp4.4/8, ML3.6/3, Error ellipse: s-maj=46.5km s-min=26.6km az=161.0*

ISC 29 12:18:52.4±0.7, 25˚.08S±0˚.06×176˚.1W±0˚.1, h35km, n21, σ1°10/23, mb4.5/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.46**	**201**	Pn	**Pn**	**12 19 56.2**	**-1.3**
RAO				Sn	**Sn**	**12 20 49.7**	**+1.5**
MSVF	**Nonsavu**	**9.10**	**322**	*e*Pn	Pn	12 21 04.8	+3.5
	18nm,0.8s						
MSVF				*e*Sn	**Sn**	**12 22 41.8**	**-0.8**
AFI	**Afiamalu**	**11.84**	**21**	*e*Pn	Pn	12 21 33.5	-5.4
AFI				*e*Sn	Sn	12 23 29.7	-20
URZ	**Urewera**	**14.35**	**202**	P	**Pn**	**12 22 14.8**	**+1.9**
	0.2nm,0.3s,baz=0.0,slow=17,SNR=2.8						
URZ				S	**Sn**	**12 24 49.8**	**-1.0**
	0.9nm,0.3s,baz=358,slow=22,SNR=6.9						
URZ	**Urewera**	**14.35**	**202**	*e*Pn	**Pn**	**12 22 12.2**	**-0.7**
URZ				*e*Sn	**Sn**	**12 24 51.2**	**+0.4**
RAR	**Rarotonga**	**15.52**	**79**	P	**Pn**	**12 22 30.1**	**+1.4**
	2.3nm,0.3s,baz=288,slow=7.6,SNR=7.6						
RAR				S	Sn	12 25 07.1	-12
	1.0nm,0

AVH	**Avacha**	**5.48**	**16**	*e*P		Pn	12 33 01.6	+5.0
KOK	**Koryaka**	**5.49**	**16**	*e*P		Pn	12 33 02.4	+5.7
KRER	**Koryakskii**	**5.52**	**16**	*e*P		Pn	12 33 01.8	+4.5
SPN	**Mys Shipunski**	**5.63**	**24**	*e*P		Pn	12 33 03.3	+4.8
SPN				*e*S		Sn	12 34 08.4	+5.7
GNL	**Ganaly**	**5.77**	**11**	*e*P		Pn	12 33 04.6	+4.0
MKZ	**Mys Kozlova**	**7.39**	**26**	*e*P		Pn	12 33 26.7	+4.0

IDC 29 12:40:43.4±19.0, 18°49S×177°69W, h619km±240km, mb3.0/5, mb1 3.2/5, mb1mx2.8/43, mbtmp4.1/5, Error ellipse: s-maj=118.1km s-min=78.3km az=118.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.03**	**261**	P	P	12 46 38.1	-0.2
	1.6nm,0.3s,baz=88,slow=11,SNR=5.8						
STKA	**Stephens Creek**	**38.96**	**242**	P	P	12 47 18.4	0.0
	1.1nm,0.6s,baz=69,slow=8.6,SNR=3.3						
WRA	**Warramunga Arr**	**45.20**	**260**	P	P	12 48 07.2	-0.1
	1.6nm,0.3s,baz=98,slow=6.9,SNR=87						
ASAR	**Alice Springs**	**45.29**	**255**	P	P	12 48 08.1	0.0
	2.8nm,0.6s,baz=87,slow=8.1,SNR=54						
ILAR	**Eielson Array**	**86.30**	**13**	P	P	12 52 20.5	0.0
	0.1nm,0.4s,baz=225,slow=5.2,SNR=5.0						

IDC 29 12:41:06.7±6.4, 18°57S×178°00W, h676km±81km, mb3.1/8, mb1 3.3/8, mb1mx2.9/42, mbtmp4.2/8, Error ellipse: s-maj=61.4km s-min=27.6km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.73**	**261**	P	P	12 46 55.8	-0.5
	4.0nm,0.4s,baz=79,slow=12,SNR=4.9						
STKA	**Stephens Creek**	**38.66**	**242**	P	P	12 47 36.3	0.0
	1.0nm,0.4s,baz=84,slow=10,SNR=2.3						
JAY	**Jayapura**	**43.47**	**287**	P	P	12 48 15.1	+1.0
	5.7nm,0.5s,baz=157,slow=13,SNR=4.5						
WRA	**Warramunga Arr**	**44.90**	**260**	P	P	12 48 24.8	-0.1
	2.6nm,0.4s,baz=97,slow=7.7,SNR=16						
ASAR	**Alice Springs**	**44.99**	**255**	P	P	12 48 25.7	+0.1
	3.5nm,0.5s,baz=88,slow=8.2,SNR=17						
ASAR				PcP	PcP	12 49 51.3	-0.1
	0.3nm,0.7s,baz=94,slow=3.7,SNR=3.3						
NVAR	**Mina Array Bea**	**79.63**	**44**	P	P	12 52 07.1	+0.1
	0.4nm,0.8s,baz=223,slow=10,SNR=3.0						
TXAR	**Lajitas Array**	**86.02**	**57**	P	P	12 52 39.3	+0.6
	0.3nm,0.7s,baz=222,slow=4.7,SNR=4.4						
ILAR	**Eielson Array**	**86.44**	**13**	P	P	12 52 38.3	-1.4
	0.2nm,0.4s,baz=219,slow=5.3,SNR=3.4						

*ISCJB **29** 12:43:37.9±0.5, 48°08N±0°06×154°7E±0°1, h42km, mb3.7/12, Error ellipse: s-maj=13.4km s-min=2.7km az=41.4*
*SKHL **29** 12:43:39.7±0.7, 48°00N×154°87E, h66km±3km, mb5.1/4*
*MOS **29** 12:43:39.5±1.3, 48°19N×154°51E, h58km, mb4.2/6, Error ellipse: s-maj=17.6km s-min=5.5km az=68.0*
*KRSC **29** 12:43:40.4±2.4, 48°09N×156°58E, h15km±7km, ML4.4*
*IDC **29** 12:43:41.7±3.4, 48°23N×154°37E, h60km±31km, mb3.5/12, mb1 3.7/14, mb1mx3.5/42, mbtmp3.7/14, ML3.0/2, Error ellipse: s-maj=21.7km s-min=15.7km az=138.0*

ISC 29 12:43:38.8±0.6, 48°03N±0°08×154°76E±0°09, h42km, n103, σ1°98/103, mb3.8/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.81**	**18**	*e*P	**Pn**	**12 44 21.3**	**+0.2**
SKR				*e*S	**Sn**	**12 44 53.1**	**-0.6**
SKR	**Severo-Kuril's**	**2.81**	**18**	*e*PN	Pn	12 44 14.6	-6.5
SKR				pmax	pmax		
	comp=Z,110nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.4s						
SKR	**Severo-Kuril's**	**2.81**	**18**	*e*P	**Pn**	**12 44 21.7**	**+0.6**
SKR				*e*S	**Sn**	**12 44 52.7**	**-1.0**
SKR				A	A	12 44 56.7	
	comp=E,350nm,0.3s						
PAU	**Pauzhetka**	**3.69**	**20**	*e*P	**Pn**	**12 44 35.4**	**+2.1**
PAU				*e*S	**Sn**	**12 45 17.1**	**+1.5**
PAU	**Pauzhetka**	**3.69**	**20**	PN	**Pn**	**12 44 35.4**	**+2.1**
PAU				S	**Sn**	**12 45 17.1**	**+1.5**
PAU	**Pauzhetka**	**3.69**	**20**	*e*P	**Pn**	**12 44 35.4**	**+2.1**
PAU				AMB	AMB	12 44 36.3	
	comp=E,141nm,0.4s						
PAU				*e*S	**Sn**	**12 45 16.8**	**+1.2**
PAU				A	A	12 45 25.0	
	comp=E,315nm,0.4s						
MIPR	**Malaya Ipel'ka**	**4.45**	**16**	*e*P	**Pn**	**12 44 46.1**	**+2.4**
MIPR				*e*S	**Sn**	**12 45 38.2**	**+4.1**
ASAK	**Asacha**	**4.81**	**24**	*e*P	**Pn**	**12 44 50.2**	**+1.5**
MTVR	**Mutnovka**	**4.97**	**25**	*e*P	**Pn**	**12 44 51.1**	**+0.1**
MTVR				*e*S	**Sn**	**12 45 45.3**	**-2.0**
RUS	**Russkaya**	**5.03**	**27**	*e*P	**Pn**	**12 44 51.5**	**-0.1**
RUS				*e*S	**Sn**	**12 45 45.7**	**-2.7**
RUS	**Russkaya**	**5.03**	**27**	PN	**Pn**	**12 44 51.5**	**-0.1**
APC	**Apacha**	**5.14**	**16**	*e*P	**Pn**	**12 44 55.9**	**+2.7**
APC	**Apacha**	**5.14**	**16**	PN	**Pn**	**12 44 55.9**	**+2.7**
PETK	**Petropavlovsk-**	**5.42**	**19**	P	**Pn**	**12 44 59.4**	**+2.3**
	comp=E,1.5nm,0.3s,baz=173,slow=13,SNR=10						
PETK				S	Sn	12 46 12.3	+14
	baz=161,slow=18,SNR=2.4						
KUR	**Kuril'sk**	**5.51**	**242**	*e*PN	Pn	12 45 01.7	+3.5
KUR	**Kuril'sk**	**5.51**	**242**	*e*P	**Pn**	**12 45 00.5**	**+2.3**
KUR				AMB	AMB	12 45 07.5	
	comp=E,110nm,0.5s						
KUR				*e*S	**Sn**	**12 46 02.0**	**+1.8**
KUR				A	A	12 46 22.2	
	comp=E,160nm,0.8s						
PET	**Petropavlovsk**	**5.59**	**25**	*e*P	**Pn**	**12 45 00.3**	**+1.0**
PET				*e*S	**Sn**	**12 46 01.2**	**-0.9**
PET	**Petropavlovsk**	**5.59**	**25**	*e*PN	**Pn**	**12 45 01.0**	**+1.7**
PET	**Petropavlovsk**	**5.59**	**25**	*e*P	**Pn**	**12 45 00.0**	**+0.7**
PET				AMB	AMB	12 45 14.0	
	comp=E,110nm,0.3s						
PET				*e*S	**Sn**	**12 46 00.4**	**-1.7**
PET				A	A	12 46 16.8	
	comp=E,60nm,0.5s						
PET				A	A	12 46 16.8	
	comp=E,75nm,0.5s						
UGLR	**Uglovaya**	**5.80**	**25**	*e*P	**Pn**	**12 45 03.7**	**+1.4**
UGLR				*e*S	**Sn**	**12 46 06.2**	**-1.3**
KOK	**Koryaka**	**5.82**	**24**	*e*P	**Pn**	**12 45 05.0**	**+2.4**
KOK	**Koryaka**	**5.82**	**24**	PN	**Pn**	**12 45 05.0**	**+2.4**
KOK	**Koryaka**	**5.82**	**24**	*e*P	**Pn**	**12 45 05.0**	**+2.4**
AVH	**Avacha**	**5.83**	**24**	*e*P	**Pn**	**12 45 05.4**	**+2.8**
AVH	**Avacha**	**5.83**	**24**	PN	**Pn**	**12 45 05.4**	**+2.8**
SMAR	**Somma**	**5.84**	**25**	*e*P	**Pn**	**12 45 04.7**	**+1.7**
SMAR	**Somma**	**5.84**	**25**	PN	**Pn**	**12 45 04.7**	**+1.7**
KRER	**Koryakskii**	**5.86**	**24**	*e*P	**Pn**	**12 45 04.9**	**+1.6**
KRER				*e*S	**Sn**	**12 46 08.4**	**-0.8**
SDLR	**Sedlovina**	**5.88**	**25**	*e*P	**Pn**	**12 45 04.5**	**+1.1**
SDLR				*e*S	**Sn**	**12 46 07.8**	**-1.7**
SDLR	**Sedlovina**	**5.88**	**25**	PN	**Pn**	**12 45 04.5**	**+1.1**
KRX	**Arik**	**5.88**	**23**	*e*P	**Pn**	**12 45 06.0**	**+2.5**
NLC	**Nalytchevo**	**5.92**	**28**	*e*S	**Sn**	**12 46 05.2**	**-5.2**
GNL	**Ganaly**	**6.02**	**18**	*e*P	**Pn**	**12 45 07.4**	**+2.0**
GNL	**Ganaly**	**6.02**	**18**	PN	**Pn**	**12 45 07.4**	**+2.0**
SPN	**Mys Shipunski**	**6.09**	**31**	*e*P	**Pn**	**12 45 06.2**	**+0.1**
SPN				*e*S	**Sn**	**12 46 10.5**	**-3.9**
SPN	**Mys Shipunski**	**6.09**	**31**	PN	**Pn**	**12 45 06.2**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**7.36**	**240**	*e*PN	**Pn**	**12 45 25.9**	**+2.2**
YUK	**Yuzh-Kuril'sk**	**7.36**	**240**	*i* P	**Pn**	**12 45 26.0**	**+2.2**
YUK				AMB	AMB	12 45 28.2	
	comp=E,15nm,0.2s						
YUK				AMB	AMB	12 45 28.2	
	comp=E,5.0nm,0.2s						
YUK				AMB	AMB	12 45 28.2	
	comp=E,42nm,0.2s						
YUK				*e*S	**Sn**	**12 46 49.6**	**+3.7**
NEM2	**Nemuro 2**	**7.84**	**237**	P	**Sn**	**12 45 29.9**	**-0.4**
NEM2				*e*S	**Sn**	**12 46 54.2**	**-3.4**
MKZ	**Mys Kozlova**	**7.86**	**31**	*e*P	**Pn**	**12 45 29.8**	**-0.7**
MKZ				*e*S	Sn	12 46 51.2	-6.8
MKZ	**Mys Kozlova**	**7.86**	**31**	PN	**Pn**	**12 45 29.8**	**-0.7**
KZV	**Kizimen**	**7.89**	**24**	*e*P	**Pn**	**12 45 34.1**	**+3.1**
TUMR	**Tumrok**	**8.00**	**23**	*e*P	Pn	12 45 36.9	+4.4
TUMR	**Tumrok**	**8.00**	**23**	PN	Pn	12 45 36.9	+4.4
YSS	**Yuzh-Sakhalins**	**8.20**	**267**	*e*PN	**Pn**	**12 45 37.0**	**+1.8**
YSS	**Yuzh-Sakhalins**	**8.20**	**267**	*e*P	Pn	12 45 38.2	+3.0
JNK	**Nakash**	**8.30**	**241**	P	**Pn**	**12 45 37.9**	**+1.4**
JAK	**Akkeshi**	**8.67**	**238**	P	**Pn**	**12 45 41.2**	**-0.4**
JAK				*e*S	**Sn**	**12 47 13.2**	**-4.7**
JMP	**Maruseppu**	**8.89**	**247**	P	Pn	12 45 47.9	+3.3
JSE	**Soyaes**	**8.94**	**254**	P	Pn	12 45 49.4	+4.1
JAR	**Ashorobuto**	**9.03**	**242**	P	**Pn**	**12 45 48.3**	**+1.8**
JWK2	**Keihoku**	**9.25**	**258**	P	Pn	12 45 55.1	+5.6
JKK2	**Kamakawa 2**	**9.34**	**248**	P	**Pn**	**12 45 53.8**	**+3.0**
KBTR	**Krutoberegovo**	**9.57**	**28**	*e*P	**Pn**	**12 45 54.0**	**+0.1**
KBTR	**Krutoberegovo**	**9.57**	**28**	PN	**Pn**	**12 45 54.0**	**+0.1**
JCH	**Churui**	**9.68**	**240**	P	**Pn**	**12 45 55.3**	**-0.1**
JCH				*e*S	**Sn**	**12 47 37.9**	**-4.7**
BKI	**Bering**	**10.01**	**40**	*e*S	Sn	12 47 02.7	-11
JBT2	**Biratori 2**	**10.17**	**244**	P	**Pn**	**12 46 03.4**	**+1.3**
ERM	**Erimo**	**10.17**	**238**	*e*PN	**Pn**	**12 46 02.3**	**+0.2**
ERM	**Erimo**	**10.17**	**238**	*e*P	**Pn**	**12 46 02.3**	**+0.2**
JEM	**Erimo**	**10.17**	**238**	P	**Pn**	**12 46 02.7**	**+0.6**
JNBK	**Urakawa-nobuka**	**10.24**	**240**	P	**Pn**	**12 46 02.3**	**-0.7**
JNB	**Noboribetsu**	**11.15**	**245**	P	**Pn**	**12 46 16.4**	**+0.9**
JKB	**Kayabe**	**11.49**	**243**	P	Pn	12 46 16.6	-3.6
JANG	**Nango**	**12.19**	**236**	P	Pn	12 46 26.4	-3.3
JANG				*e*S	Sn	12 48 34.9	-9.3
JRG	**Rokugo**	**13.35**	**235**	P	**Pn**	**12 46 43.9**	**-1.7**
EKMR	**Ekimchan**	**14.73**	**298**	*e*rx	rx	12 47 11.8	
MJA0	**Matsu Arr-Jizo**	**16.72**	**233**	*e*P	**P**	**12 47 35.7**	**+3.9**
MAJO	**Matsushiro**	**16.74**	**233**	*e*P	**P**	**12 47 32.3**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,25nm,1.2s						
MJAR	**Matsushiro Arr**	**16.74**	**233**	P	**Pn**	**12 47 29.1**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=28,slow=12,SNR=3.7						
KSRS	**Korea Array**	**22.25**	**252**	P	**P**	**12 48 32.7**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=48,slow=10.0,SNR=13						
KSRS	**Korea Array**	**22.25**	**252**	*e*P	**P**	**12 48 32.7**	**+0.8**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.89**	**157**	T	T	13 21 25.3	
	baz=344,slow=76,SNR=139						
H11N1	**WAKE ISLAND Hy**	**29.91**	**157**	T	T	13 21 27.2	
	baz=344,slow=76,SNR=280						
H11N3	**WAKE ISLAND Hy**	**29.91**	**157**	T	T	13 21 27.4	
	baz=344,slow=76,SNR=134						
H11S1	**WAKE ISLAND Hy**	**31.01**	**158**	T	T	13 22 45.0	
	baz=344,slow=76,SNR=806						
H11S3	**WAKE ISLAND Hy**	**31.02**	**158**	T	T	13 22 48.6	
	baz=344,slow=76,SNR=931						
H11S2	**WAKE ISLAND Hy**	**31.03**	**158**	T	T	13 22 44.6	
	baz=344,slow=76,SNR=426						
ILAR	**Eielson Array**	**34.85**	**40**	P	**P**	**12 50 25.6**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=278,slow=8.5,SNR=4.6						
ILAR	**Eielson Array**	**34.85**	**40**	*e*P	P	12 50 29.2	+3.7
ZALV	**Zalesovo Beam**	**42.78**	**305**	P	**P**	**12 51 30.2**	**-1.7**
	comp=Z,1.1nm,0.4s,baz=60,slow=6.4,SNR=9.3						
ZALV	**Zalesovo Beam**	**42.78**	**305**	*e*P	**P**	**12 51 30.2**	**-1.7**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARU	**Arti**	**54.83**	**317**	P	**P**	**12 53 01.9**	**-2.3**
ARU	**Arti**	**54.83**	**317**	*e*P	**P**	**12 53 01.9**	**-2.3**
NVAR	**Mina Array Bea**	**60.86**	**64**	P	**P**	**12 53 49.5**	**+2.4**
	comp=Z,0.5nm,0.5s,baz=292,slow=7.2,SNR=5.1						
PDAR	**Pinedale Array**	**63.10**	**55**	P	**P**	**12 54 03.7**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=343,slow=2.8,SNR=3.7						
FINES	**FINESS Array B**	**63.36**	**335**	P	**P**	**12 54 01.4**	**-1.7**
	comp=Z,1.0nm,0.4s,baz=38,slow=7.3,SNR=9.3						
FINES	**FINESS Array B**	**63.36**	**335**	*i* P	**P**	**12 54 01.3**	**-1.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**70.09**	**200**	P	**P**	**12 54 47.3**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=17,slow=6.7,SNR=3.8						
WRA	**Warramunga Arr**	**70.09**	**200**	P	**P**	**12 54 47.3**	**+0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**71.10**	**327**	P	**P**	**12 54 51.1**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=38,slow=5.2,SNR=3.5						
AKASG	**Malin Array Be**	**71.10**	**327**	P	**P**	**12 54 51.1**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**73.78**	**200**	P	**P**	**12 55 10.5**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=15,slow=5.2,SNR=5.7						
ASAR	**Alice Springs**	**73.78**	**200**	*e*P	**P**	**12 55 11.0**	**+2.4**
TXAR	**Lajitas Array**	**75.90**	**62**	P	**P**	**12 55 22.9**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=305,slow=4.1,SNR=6.5						
TXAR	**Lajitas Array**	**75.90**	**62**	P	P	**12 55 22.9**	**+1.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**75.90**	**62**	*e*P	**P**	**12 55 22.2**	**+1.1**
GERES	**GERESS Array B**	**77.79**	**335**	P	**P**	**12 55 30.7**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=38,slow=5.4,SNR=5.9						
GERES	**GERESS Array B**	**77.79**	**335**	*e*P	**P**	**12 55 30.7**	**-0.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**77.79**	**335**	*e*P	**P**	**12 55 30.6**	**-0.8**
BRTR	**Keskin Array B**	**78.21**	**318**	P	**P**	**12 55 33.9**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=35,slow=4.6,SNR=6.7						
BRTR	**Keskin Array B**	**78.21**	**318**	*e*P	**P**	**12 55 33.9**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
QSPA	**South Pole Qui**	**137.76**	**180**	PKP	**PKPdf**	**13 02 59.1**	**+2.0**
	comp=Z,0.3nm,0.4s,baz=348,slow=3.1,SNR=3.1						

*SJA **29** 12:48:51.1±0.6, 35°99S×76°09W, h40km, ML4.8*
*GUC **29** 12:49:06.4±0.6, 36°36S×73°89W, h19km±6km, ML4.8*
*IDC **29** 12:49:08.5±0.6, 36°32S×73°38W, h0km, mb4.5/15, mb1 4.7/18, mb1mx4.6/32, mbtmp4.6/18, ML3.7/2, MS4.5/5, Ms1 4.5/5, ms1mx3.8/29, Error ellipse: s-maj=23.2km s-min=13.2km az=91.0*
*BJI **29** 12:49:10.7, 36°20S×73°41W, h21km, mB5.0/2, Ms5.0/2, Ms7 4.7/2*
*ISCJB **29** 12:49:11.6±0.2, 36°28S±0°03×73°30W±0°04, h27km, mb4.8/50, MS4.4/4, Error ellipse: s-maj=5.1km s-min=4.0km az=10.2*
*NEIC **29** 12:49:14.2±0.3, 36°23S×73°17W, h35km, mb4.7/34, Error ellipse: s-maj=7.7km s-min=6.4km az=92.0*
NEIC Felt at Concepcion and Talcahuano.

ISC 29 12:49:12.4±0.4, 36°33S±0°04×73°41W±0°06, h27km, n137, σ1°23/138, mb4.8/50, MS4.4/4, 7C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.57**	**155**	*i*P	**Pb**	**12 49 22.8**	**-1.0**
CCSP				*i* S	**Sb**	**12 49 31.4**	**-0.2**
CCSP				AML	AML	12 49 33.0	
	comp=E,59μm,0.4s						
LNCH	**Linares**	**1.54**	**72**	*i*P	**Pn**	**12 49 38.3**	**+0.2**
LNCH				*i* S	**Sb**	**12 50 03.4**	**+4.0**
TALC	**Talca**	**1.71**	**58**	*i*P	**Pn**	**12 49 40.7**	**+0.2**
TALC				*i* S	**Sb**	**12 50 07.0**	**+2.6**
NICH	**Los Niches**	**2.21**	**54**	*e*P	**Pn**	**12 49 48.0**	**+0.6**
NICH				*e*S	**Sb**	**12 50 19.2**	**+0.4**
CANA	**Caviahue**	**2.44**	**130**	*e*P	**Pb**	**12 49 53.3**	**-2.3**
CANA				*e*S	Sb	12 50 33.1	+7.8
LNV	**Longovilo**	**2.88**	**35**	*i*P	**Pn**	**12 49 55.4**	**-1.2**
CHCH	**Chadas Angostu**	**3.29**	**44**	*e*P	**Pn**	**12 50 02.2**	**0.0**
TACH	**Talagante**	**3.35**	**38**	*i*P	**Pn**	**12 50 02.4**	**-0.7**
PCH	**Pirque**	**3.60**	**42**	*i*P	**Pn**	**12 50 06.6**	**0.0**
SAN	**Santiago**	**3.65**	**39**	*e*P	**Pn**	**12 50 06.9**	**-0.4**
CLCH	**Cerro Calan**	**3.76**	**40**	*i*P	**Pn**	**12 50 08.4**	**-0.3**
PEL	**Peldehue**	**3.89**	**36**	*i*P	**Pn**	**12 50 09.9**	**-0.6**
PLCA	**Paso Flores**	**4.93**	**154**	*e*P	**Pn**	**12 50 25.8**	**+0.9**
PLCA				*e*S	**Sb**	**12 51 36.5**	**-0.5**
PLCA				AML	AML	12 51 53.0	
	comp=Z,173nm,0.8s						
AAGR	**Agrelo**	**4.97**	**51**	*e*P	**Pn**	**12 50 27.3**	**+1.9**
AAGR				*e*S	**Sb**	**12 51 41.7**	**+3.6**
ARCO	**CERRO ARCO**	**5.07**	**48**	*e*P	**Pn**	**12 50 28.6**	**+1.7**
ARCO				AML	AML	12 52 04.6	
	comp=Z,251nm,0.6s						
AUSP	**Uspallata**	**5.28**	**40**	*e*P	**Pn**	**12 50 31.2**	**+1.4**
ASAL	**Salagasta**	**5.31**	**47**	*e*P	**Pn**	**12 50 31.9**	**+1.9**
RTLS	**Leoncito**	**5.66**	**38**	*e*P	**Pn**	**12 50 36.4**	**+1.3**
RTCV	**Cerro Valdivia**	**6.01**	**44**	*e*P	**Pn**	**12 50 40.1**	**+0.4**
CFAA	**Coronel Fontan**	**6.38**	**44**	Pn	**Pn**	**12 50 44.5**	**-0.2**
	comp=Z,3.5nm,0.3s,baz=220,slow=14,SNR=95						
CFAA				Lg	Lg	12 52 18.7	
	comp=Z,1.0nm,0.3s,baz=135,slow=20,SNR=4.1						
CFAA				LR	LR	12 53 16.2	
	comp=Z,183nm,21.5s,baz=228,slow=39						
CFAA	**Coronel Fontan**	**6.38**	**44**	*e*P	**Pn**	**12 50 44.3**	**-0.4**
RTLL	**Cerro Villicun**	**6.46**	**41**	*e*P	**Pn**	**12 50 45.8**	**0.0**
ACAN	**Cantantal**	**6.55**	**54**	*e*P	**Pn**	**12 50 47.7**	**+0.7**
AVFE	**Valle Fertil**	**7.53**	**43**	*e*P	**Pn**	**12 50 59.2**	**-1.3**
LCO	**Las Campanas**	**7.65**	**18**	*e*Pn	**Pn**	**12 50 59.9**	**-2.5**
LCO				*e*Sn	**Sn**	**12 52 26.3**	**-1.9**
APLL	**PUNTA DE LOS L**	**8.25**	**46**	*e*P	**Pn**	**12 51 09.2**	**-1.2**
VCA	**Vinchina**	**8.75**	**32**	*e*P	**Pn**	**12 51 16.8**	**-0.6**
ACLC	**CERRO LA CRUZ**	**8.77**	**40**	*e*P	**Pn**	**12 51 14.9**	**-2.7**
TCA	**Tanti**	**8.86**	**58**	*e*P	**Pn**	**12 51 18.0**	**-0.8**
TRQA	**Tornquist**	**9.28**	**104**	*e*Pn	**Pn**	**12 51 25.7**	**+1.2**
TRQA				*e*Sn	**Sn**	**12 53 08.6**	**+0.6**
CYA	**Choya**	**10.16**	**41**	*e*P	Pn	12 51 32.1	-4.4
FSA	**Cafayete**	**12.00**	**34**	*e*P	Pn	12 51 58.3	-3.7
LVC	**Limon Verde**	**14.22**	**17**	Pn	**Pn**	**12 52 32.3**	**+0.1**
	comp=Z,26nm,0.3s,baz=252,slow=2.7,SNR=6.8						
LVC				LR	LR	12 58 47.5	
	comp=Z,3μm,18.1s,baz=247,slow=41						
LVC	**Limon Verde**	**14.22**	**17**	*e*Pn	**Pn**	**12 52 32.2**	**-0.1**
LVC				*e*Sn	**Sn**	**12 55 06.7**	**-2.5**
CPUP	**Villa Florida**	**16.95**	**58**	Pn	**Pn**	**12 53 03.0**	**-4.7**
	comp=Z,0.2nm,0.3s,baz=246,slow=15,SNR=5.9						
CPUP				Lg	Lg	12 58 10.1	
	comp=Z,0.1nm,0.3s,baz=156,slow=20,SNR=3.3						
USHA	**Ushuaia**	**18.82**	**171**	P	**Pn**	**12 53 31.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=344,slow=12,SNR=3.8						
LPAZ	**La Paz**	**20.51**	**15**	P	**P**	**12 53 50.3**	**+1.1**
	comp=Z,12nm,0.7s,baz=175,slow=8.8,SNR=34						
LPAZ	**La Paz**	**20.51**	**15**	*e*P	**P**	**12 53 49.5**	**+0.4**
	comp=Z,27nm,0.9s						
SIV	**San Ignacio**	**23.04**	**32**	P	**P**	**12 54 14.7**	**-1.0**
	comp=Z,37nm,1.0s,baz=222,slow=9.4,SNR=70						
SIV				LR	LR	13 05 03.7	
	comp=Z,1μm,19.2s,baz=266,slow=42						
NNA	**Nana**	**24.44**	**352**	P	**P**	**12 54 29.6**	**+0.5**
	comp=Z,22nm,1.0s,baz=173,slow=7.2,SNR=4.0						
NNA	**Nana**	**24.44**	**352**	P	**P**	**12 54 29.0**	**0.0**
	comp=Z,19nm,0.9s						
SAML	**Samuel**	**28.80**	**21**	*e*P	**P**	**12 55 08.0**	**-0.3**
	comp=Z,4.8nm,1.0s						
BDFB	**Brasilia**	**30.59**	**54**	P	**P**	**12 55 23.8**	**-0.4**
	comp=Z,13nm,1.0s,baz=229,slow=7.0,SNR=8.2						
BDFB				LR	LR	13 09 40.0	
	comp=Z,854nm,19.8s,baz=298,slow=40						
RPN	**Rapa Nui**	**31.76**	**276**	LR	LR	13 04 44.4	
	comp=Z,473nm,19.8s,baz=116,slow=29						
SDV	**Santo Domingo**	**45.05**	**4**	*e*P	**P**	**12 57 25.8**	**-0.5**
	comp=Z,6.8nm,0.8s						
VNA1	**Neumayer--Stat**	**47.99**	**156**	P	**P**	**12 57 49.9**	**+1.4**
GRGR	**Grenville**	**49.46**	**15**	*e*P	**P**	**12 57 57.9**	**-2.5**
	comp=Z,218nm,0.9s						
SNAA	**Sanae**	**49.87**	**157**	P	**P**	**12 58 00.4**	**-2.6**
SNAA	**Sanae**	**49.87**	**157**	P	**P**	**12 58 03.5**	**+0.6**
	comp=Z,8.3nm,0.9s,baz=278,slow=7.0,SNR=61						
SNAA	**Sanae**	**49.87**	**157**	*e*P	P	12 57 59.7	-3.3
	comp=Z,28nm,1.0s						
QSPA	**South Pole Qui**	**53.91**	**180**	P	**P**	**12 58 33.8**	**+0.6**
	comp=Z,8.1nm,0.9s,baz=150,slow=6.6,SNR=17						
QSPA	**South Pole Qui**	**53.91**	**180**	*e*P	**P**	**12 58 34.4**	**+1.1**
RKT	**Rikitea**	**54.25**	**266**	*e*T	T	13 56 57.8	
	comp=Z,2.3nm,0.2s						
CRPR	**Cabo Rojo, PR**	**54.37**	**7**	*e*P	**P**	**12 58 36.0**	**-0.8**
	comp=Z,35nm,0.9s						
OBIP	**Obispado Ponce**	**54.46**	**8**	*e*P	**P**	**12 58 37.0**	**-0.5**
	comp=Z,33nm,0.8s						
VNDA	**Vanda**

baz=118
H11N3 WAKE ISLAND Hyl 25.07 270 T T 15 25 38.3
baz=122
H11N1 WAKE ISLAND Hyl 25.08 270 T T 15 25 39.6
baz=122,slow=74
H11N2 WAKE ISLAND Hyl 25.08 270 T T 15 25 40.2
baz=122,slow=74
SKHT Srikalahasti 147.05 126 *e*PKPab **PKPbc 13 08 53.8 +0.6**
RCLA Racherla 147.78 123 *e*PKPbc **PKPbc 13 08 54.2 -1.1**
KLRI Killari 147.90 116 *e*PKPbc **PKPbc 13 08 54.8 -0.8**
SRLM Srisailam 148.19 122 *e*PKPbc **PKPbc 13 08 55.7 -0.7**
ADKI Addanki 148.74 124 *e*PKPbc **PKPbc 13 08 56.8 -1.0**
NJS Nagarjunasagar 148.79 122 *e*PKPbc **PKPbc 13 08 57.1 -0.7**
HYB Hyderabad 148.86 120 *i* PKP **PKPbc 13 08 58.0 -0.1**
HYBB Hyderabad (bro 148.86 120 *e*PKPbc **PKPbc 13 08 57.6 -0.5**
SRSP Sriramsagar 149.72 117 *e*PKPab **PKPab 13 09 05.0 -0.5**
BVAR Borovoye Array 149.73 45 PKPbc **PKPbc 13 08 59.7 +0.5**
comp=Z,2.4nm,0.6s,baz=302,slow=3.2,SNR=14
RPR Rampur 150.35 119 *e*PKPab **PKPab 13 09 08.2 +0.2**
YAK Yakutsk 150.50 338 *e*PKPdf **PKPdf 13 08 56.3 +1.0**
YAK *e*PKPbc **PKPbc 13 09 00.3 -0.4**
YAK *e*PKPab **PKPab 13 09 08.6 +1.2**
KURBB **Kurchatov Arra 155.31 46** PKP **PKPdf 13 09 02.0 -0.7**
comp=Z,1.1nm,0.9s,baz=296,slow=2.0,SNR=6.9
KURBB PKPab **PKPab 13 09 29.4 +1.3**
comp=Z,1.5nm,0.8s,baz=299,slow=3.2,SNR=7.9
KURK Kurchatov 155.33 46 PKP **PKPdf 13 09 02.0 -0.7**
KURK PKPab **PKPab 13 09 29.4 +1.3**
ZALV Zalesovo Beam 156.79 34 PKP **PKPdf 13 09 03.6 -0.9**
comp=Z,3.2nm,0.8s,baz=288,slow=0.9,SNR=12
ZALV PKPab **PKPab 13 09 34.7 +0.4**
comp=Z,5.0nm,0.8s,baz=295,slow=5.0,SNR=11
WMQ Urumqi 163.74 57 *e*PKP **PKPdf 13 09 12.8 +0.1**
CN2 Changchun 163.77 303 *e*PKP **PKPdf 13 09 10.5 -2.1**
SONM Songino Array 168.50 1 PKPab **PKPab 13 10 26.4 +0.6**
comp=Z,1.9nm,0.9s,baz=357,slow=2.9,SNR=4.5
NJ2 Nanjing 168.99 251 *e*PKP **PKPdf 13 09 18.5 +1.5**
HHC Hu-ho-hao-te 174.04 321 *e*PKP **PKPdf 13 09 19.8 +0.4**
HHC PP **PP 13 14 44.5 +1.9**
HHC SKKS 13 21 31.5
HHC SS **SS 13 35 59.8 +0.1**
HHC PPMZ
comp=Z,83nm,6.1s
HHC LN
comp=Z,80nm,13.9s
HHC LE
comp=Z,97nm,15.5s
HHC LZ
comp=Z,78nm,17.1s
CD2 Chengdu 174.10 156 PKP **PKPdf 13 09 19.5 -0.2**

*IDC **29** 12:54:39.4±1.0, 1°.13N×97°.00E, h0km, mb4.1/15, mb1 4.2/17, mb1mx4.0/30, mbtmp4.1/17, ML3.8/2, Error ellipse: s-maj=28.5km s-min=17.4km az=46.0*
*ISCJB **29** 12:54:41.9±0.3, 1°.12N±0°.03×97°.02E±0°.03, h25km, mb4.2/20, Error ellipse: s-maj=5.0km s-min=3.4km az=135.2*
*NEIC **29** 12:54:45.9±1.2, 1°.24N×97°.11E, h41km±9km, mb4.4/6, Error ellipse: s-maj=15.4km s-min=6.0km az=57.0*
*DJA **29** 12:54:46.1±0.6, 1°.N±2°×9°.7E±°, h26km±3km, M4.3/12, mb4.3/1, MLv4.2/12*
ISC 29 12:54:43.8±0.6, 1°.14N±0°.04×97°.11E±0°.05, h25km, n63, σ1°.9 47/70, mb4.3/26, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.49**	**70**	P	**Pn**	**12 54 55.4**	**+0.1**
GSI				S	**Sb**	**12 55 01.2**	**+0.5**
GSI	**Gunungsitoli**	**0.49**	**70**	*e*Pn	**Pn**	**12 54 55.4**	**+0.1**
GSI				*e*Sn	**Sn**	**12 55 04.6**	**+1.6**
PBSI	**Pulau Batu**	**1.66**	**135**	P	**Pn**	**12 55 12.1**	**+0.7**
PBSI				S	**Sn**	**12 55 32.3**	**+0.4**
PSI	**Prapat**	**2.45**	**48**	Pn	**Pn**	**12 55 22.1**	**-0.2**
6.2nm,0.3s,baz=198,slow=5.4,SNR=29							
PSI	**Prapat**	**2.45**	**48**	*e*Pn	**Pn**	**12 55 22.3**	**-0.1**
MNSI	**Mandailing Nat**	**2.49**	**98**	P	**Pn**	**12 55 23.9**	**+1.1**
MNSI				S	**Sn**	**12 55 53.8**	**+1.5**
TSI	**Tuntungan**	**2.76**	**32**	P	**Pn**	**12 55 26.6**	**+0.1**
TSI				S	**Sn**	**12 56 00.9**	**+1.9**
SISI	**Saibi**	**3.15**	**141**	P	**Pn**	**12 55 32.9**	**+1.1**
SISI				S	**Sn**	**12 56 09.3**	**+0.7**
BKNI	**Bangkinang**	**4.01**	**102**	P	**Pn**	**12 55 44.3**	**+0.6**
BKNI				S	**Sn**	**12 56 30.3**	**+0.4**
BKNI	**Bangkinang**	**4.01**	**102**	*e*Pn	**Pn**	**12 55 45.5**	**+1.8**
BKNI				*e*Sn	**Sn**	**12 56 25.8**	**-4.0**
LHMI	**Lhok Sumawe**	**4.07**	**358**	P	**Pn**	**12 55 47.3**	**+2.8**
LHMI				S	**Sn**	**12 56 35.4**	**+4.1**
LHMI	**Lhok Sumawe**	**4.07**	**358**	*e*Pn	**Pn**	**12 55 45.0**	**+0.5**
SDSI	**Sungai Dareh**	**4.78**	**115**	P	**Pn**	**12 55 54.8**	**+0.5**
SDSI				S	**Sn**	**12 56 50.4**	**+1.5**
PPSI	**Pulau Pagai**	**4.84**	**143**	P	**Pn**	**12 55 56.1**	**+1.0**
PPSI				S	**Sn**	**12 56 51.3**	**+1.0**
IPM	**Ipoh**	**5.13**	**50**	*e*Pn	**Pn**	**12 55 59.6**	**+0.5**
IPM				*e*Sn	**Sn**	**12 56 58.8**	**+1.3**
KULM	**Kulim**	**5.43**	**40**	*e*Pn	**Pn**	**12 56 03.0**	**-0.2**
KULM				*e*Sn	**Sn**	**12 57 09.4**	**+4.4**
MYKOM	**Kota Tinggi**	**6.76**	**84**	*e*Pn	**Pn**	**12 56 23.0**	**+1.5**
MNAI	**Manna**	**7.99**	**133**	*e*Pn	**Pn**	**12 56 40.4**	**+1.9**
SBUM	**Sibu**	**15.15**	**85**	*e*Pn	**Pn**	**12 58 18.0**	**+1.6**
4.7nm,0.9s							
CMAR	**Chiang Mai Arr**	**17.30**	**6**	Pn	**Pn**	**12 58 42.4**	**-1.5**
0.3nm,0.3s,baz=198,slow=11,SNR=7.6							
SLVN	**Son La**	**21.14**	**18**	*e*P	**P**	**12 59 25.3**	**-1.9**
16nm,0.8s							
SLVN				*e*S	**S**	**13 03 17.4**	**-3.8**
KAPI	**Kappang**	**23.43**	**105**	P	**P**	**12 59 52.2**	**+0.9**
3.7nm,0.2s							
SHL	**Shillong**	**24.81**	**349**	*e*P	**P**	**13 00 03.0**	**-1.3**
H08S2	**Diego Garcia H**	**26.06**	**250**	T	T	13 27 09.7	
baz=71,slow=75,SNR=1660							
H08S3	**Diego Garcia H**	**26.06**	**250**	T	T	13 27 09.3	
baz=71,slow=75,SNR=2711							
H08S1	**Diego Carcia H**	**26.08**	**250**	T	T	13 27 10.4	
baz=71,slow=75,SNR=1987							
ODAN	**Odare**	**27.23**	**341**	*e*P	**P**	**13 00 26.9**	**+0.7**
24nm,0.7s							
RAMN	**Ramite**	**27.58**	**339**	*e*P	**P**	**13 00 30.8**	**+1.4**
10nm,0.6s							
TAPN	**Taplejung**	**27.58**	**342**	*e*P	**P**	**13 00 30.2**	**+0.7**
32nm,0.8s							
PKI	**Pulchoki**	**28.58**	**338**	*e*P	**P**	**13 00 40.1**	**+1.7**
9.3nm,0.5s							
PKIN	**Phulchoki**	**28.59**	**338**	*e*P	**P**	**13 00 40.4**	**+2.0**
GUN	**Gumba**	**28.71**	**339**	*e*P	**P**	**13 00 39.1**	**-0.5**
23nm,0.7s							
GKN	**Gorkha**	**29.26**	**337**	*e*P	**P**	**13 00 45.1**	**+0.8**
KOLN	**Koldanda**	**29.48**	**335**	*e*P	**P**	**13 00 47.6**	**+1.3**
8.5nm,0.6s							
H01W3	**Cape Leeuwin H**	**39.22**	**158**	T	T	13 43 44.0	
baz=333,slow=76,SNR=50							
H01W2	**Cape Leeuwin H**	**39.23**	**158**	T	T	13 43 44.9	
baz=333,slow=76,SNR=52							
H01W1	**Cape Leeuwin H**	**39.24**	**158**	T	T	13 43 45.2	
baz=333,slow=76,SNR=39							
WRA	**Warramunga Arr**	**42.08**	**122**	P	**P**	**13 02 34.0**	**0.0**
1.4nm,0.7s,baz=302,slow=9.1,SNR=25							
WRAB	**Tennant Creek**	**42.08**	**122**	*e*P	**P**	**13 02 34.4**	**+0.3**
4.6nm,0.8s							
ASAR	**Alice Springs**	**43.43**	**127**	P	**P**	**13 02 45.4**	**+0.4**
1.5nm,0.9s,baz=297,slow=8.0,SNR=14							
KSAR	**Wonju Array Be**	**45.92**	**35**	P	**P**	**13 03 04.1**	**-0.5**
KSRS	**Korea Array**	**45.95**	**35**	P	**P**	**13 03 04.1**	**-0.7**
4.2nm,0.9s,baz=222,slow=8.8,SNR=28							
EKS2	**Erkin-Say**	**46.33**	**336**	*e*P	**P**	**13 03 08.8**	**+0.9**
2.7nm,0.7s							
SONM	**Songino Array**	**47.20**	**9**	P	**P**	**13 03 14.4**	**-0.3**
2.9nm,0.8s,baz=194,slow=7.2,SNR=8.9							
MK31	**Makanchi Array**	**47.28**	**346**	*e*P	**P**	**13 03 15.1**	**0.0**
MKAR	**Makanchi Array**	**47.28**	**346**	*e*P	**P**	**13 03 15.3**	**+0.2**
KURBB	**Kurchatov Arra**	**51.77**	**345**	P	**P**	**13 03 49.0**	**-0.3**
2.4nm,0.6s,baz=165,slow=7.0,SNR=23							
KURK	**Kurchatov**	**51.83**	**345**	*e*P	**P**	**13 03 49.2**	**-0.5**
CTAO	**Charters Tower**	**52.55**	**116**	*e*P	**P**	**13 03 58.6**	**+2.9**
2.6nm,0.6s							
USRK	**Ussuriysk Ar.**	**52.87**	**31**	P	**P**	**13 03 57.1**	**-0.4**
6.9nm,0.9s,baz=235,slow=5.2,SNR=12							
ZAA0	**Zalesovo Array**	**53.60**	**351**	*e*P	**P**	**13 04 02.5**	**-0.3**
ZALV	**Zalesovo Beam**	**53.60**	**351**	P	**P**	**13 04 02.5**	**-0.3**
4.5nm,0.4s,baz=180,slow=6.4,SNR=20							
BVAR	**Borovoye Array**	**56.28**	**341**	P	**P**	**13 04 21.1**	**-1.1**
3.8nm,0.7s,baz=138,slow=8.9,SNR=15							
BRVK	**Borovoye**	**56.34**	**341**	*e*P	**P**	**13 04 21.9**	**-0.7**
AKTO	**Aktyubinsk**	**59.24**	**332**	P	**P**	**13 04 42.3**	**-0.8**
1.4nm,0.5s,baz=114,slow=7.7,SNR=3.7							
BRTR	**Keskin Array B**	**69.09**	**312**	P	**P**	**13 05 47.1**	**-1.0**
0.2nm,0.3s,baz=120,slow=5.7,SNR=3.2							
SEY	**Seymchan**	**73.85**	**23**	P	**P**	**13 06 15.2**	**-1.0**
1.8nm,0.8s,baz=214,slow=6.5,SNR=4.6							
FINES	**FINESS Array B**	**80.01**	**333**	P	**P**	**13 06 49.8**	**-1.1**
1.4nm,0.8s,baz=252,slow=2.8,SNR=3.9							
ARCES	**ARCESS Array B**	**82.56**	**340**	P	**P**	**13 07 03.7**	**-0.6**
1.1nm,0.9s,baz=97,slow=5.3,SNR=7.2							
GERES	**GERESS Array B**	**84.80**	**319**	P	**P**	**13 07 16.4**	**+0.1**
0.3nm,0.2s,baz=64,slow=2.3,SNR=3.1							
NOA	**NORSAR Array B**	**87.02**	**331**	P	**P**	**13 07 26.1**	**-0.9**
0.6nm,0.7s,baz=94,slow=4.9,SNR=3.2							
BAR	**Barrett**	**133.64**	**40**	*e*PKPdf	**PKPdf**	**13 13 58.3**	**-0.7**
TXAR	**Lajitas Array**	**143.76**	**32**	PKP	PKPbc	13 14 15.3	+0.1
0.2nm,0.5s,baz=248,slow=1.0,SNR=3.2							

*IDC **29** 12:55:27.2±0.4, 17°.87S×173°.52W, h0km, mb4.9/25, mb1 5.0/25, mb1mx4.9/41, mbtmp4.9/25, MS4.1/27, Ms1 4.1/27, ms1mx4.1/30, Error ellipse: s-maj=18.8km s-min=12.8km az=137.0*
*ISCJB **29** 12:55:31.8±0.1, 17°.86S±0°.03×173°.46W±0°.03, h38km, mb5.2/177, MS4.3/32, Error ellipse: s-maj=5.2km s-min=3.1km az=147.8*
*BJI **29** 12:55:32.0, 17°.61S×173°.37W, h35km, mb5.4/44, mB5.4/33, Ms4.9/29, Ms7 4.7/29*
*SZGRF **29** 12:55:33.7, 16°.89S×172°.30W, h33km, Samoa Islands region*
*MOS **29** 12:55:33.1±1.9, 17°.66S×173°.85W, h33km, mb5.4/29, MS4.6/6, Error ellipse: s-maj=12.8km s-min=10.8km az=100.0*
*NEIC **29** 12:55:34.5±0.1, 17°.79S×173°.55W, mb5.1/113, Error ellipse: s-maj=6.8km s-min=3.6km az=142.0*
*GCMT **29** 12:55:34.5±0.3, 17°.84S×173°.00W, h59km±1km, MW5.1/79, Moment Tensor Solution. s60,c77; s79,c111; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.84±.17; Mθθ-0.03±.16; Mϕϕ-3.81±.15; Mr2.22±.10; Mθϕ-1.71±.10; Mϕr1.68±.10; Best double couple: M0 5.02800×10^16 NP1: ϕs39.00000°, δ62.00000°, λ109.00000°. NP2: ϕs182.00000°, δ33.00000°, λ58.00000°. Principal axes: T 4.9360, Plg67.0000°, Azm345.0000°; N 0.1890, Plg17.0000°, Azm210.0000°; P -5.1200, Plg15.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 29 12:55:33.2±0.4, 17°.81S±0°.06×173°.45W±0°.06, h37km±2km, h37km: pP-P, n835, σ0 93/871, mb5.2/177, MS4.3/32, 67C-38D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.20**	**23**	*e*Pn	Pn	12 56 30.9	-3.9
AFI				*e*Sn	Sn	12 57 17.9	-4.7
MSVF	**Nonsavu**	**8.10**	**269**	Pn	Pn	12 57 36.3	+8.0
992nm,0.9s,SNR=24							
RAR	**Rarotonga**	**13.33**	**107**	Pn	Pn	12 58 34.1	-5.8
13nm,0.3s,baz=278,slow=7.3,SNR=30							
RAR				Sn	Sn	13 00 50.4	-16
3.9nm,0.3s,baz=144,slow=19,SNR=3.9							
RAR				LR	LR	13 03 14.8	
comp=Z,166nm,19.3s,baz=260,slow=35							
RAR				T	T	13 12 30.8	
9.5nm,0.3s,baz=106,slow=17,SNR=3.2							
DZM	**Mont Dzumac**	**19.37**	**254**	*e*P	**P**	**12 59 55.8**	**-0.1**
100nm,1.1s							
DZM				*e*LR	LR	13 04 31.8	
2µm,25.2s							
DZM	**Mont Dzumac**	**19.37**	**254**	P	**Pn**	**12 59 57.7**	**+0.5**
0.7nm,0.3s,baz=90,slow=20,SNR=8.9							
DZM				LR	LR	13 06 28.1	
comp=Z,826nm,19.5s,baz=180,slow=34							
HAZ	**Te Kaha**	**21.31**	**199**	PN	**P**	**13 00 17.0**	**+0.3**
HAZ				*e*SN	S	13 03 56.2	-15
PUZ	**Puketiti**	**21.45**	**198**	PN	**P**	**13 00 17.5**	**-0.8**
PUZ				*e*SN	S	13 03 58.7	-16
MKAZ	**Moumakai**	**21.68**	**205**	PN	**P**	**13 00 20.9**	**+0.2**
MWZ	**Matawai**	**21.92**	**199**	PN	**P**	**13 00 22.4**	**-0.9**
URZ	**Urewera**	**21.98**	**200**	P	P	13 00 19.7	-4.3
28nm,0.3s,baz=310,slow=3.9,SNR=29							
URZ				S	S	13 04 11.2	-13
11nm,0.8s,baz=93,slow=19,SNR=4.9							
URZ	**Urewera**	**21.98**	**200**	PN	**P**	**13 00 21.9**	**-2.0**
URZ				*e*SN	S	13 04 10.4	-14
URZ	**Urewera**	**21.98**	**200**	*e*P	**P**	**13 00 23.3**	**-0.7**
URZ				S	S	13 04 11.2	-13
PAE	**Paea**	**22.74**	**93**	*e*T	T	13 23 40.5	
9.2nm,0.2s							
PPT2	**Papeete2**	**22.75**	**93**	*e*LQ	LQ	13 05 07.9	
854nm,29.2s							
PPT2				*e*LR	LR	13 05 46.8	
2µm,27.2s							
PPT2	**Papeete2**	**22.75**	**93**	*e*T	T	13 23 42.1	
10nm,0.3s							
PPT	**Papeete**	**22.75**	**93**	LR	LR	13 06 53.1	
comp=Z,365nm,20.8s,baz=279,slow=30							
ARHZ	**Aropaoanui**	**22.93**	**199**	PN	**P**	**13 00 34.4**	**+0.4**
BKZ	**Black Stump Fm**	**23.01**	**200**	PN	**P**	**13 00 32.6**	**-2.3**
BKZ	**Black Stump Fm**	**23.01**	**200**	*e*P	**P**	**13 00 34.1**	**-0.8**
31nm,0.5s							
TVO	**Taravao**	**23.04**	**94**	*e*T	T	13 24 02.9	
4.9nm,0.4s							
TBI	**Tubuai**	**23.11**	**108**	*e*S	**S**	**13 04 41.6**	**-3.2**
725nm,28.8s							
TBI				*e*LR	LR	13 06 01.4	
2µm,28.8s							
TBI	**Tubuai**	**23.11**	**108**	*e*T	T	13 24 10.3	
18nm,0.3s							
PXZ	**Pawanui**	**23.68**	**199**	PN	**P**	**13 00 40.8**	**-0.6**
PXZ				*e*SN	S	13 04 47.5	-6.2
BFZ	**Birch Farm**	**24.46**	**199**	*e*P	**P**	**13 00 49.0**	**+0.4**
38nm,0.8s							
QRZ	**Quartz Range**	**25.92**	**205**	*e*PN	**P**	**13 01 02.6**	**+0.8**
NNZ	**Nelson**	**25.93**	**203**	PN	**P**	**13 01 02.2**	**+0.3**
THZ	**Tophouse**	**26.58**	**203**	*e*PN	**P**	**13 01 06.2**	**-1.7**
KHZ	**Kahutara**	**26.92**	**202**	*e*P	**P**	**13 01 12.1**	**+1.3**
40nm,1.1s							
DSZ	**Denniston Nort**	**26.99**	**205**	*e*PN	**P**	**13 01 11.5**	**-0.1**
LTZ	**Lake Taylor**	**27.70**	**203**	*e*PN	**P**	**13 01 18.2**	**+0.4**
OXZ	**Oxford**	**28.25**	**203**	*e*PN	**P**	**13 01 23.8**	**+1.0**
WVZ	**Waitaha Valley**	**28.54**	**205**	PN	**P**	**13 01 24.1**	**-1.2**
RPZ	**Rata Peaks**	**28.95**	**204**	P	**P**	**13 01 31.1**	**+2.0**
22nm,0.5s,baz=19,slow=2.2,SNR=28							
RPZ				LR	LR	13 10 58.2	
comp=Z,224nm,20.4s,baz=34,slow=32							
RPZ	**Rata Peaks**	**28.95**	**204**	*e*P	**P**	**13 01 30.8**	**+1.8**
223nm,2.0s							
WHZ	**Wether Hill Ro**	**31.99**	**205**	*e*P	**P**	**13 01 58.3**	**+2.5**
218nm,2.1s							
TAOE	**Nuku Hiva Isla**	**33.56**	**79**	*e*T	T	13 37 11.2	
96nm,0.3s							
RKT	**Rikitea**	**36.36**	**105**	*e*LR	LR	13 12 08.1	
1µm,28.0s							
CTA	**Charters Tower**	**38.12**	**260**	P	**P**	**13 02 47.1**	**-1.9**
baz=98,slow=12							
CTAO	**Charters Tower**	**38.12**	**260**	*e*P	**P**	**13 02 46.7**	**-2.2**
14nm,0.8s							
H11S2	**WAKE ISLAND Hy**	**41.01**	**331**	T	T	13 46 42.3	
baz=145							
H11S3	**WAKE ISLAND Hy**	**41.02**	**331**	T	T	13 46 42.2	
baz=145							
H11S1	**WAKE ISLAND Hy**	**41.03**	**331**	T	T	13 46 42.3	
baz=145							
H11N3	**WAKE ISLAND Hy**	**41.98**	**332**	T	T	13 48 12.3	
baz=152,slow=74,SNR=5.8							
H11N1	**WAKE ISLAND Hy**	**41.99**	**332**	T	T	13 48 11.4	
baz=152,slow=74,SNR=8.8							
H11N2	**WAKE ISLAND Hy**	**42.00**	**332**	T	T	13 48 11.0	
baz=152							
STKA	**Stephens Creek**	**42.83**	**242**	P	P	13 03 25.2	-2.6
7.1nm,0.9s,baz=88,slow=9.6,SNR=7.4							
STKA				LR	LR	13 18 27.6	
comp=Z,213nm,21.1s,baz=54,slow=32							
JAY	**Jayapura**	**47.45**	**283**	LR	LR	13 23 03.5	
comp=Z,250nm,21.2s,baz=130,slow=35							
WRAB	**Tennant Creek**	**49.28**	**259**	P	**P**	**13 04 16.2**	**-2.6**
62nm,0.4s,SNR=9.1							
WRAB	**Tennant Creek**	**49.28**	**259**	*e*P	**P**	**13 04 16.2**	**-2.6**
WRAB				pmax	pmax		
comp=Z,22nm,1.3s							
WRAB	**Tennant Creek**	**49.28**	**259**	*e*P	**P**	**13 04 16.1**	**-2.6**
comp=Z,33nm,1.5s							
WRAB				*e*pP	**pP**	**13 04 30.9**	**+1.3**
WRAB				*e*PcP	**PcP**	**13 05 39.7**	**-1.6**
WRA	**Warramunga Arr**	**49.29**	**259**	P	P	13 04 16.0	-2.8
comp=Z,3.7nm,0.4s,baz=96,slow=7.4,SNR=92							
WRA				PcP	**PcP**	**13 05 40.1**	**-1.3**
comp=Z,7.5nm,1.1s,baz=93,slow=4.3,SNR=5.7							
WRA				S	S	13 11 14.5	-8.4
comp=Z,1.8nm,1.1s,baz=95,slow=13,SNR=4.6							
WRA				LR	LR	13 23 40.3	
comp=Z,491nm,21.5s,baz=115,slow=34							
WRA	**Warramunga Arr**	**49.29**	**259**	P	P	13 04 16.0	-2.8
WRA						13 05 40.1	
WRA				S	S	13 11 14.5	-8.4
WRA				pmax	pmax		
comp=Z,4.0nm,0.4s							
WRA				pmax	pmax		
comp=Z,8.0nm,1.1s							
WRA				smax	smax		
comp=N,2.0nm,1.1s							
AS31	**Alice Springs**	**49.36**	**254**	*e*P	**P**	**13 04 16.8**	**-2.5**
AS31				*e*pP	**pP**	**13 04 31.2**	**+1.0**
ASAR	**Alice Springs**	**49.36**	**254**	P	P	13 04 16.6	-2.8
comp=N,23nm,0.8s,baz=89,slow=8.2,SNR=210							
ASAR				PcP	**PcP**	**13 05 40.5**	**-1.1**
comp=N,6.2nm,0.8s,baz=96,slow=4.3,SNR=5.1							
ASAR				S	S	13 11 17.2	-6.7
comp=N,2.9nm,0.7s,baz=91,slow=15,SNR=24							
ASAR				LR	LR	13 26 03.3	
comp=N,130nm,18.2s,baz=82,slow=37							
ASAR	**Alice Springs**	**49.36**	**254**	P	P	13 04 16.6	-2.8
ASAR						13 05 40.5	
ASAR				S	S	13 11 17.2	-6.7
ASAR				pmax	pmax		
comp=Z,23nm,0.8s							
ASAR				pmax	pmax		
comp=Z,6.0nm,0.8s							
ASAR				smax	smax		
comp=N,3.0nm,0.7s							
ASAR				MLR	MLR		
comp=Z,130nm,18.2s							
SWI	**Sorong**	**56.84**	**281**	P	**P**	**13 05 14.0**	**-0.5**
comp=Z,45nm,0.8s,comp=Z,592nm							
AAI	**Ambon**	**58.79**	**277**	P	**P**	**13 05 27.8**	**-0.4**
comp=Z,31nm,0.8s,comp=Z,7µm							
RPN	**Rapa Nui**	**59.44**	**111**	LR	LR	13 25 17.2	
comp=Z,189nm,21.7s,baz=259,slow=30							
NLAI	**Namlea**	**59.96**	**277**	P	**P**	**13 05 37.0**	**+0.7**
comp=Z,16nm,1.1s							
SOEI	**Soe**	**60.79**	**269**	P	**P**	**13 05 42.1**	**-0.1**
comp=Z,60nm,1.3s							
SBA	**Scott Base**	**60.86**	**185**	*e*P	**P**	**13 05 43.3**	**+1.9**
comp=Z,33nm,1.3s							
VNDA	**Vanda**	**60.99**	**186**	P	**P**	**13 05 42.4**	**+0.1**
comp=Z,5.0nm,0.9s,baz=0.3,slow=5.7,SNR=16							
VNDA				LR	LR	13 25 02.5	
comp=Z,99nm,21.9s,baz=42,slow=29							
VNDA	**Vanda**	**60.99**	**186**	*e*P	**P**	**13 05 42.8**	**+0.5**
comp=Z,18nm,1.3s							
VNDA				*e*pP	**pP**	**13 05 55.2**	**+1.8**
SANI	**Sanana**	**61.40**	**278**	P	**P**	**13 05 46.0**	**-0.1**
comp=Z,16nm,1.0s							
JCJ	**Chichijima**	**62.00**	**315**	LR	LR	13 28 30.6	
comp=Z,314nm,20.2s,baz=122,slow=32							
KDI	**Kendari**	**63.99**	**274**	P	**P**	**13 06 02.8**	**-0.6**
comp=Z,34nm,0.8s							
LUWI	**Luwuk**	**64.76**	**277**	P	**P**	**13 06 08.5**	**0.0**
comp=Z,36nm,1.2s,comp=Z,2µm							
MRSI	**Marisa**	**66.05**	**279**	P	**P**	**13 06 14.9**	**-1.9**
comp=Z,13nm,0.7s,comp=Z,478nm							
PCI	**Palu**	**67.58**	**277**	P	pP	13 06 37.2	-0.7
MPSI	**Mapaga**	**67.93**	**278**	P	**P**	**13 06 28.3**	**-0.4**
comp=Z,27nm,0.9s,comp=Z,5µm							
KBKI	**Kotabaru**	**70.32**	**273**	P	**P**	**13 06 42.9**	**-0.7**
comp=Z,20nm,1.1s,comp=Z,2µm							
MJAR	**Matsushiro Arr**	**70.75**	**320**	P	**P**	**13 06 45.2**	**-0.5**
comp=Z,17nm,0.9s,baz=164,slow=6.2,SNR=45							
MJAR				LR	LR	13 32 05.1	
comp=Z,191nm,21.9s,baz=145,slow=31							
MAJO	**Matsushiro**	**70.75**	**320**	*c i*P	**P**	**13 06 45.2**	**-0.5**
MAJO				pmax	pmax		
comp=Z,196nm,1.2s							
MAJO	**Matsushiro**	**70.75**	**320**	*e*P	**P**	**13 06 45.5**	**-0.2**
comp=Z,26nm,0.9s							
MAT	**Matsushiro**	**70.75**	**320**	P	**P**	**13 06 45.4**	**-0.3**
GMJI	**Gumukmas**	**71.49**	**267**	P	**P**	**13 06 50.7**	**0.0**
comp=Z,44nm,1.3s							
BLJI	**Banyuglugur**	**71.49**	**268**	P	**P**	**13 06 50.5**	**-0.2**
comp=Z,52nm,1.1s							
JOW	**Kunigami**	**71.87**	**307**	P	**P**	**13 06 52.3**	**-0.4**
comp=Z,1.9nm,0.9s,baz=124,slow=9.5,SNR=3.9							
JOW				LR	LR	13 33 34.7	
comp=Z,9µm,21.9s,baz=6.0,slow=32							
QSPA	**South Pole Qui**	**72.25**	**180**	LR	LR	13 32 43.0	
comp=Z,150nm,20.6s,baz=1.0,slow=31							
QSPA	**South Pole Qui**	**72.25**	**180**	*e*P	**P**	**13 06 54.5**	**0.0**
comp=Z,28nm,1.2s							
BSC	**Santa Cruz Isl**	**72.66**	**45**	P	**P**	**13 06 57.9**	**+0.7**
baz=73							
SCI	**San Clemente I**	**72.80**	**46**	P	**P**	**13 06 58.0**	**-0.1**
baz=73							
PKM	**Mcpherson Peak**	**73.07**	**44**	P	**P**	**13 07 00.0**	**+0.1**
ba

comp=Z,11nm,0.8s
PETK MLR MLR
comp=Z,21nm,19.1s
WDC Whiskeytown Da 74.90 38 *e*P **P 13 07 11.1 +0.8**
comp=Z,38nm,1.4s
N02D Trinity Center 75.06 37 P **P 13 07 11.9 +0.7**
baz=75,SNR=7.0
BELC Belle Mtn. Jos 75.13 46 P **P 13 07 12.2 +0.3**
baz=75,SNR=9.1
M02C Callahan 75.24 37 P **P 13 07 12.8 +0.5**
baz=76,SNR=5.9
MPMC Manual Prospec 75.29 44 P **P 13 07 12.9 +0.1**
baz=76,SNR=32
GSC Goldstone, Bar 75.31 45 P **P 13 07 12.9 0.0**
baz=76,SNR=10
GSC Goldstone, Bar 75.31 45 *e*P **P 13 07 12.8 0.0**
comp=Z,31nm,1.5s
L02D Cave Junction, 75.32 36 P **P 13 07 13.5 +0.9**
baz=76
BC3 Big Chuckawall 75.32 47 P **P 13 07 13.4 +0.5**
baz=76,SNR=11
MLAC Mammoth, Mammo 75.34 42 P **P 13 07 13.6 +0.5**
baz=76
HEC Hector,Ludlow 75.37 46 P **P 13 07 13.1 -0.1**
baz=76
TIN Tinemaha, Big 75.39 43 P **P 13 07 13.5 +0.2**
baz=76
GLA Glamis 75.43 48 P **P 13 07 13.9 +0.4**
baz=76,SNR=6.8
WAKR Walker 75.48 41 *e*P **P 13 07 14.4 +0.5**
YBH Yreka Blue Hor 75.54 37 P **P 13 07 14.4 +0.3**
comp=Z,18nm,1.1s,baz=208,slow=3.3,SNR=17
YBH LR LR 13 32 31.5
comp=Z,189nm,21.2s,baz=230,slow=29
YBH Yreka Blue Hor 75.54 37 *e*P **P 13 07 15.2 +1.1**
YSS Yuzh-Sakhalins 75.55 331 ⇑/P **P 13 07 13.0 -0.8**
YSS *e* 13 07 27.8
YSS pmax pmax
comp=Z,80nm,1.0s
GMRC Granite Mounta 75.80 46 P **P 13 07 15.8 +0.1**
baz=76,SNR=11
IRM Iron Mountain 75.81 47 P **P 13 07 15.9 +0.2**
baz=76,SNR=12
STKI Sintang 75.81 275 P **P 13 07 16.5 +0.4**
comp=Z,32nm,0.9s,comp=Z,14μm
NACB Ninganchiao 75.84 301 *e*P **P 13 07 15.8 -0.3**
comp=Z,60nm,1.0s
GRAC Grapevine Rang 75.91 43 P **P 13 07 16.9 +0.6**
baz=76,SNR=7.7
FURC Furnace Creek, 75.94 44 P **P 13 07 16.4 +0.1**
baz=76
HUMO Hull Mountain 75.97 36 *e*P **P 13 07 17.2 +0.8**
comp=Z,26nm,1.3s
TUQ Turquoise Moun 75.98 45 P **P 13 07 16.7 0.0**
baz=76,SNR=10
Y12C Blythe 76.02 47 P **P 13 07 16.9 +0.1**
baz=76
M04C Macdoel 76.08 37 P **P 13 07 17.5 +0.3**
baz=76,SNR=8.0
NVAR Mina Array Bea 76.15 42 P **P 13 07 18.0 +0.2**
comp=Z,14nm,1.0s,baz=226,slow=8.8,SNR=76
SSLB Suanglung 76.19 301 *e*P **P 13 07 16.9 -1.2**
comp=Z,25nm,1.2s
TPUB Ta-pu 76.24 300 *e*P **P 13 07 17.1 -1.3**
comp=Z,63nm,1.1s
YHNB Yeheng 76.25 302 *e*P **P 13 07 18.4 0.0**
comp=Z,50nm,1.0s
214A Organ Pipe Nat 76.30 50 P **P 13 07 18.8 +0.4**
baz=76
214A Organ Pipe Nat 76.30 50 *e*P **P 13 07 18.9 +0.4**
comp=Z,21nm,1.3s
TATO Taipei 76.30 302 *e*P **P 13 07 18.4 -0.1**
comp=Z,62nm,0.7s
LDFC Landfair 76.34 46 *e*P **P 13 07 19.7 +0.9**
comp=Z,32nm,1.2s
I03D Drain, OR 76.47 35 P **P 13 07 20.0 +0.8**
baz=77
PDMCI Parker Dam,Lak 76.59 47 P **P 13 07 20.4 +0.4**
baz=77
TPNV Topopah Spring 76.62 44 P **P 13 07 20.7 +0.3**
baz=77,SNR=13
OHAK Old Harbor 76.62 11 *e*P **P 13 07 19.4 -0.2**
TPH Tonopah 76.63 42 *e*P **P 13 07 20.6 +0.2**
comp=Z,46nm,1.2s
J04D Umpqua Nationa 76.86 36 P **P 13 07 22.1 +0.5**
baz=77
KSTBA Taebaek 76.98 316 P **P 13 07 23.6 +1.3**
SNR=7.8
KSTBA Taebaek 76.98 316 P **P 13 07 23.6 +1.3**
SNR=7.8
CISI Cisompet, Garu 77.04 266 P **P 13 07 22.3 -0.8**
comp=Z,95nm,1.5s
MOD Modoc Plateau 77.04 38 *e*P **P 13 07 23.0 +0.4**
comp=Z,35nm,1.2s
I04A Tendick Farm, 77.05 35 P **P 13 07 23.0 +0.5**
baz=77
SHPR Sheep Range 77.09 45 *e*P **P 13 07 23.5 +0.4**
K05A Summer Lake 77.22 37 *e*P **P 13 07 24.3 +0.6**
KSKWJ Gwangju 77.22 314 P **P 13 07 24.2 +0.6**
SNR=6.5
KSKWJ Gwangju 77.22 314 P **P 13 07 24.2 +0.6**
SNR=6.5
KDAK Kodiak Island 77.28 11 *e*P **P 13 07 23.0 -0.3**
comp=Z,64nm,1.5s
KSM Kuching 77.36 276 *e*P **P 13 07 25.1 +0.2**
comp=Z,81nm,1.5s
J05D Fort Rock, OR 77.38 36 P **P 13 07 25.0 +0.6**
baz=78,SNR=5.1
KSBON Boeun 77.40 315 P **P 13 07 25.6 +1.0**
SNR=9.9
KSBON Boeun 77.40 315 P **P 13 07 25.6 +1.0**
SNR=9.9
LEM Lembang 77.44 267 P **P 13 07 25.6 +0.1**
comp=Z,48nm,0.8s,baz=98,slow=7.6,SNR=5.0
LEM Lembang 77.44 267 P **P 13 07 25.6 +0.1**
LEM pmax pmax
comp=Z,48nm,0.9s
KSJEU Jeongeup 77.44 314 P **P 13 07 25.5 +0.7**
SNR=21
KSJEU Jeongeup 77.44 314 P **P 13 07 25.5 +0.7**
SNR=21
KSDGY Daegwallycong 77.48 317 P **P 13 07 26.4 +1.3**
SNR=13
KSDGY Daegwallycong 77.48 317 P **P 13 07 26.4 +1.3**
SNR=13
KSCHJ Chungju 77.48 315 P **P 13 07 26.3 +1.3**
SNR=8.6
KSCHJ Chungju 77.48 315 P **P 13 07 26.3 +1.3**
SNR=8.6
G03D McMinnville, O 77.52 34 P **P 13 07 26.0 +1.0**
baz=78
KSJMJ Jumunjin 77.53 317 P **P 13 07 26.9 +1.7**
SNR=11
KSJMJ Jumunjin 77.53 317 P **P 13 07 26.9 +1.7**
SNR=11
TJN Taejon 77.62 315 *c i*P **P 13 07 25.4 -0.4**
KSRS Korea Array 77.84 316 P **P 13 07 28.4 +1.4**
comp=Z,31nm,0.9s,baz=130,slow=6.1,SNR=146
KSRS LR LR 13 38 55.7
comp=Z,89nm,19.1s,baz=130,slow=34
R11A Troy Canyon, C 77.84 43 P **P 13 07 26.8 -0.4**
baz=78,SNR=21
R11A Troy Canyon, C 77.84 43 *e*P **P 13 07 27.2 -0.1**
comp=Z,19nm,1.3s
KSAR Wonju Array Be 77.86 316 P **P 13 07 28.4 +1.3**
KSSKC Sokcho 77.92 317 P **P 13 07 29.7 +2.3**
SNR=5.0
KSCEA Cheonan 77.94 315 P **P 13 07 28.5 +1.0**
SNR=6.7
KSCEA Cheonan 77.94 315 P **P 13 07 28.5 +1.0**
SNR=6.7
TUC Tucson 77.95 50 *e*P **P 13 07 28.6 +0.7**
comp=Z,15nm,1.0s
I05D Terrebonne, OR 77.99 35 P **P 13 07 28.2 +0.5**
baz=78,SNR=5.3
BMN Battle Mountai 78.00 40 *e*P **P 13 07 28.3 +0.2**
comp=Z,32nm,1.1s
KSIJA INJE 78.01 317 P **P 13 07 29.7 +1.8**
SNR=7.2
KSIJA INJE 78.01 317 P **P 13 07 29.7 +1.8**
SNR=7.2
SEHB SEOHWA 78.08 317 P **P 13 07 30.0 +1.7**
SNR=9.1
KSICN Icheon 78.09 316 P **P 13 07 30.1 +1.7**
SNR=9.0
KSICN Icheon 78.09 316 P **P 13 07 30.1 +1.7**
SNR=9.0
KSCHC Chuncheon 78.09 316 P **P 13 07 30.0 +1.6**
SNR=26
KSCHC Chuncheon 78.09 316 P **P 13 07 30.0 +1.6**
SNR=26
WVOR Wild Horse Val 78.34 38 P **P 13 07 29.9 +0.1**
KSSWO Suwon 78.38 315 P **P 13 07 31.7 +1.8**
SNR=8.5
KSCWO Cheorwon 78.46 316 P **P 13 07 32.6 +2.2**
SNR=15
KSCWO Cheorwon 78.46 316 P **P 13 07 32.3 +1.9**
SNR=7.2
KSSES Seosan 78.46 315 P **P 13 07 31.4 +1.0**
SNR=6.9
KSSEO Seoul 78.53 316 P **P 13 07 32.4 +1.7**
SNR=10
KSSEO Seoul 78.53 316 P **P 13 07 32.4 +1.7**
SNR=10
VFP Flag Point 78.55 35 P **P 13 07 31.3 +0.3**
QZH Quanzhou 78.63 301 ⇑/P **P 13 07 32.3 +0.7**
QZH PMZ
comp=Z,140nm,0.9s
FL2 Flat Top 2 78.65 33 P **P 13 07 32.2 +0.8**
VLA Vladivostok 78.67 322 *e*P **P 13 07 30.4 -1.0**
VLA pmax pmax
comp=Z,25nm,1.0s
INCN Inchon 78.72 315 *e*P **P 13 07 33.6 +1.8**
comp=Z,59nm,0.8s
ERK Elk Rock 78.72 33 P **P 13 07 32.5 +0.7**
TDL Tradedollar La 78.82 33 P **P 13 07 33.3 +0.9**
YNCB YEONCHEON 78.82 316 P **P 13 07 34.3 +1.9**
SNR=8.3
KSMUS Musan 78.85 316 P **P 13 07 34.1 +1.6**
SNR=23
CCUT Cedar City 78.87 45 *e*P **P 13 07 33.3 +0.3**
comp=Z,31nm,1.4s
KSGAH Ganghwa 78.96 316 P **P 13 07 34.7 +1.5**
SNR=22
WUAZ Wupatki 79.16 47 P **P 13 07 34.7 +0.2**
baz=79
WUAZ Wupatki 79.16 47 *e*P **P 13 07 35.6 +1.0**
comp=Z,21nm,1.3s
USRK Ussuriysk Ar. 79.27 323 P **P 13 07 33.9 -0.8**
comp=Z,17nm,1.1s,baz=117,slow=3.0,SNR=22
USRK LR LR 13 36 30.6
comp=Z,287nm,21.8s,baz=126,slow=31
LON Longmire 79.29 33 *e*P **P 13 07 35.0 +0.1**
comp=Z,11nm,1.3s
CGJI Cibinong 79.33 266 P **P 13 07 34.1 -1.6**
comp=Z,43nm,1.5s
WPW White Pass 79.40 33 P **P 13 07 36.0 +0.5**
ELK Elko 79.42 41 *e*P **P 13 07 35.9 0.0**
comp=Z,29nm,1.5s
BRLK Bradley Lake 79.45 11 *e*P **P 13 07 35.6 +0.2**
comp=Z,35nm,1.2s
D05A Enumclaw 79.48 33 *e*P **P 13 07 37.1 +1.3**
G08A Pilot Rock 79.91 36 *e*P **P 13 07 38.5 +0.1**
BBB Bella Bella 80.05 26 P **P 13 07 37.6 -1.1**
comp=Z,13nm,0.8s,baz=257,slow=7.2,SNR=4.1
W18A Petrified Fore 80.11 48 P **P 13 07 40.0 +0.3**
baz=80
MVU Marysvale 80.14 44 *e*P **P 13 07 40.6 +0.7**
comp=Z,24nm,1.2s
MSU Marysvale 80.17 44 *e*P **P 13 07 41.1 +1.1**
comp=Z,30nm,1.2s
PPBI Pangkal Pinang 80.22 271 P **P 13 07 42.5 +1.9**
HAWA Hanford 80.28 35 *e*P **P 13 07 40.7 +0.6**
comp=Z,40nm,1.4s
121A Cookes Peak, D 80.28 51 P **P 13 07 41.2 +0.5**
baz=80
121A Cookes Peak, D 80.28 51 *e*P **P 13 07 41.1 +0.5**
comp=Z,18nm,1.3s
HABR Khabarovsk 80.34 328 *de*P **P 13 07 38.7 -1.7**
HABR *e**PP **PcP 13 07 49.1 +1.7**
HABR *e**SP **sP 13 07 53.1 -3.0**
HABR *e* 13 10 40.5
HABR *e*PPP PPP 13 12 29.7
HABR *e*S **S 13 17 41.0 -2.4**
HABR *e* 13 17 54.2
HABR *e*SS **SS 13 22 51.7 -4.2**
HABR *e*SSS SSS 13 26 18.1
HABR pmax pmax
comp=N,22nm,1.5s
HABR pmax pmax
comp=E,28nm,1.5s
HABR pmax pmax
comp=Z,126nm,1.5s
HABR MLR MLR
comp=Z,64nm,17.0s
BMO Blue Mountains 80.57 37 *e*P **P 13 07 42.1 +0.2**
comp=Z,25nm,1.4s
MFID Camas Ranch 80.59 39 *e*P **P 13 07 42.1 0.0**
comp=Z,18nm,1.1s
DUG Dugway, Tooele 80.66 43 P **P 13 07 42.6 +0.1**
baz=81
DUG Dugway, Tooele 80.66 43 *e*P **P 13 07 42.9 +0.4**
comp=Z,20nm,1.4s
MDJ Mudanjiang 80.90 323 P **P 13 07 44.5 +1.0**
MDJ pP **pP 13 07 54.0 -1.0**
MDJ S **S 13 17 51.3 +1.9**
MDJ ScS **ScS 13 18 09.5 +1.5**
MDJ PMZ
comp=Z,32nm,1.1s
MDJ LN
comp=Z,120nm,27.3s
MDJ LE
comp=Z,180nm,27.3s
MDJ LZ
comp=Z,310nm,31.6s
D08A Wollman Farm, 81.02 34 *e*P **P 13 07 44.6 +0.5**
SAW Saint Andrews 81.16 34 P **P 13 07 45.0 +0.1**
TMUT Trail Mountain 81.23 44 *e*P **P 13 07 46.9 +1.1**
comp=Z,21nm,1.0s
GAMB Gambell 81.33 1 *e*P **P 13 07 46.4 +1.1**
comp=Z,40nm,1.2s
HLID Hailey 81.52 39 P **P 13 07 47.4 +0.4**
baz=82,SNR=26
HLID Hailey 81.52 39 *e*P **P 13 07 47.5 +0.4**
comp=Z,16nm,1.0s
HVU Hansel Valley 81.54 41 *e*P **P 13 07 47.2 0.0**
comp=Z,8.6nm,0.9s
NJ2 Nanjing 81.58 307 *e*P **P 13 07 46.8 -0.6**
NJ2 pP **pP 13 07 56.8 -2.1**
NJ2 sP **sP 13 08 00.8 -2.3**
NJ2 S **S 13 17 58.0 +1.0**
NJ2 sS **ScS 13 18 14.0 -0.1**
NJ2 SS **SS 13 23 17.5 +2.5**
NJ2 PMZ
comp=Z,70nm,1.2s
NJ2 PMZ
comp=Z,310nm,4.8s
NJ2 LN
comp=Z,820nm,27.9s
NJ2 LE
comp=Z,510nm,25.5s
NJ2 LZ
comp=Z,530nm,28.3s
SRU San Rafael Swe 81.59 44 *e*P **P 13 07 48.2 +0.7**
comp=Z,36nm,1.4s
B08A Colville Reser 81.61 33 *e*P **P 13 07 47.1 -0.2**
P17A Butcher Ranch, 81.63 44 *e*P **P 13 07 48.7 +1.0**
LAZ Ladron 81.63 50 *e*P **P 13 07 49.0 +1.1**
comp=Z,20nm,1.9s
DIV Divide 81.74 13 *e*P **P 13 07 47.7 0.0**
comp=Z,51nm,1.1s
JLU Jordanelle 81.75 43 *e*P **P 13 07 48.9 +0.4**
comp=Z,11nm,1.2s
BMRM Bremner River 81.86 14 *e*P **P 13 07 48.0 -0.3**
comp=Z,48nm,1.2s
TXAR Lajitas Array 81.99 56 P **P 13 07 50.4 +0.6**
comp=Z,6.7nm,1.1s,baz=217,slow=6.0,SNR=27
TXAR LR LR 13 37 55.0
comp=Z,43nm,19.9s,baz=0.0,slow=31
PMSA Palmer Station 82.01 156 LR LR 13 34 52.4
comp=Z,228nm,20.0s,baz=13,slow=29
MVCO Mesa Verde 82.01 47 P **P 13 07 50.0 +0.1**
baz=82
TCUT Toone Canyon 82.05 42 *e*P **P 13 07 50.2 +0.2**
comp=Z,75nm,1.5s
HWUT Hardware Ranch 82.21 42 *e*P **P 13 07 50.4 -0.3**
comp=Z,18nm,1.5s
PV04 Paradox Valley 82.32 46 *e*P **P 13 07 52.2 +0.8**
ANMO Albuquerque 82.39 50 *c i*P **P 13 07 52.2 +0.4**
ANMO pmax pmax
comp=Z,67nm,1.2s
ANMO Albuquerque 82.39 50 *e*P **P 13 07 52.2 +0.4**
comp=Z,37nm,1.7s
PV01 Paradox Valley 82.42 46 *e*P **P 13 07 52.0 0.0**
comp=Z,3μm,1.2s
BESE Bessie Mountai 82.47 19 *e*P **P 13 07 52.7 +1.2**
comp=Z,16nm,1.4s
KLR Kul'dur 82.51 327 *e*P P 13 07 48.8 -3.1
KLR pmax pmax
comp=Z,38nm,1.4s
CAST Castle Rocks 82.67 10 *e*P **P 13 07 50.7 -1.7**
comp=Z,10nm,1.1s
NEW Newport 82.72 34 P **P 13 07 52.6 -0.5**
comp=Z,2.7nm,0.7s,baz=228,slow=5.4,SNR=5.8
NEW Newport 82.72 34 P **P 13 07 52.6 -0.5**
NEW pmax pmax
comp=Z,3.0nm,0.7s
NEW Newport 82.72 34 P **P 13 07 52.7 -0.3**
baz=83
NEW Newport 82.72 34 *e*P **P 13 07 52.9 -0.1**
CN2 Changchun 82.90 320 *e*P **P 13 07 55.5 +1.5**
CN2 *e*S **S 13 18 13.0 +2.9**
CN2 PMZ
comp=Z,10.0nm,0.8s
CN2 PMZ
comp=Z,200nm,6.0s
CN2 LN
comp=Z,300nm,17.0s
CN2 LE
comp=Z,400nm,17.0s
CN2 LZ
comp=Z,600nm,18.0s
TRF Thorofare Moun 82.99 10 *e*P **P 13 07 53.5 -0.8**
comp=Z,19nm,0.8s
MCMT McKenzie Canyo 83.16 39 *e*P **P 13 07 56.0 +0.3**
DHY Denali Highway 83.17 12 *e*P **P 13 07 54.8 -0.4**
comp=Z,9.5nm,1.0s
S22A 4UR Ranch, Cre 83.44 47 P **P 13 07 57.8 +0.4**
baz=84
529A Stev Forest Ra 83.47 56 P **P 13 07 57.4 0.0**
baz=84
BPAW Bear Paw Mtn. 83.48 10 *e*P **P 13 07 55.4 -1.2**
comp=Z,26nm,1.7s
MCK McKinley 83.49 11 *e*P **P 13 07 56.2 -0.5**
comp=Z,40nm,0.9s
HYT Haines Junctio 83.52 17 *e*P **P 13 07 57.3 +0.3**
REDW Red Top Meadow 83.58 41 *e*P **P 13 07 58.0 +0.1**
comp=Z,28nm,1.1s
TPAW Teton Pass 83.59 41 *e*P **P 13 07 58.5 +0.5**
comp=Z,16nm,0.9s
DLMT Dillon 83.60 38 *e*P **P 13 07 58.0 +0.1**
comp=Z,18nm,1.0s
FXWY Fox Creek 83.62 40 *e*P **P 13 07 58.7 +0.6**
comp=Z,24nm,1.4s
O20A White River Ci 83.62 44 P **P 13 07 58.4 +0.2**
baz=84
O20A White River Ci 83.62 44 *e*P **P 13 07 58.3 +0.2**
comp=Z,25nm,1.2s
MSO Missoula 83.64 37 P **P 13 07 57.6 -0.3**
baz=84
MSO Missoula 83.64 37 *e*P **P 13 07 57.6 -0.3**
comp=Z,35nm,1.7s
BSMT Bassoo Peak 83.74 35 *e*P **P 13 07 58.5 0.0**
comp=Z,25nm,1.5s
IMW Indian Meadow 83.81 40 *e*P **P 13 07 59.5 +0.3**
comp=Z,22nm,1.0s
MOOW Moose Ponds 83.85 40 *e*P **P 13 07 59.5 +0.3**
comp=Z,13nm,1.3s
LOHW Long Hollow 83.87 41 *e*P **P 13 07 59.3 -0.1**
comp=Z,13nm,1.1s
429A Davenport Ranc 83.93 55 P **P 13 07 59.9 +0.1**
baz=84,SNR=12
LRM Limekiln Ridge 83.94 38 *e*P **P 13 07 59.5 -0.2**
comp=Z,50nm,0.9s
DLBC Dease Lake 83.95 21 P **P 13 07 59.0 -0.2**
comp=Z,7.6nm,1.0s,baz=216,slow=5.5,SNR=15
USHA Ushuaia 83.97 146 LR LR 13 35 41.5
comp=Z,392nm,21.6s,baz=98,slow=29
SWMT Swartz Lake 83.99 36 *e*P **P 13 07 59.0 -0.7**
comp=Z,3.9nm,1.0s
QLMT Earthquake Lak 84.01 39 *e*P **P 13 08 00.6 +0.6**
comp=Z,6.6nm,1.4s
SMCO Snowmass 84.02 46 *e*P **P 13 08 00.7 +0.3**
comp=Z,26nm,1.3s
228A UT Block 9, Go 84.02 54 P **P 13 08 00.1 -0.1**
baz=84
FLWY Flagg Ranch 84.06 40 *e*P **P 13 08 00.4 +0.2**
comp=Z,26nm,1.0s
CHMT Chamberlain Mo 84.07 37 *e*P **P 13 07 59.3 -1.0**
comp=Z,17nm,1.5s
BW06 Boulder Array 84.09 42 *e*P **P 13 07 59.7 -0.8**
comp=Z,14nm,1.0s
PDAR Pinedale Array 84.09 42 P **P 13 08 00.0 -0.5**
comp=Z,12nm,0.9s,baz=222,slow=1.8,SNR=64
530A J-C Ranch, Com 84.17 56 P **P 13 08 01.0 0.0**
baz=84
YMR Madison River 84.20 40 *e*P **P 13 08 01.1 +0.1**
comp=Z,20nm,0.9s
329A Wagon Wheel Ra 84.22 55 P **P 13 08 01.1 -0.1**
baz=84
H17A Grant Village 84.29 40 P **P 13 08 02.6 +1.0**
baz=84
H17A Grant Village 84.29 40 *e*P **P 13 08 03.0 +1.4**
comp=Z,16nm,1.0s
128A Castleberry Fa 84.31 53 P **P 13 08 02.0 +0.3**
baz=84
BOZ Bozeman (W) 84.32 38 P **P 13 08 01.5 -0.1**
baz=85,SNR=28
BOZ Bozeman (W) 84.32 38 *e*P **P 13 08 01.4 -0.1**
comp=Z,20nm,0.9s
SDCO Great Sand Dun 84.36 48 P **P 13 08 01.6 -0.5**
baz=85
SDCO Great Sand Dun 84.36 48 *e*P **P 13 08 02.1 0.0**
comp=Z,14nm,1.3s
WHN Wuhan 84.40 304 P **P 13 08 04.0 +2.0**
HDA Harding Lake 84.46 11 *e*P **P 13 08 01.7 +0.1**
comp=Z,28nm,0.9s
631A Perdido Creek 84.48 57 P **P 13 08 02.6 +0.1**
baz=85,SNR=7.7
LKWY Lake 84.49 40 *e*P **P 13 08 04.5 +2.0**
comp=Z,26nm,1.1s
832A Faith Ranch, C 84.51 58 P **P 13 08 02.5 -0.1**
baz=85
430A Baggett Ranch, 84.52 55 P **P 13 08 02.7 0.0**
baz=85
CCB Clear Creek Bu 84.53 11 *e*P **P 13 08 01.2 -0.7**
comp=Z,36nm,0.8s
229A Bryant Ranch, 84.56 54 P **P 13 08 02.9 0.0**
baz=85
J19A Crowheart 84.66 41 P **P 13 08 03.0 -0.3**
baz=85,SNR=14
MSTX Muleshoe 84.67 52 P **P 13 08 03.1 -0.4**
baz=85
MSTX Muleshoe 84.67 52 *e*P **P 13 08 03.7 +0.2**
comp=Z,126nm,1.9s
Z28A Tucker Farm, M 84.67 53 P **P 13 08 03.5 0.0**
baz=85
732A Laxson Ranch, 84.69 58 P **P 13 08 03.7 +0.1**
baz=85
COLA College 84.73 11 *c i*P **P 13 08 02.1 -0.7**
COLA pmax pmax
comp=Z,216nm,0.9s
COLA College 84.73 11 *e*P **P 13 08 02.5 -0.4**
HRY Holter Researc 84.78 37 *e*P **P 13 08 04.0 +0.2**
comp=Z,5.6nm,0.5s
129A Stewart Farms, 84.79 54 P **P 13 08 04.1 0.0**
baz=85
531A Rocksprings 84.81 56 P **P 13 08 04.1 0.0**
baz=85,SNR=6.0
ILAR Eielson Array 84.81 11 P **P 13 08 02.6 -0.7**
comp=Z,7.0nm,0.7s,baz=224,slow=6.0,SNR=112
ILAR LR LR 13 42 49.1
comp=Z,69nm,18.6s,baz=209,slow=34
330A Mertzon 84.82 55 P **P 13 08 04.1 -0.1**
baz=85
933A Laredo 84.82 59 P **P 13 08 04.3 +0.1**
baz=85
SEY Seymchan 84.82 345 P **P 13 08 03.5 +0.1**
comp=Z,29nm,1.0s,baz=134,slow=5.2,SNR=49
SEY Seymchan 84.82 345 *c i*P **P 13 08 03.3 -0.1**
IM04 Indian Mountai 84.84 8 *e*P **P 13 08 03.6 +0.2**
T25A Trinidad 84.86 49 P **P 13 08 04.4 -0.2**
baz=85
WALA Waterton Lakes 84.91 35 *e*P P 13 08 01.9 -2.5
comp=Z,31nm,1.5s
833A Chaparral WMA, 85.00 58 P **P 13 08 05.2 +0.1**
baz=85
Y28A McKinney Farm, 85.04 52 P **P 13 08 05.5 +0.1**
baz=85
230A Sterling City 85.06 54 P **P 13 08 05.2 -0.3**
baz=85
RWWY Rawlins 85.06 43 *e*P **P 13 08 05.6 +0.1**

	comp=Z,30nm,1.2s									
RWWY					*ep*P		**pP**	**13 08 14.0**	**-3.0**
I19A	**Meeteetse**	**85.08**	**41**	P		**P**	**13 08 05.4**	**-0.1**
	baz=85,SNR=8.4								
034A	**Hebbronville**	**85.09**	**60**	P		**P**	**13 08 05.8**	**+0.2**
	baz=85								
632A	**Uvalde**	**85.15**	**57**	P		**P**	**13 08 06.0**	**+0.1**
	baz=85,SNR=6.6								
Q24A	**Divide**	**85.17**	**47**	P		**P**	**13 08 05.9**	**-0.2**
	baz=85,SNR=5.3								
Z29A	**Hungry Hill Ra**	**85.18**	**53**	P		**P**	**13 08 06.4**	**+0.4**
	baz=85								
733A	**Divot King Ran**	**85.23**	**58**	P		**P**	**13 08 06.1**	**-0.1**
	baz=85								
ISCO	**Idaho Springs**	**85.24**	**46**	P		**P**	**13 08 06.1**	**-0.3**
	baz=86								
532A	**Rocksprings**	**85.30**	**56**	P		**P**	**13 08 06.7**	**+0.1**
	baz=86								
J20A	**Shoshoni**	**85.31**	**42**	P		**P**	**13 08 06.5**	**0.0**
	baz=86,SNR=7.7								
X28A	**Dimmitt**	**85.34**	**52**	P		**P**	**13 08 07.0**	**+0.1**
	baz=86								
331A	**San Angelo**	**85.36**	**55**	P		**P**	**13 08 07.2**	**+0.2**
	baz=86								
V27A	**Dan Oppiter Fa**	**85.39**	**50**	P		**P**	**13 08 07.2**	**+0.2**
	baz=86								
H19A	**Powell**	**85.41**	**40**	P		**P**	**13 08 07.4**	**+0.4**
	baz=86								
934A	**Benavides**	**85.43**	**59**	P		**P**	**13 08 07.8**	**+0.6**
	baz=86								
Y29A	**Porterfield Fa**	**85.45**	**52**	P		**P**	**13 08 07.8**	**+0.4**
	baz=86								
T26A	**Comanche Natio**	**85.46**	**49**	P		**P**	**13 08 07.6**	**+0.1**
	baz=86								
130A	**Snyder**	**85.47**	**54**	P		**P**	**13 08 07.3**	**-0.1**
	baz=86								
RLMT	**Red Lodge**	**85.47**	**40**	P		**P**	**13 08 07.7**	**+0.3**
	baz=86,SNR=5.2								
RLMT	**Red Lodge**	**85.47**	**40**	*e*P		**P**	**13 08 07.9**	**+0.5**
	comp=Z,9.0nm,1.0s								
MAW	**Mawson**	**85.50**	**199**	P		**P**	**13 08 06.5**	**-0.5**
	comp=Z,8.5nm,0.7s,baz=141,slow=6.9,SNR=26								
MAW				LR		LR	13 45 55.8		
	comp=Z,233nm,18.1s,baz=217,slow=36								
MAW	**Mawson**	**85.50**	**199**	P		**P**	**13 08 06.5**	**-0.5**
MAW				pmax		pmax			
	comp=Z,9.0nm,0.7s								
MAW				MLR		MLR			
	comp=Z,233nm,18.1s								
MAW	**Mawson**	**85.50**	**199**	*e*P		**P**	**13 08 06.8**	**-0.2**
MAW				*ep*P		**pP**	**13 08 20.2**	**+1.6**
JCT	**Junction City**	**85.52**	**56**	P		**P**	**13 08 07.3**	**-0.4**
	baz=86								
N23A	**Red Feather La**	**85.53**	**45**	P		**P**	**13 08 07.6**	**-0.3**
	baz=86								
GCMT	**Greycliff**	**85.57**	**39**	*e*P		**P**	**13 08 08.3**	**+0.6**
	comp=Z,8.4nm,1.2s								
I20A	**Worland**	**85.58**	**41**	P		**P**	**13 08 07.6**	**-0.2**
	baz=86								
834A	**Tilden**	**85.60**	**59**	P		**P**	**13 08 08.8**	**+0.7**
	baz=86,SNR=6.1								
633A	**Saathoff Ranch**	**85.62**	**57**	P		**P**	**13 08 08.0**	**-0.2**
	baz=86								
Z30A	**Sanderson Ranc**	**85.63**	**53**	P		**P**	**13 08 07.5**	**-0.7**
	baz=86,SNR=8.4								
X29A	**Tulia**	**85.68**	**52**	P		**P**	**13 08 08.5**	**0.0**
	baz=86								
432A	**Menard**	**85.69**	**56**	P		**P**	**13 08 08.2**	**-0.4**
	baz=86								
U27A	**Thompson Grove**	**85.69**	**50**	P		**P**	**13 08 07.7**	**-0.8**
	baz=86								
231A	**Bronte**	**85.70**	**55**	P		**P**	**13 08 08.1**	**-0.5**
	baz=86,SNR=7.1								
J21A	**Lysite**	**85.72**	**42**	P		**P**	**13 08 08.3**	**-0.3**
	baz=86,SNR=6.6								
DAWY	**Dawson**	**85.76**	**14**	*e*P		**P**	**13 08 08.5**	**+0.3**
V28A	**Channing**	**85.84**	**51**	P		**P**	**13 08 09.0**	**-0.3**
	baz=86								
AMTX	**Amarillo**	**85.88**	**52**	P		**P**	**13 08 09.2**	**-0.2**
	baz=86								
AMTX	**Amarillo**	**85.88**	**52**	*e*P		**P**	**13 08 09.5**	**0.0**
	comp=Z,31nm,1.3s								
332A	**Millersview**	**85.93**	**55**	P		**P**	**13 08 09.6**	**-0.1**
	baz=86,SNR=12								
H20A	**Greybull**	**85.93**	**41**	P		**P**	**13 08 08.6**	**-0.9**
	baz=86								
131A	**Roby**	**85.94**	**54**	P		**P**	**13 08 09.6**	**-0.2**
	baz=86								
EGAK	**Eagle**	**85.96**	**13**	*e*P		**P**	**13 08 09.1**	**0.0**
	comp=Z,34nm,1.2s								
533A	**Kerrville**	**85.97**	**57**	P		**P**	**13 08 10.0**	**+0.1**
	baz=86,SNR=5.8								
W29A	**Amarillo**	**86.00**	**51**	P		**P**	**13 08 10.1**	**0.0**
	baz=86								
T27A	**Campo**	**86.04**	**49**	P		**P**	**13 08 09.6**	**-0.7**
	baz=86								
I21A	**Big Trails, Te**	**86.04**	**42**	P		**P**	**13 08 09.6**	**-0.5**
	baz=86,SNR=5.9								
Y30A	**Stafford Cattl**	**86.05**	**53**	P		**P**	**13 08 10.3**	**0.0**
	baz=86								
R26A	**Arlington**	**86.06**	**48**	P		**P**	**13 08 10.2**	**-0.2**
	baz=86,SNR=6.4								
G20A	**Bridger**	**86.16**	**40**	P		**P**	**13 08 10.2**	**-0.5**
	baz=86								
433A	**Art**	**86.19**	**56**	P		**P**	**13 08 10.6**	**-0.4**
	baz=86,SNR=11								
232A	**Coleman**	**86.20**	**55**	P		**P**	**13 08 11.2**	**+0.1**
	baz=86,SNR=15								
835A	**Beeville**	**86.25**	**59**	P		**P**	**13 08 10.3**	**-1.0**
	baz=86								
Q26A	**Hugo**	**86.29**	**47**	P		**P**	**13 08 11.3**	**-0.2**
	baz=86								
X30A	**Coker Ranch, T**	**86.30**	**52**	P		**P**	**13 08 11.6**	**0.0**
	baz=86								
936A	**North Padre Is**	**86.36**	**60**	P		**P**	**13 08 11.4**	**-0.4**
	baz=86								
J22A	**Midwest**	**86.37**	**42**	P		**P**	**13 08 11.1**	**-0.7**
	baz=87,SNR=6.5								
Z31A	**Sharp Cattle R**	**86.39**	**53**	P		**P**	**13 08 11.8**	**-0.2**
	baz=87,SNR=6.3								
534A	**Blanco**	**86.40**	**57**	P		**P**	**13 08 12.0**	**-0.1**
	baz=87,SNR=9.4								
V29A	**Stinnett**	**86.41**	**51**	P		**P**	**13 08 12.0**	**-0.1**
	baz=87								
ABTX	**Abilene, Hawle**	**86.50**	**54**	P		**P**	**13 08 12.7**	**+0.2**
	baz=87,SNR=6.6								
ABTX	**Abilene, Hawle**	**86.50**	**54**	*e*P		**P**	**13 08 12.8**	**+0.2**
	comp=Z,94nm,1.6s								
R27A	**Eads**	**86.52**	**48**	P		**P**	**13 08 11.8**	**-0.8**
	baz=87								
COLD	**Coldfoot**	**86.52**	**9**	*e*P		**P**	**13 08 12.7**	**+1.0**
	comp=Z,32nm,1.3s								
Y31A	**Rekieta Farm,**	**86.56**	**53**	P		**P**	**13 08 12.2**	**-0.6**
	baz=87								
I22A	**9 Mile Ranch,**	**86.59**	**42**	P		**P**	**13 08 12.6**	**-0.3**
	baz=87								
K23A	**Bowen Ranch, D**	**86.61**	**43**	P		**P**	**13 08 13.0**	**0.0**
	baz=87								
EGMT	**Eagleton**	**86.67**	**37**	P		**P**	**13 08 12.7**	**-0.3**
	baz=87								
635A	**Leesville**	**86.72**	**58**	P		**P**	**13 08 13.6**	**0.0**
	baz=87								
233A	**Rising Star**	**86.84**	**55**	P		**P**	**13 08 14.2**	**0.0**
	baz=87,SNR=5.8								
S28A	**Manter**	**86.86**	**49**	P		**P**	**13 08 13.5**	**-0.8**
	baz=87								
434A	**Burnet**	**86.87**	**56**	P		**P**	**13 08 14.2**	**-0.2**
	baz=87,SNR=7.1								
BILL	**Bilibino**	**86.88**	**352**	*c i*P		**P**	**13 08 13.5**	**0.0**
BILL				*i*			13 08 29.4		
BILL				pmax		pmax			
	comp=Z,52nm,1.2s								
BILL	**Bilibino**	**86.88**	**352**	*e*P		**P**	**13 08 13.5**	**0.0**
	comp=Z,45nm,1.1s								
Z32A	**Haskell**	**86.90**	**54**	P		**P**	**13 08 14.6**	**+0.2**
	baz=87,SNR=18								
V30A	**Spur Ranch, Mi**	**86.98**	**51**	P		**P**	**13 08 14.8**	**-0.1**
	baz=87								
O26A	**Horse Wrangler**	**87.01**	**46**	P		**P**	**13 08 14.8**	**-0.2**
	baz=87								
133A	**Hamilton Ranch**	**87.06**	**55**	P		**P**	**13 08 15.2**	**0.0**
	baz=87,SNR=6.0								
BJI	**Beijing**	**87.08**	**314**	P		**P**	**13 08 16.0**	**+0.9**
BJI				PMZ					
	comp=Z,41nm,1.2s								
334A	**Lometa**	**87.09**	**56**	P		**P**	**13 08 15.5**	**+0.1**
	baz=87,SNR=18								
IPM	**Ipoh**	**87.10**	**276**	*e*P		**P**	**13 08 16.6**	**+0.7**
	comp=Z,21nm,0.8s								
Y32A	**R-V Farms, Ver**	**87.20**	**53**	P		**P**	**13 08 15.9**	**0.0**
	baz=87,SNR=10								
R28A	**Tribune**	**87.24**	**48**	P		**P**	**13 08 15.9**	**-0.2**
	baz=88								
W31A	**Holland Ranch,**	**87.30**	**52**	P		**P**	**13 08 16.7**	**+0.3**
	baz=88								
G22A	**Birney**	**87.35**	**41**	P		**P**	**13 08 16.5**	**0.0**
	baz=88								
B19A	**Brinkman Farms**	**87.36**	**37**	P		**P**	**13 08 16.2**	**-0.2**
	baz=88								
234A	**Clairette**	**87.43**	**55**	P		**P**	**13 08 17.3**	**+0.2**
	baz=88,SNR=7.3								
Z33A	**Whitaker Ranch**	**87.44**	**54**	P		**P**	**13 08 17.3**	**+0.3**
	baz=88,SNR=5.8								
X32A	**Elmer**	**87.49**	**53**	P		**P**	**13 08 17.1**	**-0.2**
	baz=88								
E21A	**Keefer Ranch,**	**87.50**	**39**	P		**P**	**13 08 17.3**	**+0.2**
	baz=88								
C20A	**Veseth Ranch,**	**87.53**	**38**	P		**P**	**13 08 17.2**	**0.0**
	baz=88								
536A	**Bastrop**	**87.55**	**57**	P		**P**	**13 08 17.3**	**-0.3**
	baz=88								
EDM	**Edmonton**	**87.56**	**31**	*e*P		**P**	**13 08 17.0**	**-0.1**
134A	**White-Moore Ra**	**87.69**	**55**	P		**P**	**13 08 18.4**	**+0.1**
	baz=88								
KULM	**Kulim**	**87.71**	**276**	*e*P		**P**	**13 08 19.7**	**+0.9**
	comp=Z,20nm,1.2s								
335A	**Moody**	**87.71**	**56**	P		**P**	**13 08 18.7**	**+0.3**
	baz=88								
A19A	**Klindworth Far**	**87.71**	**37**	P		**P**	**13 08 17.8**	**-0.2**
	baz=88								
W32A	**Sentinel**	**87.80**	**52**	P		**P**	**13 08 18.8**	**0.0**
	baz=88								
D21A	**La Casta Ranch**	**87.81**	**39**	P		**P**	**13 08 18.4**	**-0.2**
	baz=88								
Y33A	**Hilltop Ranch,**	**87.83**	**53**	P		**P**	**13 08 18.4**	**-0.5**
	baz=88								
B20A	**Solberg Farm,**	**87.88**	**37**	P		**P**	**13 08 19.2**	**+0.4**
	baz=88								
WHTX	**Lake Whitney,**	**87.96**	**56**	P		**P**	**13 08 19.6**	**+0.1**
	baz=88								
436A	**Wall Ranch, Ga**	**88.02**	**57**	P		**P**	**13 08 20.3**	**+0.4**
	baz=88								
C21A	**Desert Coulee**	**88.12**	**38**	P		**P**	**13 08 19.9**	**-0.1**
	baz=88								
Z34A	**Collier Ranch,**	**88.13**	**54**	P		**P**	**13 08 20.6**	**+0.2**
	baz=88								
X33A	**Lawton**	**88.13**	**53**	P		**P**	**13 08 19.7**	**-0.6**
	baz=88								
F23A	**Volborg**	**88.13**	**41**	P		**P**	**13 08 20.1**	**-0.1**
	baz=88								
K26A	**Motz Farm, Whi**	**88.19**	**44**	P		**P**	**13 08 20.2**	**-0.3**
	baz=88								
135A	**Vickery Place,**	**88.21**	**55**	P		**P**	**13 08 20.1**	**-0.7**
	baz=88								
336A	**Riesel**	**88.21**	**56**	P		**P**	**13 08 20.3**	**-0.4**
	baz=88								
H24A	**Dirks Ranch, A**	**88.22**	**42**	P		**P**	**13 08 20.1**	**-0.5**
	baz=88								
RSSD	**Black Hills**	**88.26**	**42**	*e*P		**P**	**13 08 20.4**	**-0.6**
	comp=Z,6.5nm,0.9s								
SKNT	**Sakolnakorn**	**88.30**	**288**	P		**P**	**13 08 22.3**	**+0.8**
	comp=Z,16nm,0.9s								
SKLT	**Songkhla**	**88.31**	**278**	P		**P**	**13 08 23.5**	**+1.9**
	comp=Z,40nm,1.4s								
D22A	**Cohagen**	**88.34**	**39**	P		**P**	**13 08 21.1**	**+0.1**
	baz=89								
P29A	**Atwood**	**88.39**	**47**	P		**P**	**13 08 21.0**	**-0.5**
	baz=89								
W33A	**Caddo, Fort Co**	**88.39**	**52**	P		**P**	**13 08 21.3**	**-0.2**
	baz=89								
I25A	**Rochford**	**88.41**	**43**	P		**P**	**13 08 21.1**	**-0.6**
	baz=89,SNR=6.1								
B21A	**Ellsworth Farm**	**88.46**	**38**	P		**P**	**13 08 21.2**	**-0.4**
	baz=89								
J26A	**Sides Ranch, S**	**88.53**	**43**	P		**P**	**13 08 21.6**	**-0.4**
	baz=89								
E23A	**Ismay**	**88.56**	**40**	P		**P**	**13 08 21.9**	**-0.2**
	baz=89								
G24A	**Alzada**	**88.57**	**41**	P		**P**	**13 08 21.5**	**-0.8**
	baz=89								
PSI	**Prapat**	**88.59**	**273**	*e*P		**P**	**13 08 22.6**	**-0.5**
	comp=Z,41nm,1.1s								
Z35A	**Perchaven, San**	**88.62**	**54**	P		**P**	**13 08 22.7**	**0.0**
	baz=89								
Q30A	**Quinter**	**88.64**	**48**	P		**P**	**13 08 22.8**	**+0.1**
	baz=89								
X34A	**Smith Ranch, M**	**88.66**	**53**	P		**P**	**13 08 23.1**	**+0.3**
	baz=89								
F24A	**Ekalaka**	**88.79**	**41**	P		**P**	**13 08 23.2**	**0.0**
	baz=89								
P30A	**Selden**	**88.85**	**48**	P		**P**	**13 08 23.4**	**-0.3**
	baz=89								
R31A	**Burdett**	**88.85**	**49**	P		**P**	**13 08 24.3**	**+0.6**
	baz=89								
136A	**Ennis**	**88.87**	**55**	P		**P**	**13 08 23.9**	**+0.1**
	baz=89								
D23A	**Lindsay**	**88.93**	**39**	P		**P**	**13 08 23.9**	**+0.1**
	baz=89								
B22A	**Reddig Ranch S**	**88.99**	**38**	P		**P**	**13 08 24.1**	**0.0**
	baz=89								
438A	**Sam Houston St**	**89.07**	**57**	P		**P**	**13 08 25.5**	**+0.7**
	baz=89								
GYA	**Guiyang**	**89.12**	**298**	⇑*i*P		**P**	**13 08 26.0**	**+0.7**
GYA				pP		**pP**	**13 08 36.8**	**-0.2**
GYA				PP		**PP**	**13 11 58.0**	**+1.9**
GYA				SKS		**SKSac**	**13 18 50.3**	**-2.5**
GYA				S		**S**	**13 19 10.5**	**-1.5**
GYA				sS		**sS**	**13 19 27.8**	**-3.5**
GYA				SS		**SS**	**13 25 06.3**	**-0.3**
GYA				PMZ					
	comp=Z,30nm,1.0s								
GYA				PMZ					
	comp=Z,120nm,5.3s								
GYA				LN					
	comp=Z,560nm,20.2s								
GYA				LE					
	comp=Z,480nm,21.1s								
GYA				LZ					
	comp=Z,540nm,20.0s								
J27A	**Elkhorn Farm,**	**89.20**	**44**	P		**P**	**13 08 25.2**	**-0.1**
	baz=89								
C23A	**Lambert**	**89.24**	**39**	P		**P**	**13 08 25.6**	**+0.3**
	baz=90								
X35A	**Drake**	**89.24**	**54**	P		**P**	**13 08 25.7**	**+0.1**
	baz=89								
237A	**Washetta, Mont**	**89.26**	**56**	P		**P**	**13 08 26.2**	**+0.6**
	baz=90								
GSI	**Gunungsitoli**	**89.42**	**272**	*e*P		**P**	**13 08 26.1**	**-0.7**
	comp=Z,73nm,1.1s								
P31A	**Stockton**	**89.45**	**48**	P		**P**	**13 08 27.3**	**+0.8**
	baz=90								
R32A	**Long Quarter,**	**89.50**	**49**	P		**P**	**13 08 27.5**	**+0.8**
	baz=90								
137A	**Heron Place, G**	**89.52**	**56**	P		**P**	**13 08 27.7**	**+0.8**
	baz=90								
Y36A	**Durant**	**89.59**	**54**	P		**P**	**13 08 27.9**	**+0.7**
	baz=90								
W35A	**Tecumseh**	**89.60**	**53**	P		**P**	**13 08 27.7**	**+0.5**
	baz=90								
B23A	**Brockton**	**89.66**	**38**	P		**P**	**13 08 27.7**	**+0.5**
	baz=90								
G26A	**Maurine**	**89.70**	**42**	P		**P**	**13 08 27.1**	**-0.4**
	baz=90								
SRIT	**Nakonsritamara**	**89.71**	**279**	P		**P**	**13 08 30.1**	**+1.9**
	comp=Z,129nm,1.3s								
X36A	**Centrahoma**	**89.78**	**54**	P		**P**	**13 08 28.7**	**+0.6**
	baz=90								
SLVN	**Son La**	**89.78**	**292**	*e*P		**P**	**13 08 30.0**	**+1.6**
	comp=Z,16nm,1.2s								
Q32A	**Meitler Ranch,**	**89.83**	**49**	P		**P**	**13 08 28.4**	**+0.2**
	baz=90								
Z37A	**Pogue Cattle C**	**89.84**	**55**	P		**P**	**13 08 29.0**	**+0.6**
	baz=90								
PATY	**Pattaya**	**89.86**	**284**	P		**P**	**13 08 31.5**	**+2.6**
	comp=Z,16nm,1.1s								
R33A	**Olander Ranch,**	**89.98**	**50**	P		**P**	**13 08 28.6**	**-0.3**
	baz=90								
KRAB	**Krabi**	**89.98**	**279**	P		**P**	**13 08 31.3**	**+1.9**
	comp=Z,39nm,0.9s								
XAN	**Xi'an**	**89.99**	**306**	P		**P**	**13 08 30.0**	**+0.9**
XAN				PMZ					
	comp=Z,28nm,1.3s								
XAN				PMZ					
	comp=Z,70nm,6.8s								
339A	**Huntington**	**90.02**	**57**	P		**P**	**13 08 29.9**	**+0.7**
	baz=90								
I28A	**Midland**	**90.07**	**43**	P		**P**	**13 08 29.0**	**-0.3**
	baz=90								
W36A	**Wetumka**	**90.09**	**53**	P		**P**	**13 08 29.4**	**-0.1**
	baz=90								
Y37A	**Hugo**	**90.13**	**54**	P		**P**	**13 08 29.8**	**+0.1**
	baz=90								
DGMT	**Dagmar**	**90.13**	**38**	*e*P		**P**	**13 08 29.9**	**+0.5**
	comp=Z,20nm,0.9s								
SYO	**Syowa Base**	**90.24**	**191**	⇑*e*P		P	13 08 27.3	-2.3
SYO	**Syowa Base**	**90.24**	**191**	⇑*ip*P		pP	13 08 40.0	-1.2
E26A	**Carlson Angus**	**90.30**	**41**	P		**P**	**13 08 30.2**	**-0.1**
	baz=90								
CLNS	**Chul'man**	**90.31**	**331**	*e*P		**P**	**13 08 30.4**	**+0.4**
CLNS				pmax		pmax			
	comp=Z,51nm,1.1s								
CLNS				pmax		pmax			
	comp=N,19nm,1.1s								
CLNS				pmax		pmax			
	comp=E,16nm,1.1s								
F27A	**Lemmon**	**90.32**	**41**	P		**P**	**13 08 30.6**	**+0.2**
	baz=90								
H28A	**Mission Ridge**	**90.45**	**43**	P		**P**	**13 08 31.0**	**0.0**
	baz=91								
SNAA	**Sanae**	**90.52**	**177**	P		P	13 08 26.2	-4.7
SNAA	**Sanae**	**90.52**	**177**	P		**P**	**13 08 29.9**	**-1.1**
	comp=E,1.4nm,0.7s,baz=200,slow=5.5,SNR=23								
SNAA	**Sanae**	**90.52**	**177**	P		**P**	**13 08 29.9**	**-1.1**
SNAA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
SNAA	**Sanae**	**90.52**	**177**	*e*P		P	13 08 26.0	-5.0
	comp=Z,4.3nm,0.8s								
SNAA				*ep*P		pP	13 08 39.9	-2.8
T35A	**Sooner Cattle**	**90.53**	**51**	P		**P**	**13 08 31.9**	**+0.4**
	baz=91								
D26A	**Manning**	**90.56**	**40**	P		**P**	**13 08 31.4**	**-0.1**
	baz=91								
INK	**Inuvik**	**90.61**	**14**	P		**P**	**13 08 31.1**	**0.0**
	comp=Z,2.2nm,0.3s,baz=227,slow=8.1,SNR=7.8								
INK	**Inuvik**	**90.61**	**14**	P		**P**	**13 08 31.1**	**0.0**
INK				pmax		pmax			
	comp=Z,2.0nm,0.3s								
HHC	**Hu-ho-hao-te**	**90.62**	**313**	*e*P		**P**	**13 08 32.5**	**+0.5**
HHC				S		S	13 19 20.0	-5.3
HHC				PMZ					
	comp=Z,27nm,0.8s								
HHC				LN					
	comp=Z,120nm,14.0s								
HHC				LE					
	comp=Z,100nm,19.5s								
HHC				LZ					
	comp=Z,110nm,22.8s								
139A	**Bunkhouse Ranc**	**90.62**	**56**	P		**P**	**13 08 32.6**	**+0.6**
	baz=91								
W37A	**Quinton**	**90.70**	**53**	P		**P**	**13 08 32.7**	**+0.4**
	baz=91								
PBKT	**Sadao Pong**	**90.90**	**287**	P		**P**	**13 08 35.0**	**+1.4**
	comp=Z,26nm,1.1s								
X38A	**Whitesboro**	**90.99**	**54**	P		**P**	**13 08 34.0**	**+0.3**
	baz=91								
VNA1	**Neumayer--Stat**	**91.17**	**175**	P		**P**	**13 08 33.5**	**-0.4**
V37A	**Hulbert**	**91.18**	**53**	P		**P**	**13 08 34.6**	**0.0**
	baz=91								
W38A	**Poteau**	**91.37**	**54**	P		**P**	**13 08 36.0**	**+0.6**
	baz=92								
UTTA	**Uttaradit**	**91.64**	**288**	P		**P**	**13 08 38.8**	**+1.7**
	comp=Z,8.4nm,1.0s								
JTS	**JuntasAbangare**	**91.69**	**80**	*e*P		**P**	**13 08 37.4**	**0.0**
JTS				pmax		pmax			
	comp=Z,34nm,1.2s								
JTS	**JuntasAbangare**	**91.69**	**80**	*e*P		**P**	**13 08 38.6**	**+1.2**
	comp=Z,36nm,1.2s								
T37A	**Cheneyville 18**	**91.80**	**52**	P		**P**	**13 08 37.0**	**-0.4**
	baz=92								
MIAR	**Mount Ida**	**91.92**	**54**	P		**P**	**13 08 37.9**	**-0.1**
	baz=92								
MIAR	**Mount Ida**	**91.92**	**54**	*e*P		**P**	**13 08 38.5**	**+0.6**
	comp=Z,16nm,1.3s								
SRDT	**SRDT**	**91.92**	**284**	P		**P**	**13 08 40.9**	**+2.5**
	comp=Z,61nm,1.2s								
KMI	**Kunming**	**92.02**	**296**	P		**P**	**13 08 40.8**	**+1.8**
KMI				pP		**pP**	**13 08 54.0**	**+3.4**
KMI				sP		sP	13 08 59.8	+5.0
KMI				PMZ					
	comp=Z,24nm,1.0s								
KMI				PMZ					
	comp=Z,75nm,5.0s								
KMI				LN					
	comp=Z,100nm,17.8s								
KMI				LE					
	comp=Z,120nm,23.3s								
KMI				LZ					
	comp=Z,180nm,25.1s								
YKA	**Yellowknife Ar**	**92.32**	**23**	P		**P**	**13 08 38.1**	**-1.1**
	comp=Z,3.9nm,1.0s,baz=238,slow=4.2,SNR=12								
YKA	**Yellowknife Ar**	**92.32**	**23**	P		**P**	**13 08 38.1**	**-1.1**
YKA				pmax		pmax			
	comp=Z,4.0nm,1.0s								
A28A	**Rude Farm, Bot**	**92.67**	**39**	P		**P**	**13 08 41.0**	**-0.2**
	baz=93								
LAMP	**Lampang**	**92.72**	**288**	P		**P**	**13 08 43.5**	**+1.5**
	comp=Z,16nm,0.9s								
ECSD	**EROS Data Cent**	**92.99**	**45**	P		**P**	**13 08 42.8**	**0.0**
	baz=93								
ECSD	**EROS Data Cent**	**92.99**	**45**	*e*P		**P**	**13 08 43.6**	**+0.8**
	comp=Z,5.8nm,1.0s								
CD2	**Chengdu**	**93.02**	**301**	P		**P**	**13 08 43.5**	**+0.3**
CD2				pP		**pP**	**13 08 54.5**	**-0.4**
CD2				PP		**PP**	**13 12 26.3**	**-0.4**
CD2				SKS		**SKSac**	**13 19 14.0**	**-0.7**
CD2				S		**S**	**13 19 47.0**	**-0.2**
CD2				sS		**sS**	**13 20 06.0**	**-0.6**
CD2				SS		**SS**	**13 26 03.0**	**+0.5**
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.4s								
A29A	**Manning Farm,**	**93.30**	**39**	P		**P**	**13 08 43.9**	**-0.2**
	baz=94								
CMAR	**Chiang Mai Arr**	**93.32**	**288**	P		**P**	**13 08 46.0**	**+1.2**
	comp=Z,14nm,0.9s,baz=97,slow=2.8,SNR=64								
CMAR				LR		LR	13 47 52.2		

GTA SS **SS** **13 27 24.5 +2.4**
GTA PMZ
comp=Z,7.0nm,0.8s
GTA PMZ
comp=Z,96nm,6.4s
GTA LN
comp=Z,86nm,19.5s
GTA LE
comp=Z,170nm,22.8s
GTA LZ
comp=Z,270nm,23.3s
LPAZ La Paz 99.03 110 LR LR 13 43 59.9
comp=Z,157nm,22.0s,baz=163,slow=29
WMQ Urumqi 108.42 311 Pdif **Pdif** **13 09 52.8 +0.7**
WMQ PP **PP** **13 14 26.0 +3.0**
WMQ S **Sdif** **13 21 53.5 -3.4**
WMQ LN
comp=Z,62nm,9.8s
WMQ LE
comp=Z,100nm,8.7s
WMQ LZ
comp=Z,97nm,17.4s
ZALV Zalesovo Beam 111.08 322 PKiKP **PKiKP** **13 14 01.4 -1.1**
comp=Z,2.3nm,0.7s,baz=135,slow=0.6,SNR=10
ZALV Zalesovo Beam 111.08 322 *i* PKIKP **PKiKP** **13 14 01.4 -1.1**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 112.46 314 *e*PKPdf **PKiKP** **13 14 05.0 -0.5**
KURK Kurchatov 114.90 318 PKIKP PKPdf 13 14 09.3 -0.6
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 114.90 318 PKP PKPdf 13 14 09.2 -0.6
KURBB Kurchatov Arra 114.97 318 PKP PKPdf 13 14 09.2 -0.8
comp=Z,2.9nm,0.7s,baz=89,slow=1.9,SNR=27
KSH Kashi 116.85 306 *e*PKP **PKPdf** **13 14 15.0 +0.8**
KSH sPKP 13 14 31.3
KSH PP **PP** **13 15 28.0 +4.6**
SPITS Spitsbergen Ar 119.41 358 PKP **PKPdf** **13 14 17.6 -0.3**
comp=Z,8.8nm,0.7s,baz=103,slow=4.6,SNR=10.0
SPITS Spitsbergen Ar 119.41 358 PKIKP **PKPdf** **13 14 17.6 -0.3**
SPITS pmax pmax
comp=Z,9.0nm,0.7s
BRVK Borovoye 119.79 321*c* *i*PKIKP **PKPdf** **13 14 18.8 -0.4**
BRVK pmax pmax
comp=Z,17nm,1.0s
BRVK Borovoye 119.79 321 *e*PKPdf **PKPdf** **13 14 18.7 -0.6**
KKAR Karatay Array 120.88 310 *e*PKPdf **PKPdf** **13 14 21.5 -0.2**
KBL Kabul 122.33 300 *e*PKPdf **PKPdf** **13 14 25.4 +0.4**
SOKR Solikamsk 124.86 332*c* *i*PKIKP **PKPdf** **13 14 28.5 -0.2**
SOKR pmax pmax
comp=Z,60nm,1.6s
ARU Arti 125.35 328 *i* PKIKP **PKPdf** **13 14 29.4 -0.4**
ARU Arti 125.35 328 *e*PKPdf **PKPdf** **13 14 29.2 -0.6**
ARCES ARCESS Array B 126.97 352 PKP **PKPdf** **13 14 32.5 -0.1**
comp=Z,14nm,0.7s,baz=38,slow=1.6,SNR=40
ARCES ARCESS Array B 126.97 352 PKIKP **PKPdf** **13 14 32.5 -0.1**
ARCES pmax pmax
comp=Z,14nm,0.7s
ABKAR Akbulak array 127.00 319 *e*PKPdf **PKPdf** **13 14 33.2 0.0**
GEYT Alibeck 130.87 305 PKP **PKPdf** **13 14 41.1 +0.1**
comp=Z,5.4nm,0.8s,baz=90,slow=1.4,SNR=9.5
FIA1 FINESS Array S 134.27 347 *e*PKPdf **PKPdf** **13 14 47.2 +0.7**
FINES FINESS Array B 134.27 347 PKhKP PKPpre 13 14 39.4
comp=Z,0.9nm,0.5s,baz=134,slow=4.0,SNR=3.8
FINES PKP **PKPdf** **13 14 47.2 +0.7**
comp=Z,10nm,0.8s,baz=48,slow=2.1,SNR=23
OBN Obninsk 136.28 335⇑ *i*PKIKP **PKPdf** **13 14 50.4 -0.1**
OBN pmax pmax
comp=Z,45nm,1.2s
VRHR Novokhopersk 136.68 328 *e*PKIKP **PKPdf** **13 14 50.9 -0.5**
VRHR pmax pmax
comp=E,10.0nm,1.0s
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.9s
NB2 NORSAR Subarra136.69 357 PKP PKPpre 13 14 41.2
comp=Z,3.2nm,0.8s,baz=20,slow=4.1
NOA NORSAR Array B136.69 357 PKhKP PKPpre 13 14 40.8
comp=Z,0.8nm,0.7s,baz=16,slow=4.3,SNR=5.0
NOA PKP **PKPdf** **13 14 50.8 -0.4**
comp=Z,2.6nm,0.8s,baz=14,slow=4.1,SNR=7.6
VSU Vasula 136.77 345⇑ *i*PKIKP **PKPdf** **13 14 51.7 +0.4**
VSR Storozhevoye 137.82 330 *e*PKIKP **PKPdf** **13 14 52.6 -0.9**
VSR pmax pmax
comp=Z,20nm,1.3s
VSR pmax pmax
comp=N,8.0nm,1.1s
VSR pmax pmax
comp=E,9.0nm,1.1s
VORD Divnogorie 137.92 329 *e*PKIKP **PKPdf** **13 14 53.6 -0.1**
VORD pmax pmax
comp=N,10.0nm,0.5s
VORD pmax pmax
comp=E,10.0nm,0.5s
VORD pmax pmax
comp=Z,10.0nm,0.5s
NACGM Naroch 139.86 342 *e* PKPpre 13 14 44.0
KBZ Khabaz 139.97 318 PKP **PKPdf** **13 14 59.2 +1.6**
comp=Z,3.5nm,0.9s,baz=144,slow=1.8,SNR=5.4
KBZ Khabaz 139.97 318 PKIKP **PKPdf** **13 14 59.2 +1.6**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 139.99 319 *i* PKIKP **PKPdf** **13 14 57.9 0.0**
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV MLR MLR
comp=Z,90nm,21.0s
GNI Garni 140.28 312 *i* PKIKP **PKPdf** **13 14 59.0 +0.4**
NEY Neytrino 140.31 318 *i* PKIKP **PKPdf** **13 14 59.2 +0.6**
EKA Eskdalemuir Ar 141.82 9 PKhKP PKPpre 13 14 53.6
comp=Z,0.6nm,0.5s,baz=333,slow=2.5,SNR=3.5
EKA PKP **PKPdf** **13 15 01.5 +0.8**
comp=Z,1.4nm,0.7s,baz=338,slow=1.7,SNR=4.2
BSD Bornholm Skovb 142.22 352 *i* P PKPpre 13 14 52.4
comp=Z,16nm,1.1s
BSD Bornholm Skovb 142.22 352 *e*PKHKP PKPpre 13 14 52.4
BSD pmax pmax
comp=Z,16nm,1.1s
AKASG Malin Array Be 142.52 336 PKhKP PKPpre 13 14 57.3
comp=Z,9.3nm,0.8s,baz=32,slow=2.3,SNR=12
AKBB Malin Array Si 142.52 336 *e*PKPdf PKPpre 13 14 57.4
KIEV Kiev 142.53 336 *i* PKIKP **PKPdf** **13 15 00.7 -1.4**
KIEV Kiev 142.53 336 *e*PKPdf PKPpre 13 14 57.5
AK01 Malin Array Si 142.54 336 *e*PKPdf PKPpre 13 14 57.8
RAYN Ar Rayn 143.19 286 *e*PKPdf **PKPdf** **13 15 04.1 0.0**
BSEG Bad Segeberg 143.83 356 *e*PKPbc PKPab 13 15 00.4 -0.8
BEL Belsk 144.23 345 *e*PKP PKPbc 13 15 03.2 0.0
BEL Belsk 144.23 345 *e*PKIKP PKPbc 13 15 03.2 0.0
RUE Ruedersdorf 144.94 352 *e*PKPdf PKPbc 13 15 05.6 +0.2
LVV L'vov 145.10 340⇓ *i*PKIKP **PKPbc** **13 15 05.8 -0.3**
MALT Malatya 145.50 313⇑PKIKP **PKPab** **13 15 09.1 +1.0**
MALT Malatya 145.50 313⇑ *i*P **PKPab** **13 15 09.1 +1.0**
IBBN Ibbenburen 145.56 359 *e*PKPbc **PKPdf** **13 15 05.3 -2.0**
KIS Kishinev 145.60 333 *i* P **PKPdf** **13 15 07.0 -0.5**
KIS XM 13 15 08.5
comp=Z,200nm,1.5s
KIS Kishinev 145.60 333 *e*PKP2 **PKPdf** **13 15 07.0 -0.5**
KIS pmax pmax
comp=Z,200nm,1.5s
KWP Kalwaria Pacla 145.68 341 *e*PKP **PKPab** **13 15 08.3 0.0**
KWP Kalwaria Pacla 145.68 341 *e*PKIKP **PKPab** **13 15 08.4 +0.1**
CLZ Clausthal 145.91 356 *e*PKPbc **PKPdf** **13 15 06.6 -1.4**
WTSB Winterswijk 145.92 360 *e*PKP **PKPbc** **13 15 08.8 +0.2**
comp=Z,134nm,0.9s
OJC Ojcow 145.96 345 *e*PKP **PKPdf** **13 15 08.4 +0.3**
OJC Ojcow 145.96 345 *e*PKIKP **PKPdf** **13 15 08.4 +0.3**
KSP Ksiaz 146.14 349 *e*PKP **PKPab** **13 15 10.0 +0.1**
KSP Ksiaz 146.14 349 *e*PKP2 **PKPab** **13 15 10.1 +0.1**
CLL Collm 146.19 353 *e*PKPbc **PKPdf** **13 15 07.0 -1.4**
CLL Collm 146.19 353⇑ *i*PKPbc **PKPbc** **13 15 09.6 +0.2**
comp=Z,223nm,1.1s
CLL Collm 146.19 353⇑ *i*PKP2 **PKPbc** **13 15 09.6 +0.2**
CLL pmax pmax
comp=Z,223nm,1.1s
STHS Stebnicka Huta 146.31 343 *e*PKP2 **PKPab** **13 15 10.5 -0.2**
STHS Stebnicka Huta 146.31 343 *e*PKP **PKPab** **13 15 10.5 -0.2**
NEUB Neuenburg 146.42 354 *e*PKPbc **PKPdf** **13 15 08.0 -0.8**
KOLS Kolonicke sedl 146.44 341 *e*PKIKP **PKPdf** **13 15 09.4 +0.5**
KOLS Kolonicke sedl 146.44 341 *e*PKP **PKPdf** **13 15 09.4 +0.5**
BUG Bochum--Univer 146.44 359 *e*PKPbc **PKPdf** **13 15 07.8 -1.0**
BRG Berggiesshubel 146.49 352 *i* PKP **PKPdf** **13 15 09.7 +0.8**
comp=Z,117nm,1.3s
BRG PP **PP** **13 18 37.0 +4.3**
comp=N,99nm,22.2s
comp=E,71nm,21.0s
comp=Z,127nm,22.6s
BRG Berggiesshubel 146.49 352 *e*PKPbc **PKPdf** **13 15 08.2 -0.7**
BRG Berggiesshubel 146.49 352 *i* PKIKP **PKPdf** **13 15 09.7 +0.8**
BRG 13 18 37.0
BRG pmax pmax
comp=Z,117nm,1.3s
BRG MLR MLR
comp=N,99nm,22.2s
BRG MLR MLR
comp=E,71nm,21.0s
BRG MLR MLR
comp=Z,127nm,22.6s
UPC Upice 146.51 349 *e*PKP **PKPbc** **13 15 09.9 -0.6**
UPC *ex* x 13 15 11.3
UPC Upice 146.51 349 *e*PKIKP **PKPbc** **13 15 09.9 -0.6**
UPC *e* 13 15 11.3
FBE Freiberg 146.52 352 *e*PKPbc **PKPdf** **13 15 08.7 -0.3**
BUR08 Bucovina Ar. S 146.55 337 *e*PKPbc **PKPdf** **13 15 09.8 +0.5**
BURAR Bucovina Array 146.56 337⇓PKP2 **PKPab** **13 15 11.6 -0.3**
BURAR Bucovina Array 146.56 337⇓ *i*P **PKPab** **13 15 11.6 -0.3**
NIE Niedzica 146.56 344 *e*PKP **PKPdf** **13 15 10.0 +0.8**
NIE Niedzica 146.56 344 *e*PKIKP **PKPdf** **13 15 10.0 +0.8**
DPC Dobruska-Polom 146.60 349 *e*PKP **PKPdf** **13 15 09.9 +0.7**
DPC *ex* x 13 15 11.8
DPC *ep*PKP **pPKPdf** **13 15 26.1 +4.9**
DPC Dobruska-Polom 146.60 349 *e*PKIKP **PKPdf** **13 15 09.9 +0.7**
DPC *e* 13 15 11.8
DPC *e* 13 15 26.1
UZH Uzhgorod 146.70 341⇓ *i*PKP2 **PKPbc** **13 15 11.3 +0.3**
OKC Ostrava-Krasne 146.71 346 *e*PKP **PKPbc** **13 15 11.7 +0.7**
OKC Ostrava-Krasne 146.71 346 *e*PKP2 **PKPbc** **13 15 11.7 +0.7**
PVCC Panska Ves 146.73 351 *e*PKP **PKPbc** **13 15 10.5 -0.6**
PVCC *ex* x 13 15 11.6
PVCC *es*PKP 13 15 31.4
PVCC Panska Ves 146.73 351 *e*PKIKP **PKPbc** **13 15 10.5 -0.6**
PVCC *e* 13 15 11.6
KRLC Kraliky 146.78 348 *e*PKP **PKPdf** **13 15 10.2 +0.7**
KRLC *ex* x 13 15 11.9
KRLC *ex* x 13 15 16.7
KRLC *ep*PKP **pPKPdf** **13 15 26.3 +4.8**
KRLC Kraliky 146.78 348 *e*PKIKP **PKPdf** **13 15 10.2 +0.7**
KRLC *e* 13 15 11.9
KRLC *e* 13 15 16.7
KRLC *e* 13 15 26.3
TESR Tescani 146.90 334⇓ *i*P **PKPbc** **13 15 11.9 +0.2**
MORC Moravsky Berou 146.90 347⇑PKIKP **PKPdf** **13 15 10.5 +0.7**
MORC Moravsky Berou 146.90 347⇑ *i*P **PKPdf** **13 15 10.5 +0.7**
MORC Moravsky Berou 146.90 347 *e*PKPbc **PKPdf** **13 15 10.3 +0.6**
UBBA Unterbreizbach 146.95 356 *e*PKPbc **PKPdf** **13 15 09.5 -0.1**
TLCR 146.97 331⇑PKP2 **PKPbc** **13 15 12.3 +0.4**
TLCR 146.97 331⇑ *i*P **PKPbc** **13 15 12.3 +0.4**
MOX Moxa 146.99 354 *e*PKPbc **PKPdf** **13 15 09.7 -0.1**
UCC Uccle 147.04 3 PKPbc **PKPbc** **13 15 12.4 +0.5**
BEBN Eben Emael 147.08 1 PKPbc **PKPbc** **13 15 12.2 +0.2**
PLN Plauen 147.09 355 *e*PKPbc **PKPdf** **13 15 11.1 +0.1**
WERD Werda 147.11 353 *e*PKPbc **PKPdf** **13 15 10.2 +0.1**
HGN Heimansgroeve 147.12 1 *e*PKP **PKPbc** **13 15 12.3 +0.2**
comp=Z,106nm,1.4s
TANN Tannenbergstha 147.13 353 *e*PKPbc **PKPdf** **13 15 10.3 +0.2**
BMR Baia Mare 147.13 339⇑PKP2 **PKPab** **13 15 13.5 -0.4**
BMR Baia Mare 147.13 339⇑ *i*P **PKPab** **13 15 13.5 -0.4**
MENF Mencas 147.14 5 PKP **PKPdf** **13 15 10.1 +0.1**
GUNZ Gunzen 147.19 353 *e*PKPbc **PKPdf** **13 15 10.5 +0.3**
PRA Prague 147.20 351 *e*PKP **PKPbc** **13 15 13.1 +0.7**
PRA *es*PKP 13 15 34.4
PRA Prague 147.20 351 *e*PKP2 **PKPbc** **13 15 13.1 +0.7**
PRU Pruhonice 147.26 350 *e*PKP **PKPbc** **13 15 13.1 +0.5**
PRU *ex* x 13 15 15.6
PRU *ep*PKP pPKPdf 13 15 29.5 +7.2
PRU AMS AMS 14 19 50.0
comp=Z,200nm,19.6s
PRU Pruhonice 147.26 350 *e*PKP2 **PKPbc** **13 15 13.1 +0.5**
PRU MLR MLR
comp=Z,200nm,19.6s
WERN Wernitzgruen 147.26 353 *e*PKPbc **PKPdf** **13 15 10.9 +0.6**
MEM Membach 147.28 1 PKPbc **PKPbc** **13 15 13.0 +0.4**
CFR Carcaliu 147.29 331⇓PKP2 **PKPbc** **13 15 13.2 +0.4**
CFR Carcaliu 147.29 331⇓ *i*P **PKPbc** **13 15 13.2 +0.4**
GOPC GO Pecny, Ondr 147.29 350 *e*PKP **PKPdf** **13 15 11.1 +0.7**
GOPC *ex* x 13 15 13.1
NKC Novy Kostel 147.31 353 *e*PKP **PKPdf** **13 15 11.0 +0.6**
NKC *ex* x 13 15 13.2
NKC *ex* x 13 15 18.0
NKC *es*PKP 13 15 33.3
NKC Novy Kostel 147.31 353 *e*PKIKP **PKPdf** **13 15 11.0 +0.6**
NKC *e* 13 15 13.2
NKC *e* 13 15 18.0
SNF Seneffe 147.33 3 PKPbc **PKPbc** **13 15 12.8 +0.1**
ARCR ARCALIA 147.33 337⇓ *i*P **PKPbc** **13 15 13.6 +0.7**
VRI Vrincioaia 147.38 333⇑PKP2 **PKPbc** **13 15 13.7 +0.6**
VRI Vrincioaia 147.38 333⇑ *i*P **PKPbc** **13 15 13.7 +0.6**
PLOR Plostina 147.43 334⇑PKP2 **PKPbc** **13 15 13.2 0.0**
PLOR Plostina 147.43 334⇑ *i*P **PKPbc** **13 15 13.2 0.0**
BCLA Clavier 147.45 1 PKPbc **PKPab** **13 15 14.2 -0.8**
VRAC Vranov 147.54 348 PKPbc **PKPbc** **13 15 13.4 -0.1**
comp=Z,24nm,1.0s,baz=8.9,slow=2.0,SNR=29
VRAC Vranov 147.54 348⇑PKP2 **PKPbc** **13 15 14.4 +1.0**
VRAC Vranov 147.54 348⇑ *i*P **PKPbc** **13 15 14.4 +1.0**
MANZ Manzenberg 147.59 353 *e*PKPbc **PKPdf** **13 15 11.6 +0.7**
TNS Taunus Mts 147.63 358 *e*PKPbc **PKPdf** **13 15 11.4 +0.4**
TIRR Tirgusor 147.71 330⇓PKP2 **PKPbc** **13 15 14.4 +0.4**
TIRR Tirgusor 147.71 330⇓ *i*P **PKPbc** **13 15 14.4 +0.4**
TIRR Tirgusor 147.71 330 *e*PKPdf **PKPdf** **13 15 10.9 -0.2**
TIRR *e*PKPbc **PKPbc** **13 15 13.7 -0.3**
TIRR *e*PKPab **PKiKP** **13 15 16.1 +0.1**
DOU Dourbes 147.75 2 PKPbc **PKPbc** **13 15 14.3 +0.4**
HARR Harsova 147.76 331⇑PKP2 **PKPbc** **13 15 14.9 +0.8**
HARR Harsova 147.76 331⇑ *i*P **PKPbc** **13 15 14.9 +0.8**
TREC Trest 147.77 349 *e*PKP **PKPdf** **13 15 11.6 +0.4**
TREC *ex* x 13 15 14.3
TREC *ex* x 13 15 32.8
TREC AMS AMS 14 21 20.0
comp=Z,200nm,23.8s
TREC Trest 147.77 349 *e*PKIKP **PKPdf** **13 15 11.6 +0.4**
TREC *e* 13 15 14.3
TREC MLR MLR
comp=Z,200nm,23.8s
ROTZ Rotzenmuhle 147.80 353 *e*PKPbc **PKPdf** **13 15 12.3 +1.1**
DOPR Dopca 147.86 335⇓ *i*P **PKPab** **13 15 18.2 +1.3**
CJR Cluj-Napoca 147.92 338⇑PKP2 **PKPbc** **13 15 15.2 +0.6**
CJR Cluj-Napoca 147.92 338⇑ *i*P **PKPbc** **13 15 15.2 +0.6**
BR131 Keskin Array S 147.96 319 *e*PKPdf **PKPdf** **13 15 10.9 -1.1**
BR131 *e*PKPbc **PKPbc** **13 15 15.3 +0.2**
BR131 *e*PKPab **PKPab** **13 15 17.4 -0.3**
BRTR Keskin Array B 147.96 319 PKP **PKPdf** **13 15 11.8 -0.1**
comp=Z,22nm,0.8s,baz=117,slow=1.7,SNR=26
BRTR PKPbc **PKPbc** **13 15 15.4 +0.4**
comp=Z,22nm,0.8s,baz=169,slow=0.9,SNR=70
BRTR Keskin Array B 147.96 319 PKIKP **PKPdf** **13 15 11.9 -0.1**
BRTR 13 15 15.4
BRTR pmax pmax
comp=Z,22nm,0.8s
BRTR pmax pmax
comp=Z,22nm,0.8s
GRF Grafenberg Arr 147.97 354 *e*PKPbc **PKPdf** **13 15 12.8 +1.3**
GRFO Grafenberg 147.97 354 *e*PKPdf **PKPdf** **13 15 10.8 -0.7**
GRFO *e*PKPbc **PKPbc** **13 15 15.1 +0.5**
GRFO *e*PKPab **PKPab** **13 15 17.2 +0.1**
PSZ Piszkesteto 148.05 343⇑ *e*SKSac **PKPbc** **13 15 15.5 +0.6**
ISR Istrita 148.05 333⇑PKP2 **PKPbc** **13 15 15.8 +0.8**
ISR Istrita 148.05 333⇑ *i*P **PKPbc** **13 15 15.8 +0.8**
SMOL Smolenice 148.12 346 *e*PKP2 **PKPbc** **13 15 16.4 +1.4**
SMOL Smolenice 148.12 346 *e*PKP **PKPbc** **13 15 16.4 +1.4**
DRGR 148.17 339⇑PKP2 **PKPbc** **13 15 15.4 +0.1**
DRGR 148.17 339⇑ *i*P **PKPbc** **13 15 15.4 +0.1**
WLF Walferdange 148.22 0 PKPbc **PKPbc** **13 15 16.2 +1.0**
WLF Walferdange 148.22 0 *e*PKPbc **PKPbc** **13 15 13.7 -1.5**
WLF Walferdange 148.22 0 *e*PKPdf **PKPdf** **13 15 11.8 -0.1**
WLF *e*PKPbc **PKPbc** **13 15 16.2 +1.0**
WLF *e*PKPab **PKPab** **13 15 18.2 0.0**
KHC Kasperske Hory 148.24 351 *e*PKP **PKPdf** **13 15 12.6 +0.6**
KHC *ex* x 13 15 15.8
KHC *ex* x 13 15 19.4
KHC AMS AMS 14 20 20.0
comp=Z,200nm,22.3s
KHC Kasperske Hory 148.24 351 *e*PKIKP **PKPdf** **13 15 12.6 +0.6**
KHC *e* 13 15 15.8
KHC *e* 13 15 19.4
KHC MLR MLR
comp=Z,200nm,22.3s
KHC Kasperske Hory 148.24 351 *e*PKPdf **PKPdf** **13 15 11.6 -0.4**
KHC *e*PKPbc **PKPbc** **13 15 15.3 0.0**
KHC *e*PKPab **PKPab** **13 15 18.0 -0.4**
MSAB Monastry St. A 148.26 330⇓ *i*P **PKPbc** **13 15 16.4 +0.9**
SECR 148.32 333⇓ *i*P **PKPbc** **13 15 16.3 +0.7**
WET Wettzell 148.33 352 *e*PKPbc **PKPdf** **13 15 13.6 +1.5**
PSN Preselentsi 148.40 329⇓PKP2 **PKPbc** **13 15 15.6 -0.2**
PSN Preselentsi 148.40 329⇓ *i*P **PKPbc** **13 15 15.6 -0.2**
VOIR 148.43 335⇓PKIKP **PKPdf** **13 15 13.4 +0.9**
VOIR 148.43 335⇓ *i*P **PKPdf** **13 15 13.4 +0.9**
GEC2 GERESS Array S 148.50 351 *e*PKPbc **PKPdf** **13 15 14.0 +1.5**
GERES GERESS Array B 148.50 351 PKPbc **PKPbc** **13 15 16.4 +0.3**
comp=Z,18nm,0.8s,baz=24,slow=2.7,SNR=63
GERES GERESS Array B 148.50 351 PKP2 **PKPbc** **13 15 16.4 +0.3**
GERES pmax pmax
comp=Z,18nm,0.9s
BUD Budapest 148.68 344⇑ *e*SKSdf **PKPbc** **13 15 17.0 +0.6**
DEV Deva 148.88 338⇑PKP2 **PKPbc** **13 15 18.1 +1.1**
DEV Deva 148.88 338⇑ *i*P **PKPbc** **13 15 18.1 +1.1**
LANF Langenberg 148.89 358 PKP **PKPdf** **13 15 13.2 +0.2**
PKSG 148.93 344 *e*SKSdf **PKPbc** **13 15 17.8 +0.7**
PKSN Nyarlorinc 148.98 342⇑ *e* **PKPbc** **13 15 17.4 +0.2**
SIRR Síria 148.98 339⇑ *i*P **PKPbc** **13 15 18.0 +0.7**
CSKK Cs˙‡kako 148.99 344⇑ *e*SKSdf **PKPbc** **13 15 17.7 +0.4**
CONA Conrad Observa 149.01 348⇑ *i*PKPdf **PKPdf** **13 15 13.4 +0.1**
comp=Z,11nm,1.0s
CONA *i* PKiKP **PKiKP** **13 15 18.2 -0.5**
comp=Z,88nm,1.2s,SNR=16
PKS7 Kunszentmiklos 149.04 343⇓ *e* **PKPbc** **13 15 18.3 +0.9**
SOP Sopron 149.10 347⇓ *e*SKSdf **PKPdf** **13 15 13.8 +0.5**
ASF Jabal al Asfar 149.13 303 PKPbc **PKPbc** **13 15 18.5 +0.3**
comp=Z,12nm,0.8s,baz=29,slow=2.1,SNR=19
ASF Jabal al Asfar 149.13 303 PKP2 **PKPbc** **13 15 18.5 +0.3**
ASF pmax pmax
comp=Z,13nm,0.8s
PRD Provadia 149.14 330⇑PKP2 **PKPbc** **13 15 18.8 +1.1**
PRD Provadia 149.14 330⇑ *i*P **PKPbc** **13 15 18.8 +1.1**
PRD Provadia 149.14 330 *e*P **PKPbc** **13 15 18.7 +0.4**
PKST T˙s 149.15 345⇑ *e*SKSdf **PKPbc** **13 15 18.0 +0.3**
GZR Gura Zlata 149.34 337⇑ *i*P **PKPbc** **13 15 18.2 +0.1**
MOA Molln 149.38 350⇑ *i*PKPdf **PKPdf** **13 15 13.6 -0.2**
comp=Z,6.4nm,1.1s
MOA ⇑ *i*PKiKP **PKPbc** **13 15 18.5 +0.3**
comp=Z,26nm,1.0s,SNR=9.7
FUR Furstenfeldbru 149.48 354 *e*PKPbc **PKPbc** **13 15 16.4 -2.1**
BFO Black Forest 149.53 358 *e*PKPbc **PKPdf** **13 15 16.4 +2.3**
BFO Black Forest 149.53 358 *e*PKPdf **PKPdf** **13 15 14.3 +0.2**
BFO *e*PKPbc **PKPbc** **13 15 18.6 0.0**
BFO *e*PKPab **PKPab** **13 15 23.6 +0.1**
PKS2 Kecel 149.54 343⇓ *e* **PKPbc** **13 15 19.7 +1.1**
BZS Buzias 149.56 339⇓PKP2 **PKPbc** **13 15 18.9 +0.2**
BZS Buzias 149.56 339⇓ *i*P **PKPbc** **13 15 18.9 +0.2**
THEF They Montfort 149.66 1 PKP **PKPdf** **13 15 14.6 +0.3**
ECH Echery 149.67 359 PKP **PKPdf** **13 15 14.4 +0.1**
ECH Echery 149.67 359 *e*PKPdf **PKPdf** **13 15 13.9 -0.4**
ECH *e*PKPbc **PKPbc** **13 15 19.1 +0.1**
ECH *e*PKPab **PKPab** **13 15 24.3 +0.2**
PKS9 Tamasi 149.71 344 *e*SKSdf **PKPbc** **13 15 19.2 +0.2**
ARSA Arzberg 149.72 348⇑ *i*PKPdf **PKPdf** **13 15 14.3 -0.1**
comp=Z,7.3nm,1.1s
ARSA ⇑ *i*PKiKP **PKPbc** **13 15 19.0 -0.1**
comp=Z,22nm,1.1s,SNR=7.2
SZH Strazhica 149.78 331 *e*P **PKPbc** **13 15 19.2 -0.1**
ISK Istanbul-Kandi 149.82 325 P **PKPbc** **13 15 19.6 +0.1**
ISK Istanbul-Kandi 149.82 325 P **PKPbc** **13 15 19.6 +0.1**
PKSM Moragy 149.95 343⇓PKIKP **PKPdf** **13 15 14.9 +0.1**
PKSM Moragy 149.95 343⇓ *i*P **PKPdf** **13 15 14.9 +0.1**
PKSM Moragy 149.95 343⇓ *e*SKSdf **PKPdf** **13 15 14.8 0.0**
MMAI Mount Meron Ar 149.99 306 PKPbc **PKPbc** **13 15 21.1 +0.8**
comp=Z,34nm,0.7s,baz=69,slow=4.8,SNR=32
MOF Molkenrain 150.03 359 PKP **PKPdf** **13 15 14.4 -0.6**
JMB Yambol 150.08 329 P **PKPbc** **13 15 20.6 +0.4**
JMB Yambol 150.08 329⇓PKP2 **PKPbc** **13 15 20.5 +0.4**
JMB Yambol 150.08 329⇓ *i*P **PKPbc** **13 15 20.5 +0.4**
JMB Yambol 150.08 329 *e*P **PKPbc** **13 15 20.2 +0.1**
RETA Reutte 150.20 354⇑ *i*PKPdf **PKPdf** **13 15 14.9 -0.3**
comp=Z,5.1nm,1.3s
RETA *i* PKiKP **PKPbc** **13 15 20.6 +0.2**
comp=Z,35nm,1.0s,SNR=16
WATA Walderalm 150.26 353⇓ *i*PKPdf **PKPdf** **13 15 15.6 +0.2**
comp=Z,3.0nm,0.6s
WATA ⇑ *i*PKiKP **PKPbc** **13 15 20.7 +0.1**
comp=Z,36nm,1.0s,SNR=6.5
KBA Koelnbreinsper 150.28 351⇓ *i*PKPdf **PKPdf** **13 15 15.0 -0.5**
comp=Z,11nm,1.1s,SNR=14
KBA ⇑ *i*PKPbc **PKPbc** **13 15 20.0 -0.6**
comp=Z,20nm,0.7s
MOTA Moosalm 150.31 354⇓ *i*PKPdf **PKPdf** **13 15 15.5 0.0**
comp=Z,5.0nm,0.7s
MOTA *i* PKiKP **PKPbc** **13 15 21.1 +0.4**
comp=Z,56nm,1.0s,SNR=12
WTTA Wattenberg 150.33 353⇓ *i*PKPdf **PKPdf** **13 15 15.9 +0.3**
comp=Z,6.0nm,0.6s
WTTA *i* PKiKP **PKPbc** **13 15 21.0 +0.2**
comp=Z,59nm,0.9s,SNR=12
SOKA Soboth 150.37 348 *i* PKPdf **PKPdf** **13 15 15.1 -0.4**
comp=Z,12nm,1.3s,SNR=26
SOKA ⇑ *i*PKiKP **PKPbc** **13 15 20.7 -0.1**
comp=Z,49nm,1.2s
PERS Pernice 150.39 348 *e*PKPdf **PKPdf** **13 15 14.9 -0.6**
PERS *e*PKPbc **PKPbc** **13 15 20.4 -0.4**
EDRB Edirne 150.47 328 P **PKPdf** **13 15 15.1 -0.6**
EDRB Edirne 150.47 328 P **PKPdf** **13 15 15.1 -0.6**
DAVA Damuels 150.48 355⇓ *i*PKPdf **PKPdf** **13 15 16.2 +0.4**
comp=Z,4.7nm,0.9s
DAVA *i* PKiKP **PKPbc** **13 15 21.5 +0.4**
comp=Z,73nm,1.1s,SNR=18
LOMF Lomont 150.54 360 PKP **PKPdf** **13 15 17.1 +1.3**
OBKA Obir 150.62 349 *i* PKiKP **PKPbc** **13 15 21.3 -0.1**
comp=Z,11nm,0.7s,SNR=6.0
FETA Feichten 150.67 354⇑ *i*PKPdf **PKPdf** **13 15 16.1 0.0**
comp=Z,18nm,1.0s,SNR=29
FETA ⇑ *i*PKiKP **PKiKP** **13 15 22.1 -0.2**
comp=Z,48nm,0.9s
MPEP Malo Peshtene 150.67 334 *e*P **PKPbc** **13 15 21.5 0.0**
MYKA Terra Mystica 150.67 350⇑ *i*PKPdf **PKPdf** **13 15 15.3 -0.7**
comp=Z,7.5nm,1.0s
MYKA *i* PKPbc **PKPbc** **13 15 21.0 -0.5**
comp=Z,22nm,0.7s,SNR=8.4
CSS Prodhromos 150.69 311 P **PKPbc** **13 15 21.5 -0.3**
CSS Prodhromos 150.69 311 *e*PKPdf **PKPdf** **13 15 15.4 -0.9**
CSS *e*PKPbc **PKPbc** **13 15 21.6 -0.2**
ABTA Abfaltersbach 150.72 352 *i* PKPdf **PKPdf** **13 15 15.9 -0.2**
comp=Z,17nm,1.0s,SNR=34
ABTA ⇑ *i*PKiKP **PKPbc** **13 15 21.4 -0.2**
comp=Z,89nm,1.1s
DAVOX Davos/Dischmat 150.98 355 PKP **PKPdf** **13 15 17.1 +0.5**
comp=Z,5.9nm,0.8s,baz=138,slow=2.4,SNR=8.9
DAVOX PKPbc **PKiKP** **13 15 22.8 -0.1**
comp=Z,37nm,0.8s,baz=4.6,slow=7.6,SNR=32
DAVOX Davos/Dischmat 150.98 355 PKIKP **PKPdf** **13 15 17.1 +0.5**
DAVOX 13 15 22.8
DAVOX pmax pmax
comp=Z,6.0nm,0.9s
DAVOX pmax pmax
comp=Z,37nm,0.8s
ISP Isparta 151.04 318⇓PKIKP **PKPbc** **13 15 22.7 0.0**
ISP Isparta 151.04 318⇓ *i*P **PKPbc** **13 15 22.7 0.0**
ISP Isparta 151.04 318 *e*PKPbc **PKPbc** **13 15 22.4 -0.2**
LJU Ljubljana 151.08 348 *e*PKPdf **PKPdf** **13 15 17.0 +0.4**
LJU *e*PKPbc **PKPbc** **13 15 22.3 0.0**
PGB Panagyurishte 151.14 332 *e*P **PKPbc** **13 15 22.8 +0.1**
KDZ Kurdzhali 151.27 330⇑PKIKP **PKPbc** **13 15 23.4 +0.4**
KDZ Kurdzhali 151.27 330⇑ *i*P **PKPbc** **13 15 23.4 +0.4**
TUE Stuetta 151.32 356 *e*PKPdf **PKPdf** **13 15 17.4 +0.2**
TUE *e*PKPbc **PKPbc** **13 15 23.2 0.0**
TUE *e*PKPab **PKPab** **13 15 30.7 -0.6**
BOJS Bojanci 151.45 347 *e*PKPdf **PKPdf** **13 15 17.2 +0.1**
BOJS *i* PKPbc **PKiKP** **13 15 23.6 0.0**
DIVS Divibare 151.45 339 P **PKPdf** **13 15 16.1 -1.2**
DIVS Divibare 151.45 339⇓ *i*P **PKPbc** **13 15 23

MMB	**Musomiste**	**152.10**	**332**	⇑PKIKP	**PKPbc**	**13 15 24.8**	**-0.1**
MMB	**Musomiste**	**152.10**	**332**	⇑*iP*	**PKPbc**	**13 15 24.8**	**-0.1**
MMB	**Musomiste**	**152.10**	**332**	*eP*	**PKPbc**	**13 15 24.3**	**-0.6**
KKB	**Krupnik**	**152.16**	**333**	*eP*	**PKPbc**	**13 15 24.8**	**-0.2**
NVR	**Nevrokopi**	**152.23**	**331**	P	**PKPdf**	**13 15 17.9**	**-0.6**
NVR	**Nevrokopi**	**152.23**	**331**	P	**PKPdf**	**13 15 17.9**	**-0.6**
LBL	**Lubilhac**	**152.52**	**5**	PKP	**PKPdf**	**13 15 19.8**	**+1.0**
SSB	**Saint Sauveur**	**152.56**	**3**	PKP	**PKPdf**	**13 15 19.4**	**+0.5**
SSB	**Saint Sauveur**	**152.56**	**3**	*e*PKPdf	**PKPdf**	**13 15 19.3**	**+0.5**
SSB				*e*PKPbc	**PKiKP**	**13 15 26.2**	**+0.1**
SSB				*e*PKPab	**PKPab**	**13 15 36.5**	**+0.3**
LIA	**Limnos Island**	**152.71**	**328**	P	**PKPbc**	**13 15 25.7**	**-0.5**
BNI	**Bardonecchia**	**152.84**	**360**	*e*PKPdf	**PKPdf**	**13 15 20.6**	**+1.2**
BNI				*e*PKPbc	**PKPbc**	**13 15 26.5**	**-0.1**
BNI				*e*PKPab	**PKPab**	**13 15 38.6**	**+1.1**
TOUF	**Mont Tournerai**	**153.87**	**359**	PKP	**PKPdf**	**13 15 21.0**	**0.0**
AUTN	**L'Aution**	**153.88**	**359**	PKP	**PKPdf**	**13 15 22.6**	**+1.6**
SAOF	**Saorge**	**153.89**	**358**	PKP	**PKPdf**	**13 15 20.8**	**0.0**
MVIF	**Mont Vial**	**153.99**	**359**	PKP	**PKPdf**	**13 15 20.9**	**-0.2**
CALN	**Calern**	**154.14**	**359**	PKP	**PKPdf**	**13 15 20.3**	**-1.0**
LEPF	**PUYLOUBIER**	**154.36**	**1**	PKP	**PKPdf**	**13 15 22.0**	**+0.6**
ESDC	**Sonseca Array**	**156.38**	**21**	PKPab	**PKPab**	**13 15 53.0**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=321,slow=3.8,SNR=7.9						
DBIC	**Dimbokro**	**164.30**	**133**	PKP	**PKPdf**	**13 15 32.9**	**-0.9**
	comp=Z,9.1nm,1.3s,baz=180,slow=2.0,SNR=3.6						
DBIC	**Dimbokro**	**164.30**	**133**	PKIKP	**PKPdf**	**13 15 32.9**	**-0.9**
DBIC				pmax	pmax		
	comp=Z,9.0nm,1.3s						
TORD	**Torodi Ar. Bea**	**173.41**	**134**	PKP	**PKPdf**	**13 15 38.0**	**-1.6**
	comp=Z,6.2nm,1.0s,baz=252,slow=2.9,SNR=21						
TORD				PKPab	**PKPab**	**13 17 07.4**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=253,slow=3.5,SNR=5.4						

*ISCJB **29** 13:01:06.3±0.9, 28.°58S±0.°04×71.°76W±0.°10, h29km, mb3.5/2, Error ellipse: s-maj=12.3km s-min=6.2km az=174.7*
*SJA **29** 13:01:07.5±0.6, 28.°75S×71.°80W, h40km, ML3.8, MW3.6*
*IDC **29** 13:01:11.4±3.7, 28.°69S×71.°42W, h59km±31km, mb3.3/2, mb1 3.6/4, mb1mx3.4/29, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=50.2km s-min=20.4km az=64.0*
ISC 29 13:01:08.2±1.0, **28.°65S**±0.°06×**71.°69W**±0.°10, **h29**km, **n32**, σ1ᵍ**50**/27, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VCA	**Vinchina**	**3.06**	**93**	*eP*	**Pn**	**13 01 57.2**	**+2.4**
VCA				*eS*	**Sn**	**13 02 34.0**	**+3.4**
VCA				IAML		13 02 44.7	
	comp=Z,372nm,0.5s						
AMOG	**MOGNA**	**3.60**	**130**	*eP*	**Pn**	**13 02 03.4**	**+1.3**
RTLS	**Leoncito**	**3.76**	**147**	*eP*	**Pn**	**13 02 06.4**	**+1.9**
RTLL	**Cerro Villicun**	**3.86**	**135**	*eP*	**Pn**	**13 02 06.6**	**+0.9**
AUSP	**Uspallata**	**4.08**	**151**	*eP*	**Pn**	**13 02 10.6**	**+1.7**
AVFE	**Valle Fertil**	**4.20**	**120**	*eP*	**Pn**	**13 02 10.5**	**+0.1**
AVFE				AML	AML	13 03 06.3	
	comp=Z,172nm,0.7s						
CFAA	**Coronel Fontan**	**4.20**	**135**	P	**Pn**	**13 02 10.6**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=312,slow=12,SNR=48						
CFAA				S	**Sn**	**13 02 56.6**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=314,slow=13,SNR=4.2						
CFAA	**Coronel Fontan**	**4.20**	**135**	*eP*	**Pn**	**13 02 10.9**	**+0.6**
RTCV	**Cerro Valdivia**	**4.21**	**140**	*eP*	**Pn**	**13 02 11.0**	**+0.6**
ACLC	**CERRO LA CRUZ**	**4.22**	**102**	*eP*	**Pn**	**13 02 10.7**	**-0.1**
ASAL	**Salagasta**	**4.64**	**149**	*eP*	**Pn**	**13 02 17.7**	**+1.3**
ARCO	**CERRO ARCO**	**4.81**	**151**	*eP*	**Pn**	**13 02 20.4**	**+1.6**
ARCO				AML	AML	13 03 29.1	
	comp=Z,60nm,0.6s						
APLL	**PUNTA DE LOS L**	**4.82**	**112**	*eP*	**Pn**	**13 02 18.4**	**-0.5**
AAGR	**Agrelo**	**5.06**	**152**	*eP*	**Pn**	**13 02 27.6**	**+5.3**
CYA	**Choya**	**5.18**	**89**	*eP*	**Pn**	**13 02 23.7**	**-0.2**
ACAN	**Cantantal**	**5.31**	**134**	*eP*	**Pn**	**13 02 25.5**	**-0.1**
FSA	**Cafayete**	**5.65**	**65**	*eP*	Pn	13 02 34.1	+3.6
AHML	**Horco Molle**	**5.93**	**73**	*eP*	**Pn**	**13 02 35.4**	**+1.2**
AHML				*eS*	Sn	13 03 48.3	+7.1
AHML				IAML		13 04 18.5	
	comp=Z,11nm,0.6s						
LVC	**Limon Verde**	**6.51**	**23**	P	**Pn**	**13 02 40.4**	**-1.9**
	comp=Z,23nm,0.3s,baz=190,slow=12,SNR=7.2						
LVC				S	**Sn**	**13 03 55.5**	**-0.3**
	comp=Z,45nm,0.3s,baz=188,slow=14,SNR=2.7						
TCA	**Tanti**	**6.71**	**115**	*eP*	**Pn**	**13 02 42.7**	**-2.2**
TCA				IAML		13 02 46.8	
	comp=Z,24nm,0.5s						
LPAZ	**La Paz**	**12.73**	**16**	P	**Pn**	**13 04 08.8**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=200,slow=8.5,SNR=4.8						
TXAR	**Lajitas Array**	**65.26**	**329**	P	**P**	**13 11 48.5**	**+1.2**
	comp=Z,0.1nm,0.5s,baz=156,slow=8.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**82.12**	**70**	P	**P**	**13 13 25.1**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=252,slow=4.9,SNR=6.5						
ASAR	**Alice Springs**	**122.44**	**208**	PKP	**PKPdf**	**13 19 59.9**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=144,slow=1.7,SNR=3.5						
WRA	**Warramunga Arr**	**125.54**	**210**	PKP	**PKPdf**	**13 20 06.5**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=158,slow=1.7,SNR=7.9						
H11S2	**WAKE ISLAND Hy**	**125.98**	**273**	T	T	15 38 58.0	
	baz=115,slow=76,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**125.99**	**273**	T	T	15 38 57.1	
	baz=115,slow=76,SNR=9.3						
H11S3	**WAKE ISLAND Hy**	**126.00**	**273**	T	T	15 38 59.0	
	baz=115,slow=76,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**126.25**	**274**	T	T	15 39 16.7	
	baz=113,slow=75,SNR=7.9						
H11N1	**WAKE ISLAND Hy**	**126.27**	**274**	T	T	15 39 14.8	
	baz=113,slow=75,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**126.27**	**274**	T	T	15 39 16.8	
	baz=113,slow=75,SNR=8.8						
ZALV	**Zalesovo Beam**	**149.45**	**28**	PKPbc	**PKPbc**	**13 20 52.9**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=298,slow=3.1,SNR=8.0						

MAN 29 13:10:01, 12.°58N×121.°59E, h18km, mb4.5, ML3.4, MS3.3, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTRP	**Odiongan**	**0.47**	**118**	*eP*	Pb	13 10 11.0	+0.2
OTRP				*eS*	Sb	13 10 18.8	+1.3
SJMP	**San Jose**	**0.48**	**255**	*eP*	Pb	13 10 11.2	+0.3
SJMP				*eS*	Sn	13 10 19.6	-1.3
AUQP	**San Andres**	**1.29**	**55**	*eP*	Pb	13 10 24.6	-0.1
AUQP				*eS*	Sg	13 10 45.6	+2.9
BUSP	**Coron**	**1.48**	**247**	*eP*	Pb	13 10 27.5	-0.5
BUSP				*eS*	Sb	13 10 46.2	-0.3
RCP	**Roxas**	**1.52**	**132**	⇑*eP*	Pg	13 10 36.2	+5.9
GQP	**Guinayangan**	**1.56**	**32**	⇑*eP*	Pn	13 10 27.6	-0.2
GQP				*eS*	Sn	13 10 47.8	+0.3
LUBP	**Lubang**	**1.74**	**311**	*eP*	Pn	13 10 30.2	-0.1
CUYO	**Cuyo Island**	**1.81**	**198**	*eP*	Pn	13 10 31.3	-0.1

IDC 29 13:19:26.8±12.0, **14.°60S×178.°07W, h471**km±149km, **mb3.0/5, mb1 3.4/5, mb1mx3.0/19, mbtmp3.8/5, Error ellipse: s-maj=98.7km s-min=34.2km az=153.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.64**	**256**	P	P	13 27 04.2	0.0
	0.4nm,0.4s,baz=91,slow=6.6,SNR=21						
ASAR	**Alice Springs**	**46.08**	**251**	P	P	13 27 07.4	-0.2
	7.2nm,0.5s,baz=85,slow=7.9,SNR=152						
NVAR	**Mina Array Bea**	**76.83**	**44**	P	P	13 30 30.0	+0.4
	0.4nm,0.7s,baz=231,slow=7.8,SNR=3.2						
ILAR	**Eielson Array**	**82.61**	**13**	P	P	13 30 59.0	-0.2
	0.5nm,0.8s,baz=221,slow=5.7,SNR=7.0						
TXAR	**Lajitas Array**	**83.96**	**58**	P	P	13 31 06.6	-0.4
	0.7nm,1.0s,baz=243,slow=4.0,SNR=2.8						
BRTR	**Keskin Array B**	**142.62**	**318**	PKP	PKPdf	13 38 05.7	-0.3
	0.7nm,0.6s,baz=35,slow=3.5,SNR=3.7						

*IDC **29** 13:22:03.4±0.5, 57.°86S×24.°60W, h0km, mb4.5/13, mb1 4.6/15, mb1mx4.4/26, mbtmp4.5/15, ML4.5/2, MS4.0/2, Ms1 4.0/2, ms1mx3.4/20, Error ellipse: s-maj=20.0km s-min=14.3km az=70.0*
*ISCJB **29** 13:22:05.3±0.5, 57.°91S±0.°07×24.°5W±0.°2, h24km, mb4.5/16, MS4.1/2, Error ellipse: s-maj=14.4km s-min=9.0km az=148.5*
*AWI **29** 13:22:09.9, 57.°82S×24.°05W*
*NEIC **29** 13:22:12.5±1.8, 57.°93S×24.°64W, h67km±15km, mb4.7/8, Error ellipse: s-maj=12.9km s-min=8.6km az=68.0*
ISC 29 13:22:07.2±0.5, **57.°92S**±0.°09×**24.°6W**±0.°1, **h24**km, **n55**, σ0ᵍ**70**/45, **mb4.6**/16, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.59**	**294**	*eP*	Pn	13 24 01.5	+5.4
	95nm,0.9s						
VNA1	**Neumayer--Stat**	**14.52**	**158**	P	**Pn**	**13 25 29.9**	**-0.9**
SNAA	**Sanae**	**16.45**	**156**	P	**Pn**	**13 25 54.2**	**-1.8**
SNAA	**Sanae**	**16.45**	**156**	Pn	**Pn**	**13 25 54.4**	**-1.6**
	0.2nm,0.3s,baz=327,slow=14,SNR=36						
SNAA				Sn	Sn	13 28 42.9	-15
	0.1nm,0.3s,baz=332,slow=17,SNR=2.6						
SNAA	**Sanae**	**16.45**	**156**	*eP*	Pn	13 25 50.1	-5.9
	57nm,1.3s						
SNAA					Sn	13 28 42.9	-15
PMSA	**Palmer Station**	**19.84**	**233**	P	**P**	**13 26 35.5**	**-0.3**
	1.0nm,0.3s,baz=114,slow=8.0,SNR=3.9						
EFI	**East Falkland**	**20.14**	**274**	*eP*	Pn	13 26 41.6	+0.5
	85nm,0.8s						
USHA	**Ushuaia**	**24.16**	**258**	P	**P**	**13 27 21.0**	**0.0**
	14nm,0.7s,baz=108,slow=13,SNR=5.4						
QSPA	**South Pole Qui**	**32.33**	**180**	P	**P**	**13 28 34.4**	**+0.3**
	7.1nm,1.1s,baz=210,slow=6.4,SNR=9.6						
QSPA	**South Pole Qui**	**32.33**	**180**	*eP*	**P**	**13 28 34.5**	**+0.4**
	8.7nm,1.1s						
MAW	**Mawson**	**37.79**	**141**	P	**P**	**13 29 20.6**	**-0.3**
	1.5nm,0.4s,baz=246,slow=10,SNR=4.8						
CPUP	**Villa Florida**	**39.12**	**310**	P	**P**	**13 29 31.5**	**-0.9**
	19nm,0.9s,baz=155,slow=7.3,SNR=35						
CPUP	**Villa Florida**	**39.12**	**310**	*eP*	**P**	**13 29 32.2**	**-0.2**
	0.6nm,0.9s						
CFAA	**Coronel Fontan**	**39.61**	**292**	P	**P**	**13 29 34.7**	**-1.9**
	0.7nm,0.8s,baz=150,slow=6.9,SNR=9.7						
CFAA				PcP	**PcP**	**13 31 43.7**	**+0.4**
	0.5nm,0.7s,baz=117,slow=2.3,SNR=4.7						
VNDA	**Vanda**	**44.76**	**182**	P	**P**	**13 30 19.0**	**+1.1**
	7.7nm,0.9s,baz=181,slow=7.0,SNR=36						
VNDA	**Vanda**	**44.76**	**182**	*eP*	**P**	**13 30 19.1**	**+1.2**
	9.6nm,1.0s						
BOSA	**Boshof**	**45.12**	**71**	LR	LR	13 45 14.8	
	comp=Z,173nm,18.3s,baz=214,slow=31						
BDFB	**Brasilia**	**45.71**	**328**	P	**P**	**13 30 26.7**	**+0.5**
	2.5nm,0.4s,baz=148,slow=8.1,SNR=2.9						
LVC	**Limon Verde**	**47.47**	**299**	*eP*	**P**	**13 30 40.1**	**-0.1**
	6.6nm,0.7s						
H10S2	**ASCENSION HYDR**	**49.44**	**13**	T	T	14 24 20.6	
	baz=186,slow=75,SNR=8.9						
H10S3	**ASCENSION HYDR**	**49.45**	**13**	T	T	14 24 20.6	
	baz=186,slow=75,SNR=8.1						
H10S1	**ASCENSION HYDR**	**49.46**	**13**	T	T	14 24 22.4	
	baz=186,slow=75,SNR=8.6						
H10N1	**ASCENSION HYDR**	**50.56**	**13**	T	T	14 25 44.8	
	baz=182						
H10N3	**ASCENSION HYDR**	**50.56**	**13**	T	T	14 25 46.5	
	baz=182						
H10N2	**ASCENSION HYDR**	**50.58**	**13**	T	T	14 25 46.0	
	baz=182						
LPAZ	**La Paz**	**52.62**	**304**	P	**P**	**13 31 19.3**	**-0.4**
	comp=Z,0.7s,baz=153,slow=5.0,SNR=47						
LPAZ	**La Paz**	**52.62**	**304**	*eP*	**P**	**13 31 19.7**	**0.0**
	9.4nm,0.6s						
SAML	**Samuel**	**57.13**	**313**	*eP*	**P**	**13 31 51.7**	**+0.1**
	25nm,1.0s						
DBIC	**Dimbokro**	**66.33**	**21**	P	**P**	**13 32 53.4**	**-0.1**
	1.3nm,0.5s,baz=172,slow=7.4,SNR=3.4						
TOA0	**Torodi Ar. Sit**	**74.03**	**27**	*eP*	**P**	**13 33 40.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**74.03**	**27**	P	**P**	**13 33 40.6**	**-0.1**
	3.6nm,0.8s,baz=196,slow=6.5,SNR=17						
SDV	**Sandi Domingo**	**76.34**	**313**	*eP*	**P**	**13 33 54.6**	**+0.4**
	6.4nm,0.8s						
RPZ	**Rata Peaks**	**77.90**	**192**	P	**P**	**13 34 03.4**	**+0.8**
	15nm,1.0s,baz=208,slow=6.8,SNR=4.8						
URZ	**Urewera**	**82.47**	**197**	P	**P**	**13 34 28.0**	**+0.7**
	13nm,1.0s,baz=230,slow=6.9,SNR=2.8						
PPT	**Papeete**	**92.20**	**231**	LR	LR	14 07 28.1	
	comp=Z,72nm,20.8s,baz=137,slow=30						
ASAR	**Alice Springs**	**96.76**	**160**	P	**P**	**13 35 35.3**	**-0.4**
	1.0nm,0.3s,baz=193,slow=2.9,SNR=2.9						
PDAR	**Pinedale Array**	**122.53**	**300**	PKP	**PKPdf**	**13 40 59.5**	**-0.3**
	0.5nm,0.5s,baz=126,slow=4.6,SNR=3.8						
HWUT	**Hardware Ranch**	**122.58**	**297**	PKPdf	**PKPdf**	**13 41 00.3**	**+0.4**
NVAR	**Mina Array Bea**	**123.42**	**290**	PKP	**PKPdf**	**13 41 02.2**	**+0.5**
	0.9nm,0.8s,baz=172,slow=3.1,SNR=7.0						
MOOW	**Moose Ponds**	**123.84**	**299**	*eP*	**PKPdf**	**13 41 03.0**	**+0.7**
FINES	**FINESS Array B**	**125.38**	**27**	PKP	**PKPdf**	**13 41 04.1**	**-0.2**
	1.5nm,0.7s,baz=204,slow=3.0,SNR=4.5						
ARCES	**ARCESS Array B**	**132.16**	**21**	PKP	**PKPdf**	**13 41 16.9**	**-0.1**
	1.1nm,0.7s,baz=208,slow=1.7,SNR=4.3						
YKA	**Yellowknife Ar**	**138.52**	**315**	PKP	**PKPdf**	**13 41 29.3**	**+0.2**
	2.9nm,0.8s,baz=125,slow=2.5,SNR=8.0						
ZALV	**Zalesovo Beam**	**141.89**	**65**	PKP	**PKPdf**	**13 41 36.4**	**+0.9**
	0.3nm,0.3s,baz=273,slow=2.6,SNR=2.7						
INK	**Inuvik**	**148.16**	**318**	*e*PKPbc	**PKPbc**	**13 41 49.4**	**+0.2**
DAWY	**Dawson**	**149.10**	**309**	*e*PKPbc	**PKPbc**	**13 41 51.8**	**0.0**
SONM	**Songino Array**	**149.39**	**88**	PKPbc	**PKPbc**	**13 41 52.7**	**-0.4**
	2.2nm,0.8s,baz=230,slow=2.7,SNR=11						
EGAK	**Eagle**	**150.05**	**310**	*e*PKPbc	**PKPbc**	**13 41 53.8**	**-0.2**
BMRM	**Bremner River**	**150.29**	**302**	*e*PKPbc	**PKPbc**	**13 41 55.5**	**+0.8**
SML	**Sawmill**	**152.26**	**302**	*e*PKPbc	**PKPbc**	**13 41 59.9**	**+0.6**
ILAR	**Eielson Array**	**152.42**	**309**	PKPbc	**PKPbc**	**13 41 59.5**	**0.0**
	9.8nm,0.9s,baz=126,slow=1.5,SNR=69						
KSAR	**Wonju Array Be**	**152.70**	**127**	PKPbc	**PKPbc**	**13 42 01.1**	**+0.1**
KSRS	**Korea Array**	**152.72**	**127**	PKPbc	**PKPbc**	**13 42 01.1**	**+0.1**
	0.6nm,0.7s,baz=211,slow=2.2,SNR=5.9						
COLA	**College**	**152.84**	**309**	*e*PKPbc	**PKPbc**	**13 41 59.4**	**-1.0**
IM04	**Indian Mountai**	**155.46**	**310**	*e*PKPbc	PKPdf	13 42 06.6	+10
IM04				*e*PKPab	**PKPab**	**13 42 23.0**	**+0.1**

*NEIC **29** 13:45:39.6, 51.°83N×171.°44W, h20km, ML3.2(AEIC), After AEIC.*
*IDC **29** 13:45:39.9±1.3, 52.°29N×171.°72W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.4/41, mbtmp3.6/4, Error ellipse: s-maj=56.9km s-min=27.6km az=8.0*
*ISCJB **29** 13:45:44.0±0.6, 52.°5N±0.°2×171.°66W±0.°10, h44km, mb3.6/4, Error ellipse: s-maj=29.4km s-min=4.9km az=166.4*
ISC 29 13:45:45.7±0.9, **52.°3N**±0.°2×**171.°63W**±0.°07, **h44**km, **n14**, σ1ᵍ**84**/18, **mb3.6**/4, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**1.58**	**266**	P	**Pn**	**13 46 09.2**	**-2.0**
ATKA				S	**Sn**	**13 46 30.0**	**-0.4**
NIKH	**Nikolski High**	**1.81**	**68**	P	**Pn**	**13 46 11.4**	**-3.0**
NIKH				S	**Sn**	**13 46 35.7**	**-0.4**
OKSP	**Okmok Steeple**	**2.23**	**64**	P	**Pn**	**13 46 18.6**	**-1.6**
OKWR	**Okmok West Rim**	**2.35**	**61**	P	**Pn**	**13 46 20.4**	**-1.5**
OKTU	**Okmok Mt. Tuli**	**2.42**	**63**	P	**Pn**	**13 46 21.3**	**-1.4**
OKTU				S	**Sn**	**13 46 54.6**	**+3.5**
GSTR	**Great Sitkin T**	**2.73**	**267**	*e*Pn	**Pn**	**13 46 26.0**	**-1.0**
GSTD	**Great Sitkin T**	**2.79**	**266**	P	**Pn**	**13 46 26.4**	**-1.5**
GSTD				S	**Sn**	**13 47 03.2**	**+2.8**
MREP	**Makushin Rep't**	**3.30**	**61**	P	**Pn**	**13 46 33.9**	**-0.9**
UNV	**Unalaska Valle**	**3.44**	**62**	P	**Pn**	**13 46 35.1**	**-1.7**
AKUT	**Akutan**	**3.96**	**61**	*e*Pn	**Pn**	**13 46 42.3**	**-1.5**
SEY	**Seymchan**	**21.68**	**313**	P	**P**	**13 50 31.8**	**-0.5**
	2.0nm,0.9s,baz=86,slow=12,SNR=4.3						
NVAR	**Mina Array Bea**	**39.05**	**89**	P	**P**	**13 53 09.5**	**+1.2**
	0.3nm,0.6s,baz=312,slow=8.4,SNR=3.4						
TXAR	**Lajitas Array**	**54.13**	**87**	P	**P**	**13 55 06.4**	**+0.1**
	0.4nm,0.5s,baz=310,slow=7.9,SNR=5.6						
ASAR	**Alice Springs**	**89.32**	**228**	P	**P**	**13 58 37.5**	**+0.4**
	0.5nm,0.6s,baz=46,slow=4.0,SNR=3.5						

*IDC **29** 13:51:01.5±0.9, 10.°84S×162.°75E, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.0/35, mbtmp4.1/11, ML3.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/25, Error ellipse: s-maj=30.0km s-min=20.8km az=122.0*
*ISCJB **29** 13:51:04.8±0.5, 10.°99S±0.°06×162.°83E±0.°07, h34km, mb4.2/15, MS3.1/1, Error ellipse: s-maj=11.1km s-min=7.6km az=151.8*
*NEIC **29** 13:51:11.3±1.3, 10.°97S×162.°75E, h76km±11km, mb4.3/7, Error ellipse: s-maj=12.3km s-min=10.9km az=105.0*
ISC 29 13:51:06.8±0.6, **10.°92S**±0.°07×**162.°89E**±0.°09, **h34**km, **n35**, σ1ᵍ**37**/30, **mb4.3**/15, **1C, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.26**	**297**	*eP*	**Pn**	**13 51 58.5**	**+3.0**
HNR				*eS*	**Sn**	**13 52 34.2**	**+1.0**
DZM	**Mont Dzumac**	**11.60**	**163**	Pn	**Pn**	**13 53 51.9**	**+1.7**
	0.3nm,0.3s,baz=90,slow=20,SNR=21						
DZM				Sn	**Sn**	**13 55 59.4**	**+0.9**
	0.4nm,0.3s,baz=270,slow=20,SNR=4.1						
DZM	**Mont Dzumac**	**11.60**	**163**	*eP*	Pn	13 53 53.7	+3.6
DZM				Sn	**Sn**	**13 55 59.4**	**+0.9**
CTA	**Charters Tower**	**18.43**	**238**	P	**P**	**13 55 17.9**	**-1.6**
	0.1nm,0.3s,baz=70,slow=14,SNR=1.9						
CTAO	**Charters Tower**	**18.43**	**238**	*eP*	**Pn**	**13 55 21.8**	**+2.0**
	8.1nm,0.9s						
COEN	**Coen**	**19.49**	**259**	P	**P**	**13 55 31.6**	**+0.4**
STKA	**Stephens Creek**	**28.67**	**220**	P	**P**	**13 56 58.3**	**-2.3**
WRAB	**Tennant Creek**	**28.90**	**248**	*eP*	**P**	**13 57 01.7**	**-1.1**
	7.7nm,1.1s						
WRA	**Warramunga Arr**	**28.91**	**248**	P	**P**	**13 57 01.6**	**-1.3**
	1.6nm,0.6s,baz=79,slow=8.9,SNR=20						
WRA				PcP	**PcP**	**14 00 11.1**	**-0.7**
	0.4nm,0.7s,baz=81,slow=3.5,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**29.47**	**7**	T	T	14 28 08.9	
	baz=188,slow=76,SNR=92						
H11S3	**WAKE ISLAND Hy**	**29.47**	**7**	T	T	14 28 08.7	
	baz=188,slow=76,SNR=91						
H11S1	**WAKE ISLAND Hy**	**29.48**	**7**	T	T	14 28 10.0	
	baz=188,slow=76,SNR=89						
ASAR	**Alice Springs**	**30.37**	**242**	P	**P**	**13 57 14.3**	**-1.6**
	1.8nm,0.7s,baz=65,slow=10,SNR=18						
H11N1	**WAKE ISLAND Hy**	**30.70**	**7**	T	T	14 29 41.0	
	baz=188,slow=76,SNR=67						
H11N3	**WAKE ISLAND Hy**	**30.70**	**7**	T	T	14 29 42.1	
	baz=188,slow=76,SNR=61						
H11N2	**WAKE ISLAND Hy**	**30.71**	**7**	T	T	14 29 42.3	
	baz=188,slow=76,SNR=73						
ASAJ	**Asahikawa**	**57.80**	**343**	*eP*	P	14 00 48.1	-6.6
	13nm,0.8s						
KSRS	**Korea Array**	**58.23**	**328**	P	**P**	**14 00 57.9**	**0.0**
	0.4nm,0.5s,baz=137,slow=6.7,SNR=4.1						
KSRS				LR	LR	14 22 43.4	
	comp=Z,15nm,21.9s,baz=255,slow=33						
KSAR	**Wonju Array Be**	**58.24**	**328**	P	**P**	**14 00 57.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**59.50**	**294**	P	**P**	**14 02 12.2**	**-0.4**
	0.6nm,0.3s,baz=115,slow=5.5,SNR=4.9						
SONM	**Songino Array**	**76.93**	**325**	P	**P**	**14 02 55.0**	**-0.9**
	3.7nm,0.9s,baz=130,slow=5.6,SNR=12						
BILL	**Bilibino**	**78.79**	**1**	⇑*iP*	**P**	**14 03 06.2**	**+0.5**
BILL				*i*		14 03 21.9	
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BILL	**Bilibino**	**78.79**	**1**	*eP*	**P**	**14 03 06.2**	**+0.4**
	comp=Z,2.3nm,0.8s						
MAW	**Mawson**	**83.78**	**202**	P	**P**	**14 03 32.2**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=117,slow=4.5,SNR=5.0						
COLA	**College**	**84.06**	**19**	*eP*	**P**	**14 03 33.3**	**-0.3**
	comp=Z,4.9nm,0.8s						
ILAR	**Eielson Array**	**84.31**	**19**	P	**P**	**14 03 34.5**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=244,slow=5.0,SNR=9.2						
EGAK	**Eagle**	**86.24**	**21**	*eP*	**P**	**14 03 45.6**	**+1.0**
	comp=Z,3.0nm,1.0s						
EGAK				*e*		14 03 59.3	
NVAR	**Mina Array Bea**	**88.09**	**50**	P	**P**	**14 03 54.9**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=228,slow=4.7,SNR=3.4						
MK31	**Makanchi Array**	**91.52**	**317**	*eP*	**P**	**14 04 08.6**	**-1.5**
ZALV	**Zalesovo Beam**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.86**	**15**	*eP*	**Pn**	**13 59 18.1**	**+0.1**
SKR				*eS*	**Sn**	**13 59 48.4**	**-2.8**
SKR	**Severo-Kuril's**	**2.86**	**15**	*e*PN	Pn	13 59 11.0	-7.0
SKR	comp=N,50nm,0.5s			pmax	pmax		
SKR	comp=E,30nm,0.5s			pmax	pmax		
SKR	comp=E,80nm,0.5s			pmax	pmax		
SKR	**Severo-Kuril's**	**2.86**	**15**	*eP*	**Pn**	**13 59 18.4**	**+0.4**
SKR	comp=Z,80nm,0.5s			AMB	AMB	13 59 22.2	
SKR				*eS*	**Sn**	**13 59 49.5**	**-1.7**
SKR	comp=Z,180nm,0.4s			A	A	13 59 57.0	
SKR	comp=Z,240nm,0.4s			A	A	13 59 57.0	
SKR	comp=Z,150nm,0.4s			A	A	13 59 57.0	
PAU	**Pauzhetka**	**3.75**	**18**	*eP*	**Pn**	**13 59 31.4**	**+1.3**
PAU				*eS*	**Sn**	**14 00 12.0**	**-1.0**
PAU	**Pauzhetka**	**3.75**	**18**	PN	**Pn**	**13 59 31.4**	**+1.3**
PAU				S	**Sn**	**14 00 12.0**	**-1.0**
PAU	**Pauzhetka**	**3.75**	**18**	*eP*	**Pn**	**13 59 32.2**	**+2.1**
PAU	comp=Z,165nm,0.5s			AMB	AMB	13 59 57.3	
PAU				*eS*	**Sn**	**14 00 12.1**	**-1.0**
PAU	comp=Z,430nm,0.5s			A	A	14 00 24.4	
MIPR	**Malaya Ipel'ka**	**4.51**	**14**	*eP*	**Pn**	**13 59 42.2**	**+1.6**
MIPR				*eS*	**Sn**	**14 00 32.8**	**+1.0**
ASAK	**Asacha**	**4.85**	**22**	*eP*	**Pn**	**13 59 46.6**	**+1.2**
MTVR	**Mutnovka**	**5.01**	**23**	*eP*	**Pn**	**13 59 48.5**	**+0.8**
MTVR				*eS*	**Sn**	**14 00 42.8**	**-1.7**
RUS	**Russkaya**	**5.06**	**26**	*eP*	**Pn**	**13 59 47.9**	**-0.3**
RUS				*eS*	**Sn**	**14 00 41.2**	**-4.2**
RUS	**Russkaya**	**5.06**	**26**	PN	**Pn**	**13 59 47.9**	**-0.3**
APC	**Apacha**	**5.20**	**15**	*eP*	**Pn**	**13 59 52.5**	**+2.4**
APC				*eS*	**Sn**	**14 00 47.9**	**-0.9**
APC	**Apacha**	**5.20**	**15**	PN	**Pn**	**13 59 52.5**	**+2.4**
APC				S	**Sn**	**14 00 47.9**	**-0.9**
PETK	**Petropavlovsk-**	**5.48**	**18**	P	**Pn**	**13 59 55.6**	**+1.7**
	comp=Z,1.3nm,0.3s,baz=185,slow=15,SNR=16						
PETK	**Petropavlovsk-**	**5.48**	**18**	PN	**Pn**	**13 59 55.6**	**+1.7**
PETK	comp=Z,1.0nm,0.3s			pmax	pmax		
KUR	**Kuril'sk**	**5.57**	**244**	PN	Pn	13 59 58.2	+3.1
KUR	comp=Z,137nm,0.4s			pmax	pmax		
KUR	comp=N,32nm,0.2s			pmax	pmax		
KUR	comp=E,71nm,0.1s			pmax	pmax		
KUR	**Kuril'sk**	**5.57**	**244**	*eP*	**Pn**	**13 59 56.0**	**+0.9**
KUR				*eS*	**Sn**	**14 00 58.5**	**+0.6**
KUR	comp=E,280nm,1.0s			A	A	14 01 06.0	
KUR	comp=E,190nm,1.0s			A	A	14 01 06.0	
PET	**Petropavlovsk**	**5.62**	**24**	*eP*	**Pn**	**13 59 57.2**	**+1.3**
PET				*eS*	**Sn**	**14 00 58.3**	**-1.0**
PET	**Petropavlovsk**	**5.62**	**24**	*e*PN	**Pn**	**13 59 57.7**	**+1.8**
PET	**Petropavlovsk**	**5.62**	**24**	*eP*	**Pn**	**13 59 57.1**	**+1.2**
PET	comp=E,161nm,0.6s			AMB	AMB	14 00 09.3	
PET				*eS*	**Sn**	**14 00 58.0**	**-1.3**
PET	comp=E,150nm,0.6s			A	A	14 01 17.3	
UGLR	**Uglovaya**	**5.84**	**24**	*eP*	**Pn**	**14 00 00.6**	**+1.7**
UGLR				*eS*	**Sn**	**14 01 03.0**	**-1.7**
KOK	**Koryaka**	**5.86**	**22**	*eP*	**Pn**	**14 00 01.9**	**+2.6**
KOK				*eS*	**Sn**	**14 01 06.6**	**+1.3**
KOK	**Koryaka**	**5.86**	**22**	PN	**Pn**	**14 00 01.9**	**+2.6**
KOK				S	**Sn**	**14 01 06.6**	**+1.3**
KOK	**Koryaka**	**5.86**	**22**	*eP*	**Pn**	**14 00 01.9**	**+2.6**
AVH	**Avacha**	**5.87**	**23**	*eP*	**Pn**	**14 00 01.5**	**+2.2**
AVH				*eS*	**Sn**	**14 01 06.9**	**+1.6**
AVH	**Avacha**	**5.87**	**23**	PN	**Pn**	**14 00 01.5**	**+2.2**
AVH				S	**Sn**	**14 01 06.9**	**+1.6**
AVH	**Avacha**	**5.87**	**23**	*eP*	**Pn**	**14 00 01.5**	**+2.2**
SMAR	**Somma**	**5.88**	**23**	*eP*	**Pn**	**14 00 01.7**	**+2.1**
SMAR	**Somma**	**5.88**	**23**	PN	**Pn**	**14 00 01.7**	**+2.1**
KRER	**Koryakskii**	**5.90**	**23**	*eP*	**Pn**	**14 00 01.6**	**+1.7**
KRER				*eS*	**Sn**	**14 01 04.9**	**-1.6**
SDLR	**Sedlovina**	**5.92**	**24**	*eP*	**Pn**	**14 00 01.1**	**+1.1**
SDLR				*eS*	**Sn**	**14 01 04.2**	**-2.5**
SDLR	**Sedlovina**	**5.92**	**24**	PN	**Pn**	**14 00 01.1**	**+1.1**
KRX	**Arik**	**5.93**	**22**	*eP*	**Pn**	**14 00 02.7**	**+2.5**
KRX				*eS*	**Sn**	**14 01 07.7**	**+0.7**
NLC	**Nalytchevo**	**5.95**	**27**	*eS*	**Sn**	**14 01 02.0**	**-5.3**
GNL	**Ganaly**	**6.08**	**17**	*eP*	**Pn**	**14 00 04.0**	**+1.7**
GNL	**Ganaly**	**6.08**	**17**	PN	**Pn**	**14 00 04.0**	**+1.7**
SPN	**Mys Shipunski**	**6.11**	**30**	*eP*	**Pn**	**14 00 02.9**	**+0.4**
SPN				*eS*	**Sn**	**14 01 07.4**	**-3.8**
SPN	**Mys Shipunski**	**6.11**	**30**	PN	**Pn**	**14 00 02.9**	**+0.4**
MKZ	**Mys Kozlova**	**7.88**	**30**	*eP*	**Pn**	**14 00 27.0**	**+0.1**
MKZ				*eS*	**Sn**	**14 01 49.8**	**-5.0**
MKZ	**Mys Kozlova**	**7.88**	**30**	PN	**Pn**	**14 00 27.0**	**+0.1**
KZV	**Kizimen**	**7.93**	**23**	*eP*	Pn	14 00 30.8	+3.1
TUMR	**Tumrok**	**8.04**	**22**	*eP*	Pn	14 00 32.7	+3.5
TUMR	**Tumrok**	**8.04**	**22**	PN	Pn	14 00 32.7	+3.5
YSS	**Yuzh-Sakhalins**	**8.31**	**268**	||*e*PN	**Pn**	**14 00 33.0**	**+0.2**
YSS	comp=Z,30nm,0.8s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**8.31**	**268**	*eP*	**Pn**	**14 00 33.1**	**+0.2**
YSS	comp=Z,28nm,0.8s			AMB	AMB	14 00 34.0	
YSS	comp=Z,30nm,1.0s			*eS*	**Sn**	**14 02 02.2**	**-3.3**
YSS				A	A	14 02 05.0	
UGL	**Uglegorsk**	**8.62**	**282**	*eP*	**Pn**	**14 00 38.0**	**+1.0**
ASAJ	**Asahikawa**	**9.39**	**251**	P	**Pn**	**14 00 47.2**	**-0.4**
	baz=180,slow=20						
KBTR	**Krutoberegovo**	**9.60**	**27**	*eP*	**Pn**	**14 00 51.7**	**+1.3**
KBTR	**Krutoberegovo**	**9.60**	**27**	PN	**Pn**	**14 00 51.7**	**+1.3**
BKI	**Bering**	**10.01**	**39**	*e*S	Sn	14 02 36.5	-10
ERM	**Erimo**	**10.22**	**239**	*d*PN	Pn	14 00 51.7	-7.2
USRK	**Ussuriysk Ar.**	**16.34**	**265**	P	**Pn**	**14 02 18.9**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=64,slow=9.8,SNR=3.3						
MAJO	**Matsushiro**	**16.78**	**233**	*eP*	Pn	14 02 21.5	-5.5
MJAR	**Matsushiro Arr**	**16.78**	**233**	P	**Pn**	**14 02 25.5**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=26,slow=12,SNR=7.0						
KSRS	**Korea Array**	**22.33**	**252**	P	**P**	**14 03 28.2**	**-1.3**
	comp=Z,6.7nm,0.9s,baz=52,slow=9.7,SNR=29						
KSRS	**Korea Array**	**22.33**	**252**	*eP*	**P**	**14 03 28.8**	**-0.7**
KSRS	comp=Z,7.0nm,0.9s			pmax	pmax		
KSRS	**Korea Array**	**22.33**	**252**	*eP*	**P**	**14 03 28.8**	**-0.7**
H11N2	**WAKE ISLAND Hy**	**29.76**	**157**	T	T	14 36 28.7	
	baz=344,slow=76,SNR=56						
H11N1	**WAKE ISLAND Hy**	**29.77**	**157**	T	T	14 36 29.6	
	baz=344,slow=76,SNR=140						
H11N3	**WAKE ISLAND Hy**	**29.78**	**157**	T	T	14 36 22.4	
	baz=344,slow=76,SNR=62						
H11S1	**WAKE ISLAND Hy**	**30.88**	**158**	T	T	14 37 53.1	
	baz=345,slow=76,SNR=622						
H11S3	**WAKE ISLAND Hy**	**30.89**	**158**	T	T	14 37 56.8	
	baz=345,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**30.90**	**158**	T	T	14 37 49.0	
	baz=345,slow=76,SNR=470						
ILAR	**Eielson Array**	**34.85**	**40**	P	**P**	**14 05 23.3**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=265,slow=9.7,SNR=4.6						
ILAR	**Eielson Array**	**34.85**	**40**	*eP*	P	14 05 27.9	+5.6
ZALV	**Zalesovo Beam**	**42.93**	**305**	P	P	14 06 25.3	-4.7
	comp=Z,1.0nm,0.3s,baz=54,slow=7.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**42.93**	**305**	P	P	14 06 25.3	-4.7
ZALV	comp=Z,1.0nm,0.3s			pmax	pmax		
CMAR	**Chiang Mai Arr**	**53.84**	**257**	P	**P**	**14 07 52.4**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=24,slow=8.7,SNR=4.4						
CMAR	**Chiang Mai Arr**	**53.84**	**257**	*eP*	**P**	**14 07 55.5**	**+1.0**
CMAR	**Chiang Mai Arr**	**53.84**	**257**	*eP*	**P**	**14 07 55.5**	**+1.0**
FINES	**FINESS Array B**	**63.49**	**335**	P	P	14 08 57.3	-3.6
	comp=Z,1.5nm,1.0s,baz=57,slow=5.1,SNR=4.6						
FINES	**FINESS Array B**	**63.49**	**335**	*eP*	**P**	**14 09 00.2**	**-0.8**
FINES	comp=Z,2.0nm,1.0s			pmax	pmax		
FINES	**FINESS Array B**	**63.49**	**335**	*eP*	**P**	**14 09 00.2**	**-0.8**
WRA	**Warramunga Arr**	**70.04**	**201**	P	**P**	**14 09 44.3**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=6.8,slow=6.7,SNR=3.3						
TXAR	**Lajitas Array**	**75.84**	**62**	P	**P**	**14 10 18.9**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=324,slow=3.6,SNR=4.0						
TXAR	**Lajitas Array**	**75.84**	**62**	*eP*	**P**	**14 10 19.6**	**+1.9**
CLL	**Collm**	**75.89**	**336**	*eP*	**P**	**14 10 15.0**	**-2.5**
CLL	**Collm**	**75.89**	**336**	*eP*	**P**	**14 10 15.0**	**-2.5**
GERES	**GERESS Array B**	**77.92**	**335**	P	P	14 10 26.4	-2.7
	comp=Z,0.3nm,0.3s,baz=45,slow=5.8,SNR=3.8						
GERES	**GERESS Array B**	**77.92**	**335**	*eP*	**P**	**14 10 29.3**	**+0.2**
GERES	**GERESS Array B**	**77.92**	**335**	*eP*	**P**	**14 10 29.3**	**+0.2**
BRTR	**Keskin Array B**	**78.36**	**318**	P	**P**	**14 10 29.1**	**-2.7**
	comp=Z,0.7nm,0.5s,baz=41,slow=3.9,SNR=5.3						
BRTR	**Keskin Array B**	**78.36**	**318**	*eP*	**P**	**14 10 30.4**	**-1.4**
BRTR	comp=Z,1.0nm,0.7s			pmax	pmax		

JMA ***29*** *13:59:45.1±0.3, 43.95N×147.96E, h0km, M3.9*
SKHL ***29*** *13:59:46.8±0.4, 44.32N×148.13E, h60km±2km, mb4.5/4*
ISC 29 13:59:43.9±3.4, 44.28N±0.08×148.3E±0.2, h27km±27km, n15,σ1§41/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.99**	**344**	*eP*	**Pn**	**14 00 02.7**	**+0.6**
KUR				AMB	AMB	14 00 03.0	
KUR	110nm,0.3s			AMB	AMB	14 00 03.0	
KUR	140nm,0.3s			AMB	AMB	14 00 03.0	
KUR	360nm,0.3s			*eS*	**Sb**	**14 00 14.2**	**-1.0**
KUR				A	A	14 00 19.5	
KUR	810nm,0.3s			A	A	14 00 19.5	
SHO	**Shikotan**	**1.11**	**249**	*eP*	**Pn**	**14 00 03.6**	**-0.1**
SHO				AMB	AMB	14 00 05.0	
SHO	107nm,0.3s			*eS*	**Sn**	**14 00 16.2**	**-1.9**
SHO				A	A	14 00 16.7	
YUK	**Yuzh-Kuril'sk**	**1.74**	**263**	*eP*	**Pn**	**14 00 12.9**	**+0.5**
YUK				AMB	AMB	14 00 14.7	
YUK	20nm,0.2s			AMB	AMB	14 00 14.7	
YUK	14nm,0.2s			AMB	AMB	14 00 14.7	
YUK	124nm,0.2s			*i* S	**Sn**	**14 00 32.6**	**-1.2**
YUK				A	A	14 00 35.9	
YUK	153nm,0.2s			A	A	14 00 35.9	
NEM2	**Nemuro 2**	**2.04**	**244**	P	**Pn**	**14 00 16.4**	**-0.1**
NEM2				*eS*	**Sn**	**14 00 39.4**	**-1.7**
JRA	**Rausu**	**2.29**	**262**	P	**Pn**	**14 00 21.3**	**+1.4**
JRA				*eS*	**Sn**	**14 00 47.6**	**+0.4**
JNK	**Nakash**	**2.65**	**256**	P	**Pn**	**14 00 26.0**	**+1.1**
JNK				*eS*	**Sn**	**14 00 55.8**	**-0.4**
JAK	**Akkeshi**	**2.89**	**245**	P	**Pn**	**14 00 28.6**	**+0.4**
JTKR	**Abashiri--Toko**	**3.15**	**266**	P	**Pn**	**14 00 34.9**	**+3.1**
JAR	**Ashorobuto**	**3.40**	**255**	P	**Pn**	**14 00 37.0**	**+1.8**
JOB	**Onbets**	**3.50**	**248**	P	**Pn**	**14 00 37.7**	**+1.2**
JOB				*eS*	**Sn**	**14 01 16.4**	**-0.6**
JCH	**Churui**	**3.94**	**247**	P	**Pn**	**14 00 43.9**	**+1.3**
JCH				*eS*	**Sn**	**14 01 27.4**	**-0.5**
JKK2	**Kamakawa 2**	**3.99**	**266**	P	Pn	14 00 47.0	+3.6
JNBK	**Urakawa-nobuka**	**4.49**	**245**	P	**Pn**	**14 00 51.9**	**+1.7**
JNBK				*eS*	**Sn**	**14 01 41.7**	**+0.2**
YSS	**Yuzh-Sakhalins**	**4.70**	**307**	*eP*	**Pn**	**14 00 54.0**	**+1.0**
YSS	28nm,0.4s			AMB	AMB	14 00 56.7	
YSS				*eS*	**Sn**	**14 01 45.6**	**-1.0**
YSS	25nm,0.2s			A	A	14 01 47.7	
JKB	**Kayabe**	**5.81**	**248**	P	**Pn**	**14 01 09.8**	**+1.5**
JKB				*eS*	**Sn**	**14 02 11.8**	**-2.2**

IDC 29 14:05:51.2±56.0, 2.08N×67.23E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.3/35, mbtmp3.6/3, MS3.5/4, Ms1 3.6/4, ms1mx3.1/31, Error ellipse: s-maj=1346.0km s-min=61.3km az=105.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**35.09**	**60**	P	P	14 12 46.4	-0.1
CMAR	0.3nm,0.3s,baz=243,slow=8.0,SNR=4.9			LR	LR	14 28 01.0	
	comp=Z,80nm,18.2s,baz=191,slow=38						
AAK	**Ala-Archa**	**40.90**	**8**	LR	LR	14 31 26.5	
	comp=Z,55nm,19.4s,baz=182,slow=38						
SONM	**Songino Array**	**56.73**	**31**	LR	LR	14 40 25.6	
	comp=Z,73nm,18.3s,baz=250,slow=37						
KSRS	**Korea Array**	**65.73**	**50**	LR	LR	14 46 30.2	
	comp=Z,27nm,21.2s,baz=260,slow=37						
WRA	**Warramunga Arr**	**69.30**	**112**	P	P	14 17 01.1	+0.1
	0.9nm,0.8s,baz=293,slow=5.1,SNR=4.6						
ASAR	**Alice Springs**	**69.60**	**116**	P	P	14 17 02.9	0.0
	0.5nm,0.9s,baz=289,slow=5.7,SNR=3.8						

KRSC 29 14:07:34.7±2.4, 48.18N×156.27E, h40km±20km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.50**	**358**	*eP*	Pn	14 08 15.5	+2.6
SKR				*eS*	Sn	14 08 43.9	+1.8
PAU	**Pauzhetka**	**3.31**	**6**	*eS*	Sn	14 09 07.5	+5.6
MIPR	**Malaya Ipel'ka**	**4.11**	**4**	*eP*	Pn	14 08 37.6	+2.6
ASAK	**Asacha**	**4.33**	**13**	*eP*	Pn	14 08 42.7	+4.6
RUS	**Russkaya**	**4.49**	**18**	*eP*	Pn	14 08 43.2	+3.1
UGLR	**Uglovaya**	**5.29**	**17**	*eP*	Pn	14 08 55.8	+4.6
AVH	**Avacha**	**5.32**	**16**	*eP*	Pn	14 08 58.2	+6.5
KOK	**Koryaka**	**5.33**	**15**	*eP*	Pn	14 08 57.6	+5.8
KRER	**Koryakskii**	**5.36**	**16**	*eP*	Pn	14 08 57.9	+5.5
SPN	**Mys Shipunski**	**5.47**	**24**	*eP*	Pn	14 08 58.3	+4.7
SPN				*eS*	Sn	14 10 00.9	+5.7
GNL	**Ganaly**	**5.62**	**10**	*eP*	Pn	14 08 59.6	+3.8
MKZ	**Mys Kozlova**	**7.24**	**26**	*eP*	Pn	14 09 21.7	+3.9

ISCJB ***29*** *14:13:31.9±0.4, 32.26N±0.04×105.02E±0.06, h15km, mb3.8/9, Error ellipse: s-maj=8.0km s-min=4.5km az=30.6*
IDC ***29*** *14:13:31.4±0.8, 32.31N×105.02E, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.6/40, mbtmp3.7/12, ML3.7/3, Error ellipse: s-maj=31.9km s-min=16.3km az=58.0*
BJI ***29*** *14:13:36.1, 32.32N×104.89E, h5km, mb3.5/1, ML3.6/19, Ms3.4/2*
ISC 29 14:13:33.6±0.6, 32.28N±0.04×105.01E±0.05, h15km, n18, σ1§62/25, mb3.8/9, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.73**	**219**	Pn	**Pb**	**14 14 04.5**	**-0.6**
CD2				Pg	**Pg**	**14 14 06.0**	**-0.8**
CD2				Sn	**Sn**	**14 14 24.3**	**-0.7**
CD2				Sg	**Sg**	**14 14 28.3**	**-1.0**
CD2	1μm,0.5s			SMN			
CD2	1μm,0.4s			SME			
XAN	**Xi'an**	**3.72**	**61**	Pn	**Pn**	**14 14 32.5**	**+1.9**
XAN				Pg	**Pg**	**14 14 43.3**	**-1.6**
XAN				Sn	**Sn**	**14 15 15.8**	**+1.6**
XAN				Sg	**Sg**	**14 15 29.8**	**-3.3**
XAN	250nm,0.7s			SMN			
XAN	320nm,0.6s			SME			
LZH	**Lanzhou**	**3.92**	**346**	*e*Pn	Pn	14 14 37.0	+3.6
LZH				Pg	**Pb**	**14 14 44.0**	**+1.4**
LZH				Sn	**Sn**	**14 15 22.3**	**+3.0**
LZH				Sg	**Sg**	**14 15 35.0**	**-4.6**
LZH	350nm,1.4s			SMN			
LZH	830nm,1.3s			SME			
LZH	420nm,5.8s			LN			
LZH	630nm,4.4s			LE			
GYA	**Guiyang**	**5.97**	**166**	Pn	Pn	14 15 08.5	+6.9
GYA				Sn	**Sn**	**14 16 10.3**	**+0.5**
GYA				SMN			
GYA	80nm,0.7s			SME			
GTA	**Gaotai**	**8.28**	**331**	*e*P	Pn	14 15 39.5	+6.3
GTA				pP	pP	14 15 44.0	
GTA				sP		14 15 46.5	
GTA	90nm,0.7s			PMZ			
CMAR	**Chiang Mai Arr**	**14.81**	**203**	Pn	**Pn**	**14 17 03.6**	**+1.0**
	2.0nm,0.8s						
SONM	**Songino Array**	**15.58**	**3**	Pn	**Pn**	**14 17 12.0**	**-0.7**
	0.1nm,0.3s,baz=8.7,slow=9.3,SNR=2.7						
KSRS	**Korea Array**	**19.48**	**68**	P	**P**	**14 17 59.4**	**-0.5**
	0.3nm,0.3s,baz=191,slow=12,SNR=3.6						
ZALV	**Zalesovo Beam**	**26.03**	**332**	P	**P**	**14 19 05.9**	**0.0**
	0.2nm,0.3s,baz=257,slow=11,SNR=5.5						
KURBB	**Kurchatov Arra**	**26.79**	**321**	P	**P**	**14 19 13.1**	**+0.2**
	1.0nm,0.6s,baz=133,slow=10,SNR=5.1						
ARCES	**ARCESS Array B**	**56.51**	**336**	P	**P**	**14 23 14.9**	**+0.1**
	0.9nm,0.7s,baz=129,slow=9.5,SNR=9.4						
BRTR	**Keskin Array B**	**56.84**	**299**	P	**P**	**14 23 17.6**	**-0.1**
	0.8nm,0.5s,baz=90,slow=6.9,SNR=11						
FINES	**FINESS Array B**	**57.03**	**326**	P	**P**	**14 23 18.6**	**+0.1**
	0.5nm,0.8s,baz=69,slow=7.9,SNR=2.7						
WRA	**Warramunga Arr**	**59.03**	**147**	P	**P**	**14 23 33.3**	**+0.3**
	0.9nm,0.4s,baz=86,slow=8.0,SNR=7.2						
ASAR	**Alice Springs**	**62.10**	**150**	P	**P**	**14 23 54.4**	**+0.4**
	0.7nm,0.5s,baz=340,slow=7.7,SNR=16						
NB2	**NORSAR Subarra**	**64.09**	**327**	P	**P**	**14 24 06.4**	**-0.4**
	0.4nm,0.4s,baz=328,slow=6.5,SNR=9.3						
NOA	**NORSAR Array B**	**64.09**	**327**	P	**P**	**14 24 06.3**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=74,slow=6.9						
YKA	**Yellowknife Ar**	**80.35**	**17**	P	**P**	**14 25 44.2**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=71,slow=6.7,SNR=4.1						
	comp=Z,0.5nm,0.5s,baz=328,slow=4.4,SNR=3.3						

IDC ***29*** *14:39:31.1±1.0, 21.83N×121.79E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.5/30, mbtmp3.5/8, ML2.7/2, MS2.8/1, Ms1 3.0/1, ms1mx2.3/28, Error ellipse: s-maj=27.0km s-min=20.8km az=90.0*
JMA ***29*** *14:39:32.3±0.3, 21.95N×121.53E, h0km, M3.9*
ISCJB ***29*** *14:39:33.9±0.7, 21.79N±0.03×121.49E±0.02, h15km±6km, mb3.5/5, MS2.6/1, Error ellipse: s-maj=5.7km s-min=3.3km az=178.4*
TAP ***29*** *14:39:35.3, 21.87N×121.32E, h31km±1km, ML3.9, D*
ISC 29 14:39:31.4±1.5, 21.85N±0.04×121.54E±0.03, h1km±9km, n79,σ1§25/128, mb3.6/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.59**	**275**	P	**Pb**	**14 39 45.2**	**+0.6**
TSEB	baz=275			*i* S	**Sb**	**14 39 52.7**	**-0.8**
TWK1	**Hengchun**	**0.68**	**278**	*i* P	**Pg**	**14 39 45.7**	**+1.1**
TWK1	baz=287			S	**Sg**	**14 39 54.1**	**+0.7**
HEN	**Hengchun**	**0.76**	**282**	P	**Pg**	**14 39 46.9**	**+0.9**
HEN	baz=290			S	**Sg**	**14 39 54.8**	**-0.9**
TAW	**Tawu**	**0.78**	**311**	P	**Pg**	**14 39 47.1**	**+0.7**
TAW	baz=322			S	**Sg**	**14 39 56.6**	**+0.1**
EAST	**Anshuo**	**0.83**	**310**	P	**Pg**	**14 39 47.8**	**+0.4**
EAST	baz=328			*i* S	**Sg**	**14 39 57.5**	**-0.6**
ECL	**Taimali**	**0.92**	**324**	P	**Pg**	**14 39 49.0**	**-0.1**
ECL	baz=336			S	**Sg**	**14 40 00.6**	**-0.4**
TTN	**Taitung**	**0.97**	**338**	P	**Pb**	**14 39 51.8**	**+0.7**
TTN	baz=350			S	**Sb**	**14 40 03.9**	**-0.5**
SCZT	**Fangliau**	**0.99**	**302**	*eP*	**Pg**	**14 39 50.8**	**+0.3**
SCZT	baz=317			*eS*	**Sg**	**14 40 03.5**	**+0.1**
TWG	**Pinlang**	**1.06**	**336**	P	**Pg**	**14 39 51.4**	**-0.3**
TWG	baz=347			*i* S	**Sg**	**14 40 04.7**	**-0.8**
TWP	**Hsiaoliuchiu**	**1.20**	**295**	*eP*	Pn	**14 39 56.1**	**+0.8**
SSD	**Sandimen**	**1.22**	**317**	*eP*	Pn	**14 39 56.2**	**+0.5**
SSD	baz=324			*eS*	**Sg**	**14 40 11.0**	**+0.2**
CHKT	**Chengkung**	**1.25**	**353**	P	**Pg**	**14 39 56.0**	**+0.5**
CHKT	baz=12			*eS*	**Sg**	**14 40 11.9**	**+0.1**
SGLT	**Jiouru**	**1.30**	**312**	*eP*	Pn	**14 39 57.3**	**+0.5**
SGLT	baz=324			*eS*	**Sg**	**14 40 12.2**	**-1.1**
KAU	**Kaohsiung**	**1.34**	**302**	*eP*	Pn	**14 39 58.2**	**+0.9**
KAU	baz=290			*eS*	**Sg**	**14 40 13.4**	**-1.3**
TWM1	**Shoushan**	**1.42**	**314**	P	Pb	**14 39 59.5**	**+0.9**
TWM1	baz=319			*eS*	**Sg**	**14 40 15.6**	**-1.3**
STYT	**Tauyuan**	**1.49**	**331**	*eP*	Pn	**14 39 59.2**	**-0.3**
STYT	baz=349			*eS*	**Sg**	**14 40 18.4**	**-1.1**
SGST	**Jiashian**	**1.51**	**325**	*eP*	**Pg**	**14 40 01.3**	**+0.9**
SGST	baz=342			*eS*	**Sg**	**14 40 18.9**	**-1.1**
TWF1	**Yuli**	**1.51**	**352**	*eP*	Pn	**14 39 60.0**	**+0.3**
CHN1	**Nanshi**	**1.62**	**325**	P	Pb	**14 40 02.6**	**+0.4**
CHN1	baz=331			*eS*	**Sn**	**14 40 22.4**	**-0.5**
WTP	**Ta-pu**	**1.63**	**329**	*eP*	Pn	**14 40 02.0**	**+0.7**
WTP	baz=335			*eS*	**Sn**	**14 40 22.7**	**-0.4**
CHN3	**Shinhua**	**1.63**	**319**	*eP*	Pg	**14 40 03.5**	**+0.7**
CHN3	baz=324			*eS*	**Sn**	**14 40 22.4**	**-0.6**
EHY	**Hungye**	**1.66**	**353**	*eP*	Pn	**14 40 01.0**	**-0.8**
TWK	**Hsinying**	**1.71**	**326**	*eP*	Pb	**14 40 03.9**	**+0.1**
TWK	baz=332			S	**Sn**	**14 40 23.9**	**-1.1**
YUS	**Yu-Shan**	**1.72**	**342**	*eP*	Pn	**14 40 03.0**	**+0.1**
YUS	baz=356			*eS*	**Sn**	**14 40 25.0**	**-0.8**
CHN4	**Tsaushan**	**1.73**	**330**	*eP*	Pb	**14 40 04.0**	**-0.1**
CHN4	baz=336			*eS*	**Sn**	**14 40 25.3**	**-0.1**
ALS	**Alishan**	**1.79**	**338**	*eP*	Pb	**14 40 05.3**	**+0.1**
ALS	baz=352			*eS*	**Sn**	**14 40 26.4**	**-0.8**
CHN5	**Tsauling**	**1.91**	**336**	*eP*	Pn	**14 40 06.8**	**+1.5**
CHN5	baz=348			*eS*

baz=353
WGK Gukeng 2.04 334 *e*P **Pb 14 40 09.1 -0.2**
baz=339
WGK *e*S **Sn 14 40 33.1 +0.1**
baz=339
SMLT Sun Moon Lake 2.11 344 *e*P **Pb 14 40 10.2 -0.3**
baz=349
SMLT *e*S **Sn 14 40 35.7 +0.8**
baz=349
TYC Yuchr 2.14 343 *e*P **Pb 14 40 10.4 -0.6**
baz=348
TYC *e*S **Sn 14 40 36.5 +1.0**
baz=348
WSF Szhu 2.15 326 *e*P **Pn 14 40 09.0 +0.5**
baz=330
WSF *e*S **Sn 14 40 35.6 -0.3**
baz=330
WNT Mingjian 2.17 339 *e*P **Pn 14 40 10.4 +1.8**
baz=344
WNT *e*S **Sn 14 40 36.6 +0.4**
baz=344
TWD Chiawan 2.22 1 *e*P **Pn 14 40 10.4 +1.0**
baz=357
TWD *e*S **Sn 14 40 38.6 +1.0**
baz=357
WDGT Dungji 2.23 309 *e*P **Pn 14 40 08.7 -0.9**
baz=312
WDGT *e*S **Sn 14 40 33.7 -4.0**
baz=312
WHF Hehuan Shan 2.30 354 *e*P **Pn 14 40 12.1 +1.2**
baz=9.0
WHF *e*S **Sn 14 40 41.0 +0.9**
baz=9.0
TWT Tachien 2.42 352 *e*P **Pb 14 40 14.8 -1.0**
baz=6.0
TWT *e*S **Sn 14 40 42.6 0.0**
baz=6.0
TCU Taichung 2.42 341 *e*P **Pn 14 40 14.6 +2.4**
baz=333
TCU *e*S **Sn 14 40 44.1 +1.6**
baz=333
PNG Penghu 2.50 313 *e*P **Pn 14 40 12.8 -0.5**
baz=316
PNG *e*S **Sn 14 40 41.7 -2.8**
baz=316
ENA Nanau 2.58 4 *e*P **Pn 14 40 14.9 +0.6**
baz=358
ENA *e*S **Sn 14 40 47.6 +1.3**
baz=358
NNS Nan Shan 2.58 357 *e*P **Pb 14 40 18.6 -0.1**
baz=12
NNS *e*S **Sn 14 40 48.1 +1.5**
baz=12
TWQ1 Liyutan 2.58 344 *e*P **Pn 14 40 17.0 +2.6**
baz=335
NSY Sanyi 2.65 345 *e*P **Pb 14 40 19.5 -0.3**
baz=348
NSY *e*S **Sn 14 40 50.0 +1.8**
baz=348
TWC Suao 2.76 6 *e*P **Pn 14 40 19.7 +2.9**
baz=359
TWC *e*S **Sn 14 40 52.7 +1.8**
baz=359
ENTT Nioudou 2.78 1 *e*P **Pn 14 40 19.1 +2.0**
baz=5.0
ENTT *e*S **Sn 14 40 52.7 +1.4**
baz=5.0
NSTT Nanjuang 2.81 350 *e*P **Pb 14 40 20.8 -1.7**
baz=338
NSTT *e*S **Sn 14 40 51.2 -0.9**
baz=338
NSK Sanguang 2.82 357 *e*P **Pn 14 40 19.4 +1.6**
baz=11
NSK *e*S **Sn 14 40 53.0 +0.6**
baz=11
TWE Neicheng 2.86 2 *e*P **Pb 14 40 21.6 -1.7**
baz=6.0
TWE *e*S **Sn 14 40 54.9 +1.5**
baz=6.0
JYNG Yonagunijimaku 2.90 26 P **Pn 14 40 20.4 +1.7**
JYNG S **Sn 14 40 54.4 +0.2**
YOJ Yonaguni jima 2.94 27 P **Pn 14 40 21.4 +2.2**
EGS 3.00 7 *e*P **Pb 14 40 24.2 -1.6**
baz=21
EGS *e*S **Sn 14 40 58.7 +1.9**
baz=21
HATJ Hateruma jima 3.04 43 P **Pn 14 40 22.8 +2.2**
TWA Mucha 3.12 1 *e*P Pn 14 40 25.3 +3.5
baz=4.0
TWA *e*S **Sn 14 41 00.7 +1.0**
baz=4.0
IRIF Iriomote-Funau 3.19 39 P **Pn 14 40 24.2 +1.4**
NWF Wu-fen Shan 3.22 4 *e*P **Pb 14 40 27.1 -2.3**
baz=359
NWF *e*S **Sn 14 41 05.1 +2.9**
baz=359
JKRS Kuro-shima 3.29 43 P **Pn 14 40 25.7 +1.5**
JKRS *e*S **Sn 14 41 03.3 -0.7**
JIJ Ishigaki jima 3.47 43 P **Pn 14 40 27.9 +1.3**
JIJ *e*S **Sn 14 41 06.9 -1.4**
JISG Ishigakijimahi 3.73 43 P **Pn 14 40 31.3 +1.1**
JISG *e*S **Sn 14 41 13.3 -1.6**
KNM Kinmen 3.83 312 *e*P **Pn 14 40 31.2 -0.3**
baz=313
JTJ Tarama 4.03 46 P **Pn 14 40 35.8 +1.6**
JTJ *e*S **Sn 14 41 21.4 -0.7**
JIRB Irabujima 4.47 48 P **Pn 14 40 40.9 +0.6**
JIRB *e*S **Sn 14 41 31.6 -1.4**
JIKM Ikemajima 4.58 47 P **Pn 14 40 44.3 +2.4**
JOW Kunigami 7.90 50 Pn **Pn 14 41 25.8 -1.6**
0.2nm,0.3s,baz=263,slow=10,SNR=15
KSRS Korea Array 16.50 18 Pn **Pn 14 43 23.6 -0.6**
0.1nm,0.3s,baz=200,slow=11,SNR=3.0
MJAR Matsushiro Arr 20.60 41 P **P 14 44 10.0 -2.0**
0.9nm,0.7s,baz=214,slow=13,SNR=9.7
CMAR Chiang Mai Arr 21.47 265 P **P 14 44 24.2 +2.7**
0.4nm,0.3s,baz=68,slow=7.9,SNR=5.4
CMAR LR LR 14 52 24.0
comp=Z,25nm,18.6s,baz=175,slow=36
H11N1 WAKE ISLAND Hy 42.34 84 T T 15 32 38.2
baz=282,slow=75,SNR=10
H11N2 WAKE ISLAND Hy 42.35 84 T T 15 32 38.2
baz=282,slow=75,SNR=12
H11N3 WAKE ISLAND Hy 42.36 84 T T 15 32 39.4
baz=282,slow=75,SNR=12
ZALV Zalesovo Beam 42.38 328 P **P 14 47 27.6 +0.4**
0.5nm,0.3s,baz=116,slow=10,SNR=3.8
H11S3 WAKE ISLAND Hy 42.40 86 T T 15 32 41.9
baz=283,slow=74,SNR=38
H11S1 WAKE ISLAND Hy 42.41 86 T T 15 32 40.2
baz=283,slow=74,SNR=44
H11S2 WAKE ISLAND Hy 42.42 86 T T 15 32 41.5
baz=283,slow=74,SNR=30
WRA Warramunga Ar 43.38 162 P **P 14 47 34.1 -1.6**
0.3nm,0.3s,baz=346,slow=8.9,SNR=11
ASAR Alice Springs 46.81 164 P **P 14 48 02.5 -0.5**
0.2nm,0.4s,baz=346,slow=6.8,SNR=10
GERES GERESS Array B 84.85 321 P **P 14 52 08.6 +0.6**
0.5nm,0.6s,baz=45,slow=2.5,SNR=3.6

*MEX **29** 14:57:27.0±1.0, 32.°61N×115.°15W, h15km, MD3.6*
*ISCJB **29** 14:57:28.3±0.4, 32.°34N±0.°02×115.°34W±0.°03, h22km±4km, Error ellipse: s-maj=4.1km s-min=3.4km az=0.7*
*ECX **29** 14:57:29.9±0.6, 32.°32N×115.°40W, h5km, MD2.9, ML3.1*
*NEIC **29** 14:57:29.9, 32.°32N×115.°40W, h8km, MD3.6(MEX), ML2.9(PAS), ML3.1(ECX), After ECX.*
ISC 29 14:57:28.2±0.8, 32.°32N±0.°02×115.°38W±0.°02, h15km±5km, n38, σ0°96/62, 7C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.12**	**33**	*i* P	**Pg**	**14 57 31.8**	**+0.1**
CPBX				*i* S	**Sg**	**14 57 35.4**	**+1.3**
CPBX	**Cerro Prieto**	**0.12**	**33**	*e*Pn	**Pg**	**14 57 31.7**	**-0.1**
CPBX				*e*S	**Sg**	**14 57 33.4**	**-0.6**
CPBX				IAML		14 57 35.3	
	comp=N,21μm,0.3s						
CPBX				⇓*e*		14 57 35.3	
SGL	**Mount Signal**	**0.44**	**319**	⇑*i* P	**Pb**	**14 57 37.4**	**-0.2**
WESC	**Westside Schoo**	**0.53**	**326**	*e*P	**Pb**	**14 57 39.6**	**+0.4**
EMSC	**East Mesa**	**0.54**	**38**	⇑*i* P	**Pb**	**14 57 39.9**	**+0.6**
YUH	**Yuha Desert**	**0.56**	**306**	⇓*i* P	**Pg**	**14 57 39.4**	**+0.1**
COA	**Coachella**	**0.58**	**22**	⇑*i* P	**Pb**	**14 57 40.5**	**+0.4**
COK	**Cook Ranch**	**0.60**	**331**	*e*Pn	**Pb**	**14 57 40.8**	**+0.4**
RDX	**Rancho Dawling**	**0.61**	**231**	⇑*e*P	**Pg**	**14 57 40.1**	**-0.2**
RDX				*e*S	**Sg**	**14 57 48.5**	**0.0**
RDX				⇓*e*		14 57 50.6	
RDX				IAML		14 57 50.6	
	comp=N,570nm,0.3s						
RMX	**La Rumorosa**	**0.65**	**296**	*e*P	**Pg**	**14 57 41.0**	**-0.1**
RMX				*e*S	**Sg**	**14 57 49.8**	**0.0**
IBP	**Imperial Bould**	**0.69**	**300**	P	**Pg**	**14 57 41.8**	**+0.1**
	baz=0.7,SNR=240						
IBP				S	**Sb**	**14 57 51.6**	**+0.2**
	baz=0.7						
BTCC	**Brunts Corner**	**0.70**	**11**	⇑*i* P	**Pg**	**14 57 42.1**	**+0.1**
SWSC	**Sam W. Stewart**	**0.71**	**331**	P	**Pg**	**14 57 42.2**	**+0.1**
	baz=0.7,SNR=41						
SWSC				S	**Sg**	**14 57 51.2**	**-0.3**
	baz=0.7						
CRR	**Carrizo Plain**	**0.75**	**319**	⇓*i* P	**Pb**	**14 57 43.1**	**+0.1**
GLA	**Glamis**	**0.87**	**32**	P	**Pg**	**14 57 44.4**	**-0.7**
	baz=0.9,SNR=36						
GLA				S	**Sg**	**14 57 53.8**	**-2.7**
	baz=0.9						
GLA	**Glamis**	**0.87**	**32**	*e*P	**Pg**	**14 57 44.2**	**-0.8**
GLA				*e*Sg	**Sg**	**14 57 55.7**	**-0.8**
ECBX	**El Chinero**	**0.89**	**162**	⇑*e*P	**Pg**	**14 57 44.0**	**-1.4**
ECBX				*e*S	**Sg**	**14 57 56.4**	**-0.7**
MONP	**Monument Peak,**	**1.05**	**303**	P	**Pb**	**14 57 47.8**	**-0.3**
	baz=1.0,SNR=110						
MONP				S	**Sb**	**14 58 02.2**	**+0.5**
	baz=1.0						
CBX	**Cerro Bola**	**1.09**	**270**	*e*P	**Pb**	**14 57 46.7**	**-2.0**
CBX				*i* S	**Sg**	**14 58 03.0**	**-0.4**
CBX	**Cerro Bola**	**1.09**	**270**	*e*P	**Pb**	**14 57 46.7**	**-2.0**
CBX				*i* S	**Sg**	**14 58 03.0**	**-0.4**
CBX	**Cerro Bola**	**1.09**	**270**	*e*P	**Pb**	**14 57 48.8**	**0.0**
CBX				*e*S	**Sg**	**14 58 03.1**	**-0.4**
CBX				⇓*e*		14 58 07.1	
CBX				IAML		14 58 07.1	
	comp=E,501nm,0.3s						
BAR	**Barrett**	**1.15**	**289**	*e*P	**Pb**	**14 57 49.6**	**-0.2**
BAR				*e*S	**Sb**	**14 58 04.6**	**+0.1**
BAR	**Barrett**	**1.15**	**289**	⇓*i* P	**Pb**	**14 57 49.5**	**-0.2**
ECNX	**Esteban Cantu**	**1.23**	**238**	*e*P	**Pn**	**14 57 51.3**	**+0.4**
ECNX				*e*S	**Sb**	**14 58 07.2**	**+0.4**
SPIG	**San Pedro Mart**	**1.27**	**183**	*i* P	**Pn**	**14 57 51.1**	**-0.6**
SPIG				*i* S	**Sn**	**14 58 09.3**	**+0.7**
SPIG	**San Pedro Mart**	**1.27**	**183**	*i* P	**Pn**	**14 57 51.1**	**-0.6**
SPIG				*i* S	**Sn**	**14 58 09.3**	**+0.7**
SPX	**San Pedro Mart**	**1.27**	**183**	*e*P	**Pn**	**14 57 51.1**	**-0.6**
SPX				*i* S	**Sb**	**14 58 09.1**	**+0.8**
SPX	**San Pedro Mart**	**1.27**	**183**	*e*S	**Sb**	**14 58 09.1**	**+0.8**
SPX				⇑*e*		14 58 11.5	
SPX				IAML		14 58 11.5	
	comp=E,266nm,0.4s						
PBX	**Punta Banda**	**1.28**	**244**	*e*P	**Pb**	**14 57 52.1**	**+0.2**
PBX				*e*S	**Sn**	**14 58 08.9**	**+0.6**
BC3	**Big Chuckawall**	**1.33**	**357**	P	**Pn**	**14 57 51.3**	**-1.0**
	baz=1.3,SNR=32						
BC3				S	**Sb**	**14 58 08.3**	**-1.6**
	baz=1.3						
109C	**Camp Elliot, M**	**1.56**	**292**	P	**Pn**	**14 57 55.9**	**+0.5**
	baz=1.5,SNR=12						
109C				S	**Sb**	**14 58 16.6**	**+0.2**
	baz=1.5						
PFO	**Pinyon Flats O**	**1.57**	**325**	P	**Pn**	**14 57 54.8**	**-0.8**
	baz=1.6,SNR=16						
PFO				S	**Sn**	**14 58 14.7**	**-1.0**
	baz=1.6						
PFO	**Pinyon Flats O**	**1.57**	**325**	*e*Pn	**Pn**	**14 57 54.8**	**-0.8**
MURC	**Murrieta**	**1.99**	**310**	P	**Pn**	**14 58 01.4**	**+0.1**
	baz=2.0						
MURC				Sb	**Sg**	**14 58 31.2**	**-1.2**
	baz=2.0						
214A	**Organ Pipe Nat**	**2.21**	**99**	Sb	**Sb**	**14 58 37.6**	**+2.6**
	baz=2.2						
214A	**Organ Pipe Nat**	**2.21**	**99**	*e*Pn	**Pn**	**14 58 03.1**	**-1.2**
214A				*e*Pg	**Pg**	**14 58 11.7**	**+1.1**
MWC	**Mount Wilson**	**2.94**	**311**	*e*Pg	**Pb**	**14 58 21.7**	**+1.3**
GSC	**Goldstone, Bar**	**3.20**	**339**	*e*Pg	**Pg**	**14 58 32.2**	**+2.7**

*IDC **29** 15:32:52.5±0.5, 17.°19S×173.°32W, h0km, mb4.5/23, mb1 4.7/24, mb1mx4.6/34, mbtmp4.5/24, ML3.4/1, MS4.4/26, Ms1 4.5/26, ms1mx4.4/32, Error ellipse: s-maj=18.4km s-min=12.6km az=135.0*
*GCMT **29** 15:32:54.4±0.2, 17.°29S×172.°68W, h31km, MW5.2/89, Moment Tensor Solution. s56,c82; s89,c132; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr4.12±.19; Mθθ1.46±.14; Mϕϕ-5.57±.14; Mrθ2.11±.24; Mrϕ-0.78±.09; Mθϕ4.86±.21; Best double couple: M0 7.26000×10^16^ NP1:ϕ1=21.00000°, δ70.00000°, λ104.00000°. NP2: ϕ2=166.00000°, δ25.00000°, λ57.00000°. Principal axes: T 6.6770, Plg63.0000°, Azm313.0000°; N 1.1770, Plg13.0000°, Azm196.0000°; P -7.8430, Plg23.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 15:32:54.4±0.2, 17.°18S×173.°23W, h10km, mb5.0/77 Error ellipse: s-maj=10.0km s-min=5.0km az=142.0*
*BJI **29** 15:32:56.1, 17.°58S×173.°31W, h14km, mb5.1/24, mB5.3/25, Ms5.0/23, Ms7 4.7/23*
*ISCJB **29** 15:32:57.4±0.2, 17.°40S±0.°06×172.°75W±0.°05, h33km, mb5.0/150, MS4.6/37, Error ellipse: s-maj=9.3km s-min=5.8km az=150.5*
*MOS **29** 15:33:01.5±1.8, 16.°49S×174.°18W, h38km, mb4.9/28, MS4.7/12, Error ellipse: s-maj=16.4km s-min=12.3km az=121.0*
ISC 29 15:32:57.0±0.5, 17.°44S±0.°07×172.°97W±0.°06, h26km±2km, h25km:pP-P, n527, σ1°49/446, mb5.1/150, MS4.6/37, 47C-9D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.69**	**18**	*e*P	Pn	15 33 44.4	-8.1
MSVF	**Nonsavu**	**8.57**	**267**	Pn	Pn	15 35 04.0	+4.4
	1μm,1.0s,SNR=56						
MSVF	**Nonsavu**	**8.57**	**267**	*e*P	Pn	15 35 04.0	+4.4
	496nm,1.3s						
RAR	**Rarotonga**	**13.01**	**109**	Pn	Pn	15 35 56.4	-3.8
	6.0nm,0.3s,baz=278,slow=8.2,SNR=7.7						
RAR				Sn	Sn	15 38 17.4	-6.6
	1.3nm,0.3s,baz=146,slow=18,SNR=2.4						
RAR				LR	LR	15 39 51.6	
	comp=Z,3μm,21.1s,baz=282,slow=31						
DZM	**Mont Dzumac**	**19.91**	**253**	*e*P	**Pn**	**15 37 31.9**	**+3.2**
	110nm,1.1s						
DZM				*e*LR	LR	15 42 17.0	
	5μm,23.6s						
DZM	**Mont Dzumac**	**19.91**	**253**	P	**P**	**15 37 23.2**	**-3.7**
	0.1nm,0.3s,baz=270,slow=20,SNR=1.9						
DZM				LR	LR	15 43 55.6	
	comp=Z,4μm,19.9s,baz=180,slow=34						
DZM	**Mont Dzumac**	**19.91**	**253**	P	**P**	**15 37 26.7**	**-0.2**
OUZ	**Omahuta**	**21.38**	**211**	*e*P	**P**	**15 37 44.4**	**+1.9**
PAE	**Paea**	**22.30**	**94**	*e*T	T	16 00 35.3	
	5.3nm,0.4s						
PPT2	**Papeete2**	**22.30**	**94**	*e*LR	LR	15 43 12.5	
	4μm,24.8s,baz=259						
PPT2	**Papeete2**	**22.30**	**94**	*e*T	T	16 00 36.8	
	9.5nm,0.4s						
PPT	**Papeete**	**22.31**	**94**	LR	LR	15 44 05.9	
	comp=Z,1μm,21.0s,baz=253,slow=30						
URZ	**Urewera**	**22.49**	**201**	P	**P**	**15 37 54.6**	**+0.1**
	18nm,0.5s,baz=46,slow=7.0,SNR=18						
URZ	**Urewera**	**22.49**	**201**	*e*P	**P**	**15 37 55.7**	**+1.3**
TVO	**Taravao**	**22.60**	**94**	*e*T	T	16 00 58.4	
	3.7nm,0.4s						
TBI	**Tubuai**	**22.79**	**109**	*e*LQ	LQ	15 42 29.0	
	847nm,28.5s						
TBI				*e*LR	LR	15 43 20.3	
	5μm,27.5s,baz=284						
TBI	**Tubuai**	**22.79**	**109**	*e*T	T	16 01 13.8	
	19nm,0.4s						
HNR	**Honiara**	**27.50**	**283**	*e*P	**P**	**15 38 45.5**	**+4.1**
	152nm,1.0s						
RPZ	**Rata Peaks**	**29.48**	**204**	P	**P**	**15 38 59.8**	**+0.9**
	7.3nm,0.9s,baz=353,slow=16,SNR=2.2						
TAOE	**Nuku Hiva Isla**	**33.03**	**79**	*e*T	T	16 13 57.9	
	463nm,0.3s						
RKT	**Rikitea**	**36.01**	**105**	*e*LR	LR	15 49 24.5	
	2μm,27.2s						
RKT	**Rikitea**	**36.01**	**105**	*e*T	T	16 17 44.8	
	5.0nm,0.4s						
CTA	**Charters Tower**	**38.64**	**259**	P	**P**	**15 40 15.6**	**-3.0**
	3.2nm,0.7s,baz=93,slow=11,SNR=3.9						
CTA	**Charters Tower**	**38.64**	**259**	P	**P**	**15 40 15.6**	**-3.0**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CTAO	**Charters Tower**	**38.64**	**259**	*e*P	P	15 40 15.2	-3.4
	comp=Z,15nm,0.8s						
PTCN	**Pitcairn Islan**	**40.54**	**108**	P	**P**	**15 40 32.4**	**-1.9**
	comp=Z,787nm,0.6s						
H11S2	**WAKE ISLAND Hy**	**40.92**	**330**	T	T	16 22 55.1	
	baz=146,slow=76,SNR=9.5						
H11S3	**WAKE ISLAND Hy**	**40.93**	**330**	T	T	16 22 56.3	
	baz=146,slow=76,SNR=6.3						
H11S1	**WAKE ISLAND Hy**	**40.94**	**330**	T	T	16 22 55.1	
	baz=146,slow=76,SNR=3.0						
H11N3	**WAKE ISLAND Hy**	**41.88**	**331**	T	T	16 24 32.6	
	baz=156						
H11N1	**WAKE ISLAND Hy**	**41.89**	**331**	T	T	16 24 32.6	
	baz=156						
H11N2	**WAKE ISLAND Hy**	**41.90**	**331**	T	T	16 24 30.3	
	baz=156						
STKA	**Stephens Creek**	**43.41**	**242**	P	**P**	**15 40 55.5**	**-2.2**
	comp=Z,8.7nm,1.0s,baz=86,slow=7.5,SNR=5.2						
STKA				LR	LR	15 57 08.0	
	comp=Z,436nm,18.3s,baz=68,slow=34						
STKA	**Stephens Creek**	**43.41**	**242**	*e*P	**P**	**15 40 56.1**	**-1.7**
JAY	**Jayapura**	**47.82**	**283**	P	P	15 41 40.6	+7.8
	comp=Z,54nm,1.1s						
JAY	**Jayapura**	**47.82**	**283**	P	**P**	**15 41 29.6**	**-3.2**
	comp=Z,6.0nm,0.9s,baz=141,slow=16,SNR=2.2						
JAY				LR	LR	15 59 25.6	
	comp=Z,587nm,21.4s,slow=34						
BBOO	**Buckleboo**	**48.18**	**241**	*e*P	**P**	**15 41 33.8**	**-1.5**
	comp=Z,103nm,1.6s						
GENI	**Genyem**	**48.29**	**282**	P	P	15 41 44.5	+8.1
	comp=Z,170nm,1.0s,comp=Z,2μm						
WRAB	**Tennant Creek**	**49.81**	**258**	*e*P	P	15 41 39.0	-9.0
WRAB				pmax	pmax		
	comp=Z,23nm,1.4s						
WRAB	**Tennant Creek**	**49.81**	**258**	*e*P	P	15 41 44.1	-3.9
	comp=Z,44nm,1.0s						
WRA	**Warramunga Arr**	**49.81**	**258**	P	P	15 41 43.8	-4.3
	comp=Z,1.8nm,0.5s,baz=97,slow=6.9,SNR=69						
WRA				PcP	**PcP**	**15 43 08.2**	**-0.5**
	comp=Z,2.0nm,1.0s,baz=95,slow=5.6,SNR=2.0						
WRA				LR	LR	16 00 55.7	
	comp=Z,1μm,22.0s,baz=80,slow=34						
WRA	**Warramunga Arr**	**49.81**	**258**	P	P	15 41 43.8	-4.3
WRA						15 43 08.2	
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SMPI	**Sarmi**	**49.86**	**282**	P	P	15 41 55.1	+6.6
	comp=Z,41nm,1.1s,comp=Z,5μm						
AS31	**Alice Springs**	**49.91**	**254**	*e*P	**P**	**15 41 45.6**	**-3.1**
ASAR	**Alice Springs**	**49.91**	**254**	P	P	15 41 45.2	-3.6
	comp=Z,20nm,1.0s,baz=89,slow=8.4,SNR=104						
ASAR				PcP	**PcP**	**15 43 07.9**	**-1.1**
	comp=Z,4.5nm,0.7s,baz=91,slow=7.2,SNR=1.6						
ASAR				LR	LR	16 01 46.1	
	comp=Z,574nm,19.0s,baz=93,slow=35						
ASAR	**Alice Springs**	**49.91**	**254**	P	P	15 41 45.2	-3.6
ASAR						15 43 07.9	
ASAR				pmax	pmax		
	comp=Z,20nm,1.0s						
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GUMO	**Guam**	**51.80**	**304**	LR	LR	16 01 12.9	
	comp=Z,344nm,18.8s,baz=136,slow=33						
SRPI	**Serui, Papua**	**52.21**	**281**	P	P	15 42 14.2	+8.1
	comp=Z,49nm,1.0s						
RKPI	**Ransiki, Papua**	**54.27**	**281**	P	P	15 42 29.3	+8.0
	comp=Z,56nm,0.8s						
FAKI	**Fak Fak**	**55.61**	**279**	P	P	15 42 37.7	+6.7
	comp=Z,20nm,1.1s						
FAKI	**Fak Fak**	**55.61**	**279**	*e*P	**P**	**15 42 28.9**	**-2.1**
	comp=Z,15nm,0.9s						
SIJI	**Sorong**	**57.22**	**280**	P	**P**	**15 42 39.5**	**-3.0**
	comp=Z,12nm,0.6s,baz=90,slow=7.1,SNR=12						
SIJI				LR	LR	16 06 14.4	
	comp=Z,587nm,20.6s,baz=182,slow=35						
SWI	**Sorong**	**57.23**	**280**	P	P	15 42 49.7	+7.2
	comp=Z,232nm,0.9s,comp=Z,2μm						
MSAI	**Masohi**	**58.62**	**277**	P	P	15 42 58.9	+6.6
	comp=Z,13nm,0.9s						
NLAI	**Namlea**	**60.38**	**276**	P	P	15 43 11.9	+7.4
	comp=Z,57nm,0.8s,comp=Z,560nm						
SBA	**Scott Base**	**61.26**	**185**	*e*P	**P**	**15 43 12.0**	**+2.6**
	comp=Z,24nm,1.3s						
SOEI	**Soe**	**61.27**	**268**	P	P	15 43 17.3	+6.7
	comp=Z,105nm,0.9s						
SOEI	**Soe**	**61.27**	**268**	*e*P	**P**	**15 43 10.3**	**-0.4**
	comp=Z,83nm,0.9s						
VNDA	**Vanda**	**61.40**	**186**	P	**P**	**15 43 11.7**	**+1.3**
	comp=Z,6.5nm,1.1s,baz=12,slow=7.1,SNR=14						
VNDA				LR	LR	16 04 43.6	
	comp=Z,139nm,21.0s,baz=354,slow=31						
VNDA	**Vanda**	**61.40**	**186**	*e*P	**P**	**15 43 12.5**	**+2.1**
TNTI	**Ternate**	**61.44**	**281**	P	P	15 43 19.1	+7.4
	comp=Z,80nm,1.2s						
TNTI	**Ternate**	**61.44**	**281**	*e*P	**P**	**15 43 12.0**	**+0.3**
	comp=Z,76nm,1.0s						
SANI	**Sanana**	**61.81**	**277**	P	P	15 43 21.2	+7.0
	comp=Z,103nm,0.9s,comp=Z,868nm						
JCJ	**Chichijima**	**62.07**	**315**	LR	LR	16 05 35.0	
	comp=Z,620nm,20.3s,baz=166,slow=32						
KMSI	**Cibinong**	**64.56**	**279**	P	P	15 43 39.5	+7.1
	comp=Z,93nm,1.1s						
LUWI	**Luwuk**	**65.18**	**277**	P	P	15 43 44.4	+8.0
	comp=Z,134nm,1.1s,comp=Z,1μm						
LUWI	**Luwuk**	**65.18**	**277**	*e*P	P	15 43 40.7	+4.3
	comp=Z,136nm,1.0s						
BSSI	**Bau Bau, Buton**	**65.83**	**271**	P	P	15 43 46.5	+5.8
	comp=Z,39nm,1.1s						
APSI	**Ampana**	**66.28**	**277**	P	P	15 43 52.1	+8.5
	comp=Z,156nm,1.1s,comp=Z,1μm						
BKSI	**Bulukumba**	**66.41**	**272**	P	P	15 43 49.7	+5.3
	comp=Z,17nm,1.0s						
MRSI	**Marisa**	**66.45**	**278**	P	P	15 43 51.9	+7.3
	comp=Z,26nm,1.0s						
KAPI	**Kappang**	**66.85**	**272**	LR	LR	16 10 20.0	
	comp=Z,140nm,20.9s,baz=146,slow=34						
SPSI	**Sidrap Palu**	**67.14**	**273**	P	P	15 43 56.3	+7.3
	comp=Z,28nm,0.9s						
TTSI	**Tana Toraja**	**67.36**	**274**	P	P	15 43 56.3	+5.8
	comp=Z,18nm,1.0s						
MPSI	**Mapaga**	**68.34**	**278**	P	P	15 44 04.5	+7.9
	comp=Z,48nm,0.9s,comp=Z,533nm						
CASY	**Casey**	**68.74**	**205**	*e*P	**P**	**15 43 56.7**	**-1.5**
	comp=Z,16nm,0.7s						
SRBI	**Singaraja**	**70.34**	**267**	P	P	15 44 15.2	+6.2
	comp=Z,62nm,1.3s						
MJAR	**Matsushiro Arr**	**70.76**	**320**	P	**P**	**15 44 08.2**	**-2.9**
	comp=Z,1.4nm,0.9s,baz=142,slow=5.6,SNR=4.2						
MJAR				LR	LR	16 09 27.1	
	comp=Z,376nm,22.0s,baz=135,slow=31						
MAJO	**Matsushiro**	**70.76**	**320**	⇓*i* P	P	15 44 07.0	-4.1
MAJO				pmax	pmax		
	comp=Z,24nm,1.1s						
MAT	**Matsushiro**	**70.76**	**320**	P	P	15 44 15.7	+4.6
MAT				S	**S**	**15 53 26.2**	**+1.9**
KBKI	**Kotabaru**	**70.77**	**273**	P	P	15 44 19.0	+7.4
	comp=Z,32nm,1.1s						
UNV	**Unalaska Valle**	**71.21**	**4**	*e*P	P	15 44 09.7	-3.7
ABJI	**Asem Bagus**	**71.35**	**267**	P	P	15 44 21.3	+6.2
	comp=Z,58nm,1.2s						
ERM	**Erimo**	**71.69**	**327**	*e*P	P	15 44 12.1	-4.4
ERM				pmax	pmax		
	comp=Z,20nm,1.2s						
BLJI	**Banyuglugur**	**71.97**	**267**	P	P	15 44 26.0	+7.1
	comp=Z,69nm,0.9s						
GMJI	**Gumukmas**	**71.97**	**267**	P	P	15 44 25.0	+6.1
	comp=Z,35nm,1.6s						
QSPA	**South Pole Qui**	**72.62**	**180**	*e*P	**P**	**15 44 23.0**	**+1.0**
	comp=Z,30nm,1.1s						
ASAJ	**Asahikawa**	**73.48**	**328**	P	**P**

PFO Pinyon Flats O 74.01 46 P P 15 44 30.1 -0.6
baz=74
PFO Pinyon Flats O 74.01 46 P P 15 44 29.9 -0.7
comp=Z,3.1nm,0.9s
NGJI Ngawi 74.11 267 P P 15 44 39.3 +7.8
comp=Z,65nm,1.1s
PCJI Pacitan 74.15 266 P P 15 44 38.8 +7.0
comp=Z,117nm,1.2s
LRMC Laurel Mtn Rad 74.23 44 P P 15 44 32.3 +0.3
baz=74
PET Petropavlovsk 74.34 343 eP P 15 44 31.9 0.0
PET eS S 15 54 02.2 -2.2
PET pmax pmax
comp=Z,100nm,22.0s
PET MLR MLR
comp=Z,200nm,21.0s
BELC Belle Mtn. Jos 74.54 46 P P 15 44 34.1 +0.3
baz=75
PETK Petropavlovsk- 74.69 342 P P 15 44 32.0 -2.0
comp=Z,8.2nm,1.0s,baz=126,slow=7.3,SNR=4.2
PETK LR LR 16 12 12.9
comp=Z,73nm,21.6s,baz=162,slow=32
MPMC Manual Prospec 74.70 44 P P 15 44 34.8 0.0
baz=75
GSC Goldstone, Bar 74.72 45 P P 15 44 35.2 +0.5
baz=75
BC3 Big Chuckawall 74.73 47 P P 15 44 34.7 -0.1
baz=75
HEC Hector,Ludlow 74.78 45 P P 15 44 34.6 -0.5
baz=75
GLA Glamis 74.84 48 P P 15 44 35.4 0.0
baz=75
WAKR Walker 74.90 41 eP P 15 44 35.9 0.0
comp=Z,15nm,1.3s
YBH Yreka Blue Hor 74.97 37 P P 15 44 35.7 -0.4
comp=Z,6.9nm,1.0s,baz=224,slow=8.3,SNR=7.8
YBH Yreka Blue Hor 74.97 37 P P 15 44 35.7 -0.4
YBH pmax pmax
comp=Z,7.0nm,1.0s
YBH Yreka Blue Hor 74.97 37 eP P 15 44 35.6 -0.4
comp=Z,15nm,1.3s
GMRC Granite Mounta 75.21 46 P P 15 44 37.4 -0.2
baz=75
IRM Iron Mountain 75.22 47 P P 15 44 37.8 +0.2
baz=75
PBKI Pangkalan Bun 75.23 272 P P 15 44 45.8 +7.7
comp=Z,173nm,1.1s
GRAC Grapevine Rang 75.33 43 P P 15 44 38.1 0.0
baz=76
TUQ Turquoise Moun 75.39 45 P P 15 44 38.5 -0.2
baz=76
HUMO Hull Mountain 75.40 36 P P 15 44 39.4 +1.0
comp=Z,12nm,1.1s
Y12C Blythe 75.43 47 P P 15 44 38.5 -0.3
baz=76
YSS Yuzh-Sakhalins 75.45 330 eP P 15 44 36.0 -2.5
YSS e 15 44 44.0
YSS MLR MLR
comp=Z,300nm,18.0s
M04C Macdoel 75.50 37 P P 15 44 39.3 +0.2
baz=76
NVAR Mina Array Bea 75.56 41 P P 15 44 39.6 -0.1
comp=Z,5.2nm,0.8s,baz=225,slow=8.9,SNR=33
214A Organ Pipe Nat 75.70 50 P P 15 44 40.6 +0.2
baz=76
214A Organ Pipe Nat 75.70 50 eP P 15 44 40.4 0.0
comp=Z,8.0nm,1.1s
YULB Yu-li 75.95 300 P P 15 44 40.5 -1.5
comp=Z,7.2nm,0.8s
PDMCI Parker Dam,Lak 76.00 47 P P 15 44 42.6 +0.6
baz=76
TPNV Topopah Spring 76.03 44 P P 15 44 42.4 0.0
baz=76
TPH Tonopah 76.05 42 eP P 15 44 42.1 -0.4
comp=Z,20nm,1.1s
STKI Sintang 76.25 274 P P 15 44 51.1 +7.2
comp=Z,32nm,1.1s
TPUB Ta-pu 76.46 300 eP P 15 44 41.4 -3.5
comp=Z,27nm,0.8s
MOD Modoc Plateau 76.47 38 eP P 15 44 44.5 -0.2
comp=Z,12nm,1.0s
I04A Tendick Farm, 76.48 35 P P 15 44 44.6 +0.1
baz=77
SHPR Sheep Range 76.50 45 eP P 15 44 45.3 +0.2
comp=Z,20nm,1.3s
J05D Fort Rock, OR 76.81 36 P P 15 44 46.8 +0.2
baz=77
KDAK Kodiak Island 76.83 11 i P P 15 44 46.2 +0.1
G03D McMinnville, O 76.95 34 P P 15 44 46.9 -0.3
baz=77
R11A Troy Canyon, C 77.26 43 P P 15 44 49.6 +0.4
baz=77
R11A Troy Canyon, C 77.26 43 eP P 15 44 48.8 -0.5
comp=Z,6.8nm,1.2s
TUC Tucson 77.36 50 eP P 15 44 50.1 +0.2
comp=Z,16nm,1.3s
BMN Battle Mountai 77.42 40 eP P 15 44 50.1 0.0
comp=Z,12nm,1.1s
WVOR Wild Horse Val 77.77 38 eP P 15 44 51.5 -0.5
comp=Z,14nm,1.2s
KSM Kuching 77.79 275 eP P 15 44 51.4 -1.2
comp=Z,52nm,1.1s
KSRS Korea Array 77.90 316 P P 15 44 50.4 -2.2
comp=Z,1.8nm,1.0s,baz=138,slow=6.7,SNR=9.1
KSRS LR LR 16 16 18.1
comp=Z,195nm,18.9s,baz=134,slow=34
KSAR Wonju Array Be 77.92 316 P P 15 44 50.4 -2.3
LEM Lembang 77.92 267 P P 15 45 01.8 +8.3
comp=Z,106nm,1.1s
LEM Lembang 77.92 267 LR LR 16 19 17.7
comp=Z,398nm,20.9s,slow=36
CNJI Cibinong 78.25 266 P P 15 45 01.9 +6.8
comp=Z,90nm,1.1s
ELK Elko 78.84 41 P P 15 44 56.3 -1.7
comp=Z,3.5nm,0.9s
USRK Ussuriysk Ar. 79.26 323 P P 15 44 58.0 -1.9
comp=Z,0.7nm,0.7s,baz=207,slow=20,SNR=4.1
USRK LR LR 16 14 22.4
comp=Z,422nm,20.9s,baz=129,slow=32
MVU Marysvale 79.56 44 eP P 15 45 02.6 +0.5
comp=Z,11nm,0.9s
MSU Marysvale 79.58 44 eP P 15 45 02.9 +0.7
comp=Z,11nm,0.9s
121A Cookes Peak, D 79.68 51 P P 15 45 03.4 +0.6
baz=80
121A Cookes Peak, D 79.68 51 eP P 15 45 03.6 +0.8
comp=Z,15nm,1.3s
CGJI Cibinong 79.81 266 P P 15 45 11.0 +7.3
comp=Z,57nm,1.2s
BMO Blue Mountains 80.00 37 eP P 15 45 02.0 -2.1
comp=Z,6.5nm,1.0s
MFID Camas Ranch 80.01 38 eP P 15 45 04.0 -0.2
comp=Z,7.6nm,1.0s
HABR Khabarovsk 80.28 328 ceP P 15 45 00.6 -4.7
HABR e 15 45 07.6
HABR e*PP PcP 15 45 11.0 -1.4
HABR e*SP sP 15 45 15.0 -1.8
HABR e 15 48 02.6
HABR ePPP PPP 15 49 51.9
HABR eS S 15 55 03.1 -6.0
HABR e 15 55 16.6
HABR pmax pmax
comp=Z,28nm,2.3s
HABR pmax pmax
comp=E,7.0nm,1.1s
HABR pmax pmax
comp=N,14nm,2.3s
HABR MLR MLR
comp=Z,133nm,18.0s
TMUT Trail Mountain 80.64 44 eP P 15 45 08.8 +0.9
comp=Z,18nm,1.0s
PPBI Pangkal Pinang 80.67 271 P P 15 45 16.2 +7.9
comp=Z,20nm,1.2s
NKL Nikolayevsk 80.85 334 eP P 15 45 10.3 +2.0
NKL pmax pmax
comp=Z,30nm,1.0s
MDJ Mudanjiang 80.89 322 P P 15 45 12.0 +3.3
MDJ PMZ
comp=Z,3.0nm,1.0s
MDJ PMZ
comp=Z,35nm,3.7s
MDJ Mudanjiang 80.89 322 eP P 15 45 08.5 -0.3
comp=Z,13nm,1.0s
HLID Hailey 80.94 39 P P 15 45 09.4 +0.1
baz=81
HLID Hailey 80.94 39 eP P 15 45 08.3 -1.0
comp=Z,8.0nm,0.8s

HVU Hansel Valley 80.95 41 P P 15 45 07.7 -1.7
comp=Z,18nm,1.5s
KASI Kota Agung 81.26 267 P P 15 45 17.8 +6.3
comp=Z,87nm,1.1s
DIV Divide 81.28 13 P P 15 45 09.5 -1.0
comp=Z,34nm,1.2s
LPM Los Pinos Moun 81.37 50 P P 15 45 11.5 -0.4
comp=Z,6.3nm,1.1s
BMRM Bremner River 81.39 14 eP P 15 45 10.2 -1.0
comp=Z,28nm,1.1s
TXAR Lajitas Array 81.40 56 P P 15 45 12.5 +0.5
comp=Z,7.5nm,1.1s,baz=216,slow=6.2,SNR=38
TXAR LR LR 16 13 16.4
comp=Z,168nm,22.0s,baz=0.0,slow=30
HWUT Hardware Ranch 81.62 42 eP P 15 45 11.2 -1.9
comp=Z,1.9nm,0.6s
NJ2 Nanjing 81.72 307 eP P 15 45 15.5 +2.0
NJ2 pP pP 15 45 22.0 +0.1
NJ2 sP sP 15 45 25.0 +0.1
NJ2 S S 15 55 27.0 +2.1
NJ2 sS ScS 15 55 40.5 -1.2
NJ2 SS SS 16 00 47.0 +3.7
NJ2 PMZ
comp=Z,20nm,0.8s
NJ2 PMZ
comp=Z,80nm,5.9s
NJ2 LN
comp=Z,600nm,28.6s
NJ2 LE
comp=Z,680nm,27.2s
NJ2 LZ
comp=Z,610nm,28.4s
ANMO Albuquerque 81.79 50 ⇓ i P P 15 45 14.3 +0.2
ANMO pmax pmax
comp=Z,49nm,1.7s
ANMO Albuquerque 81.79 50 eP P 15 45 14.5 +0.5
comp=Z,8.6nm,1.1s
PV01 Paradox Valley 81.83 46 eP P 15 45 14.2 -0.1
comp=Z,984nm,1.1s
KLR Kul'dur 82.45 327 eP P 15 45 18.8 +1.9
TRF Thorofare Moun 82.55 10 eP P 15 45 14.3 -3.0
comp=Z,12nm,0.9s
MCMT McKenzie Canyo 82.58 38 eP P 15 45 18.1 +0.1
TNA Tin City 82.83 2 P P 15 45 19.0 +0.5
comp=Z,54nm,1.5s
S22A 4UR Ranch, Cre 82.84 47 P P 15 45 20.2 +0.6
baz=83
529A Stev Forest Ra 82.88 56 P P 15 45 19.8 +0.1
baz=83
CN2 Changchun 82.91 320 eP P 15 45 24.0 +4.6
CN2 esP sP 15 45 31.0 +0.1
CN2 eS SKKSac 15 55 42.3 -1.1
CN2 PMZ
comp=Z,10.0nm,0.8s
CN2 PMZ
comp=Z,100nm,6.0s
CN2 LN
comp=Z,200nm,17.0s
CN2 LE
comp=Z,300nm,17.0s
CN2 LZ
comp=Z,500nm,18.0s
REDW Red Top Meadow 83.00 41 eP P 15 45 20.0 -0.2
comp=Z,20nm,1.2s
TPAW Teton Pass 83.01 40 eP P 15 45 20.4 +0.1
comp=Z,21nm,1.3s
DLMT Dillon 83.02 38 eP P 15 45 19.5 -0.7
comp=Z,12nm,1.2s
HYT Haines Junctio 83.03 17 eP P 15 45 19.5 -0.4
comp=Z,11nm,1.1s
MCK McKinley 83.04 11 eP P 15 45 18.4 -1.3
comp=Z,29nm,1.0s
BPAW Bear Paw Mtn. 83.04 10 eP P 15 45 17.8 -1.9
comp=Z,1.3nm,1.2s
MSO Missoula 83.06 36 P P 15 45 20.3 0.0
baz=83
SNOW Snow King Moun 83.11 40 P P 15 45 20.8 -0.1
comp=Z,21nm,1.0s
BSMT Bassoo Peak 83.17 35 eP P 15 45 20.3 -0.7
comp=Z,33nm,1.7s
IMW Indian Meadow 83.23 40 eP P 15 45 20.8 -0.6
comp=Z,18nm,1.2s
MOOW Moose Ponds 83.27 40 eP P 15 45 21.5 -0.1
comp=Z,9.3nm,1.3s
LOHW Long Hollow 83.29 40 eP P 15 45 21.6 -0.1
comp=Z,18nm,1.4s
429A Davenport Ranc 83.34 55 P P 15 45 21.9 -0.2
baz=84
LRM Limekiln Ridge 83.36 38 eP P 15 45 21.4 -0.6
comp=Z,46nm,1.0s
SMCO Snowmass 83.43 46 eP P 15 45 22.4 -0.3
comp=Z,18nm,1.2s
QLMT Earthquake Lak 83.43 39 eP P 15 45 22.8 +0.5
comp=Z,4.7nm,1.3s
FLWY Flagg Ranch 83.47 40 eP P 15 45 23.0 +0.3
comp=Z,13nm,0.6s
CHMT Chamberlain Mo 83.50 37 eP P 15 45 22.0 -0.7
comp=Z,6.9nm,1.1s
BW06 Boulder Array 83.50 42 eP P 15 45 22.4 -0.4
comp=Z,9.1nm,0.9s
PDAR Pinedale Array 83.50 42 P P 15 45 22.6 -0.3
comp=Z,7.5nm,0.8s,baz=218,slow=1.5,SNR=54
PDAR LR LR 16 15 05.0
comp=Z,202nm,21.6s,baz=250,slow=30
530A J-C Ranch, Com 83.58 56 P P 15 45 24.0 +0.7
baz=84
YFT Old Faithful 83.58 40 eP P 15 45 22.0 -1.2
YMR Madison River 83.62 39 eP P 15 45 24.2 +0.8
H17A Grant Village 83.71 40 P P 15 45 25.3 +1.3
baz=84
H17A Grant Village 83.71 40 eP P 15 45 25.2 +1.3
comp=Z,12nm,0.1s
128A Castleberry Fa 83.72 53 P P 15 45 23.9 -0.1
baz=84
BOZ Bozeman (W) 83.75 38 P P 15 45 23.6 -0.3
baz=84
SDCO Great Sand Dun 83.77 47 P P 15 45 24.3 -0.1
baz=84
SDCO Great Sand Dun 83.77 47 eP P 15 45 24.5 +0.1
comp=Z,5.7nm,1.0s
631A Perdido Creek 83.89 57 P P 15 45 24.8 0.0
baz=84
LKWY Lake 83.91 40 eP P 15 45 26.4 +1.5
comp=Z,25nm,1.0s
832A Faith Ranch, C 83.92 58 P P 15 45 24.8 -0.2
baz=84
430A Baggett Ranch, 83.92 55 P P 15 45 24.7 -0.4
baz=84
QIZ Qiongzhong 84.05 292 P P 15 45 28.0 +2.2
QIZ S S 15 55 53.0 +3.9
QIZ LE
comp=Z,170nm,23.8s
QIZ LZ
comp=Z,400nm,23.5s
J19A Crowheart 84.08 41 P P 15 45 25.0 -0.7
baz=84
MSTX Muleshoe 84.08 52 P P 15 45 26.0 +0.1
baz=84
MSTX Muleshoe 84.08 52 eP P 15 45 25.7 -0.1
comp=Z,10nm,0.9s
129A Stewart Farms, 84.20 53 P P 15 45 26.9 +0.5
baz=84
HRY Holter Researc 84.20 37 eP P 15 45 26.0 -0.1
comp=Z,13nm,0.7s
531A Rocksprings 84.22 56 P P 15 45 26.3 -0.2
baz=84
933A Laredo 84.23 59 P P 15 45 26.8 +0.2
baz=84
T25A Trinidad 84.27 48 P P 15 45 26.5 -0.3
baz=84
COLA College 84.28 10 eP P 15 45 24.2 -1.7
COLA pmax pmax
comp=Z,25nm,0.8s
COLA College 84.28 10 eP P 15 45 24.4 -1.5
comp=Z,27nm,1.0s
ILAR Eielson Array 84.36 11 P P 15 45 24.9 -1.4
comp=Z,1.8nm,0.7s,baz=224,slow=6.2,SNR=18
ILAR LR LR 16 21 16.7
comp=Z,130nm,18.2s,baz=214,slow=34
IM04 Indian Mountai 84.41 8 eP P 15 45 26.4 -0.2
I19A Meeteetse 84.50 41 P P 15 45 27.9 +0.1
baz=85
632A Uvalde 84.56 57 P P 15 45 28.9 +0.6
baz=85
WHN Wuhan 84.58 304 P P 15 45 25.0 -3.2
WHN Wuhan 84.58 304 S S 15 55 49.0 -4.9
WHN LR LR

comp=Z,560nm,19.6s
Q24A Divide 84.58 46 P P 15 45 29.3 +0.8
baz=85
Z29A Hungry Hill Ra 84.58 53 P P 15 45 28.5 +0.2
baz=85
SEY Seymchan 84.58 345 i P P 15 45 26.0 -1.5
ISCO Idaho Springs 84.65 46 P P 15 45 29.2 +0.3
baz=85
ISCO Idaho Springs 84.65 46 P P 15 45 28.1 -0.7
comp=Z,4.7nm,1.1s
532A Rocksprings 84.71 56 P P 15 45 29.6 +0.6
baz=85
J20A Shoshoni 84.73 42 P P 15 45 29.0 0.0
baz=85
V27A Dan Oppiter Fa 84.80 50 P P 15 45 29.9 +0.5
baz=85
H19A Powell 84.83 40 P P 15 45 29.6 +0.2
baz=85
T26A Comanche Natio 84.87 49 P P 15 45 29.9 0.0
baz=85
130A Snyder 84.88 54 P P 15 45 30.6 +0.8
baz=85
RLMT Red Lodge 84.89 40 P P 15 45 30.1 +0.3
baz=85
RLMT Red Lodge 84.89 40 eP P 15 45 29.8 0.0
comp=Z,10nm,1.3s
N23A Red Feather La 84.94 44 P P 15 45 29.9 -0.3
baz=85
GCMT Greycliff 84.99 39 eP P 15 45 29.9 -0.3
comp=Z,15nm,1.3s
I20A Worland 85.00 41 P P 15 45 30.1 -0.2
baz=85
834A Tilden 85.02 59 P P 15 45 31.5 +1.0
baz=85
Z30A Sanderson Ranc 85.03 53 P P 15 45 30.2 -0.4
baz=85
X29A Tulia 85.08 52 P P 15 45 31.2 +0.3
baz=85
432A Menard 85.09 56 P P 15 45 30.3 -0.6
baz=85
231A Bronte 85.11 55 P P 15 45 30.4 -0.6
baz=85
J21A Lysite 85.13 42 P P 15 45 30.5 -0.5
baz=85
AMTX Amarillo 85.28 51 P P 15 45 31.4 -0.4
baz=86
AMTX Amarillo 85.28 51 eP P 15 45 31.7 -0.1
comp=Z,15nm,0.9s
DAWY Dawson 85.28 14 eP P 15 45 29.4 -1.7
comp=Z,22nm,1.1s
332A Millersview 85.34 55 P P 15 45 32.5 +0.4
baz=86
W29A Amarillo 85.41 51 P P 15 45 32.2 -0.3
baz=86
Y30A Stafford Cattl 85.45 53 P P 15 45 32.9 +0.2
baz=86
I21A Big Trails, Te 85.46 41 P P 15 45 31.8 -0.8
baz=86
R26A Arlington 85.47 48 P P 15 45 33.5 +0.8
baz=86
EGAK Eagle 85.50 13 eP P 15 45 31.5 -0.6
comp=Z,15nm,1.3s
433A Art 85.60 56 P P 15 45 32.4 -1.0
baz=86
232A Coleman 85.61 55 P P 15 45 33.8 +0.2
baz=86
X30A Coker Ranch, T 85.70 52 P P 15 45 34.0 +0.1
baz=86
J22A Midwest 85.78 42 P P 15 45 34.0 -0.2
baz=86
Z31A Sharp Cattle R 85.80 53 P P 15 45 34.1 -0.3
baz=86
ABTX Abilene, Hawle 85.91 54 P P 15 45 35.0 +0.1
baz=86
ABTX Abilene, Hawle 85.91 54 eP P 15 45 35.0 +0.1
comp=Z,31nm,1.0s
333A Richland Sprin 85.91 56 P P 15 45 35.1 +0.1
baz=86
Y31A Rekieta Farm, 85.97 53 P P 15 45 35.5 +0.3
baz=86
MAW Mawson 86.00 199 P P 15 45 35.1 +0.4
comp=Z,4.3nm,0.7s,baz=110,slow=6.7,SNR=8.6
MAW LR LR 16 21 18.0
comp=Z,344nm,20.4s,baz=66,slow=34
I22A 9 Mile Ranch, 86.01 42 P P 15 45 35.4 +0.1
baz=86
K23A Bowen Ranch, D 86.02 43 P P 15 45 35.4 0.0
baz=86
EGMT Eagleton 86.10 37 P P 15 45 35.4 -0.2
baz=86
EGMT Eagleton 86.10 37 eP P 15 45 35.1 -0.4
comp=Z,2.2nm,0.8s
434A Burnet 86.28 56 P P 15 45 36.8 0.0
baz=86
Z32A Haskell 86.31 54 P P 15 45 36.9 0.0
baz=86
133A Hamilton Ranch 86.46 54 P P 15 45 37.8 +0.1
baz=87
334A Lometa 86.50 56 P P 15 45 37.9 0.0
baz=87
Y32A R-V Farms, Ver 86.61 53 P P 15 45 38.7 +0.3
baz=87
W31A Holland Ranch, 86.71 52 P P 15 45 38.9 +0.1
baz=87
234A Clairette 86.84 55 P P 15 45 40.3 +0.8
baz=87
Z33A Whitaker Ranch 86.85 54 P P 15 45 39.7 +0.2
baz=87
X32A Elmer 86.90 53 P P 15 45 40.2 +0.4
baz=87
C20A Veseth Ranch, 86.95 38 P P 15 45 39.9 +0.2
baz=87
EDM Edmonton 87.00 31 eP P 15 45 38.2 -1.6
comp=Z,47nm,1.4s
134A White-Moore Ra 87.10 55 P P 15 45 42.0 +1.3
baz=87
BJI Beijing 87.17 313 P P 15 45 43.8 +2.9
BJI S S 15 56 23.3 +4.4
BJI SS SS 16 02 09.5 +6.1
BJI PMZ
comp=Z,17nm,0.8s
BJI PMZ
comp=Z,68nm,3.9s
BJI LN
comp=Z,170nm,24.2s
BJI LE
comp=Z,160nm,25.9s
BJI LZ
comp=Z,170nm,25.1s
B20A Solberg Farm, 87.31 37 P P 15 45 41.4 -0.1
baz=87
H24A Dirks Ranch, A 87.63 42 P P 15 45 42.7 -0.5
baz=88
RSSD Black Hills 87.68 42 eP P 15 45 42.3 -1.2
comp=Z,5.8nm,1.1s
I25A Rochford 87.83 42 P P 15 45 43.6 -0.6
baz=88
Z35A Perchaven, San 88.03 54 P P 15 45 45.9 +0.7
baz=88
SKNT Sakolnakorn 88.62 288 P P 15 45 58.0 +10
comp=Z,12nm,1.1s
C23A Lambert 88.66 39 P P 15 45 48.0 +0.1
baz=89
SKLT Songkhla 88.72 278 P P 15 45 58.9 +10
comp=Z,31nm,1.1s
HIA Hailar 89.06 323 eP P 15 45 46.0 -3.7
HIA pmax pmax
comp=Z,6.0nm,1.3s
HIA Hailar 89.06 323 P P 15 45 46.2 -3.5
comp=Z,17nm,1.1s
B23A Brockton 89.08 38 P P 15 45 49.8 0.0
baz=89
GYA Guiyang 89.36 298 eP P 15 45 55.0 +3.2
GYA pP pP 15 46 02.8 +2.5
GYA PP PP 15 49 29.0 +5.8
GYA SKS SKSac 15 56 22.0 +1.3
GYA S S 15 56 41.3 +0.7
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,120nm,5.8s
TRTT Trang 89.80 278 P P 15 46 04.1 +10
comp=Z,48nm,1.1s
SRIT Nakonsritamara 90.11 279 P P 15 46 06.1 +11
comp=Z,72nm,1.4s
INK Inuvik 90.14 14 P P 15 45 53.6 -0.7
XAN Xi'an 90.15 306 P P 15 46 04.0 +8.8
XAN pmax pmax

XAN pmax pmax
comp=Z,72nm,9.7s
KRAB Krabi 90.38 278 P P 15 46 07.1 +10
comp=Z,31nm,0.8s
X38A Whitesboro 90.40 54 P **P** **15 45 57.4 +1.1**
baz=91
V37A Hulbert 90.59 53 P **P** **15 45 58.1 +0.9**
baz=91
SYO Syowa Base 90.69 191⇑ *e*P **P** **15 45 56.0 -1.0**
HHC Hu-ho-hao-te 90.71 313 *e*P P 15 46 01.5 +3.8
HHC PP PP 15 49 39.5 +5.9
HHC SKS **SKSac** **15 56 31.5 +3.6**
HHC S **ScS** **15 56 55.0 -0.9**
HHC SS **SS** **16 03 00.5 +5.3**
HHC PMZ
comp=Z,10.0nm,1.1s
HHC PMZ
comp=Z,75nm,3.7s
HHC LN
comp=Z,110nm,15.3s
HHC LE
comp=Z,160nm,12.6s
HHC LZ
comp=Z,130nm,12.4s
SNAA Sanae 90.86 177 P **P** **15 45 55.5 -2.4**
SNAA Sanae 90.86 177 *e*P P 15 45 54.4 -3.5
SNAA pmax pmax
comp=Z,7.0nm,1.1s
YAK Yakutsk 91.14 337 *e*P **P** **15 45 56.8 -2.2**
YAK *e* 15 49 34.5
YAK *e*PPP PPP 15 51 29.8
YAK *e*S SKSac 15 56 18.6 -10
YAK *e* 15 56 47.5
YAK *e*SS SS 16 02 46.6 -14
YAK pmax pmax
comp=Z,6.0nm,0.8s
YAK pmax pmax
comp=Z,42nm,3.7s
YAK pmax pmax
comp=E,47nm,5.8s
YAK pmax pmax
comp=N,36nm,7.1s
YAK smax smax
comp=N,18nm,3.0s
YAK smax smax
comp=E,14nm,3.0s
JTS JuntasAbangare 91.16 80 *e*P **P** **15 46 00.4 +0.1**
JTS pmax pmax
comp=Z,50nm,1.1s
JTS JuntasAbangare 91.16 80 *e*P **P** **15 46 01.0 +0.7**
comp=Z,9.5nm,0.8s
PBKT Sadao Pong 91.24 287 P P 15 46 10.4 +10
comp=Z,18nm,1.1s
VNA1 Neumayer--Stat 91.50 175 P **P** **15 46 02.4 +1.7**
YKA Yellowknife Ar 91.79 23 P **P** **15 46 01.2 -0.9**
comp=Z,0.9nm,0.7s,baz=235,slow=4.4,SNR=3.8
YKA Yellowknife Ar 91.79 23 P **P** **15 46 01.2 -0.9**
YKA pmax pmax
comp=Z,1.0nm,0.7s
KMI Kunming 92.28 295 P **P** **15 46 08.5 +3.0**
KMI pP **pP** **15 46 15.0 +1.0**
KMI sP **sP** **15 46 19.0 +1.9**
KMI S **S** **15 57 07.0 -0.6**
KMI sS **sS** **15 57 20.5 -1.2**
KMI PMZ
comp=Z,8.0nm,0.9s
KMI PMZ
comp=Z,51nm,4.6s
KMI LN
comp=Z,110nm,19.8s
KMI LE
comp=Z,150nm,27.8s
KMI LZ
comp=Z,290nm,24.0s
CD2 Chengdu 93.22 301 *e*P **P** **15 46 11.0 +1.5**
CD2 pP **pP** **15 46 18.5 +0.5**
CD2 PP **PP** **15 49 55.3 +1.8**
CD2 SKS **SKSac** **15 56 43.5 +1.1**
CD2 S **ScS** **15 57 17.8 +0.7**
CD2 sS **sS** **15 57 30.5 +1.0**
CD2 SS **SS** **16 03 36.0 +4.4**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
CMAR Chiang Mai Arr 93.64 288 P **P** **15 46 10.3 -1.4**
comp=Z,2.0nm,1.0s,baz=110,slow=2.9,SNR=10.0
CMAR LR LR 16 24 11.9
comp=Z,231nm,20.7s,baz=134,slow=33
CMAR Chiang Mai Arr 93.64 288 P **P** **15 46 10.3 -1.4**
CMAR pmax pmax
comp=Z,2.0nm,1.0s
CMAR MLR MLR
comp=Z,231nm,20.7s
CMMT Chiang Mai 93.74 288 P P 15 46 21.1 +9.0
CHTO Chiang Mai 93.75 288 P P 15 46 21.2 +9.0
comp=Z,68nm,1.3s
ULM Lac du Bonnet 95.25 39 P **P** **15 46 16.6 -1.7**
comp=Z,3.7nm,0.9s,baz=245,slow=6.6,SNR=5.1
ULM LR LR 16 23 21.3
comp=Z,262nm,20.4s,baz=250,slow=32
ULM Lac du Bonnet 95.25 39 P **P** **15 46 16.6 -1.7**
ULM pmax pmax
comp=Z,4.0nm,0.9s
ULM MLR MLR
comp=Z,262nm,20.5s
SONM Songino Array 96.63 318 P **P** **15 46 22.9 -2.0**
comp=Z,0.5nm,0.7s,baz=90,slow=2.9,SNR=2.3
SONM PP **PP** **15 50 16.4 -3.3**
comp=Z,1.4nm,1.1s,baz=107,slow=7.9,SNR=3.6
SONM LR LR 16 29 53.2
comp=Z,66nm,18.2s,baz=105,slow=36
SONM Songino Array 96.63 318 P **P** **15 46 22.9 -2.0**
SONM 15 50 16.4
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM pmax pmax
comp=Z,1.0nm,1.1s
SONM MLR MLR
comp=Z,66nm,18.2s
TIXI Tiksi 97.07 344 *i* P **P** **15 46 23.8 -2.3**
TIXI pmax pmax
comp=Z,3.0nm,1.3s
LPAZ La Paz 98.72 110 LR LR 16 21 28.1
comp=Z,269nm,21.8s,baz=274,slow=29
GTA Gaotai 98.77 308 *e*P Pdif 15 46 43.0 +8.3
GTA pP pP 15 46 50.3 +7.1
GTA sP sP 15 46 53.5 +7.2
GTA pmax pmax
comp=Z,2.0nm,1.0s
ZAK Zakamensk 99.34 320 *e*P **Pdif** **15 46 45.0 +8.1**
ZAK pmax pmax
comp=Z,1.0nm,1.2s
ROSC El Rosal 99.66 88 LR LR 16 21 53.3
comp=Z,100nm,21.7s,baz=214,slow=29
WMQ Urumqi 108.52 311 Pdif **Pdif** **15 47 21.0 +3.1**
WMQ PP PP 15 51 55.5 +6.5
WMQ PPMZ
comp=Z,31nm,11.4s
WMQ LN
comp=Z,120nm,10.4s
WMQ LE
comp=Z,94nm,10.8s
WMQ LZ
comp=Z,100nm,17.3s
ZALV Zalesovo Beam 111.08 322 PKiKP **PKiKP** **15 51 26.8 -1.1**
comp=Z,0.5nm,0.4s,baz=200,slow=1.3,SNR=4.7
MK31 Makanchi Array 112.54 314 *e*PKiKP **PKiKP** **15 51 29.9 -1.1**
KURK Kurchatov 114.94 318 *i* PKIKP PKPdf 15 51 32.3 -3.1
KURK pmax pmax
comp=Z,1.0nm,1.3s
KSH Kashi 117.01 306 *e*PKP **PKPdf** **15 51 44.5 +4.6**
SUMG Summit 119.05 14 *e*PKPdf **PKPdf** **15 51 42.3 -1.0**
BRVK Borovoye 119.79 322 *i* PKIKP **PKPdf** **15 51 42.1 -2.5**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 119.79 322 *e*PKPdf **PKPdf** **15 51 43.8 -0.8**
SOKR Solikamsk 124.76 332 *e*PKIKP PKPdf 15 52 03.2 +9.3
SOKR pmax pmax
comp=Z,5.0nm,0.7s
ARU Arti 125.28 328 *i* PKIKP **PKPdf** **15 51 52.4 -2.7**
ARU 15 53 41.9
ARU SP SP 16 03 37.9 -4.2
ARU MLR MLR
comp=Z,181nm,20.0s
ARU Arti 125.28 328 *e*PKPdf **PKPdf** **15 51 55.4 +0.3**
ARCES ARCESS Array B 126.67 352 PKP **PKPdf** **15 51 57.1 -0.3**
comp=Z,2.1nm,0.8s,baz=35,slow=3.3,SNR=8.2
ARCES ARCESS Array B 126.67 352 PKIKP **PKPdf** **15 51 57.1 -0.3**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ABKAR Akbulak array 127.03 319 *e*PKPdf **PKPdf** **15 51 59.6 +1.0**
GEYT Alibeck 131.04 305 PKP **PKPdf** **15 52 06.6 -0.1**
comp=Z,0.7nm,0.4s,baz=166,slow=3.0,SNR=2.3
FINES FINESS Array B 134.01 347 PKP **PKPdf** **15 52 10.7 -0.8**
comp=Z,1.2nm,0.7s,baz=112,slow=3.7,SNR=5.2
FINES FINESS Array B 134.01 347 *c i*PKIKP **PKPdf** **15 52 12.8 +1.3**
FINES pmax pmax
comp=Z,1.0nm,0.7s
OBN Obninsk 136.14 336 *i* PKIKP **PKPdf** **15 52 13.8 -1.8**
OBN pmax pmax
comp=Z,5.0nm,1.2s
KIV Kislovodsk 140.02 319 *i* PKIKP **PKPdf** **15 52 20.8 -2.5**
KIV pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Se 142.37 337 PKP **PKPdf** **15 52 25.7 -1.5**
comp=Z,0.4nm,0.4s,baz=37,slow=3.5,SNR=3.6
AK01 Malin Array Si 142.38 337 PKPpre PKPpre 15 52 24.5
AK02 Malin Array Si 142.41 337 PKPdf **PKPdf** **15 52 30.1 +2.9**
RAYN Ar Rayn 143.54 286 *e*PKPdf **PKPdf** **15 52 30.9 +0.7**
LVV L'vov 144.91 341 *e*PKHKP PKPpre 15 52 27.2
KIS Kishinev 145.48 333 *e*P **PKPab** **15 52 37.5 +4.5**
KIS Kishinev 145.48 333 *e*PKIKP **PKPab** **15 52 37.5 +4.5**
KWP Kalwaria Pacla 145.48 342 *e*PKP PKPab 15 52 38.7 +5.8
KWP Kalwaria Pacla 145.48 342 *e*PKIKP PKPab 15 52 38.7 +5.8
MALT Malatya 145.58 314⇑*e*PKIKP **PKPab** **15 52 34.0 +0.2**
MALT Malatya 145.58 314⇑*i*P **PKPab** **15 52 34.0 +0.2**
OJC Ojcow 145.72 345 *e*PKP **PKPdf** **15 52 32.5 -0.5**
OJC Ojcow 145.72 345 *e*PKIKP **PKPdf** **15 52 32.6 -0.5**
KSP Ksiaz 145.86 350 *e*PKP **PKPdf** **15 52 33.3 0.0**
KSP Ksiaz 145.86 350 *e*PKIKP **PKPdf** **15 52 33.4 +0.1**
CLL Collm 145.88 353 *e*PKPbc **PKPdf** **15 52 33.0 -0.3**
CLL Collm 145.88 353 *e*PKPbc **PKPdf** **15 52 33.0 -0.3**
CLL *i* (pPKiKP) 15 52 39.6
comp=Z,72nm,1.5s
CLL *i* 15 52 46.1
comp=Z,73nm,1.4s
CLL *e*PP **PP** **15 55 54.0 -0.3**
CLL *e*SS SS 16 14 36.0 -10
CLL Lm MLR 17 00 00.0
comp=N,100nm,21.0s
CLL Lm MLR 17 00 00.0
comp=E,100nm,20.6s
CLL Lm MLR 17 00 00.0
comp=Z,100nm,21.3s
CLL Collm 145.88 353 *e*PKIKP **PKPdf** **15 52 33.0 -0.3**
CLL *i* 15 52 39.6
CLL *i* 15 52 46.1
BRG *i* 15 52 40.9
comp=Z,65nm,1.5s
BRG Berggiesshubel 146.19 352 *e*PKPbc **PKPbc** **15 52 34.3 -0.6**
BRG Berggiesshubel 146.19 352 *e*PKP2 **PKPdf** **15 52 34.2 +0.4**
BRG pmax pmax
comp=Z,65nm,1.5s
FBE Freiberg 146.22 353 *e*PKPbc **PKPbc** **15 52 34.7 -0.2**
KOLS Kolonicke sedl 146.23 342 *e*PKIKP **PKPbc** **15 52 34.8 -0.3**
KOLS *e* 15 52 48.7
KOLS Kolonicke sedl 146.23 342 *e*PKP **PKPbc** **15 52 34.8 -0.3**
KOLS *e* 15 52 48.7
UPC Upice 146.23 350 *e*PKP **PKPbc** **15 52 35.0 0.0**
UPC *ex* x 15 52 41.5
UPC Upice 146.23 350 *e*PKIKP **PKPbc** **15 52 35.0 0.0**
UPC *e* 15 52 41.5
DPC Dobruska-Polom 146.33 349 *e*PKP **PKPbc** **15 52 35.2 -0.2**
DPC *ex* x 15 52 42.7
DPC *ex* x 15 52 48.9
DPC AMS AMS 16 56 40.0
comp=Z,200nm,18.2s
DPC Dobruska-Polom 146.33 349 *e*PKIKP **PKPbc** **15 52 35.2 -0.2**
DPC *e* 15 52 42.7
DPC *e* 15 52 48.9
DPC MLR MLR
comp=Z,200nm,18.2s
NIE Niedzica 146.34 344 *e*PKP **PKPab** **15 52 36.2 0.0**
NIE Niedzica 146.34 344 *e*PKIKP **PKPab** **15 52 36.2 0.0**
BUR08 Bucovina Ar. S 146.38 338 *e*PKPdf **PKPab** **15 52 36.0 -0.5**
BURAR Bucovina Array 146.40 338⇓*e*PKIKP **PKPbc** **15 52 35.1 -0.6**
BURAR Bucovina Array 146.40 338⇓*i*P **PKPbc** **15 52 35.1 -0.6**
PVCC Panska Ves 146.44 351 *e*PKP **PKPbc** **15 52 34.9 -0.7**
PVCC *ep*PKP **pPKPdf** **15 52 41.2 -1.8**
PVCC *ex* x 15 52 47.3
PVCC AMS AMS 17 02 10.0
comp=Z,400nm,22.8s
PVCC Panska Ves 146.44 351 *e*PKP2 **PKPbc** **15 52 34.9 -0.7**
PVCC MLR MLR
comp=Z,400nm,22.8s
OKC Ostrava-Krasne 146.46 347 *e*PKP **PKPdf** **15 52 34.9 +0.6**
OKC *ep*PKP **PKPab** **15 52 36.5 -0.1**
OKC *ex* x 15 52 40.9
OKC *ex* x 15 52 46.6
OKC *e*SS SS 16 14 50.0 -3.1
OKC AMS AMS 17 02 30.0
comp=Z,200nm,22.3s
OKC Ostrava-Krasne 146.46 347 *e*PKP2 **PKPdf** **15 52 34.9 +0.6**
OKC *e* 15 52 36.5
OKC *e* 15 52 46.6
OKC *e*SS SS 16 14 50.0 -3.1
OKC MLR MLR
comp=Z,200nm,22.3s
UZH Uzhgorod 146.50 342 *e*PKIKP **PKPbc** **15 52 35.5 -0.3**
UZH *i* 15 52 44.0
UZH *e* 15 52 50.5
KRLC Kraliky 146.51 349 *e*PKP **PKPdf** **15 52 34.9 +0.4**
KRLC *ep*PKP **PKPab** **15 52 36.7 -0.2**
KRLC *ex* x 15 52 42.3
KRLC *ex* x 15 52 46.7
KRLC Kraliky 146.51 349 *e*PKP2 **PKPdf** **15 52 34.9 +0.4**
KRLC *e* 15 52 36.7
KRLC *e* 15 52 46.7
UBBA Unterbreizbach 146.61 357 *e*PKPbc **PKPbc** **15 52 35.5 -0.5**
MORC Moravsky Berou 146.65 348⇑*e*PKIKP **PKPbc** **15 52 36.2 -0.1**
MORC Moravsky Berou 146.65 348⇑*i*P **PKPbc** **15 52 36.2 -0.1**
MORC Moravsky Berou 146.65 348 *e*PKPdf **PKPbc** **15 52 35.7 -0.6**
MOX Moxa 146.67 355 *e*PKPbc **PKPbc** **15 52 35.9 -0.4**
TESR Tescani 146.77 335⇑*i*P **PKPbc** **15 52 36.8 +0.1**
PLN Plauen 146.78 354 *e*PKPbc **PKPbc** **15 52 36.2 -0.4**
WERD Werda 146.80 354 *e*PKPbc **PKPbc** **15 52 36.2 -0.5**
TANN Tannenbergstha 146.82 354 *e*PKPbc **PKPbc** **15 52 36.4 -0.4**
GUNZ Gunzen 146.88 354 *e*PKPbc **PKPbc** **15 52 36.7 -0.2**
PRA Prague 146.91 351 *e*PKP **PKPdf** **15 52 35.8 +0.7**
PRA *ex* x 15 52 42.4
PRA Prague 146.91 351 *e*PKIKP **PKPdf** **15 52 35.8 +0.7**
PRA *e* 15 52 42.7
WERN Wernitzgruen 146.95 354 *e*PKPbc **PKPbc** **15 52 36.8 -0.3**
PRU Pruhonice 146.97 351 *e*PKP **PKPdf** **15 52 35.8 +0.6**
PRU *ex* x 15 52 43.7
PRU AMS AMS 16 56 40.0
comp=Z,200nm,19.2s
PRU Pruhonice 146.97 351 *e*PKIKP **PKPdf** **15 52 35.8 +0.6**
PRU *e* 15 52 43.7
PRU MLR MLR
comp=Z,200nm,19.2s
NKC Novy Kostel 147.00 354 *e*PKP **PKPbc** **15 52 37.1 -0.2**
NKC *ex* x 15 52 43.9
NKC Novy Kostel 147.00 354 *e*PKP2 **PKPbc** **15 52 37.1 -0.2**
GOPC GO Pecny, Ondr 147.01 351 *e*PKP **PKPdf** **15 52 35.6 +0.3**
GOPC *ex* x 15 52 42.7
GOPC *ex* x 15 52 49.2
GOPC AMS AMS 16 56 40.0
comp=Z,200nm,19.7s
CFR Carcaliu 147.19 332⇑*e*PKP2 **PKPbc** **15 52 38.0 +0.1**
CFR Carcaliu 147.19 332⇑*i*P **PKPbc** **15 52 38.0 +0.1**
VRI Vrincioaia 147.26 334⇑*e*PKP2 **PKPab** **15 52 42.7 +2.8**
VRI Vrincioaia 147.26 334⇑*i*P **PKPab** **15 52 42.7 +2.8**
MANZ Manzenberg 147.28 354 *e*PKPbc **PKPbc** **15 52 37.7 -0.4**
VRAC Vranov 147.28 348⇑*e*PKP2 PKPab 15 52 45.5 +5.7
VRAC Vranov 147.28 348⇑*i*P PKPab 15 52 45.5 +5.7
DOU Dourbes 147.36 3 PKPbc **PKPbc** **15 52 38.6 +0.4**
ROTZ Rotzenmuhle 147.48 354 *e*PKPbc **PKPbc** **15 52 38.5 -0.1**
TREC Trest 147.49 350 *e*PKP **PKPdf** **15 52 36.3 +0.2**
TREC *ex* x 15 52 45.2
TREC *ex* x 15 52 51.4
TREC AMS AMS 16 58 20.0
comp=Z,200nm,23.6s
TREC Trest 147.49 350 *e*PKIKP **PKPdf** **15 52 36.3 +0.2**
TREC *e* 15 52 45.2
TREC *e* 15 52 51.4
TREC MLR MLR
comp=Z,200nm,23.6s
TIRR Tirgusor 147.62 331⇑*e*PKP2 **PKPbc** **15 52 39.6 +0.5**
TIRR Tirgusor 147.62 331⇑*i*P **PKPbc** **15 52 39.6 +0.5**
TIRR Tirgusor 147.62 331 *e*PKPbc **PKPbc** **15 52 39.0 0.0**
GRFO Grafenberg 147.65 355 *e*PKPdf **PKPdf** **15 52 36.5 +0.2**
HARR Harsova 147.66 332⇑*e*PKP2 **PKPbc** **15 52 40.1 +0.9**
HARR Harsova 147.66 332⇑*i*P **PKPbc** **15 52 40.1 +0.9**
DOPR Dopca 147.71 336⇑*i*P **PKPab** **15 52 42.5 +0.8**
PSZ Piszkesteto 147.82 344⇑*e*PKP2 **PKPab** **15 52 41.8 -0.3**
PSZ Piszkesteto 147.82 344⇑*i*P **PKPab** **15 52 41.8 -0.3**
PSZ Piszkesteto 147.82 344 *e*PKPbc **PKPbc** **15 52 40.3 +0.6**
WLF Walferdange 147.85 1 PKPbc **PKPbc** **15 52 40.2 +0.6**
WLF Walferdange 147.85 1 *e*PKPbc **PKPbc** **15 52 39.7 +0.1**
WLF Walferdange 147.85 1 PKPdf **PKPbc** **15 52 38.7 -0.9**
SMOL Smolenice 147.87 347 *e*PKP2 PKPab 15 52 47.3 +5.1
SMOL Smolenice 147.87 347 *e*PKP PKPab 15 52 47.3 +5.1
MLR Muntele Rosu 147.88 335⇑*e*PKP2 **PKPbc** **15 52 39.6 -0.4**
MLR Muntele Rosu 147.88 335⇑*i*P **PKPbc** **15 52 39.6 -0.4**
KHC Kasperske Hory 147.94 352 *e*PKP **PKPdf** **15 52 38.0 +1.1**
KHC *ep*PKP **PKPbc** **15 52 39.6 -0.3**
KHC *ex* x 15 52 46.5
KHC *ex* x 15 52 53.8
KHC AMS AMS 16 57 10.0
comp=Z,200nm,22.5s
KHC Kasperske Hory 147.94 352 *e*PKIKP **PKPdf** **15 52 38.0 +1.1**
KHC *e* 15 52 39.6
KHC *e* 15 52 46.5
KHC *e* 15 52 53.8
KHC MLR MLR
comp=Z,200nm,22.5s
KHC Kasperske Hory 147.94 352 *e*PKPdf **PKPdf** **15 52 37.7 +0.8**
BR131 Keskin Array S 147.98 319 *e*PKPbc **PKPbc** **15 52 40.1 -0.3**
BRTR Keskin Array B 147.98 319 PKPbc **PKPdf** **15 52 38.4 +1.0**
comp=Z,7.4nm,0.7s,baz=132,slow=2.1,SNR=34
BRTR Keskin Array B 147.98 319 PKIKP **PKPdf** **15 52 38.4 +1.0**
BRTR pmax pmax
comp=Z,7.0nm,0.7s
DRGR 147.99 340⇑*e*PKP2 **PKPbc** **15 52 40.3 +0.1**
DRGR 147.99 340⇑*i*P **PKPbc** **15 52 40.3 +0.1**
GEC2 GERESS Array S 148.21 352 *e*PKPbc **PKPbc** **15 52 40.2 -0.5**
GERES GERESS Array B 148.21 352 PKPbc **PKPbc** **15 52 39.7 -1.0**
comp=Z,1.3nm,0.8s,baz=36,slow=2.5,SNR=10
GERES GERESS Array B 148.21 352 PKIKP **PKPbc** **15 52 39.7 -1.0**
GERES pmax pmax
comp=Z,1.0nm,0.8s
VOIR 148.29 336⇑*e*PKP2 **PKPbc** **15 52 41.9 +0.9**
VOIR 148.29 336⇑*i*P **PKPbc** **15 52 41.9 +0.9**
PSN Preselentsi 148.31 330⇑*e*PKP2 **PKPbc** **15 52 41.1 +0.1**
PSN Preselentsi 148.31 330⇑*i*P **PKPbc** **15 52 41.1 +0.1**
ANTO Ankara 148.42 320⇑*e*PKP2 **PKPbc** **15 52 41.5 0.0**
ANTO Ankara 148.42 320⇑*i*P **PKPbc** **15 52 41.5 0.0**
ANTO Ankara 148.42 320 *e*PKPdf **PKPdf** **15 52 39.6 +1.6**
LANF Langenberg 148.53 359 PKP PKPab 15 52 54.9 +10
CONA Conrad Observa 148.74 349⇓*i*PKiKP **PKPbc** **15 52 42.6 +0.5**
comp=Z,69nm,1.7s,SNR=11
SIRR Siria 148.79 340⇑*i*P **PKPbc** **15 52 42.7 +0.5**
MOA Molln 149.10 350⇑*i*PKiKP **PKiKP** **15 52 43.8 -0.4**
comp=Z,32nm,1.4s
BFO Black Forest 149.17 358 *e*PKPbc **PKPbc** **15 52 42.9 -0.2**
BFO Black Forest 149.17 358 *e*PKPbc **PKPbc** **15 52 42.6 -0.5**
GZR Gura Zlata 149.18 338⇑PKiKP **PKPbc** **15 52 43.3 +0.3**
GZR Gura Zlata 149.18 338⇑*i*P **PKPbc** **15 52 43.6 +0.3**
THEF They Montfort 149.28 1 PKP PKPab 15 52 56.5 +8.6
ECH Echery 149.30 360 PKP PKPab 15 52 56.8 +8.8
ECH Echery 149.30 360 *e*PKPbc **PKPbc** **15 52 43.6 +0.2**
BZS Buzias 149.38 340⇑PKP2 **PKPbc** **15 52 43.6 -0.1**
BZS Buzias 149.38 340⇑*i*P **PKPbc** **15 52 43.6 -0.1**
SZH Strazhica 149.67 332 *e*P **PKPbc** **15 52 43.2 -1.3**
PKSM Moragy 149.73 344⇓PKP2 **PKPbc** **15 52 44.7 +0.2**
PKSM Moragy 149.73 344⇓*i*P **PKPbc** **15 52 44.7 +0.2**
KBA Koelnbreinsper 149.99 351⇓*i*PKiKP **PKiKP** **15 52 46.0 -0.2**
comp=Z,25nm,1.4s
JMB Yambol 150.00 330⇑PKIKP **PKPbc** **15 52 44.0 -1.3**
JMB Yambol 150.00 330⇑*i*P **PKPbc** **15 52 44.0 -1.3**
WTTA Wattenberg 150.02 354⇑*i*PKiKP **PKPbc** **15 52 45.7 +0.3**
comp=Z,35nm,1.0s,SNR=7.2
LOMF Lomont 150.17 0 PKP PKPab 15 52 59.1 +7.5
MYKA Terra Mystica 150.38 351⇓*i*PKPbc **PKPbc** **15 52 45.3 -0.9**
comp=Z,24nm,1.3s
ABTA Abfaltersbach 150.42 352 *i* PKiKP **PKPbc** **15 52 45.9 -0.4**
comp=Z,33nm,1.0s,SNR=7.9
MPEP Malo Peshtene 150.54 335 *e*P **PKPbc** **15 52 46.3 -0.3**
VNDS Vrh nad Dolski 150.72 349 *e*PKPdf **PKPdf** **15 52 40.5 -1.0**
VNDS *e*PKPbc **PKPbc** **15 52 46.8 -0.1**
LJU Ljubljana 150.80 349 *i* PKPbc **PKPbc** **15 52 47.5 +0.4**
TUE Stuetta 150.99 357 *e*PKPbc **PKPbc** **15 52 49.0 +1.2**
KDZ Kurdzhali 151.18 331⇑PKP2 **PKPbc** **15 52 48.5 +0.4**
KDZ Kurdzhali 151.18 331⇑*i*P **PKPbc** **15 52 48.5 +0.4**
BOJS Bojanci 151.19 348 *e*PKPbc **PKPbc** **15 52 48.8 +0.9**
DIVS Divibare 151.26 340⇑*i*P **PKPbc** **15 52 48.2 -0.2**
VTS Vitosha 151.39 335⇑PKP2 **PKPbc** **15 52 50.4 +1.6**
VTS Vitosha 151.39 335⇑*i*P **PKPbc** **15 52 50.4 +1.6**
VTS Vitosha 151.39 335 *e*P **PKPbc** **15 52 47.4 -1.4**
PLDF La Plantade 151.41 5 PKP **PKPab** **15 53 00.4 +3.6**
PYM Petit Puy Mans 151.57 6 PKP **PKPab** **15 53 00.7 +3.2**
MMB Musomiste 151.99 333⇑PKIKP **PKPbc** **15 52 50.6 +0.6**
MMB Musomiste 151.99 333⇑*i*P **PKPbc** **15 52 50.6 +0.6**
KKB Krupnik 152.04 334 *e*P **PKPbc** **15 52 49.5 -0.6**
LBL Lubilhac 152.11 6 PKP **PKPab** **15 53 00.4 +0.7**
SSB Saint Sauveur 152.16 4 *e*PKPbc **PKPbc** **15 52 51.5 +1.2**
PGAV Gavieira, Arco 152.26 25 *e*PKPdf **PKPbc** **15 52 55.3 +4.6**
PGAV Gavieira, Arco 152.26 25 *e*PKPdf **PKPbc** **15 52 55.3 +4.6**
BNI Bardonecchia 152.47 1 *e*PKPdf **PKPdf** **15 52 45.1 +0.9**
POLO Lamas de Olo 152.96 25 *e*PKPdf **PKPbc** **15 52 53.2 +0.9**
POLO Lamas de Olo 152.96 25 *e*PKPdf **PKPbc** **15 52 53.2 +0.9**
MVO Moncorvo 153.44 24 *e*PKPdf **PKPbc** **15 52 54.4 +1.1**
MVO Moncorvo 153.44 24 *e*PKPdf **PKPbc** **15 52 54.4 +1.1**
PCBR Castelo Branco 154.37 26 *e*PKPdf **PKPbc** **15 52 56.7 +1.4**
PCBR Castelo Branco 154.37 26 *e*PKPdf **PKPbc** **15 52 56.7 +1.4**
PMRV Marv??o 154.75 27 *e*PKPdf **PKPbc** **15 52 54.5 -1.6**
PMRV Marv??o 154.75 27 *e*PKPdf **PKPbc** **15 52 54.5 -1.6**
PESTR Estremoz 155.12 28 *e*PKPdf PKPdf 15 52 56.8 +8.7
PESTR Estremoz 155.12 28 *e*PKPdf PKPdf 15 52 56.8 +8.7
PNCL Nicolau / Gran 155.29 30 *e*PKPdf PKPdf 15 52 59.7 +11
PNCL Nicolau / Gran 155.29 30 *e*PKPdf PKPdf 15 52 59.7 +11
MORF Marmelete 155.87 32 *e*PKPdf PKPdf 15 53 00.7 +12
MORF Marmelete 155.87 32 *e*PKPdf PKPdf 15 53 00.7 +12
ESDC Sonseca Array 155.87 21 PKPbc **PKPdf** 15 52 57.1 +8.0
comp=Z,0.2nm,0.3s,baz=331,slow=3.2,SNR=4.9
PFVI Vila Bisbo 155.91 32 *e*PKPdf **PKPdf** **15 52 54.2 +5.1**
PFVI Vila Bisbo 155.91 32 *e*PKPdf **PKPdf** **15 52 54.2 +5.1**
PBAR Barrancos 155.94 28 *e*PKPdf **PKPdf** **15 52 53.2 +4.1**
PBAR Barrancos 155.94 28 *e*PKPdf **PKPdf** **15 52 53.2 +4.1**
PVAQ Vaqueiros 156.25 30 *e*PKPdf PKPdf 15 52 55.5 +5.9
PVAQ Vaqueiros 156.25 30 *e*PKPdf PKPdf 15 52 55.5 +5.9
PBDV Barranco-do-Ve 156.27 31 *e*PKPdf PKPdf 15 52 57.1 +7.4
PBDV Barranco-do-Ve 156.27 31 *e*PKPdf PKPdf 15 52 57.1 +7.4
TORD Torodi Ar. Bea 173.31 129 PKP **PKPdf** **15 53 04.3 -0.6**
comp=Z,1.0nm,1.0s,baz=305,slow=2.1,SNR=4.3
TORD PKPab **PKPab** **15 54 34.1 +1.1**
comp=Z,3.6nm,1.0s,baz=253,slow=4.3,SNR=8.7
TORD PP **PP** **15 58 25.0 +0.7**
comp=Z,1.4nm,1.1s,baz=232,slow=3.1,SNR=3.7

IDC 29 15:55:35.5±4.1, 7.11S×130.09E, h176km±45km, mb3.2/3, mb1 3.4/6, mb1mx3.0/39, mbtmp3.8/6, Error ellipse: s-maj=95.2km s-min=15.5km az=79.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.31**	**11**	P		Pn	15 57 07.1	+0.6
	0.6nm,0.3s,baz=162,slow=20,SNR=7.7							
SIJI				S		Sn	15 58 18.3	0.0
	2.3nm,0.3s,baz=222,slow=23,SNR=12							
WRA	**Warramunga Arr**	**13.41**	**163**	P		Pn	15 58 38.6	-0.4
	0.5nm,0.3s,baz=345,slow=13,SNR=26							
WRA				S		Sn	16 00 59.4	-8.7
	1.1nm,0.3s,baz=331,slow=22,SNR=6.5							
ASAR	**Alice Springs**	**16.87**	**168**	P		P	15 59 21.0	+0.4
	0.5nm,0.3s,baz=341,slow=9.9,SNR=46							
ASAR				S		S	16 02 21.2	-6.3
	0.1nm,0.3s,baz=343,slow=23,SNR=3.8							
ZALV	**Zalesovo Beam**	**71.72**	**334**	P		P	16 06 38.1	0.0
	0.4nm,0.5s,baz=133,slow=6.3,SNR=2.9							
VNDA	**Vanda**	**72.33**	**173**	P		P	16 06 41.4	0.0

0.3nm,0.4s,baz=14,slow=6.8,SNR=4.0
KURBB Kurchatov Arra 72.65 328 P P 16 06 43.7 +0.1
0.3nm,0.4s,baz=125,slow=5.3,SNR=7.7

IDC 29 16:00:50.2±475.0, 56°45N×41°02E, h0km, Error ellipse: s-maj=176.2km s-min=47.2km az=98.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON 2.12 279** *i*					16 15 10.0	
	baz=95,slow=319,SNR=3.1						
I31KZ	**AKTYUBINSK INF 11.80 114** *i*					17 15 50.0	
	baz=307,slow=295,SNR=2.6						
I26DE	**FREYUNG INFRAS18.14 257** *i*					17 46 00.0	
	baz=57,slow=323,SNR=0.4						

NNC 29 16:24:50.5±3.0, 38°18N×71°85E, h0km, mb3.7, mpv3.3, 5C-3D, Error ellipse: s-maj=31.6km s-min=8.4km az=158.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan 2.24 35**			⇑Pn	Pn	16 25 29.2	0.0
	2.6nm,0.2s						
SFK				⇓Sn	Sb	16 25 59.9	-0.8
	26nm,0.2s						
DZET	**Dzherino 2.45 286**			⇓Pn	Pn	16 25 31.5	-0.5
	2.0nm,0.3s						
DZET				⇑Sn	Sn	16 26 03.8	+1.1
	24nm,0.4s						
AAK	**Ala-Archa 4.89 24**			⇑Pn	Pn	16 26 04.5	-1.0
	2.6nm,0.3s						
AAK				⇑Sn	Sn	16 27 02.0	-0.9
	12nm,0.9s						
KK31	**Karatay Array 5.02 349**			Pn	Pn	16 26 07.8	+0.7
	4.3nm,0.4s,baz=169,slow=12,SNR=34						
KK31				⇑Sn	Sn	16 27 07.5	+1.5
	6.0nm,0.4s,baz=173,slow=23,SNR=13						
TKM2	**Tokmak 2 5.53 30**			⇓Sn	Sn	16 27 16.4	-2.5
	2.1nm,0.7s						

IDC 29 16:26:01.0±54.0, 16°70S×177°19W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/26, mbtmp4.1/3, Error ellipse: s-maj=1010.0km s-min=161.9km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek 40.23 240**			P	P	16 33 39.8	+0.2
	1.9nm,0.7s,baz=76,slow=10,SNR=5.7						
WRA	**Warramunga Arr 46.01 259**			P	P	16 34 26.2	-0.4
	0.7nm,0.7s,baz=95,slow=7.5,SNR=19						
ASAR	**Alice Springs 46.25 253**			P	P	16 34 28.3	-0.1
	5.6nm,0.6s,baz=89,slow=7.8,SNR=149						

*IDC **29** 16:28:28.9±2.3, 11°69S×14°91W, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/30, mbtmp3.8/5, MS3.5/3, Ms1 3.5/3, ms1mx3.1/25, Error ellipse: s-maj=62.6km s-min=40.5km az=126.0*

ISC 29 16:28:31.2±1.4, 11°58S±0°10×14°9W±0°3, h10km, n19, σ1§07/16, mb3.7/4, MS3.7/3, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR 2.62**		**6**	Pn	**Pn**	**16 29 12.8**	**-0.5**
	baz=202						
H10S2				Sn	**Sg**	**16 29 55.7**	**+0.4**
H10S2				T	T	16 32 14.6	
	baz=192,slow=74,SNR=165						
H10S3	**ASCENSION HYDR 2.62**		**6**	Pn	**Pn**	**16 29 14.6**	**+1.3**
	baz=202						
H10S3				Sn	**Sg**	**16 29 54.6**	**-0.8**
H10S3				T	T	16 32 15.8	
	baz=192,slow=74,SNR=26						
H10S1	**ASCENSION HYDR 2.63**		**6**	Pn	**Pn**	**16 29 13.6**	**+0.1**
	baz=202						
H10S1				Sn	**Sg**	**16 29 54.8**	**-1.1**
H10S1				T	T	16 32 15.8	
	baz=192,slow=74,SNR=102						
H10N1	**ASCENSION HYDR 3.73**		**7**	Pn	**Pn**	**16 29 29.3**	**+0.6**
	baz=230						
H10N1				T	T	16 33 31.9	
	baz=177,slow=71,SNR=26						
H10N3	**ASCENSION HYDR 3.74**		**7**	Pn	**Pn**	**16 29 29.3**	**+0.6**
	baz=230						
H10N3				T	T	16 33 33.7	
	baz=177,slow=71,SNR=141						
H10N2	**ASCENSION HYDR 3.75**		**7**	Pn	**Pn**	**16 29 31.9**	**+3.0**
	baz=230						
H10N2				T	T	16 33 33.7	
	baz=177,slow=71,SNR=36						
LIC	**Lamto 20.25**		**30**	*e*PKP1	Pn	16 33 11.5	+2.7
	52nm,1.4s						
LIC	**Lamto 20.25**		**30**	*e*P	Pn	16 33 12.5	+3.7
	52nm,1.4s						
KIC	**Kosan Boka 20.51**		**30**	*e*PKP1	Pn	16 33 11.3	-0.5
	23nm,1.0s						
KIC	**Kosan Boka 20.51**		**30**	*e*P	Pn	16 33 11.2	-0.6
	23nm,1.0s						
TIC	**Toumodi 20.62**		**29**	*e*PKP1	**P**	**16 33 10.4**	**-0.5**
TIC	**Toumodi 20.62**		**29**	*e*P	**P**	**16 33 11.2**	**+0.3**
DBIC	**Dimbokro 20.72**		**29**	P	**P**	**16 33 12.6**	**+0.6**
	6.2nm,0.9s,baz=197,slow=11,SNR=6.2						
DBIC				LR	LR	16 39 46.0	
	comp=Z,64nm,18.5s,baz=163,slow=32						
TORD	**Torodi Ar. Bea 29.59**		**34**	P	**P**	**16 34 36.3**	**-0.4**
	0.9nm,0.9s,baz=219,slow=9.6,SNR=5.1						
BOSA	**Boshof 41.14 120**			LR	LR	16 49 38.9	
	comp=Z,119nm,19.8s,baz=215,slow=31						
ROSC	**El Rosal 61.28 282**			LR	LR	17 05 26.8	
	comp=Z,48nm,18.7s,baz=242,slow=36						
BRTR	**Keskin Array B 68.10 259**			P	**P**	**16 39 31.0**	**-0.5**
	0.3nm,0.6s,baz=208,slow=7.9,SNR=3.8						
AKASG	**Malin Array Be 72.95 28**			P	**P**	**16 40 01.0**	**+0.2**
	0.2nm,0.3s,baz=226,slow=7.5,SNR=4.9						
TXAR	**Lajitas Array 94.48 299**			P	**P**	**16 41 51.9**	**-0.4**
	1.3nm,1.0s,baz=134,slow=5.6,SNR=4.6						

IDC 29 16:32:56.8±2.3, 11°79S×167°39E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=88.7km s-min=47.4km az=144.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr 32.76 251**			P	P	16 39 31.9	+0.1
	0.8nm,0.9s,baz=83,slow=9.2,SNR=6.3						
WRA				PcP	PcP	16 42 17.3	-0.2
	0.6nm,0.9s,baz=74,slow=2.4,SNR=3.5						
ASAR	**Alice Springs 33.92 245**			P	P	16 39 41.9	-0.1
	0.5nm,0.8s,baz=71,slow=9.2,SNR=5.3						
ASAR				PcP	PcP	16 42 20.1	-0.6
	0.2nm,0.8s,baz=85,slow=2.8,SNR=4.2						
CMAR	**Chiang Mai Arr 73.89 293**			P	P	16 44 34.2	0.0
	0.9nm,0.8s,baz=128,slow=4.2,SNR=6.1						
ARCES	**ARCESS Array B 117.45 346**			PKP	PKPdf	16 51 43.9	-0.2
	0.7nm,0.7s,baz=42,slow=2.8,SNR=3.6						

IDC 29 16:38:01.4±476.0, 56°48N×40°98E, h0km, Error ellipse: s-maj=176.2km s-min=47.1km az=98.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON 2.10 278** *i*					16 52 20.0	
	baz=94,slow=320,SNR=5.2						
I31KZ	**AKTYUBINSK INF 11.83 114** *i*					17 52 20.0	
	baz=303,slow=300,SNR=1.5						
I26DE	**FREYUNG INFRAS18.12 257** *i*					18 23 30.0	
	baz=57,slow=319,SNR=1.1						

GUC 29 16:48:06.0±0.5, 36°51S×73°36W, h9km±19km, ML3.8, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C 0.39 149**			⇓*i*P	Pb	16 48 14.4	-0.6
CCSP				*i* S	Sb	16 48 20.6	-0.5
CCSP				AML	AML	16 48 21.8	
	comp=E,28μm,0.5s						
LNCH	**Linares 1.57 65**			⇑*i*P	Pb	16 48 34.7	-0.5
LNCH				*e*S	Sg	16 48 57.0	+0.6
TALC	**Talca 1.79 52**			*e*P	Pb	16 48 38.5	-0.5
TALC				*e*S	Sg	16 49 03.2	-0.3

IDC 29 17:25:59.2±71.0, 16°63S×174°57E, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/18, mbtmp4.2/3, Error ellipse: s-maj=1233.0km s-min=148.8km az=73.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek 33.52 237**			P	P	17 32 41.2	+0.5
	2.4nm,1.0s,baz=80,slow=6.1,SNR=2.8						
WRA	**Warramunga Arr 38.28 259**			P	P	17 33 21.5	-0.2
	0.6nm,0.4s,baz=96,slow=8.5,SNR=27						
ASAR	**Alice Springs 38.72 253**			P	P	17 33 25.0	-0.4
	6.9nm,0.5s,baz=81,slow=8.7,SNR=216						

*KRNET **29** 17:35:35.4±0.1, 40°65N×79°19E, mb3.8*
*IDC **29** 17:35:40.1±2.2, 40°88N×77°96E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.1/39, mbtmp3.3/3, ML2.4/1, Error ellipse: s-maj=64.1km s-min=28.8km az=143.0*
*BJI **29** 17:35:41.0, 40°85N×78°22E, h8km, ML3.5/8*
*NNC **29** 17:35:42.0±1.2, 40°99N×78°20E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=10.0km s-min=5.2km az=152.0*

ISC 29 17:35:42.5±0.9, 40°82N±0°05×78°01E±0°05, h19km, n32, σ1§74/34, 18C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol 1.95 318**			P	**Pb**	**17 36 17.5**	**0.0**
	SNR=66						
ANVS	**Anan'yevo 1.98 353**			⇑*i*P	**Pb**	**17 36 17.6**	**-0.4**
	baz=332						
ANVS				⇑*i*S	**Sg**	**17 36 48.6**	**+2.3**
	baz=332						
KSH	**Kashi 2.03 231**			Pn	Pg	17 36 26.0	+4.4
KSH				Sn	Sg	17 37 02.5	+14
KSH				SMN			
	200nm,0.5s						
KSH				SME			
	460nm,1.1s						
KZA	**Kyzart 2.43 302**			P	**Pb**	**17 36 25.8**	**0.0**
	SNR=76						
KNDC	**Almaty 2.52 342**			⇑Pg	**Pb**	**17 36 27.1**	**-0.1**
	71nm,0.6s						
KNDC				⇓Lg	Lg	17 36 58.1	
	151nm,0.5s						
PDGK	**Podgornoye 2.73 23**			⇑Pg	**Pn**	**17 36 27.2**	**+1.8**
	75nm,0.5s						
PDGK				⇓Lg	Lg	17 37 03.1	
	356nm,0.7s						
TKM2	**Tokmak 2 2.77 320**			P	**Pb**	**17 36 33.0**	**+1.5**
	SNR=19						
TKM2	**Tokmak 2 2.77 320**			⇑Pg	**Pb**	**17 36 30.2**	**-1.3**
	17nm,0.3s						
TKM2				⇑Lg	Lg	17 37 10.8	
	146nm,0.9s						
KBK	**Karagaybulak 2.94 310**			P	**Pb**	**17 36 33.5**	**-0.8**
	SNR=24						
UCH	**Uchtor 2.98 299**			P	**Pg**	**17 36 38.1**	**-1.5**
	SNR=53						
AAK	**Ala-Archa 3.20 306**			P	**Pb**	**17 36 40.6**	**+1.8**
	SNR=24						
AAK	**Ala-Archa 3.20 306**			⇓Pg	**Pb**	**17 36 40.4**	**+1.6**
	26nm,0.4s						
AAK				⇓Lg	Lg	17 37 24.1	
	110nm,0.6s						
CHMS	**Chumysh 3.27 313**			P	**Pb**	**17 36 41.6**	**+1.8**
	SNR=22						
AML	**Almayashu 3.50 293**			P	**Pg**	**17 36 47.2**	**-2.4**
	SNR=14						
SFK	**Sufi-Kurgan 3.54 258**			⇑Pg	**Pg**	**17 36 49.5**	**-0.7**
	10nm,0.3s						
SFK				⇑Lg	Lg	17 37 41.0	
	58nm,0.9s						
SFK	**Sufi-Kurgan 3.54 258**			⇑*i*P	**Pb**	**17 36 45.1**	**+0.5**
	baz=264						
SFK				⇑*i*S	**Sg**	**17 37 35.3**	**-0.8**
	baz=264						
USP	**Ospenovka 3.58 314**			P	**Pb**	**17 36 42.7**	**-2.6**
	SNR=8.5						
EKS	**Erkin-Say 3.66 302**			⇑P	**Pb**	**17 36 46.7**	**0.0**
	baz=298						
EKS				⇑*i*S	**Sg**	**17 37 38.4**	**-1.7**
	baz=298						
EKS2	**Erkin-Say 3.67 302**			P	**Pg**	**17 36 50.3**	**-2.4**
	SNR=10						
ARK	**Arkit 4.66 284**			⇑*i*P	**Pb**	**17 37 01.5**	**-2.2**
	baz=284						
ARK				⇑*i*S	**Sb**	**17 38 03.5**	**+4.0**
	baz=284						
KK31	**Karatay Array 6.04 295**			Pg	Pg	17 37 34.0	-4.0
	2.6nm,0.5s,baz=107,slow=16,SNR=20						
KK31				⇑Lg	Lg	17 38 56.3	
	8.9nm,0.7s,baz=102,slow=27,SNR=5.6						
MK31	**Makanchi Array 6.72 26**			⇑Pn	**Pn**	**17 37 20.5**	**+0.3**
	0.5nm,0.3s,baz=207,slow=13,SNR=28						
MK31				⇓Pg	**Pb**	**17 37 40.7**	**+1.9**
	1.1nm,0.5s,baz=192,slow=13,SNR=5.8						
MK31				⇓Sn	**Sn**	**17 38 34.9**	**-1.4**
	2.3nm,0.5s,baz=204,slow=21,SNR=6.1						
MK31				⇓Lg	Lg	17 39 06.4	
	7.5nm,0.6s,baz=203,slow=26,SNR=4.5						
CHCP	**Chirah Chowk 8.09 209**			P	Pn	17 37 43.1	+4.1
OTUK	**Ortayu 8.46 333**			⇓Pn	**Pn**	**17 37 44.6**	**+0.7**
	2.7nm,1.2s						
OTUK				⇑Lg	Lg	17 40 09.4	
	14nm,1.4s						
CEP	**Cherat 8.51 217**			P	Pn	17 37 48.9	+4.1
THW	**Thamme Wali 9.45 214**			P	**Pn**	**17 38 00.2**	**+2.5**
KURBB	**Kurchatov Arra 9.81 2**			⇑Pn	**Pn**	**17 38 02.6**	**+0.2**
	1.6nm,0.9s						
KURBB				⇓Lg	Lg	17 40 48.0	
	22nm,1.0s						
KURK	**Kurchatov 9.91 2**			⇓Pn	**Pn**	**17 38 04.3**	**+0.6**
	1.0nm,0.9s						
KURK				⇓Lg	Lg	17 40 50.8	
	8.2nm,1.0s						
ZALV	**Zalesovo Beam 13.91 17**			Pn	**Pn**	**17 38 59.4**	**+0.9**
	0.1nm,0.3s,baz=214,slow=17,SNR=2.3						
ZALV				Lg	Lg	17 42 58.2	
	0.1nm,0.3s,baz=200,slow=24,SNR=3.8						
SONM	**Songino Array 21.40 61**			P	**P**	**17 40 29.4**	**+0.3**
	0.5nm,0.6s,baz=248,slow=11,SNR=4.1						
CD2	**Chengdu 23.02 107**			*e*P	**P**	**17 40 43.0**	**-3.4**
TORD	**Torodi Ar. Bea 71.21 271**			P	**P**	**17 47 00.9**	**+0.4**
	0.2nm,0.5s,baz=42,slow=5.2,SNR=3.8						

IDC 29 17:45:08.9±3.5, 21°24S×176°14W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.6/32, mbtmp3.7/3, Error ellipse: s-maj=255.0km s-min=33.9km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs 46.05 257**			P	P	17 53 34.6	-0.2
	0.6nm,0.8s,baz=83,slow=7.8,SNR=6.1						
NVAR	**Mina Array Bea 80.38 42**			P	P	17 57 22.3	-0.2
	0.5nm,0.7s,baz=219,slow=7.0,SNR=3.8						
TXAR	**Lajitas Array 86.00 57**			P	P	17 57 52.0	+0.3
	0.7nm,1.0s,baz=200,slow=4.5,SNR=4.2						
AKASG	**Malin Array Be 144.50 332**			PKP	PKPab	18 04 45.1	-0.3
	0.1nm,0.2s,baz=41,slow=4.1,SNR=5.8						
BRTR	**Keskin Array B 148.62 313**			PKPbc	PKPbc	18 04 58.3	-0.1
	0.9nm,0.6s,baz=122,slow=5.1,SNR=5.7						
GERES	**GERESS Array B 151.36 346**			PKPbc	PKPbc	18 05 04.4	-0.2
	0.3nm,0.6s,baz=48,slow=2.0,SNR=4.7						

*IDC **29** 17:55:24.9±1.2, 17°68N×119°51E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/34, mbtmp3.5/5, Error ellipse: s-maj=40.8km s-min=21.4km az=74.0*
*ISCJB **29** 17:55:27.7±0.7, 17°79N±0°07×119°33E±0°05, h32km, mb3.4/3, Error ellipse: s-maj=10.3km s-min=7.2km az=15.1*
*MAN **29** 17:55:30, 17°71N×119°61E, h14km, mb5.0, ML4.0, MS4.1*

ISC 29 17:55:28.6±1.0, 17°70N±0°06×119°51E±0°07, h32km, n13, σ1§50/17, mb3.4/4, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao 0.93 76**			⇑*e*P	**Pb**	**17 55 45.8**	**-0.5**
ABRA	**Dolores 1.15 92**			*e*P	**Pb**	**17 55 49.6**	**-0.3**
ABRA				*e*S	**Sb**	**17 56 06.1**	**+1.6**
APYP	**Conner 1.66 84**			*e*P	**Pb**	**17 55 57.4**	**-1.2**
APYP				*e*S	**Sb**	**17 56 18.7**	**-0.5**
BCPH	**Baguio City Da 1.66 142**			⇑*i*P	**Pb**	**17 55 58.0**	**-0.8**
BCPH				*i* S	**Sb**	**17 56 19.8**	**+0.5**
CVP	**Callao Caves 2.21 89**			⇑*i*P	**Pb**	**17 56 05.7**	**-2.1**
CVP				*i* S	**Sb**	**17 56 36.2**	**+1.4**
CAUP	**Cauayan 2.33 108**			*e*P	**Pb**	**17 56 09.6**	**-0.4**
SGCP	**Mt. Cagua 2.48 77**			*e*P	**Pb**	**17 56 09.3**	**-3.1**
BALP	**Baler 2.77 134**			*e*P	**Pb**	**17 56 15.0**	**-2.5**
CMAR	**Chiang Mai Arr 19.57 275**			P	Pn	**17 59 54.5**	**-1.0**
	baz=90,slow=9.0,SNR=3.9						
KSRS	**Korea Array 21.03 19**			P	**P**	**18 00 10.2**	**+0.5**
	1.4nm,1.0s,baz=194,slow=9.3,SNR=6.9						
SONM	**Songino Array 31.92 343**			P	**P**	**18 01 52.3**	**+0.9**
	0.4nm,0.5s,baz=180,slow=4.0,SNR=2.8						
WRA	**Warramunga Arr 40.14 158**			P	**P**	**18 03 02.0**	**+0.3**
	0.3nm,0.5s,baz=338,slow=9.2,SNR=4.6						
ASAR	**Alice Springs 43.45 161**			P	**P**	**18 03 30.1**	**+1.2**
	0.6nm,0.6s,baz=339,slow=6.6,SNR=22						

*IDC **29** 18:01:59.8±1.3, 38°40S×75°44W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.8/25, mbtmp3.7/5, ML4.6/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/16, Error ellipse: s-maj=46.1km s-min=26.0km az=101.0*
*GUC **29** 18:02:02.7±0.5, 38°52S×74°94W, h38km±3km, ML4.2*
*ISCJB **29** 18:02:03.1±1.0, 38°38S±0°09×74°9W±0°1, h33km, mb3.7/4, Error ellipse: s-maj=14.7km s-min=11.2km az=43.5*

ISC 29 18:02:03.6±1.1, 38°46S±0°06×75°0W±0°1, h35km, n11, σ1§16/12, mb3.7/4, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr 1.28 106**			⇓*i*P	**Pn**	**18 02 24.7**	**-0.3**
PSCH				*i* S	**Sn**	**18 02 40.9**	**0.0**
VLCH	**Valdivia 1.89 136**			*i* S	**Sn**	**18 02 55.9**	**-0.1**
LNCH	**Linares 3.74 47**			⇑*i*P	**Pn**	**18 02 59.6**	**+0.7**
LNCH				*i* S	**Sn**	**18 03 42.5**	**+0.8**
PEL	**Peldehue 6.34 35**			⇑*i*P	**Pn**	**18 03 33.4**	**-1.3**
PEL				*i* S	**Sn**	**18 04 44.3**	**-1.6**
CPUP	**Villa Florida 19.14 56**			P	**Pn**	**18 06 25.7**	**+0.8**
	0.4nm,0.3s,baz=240,slow=9.2,SNR=6.9						
CPUP				LR	LR	18 14 40.8	
	comp=Z,166nm,19.5s,baz=216,slow=39						
LPAZ	**La Paz 22.89 17**			P	**P**	**18 07 05.9**	**+0.9**
	0.7nm,0.8s,baz=225,slow=13,SNR=2.5						
VNA1	**Neumayer--Stat 46.57 155**			P	P	18 10 31.7	+4.2
SNAA	**Sanae 48.41 156**			P	**P**	**18 10 40.0**	**-1.9**
QSPA	**South Pole Qui 51.78 180**			P	**P**	**18 11 08.8**	**+1.1**
	3.2nm,0.8s,baz=128,slow=6.6,SNR=11						
TXAR	**Lajitas Array 72.58 334**			P	**P**	**18 13 27.6**	**+0.3**
	0.5nm,0.7s,baz=150,slow=9.3,SNR=5.3						
TORD	**Torodi Ar. Bea 87.91 72**			P	P	18 14 55.2	+5.2
	0.6nm,1.1s,baz=250,slow=5.4,SNR=3.0						

*ISCJB **29** 18:10:47.1±0.5, 32°45N±0°02×115°50W±0°03, h13km±4km, Error ellipse: s-maj=3.8km s-min=3.2km az=141.6*
*MEX **29** 18:10:47.2±1.0, 32°58N×115°44W, h4km±999km, MD3.5*
*NEIC **29** 18:10:48.6, 32°43N×115°53W, h6km, MD3.5(MEX), ML3.4(PAS), ML3.5(ECX), After ECX.*
NEIC Felt at Mexicali. Also felt at El Centro, California.
*ECX **29** 18:10:48.5±0.6, 32°43N×115°53W, h4km, MD3.3, ML3.5*

ISC 29 18:10:47.1±0.1, 32°44N±0°02×115°51W±0°02, h18km±3km, n40, σ0§92/60, 10C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto 0.18 96**			*e*P	**Pg**	**18 10 51.9**	**+0.1**
CPBX				*i* S	**Sg**	**18 10 55.0**	**+0.1**
CPBX	**Cerro Prieto 0.18 96**			*e*Pn	**Pg**	**18 10 51.8**	**+0.1**
CPBX				⇑*e*P	**Pg**	**18 10 51.9**	**+0.1**
CPBX				*e*S	**Sg**	**18 10 55.1**	**+0.1**
CPBX				⇓*e*		18 10 57.0	
CPBX				IAML		18 10 57.0	
	comp=E,38μm,0.2s						
SGL	**Mount Signal 0.28 320**			⇑*i*P	**Pb**	**18 10 53.4**	**-0.1**
ERPC	**Ernies Place 0.33 338**			⇓*i*P	**Pb**	**18 10 54.9**	**+0.4**
WESC	**Westside Schoo 0.37 330**			⇓*e*P	**Pb**	**18 10 55.4**	**+0.2**
DREC	**Desert Rsrch C 0.37 9**			⇓*i*P	**Pb**	**18 10 55.8**	**+0.5**
YUH	**Yuha Desert 0.41 302**			⇑*i*P	**Pg**	**18 10 55.5**	**0.0**
COK	**Cook Ranch 0.45 336**			⇓*i*P	**Pb**	**18 10 56.9**	**+0.4**
RMX	**La Rumorosa 0.51 289**			⇑*e*P	**Pg**	**18 10 57.3**	**0.0**
RMX				*e*		18 11 05.3	
RMX				IAML		18 11 05.3	
	comp=N,3μm,0.1s						
IBP	**Imperial Bould 0.54 295**			P	**Pg**	**18 10 58.0**	**+0.1**
	baz=0.6						
IBP				S	**Sg**	**18 11 05.3**	**0.0**
	baz=0.6						
COA	**Coachella 0.54 38**			⇑*i*P	**Pb**	**18 10 58.3**	**+0.3**
EMSC	**East Mesa 0.54 56**			⇑*i*P	**Pb**	**18 10 58.4**	**+0.5**
SWSC	**Sam W. Stewart 0.56 335**			P	**Pg**	**18 10 58.2**	**0.0**
	baz=0.6						
SWSC				S	**Sb**	**18 11 06.0**	**+0.2**
	baz=0.6						
RDX	**Rancho Dawling 0.62 216**			⇑*e*P	**Pb**	**18 10 59.5**	**+0.1**
RDX				*e*S	**Sb**	**18 11 07.6**	**-0.2**
GLA	**Glamis 0.84 43**			P	**Pb**	**18 11 02.5**	**-0.7**
	baz=0.9						
GLA				S	**Sb**	**18 11 13.2**	**-1.0**
	baz=0.9						
MONP	**Monument Peak, 0.89 301**			P	**Pb**	**18 11 04.1**	**0.0**
	baz=0.9						
MONP				S	**Sb**	**18 11 15.9**	**+0.2**
	baz=0.9						
CBX	**Cerro Bola 0.98 263**			*e*P	**Pb**	**18 11 05.8**	**+0.2**
CBX				*i* S	**Sb**	**18 11 18.1**	**-0.1**
CBX	**Cerro Bola 0.98 263**			*e*P	**Pb**	**18 11 05.8**	**+0.2**
CBX				*i* S	**Sb**	**18 11 18.1**	**-0.1**
CBX	**Cerro Bola 0.98 263**			⇑*i*P	**Pn**	**18 11 06.0**	**0.0**
CBX				*e*S	**Sg**	**18 11 19.0**	**-0.1**
BAR	**Barrett 1.01 284**			*e*Pg	**Pb**	**18 11 05.6**	**-0.4**
BAR				*e*Sg	**Sb**	**18 11 18.8**	**-0.1**
BAR	**Barrett 1.01 284**			⇑*e*P	**Pb**	**18 11 06.0**	**0.0**
BAR				*e*S	**Sb**	**18 11 19.3**	**+0.4**
ECBX	**El Chinero 1.04 158**			⇓*e*P	**Pn**	**18 11 06.7**	**0.0**
ECBX				*e*S	**Sn**	**18 11 20.5**	**-0.2**
BC3	**Big Chuckawall 1.22 2**			P	**Pn**	**18 11 08.3**	**-1.0**
	baz=1.3						
BC3				S	**Sb**	**18 11 22.7**	**-2.3**
	baz=1.3						
SDRC	**San Diego Road 1.24 284**			⇑*e*P	**Pb**	**18 11 10.2**	**+0.2**
SPIG	**San Pedro Mart 1.39 178**			*i* P	**Pn**	**18 11 11.7**	**-0.1**
SPIG				*i* S	**Sg**	**18 11 31.7**	**-0.3**
SPIG	**San Pedro Mart 1.39 178**			*i* P	**Pn**	**18 11 11.7**	**-0.1**
SPIG				*i* S	**Sg**	**18 11 31.7**	**-0.3**
SPX	**San Pedro Mart

mb1mx3.3/47,mbtmp3.2/5,ML3.3/5,Error ellipse: s-maj=22.2km s-min=9.3km az=154.0

*ISCJB **29** 18:15:39.0±0.2,43.68N±0.02×105.31W±0.02,h0km,Error ellipse: s-maj=2.5km s-min=2.4km az=142.7*

*NEIC **29** 18:15:39.9±0.5,43.74N×105.25W,h0km,ML3.2,Error ellipse: s-maj=6.9km s-min=5.7km az=186.0,Suspected Mining explosion.*

NEIC 65 km [40 miles] SSE of Gillette.

ISC 29 18:15:39.3±0.7,43.70N±0.02×105.31W±0.02,h0km,n95,σ1ᵗ09/97,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G** baz=0.3,SNR=106	**0.28**	**337**	P	**Pg**	**18 15 45.4**	**+0.8**
J23A	**Dilts Ranch, B** baz=0.4,SNR=239	**0.35**	**210**	P	**Pg**	**18 15 46.8**	**+0.9**
I24A	**Kuemmerle Ranc** baz=0.5,SNR=200	**0.52**	**72**	P	**Pg**	**18 15 49.9**	**+0.7**
J24A	**Dixon Ranch, L** baz=0.6,SNR=44	**0.60**	**128**	P	**Pg**	**18 15 51.3**	**+0.5**
H23A	**Clabaugh Cattl** baz=0.8,SNR=46	**0.86**	**356**	P	**Pg**	**18 15 55.7**	**-0.1**
I22A	**9 Mile Ranch,** baz=0.9,SNR=237	**0.87**	**283**	P	**Pg**	**18 15 56.0**	**+0.1**
I22A	baz=0.9			S	**Sg**	**18 16 08.2**	**+1.0**
J22A	**Midwest** baz=0.9,SNR=206	**0.90**	**252**	P	**Pg**	**18 15 56.1**	**-0.3**
K23A	**Bowen Ranch, D** baz=1.0	**0.97**	**194**	P	**Pg**	**18 15 58.3**	**+0.4**
RSSD	**Black Hills**	**1.01**	**65**	*e*Pg	**Pg**	**18 15 58.2**	**-0.5**
K24A	**Anderson Ranch** baz=1.1,SNR=140	**1.04**	**159**	P	**Pg**	**18 15 59.2**	**0.0**
J25A	**Sunshine Ranch** baz=1.1,SNR=205	**1.14**	**105**	P	**Pg**	**18 16 01.1**	**0.0**
H22A	**Clearmont** baz=1.2,SNR=69	**1.17**	**320**	P	**Pg**	**18 16 01.5**	**-0.1**
H22A	baz=1.2			Sb	**Sb**	**18 16 18.8**	**+0.8**
H24A	**Dirks Ranch, A** baz=1.1,SNR=164	**1.18**	**27**	P	**Pg**	**18 16 01.1**	**-0.8**
H24A	baz=1.1			S	**Sg**	**18 16 17.8**	**+0.6**
I25A	**Rochford** baz=1.1,SNR=64	**1.19**	**74**	P	**Pg**	**18 16 01.6**	**-0.3**
K22A	**Casper** baz=1.4,SNR=131	**1.38**	**221**	P	**Pg**	**18 16 04.8**	**-0.8**
K22A	**Casper**	**1.38**	**221**	*e*Pn	**Pg**	**18 16 04.3**	**-1.3**
I21A	**Big Trails, Te** baz=1.5	**1.44**	**275**	P	**Pn**	**18 16 05.7**	**-1.0**
I21A	baz=1.5			S	**Sg**	**18 16 25.9**	**+0.4**
G23A	**Biddle** baz=1.5,SNR=57	**1.50**	**358**	P	**Pn**	**18 16 07.0**	**-0.5**
K25A	**Mack Ranch, Ha** baz=1.5,SNR=71	**1.52**	**135**	P	**Pg**	**18 16 08.4**	**+0.1**
H25A	**Fruitdale** baz=1.5	**1.54**	**53**	P	**Pn**	**18 16 08.1**	**0.0**
H21A	**Big Horn, Sher** baz=1.6,SNR=96	**1.55**	**307**	P	**Pn**	**18 16 08.3**	**0.0**
J21A	**Lysite** baz=1.6,SNR=92	**1.59**	**258**	P	**Pn**	**18 16 08.2**	**-0.7**
J21A	baz=1.6			S	**Sn**	**18 16 30.5**	**+0.2**
G22A	**Birney** baz=1.7,SNR=48	**1.67**	**335**	P	**Pn**	**18 16 10.2**	**+0.3**
J26A	**Sides Ranch, S** baz=1.6,SNR=124	**1.67**	**103**	P	**Pn**	**18 16 10.4**	**+0.5**
G24A	**Alzada** baz=1.7,SNR=26	**1.75**	**21**	P	**Pn**	**18 16 11.4**	**+0.4**
G24A	baz=1.7			Sb	**Sg**	**18 16 36.0**	**+0.6**
I26A	**New Underwood** baz=1.7,SNR=33	**1.80**	**79**	P	**Pn**	**18 16 12.3**	**+0.6**
L25A	**Engebretsen Ra** baz=1.8,SNR=90	**1.84**	**147**	P	**Pb**	**18 16 13.0**	**-0.8**
K26A	**Motz Farm, Whi** baz=1.8,SNR=12	**1.85**	**122**	P	**Pn**	**18 16 13.1**	**+0.7**
G25A	**Newell** baz=2.0,SNR=15	**2.02**	**42**	P	**Pn**	**18 16 15.1**	**+0.5**
G25A	baz=2.0			Sb	**Sg**	**18 16 43.9**	**-0.1**
F23A	**Volborg** baz=2.0,SNR=55	**2.02**	**358**	P	**Pn**	**18 16 15.0**	**+0.3**
F23A	baz=2.0			Sb	**Sb**	**18 16 43.8**	**+1.1**
H26A	**Fairpoint** baz=2.0	**2.04**	**63**	Pb	**Pb**	**18 16 17.0**	**-0.3**
J20A	**Shoshoni** baz=2.1	**2.05**	**261**	Pb	**Pb**	**18 16 17.2**	**-0.2**
I20A	**Worland** baz=2.1,SNR=234	**2.05**	**278**	P	**Pn**	**18 16 16.0**	**+0.9**
H20A	**Greybull** baz=2.1,SNR=25	**2.09**	**293**	P	**Pn**	**18 16 15.9**	**+0.3**
F22A	**Rosebud** baz=2.2,SNR=52	**2.18**	**342**	P	**Pn**	**18 16 17.1**	**+0.2**
F22A	baz=2.2			Sb	**Sb**	**18 16 48.4**	**+1.1**
F24A	**Ekalaka** baz=2.2	**2.23**	**16**	Sb	**Sg**	**18 16 50.7**	**-0.2**
PHWY	**Pilot Hill**	**2.40**	**183**	*e*Pn	**Pn**	**18 16 21.0**	**+0.9**
RWWY	**Rawlins**	**2.45**	**215**	*e*Pn	Pg	18 16 31.0	+4.8
G20A	**Bridger** baz=2.6,SNR=92	**2.57**	**307**	P	**Pn**	**18 16 22.1**	**-0.2**
I19A	**Meeteetse** baz=2.7,SNR=46	**2.68**	**278**	P	**Pn**	**18 16 24.9**	**+1.0**
E23A	**Ismay** baz=2.8,SNR=11	**2.80**	**0**	P	**Pn**	**18 16 25.5**	**+0.2**
E24A	**Baker** baz=2.9,SNR=12	**2.95**	**14**	P	**Pn**	**18 16 27.7**	**+0.4**
E21A	**Keefer Ranch,** baz=3.1,SNR=10	**3.10**	**337**	P	**Pn**	**18 16 28.7**	**-0.8**
RLMT	**Red Lodge** baz=3.2,SNR=38	**3.17**	**298**	P	**Pn**	**18 16 30.8**	**+0.2**
RLMT	**Red Lodge**	**3.17**	**298**	*e*Pn	**Pn**	**18 16 30.9**	**+0.2**
BW06	**Boulder Array**	**3.24**	**255**	*e*Pn	**Pn**	**18 16 32.0**	**+0.4**
PDAR	**Pinedale Array** 2.7nm,0.3s,baz=69,slow=18,SNR=46	**3.24**	**255**	Pn	**Pn**	**18 16 32.7**	**+1.1**
PDAR	12nm,0.3s,baz=73,slow=31,SNR=9.0			Lg	Lg	18 17 17.0	
D23A	**Lindsay** baz=3.4,SNR=13	**3.47**	**1**	P	**Pn**	**18 16 35.2**	**+0.6**
D21A	**La Casta Ranch** baz=3.5	**3.57**	**341**	P	**Pn**	**18 16 35.7**	**-0.2**
OGNE	**Ogallala** baz=3.7,SNR=6.6	**3.67**	**137**	P	**Pn**	**18 16 38.4**	**+1.0**
OGNE	**Ogallala**	**3.67**	**137**	*e*Pn	**Pn**	**18 16 38.6**	**+1.1**
GCMT	**Greycliff**	**3.74**	**305**	*e*Pn	**Pn**	**18 16 39.0**	**+0.6**
LKWY	**Lake**	**3.76**	**285**	*e*Pn	**Pn**	**18 16 41.8**	**+3.0**
LOHW	**Long Hollow**	**3.84**	**270**	*e*Pn	**Pn**	**18 16 40.6**	**+0.7**
H17A	**Grant Village**	**3.86**	**282**	Pn	**Pn**	**18 16 43.1**	**+3.0**
MOOW	**Moose Ponds**	**3.94**	**273**	*e*Pn	**Pb**	**18 16 48.1**	**-1.6**
SNOW	**Snow King Moun**	**3.96**	**268**	*e*Pn	**Pn**	**18 16 44.7**	**+3.2**
REDW	**Red Top Meadow**	**4.04**	**267**	*e*Pn	**Pn**	**18 16 42.8**	**+0.1**
YFT	**Old Faithful**	**4.05**	**283**	*e*Pn	Pn	18 16 47.1	+4.4
C22A	**Vida** baz=4.0,SNR=7.6	**4.06**	**355**	P	**Pn**	**18 16 43.7**	**+1.0**
IMW	**Indian Meadow**	**4.08**	**275**	*e*Pn	**Pn**	**18 16 44.6**	**+1.4**
O27A	**Beecher Island** baz=4.1,SNR=9.4	**4.10**	**148**	P	**Pn**	**18 16 43.8**	**+0.6**
TPAW	**Teton Pass**	**4.10**	**269**	*e*Pn	**Pn**	**18 16 45.3**	**+1.9**
O20A	**White River Ci**	**4.18**	**213**	*e*Pn	**Pn**	**18 16 46.5**	**+2.0**
AHID	**Auburn Hatcher**	**4.33**	**260**	*e*Pn	**Pn**	**18 16 48.0**	**+1.4**
P26A	**Davis Ranch, A** baz=4.4	**4.39**	**160**	P	**Pn**	**18 16 48.2**	**+0.8**
C20A	**Veseth Ranch,** baz=4.4	**4.43**	**336**	P	**Pn**	**18 16 48.0**	**+0.2**
O28A	**Krutsinger Ran** baz=4.4,SNR=7.0	**4.44**	**142**	P	**Pn**	**18 16 48.5**	**+0.5**
QLMT	**Earthquake Lak**	**4.54**	**287**	Pn	**Pn**	**18 16 52.5**	**+3.1**
SMCO	**Snowmass**	**4.69**	**196**	*e*Pn	**Pb**	**18 17 02.7**	**+0.1**
P28A	**Saint Francis** baz=4.9,SNR=8.4	**4.91**	**146**	P	**Pn**	**18 16 54.6**	**+0.2**
HWUT	**Hardware Ranch** 8.1nm,0.4s	**5.07**	**248**	*e*Pn	**Pn**	**18 16 55.4**	**-1.2**
KSCO	**Kaye Shedlock'** 31nm,0.3s	**5.10**	**156**	*e*Pn	**Pn**	**18 16 58.5**	**+1.4**
TCUT	**Toone Canyon** 28nm,0.5s	**5.20**	**242**	*e*Pn	**Pn**	**18 16 58.7**	**+0.1**
EGMT	**Eagleton** 14nm,0.4s	**5.32**	**326**	*e*Pn	**Pn**	**18 16 58.9**	**-1.1**
DLMT	**Dillon** 3.3nm,0.4s	**5.47**	**290**	Pn	**Pn**	**18 17 02.8**	**+0.8**
LRM	**Limekiln Ridge** 20nm,0.4s	**5.51**	**295**	Pn	**Pn**	**18 17 02.4**	**-0.4**
JLU	**Jordanelle** 5.1nm,0.6s	**5.51**	**238**	*e*Pn	**Pn**	**18 17 04.2**	**+1.4**
MCMT	**McKenzie Canyo** 1.4nm,0.4s	**5.53**	**284**	*e*Pn	Pn	18 17 08.2	+5.2
BGNE	**Belgrade**	**5.76**	**111**	*e*Pn	Pn	18 17 11.2	+5.2
HVU	**Hansel Valley** 4.3nm,0.6s	**5.82**	**253**	*e*Pn	**Pn**	**18 17 08.0**	**+1.0**
SDCO	**Great Sand Dun** 1.7nm,0.6s	**5.95**	**181**	*e*Pn	**Pn**	**18 17 10.6**	**+1.7**
R28A	**Tribune** baz=6.0,SNR=8.6	**5.97**	**153**	P	**Pn**	**18 17 09.2**	**+0.2**
SRU	**San Rafael Swe** 11nm,0.4s	**6.03**	**222**	*e*Pn	**Pn**	**18 17 10.0**	**+0.1**
TMUT	**Trail Mountain** 4.2nm,0.4s	**6.24**	**227**	*e*Pn	**Pn**	**18 17 14.3**	**+1.4**
ECSD	**EROS Data Cent** 6.1nm,0.4s	**6.30**	**87**	*e*Pn	**Pn**	**18 17 13.9**	**+0.4**
SWMT	**Swartz Lake** 1.8nm,0.3s	**7.18**	**305**	*e*Pn	**Pn**	**18 17 25.6**	**0.0**
MSU	**Marysvale** 3.0nm,0.5s	**7.33**	**227**	*e*Pn	**Pn**	**18 17 29.2**	**+1.4**
ELK	**Elko** 0.1nm,0.3s,baz=68,slow=11,SNR=3.6	**7.94**	**252**	Pn	**Pn**	**18 17 37.1**	**+1.0**
ELK	0.1nm,0.3s,baz=165,slow=20,SNR=1.7			Lg	Lg	18 19 45.8	
ULM	**Lac du Bonnet** 0.7nm,0.3s,baz=231,slow=12,SNR=4.9	**9.19**	**41**	Pn	**Pn**	**18 17 51.6**	**-1.3**
ULM	0.7nm,0.3s,baz=231,slow=17,SNR=2.6			Pg		18 18 25.8	
ULM	0.4nm,0.3s,baz=139,slow=20,SNR=1.8			Lg	Lg	18 20 23.8	
NEW	**Newport** 0.2nm,0.3s,baz=59,slow=20,SNR=1.6	**9.40**	**303**	Lg	Lg	18 20 36.1	
I56US	**NEWPORT INFRAS** baz=116,slow=309,SNR=1.9	**9.40**	**303**	*i*		19 06 24.7	
WUAZ	**Wupatki** 30nm,1.2s	**9.41**	**212**	*e*Pn	Pn	18 18 06.7	+10
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=62,slow=13,SNR=2.3	**11.13**	**246**	Pn	**Pn**	**18 18 22.8**	**+3.0**
TXAR	**Lajitas Array** 0.2nm,0.3s,baz=25,slow=16,SNR=4.3	**14.40**	**174**	Pn	**Pn**	**18 19 01.7**	**-2.7**
TXAR	0.1nm,0.3s,baz=359,slow=31,SNR=2.6			Lg	Lg	18 23 12.5	

*ISCJB **29** 18:17:26.8±0.4,48.09N±0.05×153.97E±0.08,h64km,mb3.8/11,Error ellipse: s-maj=10.4km s-min=2.4km az=43.5*

*MOS **29** 18:17:27.1±1.4,48.03N×154.06E,h72km,mb4.0/6,Error ellipse: s-maj=17.5km s-min=5.6km az=67.6*

*KRSC **29** 18:17:27.4±3.1,47.77N×156.54E,h15km±7km,ML4.6*

*SKHL **29** 18:17:27.9±0.4,47.91N×154.22E,h84km±2km,mb5.2/6,msh5.2/6*

*IDC **29** 18:17:31.0±3.0,48.10N×153.84E,h87km±27km,mb3.4/10,mb1 3.7/14,mb1mx3.4/52,mbtmp3.7/14,Error ellipse: s-maj=25.7km s-min=13.4km az=138.0*

ISC 29 18:17:27.6±0.6,47.94N±0.07×154.15E±0.08,h64km,n101,σ1ᵗ73/118,mb3.7/11,2C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.03**	**24**	*e*P	**Pn**	**18 18 13.2**	**+0.2**
SKR				*e*S	**Sn**	**18 18 47.0**	**-1.1**
SKR	**Severo-Kuril's**	**3.03**	**24**	*e*PN	Pn	18 18 05.5	-7.5
SKR	comp=Z,80nm,0.5s			pmax	pmax		
SKR	comp=N,70nm,0.2s			pmax	pmax		
SKR	comp=E,70nm,0.2s			pmax	pmax		
SKR	**Severo-Kuril's**	**3.03**	**24**	*e*P	**Pn**	**18 18 12.6**	**-0.4**
SKR				AMB	AMB	18 18 39.6	
SKR	comp=E,153nm,0.3s			*e*S	**Sn**	**18 18 45.8**	**-2.3**
SKR				A	A	18 18 52.8	
PAU	**Pauzhetka**	**3.93**	**25**	*e*P	**Pn**	**18 18 26.0**	**+0.7**
PAU				*e*S	**Sn**	**18 19 09.3**	**-0.7**
PAU	**Pauzhetka**	**3.93**	**25**	PN	**Pn**	**18 18 26.0**	**+0.7**
PAU				S	**Sn**	**18 19 09.3**	**-0.7**
PAU	**Pauzhetka**	**3.93**	**25**	*e*P	**Pn**	**18 18 26.0**	**+0.7**
PAU				AMB	AMB	18 18 35.0	
PAU	comp=E,218nm,0.4s			*e*S	**Sn**	**18 19 09.8**	**-0.2**
PAU				A	A	18 19 13.0	
MIPR	**Malaya Ipel'ka**	**4.65**	**20**	*e*P	**Pn**	**18 18 36.5**	**+1.3**
ASAK	**Asacha**	**5.05**	**27**	*e*P	**Pn**	**18 18 41.5**	**+0.7**
ASAK				*e*S	**Sn**	**18 19 37.4**	**-0.4**
KUR	**Kuril'sk**	**5.11**	**240**	*e*PN	**Pn**	**18 18 43.6**	**+2.1**
KUR				*e*S	**Sn**	**18 19 43.3**	**+4.2**
KUR	comp=Z,18nm,0.5s			pmax	pmax		
KUR	comp=N,6.0nm,0.3s			pmax	pmax		
KUR	comp=E,15nm,0.3s			pmax	pmax		
KUR	comp=N,43nm,0.6s			smax	smax		
KUR	comp=E,24nm,0.6s			smax	smax		
KUR	**Kuril'sk**	**5.11**	**240**	*e*P	**Pn**	**18 18 43.3**	**+1.8**
KUR				AMB	AMB	18 18 48.3	
KUR	comp=E,90nm,0.5s			*e*S	**Sn**	**18 19 40.0**	**+0.9**
KUR				A	A	18 19 58.3	
MTVR	**Mutnovka**	**5.23**	**28**	*e*P	**Pn**	**18 18 43.5**	**+0.3**
MTVR				*e*S	**Sn**	**18 19 40.4**	**-1.8**
RUS	**Russkaya**	**5.29**	**30**	*e*P	**Pn**	**18 18 42.9**	**-1.1**
RUS				*e*S	**Sn**	**18 19 39.3**	**-4.3**
RUS	**Russkaya**	**5.29**	**30**	PN	**Pn**	**18 18 42.9**	**-1.1**
PETK	**Petropavlovsk-** comp=E,2.7nm,0.3s,baz=180,slow=13,SNR=87	**5.64**	**22**	P	**Pn**	**18 18 50.3**	**+1.5**
PETK				S	Sn	18 20 00.2	+8.0
PETK	comp=E,0.7nm,0.3s,baz=216,slow=20,SNR=1.6						
PETK	**Petropavlovsk-**	**5.64**	**22**	PN	**Pn**	**18 18 50.3**	**+1.5**
PETK				S	Sn	18 20 00.2	+8.0
PETK	comp=Z,3.0nm,0.3s			pmax	pmax		
PETK	comp=N,1.0nm,0.3s			smax	smax		
PET	**Petropavlovsk**	**5.84**	**28**	*e*P	**Pn**	**18 18 52.2**	**+0.8**
PET				*e*S	**Sn**	**18 19 55.2**	**-1.7**
PET	**Petropavlovsk**	**5.84**	**28**	*e*PN	**Pn**	**18 18 53.3**	**+1.9**
PET				*e*S	**Sn**	**18 19 54.8**	**-2.1**
PET	comp=E,72nm,0.5s			smax	smax		
PET	comp=N,53nm,0.4s			smax	smax		
PET	**Petropavlovsk**	**5.84**	**28**	*e*P	**Pn**	**18 18 53.3**	**+1.9**
PET				*e*S	**Sn**	**18 19 54.8**	**-2.1**
PET	comp=N,53nm,0.4s			A	A	18 20 02.5	
PET	comp=N,70nm,0.4s			A	A	18 20 02.5	
UGLR	**Uglovaya**	**6.05**	**28**	*e*P	**Pn**	**18 18 55.2**	**+0.7**
UGLR				*e*S	**Sn**	**18 20 00.5**	**-1.8**
KOK	**Koryaka**	**6.07**	**26**	*e*P	**Pn**	**18 18 56.7**	**+2.0**
KOK				*e*S	**Sn**	**18 20 03.2**	**+0.5**
KOK	**Koryaka**	**6.07**	**26**	PN	**Pn**	**18 18 56.7**	**+2.0**
KOK				S	**Sn**	**18 20 03.2**	**+0.5**
KOK	**Koryaka**	**6.07**	**26**	*e*P	**Pn**	**18 18 56.7**	**+2.0**
AVH	**Avacha**	**6.07**	**27**	*e*P	**Pn**	**18 18 55.4**	**+0.7**
AVH				*e*S	**Sn**	**18 20 01.9**	**-0.9**
AVH	**Avacha**	**6.07**	**27**	PN	**Pn**	**18 18 55.4**	**+0.7**
AVH				S	**Sn**	**18 20 01.9**	**-0.9**
SMAR	**Somma**	**6.09**	**27**	*e*P	**Pn**	**18 18 56.2**	**+1.1**
SMAR				*e*S	**Sn**	**18 20 03.0**	**-0.5**
SMAR	**Somma**	**6.09**	**27**	PN	**Pn**	**18 18 56.2**	**+1.1**
SMAR				S	**Sn**	**18 20 03.0**	**-0.5**
KRER	**Koryakskii**	**6.11**	**27**	*e*P	**Pn**	**18 18 56.8**	**+1.4**
KRER				*e*S	**Sn**	**18 20 03.8**	**-0.1**
KRX	**Arik**	**6.13**	**26**	*e*P	**Pn**	**18 18 56.7**	**+1.2**
KRX				*e*S	**Sn**	**18 20 03.6**	**-0.7**
SDLR	**Sedlovina**	**6.13**	**28**	*e*P	**Pn**	**18 18 56.2**	**+0.7**
SDLR				*e*S	**Sn**	**18 20 02.6**	**-1.7**
SDLR	**Sedlovina**	**6.13**	**28**	PN	**Pn**	**18 18 56.2**	**+0.7**
SDLR				S	**Sn**	**18 20 02.6**	**-1.7**
GNL	**Ganaly**	**6.24**	**21**	*e*P	**Pn**	**18 18 58.7**	**+1.7**
GNL	**Ganaly**	**6.24**	**21**	PN	**Pn**	**18 18 58.7**	**+1.7**
SPN	**Mys Shipunski**	**6.37**	**34**	*e*P	**Pn**	**18 18 58.1**	**-0.6**
SPN				*e*S	**Sn**	**18 20 05.4**	**-4.6**
SPN	**Mys Shipunski**	**6.37**	**34**	PN	**Pn**	**18 18 58.1**	**-0.6**
SHO	**Shikotan**	**6.53**	**234**	*e*P	**Pn**	**18 19 02.2**	**+1.3**
SHO	comp=N,121nm,0.5s			AMB	AMB	18 19 18.9	
SHO				*e*S	**Sn**	**18 20 13.3**	**-0.7**
SHO	comp=N,17nm,0.5s			A	A	18 20 40.4	
YUK	**Yuzh-Kuril'sk**	**6.97**	**239**	*c i*PN	**Pn**	**18 19 07.9**	**+1.0**
YUK				S	**Sn**	**18 20 25.5**	**+0.8**
YUK	comp=N,9.0nm,0.2s			pmax	pmax		
YUK	comp=E,6.0nm,0.2s			pmax	pmax		
YUK	comp=Z,44nm,0.2s			pmax	pmax		
YUK	**Yuzh-Kuril'sk**	**6.97**	**239**	*i* P	**Pn**	**18 19 07.9**	**+1.1**
YUK				AMB	AMB	18 19 08.2	
YUK	comp=Z,10.0nm,0.2s			AMB	AMB	18 19 08.2	
YUK	comp=Z,7.0nm,0.2s			AMB	AMB	18 19 08.2	
YUK	comp=Z,44nm,0.2s			AMB	AMB	18 19 08.2	
YUK				*e*S	**Sn**	**18 20 25.5**	**+0.8**
NEM2	**Nemuro 2**	**7.46**	**235**	P	**Pn**	**18 19 11.4**	**-2.2**
NEM2				*e*S	**Sn**	**18 20 31.8**	**-4.9**
YSS	**Yuzh-Sakhalins**	**7.79**	**267**	⇑ *i*PN	**Pn**	**18 19 19.2**	**+1.1**
YSS	comp=Z,50nm,0.7s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**7.79**	**267**	*e*P	**Pn**	**18 19 19.5**	**+1.4**
YSS	comp=Z,50nm,0.7s			AMB	AMB	18 19 20.7	
YSS				*e*S	**Sn**	**18 20 43.7**	**-1.1**
YSS	comp=Z,17nm,0.3s			A	A	18 20 44.4	
JNK	**Nakash**	**7.90**	**240**	P	**Pn**	**18 19 19.6**	**-0.1**
UGL	**Uglegorsk**	**8.11**	**283**	*e*P	Pn	18 19 25.0	+2.6
KZV	**Kizimen**	**8.13**	**26**	*e*P	**Pn**	**18 19 24.8**	**+1.8**
MKZ	**Mys Kozlova**	**8.15**	**33**	*e*P	**Pn**	**18 19 20.6**	**-2.4**
MKZ				*e*S	Sn	18 20 44.6	-8.8
MKZ	**Mys Kozlova**	**8.15**	**33**	PN	**Pn**	**18 19 20.6**	**-2.4**
TUMR	**Tumrok**	**8.24**	**25**	*e*P	Pn	18 19 28.0	+3.6
TUMR	**Tumrok**	**8.24**	**25**	PN	Pn	18 19 28.0	+3.6
JAK	**Akkeshi**	**8.28**	**237**	P	**Pn**	**18 19 22.5**	**-2.4**
JAK				*e*S	**Sn**	**18 20 51.0**	**-5.8**
JMP	**Maruseppu**	**8.48**	**246**	P	**Pn**	**18 19 30.5**	**+2.8**
JAR	**Ashorobuto**	**8.63**	**241**	P	**Pn**	**18 19 29.8**	**+0.2**
JWK2	**Keihoku**	**8.83**	**257**	P	Pn	18 19 36.9	+4.5
ASAJ	**Asahikawa**	**8.90**	**249**	P	**Pn**	**18 19 36.1**	**+2.8**
JKK2	**Kamakawa 2**	**8.93**	**247**	P	**Pn**	**18 19 35.5**	**+1.7**
JCH	**Churui**	**9.28**	**239**	P	**Pn**	**18 19 36.8**	**-1.8**
JCH				*e*S	**Sn**	**18 21 15.7**	**-5.6**
ERM	**Erimo**	**9.78**	**237**	*e*PN	**Pn**	**18 19 44.4**	**-1.0**
ERM	**Erimo**	**9.78**	**237**	*e*P	Pn	**18 19 44.4**	**-1.0**
KBTR	**Krutoberegovo**	**9.84**	**30**	*e*P	**Pn**	**18 19 46.1**	**0.0**
KBTR	**Krutoberegovo**	**9.84**	**30**	PN	Pn	**18 19 46.1**	**0.0**
JNBK	**Urakawa-nobuka**	**9.84**	**239**	P	Pn	18 19 43.1	-3.1
JKB	**Kayabe**	**11.09**	**242**	P	**Pn**	**18 20 00.3**	**-2.9**
JANG	**Nango**	**11.80**	**235**	P	Pn	18 20 07.7	-5.3
EKMR	**Ekimchan**	**14.41**	**299**	*e*P	**Pn**	**18 20 47.0**	**-1.0**
EKMR	comp=Z,3.0nm,0.5s			AMB	AMB	18 20 56.9	
SEY	**Seymchan** comp=Z,0.2nm,0.3s,baz=165,slow=12,SNR=6.0	**15.06**	**357**	P	**P**	**18 20 58.1**	**-2.1**
USRK	**Ussuriysk Ar.** comp=Z,0.3nm,0.3s,baz=55,slow=12,SNR=6.9	**15.82**	**265**	P	**Pn**	**18 21 06.9**	**+0.8**
MJAR	**Matsushiro Ar** comp=Z,0.1nm,0.3s,baz=23,slow=9.0,SNR=5.6	**16.37**	**232**	P	**P**	**18 21 16.1**	**+1.2**
MAJO	**Matsushiro**	**16.37**	**232**	*e*P	**Pn**	**18 21 13.9**	**+0.8**
MAJO	comp=Z,24nm,0.8s			pmax	pmax		
YAK	**Yakutsk**	**19.72**	**325**	*e*P	**P**	**18 21 50.8**	**-0.8**
YAK	comp=Z,8.0nm,0.8s			pmax	pmax		
YAK	**Yakutsk**	**19.72**	**325**	*e*P	**P**	**18 21 50.8**	**-0.8**
KSRS	**Korea Array** comp=Z,2.8nm,0.8s,baz=55,slow=11,SNR=15	**21.84**	**251**	P	**P**	**18 22 14.6**	**0.0**
KSRS	**Korea Array** comp=Z,3.0nm,0.8s	**21.84**	**251**	P	**P**	**18 22 14.6**	**0.0**
KSRS				pmax	pmax		
H11N2	**WAKE ISLAND Hy** baz=343,slow=76,SNR=227	**29.98**	**155**	T	T	18 55 48.8	
H11N1	**WAKE ISLAND Hy** baz=343,slow=76,SNR=271	**30.00**	**155**	T	T	18 55 49.4	
H11N3	**WAKE ISLAND Hy** baz=343,slow=76,SNR=172	**30.00**	**155**	T	T	18 55 50.0	
H11S1	**WAKE ISLAND Hy** baz=343,slow=76,SNR=1425	**31.09**	**156**	T	T	18 57 13.2	
H11S3	**WAKE ISLAND Hy** baz=343,slow=76,SNR=1041	**31.11**	**156**	T	T	18 57 19.2	
H11S2	**WAKE ISLAND Hy** baz=343,slow=76,SNR=857	**31.11**	**156**	T	T	18 57 12.6	
KDAK	**Kodiak Island**	**32.81**	**52**	*i* P	P	18 23 51.0	-3.4
ILAR	**Eielson Array** comp=Z,0.4nm,0.7s,baz=257,slow=8.5,SNR=5.6	**35.18**	**40**	P	**P**	**18 24 15.8**	**+0.9**
CMAR	**Chiang Mai Arr** comp=Z,1.2nm,0.8s,baz=43,slow=7.1,SNR=9.5	**53.34**	**256**	P	**P**	**18 26 41.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**53.34**	**256**	*i* P	**P**	**18 26 41.2**	**+0.9**
CMAR	comp=Z,1.0nm,0.8s			pmax	pmax		
CMAR	**Chiang Mai Arr**	**53.34**	**256**	*e*P	**P**	**18 26 41.2**	**+0.9**
NVAR	**Mina Array Bea** comp=Z,0.6nm,0.7s,baz=301,slow=6.9,SNR=5.8	**61.26**	**63**	P	**P**	**18 27 38.4**	**+2.2**
FINES	**FINESS Array B** comp=Z,0.5nm,0.5s,baz=46,slow=5.5,SNR=6.2	**63.26**	**335**	P	**P**	**18 27 47.5**	**-1.3**
FINES	**FINESS Array B**	**63.26**	**335**	*i* P	**P**	**18 27 48.0**	**-0.8**
FINES	comp=Z,1.0nm,0.5s			pmax	pmax		
FINES	**FINESS Array B**	**63.26**	**335**	*e*P	**P**	**18 27 48.0**	**-0.8**
PDAR	**Pinedale Array** comp=Z,0.7nm,0.8s,baz=325,slow=2.3,SNR=5.5	**63.48**	**55**	P	**P**	**18 27 52.7**	**+1.7**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.6s,baz=25,slow=6.4,SNR=2.9	**67.32**	**341**	P	**P**	**18 28 14.6**	**-0.6**
WRA	**Warramunga Arr** comp=Z,0.6nm,0.6s,baz=15,slow=6.6,SNR=3.5	**69.87**	**200**	P	**P**	**18 28 31.9**	**+0.4**
WRA	comp=Z,0.5nm,0.5s,baz=14,slow=5.1,SNR=2.7			pP	**PcP**	**18 28 54.2**	**+0.7**
WRA	**Warramunga Arr**	**69.87**	**200**	P	**P**	**18 28 31.9**	**+0.4**
WRA				*PP	**PcP**	**18 28 54.2**	**+0.7**
WRA	comp=Z,1.0nm,0.6s			pmax	pmax		
WRA	comp=Z,1.0nm,0.5s			pmax	pmax		
ASAR	**Alice Springs** comp=Z,0.6nm,0.8s,baz=13,slow=5.8,SNR=6.6	**73.57**	**199**	P	**P**	**18 28 54.9**	**+1.3**
ASAR	**Alice Springs**	**73.57**	**199**	P	**P**	**18 28 54

ILAR	**Eielson Array**	**84.91**	**11**	P	**P**	**18 30 55.3**	**+0.1**
	0.4nm,0.7s,baz=231,slow=6.5,SNR=4.9							
BRTR	**Keskin Array B**	**147.83**	**318**	PKPbc	**PKPab**	**18 38 08.3**	**-0.3**
	1.9nm,0.7s,baz=141,slow=2.7,SNR=12							
GERES	**GERESS Array B**	**148.52**	**351**	PKPbc	**PKPab**	**18 38 10.6**	**-0.3**
	0.2nm,0.4s,baz=330,slow=5.7,SNR=4.8							

*ISCJB **29** 18:48:25.7±0.2, 15.°10N±0.°02×61.°20W±0.°03, h151km±1km, mb4.2/38, Error ellipse: s-maj=5.3km s-min=2.8km az=156.2*
*IDC **29** 18:48:26.0±0.4, 15.°10N×61.°25W, h139km±2km, mb3.9/18, mb1 4.0/20, mb1mx4.0/27, mbtmp4.3/20, Error ellipse: s-maj=12.5km s-min=5.2km az=83.0*
*TRN **29** 18:48:26.1, 15.°13N×61.°11W, h142km, MD4.0, M3.5(FDF) TRN Felt Saint Lucia III.*
*NEIC **29** 18:48:26.5, 15.°12N×61.°08W, h138km, mb4.5/22, MD4.0(TRN), After TRN.*
NEIC Felt on Martinique and Saint Lucia.
ISC 29 18:48:27.0±0.5, 15.°12N±0.°03×61.°21W±0.°05, h147km±4km, n266, σ0°85/287, mb4.3/38, 15C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVN	**Savane Anatole**	**0.28**	**172**	*eP*	**Pn**	**18 48 47.4**	**+0.1**
FDF	**Fort de France**	**0.39**	**172**	*eP*	**Pn**	**18 48 47.2**	**-0.4**
FDF				*eS*	**Sn**	**18 49 02.5**	**-0.8**
FDF	**Fort de France**	**0.39**	**172**	*ePn*	**Pn**	**18 48 47.0**	**-0.6**
FDF				*eSn*	**Sn**	**18 49 02.2**	**-1.0**
BVM	**Bellevue**	**0.41**	**160**	*eP*	**Pn**	**18 48 47.2**	**-0.5**
DWS	**Wesley**	**0.46**	**347**	*eP*	**Pn**	**18 48 47.6**	**-0.2**
DWS				*eS*	**Sn**	**18 49 03.2**	**-0.5**
BBL	**Barber's Block**	**0.48**	**328**	*iP*	**Pn**	**18 48 48.0**	**0.0**
ZAM	**Aeronautique**	**0.57**	**162**	*eP*	**Pn**	**18 48 47.8**	**-0.7**
LPMF	**Morne Lapointe**	**0.59**	**157**	*eP*	**Pn**	**18 48 47.7**	**-0.9**
TRMF	**Trois Ilets**	**0.60**	**165**	*eP*	**Pn**	**18 48 48.2**	**-0.3**
BIM	**Bigot**	**0.61**	**168**	*eP*	**Pn**	**18 48 48.7**	**0.0**
BIM				*eS*	**Sn**	**18 49 04.7**	**-0.6**
MVM	**Montagne Vaucl**	**0.64**	**152**	*eP*	**Pn**	**18 48 48.3**	**-0.6**
H05S1	**Guadeloupe/Mar**	**0.78**	**153**	P	**Pn**	**18 48 48.8**	**-1.0**
H05S1				S	**Sn**	**18 49 05.2**	**-1.9**
MGG	**Marie-Galante**	**0.80**	**352**	*eP*	**Pn**	**18 48 49.5**	**-0.4**
MGG				*eS*	**Sn**	**18 49 05.9**	**-1.5**
MGG	**Marie-Galante**	**0.80**	**352**	*eP*	**Pn**	**18 48 49.5**	**-0.4**
MGG				*eS*	**Sn**	**18 49 05.9**	**-1.5**
TBG	**Guadaloupe-3**	**0.84**	**330**	*iP*	**Pn**	**18 48 50.5**	**+0.3**
TBG				*eS*	**Sn**	**18 49 08.1**	**+0.2**
HMG	**Houelmont**	**0.98**	**331**	*eP*	**Pn**	**18 48 51.7**	**+0.3**
HMG				*eS*	**Sn**	**18 49 10.1**	**+0.1**
PHG	**Guadaloupe-2**	**0.98**	**335**	*iP*	**Pn**	**18 48 51.4**	**-0.1**
DOG	**Dongo Capester**	**0.99**	**336**	*iP*	**Pn**	**18 48 51.3**	**-0.2**
SCG	**Saint Claude**	**1.01**	**333**	*eP*	**Pn**	**18 48 51.9**	**+0.2**
ECG	**Echelle**	**1.01**	**335**	*eP*	**Pn**	**18 48 51.7**	**-0.1**
LKG	**Breislack**	**1.02**	**335**	*iP*	**Pn**	**18 48 51.6**	**-0.2**
LKG				*eS*	**Sn**	**18 49 10.5**	**-0.3**
TAG	**Tarade**	**1.02**	**334**	*eP*	**Pn**	**18 48 51.9**	**+0.1**
FNG	**Fond-Bernard**	**1.04**	**334**	*eP*	**Pn**	**18 48 52.0**	**0.0**
MLG	**Mont-d'or**	**1.05**	**333**	*iP*	**Pn**	**18 48 52.3**	**+0.2**
MLG				*eS*	**Sn**	**18 49 11.3**	**+0.1**
SSG	**Sans Toucher**	**1.06**	**335**	*eP*	**Pn**	**18 48 52.0**	**-0.3**
LZG	**Guadaloupe-1**	**1.15**	**332**	*iP*	**Pn**	**18 48 53.2**	**+0.3**
DEG	**La Desirade**	**1.19**	**7**	*eP*	**Pn**	**18 48 52.5**	**-0.9**
DEG	**La Desirade**	**1.19**	**7**	*eP*	**Pn**	**18 48 52.5**	**-0.9**
H05N1	**Guadeloupe/Mar**	**1.20**	**7**	P	**Pn**	**18 48 52.3**	**-1.0**
H05N1				S	**Sn**	**18 49 11.8**	**-1.7**
SEG	**Port Louis**	**1.31**	**347**	*iP*	**Pn**	**18 48 54.1**	**-0.3**
MCLT	**Moule a Chique**	**1.43**	**170**	*eP*	**Pn**	**18 48 54.6**	**-1.0**
MCLT				*eS*	**Sn**	**18 49 15.4**	**-2.1**
MBBY		**1.84**	**329**	*iP*	**Pn**	**18 49 00.2**	**+0.1**
SVB	**Belmont**	**1.84**	**181**	*iP*	**Pn**	**18 48 59.8**	**-0.4**
SVB				*eS*	**Sn**	**18 49 24.7**	**-0.8**
SVB	**Belmont**	**1.84**	**181**	*iP*	**Pn**	**18 48 59.8**	**-0.4**
MLYT	**Lee's Yard**	**1.85**	**329**	*eP*	**Pn**	**18 49 00.1**	**-0.1**
MLYT	**Lee's Yard**	**1.85**	**329**	*iP*	**Pn**	**18 49 00.6**	**+0.3**
MLYT				*eS*	**Sn**	**18 49 26.3**	**+0.4**
BBGH	**Gun Hill**	**2.53**	**141**	*iP*	**Pn**	**18 49 08.6**	**+0.1**
BBGH				*eS*	**Sn**	**18 49 38.4**	**-2.0**
BBGH	**Gun Hill**	**2.53**	**141**	*ePn*	**Pn**	**18 49 08.1**	**-0.4**
ANWB	**Willy Bob**	**2.59**	**348**	*ePn*	**Pn**	**18 49 07.2**	**-1.9**
ANWB				*eSn*	**Sn**	**18 49 36.7**	**-5.0**
GRGR	**Grenville**	**3.00**	**188**	*iP*	**Pn**	**18 49 14.2**	**-0.1**
GRGR				*eS*	**Sn**	**18 49 50.6**	**-0.3**
GRGR	**Grenville**	**3.00**	**188**	*ePn*	**Pn**	**18 49 14.0**	**-0.3**
GRGR				*eSn*	**Sn**	**18 49 49.1**	**-1.8**
TPR	**Prospect**	**3.93**	**174**	*eP*	**Pn**	**18 49 27.3**	**+0.9**
BOT	**Bacolet**	**3.96**	**173**	*eP*	**Pn**	**18 49 27.5**	**+0.8**
TCE	**Chacachacare**	**4.43**	**187**	*eP*	**Pn**	**18 49 33.6**	**+0.7**
TRN	**Trinidad (W)**	**4.45**	**182**	*eP*	**Pn**	**18 49 34.0**	**+0.8**
TRN	**Trinidad (W)**	**4.45**	**182**	*eS*	**Sn**	**18 50 22.8**	**-1.8**
TBH	**Brigand Hill**	**4.61**	**178**	*eP*	**Pn**	**18 49 36.2**	**+0.9**
TBH	**Brigand Hill**	**4.61**	**178**	*eS*	**Sn**	**18 50 26.4**	**-2.0**
TPP	**Pointe-a-Pierr**	**4.78**	**183**	*eP*	**Pn**	**18 49 37.4**	**-0.2**
TPP	**Pointe-a-Pierr**	**4.78**	**183**	*eS*	**Sn**	**18 50 31.0**	**-1.5**
STVI	**Saint Thomas**	**4.82**	**312**	*ePn*	**Pn**	**18 49 37.8**	**-0.2**
STVI				*eSn*	**Sn**	**18 50 32.0**	**-1.2**
SJG	**San Juan**	**5.59**	**303**	*ePn*	**Pn**	**18 49 47.5**	**-0.7**
	150nm,0.7s						
SJG				*eSn*	**Sn**	**18 50 55.4**	**+3.6**
CELP	**Cerrillos**	**5.93**	**300**	*ePn*	**Pn**	**18 49 52.3**	**-0.5**
OBIP	**Obispado Ponce**	**5.94**	**300**	*ePn*	**Pn**	**18 49 52.5**	**-0.3**
	52nm,0.6s						
PCRV	**Puerto La Cruz**	**5.95**	**215**	P	**Pn**	**18 49 52.9**	**-0.2**
	1.7nm,0.3s,baz=349,slow=7.9,SNR=3.3						
PCRV				S	Sn	18 51 07.4	+7.1
	1.9nm,0.3s,baz=291,slow=6.9,SNR=1.3						
CRPR	**Cabo Rojo, PR**	**6.35**	**298**	*ePn*	**Pn**	**18 49 58.1**	**-0.3**
	99nm,0.7s						
LSP	**Las Mesas**	**6.40**	**299**	*ePn*	**Pn**	**18 49 59.2**	**+0.1**
AGPR	**Aguadilla, PR**	**6.56**	**301**	*ePn*	**Pn**	**18 50 01.5**	**+0.3**
	632nm,1.0s						
AGPR				*eSn*	**Sn**	**18 51 15.4**	**+0.4**
SMN1	**Samana, DR**	**8.71**	**299**	*ePn*	**Pn**	**18 50 28.6**	**-1.3**
SMN1				*eSn*	**Sn**	**18 52 03.7**	**-3.0**
SDDR	**Presa de Saban**	**10.38**	**293**	*ePn*	**Pn**	**18 50 52.0**	**-0.1**
	72nm,0.7s						
SDDR				*eSn*	**Sn**	**18 52 46.9**	**-0.1**
SDV	**Santo Domingo**	**11.11**	**237**	*ePn*	**Pn**	**18 51 00.8**	**-1.2**
	9.5nm,0.6s						
GTBY	**Guantanamo Bay**	**14.09**	**292**	Pn	**Pn**	**18 51 40.2**	**-0.1**
PTGA	**Pitinga**	**15.80**	**175**	P	**Pn**	**18 52 00.6**	**-0.9**
	13nm,0.3s,baz=359,slow=15,SNR=69						
PTGA				S	Sn	18 54 44.2	-13
	3.3nm,0.3s,baz=82,slow=22,SNR=3.4						
BBSR	**BB Station**	**17.46**	**350**	*eP*	**Pn**	**18 52 22.9**	**+1.3**
	14nm,0.6s						
OTAV	**Otavalo**	**22.56**	**231**	P	**P**	**18 53 13.7**	**-1.9**
	16nm,1.2s						
SAML	**Samuel**	**23.99**	**185**	*eP*	**P**	**18 53 27.8**	**-0.4**
	15nm,0.8s						
SIV	**San Ignacio**	**30.91**	**180**	P	**P**	**18 54 30.6**	**+0.6**
	4.6nm,0.6s,baz=18,slow=9.1,SNR=14						
ACSO	**Alum Creek Sta**	**31.41**	**327**	*eP*	**P**	**18 54 34.5**	**+0.3**
	14nm,0.6s						
LPAZ	**La Paz**	**31.95**	**193**	P	**P**	**18 54 37.1**	**-2.6**
SFIN	**Lafayette**	**33.80**	**323**	P	**P**	**18 54 55.8**	**+0.8**
	baz=34						
Z39A	**Irene McRaven,**	**34.87**	**307**	P	**P**	**18 55 04.3**	**0.0**
	baz=35						
HDIL	**Hopedale**	**35.20**	**322**	P	**P**	**18 55 06.4**	**-0.6**
	baz=35						
W38A	**Poteau**	**35.87**	**310**	P	**P**	**18 55 13.3**	**+0.4**
	baz=36						
X38A	**Whitesboro**	**35.94**	**309**	P	**P**	**18 55 13.6**	**+0.2**
	baz=36						
636A	**Smothers Creek**	**35.95**	**300**	P	**P**	**18 55 14.1**	**+0.5**
	baz=36						
X37A	**Clayton**	**36.31**	**309**	P	**P**	**18 55 16.7**	**+0.1**
	baz=36						
W37A	**Quinton**	**36.58**	**309**	P	**P**	**18 55 19.1**	**+0.2**
	baz=37						
V37A	**Hulbert**	**36.68**	**311**	P	**P**	**18 55 19.7**	**0.0**
	baz=37						
335A	**Moody**	**36.77**	**302**	P	**P**	**18 55 20.3**	**-0.2**
	baz=37						
034A	**Hebbronville**	**36.79**	**295**	P	**P**	**18 55 22.4**	**+1.6**
	baz=37						
WHTX	**Lake Whitney,**	**37.01**	**303**	P	**P**	**18 55 22.4**	**-0.2**
	baz=37						
X36A	**Centrahoma**	**37.05**	**308**	P	**P**	**18 55 22.4**	**-0.5**
	baz=37						
T37A	**Cheneyville 18**	**37.07**	**313**	P	**P**	**18 55 22.8**	**-0.2**
	baz=37						
TUL1	**Leonard**	**37.17**	**310**	P	**P**	**18 55 23.9**	**0.0**
	baz=37						
V36A	**Jenks**	**37.23**	**310**	P	**P**	**18 55 24.4**	**0.0**
	baz=37						
534A	**Blanco**	**37.29**	**300**	P	**P**	**18 55 24.1**	**-0.8**
	baz=37						
434A	**Burnet**	**37.33**	**301**	P	**P**	**18 55 24.7**	**-0.6**
	baz=37						
334A	**Lometa**	**37.45**	**302**	P	**P**	**18 55 25.6**	**-0.7**
	baz=38						
R37A	**Teagarden Farm**	**37.56**	**314**	P	**P**	**18 55 27.4**	**+0.2**
	baz=38						
Q37A	**Longview Farm,**	**37.58**	**315**	P	**P**	**18 55 27.3**	**0.0**
	baz=38						
W35A	**Tecumseh**	**37.67**	**309**	P	**P**	**18 55 27.6**	**-0.5**
	baz=38						
134A	**White-Moore Ra**	**37.70**	**304**	P	**P**	**18 55 27.9**	**-0.4**
	baz=38						
T36A	**Boggs Farm, Ca**	**37.73**	**312**	P	**P**	**18 55 28.4**	**-0.1**
	baz=38						
633A	**Saathoff Ranch**	**37.73**	**299**	P	**P**	**18 55 28.5**	**-0.3**
	baz=38						
V35A	**Meyer Ranch, C**	**37.88**	**310**	P	**P**	**18 55 29.2**	**-0.7**
	baz=38						
Y34A	**Reagan Ranch,**	**37.91**	**306**	P	**P**	**18 55 30.4**	**+0.3**
	baz=38,SNR=5.9						
433A	**Art**	**37.99**	**301**	P	**P**	**18 55 30.2**	**-0.6**
	baz=38,SNR=7.6						
333A	**Richland Sprin**	**38.06**	**302**	P	**P**	**18 55 30.8**	**-0.7**
	baz=38,SNR=7.0						
T35A	**Sooner Cattle**	**38.12**	**311**	P	**P**	**18 55 31.5**	**-0.4**
	baz=38						
233A	**Rising Star**	**38.19**	**303**	P	**P**	**18 55 32.0**	**-0.6**
	baz=38						
X34A	**Smith Ranch, M**	**38.19**	**307**	P	**P**	**18 55 32.4**	**-0.1**
	baz=38						
P36A	**Good Intent, A**	**38.45**	**316**	P	**P**	**18 55 34.1**	**-0.5**
	baz=39						
Z33A	**Whitaker Ranch**	**38.47**	**305**	P	**P**	**18 55 34.6**	**-0.3**
	baz=39						
532A	**Rocksprings**	**38.51**	**300**	P	**P**	**18 55 35.1**	**-0.2**
	baz=39,SNR=5.5						
JCT	**Junction City**	**38.51**	**300**	P	**P**	**18 55 34.8**	**-0.5**
	baz=39						
432A	**Menard**	**38.60**	**301**	P	**P**	**18 55 35.5**	**-0.6**
	baz=39,SNR=5.8						
T34A	**McClaskey Farm**	**38.66**	**311**	P	**P**	**18 55 36.6**	**+0.3**
	baz=39						
X33A	**Lawton**	**38.69**	**307**	P	**P**	**18 55 36.0**	**-0.6**
	baz=39						
332A	**Millersview**	**38.70**	**302**	P	**P**	**18 55 36.2**	**-0.6**
	baz=39						
232A	**Coleman**	**38.76**	**302**	P	**P**	**18 55 36.7**	**-0.6**
	baz=39						
631A	**Perdido Creek**	**38.91**	**298**	P	**P**	**18 55 38.4**	**-0.2**
	baz=39						
P35A	**Duane Minner,**	**38.96**	**315**	P	**P**	**18 55 38.3**	**-0.5**
	baz=39						
ABTX	**Abilene, Hawle**	**38.97**	**303**	P	**P**	**18 55 38.5**	**-0.5**
	baz=39						
WMOK	**Wichita Mounta**	**38.97**	**307**	*eP*	**P**	**18 55 37.6**	**-1.5**
	5.5nm,0.5s						
V33A	**Lossen Ranch,**	**38.99**	**309**	P	**P**	**18 55 39.0**	**-0.2**
	baz=39						
Z32A	**Haskell**	**39.05**	**305**	P	**P**	**18 55 38.9**	**-0.7**
	baz=39						
531A	**Rocksprings**	**39.06**	**299**	P	**P**	**18 55 39.5**	**-0.3**
	baz=39						
431A	**Sonora**	**39.23**	**300**	P	**P**	**18 55 41.0**	**-0.3**
	baz=39,SNR=5.3						
Y32A	**R-V Farms, Ver**	**39.24**	**306**	P	**P**	**18 55 40.4**	**-0.8**
	baz=39						
331A	**San Angelo**	**39.24**	**301**	P	**P**	**18 55 41.0**	**-0.3**
	baz=39						
R34A	**Isabella, Hill**	**39.24**	**313**	P	**P**	**18 55 41.0**	**-0.3**
	baz=39						
X32A	**Elmer**	**39.26**	**306**	P	**P**	**18 55 40.8**	**-0.6**
	baz=39						
W32A	**Sentinel**	**39.47**	**307**	P	**P**	**18 55 42.9**	**-0.2**
	baz=40						
P34A	**Walnut Farm, R**	**39.52**	**315**	P	**P**	**18 55 43.3**	**-0.2**
	baz=40						
Z31A	**Sharp Cattle R**	**39.58**	**304**	P	**P**	**18 55 43.4**	**-0.7**
	baz=40						
430A	**Baggett Ranch,**	**39.78**	**300**	P	**P**	**18 55 45.6**	**-0.3**
	baz=40						
SCHQ	**Schefferville**	**39.87**	**355**	P	**P**	**18 55 45.5**	**-0.6**
	2.1nm,0.4s,baz=168,slow=6.7,SNR=9.1						
Y31A	**Rekieta Farm,**	**39.87**	**305**	P	**P**	**18 55 46.0**	**-0.5**
	baz=40						
330A	**Mertzon**	**39.89**	**301**	P	**P**	**18 55 46.0**	**-0.7**
	baz=40,SNR=5.6						
230A	**Sterling City**	**39.96**	**302**	P	**P**	**18 55 46.9**	**-0.4**
	baz=40						
Q33A	**Connelly Farm,**	**39.96**	**314**	P	**P**	**18 55 47.1**	**-0.1**
	baz=40						
W31A	**Holland Ranch,**	**40.02**	**307**	P	**P**	**18 55 47.0**	**-0.8**
	baz=40						
SPMN	**Marine on St.**	**40.11**	**325**	P	**P**	**18 55 48.4**	**+0.2**
	baz=40						
429A	**Davenport Ranc**	**40.30**	**300**	P	**P**	**18 55 49.5**	**-0.6**
	baz=40						
R32A	**Long Quarter,**	**40.34**	**312**	P	**P**	**18 55 50.7**	**+0.4**
	baz=40						
Z30A	**Sanderson Ranc**	**40.36**	**304**	P	**P**	**18 55 50.0**	**-0.5**
	baz=40						
229A	**Bryant Ranch,**	**40.55**	**302**	P	**P**	**18 55 51.7**	**-0.5**
	baz=41						
S31A	**Mullinville**	**40.57**	**311**	P	**P**	**18 55 52.5**	**+0.3**
	baz=41						
129A	**Stewart Farms,**	**40.77**	**303**	P	**P**	**18 55 54.0**	**0.0**
	baz=41						
P32A	**Huiting Farm,**	**40.77**	**314**	P	**P**	**18 55 53.6**	**-0.3**
	baz=41						
Z29A	**Hungry Hill Ra**	**40.81**	**304**	P	**P**	**18 55 53.8**	**-0.5**
	baz=41						
Y29A	**Porterfield Fa**	**40.96**	**305**	P	**P**	**18 55 55.5**	**0.0**
	baz=41						
Q31A	**Ellis**	**41.07**	**313**	P	**P**	**18 55 56.2**	**0.0**
	baz=41						
N32A	**Stulken Farm,**	**41.08**	**316**	P	**P**	**18 55 56.6**	**+0.3**
	baz=41						
228A	**UT Block 9, Go**	**41.23**	**302**	P	**P**	**18 55 56.9**	**-0.8**
	baz=41						
BGNE	**Belgrade**	**41.28**	**317**	P	**P**	**18 55 57.8**	**-0.1**
	baz=41						
S30A	**Montezuma**	**41.30**	**310**	P	**P**	**18 55 58.3**	**+0.1**
	baz=41						
W29A	**Amarillo**	**41.32**	**306**	P	**P**	**18 55 58.5**	**0.0**
	baz=41						
CPUP	**Villa Florida**	**41.37**	**175**	P	**P**	**18 55 57.6**	**-1.1**
	0.8nm,0.6s,baz=11,slow=6.1,SNR=3.0						
ECSD	**EROS Data Cent**	**41.48**	**321**	P	**P**	**18 55 59.6**	**+0.1**
	baz=42,SNR=7.1						
TXAR	**Lajitas Array**	**41.54**	**297**	P	**P**	**18 55 59.4**	**-0.9**
	0.5nm,0.5s,baz=124,slow=8.0,SNR=4.5						
Q30A	**Quinter**	**41.64**	**312**	P	**P**	**18 55 59.7**	**-1.3**
	baz=42						
MSTX	**Muleshoe**	**41.87**	**304**	P	**P**	**18 56 02.8**	**-0.1**
	baz=42,SNR=5.6						
MSTX	**Muleshoe**	**41.87**	**304**	*eP*	**P**	**18 56 02.2**	**-0.7**
	3.6nm,0.4s						
O30A	**MW Ranch, Wils**	**42.02**	**314**	P	**P**	**18 56 04.1**	**+0.1**
	baz=42						
L31A	**Butterfield Fa**	**42.10**	**317**	P	**P**	**18 56 05.1**	**+0.4**
	baz=42						
T28A	**Walsh**	**42.34**	**309**	P	**P**	**18 56 05.7**	**-1.0**
	baz=42						
R28A	**Tribune**	**42.55**	**311**	P	**P**	**18 56 08.3**	**-0.1**
	baz=43						
T27A	**Campo**	**42.77**	**309**	P	**P**	**18 56 09.7**	**-0.5**
	baz=43						
L29A	**Maesberg Ranch**	**43.13**	**316**	P	**P**	**18 56 13.0**	**0.0**
	baz=43						
R27A	**Eads**	**43.25**	**310**	P	**P**	**18 56 13.8**	**-0.2**
	baz=43						
T26A	**Comanche Natio**	**43.47**	**308**	P	**P**	**18 56 15.5**	**-0.4**
	baz=44						
S26A	**Kim**	**43.52**	**309**	P	**P**	**18 56 15.8**	**-0.4**
	baz=44						
J29A	**Okreek**	**43.65**	**318**	P	**P**	**18 56 17.2**	**+0.1**
	baz=44						
AGMN	**Agassiz Nation**	**43.66**	**327**	P	**P**	**18 56 16.7**	**-0.3**
	baz=44,SNR=9.9						
AGMN	**Agassiz Nation**	**43.66**	**327**	*eP*	**P**	**18 56 16.4**	**-0.6**
	11nm,0.6s						
R26A	**Arlington**	**43.73**	**310**	P	**P**	**18 56 17.8**	**-0.1**
	baz=44						
Q26A	**Hugo**	**44.00**	**311**	P	**P**	**18 56 20.1**	**0.0**
	baz=44						
K28A	**Ten Mile Ranch**	**44.01**	**317**	P	**P**	**18 56 20.2**	**+0.2**
	baz=44						
T25A	**Trinidad**	**44.08**	**308**	P	**P**	**18 56 21.1**	**+0.3**
	baz=44						
L27A	**T5 Ranch, Ells**	**44.37**	**316**	P	**P**	**18 56 23.1**	**+0.1**
	baz=44						
D30A	**Buchanan**	**44.57**	**324**	P	**P**	**18 56 24.6**	**+0.3**
	baz=45						
H28A	**Mission Ridge**	**44.69**	**319**	P	**P**	**18 56 26.1**	**+0.8**
	baz=45						
ULM	**Lac du Bonnet**	**44.87**	**329**	P	**P**	**18 56 25.7**	**-0.9**
	7.2nm,0.6s,baz=132,slow=8.6,SNR=13						
SDCO	**Great Sand Dun**	**45.09**	**309**	P	**P**	**18 56 28.4**	**-0.5**
	baz=45						
SDCO	**Great Sand Dun**	**45.09**	**309**	*eP*	**P**	**18 56 28.3**	**-0.6**
SDCO				*epP*	**pP**	**18 57 03.7**	**+1.9**
K26A	**Motz Farm, Whi**	**45.21**	**316**	P	**P**	**18 56 29.9**	**+0.3**
	baz=45						
L25A	**Engebretsen Ra**	**45.52**	**315**	P	**P**	**18 56 32.7**	**+0.6**
	baz=46						
G27A	**Dupree**	**45.59**	**320**	P	**P**	**18 56 32.8**	**+0.4**
	baz=46,SNR=5.9						
121A	**Cookes Peak, D**	**45.61**	**301**	P	**P**	**18 56 33.2**	**+0.3**
	baz=46						
C28A	**Hausauer Farms**	**45.83**	**324**	P	**P**	**18 56 34.4**	**+0.1**
	baz=46						
A29A	**Manning Farm,**	**45.84**	**326**	P	**P**	**18 56 33.9**	**-0.4**
	baz=46						
F27A	**Lemmon**	**45.88**	**320**	P	**P**	**18 56 35.3**	**+0.6**
	baz=46						
J25A	**Sunshine Ranch**	**45.91**	**317**	P	**P**	**18 56 35.3**	**+0.2**
	baz=46						
G26A	**Maurine**	**45.97**	**320**	P	**P**	**18 56 35.9**	**+0.5**
	baz=46						
I25A	**Rochford**	**46.13**	**317**	P	**P**	**18 56 36.8**	**-0.1**
	baz=46						
B28A	**Dugan Ranch, T**	**46.21**	**324**	P	**P**	**18 56 37.9**	**+0.7**
	baz=46						
F26A	**Lodgepole**	**46.27**	**320**	P	**P**	**18 56 38.0**	**+0.3**
	baz=46						
G25A	**Newell**	**46.44**	**319**	P	**P**	**18 56 39.5**	**+0.4**
	baz=46						
D26A	**Manning**	**46.69**	**322**	P	**P**	**18 56 41.2**	**+0.2**
	baz=47						
B27A	**Peters Farms,**	**46.69**	**324**	P	**P**	**18 56 41.5**	**+0.6**
	baz=47						
K23A	**Bowen Ranch, D**	**46.89**	**315**	P	**P**	**18 56 42.8**	**+0.1**
	baz=47						
H24A	**Dirks Ranch, A**	**46.97**	**318**	P	**P**	**18 56 43.4**	**+0.1**
	baz=47						
E25A	**Miller Ranch,**	**47.02**	**321**	P	**P**	**18 56 44.0**	**+0.4**
	baz=47						
D25A	**Fairfield**	**47.28**	**321**	P	**P**	**18 56 46.4**	**+0.8**
	baz=47						
A26A	**Wade Farm, Ken**	**47.39**	**324**	P	**P**	**18 56 46.9**	**+0.6**
	baz=48						
E24A	**Baker**	**47.61**	**320**	P	**P**	**18 56 48.4**	**+0.2**
	baz=48						
A25A	**Svangstu Ranch**	**48.02**	**324**	P	**P**	**18 56 51.9**	**+0.6**
	baz=48						
E23A	**Ismay**	**48.20**	**320**	P	**P**	**18 56 53.4**	**+0.7**
	baz=48						
G22A	**Birney**	**48.29**	**318**	P	**P**	**18 56 51.5**	**-2.0**
	baz=48						
D23A	**Lindsay**	**48.43**	**321**	P	**P**	**18 56 55.5**	**+1.0**
	baz=48						
F22A	**Rosebud**	**48.49**	**319**	P	**P**	**18 56 55.7**	**+0.7**
	baz=49						
A24A	**Westby**	**48.53**	**323**	P	**P**	**18 56 55.9**	**+0.8**
	baz=49						
H21A	**Big Horn, Sher**	**48.55**	**317**	P	**P**	**18 56 55.7**	**+0.2**
	baz=49						
E22A	**Miles City**	**48.57**	**320**	P	**P**	**18 56 56.0**	**+0.5**
	baz=49						
C23A	**Lambert**	**48.70**	**321**	P	**P**	**18 56 57.7**	**+1.2**
	baz=49,SNR=6.6						
B23A	**Brockton**	**48.89**	**322**	P	**P**	**18 56 58.8**	**+0.9**
	baz=49						
D22A	**Cohagen**	**49.02**	**320**	P	**P**	**18 57 00.1**	**+1.2**
	baz=49,SNR=5.3						
C22A	**Vida**	**49.10**	**321**	P	**P**	**18 57 00.9**	**+1.3**
	baz=49						
WUAZ	**Wupatki**	**49.11**	**304**	P	**P**	**18 57 00.9**	**+1.0**
	baz=49						
WUAZ	**Wupatki**	**49.11**	**304**	*eP*	**P**	**18 57 00.4**	**+0.4**
	2.6nm,0.8s						
B22A	**Reddig Ranch S**	**49.41**	**322**	P	**P**	**18 57 03.3**	**+1.4**
	baz=50,SNR=5.2						
J19A	**Crowheart**	**49.42**	**315**	P	**P**	**18 57 02.5**	**+0.3**
	baz=50,SNR=5.8						
D21A	**La Casta Ranch**	**49.49**	**320**	P	**P**	**18 57 03.7**	**+1.2**
	baz=50,SNR=7.4						
G20A	**Bridger**	**49.55**	**317**	P	**P**	**18 57 03.0**	**-0.1**
	baz=50						
PDAR	**Pinedale Array**	**49.61**	**314**	P	**P**	**18 57 03.5**	**-0.3**
	2.6nm,0.5s,baz=110,slow=10,SNR=9.0						

TORD	**Torodi Ar. Bea**	**60.85**	**83**	P		**P**		**18 58 24.1**	**-0.3**
	5.3nm,0.6s,baz=282,slow=6.6,SNR=66								
TAM	**Tamanrasset**	**63.13**	**72**	*e*P		**P**		**18 58 41.3**	**+1.6**
	5.6nm,1.1s								
KEST	**Kesra**	**65.65**	**57**	P		**P**		**18 58 57.2**	**+1.4**
	4.3nm,0.8s,baz=269,slow=2.8,SNR=13								
NB2	**NORSAR Subarra**	**68.38**	**30**	P		**P**		**18 59 13.3**	**+0.7**
	comp=Z,3.9nm,0.8s,baz=260,slow=6.5								
NOA	**NORSAR Array B**	**68.38**	**30**	P		**P**		**18 59 13.2**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=262,slow=6.3,SNR=16								
CLL	**Collm**	**68.48**	**40**	⇓*i*P		**P**		**18 59 13.3**	**0.0**
	comp=Z,4.0nm,1.0s								
GERES	**GERESS Array B**	**68.86**	**43**	P		**P**		**18 59 15.8**	**0.0**
	comp=Z,1.6nm,0.7s,baz=270,slow=5.3,SNR=14								
BRG	**Berggiesshubel**	**69.06**	**41**	*e*P		**P**		**18 59 15.5**	**-1.3**
	comp=Z,3.5nm,0.9s								
ILAR	**Eielson Array**	**74.61**	**334**	P		**P**		**18 59 49.3**	**-0.4**
	comp=Z,3.3nm,0.5s,baz=80,slow=6.6,SNR=4.2								
ARCES	**ARCESS Array B**	**74.80**	**21**	P		**P**		**18 59 51.5**	**+0.8**
	comp=Z,2.9nm,0.7s,baz=267,slow=4.7,SNR=10								
FINES	**FINESS Array B**	**75.56**	**30**	P		**P**		**18 59 55.6**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=260,slow=4.8,SNR=17								
BRTR	**Keskin Array B**	**84.14**	**51**	P		**P**		**19 00 42.0**	**0.0**
	comp=Z,1.3nm,0.6s,baz=262,slow=4.6,SNR=8.6								
TSUM	**Tsumeb**	**84.68**	**111**	P		**P**		**19 00 47.7**	**+2.7**
	comp=Z,4.2nm,1.0s								
CMAR	**Chiang Mai Arr**	**141.32**	**31**	PKP		**PKPdf**		**19 07 41.2**	**0.0**
	comp=Z,0.4nm,0.8s,baz=298,slow=1.9,SNR=3.3								
WRA	**Warramunga Arr**	**164.42**	**250**	PKP		**PKPdf**		**19 08 13.6**	**-0.4**
	comp=Z,0.8nm,1.0s,baz=27,slow=0.7,SNR=3.8								
WRA				PKPab		**PKPab**		**19 09 08.4**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=97,slow=4.2,SNR=5.7								

NEIC 29 18:55:25.2, 19°.32N×155°.22W, *h*35km, ML3.6(HVO), After HVO., Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POHA	**Pohakuloa**	**0.53**	**326**	*e*Pg	Pn	18 55 35.0	-1.7
POHA				*e*S	Sn	18 55 41.1	-3.5
HON	**Honolulu**	**3.29**	**308**	Pn	Pn	18 56 10.5	-3.8
HON				*e*Sn	Sn	18 56 47.3	-4.8
KIP	**Kipapa**	**3.35**	**309**	*e*Pn	Pn	18 56 12.6	-2.6
KIP				*e*Sn	Sn	18 56 48.9	-4.9

*NNC **29** 19:23:26.1±0.7, 39°.64N×73°.92E, *h*0km, mb3.5, mpv3.2, Error ellipse: s-maj=6.8km s-min=3.5km az=38.0*
*KRNET **29** 19:23:27.9±0.1, 39°.71N×73°.95E, mb3.3*
*ISCJB **29** 19:23:31.4±1.2, 39°.69N±0°.08×73°.73E±0°.07, *h*10km, Error ellipse: s-maj=11.0km s-min=7.3km az=1.7*

ISC 29 19:23:28.3±1.7, 39°.68N±0°.08×73°.92E±0°.05, *h*10km, n19, σ1§44/26, 13C-10D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.46**	**316**	⇓P	**Pg**	**19 23 35.8**	**-1.5**
	38nm,0.5s						
SFK				⇓S	**Sg**	**19 23 43.0**	**-0.5**
	90nm,0.4s						
SFK	**Sufi-Kurgan**	**0.46**	**316**	⇓*i*P	**Pg**	**19 23 35.9**	**-1.5**
	baz=312						
SFK				⇓*i*S	**Sg**	**19 23 42.7**	**-0.8**
	baz=312						
FRG	**Fergana**	**1.78**	**294**	*e*P	**Pg**	**19 24 01.4**	**-1.1**
	baz=293						
FRG				*e*S	**Sg**	**19 24 27.4**	**+1.8**
	baz=293						
NRN	**Naryn**	**2.36**	**42**	⇑*e*P	**Pb**	**19 24 11.1**	**0.0**
	baz=41						
NRN				⇑*i*S	**Sg**	**19 24 43.2**	**-1.0**
	baz=41						
BTK	**Batken**	**2.42**	**280**	*e*P	**Pb**	**19 24 10.5**	**-1.4**
	baz=279						
BTK				*e*S	**Sg**	**19 24 44.5**	**-1.4**
	baz=279						
AML	**Almayashu**	**2.45**	**356**	P	**Pb**	**19 24 13.3**	**+0.6**
	SNR=8.2						
UCH	**Uchtor**	**2.58**	**10**	P	**Pb**	**19 24 14.1**	**-0.9**
	SNR=22						
ARK	**Arkit**	**2.58**	**326**	⇑*i*P	**Pb**	**19 24 13.3**	**-1.5**
	baz=325						
ARK				⇑*i*S	**Sb**	**19 24 46.3**	**-0.4**
	baz=325						
KZA	**Kyzart**	**2.60**	**22**	P	**Pb**	**19 24 14.9**	**-0.3**
	SNR=17						
EKS2	**Erkin-Say**	**2.98**	**358**	P	**Pb**	**19 24 20.1**	**-1.4**
	SNR=7.2						
AAK	**Ala-Archa**	**2.98**	**8**	P	**Pn**	**19 24 18.0**	**+2.2**
	SNR=11						
AAK	**Ala-Archa**	**2.98**	**8**	⇑Pg	**Pb**	**19 24 21.6**	**0.0**
	6.6nm,0.4s						
AAK				⇑Lg	Lg	19 25 00.3	
	16nm,0.6s						
EKS	**Erkin-Say**	**2.98**	**358**	⇑*i*P	**Pb**	**19 24 19.4**	**-2.2**
	baz=358						
EKS				⇑*i*S	**Sb**	**19 24 57.1**	**-1.1**
	baz=358						
KBK	**Karagaybulak**	**3.07**	**14**	P	**Pb**	**19 24 21.3**	**-1.8**
	SNR=8.6						
TKM2	**Tokmak 2**	**3.47**	**21**	⇓Pg	**Pb**	**19 24 29.9**	**-0.2**
	2.2nm,0.4s						
TKM2				⇓Lg	Lg	19 25 17.8	
	8.5nm,0.7s						
DZET	**Dzherino**	**4.05**	**259**	⇓Pg	**Pb**	**19 24 39.5**	**-0.3**
	5.8nm,0.4s						
DZET				⇑Lg	Lg	19 25 34.5	
	19nm,0.5s						
KNDC	**Almaty**	**4.21**	**32**	⇑Lg	Lg	19 25 41.0	
KK31	**Karatay Array**	**4.27**	**324**	⇓Pn	**Pn**	**19 24 34.9**	**+1.5**
	0.3nm,0.2s,baz=120,slow=13,SNR=35						
KK31				⇑Pg	**Pb**	**19 24 45.6**	**+2.1**
	1.5nm,0.5s,baz=145,slow=16,SNR=6.8						
KK31				⇓Sn	**Sn**	**19 25 25.7**	**+2.4**
	1.1nm,0.3s,baz=148,slow=24,SNR=5.1						
KK31				⇑Lg	Lg	19 25 42.3	
	1.5nm,0.3s,baz=127,slow=28,SNR=3.7						
PDGK	**Podgornoye**	**5.54**	**47**	⇑Pg	Pg	19 25 09.1	-5.3
	1.8nm,0.5s						
PDGK				⇓Lg	Lg	19 26 21.6	
	5.0nm,0.7s						

*ISCJB **29** 19:59:31.4±0.7, 12°.8S±0°.1×168°.8E±0°.1, *h*625km, mb3.8/15, Error ellipse: s-maj=18.6km s-min=13.4km az=14.1*
*IDC **29** 19:59:32.7±1.6, 12°.86S×168°.88E, *h*628km±17km, mb3.3/15, mb1 3.5/16, mb1mx3.3/41, mbtmp4.3/16, Error ellipse: s-maj=18.4km s-min=13.0km az=90.0*

ISC 29 19:59:32.4±0.8, 12°.8S±0°.1×168°.9E±0°.1, *h*625km, n18, σ0§79/21, mb3.6/15, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.51**	**194**	P	**P**	**20 01 48.3**	**+1.2**
	2.0nm,0.3s,baz=90,slow=24,SNR=17						
DZM	**Mont Dzumac**	**9.51**	**194**	*e*P	**P**	**20 01 47.8**	**+0.8**
CTA	**Charters Tower**	**22.88**	**249**	P	**P**	**20 03 50.9**	**+0.1**
	3.2nm,0.5s,baz=82,slow=11,SNR=8.6						
JAY	**Jayapura**	**29.71**	**288**	P	**P**	**20 04 50.8**	**+0.1**
	3.5nm,0.6s,baz=20,slow=21,SNR=4.6						
STKA	**Stephens Creek**	**31.44**	**228**	P	**P**	**20 05 05.3**	**+0.2**
	7.0nm,0.3s,baz=53,slow=8.2,SNR=92						
STKA				ScP	**ScP**	**20 10 22.3**	**-1.1**
	1.4nm,0.8s,baz=45,slow=7.1,SNR=2.6						
WRA	**Warramunga Arr**	**33.86**	**253**	P	**P**	**20 05 24.8**	**-0.9**
	14nm,0.4s,baz=84,slow=8.7,SNR=390						
WRA				ScP	**ScP**	**20 10 32.1**	**-0.1**
	1.0nm,0.9s,baz=83,slow=4.5,SNR=4.5						
ASAR	**Alice Springs**	**34.86**	**247**	P	**P**	**20 05 33.1**	**-0.8**
	18nm,0.5s,baz=75,slow=9.8,SNR=413						
ASAR				ScP	**ScP**	**20 10 35.5**	**-0.2**
	1.5nm,0.7s,baz=89,slow=3.8,SNR=12						
MJAR	**Matsushiro Arr**	**56.98**	**331**	P	**P**	**20 08 20.2**	**-0.2**
	1.6nm,0.8s,baz=166,slow=7.5,SNR=6.6						
LEM	**Lembang**	**60.56**	**269**	P	**P**	**20 08 44.8**	**-0.2**
	16nm,0.6s,baz=144,slow=19,SNR=3.0						
KSRS	**Korea Array**	**63.08**	**324**	P	**P**	**20 09 01.2**	**+0.7**
	0.4nm,0.4s,baz=138,slow=5.3,SNR=3.4						
VNDA	**Vanda**	**64.81**	**182**	P	**P**	**20 09 10.6**	**-0.3**
	0.4nm,0.6s,baz=338,slow=5.4,SNR=4.3						
USRK	**Ussuriysk Ar.**	**65.92**	**332**	P	**P**	**20 09 19.0**	**+0.7**
	1.6nm,0.7s,baz=132,slow=5.9,SNR=6.5						
CMAR	**Chiang Mai Arr**	**75.64**	**293**	P	**P**	**20 10 16.6**	**+1.0**
	1.8nm,0.8s,baz=108,slow=3.2,SNR=9.6						
QSPA	**South Pole Qui**	**77.21**	**180**	P	**P**	**20 10 22.8**	**-0.6**
	3.5nm,0.8s,baz=324,slow=1.1,SNR=14						
SONM	**Songino Array**	**81.91**	**323**	P	**P**	**20 10 48.4**	**+0.1**
	0.7nm,0.7s,baz=178,slow=5.5,SNR=3.7						
ILAR	**Eielson Array**	**84.22**	**17**	P	**P**	**20 10 58.0**	**-1.2**
	0.6nm,0.9s,baz=222,slow=5.7,SNR=5.2						
NVAR	**Mina Array Bea**	**84.82**	**49**	P	**P**	**20 11 04.1**	**+1.0**
	0.4nm,0.5s,baz=228,slow=8.1,SNR=3.0						
ARCES	**ARCESS Array B**	**118.79**	**346**	PKP	**PKPdf**	**20 17 09.4**	**-1.0**
	2.3nm,1.0s,baz=99,slow=5.3,SNR=3.9						

*ISCJB **29** 20:00:02.6±0.6, 30°.12N±0°.04×132°.13E±0°.05, *h*59km, mb3.7/7, Error ellipse: s-maj=6.5km s-min=4.9km az=18.1*
*JMA **29** 20:00:02.0±0.1, 30°.10N×132°.17E, *h*50km, M3.8*
*IDC **29** 20:00:04.1±0.9, 30°.14N×132°.01E, *h*38km±7km, mb3.6/7, mb1 3.7/8, mb1mx3.4/58, mbtmp3.7/8, ML2.7/2, MS2.7/2, Ms1 2.7/2, ms1mx2.4/26, Error ellipse: s-maj=33.4km s-min=16.1km az=85.0*

ISC 29 20:00:03.4±0.9, 30°.10N±0°.05×132°.19E±0°.07, *h*59km, n25, σ1§84/35, mb3.9/7, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**1.18**	**298**	P	**Pn**	**20 00 22.5**	**-1.3**
JTN				S	**Sn**	**20 00 37.5**	**-1.5**
JYAK	**Yakushimahirau**	**1.46**	**276**	P	**Pn**	**20 00 26.2**	**-1.3**
JYAK				S	**Sn**	**20 00 44.1**	**-1.5**
JTSR	**Tashiro 2**	**1.53**	**315**	P	**Pn**	**20 00 27.0**	**-1.5**
JNAR	**Kushima--Naru**	**1.63**	**331**	P	**Pn**	**20 00 29.1**	**-0.7**
JNAR				S	**Sn**	**20 00 48.1**	**-1.6**
JKC	**Kuchinoerabu**	**1.76**	**282**	P	**Pn**	**20 00 30.5**	**-1.1**
JKC				S	**Sn**	**20 00 53.3**	**+0.4**
JNN	**Nakanoshima**	**2.02**	**263**	P	**Pn**	**20 00 34.6**	**-0.6**
JNN				S	**Sn**	**20 00 59.5**	**+0.2**
JTZ	**Takazaki**	**2.03**	**333**	P	**Pn**	**20 00 34.7**	**-0.6**
JTZ				S	**Sn**	**20 00 58.4**	**-1.2**
JSJ	**Shimokoshiki**	**2.65**	**307**	P	**Pn**	**20 00 41.7**	**-2.0**
JSJ				S	**Sn**	**20 01 12.7**	**-1.9**
JIU2	**Izumi 2**	**2.71**	**335**	P	**Pn**	**20 00 44.4**	**-0.1**
JIU2				S	**Sn**	**20 01 14.5**	**-1.6**
JTAJ	**Takarajima**	**2.76**	**251**	P	**Pn**	**20 00 44.7**	**-0.5**
JTO	**Tosashimizu**	**2.81**	**11**	P	**Pn**	**20 00 43.8**	**-2.0**
JAM	**Amami Oshima**	**2.81**	**234**	P	**Pn**	**20 00 44.8**	**-1.1**
JAM				S	**Sn**	**20 01 16.8**	**-1.8**
JAMN	**Amaminishikomi**	**3.22**	**236**	P	**Pn**	**20 00 50.5**	**-1.0**
JNA	**Nagahama**	**3.46**	**4**	P	**Pn**	**20 00 54.1**	**-0.7**
JNA				S	**Sn**	**20 01 30.3**	**-4.2**
JTK	**Tokunoshima**	**3.65**	**232**	P	**Pn**	**20 00 56.5**	**-0.9**
JOW	**Kunigami**	**4.74**	**228**	Pn	**Pn**	**20 01 10.6**	**-1.8**
	0.3nm,0.3s,baz=78,slow=27,SNR=17						
JOW				Sn	**Sn**	**20 02 02.2**	**-3.7**
	1.0nm,0.3s,baz=45,slow=26,SNR=12						
MJAR	**Matsushiro Arr**	**8.17**	**36**	Pn	**Pn**	**20 01 59.7**	**+0.4**
	0.9nm,0.3s,baz=216,slow=12,SNR=12						
MJAR				LR	LR	20 05 11.5	
	comp=Z,44nm,18.4s,baz=220,slow=37						
JCJ	**Chichijima**	**9.28**	**106**	LR	LR	20 05 17.1	
	comp=Z,42nm,19.5s,baz=350,slow=33						
KURBB	**Kurchatov Arra**	**44.62**	**313**	P	**P**	**20 08 12.0**	**+2.2**
	0.2nm,0.4s,baz=90,slow=8.3,SNR=4.2						
WRA	**Warramunga Arr**	**49.79**	**177**	P	**P**	**20 08 52.3**	**+2.0**
	0.8nm,0.7s,baz=353,slow=8.0,SNR=4.2						
WRA				pP	**pP**	**20 09 04.2**	**-1.5**
	1.5nm,0.8s,baz=354,slow=8.4,SNR=5.6						
ASAR	**Alice Springs**	**53.48**	**178**	P	P	20 09 21.5	+3.7
	0.4nm,0.5s,baz=9.9,slow=12,SNR=9.7						
ASAR				pP	pP	20 09 33.4	0.0
	1.1nm,0.5s,baz=9.7,slow=12,SNR=8.2						
FINES	**FINESS Array B**	**71.22**	**331**	P	**P**	**20 11 18.2**	**+2.4**
	0.8nm,0.4s,baz=86,slow=7.1,SNR=18						
HFS	**Hagfors**	**77.00**	**333**	P	**P**	**20 11 51.8**	**+2.2**
	1.1nm,0.8s,baz=39,slow=5.5,SNR=3.7						
NOA	**NORSAR Array B**	**77.36**	**335**	P	**P**	**20 11 53.9**	**+2.2**
	0.6nm,0.8s,baz=48,slow=5.4,SNR=3.2						
NOA				pP	**pP**	**20 12 05.2**	**-2.9**
	0.2nm,0.5s,baz=53,slow=5.2,SNR=1.7						
BRTR	**Keskin Array B**	**77.39**	**309**	P	P	20 11 55.5	+3.1
	1.0nm,0.7s,baz=94,slow=4.8,SNR=4.6						

*IDC **29** 20:02:33.9±1.4, 7°.23N×91°.69E, *h*0km, mb3.6/5, mb1 3.8/7, mb1mx3.5/28, mbtmp3.7/7, ML3.9/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/29, Error ellipse: s-maj=39.1km s-min=24.1km az=57.0*

ISC 29 20:02:35.1±1.2, 7°.2N±0°.2×91°.3E±0°.1, *h*20km, n8, σ2§07/7, mb3.5/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**10.55**	**271**	Pn	Pn	20 05 10.9	+5.5
	3.4nm,0.3s,baz=87,slow=12,SNR=22						
PALK				Sn	**Sn**	**20 07 01.5**	**-1.6**
	7.2nm,0.3s,baz=358,slow=24,SNR=16						
CMAR	**Chiang Mai Arr**	**13.43**	**33**	Pn	**Pn**	**20 05 42.4**	**-2.3**
	0.1nm,0.3s,baz=229,slow=14,SNR=5.7						
AAK	**Ala-Archa**	**38.30**	**340**	LR	LR	20 27 07.6	
	comp=Z,38nm,18.9s,baz=162,slow=38						
SONM	**Songino Array**	**42.48**	**15**	P	**P**	**20 10 29.6**	**+0.5**
	0.4nm,0.6s,baz=194,slow=7.1,SNR=2.6						
KURBB	**Kurchatov Arra**	**44.59**	**348**	P	**P**	**20 10 48.3**	**+2.5**
	0.3nm,0.5s,baz=172,slow=7.7,SNR=6.3						
ZALV	**Zalesovo Beam**	**46.92**	**355**	P	**P**	**20 11 05.8**	**+1.6**
	0.5nm,0.5s,baz=168,slow=7.4,SNR=3.6						
WRA	**Warramunga Arr**	**50.17**	**123**	P	**P**	**20 11 29.9**	**+0.1**
	0.5nm,0.8s,baz=309,slow=7.7,SNR=3.0						
ASAR	**Alice Springs**	**51.66**	**128**	P	**P**	**20 11 40.6**	**-0.3**
	0.8nm,0.8s,baz=309,slow=6.7,SNR=4.9						

*DSN **29** 20:04:32.3±1.9, 28°.58N×54°.25E, *h*16km, mb3.5/6, ML4.4/5, Error ellipse: s-maj=20.4km s-min=13.0km az=147.0*
*IDC **29** 20:04:36.9±1.0, 27°.71N×54°.19E, *h*0km, mb3.8/18, mb1 3.9/18, mb1mx3.8/30, mbtmp3.8/18, Error ellipse: s-maj=25.0km s-min=16.8km az=16.0*
*ISCJB **29** 20:04:40.5±0.3, 27°.81N±0°.03×54°.15E±0°.04, *h*26km, mb3.8/17, Error ellipse: s-maj=5.2km s-min=3.9km az=9.9*
*THR **29** 20:04:40.1±0.3, 27°.71N×54°.34E, *h*15km, ML3.7*
*TEH **29** 20:04:41.5, 27°.79N×54°.19E, *h*12km, ML3.7*
*CSEM **29** 20:04:41.7±0.1, 27°.82N×54°.19E, *h*15km, ML3.7, Error ellipse: s-maj=4.7km s-min=3.7km az=81.0*
*OMAN **29** 20:05:40.4±99.0, 22°.60N×56°.38E, *h*16km±28km, Error ellipse: s-maj=82.9km s-min=5.9km az=325.0*

ISC 29 20:04:41.5±0.5, 27°.80N±0°.04×54°.24E±0°.04, *h*26km, n69, σ1§39/70, mb3.9/17, 3C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**1.21**	**294**	*e*Pg	**Pb**	**20 05 04.7**	**+0.9**
GHIR				AML	AML	20 05 33.8	
	comp=N,1μm,0.5s						
GHIR	**Ghir-Karzin**	**1.21**	**294**	*e*Pg	**Pb**	**20 05 04.7**	**+0.9**
BNDS	**Bandar-Abbas**	**1.76**	**103**	*e*Pg	**Pn**	**20 05 10.6**	**0.0**
BNDS				AML	AML	20 05 49.7	
	comp=E,653nm,0.1s						
BNDS	**Bandar-Abbas**	**1.76**	**103**	*e*Pg	**Pn**	**20 05 10.6**	**0.0**
IBND	**Bandar-abas**	**2.08**	**99**	*e*Pn	**Pn**	**20 05 16.5**	**+1.8**
IBND				*e*		20 06 03.3	
	comp=Z,14μm,0.4s						
IBND	**Bandar-abas**	**2.08**	**99**	*e*Pn	**Pn**	**20 05 16.5**	**+1.8**
BANOM	**Banah**	**2.63**	**135**	P	**Pn**	**20 05 22.6**	**+0.3**
	SNR=33						
BANOM	**Banah**	**2.63**	**135**	⇓*i*P	**Pn**	**20 05 22.6**	**+0.3**
	SNR=33						
NGRK	**Negar Kerman**	**2.86**	**49**	*e*Pn	**Pn**	**20 05 27.4**	**+1.6**
NGRK	**Negar Kerman**	**2.86**	**49**	*e*Pn	**Pn**	**20 05 27.4**	**+1.6**
IKAZ	**Kazeroun**	**2.88**	**314**	*e*Pn	**Pn**	**20 05 27.4**	**+1.2**
IKAZ				*e*		20 06 33.0	
	comp=Z,4μm,0.5s						
IKAZ	**Kazeroun**	**2.88**	**314**	*e*Pn	**Pn**	**20 05 27.3**	**+1.2**
NAZ	**Nazwa, Dubai**	**3.08**	**155**	P	**Pn**	**20 05 30.7**	**+2.2**
NAZ	**Nazwa, Dubai**	**3.08**	**155**	⇓P	**Pn**	**20 05 30.7**	**+2.2**
KRBR	**Kerman**	**3.10**	**45**	*e*Pn	**Pn**	**20 05 30.9**	**+1.8**
KRBR				AML	AML	20 06 26.3	
	comp=E,230nm,0.3s						
KRBR				AML	AML	20 06 28.9	
	comp=N,230nm,0.3s						
KRBR	**Kerman**	**3.10**	**45**	*e*Pn	**Pn**	**20 05 30.9**	**+1.8**
TVBK	**TV Kerman**	**3.11**	**45**	*e*Pn	**Pn**	**20 05 32.0**	**+2.8**
KHGB	**Koh Gabri**	**3.23**	**37**	*e*Pn	**Pn**	**20 05 32.5**	**+1.7**
FAQ	**Al Faqa, Dubai**	**3.28**	**158**	P	**Pn**	**20 05 33.0**	**+1.8**
	SNR=9.1						
FAQ	**Al Faqa, Dubai**	**3.28**	**158**	⇑*i*P	**Pn**	**20 05 33.0**	**+1.8**
	SNR=9.1						
ASUD	**Al Ashush, Dub**	**3.31**	**162**	P	**Pn**	**20 05 34.1**	**+2.4**
	SNR=74						
ASUD	**Al Ashush, Dub**	**3.31**	**162**	⇓*i*P	**Pn**	**20 05 34.1**	**+2.4**
	SNR=74						
ASHO	**Ashiyiah**	**3.51**	**152**	P	**Pn**	**20 05 35.9**	**+1.4**
	SNR=109						
ASHO	**Ashiyiah**	**3.51**	**152**	⇑*i*P	**Pn**	**20 05 35.9**	**+1.4**
	SNR=109						
CHMN	**Cheshme madani**	**3.55**	**54**	*e*Pn	**Pn**	**20 05 38.5**	**+3.1**
CHMN	**Cheshme madani**	**3.55**	**54**	*e*Pn	**Pn**	**20 05 38.5**	**+3.1**
IMEH	**Mehriz**	**3.59**	**5**	*e*Pn	**Pn**	**20 05 37.5**	**+1.7**
IMEH				*e*Sn	**Sn**	**20 06 17.8**	**+0.3**
IMEH				*e*		20 06 24.5	
	comp=Z,727nm,0.2s						
IMEH	**Mehriz**	**3.59**	**5**	*e*Pn	**Pn**	**20 05 37.5**	**+1.7**
IMEH				*e*Sn	**Sn**	**20 06 17.8**	**+0.3**
IBAF	**Bafgh**	**3.95**	**17**	*e*Pn	**Pn**	**20 05 42.0**	**+1.4**
IBAF				*e*		20 05 54.6	
	comp=Z,711nm,0.2s						
IBAF	**Bafgh**	**3.95**	**17**	*e*Pn	**Pn**	**20 05 42.0**	**+1.4**
ISAD	**Sadrabad**	**4.13**	**353**	*e*Pn	**Pn**	**20 05 44.0**	**+0.8**
ISAD				*e*		20 06 36.0	
	comp=Z,1μm,0.2s						
ISAD	**Sadrabad**	**4.13**	**353**	*e*Pn	**Pn**	**20 05 44.0**	**+0.8**
SLWS		**4.40**	**228**	P	**Pn**	**20 05 48.0**	**+1.4**
SLWS				S	**Sn**	**20 06 39.0**	**+2.0**
SLWS		**4.40**	**228**	S	**Sn**	**20 06 38.8**	**+1.8**
SLWS		**4.40**	**228**	P	**Pn**	**20 05 47.8**	**+1.2**
BOQSS		**4.75**	**247**	P	**Pn**	**20 05 53.0**	**+1.5**
BOQSS		**4.75**	**247**	P	**Pn**	**20 05 53.0**	**+1.5**
BTHS		**4.83**	**220**	P	**Pn**	**20 05 53.0**	**+0.5**
BTHS				S	**Sn**	**20 06 48.0**	**+0.4**
BTHS		**4.83**	**220**	P	**Pn**	**20 05 52.8**	**+0.3**
ARQ	**Araqi**	**4.90**	**155**	P	**Pn**	**20 05 54.9**	**+1.3**
	SNR=8.2						
ARQ	**Araqi**	**4.90**	**155**	P	**Pn**	**20 05 54.9**	**+1.3**
	SNR=8.2						
IZEF	**Zefreh**	**5.34**	**343**	*e*Pn	**Pn**	**20 06 00.1**	**+0.3**
IZEF				*e*		20 06 10.8	
	comp=Z,206nm,0.1s						
IZEF	**Zefreh**	**5.34**	**343**	*e*Pn	**Pn**	**20 06 00.1**	**+0.3**
IPIR	**Pirpir**	**5.66**	**330**	*e*		20 06 11.6	
	comp=Z,542nm,0.2s						
IPIR				*e*Pn	**Pn**	**20 06 04.1**	**-0.2**
SMDO	**Samad**	**5.85**	**143**	⇑P	**Pn**	**20 06 08.1**	**+1.4**
	SNR=11						
IKLH	**Kolahrood**	**5.96**	**338**	*e*		20 06 17.0	
	comp=Z,228nm,0.3s						
IKLH				*e*Pn	**Pn**	**20 06 09.5**	**+1.1**
WBK	**Wadi Bani Khal**	**6.71**	**139**	⇓P	**Pn**	**20 06 18.9**	**+0.4**
	SNR=8.1						
NSR	**Nassriya**	**7.75**	**296**	*e*PG	x	20 07 39.8	
NSR				*e*SN	x	20 08 08.6	
IBDR	**Badra**	**8.91**	**308**	*e*PN	x	20 06 09.9	
IBDR				*e*SN	x	20 07 40.4	
BHD	**Baghdad**	**10.09**	**305**	*e*PN	x	20 06 24.3	
BHD				*e*SN	x	20 08 04.4	
ABTO	**Aybut**	**10.43**	**185**	⇓P	**Pn**	**20 07 08.4**	**-1.1**
	SNR=14						
BRTR	**Keskin Array B**	**20.79**	**310**	P	**P**	**20 09 21.9**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=134,slow=13,SNR=11						
AKTO	**Aktyubinsk**	**22.79**	**6**	P	**P**	**20 09 42.6**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=190,slow=12,SNR=3.6						
KURBB	**Kurchatov Arra**	**29.32**	**32**	P	**P**	**20 10 42.3**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=232,slow=8.6,SNR=5.6						
ZALV	**Zalesovo Beam**	**34.41**	**32**	P	**P**	**20 11 26.3**	**-0.2**
	comp=Z,1nm,0.5s,baz=238,slow=8.8,SNR=11						
FINES	**FINESS Array B**	**38.54**	**339**	P	**P**	**20 12 01.6**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=148,slow=9.5,SNR=15						
CMAR	**Chiang Mai Arr**	**41.96**	**93**	P	**P**	**20 12 31.0**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=302,slow=8.4,SNR=4.8						
HFS	**Hagfors**	**42.39**	**331**	P	**P**	**20 12 32.9**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=117,slow=8.5,SNR=11			

HIZ	**Hauiti**	**1.40**	**241**	⇓PN	Pn	20 35 45.1	+0.2	
WTVZ	**West Tongariro**	**1.43**	**207**	PN	Pn	20 35 45.2	0.0	
OTVZ	**Oturere**	**1.45**	**204**	⇑PN	Pn	20 35 45.7	+0.2	
TWVZ	**Taurewa**	**1.45**	**212**	⇑PN	Pn	20 35 45.5	+0.1	
PUZ	**Puketiti**	**1.47**	**99**	⇓PN	Pn	20 35 45.1	-0.5	
PUZ				AML	AML	20 36 16.9		
PUZ				AML	AML	20 36 19.1		
NGZ	**Ngauruhoe**	**1.48**	**206**	PN	Pn	20 35 45.8	0.0	
ARHZ	**Aropaoanui**	**1.49**	**163**	⇑PN	Pn	20 35 46.1	+0.4	
MXZ	**Matakaoa Point**	**1.52**	**80**	⇑PN	Pn	20 35 46.0	0.0	
MXZ				AML	AML	20 36 10.4		
MXZ				AML	AML	20 36 11.2		
MXZ				AML	AML	20 36 11.2		
WPVZ	**Whakapapa**	**1.52**	**207**	PN	Pn	20 35 45.9	-0.3	
KNZ	**Kokohu**	**1.53**	**140**	PN	Pn	20 35 46.1	0.0	
TUVZ	**Tukino**	**1.54**	**203**	⇑PN	Pn	20 35 46.4	0.0	
CNGZ	**Carnagh Statio**	**1.55**	**115**	PN	Pn	20 35 46.8	+0.5	
FWVZ	**Far West T-bar**	**1.56**	**206**	PN	Pn	20 35 46.4	-0.4	
PRGZ	**Paritu Road**	**1.58**	**134**	PN	Pn	20 35 46.6	0.0	
KWHZ	**Kaweka Forest**	**1.58**	**180**	⇓PN	Pn	20 35 46.6	-0.1	
WHVZ	**Whangaehu Hut**	**1.58**	**204**	⇓PN	Pn	20 35 46.6	-0.3	
WMGZ	**Waiomatatini S**	**1.58**	**90**	⇓PN	Pn	20 35 46.5	-0.1	
TRVZ	**Turoa**	**1.61**	**205**	PN	Pn	20 35 47.1	-0.1	
MCHZ	**McNeill Hill**	**1.61**	**172**	PN	Pn	20 35 47.3	+0.3	
WNVZ	**Wahianoa**	**1.62**	**203**	PN	Pn	20 35 46.9	-0.4	
MOVZ	**Moawhango**	**1.65**	**198**	⇑PN	Pn	20 35 46.7	-0.7	
BHHZ	**Black Hill Sta**	**1.67**	**190**	⇑PN	Pn	20 35 47.1	-0.6	
KRHZ	**Kereru**	**1.80**	**181**	PN	Pn	20 35 46.9	-2.1	
CKHZ	**Cape Kidnapper**	**1.88**	**164**	PN	Pn	20 35 49.9	0.0	
PNHZ	**Pukenui**	**2.07**	**185**	⇓PN	Pn	20 35 51.2	-0.9	
PXZ	**Pawanui**	**2.21**	**171**	PN	Pn	20 35 53.1	-0.5	
PXZ				AML	AML	20 36 21.5		
PXZ				AML	AML	20 36 21.7		
PXZ				AML	AML	20 36 21.7		
PXZ				AML	AML	20 36 22.0		
WAZ	**Wanganui**	**2.21**	**210**	PN	Pn	20 35 53.1	-0.6	
WPHZ	**Waipukurau**	**2.22**	**180**	PN	Pn	20 35 52.9	-0.9	
TSZ	**Takapari Road**	**2.24**	**189**	PN	Pn	20 35 52.8	-1.2	
TSZ				AML	AML	20 36 25.0		
TSZ				AML	AML	20 36 26.1		
KHEZ	**Kahui Hut**	**2.38**	**232**	PN	Pn	20 35 56.1	+0.4	
PRHZ	**Porangahau**	**2.43**	**176**	PN	Pn	20 35 55.1	-1.1	
DVHZ	**Dannevirke**	**2.46**	**185**	⇑PN	Pn	20 35 55.0	-1.6	
POWZ	**Post Office Ro**	**2.59**	**191**	PN	Pn	20 35 56.6	-1.6	
ANWZ	**Angora Road**	**2.61**	**179**	⇑PN	Pn	20 35 57.2	-1.2	
PRWZ	**Pori Road**	**2.73**	**187**	⇓PN	Pn	20 35 58.5	-1.4	
BFZ	**Birch Farm**	**2.84**	**183**	PN	Pn	20 35 59.4	-1.8	
MRZ	**Mangatainoka R**	**2.89**	**193**	PN	Pn	20 35 59.6	-2.3	
MRZ				AML	AML	20 36 35.7		
MRZ				AML	AML	20 36 36.0		
TIWZ	**Tintock**	**2.96**	**188**	⇑PN	Pn	20 36 00.7	-2.1	
TIWZ				AML	AML	20 36 36.5		
TIWZ				AML	AML	20 36 36.8		
CPWZ	**Castlepoint**	**3.07**	**183**	⇓PN	Pn	20 36 02.6	-1.4	
OGWZ	**Otaki Gorge**	**3.12**	**198**	⇓PN	Pn	20 36 02.4	-2.3	
HOWZ	**Holdsworth Sta**	**3.13**	**193**	⇑PN	Pn	20 36 02.2	-2.6	
TMWZ	**Te Maipa**	**3.29**	**187**	PN	Pn	20 36 04.2	-2.6	
MTW	**Mount Morrison**	**3.39**	**192**	⇑PN	Pn	20 36 05.0	-3.0	
MTW				AML	AML	20 36 46.2		
MTW				AML	AML	20 36 46.5		
CAW	**Cannon Point**	**3.42**	**197**	PN	Pn	20 36 05.7	-2.9	
CAW				AML	AML	20 36 47.2		
CAW				AML	AML	20 36 47.5		
DUWZ	**D'Urville Isla**	**3.53**	**212**	PN	Pn	20 36 06.9	-3.1	
TRWZ	**Traveller**	**3.59**	**189**	PN	Pn	20 36 07.8	-3.0	
TRWZ				AML	AML	20 36 50.2		
TRWZ				AML	AML	20 36 51.2		
PAWZ	**Paruwai Farm**	**3.62**	**192**	PN	Pn	20 36 07.8	-3.2	
PAWZ				AML	AML	20 36 51.0		
PAWZ				AML	AML	20 36 52.4		
MSWZ	**Moikau Station**	**3.68**	**194**	⇑PN	Pn	20 36 08.4	-3.4	
MSWZ				AML	AML	20 36 51.4		
MSWZ				AML	AML	20 36 52.2		
TCW	**Tory Channel**	**3.75**	**206**	PN	Pn	20 36 09.4	-3.3	
TCW				AML	AML	20 36 53.8		
TCW				AML	AML	20 36 55.4		
BHW	**Baring Head**	**3.75**	**198**	PN	Pn	20 36 09.3	-3.4	
BHW				AML	AML	20 36 54.1		
BHW				AML	AML	20 36 54.3		
PLWZ	**Palliser**	**3.83**	**193**	PN	Pn	20 36 10.1	-3.7	
TUWZ	**Tuamarina**	**4.06**	**207**	PN	Pn	20 36 13.1	-3.6	
TUWZ				AML	AML	20 37 00.4		
TUWZ				AML	AML	20 37 00.5		
NNZ	**Nelson**	**4.11**	**214**	PN	Pn	20 36 13.6	-3.8	
ORZ	**Quartz Range**	**4.24**	**224**	PN	Pn	20 36 15.1	-4.0	
BSWZ	**Blackbirch Sta**	**4.33**	**206**	PN	Pn	20 36 16.6	-3.7	
THZ	**Tophouse**	**4.76**	**214**	PN	Pn	20 36 21.6	-4.3	
KHZ	**Kahutara**	**5.07**	**205**	PN	Pn	20 36 25.8	-4.1	
LTZ	**Lake Taylor**	**5.86**	**211**	PN	Pn	20 36 35.3	-5.1	
OXZ	**Oxford**	**6.41**	**210**	PN	Pn	20 36 41.9	-5.8	
MQZ	**McQueen's Vall**	**6.52**	**205**	⇑PN	Pn	20 36 43.0	-6.0	
ODZ	**Otahua Downs**	**8.40**	**209**	PN	Pn	20 37 08.4	-5.6	

IDC 29 20:51:33.6±1.3, 6.76N×90.24E, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.4/35, mbtmp3.6/6, ML3.6/2, Error ellipse: s-maj=32.8km s-min=23.0km az=46.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**9.48**	**274**	Pn	Pn	20 53 50.8	-0.9
	1.1nm,0.3s,baz=82,slow=15,SNR=15						
PALK				Sn	Sn	20 55 40.3	+1.1
	1.6nm,0.3s,baz=183,slow=16,SNR=6.7						
CMAR	**Chiang Mai Arr**	**14.39**	**35**	Pn	Pn	20 54 57.8	-1.0
	0.1nm,0.3s,baz=223,slow=14,SNR=4.5						
SONM	**Songino Array**	**43.19**	**16**	P	P	20 59 35.8	-0.7
	0.3nm,0.5s,baz=195,slow=10,SNR=2.7						
ZALV	**Zalesovo Beam**	**47.25**	**356**	P	P	21 00 09.1	+0.7
	0.3nm,0.3s,baz=177,slow=13,SNR=2.1						
WRA	**Warramunga Arr**	**50.85**	**122**	P	P	21 00 35.8	-0.8
	0.6nm,0.9s,baz=300,slow=9.5,SNR=3.2						
ASAR	**Alice Springs**	**52.26**	**127**	P	P	21 00 47.8	+0.6
	0.4nm,0.7s,baz=294,slow=7.0,SNR=3.4						

*STR **29** 21:12:05.9±0.2, 43.08N×0.26W, h5km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*CSEM **29** 21:12:06.3±0.1, 43.09N×0.27W, h5km, ML1.8/10, Error ellipse: s-maj=1.5km s-min=1.0km az=177.0*
*LDG **29** 21:12:07.2±0.1, 43.06N×0.31W, h2km, Md2.0/3, Ml2.0/9, Error ellipse: s-maj=1.7km s-min=1.2km az=179.0*
MDD 29 21:12:07.0±0.2, 43.07N×0.27W, h0km, mbLg1.4/15, Error ellipse: s-maj=3.1km s-min=1.5km az=4.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	**0.09**	**272**	Pg	Pg	21 12 08.3	-0.6
REYF				Sg	Sg	21 12 09.8	-0.4
REYF	**Montagne du Re**	**0.09**	**272**	P	Pg	21 12 08.3	-0.6
REYF				S	Sg	21 12 09.8	-0.3
REYF	**Montagne du Re**	**0.09**	**272**	Pg	Pg	21 12 08.3	-0.6
REYF				Sg	Sg	21 12 09.8	-0.4
LABF	**Labassere**	**0.25**	**94**	Pg	Pg	21 12 10.8	-1.2
LABF				Sg	Sg	21 12 14.9	-0.5
LABF	**Labassere**	**0.25**	**94**	P	Pg	21 12 11.1	-1.0
LABF				S	Sg	21 12 14.8	-0.6
LABF	**Labassere**	**0.25**	**94**	Pg	Pg	21 12 10.8	-1.2
LABF				Sg	Sg	21 12 14.9	-0.5
ETSF	**Etsaut**	**0.27**	**231**	*e*Pg	Pg	21 12 11.6	-0.8
ETSF				*e*Sg	Sg	21 12 15.3	-0.7
	17nm,0.2s						
ETSF	**Etsaut**	**0.27**	**231**	Pg	Pg	21 12 11.6	-0.8
ETSF				Lg	Lg	21 12 15.3	
	8.6nm,0.2s						
ETSF	**Etsaut**	**0.27**	**231**	*e*Pg	Pg	21 12 11.6	-0.8
ETSF				*e*Sg	Sg	21 12 15.3	-0.7
	8.6nm,0.2s						
VIEF	**Viey**	**0.28**	**130**	Pg	Pg	21 12 11.7	-0.9
VIEF				Sg	Sg	21 12 15.4	-1.0
VIEF	**Viey**	**0.28**	**130**	P	Pg	21 12 12.1	-0.6
VIEF				S	Sg	21 12 15.7	-0.8
VIEF	**Viey**	**0.28**	**130**	Pg	Pg	21 12 11.7	-0.9
VIEF				Sg	Sg	21 12 15.4	-1.0
ATE	**Arette**	**0.32**	**274**	Pg	Pg	21 12 11.9	-1.2
ATE				Sg	Sg	21 12 17.1	-0.2
ATE	**Arette**	**0.32**	**274**	Pg	Pg	21 12 12.6	-0.5
	4.2nm,0.0s,SNR=7.9						
ATE				Lg	Lg	21 12 17.4	
	11nm,0.1s,SNR=7.9						
ATE	**Arette**	**0.32**	**274**	Pg	Pg	21 12 12.6	-0.5
	4.2nm,0.0s,SNR=7.9						
ATE				Sg	Sg	21 12 17.1	-0.2
EPF	**Esparros**	**0.45**	**94**	*e*Pg	Pg	21 12 14.7	-1.1
EPF				*e*Sg	Sg	21 12 21.4	-0.3
	11nm,0.3s						
EPF	**Esparros**	**0.45**	**94**	Pg	Pg	21 12 14.7	-1.1
EPF				Lg	Lg	21 12 21.4	
	5.6nm,0.3s						
EPF	**Esparros**	**0.45**	**94**	*e*Pg	Pg	21 12 14.7	-1.1
EPF				*e*Sg	Sg	21 12 21.4	-0.3
	5.6nm,0.3s						
ORDF	**Ordiarp**	**0.51**	**287**	P	Pg	21 12 17.1	+0.2
ORDF				S	Sg	21 12 24.0	+0.6
RESF	**Ens**	**0.52**	**120**	Pg	Pg	21 12 16.2	-1.0
RESF				Sg	Sg	21 12 23.4	-0.6
RESF	**Ens**	**0.52**	**120**	P	Pg	21 12 16.4	-0.7
RESF				S	Sg	21 12 23.3	-0.7
RESF	**Ens**	**0.52**	**120**	Pg	Pg	21 12 16.2	-1.0
RESF				Sg	Sg	21 12 23.4	-0.6
LARF	**Larrau**	**0.53**	**267**	Pg	Pg	21 12 16.6	-0.6
LARF				Sg	Sg	21 12 24.4	+0.3
LARF	**Larrau**	**0.53**	**267**	P	Pg	21 12 16.7	-0.5
LARF				S	Sg	21 12 23.8	-0.3
LARF	**Larrau**	**0.53**	**267**	Pg	Pg	21 12 16.6	-0.6
LARF				Sg	Sg	21 12 24.4	+0.3
YBER	**Berdun**	**0.68**	**225**	Pg	Pg	21 12 20.1	-0.1
	SNR=7.9						
YBER				Lg	Lg	21 12 29.8	
	2.3nm,0.1s,SNR=7.9						
YBER	**Berdun**	**0.68**	**225**	Pg	Pg	21 12 20.1	-0.1
	SNR=7.9						
YBER				Lg	Lg	21 12 29.8	
	2.3nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.70**	**274**	*e*Pg	Pg	21 12 19.2	-1.3
SJPF				*e*Sg	Sg	21 12 28.4	-1.2
	2.9nm,0.3s						
SJPF	**Ste Jean**	**0.70**	**274**	Pg	Pg	21 12 19.2	-1.3
SJPF				Lg	Lg	21 12 28.4	
	1.4nm,0.3s						
SJPF	**Ste Jean**	**0.70**	**274**	*e*Pg	Pg	21 12 19.2	-1.3
SJPF				*e*Sg	Sg	21 12 28.4	-1.2
	1.5nm,0.3s						
YMUS	**Pe˜–a Musera**	**0.73**	**229**	Pg	Pg	21 12 19.0	-2.2
	SNR=7.9						
YMUS				Lg	Lg	21 12 29.3	
	0.6nm,0.1s,SNR=7.9						
YMUS	**Pe˜–a Musera**	**0.73**	**229**	Pg	Pg	21 12 19.0	-2.2
	SNR=7.9						
YMUS				Lg	Lg	21 12 29.3	
	0.6nm,0.1s,SNR=7.9						
YASP	**Aspurt**	**0.74**	**243**	Pg	Pg	21 12 20.8	-0.5
	SNR=7.9						
YASP				Lg	Lg	21 12 31.5	
	1.5nm,0.2s,SNR=7.9						
YASP	**Aspurt**	**0.74**	**243**	Pg	Pg	21 12 20.8	-0.5
	SNR=7.9						
YASP				Lg	Lg	21 12 31.5	
	1.5nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**0.74**	**253**	Pg	Pg	21 12 20.7	-0.7
	0.1nm,0.0s,SNR=7.9						
IELO				Lg	Lg	21 12 30.7	
	1.4nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.74**	**253**	Pg	Pg	21 12 20.8	-0.6
	0.4nm,0.1s,SNR=7.9						
IELO				Lg	Lg	21 12 30.7	
	3.9nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**0.74**	**253**	Pg	Pg	21 12 20.9	-0.5
	SNR=7.9						
IELO				Lg	Lg	21 12 31.6	
	2.4nm,0.2s,SNR=7.9						
MELF	**Melles**	**0.78**	**104**	S	Sg	21 12 32.4	0.0
IEPA	**Eparoz**	**0.79**	**249**	Pg	Pg	21 12 21.0	-1.2
	SNR=7.9						
IEPA				Lg	Lg	21 12 32.6	
	1.0nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.79**	**249**	Pg	Pg	21 12 21.0	-1.2
	SNR=7.9						
IEPA				Lg	Lg	21 12 32.6	
	1.0nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.92**	**280**	Pg	Pg	21 12 25.1	+0.5
	0.3nm,0.2s,SNR=4.0						
EALK				Lg	Lg	21 12 36.6	
	1.7nm,0.2s,SNR=4.7						
EALK	**Alkurruntz**	**0.92**	**280**	Pg	Pg	21 12 24.4	-0.2
	0.1nm,0.1s,SNR=4.0						
EALK				Lg	Lg	21 12 36.6	
	1.7nm,0.2s,SNR=4.7						
ELIZ	**Elizondo**	**0.93**	**276**	Pg	Pg	21 12 24.8	-0.1
	0.5nm,0.2s,SNR=7.9						
ELIZ				Lg	Lg	21 12 37.4	
	1.2nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.93**	**276**	Pg	Pg	21 12 24.3	-0.6
	0.1nm,0.1s,SNR=7.9						
ELIZ				Lg	Lg	21 12 37.4	
	1.2nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.94**	**263**	Pg	Pg	21 12 23.1	-2.1
	SNR=7.9						
IUSE				Lg	Lg	21 12 36.8	
	0.2nm,0.0s,SNR=7.9						
IUSE	**Utxeti**	**0.94**	**263**	Pg	Pg	21 12 23.1	-2.2
	SNR=7.9						
IUSE				Lg	Lg	21 12 36.8	
	0.2nm,0.0s,SNR=7.9						
SALF	**Salau**	**1.12**	**105**	S	Sg	21 12 42.6	-0.5
CSOR	**Sort**	**1.25**	**123**	Pg	Pg	21 12 30.8	-0.3
	0.1nm,0.1s,SNR=7.8						
CSOR				Lg	Lg	21 12 49.4	
	2.8nm,0.2s,SNR=6.2						
CSOR	**Sort**	**1.25**	**123**	Pg	Pb	21 12 31.5	-0.1
	0.1nm,0.1s,SNR=7.8						
CSOR				Lg	Lg	21 12 49.2	
	2.8nm,0.2s,SNR=6.2						
ESAC	**San Caprasio**	**1.35**	**186**	Pg	Pg	21 12 33.0	-0.1
	3.1nm,0.1s,SNR=7.9						
ESAC				Lg	Lg	21 12 51.7	
	22nm,0.3s,SNR=6.4						
ESAC	**San Caprasio**	**1.35**	**186**	Pg	Pg	21 12 33.0	-0.1
	1.1nm,0.1s,SNR=7.9						
ESAC				Lg	Lg	21 12 51.7	
	22nm,0.3s,SNR=6.4						
CLLI	**Llivia**	**1.75**	**109**	Pg	Pg	21 12 41.0	+0.1
	0.4nm,0.2s,SNR=7.9						
CLLI				Lg	Lg	21 13 04.1	
	0.8nm,0.2s,SNR=7.1						
CLLI	**Llivia**	**1.75**	**109**	Pg	Pg	21 12 41.0	+0.1
	0.4nm,0.2s,SNR=7.9						
CLLI				Lg	Lg	21 13 04.1	
	0.8nm,0.2s,SNR=7.1						
EMIR	**Miracle**	**1.76**	**130**	Pg	Pb	21 12 40.4	+0.1
	0.5nm,0.1s,SNR=7.9						
EMIR				Lg	Lg	21 13 03.9	
	2.3nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**1.76**	**130**	Pg	Pb	21 12 40.4	+0.1
	0.5nm,0.1s,SNR=7.9						
EMIR				Lg	Lg	21 13 03.4	
	2.3nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**1.84**	**81**	*e*Pn	Pn	21 12 38.6	-1.3
MTLF				*e*Sg	Sg	21 13 06.1	-0.2
	0.8nm,0.3s						
MTLF	**Montolieu**	**1.84**	**81**	Pn	Pn	21 12 38.6	-1.3
MTLF				Lg	Lg	21 13 06.1	
	0.4nm,0.3s						
MTLF	**Montolieu**	**1.84**	**81**	*e*Pn	Pn	21 12 38.6	-1.3
MTLF				*e*Sg	Sg	21 13 06.1	-0.2
	0.4nm,0.3s						
EPOB	**Poblet**	**1.98**	**149**	Pg	Pg	21 12 44.9	-0.3
	0.5nm,0.1s,SNR=7.9						
EPOB				Lg	Lg	21 13 09.5	
	1.6nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**1.98**	**149**	Pg	Pg	21 12 44.7	-0.5
	0.5nm,0.1s,SNR=7.9						
EPOB				Lg	Lg	21 13 09.5	
	0.7nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.01**	**21**	*e*Pn	Pn	21 12 40.7	-1.5
LFF	**La Frestale**	**2.01**	**21**	*e*Pg	Pg	21 12 44.9	+0.4
LFF				*e*Sg	Sb	21 13 10.7	+0.7
	2.2nm,0.2s						
LFF	**La Frestale**	**2.01**	**21**	Pn	Pn	21 12 40.7	-1.5
LFF				Pg	Pb	21 12 44.9	+0.4
LFF				Lg	Lg	21 13 10.7	
	1.1nm,0.2s						
LFF	**La Frestale**	**2.01**	**21**	*e*Pn	Pn	21 12 40.7	-1.5
LFF	**La Frestale**	**2.01**	**21**	*e*Pg	Pb	21 12 44.9	+0.4
LFF				*e*Sg	Sb	21 13 10.7	+0.7
	1.1nm,0.2s						
CFON	**Fontmartina**	**2.39**	**122**	Pg	Pb	21 12 51.8	+0.7
	0.6nm,0.2s,SNR=7.9						
CFON				Lg	Lg	21 13 22.6	
	3.6nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**2.39**	**122**	Pg	Pb	21 12 51.8	+0.7
	0.6nm,0.2s,SNR=7.9						
CFON				Lg	Lg	21 13 22.6	
	3.6nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.51**	**41**	*e*Pn	Pn	21 12 47.5	-1.7
CAF	**Calviac**	**2.51**	**41**	*e*Pg	Pg	21 12 54.3	-0.9
CAF				*e*Sg	Sg	21 13 26.7	-1.1
	1.3nm,0.2s						
CAF	**Calviac**	**2.51**	**41**	Pn	Pn	21 12 47.5	-1.7
CAF				Pg	Pg	21 12 54.3	-0.9
CAF				Lg	Lg	21 13 26.7	
	0.6nm,0.2s						
CAF	**Calviac**	**2.51**	**41**	*e*Pn	Pn	21 12 47.5	-1.7
CAF	**Calviac**	**2.51**	**41**	*e*Pg	Pg	21 12 54.3	-0.9
CAF				*e*Sg	Sg	21 13 26.7	-1.1
	0.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.58**	**29**	*e*Pn	Pn	21 12 48.4	-1.7
RJF				*e*Sg	Sg	21 13 28.7	-1.3
	2.9nm,0.4s						
RJF	**Les Rejaudoux**	**2.58**	**29**	Pn	Pn	21 12 48.4	-1.7
RJF				Lg	Lg	21 13 28.7	
	1.4nm,0.4s						
RJF	**Les Rejaudoux**	**2.58**	**29**	*e*Pn	Pn	21 12 48.4	-1.7
RJF				*e*Sg	Sg	21 13 28.7	-1.3
	1.5nm,0.4s						
EMOS	**Mosqueruela**	**2.71**	**183**	Lg	Lg	21 13 32.5	
	0.3nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**3.17**	**70**	*e*Pn	Pn	21 12 56.6	-1.6
LASF				*e*Sg	Sg	21 13 47.4	-1.5
	1.0nm,0.3s						
LASF	**Ste Croix**	**3.17**	**70**	Pn	Pn	21 12 56.6	-1.6
LASF				Lg	Lg	21 13 47.4	
	0.5nm,0.3s						
LASF	**Ste Croix**	**3.17**	**70**	*e*Pn	Pn	21 12 56.6	-1.6
LASF				*e*Sg	Sg	21 13 47.4	-1.5
	0.5nm,0.3s						
MFF	**Saint Martin d**	**3.54**	**1**	*e*Pn	Pn	21 13 01.3	-1.9
MFF				*e*Sg	Sg	21 13 58.2	-2.5
	0.7nm,0.2s						
MFF	**Saint Martin d**	**3.54**	**1**	Pn	Pn	21 13 01.3	-1.9
MFF				Lg	Lg	21 13 58.2	
	0.3nm,0.2s						
MFF	**Saint Martin d**	**3.54**	**1**	*e*Pn	Pn	21 13 01.3	-1.9
MFF				*e*Sg	Sg	21 13 58.2	-2.5
	0.3nm,0.2s						
VIVF	**Saint-Julien-l**	**3.99**	**62**	*e*Pn	Pn	21 13 07.9	-1.6
VIVF				*e*Sg	Sg	21 14 13.2	-2.2
	0.5nm,0.2s						
VIVF	**Saint-Julien-l**	**3.99**	**62**	Pn	Pn	21 13 07.9	-1.6
VIVF				Lg	Lg	21 14 13.2	
	0.2nm,0.2s						
VIVF	**Saint-Julien-l**	**3.99**	**62**	*e*Pn	Pn	21 13 07.9	-1.6
VIVF				*e*Sg	Sg	21 14 13.2	-2.2
	0.2nm,0.2s						

MEX 29 21:24:52.0±0.8, 16.46N×98.44W, h6km±11km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.31**	**103**	*i* P	Pg	21 24 57.5	-0.6
PNIG				*i* S	Sg	21 25 02.1	-0.1
TLIG	**Tlapa**	**1.10**	**354**	*i* P	Pg	21 25 10.1	-3.2
TLIG				*e*S	Sg	21 25 23.8	-4.0
ACX	**Acapulco**	**1.42**	**287**	*e*P	Pn	21 25 17.9	-0.5
ACX				*e*S	Sb	21 25 35.7	-1.6
VHO	**Vista Hermosa**	**1.74**	**69**	*e*P	Pn	21 25 18.8	-4.3
VHO				*e*S	Sn	21 25 41.1	-4.8
CAIG	**El Cayaco**	**1.84**	**289**	*e*P	Pn	21 25 20.4	-3.8
CAIG				*e*S	Sn	21 25 43.5	-4.3
HUIG	**Huatulco**	**2.34**	**107**	*i* P	Pn	21 25 28.5	-2.6
HUIG				*i* S	Sn	21 25 55.8	-4.5

NNC 29 21:25:42.3±2.2, 37.51N×70.95E, h0km, mb3.5, mpv3.2, 5C-1D, Error ellipse: s-maj=19.8km s-min=6.4km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.11**	**308**	⇓Pn	Pn	21 26 18.9	-0.2
	9.7nm,0.4s						
DZET				⇑Sn	Sn	21 26 47.3	+1.1
	21nm,0.3s						
SFK	**Sufi-Kurgan**	**3.20**	**38**	⇑Pn	Pn	21 26 34.7	+0.5
	0.9nm,0.2s						
SFK				⇑Sn	Sn	21 27 14.1	+0.8
	1.9nm,0.2s						
SFK				⇑Lg	Lg	21 27 24.6	
	13nm,0.5s						
KK31	**Karatay Array**	**5.60**	**357**	Pn	Pn	21 27 07.2	+0.3
	1.1nm,0.3s,baz=174,slow=12,SNR=124						
KK31				⇑Sn	Sn	21 28 12.7	+0.8
	1.1nm,0.5s,baz=106,slow=46,SNR=4.4						
**AB31

GSI				S	Sb	21 44 26.1	-1.6
TSI	**Tuntungan**	**3.00**	**65**	P	Pn	21 44 14.5	-0.1
TSI				S	Sn	21 44 49.7	-0.1
PSI	**Prapat**	**3.13**	**79**	Pn	Pn	21 44 16.6	0.0
	1.0nm,0.3s,baz=264,slow=10,SNR=6.1						
PSI				Sn	Sn	21 44 53.3	+0.1
	1.6nm,0.3s,baz=293,slow=11,SNR=4.2						
LHMI	**Lhok Sumawe**	**3.18**	**20**	P	Pn	21 44 15.9	-1.3
LHMI				S	Sn	21 44 54.2	-0.1
PBSI	**Pulau Batu**	**3.33**	**133**	P	Pn	21 44 18.5	-0.7
PBSI				S	Sn	21 44 57.9	0.0
MNSI	**Mandailing Nat**	**3.99**	**111**	P	Pn	21 44 27.6	-0.8
SISI	**Saibi**	**4.79**	**137**	P	Pn	21 44 38.1	-1.3
SISI				S	Sn	21 45 33.4	-0.7
CMAR	**Chiang Mai Arr**	**16.41**	**10**	Pn	Pn	21 47 17.6	0.0
	0.1nm,0.3s,baz=200,slow=12,SNR=9.3						
H08S2	**Diego Garcia H**	**25.28**	**247**	T	T	22 15 34.0	
	baz=68,slow=75,SNR=36						
H08S3	**Diego Garcia H**	**25.28**	**247**	T	T	22 15 30.9	
	baz=68,slow=75,SNR=36						
H08S1	**Diego Garcia H**	**25.29**	**247**	T	T	22 15 29.3	
	baz=68,slow=75,SNR=30						
H01W3	**Cape Leeuwin H**	**40.71**	**157**	T	T	22 34 28.2	
	baz=333,slow=76,SNR=15						
H01W2	**Cape Leeuwin H**	**40.72**	**157**	T	T	22 34 30.6	
	baz=333,slow=76,SNR=15						
H01W1	**Cape Leeuwin H**	**40.72**	**157**	T	T	22 34 30.9	
	baz=333,slow=76,SNR=13						
WRA	**Warramunga Arr**	**43.72**	**122**	P	**P**	**21 51 34.7**	**+2.4**
	0.4nm,0.7s,baz=300,slow=9.4,SNR=2.9						
SONM	**Songino Array**	**46.34**	**10**	P	**P**	**21 51 52.9**	**+0.1**
	1.1nm,0.8s,baz=189,slow=9.0,SNR=8.2						
ZALV	**Zalesovo Beam**	**52.35**	**352**	P	**P**	**21 52 37.9**	**-0.5**
	2.0nm,0.7s,baz=183,slow=5.6,SNR=10						

*ISCJB **29** 21:46:23.1±0.5,48°.29N±0'.06×154°.46E±0'.10,h51km, mb3.8/18,MS3.0/1,Error ellipse: s-maj=12.7km s-min=3.6km az=44.7*
*MOS **29** 21:46:24.0±1.5,48°.39N×154°.43E,h61km,mb4.1/9,Error ellipse: s-maj=15.3km s-min=5.5km az=68.5*
*SKHL **29** 21:46:24.0±0.2,48°.34N×154°.62E,h56km±4km,mb4.6/3*
*KRSC **29** 21:46:25.9±1.6,48°.16N×156°.05E,h61km±25km,ML4.2*
*IDC **29** 21:46:26.5±2.6,48°.29N×154°.36E,h70km±23km,mb3.5/16, mb1 3.8/20,mb1mx3.6/42,mbtmp3.9/20,MS2.8/3, Ms1 2.9/3,ms1mx2.6/34,Error ellipse: s-maj=19.8km s-min=12.4km az=139.0*

ISC 29 21:46:24.3±0.6,48°.27N±0'.09×154°.54E±0'.09,h51km,n92, σ1§37/91,mb3.9/18,2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.62**	**22**	*e*P	**Pn**	**21 47 06.6**	**+2.4**
SKR	**Severo-Kuril's**	**2.62**	**22**	*e*PN	Pn	21 46 58.5	-5.7
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR	**Severo-Kuril's**	**2.62**	**22**	*e*P	Pn	21 46 58.5	-5.7
SKR				AMB	AMB	21 46 59.7	
	comp=Z,80nm,0.5s						
SKR				*e*rx	rx	21 47 04.2	
SKR				*e*S	Sn	21 47 24.6	-10
SKR				A	A	21 47 37.0	
	comp=Z,280nm,0.7s						
SKR				A	A	21 47 37.0	
	comp=Z,190nm,0.7s						
PAU	**Pauzhetka**	**3.52**	**24**	*e*P	**Pn**	**21 47 18.3**	**+1.9**
PAU				*e*S	**Sn**	**21 47 58.3**	**+1.5**
PAU	**Pauzhetka**	**3.52**	**24**	PN	**Pn**	**21 47 18.3**	**+1.9**
PAU				S	**Sn**	**21 47 58.3**	**+1.5**
PAU	**Pauzhetka**	**3.52**	**24**	*e*P	**Pn**	**21 47 18.3**	**+1.9**
MIPR	**Malaya Ipel'ka**	**4.25**	**19**	*e*P	Pn	21 47 30.0	+3.5
ASAK	**Asacha**	**4.64**	**26**	*e*P	**Pn**	**21 47 33.8**	**+1.8**
RUS	**Russkaya**	**4.88**	**30**	*e*P	**Pn**	**21 47 34.7**	**-0.4**
RUS				*e*S	**Sn**	**21 48 27.1**	**-3.1**
RUS	**Russkaya**	**4.88**	**30**	PN	**Pn**	**21 47 34.7**	**-0.4**
RUS				S	**Sn**	**21 48 27.1**	**-3.1**
PETK	**Petropavlovsk-**	**5.24**	**21**	P	**Pn**	**21 47 41.5**	**+1.4**
	comp=Z,2.1nm,0.3s,baz=185,slow=14,SNR=23						
PETK				LR	LR	21 49 55.7	
	comp=Z,80nm,20.8s,baz=151,slow=40						
PETK	**Petropavlovsk-**	**5.24**	**21**	PN	**Pn**	**21 47 41.5**	**+1.4**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,80nm,20.8s						
PET	**Petropavlovsk**	**5.43**	**27**	*e*PN	**Pn**	**21 47 42.9**	**+0.3**
PET	**Petropavlovsk**	**5.43**	**27**	*e*P	**Pn**	**21 47 41.5**	**-1.1**
PET				*e*S	**Sn**	**21 48 44.8**	**+1.1**
PET				A	A	21 49 05.8	
	comp=Z,80nm,1.0s						
KUR	**Kuril'sk**	**5.50**	**239**	PN	Pn	21 47 47.9	+4.3
KUR				*e*S	**Sn**	**21 48 46.7**	**+1.2**
KUR				pmax	pmax		
	comp=N,47nm,0.1s						
KUR				pmax	pmax		
	comp=E,16nm,0.1s						
KUR				pmax	pmax		
	comp=Z,33nm,0.1s						
KUR				smax	smax		
	comp=N,51nm,0.6s						
KUR				smax	smax		
	comp=E,20nm,0.6s						
KUR	**Kuril'sk**	**5.50**	**239**	*e*P	**Pn**	**21 47 45.8**	**+2.2**
KUR				AMB	AMB	21 47 52.5	
	comp=E,110nm,0.8s						
KUR				AMB	AMB	21 47 57.9	
	comp=E,47nm,0.1s						
KUR				AMB	AMB	21 47 57.9	
	comp=E,16nm,0.1s						
KUR				AMB	AMB	21 47 57.9	
	comp=E,33nm,0.1s						
KUR				*e*S	**Sn**	**21 48 47.0**	**+1.5**
KUR				A	A	21 48 55.0	
	comp=E,220nm,0.6s						
KUR				A	A	21 48 55.0	
	comp=E,160nm,0.6s						
UGLR	**Uglovaya**	**5.64**	**27**	*e*P	**Pn**	**21 47 47.7**	**+2.1**
KOK	**Koryaka**	**5.66**	**26**	*e*P	**Pn**	**21 47 48.1**	**+2.3**
KOK	**Koryaka**	**5.66**	**26**	PN	**Pn**	**21 47 48.1**	**+2.3**
AVH	**Avacha**	**5.66**	**26**	*e*P	**Pn**	**21 47 48.0**	**+2.1**
AVH	**Avacha**	**5.66**	**26**	PN	**Pn**	**21 47 48.0**	**+2.1**
SMAR	**Somma**	**5.68**	**27**	*e*P	**Pn**	**21 47 47.7**	**+1.4**
SMAR	**Somma**	**5.68**	**27**	PN	**Pn**	**21 47 47.7**	**+1.4**
KRER	**Koryakskii**	**5.70**	**26**	*e*P	**Pn**	**21 47 48.5**	**+2.0**
SDLR	**Sedlovina**	**5.72**	**27**	*e*P	**Pn**	**21 47 47.2**	**+0.5**
SDLR	**Sedlovina**	**5.72**	**27**	PN	**Pn**	**21 47 47.2**	**+0.5**
KRX	**Arik**	**5.72**	**26**	*e*P	**Pn**	**21 47 48.3**	**+1.6**
GNL	**Ganaly**	**5.84**	**20**	*e*P	**Pn**	**21 47 50.6**	**+2.2**
GNL	**Ganaly**	**5.84**	**20**	PN	**Pn**	**21 47 50.6**	**+2.2**
SPN	**Mys Shipunski**	**5.96**	**34**	*e*P	**Pn**	**21 47 49.3**	**-0.5**
SPN	**Mys Shipunski**	**5.96**	**34**	PN	**Pn**	**21 47 49.3**	**-0.5**
SPN	**Mys Shipunski**	**5.96**	**34**	*e*P	**Pn**	**21 47 49.3**	**-0.5**
MKZ	**Mys Kozlova**	**7.73**	**33**	*e*P	**Pn**	**21 48 14.5**	**+0.4**
MKZ	**Mys Kozlova**	**7.73**	**33**	PN	**Pn**	**21 48 14.5**	**+0.4**
YSS	**Yuzh-Sakhalins**	**8.07**	**265**	PN	**Pn**	**21 48 20.0**	**+1.1**
YSS	**Yuzh-Sakhalins**	**8.07**	**265**	*e*P	**Pn**	**21 48 20.0**	**+1.1**
JKA	**Kamikawa-asahi**	**9.26**	**248**	*e*P	**Pn**	**21 48 37.0**	**+1.8**
ASAJ	**Asahikawa**	**9.27**	**248**	P	**Pn**	**21 48 37.0**	**+1.8**
	comp=E,1.0nm,0.3s,baz=69,slow=17,SNR=10						
ASAJ	**Asahikawa**	**9.27**	**248**	PN	**Pn**	**21 48 37.0**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**10.18**	**236**	*i* PN	**Pn**	**21 48 47.0**	**-0.7**
EKMR	**Ekimchan**	**14.49**	**297**	*e*P	**Pn**	**21 49 45.0**	**-1.3**
EKMR				AMB	AMB	21 49 56.5	
	comp=Z,3.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**16.11**	**264**	P	**Pn**	**21 50 07.6**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=67,slow=13,SNR=8.5						
MJA0	**Matsu Arr-Jizo**	**16.76**	**232**	*e*P	**P**	**21 50 17.2**	**+0.2**
MJAR	**Matsushiro Arr**	**16.78**	**232**	P	**P**	**21 50 17.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=29,slow=12,SNR=4.8						
MJAR				LR	LR	21 57 24.8	
	comp=Z,32nm,19.2s,baz=75,slow=40						
MJAR	**Matsushiro Arr**	**16.78**	**232**	P	**P**	**21 50 17.0**	**-0.2**
MJAR				MLR	MLR		
	comp=Z,32nm,19.2s						
KSRS	**Korea Array**	**22.20**	**251**	P	**P**	**21 51 15.8**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=44,slow=10.0,SNR=19						
KSRS	**Korea Array**	**22.20**	**251**	P	**P**	**21 51 15.8**	**-0.3**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TIK	**Tiksi**	**26.29**	**342**	*e*P	**P**	**21 51 53.8**	**-0.7**
TIXI	**Tiksi**	**26.30**	**342**	*e*P	**P**	**21 51 53.8**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.3s						
H11N2	**WAKE ISLAND Hy 30.18**	**156**		T	T	22 24 39.2	
	baz=342,slow=76,SNR=53						
H11N1	**WAKE ISLAND Hy 30.19**	**156**		T	T	22 24 42.9	
	baz=342,slow=76,SNR=48						
H11N3	**WAKE ISLAND Hy 30.19**	**156**		T	T	22 24 43.5	
	baz=342,slow=76,SNR=60						
H11S1	**WAKE ISLAND Hy 31.29**	**157**		T	T	22 25 28.6	
	baz=344,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy 31.30**	**157**		T	T	22 25 27.1	
	baz=344,slow=76,SNR=85						
H11S2	**WAKE ISLAND Hy 31.31**	**157**		T	T	22 25 27.5	
	baz=344,slow=76,SNR=95						
ILAR	**Eielson Array**	**34.76**	**40**	P	**P**	**21 53 10.0**	**+0.7**
	comp=Z,1.0nm,1.1s,baz=260,slow=10,SNR=9.0						
ILAR	**Eielson Array**	**34.76**	**40**	*e*P	**P**	**21 53 10.0**	**+0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ZALV	**Zalesovo Beam**	**42.52**	**305**	P	**P**	**21 54 13.1**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=61,slow=7.7,SNR=3.7						
ZALV				PcP	**PcP**	**21 56 06.0**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=70,slow=1.7,SNR=4.5						
RES	**Resolute Bay**	**49.08**	**19**	P	**P**	**21 55 06.1**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=324,slow=8.7,SNR=3.4						
RES	**Resolute Bay**	**49.08**	**19**	P	**P**	**21 55 06.1**	**+0.3**
RES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YKA	**Yellowknife Ar**	**49.13**	**38**	P	**P**	**21 55 07.8**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=296,slow=7.5,SNR=3.0						
YKA	**Yellowknife Ar**	**49.13**	**38**	P	**P**	**21 55 07.8**	**+1.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**53.67**	**256**	P	**P**	**21 55 40.0**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=34,slow=7.7,SNR=4.6						
CMAR	**Chiang Mai Arr**	**53.67**	**256**	*e*P	**P**	**21 55 42.8**	**+1.9**
CMAR	**Chiang Mai Arr**	**53.67**	**256**	*e*P	**P**	**21 55 42.8**	**+1.9**
ARU	**Arti**	**54.55**	**317**	P	**P**	**21 55 44.5**	**-2.3**
ARU	**Arti**	**54.55**	**317**	*e*P	**P**	**21 55 44.5**	**-2.3**
NVAR	**Mina Array Bea**	**60.88**	**64**	P	**P**	**21 56 31.7**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=286,slow=7.0,SNR=5.3						
FINES	**FINESS Array B**	**63.07**	**335**	P	**P**	**21 56 44.5**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=40,slow=7.8,SNR=12						
FINES	**FINESS Array B**	**63.07**	**335**	*e*P	**P**	**21 56 45.7**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**63.07**	**335**	*e*P	**P**	**21 56 45.7**	**-0.1**
PDAR	**Pinedale Array**	**63.08**	**55**	P	**P**	**21 56 47.5**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=338,slow=3.5,SNR=7.3						
NOA	**NORSAR Array B**	**67.09**	**342**	P	**P**	**21 57 12.3**	**+0.4**
	comp=Z,0.4nm,0.9s,baz=28,slow=5.9,SNR=3.1						
NOA				LR	LR	22 33 03.8	
	comp=Z,9.5nm,18.3s,baz=110,slow=42						
WRA	**Warramunga Arr**	**70.27**	**200**	P	**P**	**21 57 31.2**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=15,slow=6.4,SNR=3.9						
WRA	**Warramunga Arr**	**70.27**	**200**	P	**P**	**21 57 31.2**	**-0.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**70.81**	**327**	P	**P**	**21 57 34.3**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=32,slow=6.3,SNR=2.7						
AKASG	**Malin Array Be**	**70.81**	**327**	P	**P**	**21 57 34.3**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**73.96**	**200**	P	**P**	**21 57 54.2**	**0.0**
	comp=Z,0.3nm,0.7s,baz=311,slow=38,SNR=3.1						
DPC	**Dobruska-Polom**	**75.39**	**334**	*e*P	**P**	**21 58 00.4**	**-1.9**
DPC	**Dobruska-Polom**	**75.39**	**334**	*e*P	**P**	**21 58 00.4**	**-1.9**
CLL	**Collm**	**75.47**	**336**	*i*P	**P**	**21 58 02.4**	**-0.2**
	comp=Z,3.0nm,0.6s						
CLL				*e*sP	**sP**	**21 58 22.0**	**-0.9**
CLL	**Collm**	**75.47**	**336**	*i*P	**P**	**21 58 02.4**	**-0.2**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CLL	**Collm**	**75.47**	**336**	*e*P	**P**	**21 58 02.4**	**-0.2**
TXAR	**Lajitas Array**	**75.91**	**62**	P	**P**	**21 58 06.5**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=305,slow=4.7,SNR=13						
TXAR	**Lajitas Array**	**75.91**	**62**	P	**P**	**21 58 06.6**	**+0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KHC	**Kasperske Hory**	**77.28**	**335**	*e*P	**P**	**21 58 11.7**	**-1.3**
KHC				*ex*	x	21 58 13.2	
KHC	**Kasperske Hory**	**77.28**	**335**	*e*P	**P**	**21 58 11.7**	**-1.3**
KHC	**Kasperske Hory**	**77.28**	**335**	*e*P	**P**	**21 58 11.7**	**-1.3**
GERES	**GERESS Array B**	**77.50**	**335**	P	**P**	**21 58 14.3**	**0.0**
	comp=Z,1.1nm,0.6s,baz=30,slow=6.2,SNR=11						
GERES	**GERESS Array B**	**77.50**	**335**	*e*P	**P**	**21 58 14.3**	**0.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**77.94**	**317**	P	**P**	**21 58 16.9**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=75,slow=3.8,SNR=8.5						
BRTR	**Keskin Array B**	**77.94**	**317**	*e*P	**P**	**21 58 16.8**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*ISCJB **29** 22:01:14.7±0.7,18°.15N±0'.08×94°.63E±0'.06,h33km, mb3.8/12,Error ellipse: s-maj=12.0km s-min=6.9km az=27.6*
*IDC **29** 22:01:20.7±4.4,18°.26N×94°.85E,h68km±40km,mb3.5/12, mb1 3.7/13,mb1mx3.5/27,mbtmp3.8/13,ML4.4/1,MS2.5/1, Ms1 2.7/1,ms1mx2.3/36,Error ellipse: s-maj=33.9km s-min=20.8km az=43.0*

ISC 29 22:01:17.0±0.8,18°.2N±0'.1×94°.65E±0'.08,h35km,n26, σ1§19/29,mb3.8/12,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**4.09**	**85**	P	**Pn**	**22 02 18.9**	**+1.7**
	6.8nm,0.3s,baz=265,slow=14,SNR=38						
CMAR				S	**Sn**	**22 03 02.4**	**-1.5**
	6.3nm,0.3s,baz=267,slow=18,SNR=8.4						
CMAR				LR	LR	22 03 59.5	
	comp=Z,55nm,18.4s,baz=205,slow=41						
IMP	**Imphal**	**6.63**	**354**	*e*P	**Pn**	**22 02 53.5**	**+1.4**
IMP				*e*S	**Sn**	**22 04 09.0**	**+2.4**
SHL	**Shillong**	**7.81**	**341**	*e*PN	**Pn**	**22 03 09.0**	**+0.6**
SHL				*e*SN	**Sn**	**22 04 32.0**	**-3.8**
ODAN	**Odare**	**10.96**	**324**	*e*P	**Pn**	**22 03 51.4**	**-0.1**
	10nm,0.2s						
TAPN	**Taplejung**	**11.17**	**326**	*e*P	**Pn**	**22 03 54.7**	**+0.2**
RAMN	**Ramite**	**11.48**	**321**	*e*P	**Pn**	**22 03 58.6**	**-0.2**
GUN	**Gumba**	**12.62**	**322**	*e*P	**Pn**	**22 04 13.9**	**-0.6**
PKI	**Pulchoki**	**12.66**	**319**	*e*P	**Pn**	**22 04 14.3**	**-0.6**
	9.0nm,0.3s						
PKIN	**Phulchoki**	**12.67**	**319**	*e*P	**Pn**	**22 04 15.1**	**+0.1**
	8.7nm,0.3s						
DMN	**Daman**	**12.88**	**319**	*e*P	**Pn**	**22 04 17.9**	**+0.1**
	4.4nm,0.2s						
KKN	**Kakani**	**12.89**	**320**	*e*P	**Pn**	**22 04 18.2**	**+0.1**
	3.1nm,0.2s						
GKN	**Gorkha**	**13.45**	**319**	*e*P	**Pn**	**22 04 24.6**	**-0.9**
	17nm,0.3s						
KOLN	**Koldanda**	**13.96**	**315**	*e*P	**Pn**	**22 04 31.7**	**-0.9**
	7.4nm,0.3s						
SONM	**Songino Array**	**31.13**	**15**	P	**P**	**22 07 32.8**	**+0.4**
	0.4nm,0.3s,baz=198,slow=7.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**36.53**	**350**	P	**P**	**22 08 18.8**	**-0.3**
	2.3nm,0.6s,baz=174,slow=8.5,SNR=15						
GEYT	**Alibeck**	**37.47**	**309**	P	**P**	**22 08 29.2**	**+1.9**
	1.3nm,0.6s,baz=146,slow=3.4,SNR=5.7						
BRTR	**Keskin Array B**	**56.46**	**306**	P	**P**	**22 10 55.7**	**0.0**
	0.1nm,0.4s,baz=119,slow=8.4,SNR=4.3						
ASAR	**Alice Springs**	**56.53**	**136**	P	**P**	**22 10 56.6**	**+0.4**
	0.8nm,0.7s,baz=325,slow=7.9,SNR=5.5						
FINES	**FINESS Array B**	**63.99**	**330**	P	**P**	**22 11 46.6**	**-0.1**
	1.2nm,0.5s,baz=112,slow=4.9,SNR=16						
ARCES	**ARCESS Array B**	**65.86**	**339**	P	**P**	**22 11 58.4**	**-0.3**
	1.0nm,0.7s,baz=103,slow=6.6,SNR=4.8						
GERES	**GERESS Array B**	**70.65**	**316**	P	**P**	**22 12 29.5**	**+0.3**
	0.5nm,0.5s,baz=72,slow=4.6,SNR=6.0						
NB2	**NORSAR Subarra**	**71.13**	**329**	P	**P**	**22 12 31.1**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=87,slow=6.2						
NOA	**NORSAR Array B**	**71.13**	**329**	P	**P**	**22 12 31.2**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=87,slow=6.0,SNR=6.3						
ESDC	**Sonseca Array**	**85.01**	**310**	P	**P**	**22 13 49.2**	**0.0**
	comp=Z,0.3nm,0.6s,baz=64,slow=5.9,SNR=3.9						
ILAR	**Eielson Array**	**85.10**	**22**	P	**P**	**22 13 47.7**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=294,slow=4.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**88.72**	**283**	P	**P**	**22 14 07.8**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=46,slow=4.2,SNR=2.2						

IDC 29 22:03:58.8±44.0,12°.49S×168°.27E,h0km,mb4.6/3, mb1 4.8/3,mb1mx3.8/38,mbtmp4.6/3,Error ellipse: s-maj=744.6km s-min=104.1km az=63.0,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**31.20**	**227**	P	P	22 10 19.8	-0.1
	1.9nm,0.5s,baz=51,slow=7.9,SNR=14						
WRA	**Warramunga Arr**	**33.36**	**253**	P	P	22 10 39.4	+0.3
	4.7nm,0.4s,baz=84,slow=8.7,SNR=116						
ASAR	**Alice Springs**	**34.42**	**246**	P	P	22 10 47.9	-0.4
	5.7nm,0.5s,baz=73,slow=9.6,SNR=71						

*IDC **29** 22:07:42.7±2.0,2°.36N×95°.95E,h0km,mb3.7/4,mb1 3.7/6, mb1mx3.4/43,mbtmp3.6/6,ML3.5/2,Error ellipse: s-maj=48.6km s-min=23.4km az=42.0*

ISC 29 22:07:47.8±1.7,2°.6N±0'.2×96°.2E±0'.1,h25km,n12,σ0§81/7, mb3.7/4,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.74**	**85**	Pn	**Pn**	**22 08 31.3**	**+1.0**
	1.7nm,0.3s,baz=260,slow=10,SNR=9.5						
PSI				Sn	**Sb**	**22 09 08.7**	**-0.7**
	3.3nm,0.3s,baz=336,slow=20,SNR=4.9						
CMAR	**Chiang Mai Arr**	**16.02**	**10**	Pn	**P**	**22 11 34.1**	**-0.6**
	0.1nm,0.3s,baz=200,slow=11,SNR=6.5						
H08S2	**Diego Garcia H**	**25.73**	**247**	T	T	22 39 46.7	
	baz=68,slow=76,SNR=31						
H08S3	**Diego Garcia H**	**25.73**	**247**	T	T	22 39 47.1	
	baz=68,slow=76,SNR=23						
H08S1	**Diego Garcia H**	**25.75**	**247**	T	T	22 39 48.9	
	baz=68,slow=76,SNR=24						
H01W3	**Cape Leeuwin H**	**40.89**	**157**	T	T	22 58 42.0	
	baz=333,slow=76,SNR=17						
H01W2	**Cape Leeuwin H**	**40.90**	**157**	T	T	22 58 46.5	
	baz=333,slow=76,SNR=15						
H01W1	**Cape Leeuwin H**	**40.91**	**157**	T	T	22 58 46.3	
	baz=333,slow=76,SNR=14						
WRA	**Warramunga Arr**	**43.62**	**123**	P	**P**	**22 15 50.0**	**-0.5**
	0.7nm,1.1s,baz=301,slow=9.5,SNR=3.4						
SONM	**Songino Array**	**45.94**	**10**	P	**P**	**22 16 09.3**	**+0.5**
	0.4nm,0.4s,baz=192,slow=8.3,SNR=4.3						
KURBB	**Kurchatov Arra**	**50.15**	**345**	P	**P**	**22 16 40.8**	**-0.3**
	0.5nm,0.7s,baz=164,slow=7.1,SNR=8.7						
ZALV	**Zalesovo Beam**	**52.06**	**352**	P	**P**	**22 16 55.3**	**0.0**
	1.0nm,0.4s,baz=185,slow=5.9,SNR=6.6						

*NIED **29** 22:39:00,24°.80N×122°.30E,h8km,Mw3.7 Best double couple: M0:4.61000×10^14 NP1:φs65.00000°,δ41.00000°, λ-113.00000°. NP2:φs274.00000°,δ53.00000°, λ-71.00000°.*
*IDC **29** 22:39:35.1±1.2,24°.45N×121°.38E,h0km,mb3.9/5, mb1 3.9/6,mb1mx3.5/39,mbtmp3.8/6,ML3.6/1,MS3.0/1, Ms1 3.0/1,ms1mx2.2/35,Error ellipse: s-maj=72.5km s-min=19.6km az=69.0*
*TAP **29** 22:39:36.3,24°.87N×122°.31E,h7km±1km,ML3.5,D*
*JMA **29** 22:39:36.0±0.4,24°.84N×122°.32E,h1km±4km,M3.5*

ISC 29 22:39:36.1±1.1,24°.87N±0'.03×122°.36E±0'.02,h10km±8km, n53,σ0§97/94,mb3.6/5,2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.36**	**293**	⇓*i*P	**Pb**	**22 39 43.7**	**-1.0**
	baz=296						
TWB1				*i* S	**Sg**	**22 39 48.2**	**0.0**
	baz=296						
EGS		**0.39**	**267**	P	**Pb**	**22 39 44.2**	**-0.9**
	baz=265						
EGS				S	**Sb**	**22 39 49.6**	**-1.4**
	baz=265						
TWC	**Suao**	**0.53**	**241**	⇓*i*P	**Pg**	**22 39 46.3**	**-0.1**
	baz=237						
TWC				*i* S	**Sb**	**22 39 54.8**	**-0.3**
	baz=237						
NWF	**Wu-fen Shan**	**0.56**	**292**	P	**Pb**	**22 39 47.8**	**-0.3**
	baz=293						
NWF				*i* S	**Sb**	**22 39 55.7**	**-0.5**
	baz=293						
ILA	**Ilan**	**0.56**	**260**	*e*P	**Pb**	**22 39 48.1**	**+0.1**
	baz=258						
ILA				*e*S	**Sb**	**22 39 56.4**	**+0.3**
	baz=258						
TWE	**Neicheng**	**0.64**	**257**	P	**Pb**	**22 39 48.7**	**-0.7**
	baz=255						
TWE				S	**Sb**	**22 39 58.0**	**-0.4**
	baz=255						
JYNG	**Yonagunijimaku**	**0.68**	**127**	P	**Pb**	**22 39 49.8**	**-0.1**
JYNG				S	**Sg**	**22 39 59.1**	**

EHY	**Hungye**	**1.65**	**215**	*e*P	**Pb**	**22 40 06.8**	**+0.2**
	baz=213								
EHY				*e*S	**Sg**	**22 40 29.3**	**+0.1**
	baz=213								
SMLT	**Sun Moon Lake**	**1.65**	**234**	*e*P	**Pg**	**22 40 06.9**	**-0.9**
	baz=232								
SMLT				*e*S	**Sg**	**22 40 30.1**	**+0.9**
	baz=232								
TYC	**Yuchr**	**1.67**	**235**	*e*P	**Pg**	**22 40 07.2**	**-1.0**
	baz=233								
TYC				*e*S	**Sg**	**22 40 28.6**	**-1.3**
	baz=233								
TCU	**Taichung**	**1.69**	**245**	*e*P	**Pg**	**22 40 10.2**	**+1.6**
	baz=244								
TCU				*e*S	**Sg**	**22 40 30.8**	**+0.3**
	baz=244								
JIJ	**Ishigaki jima**	**1.70**	**107**	P	**Pb**	**22 40 07.8**	**+0.4**
JIJ				*e*S	**Sn**	**22 40 28.4**	**+0.8**
TWF1	**Yuli**	**1.79**	**213**	*e*P	**Pn**	**22 40 06.9**	**-0.2**
	baz=211								
TWF1				*e*S	**Sb**	**22 40 31.4**	**-0.1**
	baz=211								
JISG	**Ishigakijimahi**	**1.80**	**98**	*e*S	**Sb**	**22 40 32.3**	**+0.6**
YUS	**Yu-Shan**	**1.88**	**223**	*e*P	**Pb**	**22 40 09.9**	**-0.8**
	baz=221								
YUS				*e*S	**Sg**	**22 40 36.0**	**-0.6**
	baz=221								
ALS	**Alishan**	**1.96**	**227**	*e*P	**Pb**	**22 40 11.6**	**-0.4**
	baz=225								
ALS				*e*S	**Sg**	**22 40 37.6**	**-1.5**
	baz=225								
CHN5	**Tsauling**	**1.99**	**231**	*e*P	**Pb**	**22 40 12.0**	**-0.4**
	baz=229								
CHN5				*e*S	**Sn**	**22 40 36.2**	**+1.4**
	baz=229								
CHN4	**Tsaushan**	**2.21**	**227**	*e*P	**Pb**	**22 40 15.3**	**-0.8**
	baz=226								
CHN4				*e*S	**Sb**	**22 40 44.0**	**+0.5**
	baz=226								
CHY	**Chiayi**	**2.23**	**233**	*e*S	**Sg**	**22 40 45.9**	**-1.9**
STYT	**Tauyuan**	**2.24**	**221**	*e*P	**Pb**	**22 40 15.6**	**-1.1**
	baz=219								
STYT				*e*S	**Sb**	**22 40 45.5**	**+1.1**
	baz=219								
WTP	**Ta-pu**	**2.27**	**225**	*e*P	**Pb**	**22 40 15.7**	**-1.4**
	baz=223								
WTP				*e*S	**Sb**	**22 40 44.8**	**-0.4**
	baz=223								
TWK	**Hsinying**	**2.33**	**227**	*e*P	**Pb**	**22 40 17.2**	**-1.1**
	baz=225								
CHN1	**Nanshi**	**2.37**	**225**	*e*P	**Pb**	**22 40 17.8**	**-1.0**
	baz=224								
CHN1				*e*S	**Sb**	**22 40 47.7**	**-0.4**
	baz=224								
SGST	**Jiashian**	**2.41**	**223**	*e*P	**Pn**	**22 40 17.1**	**+1.6**
	baz=221								
SGST				*e*S	**Sb**	**22 40 47.7**	**-1.5**
	baz=221								
KSRS	**Korea Array**	**13.42**	**19**	Pn	**P**	**22 42 56.1**	**+0.1**
	0.3nm,0.3s,baz=196,slow=11,SNR=6.7								
USRK	**Ussuriysk Ar.**	**20.83**	**20**	LR	LR	22 53 02.6	
	comp=Z,40nm,19.4s,baz=85,slow=38								
SONM	**Songino Array**	**26.18**	**335**	P	**P**	**22 45 11.6**	**+0.8**
	1.0nm,0.8s,baz=152,slow=9.4,SNR=7.1								
ZALV	**Zalesovo Beam**	**40.27**	**326**	P	**P**	**22 47 12.0**	**-1.0**
	0.5nm,0.4s,baz=114,slow=6.5,SNR=3.1								
KURBB	**Kurchatov Arra**	**42.29**	**319**	P	**P**	**22 47 28.4**	**-1.3**
	2.2nm,0.2s,baz=120,slow=6.9,SNR=5.2								
WRA	**Warramunga Arr**	**46.04**	**164**	P	**P**	**22 47 59.1**	**-1.0**
	1.5nm,0.9s,baz=343,slow=8.7,SNR=5.0								
ASAR	**Alice Springs**	**49.52**	**166**	P	**P**	**22 48 26.6**	**-0.5**
	0.3nm,0.6s,baz=147,slow=46,SNR=3.0								

NNC 29 22:52:09.2±4.1, 37°.14N×71°.27E, h0km, mb3.7, mpv3.5, 3C-2D, Error ellipse: s-maj=36.0km s-min=13.2km az=171.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.55**	**311**	⇑Pn	Pn	22 52 51.9	0.0
	18nm,0.3s						
DZET				⇓Sn	Sn	22 53 25.1	+1.3
	29nm,0.3s						
SFK	**Sufi-Kurgan**	**3.36**	**31**	⇑Pn	Pn	22 53 03.6	+0.4
	4.4nm,0.4s						
SFK				⇑Sn	Sn	22 53 45.4	+1.3
	11nm,0.2s						
KK31	**Karatay Array**	**5.98**	**355**	Pn	Pn	22 53 38.0	-1.1
	0.9nm,0.3s,baz=173,slow=12,SNR=56						
KK31				Sn	Sn	22 54 48.2	-0.1
	1.4nm,0.3s,baz=190,slow=14,SNR=12						
AB31	**Akbulak array**	**14.64**	**329**	⇓P	Pn	22 55 31.8	-5.6
	0.3nm,0.5s						

IDC ***29*** *22:57:32.8±0.7, 2°.08N×96°.69E, h0km, mb4.1/17, mb1 4.2/19, mb1mx4.0/41, mbtmp4.1/19, ML3.7/2, MS3.8/18, Ms1 3.8/18, ms1mx3.6/32, Error ellipse: s-maj=20.8km s-min=14.3km az=37.0*

BJI ***29*** *22:57:33.1, 1°.81N×96°.81E, h28km, mb4.7/19, mB4.7/17, Ms4.3/10, Ms7 4.0/9*

MOS ***29*** *22:57:36.2±0.9, 2°.07N×96°.78E, h33km, mb4.7/15, Error ellipse: s-maj=12.5km s-min=7.6km az=99.9*

NEIC ***29*** *22:57:38.9±0.9, 2°.07N×96°.76E, h42km±8km, mb4.5/11, Error ellipse: s-maj=10.6km s-min=5.7km az=63.0*

DJA ***29*** *22:57:40.0±0.4, 2°.N±2°×9°.7E±°, h60km±6km, M4.7/18, mb4.6/13, mB5.5/4, MLv4.7/18, Mw(mB)5.0/4*

ISC 29 22:57:37.0±0.6, 2°.09N±0°.03×96°.81E±0°.05, h25km±4km, n127, σ1§22/128, mb4.4/36, MS3.9/16, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.10**	**136**	P	**Pn**	**22 57 56.9**	**+0.1**
GSI				S	**Sb**	**22 58 11.9**	**+0.6**
GSI	**Gunungsitoli**	**1.10**	**136**	*e*Pn	**Pb**	**22 57 58.0**	**+0.7**
GSI				*e*Sn	**Sn**	**22 58 10.3**	**-0.9**
PSI	**Prapat**	**2.23**	**72**	Pn	**Pn**	**22 58 14.2**	**+1.7**
	6.6nm,0.3s,baz=168,slow=21,SNR=46						
PSI				Sn	**Sb**	**22 58 43.7**	**-0.2**
	26nm,0.3s,baz=324,slow=19,SNR=11						
PSI				LR	LR	22 59 04.8	
	comp=Z,1μm,21.6s,baz=294,slow=40						
TSI	**Tuntungan**	**2.25**	**51**	P	**Pb**	**22 58 15.6**	**-1.3**
TSI				S	**Sb**	**22 58 44.1**	**-0.1**
PBSI	**Pulau Batu**	**2.59**	**145**	P	**Pn**	**22 58 17.4**	**+0.1**
PBSI				S	**Sn**	**22 58 47.4**	**-0.7**
MNSI	**Mandailing Nat**	**3.06**	**115**	P	**Pn**	**22 58 24.7**	**+1.0**
MNSI				S	**Sn**	**22 58 59.0**	**-0.6**
LHMI	**Lhok Sumawe**	**3.12**	**3**	P	Pb	22 58 28.3	-3.5
LHMI				S	**Sb**	**22 59 08.2**	**-1.2**
LHMI	**Lhok Sumawe**	**3.12**	**3**	*e*Pn	**Pn**	**22 58 25.8**	**+1.3**
LHMI				*e*Sn	**Sn**	**22 59 02.6**	**+1.6**
SISI	**Saibi**	**4.09**	**146**	P	**Pn**	**22 58 37.7**	**-0.3**
SISI				S	**Sn**	**22 59 24.2**	**-0.9**
BKNI	**Bangkinang**	**4.58**	**112**	P	**Pn**	**22 58 45.8**	**+1.1**
BKNI				S	**Sn**	**22 59 38.4**	**+1.2**
BKNI	**Bangkinang**	**4.58**	**112**	*e*Pn	**Pn**	**22 58 46.7**	**+2.0**
BKNI				*e*Sn	**Sn**	**22 59 37.8**	**+0.6**
IPM	**Ipoh**	**4.83**	**61**	*e*Pn	**Pn**	**22 58 50.8**	**+2.6**
IPM				*e*Sn	**Sn**	**22 59 38.4**	**-5.0**
KULM	**Kulim**	**4.98**	**50**	*e*Pn	**Pn**	**22 58 52.2**	**+2.0**
KULM				*e*Sn	**Sn**	**22 59 43.9**	**-3.1**
SDSI	**Sungai Dareh**	**5.51**	**123**	P	**Pn**	**22 58 58.4**	**+0.9**
	21nm,0.7s,24μm0.4nm						
SDSI				S	**Sn**	**23 00 01.4**	**+1.2**
	21nm,0.7s,24μm0.4nm						
PPSI	**Pulau Pagai**	**5.79**	**146**	P	**Pn**	**22 59 00.9**	**-0.4**
	132nm,0.9s,0.9nm						
MYKOM	**Kota Tinggi**	**7.05**	**92**	*e*Pn	**Pn**	**22 59 21.1**	**+2.5**
JMBI	**JAMBI**	**7.77**	**118**	P	**Pn**	**22 59 28.6**	**0.0**
	364nm,0.4s,1.9nm						
JMBI				S	**Sn**	**23 00 56.9**	**+1.0**
	364nm,0.4s,1.9nm						
MNAI	**Manna**	**8.88**	**136**	P	**Pn**	**22 59 42.8**	**-1.0**
	255nm,2.1s						
MNAI	**Manna**	**8.88**	**136**	*e*Pn	**Pn**	**22 59 43.6**	**-0.2**
LHSI	**Lahat**	**8.93**	**131**	P	**Pn**	**22 59 44.7**	**+0.3**
	41nm,0.6s						
MDSI	**Maura Dua**	**9.85**	**132**	P	**Pn**	**22 59 56.8**	**-0.3**
	26nm,0.9s						
KLSI		**10.40**	**130**	P	**Pn**	**23 00 03.2**	**-1.4**
	42nm,1.2s,9μm						

LEM	**Lembang**	**13.96**	**129**		LR	LR	23 07 33.6		
	comp=Z,336nm,19.2s,baz=291,slow=43								
SBUM	**Sibu**	**15.41**	**88**	*e*Pn	**P**	**23 01 15.1**	**-2.2**		
	17nm,1.1s								
CM31	**Chiang Mai Arr**	**16.40**	**7**	*e*Pn	**Pn**	**23 01 25.5**	**0.0**		
CMAR	**Chiang Mai Arr**	**16.40**	**7**	Pn	**Pn**	**23 01 25.5**	**0.0**		
	0.2nm,0.3s,baz=198,slow=11,SNR=38								
CMAR					LR	LR	23 08 01.5		
	comp=Z,397nm,20.7s,baz=204,slow=38								
CHTO	**Chiang Mai**	**16.75**	**7**	*e*P	**Pn**	**23 01 30.5**	**+0.5**		
CHTO					pmax	pmax			
	comp=Z,9.0nm,1.0s								
CHTO	**Chiang Mai**	**16.75**	**7**	*e*Pn	**Pn**	**23 01 30.5**	**+0.5**		
	comp=Z,8.6nm,1.0s								
PALK	**Pallekele**	**16.85**	**288**		LR	LR	23 07 19.3		
	comp=Z,352nm,20.4s,baz=106,slow=35								
KKM	**Kota Kinabalu**	**19.75**	**78**	*e*P	**Pn**	**23 02 07.4**	**+0.5**		
	comp=Z,16nm,0.8s								
SLVN	**Son La**	**20.34**	**19**	*e*P	Pn	23 02 12.8	-0.9		
	comp=Z,25nm,1.5s								
KMI	**Kunming**	**23.60**	**14**	P	**P**	**23 02 47.0**	**+0.7**		
KMI				pP	**pP**	**23 02 54.5**	**+0.9**		
KMI				sP	**sP**	**23 02 57.8**	**+1.0**		
KMI				S	**S**	**23 07 04.3**	**+4.8**		
KMI				sS	Sn	23 07 17.0	-3.8		
KMI				PMZ					
	comp=Z,11nm,1.4s								
KMI				PMZ					
	comp=Z,66nm,4.4s								
KMI				LN					
	comp=Z,140nm,17.0s								
KMI				LE					
	comp=Z,400nm,18.2s								
KMI				LZ					
	comp=Z,350nm,14.0s								
SHL	**Shillong**	**23.81**	**349**	*ex*	**P**	**23 02 48.5**	**+0.2**		
BOK	**Bokaro**	**24.02**	**335**	*e*P	**P**	**23 02 49.5**	**-0.6**		
H08S2	**Diego Garcia H**	**26.11**	**248**	T	T	23 29 55.9			
	baz=69,slow=75,SNR=1802								
H08S3	**Diego Garcia H**	**26.11**	**248**	T	T	23 29 52.5			
	baz=69,slow=75,SNR=1344								
H08S1	**Diego Garcia H**	**26.13**	**248**	T	T	23 29 53.8			
	baz=69,slow=75,SNR=1410								
ODAN	**Odare**	**26.23**	**341**	*e*P	**P**	**23 03 10.7**	**+0.3**		
TAPN	**Taplejung**	**26.58**	**342**	*e*P	**P**	**23 03 14.5**	**+0.9**		
PKI	**Pulchoki**	**27.58**	**338**	*e*P	**P**	**23 03 22.9**	**+0.3**		
GUN	**Gumba**	**27.72**	**339**	*e*P	**P**	**23 03 24.6**	**+0.7**		
	comp=Z,17nm,0.5s								
DMN	**Daman**	**27.73**	**337**	*e*P	**P**	**23 03 23.8**	**-0.1**		
	comp=Z,21nm,1.0s								
KKN	**Kakani**	**27.83**	**338**	*e*P	**P**	**23 03 24.8**	**+0.1**		
	comp=Z,12nm,0.7s								
LSA	**Lhasa**	**27.98**	**349**	P	**P**	**23 03 25.8**	**-0.5**		
LSA	**Lhasa**	**27.98**	**349**	*e*P	**P**	**23 03 27.2**	**+0.9**		
LSA				pmax	pmax				
	comp=Z,24nm,1.6s								
LSA	**Lhasa**	**27.98**	**349**	*e*P	**P**	**23 03 27.2**	**+0.9**		
	comp=Z,24nm,1.6s								
GKN	**Gorkha**	**28.27**	**337**	*e*P	**P**	**23 03 28.5**	**-0.1**		
KOLN	**Koldanda**	**28.49**	**335**	*e*P	**P**	**23 03 31.4**	**+0.8**		
	comp=Z,12nm,0.7s								
XAN	**Xi'an**	**33.74**	**18**	P	**P**	**23 04 15.5**	**-1.1**		
XAN				PMZ					
	comp=Z,7.0nm,1.3s								
XAN				PMZ					
	comp=Z,34nm,5.3s								
DHRM	**DHARAMSHALA**	**35.67**	**329**	*ex*	**P**	**23 04 33.6**	**+0.1**		
GTA	**Gaotai**	**37.24**	**4**	*e*P	**P**	**23 04 47.3**	**+0.6**		
GTA				pP	**pP**	**23 04 53.5**	**-0.9**		
GTA				sP	**sP**	**23 04 56.3**	**-1.2**		
GTA				PMZ					
	comp=Z,14nm,1.1s								
GTA				PMZ					
	comp=Z,94nm,5.7s								
GTA				LN					
	comp=Z,120nm,18.0s								
GTA				LE					
	comp=Z,130nm,19.0s								
H01W3	**Cape Leeuwin H**	**40.22**	**158**		T	T	23 47 53.6		
	baz=333,slow=76,SNR=24								
H01W2	**Cape Leeuwin H**	**40.23**	**158**		T	T	23 47 54.1		
	baz=333,slow=76,SNR=18								
H01W1	**Cape Leeuwin H**	**40.23**	**158**		T	T	23 47 49.2		
	baz=333,slow=76,SNR=22								
WRA	**Warramunga Ar**	**42.84**	**123**	P	**P**	**23 05 33.3**	**-0.1**		
	comp=Z,3.6nm,0.6s,baz=301,slow=9.2,SNR=30								
WRAB	**Tennant Creek**	**42.85**	**123**	*e*P	P	23 05 44.1	+11		
WRAB				pmax	pmax				
	comp=Z,18nm,1.4s								
AS12	**Alice Springs**	**44.25**	**128**	*e*P	**P**	**23 05 44.2**	**-0.5**		
ASAR	**Alice Springs**	**44.25**	**128**	P	**P**	**23 05 44.2**	**-0.5**		
	comp=Z,1.9nm,0.9s,baz=299,slow=8.0,SNR=14								
TKM2	**Tokmak 2**	**44.85**	**338**	*e*P	**P**	**23 05 51.1**	**+1.7**		
TKM2				pmax	pmax				
	comp=Z,20nm,1.5s								
TKM2	**Tokmak 2**	**44.85**	**338**	*e*P	**P**	**23 05 51.1**	**+1.7**		
	comp=Z,20nm,1.5s								
FRU	**Bishkek**	**45.15**	**337**	*e*P	**P**	**23 05 54.0**	**+2.4**		
KS15	**Wonju Array Si**	**45.31**	**35**	*e*P	**P**	**23 05 52.9**	**0.0**		
KSAR	**Wonju Array Be**	**45.31**	**35**	P	**P**	**23 05 52.9**	**0.0**		
KSAR	**Wonju Array Be**	**45.31**	**35**	P	**P**	**23 05 52.9**	**-0.2**		
KSRS	**Korea Array**	**45.35**	**35**	P	**P**	**23 05 52.9**	**-0.2**		
	comp=Z,3.7nm,0.8s,baz=224,slow=9.3,SNR=19								
KSRS					LR	LR	23 26 52.7		
	comp=Z,180nm,18.7s,baz=215,slow=39								
KSRS	**Korea Array**	**45.35**	**35**	P	**P**	**23 05 52.9**	**-0.2**		
KSRS				pmax	pmax				
	comp=Z,4.0nm,0.8s								
KSRS				MLR	MLR				
	comp=Z,181nm,18.7s								
MKAR	**Makanchi Array**	**46.28**	**346**	*e*P	**P**	**23 06 00.8**	**+0.3**		
MKAR	**Makanchi Array**	**46.28**	**346**	*e*P	**P**	**23 06 00.8**	**+0.3**		
SONA0	**Songino Array**	**46.31**	**9**	*e*P	**P**	**23 06 01.2**	**+0.4**		
SONM	**Songino Array**	**46.31**	**9**	P	**P**	**23 06 01.2**	**+0.4**		
	comp=Z,3.9nm,0.8s,baz=192,slow=8.8,SNR=22								
KKAR	**Karatay Array**	**47.09**	**334**	*e*P	**P**	**23 06 07.9**	**+1.1**		
KKAR	**Karatay Array**	**47.09**	**334**	*e*P	**P**	**23 06 07.9**	**+1.1**		
ZAK	**Zakamensk**	**48.43**	**6**	*e*P	**P**	**23 06 17.3**	**+0.1**		
ZAK				*e*		23 08 12.0			
ZAK				pmax	pmax				
	comp=Z,4.0nm,2.0s								
GUMO	**Guam**	**48.86**	**74**	LR	LR	23 26 46.2			
	comp=Z,66nm,20.7s,baz=209,slow=36								
GEYT	**Alibeck**	**50.28**	**320**	P	**P**	**23 06 32.2**	**+0.7**		
	comp=Z,1.2nm,0.7s,baz=141,slow=7.3,SNR=4.1								
KURBB	**Kurchatov Arra**	**50.77**	**345**	P	**P**	**23 06 33.1**	**-1.8**		
	comp=Z,1.3nm,0.4s,baz=160,slow=6.7,SNR=17								
KURK	**Kurchatov**	**50.83**	**345**	*e*P	**P**	**23 06 36.0**	**+0.6**		
KURK				pmax	pmax				
	comp=Z,19nm,1.4s								
KURK	**Kurchatov**	**50.83**	**345**	*e*P	**P**	**23 06 36.0**	**+0.6**		
	comp=Z,19nm,1.4s								
MAJO	**Matsushiro**	**51.30**	**43**	*e*P	**P**	**23 06 39.0**	**-0.2**		
MAJO				pmax	pmax				
	comp=Z,10.0nm,1.2s								
MAJO	**Matsushiro**	**51.30**	**43**	*e*P	**P**	**23 06 39.0**	**-0.2**		
	comp=Z,10nm,1.2s								
MJAR	**Matsushiro Art**	**51.30**	**43**	P	**P**	**23 06 39.0**	**-0.2**		
	comp=Z,0.7nm,0.4s,baz=221,slow=8.7,SNR=9.4								
MJAR					LR	LR	23 29 41.4		
	comp=Z,81nm,19.1s,baz=265,slow=38								
PMG	**Port Moresby**	**51.45**	**104**	*e*P	P	23 06 37.2	-3.4		
PMG	**Port Moresby**	**51.45**	**104**	*e*P	P	23 06 37.1	-3.4		
	comp=Z,138nm,1.1s								
USRK	**Ussuriysk Ar.**	**52.22**	**32**	P	**P**	**23 06 46.0**	**+0.1**		
	comp=Z,4.9nm,1.1s,baz=216,slow=6.1,SNR=11								
ZALV	**Zalesovo Beam**	**52.62**	**351**	P	**P**	**23 06 48.3**	**-0.3**		
	comp=Z,4.0nm,0.3s,baz=164,slow=5.9,SNR=39								
ZALV					LR	LR	23 32 14.6		
	comp=Z,66nm,20.2s,baz=250,slow=40								
ZAA1	**Zalesovo Array**	**52.62**	**351**	*e*P	**P**	**23 06 48.3**	**-0.3**		
NVS	**Novosibirsk**	**53.73**	**350**	*i* P	**P**	**23 06 55.8**	**-1.0**		
RAYN	**Ar Rayn**	**53.99**	**298**	*e*P	**P**	**23 07 00.2**	**+0.8**		
	comp=Z,4.2nm,0.9s								
STKA	**Stephens Creek**	**54.24**	**132**	P	**P**	**23 07 01.7**	**+0.7**		
	comp=Z,1.2nm,0.6s,baz=307,slow=7.7,SNR=2.9								
STKA					LR	LR	23 33 33.7		
	comp=Z,121nm,19.5s,baz=278,slow=40								
BRVK	**Borovoye**	**55.34**	**341**	*e*P	**P**	**23 07 06.4**	**-2.2**		
BRVK				pmax	pmax				
	comp=Z,3.0nm,1.4s								
BRVK	**Borovoye**	**55.34**	**341**	*e*P	**P**	**23 07 06.5**	**-2.1**		
	comp=Z,8.4nm,1.1s								
ABKAR	**Akbulak array**	**56.55**	**332**	*e*P	**P**	**23 07 17.2**	**-0.1**		
SVE	**Sverdlovsk**	**61.72**	**338**	*e*P	**P**	**23 07 53.8**	**+0.8**		
SVE				pmax	pmax				

	comp=Z,14nm,1.6s								
ARU	**Arti**	**62.21**	**337**	*d* iP	**P**	**23 07 55.2**	**-1.1**		
ARU				S	**S**	**23 16 16.8**	**-3.6**		
ARU				pmax	pmax				
	comp=Z,5.0nm,1.2s								
KIV	**Kislovodsk**	**63.38**	**319**	*e*P	**P**	**23 08 04.2**	**-0.2**		
KIV				pmax	pmax				
	comp=Z,8.0nm,1.1s								
KIV				MLR	MLR				
	comp=Z,32nm,17.0s								
BR101	**Keskin Array S**	**68.22**	**312**	*e*P	**P**	**23 08 33.6**	**-2.2**		
BRTR	**Keskin Array B**	**68.22**	**312**	P	**P**	**23 08 33.6**	**-2.2**		
	comp=Z,0.5nm,0.7s,baz=86,slow=6.2,SNR=4.3								
BRTR					LR	LR	23 41 09.4		
	comp=Z,19nm,18.8s,baz=98,slow=38								
BRTR	**Keskin Array B**	**68.22**	**312**	*c*e P	**P**	**23 08 36.2**	**+0.4**		
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
OBN	**Obninsk**	**71.66**	**328**	*i* P	**P**	**23 08 55.8**	**-0.6**		
OBN				pmax	pmax				
	comp=Z,6.0nm,1.2s								
OBN				MLR	MLR				
	comp=Z,75nm,23.0s								
TIXI	**Tiksi**	**72.38**	**10**	*i* P	**P**	**23 08 59.0**	**-1.4**		
TIXI				pmax	pmax				
	comp=Z,7.0nm,1.2s								
TIXI	**Tiksi**	**72.38**	**10**	*e*P	**P**	**23 08 59.9**	**-0.5**		
	comp=Z,3.6nm,0.8s								
SEY	**Seymchan**	**73.10**	**23**	*i* P	**P**	**23 09 04.4**	**-0.5**		
MAW	**Mawson**	**73.49**	**193**	LR	LR	23 36 12.1			
	comp=Z,89nm,18.6s,baz=62,slow=32								
AKASG	**Malin Array Be**	**74.31**	**322**	P	**P**	**23 09 11.4**	**-0.8**		
	comp=Z,0.8nm,0.6s,baz=84,slow=2.5,SNR=3.6								
AKBB	**Malin Array Si**	**74.31**	**322**	*e*P	**P**	**23 09 11.4**	**-0.8**		
AKBB	**Malin Array Si**	**74.31**	**322**	*e*P	**P**	**23 09 11.4**	**-0.8**		
KIEV	**Kiev**	**74.32**	**322**	*e*P	**P**	**23 09 13.2**	**+0.9**		
BOSA	**Boshof**	**74.88**	**240**	LR	LR	23 40 03.3			
	comp=Z,78nm,18.5s,baz=133,slow=34								
FIA0	**FINESS Array S**	**79.03**	**332**	*e*P	**P**	**23 09 38.2**	**-0.5**		
FIA0	**FINESS Array S**	**79.03**	**332**	*e*P	**P**	**23 09 38.2**	**-0.5**		
FINES	**FINESS Array B**	**79.03**	**332**	P	**P**	**23 09 38.2**	**-0.5**		
	comp=Z,1.5nm,0.6s,baz=110,slow=6.3,SNR=9.6								
FINES					LR	LR	23 48 00.4		
	comp=Z,68nm,21.6s,baz=112,slow=38								
FINES	**FINESS Array B**	**79.03**	**332**	*c*e P	**P**	**23 09 38.4**	**-0.3**		
FINES				pmax	pmax				
	comp=Z,2.0nm,0.6s								
BILL	**Bilibino**	**80.47**	**21**	*e*P	**P**	**23 09 45.9**	**-0.5**		
BILL				*i*		23 09 54.5			
BILL				*i*		23 12 46.5			
BILL				pmax	pmax				
	comp=Z,2.0nm,1.1s								
ARA0	**ARCESS Array S**	**81.57**	**340**	*e*P	**P**	**23 09 52.2**	**0.0**		
ARCES	**ARCESS Array B**	**81.57**	**340**	P	**P**	**23 09 52.2**	**0.0**		
	comp=Z,0.7nm,0.4s,baz=100,slow=4.8,SNR=18								
ARCES					LR	LR	23 49 00.9		
	comp=Z,86nm,21.2s,baz=110,slow=38								
GEC2	**GERESS Array S**	**83.89**	**319**	*e*P	**P**	**23 10 05.0**	**+0.2**		
GEC2	**GERESS Array S**	**83.89**	**319**	*e*P	**P**	**23 10 05.0**	**+0.2**		
GERES	**GERESS Array B**	**83.89**	**319**	P	**P**	**23 10 05.0**	**+0.2**		
	comp=Z,0.6nm,0.8s,baz=93,slow=8.0,SNR=6.0								
HFS	**Hagfors**	**84.75**	**330**	LR	LR	23 52 36.4			
	comp=Z,35nm,18.2s,baz=111,slow=39								
NB200	**NORSAR Array S**	**86.04**	**331**	*e*P	**P**	**23 10 15.8**	**+0.5**		
NOA	**NORSAR Array B**	**86.04**	**331**	P	**P**	**23 10 15.8**	**+0.5**		
	comp=Z,0.3nm,0.7s,baz=94,slow=4.9,SNR=2.9								
KEST	**Kesra**	**86.72**	**305**	LR	LR	23 51 48.6			
	comp=Z,13nm,20.6s,baz=294,slow=38								
TOA0	**Torodi Ar. Sit**	**94.50**	**283**	*e*P	**P**	**23 10 57.1**	**+1.1**		
TORD	**Torodi Ar. Bea**	**94.50**	**283**	P	**P**	**23 10 57.1**	**+1.1**		
	comp=Z,0.3nm,0.9s,baz=90,slow=2.9,SNR=2.6								
TORD					LR	LR	23 51 55.4		
	comp=Z,82nm,19.1s,baz=15,slow=35								
ILAR	**Eielson Array**	**99.03**	**23**	LR	LR	23 59 46.5			
	comp=Z,48nm,21.0s,baz=324,slow=38								
TXAR	**Lajitas Array**	**143.11**	**31**	PKP	PKPbc	23 17 07.1	+0.6		
	comp=Z,0.2nm,0.5s,baz=343,slow=2.8,SNR=3.5								
CPUP	**Villa Florida**	**145.39**	**224**	PKPbc	**PKPbc**	**23 17 12.4**	**-1.0**		
	comp=Z,0.7nm,0.5s,baz=119

	7.7nm,0.3s,baz=195,slow=22,SNR=42						
SIJI				S	**Sn**	23 50 53.5	-2.7
	1.8nm,0.3s,baz=270,slow=20,SNR=3.0						
SWI	**Sorong**	**7.45**	**28**	P	**Pn**	23 49 30.6	-1.2
	41nm,0.6s,2µm0.2nm						
SWI				S	**Sn**	23 50 57.4	+1.2
	41nm,0.6s,2µm0.2nm						
BASI	**Baing, Sumba**	**7.62**	**249**	S	Sn	23 50 53.7	-6.4
WSI	**Waingapu**	**7.71**	**253**	S	**Sn**	23 51 00.7	-1.6
BKSI	**Bulukumba**	**7.92**	**285**	S	**Sn**	23 51 05.9	-1.3
LUWI	**Luwuk**	**8.13**	**322**	P	**Pn**	23 49 39.7	-1.0
	38nm,0.9s						
WBSI	**Waikabubak, Su**	**8.57**	**255**	P	**Pn**	23 49 44.1	-2.3
	48nm,0.9s						
RKPI	**Ransiki, Papua**	**8.72**	**47**	P	**Pn**	23 49 48.6	+0.3
	64nm,0.7s						
RKPI				S	**Sn**	23 51 22.1	-4.2
	64nm,0.7s						
APSI	**Ampana**	**8.96**	**317**	P	**Pn**	23 49 51.5	0.0
	40nm,1.0s						
WRAB	**Tennant Creek**	**13.90**	**153**	*e*P	Pn	23 50 52.2	-2.3
	54nm,0.7s						
WRA	**Warramunga Arr**	**13.90**	**153**	P	Pn	23 50 50.7	-3.7
	5.8nm,0.3s,baz=323,slow=13,SNR=115						
WRA				S	S	23 53 18.3	-11
	3.3nm,0.3s,baz=327,slow=24,SNR=7.7						
DAV	**Davao City (W)**	**14.64**	**351**	*e*Pn	Pn	23 50 55.2	-8.4
	770nm,0.6s						
COEN	**Coen**	**16.42**	**114**	*e*Pn	**P**	23 51 25.2	+0.8
	12nm,0.6s						
COEN				*e*Sn	S	23 54 18.4	-7.8
ASAR	**Alice Springs**	**17.11**	**161**	P	**P**	23 51 33.7	+1.8
	13nm,0.3s,baz=337,slow=11,SNR=348						
ASAR				S	S	23 54 35.0	-4.9
	0.7nm,0.3s,baz=335,slow=15,SNR=5.4						
ASAR				ScP	**ScP**	23 59 24.8	+3.0
	0.4nm,0.3s,baz=359,slow=1.9,SNR=5.8						
KKM	**Kota Kinabalu**	**17.73**	**319**	*e*P	**P**	23 51 35.0	-3.8
	11nm,0.7s						
KSM	**Kuching**	**19.58**	**296**	*e*P	**P**	23 51 58.3	-0.4
	14nm,0.6s						
CTA	**Charters Tower**	**21.84**	**127**	P	**P**	23 52 24.1	+1.7
	18nm,0.9s,baz=311,slow=10,SNR=12						
STKA	**Stephens Creek**	**27.45**	**154**	P	**P**	23 53 14.9	+1.8
	4.7nm,0.5s,baz=324,slow=8.2,SNR=12						
TPUB	**Ta-pu**	**31.40**	**347**	*e*P	**P**	23 53 46.1	-2.0
	18nm,0.6s						
JOW	**Kunigami**	**34.13**	**1**	P	**P**	23 54 12.3	+0.6
	2.5nm,0.8s,baz=196,slow=7.4,SNR=6.4						
CMAR	**Chiang Mai Arr**	**38.41**	**313**	P	**P**	23 54 49.0	+0.9
	3.1nm,0.5s,baz=139,slow=7.0,SNR=15						
KSAR	**Wonju Array Be**	**44.71**	**0**	P	**P**	23 55 39.2	+0.3
KSRS	**Korea Array**	**44.72**	**0**	P	**P**	23 55 39.3	+0.3
	2.1nm,0.6s,baz=175,slow=10,SNR=16						
MJAR	**Matsushiro Arr**	**44.89**	**12**	P	**P**	23 55 39.5	-0.9
	0.7nm,0.4s,baz=185,slow=9.1,SNR=5.2						
LSA	**Lhasa**	**51.07**	**318**	*e*P	**P**	23 56 28.5	0.0
	6.4nm,0.6s						
USRK	**Ussuriysk Ar.**	**51.60**	**4**	P	**P**	23 56 31.5	0.0
	3.2nm,0.8s,baz=199,slow=8.5,SNR=7.5						
ODAN	**Odare**	**51.95**	**313**	*e*P	**P**	23 56 34.4	-0.4
	11nm,0.4s						
TAPN	**Taplejung**	**52.01**	**313**	*e*P	**P**	23 56 35.2	0.0
RAMN	**Ramite**	**52.58**	**312**	*e*P	**P**	23 56 39.5	+0.1
	30nm,0.5s						
GUN	**Gumba**	**53.65**	**313**	*e*P	**P**	23 56 47.2	-0.1
	21nm,0.6s						
PKI	**Pulchoki**	**53.81**	**312**	*e*P	**P**	23 56 47.7	-0.7
	8.2nm,0.5s						
DMN	**Daman**	**54.05**	**312**	*e*P	**P**	23 56 49.6	-0.5
GKN	**Gorkha**	**54.62**	**312**	*e*P	**P**	23 56 53.7	-0.3
	13nm,0.3s						
KOLN	**Koldanda**	**55.26**	**311**	*e*P	**P**	23 56 58.6	-0.1
	18nm,0.5s						
SONM	**Songino Array**	**58.25**	**343**	P	**P**	23 57 19.9	+0.6
	2.6nm,0.5s,baz=170,slow=7.3,SNR=27						
SONM				PcP	**PcP**	23 58 08.6	+0.3
	1.2nm,0.6s,baz=152,slow=3.4,SNR=5.3						
PETK	**Petropavlovsk-**	**65.50**	**19**	P	**P**	23 58 08.1	+0.8
	3.7nm,0.6s,baz=187,slow=5.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**71.08**	**335**	P	**P**	23 58 41.2	-0.7
	7.3nm,0.6s,baz=141,slow=5.8,SNR=38						
KURBB	**Kurchatov Arra**	**71.81**	**329**	P	**P**	23 58 46.4	+0.1
	5.6nm,0.4s,baz=132,slow=5.2,SNR=113						
KURK	**Kurchatov**	**71.82**	**330**	*e*P	**P**	23 58 45.9	-0.5
	9.4nm,0.3s						
VNDA	**Vanda**	**72.22**	**173**	P	**P**	23 58 50.5	+2.1
	0.3nm,0.4s,baz=318,slow=6.5,SNR=6.4						
BVAR	**Borovoye Array**	**77.33**	**329**	P	**P**	23 59 17.9	-0.2
	1.3nm,0.4s,baz=130,slow=7.8,SNR=13						
BRVK	**Borovoye**	**77.40**	**329**	*e*P	**P**	23 59 18.1	-0.3
	1.9nm,0.5s						
GEYT	**Allbeck**	**78.87**	**311**	P	**P**	23 59 27.2	+0.3
	1.8nm,0.6s,baz=157,slow=8.0,SNR=4.5						
ABKAR	**Akbulak array**	**81.55**	**322**	*e*P	**P**	23 59 40.0	-0.9
	0.9nm,0.4s						
AKTO	**Aktyubinsk**	**83.13**	**323**	P	**P**	23 59 49.0	-0.1
	2.0nm,0.6s,baz=102,slow=6.2,SNR=9.4						
ILAR	**Eielson Array**	**94.74**	**25**	P	**P**	00 00 43.4	-0.6
	0.2nm,0.5s,baz=254,slow=3.4,SNR=2.6						
ARCES	**ARCESS Array B 101.28 339**			P	**Pdif**	00 01 13.5	+0.2
	1.5nm,0.8s,baz=78,slow=4.7,SNR=3.8						
GERES	**GERESS Array B 111.39 320**			PKiKP	**PKiKP**	00 05 55.5	-0.6
	0.4nm,0.5s,baz=153,slow=1.1,SNR=4.8						
PDAR	**Pinedale Array**	**118.80**	**45**	PKP	**PKPdf**	00 06 11.5	+0.8
	0.4nm,0.7s,baz=91,slow=4.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**126.75**	**281**	PKP	**PKPdf**	00 06 26.8	+0.4
	1.9nm,0.6s,baz=73,slow=2.2,SNR=27						
DBIC	**Dimbokro**	**133.01**	**272**	PKP	**PKPdf**	00 06 40.0	+1.7
	1.4nm,0.5s,baz=111,slow=2.7,SNR=5.2						
CPUP	**Villa Florida**	**146.00**	**172**	PKPbc	**PKPab**	00 07 04.0	+0.6
	0.6nm,0.3s,baz=195,slow=1.9,SNR=3.3						
LPAZ	**La Paz**	**151.59**	**146**	PKPbc	**PKPbc**	00 07 19.8	+1.8
	1.5nm,0.5s,baz=58,slow=3.5,SNR=7.8						

PDA 29 23:51:03.7±1.0, 40.61N×29.35W, h10km, ML2.6, Error ellipse: s-maj=16.4km s-min=6.0km az=89.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**1.89**	**146**	*e*P	Pn	23 51 31.0	-5.1
PCED	**Cedros**	**2.04**	**166**	*e*S	Sn	23 51 56.1	-7.4
PCED				A	A	23 51 58.7	
	9.8nm,0.3s						
ROSA	**Rosais**	**2.07**	**155**	*e*P	Pn	23 51 33.7	-4.8
ROSA				*e*S	Sn	23 51 56.4	-8.0
ROSA				A	A	23 51 58.1	
	14nm,0.2s						
CALA	**Caldeira**	**2.08**	**166**	*e*P	Pn	23 51 34.6	-4.2
PMAN	**Manadas**	**2.20**	**153**	*e*P	Pn	23 51 35.2	-5.1
PMAN				*e*S	Sn	23 51 59.5	-8.0
PMAN				A	A	23 52 01.1	
	12nm,0.3s						
PICO	**Pico**	**2.22**	**161**	*e*P	Pn	23 51 36.1	-4.6
PCAN	**Candelaria**	**2.24**	**162**	*e*P	Pn	23 51 36.4	-4.5
PCAN				*e*S	Sn	23 52 01.0	-7.6
PCAN				A	A	23 52 03.6	
	13nm,0.4s						
PSET	**Sete Cidades**	**3.96**	**133**	*e*P	Pn	23 52 00.4	-4.1
BART	**Pico Bartolome**	**4.30**	**130**	*e*P	Pn	23 52 05.4	-3.9
PSMN	**Pico do Norte,**	**4.91**	**136**	*e*P	Pn	23 52 13.7	-3.9

PDA 29 23:51:15.2±1.0, 40.54N×29.33W, h10km, MD3.7, ML2.8, Error ellipse: s-maj=16.7km s-min=5.5km az=89.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.97**	**166**	*e*P	Pn	23 51 43.9	-4.7
PCED				*e*S	Sn	23 52 06.1	-7.2
PCED				A	A	23 52 07.8	
	22nm,0.2s						
ROSA	**Rosais**	**2.00**	**155**	*e*P	Pn	23 51 43.7	-5.4
ROSA				*e*S	Sn	23 52 06.3	-7.9
ROSA				A	A	23 52 07.8	
	12nm,0.2s						
CALA	**Caldeira**	**2.01**	**166**	*e*S	Sn	23 52 07.0	-7.6
PMAN	**Manadas**	**2.13**	**153**	*e*P	Pn	23 51 45.8	-5.0
PMAN				*e*S	Sn	23 52 09.3	-8.0
PMAN				A	A	23 52 11.2	
	13nm,0.2s						
PICO	**Pico**	**2.15**	**161**	*e*P	Pn	23 51 47.1	-4.1
PICO				*e*S	Sn	23 52 10.2	-7.8
PCAN	**Candelaria**	**2.17**	**162**	*e*P	Pn	23 51 47.0	-4.4
PCAN				*e*S	Sn	23 52 10.6	-7.8
PCAN				A	A	23 52 14.3	
	20nm,0.2s						
PSET	**Sete Cidades**	**3.90**	**133**	*e*P	Pn	23 52 11.4	-3.8
PSMA	**Santa Maria**	**4.83**	**136**	*e*P	Pn	23 52 23.6	-4.3
PSMN	**Pico do Norte,**	**4.85**	**135**	*e*P	Pn	23 52 24.3	-4.0

DJA 29 23:54:17.7±1.6, 3°S±19°×13°9E±°, h69km±50km, M3.9/3, MLv3.9/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.16**	**48**	P	Pn	23 54 38.7	+0.5
GENI				S	Sn	23 54 54.5	+1.0
SMPI	**Sarmi**	**1.50**	**337**	P	Pn	23 54 43.0	+0.3
SMPI				S	Sn	23 55 02.9	+1.3
JAY	**Jayapura**	**1.64**	**58**	P	Pn	23 54 44.7	+0.2
JAY				S	Sn	23 55 05.8	+1.0

WEL 30 00:01:18.9±0.1, 38°12S×177°69E, h2km, ML3.1/6, 9C-4D, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGZ	**Tauwhareparae**	**0.24**	**105**	⇓PG	Pg	00 01 23.1	-0.5
TWGZ				SG	Sg	00 01 26.9	+0.2
MWZ	**Matawai**	**0.25**	**210**	⇑PG	Pg	00 01 23.3	-0.6
MWZ				SG	Sg	00 01 27.8	+0.5
MWZ				AML	AML	00 01 27.8	
TKGZ	**Te Karaka**	**0.35**	**159**	⇑PG	Pg	00 01 25.6	+0.1
TKGZ				SG	Sg	00 01 31.8	+1.6
HAZ	**Te Kaha**	**0.37**	**12**	⇑PG	Pg	00 01 25.8	-0.1
HAZ				SG	Sg	00 01 31.8	+1.2
RAGZ	**Rawiri**	**0.44**	**209**	⇑PG	Pg	00 01 27.1	-0.3
RAGZ				SG	Sg	00 01 34.2	+1.0
PUZ	**Puketiti**	**0.45**	**85**	⇓PG	Pg	00 01 27.7	+0.1
PUZ				AML	AML	00 01 36.5	
PUZ				AML	AML	00 01 39.6	
URZ	**Urewera**	**0.48**	**252**	⇓PG	Pg	00 01 28.0	-0.1
URZ				AML	AML	00 01 37.6	
URZ				AML	AML	00 01 42.0	
CNGZ	**Carnagh Statio**	**0.55**	**132**	⇓PG	Pb	00 01 30.6	-0.7
RIGZ	**Rimuhau**	**0.59**	**174**	⇑P*	Pg	00 01 30.8	+0.4
WMGZ	**Waiomatatini S**	**0.65**	**63**	PG	Pg	00 01 32.0	+0.7
SNGZ	**Shannon Statio**	**0.72**	**202**	⇑P*	Pg	00 01 33.0	+0.2
MXZ	**Matakaoa Point**	**0.74**	**42**	⇑P*	Pg	00 01 33.5	+0.5
MXZ				AML	AML	00 01 46.7	
MXZ				AML	AML	00 01 47.4	
EDRZ	**Edgecumbe**	**0.75**	**270**	P*	Pg	00 01 33.6	+0.3
EDRZ				AML	AML	00 01 47.7	
EDRZ				AML	AML	00 01 54.7	
MARZ	**Manawahe**	**0.81**	**279**	P*	Pg	00 01 34.9	+0.4
PRGZ	**Paritu Road**	**0.82**	**169**	P*	Pb	00 01 35.7	-0.3
KNZ	**Kokohu**	**0.91**	**181**	P*	Pb	00 01 36.8	-0.5
RAHZ	**Arahi**	**0.93**	**210**	⇑P*	Pg	00 01 37.0	+0.2
TARZ	**Mount Tarawera**	**0.94**	**262**	⇑P*	Pg	00 01 37.5	+0.5
RRRZ	**Republican Roa**	**0.95**	**256**	P*	Pg	00 01 36.7	-0.5
WHHZ	**Waihua**	**1.02**	**200**	P*	Pb	00 01 39.4	0.0
HLRZ	**Highlands Stat**	**1.06**	**262**	P*	Pg	00 01 39.5	+0.2
HSRZ	**Hossack Road**	**1.15**	**260**	P*	Pg	00 01 41.3	+0.2
NMHZ	**Naumai**	**1.20**	**215**	P*	Pg	00 01 42.0	-0.1
ARHZ	**Aropaoanui**	**1.27**	**205**	P*	Pb	00 01 43.5	-0.1
BKZ	**Black Stump Fm**	**1.41**	**221**	PN	Pn	00 01 45.0	-0.6
BKZ				AML	AML	00 02 11.1	
BKZ				AML	AML	00 02 11.8	
KWHZ	**Kaweka Forest**	**1.64**	**217**	PN	Pn	00 01 46.6	-2.2

WEL 30 00:02:08.5±0.3, 38°11S×175°98E, h135km±4km, ML3.5/13, 7C-3D, Error ellipse: s-maj=4.3km s-min=3.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.90**	**100**	⇓PN	Pn	00 02 31.0	+0.1
URZ				SN	Sn	00 02 48.1	+0.2
BKZ	**Black Stump Fm**	**1.13**	**159**	PN	Pn	00 02 33.2	+0.1
BKZ				SN	Sn	00 02 51.1	-0.8
BKZ				AML	AML	00 02 52.0	
WPVZ	**Whakapapa**	**1.14**	**197**	PN	Pn	00 02 33.8	+0.4
NMHZ	**Naumai**	**1.18**	**147**	PN	Pn	00 02 34.6	+1.0
RAHZ	**Arahi**	**1.18**	**133**	PN	Pn	00 02 34.0	+0.4
RAHZ				SN	Sn	00 02 53.1	+0.3
MWZ	**Matawai**	**1.24**	**101**	PN	Pn	00 02 34.1	-0.1
SNGZ	**Shannon Statio**	**1.26**	**122**	PN	Pn	00 02 34.6	+0.3
KWHZ	**Kaweka Forest**	**1.35**	**165**	PN	Pn	00 02 35.7	+0.3
KWHZ				SN	Sn	00 02 55.9	-0.1
WHHZ	**Waihua**	**1.38**	**135**	PN	Pn	00 02 35.8	+0.3
BHHZ	**Black Hill Sta**	**1.38**	**177**	PN	Pn	00 02 35.4	-0.2
ARHZ	**Aropaoanui**	**1.40**	**146**	PN	Pn	00 02 35.8	0.0
MCHZ	**McNeill Hill**	**1.44**	**157**	PN	Pn	00 02 36.9	+0.6
HAZ	**Te Kaha**	**1.47**	**77**	PN	Pn	00 02 36.3	+0.3
TKGZ	**Te Karaka**	**1.50**	**103**	PN	Pn	00 02 36.9	-0.1
TKGZ				SN	Sn	00 02 58.8	+0.1
RIGZ	**Rimuhau**	**1.52**	**114**	PN	Pn	00 02 37.1	-0.1
KRHZ	**Kereru**	**1.56**	**169**	PN	Pn	00 02 37.3	-0.3
TWGZ	**Tauwhareparae**	**1.58**	**93**	PN	Pn	00 02 37.8	-0.1
KNZ	**Kokohu**	**1.61**	**125**	PN	Pn	00 02 37.5	-0.6
PRGZ	**Paritu Road**	**1.70**	**119**	PN	Pn	00 02 38.8	-0.4
CKHZ	**Cape Kidnapper**	**1.77**	**151**	PN	Pn	00 02 39.6	-0.4
CNGZ	**Carnagh Statio**	**1.79**	**103**	PN	Pn	00 02 40.2	0.0
PUZ	**Puketiti**	**1.80**	**89**	PN	Pn	00 02 39.5	-0.8
PNHZ	**Pukenui**	**1.81**	**175**	PN	Pn	00 02 39.6	-0.9
WAZ	**Wanganui**	**1.82**	**205**	⇑PN	Pn	00 02 40.8	+0.2
KAHZ	**Kahuranaki**	**1.82**	**158**	PN	Pn	00 02 40.1	-0.6
MXZ	**Matakaoa Point**	**1.92**	**74**	PN	Pn	00 02 41.7	-0.1
WMGZ	**Waiomatatini S**	**1.95**	**82**	⇑PN	Pn	00 02 41.6	-0.4
WPHZ	**Waipukurau**	**1.98**	**170**	PN	Pn	00 02 41.6	-0.9
PXZ	**Pawanui**	**2.04**	**161**	PN	Pn	00 02 42.0	-1.1
DVHZ	**Dannevirke**	**2.19**	**176**	PN	Pn	00 02 43.4	-1.7
PRHZ	**Porangahau**	**2.21**	**167**	PN	Pn	00 02 44.0	-1.3
PRWZ	**Pori Road**	**2.44**	**180**	PN	Pn	00 02 46.5	-1.7
MRZ	**Mangatainoka R**	**2.57**	**187**	⇑PN	Pn	00 02 47.6	-2.1
BFZ	**Birch Farm**	**2.57**	**176**	PN	Pn	00 02 47.6	-2.2
OGWZ	**Otaki Gorge**	**2.77**	**193**	⇑PN	Pn	00 02 50.2	-2.2
HOWZ	**Holdsworth Sta**	**2.81**	**187**	⇑PN	Pn	00 02 50.1	-2.7
KIW	**Kapiti Island**	**2.87**	**196**	⇓PN	Pn	00 02 51.2	-2.4
TMWZ	**Te Maipa**	**2.99**	**181**	PN	Pn	00 02 52.4	-2.9
MTW	**Mount Morrison**	**3.07**	**187**	⇑PN	Pn	00 02 52.9	-3.2
CAW	**Cannon Point**	**3.08**	**193**	⇓PN	Pn	00 02 53.4	-2.8
DUWZ	**D'Urville Isla**	**3.12**	**210**	PN	Pn	00 02 54.5	-2.4
MSWZ	**Moikau Station**	**3.35**	**189**	PN	Pn	00 02 56.3	-3.5
TCW	**Tory Channel**	**3.37**	**202**	PN	Pn	00 02 57.0	-2.9
PLWZ	**Palliser**	**3.50**	**189**	PN	Pn	00 02 58.0	-3.8
TUWZ	**Tuamarina**	**3.67**	**205**	PN	Pn	00 03 00.8	-3.2
NNZ	**Nelson**	**3.69**	**212**	⇑PN	Pn	00 03 01.4	-2.9
THZ	**Tophouse**	**4.35**	**212**	PN	Pn	00 03 09.6	-3.4
KHZ	**Kahutara**	**4.69**	**203**	PN	Pn	00 03 13.3	-4.1

JMA 30 00:19:02.9±0.5, 33°07N×142°25E, h0km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.90**	**327**	P	Pb	00 19 37.1	-0.7
BSO1				*e*S	Sg	00 20 02.4	-0.5
JHJ2	**Mitsune**	**2.04**	**272**	P	Pn	00 19 39.4	+0.9
BSO2	**Boso 2**	**2.09**	**324**	S	Sb	00 20 07.9	+0.4
BSO3	**Boso 3**	**2.25**	**321**	P	Pn	00 19 42.4	+1.3
BSO3				S	Sn	00 20 10.2	+0.8
BSO4	**Boso 4**	**2.49**	**321**	P	Pb	00 19 46.6	-1.7
BSO4				S	Sb	00 20 17.7	-1.8

*IDC **30** 00:49:12.2±0.5, 4°46S×101°41E, h0km, mb4.5/22, mb1 4.6/25, mb1mx4.4/36, mbtmp4.5/25, ML4.2/3, MS4.1/16, Ms1 4.1/16, ms1mx3.9/31, Error ellipse: s-maj=17.8km s-min=11.8km az=44.0*

*ISCJB **30** 00:49:14.0±1.0, 4°57S±0°03×101°26E±0°03, h27km±7km, mb4.7/53, MS4.2/20, Error ellipse: s-maj=6.5km s-min=3.0km az=36.9*

*MOS **30** 00:49:15.9±1.1, 4°32S×101°56E, h33km, mb4.9/32, MS4.2/8, Error ellipse: s-maj=12.3km s-min=7.2km az=114.6*

*DJA **30** 00:49:16.7±0.3, 5°S±2°×10°1E±°, h41km±5km, M4.8/39, mb4.9/39, mB5.3/19, MLv5.1/33, Mw(mB)4.7/19*

*NEIC **30** 00:49:16.8±2.4, 4°50S×101°40E, h32km±15km, mb4.8/14, Error ellipse: s-maj=12.9km s-min=5.3km az=50.0*

*BJI **30** 00:49:16.2, 4°57S×101°63E, h44km, mb4.8/32, mB4.9/21, Ms4.6/16, Ms7 4.4/15*

*KLM **30** 00:49:27.7, 4°48S×101°32E, h148km, mb5.0, ML4.8*

ISC 30 00:49:15.9±0.6, 4°52S±0°05×101°32E±0°04, h28km±3km, n218, σ1°48/213, mb4.7/53, MS4.2/20, 16C-17D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.64**	**85**	P	**Pb**	**00 49 44.7**	**-0.9**
MNAI				S	**Sb**	**00 50 06.0**	**+0.1**
MNAI	**Manna**	**1.64**	**85**	*e*Pn	**Pn**	**00 49 43.6**	**+0.6**
PPSI	**Pulau Pagai**	**2.17**	**323**	P	**Pn**	**00 49 50.3**	**0.0**
PPSI				S	**Sn**	**00 50 16.5**	**+0.2**
LHSI	**Lahat**	**2.31**	**73**	P	**Pn**	**00 49 53.7**	**+1.6**
LHSI				S	**Sb**	**00 50 23.3**	**-1.6**
LWLI	**Liwa**	**2.78**	**100**	P	**Pn**	**00 49 59.1**	**+0.4**
LWLI				S	**Sn**	**00 50 33.9**	**+2.5**
MDSI	**Maura Dua**	**2.85**	**90**	P	**Pn**	**00 50 00.9**	**+1.3**
MDSI				S	**Sb**	**00 50 37.5**	**-3.2**
KASI	**Kota Agung**	**3.32**	**108**	P	**Pn**	**00 50 06.4**	**+0.3**
KASI				S	**Sn**	**00 50 46.1**	**+1.4**
KLSI		**3.41**	**93**	P	**Pn**	**00 50 09.4**	**+2.1**
KLI	**Kotabumi**	**3.54**	**96**	P	**Pn**	**00 50 10.3**	**+1.1**
KLI				S	**Sn**	**00 50 52.5**	**+2.3**
SDSI	**Sungai Dareh**	**3.56**	**2**	P	**Pn**	**00 50 10.0**	**+0.6**
PDSI	**Padang**	**3.68**	**347**	P	**Pn**	**00 50 11.6**	**+0.6**
PDSI				S	**Sn**	**00 50 55.0**	**+1.5**
JMBI	**JAMBI**	**3.69**	**39**	P	**Pn**	**00 50 12.5**	**+1.4**
JMBI				S	**Sn**	**00 50 57.9**	**+4.3**
PMBI	**Palembang**	**3.79**	**66**	P	**Pn**	**00 50 13.0**	**+0.5**
PMBI				S	**Sn**	**00 50 57.3**	**+1.0**
SISI	**Saibi**	**3.87**	**325**	P	**Pn**	**00 50 13.4**	**-0.2**
SISI				S	**Sn**	**00 50 58.6**	**+0.4**
BLSI	**Bandar Lampung**	**4.00**	**102**	P	**Pn**	**00 50 17.2**	**+1.7**
BLSI				S	**Sn**	**00 51 05.6**	**+4.1**
BKNI	**Bangkinang**	**4.82**	**357**	P	**Pn**	**00 50 27.7**	**+1.0**
CGJI	**Cibinong**	**4.83**	**116**	P	**Pn**	**00 50 26.3**	**-0.5**
SBJI	**Serang**	**5.05**	**109**	P	**Pn**	**00 50 30.6**	**+0.7**
	176nm,1.2s,1.9nm						
PPBI	**Pangkal Pinang**	**5.35**	**64**	P	**Pn**	**00 50 35.9**	**+1.9**
	76nm,0.8s,1.4nm						
PBSI	**Pulau Batu**	**5.37**	**326**	P	**Pn**	**00 50 34.1**	**-0.2**
	198nm,0.5s,1.4nm						
PBSI				S	**Sn**	**00 51 35.5**	**+0.3**
	198nm,0.5s,1.4nm						
MNSI	**Mandailing Nat**	**5.55**	**342**	P	**Pn**	**00 50 37.5**	**+0.7**
	58nm,0.7s,5µm0.5nm						
MNSI				S	**Sn**	**00 51 41.6**	**+1.9**
	58nm,0.7s,5µm0.5nm						
SKJI	**Sukabumi**	**5.77**	**116**	P	**Pn**	**00 50 40.6**	**+0.8**
	165nm,0.5s,1.8nm						
TPRI	**Tanjung Pinang**	**6.28**	**31**	P	**Pn**	**00 50 48.5**	**+1.7**
	164nm,1.0s,49µm3.2nm						
CNJI	**Cibinong**	**6.41**	**116**	P	**Pn**	**00 50 47.4**	**-1.2**
	199nm,0.7s,3µm2.1nm						
LEM	**Lembang**	**6.68**	**110**	P	**Pn**	**00 50 53.8**	**+1.4**
	269nm,1.2s,3µm0.8nm						
LEM	**Lembang**	**6.68**	**110**	Pn	**Pn**	**00 50 51.4**	**-1.0**
	11nm,0.3s,baz=285,slow=16,SNR=9.3						
LEM				LR	LR	00 53 59.0	
	comp=Z,2µm,20.2s,baz=218,slow=43						
LEM	**Lembang**	**6.68**	**110**	P	**Pn**	**00 50 51.4**	**-1.0**
LEM				pmax	pmax		
	comp=Z,11nm,0.3s						
LEM				MLR	MLR		
	comp=Z,2µm,20.2s						
GSI	**Gunungsitoli**	**6.88**	**327**	P	**Pn**	**00 50 55.4**	**+0.3**
	comp=Z,90nm,0.9s,comp=Z,0.4nm						
GSI				S	**Sn**	**00 52 10.6**	**-1.9**
	comp=Z,90nm,0.9s,comp=Z,0.4nm						
CISI	**Cisompet, Garu**	**7.13**	**115**	P	**Pn**	**00 50 57.5**	**-1.1**
	comp=Z,267nm,0.7s,comp=Z,5µmcomp=Z,1.1nm						
CISI				S	**Sn**	**00 52 16.1**	**-2.7**
	comp=Z,267nm,0.7s,comp=Z,5µmcomp=Z,1.1nm						
CISI	**Cisompet, Garu**	**7.13**	**115**	*e*Pn	**Pn**	**00 50 57.1**	**-1.4**
	comp=Z,163nm,0.6s						
CISI				*e*Sn	Sn	00 52 12.6	-6.2
PSI	**Prapat**	**7.65**	**342**	Pn	**Pn**	**00 51 03.4**	**-2.3**
	comp=Z,2.9nm,0.3s,ba

SLVN	**Son La**	**25.81**	**6**	*e*P		**P**	**00 54 44.7**	**-0.3**
	comp=Z,17nm,1.0s							
H08S2	**Diego Garcia H**	**28.82**	**262**	T		T	01 25 14.2	
	baz=85,slow=76,SNR=2270							
H08S3	**Diego Garcia H**	**28.83**	**262**	T		T	01 25 14.9	
	baz=85,slow=76,SNR=2014							
H08S1	**Diego Garcia H**	**28.84**	**262**	T		T	01 25 12.0	
	baz=85,slow=76,SNR=1868							
KMI	**Kunming**	**29.49**	**3**	P		**P**	**00 55 20.5**	**+2.4**
KMI				PMZ				
	comp=Z,13nm,0.8s							
KMI				LN				
	comp=Z,700nm,16.6s							
KMI				LE				
	comp=Z,500nm,16.6s							
KMI				LZ				
	comp=Z,750nm,18.1s							
SIJI	**Sorong**	**30.13**	**84**	P		**P**	**00 55 22.6**	**-1.1**
	comp=Z,4.6nm,0.3s,baz=232,slow=3.6,SNR=3.9							
SIJI				LR		LR	01 10 18.4	
	comp=Z,200nm,19.1s,baz=290,slow=42							
GYA	**Guiyang**	**31.22**	**9**	⇑*i*P		**P**	**00 55 34.5**	**+1.2**
GYA				PMZ				
	comp=Z,20nm,0.8s							
H01W3	**Cape Leeuwin H**	**32.47**	**160**	T		T	01 29 42.2	
	baz=337,slow=76,SNR=128							
H01W2	**Cape Leeuwin H**	**32.48**	**160**	T		T	01 29 43.2	
	baz=337,slow=76,SNR=139							
H01W1	**Cape Leeuwin H**	**32.48**	**160**	T		T	01 29 43.3	
	baz=337,slow=76,SNR=134							
LSA	**Lhasa**	**35.39**	**345**	*e*P		**P**	**00 56 11.2**	**+1.2**
	comp=Z,5.6nm,0.4s							
ENH	**Enshi**	**35.46**	**12**	*e*P		**P**	**00 56 09.5**	**-0.6**
	comp=Z,8.1nm,0.8s							
WRA	**Warramunga Arr**	**35.62**	**118**	P		**P**	**00 56 11.3**	**-0.4**
	comp=Z,7.0nm,0.8s,baz=293,slow=9.5,SNR=27							
WRA	**Warramunga Arr**	**35.62**	**118**	P		**P**	**00 56 11.3**	**-0.4**
WRA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
WRAB	**Tennant Creek**	**35.63**	**118**	*c i*P		**P**	**00 56 12.0**	**+0.3**
WRAB				pmax		pmax		
	comp=Z,22nm,0.7s							
WRAB	**Tennant Creek**	**35.63**	**118**	*e*P		**P**	**00 56 11.5**	**-0.2**
	comp=Z,11nm,0.8s							
WRAB				*e*PcP		**PcP**	**00 58 40.4**	**+0.2**
ASAR	**Alice Springs**	**36.74**	**124**	P		**P**	**00 56 21.2**	**0.0**
	comp=Z,2.1nm,0.8s,baz=294,slow=7.4,SNR=11							
ASAR				PcP		**PcP**	**00 58 44.3**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=329,slow=4.4,SNR=3.9							
ASAR				LR		LR	01 13 09.0	
	comp=Z,296nm,21.2s,baz=300,slow=39							
ASAR	**Alice Springs**	**36.74**	**124**	P		**P**	**00 56 21.2**	**0.0**
ASAR							00 58 44.3	
ASAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ASAR				MLR		MLR		
	comp=Z,296nm,21.2s							
XAN	**Xi'an**	**39.01**	**10**	P		**P**	**00 56 39.0**	**-1.2**
XAN				PMZ				
	comp=Z,4.0nm,0.8s							
XAN				PMZ				
	comp=Z,21nm,7.1s							
JAY	**Jayapura**	**39.36**	**88**	P		**P**	**00 56 41.6**	**-1.8**
	comp=Z,10nm,0.8s,baz=88,slow=23,SNR=6.5							
JAY	**Jayapura**	**39.36**	**88**	P		**P**	**00 56 41.6**	**-1.8**
JAY				pmax		pmax		
	comp=Z,10.0nm,0.8s							
NJ2	**Nanjing**	**40.01**	**23**	*e*P		**P**	**00 56 49.3**	**+0.8**
NJ2				S		**S**	**01 02 52.0**	**-0.5**
NJ2				PMZ				
	comp=Z,40nm,0.6s							
NJ2				LN				
	comp=Z,770nm,20.0s							
NJ2				LE				
	comp=Z,1μm,15.6s							
NJ2				LZ				
	comp=Z,1μm,22.0s							
TIA	**Tai'an**	**43.13**	**19**	⇓P		**P**	**00 57 14.8**	**+0.8**
TIA				PMZ				
	comp=Z,10.0nm,0.7s							
TIA				LN				
	comp=Z,310nm,19.6s							
TIA				LE				
	comp=Z,440nm,16.5s							
TIA				LZ				
	comp=Z,330nm,21.8s							
GTA	**Gaotai**	**43.73**	**358**	*e*P		**P**	**00 57 20.5**	**+1.6**
GTA				pP		pP	00 57 36.0	+8.6
GTA				PMZ				
	comp=Z,12nm,1.1s							
GTA				PMZ				
	comp=Z,100nm,4.9s							
GTA				LN				
	comp=Z,510nm,20.9s							
GTA				LE				
	comp=Z,470nm,14.7s							
GTA				LZ				
	comp=Z,710nm,21.4s							
CTA	**Charters Tower**	**46.37**	**113**	P		**P**	**00 57 40.7**	**+0.5**
	comp=Z,8.1nm,0.8s,baz=297,slow=9.0,SNR=7.5							
CTA	**Charters Tower**	**46.37**	**113**	P		**P**	**00 57 40.7**	**+0.5**
CTA				pmax		pmax		
	comp=Z,8.0nm,0.8s							
STKA	**Stephens Creek**	**46.52**	**131**	P		**P**	**00 57 41.9**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=296,slow=11,SNR=6.4							
STKA				LR		LR	01 18 50.3	
	comp=Z,365nm,20.8s,baz=289,slow=38							
STKA	**Stephens Creek**	**46.52**	**131**	P		**P**	**00 57 41.9**	**+0.8**
STKA				pmax		pmax		
	comp=Z,3.0nm,0.7s							
STKA				MLR		MLR		
	comp=Z,365nm,20.8s							
KSAR	**Wonju Array Be**	**48.52**	**28**	P		**P**	**00 57 56.4**	**-0.1**
KSRS	**Korea Array**	**48.55**	**28**	P		**P**	**00 57 56.4**	**-0.3**
	comp=Z,8.2nm,0.8s,baz=216,slow=8.0,SNR=31							
KSRS	**Korea Array**	**48.55**	**28**	P		**P**	**00 57 56.4**	**-0.3**
KSRS				pmax		pmax		
	comp=Z,8.0nm,0.8s							
JCJ	**Chichijima**	**50.46**	**49**	LR		LR	01 18 45.2	
	comp=Z,154nm,21.6s,baz=288,slow=35							
SONM	**Songino Array**	**52.32**	**4**	P		**P**	**00 58 26.5**	**+1.2**
	comp=Z,23nm,0.8s,baz=188,slow=9.0,SNR=102							
SONM				LR		LR	01 22 40.0	
	comp=Z,315nm,20.2s,baz=198,slow=38							
SONM	**Songino Array**	**52.32**	**4**	P		**P**	**00 58 26.5**	**+1.2**
SONM				pmax		pmax		
	comp=Z,23nm,0.8s							
SONM				MLR		MLR		
	comp=Z,315nm,20.2s							
TKM2	**Tokmak 2**	**52.65**	**336**	*e*P		**P**	**00 58 28.9**	**+1.0**
	comp=Z,12nm,0.8s							
CN2	**Changchun**	**52.78**	**22**	*e*P		**P**	**00 58 28.3**	**-0.3**
CN2				*es*P		sP	00 58 51.0	+10
CN2				*e*S		**S**	**01 05 50.5**	**-4.7**
CN2				PMZ				
	comp=Z,10.0nm,0.8s							
CN2				PMZ				
	comp=Z,200nm,4.0s							
CN2				LN				
	comp=Z,400nm,14.0s							
CN2				LE				
	comp=Z,200nm,14.0s							
CN2				LZ				
	comp=Z,200nm,17.0s							
EKS2	**Erkin-Say**	**53.18**	**335**	*e*P		**P**	**00 58 34.2**	**+2.4**
	comp=Z,13nm,0.8s							
MAJO	**Matsushiro**	**53.43**	**37**	*e*P		**P**	**00 58 32.5**	**-1.1**
MAJO				pmax		pmax		
	comp=Z,56nm,1.0s							
MAT	**Matsushiro**	**53.43**	**37**	P		**P**	**00 58 32.7**	**-0.9**
MJAR	**Matsushiro Arr**	**53.43**	**37**	P		**P**	**00 58 32.4**	**-1.2**
	comp=Z,9.2nm,0.7s,baz=217,slow=8.2,SNR=27							
MJAR	**Matsushiro Arr**	**53.43**	**37**	P		**P**	**00 58 32.4**	**-1.2**
MJAR				pmax		pmax		
	comp=Z,9.0nm,0.7s							
ZAK	**Zakamensk**	**54.70**	**2**	*e*P		**P**	**00 58 43.4**	**+0.7**
ZAK				pmax		pmax		
	comp=Z,5.0nm,0.9s							
MDJ	**Mudanjiang**	**55.09**	**24**	P		**P**	**00 58 46.8**	**+1.4**
MDJ				PMZ				
	comp=Z,9.0nm,0.7s							
MDJ				PMZ				
	comp=Z,94nm,7.9s							
USRK	**Ussuriysk Ar.**	**55.78**	**26**	P		**P**	**00 58 50.8**	**+0.3**
	comp=Z,16nm,0.7s,baz=220,slow=5.7,SNR=51							
HIA	**Hailar**	**55.91**	**14**	*e*P		**P**	**00 58 50.3**	**-1.0**
HIA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
TLY	**Talaya**	**56.01**	**2**	*i* P		**P**	**00 58 50.7**	**-1.3**
TLY				pmax		pmax		
	comp=Z,13nm,1.0s							
TLY	**Talaya**	**56.01**	**2**	*e*P		**P**	**00 58 53.9**	**+1.9**
	comp=Z,11nm,0.8s							
GEYT	**Alibeck**	**58.21**	**320**	P		**P**	**00 59 09.6**	**+1.7**
	comp=Z,2.1nm,0.9s,baz=133,slow=12,SNR=4.9							
OTUK	**Ortayu**	**58.34**	**338**	*i* P		**P**	**00 59 07.5**	**-1.1**
OTUK				pmax		pmax		
	comp=Z,8.0nm,0.8s							
KURK	**Kurchatov**	**58.38**	**343**	*i* P		**P**	**00 59 08.3**	**-0.4**
KURK				pmax		pmax		
	comp=Z,4.0nm,0.7s							
KURK	**Kurchatov**	**58.38**	**343**	*e*P		**P**	**00 59 08.9**	**+0.2**
	comp=Z,7.9nm,0.8s							
ZALV	**Zalesovo Beam**	**59.87**	**349**	P		**P**	**00 59 19.0**	**+0.1**
	comp=Z,9.4nm,0.7s,baz=182,slow=5.2,SNR=53							
ZALV				LR		LR	01 28 56.3	
	comp=Z,172nm,18.2s,baz=248,slow=40							
NVS	**Novosibirsk**	**61.03**	**348**	*e*P		**P**	**00 59 26.7**	**-0.1**
YSS	**Yuzh-Sakhalins**	**62.94**	**31**	*e*P		**P**	**00 59 41.0**	**+1.2**
BRVK	**Borovoye**	**63.05**	**340**	*i* P		**P**	**00 59 40.0**	**-0.5**
BRVK				pmax		pmax		
	comp=Z,7.0nm,1.2s							
BRVK	**Borovoye**	**63.05**	**340**	*e*P		**P**	**00 59 39.9**	**-0.6**
	comp=Z,4.7nm,0.8s							
ABKAR	**Akbulak array**	**64.46**	**331**	*e*P		**P**	**00 59 49.7**	**-0.2**
	comp=Z,11nm,0.8s							
MAW	**Mawson**	**68.20**	**195**	P		**P**	**01 00 14.9**	**+1.5**
	comp=Z,1.1nm,0.5s,baz=42,slow=9.2,SNR=3.1							
MAW				LR		LR	01 24 27.1	
	comp=Z,448nm,19.9s,baz=60,slow=31							
GNI	**Garni**	**68.24**	**316**	*e*P		**P**	**01 00 14.9**	**+0.4**
GNI				pmax		pmax		
	comp=Z,5.0nm,1.4s							
SVE	**Sverdlovsk**	**69.49**	**338**	*e*P		**P**	**01 00 22.2**	**+0.5**
SVE				pmax		pmax		
	comp=Z,17nm,1.0s							
SVE				MLR		MLR		
	comp=Z,443nm,23.0s							
YAK	**Yakutsk**	**69.84**	**14**	*e*P		**P**	**01 00 23.2**	**-0.5**
YAK				pmax		pmax		
	comp=Z,13nm,0.9s							
ZEI	**Tsey**	**69.98**	**319**	*e*P		**pP**	**01 00 34.4**	**+0.2**
ZEI				pmax		pmax		
	comp=Z,27nm,0.4s							
ARU	**Arti**	**70.02**	**336**	*d i*P		**P**	**01 00 25.6**	**+0.6**
ARU				S		**S**	**01 09 35.5**	**+1.9**
ARU				SS		**SS**	**01 13 59.7**	**-3.9**
ARU				pmax		pmax		
	comp=Z,9.0nm,1.0s							
ARU	**Arti**	**70.02**	**336**	*e*P		**P**	**01 00 24.8**	**-0.1**
	comp=Z,8.6nm,0.9s							
KBZ	**Khabaz**	**71.06**	**319**	P		**P**	**01 00 32.2**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=113,slow=7.7,SNR=5.6							
KBZ	**Khabaz**	**71.06**	**319**	P		**P**	**01 00 32.2**	**+0.7**
KBZ				pmax		pmax		
	comp=Z,2.0nm,0.7s							
KIV	**Kislovodsk**	**71.29**	**319**	*e*P		**P**	**01 00 31.1**	**-2.0**
KIV				*e*S		**S**	**01 09 45.6**	**-3.6**
KIV				pmax		pmax		
	comp=Z,4.0nm,1.1s							
KIV				MLR		MLR		
	comp=Z,64nm,18.0s							
MATP	**Matopo**	**72.34**	**250**	P		**P**	**01 00 41.2**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=86,slow=3.3,SNR=5.6							
SOKR	**Solikamsk**	**72.89**	**338**	*e*P		**P**	**01 00 44.2**	**+2.0**
SOKR				pmax		pmax		
	comp=Z,10.0nm,0.9s							
PETK	**Petropavlovsk-**	**74.31**	**31**	P		**P**	**01 00 50.8**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=201,slow=7.7,SNR=4.7							
PETK	**Petropavlovsk-**	**74.31**	**31**	P		**P**	**01 00 50.8**	**+0.1**
PETK				pmax		pmax		
	comp=Z,2.0nm,0.7s							
BOSA	**Boshof**	**75.62**	**242**	LR		LR	01 29 59.1	
	comp=Z,270nm,18.2s,baz=111,slow=32							
BRTR	**Keskin Array B**	**75.98**	**313**	P		**P**	**01 01 00.5**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=123,slow=7.2,SNR=9.2							
BRTR	**Keskin Array B**	**75.98**	**313**	*ce*P		**P**	**01 01 01.6**	**+0.8**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
SEY	**Seymchan**	**77.46**	**21**	*i* P		**P**	**01 01 08.4**	**-0.1**
TIXI	**Tiksi**	**78.12**	**9**	*i* P		**P**	**01 01 09.7**	**-2.3**
TIXI				pmax		pmax		
	comp=Z,11nm,1.7s							
MOS	**Moscow**	**79.31**	**329**	*e*P		**pP**	**01 01 27.2**	**-0.7**
MOS				pmax		pmax		
	comp=Z,29nm,0.9s							
OBN	**Obninsk**	**79.61**	**328**	⇓*i*P		**P**	**01 01 21.3**	**+0.9**
OBN				*i*			01 01 28.7	
OBN				pmax		pmax		
	comp=Z,7.0nm,0.9s							
OBN				MLR		MLR		
	comp=Z,129nm,21.0s							
PSN	**Preselentsi**	**81.02**	**315**	⇑P		pP	01 01 39.1	+1.7
PSN	**Preselentsi**	**81.02**	**315**	⇑*i*P		pP	01 01 39.1	+1.7
TIRR	**Tirgusor**	**81.07**	**316**	⇓P		pP	01 01 38.8	+1.2
TIRR	**Tirgusor**	**81.07**	**316**	⇓*i*P		pP	01 01 38.8	+1.2
JMB	**Yambol**	**81.86**	**314**	⇑P		pP	01 01 43.5	+1.7
JMB	**Yambol**	**81.86**	**314**	⇑*i*P		pP	01 01 43.5	+1.7
AKASG	**Malin Array Be**	**82.27**	**322**	P		**P**	**01 01 35.3**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=89,slow=4.7,SNR=3.8							
AKASG				LR		LR	01 43 27.6	
	comp=Z,52nm,19.3s,baz=75,slow=40							
TMCR	**Tamitsa**	**82.75**	**337**	*e*P		**P**	**01 01 38.9**	**+1.9**
TMCR				pmax		pmax		
	comp=Z,17nm,1.4s							
MLR	**Muntele Rosu**	**83.02**	**317**	⇓P		pP	01 01 49.4	+1.4
MLR	**Muntele Rosu**	**83.02**	**317**	⇓*i*P		pP	01 01 49.4	+1.4
MMB	**Musomiste**	**83.74**	**313**	⇓P		pP	01 01 52.2	+0.5
MMB	**Musomiste**	**83.74**	**313**	⇓*i*P		pP	01 01 52.2	+0.5
BURAR	**Bucovina Array**	**84.00**	**319**	⇑P		**P**	**01 01 45.9**	**+1.9**
BURAR	**Bucovina Array**	**84.00**	**319**	⇑*i*P		**P**	**01 01 45.9**	**+1.9**
BUR08	**Bucovina Ar. S**	**84.02**	**319**	*e*P		**P**	**01 01 45.7**	**+1.6**
VTS	**Vitosha**	**84.32**	**313**	⇑P		pP	01 01 55.2	+0.4
VTS	**Vitosha**	**84.32**	**313**	⇑*i*P		pP	01 01 55.2	+0.4
NACGM	**Naroch**	**84.85**	**326**	*e*		pP	01 01 55.0	-2.0
BILL	**Bilibino**	**85.05**	**20**	*e*P		**P**	**01 01 48.7**	**0.0**
BILL				pmax		pmax		
	comp=Z,3.0nm,1.0s							
LVZ	**Lovozero**	**85.58**	**340**	*e*P		**P**	**01 01 50.3**	**-1.1**
LVZ				pmax		pmax		
	comp=Z,12nm,1.1s							
BZS	**Buzias**	**86.02**	**316**	⇑P		pP	01 02 03.8	+0.7
BZS	**Buzias**	**86.02**	**316**	⇑*i*P		pP	01 02 03.8	+0.7
KOLS	**Kolonicke sedl**	**86.21**	**320**	*e*P		**P**	**01 01 57.2**	**+2.3**
KOLS				pmax		pmax		
	comp=Z,4.0nm,0.9s							
KOLS	**Kolonicke sedl**	**86.21**	**320**	*e*P		**P**	**01 01 57.2**	**+2.3**
KOLS				*ep*P		**pP**	**01 02 05.6**	**+1.7**
FINES	**FINESS Array B**	**86.94**	**332**	P		**P**	**01 01 58.6**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=123,slow=5.1,SNR=8.3							
FINES				LR		LR	01 46 58.1	
	comp=Z,65nm,18.8s,baz=106,slow=40							
FINES	**FINESS Array B**	**86.94**	**332**	*i* P		**P**	**01 01 58.7**	**+0.6**
FINES				pmax		pmax		
	comp=Z,3.0nm,0.9s							
PSZ	**Piszkesteto**	**87.58**	**318**	⇑P		pP	01 02 07.8	-3.0
PSZ	**Piszkesteto**	**87.58**	**318**	⇑*i*P		pP	01 02 07.8	-3.0
PKSM	**Moragy**	**88.17**	**316**	⇓P		pP	01 02 14.7	+1.2
PKSM	**Moragy**	**88.17**	**316**	⇓*i*P		pP	01 02 14.7	+1.2
OKC	**Ostrava-Krasne**	**89.02**	**320**	*e*P		**P**	**01 02 09.6**	**+1.3**
OKC				*ex*		x	01 02 14.1	
OKC				*ep*P		**pP**	**01 02 17.9**	**+0.5**
OKC	**Ostrava-Krasne**	**89.02**	**320**	*e*P		**P**	**01 02 09.6**	**+1.3**
OKC				*e*			01 02 17.9	
ARCES	**ARCESS Array B**	**89.27**	**340**	P		**P**	**01 02 09.7**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=108,slow=4.0,SNR=11							
ARCES				LR		LR	01 47 31.6	
	comp=Z,164nm,20.4s,baz=104,slow=39							
MORC	**Moravsky Berou**	**89.39**	**320**	⇓P		**P**	**01 02 12.6**	**+2.4**
MORC	**Moravsky Berou**	**89.39**	**320**	⇓*i*P		**P**	**01 02 12.6**	**+2.4**
KRLC	**Kraliky**	**89.92**	**320**	*e*P		**P**	**01 02 14.3**	**+1.7**
KRLC				*ex*		x	01 02 18.7	
KRLC				*ep*P		**pP**	**01 02 22.4**	**+0.7**
KRLC				*ex*		x	01 02 34.3	
KRLC	**Kraliky**	**89.92**	**320**	*e*P		**P**	**01 02 14.3**	**+1.7**
KRLC				*e*			01 02 22.4	
DPC	**Dobruska-Polom**	**90.25**	**320**	*e*P		**P**	**01 02 12.7**	**-1.4**
DPC				*e*PCP		**PcP**	**01 02 17.1**	**+1.8**
DPC				*ep*P		**pP**	**01 02 24.1**	**+0.8**
DPC				*e*S		**S**	**01 13 06.6**	**+1.0**
DPC				AMS		AMS	01 52 10.0	
DPC	**Dobruska-Polom**	**90.25**	**320**	*e*P		**P**	**01 02 12.7**	**-1.4**
DPC				*e*			01 02 24.1	
DPC				*e*S		**S**	**01 13 06.6**	**+1.0**
BOJS	**Bojanci**	**90.43**	**315**	*i* P		pP	01 02 25.4	+1.2
BOJS	**Bojanci**	**90.43**	**315**	*i* P		pP	01 02 25.4	+1.2
PERS	**Pernice**	**90.64**	**317**	*i* P		pP	01 02 27.0	+1.8
PERS	**Pernice**	**90.64**	**317**	*i* P		pP	01 02 27.0	+1.8
TREC	**Trest**	**90.67**	**319**	*e*S		**S**	**01 13 09.8**	**-0.5**
TREC				AMS		AMS	01 52 20.0	
VISS	**Visnje**	**90.75**	**316**	*i* P		pP	01 02 26.1	+0.5
VISS	**Visnje**	**90.75**	**316**	*i* P		pP	01 02 26.1	+0.5
GOPC	**GO Pecny, Ondr**	**91.18**	**320**	*e*S		**S**	**01 13 13.5**	**-1.5**
JAVS	**Javornik**	**91.29**	**316**	*i* P		pP	01 02 31.0	+2.7
JAVS	**Javornik**	**91.29**	**316**	*i* P		pP	01 02 31.0	+2.7
PRU	**Pruhonice**	**91.35**	**320**	*ep*P		**pP**	**01 02 29.2**	**+0.9**
PRU				*e*S		**S**	**01 13 16.1**	**-0.3**
PRU				AMS		AMS	01 53 00.0	
	comp=Z,100nm,17.5s							
PRU	**Pruhonice**	**91.35**	**320**	*e*P		P	01 02 29.2	+10
PRU				*e*S		**S**	**01 13 16.1**	**-0.3**
PRU				MLR		MLR		
	comp=Z,100nm,17.5s							
PRA	**Prague**	**91.42**	**320**	*e*S		**S**	**01 13 17.5**	**+0.4**
PRA				AMS		AMS	01 52 40.0	
	comp=Z,100nm,17.3s							
GERES	**GERESS Array B**	**91.79**	**319**	P		**P**	**01 02 23.1**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=92,slow=4.0,SNR=7.9							
KHC	**Kasperske Hory**	**91.90**	**319**	*e*S		**S**	**01 13 17.0**	**-4.6**
KHC				AMS		AMS	01 54 10.0	
CLL	**Collm**	**92.43**	**321**	*e*P		**P**	**01 02 24.0**	**-0.2**
CLL				*e*S		**S**	**01 13 25.0**	**-1.1**
CLL				*e*PS		PnS	01 14 42.0	+0.2
CLL				LmV			01 47 00.0	
	comp=Z,100nm,21.9s							
CLL	**Collm**	**92.43**	**321**	*e*P		**P**	**01 02 24.0**	**-0.2**
CLL				*e*S		**S**	**01 13 25.0**	**-1.1**
NOA	**NORSAR Array B**	**93.97**	**331**	LR		LR	01 48 33.9	
	comp=Z,42nm,20.8s,baz=55,slow=38							
KEST	**Kesra**	**94.21**	**305**	LR		LR	01 48 44.6	
	comp=Z,22nm,18.4s,baz=300,slow=38							
YKA	**Yellowknife Ar**	**116.37**	**18**	PKP		**PKPdf**	**01 07 56.1**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=333,slow=0.7,SNR=3.4							
NVAR	**Mina Array Bea**	**130.66**	**41**	PKP		**PKPdf**	**01 08 24.7**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=286,slow=4.6,SNR=3.2							
ULM	**Lac du Bonnet**	**132.17**	**15**	PKP		**PKPdf**	**01 08 26.5**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=21,slow=4.0,SNR=3.8							
ULM	**Lac du Bonnet**	**132.17**	**15**	PKIKP		**PKPdf**	**01 08 26.5**	**-0.8**
ULM				pmax		pmax		
	comp=Z,2.0nm,0.6s							
PDAR	**Pinedale Array**	**133.08**	**31**	PKP		**PKPdf**	**01 08 30.6**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=282,slow=0.8,SNR=3.3							
V34A	**Guthrie**	**144.32**	**27**	*e*PKPdf		PKPbc	01 08 48.8	+0.5
WMOK	**Wichita Mounta**	**144.63**	**29**	*e*PKPdf		**PKPab**	**01 08 48.6**	**-0.5**
W34A	**Bridge Creek,**	**144.70**	**28**	*e*PKPdf		PKPbc	01 08 49.5	0.0
OLIL	**Olney**	**144.88**	**13**	*e*PKPdf		**PKPdf**	**01 08 50.8**	**-0.1**
TUL1	**Leonard**	**145.00**	**25**	*e*PKP		**PKPbc**	**01 08 50.7**	**+0.3**
SIUC	**Southern Illin**	**145.58**	**15**	*e*PKPdf		**PKPbc**	**01 08 52.1**	**-0.1**
WCI	**Wyandotte Cave**	**145.73**	**11**	*e*PKPdf		**PKPdf**	**01 08 52.1**	**-0.3**
TXAR	**Lajitas Array**	**145.81**	**41**	PKPbc		**PKPab**	**01 08 54.6**	**+0.9**
	comp=Z,12nm,0.9s,baz=295,slow=1.6,SNR=36							
TXAR	**Lajitas Array**	**145.81**	**41**	PKP2		**PKPab**	**01 08 54.7**	**+0.9**
TXAR				pmax		pmax		
	comp=Z,12nm,0.9s							

*CSEM **30** 01:02:57.2, 46.39N×15.07E, h0km, ML0.8, Suspected Mining induced.*

LJU 30 01:02:57.2, 46.39N×15.07E, h0km, ML0.8 Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PERS	**Pernice**	**0.25**	**7**	*i* Pg	Pg	01 03 02.2	+0.1
PERS				*i* Sg	Sg	01 03 06.9	+1.5
	comp=Z,79nm,1.1s						
PERS	**Pernice**	**0.25**	**7**	*i* Pg	Pg	01 03 02.2	+0.1
PERS				*i* Sg	Sg	01 03 06.9	+1.5
	comp=Z,79nm,1.1s						
BISS	**Bistriski jare**	**0.26**	**9**	*i* Pg	Pg	01 03 02.4	+0.1
BISS	**Bistriski jare**	**0.26**	**9**	*i* Pg	Pg	01 03 02.4	+0.1
GROS	**Grobnik**	**0.31**	**76**	*i* Pg	Pg	01 03 03.1	-0.2
GROS				*i* Sg	Sg	01 03 07.6	+0.3
GROS	**Grobnik**	**0.31**	**76**	*i* Pg	Pg	01 03 03.1	-0.1
GROS				*i* Sg	Sg	01 03 07.6	+0.3
DOBS	**Dobrina**	**0.37**	**131**	*i* Pg	Pg	01 03 04.2	-0.1
DOBS	**Dobrina**	**0.37**	**131**	*i* Pg	Pg	01 03 04.2	-0.1
VNDS	**Vrh nad Dolski**	**0.39**	**222**	*i* Pg	Pg	01 03 04.5	-0.1
MOZS	**Mozjanca**	**0.45**	**258**	*i* Pg	Pg	01 03 05.5	-0.4
MOZS	**Mozjanca**	**0.45**	**258**	*i* Pg	Pg	01 03 05.5	-0.3
NVLJ	**Novalja**	**

ARCO	**CERRO ARCO**	**1.67**	**180**	*e*P		**Pn**	**01 27 40.5**	**+0.1**
ARCO					AML	AML	01 28 05.6	
	comp=Z,804nm,0.4s							
ACAN	**Cantantal**	**1.85**	**127**	*e*P		**Pn**	**01 27 42.8**	**+0.3**
AAGR	**Agrelo**	**1.92**	**177**	*e*P		**Pn**	**01 27 43.1**	**-0.3**
TCA	**Tanti**	**3.72**	**94**	*e*P		**Pn**	**01 28 06.7**	**-0.3**
CYA	**Choya**	**3.84**	**46**	*e*P		**Pn**	**01 28 08.4**	**-0.3**
LPAZ	**La Paz**	**14.83**	**3**	P		**P**	**01 30 38.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=192,slow=7.2,SNR=12							
TORD	**Torodi Ar. Bea**	**80.76**	**69**	P		**P**	**01 39 13.7**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=240,slow=4.9,SNR=12							
ZALV	**Zalesovo Beam**	**150.44**	**32**	PKPbc		**PKPbc**	**01 46 50.2**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=310,slow=3.6,SNR=8.4							

JMA 30 01:33:01.3±0.3, 24°.94N×122°.68E, h163km±4km, M3.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.54**	**154**	P		Pn	01 33 24.6	+0.3
JYNG				*e*S		Sn	01 33 42.4	+0.4
YOJ	**Yonaguni jima**	**0.56**	**148**	P		Pn	01 33 24.7	+0.3
YOJ				S		Sn	01 33 42.9	+0.8
IRIF	**Iriomote-Funau**	**1.13**	**122**	P		Pn	01 33 28.5	+0.1
IRIF				*e*S		Sn	01 33 49.0	-0.1
HATJ	**Hateruma jima**	**1.35**	**130**	P		Pn	01 33 31.2	+0.8
HATJ				S		Sn	01 33 52.6	-0.1
JKRS	**Kuro-shima**	**1.40**	**120**	P		Pn	01 33 31.7	+0.9
JKRS				S		Sn	01 33 53.3	-0.2
JIJ	**Ishigaki jima**	**1.45**	**113**	P		Pn	01 33 31.5	+0.1
JIJ				S		Sn	01 33 52.9	-1.5
JISG	**Ishigakijimahi**	**1.52**	**103**	P		Pn	01 33 32.1	0.0
JISG				S		Sn	01 33 54.7	-1.0
JTJ	**Tarama**	**1.86**	**99**	P		Pn	01 33 35.5	-0.2
JTJ				S		Sn	01 34 01.1	-1.0
JIRB	**Irabujima**	**2.27**	**92**	P		Pn	01 33 40.1	-0.2
JIRB				S		Sn	01 34 09.1	-1.3
JIKM	**Ikemajima**	**2.33**	**90**	P		Pn	01 33 41.1	+0.1
JIKM				S		Sn	01 34 10.0	-1.7
JMJ	**Miyako jima 2**	**2.38**	**92**	*e*S		Sn	01 34 10.5	-2.2

*MOS **30** 02:02:52.8±2.5, 48°.04N×156°.75E, h19km, mb4.2/1, Error ellipse: s-maj=89.2km s-min=9.0km az=81.7*

KRSC 30 02:02:52.9±2.0, 48°.04N×156°.75E, h19km±73km, ML4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.68**	**351**	*e*PN		Pn	02 03 27.5	-7.4
SKR				pmax		pmax		
	comp=N,30nm,0.5s							
SKR				pmax		pmax		
	comp=Z,50nm,0.5s							
ASAK	**Asacha**	**4.42**	**9**	P		Pn	02 04 02.5	+3.6
RUS	**Russkaya**	**4.55**	**14**	*e*P		Pn	02 04 04.1	+3.6
RUS				*e*S		Sn	02 04 57.9	+5.1
RUS	**Russkaya**	**4.55**	**14**	PN		Pn	02 04 04.1	+3.6
RUS				S		Sn	02 04 57.9	+5.1
MTVR	**Mutnovka**	**4.55**	**11**	*e*P		Pn	02 04 04.7	+3.9
MTVR				*e*S		Sn	02 04 58.4	+5.2
UGLR	**Uglovaya**	**5.35**	**14**	*e*P		Pn	02 04 16.7	+5.0
AVH	**Avacha**	**5.39**	**13**	P		Pn	02 04 17.5	+5.3
AVH	**Avacha**	**5.39**	**13**	PN		Pn	02 04 17.5	+5.3
SMAR	**Somma**	**5.39**	**13**	*e*P		Pn	02 04 16.9	+4.4
SMAR	**Somma**	**5.39**	**13**	PN		Pn	02 04 16.9	+4.4
KOK	**Koryaka**	**5.40**	**12**	P		Pn	02 04 17.8	+5.4
KOK	**Koryaka**	**5.40**	**12**	PN		Pn	02 04 17.8	+5.4
NLC	**Nalytchevo**	**5.40**	**17**	*e*S		Sn	02 05 17.4	+3.6
SDLR	**Sedlovina**	**5.42**	**14**	*e*P		Pn	02 04 16.9	+4.1
SDLR				*e*S		Sn	02 05 20.3	+5.6
SDLR	**Sedlovina**	**5.42**	**14**	PN		Pn	02 04 16.9	+4.1
SDLR				S		Sn	02 05 20.3	+5.6
KRER	**Koryakskii**	**5.43**	**13**	*e*P		Pn	02 04 17.6	+4.7
KRX	**Arik**	**5.46**	**12**	*e*P		Pn	02 04 17.4	+4.0
SPN	**Mys Shipunski**	**5.48**	**21**	*e*P		Pn	02 04 18.7	+5.3
SPN				*e*S		Sn	02 05 22.6	+6.8
SPN	**Mys Shipunski**	**5.48**	**21**	PN		Pn	02 04 18.7	+5.3
SPN				S		Sn	02 05 22.6	+6.8
GNL	**Ganaly**	**5.72**	**7**	*e*P		Pn	02 04 20.0	+3.2
GNL	**Ganaly**	**5.72**	**7**	PN		Pn	02 04 20.0	+3.2
MKZ	**Mys Kozlova**	**7.24**	**24**	*e*P		Pn	02 04 41.9	+4.5
MKZ	**Mys Kozlova**	**7.24**	**24**	PN		Pn	02 04 41.9	+4.5
KZV	**Kizimen**	**7.42**	**16**	P		Pn	02 04 46.9	+6.6
TUMR	**Tumrok**	**7.56**	**15**	*e*P		Pn	02 04 47.4	+5.3
TUMR	**Tumrok**	**7.56**	**15**	PN		Pn	02 04 47.4	+5.3

*IDC **30** 02:09:18.2±1.2, 36°.20N×71°.26E, h0km, mb3.7/9, mb1 3.8/13, mb1mx3.6/36, mbtmp3.7/13, ML3.6/4, Error ellipse: s-maj=24.5km s-min=22.3km az=143.0*

*NNC **30** 02:09:33.6±2.8, 36°.93N×70°.87E, h122km±34km, mb3.0, mpv3.8, Error ellipse: s-maj=27.0km s-min=11.8km az=167.0*

ISC 30 02:09:19.1±0.6, 36°.23N±0°.05×71°.31E±0°.07, h10km, n38, σ1=96/33, mb3.7/8, 6C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CEP	**Cherat**	**2.45**	**168**	⇓P		Pg	02 10 16.8	+10
CEP				S		Sg	02 10 52.0	+14
CHCP	**Chirah Chowk**	**3.03**	**147**	⇓P		Pg	02 10 24.6	+7.5
DZET	**Dzherino**	**3.24**	**323**	⇓P		**Pn**	**02 10 12.5**	**+2.4**
	43nm,0.5s							
DZET				⇑S		**Sn**	**02 10 44.5**	**-4.2**
	170nm,0.3s							
THW	**Thamme Wali**	**3.45**	**174**	P		Pg	02 10 29.7	+4.6
SFK	**Sufi-Kurgan**	**4.15**	**24**	⇑P		**Pb**	**02 10 29.8**	**-2.6**
	5.9nm,0.4s							
SFK				⇓S		**Sn**	**02 11 14.0**	**+2.5**
	27nm,0.3s							
SARP	**Sargodha**	**4.45**	**165**	P		**Pg**	**02 10 41.4**	**-2.8**
DLH	**Dalhousie**	**5.33**	**132**	*e*P		**Pb**	**02 10 52.0**	**-0.4**
DLH				*e*S		**Sb**	**02 11 55.0**	**-1.5**
AAK	**Ala-Archa**	**6.85**	**20**	⇓P		Pn	02 11 04.3	+4.5
	3.9nm,0.4s							
AAK				⇓S		**Sn**	**02 12 15.4**	**-2.5**
	5.0nm,0.5s							
KK31	**Karatay Array**	**6.89**	**355**	⇑P		**Pn**	**02 11 02.3**	**+2.1**
	1.6nm,0.3s,baz=174,slow=13,SNR=98							
KK31				⇑S		Sn	02 12 10.8	-7.8
	6.0nm,0.4s,baz=186,slow=24,SNR=6.0							
SMLA	**Simla**	**7.05**	**135**	*i* P		Pb	02 11 15.2	-6.4
SMLA				*i* S		Sn	02 12 33.9	+11
SMLA					AML	AML	02 12 35.7	
	comp=N,450nm,0.3s							
SMLA					AML	AML	02 12 35.9	
	comp=E,456nm,0.4s							
JOSI	**Joshimath**	**8.92**	**127**	*e*P		Pn	02 11 38.4	+10
JOSI				*e*S		Sn	02 13 17.4	+8.5
JOSI					AML	AML	02 13 20.0	
	comp=N,56nm,0.2s							
JOSI					AML	AML	02 13 20.4	
	comp=E,68nm,0.6s							
KHET	**Khetri**	**8.98**	**154**	*e*S		Sn	02 13 18.5	+8.5
KHET					AML	AML	02 13 23.5	
	comp=E,81nm,0.2s							
KHET					AML	AML	02 13 24.0	
	comp=N,79nm,0.1s							
KALG	**Kalgarh**	**9.17**	**135**	*e*S		Sn	02 13 25.2	+10
AGRA	**Agra**	**10.60**	**146**	*e*S		Sn	02 13 58.7	+9.0
AGRA					AML	AML	02 14 03.8	
	comp=N,82nm,0.4s							
AGRA					AML	AML	02 14 06.4	
	comp=E,59nm,0.3s							
GEYT	**Alibeck**	**10.68**	**283**	Pn		**Pn**	**02 11 53.0**	**+0.9**
	comp=E,1.5nm,0.3s,baz=100,slow=12,SNR=6.5							
GEYT					Sn	Sn	02 13 44.3	-7.3
	comp=E,2.4nm,0.3s,baz=122,slow=24,SNR=6.0							
KOLN	**Koldanda**	**13.40**	**126**	*e*P		**P**	**02 12 37.8**	**-1.4**
	comp=E,8.7nm,0.3s							
GKN	**Gorkha**	**13.95**	**122**	*e*P		**P**	**02 12 44.4**	**-0.8**
	comp=E,31nm,0.6s							
DMN	**Daman**	**14.52**	**122**	*e*P		**P**	**02 12 51.6**	**0.0**
	comp=E,19nm,0.6s							
PKIN	**Phulchoki**	**14.74**	**122**	*e*P		**P**	**02 12 54.7**	**+0.7**
	comp=E,5.9nm,0.3s							
PKI	**Pulchoki**	**14.75**	**122**	*e*P		**P**	**02 12 55.4**	**+1.2**
	comp=E,17nm,0.7s							
GUN	**Gumba**	**14.87**	**120**	*e*P		**P**	**02 12 56.2**	**+0.7**
	comp=E,32nm,0.8s							

KURBB	**Kurchatov Arra**	**15.30**	**18**	Pn		**Pn**	**02 12 54.9**	**-0.1**
	comp=E,0.1nm,0.3s,baz=207,slow=10,SNR=6.0							
AB31	**Akbulak array**	**15.44**	**331**	⇑P		**Pn**	**02 12 54.3**	**-2.6**
	comp=E,0.6nm,0.4s,baz=130,slow=12,SNR=32							
AB31				⇓S		Sn	02 15 27.4	-20
	comp=E,1.4nm,0.6s,baz=156,slow=22,SNR=5.5							
RAMN	**Ramite**	**15.96**	**121**	*e*P		**P**	**02 13 11.4**	**+3.8**
	comp=E,14nm,0.5s							
TAPN	**Taplejung**	**16.50**	**118**	*e*P		**P**	**02 13 18.3**	**+4.7**
BVAR	**Borovoye Array**	**16.80**	**358**	Pn		**Pn**	**02 13 12.7**	**-1.7**
	comp=E,0.2nm,0.3s,baz=177,slow=10.0,SNR=4.0							
AKTO	**Aktyubinsk**	**17.14**	**330**	⇑P		**P**	**02 13 20.4**	**+0.1**
	comp=E,3.4nm,0.9s							
AKTO	**Aktyubinsk**	**17.14**	**330**	P		**Pn**	**02 13 18.4**	**-0.1**
	comp=E,0.3nm,0.3s,baz=132,slow=12,SNR=5.3							
ZALV	**Zalesovo Beam**	**20.06**	**24**	P		**P**	**02 13 51.7**	**-0.5**
	comp=E,2.1nm,0.4s,baz=214,slow=10,SNR=10							
BRTR	**Keskin Array B**	**29.75**	**288**	P		**P**	**02 15 27.1**	**+1.3**
	comp=E,0.5nm,0.6s,baz=105,slow=8.2,SNR=4.3							
FINES	**FINESS Array B**	**37.84**	**326**	P		**P**	**02 16 35.6**	**0.0**
	comp=E,0.5nm,0.6s,baz=120,slow=8.3,SNR=3.5							
ARCES	**ARCESS Array B**	**41.49**	**338**	P		**P**	**02 17 05.5**	**-0.4**
	comp=E,0.9nm,0.6s,baz=106,slow=8.9,SNR=12							
NB2	**NORSAR Subarra**	**44.74**	**323**	P		**P**	**02 17 33.3**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=95,slow=8.6							
NOA	**NORSAR Array B**	**44.74**	**323**	P		**P**	**02 17 33.4**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=96,slow=7.8,SNR=6.1							
ESDC	**Sonseca Array**	**57.80**	**298**	P		**P**	**02 19 11.2**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=61,slow=7.4,SNR=5.8							
TORD	**Torodi Ar. Bea**	**65.96**	**269**	P		**P**	**02 20 06.1**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=50,slow=5.9,SNR=14							
YKA	**Yellowknife Ar**	**81.50**	**3**	P		**P**	**02 21 36.6**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=347,slow=5.1,SNR=3.0							
WRA	**Warramunga Arr**	**81.64**	**122**	P		**P**	**02 21 39.0**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=327,slow=4.9,SNR=4.0							

PRU 30 02:50:25.5, 50°.25N×19°.00E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHZP	**Chorzow**	**0.04**	**353**	*e*Pg		Pg	02 50 27.9	+1.5
CHZP				*e*Sg		Sg	02 50 29.8	+2.9
OJC	**Ojcow**	**0.51**	**93**	*e*Pg		Pg	02 50 36.3	+0.9
OJC				*e*Sg		Sb	02 50 43.9	-1.6
KRLC	**Kraliky**	**1.44**	**264**	*e*SG		Sg	02 51 11.5	-0.4
DPC	**Dobruska-Polom**	**1.72**	**274**	*e*PG		Pn	02 50 56.9	+0.1
DPC				*e*SG		Sg	02 51 20.7	-0.2

*IDC **30** 03:02:01.8±0.6, 46°.53N×27°.57W, h0km, mb4.0/29, mb1 4.2/32, mb1mx4.1/43, mbtmp4.1/32, ML4.2/3, MS4.1/32, Ms1 4.1/32, ms1mx4.1/39, Error ellipse: s-maj=15.5km s-min=10.3km az=15.0*

*ISCJB **30** 03:02:02.5±0.1, 46°.50N±0°.03×27°.63W±0°.02, h14km, mb4.5/90, MS4.2/39, Error ellipse: s-maj=4.8km s-min=1.7km az=3.8*

*NEIC **30** 03:02:03.9±0.2, 46°.55N×27°.55W, h10km, mb4.9/54, Error ellipse: s-maj=6.3km s-min=2.8km az=3.0*

*BJI **30** 03:02:03.6, 47°.33N×27°.97W, h10km, mb5.0/22, mB5.1/15, Ms4.9/12, Ms7 4.6/12*

*GCMT **30** 03:02:03.9±0.3, 46°.54N×27°.48W, h12km, MW4.8/78, Moment Tensor Solution. s21,c26; s78,c106; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.22±.08; Mθθ-0.10±.10; Mφφ-2.12±.06; Mrθ-0.17±.41; Mθφ-0.39±.07; Mφr0.28±.26; Best double couple: Mo2.23100×10^16 NP1:φs5.00000°, δ48.00000°, λ83.00000°. NP2: φs196.00000°, δ42.00000°, λ98.00000°. Principal axes: T 2.2540, Plg84.0000°, Azm220.0000°; N -0.0500, Plg5.0000°, Azm10.0000°; P -2.2080, Plg3.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*CSEM **30** 03:02:03.9±0.1, 46°.61N×27°.57W, h10km, mb4.8/60 Error ellipse: s-maj=7.5km s-min=3.1km az=6.0*

*SFS **30** 03:02:04.0, 46°.58N×27°.50W, h10km, ML5.0*

*IGIL **30** 03:02:04.3, 46°.60N×27°.58W, h10km, mb5.0*

*SZGRF **30** 03:02:23.9, 47°.36N×25°.18W, h33km, mb4.8, Northern Mid-Atlantic Ridge*

ISC 30 03:02:04.9±0.5, 46°.53N±0°.05×27°.55W±0°.04, h17km±2km, h17km:pP-P, n643, σ0=99/651, mb4.7/90, MS4.2/39, 46C-7D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ADH	**Angra Heroismo**	**7.87**	**178**	*e*P		**Pn**	**03 03 55.7**	**-2.8**
PSET	**Sete Cidades**	**8.81**	**170**	*e*P		**Pn**	**03 04 09.8**	**-1.5**
PSET				*e*T		T	03 12 46.9	
PDA	**Ponta Delgada**	**8.89**	**170**	*e*P		**Pn**	**03 04 11.4**	**-1.0**
PDA				*e*T		T	03 12 51.5	
BART	**Pico Bartolome**	**8.92**	**168**	*e*P		Pn	03 04 09.6	-3.4
BART				*e*T		T	03 12 52.7	
PSMA	**Santa Maria**	**9.70**	**168**	*e*P		**Pn**	**03 04 20.6**	**-2.9**
PSMN	**Pico do Norte,**	**9.70**	**168**	*e*P		**Pn**	**03 04 21.3**	**-2.2**
PGAV	**Gavieira, Arco**	**14.55**	**101**	*e*P		**Pn**	**03 05 28.0**	**-1.9**
	47nm,2.5s							
PGAV				*e*S		S	03 08 39.2	+9.2
PGAV	**Gavieira, Arco**	**14.55**	**101**	*e*P		**Pn**	**03 05 28.0**	**-1.9**
	47nm,2.5s							
PGAV				*e*S		S	03 08 39.2	+9.2
PTO	**Porto**	**14.69**	**105**	*e*P		**Pn**	**03 05 30.0**	**-1.7**
	37nm,1.6s							
PTO	**Porto**	**14.69**	**105**	*e*P		**Pn**	**03 05 30.0**	**-1.7**
	37nm,1.6s							
PCAB	**Cabril**	**14.82**	**102**	*e*P		**Pn**	**03 05 31.5**	**-2.0**
	49nm,1.4s							
PCAB	**Cabril**	**14.82**	**102**	*e*P		**Pn**	**03 05 31.5**	**-2.0**
	49nm,1.4s							
POLO	**Lamas de Olo**	**15.12**	**103**	*e*P		**Pn**	**03 05 35.3**	**-2.4**
	22nm,1.4s							
POLO				*e*S		S	03 09 05.8	+24
POLO	**Lamas de Olo**	**15.12**	**103**	*e*P		**Pn**	**03 05 35.3**	**-2.4**
	22nm,1.4s							
POLO				*e*S		S	03 09 05.8	+24
DSB	**Dublin**	**15.18**	**56**	*e*Pn		**Pn**	**03 05 38.4**	**+0.2**
	42nm,1.4s							
DSB	**Dublin**	**15.18**	**56**	*e*Pn		**Pn**	**03 05 38.4**	**+0.2**
	42nm,1.4s							
DSB				*e*S		**Sn**	**03 08 26.5**	**+0.7**
PCAS	**Casmilo, Conde**	**15.29**	**108**	*e*S		S	03 09 05.3	+20
PCAS	**Casmilo, Conde**	**15.29**	**108**	*e*S		S	03 09 05.3	+20
PMAFR	**Mafra**	**15.39**	**113**	*e*P		**Pn**	**03 05 37.9**	**-3.2**
	117nm,1.7s							
PMAFR	**Mafra**	**15.39**	**113**	*e*P		**Pn**	**03 05 37.9**	**-3.2**
	117nm,1.7s							
PMST	**Lisbon--Monsan**	**15.58**	**113**	*e*P		**Pn**	**03 05 41.3**	**-2.2**
	81nm,1.2s							
PMST	**Lisbon--Monsan**	**15.58**	**113**	*e*P		**Pn**	**03 05 41.3**	**-2.2**
	81nm,1.2s							
LIS	**Lisbon**	**15.61**	**113**	*e*P		**Pn**	**03 05 44.8**	**+0.8**
LIS					AMb	AMB	03 05 45.4	
	comp=Z,89nm,1.3s							
LIS				*e*S		**Sn**	**03 08 39.6**	**+3.2**
PBRG	**Braganca**	**15.65**	**100**	*e*P		**Pn**	**03 05 42.9**	**-1.6**
	comp=Z,46nm,1.7s							
PBRG				*e*S		S	03 09 20.1	+28
PBRG	**Braganca**	**15.65**	**100**	*e*P		**Pn**	**03 05 42.9**	**-1.6**
	comp=Z,46nm,1.7s							
PBRG				*e*S		S	03 09 20.1	+28
MVO	**Moncorvo**	**15.73**	**103**	*e*P		**Pn**	**03 05 43.8**	**-1.8**
	comp=Z,18nm,1.6s							
MVO				*e*S		S	03 09 29.4	+35
MVO	**Moncorvo**	**15.73**	**103**	*e*P		**Pn**	**03 05 43.8**	**-1.8**
	comp=Z,18nm,1.6s							
MVO				*e*S		S	03 09 29.4	+35
PMOZ	**Porto Moniz, M**	**15.82**	**146**	*e*T		T	03 21 36.8	
PMOZ	**Porto Moniz, M**	**15.82**	**146**	*e*T		T	03 21 36.8	
PMPST	**Porto Santo, M**	**15.94**	**144**	*e*T		T	03 21 46.4	
PMPST	**Porto Santo, M**	**15.94**	**144**	*e*T		T	03 21 46.4	
PMPS	**Porto Santo**	**15.96**	**144**	*e*T		T	03 21 45.7	
PMPS	**Porto Santo**	**15.96**	**144**	*e*T		T	03 21 45.7	
PMAR	**Madeira**	**16.02**	**146**	*e*P		**Pn**	**03 05 48.5**	**-0.9**
PMAR	**Madeira**	**16.02**	**146**	*e*T		T	03 21 47.1	
PMAR	**Madeira**	**16.02**	**146**	*e*P		**Pn**	**03 05 48.5**	**-0.9**
PMAR	**Madeira**	**16.02**	**146**	*e*T		T	03 21 47.1	
PCBR	**Castelo Branco**	**16.07**	**107**	*e*P		**Pn**	**03 05 49.4**	**-0.5**
	comp=Z,24nm,1.4s							
PCBR	**Castelo Branco**	**16.07**	**107**	*e*P		**Pn**	**03 05 49.4**	**-0.5**
	comp=Z,24nm,1.4s							
FUL	**Funchal**	**16.09**	**146**	*e*P		**P**	**03 05 56.2**	**+2.8**
	comp=Z,115nm,1.2s							
FUL	**Funchal**	**16.09**	**146**	*e*T		T	03 21 43.5	

FUL	**Funchal**	**16.09**	**146**	*e*P		**P**	**03 05 56.2**	**+2.8**
	comp=Z,115nm,1.2s							
FUL	**Funchal**	**16.09**	**146**	*e*T		T	03 21 43.5	
PMRV	**Marv??o**	**16.35**	**108**	*e*P		**P**	**03 05 56.2**	**-0.1**
	comp=Z,66nm,1.8s							
PMRV				*e*S		S	03 09 40.4	+34
PMRV	**Marv??o**	**16.35**	**108**	*e*P		**P**	**03 05 56.2**	**-0.1**
	comp=Z,66nm,1.8s							
PMRV				*e*S		S	03 09 40.4	+34
PNCL	**Nicolau / Gran**	**16.36**	**114**	*e*P		**Pn**	**03 05 53.4**	**-0.2**
	comp=Z,35nm,1.5s							
PNCL				*e*S		S	03 09 44.8	+38
PNCL	**Nicolau / Gran**	**16.36**	**114**	*e*P		**Pn**	**03 05 53.4**	**-0.2**
	comp=Z,35nm,1.5s							
PNCL				*e*S		S	03 09 44.8	+38
EVO	**Evora**	**16.44**	**112**	*e*P		**Pn**	**03 05 51.9**	**-2.7**
	comp=Z,33nm,1.8s							
EVO				*e*S		S	03 09 33.8	+25
EVO	**Evora**	**16.44**	**112**	*e*P		**Pn**	**03 05 51.9**	**-2.7**
	comp=Z,33nm,1.8s							
EVO				*e*S		S	03 09 33.8	+25
PESTR	**Estremoz**	**16.52**	**110**	*e*S		S	03 09 38.7	+28
PESTR	**Estremoz**	**16.52**	**110**	*e*S		S	03 09 38.7	+28
PTEO	**Sao Teotonio**	**16.59**	**116**	*e*P		**P**	**03 05 58.9**	**0.0**
	comp=Z,81nm,2.1s							
PTEO	**Sao Teotonio**	**16.59**	**116**	*e*P		**P**	**03 05 58.9**	**0.0**
	comp=Z,81nm,2.1s							
MESJ	**Messejana**	**16.72**	**114**	*e*P		**P**	**03 05 59.4**	**-1.0**
MESJ					AMb	AMB	03 06 05.6	
	comp=Z,44nm,1.7s							
MESJ				*e*S		**Sn**	**03 09 06.7**	**+3.3**
MESJ	**Messejana**	**16.72**	**114**	*e*P		**P**	**03 06 00.3**	**-0.1**
	comp=Z,44nm,1.9s							
MESJ	**Messejana**	**16.72**	**114**	*e*P		**P**	**03 06 00.3**	**-0.1**
	comp=Z,44nm,1.9s							
MORF	**Marmelete**	**16.78**	**117**	*e*P		**P**	**03 06 00.2**	**-1.0**
MORF					AMb	AMB	03 06 07.1	
	comp=Z,81nm,2.3s							
PBAR	**Barrancos**	**17.27**	**112**	*e*P		**Pn**	**03 06 03.1**	**-2.0**
	comp=Z,74nm,1.7s							
PBAR				*e*S		S	03 09 49.7	+24
PBAR	**Barrancos**	**17.27**	**112**	*e*P		**Pn**	**03 06 03.1**	**-2.0**
	comp=Z,74nm,1.7s							
PBAR				*e*S		S	03 09 49.7	+24
ESK	**Eskdalemuir**	**17.61**	**51**	*e*Pn		**Pn**	**03 06 08.9**	**-0.3**
	comp=Z,21nm,1.7s							
ESK	**Eskdalemuir**	**17.61**	**51**	*e*Pn		**Pn**	**03 06 08.9**	**-0.3**
	comp=Z,21nm,1.7s							
EKA	**Eskdalemuir Ar**	**17.64**	**51**	P		**P**	**03 06 10.3**	**-0.2**
	baz=250,slow=9.7,SNR=17							
PAB	**San Pablo**	**18.30**	**104**	*e*Pn		**P**	**03 06 18.9**	**+1.0**
	comp=Z,58nm,1.8s							
PAB	**San Pablo**	**18.30**	**104**	*e*Pn		**P**	**03 06 18.9**	**+1.0**
	comp=Z,58nm,1.8s							
ESDC	**Sonseca Array**	**18.50**	**103**	P		**Pn**	**03 06 21.1**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=295,slow=13,SNR=16							
ESDC					LR	LR	03 12 07.9	
	comp=Z,826nm,18.7s,baz=300,slow=33							
BORG	**Borgarnes**	**18.58**	**8**	P		**Pn**	**03 06 21.5**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=202,slow=12,SNR=2.2							
BORG					LR	LR	03 11 24.6	
	comp=Z,313nm,19.6s,baz=196,slow=30							
BORG	**Borgarnes**	**18.58**	**8**	*e*Pn		**Pn**	**03 06 22.6**	**+1.7**
BORG	**Borgarnes**	**18.58**	**8**	P		**Pn**	**03 06 21.5**	**+0.6**
BORG				*e*Pn		**Pn**	**03 06 22.6**	**+1.7**
SFS	**San Fernando**	**18.83**	**115**	*i* P		**Pn**	**03 06 24.3**	**0.0**
REYF	**Montagne du Re**	**19.54**	**90**	*e*P		**Pn**	**03 06 34.0**	**+1.1**
REYF	**Montagne du Re**	**19.54**	**90**	*e*P		**Pn**	**03 06 34.0**	**+1.1**
EMAL	**Malaga-Limoner**	**19.78**	**111**	*i* P		**Pn**	**03 06 34.9**	**-0.7**
VIEF	**Viey**	**19.89**	**91**	*e*P		**Pn**	**03 06 37.7**	**+0.7**
VIEF	**Viey**	**19.89**	**91**	*e*P		**Pn**	**03 06 37.7**	**+0.7**
MENF	**Mencas**	**20.01**	**67**	*e*P		**P**	**03 06 36.8**	**+0.4**
MENF	**Mencas**	**20.01**	**67**	*e*P		**P**	**03 06 36.8**	**+0.4**
RESF	**Ens**	**20.14**	**91**	*e*P		Pn	03 06 40.0	0.0
RESF	**Ens**	**20.14**	**91**	*e*P		Pn	03 06 40.0	0.0
MLS	**Moulis**	**20.61**	**90**	*e*P		Pn	03 06 44.

comp=Z,29nm,1.6s
BFO Black Forest 24.21 73 *e*P **P 03 07 19.8 -0.6**
comp=Z,29nm,1.6s
TOD Tromm 24.34 69⇑ *e*P **P 03 07 21.6 0.0**
SPAK Spaichingen-Ko 24.55 73⇑ *e*P **P 03 07 22.8 -0.7**
MUD Monsted U'grnd 24.64 53 *i* P **P 03 07 25.0 +0.8**
comp=Z,48nm,1.4s
MUD Monsted U'grnd 24.64 53 *i* P **P 03 07 25.0 +0.8**
comp=Z,48nm,1.4s
DAVA Damuels 25.43 75⇓ *i*P **P 03 07 32.2 +0.6**
comp=Z,54nm,1.4s
DAVA Damuels 25.43 75 P **P 03 07 32.2 +0.6**
comp=Z,54nm,1.4s
KONO Kongsberg 25.49 45 *e*P **P 03 07 32.5 +0.7**
comp=Z,44nm,1.4s
KONO Kongsberg 25.49 45 *e*P **P 03 07 32.5 +0.7**
comp=Z,44nm,1.4s
DAVOX Davos/Dischmat 25.54 76 P **P 03 07 31.8 -0.8**
comp=Z,4.8nm,1.0s,baz=282,slow=14,SNR=3.5
DAVOX LR LR 03 16 39.7
comp=Z,547nm,18.9s,baz=281,slow=34
ILULI Ilulissat 25.62 341 *i* P **P 03 07 31.6 -1.3**
comp=Z,83nm,1.8s
ILULI Ilulissat 25.62 341 *i* P **P 03 07 31.6 -1.3**
SNR=28
GRFO Grafenberg 25.88 69 *e*P **P 03 07 35.8 +0.3**
comp=Z,51nm,1.6s
GRFO Grafenberg 25.88 69 *e*P **P 03 07 35.8 +0.3**
comp=Z,51nm,1.6s
GRA1 Grafenberg Arr 25.89 69 *e*P **P 03 07 36.1 +0.5**
comp=Z,47nm,1.5s
GRF Grafenberg Arr 25.89 69 *e*P **P 03 07 36.1 +0.5**
comp=Z,47nm,1.5s
SCHQ Schefferville 25.94 303 P **P 03 07 35.6 -0.4**
comp=Z,5.2nm,0.7s,baz=99,slow=9.6,SNR=7.0
SCHQ LR LR 03 16 02.5
comp=Z,636nm,18.9s,baz=102,slow=32
SCHQ Schefferville 25.94 303 *e*P **P 03 07 36.0 0.0**
comp=Z,40nm,1.5s
SCHQ Schefferville 25.94 303 *e*P **P 03 07 36.0 0.0**
comp=Z,40nm,1.5s
FETA Feichten 26.05 75⇑ *i*P **P 03 07 35.9 -1.4**
comp=Z,15nm,1.1s
FETA Feichten 26.05 75 P **P 03 07 35.9 -1.4**
comp=Z,15nm,1.1s
JMIC Jan Mayen 26.19 14 LR LR 03 15 34.7
comp=Z,132nm,18.3s,baz=256,slow=31
NKC Novy Kostel 26.60 67 *e*P **P 03 07 42.9 +0.9**
NKC *e*pP **pP 03 07 46.7 -0.6**
NKC *e*S **S 03 12 18.1 +2.3**
NKC AMS AMS 03 17 20.0
comp=Z,700nm,18.0s
NKC Novy Kostel 26.60 67 P **P 03 07 42.9 +0.9**
WTTA Wattenberg 26.60 74⇑ *i*pP **P 03 07 43.0 +0.7**
comp=Z,17nm,1.3s
WTTA Wattenberg 26.60 74 P **P 03 07 43.0 +0.7**
comp=Z,17nm,1.3s
VLC Villacollemand 26.60 81 *e*P **P 03 07 41.3 -0.8**
comp=Z,11nm,1.4s
VLC Villacollemand 26.60 81 *e*P **P 03 07 41.3 -0.8**
comp=Z,11nm,1.4s
SUMG Summit 26.61 353 *i* P **P 03 07 41.5 -0.8**
comp=Z,23nm,1.2s
SUMG Summit 26.61 353 *e*P **P 03 07 41.8 -0.5**
comp=Z,26nm,1.3s
SUMG Summit 26.61 353 *e*P **P 03 07 41.8 -0.5**
comp=Z,26nm,1.3s
NB2 NORSAR Subarra 26.62 43 P **P 03 07 42.1 -0.1**
comp=Z,32nm,2.0s,baz=254,slow=10
NB2 NORSAR Subarra 26.62 43 P **P 03 07 42.1 -0.1**
comp=Z,32nm,2.0s,SNR=6.3
NOA NORSAR Array B 26.62 43 P **P 03 07 40.9 -1.2**
comp=Z,1.4nm,0.9s,baz=254,slow=9.5,SNR=3.3
NOA LR LR 03 16 46.1
comp=Z,161nm,21.7s,baz=255,slow=33
CLL Collm 26.82 65⇓ *i*P **P 03 07 44.3 +0.3**
comp=Z,20nm,1.7s
CLL *i* pP **pP 03 07 48.2 -1.1**
CLL *i* 03 07 52.3
CLL *e*S **S 03 12 18.0 -1.2**
CLL *e* 03 13 48.0
CLL LmH 03 17 00.0
comp=Z,400nm,19.0s
BRG Berggiesshubel 27.46 66 *e*P **P 03 07 49.9 +0.2**
comp=Z,30nm,1.9s
comp=N,267nm,15.2s
comp=E,332nm,14.9s
comp=Z,539nm,15.2s
KHC Kasperske Hory 27.49 69 *e*P **P 03 07 48.8 -1.3**
KHC *e*pP pP 03 08 00.5 +5.1
KHC *e*S **S 03 12 29.7 -0.3**
KHC AMS AMS 03 18 20.0
comp=Z,900nm,16.4s
KHC Kasperske Hory 27.49 69 *e*P **P 03 07 50.5 +0.4**
comp=Z,21nm,2.4s
KHC Kasperske Hory 27.49 69 *e*P **P 03 07 50.5 +0.4**
comp=Z,21nm,2.4s
HFS Hagfors 27.61 45 P **P 03 07 50.6 -0.4**
comp=Z,2.0nm,1.0s,baz=263,slow=12,SNR=3.0
HFS LR LR 03 17 06.3
comp=Z,201nm,21.9s,baz=254,slow=33
GERES GERESS Array B 27.63 70 P **P 03 07 51.3 -0.1**
comp=Z,1.7nm,0.9s,baz=288,slow=9.7,SNR=12
GERES LR LR 03 18 34.2
comp=Z,835nm,18.1s,baz=264,slow=36
PRA Prague 27.88 67 AMS AMS 03 17 50.0
comp=Z,900nm,19.6s
PVCC Panska Ves 27.90 66 AMS AMS 03 20 10.0
comp=Z,400nm,17.7s
PRU Pruhonice 27.97 67 *e*P **P 03 07 54.0 -0.2**
PRU *e*S **S 03 12 33.6 -3.7**
PRU AMS AMS 03 18 20.0
comp=Z,900nm,19.0s
PRU Pruhonice 27.97 67 P **P 03 07 54.0 -0.2**
PRU S **S 03 12 33.6 -3.7**
GOPC GO Pecny, Ondr 28.13 67 *e*P **P 03 07 54.6 -1.2**
GOPC *e*S **S 03 12 36.6 -3.4**
GOPC AMS AMS 03 18 20.0
comp=Z,1μm,19.0s
GOPC GO Pecny, Ondr 28.13 67 P **P 03 07 54.6 -1.2**
GOPC S **S 03 12 36.6 -3.4**
FRB Frobisher Bay 28.39 322 P **P 03 07 57.4 -0.5**
comp=Z,9.2nm,0.9s,baz=96,slow=9.3,SNR=5.5
FRB LR LR 03 16 36.3
comp=Z,438nm,18.4s,baz=76,slow=31
TREC Trest 28.69 69 *e*P **P 03 08 01.3 +0.5**
TREC *e*pP **pP 03 08 06.6 +0.5**
TREC *e*S **S 03 12 50.5 +1.7**
TREC AMS AMS 03 19 10.0
comp=Z,1μm,16.9s
TREC Trest 28.69 69 P **P 03 08 01.3 +0.5**
UPC Upice 28.81 66 *e*P **P 03 08 02.2 +0.4**
UPC Upice 28.81 66 P **P 03 08 02.2 +0.4**
KSP Ksiaz 28.94 65 *e*P **P 03 08 04.1 +1.2**
KSP Ksiaz 28.94 65 *e*P **P 03 08 04.2 +1.3**
SOKA Soboth 29.00 74⇑ *i*P **P 03 08 02.5 -1.1**
comp=Z,5.5nm,1.3s
SOKA Soboth 29.00 74 P **P 03 08 02.5 -1.1**
comp=Z,5.5nm,1.3s
DPC Dobruska-Polom 29.04 66 *e*P P 03 08 00.1 -3.7
DPC *e*pP pP 03 08 03.4 -5.8
DPC *e*S **S 03 12 52.6 -1.6**
DPC AMS AMS 03 18 50.0
comp=Z,500nm,19.9s
KRLC Kraliky 29.37 67 *e*P **P 03 08 04.7 -2.1**
KRLC *e*x x 03 08 14.8
KRLC Kraliky 29.37 67 P **P 03 08 04.7 -2.1**
VRAC Vranov 29.40 68 P **P 03 08 07.7 +0.6**
comp=Z,1.1nm,0.6s,baz=278,slow=11,SNR=3.8
VRAC LR LR 03 19 42.0
comp=Z,1μm,18.3s,baz=270,slow=36
KEST Kesra 29.56 98 P **P 03 08 09.3 +0.6**
comp=Z,0.9nm,0.8s,baz=233,slow=6.5,SNR=4.8
KEST LR LR 03 18 41.8
comp=Z,434nm,19.6s,baz=304,slow=34
MORC Moravsky Berou 29.91 67 *e*P **P 03 08 12.0 +0.4**
comp=Z,74nm,1.8s
MORC Moravsky Berou 29.91 67 *e*P **P 03 08 12.0 +0.4**
comp=Z,74nm,1.8s
OKC Ostrava-Krasne 30.29 67 *e*P **P 03 08 14.3 -0.5**
OKC AMS AMS 03 20 10.0
comp=Z,700nm,17.5s
OKC Ostrava-Krasne 30.29 67 P **P 03 08 14.3 -0.5**
DAG Danmarks Havn 30.56 4 *i* P **P 03 08 17.4 +0.4**
comp=Z,13nm,1.3s
OJC Ojcow 31.25 66 *e*P **P 03 08 24.9 +1.5**
OJC Ojcow 31.25 66 *e*P **P 03 08 24.9 +1.5**
LANS Liptovska Anna 31.27 68 *e*P **P 03 08 24.6 +1.0**
PKSM Moragy 31.52 73⇑ *i*P **P 03 08 25.6 -0.2**
NIE Niedzica 31.75 67 *e*P **P 03 08 29.1 +1.3**
NIE Niedzica 31.75 67 *e*P **P 03 08 29.1 +1.3**
PSZ Piszkesteto 31.86 70⇓ *i*P **P 03 08 30.7 +1.9**
STHS Stebnicka Huta 32.34 67 *e*P **P 03 08 34.4 +1.4**
STHS Stebnicka Huta 32.34 67 *e*P **P 03 08 34.4 +1.4**
KOLS Kolonicke sedl 33.12 67 *e*P **P 03 08 40.8 +1.0**
KOLS Kolonicke sedl 33.12 67 *e*P **P 03 08 40.8 +1.0**
DIVS Divibare 33.13 77⇑ *i*P **P 03 08 39.5 -0.5**
KWP Kalwaria Pacla 33.22 66 *e*P **P 03 08 42.2 +1.6**
KWP Kalwaria Pacla 33.22 66 *e*P **P 03 08 42.2 +1.6**
BZS Buzias 33.68 73⇓ *i*P **P 03 08 44.8 +0.1**
FINES FINESS Array B 33.78 44 P **P 03 08 45.2 -0.2**
comp=Z,2.2nm,0.9s,baz=257,slow=7.4,SNR=6.1
FINES LR LR 03 20 56.9
comp=Z,223nm,21.3s,baz=266,slow=34
FIA1 FINESS Array S 33.78 44 *e*P **P 03 08 45.2 -0.2**
FIA1 FINESS Array S 33.78 44 *e*P **P 03 08 45.2 -0.2**
DRGR 34.02 71⇑ *i*P **P 03 08 49.4 +1.7**
TULEG Thule 34.42 344 *i* P **P 03 08 50.4 -0.4**
SNR=27
KSPA Keystone Colle 34.58 280 *e*P **P 03 08 53.9 +1.4**
comp=Z,26nm,1.0s
KSPA Keystone Colle 34.58 280 *e*P **P 03 08 53.9 +1.4**
comp=Z,26nm,1.0s
ARCES ARCESS Array B 34.60 30 P **P 03 08 51.9 -0.4**
comp=Z,1.8nm,0.8s,baz=242,slow=7.8,SNR=6.2
ARCES LR LR 03 21 45.9
comp=Z,120nm,20.7s,baz=264,slow=34
ARCES ARCESS Array B 34.60 30 P **P 03 08 52.0 -0.4**
BUR08 Bucovina Ar. S 35.36 68 *e*P **P 03 09 00.7 +1.4**
BUR08 Bucovina Ar. S 35.36 68 *e*P **P 03 09 00.7 +1.4**
BURAR Bucovina Array 35.38 68⇑ *i*P **P 03 09 00.5 +1.0**
TAM Tamanrasset 35.66 120 *e*P **P 03 09 03.3 +1.2**
comp=Z,18nm,1.9s
TAM Tamanrasset 35.66 120 *e*P **P 03 09 03.3 +1.2**
comp=Z,18nm,1.9s
VTS Vitosha 35.87 77⇑ *i*P **P 03 09 04.2 +0.4**
MPEP Malo Peshtene 35.92 76 *e*P **P 03 09 03.1 -1.0**
MPEP Malo Peshtene 35.92 76 *e*P **P 03 09 03.1 -1.0**
KKB Krupnik 36.09 79 *e*P **P 03 09 04.5 -1.0**
KKB Krupnik 36.09 79 *e*P **P 03 09 04.5 -1.0**
MLR Muntele Rosu 36.57 72⇑ *i*P **P 03 09 11.0 +1.2**
MMB Musomiste 36.65 79⇓ *i*P **P 03 09 11.1 +0.8**
MMB Musomiste 36.65 79 *e*P **P 03 09 07.9 -2.4**
MMB Musomiste 36.65 79 *e*P **P 03 09 07.9 -2.4**
AKASG Malin Array Be 36.98 62 P **P 03 09 11.1 -1.8**
comp=Z,1.3nm,0.7s,baz=282,slow=8.8,SNR=10.0
AKASG LR LR 03 25 14.8
comp=Z,430nm,18.2s,baz=300,slow=38
CFR Carcaliu 38.12 71⇓ *i*P **P 03 09 21.0 -1.7**
HARR Harsova 38.18 72⇓ *i*P **P 03 09 22.4 -0.8**
RES Resolute Bay 39.82 337 P **P 03 09 35.4 -1.1**
comp=Z,4.6nm,1.0s,baz=106,slow=7.6,SNR=6.7
ACSO Alum Creek Sta 40.06 282 *e*P **P 03 09 40.6 +1.6**
comp=Z,80nm,1.6s
ACSO Alum Creek Sta 40.06 282 *e*P **P 03 09 40.6 +1.6**
comp=Z,80nm,1.6s
H05N1 Guadeloupe/Mar 40.99 234 T T 03 52 59.4
SNR=27
TORD Torodi Ar. Bea 41.38 134 P **P 03 09 49.2 -0.9**
comp=Z,5.1nm,0.6s,baz=331,slow=7.3,SNR=38
TORD LR LR 03 25 48.8
comp=Z,900nm,19.1s,baz=325,slow=34
JSC Jenkinsville 41.93 273 *e*P **P 03 09 55.6 +1.2**
comp=Z,38nm,1.6s
JSC Jenkinsville 41.93 273 *e*P **P 03 09 55.6 +1.2**
comp=Z,38nm,1.6s
EYMN Ely 42.32 296 P **P 03 09 57.5 +0.1**
baz=42
SFIN Lafayette 42.76 284 *e*P **P 03 10 02.1 +0.9**
SFIN Lafayette 42.76 284 P **P 03 10 02.3 +1.1**
baz=43
SFIN Lafayette 42.76 284 *e*P **P 03 10 02.1 +0.9**
BLO Bloomington 42.97 282 *e*P **P 03 10 04.2 +1.4**
comp=Z,123nm,2.1s
BLO Bloomington 42.97 282 *e*P **P 03 10 04.2 +1.4**
comp=Z,123nm,2.1s
WCI Wyandotte Cave 43.29 281 *e*P **P 03 10 05.6 +0.1**
comp=Z,35nm,1.5s
WCI Wyandotte Cave 43.29 281 *e*P **P 03 10 05.6 +0.1**
comp=Z,35nm,1.5s
ULM Lac du Bonnet 44.08 301 P **P 03 10 09.9 -1.8**
comp=Z,1.1nm,0.6s,baz=49,slow=9.3,SNR=2.1
ULM LR LR 03 26 42.4
comp=Z,401nm,19.1s,baz=76,slow=34
HDIL Hopedale 44.15 286 P **P 03 10 13.5 +1.2**
baz=44
BRTR Keskin Array B 44.19 76 P **P 03 10 12.2 -0.7**
comp=Z,1.1nm,1.0s,baz=292,slow=6.5,SNR=7.6
BRTR LR LR 03 28 36.3
comp=Z,152nm,21.1s,baz=291,slow=36
DBIC Dimbokro 44.26 147 P **P 03 10 12.4 -1.0**
comp=Z,5.0nm,1.0s,baz=301,slow=8.0,SNR=3.8
DBIC LR LR 03 27 34.7
comp=Z,280nm,18.4s,baz=317,slow=35
DBIC Dimbokro 44.26 147 *e*P **P 03 10 12.0 -1.4**
comp=Z,7.9nm,1.1s
DBIC Dimbokro 44.26 147 *e*P **P 03 10 12.0 -1.4**
comp=Z,7.9nm,1.1s
SPMN Marine on St. 44.27 293 *e*P **P 03 10 13.5 +0.3**
comp=Z,5.4nm,0.8s
SPMN Marine on St. 44.27 293 P **P 03 10 13.6 +0.3**
baz=44
SPMN Marine on St. 44.27 293 *e*P **P 03 10 13.5 +0.3**
comp=Z,5.4nm,0.8s
FFC Flin Flon 45.83 309 *e*P **P 03 10 27.2 +1.7**
comp=Z,32nm,1.7s
FFC Flin Flon 45.83 309 *e*P **P 03 10 27.2 +1.7**
comp=Z,32nm,1.7s
B30A Myrvik Farm, E 46.28 300 P **P 03 10 29.4 +0.2**
baz=46
PBMO Poplar Bluff 46.85 282 *e*P **P 03 10 33.6 -0.1**
comp=Z,64nm,1.9s
PBMO Poplar Bluff 46.85 282 *e*P **P 03 10 33.6 -0.1**
comp=Z,64nm,1.9s
ECSD EROS Data Cent 47.38 293 *e*P **P 03 10 38.0 +0.2**
comp=Z,25nm,1.8s
ECSD EROS Data Cent 47.38 293 *e*P **P 03 10 38.0 +0.2**
comp=Z,25nm,1.8s
D29A Pettibone, Tap 47.66 298 P **P 03 10 39.9 -0.2**
baz=48
A27A Ledoux Ranch, 47.79 301 P **P 03 10 40.4 -0.5**
baz=48
O36A Bolckow 48.11 288 P **P 03 10 42.8 -0.8**
baz=48
N35A Tabor 48.17 289 P **P 03 10 43.8 -0.3**
baz=48
KBZ Khabaz 48.26 66 P **P 03 10 44.6 +0.1**
comp=Z,1.5nm,0.7s,baz=293,slow=11,SNR=4.0
KBZ LR LR 03 32 30.6
comp=Z,191nm,18.1s,baz=302,slow=38
Q37A Longview Farm, 48.42 286 P **P 03 10 45.9 -0.1**
baz=48
P36A Good Intent, A 48.53 288 P **P 03 10 46.0 -0.8**
baz=48
O35A Humboldt 48.66 289 P **P 03 10 47.5 -0.3**
baz=48
N34A Lincoln 48.75 290 P **P 03 10 48.0 -0.4**
baz=49
D27A Center 48.81 299 P **P 03 10 48.4 -0.4**
baz=49
A25A Svangstu Ranch 48.90 302 P **P 03 10 49.2 -0.3**
baz=49
YKA Yellowknife Ar 48.91 322 P **P 03 10 48.9 -0.4**
comp=Z,2.9nm,1.0s,baz=72,slow=7.0,SNR=5.7
YKA Yellowknife Ar 48.91 322 P **P 03 10 49.0 -0.4**
F28A McLaughlin 48.97 297 P **P 03 10 50.1 -0.1**
baz=49
R37A Teagarden Farm 48.97 286 P **P 03 10 49.7 -0.5**
baz=49,SNR=7.9
Q36A Arnold C. Orve 49.05 287 P **P 03 10 51.5 +0.8**
baz=49
I30A Oacoma 49.06 295 P **P 03 10 50.6 -0.3**
baz=49
P35A Duane Minner, 49.11 288 P **P 03 10 51.1 -0.2**
baz=49
H29A Onida 49.20 296 P **P 03 10 51.6 -0.3**
baz=49
O34A Beatrice 49.21 289 P **P 03 10 51.4 -0.7**
baz=49,SNR=6.3
B25A Knox Farm, Ray 49.24 301 P **P 03 10 52.2 0.0**
baz=49
D26A Manning 49.40 300 P **P 03 10 53.3 -0.1**
baz=49
J30A Dallas 49.40 294 P **P 03 10 53.2 -0.3**
baz=49
N33A J Bar K, Exete 49.41 290 P **P 03 10 53.3 -0.3**
baz=49
R36A Gordon, Harris 49.41 286 P **P 03 10 53.6 0.0**
baz=49
G28A Parade 49.42 297 P **P 03 10 53.5 -0.1**
baz=49
Q35A Mercer Eighty, 49.48 287 P **P 03 10 54.1 0.0**
baz=49
BGNE Belgrade 49.52 291 P **P 03 10 53.9 -0.5**
baz=49
I29A Vivian Onida 49.56 295 P **P 03 10 54.8 +0.1**
baz=49
P34A Walnut Farm, R 49.63 288 P **P 03 10 55.1 -0.2**
baz=50
T37A Cheneyville 18 49.68 285 P **P 03 10 54.4 -1.2**
baz=50,SNR=6.3
F27A Lemmon 49.70 298 P **P 03 10 55.9 +0.2**
baz=50
KSU1 Kansas State U 49.73 288 *e*P **P 03 10 55.2 -0.8**
comp=Z,44nm,1.4s
KSU1 Kansas State U 49.73 288 P **P 03 10 55.8 -0.1**
baz=50
KSU1 Kansas State U 49.73 288 *e*P **P 03 10 55.2 -0.8**
comp=Z,44nm,1.4s
S36A Lake Cedric, C 49.80 286 P **P 03 10 55.1 -1.5**
baz=50,SNR=5.4
K30A Basset 49.80 293 P **P 03 10 55.9 -0.6**
baz=50
O33A Hebron 49.85 289 P **P 03 10 56.3 -0.6**
baz=50
N32A Stulken Farm, 49.95 290 P **P 03 10 56.8 -0.8**
baz=50
Q34A Chapman 50.04 288 P **P 03 10 58.0 -0.4**
baz=50
M31A Lambtecht Ranc 50.08 291 P **P 03 10 57.8 -0.9**
baz=50
F26A Lodgepole 50.11 298 P **P 03 10 58.6 -0.2**
baz=50
O32A Brockman Farm, 50.20 290 P **P 03 10 58.8 -0.8**
baz=50
K29A Lazy Trails An 50.21 294 P **P 03 10 59.1 -0.5**
baz=50
MIAR Mount Ida 50.21 281 *e*P **P 03 10 59.1 -0.6**
comp=Z,165nm,2.4s
MIAR Mount Ida 50.21 281 P **P 03 10 59.0 -0.7**
baz=50,SNR=9.4
MIAR Mount Ida 50.21 281 *e*P **P 03 10 59.1 -0.6**
comp=Z,165nm,2.4s
B23A Brockton 50.22 302 P **P 03 11 00.0 +0.4**
baz=50
E25A Miller Ranch, 50.23 299 P **P 03 10 59.9 +0.1**
baz=50
P33A Williams Farm, 50.26 289 P **P 03 10 59.9 -0.2**
baz=50
S35A Otter Creek Ra 50.30 286 P **P 03 10 59.8 -0.6**
baz=50
C24A Savage 50.34 301 P **P 03 11 00.8 +0.3**
baz=50
T36A Boggs Farm, Ca 50.35 285 P **P 03 11 00.5 -0.2**
baz=50
J28A Allard Ranch, 50.45 295 P **P 03 11 01.4 -0.1**
baz=50
A22A Carney Farms, 50.50 303 P **P 03 11 01.6 -0.1**
baz=50
V37A Hulbert 50.51 283 P **P 03 11 01.9 0.0**
baz=50
W38A Poteau 50.55 282 P **P 03 11 02.2 0.0**
baz=50
R34A Isabella, Hill 50.58 287 P **P 03 11 01.8 -0.6**
baz=50
Q33A Connelly Farm, 50.59 288 P **P 03 11 02.2 -0.3**
baz=50
I27A Quinn 50.62 296 P **P 03 11 02.6 -0.2**
baz=50
L29A Maesberg Ranch 50.67 293 P **P 03 11 03.0 -0.2**
baz=50
E24A Baker 50.75 300 P **P 03 11 03.5 -0.1**
baz=50
P32A Huiting Farm, 50.75 289 P **P 03 11 03.2 -0.6**
baz=51
H26A Fairpoint 50.79 297 P **P 03 11 03.7 -0.3**
baz=51
T35A Sooner Cattle 50.85 285 P **P 03 11 03.2 -1.3**
baz=51,SNR=6.1
TUL1 Leonard 50.94 284 *e*P **P 03 11 05.9 +0.7**
comp=Z,13nm,1.1s
TUL1 Leonard 50.94 284 P **P 03 11 04.3 -0.8**
baz=51
TUL1 Leonard 50.94 284 *e*P **P 03 11 05.9 +0.7**
comp=Z,13nm,1.1s
O31A Woolen Ranch, 50.94 290 P **P 03 11 03.8 -1.3**
baz=51
J27A Elkhorn Farm, 51.02 295 P **P 03 11 06.0 +0.3**
baz=51
R33A Olander Ranch, 51.06 288 P **P 03 11 05.3 -0.8**
baz=51
Q32A Meitler Ranch, 51.07 289 P **P 03 11 05.7 -0.4**
baz=51
V36A Jenks 51.11 284 P **P 03 11 06.2 -0.2**
baz=51
W37A Quinton 51.13 283 P **P 03 11 06.4 -0.2**
baz=51
M29A Burnside Ranch 51.13 292 P **P 03 11 06.3 -0.3**
baz=51
I26A New Underwood 51.14 296 P **P 03 11 06.1 -0.6**
baz=51
T34A McClaskey Farm 51.24 286 P **P 03 11 06.9 -0.6**
baz=51
U35A Pawnee 51.30 285 P **P 03 11 08.0 +0.1**
baz=51
P31A Stockton 51.31 290 P **P 03 11 07.5 -0.5**
baz=51
E23A Ismay 51.38 300 P **P 03 11 08.0 -0.4**
baz=51
Z39A Irene McRaven, 51.38 280 P **P 03 11 08.3 -0.2**
baz=51
O30A MW Ranch, Wils 51.40 291 P **P 03 11 08.1 -0.5**
baz=51
X37A Clayton 51.40 282 P **P 03 11 08.9 +0.2**
baz=51
S33A Kaszmaul Farm, 51.47 287 P **P 03 11 07.9 -1.3**
baz=51
R32A Long Quarter, 51.48 288 P **P 03 11 08.7 -0.5**
baz=51
Q31A Ellis 51.60 289 P **P 03 11 09.4 -0.8**
baz=51
J26A Sides Ranch, S 51.65 296 P **P 03 11 10.2 -0.3**
baz=52
I25A Rochford 51.69 297 P **P 03 11 10.6 -0.4**
baz=52
V35A Meyer Ranch, C 51.72 284 P **P 03 11 11.0 -0.1**
baz=52
C21A Desert Coulee 51.76 302 P **P 03 11 11.4 +0.1**
baz=52
U34A Anderson Ranch 51.80 285 P **P 03 11 11.6 -0.1**
baz=52
P30A Selden 51.86 290 P **P 03 11 11.5 -0.6**
baz=52
O29A 4D Ranch, Culb 51.90 291 P **P 03 11 12.2 -0.3**
baz=52
T33A Patterson Ranc 51.91 286 P **P 03 11 12.3 -0.1**
baz=52
S32A Newby Ranch, P 52.02 288 P **P 03 11 12.8 -0.5**
baz=52
J25A Sunshine Ranch 52.06 296 P **P 03 11 12.9 -0.8**
baz=52
X36A Centrahoma 52.08 283 P **P 03 11 13.5 -0.1**
baz=52
N28A Pribbeno Ranch 52.08 292 P **P 03 11 13.1 -0.7**
baz=52
R31A Burdett 52.08 288 P **P 03 11 13.5 -0.3**
baz=52
G23A Biddle 52.09 299 P **P 03 11 13.5 -0.3**
baz=52
W35A Tecumseh 52.09 284 P **P 03 11 13.6 -0.2**
baz=52
V34A Guthrie 52.13 285 *e*P **P 03 11 14.2 +0.1**
comp=Z,64nm,1.5s
V34A Guthrie 52.13 285 P **P 03 11 14.2 +0.1**
baz=52
V34A Guthrie 52.13 285 *e*P **P 03 11 14.2 +0.1**
comp=Z,64nm,1.5s
Q30A Quinter 52.16 290 P **P 03 11 13.6 -0.7**
baz=52
U33A Lingo Farm, Me 52.19 286 P **P 03 11 14.2 -0.3**
baz=52

OGNE	Ogallala baz=52	52.25	293	P	P	03 11 14.6	-0.4
340A	Bronson baz=52	52.26	278	P	P	03 11 15.2	+0.1
P29A	Atwood baz=52	52.27	291	P	P	03 11 14.8	-0.4
239A	Gary baz=52	52.29	279	P	P	03 11 15.7	+0.3
I24A	Kuemmerle Ranc baz=52	52.32	297	P	P	03 11 15.0	-0.5
L26A	Underwood Farm baz=52	52.33	294	P	P	03 11 15.6	0.0
138A	Matatall Enter baz=52	52.33	280	P	P	03 11 16.2	+0.6
C20A	Veseth Ranch, baz=52	52.35	303	P	P	03 11 15.1	-0.5
Z37A	Pogue Cattle C baz=52	52.38	281	P	P	03 11 16.0	0.0
Y36A	Durant baz=52	52.42	282	P	P	03 11 16.1	-0.1
B19A	Brinkman Farms baz=52	52.51	304	P	P	03 11 17.0	+0.2
EDM	Edmonton	52.52	311	eP	P	03 11 16.2	-0.6
EDM	Edmonton	52.52	311	eP	P	03 11 16.2	-0.6
O28A	Krutsinger Ran baz=52	52.53	292	P	P	03 11 16.7	-0.4
W34A	Bridge Creek, comp=Z,12nm,0.7s	52.65	284	eP	P	03 11 17.9	0.0
W34A	Bridge Creek, baz=52	52.65	284	P	P	03 11 18.1	+0.2
W34A	Bridge Creek, comp=Z,12nm,0.7s	52.65	284	eP	P	03 11 17.9	0.0
N27A	Anderson Farm, baz=52	52.65	293	P	P	03 11 17.4	-0.6
V33A	Lossen Ranch, baz=52	52.65	285	P	P	03 11 18.3	+0.3
M26A	McRoberts Ranc baz=52	52.67	294	P	P	03 11 18.1	-0.1
Q29A	Oakley baz=52	52.70	290	P	P	03 11 18.5	+0.1
339A	Huntington baz=53	52.76	278	P	P	03 11 19.0	+0.2
U32A	Winter Ranch, baz=53	52.81	286	P	P	03 11 18.7	-0.5
P28A	Saint Francis baz=53	52.82	291	P	P	03 11 19.0	-0.3
137A	Heron Place, G baz=53	52.83	280	P	P	03 11 19.2	-0.1
T31A	Randall Ranch, baz=53	52.85	287	P	P	03 11 19.0	-0.4
Y35A	Marietta baz=53	52.92	282	P	P	03 11 19.7	-0.3
H22A	Clearmont baz=53	52.99	299	P	P	03 11 20.4	-0.1
X34A	Smith Ranch, M baz=53,SNR=5.9	53.05	284	P	P	03 11 20.6	-0.3
S30A	Montezuma baz=53	53.06	288	P	P	03 11 20.7	-0.3
Q28A	Sharon Springs baz=53	53.15	291	P	P	03 11 21.6	-0.2
W33A	Caddo, Fort Co baz=53	53.16	285	P	P	03 11 22.4	+0.7
G21A	Lodge Grass baz=53	53.17	300	P	P	03 11 21.4	-0.4
EGMT	Eagleton baz=53	53.20	304	P	P	03 11 21.7	-0.2
237A	Washetta, Mont baz=53	53.22	280	P	P	03 11 23.0	+0.8
V32A	Arapaho baz=53	53.22	286	P	P	03 11 21.8	-0.4
P27A	Ficken Ranch, baz=53	53.36	291	P	P	03 11 23.0	-0.3
Y34A	Reagan Ranch, baz=53	53.38	283	P	P	03 11 23.4	+0.1
U31A	Nine Bar Ranch baz=53	53.38	287	P	P	03 11 23.2	-0.2
Z35A	Perchaven, San baz=53	53.41	282	P	P	03 11 23.0	-0.5
136A	Ennis baz=53	53.42	281	P	P	03 11 23.7	+0.1
F20A	Billings baz=53	53.43	301	P	P	03 11 23.9	+0.2
O26A	Horse Wrangler baz=53	53.45	293	P	P	03 11 23.7	-0.2
S29A	Ulysses baz=53	53.50	289	P	P	03 11 23.7	-0.6
X33A	Lawton baz=53	53.53	284	P	P	03 11 24.3	-0.2
R28A	Tribune baz=53	53.54	290	P	P	03 11 23.8	-0.8
WMOK	Wichita Mounta comp=Z,28nm,1.7s	53.61	284	eP	P	03 11 24.0	-1.0
WMOK	Wichita Mounta comp=Z,28nm,1.7s	53.61	284	eP	P	03 11 24.0	-1.0
W32A	Sentinel baz=54	53.69	285	P	P	03 11 25.7	0.0
J22A	Midwest baz=54	53.70	297	P	P	03 11 25.3	-0.5
236A	Katherine and baz=54	53.71	280	P	P	03 11 25.4	-0.3
V31A	Spring Creek L baz=54	53.71	286	P	P	03 11 25.9	+0.1
U30A	WK&E Inc. Balk baz=54	53.81	287	P	P	03 11 26.6	+0.1
Z34A	Collier Ranch, baz=54	53.83	282	P	P	03 11 26.6	0.0
P26A	Davis Ranch, A baz=54	53.85	292	P	P	03 11 26.9	0.0
T29A	Hugoton baz=54	53.88	288	P	P	03 11 26.8	-0.2
Y33A	Hilltop Ranch, baz=54	53.93	284	P	P	03 11 27.5	+0.1
135A	Vickery Place, baz=54	53.97	281	P	P	03 11 27.8	+0.1
I21A	Big Trails, Te baz=54	53.98	298	P	P	03 11 27.1	-0.7
S28A	Manter baz=54,SNR=6.3	54.03	289	P	P	03 11 26.8	-1.4
H20A	Greybull baz=54	54.04	299	P	P	03 11 27.8	-0.4
W31A	Holland Ranch, baz=54	54.12	286	P	P	03 11 29.1	+0.2
X32A	Elmer baz=54	54.13	284	P	P	03 11 29.2	+0.3
K22A	Casper baz=54	54.14	297	P	P	03 11 28.7	-0.3
437A	Phantom Ranch, baz=54	54.15	279	P	P	03 11 29.1	+0.1
R27A	Eads baz=54	54.22	290	P	P	03 11 29.8	+0.2
U29A	Oasis Ranch, S baz=54	54.27	288	P	P	03 11 29.8	-0.1
V30A	Spur Ranch, Mi baz=54	54.28	287	P	P	03 11 30.3	+0.3
336A	Riesel baz=54	54.29	280	P	P	03 11 30.1	+0.1
Q26A	Hugo baz=54	54.32	291	P	P	03 11 30.9	+0.5
J21A	Lysite baz=54	54.33	298	P	P	03 11 30.6	+0.2
WHTX	Lake Whitney, baz=54	54.34	281	P	P	03 11 30.4	0.0
I20A	Worland baz=54	54.41	299	P	P	03 11 31.0	+0.1
134A	White-Moore Ra baz=54	54.41	282	P	P	03 11 31.2	+0.3
T28A	Walsh baz=54	54.44	289	P	P	03 11 31.1	0.0
Z33A	Whitaker Ranch baz=54	54.45	283	P	P	03 11 31.2	0.0
RLMT	Red Lodge comp=Z,34nm,1.9s	54.45	301	eP	P	03 11 32.3	+1.0
RLMT	Red Lodge baz=54	54.45	301	P	P	03 11 31.3	-0.1
RLMT	Red Lodge comp=Z,34nm,1.9s	54.45	301	eP	P	03 11 32.3	+1.0
X31A	McDonald Ranch baz=54	54.47	285	P	P	03 11 31.3	-0.1
Y32A	R-V Farms, Ver baz=54	54.48	284	P	P	03 11 32.0	+0.6
H19A	Powell baz=54	54.53	300	P	P	03 11 31.7	-0.1
W30A	Crocket Farms baz=54	54.55	286	P	P	03 11 32.3	+0.3
S27A	Las Animas baz=54	54.62	290	P	P	03 11 32.5	-0.1
R26A	Arlington baz=54,SNR=5.2	54.63	291	P	P	03 11 31.7	-0.8
436A	Wall Ranch, Ga baz=54	54.63	279	P	P	03 11 32.7	+0.2
J20A	Shoshoni baz=54,SNR=6.0	54.71	298	P	P	03 11 32.7	-0.5
537A	Green Hill Far baz=55	54.72	278	P	P	03 11 33.9	+0.8
335A	Moody baz=55	54.75	280	P	P	03 11 33.9	+0.6
N23A	Red Feather La baz=55,SNR=5.6	54.75	295	P	P	03 11 33.4	-0.2
V29A	Stinnett baz=55	54.77	287	P	P	03 11 33.7	+0.2
234A	Clairette baz=55	54.79	281	P	P	03 11 33.5	-0.2
T27A	Campo baz=55	54.87	289	P	P	03 11 34.5	+0.2
I19A	Meeteetse baz=55	54.89	299	P	P	03 11 34.3	-0.2
Z32A	Haskell baz=55,SNR=7.8	54.92	283	P	P	03 11 33.7	-0.9
U28A	Mallet baz=55	54.94	288	P	P	03 11 35.1	+0.2
133A	Hamilton Ranch baz=55	54.96	282	P	P	03 11 34.7	-0.1
WALA	Waterton Lakes	54.99	307	eP	P	03 11 34.7	-0.4
WALA	Waterton Lakes	54.99	307	eP	P	03 11 34.7	-0.4
738A	Farr-Stevens R baz=55	55.03	277	P	P	03 11 36.1	+0.7
S26A	Kim baz=55	55.03	290	P	P	03 11 34.1	-1.4
Y31A	Rekieta Farm, baz=55,SNR=6.9	55.05	284	P	P	03 11 34.8	-0.8
435B	Jarrell baz=55	55.16	280	P	P	03 11 36.0	-0.3
ISCO	Idaho Springs baz=55	55.16	293	P	P	03 11 36.4	-0.2
X30A	Coker Ranch, T baz=55	55.18	285	P	P	03 11 36.5	0.0
334A	Lometa baz=55	55.27	281	P	P	03 11 37.2	0.0
W29A	Amarillo baz=55	55.29	286	P	P	03 11 37.7	+0.3
233A	Rising Star baz=55	55.30	282	P	P	03 11 37.3	-0.1
V28A	Channing baz=55	55.30	287	P	P	03 11 37.8	+0.4
U27A	Thompson Grove baz=55	55.30	288	P	P	03 11 38.0	+0.5
J19A	Crowheart baz=55	55.35	299	P	P	03 11 37.5	-0.3
H10N2	ASCENSION HYDR baz=350,slow=75,SNR=235	55.36	164	T	T	04 11 00.4	
Z31A	Sharp Cattle R baz=55,SNR=6.3	55.36	284	P	P	03 11 36.5	-1.3
H10N3	ASCENSION HYDR baz=350,slow=75,SNR=161	55.37	164	T	T	04 11 01.1	
T26A	Comanche Natio baz=55,SNR=6.6	55.37	290	P	P	03 11 37.9	-0.1
H10N1	ASCENSION HYDR baz=350,slow=75,SNR=241	55.38	164	T	T	04 11 01.8	
ABTX	Abilene, Hawle baz=55	55.44	283	P	P	03 11 38.5	+0.1
AMTX	Amarillo comp=Z,42nm,1.4s	55.45	286	eP	P	03 11 38.5	0.0
AMTX	Amarillo baz=55	55.45	286	P	P	03 11 39.1	+0.6
AMTX	Amarillo comp=Z,42nm,1.4s	55.45	286	eP	P	03 11 38.5	0.0
ABKAR	Akbulak array	55.51	53	eP	P	03 11 39.0	+0.4
ABKAR	Akbulak array	55.51	53	eP	P	03 11 39.0	+0.4
Y30A	Stafford Cattl baz=55	55.53	285	P	P	03 11 39.1	0.0
BOZ	Bozeman (W) baz=55	55.56	302	P	P	03 11 39.2	0.0
W28A	Vega baz=55	55.58	287	P	P	03 11 40.0	+0.5
V27A	Dan Oppiter Fa baz=56	55.70	288	P	P	03 11 40.5	+0.1
X29A	Tulia baz=56	55.73	286	P	P	03 11 40.6	+0.1
CHMT	Chamberlain Mo comp=Z,11nm,1.6s	55.79	304	eP	P	03 11 40.3	-0.7
CHMT	Chamberlain Mo comp=Z,11nm,1.6s	55.79	304	eP	P	03 11 40.3	-0.7
232A	Coleman baz=56	55.88	282	P	P	03 11 41.5	-0.2
131A	Roby baz=56	55.91	283	P	P	03 11 41.6	-0.2
T25A	Trinidad baz=56	55.92	290	P	P	03 11 42.1	+0.1
PDAR	Pinedale Array comp=Z,1.2nm,0.9s,baz=57,slow=8.0,SNR=6.2	55.94	298	P	P	03 11 41.4	-0.7
PDAR				LR	LR	03 34 06.4	
	comp=Z,365nm,19.9s,baz=64,slow=34						
X28A	Dimmitt baz=56	56.01	286	P	P	03 11 42.1	-0.5
Z30A	Sanderson Ranc baz=56	56.04	284	P	P	03 11 42.5	-0.2
Y29A	Porterfield Fa baz=56	56.05	285	P	P	03 11 42.9	+0.1
433A	Art baz=56	56.20	281	P	P	03 11 43.4	-0.5
534A	Blanco baz=56	56.23	280	P	P	03 11 44.0	-0.1
332A	Millersview baz=56,SNR=6.7	56.26	282	P	P	03 11 43.9	-0.4
SDCO	Great Sand Dun baz=56	56.27	291	P	P	03 11 43.8	-0.8
DLMT	Dillon comp=Z,34nm,2.0s	56.28	302	eP	P	03 11 44.3	-0.1
DLMT	Dillon comp=Z,34nm,2.0s	56.28	302	eP	P	03 11 44.3	-0.1
231A	Bronte baz=56	56.31	283	P	P	03 11 44.1	-0.5
130A	Snyder baz=56	56.34	284	P	P	03 11 44.8	-0.1
REDW	Red Top Meadow comp=Z,18nm,1.5s	56.38	300	eP	P	03 11 44.5	-0.7
REDW	Red Top Meadow comp=Z,18nm,1.5s	56.38	300	eP	P	03 11 44.5	-0.7
Y28A	McKinney Farm, baz=56	56.41	286	P	P	03 11 45.2	-0.2
H10S1	ASCENSION HYDR baz=351,slow=75,SNR=156	56.41	165	T	T	04 12 21.3	
H10S3	ASCENSION HYDR baz=351,slow=75,SNR=199	56.42	165	T	T	04 12 22.0	
H10S2	ASCENSION HYDR baz=351,slow=75,SNR=158	56.43	165	T	T	04 12 22.6	
Z29A	Hungry Hill Ra baz=56,SNR=5.7	56.44	285	P	P	03 11 45.2	-0.4
432A	Menard baz=56	56.60	281	P	P	03 11 46.5	-0.3
O20A	White River Ci baz=56	56.63	295	P	P	03 11 46.9	-0.1
MSTX	Muleshoe	56.72	286	eP	P	03 11 47.7	0.0
MSTX	Muleshoe baz=57,SNR=9.7	56.72	286	P	P	03 11 46.9	-0.7
MSTX	Muleshoe	56.72	286	eP	P	03 11 47.7	0.0
331A	San Angelo baz=57,SNR=5.1	56.76	282	P	P	03 11 47.2	-0.6
230A	Sterling City baz=57	56.87	283	P	P	03 11 48.6	-0.1
Z28A	Tucker Farm, M baz=57	56.88	285	P	P	03 11 48.6	-0.2
129A	Stewart Farms, baz=57	56.93	284	P	P	03 11 48.5	-0.6
S22A	4UR Ranch, Cre baz=57	57.12	292	P	P	03 11 50.1	-0.5
532A	Rocksprings baz=57	57.14	281	P	P	03 11 50.2	-0.4
NEW	Newport comp=Z,55nm,2.0s	57.20	307	eP	P	03 11 49.8	-1.0
NEW	Newport baz=57	57.20	307	P	P	03 11 50.0	-0.8
NEW	Newport comp=Z,55nm,2.0s	57.20	307	eP	P	03 11 49.8	-1.0
330A	Mertzon baz=57,SNR=5.0	57.21	283	P	P	03 11 51.1	+0.1
431A	Sonora baz=57,SNR=5.5	57.27	282	P	P	03 11 51.9	+0.4
229A	Bryant Ranch, baz=57	57.29	284	P	P	03 11 51.7	0.0
128A	Castleberry Fa baz=57	57.34	285	P	P	03 11 51.9	-0.1
632A	Uvalde baz=57	57.44	280	P	P	03 11 52.8	+0.1
834A	Tilden baz=57	57.47	278	P	P	03 11 53.3	+0.4
DAWY	Dawson	57.53	331	eP	P	03 11 53.3	+0.4
DAWY	Dawson	57.53	331	eP	P	03 11 53.3	+0.4
531A	Rocksprings baz=57	57.55	281	P	P	03 11 53.2	-0.2
430A	Baggett Ranch, baz=58	57.63	282	P	P	03 11 54.0	0.0
EGAK	Eagle comp=Z,19nm,1.6s	57.64	332	eP	P	03 11 53.4	-0.1
EGAK	Eagle comp=Z,19nm,1.6s	57.64	332	eP	P	03 11 53.4	-0.1
329A	Wagon Wheel Ra baz=58	57.70	283	P	P	03 11 54.5	-0.1
228A	UT Block 9, Go baz=58	57.72	284	P	P	03 11 54.1	-0.6
ROSC	El Rosal comp=Z,151nm,21.5s,baz=30,slow=32	57.86	239	LR	LR	03 32 57.8	
833A	Chaparral WMA, baz=58	57.92	279	P	P	03 11 56.5	+0.5
631A	Perdido Creek baz=58	58.04	280	P	P	03 11 56.8	0.0
732A	Laxson Ranch, baz=58	58.06	279	P	P	03 11 57.1	+0.1
PV04	Paradox Valley	58.06	294	eP	P	03 11 58.4	+1.3
PV04	Paradox Valley	58.06	294	eP	P	03 11 58.4	+1.3
530A	J-C Ranch, Com baz=58	58.10	282	P	P	03 11 57.3	0.0
429A	Davenport Ranc baz=58	58.18	282	P	P	03 11 57.7	-0.2
933A	Laredo baz=58	58.29	278	P	P	03 11 58.8	+0.2
832A	Faith Ranch, C baz=58	58.34	279	P	P	03 11 58.9	-0.1
B08A	Colville Reser comp=Z,34nm,1.9s	58.35	308	eP	P	03 11 58.8	0.0
B08A	Colville Reser comp=Z,34nm,1.9s	58.35	308	eP	P	03 11 58.8	0.0
HLID	Hailey comp=Z,20nm,2.0s	58.38	302	eP	P	03 12 00.1	+0.8
HLID	Hailey baz=58	58.38	302	P	P	03 11 58.6	-0.6
HLID	Hailey comp=Z,20nm,2.0s	58.38	302	eP	P	03 12 00.1	+0.8
ANMO	Albuquerque comp=Z,12nm,1.6s	58.56	289	eP	P	03 12 01.6	+1.0
ANMO	Albuquerque comp=Z,12nm,1.6s	58.56	289	eP	P	03 12 01.6	+1.0
COLD	Coldfoot	58.58	337	eP	P	03 12 00.7	+0.6
COLD	Coldfoot	58.58	337	eP	P	03 12 00.7	+0.6
529A	Stev Forest Ra baz=59	58.71	282	P	P	03 12 01.8	+0.2
DUG	Dugway, Tooele baz=59	59.42	298	P	P	03 12 06.1	-0.4
ILAR	Eielson Array comp=Z,0.7nm,0.6s,baz=42,slow=5.1,SNR=17	59.42	334	P	P	03 12 06.2	+0.3
ILAR				LR	LR	03 36 27.3	
	comp=Z,141nm,18.9s,baz=77,slow=35						
CCB	Clear Creek Bu	59.79	335	eP	P	03 12 08.8	+0.3
CCB	Clear Creek Bu	59.79	335	eP	P	03 12 08.8	+0.3
MSU	Marysvale comp=Z,2.8nm,0.8s	60.04	296	eP	P	03 12 11.6	+0.7
MSU	Marysvale comp=Z,2.8nm,0.8s	60.04	296	eP	P	03 12 11.6	+0.7
TXAR	Lajitas Array comp=Z,1.9nm,0.6s,baz=64,slow=7.1,SNR=14	60.18	282	P	P	03 12 11.9	+0.1
TXAR				LR	LR	03 38 08.0	
	comp=Z,775nm,18.9s,baz=0.0,slow=36						
ELK	Elko comp=Z,0.9nm,0.8s	60.56	299	eP	P	03 12 14.5	+0.1
ELK	Elko comp=Z,1.0nm,0.8s	60.56	299	eP	P	03 12 14.5	+0.1
W18A	Petrified Fore baz=60	60.58	291	P	P	03 12 14.1	-0.5
MCK	McKinley comp=Z,56nm,1.9s	60.80	334	eP	P	03 12 15.0	-0.4
MCK	McKinley comp=Z,56nm,1.9s	60.80	334	eP	P	03 12 15.0	-0.4
121A	Cookes Peak, D baz=61	60.91	288	P	P	03 12 17.4	+0.5
TIXI	Tiksi	60.94	8	eP	P	03 12 16.7	+0.5
TIXI	Tiksi	60.94	8	eP	P	03 12 16.7	+0.5
GEYT	Alibeck comp=Z,0.9nm,0.4s,baz=303,slow=8.7,SNR=3.9	61.05	64	P	P	03 12 17.8	+0.3
GEYT				LR	LR	03 39 07.7	
	comp=Z,103nm,21.9s,baz=30,slow=36						
BPAW	Bear Paw Mtn.	61.13	335	eP	P	03 12 18.3	+0.6
BPAW	Bear Paw Mtn.	61.13	335	eP	P	03 12 18.3	+0.6
TRF	Thorofare Moun comp=Z,36nm,1.8s	61.41	335	eP	P	03 12 19.6	-0.1
TRF	Thorofare Moun comp=Z,36nm,1.8s	61.41	335	eP	P	03 12 19.6	-0.1
BMRM	Bremner River comp=Z,12nm,1.2s	61.42	330	eP	P	03 12 19.3	-0.4
BMRM	Bremner River comp=Z,12nm,1.2s	61.42	330	eP	P	03 12 19.3	-0.4
WVOR	Wild Horse Val comp=Z,22nm,1.5s	61.53	303	eP	P	03 12 21.9	+1.0
WVOR	Wild Horse Val comp=Z,22nm,1.5s	61.53	303	eP	P	03 12 21.9	+1.0
SML	Sawmill comp=Z,3.2nm,1.3s	62.04	332	eP	P	03 12 24.3	+0.5
SML	Sawmill comp=Z,3.2nm,1.3s	62.04	332	eP	P	03 12 24.3	+0.5
R11A	Troy Canyon, C	62.25	297	eP	P	03 12 26.4	+0.6
R11A	Troy Canyon, C	62.25	297	eP	P	03 12 26.4	+0.6
J05D	Fort Rock, OR baz=62	62.49	305	P	P	03 12 27.0	-0.4
K05A	Summer Lake comp=Z,60nm,1.8s	62.65	304	eP	P	03 12 29.6	+1.2
K05A	Summer Lake comp=Z,60nm,1.8s	62.65	304	eP	P	03 12 29.6	+1.2
TUC	Tucson	63.02	289	eP	P	03 12 31.9	+1.0
TUC	Tucson	63.02	289	eP	P	03 12 31.9	+1.0
TPNV	Topopah Spring baz=63	63.54	297	P	P	03 12 34.5	+0.1
NVAR	Mina Array Bea comp=Z,0.5nm,0.7s,baz=71,slow=5.8,SNR=3.4	63.85	299	P	P	03 12 36.8	+0.3
BDFB	Brasilia	64.57	202	LR	LR	03 36 11.2	
	comp=Z,184nm,20.4s,baz=44,slow=32						
ZALV	Zalesovo Beam comp=Z,0.3nm,0.3s,baz=306,slow=5.0,SNR=2.5	64.65	37	P	P	03 12 41.1	0.0
ZALV				LR	LR	03 40 37.1	
	comp=Z,90nm,21.3s,baz=250,slow=36						
MPMC	Manual Prospec baz=65	64.88	296	P	P	03 12 43.3	+0.1
GSC	Goldstone, Bar comp=Z,25nm,1.8s	64.94	295	eP	P	03 12 45.0	+1.5
GSC	Goldstone, Bar baz=65	64.94	295	P	P	03 12 42.5	-1.0
GSC	Goldstone, Bar comp=Z,25nm,1.8s	64.94	295	eP	P	03 12 45.0	+1.5
BELC	Belle Mtn. Jos baz=65	65.28	294	P	P	03 12 46.1	+0.3
KSH	Kashi	70.51	53	P	P	03 13 20.5	+1.9
KSH				pP	pP	03 13 24.8	+0.5
KSH				sP	sP	03 13 27.0	+0.6
KSH				PcP	PcP	03 13 40.5	+0.6
KSH				S	S	03 22 30.5	-0.6
KSH				SKS	SKSac	03 23 18.0	-1.7
KSH				SS	SS	03 27 01.3	-0.2
KSH	comp=Z,14nm,1.2s			PMZ			
KSH	comp=Z,74nm,3.9s			PMZ			
KSH	comp=Z,600nm,12.6s			LN			
KSH	comp=Z,370nm,12.8s			LE			
KSH	comp=Z,120nm,6.3s			LZ			
SEY	Seymchan comp=Z,0.7nm,0.3s,baz=2.0,slow=14,SNR=3.0	70.89	0	P	P	03 13 20.2	-0.1
LPAZ	La Paz comp=Z,1.1nm,0.7s,baz=33,slow=8.3,SNR=3.5	72.43	221	P	P	03 13 30.8	-0.1
LPAZ				LR	LR	03 43 06.8	
	comp=Z,84nm,18.6s,baz=10.0,slow=34						
WMQ	Urumqi	73.38	43	P	P	03 13 36.8	+1.1
WMQ				pP	pP	03 13 41.5	+0.1
WMQ				sP	sP	03 13 43.8	+0.3
WMQ				PcP	PcP	03 13 53.5	+1.6
WMQ				PP	PP	03 16 22.0	+3.4
WMQ				sS	sS	03 23 11.0	-2.2
WMQ	comp=Z,8.0nm,0.6s			PMZ			
WMQ	comp=Z,48nm,7.0s			PMZ			
WMQ	comp=Z,150nm,7.8s			LN			

WMQ				LE				
	comp=Z,79nm,7.1s							
WMQ				LZ				
	comp=Z,68nm,21.8s							
SONM	**Songino Array**	**77.77**	**30**	P	**P**	**03 14 00.8**	**0.0**	
	comp=Z,2.1nm,0.9s,baz=322,slow=5.5,SNR=11							
SONM				LR	LR	03 49 55.0		
	comp=Z,54nm,19.0s,baz=30,slow=37							
GTA	**Gaotai**	**82.37**	**38**	*e*P	**P**	**03 14 25.8**	**0.0**	
GTA				pP	**PcP**	**03 14 30.3**	**-0.7**	
GTA				sP	**sP**	**03 14 33.0**	**-0.7**	
GTA				S	**S**	**03 24 40.8**	**-0.2**	
GTA				sS	**SKKSac**	**03 24 48.5**	**-1.0**	
GTA				PMZ				
	comp=Z,4.0nm,1.3s							
GTA				PMZ				
	comp=Z,63nm,5.3s							
GTA				LN				
	comp=Z,140nm,20.9s							
GTA				LE				
	comp=Z,210nm,20.9s							
GTA				LZ				
	comp=Z,140nm,21.4s							
HHC	**Hu-ho-hao-te**	**85.68**	**30**	*e*P	**P**	**03 14 41.5**	**-1.2**	
HHC				PP	**PP**	**03 18 01.5**	**+0.7**	
HHC				SKS	**SKSac**	**03 25 03.5**	**-3.8**	
HHC				S	**S**	**03 25 11.5**	**-2.7**	
HHC				SS	**SS**	**03 30 49.3**	**+0.3**	
HHC				PMZ				
	comp=Z,14nm,0.6s							
HHC				PMZ				
	comp=Z,95nm,7.6s							
HHC				LN				
	comp=Z,140nm,17.3s							
HHC				LE				
	comp=Z,120nm,18.5s							
HHC				LZ				
	comp=Z,140nm,17.3s							
LZH	**Lanzhou**	**86.88**	**37**	*e*P	**P**	**03 14 49.0**	**+0.3**	
LZH				pP	**pP**	**03 14 54.0**	**-0.5**	
LZH				sP	**sP**	**03 14 57.0**	**+0.4**	
LZH				PMZ				
	comp=Z,43nm,1.2s							
LZH				PMZ				
	comp=Z,190nm,5.0s							
CN2	**Changchun**	**86.93**	**19**	*e*P	**P**	**03 14 47.8**	**-0.8**	
CN2				PMZ				
	comp=Z,10.0nm,0.6s							
BOSA	**Boshof**	**88.72**	**136**	LR	LR	03 53 06.0		
	comp=Z,108nm,20.1s,baz=322,slow=34							
CD2	**Chengdu**	**91.26**	**40**	*e*P	**P**	**03 15 08.5**	**-0.8**	
CD2				pP	**PcP**	**03 15 11.8**	**+1.5**	
CD2				PP	**PP**	**03 18 44.0**	**-1.7**	
CD2				SKS	**SKSac**	**03 25 39.8**	**-1.1**	
CD2				S	**S**	**03 26 05.8**	**-1.4**	
CD2				sS	**ScS**	**03 26 11.5**	**+1.3**	
CD2				SS	**SS**	**03 32 10.0**	**-0.6**	
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,120nm,5.0s							
NJ2	**Nanjing**	**96.10**	**28**	*e*P	**P**	**03 15 32.8**	**+1.3**	
NJ2				PMZ				
	comp=Z,30nm,0.8s							
GYA	**Guiyang**	**96.37**	**40**	*e*P	**P**	**03 15 33.0**	**0.0**	
GYA				PMZ				
	comp=Z,10.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**99.33**	**51**	LR	LR	04 03 12.6		
	comp=Z,104nm,19.4s,baz=199,slow=37							
VNDA	**Vanda**	**148.68**	**184**	PKPbc	**PKPbc**	**03 21 49.3**	**-0.2**	
	comp=Z,2.7nm,1.0s,baz=236,slow=2.3,SNR=8.7							
WRA	**Warramunga Arr**	**149.61**	**35**	PKPbc	**PKPbc**	**03 21 52.5**	**-1.0**	
	comp=Z,3.5nm,0.9s,baz=338,slow=3.1,SNR=11							
ASAR	**Alice Springs**	**152.74**	**40**	PKPbc	**PKPbc**	**03 21 59.7**	**-1.0**	
	comp=Z,1.4nm,0.7s,baz=341,slow=2.1,SNR=18							

*IDC **30** 03:03:59.3±2.5,8.°58S×159.°87E,h0km,mb4.0/5, mb1 4.3/5,mb1mx3.8/28,mbtmp4.0/5,Error ellipse: s-maj=76.4km s-min=28.3km az=126.0*
*ISCJB **30** 03:04:04.1±1.0,8.°4S±0.°1×159.°7E±0.°2,h33km,mb3.8/5, Error ellipse: s-maj=25.6km s-min=9.9km az=152.7*
ISC 30 03:04:05.5±1.2,8.°4S±0.°1×159.°7E±0.°2,h35km,n12, σ1§53/7,mb3.8/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**1.03**	**164**	*e*P		**Pn**	**03 04 22.0**	**-1.6**
HNR				*i*S		**Sn**	**03 04 39.0**	**+2.2**
WRA	**Warramunga Arr**	**27.04**	**242**	P		**P**	**03 09 45.0**	**+0.1**
	1.3nm,0.3s,baz=71,slow=9.2,SNR=11							
H11S2	**WAKE ISLAND Hy**	**27.64**	**15**	T		T	03 38 45.0	
	baz=192,slow=76,SNR=48							
H11S3	**WAKE ISLAND Hy**	**27.64**	**14**	T		T	03 38 47.2	
	baz=192,slow=76,SNR=54							
H11S1	**WAKE ISLAND Hy**	**27.65**	**15**	T		T	03 38 48.5	
	baz=192,slow=76,SNR=35							
H11N1	**WAKE ISLAND Hy**	**28.86**	**14**	T		T	03 40 14.4	
	baz=192,slow=76,SNR=250							
H11N3	**WAKE ISLAND Hy**	**28.87**	**14**	T		T	03 40 17.4	
	baz=192,slow=76,SNR=182							
H11N2	**WAKE ISLAND Hy**	**28.88**	**14**	T		T	03 40 17.1	
	baz=192,slow=76,SNR=338							
ASAR	**Alice Springs**	**28.94**	**235**	P		**P**	**03 10 00.8**	**-1.0**
	0.8nm,0.3s,baz=66,slow=9.5,SNR=18							
CMAR	**Chiang Mai Arr**	**65.58**	**295**	P		**P**	**03 14 47.3**	**+0.9**
	0.6nm,0.3s,baz=112,slow=6.2,SNR=3.2							
SONM	**Songino Array**	**73.08**	**326**	P		**P**	**03 15 32.7**	**+0.3**
	0.9nm,0.8s,baz=130,slow=5.8,SNR=3.4							
ILAR	**Eielson Array**	**83.06**	**20**	P		**P**	**03 16 26.9**	**-0.2**
	0.6nm,1.0s,baz=240,slow=5.5,SNR=4.5							

JMA 30 03:04:37.0±0.4,33.°11N×142.°41E,h4km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSO1	**Boso 1**	**1.95**	**323**	P		Pn	03 05 11.1	+1.0
BSO1				S		Sb	03 05 37.0	+0.5
BSO2	**Boso 2**	**2.14**	**320**	S		Sb	03 05 42.2	-0.4
BSO3	**Boso 3**	**2.31**	**317**	P		Pn	03 05 16.8	+1.3
BSO3				S		Sb	03 05 46.2	-1.4
BSO4	**Boso 4**	**2.54**	**318**	P		Pn	03 05 20.7	+1.8
BSO4				S		Sn	03 05 51.9	+1.6
JOD2	**Odawara 2**	**3.49**	**309**	S		Sn	03 06 12.2	-1.7
JRY	**Ryogami san**	**4.10**	**316**	S		Sn	03 06 30.9	+2.0
JFT	**Otama**	**4.71**	**340**	P		Pn	03 05 50.9	+2.0
MAT	**Matsushiro**	**4.87**	**316**	P		Pn	03 05 53.7	+2.7
MAT				S		Sn	03 06 48.7	+0.9
JMK	**Ichinoseki**	**5.91**	**351**	P		Pn	03 06 06.1	+0.8
JMK				S		Sn	03 07 08.9	-4.5

*JMA **30** 03:41:22.6±0.1,24.°48N×121.°82E,h55km±3km,M2.9*
*ISCJB **30** 03:41:23.3±0.3,24.°48N±0.°02×121.°90E±0.°02,h54km±4km, Error ellipse: s-maj=3.7km s-min=2.5km az=149.2*
*TAP **30** 03:41:23.1,24.°48N×121.°82E,h55km,ML3.8,C*
ISC 30 03:41:24.0±1.2,24.°48N±0.°03×121.°88E±0.°02,h50km±6km, n58,σ§92/100,4C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWC	**Suao**	**0.14**	**347**	⇓*i*P		**Pn**	**03 41 31.8**	**-0.1**
	baz=15							
TWC				S		**Sn**	**03 41 38.2**	**+0.6**
	baz=15							
ENA	**Nanau**	**0.14**	**249**	⇓*i*P		**Pn**	**03 41 31.7**	**-0.3**
	baz=230							
ENA				S		**Sn**	**03 41 38.1**	**+0.5**
	baz=230							
ILA	**Ilan**	**0.31**	**337**	P		**Pn**	**03 41 33.2**	**+0.1**
	baz=348							
ILA				*e*S		**Sn**	**03 41 41.1**	**+1.3**
	baz=348							
TWE	**Neicheng**	**0.31**	**321**	P		**Pn**	**03 41 33.0**	**-0.2**
	baz=332							
TWE				S		**Sn**	**03 41 40.1**	**+0.4**
	baz=332							
ENTT	**Nioudou**	**0.33**	**299**	⇑*i*P		**Pn**	**03 41 32.9**	**-0.5**
	baz=305							
ENTT				S		**Sn**	**03 41 39.9**	**-0.2**
	baz=305							
EGS		**0.37**	**7**	⇓*i*P		**Pn**	**03 41 34.0**	**+0.3**
	baz=17							
EGS				*e*S		**Sn**	**03 41 42.2**	**+1.6**
	baz=17							
NNS	**Nan Shan**	**0.47**	**265**	P		**Pn**	**03 41 34.2**	**-0.8**
	baz=264							
NNS				S		**Sn**	**03 41 42.0**	**-0.8**
	baz=264							
TWD	**Chiawan**	**0.47**	**214**	⇓P		**Pn**	**03 41 34.0**	**-0.9**
	baz=206							
TWD				*e*S		**Sn**	**03 41 42.4**	**-0.4**
	baz=206							
NSK	**Sanguang**	**0.52**	**293**	⇑*i*P		**Pn**	**03 41 34.5**	**-1.0**
	baz=295							
NSK				*e*S		**Sn**	**03 41 42.8**	**-1.0**
	baz=295							
TWB1	**Santiao Chiao**	**0.54**	**10**	P		**Pn**	**03 41 35.4**	**-0.2**
	baz=17							
TWB1				S		**Sn**	**03 41 45.2**	**+1.2**
	baz=17							
HWA	**Hwalien**	**0.56**	**207**	*e*P		**Pn**	**03 41 35.6**	**-0.3**
	baz=200							
HWA				*e*S		**Sn**	**03 41 44.8**	**+0.3**
	baz=200							
TWA	**Mucha**	**0.57**	**331**	⇑*i*P		**Pn**	**03 41 35.6**	**-0.5**
	baz=337							
TWA				S		**Sn**	**03 41 44.4**	**-0.4**
	baz=337							
NWF	**Wu-fen Shan**	**0.60**	**351**	P		**Pn**	**03 41 36.4**	**-0.1**
	baz=356							
NWF				S		**Sn**	**03 41 45.9**	**+0.4**
	baz=356							
TAP1	**Taipei**	**0.65**	**330**	*e*P		**Pn**	**03 41 36.1**	**-0.9**
	baz=333							
TAP1				*e*S		**Sn**	**03 41 45.9**	**-0.6**
	baz=333							
WHF	**Hehuan Shan**	**0.65**	**240**	P		**Pn**	**03 41 36.7**	**-0.9**
	baz=236							
WHF				*e*S		**Sn**	**03 41 46.6**	**-0.7**
	baz=236							
TAP	**Taipei**	**0.66**	**329**	*e*P		**Pn**	**03 41 36.2**	**-0.9**
	baz=333							
TAP				*e*S		**Sn**	**03 41 46.3**	**-0.3**
	baz=333							
TWT	**Tachien**	**0.68**	**251**	P		**Pn**	**03 41 37.5**	**-0.2**
	baz=249							
TWT				S		**Sn**	**03 41 47.2**	**-0.3**
	baz=249							
ESF	**Shoufeng Towns**	**0.69**	**210**	*e*P		**Pn**	**03 41 37.8**	**+0.1**
	baz=205							
TWS1	**Kuangyinshan**	**0.75**	**326**	⇑*e*P		**Pn**	**03 41 37.6**	**-0.7**
	baz=329							
TWS1				*e*S		**Sn**	**03 41 48.8**	**0.0**
	baz=329							
ESL	**Shilin**	**0.78**	**212**	*e*P		**Pn**	**03 41 37.0**	**-1.8**
	baz=207							
ESL				*e*S		**Sn**	**03 41 49.3**	**-0.1**
	baz=207							
NCU	**National Centr**	**0.80**	**308**	*e*P		**Pn**	**03 41 38.0**	**-1.1**
	baz=310							
NCU				*e*S		**Sn**	**03 41 49.4**	**-0.6**
	baz=310							
NSTT	**Nanjuang**	**0.82**	**281**	*e*P		**Pn**	**03 41 38.5**	**-0.8**
	baz=281							
NSTT				*e*S		**Sn**	**03 41 50.2**	**-0.2**
	baz=281							
TWY	**Chenhua**	**0.83**	**342**	*e*P		**Pn**	**03 41 39.0**	**-0.5**
	baz=346							
TWY				*e*S		**Sn**	**03 41 51.3**	**+0.5**
	baz=346							
HSN	**Hsinchu**	**0.89**	**291**	*e*S		**Sn**	**03 41 52.6**	**+0.5**
	baz=295							
JYNG	**Yonagunijimaku**	**0.97**	**91**	P		**Pn**	**03 41 41.1**	**-0.1**
JYNG				S		**Sn**	**03 41 53.8**	**-0.1**
WDT	**Danda**	**0.99**	**224**	*e*P		**Pn**	**03 41 41.2**	**-0.7**
	baz=220							
WDT				*e*S		**Sn**	**03 41 54.4**	**-0.7**
	baz=220							
TWQ1	**Liyutan**	**1.02**	**263**	*e*P		**Pn**	**03 41 41.4**	**-0.6**
	baz=262							
TWQ1				*e*S		**Sn**	**03 41 56.5**	**+1.3**
	baz=262							
NSY	**Sanyi**	**1.02**	**267**	*e*P		**Pn**	**03 41 41.6**	**-0.4**
	baz=266							
NSY				*e*S		**Sn**	**03 41 57.0**	**+1.6**
	baz=266							
YOJ	**Yonaguni jima**	**1.03**	**91**	P		**Pn**	**03 41 41.7**	**-0.3**
YOJ				S		**Sn**	**03 41 55.8**	**+0.4**
SMLT	**Sun Moon Lake**	**1.08**	**237**	*e*P		**Pn**	**03 41 42.7**	**-0.1**
	baz=234							
SMLT				*e*S		**Sn**	**03 41 58.6**	**+1.9**
	baz=234							
EHY	**Hungye**	**1.09**	**208**	*e*P		**Pn**	**03 41 40.9**	**-2.1**
	baz=204							
EHY				*e*S		**Sn**	**03 41 56.8**	**-0.3**
	baz=204							
TYC	**Yuchr**	**1.10**	**239**	*e*P		**Pn**	**03 41 43.1**	**+0.1**
	baz=236							
TYC				*e*S		**Sn**	**03 41 58.0**	**+0.9**
	baz=236							
PCYT	**Pengchaiyu**	**1.16**	**8**	*e*P		**Pn**	**03 41 43.6**	**-0.3**
	baz=11							
TWF1	**Yuli**	**1.24**	**206**	*e*P		**Pn**	**03 41 42.9**	**-2.1**
	baz=202							
TWF1				*e*S		**Sn**	**03 42 00.5**	**-0.1**
	baz=202							
WNT	**Mingjian**	**1.25**	**242**	*e*P		**Pn**	**03 41 45.1**	**+0.1**
	baz=239							
WNT				*e*S		**Sn**	**03 42 01.9**	**+1.2**
	baz=239							
YUS	**Yu-Shan**	**1.30**	**221**	*e*P		**Pn**	**03 41 45.9**	**-0.3**
	baz=218							
ALS	**Alishan**	**1.38**	**226**	*e*P		**Pn**	**03 41 47.6**	**+0.5**
	baz=223							
CHN5	**Tsauling**	**1.41**	**232**	*e*P		**Pn**	**03 41 47.8**	**+0.5**
	baz=229							
CHN5				*e*S		**Sn**	**03 42 06.1**	**+1.3**
	baz=229							
CHKT	**Chengkung**	**1.45**	**199**	*e*P		**Pn**	**03 41 45.7**	**-2.1**
	baz=196							
CHKT				*e*S		**Sn**	**03 42 05.7**	**0.0**
	baz=196							
ELDTW	**Lidau**	**1.51**	**212**	*e*P		**Pn**	**03 41 47.9**	**-0.8**
	baz=209							
CHN4	**Tsaushan**	**1.63**	**227**	*e*P		**Pn**	**03 41 51.2**	**+0.9**
	baz=224							
CHN4				*e*S		**Sn**	**03 42 11.9**	**+1.8**
	baz=224							
CHY	**Chiayi**	**1.65**	**234**	*e*S		**Sn**	**03 42 11.2**	**+0.6**
	baz=232							
STYT	**Tauyuan**	**1.67**	**218**	*e*P		**Pn**	**03 41 52.0**	**+1.2**
	baz=216							
IRIF	**Iriomote-Funau**	**1.69**	**94**	P		**Pn**	**03 41 50.4**	**-0.6**
IRIF				S		**Sn**	**03 42 11.3**	**-0.2**
TWK	**Hsinying**	**1.76**	**227**	*e*P		**Pn**	**03 41 52.9**	**+0.8**
	baz=224							
TWK				*e*S		**Sn**	**03 42 15.0**	**+1.7**
	baz=224							
CHN1	**Nanshi**	**1.79**	**224**	*e*P		**Pn**	**03 41 53.3**	**+0.9**
	baz=222							
CHN1				*e*S		**Sn**	**03 42 16.6**	**+2.6**
	baz=222							
HATJ	**Hateruma jima**	**1.80**	**103**	P		**Pn**	**03 41 53.2**	**+0.6**
TWG	**Pinlang**	**1.81**	**204**	*e*P		**Pn**	**03 41 52.4**	**-0.3**
	baz=202							
SGST	**Jiashian**	**1.83**	**221**	*e*P		**Pn**	**03 41 54.0**	**+0.9**
	baz=218							
JKRS	**Kuro-shima**	**1.95**	**97**	P		**Pn**	**03 41 54.6**	**-0.1**
JKRS				S		**Sn**	**03 42 18.8**	**+0.8**
JIJ	**Ishigaki jima**	**2.06**	**93**	P		**Pn**	**03 41 55.5**	**-0.7**
JIJ				S		**Sn**	**03 42 19.8**	**-0.9**
JISG	**Ishigakijimahi**	**2.21**	**87**	P		**Pn**	**03 41 57.6**	**-0.6**
JISG				*e*S		**Sn**	**03 42 24.0**	**-0.4**
EAST	**Anshuo**	**2.29**	**205**	*e*P		**Pn**	**03 42 01.2**	**+1.8**
	baz=202							
PNG	**Penghu**	**2.31**	**247**	*e*P		**Pn**	**03 41 57.7**	**-1.9**
	baz=246							
WDGT	**Dungji**	**2.37**	**240**	*e*P		**Pn**	**03 41 59.9**	**-0.5**
	baz=238							
SCZT	**Fangliau**	**2.40**	**209**	*e*P		**Pn**	**03 42 00.1**	**-0.7**
	baz=207							
LAY	**Lan-yu**	**2.45**	**187**	*e*P		**Pn**	**03 42 00.2**	**-1.2**
	baz=185							
JTJ	**Tarama**	**2.57**	**86**	P		**Pn**	**03 42 03.4**	**+0.3**
JTJ				S		**Sn**	**03 42 33.4**	**+0.2**

*IDC **30** 04:13:54.8±2.8,27.°64N×56.°83E,h0km,mb3.7/7,Error ellipse: s-maj=60.5km s-min=25.8km az=145.0*

*DSN **30** 04:14:00.0±0.1,27.°78N×57.°06E,h15km,mb3.2/7,ML3.8/4, Error ellipse: s-maj=13.1km s-min=4.7km az=287.0*
*ISCJB **30** 04:14:00.4±0.4,27.°81N±0.°03×56.°44E±0.°09,h10km, mb3.6/7,Error ellipse: s-maj=11.0km s-min=3.9km az=173.7*
*CSEM **30** 04:14:01.2±0.1,27.°81N×56.°54E,h10km,ML3.5,Error ellipse: s-maj=6.3km s-min=2.3km az=86.0*
*TEH **30** 04:14:02.0,27.°73N×56.°58E,h22km,ML3.5*
*OMAN **30** 04:14:22.7±99.0,26.°40N×56.°17E,h20km±5km,Error ellipse: s-maj=259.2km s-min=4.0km az=4.0*
ISC 30 04:13:59.8±0.8,27.°82N±0.°03×56.°55E±0.°07,h10km,n45, σ1§59/46,mb3.6/7,4C-6D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IBND	**Bandar-abas**	**0.37**	**181**	*e*Sg		**Sg**	**04 14 12.2**	**+0.2**
IBND				*e*Pg		**Pb**	**04 14 08.9**	**+0.5**
IBND				*e*			04 14 24.2	
	comp=Z,59μm,0.1s							
NGRK	**Negar Kerman**	**1.83**	**5**	*e*Pn		**Pn**	**04 14 33.1**	**+1.5**
NGRK	**Negar Kerman**	**1.83**	**5**	*e*Pn		**Pn**	**04 14 33.1**	**+1.5**
BANOM	**Banah**	**1.90**	**187**	P		**Pn**	**04 14 32.8**	**+0.5**
	SNR=14							
BANOM				S		**Sn**	**04 14 58.2**	**+1.9**
BANOM	**Banah**	**1.90**	**187**	⇑P		**Pn**	**04 14 32.7**	**+0.5**
	SNR=30							
BANOM				⇑S		Sn	04 14 40.0	-16
BANOM	**Banah**	**1.90**	**187**	⇑*e*P		**Pn**	**04 14 32.8**	**+0.5**
	SNR=14							
BANOM				⇑S		**Sn**	**04 14 58.2**	**+1.9**
TVBK	**TV Kerman**	**2.17**	**5**	*e*Pn		**Pn**	**04 14 38.6**	**+2.4**
CHMN	**Cheshme madani**	**2.21**	**23**	*e*Pn		**Pn**	**04 14 38.7**	**+1.8**
CHMN	**Cheshme madani**	**2.21**	**23**	*e*Pn		**Pn**	**04 14 38.7**	**+1.8**
KHGB	**Koh Gabri**	**2.55**	**359**	*e*Pn		**Pn**	**04 14 43.8**	**+2.4**
NAZ	**Nazwa, Dubai**	**2.93**	**196**	P		**Pn**	**04 14 47.7**	**+1.3**
NAZ	**Nazwa, Dubai**	**2.93**	**196**	⇓P		**Pn**	**04 14 47.7**	**+1.3**
HATD	**Hatta, Dubai**	**3.00**	**187**	P		**Pn**	**04 14 49.4**	**+2.0**
HATD	**Hatta, Dubai**	**3.00**	**187**	⇓P		**Pn**	**04 14 49.4**	**+2.0**
ASHO	**Ashiyiah**	**3.15**	**188**	P		**Pn**	**04 14 50.5**	**+1.0**
	SNR=8.8							
ASHO	**Ashiyiah**	**3.15**	**188**	⇓P		**Pn**	**04 14 50.5**	**+1.0**
	SNR=8.8							
ASHO	**Ashiyiah**	**3.15**	**188**	⇓*i*P		**Pn**	**04 14 50.1**	**+0.5**
	SNR=8.8							
FAQ	**Al Faqa, Dubai**	**3.18**	**196**	P		**Pn**	**04 14 51.3**	**+1.5**
	SNR=10							
FAQ	**Al Faqa, Dubai**	**3.18**	**196**	⇓*i*P		**Pn**	**04 14 51.3**	**+1.5**
	SNR=10							
ASUD	**Al Ashush, Dub**	**3.36**	**199**	P		**Pn**	**04 14 54.1**	**+1.7**
	SNR=17							
ASUD	**Al Ashush, Dub**	**3.36**	**199**	P		**Pn**	**04 14 54.4**	**+2.1**
	SNR=17							
ASUD	**Al Ashush, Dub**	**3.36**	**199**	⇓*i*P		**Pn**	**04 14 54.1**	**+1.7**
	SNR=17							
IPAR	**Pars**	**3.67**	**304**	*e*Pn		**Pn**	**04 14 58.6**	**+1.7**
IPAR				*e*			04 16 17.0	
	comp=Z,692nm,0.5s							
IPAR	**Pars**	**3.67**	**304**	*e*Pn		**Pn**	**04 14 58.6**	**+1.7**
IBAF	**Bafgh**	**3.85**	**347**	*e*Pn		**Pn**	**04 15 01.0**	**+1.7**
IBAF				*e*			04 15 19.2	
	comp=Z,500nm,0.3s							
IBAF	**Bafgh**	**3.85**	**347**	*e*Pn		**Pn**	**04 15 01.0**	**+1.7**
IMEH	**Mehriz**	**3.94**	**335**	*e*Pn		**Pn**	**04 15 02.1**	**+1.6**
IMEH				*e*			04 15 23.5	
	comp=Z,295nm,0.3s							
IMEH	**Mehriz**	**3.94**	**335**	*e*Pn		**Pn**	**04 15 02.1**	**+1.6**
IKAZ	**Kazeroun**	**4.57**	**296**	*e*Pn		**Pn**	**04 15 10.6**	**+1.3**
IKAZ				*e*			04 16 10.9	
	comp=Z,866nm,0.2s							
IKAZ	**Kazeroun**	**4.57**	**296**	*e*Pn		**Pn**	**04 15 10.6**	**+1.3**
ISAD	**Sadrabad**	**4.78**	**329**	*e*Pn		**Pn**	**04 15 14.1**	**+2.0**
ISAD				*e*			04 16 52.9	
	comp=Z,303nm,0.3s							
ISAD	**Sadrabad**	**4.78**	**329**	*e*Pn		**Pn**	**04 15 14.1**	**+2.0**
IKOO	**Kooshah**	**5.06**	**24**	*e*Pn		**Pn**	**04 15 17.3**	**+1.3**
IKOO				*e*			04 16 47.3	
	comp=Z,385nm,0.3s							
IKOO	**Kooshah**	**5.06**	**24**	*e*Pn		**Pn**	**04 15 17.3**	**+1.3**
IZEF	**Zefreh**	**6.24**	**325**	*e*Pn		**Pn**	**04 15 33.5**	**+1.4**
IZEF				*e*			04 15 38.8	
	comp=Z,168nm,0.3s							
IZEF	**Zefreh**	**6.24**	**325**	*e*Pn		**Pn**	**04 15 33.5**	**+1.4**
IPIR	**Pirpir**	**6.89**	**316**	*e*Pn		**Pn**	**04 15 41.9**	**+0.8**
IPIR				*e*			04 15 56.6	
	comp=Z,114nm,0.1s							
IPIR	**Pirpir**	**6.89**	**316**	*e*Pn		**Pn**	**04 15 41.9**	**+0.8**
BRTR	**Keskin Array B**	**22.37**	**308**	P		**P**	**04 18 58.6**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=134,slow=10,SNR=5.1							
AKTO	**Aktyubinsk**	**22.61**	**2**	P		**P**	**04 18 59.3**	**-1.3**
	comp=Z,2.1nm,0.4s,baz=182,slow=8.5,SNR=7.4							
BVAR	**Borovoye Array**	**27.20**	**18**	P		**P**	**04 19 40.7**	**-2.8**
	comp=Z,0.9nm,0.7s,baz=207,slow=6.0,SNR=5.5							
ZALV	**Zalesovo Beam**	**33.33**	**31**	P		P	04 20 34.7	-3.0
	comp=Z,1.1nm,0.3s,baz=245,slow=7.9,SNR=5.9							
GERES	**GERESS Array B**	**38.97**	**314**	P		**P**	**04 21 24.8**	**-1.3**
	comp=Z,1.0nm,0.9s,baz=215,slow=12,SNR=2.4							
FINES	**FINESS Array B**	**39.29**	**337**	P		P	04 21 26.4	-2.1
	comp=Z,1.0nm,0.9s,baz=215,slow=12,SNR=2.4							
TORD	**Torodi Ar. Bea**	**53.01**	**266**	P		**P**	**04 23 15.5**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=64,slow=7.4,SNR=42							

*ISCJB **30** 04:22:01.5±0.5,32.°27N±0.°03×115.°25W±0.°04,h22km±5km, Error ellipse: s-maj=5.9km s-min=4.4km az=176.0*
*ECX **30** 04:22:02.9±0.5,32.°24N×115.°29W,h6km,MD2.3,ML2.5*
*MEX **30** 04:22:03.4±0.5,32.°31N×115.°11W,h15km,MD3.8*
ISC 30 04:22:01.5±1.0,32.°23N±0.°03×115.°28W±0.°03,h16km±7km, n20,σ0§35/31,3C-8D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CPBX	**Cerro Prieto**	**0.19**	**354**	⇓*e*P		**Pg**	**04 22 06.2**	**+0.2**
CPBX				⇓*e*P		**Pg**	**04 22 06.2**	**+0.2**
CPBX				*e*S		**Sg**	**04 22 09.0**	**0.0**
CPBX				IAML			04 22 11.0	
	comp=E,4μm,0.2s							
CPBX				*e*			04 22 11.0	
SGL	**Mount Signal**	**0.56**	**318**	⇓*i*P		**Pg

M_{rr}-2.08; $M_{\theta\theta}$1.73; $M_{\phi\phi}$0.34; $M_{r\theta}$-1.30; $M_{\theta\phi}$-1.98; $M_{r\phi}$-1.53; Best double couple: $M_0$3.40000×10^{18} NP1:ϕ_s93.00000°, δ58.00000°,λ-135.00000°. NP2:ϕ_s336.00000°, δ54.00000°,λ-39.00000°. Principal axes: T 3.1400, Plg2.0000°, Azm214.0000°; N 0.4900, Plg37.0000°, Azm122.0000°; P -3.6400, Plg52.0000°, Azm307.0000°;

MOS **30** *04:31:00.1±1.0,23.08S×179.13E,h552km,mb5.8/35 Error ellipse: s-maj=11.6km s-min=8.7km az=127.2*

ISCJB **30** *04:31:00.5±0.3,23.32S±0.02×179.13E±0.02,h567km±3km, mb5.7/322, Error ellipse: s-maj=2.6km s-min=2.3km az=141.3*

IDC **30** *04:31:01.4±0.4,23.22S×179.13E,h564km±3km,mb5.2/28, mb1 5.3/30,mb1mx5.3/31,mbtmp6.1/30,Error ellipse: s-maj=6.9km s-min=6.0km az=171.0*

GCMT **30** *04:31:02.2±0.1,23.19S×179.26E,h582km,MW6.4/131, Moment Tensor Solution. s131,c323; s113,c165; Duration: 3ᵊ7 Moment tensor: Scale 10^{18}Nm; M_{rr}-2.86±.02; $M_{\theta\theta}$2.94±.04; $M_{\phi\phi}$-0.07±.04; $M_{r\theta}$-1.44±.03; $M_{\theta\phi}$-2.70±.04; $M_{r\phi}$-1.49±.03; Best double couple: $M_0$4.46900×10^{18} NP1:ϕ_s90.00000°, δ59.00000°, λ-134.00000°. NP2:ϕ_s331.00000°,δ52.00000°, λ-41.00000°. Principal axes: T 4.5610, Plg4.0000°, Azm209.0000°; N -0.1750, Plg36.0000°, Azm116.0000°; P -4.3780, Plg53.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*

NEIC **30** *04:31:02.2±0.1,23.31S×179.12E,mb5.8/197,ME5.7, MW6.3,MW6.3,MW6.4 Error ellipse: s-maj=4.7km s-min=3.3km az=147.0,Moment Tensor Solution. s51 Moment tensor: Scale 10^{18}Nm; M_{rr}-3.27; $M_{\theta\theta}$3.75; $M_{\phi\phi}$-0.48; $M_{r\theta}$-1.72; $M_{\theta\phi}$-2.47; $M_{r\phi}$-1.31; Best double couple: $M_0$4.80000×10^{18} NP1:ϕ_s324.00000°, δ47.00000°, λ-44.00000°. NP2:ϕ_s87.00000°,δ60.00000°, λ-128.00000°. Principal axes: T 5.0200, Plg7.0000°, Azm202.0000°; N -0.4200, Plg31.0000°, Azm107.0000°; P -4.6000, Plg57.0000°, Azm304.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s93.00000°, δ57.00000°,λ-130.00000°. NP2:ϕ_s330.00000°, δ50.00000°,λ-45.00000°. Principal axes: T Plg4.0000°, Azm210.0000°; N Plg0.0000°, Azm0.0000°; P Plg57.0000°, Azm306.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*

SZGRF **30** *04:31:05.5,23.28S×179.31E,h603km,South of Fiji Islands*

NEIC **30** *04:31:24.8±0.0,22.93S×178.60E,h556km,Moment Tensor Solution. s43 Moment tensor: Scale 10^{18}Nm; M_{rr}-2.08; $M_{\theta\theta}$2.24; $M_{\phi\phi}$-0.16; $M_{r\theta}$-0.88; $M_{\theta\phi}$-2.13; $M_{r\phi}$-1.51; Best double couple: $M_0$3.50000×10^{18} NP1: ϕ_s333.00000°,δ57.00000°,λ-40.00000°. NP2:ϕ_s88.00000°, δ57.00000°,λ-138.00000°. Principal axes: T 3.4800, Plg0.0000°, Azm210.0000°; N 0.0400, Plg39.0000°, Azm120.0000°; P -3.5200, Plg50.0000°, Azm300.0000°;*

ISC 30 04:31:01.7±0.2,23°29S±0.03×179°18E±0.03,h573km±1km, h573km:pP-P,n2083,σ1§69/2609,mb5.8/322,96C-115D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
MSVF	**Nonsavu**	**5.62**	**349**	P		**P**	**04 32 36.0**		**-2.4**
	12μm,1.0s								
MSVF	**Nonsavu**	**5.62**	**349**	*e*P		**P**	**04 32 36.7**		**-1.7**
MSVF				*e*S		**S**	**04 33 56.8**		**-0.4**
RAO	**Raoul Island**	**6.49**	**157**	P		**P**	**04 32 46.0**		**+0.4**
	1μm,0.3s,baz=107,slow=6.9,SNR=64								
RAO				S		**S**	**04 34 09.2**		**-1.7**
	1μm,0.3s,baz=284,slow=23,SNR=9.3								
RAO	**Raoul Island**	**6.49**	**157**	*e*P		**P**	**04 32 46.7**		**+1.0**
	4μm,0.5s								
RAO				*e*S		**S**	**04 34 10.3**		**-0.6**
DZM	**Mont Dzumac**	**11.82**	**273**	*e*P		**P**	**04 33 39.6**		**+1.0**
	679nm,0.9s								
DZM	**Mont Dzumac**	**11.82**	**273**	P		**P**	**04 33 37.7**		**-0.9**
	3.7nm,0.3s,baz=270,slow=23,SNR=26								
DZM				ScP		**ScP**	**04 41 17.0**		**+4.3**
	1.6nm,0.3s,baz=165,slow=19,SNR=5.7								
DZM	**Mont Dzumac**	**11.82**	**273**	*e*P		**P**	**04 33 37.3**		**-1.3**
DZM	**Mont Dzumac**	**11.82**	**273**	*e*P		**P**	**04 33 39.7**		**+1.1**
	310nm,0.8s								
DZM				*e*S		S	04 35 56.7		+9.0
NOUC	**Port Laguerre**	**11.95**	**273**	*e*P		**P**	**04 33 38.3**		**-1.5**
AFI	**Afiamalu**	**12.66**	**44**	*e*P		P	04 33 42.1		-5.2
AFI				*e*S		S	04 35 55.6		-7.9
OUZ	**Omahuta**	**12.85**	**201**	PN		**P**	**04 33 51.4**		**+2.5**
OUZ				ScP		**ScP**	**04 41 17.5**		**+3.6**
OUZ	**Omahuta**	**12.85**	**201**	*e*P		**P**	**04 33 51.3**		**+2.5**
	3μm,1.0s								
WCZ	**Waipu Caves**	**13.29**	**197**	PN		**P**	**04 33 55.3**		**+1.9**
WCZ				SN		S	04 36 25.0		+10
WCZ				ScP		**ScP**	**04 41 17.4**		**+2.8**
KUZ	**Kuaotunu**	**13.75**	**192**	PN		**P**	**04 33 58.7**		**+0.7**
ETAZ	**East Tamaki Re**	**14.11**	**194**	PN		**P**	**04 34 03.6**		**+1.9**
WTAZ	**Waiatarua**	**14.17**	**195**	PN		**P**	**04 34 04.2**		**+1.8**
MKAZ	**Moumakai**	**14.21**	**193**	⇑PN		**P**	**04 34 04.0**		**+1.3**
MKAZ				ScP		**ScP**	**04 41 18.1**		**+1.9**
MXZ	**Matakaoa Point**	**14.25**	**183**	PN		P	04 33 59.6		-3.6
MXZ				*e*SN		**S**	**04 36 28.4**		**-3.7**
KBAZ	**Karaka Road Bo**	**14.25**	**194**	PN		**P**	**04 34 04.7**		**+1.6**
KBAZ				SN		S	04 36 41.0		+8.9
HAZ	**Te Kaha**	**14.47**	**184**	PN		**P**	**04 34 02.5**		**-2.8**
HAZ				ScP		**ScP**	**04 41 18.8**		**+2.2**
WMGZ	**Waiomatatini S**	**14.50**	**182**	*e*SN		**S**	**04 36 38.6**		**-3.0**
TGRZ	**Tauranga**	**14.62**	**189**	*e*PN		**P**	**04 34 07.7**		**+1.0**
OPRZ	**Ohinepanea**	**14.69**	**188**	PN		**P**	**04 34 07.5**		**+0.1**
TOZ	**Tahuroa Road**	**14.74**	**192**	PN		**P**	**04 34 08.6**		**+0.7**
PUZ	**Puketiti**	**14.76**	**183**	PN		**P**	**04 34 05.2**		**-2.9**
PUZ				SN		**S**	**04 36 37.5**		**-3.7**
PUZ				ScP		**ScP**	**04 41 19.4**		**+2.2**
TWGZ	**Tauwhareparae**	**14.88**	**184**	PN		**P**	**04 34 06.7**		**-2.7**
TWGZ				*e*SN		**S**	**04 36 38.9**		**-4.4**
KARZ	**Kaharoa**	**14.90**	**189**	PN		**P**	**04 34 09.7**		**+0.1**
EDRZ	**Edgecumbe**	**14.92**	**187**	PN		**P**	**04 34 08.6**		**-1.2**
OMRZ	**Omania**	**14.97**	**189**	PN		**P**	**04 34 09.0**		**-1.2**
URZ	**Urewera**	**15.03**	**186**	P		**P**	**04 34 08.2**		**-2.6**
	74nm,0.3s,baz=358,slow=4.1,SNR=168								
URZ				S		**S**	**04 36 41.1**		**-4.7**
	30nm,0.3s,baz=353,slow=19,SNR=9.3								
URZ				ScP		**ScP**	**04 41 18.6**		**+0.9**
	4.2nm,0.3s,baz=8.7,slow=2.3,SNR=3.2								
URZ	**Urewera**	**15.03**	**186**	PN		**P**	**04 34 07.1**		**-3.7**
URZ				*e*SN		**S**	**04 36 39.7**		**-6.1**
URZ	**Urewera**	**15.03**	**186**	*e*P		**P**	**04 34 08.2**		**-2.6**
	2μm,0.8s								
URZ				*e*S		**S**	**04 36 40.9**		**-4.9**
URZ				S		S	04 36 41.0		-4.7
UTU	**Utuhina**	**15.06**	**189**	*e*PN		**P**	**04 34 11.5**		**+0.4**
MWZ	**Matawai**	**15.07**	**185**	PN		**P**	**04 34 08.1**		**-3.1**
MWZ				SN		**S**	**04 36 44.6**		**-1.9**
MWZ				ScP		**ScP**	**04 41 18.8**		**+1.0**
TARZ	**Mount Tarawera**	**15.08**	**188**	PN		**P**	**04 34 10.5**		**-0.8**
HLRZ	**Highlands Stat**	**15.12**	**189**	PN		**P**	**04 34 11.3**		**-0.3**
CNGZ	**Carnagh Statio**	**15.18**	**183**	PN		**P**	**04 34 09.7**		**-2.4**
CNGZ				SN		**S**	**04 36 46.2**		**-2.0**
RRRZ	**Republican Roa**	**15.18**	**188**	PN		**P**	**04 34 10.7**		**-1.5**
HRRZ	**Handcock Road**	**15.26**	**189**	PN		**P**	**04 34 12.3**		**-0.8**
PRRZ	**Plateau Road**	**15.35**	**188**	PN		**P**	**04 34 12.5**		**-1.4**
RIGZ	**Rimuhau**	**15.42**	**184**	PN		**P**	**04 34 11.7**		**-2.9**
ALRZ	**Allen Road**	**15.42**	**188**	PN		**P**	**04 34 12.8**		**-1.8**
KUTZ	**Kaahu Road**	**15.43**	**190**	PN		**P**	**04 34 14.7**		**+0.1**
HIZ	**Hauiti**	**15.62**	**193**	PN		**P**	**04 34 17.8**		**+1.3**
WATZ	**Wairara**	**15.65**	**190**	PN		**P**	**04 34 17.0**		**+0.1**
RAHZ	**Arahi**	**15.69**	**186**	PN		**P**	**04 34 15.3**		**-1.8**
RAHZ				SN		**S**	**04 36 53.9**		**-2.9**
KNZ	**Kokohu**	**15.74**	**184**	PN		**P**	**04 34 14.0**		**-3.6**
KNZ				SN		**S**	**04 36 52.9**		**-4.7**
RATZ	**Rangitukua**	**15.80**	**190**	PN		**P**	**04 34 16.4**		**-1.9**
WHHZ	**Waihua**	**15.83**	**186**	PN		**P**	**04 34 16.2**		**-2.3**
NMHZ	**Naumai**	**15.89**	**187**	PN		**P**	**04 34 16.2**		**-3.0**
KATZ	**Kakaramea**	**15.92**	**190**	PN		**P**	**04 34 19.1**		**-0.4**
BKZ	**Black Stump Fm**	**16.00**	**188**	PN		**P**	**04 34 17.0**		**-3.1**
BKZ				ScP		**ScP**	**04 41 20.7**		**+1.1**
BKZ				ScS		**ScS**	**04 44 59.9**		**+1.1**
BKZ	**Black Stump Fm**	**16.00**	**188**	*e*P		**P**	**04 34 17.2**		**-2.9**
	958nm,1.0s								
ARHZ	**Aropaoanui**	**16.04**	**186**	*e*PN		**P**	**04 34 17.9**		**-2.5**
KRVZ	**Karewarewa**	**16.05**	**190**	PN		**P**	**04 34 19.5**		**-1.2**
TWVZ	**Taurewa**	**16.06**	**191**	*e*PN		**P**	**04 34 20.3**		**-0.4**
WTVZ	**West Tongariro**	**16.08**	**190**	PN		**P**	**04 34 19.8**		**-1.2**
OTVZ	**Oturere**	**16.11**	**190**	PN		**P**	**04 34 19.3**		**-2.0**
COVZ	**Chateau Observ**	**16.16**	**190**	PN		**P**	**04 34 21.1**		**-0.6**
WPVZ	**Whakapapa**	**16.17**	**190**	PN		**P**	**04 34 21.2**		**-0.6**
TUVZ	**Tukino**	**16.21**	**190**	PN		**P**	**04 34 20.8**		**-1.4**
FWVZ	**Far West T-bar**	**16.22**	**190**	PN		**P**	**04 34 20.3**		**-2.1**
DRZ	**Dome Shelter**	**16.24**	**190**	PN		**P**	**04 34 21.7**		**-0.9**
WHVZ	**Whangaehu Hut**	**16.24**	**190**	PN		**P**	**04 34 20.1**		**-2.4**
MCHZ	**McNeill Hill**	**16.25**	**187**	PN		**P**	**04 34 19.1**		**-3.2**
KWHZ	**Kaweka Forest**	**16.26**	**188**	PN		**P**	**04 34 18.9**		**-3.7**
KWHZ				SN		**S**	**04 37 01.1**		**-5.1**
KWHZ				ScP		**ScP**	**04 41 21.9**		**+1.8**
KWHZ				ScS		**ScS**	**04 44 59.5**		**-0.1**
MHEZ	**Mangahewa**	**16.28**	**194**	PN		**P**	**04 34 25.2**		**+2.6**
WNVZ	**Wahianoa**	**16.28**	**190**	PN		**P**	**04 34 21.0**		**-1.9**
MOVZ	**Moawhango**	**16.34**	**189**	*e*PN		**P**	**04 34 20.7**		**-2.5**
MOVZ				ScP		**ScP**	**04 41 20.2**		**-0.1**
MOVZ				ScS		**ScS**	**04 44 57.6**		**-2.3**
MTVZ	**Mangateitei**	**16.36**	**190**	PN		**P**	**04 34 22.8**		**-0.7**
BHHZ	**Black Hill Sta**	**16.37**	**189**	PN		**P**	**04 34 20.0**		**-3.6**
BHHZ				SN		**S**	**04 37 03.5**		**-4.6**
BHHZ				ScP		**ScP**	**04 41 21.3**		**+1.0**
BHHZ				ScS		**ScS**	**04 44 59.8**		**-0.1**
CKHZ	**Cape Kidnapper**	**16.42**	**186**	PN		**P**	**04 34 21.5**		**-2.4**
PKE	**Pukeiti**	**16.46**	**194**	PN		**P**	**04 34 27.0**		**+2.6**
KRHZ	**Kereru**	**16.48**	**188**	PN		**P**	**04 34 22.0**		**-2.6**
KRHZ				SN		**S**	**04 37 05.0**		**-4.8**
NEZ	**North Egmont**	**16.51**	**194**	*e*PN		**P**	**04 34 27.1**		**+2.2**
KHEZ	**Kahui Hut**	**16.55**	**194**	*e*PN		**P**	**04 34 28.0**		**+2.8**
PREZ	**Palmer Road**	**16.57**	**194**	*e*PN		**P**	**04 34 27.9**		**+2.6**
NWEZ	**Newall Road**	**16.57**	**195**	PN		**P**	**04 34 28.1**		**+2.8**
KAHZ	**Kahuranaki**	**16.58**	**186**	PN		**P**	**04 34 23.4**		**-2.0**
LREZ	**Lake Rotokare**	**16.63**	**193**	PN		**P**	**04 34 27.8**		**+2.0**
NMEZ	**Namu Road**	**16.70**	**194**	PN		**P**	**04 34 29.4**		**+3.0**
PNHZ	**Pukenui**	**16.77**	**188**	PN		**P**	**04 34 24.7**		**-2.5**
PNHZ				SN		**S**	**04 37 11.2**		**-3.3**
WAZ	**Wanganui**	**16.80**	**191**	PN		**P**	**04 34 26.6**		**-0.8**
PXZ	**Pawanui**	**16.81**	**186**	PN		**P**	**04 34 25.2**		**-2.3**
PXZ				SN		**S**	**04 37 11.4**		**-3.7**
PXZ				ScP		**ScP**	**04 41 25.4**		**+4.3**
PXZ				ScS		**ScS**	**04 45 04.4**		**+3.4**
WPHZ	**Waipukurau**	**16.89**	**187**	PN		**P**	**04 34 25.9**		**-2.3**
TSZ	**Takapari Road**	**16.95**	**189**	PN		**P**	**04 34 26.7**		**-2.0**
PRHZ	**Porangahau**	**17.07**	**187**	PN		**P**	**04 34 28.7**		**-1.1**
PRHZ				SN		**S**	**04 37 18.8**		**-0.5**
DVHZ	**Dannevirke**	**17.16**	**188**	*e*PN		**P**	**04 34 28.5**		**-2.1**
ANWZ	**Angora Road**	**17.28**	**187**	*e*PN		**P**	**04 34 30.4**		**-1.2**
ANWZ				SN		**S**	**04 37 20.2**		**-2.4**
POWZ	**Post Office Ro**	**17.30**	**189**	PN		**P**	**04 34 30.0**		**-1.9**
PRWZ	**Pori Road**	**17.43**	**188**	PN		**P**	**04 34 31.5**		**-1.6**
PRWZ				ScP		**ScP**	**04 41 25.1**		**+2.7**
PRWZ				ScS		**ScS**	**04 45 05.2**		**+2.3**
BFZ	**Birch Farm**	**17.52**	**187**	PN		**P**	**04 34 31.7**		**-2.2**
BFZ				SN		**S**	**04 37 22.7**		**-4.0**
BFZ				ScP		**ScP**	**04 41 24.9**		**+2.3**
BFZ				ScS		**ScS**	**04 45 04.8**		**+1.6**
BFZ	**Birch Farm**	**17.52**	**187**	*e*P		**P**	**04 34 32.2**		**-1.7**
	3μm,1.0s								
MRZ	**Mangatainoka R**	**17.59**	**189**	PN		**P**	**04 34 32.2**		**-2.4**
MRZ				SN		**S**	**04 37 23.7**		**-4.1**
MRZ				ScP		**ScP**	**04 41 24.1**		**+1.3**
MRZ				ScS		**ScS**	**04 45 03.8**		**+0.4**
TIWZ	**Tintock**	**17.66**	**188**	PN		**P**	**04 34 33.5**		**-1.7**
TIWZ				ScS		ScS	04 45 05.6		+1.9
CPWZ	**Castlepoint**	**17.75**	**187**	PN		**P**	**04 34 35.3**		**-0.7**
OGWZ	**Otaki Gorge**	**17.80**	**190**	PN		**P**	**04 34 35.0**		**-1.5**
OGWZ				SN		**S**	**04 37 27.1**		**-4.1**
HOWZ	**Holdsworth Sta**	**17.83**	**189**	PN		**P**	**04 34 34.9**		**-1.8**
HOWZ				SN		**S**	**04 37 29.8**		**-1.9**
KIW	**Kapiti Island**	**17.89**	**191**	PN		**P**	**04 34 35.9**		**-1.4**
TMWZ	**Te Maipa**	**17.99**	**188**	PN		**P**	**04 34 36.9**		**-1.3**
TMWZ				SN		**S**	**04 37 35.9**		**+1.7**
DUWZ	**D'Urville Isla**	**18.02**	**193**	PN		**P**	**04 34 37.8**		**-0.7**
MTW	**Mount Morrison**	**18.09**	**189**	PN		**P**	**04 34 37.4**		**-1.7**
CAW	**Cannon Point**	**18.11**	**190**	PN		**P**	**04 34 38.0**		**-1.3**
TRWZ	**Traveller**	**18.30**	**188**	PN		**P**	**04 34 40.1**		**-0.9**
PAWZ	**Paruwai Farm**	**18.32**	**189**	*e*PN		**P**	**04 34 40.1**		**-1.1**
WEL	**Wellington**	**18.33**	**191**	PN		**P**	**04 34 41.4**		**+0.2**
TCW	**Tory Channel**	**18.34**	**192**	PN		**P**	**04 34 41.0**		**-0.4**
TCW				SN		**S**	**04 37 36.0**		**-4.0**
TCW				ScS		**ScS**	**04 45 07.4**		**+1.7**
SNZO	**South Karori**	**18.36**	**191**	*e*P		**P**	**04 34 40.7**		**-0.8**
	4μm,1.1s								
SNZO				*e*S		**S**	**04 37 35.2**		**-5.0**
QRZ	**Quartz Range**	**18.37**	**196**	⇑PN		**P**	**04 34 42.8**		**+1.2**
QRZ				SN		**S**	**04 37 39.4**		**-0.9**
QRZ				ScP		**ScP**	**04 41 24.1**		**-0.3**
MSWZ	**Moikau Station**	**18.38**	**189**	PN		**P**	**04 34 40.4**		**-1.3**
BHW	**Baring Head**	**18.43**	**190**	PN		**P**	**04 34 41.5**		**-0.7**
BHW				ScP		**ScP**	**04 41 26.7**		**+2.2**
PLWZ	**Palliser**	**18.53**	**189**	PN		**P**	**04 34 42.1**		**-1.1**
NNZ	**Nelson**	**18.53**	**194**	PN		**P**	**04 34 42.6**		**-0.5**
NNZ				SN		**S**	**04 37 39.9**		**-3.1**
TUWZ	**Tuamarina**	**18.62**	**192**	PN		**P**	**04 34 42.9**		**-1.0**
TUWZ				SN		**S**	**04 37 40.4**		**-4.0**
BSWZ	**Blackbirch Sta**	**18.91**	**192**	*e*PN		**P**	**04 34 46.0**		**-0.6**
THZ	**Tophouse**	**19.16**	**194**	PN		**P**	**04 34 47.3**		**-0.3**
THZ				SN		**S**	**04 37 47.7**		**-5.5**
THZ				ScS		**ScS**	**04 45 06.4**		**-2.2**
DSZ	**Denniston Nort**	**19.42**	**197**	PN		**P**	**04 34 51.8**		**+0.5**
RAR	**Rarotonga**	**19.59**	**88**	P		**P**	**04 34 51.7**		**-1.3**
	2.4nm,0.3s,baz=221,slow=10,SNR=7.1								
RAR				ScP		**ScP**	**04 41 28.9**		**+1.4**
	2.2nm,0.3s,baz=315,slow=8.6,SNR=4.1								
KHZ	**Kahutara**	**19.65**	**192**	PN		**P**	**04 34 51.9**		**-1.3**
KHZ				ScP		**ScP**	**04 41 28.6**		**+1.4**
KHZ				ScS		**ScS**	**04 45 10.4**		**+0.4**
KHZ	**Kahutara**	**19.65**	**192**	*e*P		**P**	**04 34 52.5**		**-0.8**
	2μm,1.0s								
KHZ				*e*S		**S**	**04 37 58.3**		**-2.5**
LTZ	**Lake Taylor**	**20.27**	**195**	PN		**P**	**04 34 58.1**		**-0.9**
OXZ	**Oxford**	**20.84**	**195**	PN		**P**	**04 35 03.0**		**-1.1**
WVZ	**Waitaha Valley**	**20.94**	**198**	PN		**P**	**04 35 04.4**		**-0.5**
MQZ	**McQueen's Vall**	**21.07**	**193**	PN		**P**	**04 35 05.0**		**-1.1**
MQZ				SN		**S**	**04 38 21.5**		**-1.8**
MQZ				ScP		**ScP**	**04 41 32.5**		**+1.8**
RPZ	**Rata Peaks**	**21.45**	**196**	P		**P**	**04 35 08.8**		**-0.8**
	491nm,0.6s,baz=341,slow=1.2,SNR=97								
RPZ				S		**S**	**04 38 26.1**		**-3.3**
	101nm,0.9s,baz=65,slow=9.7,SNR=5.2								
RPZ				ScP		**ScP**	**04 41 33.4**		**+1.6**
	128nm,0.9s,baz=341,slow=1.5,SNR=6.2								
RPZ	**Rata Peaks**	**21.45**	**196**	PN		**P**	**04 35 08.3**		**-1.2**
RPZ				ScP		**ScP**	**04 41 33.0**		**+1.3**
RPZ				ScS		**ScS**	**04 45 17.1**		**+0.6**
RPZ	**Rata Peaks**	**21.45**	**196**	*e*P		**P**	**04 35 08.8**		**-0.8**
	997nm,1.1s								
RPZ				*e*S		**S**	**04 38 26.3**		**-3.1**
RPZ				ScP		**ScP**	**04 41 33.4**		**+1.6**
FOZ	**Fox Glacier**	**21.69**	**199**	PN		**P**	**04 35 10.9**		**-0.7**
FOZ				ScP		**ScP**	**04 41 31.5**		**-0.8**
FOZ				ScS		**ScS**	**04 45 17.5**		**+0.2**
KNTN	**Kanton**	**22.21**	**25**	*e*P		**P**	**04 35 15.3**		**-1.4**
	1μm,0.7s								
LBZ	**Lake Benmore**	**22.31**	**197**	PN		**P**	**04 35 15.4**		**-1.8**
JCZ	**Jackson Bay**	**22.44**	**200**	PN		**P**	**04 35 18.3**		**-0.1**
ODZ	**Otahua Downs**	**22.80**	**196**	PN		**P**	**04 35 20.9**		**-0.6**
ODZ	**Otahua Downs**	**22.80**	**196**	*e*P		**P**	**04 35 20.4**		**-1.1**
	213nm,0.8s								
ODZ				*e*S		**S**	**04 38 53.1**		**+2.5**
HNR	**Honiara**	**22.99**	**304**	*e*P		**P**	**04 35 22.7**		**-0.9**
	65nm,0.9s								
WKZ	**Wanaka**	**23.04**	**199**	PN		**P**	**04 35 22.9**		**-0.8**
EAZ	**Earnscleugh**	**23.33**	**198**	PN		**P**	**04 35 25.7**		**-0.5**
MLZ	**Mavora Lakes**	**23.77**	**200**	PN		**P**	**04 35 31.2**		**+1.0**
MLZ				SN		**S**	**04 39 05.3**		**-0.6**
MLZ				ScP		**ScP**	**04 41 40.3**		**+2.4**
MLZ				ScS		**ScS**	**04 45 27.0**		**+1.5**
TUZ	**Tuapeka**	**23.91**	**197**	PN		**P**	**04 35 32.0**		**+0.7**
DCZ	**Deep Cove**	**24.21**	**201**	PN		**P**	**04 35 34.2**		**+0.3**
DCZ	**Deep Cove**	**24.21**	**201**	*e*P		**P**	**04 35 34.8**		**+0.8**
	2μm,1.1s								
WHZ	**Wether Hill Ro**	**24.33**	**199**	⇑PN		**P**	**04 35 35.8**		**+0.8**
WHZ	**Wether Hill Ro**	**24.33**	**199**	*e*P		**P**	**04 35 36.0**		**+0.9**
	3μm,0.8s								
WHZ				*e*S		**S**	**04 39 16.1**		**+1.5**
SYZ	**Scrubby Hill**	**24.58**	**197**	PN		**P**	**04 35 37.7**		**+0.5**
PYZ	**Puysegur Point**	**24.97**	**201**	PN		**P**	**04 35 40.8**		**0.0**
APZ	**The Paps**	**25.16**	**198**	PN		**P**	**04 35 43.2**		**+0.7**
APZ				ScP		**ScP**	**04 41 44.5**		**+2.7**
TARA	**Tarawa**	**25.24**	**345**	*e*P		**P**	**04 35 42.2**		**-1.3**
ARMA	**Armidale**	**25.54**	**248**	*e*P		**P**	**04 35 47.9**		**+1.7**
	332nm,0.8s								
EIDS	**Eidsvold**	**25.67**	**260**	*e*P		**P**	**04 35 47.7**		**+0.4**
	379nm,0.8s								
EIDS				*e*S		**S**	**04 39 37.5**		**+1.3**
TBI	**Tubuai**	**28.77**	**96**	*e*P		**P**	**04 36 16.3**		**+1.9**
	348nm,0.9s								
TBI				*ep*P		**pP**	**04 37 43.3**		**-3.3**
	999nm,1.3s								
PAE	**Paea**	**29.76**	**85**	*e*P		**P**	**04 36 23.8**		**+0.9**
	48nm,1.2s								
PAE				*ep*P		**pP**	**04 37 51.0**		**-4.8**
	54nm,1.4s								
PPT2	**Papeete2**	**29.78**	**85**	*e*P		**P**	**04 36 24.4**		**+1.1**
	278nm,1.2s								
PPT2				*ep*P		**pP**	**04 37 51.8**		**-4.3**
	319nm,1.5s								
PPT	**Papeete**	**29.79**	**85**	P		**P**	**04 36 24.0**		**+0.7**
	337nm,1.1s,baz=249,slow=0.9,SNR=13								
PPT				ScP		**ScP**	**04 41 58.3**		**+1.7**
	139nm,1.0s,baz=339,slow=1.2,SNR=5.2								
PPT	**Papeete**	**29.79**	**85**	P		**P**	**04 36 24.0**		**+0.7**
PPT				pmax		pmax			
	comp=Z,337nm,1.1s								
PPT				pmax		pmax			
	comp=N,139nm,1.0s								
TIAR	**Tiarei**	**30.00**	**85**	*e*P		**P**	**04 36 26.2**		**+1.1**
	comp=N,118nm,1.1s								
TIAR				*ep*P		**pP**	**04 37 53.9**		**-4.1**
	comp=N,99nm,1.4s								
TVO	**Taravao**	**30.03**	**85**	*e*P		**P**	**04 36 26.3**		**+1.0**
	comp=N,62nm,1.2s								
TVO				*ep*P		**pP**	**04 37 54.0**		**-4.3**
	comp=N,139nm,1.4s								
CTA	**Charters Tower**	**30.72**	**270**	P		**P**	**04 36 31.9**		**+0.6**
	comp=N,705nm,0.4s,baz=94,slow=11,SNR=585								
CTA				PcP		**PcP**	**04 39 11.6**		**+0.7**
	comp=N,82nm,0.8s,baz=124,slow=0.8,SNR=3.9								
CTA				S		**S**	**04 40 55.1**		**+0.4**
	comp=N,24nm,0.9s,baz=56,slow=18,SNR=11								
CTA				ScP		**ScP**	**04 42 02.1**		**+2.4**
	comp=N,21nm,0.7s,baz=146,slow=3.4,SNR=3.5								
CTA	**Charters Tower**	**30.72**	**270**	P		**P**	**04 36 31.9**		**+0.6**
CTA							04 39 11.6		
CTA				S		**S**	**04 40 55.2**		**+0.4**
CTA				pmax		pmax			
	comp=Z,705nm,0.4s								
CTA				pmax		pmax			
	comp=Z,82nm,0.8s								
CTA				smax		smax			
	comp=N,25nm,0.9s								
CTAO	**Charters Tower**	**30.72**	**270**	*e*

baz=190,slow=12,SNR=8.8
H11N2 WAKE ISLAND Hy 44.40 343 P **P** **04 38 22.8 +0.6**
baz=190,slow=12,SNR=11
SMPI Sarmi 44.55 292 P **P** **04 38 24.0 +0.3**
comp=N,624nm,1.3s,comp=N,9μm
FORT Forrest 45.82 249 *e*P **P** **04 38 32.8 -0.4**
comp=N,1μm,0.7s
FORT *e*PcP **PcP** **04 39 59.6 +1.0**
FORT *e*S **S** **04 44 33.3 -2.7**
SRPI Serui, Papua 46.72 291 P **P** **04 38 41.3 +1.1**
comp=N,1μm,1.7s,comp=N,16μm
SAUI Saumlaki 48.31 280 P **P** **04 38 54.5 +2.4**
comp=N,2μm,1.3s,comp=N,23μm
RKPI Ransiki, Papua 48.68 290 P **P** **04 38 55.2 +0.3**
comp=N,491nm,1.6s,comp=N,12μm
POHA Pohakuloa 49.39 32 *e*P **P** **04 39 00.3 +0.1**
comp=N,199nm,0.6s
HON Honolulu 49.60 28 *e*P **P** **04 39 01.9 +0.5**
KIP Kipapa 49.68 28 *i*P **P** **04 39 02.8 +0.8**
KIP pmax pmax
comp=Z,193nm,1.3s
KIP Kipapa 49.68 28 *e*P **P** **04 39 02.1 +0.1**
comp=Z,152nm,0.6s
KIP *e*pP pP 04 40 55.0 +7.3
FAKI Fak Fak 49.68 287 P **P** **04 39 02.3 0.0**
comp=Z,566nm,1.4s,comp=Z,9μmcomp=Z,22μm
FAKI Fak Fak 49.68 287 *e*P **P** **04 39 01.6 -0.7**
comp=Z,1μm,1.5s
FAKI *e*PcP PcP 04 40 02.0 -11
FAKI *e*S **S** **04 45 27.6 -1.9**
GUMO Guam 49.70 314 P **P** **04 39 01.6 -0.7**
comp=Z,1μm,0.7s,baz=175,slow=8.3,SNR=85
GUMO Guam 49.70 314 *e*P **P** **04 39 01.7 -0.5**
GUMO *e*PcP **PcP** **04 40 13.2 +0.4**
DRV Dumont d'Urvil 49.87 199 P P 04 38 51.0 -12
DRV PP PP 04 40 58.0 -7.4
DRV S S 04 45 10.0 -20
DRV SS SS 04 48 33.0 -40
DRV L L 04 51 00.0
DRV R 05 09 00.0
BNDI Bandanaira 51.03 284 P **P** **04 39 12.9 +0.8**
comp=Z,2μm,1.1s,comp=Z,22μm
SIJI Sorong 51.53 289 P **P** **04 39 15.1 -0.6**
comp=Z,1μm,0.8s,baz=83,slow=5.9,SNR=196
SIJI S **S** **04 45 53.6 -0.7**
comp=Z,9.7nm,0.6s,baz=197,slow=20,SNR=5.5
SWI Sorong 51.53 289 P **P** **04 39 15.9 +0.2**
comp=Z,3μm,0.9s,comp=Z,21μm
MSAI Masohi 52.43 284 P **P** **04 39 22.1 0.0**
comp=Z,209nm,0.8s,comp=Z,3μm
AAI Ambon 52.93 284 P **P** **04 39 25.4 -0.3**
comp=Z,1μm,1.1s,comp=Z,15μm
SOEI Soe 54.04 275 P **P** **04 39 35.5 +1.8**
comp=Z,2μm,1.1s,comp=Z,21μm
SOEI Soe 54.04 275 *e*P **P** **04 39 35.4 +1.7**
comp=Z,2μm,1.0s
SOEI *e*S S 04 46 34.1 +6.4
NLAI Namlea 54.11 284 P **P** **04 39 34.1 +0.1**
comp=Z,1μm,1.8s,comp=Z,18μm
MBWA Marble Bar 54.74 260 P **P** **04 39 38.6 +0.3**
SNR=22
MBWA Marble Bar 54.74 260 *e*P **P** **04 39 37.5 -0.8**
comp=Z,1μm,1.3s
NWAO Narrogin (SRO) 54.81 245 S **S** **04 46 39.9 +2.8**
comp=Z,37nm,1.1s,baz=150,slow=20,SNR=10
VNDA Vanda 54.93 185 P **P** **04 39 40.8 +2.1**
comp=Z,59nm,0.8s,baz=2.1,slow=7.7,SNR=168
VNDA PcP **PcP** **04 40 33.9 +2.2**
comp=Z,39nm,0.9s,baz=351,slow=5.0,SNR=3.9
VNDA ScP **ScP** **04 43 37.2 +1.5**
comp=Z,24nm,0.8s,baz=356,slow=3.8,SNR=5.7
VNDA P4KPbc 05 16 50.6
comp=Z,1.2nm,0.8s,baz=352,slow=5.2,SNR=5.6
VNDA Vanda 54.93 185 P **P** **04 39 40.8 +2.1**
VNDA 04 40 33.9
VNDA pmax pmax
comp=Z,59nm,0.8s
VNDA pmax pmax
comp=Z,39nm,0.9s
VNDA pmax pmax
comp=N,24nm,0.8s
LBMI Labuha 54.94 287 P **P** **04 39 40.5 +0.7**
comp=N,1μm,0.8s,comp=N,11μm
SBA Scott Base 54.95 183 *e*P P 04 39 42.0 +3.2
comp=N,503nm,1.0s
SANI Sanana 55.63 284 P **P** **04 39 44.1 -0.5**
comp=N,512nm,1.1s,comp=N,10μmcomp=N,21μm
TNTI Ternate 55.73 288 P **P** **04 39 45.1 -0.2**
comp=N,2μm,1.0s,comp=N,22μmcomp=N,20μm
TNTI Ternate 55.73 288 *e*P **P** **04 39 45.0 -0.3**
comp=N,2μm,1.1s
MMRI Maumere 56.32 275 P **P** **04 39 50.0 +0.7**
comp=N,1μm,0.9s,comp=N,13μmcomp=N,18μm
MMRI Maumere 56.32 275 *e*P **P** **04 39 49.2 -0.1**
comp=N,717nm,0.6s
MMRI *e* 04 42 04.0
MMRI *e*S **S** **04 46 59.2 +2.2**
H01W1 Cape Leeuwin H 57.11 243 P **P** **04 39 55.6 +1.1**
baz=115,slow=6.5,SNR=8.3
H01W2 Cape Leeuwin H 57.13 243 P **P** **04 39 55.6 +1.3**
baz=115,slow=6.5,SNR=11
H01W3 Cape Leeuwin H 57.13 243 P **P** **04 39 56.5 +2.2**
baz=115,slow=6.5,SNR=9.5
BBSI Bau Bau 57.24 279 P **P** **04 39 57.6 +1.9**
comp=N,492nm,1.3s,comp=N,6μmcomp=N,11μm
BASI Baing, Sumba 57.26 273 P **P** **04 39 57.8 +2.0**
comp=N,2μm,1.5s,comp=N,27μm
WSI Waingapu 57.72 273 P **P** **04 40 00.5 +1.6**
comp=N,4μm,1.1s,comp=N,48μm
KDI Kendari 57.83 280 P **P** **04 39 59.9 +0.2**
comp=N,375nm,1.4s,comp=N,5μm
WBSI Waikabubak, Su 58.56 273 P **P** **04 40 05.4 +0.8**
comp=N,1μm,1.5s,comp=N,14μm
KMSI Cibinong 58.61 286 P **P** **04 40 05.0 +0.1**
comp=N,1μm,0.9s,comp=N,13μm
SGSI Sangihe 58.75 290 P **P** **04 40 06.4 +0.6**
comp=N,1μm,0.8s,comp=N,14μm
BSSI Bau Bau, Buton 58.87 277 P **P** **04 40 07.1 +0.4**
comp=N,536nm,1.5s,comp=N,8μm
LUWI Luwuk 58.95 284 P **P** **04 40 08.0 +0.8**
comp=N,1μm,1.1s,comp=N,15μmcomp=N,19μm
LUWI Luwuk 58.95 284 *e*P **P** **04 40 07.4 +0.2**
comp=N,2μm,1.2s
LUWI *e*S **S** **04 47 25.5 -5.0**
BKSI Bulukumba 59.54 278 P **P** **04 40 10.6 -0.5**
comp=N,999nm,0.7s,comp=N,8μm
KAPI Kappang 60.00 278 P **P** **04 40 14.6 +0.4**
comp=N,1μm,0.7s,SNR=2.2
KAPI Kappang 60.00 278 P **P** **04 40 14.8 +0.6**
comp=N,123nm,0.7s,baz=148,slow=4.0,SNR=55
KAPI S **S** **04 47 43.8 +0.1**
comp=N,3.9nm,0.4s,baz=133,slow=17,SNR=7.8
KAPI Kappang 60.00 278 P **P** **04 40 14.8 +0.6**
SNR=72
KAPI Kappang 60.00 278 *e*P **P** **04 40 14.4 +0.2**
comp=N,56nm,0.9s
KAPI *e*PP PP 04 42 26.1 -10
APSI Ampana 60.02 283 P **P** **04 40 15.0 +0.7**
comp=N,1μm,1.0s,comp=N,12μm
CASY Casey 60.34 206 *e*P **P** **04 40 15.7 +0.2**
comp=N,247nm,0.7s
CASY *e*pP **pP** **04 42 11.1 +3.7**
CASY *e* 04 43 49.8
CASY *e*S **S** **04 47 46.6 +0.4**
MRSI Marisa 60.38 285 P **P** **04 40 16.0 -0.7**
comp=N,347nm,0.6s,comp=N,4μm
SPSI Sidrap Palu 60.41 279 P **P** **04 40 16.1 -0.8**
comp=N,330nm,1.0s,comp=N,3μm
GSPH General Santos 60.46 292 ⇑*i*P **P** **04 40 15.2 -2.1**
TTSI Tana Toraja 60.74 280 P **P** **04 40 19.5 +0.4**
comp=N,388nm,1.6s,comp=N,5μm
BUKP Musuan 61.29 294 *e*P **P** **04 40 23.0 +0.3**
BUTP Butuan 61.40 295 *e*P **P** **04 40 23.4 0.0**
CBIJ Chichi jima 61.53 322 *e*P **P** **04 40 23.5 -0.5**
comp=N,212nm,0.7s
JCJ Chichijima 61.53 322 P **P** **04 40 23.3 -0.6**
comp=N,382nm,0.5s,baz=196,slow=2.6,SNR=69
CTBH Cotabato--PC H 61.64 293 *e*P **P** **04 40 24.6 -0.3**
PCI Palu 61.64 282 P **P** **04 40 26.8 +1.8**
comp=N,1μm,1.3s,comp=N,16μm
CGP Cagayan de Oro 61.90 294 *e*P **P** **04 40 25.5 -1.0**
MPSI Mapaga 62.13 283 P **P** **04 40 27.2 -0.9**
comp=N,1μm,1.0s,comp=N,10μm
MSLP Maasin 62.66 296 *e*P **P** **04 40 30.9 -0.5**
PAGZ Pagadian 62.69 293 *e*P **P** **04 40 31.8 0.0**
DNP Denpasar 62.75 272 P **P** **04 40 33.9 +1.8**
comp=N,1μm,1.3s
IGBI Denpasar 62.76 272 P **P** **04 40 33.3 +1.1**
comp=N,1μm,1.3s,comp=N,19μm
SRBI Singaraja 62.97 273 P **P** **04 40 33.9 +0.4**
comp=N,754nm,1.1s,comp=N,8μm
PLP Palo 63.12 297 ⇓*e*P **P** **04 40 32.9 -1.5**
TBP Tagbilaran 63.25 295 *e*P P 04 40 39.9 +4.7
OCLP Ormoc 63.36 296 *e*P **P** **04 40 36.0 0.0**
JAGI Jajag, Banyuwa 63.80 272 P **P** **04 40 38.4 -0.4**
comp=N,618nm,1.4s,comp=N,10μm
JAGI Jajag, Banyuwa 63.80 272 *e*P **P** **04 40 37.7 -1.1**
comp=N,1μm,1.4s
KBKI Kotabaru 63.96 278 P **P** **04 40 41.2 +1.4**
comp=N,403nm,1.3s,comp=N,5μm
ABJI Asem Bagus 63.97 273 P **P** **04 40 40.9 +1.0**
comp=N,1μm,1.0s,comp=N,9μm
CNP Catarman 64.11 298 *e*P **P** **04 40 40.5 -0.2**
BKB Balikpapan 64.14 280 P P 04 40 45.7 +4.7
comp=N,510nm,0.9s,comp=N,6μm
KMMI Kalianget 64.50 273 P **P** **04 40 44.2 +0.9**
comp=N,936nm,1.4s,comp=N,13μm
GMJI Gumukmas 64.52 272 P **P** **04 40 43.3 -0.1**
comp=N,436nm,1.4s,comp=N,5μm
BLJI Banyuglugur 64.58 272 P **P** **04 40 44.2 +0.4**
comp=N,639nm,1.1s,comp=N,10μm
GUIM Jordan 64.80 295 *e*P **P** **04 40 43.6 -1.5**
BBKI Banjar Baru 65.10 277 P **P** **04 40 48.2 +1.1**
comp=N,918nm,1.6s,comp=N,13μmcomp=N,86μm
PVCP Virac 65.12 299 ⇓*e*P **P** **04 40 46.8 -0.3**
RCP Roxas 65.17 296 ⇓*e*P **P** **04 40 49.0 +1.6**
GRJI Gresik 65.91 273 P **P** **04 40 52.8 +0.7**
comp=N,2μm,0.9s,comp=N,13μm
PWJI Pagerwojo 66.12 271 P **P** **04 40 53.4 0.0**
comp=N,668nm,1.1s,comp=N,7μm
PCJI Pacitan 66.63 271 P **P** **04 40 57.2 +0.6**
comp=N,2μm,1.0s,comp=N,21μm
GQP Guinayangan 66.68 298 ⇑*e*P **P** **04 40 55.9 -0.8**
NGJI Ngawi 66.68 272 P **P** **04 40 59.1 +2.2**
comp=N,599nm,1.4s,comp=N,8μm
QSPA South Pole Qui 66.79 180 S **S** **04 49 08.2 +3.8**
comp=N,18nm,1.0s,baz=71,slow=19,SNR=11
QSPA South Pole Qui 66.79 180 *e*P **P** **04 40 58.1 +1.3**
comp=N,381nm,0.9s
QSPA *e*pP **pP** **04 42 51.8 -0.3**
QSPA *e*S **S** **04 49 04.2 -0.2**
SDKM Sandakan 66.95 287 ⇑P **P** **04 40 58.5 -0.1**
SJMP San Jose 66.99 296 *e*P **P** **04 40 58.4 -0.3**
WOJI Wonogiri, Jawa 67.00 271 P **P** **04 40 59.5 +0.7**
comp=N,1μm,1.1s,comp=N,12μm
MIR Mirnyy 67.37 206 ⇓*e*P P 04 41 10.0 +10
MIR pmax pmax
comp=Z,140nm,1.0s
JHJ2 Mitsune 67.48 325 *e*P **P** **04 41 01.4 0.0**
UWJI Ujung Watu 67.51 273 P **P** **04 41 02.5 +0.5**
comp=Z,1μm,0.8s,comp=Z,15μm
SMRI Semarang 67.74 272 P **P** **04 41 04.0 +0.6**
comp=Z,550nm,1.6s,comp=Z,8μm
SMRI Semarang 67.74 272 *e*P **P** **04 41 03.4 0.0**
comp=Z,236nm,0.6s
KDM Kudat 67.87 288 ⇑P **P** **04 41 05.0 +0.8**
KKM Kota Kinabalu 68.00 287 ⇑P **P** **04 41 05.7 +0.6**
KKM Kota Kinabalu 68.00 287 *e*P **P** **04 41 04.9 -0.1**
comp=Z,742nm,1.1s
TGY Tagaytay City 68.01 297 P **P** **04 41 05.4 +0.4**
comp=Z,369nm,0.6s,baz=90,slow=1.4
TGY Tagaytay City 68.01 297 P **P** **04 41 05.4 +0.4**
TGY pmax pmax
comp=Z,369nm,0.6s
PBKI Pangkalan Bun 68.30 277 P **P** **04 41 08.6 +1.8**
comp=Z,2μm,1.1s,comp=Z,20μm
KPJI Karang Pucung 69.02 271 P **P** **04 41 11.2 +0.1**
comp=Z,718nm,0.9s,comp=Z,8μm
CMJI Cirebon 69.30 270 P **P** **04 41 12.6 -0.1**
comp=Z,569nm,1.2s,comp=Z,7μm
BTM Bintulu 69.50 283 ⇑P **P** **04 41 14.3 +0.3**
STKI Sintang 69.61 279 P **P** **04 41 15.5 +0.9**
comp=Z,614nm,1.3s,comp=Z,20μm
SBUM Sibu 69.95 282 ⇑P **P** **04 41 17.7 +1.0**
SBUM Sibu 69.95 282 *e*P **P** **04 41 17.1 +0.4**
comp=Z,544nm,1.6s
CISI Cisompet, Garu 69.96 270 P **P** **04 41 16.9 +0.1**
comp=Z,890nm,1.4s,comp=Z,12μm
CISI Cisompet, Garu 69.96 270 *e*P **P** **04 41 16.1 -0.7**
comp=Z,435nm,0.6s
JOW Kunigami 70.02 312 *e*P **P** **04 41 16.9 +0.1**
comp=Z,256nm,0.8s
SZP Santa 70.27 300 *e*P **P** **04 41 18.6 +0.3**
comp=Z,159nm,0.8s
LEM Lembang 70.42 271 P **P** **04 41 20.5 +0.9**
comp=Z,2μm,1.1s,comp=Z,13μm
LEM Lembang 70.42 271 S **S** **04 49 47.7 -0.2**
comp=Z,21nm,0.6s,baz=144,slow=22,SNR=8.5
CNJI Cibinong 70.68 270 P **P** **04 41 20.4 -0.6**
comp=Z,946nm,1.1s,comp=Z,9μm
MJAR Matsushiro Arr 70.97 326 P **P** **04 41 21.8 -0.4**
comp=Z,196nm,0.8s,baz=166,slow=5.9,SNR=337
MJAR PKP2bc 05 09 09.2
comp=Z,3.4nm,1.0s,baz=303,slow=3.7,SNR=8.4
MAJO Matsushiro 70.97 326 *d*/*i*P **P** **04 41 22.1 -0.1**
MAJO pmax pmax
comp=Z,1μm,0.8s
MAJO Matsushiro 70.97 326 *e*P **P** **04 41 21.7 -0.5**
comp=Z,272nm,0.8s
MAT Matsushiro 70.97 326 P **P** **04 41 21.4 -0.8**
MAT S **S** **04 49 54.4 +1.5**
KSM Kuching 71.26 280 *e*P **P** **04 41 24.5 +0.1**
comp=Z,841nm,1.1s
SKJI Sukabumi 71.32 270 P **P** **04 41 25.1 +0.4**
comp=Z,1μm,0.9s,comp=Z,9μm
TPI Tanjungpandan 71.95 275 P **P** **04 41 28.5 +0.1**
comp=Z,318nm,1.2s,comp=Z,5μm
YOJ Yonaguni jima 72.26 307 *e*P **P** **04 41 29.3 -0.6**
comp=Z,610nm,1.4s
YOJ *e* 04 44 25.2
CGJI Cibinong 72.27 270 P **P** **04 41 29.6 -0.6**
comp=Z,1μm,0.6s,comp=Z,13μm
TWG Pinlang 72.74 305 *e*P **P** **04 41 30.7 -2.0**
comp=Z,584nm,0.6s
YULB Yu-li 72.90 305 *e*P **P** **04 41 31.9 -1.7**
comp=Z,80nm,0.8s
ERM Erimo 73.02 333 P **P** **04 41 35.1 +1.3**
comp=Z,1μm,0.9s,SNR=24
ERM Erimo 73.02 333 *c*/*i*P **P** **04 41 35.3 +1.5**
ERM pmax pmax
comp=Z,133nm,0.8s
ERM Erimo 73.02 333 *e*P **P** **04 41 35.0 +1.2**
comp=Z,162nm,0.8s
NACB Ninganchiao 73.14 306 *e*P **P** **04 41 34.2 -0.7**
comp=Z,1μm,1.4s
TPUB Ta-pu 73.35 305 *e*P **P** **04 41 34.4 -1.8**
comp=Z,291nm,0.8s
SSLB Suanglung 73.39 306 *e*P **P** **04 41 35.1 -1.3**
comp=Z,276nm,0.8s
PPBI Pangkal Pinang 73.58 275 P **P** **04 41 38.4 +0.7**
comp=Z,307nm,1.5s,comp=Z,6μm
YHNB Yeheng 73.59 307 *e*P **P** **04 41 37.3 -0.3**
comp=Z,168nm,0.6s
YHNB *e* 04 43 42.3
YUK Yuzh-Kuril'sk 73.62 336 *d*/*i*P **P** **04 41 37.1 -0.1**
YUK *i* 04 41 48.6
YUK *i* 04 44 32.0
YUK *i* PPP PPP 04 46 22.5
YUK *i* S **S** **04 50 22.6 +0.7**
YUK *i* 04 50 52.4
YUK *i* SS **SS** **04 55 20.1 -1.9**
YUK pmax pmax
comp=Z,2μm,4.9s
YUK pmax pmax
comp=N,387nm,1.3s
YUK pmax pmax
comp=E,346nm,1.3s
YUK pmax pmax
comp=Z,432nm,1.3s
TATO Taipei 73.68 307 P **P** **04 41 38.7 +0.7**
SNR=25
TATO Taipei 73.68 307 *e*P **P** **04 41 37.3 -0.7**
comp=Z,2μm,1.4s
KASI Kota Agung 73.78 271 P **P** **04 41 38.4 -0.4**
comp=Z,792nm,1.0s,comp=Z,7μm
KLSI 73.88 272 P **P** **04 41 38.4 -1.0**
comp=Z,340nm,1.9s,comp=Z,6μm
KUR Kuril'sk 73.92 338 *c*/*i*P **P** **04 41 36.2 -2.7**
KUR *i* S **S** **04 50 22.0 -3.1**
KUR pmax pmax
comp=Z,822nm,2.2s
KUR pmax pmax
comp=N,28nm,0.7s
KUR pmax pmax
comp=Z,150nm,1.3s
KUR pmax pmax
comp=E,84nm,1.3s
LWLI Liwa 74.37 271 P **P** **04 41 42.3 -0.1**
comp=E,368nm,0.7s
MDSI Maura Dua 74.47 272 P **P** **04 41 42.3 -0.4**
comp=E,304nm,1.1s,comp=E,3μmcomp=E,30μm
ADK Adak 74.93 3 *e*P **P** **04 41 43.5 -0.9**
comp=E,488nm,0.8s
ADK *e*pP **pP** **04 43 48.5 +4.9**
ASAJ Asahikawa 74.98 334 *e*P **P** **04 41 46.1 +1.2**
KSBUS Busan 75.09 319 P **P** **04 41 46.6 +0.9**
SNR=19
KSBUS Busan 75.09 319 P **P** **04 41 46.6 +0.9**
SNR=19
GSTR Great Sitkin T 75.17 3 *e*P **P** **04 41 45.4 -0.4**
comp=E,124nm,0.3s
KSSGP Seogwipo 75.37 316 P **P** **04 41 48.6 +1.3**
SNR=20
KSSGP Seogwipo 75.37 316 P **P** **04 41 48.6 +1.3**
SNR=20
ATKA Atka Island 75.39 4 *e*P **P** **04 41 46.0 -0.9**
comp=E,625nm,0.8s
KSJJU Jeju 75.45 317 P **P** **04 41 48.9 +1.1**
SNR=18
KSJJU Jeju 75.45 317 P **P** **04 41 48.9 +1.1**
SNR=18
KSNAH Namhae 75.52 318 P **P** **04 41 49.0 +0.9**
SNR=22
KSNAH Namhae 75.52 318 P **P** **04 41 49.0 +0.9**
SNR=22
KSDAG Daegu 75.58 320 P **P** **04 41 49.4 +1.0**
SNR=11
KSDAG Daegu 75.58 320 P **P** **04 41 49.4 +1.0**
SNR=11
KSPHA Pohang 75.59 320 P **P** **04 41 49.8 +1.4**
SNR=8.0
KSULL Ulleungdo 75.60 322 P **P** **04 41 49.7 +1.2**
SNR=12
KSGOS Gosan 75.61 316 P **P** **04 41 49.8 +1.2**
SNR=6.9
KSGOS Gosan 75.61 316 P **P** **04 41 49.8 +1.2**
SNR=6.9
MNAI Manna 75.64 271 P **P** **04 41 49.9 +0.6**
comp=E,715nm,1.2s
MNAI Manna 75.64 271 *e*P **P** **04 41 49.4 +0.1**
comp=E,365nm,0.6s
KSYOC YEONGCHEON 75.68 320 P **P** **04 41 50.2 +1.3**
SNR=8.2
KSYOC YEONGCHEON 75.68 320 P **P** **04 41 50.2 +1.3**
SNR=8.2
KSJIN Jinju 75.69 319 P **P** **04 41 50.4 +1.4**
SNR=19
KSJIN Jinju 75.69 319 P **P** **04 41 50.4 +1.4**
SNR=19
KSKOH Goheung 75.78 318 P **P** **04 41 50.7 +1.2**
SNR=8.3
QZH Quanzhou 75.81 305 ⇓*i*P **P** **04 41 49.5 -0.4**
QZH sP sP 04 44 42.8 -5.3
QZH S **S** **04 50 45.5 -0.9**
QZH ScS **SKKSac** **04 51 07.5 +0.4**
QZH PMZ
comp=E,660nm,1.2s
QZH PMZ
comp=E,5μm,3.7s
KSWAN Wando 75.99 317 P **P** **04 41 50.9 +0.3**
SNR=25
KSWAN Wando 75.99 317 P **P** **04 41 51.9 +1.2**
SNR=17
KSEUS ULSEONG 76.10 320 P **P** **04 41 52.1 +0.8**
SNR=23
KSEUS ULSEONG 76.10 320 P **P** **04 41 52.1 +0.8**
SNR=23
KSJDO Jindo 76.28 317 P **P** **04 41 53.6 +1.3**
SNR=16
KSKWJ Gwangju 76.32 318 P **P** **04 41 54.3 +1.8**
SNR=9.4
KSKWJ Gwangju 76.32 318 P **P** **04 41 53.5 +1.0**
SNR=35
KSGWJ Gwangju-acc 76.39 318 P **P** **04 41 54.1 +1.3**
SNR=12
KSGWJ Gwangju-acc 76.39 318 P **P** **04 41 54.1 +1.3**
SNR=12
SKR Severo-Kuril's 76.41 345 *e*P P 04 41 44.0 -8.6
SKR *e* 04 42 09.0
SKR *e*S S 04 50 44.0 -7.7
SKR *e* 04 51 12.0
SKR pmax pmax
comp=N,50nm,0.5s
SKR pmax pmax
comp=Z,140nm,0.5s
SKR pmax pmax
comp=N,2μm,4.0s
SKR pmax pmax
comp=E,2μm,4.0s
SKR pmax pmax
comp=Z,2μm,4.0s
SKR smax smax
comp=E,6μm,12.0s
SKR smax smax
comp=N,3μm,10.0s
KSCPR CHUPUNGNYEONG 76.43 320 P **P** **04 41 53.8 +0.7**
SNR=37
KSSAJ Sangju 76.45 320 P **P** **04 41 53.9 +0.7**
SNR=27
KSTBA Taebaek 76.47 321 P **P** **04 41 54.2 +0.8**
SNR=35
KSJEU Jeongeup 76.58 318 P **P** **04 41 55.0 +1.1**
SNR=12
NIKH Nikolski High 76.65 7 *e*P **P** **04 41 53.1 -0.7**
comp=N,1μm,0.7s
KSJEO Jeonju 76.65 319 P **P** **04 41 55.2 +0.9**
SNR=57
KSBON Boeun 76.72 320 P **P** **04 41 55.6 +0.9**
SNR=11
KSYOW Yeongwol 76.79 321 P **P** **04 41 56.7 +1.6**
SNR=12
KSJES JEONGSEON 76.85 321 P **P** **04 41 57.0 +1.6**
SNR=11
KSCHJ Chungju 76.87 320 P **P** **04 41 55.6 +0.1**
SNR=59
KSCHJ Chungju 76.87 320 P **P** **04 41 56.6 +1.1**
SNR=14
KSTEJ Daejeon 76.89 319 P **P** **04 41 56.8 +1.2**
SNR=14
TJN Taejon 76.90 319 *d*/*i*P **P** **04 41 55.6 0.0**
KSHUK Heuksando 76.96 317 P **P** **04 41 57.5 +1.5**
SNR=6.0
KSDGY Daegwallyeong 77.02 321 P **P** **04 41 57.1 +0.7**
SNR=97
KSGUS GUNSAN 77.03 319 P **P** **04 41 57.5 +1.2**
SNR=9.3
KSKOJ Gongju 77.09 319 P **P** **04 41 57.9 +1.2**
SNR=17
KSJMJ Jumunjin 77.10 321 P **P** **04 41 57.8 +1.1**
SNR=39
KSWJU Wonju 77.19 321 P **P** **04 41 58.4 +1.2**
SNR=16
MYKOM Kota Tinggi 77.26 278 *e*P **P** **04 41 58.2 0.0**
comp=N,963nm,1.6s
KSCEA Cheonan 77.26 320 P **P** **04 41 58.6 +1.0**
SNR=8.3
YSS Yuzh-Sakhalins 77.26 335 *k*/*i*P **P** **04 41 58.0 +0.7**
YSS *e**PP **pP** **04 43 56.0 -1.4**
YSS *e* 04 45 07.7
YSS *i*S S 04 51 07.0 +6.1
YSS *e* 04 51 20.0
YSS *e*SS **SS** **04 56 16.0 -0.3**
YSS pmax pmax
comp=N,150nm,0.8s
YSS pmax pmax
comp=Z,430nm,0.8s
YSS pmax pmax
comp=Z,4μm,3.0s
YSS smax smax
comp=N,2μm,8.0s
YSS smax smax
comp=E,6μm,10.0s
YSS Yuzh-Sakhalins 77.26 335 *e*P **P** **04 41 58.4 +1.1**
comp=E,499nm,0.8s
KSRS Korea Array 77.30 320 P **P** **04 41 58.5 +0.7**
comp=E,117nm,0.7s,baz=135,slow=5.7,SNR=341
KSRS Korea Array 77.30 320 P **P** **04 41 58.5 +0.7**
KSRS pmax pmax
comp=Z,117nm,0.7s
KSAR Wonju Array Be 77.31 320 P **P** **04 41 58.5 +0.6**

KSICN **Icheon** 77.48 320 P P 04 42 00.1 +1.3
SNR=56
DLV **T Lat** 77.48 289 *e*P P 04 42 00.4 +0.9
KSKC **Sokcho** 77.52 321 P P 04 42 00.1 +1.2
SNR=38
SSE **Sheshan** 77.52 312 ⇓P P 04 41 59.0 -0.1
SSE pP pP 04 43 52.5 -6.8
SSE sP sP 04 44 48.8 -9.0
SSE PP **PP** **04 45 02.8 -2.1**
SSE S **S** **04 51 07.0 +2.7**
SSE sS sS 04 54 31.3 -7.2
SSE PMZ
comp=Z,64nm,1.1s
SSE PMZ
comp=Z,2µm,8.1s
KSIJA **INJE** 77.55 321 P P 04 42 00.0 +0.9
SNR=150
KSCHC **Chuncheon** 77.58 321 P P 04 42 00.6 +1.4
SNR=51
SEHB **SEOHWA** 77.66 321 P P 04 42 00.9 +1.1
SNR=85
KSSES **Seosan** 77.72 319 P P 04 42 01.0 +1.0
SNR=16
KSSWO **Suwon** 77.73 320 P P 04 42 01.3 +1.1
SNR=28
UNV **Unalaska Valle** 77.80 9 *e*P P 04 41 58.6 -1.5
comp=Z,253nm,0.7s
KGM **Kluang** 77.83 278 ⇑P P 04 42 02.1 +0.8
KSSEO **Seoul** 77.91 320 P P 04 42 02.5 +1.4
SNR=8.7
KSCWO **Cheorwon** 77.96 321 P P 04 42 02.5 +1.1
SNR=123
PET **Petropavlovsk** 78.06 347 *d* *i*P P 04 42 00.6 -0.9
PET *e**PP **pP** **04 43 59.9 -2.0**
PET *i* *SP **sP** **04 44 56.5 -3.8**
PET *i* S **S** **04 51 09.4 +0.5**
PET *e*SP **SPn** **04 51 55.5 +0.6**
PET *e*SS **SS** **04 56 29.9 +2.0**
PET *e*SSS SSS 04 59 56.1
PET pmax pmax
comp=Z,336nm,0.6s
PET pmax pmax
comp=Z,2µm,7.2s
PET pmax pmax
comp=Z,2µm,14.7s
PET smax smax
comp=E,3µm,9.5s
PET smax smax
comp=E,4µm,19.0s
PET **Petropavlovsk** 78.06 347 *e*P P 04 42 01.0 -0.5
MAW **Mawson** 78.06 201 P P 04 42 02.7 +1.3
comp=E,77nm,0.8s,baz=115,slow=5.8,SNR=83
MAW **Mawson** 78.06 201 P P 04 42 02.7 +1.3
MAW pmax pmax
comp=Z,77nm,0.8s
MAW **Mawson** 78.06 201 *e*P P 04 42 02.5 +1.1
comp=Z,42nm,1.2s
INCN **Inchon** 78.08 320 P P 04 42 02.8 +0.8
SNR=29
INCN **Inchon** 78.08 320 *e*P P 04 42 02.8 +0.8
comp=Z,1µm,2.1s
KSDDC **Dongducheon** 78.10 320 P P 04 42 04.0 +1.9
SNR=8.3
AKUT **Akutan** 78.19 9 *e*P P 04 42 00.4 -1.7
comp=Z,238nm,0.9s
KSMUS **Musan** 78.27 320 P P 04 42 04.2 +1.2
SNR=26
YNCB **YEONCHEON** 78.27 320 P P 04 42 04.4 +1.4
SNR=26
PETK **Petropavlovsk-** 78.33 347 P P 04 42 02.5 -0.5
comp=Z,316nm,0.7s,baz=135,slow=6.7,SNR=313
PETK PKiKP **PKiKP** **04 47 33.0 -0.5**
comp=Z,3.7nm,0.5s,baz=127,slow=3.7,SNR=4.3
PETK S **S** **04 51 10.8 -1.0**
comp=Z,5.7nm,0.9s,baz=138,slow=16,SNR=3.7
KSGAH **Ganghwa** 78.33 320 P P 04 42 04.6 +1.3
SNR=25
GZH **Guangzhou** 78.85 301 P P 04 42 07.5 +1.1
GZH PP **PP** **04 45 18.8 +2.9**
GZH S **S** **04 51 16.8 -1.7**
GZH SKS **SKSac** **04 51 21.5 -6.4**
GZH ScS **ScS** **04 51 34.0 -2.3**
GZH SS **SS** **04 56 40.5 -0.1**
VLA **Vladivostok** 79.11 327 *d* *i*P P 04 42 08.0 +0.7
VLA pmax pmax
comp=Z,116nm,0.8s
BKNI **Bangkinang** 79.24 275 *e*P P 04 42 08.4 -0.3
comp=Z,618nm,1.3s
FALS **False Pass** 79.25 10 *e*P P 04 42 07.5 -0.2
comp=Z,81nm,0.6s
PDSI **Padang** 79.28 274 P P 04 42 08.8 -0.2
comp=Z,48nm,0.9s
KTGM **Kuala Trenggan** 79.37 281 ⇑P P 04 42 10.0 +0.7
KSBAR **Backryungdo** 79.55 319 P P 04 42 11.3 +1.5
SNR=13
QIZ **Qiongzhong** 79.66 296 P P 04 42 11.8 +1.0
QIZ pP pP 04 44 06.0 -5.8
QIZ sP sP 04 44 59.5 -11
QIZ S **S** **04 51 25.3 -1.6**
QIZ ScS **ScS** **04 51 45.5 +2.4**
QIZ PMZ
comp=Z,59nm,0.8s
QIZ PMZ
comp=Z,2µm,12.2s
QIZ **Qiongzhong** 79.66 296 *e*P P 04 42 10.9 +0.2
comp=Z,31nm,0.6s
NJ2 **Nanjing** 79.69 311 *e*P P 04 42 12.8 +2.2
NJ2 S **S** **04 51 30.0 +3.2**
NJ2 PMZ
comp=Z,340nm,0.8s
PMSA **Palmer Station** 79.77 157 P P 04 42 12.7 +2.2
comp=Z,118nm,0.8s,baz=236,slow=6.9
PMSA **Palmer Station** 79.77 157 *e*P P 04 42 12.6 +2.1
PMSA *e*pP **pP** **04 44 16.3 +4.8**
USRK **Ussuriysk Ar.** 79.84 328 P P 04 42 11.6 +0.4
comp=Z,150nm,0.7s,baz=121,slow=4.3,SNR=327
FRIM **Kepong** 79.88 278 ⇑P P 04 42 12.6 +0.6
H06S1 **SOCORRO T** 79.95 65 P P 04 42 11.7 -0.5
SNR=103
SDPT **Sand Point** 80.22 12 *e*P P 04 42 12.0 -0.8
SISI **Saibi** 80.37 273 P P 04 42 16.1 +1.4
comp=Z,239nm,1.9s,comp=Z,5µm
TYV **Tymovskoe** 80.55 338 *e*P P 04 42 14.0 -0.6
TYV *e*S **S** **04 51 30.0 -4.7**
TYV pmax pmax
comp=Z,4µm,6.0s
TYV smax smax
comp=E,6µm,11.0s
MNSI **Mandailing Nat** 80.76 275 P P 04 42 15.8 -0.9
comp=E,397nm,0.8s,comp=E,8µm
IPM **Ipoh** 80.93 279 *e*P P 04 42 17.4 -0.2
comp=E,1µm,1.5s
MDJ **Mudanjiang** 81.34 327 P P 04 42 20.0 +1.1
MDJ pP pP 04 44 14.3 -6.3
MDJ sP sP 04 45 10.0 -8.7
MDJ S **SKKSac** **04 51 49.3 +1.3**
MDJ SS **SS** **04 57 23.0 +6.3**
MDJ PMZ
comp=E,270nm,0.7s
MDJ PMZ
comp=E,3µm,7.1s
MDJ **Mudanjiang** 81.34 327 *e*P P 04 42 19.5 +0.6
comp=E,241nm,0.8s
BSC **Santa Cruz Isl** 81.41 47 P P 04 42 20.8 +1.2
baz=82
SCI **San Clemente I** 81.57 49 P P 04 42 21.3 +1.0
baz=82,SNR=18
KULM **Kulim** 81.60 279 *e*P P 04 42 21.3 +0.3
comp=E,114nm,0.7s
UBPT **Khong Chiam** 81.61 291 P P 04 42 21.8 +0.9
comp=E,149nm,1.6s,comp=E,3µm
SBC **Santa Barbara** 81.61 47 P P 04 42 22.1 +1.5
baz=82
HABR **Khabarovsk** 81.62 332 *e*P P 04 42 19.3 -0.9
HABR *e**PP **pP** **04 44 21.7 -0.3**
HABR *e* 04 45 36.5
HABR *e*PPP PPP 04 47 32.4
HABR *e*S **S** **04 51 42.7 -2.8**
HABR *e*SS **SS** **04 57 21.1 +0.5**
HABR *e*SSS SSS 05 00 55.6
HABR pmax pmax
comp=Z,505nm,1.3s
HABR pmax pmax
comp=Z,2µm,2.6s
HABR MLR MLR
comp=Z,388nm,19.0s

PKM **Mcpherson Peak** 81.80 47 P P 04 42 23.0 +1.3
baz=82
BLG **Laguna Peak, P** 81.86 48 P P 04 42 22.9 +1.1
baz=82
CIS **Catalina Islan** 81.91 48 P P 04 42 22.7 +0.6
baz=82,SNR=8.6
SMMC **Simmler** 81.92 46 P P 04 42 23.8 +1.6
baz=82
DL2 **Dalian** 82.01 318 P P 04 42 23.3 +0.9
DL2 SKS **S** **04 51 46.8 -3.0**
DL2 S **SKKSac** **04 51 55.8 +2.6**
DL2 sS **sS** **04 55 23.5 -3.8**
DL2 PMZ
comp=Z,280nm,1.4s
DL2 PMZ
comp=Z,2µm,7.5s
WHN **Wuhan** 82.03 308 P P 04 42 23.5 +0.8
WHN sP **sP** **04 45 19.0 -3.8**
WHN S **SKSac** **04 51 49.5 +0.6**
WHN PMZ
comp=Z,280nm,0.8s
FMP **Fort Macarthur** 82.16 48 P P 04 42 24.7 +1.4
baz=82
PSI **Prapat** 82.16 276 *e*P P 04 42 22.9 -1.1
KCPM **Cahto Peak** 82.30 41 *e*P P 04 42 25.5 +1.4
comp=Z,220nm,1.4s
KCPM *e*pP **pP** **04 44 25.4 -0.8**
OSI **Osito Audit: C** 82.38 47 P P 04 42 25.7 +1.2
baz=83
OSI **Osito Audit: C** 82.38 47 *e*P P 04 42 25.4 +0.9
comp=Z,92nm,0.8s
OSI *e*pP **pP** **04 44 29.3 +2.7**
SKLT **Songkhla** 82.40 281 P P 04 42 26.6 +1.6
comp=Z,274nm,1.4s,comp=Z,4µm
DECC **Green Verdugo** 82.44 48 P P 04 42 25.6 +0.8
baz=83
KIPM **Iron Peak** 82.44 41 *e*P P 04 42 26.0 +1.2
comp=Z,411nm,1.5s
KIPM *e*pP pP 04 44 33.2 +6.2
PASC **Pasadena Art C** 82.49 48 *e*P P 04 42 25.8 +0.8
comp=Z,44nm,0.8s
PASC *e*pP **pP** **04 44 31.9 +4.7**
109C **Camp Elliot, M** 82.52 50 P P 04 42 26.1 +0.9
baz=83,SNR=9.0
KMRM **Mail Ridge** 82.56 40 *e*P P 04 42 27.7 +2.4
comp=Z,841nm,1.6s
ARVC **Arvin** 82.60 47 P P 04 42 26.5 +1.0
baz=83,SNR=15
MWC **Mount Wilson** 82.61 48 *e*P P 04 42 25.8 0.0
comp=Z,171nm,1.4s
MWC *e*pP **pP** **04 44 32.6 +4.5**
SNY **Shenyang** 82.70 322 ⇓P P 04 42 26.3 +0.5
SNY PMZ
comp=Z,160nm,2.4s
SNY PMZ
comp=Z,3µm,12.0s
GSI **Gunungsitoli** 82.80 275 P P 04 42 28.2 +1.1
comp=Z,620nm,1.4s,comp=Z,9µm
GSI **Gunungsitoli** 82.80 275 *e*P P 04 42 27.8 +0.8
comp=Z,360nm,0.7s
VES **Vestal, Richgr** 82.84 46 P P 04 42 26.9 +0.2
baz=83,SNR=46
MURC **Murrieta** 82.85 49 P P 04 42 27.9 +1.0
baz=83,SNR=23
BFSC **Mount Baldy Ra** 82.89 48 P P 04 42 28.0 +0.8
baz=83,SNR=49
CN2 **Changchun** 82.95 324 *e*P P 04 42 27.5 +0.4
CN2 PP **PP** **04 45 51.8 +3.0**
CN2 *e*S **S** **04 51 58.3 -0.7**
CN2 PMZ
comp=Z,30nm,0.8s
KHMM **Horse Mountain** 82.96 40 *e*P P 04 42 27.3 -0.1
comp=Z,108nm,0.8s
KHMM *e*pP pP 04 44 34.9 +5.2
KHMM *e*PP **PP** **04 45 47.6 -1.5**
MONP **Monument Peak,** 83.00 50 P P 04 42 29.1 +1.2
baz=83,SNR=95
RCTC **Rector, Farmer** 83.01 46 P P 04 42 27.8 +0.3
baz=83,SNR=6.6
EDW2 **Edwards Air Fo** 83.03 47 P P 04 42 28.9 +1.1
baz=83,SNR=91
IBP **Imperial Bould** 83.11 50 P P 04 42 29.6 +1.4
baz=83,SNR=7.4
NKL **Nikolayevsk** 83.13 338 *i*P P 04 42 22.0 -5.7
NKL *e* 04 51 57.8
NKL pmax pmax
comp=N,100nm,0.8s
NKL pmax pmax
comp=Z,310nm,0.8s
ISA **Isabella, Lake** 83.14 47 P P 04 42 29.5 +1.1
baz=83,SNR=83
ISA **Isabella, Lake** 83.14 47 *e*P P 04 42 29.0 +0.6
comp=Z,151nm,1.0s
ISA *e*pP **pP** **04 44 33.0 +2.2**
SLBS **Sierra La Lagu** 83.16 61 *e*P P 04 42 30.1 +1.4
comp=Z,819nm,1.9s
TIA **Tai'an** 83.27 314 ⇑P P 04 42 29.5 +0.7
TIA pP **pP** **04 44 30.3 -1.0**
TIA sP **sP** **04 45 25.0 -4.2**
TIA PP **PP** **04 45 48.0 -3.5**
TIA SKS **SKSac** **04 51 57.3 +0.6**
TIA S **SKKSac** **04 52 04.8 +1.9**
TIA sS sS 04 55 34.0 -6.8
TIA SS **SS** **04 57 52.0 +6.8**
TIA PMZ
comp=Z,690nm,0.8s
TIA PMZ
comp=Z,5µm,8.5s
CMB **Columbia Colle** 83.28 44 *e*P P 04 42 29.4 +0.5
comp=Z,123nm,0.9s
CMB *e*pP **pP** **04 44 34.1 +2.6**
PFO **Pinyon Flats O** 83.37 49 P P 04 42 30.5 +0.9
comp=Z,284nm,1.8s,SNR=21
PFO **Pinyon Flats O** 83.37 49 P P 04 42 30.6 +0.9
baz=84,SNR=32
PFO **Pinyon Flats O** 83.37 49 *e*P P 04 42 29.9 +0.4
comp=Z,128nm,1.5s
PFO *e*pP **pP** **04 44 34.2 +2.1**
BBRC **Big Bear Solar** 83.41 48 P P 04 42 30.8 +0.9
baz=84,SNR=5.4
SYO **Syowa Base** 83.43 194 ⇓*e*P P 04 42 27.5 -1.6
SYO **Syowa Base** 83.43 194 ⇓*i*PcP P 04 42 29.0 -0.1
SWSC **Sam W. Stewart** 83.47 50 P P 04 42 31.3 +1.4
baz=84,SNR=44
OHAK **Old Harbor** 83.47 15 *e*P P 04 42 28.9 -0.4
comp=Z,1µm,2.1s
WDC **Whiskeytown Da** 83.48 41 *e*P P 04 42 30.5 +0.7
comp=Z,716nm,2.1s
WDC *e*pP **pP** **04 44 34.4 +2.0**
TRTT **Trang** 83.51 281 P P 04 42 32.1 +1.5
comp=Z,341nm,1.3s,comp=Z,6µm
LRMC **Laurel Mtn Rad** 83.56 47 P P 04 42 32.0 +1.5
baz=84,SNR=11
N02D **Trinity Center** 83.63 40 P P 04 42 32.7 +2.1
baz=84,SNR=34
KLR **Kul'dur** 83.63 331 *e*P P 04 42 27.4 -2.9
KLR *e*S S 04 51 56.0 -9.5
KLR pmax pmax
comp=Z,760nm,2.2s
KLR pmax pmax
comp=Z,3µm,8.0s
SKNT **Sakolnakorn** 83.64 291 P P 04 42 31.5 +0.4
comp=Z,2µm,0.9s,comp=Z,11µm
RRX **Edison Barstow** 83.70 48 P P 04 42 32.2 +1.2
baz=84
M02C **Callahan** 83.80 40 P P 04 42 33.3 +1.8
baz=84,SNR=52
L02D **Cave Junction,** 83.84 39 P P 04 42 33.2 +1.7
baz=84,SNR=13
CWC **Cottonwood Cre** 83.85 46 P P 04 42 33.0 +1.0
baz=84,SNR=21
KEBM **Edson Butte** 83.87 38 *e*P P 04 42 32.9 +1.1
comp=Z,310nm,1.4s
KEBM *e*pP pP 04 44 42.2 +7.7
BELC **Belle Mtn. Jos** 83.90 49 P P 04 42 33.5 +1.2
baz=84,SNR=95
MPMC **Manual Prospec** 84.03 47 P P 04 42 33.8 +1.0
baz=84,SNR=82
MLAC **Mammoth, Mammo** 84.03 45 P P 04 42 34.3 +1.4
baz=84
GSC **Goldstone, Bar** 84.06 48 P P 04 42 34.1 +1.2
baz=84,SNR=65
GSC **Goldstone, Bar** 84.06 48 *e*P P 04 42 34.0 +1.1
comp=Z,121nm,1.1s
GSC *e*pP **pP** **04 44 40.0 +4.2**
DAC **Darwin (Calif)** 84.08 46 *e*P **pP** **04 42 33.9 +0.8**
comp=Z,74nm,1.4s
DAC *e*pP **pP** **04 44 37.4 +1.5**
YBH **Yreka Blue Hor** 84.09 40 P P 04 42 33.9 +1.0
comp=Z,55nm,0.8s,baz=188,slow=3.6,SNR=73
YBH **Yreka Blue Hor** 84.09 40 P P 04 42 33.9 +1.0
YBH pmax pmax
comp=Z,55nm,0.8s
YBH **Yreka Blue Hor** 84.09 40 *e*P P 04 42 34.0 +1.0
comp=Z,118nm,1.1s
BC3 **Big Chuckawall** 84.10 50 P P 04 42 34.6 +1.5
baz=84,SNR=68
TIN **Tinemaha, Big** 84.10 46 P P 04 42 34.2 +1.1
baz=84,SNR=12
KRAB **Krabi** 84.12 281 P P 04 42 35.2 +1.7
comp=Z,380nm,0.7s,comp=Z,3µm
HEC **Hector,Ludlow** 84.13 48 P P 04 42 34.1 +0.8
baz=84,SNR=106
KDAK **Kodiak Island** 84.14 15 P P 04 42 33.6 +1.0
comp=Z,636nm,0.8s,SNR=21
KDAK **Kodiak Island** 84.14 15 *i*P P 04 42 32.5 -0.1
KDAK **Kodiak Island** 84.14 15 *e*P P 04 42 32.5 -0.1
comp=Z,737nm,1.9s
KDAK *e*pP **pP** **04 44 37.2 +1.8**
PAF **Port-aux-Franc** 84.15 218 P P 04 42 30.0 -3.0
PAF R 04 51 00.0
WAKR **Walker** 84.16 44 *e*P P 04 42 34.3 +0.8
WAKR *e*pP **pP** **04 44 36.8 +0.5**
GLA **Glamis** 84.21 50 P P 04 42 35.5 +1.8
baz=84,SNR=42
GLA **Glamis** 84.21 50 *e*P P 04 42 34.7 +1.1
comp=Z,197nm,1.0s
GLA *e*pP **pP** **04 44 39.2 +2.7**
HUMO **Hull Mountain** 84.49 39 *e*P P 04 42 36.1 +1.3
comp=Z,308nm,1.4s
HUMO *e*pP **pP** **04 44 40.5 +2.7**
GMRC **Granite Mounta** 84.56 49 P P 04 42 36.4 +1.0
baz=85,SNR=48
IRM **Iron Mountain** 84.58 49 P P 04 42 36.8 +1.3
baz=85,SNR=96
PATY **Pattaya** 84.59 286 P P 04 42 38.1 +2.3
comp=Z,81nm,0.9s,comp=Z,1µm
GRAC **Grapevine Rang** 84.64 46 P P 04 42 36.7 +1.0
baz=85,SNR=86
M04C **Macdoel** 84.64 40 P P 04 42 36.8 +1.1
baz=85,SNR=25
AIS **Amsterdam Isla** 84.65 231 P P 04 42 31.0 -4.7
AIS S SKSac 04 51 42.0 -24
AIS SS **SS** **04 58 03.0 -1.0**
FURC **Furnace Creek,** 84.68 47 P P 04 42 36.6 +0.9
baz=85,SNR=20
TUQ **Turquoise Moun** 84.74 48 P P 04 42 37.3 +1.0
baz=85,SNR=22
SHOC **Shoshone, Teco** 84.75 47 P P 04 42 36.9 +0.7
baz=85,SNR=6.5
PKDT **Phuket** 84.76 281 P P 04 42 41.4 +4.7
comp=Z,116nm,1.2s
SURT **Suratani** 84.78 282 P P 04 42 38.9 +2.1
comp=Z,231nm,1.3s,comp=Z,2µm
NAYO **Nakonayok** 84.78 288 P P 04 42 38.7 +2.0
comp=Z,138nm,0.8s,comp=Z,2µm
Y12C **Blythe** 84.80 50 P P 04 42 37.4 +1.0
baz=85,SNR=37
NONG **Nongkai** 84.84 292 P P 04 42 37.8 +0.8
comp=Z,519nm,1.2s,comp=Z,15µm
NVAR **Mina Array Bea** 84.84 44 P P 04 42 37.2 +0.4
comp=Z,45nm,0.8s,baz=224,slow=8.9,SNR=178
NVAR pP **pP** **04 44 39.9 0.0**
comp=Z,6.8nm,0.8s,baz=221,slow=6.1,SNR=3.2
NVAR PKiKP **PKiKP** **04 47 45.1 +0.6**
comp=Z,1.1nm,0.7s,baz=231,slow=4.3,SNR=3.1
NVAR PKKPbc **PKKPbc** **05 00 42.6 +0.5**
comp=Z,2.0nm,0.6s,baz=62,slow=2.4,SNR=9.8
NVAR PKPPKP **P'P'df** **05 08 42.7 -3.6**
comp=Z,2.7nm,1.0s,baz=88,slow=4.9,SNR=4.9
LHMI **Lhok Sumawe** 84.94 278 P P 04 42 38.7 +1.1
comp=Z,508nm,0.9s,comp=Z,6µm
LHMI **Lhok Sumawe** 84.94 278 *e*P P 04 42 38.1 +0.5
comp=Z,345nm,0.8s
I03D **Drain, OR** 84.95 38 P P 04 42 38.2 +1.3
baz=85,SNR=24
I03D SKSac **SKSac** **04 52 08.0 +1.1**
baz=85
214A **Organ Pipe Nat** 85.09 52 P P 04 42 39.5 +1.6
baz=85,SNR=75
214A **Organ Pipe Nat** 85.09 52 *e*P P 04 42 39.0 +1.1
comp=Z,210nm,1.4s
214A *e*pP **pP** **04 44 44.1 +3.0**
LDFC **Landfair** 85.10 49 *e*P P 04 42 39.0 +0.9
LDFC *e*pP pP 04 44 46.9 +5.7
K04D **Chiloquin, OR** 85.20 39 P P 04 42 39.5 +1.1
baz=86,SNR=9.1
NEE2 **Needles Airpor** 85.28 49 P P 04 42 39.8 +1.1
baz=86,SNR=8.8
SNAA **Sanae** 85.29 179 P P 04 42 35.0 -3.2
SNAA **Sanae** 85.29 179 P pP 04 44 38.9 -2.5
SNAA **Sanae** 85.29 179 S **SKSac** **04 52 04.4 -4.3**
SNAA **Sanae** 85.29 179 P P **04 42 38.5 +0.2**
comp=Z,14nm,0.5s,baz=204,slow=10,SNR=571
SNAA pP **pP** **04 44 40.6 -0.8**
comp=Z,6.0nm,0.8s,baz=187,slow=4.8,SNR=3.5
SNAA S **SKSac** **04 52 07.3 -1.3**
comp=Z,2.1nm,0.9s,baz=180,slow=20,SNR=24
SNAA PKKPbc **PKKPbc** **05 00 38.4 -3.2**
comp=Z,1.9nm,0.8s,baz=229,slow=0.6,SNR=19
SNAA **Sanae** 85.29 179 *c* *i*P P 04 42 34.8 -3.5
SNAA pmax pmax
comp=Z,38nm,1.3s
SNAA **Sanae** 85.29 179 *e*P P 04 42 34.3 -3.9
SNAA *e*pP pP 04 44 36.9 -4.5
SNAA *e*S **SKSac** **04 52 04.7 -3.9**
SNAA PKKPbc **PKKPbc** **05 00 38.4 -3.2**
TPH **Tonopah** 85.34 45 *e*P P **04 42 39.5 +0.2**
comp=Z,214nm,1.3s
TPH *e*pP **pP** **04 44 46.4 +3.9**
TPH *e*PP **PP** **04 46 06.2 -2.2**
TPNV **Topopah Spring** 85.35 47 P P 04 42 40.2 +1.0
baz=86,SNR=60
PDMCI **Parker Dam,Lak** 85.36 50 P P 04 42 40.6 +1.5
baz=86,SNR=51
J04D **Umpqua Nationa** 85.37 39 P P 04 42 40.7 +1.4
baz=86,SNR=47
ENH **Enshi** 85.47 306 *e*P P 04 42 40.4 +0.6
comp=Z,162nm,0.8s
COR **Corvallis** 85.53 37 *e*P P 04 42 40.6 +1.0
comp=Z,719nm,2.0s
I04A **Tendick Farm,** 85.54 38 P P 04 42 40.8 +1.0
baz=86,SNR=32
MOD **Modoc Plateau** 85.62 41 *e*P P 04 42 40.8 +0.3
comp=Z,73nm,0.8s
MOD *e*pP **pP** **04 44 46.3 +2.4**
SLVN **Son La** 85.66 295 *e*P P 04 42 41.7 +0.8
comp=Z,99nm,1.1s
K05A **Summer Lake** 85.77 40 *e*P P 04 42 42.2 +1.0
comp=Z,900nm,1.8s
NVL **N'lazarevskaya** 85.78 184 ⇓*i*P P 04 42 40.2 -0.3
NVL *e**PP **pP** **04 44 43.9 0.0**
NVL pmax pmax
comp=Z,92nm,0.9s
GYA **Guiyang** 85.79 301 ⇓*i*P P 04 42 42.5 +1.0
GYA pP **pP** **04 44 40.0 -5.0**
GYA sP sP 04 45 34.3 -8.3
GYA PP **PP** **04 46 14.8 +2.8**
GYA SKS **SKSac** **04 52 15.5 +2.3**
GYA S **S** **04 52 30.3 +2.8**
GYA sS sS 04 55 58.0 -10
GYA SS **SS** **04 58 27.3 +4.9**
GYA PMZ
comp=Z,70nm,0.9s
GYA PMZ
comp=Z,2µm,10.8s
SHPR **Sheep Range** 85.84 47 *e*P P 04 42 42.0 +0.4
SHPR *e*pP **pP** **04 44 46.7 +1.6**
J05D **Fort Rock, OR** 85.91 39 P P 04 42 43.4 +1.7
baz=86,SNR=128
VNA2 **Neumayer--Watz** 85.93 178 P P 04 42 42.1 +0.8
baz=188,slow=6.8
VNA2 **Neumayer--Watz** 85.93 178 S **SKSac** **04 52 12.3 -0.1**
baz=187,slow=24
G03D **McMinnville, O** 85.95 37 P P 04 42 42.9 +1.2
baz=86,SNR=13
PBKT **Sadao Pong** 86.06 290 P P 04 42 44.4 +1.6
comp=Z,190nm,1.6s,comp=Z,4µm
BJT **Baijiatuau** 86.06 317 *e*P P 04 42 43.3 +0.9
comp=Z,281nm,0.7s
BJI **Beijing** 86.07 317 P P 04 42 44.0 +1.7
BJI pP pP 04 44 39.8 -6.1

BJI sP sP 04 45 33.5 -10
BJI S **ScS** **04 52 34.8 -0.3**
BJI SS **SS** **04 58 30.5 +4.7**
BJI PMZ
comp=Z,260nm,0.8s
BJI PMZ
comp=Z,4µm,3.4s
VNA1 Neumayer--Stat 86.18 178 P **P** **04 42 43.1 +0.7**
VNA1 Neumayer--Stat 86.18 178 S **SKSac** **04 52 15.1 +1.3**
BRLK Bradley Lake 86.32 15 *eP* **P** **04 42 42.6 -0.5**
I05D Terrebonne, OR 86.49 38 P **P** **04 42 45.8 +1.5**
baz=87,SNR=44
RSO Redoubt South 86.52 14 *eP* **P** **04 42 43.4 -0.9**
comp=Z,142nm,0.8s
RSO *epP* pP 04 44 53.8 +5.7
SVW2 Sparrevohn 86.53 12 *eP* **P** **04 42 43.6 -0.4**
R11A Troy Canyon, C 86.56 46 P **P** **04 42 45.8 +0.8**
baz=87,SNR=36
R11A Troy Canyon, C 86.56 46 *eP* **P** **04 42 44.8 -0.1**
comp=Z,18nm,1.1s
R11A *epP* **pP** **04 44 50.1 +1.3**
R11A *ePP* **PP** **04 46 17.1 -0.9**
F04D Rainier, OR 86.63 36 P **P** **04 42 46.9 +2.0**
baz=87,SNR=7.2
SRDT SRDT 86.73 287 P **P** **04 42 48.2 +2.2**
comp=Z,701nm,1.3s,comp=Z,12µm
TUC Tucson 86.75 53 *eP* **P** **04 42 47.0 +1.1**
comp=Z,195nm,1.5s
TUC *epP* **pP** **04 44 53.2 +3.5**
TUC *e* 05 00 34.4
UTTA Uttaradit 86.92 291 P **P** **04 42 48.7 +1.9**
comp=Z,38nm,1.0s,comp=Z,411nm
H02S1 DAWSON INLET T 86.92 27 P **P** **04 42 46.4 +0.4**
SNR=50
H02N1 VAN INLET T-PH 86.93 27 P **P** **04 42 46.5 +0.3**
SNR=34
WVOR Wild Horse Val 86.94 41 *eP* **P** **04 42 47.0 +0.4**
comp=Z,289nm,1.3s
LVP Lakeview Peak 86.95 36 P **P** **04 42 47.1 +0.6**
UTHA Uthaitani 86.95 288 P **P** **04 42 48.6 +1.6**
comp=Z,121nm,0.8s,comp=Z,940nm
SEW Seward 86.96 15 *eP* **P** **04 42 45.6 -0.4**
comp=Z,135nm,1.0s
NLWA Neilton Lookou 87.00 35 *eP* **P** **04 42 46.8 +0.2**
comp=Z,204nm,1.3s
NLWA *epP* pP 04 44 56.4 +5.8
G05D Wamic, OR 87.05 38 P **P** **04 42 47.9 +1.0**
baz=87,SNR=16
GAMB Gambell 87.07 4 *eP* **P** **04 42 46.3 -0.1**
comp=Z,114nm,0.8s
GAMB *epP* **pP** **04 44 55.4 +4.9**
CROR Criterion Ridg 87.08 38 P **P** **04 42 48.4 +1.3**
MID Middleton Isla 87.16 17 *eP* **P** **04 42 47.5 +0.5**
comp=Z,558nm,1.4s
TIY Taiyuan 87.22 313 *eP* **P** **04 42 49.3 +1.3**
TIY pP **pP** **04 44 51.0 -1.0**
TIY SKS **SKSac** **04 52 22.8 +1.6**
TIY S **ScS** **04 52 47.0 +2.0**
TIY PMZ
comp=Z,190nm,0.6s
TIY PMZ
comp=Z,2µm,3.6s
TDL Tradedollar La 87.23 36 P **P** **04 42 48.8 +0.9**
KHLT Khaolaem Dam 87.38 287 P **P** **04 42 51.3 +2.2**
comp=Z,127nm,1.5s,comp=Z,1µm
CCUT Cedar City 87.61 47 *eP* **P** **04 42 50.6 +0.6**
comp=Z,144nm,1.4s
CCUT *epP* **pP** **04 44 51.1 -3.1**
LON Longmire 87.70 36 *eP* **P** **04 42 50.2 +0.3**
comp=Z,408nm,2.0s
LON *epP* **pP** **04 44 56.3 +2.1**
XAN Xi'an 87.77 309 P **P** **04 42 51.8 +1.2**
XAN pP **pP** **04 44 50.8 -4.0**
XAN sP sP 04 45 44.0 -8.3
XAN PP **PP** **04 46 30.0 +2.5**
XAN SKS **SKSac** **04 52 27.5 +2.9**
XAN S **ScS** **04 52 48.8 -0.9**
XAN sS sS 04 56 18.0 -9.0
XAN SS **SS** **04 58 54.8 +4.1**
XAN PMZ
comp=Z,56nm,1.0s
XAN PMZ
comp=Z,710nm,8.9s
WPW White Pass 87.81 36 P **P** **04 42 51.3 +0.7**
D05A Enumclaw 87.87 36 *eP* **P** **04 42 52.3 +1.6**
comp=Z,612nm,1.2s
WUAZ Wupatki 87.94 50 P **P** **04 42 52.8 +1.3**
baz=89
WUAZ Wupatki 87.94 50 *eP* **P** **04 42 52.6 +1.1**
comp=Z,139nm,1.3s
WUAZ *epP* **pP** **04 44 57.6 +1.9**
PGC Sidney 88.02 34 *eP* **P** **04 42 51.5 +0.3**
PGC *epP* **pP** **04 44 58.8 +3.2**
LAMP Lampang 88.04 291 P **P** **04 42 54.0 +1.9**
comp=Z,107nm,0.9s,comp=Z,884nm
ELK Elko 88.09 44 *eP* **P** **04 42 52.5 +0.3**
comp=Z,89nm,1.1s
ELK *epP* **pP** **04 44 58.9 +2.3**
CRAI Chiangrai 88.14 293 P **P** **04 42 51.0 -1.6**
comp=Z,84nm,1.4s,comp=Z,8µm
NAC Naches 88.23 37 P **P** **04 42 52.8 +0.4**
EYAK Cordova Ski Ar 88.27 17 *eP* **P** **04 42 51.9 -0.2**
comp=Z,166nm,0.9s
KMI Kunming 88.31 298 ⇓P **P** **04 42 54.8 +1.3**
KMI pP **pP** **04 44 55.5 -2.4**
KMI sP sP 04 45 48.8 -6.5
KMI PP **PP** **04 46 28.8 -3.3**
KMI SKS **SKSac** **04 52 29.3 +0.8**
KMI S **ScS** **04 52 53.5 -1.4**
KMI sS sS 04 56 22.0 -11
KMI SS **SS** **04 59 04.0 +5.0**
KMI PMZ
comp=Z,120nm,1.0s
KMI PMZ
comp=Z,1µm,3.7s
CRAG Craig 88.32 25 *eP* **P** **04 42 53.5 +1.0**
comp=Z,65nm,0.8s
PMR Palmer 88.34 15 *eP* **P** **04 42 51.7 -0.8**
comp=Z,756nm,1.9s
HTW Haystack Looko 88.37 35 P **P** **04 42 53.6 +0.5**
CMBY CAMPBELL BAY 88.40 278 *eP* **P** **04 42 54.1 +0.2**
G08A Pilot Rock 88.41 39 *eP* **P** **04 42 54.1 +0.7**
comp=Z,490nm,1.6s
SEY Seymchan 88.51 348 PKKPbc PKKPbc 05 00 32.8 -1.3
comp=Z,2.6nm,0.3s,baz=268,slow=2.7,SNR=6.9
SEY Seymchan 88.51 348*d iP* **P** **04 42 53.3 +0.1**
CMAR Chiang Mai Arr 88.61 291 P **P** **04 42 56.5 +1.8**
comp=Z,86nm,0.9s,baz=132,slow=3.4,SNR=83
CMAR pP **pP** **04 44 58.9 -0.3**
comp=Z,12nm,0.9s,baz=130,slow=3.9,SNR=4.3
CMAR PP **PP** **04 46 33.8 -0.4**
comp=Z,7.6nm,0.9s,baz=120,slow=4.6,SNR=2.6
CMAR PKKPbc **PKKPbc** **05 00 32.5 +0.6**
comp=Z,7.5nm,0.7s,baz=286,slow=4.6,SNR=20
CMAR PKPPKP **P'P'df** **05 08 38.8 -2.0**
comp=Z,1.0nm,0.4s,baz=295,slow=3.0,SNR=8.7
CMAR Chiang Mai Arr 88.61 291 P **P** **04 42 56.6 +1.8**
CMAR *PP **pP** **04 44 58.9 -0.3**
CMAR 04 46 33.8
CMAR pmax pmax
comp=Z,86nm,0.9s
CMAR pmax pmax
comp=Z,12nm,0.9s
CMAR pmax pmax
comp=Z,8.0nm,0.9s
SML Sawmill 88.72 15 *eP* **P** **04 42 54.1 -0.2**
comp=Z,14nm,0.8s
SML *epP* **pP** **04 45 00.9 +2.0**
HAWA Hanford 88.74 37 *eP* **P** **04 42 55.4 +0.7**
comp=Z,332nm,1.3s
HAWA *epP* **pP** **04 45 01.6 +2.3**
CMMT Chiang Mai 88.75 291 P **P** **04 42 56.8 +1.4**
comp=Z,267nm,1.4s,comp=Z,5µm
CHTO Chiang Mai 88.76 291 P **P** **04 42 56.9 +1.5**
comp=Z,935nm,1.4s,comp=Z,16µm
CHTO Chiang Mai 88.76 291 P **P** **04 42 57.2 +1.8**
SNR=91
CHTO Chiang Mai 88.76 291 *eP* **P** **04 42 57.0 +1.5**
comp=Z,614nm,1.7s
CHTO *epP* **pP** **04 45 00.2 +0.3**
DIV Divide 88.76 16 *eP* **P** **04 42 54.5 0.0**
comp=Z,215nm,1.0s
DIV *epP* pP 04 45 05.5 +6.4
PPLA Purkeypile 88.84 13 *eP* **P** **04 42 53.3 -1.7**
comp=Z,230nm,1.8s

W18A Petrified Fore 88.90 51 P **P** **04 42 57.1 +1.1**
baz=89
W18A Petrified Fore 88.90 51 *eP* **P** **04 42 57.0 +1.0**
comp=Z,120nm,1.3s
MSU Marysvale 88.91 47 *eP* **P** **04 42 57.0 +1.0**
comp=Z,178nm,1.4s
MSU *epP* **pP** **04 45 01.4 +0.8**
MSU *ePP* **PP** **04 46 33.4 -3.3**
BMRM Bremner River 88.93 17 *eP* **P** **04 42 55.0 -0.4**
comp=Z,184nm,0.9s
BMRM *epP* **pP** **04 45 01.5 +1.6**
B06A Marblemount 88.96 35 *eP* **P** **04 42 55.9 +0.3**
121A Cookes Peak, D 89.07 54 P **P** **04 42 58.4 +1.5**
baz=89
121A Cookes Peak, D 89.07 54 *eP* **P** **04 42 57.9 +1.1**
comp=Z,100nm,1.1s
121A *epP* **pP** **04 45 05.1 +3.6**
TNA Tin City 89.11 5 *eP* **P** **04 42 55.8 -0.2**
comp=Z,223nm,1.2s
TNA *epP* **pP** **04 45 01.5 +0.9**
BMO Blue Mountains 89.12 40 *eP* **P** **04 42 56.8 +0.1**
comp=Z,210nm,1.8s
BMO *epP* **pP** **04 45 03.7 +2.4**
CMAI Chiengmai2 89.14 292 P **P** **04 42 58.6 +1.2**
comp=Z,220nm,1.3s,comp=Z,3µm
MFID Camas Ranch 89.19 41 *eP* **P** **04 42 57.8 +0.7**
comp=Z,103nm,0.9s
MFID *epP* **pP** **04 44 57.4 -4.3**
WTV Waterville 89.28 36 P **P** **04 42 57.5 +0.2**
WRAK Wrangell Islan 89.31 25 *eP* **P** **04 42 57.9 +0.8**
comp=Z,110nm,0.8s
WRAK *epP* **pP** **04 45 06.5 +4.7**
CAST Castle Rocks 89.33 12 *eP* P 04 42 52.5 -4.6
MHMT Maesarieng 89.36 290 P **P** **04 43 00.5 +2.2**
DUG Dugway, Tooele 89.36 45 P **P** **04 42 59.0 +1.0**
baz=90
DUG Dugway, Tooele 89.36 45 *eP* **P** **04 42 59.0 +1.0**
comp=Z,129nm,1.5s
HHC Hu-ho-hao-te 89.45 315 *eP* **P** **04 42 59.8 +1.5**
HHC pP **pP** **04 44 59.0 -4.0**
HHC sP sP 04 45 52.0 -8.3
HHC PP PP 04 46 46.5 +5.9
HHC SKS **SKSac** **04 52 35.0 +0.8**
HHC S **ScS** **04 53 02.3 -1.2**
HHC PMZ
comp=Z,130nm,0.8s
HHC PMZ
comp=Z,2µm,7.8s
D08A Wollman Farm, 89.47 37 *eP* **P** **04 42 58.8 +0.7**
comp=Z,356nm,1.6s
HIA Hailar 89.47 326*d iP* **P** **04 42 58.1 0.0**
HIA pmax pmax
comp=Z,50nm,1.2s
HIA Hailar 89.47 326 *eP* **P** **04 42 58.4 +0.3**
comp=Z,120nm,1.3s
BGU Big Grassy Mou 89.61 45 *eP* **P** **04 42 59.0 -0.1**
comp=Z,82nm,1.3s
BGU *epP* **pP** **04 45 02.1 -1.7**
NLU North Lily Min 89.72 46 *eP* **P** **04 43 00.7 +0.9**
comp=Z,269nm,2.0s
NLU *epP* **pP** **04 45 08.6 +4.1**
NLU *ePP* **PP** **04 46 41.6 -1.3**
TRF Thorofare Moun 89.73 13 *eP* **P** **04 42 58.0 -1.1**
comp=Z,154nm,0.8s
TMUT Trail Mountain 89.96 47 *eP* **P** **04 43 02.0 +1.0**
comp=Z,219nm,0.8s
TMUT *epP* **pP** **04 45 10.0 +4.2**
BESE Bessie Mountai 90.00 22 *eP* **P** **04 43 02.0 +1.7**
comp=Z,47nm,1.3s
HARP HAARP 90.00 16 *eP* **P** **04 43 00.8 +0.6**
comp=Z,675nm,2.1s
MPU Maple Canyon 90.05 46 *eP* **P** **04 43 01.8 +0.6**
comp=Z,317nm,0.9s
MPU *epP* **pP** **04 45 09.8 +3.8**
MPU *ePP* **PP** **04 46 43.4 -2.0**
CD2 Chengdu 90.11 304⇓*iP* **P** **04 43 03.3 +1.8**
CD2 pP **pP** **04 45 01.3 -5.1**
CD2 sP sP 04 45 55.5 -8.1
CD2 PP **PP** **04 46 46.5 +0.6**
CD2 SKS **SKSac** **04 52 38.8 +0.5**
CD2 S **ScS** **04 53 11.5 +2.2**
CD2 sS sS 04 56 43.3 -6.7
CD2 SS **SS** **04 59 28.3 +4.0**
CD2 PMZ
comp=Z,420nm,0.9s
CD2 PMZ
comp=Z,2µm,5.0s
EFI East Falkland 90.13 148 *eP* **P** **04 42 59.8 -1.4**
EFI pmax pmax
comp=Z,394nm,0.9s
EFI East Falkland 90.13 148 *eP* **P** **04 43 02.7 +1.5**
comp=Z,172nm,0.9s
HLID Hailey 90.14 42 P **P** **04 43 02.7 +1.2**
baz=90,SNR=89
HLID Hailey 90.14 42 *eP* **P** **04 43 02.2 +0.7**
comp=Z,31nm,0.8s
HLID *epP* **pP** **04 45 02.7 -3.6**
BPAW Bear Paw Mtn. 90.16 13 *eP* **P** **04 42 59.4 -1.5**
BPAW *epP* **pP** **04 45 08.6 +2.8**
SPUT South Promonto 90.18 44 *eP* **P** **04 43 02.3 +0.5**
comp=Z,128nm,1.0s
SPUT *epP* **pP** **04 45 04.5 -2.1**
SPUT *ePP* **PP** **04 46 45.5 -0.9**
HVU Hansel Valley 90.22 44 *eP* **P** **04 43 02.4 +0.5**
HVU *epP* **pP** **04 45 09.4 +2.7**
HVU *ePP* **PP** **04 46 48.5 +1.9**
MCK McKinley 90.26 14 *eP* **P** **04 43 00.5 -1.0**
comp=Z,59nm,0.9s
MCK *epP* **pP** **04 45 11.3 +5.0**
CTU Camp Tracy 90.32 45 *eP* **P** **04 43 02.7 +0.3**
comp=Z,128nm,1.0s
BTO Baotou 90.33 315 *eP* **P** **04 43 03.5 +1.1**
SRU San Rafael Swe 90.33 47 *eP* **P** **04 43 03.1 +0.6**
comp=Z,174nm,0.8s
SRU *epP* **pP** **04 45 11.7 +4.3**
P17A Butcher Ranch, 90.37 47 *eP* **P** **04 43 04.1 +1.4**
PAX Paxson 90.40 15 *eP* **P** **04 43 01.6 -0.6**
comp=Z,123nm,1.6s
LAZ Ladron 90.43 53 *eP* **P** **04 43 04.2 +1.1**
comp=Z,30nm,1.1s
LAZ *epP* **pP** **04 45 09.3 +1.3**
Y22D IRIS PASSCAL I 90.43 53 P **P** **04 43 04.4 +1.4**
baz=91
LENM Lemitar 90.44 53 *eP* **P** **04 43 04.1 +0.9**
comp=Z,44nm,1.0s
LENM *epP* **pP** **04 45 06.6 -1.4**
JLU Jordanelle 90.47 45 *eP* **P** **04 43 03.4 +0.2**
comp=Z,436nm,1.8s
JLU *epP* **pP** **04 45 11.4 +3.3**
BWN Browne 90.54 13 *eP* **P** **04 43 02.6 0.0**
TXAR Lajitas Array 90.75 58 P **P** **04 43 05.5 +0.9**
comp=Z,30nm,0.8s,baz=217,slow=5.5,SNR=186
TXAR pP **pP** **04 45 08.7 -0.8**
comp=Z,8.2nm,0.9s,baz=191,slow=4.1,SNR=3.1
TXAR PKiKP **PKiKP** **04 47 55.2 +0.7**
comp=Z,0.6nm,0.6s,baz=181,slow=4.1,SNR=2.6
TXAR S **SKSac** **04 52 43.0 +0.9**
comp=Z,1.8nm,1.0s,baz=260,slow=7.2,SNR=5.5
TXAR PKKPbc **PKKPbc** **05 00 27.8 +0.6**
comp=Z,4.8nm,0.9s,baz=168,slow=2.8,SNR=17
TXAR SKKP 05 02 45.2
comp=Z,1.8nm,0.9s,baz=92,slow=3.1,SNR=5.0
TXAR PKPPKP **P'P'df** **05 08 34.7 -1.5**
comp=Z,0.5nm,0.7s,baz=66,slow=2.8,SNR=3.9
LPM Los Pinos Moun 90.75 53 *eP* **P** **04 43 05.1 +0.5**
comp=Z,56nm,1.3s
LPM *epP* **pP** **04 45 08.3 -1.2**
TCUT Toone Canyon 90.76 45 *eP* **P** **04 43 05.0 +0.5**
comp=Z,179nm,0.9s
TCUT *epP* **pP** **04 45 12.9 +3.5**
TCUT *ePP* **PP** **04 46 50.2 -0.8**
MVCO Mesa Verde 90.79 50 P **P** **04 43 05.5 +0.7**
baz=91
MVCO Mesa Verde 90.79 50 *eP* **P** **04 43 04.5 -0.3**
comp=Z,366nm,3.0s
MVCO *epP* pP 04 45 17.6 +7.9
HYT Haines Junctio 90.85 20 *eP* **P** **04 43 04.2 -0.1**
HWUT Hardware Ranch 90.90 45 *eP* **P** **04 43 05.2 +0.1**
comp=Z,359nm,2.0s
HWUT *epP* **pP** **04 45 11.2 +1.2**
HWUT *ePP* **PP** **04 46 50.4 -1.7**
PV10 Paradox Valley 90.98 48 *eP* **P** **04 43 05.8 +0.2**
comp=Z,808nm,0.7s
PV04 Paradox Valley 91.08 48 *eP* **P** **04 43 06.6 +0.6**
NEW Newport 91.16 37 PKPPKP **P'P'df** **05 08 36.3 +2.5**
comp=Z,2.6nm,0.9s,baz=269,slow=7.2,SNR=4.2
NEW Newport 91.16 37 P **P** **04 43 06.3 +0.3**
baz=91
NEW Newport 91.16 37 *eP* **P** **04 43 05.4 -0.6**
comp=Z,15nm,0.8s
NEW *epP* **pP** **04 45 12.7 +1.8**
NEW P'P' 05 08 36.3
ANMO Albuquerque 91.18 52*d iP* **P** **04 43 05.8 -0.8**
ANMO pmax pmax
comp=Z,167nm,1.2s
ANMO Albuquerque 91.18 52 *eP* **P** **04 43 06.9 +0.3**
comp=Z,46nm,1.0s
ANMO *epP* **pP** **04 45 08.7 -2.8**
PV01 Paradox Valley 91.18 49 *eP* **P** **04 43 06.4 -0.1**
comp=Z,3µm,0.8s
PV01 *epP* **pP** **04 45 14.0 +2.5**
HDA Harding Lake 91.28 14 *eP* **P** **04 43 05.1 -1.0**
CCB Clear Creek Bu 91.31 14 *eP* **P** **04 43 04.9 -1.3**
comp=Z,280nm,1.7s
PBA Port Blair 91.31 282 *eP* P 04 43 06.1 -1.3
COLA College 91.49 13*d iP* **P** **04 43 06.2 -0.8**
COLA pmax pmax
comp=Z,252nm,1.1s
COLA College 91.49 13 *eP* **P** **04 43 06.2 -0.8**
comp=Z,258nm,1.6s
BILL Bilibino 91.55 355*d iP* **P** **04 43 07.4 +0.2**
BILL pmax pmax
comp=Z,182nm,1.4s
BILL Bilibino 91.55 355 *eP* **P** **04 43 06.9 -0.3**
comp=Z,142nm,0.8s
ILAR Eielson Array 91.61 14 P **P** **04 43 06.2 -1.4**
comp=Z,24nm,0.7s,baz=226,slow=4.3,SNR=143
ILAR pP **pP** **04 45 13.1 +0.4**
comp=Z,7.1nm,0.8s,baz=231,slow=6.2,SNR=2.8
ILAR PKiKP **PKiKP** **04 47 54.5 -0.3**
comp=Z,2.4nm,0.5s,baz=274,slow=2.8,SNR=8.7
ILAR S **SKSac** **04 52 43.6 -1.4**
comp=Z,2.9nm,1.1s,baz=224,slow=7.3,SNR=5.8
ILAR PKKPbc **PKKPdf** **05 00 24.3 +0.8**
comp=Z,1.4nm,0.5s,baz=5.3,slow=2.6,SNR=12
ILAR PKPPKP **P'P'df** **05 08 30.0 -1.6**
comp=Z,1.7nm,1.0s,baz=330,slow=2.7,SNR=9.0
DLBC Dease Lake 91.64 24 *eP* **P** **04 43 08.5 +0.5**
DGPR DIGLIPUR 91.75 284 *eP* **P** **04 43 06.9 -2.4**
MCMT McKenzie Canyo 91.76 41 *eP* **P** **04 43 09.5 +0.4**
comp=Z,18nm,1.0s
MCMT *epP* **pP** **04 45 16.1 +2.0**
MCMT *ePP* **PP** **04 46 57.4 -1.3**
AHID Auburn Hatcher 91.79 44 *eP* **P** **04 43 09.2 0.0**
comp=Z,35nm,1.0s
AHID *epP* **pP** **04 45 16.9 +2.7**
CLNS Chul'man 91.91 333 *eP* **P** **04 43 09.2 0.0**
CLNS *e*PP **pP** **04 45 14.9 +0.7**
CLNS *e* 04 46 59.8
CLNS *ePPP PPP 04 49 04.9
CLNS *eS **SKSac** **04 52 46.2 -0.9**
CLNS *e* 04 53 24.2
CLNS *eSS **SS** **04 59 47.1 -1.7**
CLNS *eSSS SSS 05 03 33.1
CLNS pmax pmax
comp=Z,50nm,0.8s
CLNS pmax pmax
comp=N,21nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,0.7s
CLNS pmax pmax
comp=Z,13nm,1.0s
CLNS pmax pmax
comp=N,19nm,1.2s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS smax smax
comp=N,274nm,13.7s
CLNS smax smax
comp=E,274nm,12.2s
MSO Missoula 92.17 39 P **P** **04 43 10.4 -0.3**
baz=92,SNR=25
MSO Missoula 92.17 39 *eP* **P** **04 43 10.7 0.0**
comp=E,13nm,0.7s
DLMT Dillon 92.19 41 *eP* **P** **04 43 10.9 0.0**
comp=E,94nm,1.7s
DLMT *epP* **pP** **04 45 15.2 -0.7**
S22A 4UR Ranch, Cre 92.21 50 P **P** **04 43 12.5 +1.1**
baz=92
529A Stev Forest Ra 92.22 58 P **P** **04 43 12.1 +0.8**
baz=92
BSMT Bassoo Peak 92.23 38 *eP* **P** **04 43 10.9 -0.2**
comp=E,15nm,0.8s
BSMT *epP* **pP** **04 45 16.3 +0.1**
TPAW Teton Pass 92.25 43 *eP* **P** **04 43 12.2 +0.8**
comp=E,63nm,1.5s
TPAW *epP* **pP** **04 45 18.6 +2.1**
FXWY Fox Creek 92.28 43 *eP* **P** **04 43 12.5 +1.1**
comp=E,161nm,2.3s
SNOW Snow King Moun 92.36 43 *eP* **P** **04 43 12.2 +0.4**
comp=E,90nm,1.5s
SNOW *epP* **pP** **04 45 18.3 +1.4**
O20A White River Ci 92.37 47 P **P** **04 43 12.7 +0.8**
baz=93
O20A White River Ci 92.37 47 *eP* **P** **04 43 12.0 +0.1**
comp=E,499nm,2.5s
O20A *epP* **pP** **04 45 21.1 +4.1**
O20A *ePP* **PP** **04 47 02.5 -0.9**
LZH Lanzhou 92.40 308 *eP* **P** **04 43 14.0 +1.9**
LZH pP **pP** **04 45 14.0 -3.2**
LZH sP sP 04 46 08.3 -6.0
LZH PP **PP** **04 47 05.5 +1.8**
LZH SKS **SKSac** **04 52 50.8 -0.3**
LZH *eS **ScS** **04 53 30.0 +1.6**
LZH sS **sS** **04 57 08.3 -3.4**
LZH PMZ
comp=E,230nm,1.0s
LZH PMZ
comp=E,1µm,5.9s
IMW Indian Meadow 92.46 43 *eP* **P** **04 43 12.7 +0.3**
comp=E,24nm,0.8s
IMW *epP* **pP** **04 45 21.3 +3.8**
JTMT Jette 92.46 38 *eP* **P** **04 43 11.8 -0.3**
SWMT Swartz Lake 92.50 39 *eP* **P** **04 43 11.6 -0.7**
comp=E,3.7nm,0.6s
SWMT *epP* **pP** **04 45 17.7 +0.4**
MOOW Moose Ponds 92.51 43 *eP* **P** **04 43 13.1 +0.6**
comp=E,9.6nm,0.8s
MOOW *epP* **pP** **04 45 20.5 +2.9**
LRM Limekiln Ridge 92.52 41 *eP* **P** **04 43 12.7 +0.2**
comp=E,109nm,1.0s
LRM *epP* **pP** **04 45 19.2 +1.6**
LRM *ePP* **PP** **04 47 02.7 -1.8**
LOHW Long Hollow 92.53 43 *eP* **P** **04 43 12.5 -0.1**
comp=E,11nm,0.6s
LOHW *epP* **pP** **04 45 19.1 +1.4**
CHMT Chamberlain Mo 92.62 39 *eP* **P** **04 43 12.6 -0.3**
comp=E,24nm,0.3s
CHMT *epP* **pP** **04 45 18.8 +0.8**
QLMT Earthquake Lak 92.63 42 *eP* **P** **04 43 13.7 +0.7**
comp=E,2.8nm,0.7s
QLMT *epP* **pP** **04 45 16.9 -1.2**
SLMT Seeley Lake 92.65 39 *eP* **P** **04 43 12.4 -0.6**
comp=E,7.0nm,0.7s
SLMT *epP* **pP** **04 45 20.6 +2.6**
SLMT *ePP* **PP** **04 47 03.0 -2.3**
429A Davenport Ranc 92.69 58 P **P** **04 43 14.0 +0.5**
baz=93,SNR=52
FLWY Flagg Ranch 92.70 43 *eP* **P** **04 43 14.2 +0.8**
comp=E,14nm,0.8s
FLWY *epP* **pP** **04 45 17.8 -0.6**
FLWY *ePP* **PP** **04 47 06.5 +0.6**
BW06 Boulder Array 92.78 44 *eP* **P** **04 43 13.2 -0.6**
comp=E,28nm,0.9s
BW06 *epP* **pP** **04 45 20.4 +1.6**
BW06 *ePP* **PP** **04 47 06.1 -0.4**
PDAR Pinedale Array 92.78 44 P **P** **04 43 13.6 -0.2**
comp=E,21nm,0.7s,baz=207,slow=1.6,SNR=130
PDAR pP **pP** **04 45 17.6 -1.2**
comp=E,2.2nm,0.8s,baz=240,slow=2.9,SNR=1.4
PDAR PP **PP** **04 47 04.8 -1.8**
comp=E,11nm,1.1s,baz=254,slow=5.5,SNR=4.3
PDAR PKiKP **PKiKP** **04 47 58.6 +0.9**
comp=E,1.2nm,1.0s,baz=264,slow=8.1,SNR=2.1
PDAR S **SKSac** **04 52 54.3 +1.3**
comp=E,0.6nm,0.9s,baz=295,slow=14,SNR=2.6
PDAR PKKPbc **PKKPdf** **05 00 21.1 +0.3**
comp=E,3.3nm,0.8s,baz=29,slow=3.4,SNR=3.5
PDAR PKPPKP **P'P'df** **05 08 27.6 -3.9**
comp=E,2.3nm,0.9s,baz=72,slow=4.8,SNR=10
SMCO Snowmass 92.78 48 *eP* **P** **04 43 14.1 0.0**

comp=E,35nm,0.7s
SMCO ep P pP 04 45 18.4 -0.7
228A UT Block 9, Go 92.80 56 P P 04 43 14.5 +0.5
baz=93
YFT Old Faithful 92.80 42 eP P 04 43 13.9 0.0
comp=E,6.8nm,0.7s
YMR Madison River 92.83 42 eP P 04 43 13.2 -0.8
comp=E,20nm,0.7s
YMR ep P pP 04 45 22.1 +3.0
DAWY Dawson 92.86 17 eP P 04 43 12.8 -0.6
DAWY ep P pP 04 45 19.3 +0.8
BOZ Bozeman (W) 92.92 41 P P 04 43 15.2 +0.9
baz=93
530A J-C Ranch, Com 92.93 59 P P 04 43 15.0 +0.5
baz=93,SNR=26
H17A Grant Village 92.94 42 P P 04 43 15.2 +0.7
baz=93
EGAK Eagle 92.97 16 eP P 04 43 13.0 -0.8
comp=E,54nm,0.7s
EGAK ep P pP 04 45 15.8 -3.2
329A Wagon Wheel Ra 93.00 57 P P 04 43 15.3 +0.5
baz=93,SNR=20
CMIG Matias Romero 93.01 73 P P 04 43 15.4 +0.4
comp=E,12nm,0.8s,baz=179,slow=0.4,SNR=5.3
128A Castleberry Fa 93.10 56 P P 04 43 16.1 +0.8
baz=93
COLD Coldfoot 93.10 11 eP P 04 43 13.9 -0.5
comp=E,98nm,1.7s
COLD ep P pP 04 45 23.6 +4.2
SDCO Great Sand Dun 93.15 50 P P 04 43 15.8 +0.2
baz=93
SDCO Great Sand Dun 93.15 50 eP P 04 43 15.7 0.0
comp=E,28nm,0.8s
SDCO ep P pP 04 45 22.2 +1.4
SDCO eP P PP 04 47 06.0 -3.5
631A Perdido Creek 93.22 59 P P 04 43 16.7 +0.9
baz=93,SNR=76
832A Faith Ranch, C 93.23 61 P P 04 43 16.1 +0.2
baz=93,SNR=36
430A Baggett Ranch, 93.28 58 P P 04 43 16.5 +0.4
baz=94,SNR=7.8
229A Bryant Ranch, 93.33 57 P P 04 43 16.5 +0.2
baz=94,SNR=5.9
J19A Crowheart 93.34 44 P P 04 43 16.4 +0.1
baz=94,SNR=11
HRY Holter Researc 93.34 40 eP P 04 43 16.4 +0.3
comp=E,14nm,0.6s
WALA Waterton Lakes 93.37 37 eP P 04 43 16.2 0.0
comp=E,13nm,0.8s
WALA ep P pP 04 45 23.2 +1.9
WALA eP P PP 04 47 06.6 -4.2
732A Laxson Ranch, 93.41 60 P P 04 43 17.5 +0.8
baz=94,SNR=22
Z28A Tucker Farm, M 93.46 55 P P 04 43 17.0 0.0
baz=94,SNR=10
MSTX Muleshoe 93.46 55 P P 04 43 16.9 -0.1
baz=94
MSTX Muleshoe 93.46 55 eP P 04 43 17.4 +0.4
comp=E,36nm,0.9s
MSTX ep P pP 04 45 24.3 +2.2
933A Laredo 93.51 62 P P 04 43 18.0 +0.8
baz=94,SNR=8.3
531A Rocksprings 93.55 59 P P 04 43 17.7 +0.4
baz=94,SNR=25
129A Stewart Farms, 93.57 56 P P 04 43 17.5 0.0
baz=94,SNR=6.3
330A Mertzon 93.58 57 P P 04 43 17.6 +0.1
baz=94,SNR=9.5
T25A Trinidad 93.65 51 P P 04 43 18.2 +0.4
baz=94
833A Chaparral WMA, 93.71 61 P P 04 43 18.7 +0.6
baz=94,SNR=13
431A Sonora 93.72 58 P P 04 43 18.3 +0.1
baz=94,SNR=6.9
YAK Yakutsk 93.73 339 *d i* P P 04 43 17.2 -0.1
YAK *e* 04 47 09.1
YAK *eS* **SKSac** 04 52 53.4 -3.2
YAK *e* 04 53 38.0
YAK pmax pmax
comp=Z,64nm,1.1s
YAK pmax pmax
comp=N,14nm,1.3s
YAK pmax pmax
comp=E,15nm,1.3s
YAK pmax pmax
comp=Z,132nm,2.0s
YAK pmax pmax
comp=E,99nm,2.3s
YAK pmax pmax
comp=N,77nm,1.9s
YAK smax smax
comp=N,67nm,1.6s
YAK smax smax
comp=E,61nm,1.5s
YAK Yakutsk 93.73 339 eP P 04 43 17.4 +0.1
comp=E,126nm,1.0s
I19A Meeteetse 93.75 43 P P 04 43 18.9 +0.7
baz=94,SNR=13
034A Hebbronville 93.77 62 P P 04 43 17.9 -0.4
baz=94
Y28A McKinney Farm, 93.83 55 P P 04 43 18.4 -0.2
baz=94
230A Sterling City 93.83 57 P P 04 43 18.9 +0.3
baz=94
632A Uvalde 93.88 60 P P 04 43 19.6 +0.7
baz=94,SNR=34
Q24A Divide 93.94 49 P P 04 43 19.9 +0.7
baz=94
733A Divot King Ran 93.95 61 P P 04 43 20.0 +0.9
baz=94,SNR=7.2
Z29A Hungry Hill Ra 93.96 56 P P 04 43 19.1 -0.1
baz=94,SNR=9.3
ISCO Idaho Springs 94.00 48 P P 04 43 20.2 +0.7
baz=94,SNR=18
ISCO Idaho Springs 94.00 48 eP P 04 43 19.9 +0.4
comp=E,11nm,0.8s
J20A Shoshoni 94.00 44 P P 04 43 20.0 +0.8
baz=94,SNR=20
532A Rocksprings 94.04 59 P P 04 43 20.4 +0.8
baz=94,SNR=25
H19A Powell 94.06 43 P P 04 43 20.0 +0.6
baz=94,SNR=14
RLMT Red Lodge 94.11 42 P P 04 43 20.6 +0.8
baz=94,SNR=14
RLMT Red Lodge 94.11 42 eP P 04 43 20.4 +0.6
comp=E,15nm,0.9s
RLMT ep P pP 04 45 28.6 +3.7
RLMT eP P PP 04 47 16.4 -0.2
934A Benavides 94.12 62 P P 04 43 19.6 -0.3
baz=94
331A San Angelo 94.12 58 P P 04 43 19.8 -0.1
baz=94,SNR=10
X28A Dimmitt 94.13 54 P P 04 43 20.2 +0.3
baz=94,SNR=6.5
V27A Dan Oppiter Fa 94.19 53 P P 04 43 20.3 0.0
baz=94,SNR=13
GCMT Greycliff 94.19 42 eP P 04 43 19.1 -0.9
comp=E,4.9nm,0.8s
035A Encino 94.19 63 P P 04 43 20.6 +0.3
baz=94
Y29A Porterfield Fa 94.24 55 P P 04 43 20.9 +0.4
baz=94,SNR=16
130A Snyder 94.25 56 P P 04 43 20.8 +0.3
baz=94,SNR=6.6
T26A Comanche Natio 94.25 51 P P 04 43 20.8 +0.2
baz=94,SNR=13
I20A Worland 94.26 44 P P 04 43 20.8 +0.4
baz=94,SNR=16
JCT Junction City 94.27 59 P P 04 43 20.8 +0.2
baz=94,SNR=8.0
JCT Junction City 94.27 59 eP P 04 43 20.6 0.0
comp=E,124nm,1.9s
JCT ep P pP 04 45 22.0 -3.8
N23A Red Feather La 94.27 47 P P 04 43 21.6 +0.9
baz=94,SNR=12
834A Tilden 94.31 61 P P 04 43 22.3 +1.6
baz=94
633A Saathoff Ranch 94.35 60 P P 04 43 21.8 +0.8
baz=94,SNR=13
Z30A Sanderson Ranc 94.41 56 P P 04 43 21.0 -0.2
baz=95,SNR=13
J21A Lysite 94.41 45 P P 04 43 21.8 +0.7
baz=95,SNR=22
W28A Vega 94.44 54 P P 04 43 21.3 -0.1
baz=95
432A Menard 94.44 58 P P 04 43 21.5 +0.1
baz=95,SNR=20
X29A Tulia 94.47 54 P P 04 43 21.8 +0.3
baz=95
231A Bronte 94.47 57 P P 04 43 21.3 -0.2
baz=95,SNR=35
U27A Thompson Grove 94.48 52 P P 04 43 21.3 -0.2
baz=95,SNR=17
S26A Kim 94.53 51 P P 04 43 21.8 +0.1
baz=95,SNR=37
734A La Parita Cree 94.59 61 P P 04 43 23.0 +1.0
baz=95
H20A Greybull 94.59 43 P P 04 43 21.9 +0.1
baz=95,SNR=19
V28A Channing 94.63 53 P P 04 43 22.6 +0.4
baz=95
AMTX Amarillo 94.67 54 P P 04 43 22.7 +0.3
baz=95
AMTX Amarillo 94.67 54 eP P 04 43 22.5 +0.2
comp=E,132nm,2.3s
332A Millersview 94.69 58 P P 04 43 22.7 +0.2
baz=95,SNR=30
K22A Casper 94.69 45 P P 04 43 22.7 +0.3
baz=95,SNR=7.0
K22A Casper 94.69 45 eP P 04 43 22.8 +0.3
comp=E,56nm,1.6s
K22A epP pP 04 45 30.0 +2.4
533A Kerrville 94.71 59 P P 04 43 23.1 +0.4
baz=95,SNR=17
131A Roby 94.72 57 P P 04 43 22.8 +0.1
baz=95,SNR=13
I21A Big Trails, Te 94.73 44 P P 04 43 22.5 0.0
baz=95,SNR=20
PHWY Pilot Hill 94.78 47 eP P 04 43 23.1 +0.1
comp=E,11nm,0.8s
W29A Amarillo 94.79 54 P P 04 43 23.4 +0.4
baz=95
G20A Bridger 94.81 43 P P 04 43 23.2 +0.4
baz=95
T27A Campo 94.83 52 P P 04 43 23.4 +0.3
baz=95,SNR=12
Y30A Stafford Cattl 94.83 55 P P 04 43 23.0 -0.1
baz=95,SNR=8.2
R26A Arlington 94.84 50 P P 04 43 23.5 +0.3
baz=95,SNR=67
U28A Mallet 94.90 53 P P 04 43 23.3 -0.1
baz=95
433A Art 94.94 59 P P 04 43 24.1 +0.5
baz=95,SNR=40
232A Coleman 94.97 58 P P 04 43 24.1 +0.3
baz=95,SNR=14
S27A Las Animas 94.97 51 P P 04 43 24.0 +0.3
baz=95
634A China Grove, S 94.97 60 P P 04 43 24.5 +0.7
baz=95
LCO Las Campanas 95.01 124 eP P 04 43 24.7 +0.3
comp=E,50nm,0.8s
LCO epP pP 04 45 31.1 +1.4
Q26A Hugo 95.06 50 P P 04 43 24.6 +0.4
baz=95,SNR=12
J22A Midwest 95.07 45 P P 04 43 24.3 +0.2
baz=95,SNR=12
X30A Coker Ranch, T 95.09 55 P P 04 43 23.7 -0.6
baz=95
F20A Billings 95.12 42 P P 04 43 24.0 -0.2
baz=95
534A Blanco 95.13 60 P P 04 43 24.7 +0.2
baz=95,SNR=20
Z31A Sharp Cattle R 95.17 56 P P 04 43 25.0 +0.4
baz=95,SNR=13
735A Kenedy 95.20 61 P P 04 43 26.1 +1.3
baz=95
V29A Stinnett 95.20 53 P P 04 43 24.6 -0.2
baz=95
EGMT Eagleton 95.22 40 P P 04 43 24.7 +0.2
baz=96
EGMT Eagleton 95.22 40 eP P 04 43 25.0 +0.5
comp=E,8.4nm,0.8s
EGMT ePP PP 04 47 22.5 -2.5
333A Richland Sprin 95.26 58 P P 04 43 25.4 +0.3
baz=96,SNR=8.5
H21A Big Horn, Sher 95.27 44 P P 04 43 25.3 +0.4
baz=96
ABTX Abilene, Hawle 95.27 57 P P 04 43 25.5 +0.4
baz=96,SNR=12
ABTX Abilene, Hawle 95.27 57 eP P 04 43 25.3 +0.2
comp=E,148nm,1.9s
ABTX epP pP 04 45 31.2 +0.8
I22A 9 Mile Ranch, 95.28 44 P P 04 43 25.5 +0.5
baz=96,SNR=7.9
T28A Walsh 95.29 52 P P 04 43 25.0 -0.2
baz=96,SNR=16
R27A Eads 95.30 51 P P 04 43 25.5 +0.3
baz=96,SNR=22
K23A Bowen Ranch, D 95.33 46 P P 04 43 25.2 -0.1
baz=96
Y31A Rekieta Farm, 95.35 55 P P 04 43 25.7 +0.3
baz=96
G21A Lodge Grass 95.44 43 P P 04 43 25.8 +0.2
baz=96
P26A Davis Ranch, A 95.46 49 P P 04 43 26.4 +0.4
baz=96,SNR=10
233A Rising Star 95.60 58 P P 04 43 27.2 +0.6
baz=96,SNR=6.0
434A Burnet 95.61 59 P P 04 43 26.7 0.0
baz=96,SNR=13
W30A Crocket Farms 95.61 54 P P 04 43 26.9 +0.3
baz=96
U29A Oasis Ranch, S 95.63 53 P P 04 43 26.7 0.0
baz=96
S28A Manter 95.65 52 P P 04 43 27.1 +0.3
baz=96,SNR=13
J23A Dilts Ranch, B 95.67 45 P P 04 43 27.2 +0.4
baz=96
Z32A Haskell 95.68 56 P P 04 43 27.4 +0.5
baz=96,SNR=18
H22A Clearmont 95.69 44 P P 04 43 27.3 +0.5
baz=96
KSCO Kaye Shedlock' 95.73 50 P P 04 43 27.7 +0.5
baz=96,SNR=18
KSCO Kaye Shedlock' 95.73 50 eP P 04 43 27.1 0.0
comp=E,275nm,1.8s
F21A Absaloka Mine, 95.77 42 P P 04 43 27.9 +0.8
baz=96
V30A Spur Ranch, Mi 95.77 54 P P 04 43 28.0 +0.6
baz=96
O26A Horse Wrangler 95.78 49 P P 04 43 27.8 +0.5
baz=96
M25A Palm-Egli Farm 95.79 47 P P 04 43 28.2 +0.8
baz=96
133A Hamilton Ranch 95.83 57 P P 04 43 28.2 +0.6
baz=96,SNR=6.7
X31A McDonald Ranch 95.83 55 P P 04 43 27.9 +0.3
baz=96
334A Lometa 95.84 59 P P 04 43 27.9 +0.2
baz=96
K24A Anderson Ranch 95.84 46 P P 04 43 28.1 +0.5
baz=96
535A Dale 95.85 60 P P 04 43 28.5 +0.8
baz=96
EDM Edmonton 95.87 34 eP P 04 43 25.7 -1.5
EDM epP pP 04 45 35.7 +3.0
EDM ePP PP 04 47 25.5 -4.2
T29A Hugoton 95.90 52 P P 04 43 27.8 -0.1
baz=96
B19A Brinkman Farms 95.91 39 P P 04 43 28.2 +0.6
baz=96
Y32A R-V Farms, Ver 95.99 56 P P 04 43 28.4 +0.1
baz=96,SNR=9.2
P27A Ficken Ranch, 96.00 50 P P 04 43 28.6 +0.3
baz=96,SNR=16
G22A Birney 96.01 43 P P 04 43 28.7 +0.5
baz=96
R28A Tribune 96.03 51 P P 04 43 29.0 +0.5
baz=96,SNR=19
636A Smothers Creek 96.05 61 P P 04 43 29.8 +1.2
baz=96
W31A Holland Ranch, 96.09 54 P P 04 43 29.0 +0.3
baz=96
N26A Koester Ranch, 96.09 48 P P 04 43 28.9 +0.2
baz=96
C20A Veseth Ranch, 96.11 40 Pdiff P 04 43 29.6 +1.0
baz=96
U30A WK&E Inc. Balk 96.11 53 Pdiff P 04 43 29.0 +0.1
baz=96
E21A Keefer Ranch, 96.13 42 Pdiff P 04 43 29.7 +1.1
baz=96
435B Jarrell 96.14 59 Pdiff P 04 43 29.6 +0.6
baz=96
SONM Songino Array 96.15 320 P P 04 43 29.2 +0.4
comp=E,18nm,0.8s,baz=133,slow=4.3,SNR=80
SONM PP PP 04 47 24.1 -7.9
comp=E,8.2nm,0.9s,baz=124,slow=4.4,SNR=4.5
SONM PKiKP **PKiKP** **04 48 03.5 +0.2**
comp=E,3.8nm,0.9s,baz=55,slow=1.2,SNR=7.7
SONM S **SKSac** **04 53 10.2 -0.1**
comp=E,1.7nm,1.0s,baz=158,slow=1.6,SNR=3.1
SONM PKKPbc **PKKPbc** **05 00 13.5 -0.5**
comp=E,6.8nm,1.0s,baz=279,slow=2.9,SNR=14
SONM PKKPab PKKPdf 05 00 49.2 +34
comp=E,3.1nm,0.9s,baz=281,slow=5.8,SNR=6.3
SONM SKKP 05 02 29.1
comp=E,2.2nm,0.9s,baz=302,slow=2.8,SNR=7.5
SONM SKKPbc **SKKPbc** **05 02 58.7 -3.1**
comp=E,1.7nm,0.9s,baz=246,slow=3.5,SNR=4.4
SONM PKPPKP **P'P'df** **05 08 21.9 -2.9**
comp=E,1.4nm,1.0s,baz=345,slow=2.3,SNR=5.2
L25A Engebretsen Ra 96.16 47 Pdiff P 04 43 29.8 +0.7
baz=96
234A Clairette 96.19 58 Pdiff P 04 43 29.4 +0.2
baz=96
J24A Dixon Ranch, L 96.22 45 Pdiff P 04 43 29.6 +0.4
baz=96
Z33A Whitaker Ranch 96.22 57 Pdiff P 04 43 29.8 +0.5
baz=96
S29A Ulysses 96.22 52 Pdiff P 04 43 29.4 0.0
baz=96
A19A Klindworth Far 96.25 39 Pdiff P 04 43 29.4 +0.3
baz=96
TRQA Tornquist 96.25 136 eP P 04 43 30.9 +1.3
comp=E,7.6nm,0.9s
737A Port Lavaca 96.26 62 Pdiff P 04 43 31.2 +1.6
baz=96
X32A Elmer 96.27 55 Pdiff P 04 43 29.9 +0.4
baz=96
536A Bastrop 96.28 60 Pdiff P 04 43 30.3 +0.7
baz=96
H23A Clabaugh Cattl 96.28 44 Pdiff P 04 43 29.4 0.0
baz=96
F22A Rosebud 96.29 43 Pdiff P 04 43 29.7 +0.3
baz=96
Q28A Sharon Springs 96.31 50 Pdiff P 04 43 29.9 +0.2
baz=96
O27A Beecher Island 96.33 49 Pdiff P 04 43 30.5 +0.7
baz=97
V31A Spring Creek L 96.40 54 Pdiff P 04 43 30.8 +0.6
baz=97
D21A La Casta Ranch 96.42 41 Pdiff P 04 43 30.7 +0.7
baz=97
T30A Plains 96.42 53 Pdiff P 04 43 30.5 +0.3
baz=97
M26A McRoberts Ranc 96.42 48 Pdiff P 04 43 30.4 +0.2
baz=97
K25A Mack Ranch, Ha 96.42 46 Pdiff P 04 43 31.0 +0.9
baz=97
B20A Solberg Farm, 96.44 40 Pdiff P 04 43 29.9 -0.1
baz=97
134A White-Moore Ra 96.46 57 Pdiff P 04 43 30.9 +0.5
baz=97
335A Moody 96.46 59 Pdiff P 04 43 30.4 -0.1
baz=97
I24A Kuemmerle Ranc 96.47 45 Pdiff P 04 43 30.1 -0.2
baz=97
R29A Marienthal 96.54 51 Pdiff P 04 43 31.0 +0.3
baz=97
N27A Anderson Farm, 96.55 48 Pdiff P 04 43 31.1 +0.3
baz=97
G23A Biddle 96.57 44 Pdiff P 04 43 30.8 +0.1
baz=97
P28A Saint Francis 96.58 50 Pdiff P 04 43 31.5 +0.6
baz=97
W32A Sentinel 96.59 55 Pdiff P 04 43 31.2 +0.3
baz=97
Y33A Hilltop Ranch, 96.61 56 Pdiff P 04 43 31.1 0.0
baz=97
U31A Nine Bar Ranch 96.64 53 Pdiff P 04 43 30.9 -0.2
baz=97
A20A Cobblestone Ra 96.70 39 Pdiff P 04 43 31.1 -0.1
baz=97
S30A Montezuma 96.70 52 Pdiff P 04 43 31.5 0.0
baz=97
C21A Desert Coulee 96.71 41 Pdiff P 04 43 31.6 +0.4
baz=97
L26A Underwood Farm 96.71 47 Pdiff P 04 43 32.0 +0.6
baz=97
WHTX Lake Whitney, 96.72 58 Pdiff P 04 43 31.6 +0.1
baz=97
GTA Gaotai 96.72 310 eP P 04 43 32.5 +0.9
GTA pP pP 04 45 34.5 -2.5
GTA sP sP 04 46 27.0 -7.1
GTA PP PP 04 47 40.8 +4.2
GTA SKS **SKSac** 04 53 16.5 +2.9
GTA S **ScS** 04 54 05.5 +1.3
GTA sS sS 04 57 40.3 -10
GTA SS **SS** 05 01 01.8 +4.5
GTA PMZ
comp=E,36nm,1.3s
GTA PMZ
comp=E,750nm,6.2s
436A Wall Ranch, Ga 96.76 60 Pdiff P 04 43 32.6 +0.8
baz=97
E22A Miles City 96.78 42 Pdiff P 04 43 32.1 +0.6
baz=97
F23A Volborg 96.79 43 Pdiff P 04 43 32.2 +0.5
baz=97
O28A Krutsinger Ran 96.80 49 Pdiff P 04 43 32.4 +0.6
baz=97
J25A Sunshine Ranch 96.80 46 Pdiff P 04 43 31.9 0.0
baz=97
Q29A Oakley 96.85 51 Pdiff P 04 43 32.1 +0.1
baz=97
537A Green Hill Far 96.88 60 Pdiff P 04 43 33.4 +1.1
baz=97
Z34A Collier Ranch, 96.90 57 Pdiff P 04 43 32.6 +0.2
baz=97
H24A Dirks Ranch, A 96.91 44 Pdiff P 04 43 32.2 0.0
baz=97
X33A Lawton 96.92 55 Pdiff P 04 43 31.9 -0.5
baz=97
K26A Motz Farm, Whi 96.92 46 Pdiff P 04 43 32.8 +0.4
baz=97
D22A Cohagen 96.95 42 Pdiff P 04 43 33.1 +0.8
baz=97
OGNE Ogallala 96.96 48 Pdiff P 04 43 32.9 +0.3
baz=97
M27A Reverse DX Ran 96.96 48 Pdiff P 04 43 32.9 +0.3
baz=97
336A Riesel 96.96 59 Pdiff P 04 43 32.8 +0.2
baz=97
135A Vickery Place, 96.97 58 Pdiff P 04 43 33.3 +0.6
baz=97
V32A Arapaho 96.98 54 Pdiff P 04 43 33.3 +0.6
baz=97
B21A Ellsworth Farm 97.03 40 Pdiff Pdif 04 43 33.0 +0.4
baz=97
T31A Randall Ranch, 97.06 53 Pdiff Pdif 04 43 33.3 +0.3
baz=97
R30A Dighton 97.10 51 Pdiff P 04 43 33.9 +0.7
baz=97
I25A Rochford 97.12 45 Pdiff P 04 43 33.8 +0.4
baz=97
P29A Atwood 97.17 50 Pdiff P 04 43 34.1 +0.6
baz=97
W33A Caddo, Fort Co 97.18 55 Pdiff P 04 43 34.3 +0.7
baz=97
N28A Pribbeno Ranch 97.19 49 Pdiff P 04 43 33.9 +0.3
baz=97
E23A Ismay 97.20 42 Pdiff P 04 43 34.1 +0.7
baz=97
L27A T5 Ranch, Ells 97.24 47 Pdiff P 04 43 34.3 +0.5
baz=98
G24A Alzada 97.25 44 Pdiff P 04 43 33.9 +0.2
baz=98
J26A Sides Ranch, S 97.25 46 Pdiff P 04 43 34.3 +0.5
baz=98
Y34A Reagan Ranch, 97.25 56 Pdiff P 04 43 34.1 +0.2
baz=98
U32A Winter Ranch, 97.27 54 Pdiff P 04 43 34.6 +0.6
baz=98
437A Phantom Ranch, 97.30 60 Pdiff P 04 43 34.3 +0.1
baz=98
A21A Bergtoll Ranch 97.34 40 Pdiff P 04 43 34.4 +0.4
baz=98
Z35A Perchaven, San 97.40 57 Pdiff Pdif 04 43 34.5 0.0
baz=98
C22A Vida 97.40 41 Pdiff P 04 43 35.0 +0.7
baz=98
S31A Mullinville 97.41 52 Pdiff P 04 43 35.2 +0.6

	baz=98								
Q30A	**Quinter**	97.42	51	Pdiff	P	04 43 35.2	+0.5		
	baz=98								
236A	**Katherine and**	97.44	58	Pdiff	P	04 43 35.0	+0.2		
	baz=98								
SHL	**Shillong**	97.44	295	*e*P	Pdif	04 43 33.8	-1.4		
SHL				*i* x	x	04 53 19.0			
X34A	**Smith Ranch, M**	97.45	56	Pdiff	P	04 43 35.3	+0.5		
	baz=98								
F24A	**Ekalaka**	97.45	43	Pdiff	P	04 43 34.7	+0.1		
	baz=98								
H25A	**Fruitdale**	97.47	45	Pdiff	P	04 43 35.2	+0.5		
	baz=98								
O29A	**4D Ranch, Culb**	97.48	50	Pdiff	P	04 43 35.3	+0.5		
	baz=98								
K27A	**Flueckinger Fa**	97.55	47	Pdiff	P	04 43 35.8	+0.6		
	baz=98								
D23A	**Lindsay**	97.56	42	Pdiff	P	04 43 35.8	+0.8		
	baz=98								
B22A	**Reddig Ranch S**	97.58	41	Pdiff	P	04 43 35.9	+0.8		
	baz=98								
V33A	**Lossen Ranch,**	97.58	54	Pdiff	P	04 43 35.5	+0.1		
	baz=98								
538A	**Harpers Horsep**	97.59	60	Pdiff	P	04 43 37.0	+1.5		
	baz=98								
M28A	**Bar X Bar Ranc**	97.60	48	Pdiff	P	04 43 36.0	+0.6		
	baz=98								
136A	**Ennis**	97.63	58	Pdiff	P	04 43 35.8	+0.2		
	baz=98								
P30A	**Selden**	97.63	50	Pdiff	P	04 43 36.2	+0.7		
	baz=98								
R31A	**Burdett**	97.64	52	Pdiff	P	04 43 35.8	+0.2		
	baz=98								
337A	**Centerville**	97.69	59	Pdiff	P	04 43 36.7	+0.8		
	baz=98								
I26A	**New Underwood**	97.70	45	Pdiff	P	04 43 36.3	+0.5		
	baz=98								
CBKS	**Cedar Bluff**	97.70	51	Pdiff	P	04 43 36.2	+0.3		
	baz=98								
CBKS	**Cedar Bluff**	97.70	51	*e*Pdif	Pdif	04 43 35.4	-0.5		
	comp=E,25nm,0.9s								
W34A	**Bridge Creek,**	97.74	55	Pdiff	P	04 43 36.4	+0.3		
	baz=98								
L28A	**Connealy Angus**	97.75	48	Pdiff	P	04 43 37.4	+1.3		
	baz=98								
Y35A	**Marietta**	97.78	57	Pdiff	P	04 43 36.6	+0.3		
	baz=98								
438A	**Sam Houston St**	97.80	60	Pdiff	P	04 43 37.0	+0.6		
	baz=98								
S32A	**Newby Ranch, P**	97.84	52	Pdiff	P	04 43 36.5	0.0		
	baz=98								
C23A	**Lambert**	97.85	41	Pdiff	P	04 43 37.1	+0.8		
	baz=98								
E24A	**Baker**	97.85	43	Pdiff	P	04 43 36.7	+0.4		
	baz=98								
N29A	**Votaw Ranch, W**	97.88	49	Pdiff	P	04 43 37.3	+0.7		
	baz=98								
A22A	**Carney Farms,**	97.93	40	Pdiff	P	04 43 37.3	+0.6		
	baz=98								
J27A	**Elkhorn Farm,**	97.93	46	Pdiff	P	04 43 37.6	+0.7		
	baz=98								
U33A	**Lingo Farm, Me**	97.95	54	Pdiff	P	04 43 37.2	+0.3		
	baz=98								
H26A	**Fairpoint**	98.00	45	Pdiff	P	04 43 37.3	+0.2		
	baz=98								
Z36A	**Blue Ridge**	98.00	57	Pdiff	P	04 43 37.7	+0.4		
	baz=98								
237A	**Washetta, Mont**	98.01	59	Pdiff	P	04 43 38.2	+0.9		
	baz=98								
O30A	**MW Ranch, Wils**	98.02	50	Pdiff	P	04 43 37.7	+0.4		
	baz=98								
X35A	**Drake**	98.02	56	Pdiff	Pdif	04 43 37.3	0.0		
	baz=98								
Q31A	**Ellis**	98.02	51	Pdiff	P	04 43 37.8	+0.5		
	baz=98								
D24A	**Glendive**	98.07	42	Pdiff	P	04 43 38.2	+0.9		
	baz=98								
M29A	**Burnside Ranch**	98.09	48	Pdiff	P	04 43 38.1	+0.6		
	baz=98								
T33A	**Patterson Ranc**	98.10	53	Pdiff	P	04 43 38.1	+0.4		
	baz=98								
F25A	**Bowman**	98.11	43	Pdiff	P	04 43 38.1	+0.6		
	baz=98								
K28A	**Ten Mile Ranch**	98.14	47	Pdiff	P	04 43 38.4	+0.6		
	baz=98								
338A	**Crockett**	98.16	59	Pdiff	P	04 43 38.8	+0.7		
	baz=98								
539A	**Cross D Ranch,**	98.16	61	Pdiff	Pdif	04 43 38.0	0.0		
	baz=98								
V34A	**Guthrie**	98.16	55	Pdiff	P	04 43 38.3	+0.4		
	baz=98								
C24A	**Savage**	98.19	42	Pdiff	P	04 43 38.9	+1.0		
	baz=98								
N30A	**Hueftle Ranch,**	98.24	49	Pdiff	P	04 43 39.0	+0.8		
	baz=98								
P31A	**Stockton**	98.24	51	Pdiff	P	04 43 38.6	+0.3		
	baz=98								
I27A	**Quinn**	98.24	46	Pdiff	P	04 43 38.7	+0.5		
	baz=98								
B23A	**Brockton**	98.25	41	Pdiff	P	04 43 38.8	+0.7		
	baz=98								
137A	**Heron Place, G**	98.28	58	Pdiff	P	04 43 39.0	+0.5		
	baz=98								
R32A	**Long Quarter,**	98.29	52	Pdiff	P	04 43 39.3	+0.8		
	baz=98								
Y36A	**Durant**	98.36	57	Pdiff	P	04 43 39.0	+0.2		
	baz=99								
U34A	**Anderson Ranch**	98.38	54	Pdiff	Pdif	04 43 38.8	-0.1		
	baz=99								
439A	**Center Grove,**	98.38	60	Pdiff	Pdif	04 43 38.3	-0.7		
	baz=99								
W35A	**Tecumseh**	98.39	55	Pdiff	P	04 43 39.4	+0.4		
	baz=99								
E25A	**Miller Ranch,**	98.39	43	Pdiff	P	04 43 39.6	+0.8		
	baz=99								
G26A	**Maurine**	98.39	44	Pdiff	P	04 43 39.3	+0.4		
	baz=99								
H27A	**Howes**	98.46	45	Pdiff	P	04 43 39.7	+0.5		
	baz=99								
S33A	**Kaszmaul Farm,**	98.48	53	Pdiff	P	04 43 39.6	+0.2		
	baz=99								
L29A	**Maesberg Ranch**	98.48	48	Pdiff	P	04 43 40.0	+0.7		
	baz=99								
J28A	**Allard Ranch,**	98.52	46	Pdiff	P	04 43 39.9	+0.5		
	baz=99								
O31A	**Woolen Ranch,**	98.52	50	Pdiff	P	04 43 39.8	+0.3		
	baz=99								
A23A	**Redstone**	98.53	40	Pdiff	P	04 43 39.8	+0.4		
	baz=99								
238A	**Jacksonville**	98.55	59	Pdiff	P	04 43 39.9	+0.1		
	baz=99								
X36A	**Centrahoma**	98.56	56	Pdiff	P	04 43 40.3	+0.5		
	baz=99								
F26A	**Lodgepole**	98.58	44	Pdiff	P	04 43 39.8	+0.2		
	baz=99								
Z37A	**Pogue Cattle C**	98.61	58	Pdiff	P	04 43 40.5	+0.5		
	baz=99								
Q32A	**Meitler Ranch,**	98.62	51	Pdiff	P	04 43 40.3	+0.4		
	baz=99								
V35A	**Meyer Ranch, C**	98.64	55	Pdiff	Pdif	04 43 40.1	0.0		
	baz=99								
M30A	**Dale-Ortello V**	98.69	49	Pdiff	P	04 43 40.7	+0.4		
	baz=99								
D25A	**Fairfield**	98.71	42	Pdiff	P	04 43 40.9	+0.7		
	baz=99								
DGMT	**Dagmar**	98.73	41	Pdiff	P	04 43 40.4	+0.2		
	baz=99								
DGMT	**Dagmar**	98.73	41	*e*Pdif	P	04 43 41.6	+1.4		
	comp=E,89nm,1.6s								
339A	**Huntington**	98.75	60	Pdiff	P	04 43 40.9	+0.2		
	baz=99								
R33A	**Olander Ranch,**	98.77	52	Pdiff	P	04 43 40.9	+0.2		
	baz=99								
I28A	**Midland**	98.79	46	Pdiff	P	04 43 41.2	+0.5		
	baz=99								
540A	**Vidor**	98.80	61	Pdiff	Pdif	04 43 40.8	0.0		
	baz=99								
138A	**Matatall Enter**	98.82	58	Pdiff	P	04 43 41.7	+0.7		
	baz=99								
P32A	**Huiting Farm,**	98.83	51	Pdiff	P	04 43 41.4	+0.5		
	baz=99								
G27A	**Dupree**	98.86	44	Pdiff	P	04 43 41.2	+0.3		
	baz=99								
T34A	**McClaskey Farm**	98.86	54	Pdiff	P	04 43 41.2	+0.1		
	baz=99								
K29A	**Lazy Trails An**	98.87	47	Pdiff	P	04 43 41.6	+0.6		
	baz=99								
W36A	**Wetumka**	98.87	56	Pdiff	P	04 43 41.5	+0.3		
	baz=99								
Y37A	**Hugo**	98.90	57	Pdiff	P	04 43 41.3	0.0		
	baz=99								
U35A	**Pawnee**	98.95	54	Pdiff	P	04 43 41.7	+0.2		
	baz=99								
L30A	**Spencer Herefo**	98.95	48	Pdiff	P	04 43 42.0	+0.5		
	baz=99								
E26A	**Carlson Angus**	98.97	43	Pdiff	P	04 43 41.8	+0.4		
	baz=99								
C25A	**Freed Ranch, W**	98.98	42	Pdiff	P	04 43 42.0	+0.6		
	baz=99								
F27A	**Lemmon**	99.00	44	Pdiff		04 43 41.8			
	baz=99								
440A	**Kirbyville**	99.01	61	Pdiff	Pdif	04 43 42.2	+0.4		
	baz=99								
A24A	**Westby**	99.04	41	Pdiff	Pdif	04 43 42.4	+0.9		
	baz=99								
N31A	**Bailey Ranch,**	99.05	50	Pdiff	Pdif	04 43 42.5	+0.7		
	baz=99								
239A	**Gary**	99.07	59	Pdiff	Pdif	04 43 42.7	+0.7		
	baz=99								
J29A	**Okreek**	99.12	47	Pdiff	Pdif	04 43 42.5	+0.4		
	baz=99								
Z38A	**Mt. Pleasant**	99.12	58	Pdiff	Pdif	04 43 42.9	+0.7		
	baz=99								
ZAK	**Zakamensk**	99.12	321	⇓ *i* P	Pdif	04 43 41.9	-0.1		
ZAK				pmax	pmax				
	comp=Z,17nm,1.8s								
Q33A	**Connelly Farm,**	99.14	52	Pdiff	Pdif	04 43 42.8	+0.6		
	baz=99								
H28A	**Mission Ridge**	99.16	45	Pdiff	Pdif	04 43 42.5	+0.4		
	baz=99								
S34A	**Willow Spring**	99.17	53	Pdiff	Pdif	04 43 42.4	+0.1		
	baz=99								
D26A	**Manning**	99.21	43	Pdiff	Pdif	04 43 42.9	+0.5		
	baz=99								
M31A	**Lambtecht Ranc**	99.23	49	Pdiff	Pdif	04 43 43.5	+0.9		
	baz=100								
B25A	**Knox Farm, Ray**	99.28	41	Pdiff	Pdif	04 43 43.4	+0.8		
	baz=100								
R34A	**Isabella, Hill**	99.30	52	Pdiff	Pdif	04 43 43.3	+0.3		
	baz=100								
O32A	**Brockman Farm,**	99.31	50	Pdiff	Pdif	04 43 43.2	+0.2		
	baz=100								
340A	**Bronson**	99.31	60	Pdiff	Pdif	04 43 43.4	+0.3		
	baz=100								
K30A	**Basset**	99.31	48	Pdiff	Pdif	04 43 43.2	+0.3		
	baz=100								
X37A	**Clayton**	99.32	56	Pdiff	Pdif	04 43 43.3	+0.2		
	baz=100								
T35A	**Sooner Cattle**	99.32	54	Pdiff	Pdif	04 43 43.0	-0.1		
	baz=100								
V36A	**Jenks**	99.33	55	Pdiff	Pdif	04 43 43.2	+0.1		
	baz=100								
JTS	**JuntasAbangare**	99.34	83	*e*P	Pdif	04 43 42.5	-1.2		
JTS				pmax	pmax				
	comp=Z,25nm,1.3s								
IRK	**Irkutsk**	99.37	323	*e*P	Pdif	04 43 38.5	-4.4		
IRK				pmax	pmax				
	comp=Z,43nm,2.6s								
139A	**Bunkhouse Ranc**	99.38	59	Pdiff	Pdif	04 43 43.8	+0.4		
	baz=100								
I29A	**Vivian Onida**	99.38	46	Pdiff	Pdif	04 43 43.4	+0.2		
	baz=100								
G28A	**Parade**	99.39	45	Pdiff	Pdif	04 43 43.1	-0.1		
	baz=100								
P33A	**Williams Farm,**	99.41	51	Pdiff	Pdif	04 43 43.6	+0.2		
	baz=100								
TLY	**Talaya**	99.47	322	*i* P	Pdif	04 43 42.3	-1.1		
TLY				pmax	pmax				
	comp=Z,9.0nm,0.9s								
TLY	**Talaya**	99.47	322	Pdiff	Pdif	04 43 44.3	+0.9		
	SNR=11								
TLY	**Talaya**	99.47	322	*e*Pdif	Pdif	04 43 44.0	+0.6		
	comp=Z,9.5nm,0.7s								
W37A	**Quinton**	99.48	56	Pdiff	Pdif	04 43 43.8	0.0		
	baz=100								
N32A	**Stulken Farm,**	99.49	50	Pdiff	Pdif	04 43 44.0	+0.2		
	baz=100								
TUL1	**Leonard**	99.49	55	Pdiff	Pdif	04 43 43.8	0.0		
	baz=100								
E27A	**Carson**	99.52	44	Pdiff	Pdif	04 43 44.0	+0.3		
	baz=100								
Y38A	**Idabel**	99.57	57	Pdiff	Pdif	04 43 43.9	-0.3		
	baz=100								
LSA	**Lhasa**	99.57	298	*e*Pdif	Pdif	04 43 46.4	+1.5		
A25A	**Svangstu Ranch**	99.58	41	Pdiff	Pdif	04 43 44.4	+0.5		
	baz=100								
J30A	**Dallas**	99.65	47	Pdiff	Pdif	04 43 44.3	-0.1		
	baz=100								
L31A	**Butterfield Fa**	99.65	48	Pdiff	Pdif	04 43 44.7	+0.3		
	baz=100								
H29A	**Onida**	99.67	46	Pdiff	Pdif	04 43 44.6	+0.1		
	baz=100								
O33A	**Hebron**	99.73	51	Pdiff	Pdif	04 43 45.3	+0.5		
	baz=100								
C26A	**Wahner Farm, P**	99.75	42	Pdiff	Pdif	04 43 45.5	+0.8		
	baz=100								
Z39A	**Irene McRaven,**	99.75	58	Pdiff	Pdif	04 43 45.9	+0.9		
	baz=100								
S35A	**Otter Creek Ra**	99.75	53	Pdiff	Pdif	04 43 45.4	+0.4		
	baz=100								
Q34A	**Chapman**	99.76	52	Pdiff	Pdif	04 43 45.5	+0.6		
	baz=100								
X38A	**Whitesboro**	99.76	57	Pdiff	Pdif	04 43 45.3	+0.2		
	baz=100								
F28A	**McLaughlin**	99.77	44	Pdiff	Pdif	04 43 45.1	+0.3		
	baz=100								
D27A	**Center**	99.81	43	Pdiff	Pdif	04 43 45.8	+0.8		
	baz=100								
BGNE	**Belgrade**	99.83	49	Pdiff	Pdif	04 43 46.2	+1.0		
	baz=100								
BGNE	**Belgrade**	99.83	49	*e*Pdif	Pdif	04 43 46.6	+1.3		
T36A	**Boggs Farm, Ca**	99.85	54	Pdiff	Pdif	04 43 45.7	+0.3		
	baz=100								
B26A	**Jensen Ranch,**	99.88	42	Pdiff	Pdif	04 43 45.9	+0.6		
	baz=100								
I30A	**Oacoma**	99.92	47	Pdiff	Pdif	04 43 45.5	0.0		
	baz=100								
V37A	**Hulbert**	99.97	55	Pdiff	Pdif	04 43 46.2	+0.3		
	baz=100								
KSU1	**Kansas State U**	100.06	52	Pdiff	Pdif	04 43 46.9	+0.6		
	baz=100								
Y39A	**Lockesburg**	100.07	57	Pdiff	Pdif	04 43 47.0	+0.6		
	baz=100								
C27A	**Sayler Ranch,**	100.07	42	Pdiff	Pdif	04 43 47.1	+0.9		
	baz=100								
N33A	**J Bar K, Exete**	100.07	50	Pdiff	Pdif	04 43 46.8	+0.5		
	baz=100								
P34A	**Walnut Farm, R**	100.07	51	Pdiff	Pdif	04 43 46.9	+0.6		
	baz=100								
R35A	**Emporia Munici**	100.08	53	Pdiff	Pdif	04 43 46.8	+0.4		
	baz=100								
G29A	**Hoven**	100.08	45	Pdiff	Pdif	04 43 46.4	+0.1		
	baz=100								
E28A	**Huff**	100.12	44	Pdiff	Pdif	04 43 47.4	+1.0		
	baz=100								
YKA	**Yellowknife Ar**	100.13	26	P	Pdif	04 43 45.2	-0.8		
	comp=Z,3.2nm,0.7s,baz=246,slow=4.4,SNR=10								
YKA				pP	pP	04 45 49.6	-2.2		
	comp=Z,1.8nm,0.8s,baz=244,slow=4.1,SNR=1.6								
YKA				PKiKP	PKiKP	04 48 10.0	+0.3		
	comp=Z,3.7nm,0.7s,baz=216,slow=1.5,SNR=17								
YKA				PKKPbc	PKKPbc	05 00 01.2	-2.0		
	comp=Z,2.8nm,0.5s,baz=39,slow=2.5,SNR=13								
YKA				PKKPab	PKKPdf	05 00 30.2	+22		
	comp=Z,4.0nm,1.0s,baz=42,slow=5.2,SNR=5.9								
YKA				SKKP		05 02 34.4			
	comp=Z,5.4nm,1.2s,baz=57,slow=4.9,SNR=4.4								
YKA				SKKPbc	SKKPbc	05 02 48.4	-4.0		
	comp=Z,0.9nm,0.5s,baz=27,slow=2.3,SNR=5.2								
W38A	**Poteau**	100.15	56	Pdiff	Pdif	04 43 47.5	+0.7		
	baz=100								
A26A	**Wade Farm, Ken**	100.21	41	Pdiff	Pdif	04 43 47.0	+0.2		
	baz=100								
S36A	**Lake Cedric, C**	100.30	53	Pdiff	Pdif	04 43 47.8	+0.4		
	baz=100								
Q35A	**Mercer Eighty,**	100.39	52	Pdiff	Pdif	04 43 48.2	+0.4		
	baz=101								
F29A	**Eureka**	100.39	45	Pdiff	Pdif	04 43 47.5	-0.1		
	baz=101								
O34A	**Beatrice**	100.40	51	Pdiff	Pdif	04 43 48.0	+0.2		
	baz=101								
D28A	**Regan**	100.44	43	Pdiff	Pdif	04 43 49.0	+1.1		
	baz=101								
B27A	**Peters Farms,**	100.49	42	Pdiff	Pdif	04 43 48.4	+0.5		
	baz=101								
M33A	**Taylor Creek F**	100.56	49	Pdiff	Pdif	04 43 49.0	+0.5		
	baz=101								
G30A	**Faulkton**	100.57	45	Pdiff	Pdif	04 43 48.5	+0.1		
	baz=101								
R36A	**Gordon, Harris**	100.58	53	Pdiff	Pdif	04 43 49.1	+0.4		
	baz=101								
T37A	**Cheneyville 18**	100.58	54	Pdiff	Pdif	04 43 49.2	+0.5		
	baz=101								
P35A	**Duane Minner,**	100.65	52	Pdiff	Pdif	04 43 49.1	+0.2		
	baz=101								
MIAR	**Mount Ida**	100.69	57	Pdiff	Pdif	04 43 50.2	+1.1		
	baz=101								
A27A	**Ledoux Ranch,**	100.72	41	Pdiff	Pdif	04 43 49.6	+0.6		
	baz=101								
C28A	**Hausauer Farms**	100.76	43	Pdiff	Pdif	04 43 50.0	+0.8		
	baz=101								
TIXI	**Tiksi**	100.77	346	*e*Pdif	Pdif	04 43 48.4	-0.3		
N34A	**Lincoln**	100.78	50	Pdiff	Pdif	04 43 50.2	+0.7		
	baz=101								
E29A	**Napoleon**	100.79	44	Pdiff	Pdif	04 43 49.1	-0.2		
	baz=101								
Q36A	**Arnold C. Orve**	100.84	52	Pdiff	Pdif	04 43 49.8	+0.1		
	baz=101								
M34A	**Aspy Farms, Fr**	100.96	50	Pdiff	Pdif	04 43 50.2	0.0		
	baz=101								
MOY	**Mondy**	100.97	322	*e*P	Pdif	04 43 50.8	+0.6		
MOY				pmax	pmax				
	comp=Z,55nm,3.9s								
O35A	**Humboldt**	100.99	51	Pdiff	Pdif	04 43 51.1	+0.7		
	baz=101								
D29A	**Pettibone, Tap**	101.01	43	Pdiff	Pdif	04 43 49.7	-0.6		
	baz=101								
B28A	**Dugan Ranch, T**	101.06	42	Pdiff	Pdif	04 43 50.9	+0.5		
	baz=101								
R37A	**Teagarden Farm**	101.08	53	Pdiff	Pdif	04 43 51.0	+0.2		
	baz=101								
E30A	**Jud**	101.24	44	Pdiff	Pdif	04 43 51.5	+0.1		
	baz=102								
P36A	**Good Intent, A**	101.27	52	Pdiff	Pdif	04 43 52.2	+0.6		
	baz=102								
L34A	**Svendsen Farm,**	101.27	49	Pdiff	Pdif	04 43 52.0	+0.4		
	baz=102								
A28A	**Rude Farm, Bot**	101.29	42	Pdiff	Pdif	04 43 52.2	+0.7		
	baz=102								
MDND	**Maddock**	101.30	43	Pdiff	Pdif	04 43 51.6	+0.1		
	baz=102								
N35A	**Tabor**	101.39	50	Pdiff	Pdif	04 43 52.2	0.0		
	baz=102								
Q37A	**Longview Farm,**	101.55	53	Pdiff	Pdif	04 43 53.2	+0.3		
	baz=102								
D30A	**Buchanan**	101.56	44	Pdiff	Pdif	04 43 52.2	-0.6		
	baz=102								
M35A	**Neola**	101.57	50	Pdiff	Pdif	04 43 53.1	+0.1		
	baz=102								
TAPN	**Taplejung**	101.57	295	*e*P	Pdif	04 43 54.0	+0.3		
	comp=Z,24nm,0.8s								
TAPN	**Taplejung**	101.57	295	*e*P	PP	04 48 10.0	-3.3		
	comp=Z,165nm,1.4s								
O36A	**Bolckow**	101.62	51	Pdiff	Pdif	04 43 53.2	0.0		
	baz=102								
CHLP	**Challavanipeta**	101.65	285	*e*Pdif	Pdif	04 43 48.1	-5.7		
CHLP				*es*Pdif	sPdif	04 46 54.7	-1.7		
CHLP				*e*PP	PP	04 48 12.2	-1.4		
CHLP				*e*SKSac	SKSac	04 53 44.0	+5.8		
CHLP				*e*Sdif	Sdif	04 54 40.2	-5.6		
CHLP				*e*SS	SS	05 02 01.7	-3.7		
ODAN	**Odare**	101.67	294	*e*P	Pdif	04 43 54.6	+0.6		
	comp=Z,42nm,0.7s								
ODAN	**Odare**	101.67	294	*e*P	PP	04 48 10.7	-3.3		
	comp=Z,119nm,1.2s								
B29A	**Wagenman Farm,**	101.69	42	Pdiff	Pdif	04 43 52.5	-0.8		
	baz=102								
ECSD	**EROS Data Cent**	101.74	47	Pdiff	Pdif	04 43 53.5	-0.2		
	baz=102								
ECSD	**EROS Data Cent**	101.74	47	*e*Pdif	Pdif	04 43 54.3	+0.6		
BOK	**Bokaro**	101.89	291	*e*P	Pdif	04 43 54.6	-0.2		
L35A	**Bielow Farm, R**	101.90	49	Pdiff	Pdif	04 43 54.7	+0.3		
	baz=102								
A29A	**Manning Farm,**	101.93	42	Pdiff	Pdif	04 43 54.1	-0.3		
	baz=102								
C30A	**Mose, Pekin**	101.95	43	Pdiff	Pdif	04 43 54.0	-0.5		
	baz=102								
VIS	**Vishakhapatnam**	102.02	284	*e*P	Pdif	04 43 54.6	-0.8		
VBMS	**Vicksburg**	102.28	60	Pdiff	Pdif	04 43 55.4	-0.9		
	baz=102								
B30A	**Myrvik Farm, E**	102.32	43	Pdiff	Pdif	04 43 55.1	-0.9		
	baz=102								
RAMN	**Ramite**	102.36	294	*e*P	Pdif	04 43 59.0	+1.9		
RAMN	**Ramite**	102.36	294	*e*P	PKiKP	04 48 14.4	-0.8		
	comp=Z,77nm,0.9s								
MDRS	**Chennai**	103.15	279	*e*P	Pdif	04 43 58.7	-1.8		
GUN	**Gumba**	103.29	295	*e*P	Pdif	04 44 03.0	+1.7		
	comp=Z,27nm,0.4s								
GUN	**Gumba**	103.29	295	*e*P	PKiKP	04 48 15.4	-1.6		
	comp=Z,166nm,1.2s								
LPAZ	**La Paz**	103.36	114	Pdiff	Pdif	04 44 03.4	+1.1		
	comp=Z,1.7nm,0.9s,baz=203,slow=5.2,SNR=5.9								
LPAZ				pP		04 46 08.5			
	comp=Z,1.1nm,0.7s,baz=275,slow=3.5,SNR=1.7								
LPAZ				PKiKP	PKiKP	04 48 17.8	0.0		
	comp=Z,0.5nm,0.3s,baz=153,slow=2.3,SNR=3.0								
LPAZ				Sdiff		04 53 46.8			
	comp=Z,3.8nm,0.9s,baz=138,slow=17,SNR=9.8								
LPAZ				PKKPbc	PKKPbc	04 59 52.7	-0.9		
	comp=Z,5.0nm,0.8s,baz=18,slow=4.9,SNR=

RPR **Rampur** **106.01 284** *e*Pdif **Pdif** **04 44 12.2 -1.0**
RPR *e*PP **PP** **04 48 43.6 -1.9**
RPR *e*Sdif Sdif 04 55 17.2 -5.0
HYB Hyderabad **106.19 282** *e*P **Pdif** **04 44 13.6 -0.5**
HYBB Hyderabad (bro **106.19 282** *e*Pdif **Pdif** **04 44 07.7 -6.4**
HYBB *ep*Pdif **pPdif** **04 46 21.2 +1.5**
HYBB *es*Pdif sPdif 04 47 19.1 +2.5
HYBB *e*PP **PP** **04 48 42.5 -4.4**
HYBB *e*SKSac **SKSac** **04 53 54.6 -4.4**
HYBB *e*Sdif **Sdif** **04 55 20.1 -3.8**
HYBB *e*SS **SS** **05 03 05.4 -1.7**
CPUP Villa Florida **106.38 129** PKiKP **PKiKP** **04 48 22.2 -0.1**
comp=Z,0.9nm,0.5s,baz=0.0,slow=2.0,SNR=4.5
CPUP PP **PP** **04 48 47.8 +0.6**
comp=Z,3.6nm,1.0s,baz=187,slow=3.1,SNR=3.5
CPUP PKKPbc **PKKPbc** **04 59 43.6 -0.6**
comp=Z,2.6nm,0.7s,baz=58,slow=3.4,SNR=4.5
CPUP PKKP **PKKPdf** **04 59 56.8 +3.0**
comp=Z,4.3nm,0.8s,baz=48,slow=2.0,SNR=7.5
EYMN Ely **106.48 45** PKiKP **PKiKP** **04 48 20.4 -1.4**
baz=107
EYMN Ely **106.48 45** *e*PKPdf **PKiKP** **04 48 20.7 -1.2**
URV Uravakonda **106.52 279** *e*Pdif **Pdif** **04 44 11.9 -3.6**
URV *es*Pdif sPdif 04 47 19.3 +1.2
URV *e*PP **PP** **04 48 46.6 -2.7**
URV *e*Sdif **Sdif** **04 55 23.2 -3.4**
URV *e*SS **SS** **05 03 07.3 -4.1**
WMQ Urumqi **106.77 311** Pdif **Pdif** **04 44 16.5 +0.4**
WMQ PP **PP** **04 48 52.8 +2.2**
WMQ S **Sdif** **04 55 30.5 +2.8**
WMQ PPMZ
comp=Z,520nm,11.4s
SRSP Sriramsagar **106.88 284** *e*Pdif **Pdif** **04 44 11.3 -5.7**
SRSP *ep*Pdif **pPdif** **04 46 18.9 -3.8**
SRSP *es*Pdif sPdif 04 47 21.1 +1.5
SRSP *e*PP **PP** **04 48 48.6 -3.3**
SRSP *e*SKSac **SKSac** **04 53 55.8 -6.1**
SRSP *e*Sdif **Sdif** **04 55 24.5 -5.0**
SRSP *e*SS **SS** **05 03 12.4 -3.8**
NGP Nagpur **106.97 286** *ex* PP 04 48 46.7 -5.8
ROSC El Rosal **107.05 92** PKKPbc PKKPbc 04 59 43.6 +1.5
comp=Z,12nm,0.6s,baz=93,slow=6.6,SNR=10.0
SFIN Lafayette **107.41 53** PKiKP **PKiKP** **04 48 24.5 +0.7**
baz=108
FCC Fort Churchill **107.95 33** *e*PKPdf **PKiKP** **04 48 22.6 -1.6**
KLRI Killari **108.16 282** *e*Pdif **Pdif** **04 44 14.6 -8.3**
KLRI *ep*Pdif **pPdif** **04 46 21.5 -6.9**
KLRI *es*Pdif sPdif 04 47 21.6 -3.9
KLRI *e*PP PP 04 48 54.3 -6.8
KLRI *e*Sdif **Sdif** **04 55 34.5 -5.8**
KLRI *e*SS **SS** **05 03 26.4 -7.0**
BHPL Bhopal **109.06 288** *e*P **Pdif** **04 44 24.2 -2.5**
SIV San Ignacio **109.34 118** PKKPbc PKKPbc 04 59 33.6 -1.2
comp=Z,5.0nm,0.6s,baz=79,slow=2.2,SNR=16
SIV PKKP **PKKPdf** **04 59 48.9 +0.4**
comp=Z,3.5nm,0.7s,baz=119,slow=21,SNR=5.9
GOA Goa **109.82 279** *e*P **Pdif** **04 44 25.5 -4.7**
POO Poona **110.78 282** *e*P **PKiKP** **04 48 31.1 +0.3**
POO Poona **110.78 282** *e*P **PKiKP** **04 48 30.0 -0.8**
ZALV Zalesovo Beam **111.00 321** Pdiff **Pdif** **04 44 34.7 +0.2**
comp=Z,1.6nm,0.6s,baz=117,slow=3.7,SNR=8.8
ZALV PKiKP **PKiKP** **04 48 29.3 -0.8**
comp=Z,20nm,0.5s,baz=137,slow=1.9,SNR=31
ZALV PP PP 04 49 14.8 -5.7
comp=Z,7.6nm,0.9s,baz=104,slow=6.3,SNR=4.5
ZALV Sdiff 04 54 16.7
comp=Z,2.4nm,0.8s,baz=132,slow=2.1,SNR=2.1
ZALV PKKP **PKKPab** **04 59 42.4 +2.4**
comp=Z,1.0nm,0.4s,baz=276,slow=2.8,SNR=4.8
SAML Samuel **111.14 110** *e*PKPdf **PKiKP** **04 48 30.9 -0.7**
MK31 Makanchi Array **111.19 313** *e*PKPdf **PKiKP** **04 48 30.4 -0.3**
MK31 *e*PP **PP** **04 49 21.3 -0.7**
RES Resolute Bay **111.19 17** *e*PKPdf **PKiKP** **04 48 28.8 -1.1**
SMLA Simla **111.49 296** *e*P **PKiKP** **04 48 31.0 -0.8**
BLA Blacksburg **111.67 58** *e*PKPdf **PKiKP** **04 48 30.8 -1.2**
SDV Santo Domingo **111.95 90** *e*PKPdf **PKiKP** **04 48 32.9 -0.5**
NVS Novosibirsk **112.07 322**↑ *i*PKIKP **PKiKP** **04 48 31.3 -0.8**
NVS *e*S **SKSac** **04 54 22.4 +0.8**
NVS pmax pmax
comp=Z,30nm,0.7s
NVS pmax pmax
comp=N,3.0nm,0.4s
NVS pmax pmax
comp=E,6.0nm,0.5s
NVS smax smax
comp=N,1.0nm,0.3s
NVS smax smax
comp=E,49nm,1.3s
DHRM DHARAMSHALA **112.48 297** *e*P **PKiKP** **04 48 33.4 -0.5**
JSRW J. Sargeant Re **113.75 58** *e*PKPdf **PKiKP** **04 48 35.2 -0.7**
KURK Kurchatov **114.24 317** PKPdf PKPdf 04 48 36.3 -0.1
SNR=17
KURK Kurchatov **114.24 317** *e*Pdif **Pdif** **04 44 51.4 +2.3**
KURK *e*PKPdf PKPdf 04 48 35.3 -1.1
KURK PKKPbc **PKKPbc** **04 59 19.0 -0.3**
KURK PKKPab **PKKPab** **04 59 27.2 +1.5**
KURK SKKPbc SKKPbc 05 02 08.8 -2.7
KURBB Kurchatov Arra **114.28 317** PKKPbc PKKPbc 04 59 19.0 -0.2
comp=E,6.1nm,0.9s,baz=279,slow=3.8,SNR=17
KURBB PKKPab **PKKPab** **04 59 27.2 +1.7**
comp=E,6.1nm,1.1s,baz=284,slow=5.3,SNR=7.4
KURBB SKKPbc SKKPbc 05 02 08.8 -2.6
comp=E,1.3nm,0.6s,baz=271,slow=3.9,SNR=5.3
KSH Kashi **114.31 304** PKP PKPdf 04 48 38.5 +1.4
KSH PP PP 04 49 49.8 +5.6
KSH *es*PKP 04 51 34.0
KSH PKS **PKSdf** **04 52 17.0 +3.1**
KSH SKS **SKSdf** **04 55 01.5 +6.1**
KSH SKKS **SKKSac** **04 55 45.5 -0.3**
KSH PPMZ
comp=E,560nm,5.6s
SSPA Standing Stone **114.31 54** *e*PKPdf PKPdf 04 48 36.1 -0.8
ULHL Ulahol **114.59 307** P PKPdf 04 48 38.2 +0.6
SNR=15
SDDR Presa de Saban **114.71 79** *e*PKPdf PKPdf 04 48 37.4 -1.0
SDMD Soldier's Deli **114.88 56** *e*PKPdf PKPdf 04 48 37.2 -0.8
TKM2 Tokmak 2 **115.17 308** P **PKPdf** **04 48 38.6 -0.2**
SNR=40
TKM2 Tokmak 2 **115.17 308** P **PKKPbc** **04 59 17.1 +0.8**
SNR=6.1
TKM2 Tokmak 2 **115.17 308** *e*PKPdf **PKPdf** **04 48 37.8 -0.9**
KZA Kyzart **115.29 307** P **PKPdf** **04 48 40.0 +0.7**
SNR=19
KZA Kyzart **115.29 307** P **PKKPbc** **04 59 17.7 +1.6**
SNR=5.5
KBK Karagaybulak **115.60 308** P **PKPdf** **04 48 39.7 +0.1**
SNR=30
KBK Karagaybulak **115.60 308** P **PKKPbc** **04 59 15.7 +0.9**
SNR=6.6
CHMS Chumysh **115.80 308** P **PKPdf** **04 48 40.0 +0.3**
SNR=5.2
CHMS Chumysh **115.80 308** P **PKKPbc** **04 59 14.1 +0.2**
SNR=6.6
UCH Uchtor **115.86 307** P **PKPdf** **04 48 40.4 0.0**
SNR=36
UCH Uchtor **115.86 307** P **PKKPbc** **04 59 14.5 +0.2**
SNR=16
AAK Ala-Archa **115.93 307** P **PKPdf** **04 48 40.6 +0.5**
SNR=16
AAK Ala-Archa **115.93 307** P **PKKPbc** **04 59 15.1 +1.4**
SNR=12
AAK Ala-Archa **115.93 307***c* *i*PKIKP **PKPdf** **04 48 40.0 -0.2**
AAK pmax pmax
comp=Z,17nm,0.6s
USP Ospenovka **116.02 308** P **PKPdf** **04 48 39.4 -0.8**
SNR=26
USP Ospenovka **116.02 308** P **PKKPbc** **04 59 13.6 +0.4**
SNR=6.2
AML Almayashu **116.44 307** P **PKPdf** **04 48 41.3 -0.1**
SNR=46
EKS2 Erkin-Say **116.46 307** P **PKPdf** **04 48 41.4 +0.3**
SNR=30
EKS2 Erkin-Say **116.46 307** P **PKKPbc** **04 59 12.8 +1.1**
SNR=6.0
EKS2 Erkin-Say **116.46 307** *e*PKPdf **PKPdf** **04 48 40.9 -0.3**
EKS2 *e*PP **PP** **04 49 55.6 -3.3**
LONY Lake Ozonia **117.31 51** *e*PKPdf **PKPdf** **04 48 41.6 -1.0**
OPO Ambohidratompo **117.33 233** PKP **PKPdf** **04 48 43.9 +0.3**
comp=Z,26nm,0.9s,baz=73,slow=0.9
NCB Newcomb **117.49 51** *e*PKPdf **PKPdf** **04 48 42.2 -0.8**
TRY Troy **117.75 53** *e*PKPdf **PKPdf** **04 48 43.6 +0.2**
PTGA Pitinga **117.81 104** PKKPbc PKKPbc 04 59 07.8 +1.3
comp=Z,13nm,1.0s,baz=52,slow=2.7,SNR=11
ACCN Adirondack Com **117.82 52** *e*PKPdf **PKPdf** **04 48 42.4 -1.1**

PCRV Puerto La Cruz **117.93 91** PKKPbc PKKPbc 04 59 05.8 -0.2
comp=Z,6.6nm,0.5s,baz=353,slow=3.6,SNR=3.9
YLE Yale **118.11 54** *e*PKPdf **PKPdf** **04 48 43.9 -0.2**
CRPR Cabo Rojo, PR **118.21 81** *e*PKPdf **PKPdf** **04 48 43.5 -1.4**
MDV Middlebury **118.24 51** *e*PKPdf **PKPdf** **04 48 43.6 -0.7**
QUA2 Belchertown **118.66 53** *e*PKPdf **PKPdf** **04 48 44.6 -0.6**
CELP Cerrillos **118.71 81** *e*PKPdf **PKPdf** **04 48 44.8 -1.1**
KKAR Karatay Array **118.89 308** *e*PKPdf **PKPdf** **04 48 45.1 -0.5**
SJG San Juan **119.11 82** *e*PKPdf **PKPdf** **04 48 45.6 -1.1**
BRYW Bryant College **119.22 54** *e*PKPdf **PKPdf** **04 48 45.7 -0.6**
BVAR Borovoye Array **119.48 319** PKKPbc PKKPbc 04 59 00.4 -0.8
comp=Z,1.4nm,0.5s,baz=270,slow=4.3,SNR=4.6
BVAR SKKPbc SKKPbc 05 01 53.2 -2.2
comp=Z,1.4nm,0.5s,baz=273,slow=2.5,SNR=4.6
BRVK Borovoye **119.55 319***d* *i*PKIKP **PKPdf** **04 48 45.9 -0.6**
BRVK pmax pmax
comp=Z,86nm,1.2s
BRVK Borovoye **119.55 319** PKPdf **PKPdf** **04 48 47.0 +0.5**
SNR=26
BRVK Borovoye **119.55 319** *e*PKPdf **PKPdf** **04 48 46.2 -0.3**
BRVK *e*PP PP 04 50 11.9 -7.5
BDFB Brasilia **119.78 125** PKP **PKPdf** **04 48 47.5 -0.7**
comp=Z,22nm,0.7s,baz=168,slow=1.7,SNR=25
BDFB SKPbc SKPbc 04 51 03.3
comp=Z,10.0nm,1.1s,baz=66,slow=4.1,SNR=3.5
BDFB SKP 04 51 29.9
comp=Z,8.3nm,0.8s,baz=158,slow=4.0,SNR=4.0
BDFB PKKPbc **PKKPbc** **04 59 00.3 +0.2**
comp=Z,19nm,0.7s,baz=352,slow=2.4,SNR=16
STVI Saint Thomas **120.27 82** *e*PKPdf **PKPdf** **04 48 47.9 -1.0**
WVL Waterville **120.81 51** *e*PKPdf **PKPdf** **04 48 48.4 -0.9**
KULLO Kullorsuaq **120.99 15** *i* P **PKPdf** **04 48 47.7 -1.0**
comp=Z,56nm,0.7s
PKME Peaks-Kenny Pk **121.10 50** *e*PKPdf **PKPdf** **04 48 48.7 -1.1**
PQI Presque Isle **122.03 48** *e*PKPdf **PKPdf** **04 48 50.2 -1.3**
EMMW East Machias **122.38 51** *e*PKPdf **PKPdf** **04 48 51.8 -0.5**
SCHQ Schefferville **122.47 39** PKP **PKPdf** **04 48 50.6 -1.5**
comp=Z,26nm,0.7s,baz=283,slow=2.9,SNR=31
SCHQ PKKPbc **PKKPab** **04 58 48.3 -1.2**
comp=Z,6.5nm,0.9s,baz=98,slow=7.1,SNR=4.8
HMG Houelmont **122.54 85** *e*P **PKPdf** **04 48 53.0 -0.5**
BOSA Boshof **122.61 207** PKP **PKPdf** **04 48 54.3 +0.8**
comp=Z,49nm,0.8s,baz=169,slow=1.6,SNR=42
BOSA SKP 04 51 37.1
comp=Z,30nm,1.0s,baz=113,slow=2.7,SNR=5.8
BOSA PKKPbc **PKKPbc** **04 58 48.7 -1.6**
comp=Z,10nm,0.6s,baz=327,slow=4.3,SNR=20
BOSA SKKPbc SKKPbc 05 01 43.2 +1.5
comp=Z,8.2nm,1.1s,baz=267,slow=5.5,SNR=3.2
FDF Fort de France **122.67 87** *e*P **PKPdf** **04 48 53.2 -0.4**
SPITS Spitsbergen Ar **124.45 356** PKKPbc PKKPbc 04 58 42.3 -0.7
comp=Z,3.4nm,0.4s,baz=162,slow=6.7,SNR=28
SPITS SKKS 05 05 53.8
comp=Z,6.6nm,0.9s,baz=329,slow=4.2,SNR=3.7
SVE Sverdlovsk **124.74 324** *e*PKIKP **PKPdf** **04 48 56.3 -0.1**
SVE pmax pmax
comp=Z,161nm,1.3s
ILULI Ilulissat **125.23 20**⇓ *i*P **PKPdf** **04 48 56.5 -0.5**
comp=Z,86nm,0.8s
ILULI *i* 04 51 10.5
LBTB Lobatse **125.58 210** PKP **PKPdf** **04 49 00.1 +0.9**
comp=Z,23nm,0.6s,baz=143,slow=3.2,SNR=24
LBTB PKKPbc **PKKPbc** **04 58 36.0 -2.8**
comp=Z,6.1nm,0.7s,baz=295,slow=3.4,SNR=6.8
DAG Danmarks Havn **125.74 5**⇓ *i*P **PKPdf** **04 48 56.6 -1.2**
comp=Z,39nm,0.8s
DAG Danmarks Havn **125.74 5**⇓ *i*PKIKP **PKPdf** **04 48 56.6 -1.2**
DAG pmax pmax
comp=Z,29nm,0.8s
ARU Arti **125.94 324** *i* PKIKP **PKPdf** **04 48 58.6 -0.1**
ARU 04 51 01.5
ARU PPP PPP 04 53 48.6
ARU Arti **125.94 324** *e*PKPdf **PKPdf** **04 48 58.8 +0.1**
JMDO Jabal Madar **126.02 281** PKPdf **PKPdf** **04 49 01.0 +1.1**
SNR=7.0
SOKR Solikamsk **126.08 328***d* *i*PKIKP **PKPdf** **04 48 58.6 -0.2**
SOKR *e* 04 50 59.1
SOKR pmax pmax
comp=Z,80nm,0.6s
SMDO Samad **126.22 282** PKPdf **PKPdf** **04 49 01.7 +1.3**
SNR=13
ABKAR Akbulak array **126.24 315** *e*PKPdf **PKPdf** **04 48 59.3 -0.2**
IMYA Miami **126.35 299** *e*P PKPpre 04 48 45.9
SUMG Summit **126.45 13**⇓ *i*P **PKPdf** **04 49 00.0 +0.2**
comp=Z,163nm,1.1s
SUMG *i* 04 51 00.8
SUMG Summit **126.45 13**⇓ *i*PKIKP **PKPdf** **04 49 00.0 +0.2**
SUMG *i* 04 51 00.8
SUMG pmax pmax
comp=Z,160nm,1.1s
SUMG Summit **126.45 13** *e*PKPdf **PKPdf** **04 48 59.8 0.0**
SUMG *e*PP **PP** **04 51 01.8 -3.1**
SFJD Kangerlussuaq **126.49 22**⇓ *i*P **PKPdf** **04 48 58.6 -0.8**
comp=Z,48nm,0.6s
SFJD Kangerlussuaq **126.49 22**⇓ *i*PKIKP **PKPdf** **04 48 58.6 -0.8**
SFJD pmax pmax
comp=Z,48nm,0.6s
SFJD Kangerlussuaq **126.49 22** *e*PKPdf **PKPdf** **04 48 58.1 -1.3**
ISRO Mashad **126.86 299** *e*P **PKPdf** **04 48 59.1 -2.2**
IKOO Kooshah **126.92 294** *e*P PKPpre 04 48 45.6
BSY Bisya **126.92 282** PKPdf **PKPdf** **04 49 02.9 +1.2**
SNR=13
HOQ Hoqain **127.00 283** PKPdf **PKPdf** **04 49 03.0 +1.3**
SNR=10.0
AKTO Aktyubinsk **127.33 317** PKKPbc PKKPbc 04 58 30.7
comp=Z,3.2nm,0.8s,baz=234,slow=8.3,SNR=4.8
AKTO SKKPbc SKKPbc 05 01 25.9 -3.2
comp=Z,2.9nm,0.5s,baz=288,slow=2.0,SNR=8.1
IKRD Kardeh **127.65 299** *e*P PKPpre 04 48 47.2
ARQ Araqi **127.66 282** PKPdf **PKPdf** **04 49 03.6 +0.6**
SNR=10.0
MATP Matopo **127.99 216** PKhKP PKPpre 04 48 50.0
comp=Z,3.7nm,0.4s,baz=165,slow=4.3,SNR=15
MATP PKP **PKiKP** **04 49 04.9 +0.2**
comp=Z,47nm,0.8s,baz=172,slow=2.0,SNR=32
MATP PP **PP** **04 51 17.0 +2.3**
comp=Z,12nm,0.9s,baz=158,slow=4.2,SNR=3.9
MATP SKPbc SKiKP 04 51 32.1 -15
comp=Z,21nm,0.5s,baz=140,slow=3.4,SNR=10.0
MATP PKKPbc PKKPdf 04 58 26.5 -47
comp=Z,4.0nm,0.9s,baz=310,slow=1.2,SNR=5.8
GEYT Alibeck **128.01 301** PKP **PKPdf** **04 49 03.8 +0.5**
comp=Z,73nm,0.8s,baz=309,slow=3.1,SNR=35
GEYT PP **PP** **04 51 12.9 -3.0**
comp=Z,17nm,0.9s,baz=336,slow=3.2,SNR=6.5
GEYT SKPbc SKiKP 04 51 32.0 -14
comp=Z,15nm,0.6s,baz=229,slow=1.4,SNR=3.9
GEYT SKKPbc **SKKPbc** **05 01 24.1 -1.9**
comp=Z,3.0nm,0.5s,baz=270,slow=7.4,SNR=4.1
ISFR Sfrayin **128.07 300** *e*P PKPpre 04 48 49.3
HATD Hatta, Dubai **128.30 284** PKPdf **PKPdf** **04 49 04.9 +0.7**
SNR=13
HATD Hatta, Dubai **128.30 284**⇓ *i*PKPdf **PKPdf** **04 49 04.1 -0.1**
SNR=13
ISHV Shirvan **128.33 300** *e*P **PKPdf** **04 49 05.2 +1.0**
ASHO Ashiyiah **128.34 284** PKPdf **PKPdf** **04 49 05.1 +0.7**
SNR=14
ASHO Ashiyiah **128.34 284**⇓ *i*PKPdf **PKPdf** **04 49 04.2 -0.1**
SNR=17
RBK Rabkut **128.35 274** PKPdf **PKPdf** **04 49 06.2 +1.7**
SNR=10
NAZ Nazwa, Dubai **128.75 284** PKPdf **PKPdf** **04 49 06.0 +0.9**
SNR=8.3
NAZ Nazwa, Dubai **128.75 284**↑ *i*PKiKP **PKPdf** **04 49 05.9 +0.9**
SNR=7.0
FAQ Al Faqa, Dubai **128.76 284**⇓ *i*PKPdf **PKPdf** **04 49 05.0 -0.1**
SNR=7.9
ABTO Aybut **129.14 274** PKPdf **PKPdf** **04 49 07.5 +1.5**
SNR=6.5
LVZ Lovozero **130.33 343***d* *i*PKIKP **PKPdf** **04 49 06.6 -0.2**
LVZ pmax pmax
comp=Z,57nm,0.7s
LVZ Lovozero **130.33 343** *e*PKPdf **PKPdf** **04 49 05.9 -0.9**
KEV Kevo **130.66 348** *e*PKPdf **PKPdf** **04 49 07.1 -0.2**
APA Apatity **130.90 343**⇓ *i*PKIKP PKPdf 04 49 02.5 -5.3
APA pmax pmax
comp=Z,54nm,0.6s
ARCES ARCESS Array B **131.13 348** PKhKP PKPpre 04 48 50.6
comp=Z,1.3nm,0.5s,baz=48,slow=1.8,SNR=16
ARCES PKP **PKPdf** **04 49 08.5 +0.3**
comp=Z,101nm,0.7s,baz=48,slow=1.3,SNR=63
ARCES SKPbc **SKPab** **04 51 41.3 +0.4**
comp=Z,86nm,0.9s,baz=41,slow=3.9,SNR=13
ARCES PKKP **PKKPdf** **04 59 05.8 -2.8**
comp=Z,0.8nm,0.3s,baz=220,slow=3.1,SNR=11
ARCES SKKPbc **SKKPbc** **05 01 12.7 -4.1**
comp=Z,2.6nm,0.7s,baz=203,slow=2.9,SNR=6.1
ARCES ARCESS Array B **131.13 348** PKHKP PKPpre 04 48 50.6
ARCES 04 49 08.5
ARCES 04 51 41.3
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES pmax pmax
comp=Z,101nm,0.7s
ARCES pmax pmax
comp=N,86nm,0.9s
ARCES pmax pmax
comp=Z,1.0nm,0.3s
IANJ Anjilo **131.33 297** *e*P PKPpre 04 48 54.0
IKIA Kiasar **131.53 298** *e*P PKPpre 04 48 56.2
IPAR Pars **131.73 290** *e*P PKPpre 04 48 57.2
TMCR Tamitsa **131.84 338** *e*PKIKP **PKPdf** **04 49 11.3 +1.6**
TMCR *e* 04 51 43.0
TMCR pmax pmax
comp=Z,60nm,0.7s
ISHM Shahmirzad **131.84 298** *e*P PKPpre 04 48 55.3
ILAS Lasjerd **132.11 297** *e*P PKPpre 04 48 55.4
IALA Alasht **132.24 298** *e*P PKPpre 04 48 58.4
IFIR Firoozkooh **132.28 298** *e*P PKPpre 04 48 56.2
LSZ Lusaka **132.31 219** PKhKP PKPpre 04 49 03.9
comp=Z,2.8nm,0.5s,baz=72,slow=3.2,SNR=5.5
LSZ PKP **PKiKP** **04 49 14.9 +1.5**
comp=Z,31nm,0.7s,baz=70,slow=1.8,SNR=23
LSZ SKPbc **SKPab** **04 51 47.4 -0.4**
comp=Z,27nm,0.7s,baz=149,slow=4.8,SNR=11
LSZ PKKP **PKKPdf** **04 59 05.2 +0.1**
comp=Z,3.1nm,0.7s,baz=90,slow=8.1,SNR=3.6
LSZ Lusaka **132.31 219** PKHKP PKPpre 04 49 03.9
LSZ 04 49 14.9
LSZ 04 51 47.4
LSZ pmax pmax
comp=Z,3.0nm,0.5s
LSZ pmax pmax
comp=Z,31nm,0.7s
LSZ pmax pmax
comp=N,27nm,0.7s
LSZ pmax pmax
comp=Z,3.0nm,0.7s
LSZ Lusaka **132.31 219** PKPdf **PKPdf** **04 49 14.3 +2.1**
SNR=11
LSZ Lusaka **132.31 219** PKPpre PKPpre 04 49 03.9
LSZ *e*PKPpre PKPpre 04 49 07.0
LSZ *e*PKPdf **PKiKP** **04 49 12.9 -0.5**
LSZ PKP **PKiKP** **04 49 14.9 +1.5**
LSZ SKPbc **SKPab** **04 51 47.4 -0.4**
LSZ PKKP **PKKPdf** **04 59 05.2 +0.1**
IZEF Zefreh **132.56 294** *e*P PKPpre 04 48 59.7
IPRN Peran **132.62 298** *e*P PKPpre 04 48 56.7
IKAZ Kazeroun **132.77 290** *e*P PKPpre 04 48 59.7
IDMV Damavand **132.87 298** *e*P PKPpre 04 48 58.2
IVRN Varamin **133.12 297** *e*P PKPpre 04 48 57.9
IKLH Kolahrood **133.21 294** *e*P PKPpre 04 48 58.8
IPIR Pirpir **133.77 294** *e*P PKPpre 04 48 57.4
IR5 Iran Long-Peri **134.06 297** *e*P PKPpre 04 49 00.5
TSUM Tsumeb **134.11 205** PKhKP PKPpre 04 49 06.1
comp=Z,3.2nm,0.5s,baz=141,slow=7.7,SNR=4.2
TSUM PKP **PKiKP** **04 49 17.0 0.0**
comp=Z,43nm,0.9s,baz=128,slow=4.6,SNR=12
TSUM SKPbc **SKPbc** **04 51 52.4 +0.6**
comp=Z,49nm,0.7s,baz=149,slow=4.7,SNR=17
IGZV Ghazvin **134.32 299** *e*P PKPpre 04 49 02.3
IRAZ Razeghan **134.59 297** *e*P PKPpre 04 49 03.5
RCBR Riachuelo **135.15 126** SKPbc **SKPbc** **04 51 54.7 -0.5**
comp=Z,62nm,0.6s,baz=208,slow=4.2,SNR=11
MAK Makhachkala **135.70 308** *e*P **Pdif** **04 46 27.5 +2.9**
MAK *i* 04 49 16.7
MAK *e* 04 52 04.4
MAK *e*PPP PPP 04 55 09.3
MAK *e* 04 55 36.4
MAK pmax pmax
comp=Z,338nm,1.0s
ISRB Sarab **136.27 301** *e*P PKPpre 04 49 06.5
BORG Borgarnes **136.43 13** *i* PKIKP **PKPdf** **04 49 22.0 +3.8**
BORG Borgarnes **136.43 13** *e*PKPdf **PKPdf** **04 49 17.4 -0.9**
DAMY Dhamar **136.51 267** *e*PKPpre PKPpre 04 49 13.5
IKOM Komasi **136.60 296** *e*P PKPpre 04 49 05.8
IHRS Heris **136.72 302** *e*P PKPpre 04 49 08.1
IBST Bostanabad **136.90 301** *e*P PKPpre 04 49 09.0
MOS Moscow **137.01 329** *e*PKIKP **PKPdf** **04 49 16.8 -2.8**
MOS *e* 04 51 16.4
MOS pmax pmax
comp=Z,95nm,0.8s
VRHR Novokhopersk **137.13 321** *e*PKIKP **PKPdf** **04 49 20.0 +0.1**
VRHR pmax pmax
comp=N,50nm,0.9s
VRHR pmax pmax
comp=E,40nm,0.9s
VRHR pmax pmax
comp=Z,180nm,0.9s
PUL Pulkovo **137.50 337** *i* PKIKP **PKPdf** **04 49 18.8 -1.5**
IDHR Dehrash **137.51 296** *e*P PKPpre 04 49 09.2
DGRG David-gareji **137.54 307** P PKPpre 04 49 12.9
DGRG David-gareji **137.54 307** PKHKP PKPpre 04 49 12.9
IAZR Azarshahr **137.62 301** *e*P PKPpre 04 49 10.0
FINES FINESS Array B **137.62 341** PKhKP PKPpre 04 49 09.0
comp=Z,27nm,0.6s,baz=72,slow=3.0,SNR=37
FINES SKPbc **SKPbc** **04 52 01.7 +0.9**
comp=Z,45nm,0.6s,baz=99,slow=4.8,SNR=11
FINES SKKPbc **SKKPbc** **05 00 48.8 -3.7**
comp=Z,2.4nm,0.6s,baz=162,slow=5.8,SNR=7.2
RAYN Ar Rayn **137.63 280** *e*PKPpre PKPpre 04 49 12.0
IMRD Marand **137.71 302** *e*P PKPpre 04 49 12.0
OBN Obninsk **137.86 329**↑ *i*PKIKP **PKPdf** **04 49 20.4 -0.7**
OBN *i* SS SS 05 09 47.3 +5.6
OBN pmax pmax
comp=Z,151nm,1.4s
OBN Obninsk **137.86 329** *e*PKPpre PKPpre 04 49 12.8
DUS Dusheti **137.90 308** P PKPpre 04 49 05.9
DUS Dusheti **137.90 308** PKHKP PKPpre 04 49 05.9
TBLG Delisi **137.95 307** P **PKPdf** **04 49 17.6 -4.2**
TBLG Delisi **137.95 307** PKIKP **PKPdf** **04 49 17.6 -4.2**
GNI Garni **138.24 305***d* *i*PKIKP **PKPdf** **04 49 22.9 +0.3**
GNI Garni **138.24 305** PKPdf PKPpre 04 49 16.8
SNR=18
GNI Garni **138.24 305** *e*PKPpre PKPpre 04 49 16.2
GNI *e*PKPdf **PKPdf** **04 49 21.7 -0.9**
ZEI Tsey **138.33 309** *i* PKIKP **PKPdf** **04 49 26.2 +3.5**
ZEI pmax pmax
comp=Z,254nm,0.9s
GOF Gofitskoye **138.35 312** *e*PKHKP PKPpre 04 49 13.0
GOF pmax pmax
comp=Z,80nm,1.2s
VSR Storozhevoye **138.48 322** *e*PKHKP PKPpre 04 49 13.5
VSR pmax pmax
comp=N,30nm,1.0s
VSR pmax pmax
comp=E,30nm,1.0s
VSR pmax pmax
comp=Z,100nm,1.0s
VORD Divnogorie **138.52 322** *e*PKHKP PKPpre 04 49 16.6
VORD pmax pmax
comp=N,100nm,0.8s
VORD pmax pmax
comp=E,140nm,0.8s
VORD pmax pmax
comp=Z,60nm,0.8s
ONI Oni **138.70 309** P PKPpre 04 49 16.7
ONI Oni **138.70 309** PKHKP PKPpre 04 49 16.6
KBZ Khabaz **138.81 310** PKhKP PKPpre 04 49 15.3
comp=Z,5.6nm,0.7s,baz=76,slow=5.6,SNR=11
KBZ SKPbc **SKiKP** **04 52 06.7 -1.0**
comp=Z,10.0nm,0.7s,baz=108,slow=3.2,SNR=3.7
KBZ Khabaz **138.81 310** PKHKP PKPpre 04 49 15.3
KBZ pmax pmax
comp=Z,6.0nm,0.7s
KBZ pmax pmax
comp=N,10.0nm,0.7s
KIV Kislovodsk **138.90 311** *i* PKIKP **PKPdf** **04 49 23.6 0.0**
KIV *e**PP x 04 51 29.4
KIV *e* 04 52 21.4
KIV *e*PPP PPP 04 55 30.4
KIV *e*SS SS 05 09 54.3 -0.9
KIV pmax pmax
comp=Z,47nm,1.1s
KIV Kislovodsk **138.90 311** PKPdf **PKPdf** **04 49 23.6 0.0**
SNR=21
KIV Kislovodsk **138.90 311** *e*PKPpre PKPpre 04 49 16.4
AKH Akhalkalaki **138.93 307** P PKPpre 04 49 16.1
AKH Akhalkalaki **138.93 307** PKHKP PKPpre 04 49 16.1
SOC Sochi **141.06 311***d* *i*PKHKP PKPpre 04 49 19.9

SOC				*i*			04 49 28.8		
SOC				*e*			04 51 34.7		
SOC				*e*			04 52 27.4		
SOC				*e*SS	SS		05 10 15.8	-4.2	
NB2	**NORSAR Subarra1**	**41.36**	**351**	PKP	PKPpre		04 49 21.5		
	comp=Z,54nm,0.8s,baz=16,slow=3.2								
NB2	**NORSAR Subarra1**	**41.36**	**351**	PKP	PKPpre		04 49 21.5		
	baz=16,slow=3.2								
NOA	**NORSAR Array B**	**141.36**	**351**	PKhKP	PKPpre		04 49 22.2		
	comp=Z,70nm,0.6s,baz=16,slow=4.7,SNR=451								
NOA				SKPbc	**SKPbc**		**04 52 11.6**	**+0.7**	
	comp=Z,35nm,0.9s,baz=15,slow=4.2,SNR=5.9								
NOA				SKKPbc	**SKKPab**		**05 00 35.9**	**-1.4**	
	comp=Z,3.5nm,0.9s,baz=192,slow=4.1,SNR=3.8								
HFS	**Hagfors**	**141.80**	**348**	SKKPbc	SKKPbc		05 00 33.5	-2.7	
	comp=Z,5.0nm,0.6s,baz=166,slow=3.1,SNR=12								
MICGM	**Minsk**	**142.16**	**333**⇑	*e*PKP	PKPpre		04 49 24.0		
MNK	**Minsk**	**142.18**	**333**⇑	*e*PKHKP	PKPpre		04 49 24.0		
MNK				pmax	pmax				
	comp=Z,4μm,5.0s								
MNK				pmax	pmax				
	comp=N,320nm,2.0s								
MNK				pmax	pmax				
	comp=E,420nm,2.0s								
MNK				pmax	pmax				
	comp=Z,700nm,2.0s								
ANN	**Anapa**	**142.19**	**314**	*i* PKHKP	PKPpre		04 49 24.6		
ANN				*e*			04 52 41.8		
ANN				*e*			04 55 42.8		
ANN				*e*SS	SS		05 10 30.6	-2.1	
ANN				pmax	pmax				
	comp=E,22nm,1.0s								
ANN				pmax	pmax				
	comp=N,57nm,1.0s								
ANN				pmax	pmax				
	comp=Z,205nm,1.0s								
ANN				pmax	pmax				
	comp=N,274nm,2.5s								
ANN				pmax	pmax				
	comp=E,157nm,2.5s								
ANN				pmax	pmax				
	comp=Z,1μm,2.5s								
NACGM	**Naroch**	**142.32**	**334**	*e*	PKPpre		04 49 22.0		
YEL1	**Yell**	**142.76**	**0**	*e*P	**PKPdf**		**04 49 25.9**	**-3.9**	
KONO	**Kongsberg**	**142.93**	**351**	*e*PKPdf	**PKPdf**		**04 49 27.6**	**-2.6**	
WAL1	**Walls**	**143.05**	**1**	*e*P	PKPab		04 49 27.3	-0.7	
LRW	**Lerwick**	**143.18**	**0**	*e*P	PKPab		04 49 27.7	-0.9	
SAN1	**Sandwick**	**143.29**	**0**	*e*P	PKPab		04 49 28.1	-0.9	
MALT	**Malatya**	**143.40**	**303**	⇓PKIKP	PKPbc		04 49 30.7	+0.2	
MALT	**Malatya**	**143.40**	**303**	⇓*i*P	PKPbc		04 49 30.7	+0.2	
AKASG	**Malin Array Be**	**144.05**	**327**	PKP	PKPbc		04 49 30.9	-1.1	
	comp=Z,78nm,0.4s,baz=41,slow=3.6,SNR=455								
AKASG				pPKP	pPKPdf		04 51 43.9	-2.0	
	comp=Z,31nm,0.7s,baz=46,slow=3.9,SNR=5.0								
AKASG				SKPbc	**SKiKP**		**04 52 18.4**	**+0.1**	
	comp=Z,31nm,0.7s,baz=46,slow=2.7,SNR=6.6								
AKASG				SKKPbc	**SKKPab**		**05 00 24.5**	**-0.8**	
	comp=Z,3.7nm,0.6s,baz=241,slow=4.4,SNR=17								
KIEV	**Kiev**	**144.06**	**327**	*e*PKPdf	PKPbc		04 49 30.8	-1.2	
SIM	**Simferopol'**	**144.29**	**316**	PKIKP	**PKPab**		**04 49 33.5**	**+0.1**	
SIM				pmax	pmax				
	comp=Z,480nm,0.8s								
SIM				pmax	pmax				
	comp=Z,2μm,10.0s								
SUW	**Suwalki**	**144.40**	**336**	*e*PKP	**PKPdf**		**04 49 32.1**	**-0.8**	
SUW				*e*PP	**PP**		**04 52 51.7**	**-4.0**	
SUW	**Suwalki**	**144.40**	**336**	*e*PKIKP	**PKPdf**		**04 49 32.1**	**-0.8**	
SUW				*e*			04 52 51.7		
SUW				pmax	pmax				
	comp=Z,7μm,8.0s								
MVH1	**Achvaich**	**145.31**	**3**	*e*P	**PKPdf**		**04 49 33.6**	**-0.6**	
KAC	**Achnashellach**	**145.67**	**4**	*e*P	**PKPdf**		**04 49 34.9**	**0.0**	
MCD	**Coleburn Disti**	**145.69**	**2**	*e*P	**PKPbc**		**04 49 35.8**	**-0.8**	
FKH	**Fakeheh**	**145.76**	**297**	*e*P	**PKPbc**		**04 49 37.2**	**-0.5**	
MDO	**Dochfour**	**145.78**	**3**	*e*P	**PKPdf**		**04 49 35.1**	**-0.1**	
KPL	**Plockton**	**145.80**	**5**	*e*P	**PKPdf**		**04 49 32.6**	**-2.5**	
KSB	**Sheil Bridge**	**145.95**	**4**	*e*P	**PKPdf**		**04 49 35.4**	**0.0**	
MME1	**Meikle Cairn**	**145.97**	**2**	*e*P	**PKPdf**		**04 49 35.1**	**-0.4**	
MUD	**Monsted U'grnd**	**146.06**	**350**	⇓*i*P	**PKPdf**		**04 49 36.0**	**+0.4**	
	comp=Z,262nm,0.9s								
MUD	**Monsted U'grnd**	**146.06**	**350**	⇓*i*PKIKP	**PKPdf**		**04 49 36.0**	**+0.4**	
MUD				pmax	pmax				
	comp=Z,260nm,0.9s								
SORM	**Soroca**	**146.06**	**324**	⇓PKIKP	**PKPbc**		**04 49 37.9**	**-0.1**	
SORM	**Soroca**	**146.06**	**324**	⇓*i*P	**PKPbc**		**04 49 37.9**	**-0.1**	
BSD	**Bornholm Skovb**	**146.12**	**344**	⇓*i*P	**PKPdf**		**04 49 35.5**	**-0.2**	
	comp=Z,518nm,0.8s								
BSD	**Bornholm Skovb**	**146.12**	**344**	⇓*i*PKIKP	**PKPdf**		**04 49 35.5**	**-0.2**	
BSD				pmax	pmax				
	comp=Z,520nm,0.8s								
HWQ	**Hawqa**	**146.13**	**297**	*e*P	**PKPdf**		**04 49 36.4**	**-0.2**	
COP	**Copenhagen**	**146.18**	**347**	⇓*i*P	**PKPdf**		**04 49 36.4**	**+0.6**	
	comp=Z,266nm,0.9s								
COP				*i*			04 51 50.1		
COP	**Copenhagen**	**146.18**	**347**	⇓*i*PKIKP	**PKPdf**		**04 49 36.4**	**+0.6**	
COP				pmax	pmax				
	comp=Z,270nm,0.9s								
RCY	**Rachaya**	**146.34**	**296**	*e*P	**PKPdf**		**04 49 38.1**	**+1.1**	
DRUM	**Mains of Drumt**	**146.39**	**2**	*e*P	**PKPdf**		**04 49 34.9**	**-1.3**	
BHL	**Bhannes**	**146.43**	**297**	*e*P	**PKPdf**		**04 49 37.6**	**+0.5**	
KIS	**Kishinev**	**146.47**	**322**	⇑*i*PKIKP	**PKPdf**		**04 49 36.0**	**-0.6**	
KIS				M	M		04 49 39.0		
	comp=Z,1μm,15.0s								
KIS				*i* pPKP	**pPKPdf**		**04 51 48.0**	**-2.2**	
KIS	**Kishinev**	**146.47**	**322**	*e*PP	x		04 52 40.0		
KIS	**Kishinev**	**146.47**	**322**	⇑*i*PKIKP	**PKPdf**		**04 49 36.0**	**-0.6**	
KIS				*e*			04 52 40.0		
KIS				*e*			04 53 16.0		
KIS				pmax	pmax				
	comp=Z,1μm,1.5s								
KIS				pmax	pmax				
	comp=Z,4μm,9.0s								
KIS				MLR	MLR				
	comp=Z,700nm,22.0s								
LLD	**Lille Linde**	**146.56**	**346**	*i* P	**PKPdf**		**04 49 37.6**	**+1.2**	
LLD	**Lille Linde**	**146.56**	**346**	*e*PKIKP	**PKPdf**		**04 49 37.6**	**+1.2**	
BRTR	**Keskin Array B**	**146.61**	**308**	PKPbc	**PKPbc**		**04 49 39.8**	**-0.2**	
	comp=Z,122nm,0.8s,baz=152,slow=0.5,SNR=99								
BRTR	**Keskin Array B**	**146.61**	**308**	PKIKP	**PKPbc**		**04 49 39.8**	**-0.2**	
BRTR				pmax	pmax				
	comp=Z,122nm,0.8s								
EDU	**Dundee**	**146.74**	**2**	*e*P	**PKPdf**		**04 49 36.8**	**+0.1**	
MMAI	**Mount Meron Ar**	**146.76**	**295**	SKKPbc	SKKPbc		05 00 14.2	-0.1	
	comp=Z,3.3nm,0.5s,baz=330,slow=2.9,SNR=6.2								
BEL	**Belsk**	**147.00**	**335**	*e*PKPdf	**PKPdf**		**04 49 37.8**	**+0.5**	
BEL				*e*PKPbc	**PKPbc**		**04 49 41.7**	**+1.3**	
BEL				*e*PKPab	**PKPab**		**04 49 43.8**	**+0.1**	
BEL				*e*PP	**PP**		**04 53 09.0**	**-1.9**	
BEL	**Belsk**	**147.00**	**335**	*e*PKP2	**PKPbc**		**04 49 41.7**	**+1.3**	
RGN	**Rugen**	**147.03**	**345**	*e*PKPbc	**PKPbc**		**04 49 41.3**	**+1.0**	
RGN	**Rugen**	**147.03**	**345**	*e*PKPbc	**PKPbc**		**04 49 41.0**	**+0.6**	
IAS	**Iasi**	**147.06**	**323**	⇑PKP2	**PKPbc**		**04 49 41.2**	**+0.5**	
IAS	**Iasi**	**147.06**	**323**	⇑*i*P	**PKPbc**		**04 49 41.2**	**+0.5**	
GKP	**Gorka Klasztor**	**147.07**	**340**	*e*PKPdf	**PKPdf**		**04 49 37.5**	**+0.1**	
GKP				*e*PKPbc	**PKPbc**		**04 49 41.4**	**+0.9**	
GKP	**Gorka Klasztor**	**147.07**	**340**	*e*PKIKP	**PKPdf**		**04 49 37.5**	**+0.1**	
LVV	**L'vov**	**147.13**	**330**	*e*PKIKP	**PKPdf**		**04 49 38.4**	**+0.8**	
LVV				*e*			04 52 44.8		
ANTO	**Ankara**	**147.17**	**308**	⇓PKIKP	**PKPdf**		**04 49 38.1**	**0.0**	
ANTO	**Ankara**	**147.17**	**308**	⇓*i*P	**PKPdf**		**04 49 38.1**	**0.0**	
ANTO	**Ankara**	**147.17**	**308**	PKPdf	**PKPdf**		**04 49 38.6**	**+0.4**	
	SNR=203								
ANTO	**Ankara**	**147.17**	**308**	*e*PKPbc	**PKPdf**		**04 49 39.1**	**+1.0**	
ANTO				*e*PKPab	**PKiKP**		**04 49 42.5**	**-0.6**	
PGBU	**Glenifferbraes**	**147.40**	**4**	*e*P	**PKPdf**		**04 49 35.6**	**-2.2**	
EIL	**Elat**	**147.45**	**289**	SKKPbc			05 00 09.0		
	comp=Z,12nm,0.9s,baz=321,slow=4.8,SNR=7.7								
TLCR		**147.47**	**319**	⇑PKIKP	**PKPbc**		**04 49 41.4**	**-0.4**	
TLCR		**147.47**	**319**	⇑*i*P	**PKPbc**		**04 49 41.4**	**-0.4**	
EBL	**Broad Law**	**147.51**	**2**	*e*P	**PKPdf**		**04 49 37.9**	**-0.2**	
GIUM	**Giurgiulesti**	**147.67**	**320**	⇑*i*P	**PKPbc**		**04 49 41.5**	**-0.8**	
KWP	**Kalwaria Pacla**	**147.87**	**331**	*e*PKPdf	**PKPdf**		**04 49 38.6**	**-0.3**	
KWP				*e*PKPbc	**PKPbc**		**04 49 43.7**	**+1.0**	
KWP				*e*PKPab	**PKPab**		**04 49 46.1**	**-1.3**	
KWP	**Kalwaria Pacla**	**147.87**	**331**	*e*PKP2	**PKPbc**		**04 49 43.8**	**+1.0**	
CFR	**Carcaliu**	**147.88**	**320**	⇑*i*P	**PKPdf**		**04 49 39.6**	**+0.6**	
ESK	**Eskdalemuir**	**147.96**	**3**	*e*P	**PKPdf**		**04 49 37.2**	**-1.6**	
ESK	**Eskdalemuir**	**147.96**	**3**	*e*PKPdf	**PKPdf**		**04 49 38.7**	**-0.1**	
ESK				*e*PKPbc	**PKPbc**		**04 49 42.3**	**-0.5**	
TESR	**Tescani**	**147.96**	**323**	⇑*i*P	**PKPdf**		**04 49 39.6**	**+0.5**	
BURAR	**Bucovina Array**	**148.04**	**326**	⇑*i*P	**PKPdf**		**04 49 41.1**	**+1.8**	
ECK	**Cauldkaine Hil**	**148.10**	**3**	*e*P	**PKPdf**		**04 49 39.0**	**-0.1**	
TIRR	**Tirgusor**	**148.10**	**319**	⇑*i*P	**PKPdf**		**04 49 40.0**	**+0.6**	
TIRR	**Tirgusor**	**148.10**	**319**	*e*PKPdf	**PKPdf**		**04 49 39.8**	**+0.5**	
TIRR				*e*PKPbc	**PKPbc**		**04 49 44.0**	**+0.6**	
CSS	**Prodhromos**	**148.13**	**299**	P	**PKPdf**		**04 49 38.6**	**-1.2**	
CSS	**Prodhromos**	**148.13**	**299**	*e*PKPbc	**PKPbc**		**04 49 44.0**	**+0.1**	
BSEG	**Bad Segeberg**	**148.26**	**347**	*e*PKPbc	**PKPbc**		**04 49 44.5**	**+1.0**	
HARR	**Harsova**	**148.27**	**319**	⇓*i*P	**PKPbc**		**04 49 43.0**	**-0.8**	
VRI	**Vrincioaia**	**148.30**	**322**	⇑PKP2	**PKPbc**		**04 49 44.3**	**+0.3**	
VRI	**Vrincioaia**	**148.30**	**322**	⇑*i*P	**PKPbc**		**04 49 44.3**	**+0.3**	
MANR	**Mangalia**	**148.32**	**317**	⇓*i*P	**PKPbc**		**04 49 45.3**	**+1.3**	
GAL1	**Galloway**	**148.33**	**4**	*e*P	**PKPdf**		**04 49 37.8**	**-1.6**	
PLOR	**Plostina**	**148.36**	**322**	⇑*i*P	**PKPbc**		**04 49 43.9**	**-0.2**	
GCD	**Castle Douglas**	**148.38**	**3**	*e*P	**PKPdf**		**04 49 39.4**	**-0.1**	
GRER		**148.44**	**321**	⇑*i*P	**PKPbc**		**04 49 46.3**	**+2.0**	
HLG	**Helgoland**	**148.46**	**350**	*e*PKPbc	**PKPbc**		**04 49 45.2**	**+1.2**	
KOLS	**Kolonicke sedl**	**148.57**	**330**	*e*PKP	**PKPdf**		**04 49 41.2**	**+1.2**	
KOLS				*e*			04 49 45.8		
LCP	**Cassop**	**148.59**	**1**	*e*P	**PKPdf**		**04 49 40.3**	**+0.5**	
PSN	**Preselentsi**	**148.65**	**317**	⇓PKIKP	**PKPdf**		**04 49 40.4**	**+0.1**	
PSN	**Preselentsi**	**148.65**	**317**	⇓*i*P	**PKPdf**		**04 49 40.4**	**+0.1**	
PSN	**Preselentsi**	**148.65**	**317**	*i* P	**PKPbc**		**04 49 45.8**	**+1.0**	
MSAB	**Monastry St. A**	**148.65**	**318**	⇑*i*P	**PKPdf**		**04 49 40.3**	**0.0**	
OJC	**Ojcow**	**148.66**	**334**	*e*PKPdf	**PKPdf**		**04 49 40.1**	**0.0**	
OJC				*e*PKPbc	**PKPbc**		**04 49 45.6**	**+0.9**	
OJC				*e*PP	**PP**		**04 53 20.9**	**+0.4**	
OJC	**Ojcow**	**148.66**	**334**	*e*PKP2	**PKPbc**		**04 49 45.6**	**+0.9**	
OJC				*e*			04 53 21.0		
AMRR	**Amara**	**148.67**	**320**	⇑*i*P	**PKPbc**		**04 49 45.1**	**+0.3**	
STHS	**Stebnicka Huta**	**148.67**	**332**	*e*PKP	**PKPdf**		**04 49 41.2**	**+1.0**	
STHS				*e*			04 49 45.9		
RUE	**Ruedersdorf**	**148.78**	**343**	*e*PKPdf	**PKPdf**		**04 49 40.6**	**+0.4**	
RUE				*e*PKPbc	**PKiKP**		**04 49 45.8**	**0.0**	
RUE	**Ruedersdorf**	**148.78**	**343**	*e*PKPdf	**PKPdf**		**04 49 41.2**	**+1.1**	
RUE				*e*PKPbc	**PKiKP**		**04 49 45.7**	**-0.1**	
ARCR	**ARCALIA**	**148.83**	**326**	⇓*i*P	**PKPbc**		**04 49 46.1**	**+0.9**	
ISR	**Istrita**	**148.84**	**321**	⇓PKP2	**PKPbc**		**04 49 46.5**	**+1.1**	
ISR	**Istrita**	**148.84**	**321**	⇓*i*P	**PKPbc**		**04 49 46.5**	**+1.1**	
GMM	**Mts of Mourne**	**148.85**	**6**	*e*P	**PKPdf**		**04 49 40.3**	**+0.1**	
BMR	**Baia Mare**	**148.87**	**327**	⇑PKP2	**PKPbc**		**04 49 46.1**	**+0.8**	
BMR	**Baia Mare**	**148.87**	**327**	⇑*i*P	**PKPbc**		**04 49 46.1**	**+0.8**	
MLR	**Muntele Rosu**	**148.97**	**322**	SKKPbc			05 00 04.4		
	comp=Z,3.4nm,0.9s,baz=230,slow=5.3,SNR=9.1								
MLR	**Muntele Rosu**	**148.97**	**322**	⇓PKIKP	**PKPdf**		**04 49 40.7**	**-0.2**	
MLR	**Muntele Rosu**	**148.97**	**322**	⇓*i*P	**PKPdf**		**04 49 40.7**	**-0.2**	
DOPR	**Dopca**	**148.99**	**323**	⇓*i*P	**PKPbc**		**04 49 45.2**	**-0.4**	
NIE	**Niedzica**	**149.07**	**333**	*e*PKPdf	**PKPdf**		**04 49 41.1**	**+0.3**	
NIE				*e*PKPbc	**PKPbc**		**04 49 47.4**	**+1.7**	
NIE				*e*PP	**PP**		**04 53 23.4**	**+0.5**	
NIE	**Niedzica**	**149.07**	**333**	*e*PKP2	**PKPbc**		**04 49 47.4**	**+1.7**	
NIE				*e*			04 53 23.5		
SECR		**149.17**	**321**	⇑*i*P	**PKPbc**		**04 49 46.7**	**+0.6**	
ISK	**Istanbul-Kandi**	**149.33**	**312**	P	**PKPdf**		**04 49 40.2**	**-1.2**	
ISK	**Istanbul-Kandi**	**149.33**	**312**	P	**PKPdf**		**04 49 40.2**	**-1.2**	
HPK	**Haverah Park**	**149.37**	**1**	*e*P	**PKPdf**		**04 49 39.2**	**-1.9**	
PRD	**Provadia**	**149.38**	**317**	⇓*i*P	**PKPbc**		**04 49 44.3**	**-2.3**	
PRD	**Provadia**	**149.38**	**317**	*i* P	**PKPbc**		**04 49 47.2**	**+0.6**	
RAC	**Raciborz**	**149.39**	**336**	*e*PKIKP	**PKPdf**		**04 49 41.3**	**0.0**	
MDB	**Medias**	**149.43**	**324**	⇓PKP2	**PKPbc**		**04 49 48.0**	**+1.3**	
MDB	**Medias**	**149.43**	**324**	⇓*i*P	**PKPbc**		**04 49 48.0**	**+1.3**	
KSP	**Ksiaz**	**149.44**	**338**	*e*PKPdf	**PKPdf**		**04 49 39.9**	**-1.4**	
KSP				*e*PKPbc	**PKPbc**		**04 49 47.9**	**+1.4**	
KSP				*e*PP	**PP**		**04 53 23.7**	**-1.1**	
KSP	**Ksiaz**	**149.44**	**338**	*e*PKP2	**PKPbc**		**04 49 47.9**	**+1.4**	
KSP				*e*			04 53 23.7		
CJR	**Cluj-Napoca**	**149.47**	**326**	⇓PKIKP	**PKPdf**		**04 49 41.5**	**-0.1**	
CJR	**Cluj-Napoca**	**149.47**	**326**	⇓*i*P	**PKPdf**		**04 49 41.5**	**-0.1**	
VOIR		**149.50**	**323**	⇓*i*P	**PKPbc**		**04 49 44.6**	**-2.4**	
ISP	**Isparta**	**149.53**	**306**	P	**PKPdf**		**04 49 39.2**	**-2.8**	
ISP	**Isparta**	**149.53**	**306**	⇓*i*P	**PKPbc**		**04 49 47.3**	**0.0**	
ISP	**Isparta**	**149.53**	**306**	*e*PKPdf	**PKPdf**		**04 49 41.0**	**-1.0**	
ISP				*e*PKPbc	**PKPbc**		**04 49 46.4**	**-0.9**	
ISP				*e*PKPab	**PKPab**		**04 49 54.3**	**-0.6**	
OKC	**Ostrava-Krasne**	**149.61**	**335**	*e*PKPDF	**PKPdf**		**04 49 42.5**	**+0.9**	
OKC				⇑*e*PKP	**PKiKP**		**04 49 47.4**	**-0.2**	
OKC				*e*PKPAB	**PKPab**		**04 49 55.8**	**+1.2**	
OKC				*ex*	x		04 51 53.0		
OKC				*es*PKP			04 52 53.0		
OKC				*e*SS	SS		05 11 51.2	-3.2	
OKC	**Ostrava-Krasne**	**149.61**	**335**	*e*PKHKP	**PKPdf**		**04 49 42.5**	**+0.9**	
OKC				*e*			04 49 55.8		
OKC				*e*			04 53 21.1		
OKC				*e*SS	SS		05 11 51.2	-3.2	
H07N1	**FLORES T-PHASE**	**149.61**	**50**	*e*PKP	**PKPdf**		**04 49 44.0**	**+2.0**	
LANS	**Liptovska Anna**	**149.63**	**333**	*e*PKP2	**PKPbc**		**04 49 49.5**	**+2.4**	
H07S1	**FLORES T-PHASE**	**149.67**	**51**	*e*PKP	**PKPdf**		**04 49 43.3**	**+1.2**	
H07S1				*e*pPKP	**pPKPdf**		**04 51 59.5**	**+3.7**	
H07S1	**FLORES T-PHASE**	**149.67**	**51**	PKP	**PKPdf**		**04 49 42.6**	**+0.5**	
LHO	**Holmfirth**	**149.77**	**1**	*e*P	**PKPdf**		**04 49 41.9**	**+0.2**	
DSB	**Dublin**	**149.79**	**7**	*e*PKPdf	**PKPdf**		**04 49 41.7**	**0.0**	
DSB				*e*PKPbc	**PKPbc**		**04 49 47.5**	**+0.3**	
UPC	**Upice**	**149.82**	**338**	*e*PKPDF	**PKPdf**		**04 49 42.3**	**+0.3**	
UPC				⇑*e*PKP	**PKPbc**		**04 49 47.4**	**0.0**	
UPC				*e*PKPAB	**PKPab**		**04 49 56.4**	**+1.0**	
UPC				*ep*PKP	**pPKPdf**		**04 51 59.4**	**+3.7**	
UPC	**Upice**	**149.82**	**338**	*e*PKIKP	**PKPdf**		**04 49 42.3**	**+0.3**	
UPC				*e*			04 49 56.4		
DPC	**Dobruska-Polom**	**149.85**	**338**	*e*PKPDF	**PKPdf**		**04 49 42.2**	**+0.1**	
DPC				⇑*e*PKP	**PKiKP**		**04 49 48.2**	**0.0**	
DPC				*e*PKPAB	**PKPab**		**04 49 57.4**	**+1.8**	
DPC				*ep*PKP	**pPKPdf**		**04 51 55.5**	**-0.3**	
DPC				*ex*	x		04 52 49.5		
DPC				*e*PP	**PP**		**04 52 22.9**	**-4.3**	
DPC				*e*SS	SS		05 11 57.5	+0.4	
DPC	**Dobruska-Polom**	**149.85**	**338**	*e*PKIKP	**PKPdf**		**04 49 42.2**	**+0.1**	
DPC				*e*			04 52 49.5		
DPC				*e*			04 53 22.9		
DPC				*e*SS	SS		05 11 57.5	+0.4	
DRGR		**149.87**	**327**	⇑PKIKP	**PKPdf**		**04 49 41.7**	**-0.5**	
DRGR		**149.87**	**327**	⇑*i*P	**PKPdf**		**04 49 41.7**	**-0.5**	
LMK	**Market Rasen**	**149.87**	**359**	*e*P	**PKPdf**		**04 49 42.0**	**+0.1**	
MORC	**Moravsky Berou**	**149.89**	**336**	⇓PKIKP	**PKPdf**		**04 49 42.3**	**+0.2**	
MORC	**Moravsky Berou**	**149.89**	**336**	⇓*i*P	**PKPdf**		**04 49 42.3**	**+0.2**	
MORC	**Moravsky Berou**	**149.89**	**336**	*e*PKPdf	**PKPdf**		**04 49 43.0**	**+0.8**	
MORC				*e*PKPbc	**PKiKP**		**04 49 48.4**	**+0.1**	
MORC				*e*PKPab	**PKPab**		**04 49 56.5**	**+0.7**	
KRLC	**Kraliky**	**149.92**	**337**	*e*PKPDF	**PKPdf**		**04 49 42.4**	**+0.2**	
KRLC				⇑*e*PKP	**PKiKP**		**04 49 48.3**	**-0.1**	
KRLC				*e*PKPAB	**PKPab**		**04 49 57.1**	**+1.2**	
KRLC				*ep*PKP	**pPKPdf**		**04 51 59.4**	**+3.5**	
KRLC	**Kraliky**	**149.92**	**337**	*e*PKIKP	**PKPdf**		**04 49 42.4**	**+0.2**	
KRLC				*e*			04 49 57.1		
CLL	**Collm**	**150.05**	**343**	*e*PKPdf	**PKPdf**		**04 49 42.3**	**+0.1**	
CLL				*e*PKPbc	**PKiKP**		**04 49 48.8**	**+0.3**	
CLL				*e*PKPab	**PKPab**		**04 49 57.1**	**+0.8**	
CLL				*ep*PKPbc	**pPKPbc**		**04 52 06.6**	**+6.5**	
CLL	**Collm**	**150.05**	**343**	*i* PKPdf	**PKPdf**		**04 49 42.0**	**-0.2**	
	comp=Z,63nm,1.3s								
CLL				*e*PKPdfIp			04 49 43.0		
CLL				*i* PKiKP(2)			04 49 44.9		
	comp=Z,59nm,1.1s								
CLL				*i* PKPbc	**PKPbc**		**04 49 48.0**	**+0.1**	
	comp=Z,674nm,0.7s								
CLL				*i* PKPbc(2)			04 49 50.6		
	comp=Z,919nm,0.8s								
CLL				*i* PKPab	**PKPab**		**04 49 56.1**	**-0.2**	
	comp=Z,223nm,0.8s								
CLL				*i* PKPab(2)			04 49 59.4		
	comp=Z,148nm,0.6s								
CLL				*ep*PKPdf	**pPKPdf**		**04 51 58.0**	**+2.0**	
	comp=Z,38nm,0.8s								
CLL				*i* pPKPab	**pPKPab**		**04 52 06.0**	**+2.5**	
	comp=Z,157nm,1.1s								
CLL				*i*			04 52 15.2		
	comp=Z,99nm,1.0s								
CLL				*es*PKPdf	**sPKPdf**		**04 52 50.0**	**-1.1**	
CLL				*e*PP	**PP**		**04 53 26.0**	**-2.1**	
	comp=Z,69nm,1.6s								
CLL				*es*PP			04 56 24.0		
CLL				*e*PPP	PPP		04 57 00.0		
CLL				*e*SKSP			05 02 51.0		
CLL				*es*SKKSac			05 03 18.0		
CLL				*e*PSKS			05 03 48.0		
CLL				*e*PPS	PPS		05 06 30.0		
CLL				*ep*PPS			05 08 08.0		
CLL				*e*SS	**SS**		**05 12 00.0**	**+1.1**	
CLL				*e*SSP	SSP		05 12 48.0		
CLL				*e*SSS	SSS		05 17 48.0		
CLL				*e*SSSS			05 21 46.0		
CLL	**Collm**	**150.05**	**343**	*i* PKIKP	**PKPdf**		**04 49 42.0**	**-0.2**	
CLL				pmax	pmax				
	comp=Z,63nm,1.3s								
HUMR	**Humele**	**150.09**	**321**⇑	*i*P	**PKPbc**		**04 49 48.2**	**-0.1**	
BRG	**Berggiesshubel**	**150.16**	**341**	*e*PKP	**PKPdf**		**04 49 43.4**	**+0.9**	
	comp=Z,126nm,1.7s								
BRG				*i*			04 49 48.9		
	comp=Z,504nm,0.7s								
BRG				pPKP	**pPKPdf**		**04 51 49.0**	**-7.2**	
BRG				SS	SS		05 11 59.0	-1.3	
BRG	**Berggiesshubel**	**150.16**	**341**	*e*PKPdf	**PKPdf**		**04 49 42.7**	**+0.2**	
BRG				*e*PKPbc	**PKiKP**		**04 49 49.2**	**+0.4**	
BRG				*e*PKPab	**PKPab**		**04 49 57.7**	**+0.9**	
BRG				*ep*PKPbc	**pPKPbc**		**04 52 07.1**	**+6.6**	
BRG	**Berggiesshubel**	**150.16**	**341**	*e*PKHKP	**PKPdf**		**04 49 43.4**	**+0.9**	
BRG				SS	SS		05 11 59.0	-1.3	
BRG				pmax	pmax				
	comp=Z,126nm,1.7s								
LOT	**Lotru**	**150.20**	**324**⇓	*i*P	**PKPbc**		**04 49 48.7**	**+0.1**	
CLZ	**Clausthal**	**150.22**	**346**	*e*PKPdf	**PKPdf**		**04 49 43.0**	**+0.4**	
CLZ				*e*PKPbc	**PKiKP**		**04 49 49.5**	**+0.6**	
CLZ				*e*PKPab	**PKPab**		**04 49 57.8**	**+0.7**	
CLZ				*ep*PKPbc	**pPKPbc**		**04 52 07.1**	**+6.

KDZ	Kurdzhali	151.44 316	⇓	*i* P	PKPbc	04 49 52.0	+0.5
KDZ	Kurdzhali	151.44 316		*i* P	PKPbc	04 49 52.0	+0.5
PKSG		151.45 332	⇑	*e*	PKPbc	04 49 51.2	0.0
MONM	Monmouth	151.45 3		*e*P	PKPdf	04 49 42.6	-1.7
MANZ	Manzenberg	151.49 342		*e*PKPdf	PKPdf	04 49 44.7	+0.2
MANZ				*e*PKPbc	PKiKP	04 49 52.2	+0.6
MANZ				*e*PKPab	PKPab	04 50 03.8	+1.3
MANZ				*ep*PKPbc	pPKPbc	04 52 10.2	+6.4
MPEP	Malo Peshtene	151.51 321		*i* P	PKPdf	04 49 44.4	-0.4
CSKK	Cs˙‡kako	151.52 332	⇑	*e*	PKPbc	04 49 51.6	+0.2
STRD	Stroud	151.54 2		*e*P	PKPdf	04 49 41.7	-2.7
BANR	Banloc	151.63 326	⇓	*i* P	PKPbc	04 49 52.6	+0.9
PLD	Plovdiv	151.65 318		P	PKPdf	04 49 43.9	-1.1
PLD	Plovdiv	151.65 318		P	PKPdf	04 49 43.9	-1.1
ROTZ	Rotzenmuhle	151.66 342		*e*PKPdf	PKPdf	04 49 45.1	+0.3
ROTZ				*e*PKPbc	PKiKP	04 49 52.5	+0.6
ROTZ				*e*PKPab	PKPab	04 50 04.8	+1.6
ROTZ				*ep*PKPbc	pPKPbc	04 52 10.7	+6.5
PKST	T"˙s	151.70 332	⇑	*e*	PKPbc	04 49 52.0	+0.1
PGB	Panagyurishte	151.73 319		*i* P	PKPbc	04 49 52.7	+0.6
PCED	Cedros	151.76 51		*e*PKP	PKPbc	04 49 49.1	-3.1
PCED				*ep*PKP	pPKPdf	04 52 04.7	+5.6
PKS2	Kecel	151.76 330	⇑	*e*	PKPbc	04 49 52.6	+0.6
KHC	Kasperske Hory	151.81 340		*e*PKPDF	PKPdf	04 49 44.9	-0.2
KHC			⇑	*e*PKP	PKiKP	04 49 52.8	+0.5
KHC				*e*PKPAB	PKPab	04 50 04.8	+0.9
KHC				*ep*PKP	pPKPdf	04 51 58.1	-0.8
KHC				*e*SSP		04 52 58.6	
KHC				*e*SS	SS	05 12 19.0	+0.6
KHC	Kasperske Hory	151.81 340		*e*PKIKP	PKPdf	04 49 44.9	-0.2
KHC				*e*		04 50 04.8	
KHC				*e*SS	SS	05 12 19.0	+0.6
KHC	Kasperske Hory	151.81 340		*e*PKPdf	PKPdf	04 49 45.5	+0.4
KHC				*e*PKPbc	PKiKP	04 49 52.6	+0.3
KHC				*e*PKPab	PKPab	04 50 05.0	+1.1
SWN1	Swindon	151.81 1		*e*P	PKPdf	04 49 42.0	-2.9
BATH	Bath	151.87 2		*e*P	PKPdf	04 49 42.7	-2.3
RZN	Rozhen	151.87 317		*i* P	PKPbc	04 49 52.6	0.0
ARG	Arkhangelos	151.87 304		P	PKPdf	04 49 45.0	-0.5
ARG	Arkhangelos	151.87 304		P	PKPdf	04 49 45.0	-0.5
SMTH	Samothraki Isl	151.97 314		P	PKPdf	04 49 43.8	-1.7
SMTH	Samothraki Isl	151.97 314		P	PKPdf	04 49 43.8	-1.7
PCAN	Candelaria	151.98 51		*e*PKP	PKPdf	04 49 48.5	+2.9
PCAN				*ep*PKP	pPKPdf	04 52 01.2	+1.7
GRF	Grafenberg Arr	152.00 343		*e*PKPdf	PKPdf	04 49 45.6	+0.3
GRF				*e*PKPbc	PKiKP	04 49 53.2	+0.6
GRF				*e*PKPab	PKPab	04 50 06.2	+1.6
GRF				*ep*PKPbc	pPKPbc	04 52 11.6	+6.6
GRFO	Grafenberg	152.00 343		*e*PKPdf	PKPdf	04 49 45.1	-0.2
GRFO				*e*PKPbc	PKiKP	04 49 52.5	+0.3
GRFO				*e*PKPab	PKPab	04 50 06.1	+0.5
PICO	Pico	152.01 51		*e*PKP	PKPdf	04 49 48.1	+2.4
WET	Wettzell	152.02 341		*e*PKPdf	PKPdf	04 49 45.6	+0.2
WET				*e*PKPbc	PKiKP	04 49 53.5	+0.8
WET				*e*PKPab	PKPab	04 50 06.3	+1.6
WET				*ep*PKPbc	pPKPbc	04 52 11.4	+6.3
WOL	Wolverton	152.02 1		*e*P	PKPdf	04 49 42.5	-2.8
GEC2	GERESS Array S	152.02 339		*e*PKPdf	PKPdf	04 49 45.5	+0.1
GEC2				*e*PKPbc	PKiKP	04 49 53.2	+0.4
GEC2				*e*PKPab	PKPab	04 50 05.9	+1.0
GEC2				*ep*PKPbc	pPKPbc	04 52 11.3	+6.1
GERES	GERESS Array B	152.02 339		PKP	PKPdf	04 49 45.6	+0.1
	comp=Z,12nm,0.8s,baz=70,slow=1.6,SNR=62						
GERES				PKPbc	PKiKP	04 49 52.8	-0.1
	comp=Z,104nm,0.8s,baz=33,slow=2.3,SNR=103						
GERES				pPKPbc	pPKPbc	04 52 03.1	-2.1
	comp=Z,4.8nm,0.8s,baz=64,slow=2.3,SNR=1.4						
CONA	Conrad Observa	152.04 336		*i* PKPdf	PKPdf	04 49 45.2	-0.3
	comp=Z,48nm,1.2s,SNR=30						
CONA			⇑	*i*PKiKP	PKiKP	04 49 53.6	+0.7
	comp=Z,245nm,1.1s						
CONA			⇓	*i*PKPab	PKPab	04 50 06.1	+1.1
	comp=Z,217nm,0.7s						
PRK	Paraskevi	152.05 311		P	PKPdf	04 49 44.8	-0.8
PRK	Paraskevi	152.05 311		P	PKPdf	04 49 44.8	-0.8
ROSA	Rosais	152.05 50		*e*PKP	PKPdf	04 49 47.2	+1.5
ROSA				*ep*PKP	pPKPdf	04 52 03.5	+4.0
ROSA	Rosais	152.05 50		eLQ	LQ	05 35 18.2	
HGN	Heimansgroeve	152.07 351		*e*PKPdf	PKPdf	04 49 45.4	+0.1
HGN				*e*PKPbc	PKiKP	04 49 53.0	+0.3
HGN				*e*PKPab	PKPab	04 50 05.4	+0.6
	comp=Z,159nm,0.6s						
HGN				*ep*PKPbc	pPKPbc	04 52 01.1	-3.9
BEBN	Eben Emael	152.08 351		PKPdf	PKPdf	04 49 46.6	+1.3
BEBN				PKPbc	PKiKP	04 49 53.1	+0.5
BEBN				PKPab	PKPab	04 50 05.3	+0.5
BEBN				APKPab		04 52 11.2	
PGRA	Graciosa	152.10 49		*e*PKP	PKPdf	04 49 45.8	+0.1
PGRA				*ep*PKP	pPKPdf	04 52 03.5	+3.9
PGRA	Graciosa	152.10 49		eLQ	LQ	05 35 18.2	
PKS9	Tamasi	152.12 331	⇑	*e*	PKPbc	04 49 52.8	0.0
PPNO	Prainha do Nor	152.14 51		*e*PKP	PKPdf	04 49 46.5	+0.6
TNS	Taunus Mts	152.15 347		*e*PKPdf	PKPdf	04 49 45.7	+0.1
TNS				*e*PKPbc	PKiKP	04 49 53.5	+0.5
TNS				*e*PKPab	PKPab	04 50 06.1	+0.8
TNS				*ep*PKPbc	pPKPbc	04 52 11.5	+6.1
HEX	Exmoor	152.17 4		*e*P	PKPdf	04 49 45.6	+0.1
PMAN	Manadas	152.19 50		*e*PKP	PKPdf	04 49 47.6	+1.7
PMAN				*ep*PKP	pPKPdf	04 52 05.3	+5.6
MEM	Membach	152.21 351		PKPdf	PKPdf	04 49 46.3	+0.8
MEM	Membach	152.21 351		PKPbc	PKPbc	04 49 53.5	+0.7
MEM	Membach	152.21 351		PKPab	PKPab	04 50 05.9	+0.5
MEM	Membach	152.21 351		APKP	pPKPab	04 52 11.3	-1.1
PKSM	Moragy	152.24 330	⇓	*e*	PKPdf	04 49 45.3	-0.4
UCC	Uccle	152.24 353		PKPdf	PKPdf	04 49 46.5	+0.9
UCC				PKPbc	PKiKP	04 49 53.3	+0.3
UCC				PKPab	PKPab	04 50 05.4	-0.1
UCC				APKP	pPKPab	04 52 11.5	-1.0
VTS	Vitosha	152.28 320		P	PKPdf	04 49 45.0	-1.1
VTS	Vitosha	152.28 320	⇓	PKIKP	PKPbc	04 49 53.6	+0.1
VTS	Vitosha	152.28 320	⇓	*i* P	PKPbc	04 49 53.6	+0.1
VTS	Vitosha	152.28 320		*i* P	PKPbc	04 49 53.9	+0.4
VTS	Vitosha	152.28 320		P	PKPdf	04 49 45.0	-1.1
SMG	Samos	152.29 308		P	PKPdf	04 49 44.3	-1.8
SMG	Samos	152.29 308		P	PKPdf	04 49 44.3	-1.8
SIGR	SIGRI	152.35 311		P	PKPdf	04 49 44.6	-1.5
SIGR	SIGRI	152.35 311		P	PKPdf	04 49 44.6	-1.5
KAVA	Kavala	152.37 316		P	PKPdf	04 49 44.4	-1.7
KAVA	Kavala	152.37 316		P	PKPdf	04 49 44.4	-1.7
HMNX	Herstmonceux	152.45 358		*e*P	PKPdf	04 49 43.7	-2.1
NIS1	Nisyros Isl.	152.46 305		P	PKPdf	04 49 44.3	-2.1
NIS1	Nisyros Isl.	152.46 305		P	PKPdf	04 49 44.3	-2.1
LIA	Limnos Island	152.49 313		P	PKPdf	04 49 44.6	-1.7
LIA	Limnos Island	152.49 313		P	PKPdf	04 49 44.6	-1.7
BCLA	Clavier	152.50 352		PKPdf	PKPdf	04 49 45.4	+0.6
BCLA				PKPbc	PKPbc	04 49 53.4	-0.1
BCLA				PKPab	PKPab	04 50 06.8	+0.1
BCLA				APKPab		04 52 11.6	
SNF	Seneffe	152.53 353		PKPdf	PKPdf	04 49 47.0	+1.0
SNF				PKPbc	PKiKP	04 49 54.3	+0.6
SNF				PKPab	PKPab	04 50 06.6	-0.2
SNF				APKPbc		04 52 05.8	
SNF				APKPab		04 52 11.8	
MMB	Musomiste	152.54 317	⇓	PKIKP	PKPbc	04 49 53.6	-0.3
MMB	Musomiste	152.54 317	⇓	*i* P	PKPbc	04 49 53.6	-0.3
MMB	Musomiste	152.54 317		*i* P	PKPbc	04 49 53.8	-0.1
CHOS	Chios island	152.58 310		P	PKPdf	04 49 45.3	-1.3
CHOS	Chios island	152.58 310		P	PKPdf	04 49 45.3	-1.3
NVR	Nevrokopi	152.59 317		P	PKPdf	04 49 44.8	-1.7
NVR	Nevrokopi	152.59 317		P	PKPdf	04 49 44.8	-1.7
MENF	Mencas	152.68 356		PKP	PKPdf	04 49 44.0	-2.2
MOA	Molln	152.69 336	⇓	*i*PKPdf	PKPdf	04 49 45.6	-0.8
	comp=Z,27nm,1.0s,SNR=18						
MOA			⇑	*i*PKiKP	PKiKP	04 49 54.3	+0.2
	comp=Z,1.4nm,0.3s						
MOA			⇑	*i*PKPab	PKPab	04 50 09.2	+1.6
	comp=Z,188nm,1.6s						
ARSA	Arzberg	152.73 335	⇓	*i*PKPdf	PKPdf	04 49 45.5	-0.9
	comp=Z,26nm,1.2s,SNR=15						
KKB	Krupnik	152.78 319		*i* P	PKPbc	04 49 54.5	+0.1
ADH	Angra Heroismo	152.78 50		*e*PKP	PKPdf	04 49 47.6	+0.9
ADH				*ep*PKP	pPKPdf	04 52 06.4	+5.8
DYA	Yadsworthy	152.79 4		*e*P	PKPdf	04 49 46.7	-2.7
KARP	Karpathos	152.83 303		P	PKPdf	04 49 46.0	-1.0
KARP	Karpathos	152.83 303		P	PKPdf	04 49 46.0	-1.0
BEHE	Becsehely	152.86 333	⇓	*e*	PKPdf	04 49 46.5	-0.1
SRS	Serrai	152.89 317		P	PKPdf	04 49 44.4	-2.5
SRS	Serrai	152.89 317		P	PKPdf	04 49 44.4	-2.5
DOU	Dourbes	152.91 352		PKPdf	PKPdf	04 49 46.8	+0.2
DOU				PKPbc	PKiKP	04 49 54.9	+0.4
DOU				PKPab	PKPab	04 50 08.4	0.0
DOU				APKPbc		04 52 06.5	
DOU				APKPab		04 52 13.0	
OUR	Ouranopolis	153.06 315		P	PKPdf	04 49 45.2	-1.9
OUR	Ouranopolis	153.06 315		P	PKPdf	04 49 45.2	-1.9
DIVS	Divibare	153.11 326		P	PKPdf	04 49 46.0	-1.2
DIVS	Divibare	153.11 326	⇑	*i*P	PKPdf	04 49 47.8	+0.6
WLF	Walferdange	153.11 350		PKPdf	PKPdf	04 49 47.7	+0.9
WLF				PKPbc	PKiKP	04 49 55.9	+1.0
WLF				PKPab	PKPab	04 50 10.3	+1.0
WLF				APKP	pPKPab	04 52 13.4	-2.7
WLF	Walferdange	153.11 350		*e*PKPdf	PKPdf	04 49 47.6	+0.7
WLF				*e*PKPbc	PKiKP	04 49 56.1	+1.2
WLF				*e*PKPab	PKPab	04 50 10.3	+1.0
WLF				*ep*PKPbc	pPKPbc	04 52 14.1	+6.6
WLF	Walferdange	153.11 350		*e*PKPdf	PKPdf	04 49 47.8	+0.9
WLF				*e*PKPbc	PKiKP	04 49 55.9	+1.0
SOH	Sokhos	153.20 316		P	PKPdf	04 49 45.6	-1.8
SOH	Sokhos	153.20 316		P	PKPdf	04 49 45.6	-1.8
KNT	Kendrikon	153.30 317		P	PKPdf	04 49 45.6	-1.8
KNT	Kendrikon	153.30 317		P	PKPdf	04 49 45.6	-1.8
STU	Stuttgart	153.35 345		*e*PKPdf	PKPdf	04 49 47.2	-0.1
STU				*e*PKPbc	PKiKP	04 49 56.1	+0.7
STU				*e*PKPab	PKPab	04 50 11.2	+0.8
STU				*ep*PKPbc	pPKPbc	04 52 14.2	+6.1
STU	Stuttgart	153.35 345		*e*PKPdf	PKPdf	04 49 47.4	+0.2
STU				*e*PKPbc	PKiKP	04 49 56.2	+0.8
STU				*e*PKPab	PKPab	04 50 11.0	+0.6
FUR	Furstenfeldbru	153.37 342		*e*PKPdf	PKPdf	04 49 47.2	-0.1
FUR				*e*PKPab	PKPab	04 50 12.1	+1.6
FUR				*ep*PKPbc	pPKPbc	04 52 14.1	+5.9
PLG	Polygyros	153.39 316		P	PKPdf	04 49 45.6	-2.0
PLG	Polygyros	153.39 316		P	PKPdf	04 49 45.6	-2.0
SOKA	Soboth	153.39 335	⇓	*i*PKPdf	PKPdf	04 49 46.7	-0.8
	comp=Z,53nm,1.2s,SNR=39						
SOKA			⇓	*i*PKiKP	PKiKP	04 49 55.8	+0.1
	comp=Z,110nm,1.0s						
SOKA			⇑	*i*PKPab	PKPab	04 50 11.7	+0.9
	comp=Z,180nm,1.1s						
PERS	Pernice	153.39 335		*i* PKPdf	PKPdf	04 49 46.6	-0.8
PERS				*i* PKPbc	PKPbc	04 49 55.6	0.0
PERS				*i* PKPab	PKPab	04 50 11.2	+0.5
PERS				*i* pPKPdf	pPKPdf	04 51 59.0	-2.3
PERS				*i* pPKPbc	pPKPbc	04 52 08.9	+0.6
PERS				*i* PP	PP	04 53 47.2	+0.1
VAY	Valandovo	153.41 318		P	PKPdf	04 49 45.8	-1.8
VAY	Valandovo	153.41 318		*e*PKP	PKPdf	04 49 45.6	-1.9
VAY				*e*PKP	PKPbc	04 49 54.3	-1.4
VAY				*e*PKP	PKPab	04 50 10.4	-0.5
VAY	Valandovo	153.41 318		P	PKPdf	04 49 45.8	-1.8
LANF	Langenberg	153.46 347		PKP	PKPdf	04 49 47.6	+0.2
PAIG	Paliouri	153.47 314		P	PKPdf	04 49 45.6	-2.1
PAIG	Paliouri	153.47 314		P	PKPdf	04 49 45.6	-2.1
HORT	Hortiatis	153.49 316		P	PKPdf	04 49 46.3	-1.5
HORT	Hortiatis	153.49 316		P	PKPdf	04 49 46.3	-1.5
APE	Apeiranthos	153.50 307		P	PKPdf	04 49 45.7	-2.2
APE	Apeiranthos	153.50 307	⇓	PKIKP	PKPbc	04 49 55.5	-0.6
APE	Apeiranthos	153.50 307	⇓	*i*P	PKPbc	04 49 55.5	-0.6
APE	Apeiranthos	153.50 307		P	PKPdf	04 49 45.7	-2.2
THE	Thessaloniki	153.55 316		P	PKPdf	04 49 45.9	-1.9
THE	Thessaloniki	153.55 316		P	PKPdf	04 49 45.9	-1.9
KBA	Koelnbreinsper	153.67 338	⇓	*i*PKPdf	PKPdf	04 49 46.5	-1.4
	comp=Z,52nm,1.5s,SNR=25						
KBA			⇑	*i*PKiKP	PKiKP	04 49 57.7	+1.3
	comp=Z,55nm,0.7s						
KBA			⇑	*i*PKPab	PKPab	04 50 12.9	+0.9
	comp=Z,106nm,0.7s						
SKO	Skopje	153.70 320		P	PKPdf	04 49 46.9	-1.1
SKO	Skopje	153.70 320		*e*PKP	PKPdf	04 49 45.5	-2.4
SKO				*e*PKP	PKPbc	04 49 55.9	-0.4
SKO				*e*PKP	PKPab	04 50 10.8	-1.3
SKO	Skopje	153.70 320		P	PKPdf	04 49 46.9	-1.1
ZKR	Zakros	153.71 303		P	PKPdf	04 49 46.9	-1.3
ZKR	Zakros	153.71 303		P	PKPdf	04 49 46.9	-1.3
OBKA	Obir	153.72 336	⇓	*i*PKPdf	PKPdf	04 49 47.0	-1.0
	comp=Z,22nm,1.0s,SNR=13						
OBKA			⇑	*i*PKiKP	PKPbc	04 49 56.3	-0.1
	comp=Z,31nm,0.7s						
OBKA			⇑	*i*PKPab	PKPab	04 50 12.8	+0.7
	comp=Z,97nm,0.8s						
AOS	Alonnisos	153.72 313		P	PKPdf	04 49 44.4	-3.7
AOS	Alonnisos	153.72 313		P	PKPdf	04 49 44.4	-3.7
GRG	Griva	153.72 318		P	PKPdf	04 49 45.7	-2.4
GRG	Griva	153.72 318		P	PKPdf	04 49 45.7	-2.4
SISC	Sisak	153.82 332		P	PKPdf	04 49 48.7	+0.7
SANT	Santorini	153.83 306		P	PKPbc	04 49 55.7	-1.2
SANT	Santorini	153.83 306		*e*PKPdf	PKPdf	04 49 47.0	-1.3
SANT				*e*PKPbc	PKPbc	04 49 55.5	-1.3
SANT				*e*PKPab	PKPab	04 50 12.5	-0.5
THR3	Thira Island,	153.86 306		P	PKPbc	04 49 56.1	-0.7
THR6	Thira Island,	153.88 306		P	PKPbc	04 49 56.5	-0.4
THR5	Thira Island,	153.90 306		P	PKPbc	04 49 56.7	-0.2
MYKA	Terra Mystica	153.95 337	⇓	*i*PKPdf	PKPdf	04 49 47.2	-1.0
	comp=Z,28nm,0.9s,SNR=19						
MYKA			⇑	*i*PKiKP	PKPbc	04 49 56.5	-0.3
	comp=Z,74nm,1.1s						
MYKA			⇑	*i*PKPab	PKPab	04 50 13.0	-0.1
	comp=Z,138nm,0.7s						
PLE	Pljevlja	153.95 325	⇓	*i*PKP	PKPdf	04 49 47.8	-0.6
BFO	Black Forest	153.97 346		*e*PKPdf	PKPdf	04 49 47.9	-0.3
BFO				*e*PKPbc	PKiKP	04 49 57.1	+0.3
BFO				*e*PKPab	PKPab	04 50 13.9	+0.8
BFO				*ep*PKPbc	pPKPbc	04 52 15.4	+5.9
BFO	Black Forest	153.97 346		*e*PKPdf	PKPdf	04 49 47.9	-0.3
BFO				*e*PKPbc	PKPbc	04 49 56.7	0.0
BFO				*e*PKPab	PKPab	04 50 13.4	+0.4
IVA	Berane	153.99 324	⇓	*i*PKP	PKPdf	04 49 47.8	-0.7
WTTA	Walderalm	154.02 341	⇑	*i*PKPdf	PKPdf	04 49 48.5	+0.1
	comp=Z,36nm,1.0s						
WATA			⇑	*i*PKiKP	PKPbc	04 49 57.0	-0.1
	comp=Z,69nm,0.6s						
WATA			⇑	*i*PKPab	PKPab	04 50 13.9	+0.4
	comp=Z,76nm,0.5s						
EREA	Eretria	154.05 311		P	PKPdf	04 49 47.0	-1.6
WTTA	Wattenberg	154.07 340	⇓	*i*PKPdf	PKPdf	04 49 47.7	-0.8
	comp=Z,107nm,1.3s,SNR=23						
WTTA			⇑	*i*PKiKP	PKiKP	04 49 57.3	+0.1
	comp=Z,68nm,0.5s						
WTTA			⇑	*i*PKPab	PKPab	04 50 14.4	+0.7
	comp=Z,126nm,0.7s						
XOR	Xorichti	154.08 314		P	PKPdf	04 49 47.0	-1.6
XOR	Xorichti	154.08 314		P	PKPdf	04 49 47.0	-1.6
NEO	Neokhori	154.09 314		P	PKPdf	04 49 46.6	-2.0
NEO	Neokhori	154.09 314		P	PKPdf	04 49 46.6	-2.0
LJU	Ljubljana	154.11 335		*i* PKPdf	PKPdf	04 49 48.0	-0.4
LJU				*i* PKPbc	PKiKP	04 49 57.6	+0.5
LJU				*i* PKPab	PKPab	04 50 13.9	+0.1
LJU				*i* pPKPdf	pPKPdf	04 51 58.6	-3.8
LJU				*i* pPKPbc	pPKPbc	04 52 08.9	-0.9
LJU				*i* PP	PP	04 53 44.6	-6.5
NPS	Neapolis	154.12 303		P	PKPdf	04 49 47.4	-1.4
NPS	Neapolis	154.12 303		P	PKPdf	04 49 47.4	-1.4
RETA	Reutte	154.13 342		*i* PKPdf	PKPdf	04 49 47.9	-0.6
	comp=Z,35nm,1.4s,SNR=28						
RETA			⇑	*i*PKPab	PKPab	04 50 14.6	+0.8
	comp=Z,241nm,1.5s						
PVY	Plav	154.14 323	⇓	*i*PKP	PKPdf	04 49 47.6	-1.1
LIT	Litokhoron	154.15 316		P	PKPdf	04 49 46.6	-2.1
LIT	Litokhoron	154.15 316		P	PKPdf	04 49 46.6	-2.1
MRKA	Markates	154.15 312		P	PKPdf	04 49 46.7	-2.0
MOTA	Mooosalm	154.16 341	⇓	*i*PKPdf	PKPdf	04 49 48.3	-0.4
	comp=Z,38nm,0.9s,SNR=20						
MOTA			⇑	*i*PKPab	PKPab	04 50 14.6	+0.6
	comp=Z,85nm,0.8s						
PSET	Sete Cidades	154.22 50		*e*PKP	PKPdf	04 49 50.3	+1.4
PSET				*ep*PKP	pPKPdf	04 52 07.6	+4.8
PSET	Sete Cidades	154.22 50		eLQ	LQ	05 34 34.0	
FYTO	Fytoko, Volos	154.23 314		P	PKPbc	04 49 56.9	-0.6
ABTA	Abfaltersbach	154.24 339		*i* PKPdf	PKPdf	04 49 47.8	-0.9
	comp=Z,100nm,1.1s,SNR=56						
ABTA			⇑	*i*PKiKP	PKiKP	04 49 57.1	-0.3
	comp=Z,65nm,0.6s						
ABTA			⇑	*i*PKPab	PKPab	04 50 14.0	-0.4
	comp=Z,116nm,0.8s						
LAST	Lasithi	154.26 303		P	PKPdf	04 49 48.6	-0.5
LAST	Lasithi	154.26 303		P	PKPdf	04 49 48.6	-0.5
BOJS	Bojanci	154.27 333		*i* PKPdf	PKPdf	04 49 48.5	-0.1
BOJS				*i* PKPbc	PKPbc	04 49 57.7	+0.3
BOJS				*i* PKPab	PKPab	04 50 15.2	+0.8
BOJS				*ep*PKPdf	pPKPdf	04 52 00.0	-2.6
BOJS				*ep*PKPbc	pPKPbc	04 52 09.2	-1.0
BOJS				*i* PP	PP	04 53 48.9	-3.0
PTL	Penteli	154.27 311		P	PKPdf	04 49 47.4	-1.5
PTL	Penteli	154.27 311		P	PKPdf	04 49 47.4	-1.5
UPM	Unac-Piva	154.29 325	⇓	*i*PKP	PKPdf	04 49 48.2	-0.8
PDA	Ponta Delgada	154.30 50		*e*PKP	PKPdf	04 49 51.1	+2.2
PDA				*ep*PKP	pPKPdf	04 52 06.4	+3.6
SMIA	Simia	154.32 313		P	PKPdf	04 49 47.2	-1.7
ECH	Echery	154.32 348		PKP	PKPdf	04 49 47.8	-0.9
ECH	Echery	154.32 348		*e*PKPdf	PKPdf	04 49 48.7	0.0
ECH				*e*PKPbc	PKiKP	04 49 57.2	-0.3
ECH				*e*PKPab	PKPab	04 50 14.8	+0.2
ATHU	Athens Univers	154.37 310		P	PKPdf	04 49 46.6	-2.4
ATHU	Athens Univers	154.37 310		P	PKPdf	04 49 46.6	-2.4
GRON	Gorna Negra	154.38 50		*e*PKP	PKPdf	04 49 51.6	+2.5
ATH	Athens Observa	154.41 311		P	PKPdf	04 49 47.0	-2.0
ATH	Athens Observa	154.41 311		P	PKPdf	04 49 47.0	-2.0
JAVS	Javornik	154.42 335		*i* PKPdf	PKPdf	04 49 48.0	-0.9
JAVS				*i* PKPbc	PKiKP	04 49 57.9	0.0
JAVS				*i* PKPab	PKPab	04 50 15.1	-0.1
JAVS				*i* pPKPdf	pPKPdf	04 52 00.0	-2.9
JAVS				*ep*PKPbc	pPKPbc	04 52 09.0	-1.6
JAVS				*i* PP	PP	04 53 49.0	-3.8
FNA	Florina	154.46 318		P	PKPdf	04 49 47.6	-1.5
FNA	Florina	154.46 318		P	PKPdf	04 49 47.6	-1.5
PHP	Peshkopia	154.46 321		P	PKPdf	04 49 47.6	-1.5
PHP	Peshkopia	154.46 321		P	PKPdf	04 49 47.6	-1.5
KZN	Kozani	154.49 317		P	PKPdf	04 49 47.2	-2.0
KZN	Kozani	154.49 317		P	PKPdf	04 49 47.2	-2.0
NKY	Niksic	154.52 325	⇓	*i*PKP	PKPdf	04 49 48.2	-1.0
THEF	They Montfort	154.53 349		PKP	PKPdf	04 49 48.9	0.0
ATAL	Atalanti	154.54 313		P	PKPdf	04 49 47.6	-1.6
ATAL	Atalanti	154.54 313		P	PKPdf	04 49 47.6	-1.6
DAVA	Damuels	154.56 343	⇓	*i*PKPdf	PKPdf	04 49 48.2	-1.0
	comp=Z,73nm,1.9s,SNR=24						
DAVA			⇑	*i*PKPab	PKPab	04 50 16.4	+0.6
	comp=Z,165nm,0.8s						
FETA	Feichten	154.56 341		*i* PKPdf	PKPdf	04 49 49.0	-0.2
	comp=Z,129nm,1.7s,SNR=55						
FETA			⇓	*i*PKPab	PKPab	04 50 17.5	+1.7
	comp=Z,97nm,0.9s						
NKME	Niksic	154.57 325	⇓	*i*PKP	PKPdf	04 49 48.4	-0.8
LKR	Lokris	154.57 313		P	PKPdf	04 49 46.9	-2.4
LKR	Lokris	154.57 313		P	PKPdf	04 49 46.9	-2.4
VILL	Vilia	154.60 311		P	PKPdf	04 49 47.0	-2.4
OHR	Ohrid	154.61 320		*e*PKP	PKPdf	04 49 47.8	-1.5
OHR				*e*PKP	PKiKP	04 49 58.0	-0.3
OHR				*e*PKP	PKPab	04 50 15.6	-0.5
BART	Pico Bartolome	154.63 50		*e*PKP

LABF	Labassere	160.28	358	PKP	PKPdf	04 49 56.3	+0.1
LARF	Larrau	160.30	0	PKP	PKPdf	04 49 56.8	+0.6
MLS	Moulis	160.31	356	PKP	PKPdf	04 49 56.1	-0.1
PGAV	Gavieira, Arco	160.36	17	*e*PKPdf	PKPdf	04 49 56.8	+0.4
PGAV	Gavieira, Arco	160.36	17	*e*PKPab	PKPab	04 50 41.5	+0.4
PGAV	Gavieira, Arco	160.36	17	*e*PP	PP	04 54 23.7	-1.1
PGAV	Gavieira, Arco	160.36	17	*e*SS	SS	05 13 51.7	+2.8
PGAV	Gavieira, Arco	160.36	17	*e*PKPdf	PKPdf	04 49 56.8	+0.4
PGAV	Gavieira, Arco	160.36	17	*e*PKPab	PKPab	04 50 41.5	+0.4
PGAV	Gavieira, Arco	160.36	17	*e*PP	PP	04 54 23.7	-1.1
PGAV	Gavieira, Arco	160.36	17	*e*SS	SS	05 13 51.7	+2.8
VIEF	Viey	160.44	358	PKP	PKPdf	04 49 57.1	+0.7
CARF	Carcanieres	160.47	354	PKP	PKPdf	04 49 56.0	-0.5
RESF	Ens	160.51	357	PKP	PKPdf	04 49 57.3	+0.7
FILF	Fillols	160.57	352	PKP	PKPdf	04 49 56.5	-0.1
PCAB	Cabril	160.66	16	*e*PKPdf	PKPdf	04 49 57.2	+0.6
PCAB	Cabril	160.66	16	*e*PKPab	PKPab	04 50 42.9	+0.6
PCAB	Cabril	160.66	16	*e*PKPdf	PKPdf	04 49 57.2	+0.6
PCAB	Cabril	160.66	16	*e*PKPab	PKPab	04 50 42.9	+0.6
PBRG	Braganca	160.88	14	*e*PKPdf	PKPdf	04 49 57.3	+0.4
PBRG	Braganca	160.88	14	*e*PKPab	PKPab	04 50 43.6	+0.3
PBRG	Braganca	160.88	14	*e*PP	PP	04 54 27.7	+0.3
PBRG	Braganca	160.88	14	*e*PKPdf	PKPdf	04 49 57.3	+0.4
PBRG	Braganca	160.88	14	*e*PKPab	PKPab	04 50 43.6	+0.3
PBRG	Braganca	160.88	14	*e*PP	PP	04 54 27.7	+0.3
POLO	Lamas de Olo	161.04	16	*e*PKPdf	PKPdf	04 49 57.5	+0.4
POLO	Lamas de Olo	161.04	16	*e*PKPab	PKPab	04 50 44.5	+0.4
POLO	Lamas de Olo	161.04	16	*e*PP	PP	04 54 29.9	+1.5
POLO	Lamas de Olo	161.04	16	*e*PKPdf	PKPdf	04 49 57.5	+0.4
POLO	Lamas de Olo	161.04	16	*e*PKPab	PKPab	04 50 44.5	+0.4
POLO	Lamas de Olo	161.04	16	*e*PP	PP	04 54 29.9	+1.5
CLTB	Caltabellotta	161.34	323	*e*PKPdf	PKPdf	04 49 57.9	+0.3
CLTB				*e*PKPab	PKPab	04 50 47.8	+2.3
MVO	Moncorvo	161.43	15	*e*PKPdf	PKPdf	04 49 58.1	+0.6
MVO	Moncorvo	161.43	15	*e*PKPab	PKPab	04 50 46.2	+0.5
MVO	Moncorvo	161.43	15	*e*PP	PP	04 54 31.3	+0.9
MVO	Moncorvo	161.43	15	*e*SS	SS	05 14 09.5	+10
MVO	Moncorvo	161.43	15	*e*PKPdf	PKPdf	04 49 58.1	+0.6
MVO	Moncorvo	161.43	15	*e*PKPab	PKPab	04 50 46.2	+0.5
MVO	Moncorvo	161.43	15	*e*PP	PP	04 54 31.3	+0.9
MVO	Moncorvo	161.43	15	*e*SS	SS	05 14 09.5	+10
VSL	Villasalto	161.67	334	*e*PKPdf	PKPdf	04 49 57.5	-0.2
VSL				*e*PKPab	PKPab	04 50 46.6	-0.2
PCAS	Casmilo, Conde	162.06	19	*e*PKPdf	PKPdf	04 49 58.7	+0.6
PCAS	Casmilo, Conde	162.06	19	*e*PKPab	PKPab	04 50 48.6	+0.1
PCAS	Casmilo, Conde	162.06	19	*e*PKPdf	PKPdf	04 49 58.7	+0.6
PCAS	Casmilo, Conde	162.06	19	*e*PKPab	PKPab	04 50 48.6	+0.1
PCBR	Castelo Branco	162.56	17	*e*PKPdf	PKPdf	04 49 59.2	+0.6
PCBR	Castelo Branco	162.56	17	*e*PKPab	PKPab	04 50 50.9	+0.3
PCBR	Castelo Branco	162.56	17	*e*PKPdf	PKPdf	04 49 59.2	+0.6
PCBR	Castelo Branco	162.56	17	*e*PKPab	PKPab	04 50 50.9	+0.3
LIC	Lamto	162.56	166	*e*PKIKP	PKPdf	04 49 59.0	-0.3
	comp=Z,251nm,1.3s						
PMOZ	Porto Moniz, M	162.72	53	*e*PKPdf	PKPdf	04 50 00.5	+1.4
PMOZ	Porto Moniz, M	162.72	53	*e*PKPab	PKPab	04 50 52.1	+0.2
PMOZ	Porto Moniz, M	162.72	53	*e*PP	PP	04 54 38.8	+0.4
PMOZ	Porto Moniz, M	162.72	53	*e*PKPdf	PKPdf	04 50 00.5	+1.4
PMOZ	Porto Moniz, M	162.72	53	*e*PKPab	PKPab	04 50 52.1	+0.2
PMOZ	Porto Moniz, M	162.72	53	*e*PP	PP	04 54 38.8	+0.4
KIC	Kosan Boka	162.75	167	*e*PKIKP	PKPdf	04 49 59.3	-0.2
	comp=Z,242nm,1.0s						
PMAFR	Mafra	162.79	23	*e*PKPdf	PKPdf	04 49 59.5	+0.7
PMAFR	Mafra	162.79	23	*e*PKPab	PKPab	04 50 52.1	+0.4
PMAFR	Mafra	162.79	23	*e*PP	PP	04 54 36.7	-0.9
PMAFR	Mafra	162.79	23	*e*PKPdf	PKPdf	04 49 59.5	+0.7
PMAFR	Mafra	162.79	23	*e*PKPab	PKPab	04 50 52.1	+0.4
PMAFR	Mafra	162.79	23	*e*PP	PP	04 54 36.7	-0.9
PMRV	Marv??o	162.97	18	*e*PKPdf	PKPdf	04 49 59.6	+0.6
PMRV	Marv??o	162.97	18	*e*PKPab	PKPab	04 50 52.9	+0.4
PMRV	Marv??o	162.97	18	*e*SS	SS	05 14 22.7	+7.2
PMRV	Marv??o	162.97	18	*e*PKPdf	PKPdf	04 49 59.6	+0.6
PMRV	Marv??o	162.97	18	*e*PKPab	PKPab	04 50 52.9	+0.4
PMRV	Marv??o	162.97	18	*e*SS	SS	05 14 22.7	+7.2
TIC	Toumodi	162.97	166	*e*PKIKP	PKPdf	04 49 59.4	-0.4
PMAR	Madeira	162.98	53	*e*PKPdf	PKPdf	04 50 00.3	+0.9
PMAR	Madeira	162.98	53	*e*PKPab	PKPab	04 50 53.2	+0.1
PMAR	Madeira	162.98	53	*e*PKPdf	PKPdf	04 50 00.3	+0.9
PMAR	Madeira	162.98	53	*e*PKPab	PKPab	04 50 53.2	+0.1
PMST	Lisbon--Monsan	163.03	23	*e*PKPdf	PKPdf	04 49 59.8	+0.8
PMST	Lisbon--Monsan	163.03	23	*e*PKPab	PKPab	04 50 53.1	+0.4
PMST	Lisbon--Monsan	163.03	23	*e*PP	PP	04 54 38.0	-0.8
PMST	Lisbon--Monsan	163.03	23	*e*PKPdf	PKPdf	04 49 59.8	+0.8
PMST	Lisbon--Monsan	163.03	23	*e*PKPab	PKPab	04 50 53.1	+0.4
PMST	Lisbon--Monsan	163.03	23	*e*PP	PP	04 54 38.0	-0.8
DBIC	Dimbokro	163.03	166	PKP	PKPdf	04 49 59.5	-0.3
	comp=Z,55nm,0.9s,baz=130,slow=0.9,SNR=39						
DBIC				PKPab	PKPab	04 50 53.8	+0.5
	comp=Z,44nm,0.9s,baz=187,slow=6.3,SNR=9.5						
DBIC				pPKPab	pPKPab	04 52 59.5	+0.4
	comp=Z,11nm,0.8s,baz=155,slow=8.9,SNR=1.7						
DBIC	Dimbokro	163.03	166	PKIKP	PKPdf	04 49 59.5	-0.3
DBIC						04 50 53.8	
DBIC						04 52 59.6	
DBIC				pmax	pmax		
	comp=Z,55nm,0.9s						
DBIC				pmax	pmax		
	comp=Z,44nm,0.9s						
DBIC				pmax	pmax		
	comp=Z,11nm,0.8s						
FUL	Funchal	163.03	53	*e*PKPdf	PKPdf	04 50 00.9	+1.7
FUL	Funchal	163.03	53	*e*PKPab	PKPab	04 50 53.6	+0.5
FUL	Funchal	163.03	53	*e*PP	PP	04 54 41.5	+1.6
FUL	Funchal	163.03	53	*e*PKPdf	PKPdf	04 50 00.9	+1.7
FUL	Funchal	163.03	53	*e*PKPab	PKPab	04 50 53.6	+0.5
FUL	Funchal	163.03	53	*e*PP	PP	04 54 41.5	+1.6
LIS	Lisbon	163.06	23	*e*PP	PP	04 49 59.3	+0.4
LIS				*e*SS	SS	05 14 21.0	+4.4
LIS				AMS	AMS	05 20 06.5	
	comp=N,2μm,10.4s						
LIS	Lisbon	163.06	23	*e*PKIKP	PKPdf	04 49 59.5	+0.4
LIS				*e*SS	SS	05 14 21.0	+4.4
PACT	Alcochete	163.12	22	*e*PKPdf	PKPdf	04 49 59.6	+0.5
PACT	Alcochete	163.12	22	*e*PKPdf	PKPdf	04 49 59.6	+0.5
PMPST	Porto Santo, M	163.22	51	*e*PKPdf	PKPdf	04 50 00.4	+1.0
PMPST	Porto Santo, M	163.22	51	*e*PKPab	PKPab	04 50 54.3	+0.4
PMPST	Porto Santo, M	163.22	51	*e*PKPdf	PKPdf	04 50 00.4	+1.0
PMPST	Porto Santo, M	163.22	51	*e*PKPab	PKPab	04 50 54.3	+0.4
PMPS	Porto Santo	163.23	51	*e*PKPdf	PKPdf	04 50 01.1	+1.7
PMPS	Porto Santo	163.23	51	*e*PKPab	PKPab	04 50 54.3	+0.4
PMPS	Porto Santo	163.23	51	*e*PKPdf	PKPdf	04 50 01.1	+1.7
PMPS	Porto Santo	163.23	51	*e*PKPab	PKPab	04 50 54.3	+0.4
PESTR	Estremoz	163.43	19	*e*PKPdf	PKPdf	04 50 00.0	+0.5
PESTR	Estremoz	163.43	19	*e*PKPab	PKPab	04 50 54.8	+0.3
PESTR	Estremoz	163.43	19	*e*PKPdf	PKPdf	04 50 00.0	+0.5
PESTR	Estremoz	163.43	19	*e*PKPab	PKPab	04 50 54.8	+0.3
ESDC	Sonseca Array	163.44	9	PKP	PKPdf	04 50 00.5	+1.0
	comp=N,4.9nm,0.7s,baz=350,slow=2.8,SNR=20						
ESDC				PKPab	PKPab	04 50 53.7	-0.9
	comp=N,28nm,0.7s,baz=346,slow=3.7,SNR=34						
ESDC				PP	PP	04 54 43.9	+3.1
	comp=N,4.9nm,0.9s,baz=355,slow=4.6,SNR=4.6						
ESDC				PPP	PPP	04 58 37.7	
	comp=N,0.7nm,0.6s,baz=167,slow=3.6,SNR=4.4						
ESDC				SKKPbc		04 58 59.4	
	comp=N,0.5nm,0.3s,baz=162,slow=4.0,SNR=5.4						
PAB	San Pablo	163.51	10	*e*PKPdf	PKPdf	04 50 00.1	+0.5
PAB				*e*PKPab	PKPab	04 50 54.5	-0.5
EVO	Evora	163.61	20	*e*PKPdf	PKPdf	04 50 00.1	+0.5
EVO	Evora	163.61	20	*e*PKPab	PKPab	04 50 55.6	+0.3
EVO	Evora	163.61	20	*e*PP	PP	04 54 40.7	-1.0
EVO	Evora	163.61	20	*e*PKPdf	PKPdf	04 50 00.1	+0.5
EVO	Evora	163.61	20	*e*PKPab	PKPab	04 50 55.6	+0.3
EVO	Evora	163.61	20	*e*PP	PP	04 54 40.7	-1.0
PNCL	Nicolau / Gran	163.81	22	*e*PKPdf	PKPdf	04 50 00.4	+0.6
PNCL	Nicolau / Gran	163.81	22	*e*PKPab	PKPab	04 50 56.3	+0.1
PNCL	Nicolau / Gran	163.81	22	*e*PP	PP	04 54 41.8	-1.0
PNCL	Nicolau / Gran	163.81	22	*e*PKPdf	PKPdf	04 50 00.4	+0.6
PNCL	Nicolau / Gran	163.81	22	*e*PKPab	PKPab	04 50 56.3	+0.1
PNCL	Nicolau / Gran	163.81	22	*e*PP	PP	04 54 41.8	-1.0
MESJ	Messejana	164.16	22	*e*P	PKPdf	04 50 00.4	+0.3
MESJ				*e*PP	PP	04 54 45.7	+1.0
MESJ				*e*SS	SS	05 14 32.3	+4.5
MESJ				AMS	AMS	05 22 28.5	
	comp=N,1μm,23.6s						
MESJ	Messejana	164.16	22	*e*PKIKP	PKPdf	04 50 00.0	-0.1
MESJ				*e*		04 54 45.7	
MESJ				*e*SS	SS	05 14 32.3	+4.5
MESJ	Messejana	164.16	22	*e*PKPdf	PKPdf	04 50 01.1	+1.0
MESJ	Messejana	164.16	22	*e*PKPab	PKPab	04 50 58.1	+0.3
MESJ	Messejana	164.16	22	*e*PKPdf	PKPdf	04 50 01.1	+1.0
MESJ	Messejana	164.16	22	*e*PKPab	PKPab	04 50 58.1	+0.3
PBAR	Barrancos	164.23	18	*e*PKPdf	PKPdf	04 50 00.9	+0.7
PBAR	Barrancos	164.23	18	*e*PKPab	PKPab	04 50 58.5	+0.5
PBAR	Barrancos	164.23	18	*e*PP	PP	04 54 44.5	-0.4
PBAR	Barrancos	164.23	18	*e*PKPdf	PKPdf	04 50 00.9	+0.7
PBAR	Barrancos	164.23	18	*e*PKPab	PKPab	04 50 58.5	+0.5
PBAR	Barrancos	164.23	18	*e*PP	PP	04 54 44.5	-0.4
PTEO	Sao Teotonio	164.25	24	*e*PKPdf	PKPdf	04 50 01.4	+1.2
PTEO	Sao Teotonio	164.25	24	*e*PKPab	PKPab	04 50 58.1	0.0
PTEO	Sao Teotonio	164.25	24	*e*PP	PP	04 54 46.4	+1.3
PTEO	Sao Teotonio	164.25	24	*e*PKPdf	PKPdf	04 50 01.4	+1.2
PTEO	Sao Teotonio	164.25	24	*e*PKPab	PKPab	04 50 58.1	0.0
PTEO	Sao Teotonio	164.25	24	*e*PP	PP	04 54 46.4	+1.3
PCVE	Castro Verde	164.41	22	*e*PKPdf	PKPdf	04 50 01.5	+1.2
PCVE	Castro Verde	164.41	22	*e*PKPab	PKPab	04 50 59.1	+0.2
PCVE	Castro Verde	164.41	22	*e*PP	PP	04 54 44.4	-1.5
PCVE	Castro Verde	164.41	22	*e*PKPdf	PKPdf	04 50 01.5	+1.2
PCVE	Castro Verde	164.41	22	*e*PKPab	PKPab	04 50 59.1	+0.2
PCVE	Castro Verde	164.41	22	*e*PP	PP	04 54 44.4	-1.5
MORF	Marmelete	164.49	24	*e*P	PKPdf	04 50 00.6	+0.1
MORF				*e*SS	SS	05 14 35.8	+4.5
MORF				AMS	AMS	05 21 49.0	
	comp=Z,982nm,14.4s						
MORF	Marmelete	164.49	24	*e*PKIKP	PKPdf	04 50 00.6	+0.1
MORF				*e*SS	SS	05 14 35.8	+4.5
MORF	Marmelete	164.49	24	*e*PKPdf	PKPdf	04 50 01.1	+0.6
MORF	Marmelete	164.49	24	*e*PKPab	PKPab	04 50 59.6	+0.3
MORF	Marmelete	164.49	24	*e*PP	PP	04 54 45.2	-1.3
MORF	Marmelete	164.49	24	*e*PKPdf	PKPdf	04 50 01.1	+0.6
MORF	Marmelete	164.49	24	*e*PKPab	PKPab	04 50 59.6	+0.3
MORF	Marmelete	164.49	24	*e*PP	PP	04 54 45.2	-1.3
PFVI	Vila Bisbo	164.57	25	*e*PKPdf	PKPdf	04 50 01.0	+0.5
PFVI	Vila Bisbo	164.57	25	*e*PKPab	PKPab	04 51 00.1	+0.5
PFVI	Vila Bisbo	164.57	25	*e*PKPdf	PKPdf	04 50 01.0	+0.5
PFVI	Vila Bisbo	164.57	25	*e*PKPab	PKPab	04 51 00.1	+0.5
PVAQ	Vaqueiros	164.73	21	*e*PKPdf	PKPdf	04 50 01.3	+0.7
PVAQ	Vaqueiros	164.73	21	*e*PKPab	PKPab	04 51 00.7	+0.4
PVAQ	Vaqueiros	164.73	21	*e*SS	SS	05 14 41.9	+8.4
PVAQ	Vaqueiros	164.73	21	*e*PKPdf	PKPdf	04 50 01.3	+0.7
PVAQ	Vaqueiros	164.73	21	*e*PKPab	PKPab	04 51 00.7	+0.4
PVAQ	Vaqueiros	164.73	21	*e*SS	SS	05 14 41.9	+8.4
KEST	Kesra	164.78	327	PKP	PKPdf	04 50 00.8	0.0
	comp=Z,7.6nm,0.8s,baz=226,slow=3.0,SNR=23						
KEST				PKPab	PKPab	04 51 01.2	+0.5
	comp=Z,19nm,0.7s,baz=49,slow=1.4,SNR=19						
PBDV	Barranco-do-Ve	164.80	22	*e*PKPdf	PKPdf	04 50 01.8	+1.1
PBDV	Barranco-do-Ve	164.80	22	*e*PKPab	PKPab	04 51 01.3	+0.7
PBDV	Barranco-do-Ve	164.80	22	*e*PP	PP	04 54 47.7	-0.3
PBDV	Barranco-do-Ve	164.80	22	*e*PKPdf	PKPdf	04 50 01.8	+1.1
PBDV	Barranco-do-Ve	164.80	22	*e*PKPab	PKPab	04 51 01.3	+0.7
PBDV	Barranco-do-Ve	164.80	22	*e*PP	PP	04 54 47.7	-0.3
CMAH	Djebel Manchou	164.92	334	P	PKPdf	04 50 01.0	+0.1
ABSA	Djebel Ababsia	165.20	333	P	PKPdf	04 50 02.0	+0.8
CKFL	Kef-Lekhel	165.39	335	P	PKPdf	04 50 02.0	+0.6
DFRA	Djebel Bou Aff	165.57	338	P	PKPdf	04 50 03.3	+1.8
CASM	Ain Smara	165.60	336	P	PKPdf	04 50 02.3	+0.8
CTEI	Djebel Teioual	165.81	335	P	PKPdf	04 50 02.3	+0.6
SET	Setif	166.05	339	P	PKPdf	04 50 04.0	+2.1
CKHR	Kef el Ahmar	166.18	338	P	PKPdf	04 50 03.5	+1.5
TORD	Torodi Ar. Bea	169.64	194	PKP	PKPdf	04 50 04.2	-0.6
	comp=Z,61nm,1.0s,baz=310,slow=0.2,SNR=132						
TORD				PKPab	PKPab	04 51 23.3	+0.9
	comp=Z,47nm,0.9s,baz=167,slow=4.3,SNR=22						
TORD				pPKP	pPKPdf	04 52 17.9	-1.4
	comp=Z,5.5nm,0.8s,baz=158,slow=2.3,SNR=1.2						
TORD				pPKPab	pPKPab	04 53 28.1	-0.1
	comp=Z,15nm,0.9s,baz=168,slow=5.0,SNR=6.6						
TORD				PP	PP	04 55 14.1	+2.1
	comp=Z,18nm,1.1s,baz=178,slow=3.7,SNR=5.1						
TORD				PPP	PPP	04 59 22.1	
	comp=Z,6.7nm,0.7s,baz=29,slow=1.8,SNR=3.8						
TOB5	Torodi Ar. Sit	169.65	194	*e*PKIKP	PKPdf	04 50 03.7	-1.1
TAM	Tamanrasset	174.14	266	*e*PKPdf	PKPdf	04 50 08.0	+1.2

*ISCJB **30** 05:02:48.5±0.5, 50.57S±0.06×139.4E±0.2, h12km, mb4.5/13, MS4.4/16, Error ellipse: s-maj=17.1km s-min=8.1km az=10.9*

*IDC **30** 05:02:48.5±0.6, 50.56S×139.44E, h0km, mb4.4/9, mb1 4.5/10, mb1mx4.5/14, mbtmp4.4/10, ML4.1/1, MS4.5/16, Ms1 4.5/16, ms1mx4.3/26, Error ellipse: s-maj=27.9km s-min=16.0km az=87.0*

*NEIC **30** 05:02:49.7±0.4, 50.59S×139.32E, h10km, mb5.0/5, Error ellipse: s-maj=15.4km s-min=8.6km az=104.0*

*GCMT **30** 05:02:49.7±0.3, 50.55S×139.42E, h12km, 2km, MW5.2/83, Moment Tensor Solution. s9,c10; s83,c125; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr0.01±.37; Mθθ 1.05±.30; Mϕϕ -1.06±.35; Mrθ 2.15±.98; Mϕθ -8.72±.33; Mϕr 2.64±1.10; Best double couple: Mw9.36600×10^16 NP1:ϕs 175.00000°, δ 78.00000°, λ -14.00000°. NP2: ϕs 268.00000°, δ 76.00000°, λ -167.00000°. Principal axes: T 8.7810, Plg1.0000°, Azm222.0000°; N 1.1660, Plg71.0000°, Azm315.0000°; P -9.9510, Plg19.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 05:02:50.4±0.5, 50.61S±0.08×139.5E±0.1, h12km, n70, σ 1.1 s 26/52, mb4.5/13, MS4.4/16, 6C-1D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAU	Tasmania Unive	9.39	38	*e*Pn	Pn	05 05 05.8	+0.4
	99nm,1.2s						
BBOO	Buckleboo	17.96	351	*e*Pn	Pn	05 06 59.1	-0.7
	237nm,1.7s						
STKA	Stephens Creek	18.78	6	P	P	05 07 08.7	-0.7
	0.3nm,0.3s,baz=163,slow=11,SNR=13						
STKA				LR	LR	05 13 17.1	
	comp=Z,2μm,20.2s,baz=186,slow=34						
CASY	Casey	21.50	212	*e*P	P	05 07 39.0	+0.3
	61nm,1.1s						
ARMA	Armidale	22.13	29	*e*P	P	05 07 46.5	+0.6
	71nm,1.4s						
RPZ	Rata Peaks	22.44	84	P	P	05 07 49.6	+0.6
	8.1nm,0.7s,baz=205,slow=11,SNR=2.6						
RPZ				LR	LR	05 14 36.5	
	comp=Z,2μm,18.8s,baz=248,slow=32						
NWAO	Narrogin (SRO)	24.07	309	LR	LR	05 15 42.7	
	comp=Z,10nm,18.4s,baz=149,slow=32						
H01W1	Cape Leeuwin H	24.16	301	T	T	05 33 13.4	
	baz=137,slow=74,SNR=74						
H01W2	Cape Leeuwin H	24.17	301	T	T	05 33 12.6	
	baz=137,slow=74,SNR=776						
H01W3	Cape Leeuwin H	24.18	301	T	T	05 33 09.1	
	baz=137,slow=74,SNR=786						
ASAR	Alice Springs	27.24	349	P	P	05 08 32.8	-1.5
	1.7nm,0.8s,baz=165,slow=10,SNR=12						
ASAR				PcP	PcP	05 11 53.4	-0.6
	0.3nm,0.5s,baz=159,slow=2.7,SNR=2.6						
ASAR				LR	LR	05 19 05.9	
	comp=Z,678nm,19.2s,baz=178,slow=36						
VNDA	Vanda	28.31	170	P	P	05 08 42.8	-0.6
	5.4nm,0.7s,baz=332,slow=11,SNR=7.5						
URZ	Urewera	29.26	80	LR	LR	05 19 32.1	
	comp=Z,784nm,19.0s,baz=239,slow=34						
WRA	Warramunga Arr	30.87	351	P	P	05 09 05.0	-1.5
	7.9nm,0.9s,baz=172,slow=8.1,SNR=12						
WRA				PcP	PcP	05 12 02.2	-1.0
	0.8nm,0.8s,baz=188,slow=2.1,SNR=3.1						
WRA				LR	LR	05 20 24.8	
	comp=Z,624nm,20.4s,baz=180,slow=34						
WRAB	Tennant Creek	30.87	351	*e*P	P	05 09 05.5	-1.0
	28nm,1.3s						
CTA	Charters Tower	30.93	12	LR	LR	05 21 00.1	
	comp=Z,1μm,18.8s,baz=180,slow=35						
DZM	Mont Dzumac	35.45	47	LR	LR	05 21 30.5	
	comp=Z,1μm,19.4s,baz=180,slow=32						
QSPA	South Pole Qui	39.51	180	P	P	05 10 20.9	+0.2
	12nm,0.8s,baz=165,slow=1.3,SNR=10.0						
QSPA	South Pole Qui	39.51	180	*e*P	P	05 10 21.1	+0.5
MAW	Mawson	39.78	216	P	P	05 10 22.3	-0.3
	7.5nm,1.1s,baz=97,slow=10,SNR=6.1						
MAW				LR	LR	05 24 31.3	
	comp=Z,2μm,20.7s,baz=72,slow=33						
JAY	Jayapura	47.93	2	LR	LR	05 31 25.1	
	comp=Z,747nm,21.7s,baz=168,slow=36						
KAPI	Kappang	48.35	333	LR	LR	05 31 06.8	
	comp=Z,488nm,21.0s,baz=176,slow=35						
LEM	Lembang	51.06	318	LR	LR	05 31 38.5	
	comp=Z,397nm,20.4s,baz=172,slow=34						
SNAA	Sanae	55.14	194	P	P	05 12 19.4	-2.6
SNAA	Sanae	55.14	194	*e*P	P	05 12 18.9	-3.1
	29nm,1.3s						
VNA2	Neumayer--Watz	56.46	192	P	P	05 12 31.5	+0.1
	baz=177,slow=22						
VNA1	Neumayer--Stat	56.83	192	P	P	05 12 34.8	+0.8
GUMO	Guam	64.09	6	LR	LR	05 39 35.9	
	comp=Z,221nm,21.5s,baz=136,slow=34						
H08S2	Diego Garcia H	69.58	283	T	T	06 29 45.5	
	baz=141,slow=76,SNR=61						
H08S1	Diego Garcia H	69.59	283	T	T	06 29 43.4	
	baz=141,slow=76,SNR=51						
H08S3	Diego Garcia H	69.60	283	T	T	06 29 47.0	
	baz=141,slow=76,SNR=74						
H08N1	Diego Garcia H	71.50	283	T	T	06 32 11.9	
	baz=143,slow=76,SNR=18						
H08N3	Diego Garcia H	71.52	283	T	T	06 32 16.7	
	baz=143,slow=76,SNR=30						
H08N2	Diego Garcia H	71.53	283	T	T	06 32 16.1	
	baz=143,slow=76,SNR=21						
OPO	Ambohidratompo	77.29	256	LR	LR	05 41 14.7	
	comp=Z,597nm,18.4s,baz=107,slow=30						
CMAR	Chiang Mai Arr	77.45	321	P	P	05 14 46.2	+0.8
	2.4nm,0.8s,baz=173,slow=4.9,SNR=17						
CMAR				LR	LR	05 49 16.3	
	comp=Z,245nm,18.9s,baz=186,slow=36						
SHL	Shillong	86.71	318	*e*P	P	05 15 37.0	+2.9
MJAR	Matsushiro Arr	86.78	359	P	P	05 15 33.3	-0.7
	1.0nm,0.6s,baz=190,slow=6.4,SNR=4.1						
KSAR	Wonju Array Be	88.27	351	P	P	05 15 42.0	+1.0
KSRS	Korea Array	88.27	351	P	P	05 15 42.0	+1.0
	1.5nm,0.5s,baz=165,slow=4.1,SNR=7.5						
KSRS				LR	LR	05 53 37.5	
	comp=Z,119nm,21.9s,baz=152,slow=35						
USRK	Ussuriysk Ar.	94.65	355	LR	LR	05 59 48.6	
	comp=Z,87nm,18.2s,baz=162,slow=36						
NVAR	Mina Array Bea	125.67	71	PKP	PKPdf	05 21 52.3	+0.9
	0.6nm,0.7s,baz=259,slow=5.7,SNR=4.5						
ILAR	Eielson Array	128.28	32	PKP	PKPdf	05 21 55.2	-0.1
	0.4nm,0.7s,baz=255,slow=2.9,SNR=4.1						
ILAR				SKPbc	SKiKP	05 25 10.4	-21
	0.4nm,0.8s,baz=230,slow=5.4,SNR=5.7						
TXAR	Lajitas Array	128.84	90	PKP	PKPdf	05 21 55.4	-2.2
	0.2nm,0.4s

*ISCJB **30** 06:03:04.3±0.6, 5°.3N×0°.1×123°.2E±0°.2, h592km, mb3.9/14, Error ellipse: s-maj=23.1km s-min=10.7km az=152.3*
*IDC **30** 06:03:07.7±1.5, 5°.14N×123°.18E, h621km±18km, mb3.2/14, mb1 3.4/14, mb1mx3.1/34, mbtmp4.2/14, Error ellipse: s-maj=25.0km s-min=8.3km az=63.0*

ISC 30 06:03:05.4±0.6, **5°.2N**±0°.1×**123°.2E**±0°.2, **h592km, n15, σ1§40/19, mb3.9/14, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**24.37**	**265**	P	**P**	**06 07 38.8**	**0.0**
	3.6nm,0.7s,baz=88,slow=6.0,SNR=3.8						
CMAR	**Chiang Mai Arr**	**27.13**	**301**	P	**P**	**06 08 04.0**	**+1.1**
	2.5nm,0.7s,baz=115,slow=6.7,SNR=13						
WRA	**Warramunga Arr**	**27.27**	**157**	P	**P**	**06 08 04.5**	**+0.5**
	17nm,0.5s,baz=336,slow=9.6,SNR=176						
WRA				S	**S**	**06 11 59.7**	**-3.4**
	0.3nm,0.3s,baz=341,slow=15,SNR=4.9						
WRA				ScP	**ScP**	**06 13 48.2**	**-0.7**
	0.6nm,0.6s,baz=341,slow=3.2,SNR=5.1						
ASAR	**Alice Springs**	**30.52**	**160**	P	**P**	**06 08 33.5**	**+1.3**
	4.3nm,0.4s,baz=340,slow=7.0,SNR=71						
ASAR				S	**S**	**06 12 50.6**	**-2.7**
	0.3nm,0.6s,baz=322,slow=12,SNR=3.3						
ASAR				ScP	**ScP**	**06 13 58.5**	**-0.9**
	1.1nm,0.7s,baz=333,slow=2.8,SNR=7.1						
CTA	**Charters Tower**	**33.82**	**139**	P	**P**	**06 09 00.4**	**+0.4**
	3.1nm,0.5s,baz=330,slow=13,SNR=4.2						
NWAO	**Narrogin (SRO)**	**38.35**	**188**	P	**P**	**06 09 37.9**	**+0.8**
	4.1nm,0.4s,baz=329,slow=17,SNR=4.6						
STKA	**Stephens Creek**	**40.81**	**156**	P	**P**	**06 09 58.6**	**+1.8**
	5.4nm,0.4s,baz=336,slow=7.7,SNR=13						
SONM	**Songino Array**	**44.86**	**344**	P	**P**	**06 10 28.9**	**+0.7**
	0.6nm,0.5s,baz=152,slow=9.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**57.73**	**334**	P	**P**	**06 12 00.0**	**-0.5**
	1.0nm,0.5s,baz=119,slow=6.6,SNR=3.9						
ILAR	**Eielson Array**	**85.28**	**25**	P	**P**	**06 14 40.6**	**+0.3**
	0.2nm,0.5s,baz=261,slow=4.2,SNR=3.8						
BRTR	**Keskin Array B**	**86.41**	**309**	P	**P**	**06 14 44.9**	**-1.5**
	0.4nm,0.4s,baz=94,slow=4.6,SNR=3.5						
ARCES	**ARCESS Array B**	**87.87**	**340**	P	**P**	**06 14 51.7**	**-0.7**
	0.9nm,0.9s,baz=72,slow=7.8,SNR=5.1						
FINES	**FINESS Array B**	**88.89**	**332**	P	**P**	**06 14 56.8**	**-0.5**
	0.8nm,0.5s,baz=90,slow=9.5,SNR=6.5						
NOA	**NORSAR Array B**	**95.92**	**333**	P	**P**	**06 15 28.8**	**-0.7**
	0.2nm,0.5s,baz=80,slow=5.1,SNR=2.3						
TORD	**Torodi Ar. Bea**	**119.16**	**288**	PKP	**PKPdf**	**06 20 48.8**	**-0.2**
	0.2nm,0.3s,baz=59,slow=1.8,SNR=4.6						

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*AWI **30** 06:17:24.3, 55°.40S×20°.73W*
*ISCJB **30** 06:17:32.4±0.7, 56°.9S±0°.1×25°.0W±0°.3, h10km, mb4.4/9, MS4.0/1, Error ellipse: s-maj=24.9km s-min=10.2km az=152.3*
*IDC **30** 06:17:32.3±0.8, 56°.83S×24°.83W, h0km, mb4.3/5, mb1 4.4/6, mb1mx4.1/24, mbtmp4.2/6, ML3.5/1, MS4.1/1, Ms1 3.9/1, ms1mx3.2/19, Error ellipse: s-maj=35.5km s-min=19.4km az=71.0*
*NEIC **30** 06:17:33.7±0.4, 56°.84S×24°.80W, h10km, mb4.6/4, Error ellipse: s-maj=15.6km s-min=8.5km az=66.0*

ISC 30 06:17:33.7±0.7, **56°.9S**±0°.1×**24°.8W**±0°.2, **h10km, n25, σ1§17/20, mb4.5/9, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.55**	**159**	P	**Pn**	**06 21 15.8**	**+3.1**
VNA2	**Neumayer--Watz**	**15.94**	**159**	P	**Pn**	**06 21 17.5**	**-0.3**
	baz=321,slow=15						
SNAA	**Sanae**	**17.46**	**157**	P	**Pn**	**06 21 34.3**	**-2.7**
SNAA	**Sanae**	**17.46**	**157**	P	**Pn**	**06 21 37.1**	**+0.1**
	0.2nm,0.3s,baz=41,slow=2.0,SNR=30						
SNAA				S	**S**	**06 24 57.9**	**-1.5**
	0.0nm,0.3s,baz=17,slow=14,SNR=4.2						
PMSA	**Palmer Station**	**20.42**	**231**	*eP*	**P**	**06 22 10.3**	**-0.1**
QSPA	**South Pole Qui**	**33.39**	**180**	P	**P**	**06 24 12.3**	**+0.4**
	2.1nm,0.5s,baz=204,slow=2.3,SNR=28						
CPUP	**Villa Florida**	**38.37**	**309**	P	**P**	**06 24 54.0**	**-0.7**
	3.4nm,0.8s,baz=158,slow=8.3,SNR=10.0						
BOSA	**Boshof**	**44.89**	**73**	LR	LR	06 42 58.5	
	comp=Z,186nm,18.3s,baz=327,slow=34						
VNDA	**Vanda**	**45.82**	**182**	P	**P**	**06 25 55.7**	**+0.7**
	1.4nm,0.6s,baz=188,slow=6.3,SNR=20						
LVC	**Limon Verde**	**46.87**	**298**	P	**P**	**06 26 03.5**	**-0.7**
	19nm,1.1s						
H10S2	**ASCENSION HYDR**	**48.43**	**13**	T	T	07 19 01.6	
	baz=189,slow=74,SNR=9.7						
H10S3	**ASCENSION HYDR**	**48.43**	**13**	T	T	07 19 00.5	
	baz=189						
H10S1	**ASCENSION HYDR**	**48.45**	**13**	T	T	07 19 01.6	
	baz=189,slow=74,SNR=3.6						
H10N1	**ASCENSION HYDR**	**49.55**	**13**	T	T	07 20 28.7	
	baz=206						
H10N3	**ASCENSION HYDR**	**49.55**	**13**	T	T	07 20 26.5	
	baz=206						
H10N2	**ASCENSION HYDR**	**49.56**	**13**	T	T	07 20 27.8	
	baz=206						
LPAZ	**La Paz**	**51.95**	**303**	P	**P**	**06 26 43.7**	**+0.3**
	13nm,0.7s,baz=139,slow=4.9,SNR=69						
SAML	**Samuel**	**56.34**	**312**	*eP*	**P**	**06 27 14.4**	**-0.3**
	4.6nm,0.8s						
OTAV	**Otavalo**	**71.23**	**302**	*eP*	**P**	**06 28 53.6**	**+0.2**
	3.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**73.13**	**27**	P	**P**	**06 29 04.7**	**+0.6**
	1.2nm,0.7s,baz=201,slow=6.0,SNR=8.9						
SDV	**Santo Domingo**	**75.54**	**313**	*eP*	**P**	**06 29 19.0**	**+0.6**
	5.5nm,0.8s						
PDAR	**Pinedale Array**	**121.92**	**300**	PKP	**PKPdf**	**06 36 26.6**	**-0.9**
	0.2nm,0.6s,baz=124,slow=4.8,SNR=2.3						
NVAR	**Mina Array Bea**	**122.95**	**291**	PKP	**PKPdf**	**06 36 29.6**	**0.0**
	0.3nm,0.6s,baz=131,slow=2.5,SNR=2.2						
SONM	**Songino Array**	**149.43**	**86**	PKP	**PKPdf**	**06 37 16.8**	**-0.8**
	0.4nm,0.5s,baz=264,slow=4.2,SNR=3.3						
SONM				PKPbc	**PKPbc**	**06 37 22.0**	**-0.1**
	0.9nm,0.7s,baz=206,slow=2.3,SNR=4.8						
ILAR	**Eielson Array**	**151.66**	**310**	PKPbc	**PKPbc**	**06 37 26.6**	**0.0**
	2.5nm,0.8s,baz=133,slow=2.2,SNR=33						

IDC 30 06:25:11.0±4.0, **6°.26S×147°.62E, h0km, mb2.8/1, mb1 3.3/2, mb1mx3.1/18, mbtmp3.0/2, ML3.3/1, Error ellipse: s-maj=134.3km s-min=50.4km az=112.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.75**	**222**	P	P	06 29 29.9	-1.9
	0.1nm,0.3s,baz=46,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**21.76**	**216**	P	P	06 30 05.2	+0.7
	0.5nm,0.9s,baz=54,slow=8.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**145.75**	**284**	PKPbc	PKPdf	06 44 52.6	-0.1
	0.7nm,0.9s,baz=84,slow=2.5,SNR=4.0						

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*NEIC **30** 06:25:58.9, 62°.55N×142°.92W, h8km, ML3.2(AEIC), After AEIC.*
*IDC **30** 06:25:59.3±1.4, 62°.63N×142°.89W, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.5/29, mbtmp3.5/6, ML2.8/2, Error ellipse: s-maj=41.8km s-min=11.8km az=41.0*
*PGC **30** 06:25:59.8±3.8, 62°.59N×142°.90W, h10km, ML3.7/4, 238km Wsw of Dawson, Yt Central Alaska*

ISC 30 06:25:58.9±1.3, **62°.56N**±0°.03×**142°.85W**±0°.03, **h1**km±10km, **n75, σ1§61/89, mb3.6/6, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MENT	**Mentasta**	**0.55**	**314**	P	**Pg**	**06 26 09.6**	**+0.2**
WASW	**Wrangell South**	**0.89**	**225**	P	**Pg**	**06 26 15.1**	**-0.8**
HARP	**HAARP**	**1.08**	**263**	P	**Pg**	**06 26 18.6**	**-1.0**
HARP				S	**Sg**	**06 26 33.7**	**+0.1**
MCARA	**McCarthy VSAT**	**1.18**	**184**	P	**Pn**	**06 26 19.7**	**-2.9**
GLB	**Gilahina Butte**	**1.21**	**203**	P	**Pn**	**06 26 20.3**	**-2.7**
PAX	**Paxson**	**1.27**	**290**	P	**Pn**	**06 26 21.5**	**-2.5**
PS11	**TAPS Pump St11**	**1.32**	**250**	P	**Pn**	**06 26 22.4**	**-2.0**
VRDI	**Verde Repeater**	**1.37**	**192**	P	**Pn**	**06 26 23.0**	**-2.3**
PTPK	**Patty Peak**	**1.39**	**172**	P	**Pn**	**06 26 23.6**	**-2.0**
PTPK				S	**Sn**	**06 26 42.3**	**-2.4**
RIDG	**Independ'e Rid**	**1.49**	**323**	P	**Pn**	**06 26 26.3**	**-0.6**
PS12	**TAPS Pump St12**	**1.54**	**226**	P	**Pn**	**06 26 26.0**	**-1.4**
BALM	**Baldy**	**1.55**	**171**	P	**Pn**	**06 26 26.2**	**-1.5**
BALM				S	**Sn**	**06 26 46.5**	**-2.0**
PS10	**TAPS Pump St10**	**1.59**	**304**	P	**Pn**	**06 26 25.8**	**-2.5**
BARN	**Barnard Glacie**	**1.61**	**159**	P	**Pn**	**06 26 27.8**	**-0.8**
BARN				S	**Sn**	**06 26 48.6**	**-1.4**
CTGM	**Chitina Glacie**	**1.75**	**155**	P	**Pn**	**06 26 30.0**	**-0.6**
KLU	**Klutina**	**1.80**	**235**	P	**Pn**	**06 26 30.2**	**-0.9**
BMRM	**Bremner River**	**1.80**	**208**	P	**Pn**	**06 26 30.2**	**-0.9**
TGL	**Tana Glacier**	**1.81**	**180**	P	**Pn**	**06 26 30.8**	**-0.4**
TGL				S	**Sn**	**06 26 54.9**	**0.0**
CRQM	**Cirque**	**1.81**	**185**	P	**Pn**	**06 26 30.5**	**-1.0**
GRNC	**Granite Creek**	**1.91**	**164**	P	**Pn**	**06 26 32.3**	**-0.4**
GRNC				S	**Sn**	**06 26 56.1**	**-1.3**
LOGN	**Logan Glacier**	**1.95**	**152**	P	**Pn**	**06 26 33.4**	**+0.2**
ISLE	**Juniper Island**	**1.98**	**173**	P	**Pn**	**06 26 33.6**	**0.0**
DIV	**Divide**	**2.00**	**225**	P	**Pn**	**06 26 32.8**	**-1.0**
BAGL	**Bagley Icefiel**	**2.11**	**170**	P	**Pn**	**06 26 35.4**	**+0.1**
KHIT	**Khitrov Hills**	**2.13**	**185**	P	**Pn**	**06 26 35.9**	**+0.2**
DHY	**Denali Highway**	**2.14**	**286**	P	**Pn**	**06 26 36.1**	**+0.2**
BARK	**Barkley Ridge**	**2.17**	**175**	P	**Pn**	**06 26 37.0**	**+0.7**
DAWY	**Dawson**	**2.17**	**44**	P	**Pn**	**06 26 36.7**	**+0.5**
DAWY	**Dawson**	**2.17**	**44**	Pn	**Pn**	**06 26 35.4**	**-0.8**
DAWY				Pg	**Pb**	**06 26 38.7**	**-0.3**
DAWY				Sg	**Sb**	**06 27 06.8**	**+0.5**
GOAT	**Goat Mountain**	**2.18**	**205**	P	**Pn**	**06 26 36.7**	**+0.4**
BERG	**Berg Lake**	**2.21**	**191**	P	**Pn**	**06 26 36.1**	**-0.6**
SCM	**Sheep Creek Mo**	**2.22**	**253**	P	**Pn**	**06 26 36.8**	**-0.1**
YAH	**Yahtse**	**2.27**	**166**	P	**Pn**	**06 26 38.5**	**+0.9**
TABL	**Table Mountain**	**2.28**	**158**	P	**Pn**	**06 26 38.4**	**+0.6**
GRIN	**Grindle Hills**	**2.30**	**186**	P	**Pn**	**06 26 37.2**	**-0.7**
KULT	**Kultieth River**	**2.32**	**178**	P	**Pn**	**06 26 38.7**	**+0.5**
EGAK	**Eagle**	**2.35**	**18**	P	**Pn**	**06 26 38.6**	**+0.1**
RAGM	**Ragged Mountai**	**2.35**	**203**	P	**Pn**	**06 26 39.0**	**+0.4**
RKAV	**Rock Avalanche**	**2.38**	**162**	P	**Pn**	**06 26 38.3**	**-0.9**
NICHA	**Nichawak Mount**	**2.39**	**194**	P	**Pn**	**06 26 39.9**	**+0.7**
MESA	**MESA**	**2.43**	**169**	P	**Pn**	**06 26 38.8**	**-1.1**
EYAK	**Cordova Ski Ar**	**2.45**	**216**	P	**Pn**	**06 26 40.2**	**+0.2**
SUCK	**Suckling Hills**	**2.54**	**191**	P	**Pn**	**06 26 41.2**	**+0.5**
HDA	**Harding Lake**	**2.61**	**317**	P	**Pn**	**06 26 41.7**	**-0.5**
CHX	**Chaix Hills**	**2.64**	**161**	P	**Pn**	**06 26 43.1**	**+0.4**
SML	**Sawmill**	**2.68**	**256**	P	**Pn**	**06 26 43.9**	**+0.7**
HIN	**Hinchinbrook I**	**2.79**	**221**	P	**Pn**	**06 26 45.0**	**+0.3**
IL1	**Eielson Array**	**2.86**	**323**	P	**Pn**	**06 26 44.5**	**-1.0**
ILAR	**Eielson Array**	**2.86**	**323**	Pn	**Pn**	**06 26 44.0**	**-1.6**
	1.0nm,0.3s,baz=144,slow=14,SNR=59						
ILAR				Lg	Lg	06 27 28.9	
	18nm,0.3s,baz=141,slow=32,SNR=16						
RND	**Reindeer**	**2.87**	**290**	P	**Pn**	**06 26 47.3**	**+1.5**
MCK	**McKinley**	**3.00**	**296**	P	**Pn**	**06 26 49.5**	**+1.9**
WRH	**Wood River Hil**	**3.03**	**312**	P	**Pn**	**06 26 49.7**	**+1.8**
HYT	**Haines Junctio**	**3.08**	**122**	P	**Pn**	**06 26 47.7**	**-1.1**
HYT	**Haines Junctio**	**3.08**	**122**	Pn	**Pn**	**06 26 47.6**	**-1.1**
HYT				Pg	**Pb**	**06 26 56.3**	**+1.7**
HYT				Sg	**Sb**	**06 27 36.6**	**+4.0**
PMR	**Palmer**	**3.11**	**255**	P	**Pn**	**06 26 49.1**	**+0.1**
COLA	**College**	**3.22**	**318**	*ePn*	**Pn**	**06 26 50.3**	**-0.2**
COLA				*eSn*	**Sn**	**06 27 26.8**	**-2.6**
MDM	**Murphy Dome**	**3.39**	**318**	P	**Pn**	**06 26 53.1**	**+0.2**
TRF	**Thorofare Moun**	**3.51**	**288**	P	**Pn**	**06 26 56.6**	**+1.9**
RC01	**Rabbit Creek A**	**3.59**	**249**	*ePn*	**Pn**	**06 26 57.9**	**+2.4**
BPAW	**Bear Paw Mtn.**	**3.98**	**296**	*ePn*	**Pn**	**06 27 01.5**	**+0.5**
SEW	**Seward**	**4.02**	**235**	*ePn*	**Pn**	**06 27 02.1**	**+0.5**
WHY	**Whitehorse**	**4.25**	**113**	Pn	**Pn**	**06 27 05.3**	**+0.5**
WHY				Sg	**Sb**	**06 28 12.2**	**+5.9**
PPLA	**Purkeypile**	**4.31**	**279**	*ePn*	Pn	06 27 08.8	+3.1
PPLA				*eSn*	**Sn**	**06 27 59.1**	**+2.5**
PLBC	**Pleasant Camp**	**4.43**	**132**	Pn	**Pn**	**06 27 07.2**	**+0.1**
PLBC				Sg	**Sg**	**06 28 18.2**	**-2.8**
RSO	**Redoubt South**	**5.19**	**251**	*ePn*	**Pn**	**06 27 19.9**	**+2.1**
	24nm,0.6s						
COLD	**Coldfoot**	**5.63**	**329**	P	**Pn**	**06 27 24.7**	**+1.0**
DLBC	**Dease Lake**	**7.55**	**117**	Pn	**Pn**	**06 27 48.3**	**-1.8**
DLBC				Sg	Sg	06 29 55.0	-6.2
FNBB	**Fort Nelson**	**10.37**	**102**	Pn	**Pn**	**06 28 28.4**	**-0.3**
FNBB				Sn	**Sn**	**06 30 19.8**	**-5.5**
YKA	**Yellowknife Ar**	**12.99**	**78**	Pn	**Pn**	**06 29 02.6**	**-1.7**
	0.1nm,0.3s,baz=278,slow=12,SNR=3.3						
GCMT	**Greycliff**	**25.25**	**116**	*eP*	**P**	**06 31 26.4**	**+0.1**
	8.1nm,0.7s						
PDAR	**Pinedale Array**	**27.78**	**120**	P	**P**	**06 31 49.6**	**+0.3**
	0.5nm,0.7s,baz=340,slow=8.2,SNR=5.6						
ULM	**Lac du Bonnet**	**28.06**	**94**	P	**P**	**06 31 53.0**	**+1.5**
	0.8nm,0.5s,baz=326,slow=15,SNR=2.1						
NVAR	**Mina Array Bea**	**28.41**	**137**	P	**P**	**06 31 56.5**	**+1.5**
	0.5nm,0.8s,baz=330,slow=8.2,SNR=3.1						
PFO	**Pinyon Flats O**	**33.43**	**138**	*eP*	**P**	**06 32 38.1**	**-0.9**
	8.1nm,0.5s						
TXAR	**Lajitas Array**	**41.80**	**124**	P	**P**	**06 33 50.8**	**+0.9**
	0.2nm,0.5s,baz=344,slow=6.0,SNR=2.7						

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*ISCJB **30** 06:31:54.7±0.8, 23°.1S±0°.1×179°.2E±0°.2, h579km, mb3.9/9, Error ellipse: s-maj=19.5km s-min=16.8km az=38.4*
*IDC **30** 06:31:55.8±3.9, 23°.12S×179°.20E, h578km±47km, mb3.3/9, mb1 3.4/11, mb1mx3.2/22, mbtmp4.2/11, Error ellipse: s-maj=27.0km s-min=21.7km az=71.0*

ISC 30 06:31:55.6±0.9, **23°.2S**±0°.1×**179°.2E**±0°.1, **h579**km, **n11, σ0§71/11, mb3.6/9, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.86**	**273**	P	**P**	**06 34 33.4**	**+0.3**
	baz=90,slow=20						
URZ	**Urewera**	**15.15**	**186**	P	**P**	**06 35 04.5**	**-1.2**
	0.3nm,0.3s,baz=67,slow=7.7,SNR=2.2						
CTA	**Charters Tower**	**30.77**	**269**	P	**P**	**06 37 25.6**	**+0.3**
	17nm,0.3s,baz=94,slow=11,SNR=26						
STKA	**Stephens Creek**	**34.35**	**247**	P	**P**	**06 37 55.8**	**+0.4**
	2.9nm,0.4s,baz=93,slow=9.6,SNR=15						
ASAR	**Alice Springs**	**41.46**	**260**	P	**P**	**06 38 52.9**	**-0.3**
	3.3nm,0.5s,baz=92,slow=8.1,SNR=36						
WRA	**Warramunga Arr**	**41.76**	**266**	P	**P**	**06 38 54.5**	**-1.0**
	2.9nm,0.3s,baz=96,slow=8.4,SNR=50						
QSPA	**South Pole Qui**	**66.91**	**180**	P	**P**	**06 41 51.9**	**+0.9**
	1.8nm,1.0s,baz=90,slow=4.0,SNR=7.5						
MJAR	**Matsushiro Arr**	**70.90**	**326**	P	**P**	**06 42 15.3**	**+0.1**
	0.8nm,0.6s,baz=158,slow=2.9,SNR=3.3						
PETK	**Petropavlovsk-**	**78.23**	**347**	P	**P**	**06 42 55.5**	**-0.4**
	1.8nm,0.7s,baz=133,slow=7.7,SNR=3.3						
NVAR	**Mina Array Bea**	**84.72**	**44**	P	**P**	**06 43 30.1**	**+0.4**
	0.3nm,0.6s,baz=242,slow=5.8,SNR=3.1						
ILAR	**Eielson Array**	**91.49**	**14**	P	**P**	**06 44 00.1**	**-0.3**
	0.2nm,0.6s,baz=220,slow=5.2,SNR=4.6						

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*MOS **30** 06:51:27.8±2.4, 48°.75N×156°.67E, h7km, mb4.1/1, Error ellipse: s-maj=68.5km s-min=9.0km az=81.9*

KRSC 30 06:51:27.8±1.9, **48.75N×156.67E, h7**km±35km, **ML4.1, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.97**	**350**	P	Pn	06 52 01.9	+0.3
SKR				eS	Sn	06 52 27.2	+0.7
SKR	**Severo-Kuril's**	**1.97**	**350**	*ePn*	Pn	06 51 54.5	-7.1
PAU	**Pauzhetka**	**2.73**	**2**	P	Pn	06 52 14.0	+2.1
PAU				S	Sb	06 52 48.3	-2.1
PAU	**Pauzhetka**	**2.73**	**2**	PN	Pn	06 52 14.0	+2.1
PAU				S	Sb	06 52 48.3	-2.1
MIPR	**Malaya Ipel'ka**	**3.54**	**1**	*eP*	Pn	06 52 25.8	+2.7
ASAK	**Asacha**	**3.73**	**12**	*eP*	Pb	06 52 29.9	-4.1
RUS	**Russkaya**	**3.87**	**17**	*eP*	Pn	06 52 31.2	+3.5
RUS				*eS*	Sb	06 53 18.6	-4.8
RUS	**Russkaya**	**3.87**	**17**	PN	Pn	06 52 31.2	+3.5
RUS				S	Sb	06 53 18.6	-4.8
UGLR	**Uglovaya**	**4.67**	**16**	*eP*	Pn	06 52 43.6	+4.8
AVH	**Avacha**	**4.71**	**15**	*eP*	Pn	06 52 42.5	+3.2
AVH	**Avacha**	**4.71**	**15**	PN	Pn	06 52 42.5	+3.2
KOK	**Koryaka**	**4.72**	**15**	*eP*	Pn	06 52 44.3	+4.8
KOK	**Koryaka**	**4.72**	**15**	PN	Pn	06 52 44.3	+4.8
SMAR	**Somma**	**4.72**	**16**	*eP*	Pn	06 52 44.4	+4.8
SMAR	**Somma**	**4.72**	**16**	PN	Pn	06 52 44.4	+4.8
KRER	**Koryakskii**	**4.75**	**15**	*eP*	Pn	06 52 44.8	+4.8
SDLR	**Sedlovina**	**4.75**	**16**	*eP*	Pn	06 52 43.0	+3.1
SDLR	**Sedlovina**	**4.75**	**16**	PN	Pn	06 52 43.0	+3.1
KRX	**Arik**	**4.79**	**14**	*eP*	Pn	06 52 45.0	+4.6
SPN	**Mys Shipunski**	**4.85**	**25**	*eP*	Pn	06 52 46.0	+4.9
SPN	**Mys Shipunski**	**4.85**	**25**	PN	Pn	06 52 46.0	+4.9
GNL	**Ganaly**	**5.02**	**9**	*eP*	Pn	06 52 48.4	+4.8
GNL	**Ganaly**	**5.02**	**9**	PN	Pn	06 52 48.4	+4.8
MKZ	**Mys Kozlova**	**6.62**	**26**	*eP*	Pn	06 53 01.0	-4.3
MKZ	**Mys Kozlova**	**6.62**	**26**	PN	Pn	06 53 10.0	+4.7

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*ISCJB **30** 07:15:11.0±0.2, 46°.47N±0°.01×0°.67W±0°.02, h10km, Error ellipse: s-maj=1.9km s-min=1.7km az=166.2*

*CSEM **30** 07:15:12.5±0.1, 46°.45N×0°.73W, h0km±1km, ML4.2/38, Error ellipse: s-maj=1.9km s-min=1.5km az=80.0*
*LDG **30** 07:15:14.3±0.1, 46°.47N×0°.78W, h3km, Md4.3/3, Ml4.2/43, Error ellipse: s-maj=2.3km s-min=1.9km az=126.0*
*INMG **30** 07:15:14.3±3.9, 46°.62N×1°.00W, h0km±182km, ML2.9, Error ellipse: s-maj=200.2km s-min=29.9km az=48.0*
*NEIC **30** 07:15:14.3, 46°.47N×0°.78W, h3km, ML4.2(LDG), After LDG.*
NEIC Felt at Niort.
*STR **30** 07:15:15.2±0.2, 46°.38N×0°.72W, h5km, Ml4.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*SZGRF **30** 07:15:17.1, 46°.39N×0°.53W, h10km, mb4.2, France*

ISC 30 07:15:11.7±0.5, **46°.46N**±0°.01×**0°.76W**±0°.02, **h10**km, **n317, σ1§54/517, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIF	**Chize**	**0.40**	**143**	Pg	**Pb**	**07 15 22.1**	**+1.2**
CHIF				Sg	**Sb**	**07 15 27.4**	**+0.3**
CHIF	**Chize**	**0.40**	**143**	Pg	**Pb**	**07 15 22.1**	**+1.2**
CHIF				Sg	**Sb**	**07 15 27.4**	**+0.3**
MFF	**Saint Martin d**	**0.45**	**71**	*ePg*	**Pb**	**07 15 23.1**	**+1.4**
	SNR=1.0						
MFF				*eSg*	**Sb**	**07 15 28.3**	**-0.1**
	8μm,0.2s						
MFF	**Saint Martin d**	**0.45**	**71**	*ePg*	**Pb**	**07 15 23.1**	**+1.4**
	SNR=1.0						
MFF				*eSg*	**Sb**	**07 15 28.3**	**-0.1**
	4μm,0.2s						
MFF	**Saint Martin d**	**0.45**	**71**	*ePg*	**Pb**	**07 15 23.1**	**+1.4**
MFF				*eSg*	**Sb**	**07 15 28.3**	**-0.1**
RENF	**Rennes**	**1.77**	**341**	Pg	**Pg**	**07 15 46.2**	**+0.6**
RENF				Sg	**Sg**	**07 16 10.6**	**+2.0**
LFF	**La Frestale**	**1.84**	**145**	*ePn*	**Pb**	**07 15 45.9**	**+0.4**
	SNR=1.0						
LFF	**La Frestale**	**1.84**	**145**	*ePg*	**Pg**	**07 15 48.5**	**+1.5**
	SNR=1.0						
LFF				*eSg*	**Sg**	**07 16 12.6**	**+1.7**
	1μm,0.4s						
LFF	**La Frestale**	**1.84**	**145**	*ePn*	**Pb**	**07 15 45.9**	**+0.4**
	SNR=1.0						
LFF	**La Frestale**	**1.84**	**145**	*ePg*	**Pg**	**07 15 48.5**	**+1.5**
	SNR=1.0						
LFF				*eSg*	**Sg**	**07 16 12.6**	**+1.7**
	654nm,0.4s						
LFF	**La Frestale**	**1.84**	**145**	*ePn*	**Pb**	**07 15 45.9**	**+0.4**
LFF				*ePg*	**Pg**	**07 15 48.5**	**+1.5**
LFF				*eSg*	**Sg**	**07 16 12.6**	**+1.7**
GRR	**Gorron**	**1.94**	**358**	*ePn*	**Pb**	**07 15 46.9**	**-0.2**
	SNR=1.0						
GRR	**Gorron**	**1.94**	**358**	*ePg*	**Pg**	**07 15 50.3**	**+1.5**
GRR				*eSg*	**Sg**	**07 16 14.9**	**+1.0**
	493nm,0.2s						
GRR	**Gorron**	**1.94**	**358**	*ePn*	**Pb**	**07 15 46.9**	**-0.2**
	SNR=1.0						
GRR	**Gorron**	**1.94**	**358**	*ePg*	**Pg**	**07 15 50.3**	**+1.5**
GRR				*eSg*	**Sg**	**07 16 14.9**	**+1.0**
	246nm,0.2s						
GRR	**Gorron**	**1.94**	**358**	*ePn*	**Pb**	**07 15 46.9**	**-0.2**
GRR				*ePg*	**Pg**	**07 15 50.3**	**+1.5**
GRR				*eSg*	**Sg**	**07 16 14.9**	**+1.0**
RJF	**Les Rejaudoux**	**1.96**	**125**	*ePn*	**Pb**	**07 15 47.3**	**-0.2**
	SNR=1.0						
RJF	**Les Rejaudoux**	**1.96**	**125**	*ePg*	**Pg**	**07 15 50.2**	**+0.9**
	SNR=1.0						
RJF				*eSg*	**Sg**	**07 16 16.7**	**+2.0**
	588nm,0.2s						
RJF	**Les Rejaudoux**	**1

CAF	**Calvac**	**2.50**	**127**	*e*Pg	**Pg**	**07 16 00.5**	**+0.9**
CAF				*e*Sg	**Sg**	**07 16 33.5**	**+1.5**
	368nm,0.2s,SNR=1.0						
CAF	**Calvac**	**2.50**	**127**	*e*Pn	**Pn**	**07 15 55.0**	**+2.5**
	SNR=1.0						
CAF	**Calvac**	**2.50**	**127**	*e*Pg	**Pg**	**07 16 00.5**	**+0.9**
CAF				*e*Sg	**Sg**	**07 16 33.5**	**+1.5**
	184nm,0.2s,SNR=1.0						
CAF	**Calvac**	**2.50**	**127**	*e*Pn	**Pn**	**07 15 55.0**	**+2.5**
CAF				*e*Pg	**Pg**	**07 16 00.5**	**+0.9**
CAF				*e*Sg	**Sg**	**07 16 33.5**	**+1.5**
ROSF	**Rostrenen**	**2.54**	**319**	*e*Pn	**Pb**	**07 15 55.9**	**-1.5**
	SNR=1.0						
ROSF	**Rostrenen**	**2.54**	**319**	*e*Pg	**Pg**	**07 16 02.2**	**+1.8**
ROSF				*e*Sg	**Sg**	**07 16 33.6**	**+0.2**
	327nm,0.3s						
ROSF	**Rostrenen**	**2.54**	**319**	*e*Pn	**Pb**	**07 15 55.9**	**-1.5**
	SNR=1.0						
ROSF	**Rostrenen**	**2.54**	**319**	*e*Pg	**Pg**	**07 16 02.2**	**+1.8**
ROSF				*e*Sg	**Sg**	**07 16 33.6**	**+0.2**
	164nm,0.3s						
ROSF	**Rostrenen**	**2.54**	**319**	*e*Pn	**Pb**	**07 15 55.9**	**-1.5**
ROSF				*e*Pg	**Pg**	**07 16 02.2**	**+1.8**
ROSF				*e*Sg	**Sg**	**07 16 33.6**	**+0.2**
PYM	**Petit Puy Mans**	**2.71**	**104**	Pn	**Pn**	**07 15 57.8**	**+2.4**
PYM	**Petit Puy Mans**	**2.71**	**104**	Pn	**Pn**	**07 15 57.8**	**+2.4**
PYM	**Petit Puy Mans**	**2.71**	**104**	Pn	**Pn**	**07 15 57.8**	**+2.4**
PYM				Pg	**Pg**	**07 16 05.2**	**+1.5**
AGO	**Saint Agoulin**	**2.73**	**97**	Pn	**Pn**	**07 15 58.2**	**+2.6**
AGO	**Saint Agoulin**	**2.73**	**97**	Pn	**Pn**	**07 15 58.2**	**+2.6**
AGO	**Saint Agoulin**	**2.73**	**97**	Pn	**Pn**	**07 15 58.2**	**+2.6**
AVF	**Avril sur Loir**	**2.85**	**82**	*e*Pn	**Pn**	**07 15 59.3**	**+2.1**
	SNR=1.0						
AVF	**Avril sur Loir**	**2.85**	**82**	*e*Pg	**Pg**	**07 16 07.4**	**+1.1**
AVF				*e*Sg	**Sg**	**07 16 41.8**	**-1.5**
	154nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.85**	**82**	*e*Pn	**Pn**	**07 15 59.3**	**+2.1**
	SNR=1.0						
AVF	**Avril sur Loir**	**2.85**	**82**	*e*Pg	**Pg**	**07 16 07.4**	**+1.1**
AVF				*e*Sg	**Sg**	**07 16 41.8**	**-1.5**
	77nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.85**	**82**	*e*Pn	**Pn**	**07 15 59.3**	**+2.1**
AVF				*e*P	**Pb**	**07 16 02.1**	**-0.6**
AVF				*e*Pg	**Pg**	**07 16 07.4**	**+1.1**
AVF				*e*Sg	**Sg**	**07 16 41.8**	**-1.5**
JSA	**Saint Aubin**	**2.90**	**341**	*e*P	**Pn**	**07 16 00.1**	**+2.3**
JSA				*e*S	**Sn**	**07 16 32.6**	**-0.1**
	228nm,0.2s						
SSF	**Saint Saulge**	**2.99**	**77**	*e*Pn	**Pn**	**07 16 01.2**	**+2.0**
	SNR=1.0						
SSF	**Saint Saulge**	**2.99**	**77**	*e*Pg	**Pg**	**07 16 10.1**	**+1.1**
SSF				*e*Sg	**Sg**	**07 16 48.4**	**+0.6**
	233nm,0.4s						
SSF	**Saint Saulge**	**2.99**	**77**	*e*Pn	**Pn**	**07 16 01.2**	**+2.0**
	SNR=1.0						
SSF	**Saint Saulge**	**2.99**	**77**	*e*Pg	**Pg**	**07 16 10.1**	**+1.1**
SSF				*e*Sg	**Sg**	**07 16 48.4**	**+0.6**
	116nm,0.4s						
SSF	**Saint Saulge**	**2.99**	**77**	*e*Pn	**Pn**	**07 16 01.2**	**+2.0**
SSF				*e*Pg	**Pg**	**07 16 10.1**	**+1.1**
SSF				*e*Sg	**Sg**	**07 16 48.4**	**+0.6**
LBL	**Lubilhac**	**3.05**	**112**	Pn	**Pn**	**07 16 01.6**	**+1.5**
LBL	**Lubilhac**	**3.05**	**112**	Pn	**Pn**	**07 16 01.6**	**+1.5**
LBL	**Lubilhac**	**3.05**	**112**	Pn	**Pn**	**07 16 02.6**	**+2.5**
LBL				Pg	**Pg**	**07 16 11.4**	**+1.2**
PLDF	**La Plantade**	**3.08**	**97**	Pn	**Pn**	**07 16 02.6**	**+2.2**
PLDF	**La Plantade**	**3.08**	**97**	Pn	**Pn**	**07 16 02.6**	**+2.2**
PLDF	**La Plantade**	**3.08**	**97**	Pn	**Pn**	**07 16 02.6**	**+2.2**
SMF	**Signal de Mont**	**3.18**	**85**	*e*Pn	**Pn**	**07 16 03.7**	**+1.9**
	SNR=1.0						
SMF	**Signal de Mont**	**3.18**	**85**	*e*Pg	**Pg**	**07 16 13.1**	**+0.5**
SMF				*e*Sg	**Sg**	**07 16 54.0**	**+0.2**
	304nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**3.18**	**85**	*e*Pn	**Pn**	**07 16 03.7**	**+1.9**
	SNR=1.0						
SMF	**Signal de Mont**	**3.18**	**85**	*e*Pg	**Pg**	**07 16 13.1**	**+0.5**
SMF				*e*Sg	**Sg**	**07 16 54.0**	**+0.2**
	152nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**3.18**	**85**	*e*Pn	**Pn**	**07 16 03.7**	**+1.9**
SMF				*e*Pg	**Pg**	**07 16 13.1**	**+0.5**
SMF				*e*Sg	**Sg**	**07 16 54.0**	**+0.2**
OSSF	**Osses**	**3.22**	**187**	Pn	**Pn**	**07 16 03.8**	**+1.5**
OSSF	**Osses**	**3.22**	**187**	Pn	**Pn**	**07 16 03.8**	**+1.5**
OSSF	**Osses**	**3.22**	**187**	Pn	**Pn**	**07 16 03.8**	**+1.5**
OSSF				Pg	**Pg**	**07 16 15.4**	**+2.0**
COLF	**Collangettes**	**3.24**	**105**	Pn	**Pn**	**07 16 04.8**	**+2.1**
COLF	**Collangettes**	**3.24**	**105**	Pg	**Pg**	**07 16 15.4**	**+1.6**
COLF	**Collangettes**	**3.24**	**105**	Pn	**Pn**	**07 16 04.8**	**+2.1**
COLF	**Collangettes**	**3.24**	**105**	Pg	**Pg**	**07 16 14.6**	**+0.8**
COLF	**Collangettes**	**3.24**	**105**	Pn	**Pn**	**07 16 04.8**	**+2.1**
COLF				Pg	**Pg**	**07 16 14.6**	**+0.8**
ORDF	**Ordiarp**	**3.24**	**182**	Pn	**Pn**	**07 16 03.8**	**+1.1**
ORDF	**Ordiarp**	**3.24**	**182**	Pn	**Pn**	**07 16 03.8**	**+1.1**
ORDF	**Ordiarp**	**3.24**	**182**	Pn	**Pn**	**07 16 03.8**	**+1.1**
ORDF				Pg	**Pg**	**07 16 15.2**	**+1.4**
LOR	**Lormes**	**3.27**	**74**	*e*Pn	**Pn**	**07 16 04.9**	**+1.9**
	baz=255,SNR=1.0						
LOR	**Lormes**	**3.27**	**74**	*e*Pg	**Pg**	**07 16 15.2**	**+0.9**
	baz=252						
LOR				*e*Sg	**Sg**	**07 16 55.1**	**-1.6**
	165nm,0.2s						
LOR	**Lormes**	**3.27**	**74**	*e*Pn	**Pn**	**07 16 04.9**	**+1.9**
	SNR=1.0						
LOR	**Lormes**	**3.27**	**74**	*e*Pg	**Pg**	**07 16 15.2**	**+0.9**
LOR				*e*Sg	**Sg**	**07 16 55.1**	**-1.6**
	83nm,0.2s						
LOR	**Lormes**	**3.27**	**74**	*e*Pn	**Pn**	**07 16 04.9**	**+1.9**
LOR				*e*Pg	**Pg**	**07 16 15.2**	**+0.9**
LOR				*e*Sg	**Sg**	**07 16 55.1**	**-1.6**
SJPF	**Ste Jean**	**3.36**	**186**	*e*Pn	**Pn**	**07 16 05.8**	**+1.6**
	SNR=1.0						
SJPF	**Ste Jean**	**3.36**	**186**	*e*Pg	**Pg**	**07 16 16.6**	**+0.6**
SJPF				*e*Sg	**Sg**	**07 17 00.2**	**+0.7**
	147nm,0.3s,SNR=1.0						
SJPF	**Ste Jean**	**3.36**	**186**	*e*Pn	**Pn**	**07 16 05.8**	**+1.6**
	SNR=1.0						
SJPF	**Ste Jean**	**3.36**	**186**	*e*Pg	**Pg**	**07 16 16.6**	**+0.6**
SJPF				*e*Sg	**Sg**	**07 17 00.2**	**+0.7**
	74nm,0.3s,SNR=1.0						
SJPF	**Ste Jean**	**3.36**	**186**	*e*Pn	**Pn**	**07 16 05.8**	**+1.6**
SJPF				*e*Pg	**Pg**	**07 16 16.6**	**+0.6**
SJPF				*e*Sg	**Sg**	**07 17 00.2**	**+0.7**
ATE	**Arette**	**3.37**	**179**	Pn	**Pn**	**07 16 04.9**	**+0.5**
ATE	**Arette**	**3.37**	**179**	Pg	**Pg**	**07 16 16.8**	**+0.6**
ATE	**Arette**	**3.37**	**179**	Pn	**Pn**	**07 16 04.9**	**+0.5**
ATE	**Arette**	**3.37**	**179**	Pg	**Pg**	**07 16 16.8**	**+0.6**
ATE	**Arette**	**3.37**	**179**	Pn	**Pn**	**07 16 04.9**	**+0.5**
ATE				Pg	**Pg**	**07 16 16.8**	**+0.6**
REYF	**Montagne du Re**	**3.40**	**175**	Pn	**Pn**	**07 16 05.7**	**+0.9**
REYF	**Montagne du Re**	**3.40**	**175**	Pn	**Pn**	**07 16 05.7**	**+0.9**
REYF	**Montagne du Re**	**3.40**	**175**	Pn	**Pn**	**07 16 05.7**	**+0.9**
REYF				Pg	**Pg**	**07 16 18.0**	**+1.3**
LARF	**Larrau**	**3.42**	**183**	Pn	**Pn**	**07 16 06.3**	**+1.2**
LARF	**Larrau**	**3.42**	**183**	Pn	**Pn**	**07 16 06.3**	**+1.2**
LARF	**Larrau**	**3.42**	**183**	Pn	**Pn**	**07 16 06.3**	**+1.2**
LARF				Pg	**Pg**	**07 16 18.0**	**+0.8**
LABF	**Labassere**	**3.46**	**170**	Pn	**Pn**	**07 16 06.8**	**+1.1**
LABF	**Labassere**	**3.46**	**170**	Pn	**Pn**	**07 16 06.8**	**+1.1**
LABF	**Labassere**	**3.46**	**170**	Pn	**Pn**	**07 16 06.8**	**+1.1**
LABF				Pg	**Pg**	**07 16 18.7**	**+0.7**
EPF	**Esparros**	**3.51**	**167**	*e*Pn	**Pn**	**07 16 08.0**	**+1.6**
	SNR=1.0						
EPF	**Esparros**	**3.51**	**167**	*e*Pg	**Pg**	**07 16 19.9**	**+0.9**
EPF				*e*Sg	**Sg**	**07 17 05.0**	**+0.5**
	245nm,0.3s,SNR=1.0						
EPF	**Esparros**	**3.51**	**167**	*e*Pn	**Pn**	**07 16 08.0**	**+1.6**
	SNR=1.0						
EPF	**Esparros**	**3.51**	**167**	*e*Pg	**Pg**	**07 16 19.9**	**+0.9**
EPF				*e*Sg	**Sg**	**07 17 05.0**	**+0.5**
	123nm,0.3s,SNR=1.0						
EPF	**Esparros**	**3.51**	**167**	*e*Pn	**Pn**	**07 16 08.0**	**+1.6**
EPF				*e*Pg	**Pg**	**07 16 19.9**	**+0.9**
EPF				*e*Sg	**Sg**	**07 17 05.0**	**+0.5**
ETSF	**Etsaut**	**3.56**	**178**	*e*Pn	**Pn**	**07 16 08.1**	**+1.0**
	SNR=1.0						
ETSF	**Etsaut**	**3.56**	**178**	*e*Pg	**Pg**	**07 16 20.6**	**+0.7**
ETSF				*e*Sg	**Sg**	**07 17 04.4**	**-1.6**
	186nm,0.6s						
ETSF	**Etsaut**	**3.56**	**178**	*e*Pn	**Pn**	**07 16 08.1**	**+1.0**
	SNR=1.0						
ETSF	**Etsaut**	**3.56**	**178**	*e*Pg	**Pg**	**07 16 20.6**	**+0.7**
ETSF				*e*Sg	**Sg**	**07 17 04.4**	**-1.6**
	93nm,0.6s						
ETSF	**Etsaut**	**3.56**	**178**	*e*Pn	**Pn**	**07 16 08.1**	**+1.0**
ETSF				*e*Pg	**Pg**	**07 16 20.6**	**+0.7**
ETSF				*e*Sg	**Sg**	**07 17 04.4**	**-1.6**
VIEF	**Viey**	**3.61**	**171**	Pn	**Pn**	**07 16 09.0**	**+1.2**
VIEF	**Viey**	**3.61**	**171**	Pn	**Pn**	**07 16 09.0**	**+1.2**
VIEF	**Viey**	**3.61**	**171**	Pn	**Pn**	**07 16 09.0**	**+1.2**
RESF	**Ens**	**3.73**	**168**	Pn	**Pn**	**07 16 10.4**	**+0.9**
RESF	**Ens**	**3.73**	**168**	Pn	**Pn**	**07 16 10.4**	**+0.9**
RESF	**Ens**	**3.73**	**168**	Pn	**Pn**	**07 16 10.4**	**+0.9**
MELF	**Melles**	**3.74**	**163**	Pn	**Pn**	**07 16 11.1**	**+1.5**
MELF	**Melles**	**3.74**	**163**	Pn	**Pn**	**07 16 11.1**	**+1.5**
MELF	**Melles**	**3.74**	**163**	Pn	**Pn**	**07 16 11.1**	**+1.5**
MTLF	**Montolieu**	**3.76**	**145**	*e*Pn	**Pn**	**07 16 12.7**	**+2.9**
	SNR=1.0						
MTLF	**Montolieu**	**3.76**	**145**	*e*Pg	**Pg**	**07 16 24.3**	**+0.5**
MTLF				*e*Sg	**Sg**	**07 17 11.8**	**-0.7**
	76nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**3.76**	**145**	*e*Pn	**Pn**	**07 16 12.7**	**+2.9**
	SNR=1.0						
MTLF	**Montolieu**	**3.76**	**145**	*e*Pg	**Pg**	**07 16 24.3**	**+0.5**
MTLF				*e*Sg	**Sg**	**07 17 11.8**	**-0.7**
	38nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**3.76**	**145**	*e*Pn	**Pn**	**07 16 12.7**	**+2.9**
MTLF				*e*Pg	**Pg**	**07 16 24.3**	**+0.5**
MTLF				*e*Sg	**Sg**	**07 17 11.8**	**-0.7**
SSB	**Saint Sauveur**	**3.88**	**106**	Pn	**Pn**	**07 16 12.7**	**+1.2**
SSB	**Saint Sauveur**	**3.88**	**106**	Pg	**Pg**	**07 16 26.8**	**+0.7**
SSB	**Saint Sauveur**	**3.88**	**106**	Pn	**Pn**	**07 16 12.7**	**+1.2**
SSB	**Saint Sauveur**	**3.88**	**106**	Pg	**Pg**	**07 16 26.8**	**+0.7**
SSB	**Saint Sauveur**	**3.88**	**106**	Pn	**Pn**	**07 16 12.7**	**+1.2**
SSB				*e*Pn	Pb	07 16 14.0	-6.3
SSB				*e*Sn	Sn	07 16 26.8	-30
LASF	**Ste Croix**	**4.03**	**124**	*e*Pn	**Pn**	**07 16 16.4**	**+2.9**
	SNR=1.0						
LASF	**Ste Croix**	**4.03**	**124**	*e*Pg	**Pg**	**07 16 29.2**	**+0.2**
LASF				*e*Sg	**Sg**	**07 17 21.7**	**+0.5**
	176nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**4.03**	**124**	*e*Pn	**Pn**	**07 16 16.4**	**+2.9**
	SNR=1.0						
LASF	**Ste Croix**	**4.03**	**124**	*e*Pg	**Pg**	**07 16 29.2**	**+0.2**
LASF				*e*Sg	**Sg**	**07 17 21.7**	**+0.5**
	88nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**4.03**	**124**	*e*Pn	**Pn**	**07 16 16.4**	**+2.9**
LASF				*e*Pg	**Pg**	**07 16 29.2**	**+0.2**
LASF				*e*Sg	**Sg**	**07 17 21.7**	**+0.5**
VIVF	**Saint-Julien-l**	**4.13**	**111**	*e*Pn	**Pn**	**07 16 17.4**	**+2.5**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**4.13**	**111**	*e*Pg	**Pg**	**07 16 31.5**	**+0.7**
VIVF				*e*Sg	**Sg**	**07 17 24.5**	**+0.2**
	100nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**4.13**	**111**	*e*Pn	**Pn**	**07 16 17.4**	**+2.5**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**4.13**	**111**	*e*Pg	**Pg**	**07 16 31.5**	**+0.7**
VIVF				*e*Sg	**Sg**	**07 17 24.5**	**+0.2**
	50nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**4.13**	**111**	*e*Pn	**Pn**	**07 16 17.4**	**+2.5**
VIVF				*e*Pg	**Pg**	**07 16 31.5**	**+0.7**
VIVF				*e*Sg	**Sg**	**07 17 24.5**	**+0.2**
SFTF	**Sexfontaines**	**4.31**	**64**	*e*Pn	**Pn**	**07 16 19.3**	**+2.0**
	baz=241						
SFTF	**Sexfontaines**	**4.31**	**64**	*e*Pg	**Pg**	**07 16 34.8**	**+0.5**
SFTF				*e*Sg	**Sg**	**07 17 29.7**	**-0.4**
	69nm,0.2s						
SFTF	**Sexfontaines**	**4.31**	**64**	*e*Pn	**Pn**	**07 16 19.3**	**+2.0**
SFTF	**Sexfontaines**	**4.31**	**64**	*e*Pg	**Pg**	**07 16 34.8**	**+0.5**
SFTF				*e*Sg	**Sg**	**07 17 29.7**	**-0.4**
	34nm,0.2s						
SFTF	**Sexfontaines**	**4.31**	**64**	*e*Pn	**Pn**	**07 16 19.3**	**+2.0**
SFTF				*e*Pg	**Pg**	**07 16 34.8**	**+0.5**
SFTF				*e*Sg	**Sg**	**07 17 29.7**	**-0.4**
MEZF	**Maizieres J'vi**	**4.44**	**60**	*e*Pn	**Pn**	**07 16 20.8**	**+1.7**
	baz=247,SNR=1.0						
MEZF	**Maizieres J'vi**	**4.44**	**60**	*e*Pg	**Pg**	**07 16 37.0**	**+0.3**
	baz=251						
MEZF				*e*Sg	**Sg**	**07 17 33.7**	**-0.5**
	150nm,0.4s						
MEZF	**Maizieres J'vi**	**4.44**	**60**	*e*Pn	**Pn**	**07 16 20.8**	**+1.7**
	SNR=1.0						
MEZF	**Maizieres J'vi**	**4.44**	**60**	*e*Pg	**Pg**	**07 16 37.0**	**+0.3**
MEZF				*e*Sg	**Sg**	**07 17 33.7**	**-0.5**
	75nm,0.4s						
MEZF	**Maizieres J'vi**	**4.44**	**60**	*e*Pn	**Pn**	**07 16 20.8**	**+1.7**
MEZF				*e*Pg	**Pg**	**07 16 37.0**	**+0.3**
MEZF				*e*Sg	**Sg**	**07 17 33.7**	**-0.5**
HMNX	**Herstmonceux**	**4.47**	**9**	*e*S	**Sn**	**07 17 11.2**	**-0.4**
	67nm,0.8s						
DYA	**Yadsworthy**	**4.51**	**333**	*e*P	**Pn**	**07 16 22.2**	**+2.2**
FILF	**Fillols**	**4.56**	**147**	Pg	**Pg**	**07 16 38.6**	**-0.4**
FILF	**Fillols**	**4.56**	**147**	Pg	**Pg**	**07 16 38.6**	**-0.4**
FILF	**Fillols**	**4.56**	**147**	Pg	**Pg**	**07 16 38.6**	**-0.4**
OCF	**Saint Nazaire**	**4.65**	**112**	Pn	**Pn**	**07 16 24.5**	**+2.4**
OCF	**Saint Nazaire**	**4.65**	**112**	Pg	**Pg**	**07 16 42.1**	**+1.3**
OCF	**Saint Nazaire**	**4.65**	**112**	Pn	**Pn**	**07 16 24.5**	**+2.4**
OCF				Pg	**Pg**	**07 16 42.1**	**+1.3**
OG26	**St.-Nazaire-De**	**4.65**	**112**	Pn	**Pn**	**07 16 24.5**	**+2.4**
OG26	**St.-Nazaire-De**	**4.65**	**112**	Pg	**Pg**	**07 16 42.1**	**+1.3**
OG26	**St.-Nazaire-De**	**4.65**	**112**	Pn	**Pn**	**07 16 24.5**	**+2.4**
OG26	**St.-Nazaire-De**	**4.65**	**112**	Pg	**Pg**	**07 16 42.1**	**+1.3**
CABF	**La Chapelle**	**4.73**	**86**	*e*Pn	**Pn**	**07 16 24.9**	**+1.8**
	SNR=1.0						
CABF	**La Chapelle**	**4.73**	**86**	*e*Pg	**Pg**	**07 16 42.5**	**+0.3**
CABF				*e*Sg	**Sg**	**07 17 43.1**	**-0.3**
	136nm,0.7s,SNR=1.0						
CABF	**La Chapelle**	**4.73**	**86**	*e*Pn	**Pn**	**07 16 24.9**	**+1.8**
	SNR=1.0						
CABF	**La Chapelle**	**4.73**	**86**	*e*Pg	**Pg**	**07 16 42.5**	**+0.3**
CABF				*e*Sg	**Sg**	**07 17 43.1**	**-0.3**
	68nm,0.7s,SNR=1.0						
CABF	**La Chapelle**	**4.73**	**86**	*e*Pn	**Pn**	**07 16 24.9**	**+1.8**
CABF				*e*Pg	**Pg**	**07 16 42.5**	**+0.3**
CABF				*e*Sg	**Sg**	**07 17 43.1**	**-0.3**
PAGF	**Fort de Pagny**	**4.87**	**62**	*e*Pn	**Pn**	**07 16 26.4**	**+1.4**
	baz=235						
PAGF	**Fort de Pagny**	**4.87**	**62**	*e*Pg	**Pg**	**07 16 44.8**	**-0.1**
	baz=228						
PAGF				*e*Sg	**Sg**	**07 17 47.1**	**-0.9**
	25nm,0.4s						
PAGF	**Fort de Pagny**	**4.87**	**62**	*e*Pn	**Pn**	**07 16 26.4**	**+1.4**
PAGF	**Fort de Pagny**	**4.87**	**62**	*e*Pg	**Pg**	**07 16 44.8**	**-0.1**
PAGF				*e*Sg	**Sg**	**07 17 47.1**	**-0.9**
	12nm,0.4s						
PAGF	**Fort de Pagny**	**4.87**	**62**	*e*Pn	**Pn**	**07 16 26.4**	**+1.4**
PAGF				*e*Pg	**Pg**	**07 16 44.8**	**-0.1**
PAGF				*e*Sg	**Sg**	**07 17 47.1**	**-0.9**
BAIF	**Baives**	**4.90**	**41**	*e*Pn	**Pn**	**07 16 27.5**	**+2.1**
	SNR=1.0						
BAIF	**Baives**	**4.90**	**41**	*e*Pg	**Pg**	**07 16 45.2**	**-0.3**
BAIF				*e*Sn	**Sn**	**07 17 20.9**	**-1.2**
BAIF				*e*Sg	**Sg**	**07 17 48.0**	**-0.9**
	72nm,0.7s,SNR=1.0						
BAIF	**Baives**	**4.90**	**41**	*e*Pn	**Pn**	**07 16 27.5**	**+2.1**
	SNR=1.0						
BAIF	**Baives**	**4.90**	**41**	*e*Pg	**Pg**	**07 16 45.2**	**-0.3**
BAIF				*e*Sn	**Sn**	**07 17 20.9**	**-1.2**
BAIF				*e*Sg	**Sg**	**07 17 48.0**	**-0.9**
	36nm,0.7s,SNR=1.0						
BAIF	**Baives**	**4.90**	**41**	*e*Pn	**Pn**	**07 16 27.5**	**+2.1**
BAIF				*e*Pg	**Pg**	**07 16 45.2**	**-0.3**
BAIF				*e*Sn	**Sn**	**07 17 20.9**	**-1.2**
BAIF				*e*Sg	**Sg**	**07 17 48.0**	**-0.9**
ORIF	**Oris-en-Rattie**	**4.90**	**106**	*e*Pn	**Pn**	**07 16 28.0**	**+2.5**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**4.90**	**106**	*e*Pg	**Pg**	**07 16 45.3**	**-0.2**
ORIF				*e*Sg	**Sg**	**07 17 48.8**	**-0.1**
	48nm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**4.90**	**106**	*e*Pn	**Pn**	**07 16 28.0**	**+2.5**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**4.90**	**106**	*e*Pg	**Pg**	**07 16 45.3**	**-0.2**
ORIF				*e*Sg	**Sg**	**07 17 48.8**	**-0.1**
	24nm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**4.90**	**106**	*e*Pn	**Pn**	**07 16 28.0**	**+2.5**
ORIF				*e*Pg	**Pg**	**07 16 45.3**	**-0.2**
ORIF				*e*Sg	**Sg**	**07 17 48.8**	**-0.1**
THEF	**They Montfort**	**4.91**	**66**	Pn	**Pn**	**07 16 27.9**	**+2.3**
THEF	**They Montfort**	**4.91**	**66**	Pn	**Pn**	**07 16 27.9**	**+2.3**
THEF	**They Montfort**	**4.91**	**66**	Pn	**Pn**	**07 16 26.4**	**+0.8**
HEX	**Exmoor**	**5.04**	**338**	*e*P	**Pn**	**07 16 29.1**	**+1.9**
	95nm,0.5s						
HAU	**Haudompre**	**5.08**	**70**	*e*Pn	**Pn**	**07 16 28.9**	**+1.0**
	SNR=1.0						
HAU	**Haudompre**	**5.08**	**70**	*e*Pg	**Pg**	**07 16 48.7**	**-0.3**
HAU				*e*Sn	**Sn**	**07 17 25.6**	**-1.1**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**07 17 54.0**	**-0.8**
	132nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**5.08**	**70**	*e*Pn	**Pn**	**07 16 28.9**	**+1.0**
	SNR=1.0						
HAU	**Haudompre**	**5.08**	**70**	*e*Pg	**Pg**	**07 16 48.7**	**-0.3**
HAU				*e*Sn	**Sn**	**07 17 25.6**	**-1.1**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**07 17 54.0**	**-0.8**
	66nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**5.08**	**70**	*e*Pn	**Pn**	**07 16 28.9**	**+1.0**
HAU				*e*Pg	**Pg**	**07 16 48.7**	**-0.3**
HAU				*e*Sn	**Sn**	**07 17 25.6**	**-1.1**
HAU				*e*Sg	**Sg**	**07 17 54.0**	**-0.8**
DOU	**Dourbes**	**5.10**	**42**	PN	**Pn**	**07 16 30.4**	**+2.3**
DOU				SN	**Sn**	**07 17 24.8**	**-2.3**
	comp=N,30nm,0.0s						
DOU	**Dourbes**	**5.10**	**42**	Pn	**Pn**	**07 16 30.4**	**+2.3**
DOU				Sn	**Sn**	**07 17 24.7**	**-2.3**
SMRF	**Simiane la Rot**	**5.11**	**117**	*e*Pn	**Pn**	**07 16 30.9**	**+2.5**
	SNR=1.0						
SMRF	**Simiane la Rot**	**5.11**	**117**	*e*Pg	**Pg**	**07 16 49.9**	**+0.3**
SMRF				*e*Sg	**Sg**	**07 17 55.6**	**-0.2**
	comp=N,65nm,0.6s						
SMRF	**Simiane la Rot**	**5.11**	**117**	*e*Pn	**Pn**	**07 16 30.9**	**+2.5**
	SNR=1.0						
SMRF	**Simiane la Rot**	**5.11**	**117**	*e*Pg	**Pg**	**07 16 49.9**	**+0.3**
SMRF				*e*Sg	**Sg**	**07 17 55.6**	**-0.2**
	comp=N,32nm,0.6s						
SMRF	**Simiane la Rot**	**5.11**	**117**	*e*Pn	**Pn**	**07 16 30.9**	**+2.5**
SMRF				*e*Pg	**Pg**	**07 16 49.9**	**+0.3**
SMRF				*e*Sg	**Sg**	**07 17 55.6**	**-0.2**
HTL	**Hartland**	**5.17**	**333**	*e*P	**Pn**	**07 16 31.3**	**+2.2**
HTL				*e*S	**Sn**	**07 17 26.6**	**-2.1**
	comp=N,78nm,0.5s						
GIVF	**Givet**	**5.21**	**44**	*e*Pn	**Pn**	**07 16 31.9**	**+2.2**
	SNR=1.0						
GIVF	**Givet**	**5.21**	**44**	*e*Pg	**Pg**	**07 16 51.7**	**+0.2**
GIVF				*e*Sn	**Sn**	**07 17 28.1**	**-1.7**
GIVF				*e*Sg	**Sg**	**07 17 57.8**	**-1.2**
	comp=N,126nm,0.7s						
GIVF	**Givet**	**5.21**	**44**	*e*Pn	**Pn**	**07 16 31.9**	**+2.2**
	SNR=1.0						
GIVF	**Givet**	**5.21**	**44**	*e*Pg	**Pg**	**07 16 51.7**	**+0.2**
GIVF				*e*Sn	**Sn**	**07 17 28.1**	**-1.7**
GIVF				*e*Sg	**Sg**	**07 17 57.8**	**-1.2**
	comp=N,63nm,0.7s						
GIVF	**Givet**	**5.21**	**44**	*e*Pn	**Pn**	**07 16 31.9**	**+2.2

SBF				*e*Sg		**Sg**	07 18 33.9	-1.4
	comp=N,39nm,0.6s							
SBF	**Sospel**	**6.34**	**111**	*e*Pn		**Pn**	07 16 47.1	+1.8
SBF	**Sospel**	**6.34**	**111**	*e*Pg		**Pg**	07 17 12.3	-0.9
SBF				*e*Sg		**Sg**	07 18 33.9	-1.4
	comp=N,20nm,0.6s							
SBF	**Sospel**	**6.34**	**111**	*e*Pn		**Pn**	07 16 47.1	+1.8
SBF				*e*Pg		**Pg**	07 17 12.3	-0.9
SBF				*e*Sg		**Sg**	07 18 33.9	-1.4
BFO	**Black Forest**	**6.45**	**70**	*e*Pn		**Pn**	07 16 47.3	+0.6
BFO				*e*Sg		**Sg**	07 18 35.8	-2.8
BFO	**Black Forest**	**6.45**	**70**	*e*Pn		**Pn**	07 16 47.3	+0.6
MVO	**Moncorvo**	**6.97**	**223**	*e*Pn		**Pn**	07 16 56.0	+2.1
MVO				*e*Sn		**Sn**	07 18 09.9	-3.3
MVO				A		A	07 18 23.9	
	comp=N,8.5nm,0.3s							
MVO	**Moncorvo**	**6.97**	**223**	*e*Pn		**Pn**	07 16 56.0	+2.1
MVO				*e*Sn		**Sn**	07 18 09.9	-3.3
MVO				A		A	07 18 23.9	
	comp=N,8.5nm,0.3s							
PGAV	**Gavieira, Arco**	**7.02**	**233**	*e*Pn		**Pn**	07 16 56.3	+1.7
PGAV				*e*Sn		**Sn**	07 18 10.7	-3.8
PGAV				A		A	07 18 15.4	
	comp=N,6.4nm,0.3s							
PGAV	**Gavieira, Arco**	**7.02**	**233**	*e*Pn		**Pn**	07 16 56.3	+1.7
PGAV				*e*Sn		**Sn**	07 18 10.7	-3.8
PGAV				A		A	07 18 15.4	
	comp=N,6.4nm,0.3s							
PCAB	**Cabril**	**7.06**	**230**	*e*Pn		**Pn**	07 16 56.9	+1.8
PCAB				*e*Sn		**Sn**	07 18 11.5	-4.0
PCAB				A		A	07 18 14.6	
	comp=N,5.4nm,0.4s							
PCAB	**Cabril**	**7.06**	**230**	*e*Pn		**Pn**	07 16 56.9	+1.8
PCAB				*e*Sn		**Sn**	07 18 11.5	-4.0
PCAB				A		A	07 18 14.6	
	comp=N,5.4nm,0.4s							
STU	**Stuttgart**	**7.12**	**67**	*e*Sg		**Sg**	07 18 59.5	-0.4
STU	**Stuttgart**	**7.12**	**67**	*e*Sg		**Sg**	07 18 59.5	-0.4
POLO	**Lamas de Olo**	**7.18**	**228**	*e*Pn		**Pn**	07 16 58.6	+1.7
POLO				*e*Sn		**Sn**	07 18 15.7	-2.8
POLO				A		A	07 18 19.6	
	comp=N,1.4nm,0.8s							
POLO	**Lamas de Olo**	**7.18**	**228**	*e*Pn		**Pn**	07 16 58.6	+1.7
POLO				*e*Sn		**Sn**	07 18 15.7	-2.8
POLO				A		A	07 18 19.6	
	comp=N,1.4nm,0.8s							
TNS	**Taunus Mts**	**7.20**	**55**	*e*Pn		**Pn**	07 16 58.9	+1.9
TNS				*e*Pg		**Pg**	07 17 32.0	+2.5
TNS				*e*Sg		**Sg**	07 19 02.9	+0.3
TNS	**Taunus Mts**	**7.20**	**55**	*e*Pn		**Pn**	07 16 58.9	+1.9
BUG	**Bochum--Univer**	**7.26**	**44**	*e*Sg		**Sg**	07 19 05.0	+0.3
BUG	**Bochum--Univer**	**7.26**	**44**	*e*Sg		**Sg**	07 19 05.0	+0.3
PMRV	**Marv??o**	**8.54**	**217**	*e*Pn		**Pn**	07 17 17.6	+2.2
PMRV				*e*Sn		**Sn**	07 18 47.1	-4.7
PMRV	**Marv??o**	**8.54**	**217**	*e*Pn		**Pn**	07 17 17.6	+2.2
PMRV				*e*Sn		**Sn**	07 18 47.1	-4.7
GRA1	**Grafenberg Arr**	**8.65**	**64**	*e*Sg		**Sg**	07 19 48.9	-0.2
GRF	**Grafenberg Arr**	**8.65**	**64**	*e*Sg		**Sg**	07 19 48.9	-0.2
PBAR	**Barrancos**	**9.49**	**212**	*e*P		**Pn**	07 17 30.1	+1.7
PBAR				*e*S		**Sn**	07 19 11.6	-3.5
PBAR	**Barrancos**	**9.49**	**212**	*e*P		**Pn**	07 17 30.1	+1.7
PBAR				*e*S		**Sn**	07 19 11.6	-3.5
PNCL	**Nicolau / Gran**	**10.13**	**217**	*e*P		**Pn**	07 17 38.2	+1.1
PNCL	**Nicolau / Gran**	**10.13**	**217**	*e*P		**Pn**	07 17 38.2	+1.1
PCVE	**Castro Verde**	**10.34**	**214**	*e*P		**Pn**	07 17 41.3	+1.2
PCVE	**Castro Verde**	**10.34**	**214**	*e*P		**Pn**	07 17 41.3	+1.2
PVAQ	**Vaqueiros**	**10.42**	**212**	*e*P		**Pn**	07 17 42.7	+1.6
PVAQ	**Vaqueiros**	**10.42**	**212**	*e*P		**Pn**	07 17 42.7	+1.6
MORF	**Marmelete**	**10.87**	**216**	*e*P		**Pn**	07 17 49.3	+2.0
MORF	**Marmelete**	**10.87**	**216**	*e*P		**Pn**	07 17 49.3	+2.0

IDC ***30*** *07:22:23.8±0.4, 16°.40N×97°.77W, h0km, mb5.1/41, mb1 5.2/43, mb1mx5.1/48, mbtmp5.1/43, ML4.0/2, MS5.9/30, Ms1 5.9/30, ms1mx5.7/39, Error ellipse: s-maj=15.0km s-min=7.9km az=62.0*

SZGRF ***30*** *07:22:25.4, 17°.30N×100°.74W, h40km, mb5.6, MS6.1, Guerrero, Mexico*

NEIC ***30*** *07:22:27.0±0.0, 16°.53N×97°.71W, h20km, Moment Tensor Solution. s64 Moment tensor: Scale 10^{18}Nm; M_{rr}0.96; $M_{\theta\theta}$-0.66; $M_{\phi\phi}$-0.30; $M_{r\theta}$2.12; $M_{r\phi}$0.41; $M_{\theta\phi}$-1.83; Best double couple: M_o3.00000×10^{18} NP1:ϕ_s130.00000°, δ80.00000°, λ92.00000°. NP2:ϕ_s296.00000°, δ9.00000°, λ76.00000°. Principal axes: T 2.9800, Plg54.0000°, Azm43.0000°; N -0.0400, Plg2.0000°, Azm310.0000°; P -2.9300, Plg35.0000°, Azm218.0000°;*

NEIC ***30*** *07:22:27.7±0.2, 16°.40N×97°.78W, h20km, mb5.9/197, ME5.6, MS6.0/154, MW6.3, MD6.0(MEX) Error ellipse: s-maj=3.8km s-min=2.2km az=32.0, Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC One person killed at San Andres Huaxpaltepec. Felt [VII] at Pinotepa Nacional; [IV] at Ecatepec, Nezahualcoyotl, Tlalnepantla and Veracruz; [III] at Cholula, Cuernavaca, Huixquilucan, Jiquilpan, Mexico, Naucalpan, Oaxaca and Puebla. Felt in much of central and southern Mexico as far as Guadalajara and San Cristobal de las Casas.

GCMT ***30*** *07:22:27.7±0.1, 16°.47N×97°.77W, h18km, MW6.3/121, Moment Tensor Solution. s121,c271; s117,c414; Duration: 3s3 Moment tensor: Scale 10^{18}Nm; M_{rr}1.22±.01; $M_{\theta\theta}$-1.02±.01; $M_{\phi\phi}$-0.20±.01; $M_{r\theta}$2.30±.07; $M_{r\phi}$0.48±.01; $M_{\theta\phi}$-1.60±.05; Best double couple: M_o3.06000×10^{18} NP1:ϕ_s124.00000°, δ78.00000°, λ94.00000°. NP2:ϕ_s286.00000°, δ12.00000°, λ72.00000°. Principal axes: T 3.0660, Plg57.0000°, Azm39.0000°; N -0.0140, Plg4.0000°, Azm303.0000°; P -3.0540, Plg33.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***30*** *07:22:27.9, 16°.50N×97°.80W, h20km, mB6.2/30, Ms6.4/47, Ms7 6.0/45*

MEX ***30*** *07:22:27.6±0.6, 16°.24N×97°.99W, h4km±3km, MD6.0*

MOS ***30*** *07:22:28.4±1.0, 16°.50N×97°.81W, h35km, mb5.6/32, MS6.0/44, Error ellipse: s-maj=10.7km s-min=6.3km az=92.0*

ISCJB ***30*** *07:22:28.8±0.7, 16°.57N±0°.02×97°.72W±0°.02, h33km±4km, mb5.7/288, MS6.0/237, Error ellipse: s-maj=4.3km s-min=1.9km az=34.6*

ISC 30 07:22:27.7±0.4, **16°.29N**±0°.03×**97°.96W**±0°.02, **h28**km±2km, **h28**km:**pP-P, n1446,** σ1**49**/1524, **mb5.8**/305, **MS6.0**/244, **105C-22D, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.19**	**302**	*e*P	**Pb**	07 22 31.1	**-2.5**
PNIG				*e*S	**Sb**	07 22 34.6	**-3.1**
PNIG	**Pinotepa**	**0.19**	**302**	*e*P	**Pb**	07 22 31.1	**-2.5**
PNIG				*e*S	**Sb**	07 22 34.6	**-3.1**
TLIG	**Tlapa**	**1.39**	**335**	*e*P	**Pn**	07 22 50.5	**-0.9**
TLIG				*i* S	**Sn**	07 23 08.1	**-0.9**
VHO	**Vista Hermosa**	**1.41**	**56**	*e*P	**Pn**	07 22 51.0	**-0.7**
VHO				*e*S	**Sn**	07 23 10.2	**+0.7**
VHO	**Vista Hermosa**	**1.41**	**56**	*e*P	**Pn**	07 22 51.0	**-0.7**
VHO				*e*S	**Sn**	07 23 10.2	**+0.7**
PANG	**Puerto Angel**	**1.56**	**113**	*i* P	**Pn**	07 22 52.4	**-1.2**
PANG				*i* S	**Sn**	07 23 11.7	**-1.1**
HMTT	**Tlapaneco**	**1.61**	**339**	*e*P	**Pn**	07 22 54.2	**-0.1**
HMTT				*i* S	**Sn**	07 23 13.6	**-0.7**
HUIG	**Huatulco**	**1.85**	**106**	*e*P	**Pn**	07 22 57.4	**-0.2**
HUIG				*e*S	**Sn**	07 23 20.7	**+0.5**
HUIG	**Huatulco**	**1.85**	**106**	*e*P	**Pn**	07 22 57.4	**-0.2**
HUIG				*e*S	**Sn**	07 23 20.7	**+0.5**
ACP2	**Acapulco**	**1.94**	**288**	*e*P	**Pn**	07 22 57.0	**-1.8**
ACP2				*i* S	**Sn**	07 23 21.4	**-0.8**
MEIG	**Mezcala**	**2.27**	**316**	*e*P	**Pn**	07 23 03.0	**-0.5**
MEIG				*i* S	**Sn**	07 23 30.6	**-0.1**
MEIG	**Mezcala**	**2.27**	**316**	*e*P	**Pn**	07 23 03.0	**-0.5**
MEIG				*i* S	**Sn**	07 23 30.6	**-0.1**
PLIG	**Platanillo**	**2.56**	**325**	*e*P	**Pn**	07 23 07.5	**+0.1**
PLIG				*i* S	**Sn**	07 23 38.2	**+0.5**
PLIG	**Platanillo**	**2.56**	**325**	*e*P	**Pn**	07 23 07.5	**+0.1**
PLIG				*i* S	**Sn**	07 23 38.2	**+0.5**
YAIG	**Yautepec**	**2.77**	**338**	*e*P	**Pn**	07 23 10.7	**+0.3**
YAIG				*i* S	**Sn**	07 23 44.4	**+1.4**
YAIG	**Yautepec**	**2.77**	**338**	*e*P	**Pn**	07 23 10.7	**+0.3**
YAIG				*i* S	**Sn**	07 23 44.4	**+1.4**
ARIG	**Puente Sto Nin**	**3.02**	**311**	*e*P	**Pn**	07 23 14.0	**+0.2**
ARIG				*i* S	**Sn**	07 23 49.5	**+0.4**
MAVM	**Malinalco, Edo**	**3.03**	**331**	*e*P	**Pn**	07 23 14.4	**+0.3**
MAVM				*i* S	**Sn**	07 23 49.9	**+0.4**
CMIG	**Matias Romero**	**3.05**	**74**	*e*P	**Pn**	07 23 13.6	**-0.6**
CMIG				*e*S	**Sn**	07 23 51.3	**+1.5**
CMIG	**Matias Romero**	**3.05**	**74**	*e*P	**Pn**	07 23 13.6	**-0.6**
CMIG				*e*S	**Sn**	07 23 51.3	**+1.5**
UNM	**Universidad Na**	**3.24**	**339**	*e*P	**Pn**	07 23 17.7	**+0.7**
UNM				*i* S	**Sn**	07 23 56.8	**+2.0**
ZIIG	**Zihuatanejo**	**3.60**	**292**	*e*P	**Pn**	07 23 20.8	**-1.0**
ZIIG				*i* S	**Sn**	07 24 03.8	**+0.4**
ZIIG	**Zihuatanejo**	**3.60**	**292**	*e*P	**Pn**	07 23 20.8	**-1.0**
ZIIG				*i* S	**Sn**	07 24 03.8	**+0.4**
LVIG	**Laguna Verde**	**3.72**	**23**	*e*P	**Pn**	07 23 23.1	**-0.2**
LVIG				*i* S	**Sn**	07 24 07.5	**+1.3**
LVIG	**Laguna Verde**	**3.72**	**23**	*e*P	**Pn**	07 23 23.1	**-0.2**
LVIG				*i* S	**Sn**	07 24 07.5	**+1.3**
TUIG	**Tuzandepetl**	**3.80**	**62**	*e*P	**Pn**	07 23 23.2	**-1.2**
TUIG				*i* S	**Sn**	07 24 09.0	**+0.8**
TUIG	**Tuzandepetl**	**3.80**	**62**	*e*P	**Pn**	07 23 23.6	**-0.8**
TUIG				*i* S	**Sn**	07 24 09.0	**+0.8**
DEIG	**Demacu**	**4.12**	**346**	*e*P	**Pn**	07 23 29.1	**0.0**
DEIG				*i* S	**Sn**	07 24 18.1	**+1.7**
DEIG	**Demacu**	**4.12**	**346**	*e*P	**Pn**	07 23 29.1	**0.0**
DEIG				*i* S	**Sn**	07 24 18.1	**+1.7**
MOIG	**Morelia**	**4.56**	**318**	*e*P	**Pn**	07 23 34.4	**-0.7**
MOIG				*i* S	**Sn**	07 24 27.6	**+0.3**
MOIG	**Morelia**	**4.56**	**318**	*e*P	**Pn**	07 23 36.3	**+1.1**
MOIG				*i* S	**Sn**	07 24 27.6	**+0.3**
TGIG		**4.66**	**83**	*e*P	**Pn**	07 23 36.3	**-0.1**
TGIG				*i* S	**Sn**	07 24 29.6	**-0.1**
TGIG		**4.66**	**83**	*e*P	**Pb**	07 23 45.8	**-3.1**
TGIG				*i* S	**Sb**	07 24 47.3	**+2.7**
IGIG	**Irapuato, Guan**	**5.47**	**325**	*e*P	**Pn**	07 23 47.8	**+0.2**
IGIG				*i* S	**Sn**	07 24 50.5	**+0.7**
MMIG	**Aquila**	**5.52**	**292**	*e*P	**Pn**	07 23 47.5	**-0.6**
MMIG				*i* S	**Sn**	07 24 51.1	**+0.5**
MMIG	**Aquila**	**5.52**	**292**	*e*P	**Pn**	07 23 47.5	**-0.6**
MMIG				*i* S	**Sn**	07 24 51.1	**+0.5**
CCIG	**Comitan**	**5.59**	**89**	*e*P	**Pn**	07 23 49.3	**+0.1**
CCIG				*i* S	**Sn**	07 24 53.9	**+1.2**
CCIG	**Comitan**	**5.59**	**89**	*e*P	**Pn**	07 23 49.3	**+0.1**
CCIG				*i* S	**Sn**	07 24 53.9	**+1.2**
SCIG	**Sabancuy**	**6.99**	**67**	*e*P	**Pn**	07 24 05.8	**-2.5**
SCIG				*e*S	**Sn**	07 25 24.4	**-2.4**
SCIG	**Sabancuy**	**6.99**	**67**	*e*P	**Pn**	07 24 05.8	**-2.5**
SCIG				*e*S	**Sn**	07 25 24.4	**-2.4**
ZAIG	**Zacatecas**	**7.77**	**327**	*e*P	**Pn**	07 24 20.5	**+1.2**
ZAIG	**Zacatecas**	**7.77**	**327**	*e*P	**Pn**	07 24 20.5	**+1.2**
ANIG	**Ahuacatlan**	**7.82**	**308**	*e*P	**Pn**	07 24 18.9	**-0.9**
ANIG	**Ahuacatlan**	**7.82**	**308**	*e*P	**Pn**	07 24 18.9	**-0.9**
RBDL	**Robledal**	**8.27**	**104**	*e*P	**Pn**	07 24 28.5	**+2.4**
RTR	**El Retiro**	**8.37**	**105**	*e*P	**Pn**	07 24 30.3	**+2.8**
SBLS	**San Blas**	**8.41**	**106**	*e*P	Pn	07 24 31.5	+3.4
SNJE	**San Jose**	**8.42**	**106**	*e*P	**Pn**	07 24 31.1	**+3.0**
LNIG	**Linares**	**8.68**	**351**	*i* P	**Pn**	07 24 32.3	**+0.8**
LNIG	**Linares**	**8.68**	**351**	*i* P	**Pn**	07 24 32.3	**+0.8**
SNET	**Serv Nac Est T**	**8.82**	**106**	*e*P	**Pn**	07 24 36.3	**+2.7**
SNET					AML	AML	07 28 01.4	
	comp=Z,594nm,0.8s							
LFU	**La Fuente**	**8.91**	**105**	*e*P	**Pn**	07 24 37.8	**+3.0**
LBRS	**Las Brisas**	**8.98**	**105**	*e*P	**Pn**	07 24 38.0	**+2.3**
LFRS	**El Faro**	**9.00**	**106**	*e*P	**Pn**	07 24 39.0	**+3.0**
VSM	**San Miguel**	**9.79**	**106**	*e*P	**Pn**	07 24 48.8	**+1.9**
035Z	**Hargill**	**10.12**	**359**	P	**Pn**	07 24 52.6	**+1.3**
	baz=10							
CNCH	**Conchagua**	**10.24**	**106**	*e*P	Pn	07 24 57.4	+4.3
MAIG	**Mazatlaan**	**10.52**	**312**	*e*P	**Pn**	07 24 58.2	**+1.6**
MAIG	**Mazatlaan**	**10.52**	**312**	*e*P	**Pn**	07 24 58.2	**+1.6**
035A	**Encino**	**10.60**	**359**	P	**Pn**	07 24 59.2	**+1.5**
	baz=10							
034A	**Hebbronville**	**10.74**	**357**	P	**Pn**	07 25 01.5	**+1.7**
	baz=11							
936A	**North Padre Is**	**11.09**	**3**	P	**Pn**	07 25 05.8	**+1.2**
	baz=11							
934A	**Benavides**	**11.27**	**357**	P	**Pn**	07 25 08.6	**+1.6**
	baz=11							
933A	**Laredo**	**11.34**	**354**	P	**Pn**	07 25 08.9	**+1.0**
	baz=11,SNR=26							
COPN	**Copaltepe**	**11.75**	**109**	*e*P	**Pn**	07 25 14.9	**+1.3**
834A	**Tilden**	**11.79**	**357**	P	**Pn**	07 25 15.0	**+0.9**
	baz=12							
835A	**Beeville**	**11.94**	**1**	P	**Pn**	07 25 17.3	**+1.1**
	baz=12							
833A	**Chaparral WMA,**	**12.05**	**354**	P	**Pn**	07 25 18.6	**+0.9**
	baz=12,SNR=89							
HUEN		**12.08**	**107**	*e*P	**Pn**	07 25 20.0	**+1.9**
832A	**Faith Ranch, C**	**12.08**	**351**	P	**Pn**	07 25 18.8	**+0.7**
	baz=12,SNR=102							
733A	**Divot King Ran**	**12.43**	**355**	P	**Pn**	07 25 23.5	**+0.7**
	baz=12,SNR=41							
737A	**Port Lavaca**	**12.49**	**6**	P	**Pn**	07 25 23.7	**0.0**
	baz=12							
735A	**Kenedy**	**12.51**	**1**	P	**Pn**	07 25 24.5	**+0.7**
	baz=12,SNR=17							
734A	**La Parita Cree**	**12.51**	**358**	P	**Pn**	07 25 24.4	**+0.4**
	baz=12							
732A	**Laxson Ranch,**	**12.52**	**352**	P	**Pn**	07 25 24.9	**+0.8**
	baz=12,SNR=148							
736A	**Circle Diamond**	**12.63**	**4**	P	**Pn**	07 25 25.8	**+0.2**
	baz=13							
738A	**Farr-Stevens R**	**12.67**	**9**	P	**Pn**	07 25 25.3	**-0.8**
	baz=13							
634A	**China Grove, S**	**13.04**	**358**	P	**Pn**	07 25 30.4	**-0.7**
	baz=13							
635A	**Leesville**	**13.04**	**1**	P	**Pn**	07 25 30.6	**-0.6**
	baz=13,SNR=16							
633A	**Saathoff Ranch**	**13.16**	**355**	P	**Pn**	07 25 32.4	**-0.3**
	baz=13,SNR=15							
636A	**Smothers Creek**	**13.16**	**3**	P	**Pn**	07 25 31.8	**-0.9**
	baz=13							
637A	**Eagle Lake**	**13.17**	**6**	P	**Pn**	07 25 32.3	**-0.7**
	baz=13							
632A	**Uvalde**	**13.26**	**353**	P	**Pn**	07 25 33.9	**-0.4**
	baz=13,SNR=34							
631A	**Perdido Creek**	**13.28**	**350**	P	**Pn**	07 25 34.4	**-0.1**
	baz=13,SNR=32							
SLBS	**Sierra La Lagu**	**13.45**	**305**	*e*Pn	Pn	07 25 40.3	+3.4
535A	**Dale**	**13.68**	**1**	P	**Pn**	07 25 39.1	**-0.8**
	baz=14,SNR=36							
534A	**Blanco**	**13.68**	**358**	P	**Pn**	07 25 38.8	**-1.2**
	baz=14,SNR=59							
HKT	**Hockley**	**13.74**	**8**	*i* P	**Pn**	07 25 38.5	**-2.1**
HKT	**Hockley**	**13.74**	**8**	*e*Pn	**Pn**	07 25 39.6	**-1.0**
536A	**Bastrop**	**13.75**	**3**	P	**Pn**	07 25 39.5	**-1.3**
	baz=14,SNR=9.0							
533A	**Kerrville**	**13.75**	**356**	P	**Pn**	07 25 39.4	**-1.6**
	baz=14,SNR=53							
537A	**Green Hill Far**	**13.81**	**6**	P	**Pn**	07 25 40.4	**-1.3**
	baz=14,SNR=23							
532A	**Rocksprings**	**13.89**	**353**	P	**Pn**	07 25 42.6	**-0.2**
	baz=14,SNR=57							
LPIG	**La Paz**	**13.95**	**306**	*i* P	Pn	07 25 47.5	+3.9
LPIG	**La Paz**	**13.95**	**306**	Pn	**Pn**	07 25 42.8	**-0.8**
	comp=Z,0.5nm,0.3s,baz=133,slow=19,SNR=2.0							
LPIG				Lg	Lg	07 29 50.3		
	comp=Z,0.3nm,0.3s,baz=15,slow=12,SNR=1.6							
LPIG				LR	LR	07 30 45.2		
	comp=Z,56μm,18.2s,baz=128,slow=36							
LPIG	**La Paz**	**13.95**	**306**	*i* P	Pn	07 25 47.5	+3.9	
LPIG				Lg	Lg	07 29 50.3		
JTS	**JuntasAbangare**	**13.99**	**114**	Pn	**Pn**	07 25 44.9	**+0.7**	
	comp=Z,0.7nm,0.3s,baz=291,slow=13,SNR=20							
JTS				Sn	**Sn**	07 28 15.8	**-2.9**	
	comp=Z,9.4nm,0.3s,baz=287,slow=20,SNR=2.7							
JTS	**JuntasAbangare**	**13.99**	**114**	*c i* P	**Pn**	07 25 46.4	**+2.2**	
JTS				pmax	pmax			
	comp=Z,203nm,1.5s							
TXAR	**Lajitas Array**	**14.00**	**339**	Pn	**Pn**	07 25 45.6	**+1.1**	
	comp=Z,0.2nm,0.3s,baz=160,slow=12,SNR=56							
TXAR				Lg	Lg	07 29 51.0		
	comp=Z,0.5nm,0.3s,baz=156,slow=29,SNR=3.1							
TXAR				LR	LR	07 31 59.7		
	comp=Z,104μm,18.7s,baz=0.0,slow=41							
531A	**Rocksprings**	**14.01**	**351**	P	**Pn**	07 25 44.0	**-0.5**	
	baz=14,SNR=90							
538A	**Harpers Horsep**	**14.05**	**9**	P	**Pn**	07 25 44.5	**-0.5**	
	baz=14,SNR=5.4							
JCR	**Jicaral**	**14.05**	**116**	*e*P	Pn	07 25 48.5	+3.4	
539A	**Cross D Ranch,**	**14.07**	**12**	P	**Pn**	07 25 44.9	**-0.4**	
	baz=14,SNR=5.3							
530A	**J-C Ranch, Com**	**14.14**	**348**	P	**Pn**	07 25 46.4	**+0.1**	
	baz=14,SNR=34							
JCT	**Junction City**	**14.22**	**354**	P	**Pn**	07 25 46.7	**-0.7**	
	baz=14,SNR=25							
JCT	**Junction City**	**14.22**	**354**	*e*Pn	**Pn**	07 25 46.7	**-0.7**	
529A	**Stev Forest Ra**	**14.31**	**345**	P	**Pn**	07 25 49.7	**+1.0**	
	baz=14,SNR=156							
540A	**Vidor**	**14.33**	**14**	P	**Pn**	07 25 46.8	**-2.0**	
	baz=14							
435B	**Jarrell**	**14.43**	**1**	P	**Pn**	07 25 48.8	**-1.4**	
	baz=14,SNR=54							
433A	**Art**	**14.44**	**356**	P	**Pn**	07 25 48.8	**-1.5**	
	baz=14,SNR=42							
436A	**Wall Ranch, Ga**	**14.45**	**4**	P	**Pn**	07 25 48.6	**-1.9**	
	baz=14							
434A	**Burnet**	**14.46**	**359**	P	**Pn**	07 25 48.5	**-2.1**	
	baz=14,SNR=42							
431A	**Sonora**	**14.53**	**351**	P	**Pn**	07 25 51.2	**-0.4**	
	baz=14,SNR=55							
CGA2	**Cerro Gallo 2**	**14.54**	**114**	‖ *e*P	**P**	07 25 55.4	**-2.8**	
437A	**Phantom Ranch,**	**14.57**	**6**	P	**Pn**	07 25 49.8	**-2.2**	
	baz=14,SNR=7.1							
438A	**Sam Houston St**	**14.57**	**9**	P	**Pn**	07 25 49.4	**-2.7**	
	baz=14,SNR=11							
432A	**Menard**	**14.62**	**354**	P	**Pn**	07 25 51.6	**-1.1**	
	baz=15,SNR=31							
429A	**Davenport Ranc**	**14.72**	**347**	P	**Pn**	07 25 55.0	**+0.8**	
	baz=15,SNR=68							
439A	**Center Grove,**	**14.73**	**11**	P	**Pn**	07 25 51.8	**-2.4**	
	baz=15,SNR=15							
430A	**Baggett Ranch,**	**14.74**	**349**	P	**Pn**	07 25 54.8	**+0.4**	
	baz=15,SNR=60							
440A	**Kirbyville**	**14.85**	**14**	P	**Pn**	07 25 53.3	**-2.5**	
	baz=15,SNR=11							
335A	**Moody**	**14.93**	**2**	P	**Pn**	07 25 55.3	**-1.6**	
	baz=15,SNR=55							
334A	**Lometa**	**14.98**	**359**	P	**Pn**	07 25 55.3	**-2.3**	
	baz=15,SNR=37							
333A	**Richland Sprin**	**15.00**	**357**	P	**Pn**	07 25 56.2	**-1.6**	
	baz=15,SNR=76							
336A	**Riesel**	**15.06**	**4**	P	**Pn**	07 25 56.6	**-2.1**	
	baz=15,SNR=52							
QCR	**Quepos**	**15.07**	**115**	*e*P	**P**	07 26 02.6	**-1.3**	
337A	**Centerville**	**15.08**	**7**	P	**Pn**	07 25 56.4	**-2.5**	
	baz=15,SNR=33							
332A	**Millersview**	**15.11**	**354**	P	**Pn**	07 25 58.4	**-1.0**	
	baz=15,SNR=90							
331A	**San Angelo**	**15.12**	**352**	P	**Pn**	07 25 58.4	**-1.1**	
	baz=15,SNR=75							
338A	**Crockett**	**15.19**	**9**	P	**Pn**	07 25 57.6	**-2.8**	
	baz=15,SNR=42							
URSC	**Urasca**	**15.23**	**113**	‖ *e*P	**P**	07 26 04.0	**-1.9**	
339A	**Huntington**	**15.29**	**11**	P	**Pn**	07 25 58.5	**-3.3**	
	baz=15,SNR=35							
330A	**Mertzon**	**15.33**	**350**	P	**Pn**	07 26 01.8	**-0.5**	
	baz=15,SNR=147							
BUS	**Buena Vista**	**15.37**	**114**	⇑ *e*P	**Pn**	07 26 05.3	**+2.1**	
340A	**Bronson**	**15.51**	**13**	P	**Pn**	07 26 01.1	**-3.4**	
	baz=15,SNR=16							
329A	**Wagon Wheel Ra**	**15.57**	**347**	P	**Pn**	07 26 05.1	**-0.3**	
	baz=16,SNR=33							
232A	**Coleman**	**15.61**	**355**	P	**Pn**	07 26 04.6	**-1.2**	
	baz=16,SNR=74							
WHTX	**Lake Whitney,**	**15.64**	**2**	P	**Pn**	07 26 04.5	**-1.7**	
	baz=16,SNR=130							
WHTX	**Lake Whitney,**	**15.64**	**2**	*e*Pn	**Pn**	07 26 05.0	**-1.2**	
	comp=Z,1μm,1.1s							
234A	**Clairette**	**15.64**	**359**	P	**Pn**	07 26 04.7	**-1.6**	
	baz=16,SNR=113							
233A	**Rising Star**	**15.68**

Y38A	Idabel baz=18,SNR=45	17.80	9	P		Pn	07 26 30.4	-3.1
Y29A	Porterfield Fa baz=18,SNR=230	17.81	350	P		Pn	07 26 32.3	-1.5
Y39A	Lockesburg baz=18,SNR=30	17.91	10	P		Pn	07 26 31.7	-3.2
Y28A	McKinney Farm, baz=18,SNR=340	17.96	348	P		Pn	07 26 34.3	-1.3
X35A	Drake baz=18,SNR=263	18.05	3	P		Pn	07 26 34.5	-2.1
X32A	Elmer baz=18,SNR=126	18.09	356	P		Pn	07 26 36.0	-1.1
MSTX	Muleshoe baz=18,SNR=155	18.13	347	P		Pn	07 26 36.8	-0.8
MSTX	Muleshoe comp=Z,973nm,1.4s	18.13	347	*e*Pn		Pn	07 26 37.0	-0.7
X33A	Lawton baz=18,SNR=221	18.18	359	P		Pn	07 26 36.6	-1.6
X34A	Smith Ranch, M baz=18,SNR=168	18.23	0	P		Pn	07 26 37.2	-1.6
X36A	Centrahoma baz=18,SNR=124	18.26	4	P		P	07 26 37.2	-1.9
X30A	Coker Ranch, T baz=18,SNR=149	18.27	352	P		P	07 26 38.3	-1.0
X31A	McDonald Ranch baz=18,SNR=125	18.35	355	P		P	07 26 39.0	-1.2
X37A	Clayton baz=18,SNR=183	18.37	7	P		P	07 26 38.8	-1.5
WMOK	Wichita Mounta comp=Z,887nm,0.8s	18.39	358	*e*Pn		P	07 26 38.8	-1.8
X29A	Tulia baz=18,SNR=108	18.39	350	P		P	07 26 40.1	-0.5
121A	Cookes Peak, D baz=18,SNR=150	18.46	333	P		Pn	07 26 43.0	+1.2
121A	Cookes Peak, D comp=Z,1µm,2.8s	18.46	333	*e*P		Pn	07 26 43.0	+1.2
X38A	Whitesboro baz=18,SNR=166	18.52	8	P		P	07 26 40.4	-1.5
X28A	Dimmitt baz=19,SNR=163	18.55	349	P		P	07 26 42.2	-0.2
MIAR	Mount Ida baz=18,SNR=156	18.60	11	P		P	07 26 40.4	-2.5
MIAR	Mount Ida comp=Z,555nm,0.9s	18.60	11	*e*Pn		P	07 26 41.1	-1.8
W33A	Caddo, Fort Co baz=19,SNR=195	18.79	359	P		P	07 26 45.0	+0.1
W32A	Sentinel baz=19,SNR=302	18.79	357	P		P	07 26 44.5	-0.5
W35A	Tecumseh baz=19,SNR=296	18.81	3	P		P	07 26 44.4	-0.8
AMTX	Amarillo baz=19	18.82	350	P		P	07 26 45.1	-0.2
AMTX	Amarillo comp=Z,766nm,1.1s	18.82	350	*e*P		P	07 26 44.8	-0.5
W36A	Wetumka baz=19,SNR=195	18.84	4	P		P	07 26 44.6	-0.9
W34A	Bridge Creek, baz=19,SNR=49	18.87	0	P		P	07 26 45.2	-0.6
W34A	Bridge Creek, comp=Z,1µm,1.3s	18.87	0	*e*P		P	07 26 45.0	-0.9
W31A	Holland Ranch, baz=19,SNR=117	18.90	355	P		P	07 26 45.9	-0.3
W37A	Quinton baz=19,SNR=95	18.91	6	P		P	07 26 45.7	-0.6
W38A	Poteau baz=19,SNR=80	18.95	9	P		P	07 26 46.0	-0.7
W30A	Crocket Farms baz=19,SNR=24	18.96	353	P		P	07 26 46.6	-0.3
BCIP	Isla Barro Col comp=Z,644nm,1.5s	19.03	110	*e*P		Pn	07 26 49.9	+1.3
W29A	Amarillo baz=19,SNR=108	19.04	351	P		P	07 26 47.2	-0.6
UALR	University of comp=Z,3µm,2.1s	19.09	14	*e*Pn		P	07 26 47.2	-0.9
W28A	Vega baz=19,SNR=98	19.27	349	P		P	07 26 49.8	-0.5
V32A	Arapaho baz=19,SNR=102	19.38	357	P		P	07 26 50.8	-0.6
LRAL	Lakeview Retre comp=Z,474nm,1.8s	19.40	29	*e*P		P	07 26 50.3	-1.3
V35A	Meyer Ranch, C baz=19,SNR=144	19.42	3	P		P	07 26 50.6	-1.3
MCJ	Malvern	19.44	82	*i* P		Pn	07 26 53.4	-0.2
V33A	Lossen Ranch, baz=19,SNR=74	19.45	359	P		P	07 26 51.6	-0.7
Y22D	IRIS PASSCAL I baz=20,SNR=32	19.46	337	P		Pn	07 26 53.9	+0.2
V34A	Guthrie baz=19,SNR=68	19.47	1	P		P	07 26 51.7	-0.7
V34A	Guthrie comp=Z,3µm,1.4s	19.47	1	*e*P		P	07 26 51.5	-0.9
V31A	Spring Creek L baz=20,SNR=214	19.48	355	P		P	07 26 52.3	-0.2
V36A	Jenks baz=20,SNR=109	19.50	5	P		P	07 26 51.8	-1.0
V30A	Spur Ranch, Mi baz=20,SNR=26	19.55	353	P		P	07 26 53.0	-0.3
LENM	Lemitar comp=Z,169nm,0.9s	19.56	337	*e*P		Pn	07 26 55.1	+0.1
LPM	Los Pinos Moun comp=Z,405nm,1.0s	19.57	338	*e*P		Pn	07 26 55.5	+0.4
CVJ	Coleyville	19.60	81	*i* P		Pn	07 26 55.4	-0.2
MTDJ	Mount Denham comp=Z,1µm,1.5s	19.60	81	*e*P		P	07 26 53.3	-0.8
TUL1	Leonard baz=20,SNR=193	19.64	5	P		P	07 26 52.9	-1.4
TUL1	Leonard comp=Z,940nm,0.9s	19.64	5	*e*P		P	07 26 52.8	-1.4
V37A	Hulbert baz=20,SNR=261	19.68	7	P		P	07 26 52.8	-1.8
OXF	Oxford comp=Z,1µm,1.3s	19.70	21	*e*P		P	07 26 53.4	-1.5
TUC	Tucson comp=Z,2µm,2.7s	19.74	326	*e*Pn		Pn	07 26 57.6	+0.5
V28A	Channing baz=20,SNR=76	19.75	350	P		P	07 26 55.2	-0.4
V29A	Stinnett baz=20,SNR=40	19.76	351	P		P	07 26 55.3	-0.3
LAZ	Ladron comp=Z,8.8nm,0.3s	19.83	337	*e*P		Pn	07 26 58.3	0.0
BBJ	Bamboo Saint A	19.86	81	*i* P		Pn	07 26 58.1	-0.5
V27A	Dan Oppiter Fa baz=20,SNR=86	19.87	348	P		P	07 26 57.2	+0.3
TIGA	Tifton baz=20	19.97	38	P		P	07 26 55.9	-2.0
TIGA	Tifton comp=Z,18nm,2.0s	19.97	38	*e*P		P	07 26 56.7	-1.2
U35A	Pawnee baz=20,SNR=113	20.03	3	P		P	07 26 57.0	-1.5
U32A	Winter Ranch, baz=20,SNR=156	20.03	358	P		P	07 26 58.2	-0.3
U33A	Lingo Farm, Me baz=20,SNR=91	20.06	360	P		P	07 26 57.7	-1.1
U31A	Nine Bar Ranch baz=20,SNR=26	20.07	356	P		P	07 26 58.8	-0.2
U34A	Anderson Ranch baz=20,SNR=258	20.07	1	P		P	07 26 57.7	-1.2
U34A	Anderson Ranch comp=Z,2µm,1.3s	20.07	1	*e*P		P	07 26 58.4	-0.5
ANMO	Albuquerque comp=Z,198nm,1.1s,baz=155,slow=12,SNR=142	20.08	339	P		P	07 27 00.1	+0.8
ANMO	comp=Z,108µm,20.0s,baz=160,slow=39			LR		LR	07 35 27.2	
ANMO	Albuquerque	20.08	339	‖ *i* P		P	07 26 59.3	0.0
ANMO	comp=Z,2µm,1.2s			pmax		pmax		
ANMO	comp=Z,435µm,16.0s			MLR		MLR		
ANMO	Albuquerque	20.08	339	P		P	07 27 00.1	+0.8
ANMO				*e*Pn		Pn	07 27 00.6	-0.6
MET	Memphis--Engin comp=Z,495nm,0.6s	20.08	19	*e*Pn		P	07 26 59.4	+0.3
HBAR	Harrisburg	20.26	17	*e*P		P	07 27 00.3	-0.7
STH	Stony Hill	20.28	82	*i* P		P	07 27 00.5	-1.0
U29A	Oasis Ranch, S baz=20,SNR=14	20.30	352	P		P	07 27 01.4	-0.1
U30A	WK&E Inc. Balk baz=20,SNR=39	20.30	354	P		P	07 27 01.0	-0.5
HOJ	Hope	20.34	82	*i* P		P	07 27 01.1	-0.9
U28A	Mallet baz=20	20.36	350	P		P	07 27 02.1	-0.1
U27A	Thompson Grove baz=20,SNR=284	20.51	349	P		P	07 27 04.1	+0.3
T35A	Sooner Cattle baz=21,SNR=262	20.59	3	P		P	07 27 03.0	-1.5
214A	Organ Pipe Nat baz=21,SNR=21	20.63	322	P		Pn	07 27 07.1	-0.3
T34A	McClaskey Farm baz=21,SNR=166	20.66	2	P		P	07 27 03.8	-1.6
T33A	Patterson Ranc baz=21,SNR=27	20.71	359	P		P	07 27 04.7	-1.2
T36A	Boggs Farm, Ca baz=21,SNR=107	20.77	5	P		P	07 27 04.9	-1.6
T31A	Randall Ranch, baz=21,SNR=219	20.78	356	P		P	07 27 06.1	-0.6
T30A	Plains baz=21,SNR=86	20.81	354	P		P	07 27 06.9	-0.1
GNAR	Gosnell comp=Z,572nm,0.6s	20.83	18	*e*P		P	07 27 06.4	-0.8
T37A	Cheneyville 18 baz=21,SNR=165	20.93	7	P		P	07 27 06.0	-2.2
T29A	Hugoton baz=21,SNR=68	20.99	353	P		P	07 27 08.7	-0.3
HALT	Halls	21.00	20	*e*P		P	07 27 07.7	-1.3
T28A	Walsh baz=21,SNR=161	21.07	351	P		P	07 27 09.9	0.0
T27A	Campo baz=21,SNR=107	21.12	349	P		P	07 27 10.5	+0.1
S33A	Kaszmaul Farm, baz=21,SNR=12	21.22	360	P		P	07 27 10.0	-1.4
S31A	Mullinville baz=21,SNR=86	21.29	357	P		P	07 27 11.4	-0.8
S34A	Willow Spring baz=21,SNR=45	21.34	2	P		P	07 27 10.9	-1.8
GLAT	Glass	21.34	20	*e*P		P	07 27 11.4	-1.3
S32A	Newby Ranch, P baz=21,SNR=20	21.34	358	P		P	07 27 11.6	-1.2
PVMO	Portageville comp=Z,3µm,1.4s	21.35	19	*e*P		P	07 27 12.1	-0.6
S35A	Otter Creek Ra baz=21,SNR=74	21.36	4	P		P	07 27 11.2	-1.7
S30A	Montezuma baz=21,SNR=135	21.38	355	P		P	07 27 12.6	-0.6
T26A	Comanche Natio baz=21,SNR=286	21.39	348	P		P	07 27 14.0	+0.5
S29A	Ulysses baz=21,SNR=139	21.43	353	P		P	07 27 13.4	-0.3
S36A	Lake Cedric, C baz=21,SNR=259	21.45	5	P		P	07 27 11.9	-2.0
PBMO	Poplar Bluff comp=Z,2µm,1.5s	21.47	17	*e*P		P	07 27 12.3	-1.7
GOGA	Godfrey comp=Z,2µm,1.7s	21.49	35	*e*P		P	07 27 12.3	-1.9
GOGA	comp=Z,42µm,22.0s			LR		LR		
S28A	Manter baz=22,SNR=147	21.50	351	P		P	07 27 14.0	-0.5
W18A	Petrified Fore baz=22,SNR=80	21.51	333	P		P	07 27 16.6	+1.9
W18A	Petrified Fore comp=Z,663nm,1.4s	21.51	333	*e*P		P	07 27 16.6	+1.9
T25A	Trinidad baz=22,SNR=583	21.54	346	P		P	07 27 16.2	+1.2
UTMT	University of comp=Z,3µm,1.2s	21.55	20	*e*P		P	07 27 13.9	-1.0
PARMO	Parma	21.56	18	*e*P		P	07 27 14.1	-0.9
SPIG	San Pedro Mart	21.70	316	*e*P		P	07 27 16.0	-0.9
SPIG	San Pedro Mart	21.70	316	*e*P		P	07 27 16.0	-0.9
S27A	Las Animas baz=22,SNR=11	21.75	349	P		P	07 27 17.3	0.0
S26A	Kim baz=22,SNR=387	21.80	348	P		P	07 27 18.2	+0.5
R33A	Olander Ranch, baz=22,SNR=179	21.93	360	P		P	07 27 18.0	-1.1
R34A	Isabella, Hill baz=22,SNR=156	21.94	1	P		P	07 27 17.8	-1.2
R31A	Burdett baz=22,SNR=85	21.96	357	P		P	07 27 18.1	-1.2
R35A	Emporia Munici baz=22,SNR=20	22.00	4	P		P	07 27 18.0	-1.8
R30A	Dighton baz=22,SNR=88	22.00	355	P		P	07 27 18.4	-1.4
GTBY	Guantanamo Bay comp=Z,999nm,1.3s	22.01	77	*e*P		P	07 27 19.5	-0.5
GTBY	comp=Z,27µm,20.0s			LR		LR		
R36A	Gordon, Harris baz=22,SNR=284	22.06	5	P		P	07 27 18.1	-2.2
R32A	Long Quarter, baz=22,SNR=70	22.06	358	P		P	07 27 19.1	-1.3
R37A	Teagarden Farm baz=22,SNR=131	22.11	7	P		P	07 27 18.6	-2.3
R29A	Marienthal baz=22,SNR=24	22.23	353	P		P	07 27 21.1	-1.2
R28A	Tribune baz=22,SNR=77	22.23	352	P		P	07 27 21.3	-1.0
R27A	Eads baz=22,SNR=206	22.32	350	P		P	07 27 23.2	-0.1
SDCO	Great Sand Dun baz=22,SNR=561	22.39	344	P		P	07 27 24.7	+0.5
SDCO	Great Sand Dun comp=Z,280nm,1.0s	22.39	344	*e*P		P	07 27 24.7	+0.5
SDCO	comp=Z,11µm,20.0s			LR		LR		
R26A	Arlington baz=22,SNR=479	22.45	349	P		P	07 27 25.7	+0.9
CBKS	Cedar Bluff baz=22,SNR=47	22.49	356	P		P	07 27 23.6	-1.5
CBKS	Cedar Bluff comp=Z,2µm,1.3s	22.49	356	*e*P		P	07 27 24.2	-0.9
CBKS	comp=Z,48µm,21.0s			LR		LR		
CPCT	Cooper Cave	22.54	30	*e*P		P	07 27 23.4	-2.2
Q35A	Mercer Eighty, baz=22,SNR=129	22.55	4	P		P	07 27 23.1	-2.5
Q34A	Chapman baz=22,SNR=77	22.56	2	P		P	07 27 23.8	-2.0
WUAZ	Wupatki baz=23,SNR=229	22.59	330	P		P	07 27 28.1	+1.8
WUAZ	Wupatki comp=Z,411nm,0.9s	22.59	330	*e*P		P	07 27 28.1	+1.8
WUAZ	comp=Z,39µm,19.0s			LR		LR		
GLA	Glamis baz=23,SNR=37	22.61	321	P		P	07 27 27.8	+1.4
GLA	Glamis	22.61	321	*e*P		P	07 27 28.2	+1.9
Q32A	Meitler Ranch, baz=23,SNR=160	22.62	359	P		P	07 27 25.1	-1.3
Q33A	Connelly Farm, baz=23,SNR=42	22.62	0	P		P	07 27 24.8	-1.6
Q31A	Ellis baz=23,SNR=73	22.66	357	P		P	07 27 25.5	-1.4
Q29A	Oakley baz=23,SNR=157	22.67	354	P		P	07 27 26.2	-0.8
Q30A	Quinter baz=23,SNR=34	22.69	355	P		P	07 27 25.5	-1.7
Q36A	Arnold C. Orve baz=23,SNR=77	22.69	5	P		P	07 27 24.1	-3.0
Q37A	Longview Farm, baz=23,SNR=62	22.71	7	P		P	07 27 25.3	-2.1
KSU1	Kansas State U baz=23,SNR=63	22.76	3	P		P	07 27 25.8	-2.0
KSU1	Kansas State U comp=Z,461nm,1.0s	22.76	3	*e*P		P	07 27 26.2	-1.6
KSU1	comp=Z,23µm,21.0s			LR		LR		
S22A	4UR Ranch, Cre baz=23,SNR=234	22.76	342	P		P	07 27 28.9	+0.7
MVCO	Mesa Verde baz=23,SNR=352	22.83	338	P		P	07 27 29.6	+0.7
MVCO	Mesa Verde	22.83	338	PFAKE			07 27 40.0	+11
MVCO	comp=Z,70µm,21.0s			LR		LR		
Y12C	Blythe baz=23,SNR=22	22.91	322	P		P	07 27 30.6	+1.1
Q28A	Sharon Springs baz=23,SNR=94	22.94	352	P		P	07 27 29.0	-0.9
KSCO	Kaye Shedlock' baz=23,SNR=48	23.00	351	P		P	07 27 30.2	-0.3
KSCO	Kaye Shedlock' comp=Z,834nm,1.1s	23.00	351	*e*P		P	07 27 30.3	-0.2
P33A	Williams Farm, baz=23,SNR=8.2	23.06	1	P		P	07 27 29.0	-2.0
RGRS	Roger Stewart comp=Z,21nm,0.9s	23.06	41	*e*P		P	07 27 29.5	-1.5
Q26A	Hugo baz=23,SNR=248	23.07	349	P		P	07 27 31.7	+0.5
TKL	Tuckaleechee C comp=Z,184nm,1.0s,baz=200,slow=12,SNR=89	23.07	31	P		P	07 27 28.6	-2.5
TKL	comp=Z,20nm,0.9s,baz=107,slow=20,SNR=1.9			S		S	07 31 41.8	+1.4
PDMCI	Parker Dam,Lak baz=23,SNR=25	23.09	324	P		P	07 27 32.5	+1.3
SWSC	Sam W. Stewart baz=23,SNR=29	23.13	319	P		P	07 27 33.4	+1.7
IBP	Imperial Bould baz=23,SNR=6.1	23.14	318	P		P	07 27 33.4	+1.5
P31A	Stockton baz=23,SNR=126	23.18	357	P		P	07 27 30.6	-1.6
CSU	Charleston Sou	23.19	41	*e*P		P	07 27 29.9	-2.4
P34A	Walnut Farm, R baz=23,SNR=83	23.19	2	P		P	07 27 30.4	-1.9
NHSC	New Hope comp=Z,3µm,1.4s	23.20	41	*e*P		P	07 27 31.1	-1.4
NHSC	comp=Z,20µm,19.0s			LR		LR		
P35A	Duane Minner, baz=23,SNR=27	23.21	4	P		P	07 27 30.4	-2.2
P32A	Huiting Farm, baz=23,SNR=84	23.25	359	P		P	07 27 31.8	-1.1
P30A	Selden baz=23,SNR=11	23.25	356	P		P	07 27 31.3	-1.7
SLM	Saint Louis comp=Z,2µm,1.7s	23.27	15	*e*P		P	07 27 31.0	-2.0
JSC	Jenkinsville comp=Z,312nm,1.1s	23.37	37	*e*P		P	07 27 31.9	-2.1
P36A	Good Intent, A baz=23,SNR=76	23.37	5	P		P	07 27 32.9	-1.1
P29A	Atwood baz=23,SNR=75	23.37	354	P		P	07 27 33.1	-1.1
BC3	Big Chuckawall baz=24,SNR=71	23.40	321	P		P	07 27 35.8	+1.2
P28A	Saint Francis baz=23,SNR=60	23.43	353	P		P	07 27 34.2	-0.6
Q24A	Divide baz=24,SNR=95	23.45	346	P		P	07 27 35.7	+0.5
MONP	Monument Peak, baz=24,SNR=52	23.50	318	P		P	07 27 37.4	+1.8
BAR	Barrett comp=Z,54nm,1.4s	23.52	317	*e*P		P	07 27 37.3	+1.6
P27A	Ficken Ranch, baz=24,SNR=82	23.53	351	P		P	07 27 35.8	+0.1
IRM	Iron Mountain baz=24,SNR=50	23.57	322	P		P	07 27 37.5	+1.4
P26A	Davis Ranch, A baz=24,SNR=163	23.66	350	P		P	07 27 37.8	+0.8
PV01	Paradox Valley comp=Z,9µm,0.5s	23.68	339	*e*P		P	07 27 38.1	+0.7
NEE2	Needles Airpor baz=24	23.70	324	P		P	07 27 39.0	+1.8
O33A	Hebron baz=24,SNR=52	23.70	1	P		P	07 27 36.1	-1.2
O31A	Woolen Ranch, baz=24,SNR=44	23.81	357	P		P	07 27 37.5	-0.7
O34A	Beatrice baz=24,SNR=573	23.83	2	P		P	07 27 37.0	-1.5
O30A	MW Ranch, Wils baz=24,SNR=25	23.87	356	P		P	07 27 38.0	-1.0
O29A	4D Ranch, Culb baz=24,SNR=27	23.88	355	P		P	07 27 38.0	-1.0
O32A	Brockton Farm, baz=24,SNR=64	23.89	359	P		P	07 27 37.9	-1.2
TZTN	Tazewell comp=Z,1µm,1.5s	23.89	30	*e*P		P	07 27 37.4	-1.7
O36A	Bolckow baz=24	23.90	6	P		P	07 27 37.1	-2.0
109C	Camp Elliot, M baz=24,SNR=9.2	23.94	317	P		P	07 27 41.0	+1.4
KMSC	Kings Mountain baz=24,SNR=89	23.95	35	P		P	07 27 38.2	-1.5
KMSC	Kings Mountain comp=Z,602nm,1.0s	23.95	35	*e*P		P	07 27 37.6	-2.1
O35A	Humboldt baz=24,SNR=75	23.96	4	P		P	07 27 38.0	-1.7
BELC	Belle Mtn. Jos baz=24,SNR=50	23.97	321	P		P	07 27 41.6	+1.6
OLIL	Olney comp=Z,1µm,1.3s	23.98	19	*e*P		P	07 27 38.3	-1.5
O28A	Kritsinger Ran baz=24,SNR=42	23.98	353	P		P	07 27 39.7	-0.3
PFO	Pinyon Flats O	23.99	319	*i* P		P	07 27 42.0	+1.8
PFO	Pinyon Flats O baz=24,SNR=41	23.99	319	P		P	07 27 42.0	+1.8
PFO	Pinyon Flats O comp=Z,188nm,1.3s	23.99	319	*e*P		P	07 27 41.6	+1.5
PFO	comp=Z,24µm,20.0s			LR		LR		
PV04	Paradox Valley	24.03	339	*e*P		P	07 27 41.8	+1.2
WSYH	La Gonave Hosp	24.05	80	*e*P		P	07 27 41.0	+0.2
SMCO	Snowmass comp=Z,2µm,3.7s	24.13	343	*e*P		P	07 27 42.9	+1.1
O27A	Beecher Island baz=24,SNR=12	24.14	352	P		P	07 27 41.9	+0.4
WCI	Wyandotte Cave comp=Z,5µm,2.3s	24.15	23	*e*P		P	07 27 39.9	-1.6
LDFC	Landfair	24.20	324	*e*P		P	07 27 44.9	+2.7
LGNH	LØogne comp=Z,485nm,1.1s	24.29	81	*e*P		P	07 27 44.7	+1.7
GMRC	Granite Mounta baz=24,SNR=29	24.30	323	P		P	07 27 45.2	+2.0
O26A	Horse Wrangler baz=24,SNR=59	24.32	350	P		P	07 27 44.1	+0.9
ISCO	Idaho Springs baz=24,SNR=471	24.36	346	P		P	07 27 44.7	+1.0
ISCO	Idaho Springs comp=Z,804nm,1.4s	24.36	346	*e*P		P	07 27 44.7	+1.0
ISCO	comp=Z,41µm,22.0s			LR		LR		
N33A	J Bar K, Exete baz=24,SNR=105	24.36	1	P		P	07 27 42.9	-0.5
N32A	Stulken Farm, baz=24,SNR=45	24.39	359	P		P	07 27 43.4	-0.3
MURC	Murrieta baz=24,SNR=24	24.45	318	P		P	07 27 46.1	+1.7
N31A	Bailey Ranch, baz=24,SNR=12	24.46	358	P		P	07 27 44.3	-0.1
N30A	Hueftle Ranch, baz=24,SNR=17	24.49	356	P		P	07 27 45.2	+0.6
N34A	Lincoln baz=24,SNR=73	24.49	3	P		P	07 27 44.0	-0.6
N28A	Pribbeno Ranch baz=24,SNR=42	24.51	353	P		P	07 27 44.8	0.0
N29A	Votaw Ranch, W baz=24,SNR=20	24.55	355	P		P	07 27 45.8	+0.6
N35A	Tabor baz=24,SNR=82	24.57	4	P		P	07 27 44.7	-0.6
BBRC	Big Bear Solar baz=25,SNR=14	24.71	320	P		P	07 27 49.3	+2.4
HEC	Hector,Ludlow baz=25,SNR=39	24.73	322	P		P	07 27 49.1	+2.1
N27A	Anderson Farm, baz=25,SNR=52	24.75	352	P		P	07 27 47.6	+0.5
OGNE	Ogallala baz=25,SNR=68	24.82	353	P		P	07 27 48.3	+0.7
OGNE	Ogallala comp=Z,1µm,1.4s	24.82	353	*e*P		P	07 27 48.2	+0.5
OGNE	comp=Z,26µm,19.0s			LR		LR		
N26A	Koester Ranch, baz=25,SNR=18	24.87	350	P		P	07 27 48.9	+0.7
BLO	Bloomington comp=Z,751nm,1.3s	24.90	21	*e*P		P	07 27 47.3	-1.0
TUQ	Turquoise Moun baz=25,SNR=32	24.92	323	P		P	07 27 50.5	+1.8
SCI	San Clemente I baz=25,SNR=30	24.95	316	P		P	07 27 50.4	+1.5
M31A	Lambtecht Ranc baz=25,SNR=54	24.98	358	P		P	07 27 49.9	+0.8
OTAV	Otavalo comp=Z,345nm,1.6s	24.99	128	*e*P		P	07 27 52.3	+2.4
OTAV	comp=Z,21µm,22.0s			LR		LR		
BGNE	Belgrade baz=25,SNR=24	25.03	360	P		P	07 27 49.7	+0.1
BGNE	Belgrade comp=Z,1µm,1.4s	25.03	360	*e*P		P	07 27 49.6	+0.1
CIS	Catalina Islan baz=25,SNR=16	25.11	316	P		P	07 27 52.0	+1.6
M34A	Aspy Farms, Fr baz=25,SNR=45	25.15	2	P		P	07 27 50.7	+0.1
BFSC	Mount Baldy Ra baz=25,SNR=20	25.15	319	P		P	07 27 52.5	+1.7
M35A	Neola baz=25,SNR=67	25.16	4	P		P	07 27 50.5	-0.2
RRX	Edison Barstow baz=25	25.17	321	P		P	07 27 52.8	+1.9
CCUT	Cedar City comp=Z,3µm,2.7s	25.17	330	*e*P		P	07 27 52.9	+1.8
M29A	Burnside Ranch baz=25,SNR=55	25.18	355	P		P	07 27 51.5	+0.6
M28A	Bar X Bar Ranc baz=25,SNR=18	25.19	354	P		P	07 27 51.4	+0.4
M33A	Taylor Creek F baz=25,SNR=57	25.20	1	P		P	07 27 50.9	-0.1

M30A **Dale-Ortello V** 25.21 357 P P 07 27 51.4 +0.2
baz=25,SNR=8.5
FMP **Fort Macarthur** 25.23 317 P P 07 27 53.2 +1.9
baz=25
SRU **San Rafael Swe** 25.26 337 eP P 07 27 52.8 +1.0
comp=Z,311nm,1.0s
SHPR **Sheep Range** 25.27 326 eP P 07 27 53.4 +1.5
HDIL **Hopedale** 25.32 16 P P 07 27 51.5 -0.6
baz=25,SNR=86
HDIL **Hopedale** 25.32 16 eP P 07 27 51.1 -1.0
comp=Z,22µm,1.4s
HDIL LR LR
comp=Z,34µm,20.0s
GSC **Goldstone, Bar** 25.34 322 P P 07 27 54.3 +1.9
baz=25,SNR=80
O20A **White River Ci** 25.39 341 P P 07 27 54.5 +1.5
baz=25,SNR=333
O20A **White River Ci** 25.39 341 eP P 07 27 54.3 +1.3
comp=Z,948nm,1.4s
MSU **Marysvale** 25.42 333 eP P 07 27 54.7 +1.5
comp=Z,1.4nm,1.6s
M27A **Reverse DX Ran** 25.44 352 P P 07 27 53.8 +0.6
baz=25,SNR=37
PASC **Pasadena Art C** 25.45 318 eP P 07 27 55.0 +1.7
comp=Z,171nm,1.5s
SHOC **Shoshone, Teco** 25.45 324 P P 07 27 55.2 +1.8
baz=26,SNR=31
N23A **Red Feather La** 25.48 346 P P 07 27 55.0 +1.2
baz=26,SNR=462
M26A **McRoberts Ranc** 25.48 351 P P 07 27 54.2 +0.5
baz=26,SNR=20
SDDR **Presa de Saban** 25.55 80 PFAKE 07 28 10.0 +16
SDDR LR LR
comp=Z,25µm,20.0s
DECC **Green Verdugo** 25.59 318 P P 07 27 56.7 +2.1
baz=26,SNR=11
M25A **Palm-Egli Farm** 25.60 349 P P 07 27 55.8 +0.9
baz=26,SNR=156
L30A **Spencer Herefo** 25.62 357 P P 07 27 55.1 +0.2
baz=26,SNR=28
L34A **Svendsen Farm,** 25.62 3 P P 07 27 54.2 -0.6
baz=26,SNR=65
P17A **Butcher Ranch,** 25.66 337 eP P 07 27 56.6 +1.2
TMUT **Trail Mountain** 25.68 336 eP P 07 27 57.0 +1.2
comp=Z,4µm,1.0s
PHWY **Pilot Hill** 25.75 347 eP P 07 27 56.9 +0.5
comp=Z,4.4nm,0.7s
L29A **Maesberg Ranch** 25.78 356 P P 07 27 56.7 +0.4
baz=26,SNR=20
EDW2 **Edwards Air Fo** 25.78 320 P P 07 27 57.8 +1.4
baz=26,SNR=73
SFIN **Lafayette** 25.79 19 P P 07 27 55.2 -1.1
baz=26,SNR=105
SFIN **Lafayette** 25.79 19 eP P 07 27 55.4 -0.9
comp=Z,995nm,1.4s
L31A **Butterfield Fa** 25.81 358 P P 07 27 56.8 +0.2
baz=26,SNR=87
L28A **Connealy Angus** 25.81 354 P P 07 27 56.9 +0.3
baz=26,SNR=13
L35A **Bielow Farm, R** 25.82 4 P P 07 27 55.9 -0.7
baz=26,SNR=35
ROSC **El Rosal** 25.82 114 P P 07 27 58.1 +0.7
comp=Z,150nm,1.3s,baz=308,slow=6.3,SNR=34
ROSC S S 07 32 37.4 +12
comp=Z,5.8nm,0.9s,baz=287,slow=20,SNR=1.6
SCIA **State Center** 25.85 8 eP P 07 27 56.4 -0.5
comp=Z,1µm,1.1s
SCIA LR LR
comp=Z,32µm,21.0s
GRTK **Grand Turk** 25.89 74 eP P 07 27 57.5 +0.1
comp=Z,1µm,1.4s
GRTK LR LR
comp=Z,51µm,19.0s
BLG **Laguna Peak, P** 25.98 317 P P 07 27 59.8 +1.6
baz=26,SNR=25
L27A **T5 Ranch, Ells** 25.98 353 P P 07 27 58.6 +0.4
baz=26,SNR=23
BLA **Blacksburg** 25.98 33 eP P 07 27 57.1 -1.1
comp=Z,2µm,1.5s
BLA LR LR
comp=Z,19µm,19.0s
LRMC **Laurel Mtn Rad** 25.99 321 P P 07 27 59.7 +1.3
baz=26,SNR=5.1
L26A **Underwood Farm** 26.03 351 P P 07 27 59.4 +0.7
baz=26
CNNC **Cliffs of the** 26.04 40 eP P 07 27 57.6 -1.1
comp=Z,286nm,0.8s
CNNC LR LR
comp=Z,19µm,20.0s
OSI **Osito Audit: C** 26.07 318 P P 07 28 01.2 +2.2
baz=26
OSI **Osito Audit: C** 26.07 318 eP P 07 28 01.2 +2.2
comp=Z,146nm,1.1s
FURC **Furnace Creek,** 26.19 324 P P 07 28 01.8 +1.9
baz=26,SNR=34
TPNV **Topopah Spring** 26.19 325 P P 07 28 02.2 +2.0
baz=26,SNR=117
VWCC **Virginia Weste** 26.24 34 eP P 07 28 00.4 -0.1
MPMC **Manual Prospec** 26.27 322 P P 07 28 02.3 +1.4
baz=26,SNR=106
BSC **Santa Cruz Isl** 26.28 316 P P 07 28 02.7 +1.7
baz=26
L25A **Engebretsen Ra** 26.29 350 P P 07 28 01.7 +0.7
baz=26,SNR=58
K30A **Basset** 26.33 357 P P 07 28 01.4 +0.1
baz=26,SNR=59
K29A **Lazy Trails An** 26.46 356 P P 07 28 03.0 +0.5
baz=26,SNR=19
ARVC **Arvin** 26.46 319 P P 07 28 04.7 +2.2
baz=26,SNR=13
MPU **Maple Canyon** 26.47 336 eP P 07 28 04.0 +1.3
comp=Z,686nm,1.1s
DAC **Darwin (Calif)** 26.48 322 eP P 07 28 03.9 +1.1
comp=Z,88nm,1.1s
K28A **Ten Mile Ranch** 26.50 354 P P 07 28 03.6 +0.8
baz=26,SNR=28
RWWY **Rawlins** 26.54 344 epP pP 07 28 13.8 +2.2
K27A **Flueckinger Fa** 26.58 353 P P 07 28 04.0 +0.4
baz=27,SNR=27
ISA **Isabella, Lake** 26.59 320 P P 07 28 05.8 +2.1
baz=27,SNR=36
ISA **Isabella, Lake** 26.59 320 eP P 07 28 05.4 +1.7
comp=Z,257nm,1.7s
NLU **North Lily Min** 26.59 335 eP P 07 28 05.5 +1.7
comp=Z,186nm,1.1s
SBC **Santa Barbara** 26.61 317 P P 07 28 05.4 +1.6
baz=27
K26A **Motz Farm, Whi** 26.70 351 P P 07 28 05.2 +0.5
baz=27,SNR=12
K25A **Mack Ranch, Ha** 26.72 350 P P 07 28 05.9 +1.0
baz=27,SNR=29
GRAC **Grapevine Rang** 26.85 324 P P 07 28 08.3 +2.2
baz=27,SNR=13
CWC **Cottonwood Cre** 26.87 322 P P 07 28 08.3 +1.9
baz=27
R11A **Troy Canyon, C** 26.89 328 P P 07 28 08.8 +2.2
baz=27,SNR=57
JLU **Jordanelle** 26.91 337 eP P 07 28 07.9 +1.2
comp=Z,55nm,1.1s
PKM **Mcpherson Peak** 26.95 318 P P 07 28 08.6 +1.4
baz=27,SNR=31
J30A **Dallas** 26.98 358 P P 07 28 06.9 -0.2
baz=27,SNR=14
K24A **Anderson Ranch** 26.99 349 P P 07 28 08.2 +0.9
baz=27,SNR=11
VES **Vestal, Richgr** 27.08 320 P P 07 28 09.5 +1.4
baz=27,SNR=36
J27A **Elkhorn Farm,** 27.09 353 P P 07 28 09.4 +1.2
baz=27,SNR=18
DUG **Dugway, Tooele** 27.10 334 P P 07 28 10.1 +1.8
baz=27,SNR=127
DUG **Dugway, Tooele** 27.10 334 eP P 07 28 10.1 +1.8
comp=Z,246nm,1.3s
DUG LR LR
comp=Z,37µm,19.0s
CTU **Camp Tracy** 27.10 337 eP P 07 28 10.1 +1.7
comp=Z,120nm,1.1s
J29A **Okreek** 27.10 356 P P 07 28 08.3 +0.1
baz=27,SNR=17
ACSO **Alum Creek Sta** 27.18 26 eP P 07 28 07.6 -1.3
comp=Z,415nm,1.0s
ACSO LR LR
comp=Z,19µm,19.0s
K23A **Bowen Ranch, D** 27.18 348 P P 07 28 09.6 +0.5
baz=27,SNR=39
J28A **Allard Ranch,** 27.19 355 P P 07 28 09.8 +0.8
baz=27,SNR=19
K22A **Casper** 27.28 346 P P 07 28 11.1 +1.2
baz=27,SNR=150
K22A **Casper** 27.28 346 eP P 07 28 10.6 +0.6
comp=Z,478nm,1.3s
J26A **Sides Ranch, S** 27.29 352 P P 07 28 10.8 +0.9
baz=27,SNR=54
SMMC **Simmler** 27.32 318 P P 07 28 12.5 +2.2
baz=27,SNR=36
TCUT **Toone Canyon** 27.34 338 eP P 07 28 12.1 +1.5
comp=Z,464nm,1.2s
JFWS **Jewell Farm** 27.34 12 eP P 07 28 08.9 -1.4
comp=Z,390nm,1.1s
JFWS LR LR
comp=Z,44µm,20.0s
ECSD **EROS Data Cent** 27.38 2 P P 07 28 10.0 -0.7
baz=27,SNR=136
ECSD **EROS Data Cent** 27.38 2 eP P 07 28 09.6 -1.1
comp=Z,250nm,1.0s
ECSD LR LR
comp=Z,40µm,21.0s
TIN **Tinemaha, Big** 27.38 323 P P 07 28 13.1 +2.2
baz=27,SNR=11
SMN1 **Samana, DR** 27.46 80 eP P 07 28 11.8 +0.1
J25A **Sunshine Ranch** 27.47 351 P P 07 28 12.6 +1.0
baz=28,SNR=20
RCTC **Rector, Farmer** 27.48 321 P P 07 28 13.8 +2.2
baz=28,SNR=22
TPH **Tonopah** 27.54 326 eP P 07 28 13.9 +1.4
comp=Z,3µm,3.0s
J24A **Dixon Ranch, L** 27.55 349 P P 07 28 13.6 +1.3
baz=28
I30A **Oacoma** 27.56 358 P P 07 28 12.1 -0.2
baz=28,SNR=9.4
SDV **Santo Domingo** 27.64 102 eP P 07 28 14.3 +0.8
comp=Z,129nm,0.8s
SDV LR LR
comp=Z,17µm,21.0s
I29A **Vivian Onida** 27.71 356 P P 07 28 13.5 -0.2
baz=28,SNR=82
JSRW **J. Sargeant Re** 27.72 36 eP P 07 28 12.9 -0.8
I28A **Midland** 27.75 355 P P 07 28 14.5 +0.5
baz=28,SNR=22
BGU **Big Grassy Mou** 27.80 335 eP P 07 28 15.9 +1.3
comp=Z,109nm,1.1s
HWUT **Hardware Ranch** 27.82 338 eP P 07 28 15.8 +0.9
comp=Z,141nm,1.0s
HWUT LR LR
comp=Z,113µm,19.0s
SPUT **South Promonto** 27.90 336 eP P 07 28 16.5 +1.0
comp=Z,59nm,1.0s
I27A **Quinn** 27.91 354 P P 07 28 16.1 +0.6
baz=28,SNR=28
I26A **New Underwood** 27.96 352 P P 07 28 16.9 +0.9
baz=28
J22A **Midwest** 27.99 347 P P 07 28 17.0 +0.7
baz=28,SNR=93
I24A **Kuemmerle Ranc** 28.06 350 P P 07 28 17.5 +0.7
baz=28,SNR=12
I25A **Rochford** 28.07 351 P P 07 28 17.9 +0.8
baz=28,SNR=17
MLAC **Mammoth, Mammc** 28.13 323 P P 07 28 19.8 +2.1
baz=28
J21A **Lysite** 28.15 345 P P 07 28 19.1 +1.3
baz=28,SNR=116
BW06 **Boulder Array** 28.19 342 eP P 07 28 18.7 +0.5
comp=Z,372nm,1.5s
BW06 LR LR
comp=Z,57µm,19.0s
PDAR **Pinedale Array** 28.19 342 P P 07 28 18.9 +0.6
comp=Z,266nm,1.1s,baz=126,slow=7.5,SNR=124
PDAR PcP PcP 07 31 31.4 -0.3
comp=Z,7.7nm,1.0s,baz=106,slow=4.8,SNR=4.1
PDAR LR LR 07 40 39.0
comp=Z,50µm,19.1s,baz=169,slow=39
RSSD **Black Hills** 28.22 351 eP P 07 28 18.9 +0.5
comp=Z,76nm,1.1s
I23A **Meade Ranch, G** 28.31 349 P P 07 28 19.9 +0.8
baz=28
H29A **Onida** 28.31 357 P P 07 28 18.6 -0.4
baz=28,SNR=14
J20A **Shoshoni** 28.32 344 P P 07 28 20.3 +1.0
baz=28,SNR=84
CBN **Corbin Frederi** 28.36 36 eP P 07 28 19.4 -0.1
comp=Z,110nm,0.7s
CBN LR LR
comp=Z,29µm,21.0s
NVAR **Mina Array Bea** 28.39 325 P P 07 28 21.0 +1.0
comp=Z,116nm,1.0s,baz=146,slow=8.1,SNR=165
H28A **Mission Ridge** 28.41 355 P P 07 28 20.2 +0.2
baz=28,SNR=7.5
HVU **Hansel Valley** 28.43 336 eP P 07 28 21.6 +1.4
I22A **9 Mile Ranch,** 28.45 347 P P 07 28 21.5 +1.1
baz=28,SNR=32
H27A **Howes** 28.47 354 P P 07 28 20.9 +0.5
baz=28,SNR=50
J19A **Crowheart** 28.50 343 P P 07 28 21.6 +0.6
baz=28,SNR=38
H26A **Fairpoint** 28.53 353 P P 07 28 21.6 +0.6
baz=28,SNR=22
I21A **Big Trails, Te** 28.56 346 P P 07 28 22.5 +1.1
baz=29,SNR=169
ELK **Elko** 28.60 332 P P 07 28 23.1 +1.2
comp=Z,37nm,1.0s,baz=137,slow=8.3,SNR=108
ELK LR LR 07 39 39.8
comp=Z,57µm,18.9s,baz=150,slow=36
ELK **Elko** 28.60 332 P P 07 28 23.1 +1.2
ELK pmax pmax
comp=Z,37nm,1.0s
ELK MLR MLR
comp=Z,57µm,18.9s
ELK **Elko** 28.60 332 eP P 07 28 23.4 +1.5
comp=Z,80nm,1.3s
H25A **Fruitdale** 28.64 352 P P 07 28 23.3 +1.3
baz=29,SNR=13
AAM **Ann Arbor** 28.68 22 eP P 07 28 20.8 -1.5
comp=Z,396nm,1.3s
AAM LR LR
comp=Z,22µm,21.0s
AHID **Auburn Hatcher** 28.68 340 eP P 07 28 23.5 +1.0
comp=Z,479nm,1.7s
AHID LR LR
comp=Z,47µm,19.0s
G30A **Faulkton** 28.77 358 P P 07 28 22.9 -0.2
baz=29,SNR=10
G28A **Parade** 28.80 356 P P 07 28 23.3 -0.1
baz=29,SNR=9.1
G29A **Hoven** 28.86 357 P P 07 28 23.1 -0.8
baz=29,SNR=11
H23A **Clabaugh Cattl** 28.88 349 P P 07 28 24.6 +0.5
baz=29
I20A **Worland** 28.89 345 P P 07 28 25.6 +1.3
baz=29,SNR=86
H24A **Dirks Ranch, A** 28.91 350 P P 07 28 24.9 +0.4
baz=29,SNR=68
WAKR **Walker** 29.07 324 eP P 07 28 28.4 +2.3
H22A **Clearmont** 29.09 348 P P 07 28 26.9 +0.9
baz=29,SNR=24
REDW **Red Top Meadow** 29.14 340 eP P 07 28 27.6 +1.0
comp=Z,693nm,1.6s
SPMN **Marine on St.** 29.17 7 P P 07 28 25.7 -1.0
baz=29,SNR=73
SPMN **Marine on St.** 29.17 7 eP P 07 28 25.6 -1.0
comp=Z,194nm,0.9s
G26A **Maurine** 29.18 353 P P 07 28 27.3 +0.5
baz=29,SNR=17
G25A **Newell** 29.18 352 P P 07 28 27.6 +0.8
baz=29,SNR=23
G27A **Dupree** 29.19 354 P P 07 28 27.2 +0.4
baz=29,SNR=31
SNOW **Snow King Moun** 29.19 341 eP P 07 28 28.1 +0.9
comp=Z,3.0nm,0.9s
I19A **Meeteetse** 29.20 344 P P 07 28 28.5 +1.4
baz=29,SNR=69
H21A **Big Horn, Sher** 29.27 347 P P 07 28 28.2 +0.5
baz=29,SNR=26
LOHW **Long Hollow** 29.28 341 eP P 07 28 28.7 +0.8
comp=Z,221nm,1.2s
TPAW **Teton Pass** 29.28 340 eP P 07 28 28.6 +0.7
comp=Z,254nm,1.2s
BMN **Battle Mountai** 29.30 329 eP P 07 28 29.8 +1.8
comp=Z,76nm,1.0s
CMB **Columbia Colle** 29.31 322 eP P 07 28 29.4 +1.5
comp=Z,54nm,1.2s
H20A **Greybull** 29.36 345 P P 07 28 29.1 +0.7
baz=29,SNR=46
FXWY **Fox Creek** 29.44 340 eP P 07 28 30.4 +1.1
comp=Z,985nm,2.5s
MOOW **Moose Ponds** 29.45 341 eP P 07 28 30.2 +0.8
comp=Z,277nm,1.4s
G24A **Alzada** 29.45 351 P P 07 28 29.9 +0.7
baz=30,SNR=20
F30A **Leola** 29.47 358 P P 07 28 28.8 -0.5
baz=30
G23A **Biddle** 29.49 349 P P 07 28 29.7 +0.1
baz=30,SNR=40
F29A **Eureka** 29.50 357 P P 07 28 29.2 -0.3
baz=30
AGPR **Aguadilla, PR** 29.50 81 eP P 07 28 29.5 -0.4
comp=Z,569nm,1.4s
SDMD **Soldier's Deli** 29.51 35 eP P 07 28 29.9 +0.2
comp=Z,418nm,1.2s
CRPR **Cabo Rojo, PR** 29.51 82 P P 07 28 29.6 -0.3
comp=Z,76nm,1.2s
F28A **McLaughlin** 29.57 356 P P 07 28 30.1 0.0
baz=30,SNR=9.0
IMW **Indian Meadow** 29.64 341 eP P 07 28 32.1 +1.0
comp=Z,141nm,1.2s
G22A **Birney** 29.68 348 P P 07 28 31.6 +0.4
baz=30,SNR=76
F27A **Lemmon** 29.69 354 P P 07 28 31.4 +0.1
baz=30,SNR=34
F26A **Lodgepole** 29.73 353 P P 07 28 32.1 +0.4
baz=30,SNR=44
FLWY **Flagg Ranch** 29.74 341 eP P 07 28 32.8 +0.9
comp=Z,573nm,1.7s
H19A **Powell** 29.79 344 P P 07 28 33.3 +1.1
baz=30,SNR=89
SSPA **Standing Stone** 29.85 32 eP P 07 28 31.8 -0.9
comp=Z,175nm,1.1s
G21A **Lodge Grass** 29.88 347 P P 07 28 33.7 +0.6
baz=30,SNR=35
F25A **Bowman** 29.90 352 P P 07 28 33.6 +0.4
baz=30,SNR=26
F24A **Ekalaka** 29.96 351 P P 07 28 34.2 +0.4
baz=30,SNR=38
H17A **Grant Village** 29.98 342 P P 07 28 35.7 +1.6
baz=30,SNR=14
H17A **Grant Village** 29.98 342 eP P 07 28 36.0 +1.9
comp=Z,258nm,1.6s
OBIP **Obispado Ponce** 29.99 82 eP P 07 28 34.1 -0.1
comp=Z,216nm,1.4s
F23A **Volborg** 30.00 350 P P 07 28 34.4 +0.4
baz=30,SNR=68
CELP **Cerrillos** 30.01 82 eP P 07 28 34.3 -0.1
ICMP **Isla Caja de M** 30.07 82 eP P 07 28 34.4 -0.5
LKWY **Lake** 30.08 342 eP P 07 28 37.9 +2.8
comp=Z,341nm,1.6s
LKWY LR LR
comp=Z,109µm,22.0s
G20A **Bridger** 30.10 345 P P 07 28 35.5 +0.4
baz=30,SNR=24
YFT **Old Faithful** 30.11 341 eP P 07 28 37.4 +2.2
comp=Z,125nm,1.3s
E30A **Jud** 30.13 359 P P 07 28 34.5 -0.7
baz=30
E27A **Carson** 30.20 355 P P 07 28 36.2 +0.4
baz=30,SNR=30
F22A **Rosebud** 30.21 348 P P 07 28 36.1 +0.2
baz=30
E29A **Napoleon** 30.22 358 P P 07 28 35.6 -0.3
baz=30,SNR=13
ATAH **Atahualpa** 30.28 139 P P 07 28 38.8 +1.7
comp=Z,20nm,1.0s,baz=325,slow=6.6,SNR=9.3
ATAH LR LR 07 38 49.9
comp=Z,27µm,18.3s,baz=324,slow=33
RLMT **Red Lodge** 30.28 344 P P 07 28 37.8 +1.1
baz=30,SNR=68
RLMT **Red Lodge** 30.28 344 eP P 07 28 37.4 +0.7
comp=Z,563nm,1.5s
RLMT LR LR
comp=Z,13µm,22.0s
E28A **Huff** 30.28 356 P P 07 28 36.7 +0.2
baz=30,SNR=33
YNR **Norris Junctio** 30.30 342 epP pP 07 28 50.0 +4.9
E26A **Carlson Angus** 30.33 354 P P 07 28 37.2 +0.3
baz=30,SNR=36
YMR **Madison River** 30.35 341 eP P 07 28 38.8 +1.5
comp=Z,316nm,1.3s
SJG **San Juan** 30.42 82 eP P 07 28 36.8 -1.2
comp=Z,274nm,1.0s
SJG LR LR
comp=Z,22µm,21.0s
F21A **Absaloka Mine,** 30.43 347 P P 07 28 38.0 +0.2
baz=30,SNR=7.8
E25A **Miller Ranch,** 30.46 353 P P 07 28 38.5 +0.4
baz=30,SNR=21
HLID **Hailey** 30.58 336 P P 07 28 40.6 +1.3
baz=31,SNR=90
HLID **Hailey** 30.58 336 eP P 07 28 40.6 +1.3
comp=Z,118nm,1.4s
HLID LR LR
comp=Z,31µm,21.0s
GLMI **Grayling** 30.59 19 eP P 07 28 38.5 -0.7
GLMI LR LR
comp=Z,39µm,19.0s
F20A **Billings** 30.64 346 P P 07 28 40.1 +0.4
baz=31,SNR=38
QLMT **Earthquake Lak** 30.64 341 eP P 07 28 41.3 +1.4
comp=Z,33nm,1.6s
E24A **Baker** 30.64 351 P P 07 28 40.0 +0.3
baz=31,SNR=11
D29A **Pettibone, Tap** 30.71 358 P P 07 28 39.7 -0.5
baz=31
E23A **Ismay** 30.73 350 P P 07 28 40.5 0.0
baz=31,SNR=31
D30A **Buchanan** 30.74 359 P P 07 28 40.2 -0.3
baz=31,SNR=31
E22A **Miles City** 30.79 349 P P 07 28 40.8 -0.2
baz=31,SNR=93
D27A **Center** 30.87 355 P P 07 28 42.1 +0.4
baz=31,SNR=13
D26A **Manning** 30.88 354 P P 07 28 42.0 +0.3
baz=31,SNR=23
D28A **Regan** 30.89 357 P P 07 28 42.2 +0.4
baz=31,SNR=17
GCMT **Greycliff** 31.00 344 eP P 07 28 43.4 +0.4
comp=Z,6.1nm,0.2s
MFID **Camas Ranch** 31.02 334 eP P 07 28 44.4 +1.2
comp=Z,176nm,1.5s
D25A **Fairfield** 31.09 353 P P 07 28 44.7 +1.0
baz=31,SNR=19
MCMT **McKenzie Canyo** 31.10 339 eP P 07 28 45.8 +1.8
E21A **Keefer Ranch,** 31.10 348 P P 07 28 44.2 +0.4
baz=31,SNR=88
LUPA **Lehigh Univers** 31.14 34 eP P 07 28 45.6 +1.5
comp=Z,47nm,1.4s
D24A **Glendive** 31.19 352 P P 07 28 45.3 +0.8
baz=31,SNR=48
C30A **Mose, Pekin** 31.33 359 P P 07 28 45.5 -0.2
baz=31,SNR=32
D23A **Lindsay** 31.38 350 P P 07 28 46.8 +0.6
baz=31,SNR=29
C28A **Hausauer Farms** 31.40 357 P P 07 28 46.6 +0.2
baz=31,SNR=19
BOZ **Bozeman (W)** 31.43 341 P P 07 28 48.1 +1.3
baz=32
C27A **Sayler Ranch,** 31.47 355 P P 07 28 47.2 +0.3
baz=32
DLMT **Dillon** 31.48 340 eP P 07 28 48.9 +1.7
comp=Z,344nm,1.1s
MDND **Maddock** 31.50 358 P P 07 28 47.4 +0.2
baz=32,SNR=66
MDND **Maddock** 31.50 358 eP P 07 28 47.1 0.0
comp=Z,3µm,1.1s
WVOR **Wild Horse Val** 31.51 330 P P 07 28 49.0 +1.5
WVOR LR LR
comp=Z,23µm,20.0s
D22A **Cohagen** 31.52 349 P P 07 28 48.2 +0.8
baz=32,SNR=93
STVI **Saint Thomas** 31.55 81 eP P 07 28 48.5 +0.6
comp=Z,1µm,2.2s
D21A **La Casta Ranch** 31.59 348 P P 07 28 49.0 +0.9
baz=32,SNR=67
C24A **Savage** 31.61 352 P P 07 28 49.0 +0.9
baz=32,SNR=68
KSPA **Keystone Colle** 31.61 33 eP P 07 28 48.4 +0.1
C26A **Wahner Farm, P** 31.63 355 P P 07 28 48.5 +0.2
baz=32,SNR=18
C25A **Freed Ranch, W** 31.64 353 P P 07 28 49.2 +0.8
baz=32,SNR=28
LCCM **Lewis and Clar** 31.68 341 P P 07 28 50.5 +1.5
CDVI **St. Croix** 31.75 82 eP P 07 28 48.9 -0.8
comp=Z,218nm,0.9s
LRM **Limekiln Ridge** 31.84 341 eP P 07 28 51.7 +1.1
comp=Z,1µm,1.2s
ODNJ **Ogdensburg** 31.90 35 eP P 07 28 52.2 +1.5
comp=Z,225nm,1.4s

MOD Modoc Plateau 31.94 328 *e*P **P 07 28 52.9 +1.5**
comp=Z,181nm,1.3s
AGMN Agassiz Nation 31.97 3 P **P 07 28 50.5 -0.8**
baz=32,SNR=166
AGMN Agassiz Nation 31.97 3 *e*P **P 07 28 50.5 -0.8**
AGMN LR LR
comp=Z,30µm,21.0s
C23A Lambert 31.98 351 P **P 07 28 52.4 +0.9**
baz=32,SNR=41
EYMN Ely 32.01 8 P **P 07 28 50.5 -1.2**
baz=32,SNR=52
EYMN Ely 32.01 8 *e*P **P 07 28 50.5 -1.2**
EYMN LR LR
comp=Z,527nm,1.8s
C22A Vida 32.04 350 P **P 07 28 53.0 +1.0**
comp=Z,38µm,19.0s
baz=32,SNR=54
CPNY Central Park 32.05 36 *e*P **P 07 28 51.9 -0.2**
baz=32,SNR=95
comp=Z,181nm,1.5s
B30A Myrvik Farm, E 32.07 360 P **P 07 28 52.1 -0.1**
baz=32,SNR=45
B29A Wagenman Farm, 32.11 358 P **P 07 28 52.6 +0.1**
baz=32,SNR=49
B28A Dugan Ranch, T 32.13 357 P **P 07 28 53.3 +0.6**
baz=32,SNR=17
B27A Peters Farms, 32.14 356 P **P 07 28 53.5 +0.6**
baz=32,SNR=9.6
B25A Knox Farm, Ray 32.18 353 P **P 07 28 53.6 +0.4**
baz=32,SNR=20
B26A Jensen Ranch, 32.19 355 P **P 07 28 53.3 0.0**
baz=32,SNR=11
PAL Palisades 32.23 35 *e*P **P 07 28 55.3 +1.6**
comp=Z,175nm,1.1s
WDC Whiskeytown Da 32.24 324 *e*P **P 07 28 54.6 +0.8**
comp=Z,24nm,1.1s
KIPM Iron Peak 32.29 322 *e*P **P 07 28 56.0 +1.6**
comp=Z,128nm,1.2s
C21A Desert Coulee 32.34 348 P **P 07 28 55.4 +0.8**
baz=32,SNR=90
C20A Veseth Ranch, 32.41 347 P **P 07 28 55.8 +0.6**
baz=32,SNR=79
HRY Holter Researc 32.45 342 *e*P **P 07 28 56.8 +1.1**
comp=Z,101nm,1.0s
DGMT Dagmar 32.50 352 P **P 07 28 56.3 +0.3**
baz=32,SNR=14
DGMT Dagmar 32.50 352 *e*P **P 07 28 56.6 +0.6**
DGMT LR LR
comp=Z,17µm,19.0s
SADO Sadowa 32.52 25 P **P 07 28 54.2 -1.9**
comp=Z,20nm,0.8s,baz=251,slow=8.1,SNR=19
SADO LR LR 07 42 54.9
comp=Z,659nm,21.3s,baz=216,slow=38
A29A Manning Farm, 32.56 358 P **P 07 28 56.3 -0.2**
baz=32,SNR=206
A30A Hoffart Farm, 32.56 360 P **P 07 28 56.3 -0.2**
baz=32,SNR=43
A28A Rude Farm, Bot 32.59 357 P **P 07 28 57.1 +0.3**
baz=33,SNR=23
N02D Trinity Center 32.60 324 P **P 07 28 57.9 +0.9**
baz=33
B22A Reddig Ranch S 32.60 350 P **P 07 28 57.3 +0.4**
baz=33,SNR=31
B23A Brockton 32.60 351 P **P 07 28 57.6 +0.7**
baz=33,SNR=34
M04C Macdoel 32.67 326 P **P 07 28 59.1 +1.5**
baz=33,SNR=20
A27A Ledoux Ranch, 32.69 356 P **P 07 28 57.6 0.0**
baz=33
KMRM Mail Ridge 32.69 322 *e*P **P 07 29 00.6 +2.7**
comp=Z,90nm,1.0s
A26A Wade Farm, Ken 32.69 355 P **P 07 28 57.9 +0.3**
baz=33,SNR=16
BMO Blue Mountains 32.81 334 *e*P **P 07 28 58.7 -0.1**
BMO LR LR
comp=Z,122nm,1.4s
A25A Svangstu Ranch 32.83 354 P **P 07 28 59.4 +0.6**
comp=Z,35µm,22.0s
baz=33,SNR=28
K05A Summer Lake 32.84 328 *e*P **P 07 29 00.7 +1.4**
comp=Z,92nm,1.1s
B21A Ellsworth Farm 32.90 349 P **P 07 29 00.3 +0.8**
baz=33,SNR=60
HOG Hogback Mounta 32.92 327 P **P 07 29 01.2 +1.3**
A24A Westby 32.92 353 P **P 07 29 00.5 +0.8**
baz=33,SNR=32
M02C Callahan 32.96 324 P **P 07 29 02.0 +1.8**
baz=33
PCRV Puerto La Cruz 32.97 96 P **P 07 28 59.1 -1.5**
comp=Z,7.5nm,0.6s,baz=223,slow=6.0,SNR=5.6
PCRV LR LR 07 45 19.9
comp=Z,8µm,18.1s,baz=283,slow=42
YLE Yale 32.98 36 *e*P **P 07 29 00.4 +0.2**
comp=Z,631nm,1.5s
A23A Redstone 33.07 352 P **P 07 29 01.8 +0.8**
baz=33,SNR=23
CHMT Chamberlain Mo 33.07 341 *e*P **P 07 29 01.7 +0.5**
EGMT Eagleton 33.10 345 P **P 07 29 02.1 +0.8**
baz=33,SNR=76
EGMT Eagleton 33.10 345 *e*P **P 07 29 01.9 +0.6**
EGMT LR LR
comp=Z,22µm,20.0s
B20A Solberg Farm, 33.11 348 P **P 07 29 01.9 +0.6**
baz=33,SNR=19
YBH Yreka Blue Hor 33.11 325 P **P 07 29 01.8 +0.3**
comp=Z,7.5nm,0.7s,baz=112,slow=5.7,SNR=22
YBH LR LR 07 42 37.1
comp=Z,19µm,19.0s,baz=155,slow=37
YBH Yreka Blue Hor 33.11 325 P **P 07 29 01.8 +0.3**
YBH pmax pmax
comp=Z,8.0nm,0.7s
YBH MLR MLR
comp=Z,19µm,19.0s
KHMM Horse Mountain 33.12 323 *e*P **P 07 29 04.5 +2.8**
comp=Z,99nm,1.0s
K04D Chiloquin, OR 33.21 327 P **P 07 29 03.6 +1.2**
baz=33
MSO Missoula 33.22 340 P **P 07 29 03.2 +0.8**
baz=33,SNR=47
MSO Missoula 33.22 340 *e*P **P 07 29 03.1 +0.8**
comp=Z,114nm,1.3s
A22A Carney Farms, 33.26 350 P **P 07 29 03.5 +0.8**
baz=33,SNR=50
B19A Brinkman Farms 33.32 347 P **P 07 29 04.0 +0.8**
baz=33,SNR=52
J05D Fort Rock, OR 33.42 328 P **P 07 29 05.6 +1.4**
baz=34,SNR=16
A21A Bergtoll Ranch 33.43 349 P **P 07 29 05.0 +0.9**
baz=33,SNR=44
SLMT Seeley Lake 33.44 341 *e*P **P 07 29 04.7 +0.3**
comp=Z,42nm,0.8s
A20A Cobblestone Ra 33.51 348 P **P 07 29 05.6 +0.8**
baz=34,SNR=14
TRY Troy 33.55 33 *e*P **P 07 29 04.8 -0.4**
comp=Z,265nm,1.5s
F10A Beach Ranch, E 33.69 335 P **P 07 29 07.2 +0.7**
A19A Klindworth Far 33.72 347 P **P 07 29 07.5 +0.8**
baz=34,SNR=72
J04D Umpqua Nationa 33.83 328 P **P 07 29 09.2 +1.3**
baz=34,SNR=50
SWMT Swartz Lake 33.84 340 *e*P **P 07 29 08.3 +0.5**
comp=Z,86nm,1.1s
HUMO Hull Mountain 33.84 326 *e*P **P 07 29 09.1 +1.3**
comp=Z,30nm,1.1s
G08A Pilot Rock 33.87 333 *e*P **P 07 29 08.7 +0.6**
comp=Z,144nm,1.3s
L02D Cave Junction, 33.89 325 P **P 07 29 09.3 +1.1**
baz=34
ULM Lac du Bonnet 33.92 2 P **P 07 29 07.1 -1.2**
comp=Z,131nm,1.1s,baz=190,slow=8.8,SNR=63
ULM LR LR 07 43 45.0
comp=Z,14µm,21.3s,baz=186,slow=38
ULM Lac du Bonnet 33.92 2 P **P 07 29 07.1 -1.2**
ULM pmax pmax
comp=Z,131nm,1.1s
ULM MLR MLR
comp=Z,14µm,21.3s
QUA2 Belchertown 33.95 35 *e*P **P 07 29 08.6 -0.1**
comp=Z,186nm,1.1s
ACCN Adirondack Com 34.01 32 *e*P **P 07 29 08.9 -0.3**
comp=Z,161nm,1.4s
BBSR BB Station 34.10 56 *e*P **P 07 29 10.5 +0.4**
comp=Z,387nm,1.4s
BBSR LR LR
comp=Z,28µm,19.0s
JTMT Jette 34.14 340 *e*P **P 07 29 11.2 +0.8**
NCB Newcomb 34.15 31 *e*P **P 07 29 09.6 -0.7**
comp=Z,311nm,1.5s
NCB LR LR
comp=Z,18µm,22.0s
YBMT Yellow Bay 34.15 341 *e*P **P 07 29 11.4 +0.8**
comp=Z,56nm,0.8s
PTN Potsdam (NY) 34.22 30 *e*P **P 07 29 10.3 -0.7**
comp=Z,312nm,1.4s
I05D Terrebonne, OR 34.24 330 P **P 07 29 12.4 +1.2**
baz=34,SNR=58
KBO Bosley Butte 34.27 324 *e*P **P 07 29 13.3 +1.7**
comp=Z,304nm,1.1s
I04A Tendick Farm, 34.38 328 P **P 07 29 13.2 +0.7**
baz=34,SNR=28
BSMT Bassoo Peak 34.39 340 *e*P **P 07 29 13.0 +0.3**
comp=Z,92nm,1.4s
BLMT Blacktail Moun 34.39 340 *e*P **P 07 29 13.5 +0.7**
LONY Lake Ozonia 34.44 30 *e*P **P 07 29 11.4 -1.5**
comp=Z,85nm,0.9s
LONY LR LR
comp=Z,21µm,22.0s
VTHM Trough 34.50 331 P **P 07 29 14.4 +1.0**
HRV Adam Dziewonsk 34.54 35 *e*P **P 07 29 13.2 -0.6**
comp=Z,127nm,1.1s
ANWB Willy Bob 34.59 82 PFAKE 07 29 30.0 +15
ANWB LR LR
comp=Z,13µm,20.0s
KEBM Edson Butte 34.77 325 *e*P **P 07 29 18.2 +2.4**
comp=Z,509nm,1.2s
I03D Drain, OR 34.80 327 P **P 07 29 17.2 +1.2**
baz=35,SNR=31
G05D Wamic, OR 34.90 331 P **P 07 29 18.5 +1.6**
baz=35,SNR=11
HNH Hanover 34.95 33 *e*P **P 07 29 17.2 -0.1**
comp=Z,682nm,2.1s
HAWA Hanford 34.98 334 *e*P **P 07 29 17.8 +0.2**
comp=Z,30nm,1.0s
HAWA LR LR
comp=Z,24µm,19.0s
NNA Nana 35.01 142 P **P 07 29 19.2 +1.1**
comp=Z,8.6nm,0.9s,baz=276,slow=18,SNR=2.6
NNA PcP **PcP 07 31 50.0 -0.1**
comp=Z,15nm,0.8s,baz=275,slow=4.2,SNR=4.9
NNA Nana 35.01 142 P **P 07 29 19.3 +1.1**
NNA 07 31 50.1
NNA pmax pmax
comp=Z,9.0nm,0.9s
NNA pmax pmax
comp=Z,15nm,0.8s
NNA Nana 35.01 142 P **P 07 29 19.2 +1.1**
NNA *e*pP **pP 07 29 27.7 +1.3**
NNA PcP **PcP 07 31 50.0 -0.1**
NNA LR LR
comp=Z,16µm,19.0s
FFD Franklin Falls 35.13 34 *e*P **P 07 29 19.4 +0.5**
comp=Z,121nm,1.1s
RNO Roman Nose 35.15 327 P **P 07 29 20.9 +1.8**
WALA Waterton Lakes 35.18 342 *e*P **P 07 29 19.6 +0.3**
comp=Z,66nm,1.0s
D08A Wollman Farm, 35.26 335 *e*P **P 07 29 20.5 +0.6**
TRW Toppenish Ridg 35.34 333 P **P 07 29 23.9 +3.1**
COR Corvallis 35.39 328 *e*P **P 07 29 22.6 +1.6**
comp=Z,312nm,1.2s
GRGR Grenville 35.40 92 *e*P **P 07 29 20.6 -1.0**
comp=Z,381nm,1.3s
GRGR LR LR
comp=Z,13µm,20.0s
FDF Fort de France 35.47 87 PFAKE 07 29 30.0 +7.8
FDF LR LR
comp=Z,16µm,20.0s
NEW Newport 35.56 338 P **P 07 29 22.7 +0.2**
comp=Z,38nm,0.9s,baz=147,slow=8.9,SNR=28
NEW Newport 35.56 338 P **P 07 29 22.7 +0.2**
NEW pmax pmax
comp=Z,38nm,0.9s
NEW Newport 35.56 338 P **P 07 29 23.0 +0.5**
baz=36,SNR=40
NEW Newport 35.56 338 *e*P **P 07 29 22.9 +0.3**
comp=Z,52nm,1.0s
NEW LR LR
comp=Z,90nm,19.0s
ASR Mount Adams--S 35.71 331 P **P 07 29 26.2 +2.2**
G03D McMinnville, O 35.82 329 P **P 07 29 26.4 +1.6**
baz=36,SNR=20
LTY Liberty 36.15 334 P **P 07 29 28.8 +1.2**
LON Longmire 36.26 332 *e*P **P 07 29 29.9 +1.3**
comp=Z,149nm,1.3s
ETW Entiat 36.27 334 P **P 07 29 30.1 +1.2**
F04D Rainier, OR 36.32 330 P **P 07 29 30.8 +1.7**
baz=36
D05A Enumclaw 36.67 332 *e*P **P 07 29 33.5 +1.5**
comp=Z,221nm,1.0s
WVL Waterville 36.93 34 *e*P **P 07 29 34.7 +0.4**
comp=Z,71nm,1.0s
BBGH Gun Hill 37.24 90 PFAKE 07 29 50.0 +13
BBGH LR LR
comp=Z,28µm,20.0s
PKME Peaks-Kenny Pk 37.58 34 *e*P **P 07 29 40.9 +1.1**
comp=Z,298nm,1.9s
PKME LR LR
comp=Z,17µm,20.0s
NLWA Neilton Lookou 37.68 331 P **P 07 29 42.2 +1.6**
NLWA LR LR
comp=Z,49µm,20.0s
EMMW East Machias 38.24 36 *e*P **P 07 29 43.9 -1.4**
comp=Z,101nm,1.0s
PGC Sidney 38.42 333 *e*P **P 07 29 48.1 +1.4**
FFC Flin Flon 38.48 356 *i* P **P 07 29 47.0 -0.2**
FFC Flin Flon 38.48 356 *e*P **P 07 29 46.9 -0.4**
FFC LR LR
comp=Z,30µm,20.0s
EDM Edmonton 38.79 345 *e*P **P 07 29 50.0 +0.1**
PQI Presque Isle 39.18 33 *e*P **P 07 29 52.8 -0.4**
comp=Z,432nm,1.6s
PTGA Pitinga 41.13 111 P **P 07 30 09.1 -0.6**
comp=Z,24nm,1.1s,baz=303,slow=9.2,SNR=21
PTGA Pitinga 41.13 111 *e*P **P 07 30 10.8 +1.0**
SAML Samuel 42.59 124 *e*P **P 07 30 20.6 -1.1**
comp=Z,26nm,1.1s
SAML LR LR
comp=Z,7µm,22.0s
BBB Bella Bella 43.03 333 P **P 07 30 25.8 +1.0**
comp=Z,19nm,0.8s,baz=111,slow=3.7,SNR=9.2
LPAZ La Paz 43.75 136 P **P 07 30 31.7 0.0**
comp=Z,13nm,1.0s,baz=341,slow=10,SNR=21
LPAZ LR LR 07 47 27.7
comp=Z,11µm,19.1s,baz=316,slow=34
RPN Rapa Nui 44.55 195 PFAKE 07 30 50.0 +13
RPN LR LR
comp=Z,9µm,22.0s
SCHQ Schefferville 45.33 25 P **P 07 30 42.0 -1.2**
comp=Z,26nm,0.8s,baz=233,slow=7.5,SNR=24
SCHQ LR LR 07 53 44.3
comp=Z,17µm,18.6s,baz=220,slow=42
CRAG Craig 47.45 334 *e*P **P 07 31 02.1 +2.3**
comp=Z,115nm,1.1s
YKA Yellowknife Ar 47.62 350 P **P 07 31 00.4 -0.6**
comp=Z,30nm,0.8s,baz=157,slow=7.6,SNR=47
YKA Yellowknife Ar 47.62 350 P **P 07 31 00.4 -0.6**
YKA pmax pmax
comp=Z,31nm,0.8s
WRAK Wrangell Islan 47.77 335 PFAKE 07 31 10.0 +7.8
WRAK LR LR
comp=Z,13µm,19.0s
LVC Limon Verde 47.99 143 P **P 07 31 05.9 +1.1**
comp=Z,59nm,1.1s,baz=307,slow=8.4,SNR=5.2
LVC Limon Verde 47.99 143 *e*P **P 07 31 07.7 +3.0**
comp=Z,102nm,1.4s
LVC LR LR
comp=Z,8µm,21.0s
DLBC Dease Lake 48.31 338 P **P 07 31 07.7 +1.2**
comp=Z,43nm,1.0s,baz=133,slow=9.0,SNR=71
DLBC Dease Lake 48.31 338 *e*P **P 07 31 08.4 +1.9**
comp=Z,232nm,1.3s
SIV San Ignacio 48.51 130 P **P 07 31 07.7 -0.9**
comp=Z,6.2nm,0.6s,baz=317,slow=9.7,SNR=26
TAOE Nuku Hiva Isla 48.66 242 *e*T T 08 22 38.5
comp=Z,182nm,0.2s
SIT Sitka 49.42 334 *e*P **P 07 31 17.0 +2.1**
comp=Z,424nm,2.7s
FRB Frobisher Bay 51.56 16 P **P 07 31 29.7 -1.3**
comp=Z,62nm,1.0s,baz=225,slow=7.9,SNR=21
FRB LR LR 07 55 11.5
comp=Z,13µm,21.1s,baz=189,slow=38
FRB Frobisher Bay 51.56 16 P **P 07 31 29.7 -1.3**
FRB pmax pmax
comp=Z,62nm,1.0s
FRB MLR MLR
comp=Z,13µm,21.1s

PTCN Pitcairn Islan 51.68 218 PFAKE 07 31 50.0 +18
PTCN LR LR
comp=Z,15µm,21.0s
LCO Las Campanas 52.17 149 *e*P **P 07 31 37.8 +1.4**
LCO LR LR
comp=Z,11µm,22.0s
HYT Haines Junctio 52.71 337 *e*P **P 07 31 42.0 +2.2**
RKT Rikitea 53.34 224 *e*PP PP 07 33 46.8 +1.5
comp=Z,984nm,26.2s
RKT *e*S **S 07 39 16.2 +1.2**
comp=Z,11µm,27.0s
RKT *e*SS **SKiKP 07 42 58.8 -1.3**
comp=Z,2µm,25.5s
RKT *e*LQ LQ 07 45 03.0
comp=Z,5µm,29.2s
RKT *e*LR LR 07 47 17.3
comp=Z,32µm,26.0s,baz=39
RKT Rikitea 53.34 224 *e*T T 08 28 36.2
comp=Z,70nm,0.3s
POHA Pohakuloa 54.64 283 PFAKE 07 32 10.0 +15
POHA LR LR
comp=Z,9µm,20.0s
CFAA Coronel Fontan 55.51 149 P **P 07 32 00.9 +0.4**
comp=Z,1.5nm,1.1s,baz=333,slow=8.1,SNR=9.5
CFAA LR LR 07 50 42.4
comp=Z,1µm,21.9s,baz=345,slow=31
BMRM Bremner River 55.60 335 *e*P **P 07 32 02.8 +2.0**
EYAK Cordova Ski Ar 55.86 334 *e*P **P 07 32 04.7 +2.2**
comp=Z,103nm,1.0s
DIV Divide 56.17 334 *e*P **P 07 32 07.0 +2.2**
EGAK Eagle 56.51 339 *e*P **P 07 32 07.2 +0.1**
comp=Z,102nm,1.2s
EGAK LR LR
comp=Z,13µm,19.0s
HARP HAARP 56.59 336 *e*P **P 07 32 10.0 +2.2**
INK Inuvik 56.69 345 P **P 07 32 08.5 +0.2**
comp=Z,90nm,0.8s,baz=131,slow=7.8,SNR=53
INK LR LR 07 58 38.3
comp=Z,27µm,18.7s,slow=38
INK Inuvik 56.69 345 P **P 07 32 08.5 +0.2**
INK pmax pmax
comp=Z,90nm,0.8s
INK MLR MLR
comp=Z,27µm,18.7s
KIP Kipapa 56.78 285 PFAKE 07 32 20.0 +10
KIP LR LR
comp=Z,5µm,19.0s
PAX Paxson 57.02 336 *e*P **P 07 32 11.9 +1.0**
SEW Seward 57.26 332 *e*P **P 07 32 13.0 +0.5**
comp=Z,80nm,1.0s
SML Sawmill 57.58 334 *e*P **P 07 32 15.6 +0.8**
comp=Z,31nm,1.3s
BRLK Bradley Lake 57.76 331 *e*P **P 07 32 17.4 +1.2**
KDAK Kodiak Island 57.78 329 *i* P **P 07 32 18.8 +2.6**
KDAK Kodiak Island 57.78 329 *e*P **P 07 32 16.5 +0.3**
comp=Z,78nm,1.3s
KDAK LR LR
comp=Z,22µm,19.0s
DHY Denali Highway 57.82 336 *e*P **P 07 32 17.6 +1.0**
RC01 Rabbit Creek A 57.83 333 *e*P **P 07 32 17.0 +0.4**
comp=Z,114nm,1.1s
CPUP Villa Florida 57.92 136 P **P 07 32 17.5 -0.1**
comp=Z,21nm,1.3s,baz=344,slow=8.9,SNR=5.8
CPUP LR LR 07 57 07.3
comp=Z,5µm,21.3s,baz=326,slow=36
CPUP Villa Florida 57.92 136 P **P 07 32 17.5 -0.1**
CPUP pmax pmax
comp=Z,21nm,1.3s
CPUP MLR MLR
comp=Z,5µm,21.3s
OHAK Old Harbor 57.92 328 *e*P **P 07 32 18.4 +1.2**
HDA Harding Lake 58.35 337 *e*P **P 07 32 20.7 +0.6**
RES Resolute Bay 58.43 1 P **P 07 32 19.8 -0.7**
comp=Z,25nm,1.0s,baz=192,slow=9.0,SNR=26
RES LR LR 07 59 19.2
comp=Z,11µm,19.0s,baz=184,slow=38
RES Resolute Bay 58.43 1 P **P 07 32 19.8 -0.7**
RES pmax pmax
comp=Z,25nm,1.0s
RES MLR MLR
comp=Z,11µm,19.0s
ILAR Eielson Array 58.51 338 P **P 07 32 21.6 +0.4**
comp=Z,38nm,1.1s,baz=137,slow=3.9,SNR=147
ILAR LR LR 07 59 54.4
comp=Z,33µm,18.1s,baz=132,slow=38
ILAR Eielson Array 58.51 338 P **P 07 32 21.7 +0.4**
ILAR pmax pmax
comp=Z,38nm,1.1s
ILAR MLR MLR
comp=Z,33µm,18.1s
BDFB Brasilia 58.62 120 P **P 07 32 22.7 -0.2**
comp=Z,27nm,0.8s,baz=284,slow=8.8,SNR=38
BDFB Brasilia 58.62 120 P **P 07 32 22.7 -0.2**
BDFB pmax pmax
comp=Z,27nm,0.8s
MCK McKinley 58.75 336 *e*P **P 07 32 23.8 +0.8**
CCB Clear Creek Bu 58.79 337 *e*P **P 07 32 23.0 -0.1**
RSO Redoubt South 58.90 332 *e*P **P 07 32 25.0 +0.7**
comp=Z,457nm,0.8s
COLA College 58.92 338 *c i*P **P 07 32 24.1 +0.1**
COLA pmax pmax
comp=Z,414nm,1.9s
COLA College 58.92 338 *e*P **P 07 32 24.3 +0.2**
comp=Z,106nm,1.2s
COLA LR LR
comp=Z,12µm,19.0s
TRF Thorofare Moun 59.15 336 *e*P **P 07 32 26.5 +0.6**
BWN Browne 59.17 336 *e*P P 07 32 19.8 -6.1
comp=Z,477nm,1.0s
SFJD Kangerlussuaq 59.20 20 ⇑ *i*P **P 07 32 25.5 -0.4**
comp=Z,139nm,1.3s
SFJD *i* S **S 07 40 36.3 +4.7**
SFJD Kangerlussuaq 59.20 20 P **P 07 32 24.8 -1.1**
comp=Z,70nm,1.0s,baz=220,slow=6.6,SNR=30
SFJD LR LR 07 59 57.3
comp=Z,22µm,21.1s,baz=230,slow=38
SFJD Kangerlussuaq 59.20 20 ⇑ *i*P **P 07 32 25.5 -0.4**
SFJD *i* S **S 07 40 36.3 +4.7**
SFJD pmax pmax
comp=Z,140nm,1.3s
SFJD Kangerlussuaq 59.20 20 *e*P **P 07 32 25.6 -0.4**
PPLA Purkeypile 59.67 334 *e*P **P 07 32 30.1 +0.5**
BPAW Bear Paw Mtn. 59.73 336 *e*P **P 07 32 29.9 +0.1**
comp=Z,106nm,1.2s
XMAS Kiritimati 60.19 263 PFAKE 07 32 50.0 +16
XMAS LR LR
comp=Z,12µm,22.0s
ILULI Ilulissat 60.34 17 ⇑ *i*P **P 07 32 33.4 -0.4**
comp=Z,125nm,1.5s
ILULI *i* S **S 07 40 49.0 +2.7**
comp=Z,11µm,19.0s
SVW2 Sparrevohn 60.43 332 *e*P **P 07 32 34.8 +0.2**
comp=Z,59nm,0.9s
COLD Coldfoot 60.94 339 *e*P **P 07 32 39.1 +1.1**
PPT Papeete 60.98 239 LR LR 07 52 26.7
comp=Z,9µm,18.2s,baz=62,slow=30
PPT2 Papeete2 60.99 239 *e*PP PP 07 34 54.2 +0.4
comp=Z,492nm,24.2s
PPT2 *e*S **S 07 40 56.5 +0.3**
comp=Z,15µm,29.2s
PPT2 *e*SS **SS 07 44 58.2 +2.0**
comp=Z,4µm,26.0s
PPT2 *e*LQ LQ 07 47 54.2
comp=Z,12µm,33.5s
PPT2 *e*LR LR 07 50 35.5
comp=Z,26µm,25.8s,baz=51
SDPT Sand Point 61.19 325 *e*P **P 07 32 40.4 +0.7**
H07S1 FLORES T-PHASE 61.97 54 *e*P **P 07 32 45.8 +0.4**
H07S1 *e*pS **pS 07 41 21.2 +2.5**
H07S1 *e*LQ LQ 07 50 09.5
H07S1 *e*LR LR 07 51 24.9
H07N1 FLORES T-PHASE 62.05 53 *e*P **P 07 32 45.7 -0.2**
KULLO Kullorsuaq 62.40 11 ⇑ *i*P **P 07 32 47.4 -0.2**
comp=Z,179nm,1.3s
KULLO *i* S **S 07 41 13.0 +0.6**
FALS False Pass 62.74 324 *e*P **P 07 32 50.6 +0.5**
comp=Z,100nm,1.0s
TRQA Tornquist 63.74 149 *e*P **P 07 32 57.5 +0.4**
TRQA LR LR
comp=Z,19µm,21.0s
PCED Cedros 63.91 55 *e*P **P 07 33 00.1 +1.8**
comp=Z,122nm,1.2s
TBI Tubuai 63.92 233 *e*PP PP 07 35 19.9 +0.4
comp=Z,344nm,26.8s
TBI *e*S **S 07 41 33.6 +0.8**
comp=Z,7µm,28.0s

TBI eSS **SS** **07 45 39.7 -2.2**
comp=Z,3µm,32.5s
TBI eLQ LQ 07 49 06.5
comp=Z,5µm,31.2s
TBI eLR LR 07 52 09.5
comp=Z,27µm,26.5s,baz=55
TBI Tubuai 63.92 233 eT T 08 41 45.3
comp=Z,56nm,0.3s
PCAN Candelaria 64.08 55 eP **P** **07 33 00.9 +1.4**
comp=Z,117nm,1.5s
PCAN epS pS 07 41 53.7 +8.4
PPNO Prainha do Nor 64.26 55 eP **P** **07 33 01.8 +1.1**
comp=Z,323nm,1.2s
ROSA Rosais 64.27 55 eP P 07 33 03.9 +3.2
comp=Z,124nm,1.3s
ROSA epS pS 07 41 43.3 -4.3
ROSA eLQ LQ 07 50 17.7
ROSA eLR LR 07 52 15.9
comp=Z,3µm,18.3s
UNV Unalaska Valle 64.36 322 eP **P** **07 33 01.6 +0.6**
PMAN Manadas 64.39 55 eP **P** **07 33 02.1 +0.6**
comp=Z,145nm,1.4s
PGRA Graciosa 64.47 54 eP **P** **07 33 02.1 +0.1**
comp=Z,265nm,1.3s
PGRA epS **pS** **07 41 50.6 +0.6**
PGRA Graciosa 64.47 54 eLR LR 07 52 40.4
comp=Z,3µm,23.6s
RCBR Riachuelo 65.19 104 P **P** **07 33 07.1 0.0**
comp=Z,76nm,1.2s,baz=285,slow=4.3,SNR=9.4
RCBR Riachuelo 65.19 104 eP **P** **07 33 07.8 +0.8**
RCBR LR LR
comp=Z,6µm,20.0s
SUMG Summit 65.63 17⇑iP **P** **07 33 09.5 +0.1**
SUMG iS **S** **07 41 54.7 +1.4**
comp=Z,10µm,18.0s
SUMG Summit 65.63 17⇑iP **P** **07 33 09.5 +0.1**
SUMG iS **S** **07 41 54.7 +1.4**
SUMG MLR MLR
comp=Z,10µm,18.0s
SUMG Summit 65.63 17 eP **P** **07 33 09.2 -0.2**
NIKH Nikolski High 65.66 321 eP **P** **07 33 10.4 +1.0**
PSET Sete Cidades 66.28 55 eP **P** **07 33 13.5 -0.3**
comp=Z,311nm,1.3s
PSET epS **pS** **07 42 11.5 -0.9**
PSET eLQ LQ 07 50 03.4
PSET eLR LR 07 53 02.8
comp=Z,1µm,19.2s
PDA Ponta Delgada 66.33 56 eP **P** **07 33 16.4 +2.4**
comp=Z,267nm,1.6s
BART Pico Bartolome 66.72 55 eP **P** **07 33 16.6 -0.1**
comp=Z,300nm,1.2s
PSMA Santa Maria 66.80 56 eP **P** **07 33 17.2 +0.2**
comp=Z,209nm,1.3s
PSMN Pico do Norte, 66.85 56 eP **P** **07 33 16.6 -0.8**
comp=Z,128nm,1.6s
PSMN epS **pS** **07 42 18.9 -0.3**
PSMN Pico do Norte, 66.85 56 eLR LR 07 53 02.8
comp=Z,1µm,21.4s
TNA Tin City 67.02 335 eP **P** **07 33 18.9 +1.0**
comp=Z,62nm,0.8s
ALE Alert 67.73 5 P **P** **07 33 21.0 -1.2**
comp=Z,352nm,1.1s,SNR=31
GAMB Gambell 68.33 333 eP **P** **07 33 26.6 +0.4**
comp=Z,95nm,1.5s
BORG Borgarnes 69.69 26 P **P** **07 33 34.5 -0.1**
comp=Z,40nm,1.2s,baz=270,slow=4.0,SNR=6.1
BORG Borgarnes 69.69 26 iP **P** **07 33 37.5 +2.9**
BORG Borgarnes 69.69 26 eP **P** **07 33 33.3 -1.3**
comp=Z,199nm,1.5s
BORG LR LR
comp=Z,7µm,19.0s
SACV Santiago Islan 71.22 79 PFAKE 07 34 00.0 +15
SACV LR LR
comp=Z,4µm,19.0s
DAG Danmarks Havn 71.80 14⇑iP **P** **07 33 46.5 -0.8**
comp=Z,237nm,1.8s
DAG i 07 36 24.2
DAG iS **S** **07 43 03.9 -1.7**
comp=Z,10µm,15.0s
DAG Danmarks Havn 71.80 14⇑iP **P** **07 33 46.5 -0.8**
DAG i 07 36 24.2
DAG iS **S** **07 43 03.9 -1.7**
DAG pmax pmax
comp=Z,1µm,1.8s
DAG MLR MLR
comp=Z,10µm,15.0s
MIDW Midway 73.33 295 PFAKE 07 34 10.0 +13
MIDW LR LR
comp=Z,4µm,20.0s
PMOZ Porto Moniz, M 73.73 60 eP **P** **07 33 59.6 -0.1**
comp=Z,176nm,2.4s
PMOZ eS S 07 43 42.4 +13
PMOZ Porto Moniz, M 73.73 60 eLR LR 07 57 01.9
comp=Z,13µm,22.0s
PMOZ Porto Moniz, M 73.73 60 eP **P** **07 33 59.6 -0.1**
comp=Z,176nm,2.4s
PMOZ eS S 07 43 42.4 +13
PMOZ Porto Moniz, M 73.73 60 eLR LR 07 57 01.9
comp=Z,13µm,22.0s
PMAR Madeira 73.98 60 eP P 07 33 57.6 -3.7
comp=Z,178nm,1.5s
PMAR Madeira 73.98 60 eP P 07 33 57.6 -3.7
comp=Z,178nm,1.5s
PMPST Porto Santo, M 74.40 60⇑iP **P** **07 34 03.6 +0.1**
comp=Z,185nm,2.0s
PMPST Porto Santo, M 74.40 60⇑iP **P** **07 34 03.6 +0.1**
comp=Z,185nm,2.0s
PMPS Porto Santo 74.41 60 eP **P** **07 34 05.1 +1.6**
comp=Z,224nm,1.6s
PMPS Porto Santo 74.41 60 eP **P** **07 34 05.1 +1.6**
comp=Z,224nm,1.6s
JMIC Jan Mayen 74.55 20⇑iP **P** **07 34 04.0 +0.4**
JMIC IAmb IAmb 07 34 08.2
comp=Z,247nm,1.9s
JMIC IAMs_20 IAMs_20 08 08 48.0
comp=Z,6µm,18.4s
JMIC IVMs_BB IVMs_BB 08 09 41.1
comp=Z,3µm,18.7s
JMIC Jan Mayen 74.55 20 P **P** **07 34 03.5 -0.1**
comp=Z,6.4nm,0.4s,baz=281,slow=8.6,SNR=5.3
VAL Valentia 75.96 40 eP **P** **07 34 11.5 -0.5**
VAL Valentia 75.96 40⇓iS S 07 44 04.8 +12
EFI East Falkland 76.07 156 PFAKE 07 34 30.0 +18
EFI LR LR
comp=Z,16µm,19.0s
BILL Bilibino 77.17 337 PFAKE 07 34 30.0 +11
BILL LR LR
comp=Z,14µm,20.0s
KPL Plockton 77.69 34 eP **P** **07 34 19.7 -2.0**
KPL AMS AMS 08 07 30.9
comp=Z,9µm,21.7s
KSB Sheil Bridge 77.83 34 eP **P** **07 34 21.7 -0.8**
KAC Achnashellach 77.84 33 eP **P** **07 34 21.8 -0.8**
KBS Kingsbay 77.86 11⇑iP **P** **07 34 23.5 +1.2**
KBS IAmb IAmb 07 34 27.4
comp=Z,2µm,2.3s
KBS ePP **PP** **07 37 17.2 -0.6**
KBS eS **S** **07 44 17.6 +4.5**
KBS Kingsbay 77.86 11 eP **P** **07 34 22.7 +0.4**
comp=Z,133nm,1.3s
KBS LR LR
comp=Z,9µm,19.0s
DSB Dublin 78.06 38 eP **P** **07 34 23.9 +0.1**
comp=Z,178nm,1.8s
GMM Mts of Mourne 78.11 37 eP **P** **07 34 23.6 -0.6**
MVH1 Achvaich 78.34 33 eP **P** **07 34 24.2 -1.1**
MDO Dochfour 78.35 33 eP **P** **07 34 24.4 -1.0**
PGBU Glenifferbraes 78.62 35 eP **P** **07 34 26.2 -0.7**
PGBU AMS AMS 08 06 54.4
comp=Z,8µm,22.0s
GAL1 Galloway 78.69 36 eP **P** **07 34 27.2 -0.2**
GAL1 AMS AMS 08 11 54.8
comp=Z,7µm,17.7s
AFI Afiamalu 78.86 252 PFAKE 07 34 40.0 +11
AFI LR LR
comp=Z,5µm,19.0s
MCD Coleburn Disti 78.90 33 eP **P** **07 34 27.7 -0.7**
PMAFR Mafra 78.94 53 eP **P** **07 34 29.0 0.0**
comp=Z,289nm,1.5s
PMAFR eS **S** **07 44 21.8 -4.2**
PMAFR Mafra 78.94 53 eP **P** **07 34 29.0 0.0**
comp=Z,289nm,1.5s
PMAFR eS **S** **07 44 21.8 -4.2**
SPA0 Spitsbergen Ar 78.98 11 eP **P** **07 34 28.4 -0.1**
SPA0 IVMs_BB IVMs_BB 08 11 29.1
comp=Z,5µm,17.0s
SPITS Spitsbergen Ar 78.98 11 P **P** **07 34 28.0 -0.5**
comp=Z,3.5nm,0.5s,baz=222,slow=1.1,SNR=13
SPITS Spitsbergen Ar 78.98 11 P **P** **07 34 28.0 -0.5**
SPITS pmax pmax
comp=Z,4.0nm,0.5s
PMST Lisbon--Monsan 79.06 53 eP **P** **07 34 29.8 +0.1**
comp=Z,256nm,1.4s
PMST Lisbon--Monsan 79.06 53 eP **P** **07 34 29.8 +0.1**
comp=Z,256nm,1.4s
PGAV Gavieira, Arco 79.07 49⇑iP **P** **07 34 29.5 -0.3**
comp=Z,176nm,1.6s
PGAV eS S 07 44 18.3 -9.2
PGAV Gavieira, Arco 79.07 49 eLR LR 07 59 07.3
comp=Z,5µm,18.0s
PGAV Gavieira, Arco 79.07 49⇑iP **P** **07 34 29.5 -0.3**
comp=Z,176nm,1.6s
PGAV eS S 07 44 18.3 -9.2
PGAV Gavieira, Arco 79.07 49 eLR LR 07 59 07.3
comp=Z,5µm,18.0s
LIS Lisbon 79.09 53 eP **P** **07 34 29.8 0.0**
LIS eS **S** **07 44 28.1 +0.5**
LIS AMS AMS 08 09 25.9
comp=Z,7µm,16.6s
LIS Lisbon 79.09 53 eP **P** **07 34 29.8 0.0**
LIS eS **S** **07 44 28.1 +0.5**
MME1 Meikle Cairn 79.12 33 eP **P** **07 34 28.8 -0.8**
PCAB Cabril 79.30 50⇑iP **P** **07 34 30.8 -0.2**
comp=Z,138nm,1.5s
PCAB Cabril 79.30 50⇑iP **P** **07 34 30.8 -0.2**
comp=Z,138nm,1.5s
PCAS Casmilo, Conde 79.30 51⇑iP **P** **07 34 31.3 +0.3**
comp=Z,402nm,1.3s
PCAS Casmilo, Conde 79.30 51 eS S 07 44 39.5 +10
PCAS Casmilo, Conde 79.30 51⇑iP **P** **07 34 31.3 +0.3**
comp=Z,402nm,1.3s
PCAS Casmilo, Conde 79.30 51 eS S 07 44 39.5 +10
YEL1 Yell 79.31 30 eP **P** **07 34 31.0 +0.4**
PACT Alcochete 79.32 53 eP **P** **07 34 30.5 -0.6**
comp=Z,544nm,1.3s
PACT Alcochete 79.32 53 eP **P** **07 34 30.5 -0.6**
comp=Z,544nm,1.3s
HSPB Hornsund (broa 79.35 12⇓iP **P** **07 34 31.4 +0.9**
HSPB IAmb IAmb 07 34 33.7
comp=Z,78nm,1.4s
LRW Lerwick 79.36 30 eP **P** **07 34 28.4 -2.4**
EBL Broad Law 79.43 35 eP **P** **07 34 30.6 -0.8**
ESK Eskdalemuir 79.44 35 eP **P** **07 34 28.8 -2.7**
ESK AMS AMS 08 07 04.3
comp=Z,8µm,21.8s
ESK Eskdalemuir 79.44 35 iP **P** **07 34 32.2 +0.8**
ESK Eskdalemuir 79.44 35 eP **P** **07 34 30.5 -0.9**
comp=Z,51nm,1.0s
ESK LR LR
comp=Z,10µm,22.0s
DRUM Mains of Drumt 79.46 34 eP **P** **07 34 30.9 -0.6**
DRUM AMS AMS 08 08 10.6
comp=Z,12µm,22.0s
ECK Cauldkaine Hil 79.52 36 eP **P** **07 34 31.0 -0.8**
POLO Lamas de Olo 79.54 50⇑iP **P** **07 34 32.2 -0.2**
comp=Z,68nm,1.4s
POLO Lamas de Olo 79.54 50 eS S 07 44 41.4 +8.8
POLO Lamas de Olo 79.54 50⇑iP **P** **07 34 32.2 -0.2**
comp=Z,68nm,1.4s
POLO Lamas de Olo 79.54 50 eS S 07 44 41.4 +8.8
KESW Keswick, Cumbr 79.67 36 eP **P** **07 34 30.3 -2.4**
KESW AMS AMS 08 12 32.5
comp=Z,7µm,18.2s
PTEO Sao Teotonio 79.67 54⇑iP **P** **07 34 33.3 +0.3**
comp=Z,254nm,1.4s
PTEO Sao Teotonio 79.67 54⇑iP **P** **07 34 33.3 +0.3**
comp=Z,254nm,1.4s
HTL Hartland 79.67 40 eP **P** **07 34 32.5 -0.3**
HTL AMS AMS 08 08 42.2
comp=Z,12µm,22.5s
LPW Lampeter 79.67 39 eP **P** **07 34 30.1 -2.6**
LPW AMS AMS 08 08 00.3
comp=Z,5µm,24.1s
PFVI Vila Bisbo 79.68 54 eP **P** **07 34 33.5 +0.4**
comp=Z,234nm,1.2s
PFVI Vila Bisbo 79.68 54 eS **S** **07 44 37.9 +4.0**
PFVI Vila Bisbo 79.68 54 eP **P** **07 34 33.5 +0.4**
comp=Z,234nm,1.2s
PFVI Vila Bisbo 79.68 54 eS **S** **07 44 37.9 +4.0**
PNCL Nicolau / Gran 79.69 53 eP **P** **07 34 33.1 -0.1**
comp=Z,75nm,1.2s
PNCL Nicolau / Gran 79.69 53 eS **S** **07 44 36.1 +2.0**
PNCL Nicolau / Gran 79.69 53 eP **P** **07 34 33.1 -0.1**
comp=Z,75nm,1.2s
PNCL Nicolau / Gran 79.69 53 eS **S** **07 44 36.1 +2.0**
MORF Marmelete 79.78 54 eP **P** **07 34 33.6 -0.1**
MORF ePP **PP** **07 37 33.4 -1.5**
MORF eS **S** **07 44 36.1 +1.0**
MORF AMS AMS 08 08 06.9
comp=Z,9µm,14.1s
MORF Marmelete 79.78 54 eP **P** **07 34 33.6 -0.1**
MORF e 07 37 33.4
MORF eS **S** **07 44 36.1 +1.0**
MORF Marmelete 79.78 54⇑iP **P** **07 34 33.6 -0.1**
comp=Z,98nm,1.3s
MORF Marmelete 79.78 54 eS S 07 44 47.0 +12
MORF Marmelete 79.78 54⇑iP **P** **07 34 33.6 -0.1**
comp=Z,98nm,1.3s
MORF Marmelete 79.78 54 eS S 07 44 47.0 +12
MESJ Messejana 79.99 54 eP **P** **07 34 34.7 -0.1**
MESJ ePP **PP** **07 37 34.8 -1.8**
MESJ eS **S** **07 44 37.4 +0.2**
MESJ AMS AMS 08 08 42.4
comp=Z,5µm,18.9s
MESJ Messejana 79.99 54 eP **P** **07 34 34.7 -0.1**
MESJ e 07 37 34.8
MESJ eS **S** **07 44 37.4 +0.2**
MESJ Messejana 79.99 54 eP **P** **07 34 32.2 -2.6**
comp=Z,125nm,1.5s
MESJ Messejana 79.99 54 eP **P** **07 34 32.2 -2.6**
comp=Z,125nm,1.5s
EVO Evora 80.00 53⇑iP **P** **07 34 34.9 +0.1**
comp=Z,173nm,1.5s
EVO Evora 80.00 53⇑iP **P** **07 34 34.9 +0.1**
comp=Z,173nm,1.5s
FOEL Foel Wylfa 80.01 38 eP **P** **07 34 33.5 -1.1**
FOEL AMS AMS 08 10 24.9
comp=Z,8µm,20.0s
PCBR Castelo Branco 80.11 51⇑iP **P** **07 34 35.0 -0.4**
comp=Z,233nm,1.4s
PCBR Castelo Branco 80.11 51⇑iP **P** **07 34 35.0 -0.4**
comp=Z,233nm,1.4s
DYA Yadsworthy 80.14 40 eP **P** **07 34 34.2 -1.2**
DYA AMS AMS 08 08 55.6
comp=Z,8µm,22.0s
MVO Moncorvo 80.15 50⇑iP **P** **07 34 35.6 -0.1**
comp=Z,175nm,1.7s
MVO eS S 07 44 25.7 -13
MVO Moncorvo 80.15 50 eLR LR 08 00 04.8
comp=Z,4µm,20.0s
MVO Moncorvo 80.15 50⇑iP **P** **07 34 35.6 -0.1**
comp=Z,175nm,1.7s
MVO eS S 07 44 25.7 -13
MVO Moncorvo 80.15 50 eLR LR 08 00 04.8
comp=Z,4µm,20.0s
PCVE Castro Verde 80.18 54⇑iP **P** **07 34 36.1 +0.3**
comp=Z,39nm,1.7s
PCVE Castro Verde 80.18 54 eS S 07 44 49.9 +11
PCVE Castro Verde 80.18 54⇑iP **P** **07 34 36.1 +0.3**
comp=Z,39nm,1.7s
PCVE Castro Verde 80.18 54 eS S 07 44 49.9 +11
PBRG Braganca 80.22 49⇑iP **P** **07 34 35.8 -0.2**
comp=Z,130nm,1.9s
PBRG Braganca 80.22 49 eS S 07 44 52.8 +13
PBRG Braganca 80.22 49⇑iP **P** **07 34 35.8 -0.2**
comp=Z,130nm,1.9s
PBRG Braganca 80.22 49 eS S 07 44 52.8 +13
PESTR Estremoz 80.25 52 eP **P** **07 34 35.9 -0.3**
comp=Z,120nm,1.4s
PESTR Estremoz 80.25 52 eS **S** **07 44 38.0 -1.9**
PESTR Estremoz 80.25 52 eP **P** **07 34 35.9 -0.3**
comp=Z,120nm,1.4s
PESTR Estremoz 80.25 52 eS **S** **07 44 38.0 -1.9**
PMRV Marv??o 80.27 52⇑iP **P** **07 34 35.9 -0.4**
comp=Z,213nm,1.4s
PMRV Marv??o 80.27 52 eS **S** **07 44 41.3 +1.1**
PMRV Marv??o 80.27 52 eLR LR 08 00 03.3
comp=Z,9µm,24.0s
PMRV Marv??o 80.27 52⇑iP **P** **07 34 35.9 -0.4**
comp=Z,213nm,1.4s
PMRV Marv??o 80.27 52 eS **S** **07 44 41.3 +1.1**
comp=Z,9µm,24.0s
HLM1 Long Mynd 80.29 38 eP **P** **07 34 35.4 -0.7**
HLM1 AMS AMS 08 13 01.7
comp=Z,8µm,16.9s
MCH1 Michaelchurch 80.34 39 eP **P** **07 34 35.3 -1.1**
MCH1 AMS AMS 08 06 57.5
comp=Z,6µm,23.9s
PBDV Barranco-do-Ve 80.35 54⇑iP **P** **07 34 37.2 +0.4**
comp=Z,230nm,1.6s
PBDV Barranco-do-Ve 80.35 54 eS S 07 44 52.2 +11
PBDV Barranco-do-Ve 80.35 54⇑iP **P** **07 34 37.2 +0.4**
comp=Z,230nm,1.6s
PBDV Barranco-do-Ve 80.35 54 eS S 07 44 52.2 +11
PVAQ Vaqueiros 80.48 54 eP **P** **07 34 37.0 -0.4**
comp=Z,144nm,1.4s
PVAQ Vaqueiros 80.48 54 eS **S** **07 44 41.1 -1.3**
PVAQ Vaqueiros 80.48 54 eLR LR 08 00 02.7
comp=Z,9µm,20.0s
PVAQ Vaqueiros 80.48 54 eP **P** **07 34 37.0 -0.4**
comp=Z,144nm,1.4s
PVAQ Vaqueiros 80.48 54 eS **S** **07 44 41.1 -1.3**
PVAQ Vaqueiros 80.48 54 eLR LR 08 00 02.7
comp=Z,9µm,20.0s
MONM Monmouth 80.50 39 eP **P** **07 34 36.3 -0.9**
MONM AMS AMS 08 07 02.3
comp=Z,7µm,22.3s
STNC Stoke 80.54 37 eP **P** **07 34 36.8 -0.6**
STNC AMS AMS 08 13 06.8
comp=Z,7µm,17.9s
LHO Holmfirth 80.63 37 eP **P** **07 34 37.5 -0.4**
HPK Haverah Park 80.66 37 eP **P** **07 34 37.7 -0.4**
HPK AMS AMS 08 13 12.0
comp=Z,8µm,18.0s
OLDB Oldbury-Upon-S 80.69 39 eP **P** **07 34 35.5 -2.8**
OLDB AMS AMS 08 07 07.0
comp=Z,8µm,22.4s
PBAR Barrancos 80.83 53⇑iP **P** **07 34 38.9 -0.4**
comp=Z,302nm,1.4s
PBAR Barrancos 80.83 53 eS S 07 44 52.5 +6.5
PBAR Barrancos 80.83 53⇑iP **P** **07 34 38.9 -0.4**
comp=Z,302nm,1.4s
PBAR Barrancos 80.83 53 eS S 07 44 52.5 +6.5
STRD Stroud 80.90 39 eP **P** **07 34 37.2 -2.1**
STRD AMS AMS 08 07 14.2
comp=Z,8µm,22.3s
SWN1 Swindon 81.18 39 eP **P** **07 34 39.0 -1.9**
SWN1 AMS AMS 08 07 21.5
comp=Z,8µm,22.4s
BJO Bjornoya 81.33 14 eP **P** **07 34 41.4 +0.2**
BJO IAmb IAmb 07 34 45.7
comp=Z,330nm,1.8s
BJO IVMs_BB IVMs_BB 08 10 07.4
comp=Z,3µm,22.1s
HOPEN Hopen 81.47 11 eP **P** **07 34 42.1 +0.2**
HOPEN IAmb IAmb 07 34 45.5
comp=Z,257nm,1.7s
LMK Market Rasen 81.54 37 eP **P** **07 34 41.2 -1.5**
JSA Saint Aubin 81.56 41 eP **P** **07 34 42.3 -0.5**
JSA AMS AMS 08 15 10.3
comp=Z,7µm,17.7s
WOL Wolverton 81.59 39 eP **P** **07 34 41.2 -1.8**
WOL AMS AMS 08 08 58.0
comp=Z,7µm,22.6s
FOO Floro 81.86 28⇑iP **P** **07 34 44.6 +0.4**
FOO IAmb IAmb 07 34 48.6
comp=Z,582nm,2.5s
FOO IVMs_BB IVMs_BB 08 08 47.4
comp=Z,2µm,18.3s
FOO IAMs_20 IAMs_20 08 10 00.8
comp=Z,5µm,20.9s
SUE Sulen 81.91 29⇑iP **P** **07 34 45.0 +0.5**
SUE IAmb IAmb 07 34 48.9
comp=Z,196nm,1.7s
SUE ePP **PP** **07 37 52.6 +0.9**
SUE eSKSac **SKSac** **07 45 03.8 +1.1**
SUE IVMs_BB IVMs_BB 08 09 29.5
comp=Z,2µm,20.5s
SUE IAMs_20 IAMs_20 08 12 41.7
comp=Z,7µm,18.5s
BER Bergen 82.40 29 eP **P** **07 34 47.2 +0.2**
BER ePP **PP** **07 37 56.1 +0.3**
BER eS **S** **07 45 01.6 +0.3**
HYA Hoyanger 82.53 28 eP **P** **07 34 49.3 +1.6**
PAB San Pablo 82.53 51 eP **P** **07 34 48.4 0.0**
comp=Z,207nm,1.4s
PAB LR LR
comp=Z,8µm,22.0s
AKN Aaknes 82.54 27 eP **P** **07 34 46.8 -1.0**
AKN IAmb IAmb 07 34 52.3
comp=Z,2µm,3.7s
AKN ePP **PP** **07 37 55.9 -1.0**
AKN IVMs_BB IVMs_BB 08 09 56.4
comp=Z,2µm,24.5s
MOL Molde 82.64 27 eP **P** **07 34 49.0 +0.8**
MOL IAmb IAmb 07 34 53.0
comp=Z,738nm,3.0s
MOL IVMs_BB IVMs_BB 08 12 12.3
comp=Z,2µm,20.8s
MOL IAMs_20 IAMs_20 08 12 59.9
comp=Z,9µm,19.9s
HMNX Herstmonceux 82.65 39 eP **P** **07 34 47.9 -0.7**
HMNX AMS AMS 08 10 47.5
comp=Z,11µm,21.6s
LOF Lofoten 82.73 21 eP **P** **07 34 48.9 +0.2**
LOF IAmb IAmb 07 34 52.7
comp=Z,1µm,2.6s
KMY Karmoy 82.75 30 eP **P** **07 34 49.3 +0.4**
ESDC Sonseca Array 82.78 51 P **P** **07 34 49.1 -0.5**
comp=Z,14nm,0.8s,baz=297,slow=4.7,SNR=63
ESDC LR LR 08 06 36.7
comp=Z,5µm,21.9s,baz=285,slow=32
ODD1 Odda 83.17 29 eP **P** **07 34 51.5 +0.3**
ODD1 IAmb IAmb 07 34 56.0
comp=Z,748nm,2.7s
BLS5 Blasjo 83.26 30⇑iP **P** **07 34 52.5 +0.9**
BLS5 IAmb IAmb 07 34 53.8
comp=Z,419nm,2.2s
KONS Konsvik 83.29 22 eP **P** **07 34 52.0 +0.4**
STEI Steigen 83.39 20 eP **P** **07 34 52.4 +0.4**
TBLU Trondheim 83.53 26⇑iP **P** **07 34 54.0 +1.1**
TBLU IAmb IAmb 07 34 55.1
comp=Z,209nm,1.6s
NSS Namsos 83.69 24⇑iP **P** **07 34 53.8 +0.1**
NSS IAmb IAmb 07 34 58.0
comp=Z,519nm,2.5s
NSS IVMs_BB IVMs_BB 08 13 21.6
comp=Z,2µm,18.6s
TRO Tromso 83.74 18⇑iP **P** **07 34 53.0 -0.8**
ORDF Ordiarp 84.01 47⇑eP **P** **07 34 55.3 -0.5**
SNART Snartemo 84.01 31 eP **P** **07 34 55.6 +0.2**
SNART IAmb IAmb 07 34 57.4
comp=Z,77nm,1.1s
LARF Larrau 84.02 47⇑eP **P** **07 34 56.2 +0.3**
ATE Arette 84.21 47⇑eP **P** **07 34 56.6 -0.3**
SEY Seymchan 84.26 334c iP **P** **07 34 57.1 +0.5**
REYF Montagne du Re 84.43 47⇑eP **P** **07 34 58.4 +0.3**
HAMF Hammerfest 84.56 17 eP **P** **07 34 55.6 -2.4**
KONO Kongsberg 84.66 29⇑iP **P** **07 34 59.4 +0.7**
KONO IAmb IAmb 07 35 00.9
comp=Z,87nm,1.0s
KONO Kongsberg 84.66 29 eP **P** **07 34 58.9 +0.2**
comp=Z,171nm,1.4s
KONO LR LR
comp=Z,8µm,20.0s
HOMB Homborsund 84.67 31⇑iP **P** **07 34 59.5 +0.8**
HOMB IAmb IAmb 07 35 01.0
comp=Z,102nm,1.2s
HOMB IVMs_BB IVMs_BB 08 12 26.0
comp=Z,3µm,17.6s
HOMB IAMs_20 IAMs_20 08 13 10.6
comp=Z,10µm,19.0s
LABF Labassere 84.77 47⇑eP **P** **07 34 59.7 0.0**
VIEF Viey 84.78 47⇑eP **P** **07 34 59.8 0.0**
NB2 NORSAR Subarra 84.83 27 P **P** **07 34 59.9 +0.2**
comp=Z,100nm,1.4s,baz=299,slow=5.1
NB2 NORSAR Subarra 84.83 27 P **P** **07 34 59.9 +0.2**
baz=299,slow=5.1
NOA NORSAR Array B 84.83 27 P **P** **07 34 59.5 -0.1**
comp=Z,18nm,1.1s,baz=294,slow=5.0,SNR=16
NOA LR LR 08 11 51.0
comp=Z,4µm,21.9s,baz=295,slow=35
NOA NORSAR Array B 84.83 27 P **P** **07 34 59.5 -0.1**
NOA pmax pmax
comp=Z,18nm,1.1s

NOA MLR MLR
comp=Z,4µm,22.0s
PMSA Palmer Station 84.86 166 PFAKE 07 35 10.0 +11
PMSA LR LR
comp=Z,7µm,19.0s
PET Petropavlovsk 84.96 324 *c iP* **P 07 35 00.1 -0.2**
PET *e* 07 38 18.6
PET *eS* **S 07 45 23.7 -3.7**
PET *eSS* **SS 07 51 03.9 +4.0**
PET *eSSS* SSS 07 54 31.2
PET pmax pmax
comp=Z,2µm,12.8s
PET pmax pmax
comp=Z,2µm,16.7s
PET pmax pmax
comp=Z,15nm,0.8s
PET pmax pmax
comp=Z,700nm,19.3s
PET MLR MLR
comp=Z,3µm,17.0s
PET MLR MLR
comp=Z,3µm,17.0s
PET Petropavlovsk 84.96 324 *eP* **P 07 35 00.9 +0.6**
comp=Z,25nm,1.0s
PET LR LR
comp=Z,4µm,22.0s
RESF Ens 85.02 47⇑ *eP* **P 07 35 01.2 +0.1**
OSL Oslo 85.07 29 *eP* **P 07 35 00.3 -0.4**
UCC Uccle 85.10 38 P **P 07 35 01.6 +0.5**
comp=Z,146nm,1.8s
NC602 NORSAR Array S 85.11 28⇑ *iP* **P 07 35 01.2 +0.2**
NC602 IAmb IAmb 07 35 05.6
comp=Z,905nm,2.8s
NC602 IVMs_BB IVMs_BB 08 11 33.1
comp=Z,2µm,21.4s
SNF Seneffe 85.15 39 P **P 07 35 02.2 +0.8**
KTK1 Kautokeino 85.36 18 *eP* **P 07 35 01.8 -0.3**
PETK Petropavlovsk- 85.47 324 P **P 07 35 03.2 +0.3**
comp=Z,24nm,0.9s,baz=80,slow=8.3,SNR=18
PETK LR LR 08 12 51.2
comp=Z,3µm,19.9s,baz=55,slow=35
PETK Petropavlovsk- 85.47 324 P **P 07 35 03.2 +0.3**
PETK pmax pmax
comp=Z,24nm,0.9s
PETK MLR MLR
comp=Z,3µm,19.9s
DOU Dourbes 85.48 39 P **P 07 35 03.6 +0.6**
comp=Z,38nm,1.9s
MLS Moulis 85.51 47⇑ *eP* **P 07 35 03.1 -0.3**
SALF Salau 85.63 47⇑ *eP* **P 07 35 04.4 +0.3**
ARCES ARCESS Array B 85.72 17 P **P 07 35 03.0 -0.9**
comp=Z,18nm,0.9s,baz=296,slow=3.6,SNR=32
ARCES LR LR 08 15 18.5
comp=Z,5µm,20.7s,baz=305,slow=37
ARCES ARCESS Array B 85.72 17 P **P 07 35 03.0 -0.9**
ARCES pmax pmax
comp=Z,18nm,0.9s
ARCES MLR MLR
comp=Z,5µm,20.7s
ARE0 ARCESS Array S 85.72 17⇑ *iP* **P 07 35 02.7 -1.2**
BCLA Clavier 85.79 39 P **P 07 35 05.3 +0.7**
comp=Z,60nm,1.9s
PYM Petit Puy Mans 85.92 44⇑ *eP* **P 07 35 06.5 +1.0**
OLHC Oulhaca 85.95 55 P **P 07 35 05.8 0.0**
KEV Kevo 86.00 17 *eP* **P 07 35 05.0 -0.3**
comp=Z,29nm,1.0s
KEV LR LR
comp=Z,6µm,20.0s
HGN Heimansgroeve 86.05 38 *eP* **P 07 35 05.3 -0.5**
comp=Z,153nm,1.5s
HGN *ePP* **PP 07 38 26.7 +0.9**
HGN *eS* **S 07 45 38.5 +0.3**
WTSB Winterswijk 86.12 37 *eP* **P 07 35 06.0 -0.1**
comp=Z,1µm,3.1s
MEM Membach 86.15 38 P **P 07 35 06.9 +0.6**
comp=Z,46nm,1.6s
LBL Lubilhac 86.25 44 *eP* **P 07 35 08.2 +1.1**
PLDF La Plantade 86.25 43⇑ *eP* **P 07 35 07.5 +0.4**
CARF Carcanieres 86.29 47⇑ *eP* **P 07 35 06.9 -0.5**
OTSS Djebel Tessala 86.43 54 P **P 07 35 08.9 +0.7**
COLF Collangettes 86.45 44⇑ *eP* **P 07 35 07.9 -0.1**
LRDF Laroque-de-Fa 86.52 46⇑ *eP* **P 07 35 08.1 -0.3**
IBBN Ibbenburen 86.54 36 *eP* **P 07 35 08.5 +0.3**
comp=Z,294nm,2.2s
IBBN *epP* **pP 07 35 20.2 +3.0**
WLF Walferdange 86.57 39 P **P 07 35 09.1 +0.7**
comp=Z,69nm,1.9s
WLF Walferdange 86.57 39 PFAKE 07 35 20.0 +12
WLF LR LR
comp=Z,11µm,19.0s
BUG Bochum--Univer 86.59 37 *eP* **P 07 35 08.5 0.0**
comp=Z,171nm,1.9s
BUG *epP* **pP 07 35 20.2 +2.8**
FILF Fillols 86.66 47⇑ *eP* **P 07 35 08.3 -0.8**
TIXI Tiksi 86.77 347 *c iP* **P 07 35 08.6 -0.4**
TIXI pmax pmax
comp=Z,224nm,3.0s
TIXI Tiksi 86.77 347 *eP* **P 07 35 08.5 -0.4**
comp=Z,146nm,1.4s
TIXI LR LR
comp=Z,7µm,19.0s
ODJA Bouhanifia 86.92 54 P **P 07 35 11.4 +0.9**
THEF They Montfort 86.99 41⇑ *eP* **P 07 35 10.2 -0.4**
SSB Saint Sauveur 87.10 44⇑ *eP* **P 07 35 11.0 -0.2**
SSB Saint Sauveur 87.10 44 *eP* **P 07 35 10.9 -0.2**
comp=Z,55nm,1.4s
SSB LR LR
comp=Z,6µm,21.0s
SKR Severo-Kuril's 87.28 322 *eP* P 07 35 05.0 -6.8
SKR *e* 07 38 32.0
SKR *ePPP* PPP 07 40 40.0
SKR *eS* **S 07 45 47.0 -3.2**
SKR *eSS* **SS 07 51 40.0 +6.1**
SKR pmax pmax
comp=Z,2µm,10.0s
SKR pmax pmax
comp=E,2µm,4.0s
SKR smax smax
comp=N,5µm,18.0s
SKR MLR MLR
comp=N,4µm,18.0s
SKR MLR MLR
comp=E,9µm,18.0s
SKR MLR MLR
comp=Z,4µm,18.0s
OKGL Djebel Kef Gue 87.31 53 P **P 07 35 12.8 +0.4**
HOPE Hope Point 87.53 149 PFAKE 07 35 30.0 +17
HOPE LR LR
comp=Z,7µm,19.0s
OJGS Djebel Guires 87.56 54 P **P 07 35 14.4 +0.7**
COP Copenhagen 87.69 32⇑ *iP* **P 07 35 13.4 -0.3**
COP Copenhagen 87.69 32 *i* S S 07 45 44.8 -9.1
comp=Z,3µm,22.0s
COP Copenhagen 87.69 32⇑ *iP* **P 07 35 13.4 -0.3**
COP *i* S S 07 45 44.8 -9.1
COP MLR MLR
comp=Z,3µm,22.0s
EANR 'Ain N'Sour 87.69 53 P **P 07 35 15.0 +0.7**
ECH Echery 87.72 40⇑ *eP* **P 07 35 13.7 -0.4**
ECH Echery 87.72 40 *eP* **P 07 35 13.2 -0.9**
comp=Z,58nm,1.4s
ECH LR LR
comp=Z,12µm,22.0s
LANF Langenberg 87.83 39⇑ *eP* **P 07 35 14.0 -0.6**
LOMF Lomont 87.84 41⇑ *eP* **P 07 35 14.2 -0.6**
MOF Molkenrain 87.84 41⇑ *eP* **P 07 35 14.2 -0.6**
OG26 St.-Nazaire-De 87.85 44⇑ *eP* **P 07 35 15.2 +0.4**
ETRT Tiaret 88.02 54 P **P 07 35 16.7 +0.7**
BFO Black Forest 88.40 40 *i* P **P 07 35 19.0 +1.7**
BFO Black Forest 88.40 40 *eP* **P 07 35 16.7 -0.6**
comp=Z,22nm,1.3s
BFO LR LR
comp=Z,12µm,19.0s
OG25 Le Caire 88.44 44⇑ *eP* **P 07 35 17.6 -0.1**
BNI Bardonecchia 88.59 43 *eP* **P 07 35 19.5 +1.1**
comp=Z,48nm,1.4s
BNI LR LR
comp=Z,10µm,20.0s
TARA Tarawa 88.78 271 PFAKE 07 35 30.0 +10
TARA LR LR
comp=Z,5µm,20.0s
EMHD Djebel Mahouad 89.03 53 P **P 07 35 19.8 -0.9**
APA Apatity 89.20 17⇓ *iP* P 07 35 29.5 +8.8
APA *i* 07 38 50.0
APA *i* PPP PPP 07 40 56.0
APA *i* 07 45 52.0
APA *i* 07 46 02.0
APA pmax pmax
comp=Z,38nm,1.4s
APA MLR MLR
comp=Z,6µm,20.0s
CALN Calern 89.21 44⇑ *eP* **P 07 35 21.0 -0.4**
BSD Bornholm Skovb 89.22 32⇑ *iP* **P 07 35 19.9 -1.0**
comp=Z,26nm,1.2s
BSD Bornholm Skovb 89.22 32 *i* S **SKSac 07 45 48.4 -0.6**
comp=Z,8µm,18.0s
BSD Bornholm Skovb 89.22 32⇑ *iP* **P 07 35 19.9 -1.0**
BSD *i* S **SKSac 07 45 48.4 -0.6**
BSD pmax pmax
comp=Z,26nm,1.2s
BSD MLR MLR
comp=Z,8µm,18.0s
NEUB Neuenburg 89.27 36 *eP* **P 07 35 21.0 -0.3**
comp=Z,21nm,0.5s
NEUB *eS* **S 07 46 06.6 -2.5**
LVZ Lovozero 89.31 16 *c iP* **P 07 35 22.0 +0.8**
LVZ pmax pmax
comp=Z,29nm,1.4s
LVZ MLR MLR
comp=Z,6µm,23.0s
LVZ Lovozero 89.31 16 PFAKE 07 35 30.0 +8.8
LVZ LR LR
comp=Z,4µm,20.0s
MVIF Mont Vial 89.33 44⇑ *eP* **P 07 35 21.5 -0.5**
MSVF Nonsavu 89.35 251 P **P 07 35 24.8 +2.4**
comp=Z,73nm,1.2s
MSVF LR LR
comp=Z,7µm,21.0s
TOUF Mont Tournerai 89.35 44⇑ *eP* **P 07 35 21.2 -0.9**
RAO Raoul Island 89.38 239 PFAKE 07 35 40.0 +18
RAO LR LR
comp=Z,5µm,22.0s
ADJB Djebel Djouab 89.42 53 P **P 07 35 22.1 -0.4**
MOX Moxa 89.42 37 *eP* **P 07 35 21.6 -0.5**
comp=Z,24nm,1.5s
MOX *epP* **pP 07 35 33.3 +2.2**
MOX *ePP* **PP 07 38 51.2 -1.7**
MOX *eS* **S 07 46 11.2 +0.6**
REVF Revere 89.54 44⇑ *eP* **P 07 35 21.7 -1.1**
SAOF Saorge 89.57 44⇑ *eP* **P 07 35 22.0 -0.9**
GRF Grafenberg Arr 89.59 38 *eP* **P 07 35 22.9 0.0**
comp=Z,44nm,1.5s
GRF *epP* **pP 07 35 34.8 +2.9**
GRF *ePP* **PP 07 38 52.8 -1.5**
GRF *eS* **S 07 46 11.1 -1.1**
GRF *eL* L 08 15 12.8
comp=Z,7µm,21.7s
GRFO Grafenberg 89.59 38 *eP* **P 07 35 23.7 +0.8**
comp=Z,33nm,1.5s
WAKE Wake Island 89.64 290 PFAKE 07 35 40.0 +16
WAKE LR LR
comp=Z,5µm,20.0s
TUE Stuetta 89.77 41 PFAKE 07 35 40.0 +16
TUE LR LR
comp=Z,11µm,21.0s
DAVA Damuels 89.78 40⇓ *iPcP* **P 07 35 23.9 -0.1**
comp=Z,799nm,4.1s,SNR=10
AKET Djebel Ketaf 89.79 52 P **P 07 35 24.6 +0.3**
PLN Plauen 89.80 37 *eP* **P 07 35 23.6 -0.2**
comp=Z,49nm,1.7s
PLN *epP* **pP 07 35 35.2 +2.4**
PLN *ePP* **PP 07 38 54.6 -1.3**
WERD Werda 89.90 37 *eP* **P 07 35 24.0 -0.3**
comp=Z,38nm,1.6s
WERD *epP* **pP 07 35 35.6 +2.3**
WERD *ePP* **PP 07 38 55.1 -1.6**
CLL Collm 89.92 36 *eP* **P 07 35 23.8 -0.6**
comp=Z,42nm,1.7s
CLL *epP* **sP 07 35 35.5 -1.1**
CLL *eS* **S 07 46 10.4 -4.7**
CLL Collm 89.92 36⇓ *iP* **P 07 35 24.8 +0.5**
comp=Z,42nm,1.7s
CLL *ePlp* 07 35 25.0
comp=Z,2µm,16.5s
CLL *i* sP **sP 07 35 35.4 -1.1**
comp=Z,21nm,1.3s
CLL *ePP* **PP 07 38 55.0 -1.8**
CLL *ePPlp* 07 39 06.0
comp=Z,2µm,13.7s
CLL *ePPP* PPP 07 40 59.0
CLL *eSKSac* **SKSac 07 45 58.0 +4.7**
CLL *ePS* **PS 07 47 28.0 +3.9**
CLL *eSS* **SS 07 52 08.0 -4.3**
CLL *LmV* 08 22 00.0
comp=Z,6µm,18.2s
CLL Collm 89.92 36⇓ *iP* **P 07 35 24.8 +0.5**
CLL *e* 07 38 55.0
CLL pmax pmax
comp=Z,42nm,1.7s
CLL MLR MLR
comp=Z,6µm,18.2s
GUNZ Gunzen 89.95 37 *eP* **P 07 35 24.2 -0.4**
comp=Z,48nm,1.6s
GUNZ *epP* **pP 07 35 36.0 +2.4**
GUNZ *ePP* **PP 07 38 55.4 -1.8**
DAVOX Davos/Dischmat 89.98 41 LR LR 08 11 55.1
comp=Z,2µm,21.7s,baz=304,slow=33
MANZ Manzenberg 89.99 37 *eP* **P 07 35 24.4 -0.4**
comp=Z,28nm,1.4s
MANZ *epP* **pP 07 35 36.2 +2.4**
MANZ *ePP* **PP 07 38 55.8 -1.6**
MANZ *eS* **S 07 46 16.6 +0.7**
TANN Tannenbergstha 90.01 37 *eP* **P 07 35 24.5 -0.4**
comp=Z,43nm,1.6s
TANN *epP* **pP 07 35 36.2 +2.3**
TANN *ePP* **PP 07 38 55.9 -1.7**
TANN *eS* **S 07 46 16.5 +0.4**
WERN Wernitzgruen 90.01 37 *eP* **P 07 35 24.6 -0.3**
comp=Z,78nm,1.8s
WERN *epP* **pP 07 35 36.4 +2.5**
WERN *ePP* **PP 07 38 56.0 -1.6**
NKC Novy Kostel 90.08 37 *eP* **P 07 35 25.5 +0.3**
NKC *ex* x 07 35 36.8
NKC *ex* x 07 35 52.7
NKC *ePP* PP 07 38 51.6 -6.5
NKC *eSKS* **SKSac 07 45 48.0 -6.4**
NKC *ex* x 07 47 35.4
NKC AMS AMS 08 19 10.0
comp=Z,10µm,17.3s
NKC Novy Kostel 90.08 37 *eP* **P 07 35 25.5 +0.3**
NKC *e* 07 35 36.8
NKC *e* 07 45 48.0
NKC MLR MLR
comp=Z,10µm,17.3s
ROTZ Rotzenmuhle 90.14 37 *eP* **P 07 35 25.4 0.0**
comp=Z,30nm,1.5s
ROTZ *epP* **pP 07 35 37.1 +2.7**
ROTZ *ePP* **PP 07 38 57.4 -1.2**
ROTZ *eS* **S 07 46 18.0 +0.7**
RETA Reutte 90.24 40⇑ *iPcP* **P 07 35 26.0 0.0**
comp=Z,544nm,3.8s,SNR=7.6
FUR Furstenfeldbru 90.27 39 *eS* **S 07 46 15.0 -3.6**
FBE Freiberg 90.29 36 *eP* **P 07 35 25.9 -0.2**
comp=Z,63nm,1.8s
FBE *epP* **pP 07 35 37.6 +2.5**
FETA Feichten 90.41 40⇓ *iPcP* **P 07 35 26.8 -0.2**
comp=Z,820nm,5.6s,SNR=9.2
MOTA Moosalm 90.51 40⇑ *iPcP* **P 07 35 27.0 -0.4**
comp=Z,45nm,1.6s
BRG Berggiesshubel 90.65 36 *eP* **P 07 35 27.3 -0.5**
comp=Z,44nm,1.6s
BRG PP **PP 07 38 58.0 -4.6**
BRG SKS **SKSac 07 45 53.0 -4.6**
BRG S ScS 07 46 39.0 +14
BRG SS SS 07 52 39.0 +16
comp=N,3µm,18.7s
comp=E,6µm,17.0s
comp=Z,10µm,17.5s
BRG Berggiesshubel 90.65 36 *eP* **P 07 35 27.4 -0.4**
comp=Z,44nm,1.6s
BRG *epP* **pP 07 35 39.1 +2.3**
BRG *ePP* **PP 07 39 01.3 -1.3**
BRG Berggiesshubel 90.65 36 *eP* **P 07 35 27.3 -0.5**
BRG 07 38 58.0
BRG 07 45 53.0
BRG pmax pmax
comp=Z,44nm,1.6s
BRG MLR MLR
comp=N,3µm,18.7s
BRG MLR MLR
comp=E,6µm,17.0s
BRG MLR MLR
comp=Z,10µm,17.5s
FIA1 FINESS Array S 90.79 23 *eP* **P 07 35 27.9 -0.2**
FINES FINESS Array B 90.79 23 P **P 07 35 27.1 -1.1**
comp=Z,9.0nm,1.0s,baz=264,slow=5.4,SNR=17
FINES LR LR 08 19 54.2
comp=Z,8µm,18.8s,baz=308,slow=38
FINES FINESS Array B 90.79 23 P **P 07 35 27.1 -1.1**
FINES pmax pmax
comp=Z,9.0nm,1.0s
FINES MLR MLR
comp=Z,8µm,18.8s
WATA Walderalm 90.81 40⇑ *iPcP* **P 07 35 28.8 +0.1**
comp=Z,75nm,1.8s
WET Wettzell 90.81 38 *eP* **P 07 35 28.6 0.0**
comp=Z,60nm,1.7s
WET *epP* **pP 07 35 40.2 +2.6**
WET *ePP* **PP 07 39 02.7 -1.3**
WTTA Wattenberg 90.87 40⇑ *iPcP* **P 07 35 29.0 -0.1**
comp=Z,769nm,4.7s,SNR=6.2
TIC Toumodi 90.97 83 *eP* **P 07 35 29.8 -0.2**
CKHR Kef el Ahmar 91.04 52 P **P 07 35 30.1 0.0**
LIC Lamto 91.08 83 *eP* **P 07 35 31.6 +1.1**
comp=Z,131nm,1.4s
DBIC Dimbokro 91.11 83 P **P 07 35 29.3 -1.4**
comp=Z,10.0nm,0.9s,baz=277,slow=6.3,SNR=9.8
DBIC LR LR 08 13 06.2
comp=Z,4µm,21.1s,baz=271,slow=34
DFRA Djebel Bou Aff 91.13 51 P **P 07 35 31.3 +0.8**
PVCC Panska Ves 91.16 36⇓ *eP* **P 07 35 30.1 0.0**
PVCC *ex* x 07 35 41.7
PVCC *ePP* PP 07 39 01.1 -5.5
PVCC *eSKS* **SKSac 07 45 55.9 -4.6**
PVCC *eSP* **SPn 07 47 40.6 +6.2**
PVCC AMS AMS 08 22 40.0
comp=Z,11µm,17.5s
PVCC Panska Ves 91.16 36 *eP* **P 07 35 30.1 0.0**
PVCC *e* 07 35 41.7
PVCC *e* 07 39 01.1
PVCC *e* 07 45 55.9
PVCC *e* 07 47 40.6
PVCC MLR MLR
comp=Z,11µm,17.5s
KHC Kasperske Hory 91.22 38 *eP* **P 07 35 31.0 +0.5**
KHC *ex* x 07 35 41.6
KHC *ex* x 07 35 58.1
KHC *ex* x 07 36 28.7
KHC *ePP* **PP 07 39 03.5 -3.8**
KHC *eSKS* **SKSac 07 45 59.8 -1.3**
KHC *ex* x 07 47 05.9
KHC AMS AMS 08 19 50.0
comp=Z,12µm,17.7s
KHC Kasperske Hory 91.22 38 *eP* **P 07 35 31.0 +0.5**
KHC *e* 07 35 41.6
KHC *e* 07 39 03.5
KHC *e* 07 45 59.8
KHC MLR MLR
comp=Z,12µm,17.7s
KHC Kasperske Hory 91.22 38 *eP* **P 07 35 30.6 +0.1**
comp=Z,13nm,1.5s
PRA Prague 91.29 37 *eP* **P 07 35 29.3 -1.5**
PRA *ex* x 07 35 31.3
PRA *eSKS* **SKSac 07 46 03.4 +2.1**
PRA *ex* x 07 47 48.7
PRA AMS AMS 08 20 10.0
comp=Z,8µm,17.6s
GKP Gorka Klasztor 91.30 33 *eP* **P 07 35 30.5 -0.1**
GKP LMZ LR 08 15 50.7
GKP Gorka Klasztor 91.30 33 *eP* **P 07 35 30.6 -0.1**
GKP MLR MLR
comp=Z,12µm,22.6s
KIC Kosan Boka 91.31 83 *eP* **P 07 35 31.6 0.0**
comp=Z,132nm,1.3s
VLC Villacollemand 91.38 43 PFAKE 07 35 40.0 +8.7
VLC LR LR
comp=Z,6µm,20.0s
PRU Pruhonice 91.39 37⇓ *iP* **P 07 35 31.5 +0.3**
PRU *ex* x 07 35 42.7
PRU *ex* x 07 35 59.1
PRU *ePP* **PP 07 39 03.5 -5.0**
PRU *eSKS* **SKSac 07 45 58.3 -3.6**
PRU *ex* x 07 47 02.0
PRU *ePS* **PnS 07 47 47.9 +6.8**
PRU AMS AMS 08 20 00.0
comp=Z,8µm,17.5s
PRU Pruhonice 91.39 37⇓ *iP* **P 07 35 31.5 +0.3**
PRU *e* 07 35 42.7
PRU *e* 07 39 03.5
PRU *e* 07 45 58.3
PRU *e* 07 47 47.9
PRU MLR MLR
comp=Z,8µm,17.5s
GERES GERESS Array B 91.43 38 P **P 07 35 31.1 -0.5**
comp=Z,1.2nm,0.7s,baz=316,slow=3.7,SNR=19
GERES LR LR 08 18 50.7
comp=Z,8µm,18.2s,baz=290,slow=37
GERES GERESS Array B 91.43 38 P **P 07 35 31.1 -0.5**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES MLR MLR
comp=Z,8µm,18.2s
GOPC GO Pecny, Ondr 91.57 37 *eP* **P 07 35 32.0 -0.1**
GOPC *ex* x 07 35 43.0
GOPC *ex* x 07 36 35.7
GOPC *ePP* **PP 07 39 04.8 -5.1**
GOPC *eSKS* **SKSac 07 46 01.0 -1.9**
GOPC *ex* x 07 47 47.3
GOPC AMS AMS 08 20 10.0
comp=Z,8µm,17.4s
ABTA Abfaltersbach 91.64 40⇓ *iPcP* **P 07 35 32.4 -0.2**
comp=Z,702nm,5.2s,SNR=12
CTEI Djebel Teioual 91.70 52 P **P 07 35 33.3 +0.2**
KSP Ksiaz 91.98 35 *eP* **P 07 35 34.1 +0.2**
KSP *eS* **SKSac 07 46 08.7 +3.6**
KSP LMZ LR 08 14 22.7
KSP Ksiaz 91.98 35 *eP* **P 07 35 34.2 +0.3**
KSP *eS* **SKSac 07 46 08.8 +3.6**
UPC Upice 91.98 36⇓ *eP* **P 07 35 34.3 +0.3**
UPC *ex* x 07 35 45.6
UPC Upice 91.98 36 *eP* **P 07 35 34.3 +0.3**
UPC *e* 07 35 45.6
KBA Koelnbreinsper 92.00 40⇑ *iPcP* **P 07 35 33.9 -0.5**
comp=Z,492nm,3.8s,SNR=11
MOA Molln 92.21 39⇓ *iPcP* **P 07 35 34.9 -0.2**
comp=Z,614nm,5.0s,SNR=6.4
DPC Dobruska-Polom 92.23 36 *eP* **P 07 35 34.8 -0.4**
DPC *ex* x 07 35 59.5
DPC *ePP* **PP 07 39 11.6 -3.6**
DPC *eSKS* **SKSac 07 46 06.0 -0.7**
DPC *ex* x 07 47 13.9
DPC AMS AMS 08 20 00.0
comp=Z,8µm,18.3s
DPC Dobruska-Polom 92.23 36 *eP* **P 07 35 34.8 -0.4**
DPC *e* 07 39 11.6
DPC *e* 07 46 06.0
DPC MLR MLR
comp=Z,8µm,18.3s
TREC Trest 92.26 37⇓ *eP* **P 07 35 35.7 +0.4**
TREC *ePP* PP 07 39 09.1 -6.3
TREC Trest 92.26 37 *eP* **P 07 35 35.7 +0.4**
MYKA Terra Mystica 92.39 40⇑ *iPcP* **P 07 35 35.4 -0.6**
comp=Z,471nm,4.7s,SNR=9.7
VSL Villasalto 92.57 48 *eP* **P 07 35 36.3 -0.6**
comp=Z,85nm,1.4s
VSL LR LR
comp=Z,4µm,19.0s
JAVS Javornik 92.98 40 *i* P **P 07 35 38.4 -0.4**
JAVS *i* 07 35 49.3
JAVS *i* PP **PP 07 39 21.4 +0.2**
JAVS *eSKSac* **SKSac 07 46 16.1 +5.0**
JAVS *e* 07 47 18.7
SKDS Skadanscina 93.11 41 *eP* **P 07 35 38.9 -0.4**
CONA Conrad Observa 93.13 38⇓ *iPcP* **P 07 35 39.4 0.0**
comp=Z,582nm,4.2s,SNR=11
MORC Moravsky Berou 93.20 36 *eP* **P 07 35 39.3 -0.3**
comp=Z,85nm,1.3s
LJU Ljubljana 93.20 40 *i* P **P 07 35 39.4 -0.3**
LJU *i* 07 35 50.1
LJU *i* PP **PP 07 39 22.8 0.0**
LJU *i* SKSac **SKSac 07 46 16.8 +4.6**
SOKA Soboth 93.22 39⇓ *iP* **P 07 35 38.8 -1.1**
comp=Z,368nm,4.5s,SNR=15

YAK	**Yakutsk**	**93.39**	**340**	*e*P	**P**		**07 35 41.2**	**+1.0**
YAK				*e**PP	**pP**		**07 35 51.6**	**+2.4**
YAK				*e*			07 39 26.9	
YAK				*e*PPP	PPP		07 41 26.7	
YAK				*e*S	**SKSac**		**07 46 12.6**	**+0.1**
YAK				*e*			07 46 50.6	
YAK				*e*SS	**SS**		**07 53 00.0**	**-1.5**
YAK				pmax	pmax			
	comp=Z,52nm,0.9s							
YAK				pmax	pmax			
	comp=N,2.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,110nm,3.0s							
YAK				pmax	pmax			
	comp=Z,462nm,3.8s							
YAK				pmax	pmax			
	comp=N,183nm,3.2s							
YAK				smax	smax			
	comp=E,277nm,4.8s							
YAK				smax	smax			
	comp=N,286nm,4.7s							
YAK	**Yakutsk**	**93.39**	**340**	*e*P	**P**		**07 35 41.0**	**+0.8**
	comp=N,58nm,0.7s							
YAK				LR	LR			
	comp=Z,8µm,19.0s							
RAC	**Raciborz**	**93.41**	**35**	*e*P	**P**		**07 35 40.5**	**0.0**
RAC				MLR	MLR			
	comp=Z,9µm,18.5s							
VISS	**Visnje**	**93.50**	**40**	*e*P	**P**		**07 35 40.6**	**-0.5**
OKC	**Ostrava-Krasne**	**93.51**	**36**	*e*P	**P**		**07 35 40.8**	**-0.2**
OKC				*e*PP	PP		07 39 19.5	-5.6
OKC				*e*SKS	**SKSac**		**07 46 17.2**	**+3.5**
OKC				*e*SP	**SP**		**07 48 03.0**	**+3.1**
OKC				AMS	AMS		08 20 40.0	
	comp=Z,8µm,18.4s							
OKC	**Ostrava-Krasne**	**93.51**	**36**	*e*P	**P**		**07 35 40.8**	**-0.2**
OKC				*e*			07 46 17.2	
OKC				*e*			07 48 03.0	
OKC				MLR	MLR			
	comp=Z,8µm,18.4s							
SOP	**Sopron**	**93.66**	**38**‖	*e*P	**P**		**07 35 41.8**	**+0.1**
BOJS	**Bojanci**	**93.90**	**40**	*i* P	**P**		**07 35 42.6**	**-0.3**
BOJS				*e*			07 35 53.6	
BOJS				*i* SKSac	**SKSac**		**07 46 18.6**	**+2.6**
BEL	**Belsk**	**93.90**	**33**	*e*P	**P**		**07 35 42.6**	**-0.1**
BEL				LMZ	LR		08 17 02.7	
BEL	**Belsk**	**93.90**	**33**	*e*P	**P**		**07 35 42.7**	**0.0**
BEL				MLR	MLR			
	comp=Z,10µm,22.5s							
SUW	**Suwalki**	**93.90**	**30**	*e*P	**P**		**07 35 41.7**	**-1.0**
SUW				*e*PP	**PP**		**07 39 27.0**	**-1.0**
SUW				LMZ	LR		08 13 51.1	
SUW	**Suwalki**	**93.90**	**30**	*e*P	**P**		**07 35 41.7**	**-1.0**
SUW				*e*			07 39 27.0	
KEST	**Kesra**	**94.03**	**51**	P	**P**		**07 35 42.9**	**-1.0**
	comp=Z,2.9nm,0.9s,baz=178,slow=1.8,SNR=9.1							
KEST				LR	LR		08 16 32.9	
	comp=Z,2µm,19.4s,baz=252,slow=35							
AQU	**L'Aquila**	**94.14**	**44**	PFAKE			07 36 00.0	+16
AQU				LR	LR			
	comp=Z,10µm,22.0s							
OJC	**Ojcow**	**94.22**	**35**	*e*P	**P**		**07 35 44.0**	**-0.3**
OJC				*e*PP	**PP**		**07 39 29.2**	**-1.5**
OJC				*e*S	**SKSac**		**07 46 19.7**	**+2.2**
OJC				LMZ	LR		08 16 03.7	
OJC	**Ojcow**	**94.22**	**35**	*e*P	**P**		**07 35 44.0**	**-0.3**
OJC				*e*			07 39 29.2	
OJC				*e*S	**SKSac**		**07 46 19.8**	**+2.2**
OJC				MLR	MLR			
	comp=Z,9µm,22.7s							
BEHE	**Becsehely**	**94.37**	**39**‖	*e*P	**P**		**07 35 44.8**	**-0.3**
NKL	**Nikolayevsk**	**94.50**	**329**	*e*P	P		07 35 40.5	-5.0
NKL				*e*			07 46 21.0	
NKL				pmax	pmax			
	comp=Z,40nm,1.0s							
NKL				pmax	pmax			
	comp=Z,1µm,12.0s							
PKST	**T''s**	**94.74**	**38**	*e*P	**P**		**07 35 46.0**	**-0.7**
TYV	**Tymovskoe**	**94.76**	**326**	*e*P	**P**		**07 35 48.0**	**+1.3**
TYV				pmax	pmax			
	comp=Z,1µm,10.0s							
TYV				MLR	MLR			
	comp=Z,8µm,20.0s							
TYV				MLR	MLR			
	comp=E,8µm,23.0s							
CSKK	**Cs^‡kako**	**94.82**	**38**	*e*P	**P**		**07 35 47.6**	**+0.5**
PKSG		**94.88**	**38**‖	*e*P	**P**		**07 35 47.7**	**+0.3**
NIE	**Niedzica**	**94.93**	**35**	*e*P	**P**		**07 35 48.0**	**+0.4**
NIE				*e*S	**SKSac**		**07 46 26.0**	**+4.5**
NIE				LMZ	LR		08 16 04.7	
NIE	**Niedzica**	**94.93**	**35**	*e*P	**P**		**07 35 48.0**	**+0.4**
NACGM	**Naroch**	**95.08**	**28**	*e*P	P		07 35 42.0	-6.1
BUD	**Budapest**	**95.20**	**37**‖	*e*P	**P**		**07 35 49.0**	**+0.2**
PKS9	**Tamasi**	**95.22**	**38**‖	*e*P	**P**		**07 35 48.9**	**0.0**
TORD	**Torodi Ar. Bea**	**95.39**	**75**	P	**P**		**07 35 48.7**	**-1.6**
	comp=E,3.9nm,1.0s,baz=287,slow=4.7,SNR=15							
TORD				PKKPbc	**PKKPdf**		**07 52 42.7**	**+0.1**
	comp=E,0.6nm,0.5s,baz=104,slow=2.9,SNR=9.8							
TORD				LR	LR		08 17 11.0	
	comp=E,8µm,19.6s,baz=300,slow=34							
STHS	**Stebnicka Huta**	**95.44**	**35**	*e*P	**P**		**07 35 51.3**	**+1.4**
STHS				*e*			07 36 03.9	
STHS	**Stebnicka Huta**	**95.44**	**35**	*e*P	**P**		**07 35 51.3**	**+1.4**
STHS				*e*			07 36 03.9	
PSZ	**Piszkesteto**	**95.48**	**37**	*e*P	**P**		**07 35 50.7**	**+0.5**
	comp=E,105nm,2.1s							
PSZ				LR	LR			
	comp=Z,7µm,19.0s							
PSZ	**Piszkesteto**	**95.48**	**37**‖	*e*P	**P**		**07 35 50.5**	**+0.3**
PKSM	**Moragy**	**95.62**	**39**‖	*e*P	**P**		**07 35 50.3**	**-0.5**
TAM	**Tamanrasset**	**95.70**	**64**	*e*P	**P**		**07 35 51.8**	**0.0**
	comp=Z,46nm,1.4s							
TAM				LR	LR			
	comp=Z,10µm,22.0s							
MNK	**Minsk**	**95.81**	**28**	*e*P	P		07 35 48.0	-3.4
MNK				*e*			07 39 42.0	
MNK				*e*			07 46 26.0	
MNK				*e*S	**S**		**07 47 03.0**	**-4.4**
MNK				*e*PS	**PS**		**07 48 34.0**	**+5.1**
MNK				*e*SS	x		07 57 20.0	
MICGM	**Minsk**	**95.83**	**28**	*e*P	P		07 35 48.0	-3.5
CLTB	**Caltabellotta**	**96.10**	**48**	PFAKE			07 36 00.0	+6.7
CLTB				LR	LR			
	comp=Z,4µm,20.0s							
KWP	**Kalwaria Pacla**	**96.12**	**34**	*e*P	**P**		**07 35 53.0**	**0.0**
KWP				LMZ	LR		08 13 59.0	
KWP	**Kalwaria Pacla**	**96.12**	**34**	*e*P	**P**		**07 35 53.1**	**0.0**
KOLS	**Kolonicke sedl**	**96.28**	**35**	*e*P	**P**		**07 35 55.0**	**+1.3**
KOLS	**Kolonicke sedl**	**96.28**	**35**	*e*P	**P**		**07 35 55.0**	**+1.3**
UZH	**Uzhgorod**	**96.45**	**35**	*e*P	**P**		**07 35 54.5**	**0.0**
UZH				*i*			07 39 45.0	
UZH				*e*PS	**PS**		**07 48 34.0**	**-2.2**
UZH				MLR	MLR			
	comp=Z,4µm,19.0s							
YUK	**Yuzh-Kuril'sk**	**96.46**	**319***c*	*i*P	**P**		**07 35 53.1**	**-1.5**
YUK				*i*			07 39 48.2	
YUK				*i* PPP	PPP		07 41 52.0	
YUK				*i* S	**SKSac**		**07 46 30.0**	**+0.4**
YUK				*i* PS	**PS**		**07 48 38.1**	**+1.6**
YUK				*i* SS	**SS**		**07 53 47.7**	**+1.6**
YUK				pmax	pmax			
	comp=Z,199nm,9.4s							
LVV	**L'vov**	**96.73**	**34**	*e*P	**P**		**07 35 55.2**	**-0.5**
LVV				*e*			07 39 51.0	
LVV				*e*PPP	PPP		07 41 59.0	
LVV				*e*			07 46 31.0	
YSS	**Yuzh-Sakhalins**	**96.82**	**323***c*	*e*P	**P**		**07 35 56.0**	**-0.2**
YSS				*e*			07 39 54.0	
YSS				*e*PPP	PPP		07 41 58.0	
YSS				*e*S	S		07 47 10.0	-6.4
YSS				*e*PS	**PS**		**07 48 50.0**	**+10**
YSS				*e*SS	SS		07 54 04.0	+13
YSS				MLR	MLR			
	comp=N,2µm,19.0s							
YSS				MLR	MLR			
	comp=Z,3µm,19.0s							
YSS	**Yuzh-Sakhalins**	**96.82**	**323**	*e*P	**P**		**07 35 56.7**	**+0.6**
YSS				LR	LR			
	comp=Z,2µm,19.0s							
CUC	**Castrocucco**	**96.83**	**45**	*e*P	**P**		**07 35 56.7**	**+0.2**
	comp=Z,27nm,1.3s							
CUC				LR	LR			
	comp=Z,5µm,21.0s							
CEL	**Celeste**	**97.69**	**47**	PFAKE			07 36 10.0	+10
CEL				LR	LR			
	comp=Z,4µm,21.0s							
WDD	**Wield Dalam**	**97.80**	**49**	PFAKE			07 36 10.0	+9.1
WDD				LR	LR			
	comp=Z,5µm,20.0s							
TIP	**Timpagrande**	**97.86**	**45**	PFAKE			07 36 10.0	+8.8
TIP				LR	LR			
	comp=Z,5µm,22.0s							
SNZO	**South Karori**	**98.61**	**230**	PFAKE			07 36 20.0	+16
SNZO				LR	LR			
	comp=Z,7µm,19.0s							
KIEV	**Kiev**	**98.85**	**31***c*	*i*P	Pdif		07 36 05.3	+0.1
KIEV	**Kiev**	**98.85**	**31**	PFAKE			07 36 20.0	+15
KIEV				LR	LR			
	comp=Z,6µm,19.0s							
AKASG	**Malin Array Be**	**98.86**	**31**	P	**P**		**07 36 03.3**	**-1.9**
	comp=Z,1.5nm,0.8s,baz=294,slow=3.6,SNR=8.1							
AKASG				PP	**PP**		**07 40 08.5**	**+2.2**
	comp=Z,1.3nm,0.6s,baz=309,slow=6.3,SNR=3.4							
AKASG				LR	LR		08 22 58.9	
	comp=Z,6µm,19.3s,baz=315,slow=37							
AKASG	**Malin Array Be**	**98.86**	**31**	P	**P**		**07 36 03.3**	**-1.9**
AKASG							07 40 08.5	
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.8s							
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKASG				MLR	MLR			
	comp=Z,6µm,19.3s							
TIR	**Tirane**	**98.86**	**42**	PFAKE			07 36 20.0	+14
TIR				LR	LR			
	comp=Z,4µm,20.0s							
MOS	**Moscow**	**99.09**	**24**	*e*P	**Pdif**		**07 36 03.4**	**-2.8**
MOS				*e*			07 40 07.2	
MOS				*e*			07 46 42.2	
MOS				*e*SS	SS		07 54 18.1	-4.2
MOS				MLR	MLR			
	comp=E,6µm,19.0s							
MOS				MLR	MLR			
	comp=Z,8µm,19.0s							
MOS				MLR	MLR			
	comp=N,4µm,17.0s							
OBN	**Obninsk**	**99.13**	**25**‖	*i*P	**Pdif**		**07 36 06.3**	**-0.1**
OBN				*i*			07 40 04.5	
OBN				*i* PS	**PS**		**07 49 00.9**	**-4.0**
OBN				*e*SS	SS		07 54 26.2	+3.3
OBN				pmax	pmax			
	comp=Z,44nm,2.0s							
OBN				MLR	MLR			
	comp=Z,8µm,20.0s							
OBN	**Obninsk**	**99.13**	**25**	PFAKE			07 36 20.0	+14
OBN				LR	LR			
	comp=Z,9µm,22.0s							
ERM	**Erimo**	**99.19**	**319**	PFAKE			07 36 20.0	+13
ERM				LR	LR			
	comp=Z,3µm,19.0s							
HABR	**Khabarovsk**	**100.16**	**327**	*e*P	**Pdif**		**07 36 09.6**	**-1.5**
HABR				*e*PPP	PPP		07 42 22.1	
HABR				*e*S	**SKSac**		**07 46 48.3**	**+0.1**
HABR				*e*S	**Sdif**		**07 47 44.5**	**-0.2**
HABR				*e**SS	sS		07 47 50.3	-9.4
HABR				*e*PS	**PS**		**07 49 15.2**	**-1.1**
HABR				*e*SS	**SS**		**07 54 39.7**	**+2.0**
HABR				*e*SSS	SSS		07 58 29.5	
HABR				pmax	pmax			
	comp=Z,10.0nm,0.7s							
HABR				pmax	pmax			
	comp=N,1.0nm,0.4s							
HABR				pmax	pmax			
	comp=E,13nm,0.6s							
HABR				MLR	MLR			
	comp=Z,3µm,21.0s							
MPEP	**Malo Peshtene**	**100.22**	**39**	*e*P	**Pdif**		**07 36 13.4**	**+1.9**
VTS	**Vitosha**	**100.31**	**40**	*e*P	**Pdif**		**07 36 10.7**	**-1.5**
KKB	**Krupnik**	**100.63**	**41**	*e*P	**Pdif**		**07 36 13.6**	**+0.2**
PGB	**Panagyurishte**	**100.93**	**40**	*e*P	**Pdif**		**07 36 16.7**	**+1.9**
KIS	**Kishinev**	**100.97**	**34**	*e*P	**Pdif**		**07 36 16.0**	**+1.2**
KIS	**Kishinev**	**100.97**	**34**	*e*PP	PP		07 40 24.0	+1.5
KIS				*e*SKP			07 44 20.0	
KIS	**Kishinev**	**100.97**	**34**	*e*PS	PS		07 49 24.0	-1.0
KIS	**Kishinev**	**100.97**	**34**	*e*P	**Pdif**		**07 36 16.0**	**+1.2**
KIS				*e*			07 40 24.0	
KIS				*e*			07 49 24.0	
KIS				*e*			07 50 16.0	
KIS				MLR	MLR			
	comp=E,3µm,20.0s							
KIS				MLR	MLR			
	comp=Z,8µm,20.0s							
KIS				MLR	MLR			
	comp=Z,8µm,20.0s							
KIS				MLR	MLR			
	comp=Z,8µm,20.0s							
KIS				MLR	MLR			
	comp=N,4µm,20.0s							
DZM	**Mont Dzumac**	**101.01**	**250**	*e*PP	PP		07 40 21.7	-2.6
	comp=N,633nm,27.2s							
DZM	**Mont Dzumac**	**101.01**	**250**	*e*PS	PS		07 49 26.1	-1.1
	comp=N,3µm,27.4s							
DZM	**Mont Dzumac**	**101.01**	**250**	*e*LQ	LQ		08 05 02.8	
	comp=N,4µm,33.7s							
DZM				*e*LR	LR		08 09 16.1	
	comp=N,12µm,23.6s							
MMB	**Musomiste**	**101.19**	**41**	*e*P	**Pdif**		**07 36 15.2**	**-0.7**
PLD	**Plovdiv**	**101.50**	**40**	*e*P	**Pdif**		**07 36 20.2**	**+2.9**
KDZ	**Kurdzhali**	**102.20**	**40**	*e*P	**Pdif**		**07 36 19.2**	**-1.2**
PRD	**Provadia**	**102.49**	**38**	*e*P	**Pdif**		**07 36 23.7**	**+2.1**
PSN	**Preselentsi**	**102.65**	**37**	*e*P	**Pdif**		**07 36 21.2**	**-1.1**
HNR	**Honiara**	**104.12**	**264**	PFAKE			07 36 40.0	+11
HNR				LR	LR			
	comp=Z,2µm,20.0s							
ARU	**Arti**	**104.92**	**13**	P	**Pdif**		**07 36 32.9**	**+0.7**
ARU				S	**SKSac**		**07 47 12.7**	**+2.4**
ARU				SP	**SP**		**07 49 54.3**	**-7.7**
ARU				PS	**PS**		**07 50 04.1**	**-2.0**
ARU	**Arti**	**104.92**	**13**	PFAKE			07 36 40.0	+7.8
ARU				LR	LR			
	comp=Z,8µm,19.0s							
SIM	**Simferopol'**	**105.11**	**33**	P	**Pdif**		**07 36 35.5**	**+2.3**
SIM							07 40 54.7	
SIM				PPP	PPP		07 43 09.2	
SIM							07 47 13.1	
SIM				PS	**PS**		**07 50 08.2**	**-0.5**
SIM				PPS	PPS		07 51 08.5	
SIM				SS	SS		07 55 52.7	+6.6
SIM				SSS	SSS		07 59 40.5	
SIM				pmax	pmax			
	comp=Z,102µm,10.0s							
SANT	**Santorini**	**105.20**	**44**	PFAKE			07 41 00.0	
SANT				LR	LR			
	comp=Z,2µm,19.0s							
MAJO	**Matsushiro**	**105.39**	**316**	PFAKE			07 41 00.0	
MAJO				LR	LR			
	comp=Z,3µm,20.0s							
MDJ	**Mudanjiang**	**105.53**	**327**	PFAKE			07 41 00.0	
MDJ				LR	LR			
	comp=Z,3µm,19.0s							
QSPA	**South Pole Qui**	**106.22**	**180**	PFAKE			07 41 00.0	
QSPA				LR	LR			
	comp=Z,5µm,19.0s							
HIA	**Hailar**	**106.69**	**335**	PFAKE			07 41 00.0	
HIA				LR	LR			
	comp=Z,8µm,21.0s							
SBA	**Scott Base**	**106.93**	**193**	PFAKE			07 41 00.0	
SBA				LR	LR			
	comp=Z,5µm,22.0s							
ISP	**Isparta**	**107.64**	**41**	PFAKE			07 41 10.0	
ISP				LR	LR			
	comp=Z,3µm,20.0s							
ANTO	**Ankara**	**107.73**	**38**	PFAKE			07 41 10.0	
ANTO				LR	LR			
	comp=Z,5µm,20.0s							
CN2	**Changchun**	**108.23**	**328**	Pdif	**Pdif**		**07 36 45.5**	**-1.7**
CN2				*e*PP	**PP**		**07 41 17.5**	**+1.2**
CN2				*e*S	**Sdif**		**07 48 44.5**	**-7.8**
CN2				PPMZ				
	comp=Z,200nm,5.0s							
CN2				LN				
	comp=Z,1µm,16.0s							
CN2				LE				
	comp=Z,1µm,16.0s							
CN2				LZ				
	comp=Z,1µm,17.0s							
BRTR	**Keskin Array B**	**108.32**	**37**	PKiKP	**PKiKP**		**07 40 54.0**	**0.0**
	comp=Z,1.3nm,0.6s,baz=248,slow=0.8,SNR=6.5							
SOC	**Sochi**	**108.93**	**31**	*i* P	**Pdif**		**07 36 49.7**	**-0.6**
SOC				*e*			07 41 19.1	
SOC				*e*PPP	PPP		07 43 37.3	
SOC				*e*			07 47 29.4	
SOC				*e*PS	**PS**		**07 50 45.1**	**-2.9**
SOC				*e*SS	SS		07 56 35.3	-2.5
SOC				pmax	pmax			
	comp=Z,7.0nm,0.5s							
SOC				MLR	MLR			
	comp=Z,6µm,22.0s							
TLY	**Talaya**	**109.74**	**346**	PFAKE			07 41 10.0	
TLY				LR	LR			
	comp=Z,5µm,20.0s							
ZALV	**Zalesovo Beam**	**110.01**	**358**	Pdiff	**Pdif**		**07 36 53.2**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=29,slow=3.3,SNR=2.2							
ZALV				PP	**PP**		**07 41 26.9**	**-1.7**
	comp=Z,3.5nm,0.7s,baz=4.3,slow=5.9,SNR=3.9							
ZALV	**Zalesovo Beam**	**110.01**	**358**	P	**Pdif**		**07 36 53.2**	**-1.6**
ZALV							07 41 26.9	
ZALV				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KIV	**Kislovodsk**	**110.09**	**29**	*i* P	**Pdif**		**07 36 53.9**	**-1.6**
KIV				*e*			07 41 27.6	
KIV				*e*PPP	PPP		07 43 47.0	
KIV				*e*			07 47 33.5	
KIV				*e*PS	**PS**		**07 50 58.0**	**-1.8**
KIV				*e*SS	SS		07 56 54.3	+0.8
KIV				*e*SSS	SSS		08 00 58.9	
KIV				pmax	pmax			
	comp=Z,12nm,1.1s							
KIV				MLR	MLR			
	comp=Z,5µm,20.0s							
KIV	**Kislovodsk**	**110.09**	**29**	PFAKE			07 41 10.0	
KIV				LR	LR			
	comp=Z,5µm,22.0s							
BRVK	**Borovoye**	**110.20**	**8**	PFAKE			07 41 10.0	
BRVK				LR	LR			
	comp=Z,11µm,22.0s							
GUMO	**Guam**	**111.18**	**292**	PFAKE			07 41 10.0	
GUMO				LR	LR			
	comp=Z,364nm,22.0s							
CSS	**Prodhromos**	**111.19**	**41**	PFAKE			07 41 10.0	
CSS				LR	LR			
	comp=Z,827nm,22.0s							
KSRS	**Korea Array**	**111.30**	**322**	PKiKP	**PKiKP**		**07 41 00.2**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=354,slow=1.3,SNR=4.4							
KSAR	**Wonju Array Be**	**111.33**	**322**	PKiKP	**PKiKP**		**07 41 00.2**	**+0.7**
ONI	**Oni**	**111.49**	**30**	P	**PP**		**07 41 39.0**	**-0.9**
INCN	**Inchon**	**112.03**	**323**	PFAKE			07 41 10.0	
INCN				LR	LR			
	comp=Z,3µm,20.0s							
ULN	**Ulaanbaatar**	**112.33**	**342**	PFAKE			07 41 10.0	
ULN				LR	LR			
	comp=Z,6µm,21.0s							
AKH	**Akhalkalaki**	**112.41**	**30**	P	**PP**		**07 41 44.5**	**-2.2**
SONM	**Songino Array**	**112.55**	**342**	PKiKP	**PKiKP**		**07 41 02.2**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=43,slow=1.8,SNR=4.2							
SONM				PP	PP		07 41 52.9	+5.6
	comp=Z,2.3nm,1.0s,baz=32,slow=5.8,SNR=4.7							
SONM	**Songino Array**	**112.55**	**342**	*i* PKiKP	**PKiKP**		**07 41 02.2**	**+0.5**
SONM							07 41 52.9	
SONM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
SONM				pmax	pmax			
	comp=Z,2.0nm,1.0s							
TBLG	**Delisi**	**112.76**	**29**	P	**PP**		**07 41 49.0**	**0.0**
MAK	**Makhachkala**	**113.05**	**27**	*e*P	**Pdif**		**07 37 04.2**	**-4.3**
MAK				*i*			07 41 01.7	
MAK				*e*PS	**PS**		**07 51 25.2**	**-1.5**
MAK				*e*SS	SS		07 57 42.4	+10
MAK				pmax	pmax			
	comp=Z,941nm,2.0s							
MAK				MLR	MLR			
	comp=Z,11µm,22.0s							
KURK	**Kurchatov**	**113.22**	**2**	PFAKE			07 41 20.0	
KURK				LR	LR			
	comp=Z,9µm,20.0s							
DGRG	**David-gareji**	**113.28**	**29**	P	**PP**		**07 41 52.9**	**+0.2**
GNI	**Garni**	**113.99**	**31**	PFAKE			07 41 20.0	
GNI				LR	LR			
	comp=Z,5µm,21.0s							
BJI	**Beijing**	**115.57**	**331**	PKP	**PKPdf**		**07 41 08.5**	**+1.0**
BJI				SS	SS		07 58 06.8	+0.9
BJI				LN				
	comp=Z,3µm,26.6s							
BJI				LE				
	comp=Z,4µm,23.7s							
BJI				LZ				
	comp=Z,3µm,25.6s							
BJT	**Baijiatuau**	**115.59**	**331**	PFAKE			07 41 20.0	+12
BJT				LR	LR			
	comp=Z,4µm,20.0s							
PMG	**Port Moresby**	**116.36**	**267**	PFAKE			07 41 20.0	+10
PMG				LR	LR			
	comp=Z,5µm,20.0s							
HHC	**Hu-ho-hao-te**	**116.89**	**335**	*e*PKP	**PKPdf**		**07 41 07.5**	**-2.8**
HHC				sPKP			07 41 15.5	
HHC				PPMZ				
	comp=Z,1µm,13.6s							
HHC				LN				
	comp=Z,4µm,19.7s							
HHC				LE				
	comp=Z,4µm,18.5s							
HHC				LZ				
	comp=Z,2µm,22.2s							
DRV	**Dumont d'Urvil**	**117.30**	**202**	PP	PP		07 42 08.0	-13
DRV				SP	SP		07 51 41.0	-20
DRV				SS	**SS**		**07 58 24.0**	**-4.7**
DRV				L	L		08 05 00.0	
DRV				R			08 17 00.0	
TSUM	**Tsumeb**	**118.85**	**103**	PFAKE			07 41 30.0	+15
TSUM				LR	LR			
	comp=Z,3µm,20.0s							
TAU	**Tasmania Unive**	**118.96**	**230**	PFAKE			07 41 30.0	+16
TAU				LR	LR			
	comp=Z,3µm,20.0s							
TIY	**Taiyuan**	**119.15**	**333**	*e*PKP	**PKPdf**		**07 41 18.0**	**+3.4**
TIY				PP	**PP**		**07 42 35.5**	**+1.7**
TIY				PPMZ				
	comp=Z,780nm,8.0s							
TIY				LN				
	comp=Z,5µm,18.8s							
TIY				LE				
	comp=Z,4µm,17.8s							
TIY				LZ				
	comp=Z,4µm,24.2s							
CTAO	**Charters Tower**	**119.20**	**256**	PFAKE			07 41 30.0	+15
CTAO				LR	LR			
	comp=Z,5µm,22.0s							
WMQ	**Urumqi**	**119.96**	**355**	PKP	**PKPdf**		**07 41 16.5**	**+0.5**
WMQ				PP	**PP**		**07 42 42.0**	**+3.1**
WMQ				PKS	**PKSdf**		**07 44 48.5**	**-4.2**
WMQ				SKS	**SKSdf**		**07 48 25.3**	**-1.1**
WMQ				SKKS	**SKSac**		**07 49 36.3**	**-2.2**
WMQ				SS	**SS**		**07 59 01.5**	**-0.7**
WMQ				PPMZ				
	comp=Z,800nm,11.4s							
WMQ				LN				
	comp=Z,3µm,14.0s							
WMQ				LE				
	comp=Z,6µm,15.6s							
WMQ				LZ				
	comp=Z,4µm,18.3s							
NJ2	**Nanjing**	**120.38**	**324**	*e*PKP	**PKPdf**		**07 41 18.3**	**+1.3**
NJ2				PPMZ				
	comp=Z,1µm,10.5s							
NJ2				LN				
	comp=Z,8µm,22.7s							
NJ2				LE				
	comp=Z,7µm,28.1s							
NJ2				LZ				
	comp=Z,7µm,28.6s							
**TK

GTA				sPKP			07 41 27.8	
GTA				PP	PP		07 43 02.0	+7.9
GTA				SKS	**SKSdf**		**07 48 32.0**	**+1.1**
GTA				SKKS	**SKKSac**		**07 49 54.5**	**+1.4**
GTA				PPMZ				
	comp=Z,1μm,10.6s							
GTA				LN				
	comp=Z,2μm,23.8s							
GTA				LE				
	comp=Z,4μm,24.7s							
GTA				LZ				
	comp=Z,2μm,24.2s							
XAN	**Xi'an**	**123.78**	**333**	PKP	**PKPdf**		**07 41 24.0**	**+0.4**
XAN				PP	PP		07 43 13.0	+7.7
XAN				PKS	**PKSdf**		**07 44 59.5**	**-0.9**
XAN				SKKS			07 50 01.0	
XAN				SS	**SS**		**07 59 57.0**	**+5.3**
XAN				LN				
	comp=Z,4μm,19.2s							
XAN				LE				
	comp=Z,950nm,20.0s							
XAN				LZ				
	comp=Z,2μm,20.8s							
TATO	**Taipei**	**123.78**	**316**	PFAKE			07 41 40.0	+16
TATO				LR	LR			
	comp=Z,3μm,21.0s							
LZH	**Lanzhou**	**123.97**	**339**	*e*PKP	**PKPdf**		**07 41 25.8**	**+1.7**
LZH				PP	**PP**		**07 43 11.3**	**+4.7**
LZH				SKS	**SKSdf**		**07 48 31.0**	**-3.5**
LZH				SKKS	**SKKSac**		**07 50 06.8**	**+1.8**
LZH				SS	**SS**		**07 59 56.5**	**+2.4**
LZH				PPMZ				
	comp=Z,1μm,4.8s							
WHN	**Wuhan**	**124.01**	**326**	PKP	**PKPdf**		**07 41 23.3**	**-0.7**
WHN				LN				
	comp=Z,4μm,17.4s							
WHN				LE				
	comp=Z,4μm,17.3s							
WHN				LZ				
	comp=Z,7μm,19.0s							
YHNB	**Yeheng**	**124.06**	**316**	PFAKE			07 41 40.0	+16
YHNB				LR	LR			
	comp=Z,3μm,20.0s							
STKA	**Stephens Creek**	**124.09**	**242**	PKP	**PKPdf**		**07 41 24.0**	**-0.1**
	comp=Z,8.2nm,0.6s,baz=97,slow=1.9,SNR=20							
STKA	**Stephens Creek**	**124.09**	**242**	PKIKP	**PKPdf**		**07 41 24.0**	**-0.1**
STKA				pmax	pmax			
	comp=Z,8.0nm,0.6s							
KSH	**Kashi**	**124.20**	**6**	PKP	**PKPdf**		**07 41 25.8**	**+1.4**
KSH				*es*PKP			07 41 39.3	
KSH				PP	PP		07 43 13.0	+5.2
KSH				PKS	**PKSdf**		**07 45 02.5**	**+1.4**
KSH				SKS	**SKSdf**		**07 48 31.8**	**-2.9**
KSH				SKKS	**SKKSac**		**07 50 01.5**	**-4.7**
KSH				PPMZ				
	comp=Z,920nm,6.8s							
KSH				LN				
	comp=Z,6μm,20.4s							
KSH				LE				
	comp=Z,5μm,17.5s							
KSH				LZ				
	comp=Z,10μm,25.5s							
QZH	**Quanzhou**	**125.69**	**318**	*e*PKP	**PKPdf**		**07 41 26.3**	**-1.1**
QZH				SS	SS		08 00 22.3	+5.6
QZH				PPMZ				
	comp=Z,670nm,7.8s							
QZH				LN				
	comp=Z,2μm,12.8s							
QZH				LE				
	comp=Z,2μm,12.6s							
QZH				LZ				
	comp=Z,5μm,19.0s							
BOSA	**Boshof**	**126.54**	**114**	PKP	**PKPdf**		**07 41 28.2**	**-0.8**
	comp=Z,8.7nm,0.8s,baz=276,slow=2.3,SNR=12							
BOSA	**Boshof**	**126.54**	**114**	PKIKP	**PKPdf**		**07 41 28.3**	**-0.8**
BOSA				pmax	pmax			
	comp=Z,9.0nm,0.8s							
CASY	**Casey**	**126.61**	**194**	PFAKE			07 41 40.0	+12
CASY				LR	LR			
	comp=Z,4μm,19.0s							
ENH	**Enshi**	**126.69**	**330**	*e*PKPdf	**PKPdf**		**07 41 29.3**	**+0.1**
ENH				LR	LR			
	comp=Z,115nm,19.0s							
RAYN	**Ar Rayn**	**126.70**	**43**	*e*PKPdf	**PKPdf**		**07 41 28.9**	**-0.6**
RAYN				LR	LR			
	comp=Z,3μm,19.0s							
MBAR	**Mbarara**	**127.11**	**78**	PFAKE			07 41 40.0	+9.4
MBAR				LR	LR			
	comp=Z,914nm,22.0s							
MAW	**Mawson**	**127.23**	**171**	PKP	**PKPdf**		**07 41 29.4**	**+0.4**
	comp=Z,5.0nm,0.7s,baz=253,slow=2.3,SNR=8.6							
MAW	**Mawson**	**127.23**	**171**	PKIKP	**PKPdf**		**07 41 29.4**	**+0.4**
MAW				pmax	pmax			
	comp=Z,5.0nm,0.7s							
LSZ	**Lusaka**	**128.29**	**97**	*e*PKPdf	**PKPdf**		**07 41 32.5**	**-0.2**
LSZ				LR	LR			
	comp=Z,3μm,20.0s							
CD2	**Chengdu**	**128.63**	**336**	PKP	**PKPdf**		**07 41 33.8**	**+0.8**
CD2				sPKP			07 41 38.5	
CD2				PP	**PP**		**07 43 39.0**	**+1.5**
CD2				SKS	**SKSdf**		**07 48 45.5**	**+2.3**
CD2				SKKS	**SKKSac**		**07 50 34.0**	**-0.4**
CD2				SS	**SS**		**08 00 54.5**	**+2.2**
CD2				PPMZ				
	comp=Z,1μm,7.8s							
CD2				LE				
	comp=Z,5μm,23.5s							
CD2				LZ				
	comp=Z,5μm,21.0s							
WRAB	**Tennant Creek**	**130.31**	**257**	⇑*i*PKIKP	**PKPdf**		**07 41 37.2**	**+0.9**
WRAB				pmax	pmax			
	comp=Z,31nm,1.2s							
WRAB	**Tennant Creek**	**130.31**	**257**	*e*PKPdf	**PKPdf**		**07 41 36.0**	**-0.3**
WRAB				LR	LR			
	comp=Z,5μm,20.0s							
WRA	**Warramunga Arr**	**130.32**	**257**	PKP	**PKPdf**		**07 41 36.7**	**+0.4**
	comp=Z,3.7nm,0.5s,baz=85,slow=2.7,SNR=37							
WRA	**Warramunga Arr**	**130.32**	**257**	PKIKP	**PKPdf**		**07 41 36.7**	**+0.4**
WRA				pmax	pmax			
	comp=Z,4.0nm,0.5s							
ASAR	**Alice Springs**	**130.92**	**253**	PKhKP	PKPpre		07 41 26.0	
	comp=Z,0.3nm,0.6s,baz=111,slow=3.5,SNR=4.1							
ASAR				PKP	**PKPdf**		**07 41 37.5**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=109,slow=1.5,SNR=23							
DAV	**Davao City (W)**	**131.06**	**295**	PFAKE			07 41 50.0	+12
DAV				LR	LR			
	comp=Z,3μm,22.0s							
GYA	**Guiyang**	**131.23**	**330**	Pdif	**Pdif**		**07 38 30.0**	**0.0**
GYA				PKP	**PKPdf**		**07 41 37.5**	**-0.6**
GYA				PP	**PP**		**07 43 59.3**	**+4.7**
GYA				PKS	**PKSdf**		**07 45 14.5**	**-0.4**
GYA				SKKS			07 50 48.0	
GYA				SS	**SS**		**08 01 25.5**	**+0.7**
GYA				PPMZ				
	comp=Z,370nm,8.3s							
GYA				LN				
	comp=Z,1μm,19.3s							
GYA				LE				
	comp=Z,640nm,17.7s							
GYA				LZ				
	comp=Z,1μm,22.1s							
DHRM	**DHARAMSHALA**	**131.42**	**6**	*e*P	**PKPdf**		**07 41 37.9**	**-0.6**
DHRM				AMS	AMS		08 38 23.4	
	comp=Z,5μm,27.5s							
SMLA	**Simla**	**132.62**	**6**	*e*P	**PKPdf**		**07 41 39.9**	**-0.5**
LSA	**Lhasa**	**133.44**	**349**	PKP	**PKPdf**		**07 41 43.3**	**+0.6**
LSA	**Lhasa**	**133.44**	**349**	PFAKE			07 42 00.0	+17
LSA				LR	LR			
	comp=Z,4μm,22.0s							
DDI	**Dehra Dun**	**133.50**	**5**	*e*P	**PKPdf**		**07 41 42.0**	**-0.2**
KMI	**Kunming**	**134.16**	**333**	PKP	**PKPdf**		**07 41 46.0**	**+2.2**
KMI				LN				
	comp=Z,3μm,20.0s							
KMI				LE				
	comp=Z,2μm,18.1s							
KMI				LZ				
	comp=Z,4μm,20.0s							
QIZ	**Qiongzhong**	**135.50**	**321**	PKP	**PKPdf**		**07 41 46.8**	**+0.6**
QIZ				SS	SS		08 02 18.5	+1.6
QIZ				PPMZ				
	comp=Z,460nm,9.4s							
QIZ				LE				
	comp=Z,2μm,18.4s							
QIZ				LZ				
	comp=Z,2μm,22.4s							
QIZ	**Qiongzhong**	**135.50**	**321**	PFAKE			07 42 00.0	+14
QIZ				LR	LR			
	comp=Z,3μm,21.0s							
SHL	**Shillong**	**137.31**	**347**	*e*P	**PKPdf**		**07 41 49.2**	**-0.4**
SHL				AMS	AMS		08 42 24.0	
	comp=Z,3μm,22.7s							
BHJ	**Bhuj**	**138.87**	**17**	*e*P	**PKPdf**		**07 41 52.3**	**0.0**
KKM	**Kota Kinabalu**	**139.56**	**301**	PFAKE			07 42 10.0	+16
KKM				LR	LR			
	comp=Z,2μm,21.0s							
BOK	**Bokaro**	**139.98**	**355**	*e*P	**PKPdf**		**07 41 53.4**	**-0.9**
BHPL	**Bhopal**	**140.45**	**7**	*ex*	PKPdf		07 41 49.9	-5.3
CRZF	**Crozet Islands**	**140.85**	**147**	PP	PP		07 44 47.0	-8.2
CRZF				SS	SS		08 02 23.0	-57
CMMT	**Chiang Mai**	**141.35**	**334**	P	**PKPdf**		**07 41 58.2**	**+1.3**
	comp=Z,26nm,0.9s							
CHTO	**Chiang Mai**	**141.35**	**334**	P	**PKPdf**		**07 41 58.2**	**+1.3**
	comp=Z,65nm,1.1s,comp=Z,3μm							
CHTO	**Chiang Mai**	**141.35**	**334**	PFAKE			07 42 10.0	+13
CHTO				LR	LR			
	comp=Z,3μm,21.0s							
KAPI	**Kappang**	**141.36**	**283**	PFAKE			07 42 10.0	+13
KAPI				LR	LR			
	comp=Z,2μm,22.0s							
CMAR	**Chiang Mai Arr**	**141.67**	**334**	PKhKP	PKPpre		07 41 53.6	
	comp=Z,2.1nm,0.4s,baz=334,slow=5.8,SNR=9.8							
NGP	**Nagpur**	**142.68**	**5**	*e*P	**PKPdf**		**07 41 58.0**	**-1.2**
NGP				*ex*	x		07 57 38.1	
NGP				AMS	AMS		08 34 10.8	
	comp=Z,2μm,33.8s							
AKL	**Akola**	**142.91**	**8**	*e*P	**PKPdf**		**07 41 58.7**	**-0.9**
MBWA	**Marble Bar**	**144.04**	**256**	*e*PKPdf	**PKPdf**		**07 42 01.4**	**-0.1**
MBWA				LR	LR			
	comp=Z,5μm,19.0s							
POO	**Poona**	**144.47**	**13**	*e*P	**PKPab**		**07 41 59.8**	**-0.9**
SRSP	**Sriramsagar**	**144.81**	**6**	*e*PKPbc	**PKPab**		**07 42 00.7**	**-1.1**
SRSP				*e*PP	**PP**		**07 45 17.6**	**-0.8**
SRSP				*e*SS	SS		08 04 07.4	+3.0
SRSP				IVMs_BB	IVMs_BB		08 41 12.8	
	comp=Z,1μm,32.9s							
RPR	**Rampur**	**144.97**	**5**	*e*PKPdf	PKPbc		07 42 02.5	+0.1
RPR				*e*PP	**PP**		**07 45 17.8**	**-1.6**
RPR				IVMs_BB	IVMs_BB		08 44 24.1	
	comp=Z,1μm,26.0s							
KHLT	**Khaolaem Dam**	**145.05**	**331**	P	**PKPdf**		**07 42 03.4**	**-0.1**
	comp=Z,82nm,1.5s,comp=Z,2μm							
SRDT	**SRDT**	**145.19**	**330**	P	**PKPdf**		**07 42 03.6**	**-0.1**
	comp=Z,408nm,1.8s,comp=Z,12μm							
CHLP	**Challavanipeta**	**145.37**	**357**	*e*PKPdf	**PKPbc**		**07 42 03.4**	**-0.3**
CHLP				*e*PP	**PP**		**07 45 24.6**	**+3.0**
CHLP				*e*SS	SS		08 04 16.8	+6.2
CHLP				IVMs_BB	IVMs_BB		08 45 10.7	
	comp=Z,1μm,22.9s							
KLRI	**Killari**	**145.44**	**9**	*e*PKPbc	**PKPbc**		**07 42 02.9**	**-1.2**
KLRI				*e*PP	**PP**		**07 45 24.1**	**+1.9**
PAF	**Port-aux-Franc**	**145.65**	**166**	PKP	PKPdf		07 41 49.0	-14
PAF				PP	PP		07 45 14.0	-10
PAF				SKKS			07 52 10.0	
PAF				SS	**SS**		**08 04 15.0**	**+0.8**
PAF	**Port-aux-Franc**	**145.65**	**166**	PFAKE			07 42 20.0	+16
PAF				LR	LR			
	comp=Z,6μm,19.0s							
PHET	**Kaeng Krachan**	**146.17**	**328**	P	**PKPab**		**07 42 07.9**	**+0.9**
VIS	**Vishakhapatnam**	**146.18**	**358**	*e*P	**PKPdf**		**07 42 05.1**	**-0.2**
HYBB	**Hyderabad (bro**	**146.33**	**6**	*e*PKPbc	**PKPdf**		**07 42 05.8**	**+0.1**
HYBB				*e*PKPab	**PKPbc**		**07 42 06.6**	**-0.2**
HYBB				*e*PP	**PP**		**07 45 28.5**	**+1.1**
HYBB				*e*			07 48 41.8	
HYBB				*e*SS	SS		08 04 17.2	-4.6
HYBB				IVMs_BB	IVMs_BB		08 41 55.0	
	comp=Z,891nm,24.5s							
HYB	**Hyderabad**	**146.33**	**6**	⇑*i*PKP	**PKPdf**		**07 42 05.0**	**-0.6**
HYB				*es*PKP			07 42 15.0	
HYB	**Hyderabad**	**146.33**	**6**	*e*P	**PKPdf**		**07 42 05.1**	**-0.6**
PVM	**Polavaram**	**146.67**	**1**	*e*PKPbc	**PKPdf**		**07 42 06.9**	**+0.8**
PVM				*e*PP	**PP**		**07 45 29.4**	**+0.1**
PVM				*e*SS	SS		08 04 26.9	+1.4
PVM				IVMs_BB	IVMs_BB		08 40 58.2	
	comp=Z,1μm,34.9s							
ABPO	**Ambohimpanom**	**146.75**	**100**	*e*PKPdf	**PKPbc**		**07 42 08.4**	**+0.2**
ABPO				LR	LR			
	comp=Z,5μm,21.0s							
KSM	**Kuching**	**146.98**	**300**	*e*PKPdf	**PKPdf**		**07 42 07.7**	**+0.9**
KSM				LR	LR			
	comp=Z,3μm,20.0s							
NJS	**Nagarjunasagar**	**147.25**	**5**	*e*PKPbc	**PKPbc**		**07 42 09.3**	**-0.1**
NJS				*e*PP	**PP**		**07 45 31.2**	**-1.7**
NJS				*e*SS	SS		08 04 37.8	+5.7
NJS				IVMs_BB	IVMs_BB		08 39 53.1	
	comp=Z,686nm,19.6s							
GOA	**Goa**	**147.40**	**15**	*e*P	**PKPdf**		**07 42 07.0**	**-0.4**
GOA				AMS	AMS		08 23 07.3	
	comp=Z,393nm,9.8s							
SRLM	**Srisailam**	**147.67**	**6**	*e*PKPbc	**PKPbc**		**07 42 09.3**	**-1.3**
SRLM				*e*PP	**PP**		**07 45 35.1**	**-0.2**
SRLM				*e*SS	SS		08 04 39.2	+2.3
SRLM				IVMs_BB	IVMs_BB		08 43 43.1	
	comp=Z,662nm,16.1s							
ADKI	**Addanki**	**148.00**	**4**	*e*PKPbc	**PKPbc**		**07 42 11.2**	**-0.2**
RCLA	**Racherla**	**148.31**	**6**	*e*PKPbc	**PKPbc**		**07 42 11.5**	**-0.8**
RCLA				*e*PP	**PP**		**07 45 39.3**	**+0.2**
RCLA				*e*SS	SS		08 04 51.7	+7.6
RCLA				IVMs_BB	IVMs_BB		08 45 16.7	
	comp=Z,876nm,15.5s							
URV	**Uravakonda**	**148.60**	**9**	*e*PKPdf	**PKPdf**		**07 42 08.4**	**-1.0**
URV				*e*PKPbc	**PKPbc**		**07 42 12.3**	**-0.8**
URV				*e*PP	**PP**		**07 45 41.8**	**+1.0**
URV				*e*SS	SS		08 04 54.7	+7.1
DGPR	**DIGLIPUR**	**148.81**	**339**	*e*P	**PKPdf**		**07 42 09.2**	**-0.6**
SURT	**Suratani**	**149.93**	**325**	P	**PKPbc**		**07 42 18.1**	**+1.6**
	comp=Z,31nm,2.4s							
SKHT	**Srikalahasti**	**150.07**	**5**	*e*PKPbc	**PKPbc**		**07 42 16.1**	**-0.6**
SKHT				*e*PP	**PP**		**07 45 51.1**	**+1.8**
SKHT				*e*SS	SS		08 05 11.0	+7.2
SKHT				IVMs_BB	IVMs_BB		08 43 21.5	
	comp=Z,711nm,5.4s							
PBA	**Port Blair**	**150.28**	**338**	*ex*	PKPbc		07 42 15.3	-2.0
PBA				AMS	AMS		08 43 19.8	
	comp=Z,1μm,14.0s							
KRAB	**Krabi**	**150.31**	**324**	P	**PKPbc**		**07 42 19.0**	**+1.6**
	comp=Z,62nm,1.0s							
SKLT	**Songkhla**	**150.31**	**320**	P	**PKPbc**		**07 42 19.3**	**+1.9**
TRTT	**Trang**	**150.34**	**323**	P	**PKPbc**		**07 42 18.9**	**+1.4**
	comp=Z,93nm,1.9s							
MDRS	**Chennai**	**150.78**	**4**	*e*P	**PKPdf**		**07 42 12.1**	**-0.8**
MDRS				AMS	AMS		08 28 02.1	
	comp=Z,275nm,4.1s							
MSEY	**Mahe Island**	**151.49**	**69**	*i* PKIKP	**PKPbc**		**07 42 22.1**	**+1.8**
MSEY	**Mahe Island**	**151.49**	**69**	PFAKE			07 42 30.0	+1.4
MSEY				LR	LR			
	comp=Z,4μm,22.0s							
KULM	**Kulim**	**151.74**	**318**	PFAKE			07 42 30.0	+0.5
KULM				LR	LR			
	comp=Z,3μm,20.0s							
TRD	**Trivandrum**	**154.85**	**12**	*e*P	**PKPdf**		**07 42 18.0**	**-0.9**
TRD				AMS	AMS		08 29 06.0	
	comp=Z,684nm,8.2s							
AIS	**Amsterdam Isla**	**158.22**	**170**	PKP	PKPdf		07 42 07.0	-16
AIS				PP	**PP**		**07 46 33.0**	**-2.1**
AIS				SS	SS		08 06 37.0	+4.4
COCO	**West Island**	**165.09**	**284**	PFAKE			07 42 40.0	+10
COCO				LR	LR			
	comp=Z,3μm,22.0s							
DGAR	**Diego Garcia**	**167.12**	**48**	PFAKE			07 42 40.0	+8.0
DGAR				LR	LR			
	comp=Z,5μm,20.0s							

*SJA **30** 07:23:17.4±0.6,34°.27S×74°.15W,h40km,ML4.2*
*GUC **30** 07:23:29.4±0.8,34°.72S×72°.47W,h31km±4km,ML4.4*

ISC 30 07:23:27.7±2.7,34.72S±0.04×72.5W±0.1,h13km±14km, n26,σ1.9±44/28,4C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.97**	**135**	⇑*i*P		**Pb**	**07 23 46.3**	**0.0**
TALC				*i* S		**Sg**	**07 23 59.6**	**+0.6**
NICH	**Los Niches**	**1.06**	**106**	⇑*i*P		**Pb**	**07 23 48.4**	**+0.5**
NICH				*i* S		**Sn**	**07 24 02.7**	**-0.2**
LNV	**Longovilo**	**1.16**	**50**	⇑*i*P		**Pb**	**07 23 50.1**	**+0.5**
LNV				*i* S		**Sg**	**07 24 05.6**	**+0.4**
LNCH	**Linares**	**1.34**	**148**	⇓*i*P		**Pn**	**07 23 52.5**	**+0.4**
LNCH				*e*S		**Sn**	**07 24 10.0**	**+0.3**
TACH	**Talagante**	**1.66**	**51**	⇓*i*P		**Pn**	**07 23 57.0**	**+0.6**
CHCH	**Chadas Angostu**	**1.70**	**63**	⇑*i*P		**Pb**	**07 23 58.8**	**0.0**
SAN	**Santiago**	**1.96**	**51**	*e*P		**Pn**	**07 24 01.5**	**+0.8**
SAN				*i* S		**Sb**	**07 24 26.8**	**-0.9**
CLCH	**Cerro Calan**	**2.08**	**51**	*e*P		**Pn**	**07 24 03.6**	**+1.3**
CLCH				AML	AML		07 24 48.7	
	comp=N,3μm,0.6s							
PEL	**Peldehue**	**2.16**	**44**	⇓*i*P		**Pn**	**07 24 04.9**	**+1.4**
PEL				*i* S		**Sb**	**07 24 31.7**	**-1.7**
PEL				AML	AML		07 24 41.6	
	comp=N,4μm,0.6s							
YECH	**El Yeso**	**2.24**	**63**	*e*P		**Pb**	**07 24 07.6**	**-0.6**
YECH				*i* S		**Sb**	**07 24 35.1**	**-0.9**
YECH				AML	AML		07 24 46.8	
	comp=N,2μm,0.7s							
CANA	**Caviahue**	**3.36**	**161**	*e*P		Pn	07 24 24.8	+4.7
CANA				*e*S		**Sg**	**07 25 14.5**	**-1.2**
CANA				AML	AML		07 25 20.5	
	comp=Z,251nm,0.6s							
AAGR	**Agrelo**	**3.44**	**63**	*e*P		**Pb**	**07 24 27.6**	**-1.0**
ARCO	**CERRO ARCO**	**3.49**	**59**	*e*P		**Pb**	**07 24 27.6**	**-1.9**
ARCO				AML	AML		07 25 25.7	
	comp=Z,205nm,0.8s							
AUSP	**Uspallata**	**3.58**	**47**	*e*P		Pn	07 24 27.1	+3.8
ASAL	**Salagasta**	**3.70**	**56**	*e*P		Pn	07 24 29.4	+4.7
RTLS	**Leoncito**	**3.94**	**43**	*e*P		Pn	07 24 31.7	+3.6
RTCV	**Cerro Valdivia**	**4.35**	**50**	*e*P		Pn	07 24 37.1	+3.6
CFAA	**Coronel Fontan**	**4.72**	**50**	*e*P		**Pn**	**07 24 41.0**	**+2.4**
RTLL	**Cerro Villicun**	**4.76**	**46**	*e*P		**Pn**	**07 24 41.4**	**+2.2**
AMOG	**MOGNA**	**5.04**	**43**	*e*P		**Pn**	**07 24 45.1**	**+2.0**
ACAN	**Cantantal**	**5.04**	**63**	*e*P		**Pn**	**07 24 45.8**	**+2.8**
AVFE	**Valle Fertil**	**5.85**	**48**	*e*P		**Pn**	**07 24 56.2**	**+2.0**
VCA	**Vinchina**	**6.98**	**33**	*e*P		**Pn**	**07 25 11.1**	**+1.2**
TCA	**Tanti**	**7.42**	**65**	*e*P		**Pn**	**07 25 16.7**	**+0.9**
CYA	**Choya**	**8.46**	**44**	⇓*e*P		**Pn**	**07 25 27.8**	**-2.2**
FSA	**Cafayete**	**10.24**	**35**	⇓*e*P		Pn	07 26 03.6	+9.0

*BGR **30** 07:34:32.6±0.4,50°.06N×8°.55E,h5km,ML1.5/3,Error ellipse: s-maj=5.6km s-min=4.4km az=175.0*
*BNS **30** 07:34:33.8±0.6,50°.10N×8°.43E,h4km,ML1.7*
*LDG **30** 07:34:33.0±0.1,50°.06N×8°.46E,h2km,Ml2.7/4,Error ellipse: s-maj=1.5km s-min=1.0km az=61.0*

CSEM 30 07:34:32.1±0.1,50°.05N×8°.49E,h12km,ML2.8/5,2C-2D, Error ellipse: s-maj=2.8km s-min=2.0km az=54.0, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNS	**Taunus Mts**	**0.18**	**351**	⇓*i*P*		Pg	07 34 36.2	-0.1
TNS				*i* S*		Sg	07 34 38.7	-0.4
TNS	**Taunus Mts**	**0.18**	**351**	Pb		Pg	07 34 36.2	0.0
TNS				Sb		Sg	07 34 38.7	-0.4
FACH	**Fachingen**	**0.45**	**314**	P*		Pg	07 34 41.3	+0.4
FACH				S*		Sg	07 34 46.8	-0.1
FACH	**Fachingen**	**0.45**	**314**	Pb		Pg	07 34 41.3	+0.4
FACH				Sb		Sg	07 34 46.8	-0.1
TOD	**Tromm**	**0.48**	**155**	P*		Pb	07 34 42.6	0.0
TOD	**Tromm**	**0.48**	**155**	Pb		Pb	07 34 42.6	0.0
SWS	**Schriesheim-Wi**	**0.58**	**166**	P*		Pb	07 34 44.4	+0.2
SWS				PmP			07 34 47.1	
SWS				S*		Sb	07 34 52.5	+0.1
SWS	**Schriesheim-Wi**	**0.58**	**166**	Pb		Pb	07 34 44.4	+0.2
SWS	**Schriesheim-Wi**	**0.58**	**166**	P		Pn	07 34 47.1	+0.9
SWS				Sb		Sb	07 34 52.5	+0.2
IMS	**Imsbach**	**0.59**	**220**	P*		Pg	07 34 43.7	0.0
IMS				S*		Sg	07 34 52.0	+0.5
IMS				SmS			07 34 55.9	
IMS	**Imsbach**	**0.59**	**220**	Pb		Pg	07 34 43.7	0.0
IMS				Sb		Sg	07 34 52.0	+0.4
IMS				S		Sn	07 34 55.9	-0.1
KOE	**Koeppel**	**0.62**	**308**	*e*Pg		Pg	07 34 44.5	+0.2
KOE				*e*Sg		Sg	07 34 52.1	-0.4
KOE	**Koeppel**	**0.62**	**308**	Pg		Pg	07 34 44.5	+0.3
KOE				Sg		Sg	07 34 52.1	-0.4
ABH	**Alteburg**	**0.63**	**255**	P*		Pb	07 34 45.1	0.0
ABH				S*		Sg	07 34 53.0	+0.2
ABH	**Alteburg**	**0.63**	**255**	Pb		Pb	07 34 45.1	0.0
ABH				Sb		Sg	07 34 53.0	+0.1
BGG	**Burgeitz**	**0.76**	**283**	⇑*e*Pg		Pb	07 34 47.2	-0.1
BGG				*e*Sg		Sg	07 34 57.0	+0.2
	34nm,0.5s							
BGG	**Burgeitz**	**0.76**	**283**	Pg		Pb	07 34 47.2	-0.1
BGG				Sg		Sg	07 34 57.0	+0.2
	34nm,0.5s							
BIW	**Bindweide**	**0.80**	**329**	⇑P*		Pg	07 34 47.8	+0.1
BIW				PmP			07 34 49.2	
BIW				S*		Sg	07 34 57.7	-0.6
BIW	**Bindweide**	**0.80**	**329**	Pb		Pg	07 34 47.8	+0.1
BIW	**Bindweide**	**0.80**	**329**	P		Pn	07 34 49.2	-0.1
BIW				Sb		Sg	07 34 57.7	-0.6
FSH	**Hochheid**	**0.89**	**272**	P*		Pb	07 34 49.5	0.0
FSH	**Hochheid**	**0.89**	**272**	Pb		Pb	07 34 49.5	0.0
BHE	**Schloss Buerre**	**0.90**	**291**	*e*Pg		Pn	07 34 50.6	0.0
BHE				*e*Sg		Sb	07 35 01.5	0.0
	35nm,0.1s							
BHE	**Schloss Buerre**	**0.90**	**291**	Pg		Pn	07 34 50.6	0.0
BHE				Sg		Sb	07 35 01.5	-0.1
	35nm,0.1s							
RUP	**Ruppelstein**	**0.99**	**250**	⇓P*		Pn	07 34 51.8	-0.1
RUP				S*		Sb	07 35 04.7	+0.3
RUP	**Ruppelstein**	**0.99**	**250**	Pb		Pn	07 34 51.8	-0.1
RUP				Sb		Sb	07

HUIG *i* S Sn 07 42 00.5 -5.3

*ISCJB **30** 07:46:34.0±0.4,9.°42N±0.°06×84.°01W±0.°04,h70km±4km, mb3.4/6,Error ellipse: s-maj=11.3km s-min=3.6km az=35.3*
*IDC **30** 07:46:33.7±4.1,9.°51N±83.°84W,h51km±33km,mb3.3/6, mb1 3.6/6,mb1mx3.3/45,mbtmp3.6/6,Error ellipse: s-maj=71.9km s-min=26.7km az=26.0*
*NEIC **30** 07:46:34.4±1.1,9.°42N×83.°96W,h35km,ML3.8(UCR), Error ellipse: s-maj=26.7km s-min=12.8km az=32.0*
NEIC Felt [IV] at Quepos and [III] at San Jose. Also felt at Alajuelita, Cartago, Colon, Heredia and Tres Rios.
*CASC **30** 07:46:35.2±1.7,9.°49N×83.°98W,h51km±6km,MD3.9*

ISC 30 07:46:34.3±0.8,9.°44N±0.°06×84.°01W±0.°05,h59km±6km, n43,σ1°912/56,mb3.5/6,2C-4D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
QCR	**Quepos**	**0.15**	**264**	⇓*e*P		**Pn**	**07 46 43.7**	**+0.3**
QCR				*e*S		**Sn**	**07 46 50.4**	**+0.5**
BUS	**Buena Vista**	**0.27**	**66**	⇓*i*P		**Pn**	**07 46 44.7**	**0.0**
URSC	**Urasca**	**0.45**	**30**	⇓*i*P		**Pn**	**07 46 46.0**	**0.0**
SJS	**Escuela Geolog**	**0.50**	**355**	*e*P		**Pn**	**07 46 46.1**	**-0.2**
SJS				*e*S		**Sn**	**07 46 54.9**	**-0.2**
CGA2	**Cerro Gallo 2**	**0.73**	**322**	⇑*e*P		**Pn**	**07 46 49.0**	**0.0**
CAO	**Cobano**	**1.11**	**284**	*e*P		**Pn**	**07 46 53.2**	**-0.6**
ACR	**Cerro Adams**	**1.14**	**133**	⇓*e*P		**Pn**	**07 46 54.1**	**-0.1**
ACR				*e*S		**Sn**	**07 47 11.0**	**+1.9**
JCR	**Jicaral**	**1.16**	**291**	*e*P		**Pn**	**07 46 54.4**	**-0.1**
JCR				*e*S		**Sn**	**07 47 10.3**	**+0.8**
FORC	**Fortuna**	**1.21**	**328**	*i* P		**Pn**	**07 46 56.2**	**+1.1**
FORC				*i* S		**Sn**	**07 47 12.9**	**+2.3**
CASO	**Castillo**	**1.22**	**324**	*i* P		**Pn**	**07 46 56.3**	**+1.1**
CASO				*i* S		**Sn**	**07 47 12.7**	**+1.8**
CEDE	**Laguna Cedeˆ–o**	**1.24**	**327**	*i* P		**Pn**	**07 46 56.8**	**+1.2**
CEDE				*i* S		**Sn**	**07 47 13.5**	**+2.0**
JTS	**JuntasAbangare** 365nm,0.3s,baz=151,slow=5.9,SNR=645	**1.25**	**312**	P		**Pn**	**07 46 56.2**	**+0.5**
JTS				S		**Sn**	**07 47 12.8**	**+1.1**
	614nm,0.3s,baz=311,slow=19,SNR=42							
JTS	**JuntasAbangare**	**1.25**	**312**	*e*P		**Pn**	**07 46 56.2**	**+0.5**
JTS				*e*S		**Sn**	**07 47 12.1**	**+0.4**
JTS	**JuntasAbangare**	**1.25**	**312**	*e*P		**Pn**	**07 46 56.2**	**+0.5**
JTS				*e*S		**Sn**	**07 47 12.2**	**+0.5**
CTCR	**Cotoan**	**1.35**	**114**	⇑*i*P		**Pn**	**07 46 57.7**	**+0.6**
TBS2		**1.48**	**116**	*e*P		**Pn**	**07 47 00.1**	**+1.2**
TBS2				*e*S		**Sn**	**07 47 19.9**	**+2.5**
AMAS	**Alto Masis**	**1.51**	**320**	*i* P		**Pn**	**07 47 00.4**	**+1.1**
AMAS				*i* S		**Sn**	**07 47 19.8**	**+1.7**
BRU	**Baru**	**1.56**	**114**	*e*P		**Pn**	**07 47 01.1**	**+0.9**
BRU				*e*S		**Sn**	**07 47 21.6**	**+1.8**
PTEN	**Parque Tenorio**	**1.59**	**323**	*i* P		**Pn**	**07 47 01.4**	**+1.1**
CUI	**Cuipilapa**	**1.66**	**317**	*i* P		**Pn**	**07 47 01.9**	**+0.7**
MESS	**Mesas**	**1.74**	**318**	*i* P		**Pn**	**07 47 03.1**	**+0.8**
LIM1	**Limonal**	**1.75**	**316**	*i* P		**Pn**	**07 47 02.8**	**+0.4**
GPS2	**Hotel Rincˆ‡n**	**1.85**	**315**	*i* P		**Pn**	**07 47 04.3**	**+0.5**
GPS3	**Bodega del ICE**	**1.87**	**314**	*i* P		**Pn**	**07 47 05.7**	**+1.7**
NY14	**Universidad de**	**1.92**	**309**	*i* P		**Pn**	**07 47 05.6**	**+0.9**
LAPC	**Finca la Perla**	**1.92**	**313**	*i* P		**Pn**	**07 47 05.1**	**+0.4**
GB1A	**Borinquen Arri**	**1.93**	**315**	*i* P		**Pn**	**07 47 05.6**	**+0.6**
GBS3	**Finca Las Imˆ¡**	**1.95**	**313**	*i* P		**Pn**	**07 47 05.6**	**+0.5**
GBS2	**Las Lilas**	**1.98**	**314**	*i* P		**Pn**	**07 47 07.2**	**+1.6**
AZU	**Azuero**	**4.04**	**114**	*e*P		**Pn**	**07 47 35.8**	**+2.1**
AZU				*e*S		Sn	07 48 30.6	+11
BCIP	**Isla Barro Col**	**4.13**	**93**	*e*P		**Pn**	**07 47 35.3**	**+0.5**
BCIP				*e*S		**Sn**	**07 48 22.5**	**+0.5**
BCIP	**Isla Barro Col**	**4.13**	**93**	*e*Pn		**Pn**	**07 47 35.1**	**+0.2**
OTAV	**Otavalo**	**10.69**	**149**	*e*Pn		**Pn**	**07 49 04.8**	**-0.3**
SDV	**Santo Domingo** 2.8nm,0.6s	**13.22**	**91**	Pn		**Pn**	**07 49 38.2**	**-1.3**
TXAR	**Lajitas Array** 0.2nm,0.4s,baz=142,slow=10,SNR=2.5	**27.03**	**320**	P		**P**	**07 52 13.7**	**+2.4**
ILAR	**Eielson Array** 0.2nm,0.7s,baz=126,slow=4.3,SNR=4.6	**70.12**	**336**	P		**P**	**07 57 39.1**	**-1.1**
ESDC	**Sonseca Array** 0.3nm,0.4s,baz=299,slow=6.4,SNR=4.2	**76.39**	**51**	P		**P**	**07 58 17.3**	**-0.5**
EKA	**Eskdalemuir Ar** 0.2nm,0.3s,baz=255,slow=4.2,SNR=3.8	**77.09**	**35**	P		**P**	**07 58 20.8**	**-0.5**
DBIC	**Dimbokro** 4.3nm,1.0s,baz=328,slow=4.3,SNR=3.2	**78.27**	**85**	P		**P**	**07 58 27.3**	**-1.4**
TORD	**Torodi Ar. Bea** 0.3nm,0.6s,baz=276,slow=3.7,SNR=3.4	**83.75**	**78**	P		**P**	**07 58 57.6**	**-0.2**
KSRS	**Korea Array** 0.7nm,0.5s,baz=76,slow=2.5,SNR=3.4	**124.59**	**329**	PKP		**PKPdf**	**08 05 27.8**	**+0.2**
ASAR	**Alice Springs** 0.3nm,0.6s,baz=103,slow=4.1,SNR=3.4	**141.15**	**244**	PKhKP		PKPpre	08 05 52.7	
ASAR				PKP		**PKPdf**	**08 05 58.8**	**-0.3**
	0.2nm,0.6s,baz=110,slow=2.5,SNR=5.2							
WRA	**Warramunga Arr** 0.7nm,1.1s,baz=100,slow=3.1,SNR=4.6	**141.55**	**250**	PKhKP		PKPpre	08 05 55.3	

MEX 30 07:48:49.4±0.5,16.°20N×98.°04W,h5km±4km,MD4.0,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.21**	**338**	*i* P		Pg	07 48 53.3	-0.3
PNIG				*i* S		Sg	07 48 56.4	-0.1
TLIG	**Tlapa**	**1.45**	**340**	*e*P		Pn	07 49 13.0	-3.5
TLIG				*i* S		Sb	07 49 30.4	-5.5
VHO	**Vista Hermosa**	**1.53**	**55**	*i* P		Pn	07 49 13.7	-4.0
VHO				*e*S		Sn	07 49 33.2	-4.9
HUIG	**Huatulco**	**1.91**	**103**	*e*P		Pn	07 49 19.2	-3.4
HUIG				*i* S		Sn	07 49 41.8	-5.3

MEX 30 07:52:48.2±0.4,16.°24N×98.°02W,h12km±2km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.19**	**325**	*i* P		Pg	07 52 51.9	-0.6
PNIG				*i* S		Sg	07 52 55.2	-0.2
TLIG	**Tlapa**	**1.42**	**338**	*e*P		Pn	07 53 10.5	-3.5
TLIG				*i* S		Sn	07 53 27.7	-5.1
VHO	**Vista Hermosa**	**1.48**	**56**	*e*P		Pn	07 53 11.2	-3.8
VHO				*e*S		Sn	07 53 29.7	-4.8

IDC 30 07:59:14.4±16.0,18.°66S×177.°90W,h574km±154km, mb3.0/3,mb1 3.2/3,mb1mx2.8/25,mbtmp4.0/3,Error ellipse: s-maj=129.9km s-min=75.2km az=110.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 7.1nm,1.3s,baz=104,slow=12,SNR=3.3	**38.70**	**242**	P		P	08 05 49.5	-0.7
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=98,slow=7.6,SNR=21	**44.98**	**260**	P		P	08 06 39.6	0.0
WRA				PcP		PcP	08 08 08.4	-0.1
	0.2nm,0.3s,baz=89,slow=3.8,SNR=5.9							
ASAR	**Alice Springs** 0.7nm,0.4s,baz=85,slow=8.4,SNR=18	**45.06**	**255**	P		P	08 06 40.5	+0.2
ASAR				PcP		PcP	08 08 08.3	-0.4
	0.5nm,0.5s,baz=102,slow=4.1,SNR=4.8							
BRTR	**Keskin Array B** 0.4nm,0.5s,baz=50,slow=5.0,SNR=2.9	**145.65**	**314**	PKPbc		PKPdf	08 17 48.3	-0.1
GERES	**GERESS Array B** 0.4nm,0.4s,baz=45,slow=4.3,SNR=5.9	**148.45**	**345**	PKPbc		PKPbc	08 17 57.3	+0.2

*MEX **30** 08:03:01.1±0.9,32.°99N×115.°91W,h16km±999km,MD3.9*
*ISCJB **30** 08:03:02.1±0.3,32.°71N±0.°02×115.°90W±0.°02,h14km±3km, Error ellipse: s-maj=4.2km s-min=3.3km az=173.7*
*NEIC **30** 08:03:02.9,32.°67N×115.°91W,h13km,ML3.6(PAS), ML3.7(ECX),After PAS.*
NEIC Felt [II] at El Centro. Also felt at Calexico, Chula Vista, El Cajon and Imperial.
*ECX **30** 08:03:03.4±0.6,32.°68N×115.°92W,h4km,MD3.4,ML3.6*

ISC 30 08:03:02.1±0.8,32.°67N±0.°02×115.°90W±0.°02,h14km±6km, n35,σ0°971/52,12C-7D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.03**	**222**	⇓*i*P		**Pg**	**08 03 04.5**	**-0.2**
RMX	**La Rumorosa**	**0.16**	**247**	⇑*e*P		**Pg**	**08 03 06.5**	**+0.3**
RMX				*e*S		**Sg**	**08 03 08.9**	**-0.1**
RMX				⇑*e*			08 03 10.0	
	comp=N,13μm,0.3s							
WESC	**Westside Schoo**	**0.17**	**57**	⇑*i*P		**Pg**	**08 03 06.7**	**+0.4**
WESC				*e*S		**Sb**	**08 03 10.0**	**-0.3**
ERPC	**Ernies Place**	**0.21**	**69**	⇑*i*P		**Pb**	**08 03 07.7**	**-0.1**
CRR	**Carrizo Plain**	**0.23**	**346**	⇓*i*P		**Pg**	**08 03 07.3**	**+0.2**
COK	**Cook Ranch**	**0.23**	**39**	⇓*i*P		**Pg**	**08 03 07.8**	**+0.6**
SWSC	**Sam W. Stewart**	**0.29**	**18**	⇓*i*P		**Pg**	**08 03 08.4**	**+0.3**
DREC	**Desert Rsrch C**	**0.41**	**70**	⇓*e*P		**Pb**	**08 03 11.4**	**+0.4**
CPBX	**Cerro Prieto**	**0.56**	**116**	*i* P		**Pb**	**08 03 13.8**	**0.0**
CPBX	**Cerro Prieto**	**0.56**	**116**	⇓*e*P		**Pb**	**08 03 13.8**	**0.0**
CPBX				⇑*e*P		**Pb**	**08 03 13.8**	**0.0**
CPBX				*e*S		**Sb**	**08 03 21.8**	**+0.2**
CPBX				⇓*e*			08 03 24.1	
CPBX				IAML			08 03 24.1	
	comp=E,12μm,0.2s							
CPBX				⇓*e*			08 03 24.1	
BAR	**Barrett**	**0.65**	**271**	*e*Pg		**Pg**	**08 03 14.9**	**0.0**
BAR				*e*Sg		**Sg**	**08 03 22.6**	**-0.8**
BAR	**Barrett**	**0.65**	**271**	⇑*i*P		**Pg**	**08 03 15.0**	**+0.2**
BAR				*e*S		**Sg**	**08 03 23.3**	**-0.1**
CBX	**Cerro Bola**	**0.73**	**241**	*e*P		**Pg**	**08 03 16.2**	**-0.3**
CBX				*e*S		**Sg**	**08 03 26.4**	**+0.3**
CBX	**Cerro Bola**	**0.73**	**241**	*e*P		**Pg**	**08 03 16.2**	**-0.3**
CBX				*e*S		**Sg**	**08 03 25.5**	**-0.6**
CBX	**Cerro Bola**	**0.73**	**241**	⇑*e*P		**Pg**	**08 03 16.8**	**+0.3**
CBX				*e*S		**Sg**	**08 03 26.5**	**+0.3**
CBX				⇑*e*			08 03 27.5	
CBX				IAML			08 03 27.5	
	comp=N,4μm,0.2s							
CBX				*e*			08 03 27.6	
CBX				IAML			08 03 27.6	
	comp=E,4μm,0.2s							
RDX	**Rancho Dawling**	**0.74**	**183**	⇓*e*P		**Pg**	**08 03 16.4**	**-0.2**
RDX				⇑*e*			08 03 27.1	
SDRC	**San Diego Road**	**0.88**	**275**	⇑*e*P		**Pb**	**08 03 18.8**	**-0.3**
SDRC				*e*S		**Sb**	**08 03 30.2**	**-0.5**
GLA	**Glamis**	**0.98**	**67**	*e*Pg		**Pb**	**08 03 20.1**	**-0.9**
GLA				*e*Sg		**Sb**	**08 03 31.8**	**-2.0**
PFO	**Pinyon Flats O**	**1.05**	**334**	*e*Pg		**Pb**	**08 03 22.0**	**-0.1**
PFO				*e*Sg		**Sb**	**08 03 35.4**	**-0.4**
PBX	**Punta Banda**	**1.16**	**217**	*e*P		**Pb**	**08 03 24.0**	**+0.1**
PBX				*e*S		**Sn**	**08 03 39.3**	**-0.2**
ECNX	**Esteban Cantu**	**1.17**	**211**	*e*P		**Pn**	**08 03 24.1**	**0.0**
ECNX				*e*S		**Sb**	**08 03 39.6**	**+0.5**
ECBX	**El Chinero**	**1.39**	**149**	*e*Pn		**Pn**	**08 03 26.3**	**-0.7**
ECBX				*e*S		**Sn**	**08 03 45.3**	**0.0**
SPIG	**San Pedro Mart**	**1.66**	**167**	*e*P		**Pn**	**08 03 31.5**	**+0.4**
SPIG				*i* S		**Sb**	**08 03 54.3**	**+0.8**
SPIG	**San Pedro Mart**	**1.66**	**167**	*e*P		**Pn**	**08 03 31.5**	**+0.4**
SPX	**San Pedro Mart**	**1.66**	**167**	*e*P		**Pn**	**08 03 31.9**	**+0.8**
SPX	**San Pedro Mart**	**1.66**	**167**	*e*P		**Pn**	**08 03 31.9**	**+0.8**
SPX				*e*S		**Sg**	**08 03 55.3**	**-0.3**
SPX				*e*			08 03 57.4	
SPX				IAML			08 03 57.4	
	comp=N,595nm,0.2s							
PASC	**Pasadena Art C**	**2.43**	**309**	*e*Pn		**Pb**	**08 03 45.2**	**-0.4**
PASC				*e*Sn		**Sb**	**08 04 16.5**	**+1.1**
214A	**Organ Pipe Nat**	**2.71**	**104**	*e*Pn		**Pn**	**08 03 43.9**	**-1.4**
OSI	**Osito Audit: C**	**3.05**	**310**	*e*Pn		**Pn**	**08 03 51.5**	**+1.6**
ISA	**Isabella, Lake**	**3.67**	**325**	*e*Pn		Pn	08 04 01.8	+3.3
DAC	**Darwin (Calif)**	**3.86**	**339**	*e*Pn		**Pn**	**08 03 59.6**	**-1.6**
SHPR	**Sheep Range**	**3.88**	**9**	*e*Pn		**Pn**	**08 04 01.9**	**+0.4**
WUAZ	**Wupatki**	**4.71**	**52**	*e*Pn		**Pn**	**08 04 14.0**	**+1.1**
MSU	**Marysvale** comp=N,3.6nm,0.6s	**6.57**	**26**	*e*Pn		**Pn**	**08 04 40.3**	**+1.8**
121A	**Cookes Peak, D** comp=N,6.8nm,0.3s	**6.85**	**89**	*e*Pn		**Pn**	**08 04 42.5**	**+0.2**

*ISCJB **30** 08:23:11.2±0.8,14.°8S±0.°3×178.°5W±0.°3,h390km,mb3.6/8, Error ellipse: s-maj=53.7km s-min=16.9km az=145.1*
*IDC **30** 08:23:11.6±10.0,14.°84S×178.°39W,h382km±110km, mb3.1/7,mb1 3.5/7,mb1mx3.2/32,mbtmp3.9/7,Error ellipse: s-maj=57.3km s-min=23.2km az=136.0*

ISC 30 08:23:12.3±0.9,14.°8S±0.°3×178.°4W±0.°3,h390km,n8, σ0°15/9,mb3.5/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.9nm,0.3s,baz=92,slow=8.8,SNR=5.9	**40.17**	**238**	P		**P**	**08 30 12.7**	**+0.1**
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=79,slow=6.0,SNR=34	**45.26**	**257**	P		**P**	**08 30 52.8**	**-0.3**
ASAR	**Alice Springs** 11nm,0.4s,baz=84,slow=8.4,SNR=230	**45.68**	**251**	P		**P**	**08 30 56.5**	**+0.1**
ASAR				PcP		**PcP**	**08 32 27.0**	**0.0**
	0.3nm,0.5s,baz=95,slow=4.8,SNR=3.0							
NVAR	**Mina Array Bea** 0.5nm,0.7s,baz=217,slow=7.1,SNR=3.7	**77.24**	**44**	P		**P**	**08 34 24.9**	**-0.1**
ILAR	**Eielson Array** 0.4nm,0.4s,baz=215,slow=5.3,SNR=9.8	**82.92**	**13**	P		**P**	**08 34 54.2**	**+0.1**
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=229,slow=8.0,SNR=2.8	**84.38**	**58**	P		**P**	**08 35 02.4**	**0.0**
PDAR	**Pinedale Array** 0.5nm,0.7s,baz=239,slow=1.5,SNR=5.4	**85.15**	**44**	P		**P**	**08 35 06.0**	**0.0**
MAW	**Mawson** 1.8nm,0.4s,baz=149,slow=8.4,SNR=4.9	**86.72**	**200**	P		**P**	**08 35 12.8**	**-0.1**

*IDC **30** 08:31:40.0±0.5,32.°30N×104.°93E,h0km,mb4.4/24, mb1 4.6/28,mb1mx4.4/42,mbtmp4.4/28,ML3.9/4,Error ellipse: s-maj=14.0km s-min=10.6km az=50.0*
*ISCJB **30** 08:31:40.7±1.0,32.°34N±0.°02×104.°88E±0.°02,h15km±7km, mb4.7/78,MS4.7/2,Error ellipse: s-maj=3.8km s-min=3.3km az=151.6*
*BJI **30** 08:31:40.3,32.°31N×104.°83E,h13km,mb4.6/31,mB5.0/8, ML4.6/22,Ms4.7/38,Ms7 4.6/33*
*MOS **30** 08:31:44.4±0.9,32.°28N×104.°99E,h46km,mb4.9/33,Error ellipse: s-maj=9.5km s-min=6.1km az=101.0*
*NEIC **30** 08:31:45.3±1.4,32.°31N×104.°91E,h33km±10km,mb4.8/27, Error ellipse: s-maj=4.5km s-min=3.8km az=198.0*

ISC 30 08:31:45.4±0.6,32.°29N±0.°03×104.°89E±0.°03,h33km±2km, n257,σ1°946/276,mb4.7/78,26C-17D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.68**	**216**	⇓*i*Pg		**Pn**	**08 32 11.5**	**-1.1**
CD2				Sg		**Sb**	**08 32 35.5**	**-1.1**
CD2				SMN				
	27μm,0.6s							
CD2				SME				
	19μm,0.6s							
XAN	**Xi'an**	**3.80**	**62**	Pn		**Pn**	**08 32 40.3**	**-1.5**
XAN				Pg		**Pb**	**08 32 49.5**	**-2.4**
XAN				Sn		**Sn**	**08 33 27.8**	**+2.4**
XAN				Sg		**Sb**	**08 33 41.5**	**+3.9**
XAN				SMN				
	2μm,0.9s							
XAN				SME				
	1μm,0.8s							
XAN				LN				
	11μm,8.5s							
XAN				LE				
	3μm,8.0s							
LZH	**Lanzhou**	**3.89**	**347**	*e*Pn		**Pn**	**08 32 44.3**	**+1.2**
LZH				Pg		**Pb**	**08 32 52.0**	**-1.4**
LZH				Sn		**Sn**	**08 33 30.5**	**+2.8**
LZH				Sg		**Sb**	**08 33 42.5**	**+2.3**
LZH				SMN				
	4μm,1.0s							
LZH				SME				
	2μm,0.8s							
LZH				LE				
	13μm,6.1s							
LZH				LZ				
	18μm,6.8s							
ENH	**Enshi**	**4.42**	**116**	*e*Pn		**Pn**	**08 32 50.5**	**+0.3**
GYA	**Guiyang**	**6.01**	**165**	Pn		**Pn**	**08 33 11.0**	**-1.2**
GYA				Sn		**Sn**	**08 34 19.8**	**-0.1**
GYA				Sg		Sb	08 34 48.5	+7.5
GYA				SMN				
	760nm,0.8s							
GYA				SME				
	910nm,1.1s							
GYA				LN				
	3μm,8.4s							
GYA				LE				
	9μm,11.5s							
GYA				LZ				
	5μm,12.2s							
KMI	**Kunming**	**7.38**	**195**	Pn		**Pn**	**08 33 30.0**	**-1.1**
KMI				Pg		**Pb**	**08 33 54.5**	**+1.6**
KMI				Sn		**Sn**	**08 34 53.5**	**-0.4**
KMI				SMN				
	110nm,1.4s							
KMI				SME				
	110nm,1.4s							
KMI				LN				
	5μm,6.4s							
KMI				LZ				
	4μm,7.2s							
GTA	**Gaotai**	**8.22**	**331**	⇑P		**Pn**	**08 33 41.5**	**-1.0**
GTA				pP		pP	08 33 44.8	
GTA				sP		sP	08 33 47.5	
GTA				S		**Sn**	**08 35 17.3**	**+3.1**
GTA				sS		sS	08 35 22.0	
GTA				PMZ				
	4.0nm,1.1s							
GTA				LN				
	4μm,18.1s							
GTA				LE				
	4μm,19.5s							
GTA				LZ				
	5μm,16.6s							
WHN	**Wuhan**	**8.27**	**100**	⇓P		**Pn**	**08 33 41.5**	**-1.5**
WHN				S		**Sn**	**08 35 09.8**	**-5.5**
BTO	**Baotou**	**9.27**	**25**	*e*P		**Pn**	**08 33 56.3**	**-0.6**
HHC	**Hu-ho-hao-te**	**10.09**	**30**	*e*P		Pn	08 34 12.5	+4.4
HHC				S		**Sn**	**08 36 04.8**	**+4.7**
HHC				PMZ				
	33nm,0.7s							
HHC				LN				
	5μm,10.5s							
HHC				LE				
	5μm,9.3s							
HHC				LZ				
	5μm,8.6s							
TIA	**Tai'an**	**10.85**	**66**	⇓P		**Pn**	**08 34 17.8**	**-0.7**
TIA				PMZ				
	10.0nm,0.7s							
NJ2	**Nanjing**	**11.83**	**87**	*e*P		**Pn**	**08 34 30.5**	**-1.4**
NJ2				S		**Sn**	**08 36 40.3**	**-2.5**
NJ2				PMZ				
	110nm,1.0s							
NJ2				LN				
	2μm,9.8s							
NJ2				LE				
	5μm,7.8s							
NJ2				LZ				
	4μm,7.9s							
BJI	**Beijing**	**11.95**	**46**	P		**Pn**	**08 34 33.5**	**+0.1**
BJI				LE				
	4μm,17.9s							
LSA	**Lhasa**	**12.07**	**261**	P		**Pn**	**08 34 35.0**	**-0.6**
LSA	**Lhasa**	**12.07**	**261**	*e*Pn		**Pn**	**08 34 35.1**	**-0.5**
	8.5nm,0.6s							
SHL	**Shillong**	**13.21**	**243**	*e*P		**Pn**	**08 34 50.0**	**-0.9**
QIZ	**Qiongzhong**	**13.93**	**160**	P		**Pn**	**08 35 02.0**	**+1.4**
QIZ				S		**Sn**	**08 37 38.5**	**+4.4**
QIZ				LN				
	2μm,11.2s							
QIZ				LZ				
	2μm,11.7s							
QZH	**Quanzhou**	**14.07**	**118**	*e*P		**P**	**08 35 07.3**	**-2.5**
QZH				*e*S		**Sn**	**08 37 42.5**	**+5.0**
QZH				LE				
	4μm,10.0s							
QZH				LZ				
	5μm,6.4s							
NONG	**Nongkai** 34nm,1.0s	**14.25**	**187**	P		**Pn**	**08 35 04.6**	**-0.3**
CHTO	**Chiang Mai** 55nm,1.1s	**14.44**	**203**	P		**P**	**08 35 11.3**	**-2.7**
CHTO	**Chiang Mai**	**14.44**	**203**	*e*Pn		**Pn**	**08 35 08.9**	**+1.3**
CMMT	**Chiang Mai** 16nm,1.8s	**14.44**	**203**	P		**P**	**08 35 11.3**	**-2.7**
LAMP	**Lampang**	**14.50**	**200**	P		**P**	**08 35 17.3**	**+2.7**
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=13,slow=11,SNR=12	**14.78**	**203**	Pn		**Pn**	**08 35 11.4**	**-0.7**
CMAR				Lg		Lg	08 39 31.6	
	0.6nm,0.3s,baz=22,slow=29,SNR=3.3							
UTTA	**Uttaradit** 4.6nm,0.9s,51nm	**15.00**	**196**	P		**Pn**	**08 35 17.2**	**+2.1**
LOEI	**Loei** 9.6nm,1.0s	**15.07**	**193**	P		**P**	**08 35 21.4**	**+0.4**
DL2	**Dalian**	**15.12**	**59**	P		**Pn**	**08 35 17.0**	**+0.4**
DL2				PMZ				
	50nm,1.4s							
SONM	**Songino Array** 0.2nm,0.3s,baz=183,slow=9.2,SNR=55	**15.57**	**4**	Pn		**Pn**	**08 35 20.6**	**-2.0**
SONM				Lg		Lg	08 39 54.0	
	0.2nm,0.3s,baz=195,slow=22,SNR=3.1							
TAPN	**Taplejung** 220nm,1.3s	**15.70**	**256**	*e*P		**Pn**	**08 35 21.0**	**-3.5**
PBKT	**Sadao Pong** 27nm,0.8s	**16.05**	**194**	P		**P**	**08 35 31.1**	**-0.7**
ODAN	**Odare** 68nm,0.5s	**16.15**	**255**	*e*P		**Pn**	**08 35 27.0**	**-3.3**
YHNB	**Yeheng** 36nm,0.8s	**16.35**	**113**	*e*Pn		**Pn**	**08 35 32.6**	**0.0**
SSLB	**Suanglung** 51nm,1.3s	**16.50**	**117**	*e*Pn		**Pn**	**08 35 34.2**	**-0.3**
CHAI	**Chaiyaphum** 67nm,1.0s,243nm	**16.52**	**190**	P		**P**	**08 35 36.0**	**-1.1**
RAMN	**Ramite** 120nm,1.1s	**16.77**	**256**	*e*P		**Pn**	**08 35 34.4**	**-3.7**
YULB	**Yu-li** 9.1nm,0.8s	**16.98**	**117**	*e*Pn		**Pn**	**08 35 40.6**	**0.0**
GUN	**Gumba** 167nm,1.0s	**17.02**	**260**	*e*P		**Pn**	**08 35 38.3**	**-3.0**
UTHA	**Uthaitani** 7.8nm,1.2s,96nm	**17.37**	**198**	P		**P**	**08 35 46.7**	**+0.2**
PKI	**Pulchoki** 74nm,0.6s	**17.53**	**260**	*e*P		**Pn**	**08 35 44.5**	**-3.1**
KKN	**Kakani** 48nm,0.6s	**17.56**	**260**	*e*P		**Pn**	**08 35 44.3**	**-3.6**
SNY	**Shenyang** 21nm,2.5s	**17.66**	**52**	⇓P		**P**	**08 35 51.0**	**+1.5**
SNY				PMZ				
WMQ	**Urumqi**	**17.74**	**315**	*e*P		**P**	**08 35 52.8**	**+2.3**
KSJDO	**Jindo** SNR=8.7	**18.02**	**77**	P		**P**	**08 35 55.7**	**+2.1**
KSJDO	**Jindo** SNR=8.7	**18.02**	**77**	P		**P**	**08 35 55.7**	**+2.1**
GKN	**Gorkha** 68nm,0.6s	**18.03**	**262**	*e*P		**Pn**	**

KSCPR	CHUPUNGNYEONG	19.47	72	P		P	08 36 09.9	+0.5	
	SNR=6.3								
KSCPR	CHUPUNGNYEONG	19.47	72	P		P	08 36 09.9	+0.5	
	SNR=6.3								
KSCHJ	Chungju	19.54	70	P		P	08 36 10.3	+0.1	
	SNR=9.4								
KSCHJ	Chungju	19.54	70	P		P	08 36 10.3	+0.1	
	SNR=9.4								
KSAR	Wonju Array Be	19.54	68	P		P	08 36 10.2	0.0	
KSRS	Korea Array	19.57	68	P		P	08 36 10.2	-0.3	
	comp=Z,0.6nm,0.3s,baz=248,slow=9.5,SNR=30								
KSRS	Korea Array	19.57	68	P		P	08 36 10.2	-0.3	
KSRS				pmax	pmax				
	comp=Z,1.0nm,0.3s								
CN2	Changchun	19.80	49	*e*P		P	08 36 13.3	+0.3	
CN2				*es*P		sP	08 36 20.3	-5.6	
CN2				*e*S		S	08 39 50.8	-3.4	
CN2				PMZ					
	comp=Z,30nm,1.2s								
CN2				PMZ					
	comp=Z,200nm,5.0s								
CN2				LN					
	comp=Z,1μm,13.0s								
CN2				LE					
	comp=Z,700nm,13.0s								
CN2				LZ					
	comp=Z,900nm,15.0s								
PHET	Kaeng Krachan	19.88	195	P		Pn	08 36 16.1	+0.3	
	comp=Z,19nm,0.8s,comp=Z,230nm								
IRK	Irkutsk	19.95	359	⇑*i*P		Pn	08 36 16.0	-0.4	
IRK				pmax	pmax				
	comp=Z,326nm,1.8s								
SEHB	SEOHWA	19.96	66	P		Pn	08 36 16.0	-0.7	
	SNR=7.4								
SEHB	SEOHWA	19.96	66	P		Pn	08 36 16.0	-0.7	
	SNR=7.4								
KSDAG	Daegu	20.18	74	P		P	08 36 17.5	+0.3	
	SNR=14								
KSDAG	Daegu	20.18	74	P		P	08 36 17.5	+0.3	
	SNR=14								
KSDGY	Daegwallycong	20.20	68	P		P	08 36 18.1	+0.6	
	SNR=7.9								
KSYOC	YEONGCHEON	20.24	73	P		P	08 36 18.3	+0.4	
	SNR=7.6								
KSJMJ	Jumunjin	20.29	67	P		P	08 36 19.1	+0.8	
	SNR=7.2								
HIA	Hailar	20.29	29	*e*P		P	08 36 18.5	+0.2	
	comp=Z,315nm,1.8s								
KSTBA	Taebaek	20.34	70	P		P	08 36 19.7	+0.7	
	SNR=8.1								
KSTBA	Taebaek	20.34	70	P		P	08 36 19.7	+0.7	
	SNR=8.1								
HVS	Khovu-Aksy	20.56	340	*d i*P		P	08 36 22.2	+0.9	
HVS				pmax	pmax				
	comp=Z,439nm,1.6s								
JOW	Kunigami	21.04	99	P		P	08 36 26.9	+0.4	
	comp=Z,1.8nm,0.7s,baz=288,slow=13,SNR=3.9								
MKAR	Makanchi Array	22.56	316	*e*P		P	08 36 43.1	+0.3	
MDJ	Mudanjiang	22.83	50	P		P	08 36 45.5	-0.1	
MDJ				PMZ					
	comp=Z,43nm,2.1s								
MDJ	Mudanjiang	22.83	50	*e*P		P	08 36 45.3	-0.3	
	comp=Z,228nm,2.0s								
VLA	Vladivostok	23.84	55	⇓*e*P		P	08 36 54.8	-0.7	
VLA				*i* *PP		pP	08 37 05.5	+0.6	
VLA				*e*			08 37 24.1		
VLA				*e*S		S	08 41 08.7	-0.5	
VLA				pmax	pmax				
	comp=Z,26nm,0.7s								
USRK	Ussuriysk Ar.	24.26	53	P		P	08 36 58.9	-0.5	
	comp=Z,7.5nm,0.9s,baz=251,slow=9.3,SNR=33								
KSH	Kashi	24.44	295	P		P	08 37 05.3	+4.0	
KSH				PcP		PcP	08 40 44.0	+4.4	
KSH				S		S	08 41 17.5	-1.8	
KSH				SS		SnSn	08 42 20.3	+16	
KSH				PMZ					
	comp=Z,17nm,1.2s								
KSH				PMZ					
	comp=Z,390nm,7.9s								
KSH				LN					
	comp=Z,2μm,13.0s								
KSH				LE					
	comp=Z,3μm,15.1s								
KRAB	Krabi	24.52	194	P		P	08 37 03.1	+1.1	
	comp=Z,55nm,0.7s,comp=Z,533nm								
ZALV	Zalesovo Beam	25.97	332	P		P	08 37 14.6	-0.2	
	comp=Z,4.5nm,0.6s,baz=132,slow=9.6,SNR=24								
ZALV	Zalesovo Beam	25.97	332	*i* P		P	08 37 14.6	-0.2	
ZALV				pmax	pmax				
	comp=Z,5.0nm,0.6s								
KURBB	Kurchatov Arra	26.72	321	P		P	08 37 21.3	-0.4	
	comp=Z,6.4nm,0.9s,baz=130,slow=8.8,SNR=47								
KURBB				PcP		PcP	08 40 44.4	0.0	
	comp=Z,1.3nm,0.6s,baz=121,slow=2.2,SNR=5.6								
KURK	Kurchatov	26.73	321	P		P	08 37 21.3	-0.4	
KURK							08 40 44.4		
KURK				pmax	pmax				
	comp=Z,6.0nm,0.9s								
KURK				pmax	pmax				
	comp=Z,1.0nm,0.6s								
KURK	Kurchatov	26.73	321	*e*P		P	08 37 21.4	-0.4	
KURK				PcP		PcP	08 40 44.4	0.0	
NVS	Novosibirsk	27.26	332	*e*P		P	08 37 24.8	-1.6	
MAJO	Matsushiro	27.73	72	P		P	08 37 29.0	-1.9	
MAJO				pmax	pmax				
	comp=Z,38nm,0.7s								
MAT	Matsushiro	27.73	72	P		P	08 37 28.9	-2.0	
MJAR	Matsushiro Arr	27.73	72	P		P	08 37 29.3	-1.6	
	comp=Z,3.1nm,0.6s,baz=271,slow=10,SNR=12								
MJAR	Matsushiro Arr	27.73	72	P		P	08 37 29.3	-1.6	
MJAR				pmax	pmax				
	comp=Z,3.0nm,0.6s								
HABR	Khabarovsk	27.85	46	*e*P		P	08 37 29.5	-2.3	
HABR				*e**PP		pP	08 37 40.4	-0.9	
HABR				*e**SP		sP	08 37 45.4	+0.1	
HABR				*e*PPP		PPP	08 38 25.6		
HABR				*e*			08 40 44.4		
HABR				*e*S		S	08 42 10.8	-2.0	
HABR				*e**SS		sS	08 42 30.0	+1.5	
HABR				*e*SS		SnSn	08 43 27.5	0.0	
HABR				*e*			08 48 14.9		
HABR				pmax	pmax				
	comp=Z,58nm,2.1s								
HABR				MLR	MLR				
	comp=Z,2μm,18.0s								
KKAR	Karatay Array	29.09	302	*e*P		P	08 37 43.4	+0.5	
PSI	Prapat	29.86	192	P		P	08 37 50.4	+0.3	
	comp=Z,10.0nm,0.8s,baz=6.8,slow=7.1,SNR=6.7								
PSI	Prapat	29.86	192	P		P	08 37 50.4	+0.3	
PSI				pmax	pmax				
	comp=Z,10.0nm,0.8s								
PSI	Prapat	29.86	192	*e*P		P	08 37 50.8	+0.7	
YSS	Yuzh-Sakhalins	32.29	52	⇓*e*P		P	08 38 10.0	-1.1	
BVAR	Borovoye Array	32.30	320	P		P	08 38 09.9	-1.2	
	comp=Z,3.2nm,0.7s,baz=119,slow=12,SNR=13								
BVAR	Borovoye Array	32.30	320	P		P	08 38 09.9	-1.2	
BVAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
BRVK	Borovoye	32.37	320	⇑*i*P		P	08 38 12.8	+1.1	
BRVK				pmax	pmax				
	comp=Z,16nm,2.5s								
YAK	Yakutsk	33.77	21	*e*P		P	08 38 24.3	+0.5	
YAK				pmax	pmax				
	comp=Z,16nm,0.7s								
MDSI	Maura Dua	36.57	181	P		P	08 38 49.1	+0.7	
	comp=Z,35nm,1.3s								
KLSI		36.77	180	P		P	08 38 50.0	-0.1	
	comp=Z,31nm,1.0s								
ABKAR	Akbulak array	37.41	310	*e*P		P	08 38 55.5	+0.3	
TTSI	Tana Toraja	37.88	155	P		P	08 39 01.9	+2.4	
	comp=Z,23nm,1.4s,comp=Z,1μm								
GEYT	Alibeck	38.36	292	P		P	08 39 04.6	+1.1	
	comp=Z,11nm,0.9s,baz=86,slow=4.6,SNR=14								
SPSI	Sidrap Palu	38.72	156	P		P	08 39 09.4	+2.8	
	comp=Z,18nm,1.5s								
SVE	Sverdlovsk	38.96	322	⇓*i*P		P	08 39 09.6	+1.4	
SVE				pmax	pmax				
	comp=Z,26nm,1.4s								
KPJI	Karang Pucung	39.58	174	P		P	08 39 16.5	+2.8	
	comp=Z,75nm,0.8s								
ARU	Arti	39.92	321	*d i*P		P	08 39 16.7	+0.5	
ARU				S		S	08 45 21.5	+2.6	
ARU				SS		SS	08 48 14.5	-1.5	
ARU				pmax	pmax				
	comp=Z,36nm,1.0s								
ARU	Arti	39.92	321	*e*P		P	08 39 16.6	+0.4	
	comp=Z,24nm,0.7s								
TIXI	Tiksi	41.47	11	⇓*i*P		P	08 39 28.1	-0.6	
TIXI				pmax	pmax				
	comp=Z,24nm,1.6s								
TIXI				MLR	MLR				
	comp=Z,1μm,18.0s								
TIXI	Tiksi	41.47	11	*e*P		P	08 39 27.7	-1.0	
	comp=Z,3.8nm,0.5s								
SOKR	Solikamsk	41.81	325	*e*P		P	08 39 32.2	+0.6	
SOKR				pmax	pmax				
	comp=Z,10.0nm,0.6s								
SEY	Seymchan	42.73	30	P		P	08 39 38.3	-0.9	
	comp=Z,2.6nm,0.6s,baz=253,slow=4.4,SNR=5.9								
SEY	Seymchan	42.73	30	*ce*P		P	08 39 38.9	-0.3	
PETK	Petropavlovsk-	42.88	45	P		P	08 39 39.9	-0.6	
	comp=Z,6.9nm,0.8s,baz=214,slow=5.9,SNR=9.2								
PETK	Petropavlovsk-	42.88	45	P		P	08 39 39.9	-0.6	
PETK				pmax	pmax				
	comp=Z,7.0nm,0.8s								
PET	Petropavlovsk	43.44	45	*e*P		P	08 39 44.1	-0.9	
PET				pmax	pmax				
	comp=Z,15nm,1.3s								
GNI	Garni	48.35	297	P		P	08 40 26.0	+1.8	
GNI				pmax	pmax				
	comp=Z,17nm,1.6s								
GOF	Gofitskoye	48.84	304	*e*P		P	08 40 27.3	-0.3	
KBZ	Khabaz	49.12	302	P		P	08 40 29.9	+0.1	
	comp=Z,2.5nm,0.6s,baz=138,slow=6.3,SNR=5.2								
KBZ	Khabaz	49.12	302	P		P	08 40 29.9	+0.1	
KBZ				pmax	pmax				
	comp=Z,3.0nm,0.6s								
KIV	Kislovodsk	49.24	302	*e*P		P	08 40 32.0	+1.1	
KIV				pmax	pmax				
	comp=Z,20nm,1.1s								
VRHR	Novokhopersk	49.25	312	*e*P		P	08 40 30.0	-0.6	
VRHR				pmax	pmax				
	comp=Z,20nm,0.8s								
VRHR				pmax	pmax				
	comp=N,7.0nm,0.4s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.6s								
VORD	Divnogorie	50.72	312	*e*P		P	08 40 30.8	-11	
VORD				pmax	pmax				
	comp=E,20nm,0.5s								
VORD				pmax	pmax				
	comp=Z,10.0nm,0.5s								
VORD				pmax	pmax				
	comp=N,70nm,0.7s								
VSR	Storozhevoye	50.78	312	*e*P		P	08 40 35.3	-7.0	
VSR				pmax	pmax				
	comp=Z,10.0nm,1.5s								
VSR				pmax	pmax				
	comp=N,10.0nm,1.2s								
VSR				pmax	pmax				
	comp=E,6.0nm,0.7s								
TMCR	Tamitsa	51.41	329	*e*P		P	08 40 46.9	+0.1	
TMCR				pmax	pmax				
	comp=Z,40nm,1.3s								
MOS	Moscow	51.43	318	*e*P		P	08 40 43.1	-4.0	
MOS				pmax	pmax				
	comp=Z,37nm,0.7s								
OBN	Obninsk	52.06	317	⇑*i*P		P	08 40 52.3	+0.5	
OBN				pmax	pmax				
	comp=Z,17nm,1.2s								
RAYN	Ar Rayn	52.64	276	*e*P		P	08 40 56.3	-0.3	
	comp=Z,7.6nm,1.2s								
MALT	Malatya	53.54	296	⇓*i*P		P	08 41 04.9	+1.7	
KEV	Kevo	55.93	336	*e*P		P	08 41 19.4	-0.5	
	comp=Z,15nm,1.1s								
ARCES	ARCESS Array B	56.46	335	P		P	08 41 22.9	-0.8	
	comp=Z,6.4nm,0.8s,baz=83,slow=6.9,SNR=25								
ARCES	ARCESS Array B	56.46	335	P		P	08 41 22.9	-0.8	
ARCES				pmax	pmax				
	comp=Z,6.0nm,0.8s								
BRTR	Keskin Array B	56.75	299	P		P	08 41 26.0	-0.3	
	comp=Z,3.1nm,0.9s,baz=97,slow=6.9,SNR=15								
BRTR	Keskin Array B	56.75	299	*i* P		P	08 41 26.2	-0.2	
BRTR				pmax	pmax				
	comp=Z,3.0nm,0.9s								
FINES	FINESS Array B	56.97	326	P		P	08 41 26.6	-0.7	
	comp=Z,22nm,1.1s,baz=104,slow=7.4,SNR=34								
FINES	FINESS Array B	56.97	326	*i* P		P	08 41 26.8	-0.5	
FINES				pmax	pmax				
	comp=Z,22nm,1.1s								
AKASG	Malin Array Be	57.07	313	P		P	08 41 27.9	-0.3	
	comp=Z,2.3nm,0.5s,baz=68,slow=6.4,SNR=11								
AKASG	Malin Array Be	57.07	313	*i* P		P	08 41 27.8	-0.5	
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.5s								
KIEV	Kiev	57.09	313	⇑*i*P		P	08 41 28.2	-0.1	
KIEV	Kiev	57.09	313	*e*P		P	08 41 28.2	-0.1	
	comp=Z,7.5nm,1.0s								
WRAB	Tennant Creek	59.09	147	⇑*i*P		P	08 41 43.2	+0.5	
WRAB				pmax	pmax				
	comp=Z,50nm,0.6s								
WRAB	Tennant Creek	59.09	147	*e*P		P	08 41 42.9	+0.2	
WRA	Warramunga Arr	59.09	147	P		P	08 41 41.8	-0.9	
	comp=Z,13nm,0.7s,baz=340,slow=7.3,SNR=121								
WRA	Warramunga Arr	59.09	147	P		P	08 41 41.8	-0.9	
WRA				pmax	pmax				
	comp=Z,13nm,0.7s								
CFR	Carcaliu	59.13	307	⇑*i*P		P	08 41 43.3	+0.5	
TIRR	Tirgusor	59.15	306	⇑*i*P		P	08 41 43.2	+0.3	
PSN	Preselentsi	59.53	305	⇓*i*P		P	08 41 46.9	+1.4	
MSAB	Monastry St. A	59.66	306	⇑*i*P		P	08 41 47.3	+0.9	
VRI	Vrincioaia	59.89	308	⇑*i*P		P	08 41 49.0	+1.0	
PLOR	Plostina	59.95	308	⇑*i*P		P	08 41 50.4	+2.0	
ISR	Istrita	60.23	307	⇓*i*P		P	08 41 52.6	+2.2	
BURAR	Bucovina Array	60.39	310	⇑*i*P		P	08 41 52.2	+0.7	
MLR	Muntele Rosu	60.53	308	⇓*i*P		P	08 41 53.9	+1.4	
JMB	Yambol	61.02	304	⇑*i*P		P	08 41 56.6	+0.9	
VOIR		61.14	308	⇑*i*P		P	08 41 57.1	+0.4	
KOLS	Kolonicke sedl	61.88	312	*e*P		P	08 42 01.3	-0.2	
KOLS	Kolonicke sedl	61.88	312	*e*P		P	08 42 01.3	-0.2	
ALN	Alexandroupoli	61.91	303	*e*P		P	08 42 02.0	+0.2	
KDZ	Kurdzhali	62.10	304	⇑*i*P		P	08 42 04.4	+1.3	
ASAR	Alice Springs	62.16	150	P		P	08 42 03.1	-0.5	
	comp=Z,5.5nm,0.7s,baz=341,slow=6.9,SNR=56								
ASAR	Alice Springs	62.16	150	P		P	08 42 03.1	-0.5	
ASAR				pmax	pmax				
	comp=Z,6.0nm,0.7s								
DRGR		62.27	310	⇑*i*P		P	08 42 05.4	+1.2	
STHS	Stebnicka Huta	62.37	313	*e*P		P	08 42 05.6	+0.8	
STHS	Stebnicka Huta	62.37	313	*e*P		P	08 42 05.6	+0.8	
SMTH	Samothraki Isl	62.42	302	*e*P		P	08 42 02.5	-2.8	
SMG	Samos	62.43	299	*e*P		P	08 42 06.5	+1.1	
GZR	Gura Zlata	62.67	308	⇑*i*P		P	08 42 07.7	+0.8	
CHOS	Chios island	62.77	300	*e*P		P	08 42 08.0	+0.3	
OJC	Ojcow	63.01	314	*e*P		P	08 42 10.3	+1.3	
VTS	Vitosha	63.33	305	⇑*i*P		P	08 42 12.4	+1.0	
NB2	NORSAR Subarra	64.03	327	P		P	08 42 14.0	-1.6	
	comp=Z,6.1nm,0.7s,baz=72,slow=6.9								
NOA	NORSAR Array B	64.03	327	P		P	08 42 14.2	-1.4	
	comp=Z,7.7nm,0.8s,baz=71,slow=6.8,SNR=25								
NOA	NORSAR Array B	64.03	327	P		P	08 42 14.2	-1.4	
NOA				pmax	pmax				
	comp=Z,8.0nm,0.9s								
KNT	Kendrikon	64.05	304	*e*P		P	08 42 15.5	-0.5	
GRG	Griva	64.47	304	*e*P		P	08 42 18.0	-0.9	
MORC	Moravsky Berou	64.53	314	⇑*i*P		P	08 42 20.1	+1.0	
LIT	Litokhoron	64.73	303	*e*P		P	08 42 17.5	-3.0	
DIVS	Divibare	64.98	308	⇑*i*P		P	08 42 22.1	-0.1	
PKSM	Moragy	65.11	310	⇓*i*P		P	08 42 23.7	+0.9	
DID	Didima	65.16	300	*e*P		P	08 42 31.0	+7.6	
AGG	Agios Georgios	65.25	302	*e*P		P	08 42 23.0	-0.9	
AGG	Agios Georgios	65.25	302	*e*P		P	08 42 23.4	-0.5	
	comp=Z,17nm,0.8s								
MAKR	Makrakomi, Fth	65.39	302	*e*P		P	08 42 24.0	-0.9	
CTA	Charters Tower	65.42	137	P		P	08 42 24.2	-0.9	
	comp=Z,1.4nm,0.4s,baz=322,slow=13,SNR=3.9								
CTA	Charters Tower	65.42	137	P		P	08 42 24.2	-0.9	
CTA				pmax	pmax				
	comp=Z,1.0nm,0.4s								
NEST	Nestorio	65.63	304	*e*P		P	08 42 25.5	-1.0	
EVR	Evrytania	65.66	302	*e*P		P	08 42 26.5	-0.2	
VLI	Velia	65.69	299	*e*P		P	08 42 25.0	-1.8	
EFP	Efpalio	65.78	301	*e*P		P	08 42 21.0	-6.3	
EFP	Efpalio	65.78	301	*e*P		P	08 42 21.0	-6.3	
DSL	Palaion Diasel	66.09	302	*e*P		P	08 42 28.5	-0.8	
COLD	Coldfoot	66.12	24	*e*P		P	08 42 29.1	+0.1	
	comp=Z,15nm,1.2s								
CSNA	Conrad Observa	66.23	313	⇑*i*P		P	08 42 30.3	+0.1	
	comp=Z,3.4nm,0.7s								
BRG	Berggiesshubel	66.28	316	*e*P		P	08 42 30.2	-0.1	
	comp=Z,5.6nm,1.1s								
BRG	Berggiesshubel	66.28	316	*e*P		P	08 42 30.2	-0.1	
BRG				pmax	pmax				
	comp=Z,6.0nm,1.1s								
PYL	PYLOS	66.50	300	*e*P		P	08 42 35.5	+3.5	
SGD	Sagiada	66.52	303	*e*P		P	08 42 30.5	-1.5	
CLL	Collm	66.66	317	*i* P		P	08 42 33.0	+0.3	
CLL	Collm	66.66	317	*i* P		P	08 42 33.0	+0.3	
KEK	Kerkira	66.79	303	*e*P		P	08 42 42.0	+8.2	
SFD	Strofades	66.89	300	*e*P		P	08 42 37.5	+3.1	
CAST	Castle Rocks	67.12	28	*e*P		P	08 42 27.4	-8.1	
	comp=Z,46nm,2.2s								
GERES	GERESS Array B	67.21	314	P		P	08 42 35.6	-0.8	
	comp=Z,2.7nm,0.8s,baz=64,slow=6.1,SNR=16								
GERES	GERESS Array B	67.21	314	P		P	08 42 35.6	-0.8	
GERES				pmax	pmax				
	comp=Z,3.0nm,0.8s								
SOKA	Soboth	67.24	312	⇓*i*P		P	08 42 36.8	+0.2	
	comp=Z,7.9nm,1.1s								
BPAW	Bear Paw Mtn.	67.24	28	*e*P		P	08 42 36.4	+0.1	
PPLA	Purkeypile	67.31	29	*e*P		P	08 42 36.5	-0.4	
	comp=Z,47nm,1.4s								
BWN	Browne	67.80	27	*e*P		P	08 42 33.3	-6.5	
	comp=Z,99nm,0.7s								
COLA	College	68.07	26	*c i*P		P	08 42 41.1	-0.3	
COLA	College	68.07	26	*e*P		P	08 42 41.5	+0.1	
KBA	Koelnbreinsper	68.14	313	⇑*i*P		P	08 42 42.8	+0.4	
	comp=Z,7.5nm,1.0s								
ILAR	Eielson Array	68.48	26	P		P	08 42 42.9	-1.2	
	comp=Z,2.7nm,1.0s,baz=286,slow=5.9,SNR=29								
ILAR	Eielson Array	68.48	26	P		P	08 42 42.9	-1.2	
ILAR				pmax	pmax				
	comp=Z,3.0nm,1.0s								
PMR	Palmer	69.19	29	*e*P		P	08 42 47.5	-0.9	
	comp=Z,6.1nm,0.6s								
SML	Sawmill	69.41	29	*e*P		P	08 42 49.1	-0.8	
	comp=Z,1.8nm,0.6s								
KDAK	Kodiak Island	69.48	34	*i* P		P	08 42 50.0	-0.3	
KDAK	Kodiak Island	69.48	34	*e*P		P	08 42 49.8	-0.5	
	comp=Z,25nm,1.2s								
FETA	Feichten	69.78	313	⇑*i*P		P	08 42 52.2	-0.4	
	comp=Z,8.3nm,1.0s								
PAX	Paxson	69.95	27	*e*P		P	08 42 52.7	-0.6	
	comp=Z,14nm,1.5s								
DAVA	Damuels	70.19	314	⇑*i*P		P	08 42 55.4	+0.3	
	comp=Z,3.0nm,0.5s								
FUORN	Ofenpass-Fuorn	70.25	313	*e*P		P	08 42 55.9	+0.4	
	comp=Z,11nm,1.2s								
EGAK	Eagle	70.55	25	*e*P		P	08 42 55.1	-1.6	
	comp=Z,5.4nm,1.0s								
BFO	Black Forest	70.65	315	*i* P		P	08 42 58.5	+0.8	
EYAK	Cordova Ski Ar	71.13	30	*e*P		P	08 43 00.9	+0.6	
	comp=Z,15nm,1.0s								
BMRM	Bremner River	71.38	29	*e*P		P	08 43 02.3	+0.3	
	comp=Z,16nm,0.8s								
DAWY	Dawson	71.59	25	*e*P		P	08 43 02.6	-0.6	
SENIN	Lac Senin/Sane	72.18	314	*e*P		P	08 43 08.1	+0.8	
	comp=Z,4.0nm,0.8s								
SUMG	Summit	72.41	349	*i* P		P	08 43 08.1	-0.3	
	comp=Z,6.2nm,1.0s								
SUMG	Summit	72.41	349	*i* P		P	08 43 08.1	-0.3	
SUMG				pmax	pmax				
	comp=Z,6.0nm,1.0s								
SUMG	Summit	72.41	349	*e*P		P	08 43 08.0	-0.4	
STKA	Stephens Creek	72.64	148	P		P	08 43 09.1	-0.6	
	comp=Z,5.3nm,0.8s,baz=315,slow=6.1,SNR=13								
STKA	Stephens Creek	72.64	148	P		P	08 43 09.1	-0.6	
STKA				pmax	pmax				
	comp=Z,5.0nm,0.8s								
BNI	Bardonecchia	73.19	313	*e*P		P	08 43 12.5	-0.7	
	comp=Z,4.6nm,0.9s								
HYT	Haines Junctio	74.27	27	*e*P		P	08 43 19.3	+0.1	
	comp=Z,21nm,1.2s								
YKA	Yellowknife Ar	80.37	17	P		P	08 43 52.9	-0.2	
	comp=Z,2.6nm,0.7s,baz=320,slow=4.6,SNR=11								
YKA	Yellowknife Ar	80.37	17	P		P	08 43 52.9	-0.2	
YKA				pmax	pmax				
	comp=Z,3.0nm,0.7s								
ESDC	Sonseca Array	82.72	313	P		P	08 44 06.4	+0.3	
	comp=Z,0.2nm,0.3s,baz=40,slow=5.0,SNR=6.2								
SLMT	Seeley Lake	93.63	25	*e*P		P	08 44 57.9	-0.7	
	comp=Z,7.5nm,1.2s								
TORD	Torodi Ar. Bea	93.91	288	P		P	08 44 60.0	-0.3	
	comp=Z,0.7nm,0.7s,baz=50,slow=3.4,SNR=5.7								
OTAV	Otavalo	147.50	6	*e*PKPdf		PKPbc	08 51 26.7	-0.7	

MEX 30 08:34:58.5±0.4, 16°19N×98°05W, h4^{km}±3^{km}, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.22	339	*i* P		Pg	08 35 02.7	-0.2
PNIG				*i* S		Sg	08 35 05.7	0.0
TLIG	Tlapa	1.46	340	*i* P		Pn	08 35 22.2	-3.7
TLIG				*e*S		Sb	08 35 40.3	-5.2
VHO	Vista Hermosa	1.54	55	*e*P		Pn	08 35 23.0	-4.0
VHO				*i* S		Sn	08 35 42.8	-4.8
HUIG

BBIL	**Ulba Tungurahu**	**2.74**	**89**	P		**Pn**	**09 07 18.1**	**-0.2**
BMAS	**Trigal station**	**2.74**	**90**	⇓P		**Pn**	**09 07 18.2**	**-0.2**
BRUN	**Tungurahua Vol**	**2.81**	**88**	P		**Pn**	**09 07 19.9**	**+0.6**
BULB	**Ulba Tungurahu**	**2.81**	**88**	⇑S		**Sn**	**09 07 52.2**	**-1.3**
BULB	**Ulba Tungurahu**	**2.81**	**88**	⇑P		**Pn**	**09 07 20.9**	**+1.5**
BMOR	**Cotopaxi Volca**	**2.87**	**74**	P		**Pn**	**09 07 19.4**	**-0.9**
BREF	**Cotopaxi Volca**	**2.91**	**73**	P		**Pn**	**09 07 20.5**	**-0.4**
BTAM	**Cotopaxi Volca**	**2.95**	**73**	P		**Pn**	**09 07 20.4**	**-1.0**
MACE	**Macas**	**3.11**	**104**	P		**Pn**	**09 07 24.7**	**+1.4**
OTAV	**Otavalo**	**3.28**	**58**	*e*Pn		**Pn**	**09 07 25.7**	**-0.2**
OTAV				*e*Sn		**Sn**	**09 08 06.6**	**+1.6**
URCU	**Urcuqui**	**3.55**	**57**	⇑P		**Pn**	**09 07 30.8**	**+1.3**
LITE	**Lita**	**3.68**	**51**	P		**Pn**	**09 07 30.6**	**-0.4**
ATAH	**Atahualpa**	**6.25**	**153**	P		Pn	09 08 10.8	+4.1
	2.0nm,0.3s,baz=18,slow=7.4,SNR=16							
ROSC	**El Rosal**	**9.36**	**47**	P		Pn	09 08 56.0	+6.6
	0.8nm,0.3s,baz=240,slow=5.5,SNR=4.9							
ROSC	**El Rosal**	**9.36**	**47**	*e*Pn		**Pn**	**09 08 50.1**	**+0.7**
NNA	**Nana**	**11.27**	**158**	P		**Pn**	**09 09 17.7**	**+2.4**
	5.0nm,0.3s,baz=321,slow=9.5,SNR=7.3							
NNA	**Nana**	**11.27**	**158**	*e*Pn		**Pn**	**09 09 17.8**	**+2.6**
NNA				*e*Sn		**Sn**	**09 11 18.9**	**-2.4**
SDV	**Santo Domingo**	**14.78**	**45**	Pn		**Pn**	**09 10 04.6**	**+1.3**
	8.3nm,0.8s							
SAML	**Samuel**	**19.41**	**113**	*e*P		**P**	**09 10 59.7**	**-0.8**
	13nm,0.8s							
LPAZ	**La Paz**	**19.54**	**139**	P		**Pn**	**09 11 04.0**	**+0.3**
	0.1nm,0.3s,baz=322,slow=12,SNR=7.9							
LPAZ				LR		LR	09 19 49.9	
	comp=Z,286nm,19.3s,baz=37,slow=41							
PCRV	**Puerto La Cruz**	**20.19**	**55**	P		**P**	**09 11 10.1**	**+1.0**
	9.7nm,0.6s,baz=41,slow=14,SNR=3.6							
PTGA	**Pitinga**	**21.27**	**88**	P		**P**	**09 11 22.3**	**+1.6**
	1.6nm,0.7s,baz=244,slow=12,SNR=6.2							
SIV	**San Ignacio**	**24.52**	**127**	P		**P**	**09 11 54.5**	**+0.6**
	1.5nm,0.8s,baz=300,slow=9.9,SNR=3.8							
BDFB	**Brasilia**	**35.62**	**115**	P		**P**	**09 13 30.0**	**-2.4**
	1.3nm,0.5s,baz=22,slow=21,SNR=4.1							
ULM	**Lac du Bonnet**	**53.08**	**348**	P		**P**	**09 15 52.5**	**+1.1**
	3.3nm,0.5s,baz=168,slow=7.4,SNR=6.4							
TORD	**Torodi Ar. Bea**	**83.45**	**77**	P		**P**	**09 19 01.4**	**-1.1**
	0.4nm,0.8s,baz=263,slow=4.0,SNR=2.7							
ASAR	**Alice Springs**	**137.66**	**232**	PKP		**PKPdf**	**09 25 57.8**	**-1.6**
	0.2nm,0.6s,baz=116,slow=2.2,SNR=3.2							
WRA	**Warramunga Arr**	**139.12**	**237**	PKP		**PKPdf**	**09 25 59.5**	**-2.5**
	0.4nm,0.8s,baz=116,slow=2.4,SNR=2.8							

MEX 30 09:15:15.2±0.4, 16°21N×97°99W, h9km±3km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.23**	**323**	*i* P		Pg	09 15 19.6	-0.3
PNIG				*i* S		Sg	09 15 22.8	-0.2
TLIG	**Tlapa**	**1.46**	**338**	*i* P		Pn	09 15 38.2	-3.7
TLIG				*i* S		Sn	09 15 56.1	-5.2
HUIG	**Huatulco**	**1.86**	**103**	*e*P		Pn	09 15 44.7	-2.5
HUIG				*e*S		Sn	09 16 05.5	-5.3

IDC 30 09:28:57.6±10.0, 23°67S×179°83W, h388km±110km, mb3.5/12, mb1 3.7/12, mb1mx3.5/29, mbtmp4.3/12, Error ellipse: s-maj=41.3km s-min=32.0km az=13.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**31.63**	**270**	P		P	09 34 48.4	+1.8
	11nm,0.4s,baz=92,slow=12							
STKA	**Stephens Creek**	**34.95**	**248**	P		P	09 35 14.8	0.0
	1.5nm,0.5s,baz=93,slow=7.0,SNR=6.9							
ASAR	**Alice Springs**	**42.23**	**260**	P		P	09 36 14.1	-0.7
	2.4nm,0.5s,baz=97,slow=6.9,SNR=40							
WRA	**Warramunga Arr**	**42.58**	**266**	P		P	09 36 16.6	-0.9
	7.7nm,0.6s,baz=100,slow=8.4,SNR=121							
JAY	**Jayapura**	**43.57**	**293**	P		P	09 36 26.1	+0.6
	7.4nm,0.5s,baz=88,slow=3.7,SNR=6.9							
SIJI	**Sorong**	**52.51**	**288**	P		P	09 37 31.8	-1.2
	16nm,0.7s,baz=288,slow=19,SNR=4.0							
MJAR	**Matsushiro Arr**	**71.80**	**325**	P		P	09 39 38.7	-0.5
	1.1nm,0.8s,baz=165,slow=7.0,SNR=4.1							
KSRS	**Korea Array**	**78.17**	**320**	P		P	09 40 15.3	+0.1
	0.4nm,0.3s,baz=134,slow=6.1,SNR=4.4							
USRK	**Ussuriysk Ar.**	**80.66**	**327**	P		P	09 40 28.4	+0.1
	0.5nm,0.5s,baz=201,slow=2.8,SNR=4.0							
NVAR	**Mina Array Bea**	**84.48**	**44**	P		P	09 40 48.4	+0.1
	0.2nm,0.5s,baz=234,slow=5.7,SNR=3.6							
TXAR	**Lajitas Array**	**90.18**	**58**	P		P	09 41 15.7	+0.3
	1.0nm,0.8s,baz=211,slow=6.2,SNR=8.8							
PDAR	**Pinedale Array**	**92.42**	**44**	P		P	09 41 24.2	-1.4
	0.4nm,0.7s,baz=186,slow=1.5,SNR=3.7							
BRTR	**Keskin Array B**	**147.56**	**308**	PKPbc		PKPbc	09 47 58.0	+0.8
	0.4nm,0.4s,baz=78,slow=3.8,SNR=3.8							

IDC 30 09:37:19.8±3.5, 6°91S×148°76E, h0km, mb3.4/1, mb1 3.6/2, mb1mx3.2/29, mbtmp3.3/2, ML3.4/1, Error ellipse: s-maj=115.7km s-min=46.7km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.07**	**226**	P		P	09 41 43.4	-0.6
	0.1nm,0.3s,baz=52,slow=11,SNR=7.2							
ASAR	**Alice Springs**	**21.94**	**219**	P		P	09 42 15.9	+0.8
	1.1nm,0.6s,baz=53,slow=9.2,SNR=21							
TORD	**Torodi Ar. Bea**	**147.00**	**283**	PKPbc		PKPdf	09 57 04.4	+0.8
	0.4nm,0.8s,baz=78,slow=3.0,SNR=4.2							

*ISCJB **30** 09:47:21.2±0.6, 22°04S±0.07°×68°71W±0.06°, h134km±6km, mb3.5/2, Error ellipse: s-maj=12.8km s-min=6.7km az=32.5*
*GUC **30** 09:47:21.8±0.8, 22°01S×68°79W, h132km±5km, ML4.2*
*SJA **30** 09:47:25.0±0.6, 22°19S×68°21W, h192km±26km, ML2.7*
*IDC **30** 09:47:38.8±8.0, 20°61S×67°94W, h229km±54km, mb3.1/2, mb1 3.3/4, mb1mx3.1/26, mbtmp3.8/4, Error ellipse: s-maj=95.3km s-min=21.5km az=23.0*

ISC 30 09:47:21.8±0.9, 22°04S±0.05°×68°71W±0.05°, h130km±9km, n20, σ0°99/24, 6C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	**IPOC Station P**	**0.55**	**296**	⇑*i* P		**Pn**	**09 47 41.9**	**+0.5**
PB09				*i* S		**Sn**	**09 47 56.2**	**-0.1**
PB09				AML		AML	09 47 58.7	
	comp=N,19μm,0.2s							
PB04	**IPOC Station P**	**0.76**	**252**	*e*P		Pn	09 47 48.5	+5.8
PB04				*i* S		Sn	09 48 09.6	+11
PB04				AML		AML	09 48 11.4	
	comp=N,2μm,0.2s							
PB07	**IPOC Station P**	**1.14**	**286**	⇑*i* P		**Pn**	**09 47 45.9**	**-0.4**
PB07				*i* S		**Sn**	**09 48 04.8**	**0.0**
PB07				AML		AML	09 48 05.3	
	comp=N,5μm,0.2s							
PB01	**IPOC Station P**	**1.23**	**324**	⇑*i* P		**Pn**	**09 47 47.3**	**+0.2**
PB01				*i* S		**Sn**	**09 48 06.2**	**-0.1**
PB01				AML		AML	09 48 07.7	
	comp=E,5μm,0.3s							
PATCX	**Punta Patache**	**1.81**	**312**	⇑*i* P		**Pn**	**09 47 53.7**	**0.0**
PATCX				*i* S		**Sn**	**09 48 17.6**	**-0.4**
PATCX				AML		AML	09 48 23.5	
	comp=N,1μm,0.1s							
CEN1	**Los Morros**	**1.93**	**225**	⇑*i* P		Pn	09 47 59.3	+4.3
CEN1				*i* S		Sn	09 48 27.6	+7.1
PB10	**IPOC Station P**	**2.25**	**229**	AML		AML	09 48 27.8	
	comp=E,2μm,0.3s							
ANCH	**Antofagasta**	**2.27**	**223**	⇑*i* P		**Pn**	**09 47 59.2**	**+0.1**
ANCH				*i* S		**Sn**	**09 48 27.8**	**0.0**
PB11	**IPOC Station P**	**2.43**	**338**	*e*P		**Pn**	**09 48 01.2**	**-0.2**
PB11				*i* S		**Sn**	**09 48 31.2**	**-0.5**
PB11				AML		AML	09 48 31.6	
	comp=E,2μm,0.2s							
YJA	**Yavi**	**2.96**	**93**	*e*P		**Pn**	**09 48 09.9**	**+1.5**
YJA				*e*S		**Sn**	**09 48 43.4**	**-0.9**
YJA				AML		AML	09 48 49.0	
	comp=Z,26nm,0.6s							
MNMC	**Minimini**	**3.01**	**344**	⇓*i* P		**Pn**	**09 48 08.9**	**+0.1**
HJA	**Humahuaca**	**3.26**	**112**	*e*P		**Pn**	**09 48 13.5**	**+1.3**
AZAP	**Zapla**	**4.00**	**124**	*e*P		**Pn**	**09 48 21.6**	**-0.2**
AZAP				AML		AML	09 49 11.2	
	comp=Z,11nm,0.6s							
ASTB	**Santa Barbara**	**4.33**	**117**	*e*P		**Pn**	**09 48 26.2**	**+0.1**
ALOL	**LOMAS DE OLMED**	**4.71**	**113**	*e*P		**Pn**	**09 48 29.9**	**-1.2**
FSA	**Cafayete**	**4.73**	**149**	*e*P		**Pn**	**09 48 32.7**	**+1.2**
LPAZ	**La Paz**	**5.75**	**6**	P		**Pn**	**09 48 47.5**	**+1.9**
	comp=Z,0.9nm,0.3s,baz=198,slow=4.2,SNR=30							
LPAZ				S		Sn	09 49 39.1	-12
	comp=Z,0.4nm,0.3s,baz=203,slow=12,SNR=4.9							
BDFB	**Brasilia**	**20.58**	**76**	P		**P**	**09 51 48.3**	**-2.4**
	comp=Z,0.8nm,0.3s,baz=264,slow=9.2,SNR=4.5							
TXAR	**Lajitas Array**	**61.17**	**325**	P		**P**	**09 57 24.1**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=137,slow=6.8,SNR=2.7							
TORD	**Torodi Ar. Bea**	**77.36**	**70**	P		**P**	**09 59 03.0**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=257,slow=5.4,SNR=27							

IDC 30 09:49:56.9±1.6, 3°59S×151°95E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/31, mbtmp3.5/3, MS3.9/1, Ms1 3.9/1, ms1mx3.0/24, Error ellipse: s-maj=115.0km s-min=25.6km az=125.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.65**	**225**	P		P	09 55 11.1	+1.0
	1.0nm,0.5s,baz=52,slow=10,SNR=18							
WRA				PcP		PcP	09 58 54.4	-0.7
	0.5nm,0.8s,baz=48,slow=2.5,SNR=5.0							
ASAR	**Alice Springs**	**26.50**	**220**	P		P	09 55 36.6	+0.3
	0.2nm,0.5s,baz=58,slow=9.1,SNR=7.3							
PSI	**Prapat**	**53.38**	**276**	LR		LR	10 22 31.9	
	comp=Z,125nm,20.5s,slow=37							
ILAR	**Eielson Array**	**81.37**	**22**	P		P	10 02 13.9	-1.3
	0.5nm,0.8s,baz=258,slow=5.7,SNR=7.7							
TORD	**Torodi Ar. Bea**	**149.11**	**290**	PKPbc		PKPbc	10 09 48.5	+0.2
	0.5nm,0.3s,baz=87,slow=2.2,SNR=15							

MEX 30 09:53:57.8±0.4, 16°22N×98°07W, h11km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.18**	**341**	*i* P		Pg	09 54 01.2	-0.6
PNIG				*i* S		Sg	09 54 04.2	-0.3
TLIG	**Tlapa**	**1.42**	**340**	*e*P		Pn	09 54 20.3	-3.5
TLIG				*i* S		Sn	09 54 36.9	-5.8
HUIG	**Huatulco**	**1.94**	**103**	*e*P		Pn	09 54 27.4	-3.4
HUIG				*i* S		Sn	09 54 50.2	-4.9

*ISCJB **30** 09:57:19.5±0.7, 32°10N±0.03°×115°02W±0.05°, h22km±6km, Error ellipse: s-maj=7.3km s-min=4.7km az=176.1*
*ECX **30** 09:57:21.0±0.4, 32°09N×115°08W, h9km, MD2.4, ML2.6*
*MEX **30** 09:57:22.1±0.9, 32°13N×115°07W, h10km±999km, MD3.5*

ISC 30 09:57:19.6±1.2, 32°08N±0.03°×115°06W±0.05°, h26km±13km, n16, σ0°42/27, 4C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.40**	**328**	⇑*e*P		**Pb**	**09 57 28.3**	**+0.1**
CPBX				⇓*e*P		**Pb**	**09 57 28.3**	**+0.1**
CPBX				*e*S		**Sb**	**09 57 34.0**	**-0.1**
CPBX				IAML			09 57 38.1	
	comp=N,2μm,0.4s							
CPBX				*e*			09 57 38.1	
ECBX	**El Chinero**	**0.61**	**180**	⇓*e*P		**Pb**	**09 57 31.0**	**-0.7**
ECBX				*e*S		**Sb**	**09 57 39.6**	**-0.3**
YMD	**Yuma Desert**	**0.64**	**42**	⇑*i* P		**Pb**	**09 57 32.2**	**0.0**
EMSC	**East Mesa**	**0.66**	**5**	*e*Pn		**Pb**	**09 57 32.7**	**+0.1**
RDX	**Rancho Dawling**	**0.77**	**259**	*e*P		**Pb**	**09 57 34.0**	**-0.5**
RDX				*e*S		**Sb**	**09 57 44.5**	**-0.1**
RDX				⇑*e*			09 57 45.7	
RDX				IAML			09 57 45.7	
	comp=N,113nm,0.3s							
COA	**Coachella**	**0.78**	**356**	*e*Pn		**Pb**	**09 57 34.2**	**-0.4**
SGL	**Mount Signal**	**0.80**	**315**	⇑*i* P		**Pb**	**09 57 34.8**	**-0.1**
WESC	**Westside Schoo**	**0.89**	**320**	*e*Pn		**Pb**	**09 57 36.5**	**+0.1**
YUH	**Yuha Desert**	**0.93**	**308**	*e*Pn		**Pb**	**09 57 36.5**	**-0.5**
RMX	**La Rumorosa**	**1.01**	**301**	*e*P		**Pn**	**09 57 38.2**	**-0.1**
RMX				*e*S		**Sb**	**09 57 51.4**	**-0.1**
RMX				*e*			09 57 52.4	
RMX				IAML			09 57 52.4	
	comp=N,172nm,0.1s							
SPIG	**San Pedro Mart**	**1.09**	**199**	*e*P		**Pb**	**09 57 40.4**	**+0.4**
SPIG				*i* S		**Sb**	**09 57 53.8**	**-0.1**
SPX	**San Pedro Mart**	**1.09**	**199**	*e*P		**Pb**	**09 57 40.4**	**+0.3**
SPX				*e*S		**Sb**	**09 57 54.6**	**+0.7**
ECNX	**Esteban Cantu**	**1.38**	**253**	*e*P		**Pb**	**09 57 44.6**	**-0.2**
ECNX				*e*S		**Sb**	**09 58 02.9**	**+0.9**
CBX	**Cerro Bola**	**1.38**	**280**	*e*P		**Pn**	**09 57 43.6**	**+0.2**
CBX				*i* S		**Sn**	**09 58 00.6**	**-0.3**
CBX	**Cerro Bola**	**1.38**	**280**	*e*P		**Pb**	**09 57 44.6**	**-0.3**
CBX				*e*S		**Sb**	**09 58 02.6**	**+0.4**
CBX				⇓*e*			09 58 03.5	
CBX				IAML			09 58 03.5	
	comp=N,117nm,0.3s							
PBX	**Punta Banda**	**1.46**	**257**	*e*P		**Pb**	**09 57 45.8**	**-0.4**
PBX				*e*S		**Sb**	**09 58 05.2**	**+0.9**

*IDC **30** 10:03:35.8±0.9, 35°40S×73°06W, h0km, mb4.1/9, mb1 4.1/11, mb1mx4.0/27, mbtmp4.0/11, ML3.5/2, MS3.6/3, Ms1 3.6/3, ms1mx3.5/16, Error ellipse: s-maj=33.4km s-min=17.7km az=102.0*
*GUC **30** 10:03:35.9±0.7, 35°45S×73°48W, h46km±19km, ML4.9*
*ISCJB **30** 10:03:36.4±0.8, 35°39S±0.07°×73°3W±0.1°, h17km, mb4.1/9, MS4.2/1, Error ellipse: s-maj=12.9km s-min=9.7km az=28.1*

ISC 30 10:03:38.3±0.7, 35°40S±0.07°×73°23W±0.06°, h17km, n24, σ1°19/31, mb4.1/9, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TALC	**Talca**	**1.31**	**90**	⇓*i* P		**Pn**	**10 04 00.5**	**-1.3**
TALC				*i* S		**Sg**	**10 04 20.2**	**-0.3**
LNCH	**Linares**	**1.40**	**109**	⇑*i* P		**Pn**	**10 04 02.1**	**-0.9**
LNCH				*i* S		**Sb**	**10 04 22.0**	**+0.4**
NICH	**Los Niches**	**1.69**	**77**	⇓*i* P		**Pn**	**10 04 06.6**	**-0.4**
NICH				*i* S		**Sn**	**10 04 29.2**	**+1.0**
CHCH	**Chadas Angostu**	**2.58**	**56**	*e*P		**Pn**	**10 04 18.9**	**-0.4**
IHA	**Instituto Hidr**	**2.71**	**30**	*e*P		**Pn**	**10 04 19.3**	**-1.8**
CLCH	**Cerro Calan**	**3.00**	**49**	*e*P		**Pn**	**10 04 24.1**	**-1.0**
CLCH				*e*S		**Sn**	**10 05 00.9**	**+0.3**
CLCH				AML		AML	10 05 25.2	
	comp=E,3μm,0.5s							
PEL	**Peldehue**	**3.09**	**44**	*e*P		**Pn**	**10 04 25.8**	**-0.5**
PEL				*e*S		**Sn**	**10 05 03.1**	**+0.2**
PEL				AML		AML	10 05 26.8	
	comp=E,5μm,0.8s							
CFAA	**Coronel Fontan**	**5.63**	**49**	Pn		**Pn**	**10 05 00.4**	**-0.9**
	comp=E,1.0nm,0.3s,baz=228,slow=6.7,SNR=39							
CFAA				Sn		**Sn**	**10 06 06.8**	**+1.1**
	comp=E,1.0nm,0.3s,baz=333,slow=18,SNR=2.9							
CFAA				Lg		Lg	10 06 26.3	
	comp=E,0.4nm,0.3s,baz=84,slow=17,SNR=7.4							
CFAA				LR		LR	10 07 08.4	
	comp=E,75nm,21.7s,baz=232,slow=38							
LVC	**Limon Verde**	**13.29**	**18**	Pn		**Pn**	**10 06 48.7**	**+2.3**
	comp=E,7.5nm,0.3s,baz=216,slow=8.7,SNR=2.2							
CPUP	**Villa Florida**	**16.36**	**61**	Pn		**Pn**	**10 07 28.6**	**+1.4**
	comp=E,0.1nm,0.3s,baz=234,slow=10,SNR=3.4							
CPUP				LR		LR	10 13 47.3	
	comp=E,413nm,20.4s,baz=236,slow=38							
LPAZ	**La Paz**	**19.57**	**15**	P		**Pn**	**10 08 07.2**	**-0.3**
	comp=E,0.1nm,0.3s,baz=173,slow=9.6,SNR=7.3							
SIV	**San Ignacio**	**22.18**	**32**	P		**P**	**10 08 32.2**	**-1.4**
	comp=E,3.8nm,0.7s,baz=225,slow=14,SNR=7.5							
BDFB	**Brasilia**	**29.94**	**55**	P		**P**	**10 09 46.1**	**+0.4**
	comp=E,1.3nm,0.4s,baz=238,slow=8.8,SNR=2.0							
PTGA	**Pitinga**	**36.64**	**23**	P		**P**	**10 10 42.7**	**-1.3**
	comp=E,1.5nm,0.5s,baz=176,slow=15,SNR=3.6							
SNAA	**Sanae**	**50.67**	**157**	P		**P**	**10 12 36.1**	**-0.2**
	comp=E,2.6nm,1.1s,baz=272,slow=6.9,SNR=25							
QSPA	**South Pole Qui**	**54.84**	**180**	P		**P**	**10 13 08.4**	**+1.1**
	comp=E,1.3nm,0.8s,baz=149,slow=5.9,SNR=5.1							
TXAR	**Lajitas Array**	**70.49**	**332**	P		**P**	**10 14 52.8**	**+0.7**
	comp=E,0.4nm,0.6s,baz=152,slow=8.2,SNR=4.7							
DBIC	**Dimbokro**	**76.56**	**72**	P		**P**	**10 15 27.1**	**-0.8**
	comp=E,3.8nm,0.9s,baz=193,slow=11,SNR=3.1							
DBIC				LR		LR	10 46 25.1	
	comp=E,133nm,20.6s,baz=216,slow=34							
BOSA	**Boshof**	**80.29**	**118**	P		**P**	**10 15 47.8**	**-0.8**
	comp=E,4.1nm,0.9s,baz=271,slow=13,SNR=3.8							
TORD	**Torodi Ar. Bea**	**85.61**	**71**	P		**P**	**10 16 14.7**	**-1.4**
	comp=E,1.3nm,0.9s,baz=235,slow=5.9,SNR=6.0							
WRA	**Warramunga Arr**	**119.06**	**210**	PKP		**PKPdf**	**10 22 26.1**	**-0.6**
	comp=E,0.5nm,1.0s,baz=154,slow=1.9,SNR=3.7							
BVAR	**Borovoye Array**	**148.97**	**44**	PKPbc		**PKPbc**	**10 23 24.5**	**-0.2**
	comp=E,0.8nm,0.6s,baz=354,slow=1.4,SNR=4.6							
ZALV	**Zalesovo Beam**	**155.93**	**33**	PKP		**PKPdf**	**10 23 31.7**	**+0.9**
	comp=E,0.2nm,0.2s,baz=33,slow=3.4,SNR=2.4							
ZALV				PKPab		**PKPab**	**10 23 57.8**	**-0.1**
	comp=E,1.2nm,0.7s,baz=284,slow=5.8,SNR=3.8							
SONM	**Songino Array**	**167.57**	**1**	PKPab		**PKPab**	**10 24 52.5**	**+3.4**
	comp=E,1.1nm,1.1s,baz=323,slow=2.2,SNR=2.6							

*ISCJB **30** 10:04:16.3±1.0, 31°80N±0.03°×114°99W±0.09°, h13km±8km, Error ellipse: s-maj=12.6km s-min=4.8km az=176.7*
*ECX **30** 10:04:18.2±0.4, 31°78N×115°03W, h8km, MD2.6, ML2.8*
*MEX **30** 10:04:19.1±0.4, 31°78N×115°00W, h13km±6km, MD3.5*

ISC 30 10:04:16.4±1.2, 31°78N±0.04°×115°02W±0.07°, h17km±10km, n14, σ0°52/20, 3C-4D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ECBX	**El Chinero**	**0.31**	**185**	⇓*i* P		**Pb**	**10 04 22.7**	**-0.4**
ECBX				*e*S		**Sg**	**10 04 27.3**	**-0.2**
CPBX	**Cerro Prieto**	**0.68**	**339**	*e*Pn		**Pb**	**10 04 30.3**	**+0.5**
CPBX				*e*S		**Sb**	**10 04 39.9**	**+0.9**
RDX	**Rancho Dawling**	**0.80**	**281**	*e*P		**Pb**	**10 04 31.9**	**0.0**
RDX				*e*S		**Sg**	**10 04 42.8**	**0.0**
RDX				⇑*e*			10 04 43.1	
RDX				IAML			10 04 43.1	
	comp=N,234nm,0.4s							
SPIG	**San Pedro Mart**	**0.83**	**208**	*e*P		**Pg**	**10 04 32.6**	**0.0**
SPIG				*e*S		**Sg**	**10 04 43.9**	**+0.3**
SPIG	**San Pedro Mart**	**0.83**	**208**	⇓*e*P		**Pg**	**10 04 32.6**	**0.0**
SPX	**San Pedro Mart**	**0.83**	**208**	*e*P		**Pg**	**10 04 32.6**	**0.0**
SPX				*e*S		**Sg**	**10 04 44.2**	**+0.6**
SPX				⇓*e*			10 04 45.6	
SPX				IAML			10 04 45.6	
	comp=N,286nm,0.1s							
EMSC	**East Mesa**	**0.96**	**2**	*e*Pn		**Pb**	**10 04 34.3**	**-0.2**
SGL	**Mount Signal**	**1.05**	**326**	⇑*i* P		**Pb**	**10 04 36.2**	**+0.1**
WESC	**Westside Schoo**	**1.15**	**328**	*e*Pn		**Pg**	**10 04 38.4**	**-0.3**
RMX	**La Rumorosa**	**1.22**	**313**	⇓*e*P		**Pn**	**10 04 39.1**	**+0.4**
RMX				IAML			10 04 57.8	
	comp=N,106nm,0.1s							
RMX				*e*			10 04 57.8	
ECNX	**Esteban Cantu**	**1.35**	**265**	*e*P		**Pb**	**10 04 41.6**	**+0.3**
PBX	**Punta Banda**	**1.46**	**269**	*e*P		**Pb**	**10 04 43.1**	**+0.1**
CBX	**Cerro Bola**	**1.50**	**291**	*e*P		**Pn**	**10 04 42.3**	**-0.3**
CBX				*e*S		**Sn**	**10 05 00.3**	**-1.4**
CBX	**Cerro Bola**	**1.50**	**291**	*e*P		**Pb**	**10 04 44.1**	**+0.3**
CBX				IAML			10 05 06.3	
	comp=N,197nm,0.4s							
CBX				⇑*e*			10 05 06.3	

*IDC **30** 10:16:42.0±1.0, 34°45N×80°52E, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.6/27, mbtmp3.8/6, ML3.4/2, Error ellipse: s-maj=43.6km s-min=22.4km az=49.0*
*ISCJB **30** 10:16:45.3±1.0, 34°6N±0.1°×80°5E±0.3°, h33km, mb3.8/4, Error ellipse: s-maj=35.7km s-min=15.6km az=153.7*

ISC 30 10:16:47.1±1.1, 34°6N±0.2°×80°6E±0.2°, h35km, n7, σ0°60/7, mb3.9/4, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KURBB	**Kurchatov Array**	**16.07**	**355**	Pn		**P**	**10 20 34.0**	**+0.7**
	0.1nm,0.3s,baz=181,slow=11,SNR=6.5							
ZALV	**Zalesovo Beam**	**19.56**	**7**	P		**Pn**	**10 21 13.0**	**-0.2**
	0.2nm,0.3s,baz=198,slow=12,SNR=4.2							
BVAR	**Borovoye Array**	**19.79**	**342**	P		**Pn**	**10 21 15.3**	**-0.7**
	0.3nm,0.3s,baz=151,slow=9.9,SNR=5.2							
CMAR	**Chiang Mai Arr**	**22.92**	**130**	P		**P**	**10 21 48.5**	**

$M_{\theta\theta}$-0.79±.18; $M_{\phi\phi}$-1.02±.19; $M_{\theta\phi}$0.85±.11; M_{rr}-3.28±.17; $M_{r\theta}$-2.48±.11; Best double couple: M_o4.48300×10^16 NP1:ϕ_s187.00000°,δ71.00000°,λ42.00000°. NP2: ϕ_s81.00000°,δ51.00000°,λ155.00000°. Principal axes: T 4.5150, Plg42.0000°, Azm51.0000°; N -0.0680, Plg45.0000°, Azm207.0000°; P -4.4500, Plg12.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **30** 10:54:52.5±0.6,0.7ΔS×99.79E,h89km±4km,mb5.4/47 Error ellipse: s-maj=6.2km s-min=3.9km az=46.0*

NEIC Felt [III] at Batusangkar and Padang and in Pasaman.

ISC 30 10:54:51.8±0.3,0.82S±0.03×99.67E±0.03,h86km±2km, h86km:pP-P,n611,σ1$37/641,mb5.2/127,23C-14D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.77**	**229**	P	**Pn**	**10 55 09.4**	**+0.7**
SISI				S	**Sn**	**10 55 20.7**	**-0.5**
PDSI	**Padang**	**0.80**	**97**	P	**Pn**	**10 55 08.1**	**-0.9**
PDSI				S	**Sn**	**10 55 20.6**	**-1.2**
PBSI	**Pulau Batu**	**1.58**	**299**	P	**Pn**	**10 55 18.7**	**+0.3**
PBSI				S	**Sn**	**10 55 35.9**	**-2.7**
MNSI	**Mandailing Nat**	**1.60**	**357**	P	**Pn**	**10 55 18.5**	**-0.2**
MNSI				S	**Sn**	**10 55 37.8**	**-1.3**
SDSI	**Sungai Dareh**	**1.76**	**94**	P	**Pn**	**10 55 21.0**	**+0.2**
SDSI				S	**Sn**	**10 55 41.1**	**-1.7**
BKNI	**Bangkinang**	**1.78**	**50**	P	**Pn**	**10 55 21.3**	**+0.3**
BKNI				S	**Sn**	**10 55 43.5**	**+0.3**
BKNI	**Bangkinang**	**1.78**	**50**	*e*Pn	**Pn**	**10 55 21.0**	**0.0**
BKNI				*e*Sn	**Sn**	**10 55 39.8**	**-3.4**
PPSI	**Pulau Pagai**	**1.96**	**170**	P	**Pn**	**10 55 23.2**	**-0.2**
PPSI				S	**Sn**	**10 55 47.9**	**+0.4**
GSI	**Gunungsitoli**	**2.97**	**315**	P	**Pn**	**10 55 36.7**	**-0.1**
GSI				S	**Sn**	**10 56 08.8**	**-2.8**
GSI	**Gunungsitoli**	**2.97**	**315**	*e*Pn	**Pn**	**10 55 36.8**	**-0.1**
GSI				*e*Sn	**Sn**	**10 56 07.3**	**-4.3**
MASI	**Maura Aman, Be**	**3.45**	**132**	P	**Pn**	**10 55 44.2**	**+0.7**
PSI	**Prapat**	**3.67**	**348**	P	**Pn**	**10 55 44.8**	**-1.7**
	91nm,0.3s,baz=172,slow=1.9,SNR=212						
PSI				S	Sn	10 56 14.3	-15
	125nm,0.3s,baz=151,slow=13,SNR=10						
PSI	**Prapat**	**3.67**	**348**	P	**Pn**	**10 55 44.8**	**-1.7**
PSI				S	Sn	10 56 14.4	-14
PSI				pmax	pmax		
	comp=Z,91nm,0.3s						
PSI				smax	smax		
	comp=N,125nm,0.3s						
JMBI	**JAMBI**	**4.05**	**102**	P	**Pn**	**10 55 51.5**	**0.0**
TSI	**Tuntungan**	**4.43**	**346**	P	**Pn**	**10 55 56.5**	**-0.2**
FRIM	**Kepong**	**4.48**	**26**	⇓P	**Pn**	**10 55 57.2**	**-0.1**
KGM	**Kluang**	**4.61**	**52**	⇑P	**Pn**	**10 55 59.7**	**+0.6**
KCSI	**Kotacane, Aceh**	**4.71**	**336**	P	**Pn**	**10 55 58.7**	**-1.8**
MNAI	**Manna**	**4.81**	**137**	P	**Pn**	**10 56 02.0**	**+0.1**
MNAI				S	**Sn**	**10 56 57.4**	**+1.0**
MNAI	**Manna**	**4.81**	**137**	*e*Pn	**Pn**	**10 56 01.6**	**-0.3**
MNAI				*e*Sn	**Sn**	**10 56 55.3**	**-1.1**
LHSI	**Lahat**	**4.87**	**128**	P	**Pn**	**10 56 03.6**	**+0.9**
MYKOM	**Kota Tinggi**	**4.92**	**58**	⇓P	**Pn**	**10 56 03.7**	**+0.4**
MYKOM	**Kota Tinggi**	**4.92**	**58**	*e*Pn	**Pn**	**10 56 03.7**	**+0.4**
DSRI	**Dabo**	**4.92**	**86**	P	**Pn**	**10 56 03.3**	**0.0**
DSRI				S	**Sn**	**10 56 59.2**	**+0.2**
TPRI	**Tanjung Pinang**	**5.15**	**70**	P	**Pn**	**10 56 06.9**	**+0.4**
	comp=N,547nm,0.6s,comp=N,11μmcomp=N,4.9nm						
IPM	**Ipoh**	**5.43**	**14**	⇓P	**Pn**	**10 56 11.5**	**+1.1**
IPM	**Ipoh**	**5.43**	**14**	*e*Pn	**Pn**	**10 56 11.3**	**+0.9**
IPM				*e*Sn	**Sn**	**10 57 12.7**	**+1.1**
PMBI	**Palembang**	**5.51**	**112**	P	**Pn**	10 56 24.6	+13
MDSI	**Maura Dua**	**5.79**	**129**	P	**Pn**	**10 56 15.9**	**+0.6**
	comp=N,2μm,0.8s,comp=N,12μmcomp=N,4.6nm						
LWLI	**Liwa**	**6.05**	**134**	P	**Pn**	**10 56 19.1**	**+0.2**
	comp=N,1μm,0.7s,comp=N,15μmcomp=N,5.6nm						
KULM	**Kulim**	**6.14**	**9**	⇓P	**Pn**	**10 56 20.0**	**-0.1**
KULM	**Kulim**	**6.14**	**9**	*e*Pn	**Pn**	**10 56 19.7**	**-0.4**
KULM				*e*Sn	**Sn**	**10 57 26.1**	**-2.9**
KLSI		**6.35**	**127**	P	**Pn**	**10 56 23.3**	**+0.4**
	comp=N,980nm,0.9s,comp=N,8μmcomp=N,2.6nm						
KLI	**Kotabumi**	**6.56**	**128**	P	**Pn**	**10 56 25.8**	**+0.1**
	comp=N,468nm,0.7s,comp=N,7μmcomp=N,2.4nm						
LHMI	**Lhok Sumawe**	**6.59**	**336**	P	**Pn**	**10 56 24.8**	**-1.4**
	comp=N,801nm,0.5s,comp=N,18μmcomp=N,4.7nm						
LHMI	**Lhok Sumawe**	**6.59**	**336**	*e*Pn	**Pn**	**10 56 24.6**	**-1.6**
	comp=N,744nm,0.4s						
PPBI	**Pangkal Pinang**	**6.60**	**102**	P	Pn	10 56 22.8	-3.5
	comp=N,123nm,1.1s,comp=N,6μmcomp=N,0.8nm						
KASI	**Kota Agung**	**6.71**	**134**	P	**Pn**	**10 56 27.3**	**-0.5**
	comp=N,980nm,0.8s,comp=N,9μmcomp=N,3.6nm						
KTGM	**Kuala Trenggan**	**7.02**	**30**	⇓P	**Pn**	**10 56 32.3**	**+0.4**
BLSI	**Bandar Lampung**	**7.17**	**129**	P	**Pn**	**10 56 34.3**	**+0.2**
	comp=N,280nm,0.9s,comp=N,4μmcomp=N,1.4nm						
SKLT	**Songkhla**	**7.99**	**7**	P	**Pn**	**10 56 46.9**	**+1.7**
	comp=N,92nm,0.8s,comp=N,1μmcomp=N,0.4nm						
TPI	**Tanjungpandan**	**8.21**	**104**	P	**Pn**	**10 56 48.9**	**+0.7**
	comp=N,149nm,0.8s,comp=N,2μm						
CGJI	**Cibinong**	**8.32**	**134**	P	**Pn**	**10 56 46.9**	**-2.9**
	comp=N,206nm,0.7s,comp=N,3μm						
SBJI	**Serang**	**8.32**	**129**	P	Pn	10 56 56.0	+6.2
TRTT	**Trang**	**8.60**	**0**	P	**Pn**	**10 56 51.3**	**-2.2**
	comp=N,259nm,1.1s,comp=N,2μmcomp=N,1.7nm						
KRAB	**Krabi**	**8.99**	**357**	P	**Pn**	**10 56 58.3**	**-0.6**
	comp=N,116nm,0.9s,comp=N,4μm						
CNJI	**Cibinong**	**9.84**	**131**	P	Pn	10 57 06.9	-3.6
	comp=N,280nm,0.9s,comp=N,3μm						
SURA	**Surathani**	**9.92**	**360**	P	**Pn**	**10 57 13.3**	**+1.8**
	comp=N,98nm,1.0s						
LEM	**Lembang**	**9.92**	**127**	P	**Pn**	**10 57 10.8**	**-1.0**
	comp=N,190nm,1.2s,comp=N,3μm						
LEM	**Lembang**	**9.92**	**127**	P	**Pn**	**10 57 10.9**	**-0.9**
	comp=N,12nm,0.3s,baz=220,slow=13,SNR=9.3						
LEM				S	**Sn**	**10 59 00.6**	**-0.9**
	comp=N,4.6nm,0.3s,baz=299,slow=19,SNR=1.8						
LEM				LR	LR	11 01 27.0	
	comp=N,609nm,20.6s,baz=344,slow=40						
LEM	**Lembang**	**9.92**	**127**	P	**Pn**	**10 57 10.9**	**-0.9**
LEM				S	**Sn**	**10 59 00.6**	**-0.9**
LEM				pmax	pmax		
	comp=Z,13nm,0.3s						
LEM				smax	smax		
	comp=N,5.0nm,0.3s						
LEM				MLR	MLR		
	comp=Z,609nm,20.6s						
CISI	**Cisompet, Garu**	**10.52**	**130**	P	Pn	10 57 16.1	-3.8
	comp=Z,327nm,0.6s,comp=Z,4μm						
CISI	**Cisompet, Garu**	**10.52**	**130**	*e*Pn	Pn	10 57 15.9	-4.0
	comp=Z,231nm,0.6s						
KSM	**Kuching**	**10.88**	**78**	*e*Pn	**Pn**	**10 57 25.4**	**+0.7**
	comp=Z,50nm,0.9s						
KSM				*e*Sn	**Sn**	**10 59 20.3**	**-4.3**
CMJI	**Cimerak**	**11.15**	**129**	P	Pn	10 57 24.8	-3.6
	comp=Z,167nm,0.8s,comp=Z,3μm						
KPJI	**Karang Pucung**	**11.28**	**125**	P	**Pn**	**10 57 28.1**	**-1.9**
	comp=Z,156nm,0.7s						
STKI	**Sintang**	**11.84**	**86**	P	Pn	10 57 43.9	+6.2
PBKI	**Pangkalan Bun**	**12.14**	**99**	P	**Pn**	**10 57 44.7**	**+3.0**
	comp=Z,292nm,1.0s,comp=Z,3μm						
SMRI	**Semarang**	**12.40**	**120**	P	**Pn**	**10 57 46.4**	**+1.2**
	comp=Z,493nm,1.0s,comp=Z,5μm						
SMRI	**Semarang**	**12.40**	**120**	*e*Pn	**Pn**	**10 57 45.8**	**+0.6**
	comp=Z,376nm,0.8s						
SBUM	**Sibu**	**12.96**	**75**	*e*Pn	**Pn**	**10 57 54.8**	**+2.0**
NGJI	**Ngawi**	**13.44**	**119**	P	**Pn**	**10 58 00.5**	**+1.5**
	comp=Z,282nm,1.0s						
PHET	**Kaeng Krachan**	**13.64**	**360**	P	**P**	**10 58 05.5**	**-2.0**
PWJI	**Pagerwojo**	**14.05**	**121**	P	**Pn**	**10 58 08.2**	**+1.2**
	comp=Z,156nm,0.9s						
BBKI	**Banjar Baru**	**15.39**	**100**	P	**P**	**10 58 25.9**	**-1.1**
	comp=Z,257nm,1.1s,comp=Z,3μm						
UTHA	**Uthaitani**	**16.27**	**359**	P	**P**	**10 58 39.0**	**+2.2**
JAGI	**Jajag, Banyuwa**	**16.30**	**118**	*e*Pn	**Pn**	**10 58 33.4**	**-2.4**
	comp=Z,58nm,0.6s						
KBKI	**Kotabaru**	**16.67**	**99**	P	**P**	**10 58 42.0**	**+0.8**
	comp=Z,91nm,1.2s,comp=Z,2μm						
CHAI	**Chaiyaphum**	**16.77**	**8**	P	**P**	**10 58 44.9**	**+2.6**
	comp=Z,9.2nm,0.7s,comp=Z,101nm						
UBPT	**Khong Chiam**	**16.99**	**19**	P	**Pn**	**10 58 42.8**	**-1.4**
	comp=Z,38nm,1.1s,comp=Z,608nm						
SRBI	**Singaraja**	**17.09**	**115**	P	**P**	**10 58 46.9**	**+1.1**
	comp=Z,204nm,0.9s,comp=Z,2μm						
BKB	**Balikpapan**	**17.23**	**92**	P	**P**	**10 58 50.3**	**+2.9**
	comp=Z,322nm,0.9s,comp=Z,3μm						
PBKT	**Sadao Pong**	**17.32**	**4**	P	**Pn**	**10 58 46.1**	**-2.1**
	comp=Z,27nm,0.8s						
KKM	**Kota Kinabalu**	**17.87**	**67**	*e*P	**P**	**10 58 54.5**	**-0.1**
	comp=Z,196nm,0.8s						
SKNT	**Sakolnakorn**	**18.18**	**13**	P	**P**	**10 58 56.8**	**-1.1**
	comp=Z,25nm,1.3s,comp=Z,1μm						
LOEI	**Loei**	**18.28**	**5**	P	**P**	**10 58 57.9**	**-1.0**
	comp=Z,20nm,0.9s,comp=Z,2μm						
UTTA	**Uttaradit**	**18.46**	**3**	P	**P**	**10 58 59.9**	**-1.0**
	comp=Z,13nm,0.9s,comp=Z,147nm						
MHMT	**Maesariang**	**18.95**	**355**	P	**Pn**	**10 59 07.5**	**-0.3**
	comp=Z,29nm,0.9s,comp=Z,439nm						
CMAR	**Chiang Mai Arr**	**19.17**	**358**	P	**P**	**10 59 05.8**	**-2.8**
	comp=Z,1.6nm,0.3s,baz=188,slow=10,SNR=20						
CMAR				PcP	**PcP**	**11 03 30.8**	**+1.4**
	baz=224,slow=2.6,SNR=4.2						
CMAR				LR	LR	11 06 28.3	
	comp=Z,345nm,20.1s,baz=180,slow=37						
CMAR				ScP	**ScP**	**11 06 58.4**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=204,slow=4.0,SNR=4.9						
CMAR	**Chiang Mai Arr**	**19.17**	**358**	*e*P	**P**	**10 59 06.0**	**-2.6**
CMAR				pmax	pmax		
	comp=Z,17nm,0.7s						
LAMP	**Lampang**	**19.22**	**360**	P	**Pn**	**10 59 10.3**	**-0.7**
	comp=Z,28nm,0.9s,comp=Z,249nm						
CMMT	**Chiang Mai**	**19.52**	**358**	P	**Pn**	**10 59 14.3**	**-0.3**
	comp=Z,51nm,0.9s						
CHTO	**Chiang Mai**	**19.52**	**358**	P	**Pn**	**10 59 14.3**	**-0.3**
	comp=Z,178nm,1.0s,comp=Z,2μm						
CHTO	**Chiang Mai**	**19.52**	**358**	*e*P	**P**	**10 59 13.3**	**+0.8**
	comp=Z,26nm,0.8s						
MYLDM	**Lahad Datu**	**19.73**	**72**	*e*Pn	**Pn**	**10 59 16.6**	**-0.5**
PCI	**Palu**	**20.16**	**90**	P	**P**	**10 59 20.6**	**+1.0**
	comp=Z,189nm,0.9s,comp=Z,2μm						
TTSI	**Tana Toraja**	**20.26**	**97**	P	Pn	10 59 21.9	-1.3
	comp=Z,142nm,1.0s,comp=Z,2μm						
MPSI	**Mapaga**	**20.26**	**87**	P	Pn	10 59 21.9	-1.4
	comp=Z,153nm,0.9s,comp=Z,1μm						
SPSI	**Sidrap Palu**	**20.32**	**99**	P	Pn	10 59 24.1	+0.1
	comp=Z,40nm,0.9s,comp=Z,766nm						
KAPI	**Kappang**	**20.48**	**102**	P	**P**	**10 59 24.2**	**+1.2**
	comp=Z,490nm,1.3s,SNR=8.1						
KAPI	**Kappang**	**20.48**	**102**	P	**P**	**10 59 22.5**	**-0.5**
	comp=Z,58nm,1.0s,baz=234,slow=3.7,SNR=16						
KAPI				LR	LR	11 08 04.4	
	comp=Z,334nm,19.7s,baz=289,slow=39						
PALK	**Pallekele**	**20.56**	**293**	P	Pn	10 59 27.5	+0.7
	comp=Z,1μm,0.7s,SNR=10						
PALK	**Pallekele**	**20.56**	**293**	P	Pn	10 59 27.1	+0.3
	comp=Z,116nm,0.7s,baz=115,slow=9.4,SNR=51						
PALK				S	**S**	**11 03 05.1**	**-4.1**
	comp=Z,38nm,0.7s,baz=203,slow=17,SNR=6.6						
PALK				LR	LR	11 06 14.5	
	comp=Z,494nm,20.5s,baz=106,slow=33						
PALK	**Pallekele**	**20.56**	**293**	P	Pn	10 59 27.1	+0.3
PALK				S	**S**	**11 03 05.1**	**-4.1**
PALK				pmax	pmax		
	comp=Z,116nm,0.7s						
PALK				smax	smax		
	comp=N,38nm,0.7s						
PALK				MLR	MLR		
	comp=Z,494nm,20.5s						
PALK	**Pallekele**	**20.56**	**293**	⇓*i*P	Pn	10 59 27.2	+0.4
SNR=14							
PALK	**Pallekele**	**20.56**	**293**	*e*P	Pn	10 59 25.7	-1.1
	comp=Z,60nm,0.7s						
PALK				S	**S**	**11 03 05.1**	**-4.1**
PALK				*e*S	**S**	**11 03 06.9**	**-2.3**
BKSI	**Bulukumba**	**20.90**	**103**	P	**P**	**10 59 28.4**	**+0.9**
	comp=Z,97nm,0.7s,comp=Z,2μm						
TOLI	**Toli-Toli**	**21.21**	**85**	*e*P	**P**	**10 59 30.6**	**-0.3**
	comp=Z,344nm,1.3s						
BSSI	**Bau Bau, Buton**	**21.44**	**105**	P	**P**	**10 59 35.0**	**+1.8**
	comp=Z,133nm,1.1s,comp=Z,2μm						
APSI	**Ampana**	**21.98**	**90**	P	**P**	**10 59 39.7**	**+0.7**
	comp=Z,178nm,1.0s,comp=Z,3μm						
QIZ	**Qiongzhong**	**22.11**	**26**	P	**P**	**10 59 39.0**	**-1.3**
QIZ				sP	**sP**	**11 00 07.0**	**-1.3**
QIZ				S	**S**	**11 03 37.0**	**-2.0**
QIZ				PMZ			
	comp=Z,40nm,0.9s						
QIZ				PMZ			
	comp=Z,63nm,4.6s						
QIZ				LE			
	comp=Z,100nm,22.0s						
QIZ				LZ			
	comp=Z,230nm,34.3s						
QIZ	**Qiongzhong**	**22.11**	**26**	*e*P	**P**	**10 59 39.2**	**-1.1**
	comp=Z,22nm,0.8s						
MRSI	**Marisa**	**22.31**	**87**	P	**P**	**10 59 42.0**	**-0.5**
	comp=Z,462nm,0.8s,comp=Z,3μm						
SLVN	**Son La**	**22.40**	**10**	*e*P	**P**	**10 59 42.9**	**-0.6**
	comp=Z,18nm,0.6s						
LUWI	**Luwuk**	**23.10**	**91**	P	**P**	**10 59 51.4**	**+0.8**
	comp=Z,370nm,1.1s,comp=Z,4μm						
LUWI	**Luwuk**	**23.10**	**91**	*e*P	**P**	**10 59 50.2**	**-0.5**
	comp=Z,373nm,1.0s						
KDI	**Kendari**	**23.14**	**98**	P	**P**	**10 59 52.2**	**+1.2**
	comp=Z,157nm,0.8s,comp=Z,1μm						
KMSI	**Cibinong**	**24.35**	**87**	P	**P**	**11 00 03.4**	**+1.4**
	comp=Z,510nm,1.1s,comp=Z,6μm						
SKHT	**Srikalahasti**	**24.50**	**307**	*e*P	**P**	**11 00 04.7**	**+1.4**
SKHT				IAmb	IAmb	11 00 08.4	
	comp=Z,47nm,1.0s						
CHLP	**Challavanipeta**	**24.58**	**322**	*e*P	**P**	**11 00 04.7**	**+0.7**
CHLP				IAmb	IAmb	11 00 06.8	
	comp=Z,45nm,0.8s						
PVM	**Polavaram**	**25.27**	**316**	*e*P	**P**	**11 00 11.5**	**+1.2**
PVM				IAmb	IAmb	11 00 14.0	
	comp=Z,21nm,0.8s						
TGY	**Tagaytay City**	**25.76**	**54**	P	**P**	**11 00 15.0**	**+0.2**
	comp=Z,139nm,0.6s,baz=270,slow=1.9						
TGY	**Tagaytay City**	**25.76**	**54**	P	**P**	**11 00 15.0**	**+0.2**
TGY				pmax	pmax		
	comp=Z,139nm,0.6s						
KMI	**Kunming**	**25.96**	**6**	P	**P**	**11 00 16.5**	**-0.2**
KMI				pP	**pP**	**11 00 37.3**	**+1.1**
KMI				S	**S**	**11 04 39.0**	**-2.2**
KMI				PMZ			
	comp=Z,23nm,0.8s						
KMI				LN			
	comp=Z,130nm,11.5s						
KMI				LE			
	comp=Z,290nm,16.9s						
KMI				LZ			
	comp=Z,200nm,24.6s						
SOEI	**Soe**	**26.03**	**111**	*e*P	**P**	**11 00 14.8**	**-2.6**
RCLA	**Racherla**	**26.09**	**309**	*e*P	**P**	**11 00 19.0**	**+1.3**
RCLA				IAmb	IAmb	11 00 23.6	
	comp=Z,19nm,0.9s						
SANI	**Sanana**	**26.34**	**93**	P	**P**	**11 00 20.7**	**+0.7**
	comp=Z,31nm,1.5s						
NJS	**Nagarjunasagar**	**26.49**	**312**	*e*P	**P**	**11 00 22.3**	**+1.0**
NJS				IAmb	IAmb	11 00 32.9	
	comp=Z,18nm,0.9s						
SRLM	**Srisailam**	**26.52**	**310**	*e*P	**P**	**11 00 22.8**	**+1.2**
SRLM				IAmb	IAmb	11 00 30.8	
	comp=Z,22nm,1.0s						
URV	**Uravakonda**	**27.14**	**306**	*e*P	**P**	**11 00 28.5**	**+1.2**
URV				IAmb	IAmb	11 00 29.4	
	comp=Z,15nm,0.7s						
SHL	**Shillong**	**27.29**	**345**	⇑*i*P	**P**	**11 00 31.0**	**+2.4**
SHL				*i* S	S	11 05 17.0	+15
SZP	**Santa**	**27.43**	**47**	*e*P	**P**	**11 00 29.9**	**+0.1**
	comp=Z,350nm,0.9s						
NLAI	**Namlea**	**27.52**	**95**	P	**P**	**11 00 33.1**	**+2.5**
	comp=Z,97nm,0.8s,comp=Z,806nm						
HYB	**Hyderabad**	**27.59**	**312**	*i* P	**P**	**11 00 33.0**	**+1.8**
HYBB	**Hyderabad (bro**	**27.59**	**312**	*e*P	**P**	**11 00 33.0**	**+1.7**
HYBB				IAmb	IAmb	11 00 33.0	
	comp=Z,113nm,2.2s						
TNTI	**Ternate**	**27.74**	**87**	*e*P	**P**	**11 00 33.9**	**+1.2**
	comp=Z,99nm,1.2s						
H08S2	**Diego Garcia H**	**27.92**	**255**	T	T	11 28 44.4	
	baz=75,slow=75,SNR=701						
H08S3	**Diego Garcia H**	**27.93**	**255**	T	T	11 28 45.5	
	baz=75,slow=75,SNR=1479						
H08S1	**Diego Carcia H**	**27.94**	**255**	T	T	11 28 53.2	
	baz=75,slow=75,SNR=1282						
GYA	**Guiyang**	**27.94**	**13**	P	**P**	**11 00 38.0**	**+3.6**
GYA				pP	**pP**	**11 00 57.5**	**+3.5**
GYA				sP	**sP**	**11 01 09.0**	**+4.9**
GYA				PP	**PnPn**	**11 01 30.3**	**+4.1**
GYA				S	S	**11 05 14.0**	**+1.7**
GYA				sS	**sS**	**11 05 48.5**	**+2.2**
GYA				SS	**SnSn**	**11 06 42.5**	**+6.9**
GYA				PMZ			
	comp=Z,30nm,0.8s						
GYA				PMZ			
	comp=Z,150nm,4.9s						
GYA				LN			
	comp=Z,3μm,16.4s						
GYA				LE			
	comp=Z,1μm,17.0s						
GYA				LZ			
	comp=Z,2μm,16.8s						
SRSP	**Sriramsagar**	**28.70**	**314**	*e*P	**P**	**11 00 41.9**	**+0.8**
SRSP				IAmb	IAmb	11 00 42.6	
	comp=Z,16nm,0.7s						
KLRI	**Killari**	**29.45**	**311**	*e*P	**P**	**11 00 48.5**	**+0.7**
KLRI				IAmb	IAmb	11 00 49.7	
	comp=Z,16nm,0.8s						
ODAN	**Odare**	**29.95**	**338**	*e*P	**P**	**11 00 53.8**	**+1.5**
	comp=Z,49nm,0.5s						
TAPN	**Taplejung**	**30.28**	**339**	*e*P	**P**	**11 00 57.0**	**+1.7**
	comp=Z,24nm,0.4s						
RAMN	**Ramite**	**30.34**	**336**	*e*P	**P**	**11 00 57.7**	**+1.9**
	comp=Z,25nm,0.5s						
PKI	**Pulchoki**	**31.38**	**335**	*e*P	**P**	**11 01 06.0**	**+1.0**
	comp=Z,17nm,0.5s						
PKIN	**Phulchoki**	**31.39**	**335**	*e*P	**P**	**11 01 05.9**	**+0.9**
	comp=Z,13nm,0.5s						
TWG	**Pinlang**	**31.41**	**40**	*e*P	**P**	**11 01 04.4**	**-0.5**
	comp=Z,98nm,0.8s						
LSA	**Lhasa**	**31.42**	**346**	P	**P**	**11 01 06.5**	**+1.0**
LSA	**Lhasa**	**31.42**	**346**	*e*P	**P**	**11 01 05.9**	**+0.4**
	comp=Z,27nm,0.5s						
TPUB	**Ta-pu**	**31.47**	**39**	*e*P	**P**	**11 01 05.3**	**-0.2**
	comp=Z,134nm,0.9s						
GUN	**Gumba**	**31.48**	**336**	*e*P	**P**	**11 01 07.4**	**+1.4**
	comp=Z,135nm,0.4s						
QZH	**Quanzhou**	**31.49**	**34**	⇓*i*P	**P**	**11 01 04.8**	**-0.8**
QZH				S	S	11 05 59.5	-8.2
QZH				PMZ			
	comp=Z,110nm,1.2s						
QZH				LZ			
	comp=Z,550nm,28.4s						
DMN	**Daman**	**31.54**	**335**	*e*P	**P**	**11 01 07.6**	**+1.2**
SWI	**Sorong**	**31.59**	**90**	P	**P**	**11 01 07.7**	**+1.0**
	comp=Z,78nm,1.3s,comp=Z,892nm						
KKN	**Kakani**	**31.62**	**335**	*e*P	**P**	**11 01 08.2**	**+1.1**
CD2	**Chengdu**	**31.79**	**7**	P	**P**	**11 01 09.5**	**+1.2**
CD2				pP	**pP**	**11 01 29.5**	**+1.4**
CD2				PP	**PP**	**11 02 23.3**	**+1.6**
CD2				PcP	**PcP**	**11 03 57.8**	**+0.1**
CD2				S	**S**	**11 06 15.0**	**+2.6**
CD2				sS	**sS**	**11 06 50.3**	**+3.7**
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,180nm,5.0s						
CD2				LN			
	comp=Z,280nm,21.5s						
CD2				LZ			
	comp=Z,420nm,19.6s						
YULB	**Yu-li**	**31.96**	**40**	*e*P	**P**	**11 01 08.9**	**-0.9**
	comp=Z,64nm,0.9s						
SSLB	**Suanglung**	**32.03**	**39**	*e*P	**P**	**11 01 10.2**	**-0.2**
	comp=Z,74nm,0.9s						
GKN	**Gorkha**	**32.09**	**334**	*e*P	**P**	**11 01 12.2**	**+1.2**
	comp=Z,26nm,0.4s						
ENH	**Enshi**	**32.30**	**16**	*e*P	**P**	**11 01 10.4**	**-2.3**
	comp=Z,57nm,0.6s						
ENH				*e*S	**S**	**11 06 16.1**	**-4.2**
KOLN	**Koldanda**	**32.35**	**333**	*e*P	**P**	**11 01 14.8**	**+1.4**
	comp=Z,65nm,0.6s						
FAKI	**Fak Fak**	**32.63**	**94**	P	**P**	**11 01 15.6**	**-0.2**
	comp=Z,107nm,0.8s,comp=Z,1μm						
FAKI	**Fak Fak**	**32.63**	**94**	*e*P	**P**	**11 01 14.3**	**-1.5**
	comp=Z,92nm,1.0s						
NACB	**Ninganchiao**	**32.71**	**39**	*e*P	**P**	**11 01 15.6**	**-0.8**
	comp=Z,111nm,1.2s						
YHNB	**Yeheng**	**32.93**	**38**	*e*P	**P**	**11 01 17.5**	**-0.8**
	comp=Z,113nm,1.3s						
YHNB				*e*PcP	**PcP**	**11 04 00.5**	**-0.5**
TATO	**Taipei**	**33.23**	**38**	*e*P	**P**	**11 01 21.3**	**+0.4**
	comp=Z,98nm,0.9s						
WHN	**Wuhan**	**34.17**	**23**	P	**P**	**11 01 28.0**	**-1.0**
RKPI	**Ransiki, Papua**	**34.51**	**91**	P	**P**	**11 01 32.4**	**+0.3**
	comp=Z,95nm,1.0s,comp=Z,44μm						
XAN	**Xi'an**	**35.75**	**13**	P	**P**	**11 01 40.0**	**-2.5**
XAN				PMZ			
	comp=Z,14nm,0.6s						
XAN				PMZ			
	comp=Z,8.0nm,4.1s						
H01W3	**Cape Leeuwin H**	**36.48**	**160**	T	T	11 40 01.1	
	baz=335,slow=76,SNR=10						
H01W2	**Cape Leeuwin H**	**36.50**	**160**	T	T	11 40 01.1	
	baz=335

ASAR S S 11 08 14.1 -7.3
comp=Z,4.1nm,0.8s,baz=294,slow=15,SNR=9.9
ASAR LR LR 11 21 50.4
comp=Z,115nm,19.7s,baz=308,slow=40
ASAR Alice Springs 40.22 127 P P 11 02 19.5 -0.8
ASAR *PP **pP** **11 02 38.8 -1.9**
ASAR 11 04 24.1
ASAR S S 11 08 14.1 -7.3
ASAR pmax pmax
comp=Z,33nm,0.7s
ASAR pmax pmax
comp=Z,9.0nm,0.9s
ASAR pmax pmax
comp=Z,12nm,0.8s
ASAR smax smax
comp=N,4.0nm,0.8s
ASAR MLR MLR
comp=Z,115nm,19.7s
TIA Tai'an 40.26 22 ⇓P P 11 02 19.0 -1.4
TIA PMZ
comp=Z,20nm,0.8s
GENI Genyem 40.52 93 P P 11 02 21.7 -1.2
comp=Z,149nm,0.7s,comp=Z,2µm
JAY Jayapura 41.05 93 P P 11 02 28.2 +0.9
comp=Z,58nm,0.8s,comp=Z,6µm
KSHUK Heuksando 42.78 32 P P 11 02 40.8 -0.3
SNR=11
KSHUK Heuksando 42.78 32 P P 11 02 40.7 -0.3
SNR=18
HHC Hu-ho-hao-te 42.86 13 *eP* **P 11 02 41.8 +0.1**
HHC pP **pP** **11 03 02.3 0.0**
HHC sP **sP** **11 03 13.3 +1.2**
HHC PP **PP** **11 04 24.8 +1.9**
HHC S **S** **11 09 01.0 +0.9**
HHC PMZ
comp=Z,37nm,0.5s
HHC PMZ
comp=Z,80nm,4.4s
HHC LN
comp=Z,800nm,16.0s
HHC LE
comp=Z,830nm,16.0s
HHC LZ
comp=Z,790nm,16.0s
KSJDO Jindo 43.08 33 P P 11 02 43.4 -0.1
SNR=5.5
KSJDO Jindo 43.08 33 P P 11 02 43.2 -0.4
SNR=26
BJT Baijiatuau 43.35 19 *eP* **P 11 02 44.8 -0.7**
comp=Z,47nm,0.7s
KSKWJ Gwangju 43.97 33 P P 11 02 50.2 -0.4
SNR=6.8
KSKWJ Gwangju 43.97 33 P P 11 02 50.2 -0.4
SNR=6.8
KSJEU Jeongeup 44.18 32 P P 11 02 51.8 -0.5
SNR=20
KSJEU Jeongeup 44.18 32 P P 11 02 51.8 -0.5
SNR=20
KSNAH Namhae 44.23 34 P P 11 02 52.7 0.0
SNR=5.5
KSNAH Namhae 44.23 34 P P 11 02 52.7 0.0
SNR=5.5
KSGUS GUNSAN 44.51 32 P P 11 02 54.6 -0.3
SNR=5.8
KSGUS GUNSAN 44.51 32 P P 11 02 54.6 -0.3
SNR=5.8
KSSES Seosan 44.92 31 P P 11 02 56.9 -1.2
SNR=14
KSSES Seosan 44.92 31 P P 11 02 56.9 -1.2
SNR=14
TJN Taejon 45.08 32⇑ *iP* **P 11 02 58.4 -1.0**
KSCEA Cheonan 45.36 31 P P 11 03 01.0 -0.6
SNR=11
KSCEA Cheonan 45.36 31 P P 11 03 01.0 -0.6
SNR=11
KSBON Boeun 45.40 32 P P 11 03 01.6 -0.4
SNR=19
KSBON Boeun 45.40 32 P P 11 03 01.6 -0.4
SNR=19
KSSAJ Sangju 45.52 33 P P 11 03 02.3 -0.6
SNR=11
KSSAJ Sangju 45.52 33 P P 11 03 02.3 -0.6
SNR=11
INCN Inchon 45.54 30 *eP* **P 11 03 01.6 -1.5**
KSH Kashi 45.63 334 P P 11 03 05.5 +1.6
KSH pP **pP** **11 03 29.0 +4.4**
KSH sP **sP** **11 03 38.0 +3.6**
KSH PcP **PcP** **11 04 39.8 -1.1**
KSH PP **PP** **11 04 53.3 +0.9**
KSH PcS **PcS** **11 08 33.8 -1.4**
KSH S **S** **11 09 40.8 +0.4**
KSH sS sS 11 10 21.3 +5.4
KSH ScS **ScS** **11 12 47.5 -4.5**
KSH PMZ
comp=Z,12nm,0.8s
KSH PMZ
comp=Z,35nm,2.8s
KSH LN
comp=Z,2µm,20.7s
KSH LE
comp=Z,330nm,12.1s
KSH LZ
comp=Z,110nm,7.1s
WMQ Urumqi 45.72 348 P P 11 03 06.3 +1.9
WMQ pP **pP** **11 03 26.0 +0.8**
WMQ PP **PP** **11 04 54.8 +1.6**
WMQ S **S** **11 09 41.0 -0.3**
WMQ ScS **ScS** **11 12 50.3 -1.9**
WMQ PMZ
comp=Z,150nm,1.0s
WMQ PMZ
comp=Z,300nm,4.0s
WMQ LN
comp=Z,100nm,8.4s
WMQ LE
comp=Z,130nm,11.2s
WMQ LZ
comp=Z,56nm,20.6s
KSCHJ Chungju 45.77 32 P P 11 03 04.3 -0.6
SNR=15
KSMUS Musan 45.92 30 P P 11 03 05.0 -1.0
SNR=13
KSMUS Musan 45.92 30 P P 11 03 05.0 -1.0
SNR=13
YNCB YEONCHEON 46.12 30 P P 11 03 06.1 -1.5
SNR=21
YNCB YEONCHEON 46.12 30 P P 11 03 06.1 -1.5
SNR=21
KSAR Wonju Array Be 46.15 31 P P 11 03 07.2 -0.7
KSAR PcP **PcP** **11 04 42.8 +0.2**
KSRS Korea Array 46.18 31 P P 11 03 07.2 -0.9
comp=Z,43nm,0.7s,baz=224,slow=8.5,SNR=258
KSRS PcP **PcP** **11 04 42.8 +0.1**
comp=Z,4.5nm,0.8s,baz=242,slow=2.8,SNR=7.1
KSRS LR LR 11 22 45.4
comp=Z,40nm,20.3s,baz=210,slow=36
KSRS Korea Array 46.18 31 P P 11 03 07.2 -0.9
KSRS 11 04 42.8
KSRS pmax pmax
comp=Z,43nm,0.7s
KSRS pmax pmax
comp=Z,5.0nm,0.9s
KSRS MLR MLR
comp=Z,40nm,20.3s
KSCWO Cheorwon 46.45 31 P P 11 03 09.2 -1.0
SNR=16
KSTBA Taebaek 46.48 33 P P 11 03 10.4 -0.1
SNR=16
KSIJA INJE 46.68 31 P P 11 03 11.2 -0.8
SNR=12
BBOO Buckleboo 46.73 137 *eP* **P 11 03 12.7 +0.2**
comp=Z,14nm,0.6s
BBOO *eP*P **pP** **11 03 35.8 +2.6**
BBOO *eP*cP **PcP** **11 04 45.5 +0.7**
PMG Port Moresby 48.01 102*c iP* **P 11 03 21.8 -0.9**
PMG pmax pmax
comp=Z,219nm,1.2s
PMG Port Moresby 48.01 102 *eP* **P 11 03 21.8 -0.9**
comp=Z,43nm,0.8s
TKM2 Tokmak 2 48.62 336 *i P* **P 11 03 28.3 +1.1**
TKM2 pmax pmax
comp=Z,28nm,0.9s
TKM2 Tokmak 2 48.62 336 *eP* **P 11 03 28.1 +0.9**
comp=Z,38nm,0.8s
SONM Songino Array 48.81 6 P P 11 03 28.5 0.0
comp=Z,50nm,0.7s,baz=187,slow=8.9,SNR=238
SONM PcP **PcP** **11 04 52.6 +0.6**
comp=Z,7.9nm,0.6s,baz=188,slow=3.3,SNR=4.8
SONM ScP **ScP** **11 08 39.4 0.0**
comp=Z,2.7nm,1.0s,baz=191,slow=3.9,SNR=5.7
SONM Songino Array 48.81 6 P P 11 03 28.5 0.0
SONM 11 04 52.6
SONM pmax pmax
comp=Z,50nm,0.7s
SONM pmax pmax
comp=Z,8.0nm,0.6s
FRU Bishkek 48.95 336 *eP* **P 11 03 30.0 +0.5**
EKS2 Erkin-Say 49.16 335 *eP* **P 11 03 32.9 +1.7**
comp=Z,26nm,0.8s
ASHO Ashiyiah 49.26 304⇑ P P **11 03 32.6 +0.5**
CTAO Charters Tower 49.40 116 *eP* **P 11 03 32.0 -1.3**
comp=Z,33nm,1.0s
CN2 Changchun 50.05 24 *eP* **P 11 03 36.3 -1.5**
CN2 *ep*P **pP** **11 03 59.5 +0.7**
CN2 *eS* **S** **11 10 39.3 -3.1**
CN2 PMZ
comp=Z,40nm,0.9s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,200nm,14.0s
CN2 LE
comp=Z,200nm,14.0s
CN2 LZ
comp=Z,200nm,12.0s
STKA Stephens Creek 50.18 132 P P 11 03 39.2 +0.2
comp=Z,36nm,0.7s,baz=309,slow=7.3,SNR=96
STKA S **S** **11 10 43.6 -1.1**
comp=Z,2.8nm,0.8s,baz=173,slow=17,SNR=3.6
STKA LR LR 11 24 52.5
comp=Z,129nm,21.9s,baz=354,slow=36
STKA Stephens Creek 50.18 132 P P 11 03 39.3 +0.2
STKA S **S** **11 10 43.7 -1.1**
STKA pmax pmax
comp=Z,36nm,0.7s
STKA smax smax
comp=N,3.0nm,0.8s
STKA MLR MLR
comp=Z,129nm,21.9s
KKAR Karatay Array 50.96 333 *eP* **P 11 03 45.4 +0.7**
comp=Z,6.4nm,0.5s
ZAK Zakamensk 51.10 3 *eP* **P 11 03 44.3 -1.4**
ZAK pmax pmax
comp=Z,9.0nm,1.0s
MAJO Matsushiro 51.58 40⇓ *iP* **P 11 03 48.3 -1.1**
MAJO pmax pmax
comp=Z,222nm,1.3s
MAJO Matsushiro 51.58 40 *eP* **P 11 03 47.9 -1.6**
comp=Z,31nm,1.0s
MAJO *eP*cP **PcP** **11 05 02.6 +0.3**
MAT Matsushiro 51.58 40 P P **11 03 47.8 -1.6**
MJAR Matsushiro Arr 51.58 40 P P **11 03 48.1 -1.4**
comp=Z,21nm,1.0s,baz=221,slow=8.3,SNR=67
MJAR PcP **PcP** **11 05 02.6 +0.3**
comp=Z,5.8nm,1.1s,baz=229,slow=4.4,SNR=4.8
MJAR LR LR 11 26 51.7
comp=Z,43nm,18.6s,baz=205,slow=37
MJAR Matsushiro Arr 51.58 40 P P **11 03 48.1 -1.4**
MJAR 11 05 02.6
MJAR pmax pmax
comp=Z,21nm,1.0s
MJAR pmax pmax
comp=Z,6.0nm,1.1s
MJAR MLR MLR
comp=Z,43nm,18.6s
TLY Talaya 52.41 3 *i P* **P 11 03 55.7 +0.3**
TLY pmax pmax
comp=Z,23nm,0.8s
TLY Talaya 52.41 3 *eP* **P 11 03 55.6 +0.2**
comp=Z,13nm,0.8s
VLA Vladivostok 52.43 30⇑ *iP* **P 11 03 54.7 -0.9**
VLA *i* 11 05 05.0
VLA *e* 11 05 53.9
VLA *eS* **S** **11 11 16.2 +1.0**
VLA pmax pmax
comp=Z,45nm,1.2s
MDJ Mudanjiang 52.48 27 P **P 11 03 55.3 -0.7**
MDJ PMZ
comp=Z,23nm,0.9s
MDJ PMZ
comp=Z,39nm,4.6s
MDJ LN
comp=Z,120nm,31.5s
MDJ LE
comp=Z,91nm,25.2s
MDJ LZ
comp=Z,97nm,31.5s
MDJ Mudanjiang 52.48 27 *eP* **P 11 03 55.2 -0.7**
comp=Z,20nm,0.9s
IRK Irkutsk 53.01 4 *eP* **P 11 03 58.2 -1.5**
IRK pmax pmax
comp=Z,43nm,1.8s
USRK Ussuriysk Ar. 53.28 29 P **P 11 04 01.2 -0.6**
comp=Z,97nm,0.8s,baz=227,slow=6.0,SNR=176
USRK LR LR 11 27 16.3
comp=Z,74nm,20.9s,baz=143,slow=37
KURBB Kurchatov Arra 54.33 344 ScP **ScP** **11 09 03.2 +0.2**
comp=Z,2.1nm,0.8s,baz=161,slow=3.8,SNR=7.9
KURBB S S 11 11 34.6 -6.1
comp=Z,3.1nm,1.0s,baz=147,slow=14,SNR=12
GEYT Alibeck 54.34 320 P **P 11 04 10.2 +0.5**
comp=Z,4.3nm,0.8s,baz=150,slow=3.3,SNR=7.7
GEYT LR LR 11 31 27.9
comp=Z,76nm,18.7s,baz=185,slow=40
KURK Kurchatov 54.39 344 P **P 11 04 10.0 +0.2**
comp=Z,402nm,0.9s,SNR=36
KURK Kurchatov 54.39 344 *i* P **P 11 04 10.2 +0.5**
KURK pmax pmax
comp=Z,51nm,1.3s
KURK Kurchatov 54.39 344 *eP* **P 11 04 10.3 +0.5**
comp=Z,71nm,0.9s
KURK ScP **ScP** **11 09 03.2 0.0**
KURK S S 11 11 34.6 -6.9
EIDS Eidsvold 55.23 121 *eP* **P 11 04 16.0 -0.4**
comp=Z,49nm,1.4s
ZAA0 Zalesovo Array 55.95 349 *eP* **P 11 04 21.0 0.0**
ZALV Zalesovo Beam 55.95 349 P **P 11 04 21.1 +0.1**
comp=Z,123nm,0.5s,baz=176,slow=6.1,SNR=602
ZALV pP **pP** **11 04 39.4 -3.0**
comp=Z,42nm,0.8s,baz=174,slow=6.3,SNR=4.7
ZALV ScP **ScP** **11 09 09.5 -0.6**
comp=Z,1.3nm,0.6s,baz=180,slow=0.4,SNR=4.4
ZALV S **S** **11 11 59.6 -2.8**
comp=Z,5.5nm,0.6s,baz=161,slow=9.2,SNR=18
ZALV Zalesovo Beam 55.95 349 *i* P **P 11 04 21.1 +0.1**
ZALV pmax pmax
comp=Z,125nm,0.5s
DAMY Dhamar 56.78 288 *eP* **P 11 04 29.5 +1.5**
comp=Z,22nm,0.9s
KRAR Krasnoyarsk 56.91 355⇓ *iP* **P 11 04 28.1 +0.3**
KRAR pmax pmax
comp=Z,118nm,1.5s
KLR Kul'dur 57.00 25 *eP* P 11 04 24.0 -4.5
KLR pmax pmax
comp=E,43nm,1.2s
KLR pmax pmax
comp=Z,94nm,1.2s
NVS Novosibirsk 57.10 349 *eP* **P 11 04 28.5 -0.6**
NVS *e**PP **pP** **11 04 45.6 -5.0**
NVS *eS* **S** **11 12 15.2 -2.2**
NVS pmax pmax
comp=Z,55nm,0.9s
NVS pmax pmax
comp=N,31nm,0.6s
NVS pmax pmax
comp=E,21nm,0.7s
NVS smax smax
comp=E,53nm,1.4s
ARMA Armidale 57.36 126 *eP* **P 11 04 32.8 +1.3**
comp=E,16nm,0.7s
HABR Khabarovsk 57.86 27 *eP* **P 11 04 31.8 -2.8**
HABR *e**PP pP 11 04 47.7 -8.4
HABR *e* 11 05 23.7
HABR *e* 11 06 40.4
HABR *e*PPP PPP 11 07 58.4
HABR *eS* **S** **11 12 27.0 -0.7**
HABR *e**SS sS 11 12 53.9 -11
HABR *e* 11 14 15.3
HABR *eSS* **SS** **11 16 19.3 -0.6**
HABR pmax pmax
comp=E,17nm,1.4s
HABR pmax pmax
comp=Z,42nm,1.4s
HABR pmax pmax
comp=N,6.0nm,0.7s
HABR MLR MLR
comp=Z,77nm,20.0s
RAYN Ar Rayn 57.88 299 *eP* **P 11 04 36.1 +0.8**
comp=Z,6.3nm,0.7s
RAYN *ep*P **pP** **11 04 53.6 -3.2**
ERM Erimo 57.92 37*ceP* **P 11 04 35.3 +0.2**
ERM pmax pmax
comp=Z,17nm,1.1s
ASAJ Asahikawa 58.84 35 *eP* **P 11 04 40.9 -0.6**
comp=Z,6.9nm,0.6s
BVAR Borovoye Array 58.97 340 S **S 11 12 40.0 -1.9**
comp=Z,2.1nm,0.8s,baz=146,slow=16,SNR=6.2
BRVK Borovoye 59.03 340 P **P 11 04 42.9 +0.2**
comp=Z,157nm,0.5s,SNR=10
BRVK Borovoye 59.03 340*c iP* **P 11 04 42.4 -0.2**
BRVK pmax pmax
comp=Z,24nm,1.2s
BRVK Borovoye 59.03 340 *eP* **P 11 04 42.5 -0.2**
comp=Z,22nm,0.9s
BOD Bodaibo 59.57 9 *eP* **P 11 04 45.7 -0.6**
BOD pmax pmax
comp=Z,32nm,1.2s
ABKAR Akbulak array 60.45 331 *eP* **P 11 04 52.4 -0.1**
comp=Z,16nm,0.7s
HNR Honiara 60.56 100 *eP* **P 11 04 53.5 -0.4**
comp=Z,219nm,1.0s
YSS Yuzh-Sakhalins 60.66 32⇑ *iP* **P 11 04 53.3 -0.6**
YSS pmax pmax
comp=Z,80nm,0.9s
YSS Yuzh-Sakhalins 60.66 32 *eP* **P 11 04 53.5 -0.5**
comp=Z,136nm,1.0s
YUK Yuzh-Kuril'sk 60.70 37*c iP* P 11 04 46.9 -7.3
YUK *i* *PP pP 11 05 02.7 -13
YUK *i* 11 07 02.2
YUK *i* S S 11 12 57.6 -6.8
YUK *i* *SS sS 11 13 26.0 -15
YUK pmax pmax
comp=Z,88nm,2.0s
YUK pmax pmax
comp=N,75nm,1.8s
YUK pmax pmax
comp=E,84nm,1.8s
YUK pmax pmax
comp=Z,99nm,1.8s
CLNS Chul'man 60.97 16 *eP* **P 11 04 54.5 -1.4**
CLNS pmax pmax
comp=N,9.0nm,1.1s
CLNS pmax pmax
comp=Z,18nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,1.0s
NKL Nikolayevsk 63.70 26 *eP* P 11 05 08.0 -6.1
NKL pmax pmax
comp=Z,43nm,1.0s
SVE Sverdlovsk 65.47 338⇑ *iP* **P 11 05 26.3 +0.7**
SVE pmax pmax
comp=Z,35nm,0.9s
ARU Arti 66.00 336 P **P 11 05 28.0 -1.0**
comp=Z,99nm,1.0s,SNR=5.8
ARU Arti 66.00 336*d iP* **P 11 05 28.5 -0.5**
ARU *PP pP 11 05 45.3 -5.7
ARU S **S** **11 14 13.7 +3.7**
ARU SS **SS** **11 18 24.8 -2.0**
ARU pmax pmax
comp=Z,21nm,1.2s
ARU Arti 66.00 336 *eP* **P 11 05 28.3 -0.7**
comp=Z,20nm,1.0s
ZEI Tsey 66.14 318 *eP* **P 11 05 32.0 +1.5**
ZEI pmax pmax
comp=Z,25nm,0.3s
YAK Yakutsk 66.69 15 *eP* **P 11 05 30.8 -2.5**
YAK *e* 11 06 01.3
YAK *e*PPP PPP 11 09 34.3
YAK *eS* S 11 14 11.1 -7.0
YAK *e**SS **sS** **11 14 54.7 -1.0**
YAK *e* 11 15 17.4
YAK pmax pmax
comp=Z,31nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,14nm,1.1s
YAK pmax pmax
comp=Z,14nm,0.8s
YAK smax smax
comp=E,33nm,2.1s
YAK smax smax
comp=N,32nm,2.2s
YAK Yakutsk 66.69 15 *eP* **P 11 05 31.9 -1.3**
comp=N,35nm,0.6s
KBZ Khabaz 67.20 319 P **P 11 05 38.5 +1.6**
comp=N,7.8nm,1.1s,baz=108,slow=5.7,SNR=9.5
KBZ Khabaz 67.20 319 P **P 11 05 38.5 +1.6**
KBZ pmax pmax
comp=Z,8.0nm,1.1s
KIV Kislovodsk 67.44 319 *eP* **P 11 05 38.8 +0.2**
KIV *eS* **S** **11 14 28.1 +0.1**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,72nm,17.0s
VRHR Novokhopersk 71.17 326 *eP* **P 11 06 00.3 -1.0**
VRHR pmax pmax
comp=Z,10.0nm,1.0s
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,30nm,1.8s
ANN Anapa 71.24 318 *eP* **P 11 06 01.4 -0.4**
ANN *e**PP **PcP** **11 06 18.0 -3.3**
ANN *e* 11 08 39.4
ANN *eS* **S** **11 15 15.4 +3.0**
ANN *e**SS **sS** **11 15 49.4 -1.0**
ANN *eSS* SS 11 19 59.2 +11
ANN pmax pmax
comp=Z,53nm,1.3s
MAW Mawson 71.34 194 P P 11 06 05.3 +3.3
comp=Z,5.3nm,1.0s,baz=60,slow=11,SNR=7.3
MAW pP pP 11 06 23.5 -0.7
comp=Z,11nm,0.8s,baz=1.4,slow=10.0,SNR=12
MAW Mawson 71.34 194 P P 11 06 05.3 +3.3
MAW *PP pP 11 06 23.5 -0.7
MAW pmax pmax
comp=Z,5.0nm,1.0s
MAW pmax pmax
comp=Z,11nm,0.8s
PETK Petropavlovsk- 72.07 33 P **P 11 06 06.1 -0.6**
comp=Z,18nm,0.8s,baz=206,slow=5.9,SNR=21
PETK LR LR 11 38 30.5
comp=Z,25nm,21.0s,baz=234,slow=36
PETK Petropavlovsk- 72.07 33 P **P 11 06 06.1 -0.6**
PETK pmax pmax
comp=Z,18nm,0.8s
PETK MLR MLR
comp=Z,25nm,21.0s
BRTR Keskin Array B 72.29 312 P **P 11 06 08.3 -0.1**
comp=Z,0.5nm,0.4s,baz=130,slow=6.9,SNR=4.9
BRTR Keskin Array B 72.29 312 *i* P **P 11 06 08.3 -0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.4s
VORD Divnogorie 72.45 325 *eP* **P 11 06 09.5 +0.6**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,30nm,1.5s
VORD pmax pmax
comp=E,10.0nm,0.6s
PET Petropavlovsk 72.55 33⇑ *iP* **P 11 06 08.6 -0.9**
PET pmax pmax
comp=Z,72nm,0.9s
PET MLR MLR
comp=Z,100nm,18.0s
PET Petropavlovsk 72.55 33 *eP* **P 11 06 08.8 -0.7**
comp=Z,49nm,0.8s
VSR Storozhevoye 72.62 325 *eP* P 11 06 13.9 +3.9
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,40nm,1.8s
VSR pmax pmax
comp=E,20nm,0.9s
SEY Seymchan 74.66 22*c iP* **P 11 06 21.1 -0.6**
TIXI Tiksi 74.75 9*c iP* **P 11 06 20.5 -1.6**

TIXI pmax pmax
comp=Z,33nm,1.4s
TIXI Tiksi 74.75 9 *e*P **P 11 06 20.4 -1.6**
comp=Z,31nm,0.9s
MOS Moscow 75.32 329 *e*P **P 11 06 22.9 -2.7**
OBN Obninsk 75.62 328 P **P 11 06 27.8 +0.4**
comp=Z,13nm,0.4s,baz=156,slow=0.5,SNR=5.2
OBN Obninsk 75.62 328⇓ *i*P **P 11 06 28.1 +0.8**
OBN *i* 11 06 45.5
OBN pmax pmax
comp=Z,53nm,2.5s
OBN MLR MLR
comp=Z,50nm,18.0s
BOSA Boshof 75.94 241 LR LR 11 34 20.3
comp=Z,100nm,19.9s,baz=126,slow=31
KARP Karpathos 76.30 307 *e*P sP 11 06 59.5 -4.0
NISR Nisiros 76.53 308 *e*P sP 11 07 01.5 -3.2
SMG Samos 76.97 309 *e*P pP 11 07 02.0 +4.1
TIRR Tirgusor 77.28 316 *e*P **P 11 06 37.3 +0.4**
comp=Z,5.5nm,0.9s
CHOS Chios Island 77.71 309 *e*P pP 11 06 59.5 -2.7
APE Apeiranthos 77.87 308 *e*P sP 11 07 07.0 -5.4
IDI Anoyia 78.08 306 P **P 11 06 42.7 +0.9**
comp=Z,4.0nm,0.7s,baz=90,slow=8.1,SNR=3.5
ALN Alexandroupoli 78.20 312 *e*P pP 11 07 02.0 -2.7
AKASG Malin Array Be 78.35 322 P **P 11 06 42.4 -0.4**
comp=Z,0.3nm,0.3s,baz=87,slow=5.1,SNR=5.2
AKASG Malin Array Be 78.35 322 *i* P **P 11 06 41.0 -1.8**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
KIEV Kiev 78.36 322⇓ *i*P **P 11 06 43.0 +0.2**
SMTH Samothraki Isl 78.50 312 *e*P pP 11 07 02.5 -4.0
VAM Vamos 78.65 306 *e*P pP 11 07 05.0 -2.4
TMCR Tamitsa 78.73 337 *e*P **P 11 06 44.9 +0.4**
TMCR *e* 11 09 43.3
TMCR pmax pmax
comp=Z,28nm,0.8s
SYO Syowa Base 78.88 199⇑ *e*P **P 11 06 47.0 +1.7**
MLR Muntele Rosu 79.22 317 P **P 11 06 48.8 +0.9**
comp=Z,1.4nm,0.9s,baz=164,slow=7.4,SNR=7.1
MLR Muntele Rosu 79.22 317 P **P 11 06 48.8 +0.9**
MLR pmax pmax
comp=Z,1.0nm,0.9s
DID Didima 79.75 308 *e*P **P 11 06 52.5 +1.7**
DIDY Didyma 79.77 308 *e*P pP 11 07 08.5 -5.1
KRND KRANIDI 79.80 308 *e*P P 11 06 58.5 +7.5
VIL2 Platees 79.84 309 *e*P pP 11 07 10.5 -3.4
VLI Veliai 79.87 307 *e*P P 11 07 00.5 +9.1
LTK Loutraki 80.04 309 *e*P P 11 06 57.5 +5.2
VLX Vlachokerasia 80.40 308 *e*P P 11 07 03.5 +9.1
DSF Desfina 80.44 309 *e*P **P 11 06 55.0 +0.5**
GUR Goura 80.52 309 *e*P P 11 07 00.0 +5.0
KLV Kalavryta, Ach 80.68 309 *e*P P 11 07 02.0 +6.2
AGG Agios Georgios 80.69 310 *e*P P 11 07 01.0 +5.2
KALE Kalithea 80.74 309 *e*P P 11 07 00.5 +4.4
SERG Sergoula 80.81 309 *e*P pP 11 07 15.5 -3.6
MAKR Makrakomi, Fth 80.84 310 *e*P **P 11 06 55.0 -1.6**
AMT Artemida-Makis 80.95 308 *e*P sP 11 07 25.5 -3.7
DRO Drossia 81.01 308 *e*P **P 11 06 59.0 +1.5**
EVR Evrytania 81.07 309 *e*P pP 11 07 17.5 -3.1
SFD Strofades 81.46 308 *e*P P 11 07 06.0 +6.1
LVZ Lovozero 81.56 340 P **P 11 06 59.8 -0.1**
comp=Z,156nm,0.5s,SNR=6.6
LVZ Lovozero 81.56 340 *e*P **P 11 06 59.7 -0.1**
comp=Z,14nm,0.6s
ZKS Zakynthos 81.70 308 *e*P **P 11 07 03.0 +1.8**
NEST Nestorio 81.87 311 *e*P **P 11 07 01.0 -1.1**
APA Apatity 81.87 339 *e*P **P 11 07 02.5 +1.1**
APA *i* S **S 11 17 10.0 +2.3**
APA pmax pmax
comp=Z,16nm,1.0s
APA MLR MLR
comp=Z,300nm,13.0s
EXG Exogi 81.92 309 *e*P **P 11 07 03.0 +0.7**
KOLS Kolonicke sedl 82.34 320 *e*P **P 11 07 06.0 +1.7**
KOLS pmax pmax
comp=Z,9.0nm,1.0s
KOLS Kolonicke sedl 82.34 320 *e*P **P 11 07 06.0 +1.7**
KOLS *e* 11 07 24.8
SGD Sagiada 82.38 310 *e*P P 11 07 10.0 +5.4
KEK Kerkira 82.72 310 *e*P P 11 07 12.0 +5.5
SUW Suwalki 82.74 325 *e*P **P 11 07 07.0 +0.9**
SUW Suwalki 82.74 325 *e*P **P 11 07 07.0 +0.9**
FINES FINESS Array B 82.92 332 P **P 11 07 07.7 +0.8**
comp=Z,5.7nm,0.6s,baz=120,slow=7.3,SNR=16
FINES PKKPbc **PKKPbc 11 25 30.3 -2.0**
comp=Z,0.8nm,0.8s,baz=304,slow=3.7,SNR=5.6
FINES LR LR 11 49 00.3
comp=Z,60nm,18.8s,baz=104,slow=39
STHS Stebnicka Huta 83.09 320 *e*P **P 11 07 10.4 +2.2**
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 83.09 320 *e*P **P 11 07 10.4 +2.2**
STHS *e* 11 07 28.5
VNDA Vanda 83.38 169 P **P 11 07 11.0 +1.9**
comp=Z,3.7nm,0.6s,baz=306,slow=5.3,SNR=41
VNDA LR LR 11 40 05.1
comp=Z,63nm,20.8s,baz=346,slow=32
VNDA Vanda 83.38 169 P **P 11 07 11.0 +1.9**
VNDA pmax pmax
comp=Z,4.0nm,0.6s
NIE Niedzica 83.69 320 *e*P **P 11 07 13.0 +1.8**
NIE Niedzica 83.69 320 *e*P **P 11 07 13.1 +1.8**
SBA Scott Base 84.47 169 *e*P **P 11 07 17.4 +2.8**
comp=Z,8.7nm,0.8s
ARCES ARCESS Array B 85.26 340 P **P 11 07 19.6 +0.9**
comp=Z,7.7nm,0.4s,baz=96,slow=4.8,SNR=34
ARCES LR LR 11 49 48.5
comp=Z,35nm,20.5s,baz=92,slow=39
ARCES ARCESS Array B 85.26 340 P **P 11 07 19.6 +0.9**
ARCES pmax pmax
comp=Z,8.0nm,0.4s
ARCES MLR MLR
comp=Z,35nm,20.5s
SOKA Soboth 86.90 317⇑ *i*P **P 11 07 28.1 +0.7**
comp=Z,4.3nm,1.0s
GSTR Great Sitkin T 87.11 38 *e*P **P 11 07 27.1 -1.1**
comp=Z,7.4nm,0.4s
MYKA Terra Mystica 87.85 317⇑ *i*PcP **PcP 11 07 34.0 +0.3**
comp=Z,3.8nm,0.9s
BRG Berggiesshubel 87.92 321 *e*P **P 11 07 33.0 +0.9**
comp=Z,8.2nm,1.1s
BRG *e* 11 07 52.5
comp=Z,22nm,1.7s
BRG Berggiesshubel 87.92 321 *e*P **P 11 07 33.0 +0.9**
BRG *e* 11 07 52.5
BRG pmax pmax
comp=Z,8.0nm,1.1s
GERES GERESS Array B 87.95 319 P **P 11 07 33.4 +1.0**
comp=Z,0.7nm,0.6s,baz=94,slow=4.1,SNR=12
GERES GERESS Array B 87.95 319 P **P 11 07 33.4 +1.0**
GERES pmax pmax
comp=Z,1.0nm,0.6s
NVL N'lazarevskaya 88.52 199 *e*P P 11 07 41.6 +7.2
NVL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 88.54 321 *i* P **P 11 07 36.4 +1.4**
comp=Z,7.0nm,1.0s
CLL *i* 11 07 41.5
CLL *i* pP **pP 11 07 55.1 -2.9**
comp=Z,13nm,1.2s
CLL *i* sP **sP 11 08 02.9 -4.3**
comp=Z,7.0nm,0.8s
CLL Collm 88.54 321 *i* P **P 11 07 36.4 +1.4**
CLL *i* *PP **pP 11 07 55.1 -2.9**
CLL pmax pmax
comp=Z,7.0nm,1.0s
HFS Hagfors 88.69 330 P **P 11 07 36.1 +0.6**
comp=Z,8.4nm,0.9s,baz=139,slow=9.9,SNR=8.6
HFS Hagfors 88.69 330 P **P 11 07 36.1 +0.6**
HFS pmax pmax
comp=Z,8.0nm,0.9s
SPITS Spitsbergen Ar 89.42 348 P **P 11 07 38.2 -0.4**
comp=Z,5.9nm,0.5s,baz=108,slow=8.0,SNR=44
SPITS Spitsbergen Ar 89.42 348 P **P 11 07 38.2 -0.4**
SPITS pmax pmax
comp=Z,6.0nm,0.5s
FETA Feichten 89.87 317⇑ *i*PcP **P 11 07 42.6 +1.0**
comp=Z,2.8nm,0.8s
NB2 NORSAR Subarra 89.96 331 P **P 11 07 41.7 +0.2**
comp=Z,1.0nm,0.8s,baz=98,slow=4.4
NOA NORSAR Array B 89.96 331 P **P 11 07 41.6 +0.1**
comp=Z,1.8nm,0.9s,baz=93,slow=4.6,SNR=4.5
NOA LR LR 11 52 48.6
comp=Z,28nm,18.7s,baz=115,slow=39

DAVOX Davos/Dischmat 90.44 317 P **P 11 07 45.4 +1.1**
comp=Z,3.5nm,0.5s,baz=130,slow=7.3,SNR=9.2
DAVOX Davos/Dischmat 90.44 317 P **P 11 07 45.4 +1.1**
DAVOX pmax pmax
comp=Z,4.0nm,0.5s
DAVA Damuels 90.45 317⇑ *i*P **P 11 07 44.3 +0.1**
comp=Z,9.0nm,1.0s
KEST Kesra 90.73 306 P **P 11 07 48.3 +2.6**
comp=Z,1.5nm,0.7s,baz=106,slow=7.4,SNR=6.2
KEST pP **pP 11 08 07.3 -1.5**
comp=Z,8.6nm,0.9s,baz=325,slow=5.2,SNR=14
BFO Black Forest 91.50 318 *i* P **P 11 07 50.8 +1.9**
BFO Black Forest 91.50 318 *e*P **P 11 07 49.7 +0.8**
comp=Z,5.0nm,0.8s
SNAA Sanae 93.16 198 P **P 11 07 55.4 -0.7**
SNAA Sanae 93.16 198 P pP 11 08 16.6 -2.7
SNAA Sanae 93.16 198⇓ *e*P **P 11 07 55.6 -0.5**
SNAA pmax pmax
comp=Z,11nm,2.6s
VNA2 Neumayer--Watz 94.77 198 P **P 11 08 06.5 +3.1**
baz=132,slow=4.1
VNA2 Neumayer--Watz 94.77 198 P pP 11 08 26.2 -0.4
baz=142,slow=5.2
TORD Torodi Ar. Bea 97.95 283 pP **pP 11 08 38.7 -3.5**
comp=Z,1.4nm,0.9s,baz=97,slow=5.1,SNR=5.6
TORD LR LR 11 52 09.7
comp=Z,51nm,18.6s,baz=0.0,slow=35
COLD Coldfoot 98.45 22 *e*P **P 11 08 20.1 -0.1**
comp=Z,2.2nm,0.8s
BPAW Bear Paw Mtn. 99.10 25 *e*P **Pdif 11 08 22.9 -0.2**
comp=Z,4.3nm,1.1s
MCK McKinley 100.08 25 *e*Pdif **Pdif 11 08 26.9 -0.6**
comp=Z,17nm,1.1s
COLA College 100.14 24⇑ *i*P **Pdif 11 08 27.5 -0.2**
COLA pmax pmax
comp=Z,16nm,1.7s
ILAR Eielson Array 100.56 24 P **Pdif 11 08 28.6 -1.1**
comp=Z,0.7nm,0.6s,baz=284,slow=4.2,SNR=13
ILAR PP PP 11 12 28.8 -8.5
comp=Z,0.4nm,0.8s,baz=270,slow=6.7,SNR=5.1
ILAR PKKPbc **PKKPbc 11 24 45.5 -1.5**
comp=Z,0.7nm,0.7s,baz=144,slow=2.2,SNR=9.2
BMRM Bremner River 102.95 27 *e*Pdif **Pdif 11 08 40.7 +0.3**
comp=Z,11nm,1.0s
G03D McMinnville, O 121.84 35 PKiKP **PKiKP 11 13 36.8 +0.4**
baz=122
I03D Drain, OR 122.68 36 PKiKP **PKPdf 11 13 37.9 -0.1**
baz=122
NEW Newport 123.06 29 PKiKP **PKiKP 11 13 39.5 +0.6**
baz=123
I05D Terrebonne, OR 123.45 34 PKiKP **PKiKP 11 13 40.4 +0.6**
baz=123
J04D Umpqua Nationa 123.68 36 PKiKP **PKiKP 11 13 41.0 +0.5**
baz=123
J05D Fort Rock, OR 124.16 35 PKiKP **PKiKP 11 13 41.6 +0.3**
baz=124
M02C Callahan 124.32 38 PKiKP **PKiKP 11 13 42.0 +0.5**
baz=124
M04C Macdoel 124.71 37 PKiKP **PKiKP 11 13 42.4 0.0**
baz=124
SCHQ Schefferville 125.03 351 PKP **PKPdf 11 13 42.0 -0.2**
comp=Z,5.4nm,1.0s,baz=68,slow=3.7,SNR=5.0
MSO Missoula 125.60 28 PKiKP **PKPdf 11 13 43.4 -0.2**
baz=125
WVOR Wild Horse Val 126.18 35 *e*PKPdf **PKPdf 11 13 45.1 +0.2**
A19A Klindworth Far 126.20 23 PKiKP **PKPdf 11 13 44.8 +0.1**
baz=126
B19A Brinkman Farms 126.51 23 PKiKP **PKPdf 11 13 45.3 +0.1**
baz=126
EGMT Eagleton 126.52 24 PKiKP **PKiKP 11 13 45.8 0.0**
baz=126
B20A Solberg Farm, 126.88 23 PKiKP **PKiKP 11 13 46.3 -0.1**
baz=127
MFID Camas Ranch 127.08 32 *e*PKPdf **PKPdf 11 13 47.0 +0.4**
DLMT Dillon 127.31 28 *e*PKPdf **PKPdf 11 13 47.2 +0.2**
C20A Veseth Ranch, 127.48 23 PKiKP **PKiKP 11 13 47.4 -0.2**
baz=127
BOZ Bozeman (W) 127.55 27 PKiKP **PKiKP 11 13 48.0 0.0**
baz=127
A23A Redstone 127.60 20 PKiKP **PKiKP 11 13 48.2 +0.4**
baz=127
HLID Hailey 127.71 31 PKiKP **PKiKP 11 13 48.6 +0.2**
baz=128
HLID Hailey 127.71 31 *e*PKPdf **PKPdf 11 13 48.4 +0.5**
C21A Desert Coulee 127.74 23 PKiKP **PKiKP 11 13 48.3 +0.2**
baz=128
B23A Brockton 127.98 21 PKiKP **PKiKP 11 13 48.5 -0.1**
baz=128
A25A Svangstu Ranch 128.21 19 PKiKP **PKiKP 11 13 49.0 -0.1**
baz=128
DGMT Dagmar 128.25 20 PKiKP **PKiKP 11 13 48.9 -0.2**
baz=128
C22A Vida 128.26 22 PKiKP **PKiKP 11 13 49.1 -0.1**
baz=128
D21A La Casta Ranch 128.40 23 PKiKP **PKiKP 11 13 49.7 +0.2**
baz=128
A26A Wade Farm, Ken 128.59 18 PKiKP **PKiKP 11 13 49.8 0.0**
baz=128
D22A Cohagen 128.65 22 PKiKP **PKiKP 11 13 50.3 +0.3**
baz=128
A27A Ledoux Ranch, 128.78 18 PKiKP **PKiKP 11 13 50.0 -0.1**
baz=128
E21A Keefer Ranch, 128.80 23 PKiKP **PKPdf 11 13 49.8 +0.2**
baz=128
NVAR Mina Array Bea 128.89 38 PKP **PKPdf 11 13 48.9 -1.4**
comp=Z,2.0nm,0.8s,baz=280,slow=2.7,SNR=12
D23A Lindsay 128.99 22 PKiKP **PKiKP 11 13 50.6 -0.1**
baz=129
ULM Lac du Bonnet 129.00 13 PKP **PKPdf 11 13 49.8 0.0**
comp=Z,4.4nm,0.8s,baz=325,slow=3.4,SNR=5.3
ULM Lac du Bonnet 129.00 13 PKIKP **PKPdf 11 13 49.8 0.0**
ULM pmax pmax
comp=Z,4.0nm,0.8s
RLMT Red Lodge 129.01 26 PKiKP **PKiKP 11 13 51.0 0.0**
baz=129
E22A Miles City 129.33 23 PKiKP **PKiKP 11 13 51.2 -0.2**
baz=129
D24A Glendive 129.36 21 PKiKP **PKiKP 11 13 51.1 -0.3**
baz=129
A29A Manning Farm, 129.39 16 PKiKP **PKiKP 11 13 51.4 +0.1**
baz=129
G20A Bridger 129.40 25 PKiKP **PKiKP 11 13 51.7 +0.1**
baz=129
H19A Powell 129.49 26 PKiKP **PKiKP 11 13 52.3 +0.4**
baz=129
B28A Dugan Ranch, T 129.50 17 PKiKP **PKiKP 11 13 51.9 +0.3**
baz=129
SMMC Simmler 129.62 43 PKiKP **PKPdf 11 13 51.8 +0.3**
baz=129
I19A Meeteetse 129.99 27 PKiKP **PKiKP 11 13 52.8 -0.1**
baz=130
H20A Greybull 130.07 26 PKiKP **PKiKP 11 13 52.9 -0.1**
baz=130
D26A Manning 130.09 20 PKiKP **PKPdf 11 13 52.4 +0.3**
baz=130
G22A Birney 130.20 24 PKiKP **PKiKP 11 13 53.4 +0.1**
baz=130
D27A Center 130.33 19 PKiKP **PKiKP 11 13 53.6 +0.2**
baz=130
F24A Ekalaka 130.40 22 PKiKP **PKiKP 11 13 53.6 0.0**
baz=130
I20A Worland 130.44 26 PKiKP **PKiKP 11 13 53.7 -0.1**
baz=130
J19A Crowheart 130.56 28 PKiKP **PKiKP 11 13 54.3 +0.2**
baz=130
E26A Carlson Angus 130.57 20 PKiKP **PKiKP 11 13 54.5 +0.6**
baz=130
G23A Biddle 130.57 23 PKiKP **PKiKP 11 13 54.1 +0.1**
baz=130
HWUT Hardware Ranch 130.58 31 *e*PKPdf **PKPdf 11 13 53.7 +0.3**
BSC Santa Cruz Isl 130.60 44 PKiKP **PKiKP 11 13 54.2 -0.1**
R11A Troy Canyon, C 130.60 37 PKiKP **PKiKP 11 13 54.4 +0.1**
baz=130
R11A Troy Canyon, C 130.60 37 *e*PKPdf **PKPdf 11 13 53.8 +0.3**
R11A *e*pPKPdf **pPKPdf 11 14 15.1 -2.5**
PDAR Pinedale Array 130.70 28 PKhKP PKPpre 11 13 50.3
comp=Z,1.1nm,0.9s,baz=48,slow=2.2,SNR=7.5
PDAR SKPbc **SKPbc 11 17 09.8 -0.3**
comp=Z,0.9nm,0.8s,baz=350,slow=2.7,SNR=4.7
AGMN Agassiz Nation 130.83 14 PKiKP **PKiKP 11 13 53.9 -0.4**
baz=131
MPMC Manual Prospec 130.84 40 PKiKP **PKiKP 11 13 54.8 -0.2**
baz=131
I21A Big Trails, Te 130.92 26 PKiKP **PKiKP 11 13 54.9 0.0**
baz=131
J20A Shoshoni 130.93 27 PKiKP **PKiKP 11 13 55.0 +0.2**
baz=131

DUG Dugway, Tooele 130.93 33 PKiKP **PKiKP 11 13 55.6 +0.6**
baz=131
DUG Dugway, Tooele 130.93 33 *e*PKPdf **PKPdf 11 13 55.7 +1.7**
TPNV Topopah Spring 131.09 39 PKiKP **PKiKP 11 13 55.4 0.0**
baz=131
EDW2 Edwards Air Fo 131.21 42 PKiKP **PKiKP 11 13 55.2 -0.3**
baz=131
J21A Lysite 131.22 26 PKiKP **PKiKP 11 13 55.0 -0.5**
baz=131
H24A Dirks Ranch, A 131.28 23 PKiKP **PKiKP 11 13 55.1 -0.3**
baz=131
J22A Midwest 131.59 25 PKiKP **PKiKP 11 13 55.7 -0.5**
baz=131
SHOC Shoshone, Teco 131.72 40 PKiKP **PKiKP 11 13 57.1 +0.6**
baz=132
GSC Goldstone, Bar 131.74 41 PKiKP **PKiKP 11 13 57.1 +0.5**
baz=132
BFSC Mount Baldy Ra 131.81 42 PKiKP **PKiKP 11 13 56.9 0.0**
baz=132
EYMN Ely 132.07 10 PKiKP **PKiKP 11 13 56.9 0.0**
baz=132
K22A Casper 132.18 26 PKiKP **PKPdf 11 13 56.3 0.0**
baz=132
K22A Casper 132.18 26 *e*PKPdf **PKPdf 11 13 56.2 -0.1**
I25A Rochford 132.21 23 PKiKP **PKPdf 11 13 56.7 +0.4**
baz=132
MSU Marysvale 132.46 34 *e*PKPdf **PKPdf 11 13 58.7 +1.6**
MURC Murrieta 132.49 43 PKiKP **PKiKP 11 13 58.0 -0.1**
baz=132
GMRC Granite Mounta 132.81 40 PKiKP **PKiKP 11 13 59.0 +0.1**
baz=133
PFO Pinyon Flats O 132.99 42 PKiKP **PKiKP 11 13 59.2 -0.1**
baz=133
K25A Mack Ranch, Ha 133.34 24 PKiKP **PKiKP 11 13 59.4 -0.3**
baz=133
O20A White River Ci 133.35 30 PKiKP **PKiKP 11 13 59.8 -0.1**
baz=133
MONP Monument Peak, 133.43 43 PKiKP **PKiKP 11 14 00.4 +0.1**
baz=133
IRM Iron Mountain 133.52 41 PKiKP **PKiKP 11 14 00.7 +0.5**
baz=133
BC3 Big Chuckawall 133.63 42 PKiKP **PKiKP 11 14 00.0 -0.5**
baz=133
J28A Allard Ranch, 133.65 21 PKiKP **PKiKP 11 14 00.1 -0.1**
baz=133
N23A Red Feather La 133.85 27 P **PKPdf 11 13 59.8 +0.1**
baz=134
ECSD EROS Data Cent 134.87 17 PKiKP **PKPdf 11 14 01.8 +0.7**
baz=135
ECSD EROS Data Cent 134.87 17 PKiKP **PKPdf 11 14 00.9 -0.3**
WUAZ Wupatki 135.00 37 PKiKP **PKiKP 11 14 02.8 -0.5**
baz=135
MVCO Mesa Verde 135.42 32 PKiKP **PKiKP 11 14 03.5 -0.7**
baz=135
S22A 4UR Ranch, Cre 135.89 31 PKiKP **PKiKP 11 14 04.7 -0.6**
baz=136
P26A Davis Ranch, A 136.09 26 PKiKP **PKiKP 11 14 05.1 -0.3**
baz=136
SDCO Great Sand Dun 136.55 29 PKiKP **PKiKP 11 14 05.8 -0.8**
baz=136
R26A Arlington 137.08 27 PKiKP **PKPdf 11 14 05.7 +0.1**
baz=137
T25A Trinidad 137.56 29 PKiKP **PKPdf 11 14 07.2 +0.6**
baz=137
S26A Kim 137.62 28 PKiKP **PKPdf 11 14 06.8 +0.2**
baz=137
P31A Stockton 137.73 22 PKiKP **PKPdf 11 14 07.1 +0.5**
baz=138
T26A Comanche Natio 137.92 28 PKiKP **PKPdf 11 14 07.6 +0.3**
baz=138
ANMO Albuquerque 138.21 33 PKPdf **PKPdf 11 14 07.7 -0.1**
T27A Campo 138.42 27 PKiKP **PKiKP 11 14 09.3 -0.9**
baz=138
WMOK Wichita Mounta 142.11 25 *e*PKPdf PKPdf 11 14 08.8 -5.9
W37A Quinton 143.07 21 PKPdf PKPbc 11 14 12.9 -0.5
baz=143
131A Roby 143.11 29 PKPdf PKPbc 11 14 13.0 -0.6
baz=143
X35A Drake 143.14 23 PKPdf PKPab 11 14 12.7 +0.6
baz=143
Y34A Reagan Ranch, 143.21 25 PKPdf PKPbc 11 14 13.1 -0.6
baz=143
X36A Centrahoma 143.23 22 PKPdf PKPbc 11 14 13.2 -0.6
baz=143
329A Wagon Wheel Ra 143.26 32 PKPdf PKPbc 11 14 13.7 -0.4
baz=143
230A Sterling City 143.39 30 PKPdf PKPbc 11 14 14.0 -0.4
baz=143
W38A Poteau 143.44 20 PKPdf PKPbc 11 14 13.9 -0.5
baz=143
ABTX Abilene, Hawle 143.50 28 PKPdf PKPab 11 14 14.0 +0.3
baz=143
ABTX Abilene, Hawle 143.50 28 *e*PKPdf PKPbc 11 14 14.3 -0.4
Y35A Marietta 143.55 24 PKPdf PKPab 11 14 13.9 +0.1
baz=143
X37A Clayton 143.58 21 PKPdf PKPab 11 14 14.3 +0.4
baz=143
Z34A Collier Ranch, 143.65 25 PKPdf PKPab 11 14 14.0 -0.2
baz=143
X38A Whitesboro 143.70 20 PKPdf PKPbc 11 14 15.0 -0.1
baz=143
330A Mertzon 143.74 31 PKPdf PKPbc 11 14 15.1 -0.4
baz=144
231A Bronte 143.75 29 PKPdf PKPab 11 14 14.8 +0.1
baz=144
Y36A Durant 143.85 23 PKPdf PKPab 11 14 15.0 +0.1
baz=144
133A Hamilton Ranch 143.85 27 PKPdf PKPab 11 14 15.1 +0.1
baz=144
TXAR Lajitas Array 143.96 36 PKP PKPbc 11 14 16.6 +0.4
comp=Z,26nm,0.7s,baz=273,slow=1.3,SNR=213
TXAR SKPbc **SKPbc 11 17 49.4 -0.2**
comp=Z,1.7nm,0.9s,baz=318,slow=1.2,SNR=5.5
TXAR Lajitas Array 143.96 36 PKIKP PKPbc 11 14 16.7 +0.5
TXAR pmax pmax
comp=Z,26nm,0.7s
TXAR pmax pmax
comp=N,2.0nm,0.9s
Z35A Perchaven, San 143.96 24 PKPdf PKPab 11 14 15.1 -0.2
baz=144
429A Davenport Ranc 143.98 33 PKPdf PKPab 11 14 15.8 +0.2
baz=144
232A Coleman 144.11 29 PKPdf PKPbc 11 14 16.3 -0.3
baz=144
BDFB Brasilia 144.13 242 PKP **PKPdf 11 14 19.1 +0.2**
comp=N,3.8nm,0.5s,baz=136,slow=6.6,SNR=5.6
BDFB Brasilia 144.13 242 PKIKP **PKPdf 11 14 19.1 +0.2**
BDFB pmax pmax
comp=Z,4.0nm,0.5s
529A Stev Forest Ra 144.19 34 PKPdf PKPbc 11 14 16.8 0.0
baz=144
331A San Angelo 144.20 30 PKPdf **PKPab 11 14 16.6 +0.2**
baz=144
430A Baggett Ranch, 144.20 32 PKPdf **PKPab 11 14 16.5 +0.1**
baz=144
MIAR Mount Ida 144.23 19 PKPdf PKPbc 11 14 16.8 0.0
baz=144
MIAR Mount Ida 144.23 19 *e*PKPdf PKPbc 11 14 16.5 -0.2
134A White-Moore Ra 144.26 26 PKPdf **PKPab 11 14 16.4 -0.1**
baz=144
Z36A Blue Ridge 144.35 23 PKPdf **PKPab 11 14 16.5 -0.3**
baz=144
233A Rising Star 144.35 28 PKPdf **PKPab 11 14 16.9 0.0**
baz=144
UALR University of 144.40 17 *e*PKPdf **PKPab 11 14 16.7 -0.2**
Y38A Idabel 144.40 21 PKPdf **PKPab 11 14 16.7 -0.2**
baz=144
332A Millersview 144.48 29 PKPdf **PKPab 11 14 17.3 -0.1**
baz=144
135A Vickery Place, 144.56 25 PKPdf **PKPab 11 14 17.4 -0.2**
baz=144
431A Sonora 144.61 31 PKPdf **PKPab 11 14 18.0 0.0**
baz=144
Y39A Lockesburg 144.62 20 PKPdf **PKPab 11 14 17.8 +0.1**
baz=144
530A J-C Ranch, Com 144.65 32 PKPdf PKPbc 11 14 18.6 +0.4
baz=144
234A Clairette 144.72 27 PKPdf **PKPab 11 14 17.9 -0.3**
baz=144
Z37A Pogue Cattle C 144.73 23 PKPdf **PKPab 11 14 17.9 -0.3**
baz=144
432A Menard 144.87 30 PKPdf **PKPab 11 14 18.5 -0.3**
baz=145
333A Richland Sprin 144.89 28 PKPdf **PKPab 11 14 18.5 -0.4**
baz=145
Z38A Mt. Pleasant 144.92 22 PKPdf **PKPab 11 14 18.6 -0.3**
baz=145
136A Ennis 145.00 24 PKPdf **PKPbc 11 14 18.6 -0.7**

	baz=145							
WHTX	**Lake Whitney,**	**145.03**	**26**	PKPdf	**PKPbc**	**11 14 18.8**	**-0.5**
	baz=145							
WHTX	**Lake Whitney,**	**145.03**	**26**	*e*PKPdf	**PKPbc**	**11 14 19.1**	**-0.2**
531A	**Rocksprings**	**145.05**	**31**	PKPdf	**PKPab**	**11 14 19.6**	**0.0**
	baz=145							
CPUP	**Villa Florida**	**145.06**	**218**	PKPbc	**PKPdf**	**11 14 21.4**	**+1.4**
	comp=Z,24nm,0.9s,baz=120,slow=2.1,SNR=34							
CPUP	**Villa Florida**	**145.06**	**218**	PKIKP	**PKPdf**	**11 14 21.4**	**+1.4**
CPUP				pmax	pmax			
	comp=Z,24nm,0.9s							
JCT	**Junction City**	**145.18**	**30**	PKPdf	**PKPab**	**11 14 20.0**	**0.0**
	baz=145							
JCT	**Junction City**	**145.18**	**30**	*e*PKPbc	**PKPab**	**11 14 20.1**	**0.0**
137A	**Heron Place, G**	**145.21**	**23**	PKPdf	**PKPbc**	**11 14 19.9**	**0.0**
	baz=145							
Z39A	**Irene McRaven,**	**145.22**	**21**	PKPdf	**PKPbc**	**11 14 19.8**	**-0.1**
	baz=145							
334A	**Lometa**	**145.24**	**27**	PKPdf	**PKPbc**	**11 14 19.5**	**-0.5**
	baz=145							
433A	**Art**	**145.31**	**29**	PKPdf	**PKPbc**	**11 14 19.8**	**-0.5**
	baz=145							
BBSR	**BB Station**	**145.32**	**336**	*e*PKPbc	**PKPab**	**11 14 21.0**	**+0.6**
138A	**Matatall Enter**	**145.41**	**22**	PKPdf	**PKPbc**	**11 14 20.6**	**+0.1**
	baz=145							
532A	**Rocksprings**	**145.41**	**31**	PKPdf	**PKPbc**	**11 14 20.7**	**0.0**
	baz=145							
236A	**Katherine and**	**145.42**	**25**	PKPdf	**PKPdf**	**11 14 20.1**	**-0.4**
	baz=145							
OXF	**Oxford**	**145.42**	**13**	*e*PKPbc	**PKPdf**	**11 14 20.0**	**-0.4**
631A	**Perdido Creek**	**145.63**	**32**	PKPdf	**PKPbc**	**11 14 21.2**	**-0.2**
	baz=145							
335A	**Moody**	**145.65**	**26**	PKPdf	**PKPdf**	**11 14 20.9**	**0.0**
	baz=145							
139A	**Bunkhouse Ranc**	**145.65**	**21**	PKPdf	**PKPbc**	**11 14 21.2**	**0.0**
	baz=145							
434A	**Burnet**	**145.66**	**28**	PKPdf	**PKPdf**	**11 14 20.7**	**-0.3**
	baz=145							
237A	**Washetta, Mont**	**145.71**	**24**	PKPdf	**PKPbc**	**11 14 21.4**	**-0.1**
	baz=145							
336A	**Riesel**	**145.81**	**26**	PKPdf	**PKPdf**	**11 14 21.4**	**+0.2**
	baz=146							
KMSC	**Kings Mountain**	**145.84**	**1**	PKPdf	**PKPdf**	**11 14 21.0**	**-0.1**
	baz=146							
KMSC	**Kings Mountain**	**145.84**	**1**	*e*PKPbc	**PKPbc**	**11 14 21.5**	**-0.3**
533A	**Kerrville**	**145.90**	**30**	PKPab	**PKPbc**	**11 14 22.3**	**+0.1**
	baz=146							
632A	**Uvalde**	**145.97**	**31**	PKPab	**PKPab**	**11 14 22.8**	**-0.2**
	baz=146							
238A	**Jacksonville**	**145.98**	**23**	PKPab	**PKPab**	**11 14 22.7**	**-0.2**
	baz=146							
435B	**Jarrell**	**146.00**	**27**	PKPab	**PKPbc**	**11 14 22.3**	**-0.2**
	baz=146							
534A	**Blanco**	**146.21**	**29**	PKPab	**PKPbc**	**11 14 22.8**	**-0.3**
	baz=146							
239A	**Gary**	**146.22**	**22**	PKPab	**PKPbc**	**11 14 23.0**	**0.0**
	baz=146							
337A	**Centerville**	**146.28**	**24**	PKPab	**PKPbc**	**11 14 23.5**	**+0.3**
	baz=146							
633A	**Saathoff Ranch**	**146.33**	**31**	PKPab	**PKPbc**	**11 14 23.7**	**+0.2**
	baz=146							
436A	**Wall Ranch, Ga**	**146.36**	**26**	PKPab	**PKPbc**	**11 14 23.8**	**+0.3**
	baz=146							
NATX	**Nacogdoches**	**146.37**	**22**	PKPab	**PKPbc**	**11 14 23.6**	**+0.1**
	baz=146							
338A	**Crockett**	**146.48**	**24**	PKPab	**PKPbc**	**11 14 24.0**	**+0.2**
	baz=146							
732A	**Laxson Ranch,**	**146.50**	**32**	PKPab	**PKPbc**	**11 14 24.2**	**+0.2**
	baz=146							
437A	**Phantom Ranch,**	**146.60**	**25**	PKPab	**PKPbc**	**11 14 24.5**	**+0.3**
	baz=146							
535A	**Dale**	**146.64**	**28**	PKPab	**PKPbc**	**11 14 24.5**	**+0.2**
	baz=146							
339A	**Huntington**	**146.79**	**23**	PKPab	**PKPbc**	**11 14 24.8**	**+0.1**
	baz=146							
634A	**China Grove, S**	**146.80**	**30**	PKPab	**PKPbc**	**11 14 25.1**	**+0.3**
	baz=146							
536A	**Bastrop**	**146.83**	**27**	PKPab	**PKPbc**	**11 14 25.2**	**+0.3**
	baz=147							
832A	**Faith Ranch, C**	**146.84**	**33**	PKPab	**PKPbc**	**11 14 25.3**	**+0.4**
	baz=147							
733A	**Divot King Ran**	**146.86**	**31**	PKPab	**PKPbc**	**11 14 25.4**	**+0.4**
	baz=147							
438A	**Sam Houston St**	**146.94**	**24**	PKPab	**PKPbc**	**11 14 25.8**	**+0.6**
	baz=147							
340A	**Bronson**	**146.97**	**22**	PKPab	**PKPbc**	**11 14 25.5**	**+0.3**
	baz=147							
635A	**Leesville**	**147.08**	**29**	PKPab	**PKPbc**	**11 14 26.2**	**+0.6**
	baz=147							
833A	**Chaparral WMA,**	**147.12**	**32**	PKPab	**PKPbc**	**11 14 26.2**	**+0.5**
	baz=147							
734A	**La Parita Cree**	**147.14**	**30**	PKPab	**PKPbc**	**11 14 26.4**	**+0.7**
	baz=147							
537A	**Green Hill Far**	**147.17**	**26**	PKPab	**PKPbc**	**11 14 26.6**	**+0.8**
	baz=147							
439A	**Center Grove,**	**147.19**	**23**	PKPab	**PKPbc**	**11 14 26.5**	**+0.6**
	baz=147							
VBMS	**Vicksburg**	**147.32**	**16**	PKPab	**PKPbc**	**11 14 26.9**	**+0.8**
	baz=147							
636A	**Smothers Creek**	**147.34**	**28**	PKPab	**PKPbc**	**11 14 27.2**	**+0.9**
	baz=147							
LRAL	**Lakeview Retre**	**147.34**	**10**	*e*PKPbc	**PKPbc**	**11 14 25.5**	**-0.7**
538A	**Harpers Horsep**	**147.40**	**25**	PKPab	**PKPab**	**11 14 27.5**	**-0.9**
	baz=147							
GOGA	**Godfrey**	**147.44**	**5**	*e*PKPdf	**PKPdf**	**11 14 24.3**	**+0.4**
GOGA				*e*PKPbc	**PKPbc**	**11 14 26.6**	**+0.2**
735A	**Kenedy**	**147.50**	**29**	PKPab	**PKPab**	**11 14 27.9**	**-1.1**
	baz=147							
440A	**Kirbyville**	**147.55**	**22**	PKPab	**PKPab**	**11 14 27.9**	**-1.1**
	baz=147							
637A	**Eagle Lake**	**147.71**	**27**	PKPab	**PKPab**	**11 14 28.6**	**-1.0**
	baz=147							
834A	**Tilden**	**147.72**	**31**	PKPab	**PKPab**	**11 14 28.7**	**-1.1**
	baz=148							
933A	**Laredo**	**147.75**	**33**	PKPab	**PKPbc**	**11 14 28.5**	**+1.0**
	baz=148							
736A	**Circle Diamond**	**147.78**	**28**	PKPab	**PKPab**	**11 14 29.0**	**-1.0**
	baz=148							
835A	**Beeville**	**147.96**	**30**	PKPab	**PKPab**	**11 14 30.1**	**-0.6**
	baz=148							
934A	**Benavides**	**148.16**	**32**	PKPab	**PKPbc**	**11 14 30.6**	**-1.0**
	baz=148							
034A	**Hebbronville**	**148.51**	**33**	PKPab	**PKPab**	**11 14 31.4**	**-1.6**
	baz=148							
LPAZ	**La Paz**	**159.17**	**215**	PKP	**PKPdf**	**11 14 43.3**	**+1.4**
	comp=Z,4.6nm,0.9s,baz=137,slow=2.5,SNR=15							
LPAZ				PKPab	**PKPab**	**11 15 21.2**	**+2.2**
	comp=Z,3.1nm,0.8s,baz=80,slow=4.8,SNR=4.7							
LPAZ	**La Paz**	**159.17**	**215**	PKIKP	**PKPdf**	**11 14 43.3**	**+1.4**
LPAZ						11 15 21.2		
LPAZ				pmax	pmax			
	comp=Z,5.0nm,0.9s							
LPAZ				pmax	pmax			
	comp=Z,3.0nm,0.8s							

*SKHL **30** 11:06:46.0±0.9, 44.°26N×148.°90E, h43km±8km, mb4.6/3*
*JMA **30** 11:06:46.2±0.3, 44.°47N×148.°73E, h30km, M4.0*
ISC 30 11:06:46.2±4.0, 44°02N±0.°09×148°8E±0.°2, h78km±27km, n27, σ1§55/37, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**1.39**	**331**	*i* P		Pn	11 07 05.2	-4.7
KUR					AMB	AMB	11 07 06.7	
	163nm,0.1s							
KUR				*i* S		Sn	11 07 20.3	-7.5
KUR					A	A	11 07 21.1	
	490nm,0.3s							
KUR					A	A	11 07 21.1	
	380nm,0.3s							
SHO	**Shikotan**	**1.44**	**265**	*e*P		**Pn**	**11 07 10.4**	**-0.3**
SHO					AMB	AMB	11 07 17.0	
	117nm,0.4s							
SHO				*e*S		**Sn**	**11 07 28.1**	**-1.0**
SHO					A	A	11 07 32.0	
	420nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**2.13**	**271**	*e*P		**Pn**	**11 07 19.8**	**0.0**
YUK					AMB	AMB	11 07 21.1	
	24nm,0.3s							
YUK					AMB	AMB	11 07 21.1	
	35nm,0.3s							
YUK					AMB	AMB	11 07 21.1	
	87nm,0.3s							
YUK				*i* S		**Sn**	**11 07 45.0**	**-0.4**
YUK					A	A	11 07 49.4	
	117nm,0.3s							
YUK					A	A	11 07 49.4	
	210nm,0.3s							
NEM2	**Nemuro 2**	**2.33**	**255**	P		**Pn**	**11 07 22.8**	**+0.5**
NEM2				*e*S		**Sn**	**11 07 50.0**	**0.0**
JRA	**Rausu**	**2.67**	**269**	P		**Pn**	**11 07 28.1**	**+1.1**
JRA				*e*S		**Sn**	**11 07 59.2**	**+0.9**
JNK	**Nakash**	**3.00**	**263**	P		**Pn**	**11 07 32.4**	**+0.9**
JAK	**Akkeshi**	**3.17**	**253**	P		**Pn**	**11 07 34.5**	**+0.7**
JAK				*e*S		**Sn**	**11 08 10.1**	**-0.3**
JTKR	**Abashiri--Toko**	**3.54**	**271**	P		**Pn**	**11 07 39.9**	**+1.1**
JAR	**Ashorobuto**	**3.73**	**261**	P		**Pn**	**11 07 43.2**	**+1.7**
JOB	**Onbets**	**3.80**	**255**	P		**Pn**	**11 07 43.8**	**+1.5**
JOB				*e*S		**Sn**	**11 08 26.7**	**+1.0**
JMP	**Maruseppu**	**3.94**	**272**	P		**Pn**	**11 07 45.4**	**+1.2**
JCH	**Churui**	**4.22**	**252**	P		**Pn**	**11 07 49.0**	**+0.9**
JCH				*e*S		**Sn**	**11 08 36.3**	**+0.2**
JKK2	**Kamakawa 2**	**4.38**	**270**	P		**Pn**	**11 07 52.3**	**+2.0**
MYR	**Moyori**	**4.40**	**249**	*e*P		**Pn**	**11 07 52.5**	**+1.9**
MYR				*e*S		**Sn**	**11 08 41.4**	**+0.9**
ASAJ	**Asahikawa**	**4.48**	**273**	P		**Pn**	**11 07 53.2**	**+1.5**
JSE	**Soyaes**	**4.56**	**284**	P		**Pn**	**11 07 53.0**	**+0.4**
JNBK	**Urakawa-nobuka**	**4.77**	**251**	P		**Pn**	**11 07 56.4**	**+0.9**
JNBK				*e*S		**Sn**	**11 08 48.0**	**-1.4**
JBT2	**Biratori 2**	**4.86**	**257**	P		**Pn**	**11 07 58.1**	**+1.2**
JWK2	**Keihoku**	**5.10**	**287**	P		**Pn**	**11 08 01.8**	**+1.7**
YSS	**Yuzh-Sakhalins**	**5.17**	**307**	*e*S		**Sn**	**11 08 56.0**	**-3.3**
JNB	**Noboribetsu**	**5.89**	**257**	P		**Pn**	**11 08 12.0**	**+1.2**
JNB				*e*S		**Sn**	**11 09 17.4**	**+0.5**
JKB	**Kayabe**	**6.10**	**252**	P		**Pn**	**11 08 14.9**	**+1.2**
JKB				*e*S		**Sn**	**11 09 19.7**	**-2.3**
JANG	**Nango**	**6.53**	**239**	*e*S		**Sn**	**11 09 30.1**	**-2.6**
JTM	**Tenmabayashi**	**6.58**	**243**	*e*S		**Sn**	**11 09 30.9**	**-3.0**
JSR	**Shiriuchi**	**6.66**	**251**	*e*S		**Sn**	**11 09 33.3**	**-2.5**
JOSM	**Okushiri--Mats**	**7.11**	**257**	P		**Pn**	**11 08 28.6**	**+1.1**
JIO	**Ouri**	**7.91**	**228**	*e*S		**Sn**	**11 10 04.4**	**-2.0**

*IDC **30** 11:38:23.6±1.4, 8.°46S×157.°09E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/19, mbtmp3.8/6, MS3.5/3, Ms1 3.5/3, ms1mx3.0/16, Error ellipse: s-maj=42.9km s-min=24.7km az=99.0*
ISC 30 11:38:26.5±0.8, 8.°5S±0.°2×157.°10E±0.°09, h19km, n12, σ0§99/11, mb3.8/6, MS3.5/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.97**	**109**	*e*P		**Pb**	**11 39 18.0**	**-0.8**
HNR				*e*S		**Sg**	**11 40 03.0**	**+1.0**
WRA	**Warramunga Arr**	**24.80**	**240**	P		**P**	**11 43 46.4**	**-1.2**
	2.2nm,0.8s,baz=67,slow=10.0,SNR=13							
WRA					PcP	**PcP**	**11 47 23.4**	**-0.6**
	0.9nm,0.7s,baz=65,slow=2.4,SNR=8.2							
ASAR	**Alice Springs**	**26.86**	**233**	P		**P**	**11 44 06.7**	**+0.3**
	1.1nm,1.0s,baz=59,slow=9.8,SNR=5.6							
ASAR					PcP	**PcP**	**11 47 28.1**	**-0.6**
	0.4nm,0.6s,baz=60,slow=2.5,SNR=4.3							
ASAR					LR	LR	11 54 25.3	
	comp=Z,72nm,18.1s,baz=356,slow=36							
STKA	**Stephens Creek**	**27.39**	**210**	P		**P**	**11 44 12.3**	**+1.4**
	1.8nm,0.7s,baz=17,slow=11,SNR=3.2							
STKA					LR	LR	11 53 59.9	
	comp=Z,111nm,18.6s,baz=57,slow=34							
H11S3	**WAKE ISLAND Hy**	**28.41**	**19**	T		T	12 12 57.5	
	baz=200,slow=76,SNR=27							
H11S2	**WAKE ISLAND Hy**	**28.41**	**19**	T		T	12 12 57.5	
	baz=200,slow=76,SNR=31							
H11S1	**WAKE ISLAND Hy**	**28.43**	**19**	T		T	12 12 57.1	
	baz=200,slow=76,SNR=18							
KSRS	**Korea Array**	**53.22**	**331**	P		**P**	**11 47 44.0**	**+0.2**
	1.0nm,0.9s,baz=159,slow=8.4,SNR=5.5							
CMAR	**Chiang Mai Arr**	**63.30**	**295**	P		**P**	**11 48 54.4**	**-0.3**
	0.4nm,0.3s,baz=100,slow=5.6,SNR=5.8							
SONM	**Songino Array**	**71.70**	**327**	P		**P**	**11 49 48.3**	**+0.9**
	0.2nm,0.6s,baz=123,slow=5.3,SNR=2.3							
ILAR	**Eielson Array**	**83.98**	**21**	LR		LR	12 23 30.2	
	comp=Z,27nm,19.4s,baz=307,slow=32							
BDFB	**Brasilia**	**145.46**	**134**	PKPbc		**PKPbc**	**11 58 03.6**	**-0.9**
	1.2nm,0.3s,baz=222,slow=1.1,SNR=4.8							

*ISCJB **30** 11:53:42.3±0.2, 45.°463N×0.°008×6.°38E±0.°01, h2km±1km, mb3.6/1, MS3.2/2, Error ellipse: s-maj=1.5km s-min=1.3km az=22.6*
*CSEM **30** 11:53:43.7±0.1, 45.°43N×6.°44E, h2km, ML4.2/44, Ms3.2, Error ellipse: s-maj=1.6km s-min=1.4km az=124.0*
*IDC **30** 11:53:43.8±1.3, 45.°53N×6.°06E, h0km, mb3.6/2, mb1 3.8/9, mb1mx3.6/44, mbtmp3.7/9, ML4.3/6, MS3.2/2, Ms1 3.2/2, ms1mx2.4/39, Error ellipse: s-maj=32.2km s-min=15.8km az=134.0*
*GEN **30** 11:53:44.6, 45.°40N×6.°53E, h1km, ML3.5*
*VIE **30** 11:53:44.0±0.6, 45.°25N×6.°25E, h10km, mb3.2/10, ML3.5/10, Ms3.2/2, Error ellipse: s-maj=4.4km s-min=3.3km az=78.0 49 km SSW of Albertville*
*ZUR **30** 11:53:44.6, 45.°42N×6.°54E, h11km±4km, ML3.7/19*
*ROM **30** 11:53:44.4±0.6, 45.°37N×6.°53E, h10km±8km, MI3.6/17, Error ellipse: s-maj=5.8km s-min=2.4km az=95.0*
*NEIC **30** 11:53:45.0, 45.°41N×6.°47E, h2km, ML4.2(LDG), ML4.3(STR), After LDG.*
NEIC Felt at Chambery. Also felt at Geneva and Gland, Switzerland.
*STR **30** 11:53:45.2±0.1, 45.°44N×6.°39E, h5km, MI4.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **30** 11:53:45.0±0.1, 45.°41N×6.°47E, h2km, Md3.7/6, MI4.2/53, Error ellipse: s-maj=1.2km s-min=1.1km az=140.0*
*BGR **30** 11:53:46.6±0.7, 45.°46N×6.°35E, h10km, ML4.0/11, Error ellipse: s-maj=11.1km s-min=8.9km az=116.0*
*PRU **30** 11:53:50.2, 45.°89N×6.°59E, h0km*
ISC 30 11:53:43.8±0.6, 45°44N±0.°01×6°43E±0.°01, h8km±5km, n443, σ1§48/674, 39C-6D, France

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPL	**La Plagne**	**0.23**	**71**	*e*Pg		**Pg**	**11 53 48.7**	**+0.3**
LPL				*e*Sg		**Sg**	**11 53 52.1**	**+0.6**
	10μm,0.5s							
LPL	**La Plagne**	**0.23**	**71**	*e*Pg		**Pg**	**11 53 48.7**	**+0.3**
LPL				*e*Sg		**Sg**	**11 53 52.1**	**+0.6**
	5μm,0.5s							
LPL	**La Plagne**	**0.23**	**71**	*e*Pg		**Pg**	**11 53 48.7**	**+0.3**
LPL				*e*Sg		**Sg**	**11 53 52.1**	**+0.6**
LPG	**La Plagne**	**0.23**	**76**	*e*Pg		**Pg**	**11 53 48.8**	**+0.2**
LPG				*e*Sg		**Sg**	**11 53 52.2**	**+0.4**
	8μm,0.3s							
LPG	**La Plagne**	**0.23**	**76**	*e*Pg		**Pg**	**11 53 48.8**	**+0.2**
LPG				*e*Sg		**Sg**	**11 53 52.2**	**+0.4**
	4μm,0.3s							
LPG	**La Plagne**	**0.23**	**76**	*e*Pg		**Pg**	**11 53 48.8**	**+0.2**
LPG				*e*Sg		**Sg**	**11 53 52.2**	**+0.4**
GDM	**Grand'Maison**	**0.33**	**223**	Pg		**Pb**	**11 53 51.2**	**-0.8**
GDM				Sg		**Sb**	**11 53 56.0**	**-1.4**
GDM	**Grand'Maison**	**0.33**	**223**	Pg		**Pg**	**11 53 50.0**	**-0.3**
GDM				Sg		**Sb**	**11 53 56.0**	**-1.4**
GDM	**Grand'Maison**	**0.33**	**223**	Pg		**Pg**	**11 53 50.0**	**-0.3**
BNI	**Bardonecchia**	**0.43**	**156**	*i* Pg		**Pg**	**11 53 50.9**	**-1.3**
BNI						**Sg**	**11 53 56.0**	**-1.8**
	4μm,0.5s							
BNI	**Bardonecchia**	**0.43**	**156**	*i* Pg		**Pg**	**11 53 50.9**	**-1.3**
BNI						Sg	**11 53 56.0**	**-1.8**
	4μm,0.5s							
LSD	**Lago del Serru**	**0.50**	**88**	*i* Pg		**Pg**	**11 53 51.0**	**-2.4**
	10μm,0.2s							
LSD	**Lago del Serru**	**0.50**	**88**	Pg		**Pg**	**11 53 53.0**	**-0.4**
LSD				Sg		**Sg**	**11 53 59.1**	**-0.9**
GRN	**Grenoble**	**0.52**	**248**	Pg		**Pb**	**11 53 54.7**	**-0.6**
GRN				Sg		**Sg**	**11 54 01.5**	**+0.7**
GRN	**Grenoble**	**0.52**	**248**	Pg		**Pb**	**11 53 54.7**	**-0.6**
GRN				Sg		**Sg**	**11 54 01.5**	**+0.7**
GRN	**Grenoble**	**0.52**	**248**	Pg		**Pb**	**11 53 54.7**	**-0.6**
GRN				Sg		**Sg**	**11 54 01.5**	**+0.7**
MRGE	**Morge**	**0.55**	**53**	*i* Pg		**Pg**	**11 53 53.0**	**-1.5**
	5μm,0.5s							
MRGE	**Morge**	**0.55**	**53**	Pg		**Pg**	**11 53 54.7**	**+0.2**
MRGE				Sg		**Sg**	**11 54 02.8**	**+1.1**
MRGE	**Morge**	**0.55**	**53**	Pg		**Pg**	**11 53 54.7**	**+0.2**
MRGE				Sg		**Sg**	**11 54 02.8**	**+1.1**
RRL	**Rocca Remolon**	**0.58**	**154**	Pg		**Pg**	**11 53 53.8**	**-1.3**
RRL				Sg		**Sg**	**11 54 01.7**	**-1.0**
	8μm,0.2s							
RRL	**Rocca Remolon**	**0.58**	**154**	Pg		**Pg**	**11 53 53.8**	**-1.3**
RRL				Sg		**Sg**	**11 54 01.7**	**-1.0**
	8μm,0.2s							
ORIF	**Oris-en-Rattie**	**0.65**	**217**	*e*Pg		**Pg**	**11 53 55.8**	**-0.6**
ORIF				*e*Sg		**Sg**	**11 54 03.5**	**-1.4**
	8μm,0.3s							
ORIF	**Oris-en-Rattie**	**0.65**	**217**	*e*Pg		**Pg**	**11 53 55.8**	**-0.6**
ORIF				*e*Sg		**Sg**	**11 54 03.5**	**-1.4**
	4μm,0.3s							
ORIF	**Oris-en-Rattie**	**0.65**	**217**	*e*Pg		**Pg**	**11 53 55.8**	**-0.6**
ORIF				*e*Sg		**Sg**	**11 54 03.5**	**-1.4**
RSP	**Reno Superiore**	**0.66**	**116**	Pg		**Pg**	**11 53 55.6**	**-1.0**
	3μm,0.3s							
RSP	**Reno Superiore**	**0.66**	**116**	P		**Pg**	**11 53 55.5**	**-1.0**
EMV	**Vieux Emosson**	**0.70**	**28**	*i* Pg		**Pg**	**11 53 57.9**	**+0.6**
EMV	**Vieux Emosson**	**0.70**	**28**	*i* Pg		**Pg**	**11 53 57.9**	**+0.6**
MBDF	**Montbardon**	**0.76**	**161**	*e*Pg		**Pg**	**11 54 56.7**	**-1.6**
MBDF				*e*Sg		**Sg**	**11 54 07.6**	**-0.6**
	3μm,0.3s							
MBDF	**Montbardon**	**0.76**	**161**	*e*Pg		**Pg**	**11 54 56.7**	**-1.6**
MBDF				*e*Sg		**Sg**	**11 54 07.6**	**-0.6**
	1μm,0.3s							
MBDF	**Montbardon**	**0.76**	**161**	*e*Pg		**Pg**	**11 53 56.7**	**-1.6**
MBDF				*e*Sg		**Sg**	**11 54 07.6**	**-0.6**
SALAN	**Lac Salanfe**	**0.80**	**28**	*i* Pn		Pg	11 53 54.6	-4.5
	1μm,0.3s							
CIRO	**Champorcher**	**0.82**	**78**	Pg		**Pg**	**11 53 58.8**	**-0.7**
CIRO	**Champorcher**	**0.82**	**78**	P		**Pg**	**11 53 58.8**	**-0.7**
BHB	**Bricherasio**	**0.84**	**135**	*i* Pg		**Pg**	**11 53 58.8**	**-1.2**
	2μm,0.5s							
BHB	**Bricherasio**	**0.84**	**135**	P		**Pg**	**11 53 58.8**	**-1.2**
TRAV	**Traversella**	**0.93**	**85**	Pg		**Pg**	**11 54 00.9**	**-0.7**
TRAV				Sg		**Sg**	**11 54 12.4**	**-1.3**
TRAV	**Traversella**	**0.93**	**85**	P		**Pg**	**11 54 00.9**	**-0.7**
TRAV				S		**Sg**	**11 54 12.4**	**-1.3**
DIX	**Grande Dixence**	**0.94**	**47**	*i* Pn		Pg	11 53 57.9	-3.9
	2μm,0.3s							
GRYON	**Gryon**	**0.94**	**30**	*i* Pn		**Pg**	**11 53 59.6**	**-2.2**
	790nm,0.5s							
GRYON	**Gryon**	**0.94**	**30**	*i* Pn		**Pg**	**11 53 59.6**	**-2.2**
	790nm,0.5s							
AIGLE	**Aigle**	**0.97**	**22**	*e*Pn		**Pg**	**11 54 01.7**	**-0.7**
	7μm,0.8s							
AIGLE	**Aigle**	**0.97**	**22**	*e*Pn		**Pg**	**11 54 01.7**	**-0.7**
	7μm,0.8s							
NOV1	**NOV1**	**0.98**	**16**	*i* Pn		**Pg**	**11 54 02.1**	**-0.6**
	8μm,0.3s							
NOV1	**NOV1**	**0.98**	**16**	*i* Pn		**Pg**	**11 54 02.1**	**-0.6**
	8μm,0.3s							
NOV4	**La Tour-de-Pel**	**1.05**	**16**	*i* Pn		**Pg**	**11 54 03.0**	**-0.9**
NOV4	**La Tour-de-Pel**	**1.05**	**16**	*i* Pn		**Pg**	**11 54 03.0**	**-0.9**
GIMEL	**St. Georges /**	**1.10**	**354**	*i* Pn		**Pg**	**11 54 04.9**	**0.0**
	9μm,0.2s							
GIMEL	**St. Georges /**	**1.10**	**354**	Pg		**Pn**	**11 54 06.4**	**+0.8**
GIMEL	**St. Georges /**	**1.10**	**354**	*i* Pn		**Pg**	**11 54 04.9**	**0.0**
	9μm,0.2s							
GIMEL	**St. Georges /**	**1.10**	**354**	Pg		**Pn**	**11 54 06.4**	**+0.8**
SATI	**Passo dei Sala**	**1.10**	**66**	Pg		**Pg**	**11 54 04.5**	**-0.4**
SATI	**Passo dei Sala**	**1.10**	**66**	P		**Pg**	**11 54 04.5**	**-0.4**
SATI				S		**Sg**	**11 54 18.6**	**-0.5**
SENIN	**Lac Senin/Sane**	**1.10**	**33**	*i* Pn		**Pg**	**11 54 03.5**	**-1.5**
	2μm,0.4s							
SENIN	**Lac Senin/Sane**	**1.10**	**33**	*i* Pn		**Pg**	**11 54 03.5**	**-1.5**
	2μm,0.4s							
DOI	**San Damiano**	**1.10**	**148**	*i* Pg		**Pg**	**11 54 03.0**	**-2.0**
DOI						**Sg**	**11 54 17.8**	**-1.5**
	3μm,0.4s							
DOI	**San Damiano**	**1.10**	**148**	*i* Pg		**Pg**	**11 54 03.0**	**-2.0**
DOI						**Sg**	**11 54 17.8**	**-1.5**
	3μm,0.4s							
MONC	**Moncucco Torin**	**1.12**	**109**	Pg		**Pg**	**11 54 05.1**	**-0.2**
	2μm,0.5s							
MONC	**Moncucco Torin**	**1.12**	**109**	Pg		**Pg**	**11 54 05.1**	**-0.2**
	2μm,0.5s							
VANNI	**Vissoie, Val d**	**1.12**	**46**	*e*Pn		**Pg**	**11 54 03.0**	**-2.3**
	4μm,0.5s							
VANNI	**Vissoie, Val d**	**1.12**	**46**	*e*Pn		**Pg**	**11 54 03.0**	**-2.3**
	4μm,0.5s							
OCF	**Saint Nazaire**	**1.18**	**223**	Pg		**Pn**	**11 54 07.1**	**+0.5**
OCF				Sg		**Sn**	**11 54 23.4**	**+0.5**
OCF	**Saint Nazaire**	**1.18**	**223**	Pg		**Pn**	**11 54 07.1**	**+0.5**
OCF				Sg		**Sn**	**11 54 23.4**	**+0.5**
**OG

RUSF Rustrel 1.65 205 *e*P Pb 11 54 14.2 -0.2
VARE Varese 1.69 75 *e*Pn Pn 11 54 08.0 -5.8
3µm,0.7s
VARE Varese 1.69 75 Pg Pb 11 54 14.7 -0.6
415nm,0.5s
VARE Varese 1.69 75 Pg Pb 11 54 14.7 -0.6
415nm,0.5s
CALN Calern 1.72 169 Pg Pg 11 54 17.2 +0.4
CALN Calern 1.72 169 Pg Pg 11 54 17.2 +0.4
CALN Calern 1.72 169 Pg Pg 11 54 17.2 +0.4
SBF Sospel 1.74 155 *e*Pn Pn 11 54 14.3 0.0
SBF Sospel 1.74 155 *e*Pg Pg 11 54 16.7 -0.3
SBF *e*Sg Sb 11 54 38.4 +0.5
2µm,0.4s
SBF Sospel 1.74 155 *e*Pn Pn 11 54 14.3 0.0
SBF Sospel 1.74 155 *e*Pg Pg 11 54 16.7 -0.3
SBF *e*Sg Sb 11 54 38.4 +0.5
959nm,0.4s
SBF Sospel 1.74 155 *e*Pn Pn 11 54 14.3 0.0
SBF *e*Pg Pg 11 54 16.7 -0.3
SBF *e*Sg Sb 11 54 38.4 +0.5
PCP Piancastagn 1.75 120⇑*i*Pg Pn 11 54 14.9 +0.4
311nm,0.7s
PCP Piancastagn 1.75 120 P Pn 11 54 14.9 +0.4
QLNO Quiliano 1.76 129⇑*i*Pg Pn 11 54 15.0 +0.4
1µm,0.8s
QLNO Quiliano 1.76 129⇑*i*Pg Pn 11 54 15.0 +0.4
1µm,0.8s
RORO Rocca Rossa 1.77 138⇓*i*Pg Pn 11 54 14.5 -0.2
612nm,0.7s
RORO Rocca Rossa 1.77 138 P Pn 11 54 14.5 -0.2
HASLI Hasliberg/Brie 1.78 42⇑*i*Pn Pn 11 54 11.0 -3.9
1µm,0.4s
HASLI Hasliberg/Brie 1.78 42⇑*i*Pn Pn 11 54 11.0 -3.9
1µm,0.4s
REVF Revere 1.83 158 Pg Pg 11 54 20.6 +1.7
REVF Sg Sg 11 54 45.4 +2.8
REVF Revere 1.83 158 Pg Pg 11 54 20.6 +1.7
REVF Sg Sg 11 54 45.4 +2.8
REVF Revere 1.83 158 Pg Pg 11 54 20.6 +1.7
REVF Sg Sg 11 54 45.4 +2.8
IMI Imperia 1.85 145 Pg Pn 11 54 15.9 0.0
665nm,0.4s
IMI Imperia 1.85 145 Pg Pn 11 54 15.9 0.0
665nm,0.4s
FUSIO Fusio 1.86 56 Pg Pb 11 54 18.8 +0.7
FUSIO Fusio 1.86 56 Pg Pb 11 54 18.8 +0.7
FRF La Foret Royal 1.89 175 *e*Pn Pn 11 54 16.4 +0.1
FRF La Foret Royal 1.89 175 *e*P Pb 11 54 18.1 -0.4
FRF La Foret Royal 1.89 175 *e*Pg Pg 11 54 19.3 -0.7
FRF *e*Sg Sg 11 54 43.3 -1.2
1µm,0.3s
FRF La Foret Royal 1.89 175 *e*Pn Pn 11 54 16.4 +0.1
FRF La Foret Royal 1.89 175 *e*P Pb 11 54 18.1 -0.4
FRF La Foret Royal 1.89 175 *e*Pg Pg 11 54 19.3 -0.7
FRF *e*Sg Sg 11 54 43.3 -1.2
504nm,0.3s
FRF La Foret Royal 1.89 175 *e*P Pb 11 54 18.1 -0.4
FRF *e*Pg Pg 11 54 19.3 -0.7
FRF *e*Sg Sg 11 54 43.3 -1.2
MUGIO Muggio 1.89 74 Pg Pb 11 54 18.0 -0.6
MUGIO Muggio 1.89 74 Pg Pb 11 54 18.0 -0.6
COLF Collangettes 1.93 273 Pn Pn 11 54 16.9 0.0
COLF Collangettes 1.93 273 Pn Pn 11 54 16.9 0.0
COLF Collangettes 1.93 273 Pn Pn 11 54 16.9 0.0
COLF Pg Pg 11 54 20.4 -0.3
LOMF Lomont 1.93 8 Pn Pn 11 54 17.9 +0.9
LOMF Lomont 1.93 8 Pn Pn 11 54 17.9 +0.9
LOMF Lomont 1.93 8 Pn Pn 11 54 17.9 +0.9
LOMF Pg Pg 11 54 21.7 +1.0
BNALP Bannalp 1.99 43⇑*i*Pn Pn 11 54 12.5 -5.4
727nm,1.0s
BNALP Bannalp 1.99 43 Pg Pb 11 54 20.0 -0.3
400nm,0.9s
BNALP Bannalp 1.99 43 Pg Pb 11 54 20.0 -0.3
400nm,0.9s
LEPF PUYLOUBIER 1.99 195 Pn Pn 11 54 18.3 +0.6
LEPF PUYLOUBIER 1.99 195 Pn Pn 11 54 18.3 +0.6
LEPF PUYLOUBIER 1.99 195 Pn Pn 11 54 18.3 +0.6
LEPF Pg Pg 11 54 21.7 -0.2
LEPF Sg Sg 11 54 49.3 +1.6
PLDF La Plantade 2.04 286 Pg Pg 11 54 23.7 +0.9
PLDF Sg Sg 11 54 51.0 +1.8
PLDF La Plantade 2.04 286 Pg Pg 11 54 23.7 +0.9
PLDF Sg Sg 11 54 51.0 +1.8
PLDF La Plantade 2.04 286 Pg Pg 11 54 23.7 +0.9
PLDF Sg Sg 11 54 51.0 +1.8
GENL Genova Univers 2.08 119 P Pb 11 54 21.7 -0.1
LMR La Mourre 2.11 178 *e*Pn Pn 11 54 19.6 +0.2
LMR La Mourre 2.11 178 *e*Pg Pb 11 54 22.3 0.0
LMR *e*Sg Sg 11 54 50.1 -1.4
390nm,0.3s
LMR La Mourre 2.11 178 *e*Pn Pn 11 54 19.6 +0.2
LMR La Mourre 2.11 178 *e*Pg Pb 11 54 22.3 0.0
LMR *e*Sg Sg 11 54 50.1 -1.4
195nm,0.3s
LMR La Mourre 2.11 178 *e*Pn Pn 11 54 19.6 +0.2
LMR *e*Pg Pb 11 54 22.3 0.0
LMR *e*Sg Sg 11 54 50.1 -1.4
BBS Basel-Blauen 2.15 20 Pn Pn 11 54 20.6 +0.6
BBS Basel-Blauen 2.15 20 Pg Pg 11 54 25.6 +0.5
BBS Basel-Blauen 2.15 20 Pn Pn 11 54 20.6 +0.6
BBS Pg Pg 11 54 25.6 +0.5
SMF Signal de Mont 2.17 305 *e*Pn Pn 11 54 21.2 +1.0
SMF Signal de Mont 2.17 305 *e*Pn Pn 11 54 21.2 +1.0
SMF Signal de Mont 2.17 305 *e*Pn Pn 11 54 21.2 +1.0
SMF *e*Pg Pg 11 54 25.6 +0.3
BOB Bobbio (Coli) 2.24 107 Pg Pb 11 54 23.7 -0.9
237nm,0.5s
BOB Bobbio (Coli) 2.24 107 Pg Pb 11 54 23.7 -0.9
237nm,0.5s
LASF Ste Croix 2.29 234 *e*Pn Pn 11 54 21.6 -0.2
LASF Ste Croix 2.29 234 *e*Pg Pg 11 54 27.0 -0.6
LASF *e*Sn Sn 11 54 48.4 -1.8
180nm,0.3s
LASF *e*Sg Sg 11 54 56.4 -0.8
300nm,0.3s
LASF Ste Croix 2.29 234 *e*Pn Pn 11 54 21.6 -0.2
LASF Ste Croix 2.29 234 *e*Pg Pg 11 54 27.0 -0.6
LASF *e*Sg Sg 11 54 56.4 -0.8
150nm,0.3s
LASF Ste Croix 2.29 234 *e*Pn Pn 11 54 21.6 -0.2
LASF *e*Pg Pg 11 54 27.0 -0.6
LASF *e*Sn Sn 11 54 48.4 -1.8
LASF *e*Sg Sg 11 54 56.4 -0.8
MDI Monti di Nese 2.33 81 Pg Pn 11 54 24.1 +1.7
275nm,0.7s
MDI Monti di Nese 2.33 81 Pg Pn 11 54 24.1 +1.7
275nm,0.7s
HINF Hinteralfeld 2.39 7 *e*Pn Pn 11 54 23.7 +0.4
HINF Hinteralfeld 2.39 7 *e*Pg Pg 11 54 29.4 -0.2
HINF *e*Sg Sg 11 55 01.4 +0.8
244nm,0.2s
HINF Hinteralfeld 2.39 7 *e*Pn Pn 11 54 23.7 +0.4
HINF Hinteralfeld 2.39 7 *e*Pg Pg 11 54 29.4 -0.2
HINF *e*Sg Sg 11 55 01.4 +0.8
122nm,0.2s
HINF Hinteralfeld 2.39 7 *e*Pn Pn 11 54 23.7 +0.4
HINF *e*Pg Pg 11 54 29.4 -0.2
HINF *e*Sg Sg 11 55 01.4 +0.8
PYM Petit Puy Mans 2.42 278 Pg Pg 11 54 30.6 +0.4
PYM Sg Sg 11 55 02.5 +0.9
PYM Petit Puy Mans 2.42 278 Pg Pg 11 54 30.6 +0.4
PYM Sg Sg 11 55 02.5 +0.9
PYM Petit Puy Mans 2.42 278 Pg Pg 11 54 30.6 +0.4
PYM Sg Sg 11 55 02.5 +0.9
SC2M Scurtabo 2.44 114 Pg Pn 11 54 25.0 +1.1
352nm,0.6s
SC2M Scurtabo 2.44 114 Pg Pn 11 54 25.0 +1.1
352nm,0.6s
SC2M Scurtabo 2.44 114 P Pn 11 54 25.5 +1.6
MOF Molkenrain 2.46 11 Pn Pn 11 54 24.3 +0.1
MOF Molkenrain 2.46 11 Pn Pn 11 54 24.3 +0.1
MOF Molkenrain 2.46 11 Pn Pn 11 54 24.3 +0.1
MOF Pg Pg 11 54 31.8 +0.9
MSSA Maissana 2.47 116 Pg Pn 11 54 25.1 +0.7
150nm,0.8s
AVF Avril sur Loir 2.53 303 *e*Pn Pn 11 54 26.3 +1.2
AVF Avril sur Loir 2.53 303 *e*Pg Pg 11 54 32.2 0.0
AVF *e*Sn Sn 11 54 54.8 -1.3
128nm,0.4s
AVF *e*Sg Sg 11 55 05.4 +0.4
407nm,0.4s
AVF Avril sur Loir 2.53 303 *e*Pn Pn 11 54 26.3 +1.2
AVF Avril sur Loir 2.53 303 *e*Pg Pg 11 54 32.2 0.0
AVF *e*Sg Sg 11 55 05.4 +0.4
203nm,0.4s
AVF Avril sur Loir 2.53 303 *e*Pn Pn 11 54 26.3 +1.2
AVF *e*Pg Pg 11 54 32.2 0.0
AVF *e*Sn Sn 11 54 54.8 -1.3
AVF *e*Sg Sg 11 55 05.4 +0.4
LOR Lormes 2.55 317 *e*Pn Pn 11 54 26.6 +1.2
baz=158
LOR Lormes 2.55 317 *e*Pg Pg 11 54 32.4 -0.2
baz=140
LOR *e*Sn Sn 11 54 55.9 -0.8
309nm,0.2s
LOR *e*Sg Sg 11 55 06.4 +0.7
372nm,0.3s
LOR Lormes 2.55 317 *e*Pn Pn 11 54 26.6 +1.2
LOR Lormes 2.55 317 *e*Pg Pg 11 54 32.4 -0.2
LOR *e*Sn Sn 11 54 55.9 -0.8
155nm,0.2s
LOR *e*Sg Sg 11 55 06.4 +0.7
186nm,0.3s
LOR Lormes 2.55 317 *e*Pn Pn 11 54 26.6 +1.2
LOR *e*Pg Pg 11 54 32.4 -0.2
LOR *e*Sn Sn 11 54 55.9 -0.8
LOR *e*Sg Sg 11 55 06.4 +0.7
HAU Haudompre 2.56 359 *e*Pn Pn 11 54 26.4 +0.8
HAU Haudompre 2.56 359 *e*Pg Pg 11 54 33.2 +0.3
HAU *e*Sn Sn 11 54 55.7 -1.3
201nm,0.3s
HAU *e*Sg Sg 11 55 05.8 -0.3
596nm,0.3s
HAU Haudompre 2.56 359 *e*Pn Pn 11 54 26.4 +0.8
HAU Haudompre 2.56 359 *e*Pg Pg 11 54 33.2 +0.3
HAU *e*Sn Sn 11 54 55.7 -1.3
100nm,0.3s
HAU *e*Sg Sg 11 55 05.8 -0.3
298nm,0.3s
HAU Haudompre 2.56 359 *e*Pn Pn 11 54 26.4 +0.8
HAU *e*Pg Pg 11 54 33.2 +0.3
HAU *e*Sn Sn 11 54 55.7 -1.3
HAU *e*Sg Sg 11 55 05.8 -0.3
SSF Saint Saulge 2.59 310 *e*Pn Pn 11 54 27.6 +1.6
SSF Saint Saulge 2.59 310 *e*Pg Pg 11 54 33.8 +0.3
SSF *e*Sn Sn 11 54 56.9 -0.9
SSF *e*Sg Sg 11 55 07.2 +0.1
303nm,0.3s
SSF Saint Saulge 2.59 310 *e*Pn Pn 11 54 27.6 +1.6
SSF Saint Saulge 2.59 310 *e*Pg Pg 11 54 33.8 +0.3
SSF *e*Sn Sn 11 54 56.9 -0.9
SSF *e*Sg Sg 11 55 07.2 +0.1
151nm,0.3s
SSF Saint Saulge 2.59 310 *e*Pn Pn 11 54 27.6 +1.6
SSF *e*Pg Pg 11 54 33.8 +0.3
SSF *e*Sn Sn 11 54 56.9 -0.9
SSF *e*Sg Sg 11 55 07.2 +0.1
PLONS Plons/SG 2.60 51 Pg Pb 11 54 28.7 -2.0
238nm,0.7s
CODM Codolo 2.65 112 P Pn 11 54 29.0 +2.2
FELD Feldberg im Sc 2.66 23 Pn Pn 11 54 27.0 -0.1
FELD Feldberg im Sc 2.66 23 Pn Pn 11 54 27.0 -0.1
BGF Bois d'Agland 2.73 295 *e*Pn Pn 11 54 29.1 +1.1
BGF Bois d'Agland 2.73 295 *e*Pg Pg 11 54 36.5 +0.3
BGF *e*Sg Sg 11 55 11.6 0.0
2µm,0.4s
BGF Bois d'Agland 2.73 295 *e*Pn Pn 11 54 29.1 +1.1
BGF Bois d'Agland 2.73 295 *e*Pg Pg 11 54 36.5 +0.3
BGF *e*Sg Sg 11 55 11.6 0.0
838nm,0.4s
BGF Bois d'Agland 2.73 295 *e*Pn Pn 11 54 29.1 +1.1
BGF *e*Pg Pg 11 54 36.5 +0.3
BGF *e*Sg Sg 11 55 11.6 0.0
DAVOX Davos/Dischmat 2.75 60 Pn Pb 11 54 32.5 -0.8
10.0nm,0.3s,baz=226,slow=12,SNR=22
DAVOX Sn Sb 11 55 08.1 +0.9
10.0nm,0.3s,baz=318,slow=18,SNR=3.8
THEF They Montfort 2.80 354 Pn Pn 11 54 29.4 +0.5
THEF They Montfort 2.80 354 Pn Pn 11 54 29.4 +0.5
THEF They Montfort 2.80 354 Pn Pn 11 54 29.4 +0.5
THEF Pg Pg 11 54 37.6 +0.2
THEF Sg Sg 11 55 15.9 +2.2
ECH Echery 2.82 10 Pn Pn 11 54 29.4 +0.3
ECH Sg Sg 11 55 16.8 +2.5
ECH Echery 2.82 10 Pn Pn 11 54 29.4 +0.3
ECH Sg Sg 11 55 16.8 +2.5
ECH Echery 2.82 10 Pn Pn 11 54 29.4 +0.3
ECH Sg Sg 11 55 16.8 +2.5
LIBD Limburg 2.83 16 Pn Pn 11 54 30.0 +0.8
LIBD Limburg 2.83 16 Pn Pn 11 54 30.0 +0.8
SFTF Sexfontaines 2.92 341 *e*Pn Pn 11 54 32.0 +1.4
baz=147
SFTF Sexfontaines 2.92 341 *e*Pg Pg 11 54 39.7 -0.1
baz=148
SFTF *e*Sg Sg 11 55 17.9 +0.3
267nm,0.3s
SFTF Sexfontaines 2.92 341 *e*Pn Pn 11 54 32.0 +1.4
SFTF Sexfontaines 2.92 341 *e*Pg Pg 11 54 39.7 -0.1
SFTF *e*Sg Sg 11 55 17.9 +0.3
134nm,0.3s
SFTF Sexfontaines 2.92 341 *e*Pn Pn 11 54 32.0 +1.4
SFTF *e*Pg Pg 11 54 39.7 -0.1
SFTF *e*Sg Sg 11 55 17.9 +0.3
VALM Valbona 2.92 111 P Pn 11 54 33.0 +2.4
DAVA Damuels 3.02 51⇑*i*Pn Pn 11 54 34.7 +2.7
SNR=31
DAVA Damuels 3.02 51 Pn Pn 11 54 34.7 +2.7
SNR=31
CDF Champ du Feu 3.03 11 *e*Pn Pn 11 54 32.1 0.0
CDF Champ du Feu 3.03 11 *e*Pg Pg 11 54 42.3 +0.6
CDF *e*Sg Sg 11 55 19.6 -1.3
204nm,0.5s
CDF Champ du Feu 3.03 11 *e*Pn Pn 11 54 32.1 0.0
CDF Champ du Feu 3.03 11 *e*Pg Pg 11 54 42.3 +0.6
CDF *e*Sg Sg 11 55 19.6 -1.3
102nm,0.5s
CDF Champ du Feu 3.03 11 *e*Pn Pn 11 54 32.1 0.0
CDF *e*Pg Pg 11 54 42.3 +0.6
CDF *e*Sg Sg 11 55 19.6 -1.3
TCF Toulx Ste Croi 3.07 287 *e*Pn Pn 11 54 33.6 +1.0
TCF Toulx Ste Croi 3.07 287 *e*Pg Pg 11 54 42.2 -0.3
TCF *e*Sn Sn 11 55 08.4 -1.0
323nm,0.4s
TCF *e*Sg Sg 11 55 22.2 0.0
715nm,0.6s
TCF Toulx Ste Croi 3.07 287 *e*Pn Pn 11 54 33.6 +1.0
TCF Toulx Ste Croi 3.07 287 *e*Pg Pg 11 54 42.2 -0.3
TCF *e*Sn Sn 11 55 08.4 -1.0
161nm,0.4s
TCF *e*Sg Sg 11 55 22.2 0.0
358nm,0.6s
TCF Toulx Ste Croi 3.07 287 *e*Pn Pn 11 54 33.6 +1.0
TCF *e*Pg Pg 11 54 42.2 -0.3
TCF *e*Sn Sn 11 55 08.4 -1.0
TCF *e*Sg Sg 11 55 22.2 0.0
SPAK Spaichingen-Ko 3.11 30 Pn Pn 11 54 33.6 +0.4
SPAK Spaichingen-Ko 3.11 30 Pg Pg 11 54 44.6 +1.2
SPAK Spaichingen-Ko 3.11 30 Pn Pn 11 54 33.6 +0.4
SPAK Pg Pg 11 54 44.6 +1.2
CAF Calviac 3.13 262 *e*Pn Pn 11 54 34.7 +1.3
CAF Calviac 3.13 262 *e*Pn Pn 11 54 34.7 +1.3
CAF Calviac 3.13 262 *e*Pn Pn 11 54 34.7 +1.3
PAGF Fort de Pagny 3.15 351 *e*Pn Pn 11 54 35.2 +1.5
baz=181
PAGF Fort de Pagny 3.15 351 *e*Pg Pg 11 54 43.8 -0.3
baz=181
PAGF *e*Sg Sg 11 55 24.8 -0.1
30nm,0.2s
PAGF Fort de Pagny 3.15 351 *e*Pn Pn 11 54 35.2 +1.5
PAGF Fort de Pagny 3.15 351 *e*Pg Pg 11 54 43.8 -0.3
PAGF *e*Sg Sg 11 55 24.8 -0.1
15nm,0.2s
PAGF Fort de Pagny 3.15 351 *e*Pn Pn 11 54 35.2 +1.5
PAGF *e*Pg Pg 11 54 43.8 -0.3
PAGF *e*Sg Sg 11 55 24.8 -0.1
BFO Black Forest 3.17 24 *e*Pn Pn 11 54 33.5 -0.4
BFO *e*Pg Pg 11 54 46.2 +1.7
BFO *e*Sg Sg 11 55 26.7 +1.2
BFO Black Forest 3.17 24 Pn Pn 11 54 33.5 -0.4
HYF Humbligny 3.20 306 *e*Pn Pn 11 54 36.1 +1.8
HYF Humbligny 3.20 306 *e*Pn Pn 11 54 36.1 +1.8
HYF Humbligny 3.20 306 *e*Pn Pn 11 54 36.1 +1.8
HYF *e*Pg Pg 11 54 45.2 +0.2
HYF *e*Sg Sg 11 55 26.5 +0.1
MEZF Maizieres J'vi 3.20 343 *e*Pn Pn 11 54 35.9 +1.5
baz=153
MEZF Maizieres J'vi 3.20 343 *e*Pg Pg 11 54 44.7 -0.4
baz=166
MEZF *e*Sn Sn 11 55 10.7 -2.0
155nm,0.3s
MEZF *e*Sg Sg 11 55 26.4 -0.2
471nm,0.5s
MEZF Maizieres J'vi 3.20 343 *e*Pn Pn 11 54 35.9 +1.5
MEZF Maizieres J'vi 3.20 343 *e*Pg Pg 11 54 44.7 -0.4
MEZF *e*Sg Sg 11 55 26.4 -0.2
236nm,0.5s
MEZF Maizieres J'vi 3.20 343 *e*Pn Pn 11 54 35.9 +1.5
MEZF *e*Pg Pg 11 54 44.7 -0.4
MEZF *e*Sn Sn 11 55 10.7 -2.0
MEZF *e*Sg Sg 11 55 26.4 -0.2
MAIM Mastiano 3.28 116 P Pn 11 54 37.6 +2.2
FETA Feichten 3.38 61⇓*i*Pn Pn 11 54 40.3 +3.4
SNR=13
FETA ⇑*i*Sn Sb 11 55 22.6 -2.6
FETA Feichten 3.38 61 Pn Pn 11 54 40.3 +3.4
SNR=13
PGF Pioggiola 3.44 146 *e*Pn Pn 11 54 38.4 +0.7
PGF *e*Sn Sn 11 55 15.8 -2.9
56nm,0.5s
PGF Pioggiola 3.44 146 *e*Pn Pn 11 54 38.4 +0.7
PGF Pioggiola 3.44 146 *e*Pn Pn 11 54 38.4 +0.7
PGF *e*Sn Sn 11 55 15.8 -2.9
RJF Les Rejaudoux 3.47 269 *e*Pg Pg 11 54 49.6 -0.6
RJF *e*Sg Sg 11 55 34.4 -0.6
302nm,0.3s
RJF Les Rejaudoux 3.47 269 *e*Pg Pg 11 54 49.6 -0.6
RJF *e*Sg Sg 11 55 34.4 -0.6
151nm,0.3s
RJF Les Rejaudoux 3.47 269 *e*Pg Pg 11 54 49.6 -0.6
RJF *e*Sg Sg 11 55 34.4 -0.6
LANF Langenberg 3.66 14 Pn Pn 11 54 40.8 +0.1
LANF Langenberg 3.66 14 Pn Pn 11 54 40.8 +0.1
LANF Langenberg 3.66 14 Pn Pn 11 54 40.8 +0.1
MTLF Montolieu 3.68 237 *e*Pn Pn 11 54 41.1 +0.2
MTLF Montolieu 3.68 237 *e*Pg Pg 11 54 53.2 -1.0
MTLF *e*Sn Sn 11 55 21.8 -2.7
80nm,0.4s
MTLF *e*Sg Sg 11 55 39.9 -2.0
97nm,0.4s
MTLF Montolieu 3.68 237 *e*Pn Pn 11 54 41.1 +0.2
MTLF Montolieu 3.68 237 *e*Pg Pg 11 54 53.2 -1.0
MTLF *e*Sg Sg 11 55 39.9 -2.0
48nm,0.4s
MTLF Montolieu 3.68 237 *e*Pn Pn 11 54 41.1 +0.2
MTLF *e*Pg Pg 11 54 53.2 -1.0
MTLF *e*Sn Sn 11 55 21.8 -2.7
MTLF *e*Sg Sg 11 55 39.9 -2.0
MOTA Moosalm 3.75 58⇑*i*Pn Pn 11 54 44.9 +2.8
SNR=12
MOTA ⇓*i*Sn Sn 11 55 29.8 +3.3
MOTA Moosalm 3.75 58 Pn Pn 11 54 44.9 +2.8
SNR=12
MOTA Sn Sn 11 55 29.8 +3.3
LRDF Laroque-de-Fa 3.76 230 Pn Pn 11 54 42.4 +0.4
LRDF Laroque-de-Fa 3.76 230 Pn Pn 11 54 42.4 +0.4
LRDF Laroque-de-Fa 3.76 230 Pn Pn 11 54 42.4 +0.4
STU Stuttgart 3.83 29 *e*Sg Sg 11 55 46.2 -0.4
STU Stuttgart 3.83 29 Sg Sg 11 55 46.2 -0.4
SJAF Saint Jean de 3.91 222 Pn Pn 11 54 44.5 +0.3
5.1nm,0.1s,SNR=7.9
SJAF Sn Sn 11 55 28.0 -2.3
6.8nm,0.2s,SNR=7.9
SJAF Lg Lg 11 55 48.6
6.1nm,0.2s,SNR=7.9
EJON La Jonquera 3.94 222 Pn Pn 11 54 44.9 +0.4
8.7nm,0.2s,SNR=13
EJON Sn Sn 11 55 30.8 -0.1
17nm,0.3s,SNR=5.0
EJON Lg Lg 11 55 51.6
32nm,0.4s,SNR=5.0
FILF Fillols 4.01 225 Pn Pn 11 54 46.2 +0.6
FILF Fillols 4.01 225 Pn Pn 11 54 46.2 +0.6
FILF Fillols 4.01 225 Pn Pn 11 54 46.2 +0.6
WATA Walderalm 4.03 60⇑*i*Pn Pn 11 54 48.7 +2.8
WATA Walderalm 4.03 60 Pn Pn 11 54 48.7 +2.8
WTTA Wattenberg 4.04 61⇓*i*Pn Pn 11 54 49.2 +3.2
SNR=14
WTTA Wattenberg 4.04 61 Pn Pn 11 54 49.2 +3.2
SNR=14
LFF La Frestale 4.05 265 *e*Pn Pn 11 54 47.5 +1.4
LFF *e*Sg Sg 11 55 52.9 -1.0
327nm,0.5s
LFF La Frestale 4.05 265 *e*Pn Pn 11 54 47.5 +1.4
LFF *e*Sg Sg 11 55 52.9 -1.0
164nm,0.5s
LFF La Frestale 4.05 265 *e*Pn Pn 11 54 47.5 +1.4
LFF *e*Sg Sg 11 55 52.9 -1.0
CARF Carcanieres 4.14 230 Pn Pn 11 54 47.9 +0.5
CARF Carcanieres 4.14 230 Pn Pn 11 54 47.9 +0.5
CARF Carcanieres 4.14 230 Pn Pn 11 54 47.9 +0.5
WLF Walferdange 4.23 358 *e*Sg Sg 11 55 59.8 +0.4
WLF Walferdange 4.23 358 Sg Sg 11 55 59.8 +0.4
RUP Ruppelstein 4.28 5 Pn Pn 11 54 49.7 +0.4
RUP Ruppelstein 4.28 5 Pn Pn 11 54 49.7 +0.4
CLLI Llivia 4.37 229 Pn Pn 11 54 52.0 +1.4
3.4nm,0.2s,SNR=21
CLLI Sn Sn 11 55 42.9 +1.1
4.7nm,0.2s,SNR=5.0
CLLI Lg Lg 11 56 06.0
31nm,0.5s,SNR=6.7
ABTA Abfaltersbach 4.43 71⇑*i*Pn Pn 11 54 53.8 +2.5
SNR=8.0
ABTA ⇓*i*Sn Sb 11 55 49.9 -5.5
ABTA Abfaltersbach 4.43 71 Pn Pn 11 54 53.8 +2.5
SNR=8.0
MLS Moulis 4.57 239 Pn Pn 11 54 53.5 +0.3
MLS Moulis 4.57 239 Pn Pn 11 54 53.5 +0.3
MLS Moulis 4.57 239 Pn Pn 11 54 53.5 +0.3
SALF Salau 4.63 236 Pn Pn 11 54 53.7 -0.4
SALF Salau 4.63 236 Pn Pn 11 54 53.7 -0.4
SALF Salau 4.63 236 Pn Pn 11 54 53.7 -0.4
CFON Fontmartina 4.69 220 Pn Pn 11 54 55.8 +0.9
38nm,0.3s,SNR=71
CFON Sn Sn 11 55 48.3 -1.1
26nm,0.2s,SNR=5.0
MFF Saint Martin d 4.72 287 *e*Pn Pn 11 54 56.7 +1.4
MFF *e*Sn Sn 11 55 48.0 -2.2
MFF Saint Martin d 4.72 287 *e*Pn Pn 11 54 56.7 +1.4
MFF Saint Martin d 4.72 287 *e*Pn Pn 11 54 56.7 +1.4
MFF *e*Sn Sn 11 55 48.0 -2.2
GIVF Givet 4.79 348 *e*Pn Pn 11 54 57.8 +1.7
GIVF *e*Sn Sn 11 55 48.5 -3.2
34nm,0.3s
GIVF *e*Sg Sg 11 56 15.6 -1.8
64nm,0.5s
GIVF Givet 4.79 348 *e*Pn Pn 11 54 57.8 +1.7
GIVF *e*Sg Sg 11 56 15.6 -1.8
32nm,0.5s
GIVF Givet 4.79 348 *e*Pn Pn 11 54 57.8 +1.7
GIVF *e*Sn Sn 11 55 48.5 -3.2
GIVF *e*Sg Sg 11 56 15.6 -1.8
DOU Dourbes 4.82 346 PN Pn 11 54 58.2 +1.6
DOU SN Sn 11 55 52.1 -0.4
comp=E,34nm,0.0s
DOU Dourbes 4.82 346 Pn Pn 11 54 58.1 +1.6
DOU Sn Sn 11 55 52.0 -0.4
MELF Melles 4.82 240 Pn Pn 11 54 56.8 +0.1
MELF Melles 4.82 240 Pn Pn 11 54 56.8 +0.1
MELF Melles 4.82 240 Pn Pn 11 54 56.8 +0.1
BAIF Baives 4.86 343 *e*Pn Pn 11 54 58.4 +1.3
BAIF *e*Sn Sn 11 55 50.6 -2.8
comp=E,30nm,0.3s
BAIF *e*Sg Sg 11 56 17.9 -1.7
comp=E,54nm,0.4s
BAIF Baives 4.86 343 *e*Pn Pn 11 54 58.4 +1.3
BAIF *e*Sg Sg 11 56 17.9 -1.7
comp=E,27nm,0.4s
BAIF Baives 4.86 343 *e*Pn Pn 11 54 58.4 +1.3
BAIF *e*Sn Sn 11 55 50.6 -2.8
BAIF *e*Sg Sg 11 56 17.9 -1.7
CSOR Sort 4.90 233 Pn Pn 11 54 59.6 +1.7
comp=E,7.5nm,0.2s,SNR=31
CSOR Sn Sn 11 55 56.3 +1.5
comp=E,14nm,0.4s,SNR=5.0
CSOR Lg Lg 11 56 19.2
comp=E,18nm,0.2s,SNR=5.0
TNS Taunus Mts 4.97 15 *e*Pn Pn 11 54 59.1 +0.3
TNS *e*Sg Sg 11 56 27.0 +3.7

TNS	**Taunus Mts**	**4.97**	**15**	Pn		**Pn**	**11 54 59.1**	**+0.3**
TNS				Sg		**Sg**	**11 56 27.0**	**+3.7**
EPF	**Esparros**	**5.00**	**243**	*e*Pn		**Pn**	**11 54 59.6**	**+0.5**
EPF				*e*Sg		**Sg**	**11 56 21.6**	**-2.6**
	comp=E,82nm,0.4s							
EPF	**Esparros**	**5.00**	**243**	*e*Pn		**Pn**	**11 54 59.6**	**+0.5**
EPF	**Esparros**	**5.00**	**243**	*e*Pn		**Pn**	**11 54 59.6**	**+0.5**
EPF				*e*Sg		**Sg**	**11 56 21.6**	**-2.6**
EMIR	**Miracle**	**5.01**	**227**	Pn		**Pn**	**11 55 01.3**	**+2.0**
	comp=E,7.5nm,0.3s,SNR=9.3							
EMIR				Sn		**Sn**	**11 55 57.5**	**+0.1**
	comp=E,6.4nm,0.3s,SNR=5.0							
BCLA	**Clavier**	**5.04**	**352**	PN		**Pn**	**11 55 01.3**	**+1.7**
BCLA				SN		**Sn**	**11 55 58.6**	**+0.6**
	comp=E,43nm,0.0s							
BCLA	**Clavier**	**5.04**	**352**	Pn		**Pn**	**11 55 01.3**	**+1.7**
BCLA				Sn		**Sn**	**11 55 58.5**	**+0.6**
KBA	**Koelnbreinsper**	**5.07**	**69**	⇑*i*Pn		**Pn**	**11 55 02.8**	**+2.6**
	SNR=9.9							
KBA				⇑*i*Sn		Sn	11 56 04.3	+5.4
KBA	**Koelnbreinsper**	**5.07**	**69**	Pn		**Pn**	**11 55 02.8**	**+2.6**
	SNR=9.9							
MEM	**Membach**	**5.18**	**357**	PN		**Pn**	**11 55 02.6**	**+1.1**
MEM	**Membach**	**5.18**	**357**	Pn		**Pn**	**11 55 02.6**	**+1.1**
SNF	**Seneffe**	**5.27**	**345**	PN		**Pn**	**11 55 04.6**	**+1.9**
SNF	**Seneffe**	**5.27**	**345**	Pn		**Pn**	**11 55 04.6**	**+1.9**
HGN	**Heimansgroeve**	**5.33**	**357**	*e*Pn		**Pn**	**11 55 04.9**	**+1.3**
	comp=E,16nm,0.8s							
HGN				*e*Sn		**Sb**	**11 56 20.9**	**-0.4**
HGN	**Heimansgroeve**	**5.33**	**357**	*e*Pn		**Pn**	**11 55 04.9**	**+1.3**
	comp=E,16nm,0.8s							
GRA1	**Grafenberg Arr**	**5.34**	**36**	Pg		**Pg**	**11 55 25.6**	**-0.5**
GRA1				Sg		**Sg**	**11 56 38.5**	**+3.2**
GRF	**Grafenberg Arr**	**5.34**	**36**	*e*Pg		**Pg**	**11 55 25.6**	**-0.5**
GRF				*e*Sg		**Sg**	**11 56 38.5**	**+3.2**
BEBN	**Eben Emael**	**5.38**	**355**	PN		**Pn**	**11 55 06.4**	**+2.2**
BEBN	**Eben Emael**	**5.38**	**355**	Pn		**Pn**	**11 55 06.4**	**+2.2**
REYF	**Montagne du Re**	**5.44**	**247**	Pn		**Pn**	**11 55 04.6**	**-0.7**
REYF	**Montagne du Re**	**5.44**	**247**	Pn		**Pn**	**11 55 04.6**	**-0.7**
REYF	**Montagne du Re**	**5.44**	**247**	Pn		**Pn**	**11 55 04.6**	**-0.7**
LDF	**La Druitiere**	**5.48**	**307**	*e*Pn		**Pn**	**11 55 06.3**	**+0.7**
LDF	**La Druitiere**	**5.48**	**307**	*e*Pg		**Pg**	**11 55 26.7**	**-1.9**
LDF				*e*Sn		**Sn**	**11 56 05.9**	**-2.9**
	comp=E,44nm,0.4s							
LDF				*e*Sg		**Sg**	**11 56 37.0**	**-2.5**
	comp=E,52nm,0.4s							
LDF	**La Druitiere**	**5.48**	**307**	*e*Pn		**Pn**	**11 55 06.3**	**+0.7**
LDF	**La Druitiere**	**5.48**	**307**	*e*Pn		**Pn**	**11 55 06.3**	**+0.7**
LDF				*e*Pg		**Pg**	**11 55 26.7**	**-1.9**
LDF				*e*Sn		**Sg**	**11 56 05.9**	**-2.9**
LDF				*e*Sg		**Sg**	**11 56 37.0**	**-2.5**
ETSF	**Etsaut**	**5.63**	**246**	*e*Pn		**Pn**	**11 55 08.5**	**+0.6**
ETSF				*e*Sg		**Sg**	**11 56 40.6**	**-4.0**
	comp=E,54nm,0.5s							
ETSF	**Etsaut**	**5.63**	**246**	*e*Pn		**Pn**	**11 55 08.5**	**+0.6**
ETSF	**Etsaut**	**5.63**	**246**	*e*Pn		**Pn**	**11 55 08.5**	**+0.6**
ETSF				*e*Sg		**Sg**	**11 56 40.6**	**-4.0**
ATE	**Arette**	**5.64**	**248**	Pn		**Pn**	**11 55 08.0**	**+0.1**
ATE	**Arette**	**5.64**	**248**	Pn		**Pn**	**11 55 08.8**	**+0.9**
	comp=E,1.0nm,0.1s,SNR=7.9							
ATE				Sn		**Sn**	**11 56 14.7**	**+1.9**
	comp=E,3.7nm,0.3s,SNR=7.9							
ATE				Lg		Lg	11 56 45.5	
	comp=E,22nm,0.4s,SNR=7.9							
ATE	**Arette**	**5.64**	**248**	Pn		**Pn**	**11 55 08.0**	**+0.1**
EPOB	**Poblet**	**5.65**	**226**	Pn		**Pn**	**11 55 10.4**	**+2.3**
	comp=E,1.5nm,0.3s,SNR=7.9							
ORDF	**Ordiarp**	**5.73**	**250**	Pn		**Pn**	**11 55 09.2**	**0.0**
ORDF	**Ordiarp**	**5.73**	**250**	Pn		**Pn**	**11 55 09.2**	**0.0**
ORDF	**Ordiarp**	**5.73**	**250**	Pn		**Pn**	**11 55 09.2**	**0.0**
WET	**Wettzell**	**5.74**	**48**	*e*Pn		**Pn**	**11 55 10.0**	**+0.8**
WET				*e*Pg		**Pg**	**11 55 35.8**	**+2.1**
WET				*e*Sn		**Sn**	**11 56 12.3**	**-3.0**
WET				*e*Sg		**Sg**	**11 56 48.2**	**+0.3**
WET	**Wettzell**	**5.74**	**48**	Pn		**Pn**	**11 55 10.0**	**+0.8**
WET				Sg		**Sg**	**11 56 48.2**	**+0.3**
FLN	**La Foliniere**	**5.77**	**308**	*e*Pn		**Pn**	**11 55 10.5**	**+0.9**
	baz=131							
FLN				*e*Sn		**Sn**	**11 56 12.6**	**-3.3**
	comp=E,48nm,0.3s							
FLN				*e*Sg		**Sg**	**11 56 46.7**	**-2.2**
	comp=E,63nm,0.5s							
FLN	**La Foliniere**	**5.77**	**308**	*e*Pn		**Pn**	**11 55 10.5**	**+0.9**
FLN	**La Foliniere**	**5.77**	**308**	*e*Pn		**Pn**	**11 55 10.5**	**+0.9**
FLN				*e*Sn		**Sn**	**11 56 12.6**	**-3.3**
FLN				*e*Sg		**Sg**	**11 56 46.7**	**-2.2**
GRR	**Gorron**	**5.80**	**303**	*e*Pn		**Pn**	**11 55 11.2**	**+1.2**
GRR				*e*Sn		**Sn**	**11 56 13.4**	**-3.2**
	comp=E,105nm,0.5s							
GRR	**Gorron**	**5.80**	**303**	*e*Pn		**Pn**	**11 55 11.2**	**+1.2**
GRR	**Gorron**	**5.80**	**303**	*e*Pn		**Pn**	**11 55 11.2**	**+1.2**
GRR				*e*Sn		**Sn**	**11 56 13.4**	**-3.2**
ROTZ	**Rotzenmuhle**	**5.83**	**40**	*e*Sg		**Sg**	**11 56 52.2**	**+1.5**
ROTZ	**Rotzenmuhle**	**5.83**	**40**	Sg		**Sg**	**11 56 52.2**	**+1.5**
UBBA	**Unterbreizbach**	**5.88**	**23**	*e*Sg		**Sg**	**11 56 52.9**	**+0.3**
UBBA	**Unterbreizbach**	**5.88**	**23**	Sg		**Sg**	**11 56 52.9**	**+0.3**
MOA	**Molln**	**5.91**	**63**	⇑*i*Pn		**Pn**	**11 55 13.8**	**+2.2**
	SNR=6.4							
MOA	**Molln**	**5.91**	**63**	Pn		**Pn**	**11 55 13.8**	**+2.2**
	SNR=6.4							
OSSF	**Osses**	**5.93**	**251**	Pn		**Pn**	**11 55 11.7**	**-0.2**
OSSF	**Osses**	**5.93**	**251**	Pn		**Pn**	**11 55 11.7**	**-0.2**
OSSF	**Osses**	**5.93**	**251**	Pn		**Pn**	**11 55 11.7**	**-0.2**
SJPF	**Ste Jean**	**5.97**	**250**	*e*Pn		**Pn**	**11 55 13.1**	**+0.7**
SJPF				*e*Sg		**Sg**	**11 56 52.3**	**-3.0**
	comp=E,40nm,0.5s							
SJPF	**Ste Jean**	**5.97**	**250**	*e*Pn		**Pn**	**11 55 13.1**	**+0.7**
SJPF	**Ste Jean**	**5.97**	**250**	*e*Pn		**Pn**	**11 55 13.1**	**+0.7**
SJPF				*e*Sg		**Sg**	**11 56 52.3**	**-3.0**
GEC2	**GERESS Array S**	**6.01**	**53**	*e*Pn		**Pn**	**11 55 14.1**	**+1.0**
GEC2				*e*Sn		**Sn**	**11 56 18.3**	**-3.8**
GEC2	**GERESS Array S**	**6.01**	**53**	Pn		**Pn**	**11 55 14.1**	**+1.0**
GERES	**GERESS Array B**	**6.01**	**53**	Pn		**Pn**	**11 55 14.0**	**+1.0**
	comp=E,2.3nm,0.3s,baz=244,slow=13,SNR=23							
GERES				Sn		**Sn**	**11 56 18.4**	**-3.7**
	comp=E,5.7nm,0.3s,baz=244,slow=24,SNR=8.5							
GERES				Lg		Lg	11 57 04.0	
	baz=248,slow=28,SNR=2.6							
BUG	**Bochum--Univer**	**6.03**	**5**	*e*Pn		**Pn**	**11 55 14.5**	**+1.4**
NVLJ	**Novalja**	**6.05**	**95**	*e*Pn		**Pn**	**11 55 13.7**	**+0.2**
NVLJ				Sn		**Sn**	**11 56 21.1**	**-1.8**
NVLJ	**Novalja**	**6.05**	**95**	*e*Pn		**Pn**	**11 55 13.7**	**+0.2**
NVLJ				Sn		**Sn**	**11 56 21.1**	**-1.8**
IELO	**Elcoad**	**6.10**	**247**	Pn		**Pn**	**11 55 15.4**	**+1.2**
	comp=E,6.2nm,0.2s,SNR=7.9							
IELO				Sn		**Sn**	**11 56 26.0**	**+1.8**
	comp=E,4.7nm,0.2s,SNR=7.9							
KHC	**Kasperske Hory**	**6.10**	**50**	*e*PN		**Pn**	**11 55 15.6**	**+1.3**
KHC				*e*PG		**Pg**	**11 55 43.0**	**+2.4**
KHC				*e*SN		**Sn**	**11 56 19.5**	**-4.7**
KHC				*e*SG		**Sg**	**11 57 04.8**	**+5.2**
KHC				AMS		AMS	11 57 50.0	
	comp=E,200nm,8.0s							
KHC	**Kasperske Hory**	**6.10**	**50**	Pn		**Pn**	**11 55 15.6**	**+1.3**
EALK	**Alkurruntz**	**6.11**	**251**	Pn		**Pn**	**11 55 16.0**	**+1.7**
	comp=E,1.7nm,0.2s,SNR=4.8							
EALK				Sn		**Sn**	**11 56 23.8**	**-0.6**
	comp=E,16nm,0.3s,SNR=4.5							
SOKA	**Soboth**	**6.11**	**75**	⇑*i*Pn		**Pn**	**11 55 17.1**	**+2.6**
SOKA				⇓*i*Sn		**Sn**	**11 56 29.2**	**+4.6**
ELIZ	**Elizondo**	**6.15**	**251**	Pn		**Pn**	**11 55 16.2**	**+1.3**
	comp=E,1.8nm,0.2s,SNR=7.9							
ELIZ				Sn		**Sn**	**11 56 26.8**	**+1.4**
	comp=E,4.6nm,0.4s,SNR=7.9							
ESAC	**San Caprasio**	**6.24**	**236**	Pn		**Pn**	**11 55 18.8**	**+2.6**
	comp=E,4.5nm,0.2s,SNR=7.9							
MOX	**Moxa**	**6.26**	**32**	*e*Pg		Pg	11 55 46.8	+3.2
ETOS	**Mallorca**	**6.27**	**206**	Pn		**Pn**	**11 55 17.9**	**+1.4**
	comp=E,1.9nm,0.2s,SNR=18							
NKC	**Novy Kostel**	**6.27**	**38**	*e*SG		**Sg**	**11 57 07.6**	**+2.5**
EARA	**Aranguren**	**6.35**	**248**	Pn		**Pn**	**11 55 20.3**	**+2.6**
	comp=E,2.6nm,0.2s,SNR=5.9							
EARA				Sn		**Sn**	**11 56 30.3**	**-0.1**
	comp=E,3.3nm,0.1s,SNR=6.5							
WTSB	**Winterswijk**	**6.53**	**2**	*e*Sg		**Sg**	**11 57 16.9**	**+3.6**
SGMF	**Saint Gilles**	**6.77**	**298**	*e*Pn		**Pn**	**11 55 24.3**	**+0.9**
SGMF				*e*Sn		**Sn**	**11 56 36.6**	**-4.1**
	comp=E,13nm,0.2s							
SGMF				*e*Sg		**Sg**	**11 57 17.8**	**-3.3**
	comp=E,41nm,0.5s							
SGMF	**Saint Gilles**	**6.77**	**298**	*e*Pn		**Pn**	**11 55 24.3**	**+0.9**
SGMF	**Saint Gilles**	**6.77**	**298**	*e*Pn		**Pn**	**11 55 24.3**	**+0.9**
SGMF				*e*Sn		**Sn**	**11 56 36.6**	**-4.1**
SGMF				*e*Sg		**Sg**	**11 57 17.8**	**-3.3**
QUIF	**Quistinic**	**7.05**	**294**	*e*Pn		**Pn**	**11 55 28.1**	**+0.9**
QUIF				*e*Sn		**Sn**	**11 56 43.5**	**-3.9**
	comp=E,24nm,0.3s							
QUIF				*e*Sg		**Sg**	**11 57 26.6**	**-3.3**
	comp=E,33nm,0.4s							
QUIF	**Quistinic**	**7.05**	**294**	*e*Pn		**Pn**	**11 55 28.1**	**+0.9**
QUIF	**Quistinic**	**7.05**	**294**	*e*Pn		**Pn**	**11 55 28.1**	**+0.9**
QUIF				*e*Sn		**Sn**	**11 56 43.5**	**-3.9**
QUIF				*e*Sg		**Sg**	**11 57 26.6**	**-3.3**
PRU	**Pruhonice**	**7.11**	**47**	*e*SN		**Sn**	**11 56 44.0**	**-5.0**
PRU				*e*SG		**Sg**	**11 57 33.9**	**+2.0**
EMOS	**Mosqueruela**	**7.17**	**227**	Pn		**Pn**	**11 55 30.5**	**+1.4**
	comp=E,0.2nm,0.1s,SNR=6.4							
ROSF	**Rostrenen**	**7.25**	**297**	*e*Pn		**Pn**	**11 55 30.7**	**+0.7**
ROSF				*e*Sn		**Sn**	**11 56 48.5**	**-3.9**
	comp=E,34nm,0.3s							
ROSF				*e*Sg		**Sg**	**11 57 33.2**	**-3.2**
	comp=E,42nm,0.5s							
ROSF	**Rostrenen**	**7.25**	**297**	*e*Pn		**Pn**	**11 55 30.7**	**+0.7**
ROSF	**Rostrenen**	**7.25**	**297**	*e*Pn		**Pn**	**11 55 30.7**	**+0.7**
ROSF				*e*Sn		**Sn**	**11 56 48.5**	**-3.9**
ROSF				*e*Sg		**Sg**	**11 57 33.2**	**-3.2**
CLL	**Collm**	**7.32**	**34**	*e*Pg		Pg	11 56 12.0	+8.2
	comp=E,7.0nm,0.4s							
CLL				*e*Sg		Sg	11 57 46.0	+7.5
BRG	**Berggiesshubel**	**7.40**	**40**	PN		**Pb**	**11 55 53.5**	**+1.2**
BRG				PG		Pg	11 56 08.3	+3.0
BRG				SG		**Sg**	**11 57 43.1**	**+2.0**
	comp=E,11nm,0.7s							
ELAN	**Lanestosa**	**7.41**	**256**	Pn		Pn	11 55 35.2	+3.1
	comp=E,0.7nm,0.2s,SNR=7.4							
ELAN				Sn		**Sn**	**11 56 56.4**	**+0.1**
	comp=E,6.0nm,0.4s,SNR=5.0							
EIBI	**Ibiza**	**7.44**	**212**	Pn		**Pn**	**11 55 33.8**	**+1.2**
	comp=E,1.3nm,0.2s,SNR=7.9							
ETOR	**Torete**	**7.74**	**236**	Pn		**Pn**	**11 55 38.9**	**+2.2**
	comp=E,12nm,0.3s,SNR=12							
VRAC	**Vranov**	**7.91**	**57**	Pn		**Pn**	**11 55 41.7**	**+2.8**
	comp=E,0.7nm,0.3s,baz=266,slow=16,SNR=2.6							
VRAC				Sn		**Sn**	**11 57 04.2**	**-4.4**
	comp=E,1.2nm,0.3s,baz=153,slow=18,SNR=3.6							
VRAC				Lg		Lg	11 58 02.3	
	comp=E,0.4nm,0.3s,baz=315,slow=13,SNR=5.3							
EARI	**Arriondas**	**8.61**	**260**	Pn		**Pn**	**11 55 50.3**	**+1.6**
	comp=E,2.2nm,0.3s,SNR=16							
ETOB	**Tobarra**	**9.02**	**224**	Pn		**Pn**	**11 55 55.5**	**+1.2**
	comp=E,0.5nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**9.11**	**242**	Pn		**Pn**	**11 55 56.8**	**+1.1**
	comp=E,3.0nm,0.3s,SNR=7.9							
ESDC	**Sonseca Array**	**9.59**	**237**	Pn		**Pn**	**11 56 02.5**	**+0.4**
	comp=E,1.0nm,0.3s,baz=53,slow=15,SNR=8.5							
ESDC				Sn		**Sn**	**11 57 45.5**	**-4.6**
	comp=E,0.3nm,0.3s,baz=44,slow=24,SNR=3.0							
KEST	**Kesra**	**9.95**	**166**	Pn		Pn	11 56 11.2	+4.1
	comp=E,0.1nm,0.3s,baz=5.4,slow=3.6,SNR=5.1							
KEST				Lg		Lg	11 59 05.0	
	comp=E,0.1nm,0.3s,baz=318,slow=22,SNR=7.9							
ECAL	**Calabor**	**10.16**	**254**	Pn		**Pn**	**11 56 10.4**	**+0.5**
	comp=E,0.9nm,0.2s,SNR=5.2							
EKA	**Eskdalemuir Ar**	**11.63**	**332**	Pn		**Pn**	**11 56 28.4**	**-1.4**
	baz=155,slow=14,SNR=37							
EKA				Sn		Sn	11 58 30.4	-9.4
	baz=147,slow=24,SNR=3.6							
AKASG	**Malin Array Be**	**16.09**	**63**	Pn		**P**	**11 57 32.6**	**-0.9**
	comp=E,0.6nm,0.3s,baz=251,slow=11,SNR=2.3							
BRTR	**Keskin Array B**	**20.78**	**96**	P		Pn	11 58 29.9	+2.2
	comp=E,1.5nm,0.5s,baz=295,slow=8.2,SNR=8.6							
JMIC	**Jan Mayen**	**26.63**	**349**	LR		LR	12 09 44.5	
	comp=Z,28nm,19.2s,baz=250,slow=36							
TORD	**Torodi Ar. Bea**	**32.44**	**189**	P		**P**	**12 00 14.6**	**+0.2**
	comp=E,0.6nm,0.7s,baz=3.3,slow=9.6,SNR=4.7							
PETK	**Petropavlovsk-**	**78.79**	**17**	LR		LR	12 46 00.6	
	comp=Z,28nm,18.4s,baz=251,slow=40							
VNDA	**Vanda**	**146.35**	**171**	PKPbc		**PKPab**	**12 13 24.7**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=251,slow=4.8,SNR=4.3							

*IDC **30** 12:04:05.5±0.8, 35°.04S×72°.76W, h0km, mb3.9/9, mb1 4.2/10, mb1mx4.0/28, mbtmp4.0/10, ML2.2/1, Error ellipse: s-maj=30.9km s-min=19.4km az=81.0*
*ISCJB **30** 12:04:06.7±0.5, 35°.10S±0°.05×72°.81W±0°.05, h18km, mb4.0/15, Error ellipse: s-maj=7.6km s-min=4.9km az=38.9*
*GUC **30** 12:04:07.2±0.6, 35°.13S×72°.69W, h14km±3km, ML4.6*
*NEIC **30** 12:04:07.0, 35°.13S×72°.69W, h14km, mb4.4/6, ML4.6(GUC), After GUC.*
NEIC Felt [III] at Pencahue and Talca; [II] at Cobguecura.
ISC 30 12:04:08.4±0.7, **35°.07S**±0°.05×**72°.64W**±0°.06, **h18km**, **n37**, **σ1$35/38**, **mb4.0**/15, **4C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
TALC	**Talca**	**0.89**	**112**	⇑*i*P		**Pb**		**12 04 25.1**	**-0.2**
TALC				*i*S		**Sn**		**12 04 38.0**	**-0.4**
LNCH	**Linares**	**1.15**	**133**	⇑*i*P		**Pn**		**12 04 28.8**	**-0.8**
LNCH				*i*S		**Sg**		**12 04 45.4**	**-0.3**
NICH	**Los Niches**	**1.16**	**87**	⇑*i*P		**Pb**		**12 04 29.9**	**0.0**
NICH				*i*S		**Sg**		**12 04 47.0**	**+1.0**
LNV	**Longovilo**	**1.51**	**43**	*e*P		**Pb**		**12 04 35.7**	**-0.1**
CHCH	**Chadas Angostu**	**2.00**	**56**	⇑*i*P		**Pb**		**12 04 43.5**	**-0.7**
SAN	**Santiago**	**2.30**	**46**	*e*P		**Pb**		**12 04 48.5**	**-1.0**
CLCH	**Cerro Calan**	**2.41**	**47**	*i*S		**Sb**		**12 05 22.4**	**+1.5**
CLCH				AML		AML		12 05 32.6	
	comp=E,4μm,0.7s								
PEL	**Peldehue**	**2.52**	**41**	*e*P		**Pb**		**12 04 51.8**	**-1.4**
PEL				*i*S		**Sb**		**12 05 24.9**	**+1.2**
PEL				AML		AML		12 05 35.0	
	comp=N,4μm,0.6s								
CFAA	**Coronel Fontan**	**5.05**	**48**	Pn		**Pn**		**12 05 24.7**	**+1.3**
	comp=N,0.1nm,0.3s,baz=167,slow=6.0,SNR=3.1								
CFAA				Sn		**Sb**		**12 06 31.4**	**-5.4**
	comp=N,0.7nm,0.3s,baz=256,slow=19,SNR=2.1								
LCO	**Las Campanas**	**6.26**	**16**	*e*Pn		**Pn**		**12 05 40.1**	**-0.1**
LCO				*e*Sn		**Sn**		**12 06 54.2**	**+2.7**
TRQA	**Tornquist**	**9.08**	**112**	*e*Pn		**Pn**		**12 06 20.1**	**+1.5**
	comp=N,10nm,0.6s								
LVC	**Limon Verde**	**12.84**	**16**	Pn		**Pn**		**12 07 11.4**	**+1.1**
	comp=N,10nm,0.3s,baz=218,slow=12,SNR=2.7								
LVC	**Limon Verde**	**12.84**	**16**	Pn		**Pn**		**12 07 10.7**	**+0.4**
	comp=N,1.6nm,0.5s								
LPAZ	**La Paz**	**19.14**	**13**	P		**Pn**		**12 08 33.6**	**+1.4**
	comp=N,0.1nm,0.3s,baz=203,slow=11,SNR=5.3								
SIV	**San Ignacio**	**21.64**	**32**	P		**P**		**12 08 57.7**	**-0.2**
	comp=N,2.2nm,0.6s,baz=228,slow=13,SNR=6.7								
PTGA	**Pitinga**	**36.15**	**22**	*e*P		**P**		**12 11 09.5**	**-0.4**
	comp=N,4.6nm,0.5s								
SNAA	**Sanae**	**50.78**	**157**	P		**P**		**12 13 07.5**	**+0.3**
	comp=N,0.8nm,0.9s,baz=280,slow=6.9,SNR=8.7								
QSPA	**South Pole Qui**	**55.17**	**180**	P		**P**		**12 13 39.9**	**+0.2**
	comp=N,1.6nm,1.0s,baz=142,slow=1.7,SNR=5.3								
TXAR	**Lajitas Array**	**70.43**	**331**	P		**P**		**12 15 22.1**	**+0.4**
	comp=N,0.6nm,0.5s,baz=156,slow=8.9,SNR=7.4								
ABTX	**Abilene, Hawle**	**71.95**	**336**	*e*P		**P**		**12 15 30.8**	**+0.1**
	comp=N,3.2nm,0.7s								
ANMO	**Albuquerque**	**76.49**	**332**	*e*P		**P**		**12 15 57.0**	**-0.4**
	comp=N,1.5nm,0.9s								
SDCO	**Great Sand Dun**	**78.61**	**334**	P		**P**		**12 16 09.9**	**+0.6**
	comp=N,1.4nm,0.8s								
BOSA	**Boshof**	**80.01**	**118**	P		**P**		**12 16 18.9**	**+1.7**
	comp=N,2.7nm,0.8s,baz=201,slow=5.3,SNR=2.8								
ECSD	**EROS Data Cent**	**81.42**	**343**	*e*P		**P**		**12 16 23.5**	**-0.5**
	comp=N,4.4nm,0.9s								
CCUT	**Cedar City**	**81.55**	**328**	*e*P		**P**		**12 16 25.2**	**+0.1**
	comp=N,7.9nm,2.0s								
NVAR	**Mina Array Bea**	**84.48**	**326**	P		**P**		**12 16 40.5**	**+0.2**
	comp=N,0.4nm,0.7s,baz=163,slow=5.5,SNR=4.0								
PDAR	**Pinedale Array**	**84.50**	**334**	P		**P**		**12 16 40.0**	**-0.3**
	comp=N,0.3nm,0.4s,baz=116,slow=8.1,SNR=3.3								
TORD	**Torodi Ar. Bea**	**85.04**	**70**	P		**P**		**12 16 43.2**	**-0.1**
	comp=N,0.4nm,0.7s,baz=243,slow=4.5,SNR=2.9								
ULM	**Lac du Bonnet**	**87.41**	**345**	P		**P**		**12 16 52.8**	**-1.3**
	comp=N,3.0nm,0.8s,baz=114,slow=1.9,SNR=4.1								
H11S2	**WAKE ISLAND Hyl**	**25.25**	**269**	T		T		14 41 06.9	
	baz=122								
H11S1	**WAKE ISLAND Hyl**	**25.27**	**269**	T		T		14 41 08.4	
	baz=122								
H11S3	**WAKE ISLAND Hyl**	**25.27**	**269**	T		T		14 41 08.3	
	baz=122								
H11N3	**WAKE ISLAND Hyl**	**25.69**	**270**	T		T		14 41 30.3	
	baz=115,slow=78,SNR=7.9								
H11N1	**WAKE ISLAND Hyl**	**25.71**	**270**	T		T		14 41 30.8	
	baz=115,slow=78,SNR=11								
H11N2	**WAKE ISLAND Hyl**	**25.71**	**270**	T		T		14 41 33.6	
	baz=115,slow=78,SNR=6.2								

ZALV	**Zalesovo Beam**	**155.39**	**33**	PKP		**PKPdf**	**12 23 59.4**	**-0.7**
	comp=N,0.3nm,0.5s,baz=2.5,slow=6.5,SNR=2.5							
ZALV				PKPab		**PKPab**	**12 24 23.4**	**-2.3**
	comp=N,0.5nm,0.4s,baz=342,slow=6.8,SNR=2.9							
SONM	**Songino Array**	**167.23**	**3**	PKPab		**PKPab**	**12 25 17.3**	**-0.2**
	comp=N,0.5nm,0.8s,baz=311,slow=2.1,SNR=3.5							

*IDC **30** 13:09:07.6±0.5, 33°.30N×93°.90E, h0km, mb4.3/23, mb1 4.4/26, mb1mx4.4/32, mbtmp4.3/26, ML3.7/3, MS3.5/11, Ms1 3.5/11, ms1mx3.3/28, Error ellipse: s-maj=18.2km s-min=12.1km az=38.0*
*ISCJB **30** 13:09:10.1±1.4, 33°.33N±0°.03×93°.84E±0°.03, h27km±10km, mb4.4/46, MS3.5/10, Error ellipse: s-maj=4.8km s-min=3.9km az=163.4*
*BJI **30** 13:09:10.2, 33°.24N×93°.88E, h5km, mb4.5/26, mB4.5/18, ML4.0/8, Ms4.3/38, Ms7 4.2/32*
*MOS **30** 13:09:11.7±0.8, 33°.33N×93°.94E, h38km, mb4.5/21, Error ellipse: s-maj=11.7km s-min=7.1km az=105.2*
*NEIC **30** 13:09:14.1±0.8, 33°.38N×93°.91E, h43km±7km, mb4.5/18, Error ellipse: s-maj=5.8km s-min=5.1km az=223.0*
ISC 30 13:09:14.9±0.7, **33°.38N**±0°.04×**93°.86E**±0°.04, **h52km**±7km, **n133**, **σ1$35**/154, **mb4.4**/46, **MS3.6**/10, **10C-6D, Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
LSA	**Lhasa**	**4.33**	**213**	Pn		**Pn**		**13 10 19.3**	**+0.6**
LSA	**Lhasa**	**4.33**	**213**	*e*Pn		**Pn**		**13 10 19.6**	**+0.9**
GTA	**Gaotai**	**7.70**	**37**	⇑Pn		**Pn**		**13 11 05.0**	**+0.5**
GTA				Sn		Sn		13 12 36.5	+6.1
GTA				LN					
	740nm,6.2s								
GTA				LE					
	650nm,7.6s								
GTA				LZ					
	680nm,8.1s								
SHL	**Shillong**	**7.97**	**193**	*e*P		**Pn**		**13 11 08.0**	**-0.3**
SHL				*e*S		**Sn**		**13 12 34.5**	**-2.7**
LZH	**Lanzhou**	**8.65**	**69**	*e*P		**Pn**		**13 11 16.0**	**-1.6**
LZH				pP				13 11 19.3	
LZH				sP				13 11 22.3	
LZH				*e*S		**Sn**		**13 12 55.0**	**+1.1**

WMQ	110nm,5.0s				LN				
WMQ	430nm,6.5s				LE				
WMQ	660nm,7.5s				LZ				
XAN	230nm,18.0s **Xi'an**	**12.56**	**83**		P	**Pn**	**13 12 10.8**	**-0.2**
XAN					S	**Sn**	**13 14 30.8**	**+1.4**
XAN	5.0nm,1.2s				PMZ				
XAN	450nm,6.6s				LN				
XAN	460nm,7.3s				LE				
XAN	470nm,8.0s				LZ				
GYA	**Guiyang**	**13.06**	**118**	*i*	P	**Pn**	**13 12 14.8**	**-3.1**
GYA					PP	**P**	**13 12 29.3**	**+2.5**
GYA					S	**Sn**	**13 14 46.0**	**+4.2**
GYA					SS	**S**	**13 15 01.5**	**-3.1**
GYA	40nm,1.0s				PMZ				
GYA	110nm,4.8s				PMZ				
GYA	440nm,16.8s				LN				
GYA	380nm,17.2s				LE				
GYA	420nm,16.6s				LZ				
ENH	**Enshi**	**13.64**	**99**	*e*	Pn	**Pn**	**13 12 23.2**	**-2.5**
CMAI	11nm,0.9s **Chiengmai2**	**14.16**	**160**		P	**P**	**13 12 37.8**	**-1.3**
CHTO	24nm,0.7s,4μm **Chiang Mai**	**15.20**	**161**	*e*	P	**Pn**	**13 12 47.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**15.54**	**162**		Pn	**Pn**	**13 12 49.2**	**-1.5**
CMAR	0.1nm,0.3s,baz=343,slow=11,SNR=3.7				LR	LR	13 19 21.3		
KSH	comp=Z,120nm,18.8s,baz=343,slow=40 **Kashi**	**15.63**	**298**		P	**P**	**13 12 56.3**	**+1.0**
KSH					sP	sP	13 13 03.3	-10
HHC	**Hu-ho-hao-te**	**15.96**	**57**	*e*	P	**Pn**	**13 12 53.5**	**-2.6**
HHC					sP	sP	13 13 00.8	-16
HHC					PP	**PnPn**	**13 13 06.8**	**+1.3**
HHC					S	**Sn**	**13 15 49.3**	**-2.7**
HHC	15nm,0.7s				PMZ				
HHC	45nm,6.3s				PMZ				
HHC	610nm,8.0s				LN				
HHC	690nm,9.3s				LE				
HHC	320nm,10.5s				LZ				
LOEI	**Loei**	**17.15**	**155**		P	**P**	**13 13 16.5**	**+4.5**
CHLP	5.9nm,1.2s **Challavanipeta**	**17.22**	**213**	*e*	Pn	**Pn**	**13 13 11.5**	**-0.4**
SONM	**Songino Array**	**17.26**	**30**		P	**Pn**	**13 13 11.2**	**-1.2**
SONM	0.8nm,0.3s,baz=215,slow=13,SNR=39				LR	LR	13 20 43.6		
SONM	comp=Z,123nm,19.5s,baz=222,slow=40 **Songino Array**	**17.26**	**30**		P	**Pn**	**13 13 11.2**	**-1.2**
SONM					pmax	pmax			
SONM	comp=Z,1.0nm,0.3s				MLR	MLR			
PBKT	comp=Z,123nm,19.5s **Sadao Pong**	**17.92**	**157**		P	**P**	**13 13 23.4**	**+2.9**
EKS2	comp=Z,8.0nm,1.0s **Erkin-Say**	**18.30**	**306**	*e*	P	**Pn**	**13 13 24.9**	**-0.3**
SKNT	comp=Z,5.3nm,0.8s **Sakolnakorn**	**18.70**	**148**		P	**Pn**	**13 13 33.0**	**+3.0**
MOY	comp=Z,15nm,1.2s **Mondy**	**19.00**	**14**	*e*	P	**Pn**	**13 13 34.2**	**+0.7**
MOY					pmax	pmax			
BJI	comp=Z,20nm,1.6s **Beijing**	**19.06**	**63**		P	**P**	**13 13 31.8**	**-1.2**
BJI					S	**S**	**13 17 03.8**	**-2.7**
BJI	comp=Z,12nm,0.6s				PMZ				
BJI	comp=Z,510nm,14.0s				LN				
BJI	comp=Z,340nm,18.4s				LE				
TIA	**Tai'an**	**19.31**	**75**	⇓	P	**Pn**	**13 13 37.0**	**-0.1**
TIA	comp=Z,20nm,0.8s				PMZ				
TIA	comp=Z,80nm,3.9s				PMZ				
RPR	**Rampur**	**19.46**	**226**	*e*	P	**P**	**13 13 36.5**	**-1.0**
PVM	**Polavaram**	**19.47**	**217**	*e*	P	**P**	**13 13 36.0**	**-1.6**
TLY	**Talaya**	**19.63**	**18**		P	**Pn**	**13 13 39.9**	**-0.9**
SRSP	comp=Z,0.0nm,0.3s,baz=209,slow=19,SNR=3.6 **Sriramsagar**	**19.99**	**228**	*e*	P	**P**	**13 13 42.4**	**-0.8**
QIZ	**Qiongzhong**	**20.20**	**131**		P	Pn	13 13 47.3	-0.6
QIZ					S	Sn	13 17 34.8	+0.1
QIZ	comp=Z,360nm,8.9s				LN				
QIZ	comp=Z,210nm,8.7s				LE				
QIZ	comp=Z,780nm,10.8s				LZ				
IRK	**Irkutsk**	**20.31**	**19**	*e*	P	**P**	**13 13 47.2**	**+0.8**
IRK				*e*			13 14 13.0		
IRK	comp=Z,37nm,0.9s				pmax	pmax			
KURBB	**Kurchatov Arra**	**20.59**	**331**		P	**P**	**13 13 49.4**	**-0.1**
KURBB	comp=Z,19nm,0.8s,baz=140,slow=10,SNR=186				PcP	**PcP**	**13 17 58.5**	**+0.1**
KURK	comp=Z,0.9nm,0.7s,baz=153,slow=1.5,SNR=6.4 **Kurchatov**	**20.62**	**332**		P	**P**	**13 13 49.4**	**-0.4**
KURK							13 17 58.5		
KURK	comp=Z,19nm,0.8s				pmax	pmax			
KURK	**Kurchatov**	**20.62**	**332**	*e*	P	**P**	**13 13 48.3**	**-1.5**
KURK	comp=Z,34nm,0.8s				PcP	**PcP**	**13 17 58.5**	**0.0**
KKAR	**Karatay Array**	**20.69**	**305**	*e*	P	**P**	**13 13 47.0**	**-3.7**
HYBB	comp=Z,10nm,1.0s **Hyderabad (bro**	**21.02**	**225**	*e*	P	**P**	**13 13 52.6**	**-1.8**
HYB	**Hyderabad**	**21.02**	**225**	*i*	P	**P**	**13 13 54.0**	**-0.4**
PHET	**Kaeng Krachan**	**21.04**	**164**		P	**P**	**13 13 58.4**	**+3.8**
NJS	comp=Z,7.0nm,0.8s **Nagarjunasagar**	**21.28**	**222**	*e*	P	**P**	**13 13 54.9**	**-2.2**
ADKI	**Addanki**	**21.50**	**219**	*e*	P	**P**	**13 13 59.2**	**-0.3**
ZALV	**Zalesovo Beam**	**21.55**	**345**		P	**P**	**13 13 59.5**	**-0.2**
ZALV	comp=Z,5.0nm,0.7s,baz=166,slow=10,SNR=15 **Zalesovo Beam**	**21.55**	**345**	*i*	P	**P**	**13 13 59.5**	**-0.2**
ZALV	comp=Z,5.0nm,0.7s				pmax	pmax			
KLRI	**Killari**	**21.73**	**230**	*e*	P	**P**	**13 13 59.9**	**-2.1**
SRLM	**Srisailam**	**21.88**	**222**	*e*	P	**P**	**13 14 01.0**	**-2.5**
RCLA	**Racherla**	**22.37**	**221**	*e*	P	**P**	**13 14 07.7**	**-1.1**
NVS	**Novosibirsk**	**22.72**	**344**	*e*	P	**P**	**13 14 11.7**	**-0.6**
NVS				*e*			13 14 40.1		
NVS	comp=N,28nm,1.1s				pmax	pmax			
NVS	comp=Z,40nm,1.1s				pmax	pmax			
QZH	**Quanzhou**	**23.14**	**105**	*e*	P	**P**	**13 14 18.0**	**+1.3**
QZH					S	**S**	**13 18 24.8**	**+0.5**
QZH	comp=Z,940nm,7.4s				LN				
QZH	comp=Z,450nm,7.8s				LE				
QZH	comp=Z,930nm,8.2s				LZ				
HIA	**Hailar**	**24.92**	**43**		P	**P**	**13 14 32.3**	**-0.8**
BVAR	comp=Z,11nm,0.9s **Borovoye Array**	**25.84**	**327**		P	**P**	**13 14 41.6**	**+0.3**
BVAR	comp=Z,3.1nm,0.8s,baz=142,slow=11,SNR=11				PcP	**PcP**	**13 18 10.1**	**+0.6**
BVAR	comp=Z,0.8nm,0.5s,baz=229,slow=3.4,SNR=4.3 **Borovoye Array**	**25.84**	**327**		P	**P**	**13 14 41.6**	**+0.3**
BVAR							13 18 10.1		
BVAR	comp=Z,3.0nm,0.8s				pmax	pmax			
BRVK	**Borovoye**	**25.91**	**326**	*de*	P	**P**	**13 14 42.5**	**+0.5**
BRVK	comp=Z,17nm,1.2s				pmax	pmax			
BRVK	**Borovoye**	**25.91**	**326**	*e*	P	**P**	**13 14 41.8**	**-0.2**
CN2	comp=Z,20nm,1.3s **Changchun**	**26.65**	**58**	*e*	P	**P**	**13 14 50.5**	**+1.7**
CN2				*es*	P	sP	13 14 57.5	-10
CN2				*eS*		**S**	**13 19 23.0**	**+2.8**
CN2	comp=Z,10.0nm,0.6s				PMZ				
CN2	comp=Z,200nm,3.0s				PMZ				
CN2	comp=Z,100nm,11.0s				LN				
CN2	comp=Z,100nm,11.0s				LE				
CN2	comp=Z,200nm,11.0s				LZ				
TJN	**Taejon**	**27.57**	**74**		P	**P**	**13 14 56.0**	**-1.1**
KSAR	**Wonju Array Be**	**27.94**	**72**		P	**P**	**13 14 59.6**	**-0.7**
KSAR					PcP	**PcP**	**13 18 14.3**	**-0.4**
KSRS	**Korea Array**	**27.97**	**72**		P	**P**	**13 14 59.6**	**-1.0**
KSRS	comp=Z,6.3nm,0.7s,baz=276,slow=9.3,SNR=30				PcP	**PcP**	**13 18 14.3**	**-0.4**
KSRS	comp=Z,0.7nm,0.7s,baz=261,slow=2.9,SNR=4.8				LR	LR	13 26 32.3		
KSRS	comp=Z,39nm,19.0s,baz=262,slow=37 **Korea Array**	**27.97**	**72**		P	**P**	**13 14 59.6**	**-1.0**
KSRS							13 18 14.3		
KSRS	comp=Z,6.0nm,0.7s				pmax	pmax			
KSRS	comp=Z,39nm,19.0s				MLR	MLR			
GEYT	**Alibeck**	**29.28**	**289**		P	**P**	**13 15 13.5**	**+1.1**
GEYT	comp=Z,2.4nm,0.5s,baz=104,slow=12,SNR=3.7				LR	LR	13 29 13.9		
ABKAR	comp=Z,145nm,19.4s,baz=235,slow=41 **Akbulak array**	**29.70**	**312**	*e*	P	**P**	**13 15 16.3**	**+0.4**
KLR	comp=Z,6.6nm,0.8s **Kul'dur**	**32.18**	**49**	*e*	P	P	13 15 33.5	-4.2
KLR				*e*			13 16 40.8		
ARU	**Arti**	**33.42**	**324**	*d*	*i*	P	**13 15 48.6**	**+0.2**
ARU					*PP	**pP**	**13 16 04.0**	**+2.3**
ARU							13 17 00.5		
ARU					S	**S**	**13 21 05.2**	**-0.7**
ARU	comp=Z,7.0nm,1.2s				pmax	pmax			
MJAR	**Matsushiro Art**	**36.25**	**72**		P	**P**	**13 16 12.2**	**-0.9**
MJAR	comp=Z,1.9nm,0.9s,baz=276,slow=10,SNR=9.1				LR	LR	13 30 21.9		
MJAR	comp=Z,49nm,19.8s,baz=210,slow=35 **Matsushiro Arr**	**36.25**	**72**		P	**P**	**13 16 12.2**	**-0.9**
MJAR					pmax	pmax			
MJAR	comp=Z,2.0nm,0.9s				MLR	MLR			
ASAJ	comp=Z,49nm,19.8s **Asahikawa**	**38.98**	**59**	*e*	P	**P**	**13 16 35.4**	**-0.8**
YSS	comp=Z,2.8nm,0.8s **Yuzh-Sakhalins**	**39.13**	**55**	*e*	P	**P**	**13 16 38.1**	**+0.8**
GNI	**Garni**	**39.52**	**294**	⇓	*e*	P	**13 16 43.4**	**+2.6**
GNI					pmax	pmax			
KBZ	comp=Z,22nm,1.2s **Khabaz**	**40.60**	**300**		P	**P**	**13 16 50.1**	**+0.6**
KBZ	comp=Z,2.3nm,0.9s,baz=90,slow=11,SNR=3.6 **Khabaz**	**40.60**	**300**		P	**P**	**13 16 50.1**	**+0.6**
KBZ					pmax	pmax			
TIXI	comp=Z,2.0nm,0.9s **Tiksi**	**42.57**	**16**	*ce*	P	**P**	**13 17 05.3**	**0.0**
TIXI					pmax	pmax			
OBN	comp=Z,3.0nm,0.8s **Obninsk**	**44.93**	**317**	*i*	P	**P**	**13 17 26.4**	**+2.0**
OBN					pmax	pmax			
OBN	comp=Z,21nm,1.9s				MLR	MLR			
SEY	comp=Z,82nm,25.0s **Seymchan**	**46.62**	**32**	⇑	*e*	P	**13 17 38.2**	**+0.5**
BRTR	**Keskin Array B**	**48.00**	**296**		P	**P**	**13 17 48.9**	**-0.1**
BRTR	comp=Z,1.9nm,0.8s,baz=78,slow=7.8,SNR=7.1				PcP	**PcP**	**13 17 49.2**	**+0.2**
BRTR	**Keskin Array B**	**48.00**	**296**	*ce*	P	**P**	**13 17 49.2**	**+0.2**
BRTR	comp=Z,2.0nm,0.8s				pmax	pmax			
AKASG	**Malin Array Be**	**49.42**	**311**		P	**P**	**13 17 59.2**	**-0.2**
AKASG	comp=Z,0.3nm,0.4s,baz=74,slow=6.8,SNR=6.9				LR	LR	13 42 31.4		
AKASG	comp=Z,78nm,19.6s,baz=110,slow=40 **Malin Array Be**	**49.42**	**311**	*ce*	P	**P**	**13 17 58.9**	**-0.5**
KIEV	**Kiev**	**49.43**	**311**	⇑	*e*	P	**13 17 59.8**	**+0.3**
FINES	**FINESS Array B**	**50.78**	**325**		P	**P**	**13 18 09.8**	**+0.2**
FINES	comp=Z,1.2nm,0.6s,baz=104,slow=8.0,SNR=5.9				PcP	**PcP**	**13 19 26.2**	**+0.4**
FINES	comp=Z,2.1nm,0.8s,baz=224,slow=5.3,SNR=4.1 **FINESS Array B**	**50.78**	**325**	*i*	P	**P**	**13 18 12.5**	**+2.9**
FINES					pmax	pmax			
ARCES	comp=Z,1.0nm,0.5s **ARCESS Array B**	**51.60**	**335**		P	**P**	**13 18 16.6**	**+0.9**
ARCES	comp=Z,2.2nm,0.8s,baz=68,slow=13,SNR=6.3				PcP	**PcP**	**13 19 29.1**	**+0.3**
ARCES	comp=Z,2.0nm,0.7s,baz=95,slow=2.6,SNR=5.7				LR	LR	13 41 56.1		
ARCES	comp=Z,76nm,19.9s,baz=98,slow=38 **ARCESS Array B**	**51.60**	**335**		P	**P**	**13 18 16.6**	**+0.9**
ARCES							13 19 29.1		
ARCES	comp=Z,2.0nm,0.8s				pmax	pmax			
ARCES	comp=Z,2.0nm,0.7s				pmax	pmax			
ARCES	comp=Z,76nm,19.9s				MLR	MLR			
KWP	**Kalwaria Pacla**	**53.72**	**310**	*e*	P	**P**	**13 18 32.7**	**+1.1**
KWP	**Kalwaria Pacla**	**53.72**	**310**	*e*	P	**P**	**13 18 32.8**	**+1.1**
STHS	**Stebnicka Huta**	**54.69**	**310**	*e*	P	**P**	**13 18 38.4**	**-0.3**
STHS	**Stebnicka Huta**	**54.69**	**310**	*e*	P	**P**	**13 18 38.4**	**-0.3**
NIE	**Niedzica**	**55.29**	**310**	*e*	P	**P**	**13 18 44.2**	**+1.2**
NIE	**Niedzica**	**55.29**	**310**	*e*	P	**P**	**13 18 44.3**	**+1.2**
OJC	**Ojcow**	**55.44**	**311**	*e*	P	**P**	**13 18 45.2**	**+1.2**
OJC	**Ojcow**	**55.44**	**311**	*e*	P	**P**	**13 18 45.3**	**+1.2**
NB2	**NORSAR Subarra**	**57.96**	**325**		P	**P**	**13 19 01.3**	**-0.6**
NOA	comp=Z,0.9nm,0.6s,baz=77,slow=6.9 **NORSAR Array B**	**57.96**	**325**		P	**P**	**13 19 01.2**	**-0.6**
NOA	comp=Z,2.0nm,0.8s,baz=79,slow=7.1,SNR=5.3				LR	LR	13 44 53.5		
NOA	comp=Z,34nm,21.0s,baz=95,slow=37 **NORSAR Array B**	**57.96**	**325**		P	**P**	**13 19 01.2**	**-0.6**
NOA	comp=Z,2.0nm,0.8s				pmax	pmax			
NOA	comp=Z,34nm,21.0s				MLR	MLR			
CSNA	**Conrad Observa**	**58.52**	**310**	⇑	*i*	P	**13 19 07.0**	**+1.0**
BRG	comp=Z,7.2nm,1.0s **Berggiesshubel**	**58.91**	**313**	*e*	P	**P**	**13 19 09.2**	**+0.7**
BRG	comp=Z,3.9nm,0.7s **Berggiesshubel**	**58.91**	**313**	*e*	P	**P**	**13 19 09.2**	**+0.7**
BRG	comp=Z,4.0nm,0.7s				pmax	pmax			
SOKA	**Soboth**	**59.42**	**308**	⇓	*i*	P	**13 19 12.8**	**+0.6**
GERES	comp=Z,7.0nm,1.1s **GERESS Array B**	**59.63**	**311**		P	**P**	**13 19 14.4**	**+0.8**
GERES	comp=Z,0.9nm,0.6s,baz=64,slow=6.2,SNR=9.7				LR	LR	13 49 43.3		
GERES	comp=Z,56nm,19.6s,baz=84,slow=41 **GERESS Array B**	**59.63**	**311**		P	**P**	**13 19 14.5**	**+0.8**
GERES					pmax	pmax			
GERES	comp=Z,1.0nm,0.6s				MLR	MLR			
FETA	comp=Z,56nm,19.6s **Feichten**	**62.11**	**310**	⇑	*i*	P	**13 19 30.0**	**-0.6**
BFO	comp=Z,6.5nm,0.9s **Black Forest**	**63.17**	**312**	*i*	P	P	**13 19 38.4**	**+0.9**
TUE	**Stuetta**	**63.19**	**310**	*e*	P	**P**	**13 19 37.2**	**-0.7**
WRAB	comp=Z,5.2nm,0.8s **Tennant Creek**	**65.60**	**138**	*e*	P	**P**	**13 19 53.7**	**+0.1**
WRA	comp=Z,11nm,1.1s **Warramunga Arr**	**65.60**	**138**		P	**P**	**13 19 53.4**	**-0.3**
WRA	comp=Z,5.2nm,0.9s,baz=332,slow=7.5,SNR=16				pmax	pmax			
WRA	comp=Z,5.0nm,1.0s **Warramunga Arr**	**65.60**	**138**		P	**P**	**13 19 53.4**	**-0.3**
KEST	comp=Z,5.0nm,1.0s **Kesra**	**67.45**	**299**		P	**P**	**13 20 05.5**	**-0.1**
KEST	comp=Z,1.9nm,1.1s,baz=30,slow=16,SNR=3.8				LR	LR	13 54 23.2		
ASAR	comp=Z,24nm,20.5s,baz=238,slow=40 **Alice Springs**	**68.36**	**141**		P	**P**	**13 20 11.3**	**+0.2**
ASAR	comp=Z,9.5nm,0.9s,baz=326,slow=6.3,SNR=94				LR	LR	13 54 13.2		
ASAR	comp=Z,54nm,20.1s,baz=284,slow=40 **Alice Springs**	**68.36**	**141**		P	**P**	**13 20 11.4**	**+0.2**
ASAR	comp=Z,10.0nm,0.9s				pmax	pmax			
ASAR	comp=Z,54nm,20.1s				MLR	MLR			
COLD	**Coldfoot**	**68.78**	**22**	*e*	P	**P**	**13 20 14.2**	**+1.0**
BPAW	comp=Z,7.2nm,0.9s **Bear Paw Mtn.**	**70.38**	**25**	*e*	P	**P**	**13 20 23.4**	**+0.2**
	comp=Z,1.6nm,1.1s								
PPLA	**Purkeypile**	**70.66**	**26**	*e*	P	**P**	**13 20 25.9**	**+0.8**
COLA	comp=Z,8.0nm,0.7s **College**	**70.98**	**23**	*d*	*i*	P	**13 20 27.1**	**+0.4**
COLA					pmax	pmax			
COLA	comp=Z,48nm,0.8s **College**	**70.98**	**23**	*e*	P	**P**	**13 20 27.1**	**+0.4**
MCK	comp=Z,11nm,0.8s **McKinley**	**71.33**	**25**	*e*	P	**P**	**13 20 29.6**	**+0.7**
ILAR	comp=Z,3.1nm,0.6s **Eielson Array**	**71.37**	**23**		P	**P**	**13 20 28.9**	**-0.2**
ILAR	comp=Z,3.9nm,0.8s,baz=297,slow=5.4,SNR=56				pmax	pmax			
ILAR	**Eielson Array**	**71.37**	**23**		P	**P**	**13 20 28.9**	**-0.2**
SML	comp=Z,4.0nm,0.8s **Sawmill**	**72.75**	**26**	*e*	P	**P**	**13 20 38.0**	**+0.5**
EGAK	comp=Z,5.1nm,0.9s **Eagle**	**73.19**	**22**	*e*	P	**P**	**13 20 40.5**	**+0.6**
KDAK	comp=Z,8.3nm,1.1s **Kodiak Island**	**73.55**	**31**	*i*	P	**P**	**13 20 42.1**	**0.0**
KDAK	**Kodiak Island**	**73.55**	**31**	*e*	P	**P**	**13 20 42.3**	**+0.2**
BMRM	comp=Z,15nm,1.1s **Bremner River**	**74.66**	**26**	*e*	P	**P**	**13 20 49.3**	**+0.6**
ESDC	comp=Z,11nm,0.9s **Sonseca Array**	**74.91**	**308**		P	**P**	**13 20 51.0**	**+0.5**
HYT	comp=Z,2.1nm,0.7s,baz=53,slow=6.1,SNR=14 **Haines Junctio**	**77.21**	**23**	*e*	P	**P**	**13 21 03.7**	**+0.4**
STKA	**Stephens Creek**	**78.99**	**140**		P	**P**	**13 21 12.4**	**-0.8**
STKA	comp=Z,2.8nm,0.5s,baz=350,slow=3.6,SNR=5.4				P	**P**	**13 21 12.5**	**-0.8**
STKA	comp=Z,3.0nm,0.5s				pmax	pmax			
YKA	**Yellowknife Ar**	**81.75**	**13**		P	**P**	**13 21 27.1**	**-0.6**
YKA	comp=Z,1.3nm,0.7s,baz=326,slow=6.2,SNR=4.3 **Yellowknife Ar**	**81.75**	**13**		P	**P**	**13 21 27.1**	**-0.6**
YKA	comp=Z,1.0nm,0.7s				pmax	pmax			
TORD	**Torodi Ar. Bea**	**84.67**	**282**		P	**P**	**13 21 43.4**	**-0.2**
BOSA	comp=Z,10nm,0.8s,baz=49,slow=4.6,SNR=61 **Boshof**	**89.57**	**235**		P	**P**	**13 22 06.2**	**-0.9**
BOSA	comp=Z,5.0nm,1.0s,baz=90,slow=6.1,SNR=3.1				P	**P**	**13 22 06.2**	**-0.9**
BOSA	**Boshof**	**89.57**	**235**		P	**P**	**13 22 06.2**	**-0.9**
BOSA	comp=Z,5.0nm,1.0s				pmax	pmax			
DBIC	comp=Z,5.0nm,1.0s **Dimbokro**	**93.60**	**280**		P	**P**	**13 22 25.3**	**-0.7**
DBIC	comp=Z,5.8nm,0.8s,baz=13,slow=3.6,SNR=5.4 **Dimbokro**	**93.60**	**280**		P	**P**	**13 22 25.3**	**-0.7**
DBIC					pmax	pmax			
OTAV	comp=Z,6.0nm,0.8s **Otavalo**	**145.79**	**346**	*e*	PKP	**PKPab**	**13 28 50.0**	**+0.1**
SAML	**Samuel**	**147.76**	**314**	*e*	PKPbc	**PKPbc**	**13 28 55.1**	**+0.5**

ISK ***30*** *13:16:34.3,39.˚94N×42.˚59E,h23km,MD2.8*
ISCJB ***30*** *13:16:37.4±0.6,39.˚92N±0.˝03×42.˚78E±0.˝04,h0km±8km, Error ellipse: s-maj=5.7km s-min=4.6km az=154.6*
CSEM ***30*** *13:16:37.5±0.4,39.˚92N×42.˚77E,h2km,MD3.1,Error ellipse: s-maj=9.2km s-min=8.2km az=171.0*
DDA ***30*** *13:16:37.8,39.˚87N×42.˚73E,h7km,MD3.1*

ISC 30 13:16:37.5±1.0,39.˚86N±0.˝03×42.˚75E±0.˝02,h10km±8km, n26,σ1s22/33,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EATA	**Eleskirt**	**0.20**	**272**	*i*	P	**Pg**	**13 16 41.1**	**-0.8**
EATA				*i*	S	**Sg**	**13 16 45.3**	**+0.4**
EATA	**Eleskirt**	**0.20**	**272**	*i*	P	**Pg**	**13 16 41.1**	**-0.8**
EATA				*i*	S	**Sg**	**13 16 45.3**	**+0.4**
AGRB	**Hanur-Agry**	**0.34**	**146**	*e*	PG	**Pg**	**13 16 44.6**	**+0.5**
AGRB	**Hanur-Agry**	**0.34**	**146**	*e*	Pg	**Pg**	**13 16 44.7**	**+0.5**
TUTA	**Tutak**	**0.46**	**174**	*i*	P	Pn	13 17 01.0	+11
TUTA				*i*	S	Sb	13 17 08.9	+14
HOMI	**Horasan**	**0.68**	**286**	*i*	P	**Pg**	**13 16 50.0**	**-0.6**
HOMI				*i*	S	**Sb**	**13 17 01.1**	**+0.1**
DIGO	**Kars**	**0.73**	**40**	*i*	P	**Pg**	**13 16 52.2**	**+0.5**
DIGO	**Kars**	**0.73**	**40**	*i*	P	**Pg**	**13 16 52.2**	**+0.5**
DYDN	**Diyadin**	**0.79**	**113**	*i*	P	**Pg**	**13 16 53.2**	**+0.5**
DYDN				*i*	S	**Sg**	**13 17 05.0**	**+2.0**
DYDN	**Diyadin**	**0.79**	**113**	*i*	P	**Pg**	**13 16 53.2**	**+0.5**
DYDN				*i*	S	**Sg**	**13 17 05.0**	**+2.0**
EKAR	**Karacoban**	**0.80**	**222**	*i*	P	**Pg**	**13 16 53.8**	**+0.9**
EKAR				*i*	S	**Sn**	**13 17 07.1**	**0.0**
EKAR	**Karacoban**	**0.80**	**222**	*i*	P	**Pg**	**13 16 53.8**	**+0.9**
KARS	**Kars**	**0.81**	**18**	*e*	PG	Pg	13 16 49.9	-3.2
KARS				*e*	SG	**Sg**	**13 17 01.7**	**-2.0**
KARS	**Kars**	**0.81**	**18**	*e*	Pg	Pg	13 16 49.9	-3.2
KARS				*e*	Sg	**Sg**	**13 17 01.7**	**-2.0**
ERZM	**Erzurum**	**1.07**	**273**	*i*	P	**Pg**	**13 16 58.5**	**+0.5**
ERZM				*i*	S	**Sg**	**13 17 11.9**	**0.0**
ERZM	**Erzurum**	**1.07**	**273**	*i*	P	**Pg**	**13 16 58.5**	**+0.5**
ERZM				*i*	S	**Sg**	**13 17 11.9**	**0.0**
CLDR	**Caldiran**	**1.15**	**128**	*e*	PN	**Pg**	**13 16 57.4**	**-2.2**
CLDR	**Caldiran**	**1.15**	**128**	*e*	Pn	**Pg**	**13 16 57.4**	**-2.2**
DDEM	**Demirkent**	**1.29**	**324**	*i*	P	Pn	13 16 55.2	-6.4
DAGI	**Agillar**	**1.38**	**333**	*i*	P	**Pb**	**13 17 03.7**	**+0.4**
DBAD	**Bademkaya**	**1.41**	**326**	*i*	P	**Pn**	**13 17 03.8**	**+0.5**
DBAD				*i*	S	**Sg**	**13 17 25.0**	**+2.0**
DBAD	**Bademkaya**	**1.41**	**326**	*i*	P	**Pn**	**13 17 03.8**	**+0.5**
BNGL	**BINGOL**	**1.54**	**234**	*i*	P	Pn	13 17 02.6	-2.5
BNGL				*i*	S	**Sg**	**13 17 27.4**	**+0.5**
KOPT	**Kop Dagi**	**1.74**	**276**	*i*	P	**Pg**	**13 17 11.5**	**+0.6**
KOPT	**Kop Dagi**	**1.74**	**276**	*i*	P	**Pg**	**13 17 11.5**	**+0.6**
BCA	**Borcka**	**1.81**	**332**	*e*	PN	Pn	13 17 03.1	-5.5

NEIC ***30*** *13:26:12.6,16.˚20N×97.˚95W,h4km,MD4.1(MEX),After MEX.*

MEX 30 13:26:12.2±0.3,16.˚16N×97.˚98W,h4km±3km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.28**	**328**	*i*	P	Pg	13 26 17.4	-0.2
PNIG				*i*	S	Sg	13 26 21.2	-0.1
PNIG	**Pinotepa**	**0.28**	**328**	*i*	P	Pg	13 26 17.4	-0.2
PNIG				*i*	S	Sg	13 26 21.2	-0.1
VHO	**Vista Hermosa**	**1.50**	**52**	*e*	P	Pn	13 26 36.1	-4.2
VHO				*e*	S	Sn	13 26 55.5	-5.0
VHO	**Vista Hermosa**	**1.50**	**52**	*e*	P	Pn	13 26 36.1	-4.2
TLIG	**Tlapa**	**1.51**	**338**	*e*	P	Pn	13 26 36.4	-3.9
TLIG				*i*	S	Sn	13 26 55.5	-5.1
HUIG	**Huatulco**	**1.84**	**102**	*e*	P	Pn	13 26 41.2	-3.4
HUIG				*i*	S	Sn	13 27 03.3	-5.1
HUIG	**Huatulco**	**1.84**	**102**	*e*	P	Pn	13 26 39.9	-4.7
CAIG	**El Cayaco**	**2.37**	**292**	*e*	P	Pn	13 26 49.1	-2.8
CAIG				*i*	S	Sn	13 27 17.0	-4.5

ISCJB ***30*** *13:45:37.5±0.8,28.˚77S±0.˝05×71.˚69W±0.˝08,h35km, mb3.7/2,Error ellipse: s-maj=10.2km s-min=6.5km az=176.1*
SJA ***30*** *13:45:40.5±0.9,29.˚09S×71.˚45W,h28km±4km,ML4.0*
IDC ***30*** *13:45:41.0±1.0,29.˚01S×71.˚45W,h62km±6km,mb3.4/2, mb1 3.8/5,mb1mx3.5/25,mbtmp3.8/5,MS2.0/1,Ms1 2.0/1, ms1mx2.0/11,Error ellipse: s-maj=37.5km s-min=27.4km az=58.0*

ISC 30 13:45:41.0±0.9,28.˚86S±0.˝06×71.˚53W±0.˝09,h35km,n29, σ1s91/29,Near coast of central Chile

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

ACAN	**Cantantal**	**5.06**	**133**	*e*P		**Pn**	**13 46 53.4**	**-1.1**
FSA	**Cafayete**	**5.62**	**62**	*e*P		**Pn**	**13 47 02.4**	**+0.1**
LVC	**Limon Verde**	**6.65**	**21**	P		**Pn**	**13 47 14.6**	**-1.9**
	comp=Z,61nm,0.3s,baz=113,slow=12,SNR=32							
LVC				S		**Sn**	**13 48 28.1**	**-3.1**
	comp=Z,101nm,0.3s,baz=289,slow=19,SNR=7.3							
LPAZ	**La Paz**	**12.90**	**15**	P		**Pn**	**13 48 45.0**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=191,slow=8.5,SNR=6.3							
SIV	**San Ignacio**	**16.03**	**39**	P		**Pn**	**13 49 24.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=209,slow=10,SNR=4.8							
TXAR	**Lajitas Array**	**65.50**	**329**	P		**P**	**13 56 19.3**	**-1.6**
	comp=Z,0.5nm,0.9s,baz=142,slow=9.1,SNR=2.9							
TORD	**Torodi Ar. Bea**	**82.06**	**70**	P		P	13 57 54.0	-4.2
	comp=Z,0.7nm,0.5s,baz=247,slow=4.6,SNR=5.6							
TORD				pP		pP	13 58 11.5	+2.3
	comp=Z,0.4nm,0.6s,baz=255,slow=4.0,SNR=2.8							
WRA	**Warramunga Arr**	**125.43**	**210**	PKP		**PKPdf**	**14 04 34.9**	**-4.2**
	comp=Z,0.3nm,0.6s,baz=152,slow=1.7,SNR=5.3							
WRA				pPKP		**pPKPdf**	**14 04 52.9**	**+2.4**
	comp=Z,0.4nm,0.6s,baz=158,slow=1.9,SNR=2.7							
H11S2	**WAKE ISLAND Hyl**	**26.12**	**273**	T		T	16 23 42.5	
	baz=111							
H11S1	**WAKE ISLAND Hyl**	**26.14**	**273**	T		T	16 23 41.3	
	baz=111							
H11S3	**WAKE ISLAND Hyl**	**26.14**	**273**	T		T	16 23 44.5	
	baz=111							
H11N3	**WAKE ISLAND Hyl**	**26.41**	**274**	T		T	16 24 04.6	
	baz=118							
H11N1	**WAKE ISLAND Hyl**	**26.42**	**274**	T		T	16 24 01.5	
	baz=118							
H11N2	**WAKE ISLAND Hyl**	**26.42**	**274**	T		T	16 23 59.5	
	baz=118							
KURBB	**Kurchatov Arra**	**148.69**	**38**	PKPbc		**PKPdf**	**14 05 20.9**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=303,slow=3.1,SNR=12							
KURBB				pPKPbc		**pPKPbc**	**14 05 38.6**	**+3.0**
	comp=Z,0.4nm,0.5s,baz=306,slow=3.0,SNR=4.3							
ZALV	**Zalesovo Beam**	**149.57**	**28**	PKPbc		**PKPdf**	**14 05 23.1**	**+1.4**
	comp=Z,1.5nm,0.4s,baz=314,slow=3.4,SNR=9.8							
ZALV				pPKPbc		**pPKPbc**	**14 05 40.8**	**+3.1**
	comp=Z,1.3nm,0.5s,baz=298,slow=4.5,SNR=4.2							

*ISCJB **30** 13:47:30.5±0.9,31°.94N×0°.08×104°.6E±0°.1,h15km, mb3.5/4,MS3.0/1,Error ellipse: s-maj=19.7km s-min=8.7km az=25.9*
*IDC **30** 13:47:30.1±1.1,32°.04N×104°.75E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.4/32,mbtmp3.5/5,ML4.0/1,MS3.1/1, Ms1 3.1/1,ms1mx2.3/35,Error ellipse: s-maj=74.7km s-min=20.6km az=61.0*
*BJI **30** 13:47:32.5,32°.00N×104°.49E,h19km,ML3.1/12*
ISC 30 13:47:32.9±1.0,32°.0N±0°.1×104°.5E±0°.1,h15km,n8, σ0°.96/9,mb3.7/4,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.24**	**211**	Pg	**Pn**	**13 47 55.5**	**-0.2**
CD2				Sg	**Sb**	**13 48 12.5**	**+0.7**
CD2				SMN			
	2μm,0.5s						
CD2				SME			
	660nm,0.7s						
XAN	**Xi'an**	**4.25**	**60**	Pg	**Pb**	**13 48 46.8**	**-0.6**
XAN				Sg	**Sb**	**13 49 40.0**	**+1.5**
XAN				SMN			
	69nm,0.8s						
XAN				SME			
	88nm,0.9s						
CMAR	**Chiang Mai Arr**	**14.37**	**202**	Pn	**Pn**	**13 50 56.8**	**+0.9**
	0.2nm,0.3s,baz=14,slow=11,SNR=3.8						
AAK	**Ala-Archa**	**26.00**	**303**	LR	LR	14 05 04.9	
	comp=Z,39nm,18.2s,baz=126,slow=40						
ZALV	**Zalesovo Beam**	**26.09**	**333**	P	**P**	**13 53 05.7**	**-0.1**
	0.8nm,0.5s,baz=146,slow=10,SNR=3.3						
KURBB	**Kurchatov Arra**	**26.75**	**322**	P	**P**	**13 53 12.1**	**+0.3**
	0.1nm,0.3s,baz=107,slow=7.9,SNR=3.7						
WRA	**Warramunga Arr**	**59.02**	**147**	P	**P**	**13 57 31.3**	**-1.0**
	0.5nm,0.4s,baz=339,slow=7.4,SNR=4.3						
ASAR	**Alice Springs**	**62.07**	**149**	P	**P**	**13 57 52.4**	**-0.7**
	0.3nm,0.5s,baz=327,slow=6.4,SNR=9.1						

*SJA **30** 13:54:09.7±0.7,23°.96S×67°.04W,h216km±11km,ML4.2*
*ISCJB **30** 13:54:12.9±0.8,23°.79S±0°.06×66°.93W±0°.09,h181km, mb3.4/1,Error ellipse: s-maj=12.6km s-min=7.3km az=159.0*
*IDC **30** 13:54:12.8±3.2,23°.83S×66°.99W,h188km±31km,mb3.3/1, mb1 3.5/5,mb1mx3.3/20,mbtmp4.0/5,Error ellipse: s-maj=61.1km s-min=23.0km az=157.0*
ISC 30 13:54:12.7±1.1,23.80S±0.08×66.96W±0.08,h181km,n14, σ1°.23/16,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.62**	**125**	*e*P	**Pn**	**13 54 46.7**	**+0.7**
SLA				*e*S	**Sn**	**13 55 13.3**	**+1.4**
AZAP	**Zapla**	**1.79**	**104**	*e*P	**Pn**	**13 54 48.4**	**+0.6**
YJA	**Yavi**	**2.10**	**40**	*e*P	**Pn**	**13 54 53.4**	**+2.1**
LVC	**Limon Verde**	**2.15**	**303**	P	**Pn**	**13 54 52.1**	**+0.5**
	197nm,0.3s,baz=139,slow=6.3,SNR=65						
LVC	**Limon Verde**	**2.15**	**303**	*e*P	**Pn**	**13 54 52.2**	**+0.5**
LVC				AML	AML	13 55 26.4	
	comp=Z,783nm,0.6s						
ASTB	**Santa Barbara**	**2.27**	**94**	*e*P	**Pn**	**13 54 54.1**	**+1.1**
FSA	**Cafayete**	**2.44**	**160**	*e*P	**Pn**	**13 54 53.6**	**-1.3**
LPAZ	**La Paz**	**7.55**	**351**	P	**Pn**	**13 56 02.1**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=154,slow=6.1,SNR=8.7						
LPAZ				S	**Sn**	**13 57 25.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=65,slow=19,SNR=2.4						
SIV	**San Ignacio**	**9.54**	**37**	P	**Pn**	**13 56 25.9**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=244,slow=10,SNR=16						
SIV				S	**Sn**	**13 58 10.5**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=315,slow=20,SNR=2.5						
BDFB	**Brasilia**	**19.58**	**69**	P	**P**	**13 58 27.8**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=241,slow=12,SNR=15						
TORD	**Torodi Ar. Bea**	**76.47**	**69**	P	**P**	**14 05 42.4**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=255,slow=5.8,SNR=12						
ASAR	**Alice Springs**	**128.65**	**205**	PKP	**PKPdf**	**14 12 58.0**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=149,slow=1.9,SNR=5.7						
WRA	**Warramunga Arr**	**131.82**	**207**	PKP	**PKPdf**	**14 13 04.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=155,slow=1.7,SNR=5.1						
ZALV	**Zalesovo Beam**	**143.20**	**28**	PKP	PKPbc	14 13 22.0	-0.3
	comp=Z,0.3nm,0.3s,baz=70,slow=1.7,SNR=2.4						

*ISCJB **30** 14:16:12.4±0.4,6°.98S±0°.07×106°.86E±0°.05,h150km, mb3.8/15,Error ellipse: s-maj=10.9km s-min=4.9km az=33.9*
*IDC **30** 14:16:13.0±0.8,6°.77S×106°.89E,h147km±5km,mb3.6/14, mb1 3.7/14,mb1mx3.6/37,mbtmp4.1/14,Error ellipse: s-maj=21.7km s-min=11.0km az=65.0*
*DJA **30** 14:16:14.1±0.5,7°.S±7°×10°.7E±°,h129km±6km,M4.2/19, mb4.3/3,mB5.0/1,MLv4.0/19,Mw(mB)4.3/1*
ISC 30 14:16:13.2±0.6,6°.93S±0°.08×106°.85E±0°.07,h150km,n48, σ1°.02/44,mb3.7/15,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.30**	**256**	P	**Pn**	**14 16 32.8**	**-0.9**
CNJI	**Cibinong**	**0.47**	**143**	P	**Pn**	**14 16 33.0**	**-1.3**
LEM	**Lembang**	**0.77**	**82**	P	**Pn**	**14 16 36.5**	**+0.2**
LEM	**Lembang**	**0.77**	**82**	P	**Pn**	**14 16 36.7**	**+0.4**
	282nm,0.3s,baz=358,slow=2.3,SNR=151						
LEM				S	**Sn**	**14 16 53.4**	**-0.6**
	140nm,0.3s,baz=25,slow=21,SNR=8.1						
TNG	**Tangerang**	**0.78**	**345**	P	**Pn**	**14 16 36.6**	**+0.3**
TNG	**Tangerang**	**0.78**	**345**	P	**Pn**	**14 16 36.9**	**+0.6**
SBJI	**Serang**	**1.08**	**319**	P	**Pn**	**14 16 38.9**	**+0.3**
CISI	**Cisompet, Garu**	**1.14**	**123**	P	**Pn**	**14 16 38.5**	**-0.8**
CGJI	**Cibinong**	**1.19**	**285**	P	**Pn**	**14 16 39.4**	**-0.2**
CMJI	**Cimerak**	**1.80**	**118**	P	**Pn**	**14 16 45.3**	**-0.7**
KPJI	**Karang Pucung**	**2.11**	**101**	P	**Pn**	**14 16 49.4**	**-0.1**
BLSI	**Bandar Lampung**	**2.23**	**314**	P	**Pn**	**14 16 51.7**	**+0.7**
KASI	**Kota Agung**	**2.72**	**301**	P	Pn	14 17 02.8	+5.7
KLI	**Kotabumi**	**2.85**	**316**	P	**Pn**	**14 16 59.8**	**+1.1**
KLSI		**3.07**	**317**	P	**Pn**	**14 17 02.4**	**+1.0**
LWLI	**Liwa**	**3.36**	**304**	P	Pn	14 17 15.1	+10
MDSI	**Maura Dua**	**3.60**	**312**	P	**Pn**	**14 17 09.4**	**+1.2**
UWJI	**Ujung Watu**	**4.11**	**83**	P	**Pn**	**14 17 15.4**	**+0.6**
TPI	**Tanjungpandan**	**4.23**	**11**	P	Pn	14 17 17.4	+1.0
PCJI	**Pacitan**	**4.47**	**107**	P	**Pn**	**14 17 19.3**	**-0.3**
LHSI	**Lahat**	**4.52**	**313**	P	**Pn**	**14 17 22.0**	**+1.7**
MNAI	**Manna**	**4.64**	**303**	P	**Pn**	**14 17 22.7**	**+0.8**
PPBI	**Pangkal Pinang**	**4.79**	**351**	P	Pn	14 17 25.2	+1.3
GMJI	**Gumukmas**	**6.67**	**102**	P	**Pn**	**14 17 49.6**	**+0.7**
	39nm,2.2s						
ABJI	**Asem Bagus**	**7.38**	**97**	P	**Pn**	**14 18 00.8**	**+2.5**
SRBI	**Singaraja**	**8.37**	**98**	P	**Pn**	**14 18 12.5**	**+0.9**
SIJI	**Sorong**	**25.09**	**77**	P	**P**	**14 21 23.2**	**-1.0**
	18nm,0.8s,baz=315,slow=4.0,SNR=7.7						
CMAR	**Chiang Mai Arr**	**26.41**	**343**	P	**P**	**14 21 34.6**	**-1.3**
	1.2nm,0.6s,baz=179,slow=8.5,SNR=9.9						
CMAR				pP	**pP**	**14 22 08.8**	**+1.5**
	0.6nm,0.4s,baz=171,slow=8.9,SNR=1.8						
NWAO	**Narrogin (SRO)**	**27.61**	**161**	P	**P**	**14 21 47.2**	**+0.7**
	7.1nm,1.0s,baz=327,slow=7.5,SNR=3.8						
H01W3	**Cape Leeuwin H**	**28.61**	**167**	T	T	14 52 59.7	
	baz=345,slow=75,SNR=6.1						
H01W1	**Cape Leeuwin H**	**28.63**	**167**	T	T	14 53 00.7	
	baz=345,slow=75,SNR=4.9						
H01W2	**Cape Leeuwin H**	**28.63**	**167**	T	T	14 53 01.4	
	baz=345,slow=75,SNR=4.6						
WRA	**Warramunga Arr**	**29.64**	**119**	P	**P**	**14 22 04.7**	**-0.1**
	1.3nm,0.9s,baz=292,slow=10,SNR=5.3						
WRA				PcP	**PcP**	**14 25 05.7**	**-0.1**
	0.3nm,0.5s,baz=315,slow=2.1,SNR=3.0						
ASAR	**Alice Springs**	**30.85**	**126**	P	**P**	**14 22 15.7**	**+0.3**
	0.2nm,0.4s,baz=300,slow=7.9,SNR=7.9						
ASAR				PcP	**PcP**	**14 25 09.1**	**+0.2**
	0.2nm,0.7s,baz=321,slow=1.3,SNR=3.2						
ASAR				S	**S**	**14 27 07.0**	**-1.4**
	0.7nm,0.8s,baz=295,slow=15,SNR=5.2						
ASAR				ScP	**ScP**	**14 28 38.5**	**+0.7**
	0.8nm,0.8s,baz=323,slow=2.6,SNR=6.0						
H08S2	**Diego Garcia H**	**34.08**	**267**	T	T	14 58 35.3	
	baz=91,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**34.09**	**267**	T	T	14 58 35.3	
	baz=91,slow=76,SNR=9.8						
H08S1	**Diego Carcia H**	**34.10**	**267**	T	T	14 58 35.3	
	baz=91,slow=76,SNR=16						
STKA	**Stephens Creek**	**40.80**	**132**	P	**P**	**14 23 40.8**	**+0.8**
	2.6nm,0.4s,baz=316,slow=7.1,SNR=14						
KSRS	**Korea Array**	**48.35**	**23**	P	**P**	**14 24 39.4**	**-0.3**
	1.5nm,0.8s,baz=212,slow=8.6,SNR=11						
MJAR	**Matsushiro Arr**	**52.29**	**32**	P	P	14 25 05.9	-3.5
	0.7nm,0.6s,baz=202,slow=9.2,SNR=4.0						
SONM	**Songino Array**	**54.53**	**360**	P	**P**	**14 25 25.1**	**-0.5**
	0.4nm,0.5s,baz=197,slow=4.5,SNR=2.6						
SONM				pP	**pP**	**14 25 59.9**	**-0.5**
	0.2nm,0.4s,baz=127,slow=32,SNR=1.5						
SONM				PcP	**PcP**	**14 26 26.2**	**-0.8**
	0.9nm,0.4s,baz=181,slow=4.5,SNR=6.2						
KURBB	**Kurchatov Arra**	**62.34**	**340**	P	**P**	**14 26 17.5**	**-2.0**
	0.2nm,0.3s,baz=156,slow=5.8,SNR=5.7						
BVAR	**Borovoye Array**	**67.25**	**337**	P	**P**	**14 26 49.7**	**-1.6**
	1.1nm,0.6s,baz=154,slow=12,SNR=7.4						
MAW	**Mawson**	**67.39**	**197**	P	**P**	**14 26 53.6**	**+1.7**
	2.1nm,0.5s,baz=64,slow=8.4,SNR=7.0						
AKTO	**Aktyubinsk**	**70.99**	**329**	P	**P**	**14 27 13.6**	**-0.8**
	0.5nm,0.3s,baz=133,slow=3.5,SNR=3.6						
VNDA	**Vanda**	**76.06**	**169**	P	**P**	**14 27 45.0**	**+1.4**
	0.6nm,0.4s,baz=323,slow=8.4,SNR=4.0						
BRTR	**Keskin Array B**	**81.67**	**312**	P	**P**	**14 28 15.3**	**+0.3**
	1.0nm,0.8s,baz=120,slow=7.3,SNR=3.6						
TXAR	**Lajitas Array**	**143.64**	**48**	PKP	PKPbc	14 35 29.3	+0.4
	0.3nm,0.4s,baz=347,slow=3.7,SNR=2.0						

*ISK **30** 14:22:56.5,36°.84N×29°.32E,h7km,ML3.5*
*ATH **30** 14:22:56.1,36°.98N×29°.65E,h45km,MD3.8/9*
*DDA **30** 14:22:56.9,36°.92N×29°.34E,h23km,ML3.4*
*IDC **30** 14:22:56.2±1.2,36°.88N×29°.38E,h0km,mb3.6/2, mb1 3.7/9,mb1mx3.5/34,mbtmp3.5/9,ML3.6/7,Error ellipse: s-maj=18.8km s-min=17.9km az=90.0*
*ISCJB **30** 14:22:56.5±0.6,36°.87N±0°.03×29°.36E±0°.03,h6km±4km, mb3.6/2,Error ellipse: s-maj=4.7km s-min=3.6km az=154.1*
*CSEM **30** 14:22:57.2±0.2,36°.91N×29°.32E,h2km,ML3.4,Error ellipse: s-maj=4.1km s-min=2.9km az=144.0*
ISC 30 14:22:57.3±1.1,36°.91N±0°.02×29°.31E±0°.02,h6km±9km, n81,σ0°.93/105,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.38**	**31**	*i* P	**Pg**	**14 23 04.4**	**-0.4**
GOLH				*i* S	**Sg**	**14 23 11.3**	**+1.4**
GOLH	**Golhisar**	**0.38**	**31**	*i* P	**Pg**	**14 23 04.4**	**-0.4**
GOLH				*i* S	**Sg**	**14 23 11.3**	**+1.4**
DALY	**Dalyan (Mu˘la**	**0.54**	**260**	*e*PG	**Pg**	**14 23 07.4**	**-0.2**
DALY	**Dalyan (Mu˘la**	**0.54**	**260**	*e*Pg	**Pg**	**14 23 07.4**	**-0.2**
TURN	**Turunc**	**0.57**	**267**	*i* P	**Pn**	**14 23 12.6**	**+0.6**
TURN				*i* S	Sn	14 23 27.8	+6.1
AKAS	**Kas**	**0.72**	**161**	*i* P	**Pg**	**14 23 11.0**	**-0.1**
AKAS				*i* S	**Sn**	**14 23 26.2**	**+0.6**
AKAS	**Kas**	**0.72**	**161**	*i* P	**Pg**	**14 23 11.0**	**-0.1**
YER	**Yerkesik**	**0.85**	**286**	*e*PG	**Pg**	**14 23 13.8**	**+0.1**
YER				*e*SG	**Sb**	**14 23 26.6**	**+0.2**
YER	**Yerkesik**	**0.85**	**286**	*e*Pg	**Pg**	**14 23 13.8**	**+0.1**
YER				*e*Sg	**Sb**	**14 23 26.6**	**+0.2**
DENT	**Denizli**	**0.87**	**345**	*e*PG	**Pb**	**14 23 15.2**	**+0.3**
DENT	**Denizli**	**0.87**	**345**	*e*Pg	**Pb**	**14 23 15.2**	**+0.3**
ARG	**Arkhangelos**	**1.18**	**234**	*e*P	**Pn**	**14 23 18.7**	**-1.7**
ARG				*e*S	**Sn**	**14 23 38.9**	**+2.1**
ARG	**Arkhangelos**	**1.18**	**234**	*e*P	**Pn**	**14 23 18.7**	**-1.7**
ARG				*e*S	**Sn**	**14 23 38.9**	**+2.1**
ISP	**Isparta**	**1.33**	**46**	*e*PN	**Pn**	**14 23 22.5**	**-0.1**
ISP	**Isparta**	**1.33**	**46**	*e*Pn	**Pn**	**14 23 22.5**	**-0.1**
AYDN	**Tasoluk**	**1.37**	**304**	*i* P	**Pn**	**14 23 22.9**	**-0.2**
AYDN				*i* S	**Sg**	**14 23 41.0**	**-0.2**
AYDN	**Tasoluk**	**1.37**	**304**	*i* P	**Pn**	**14 23 22.9**	**-0.2**
AYDN				*i* S	**Sg**	**14 23 41.0**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.46**	**67**	*e*PN	**Pn**	**14 23 24.5**	**0.0**
SUTC	**Sutluce-Ispart**	**1.46**	**67**	*e*Pn	**Pn**	**14 23 24.5**	**0.0**
KHAL	**Karahalli**	**1.47**	**6**	*i* P	**Pn**	**14 23 24.0**	**-0.5**
KHAL				*i* S	**Sg**	**14 23 45.2**	**+0.7**
KHAL	**Karahalli**	**1.47**	**6**	*i* P	**Pn**	**14 23 24.0**	**-0.5**
KHAL				*i* S	**Sg**	**14 23 45.2**	**+0.7**
BDRM	**Kayabasi**	**1.50**	**276**	*i* P	**Pn**	**14 23 25.0**	**+0.1**
BDRM				*i* S	**Sg**	**14 23 47.8**	**+2.2**
BDRM	**Kayabasi**	**1.50**	**276**	*i* P	**Pn**	**14 23 25.0**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**313**	*e*PN	**Pb**	**14 23 26.1**	**-0.1**
AYDB				*e*SN	**Sg**	**14 23 47.2**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**313**	*e*Pn	**Pb**	**14 23 26.1**	**-0.1**
AYDB				*e*Sn	**Sg**	**14 23 47.3**	**+0.7**
BODT	**Bodrum**	**1.61**	**276**	*e*PN	**Pn**	**14 23 26.4**	**0.0**
BODT				*e*SN	**Sb**	**14 23 48.3**	**+0.2**
BODT	**Bodrum**	**1.61**	**276**	*e*Pn	**Pn**	**14 23 26.4**	**0.0**
BODT				*e*Sn	**Sb**	**14 23 48.3**	**+0.2**
KULA	**Kula-Manisa**	**1.68**	**342**	*e*PN	**Pb**	**14 23 27.8**	**-1.0**
KULA	**Kula-Manisa**	**1.68**	**342**	*e*Pn	**Pb**	**14 23 27.8**	**-1.0**
MANT	**Manisa**	**1.69**	**340**	*i* P	**Pn**	**14 23 27.1**	**-0.6**
MANT				*i* S	**Sb**	**14 23 49.3**	**-1.3**
MANT	**Manisa**	**1.69**	**340**	*i* P	**Pn**	**14 23 27.1**	**-0.6**
MANT				*i* S	**Sb**	**14 23 49.3**	**-1.3**
NIS1	**Nisyros Isl.**	**1.74**	**260**	*e*PN	**Pn**	**14 23 27.9**	**-0.2**
NIS1	**Nisyros Isl.**	**1.74**	**260**	*e*P	**Pb**	**14 23 29.5**	**-0.2**
NIS1				*e*S	**Sg**	**14 23 53.2**	**0.0**
NIS1	**Nisyros Isl.**	**1.74**	**260**	*e*Pn	**Pn**	**14 23 27.9**	**-0.2**
NIS1	**Nisyros Isl.**	**1.74**	**260**	*e*P	**Pb**	**14 23 29.5**	**-0.2**
NIS1				*e*S	**Sg**	**14 23 53.2**	**0.0**
SMG	**Samos**	**2.13**	**293**	*e*P	**Pn**	**14 23 34.1**	**+0.6**
SMG				*e*S	**Sb**	**14 24 01.2**	**-1.8**
SMG	**Samos**	**2.13**	**293**	*e*P	**Pn**	**14 23 34.1**	**+0.6**
SMG				*e*S	**Sb**	**14 24 01.2**	**-1.8**
GDZ	**Gediz**	**2.18**	**3**	*i* P	**Pn**	**14 23 34.2**	**-0.2**
GDZ	**Gediz**	**2.18**	**3**	*i* P	**Pn**	**14 23 34.2**	**-0.2**
DEMI	**Demirci**	**2.18**	**348**	*i* P	**Pn**	**14 23 34.5**	**+0.2**
DEMI	**Demirci**	**2.18**	**348**	*i* P	**Pn**	**14 23 34.5**	**+0.2**
IZM	**Izmir**	**2.20**	**313**	*e*PN	**Pn**	**14 23 34.7**	**+0.2**
IZM	**Izmir**	**2.20**	**313**	*e*Pn	**Pn**	**14 23 34.7**	**+0.2**
KARP	**Karpathos**	**2.21**	**233**	*e*P	**Pn**	**14 23 35.5**	**+0.9**
KARP				*e*S	**Sb**	**14 24 04.5**	**-0.8**
KARP	**Karpathos**	**2.21**	**233**	*e*P	**Pn**	**14 23 35.5**	**+0.9**
KARP				*e*S	**Sb**	**14 24 04.5**	**-0.8**
BOLV	**Bolvadin**	**2.22**	**35**	*i* P	**Pn**	**14 23 35.6**	**+0.7**
BOLV	**Bolvadin**	**2.22**	**35**	*i* P	**Pn**	**14 23 35.6**	**+0.7**
AKHS	**Akhisar**	**2.29**	**329**	*i* P	**Pn**	**14 23 35.9**	**+0.1**
AKHS	**Akhisar**	**2.29**	**329**	*i* P	**Pn**	**14 23 35.9**	**+0.1**
GAZI	**Gazipasa**	**2.51**	**105**	*i* P	Pn	14 23 30.8	-8.0
ZEY	**˙zmir**	**2.59**	**302**	*i* P	**Pn**	**14 23 38.2**	**-1.6**
KDHN	**Kadinhani**	**2.75**	**53**	*i* P	**Pn**	**14 23 44.0**	**+1.9**
KDHN	**Kadinhani**	**2.75**	**53**	*i* P	**Pn**	**14 23 44.0**	**+1.9**
DURS	**Dursunbey**	**2.77**	**346**	*i* P	**Pn**	**14 23 42.1**	**-0.2**
DURS	**Dursunbey**	**2.77**	**346**	*i* P	**Pn**	**14 23 42.1**	**-0.2**
ERMK	**Ermenek**	**2.91**	**94**	*i* P	**Pb**	**14 23 49.1**	**-0.6**
CHOS	**Chios island**	**2.98**	**301**	*e*P	**Pn**	**14 23 45.2**	**0.0**
CHOS	**Chios island**	**2.98**	**301**	*e*P	**Pn**	**14 23 45.2**	**0.0**
APE	**Apeiranthos**	**3.03**	**274**	*e*P	Pn	14 23 47.0	+1.1
APE				*e*S	**Sn**	**14 24 24.6**	**+2.0**
APE	**Apeiranthos**	**3.03**	**274**	*e*P	Pn	14 23 47.0	+1.1
APE				*e*S	**Sn**	**14 24 24.6**	**+2.0**
SANT	**Santorini**	**3.14**	**261**	*e*P	**Pn**	**14 23 49.0**	**+1.5**
SANT	**Santorini**	**3.14**	**261**	*e*P	**Pn**	**14 23 49.0**	**+1.5**
PRK	**Paraskevi**	**3.34**	**315**	*e*P	**Pn**	**14 23 50.3**	**+0.1**
PRK	**Paraskevi**	**3.34**	**315**	*e*P	**Pn**	**14 23 50.3**	**+0.1**
SIGR	**SIGRI**	**3.57**	**311**	*e*P	**Pn**	**14 23 52.6**	**-0.6**
SIGR	**SIGRI**	**3.57**	**311**	*e*P	**Pn**	**14 23 52.6**	**-0.6**
IDI	**Anoyia**	**3.93**	**247**	Pn	**Pn**	**14 23 59.0**	**+0.7**
	4.0nm,0.3s,baz=62,slow=15,SNR=24						
IDI				Sn	**Sn**	**14 24 45.4**	**+0.6**
	4.1nm,0.3s,baz=297,slow=21,SNR=3.2						
LIA	**Limnos Island**	**4.41**	**314**	*e*P	**Pn**	**14 24 05.6**	**+0.8**
LIA	**Limnos Island**	**4.41**	**314**	*e*P	**Pn**	**14 24 05.6**	**+0.8**
BRTR	**Keskin Array B**	**4.41**	**49**	Pn	Pn	14 24 05.8	+0.7
	1.0nm,0.3s,baz=230,slow=15,SNR=12						
BRTR				Sn	**Sn**	**14 24 59.5**	**+2.7**
	0.6nm,0.3s,baz=216,slow=26,SNR=5.2						
SMTH	**Samothraki Isl**	**4.62**	**321**	*e*P	**Pn**	**14 24 08.6**	**+0.8**
SMTH	**Samothraki Isl**	**4.62**	**321**	*e*P	**Pn**	**14 24 08.6**	**+0.8**
ALN	**Alexandroupoli**	**4.73**	**328**	*e*P	**Pn**	**14 24 09.2**	**0.0**
ALN	**Alexandroupoli**	**4.73**	**328**	*e*P	**Pn**	**14 24 09.2**	**0.0**
MMAI	**Mount Meron Ar**	**6.33**	**126**	Pn	**Pn**	**14 24 30.6**	**-0.8**
	4.1nm,0.3s,baz=310,slow=12,SNR=13						
MMAI				Sn	**Sn**	**14 25 42.5**	**-1.6**
	1.8nm,0.3s,baz=309,slow=24,SNR=2.9						
EIL	**Elat**	**8.62**	**145**	Pn	**Pn**	**14 25 01.8**	**-1.0**
	1.3nm,0.3s,baz=327,slow=4.7,SNR=9.0						
MLR	**Muntele Rosu**	**8.94**	**345**	Pn	Pn	14 25 09.4	+2.2
	0.1nm,0.3s,baz=156,slow=20,SNR=5.0						
AKASG	**Malin Array Be**	**13.79**	**360**	Pn	**Pn**	**14 26 12.2**	**-1.1**
	0.5nm,0.3s,baz=184,slow=12,SNR=3.8						
GERES	**GERESS Array B**	**16.49**	**321**	Pn	**Pn**	**14 26 49.6**	**+0.3**
	0.2nm,0.3s,baz=125,slow=8.5,SNR=2.0						
ESDC	**Sonseca Array**	**26.18**	**286**	P	**P**	**14 28 34.1**	**+1.4**
	0.2nm,0.3s,baz=72,slow=7.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**34.21**	**233**	P	**P**	**14 29 43.1**	**-0.8**
	1.0nm,0.5s,baz=36,slow=8.5,SNR=14						

*BJI **30** 14:43:47.1,12°.97N×144°.90E,h82km,mb4.7/21,mB4.8/13, Ms4.2/8,Ms7 3.8/8*
*MOS **30** 14:43:47.7±1.0,13°.04N×144°.72E,h81km,mb4.7/14,Error ellipse: s-maj=14.9km s-min=7.6km az=94.8*
*

comp=Z,10.0nm,0.8s
HHC Hu-ho-hao-te 40.12 320 *e*P **P** **14 51 18.8 +1.1**
HHC pP **pP** **14 51 37.3 -0.4**
HHC sP **sP** **14 51 48.8 +1.4**
HHC PP **PnPn** **14 52 55.0 -0.7**
HHC S **S** **14 57 17.8 -0.2**
HHC PMZ
comp=Z,9.0nm,0.5s
HHC PMZ
comp=Z,51nm,6.4s
HHC LN
comp=Z,110nm,16.0s
HHC LE
comp=Z,100nm,15.6s
HHC LZ
comp=Z,120nm,17.0s
PETK Petropavlovsk- 41.30 12 P **P** **14 51 26.1 -0.9**
comp=Z,1.6nm,0.8s,baz=166,slow=5.0,SNR=3.2
PETK PcP **PcP** **14 53 24.5 +0.3**
comp=Z,2.8nm,0.8s,baz=165,slow=6.0,SNR=4.4
PETK LR LR 15 06 49.4
comp=Z,13nm,21.3s,baz=167,slow=33
KMI Kunming 41.31 293 P **P** **14 51 29.3 +1.4**
KMI PMZ
comp=Z,11nm,0.9s
HIA Hailar 41.60 335⇑ *e*P **P** **14 51 29.3 -0.3**
HIA pmax pmax
comp=Z,11nm,1.0s
CD2 Chengdu 41.68 302 *e*P **P** **14 51 30.0 -0.6**
CD2 pP **pP** **14 51 49.8 -1.0**
CD2 PP **PP** **14 53 07.8 -0.7**
CD2 PcP **PcP** **14 53 25.5 -0.4**
CD2 PcS **PcS** **14 57 17.0 -0.6**
CD2 S **S** **14 57 40.5 -0.9**
CD2 SS **SS** **15 00 50.0 +0.1**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
CMAR Chiang Mai Arr 44.32 283 P **P** **14 51 53.2 +1.2**
comp=Z,3.5nm,0.6s,baz=84,slow=6.0,SNR=30
CMAR PcP **PP** **14 53 36.5 -0.4**
comp=Z,2.3nm,0.6s,baz=90,slow=2.1,SNR=15
STKA Stephens Creek 44.75 184 P **P** **14 51 54.8 -0.4**
comp=Z,1.5nm,0.7s,baz=36,slow=14,SNR=2.4
PSI Prapat 46.42 261 P **P** **14 52 09.3 +0.5**
comp=Z,4.4nm,0.4s,baz=124,slow=7.3,SNR=3.4
SONM Songino Array 47.12 325 P **P** **14 52 13.9 +0.1**
comp=Z,0.7nm,0.4s,baz=145,slow=6.6,SNR=9.7
SONM PcP **PcP** **14 53 44.9 +0.6**
comp=Z,2.0nm,0.6s,baz=143,slow=2.4,SNR=8.1
SONM LR LR 15 12 53.2
comp=Z,42nm,19.3s,baz=166,slow=37
GTA Gaotai 47.45 312 *e*P **P** **14 52 17.0 +0.5**
GTA pP **pP** **14 52 38.0 +0.9**
GTA sP **sP** **14 52 46.5 -0.1**
GTA PMZ
comp=Z,4.0nm,1.1s
YAK Yakutsk 50.12 351 P **P** **14 52 36.5 +0.2**
comp=Z,2.4nm,0.3s,baz=195,slow=20,SNR=4.7
YAK Yakutsk 50.12 351 *e*P **P** **14 52 35.3 -1.0**
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=Z,22nm,1.0s
SEY Seymchan 50.13 5 P **P** **14 52 36.3 -0.1**
comp=Z,2.0nm,0.6s,baz=184,slow=17,SNR=11
ZAK Zakamensk 50.23 327 *e*P **P** **14 52 36.9 -0.7**
ZAK *e* 14 53 50.2
ZAK pmax pmax
comp=Z,2.0nm,1.1s
LSA Lhasa 52.14 298 *e*P **P** **14 52 52.5 -0.1**
LSA pmax pmax
comp=Z,13nm,0.6s
LSA Lhasa 52.14 298 *e*P **P** **14 52 52.5 -0.1**
comp=Z,13nm,0.6s
WMQ Urumqi 57.43 314 P **P** **14 53 32.3 +2.1**
WMQ pP **pP** **14 53 51.5 +0.2**
WMQ sP **sP** **14 54 00.3 -0.4**
WMQ PMZ
comp=Z,6.0nm,0.6s
WMQ PMZ
comp=Z,33nm,5.0s
WMQ LN
comp=Z,80nm,6.0s
WMQ LE
comp=Z,110nm,4.4s
WMQ LZ
comp=Z,22nm,18.2s
URZ Urewera 59.34 151 P **P** **14 53 42.8 -0.5**
comp=Z,3.5nm,0.6s,baz=308,slow=12,SNR=3.7
ZALV Zalesovo Beam 62.01 325 P **P** **14 54 00.8 -0.5**
comp=Z,0.7nm,0.5s,baz=105,slow=6.2,SNR=4.8
ZALV PcP **PcP** **14 54 39.6 -1.5**
comp=Z,1.7nm,0.4s,baz=125,slow=5.0,SNR=6.2
OHAK Old Harbor 64.08 32 *e*P **P** **14 54 15.1 +0.2**
KDAK Kodiak Island 64.61 32 *i*P **P** **14 54 18.5 +0.2**
KURK Kurchatov 64.93 320 *e*P **P** **14 54 19.7 -0.9**
KURK pmax pmax
comp=Z,5.0nm,0.4s
KURK Kurchatov 64.93 320 *e*P **P** **14 54 19.7 -0.9**
comp=Z,5.5nm,0.4s
KSH Kashi 65.48 308 *e*P **P** **14 54 26.5 +1.9**
KSH pP **pP** **14 54 46.3 +0.1**
KSH sP **sP** **14 54 54.8 -0.7**
PPLA Purkeypile 66.34 26 *e*P **P** **14 54 29.4 -0.3**
comp=Z,9.4nm,0.7s
AAK Ala-Archa 66.78 311 LR LR 15 25 08.5
comp=Z,29nm,18.8s,baz=166,slow=37
SEW Seward 66.80 30 *e*P **P** **14 54 32.2 -0.2**
comp=Z,11nm,0.8s
RC01 Rabbit Creek A 66.92 29 *e*P **P** **14 54 32.7 -0.5**
comp=Z,9.9nm,0.7s
BPAW Bear Paw Mtn. 67.23 25 *e*P **P** **14 54 34.6 -0.5**
comp=Z,1.7nm,0.8s
TRF Thorofare Moun 67.33 26 *e*P **P** **14 54 34.3 -1.7**
comp=Z,5.8nm,0.8s
PMR Palmer 67.33 28 *e*P **P** **14 54 34.9 -0.9**
PMR pmax pmax
comp=Z,8.0nm,0.6s
PMR Palmer 67.33 28 *e*P **P** **14 54 34.9 -0.9**
comp=Z,7.8nm,0.6s
SML Sawmill 67.76 28 *e*P **P** **14 54 37.9 -0.6**
SML pmax pmax
comp=Z,4.0nm,0.8s
SML Sawmill 67.76 28 *e*P **P** **14 54 37.9 -0.6**
comp=Z,3.9nm,0.8s
COLD Coldfoot 68.51 22 *e*P **P** **14 54 43.1 0.0**
comp=Z,14nm,1.0s
ILAR Eielson Array 69.12 25 P **P** **14 54 45.1 -1.8**
comp=Z,6.4nm,0.7s,baz=250,slow=5.9,SNR=68
PAX Paxson 69.33 27 *e*P **P** **14 54 47.8 -0.5**
PAX pmax pmax
comp=Z,5.0nm,0.6s
PAX Paxson 69.33 27 *e*P **P** **14 54 47.8 -0.5**
comp=Z,5.1nm,0.6s
BRVK Borovoye 70.35 322 *d i*P **P** **14 54 55.2 +0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 70.35 322 *e*P **P** **14 54 55.1 +0.4**
comp=Z,3.5nm,0.5s
EGAK Eagle 71.53 26 *e*P **P** **14 55 00.8 -0.7**
comp=Z,3.6nm,0.9s
DLBC Dease Lake 76.52 33 P **P** **14 55 32.3 +1.4**
comp=Z,3.4nm,0.6s,baz=271,slow=4.1,SNR=9.6
ABKAR Akbulak array 76.87 318 *e*P **P** **14 55 32.9 -0.1**
comp=Z,2.9nm,0.5s
GEYT Alibeck 79.48 307 P **P** **14 55 48.3 +0.6**
comp=Z,2.4nm,0.6s,baz=147,slow=3.0,SNR=6.2
YBH Yreka Blue Hor 83.33 49 P **P** **14 56 08.4 +0.4**
comp=Z,2.2nm,0.7s,baz=341,slow=4.6,SNR=3.7
YKA Yellowknife Ar 83.41 27 P **P** **14 56 07.6 -0.2**
comp=Z,1.1nm,0.6s,baz=286,slow=4.8,SNR=4.6
KBS Kingsbay 84.74 352 *e*P **P** **14 56 14.5 +0.2**
KBS pmax pmax
comp=Z,11nm,0.6s
KBS Kingsbay 84.74 352 *e*P **P** **14 56 14.5 +0.2**
comp=Z,11nm,0.6s
RES Resolute Bay 85.12 13 P **P** **14 56 16.9 +0.6**
comp=Z,2.6nm,0.6s,baz=320,slow=6.6,SNR=5.0
NEW Newport 85.73 42 P **P** **14 56 20.4 +0.5**
comp=Z,2.5nm,0.5s,baz=335,slow=4.3,SNR=3.7
BMO Blue Mountains 86.47 45 *e*P **P** **14 56 24.2 +0.5**
BMO pmax pmax
comp=Z,2.0nm,0.8s
BMO Blue Mountains 86.47 45 *e*P **P** **14 56 24.2 +0.5**
comp=Z,2.3nm,0.8s
NVAR Mina Array Bea 87.37 51 P **P** **14 56 29.2 +0.9**
comp=Z,1.8nm,0.8s,baz=258,slow=5.8,SNR=10
ARCES ARCESS Array B 87.58 342 P **P** **14 56 28.2 -0.2**
comp=Z,3.8nm,0.7s,baz=61,slow=6.8,SNR=24
MFID Camas Ranch 87.88 46 *e*P **P** **14 56 31.2 +0.7**
comp=Z,2.6nm,0.6s
HLID Hailey 88.82 46 *e*P **P** **14 56 35.6 +0.6**
comp=Z,1.5nm,0.8s
ELK Elko 89.04 48 P **P** **14 56 37.1 +0.8**
comp=Z,4.3nm,1.0s,baz=288,slow=6.3,SNR=16
ELK Elko 89.04 48 *e*P **P** **14 56 37.3 +1.1**
ELK Elko 89.04 48 *e*P **P** **14 56 37.3 +1.1**
LDFC Landfair 90.73 54 *e*P **P** **14 56 45.5 +1.4**
comp=Z,7.3nm,0.4s
FINES FINESS Array B 91.61 335 P **P** **14 56 45.7 -1.7**
comp=Z,2.4nm,0.5s,baz=87,slow=4.5,SNR=21
FINES FINESS Array B 91.61 335 *i*P **P** **14 56 46.0 -1.4**
FINES pmax pmax
comp=Z,2.0nm,0.5s
PDAR Pinedale Array 92.45 45 P **P** **14 56 51.7 -0.3**
comp=Z,0.4nm,0.5s,baz=0.0,slow=1.5,SNR=4.5
NOA NORSAR Array B 97.53 339 P **P** **14 57 13.4 -1.2**
comp=Z,0.6nm,0.6s,baz=47,slow=5.5,SNR=3.5
BOSA Boshof 121.90 244 PKP **PKPdf** **15 02 35.3 0.0**
comp=Z,3.9nm,1.0s,baz=204,slow=10.0,SNR=3.0
TORD Torodi Ar. Bea 135.08 304 PKP **PKPdf** **15 02 58.7 -1.9**
comp=Z,0.8nm,0.4s,baz=41,slow=2.0,SNR=18
TOB5 Torodi Ar. Sit 135.08 304 *e*PKP1 **PKPdf** **15 03 02.1 +1.5**
DBIC Dimbokro 144.01 301 PKP PKPbc 15 03 14.8 -0.1
comp=Z,23nm,1.1s,baz=51,slow=3.6,SNR=18
KIC Kosan Boka 144.08 301 *e*PKP1 PKPbc 15 03 14.9 -0.2
comp=Z,48nm,1.0s
TIC Toumodi 144.16 301 *e*PKP1 PKPbc 15 03 15.3 -0.1
LIC Lamto 144.39 301 *e*PKP1 **PKPab** **15 03 15.7 -0.1**
comp=Z,55nm,0.5s
LPAZ La Paz 148.05 100 PKPbc **PKPbc** **15 03 28.8 +1.1**
comp=Z,1.2nm,0.4s,baz=317,slow=2.4,SNR=6.6

*HEL **30** 14:45:22.9±0.4, 67.57N×34.19E, h0km, ML2.3, Explosion*
*KOLA **30** 14:45:24.9, 67.65N×33.88E, h0km*
*NAO **30** 14:45:25.2±1.4, 67.66N×33.83E, ML2.6*
*CSEM **30** 14:45:26.6±0.6, 67.61N×33.42E, h2km, ML1.9, Error ellipse: s-maj=12.3km s-min=6.8km az=92.0, Mining explosion.*

ISC 30 14:45:25.0±2.1, 67.69N±0.04×33.7E±0.1, h0km, n30, σ1s01/50, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.16**	**223**	P	**Pg**	**14 45 28.5**	**+0.4**
APA				S	**Sg**	**14 45 31.1**	**+0.9**
APA0	**Apatity Array**	**0.28**	**253**	Pg	**Pg**	**14 45 28.5**	**-1.9**
APA0				Pg	**Pg**	**14 45 31.0**	**+0.6**
APA0				Lg	Lg	14 45 31.2	
APA0				Lg	Lg	14 45 36.0	
	baz=70,slow=28						
APA0				Rg	Rg	14 45 38.0	
	baz=83,slow=37						
APA0	**Apatity Array**	**0.28**	**253**	Pg	**Pg**	**14 45 28.5**	**-1.9**
APA0				Pg	**Pb**	**14 45 31.0**	**-1.9**
APA0				Lg	Lg	14 45 31.2	
APA0				Lg	Lg	14 45 36.0	
	baz=70,slow=28						
APA0				Rg	Rg	14 45 38.0	
	baz=83,slow=37						
APA0	**Apatity Array**	**0.28**	**253**	P	**Pg**	**14 45 31.0**	**+0.6**
APA0				S	**Sg**	**14 45 35.5**	**+1.4**
APA0	**Apatity Array**	**0.28**	**253**	Pg	**Pg**	**14 45 28.5**	**-1.9**
	SNR=90						
APA0				Lg	Lg	14 45 31.2	
KU6	**Riekki**	**2.25**	**224**	PG	**Pn**	**14 46 03.8**	**+0.4**
	baz=43						
KU6				MSG		14 46 31.1	
	comp=Z,14nm,0.2s						
KU6				SG	**Sb**	**14 46 34.5**	**-0.3**
KU6	**Riekki**	**2.25**	**224**	Pg	**Pn**	**14 46 03.8**	**+0.4**
KU6				Sg	**Sb**	**14 46 34.5**	**-0.3**
MSF	**Maaselka**	**2.57**	**228**	PG	**Pn**	**14 46 09.2**	**+1.4**
	baz=50						
MSF				SG	**Sb**	**14 46 43.6**	**-0.3**
MSF	**Maaselka**	**2.57**	**228**	Pg	**Pn**	**14 46 09.2**	**+1.4**
MSF				Sg	**Sb**	**14 46 43.6**	**-0.3**
SGF	**Sodankyl**	**2.76**	**268**	PN	**Pn**	**14 46 10.9**	**+0.4**
SGF				SB	**Sb**	**14 46 50.7**	**+1.2**
RNF	**Rovaniemi**	**3.19**	**254**	PN	**Pn**	**14 46 16.5**	**+0.2**
RNF				SN	**Sn**	**14 46 57.0**	**+2.0**
RNF	**Rovaniemi**	**3.19**	**254**	Pn	**Pn**	**14 46 16.5**	**+0.2**
RNF				Sn	**Sn**	**14 46 57.0**	**+2.0**
KEV	**Kevo**	**3.20**	**313**	PN	**Pn**	**14 46 17.9**	**+1.4**
	baz=126						
KEV				SN	**Sn**	**14 46 56.5**	**+1.1**
KEV	**Kevo**	**3.20**	**313**	Pn	**Pn**	**14 46 17.9**	**+1.4**
KEV				Sn	**Sn**	**14 46 56.4**	**+1.1**
ARA0	**ARCESS Array S**	**3.53**	**305**	Pn	**Pn**	**14 46 21.8**	**+0.8**
	baz=122,slow=14						
ARA0				Sn	**Sn**	**14 47 03.2**	**-0.2**
	baz=120,slow=28						
ARA0				Lg	Lg	14 47 15.9	
	baz=119,slow=37						
ARA0	**ARCESS Array S**	**3.53**	**305**	Pn	**Pn**	**14 46 21.8**	**+0.8**
	baz=122,slow=14						
ARA0				Sn	**Sn**	**14 47 03.2**	**-0.2**
	baz=120,slow=28						
ARA0				Lg	Lg	14 47 15.9	
	baz=119,slow=37						
ARA0	**ARCESS Array S**	**3.53**	**305**	Pn	**Pn**	**14 46 21.8**	**+0.8**
	SNR=50						
ARA0				Sn	**Sn**	**14 47 03.2**	**-0.2**
	SNR=50						
ARA0				Lg	Lg	14 47 15.9	
	SNR=8.3						
ARE0	**ARCESS Array S**	**3.53**	**305**	PN	**Pn**	**14 46 21.3**	**+0.3**
	baz=118						
ARE0	**ARCESS Array S**	**3.53**	**305**	Pn	**Pn**	**14 46 21.3**	**+0.3**
HEF	**Hetta**	**3.84**	**285**	PN	**Pn**	**14 46 26.1**	**+0.8**
	baz=95						
HEF				SN	**Sn**	**14 47 11.9**	**+0.9**
HEF	**Hetta**	**3.84**	**285**	*e*P	**Pn**	**14 46 25.6**	**+0.3**
	SNR=50						
HEF	**Hetta**	**3.84**	**285**	Pn	**Pn**	**14 46 26.1**	**+0.8**
HEF				Sn	**Sn**	**14 47 11.9**	**+0.9**
OUL	**Oulu**	**4.08**	**234**	PN	**Pn**	**14 46 29.4**	**+0.8**
OUL	**Oulu**	**4.08**	**234**	Pn	**Pn**	**14 46 29.4**	**+0.8**
KTK1	**Kautokeino**	**4.10**	**294**	*e*P	**Pn**	**14 46 30.0**	**+1.2**
	SNR=49						
LANU	**Lannavaara**	**4.45**	**280**	PN	**Pn**	**14 46 33.0**	**-0.7**
LANU				SN	**Sn**	**14 47 25.7**	**-0.4**
LANU	**Lannavaara**	**4.45**	**280**	Pn	**Pn**	**14 46 32.9**	**-0.7**
LANU				Sn	**Sn**	**14 47 25.6**	**-0.4**
FIA0	**FINESS Array S**	**7.07**	**211**	Pn	**Pn**	**14 47 09.5**	**-0.1**
	baz=36,slow=12						
FIA0				Lg	Lg	14 49 00.9	
	baz=23,slow=28						
FIA0	**FINESS Array S**	**7.07**	**211**	Pn	**Pn**	**14 47 09.5**	**-0.1**
	baz=36,slow=12						
FIA0				Lg	Lg	14 49 00.9	
	baz=23,slow=28						
FIA0	**FINESS Array S**	**7.07**	**211**	Pn	**Pn**	**14 47 09.5**	**-0.1**
	SNR=50						

*BJI **30** 14:56:58.4, 0.90S×99.80E, h80km, mb4.6/17, mB4.8/12, Ms4.3/9, Ms7 3.8/8*
*ISCJB **30** 14:56:59.2±0.3, 0.80S±0.03×99.87E±0.04, h95km±3km, mb4.3/29, Error ellipse: s-maj=6.5km s-min=4.4km az=149.1*
*KLM **30** 14:57:00.2, 0.81S×99.88E, h121km, mb4.7, ML4.2, MS5.3*
*DJA **30** 14:57:00.5±0.4, 1°S±2'×10°0E±°, h71km±10km, M4.6/21, mb4.8/9, mB5.0/6, MLv4.6/21, Mw(mB)4.4/6*
*IDC **30** 14:57:02.8±1.0, 0.64S×100.02E, h105km±7km, mb3.9/21, mb1 4.0/22, mb1mx3.9/41, mbtmp4.2/22, MS2.9/1, Ms1 2.9/1, ms1mx2.6/28, Error ellipse: s-maj=19.1km s-min=11.4km az=52.0*
*NEIC **30** 14:57:03.1±0.4, 0.58S×100.06E, mb4.7/11, Error ellipse: s-maj=12.4km s-min=7.3km az=59.0*
NEIC Felt [III] at Padang.

ISC 30 14:57:00.5±0.4, 0.83S±0.04×99.86E±0.05, h89km±3km, h89km:pP-P, n83, σ1s80/104, mb4.3/29, 3C-4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.91**	**237**	P	**Pn**	**14 57 19.1**	**0.0**
SISI				S	**Sn**	**14 57 33.2**	**+0.1**
MNSI	**Mandailing Nat**	**1.64**	**350**	P	**Pn**	**14 57 26.7**	**-1.2**
MNSI				S	**Sn**	**14 57 47.0**	**-1.7**
BKNI	**Bangkinang**	**1.65**	**46**	P	**Pn**	**14 57 27.1**	**-1.0**
BKNI	**Bangkinang**	**1.65**	**46**	*e*Pn	**Pn**	**14 57 27.3**	**-0.8**
BKNI				*e*Pg	Pn	14 57 32.5	+4.5
PBSI	**Pulau Batu**	**1.75**	**296**	P	**Pn**	**14 57 28.5**	**-0.9**
PBSI				S	**Sn**	**14 57 49.9**	**-1.6**
PPSI	**Pulau Pagai**	**1.93**	**175**	P	**Pn**	**14 57 31.6**	**-0.1**
PPSI				S	**Sn**	**14 57 56.2**	**+0.7**
GSI	**Gunungsitoli**	**3.11**	**313**	P	**Pn**	**14 57 46.2**	**-1.3**
GSI	**Gunungsitoli**	**3.11**	**313**	*e*P	**Pn**	**14 57 46.1**	**-1.3**
PSI	**Prapat**	**3.72**	**345**	P	**Pn**	**14 57 54.3**	**-1.6**
	8.3nm,0.3s,baz=159,slow=11,SNR=16						
PSI				S	**Sn**	**14 58 39.5**	**+0.7**
	5.4nm,0.3s,baz=139,slow=19,SNR=4.4						
PSI				LR	LR	14 59 29.3	
	comp=Z,170nm,20.9s,baz=36,slow=42						
FRIM	**Kepong**	**4.41**	**24**	⇑P	**Pn**	**14 58 04.6**	**-0.4**
KGM	**Kluang**	**4.47**	**51**	⇑P	**Pn**	**14 58 05.8**	**-0.1**
MNAI	**Manna**	**4.68**	**139**	P	**Pn**	**14 58 08.0**	**-0.8**
LHSI	**Lahat**	**4.72**	**129**	P	**Pn**	**14 58 10.5**	**+1.2**
MYKOM	**Kota Tinggi**	**4.76**	**57**	⇓P	**Pn**	**14 58 09.9**	**0.0**
TPRI	**Tanjung Pinang**	**4.98**	**70**	P	**Pn**	**14 58 12.7**	**-0.1**
	112nm,0.4s,1.6nm						
IPM	**Ipoh**	**5.40**	**12**	⇓P	**Pn**	**14 58 19.5**	**+0.9**
IPM	**Ipoh**	**5.40**	**12**	*e*P	**Pn**	**14 58 18.8**	**+0.2**
	66nm,0.9s						
MDSI	**Maura Dua**	**5.64**	**130**	P	**Pn**	**14 58 22.4**	**+0.5**
	131nm,0.8s,1μm0.4nm						
LWLI	**Liwa**	**5.91**	**135**	P	**Pn**	**14 58 25.7**	**+0.1**
	107nm,0.7s,7μm0.9nm						
KULM	**Kulim**	**6.13**	**7**	⇓P	**Pn**	**14 58 28.3**	**-0.1**
KULM	**Kulim**	**6.13**	**7**	*e*P	**Pn**	**14 58 27.6**	**-0.8**
	80nm,1.0s						
KLSI		**6.20**	**128**	P	**Pn**	**14 58 29.9**	**+0.5**
	74nm,1.1s,0.3nm						
PPBI	**Pangkal Pinang**	**6.42**	**102**	P	**Pn**	**14 58 33.2**	**+0.8**
	20nm,1.1s,3μm1.1nm						
KASI	**Kota Agung**	**6.57**	**135**	P	**Pn**	**14 58 33.7**	**-0.9**
	76nm,0.6s,2μm0.4nm						
KTGM	**Kuala Trenggan**	**6.94**	**28**	⇓P	**Pn**	**14 58 39.5**	**0.0**
TPI	**Tanjungpandan**	**8.02**	**104**	P	**Pn**	**14 58 55.0**	**+0.7**
CISI	**Cisompet, Garu**	**10.37**	**130**	P	Pn	14 59 22.6	-3.8
CMAR	**Chiang Mai Arr**	**19.18**	**357**	P	**P**	**15 01 14.1**	**-3.2**
	0.6nm,0.3s,baz=186,slow=10,SNR=23						
CHTO	**Chiang Mai**	**19.54**	**357**	P	**Pn**	**15 01 23.7**	**+0.5**
	3.4nm,0.8s						
MYLDM	**Lahad Datu**	**19.55**	**72**	⇑P	**P**	**15 01 18.0**	**-3.3**
KAPI	**Kappang**	**20.30**	**102**	P	Pn	15 01 31.8	-0.2
	10nm,0.7s,baz=332,slow=10,SNR=7.2						
KAPI	**Kappang**	**20.30**	**102**	*e*P	Pn	15 01 31.8	-0.3
	8.9nm,0.8s						
KMI	**Kunming**	**25.95**	**6**	P	**P**	**15 02 28.0**	**+3.1**
KMI				PMZ			
	7.0nm,0.8s						
GYA	**Guiyang**	**27.91**	**13**	*e*P	**P**	**15 02 45.0**	**+2.6**
GYA				pP	**pP**	**15 03 02.8**	**+0.1**
GYA				sP	**sP**	**15 03 14.3**	**+1.2**
GYA				PP	**PnPn**	**15 03 37.5**	**+3.3**
GYA				S	**S**	**15 07 22.0**	**+2.2**
GYA				sS	**sS**	**15 07 54.5**	**-0.6**
GYA				SS	**SnSn**	**15 08 50.3**	**+7.0**
GYA				PMZ			
	10.0nm,0.8s						
GYA				PMZ			
	110nm,4.9s						
GYA				LN			
	520nm,16.6s						
GYA				LE			
	480nm,17.0s						
GYA				LZ			
	490nm,16.9s						
H08S2	**Diego Garcia H**	**28.10**	**255**	T	T	15 30 49.3	
	baz=77,slow=75,SNR=46						
H08S3	**Diego Garcia H**	**28.11**	**255**	T	T	15 30 49.3	
	baz=77,slow=75,SNR=16						
H08S1	**Diego Garcia H**	**28.12**	**255**	T	T	15 30 48.0	
	baz=77,slow=75,SNR=46						
LSA	**Lhasa**	**31.47**	**345**	*e*P	**P**	**15 03 14.5**	**+0.2**
	9.8nm,0.6s						
CD2	**Chengdu**	**31.78**	**6**	*e*P	**P**	**15 03 17.8**	**+1.3**
CD2				pP	**pP**	**15 03 36.5**	**-0.5**
CD2				PcP	**PcP**	**15 06 05.8**	**-0.1**
CD2				S	**S**	**15 08 24.3**	**+4.1**
CD2				PcS	**PcS**	**15 09 50.5**	**-0.2**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.0s						
XAN	**Xi'an**	**35.71**	**13**	P	**P**	**15 03 47.5**	**-3.0**
XAN				PMZ			
	7.0nm,0.7s						
XAN				PMZ			
	53nm,6.6s						
H01W3	**Cape Leeuwin H**	**36.41**	**160**	T	T	15 42 04.3	
	baz=335,slow=75,SNR=5.0						
H01W2	**Cape Leeuwin H**	**36.42**	**160**	T	T	15 42 03.3	
	baz=335,slow=75,SNR=4.9						
H01W1	**Cape Leeuwin H**	**36.42**	**160**	T	T	15 42 08.4	
	baz=335,slow=75,SNR=4.3						
NJ2	**Nanjing**	**37.32**	**27**	*e*P	**P**	**15 04 03.3**	**-0.9**
NJ2				LN			
	110nm,10.1s						
NJ2				LE			
	430nm,23.0s						
NJ2				LZ			
	470nm,21.7s						
WRA	**Warramunga Arr**	**38.72**	**122**	P	**P**	**15 04 14.8**	**-1.3**
	1.1nm,0.5s,baz=304,slow=8.9,SNR=12						
WRA				PcP	**PcP**	**15 06 26.7**	**+0.2**
	0.5nm,0.4s,baz=319,slow=2.4,SNR=2.7						
WRAB	**Tennant Creek**	**38.72**	**122**	*e*P	**P**	**15 04 15.2**	**-1.0**
	2.1nm,0.5s						
GTA	**Gaotai**	**40.04**	**360**	*e*P	**P**	**15 04 26.0**	**-1.0**
GTA				pP	**pP**	**15 04 43.0**	**-5.1**
GTA				sP	sP	15 04 52.3	-6.0
GTA				PMZ			
	4.0nm,0.8s						
ASAR	**Alice Springs**	**40.06**	**127**	P	**P**	**15 04 26.7**	**-0.6**
	0.5nm,0.4s,baz=300,slow=7.8,SNR=20						
ASAR				PcP	**PcP**	**15 06 31.4**	**+0.7**
	0.6nm,0.4s,baz=302,slow=2.6,SNR=3.3						
ASAR				S	**S**	**15 10 23.2**	**-3.8**
	0.4nm,0.7s,baz=297,slow=15,SNR=4.2						
AS31	**Alice Springs**	**40.06**	**127**	*e*P	**P**	**15 04 27.2**	**-0.2**
HHC	**Hu-ho-hao-te**	**42.83**	**13**	*e*P	**P**	**15 04 52.5**	**+2.8**
HHC				pP	**pP**	**15 05 11.0**	**0.0**
HHC				sP	**sP**	**15 05 21.0**	**-0.2**
HHC				PP	**PcP**	**15 06 35.3**	**-4.1**
HHC				S	**S**	**15 11 11.5**	**+3.9**
HHC				sS	**sS**	**15 11 44.5**	**+0.5**
HHC				PMZ			
	13nm,0.7s						
HHC				PMZ			
	86nm,5.9s						
HHC				LN			
	130nm,16.0s						
HHC				LE			
	140nm,16.0s						
HHC				LZ			
	130nm,17.1s						
KSH	**Kashi**	**45.72**	**334**	*e*P	**P**	**15 05 10.0**	**-2.9**
WMQ	**Urumqi**	**45.76**	**348**	P	**P**	**15 05 14.3**	**+1.2**
WMQ				pP	**pP**	**15 05 34.0**	**-0.5**
WMQ				sP	**sP**	**15 05 43.0**	**-1.7**
WMQ				PcP	**PcP**	**15 06 51.5**	**+2.1**
WMQ				PMZ			
	34nm,0.8s						
WMQ				PMZ			
	64nm,4.0s						
WMQ				LN			
	100nm,8.4s						
WMQ				LE			
	83nm,12.2s						
WMQ				LZ			
	24nm,18.2s						
KSAR	**Wonju Array Be**	**46.06**	**31**	P	**P**	**15 05 14.8**	**-0.6**
KSRS	**Korea Array**	**46.09**	**31**	P	**P**	**15 05 14.8**	**-0.9**
	4.3nm,0.6s,baz=222,slow=7.7,SNR=33						
SONM	**Songino Array**	**48.80**	**6**	P	**P**	**15 05 35.6**	**-1.0**

4.0nm,0.7s,baz=186,slow=9.3,SNR=22
SONM pP **pP** **15 06 01.9 +3.6**
0.6nm,0.4s,baz=200,slow=7.9,SNR=1.4
SONM PcP **PcP** **15 07 00.2 0.0**
3.1nm,0.6s,baz=184,slow=4.5,SNR=8.9
EKS2 Erkin-Say 49.25 335 *eP* **P** **15 05 41.0 +0.9**
9.1nm,0.7s
STKA Stephens Creek 50.04 132 P **P** **15 05 47.1 +0.9**
2.2nm,0.5s,baz=298,slow=11,SNR=7.9
MJAR Matsushiro Arr 51.47 40 P **P** **15 05 55.5 -1.4**
1.8nm,0.6s,baz=222,slow=9.1,SNR=8.6
USRK Ussuriysk Ar. 53.20 29 P **P** **15 06 09.1 -0.5**
8.5nm,0.6s,baz=222,slow=4.9,SNR=17
KURK Kurchatov 54.45 344 *eP* **P** **15 06 18.3 -0.2**
17nm,0.8s
GEYT Alibeck 54.46 320 P **P** **15 06 19.5 +0.6**
1.5nm,0.5s,baz=134,slow=10,SNR=3.3
GEYT pP **pP** **15 06 44.2 +3.2**
0.9nm,0.5s,baz=152,slow=9.8,SNR=1.9
ZALV Zalesovo Beam 56.00 349 P **P** **15 06 29.2 -0.3**
10.0nm,0.3s,baz=177,slow=6.0,SNR=68
ZALV pP **pP** **15 06 55.1 +3.4**
3.0nm,0.6s,baz=181,slow=8.0,SNR=3.1
BRVK Borovoye 59.10 340 *eP* **P** **15 06 50.4 -1.1**
6.3nm,0.8s
ABKAR Akbulak array 60.55 331 *eP* **P** **15 07 00.7 -0.7**
3.6nm,0.6s
YSS Yuzh-Sakhalins 60.57 32 *eP* **P** **15 07 00.6 -0.9**
12nm,1.0s
AKTO Aktyubinsk 62.27 331 P **P** **15 07 11.1 -1.9**
1.1nm,0.4s,baz=112,slow=7.4,SNR=6.5
KBZ Khabaz 67.33 319 P **P** **15 07 46.2 +0.3**
1.7nm,0.6s,baz=144,slow=8.9,SNR=4.6
PETK Petropavlovsk- 71.97 32 P **P** **15 08 12.8 -1.6**
1.3nm,0.6s,baz=254,slow=3.6,SNR=5.0
BRTR Keskin Array B 72.43 312 P **P** **15 08 17.1 -0.5**
0.6nm,0.6s,baz=110,slow=9.3,SNR=4.7
SEY Seymchan 74.60 22 P **P** **15 08 28.9 -0.7**
2.2nm,0.6s,baz=240,slow=8.0,SNR=16
AKASG Malin Array Be 78.47 322 P **P** **15 08 51.1 -0.6**
0.4nm,0.4s,baz=89,slow=5.0,SNR=3.7
MLR Muntele Rosu 79.36 317 P **P** **15 08 57.2 +0.3**
0.7nm,0.8s,baz=140,slow=16
KOLS Kolonicke sedl 82.47 319 *eP* **P** **15 09 15.0 +1.8**
FINES FINESS Array B 83.01 332 P **P** **15 09 15.9 +0.2**
3.2nm,0.4s,baz=117,slow=5.5,SNR=49
ARCES ARCESS Array B 85.33 340 P **P** **15 09 27.3 +0.1**
2.4nm,0.4s,baz=97,slow=5.4,SNR=50
GERES GERESS Array B 88.08 319 P **P** **15 09 41.8 +0.5**
0.4nm,0.5s,baz=75,slow=5.7,SNR=4.9
CLL Collm 88.67 321 *iP* **P** **15 09 42.4 -1.4**
comp=Z,3.0nm,0.7s
CLL L L 15 46 00.0
comp=Z,100nm,18.9s
HFS Hagfors 88.79 330 P **P** **15 09 44.9 +0.8**
comp=Z,0.7nm,0.7s,baz=140,slow=3.2,SNR=2.8
QSPA South Pole Qui 89.13 180 P **P** **15 09 48.3 +2.5**
comp=Z,1.0nm,1.0s,baz=326,slow=1.2,SNR=2.3
NVAR Mina Array Bea 128.78 38 PKP **PKPdf** **15 15 58.4 +0.1**
comp=Z,0.3nm,0.6s,baz=224,slow=2.5,SNR=2.9
TXAR Lajitas Array 143.85 36 PKP PKPbc 15 16 24.5 +0.4
comp=Z,2.4nm,0.5s,baz=274,slow=0.7,SNR=28
JCT Junction City 145.17 31 *e*PKPdf **PKPbc** **15 16 27.8 -0.1**
CPUP Villa Florida 145.17 218 PKPbc **PKPdf** **15 16 30.6 +2.2**
comp=Z,1.0nm,0.7s,baz=124,slow=3.6,SNR=2.9

*ISCJB **30** 14:57:04.7±0.7,33.68S±0.04×178.51W±0.1, h33km, mb4.5/11,MS3.6/3,Error ellipse: s-maj=15.1km s-min=5.3km az=14.6*
*IDC **30** 14:57:11.1±3.5,33.19S×178.79W, h53km±28km, mb4.2/9, mb1 4.3/10,mb1mx3.9/30,mbtmp4.5/10,ML4.7/1,MS3.7/3, Ms1 3.6/3,ms1mx3.1/20,Error ellipse: s-maj=24.0km s-min=17.5km az=90.0*
*NEIC **30** 14:57:11.1±1.2,33.23S×178.73W, h57km±9km, mb4.7/4, Error ellipse: s-maj=12.5km s-min=9.1km az=122.0*
ISC 30 14:57:08.1±0.4,33.47S±0.04×178.76W±0.07, h41km, n137,σ1§44/106,mb4.6/11,MS3.6/3,1C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**4.27**	**10**	P		**Pn**	**14 58 08.9**	**-1.7**
	47nm,0.3s,baz=165,slow=20,SNR=6.4							
RAO				S		**Sn**	**14 58 57.2**	**-1.9**
	161nm,0.3s,baz=122,slow=21,SNR=6.3							
RAO	**Raoul Island**	**4.27**	**10**	P		**Pn**	**14 58 10.0**	**-0.6**
RAO				S		**Sn**	**14 58 57.2**	**-1.9**
RAO				*e*S		**Sn**	**14 58 57.4**	**-1.7**
MXZ	**Matakaoa Point**	**4.73**	**210**	PN		**Pn**	**14 58 16.9**	**0.0**
MXZ				*e*SN		**Sn**	**14 59 10.5**	**-0.1**
WMGZ	**Waiomatatini S**	**4.91**	**207**	PN		**Pn**	**14 58 20.4**	**+1.0**
HAZ	**Te Kaha**	**5.12**	**212**	PN		**Pn**	**14 58 23.3**	**+1.0**
HAZ				*e*SN		**Sn**	**14 59 23.2**	**+3.1**
PUZ	**Puketiti**	**5.19**	**207**	PN		**Pn**	**14 58 23.2**	**-0.1**
PUZ				SN		**Sn**	**14 59 22.9**	**+1.0**
TWGZ	**Tauwhareparae**	**5.39**	**209**	PN		**Pn**	**14 58 26.4**	**+0.3**
TWGZ				SN		**Sn**	**14 59 28.9**	**+2.0**
CNGZ	**Carnagh Statio**	**5.58**	**205**	PN		**Pn**	**14 58 28.6**	**+0.1**
KUZ	**Kuaotunu**	**5.58**	**233**	PN		Pn	14 58 32.1	+3.5
TKGZ	**Te Karaka**	**5.67**	**208**	PN		**Pn**	**14 58 29.3**	**-0.5**
TKGZ				SN		**Sn**	**14 59 34.1**	**+0.5**
MWZ	**Matawai**	**5.71**	**211**	PN		**Pn**	**14 58 29.9**	**-0.6**
OPRZ	**Ohinepanea**	**5.80**	**220**	PN		**Pn**	**14 58 32.6**	**+1.0**
URZ	**Urewera**	**5.84**	**214**	P		**Pn**	**14 58 32.0**	**-0.1**
	7.6nm,0.3s,baz=283,slow=3.5,SNR=63							
URZ				S		**Sn**	**14 59 37.6**	**-0.1**
	34nm,0.3s,baz=259,slow=18,SNR=11							
URZ	**Urewera**	**5.84**	**214**	PN		**Pn**	**14 58 32.0**	**-0.1**
URZ	**Urewera**	**5.84**	**214**	*e*P		**Pn**	**14 58 31.9**	**-0.1**
	133nm,0.7s							
URZ				S		**Sn**	**14 59 37.6**	**-0.1**
TGRZ	**Tauranga**	**5.88**	**222**	PN		**Pn**	**14 58 34.6**	**+2.0**
RAGZ	**Rawiri**	**5.89**	**211**	*e*PN		**Pn**	**14 58 32.6**	**-0.4**
RIGZ	**Rimuhau**	**5.93**	**207**	PN		**Pn**	**14 58 32.9**	**-0.6**
PRGZ	**Paritu Road**	**6.08**	**206**	PN		**Pn**	**14 58 34.2**	**-1.3**
SNGZ	**Shannon Statio**	**6.17**	**210**	PN		**Pn**	**14 58 36.4**	**-0.3**
RRRZ	**Republican Roa**	**6.19**	**217**	*e*PN		**Pn**	**14 58 37.8**	**+0.8**
WCZ	**Waipu Caves**	**6.19**	**245**	PN		Pn	14 58 41.9	+5.0
KNZ	**Kokohu**	**6.24**	**206**	PN		**Pn**	**14 58 35.9**	**-1.8**
PRRZ	**Plateau Road**	**6.37**	**217**	PN		**Pn**	**14 58 40.5**	**+1.0**
RAHZ	**Arahi**	**6.39**	**211**	PN		**Pn**	**14 58 39.5**	**-0.2**
WHHZ	**Waihua**	**6.46**	**209**	*e*PN		**Pn**	**14 58 39.9**	**-0.8**
OUZ	**Omahuta**	**6.56**	**252**	PN		Pn	14 58 47.8	+5.7
OUZ	**Omahuta**	**6.56**	**252**	*e*P		Pn	14 58 46.3	+4.3
	39nm,0.5s							
NMHZ	**Naumai**	**6.66**	**211**	PN		**Pn**	**14 58 42.7**	**-0.8**
ARHZ	**Aropaoanui**	**6.72**	**209**	*e*PN		**Pn**	**14 58 42.6**	**-1.6**
BKZ	**Black Stump Fm**	**6.86**	**213**	PN		**Pn**	**14 58 45.7**	**-0.4**
BKZ				*e*SN		**Sn**	**15 00 01.3**	**-1.6**
MCHZ	**McNeill Hill**	**7.00**	**210**	PN		**Pn**	**14 58 47.2**	**-0.8**
CKHZ	**Cape Kidnapper**	**7.03**	**207**	PN		**Pn**	**14 58 46.5**	**-2.0**
KWHZ	**Kaweka Forest**	**7.10**	**212**	*e*PN		**Pn**	**14 58 47.6**	**-1.9**
KAHZ	**Kahuranaki**	**7.22**	**208**	PN		**Pn**	**14 58 48.4**	**-2.8**
OTVZ	**Oturere**	**7.25**	**217**	*e*PN		**Pn**	**14 58 51.6**	**0.0**
KRHZ	**Kereru**	**7.30**	**211**	*e*PN		**Pn**	**14 58 50.7**	**-1.5**
BHHZ	**Black Hill Sta**	**7.31**	**213**	*e*PN		**Pn**	**14 58 51.3**	**-1.1**
WPVZ	**Whakapapa**	**7.34**	**217**	*e*PN		**Pn**	**14 58 53.0**	**+0.1**
FWVZ	**Far West T-bar**	**7.37**	**217**	*e*PN		**Pn**	**14 58 52.5**	**-0.9**
WHVZ	**Whangaehu Hut**	**7.38**	**217**	*e*PN		**Pn**	**14 58 52.7**	**-0.7**
MOVZ	**Moawhango**	**7.39**	**215**	*e*PN		**Pn**	**14 58 53.3**	**-0.2**
WNVZ	**Wahianoa**	**7.41**	**216**	*e*PN		**Pn**	**14 58 52.2**	**-1.6**
TRVZ	**Turoa**	**7.41**	**217**	PN		**Pn**	**14 58 54.2**	**+0.3**
PXZ	**Pawanui**	**7.43**	**207**	*e*PN		Pn	14 58 50.8	-3.1
MTVZ	**Mangateitei**	**7.51**	**217**	*e*PN		**Pn**	**14 58 54.5**	**-0.7**
PNHZ	**Pukenui**	**7.60**	**211**	*e*PN		**Pn**	**14 58 54.3**	**-2.0**
WPHZ	**Waipukurau**	**7.62**	**209**	PN		**Pn**	**14 58 54.5**	**-2.2**
TSZ	**Takapari Road**	**7.82**	**211**	*e*PN		**Pn**	**14 58 56.8**	**-2.6**
DVHZ	**Dannevirke**	**7.94**	**209**	PN		**Pn**	**14 58 58.4**	**-2.5**
WAZ	**Wanganui**	**8.04**	**217**	PN		**Pn**	**14 58 59.6**	**-2.7**
BFZ	**Birch Farm**	**8.23**	**208**	*e*PN		Pn	14 59 01.1	-3.9
PRWZ	**Pori Road**	**8.23**	**209**	*e*PN		**Pn**	**14 59 03.0**	**-1.9**
TIWZ	**Tintock**	**8.45**	**209**	PN		**Pn**	**14 59 06.3**	**-1.7**
MRZ	**Mangatainoka R**	**8.48**	**211**	*e*PN		Pn	14 59 04.4	-4.0
HOWZ	**Holdsworth Sta**	**8.71**	**210**	*e*PN		Pn	14 59 07.3	-4.2
TMWZ	**Te Maipa**	**8.73**	**208**	*e*PN		Pn	14 59 07.6	-4.3
OGWZ	**Otaki Gorge**	**8.79**	**212**	PN		Pn	14 59 08.9	-3.6
MTW	**Mount Morrison**	**8.93**	**209**	*e*PN		Pn	14 59 10.2	-4.3
KIW	**Kapiti Island**	**8.94**	**213**	PN		Pn	14 59 10.7	-4.0
TRWZ	**Traveller**	**9.06**	**208**	*e*PN		Pn	14 59 12.8	-3.5
CAW	**Cannon Point**	**9.07**	**211**	PN		Pn	14 59 12.6	-3.8
PAWZ	**Paruwai Farm**	**9.15**	**209**	PN		Pn	14 59 13.3	-4.2
WEL	**Wellington**	**9.35**	**212**	*e*PN		**Pn**	**14 59 17.4**	**-2.8**
PLWZ	**Palliser**	**9.38**	**209**	*e*PN		Pn	14 59 14.7	-6.0
TCW	**Tory Channel**	**9.51**	**214**	*e*PN		Pn	14 59 17.6	-4.8
TUWZ	**Tuamarina**	**9.83**	**214**	*e*PN		Pn	14 59 22.9	-3.9
NNZ	**Nelson**	**9.94**	**217**	PN		Pn	14 59 23.5	-4.9
NNZ				*e*SN		Sn	15 01 11.6	-7.0
BSWZ	**Blackbirch Sta**	**10.09**	**213**	*e*PN		**Pn**	**14 59 27.4**	**-2.9**
QRZ	**Quartz Range**	**10.11**	**221**	PN		Pn	14 59 26.7	-3.9
CTZ	**Chatham Island**	**10.38**	**171**	*e*PN		**Pn**	**14 59 33.3**	**-1.0**
CTZ				*e*SN		Sn	15 01 18.2	-11
THZ	**Tophouse**	**10.59**	**216**	PN		Pn	14 59 32.9	-4.4
THZ				*e*SN		Sn	15 01 27.9	-6.6
KHZ	**Kahutara**	**10.80**	**212**	*e*PN		Pn	14 59 35.7	-4.3
KHZ	**Kahutara**	**10.80**	**212**	*e*P		**Pn**	**14 59 37.4**	**-2.7**
DSZ	**Denniston Nort**	**11.14**	**219**	*e*PN		**Pn**	**14 59 43.4**	**-1.4**
DSZ				*e*SN		Sn	15 01 38.8	-9.2
LTZ	**Lake Taylor**	**11.67**	**215**	*e*SN		Sn	15 01 49.1	-12
OXZ	**Oxford**	**12.19**	**214**	*e*PN		Pn	14 59 54.6	-4.6
MQZ	**McQueen's Vall**	**12.22**	**211**	*e*PN		Pn	14 59 52.7	-6.8
MQZ				*e*SN		Sn	15 01 59.9	-15
WVZ	**Waitaha Valley**	**12.64**	**218**	PN		**Pn**	**15 00 03.1**	**-2.1**
RPZ	**Rata Peaks**	**12.96**	**215**	P		Pn	15 00 04.9	-4.7
	3.0nm,0.3s,baz=56,slow=3.2,SNR=15							
RPZ				S		Sn	15 02 19.4	-13
	4.4nm,0.3s,baz=124,slow=22,SNR=18							
RPZ	**Rata Peaks**	**12.96**	**215**	*e*PN		Pn	15 00 04.9	-4.7
RPZ				*e*SN		Sn	15 02 18.8	-13
RPZ	**Rata Peaks**	**12.96**	**215**	*e*P		**Pn**	**15 00 06.7**	**-2.9**
RPZ				S		Sn	15 02 19.4	-13
FOZ	**Fox Glacier**	**13.53**	**218**	*e*PN		Pn	15 00 13.3	-4.0
ODZ	**Otahua Downs**	**14.16**	**212**	PN		Pn	15 00 19.8	-6.2
JCZ	**Jackson Bay**	**14.37**	**219**	PN		Pn	15 00 24.9	-3.9
WKZ	**Wanaka**	**14.76**	**216**	PN		Pn	15 00 30.7	-3.4
EIDS	**Eidsvold**	**27.41**	**279**	*e*P		**P**	**15 02 52.7**	**+2.7**
	12nm,0.9s							
TBI	**Tubuai**	**27.59**	**76**	*e*LR		LR	15 09 36.9	
	158nm,28.2s							
TBI	**Tubuai**	**27.59**	**76**	*e*T		T	15 31 03.0	
	9.5nm,0.3s							
PAE	**Paea**	**30.53**	**66**	*e*T		T	15 34 54.1	
	3.0nm,0.3s							
PPT2	**Papeete2**	**30.57**	**66**	*e*LR		LR	15 11 01.1	
	163nm,25.8s							
PPT2	**Papeete2**	**30.57**	**66**	*e*T		T	15 34 58.4	
	4.8nm,0.3s							
PPT	**Papeete**	**30.59**	**66**	LR		LR	15 12 33.6	
	comp=Z,75nm,20.6s,baz=246,slow=30							
STKA	**Stephens Creek**	**33.27**	**262**	P		**P**	**15 03 43.8**	**+2.1**
	2.6nm,0.9s,baz=135,slow=11,SNR=4.0							
STKA				LR		LR	15 15 23.8	
	comp=Z,145nm,21.6s,baz=41,slow=33							
CTA	**Charters Tower**	**33.79**	**284**	P		**P**	**15 03 48.7**	**+2.3**
	5.6nm,0.6s,baz=117,slow=12,SNR=13							
CTAO	**Charters Tower**	**33.79**	**284**	*e*P		**P**	**15 03 48.2**	**+1.8**
	4.4nm,0.6s							
RKT	**Rikitea**	**39.66**	**87**	*e*LR		LR	15 15 05.8	
	240nm,31.0s							
AS31	**Alice Springs**	**42.40**	**271**	*e*P		**P**	**15 04 59.5**	**+0.7**
ASAR	**Alice Springs**	**42.40**	**271**	P		**P**	**15 04 59.6**	**+0.7**
	15nm,0.7s,baz=110,slow=7.7,SNR=101							
ASAR				PcP		**PcP**	**15 06 51.4**	**-0.2**
	0.9nm,0.8s,baz=115,slow=4.8,SNR=3.2							
ASAR				S		**S**	**15 11 13.6**	**-4.1**
	0.8nm,0.9s,baz=116,slow=17,SNR=4.7							
WRAB	**Tennant Creek**	**43.66**	**276**	*e*P		**P**	**15 05 09.5**	**+0.5**
WRA	**Warramunga Arr**	**43.67**	**276**	P		**P**	**15 05 09.5**	**+0.4**
	5.9nm,0.4s,baz=118,slow=7.5,SNR=39							
WRA				PcP		**PcP**	**15 06 55.1**	**-0.8**
	0.5nm,0.6s,baz=133,slow=3.6,SNR=2.7							
SBA	**Scott Base**	**44.93**	**184**	*e*P		P	15 05 23.8	+5.3
VNDA	**Vanda**	**44.98**	**186**	P		P	15 05 22.9	+4.0
	0.8nm,0.8s,baz=7.4,slow=6.8,SNR=3.9							
CASY	**Casey**	**52.14**	**209**	*e*P		**P**	**15 06 15.1**	**+1.2**
	14nm,0.8s							
QSPA	**South Pole Qui**	**56.65**	**180**	P		P	15 06 50.6	+3.7
	11nm,1.0s,baz=34,slow=1.5,SNR=34							
QSPA	**South Pole Qui**	**56.65**	**180**	*e*P		P	15 06 50.5	+3.7
	13nm,1.1s							
KAPI	**Kappang**	**63.57**	**282**	LR		LR	15 34 05.7	
	comp=Z,71nm,19.1s,baz=229,slow=35							
MAW	**Mawson**	**69.22**	**201**	P		P	15 08 14.6	+4.4
	4.3nm,0.8s,baz=162,slow=7.6,SNR=8.4							
SYO	**Syowa Base**	**73.99**	**193**	*e*P		**P**	**15 08 39.2**	**+0.4**
VNA2	**Neumayer--Watz**	**75.72**	**177**	P		**P**	**15 08 50.9**	**+2.0**
	baz=172,slow=5.5							
VNA1	**Neumayer--Stat**	**75.95**	**177**	P		P	15 08 53.1	+2.9
KSRS	**Korea Array**	**86.28**	**320**	P		**P**	**15 09 46.3**	**+0.9**
	0.4nm,0.6s,baz=146,slow=5.6,SNR=2.7							
KSAR	**Wonju Array Be**	**86.29**	**320**	P		**P**	**15 09 46.3**	**+0.9**
PETK	**Petropavlovsk-**	**88.62**	**346**	P		**P**	**15 09 57.7**	**+1.4**
	4.3nm,0.7s,baz=152,slow=9.8,SNR=6.1							
ZALV	**Zalesovo Beam**	**119.87**	**317**	PKP		**PKPdf**	**15 15 53.1**	**-0.2**
	0.8nm,0.5s,baz=174,slow=1.8,SNR=6.6							
KURK	**Kurchatov**	**122.67**	**313**	PKP		**PKPdf**	**15 15 59.2**	**+0.3**
KURBB	**Kurchatov Arra**	**122.71**	**312**	PKP		**PKPdf**	**15 15 59.2**	**+0.2**
	4.4nm,0.8s,baz=109,slow=1.9,SNR=51							
KKAR	**Karatay Array**	**126.19**	**302**	*e*P		**PKPdf**	**15 16 06.7**	**+0.8**
BVAR	**Borovoye Array**	**128.11**	**314**	PKP		**PKPdf**	**15 16 10.1**	**+0.8**
	2.5nm,0.6s,baz=98,slow=3.0,SNR=19							
GEYT	**Alibeck**	**134.21**	**293**	PKP		**PKPdf**	**15 16 22.4**	**+1.1**
	2.5nm,0.6s,baz=195,slow=2.3,SNR=5.7							
ABKAR	**Akbulak array**	**134.37**	**308**	*e*P		**PKPdf**	**15 16 22.7**	**+1.5**
AKTO	**Aktyubinsk**	**135.64**	**310**	PKP		**PKPdf**	**15 16 24.4**	**+0.9**
	1.8nm,0.8s,baz=39,slow=3.6,SNR=6.9							
ARCES	**ARCESS Array B**	**141.43**	**347**	PKhKP		PKPpre	15 16 30.3	
	1.1nm,0.7s,baz=66,slow=1.1,SNR=5.5							
KBZ	**Khabaz**	**146.19**	**300**	PKPbc		**PKPab**	**15 16 44.9**	**+0.4**
	0.9nm,0.5s,baz=45,slow=1.4,SNR=4.6							
OBN	**Obninsk**	**147.26**	**322**	PKPbc		**PKPbc**	**15 16 46.4**	**0.0**
	7.9nm,0.4s,baz=121,slow=6.0,SNR=4.9							
FINES	**FINESS Array B**	**147.77**	**338**	PKPbc		**PKPbc**	**15 16 48.2**	**+0.6**
	15nm,0.8s,baz=104,slow=3.9,SNR=38							
ASF	**Jabal al Asfar**	**150.10**	**277**	PKPbc		**PKPbc**	**15 16 55.7**	**+1.0**
	2.0nm,0.7s,baz=194,slow=2.1,SNR=6.1							
EIL	**Elat**	**151.10**	**272**	PKPbc		**PKPbc**	**15 16 58.0**	**+1.0**
	16nm,0.9s,baz=45,slow=2.8,SNR=12							
MMAI	**Mount Meron Ar**	**151.50**	**279**	PKPbc		**PKPbc**	**15 16 59.8**	**+1.9**
	14nm,0.6s,baz=80,slow=6.0,SNR=24							
NB2	**NORSAR Subarra**	**151.67**	**350**	PKP		**PKPbc**	**15 16 58.1**	**+0.8**
	comp=Z,4.6nm,0.7s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**151.67**	**350**	PKPbc		**PKPbc**	**15 16 58.4**	**+1.0**
	comp=Z,3.3nm,0.8s,baz=19,slow=4.7,SNR=18							
NOA				PKPab		**PKPab**	**15 17 06.7**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=26,slow=4.0,SNR=7.0							
HFS	**Hagfors**	**152.10**	**347**	PKPbc		**PKPbc**	**15 16 58.9**	**+0.6**
	comp=Z,3.7nm,0.6s,baz=101,slow=3.0,SNR=13							
AKASG	**Malin Array Be**	**153.26**	**318**	PKPbc		**PKPbc**	**15 17 01.6**	**+0.5**
	comp=Z,4.3nm,0.7s,baz=62,slow=2.4,SNR=17							
KIEV	**Kiev**	**153.27**	**318**	*e*PKPbc		**PKPbc**	**15 17 01.3**	**+0.1**
BR131	**Keskin Array S**	**153.35**	**293**	*e*PKPbc		**PKPbc**	**15 17 02.5**	**+0.5**
BRTR	**Keskin Array B**	**153.35**	**293**	PKPbc		**PKPbc**	**15 17 02.0**	**+0.1**
	comp=Z,4.4nm,0.7s,baz=134,slow=3.6,SNR=22							
TORD	**Torodi Ar. Bea**	**159.76**	**181**	PKPab		**PKPab**	**15 17 43.2**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=175,slow=2.9,SNR=10							

*ISCJB **30** 15:17:08.5±0.3,55.34S±0.05×27.91W±0.10, h26km, mb5.0/30,MS4.8/15,Error ellipse: s-maj=8.5km s-min=6.2km az=144.5*
*MOS **30** 15:17:10.1±1.3,55.44S×27.93W, h33km, mb5.4/9,Error ellipse: s-maj=25.2km s-min=14.5km az=98.8*
*IDC **30** 15:17:10.1±0.8,55.37S×27.89W, h25km±5km, mb4.7/14, mb1 4.8/15,mb1mx4.5/19,mbtmp4.9/15,ML4.8/1,MS4.7/13, Ms1 4.7/13,ms1mx4.7/16,Error ellipse: s-maj=17.2km s-min=13.2km az=57.0*
*NEIC **30** 15:17:11.4±0.2,55.40S×27.94W, h35km, mb5.2/15,Error ellipse: s-maj=7.4km s-min=6.0km az=198.0*
*AWI **30** 15:17:11.2,55.50S×27.80W*
*GCMT **30** 15:17:11.4±0.1,55.40S×27.92W, h18km, MW5.3/98, Moment Tensor Solution. s59,c90; s98,c162; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr0.72±.02; Mθθ-0.22±.02; Mφφ-0.50±.02; Mrθ0.10±.04; Mrφ0.61±.01; Mθφ0.72±.04; Best double couple: M0 1.14500×1017 NP1:φs349.00000°,δ67.00000°,λ120.00000°. NP2: φs114.00000°,δ37.00000°,λ41.00000°. Principal axes: T 1.1510, Plg57.0000°, Azm300.0000°; N -0.0130, Plg27.0000°, Azm157.0000°; P -1.1380, Plg17.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 30 15:17:10.2±0.3,55.41S±0.06×27.88W±0.06, h26km, n173, σ1§36/169,mb5.1/29,MS4.8/15,2C-4D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**5.10**	**279**	Pn		**Pn**	**15 18 23.3**	**-1.5**
	8μm,0.6s							
HOPE	**Hope Point**	**5.10**	**279**	*e*Pn		**Pn**	**15 18 23.3**	**-1.5**
	1μm,0.8s							
HOPE				*e*Sn		Sn	15 19 11.6	-11
VNA1	**Neumayer--Stat**	**17.54**	**158**	P		**P**	**15 21 14.7**	**+1.4**
VNA2	**Neumayer--Watz**	**17.93**	**158**	P		**P**	**15 21 19.0**	**+1.2**
	baz=314,slow=14							
VNA2				S		S	15 24 56.8	+15
	baz=317,slow=17							
EFI	**East Falkland**	**18.25**	**269**	P		**Pn**	**15 21 21.0**	**-0.2**
	1μm,1.0s,SNR=11							
EFI	**East Falkland**	**18.25**	**269**	*ce*P		**P**	**15 21 22.2**	**+0.9**
EFI				pmax		pmax		
	comp=Z,670nm,1.1s							
EFI	**East Falkland**	**18.25**	**269**	*e*P		**P**	**15 21 21.2**	**-0.1**
SNAA	**Sanae**	**19.49**	**156**	P		**P**	**15 21 31.2**	**-3.6**
SNAA				S		**Sn**	**15 25 14.6**	**+0.8**
SNAA	**Sanae**	**19.49**	**156**	P		**P**	**15 21 35.1**	**+0.2**
	comp=Z,2.8nm,0.3s,baz=308,slow=9.4,SNR=393							
SNAA				S		**S**	**15 25 12.8**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=16,slow=20,SNR=1.9							
SNAA	**Sanae**	**19.49**	**156**	*de*P		**P**	**15 21 31.2**	**-3.6**
SNAA				pmax		pmax		
	comp=Z,34nm,0.6s							
SNAA	**Sanae**	**19.49**	**156**	*e*P		**P**	**15 21 30.8**	**-4.0**
SNAA				S		**S**	**15 25 12.8**	**-0.5**
PMSA	**Palmer Station**	**20.03**	**228**	P		Pn	15 21 42.3	-0.3
	comp=Z,198nm,1.1s,baz=71,slow=8.7,SNR=12							
PMSA	**Palmer Station**	**20.03**	**228**	P		Pn	15 21 42.3	-0.3
PMSA				*e*Pn		**P**	**15 21 42.8**	**+2.0**
USHA	**Ushuaia**	**22.97**	**255**	P		**P**	**15 22 12.1**	**-0.2**
	comp=Z,33nm,1.0s,baz=95,slow=11,SNR=6.5							
NVL	**N'lazarevskaya**	**23.01**	**147**	‖*iP*		P	15 22 19.3	+6.7
NVL				*e*			15 22 51.8	
NVL				*e*			15 25 56.8	
NVL				*e*S		**S**	**15 26 15.9**	**-5.4**
NVL				pmax		pmax		
	comp=Z,23nm,1.0s							
NVL				MLR		MLR		
	comp=Z,1μm,16.0s							
TRQA	**Tornquist**	**28.71**	**293**	*e*P		**P**	**15 23 05.1**	**0.0**
	comp=Z,16nm,0.8s							
SYO	**Syowa Base**	**32.33**	**142**	‖*e*P		**P**	**15 23 36.0**	**-0.6**
QSPA	**South Pole Qui**	**34.84**	**180**	*e*P		**P**	**15 23 59.1**	**+0.3**
	comp=Z,34nm,0.7s							
CPUP	**Villa Florida**	**36.09**	**312**	P		**P**	**15 24 09.0**	**-0.7**
	comp=Z,11nm,0.5s,baz=150,slow=6.8,SNR=43							
CPUP				pP		**pP**	**15 24 16.3**	**-1.1**
	comp=Z,8.5nm,0.7s,baz=152,slow=7.6,SNR=8.4							
CPUP				ScP		**ScP**	**15 30 18.4**	**-1.0**
	comp=Z,7.3nm,1.0s,baz=157,slow=5.5,SNR=8.7							
CPUP				LR		LR	15 37 45.0	
	comp=Z,1μm,20.5s,baz=157,slow=34

comp=Z,1.9nm,0.7s,baz=188,slow=3.0,SNR=5.9
STKA LR LR 16 11 24.6
comp=Z,582nm,18.8s,baz=193,slow=35
KEST Kesra 96.21 30 LR LR 16 10 37.1
comp=Z,303nm,19.5s,baz=164,slow=33
ESDC Sonseca Array 96.89 18 P **P 15 30 38.1 -0.3**
comp=Z,0.2nm,0.3s,baz=168,slow=6.5,SNR=3.2
ESDC LR LR 16 11 32.1
comp=Z,186nm,19.1s,baz=160,slow=34
ASAR Alice Springs 99.72 163 P **Pdif 15 30 50.4 -1.3**
comp=Z,3.9nm,0.9s,baz=190,slow=4.1,SNR=23
ASAR pP **pP 15 31 00.6 +0.4**
comp=Z,3.1nm,0.9s,baz=197,slow=4.3,SNR=9.9
ASAR PP **PP 15 34 54.1 -1.0**
comp=Z,0.7nm,0.7s,baz=184,slow=6.2,SNR=6.0
ASAR PKKP **PKKPdf 15 47 11.8 -1.0**
comp=Z,0.4nm,0.6s,baz=23,slow=1.9,SNR=10
ASAR LR LR 16 12 28.5
comp=Z,266nm,21.8s,baz=190,slow=33
WRA Warramunga Arr 103.44 163 Pdiff **Pdif 15 31 06.8 -1.5**
comp=Z,0.3nm,0.6s,baz=193,slow=4.2,SNR=3.2
BRTR Keskin Array B 108.25 46 PP PP 15 36 04.6 +4.7
comp=Z,0.3nm,0.4s,baz=199,slow=7.2,SNR=4.0
CLL Collm 111.64 26 *e*SP SP 15 45 55.0 +2.6
CLL *e*PPS PPS 15 47 08.0
CLL *e*SS SS 15 52 16.0 +18
CLL LmV 16 38 00.0
comp=Z,200nm,18.4s
STHS Stebnicka Huta 112.23 32 *i* P **Pdif 15 31 51.8 +5.3**
STHS Stebnicka Huta 112.23 32 *e* **Pdif 15 31 51.8 +5.3**
KIV Kislovodsk 115.54 49 *i* PKIKP **PKPdf 15 35 51.2 +2.2**
KIV *e* 15 42 40.4
KIV *e*PS **PS 15 46 35.3 +3.6**
KIV *e*SS SS 15 52 56.0 +6.3
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,271nm,20.0s
AKASG Malin Array Be 115.91 36 *i* PKIKP **PKPdf 15 35 47.2 -2.1**
BELC Belle Mtn. Jos 116.21 292 P **PKPdf 15 35 51.5 +0.8**
baz=116
GMRC Granite Mounta 116.63 293 P **PKPdf 15 35 52.2 +0.8**
baz=117
MSU Marysvale 117.71 298 *e*PKIKP **PKPdf 15 35 53.8 +0.3**
MSU Marysvale 117.71 298 *e*PKPdf **PKPdf 15 35 53.8 +0.3**
I25A Rochford 117.92 308 P **PKPdf 15 35 52.6 -1.1**
baz=118
EDW2 Edwards Air Fo 117.94 291 P **PKPdf 15 35 54.0 +0.1**
baz=118
MPMC Manual Prospec 118.57 293 P **PKPdf 15 35 55.8 +0.6**
baz=119
TPNV Topopah Spring 118.60 294 P **PKPdf 15 35 55.7 +0.5**
baz=119
H24A Dirks Ranch, A 118.86 308 P **PKPdf 15 35 54.2 -1.1**
baz=119
J20A Shoshoni 119.42 304 P **PKPdf 15 35 55.9 -0.6**
baz=120
PDAR Pinedale Array 119.67 303 PKP **PKPdf 15 35 55.9 -1.3**
comp=Z,0.7nm,0.6s,baz=113,slow=4.9,SNR=6.2
HWUT Hardware Ranch 119.76 301 *e*PKPdf **PKPdf 15 35 56.9 -0.4**
NVAR Mina Array Bea 120.78 294 PKP **PKPdf 15 36 00.0 +0.6**
comp=Z,1.2nm,0.6s,baz=137,slow=3.5,SNR=11
LOHW Long Hollow 120.81 303 *e*PKPdf **PKPdf 15 35 59.1 -0.1**
H19A Powell 120.84 305 P **PKPdf 15 35 59.2 0.0**
baz=121
MOOW Moose Ponds 120.98 303 *e*PKPdf **PKPdf 15 35 59.4 -0.2**
IMW Indian Meadow 121.18 303 *e*PKPdf **PKPdf 15 36 00.3 +0.2**
D22A Cohagen 121.43 308 P **PKPdf 15 36 00.2 +0.1**
baz=122
C20A Veseth Ranch, 122.67 308 P **PKPdf 15 36 02.3 -0.2**
baz=123
B21A Ellsworth Farm 122.76 309 P **PKPdf 15 36 02.8 +0.2**
baz=123
DLMT Dillon 123.06 303 *e*PKPdf **PKPdf 15 36 03.9 +0.4**
EGMT Eagleton 123.69 307 P **PKPdf 15 36 05.0 +0.5**
baz=124
EGMT Eagleton 123.69 307 *e*PKPdf **PKPdf 15 36 04.5 0.0**
WVOR Wild Horse Val 123.90 297 *e*PKIKP **PKPdf 15 36 05.8 +0.6**
WVOR Wild Horse Val 123.90 297 *e*PKPdf **PKPdf 15 36 05.8 +0.6**
FINES FINESS Array B 124.00 28 PKP **PKPdf 15 36 04.1 -0.4**
comp=Z,2.6nm,0.5s,baz=150,slow=3.7,SNR=22
MSO Missoula 124.77 303 P **PKPdf 15 36 06.8 +0.1**
baz=125
N02D Trinity Center 124.95 293 P **PKPdf 15 36 07.7 +0.6**
baz=125
BMO Blue Mountains 124.98 300 *e*PKPdf **PKPdf 15 36 06.8 -0.3**
M04C Macdoel 125.08 294 P **PKPdf 15 36 07.9 +0.5**
baz=125
M02C Callahan 125.33 293 P **PKPdf 15 36 08.3 +0.5**
baz=126
CMAR Chiang Mai Arr 125.66 111 PKP **PKPdf 15 36 08.4 -0.6**
comp=Z,2.1nm,0.9s,baz=228,slow=3.9,SNR=9.9
CMAR pPKP **pPKPdf 15 36 17.0 -0.8**
comp=Z,1.7nm,0.8s,baz=234,slow=3.9,SNR=6.3
J05D Fort Rock, OR 125.84 296 P **PKPdf 15 36 09.5 +0.6**
baz=126
J04D Umpqua Nationa 126.26 295 P **PKPdf 15 36 10.1 +0.4**
baz=126
ABKAR Akbulak array 127.33 55 *e*PKPdf **PKPdf 15 36 11.4 +0.2**
SUMG Summit 127.91 356 *e*PKIKP **PKPdf 15 36 12.5 +0.3**
SUMG Summit 127.91 356 *e*PKPdf **PKPdf 15 36 12.5 +0.3**
KKAR Karatay Array 128.34 67 *e*PKIKP **PKPdf 15 36 13.7 +0.3**
KKAR Karatay Array 128.34 67 *e*PKPdf **PKPdf 15 36 13.7 +0.3**
TMCR Tamitsa 129.53 31 *e*PKIKP **PKPdf 15 36 15.1 +0.2**
TMCR pmax pmax
comp=Z,19nm,1.0s
EKS2 Erkin-Say 129.77 70 *e*PKIKP **PKPdf 15 36 16.3 0.0**
EKS2 Erkin-Say 129.77 70 *e*PKPdf **PKPdf 15 36 16.3 0.0**
ARCES ARCESS Array B 130.49 22 PKP **PKPdf 15 36 16.4 -0.4**
comp=Z,5.2nm,0.8s,baz=186,slow=1.5,SNR=17
ARU Arti 131.56 48 *i* PKIKP **PKPdf 15 36 19.6 +0.5**
ARU 15 38 38.5
ARU Arti 131.56 48 *e*PKPdf **PKPdf 15 36 19.5 +0.5**
SVE Sverdlovsk 132.69 48 *e*PKIKP **PKPdf 15 36 22.3 +1.1**
SVE pmax pmax
comp=Z,20nm,1.4s
BRVK Borovoye 134.74 57⇓ *i* PKIKP **PKPdf 15 36 26.1 +0.9**
BRVK pmax pmax
comp=Z,5.0nm,1.1s
BRVK Borovoye 134.74 57 *e*PKPdf **PKPdf 15 36 25.6 +0.4**
YKA Yellowknife Ar 135.43 319 PKP **PKPdf 15 36 24.6 -1.6**
comp=Z,2.6nm,0.7s,baz=124,slow=2.3,SNR=8.7
YKA SKPbc **SKPbc 15 39 54.7 -0.4**
comp=Z,4.8nm,0.9s,baz=123,slow=2.3,SNR=11
KURK Kurchatov 137.48 64 PKIKP **PKPdf 15 36 31.3 +1.0**
KURK Kurchatov 137.48 64 *e*PKPdf **PKPdf 15 36 27.7 -2.6**
NVS Novosibirsk 142.09 61 *e*PKIKP **PKPdf 15 36 35.1 -3.5**
NVS *e* 15 39 44.3
NVS pmax pmax
comp=Z,19nm,1.8s
GTA Gaotai 142.15 93 *e*P **PKPdf 15 36 38.8 -0.6**
GTA pP **PKiKP 15 36 45.3 +2.9**
GTA sP 15 36 48.0
GTA pmax pmax
comp=Z,2.0nm,1.6s
ZALV Zalesovo Beam 142.44 63 PKhKP PKPpre 15 36 35.5
comp=Z,1.3nm,0.4s,baz=226,slow=4.3,SNR=6.4
HYT Haines Junctio 144.09 308 ePKP PKPbc 15 36 40.7 +0.4
INK Inuvik 145.06 321 *e*PKIKP **PKPbc 15 36 42.8 -0.1**
INK Inuvik 145.06 321 *e*PKP **PKPbc 15 36 42.8 -0.1**
DAWY Dawson 146.07 313 *e*PKPbc **PKPbc 15 36 46.1 -0.3**
EGAK Eagle 147.01 314 *e*PKPbc **PKPbc 15 36 48.3 -0.6**
BMRM Bremner River 147.37 306 *e*PKPbc **PKPbc 15 36 50.2 0.0**
KRAR Krasnoyarsk 147.51 64 PKHKP PKPpre 15 36 46.0
DIV Divide 147.96 306 *e*PKPbc **PKPbc 15 36 52.1 +0.3**
PAX Paxson 148.36 309 *e*PKP2 **PKPbc 15 36 52.6 -0.2**
PAX Paxson 148.36 309 *e*PKPbc **PKPbc 15 36 52.6 -0.2**
SML Sawmill 149.34 307 *e*PKP2 **PKPbc 15 36 55.4 +0.2**
SML Sawmill 149.34 307 *e*PKPbc **PKPbc 15 36 55.4 +0.2**
SEW Seward 149.37 303 *e*PKPbc **PKPbc 15 36 55.1 -0.1**
ILAR Eielson Array 149.40 313 PKP **PKPdf 15 36 48.1 -2.7**
comp=Z,1.0nm,0.8s,baz=325,slow=1.6,SNR=8.8
ILAR PKPbc **PKPbc 15 36 55.2 0.0**
comp=Z,23nm,0.8s,baz=118,slow=1.2,SNR=116
RC01 Rabbit Creek A 149.79 305 *e*PKPbc **PKPbc 15 36 56.4 +0.1**
COLA College 149.82 313 *e*PKP2 **PKPbc 15 36 56.0 -0.2**
COLA College 149.82 313 *e*PKPbc **PKPbc 15 36 56.0 -0.2**
MOY Mondy 149.95 76 *e*PKP2 **PKPbc 15 36 57.0 -0.1**
MOY pmax pmax
comp=Z,54nm,1.8s
MCK McKinley 150.06 310 *e*PKIKP **PKPbc 15 36 57.1 +0.2**
MCK McKinley 150.06 310 *e*PKPbc **PKPbc 15 36 57.1 +0.2**
KDAK Kodiak Island 150.18 298 *i* PKIKP **PKPbc 15 36 57.4 +0.1**
KDAK Kodiak Island 150.18 298 *e*PKPbc **PKPbc 15 36 57.2 -0.1**
TRF Thorofare Moun 150.60 309 *e*PKPbc **PKPbc 15 36 57.5 -0.9**
ZAK Zakamensk 150.62 79 *e*PKIKP **PKPbc 15 36 57.5 -1.3**
ZAK pmax pmax
comp=Z,15nm,1.4s
CBIJ Chichi jima 150.80 162 PKPbc **PKPbc 15 36 59.5 -0.3**
JCJ Chichijima 150.80 162 PKPbc **PKPbc 15 36 59.5 -0.3**
comp=Z,26nm,0.6s,baz=276,slow=18,SNR=7.8
BPAW Bear Paw Mtn. 151.02 311 *e*PKPbc **PKPbc 15 36 59.0 -0.2**
RSO Redoubt South 151.06 303 *e*PKPbc **PKPbc 15 36 59.0 -0.6**
SONM Songino Array 151.07 86 PKP **PKPdf 15 36 53.3 -0.8**
comp=Z,0.5nm,0.7s,baz=208,slow=3,SNR=3.8
SONM PKPbc **PKPbc 15 36 59.9 -0.1**
comp=Z,12nm,0.8s,baz=228,slow=3.0,SNR=60
COLD Coldfoot 151.09 317 *e*PKPdf **PKPdf 15 36 51.0 -2.4**
COLD *e*PKPbc **PKiKP 15 36 59.7 0.0**
PPLA Purkeypile 151.34 308 *e*PKPbc **PKPbc 15 37 00.1 0.0**
TLY Talaya 151.43 77 *i* PKIKP **PKPbc 15 37 00.6 +0.1**
TLY pmax pmax
comp=Z,25nm,1.5s
TLY Talaya 151.43 77 *e*PKPbc **PKPbc 15 37 00.5 0.0**
KSAR Wonju Array Be 155.67 128 PKIKP **PKPdf 15 37 00.4 -0.5**
KSAR 15 37 27.5
KSAR Wonju Array Be 155.67 128 PKP **PKPdf 15 37 00.4 -0.5**
KSAR PKPab **PKPab 15 37 27.5 +0.2**
KSRS Korea Array 155.70 128 PKP **PKPdf 15 37 00.4 -0.5**
comp=Z,0.2nm,0.5s,baz=216,slow=3.8,SNR=2.6
KSRS PKPab **PKPab 15 37 27.5 +0.1**
comp=Z,1.1nm,0.9s,baz=204,slow=4.3,SNR=4.3
KSRS Korea Array 155.70 128 PKIKP **PKPdf 15 37 00.4 -0.5**
KSRS 15 37 27.5
KSRS pmax pmax
comp=Z,1.0nm,0.9s
HIA Hailar 159.42 94⇑ *i* PKP2 **PKPab 15 37 43.8 +0.6**
KLR Kul'dur 166.12 108 *e*PKIKP PKPdf 15 37 06.3 -5.4
YSS Yuzh-Sakhalins 169.70 141 *e*PKIKP **PKPdf 15 37 18.5 +4.3**
YSS *e* 16 03 19.0
YSS MLR MLR
comp=Z,300nm,19.0s

*ISCJB **30** 15:30:30.9±0.5, 32°.24N±0°.03×115°.24W±0°.04, h23km±5km, Error ellipse: s-maj=5.6km s-min=4.3km az=173.7*
*NEIC **30** 15:30:32.6, 32°.22N×115°.29W, h8km, ML2.7(PAS), ML3.0(ECX), After ECX.*
*ECX **30** 15:30:32.5±0.5, 32°.22N×115°.29W, h6km, MD2.7, ML2.9*
*MEX **30** 15:30:33.6±0.5, 32°.28N×115°.26W, h16km±66km, MD3.5*
ISC 30 15:30:31.3±1.0, 32°.19N±0°.02×115°.32W±0°.03, h13km±10km, n24, σ1°.07/38, 4C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.23**	**2**	*e*P	**Pg**	**15 30 36.4**	**+0.2**
CPBX				*i* S	**Sg**	**15 30 39.2**	**-0.4**
CPBX	**Cerro Prieto**	**0.23**	**2**⇓	*e*P	**Pg**	**15 30 36.5**	**+0.2**
CPBX				⇓*e*P	**Pg**	**15 30 36.5**	**+0.2**
CPBX				*e*S	**Sg**	**15 30 39.3**	**-0.4**
CPBX				IAML		15 30 41.0	
	comp=N,8μm,0.2s						
CPBX				⇓*e*		15 30 41.0	
SGL	**Mount Signal**	**0.58**	**323**	*e*Pn	**Pg**	**15 30 42.6**	**0.0**
RDX	**Rancho Dawling**	**0.59**	**244**⇑	*e*P	**Pg**	**15 30 43.8**	**+0.9**
RDX				*e*S	**Sg**	**15 30 52.5**	**+1.7**
RDX				IAML		15 30 53.2	
	comp=N,489nm,0.3s						
RDX				⇓*e*		15 30 53.2	
EMSC	**East Mesa**	**0.62**	**27**	*e*Pn	**Pg**	**15 30 42.6**	**-0.8**
DREC	**Desert Rsrch C**	**0.63**	**350**	*e*Pn	**Pg**	**15 30 43.6**	**+0.1**
WESC	**Westside Schoo**	**0.67**	**328**	*e*P	**Pg**	**15 30 44.4**	**0.0**
YUH	**Yuha Desert**	**0.69**	**312**⇑	*i*P	**Pg**	**15 30 44.6**	**-0.2**
COA	**Coachella**	**0.69**	**13**⇓	*i*P	**Pg**	**15 30 43.7**	**-1.1**
ECBX	**El Chinero**	**0.75**	**162**⇓	*e*P	**Pg**	**15 30 45.2**	**-0.6**
ECBX				*e*S	**Sg**	**15 30 55.5**	**-0.1**
YMD	**Yuma Desert**	**0.75**	**60**	*e*Pn	**Pg**	**15 30 44.5**	**-1.3**
RMX	**La Rumorosa**	**0.77**	**303**⇑	*e*P	**Pg**	**15 30 46.1**	**-0.1**
RMX				*e*S	**Sg**	**15 30 56.9**	**+0.6**
RMX				⇓*e*		15 30 58.1	
RMX				IAML		15 30 58.1	
	comp=N,380nm,0.1s						
SPIG	**San Pedro Mart**	**1.15**	**186**	*e*P	**Pg**	**15 30 53.4**	**0.0**
SPIG				*i* S	**Sg**	**15 31 07.3**	**-1.1**
SPIG	**San Pedro Mart**	**1.15**	**186**	*e*P	**Pg**	**15 30 53.4**	**0.0**
SPIG				*i* S	**Sg**	**15 31 07.3**	**-1.1**
SPX	**San Pedro Mart**	**1.15**	**186**	*e*P	**Pg**	**15 30 52.1**	**-1.3**
SPX				*i* S	**Sg**	**15 31 06.8**	**-1.5**
SPX	**San Pedro Mart**	**1.15**	**186**	*e*P	**Pg**	**15 30 53.0**	**-0.4**
SPX				*e*S	**Sg**	**15 31 09.6**	**+1.2**
CBX	**Cerro Bola**	**1.15**	**277**	*e*P	**Pg**	**15 30 52.0**	**-1.5**
CBX				*i* S	**Sg**	**15 31 06.1**	**-2.3**
CBX	**Cerro Bola**	**1.15**	**277**	*e*P	**Pg**	**15 30 52.0**	**-1.5**
CBX				*i* S	**Sg**	**15 31 06.1**	**-2.3**
CBX	**Cerro Bola**	**1.15**	**277**⇑	*e*P	**Pg**	**15 30 52.3**	**-1.2**
CBX				*e*S	**Sg**	**15 31 08.4**	**-0.1**
CBX				⇓*e*		15 31 09.6	
CBX				IAML		15 31 09.6	
	comp=N,226nm,0.5s						
ECNX	**Esteban Cantu**	**1.21**	**244**	*e*P	**Pg**	**15 30 53.7**	**-0.9**
ECNX				*e*S	**Sg**	**15 31 11.2**	**+0.8**
BAR	**Barrett**	**1.25**	**294**	*e*Pn	Pn	15 30 53.4	-1.0
BAR				*e*S	**Sg**	**15 31 10.7**	**-0.9**
PBJ	**Punta Banda**	**1.28**	**250**	*e*P	**Pn**	**15 30 54.8**	**0.0**
PBJ				*e*S	**Sb**	**15 31 12.6**	**+1.1**
PFO	**Pinyon Flats O**	**1.71**	**326**	*e*Pn	Pn	15 30 58.8	-2.1
214A	**Organ Pipe Nat**	**2.14**	**96**	*e*Pn	**Pn**	**15 31 08.1**	**+1.4**

*IDC **30** 15:30:59.9±1.5, 9°.91N×126°.15E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/28, mbtmp3.7/4, MS4.2/3, Ms1 4.2/3, ms1mx3.1/47, Error ellipse: s-maj=268.3km s-min=25.5km az=72.0*
*ISCJB **30** 15:31:15.9±0.8, 9°.69N±0°.06×125°.68E±0°.09, h135km±5km, mb3.5/4, Error ellipse: s-maj=14.7km s-min=9.6km az=2.4*
ISC 30 15:31:16.0±1.0, 9°.67N±0°.05×125°.73E±0°.09, h129km±7km, n18, σ1°.33/22, mb3.5/4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.27**	**296**	*e*P	**Pn**	**15 31 35.2**	**+1.4**
SCPH				*e*S	**Sn**	**15 31 48.1**	**+0.8**
BUTP	**Butuan**	**0.70**	**189**	*e*P	**Pn**	**15 31 37.1**	**+0.9**
BUTP				*e*S	**Sn**	**15 31 48.5**	**-3.1**
MSLP	**Maasin**	**0.98**	**298**	*e*P	**Pn**	**15 31 39.4**	**+0.9**
MSLP				*e*S	Sn	15 31 44.7	-11
CGP	**Cagayan de Oro**	**1.58**	**221**	*e*P	**Pn**	**15 31 45.1**	**+0.2**
CGP				*i* S	**Sn**	**15 32 07.0**	**0.0**
PLP	**Palo**	**1.66**	**334**⇓	*e*P	**Pn**	**15 31 46.5**	**+0.6**
PLP				*e*S	**Sn**	**15 32 06.7**	**-2.0**
OCLP	**Ormoc**	**1.77**	**321**	*e*P	**Pn**	**15 31 48.6**	**+1.6**
TBP	**Tagbilaran**	**1.84**	**271**	*e*P	**Pn**	**15 31 48.3**	**+0.4**
TBP				*e*S	**Sn**	**15 32 12.0**	**-0.5**
BUKP	**Musuan**	**1.90**	**201**	*e*P	**Pn**	**15 31 50.1**	**+1.4**
DCPH	**Dipolog City**	**2.58**	**246**⇑	*e*P	**Pn**	**15 31 57.8**	**+0.6**
PAGZ	**Pagadian**	**2.94**	**232**	*e*P	**Pn**	**15 32 03.6**	**+1.8**
GUIM	**Jordan**	**3.24**	**287**	*e*P	**Pn**	**15 32 05.8**	**+0.1**
IPIL	**Ipil**	**3.64**	**239**	*e*P	**Pn**	**15 32 11.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**27.38**	**292**	LR	LR	15 47 56.8	
	comp=Z,103nm,18.2s,baz=191,slow=37						
WRA	**Warramunga Arr**	**30.62**	**164**	P	**P**	**15 37 16.2**	**-1.8**
	0.3nm,0.5s,baz=346,slow=9.3,SNR=2.7						
ASAR	**Alice Springs**	**34.08**	**167**	P	**P**	**15 37 48.3**	**0.0**
	0.5nm,1.0s,baz=346,slow=7.4,SNR=9.9						
ASAR				PcP	**PcP**	**15 40 23.9**	**+0.9**
	0.5nm,0.9s,baz=334,slow=3.1,SNR=3.2						
KBZ	**Khabaz**	**78.23**	**313**	LR	LR	16 22 25.9	
	comp=Z,337nm,21.6s,baz=210,slow=39						
ARCES	**ARCESS Array B**	**84.57**	**340**	P	**P**	**15 43 35.0**	**+0.5**
	1.5nm,0.8s,baz=71,slow=6.8,SNR=4.0						
FINES	**FINESS Array B**	**86.17**	**332**	P	**P**	**15 43 42.3**	**-0.2**
	0.7nm,0.7s,baz=92,slow=5.7,SNR=6.3						
FINES				LR	LR	16 28 04.7	
	comp=Z,182nm,18.5s,baz=182,slow=40						

*NEIC **30** 15:52:24.6, 16°.22N×97°.97W, h9km, MD4.1(MEX), After MEX.*
MEX 30 15:52:25.1±0.3, 16°.25N×97°.96W, h10km±2km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.21**	**311**	*i* P	Pg	15 52 29.0	-0.5
PNIG				*i* S	Sg	15 52 32.4	-0.2
TLIG	**Tlapa**	**1.42**	**336**	*i* P	Pn	15 52 47.6	-3.7
TLIG				*i* S	Sn	15 53 05.0	-5.2
VHO	**Vista Hermosa**	**1.43**	**55**	*e*P	Pn	15 52 47.6	-3.9
VHO				*i* S	Sn	15 53 05.5	-5.2
VHO	**Vista Hermosa**	**1.43**	**55**	*e*P	Pn	15 52 47.6	-3.9
HUIG	**Huatulco**	**1.85**	**105**	*e*P	Pn	15 52 54.1	-2.8
HUIG				*i* S	Sn	15 53 15.8	-4.7
HUIG	**Huatulco**	**1.85**	**105**	*e*P	Pn	15 52 53.9	-3.0
CAIG	**El Cayaco**	**2.35**	**290**	*e*P	Pn	15 53 00.1	-3.7
CAIG				*i* S	Sn	15 53 28.6	-4.1
CAIG	**El Cayaco**	**2.35**	**290**	*e*P	Pn	15 53 00.1	-3.7

IDC 30 16:27:39.4±28.0, 21°.14S×174°.67W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.7/29, mbtmp4.2/4, MS3.3/1, Ms1 3.3/1, ms1mx2.8/24, Error ellipse: s-maj=513.5km s-min=143.0km az=77.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
PPT	**Papeete**	**23.93**	**86**	LR	LR	16 40 32.8	
	comp=Z,65nm,19.6s,baz=166,slow=32						
CTA	**Charters Tower**	**36.53**	**264**	P	P	16 34 47.6	+0.6
	2.5nm,0.5s,baz=86,slow=9.9,SNR=6.7						
STKA	**Stephens Creek**	**40.33**	**245**	P	P	16 35 19.0	+0.1
	1.9nm,0.6s,baz=78,slow=11,SNR=10						
ASAR	**Alice Springs**	**47.40**	**257**	P	P	16 36 15.1	-0.8
	2.6nm,0.6s,baz=98,slow=7.8,SNR=55						
WRA	**Warramunga Arr**	**47.59**	**262**	P	P	16 36 17.1	-0.3
	1.9nm,0.7s,baz=99,slow=8.6,SNR=23						

SKHL 30 16:29:05.9±0.6, 44°.94N×149°.67E, h58km±1km, mb4.4/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.31**	**284**	*e*P	Pn	16 29 26.6	-1.3
KUR				AMB	AMB	16 29 27.5	
	36nm,0.2s						
KUR				AMB	AMB	16 29 27.5	
	15nm,0.2s						
KUR				AMB	AMB	16 29 27.5	
	183nm,0.2s						
KUR				*e*S	Sn	16 29 42.8	-1.7
KUR				A	A	16 29 43.2	
	520nm,0.3s						
KUR				A	A	16 29 43.2	
	180nm,0.3s						
SHO	**Shikotan**	**2.30**	**243**	*e*P	Pn	16 29 41.0	-0.4
SHO				AMB	AMB	16 29 43.8	
	160nm,1.0s						
SHO				*e*S	Sn	16 30 06.9	-1.6
SHO				A	A	16 30 07.8	
	620nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**2.87**	**253**	*i* P	Pn	16 29 49.2	0.0
YUK				AMB	AMB	16 29 53.8	
	16nm,0.6s						
YUK				AMB	AMB	16 29 53.8	
	23nm,0.6s						
YUK				AMB	AMB	16 29 53.8	
	28nm,0.6s						
YUK				*e*S	Sn	16 30 21.5	-1.0
YUK				A	A	16 30 22.9	
	320nm,0.8s						
YUK				A	A	16 30 22.9	
	310nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.23**	**295**	*e*P	Pn	16 30 22.3	+0.9
YSS				AMB	AMB	16 30 25.3	
	41nm,0.5s						
YSS				*e*S	Sn	16 31 19.5	-0.8
YSS				A	A	16 31 22.5	
	27nm,0.2s						

IDC 30 16:33:43.1±52.0, 17°.14S×179°.32W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/30, mbtmp4.0/3, Error ellipse: s-maj=941.8km s-min=155.4km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.25**	**240**	P	P	16 41 05.5	+0.3
	4.2nm,1.1s,baz=101,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**43.92**	**259**	P	P	16 41 51.9	-0.2
	0.4nm,0.3s,baz=95,slow=7.4,SNR=9.0						
ASAR	**Alice Springs**	**44.17**	**254**	P	P	16 41 53.6	-0.4
	1.9nm,0.6s,baz=86,slow=8.7,SNR=39						

IDC 30 16:39:34.0±2.2, 13°.22S×166°.03E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/27, mbtmp3.9/4, Error ellipse: s-maj=113.0km s-min=28.3km az=137.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.11**	**226**	P	P	16 45 36.5	-0.1
	1.9nm,0.7s,baz=44,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**31.07**	**253**	P	P	16 45 54.5	+0.3
	1.0nm,0.9s,baz=87,slow=9.6,SNR=2.8						
ASAR	**Alice Springs**	**32.13**	**246**	P	P	16 46 03.1	-0.4
	1.0nm,0.7s,baz=71,slow=9.7,SNR=9.4						
ILAR	**Eielson Array**	**85.47**	**18**	P	P	16 52 12.9	-0.5
	0.4nm,0.5s,baz=241,slow=5.5,SNR=6.8						
ARCES	**ARCESS Array B**	**118.49**	**345**	PKP	PKPdf	16 58 23.7	+0.5
	0.7nm,0.5s,baz=93,slow=1.8,SNR=5.9						

DJA 30 17:52:32.2±0.5, 0°.5±5°, 12°.3E±°, h50km±13km, M3.8/12, mb4.0/1, mB4.5/1, MLv3.7/12, Mw(mB)3.6/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.80**	**198**	P	Pn	17 52 48.2	+1.0
KMSI	**Cibinong**	**1.28**	**49**	P	Pn	17 52 54.6	+0.8
MRSI	**Marisa**	**1.32**	**305**	P	Pn	17 52 52.7	-1.5
APSI	**Ampana**	**1.51**	**245**	P	Pn	17 52 56.6	-0.2
MPSI	**Mapaga**	**3.18**	**281**	P	Pn	17 53 20.0	+0.2
PCI	**Palu**	**3.24**	**259**	P	Pn	17 53 20.2	-0.4
SANI	**Sanana**	**3.45**	**121**	P	Pn	17 53 21.7	-1.7
TTSI	**Tana Toraja**	**4.22**	**229**	P	Pn	17 53 33.6	-0.4
SPSI	**Sidrap Palu**	**4.89**	**222**	P	Pn	17 53 43.2	-0.1
NLAI	**Namlea**	**5.03**	**126**	P	Pn	17 53 45.3	+0.2

IDC 30 17:55:01.1±5.1, 6°.47S×145°.81E, h0km, mb4.1/2, mb1 4.4/4, mb1mx3.8/24, mbtmp4.2/4, ML4.5/2, Error ellipse: s-maj=94.2km s-min=28.9km az=61.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
JAY	**Jayapura**	**6.43**	**307**	Pn	Pn	17 56 38.0	+0.7
	1.5nm,0.3s,baz=188,slow=4.3,SNR=19						
JAY					Sn	Sn	17 57 51.9	+0.4
	0.5nm,0.3s,baz=13,slow=19,SNR=2.6						
WRA	**Warramunga Arr**	**17.42**	**219**	P	P	17 59 06.9	-0.2
	3.4nm,0.3s,baz=40,slow=11,SNR=97						
ASAR	**Alice Springs**	**20.57**	**213**	P	P	17 59 39.8	-1.9
	4.1nm,0.4s,baz

*ISCJB **30** 18:24:42.3±0.4, 32°.25N±0°.03×115°.25W±0°.04, h23km±4km, Error ellipse: s-maj=5.4km s-min=4.8km az=3.8*
*ECX **30** 18:24:43.7±0.5, 32°.23N×115°.28W, h6km, MD2.8, ML3.0*
*NEIC **30** 18:24:43.7, 32°.22N×115°.28W, h6km, ML2.9(PAS), ML3.1(ECX), After ECX.*
NEIC Felt at Chula Vista and San Diego, California.
*MEX **30** 18:24:44.4±0.4, 32°.28N×115°.17W, h20km±8km, MD3.6*

ISC 30 18:24:42.3±0.9, 32°.23N±0°.02×115°.30W±0°.02, h18km±3km, n27, σ0°68/42, 9C-9D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.18**	**359**	*e*P	**Pg**	**18 24 47.3**	**+0.2**
CPBX				*i* S	**Sg**	**18 24 50.4**	**+0.1**
CPBX	**Cerro Prieto**	**0.18**	**359**	⇓*e*P	**Pg**	**18 24 47.4**	**+0.4**
CPBX				⇓*e*P	**Pg**	**18 24 47.5**	**+0.4**
CPBX				*e*S	**Sb**	**18 24 50.0**	**+0.4**
CPBX				*e*		18 24 54.6	
MBIG	**Mexicali**	**0.19**	**26**	*e*P	**Pg**	**18 24 47.7**	**+0.5**
MBIG				*e*S	**Sb**	**18 24 50.3**	**+0.4**
SGL	**Mount Signal**	**0.55**	**319**	⇓*i* P	**Pb**	**18 24 53.8**	**+0.4**
EMSC	**East Mesa**	**0.57**	**28**	⇑*i* P	**Pb**	**18 24 54.1**	**+0.3**
RDX	**Rancho Dawling**	**0.62**	**241**	⇑*i* P	**Pg**	**18 24 55.4**	**+0.6**
RDX				*e*S	**Sg**	**18 25 03.8**	**+0.6**
RDX				IAML		18 25 05.6	
	comp=N,463nm,0.3s						
RDX				⇑*e*		18 25 05.6	
WESC	**Westside Schoo**	**0.64**	**325**	*e*Pn	**Pn**	**18 24 55.7**	**-0.7**
YUH	**Yuha Desert**	**0.67**	**308**	⇓*i* P	**Pg**	**18 24 55.6**	**+0.1**
YMD	**Yuma Desert**	**0.71**	**63**	⇑*i* P	**Pb**	**18 24 55.8**	**-0.4**
RMX	**La Rumorosa**	**0.75**	**299**	⇓*e*P	**Pg**	**18 24 57.4**	**+0.3**
RMX				*e*S	**Sg**	**18 25 07.6**	**+0.4**
RMX				IAML		18 25 08.4	
	comp=N,796nm,0.1s						
RMX				⇑*e*		18 25 08.4	
ECBX	**El Chinero**	**0.79**	**164**	*e*Pn	**Pg**	**18 24 57.4**	**-0.4**
ECBX				*e*S	**Sg**	**18 25 08.1**	**-0.1**
GLA	**Glamis**	**0.91**	**26**	*e*P	**Pb**	**18 24 58.6**	**-1.0**
GLA				*e*S	**Sb**	**18 25 09.8**	**-1.6**
CBX	**Cerro Bola**	**1.16**	**274**	*e*P	**Pb**	**18 25 03.9**	**0.0**
CBX				*e*S	**Sb**	**18 25 18.4**	**-0.3**
CBX	**Cerro Bola**	**1.16**	**274**	*e*P	**Pb**	**18 25 03.9**	**0.0**
CBX				*e*S	**Sb**	**18 25 18.4**	**-0.3**
CBX	**Cerro Bola**	**1.16**	**274**	⇑*e*P	**Pb**	**18 25 03.8**	**0.0**
CBX				*e*S	**Sg**	**18 25 20.2**	**+0.2**
CBX				IAML		18 25 21.7	
	comp=E,478nm,0.2s						
CBX				⇑*e*		18 25 21.7	
SPIG	**San Pedro Mart**	**1.19**	**187**	*i* P	**Pn**	**18 25 04.0**	**-0.4**
SPIG				*e*S	**Sb**	**18 25 19.2**	**-0.6**
SPIG	**San Pedro Mart**	**1.19**	**187**	*i* P	**Pn**	**18 25 04.0**	**-0.4**
SPIG				*e*S	**Sb**	**18 25 19.2**	**-0.6**
SPIG	**San Pedro Mart**	**1.19**	**187**	⇓*e*P	**Pn**	**18 25 04.1**	**-0.4**
SPX	**San Pedro Mart**	**1.19**	**187**	⇓*e*P	**Pn**	**18 25 04.1**	**-0.3**
SPX				IAML		18 25 22.8	
	comp=E,187nm,0.3s						
SPX				⇑*e*		18 25 22.8	
BAR	**Barrett**	**1.24**	**291**	*e*Pn	**Pn**	**18 25 04.8**	**0.0**
BAR				*e*S	**Sn**	**18 25 21.6**	**+0.5**
BAR	**Barrett**	**1.24**	**291**	⇓*e*P	**Pb**	**18 25 05.1**	**-0.2**
ECNX	**Esteban Cantu**	**1.24**	**243**	⇓*e*P	**Pb**	**18 25 05.6**	**+0.2**
PBX	**Punta Banda**	**1.31**	**248**	⇑*e*P	**Pb**	**18 25 06.2**	**-0.1**
PFO	**Pinyon Flats O**	**1.68**	**325**	*e*Pn	**Pn**	**18 25 10.1**	**-0.9**
214A	**Organ Pipe Nat**	**2.13**	**97**	*e*Pn	**Pn**	**18 25 15.1**	**-1.9**
214A				*e*Pg	**Pb**	**18 25 21.4**	**+1.0**
214A				*e*Sg	**Sb**	**18 25 48.1**	**+1.6**
GSC	**Goldstone, Bar**	**3.31**	**338**	*e*Pg	Pg	18 25 49.7	+4.0
TUC	**Tucson**	**3.83**	**88**	*e*Pg	**Pg**	**18 25 56.9**	**+1.2**

MEX 30 18:25:32.7±0.6, 16°.28N×97°.93W, h25km±11km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.22**	**300**	*i* P	Pb	18 25 37.8	-0.9
PNIG				*i* S	Sb	18 25 41.2	-1.6
VHO	**Vista Hermosa**	**1.39**	**55**	*e*P	Pn	18 25 54.1	-2.7
VHO				*i* S	Sn	18 26 10.5	-4.1
TLIG	**Tlapa**	**1.42**	**334**	*e*P	Pn	18 25 53.9	-3.1
TLIG				*i* S	Sn	18 26 11.4	-3.7

NNC 30 18:31:09.9±4.1, 36°.46N×69°.47E, h0km, mb3.8, mpv3.4, 7C, Error ellipse: s-maj=36.2km s-min=23.5km az=43.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.40**	**348**	⇑Pn	Pn	18 31 50.6	-0.1
	20nm,0.5s						
DZET				⇑Sn	Sn	18 32 22.2	+1.3
	59nm,0.4s						
SFK	**Sufi-Kurgan**	**4.76**	**41**	⇑Pn	Pn	18 32 23.3	0.0
	1.3nm,0.3s						
SFK				⇑Lg	Lg	18 33 42.8	
	4.5nm,0.3s						
KK31	**Karatay Array**	**6.69**	**7**	⇑Pn	Pn	18 32 48.7	-0.7
	0.7nm,0.4s,baz=184,slow=14						
KK31				⇑Sn	Sn	18 34 05.5	-0.9
	0.6nm,0.3s,baz=187,slow=28						
KK31				⇑Lg	Lg	18 34 38.7	
	1.3nm,0.5s,baz=192,slow=23						

*IDC **30** 19:16:42.4±0.5, 38°.53N×93°.59E, h0km, mb4.3/23, mb1 4.4/25, mb1mx4.4/33, mbtmp4.3/25, ML3.3/2, MS3.3/12, Ms1 3.3/12, ms1mx3.1/40, Error ellipse: s-maj=17.8km s-min=10.8km az=31.0*
*ISCJB **30** 19:16:42.7±0.2, 38°.57N±0°.03×93°.52E±0°.03, h10km, mb4.4/50, MS3.4/12, Error ellipse: s-maj=4.5km s-min=3.1km az=30.3*
*BJI **30** 19:16:43.8, 38°.48N×93°.55E, h10km, mb4.6/35, mB4.6/22, ML4.6/11, Ms4.3/30, Ms7 4.1/26*
*NEIC **30** 19:16:44.4±0.3, 38°.59N×93°.53E, h10km, mb4.5/16, Error ellipse: s-maj=7.0km s-min=5.7km az=224.0*
*NNC **30** 19:16:45.9±2.0, 38°.82N×93°.38E, h0km, mb4.6, Error ellipse: s-maj=29.8km s-min=22.4km az=46.0*
*MOS **30** 19:16:45.7±0.9, 38°.54N×93°.59E, h33km, mb4.6/24, Error ellipse: s-maj=11.5km s-min=7.0km az=114.2*

ISC 30 19:16:43.9±0.3, 38°.57N±0°.05×93°.54E±0°.04, h10km, n143, σ1936/134, mb4.5/50, MS3.4/12, 19C-11D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**4.96**	**78**	⇑Pn	Pn	19 18 01.5	+2.9
GTA				Pg	**Pg**	**19 18 16.5**	**-2.4**
GTA				Sn	Sb	19 19 01.3	-9.3
GTA				Sg	**Sg**	**19 19 24.5**	**+1.4**
GTA				SMN			
	240nm,1.3s						
GTA				SME			
	210nm,1.5s						
GTA				LN			
	2μm,9.6s						
GTA				LE			
	2μm,9.1s						
GTA				LZ			
	2μm,9.0s						
WMQ	**Urumqi**	**6.85**	**322**	Pn	**Pn**	**19 18 26.5**	**+2.0**
WMQ				Sn	**Sn**	**19 19 42.8**	**+0.2**
WMQ				SMN			
	280nm,1.0s						
WMQ				SME			
	370nm,1.0s						
LZH	**Lanzhou**	**8.57**	**104**	*e*P	**Pn**	**19 18 49.0**	**+0.8**
LZH				pP	pP	19 18 52.5	
LZH				sP	sP	19 18 55.0	
LZH				*e*S	**Sn**	**19 20 27.8**	**+2.8**
LZH				PMZ			
	29nm,1.2s						
LZH				PMZ			
	110nm,4.6s						
LZH				LN			
	1μm,7.0s						
LZH				LE			
	860nm,6.4s						
LZH				LZ			
	1μm,9.0s						
LSA	**Lhasa**		**9.07**	**193**	P	Pn	19 18 57.5	+2.2
LSA	**Lhasa**		**9.07**	**193**	*e*P	Pn	19 18 57.8	+2.5
	9.4nm,0.9s							
PDGK	**Podgornoye**		**11.64**	**299**	⇑Pn	**Pn**	**19 19 30.8**	**+0.8**
	9.5nm,0.6s							
PDGK					⇑Sn	**Sn**	**19 21 39.6**	**-0.4**
	21nm,0.8s							
PDGK					⇓Lg	Lg	19 22 43.8	
	90nm,1.4s							
MK31	**Makanchi Array**		**11.66**	**318**	⇑Pn	**Pn**	**19 19 30.5**	**+0.2**
	54nm,1.0s,baz=133,slow=12							
MK31					⇑Sn	**Sn**	**19 21 39.5**	**-1.0**
	38nm,1.1s,baz=130,slow=28,SNR=7.1							
MK31					⇑Lg	Lg	19 22 46.9	
	37nm,1.1s							
SHL	**Shillong**		**13.04**	**187**	*e*P	**Pn**	**19 19 48.8**	**-0.6**
SHL					AMB	AMB	19 19 53.0	
	comp=Z,4.5nm,0.8s							
SONM	**Songino Array**		**13.16**	**41**	Pn	Pn	19 19 53.6	+2.7
	comp=Z,0.7nm,0.3s,baz=227,slow=14,SNR=22							
SONM					Lg	Lg	19 23 36.3	
	comp=Z,0.5nm,0.3s,baz=279,slow=22,SNR=6.7							
SONM					LR	LR	19 24 41.0	
	comp=Z,125nm,21.8s,baz=227,slow=36							
XAN	**Xi'an**		**13.20**	**105**	P	Pn	19 19 48.0	-3.4
XAN					LR	LR		
	comp=N,410nm,10.3s							
XAN					LR	LR		
	comp=E,510nm,12.0s							
XAN					LR	LR		
	comp=Z,530nm,10.3s							
ZAK	**Zakamensk**		**13.69**	**27**	*e*P	Pn	19 20 00.1	+2.0
ZAK					pmax	pmax		
	comp=Z,5.0nm,1.4s							
MOY	**Mondy**		**14.10**	**19**	*e*P	**P**	**19 20 08.6**	**-2.9**
MOY					*e*S	Sn	19 22 48.1	+7.8
MOY					pmax	pmax		
	comp=Z,12nm,1.4s							
MOY					smax	smax		
	comp=Z,175nm,1.9s							
TKM2	**Tokmak 2**		**14.28**	**293**	⇑Pn	**Pn**	**19 20 07.1**	**+0.7**
	comp=Z,32nm,1.1s							
TKM2	**Tokmak 2**		**14.28**	**293**	*i* P	**Pn**	**19 20 07.0**	**+0.7**
TKM2					pmax	pmax		
	comp=Z,32nm,1.0s							
TKM2	**Tokmak 2**		**14.28**	**293**	*e*P	**Pn**	**19 20 04.4**	**-2.0**
	comp=Z,37nm,1.0s							
TLY	**Talaya**		**14.90**	**25**	Lg	Lg	19 24 32.6	
	comp=Z,0.0nm,0.3s,baz=45,slow=17,SNR=4.8							
AAK	**Ala-Archa**		**15.03**	**292**	⇑Pn	**P**	**19 20 22.9**	**+1.1**
	comp=Z,7.0nm,0.8s							
AAK	**Ala-Archa**		**15.03**	**292**	LR	LR	19 25 53.0	
	comp=Z,39nm,18.8s,baz=104,slow=36							
SMLA	**Simla**		**15.35**	**246**	*e*P	**Pn**	**19 20 21.4**	**+0.8**
SMLA					AMB	AMB	19 20 33.0	
	comp=Z,9.3nm,1.3s							
DHRM	**DHARAMSHALA**		**15.40**	**251**	*e*P	**P**	**19 20 22.9**	**-3.2**
DHRM					AMB	AMB	19 20 30.1	
	comp=Z,11nm,1.6s							
KMI	**Kunming**		**15.50**	**147**	P	**Pn**	**19 20 21.5**	**-1.4**
KMI					PMZ			
	comp=Z,11nm,1.1s							
KMI					LN			
	comp=Z,330nm,7.5s							
KMI					LE			
	comp=Z,350nm,7.3s							
KMI					LZ			
	comp=Z,420nm,10.6s							
ENH	**Enshi**		**15.53**	**117**	*e*P	**Pn**	**19 20 20.6**	**-2.4**
	comp=Z,24nm,0.7s							
EKS2	**Erkin-Say**		**15.55**	**292**	*e*P	**P**	**19 20 27.1**	**-0.6**
	comp=Z,7.9nm,1.0s							
SFK	**Sufi-Kurgan**		**15.59**	**282**	⇑Pn	**P**	**19 20 26.0**	**-2.2**
	comp=Z,9.5nm,0.9s							
IRK	**Irkutsk**		**15.59**	**25**	*e*P	**P**	**19 20 30.4**	**+2.5**
KURBB	**Kurchatov Arra**		**16.07**	**323**	⇑Pn	**P**	**19 20 32.6**	**-0.6**
	comp=Z,21nm,0.7s							
KURBB	**Kurchatov Arra**		**16.07**	**323**	Pn	**Pn**	**19 20 27.9**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=135,slow=11,SNR=21							
KURBB					Sn	**Sn**	**19 23 24.1**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=120,slow=27,SNR=6.4							
KURBB					Lg	Lg	19 25 14.4	
	comp=Z,0.1nm,0.3s,baz=110,slow=32,SNR=2.9							
KURK	**Kurchatov**		**16.09**	**324**	⇓Pn	**Pn**	**19 20 28.8**	**-1.3**
	comp=Z,8.2nm,1.1s							
KURK					⇑Sn	**Sn**	**19 23 24.5**	**-4.1**
	comp=Z,7.7nm,1.0s							
KURK					⇓Lg	Lg	19 25 05.6	
	comp=Z,15nm,1.4s							
KURK	**Kurchatov**		**16.09**	**324**	P	**Pn**	**19 20 27.9**	**-2.2**
KURK							19 23 24.1	
KURK					pmax	pmax		
	comp=Z,1.0nm,0.3s							
KURK	**Kurchatov**		**16.09**	**324**	*e*P	**Pn**	**19 20 28.3**	**-1.8**
KURK					Sn	**Sn**	**19 23 24.1**	**-4.4**
KURK					Lg	Lg	19 25 14.4	
BOK	**Bokaro**		**16.11**	**206**	*e*P	**P**	**19 20 31.0**	**-2.8**
BOK					AMB	AMB	19 20 35.9	
	comp=Z,11nm,0.4s							
ZALV	**Zalesovo Beam**		**16.50**	**342**	Pn	**Pn**	**19 20 35.0**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=162,slow=12,SNR=16							
ZALV					Lg	Lg	19 25 16.6	
	comp=Z,0.1nm,0.3s,baz=153,slow=23,SNR=3.8							
ZALV					LR	LR	19 27 05.8	
	comp=Z,81nm,20.5s,baz=250,slow=38							
ZALV	**Zalesovo Beam**		**16.50**	**342**	*i* P	**Pn**	**19 20 35.5**	**+0.2**
ZALV					pmax	pmax		
	comp=Z,4.0nm,0.7s							
KRAR	**Krasnoyarsk**		**17.46**	**359**	P	**P**	**19 20 48.0**	**-0.5**
KRAR					pmax	pmax		
	comp=Z,8.0nm,0.7s							
NVS	**Novosibirsk**		**17.71**	**340**	*e*P	**P**	**19 20 51.3**	**0.0**
NVS					*e*S	**S**	**19 24 13.1**	**-1.9**
NVS					pmax	pmax		
	comp=Z,6.0nm,1.0s							
NVS					smax	smax		
	comp=E,25nm,2.0s							
NVS					smax	smax		
	comp=N,13nm,1.8s							
KK31	**Karatay Array**		**17.99**	**292**	⇑Pn	**P**	**19 20 53.9**	**-0.6**
	comp=N,7.3nm,1.1s,baz=85,slow=11,SNR=5.9							
KKAR	**Karatay Array**		**17.99**	**292**	*e*P	**P**	**19 20 54.5**	**-0.1**
OTUK	**Ortayu**		**18.14**	**309**	⇓Pn	**P**	**19 20 55.5**	**-0.7**
	comp=N,14nm,0.8s							
TIA	**Tai'an**		**18.88**	**90**	⇑P	**Pn**	**19 21 06.0**	**+1.1**
TIA					S	**Sn**	**19 24 33.5**	**-2.7**
TIA					PMZ			
	comp=N,30nm,0.8s							
TIA					PMZ			
	comp=N,130nm,3.6s							
TIA					LN			
	comp=N,620nm,12.5s							
TIA					LE			
	comp=N,900nm,11.9s							
TIA					LZ			
	comp=N,1μm,11.9s							
CMAI	**Chiengmai2**		**19.17**	**164**	P	Pn	19 21 13.8	+5.1
	comp=N,58nm,0.9s							
CRAI	**Chiangrai**		**19.21**	**160**	P	**Pn**	**19 21 07.4**	**-1.6**
	comp=N,96nm,0.7s,comp=N,5μm							
DZET	**Dzherino**		**19.29**	**278**	⇓Pn	**Pn**	**19 21 10.3**	**+0.4**
	comp=N,21nm,0.7s							
CHTO	**Chiang Mai**		**20.24**	**165**	P	Pn	19 21 20.7	-0.6
	comp=N,58nm,1.1s							
CHTO	**Chiang Mai**		**20.24**	**165**	*e*P	Pn	19 21 20.5	-0.8
	comp=N,9.0nm,1.0s							
CMMT	**Chiang Mai**		**20.24**	**165**	P	Pn	19 21 20.7	-0.6
	comp=N,16nm,1.1s							
BHPL	**Bhopal**		**20.56**	**227**	*e*P	Pn	19 21 23.0	-2.1
BHPL					AMB	AMB	19 21 25.7	
	comp=Z,11nm,0.5s							
CMAR	**Chiang Mai Arr**		**20.59**	**165**	P	Pn	19 21 24.1	-1.2
	comp=Z,5.6nm,0.9s,baz=341,slow=9.9,SNR=32							
CMAR					LR	LR	19 30 14.4	
	comp=Z,88nm,21.0s,baz=334,slow=40							
LAMP	**Lampang**		**20.67**	**163**	P	Pn	19 21 29.3	+3.0
	comp=Z,5.2nm,0.7s,comp=Z,46nm							
MHMT	**Maesariang**		**20.68**	**168**	P	Pn	19 21 32.7	+6.3
	comp=Z,7.8nm,1.1s							
BVA0	**Borovoye Array**		**21.54**	**320**	Pn	**P**	**19 21 33.6**	**+0.5**
	comp=Z,11nm,0.9s,baz=123,slow=9.9,SNR=64							
BVAR	**Borovoye Array**		**21.54**	**320**	P	**P**	**19 21 33.6**	**+0.5**
	comp=Z,7.1nm,0.7s,baz=122,slow=11,SNR=27							
BVAR	**Borovoye Array**		**21.54**	**320**	P	**P**	**19 21 33.6**	**+0.5**
BVAR					pmax	pmax		
	comp=Z,7.0nm,0.7s							
HIA	**Hailar**		**21.58**	**52**	*e*P	**P**	**19 21 35.1**	**+1.4**
	comp=Z,20nm,0.9s							
BRVK	**Borovoye**		**21.61**	**320**	⇓Pn	**P**	**19 21 33.9**	**+0.1**
	comp=Z,13nm,1.0s							
BRVK	**Borovoye**		**21.61**	**320**	*i* P	**P**	**19 21 34.2**	**+0.3**
BRVK					pmax	pmax		
	comp=Z,17nm,1.0s							
BRVK					MLR	MLR		
	comp=Z,148nm,14.0s							
BRVK	**Borovoye**		**21.61**	**320**	*e*P	**P**	**19 21 34.3**	**+0.5**
	comp=Z,18nm,1.0s							
NJ2	**Nanjing**		**21.62**	**100**	*e*P	P	19 21 38.0	+3.9
NJ2					S	**S**	**19 25 32.0**	**-1.5**
NJ2					PMZ			
	comp=Z,60nm,1.1s							
NJ2					LN			
	comp=Z,420nm,10.5s							
NJ2					LE			
	comp=Z,480nm,10.8s							
UTTA	**Uttaradit**		**21.63**	**162**	P	**P**	**19 21 36.0**	**+1.6**
	comp=Z,2.8nm,0.8s,comp=Z,41nm							
LOEI	**Loei**		**22.04**	**160**	P	P	19 21 42.2	+3.4
	comp=Z,57nm,1.3s							
PBKT	**Sadao Pong**		**22.87**	**161**	P	**P**	**19 21 49.0**	**+1.5**
	comp=Z,13nm,1.2s							
SNY	**Shenyang**		**23.11**	**72**	⇓P	**P**	**19 21 51.5**	**+1.5**
SNY					S	S	19 25 50.8	-10
SNY					PMZ			
	comp=Z,34nm,1.0s							
SNY					PMZ			
	comp=Z,120nm,12.0s							
SNY					LN			
	comp=Z,120nm,14.5s							
SNY					LE			
	comp=Z,450nm,10.8s							
SNY					LZ			
	comp=Z,590nm,9.5s							
SKNT	**Sakolnakorn**		**23.38**	**154**	P	**P**	**19 21 53.3**	**+0.5**
	comp=Z,22nm,1.0s							
QIZ	**Qiongzhong**		**24.08**	**139**	P	**P**	**19 21 58.0**	**-1.6**
QIZ					S	**S**	**19 26 15.5**	**-1.5**
QIZ					PMZ			
	comp=Z,22nm,1.6s							
QIZ					LN			
	comp=Z,170nm,13.0s							
QIZ					LZ			
	comp=Z,260nm,10.4s							
CN2	**Changchun**		**24.48**	**67**	*e*P	**P**	**19 22 03.5**	**+0.4**
CN2					*e*sP	**sP**	**19 22 10.5**	**+3.1**
CN2					*e*S	**S**	**19 26 20.0**	**-3.2**
CN2					PMZ			
	comp=Z,20nm,0.6s							
CN2					PMZ			
	comp=Z,200nm,3.0s							
CN2					LN			
	comp=Z,200nm,10.0s							
CN2					LE			
	comp=Z,200nm,10.0s							
CN2					LZ			
	comp=Z,200nm,10.0s							
HYB	**Hyderabad**		**24.82**	**216**	*e*P	**P**	**19 22 06.9**	**+0.5**
HYB					AMB	AMB	19 22 31.8	
	comp=Z,34nm,2.4s							
AB31	**Akbulak array**		**26.25**	**305**	⇑P	**P**	**19 22 19.8**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=0.0,slow=0.1,SNR=46							
ABKAR	**Akbulak array**		**26.25**	**305**	*e*P	**P**	**19 22 20.1**	**+1.0**
	comp=Z,5.6nm,0.8s							
KSAR	**Wonju Array Be**		**26.99**	**82**	P	**P**	**19 22 26.1**	**+0.3**
KSRS	**Korea Array**		**27.02**	**82**	P	**P**	**19 22 26.1**	**+0.1**
	comp=Z,4.4nm,0.9s,baz=275,slow=9.2,SNR=29							
KSRS					LR	LR	19 34 09.8	
	comp=Z,103nm,20.2s,baz=285,slow=39							
KSRS	**Korea Array**		**27.02**	**82**	P	**P**	**19 22 26.2**	**+0.1**
KSRS					pmax	pmax		
	comp=Z,4.0nm,0.9s							
KSRS					MLR	MLR		
	comp=Z,103nm,20.2s							
AKTO	**Aktyubinsk**		**27.71**	**307**	⇑P	**P**	**19 22 33.6**	**+1.4**
	comp=Z,8.6nm,0.9s							
AKTO	**Aktyubinsk**		**27.71**	**307**	P	**P**	**19 22 33.1**	**+0.9**
	comp=Z,4.5nm,0.8s,baz=117,slow=11,SNR=7.5							
AKTO	**Aktyubinsk**		**27.71**	**307**	P	**P**	**19 22 33.1**	**+0.9**
AKTO					pmax	pmax		
	comp=Z,5.0nm,0.8s							
GEYT	**Alibeck**		**27.73**	**280**	P	**P**	**19 22 33.7**	**+1.2**
	comp=Z,3.8nm,0.9s,baz=46,slow=8.4,SNR=3.4							
SVE	**Sverdlovsk**		**28.30**	**321**	⇑*i* P	**P**	**19 22 38.6**	**+1.2**
SVE					pmax	pmax		
	comp=Z,12nm,1.0s							
ARU	**Arti**		**29.18**	**319**	*c i* P	**P**	**19 22 45.5**	**+0.3**
ARU							19 23 38.5	
ARU							19 25 53.0	
ARU					S	**S**	**19 27 40.0**	**+2.7**
ARU					pmax	pmax		
	comp=Z,14nm,1.0s							
ARU	**Arti**		**29.18**	**319**	*e*P	**P**	**19 22 45.7**	**+0.5**
	comp=Z,13nm,0.9s							
USRK	**Ussuriysk Ar.**		**29.20**	**66**	P	**P**	**19 22 45.9**	**+0.4**
	comp=Z,3.4nm,0.9s,baz=279,slow=7.4,SNR=7.0							
MAJO	**Matsushiro**		**35.20**	**79**	⇓*e*P	**P**	**19 23 37.0**	**-1.3**
MAJO					pmax	pmax		
	comp=Z,55nm,1.7s							
MJAR	**Matsushiro Arr**		**35.21**	**79**	P	**P**	**19 23 36.7**	**-1.6**
	comp=Z,2.1nm,0.8s,baz=283,slow=10,SNR=8.5							
MJAR					LR	LR	19 38 23.1	
	comp=Z,66nm,19.1s,baz=240,slow=37							
MJAR	**Matsushiro Arr**		**35.21**	**79**	P	**P**	**19 23 36.7**	**-1.6**
MJAR					pmax	pmax		
	comp=Z,2.0nm,0.8s							
MJAR					MLR	MLR		
	comp=Z,66nm,19.1s							
ASAJ	**Asahikawa**		**36.80**	**65**	*e*P	**P**	**19 23 51.5**	**-0.3**
	comp=Z,8.1nm,1.0s							
GNI	**Garni**		**37.39**	**288**	P	P	19 24 00.0	+2.9
GNI					pmax	pmax		
	comp=Z,10.0nm,1.6s							
KBZ	**Khabaz**		**38.00**	**294**	P	**P**	**19 24 01.5**	**-0.4**
	comp=Z,5.0nm,0.8s,baz=141,slow=6.5,SNR=6.3							
KBZ	**Khabaz**		**38.00**	**294**	P	**P**	**19 24 01.5**	**-0.4**
KBZ					pmax	pmax		
	comp=Z,5.0nm,0.8s							
KIV	**Kislovodsk**		**38.11**	**295**	*e*P	P	19 24 05.4	+2.4
KIV					pmax	pmax		
	comp=Z,11nm,1.1s							
KIV					MLR	MLR		
	comp=Z,62nm,16.0s							
KIV	**Kislovodsk**		**38.11**	**295**	*e*P	**P**	**19 24 04.2**	**+1.2**
	comp=Z,7.2nm,0.8s							
KSM	**Kuching**		**39.99**	**153**	*e*P	**P**	**19 24 19.5**	**+0.7**
	comp=Z,8.3nm,0.8s							
MOS	**Moscow**		**40.49**	**314**	*e*P	P	19 24 25.3	+2.7
MOS					*e*		19 26 00.3	
MOS					pmax	pmax		
	comp=Z,47nm,0.9s							
OBN	**Obninsk**		**41.09**	**313**

ARCES	**ARCES Array B**	**46.82**	**333**	P	**P**	**19 25 14.1**	**+0.7**
	comp=Z,3.7nm,0.8s,baz=90,slow=7.4,SNR=11						
ARCES				LR	LR	19 47 19.3	
	comp=Z,28nm,19.0s,baz=86,slow=39						
ARCES	**ARCES Array B**	**46.82**	**333**	P	**P**	**19 25 14.1**	**+0.7**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,28nm,19.0s						
LEM	**Lembang**	**47.02**	**161**	LR	LR	19 47 49.0	
	comp=Z,110nm,19.6s,baz=252,slow=40						
BILL	**Bilibino**	**48.48**	**29**	↓*i* P	**P**	**19 25 27.6**	**+1.3**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BILL	**Bilibino**	**48.48**	**29**	*e*P	**P**	**19 25 27.1**	**+0.8**
	comp=Z,12nm,1.3s						
SPSI	**Sidrap Palu**	**48.78**	**144**	P	**P**	**19 25 30.1**	**+0.9**
KOLS	**Kolonicke sedl**	**50.75**	**306**	*e*P	**P**	**19 25 44.2**	**+0.3**
KOLS	**Kolonicke sedl**	**50.75**	**306**	*e*P	**P**	**19 25 44.2**	**+0.3**
STHS	**Stebnicka Huta**	**51.26**	**307**	*e*P	P	19 25 52.2	+4.5
STHS	**Stebnicka Huta**	**51.26**	**307**	*es*P	P	19 25 52.2	+4.5
NB2	**NORSAR Subarra**	**53.61**	**323**	P	**P**	**19 26 04.8**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=75,slow=7.9						
NOA	**NORSAR Array B**	**53.61**	**323**	P	**P**	**19 26 04.9**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=75,slow=7.5,SNR=9.0						
NOA				LR	LR	19 48 56.9	
	comp=Z,12nm,21.3s,baz=75,slow=36						
NOA	**NORSAR Array B**	**53.61**	**323**	P	**P**	**19 26 04.9**	**-0.1**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,12nm,21.3s						
BRG	**Berggiesshubel**	**55.25**	**311**	*e*P	**P**	**19 26 17.6**	**+0.6**
	comp=Z,3.5nm,0.9s						
BRG	**Berggiesshubel**	**55.25**	**311**	*e*P	**P**	**19 26 17.6**	**+0.6**
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CLL	**Collm**	**55.65**	**311**	*i* P	**P**	**19 26 20.6**	**+0.7**
	comp=Z,6.0nm,1.0s						
CLL				*i* pP	**pP**	**19 26 24.6**	**+1.5**
	comp=Z,5.0nm,0.8s						
CLL	**Collm**	**55.65**	**311**	*i* P	**P**	**19 26 20.6**	**+0.7**
CLL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GERES	**GERESS Array B**	**56.12**	**308**	P	**P**	**19 26 24.5**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=66,slow=7.7,SNR=7.2						
GERES	**GERESS Array B**	**56.12**	**308**	P	**P**	**19 26 24.5**	**+1.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
COLD	**Coldfoot**	**64.09**	**23**	*e*P	**P**	**19 27 19.1**	**+1.4**
	comp=Z,5.9nm,1.0s						
BPAW	**Bear Paw Mtn.**	**65.81**	**26**	*e*P	**P**	**19 27 28.1**	**-0.9**
	comp=Z,0.5nm,0.8s						
PPLA	**Purkeypile**	**66.15**	**27**	*e*P	**P**	**19 27 32.8**	**+1.5**
	comp=Z,30nm,1.4s						
COLA	**College**	**66.34**	**24**	*i* P	**P**	**19 27 33.6**	**+1.3**
COLA				pmax	pmax		
	comp=Z,32nm,0.9s						
ILAR	**Eielson Array**	**66.72**	**24**	P	**P**	**19 27 35.0**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=299,slow=5.5,SNR=24						
ILAR	**Eielson Array**	**66.72**	**24**	P	**P**	**19 27 35.0**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SML	**Sawmill**	**68.23**	**27**	*e*P	**P**	**19 27 45.0**	**+0.6**
	comp=Z,2.2nm,0.8s						
EGAK	**Eagle**	**68.47**	**22**	*e*P	**P**	**19 27 46.7**	**+0.9**
	comp=Z,4.7nm,0.8s						
KDAK	**Kodiak Island**	**69.25**	**32**	*i* P	**P**	**19 27 51.2**	**+0.5**
WRAB	**Tennant Creek**	**69.65**	**139**	↓*e*P	**P**	**19 27 53.7**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,53nm,1.7s						
WRA	**Warramunga Arr**	**69.65**	**139**	P	**P**	**19 27 53.0**	**-0.6**
	comp=Z,4.4nm,0.9s,baz=341,slow=6.4,SNR=18						
WRA	**Warramunga Arr**	**69.65**	**139**	P	**P**	**19 27 53.1**	**-0.6**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ESDC	**Sonseca Array**	**71.59**	**306**	P	**P**	**19 28 05.5**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=54,slow=6.3,SNR=12						
ASAR	**Alice Springs**	**72.55**	**142**	P	**P**	**19 28 11.3**	**+0.1**
	comp=Z,6.0nm,0.8s,baz=329,slow=6.3,SNR=102						
ASAR	**Alice Springs**	**72.55**	**142**	P	**P**	**19 28 11.3**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
YKA	**Yellowknife Ar**	**76.76**	**13**	P	**P**	**19 28 34.9**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=333,slow=5.7,SNR=5.4						
YKA	**Yellowknife Ar**	**76.76**	**13**	P	**P**	**19 28 34.9**	**-0.2**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
STKA	**Stephens Creek**	**83.14**	**140**	P	**P**	**19 29 09.4**	**-0.5**
	comp=Z,4.5nm,0.6s,baz=315,slow=5.4,SNR=18						
STKA	**Stephens Creek**	**83.14**	**140**	P	**P**	**19 29 09.4**	**-0.5**
STKA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**83.36**	**281**	P	P	**19 29 11.4**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=44,slow=5.2,SNR=12						
CPUP	**Villa Florida**	**152.68**	**288**	PKIKP	**PKPbc**	**19 36 40.4**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=70,slow=1.6,SNR=3.9						
CPUP	**Villa Florida**	**152.68**	**288**	PKIKP	**PKPbc**	**19 36 40.4**	**-0.6**
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.8s						

KRSC 30 19:23:15.2±1.1, 53°00'N×160°32'E, h62km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.21**	**300**	*e*P	Pn	19 23 26.9	+2.0
SPN				*e*S	Sn	19 23 33.7	+1.7
NLC	**Nalytchevo**	**0.61**	**287**	*e*P	Pn	19 23 30.0	+1.4
NLC				*e*S	Sn	19 23 39.1	+0.8
SDLR	**Sedlovina**	**0.91**	**289**	*e*P	Pn	19 23 33.8	+1.4
SDLR				*e*S	Sn	19 23 45.9	+0.9
UGLR	**Uglovaya**	**0.93**	**284**	*e*P	Pn	19 23 34.3	+1.7
UGLR				*e*S	Sn	19 23 46.7	+1.3
SMAR	**Somma**	**0.95**	**287**	*e*P	Pn	19 23 34.6	+1.6
SMAR				*e*S	Sn	19 23 46.7	+0.5
AVH	**Avacha**	**0.99**	**286**	*e*P	Pn	19 23 35.2	+1.9
AVH				*e*S	Sn	19 23 48.3	+1.5
KRER	**Koryakskii**	**1.00**	**289**	*e*P	Pn	19 23 35.2	+1.6
KRER				*e*S	Sn	19 23 48.0	+0.9
PET	**Petropavlovsk**	**1.01**	**272**	*e*P	Pn	19 23 34.8	+1.4
PET				*e*S	Sn	19 23 47.8	+0.9
KOK	**Koryaka**	**1.06**	**287**	*e*P	Pn	19 23 35.9	+1.7
KOK				*e*S	Sn	19 23 49.5	+1.2
KRX	**Arik**	**1.07**	**291**	*e*P	Pn	19 23 35.7	+1.2
KRX				*e*S	Sn	19 23 48.9	+0.2
RUS	**Russkaya**	**1.24**	**244**	*e*P	Pn	19 23 38.3	+1.9
RUS				*e*S	Sn	19 23 53.4	+1.2
MTVR	**Mutnovka**	**1.40**	**249**	*e*P	Pn	19 23 40.7	+1.9
MTVR				*e*S	Sn	19 23 57.5	+1.1
GRL	**Gorelyy**	**1.44**	**253**	*e*P	Pn	19 23 41.3	+2.0
GRL				*e*S	Sn	19 23 58.8	+1.5
GNL	**Ganaly**	**1.59**	**297**	*e*P	Pn	19 23 43.1	+1.8
GNL				*e*S	Sn	19 24 02.5	+1.5
ASAK	**Asacha**	**1.60**	**248**	*e*P	Pn	19 23 43.9	+2.5
ASAK				*e*S	Sn	19 24 03.8	+2.7
MKZ	**Mys Kozlova**	**1.77**	**28**	*e*P	Pn	19 23 46.1	+2.5
MKZ				*e*S	Sn	19 24 06.4	+1.3
APC	**Apacha**	**1.92**	**269**	*e*P	Pn	19 23 47.9	+2.4
APC				*e*S	Sn	19 24 10.7	+2.2
KZV	**Kizimen**	**2.12**	**360**	*e*P	Pn	19 23 52.7	+4.1
KZV				*e*S	Sn	19 24 16.7	+2.7
MIPR	**Malaya Ipel'ka**	**2.29**	**253**	*e*P	Pn	19 23 53.4	+2.8
TUMR	**Tumrok**	**2.29**	**357**	*e*P	Pn	19 23 54.3	+3.4
TUMR				*e*S	Sn	19 24 20.4	+2.3
KBTR	**Krutoberegovo**	**3.53**	**23**	*e*P	Pn	19 24 11.6	+4.1
BKI	**Bering**	**3.99**	**54**	*e*P	Pn	19 24 16.0	+2.2
BKI				*e*S	Sn	19 24 58.5	-0.8

*IDC **30** 19:27:00.4±2.5, 18°.47S×174°.82W, h0km, mb4.4/7, mb1 4.5/7, mb1mx3.9/34, mbtmp4.4/7, Error ellipse: s-maj=74.4km s-min=34.9km az=137.0*
*ISCJB **30** 19:27:29.2±1.4, 18°.8S±0°.2×175°.3W±0°.2, h250km, mb4.0/12, Error ellipse: s-maj=28.5km s-min=24.2km az=154.2*
*NEIC **30** 19:27:32.7±3.0, 18°.75S×175°.42W, h263km±21km, mb4.1/6, Error ellipse: s-maj=31.6km s-min=23.7km az=90.0*

ISC 30 19:27:30.3±1.4, 18°.7S±0°.2×175°.2W±0°.2, h250km, n16, σ1°07/15, mb3.8/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.44**	**277**	*e*P	**Pn**	**19 29 04.9**	**+0.8**
	25nm,0.8s						
CTAO	**Charters Tower**	**36.30**	**261**	*e*P	**P**	**19 34 09.9**	**-0.6**
	5.1nm,0.7s						
STKA	**Stephens Creek**	**40.93**	**243**	P	**P**	**19 34 49.3**	**+0.6**
	1.3nm,0.4s,baz=93,slow=12,SNR=7.5						
JAY	**Jayapura**	**46.01**	**285**	P	**P**	**19 35 28.4**	**-0.9**
	4.5nm,0.7s,baz=135,slow=10.0,SNR=6.0						
WRAB	**Tennant Creek**	**47.45**	**260**	*e*P	**P**	**19 35 39.4**	**-1.0**
	1.8nm,0.6s						
WRA	**Warramunga Arr**	**47.46**	**260**	P	**P**	**19 35 40.0**	**-0.6**
	2.9nm,0.8s,baz=92,slow=6.9,SNR=12						
ASAR	**Alice Springs**	**47.49**	**255**	P	**P**	**19 35 40.7**	**-0.1**
	20nm,0.7s,baz=91,slow=8.6,SNR=328						
SIJI	**Sorong**	**55.34**	**282**	P	**P**	**19 36 38.5**	**-0.3**
	10.0nm,0.6s,baz=100,slow=12,SNR=5.7						
SBA	**Scott Base**	**59.88**	**184**	*e*P	**P**	**19 37 09.4**	**+0.1**
	1.3nm,1.0s						
TPUB	**Ta-pu**	**75.21**	**301**	*e*P	**P**	**19 38 45.4**	**-0.6**
	11nm,0.8s						
KSM	**Kuching**	**75.76**	**276**	*e*P	**P**	**19 38 50.1**	**+0.9**
	7.5nm,1.1s						
KSRS	**Korea Array**	**77.28**	**317**	P	**P**	**19 38 58.6**	**+1.4**
	0.9nm,0.8s,baz=138,slow=7.3,SNR=5.8						
KSAR	**Wonju Array Be**	**77.30**	**317**	P	**P**	**19 38 58.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**91.97**	**289**	P	P	19 40 13.7	+2.5
	0.8nm,0.9s,baz=77,slow=2.3,SNR=5.9						
BRTR	**Keskin Array B**	**147.43**	**316**	PKPbc	**PKPab**	**19 46 45.5**	**-2.2**
	0.6nm,0.5s,baz=82,slow=2.0,SNR=4.1						
GERES	**GERESS Array B**	**149.03**	**348**	PKPbc	**PKPbc**	**19 46 49.5**	**+0.6**
	0.3nm,0.5s,baz=0.0,slow=2.9,SNR=2.9						

WEL 30 19:32:33.7±0.1, 38°.11S×177°.70E, h2km, ML3.5/5, 7C-5D, Error ellipse: s-maj=0.8km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGZ	**Tauwhareparae**	**0.23**	**107**	↓PG	Pg	19 32 37.9	-0.5
TWGZ				*e*SG	Sg	19 32 41.8	+0.3
MWZ	**Matawai**	**0.26**	**210**	↑PG	Pg	19 32 38.0	-0.9
MWZ				SG	Sg	19 32 42.4	0.0
MWZ				AML	AML	19 32 42.6	
MWZ				AML	AML	19 32 42.6	
MWZ				AML	AML	19 32 42.7	
TKGZ	**Te Karaka**	**0.35**	**160**	↑PG	Pg	19 32 40.4	-0.1
HAZ	**Te Kaha**	**0.36**	**11**	↑PG	Pg	19 32 40.6	0.0
HAZ				SG	Sg	19 32 46.0	+0.7
PUZ	**Puketiti**	**0.44**	**86**	↓PG	Pg	19 32 42.5	+0.2
PUZ				AML	AML	19 32 53.3	
PUZ				AML	AML	19 32 54.4	
RAGZ	**Rawiri**	**0.45**	**210**	↑PG	Pg	19 32 41.9	-0.6
RAGZ				SG	Sg	19 32 48.8	+0.4
URZ	**Urewera**	**0.49**	**252**	↓PG	Pg	19 32 42.8	-0.3
URZ				SG	Sg	19 32 50.3	+0.9
URZ				AML	AML	19 32 53.2	
CNGZ	**Carnagh Statio**	**0.55**	**133**	PG	Pb	19 32 45.3	-0.8
RIGZ	**Rimuhau**	**0.60**	**175**	↑PG	Pg	19 32 45.6	+0.2
WMGZ	**Waiomatatini S**	**0.64**	**63**	PG	Pb	19 32 46.8	-0.8
WIZ	**White Island**	**0.70**	**325**	*e*P*	Pg	19 32 47.6	+0.3
MXZ	**Matakaoa Point**	**0.73**	**42**	↑P*	Pg	19 32 48.2	+0.5
MXZ				AML	AML	19 32 49.0	
MXZ				AML	AML	19 33 02.3	
MXZ				AML	AML	19 33 05.6	
SNGZ	**Shannon Statio**	**0.73**	**202**	↑P*	Pg	19 32 47.8	0.0
KNZ	**Kokohu**	**0.91**	**181**	P*	Pg	19 32 51.5	+0.2
RAHZ	**Arahi**	**0.94**	**210**	P*	Pg	19 32 51.5	-0.4
TARZ	**Mount Tarawera**	**0.95**	**262**	↓P*	Pg	19 32 52.2	+0.1
RRRZ	**Republican Roa**	**0.96**	**256**	P*	Pg	19 32 51.9	-0.3
WHHZ	**Waihua**	**1.03**	**200**	P*	Pb	19 32 54.1	-0.3
HLRZ	**Highlands Stat**	**1.07**	**262**	↓P*	Pg	19 32 54.4	+0.1
HRRZ	**Handcock Road**	**1.15**	**255**	P*	Pg	19 32 55.6	-0.3
NMHZ	**Naumai**	**1.21**	**215**	P*	Pg	19 32 56.6	-0.5
ARHZ	**Aropaoanui**	**1.28**	**205**	P*	Pg	19 32 58.1	-0.2
BKZ	**Black Stump Fm**	**1.42**	**221**	PN	Pn	19 32 59.3	-1.3
BKZ				AML	AML	19 33 28.1	
BKZ				AML	AML	19 33 29.3	
MCHZ	**McNeill Hill**	**1.55**	**210**	PN	Pn	19 33 02.1	-0.3
KRHZ	**Kereru**	**1.85**	**214**	PN	Pn	19 33 05.5	-1.1
BHHZ	**Black Hill Sta**	**1.88**	**222**	PN	Pn	19 33 07.0	-0.1
MRZ	**Mangatainoka R**	**3.03**	**212**	PN	Pn	19 33 19.5	-3.3

*ISCJB **30** 19:38:34.0±0.3, 8°.56S±0°.03×118°.98E±0°.03, h168km±3km, mb4.3/23, Error ellipse: s-maj=5.3km s-min=4.3km az=14.3*
*IDC **30** 19:38:35.5±1.1, 8°.36S×119°.02E, h168km±9km, mb4.1/16, mb1 4.2/20, mb1mx4.1/25, mbtmp4.6/20, MS3.0/2, Ms1 3.0/2, ms1mx2.6/27, Error ellipse: s-maj=12.2km s-min=8.8km az=73.0*
*NEIC **30** 19:38:35.1±0.7, 8°.42S×119°.01E, h168km±5km, mb4.7/14, Error ellipse: s-maj=9.4km s-min=6.3km az=49.0*
*DJA **30** 19:38:36.7±0.2, 9°S±2°×11°.9E±°, h109km±3km, M4.8/18, mb4.9/18, mB5.2/11, MLv4.9/4, Mw(mB)4.6/11*

ISC 30 19:38:34.5±0.5, 8°.55S±0°.04×118°.97E±0°.04, h164km±4km, n101, σ1°40/120, mb4.4/23, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.16**	**159**	P	**Pn**	**19 39 00.2**	**-1.7**
WBSI				S	**Sn**	**19 39 18.6**	**-4.5**
WSI	**Waingapu**	**1.72**	**130**	P	**Pn**	**19 39 07.1**	**-0.2**
WSI				S	**Sn**	**19 39 30.9**	**-1.8**
BSSI	**Bau Bau, Buton**	**2.83**	**32**	P	**Pn**	**19 39 20.5**	**+0.1**
BSSI				S	**Sn**	**19 39 55.6**	**-0.3**
MMRI	**Maumere**	**3.23**	**92**	P	**Pn**	**19 39 25.7**	**+0.4**
MMRI				S	**Sn**	**19 40 06.2**	**+1.3**
MMRI	**Maumere**	**3.23**	**92**	*e*P	**Pn**	**19 39 25.5**	**+0.1**
BKB	**Bulukumba**	**3.41**	**20**	P	**Pn**	**19 39 27.8**	**+0.2**
BKSI				S	**Sn**	**19 40 08.9**	**0.0**
KAPI	**Kappang**	**3.60**	**13**	P	**Pn**	**19 39 30.0**	**0.0**
	15nm,0.3s,baz=204,slow=12,SNR=89						
KAPI				S	**Sn**	**19 40 11.0**	**-2.3**
	5.6nm,0.3s,baz=100,slow=18,SNR=3.3						
KAPI				LR	LR	19 40 27.2	
	comp=Z,136nm,21.4s,baz=141,slow=33						
DNP	**Denpasar**	**3.72**	**268**	P	**Pn**	**19 39 31.4**	**-0.1**
SRBI	**Singaraja**	**3.75**	**277**	P	**Pn**	**19 39 31.9**	**+0.1**
IGBI	**Denpasar**	**3.79**	**266**	P	**Pn**	**19 39 31.6**	**-0.8**
SPSI	**Sidrap Palu**	**4.63**	**10**	P	**Pn**	**19 39 43.9**	**+0.6**
ABJI	**Asem Bagus**	**4.75**	**279**	P	**Pn**	**19 39 45.2**	**+0.4**
SOEI	**Soe**	**5.37**	**103**	P	**Pn**	**19 39 54.7**	**+1.6**
SOEI	**Soe**	**5.37**	**103**	*e*P	**Pn**	**19 39 53.4**	**+0.2**
	74nm,0.4s						
BLJI	**Banyuglugur**	**5.38**	**278**	P	**Pn**	**19 39 53.3**	**+0.2**
TTSI	**Tana Toraja**	**5.54**	**9**	P	**Pn**	**19 39 56.9**	**+1.6**
	207nm,1.0s,2μm0.7nm						
KBKI	**Kotabaru**	**5.92**	**332**	P	**Pn**	**19 40 01.6**	**+1.3**
BBKI	**Banjar Baru**	**6.51**	**321**	P	**Pn**	**19 40 09.5**	**+1.3**
PWJI	**Pagerwojo**	**7.11**	**274**	P	**Pn**	**19 40 16.5**	**+0.4**
BKB	**Balikpapan**	**7.53**	**344**	P	**Pn**	19 40 25.1	+3.4
PCI	**Palu**	**7.65**	**7**	P	**Pn**	**19 40 25.4**	**+2.2**
	102nm,1.1s,836nm0.3nm						
PCJI	**Pacitan**	**7.72**	**272**	P	**Pn**	**19 40 24.9**	**+0.8**
LUWI	**Luwuk**	**8.37**	**27**	P	**Pn**	**19 40 35.0**	**+2.2**
MPSI	**Mapaga**	**8.88**	**6**	P	**Pn**	**19 40 41.9**	**+2.3**
PBKI	**Pangkalan Bun**	**9.30**	**308**	P	**Pn**	**19 40 46.8**	**+1.7**
MRSI	**Masa**	**9.45**	**18**	P	**Pn**	**19 40 47.6**	**+0.5**
	25nm,0.9s,879nm						
SANI	**Sanana**	**9.52**	**48**	P	**Pn**	**19 40 48.8**	**+0.8**
	62nm,1.2s,757nm						
NLAI	**Namlea**	**9.66**	**57**	P	Pn	19 40 53.8	+3.9
	90nm,0.8s,1μm						
KPJI	**Karang Pucung**	**10.02**	**276**	P	**Pn**	**19 40 52.8**	**-1.7**
	50nm,0.7s						
KMSI	**Cibinong**	**10.35**	**29**	P	**P**	**19 41 10.0**	**+2.0**
CISI	**Cisompet, Garu**	**11.09**	**274**	*e*P	Pn	19 41 03.4	-5.3
	75nm,0.6s						
STKI	**Sintang**	**11.36**	**319**	P	**Pn**	**19 41 12.4**	**+0.2**
	56nm,1.0s,8μm						
LEM	**Lembang**	**11.38**	**278**	P	**Pn**	**19 41 11.8**	**-0.8**
	94nm,0.7s						
LEM	**Lembang**	**11.38**	**278**	P	**Pn**	**19 41 12.2**	**-0.3**
	10nm,0.3s,baz=58,slow=11,SNR=18						
LEM				S	**Sn**	**19 43 21.4**	**+2.5**
	4.0nm,0.3s,baz=312,slow=19,SNR=2.7						
FITZ	**Fitzroy Crossi**	**11.49**	**146**	*e*P	**Pn**	**19 41 14.3**	**+0.5**
	94nm,0.7s						
BNDI	**Bandanaira**	**11.58**	**70**	P	**P**	**19 41 21.5**	**-0.4**
	312nm,0.7s						
CBJI	**Citeko**	**12.20**	**279**	P	**Pn**	**19 41 20.2**	**-2.8**
	440nm,0.8s,4μm						
TNTI	**Ternate**	**12.49**	**42**	P	**Pn**	**19 41 27.0**	**+0.3**
	56nm,0.9s,785nm						
TNTI	**Ternate**	**12.49**	**42**	*e*P	**Pn**	**19 41 27.7**	**+1.0**
	30nm,0.4s						
KSM	**Kuching**	**13.18**	**319**	*e*P	**Pn**	**19 41 35.0**	**-0.6**
	9.6nm,0.5s						
CGJI	**Cibinong**	**13.30**	**277**	P	**P**	**19 41 40.2**	**-0.8**
	190nm,0.5s,2μm						
PPBI	**Pangkal Pinang**	**14.26**	**296**	P	**P**	**19 41 52.1**	**+0.4**
	18nm,1.0s						
FAKI	**Fak Fak**	**14.35**	**68**	P	**P**	**19 41 54.7**	**+2.0**
FAKI	**Fak Fak**	**14.35**	**68**	*e*P	**Pn**	**19 41 47.8**	**-2.6**
	73nm,0.6s						
SWI	**Sorong**	**14.43**	**59**	P	**Pn**	**19 41 51.9**	**+0.6**
SIJI	**Sorong**	**14.43**	**59**	P	**Pn**	**19 41 50.1**	**-1.2**
	5.8nm,0.3s,baz=270,slow=5.5,SNR=18						
SIJI				S	**Sn**	**19 44 30.9**	**-1.1**
	0.4nm,0.3s,baz=270,slow=20,SNR=3.1						
KASI	**Kota Agung**	**14.67**	**281**	P	**P**	**19 41 57.1**	**+0.9**
KKM	**Kota Kinabalu**	**14.76**	**349**	*e*P	**Pn**	**19 41 55.5**	**-0.1**
	12nm,0.6s						
LWLI	**Liwa**	**15.21**	**282**	P	**P**	**19 42 04.4**	**+2.0**
MDSI	**Maura Dua**	**15.24**	**284**	P	**P**	**19 42 04.4**	**+1.9**
LHSI	**Lahat**	**16.05**	**286**	P	**P**	**19 42 14.9**	**+3.4**
RKPI	**Ransiki, Papua**	**16.68**	**66**	P	**Pn**	**19 42 22.9**	**+4.0**
WRA	**Warramunga Arr**	**18.69**	**129**	P	**P**	**19 42 41.1**	**+0.6**
	2.6nm,0.3s,baz=304,slow=11,SNR=35						
WRA				S	**S**	**19 46 02.9**	**-1.9**
	1.7nm,0.3s,baz=311,slow=22,SNR=6.3						
WRA				ScP	**ScP**	**19 50 21.2**	**-0.9**
	0.2nm,0.3s,baz=315,slow=2.3,SNR=3.8						
WRAB	**Tennant Creek**	**18.70**	**129**	*e*P	**P**	**19 42 41.0**	**+0.6**
	29nm,0.7s						
TBP	**Tagbilaran**	**18.77**	**15**	*e*P	**Pn**	**19 42 46.4**	**+2.8**
ASAR	**Alice Springs**	**20.75**	**138**	P	**P**	**19 43 04.2**	**+1.6**
	11nm,0.4s,baz=314,slow=9.1,SNR=198						
ASAR				S	**S**	**19 46 45.0**	**-0.3**
	10nm,0.8s,baz=318,slow=21,SNR=14						
ASAR				ScP	**ScP**	**19 50 26.6**	**-0.2**
	5.3nm,0.6s,baz=314,slow=2.2,SNR=9.7						
ASAR				LR	LR	19 51 47.4	
	comp=Z,75nm,19.9s,baz=344,slow=38						
JAY	**Jayapura**	**22.44**	**76**	P	**P**	**19 43 18.1**	**-2.0**
	11nm,0.5s,baz=232,slow=9.9,SNR=21						
COEN	**Coen**	**24.33**	**105**	*e*P	**P**	**19 43 37.7**	**+0.4**
	53nm,0.6s						
CTA	**Charters Tower**	**28.77**	**116**	P	**P**	**19 44 18.6**	**+1.5**
	11nm,0.8s,baz=287,slow=14,SNR=15						
CTA				PcP	**PcP**	**19 47 23.4**	**+0.2**
	5.4nm,0.8s,baz=236,slow=3.6,SNR=3.9						
STKA	**Stephens Creek**	**31.32**	**141**	P	**P**	**19 44 41.1**	**+1.7**
	7.3nm,0.4s,baz=322,slow=8.1,SNR=42						
STKA				PcP	**PcP**	**19 47 30.3**	**+0.7**
	7.7nm,0.4s,baz=344,slow=3.1,SNR=10						
CMAR	**Chiang Mai Arr**	**33.33**	**324**	P	**P**	**19 44 57.2**	**+0.1**
	4.2nm,0.5s,baz=156,slow=6.8,SNR=66						
CMAR				PcP	**PcP**	**19 47 36.3**	**+1.0**
	1.7nm,0.8s,baz=177,slow=2.0,SNR=9.8						
CMAR				ScP	**ScP**	**19 51 04.4**	**-0.1**
	2.0nm,0.8s,baz=172,slow=3.4,SNR=14						
CHTO	**Chiang Mai**	**33.61**	**324**	*e*P	**P**	**19 45 00.3**	**+0.8**
	4.2nm,0.9s						
KSAR	**Wonju Array Be**	**46.51**	**10**	P	**P**	**19 46 45.2**	**-0.2**
KSAR				PcP	**PcP**	**19 48 16.8**	**-0.3**
KSAR				ScP	**ScP**	**19 51 54.2**	**-1.1**
LSA	**Lhasa**	**46.51**	**326**	*e*P	**P**	**19 46 45.4**	**-0.8**
	4.5nm,0.6s						
KSRS	**Korea Array**	**46.53**	**10**	P	**P**	**19 46 45.2**	**-0.3**
	2.5nm,0.6s,baz=191,slow=9.3,SNR=16						
KSRS				PcP	**PcP**	**19 48 16.8**	**-0.3**
	1.0nm,0.8s,baz=186,slow=3.9,SNR=4.8						
KSRS				ScP	**ScP**	**19 51 54.2**	**-1.1**
	0.4nm,0.5s,baz=208,slow=5.0,SNR=2.7						
MAJO	**Matsushiro**	**48.36**	**21**	*e*P	**P**	**19 46 57.4**	**-2.3**
	8.2nm,0.9s						
MAT	**Matsushiro**	**48.36**	**21**	P	**P**	**19 46 57.5**	**-2.3**

ZKR				eS	Sn	19 53 31.7	+0.6	
ZKR	**Zakros**	**0.23**	**208**	P	Pn	19 53 22.3	+0.6	
ZKR				eS	Sn	19 53 31.7	+0.6	
NPS	**Neapolis**	**0.60**	**265**	P	Pn	19 53 25.0	+0.7	
NPS				S	Sn	19 53 35.4	-0.3	
NPS	**Neapolis**	**0.60**	**265**	eP	Pn	19 53 25.1	+0.7	
NPS				eS	Sn	19 53 35.4	-0.3	
NPS	**Neapolis**	**0.60**	**265**	P	Pn	19 53 25.0	+0.7	
NPS				eS	Sn	19 53 35.4	-0.3	
KARP	**Karpathos**	**0.70**	**71**	P	Pn	19 53 26.6	+1.4	
KARP				S	Sn	19 53 38.2	+0.8	
KARP	**Karpathos**	**0.70**	**71**	eP	Pn	19 53 26.6	+1.4	
KARP				eS	Sn	19 53 37.7	+0.3	
KARP	**Karpathos**	**0.70**	**71**	eP	Pn	19 53 26.6	+1.4	
KARP				S	Sn	19 53 38.2	+0.8	
LAST	**Lasithi**	**0.73**	**258**	P	Pn	19 53 26.7	+1.2	
LAST				S	Sn	19 53 38.1	+0.2	
LAST	**Lasithi**	**0.73**	**258**	eP	Pn	19 53 26.8	+1.2	
LAST				eS	Sn	19 53 38.6	+0.7	
LAST	**Lasithi**	**0.73**	**258**	P	Pn	19 53 26.7	+1.2	
LAST				S	Sn	19 53 38.1	+0.2	
IDI	**Anoyia**	**1.19**	**269**	P	Pn	19 53 31.3	+0.5	
	91nm,0.3s,baz=321,slow=3.0,SNR=481							
IDI				LR	LR	19 53 31.9		
	comp=Z,16nm,20.3s,baz=64,slow=20							
IDI				S	Sn	**19 53 46.6**	**-0.6**	
	40nm,0.3s,baz=282,slow=19,SNR=14							
THR1	**Thera Island**	**1.27**	**326**	ePG	Pn	19 53 31.2	-0.6	
THR1	**Thera Island**	**1.27**	**326**	ePg	Pn	19 53 31.2	-0.6	
SANT	**Santorini**	**1.28**	**326**	P	Pn	19 53 31.2	-0.6	
SANT	**Santorini**	**1.28**	**326**	eP	Pn	19 53 31.1	-0.7	
SANT				eS	Sn	19 53 46.5	-2.5	
SANT	**Santorini**	**1.28**	**326**	P	Pn	19 53 31.2	-0.6	
THR6	**Thira Island,**	**1.29**	**324**	P	Pn	19 53 31.7	-0.2	
THR6	**Thira Island,**	**1.29**	**324**	P	Pn	19 53 31.7	-0.2	
SIVA	**Sivas**	**1.30**	**257**	P	Pn	19 53 33.7	+1.7	
SIVA	**Sivas**	**1.30**	**257**	eP	Pn	19 53 33.7	+1.7	
SIVA				eS	Sn	19 53 50.5	+1.2	
SIVA	**Sivas**	**1.30**	**257**	eP	Pn	19 53 33.7	+1.7	
SIVA				eS	Sn	19 53 50.5	+1.2	
THR7	**Fira-Santorini**	**1.33**	**326**	P	Pn	19 53 32.2	-0.3	
THR7	**Fira-Santorini**	**1.33**	**326**	P	Pn	19 53 32.2	-0.3	
THR3	**Thira Island,**	**1.33**	**325**	P	Pn	19 53 32.0	-0.5	
THR3	**Thira Island,**	**1.33**	**325**	P	Pn	19 53 32.0	-0.5	
THR2	**Thira Island,**	**1.35**	**327**	P	Pn	19 53 32.3	-0.4	
THR2	**Thira Island,**	**1.35**	**327**	P	Pn	19 53 32.3	-0.4	
THR5	**Thira Island,**	**1.37**	**324**	ePN	Pn	19 53 32.5	-0.4	
THR5	**Thira Island,**	**1.37**	**324**	P	Pn	19 53 32.5	-0.4	
THR5	**Thira Island,**	**1.37**	**324**	P	Pn	19 53 32.5	-0.4	
NIS1	**Nisyros Isl.**	**1.45**	**27**	eP	Pn	19 53 33.8	-0.1	
NIS1	**Nisyros Isl.**	**1.45**	**27**	eP	Pn	19 53 33.8	-0.1	
ARG	**Arkhangelos**	**1.70**	**58**	P	Pn	19 53 38.4	+1.3	
ARG				S	Sn	19 53 58.9	+0.4	
ARG	**Arkhangelos**	**1.70**	**58**	eP	Pn	19 53 38.5	+1.3	
ARG				eS	Sn	19 53 58.7	+0.2	
ARG	**Arkhangelos**	**1.70**	**58**	P	Pn	19 53 38.4	+1.3	
ARG				S	Sn	19 53 58.9	+0.4	
VAM	**Vamos**	**1.76**	**274**	eP	Pn	19 53 37.8	-0.1	
VAM	**Vamos**	**1.76**	**274**	eP	Pn	19 53 37.8	-0.1	
APE	**Apeiranthos**	**1.87**	**340**	ePN	Pn	19 53 40.3	+0.9	
APE				eSN	Sn	19 54 00.9	-1.6	
APE	**Apeiranthos**	**1.87**	**340**	P	Pn	19 53 39.1	-0.3	
APE				S	Sn	19 54 00.6	-1.9	
APE	**Apeiranthos**	**1.87**	**340**	eP	Pn	19 53 39.0	-0.3	
APE				eS	Sn	19 53 59.8	-2.7	
APE	**Apeiranthos**	**1.87**	**340**	P	Pn	19 53 39.1	-0.3	
APE	**Apeiranthos**	**1.87**	**340**	ePn	Pn	19 53 40.3	+0.9	
APE				S	Sn	19 54 00.6	-1.9	
APE				eSn	Sn	19 54 01.0	-1.6	
BODT	**Bodrum**	**1.91**	**24**	ePN	Pn	19 53 39.1	-0.8	
BODT	**Bodrum**	**1.91**	**24**	ePn	Pn	19 53 39.1	-0.8	
BDRM	**Kayabasi**	**1.96**	**27**	*i* P	Pn	19 53 41.0	+0.5	
BDRM				*i* S	Sn	19 54 04.5	0.0	
BDRM	**Kayabasi**	**1.96**	**27**	*i* P	Pn	19 53 41.0	+0.5	
BDRM				*i* S	Sn	19 54 04.5	0.0	
MHLO	**Agia Marina, M**	**2.09**	**312**	P	Pn	19 53 43.1	+0.8	
MHLO				S	Sn	19 54 06.0	-1.6	
MHLO	**Agia Marina, M**	**2.09**	**312**	eP	Pn	19 53 43.0	+0.8	
MHLO				eS	Sn	19 54 06.0	-1.6	
MHLO	**Agia Marina, M**	**2.09**	**312**	eP	Pn	19 53 43.0	+0.8	
MHLO				eS	Sn	19 54 06.0	-1.6	
DALY	**Dalyan (Mu˘la**	**2.39**	**51**	ePN	Pn	19 53 46.9	+0.6	
DALY	**Dalyan (Mu˘la**	**2.39**	**51**	ePn	Pn	19 53 46.9	+0.6	
YER	**Yerkesik**	**2.40**	**40**	ePN	Pn	19 53 46.5	+0.1	
YER	**Yerkesik**	**2.40**	**40**	ePn	Pn	19 53 46.5	+0.1	
TURN	**Turunc**	**2.40**	**49**	*i* P	Pn	19 53 43.5	-2.8	
TURN				*i* S	Sn	19 54 08.5	-6.4	
TURN	**Turunc**	**2.40**	**49**	*i* P	Pn	19 53 43.5	-2.8	
ANKY	**Antikythira Is**	**2.54**	**283**	eP	Pn	19 53 48.7	+0.4	
ANKY	**Antikythira Is**	**2.54**	**283**	eP	Pn	19 53 48.7	+0.4	
AYDN	**Tasoluk**	**2.64**	**27**	*i* P	Pn	19 53 51.1	+1.4	
AYDN				*i* S	Sn	19 54 22.6	+1.6	
AYDN	**Tasoluk**	**2.64**	**27**	*i* P	Pn	19 53 51.1	+1.4	
AYDN				*i* S	Sn	19 54 22.6	+1.6	
KSL	**Kastellorizon**	**2.76**	**72**	eP	Pn	19 53 52.3	+1.1	
KSL	**Kastellorizon**	**2.76**	**72**	eP	Pn	19 53 52.3	+1.1	
AKAS	**Kas**	**2.80**	**70**	*i* P	Pn	19 53 53.1	+1.2	
AKAS				*i* S	Sn	19 54 24.3	+0.5	
AKAS	**Kas**	**2.80**	**70**	*i* P	Pn	19 53 53.1	+1.2	
AKAS				*i* S	Sn	19 54 24.3	-0.5	
KYTH	**Kithira**	**2.86**	**291**	eP	Pn	19 53 52.5	0.0	
KYTH	**Kithira**	**2.86**	**291**	eP	Pn	19 53 52.5	0.0	
AYDB	**Zeytinkoy-Aydi**	**2.90**	**25**	ePN	Pn	19 53 52.7	-0.5	
AYDB	**Zeytinkoy-Aydi**	**2.90**	**25**	ePn	Pn	19 53 52.7	-0.5	
CHOS	**Chios island**	**3.07**	**356**	ePN	Pn	19 53 55.5	0.0	
CHOS	**Chios island**	**3.07**	**356**	ePn	Pn	19 53 55.5	0.0	
VLI	**Veliai**	**3.10**	**298**	P	Pn	19 53 55.7	0.0	
VLI	**Veliai**	**3.10**	**298**	eP	Pn	19 53 55.7	0.0	
VLI	**Veliai**	**3.10**	**298**	eP	Pn	19 53 55.7	0.0	
BLCB	**Balcova**	**3.11**	**10**	ePN	Pn	19 53 55.4	-0.5	
BLCB	**Balcova**	**3.11**	**10**	ePn	Pn	19 53 55.4	-0.5	
ELL	**Elmali**	**3.22**	**63**	ePN	Pn	19 53 59.1	+1.6	
ELL	**Elmali**	**3.22**	**63**	ePn	Pn	19 53 59.1	+1.6	
GOLH	**Golhisar**	**3.23**	**53**	*i* P	Pn	19 53 59.1	+1.6	
GOLH				*i* S	Sn	19 54 35.9	+0.8	
GOLH	**Golhisar**	**3.23**	**53**	*i* P	Pn	19 53 59.1	+1.6	
GOLH				*i* S	Sn	19 54 35.9	+0.8	
KRND	**KRANIDI**	**3.30**	**310**	P	Pn	19 53 59.3	+0.8	
KRND	**KRANIDI**	**3.30**	**310**	eP	Pn	19 53 59.4	+0.9	
KRND				eS	Sn	19 54 35.2	-1.6	
KRND	**KRANIDI**	**3.30**	**310**	P	Pn	19 53 59.3	+0.8	
KRND				eS	Sn	19 54 35.2	-1.6	
DID	**Didima**	**3.33**	**312**	P	Pn	19 53 59.2	+0.3	
DID	**Didima**	**3.33**	**312**	eP	Pn	19 53 59.2	+0.3	
DID				eS	Sn	19 54 36.2	-1.2	
DID	**Didima**	**3.33**	**312**	eP	Pn	19 53 59.2	+0.3	
DID				eS	Sn	19 54 36.2	-1.2	
NAIG	**Nisos Aigina**	**3.35**	**317**	eP	Pn	19 53 59.9	+0.7	
NAIG	**Nisos Aigina**	**3.35**	**317**	eP	Pn	19 53 59.9	+0.7	
PTL	**Penteli**	**3.38**	**325**	eP	Pn	19 54 00.2	+0.6	
PTL	**Penteli**	**3.38**	**325**	eP	Pn	19 54 00.2	+0.6	
ATH	**Athens Observa**	**3.39**	**322**	eP	Pn	19 54 00.5	+0.8	
ATH	**Athens Observa**	**3.39**	**322**	eP	Pn	19 54 00.5	+0.8	
KORT	**Korkueli**	**3.65**	**61**	*i* P	Pn	19 54 05.8	+2.5	
KORT				*i* S	Sn	19 54 42.0	-3.3	
KORT	**Korkueli**	**3.65**	**61**	*i* P	Pn	19 54 05.8	+2.5	
KORT				*i* S	Sn	19 54 42.0	-3.3	
KULA	**Kula-Manisa**	**3.69**	**29**	ePN	Pn	19 54 04.3	+0.5	
KULA	**Kula-Manisa**	**3.69**	**29**	ePn	Pn	19 54 04.3	+0.5	
VLX	**Vlachokerasia**	**3.80**	**304**	P	Pn	19 54 05.6	+0.2	
VLX	**Vlachokerasia**	**3.80**	**304**	eP	Pn	19 54 05.0	-0.4	
VLX				eS	Sn	19 54 47.0	-2.0	
VLX	**Vlachokerasia**	**3.80**	**304**	P	Pn	19 54 05.6	+0.2	
VLX				eS	Sn	19 54 47.0	-2.0	
LTK	**Loutraki**	**3.83**	**316**	eP	Pn	19 54 06.7	+1.0	
LTK				eS	Sn	19 54 48.4	-1.2	
LTK	**Loutraki**	**3.83**	**316**	eP	Pn	19 54 06.7	+1.0	
LTK				eS	Sn	19 54 48.4	-1.2	
SIGR	**SIGRI**	**3.91**	**354**	ePN	Pn	19 54 07.0	+0.3	
SIGR	**SIGRI**	**3.91**	**354**	eP	Pn	19 54 07.0	+0.3	
SIGR	**SIGRI**	**3.91**	**354**	eP	Pn	19 54 07.0	+0.3	
SLUM		**3.93**	**194**	P	Pn	19 54 06.6	-0.5	
	baz=189							
SLUM				AMP		19 54 00.0		
	comp=E,60μm,0.1s,logA/T=5.6,baz=189							
SLUM		**3.93**	**194**	P	Pn	19 54 06.6	-0.5	
KHL	**Karahalli**	**3.94**	**39**	ePN	Pn	19 54 07.8	+0.7	
KHL	**Karahalli**	**3.94**	**39**	ePn	Pn	19 54 07.8	+0.7	
KHAL	**Karahalli**	**3.95**	**39**	*i* P	Pn	19 54 08.2	+0.8	
KHAL				*i* S	Sn	19 54 51.3	-1.4	
KHAL	**Karahalli**	**3.95**	**39**	*i* P	Pn	19 54 08.2	+0.8	
KHAL				*i* S	Sn	19 54 51.3	-1.4	
ITM	**Ithomi**	**4.03**	**299**	eP	Pn	19 54 09.0	+0.6	
ITM	**Ithomi**	**4.03**	**299**	eP	Pn	19 54 09.0	+0.6	
BCK	**Bucak**	**4.03**	**57**	ePN	Pn	19 54 10.2	+1.8	
BCK	**Bucak**	**4.03**	**57**	ePn	Pn	19 54 10.3	+1.8	
PYL	**PYLOS**	**4.05**	**294**	eP	Pn	19 54 08.7	+0.1	
PYL	**PYLOS**	**4.05**	**294**	eP	Pn	19 54 08.7	+0.1	
GUR	**Goura**	**4.15**	**310**	P	Pn	19 54 09.8	-0.3	
GUR				S	Sn	19 54 56.2	-1.3	
GUR	**Goura**	**4.15**	**310**	eP	Pn	19 54 10.3	+0.2	
GUR	**Goura**	**4.15**	**310**	eP	Pn	19 54 10.3	+0.2	
GUR				S	Sn	19 54 56.2	-1.3	
HMAT	**Matruh**	**4.26**	**171**	P	Pn	19 54 11.9	+0.4	
	baz=168							
HMAT				AMP		19 55 00.0		
	comp=N,130μm,0.2s,logA/T=5.8,baz=168							
HMAT	**Matruh**	**4.26**	**171**	P	Pn	19 54 11.9	+0.4	
LKR	**Lokris**	**4.27**	**322**	eP	Pn	19 54 12.4	+0.8	
LKR	**Lokris**	**4.27**	**322**	eP	Pn	19 54 12.4	+0.8	
AOS	**Alonnisos**	**4.32**	**334**	eP	Pn	19 54 12.9	+0.6	
AOS	**Alonnisos**	**4.32**	**334**	eP	Pn	19 54 12.9	+0.6	
SUTC	**Sutluce-Ispart**	**4.33**	**59**	ePN	Pn	19 54 14.1	+1.6	
SUTC	**Sutluce-Ispart**	**4.33**	**59**	ePn	Pn	19 54 14.1	+1.6	
KLV	**Kalavryta, Ach**	**4.33**	**310**	P	Pn	19 54 12.6	0.0	
KLV	**Kalavryta, Ach**	**4.33**	**310**	eP	Pn	19 54 12.7	+0.1	
KLV	**Kalavryta, Ach**	**4.33**	**310**	eP	Pn	19 54 12.7	+0.1	
DSF	**Desfina**	**4.35**	**316**	P	Pn	19 54 13.2	+0.5	
DSF	**Desfina**	**4.35**	**316**	eP	Pn	19 54 13.3	+0.5	
DSF	**Desfina**	**4.35**	**316**	P	Pn	19 54 13.2	+0.5	
NEO	**Neokhori**	**4.70**	**329**	eP	Pn	19 54 18.6	+1.2	
NEO	**Neokhori**	**4.70**	**329**	eP	Pn	19 54 18.6	+1.2	
EFP	**Efpalio**	**4.72**	**312**	eP	Pn	19 54 18.1	+0.3	
EFP	**Efpalio**	**4.72**	**312**	eP	Pn	19 54 18.1	+0.3	
XOR	**Xorichti**	**4.76**	**329**	eP	Pn	19 54 18.9	+0.6	
XOR	**Xorichti**	**4.76**	**329**	eP	Pn	19 54 18.9	+0.6	
TVSB	**Tavsanli**	**4.81**	**30**	ePN	Pn	19 54 20.1	+1.0	
TVSB	**Tavsanli**	**4.81**	**30**	ePn	Pn	19 54 20.1	+1.0	
GAZI	**Gazipasa**	**4.94**	**78**	*i* P	Pn	19 54 20.3	-0.4	
GAZI				*i* S	Sn	19 55 12.2	-4.3	
GAZI	**Gazipasa**	**4.94**	**78**	*i* P	Pn	19 54 20.3	-0.4	
GAZI				*i* S	Sn	19 55 12.2	-4.3	
PAIG	**Paliouri**	**5.07**	**336**	eP	Pn	19 54 23.1	+0.7	
PAIG	**Paliouri**	**5.07**	**336**	eP	Pn	19 54 23.1	+0.7	
EVR	**Evrytania**	**5.11**	**316**	eP	Pn	19 54 24.8	+1.7	
EVR	**Evrytania**	**5.11**	**316**	eP	Pn	19 54 24.8	+1.7	
THL	**Klokotos Trika**	**5.46**	**322**	eP	Pn	19 54 28.4	+0.6	
THL	**Klokotos Trika**	**5.46**	**322**	eP	Pn	19 54 28.4	+0.6	
ERMK	**Ermenek**	**5.48**	**74**	*i* P	Pn	19 54 30.6	+2.3	
ERMK				*i* S	Sn	19 55 30.2	0.0	
ERMK	**Ermenek**	**5.48**	**74**	*i* P	Pn	19 54 30.6	+2.3	
ERMK				*i* S	Sn	19 55 30.2	0.0	
DSL	**Palaion Diasel**	**5.66**	**314**	P	Pn	19 54 30.8	+0.2	
DSL	**Palaion Diasel**	**5.66**	**314**	P	Pn	19 54 30.8	+0.2	
SWA2		**6.10**	**187**	S	Sn	19 55 39.9	-5.1	
	baz=184							
BRTR	**Keskin Array B**	**7.27**	**51**	P	Pn	19 54 53.9	+1.2	
	comp=N,0.1nm,0.3s,baz=220,slow=13,SNR=4.2							
GLL	**Jalalah**	**7.30**	**140**	P	Pn	19 54 52.9	-0.1	
	baz=140							
GLL	**Jalalah**	**7.30**	**140**	P	Pn	19 54 52.9	-0.1	
AWBH		**7.31**	**162**	P	Pn	19 54 53.0	0.0	
	baz=160							
AWBH		**7.31**	**162**	P	Pn	19 54 53.0	0.0	
MMAI	**Mount Meron Ar**	**7.85**	**104**	P	Pn	19 55 04.0	+3.5	
	comp=N,3.1nm,0.3s,baz=287,slow=11,SNR=9.0							
MMAI				S	Sn	**19 56 24.7**	**-3.0**	
	comp=N,11nm,0.3s,baz=302,slow=22,SNR=13							
NBNS	**Bani Suef**	**7.88**	**146**	P	Pn	**19 55 00.6**	**-0.3**	
	baz=146							
NBNS				S	Sn	**19 56 23.6**	**-5.0**	
	baz=146							
NBNS	**Bani Suef**	**7.88**	**146**	P	Pn	**19 55 00.6**	**-0.3**	
HFRF	**Wahat Farafira**	**8.31**	**168**	P	Pn	**19 55 06.0**	**-0.7**	
	baz=166							
HFRF				S	Sn	19 56 32.5	-6.5	
	baz=166							
HFRF	**Wahat Farafira**	**8.31**	**168**	P	Pn	**19 55 06.1**	**-0.7**	
HNKL	**Nakhl**	**8.38**	**128**	P	Pn	**19 55 07.0**	**-0.6**	
	baz=128							
HNKL				S	Sn	19 56 34.5	-6.2	
	baz=128							
HNKL	**Nakhl**	**8.38**	**128**	P	Pn	**19 55 07.1**	**-0.6**	
EIL	**Elat**	**9.19**	**125**	P	Pn	**19 55 17.4**	**-1.3**	
	comp=N,0.5nm,0.3s,baz=274,slow=1.7,SNR=19							
EIL				S	Sn	**19 56 54.8**	**-5.6**	
	comp=N,3.1nm,0.3s,baz=144,slow=19,SNR=10							
ASF	**Jabal al Asfar**	**9.33**	**107**	P	Pn	**19 55 22.2**	**+1.5**	
	comp=N,0.3nm,0.3s,baz=233,slow=10,SNR=3.0							
ASF				S	Sn	**19 56 59.0**	**-4.8**	
	comp=N,0.4nm,0.3s,baz=11,slow=19,SNR=3.9							
TR2		**9.33**	**136**	P	Pn	**19 55 19.6**	**-1.0**	
	baz=136							
TR2		**9.33**	**136**	P	Pn	**19 55 19.6**	**-1.0**	
HKAT	**Jabal Katrina**	**9.38**	**134**	P	Pn	**19 55 20.5**	**-1.0**	
	baz=134							
HKAT	**Jabal Katrina**	**9.38**	**134**	P	Pn	**19 55 20.5**	**-1.0**	
STON	**Ston**	**10.10**	**321**	ePn	Pn	19 55 25.8	-5.2	
STON				Sn	Sn	19 57 09.8	-13	
HSFG		**10.88**	**141**	P	Pn	**19 55 40.5**	**-1.2**	
	baz=141							
HSFG		**10.88**	**141**	P	Pn	**19 55 40.5**	**-1.2**	
NVLJ	**Novalja**	**12.75**	**320**	*i* Pn	Pn	19 56 02.2	-4.6	
NVLJ				Sn	Sn	19 58 13.8	-13	
GERES	**GERESS Array B**	**16.43**	**329**	P	Pn	**19 56 53.3**	**-0.8**	
	comp=N,0.2nm,0.3s,baz=132,slow=15,SNR=7.4							
ESDC	**Sonseca Array**	**24.38**	**289**	P	P	**19 58 19.1**	**+0.1**	
	comp=N,0.9nm,0.5s,baz=83,slow=9.9,SNR=12							
GEYT	**Alibeck**	**25.57**	**75**	P	P	**19 58 34.0**	**+4.2**	
	comp=N,1.5nm,0.3s,baz=278,slow=10.0,SNR=6.4							
FINES	**FINESS Array B**	**26.15**	**360**	P	P	**19 58 33.6**	**-1.1**	
	comp=N,1.2nm,0.9s,baz=172,slow=10,SNR=4.8							
EKA	**Eskdalemuir Ar**	**28.48**	**324**	P	P	**19 58 54.8**	**-0.9**	
	comp=N,0.7nm,0.4s,baz=132,slow=10,SNR=8.7							
TORD	**Torodi Ar. Bea**	**31.34**	**231**	P	P	**19 59 23.1**	**+1.8**	
	comp=N,0.3nm,0.3s,baz=34,slow=9.0,SNR=8.3							
ARCES	**ARCESS Array B**	**34.28**	**359**	P	P	**19 59 45.6**	**-0.8**	
	comp=N,1.5nm,0.6s,baz=184,slow=7.9,SNR=9.9							
SONM	**Songino Array**	**58.63**	**51**	P	P	**20 02 59.0**	**+1.9**	
	comp=N,0.1nm,0.4s,baz=297,slow=6.3,SNR=2.1							
SCHQ	**Schefferville**	**63.70**	**320**	P	P	**20 03 31.6**	**+0.5**	
	comp=N,3.3nm,0.6s,baz=176,slow=3.4,SNR=4.9							

*IDC **30** 19:53:57.6±4.0, 4.°35S×102.°85E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/25, mbtmp3.5/6, Error ellipse: s-maj=171.2km s-min=19.2km az=59.0*
*ISCJB **30** 19:54:06.1±0.8, 4.°63S±0.°07×102.°79E±0.°06, h80km±7km, mb3.5/6, Error ellipse: s-maj=13.0km s-min=7.1km az=35.6*
*DJA **30** 19:54:07.9±0.5, 5.°S±3.°×10.°3E±.°, h38km±4km, M3.6/3, MLv3.6/3*

ISC 30 19:54:06.7±1.0, 4.°61S±0.°07×102.°81E±0.°06, h65km±8km, n18, σ1°66/21, mb3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.29**	**31**	P	**Pn**	**19 54 17.2**	**-0.2**
MNAI				S	**Sn**	**19 54 24.1**	**-1.0**
LHSI	**Lahat**	**1.06**	**43**	P	**Pn**	**19 54 26.9**	**+1.2**
LWLI	**Liwa**	**1.31**	**108**	P	**Pn**	**19 54 30.1**	**+0.9**
LWLI				S	**Sn**	**19 54 46.6**	**+0.6**
MDSI	**Maura Dua**	**1.37**	**85**	P	**Pn**	**19 54 31.1**	**+1.2**
MDSI				S	**Sn**	**19 54 48.1**	**+0.9**
KASI	**Kota Agung**	**1.91**	**118**	P	**Pn**	**19 54 38.3**	**+1.2**
KASI				S	**Sn**	**19 55 00.1**	**-0.1**
KLI	**Kotabumi**	**2.06**	**97**	P	**Pn**	**19 54 40.9**	**+1.8**
KLI				S	**Sn**	**19 55 06.9**	**+3.1**
PMBI	**Palembang**	**2.58**	**50**	P	**Pn**	**19 54 47.3**	**+1.2**
PMBI				S	**Sn**	**19 55 17.6**	**+1.2**
PPSI	**Pulau Pagai**	**3.34**	**303**	P	**Pn**	**19 54 57.8**	**+1.3**
PPSI				S	**Sn**	**19 55 38.7**	**+3.7**
CGJI	**Cibinong**	**3.50**	**125**	S	**Sn**	**19 55 39.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**23.24**	**351**	P	P	19 59 02.6	-6.0
	0.1nm,0.3s,baz=188,slow=9.1,SNR=2.4						
H01W3	**Cape Leeuwin H**	**31.90**	**162**	T	T	20 33 54.8	
	baz=339,slow=76,SNR=3.5						
H01W2	**Cape Leeuwin H**	**31.91**	**162**	T	T	20 33 55.5	
	baz=339,slow=76,SNR=4.7						
H01W1	**Cape Leeuwin H**	**31.91**	**162**	T	T	20 34 08.9	
	baz=339,slow=76,SNR=3.1						
WRA	**Warramunga Arr**	**34.27**	**119**	P	P	**20 00 46.4**	**-0.6**
	0.6nm,0.8s,baz=300,slow=8.9,SNR=4.1						
ASAR	**Alice Springs**	**35.46**	**125**	P	P	**20 00 56.3**	**-0.9**
	0.2nm,0.3s,baz=303,slow=8.0,SNR=7.5						
STKA	**Stephens Creek**	**45.33**	**131**	P	P	**20 02 19.3**	**+0.8**
	1.3nm,0.6s,baz=310,slow=5.4,SNR=5.4						
SONM	**Songino Array**	**52.32**	**3**	P	P	**20 03 10.7**	**-1.1**
	0.4nm,0.6s,baz=184,slow=9.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**60.26**	**348**	P	P	**20 04 05.9**	**-2.3**
	0.6nm,0.4s,baz=161,slow=6.1,SNR=3.5						

MEX 30 20:05:05.9±0.6, 16.°17N×98.°09W, h24km±8km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.22**	**350**	*i* P	Pn	20 05 10.9	-0.9
PNIG				*i* S	Sb	20 05 14.3	-1.6
TLIG	**Tlapa**	**1.46**	**342**	eP	Pn	20 05 27.8	-3.1
TLIG				*i* S	Sn	20 05 46.2	-3.1
VHO	**Vista Hermosa**	**1.58**	**55**	eP	Pn	20 05 30.8	-1.9
VHO				*i* S	Sn	20 05 48.7	-3.7

*IDC **30** 20:48:29.9±1.1, 14.°42N×102.°81W, h0km, mb3.7/8, mb1 4.1/9, mb1mx3.8/38, mbtmp3.8/9, ML3.6/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/24, Error ellipse: s-maj=44.5km s-min=22.1km az=68.0*
*ISCJB **30** 20:48:35.0±1.3, 14.°7N±0.°2×102.°3W±0.°2, h33km, mb3.8/7, MS3.2/2, Error ellipse: s-maj=30.0km s-min=15.5km az=136.1*

ISC 30 20:48:35.8±1.2, 14.°6N±0.°2×102.°4W±0.°2, h35km, n15, σ1°39/11, mb3.7/7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**7.67**	**70**	Pn	**Pn**	**20 50 23.7**	**-1.5**
	0.6nm,0.3s,baz=255,slow=14,SNR=3.9						
CMIG				LR	LR	20 53 08.8	
	comp=Z,510nm,18.6s,baz=190,slow=34						
LPIG	**La Paz**	**12.02**	**323**	LR	LR	20 54 43.7	
	comp=Z,157nm,21.4s,baz=215,slow=31						
TXAR	**Lajitas Array**	**14.70**	**356**	Pn	**Pn**	**20 52 01.9**	**+0.5**
	0.1nm,0.3s,baz=172,slow=9.6,SNR=14						
JTS	**JuntasAbangare**	**17.60**	**102**	LR	LR	20 57 30.1	
	comp=Z,141nm,20.8s,baz=328,slow=30						
ANMO	**Albuquerque**	**20.58**	**351**	P	Pn	20 53 13.7	-0.7
	2.9nm,0.8s,baz=173,slow=11,SNR=6.0						
NVAR	**Mina Array Bea**	**27.57**	**332**	P	**P**	**20 54 19.5**	**-0.4**
	0.2nm,0.4s,baz=143,slow=7.9,SNR=3.7						
PDAR	**Pinedale Array**	**28.73**	**349**	P	**P**	**20 54 30.3**	**+0.1**
	0.5nm,0.4s,baz=131

SYZ					AML	AML	21 27 21.4	
SYZ					AML	AML	21 27 22.1	
WKZ	**Wanaka**	**2.57**	**62**	⇑PN	**Pn**		**21 26 47.4**	**+2.5**
WKZ					AML	AML	21 27 27.7	
WKZ					AML	AML	21 27 33.1	
WKZ					AML	AML	21 27 33.1	
WKZ					AML	AML	21 27 41.5	
EAZ	**Earnscleugh**	**2.59**	**73**	PN	**Pn**		**21 26 47.1**	**+2.0**
EAZ					AML	AML	21 27 30.9	
EAZ					AML	AML	21 27 31.6	
EAZ					AML	AML	21 27 31.7	
EAZ					AML	AML	21 27 35.5	
TUZ	**Tuapeka**	**2.67**	**89**	PN	**Pn**		**21 26 47.0**	**+0.9**
JCZ	**Jackson Bay**	**2.88**	**47**	PN	**Pn**		**21 26 50.5**	**+1.3**
JCZ					AML	AML	21 27 48.1	
JCZ					AML	AML	21 27 50.3	
HHSZ	**Highcliff Hill**	**3.34**	**89**	PN	**Pn**		**21 26 56.0**	**+0.6**
LBZ	**Lake Benmore**	**3.52**	**63**	PN	**Pn**		**21 26 58.6**	**+0.7**
LBZ					AML	AML	21 28 10.8	
LBZ					AML	AML	21 28 17.5	
ODZ	**Otahua Downs**	**3.54**	**75**	PN	**Pn**		**21 26 58.3**	**+0.1**
ODZ	**Otahua Downs**	**3.54**	**75**	*e*Pn	**Pn**		**21 26 59.1**	**+0.9**
FOZ	**Fox Glacier**	**3.72**	**49**	PN	**Pn**		**21 27 02.7**	**+2.1**
FOZ					AML	AML	21 28 20.2	
FOZ					AML	AML	21 28 26.8	
RPZ	**Rata Peaks**	**4.40**	**60**	PN	**Pn**		**21 27 09.9**	**-0.1**
RPZ					AML	AML	21 28 38.1	
RPZ					AML	AML	21 28 39.9	
RPZ	**Rata Peaks**	**4.40**	**60**	Pn	**Pn**		**21 27 10.3**	**+0.3**
	54nm,0.3s,baz=220,slow=4.1,SNR=134							
RPZ				Sn	**Sn**		**21 28 02.0**	**+0.7**
	50nm,0.3s,baz=2.6,slow=22,SNR=13							
RPZ				LR	LR		21 28 35.4	
	comp=Z,835nm,19.5s,baz=246,slow=35							
WVZ	**Waitaha Valley**	**4.62**	**51**	PN	**Pn**		**21 27 13.4**	**+0.5**
WVZ					AML	AML	21 28 18.3	
WVZ	**Waitaha Valley**	**4.62**	**51**	*e*Pn	**Pn**		**21 27 13.7**	**+0.8**
OXZ	**Oxford**	**5.22**	**61**	PN	**Pn**		**21 27 20.7**	**-0.5**
MQZ	**McQueen's Vall**	**5.40**	**67**	PN	**Pn**		**21 27 23.8**	**+0.1**
MQZ	**McQueen's Vall**	**5.40**	**67**	Pn	**Pn**		**21 27 23.3**	**-0.4**
LTZ	**Lake Taylor**	**5.67**	**57**	AML	AML		21 28 44.1	
LTZ					AML	AML	21 28 53.3	
DSZ	**Denniston Nort**	**6.11**	**47**	*e*PN	**Pn**		**21 27 33.7**	**+0.1**
KHZ	**Kahutara**	**6.64**	**59**	PN	**Pn**		**21 27 40.6**	**-0.1**
KHZ					AML	AML	21 29 05.6	
KHZ					AML	AML	21 30 05.1	
KHZ	**Kahutara**	**6.64**	**59**	*e*Pn	**Pn**		**21 27 40.5**	**-0.1**
THZ	**Tophouse**	**6.69**	**53**	PN	**Pn**		**21 27 40.9**	**-0.5**
THZ					AML	AML	21 29 14.6	
THZ					AML	AML	21 29 18.5	
THZ	**Tophouse**	**6.69**	**53**	*e*Pn	**Pn**		**21 27 40.9**	**-0.5**
QRZ	**Quartz Range**	**7.16**	**45**	PN	**Pn**		**21 27 48.5**	**+0.6**
NNZ	**Nelson**	**7.32**	**51**	*e*PN	**Pn**		**21 27 51.0**	**+0.9**
TUWZ	**Tuamarina**	**7.49**	**55**	AML	AML		21 29 38.5	
TUWZ					AML	AML	21 29 39.4	
TCW	**Tory Channel**	**7.82**	**55**	AML	AML		21 29 33.0	
TCW					AML	AML	21 29 44.8	
SNZO	**South Karori**	**8.01**	**57**	*e*Pn	**Pn**		**21 27 58.6**	**-0.8**
BFZ	**Birch Farm**	**9.31**	**58**	*e*Pn	**Pn**		**21 28 16.4**	**-0.9**
URZ	**Urewera**	**11.44**	**51**	Pn	**Pn**		**21 28 45.8**	**-0.8**
	1.2nm,0.3s,baz=264,slow=8.4,SNR=6.4							
URZ				Sn	**Sn**		**21 30 51.3**	**-2.9**
	1.1nm,0.3s,baz=142,slow=20,SNR=4.5							
URZ				LR	LR		21 33 46.5	
	comp=Z,2µm,19.6s,baz=210,slow=41							
URZ	**Urewera**	**11.44**	**51**	*e*Pn	**Pn**		**21 28 46.4**	**-0.1**
URZ				Sn	**Sn**		**21 30 51.3**	**-2.9**
OUZ	**Omahuta**	**12.33**	**31**	*e*Pn	**Pn**		**21 28 58.3**	**-0.4**
TAU	**Tasmania Unive**	**13.57**	**277**	*e*Pn	Pn		21 29 11.0	-4.6
RAO	**Raoul Island**	**21.09**	**43**	LR	LR		21 38 50.3	
	comp=Z,657nm,19.2s,baz=196,slow=36							
STKA	**Stephens Creek**	**23.44**	**299**	LR	LR		21 39 28.7	
	comp=Z,306nm,18.2s,baz=126,slow=34							
EIDS	**Eidsvold**	**23.79**	**325**	*e*P	**P**		**21 31 14.4**	**-1.5**
	164nm,2.3s							
DZM	**Mont Dzumac**	**23.94**	**1**	P	**P**		**21 31 17.5**	**0.0**
	6.7nm,0.8s,baz=90,slow=20,SNR=2.2							
VNDA	**Vanda**	**31.61**	**182**	LR	LR		21 42 30.8	
	comp=Z,338nm,20.3s,baz=358,slow=31							
AS12	**Alice Springs**	**34.06**	**300**	*e*P	**P**		**21 32 47.8**	**+0.2**
ASAR	**Alice Springs**	**34.06**	**300**	P	**P**		**21 32 47.8**	**+0.2**
	0.7nm,0.6s,baz=132,slow=8.0,SNR=11							
ASAR				LR	LR		21 46 22.4	
	comp=Z,274nm,18.3s,baz=144,slow=36							
WRA	**Warramunga Arr**	**36.67**	**305**	P	**P**		**21 33 09.3**	**-0.7**
	0.9nm,0.6s,baz=136,slow=7.9,SNR=12							
RAR	**Rarotonga**	**37.43**	**60**	LR	LR		21 47 09.2	
	comp=Z,242nm,20.6s,baz=225,slow=34							
H01W1	**Cape Leeuwin H**	**40.20**	**267**	T	T		22 16 30.3	
	baz=121,slow=75,SNR=471							
H01W2	**Cape Leeuwin H**	**40.21**	**267**	T	T		22 16 30.3	
	baz=121,slow=75,SNR=683							
H01W3	**Cape Leeuwin H**	**40.22**	**267**	T	T		22 16 31.6	
	baz=121,slow=75,SNR=460							
QSPA	**South Pole Qui**	**44.06**	**180**	P	**P**		**21 34 11.5**	**+0.7**
	3.3nm,1.1s,baz=45,slow=4.3,SNR=4.5							
QSPA	**South Pole Qui**	**44.06**	**180**	*e*P	**P**		**21 34 09.7**	**-1.2**
	10nm,1.3s							
PPT2	**Papeete2**	**46.50**	**67**	*e*S	S		21 41 38.2	+19
	92nm,31.0s							
PPT2				*e*LQ	LQ		21 45 01.1	
	363nm,28.8s							
PPT2				*e*LR	LR		21 47 46.3	
	347nm,29.5s							
PPT	**Papeete**	**46.52**	**67**	LR	LR		21 50 49.1	
	comp=Z,166nm,18.9s,baz=194,slow=32							
MAW	**Mawson**	**52.90**	**208**	LR	LR		21 56 12.6	
	comp=Z,200nm,18.3s,baz=64,slow=34							
SNAA	**Sanae**	**62.30**	**184**	P	P		21 36 21.3	-3.5
VNA1	**Neumayer--Stat**	**63.52**	**182**	P	**P**		**21 36 33.5**	**+0.6**
MJAR	**Matsushiro Arr**	**85.91**	**338**	P	**P**		**21 38 44.0**	**+1.2**
	0.4nm,0.5s,baz=173,slow=8.3,SNR=2.6							
MAJO	**Matsushiro**	**85.91**	**338**	*e*P	**P**		**21 38 44.0**	**+1.2**
	41nm,2.3s							
H08S2	**Diego Garcia H**	**86.85**	**262**	T	T		23 14 42.5	
	baz=136,slow=76,SNR=187							
H08S1	**Diego Garcia H**	**86.86**	**262**	T	T		23 14 43.5	
	baz=136,slow=76,SNR=163							
H08S3	**Diego Garcia H**	**86.87**	**262**	T	T		23 14 43.9	
	baz=136,slow=76,SNR=207							
CM31	**Chiang Mai Arr**	**88.06**	**299**	*e*P	**P**		**21 38 54.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**88.06**	**299**	P	**P**		**21 38 54.8**	**+1.1**
	0.5nm,0.4s,baz=132,slow=3.6,SNR=7.6							
H08N1	**Diego Garcia H**	**88.80**	**262**	T	T		23 17 11.8	
	baz=145,slow=75,SNR=7.3							
H08N3	**Diego Garcia H**	**88.81**	**262**	T	T		23 17 13.5	
	baz=145,slow=75,SNR=4.9							
H08N2	**Diego Garcia H**	**88.82**	**262**	T	T		23 17 11.8	
	baz=145,slow=75,SNR=7.0							
OPO	**Ambohidratompo**	**95.12**	**237**	LR	LR		22 15 00.5	
	comp=Z,129nm,18.2s,baz=333,slow=31							
ILAR	**Eielson Array**	**116.50**	**21**	PKP	**PKPdf**		**21 44 45.9**	**0.0**
	0.4nm,0.7s,baz=238,slow=2.6,SNR=5.2							
KURBB	**Kurchatov Arra**	**122.16**	**311**	PKP	**PKPdf**		**21 44 56.4**	**-0.7**
	0.4nm,0.6s,baz=117,slow=1.8,SNR=6.2							
KURK	**Kurchatov**	**122.17**	**311**	PKP	**PKPdf**		**21 44 56.4**	**-0.7**
GEYT	**Alibeck**	**127.35**	**289**	PKP	**PKPdf**		**21 45 08.7**	**+1.1**
	0.5nm,0.3s,baz=276,slow=5.5,SNR=3.3							
BVAR	**Borovoye Array**	**127.72**	**311**	PKP	**PKPdf**		**21 45 07.8**	**+0.1**
	0.2nm,0.3s,baz=113,slow=4.2,SNR=3.6							
TORD	**Torodi Ar. Bea**	**144.55**	**207**	PKP	**PKPab**		**21 45 38.3**	**-0.1**
	1.9nm,0.6s,baz=155,slow=2.3,SNR=34							
BRTR	**Keskin Array B**	**144.83**	**277**	PKP	**PKPab**		**21 45 39.1**	**+0.2**
	2.0nm,1.0s,baz=145,slow=4.5,SNR=12							
SCHQ	**Schefferville**	**146.09**	**56**	PKPbc	**PKPbc**		**21 45 42.6**	**+0.2**
	4.7nm,0.9s,baz=221,slow=2.9,SNR=2.6							
OBN	**Obninsk**	**147.20**	**305**	PKPbc	**PKPbc**		**21 45 45.0**	**-0.5**
	3.9nm,0.4s,baz=329,slow=17,SNR=4.0							
DAG	**Danmarks Havn**	**149.13**	**2**	*i* P	**PKPbc**		**21 45 48.8**	**-1.2**
	8.0nm,1.0s							
ARCES	**ARCESS Array B**	**149.35**	**334**	PKPbc	**PKPbc**		**21 45 51.7**	**+0.9**
	2.2nm,0.7s,baz=88,slow=3.0,SNR=16							
AKASG	**Malin Array Be**	**151.11**	**295**	PKPbc	**PKPbc**		**21 45 55.7**	**+0.1**
	0.5nm,0.4s,baz=75,slow=2.7,SNR=8.5							
AKASG				PKPab	**PKPab**		**21 46 02.8**	**-0.6**
	5.5nm,0.8s,baz=79,slow=2.3,SNR=13							
SUMG	**Summit**	**151.12**	**15**	*i* P	**PKPbc**		**21 45 55.9**	**+0.4**
	20nm,1.3s							
MLR	**Muntele Rosu**	**152.21**	**284**	PKPbc	**PKPbc**		**21 45 58.8**	**+0.4**
	0.3nm,0.6s,baz=196,slow=9.9,SNR=3.6							
MLR				PKPab	**PKPab**		**21 46 06.8**	**-1.5**
	0.9nm,0.8s,baz=88,slow=2.8,SNR=7.7							
FINES	**FINESS Array B**	**152.22**	**318**	PKPbc	**PKPbc**		**21 45 57.6**	**-0.1**
	2.1nm,0.9s,baz=102,slow=6.4,SNR=5.6							
FINES				PKPab	**PKPab**		**21 46 06.0**	**-1.6**
	2.9nm,0.9s,baz=83,slow=6.0,SNR=6.4							

*IDC **30** 22:18:10.4±0.6,55˚.32S×27˚.83W,h0km,mb4.4/12, mb1 4.4/13,mb1mx4.2/30,mbtmp4.4/13,ML4.4/1,MS3.8/7, Ms1 3.8/7,ms1mx3.6/17,Error ellipse: s-maj=18.4km s-min=15.4km az=69.0*

*ISCJB **30** 22˚.18:12.2±0.5,55˚.33S±0˚.07×27˚.9W±0˚.1,h26km, mb4.5/15,MS3.8/7,Error ellipse: s-maj=11.6km s-min=9.8km az=137.3*

*AWI **30** 22:18:14.2,55˚.02S×27˚.56W*

*NEIC **30** 22:18:15.1±0.3,55˚.44S×27˚.84W,h35km,mb4.7/5,Error ellipse: s-maj=10.3km s-min=9.1km az=221.0*

ISC 30 22:18:13.9±0.5, 55˚.39S±0˚.09×28˚.01W±0˚.07, h26km, n43, σ1§40/36, mb4.5/14, MS3.7/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.02**	**279**	*e*Pn			**Pn**	**22 19 27.6**	**+0.2**
HOPE				*e*Sn			**Sn**	**22 20 20.6**	**-3.9**
VNA1	**Neumayer--Stat**	**17.58**	**158**	P			**P**	**22 22 19.1**	**+1.6**
SNAA	**Sanae**	**19.54**	**156**	P			**P**	**22 22 35.3**	**-3.8**
SNAA	**Sanae**	**19.54**	**156**	P			**P**	**22 22 39.2**	**+0.2**
	1.2nm,0.3s,baz=302,slow=10,SNR=174								
SNAA				LR			LR	22 27 49.1	
	comp=Z,19nm,21.8s,baz=312,slow=30								
SNAA	**Sanae**	**19.54**	**156**	*e*P			**P**	**22 22 35.8**	**-3.3**
	11nm,0.5s								
PMSA	**Palmer Station**	**19.99**	**228**	P			**Pn**	**22 22 46.7**	**+0.9**
	20nm,0.7s,baz=79,slow=7.8,SNR=5.8								
PMSA				LR			LR	22 28 51.6	
	comp=Z,472nm,20.1s,baz=72,slow=32								
PMSA	**Palmer Station**	**19.99**	**228**	*e*P			**Pn**	**22 22 46.4**	**+0.7**
	880nm,2.8s								
USHA	**Ushuaia**	**22.90**	**255**	P			**P**	**22 23 17.2**	**+1.9**
	20nm,1.1s,baz=214,slow=7.3,SNR=3.4								
QSPA	**South Pole Qui**	**34.86**	**180**	P			**P**	**22 25 03.4**	**+0.8**
	8.2nm,0.7s,baz=209,slow=2.9,SNR=72								
QSPA	**South Pole Qui**	**34.86**	**180**	*e*P			**P**	**22 25 03.1**	**+0.5**
	8.2nm,0.6s								
CPUP	**Villa Florida**	**36.02**	**312**	P			**P**	**22 25 12.6**	**-0.1**
	6.2nm,0.9s,baz=162,slow=8.6,SNR=11								
CPUP	**Villa Florida**	**36.02**	**312**	*e*P			**P**	**22 25 12.9**	**+0.2**
CFAA	**Coronel Fontan**	**36.87**	**293**	P			**P**	**22 25 19.8**	**-0.2**
	1.0nm,0.8s,baz=149,slow=8.5,SNR=17								
MAW	**Mawson**	**40.96**	**144**	P			**P**	**22 25 53.7**	**0.0**
	0.7nm,0.4s,baz=298,slow=15,SNR=2.6								
MAW				LR			LR	22 43 17.9	
	comp=Z,105nm,18.1s,baz=241,slow=37								
BDFB	**Brasilia**	**42.56**	**331**	P			**P**	**22 26 08.3**	**+0.8**
	2.0nm,0.6s,baz=200,slow=2.6,SNR=3.5								
BOSA	**Boshof**	**46.27**	**77**	P			**P**	**22 26 36.2**	**-0.9**
	4.3nm,0.9s,baz=139,slow=9.3,SNR=3.8								
BOSA				LR			LR	22 43 15.0	
	comp=Z,161nm,18.0s,baz=193,slow=33								
VNDA	**Vanda**	**47.21**	**183**	P			**P**	**22 26 44.9**	**+1.2**
	5.4nm,0.7s,baz=184,slow=6.7,SNR=39								
VNDA	**Vanda**	**47.21**	**183**	*e*P			**P**	**22 26 42.2**	**-1.5**
	7.4nm,0.9s								
H10S2	**ASCENSION HYDR**	**47.51**	**18**	T			T	23 18 14.1	
	baz=190,slow=75,SNR=14								
H10S3	**ASCENSION HYDR**	**47.51**	**18**	T			T	23 18 15.7	
	baz=190,slow=75,SNR=14								
H10S1	**ASCENSION HYDR**	**47.52**	**18**	T			T	23 18 13.9	
	baz=190,slow=75,SNR=14								
H10N1	**ASCENSION HYDR**	**48.63**	**18**	T			T	23 19 37.5	
	baz=190,slow=75,SNR=5.8								
H10N3	**ASCENSION HYDR**	**48.63**	**18**	T			T	23 19 39.0	
	baz=190,slow=75,SNR=12								
H10N2	**ASCENSION HYDR**	**48.64**	**18**	T			T	23 19 39.5	
	baz=190,slow=75,SNR=14								
LPAZ	**La Paz**	**49.61**	**306**	LR			LR	22 50 27.2	
	comp=Z,56nm,18.4s,baz=178,slow=39								
TSUM	**Tsumeb**	**49.78**	**62**	*e*P			**P**	**22 27 03.0**	**-1.3**
	152nm,2.8s								
CASY	**Casey**	**54.69**	**161**	*e*P			**P**	**22 27 39.8**	**-0.2**
	163nm,2.8s								
DBIC	**Dimbokro**	**64.77**	**26**	P			**P**	**22 28 50.0**	**+0.1**
	2.6nm,0.7s,baz=167,slow=7.0,SNR=3.6								
DBIC				LR			LR	22 50 23.3	
	comp=Z,47nm,19.9s,baz=172,slow=30								
OTAV	**Otavalo**	**68.90**	**304**	*e*P			**P**	**22 29 18.5**	**+1.7**
	10nm,0.6s								
ROSC	**El Rosal**	**71.12**	**310**	LR			LR	23 03 03.6	
	comp=Z,30nm,19.4s,baz=190,slow=38								
TOA0	**Torodi Ar. Sit**	**72.71**	**30**	*e*P			**P**	**22 29 39.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**72.71**	**30**	P			**P**	**22 29 39.9**	**+0.5**
	2.2nm,0.7s,baz=206,slow=6.0,SNR=22								
TORD				LR			LR	22 56 50.5	
	comp=Z,92nm,18.7s,baz=205,slow=32								
SDV	**Santo Domingo**	**73.21**	**316**	*e*P			**P**	**22 29 41.7**	**-0.9**
	6.6nm,0.9s								
AS12	**Alice Springs**	**99.76**	**163**	*e*Pdif			**Pdif**	**22 31 54.5**	**-1.2**
ASAR	**Alice Springs**	**99.76**	**163**	P			**Pdif**	**22 31 54.5**	**-1.2**
	0.8nm,0.8s,baz=188,slow=5.0,SNR=6.4								
FIA0	**FINESS Array S**	**124.02**	**28**	*e*PKPdf			**PKPdf**	**22 37 08.2**	**0.0**
FINES	**FINESS Array B**	**124.02**	**28**	PKP			**PKPdf**	**22 37 08.2**	**0.0**
	0.9nm,0.5s,baz=151,slow=4.4,SNR=13								
ARCES	**ARCESS Array B**	**130.50**	**22**	PKP			**PKPdf**	**22 37 20.3**	**-0.1**
	4.2nm,1.0s,baz=141,slow=0.8,SNR=6.4								
ARA0	**ARCESS Array S**	**130.50**	**22**	*e*PKPdf			**PKPdf**	**22 37 20.3**	**-0.1**
ZALV	**Zalesovo Beam**	**142.49**	**63**	PKP			**PKPdf**	**22 37 43.4**	**+0.4**
	0.7nm,0.6s,baz=211,slow=4.2,SNR=2.9								
INK	**Inuvik**	**144.99**	**321**	PKPbc			**PKPdf**	**22 37 47.3**	**+0.4**
	25nm,1.0s,baz=103,slow=3.1,SNR=18								
ILAR	**Eielson Array**	**149.32**	**313**	PKPbc			**PKPbc**	**22 37 59.5**	**+0.8**
	13nm,1.0s,baz=112,slow=1.2,SNR=30								
SONM	**Songino Array**	**151.15**	**86**	PKPbc			**PKPbc**	**22 38 04.2**	**+0.4**
	3.3nm,0.7s,baz=232,slow=3.0,SNR=21								

*ISCJB **30** 22˚.24:21.8±0.4,21˚.15S±0˚.04×68˚.15W±0˚.03,h94km±4km, mb5.0/114,Error ellipse: s-maj=6.7km s-min=4.7km az=33.2*

*MOS **30** 22:24:23.4±1.0,21˚.06S×68˚.00W,h105km,mb5.0/28, Error ellipse: s-maj=19.2km s-min=6.4km az=123.6*

*SJA **30** 22:24:24.5±0.9,21˚.52S×68˚.36W,h113km±21km,ML3.8*

*NEIC **30** 22:24:24.0,21˚.48S×68˚.57W,h131km,mb5.0/103,After GUC.*

NEIC Felt [III] at Oficina Maria Elena and [II] at Mejillones.

*GUC **30** 22˚.24:24.5±0.5,21˚.48S×68˚.57W,h131km±5km,ML5.2*

*BJI **30** 22:24:25.0,21˚.50S×68˚.60W,h131km,mB5.2/6*

*IDC **30** 22:24:25.1±0.6,21˚.42S×68˚.21W,h120km±5km,mb4.3/14, mb1 4.4/19,mb1mx4.3/31,mbtmp4.7/19,MS2.9/3, Ms1 2.9/3,ms1mx2.8/18,Error ellipse: s-maj=13.8km s-min=11.0km az=59.0*

ISC 30 22:24:24.4±0.4, 21˚.45S±0˚.04×68˚.24W±0˚.05, h116km±3km, h116km:pP-P, n594, σ1§17/618, mb4.9/114, 8C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.99**	**249**	⇑*i*P			**Pn**	**22 24 45.9**	**-0.4**
PB09				*i* S			**Sn**	**22 25 01.5**	**-1.3**
PB09				AML			AML	22 25 04.5	
	comp=E,108µm,0.5s								
PB01	**IPOC Station P**	**1.23**	**289**	⇑*i*P			**Pn**	**22 24 47.9**	**-0.7**
PB01				*i* S			**Sn**	**22 25 05.1**	**-1.8**
LVC	**Limon Verde**	**1.32**	**208**	P			**Pn**	**22 24 49.5**	**-0.2**
	comp=E,39µm,0.3s,baz=14,slow=9.5,SNR=6899								
LVC				S			**Sn**	**22 25 07.3**	**-1.7**
	comp=E,22µm,0.3s,baz=254,slow=22,SNR=69								
LVC				LR			LR	22 25 26.1	
	comp=E,4µm,20.5s,baz=348,slow=45								
LVC	**Limon Verde**	**1.32**	**208**	*e*Pn			**Pn**	**22 24 49.1**	**-0.7**
LVC				S			**Sn**	**22 25 07.3**	**-1.7**
LVC	**Limon Verde**	**1.32**	**208**	*e*P			**Pn**	**22 24 49.3**	**-0.5**
LVC				*e*S			**Sn**	**22 25 07.7**	**-1.3**
PB04	**IPOC Station P**	**1.41**	**235**	⇑*i*P			Pn	22 24 55.6	+5.0
PB04				*i* S			Sn	22 25 19.6	+9.1
PB04				AML			AML	22 25 27.0	
	comp=E,9µm,0.2s								
PB07	**IPOC Station P**	**1.55**	**259**	⇑*i*P			**Pn**	**22 24 51.1**	**-1.4**
PB07				*i* S			**Sn**	**22 25 10.8**	**-2.9**
PB07				AML			AML	22 25 12.0	
	comp=E,23µm,0.4s								
PATCX	**Punta Patache**	**1.89**	**289**	⇑*i*P			**Pn**	**22 24 55.5**	**-0.9**
PATCX				*i* S			**Sn**	**22 25 18.8**	**-1.9**
PATCX				AML			AML	22 25 21.8	
	comp=E,13µm,0.4s								
PB11	**IPOC Station P**	**2.14**	**321**	⇑*i*P			**Pn**	**22 24 59.4**	**-0.2**
PB11				*e*S			**Sn**	**22 25 25.7**	**-0.8**
PB11				AML			AML	22 25 28.5	
	comp=E,32µm,0.5s								
MNMC	**Minimini**	**2.63**	**331**	⇑*i*P			**Pn**	**22 25 06.4**	**+0.3**
MNMC				*i* S			**Sn**	**22 25 38.5**	**+0.5**
MNMC				AML			AML	22 25 44.1	
	comp=E,8µm,0.5s								
YJA	**Yavi**	**2.64**	**106**	*e*P			Pn	22 25 09.5	+3.2
CEN1	**Los Morros**	**2.65**	**223**	*e*P			**Pn**	**22 25 07.5**	**+1.4**
PB10	**IPOC Station P**	**2.97**	**226**	AML			AML	22 25 52.9	
	comp=N,12µm,0.2s								
HJA	**Humahuaca**	**3.16**	**124**	*e*P			**Pn**	**22 25 15.8**	**+2.8**
AZAP	**Zapla**	**4.03**	**134**	*e*P			**Pn**	**22 25 25.9**	**+1.4**
SLA	**San Lorenzo**	**4.12**	**143**	*e*P			**Pn**	**22 25 28.1**	**+2.4**
SLA				AML			AML	22 26 14.3	
	comp=Z,64nm,0.6s								
ASTB	**Santa Barbara**	**4.27**	**126**	*e*P			**Pn**	**22 25 29.3**	**+1.6**
FSA	**Cafayete**	**5.06**	**157**	*e*P			**Pn**	**22 25 40.2**	**+1.9**
FSA				AML			AML	22 26 46.4	
	comp=Z,51nm,0.6s								
LPAZ	**La Paz**	**5.13**	**1**	P			**Pn**	**22 25 42.0**	**+2.3**
	comp=Z,18nm,0.3s,baz=194,slow=5.0,SNR=241								
LPAZ	**La Paz**	**5.13**	**1**	*e*P			**Pn**	**22 25 41.5**	**+1.8**
LPAZ	**La Paz**	**5.13**	**1**	*e*Pn			**Pn**	**22 25 41.5**	**+1.8**
ARE	**Arequipa**	**5.83**	**328**	*e*P			**Pn**	**22 25 46.0**	**-2.9**
ARE				*e*S			Sn	22 26 48.0	-6.7
ARE	**Arequipa**	**5.83**	**328**	*e*P			**Pn**	**22 25 46.0**	**-2.9**
ARE				*e*S			Sn	22 26 48.0	-6.7
AHML	**Horco Molle**	**5.94**	**154**	*e*P			**Pn**	**22 25 51.2**	**+1.1**
CYA	**Choya**	**7.31**	**163**	*e*P			**Pn**	**22 26 09.0**	**+0.4**
CYA				AML			AML	22 27 34.9	
	comp=Z,18nm,0.7s								
LCO	**Las Campanas**	**7.85**	**196**	*e*Pn			Pn	22 26 10.7	-5.5
SIV	**San Ignacio**	**8.69**	**53**	P			**Pn**	**22 26 26.4**	**-1.0**
	comp=Z,15nm,0.3s,baz=252,slow=12,SNR=155								
SIV				S			**Sn**	**22 27 58.1**	**-5.6**
	baz=312,slow=20,SNR=16								
CFAA	**Coronel Fontan**	**10.12**	**180**	P			Pn	22 26 42.1	-4.4
	comp=Z,0.8nm,0.3s,baz=348,slow=11,SNR=41								
CFAA				LR			LR	22 31 16.2	
	comp=Z,21nm,18.4s,baz=252,slow=40								
CPUP	**Villa Florida**	**11.10**	**118**	P			**Pn**	**22 26 58.5**	**-1.3**
	comp=Z,1.5nm,0.3s,baz=298,slow=12,SNR=36								
CPUP	**Villa Florida**	**11.10**	**118**	*e*P			**Pn**	**22 26 58.7**	**-1.1**
CPUP	**Villa Florida**	**11.10**	**118**	*e*Pn			**Pn**	**22 26 58.7**	**-1.1**
NNA	**Nana**	**12.50**	**317**	*e*P			**Pn**	**22 27 16.4**	**-1.9**
NNA	**Nana**	**12.50**	**317**	*e*Pn			**Pn**	**22 27 16.4**	**-1.9**
SAML	**Samuel**	**13.35**	**22**	*e*Pn			**Pn**	**22 27 29.1**	**-0.2**
ATAH	**Atahualpa**	**17.28**	**324**	P			**Pn**	**22 28 20.5**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=169,slow=18,SNR=4.1								
TRQA	**Tornquist**	**17.41**	**163**	*e*P			**P**	**22 28 17.0**	**-2.6**
	comp=Z,55nm,0.5s								
BDFB	**Brasilia**	**20.02**	**77**	P			**P**	**22 28 48.2**	**-0.2**
	comp=

632A	Uvalde	59.07	328	P	P	22 34 12.7	+0.2
	baz=59						
435B	Jarrell	59.08	331	P	P	22 34 12.6	+0.1
	baz=59						
533A	Kerrville	59.17	329	P	P	22 34 13.2	0.0
	baz=59						
OXF	Oxford	59.18	340	eP	P	22 34 12.7	-0.4
OXF				pmax	pmax		
	comp=Z,61nm,0.9s						
OXF	Oxford	59.18	340	eP	P	22 34 12.7	-0.4
	comp=Z,61nm,0.9s						
336A	Riesel	59.26	332	P	P	22 34 13.9	+0.2
	baz=59						
237A	Washetta, Mont	59.34	333	P	P	22 34 14.6	+0.4
	baz=60						
139A	Bunkhouse Ranc	59.34	334	P	P	22 34 14.4	+0.2
	baz=60						
631A	Perdido Creek	59.39	327	P	P	22 34 15.0	+0.3
	baz=60						
VWCC	Virginia Weste	59.42	349	eP	P	22 34 15.5	+0.8
434A	Burnet	59.43	330	P	P	22 34 15.3	+0.3
	baz=60						
335A	Moody	59.43	331	P	P	22 34 15.1	+0.2
	baz=60						
BLA	Blacksburg	59.46	349	eP	P	22 34 16.0	+0.9
BLA				pmax	pmax		
	comp=Z,24nm,0.8s						
BLA	Blacksburg	59.46	349	eP	P	22 34 16.0	+0.9
	comp=Z,24nm,0.8s						
TZTN	Tazewell	59.46	346	eP	P	22 34 14.5	-0.5
	comp=Z,55nm,0.7s						
138A	Matatall Enter	59.61	334	P	P	22 34 16.9	+0.8
	baz=60						
532A	Rocksprings	59.64	328	P	P	22 34 16.7	+0.3
	baz=60						
236A	Katherine and	59.65	332	P	P	22 34 16.9	+0.5
	baz=60						
433A	Art	59.76	329	P	P	22 34 16.9	-0.4
	baz=60,SNR=13						
137A	Heron Place, G	59.83	333	P	P	22 34 18.5	+0.9
	baz=60,SNR=6.5						
334A	Lometa	59.85	330	P	P	22 34 17.3	-0.5
	baz=60,SNR=6.1						
JCT	Junction City	59.88	329	eP	P	22 34 18.4	+0.3
JCT				pmax	pmax		
	comp=Z,20nm,0.8s						
JCT	Junction City	59.88	329	P	P	22 34 17.9	-0.2
	baz=60,SNR=7.5						
JCT	Junction City	59.88	329	eP	P	22 34 18.4	+0.3
	comp=Z,20nm,0.8s						
531A	Rocksprings	59.99	328	P	P	22 34 19.3	+0.5
	baz=60,SNR=11						
WHTX	Lake Whitney,	60.05	331	P	P	22 34 19.6	+0.5
	baz=60						
WHTX	Lake Whitney,	60.05	331	eP	P	22 34 19.7	+0.6
	comp=Z,26nm,0.7s						
136A	Ennis	60.05	332	P	P	22 34 19.7	+0.5
	baz=60						
Z38A	Mt. Pleasant	60.08	334	P	P	22 34 19.9	+0.6
	baz=60						
VNA1	Neumayer--Stat	60.13	161	P	P	22 34 18.7	-0.5
333A	Richland Sprin	60.19	330	P	P	22 34 19.8	-0.4
	baz=60,SNR=7.2						
432A	Menard	60.20	329	P	P	22 34 20.2	-0.1
	baz=60,SNR=14						
Y39A	Lockesburg	60.33	335	P	P	22 34 21.3	+0.3
	baz=60						
234A	Clairette	60.37	331	P	P	22 34 21.4	+0.1
	baz=60,SNR=11						
530A	J-C Ranch, Com	60.37	327	P	P	22 34 21.6	+0.1
	baz=60,SNR=15						
UALR	University of	60.42	337	eP	P	22 34 21.3	-0.3
	comp=Z,22nm,0.8s						
431A	Sonora	60.44	328	P	P	22 34 22.0	+0.1
	baz=61,SNR=8.7						
SLBS	Sierra La Lagu	60.50	316	eP	P	22 34 24.6	+2.1
	comp=Z,19nm,0.7s						
135A	Vickery Place,	60.51	332	P	P	22 34 22.6	+0.3
	baz=61						
Y38A	Idabel	60.57	335	P	P	22 34 22.6	0.0
	baz=61						
332A	Millersview	60.59	329	P	P	22 34 22.7	-0.2
	baz=61,SNR=13						
MIAR	Mount Ida	60.67	336	eP	P	22 34 23.2	-0.1
MIAR				pmax	pmax		
	comp=Z,23nm,0.7s						
MIAR	Mount Ida	60.67	336	P	P	22 34 23.1	-0.2
	baz=61,SNR=16						
MIAR	Mount Ida	60.67	336	eP	P	22 34 23.2	-0.1
	comp=Z,23nm,0.7s						
Z36A	Blue Ridge	60.70	333	P	P	22 34 23.8	+0.3
	baz=61,SNR=6.3						
233A	Rising Star	60.73	330	P	P	22 34 23.8	0.0
	baz=61,SNR=11						
529A	Stev Forest Ra	60.80	326	P	P	22 34 24.7	+0.3
	baz=61,SNR=8.0						
134A	White-Moore Ra	60.82	331	P	P	22 34 24.1	-0.3
	baz=61						
430A	Baggett Ranch,	60.84	328	P	P	22 34 24.6	0.0
	baz=61,SNR=6.8						
331A	San Angelo	60.86	329	P	P	22 34 24.6	-0.2
	baz=61,SNR=10.0						
LTX	Lajitas	60.94	325	eP	P	22 34 25.6	+0.2
LTX	Lajitas	60.94	325	eP	P	22 34 25.6	+0.2
TXAR	Lajitas Array	60.94	325	P	P	22 34 25.6	+0.2
	comp=Z,2.9nm,0.7s,baz=149,slow=8.6,SNR=27						
TX31	Lajitas Ar. Si	60.94	325	eP	P	22 34 25.0	-0.4
232A	Coleman	60.97	330	P	P	22 34 25.2	-0.2
	baz=61,SNR=11						
429A	Davenport Ranc	61.04	327	P	P	22 34 26.0	0.0
	baz=61,SNR=10						
Z35A	Perchaven, San	61.10	332	P	P	22 34 26.8	+0.6
	baz=61						
133A	Hamilton Ranch	61.23	331	P	P	22 34 27.2	0.0
	baz=61,SNR=8.7						
X38A	Whitesboro	61.26	335	P	P	22 34 27.9	+0.6
	baz=61,SNR=15						
330A	Mertzon	61.31	328	P	P	22 34 27.7	-0.1
	baz=61						
231A	Bronte	61.33	329	P	P	22 34 27.8	0.0
	baz=62						
X37A	Clayton	61.41	335	P	P	22 34 28.6	+0.4
	baz=62,SNR=12						
Z34A	Collier Ranch,	61.42	332	P	P	22 34 28.6	+0.1
	baz=62,SNR=8.4						
W38A	Poteau	61.49	336	P	P	22 34 29.2	+0.3
	baz=62,SNR=13						
Y35A	Marietta	61.50	333	P	P	22 34 29.6	+0.7
	baz=62						
ABTX	Abilene, Hawle	61.58	330	P	P	22 34 29.7	+0.2
	baz=62						
ABTX	Abilene, Hawle	61.58	330	eP	P	22 34 29.8	+0.2
	comp=Z,28nm,1.1s						
PBMO	Poplar Bluff	61.58	340	eP	P	22 34 28.8	-0.6
	comp=Z,29nm,0.8s						
230A	Sterling City	61.67	328	P	P	22 34 30.3	+0.1
	baz=62						
Z33A	Whitaker Ranch	61.73	331	P	P	22 34 30.2	-0.3
	baz=62,SNR=9.6						
WCI	Wyandotte Cave	61.73	344	eP	P	22 34 29.1	-1.4
WCI				pmax	pmax		
	comp=Z,34nm,0.6s						
WCI	Wyandotte Cave	61.73	344	eP	P	22 34 29.1	-1.4
	comp=Z,34nm,0.6s						
329A	Wagon Wheel Ra	61.78	327	P	P	22 34 30.7	-0.2
	baz=62,SNR=9.3						
X36A	Centrahoma	61.79	334	P	P	22 34 30.1	-0.7
	baz=62,SNR=5.3						
Y34A	Reagan Ranch,	61.85	332	P	P	22 34 31.0	-0.3
	baz=62,SNR=7.8						
USIN	University of	61.85	343	eP	P	22 34 30.5	-0.7
	comp=Z,33nm,0.6s						
X35A	Drake	61.90	333	P	P	22 34 31.2	-0.4
	baz=62,SNR=9.3						
W37A	Quinton	61.91	335	P	P	22 34 31.9	+0.2
	baz=62,SNR=7.9						
131A	Roby	61.97	329	P	P	22 34 32.1	0.0
	baz=62,SNR=8.4						
SIUC	Southern Illin	62.07	341	eP	P	22 34 32.1	-0.5
	comp=Z,42nm,0.9s						
Z32A	Haskell	62.07	331	P	P	22 34 32.4	-0.4
	baz=62						
229A	Bryant Ranch,	62.08	328	P	P	22 34 33.1	+0.1
	baz=62						
SNAA	Sanae	62.13	161	P	P	22 34 29.5	-3.2
SNAA	Sanae	62.13	161	P	P	22 34 33.3	+0.5
	comp=Z,1.5nm,0.7s,baz=282,slow=7.6,SNR=22						
SNAA	Sanae	62.13	161⇑	iP	P	22 34 28.8	-4.0
SNAA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SNAA	Sanae	62.13	161	eP	P	22 34 29.7	-3.0
	comp=Z,5.3nm,0.9s						
130A	Snyder	62.18	329	P	P	22 34 33.3	-0.3
	baz=62,SNR=9.7						
W36A	Wetumka	62.23	334	P	P	22 34 33.3	-0.5
	baz=62,SNR=9.4						
Y33A	Hilltop Ranch,	62.28	332	P	P	22 34 34.2	0.0
	baz=62,SNR=5.1						
Z31A	Sharp Cattle R	62.39	330	P	P	22 34 34.3	-0.7
	baz=62,SNR=7.6						
SSPA	Standing Stone	62.41	352	eP	P	22 34 35.6	+0.7
	comp=Z,43nm,1.6s						
X34A	Smith Ranch, M	62.43	333	P	P	22 34 35.3	+0.1
	baz=63,SNR=5.3						
V37A	Hulbert	62.45	336	P	P	22 34 35.0	-0.2
	baz=63,SNR=12						
W35A	Tecumseh	62.50	334	P	P	22 34 34.7	-0.9
	baz=63						
228A	UT Block 9, Go	62.59	327	P	P	22 34 35.9	-0.4
	baz=63						
Y32A	R-V Farms, Ver	62.64	331	P	P	22 34 36.5	-0.1
	baz=63						
129A	Stewart Farms,	62.65	328	P	P	22 34 37.1	+0.4
	baz=63						
X33A	Lawton	62.67	332	P	P	22 34 36.3	-0.5
	baz=63						
V36A	Jenks	62.68	335	P	P	22 34 36.7	-0.1
	baz=63,SNR=9.4						
BLO	Bloomington	62.68	344	eP	P	22 34 35.7	-1.0
BLO				pmax	pmax		
	comp=Z,34nm,0.6s						
BLO	Bloomington	62.68	344	eP	P	22 34 35.7	-1.0
	comp=Z,34nm,0.6s						
OLIL	Olney	62.69	343	eP	P	22 34 35.1	-1.7
	comp=Z,27nm,0.9s						
TUL1	Leonard	62.73	335	P	P	22 34 36.6	-0.5
	baz=63						
TUL1	Leonard	62.73	335	eP	P	22 34 37.3	+0.2
	comp=Z,24nm,1.1s						
Z30A	Sanderson Ranc	62.82	329	P	P	22 34 37.6	-0.3
	baz=63,SNR=10						
ACSO	Alum Creek Sta	62.88	347	eP	P	22 34 37.9	-0.1
	comp=Z,34nm,0.8s						
X32A	Elmer	62.92	331	P	P	22 34 37.7	-0.7
	baz=63						
128A	Castleberry Fa	62.94	328	P	P	22 34 38.1	-0.6
	baz=63						
WMOK	Wichita Mounta	62.96	332	eP	P	22 34 37.8	-0.9
WMOK				pmax	pmax		
	comp=Z,31nm,1.8s						
WMOK	Wichita Mounta	62.96	332	eP	P	22 34 37.8	-0.9
	comp=Z,30nm,1.8s						
Y31A	Rekieta Farm,	62.98	330	P	P	22 34 39.3	+0.5
	baz=63						
V35A	Meyer Ranch, C	63.02	334	P	P	22 34 38.7	-0.3
	baz=63						
KSPA	Keystone Colle	63.07	354	eP	P	22 34 39.4	+0.1
	comp=Z,136nm,2.6s						
Z29A	Hungry Hill Ra	63.08	329	P	P	22 34 38.7	-0.9
	baz=63,SNR=5.9						
W33A	Caddo, Fort Co	63.17	332	P	P	22 34 40.2	+0.1
	baz=63,SNR=8.2						
Y30A	Stafford Cattl	63.20	330	P	P	22 34 40.1	-0.3
	baz=63						
V34A	Guthrie	63.36	334	P	P	22 34 41.1	-0.1
	baz=64						
V34A	Guthrie	63.36	334	eP	P	22 34 41.0	-0.3
	comp=Z,18nm,0.8s						
X31A	McDonald Ranch	63.40	331	P	P	22 34 41.5	-0.2
	baz=64,SNR=14						
Z28A	Tucker Farm, M	63.43	328	P	P	22 34 42.0	0.0
	baz=64						
T37A	Cheneyville 18	63.45	336	P	P	22 34 41.6	-0.2
	baz=64,SNR=25						
W32A	Sentinel	63.49	332	P	P	22 34 41.9	-0.3
	baz=64,SNR=11						
U35A	Pawnee	63.50	335	P	P	22 34 42.0	-0.2
	baz=64,SNR=10						
Y29A	Porterfield Fa	63.55	329	P	P	22 34 42.2	-0.5
	baz=64						
X30A	Coker Ranch, T	63.66	330	P	P	22 34 44.0	+0.6
	baz=64,SNR=5.9						
V33A	Lossen Ranch,	63.67	333	P	P	22 34 43.2	-0.1
	baz=64						
T36A	Boggs Farm, Ca	63.76	336	P	P	22 34 43.7	-0.2
	baz=64,SNR=8.4						
W31A	Holland Ranch,	63.85	331	P	P	22 34 44.0	-0.6
	baz=64						
Y28A	McKinney Farm,	63.87	329	P	P	22 34 44.3	-0.5
	baz=64						
U34A	Anderson Ranch	63.88	334	P	P	22 34 44.5	-0.3
	baz=64						
U34A	Anderson Ranch	63.88	334	eP	P	22 34 44.9	+0.2
	comp=Z,27nm,0.8s						
T35A	Sooner Cattle	63.88	335	P	P	22 34 44.7	-0.1
	baz=64,SNR=5.7						
V32A	Arapaho	63.91	332	P	P	22 34 44.8	-0.1
	baz=64						
SFIN	Lafayette	63.97	344	P	P	22 34 43.9	-1.2
	baz=64						
SFIN	Lafayette	63.97	344	eP	P	22 34 44.0	-1.2
	comp=Z,17nm,0.7s						
X29A	Tulia	64.05	330	P	P	22 34 45.5	-0.4
	baz=64						
U33A	Lingo Farm, Me	64.12	333	P	P	22 34 46.1	-0.1
	baz=64						
MSTX	Muleshoe	64.17	328	P	P	22 34 46.8	0.0
	baz=64,SNR=10.0						
MSTX	Muleshoe	64.17	328	eP	P	22 34 47.0	+0.1
	comp=Z,40nm,1.0s						
S36A	Lake Cedric, C	64.24	336	P	P	22 34 46.8	-0.2
	baz=64,SNR=10						
T34A	McClaskey Farm	64.25	335	P	P	22 34 46.9	-0.1
	baz=64						
V31A	Spring Creek L	64.30	332	P	P	22 34 47.6	+0.1
	baz=64						
AMTX	Amarillo	64.39	330	P	P	22 34 48.2	0.0
	baz=64						
AMTX	Amarillo	64.39	330	eP	P	22 34 48.1	-0.1
	comp=Z,18nm,1.3s						
U32A	Winter Ranch,	64.44	333	P	P	22 34 48.5	0.0
	baz=65						
R37A	Teagarden Farm	64.47	337	P	P	22 34 48.2	-0.3
	baz=65,SNR=7.0						
S35A	Otter Creek Ra	64.48	336	P	P	22 34 48.4	-0.2
	baz=65,SNR=9.1						
W29A	Amarillo	64.58	330	P	P	22 34 49.2	-0.2
	baz=65						
V30A	Spur Ranch, Mi	64.67	331	P	P	22 34 49.4	-0.6
	baz=65						
HDIL	Hopedale	64.72	342	P	P	22 34 49.3	-0.8
	baz=65						
T33A	Patterson Ranc	64.73	334	P	P	22 34 50.2	0.0
	baz=65						
R36A	Gordon, Harris	64.73	337	P	P	22 34 49.6	-0.6
	baz=65,SNR=5.7						
S34A	Willow Spring	64.80	335	P	P	22 34 50.7	0.0
	baz=65						
Q37A	Longview Farm,	64.84	338	P	P	22 34 50.5	-0.4
	baz=65						
W28A	Vega	64.95	330	P	P	22 34 51.8	0.0
	baz=65						
R35A	Emporia Munici	64.99	336	P	P	22 34 51.7	-0.2
	baz=65						
S33A	Kaszmaul Farm,	65.06	334	P	P	22 34 52.6	+0.1
	baz=65						
V28A	Channing	65.36	330	P	P	22 34 54.5	0.0
	baz=66						
R34A	Isabella, Hill	65.38	335	P	P	22 34 54.3	-0.1
	baz=66						
Q35A	Mercer Eighty,	65.40	336	P	P	22 34 54.4	-0.2
	baz=66						
U29A	Oasis Ranch, S	65.50	331	P	P	22 34 55.5	+0.2
	baz=66						
121A	Cookes Peak, D	65.65	324	P	P	22 34 57.8	+1.3
	baz=66,SNR=8.6						
V27A	Dan Oppiter Fa	65.65	330	P	P	22 34 56.5	+0.1
	baz=66						
R33A	Olander Ranch,	65.67	335	P	P	22 34 56.6	+0.3
	baz=66						
P36A	Good Intent, A	65.77	337	P	P	22 34 56.6	-0.3
	baz=66						
Q34A	Chapman	65.80	336	P	P	22 34 56.9	-0.1
	baz=66						
KSU1	Kansas State U	65.83	336	P	P	22 34 57.3	0.0
	baz=66						
U28A	Mallet	65.87	330	P	P	22 34 58.0	+0.2
	baz=66						
P35A	Duane Minner,	65.98	337	P	P	22 34 58.3	+0.1
	baz=66						
R32A	Long Quarter,	66.06	334	P	P	22 34 59.0	+0.2
	baz=66						
S30A	Montezuma	66.14	332	P	P	22 34 59.9	+0.6
	baz=66						
U27A	Thompson Grove	66.19	330	P	P	22 35 00.3	+0.5
	baz=66						
BNM	Barren Site	66.27	326	eP	P	22 35 01.7	+1.3
R31A	Burdett	66.28	333	P	P	22 35 00.5	+0.2
	baz=66						
P34A	Walnut Farm, R	66.30	336	P	P	22 35 00.2	-0.1
	baz=66						
LPM	Los Pinos Moun	66.39	326	eP	P	22 35 02.7	+1.5
S29A	Ulysses	66.40	332	P	P	22 35 01.5	+0.5
	baz=67						
T28A	Walsh	66.43	331	P	P	22 35 01.3	0.0
	baz=67						
Q32A	Meitler Ranch,	66.49	335	P	P	22 35 01.6	+0.1
	baz=67						
R30A	Dighton	66.60	333	P	P	22 35 02.1	-0.2
	baz=67						
T27A	Campo	66.66	330	P	P	22 35 02.7	-0.1
	baz=67,SNR=6.1						
S28A	Manter	66.72	331	P	P	22 35 03.3	+0.1
	baz=67						
ANMO	Albuquerque	66.80	326	P	P	22 35 04.7	+0.9
	comp=Z,6.4nm,0.7s,baz=140,slow=8.6						
ANMO	Albuquerque	66.80	326	diP	P	22 35 04.4	+0.6
ANMO				pmax	pmax		
	comp=Z,59nm,1.4s						
ANMO	Albuquerque	66.80	326	eP	P	22 35 04.5	+0.8
	comp=Z,8.5nm,0.8s						
O34A	Beatrice	66.80	337	P	P	22 35 03.4	-0.1
	baz=67						
CBKS	Cedar Bluff	66.82	334	eP	P	22 35 04.5	+0.8
CBKS				pmax	pmax		
	comp=Z,33nm,0.8s						
CBKS	Cedar Bluff	66.82	334	P	P	22 35 04.1	+0.5
	baz=67						
CBKS	Cedar Bluff	66.82	334	eP	P	22 35 04.5	+0.8
	comp=Z,33nm,0.8s						
Q31A	Ellis	66.84	334	P	P	22 35 04.2	+0.4
	baz=67						
N35A	Tabor	67.02	338	P	P	22 35 04.7	-0.1
	baz=67						
O33A	Hebron	67.04	336	P	P	22 35 05.3	+0.3
	baz=67						
R29A	Marienthal	67.08	332	P	P	22 35 05.8	+0.5
	baz=67						
Q30A	Quinter	67.16	333	P	P	22 35 06.5	+0.7
	baz=67						
T26A	Comanche Natio	67.16	330	P	P	22 35 06.4	+0.3
	baz=67						
JFWS	Jewell Farm	67.17	343	eP	P	22 35 05.3	-0.5
JFWS				pmax	pmax		
	comp=Z,23nm,0.8s						
JFWS	Jewell Farm	67.17	343	eP	P	22 35 05.2	-0.5
	comp=Z,23nm,0.8s						
TUC	Tucson	67.18	322	eP	P	22 35 06.9	+0.8
TUC				pmax	pmax		
	comp=Z,33nm,1.6s						
TUC	Tucson	67.18	322	eP	P	22 35 06.8	+0.8
	comp=Z,33nm,1.6s						
P31A	Stockton	67.27	334	P	P	22 35 07.2	+0.7
	baz=67						
N34A	Lincoln	67.31	337	P	P	22 35 06.3	-0.4
	baz=68						
Q29A	Oakley	67.40	333	P	P	22 35 07.7	+0.4
	baz=68						
S26A	Kim	67.46	330	P	P	22 35 08.5	+0.7
	baz=68,SNR=6.2						
T25A	Trinidad	67.51	329	P	P	22 35 09.1	+0.8
	baz=68						
P30A	Selden	67.64	334	P	P	22 35 09.3	+0.5
	baz=68						
R27A	Eads	67.70	331	P	P	22 35 09.8	+0.5
	baz=68						
LIC	Lamto	67.78	73	eP	P	22 35 10.4	+0.2
TIC	Toumodi	67.97	73	eP	P	22 35 11.9	+0.5
R26A	Arlington	68.00	331	P	P	22 35 11.7	+0.4
	baz=68						
KIC	Kosan Boka	68.09	73	eP	P	22 35 12.2	0.0
O30A	MW Ranch, Wils	68.10	334	P	P	22 35 12.6	+0.9
	baz=68						
214A	Organ Pipe Nat	68.12	320	P	P	22 35 13.2	+1.3
	baz=68,SNR=18						
DBIC	Dimbokro	68.12	73	P	P	22 35 12.6	+0.2
	comp=Z,9.4nm,0.6s,baz=213,slow=3.0,SNR=19						
M33A	Taylor Creek F	68.20	337	P	P	22 35 12.1	-0.2
	baz=68						
KSCO	Kaye Shedlock’	68.22	332	P	P	22 35 13.2	+0.6
	baz=68						
L34A	Svendsen Farm,	68.25	338	P	P	22 35 12.3	-0.2
	baz=68						
BGNE	Belgrade	68.41	336	P	P	22 35 13.8	+0.2
	baz=69						
BGNE	Belgrade	68.41	336	eP	P	22 35 14.1	+0.5
	comp=Z,98nm,1.0s						
SDCO	Great Sand Dun	68.52	329	P	P	22 35 15.4	+0.7
	baz=69,SNR=15						
SDCO	Great Sand Dun	68.52	329	eP	P	22 35 15.6	+0.9
	comp=Z,14nm,0.8s						
Q26A	Hugo	68.54	331	P	P	22 35 15.4	+0.8
	baz=69						
W18A	Petrified Fore	68.66	324	P	P	22 35 16.2	+0.7
	baz=69						
S22A	4UR Ranch, Cre	69.17	328	P	P	22 35 19.7	+1.0
	baz=69						
Q24A	Divide	69.32	330	P	P	22 35 20.3	+0.6
	baz=70,SNR=7.2						
L31A	Butterfield Fa	69.33	336	P	P	22 35 20.1	+0.8
	baz=70						
MVCO	Mesa Verde	69.59	327	P	P	22 35 22.3	+1.1
	baz=70,SNR=7.3						
MVCO	Mesa Verde	69.59	327	eP	P	22 35 22.3	+1.1
	comp=Z,13nm,0.7s						
WUAZ	Wupatki	69.86	324	P	P	22 35 24.1	+1.3
	baz=70,SNR=16						
WUAZ	Wupatki	69.86	324	eP	P	22 35 24.5	+1.6
	comp=Z,27nm,1.0s						
L29A	Maesberg Ranch	69.87	335	P	P	22 35 23.4	+0.8
	baz=70						
ECSD	EROS Data Cent	69.89	338	P	P	22 35 22.6	0.0
	baz=70						
GLA	Glamis	70.10	320	eP	P	22 35 24.0	-0.2
GLA				pmax	pmax		
	comp=Z,14nm,0.8s						
GLA	Glamis	70.10	320	P	P	22 35 25.3	+1.1
	baz=70,SNR=5.9						
GLA	Glamis	70.10	320	eP	P	22 35 24.0	-0.2
	comp=Z,14nm,0.8s						
ISCO	Idaho Springs	70.21	330	eP	P	22 35 25.8	+0.8
ISCO				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ISCO	Idaho Springs	70.21	330	P	P	22 35 25.5	+0.4
	baz=70,SNR=5.9						
ISCO	Idaho Springs	70.21	330	eP	P	22 35 25.8	+0.8
	comp=Z,10nm,1.1s						
L28A	Connealy Angus	70.24	334	P	P	22 35 25.8	+0.9
	baz=70						
PV01	Paradox Valley	70.33	327	eP	P	22 35 26.6	+0.8
SMCO	Snowmass	70.36	329	eP	P	22 35 27.2	+1.2
	comp=Z,8.2nm,0.8s						
K29A	Lazy Trails An	70.40	335	P	P	22 35 26.2	+0.4
	baz=71						
Y12C	Blythe	70.40	320	P	P	22 35 27.2	+1.2
	baz=70,SNR=7.4						
PDMCI	Parker Dam,Lak	70.56	321	P	P	22 35 28.1	+1.2
	baz=71						
PV05	Paradox Valley	70.56	327	eP	P	22 35 28.0	+0.8
J30A	Dallas	70.57	336	P	P	22 35 27.1	+0.3
	baz=71						
IBP	Imperial Bould	70.60	318	P	P	22 35 29.1	+1.8
	baz=71						
SWSC	Sam W. Stewart	70.61	319	P	P	22 35 28.7	+1.5
	baz=71						
K28A	Ten Mile Ranch	70.77	335	P	P	22 35 29.7	+1.6
	baz=71						
BC3	Big Chuckawall	70.89	320	P	P	22 35 30.4	+1.3
	baz=71,SNR=18						
MONP	Monument Peak,	70.96	318	P	P	22 35 30.6	+1.0
	baz=71,SNR=7.0						
BAR	Barrett	70.97	318	eP	P	22 35 31.3	+1.8
	comp=Z,5.0nm,0.9s						
IRM	Iron Mountain	71.06	320	P	P	22 35 31.2	+1.2

baz=71,SNR=12
N23A Red Feather La 71.23 331 P **P** **22 35 31.9 +0.7**
baz=71,SNR=5.3
J28A Allard Ranch, 71.32 335 P **P** **22 35 31.8 +0.4**
baz=72
BELC Belle Mtn. Jos 71.46 320 P **P** **22 35 34.2 +1.6**
baz=72,SNR=7.7
I29A Vivian Onida 71.47 336 P **P** **22 35 32.6 +0.3**
baz=72
PFO Pinyon Flats O 71.47 319 *e*P **P** **22 35 34.3 +1.7**
PFO pmax pmax
comp=Z,13nm,0.9s
PFO Pinyon Flats O 71.47 319 P **P** **22 35 33.9 +1.3**
baz=72
PFO Pinyon Flats O 71.47 319 *e*P **P** **22 35 34.3 +1.7**
comp=Z,13nm,0.9s
J27A Elkhorn Farm, 71.48 335 P **P** **22 35 33.4 +1.1**
baz=72
O20A White River Ci 71.72 329 P **P** **22 35 34.8 +0.8**
baz=72,SNR=5.8
O20A White River Ci 71.72 329 *e*P **P** **22 35 35.5 +1.5**
comp=Z,20nm,0.8s
KNB Kanab 71.75 324 *e*P **P** **22 35 36.3 +2.1**
KNB pmax pmax
comp=Z,43nm,1.0s
KNB Kanab 71.75 324 *e*P **P** **22 35 36.3 +2.1**
comp=Z,43nm,1.0s
GMRC Granite Mounta 71.79 320 P **P** **22 35 36.4 +1.9**
baz=72,SNR=30
MURC Murrieta 71.92 319 P **P** **22 35 36.4 +1.2**
baz=72
H29A Onida 71.95 337 P **P** **22 35 35.2 +0.1**
baz=72
J26A Sides Ranch, S 71.96 334 P **P** **22 35 35.6 +0.4**
baz=72
SRU San Rafael Swe 72.07 327 *e*P **P** **22 35 37.6 +1.4**
SRU pmax pmax
comp=Z,23nm,0.7s
SRU San Rafael Swe 72.07 327 *e*P **P** **22 35 37.6 +1.4**
comp=Z,23nm,0.7s
EYMN Ely 72.16 344 P **P** **22 35 36.4 +0.2**
baz=72,SNR=7.4
EYMN Ely 72.16 344 *e*P **P** **22 35 35.5 -0.7**
comp=Z,13nm,0.8s
I27A Quinn 72.18 335 P **P** **22 35 36.6 +0.1**
baz=72
HEC Hector,Ludlow 72.23 320 P **P** **22 35 38.6 +1.6**
baz=72,SNR=16
J25A Sunshine Ranch 72.32 334 P **P** **22 35 38.7 +1.3**
baz=72
CCUT Cedar City 72.43 324 *e*P **P** **22 35 40.6 +2.2**
comp=Z,30nm,0.9s
P17A Butcher Ranch, 72.45 327 *e*P **P** **22 35 39.9 +1.5**
MSU Marysvale 72.49 325 *e*P **P** **22 35 40.3 +1.6**
MSU Marysvale 72.49 325 *e*P **P** **22 35 40.3 +1.6**
TMUT Trail Mountain 72.56 326 *e*P **P** **22 35 40.3 +1.1**
comp=Z,31nm,0.5s
K23A Bowen Ranch, D 72.58 332 P **P** **22 35 40.1 +1.0**
baz=73
BFSC Mount Baldy Ra 72.63 319 P **P** **22 35 41.1 +1.6**
baz=73,SNR=6.4
J24A Dixon Ranch, L 72.63 333 P **P** **22 35 40.9 +1.6**
baz=73
SHPR Sheep Range 72.70 322 *e*P **P** **22 35 41.5 +1.6**
I25A Rochford 72.81 334 P **P** **22 35 41.7 +1.3**
baz=73,SNR=8.7
GSC Goldstone, Bar 72.83 320 *e*P **P** **22 35 42.3 +1.6**
GSC pmax pmax
comp=Z,11nm,0.8s
GSC Goldstone, Bar 72.83 320 P **P** **22 35 42.0 +1.3**
baz=73,SNR=8.7
GSC Goldstone, Bar 72.83 320 *e*P **P** **22 35 42.3 +1.6**
comp=Z,11nm,0.8s
MWC Mount Wilson 72.87 319 *e*P **P** **22 35 42.8 +1.8**
MWC pmax pmax
comp=Z,14nm,0.7s
MWC Mount Wilson 72.87 319 *e*P **P** **22 35 42.8 +1.8**
comp=Z,14nm,0.7s
RSSD Black Hills 73.02 334 *e*P **P** **22 35 42.8 +1.1**
RSSD pmax pmax
comp=Z,6.0nm,0.9s
RSSD Black Hills 73.02 334 *e*P **P** **22 35 42.8 +1.1**
comp=Z,6.4nm,0.9s
DECC Green Verdugo 73.05 318 P **P** **22 35 43.1 +1.2**
baz=73
G27A Dupree 73.23 336 P **P** **22 35 43.5 +0.8**
baz=73
EDW2 Edwards Air Fo 73.26 319 P **P** **22 35 44.3 +1.2**
baz=73,SNR=8.8
BLG Laguna Peak, P 73.42 318 P **P** **22 35 45.0 +0.9**
baz=74
J22A Midwest 73.48 332 P **P** **22 35 44.9 +0.5**
baz=74
TPNV Topopah Spring 73.64 322 *e*P **P** **22 35 45.6 +0.2**
TPNV pmax pmax
comp=Z,21nm,1.0s
TPNV Topopah Spring 73.64 322 P **P** **22 35 47.1 +1.7**
baz=74,SNR=7.2
TPNV Topopah Spring 73.64 322 *e*P **P** **22 35 45.6 +0.2**
comp=Z,20nm,1.0s
G25A Newell 73.66 335 P **P** **22 35 45.9 +0.7**
baz=74
JLU Jordanelle 73.66 327 *e*P **P** **22 35 46.0 +0.4**
comp=Z,21nm,1.2s
FURC Furnace Creek, 73.66 321 P **P** **22 35 46.8 +1.5**
baz=74,SNR=5.3
F27A Lemmon 73.68 336 P **P** **22 35 46.0 +0.7**
baz=74
BSC Santa Cruz Isl 73.70 317 P **P** **22 35 46.9 +1.3**
baz=74
AGMN Agassiz Nation 73.70 341 P **P** **22 35 45.6 +0.3**
baz=74
H24A Dirks Ranch, A 73.75 334 P **P** **22 35 46.2 +0.4**
baz=74
MPMC Manual Prospec 73.75 320 P **P** **22 35 47.1 +0.9**
baz=74,SNR=9.2
E28A Huff 73.79 337 P **P** **22 35 46.4 +0.5**
baz=74
J21A Lysite 73.86 331 P **P** **22 35 47.5 +0.9**
baz=74
I22A 9 Mile Ranch, 73.87 332 P **P** **22 35 47.1 +0.6**
baz=74
F26A Lodgepole 73.91 336 P **P** **22 35 47.1 +0.4**
baz=74
ISA Isabella, Lake 74.08 319 *e*P **P** **22 35 49.7 +1.8**
ISA pmax pmax
comp=Z,23nm,0.8s
ISA Isabella, Lake 74.08 319 P **P** **22 35 49.5 +1.5**
baz=74,SNR=11
ISA Isabella, Lake 74.08 319 *e*P **P** **22 35 49.7 +1.8**
comp=Z,23nm,0.8s
I21A Big Trails, Te 74.16 332 P **P** **22 35 48.9 +0.6**
baz=74,SNR=14
R11A Troy Canyon, C 74.23 323 P **P** **22 35 50.0 +1.1**
baz=74,SNR=6.0
R11A Troy Canyon, C 74.23 323 *e*P **P** **22 35 47.6 -1.2**
comp=Z,9.4nm,1.0s
GRAC Grapevine Rang 74.32 321 P **P** **22 35 50.5 +1.2**
baz=74
E26A Carlson Angus 74.35 336 P **P** **22 35 49.5 +0.3**
baz=74
CWC Cottonwood Cre 74.36 320 P **P** **22 35 47.8 -1.8**
baz=74
BW06 Boulder Array 74.38 330 *e*P **P** **22 35 49.7 0.0**
PD31 Pinedale Array 74.38 330 *e*P **P** **22 35 50.0 +0.3**
PDAR Pinedale Array 74.38 330 P **P** **22 35 50.0 +0.3**
comp=Z,1.7nm,0.8s,baz=118,slow=7.9,SNR=7.9
PDAR pP **pP** **22 36 20.2 +1.3**
comp=Z,1.1nm,0.6s,baz=134,slow=6.4,SNR=3.2
PKM Mcpherson Peak 74.40 318 P **P** **22 35 51.5 +1.6**
baz=74,SNR=7.9
G23A Biddle 74.46 334 P **P** **22 35 50.4 +0.5**
baz=75
HWUT Hardware Ranch 74.47 328 *e*P **P** **22 35 51.0 +0.8**
comp=Z,13nm,0.8s
MDND Maddock 74.50 339 P **P** **22 35 50.3 +0.3**
baz=75
J19A Crowheart 74.53 330 P **P** **22 35 51.0 +0.5**
baz=75,SNR=5.9
D27A Center 74.55 337 P **P** **22 35 50.7 +0.5**
baz=75
VES Vestal, Richgr 74.57 319 P **P** **22 35 52.2 +1.6**
baz=75,SNR=6.0
F24A Ekalaka 74.60 335 P **P** **22 35 51.4 +0.7**
baz=75
B30A Myrvik Farm, E 74.61 340 P **P** **22 35 51.1 +0.5**
baz=75
I20A Worland 74.64 331 P **P** **22 35 51.4 +0.4**
baz=75,SNR=5.3
H21A Big Horn, Sher 74.70 332 P **P** **22 35 51.7 +0.4**
baz=75
BGU Big Grassy Mou 74.70 326 *e*P **P** **22 35 52.9 +1.4**
comp=Z,11nm,1.0s
E25A Miller Ranch, 74.73 336 P **P** **22 35 52.1 +0.7**
baz=75
F23A Volborg 74.89 334 P **P** **22 35 52.6 +0.3**
baz=75
B29A Wagenman Farm, 74.96 339 P **P** **22 35 53.0 +0.4**
baz=75
TPH Tonopah 74.97 322 *e*P **P** **22 35 55.0 +1.8**
TPH pmax pmax
comp=Z,11nm,0.8s
TPH Tonopah 74.97 322 *e*P **P** **22 35 55.0 +1.8**
comp=Z,11nm,0.8s
RCTC Rector, Farmer 74.97 319 P **P** **22 35 54.6 +1.7**
baz=75
H20A Greybull 75.00 332 P **P** **22 35 53.6 +0.5**
baz=75
I19A Meeteetse 75.10 331 P **P** **22 35 54.3 +0.6**
baz=75,SNR=7.1
E24A Baker 75.14 335 P **P** **22 35 54.9 +1.1**
baz=75
HVU Hansel Valley 75.20 327 *e*P **P** **22 35 55.6 +1.2**
HVU pmax pmax
comp=Z,8.0nm,0.8s
HVU Hansel Valley 75.20 327 *e*P **P** **22 35 55.6 +1.2**
comp=Z,8.4nm,0.8s
D25A Fairfield 75.25 336 P **P** **22 35 55.1 +0.7**
baz=75
MTUM Tungsten Hills 75.26 321 *e*P **P** **22 35 56.5 +1.7**
A29A Manning Farm, 75.31 339 P **P** **22 35 54.8 +0.2**
baz=76
C26A Wahner Farm, P 75.36 337 P **P** **22 35 55.5 +0.6**
baz=76
REDW Red Top Meadow 75.44 329 *e*P **P** **22 35 56.9 +1.1**
comp=Z,37nm,1.6s
ULM Lac du Bonnet 75.45 342 P **P** **22 35 55.0 -0.4**
comp=Z,11nm,0.5s,baz=146,slow=6.7,SNR=14
ULM pP **pP** **22 36 25.6 +0.9**
comp=Z,5.8nm,0.8s,baz=142,slow=3.3,SNR=2.7
ULM Lac du Bonnet 75.45 342 *e*P **P** **22 35 55.0 -0.4**
ULM *PP **pP** **22 36 25.7 +0.9**
ULM pmax pmax
comp=Z,10.0nm,0.6s
ULM Lac du Bonnet 75.45 342 *e*P **P** **22 35 55.0 -0.4**
comp=Z,9.7nm,0.6s
ULM pP **pP** **22 36 25.6 +0.9**
E23A Ismay 75.48 335 P **P** **22 35 56.4 +0.7**
baz=76
H19A Powell 75.59 331 P **P** **22 35 57.5 +1.0**
baz=76
TPAW Teton Pass 75.59 329 *e*P **P** **22 35 57.8 +1.1**
comp=Z,9.9nm,0.8s
D24A Glendive 75.60 335 P **P** **22 35 57.1 +0.8**
baz=76
G20A Bridger 75.67 332 P **P** **22 35 57.6 +0.7**
baz=76
MOOW Moose Ponds 75.69 330 *e*P **P** **22 35 58.3 +1.1**
comp=Z,39nm,1.9s
C25A Freed Ranch, W 75.69 336 P **P** **22 35 57.6 +0.7**
baz=76
ELK Elko 75.73 325 *e*P **P** **22 35 58.9 +1.3**
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK Elko 75.73 325 *e*P **P** **22 35 58.9 +1.3**
comp=Z,6.9nm,0.9s
FXWY Fox Creek 75.73 329 *e*P **P** **22 35 58.5 +1.0**
comp=Z,4.4nm,0.8s
NV01 Mina Array Sit 75.83 322 *e*P **P** **22 35 58.4 +0.2**
NVAR Mina Array Bea 75.83 322 P **P** **22 35 58.4 +0.2**
comp=Z,3.5nm,0.5s,baz=155,slow=6.2,SNR=28
IMW Indian Meadow 75.89 330 *e*P **P** **22 35 59.9 +1.5**
comp=Z,12nm,0.9s
SCHQ Scheffville 75.98 1 P **P** **22 35 58.2 -0.1**
comp=Z,14nm,0.7s,baz=200,slow=5.0,SNR=18
C24A Savage 75.98 336 P **P** **22 35 59.3 +0.8**
baz=76
D23A Lindsay 75.99 335 P **P** **22 35 59.6 +1.0**
baz=76
A27A Ledoux Ranch, 76.01 338 P **P** **22 35 59.9 +1.2**
baz=76
RLMT Red Lodge 76.06 331 P **P** **22 36 00.1 +0.8**
baz=76,SNR=5.5
F20A Billings 76.10 332 P **P** **22 36 00.4 +1.1**
baz=76
E21A Keefer Ranch, 76.24 334 P **P** **22 36 00.8 +0.8**
baz=76
A26A Wade Farm, Ken 76.24 338 P **P** **22 36 00.6 +0.7**
baz=76
D22A Cohagen 76.36 334 P **P** **22 36 01.6 +0.9**
baz=76
C23A Lambert 76.50 335 P **P** **22 36 02.2 +0.8**
baz=77
WAKR Walker 76.55 321 *e*P **P** **22 36 04.2 +2.1**
BMN Battle Mountai 76.59 324 *e*P **P** **22 36 03.0 +0.7**
BMN pmax pmax
comp=Z,4.0nm,1.0s
BMN Battle Mountai 76.59 324 *e*P **P** **22 36 03.0 +0.7**
comp=Z,4.2nm,1.0s
D21A La Casta Ranch 76.62 334 P **P** **22 36 03.1 +0.9**
baz=77,SNR=11
A25A Svangstu Ranch 76.66 337 P **P** **22 36 02.8 +0.5**
baz=77
DGMT Dagmar 76.67 336 P **P** **22 36 03.0 +0.7**
baz=77
DGMT Dagmar 76.67 336 *e*P **P** **22 36 03.8 +1.4**
comp=Z,16nm,0.8s
C22A Vida 76.72 335 P **P** **22 36 03.5 +0.8**
baz=77
TOB5 Torodi Ar. Sit 76.74 70 *e*P **P** **22 36 02.7 -0.8**
TOA0 Torodi Ar. Sit 76.75 70 *e*P **P** **22 36 03.5 0.0**
TORD Torodi Ar. Bea 76.75 70 P **P** **22 36 03.5 0.0**
comp=Z,22nm,0.6s,baz=254,slow=5.5,SNR=266
TORD pP **pP** **22 36 35.0 +2.1**
comp=Z,4.1nm,0.7s,baz=253,slow=6.3,SNR=2.7
GCMT Greycliff 76.76 332 *e*P **P** **22 36 04.3 +1.2**
B23A Brockton 76.97 336 P **P** **22 36 05.1 +1.1**
baz=77
A24A Westby 76.97 337 P **P** **22 36 05.2 +1.2**
baz=77
C21A Desert Coulee 77.27 334 P **P** **22 36 06.3 +0.5**
baz=77
HLID Hailey 77.33 327 P **P** **22 36 07.7 +1.3**
baz=77,SNR=30
HLID Hailey 77.33 327 *e*P **P** **22 36 08.0 +1.6**
comp=Z,18nm,0.8s
MCMT McKenzie Canyo 77.49 329 *e*P **P** **22 36 09.0 +1.7**
BOZ Bozeman (W) 77.53 330 *e*P **P** **22 36 07.9 +0.4**
BOZ *e*PP **pP** **22 36 39.8 +2.9**
BOZ pmax pmax
comp=Z,12nm,1.5s
BOZ Bozeman (W) 77.53 330 P **P** **22 36 08.1 +0.6**
baz=78,SNR=5.2
BOZ Bozeman (W) 77.53 330 *e*P **P** **22 36 07.9 +0.4**
comp=Z,12nm,1.5s
BOZ *e*pP **pP** **22 36 39.8 +2.9**
C20A Veseth Ranch, 77.55 334 P **P** **22 36 07.9 +0.5**
baz=78
A22A Carney Farms, 77.75 336 P **P** **22 36 08.9 +0.4**
baz=78,SNR=5.9
DLMT Dillon 77.77 330 *e*P **P** **22 36 10.3 +1.5**
comp=Z,19nm,1.4s
MFID Camas Ranch 77.94 327 *e*P **P** **22 36 11.2 +1.5**
comp=Z,29nm,1.5s
LRM Limekiln Ridge 78.05 330 *e*P **P** **22 36 11.9 +1.5**
A20A Cobblestone Ra 78.45 335 P **P** **22 36 12.8 +0.5**
baz=79
B19A Brinkman Farms 78.53 334 P **P** **22 36 13.3 +0.5**
baz=79
EGMT Eagleton 78.53 333 P **P** **22 36 13.3 +0.5**
baz=79
EGMT Eagleton 78.53 333 *e*P **P** **22 36 13.2 +0.4**
comp=Z,8.2nm,0.9s
WVOR Wild Horse Val 78.74 324 *e*P **P** **22 36 14.9 +0.8**
WVOR pmax pmax
comp=Z,11nm,1.4s
WVOR Wild Horse Val 78.74 324 *e*P **P** **22 36 14.9 +0.8**
comp=Z,11nm,1.4s
A19A Klindworth Far 78.82 334 P **P** **22 36 14.8 +0.5**
baz=79
MOD Modoc Plateau 79.30 323 *e*P **P** **22 36 18.4 +1.2**
comp=Z,13nm,0.8s
TSUM Tsumeb 79.46 107 *e*P **P** **22 36 20.2 +1.6**
comp=Z,95nm,2.5s
MSO Missoula 79.49 330 P **P** **22 36 18.8 +0.8**
baz=80
MSO Missoula 79.49 330 *e*P **P** **22 36 19.6 +1.6**
comp=Z,7.3nm,1.2s
WDC Whiskeytown Da 79.72 321 *e*P **P** **22 36 19.0 -0.3**
WDC pmax pmax
comp=Z,21nm,0.6s
WDC Whiskeytown Da 79.72 321 *e*P **P** **22 36 19.0 -0.3**
comp=Z,21nm,0.6s
LASM Arnica Sink 79.82 322 P **P** **22 36 21.2 +1.1**
N02D Trinity Center 80.06 321 P **P** **22 36 21.5 +0.2**
baz=80,SNR=6.1
M04C Macdoel 80.08 322 P **P** **22 36 22.4 +1.0**
baz=80,SNR=9.7
K05A Summer Lake 80.17 324 *e*P **P** **22 36 23.6 +1.6**
comp=Z,34nm,0.8s
M02C Callahan 80.42 322 P **P** **22 36 24.0 +0.8**
baz=80
F10A Beach Ranch, E 80.45 328 *e*P **P** **22 36 24.2 +0.9**
comp=Z,8.6nm,0.7s
BLMT Blacktail Moun 80.55 331 *e*P **P** **22 36 24.7 +0.8**
YBH Yreka Blue Hor 80.55 322 P **P** **22 36 23.7 -0.2**
comp=Z,6.9nm,0.6s,baz=91,slow=1.8,SNR=17
BSMT Bassoo Peak 80.63 330 P **P** **22 36 25.6 +1.3**
J05D Fort Rock, OR 80.73 324 P **P** **22 36 25.9 +1.0**
baz=81,SNR=6.2
G08A Pilot Rock 80.86 326 *e*P **P** **22 36 26.4 +1.0**
comp=Z,7.2nm,0.6s
FFC Flin Flon 81.18 341 *e*P **P** **22 36 27.1 +0.3**
FFC pmax pmax
comp=Z,12nm,1.1s
FFC Flin Flon 81.18 341 *e*P **P** **22 36 27.1 +0.3**
comp=Z,12nm,1.1s
J04D Umpqua Nationa 81.18 323 P **P** **22 36 28.7 +1.3**
baz=81
HUMO Hull Mountain 81.25 322 *e*P **P** **22 36 27.5 0.0**
comp=Z,6.2nm,1.0s
L02D Cave Junction, 81.33 322 P **P** **22 36 29.4 +1.4**
baz=81
I05D Terrebonne, OR 81.48 325 P **P** **22 36 30.1 +1.4**
baz=82
I04A Tendick Farm, 81.71 324 P **P** **22 36 30.5 +0.6**
baz=82,SNR=6.6
CROR Criterion Ridg 81.71 325 P **P** **22 36 31.9 +2.0**
NEW Newport 82.01 329 P **P** **22 36 31.5 +0.1**
baz=82
D08A Wollman Farm, 82.05 328 *e*P **P** **22 36 33.0 +1.4**
comp=Z,14nm,1.1s
G05D Wamic, OR 82.06 325 P **P** **22 36 33.1 +1.4**
baz=82
I03D Drain, OR 82.17 323 P **P** **22 36 33.5 +1.3**
baz=82
OD2 Odessa Site #2 82.17 328 P **P** **22 36 33.2 +0.9**
C09A Chrisman Ranch 82.24 329 *e*P **P** **22 36 34.0 +1.4**
comp=Z,34nm,0.6s
BOSA Boshof 82.92 118 P **P** **22 36 37.4 +0.5**
comp=Z,7.7nm,0.9s,baz=206,slow=1.6,SNR=8.1
G03D McMinnville, O 83.08 324 P **P** **22 36 38.1 +1.1**
baz=83
NLW Nelson Butte 83.45 328 P **P** **22 36 39.5 +0.5**
D05A Enumclaw 83.69 326 *e*P **P** **22 36 40.9 +0.9**
comp=Z,18nm,0.8s
EDM Edmonton 83.98 335 *e*P **P** **22 36 40.8 -0.6**
EDM *e*PP **pP** **22 37 13.3 +2.0**
EDM Edmonton 83.98 335 *e*P **P** **22 36 40.8 -0.6**
EDM *e*pP **pP** **22 37 13.3 +2.0**
MAW Mawson 84.20 163 P **P** **22 36 43.0 +0.6**
comp=Z,1.5nm,0.5s,baz=194,slow=7.6,SNR=7.6
MAW pP **pP** **22 37 13.6 +1.3**
comp=Z,1.7nm,0.7s,baz=220,slow=8.6,SNR=2.9
JCW Jim Creek 84.32 327 P **P** **22 36 43.3 0.0**
LBTB Lobatse 84.48 115 *e*P **P** **22 36 45.7 +0.9**
LBTB pmax pmax
comp=Z,242nm,2.6s
LBTB Lobatse 84.48 115 *e*P **P** **22 36 45.7 +0.9**
comp=Z,242nm,2.6s
MBW Mount Baker 84.69 328 P **P** **22 36 45.4 +0.1**
PAB San Pablo 85.04 44 *e*P **P** **22 36 48.0 +0.9**
PAB pmax pmax
comp=Z,10.0nm,0.8s
PAB San Pablo 85.04 44 *e*P **P** **22 36 48.0 +0.9**
comp=Z,10nm,0.8s
MCW Mount Constitu 85.09 327 P **P** **22 36 48.1 +1.0**
MCW Mount Constitu 85.09 327 P **P** **22 36 48.1 +1.0**
ESDC Sonseca Array 85.36 44 P **P** **22 36 49.7 +1.0**
comp=Z,3.6nm,0.8s,baz=250,slow=4.7,SNR=18
ES19 SONSECA Array 85.42 44 *e*P **P** **22 36 49.8 +0.9**
YKA Yellowknife Ar 91.34 340 P **P** **22 37 16.8 +0.3**
comp=Z,21nm,0.6s,baz=134,slow=4.5,SNR=113
YKA pP **pP** **22 37 48.6 +1.9**
comp=Z,1.2nm,0.6s,baz=136,slow=5.4,SNR=1.6
YKB5 Yellowknife Ar 91.34 340 *e*P **P** **22 37 16.4 -0.1**
DLBC Dease Lake 94.44 332 *e*P **P** **22 37 32.0 +1.0**
comp=Z,6.0nm,0.9s
HYT Haines Junctio 98.93 332 *e*P P 22 37 45.2 -6.2
CLL Collm 101.19 39 *e*P **Pdif** **22 38 02.0 +0.6**
AKUT Akutan 111.45 321 *e*Pdif **Pdif** **22 38 53.6 +6.6**
KBZ Khabaz 119.60 51 PKP **PKPdf** **22 43 00.7 +0.2**
comp=Z,2.1nm,0.9s,baz=292,slow=10,SNR=3.6
ARU Arti 127.76 34 PKIKP **PKPdf** **22 43 16.2 +0.4**
AKTO Aktyubinsk 129.19 42 PKP **PKPdf** **22 43 19.3 +0.6**
comp=Z,1.6nm,0.7s,baz=197,slow=3.7,SNR=4.8
ABKAR Akbulak array 130.69 43 *e*PKPdf **PKPdf** **22 43 23.2 +1.6**
TYV Tymovskoe 141.98 328 *e*P **Pdif** **22 40 55.0 -7.8**
TYV Tymovskoe 141.98 328 *e*P **Pdif** **22 40 55.0 -7.8**
TYV MLR MLR
comp=Z,2μm,16.0s
TYV MLR MLR
comp=E,1μm,14.0s
KSH Kashi 144.58 51 *e*PKP PKPbc 22 43 47.0 +0.4
KSH PP **PP** **22 47 09.0 +3.8**
KSH PKS **PKSdf** **22 47 21.5 -1.7**
KSH SKKS 22 53 45.5
KSH PPMZ
comp=E,120nm,5.6s
KSH LN
comp=E,110nm,7.0s
KSH LE
comp=E,130nm,5.3s
KSH LZ
comp=E,130nm,5.8s
ASAJ Asahikawa 145.92 319 PKPbc **PKPbc** **22 43 51.1 +0.7**
baz=73,slow=17
ASAJ Asahikawa 145.92 319 *e*PKPdf **PKPbc** **22 43 50.7 +0.3**
ASAJ PKPbc **PKPbc** **22 43 51.1 +0.7**
ERM Erimo 146.61 315 *e*PKP2 **PKPab** **22 43 54.0 +0.2**
ERM Erimo 146.61 315 *e*PKPdf **PKPab** **22 43 54.0 +0.2**
MOY Mondy 148.69 13 *e*PKP2 **PKPbc** **22 43 59.4 +1.4**
TLY Talaya 149.17 10 *e*PKP2 **PKPbc** **22 43 59.6 +0.6**
TLY Talaya 149.17 10 *e*PKPbc **PKPbc** **22 43 59.6 +0.6**
WMQ Urumqi 150.06 36 PKPbc **PKPdf** **22 43 54.8 -1.6**
WMQ PP **PP** **22 47 37.8 +1.2**
WMQ PPMZ
comp=E,32nm,11.4s
WMQ LN
comp=E,75nm,8.1s
WMQ LE
comp=E,110nm,10.0s
WMQ LZ
comp=E,27nm,11.9s
SIJI Sorong 150.75 223 PKPbc **PKPbc** **22 44 04.4 +0.4**
comp=E,19nm,0.6s,baz=356,slow=4.7,SNR=11
LEM Lembang 151.61 171 PKPbc **PKPbc** **22 44 07.0 +0.8**
comp=E,14nm,0.5s,baz=140,slow=19,SNR=3.7
LEM Lembang 151.61 171 PKIKP **PKPbc** **22 44 07.0 +0.8**
USRK Ussuriysk Ar. 151.79 328 PKPbc **PKPbc** **22 44 05.7 +0.2**
comp=E,8.6nm,0.7s,baz=43,slow=2.2,SNR=9.5
MJAR Matsushiro Arr 152.52 309 PKPbc **PKPbc** **22 44 07.4 +0.1**
comp=E,3.7nm,0.6s,baz=142,slow=0.7,SNR=11
MJAR PKPab **PKPab** **22 44 17.6 -0.6**
comp=E,0.8nm,0.4s,baz=55,slow=5.1,SNR=4.8
MAJO Matsushiro 152.52 309 *e*PKIKP **PKPbc** **22 44 07.8 +0.4**
MAJO *e* 22 44 17.6
MAJO Matsushiro 152.52 309 *e*PKPbc **PKPbc** **22 44 07.8 +0.4**
MAJO *e*PKPab **PKPab** **22 44 17.6 -0.6**
MAT Matsushiro 152.52 309 PKP **PKPbc** **22 44 07.3 -0.1**
SONA0 Songino Array 153.32 8 *e*PKPbc **PKPbc** **22 44 09.5 +0.6**
SONA0 *e*PKPab **PKPab** **22 44 21.3 +0.1**
SONM Songino Array 153.32 8 PKPbc **PKPbc** **22 44 09.5 +0.6**
comp=E,2.5nm,0.6s,baz=285,slow=1.0,SNR=5.6
SONM PKPab **PKPab** **22 44 21.3 +0.1**
comp=E,1.5nm,0.7s,baz=314,slow=3.4,SNR=3.6
KSRS Korea Array 158.78 322 PKP **PKPdf** **22 44 09.9 +1.3**
comp=E,1.3nm,0.6s,baz=57,slow=3.5,SNR=4.9
KSRS PKPab **PKPab** **22 44 44.6 -0.2**
comp=E,2.0nm,0.6s,baz=65,slow=4.1,SNR=7.5
KSRS Korea Array 158.78 322 PKIKP **PKPdf** **22 44 09.9 +1.3**

KSRS 22 44 44.6
KSRS pmax pmax
comp=Z,1.0nm,0.6s
KSRS pmax pmax
comp=Z,2.0nm,0.6s
KS15 Wonju Array Si 158.81 322 *e*PKPdf **PKPdf 22 44 09.9 +1.3**
KSAR Wonju Array Be 158.81 322 PKIKP **PKPdf 22 44 09.9 +1.3**
KSAR 22 44 44.6
KSAR Wonju Array Be 158.81 322 PKP **PKPdf 22 44 09.9 +1.3**
KSAR PKPab **22 44 44.6 -0.3**
HHC Hu-ho-hao-te 160.66 0 *e*PKP **PKPdf 22 44 12.0 +1.2**
HHC pPKP **pPKPdf 22 44 39.8 -2.7**
HHC PP PP 22 48 40.5 +5.7
HHC PPMZ
comp=Z,2µm,10.0s
LZH Lanzhou 163.86 24 *e*PKP PKPdf 22 44 22.5 +8.2
LZH pPKP PKPab 22 45 22.3 +15
LZH sPKP 22 45 51.8
NJ2 Nanjing 167.69 331 *e*PKP **PKPdf 22 44 14.5 -2.7**
CD2 Chengdu 168.16 36 PKP **PKPdf 22 44 15.3 -2.4**
GYA Guiyang 173.18 42 PKP **PKPdf 22 44 18.0 -2.6**
GYA pPKP **pPKPdf 22 44 51.3 -1.1**
GYA sPKP 22 45 04.5
GYA PKPab **PKPab 22 45 47.3 -1.4**
GYA PKS **PKSdf 22 47 48.8 -4.3**
GYA PP **PP 22 49 40.0 -0.1**
GYA PPMZ
comp=Z,120nm,8.6s

IDC 30 22:30:34.4±3.9, 7°33S×129°93E, h120km±47km, mb3.8/1, mb1 3.8/4, mb1mx3.3/36, mbtmp4.0/4, Error ellipse: s-maj=97.4km s-min=19.7km az=88.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.55**	**12**	P		Pn 22 32 09.0	+0.6
	1.0nm,0.3s,baz=80,slow=23,SNR=9.2						
SIJI				S		Sn 22 33 21.4	-0.4
	3.4nm,0.3s,baz=234,slow=22,SNR=10.0						
WRA	**Warramunga Arr**	**13.25**	**162**	P		Pn 22 33 38.6	+0.6
	0.5nm,0.3s,baz=343,slow=13,SNR=26						
WRA				S		Sn 22 36 01.3	-2.8
	1.3nm,0.3s,baz=330,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.69**	**167**	P		P 22 34 22.9	+1.3
	1.5nm,0.3s,baz=342,slow=10,SNR=116						
ASAR				S		Sn 22 37 25.6	-1.5
	0.3nm,0.3s,baz=2.0,slow=26,SNR=5.4						
STKA	**Stephens Creek**	**26.74**	**158**	P		P 22 36 02.7	-0.1
	1.1nm,0.4s,baz=334,slow=8.7,SNR=5.1						

NIED ***30*** *22:34:00,23.˚10N×125.˚10E, h5km, Mw5.3 Best double couple: M0 1.14000×10^17 NP1:φs93.00000°, δ21.00000°, λ-116.00000°. NP2:φs300.00000°, δ71.00000°, λ-81.00000°.*

IDC ***30*** *22:34:27.0±0.3, 22.˚94N×125.˚02E, h0km, mb4.8/41, mb1 4.9/44, mb1mx4.8/55, mbtmp4.8/44, ML4.1/3, MS4.5/27, Ms1 4.5/27, ms1mx4.4/31, Error ellipse: s-maj=12.8km s-min=9.2km az=83.0*

NEIC ***30*** *22:34:28.6±1.8, 22.˚96N×125.˚02E, h6km±11km, mb5.2/82, Error ellipse: s-maj=4.1km s-min=4.0km az=99.0*

GCMT ***30*** *22:34:28.6±0.1, 22.˚92N×125.˚05E, h12km, MW5.3/106, Moment Tensor Solution. s78,c130; s106,c184; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr-0.70±.02; Mθθ 1.10±.01; Mφφ-0.39±.02; Mrθ-0.11±.04; Mθφ-0.26±.01; Mrφ 0.15±.05; Best double couple: M0 0.95800×10^17 NP1:φs119.00000°, δ53.00000°, λ-63.00000°. NP2:φs258.00000°, δ45.00000°, λ-121.00000°. Principal axes: T 1.1530, Plg4.0000°, Azm190.0000°; N -0.3880, Plg21.0000°, Azm281.0000°; P -0.7630, Plg68.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

JMA ***30*** *22:34:30.6±0.2, 23.˚07N×125.˚08E, h54km, M5.3*

MOS ***30*** *22:34:30.7±1.1, 22.˚90N×125.˚14E, h33km, mb5.2/59, MS4.8/48, Error ellipse: s-maj=8.5km s-min=5.0km az=106.8*

ISCJB ***30*** *22:34:30.8±0.1, 23.˚03N±0.˚01×125.˚07E±0.˚02, h30km, mb5.1/182, MS4.7/65, Error ellipse: s-maj=2.7km s-min=2.1km az=173.8*

BJI ***30*** *22:34:33.1, 23.˚35N×124.˚94E, h25km, mb4.8/66, mB5.0/52, Ms5.0/80, Ms7 4.8/70*

SZGRF ***30*** *22:34:40.0, 24.˚15N×124.˚31E, h33km, mb5.3, MS4.9, Southwestern Ryukyu Islands, Japan*

ISC 30 22:34:32.9±0.3, 22°98N±0.˚03×125°13E±0.˚03, h34km±1km, h34km: pP-P, n625, σ1s61/691, mb5.1/185, MS4.8/68, 53C-31D, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKRS	**Kuro-shima**	**1.62**	**321**	P	**Pn**	**22 34 56.5**	**-2.5**
JKRS				S	**Sn**	**22 35 15.3**	**-3.4**
HATJ	**Hateruma jima**	**1.62**	**312**	P	Pn	22 34 55.8	-3.2
HATJ				S	**Sn**	**22 35 14.9**	**-3.9**
JIJ	**Ishigaki jima**	**1.65**	**327**	P	**Pn**	**22 34 56.5**	**-2.9**
JIJ				S	**Sn**	**22 35 16.0**	**-3.4**
JTJ	**Tarama**	**1.70**	**347**	P	**Pn**	**22 34 57.5**	**-2.6**
JTJ				S	**Sn**	**22 35 16.8**	**-3.9**
JISG	**Ishigakijimahi**	**1.77**	**335**	P	**Pn**	**22 34 58.0**	**-3.0**
JISG				S	**Sn**	**22 35 18.4**	**-4.0**
JOGS	**Gusukube**	**1.79**	**8**	P	**Pn**	**22 34 58.7**	**-2.7**
JOGS				S	**Sn**	**22 35 20.1**	**-2.8**
JMJ	**Miyako jima 2**	**1.83**	**5**	P	**Pn**	**22 34 59.4**	**-2.5**
JMJ				S	**Sn**	**22 35 21.1**	**-2.9**
JIRB	**Irabujima**	**1.84**	**1**	P	**Pn**	**22 34 59.1**	**-3.0**
JIRB				S	**Sn**	**22 35 20.1**	**-4.0**
IRIF	**Iriomote-Funau**	**1.86**	**317**	P	**Pn**	**22 34 59.7**	**-2.7**
IRIF				S	**Sn**	**22 35 21.1**	**-3.6**
JIKM	**Ikemajima**	**1.94**	**3**	P	**Pn**	**22 35 00.4**	**-3.0**
JIKM				S	**Sn**	**22 35 23.3**	**-3.3**
YOJ	**Yonaguni jima**	**2.44**	**308**	P	**Pn**	**22 35 08.0**	**-2.3**
YOJ				S	**Sn**	**22 35 34.9**	**-4.0**
YOJ	**Yonaguni jima**	**2.44**	**308**	*e*Pn	**Pn**	**22 35 08.3**	**-1.9**
YOJ				*e*Sn	**Sn**	**22 35 37.4**	**-1.5**
JYNG	**Yonagunijimaku**	**2.48**	**307**	P	**Pn**	**22 35 08.5**	**-2.4**
JYNG				S	**Sn**	**22 35 35.9**	**-4.1**
NACB	**Ninganchiao**	**3.46**	**291**	*e*Pn	**Pn**	**22 35 22.0**	**-2.2**
YULB	**Yu-li**	**3.55**	**277**	*e*Pn	Pn	22 35 22.3	-3.3
JKE	**Kume jima 2**	**3.66**	**24**	P	Pn	22 35 22.8	-4.2
JKE				S	**Sn**	**22 36 04.3**	**-4.7**
TWG	**Pinlang**	**3.75**	**268**	*e*Pn	Pn	22 35 24.1	-4.2
YHNB	**Yeheng**	**3.83**	**297**	*e*Pn	**Pn**	**22 35 27.9**	**-1.6**
TATO	**Taipei**	**3.88**	**302**	Pn	**Pb**	**22 35 38.0**	**-2.6**
	SNR=6.9						
TATO	**Taipei**	**3.88**	**302**	*e*Pn	**Pn**	**22 35 28.6**	**-1.5**
SSLB	**Suanglung**	**3.92**	**283**	*e*Pn	Pn	22 35 27.4	-3.3
SSLB				*e*Sn	**Sn**	**22 36 12.9**	**-2.7**
JJT2	**Tamagusuku 2**	**3.95**	**37**	P	Pn	22 35 27.4	-3.6
JJT2				S	**Sn**	**22 36 10.9**	**-5.2**
JAGN	**Aguni-jima**	**4.07**	**28**	P	Pn	22 35 29.0	-3.8
JAGN				S	Sn	22 36 13.8	-5.4
JNTH	**Nagotoyohara**	**4.39**	**36**	P	Pn	22 35 33.4	-3.8
JNTH				S	Sn	22 36 19.9	-7.3
JOW	**Kunigami**	**4.78**	**36**	P	Pn	22 35 38.9	-3.6
JOW				S	Sn	22 36 30.0	-6.7
JOW	**Kunigami**	**4.78**	**36**	Pn	Pn	22 35 39.2	-3.3
	11nm,0.3s,baz=158,slow=29,SNR=294						
JOW				Sn	Sn	22 36 29.4	-7.3
	7.1nm,0.3s,baz=290,slow=28,SNR=18						
JOW				LR	LR	22 36 59.6	
	comp=Z,257nm,19.0s,baz=266,slow=31						
JOW	**Kunigami**	**4.78**	**36**	*e*Pn	Pn	22 35 38.5	-4.0
JOW				Pn	Pn	22 35 39.2	-3.3
JOW				Sn	Sn	22 36 29.4	-7.3
JIH	**Iheya**	**4.79**	**32**	P	Pn	22 35 38.9	-3.7
JIH				S	Sn	22 36 29.9	-7.0
JOKE	**Okinoerabujima**	**5.36**	**35**	P	Pn	22 35 46.7	-3.8
JOKE				S	Sn	22 36 42.6	-8.4
SGCP	**Mt. Cagua**	**5.53**	**212**	*e*P	Pn	22 35 49.3	-3.5
SGCP				*e*S	Px	22 35 59.7	
JTK	**Tokunoshima**	**5.90**	**35**	P	Pn	22 35 53.3	-4.6
JTK				S	Sn	22 36 54.6	-10
JMZ	**Minamidaito 2**	**6.23**	**62**	P	Pn	22 35 56.4	-6.0
JMZ				S	Sn	22 37 00.9	-12
APYP	**Conner**	**6.26**	**216**	*e*P	Pn	22 35 59.0	-3.9
APYP				*e*S	Px	22 36 15.5	
PIP	**Pasuquin**	**6.27**	**223**	⇓*i*P	Pn	22 35 59.5	-3.4
PIP				*e*S	Px	22 36 10.1	
QZH	**Quanzhou**	**6.29**	**289**	⇓*i*P	**Pn**	**22 36 01.0**	**-2.3**
QZH				S	Sn	22 37 04.0	-10
QZH				LN			
	9µm,9.4s						
QZH				LE			
	8µm,8.8s						
QZH				LZ			
	12µm,15.2s						
JAMN	**Amaminishikomi**	**6.39**	**34**	P	Pn	22 35 59.8	-4.7
JAMN				S	Sn	22 37 08.0	-8.3
SIPP	**Brgy, Tapao**	**6.67**	**222**	⇓*e*P	**Pn**	**22 36 06.8**	**-1.6**
ABRA	**Dolores**	**6.73**	**219**	*e*P	**Pn**	**22 36 06.8**	**-2.5**
JAM	**Amami Oshima**	**6.75**	**36**	P	Pn	22 36 05.1	-4.4
JAM				S	Sn	22 37 15.2	-10
CAUP	**Cauayan**	**6.76**	**208**	*e*P	**Pn**	**22 36 09.1**	**-0.6**
CAUP				*e*S	Px	22 36 34.8	
JZK	**Kikaishima**	**6.88**	**38**	P	**Pn**	**22 36 08.4**	**-2.9**
JZK				S	Sn	22 37 20.3	-8.1
SZP	**Santa**	**6.96**	**220**	*e*Pn	**Pn**	**22 36 09.5**	**-3.0**
JTAJ	**Takarajima**	**7.16**	**30**	P	Pn	22 36 10.6	-4.5
JTAJ				S	Sn	22 37 25.5	-10
BALP	**Baler**	**7.94**	**206**	*e*P	**Pn**	**22 36 23.7**	**-2.3**
BOLP	**Bolinao**	**8.20**	**218**	*e*P	**Pn**	**22 36 27.6**	**-1.9**
SSE	**Sheshan**	**8.81**	**337**	*e*P	**Pn**	**22 36 36.3**	**-1.6**
SSE				S	**Sn**	**22 38 14.5**	**-1.5**
SSE				PMZ			
	30nm,0.6s						
SSE				PMZ			
	380nm,9.0s						
SSE				LN			
	950nm,14.0s						
SSE				LE			
	5µm,14.1s						
SSE				LZ			
	6µm,14.8s						
GQP	**Guinayangan**	**9.38**	**196**	⇓*e*P	**Pn**	**22 36 42.7**	**-3.0**
PVCP	**Virac**	**9.38**	**186**	⇓*e*P	Pn	22 36 41.3	-4.3
TGY	**Tagaytay City**	**9.68**	**205**	Pn	Pn	22 36 44.9	-5.0
	baz=270,slow=4.8						
TGY				Sn	**Sn**	**22 38 35.8**	**-1.8**
	baz=90,slow=20						
TGY				LR	LR	22 40 18.3	
	comp=Z,84nm,19.2s,baz=90,slow=37						
TGY	**Tagaytay City**	**9.68**	**205**	⇑*e*P	**Pn**	**22 36 49.0**	**-0.9**
NJ2	**Nanjing**	**10.61**	**330**	*e*P	**Pn**	**22 37 03.3**	**+0.8**
NJ2				S	**Sn**	**22 38 56.0**	**-4.1**
NJ2				PMZ			
	90nm,1.0s						
NJ2				LN			
	14µm,17.3s						
NJ2				LE			
	9µm,12.4s						
NJ2				LZ			
	9µm,12.3s						
GZH	**Guangzhou**	**10.86**	**273**	P	Pn	22 37 01.0	-4.9
GZH				S	Sn	22 38 55.0	-11
GZH				LR	LR		
	comp=N,6µm,13.2s						
GZH				LR	LR		
	comp=E,4µm,13.9s						
PLP	**Palo**	**11.75**	**181**	⇓*e*P	Pn	22 37 14.5	-3.6
WHN	**Wuhan**	**12.22**	**310**	⇓P	**Pn**	**22 37 24.8**	**+0.3**
WHN				S	**Sn**	**22 39 39.0**	**-0.6**
WHN				LN			
	comp=E,11µm,12.2s						
WHN				LE			
	comp=E,7µm,11.5s						
WHN				LZ			
	comp=E,11µm,11.6s						
KSJEU	**Jeongeup**	**12.57**	**7**	P	**Pn**	**22 37 29.4**	**+0.2**
	SNR=7.0						
KSGUS	**GUNSAN**	**13.09**	**6**	P	**Pn**	**22 37 36.4**	**+0.1**
	SNR=7.7						
TJN	**Taejon**	**13.49**	**8**	*c i*P	**Pn**	**22 37 40.1**	**-1.7**
KS15	**Wonju Array Si**	**14.61**	**9**	*e*Pn	**Pn**	**22 37 54.2**	**-2.9**
KSAR	**Wonju Array Be**	**14.61**	**9**	Pn	**Pn**	**22 37 54.2**	**-2.9**
KSRS	**Korea Array**	**14.63**	**9**	Pn	Pn	22 37 54.2	-3.1
	comp=E,0.4nm,0.3s,baz=186,slow=12,SNR=56						
KSRS				LR	LR	22 44 00.2	
	comp=E,2µm,18.2s,baz=174,slow=39						
QIZ	**Qiongzhong**	**14.81**	**257**	P	**Pn**	**22 37 58.8**	**-1.1**
QIZ				S	**Sn**	**22 40 39.8**	**-3.0**
QIZ				PMZ			
	comp=E,120nm,8.0s						
QIZ				LN			
	comp=E,3µm,15.0s						
QIZ				LZ			
	comp=E,3µm,16.3s						
QIZ	**Qiongzhong**	**14.81**	**257**	*e*Pn	**Pn**	**22 38 00.8**	**+1.0**
TIA	**Tai'an**	**14.90**	**334**	⇑P	**Pn**	**22 38 00.5**	**-0.5**
TIA				S	**Sn**	**22 40 46.8**	**+1.8**
TIA				PMZ			
	comp=E,30nm,0.5s						
TIA				PMZ			
	comp=E,820nm,10.7s						
TIA				LN			
	comp=E,3µm,19.0s						
TIA				LE			
	comp=E,6µm,18.2s						
TIA				LZ			
	comp=E,2µm,21.0s						
KSCHC	**Chuncheon**	**14.93**	**8**	P	**Pn**	**22 38 00.6**	**-0.8**
	SNR=8.2						
ENH	**Enshi**	**15.75**	**301**	*e*Pn	**P**	**22 38 18.2**	**+2.4**
	comp=E,38nm,0.7s						
CBIJ	**Chichi jima**	**15.99**	**72**	*e*Pn	**Pn**	**22 38 15.2**	**0.0**
	comp=E,112nm,1.3s						
JCJ	**Chichijima**	**15.99**	**72**	Pn	**Pn**	**22 38 14.1**	**-1.1**
	comp=E,2.1nm,0.3s,baz=286,slow=20,SNR=3.9						
JCJ				LR	LR	22 43 18.0	
	comp=E,943nm,19.3s,baz=250,slow=33						
CBI	**Chichi jima**	**15.99**	**72**	*e*Pn	**Pn**	**22 38 14.1**	**-1.1**
GYA	**Guiyang**	**17.13**	**285**	⇑*i*P	**P**	**22 38 33.3**	**+2.1**
GYA				pP	**pP**	**22 38 38.8**	**-1.4**
GYA				PP	**PnPn**	**22 38 45.3**	**+5.4**
GYA				S	**Sn**	**22 41 38.5**	**-0.9**
GYA				sS	**S**	**22 41 50.0**	**+1.9**
GYA				SS	**SnSn**	**22 41 59.0**	**+6.2**
GYA				PMZ			
	comp=E,30nm,0.9s						
GYA				PMZ			
	comp=E,250nm,9.0s						
GYA				LN			
	comp=E,3µm,15.6s						
GYA				LE			
	comp=E,3µm,13.7s						
GYA				LZ			
	comp=E,4µm,14.6s						
MAJO	**Matsushiro**	**17.62**	**37**	*d i*P	**Pn**	**22 38 35.5**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,392nm,1.7s						
MAJO				MLR	MLR		
	comp=Z,6µm,20.0s						
MAJO	**Matsushiro**	**17.62**	**37**	*e*Pn	**Pn**	**22 38 36.1**	**+0.4**
	comp=Z,146nm,1.3s						
MAT	**Matsushiro**	**17.62**	**37**	P	**Pn**	**22 38 35.6**	**-0.2**
MAT				S	**S**	**22 42 04.2**	**+6.4**
MJAR	**Matsushiro Arr**	**17.63**	**37**	P	**Pn**	**22 38 34.2**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=221,slow=10.0,SNR=30						
MJAR				S	**S**	**22 41 59.4**	**+1.6**
	baz=226,slow=24,SNR=2.3						
MJAR	**Matsushiro Arr**	**17.63**	**37**	P	**Pn**	**22 38 34.2**	**-1.6**
MJAR				S	**S**	**22 41 59.4**	**+1.6**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KDM	**Kudat**	**17.86**	**208**	⇑P	**P**	**22 38 39.4**	**+0.2**
XAN	**Xi'an**	**17.98**	**311**	P	**Pn**	**22 38 39.5**	**-0.8**
XAN				S	**Sn**	**22 42 00.5**	**+0.6**
XAN				PMZ			
	comp=Z,31nm,1.5s						
XAN				PMZ			
	comp=Z,260nm,7.4s						
XAN				LN			
	comp=Z,3µm,12.3s						
XAN				LE			
	comp=Z,3µm,12.3s						
XAN				LZ			
	comp=Z,3µm,13.7s						
BJT	**Baijiatuan**	**18.61**	**338**	*e*P	**P**	**22 38 45.5**	**-1.8**
BJI	**Beijing**	**18.62**	**338**	P	**P**	**22 38 45.5**	**-1.9**
BJI				S	**Sn**	**22 42 10.0**	**-5.1**
BJI				PMZ			
	comp=Z,43nm,1.4s						
BJI				PMZ			
	comp=Z,1µm,12.2s						
BJI				LN			
	comp=Z,3µm,15.0s						
BJI				LE			
	comp=Z,4µm,17.7s						
BJI				LZ			
	comp=Z,2µm,25.8s						
MYLDM	**Lahad Datu**	**18.82**	**201**	⇑P	**Pn**	**22 38 50.6**	**+0.2**
MYLDM	**Lahad Datu**	**18.82**	**201**	*e*Pn	**Pn**	**22 38 50.7**	**+0.2**
	comp=Z,741nm,2.1s						
SDKM	**Sandakan**	**18.86**	**205**	⇑P	**Pn**	**22 38 51.3**	**+0.2**
KKM	**Kota Kinabalu**	**18.91**	**208**	⇓P	**Pn**	**22 38 52.9**	**+1.2**
KKM	**Kota Kinabalu**	**18.91**	**208**	*e*P	**Pn**	**22 38 52.3**	**+0.7**
	comp=Z,41nm,0.9s						
DLV	**T Lat**	**19.28**	**238**	*e*Pn	**Pn**	**22 38 56.0**	**-0.3**
SLVN	**Son La**	**19.73**	**269**	*e*Pn	**Pn**	**22 39 03.3**	**+1.9**
	comp=Z,26nm,1.3s						
TSM	**Tawau**	**19.86**	**202**	⇑P	**P**	**22 39 00.8**	**-0.3**
UBPT	**Khong Chiam**	**20.08**	**251**	P	**P**	**22 39 04.5**	**+1.0**
	comp=Z,101nm,1.1s,comp=Z,2µm						
KMI	**Kunming**	**20.56**	**280**	⇓P	Pn	22 39 12.0	+0.6
KMI				PMZ			
	comp=Z,57nm,1.1s						
KMI				PMZ			
	comp=Z,430nm,5.5s						
KMI				LN			
	comp=Z,2µm,13.4s						
KMI				LE			
	comp=Z,2µm,15.3s						
KMI				LZ			
	comp=Z,3µm,14.7s						
CD2	**Chengdu**	**20.60**	**297**	P	**P**	**22 39 09.5**	**+0.3**
CD2				pP	**pP**	**22 39 18.5**	**+0.2**
CD2				sP	**sP**	**22 39 23.0**	**+0.3**
CD2				S	**S**	**22 42 58.0**	**+0.2**
CD2				PMZ			
	comp=Z,180nm,1.0s						
CD2				PMZ			
	comp=Z,460nm,5.0s						
CD2				LN			
	comp=Z,5µm,14.2s						
CD2				LZ			
	comp=Z,5µm,12.7s						
SKNT	**Sakolnakorn**	**20.75**	**257**	P	Pn	22 39 13.6	+0.3
	comp=Z,56nm,1.4s						
CN2	**Changchun**	**20.77**	**1**	*e*P	**P**	**22 39 08.5**	**-2.3**
CN2				*e*sP	**sP**	**22 39 21.8**	**-2.5**
CN2				*e*S	S	22 42 54.0	-6.7
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
CN2				PMZ			
	comp=Z,200nm,5.0s						
CN2				LN			
	comp=Z,2µm,13.0s						
CN2				LE			
	comp=Z,2µm,13.0s						
CN2				LZ			
	comp=Z,1µm,11.0s						
VLA	**Vladivostok**	**20.85**	**14**	⇓*i*P	**P**	**22 39 13.1**	**+1.4**
VLA				*i* *pP	**pP**	**22 39 21.9**	**+1.1**
VLA				*e*		22 39 32.2	
VLA				*e*S	**S**	**22 43 05.1**	**+2.7**
VLA				*e*		22 43 19.9	
VLA				pmax	pmax		
	comp=Z,92nm,1.2s						
GUMO	**Guam**	**20.92**	**113**	P	**P**	**22 39 13.2**	**+0.6**
	comp=Z,493nm,0.8s,baz=192,slow=5.9,SNR=24						
GUMO				LR	LR	22 48 08.3	
	comp=Z,966nm,18.2s,baz=292,slow=39						
GUMO	**Guam**	**20.92**	**113**	P	**P**	**22 39 13.2**	**+0.6**
GUMO				pmax	pmax		
	comp=Z,493nm,0.8s						
GUMO				MLR	MLR		
	comp=Z,966nm,18.2s						
GUMO	**Guam**	**20.92**	**113**	P	**P**	**22 39 13.2**	**+0.6**
GUMO				*e*P	Pn	22 39 13.4	-1.9
HHC	**Hu-ho-hao-te**	**21.17**	**330**	*e*P	**P**	**22 39 15.5**	**+0.2**
HHC				pP	**pP**	**22 39 26.3**	**+1.9**
HHC				sP	**sP**	**22 39 29.5**	**+0.8**
HHC				PP	**PnPn**	**22 39 38.0**	**+2.8**
HHC				S	**S**	**22 43 04.5**	**-4.4**
HHC				PMZ			
	comp=Z,27nm,0.8s						
HHC				PMZ			
	comp=Z,360nm,4.3s						
HHC				LN			
	comp=Z,2µm,16.0s						
HHC				LE			
	comp=Z,2µm,14.8s						
HHC				LZ			
	comp=Z,2µm,16.0s						
MDJ	**Mudanjiang**	**21.89**	**9**	P	**P**	**22 39 25.5**	**+2.7**
MDJ				pP	**pP**	**22 39 33.5**	**+1.5**
MDJ				sP	**sP**	**22 39 37.8**	**+1.5**
MDJ				PMZ			
	comp=Z,12nm,0.7s						
MDJ				PMZ			
	comp=Z,340nm,9.2s						
MDJ				LN			
	comp=Z,2µm,16.4s						
MDJ				LE			
	comp=Z,1µm,15.5s						
MDJ				LZ			
	comp=Z,2µm,25.0s						
USRK	**Ussuriysk Ar.**	**21.91**	**13**	P	**P**	**22 39 21.6**	**-1.4**
	comp=Z,8.8nm,0.6s,baz=199,slow=8.7,SNR=15						
USRK				LR	LR	22 48 13.1	
	comp=Z,1µm,18.2s,baz=179,slow=38						
TNTI	**Ternate**	**22.18**	**174**	P	**P**	**22 39 26.5**	**+0.3**
TNTI	**Ternate**	**22.18**	**174**	*e*P	**P**	**22 39 26.9**	**+0.7**
	comp=Z,252nm,1.0s						
KMSI	**Cibinong**	**22.30**	**183**	P	**P**	**22 39 27.5**	**+0.1**
MRSI	**Marisa**	**22.58**	**188**	P	**P**	**22 39 29.5**	**-1.0**
LZH	**Lanzhou**	**22.60**	**310**	*e*P	**P**	**22 39 32.5**	**+1.7**
LZH				pP	**pP**	**22 39 40.8**	**+0.9**
LZH				sP	**sP**	**22 39 44.5**	**+0.2**
LZH				PP	**PnPn**	**22 39 58.5**	**+3.6**
LZH				*e*S	**S**	**22 43 31.3**	**-5.1**
LZH				sS	**sS**	**22 43 46.8**	**-5.1**
LZH				PMZ			
	comp=Z,46nm,1.2s						
LZH				PMZ			
	comp=Z,180nm,4.3s						
LZH				LN			
	comp=Z,2µm,13.0s						
LZH				LE			
	comp=Z,2µm,12.5s						
LZH				LZ			
	comp=Z,4µm,13.6s						
BTM	**Bintulu**	**22.86**	**212**	⇑P	**P**	**22 39 33.3**	**-0.2**
CHAI	**Chaiyaphum**	**22.91**	**256**	P	**P**	**22 39 34.2**	**+0.2**
	comp=Z,11nm,1.2s,comp=Z,127nm						
LOEI	**Loei**	**23.03**	**261**	P	**P**	**22 39 32.9**	**-2.3**
	comp=Z,236nm,1.2s,comp=Z,14µm						
MPSI	**Mapaga**	**23.07**	**193**	P	**P**	**22 39 35.2**	**-0.4**
CRAI	**Chiangrai**	**23.17**	**268**	P	**P**	**22 39 36.3**	**-0.4**
	comp=Z,108nm,1.5s						
PBKT	**Sadao Pong**	**23.60**	**259**	P	**P**	**22 39 41.5**	**+0.7**
	comp=Z,50nm,1.2s,comp=Z,1µm						
UTTA	**Uttaradit**	**23.61**	**262**	P	**P**	**22 39 43.6**	**+2.7**
	comp=Z,4.2nm,0.8s,comp=Z,46nm						
SBUM	**Sibu**	**23.94**	**213**	⇓P	**P**	**22 39 43.3**	**-0.7**
SBUM	**Sibu**	**23.94**	**213**	*e*P	**P**	**22 39 43.0**	**-1.1**
	comp=Z,50nm,1.0s						
APSI	**Ampana**	**23.99**	**189**	P	**P**	**22 39 43.0**	**-1.4**
LUWI	**Luwuk**	**23.99**	**186**	P	**P**	**22 39 42.3**	**-2.1**
LUWI	**Luwuk**	**23.99**	**186**	*e*P	**P**	**22 39 42.4**	**-2.0**
	comp=Z,176nm,1.0s						
ERM	**Erimo**	**24.23**	**34**	P	**P**	**22 39 47.7**	**+1.3**
	comp=Z,380nm,0.6s,SNR=11						
ERM	**Erimo**	**24.23**	**34**	P	**P**	**22 39 47.0**	**+0.6**
ERM				pmax	pmax		
	comp=Z,50nm,1.0s						
ERM				MLR	MLR		
	comp=Z,2µm,25.0s						
ERM	**Erimo**	**24.23**	**34**	*e*P	**P**	**22 39 46.2**	**-0.2**
	comp=Z,40nm,0.6s						
PCI	**Palu**	**24.29**	**193**	P	**P**	**22 39 46.7**	**-0.6**
	comp=Z,155nm,1.3s,comp=Z,2µm						
SWI	**Sorong**

comp=Z,28nm,1.3s,comp=Z,562nm
CHTO Chiang Mai 24.80 265 P **P** **22 39 52.5 +0.6**
comp=Z,96nm,1.3s,comp=Z,2µm
CHTO Chiang Mai 24.80 265 P **P** **22 39 52.7 +0.8**
SNR=7.9
CHTO Chiang Mai 24.80 265 *e*P **P** **22 39 51.8 -0.2**
comp=Z,22nm,1.1s
CM31 Chiang Mai Arr 24.89 264 *e*P **P** **22 39 51.6 -1.1**
CMAR Chiang Mai Arr 24.89 264 P **P** **22 39 51.6 -1.1**
comp=Z,8.7nm,0.9s,baz=69,slow=7.6,SNR=31
CMAR LR LR 22 50 35.3
comp=Z,794nm,18.5s,baz=80,slow=39
CMAR Chiang Mai Arr 24.89 264 *ce*P **P** **22 39 52.9 +0.2**
CMAR pmax pmax
comp=Z,9.0nm,0.9s
SANI Sanana 24.89 178 P **P** **22 39 50.5 -2.2**
comp=Z,166nm,0.8s,comp=Z,3µm
UTHA Uthaitani 25.32 258 P **P** **22 40 00.7 +4.1**
comp=Z,4.5nm,1.1s
ASAJ Asahikawa 25.52 30 LR LR 22 49 41.1
comp=Z,2µm,22.0s,slow=36
ASAJ Asahikawa 25.52 30 *e*P **P** **22 39 57.8 -0.3**
comp=Z,34nm,1.0s
KSM Kuching 25.77 216 ⇓P **P** **22 40 00.1 -0.6**
KSM Kuching 25.77 216 *e*P **P** **22 39 59.9 -0.8**
comp=Z,27nm,1.0s
MHMT Maesarieng 25.89 264 P **P** **22 40 04.6 +2.8**
comp=Z,14nm,1.1s,comp=Z,183nm
NLAI Namlea 26.13 176 P **P** **22 40 04.1 +0.2**
comp=Z,55nm,1.1s
TTSI Tana Toraja 26.38 192 P **P** **22 40 08.8 +2.6**
HIA Hailar 26.58 352 *e*P **P** **22 40 07.2 -0.6**
comp=Z,26nm,0.8s
HABR Khabarovsk 26.64 15 *e*P **P** **22 40 06.9 -1.3**
HABR *e**SP **sP** **22 40 20.7 -1.5**
HABR *e*PPP PPP 22 40 57.2
HABR *e* 22 43 29.5
HABR *e*S **S** **22 44 40.8 0.0**
HABR *e**SS **sS** **22 44 57.3 +0.2**
HABR *e*SS **SnSn** **22 45 46.8 +1.5**
HABR *e* 22 50 57.2
HABR pmax pmax
comp=Z,43nm,1.5s
HABR MLR MLR
comp=Z,2µm,16.0s
KLR Kul'dur 26.72 10 *e*P **P** **22 40 05.3 -3.6**
KLR *e*S **S** **22 44 37.0 -5.1**
KLR *e*SS **SnSn** **22 45 55.5 +8.2**
KLR pmax pmax
comp=Z,85nm,1.6s
KLR pmax pmax
comp=Z,1µm,10.0s
GTA Gaotai 27.02 313 *e*P **PcP** **22 43 34.0 +1.2**
GTA Gaotai 27.02 313 *e*P **S** **22 44 48.3 +0.8**
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,7.0nm,1.5s
GTA Gaotai 27.02 313 ⇑P **P** **22 40 12.8 +0.8**
GTA pP **pP** **22 40 22.0 +0.2**
GTA sP **sP** **22 40 26.3 +0.3**
GTA PcP **PcP** **22 43 33.5 +0.7**
GTA S **S** **22 44 48.0 +0.5**
GTA PMZ
comp=Z,27nm,1.4s
GTA PMZ
comp=Z,230nm,5.1s
GTA LN
comp=Z,2µm,13.3s
GTA LE
comp=Z,2µm,12.8s
GTA LZ
comp=Z,3µm,14.2s
YUK Yuzh-Kuril'sk 27.06 34 *c i*P **P** **22 40 13.0 +1.0**
YUK pmax pmax
comp=N,51nm,1.3s
YUK pmax pmax
comp=E,94nm,1.3s
YUK pmax pmax
comp=Z,153nm,1.3s
YUK pmax pmax
comp=Z,509nm,6.0s
YUK MLR MLR
comp=N,705nm,21.0s
YUK MLR MLR
comp=E,770nm,21.0s
YUK MLR MLR
comp=Z,973nm,21.0s
SPSI Sidrap Palu 27.29 192 P P 22 40 09.3 -5.0
KBKI Kotabaru 27.55 200 P **P** **22 40 18.0 +1.4**
comp=Z,31nm,1.0s
YSS Yuzh-Sakhalins 27.81 26 ⇑*e*P **P** **22 40 20.5 +1.7**
YSS *e* 22 41 26.0
YSS *e*S **S** **22 45 03.0 +3.6**
YSS pmax pmax
comp=Z,120nm,1.0s
YSS pmax pmax
comp=Z,1µm,7.0s
YSS MLR MLR
comp=N,2µm,16.0s
YSS MLR MLR
comp=E,2µm,16.0s
YSS MLR MLR
comp=Z,2µm,16.0s
YSS Yuzh-Sakhalins 27.81 26 *e*P **P** **22 40 21.1 +2.3**
comp=Z,154nm,1.1s
SMPI Sarmi 28.13 150 P **P** **22 40 23.5 +1.6**
comp=Z,37nm,1.3s
BBKI Banjar Baru 28.14 202 P **P** **22 40 21.0 -0.9**
comp=Z,73nm,1.2s,comp=Z,2µm
KAPI Kappang 28.32 191 LR LR 22 51 13.4
comp=Z,1µm,22.0s,baz=20,slow=36
SONA0 Songino Array 28.97 333 *e*P **P** **22 40 28.4 -0.9**
SONM Songino Array 28.97 333 P **P** **22 40 28.4 -0.9**
comp=Z,6.1nm,0.8s,baz=145,slow=9.5,SNR=30
SONM PcP **PcP** **22 43 37.8 +0.4**
comp=Z,1.8nm,1.1s,baz=101,slow=1.5,SNR=3.7
SONM LR LR 22 53 14.6
comp=Z,1µm,19.5s,baz=140,slow=39
SONM Songino Array 28.97 333 P **P** **22 40 28.4 -0.9**
SONM 22 43 37.8
SONM pmax pmax
comp=Z,6.0nm,0.8s
SONM pmax pmax
comp=Z,2.0nm,1.1s
SONM MLR MLR
comp=Z,1µm,19.5s
JAY Jayapura 29.54 147 LR LR 22 49 34.2
comp=Z,1µm,21.7s,baz=359,slow=31
SHL Shillong 30.38 282 *e*P P 22 40 46.0 +4.0
TPI Tanjungpandan 30.74 216 P **P** **22 40 44.8 -0.2**
comp=Z,34nm,1.2s,comp=Z,460nm
LSA Lhasa 31.10 290 P **P** **22 40 49.0 +0.3**
LSA Lhasa 31.10 290 *e*P **P** **22 40 49.4 +0.7**
comp=Z,16nm,0.7s
PPBI Pangkal Pinang 31.10 219 P **P** **22 40 46.3 -2.0**
comp=Z,21nm,0.9s,comp=Z,3µm
MMRI Maumere 31.55 185 P **P** **22 40 53.1 +1.0**
comp=Z,91nm,1.0s
MMRI Maumere 31.55 185 *e*P **P** **22 40 53.4 +1.2**
comp=Z,71nm,0.9s
PSI Prapat 32.36 236 P **P** **22 40 58.9 -0.6**
comp=Z,2.6nm,0.4s,baz=291,slow=6.9,SNR=3.6
PSI Prapat 32.36 236 P **P** **22 40 58.9 -0.6**
PSI pmax pmax
comp=Z,3.0nm,0.4s
NKL Nikolayevsk 32.37 18 *e*P P 22 40 52.0 -7.0
NKL *e*S S 22 46 06.0 -4.7
NKL pmax pmax
comp=Z,320nm,12.0s
NKL smax smax
comp=N,800nm,16.0s
NKL smax smax
comp=E,400nm,16.0s
NKL MLR MLR
comp=N,2µm,16.0s
NKL MLR MLR
comp=E,1µm,16.0s
NKL MLR MLR
comp=Z,4µm,16.0s
TLY Talaya 33.10 335 *i*P **P** **22 41 06.0 +0.5**
TLY pmax pmax
comp=Z,20nm,1.7s
TLY Talaya 33.10 335 P **P** **22 41 06.9 +1.3**
SNR=12
TLY Talaya 33.10 335 *e*P **P** **22 41 06.0 +0.5**
comp=Z,10nm,0.8s
LHSI Lahat 33.98 221 P **P** **22 41 14.5 +1.0**
comp=Z,32nm,1.2s
KLI Kotabumi 34.03 218 P **P** **22 41 16.0 +2.1**
comp=Z,107nm,1.1s,comp=Z,2µm
KPJI Karang Pucung 34.04 210 P **P** **22 41 14.2 +0.2**
comp=Z,48nm,1.1s
MDSI Maura Dua 34.12 219 P **P** **22 41 14.7 +0.1**
comp=Z,40nm,0.9s
MOY Mondy 34.16 333 *e*P **P** **22 41 15.4 +0.6**
MOY pmax pmax
comp=Z,36nm,1.4s
LEM Lembang 34.22 212 P **P** **22 41 17.1 +1.4**
comp=Z,70nm,0.9s
LEM Lembang 34.22 212 P **P** **22 41 14.9 -0.8**
comp=Z,55nm,0.9s,baz=113,slow=13,SNR=8.6
LEM LR LR 22 57 11.2
comp=Z,521nm,19.2s,baz=2.5,slow=40
LEM Lembang 34.22 212 P **P** **22 41 14.9 -0.8**
LEM pmax pmax
comp=Z,55nm,0.9s
LEM MLR MLR
comp=Z,521nm,19.2s
LWLI Liwa 34.62 219 P **P** **22 41 18.9 -0.2**
comp=Z,62nm,0.8s,comp=Z,9µm
KASI Kota Agung 34.78 218 P **P** **22 41 18.7 -1.6**
comp=Z,50nm,1.3s
CGJI Cibinong 35.02 215 P P 22 41 19.2 -3.2
comp=Z,38nm,1.2s
SKR Severo-Kuril's 36.67 33 *e*P P 22 41 24.0 -12
SKR *e*PPP PPP 22 43 08.0
SKR *e*SSS SSS 22 49 50.0
SKR pmax pmax
comp=Z,70nm,1.0s
SKR pmax pmax
comp=E,2µm,4.0s
SKR pmax pmax
comp=Z,2µm,4.0s
SKR MLR MLR
comp=N,2µm,18.0s
SKR MLR MLR
comp=E,2µm,18.0s
SKR MLR MLR
comp=Z,2µm,18.0s
WMQ Urumqi 37.11 313 P **P** **22 41 42.0 +1.8**
WMQ pP **pP** **22 41 51.8 +1.6**
WMQ sP **sP** **22 41 55.8 +1.5**
WMQ PP **PnPn** **22 43 09.0 +3.4**
WMQ PcP **PcP** **22 44 02.0 +1.9**
WMQ S **S** **22 47 25.5 +1.3**
WMQ ScS **ScS** **22 51 51.8 -0.4**
WMQ PMZ
comp=Z,29nm,1.2s
WMQ PMZ
comp=Z,230nm,4.4s
WMQ LN
comp=Z,2µm,13.4s
WMQ LE
comp=Z,940nm,10.1s
WMQ LZ
comp=Z,520nm,14.4s
PETK Petropavlovsk- 38.93 31 P **P** **22 41 54.7 -0.6**
comp=Z,38nm,1.2s,baz=193,slow=6.1,SNR=8.1
PETK LR LR 22 56 57.0
comp=Z,673nm,21.5s,baz=223,slow=35
PETK Petropavlovsk- 38.93 31 P **P** **22 41 54.7 -0.6**
PETK pmax pmax
comp=Z,39nm,1.2s
PETK MLR MLR
comp=Z,673nm,21.5s
PEA2 Petropavlovsk- 38.93 31 *e*P **P** **22 41 54.7 -0.6**
YAK Yakutsk 39.15 3 *e*P **P** **22 41 57.2 +0.2**
YAK *e**PP **pP** **22 42 05.9 -1.1**
YAK *e*S **S** **22 47 53.8 -0.6**
YAK *e**SS **sS** **22 48 11.1 +0.1**
YAK *e* 22 52 01.0
YAK pmax pmax
comp=Z,22nm,0.9s
YAK pmax pmax
comp=Z,12nm,0.7s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK smax smax
comp=E,171nm,6.4s
YAK smax smax
comp=N,457nm,4.4s
YAK MLR MLR
comp=Z,2µm,16.0s
YAK MLR MLR
comp=N,1µm,16.0s
YAK MLR MLR
comp=E,495nm,12.0s
PET Petropavlovsk 39.34 32 *e*P **P** **22 41 58.3 -0.3**
PET *e* 22 43 29.2
PET *e*S **S** **22 47 55.5 -1.9**
PET pmax pmax
comp=Z,27nm,1.0s
PET pmax pmax
comp=Z,500nm,6.0s
PET pmax pmax
comp=Z,300nm,10.4s
PET pmax pmax
comp=Z,200nm,15.1s
PET smax smax
comp=E,60nm,0.8s
PET smax smax
comp=N,41nm,0.7s
PET MLR MLR
comp=Z,800nm,21.0s
PET MLR MLR
comp=Z,600nm,20.0s
COEN Coen 40.74 153 *e*P **P** **22 42 09.9 -0.8**
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 41.73 315 *e*P **P** **22 42 18.4 -0.2**
MKAR *e*PP PP 22 43 49.6 -5.7
ZAA0 Zalesovo Array 43.24 326 *e*P **P** **22 42 29.4 -1.3**
ZALV Zalesovo Beam 43.24 326 P **P** **22 42 29.8 -0.9**
comp=Z,21nm,0.5s,baz=120,slow=8.7,SNR=63
ZALV LR LR 23 02 38.9
comp=Z,1µm,18.3s,baz=65,slow=39
ZALV Zalesovo Beam 43.24 326 *i*P **P** **22 42 29.6 -1.1**
ZALV pmax pmax
comp=Z,21nm,0.5s
ZAA1 Zalesovo Array 43.24 326 *e*P **P** **22 42 29.8 -0.9**
NDI New Delhi 43.27 288 *e*P **P** **22 42 31.0 -0.4**
WRAB Tennant Creek 43.59 167 P **P** **22 42 32.3 -1.6**
comp=Z,300nm,0.5s,SNR=30
WRAB Tennant Creek 43.59 167 *d i*P **P** **22 42 32.0 -1.9**
WRAB pmax pmax
comp=Z,136nm,1.2s
WRAB MLR MLR
comp=Z,952nm,18.0s
WRAB Tennant Creek 43.59 167 *e*P **P** **22 42 32.0 -1.9**
comp=Z,43nm,1.0s
WRA Warramunga Arr 43.60 167 P **P** **22 42 32.2 -1.8**
comp=Z,27nm,0.5s,baz=347,slow=8.9,SNR=243
WRA PcP **PcP** **22 44 20.6 -0.6**
comp=Z,3.1nm,0.6s,baz=351,slow=3.7,SNR=4.7
WRA LR LR 22 59 24.1
comp=Z,409nm,21.5s,baz=0.0,slow=34
WRA Warramunga Arr 43.60 167 P **P** **22 42 32.2 -1.8**
WRA 22 44 20.6
WRA pmax pmax
comp=Z,27nm,0.5s
WRA pmax pmax
comp=Z,3.0nm,0.6s
WRA MLR MLR
comp=Z,409nm,21.5s
SEY Seymchan 43.95 18 P **P** **22 42 37.4 +1.1**
comp=Z,8.9nm,0.9s,baz=221,slow=9.3,SNR=6.3
SEY PcP **PcP** **22 44 21.6 -0.1**
comp=Z,2.4nm,0.5s,baz=56,slow=4.8,SNR=4.3
SEY Seymchan 43.95 18 ⇑*e*P **P** **22 42 37.5 +1.2**
NVS Novosibirsk 44.48 327 *e*P **P** **22 42 39.7 -1.0**
NVS *e*S **S** **22 49 11.5 -1.9**
NVS pmax pmax
comp=E,36nm,1.5s
NVS pmax pmax
comp=Z,56nm,1.5s
NVS pmax pmax
comp=N,27nm,1.6s
NVS smax smax
comp=E,33nm,2.6s
KSH Kashi 44.59 304 P P 22 42 46.3 +4.4
KSH pP pP 22 42 56.0 +3.9
KSH sP sP 22 43 00.0 +3.8
KSH PcP **PcP** **22 44 25.8 +1.3**
KSH PP **PP** **22 44 31.0 +4.8**
KSH PcS **PcS** **22 48 22.5 +4.4**
KSH S S 22 49 22.5 +6.8
KSH sS sS 22 49 34.0 +1.6
KSH PMZ
comp=E,17nm,1.0s
KSH PMZ
comp=E,98nm,4.4s
KSH LN
comp=E,990nm,15.4s
KSH LE
comp=E,190nm,11.0s
KSH LZ
comp=E,560nm,10.0s
ULHL Ulahol 44.77 307 P **P** **22 42 44.1 +0.6**
SNR=6.4
KURK Kurchatov 45.34 320 P **P** **22 42 47.9 +0.3**
comp=E,228nm,1.4s,SNR=5.8
KURK Kurchatov 45.34 320 *e*P **P** **22 42 47.0 -0.6**
KURK pmax pmax
comp=Z,33nm,1.3s
KURK Kurchatov 45.34 320 P **P** **22 42 47.4 -0.2**
SNR=26
KURK Kurchatov 45.34 320 *e*P **P** **22 42 46.7 -0.9**
comp=Z,154nm,1.3s
TKM2 Tokmak 2 45.35 308 P **P** **22 42 48.4 +0.3**
SNR=24
TKM2 Tokmak 2 45.35 308 *e*P **P** **22 42 48.4 +0.3**
comp=Z,27nm,0.8s
KZA Kyzart 45.47 307 P **P** **22 42 51.9 +2.6**
SNR=12
KBK Karagaybulak 45.78 308 P **P** **22 42 53.7 +2.2**
SNR=12
CHMS Chumysh 45.98 308 P **P** **22 42 52.8 0.0**
SNR=16
UCH Uchtor 46.03 307 P **P** **22 42 56.5 +2.7**
SNR=32
FRU Bishkek 46.05 308 *e*P **P** **22 42 54.0 +0.6**
FRU MLR MLR
comp=E,2µm,14.0s
AAK Ala-Archa 46.11 308 *e*P **P** **22 42 54.6 +0.6**
comp=E,18nm,1.4s
USP Ospenovka 46.20 309 P **P** **22 42 54.7 +0.1**
SNR=6.7
AML Almayashu 46.62 307 P **P** **22 43 00.7 +2.3**
SNR=7.5
AS12 Alice Springs 47.14 169 *e*P **P** **22 43 00.8 -1.2**
ASAR Alice Springs 47.14 169 P **P** **22 43 00.8 -1.2**
comp=E,9.8nm,0.4s,baz=353,slow=8.2,SNR=139
ASAR PcP **PcP** **22 44 32.8 -0.6**
comp=E,9.8nm,0.5s,baz=341,slow=3.5,SNR=23
ASAR LR LR 23 04 17.4
comp=E,198nm,19.8s,baz=346,slow=38
AS01 Alice Springs 47.15 169 *e*P **P** **22 43 00.8 -1.3**
CTA Charters Tower 47.51 153 P **P** **22 43 04.7 -0.2**
comp=E,4.3nm,0.4s,baz=342,slow=11,SNR=5.3
CTAO Charters Tower 47.51 153 *e*P **P** **22 43 04.5 -0.4**
comp=E,30nm,1.4s
TIXI Tiksi 48.74 2 *de*P **P** **22 43 13.2 -0.6**
TIXI pmax pmax
comp=Z,35nm,1.4s
TIXI MLR MLR
comp=Z,2µm,16.0s
TIXI Tiksi 48.74 2 *e*P **P** **22 43 12.4 -1.4**
TIXI Tiksi 48.74 2 *e*P **P** **22 43 12.4 -1.4**
comp=Z,26nm,1.1s
KKAR Karatay Array 49.07 308 *e*P **P** **22 43 17.1 +0.2**
KKAR *e*PcP **PcP** **22 44 39.0 -1.2**
KBL Kabul 49.94 296 *e*P **P** **22 43 23.8 -0.1**
comp=Z,30nm,1.1s
BVAR Borovoye Array 50.90 321 P **P** **22 43 29.8 -0.7**
comp=Z,7.3nm,0.5s,baz=108,slow=7.8,SNR=54
BVAR Borovoye Array 50.90 321 P **P** **22 43 29.8 -0.7**
BVAR pmax pmax
comp=Z,7.0nm,0.5s
BRVK Borovoye 50.97 321 ⇓*e*P **P** **22 43 30.4 -0.6**
BRVK pmax pmax
comp=Z,31nm,1.2s
BRVK MLR MLR
comp=Z,582nm,15.0s
BRVK Borovoye 50.97 321 P **P** **22 43 31.1 +0.1**
SNR=12
BRVK Borovoye 50.97 321 *e*P **P** **22 43 30.6 -0.5**
BRVK Borovoye 50.97 321 *e*P **P** **22 43 30.6 -0.5**
comp=Z,42nm,1.3s
BILL Bilibino 51.63 18 *ce*P **P** **22 43 36.1 +0.4**
BILL pmax pmax
comp=Z,28nm,1.2s
BILL MLR MLR
comp=Z,858nm,15.0s
BILL Bilibino 51.63 18 *e*P **P** **22 43 36.1 +0.4**
comp=Z,19nm,1.0s
FORT Forrest 53.52 177 *e*P **P** **22 43 49.3 -0.8**
comp=Z,80nm,1.2s
NWAO Narrogin (SRO) 56.10 188 P **P** **22 44 07.6 -1.2**
comp=Z,15nm,0.9s,baz=334,slow=4.2,SNR=7.9
NWAO Narrogin (SRO) 56.10 188 P **P** **22 44 07.6 -1.2**
NWAO pmax pmax
comp=Z,15nm,0.9s
STKA Stephens Creek 56.78 163 P **P** **22 44 12.4 -1.2**
comp=Z,7.2nm,0.6s,baz=342,slow=6.1,SNR=26
STKA Stephens Creek 56.78 163 P **P** **22 44 12.4 -1.2**
STKA pmax pmax
comp=Z,7.0nm,0.6s
STKA Stephens Creek 56.78 163 *e*P **P** **22 44 12.6 -1.1**
ABKAR Akbulak array 56.86 315 *e*P **P** **22 44 13.7 -0.5**
SVE Sverdlovsk 57.15 324 *d i*P **P** **22 44 17.3 +1.3**
SVE *e* 22 46 29.2
SVE *e*S **S** **22 52 10.7 +1.8**
SVE *e* 22 53 54.0
SVE pmax pmax
comp=Z,59nm,1.4s
SVE MLR MLR
comp=Z,829nm,17.0s
AKTO Aktyubinsk 58.16 316 P **P** **22 44 22.3 -0.9**
comp=Z,3.6nm,0.6s,baz=85,slow=8.8,SNR=11
AKTO Aktyubinsk 58.16 316 P **P** **22 44 22.3 -0.9**
AKTO pmax pmax
comp=Z,4.0nm,0.6s
ARU Arti 58.24 323 *d i*P **P** **22 44 22.5 -1.2**
ARU 22 46 29.2
ARU S **S** **22 52 22.5 -0.7**
ARU 22 54 12.7
ARU SSS SSS 22 58 31.8
ARU pmax pmax
comp=Z,49nm,1.2s
ARU MLR MLR
comp=Z,498nm,19.0s
ARU Arti 58.24 323 *e*P **P** **22 44 22.7 -1.0**
comp=Z,57nm,1.3s
GEYT Alibeck 58.52 301 P **P** **22 44 26.2 +0.1**
comp=Z,17nm,1.1s,baz=40,slow=2.5,SNR=24
GEYT LR LR 23 13 37.5
comp=Z,563nm,20.1s,baz=80,slow=40
ARMA Armidale 58.88 153 *e*P **P** **22 44 29.3 +0.8**
comp=Z,32nm,1.4s
SOKR Solikamsk 59.52 327 *c i*P **P** **22 44 33.6 +1.1**
SOKR S **S** **22 52 40.7 +1.1**
SOKR pmax pmax
comp=Z,40nm,1.3s
SOKR MLR MLR
comp=Z,620nm,16.0s
DZM Mont Dzumac 60.19 135 *e*P **P** **22 44 37.7 -0.1**
comp=Z,44nm,1.2s
DZM Mont Dzumac 60.19 135 *e*LR LR 23 02 33.7
comp=Z,842nm,28.4s
IGLO Ghaloghah 62.10 300 *e*P **P** **22 44 52.1 +1.3**
IFIR Firoozkooh 63.10 299 *e*P **P** **22 44 58.7 +1.2**
IZEF Zefreh 63.95 297 *e*P **P** **22 45 04.7 +1.4**
IKLH Kolahrood 64.49 297 *e*P **P** **22 45 06.5 -0.2**
IKAZ Kazeroun 65.03 293 *e*P **P** **22 45 09.2 -1.2**
IPIR Pirpir 65.18 297 *e*P **P** **22 45 09.1 -2.2**
IM04 Indian Mountai 65.63 26 *e*P **P** **22 45 13.6 +0.3**
MSVF Nonsavu 65.67 123 *e*P **P** **22 45 15.2 +1.0**
comp=Z,28nm,0.9s
MAK Makhachkala 65.89 308 *e*P P 22 45 27.5 +12
PPLA Purkeypile 66.49 30 *e*P **P** **22 45 18.4 -0.6**
CAST Castle Rocks 66.50 29 *e*P **P** **22 45 20.1 +1.3**
comp=Z,16nm,1.2s
KDAK Kodiak Island 66.79 35 *i*P **P** **22 45 20.4 -0.4**
KDAK Kodiak Island 66.79 35 *e*P **P** **22 45 20.8 +0.1**
comp=Z,21nm,1.1s
BPAW Bear Paw Mtn. 66.93 28 *e*P **P** **22 45 22.3 +0.7**

MLY	**Manley**	**66.95**	**27**	*e*P		**P**	**22 45 22.4**	**+0.7**
	comp=Z,14nm,1.0s							
COLD	**Coldfoot**	**66.99**	**25**	*e*P		**P**	**22 45 23.5**	**+1.6**
	comp=Z,31nm,1.6s							
TRF	**Thorofare Moun**	**67.30**	**29**	*e*P		**P**	**22 45 26.1**	**+2.0**
BRLK	**Bradley Lake**	**67.44**	**33**	*e*P		**P**	**22 45 26.2**	**+1.3**
	comp=Z,20nm,1.0s							
DGRG	**David-gareji**	**67.72**	**307**	P		**P**	**22 45 29.7**	**+2.6**
DGRG	**David-gareji**	**67.72**	**307**	P		**P**	**22 45 29.6**	**+2.6**
MCK	**McKinley**	**67.87**	**29**	*e*P		**P**	**22 45 27.9**	**+0.3**
	comp=Z,26nm,1.2s							
RND	**Reindeer**	**67.95**	**29**	*e*P		**P**	**22 45 27.7**	**-0.4**
	comp=Z,15nm,0.7s							
SEW	**Seward**	**68.11**	**33**	*e*P		**P**	**22 45 29.0**	**-0.1**
	comp=Z,21nm,1.2s							
TBLG	**Delisi**	**68.13**	**307**	P		**P**	**22 45 30.8**	**+1.1**
TBLG	**Delisi**	**68.13**	**307**	P		**P**	**22 45 30.7**	**+1.1**
WRH	**Wood River Hil**	**68.14**	**28**	*e*P		**P**	**22 45 29.6**	**+0.4**
	comp=Z,12nm,1.1s							
COLA	**College**	**68.19**	**27**	*c i*P		**P**	**22 45 30.9**	**+1.5**
COLA					pmax	pmax		
	comp=Z,50nm,1.2s							
COLA	**College**	**68.19**	**27**	*e*P		**P**	**22 45 31.0**	**+1.5**
	comp=Z,39nm,1.7s							
CCB	**Clear Creek Bu**	**68.24**	**28**	*e*P		**P**	**22 45 29.7**	**-0.1**
	comp=Z,22nm,1.5s							
TMCR	**Tamitsa**	**68.32**	**332**	*e*P		**P**	**22 45 31.3**	**+1.0**
TMCR					pmax	pmax		
	comp=Z,40nm,1.4s							
GNI	**Garni**	**68.45**	**306⇑**	*e*P		**P**	**22 45 33.6**	**+1.8**
GNI					pmax	pmax		
	comp=Z,26nm,1.4s							
GNI	**Garni**	**68.45**	**306**	*e*P		**P**	**22 45 34.4**	**+2.6**
	comp=Z,20nm,1.1s							
VRHR	**Novokhopersk**	**68.47**	**318**	*e*P		**P**	**22 45 29.9**	**-1.6**
VRHR					pmax	pmax		
	comp=Z,80nm,1.3s							
VRHR					pmax	pmax		
	comp=N,50nm,0.8s							
VRHR					pmax	pmax		
	comp=E,30nm,0.6s							
ZEI	**Tsey**	**68.52**	**309**	*e*P		P	22 45 29.4	-2.9
ZEI					pmax	pmax		
	comp=Z,193nm,1.4s							
ILAR	**Eielson Array**	**68.61**	**27**	P		**P**	**22 45 31.5**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=277,slow=4.8,SNR=16							
ILAR					LR	LR	23 16 55.9	
	comp=Z,192nm,19.1s,baz=288,slow=37							
ILAR	**Eielson Array**	**68.61**	**27**	P		**P**	**22 45 31.5**	**-0.7**
ILAR					pmax	pmax		
	comp=Z,2.0nm,0.8s							
ILAR					MLR	MLR		
	comp=Z,192nm,19.1s							
ILB	**Eielson Array**	**68.61**	**27**	*e*P		**P**	**22 45 31.5**	**-0.7**
GOF	**Gofitskoye**	**68.67**	**311**	*e*P		**P**	**22 45 32.7**	**-0.2**
SCM	**Sheep Creek Mo**	**68.87**	**31**	*e*P		**P**	**22 45 34.0**	**+0.1**
	comp=Z,36nm,1.3s							
ONI	**Oni**	**68.89**	**308**	P		**P**	**22 45 36.4**	**+2.1**
ONI	**Oni**	**68.89**	**308**	P		**P**	**22 45 36.4**	**+2.1**
FYU	**Fort Yukon**	**69.02**	**25**	*e*P		**P**	**22 45 36.5**	**+1.9**
	comp=Z,77nm,1.6s							
KBZ	**Khabaz**	**69.04**	**310**	P		**P**	**22 45 34.2**	**-0.9**
	comp=Z,15nm,0.9s,baz=94,slow=2.7,SNR=19							
KBZ					LR	LR	23 18 15.7	
	comp=Z,334nm,18.8s,baz=62,slow=38							
KBZ	**Khabaz**	**69.04**	**310**	P		**P**	**22 45 34.3**	**-0.9**
KBZ					pmax	pmax		
	comp=Z,15nm,0.9s							
KBZ					MLR	MLR		
	comp=Z,334nm,18.8s							
AKH	**Akhalkalaki**	**69.11**	**307**	P		**P**	**22 45 37.7**	**+1.8**
AKH	**Akhalkalaki**	**69.11**	**307**	P		**P**	**22 45 37.7**	**+1.8**
AKH	**Akhalkalaki**	**69.11**	**307⇑**	*i*P		**P**	**22 45 36.6**	**+0.7**
LVZ	**Lovozero**	**69.12**	**336⇑**	*e*P		**P**	**22 45 35.4**	**+0.1**
LVZ					pmax	pmax		
	comp=Z,54nm,1.9s							
LVZ					MLR	MLR		
	comp=Z,970nm,20.0s							
KIV	**Kislovodsk**	**69.14**	**310**	P		**P**	**22 45 35.1**	**-0.9**
	comp=Z,207nm,1.3s,SNR=7.8							
KIV	**Kislovodsk**	**69.14**	**310**	*e*P		**P**	**22 45 36.6**	**+0.6**
KIV				*e*S		**S**	**22 54 39.9**	**+0.5**
KIV				*e*SS		**SS**	**22 59 03.9**	**-1.7**
KIV					pmax	pmax		
	comp=Z,47nm,1.1s							
KIV					pmax	pmax		
	comp=Z,58nm,3.5s							
KIV	**Kislovodsk**	**69.14**	**310**	P		**P**	**22 45 37.4**	**+1.4**
	SNR=12							
KIV	**Kislovodsk**	**69.14**	**310**	*e*P		**P**	**22 45 35.7**	**-0.3**
	comp=Z,74nm,1.3s							
PAX	**Paxson**	**69.53**	**29**	*e*P		**P**	**22 45 40.2**	**+2.2**
	comp=Z,26nm,1.4s							
APA	**Apatity**	**69.65**	**336⇓**	*i*P		**P**	**22 45 39.0**	**+0.5**
APA				*i*			22 45 48.5	
APA				*i*S		**S**	**22 54 46.0**	**+1.7**
APA					pmax	pmax		
	comp=Z,36nm,1.2s							
APA					MLR	MLR		
	comp=Z,1μm,20.0s							
DIV	**Divide**	**69.73**	**31**	*e*P		P	22 45 42.9	+3.7
	comp=Z,20nm,1.0s							
VORD	**Divnogorie**	**69.94**	**318**	*e*P		**P**	**22 45 40.5**	**-0.1**
VORD					pmax	pmax		
	comp=Z,30nm,1.4s							
VORD					pmax	pmax		
	comp=N,30nm,0.8s							
VORD					pmax	pmax		
	comp=E,20nm,0.9s							
VORD					MLR	MLR		
	comp=Z,370nm,15.0s							
VORD					MLR	MLR		
	comp=N,330nm,17.0s							
VORD					MLR	MLR		
	comp=E,460nm,16.0s							
MOS	**Moscow**	**69.95**	**323**	*e*P		**P**	**22 45 40.5**	**-0.1**
MOS				*e*S		**S**	**22 54 45.9**	**-2.3**
MOS					pmax	pmax		
	comp=Z,79nm,1.4s							
MOS					pmax	pmax		
	comp=Z,200nm,1.6s							
MOS					MLR	MLR		
	comp=E,1μm,21.0s							
MOS					MLR	MLR		
	comp=Z,1μm,21.0s							
VSR	**Storozhevoye**	**69.97**	**318**	*e*P		**P**	**22 45 40.4**	**-0.4**
VSR					pmax	pmax		
	comp=Z,50nm,1.4s							
VSR					pmax	pmax		
	comp=N,20nm,1.3s							
VSR					pmax	pmax		
	comp=E,40nm,1.2s							
VSR					MLR	MLR		
	comp=Z,570nm,21.0s							
VSR					MLR	MLR		
	comp=N,490nm,22.0s							
VSR					MLR	MLR		
	comp=E,330nm,19.0s							
BMRM	**Bremner River**	**70.32**	**31**	*e*P		**P**	**22 45 43.9**	**+1.0**
	comp=E,14nm,1.1s							
OBN	**Obninsk**	**70.67**	**323**	P		**P**	**22 45 43.7**	**-1.2**
	comp=E,14nm,0.6s,baz=59,slow=4.8,SNR=12							
OBN	**Obninsk**	**70.67**	**323**	*c i*P		**P**	**22 45 45.2**	**+0.2**
OBN				*e*			22 48 20.9	
OBN				*e*S		**S**	**22 54 53.3**	**-3.3**
OBN					pmax	pmax		
	comp=Z,50nm,1.2s							
OBN					MLR	MLR		
	comp=Z,660nm,20.0s							
OBN	**Obninsk**	**70.67**	**323**	P		**P**	**22 45 44.1**	**-0.9**
	comp=Z,198nm,0.8s,SNR=5.6							
OBN	**Obninsk**	**70.67**	**323**	*e*P		**P**	**22 45 44.0**	**-0.9**
OBN				*e*PP		**PP**	**22 48 18.9**	**-2.5**
EGAK	**Eagle**	**71.02**	**27**	*e*P		**P**	**22 45 47.7**	**+0.7**
	comp=Z,20nm,1.3s							
SOC	**Sochi**	**71.33**	**310**	*e*P		**P**	**22 45 47.6**	**-1.6**
SOC				*e*			22 46 09.7	
SOC				*e*			22 48 23.4	
SOC				*e*PPP		PPP	22 50 17.5	
SOC				*e*S		**S**	**22 55 00.3**	**-4.4**
SOC				*e*			22 55 38.9	
SOC					pmax	pmax		
	comp=Z,9.0nm,0.6s							
SOC					MLR	MLR		
	comp=Z,389nm,13.0s							
SPA0	**Spitsbergen Ar**	**71.41**	**348**	*e*P		**P**	**22 45 48.5**	**-0.7**
SPITS	**Spitsbergen Ar**	**71.41**	**348**	P		**P**	**22 45 48.5**	**-0.7**
	comp=Z,2.4nm,0.5s,baz=83,slow=9.3,SNR=13							
SPITS	**Spitsbergen Ar**	**71.41**	**348**	P		**P**	**22 45 48.5**	**-0.7**
SPITS					pmax	pmax		
	comp=Z,2.0nm,0.5s							
DAWY	**Dawson**	**71.94**	**27**	*e*P		P	22 45 45.4	-7.2
ARA0	**ARCESS Array S**	**71.99**	**339**	*e*P		**P**	**22 45 52.2**	**-0.6**
ARCES	**ARCESS Array B**	**71.99**	**339**	P		**P**	**22 45 52.2**	**-0.6**
	comp=Z,5.8nm,1.0s,baz=29,slow=2.8,SNR=7.6							
ARCES					LR	LR	23 22 44.6	
	comp=Z,396nm,19.0s,baz=78,slow=40							
ARCES	**ARCESS Array B**	**71.99**	**339**	P		**P**	**22 45 52.2**	**-0.6**
ARCES					pmax	pmax		
	comp=Z,6.0nm,1.0s							
ARCES					MLR	MLR		
	comp=Z,397nm,19.0s							
RAYN	**Ar Rayn**	**72.16**	**288**	P		**P**	**22 45 54.8**	**+0.1**
	comp=Z,98nm,1.1s,SNR=8.9							
RAYN	**Ar Rayn**	**72.16**	**288**	*e*P		**P**	**22 45 54.0**	**-0.7**
	comp=Z,14nm,1.2s							
ANN	**Anapa**	**72.61**	**312**	*e*P		P	22 45 45.9	-11
ANN				*e*			22 45 54.3	
ANN					pmax	pmax		
	comp=Z,54nm,0.9s							
INK	**Inuvik**	**72.97**	**22**	P		**P**	**22 45 58.7**	**+0.2**
	comp=Z,16nm,1.0s,baz=281,slow=6.9,SNR=12							
INK	**Inuvik**	**72.97**	**22**	P		**P**	**22 45 58.7**	**+0.2**
INK					pmax	pmax		
	comp=Z,16nm,1.0s							
MALT	**Malatya**	**73.66**	**305⇑**	*i*P		**P**	**22 46 04.1**	**+0.7**
HYT	**Haines Junctio**	**73.71**	**30**	*e*P		**P**	**22 46 04.8**	**+1.6**
FIA0	**FINESS Array S**	**74.29**	**330**	*e*P		**P**	**22 46 05.7**	**-0.7**
FINES	**FINESS Array B**	**74.29**	**330**	P		**P**	**22 46 05.7**	**-0.7**
	comp=Z,3.5nm,0.5s,baz=74,slow=5.5,SNR=47							
FINES					LR	LR	23 23 24.6	
	comp=Z,660nm,18.0s,baz=90,slow=40							
FINES	**FINESS Array B**	**74.29**	**330**	*i* P		**P**	**22 46 05.6**	**-0.8**
FINES					pmax	pmax		
	comp=Z,4.0nm,0.5s							
SIM	**Simferopol'**	**74.83**	**313**	*de*P		**P**	**22 46 10.4**	**+0.5**
SIM					S	**S**	**22 55 47.8**	**+3.4**
SIM					pmax	pmax		
	comp=Z,23nm,0.9s							
DAMY	**Dhamar**	**76.08**	**280**	*e*P		**P**	**22 46 20.3**	**+2.3**
	comp=Z,41nm,1.2s							
NACGM	**Naroch**	**76.14**	**324**	*e*		P	22 46 14.0	-3.2
AKASG	**Malin Array Be**	**76.16**	**319**	P		**P**	**22 46 15.8**	**-1.5**
	comp=Z,14nm,0.9s,baz=58,slow=5.6,SNR=44							
AKASG	**Malin Array Be**	**76.16**	**319**	*i* P		**P**	**22 46 15.8**	**-1.5**
AKASG					pmax	pmax		
	comp=Z,14nm,0.9s							
AKBB	**Malin Array Si**	**76.16**	**319**	*e*P		**P**	**22 46 15.8**	**-1.5**
KIEV	**Kiev**	**76.17**	**319⇑**	*e*P		**P**	**22 46 16.2**	**-1.3**
KIEV	**Kiev**	**76.17**	**319**	*e*P		**P**	**22 46 16.1**	**-1.3**
	comp=Z,38nm,1.4s							
BR101	**Keskin Array S**	**76.79**	**308**	*e*P		**P**	**22 46 20.7**	**-0.7**
BRTR	**Keskin Array B**	**76.79**	**308**	P		**P**	**22 46 20.7**	**-0.7**
	comp=Z,12nm,1.0s,baz=92,slow=5.2,SNR=38							
BRTR					PP	**PP**	**22 49 16.7**	**+2.6**
	comp=Z,1.6nm,1.0s,baz=95,slow=8.8,SNR=3.6							
BRTR					LR	LR	23 22 34.7	
	comp=Z,130nm,20.2s,baz=24,slow=38							
BRTR	**Keskin Array B**	**76.79**	**308**	P		**P**	**22 46 20.7**	**-0.7**
BRTR							22 49 16.7	
BRTR					pmax	pmax		
	comp=Z,12nm,1.0s							
BRTR					pmax	pmax		
	comp=Z,2.0nm,1.0s							
BRTR					MLR	MLR		
	comp=Z,131nm,20.2s							
ANTO	**Ankara**	**77.35**	**308⇑**	*i*P		**P**	**22 46 23.5**	**-1.0**
ANTO	**Ankara**	**77.35**	**308**	P		**P**	**22 46 24.2**	**-0.3**
	SNR=8.3							
ANTO	**Ankara**	**77.35**	**308**	*e*P		**P**	**22 46 23.5**	**-1.0**
KIS	**Kishinev**	**77.67**	**316**	*e*P		**P**	**22 46 25.0**	**-0.9**
KIS				*e*	LR	LR	23 18 38.0	
	comp=Z,300nm,16.0s							
KIS	**Kishinev**	**77.67**	**316**	*e*P		**P**	**22 46 25.0**	**-0.9**
KIS					MLR	MLR		
	comp=Z,300nm,16.0s							
KIS					MLR	MLR		
	comp=Z,300nm,16.0s							
DAG	**Danmarks Havn**	**78.08**	**352⇑**	*i*P		**P**	**22 46 28.1**	**+0.4**
	comp=Z,41nm,1.8s							
DAG	**Danmarks Havn**	**78.08**	**352⇑**	*i*P		**P**	**22 46 28.1**	**+0.4**
DAG					pmax	pmax		
	comp=Z,190nm,1.8s							
DLBC	**Dease Lake**	**78.11**	**31**	P		**P**	**22 46 28.6**	**+0.2**
	comp=Z,5.8nm,1.0s,baz=280,slow=4.3,SNR=8.6							
DLBC	**Dease Lake**	**78.11**	**31**	*e*P		**P**	**22 46 29.9**	**+1.6**
TLCR		**78.30**	**314⇓**	*i*P		**P**	**22 46 29.0**	**-0.5**
SUW	**Suwalki**	**78.42**	**324**	*e*P		**P**	**22 46 30.1**	**+0.1**
SUW					LMZ	LR	23 23 47.9	
SUW	**Suwalki**	**78.42**	**324**	*e*P		**P**	**22 46 30.1**	**+0.1**
SUW					MLR	MLR		
	comp=Z,600nm,20.7s							
CSS	**Prodhromos**	**78.60**	**303**	*e*P		**P**	**22 46 30.6**	**-0.8**
	comp=Z,8.3nm,0.9s							
CFR	**Carcaliu**	**78.75**	**314⇓**	*i*P		**P**	**22 46 30.9**	**-1.1**
TIRR	**Tirgusor**	**78.83**	**314⇑**	*i*P		**P**	**22 46 32.1**	**-0.3**
TESR	**Tescani**	**79.23**	**316⇑**	*i*P		**P**	**22 46 34.0**	**-0.6**
RES	**Resolute Bay**	**79.24**	**10**	P		**P**	**22 46 34.0**	**-0.1**
	comp=Z,11nm,1.1s,baz=333,slow=5.7,SNR=8.5							
RES	**Resolute Bay**	**79.24**	**10**	P		**P**	**22 46 34.0**	**-0.1**
RES					pmax	pmax		
	comp=Z,11nm,1.1s							
RES	**Resolute Bay**	**79.24**	**10**	*e*P		**P**	**22 46 34.9**	**+0.8**
MSAB	**Monastry St. A**	**79.36**	**313⇑**	*i*P		**P**	**22 46 34.9**	**-0.4**
VRI	**Vrincioaia**	**79.42**	**315⇑**	*i*P		**P**	**22 46 34.8**	**-0.9**
PLOR	**Plostina**	**79.48**	**315⇑**	*i*P		**P**	**22 46 34.5**	**-1.5**
LVV	**L'vov**	**79.58**	**320**	*i* P		**P**	**22 46 37.5**	**+1.0**
LVV					MLR	MLR		
	comp=Z,400nm,16.0s							
LVV					MLR	MLR		
	comp=E,200nm,15.0s							
LVV					MLR	MLR		
	comp=N,300nm,16.0s							
BURAR	**Bucovina Array**	**79.72**	**317⇑**	*i*P		**P**	**22 46 37.1**	**-0.3**
BUR04	**Bucovina Ar. S**	**79.72**	**317**	*e*P		**P**	**22 46 36.5**	**-0.9**
PRD	**Provadia**	**79.97**	**313**	*e*P		**P**	**22 46 39.0**	**+0.3**
MLR	**Muntele Rosu**	**80.07**	**315**	P		**P**	**22 46 39.1**	**-0.3**
	comp=N,1.2nm,0.6s,baz=318,slow=7.5,SNR=12							
MLR	**Muntele Rosu**	**80.07**	**315**	P		**P**	**22 46 39.1**	**-0.3**
MLR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
MLR	**Muntele Rosu**	**80.07**	**315⇑**	*i*P		**P**	**22 46 39.2**	**-0.2**
SULR		**80.18**	**314⇓**	*i*P		**P**	**22 46 38.4**	**-1.4**
DOPR	**Dopca**	**80.25**	**316⇓**	*i*P		**P**	**22 46 41.9**	**+1.7**
HFS	**Hagfors**	**80.36**	**332**	P		**P**	**22 46 39.9**	**-0.6**
	comp=Z,9.4nm,0.9s,baz=184,slow=3.9,SNR=10							
HFS	**Hagfors**	**80.36**	**332**	P		**P**	**22 46 39.9**	**-0.6**
HFS					pmax	pmax		
	comp=Z,9.0nm,0.9s							
KWP	**Kalwaria Pacla**	**80.44**	**320**	*e*P		**P**	**22 46 40.5**	**-0.7**
KWP					LMZ	LR	23 23 27.3	
KWP	**Kalwaria Pacla**	**80.44**	**320**	*e*P		**P**	**22 46 40.5**	**-0.7**
KWP					MLR	MLR		
	comp=Z,500nm,24.4s							
ARCR	**ARCALIA**	**80.47**	**317⇑**	*i*P		**P**	**22 46 41.8**	**+0.5**
BEL	**Belsk**	**80.63**	**322**	*e*P		**P**	**22 46 43.4**	**+1.4**
BEL					LMZ	LR	23 24 35.4	
BEL	**Belsk**	**80.63**	**322**	*e*P		**P**	**22 46 43.5**	**+1.4**
BEL					MLR	MLR		
	comp=Z,600nm,25.2s							
VOIR		**80.67**	**315⇓**	*i*P		**P**	**22 46 40.3**	**-2.3**
BMR	**Baia Mare**	**80.76**	**318⇓**	*i*P		**P**	**22 46 42.0**	**-0.9**
JMIC	**Jan Mayen**	**80.89**	**346**	P		**P**	**22 46 43.0**	**-0.1**
	comp=Z,14nm,0.9s,baz=60,slow=2.5,SNR=4.1							
SZH	**Strazhica**	**80.94**	**313**	*e*P		**P**	**22 46 43.1**	**-0.8**
NB2	**NORSAR Subarra**	**80.95**	**333**	P		**P**	**22 46 42.3**	**-1.4**
	comp=Z,14nm,0.8s,baz=59,slow=5.6							
NB2	**NORSAR Subarra**	**80.95**	**333**	P		**P**	**22 46 42.3**	**-1.4**
	baz=59,slow=5.6							
NB200	**NORSAR Array S**	**80.95**	**333**	*e*P		**P**	**22 46 42.7**	**-1.0**
NOA	**NORSAR Array B**	**80.95**	**333**	P		**P**	**22 46 42.7**	**-1.0**
	comp=Z,23nm,1.1s,baz=59,slow=5.3,SNR=22							
NOA					PP	**PP**	**22 49 50.5**	**+2.5**
	comp=Z,2.2nm,1.1s,baz=68,slow=7.2,SNR=3.6							
NOA					LR	LR	23 26 22.4	
	comp=Z,630nm,18.6s,baz=45,slow=38							
NOA	**NORSAR Array B**	**80.95**	**333**	P		**P**	**22 46 42.7**	**-1.0**
NOA							22 49 50.5	
NOA					pmax	pmax		
	comp=Z,23nm,1.1s							
NOA					pmax	pmax		
	comp=Z,2.0nm,1.1s							
NOA					MLR	MLR		
	comp=Z,630nm,18.6s							
KOLS	**Kolonicke sedl**	**80.99**	**319**	*e*P		**P**	**22 46 43.6**	**-0.5**
KOLS					pmax	pmax		
	comp=Z,12nm,1.4s							
KOLS	**Kolonicke sedl**	**80.99**	**319**	*e*P		**P**	**22 46 43.6**	**-0.5**
HUMR	**Humele**	**81.08**	**315⇑**	*i*P		**P**	**22 46 43.6**	**-1.0**
CJR	**Cluj-Napoca**	**81.09**	**317⇑**	*i*P		**P**	**22 46 42.8**	**-1.9**
NBO02	**NORSAR Array S**	**81.09**	**333**	*e*P		**P**	**22 46 44.5**	**+0.1**
UZH	**Uzhgorod**	**81.11**	**319⇓**	*i*P		**P**	**22 46 45.6**	**+0.9**
UZH				*e*			22 46 53.2	
UZH				*e*			22 46 58.0	
STHS	**Stebnicka Huta**	**81.40**	**320**	*e*P		**P**	**22 46 47.0**	**+0.7**
STHS					pmax	pmax		
	comp=Z,8.0nm,1.4s							
STHS	**Stebnicka Huta**	**81.40**	**320**	*e*P		**P**	**22 46 47.0**	**+0.7**
DRGR		**81.61**	**317⇑**	*i*P		**P**	**22 46 47.2**	**-0.3**
OJC	**Ojcow**	**81.90**	**321**	*e*P		**P**	**22 46 48.1**	**-0.8**
OJC					LMZ	LR	23 24 55.2	
OJC	**Ojcow**	**81.90**	**321**	*e*P		**P**	**22 46 48.1**	**-0.8**
OJC					MLR	MLR		
	comp=Z,400nm,24.1s							
OJC	**Ojcow**	**81.90**	**321**	*e*P		**P**	**22 46 47.9**	**-0.9**
	comp=Z,39nm,1.4s							
KDZ	**Kurdzhali**	**81.92**	**312⇑**	*i*P		**P**	**22 46 50.6**	**+1.4**
GKP	**Gorka Klasztor**	**81.94**	**325**	*e*P		**P**	**22 46 49.4**	**+0.5**
GKP					LMZ	LR	23 27 17.6	
GKP	**Gorka Klasztor**	**81.94**	**325**	*e*P		**P**	**22 46 49.4**	**+0.5**
GKP					MLR	MLR		
	comp=Z,1μm,18.5s							
NIE	**Niedzica**	**81.95**	**320**	*e*P		**P**	**22 46 50.7**	**+1.5**
NIE					LMZ	LR	23 25 05.7	
NIE	**Niedzica**	**81.95**	**320**	*e*P		**P**	**22 46 50.7**	**+1.5**
NIE					MLR	MLR		
	comp=Z,400nm,23.9s							
RDO	**Rodhopi**	**82.04**	**311**	*e*P		**P**	**22 46 47.9**	**-1.9**
RDO	**Rodhopi**	**82.04**	**311**	*e*P		**P**	**22 46 48.1**	**-1.7**
GZR	**Gura Zlata**	**82.15**	**316⇑**	*i*P		**P**	**22 46 51.4**	**+1.0**
KECS	**Kecovo**	**82.25**	**319**	*e*P		**P**	**22 46 51.9**	**+1.1**
KECS					pmax	pmax		
	comp=Z,6.0nm,1.2s							
KECS	**Kecovo**	**82.25**	**319**	*e*P		**P**	**22 46 51.9**	**+1.1**
MPEP	**Malo Peshtene**	**82.37**	**314**	*e*P		**P**	**22 46 52.0**	**+0.5**
SIRR	**Siria**	**82.49**	**317⇑**	*i*P		**P**	**22 46 51.0**	**-1.1**
YKA	**Yellowknife Ar**	**82.64**	**24**	P		**P**	**22 46 52.3**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=303,slow=4.9,SNR=12							
YKA				PKKPbc		**PKKPbc**	**23 05 14.8**	**-3.7**
	comp=Z,0.8nm,0.5s,baz=128,slow=2.6,SNR=12							
YKA	**Yellowknife Ar**	**82.64**	**24**	P		**P**	**22 46 52.3**	**-0.1**
YKA					pmax	pmax		
	comp=Z,2.0nm,0.6s							
YKA					pmax	pmax		
	comp=Z,1.0nm,0.5s							
YKB5	**Yellowknife Ar**	**82.64**	**24**	*e*P		**P**	**22 46 52.4**	**0.0**
PSZ	**Piszkesteto**	**82.86**	**319⇓**	*i*P		**P**	**22 46 52.8**	**-1.2**
PSZ	**Piszkesteto**	**82.86**	**319**	*e*P		**P**	**22 46 55.2**	**+1.2**
PSZ	**Piszkesteto**	**82.86**	**319⇑**	*e*P		**P**	**22 46 55.5**	**+1.5**
OKC	**Ostrava-Krasne**	**83.02**	**321**	*e*P		**P**	**22 46 55.8**	**+1.1**
OKC				*e*SKS		**S**	**22 57 17.0**	**+5.4**
OKC					AMS	AMS	23 31 40.0	
	comp=Z,400nm,18.3s							
OKC	**Ostrava-Krasne**	**83.02**	**321**	*e*P		**P**	**22 46 55.8**	**+1.1**
OKC				*e*			22 57 17.0	
OKC					MLR	MLR		
	comp=Z,400nm,18.3s							
VTS	**Vitosha**	**83.04**	**313**	P		**P**	**22 46 55.4**	**+0.2**
VTS	**Vitosha**	**83.04**	**313**	*e*P		**P**	**22 46 54.7**	**-0.5**
VTS	**Vitosha**	**83.04**	**313⇓**	*i*P		**P**	**22 46 54.7**	**-0.5**
VTS	**Vitosha**	**83.04**	**313**	*e*P		**P**	**22 46 54.1**	**-1.1**
VTS	**Vitosha**	**83.04**	**313**	P		**P**	**22 46 55.4**	**+0.2**
MMB	**Musomiste**	**83.11**	**312⇑**	*i*P		**P**	**22 46 54.3**	**-1.1**
PKSN	**Nyarlorinc**	**83.33**	**318**	*e*P		**P**	**22 46 57.2**	**+0.9**
FURI	**Furi**	**83.34**	**277**	*e*P		**P**	**22 46 59.6**	**+2.2**
	comp=Z,114nm,1.8s							
MORC	**Moravsky Berou**	**83.40**	**322⇑**	*i*P		**P**	**22 46 58.0**	**+1.2**
MORC	**Moravsky Berou**	**83.40**	**322**	*e*P		**P**	**22 46 57.9**	**+1.2**
SRS	**Serrai**	**83.40**	**312**	P		**P**	**22 46 56.9**	**0.0**
SRS	**Serrai**	**83.40**	**312**	*e*P		**P**	**22 46 55.0**	**-1.9**
SRS	**Serrai**	**83.40**	**312**	P		**P**	**22 46 56.9**	**0.0**
KKB	**Krupnik**	**83.43**	**313**	*e*P		**P**	**22 46 55.6**	**-1.4**
BUD	**Budapest**	**83.58**	**319⇑**	*e*P		**P**	**22 46 58.2**	**+0.6**
KSP	**Ksiaz**	**83.60**	**323**	*e*P		**P**	**22 46 57.1**	**-0.6**
KSP					LMZ	LR	23 26 07.0	
KSP	**Ksiaz**	**83.60**	**323**	*e*P		**P**	**22 46 57.1**	**-0.6**
KSP					MLR	MLR		
	comp=Z,500nm,21.4s							
KRLC	**Kraliky**	**83.69**	**322**	*e*P		**P**	**22 46 59.1

comp=E,291nm,12.9s
comp=Z,737nm,13.7s
BRG Berggiesshubel 84.88 324 *e*P **P** **22 47 05.0 +0.8**
comp=Z,33nm,1.7s
BRG Berggiesshubel 84.88 324 *e*P **P** **22 47 06.0 +1.8**
BRG S **S** **22 57 31.0 +0.8**
BRG SS **SS** **23 03 02.0 -0.1**
BRG pmax pmax
comp=Z,33nm,1.7s
BRG MLR MLR
comp=N,683nm,14.9s
BRG MLR MLR
comp=E,291nm,12.9s
BRG MLR MLR
comp=Z,737nm,13.7s
GOPC GO Pecny, Ondr 84.89 323 *e*P **P** **22 47 05.6 +1.3**
GOPC *e*SKS **S** **22 57 28.3 -2.1**
GOPC AMS AMS 23 33 20.0
comp=Z,600nm,15.2s
PRU Pruhonice 84.99 323 *e*P **P** **22 47 05.9 +1.1**
PRU *e*SKS **S** **22 57 28.9 -2.5**
PRU AMS AMS 23 33 00.0
comp=Z,700nm,14.1s
PRU Pruhonice 84.99 323 *e*P **P** **22 47 05.9 +1.1**
PRU *e* 22 57 28.9
PRU MLR MLR
comp=Z,700nm,14.1s
PRA Prague 85.01 323 *e*P **P** **22 47 06.7 +1.9**
PRA *e*SKS **S** **22 57 33.2 +1.7**
PRA AMS AMS 23 33 00.0
comp=Z,600nm,13.8s
PRA Prague 85.01 323 *e*P **P** **22 47 06.7 +1.9**
PRA *e* 22 57 33.2
PRA MLR MLR
comp=Z,600nm,13.8s
AXAR Agios Charalam 85.04 310 *e*P **P** **22 47 04.3 -1.0**
SIVA Sivas 85.05 306 *e*P **P** **22 47 03.9 -1.5**
FNA Florina 85.06 312 P **P** **22 47 05.1 -0.3**
FNA Florina 85.06 312 *e*P **P** **22 47 03.8 -1.6**
FNA Florina 85.06 312 P **P** **22 47 05.1 -0.3**
BSEG Bad Segeberg 85.16 327 *e*P **P** **22 47 06.6 +1.1**
comp=Z,50nm,1.4s
BSEG *e*pP **pP** **22 47 16.2 -0.1**
CLL Collm 85.17 324 *e*P **P** **22 47 06.0 +0.4**
comp=Z,24nm,1.2s
CLL *e*pP **pP** **22 47 15.6 -0.9**
CLL Collm 85.17 324 *i* P **P** **22 47 04.1 -1.5**
comp=Z,24nm,1.2s
CLL *i* 22 47 36.7
CLL *e*PP **PP** **22 50 24.0 +1.3**
CLL *e*SKSac **SKSac** **22 57 27.0 -0.8**
CLL *e*S **S** **22 57 35.0 +2.0**
CLL *e*SS **SS** **23 03 06.0 -0.3**
CLL LmV 23 29 00.0
comp=Z,500nm,20.1s
CLL Collm 85.17 324 *i* P **P** **22 47 04.1 -1.5**
CLL *e*S **S** **22 57 32.0 -1.0**
CLL pmax pmax
comp=Z,24nm,1.2s
CLL MLR MLR
comp=Z,500nm,20.1s
CLL Collm 85.17 324 *e*P **P** **22 47 05.0 -0.5**
comp=Z,38nm,1.4s
CLL *e*PP **PP** **22 50 24.8 +2.2**
DID Didima 85.17 309 *e*P P 22 47 02.5 -3.4
FBE Freiberg 85.17 324 *e*P **P** **22 47 06.7 +1.1**
comp=Z,49nm,1.5s
FBE *e*pP **pP** **22 47 16.2 -0.3**
DIDY Didyma 85.20 309 *e*P **P** **22 47 03.8 -2.4**
CONA Conrad Observa 85.25 320 ⇓*i*P **P** **22 47 05.8 -0.4**
comp=Z,10.0nm,1.3s
KRND KRANIDI 85.28 309 *e*P P 22 47 02.7 -3.7
MAKR Makrakomi, Fth 85.30 310 *e*P **P** **22 47 04.1 -2.5**
VAM Vamos 85.35 306 *e*P **P** **22 47 06.8 0.0**
BEHE Becsehely 85.41 319⇑*e*P **P** **22 47 08.5 +1.6**
NEST Nestorio 85.44 312 *e*P **P** **22 47 05.1 -2.2**
EVR Evrytania 85.57 310 *e*P **P** **22 47 06.0 -2.0**
GUR Goura 85.62 309 P **P** **22 47 07.1 -1.2**
GUR Goura 85.62 309 *e*P **P** **22 47 06.5 -1.8**
GUR Goura 85.62 309 P **P** **22 47 07.1 -1.2**
EFP Efpalio 85.72 310 *e*P **P** **22 47 06.2 -2.4**
TIR Tirane 85.83 313 *e*P **P** **22 47 09.2 +0.1**
comp=Z,59nm,1.4s
VLX Vlachokerasia 85.84 309 *e*P P 22 47 06.5 -2.9
NEUB Neuenburg 85.88 325 *e*P **P** **22 47 09.7 +0.6**
comp=Z,31nm,1.3s
NEUB *e*pP **pP** **22 47 19.4 -0.6**
TANN Tannenbergstha 85.92 324 *e*P **P** **22 47 10.1 +0.6**
comp=Z,22nm,1.6s
TANN *e*pP **pP** **22 47 19.6 -0.8**
KHC Kasperske Hory 85.97 322 *e*P **P** **22 47 08.7 -1.0**
KHC *ex* x 22 47 18.9
KHC *e*SKS S 22 57 33.0 -8.1
KHC AMS AMS 23 33 20.0
comp=Z,500nm,16.1s
KHC Kasperske Hory 85.97 322 *e*P **P** **22 47 08.7 -1.0**
KHC *e**PP **pP** **22 47 18.9 -1.7**
KHC *e* 22 57 33.0
KHC MLR MLR
comp=Z,500nm,16.1s
KHC Kasperske Hory 85.97 322 *e*P **P** **22 47 10.4 +0.7**
comp=Z,7.3nm,1.5s
DSL Palaion Diasel 85.98 311 *e*P **P** **22 47 08.1 -1.8**
WERD Werda 85.99 324 *e*P **P** **22 47 10.4 +0.6**
comp=Z,22nm,1.5s
WERD *e*pP **pP** **22 47 19.9 -0.7**
GUNZ Gunzen 86.02 324 *e*P **P** **22 47 10.6 +0.7**
comp=Z,38nm,1.5s
GUNZ *e*pP **pP** **22 47 20.2 -0.6**
WERN Wernitzgruen 86.04 324 *e*P **P** **22 47 10.7 +0.7**
comp=Z,27nm,1.4s
WERN *e*pP **pP** **22 47 20.4 -0.5**
GEC2 GERESS Array S 86.04 322 *e*P **P** **22 47 10.7 +0.5**
comp=Z,10.0nm,1.2s
GEC2 *e*pP **pP** **22 47 20.1 -0.9**
GEC2 GERESS Array S 86.04 322 *e*P **P** **22 47 10.1 -0.1**
GERES GERESS Array B 86.04 322 P **P** **22 47 09.7 -0.5**
comp=Z,1.9nm,0.8s,baz=46,slow=4.2,SNR=18
GERES PKKPbc **PKKPbc** **23 05 08.9 -1.4**
comp=Z,0.1nm,0.4s,baz=190,slow=4.1,SNR=3.8
GERES LR LR 23 27 46.6
comp=Z,598nm,21.9s,baz=59,slow=37
PLN Plauen 86.05 324 *e*P **P** **22 47 10.8 +0.8**
comp=Z,30nm,1.6s
PLN *e*pP **pP** **22 47 20.4 -0.5**
DRO Drossia 86.06 310 *e*P **P** **22 47 09.8 -0.6**
RLS Riolos of Patr 86.19 310 *e*P **P** **22 47 10.4 -0.5**
MOA Molln 86.23 321 ⇓*i*pP **P** **22 47 11.3 +0.3**
comp=Z,8.9nm,1.6s
ITM Ithomi 86.25 309 P **P** **22 47 10.7 -0.6**
ITM Ithomi 86.25 309 *e*P **P** **22 47 09.3 -2.0**
ITM Ithomi 86.25 309 P **P** **22 47 10.7 -0.6**
AMT Artemida-Makis 86.25 309 *e*P **P** **22 47 10.5 -0.8**
MOX Moxa 86.26 324 *e*P **P** **22 47 11.7 +0.6**
comp=Z,23nm,1.5s
MOX *e*L L 23 30 02.6
comp=Z,473nm,20.7s
CLZ Clausthal 86.27 326 *e*P **P** **22 47 12.2 +1.1**
comp=Z,46nm,1.4s
CLZ *e*pP **pP** **22 47 21.8 -0.2**
IGT Igoumenitsa 86.33 311 *e*P P 22 47 08.6 -3.0
PERS Pernice 86.33 320 *i* P P 22 47 22.1 +11
MANZ Manzenberg 86.34 323 *e*P **P** **22 47 12.4 +0.9**
comp=Z,16nm,1.4s
MANZ *e*pP **pP** **22 47 21.9 -0.5**
WET Wettzell 86.36 322 *e*P **P** **22 47 12.5 +0.9**
comp=Z,25nm,1.9s
ROTZ Rotzenmuhle 86.40 323 *e*P **P** **22 47 12.9 +1.1**
comp=Z,31nm,1.7s
KFL Anninata 86.65 310 P **P** **22 47 12.9 -0.3**
KFL Anninata 86.65 310 *e*P **P** **22 47 12.6 -0.6**
VLS Valsamata 86.76 310 *e*P **P** **22 47 13.4 -0.4**
BOJS Bojanci 86.81 319 *i* P P 22 47 17.4 +3.6
VISS Visnje 86.92 319 *i* P **P** **22 47 17.1 +2.7**
GRF Grafenberg Arr 86.98 324 *e*P **P** **22 47 15.6 +1.0**
comp=Z,30nm,1.4s
GRF *e*L L 23 29 10.1
comp=Z,427nm,21.7s
GRFO Grafenberg 86.98 324 *e*P **P** **22 47 16.1 +1.4**
comp=Z,20nm,1.2s
UBBA Unterbreizbach 87.03 325 *e*P **P** **22 47 15.5 +0.8**
comp=Z,24nm,1.8s
JAVS Javornik 87.34 319 *i* P **P** **22 47 19.1 +2.5**
KMBO Kilima Mbogo 88.48 268 P **P** **22 47 21.5 -1.2**
comp=Z,1.4nm,0.5s,baz=45,slow=1.4,SNR=4.1
KMBO LR LR 23 29 12.0
comp=Z,92nm,18.0s,baz=10.0,slow=37
KMBO Kilima Mbogo 88.48 268 P **P** **22 47 21.5 -1.2**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO MLR MLR
comp=Z,92nm,18.0s
FETA Feichten 88.70 321⇑*i*PcP **P** **22 47 23.3 +0.2**
comp=Z,5.9nm,1.3s
EDM Edmonton 88.83 31 *e*P **P** **22 47 24.8 +1.4**
comp=Z,40nm,0.3s
DAVA Damuels 89.04 322⇑*i*PcP **P** **22 47 24.5 -0.2**
comp=Z,9.2nm,1.3s
FUORN Ofenpass-Fuorn 89.19 321 *e*P **P** **22 47 27.1 +1.6**
BFO Black Forest 89.32 323 *e*P **P** **22 47 26.8 +1.0**
comp=Z,11nm,1.4s
DAVOX Davos/Dischmat 89.32 322 P **P** **22 47 24.9 -1.2**
comp=Z,3.3nm,0.6s,baz=344,slow=1.8,SNR=7.6
DAVOX Davos/Dischmat 89.32 322 P **P** **22 47 24.9 -1.2**
DAVOX pmax pmax
comp=Z,3.0nm,0.6s
D08A Wollman Farm, 89.57 38 *e*P **P** **22 47 28.4 +1.5**
G06A Carlson Farm, 89.58 40 *e*P **P** **22 47 29.2 +2.1**
comp=Z,33nm,1.7s
CASY Casey 89.67 186 *e*P **P** **22 47 27.1 +0.4**
comp=Z,74nm,2.1s
NEW Newport 89.88 36 P **P** **22 47 29.3 +0.9**
comp=Z,3.6nm,0.5s,baz=290,slow=7.6,SNR=9.5
NEW Newport 89.88 36 P **P** **22 47 29.3 +0.9**
NEW pmax pmax
comp=Z,4.0nm,0.5s
NEW Newport 89.88 36 P **P** **22 47 28.7 +0.2**
baz=90
NEW Newport 89.88 36 *e*P **P** **22 47 29.3 +0.9**
comp=Z,20nm,1.4s
CEL Celeste 89.98 312 *e*P **P** **22 47 28.8 -0.3**
comp=Z,44nm,1.4s
YBH Yreka Blue Hor 90.16 44 P **P** **22 47 30.3 +0.4**
comp=Z,4.7nm,1.0s,baz=275,slow=2.2,SNR=4.0
YBH LR LR 23 21 13.7
comp=Z,70nm,20.8s,baz=300,slow=31
YBH Yreka Blue Hor 90.16 44 P **P** **22 47 30.3 +0.4**
YBH pmax pmax
comp=Z,5.0nm,1.0s
YBH MLR MLR
comp=Z,70nm,20.8s
EKA Eskdalemuir Ar 90.44 333 P **P** **22 47 29.7 -1.1**
comp=Z,1.3nm,0.6s,baz=57,slow=4.2,SNR=7.7
EKA Eskdalemuir Ar 90.44 333 P **P** **22 47 29.7 -1.1**
EKA pmax pmax
comp=Z,1.0nm,0.6s
G08A Pilot Rock 90.53 39 *e*P **P** **22 47 34.8 +3.1**
comp=Z,6.0nm,1.0s
M04C Macdoel 90.69 43 P **P** **22 47 32.9 +0.5**
baz=91
K05A Sumner Lake 90.78 42 *e*P **P** **22 47 34.7 +1.8**
comp=Z,24nm,1.4s
SENIN Lac Senin/Sane 91.03 322 *e*P **P** **22 47 34.6 +0.5**
comp=Z,6.3nm,1.0s
WALA Waterton Lakes 91.11 34 *e*P **P** **22 47 36.4 +2.1**
comp=Z,58nm,1.6s
F10A Beach Ranch, E 91.14 38 *e*P **P** **22 47 36.3 +1.9**
comp=Z,13nm,1.2s
MOD Modoc Plateau 91.59 43 *e*P **P** **22 47 38.5 +1.8**
BNI Bardonecchia 92.14 321 *e*P **P** **22 47 39.9 +0.8**
WVOR Wild Horse Val 92.33 42 *e*P **P** **22 47 42.0 +2.0**
MSO Missoula 92.46 36 P **P** **22 47 41.0 +0.5**
baz=92
MSO Missoula 92.46 36 *e*P **P** **22 47 41.8 +1.3**
comp=Z,7.1nm,1.1s
PPT2 Papeete2 92.55 108 *e*LR LR 23 17 24.3
comp=Z,338nm,24.0s
FFC Flin Flon 92.73 25 *e*P **P** **22 47 42.2 +0.8**
comp=Z,24nm,1.6s
MFID Camas Ranch 93.45 40 *e*P **P** **22 47 47.1 +1.9**
comp=Z,15nm,0.9s
CMB Columbia Colle 93.64 46 *e*P **P** **22 47 47.0 +1.0**
comp=Z,9.5nm,1.1s
DLMT Dillon 94.11 37 *e*P **P** **22 47 50.5 +2.3**
comp=Z,11nm,1.0s
HLID Hailey 94.19 39 P **P** **22 47 50.2 +1.6**
baz=94
HLID Hailey 94.19 39 *e*P **P** **22 47 50.9 +2.3**
comp=Z,11nm,0.9s
BMN Battle Mountai 94.34 43 *e*P **P** **22 47 51.2 +1.8**
comp=Z,5.1nm,1.0s
NV01 Mina Array Sit 94.78 45 *e*P **P** **22 47 52.4 +0.8**
NVAR Mina Array Bea 94.78 45 P **P** **22 47 52.4 +0.8**
comp=Z,7.9nm,0.9s,baz=273,slow=5.2,SNR=19
TBI Tubuai 94.89 113 *e*LR LR 23 18 32.2
comp=Z,221nm,25.5s
CRZF Crozet Islands 95.56 222 SS SS 23 05 23.0 -15
CRZF R 23 19 00.0
TPH Tonopah 95.69 45 *e*P **P** **22 47 57.3 +1.6**
comp=Z,17nm,1.3s
KEST Kesa 95.77 313 LR LR 23 37 37.3
comp=Z,76nm,18.5s,baz=322,slow=40
R11A Troy Canyon, C 96.58 44 P **P** **22 47 59.7 0.0**
baz=96
MPMC Manual Prospec 96.66 46 P **P** **22 48 00.9 +0.8**
baz=96
GSC Goldstone, Bar 97.55 47 *e*P Pdif 22 48 05.4 +1.4
comp=Z,6.7nm,1.1s
ULM Lac du Bonnet 98.56 25 LR LR 23 36 42.8
comp=Z,158nm,20.2s,baz=314,slow=38
GMRC Granite Mounta 98.61 47 P Pdif 22 48 09.8 +0.9
baz=98
PFO Pinyon Flats O 98.75 48 P **P** **22 48 09.9 +0.5**
baz=99
P17A Butcher Ranch, 98.88 40 *e*P P 22 48 02.9 -7.2
ESDC Sonseca Array 101.64 322 PP PP 22 52 31.8 0.0
comp=Z,0.1nm,0.3s,baz=37,slow=7.8,SNR=5.5
J29A Okreek 101.85 32 P **Pdif** **22 48 22.8 -0.2**
baz=102
LTX Lajitas 109.93 44 *e*PKiKP **PKiKP** **22 53 01.1 -0.2**
TXAR Lajitas Array 109.93 44 PKiKP **PKiKP** **22 53 01.1 -0.2**
comp=Z,0.3nm,0.5s,baz=161,slow=2.0,SNR=6.7
TOA0 Torodi Ar. Sit 114.01 297 *e*PKiKP PKPdf 22 53 08.1 -1.1
TORD Torodi Ar. Bea 114.01 297 PKiKP PKPdf 22 53 08.1 -1.1
comp=Z,0.6nm,0.4s,baz=86,slow=1.6,SNR=14
TORD PKKPbc **PKKPab** **23 03 57.1 -1.2**
comp=Z,0.8nm,1.1s,baz=223,slow=2.6,SNR=3.7
DBIC Dimbokro 122.92 295 PKP **PKPdf** **22 53 24.7 -1.7**
comp=Z,3.1nm,0.6s,baz=203,slow=1.5,SNR=6.1
DBIC Dimbokro 122.92 295 PKiKP **PKPdf** **22 53 24.7 -1.7**
DBIC pmax pmax
comp=Z,3.0nm,0.6s
SNAA Sanae 123.20 197 P PKPdf 22 53 20.4 -5.0
VNA1 Neumayer--Stat 125.24 197 P **PKPdf** **22 53 29.7 +0.5**
SDV Santo Domingo 144.77 28 *e*PKPdf **PKPab** **22 54 06.0 -0.1**
ROSC El Rosal 146.43 37 PKPbc **PKPbc** **22 54 12.5 +0.7**
comp=Z,9.3nm,0.4s,baz=305,slow=7.3,SNR=5.2
OTAV Otavalo 147.46 48 *e*PKPbc **PKPbc** **22 54 15.4 +0.7**
LPAZ La Paz 165.85 64 PKP **PKPdf** **22 54 35.6 -0.1**
comp=Z,3.8nm,1.1s,baz=12,slow=5.0,SNR=7.8
LPAZ La Paz 165.85 64 PKiKP **PKPdf** **22 54 35.6 -0.1**
LPAZ pmax pmax
comp=Z,4.0nm,1.1s
LPAZ La Paz 165.85 64 PKP **PKPdf** **22 54 35.6 -0.1**
LPAZ *e*PKPdf **PKPdf** **22 54 36.6 +0.9**

KRSC 30 22:40:17.4±0.4, 55.10N×160.37E, h2km±2km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.05**	**290**	*i* P	Pg	22 40 19.6	+0.9
KZV				*e*S	Sg	22 40 21.2	+1.7
TUMR	**Tumrok**	**0.23**	**325**	*i* P	Pg	22 40 22.3	+0.3
TUMR				*e*S	Sg	22 40 26.1	+1.0
KMNR	**Kamenistaya**	**0.67**	**353**	*e*P	Pb	22 40 31.5	-0.4
KMNR				*e*S	Sb	22 40 42.4	+0.8
MKZ	**Mys Kozlova**	**0.95**	**124**	*e*P	Pb	22 40 36.9	+0.3
MKZ				*e*S	Sn	22 40 51.6	-0.2
KOZ	**Kozyrevsk**	**1.00**	**344**	*e*S	Sn	22 40 52.9	-0.3
SRDR	**Sredinnyy**	**1.28**	**343**	*e*P	Pg	22 40 42.0	0.0
GNL	**Ganaly**	**2.00**	**226**	*e*P	Pn	22 40 52.1	-0.2
GNL				*e*S	Sb	22 41 19.1	-0.9
SPN	**Mys Shipunski**	**2.01**	**186**	*e*P	Pn	22 40 51.7	-0.6
KRX	**Arik**	**2.01**	**211**	*e*P	Pb	22 40 54.2	-0.7
NLC	**Nalytchevo**	**2.02**	**198**	*e*P	Pn	22 40 52.9	+0.5
NLC				*e*S	Sb	22 41 19.9	-0.4
SDLR	**Sedlovina**	**2.02**	**206**	*e*P	Pn	22 40 53.7	+1.1
SDLR				*e*S	Sb	22 41 21.5	+0.8
KRER	**Koryakskii**	**2.03**	**209**	*e*P	Pb	22 40 54.3	-1.0
SMAR	**Somma**	**2.06**	**207**	*e*P	Pn	22 40 54.4	+1.2
SMAR				*e*S	Sb	22 41 22.2	+0.3
KOK	**Koryaka**	**2.08**	**210**	*e*P	Pb	22 40 55.0	-0.9
UGLR	**Uglovaya**	**2.10**	**206**	*e*P	Pn	22 40 54.9	+1.3
RUS	**Russkaya**	**2.89**	**203**	*e*P	Pn	22 41 05.7	+1.4

NNC 30 22:51:36.7±7.1, 36.52N×70.69E, h0km, mb3.7, mpv3.3, 2C-3D, Error ellipse: s-maj=57.7km s-min=26.8km az=2.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.72**	**328**	⇓Pn	Pn	22 52 21.1	-0.7
	2.9nm,0.3s						
DZET				⇑Sn	Sn	22 52 57.3	+1.8
	1.8nm,0.2s						
SFK	**Sufi-Kurgan**	**4.13**	**32**	⇓Pn	Pn	22 52 41.7	+0.4
	6.8nm,0.4s						
SFK				⇑Sn	Sn	22 53 32.6	+2.1
	2.5nm,0.2s						
KK31	**Karatay Array**	**6.57**	**359**	Pn	Pn	22 53 13.4	-1.2
	0.6nm,0.3s,baz=184,slow=14,SNR=21						
KK31				⇓Sn	Sn	22 54 26.3	-4.0
	0.9nm,0.5s,baz=180,slow=28						

KRSC 30 23:04:39.8±0.5, 55.11N×160.38E, h-0km±3km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.05**	**272**	*i* P	Pg	23 04 41.3	+0.3
KZV				*e*S	Sg	23 04 44.4	+2.6
TUMR	**Tumrok**	**0.22**	**322**	*i* P	Pg	23 04 44.7	+0.5
TUMR				*e*S	Sg	23 04 48.5	+1.3
KMNR	**Kamenistaya**	**0.65**	**353**	*e*P	Pb	23 04 53.7	-0.5
KMNR				*e*S	Sb	23 05 05.0	+1.1
MKZ	**Mys Kozlova**	**0.96**	**125**	*i* P	Pn	23 05 00.3	-0.2
MKZ				*e*S	Sn	23 05 15.4	+0.6
SRDR	**Sredinnyy**	**1.27**	**343**	*e*P	Pn	23 05 05.6	+0.8
SRDR				*e*S	Sn	23 05 25.7	+3.1
KBTR	**Krutoberegovo**	**1.77**	**50**	*e*P	Pg	23 05 13.4	-0.2
GNL	**Ganaly**	**2.01**	**226**	*e*P	Pn	23 05 15.2	+0.1
GNL				*e*S	Sg	23 05 44.0	-0.7
KRX	**Arik**	**2.03**	**211**	*e*P	Pb	23 05 16.8	-0.9
SPN	**Mys Shipunski**	**2.03**	**186**	*e*P	Pn	23 05 15.2	0.0
SPN				*e*S	Sb	23 05 42.3	-1.0
SDLR	**Sedlovina**	**2.04**	**206**	*e*P	Pn	23 05 16.5	+1.0
NLC	**Nalytchevo**	**2.04**	**198**	*e*P	Pb	23 05 17.3	-0.3
NLC				*e*S	Sg	23 05 46.6	+1.4
SMAR	**Somma**	**2.07**	**207**	*e*P	Pn	23 05 17.2	+1.1
AVH	**Avacha**	**2.09**	**208**	*e*P	Pb	23 05 17.7	-0.9
KOK	**Koryaka**	**2.09**	**210**	*e*P	Pb	23 05 18.1	-0.6
UGLR	**Uglovaya**	**2.12**	**206**	*e*P	Pn	23 05 17.8	+1.3
RUS	**Russkaya**	**2.90**	**203**	*e*P	Pn	23 05 28.8	+1.6

NNC 30 23:12:52.2±3.7, 38.92N×76.73E, h0km, mb3.8, mpv3.4, 11C-3D, Error ellipse: s-maj=30.6km s-min=14.5km az=148.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.73**	**295**	⇑Pn	Pn	23 13 38.0	+0.4
	4.9nm,0.2s						
SFK				⇑Sn	Sn	23 14 13.4	+1.9
	30nm,0.3s						
AAK	**Ala-Archa**	**4.08**	**336**	⇑Pn	Pn	23 13 57.2	+1.1
	5.1nm,0.5s						
AAK				⇑Sn	Sn	23 14 45.7	+0.9
	23nm,0.6s						
TKM2	**Tokmak 2**	**4.09**	**348**	⇑Pn	Pn	23 13 51.5	-4.8
	4.3nm,0.4s						
TKM2				⇓Sn	Sn	23 14 45.2	0.0
	9.9nm,0.7s						
KNDC	**Almaty**	**4.30**	**2**	⇑Pn	Pn	23 13 57.2	-1.8
	8.4nm,0.4s						
KNDC				⇑Sn	Sn	23 14 50.3	+0.4
	35nm,0.6s						
PDGK	**Podgornoye**	**4.87**	**24**	⇑Pn	Pn	23 14 08.1	+1.3
	3.2nm,0.5s						
PDGK				⇓Sn	Sn	23 15 08.4	+4.6
	15nm,0.6s						
DZET	**Dzherino**	**6.17**	**271**	⇑Pn	Pn	23 14 23.9	-0.8
	3.2nm,0.3s						
DZET				⇓Sn	Sn	23 15 34.4	-1.8
	6.7nm,0.4s						
KK31	**Karatay Array**	**6.29**	**314**	⇑Pn	Pn	23 14 29.3	+2.9
	0.1nm,0.2s,baz=128,slow=15,SNR=3.8						
KK31				⇑Lg	Lg	23 16 07.0	
	6.1nm,0.8s,baz=128,slow=25,SNR=3.8						

*ISK **30** 23:15:14.1, 38.36N×29.81E, h2km, MD2.5*
*ISCJB **30** 23:15:15.1±1.0, 38.41N±0.06×29.81E±0.07, h10km, Error ellipse: s-maj=9.3km s-min=7.0km az=39.6*
*DDA **30** 23:15:16.4, 38.46N×29.71E, h7km, MD2.6*
ISC 30 23:15:14.9±1.3, 38.41N±0.05×29.82E±0.07, h10km, n7, σ0s42/10, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHL	**Karahalli**	**0.25**	**250**	*e*PG	**Pg**	**23 15 19.6**	**-0.4**
KHL				*e*SG	**Sg**	**23 15 23.8**	**+0.3**
KHAL	**Karahalli**	**0.26**	**261**	*i* P	**Pg**	**23 15 20.0**	**-0.2**
KHAL				*i* S	**Sg**	**23 15 24.2**	**+0.4**
GDZ	**Gediz**	**0.73**	**339**	*i* P	**Pg**	**23 15 28.9**	**-0.1**
GDZ				*i* S	**Sb**	**23 15 39.2**	**-0.7**
KULA	**Kula-Manisa**	**0.92**	**277**	*e*PG	**Pb**	**23 15 32.7**	**-0.2**
TVSB	**Tavsanli**	**1.07**	**345**	*e*PN	**Pn**	**23 15 36.6**	**+0.5**
SUTC	**Sutluce-Ispart**	**1.32**	**135**	*e*PN	**Pn**	**23 15 39.6**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.59**	**254**	*e*PN	**Pb**	**23 15 44.6**	**+0.2**

MEX 30 23:34:30.2±0.8, 16.65N×94.41W, h122km±7km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.63**	**314**	*e*P	Pn	23 34 48.0	-1.3
CMIG				*e*S	Sn	23 35 01.7	-2.0
HUIG	**Huatulco**	**1.86**	**242**	*i* P	Pn	23 35 00.2	-1.8
HUIG				*e*S	Sn	23 35 25.2	-1.1
VHO	**Vista Hermosa**	**2.27**	**281**	*i* P	Pn	23 35 06.1	-1.2
VHO				*i* S	Sn	23 35 33.6	-2.2
PNIG	**Pinotepa**	**3.58**	**266**	*i* P	Pn	23 35 23.2	-1.0
PNIG				*e*S	Sn	23 36 03.5	-2.5
TLIG	**Tlapa**	**4.08**	**283**	*i* P	Pn	23 35 29.3	-1.7
TLIG				*i* S	Sn	23 36 15.3	-2.9

ISC Computed Locations for June 2010

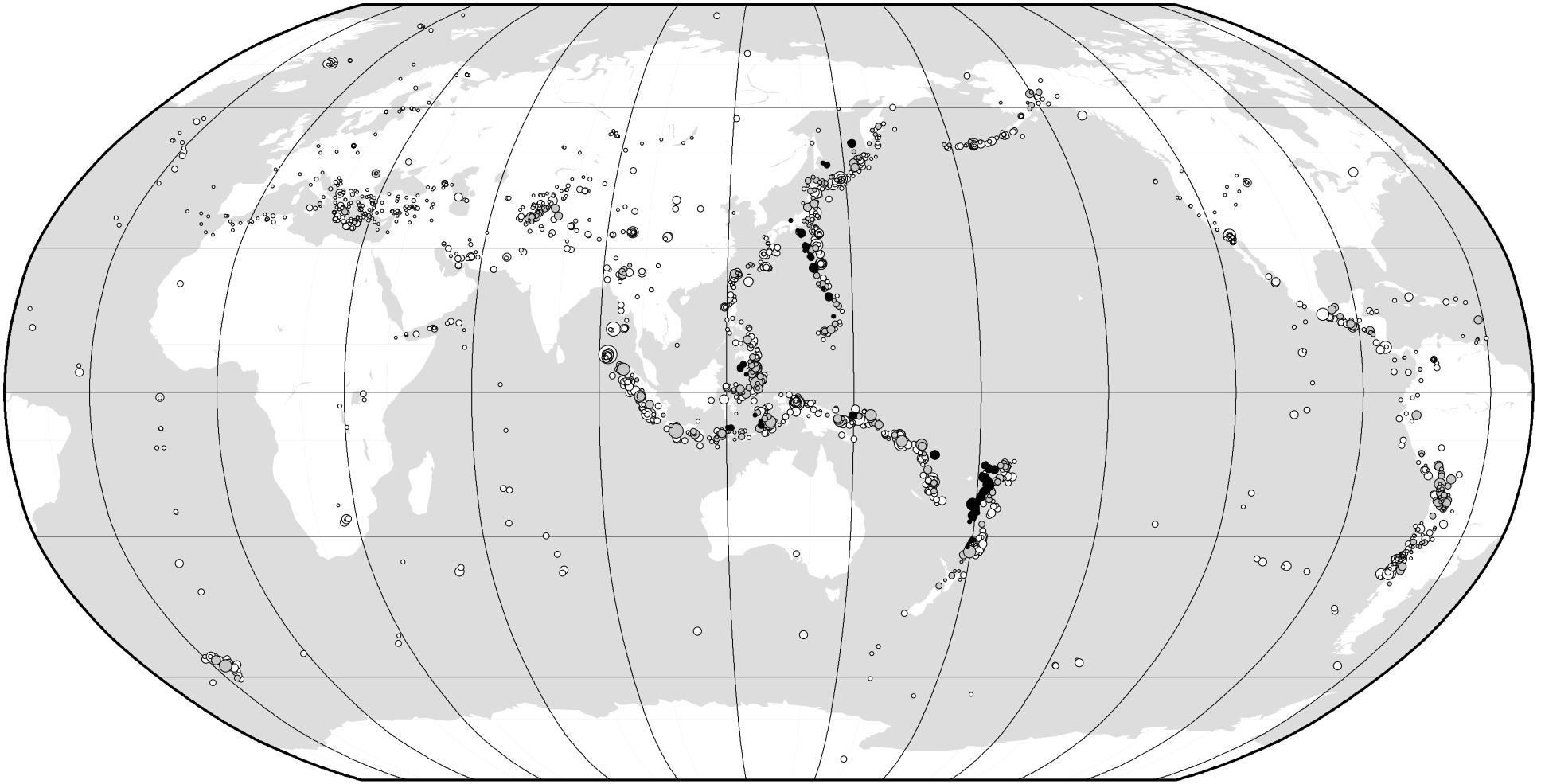

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2429 Events